North Boeing Field/
Georgetown Steam Plant Site
Remedial Investigation/Feasibility Study

Remedial Investigation/Feasibility Study
Work Plan

VOLUME 1: TEXT, APPENDIX, TABLES

DRAFT

Prepared for

Toxics Cleanup Program
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List of Acronyms

AM	anthropogenic media
ARAR	Applicable or Relevant and Appropriate Requirement
AST	aboveground storage tank
ATSDR	Agency for Toxic Substances and Disease Registry
BEHP	bis(2-Ethylhexyl)phthalate
bgs	below ground surface
CB	catch basin
CJM	concrete joint material
CLARC	Cleanup Levels and Risk Calculation
COPC	contaminant of potential concern
CSL	Contaminant Screening Level
CSM	conceptual site model
CUL	cleanup level
DCE	dichloroethylene/dichloroethene
DW	dry weight
Ecology	Washington State Department of Ecology
EF	Exceedance factor
EOF	emergency overflow
FTC	Fire Training Center
GIS	Geographic Information System
GPS	global positioning system
GTSP	Georgetown Steam Plant
GW	groundwater
HPAH	high molecular weight polycyclic aromatic hydrocarbon
I&I	Infiltration and Inflow
IAL	interim action limit
KC	King County
KCIA	King County International Airport
LAET	Lowest Apparent Effects Threshold
2LAET	Second-lowest Apparent Effects Threshold
LDW	Lower Duwamish Waterway
LPAH	low molecular weight polycyclic aromatic hydrocarbon
LTST	long-term stormwater treatment
MDL	method detection limit
MFF	Main Fuel Farm
mg/kg	milligrams per kilogram
MH	manhole or maintenance hole
MTCA	Model Toxics Control Act
NAPL	Non-aqueous phase liquid
NBF	North Boeing Field

O&M	operations and maintenance
OC	organic carbon
OWS	oil/water separator
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene/tetrachloroethene/perchloroethene
PEL	Propulsion Engineering Laboratory
PID	photo-ionization detector
PLP	Potentially Liable Party
PSL	Preliminary Screening Level
PVC	polyvinyl chloride
RI/FS	Remedial Investigation/Feasibility Study
RISL	Remedial Investigation screening level
RL	reporting limit
SAIC	Science Applications International Corporation
SCL	Seattle City Light
SD	storm drain
SDS	storm drain solids
SDW	storm drain water
SL	screening level
SMS	Washington State Sediment Management Standards
SO	soil
SQS	Sediment Quality Standard
STST	short-term stormwater treatment
TCE	trichloroethylene/trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
TEE	terrestrial ecological evaluation
TEQ	toxicity equivalence
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
ug/L	micrograms per liter
USEPA	U.S. Environmental Protection Agency (or EPA)
UST	underground storage tank
WAC	Washington Administrative Code
WQC	Water Quality Criteria

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1.0 Introduction

1.1 Purpose and Objectives

Pursuant to the Model Toxics Control Act (MTCA)[1], the Washington State Department of Ecology (Ecology) has signed Agreed Order DE 5685 with The Boeing Company (Boeing), King County, and the City of Seattle to facilitate remedial action at the North Boeing Field / Georgetown Steam Plant Site (referred to in this document as the NBF-GTSP Site, or the Site). The Agreed Order, effective August 14, 2008, describes the process by which Ecology will conduct a Remedial Investigation/Feasibility Study (RI/FS) and one or more interim actions, if appropriate, at the Site to protect human health and the environment (Appendix A). The three potentially liable parties (PLPs) and Ecology have agreed that Ecology will perform the RI/FS. As part of this effort, Ecology has requested Science Applications International Corporation (SAIC) to prepare this RI/FS Work Plan.

The U.S. Environmental Protection Agency (USEPA or EPA) is leading the effort to determine the most effective cleanup strategies for sediments in the nearby Lower Duwamish Waterway (LDW). Ecology is leading the effort to investigate adjacent and upland sources of contamination and to develop plans to control these sources that may impact the LDW. The NBF-GTSP Site constitutes part of this LDW upland cleanup. Ecology's source control efforts include the process of finding and eliminating or reducing releases of contaminants to LDW sediments, to the extent practicable. The goal of source control is to prevent sediments from being recontaminated after LDW cleanup has been undertaken. The NBF-GTSP Site RI/FS process is intended to identify sources of contamination to sediments of Slip 4 of the LDW Superfund site, in addition to conducting a cleanup of upland environmental media affected by Site contaminants. The RI/FS process, including development of this Work Plan, will be performed in accordance with MTCA.

Environmental investigations and cleanups at the NBF-GTSP Site have identified releases of polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), metals, petroleum hydrocarbons, semi-volatile organic compounds (SVOCs), and/or volatile organic compounds (VOCs) to soil, groundwater, stormwater and other media at the Site. The RI will characterize the nature and extent of contamination in soil, groundwater, and exterior building materials at the Site and will identify sources of contaminants to stormwater. Stormwater from the NBF-GTSP Site discharges to Slip 4. PCBs, metals, PAHs, phthalates, and dioxins/furans have been detected at concentrations above the Washington State Sediment Management Standards (SMS) in Slip 4 sediments and are identified as contaminants of potential concern.

Slip 4 was identified as an Early Action Area (EAA) for sediment cleanup as part of the LDW Superfund site RI/FS. Cleanup of contaminated sediments in Slip 4 was delayed because of potential recontamination that might result from releases of contaminants from the NBF-GTSP Site (Figure 1-1). Due to the long time frame associated with the RI/FS process, Ecology expedited RI/FS activities to support implementation of interim actions and to allow cleanup of Slip 4 sediments to proceed. Some portions of the RI were begun in advance of the Slip 4

[1] Chapter 173-340 of the Washington Administrative Code (WAC)

cleanup. These activities included: stormwater sampling, development of a project chemical and geographic information system (GIS) database, an infiltration and inflow (I&I) study, and modeling of contaminant transport from stormwater to Slip 4 sediments. Selected sampling of soil, groundwater, stormwater, and building materials has recently been conducted at the NBF-GTSP Site. Available preliminary results from these and other relevant activities, available as of summer 2011, have been incorporated into this RI/FS Work Plan.

Cleanup of sediments in Slip 4 was formally completed on February 7, 2012. Boeing also recently constructed a long-term stormwater treatment system at NBF, which handles the majority of the Site's stormwater (see Section 4.2.2). This system became operational on October 28, 2011, and treated water is discharged to a storm drain leading to Slip 4. As treatment of much of the Site stormwater continues, this RI/FS will focus on source identification leading to future remediation, to improve the quality of stormwater that does not pass through the treatment system and for the eventuality of the termination of the stormwater treatment system.

1.2 Work Plan Organization

The Work Plan outlines the overall technical approach to the RI/FS, and includes the following elements:

- Responsibility and authority of all organizations and key personnel involved in conducting the RI/FS
- Description of the Site, including historical and current operations
- Preliminary conceptual site model
- Brief summary of existing contaminant information, potential sources, and data gaps for Site environmental media
- Analysis of applicable or relevant and appropriate requirements (ARARs)
- Determination of data quality objectives (DQOs)
- Development of RI screening levels and contaminants of concern
- Sampling implementation strategy for RI/FS activities, including phasing and prioritizing of activities
- Summary and evaluation of analytical and physical data for all media of concern
- Remedial Investigation proposed activities
- Draft outline of final RI and FS reports, and approach for FS
- Proposed schedule, including a timeline for completion of all RI/FS deliverables

The Work Plan is organized into the following sections:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Preliminary Site Conceptual Model
- Section 4 – Summary of Existing Information and Data Gaps

- Section 5 – Applicable or Relevant and Appropriate Requirements
- Section 6 – Remedial Investigation Approach
- Section 7 – Remedial Investigation Tasks
- Section 8 – Remedial Investigation Reporting
- Section 9 – Feasibility Study
- Section 10 – RI/FS Schedule
- Section 11 – References

1.3 Responsibilities

The following key organizations and individuals are responsible for the NBF-GTSP Site RI/FS process as regulators, PLPs, or investigators:

Ecology (Regulator):

- Mark Edens – Ecology Project Manager
- Richard Thomas – Ecology Team Member

Boeing (PLP/Investigator):

- Carl Bach – NBF Environmental Project Manager

City of Seattle (PLP/Investigator):

- Allison Crowley – GTSP Environmental Project Manager

King County (PLP/Investigator):

- Peter Dumaliang – King County International Airport (KCIA) Environmental Project Manager

SAIC (Investigator):

- Thomas Dubé – RI/FS Project Manager

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2.0 Site Background

2.1 Site Setting and Ownership

The NBF-GTSP Site consists of two distinct properties: the former GTSP property, currently operated as a museum by Seattle City Light (SCL), and the Boeing-owned and leased parcels known as North Boeing Field (Figure 1-1). In this Work Plan, the following location names will be used: the NBF-GTSP Site, in reference to the entire Site; the NBF property, in reference to the Boeing-owned and leased parcels; the GTSP property, in reference to the museum property operated by SCL; and the KCIA.

2.1.1 Georgetown Steam Plant

The GTSP property is located on a 2.8-acre parcel located near the intersection of Warsaw Avenue S and Ellis Avenue S, and near the northwest corner of KCIA (Figure 2-1). In 1978, the GTSP was listed on the National Register of Historic Places. In 1980, the facility was designated a National Historic Mechanical Engineering Landmark (ASME 1980 [0331]). In 1984, it became a City of Seattle Landmark and a National Historic Landmark. Since 1987, the plant has been operated as a historical museum.

The City of Seattle formerly owned and operated a portion of the current KCIA property that is located east of the present GTSP property (Figure 2-2). The City of Seattle historically used this portion of the KCIA property as part of the steam plant operations. The former Georgetown Flume (see Section 2.4.2) extended from the GTSP power house, through the NBF property, to Slip 4 (Figure 2-3). The property surrounding the flume continues to be owned by the City of Seattle.

Most of the property is covered by a grass lawn, except for the power house, water reservoir and railroad and sheds (Figure 2-1). A concrete slab is present on the north side of the power house. The former Greeley Substation was located on the concrete slab (Figure 2-2). Museum visitors have access to all outdoor portions of the property.

The property gently slopes to the south before dropping more steeply to the Low-Lying Area (LLA). The LLA forms a broad swale along the southern portion of the property, which receives runoff from the northern portion of the property and historically from KCIA and Boeing-leased property. The swale slopes west toward the southwest corner of the property, and a shallow ditch extends along the fence in the southern portion of the LLA (Integral 2010b [6138]). Recent soil excavation activity at the southern GTSP property has resulted in regrading and modifying drainage in this area.

2.1.2 North Boeing Field

The NBF property comprises approximately 130 acres located between East Marginal Way S to the west and KCIA to the east. Ellis Avenue forms the northern border and the Federal Aviation Administration (FAA) tower is located to the south. The LDW is located approximately 1,300 feet from the western boundary of NBF, and the head of Slip 4 is approximately 150 feet from the northwestern boundary (Figure 1-1).

The entire area within the NBF property is developed. Land use at NBF includes office and industrial buildings, aircraft parking, and related facilities (Figure 2-4). Automobile parking areas comprise approximately 36 acres, or 28 percent of NBF; flightline positions and taxiways comprise about 42 acres, or 33 percent of NBF (Boeing 2007 [2746]). Less than one percent of the property is pervious, including landscaped areas next to some buildings.

There are approximately 80 buildings located on the NBF property. Boeing's Propulsion Engineering Laboratory (PEL) area is located in the northern portion of NBF; Flight Test and Operations area is located in the central portion of the property; and the Tent Hangars are located in the southernmost portion of the property (Figure 2-4).

King County owns most of the land within NBF; Boeing leases about 114 acres from King County and owns the improvements it has constructed on the leased property. Boeing also leases a few acres on either side of the former Georgetown Flume from the City of Seattle (Figure 2-3). Boeing owns the parcel containing Building 3-390 and an adjacent parcel used for parking, which comprises approximately 16 acres of the NBF property.

2.1.3 Adjacent Site Uses

A variety of property types surround the NBF-GTSP Site, although the major land use is industrial. KCIA borders the entire eastern boundary of the Site. The southern boundary of the Site is defined by KCIA, the FAA Air Traffic Control Tower, and the NBF fire station. East Marginal Way S bounds the Site on the west and southwest. Boeing Plant 2 is present on the western side of East Marginal Ways S, between the LDW and the Site. At the northwestern end of the Site (near Building 7-27-1), Slip 4 is present on the western side of East Marginal Way S (Figure 2-4).

Mixed commercial and industrial properties are adjacent to the northern end of the Site between Ellis Avenue S and the Site boundary. The former Washington Air National Guard complex was located in this area. Commercial properties are present at the northwestern end of the Site between S Myrtle Street and E Marginal Way S, and on the western and eastern sides of Ellis Avenue S. These commercial properties include a motel, a gasoline service station, a warehouse, and an auto services shop. Residential properties are also present near the northern end of the Site, on the western side of Ellis Avenue S and north of S Myrtle Street (Figure 2-4).

2.2 Site Physical Setting

2.2.1 Hydrology

The NBF-GTSP Site is located in the central Puget Sound Lowland, a broad glacial drift plain that is dissected by a network of deep marine embayments and lakes. The Site is situated within the north-south trending Duwamish Valley on the Duwamish floodplain. The principal surface water drainage in the NBF-GTSP vicinity is the LDW, which is located approximately 1,300 feet southwest of the Site, beyond East Marginal Way S. The Duwamish River originates approximately 5 miles south of the Site where it merges with the Green River. From this point, the river and LDW flows north into Elliott Bay on Puget Sound.

The original tide flats and floodplain of the valley were filled during the late 1800s and early 1900s. The former river shoreline previously trended across the PEL area and the GTSP property. The meandering Duwamish River was straightened between 1913 and 1917 into a 4.5-mile long channel. In the process, 12.5 miles of old riverbed were abandoned. Some of the old meanders mark the locations of current side slips on the LDW, including Slip 4. The dredged sand was used to fill old channel and lowland areas to raise them above sea level. More recent filling for land development has resulted in a surficial layer of fill throughout the area (Fabritz et al. 1998 [4183]; Windward 2008 [0074]).

2.2.2 Stormwater Conveyance

A network of stormwater catch basins, drains, manholes, and pipes collect and convey stormwater from the NBF property to the head of Slip 4 (Figure 2-5). One main outfall discharges stormwater from NBF into Slip 4; a second, smaller outfall draining to Slip 4 was plugged many years ago. Most areas of NBF drain to one of four main lateral storm drain lines: the north, north-central, south-central, and south lateral. These lateral lines and a small drainage area near Building 3-380 are directed to a trunk line that passes through the King County lift station, where it is pumped and discharged via gravity feed toward the west. Before passing under East Marginal Way S, the main storm drain line receives stormwater from the NBF parking lot areas and finally discharges at the 60-inch KCIA SD#3/PS44 emergency overflow (EOF) outfall at Slip 4 (Figure 1-1). The lift station (Building 3-395) was built in 1941. Construction of the lift station prevents tidal backwash from flowing into the storm drain system upstream of the lift station, according to KCIA maintenance engineers (as cited in Landau 1993a [0108]).

The north, north-central, south-central, and south lateral lines at NBF also receive stormwater from the northern and central portions of KCIA, located upstream (east) of the Boeing-leased property (Figure 2-6).

At the GTSP property, stormwater infiltrates into the ground or flows into catch basins located to the south and west at the adjacent NBF property. The roof of the steam plant building drains to the Georgetown Flume replacement storm drain line (Figure 2-3).

2.2.3 Geologic Setting

The Duwamish Valley was formerly a marine embayment that extended as far south as Auburn. About 5,700 years ago, an enormous mudflow emanated from Mount Rainier and filled the upper portion of this embayment. At that time, the White and Green Rivers both drained northward through the Duwamish Valley. Sediment carried by these rivers, and erosion of the extensive mudflow deposits, continued to fill in the embayment and shift the marine shoreline farther north. With time, silt, sand, and gravel eventually filled in the valley and created the modern river environment and floodplain. As the river continued to flood and migrate across the valley, sediments were reworked and ongoing river sedimentation took place from upstream (Fabritz et al. 1998 [4183]).

The geologic units underlying the Duwamish Valley include bedrock, glacial deposits, marine deposits, and river/floodplain deposits. The Tertiary age bedrock (sandstone and siltstone) is exposed on the hillside east of the NBF-GTSP Site near Interstate 5, and in some bedrock knobs that were not covered by floodplain sediments in the South Park area southwest of the Site. The bedrock beneath the NBF-GTSP Site is probably a few hundred feet deep (Fabritz et al. 1998 [4183]).

Glacial deposits in the area predominately include those from the last glacial advance, referred to as the Vashon stage (about 15,000 years ago). The Duwamish Valley is bounded to the east and west by uplands covered by Vashon glacial till and outwash deposits. In the center of the valley northwest of NBF, the top of these Vashon glacial deposits are identified at a borehole depth of about 260 feet below ground surface (bgs) near the 1st Avenue South bridge (Yount et al. 1990 [4186]). At Boeing Plant 2, located southwest of the Site, a number of deep boreholes have identified the top of the glacial units as ranging from 70 feet to more than 130 feet bgs (GeoMapNW 2009 [6146]).

Overlying the glacial deposits in the valley are the former marine embayment sediments, which in turn are overlain by the river/floodplain deposits. In the area of Boeing Plant 2 and the west side of the NBF-GTSP Site, borehole data show that a silt-rich layer typically overlies the Vashon glacial deposits, including silt, clay and sand with common shell fragments. The top of this layer of marine sediments ranges in depth from about 65 to 100 feet bgs. This layer grades upward into an alluvial deposit, which consists of a lower zone of fine sand with silt, or silty sand; above a depth of about 30 to 60 feet bgs is an upper alluvial zone consisting generally of fine to medium sand with minor silt or gravel. This is locally overlain by a thin layer of organic-rich silt at approximately 10 feet bgs. Fill material consisting of sand, silt and gravel occupies the upper 3 to 20 feet bgs (Landau 1990 [1444]; Hart Crowser 1991 [1435]; GeoMapNW 2009 [6146]).

2.2.4 Hydrogeologic Setting

The following hydrogeologic summary of this area is based on a large number of environmental investigations conducted in the vicinity of the NBF-GTSP Site. Groundwater at and near the Site occurs at shallow depths within the recent alluvium and fill material, under unconfined conditions. Figure 2-7 presents a summary of groundwater depths and flow directions, based on historical results from a large number of wells, most of which have been decommissioned.

Groundwater studies for large areas across the NBF-GTSP Site indicate that the flow direction averages approximately toward the southwest, at relatively low hydraulic gradients of 0.001 to 0.003 foot per foot (e.g., Landau 1990 [1444]). Near the northwestern area of NBF, in the vicinity of Buildings 7-27-1 and former Building 3-360, the flow is more southerly, toward Slip 4. Investigations in localized small areas at NBF (from a large number of studies) exhibit a wider range of flow directions and gradients, as expected, with directions varying from westward to southward and occasionally northwestward. Figure 2-7 presents both regional flow directions (e.g., Landau 1990 [1444]) and more localized variable directions from individual studies.

At the GTSP property and the adjacent offsite areas, groundwater flow is generally toward the south, but varying from south-southeast to southwest, at an average gradient of 0.004 foot per foot (Landau 1992 [0185]; Integral 2010a [6137]; URS 2011). In general, the southerly flow direction at the GTSP area shifts downgradient toward the southwest in the adjacent PEL area, and continues downgradient across NBF and toward Boeing Plant 2 and Slip 4 (Landau 2011c [4162]). Groundwater flow on the southern portion of the Site appears to be toward the west, with the flow pattern converging toward Slip 4 (Figure 2-7).

Based on a large number of historical groundwater monitoring data and other site investigations at NBF-GTSP (primarily by SECOR and Landau), depth to the water table varies seasonally and with tidal fluctuations, ranging from 1.8 to 11.2 feet below the well casing for all onsite wells. Note that these water-level depth measurements (a total of 948) include those made available to SAIC/Ecology and entered into the SAIC database as of mid-2011. The distribution of these groundwater depth measurements are summarized in the following table, to aid in understanding the potential for groundwater infiltration to the NBF storm drain system (see Section 7.1.1).

Summary of Groundwater Depth Measurements at NBF-GTSP

Groundwater Depth Range (feet below well casing)	Number of Water Level Measurements in Database	Percentage
<3	11	1.2%
3 to <4	14	1.5%
4 to <5	77	8.1%
5 to <6	120	12.7%
6 to <7	116	12.2%
7 to <8	220	23.2%
8 to <9	291	30.7%
9 to <10	79	8.3%
≥10	20	2.1%

Figure 2-7 presents ranges of groundwater depths around individual wells or clusters of wells (stated as depth bgs). The area of most uncertainty for groundwater levels at NBF-GTSP is along the concourses, particularly in the large Concourse B where few wells have been located. The following text summarizes groundwater depths at the Site.

The water table at the GTSP property is found at depths of 3.0 to 9.5 feet bgs, becoming generally deeper toward the north. The shallow groundwater depth of 3.0 feet was measured in well GTSP-3. The water table on both sides of the GTSP southern fence line is expected to be very shallow year-round. Most of the GTSP property upgradient of this fence line has deeper groundwater.

In the entire PEL area, which is located largely within the north lateral drainage area, the water levels range from 2.3 to 9.3 feet bgs. The depth of 2.3 feet bgs at well NGW-507, near the GTSP fence line corner, is the shallowest measurement identified at the NBF-GTSP Site (Landau 2011c [4162]). The PEL water levels deeper than 7 feet bgs are found in the Green Hornet area.

Water levels on the NBF property generally become deeper in the downgradient direction toward East Marginal Way. The deepest water levels at the Site were identified in the Building 7-27-1 area (former Markov property) and near Building 3-801, with depths from approximately 10 to 11.6 feet bgs at these downgradient locations. This range of water levels is similar to that for three other downgradient wells across East Marginal Way at Boeing Plant 2 (Figure 2-7), ranging from 10.5 to 11.8 feet bgs. Between these downgradient areas and the PEL area is a zone of water depths ranging largely from 6.5 to 10.5 feet.

2.3 Ecological Setting

The area near the NBF-GTSP Site is highly industrialized and mostly paved or covered with structures, making this unsuitable habitat for most animals. The only unpaved areas include a grassy portion on the east side of the GTSP property, and isolated plantings associated with NBF parking lots and office buildings. Birds and mammals that have adapted to urban environments may occasionally be observed in this area, including gulls, crows, sparrows, finches, swallows, and European starlings, as well as mice, rabbits, squirrels, and bats.

2.4 Site History and Current Operations

2.4.1 Georgetown Steam Plant

2.4.1.1 History

The GTSP power house was constructed by the Seattle Electric Company in 1906 on 16 acres of land along an oxbow of the Duwamish River. Historical features at the GTSP property are shown in Figure 2-2. The station's purpose was to provide Seattle Electric with additional peak load capacity; much of its power went to operate the utility's streetcars. In 1912, Puget Sound Power and Light Company purchased Seattle Electric Company; thereafter, use of the GTSP declined. In 1951, the City of Seattle Department of Lighting (now SCL), purchased the GTSP. In 1963, the northwestern portion of the original GTSP property was sold to King County. The plant's last production run was in the winter of 1964. From 1971 to 1977, the GTSP was maintained on standby as part of a regional reserve for emergency situations (ASME 1980 [0331]). The city permanently shut down the GTSP in 1977.

Fuel oil and coal were historically used to fire the boilers. Coal was brought onto the property by rail across the north end of NBF. A coal conveyer was operating at the south end of the GTSP property where a large smokestack was located (Raven 1988 [1187]). This area later became the Boeing Fire Training Area (also known as the Fire Training Pit). Bunker C fuel oil was delivered to the GTSP in rail cars and stored in three 12,000-gallon steel underground storage tanks (USTs) near the south corner of the building. A 700-gallon diesel tank was located at the southwest corner of the GTSP. Fuel was also stored in a 150,000-gallon steel oil tank, located southwest of the power house. A concrete 800,000-gallon aboveground storage tank (AST) was located to the northeast of the building. This tank held Bunker C fuel oil until May of 1987 (SCL 1988 [3205]).

Boiler feed water was replaced after several cycles in the system to remove unwanted materials, such as chemical additives, corrosion products, and scale minerals. These wastewaters were channeled into a ditch (referred to as the blowdown ditch) and discharged into the LLA near the southwest corner of the property (Figure 2-2). The LLA and ditch were not directly connected to the former Georgetown Flume, although there was an indirect connection. Overflow from the

LLA ran into a storm drain to the south, which connected to the head of the flume (Raven 1988 [1187]).

A drainage ditch was located along the southern boundary of the GTSP property. The ditch formerly conveyed runoff from the northern portion of KCIA, including the NBF Fire Training Center (FTC), and from the southeastern portion of the property to the LLA.

In 1961, the City of Seattle permitted Boeing to use the area east of the current GTSP property and on the current KCIA property for fire drill training (NBF-FTC). In 1963, King County purchased the northeastern portion of the GTSP property, which included the NBF-FTC, the 800,000-gallon concrete AST, a warehouse, and a machinery shop (Bridgewater Group 2000 [1124]).

In 1967, the City of Seattle issued a temporary permit to Boeing to conduct fire training in an area approximately 50 feet southeast of the GTSP power house. Although there have been references specifying this area as the former Boeing Fire Training Pit, there is no indication that it was ever a pit. Aerial photographs show an airplane fuselage was present at the time in this location (Bridgewater Group 2000 [1124]). The permit expired in 1974 (SEA 2004 [3209]).

Some reports indicate that a transformer storage area may have been located near the southwest corner of the GTSP power house (AGI 1998a [0330]); however, no specific information to support this assertion was found. Log books of activities at GTSP indicate that used transformer oil was delivered to the GTSP between 1953 and 1965 (City of Seattle 1953-1965 [4182]). City records indicate that 729 barrels of used transfer oil were delivered to the GTSP from 1972-1974 and 489 barrels of used transformer oil were delivered to the GTSP in 1980 (SCL 1976 [4184], 1985 [4185]).

2.4.1.2 Current Operations

The Georgetown Powerplant Museum currently operates at the GTSP property. It is open to the general public on one day per month. Current features are depicted in Figure 2-1 and include the following:

- Power House: The former GTSP power house, located in the northwest portion of the property, is divided into an ash room, boiler room, engine room, turbine room, and a series of galleries on five levels. A condenser pit is located beneath the power house. The west side of the power house is used to stage equipment, including a steel tank, two pickup trucks, a cargo shipping container, and other equipment (Bridgewater Group 2000 [1124]).
- Water Reservoir: A circular concrete water reservoir is located near the northwest corner of the power house. It formerly held cooling water for one of the plant’s turbine generators (Bridgewater Group 2000 [1124]).
- Railroad and Sheds: A scale model railroad is used by museum visitors. Two small sheds are located near the east corner of the property. A shed in the southeast corner of the property is used to store cans of paint, paint thinner, grease, and oil (Bridgewater Group 2000 [1124]).

2.4.2 Former Georgetown Flume

The former Georgetown Flume was a system of wood- and concrete-lined channels approximately 2,450 feet long (0.46 mile) that was constructed in the early 1900s to convey cooling water from the GTSP to the Duwamish River when the river was straightened for navigation. Cooling water discharges from the condenser pit below the GTSP building ceased in the 1960s with the exception of annual test runs (SEA 2004 [3209]). Stormwater was conveyed to the LDW via the flume until it was removed in 2009 (Figure 2-3). The flume drainage area was approximately 6 acres and included the GTSP building roof, adjacent City of Seattle right-of-ways and private property, and the northwestern portion of NBF. The former flume is on City of Seattle property, which is currently leased by Boeing and is part of the NBF property.

During the flume removal activities, the tunnel and condenser pit beneath the GTSP building were cleaned. The tunnel was filled with grout, but the condenser pit remains open inside the building (Herrera 2010 [6820]). Additional information regarding historical environmental investigations of the flume and flume removal activities is provided in Section 7.1.4.10. The former flume was replaced with high-density polyethylene (HDPE) and polyvinyl chloride (PVC) storm drain piping. LDW tidewater and sediment are prevented from entering the new drain system by a tide valve installed in the storm drain piping (Herrera 2010 [6820]).

2.4.3 North Boeing Field

2.4.3.1 History

Boeing operations have been in place at NBF since the 1940s; however, little information on historical operations prior to the 1970s was found. Numerous structures have been built and demolished over the years, making it difficult to track historical operations in any detail.

From 1941 to 1947, Boeing manufactured and tested B-17 and B-29 aircraft at Boeing Field (present day KCIA), which included the area now known as NBF. The War Assessments Administration took custody of Boeing Field in May 1947 and operated the runways, taxiways, two military camps, hangars (including current building 3-350 at NBF), bomb storage, and fire station until May 1948 when the General Services Administration conveyed the property to King County (DOD 1990 [4168]). King County has leased 124 acres, comprising the majority of NBF, to Boeing since 1948.

Beginning in 1953 and 1955, Boeing leased property from SCL, including areas adjacent to the Georgetown Flume. During 1954, Boeing began the construction of buildings in the leased area, including a fuel test laboratory.

In August 1984, USEPA identified NBF as a potential hazardous waste site based on sampling of storm drains conducted the Municipality of Metropolitan Seattle (Metro) in 1982. Storm drains at NBF and in sediments from the Georgetown Flume, which crossed the NBF property, contained high levels of PCBs (USEPA 1984 [0166]).

In August 1994, Ecology revised its Washington Ranking Method (WARM); as a result, the NBF property was identified as a rank of “5,” which is the lowest priority category. This ranking resulted from the presence of petroleum hydrocarbons and arsenic measured in groundwater, and the potential that PCBs and lead remain in inaccessible site soils (Ecology 1994 [0151]).

2.4.3.2 Current Operations

NBF is operated by the Boeing Commercial Airplane Group (BCAG) 737 Program (Boeing 2007 [2746]). Boeing manages numerous research, testing, and manufacturing facilities on the property. Primary industrial activities at NBF include aircraft finishing and testing; research and development of Boeing military and commercial aircraft; and support services. Aircraft finishing activities involve wet sanding, cleaning, and painting of airplanes. Testing of airplane parts, both assembled and unassembled, occurs in many portions of the property. Testing procedures include: stress testing of parts, pressurized testing of hydraulic parts, jet fuel testing, testing of aircraft water distribution and wastewater collection systems, and fire suppression system testing (Boeing 2007 [2746]). Research and development groups at NBF have separate specialized testing operations. Support operations include photographic laboratories, metalworking, woodworking, and a wastewater treatment plant, which is used to treat process wastewaters and other treatable hazardous waste.

Outdoor manufacturing processes occurring at NBF consist of fueling and defueling aircraft, deicing at the wash stall (C-13), and engine preflight/avionics testing. Minor processes consist of cosmetic work such as touch-up painting, chemical cleaning, and interior work. Support operations for the industrial activities at NBF include loading and unloading of both hazardous and non-hazardous new materials and maintenance of hazardous waste and material accumulation areas, and operation of standard broom-type street sweepers to maintain the flightline and other paved areas of NBF.

Fertilizers, herbicides, and insecticides are utilized at NBF (Boeing 1994 [0450]). Herbicides are applied for weed control to lawn areas, planting beds, and trees in lawn areas. Insecticides are applied to trees and shrubs in landscaped areas around buildings and adjacent to East Marginal Way S. A variety of chemicals may be used for these purposes. According to Boeing’s Stormwater Pollution Prevention Plan (SWPPP), plants, shrubs, trees, and planter boxes are fertilized several times per year.

Additional information on current operations at NBF is presented in the *Technical Memorandum: Operations & Maintenance Activities Review* (SAIC 2010c [6079]).

Two electrical substations, the Willow Street Substation and the former Ellis Substation are adjacent to the former Georgetown Flume on property that is owned by the City of Seattle and leased by Boeing. The Willow Street Substation is active and is located southwest of Building 3-324. The former Ellis Substation has been decommissioned; it was located west of Building 3-380 (Figure 2-3). Twelve concrete pads and the fencing associated with the Ellis substation were removed in 2009 during the Georgetown Flume removal activities (Herrera 2010 [6820]).

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3.0 Preliminary Conceptual Site Model

Environmental investigations performed at NBF and GTSP have shown that stormwater, storm drain solids, soil, and groundwater at the Site have become contaminated through the historical and current industrial activities performed at NBF and GTSP and possibly by other industrial activities in the region. Other affected environmental media at the Site may include outdoor and indoor air. Historical and current industrial activities at the Site may have contributed, and may continue to contribute, contaminants to Slip 4 surface water and sediment.

The preliminary conceptual site model (CSM) provides a general summary of how the NBF-GTSP Site is suspected to have become contaminated. The CSM takes into account the historical uses and operations, as well as the current uses and operations, and current physical and chemical data. An understanding of the contamination process is critical to ensuring that remedial actions are targeted at the contaminant sources, release and transport mechanisms, affected media and exposure pathways. The preliminary CSM will be refined using data collected and analyses completed as part of the RI.

3.1 Contaminants and Potential Sources

3.1.1 Contaminants of Potential Concern

The initial list of contaminants of potential concern (COPCs) for the NBF-GTSP Site were identified in the *North Boeing Field and Georgetown Steam Plant Supplemental Summary of Existing Information and Identification of Data Gaps Report* (SAIC 2009b [6078]) and the *Assessment of Infiltration and Inflow to North Boeing Field Storm Drain System* (SAIC 2011b [6143]). These reports identified COPCs by comparison of environmental analytical data to a limited number of widely accepted regulatory criteria used as screening levels (SLs). These COPCs were identified by utilizing existing Site data, with detections at concentrations exceeding initial SLs, or they were identified because chemicals were suspected to be present at the Site based on historical and current operations.

The data used to compare to these SLs were derived from analytical results of samples collected at the Site, including the following media: grab storm drain solids, sediment trap solids, stormwater filtered suspended solids, stormwater, surface debris, soil, groundwater, concrete joint material (CJM), and other anthropogenic media (building materials) at the Site.[2] Sources of SLs used in the Supplemental Data Gaps Report (SAIC 2009b [6078]) and the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]) included the following:

[2] Although the term "building materials" is generally used to refer to any anthropogenic (manmade) materials, this Work Plan will use the term to include all materials that have been used to form the exterior of buildings or major structures. Other smaller structures (e.g., pipes, test equipment, bollards, fire hydrants), and any manmade materials on the ground (e.g., pavement, CJM, surface debris, paint) will herein be referred to as "surface materials." Altogether they are generally referred to as "anthropogenic media."

- the lowest value for each chemical from MTCA Method A cleanup levels, Method B standard formula value cleanup levels (carcinogen and non-carcinogen), or Draft Slip 4 soil-to-sediment and groundwater-to-sediment SLs (SAIC 2006 [0100]) for soil and groundwater samples
- the lowest value for each chemical from the National Recommended Water Quality Criteria (USEPA 2009a [0039]) or Water Quality Standards for surface waters of the State of Washington (WAC 173-201A) for stormwater samples
- the lowest value from the Washington State SMS (WAC 173-204) or the 1994 Lowest Apparent Effects Threshold Values (Ecology 1996 [0035]) for filtered suspended solids and surface debris samples
- a chemical that has been detected in Slip 4 sediments at concentrations above the SMS or other relevant criteria for grab storm drain solids and sediment trap samples.

Based on these limited SLs, the following COPCs were determined for the Site and presented in the Supplemental Data Gaps Report (SAIC 2009b [6078]) and Infiltration and Inflow Assessment Report (SAIC 2011b [6143]).

Initial COPCs Listed by Chemical Class

Chemical Class	COPC	Chemical Class	COPC
Metals	Antimony	Phthalates	BEHP
	Arsenic	Other SVOCs	Dibenzofuran
	Cadmium		Hexachlorobutadiene
	Chromium		Phenol
	Copper	PCBs	PCBs, total
	Lead	Petroleum Hydrocarbons	TPH-diesel
	Manganese		TPH-gasoline
	Mercury		TPH-motor oil
	Selenium		Jet fuel
	Silver		Kerosene
	Vanadium		TPH
	Zinc		Fuel oil
PAHs	2-Methylnaphthalene		Bunker C
	Acenaphthene		Skydrol
	Acenaphthylene	VOCs	1,2-DCE
	Anthracene		Benzene
	Benzo(a)anthracene		Bromodichloromethane
	Benzo(a)pyrene		Chloroform
	Benzofluoranthenes		Dibromochloromethane
	Benzo(g,h,i)perylene		Ethylbenzene
	Chrysene		Methylene chloride
	Dibenzo(a,h)anthracene		PCE
	Fluorene		TCE
	Fluoranthene		Vinyl chloride
	Indeno(1,2,3-cd)pyrene		Xylenes, total
	LPAHs, total	Dioxins/Furans	Dioxins/Furans
	HPAHs, total		
	cPAHs, total		

LPAHs – low molecular weight PAHs
HPAHs – high molecular weight PAHs
cPAHs – carcinogenic PAHs
BEHP – bis(2-ethylhexyl)phthalate
TPH – total petroleum hydrocarbons
DCE – dichloroethene
PCE – perchloroethene/tetrachloroethene
TCE – trichloroethene

In 2011, Ecology requested that a broader set of criteria be evaluated for use as SLs in the RI. As a result, the list of COPCs above is considered preliminary, and a more complete screening process with a different list of RI COPCs is presented in Section 6 of this Work Plan. The detailed data evaluation in Section 7 will utilize the new RI COPCs from Section 6.

3.1.2 Potential Contaminant Sources

General onsite sources of COPCs to environmental media at the Site include, but are not limited to, the following:

- Historical and current operations and activities at GTSP and NBF
- Materials and equipment used in historical and current operations, including storage tanks, vehicles, and aircrafts
- Building materials and components, such as window caulk and paint
- CJM, other surface solids, and debris.

Examples of operations, activities, materials and equipment that are included in the first three categories are provided on Table 3-1. Table 3-1 is not a comprehensive list of possible onsite COPC sources. Information regarding COPCs that are potentially present in materials and equipment used in operations, building materials and components, and surface materials is presented in Section 3.1 of the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]).

Potential offsite sources that may have contributed to contamination of the Site include, but are not limited to, the following:

- Contaminated stormwater drainage and upgradient groundwater flowing to the Site
- Surface runoff from offsite sources including the NBF-FTC and KCIA
- Atmospheric deposition
- Storage tanks and other stored materials at adjacent properties.

3.2 Potential Release Mechanisms and Transport Routes

Chemical contaminants present in the source materials (e.g., CJM or building materials) are released to the environment through a variety of mechanisms, such as weathering and volatilization. The contaminants are transported to environmental media, such as groundwater or Slip 4 sediments (via the storm drain pathway). Once the contaminants are present in environmental media, humans and other organisms may be exposed to the contaminants. The following sections identify the potential release mechanisms and transport routes for COPCs at the NBF-GTSP Site.

3.2.1 Potential Release Mechanisms

Physical and chemical release mechanisms that potentially expose environmental media to COPCs include the following two categories.

Physical Release Mechanisms:

- Weathering, Erosion, and Fragmentation – Weathering and erosion of materials located outdoors, such as building materials, asphalt, concrete, CJM, and soil particles occur through natural processes such as wind and rainfall, but also through industrial practices such as power-washing surfaces and ground surface sweeping. These mechanisms cause fragmentation and movement of material along the surface and release contaminants or contaminated particulates (i.e., dust) to the atmosphere.
- Wear and Aging – Wear and aging on vehicles, aircrafts, and equipment caused by normal operations may release contaminants to the environment. For example, zinc and phthalates may be released to the ground surface through wear on vehicle tires, or copper may be released from brake pads. Cadmium coatings used on aircraft parts may flake or chip off through normal use and fall to the ground.
- Liquid or Solid Releases (Spills and Leaks) – Liquid and solid spills may occur from operations inside buildings, various structures (e.g., transformers, hoses, ASTs) and vehicles/aircraft, potentially releasing contaminants to the ground (both paved and unpaved).

Chemical Release Mechanisms:

- Leaching – Contaminants may leach from materials and equipment used in operations, spilled materials, and building and surface materials; this may occur when these materials come into contact with stormwater, groundwater or other liquid. Additionally contaminants may leach from soil when in contact with stormwater, groundwater, or other liquid.
- Volatilization – Contaminants may volatilize from materials used in operations, such as fuel; building materials and components, such as phthalates offgassing from plastic components; from CJM, or from contaminated soil and groundwater when exposed to the atmosphere. Volatilized contaminants may sorb to particulates in the atmosphere.

3.2.2 Transport Routes to Environmental Media

The following routes may transport contaminants that have been released from the possible COPC sources, identified in Section 3.1.2, to environmental media. Contaminants may follow one or more transport routes in this process. These transport routes may be primary and secondary routes.

- Atmospheric deposition – dry and wet deposition of atmospheric contaminants from onsite sources (e.g., vehicle and aircraft emissions) and offsite sources
- Surface runoff and overland flow
- Storm drain system conveyance, including inflow from improper connections (e.g., building floor drains), offsite connections and base flow
- Infiltration and leaching of stormwater to the ground surface, soil, and groundwater

- Infiltration and leaching of contaminated soil or groundwater to the storm drain system and infiltration and leaching of contaminated stormwater in the storm drain system to soil or groundwater
- Soil and dust redistribution (i.e., regrading, erosion, dust generation, track-out)
- Groundwater migration and downgradient transport
- Groundwater and soil vapor to indoor air.

Atmospheric deposition is a possible transport route of COPCs to the Site. For example, PCBs may be transported via this pathway and may exist in air as vapors, sorbed to particulates, or as aerosols. In particular, PCBs may volatilize from CJM, especially when heated by solar radiation (Chrostowski 2009 [6120]). All other COPCs may also be transported via the airborne pathway. When atmospheric transport of contaminated material gives way to wet or dry deposition on the surface, the particulates may be washed into the storm drain system or infiltrate the ground surface.

Surface runoff and overland flow are possible transport routes of COPCs to the Site. Contaminated surface debris is entrained by stormwater and conveyed to the storm drain system at NBF through surface runoff transport. In this preliminary CSM, surface runoff includes surfaces such as rooftops at NBF because many buildings have roof drains that are plumbed to the storm drain systems. Contaminants deposited on rooftops through atmospheric deposition may be washed into the storm drain system. Surface runoff may occur in the event of a liquid spill, if the spill enters the storm drain system. At GTSP, overland flow of stormwater may redistribute contaminants that are present in surface soil through erosion and re-deposition of soil.

Stormwater may infiltrate soil and groundwater beneath the Site in both the unpaved areas (such as the yard at GTSP) and paved areas through cracks, joints and breaks in the asphalt or concrete surfaces. Infiltration of stormwater may introduce contaminants to soil and groundwater if the stormwater is contaminated or becomes the catalyst for contaminants in soil to leach to groundwater.

Stormwater, storm drain solids and base flow are conveyed through the storm drain system and ultimately discharge to Slip 4. Base flow may be comprised of groundwater (where storm drain lines are below the water table), suspended solids, discharges from improper connections (e.g., floor drains) and offsite connections, and direct spills to the storm drain system.

Contaminated soil and groundwater may infiltrate the storm drain system through cracks, joints and breaks in the storm drain structures. Soil would likely enter the storm drain system through large holes or via rapidly moving groundwater; therefore, a more likely scenario for contaminants in soil to reach the storm drain system includes groundwater leaching through the soil and then into the storm drain system.

As contaminated soil and groundwater may infiltrate the storm drain system, also exfiltration from the storm drain system to soil and groundwater may occur through cracks, joints and breaks in storm drain structures. Due to stormwater and base flow conveyance through the storm drain system, contaminants that are exfiltrating from the storm drain system may have traveled downstream from the source.

Soil redistribution through construction activities such as regrading or backfilling excavations has occurred in the past at GTSP and NBF and may occur in the future. Surface soil from unpaved areas of the Site may be entrained by wind and transported offsite or re-deposited onsite through atmospheric deposition. Dust may be generated also from construction activities. Employees may inadvertently track out contaminant-bearing dust from indoor areas to other areas of the Site. Dust may become entrained by wind or stormwater.

Upgradient, contaminated groundwater may enter the Site through groundwater migration. Groundwater migration may transport contaminants from upgradient areas to downgradient areas of the Site. Groundwater may reach offsite and eventually discharge to Slip 4 or to the LDW.

Volatile contaminants in soil and shallow groundwater and soil may intrude into buildings, particularly those of slab-on-grade construction, and mingle with indoor air.

3.3 Affected Environmental Media

Stormwater, storm drain solids, soil, groundwater, air, and anthropogenic materials are the primary environmental media that may become contaminated at the Site. If contaminated, these media may also act as secondary sources, become subject to release and transport mechanisms, and ultimately spread contaminants to new areas or other environmental media. The table below indicates the COPCs that have been detected in each environmental medium.

Contaminants Detected in Affected Environmental Media

Environmental Media	Contaminants of Potential Concern							
	PCBs	Metals	PAHs	Phthalates	Other SVOCs	Petroleum Hydro-carbons	VOCs	Dioxins/ Furans
Stormwater & Suspended Solids[1]	●	●	●	●	●	--	●	●
Storm Drain Solids	●	●	●	●	●	●	--	●
Surface Solids & Materials[2]	●	●	●	--	--	●	--	--
Soil	●	●	●	●	●	●	●	--
Groundwater & Base Flow	●	●	●	●	●	●	●	--
Slip 4 Sediment	●	●	●	●	●	--	--	●

[1] - Stormwater was not analyzed for dioxins/furans; suspended solids were not analyzed for VOCs
[2] - Surface solids and materials such as CJM, surface debris, asphalt, and concrete
-- – Not analyzed

3.4 Suspected Receptors and Exposure Media

The core of the site conceptual model is represented by a flow-diagram depicting the Site as it relates to exposure pathways and potential receptors. MTCA defines an *exposure pathway* as: “the path a hazardous substance takes or could take from a source to an exposed organism. An exposure pathway describes the mechanism by which an individual or population is exposed or has the potential to be exposed to hazardous substances at or originating from a site." An exposure pathway is complete if a chemical can travel from a source to a receptor and is available to that receptor via one or more exposure routes (USEPA 1989a [N0015]). Exposure pathways include ingestion, dermal contact and inhalation.

In Figure 3-1, three general classifications of exposure pathways or their components are recognized:

> *Potentially complete* exposure pathways are those routes that: (a) are likely to be currently transporting contaminants to or within a certain medium (such as inhalation of indoor air by workers); or (b) may transport contaminants in the future (such as incidental contact with soil and groundwater for future construction workers).
>
> *Potentially complete but insignificant* exposure pathways are those that are likely to be currently transporting or may in the future transport contaminants to or within a certain medium; however, the resulting contaminant concentrations would be insignificant to the health of human and ecological receptors.
>
> *Incomplete* exposure pathways are those that are not possible at any time, based on physical evidence or site usage or the terrestrial ecological evaluation; this indicates that a component of the exposure pathway is missing (e.g., a human will not drink pooled stormwater at the Site). In some cases, additional information may be needed to confirm that future exposure along this pathway is not considered possible.

3.4.1 Human Receptors

GTSP is currently open to the public, and the south yard is used as a scale model train operation area and a picnic area. NBF is closed to the public. Construction or remediation activities may occur at either property. Current human receptors that could potentially be exposed to chemicals on the Site include:

- Onsite industrial workers (full-time, regular)
- Onsite construction workers (full-time, temporary)
- GTSP visitors
- Offsite industrial workers at nearby facilities (full-time, regular)
- Offsite residents

3.4.2 Ecological Receptors

Ecological receptors include any living organisms other than humans, the habitat which supports such organisms, or natural resources that could be adversely affected by environmental contamination resulting from a release at or migration from a site. The current ecological receptors that could potentially be exposed to chemicals on the Site include:

- Slip 4 surface water and sediment
- Marine biological receptors
- Unpaved areas with accessible soil
- Terrestrial biological receptors.

3.4.3 Exposure Media

Human and ecological receptors may be exposed to COPCs through the following environmental media:

- Outdoor and indoor air
- Stormwater and storm drain solids
- Soil
- Groundwater
- Slip 4 surface water and sediment.

The potential exposure pathways and the preliminary classification in relation to each exposure media are described in the following sections. A potential exposure scenario is provided to illustrate how a human or ecological receptor may be exposed to contaminants at the Site. Some of these pathways overlap between media, particularly regarding volatilization and inhalation.

3.4.3.1 Outdoor and Indoor Air

Outdoor and indoor air as environmental media relate to the inhalation pathway, from soil to vapor to outdoor/indoor air. A summary of the potential outdoor and indoor air exposure pathways at the Site is presented in the following table.

Potential Exposure Pathways for Outdoor and Indoor Air

Potential Air Exposure Pathway	Pathway Classification	Scenario
Inhalation – Outdoor Air	Potentially complete but insignificant	Chemicals present in CJM, building materials, surface soil, and other sources may volatilize to outdoor air.
Inhalation – Soil and Groundwater to Outdoor Air	Potentially complete but insignificant	Chemicals present in soil and groundwater may volatilize when exposed to the atmosphere during excavation or other ground-disturbing activities.
Inhalation – Soil and Groundwater to Vapor (Indoor Air)	Potentially complete	Chemicals present in soil and groundwater may volatilize and intrude into buildings.

3.4.3.2 Stormwater and Storm Drain Solids

Stormwater and storm drain solids as environmental media relate to a number of potential exposure pathways, to other media, and to receptors. Exposure pathways include: stormwater and storm drain solids incidental ingestion or dermal contact and inhalation of volatiles. A summary of the potential stormwater and storm drain solids exposure pathways at the Site is presented in the following table.

Potential Exposure Pathways for Stormwater and Storm Drain Solids

Potential Storm Drain Exposure Pathway	Pathway Classification	Scenario
Ingestion/ Dermal Contact/ Inhalation – Outdoor Air	Potentially complete	Workers may encounter stormwater and storm drain solids in the NBF storm drain system during utility repair or construction activities.
Dermal Contact/ Inhalation – Outdoor Air	Potentially complete but insignificant	Workers may encounter pooled stormwater at the Site. Chemicals may volatilize from pooled stormwater.

3.4.3.3 Soil

Soil as an environmental medium relates to a number of potential exposure pathways, to other media, and to receptors. Exposure pathways include: incidental soil ingestion or dermal contact, incidental inhalation of dust emissions, and soil to vapor to indoor air. A summary of the potential soil exposure pathways at the Site is presented in the following table.

Potential Exposure Pathways for Soil

Potential Soil Exposure Pathway	Pathway Classification	Scenario
Ingestion/ Dermal Contact	Potentially complete	Soil contamination is present near ground surface (less than 6 inches) and at deeper depths (as deep as 40 feet bgs).[1] Because shallow contaminated soil is present, it may be incidentally encountered (contacted or ingested) during site redevelopment, or utility construction activities (current users are separated from contamination by pavement, grass and fill/topsoil).
Inhalation – Soil to Dust Emissions (Outdoor Air)	Potentially complete	Dust may be generated during construction activities if soil is excavated and moved.
Inhalation – Soil to Vapor (Indoor Air)	Potentially complete	Chemicals present in soil or non-aqueous phase liquid (NAPL) may volatilize and intrude into nearby buildings.

[1] Hart Crowser 1991 [1435]

Further research regarding possible dust emissions and the associated potential volatilization, including indoor air concerns, is necessary to evaluate these transport mechanisms as possible hazards.

3.4.3.4 Groundwater

Groundwater as an environmental medium relates to a number of potential exposure pathways, to other media, and to receptors. Exposure pathways include: drinking water ingestion or household contact, incidental dermal contact or ingestion, groundwater to surface water, and groundwater to vapor and indoor/outdoor air. A summary of the potential groundwater exposure pathways at the Site is presented in the following table.

Potential Exposure Pathways for Groundwater

Potential Groundwater Exposure Pathway	Pathway Classification	Scenario
Ingestion	Potentially complete	Groundwater at the Site is not used as a current source of potable water. However, this remains a potential pathway until the groundwater has been demonstrated to be non-potable in accordance with WAC 173-340-720(2).
Dermal Contact/ Inhalation	Potentially complete	Groundwater is relatively shallow and has been encountered as shallow as approximately 2 feet bgs. Because the water table may be encountered at shallow depths, contaminated groundwater may be incidentally encountered (contacted or inhaled) during Site redevelopment or utility construction activities.
Inhalation – Groundwater to Vapor (Indoor Air)	Potentially complete	Chemicals in soil may leach into groundwater, and other dissolved chemicals or NAPL may volatilize and intrude into nearby buildings.
Groundwater to Surface Water	Potentially complete	Groundwater may be infiltrating storm drain lines via cracks or breaks in the pipes located below the water table. Groundwater may also migrate offsite and discharge to Slip 4 or the LDW.

Further research regarding potential groundwater uses (if any) at the Site and potential volatilization, including indoor air concerns, is necessary to evaluate these transport mechanisms as possible hazards.

3.4.3.5 Slip 4 Surface Water and Sediment

Surface water and sediment in Slip 4 may constitute exposure media to humans and other organisms, and the Slip is also an ecological receptor. The primary exposure pathway is incidental dermal contact or ingestion. A summary of the potential Slip 4 surface water and sediment exposure pathways is presented in the following table.

Potential Exposure Pathways for Slip 4 Surface Water and Sediment

Potential Slip 4 Exposure Pathway	Pathway Classification	Scenario
Dermal Contact/ Ingestion	Potentially complete	Recreational users and workers may come into contact with Slip 4 surface water and/or sediment.
Dermal Contact/ Ingestion	Potentially complete	Marine organisms may be harmed by contact with contaminated surface water or sediment.

4.0 Summary of Existing Information and Data Gaps

This section includes a summary of available information on environmental investigations and identified data gaps for the NBF-GTSP Site. More detailed information on history of investigations and results in specific areas is included in Section 7 of this Work Plan. Information on investigations and cleanups reported by summer 2011, is included in this section. Information from recent and ongoing investigations and cleanups will be considered in the Final RI/FS Work Plan, although data are not expected to be included in the project database and shown in the Work Plan. Future data will be incorporated into the database during the RI phase.

A large number of environmental investigations have been conducted at the NBF-GTSP Site over the past few decades. Between 2010 and early 2012, a large number of investigations took place at the Site, focusing particularly on the NBF PEL area and the southern portion of the GTSP property. Based on results from these investigations, areas of contamination have been further identified in soil and groundwater at GTSP and NBF, in storm drain solids in the NBF storm drain system, and in a variety of building materials at the NBF property.

Sources of preliminary COPCs associated with the GTSP property are identified in Section 4.1, and those associated with the NBF property are identified in Section 4.2. Figure 4-1 presents known historical sampling locations (to mid-2011) for soil and groundwater at the NBF-GTSP Site (and some offsite locations adjacent to GTSP). These include locations that are currently uploaded into the SAIC ArcGIS project database. Figure 2-7 identifies the wells and other groundwater sampling locations. Figure 4-2 presents a synoptic view of the NBF-GTSP Site with known locations of historical samples collected and analyzed for PCBs from the following four media groups: storm drain solids, groundwater, soil, and anthropogenic media (including CJM, concrete, and surface solids). Figure 4-3 presents the same view for TPH analyses, Figure 4-4 for SVOCs, Figure 4-5 for VOCs, and Figure 4-6 for metals.

In Section 4, screening levels (SLs) have been applied as described above in Section 3.1.1. Note that throughout Section 4, PCB concentrations always refer to total PCBs, unless stated otherwise. The following summary by location provides an overview of Site conditions.

4.1 Summary of Potential Sources of Contaminants at GTSP

Much of the information regarding investigations and cleanups prior to 2009 is summarized in the Supplemental Data Gaps Report (SAIC 2009b [6078]). A summary of detected chemicals with concentrations above regulatory levels or SLs are presented in Tables 3-1 and 3-2 of the Supplemental Data Gaps Report for soil and groundwater, respectively. GTSP Site features are presented in Figures 2-1 and 2-2 of this Work Plan. Soil and groundwater sampling locations from these investigations at and near the GTSP property are shown in Figure 4-1. Results of investigations conducted in 2011 have been partially provided to Ecology.

4.1.1 Soil, Groundwater, and Other Investigations

Low levels of PCBs have been detected in wipe and ash samples from the GTSP power house, and in soil samples near the power house, fuel storage areas, and boiler blowdown ditch. Because city records indicate that used transformer oil was delivered to the GTSP property over a period of several years, the GTSP cannot be ruled out as a potential source of sediment recontamination to Slip 4.

Contaminated soil has generally been encountered between ground surface and approximately 9 feet bgs. However in some deeper soil borings in the former fuel tank area, petroleum hydrocarbon contamination has been observed as deep as 21 feet bgs. Soils containing detected PCBs have been identified in the Low-Lying Area. Contaminated groundwater has been observed in all wells at GTSP, although PCBs have been observed only in well GTSP-5 and in three temporary wells, which are all located in the southwest portion of the low-lying area. Trichloroethene (TCE) is present in upgradient well GTSP-1, and metals have been detected in all GTSP wells.

PCBs were detected in the former low-lying area (small area near southwest corner of property) at concentrations up to 91,000 mg/kg in 1985. It is possible that the former Boeing Fire Training Center and ditch may have transported contaminants to this area, or illegal dumping may have occurred. Soils in the former low-lying area were excavated from a 40- by 50-foot area to a depth of 3 to 4 feet in 1985.

In November 2005, PCBs were detected in soils from gaps in the retaining wall along the fenceline between GTSP and NBF (Figure 4-7) at concentrations up to 2,400 mg/kg. A subsurface sample collected from behind the retaining wall in January 2006 contained 3,900 mg/kg. This area was subsequently excavated during the May 2006 interim action to reduce the potential for offsite migration of PCB-contaminated soils. PCBs remained in subsurface soil at concentrations up to 3,800 mg/kg, but these fenceline soils were excavated as part of the interim action during summer/fall 2011.

Soil samples were collected from the low-lying area and fenceline areas in June 2010. Preliminary data indicate that PCBs were detected in 69 of 135 soil samples at concentrations up to 530 mg/kg (Integral 2010b [6138]). The source of PCB contamination to this area has not been determined. These low-lying area soils were excavated as part of the interim action during summer/fall 2011.

Metals, PAHs, petroleum hydrocarbons, and VOCs have been detected in soil and/or groundwater samples collected at the GTSP property at concentrations exceeding MTCA cleanup levels (CULs). In addition, mercury, PCBs, PAHs, and other SVOCs have been detected at concentrations exceeding soil-to-sediment SLs. The preliminary COPCs in the following table have exceeded these SLs for sample results from GTSP.

Chemicals in Exceedance of MTCA CULs or Soil-to-Sediment SLs at GTSP	
Chemical Class	**Chemical**
Metals	Arsenic
	Cadmium[1]
	Chromium
	Mercury
PAHs	Acenaphthene
	Benzo(a)anthracene
	Benzo(a)pyrene
	Chrysene
	Fluorene
	2-Methylnaphthalene
	Naphthalene
	Phenanthrene
	Pyrene
	cPAHs, total
PCBs	PCBs, total
Other SVOCs	Dibenzofuran
Petroleum Hydrocarbons	TPH-diesel
	TPH-gasoline
	TPH-motor oil
VOCs	TCE

Contaminant concentrations to 2009 that exceeded SLs are shown on Tables 3-1 and 3-2 of the Supplemental Data Gaps Report (SAIC 2009b [6078]). Contaminant results for the 2010 investigations are summarized in two data reports (Integral 2010b [6138], 2010d [6111]).

4.1.2 Recent and Ongoing Investigations (2010-2011)

The City of Seattle has completed a number of activities to identify and mitigate PCB sources at the GTSP property as outlined in Table 4-1. Recent activities include a soil and groundwater investigation and cleanup interim action. Soil removal was performed in the low-lying area and northward along the fenceline, in addition to soil removal in the fuel tank area. This interim action is expected to improve groundwater quality as a result of soil source removal. The recent investigations and the soil removal are discussed in the following work plans and reports:

- Draft Work Plan, Georgetown Steam Plant RI/FS (subsequently re-titled Draft Georgetown Steam Plant Site Characterization Work Plan). Prepared by Integral Consulting. May 14, 2010 (Integral 2010a [6137]).
- Georgetown Steam Plant: Addendum to May 14, 2010 Draft Georgetown Steam Plant Site Characterization Work Plan. Prepared by Seattle City Light. July 7, 2010 (SCL 2010 [6108]).
- Georgetown Steam Plant, Low-Lying Area Data Report (Draft). Prepared by Integral Consulting. August 20, 2010 (Integral 2010b [6138]).

- Georgetown Steam Plant, Low-Lying Area Interim Action Work Plan (Draft). Prepared by Integral Consulting. August 20, 2010 (Integral 2010c [6139]).
- Georgetown Steam Plant, Soil Boring and Groundwater Monitoring Report, June 2010 (unvalidated data) (Draft). Prepared by Integral Consulting. August 20, 2010 (Integral 2010d [6111]).

Validated data from the low-lying area and Soil Boring and Groundwater Monitoring were received electronically and have been incorporated into the RI/FS Work Plan. The soil excavation performed at GTSP in accordance with the Low-Lying Interim Action Work Plan is considered in the proposed activities and recommendations presented in this RI/FS Work Plan.

4.1.3 Data Gaps at GTSP

The purpose of the RI is to characterize the nature and extent of contamination in soil, groundwater, and other media at the Site and to identify sources of contaminants to stormwater. Data gaps related to these media at the GTSP property are identified below.

- Extensive soil and groundwater sampling for PCBs has been conducted at the GTSP property; some sampling, particularly the 2010 investigation, has been conducted for other contaminants. Several chemicals have been detected in soil at concentrations above MTCA CULs or other preliminary SLs, including arsenic, chromium, benzo(a)pyrene, PCBs, and TPH. In addition, PCBs and TCE have been detected above MTCA CULs in groundwater. Additional analysis is needed to fully evaluate the lateral and vertical extent of PCBs and other contaminants at the GTSP property (a portion of this evaluation was performed as part of the 2011 soil removal activities). An outstanding data gap relates to amount of soil removed, remaining soil concentrations, and groundwater monitoring results following soil cleanup.
- The source of TCE in groundwater is unknown, and ongoing investigations by KCIA in the upgradient area have shown that the source likely lies upgradient of the KCIA investigation area. Depending on the final findings of these investigations, evaluation, and remediation, additional sampling may be necessary to define the extent of contamination.
- A recent study conducted by Ecology analyzed dioxins/furans in surface soil of selected Seattle neighborhoods. Georgetown, located adjacent to the northern portion of the Site, was included in this study. The average dioxin/furan TEQ (using 0.5 non-detect multiplier) in the Georgetown area samples was 36 picograms per gram (pg/g), and the maximum was 110 pg/g (Ecology 2011b [N0003]). Based on the presence of dioxins/furans in surface soil in the adjacent neighborhood, the presence of elevated concentrations of PCBs onsite, the practice of coal burning, ash disposal, close proximity to fire pits, and public use of the grassy area at the GTSP property, information on dioxins/furans concentrations at the NBF-GTSP Site is needed.
- Building materials such as paint have not been evaluated as a possible source of COPCs.
- The roof drains from the GTSP building are connected via a storm drain that discharges to Slip 4. Roof materials and roof drain effluent has not been evaluated as a possible source of COPCs. It is unknown if or when this storm drain near the power house has been sampled for solids.

4.1.4 Former Georgetown Flume

Although the former flume was largely located off the current GTSP property, it will be briefly discussed here. A historic summary of the flume and the removal activity is included in Section 2.4.2, and additional investigative information is provided in Section 7.1.4.10. During several investigations between 1984 and 2006, the City of Seattle sampled storm drain solids in the flume, and identified PCBs, PAHs, metals, and petroleum constituents. One cleanup activity took place in 1985. Environmental investigations performed in 2005 and 2006 characterized solids in the flume, and soil and groundwater near the flume. Solids samples indicated that concentrations of PCBs, PAHs, phenols, benzoic acid, BEHP, lead, mercury and zinc exceeded the Sediment Quality Standard (SQS) or the Contaminant Screening Level (CSL) for the SMS. PCBs and cPAHs were present in samples of creosote from the wooden flume. Soil and groundwater samples were collected beneath the flume, and no exceedances of MTCA Method A CULs for industrial land use were observed (Herrera 2007 [6013], 2010 [6820]).

During flume removal in 2009, as part of a remedial action to protect Slip 4, approximately 25 to 30 cubic yards of PCB-contaminated solids were present in the tunnel prior to cleaning. Approximately 2.75 tons of TSCA-regulated flume sediments and soil were removed (Herrera 2010 [6820]).

4.2 Summary of Potential Sources of Contaminants at NBF

4.2.1 Soil and Groundwater Investigations

Numerous investigations and cleanups have been performed at NBF over many years (Figure 4-1 and Table 4-1). For the purpose of discussing environmental investigations and cleanups of soil and groundwater, NBF was provisionally subdivided into three large areas based on zones previously defined by Boeing and historical features: the PEL area (northern portion of NBF), the Central Area, and the Southern Area (Figure 4-7). Soil and groundwater investigations in these three large areas are summarized in the following sections. (Note that in Section 7.1 of this Work Plan, these zones have been modified.)

4.2.1.1 Propulsion Engineering Laboratory Area

The PEL area includes the buildings around the fuel test slab and extends east to the Green Hornet Area (Figure 4-8). This area is north of Concourse A and also includes the NBF-GTSP fenceline area. Historical investigation areas that have been conducted in the PEL area are depicted in Figure 4-8. Tables 4-1 through 4-11 of the Supplemental Data Gaps Report (SAIC 2009b [6078]) list soil and groundwater sampling results for chemicals detected at concentrations exceeding SLs as of 2009. Information from more recent PEL investigations (2010 and 2011) is presented in Section 7.1.

PCBs, metals, SVOCs (including PAHs and phthalates), petroleum hydrocarbons, and VOCs have been detected in soil samples at concentrations exceeding the MTCA CULs and/or the soil-to-sediment SLs (these various values are used as initial SLs). PCBs, petroleum hydrocarbons, and VOCs have been detected in groundwater samples at concentrations exceeding the MTCA

CULs and the groundwater-to-sediment SL. The preliminary COPCs in the following table have exceeded these initial SLs for sample results from the PEL area.

Chemicals in Exceedance of MTCA CULs or Soil/Groundwater-to-Sediment SLs at PEL Area, NBF

Chemical Class	Chemical
Metals	Arsenic
	Chromium
	Mercury
PAHs	Benzo(a)anthracene
	Benzo(a)pyrene
	Fluorene
	Naphthalene
	cPAHs, total
Phthalates	BEHP
Other SVOCs	Dibenzofuran
	Hexachlorobutadiene
	2-Methylnaphthalene
PCBs	PCBs, total
Petroleum Hydrocarbons	TPH-diesel
	TPH-gasoline
	Jet fuel
	Kerosene
VOCs	Benzene
	Methylene chloride
	TCE
	Xylenes, total

Contaminants in soil are generally observed between the soil surface and approximately 11 feet bgs. Preliminary COPC chemical classes observed in soil samples include PCBs, PAHs, VOCs, metals, and petroleum hydrocarbons.

Contaminants in groundwater have been observed in the PEL area in samples from monitoring wells or in grab groundwater samples; however, the existing data are not sufficient to determine current conditions in this area of the Site. Until January 2011, the only active groundwater monitoring wells in or near the PEL area included the wells associated with the Green Hornet Area (wells NGW101 through NGW106) and the downgradient wells associated with former Building 3-360 (in the adjacent Central Area, wells NGW201 through NGW204 and NGW206 through NGW 212). Of the Green Hornet Area wells, only two are currently monitored, and groundwater samples are analyzed for petroleum hydrocarbons only. Of the former Building 3-360 wells, only five are currently monitored and groundwater samples are analyzed for TCE, cis-1,2-DCE, and vinyl chloride. In January 2011, Boeing installed approximately 15 monitoring wells in scattered locations throughout the PEL area. Additional monitoring wells were installed in the former Building 3-360 area (Central Area) in early to mid 2011, although the exact number of wells installed is unknown.

4.2.1.2 Central Area

The Central Area of NBF encompasses Concourse A at the northern end and the Main Fuel Farm at the southern end. The western boundary of the area is East Marginal Way S and the eastern boundary is Concourse C. Investigations that have been conducted in the Central Area are shown in Figure 4-9. Tables 4-12 through 4-28 of the Supplemental Data Gaps Report (SAIC 2009b [6078]) list soil and groundwater sampling results for chemicals with detected concentrations exceeding regulatory levels or SLs.

Metals, SVOCs (including PAHs and phthalates), PCBs, petroleum hydrocarbons, and VOCs have been detected in samples collected in the Central area of NBF at concentrations above MTCA CULs and the soil-to-sediment or groundwater-to-sediment SLs. The preliminary COPCs in the following table have exceeded these initial SLs for sample results from the Central Area.

Chemicals in Exceedance of MTCA CULs or Soil/Groundwater-to-Sediment SLs at Central Area, NBF

Chemical Class	Chemical	Chemical Class	Chemical
Metals	Antimony	Phthalates	BEHP
	Arsenic	Other SVOCs	2-Methylnaphthalene
	Cadmium		Phenol
	Chromium	PCBs	PCBs, total
	Copper	Petroleum Hydrocarbons	TPH-diesel
	Lead		TPH-gasoline
	Manganese		Jet fuel
	Mercury		Kerosene
	Selenium	VOCs	Benzene
	Silver		Bromodichloromethane
	Vanadium		Chloroform
	Zinc		Dibromochloromethane
PAHs	Acenaphthene		1,2-DCE
	Benzo(a)anthracene		Methylene chloride
	Benzo(a)pyrene		PCE
	Fluorene		TCE
	Naphthalene		Vinyl chloride
	Phenanthrene		
	cPAHs, total		

The Central Area comprises a large portion of NBF. Soil and groundwater investigations have been limited to three smaller areas of the Central Area (Figure 4-9). In the northern portion of the Central Area (Buildings 3-390, 3-369, 3-380, 7-27-1, former Building 3-360, and Concourse A), contaminated soil is generally observed between 2 and 10 feet bgs. Preliminary COPC chemical classes observed in soil samples include PCBs, PAHs, VOCs, metals, and petroleum hydrocarbons. Preliminary COPC chemical classes observed in groundwater samples include VOCs, SVOCs, metals, and petroleum hydrocarbons. Active wells in this area are those associated with former Building 3-360 (also listed above for PEL area, wells NGW201 through NGW204 and NGW206 through NGW 212) and Building 3-369. Of the former Building 3-360 wells, only five are currently monitored for limited VOCs. Wells associated with Building 3-369 are not currently monitored. Additional monitoring wells were installed in the former Building 3-360 area in early to mid 2011, though the exact number of wells installed is unknown.

In the area of Main Fuel Farm and Buildings 3-800, 3-801, and 3-818, contaminated soil is generally encountered between 2 and 10 feet bgs. Preliminary COPC chemical classes observed in soil samples include PAHs, VOCs, metals, and petroleum hydrocarbons. Preliminary COPC chemical classes observed in groundwater samples include PAHs, phthalates, other SVOCs, VOCs, metals, and petroleum hydrocarbons. The active wells in this area are those associated with Building 3-800 (wells NGW301 through NGW311) and the Main Fuel Farm (wells NGW351 through NGW359). Four of the 3-800 wells are currently monitored and the groundwater samples are analyzed for PCE, TCE, cis-1,2-DCE, and vinyl chloride (all wells). Four of the Main Fuel Farm wells are currently monitored and all samples are analyzed for petroleum hydrocarbons. Two of the wells are also analyzed for BTEX. Petroleum non-aqueous phase liquid (NAPL) is present in well NGW354.

Limited data are available in the flightline area as very few soil and groundwater investigations have been performed in this area. VOCs and petroleum hydrocarbons have been detected in soil samples at concentrations exceeding SLs from approximately 1 to 6 feet bgs. VOCs, metals, phthalates, and petroleum hydrocarbons have been detected in groundwater samples at concentrations exceeding SLs. No groundwater monitoring wells are currently present in this area.

4.2.1.3 Southern Area

The southern portion of NBF includes the area between the southern boundary of the Main Fuel Farm and Building 3-840 (Figure 4-10). Tables 4-29 and 4-30 of the Supplemental Data Gaps Report (SAIC 2009b [6078]) list soil and groundwater sampling results for chemicals with detected concentrations above regulatory levels or SLs.

Metals and VOCs have been detected in samples collected in the Southern Area of NBF at concentrations above MTCA CULs and the soil/groundwater-to-sediment SLs. The following preliminary COPCs have been detected at concentrations exceeding these initial SLs for sample results from the Southern Area:

Chemicals in Exceedance of MTCA CULs or Soil/Groundwater-to-Sediment SLs at South Area, NBF

Chemical Class	Chemical
Metals	Arsenic
	Mercury
VOCs	Benzene
	Methylene chloride

Metals and methylene chloride were observed during soil sampling at 10 feet bgs. Benzene was observed in groundwater sampling. No groundwater monitoring wells are currently present in this area.

4.2.1.4 Data Gaps Related to Soil and Groundwater

The February 2007 and August 2009 NBF-GTSP Data Gaps reports and the 2011 Assessment of Infiltration and Inflow to NBF Storm Drain System included reviews of the numerous environmental investigations that have been conducted at NBF over the years. Many of these investigations were related to petroleum hydrocarbon and solvent releases associated with aircraft maintenance and delivery activities. During the last decade, environmental investigations have focused on identifying PCB sources at NBF. The purpose of the RI process is to characterize the nature and extent of soil and groundwater contamination at the Site and to identify sources of contaminants to stormwater. The RI also evaluates data gaps to determine what information is needed to make investigative and remedial decisions. Site-wide data gaps, including area-specific data gaps as outlined in the 2009 NBF-GTSP Data Gaps report, related to soil and groundwater are identified below.

NBF Property-Wide Data Gap: There has been no comprehensive analysis of groundwater flow at the NBF-GTSP Site. While numerous localized groundwater investigations have been conducted, results are sometimes conflicting and no studies have attempted to define how groundwater interacts with downgradient locations, including Slip 4.

A comprehensive groundwater assessment is needed, including the following:

- A compilation of existing information on groundwater depth, flow, and other well information (survey elevations, screened interval, and total depth)
- The installation of new groundwater monitoring wells/piezometers, in addition to those installed in the PEL area in 2011
- At least two rounds of depth-to-groundwater measurements for available wells at NBF-GTSP and selected wells at downgradient Boeing Plant 2, including a high seasonal water round, with both low tide and high tide measurements for wells close to Slip 4
- A survey of top-of-casing elevations for any new wells and wells that have not been previously surveyed on a single datum

This information would allow development of contour maps of groundwater flow patterns under seasonally and tidally different conditions that could be used to assess infiltration to the storm drain system and the potential for contaminant transport via groundwater to onsite and offsite areas and to Slip 4.

To further identify the potential for infiltration to the storm drain system at the Site, additional focused groundwater monitoring and soil sampling is needed near or upgradient from those storm drain line locations identified as being in need of repair, submerged during high water-conditions, and with contaminated solids in nearby storm drain structures.

General PEL Area: Additional investigation is needed to determine the vertical and lateral extent of PCBs, petroleum hydrocarbons, PAHs, other SVOCs, and VOCs, particularly TCE. Some of these data gaps have been filled with Boeing's 2010 – 2011 investigations of soil and groundwater in the PEL area.

Building 3-323: During the 2007 storm drain line replacement (Landau 2007d [3022]), a thick, black, tar-like material (with bricks, concrete, and asphalt debris) was observed on the north side of Building 3-323. No information was available regarding the source or extent of this material. Pending a final report, this data gap may have been filled by the 2011 NBF-GTSP fenceline excavation.

Buildings 3-333 and 3-335: Additional investigation is needed in the area of Building 3-333 and 3-335 to determine the extent of PCB contamination. Pending a final report, this data gap may have been filled by the 2011 soil excavation in this area.

Building 3-310: Building 3-310 is currently in the location of former Building 3-304. Information is needed regarding whether soils contaminated with mercury and TPH were removed during the construction of Building 3-310, or whether they were left in place.

Green Hornet Area: Some buildings in the Green Hornet area (3-311, 3-312, 3-287) are no longer present at NBF. Information is needed regarding the contaminated soil previously left in place, and whether it was removed during the demolition of these buildings.

Building 3-354: No information was available regarding what was in the current location of Building 3-354 prior to its construction, and if petroleum contamination is a concern at this building.

Former Buildings 3-360/3-361 and Building 3-365: Maps and cross-sections need to be generated of the former Building 3-360/3-361 and current Building 3-365 area to evaluate the lateral and vertical extent of contamination in this area. Information is needed regarding new groundwater monitoring wells installed in 2011. Metals, petroleum hydrocarbons, and VOCs are a potential concern in soil and/or groundwater.

Former Markov property: No sidewall or bottom samples were collected from the 2002 excavation at the former Markov property; it is not known whether all contaminated soil was removed. Maps and cross-sections of this area are needed to evaluate the lateral and vertical extent of contamination in this area. Metals, petroleum hydrocarbons, and VOCs are a potential concern in soil.

UST near Building 3-369: It is not known whether the 1991 UST near Building 3-369 is still in use, whether any UST testing has been performed, or whether leaks may have occurred. It is not known whether this UST was upgraded in 1998. Petroleum hydrocarbons and metals are a potential concern in groundwater.

Building 3-800: A copy of the May 1993 remedial action report for the Flight Test and Delivery Center (Building 3-800) is needed to understand what actions were performed and to verify that cleanup actions are complete.

Building 3-801: TPH concentrations from soil left in place during the 1992 assessment at Building 3-801 exceeded MTCA Method A CULs by a factor as high as 1,300. Additional characterization is needed. Additional data for arsenic and cadmium in soil is also needed at Building 3-801; samples collected in 1991 indicate concentrations above MTCA CULs.

Concourse A: Concentrations of PCBs, TPH, BEHP, PAHs, and BTEX have been detected in soil in the Concourse A area. Investigation is needed to characterize remaining levels of COPCs in soil and to determine whether leaching into groundwater has occurred. In addition, this area will be included in the Site-wide groundwater investigation in order to determine if groundwater in this area interacts with the remainder of the Site, Slip 4 or the LDW.

Concourse B: At Concourse B, metals exceed MTCA CULs in groundwater. It is not known whether there are any plans to monitor groundwater at this location. It is possible that additional groundwater monitoring reports exist but were not available for review.

Concourse C: The excavation report for Concourse C shows excavated areas, but with no explanation. Clarification should be made available.

Southern Area: No area-specific data gaps related to soil and groundwater were identified for the Southern Area of NBF; however, this area will be included in the Site-wide groundwater investigation in order to determine if groundwater in this area interacts with the remainder of the Site, Slip 4 or the LDW.

4.2.2 Storm Drain System Investigations

This section presents an overview of the NBF storm drain system. The NBF storm drain system layout is presented in Figure 2-5. Detailed information for each of the main drainage areas at NBF is presented in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]). Six storm drain drainage areas are located on or near the NBF property: the north lateral, north-central lateral, south-central lateral, south lateral, parking lot area, and the Building 3-380 area. These six drainage areas all discharge their stormwater and entrained solids through the EOF outfall at Slip 4.

The NBF storm drain system drains an area of approximately 132 acres of the NBF property, as tabulated below for each drainage area.

Storm Drain Line	Area (sq. ft.)	Area (acres)	Percent of Total
North lateral	947,110	21.7	16.5 %
North-central lateral	924,174	21.2	16.1 %
South-central lateral	1,119,133	25.7	19.5 %
South lateral	2,276,360	52.3	39.6 %
Bldg 3-380 area	171,396	3.9	3.0 %
Parking lot area (downstream of lift station)	308,593	7.1	5.4 %
Lift station junction area	3,418	0.08	0.06 %
Total stormwater drainage area	*5,750,185*	*132.0*	*100 %*

Storm drain system piping ranges in diameter from 8 to 48 inches (Boeing 2010 [6075]), and the system contains more than 600 storm drain structures, including catch basins, manholes, trench drains, inlets, and oil-water separators. The catch basins and manholes are circular and/or rectangular structures of various sizes and ages, mostly constructed of concrete. Some of the older structures have wooden or clay floors. The total length of the system is estimated to be 7 to 8 miles, of which approximately 17 percent is greater than 24 inches in diameter (Landau 1993b [0167]). According to the May 2010 NBF Stormwater Pollution Prevention Plan (SWPPP), the storm drain system includes 16 oil-water separators and one lift station, as well as channel drains and roof drains from numerous buildings (Boeing 2010 [6075]).

Automobile parking areas comprise approximately 36 acres, or 28 percent of the property area; flightline positions and taxiways comprise about 42 acres, or 33 percent of the property area (Boeing 2010 [6075]). Less than one percent of the property is pervious, including landscaped areas next to some of the buildings.

For the following sections of this Work Plan, the NBF storm drain system is described according to the six drainage areas. A view of these drainage areas, along with designations for storm drain structure type and drainage lines, is included in Figure 4-11. In Figure 4-11, storm drain lines are labeled by an alphanumeric code. Letters are assigned according to drainage basin (e.g., NC for north-central lateral). The number 1 is assigned to the main line for each drainage area, and higher numbers designate tributary lines or subdrainages that feed into the main line.

Storm drain solids have been sampled by Landau from many structures at NBF. This includes grab samples and sediment trap samples from catch basins, manholes, and other structures. A brief overview of storm drain solids sampling is provided below for each of the six drainage areas. A detailed evaluation of analytical results is provided in Section 7.2.

The available analytical data for upstream contaminant contributions at KCIA are summarized in Section 7.2.2 of this Work Plan. Limited sediment trap and grab sample solids data exist for the upstream and offsite portions of the four main lateral lines. These data indicate that PCBs, PAHs, phthalates, lead, zinc, and copper in storm drain solids are originating from KCIA, with highest exceedances of PAHs. Sampling is currently underway to collect filtered suspended solids and whole water at the upstream portion of the north-central lateral, south-central lateral, and south lateral storm drain lines on the NBF property to help fill this data gap. The lack of storm water and solids data at upstream and offsite locations is a major data gap, and these samples are logistically difficult to collect due to their presence on the flight line.

4.2.2.1 North Lateral Drainage Area

The north lateral drainage area includes the PEL area and some adjacent areas (Figure 2-4). In general, the highest PCB concentrations detected in storm drain solids at NBF have been in the north lateral drainage area. Descriptions and data below are presented from downstream to upstream, where the lateral enters the property from offsite.

The north lateral main line (N1 in Figure 4-11) merges into the north-central lateral line at CB363A. N1 enters the NBF property near the GTSP, upstream of MH178; but upstream stormwater from KCIA has recently been diverted to the KC lift station as part of the LTST construction. Eleven tributary subdrainages, identified as N2 through N12, are shown in Figure 4-11.

All of the COPCs for Site storm drain solids have been detected in samples from the north lateral drainage area at concentrations exceeding the SQS or LAET (Lowest Apparent Effects Threshold). In addition to the grab samples and sediment trap samples collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at several locations in the north lateral drainage area. PCBs, metals, and HPAH were detected at concentrations above the SQS/LAET in these samples. PCB results are summarized in the two tables below.

Analytical Results for PCBs in Grab and Sediment Trap Samples of Storm Drain Solids
North Lateral Drainage Area

Storm Drain Structure	Subdrainage	Sample Date(s)	Total PCB Concentration (mg/kg DW)
MH133D	N5	4/7/10	0.037
CB140	N7	4/1/10	0.5
OWS153	N8	3/3/11	1.1
MH178	N1 (Main Line)	3/29/10 – 4/5/11	0.33 – 0.44
MH179B	N11	3/29/10	8.1
CB184B	N10	3/29/10	9.7
CB363	N1 (Main Line)	4/8/10 – 8/24/11	2.6 – 4.0
MH651	N9	4/7/10	1.07

Analytical Results for PCBs in Filtered Suspended Solids
North Lateral Drainage Area

Storm Drain Structure	Subdrainage	Sample Date(s)	Total PCB Concentration (mg/kg DW)
MH108	N1 (Main Line)	10/17/09 – 4/27/11	1.3 – 18
MH133D	N5	5/20/10 – 6/2/10	0.27 – 1.3
MH138	N7	5/20/10 – 6/2/10	0.77 – 13
MH152	N1 (Main Line)	4/27/10 – 6/2/10	0.99 – 3.7
CB165	N10	4/27/10 – 6/2/10	1.3 – 7.5
CB173	N11	4/27/10 – 7/21/11	1.3 – 33
MH178	N1 (Main Line)	4/27/10 – 5/25/11	0.12 – 5.3

The most recent PCB concentrations in grab samples and sediment traps in N1 ranged from 0.037 to 19 mg/kg DW. PCB concentrations in stormwater filtered suspended solids collected by SAIC in N1 ranged from 0.12 to 33 mg/kg DW in samples collected during the 2009–2010 and 2010–2011 stormwater sampling seasons. The table below summarizes COPC exceedances of the SQS/LAET in each subdrainage.

Chemicals in Exceedance of SQS/LAET by Subdrainage
North Lateral Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
N1 – Main Line	●	●	●	●	●	●	●	●
N2 – Drainage to CB363	●	--	●	--	--	●	NA	NA
N3 – Drainage to MH108	●	--	●	--	--	●	NA	NA
N4 – Drainage to MH112	●	●	●	●	--	●	NA	NA
N5 – Drainage to MH130A	●	●	●	--	--	●	●	NA
N6 – Drainage to MH130	●	●	●	●		●	NA	NA
N7 – Drainage to MH130-MH152 segment	●	●	●	●	●	●	●	NA
N8 – Drainage to MH152 (Fuel Test Area)	●	●	●	●	●	●	NA	NA
N9 – Drainage to MH158-MH163 segment	●	●	●	●	●	●	NA	NA
N10 – Drainage to MH163-MH169 segment	●	●	●	--	●	●	--	NA
N11 – Drainage to MH172	●	●	●	●	●	●	--	NA
N12 – Drainage to MH178	●	--	●	--	●	●	NA	NA
Upstream of MH178	●	●	●	--	--	●	NA	NA

● Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.2 North-Central Lateral Drainage Area

The north-central lateral drainage area includes the Concourse A flightline and portions of the Concourse B flightline, plus the area around Building 3-313. Descriptions and data below are presented from downstream to upstream, where the lateral enters the property from offsite.

The north-central lateral main line (NC1 in Figure 4-11) intersects the Building 3-380 area storm drain line at MH422, just upstream of the KC lift station. MH422 includes drainage from the north lateral, north-central lateral, and Building 3-380 area. NC1 enters the NBF property from KCIA near UNKCB27. Five tributary subdrainages, identified as NC2 through NC6, are shown in Figure 4-11.

All of the COPCs for Site storm drain solids have been detected in one or more samples from the north-central lateral area at concentrations exceeding the SQS/LAET. In addition to the grab samples and sediment trap samples collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at one location (MH226) along NC1. PCBs, cadmium, copper, zinc, and HPAH were detected above the SQS in one or more of these samples. PCB concentrations in all sample collection types ranged from 0.22 to 50 mg/kg DW. The table below summarizes COPC exceedances of the SQS/LAET in each subdrainage.

Chemicals in Exceedance of SQS/LAET by Subdrainage
North-Central Lateral Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
NC1 – Main Line	●	--	●	●	--	●	●	●
NC2 – Drainage to MH362	●	NA	NA	NA	NA	NA	NA	NA
NC3 – Drainage to MH422-MH221A segment	●	●	●	●	--	●	NA	NA
NC4 – Drainage to MH226	●	--	●	--	--	●	NA	NA
NC5 – Drainage to MH228	●	●	●	--	--	●	NA	NA
NC6 – Drainage to MH228-CB229A segment	●	●	●	--	●	●	NA	NA

● = Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.3 South-Central Lateral Drainage Area

The south-central lateral drainage area includes the area around the east side of Building 3-390 (Flight Test Hangar) plus portions of the Concourse B flightline area. Descriptions and data below are presented from downstream to upstream, where the lateral enters the property from offsite.

The south-central lateral main line (SC1 in Figure 4-11) intersects the other main NBF drainage lines at the KC lift station vault. SC1 enters the NBF property from KCIA near CB473. Six tributary subdrainages, identified as SC2 through SC7, are shown in Figure 4-11.

For storm drain solids data, PCBs, cadmium, copper, lead, zinc, HPAH, and BEHP have been detected in one or more samples from the south-central lateral area at concentrations exceeding the SQS/LAET. In addition to the grab samples and sediment trap samples collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at one location (MH369 in SC3) in the south-central lateral area. PCBs, cadmium, and zinc were detected above the SQS in one or more of these samples. PCB concentrations in all sample collection types ranged from 0.026 to 104 mg/kg wet weight. The table below summarizes COPC exceedances of the SQS/LAET in each subdrainage.

Chemicals in Exceedance of SQS/LAET by Subdrainage
South-Central Lateral Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
SC1 – Main Line	●	--	--	--	--	--	●	●
SC2 – Drainage to OWS421-MH361 segment	●	NA	NA	NA	NA	NA	NA	NA
SC3 – Drainage to MH369	●	●	●	--	--	●	--	NA
SC4 – Drainage to CB373	●	--	--	--	--	NA	NA	NA
SC5 – Drainage to MH410	●	NA	NA	NA	NA	NA	NA	NA
SC6 – Drainage to MH414	●	--	--	--	--	●	NA	NA
SC7 – Drainage to MH461	●	--	●	--	--	●	NA	NA
SC8 – Drainage to MH461-MH19C segment (through OWS 472A)	●	--	●	●	●	●	NA	NA
SC9 – Drainage to MH19C	NA	NA	NA	NA	NA	NA	NA	NA
SC10 – Drainage to MH369-MH413 segment	●	NA	NA	NA	NA	NA	NA	NA

● = Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.4 South Lateral Drainage Area

The south lateral drainage area includes a large area in the southwestern portion of the Site, including portions of Concourse B, Concourse C, and areas around the tent hangars, the Building 3-800 area, the southern parking lot, and the west sides of Buildings 3-390 and 3-369. Descriptions and data below are presented from downstream to upstream, where the south lateral enters the property from offsite.

The south lateral main line (S1 in Figure 4-11) intersects the other main NBF drainage lines at the KC lift station vault. S1 enters the NBF property from KCIA near MH483A. Eight tributary subdrainages, identified as S2 through S9, are shown in Figure 4-11.

All storm drain COPCs for storm drain solids have been detected in at least one sample at concentrations exceeding the SQS/LAET in the south lateral. In addition to the grab samples and sediment trap sampling collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at one location, on S1 (MH356, where water backing up from the KC lift station may have impacted results). PCBs, cadmium, zinc, and HPAH were detected above the SQS/LAET in one or more of these samples. PCB concentrations in all sample collection types ranged from 0.1 to 19 mg/kg wet weight. The table below summarizes COPC detections exceeding the SQS/LAET in each subdrainage.

Chemicals in Exceedance of SQS/LAET by Subdrainage
South Lateral Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
S1 – Main Line	●	--	●	--	--	●	●	●
S2 – Drainage to MH353	●	●	●	●	--	●	NA	NA
S3 – Drainage to MH281	●	--	--	--	--	●	NA	NA
S4 – Drainage to MH271B	NA	NA	NA	NA	NA	NA	NA	NA
S5 – Drainage to MH266A	●	NA	NA	NA	NA	NA	NA	NA
S6A and S6B – Drainage to MH263 and UNKMH3	●	●	●	●	●	●	●	●
S7 – Drainage to MH642	●	--	●	●	●	●	●	●
S8 – Drainage to MH482-MH492 segment	●	●	●	●	--	●	●	--
S9 – Drainage to MH281	NA	NA	NA	NA	NA	NA	NA	NA

● = Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.5 Building 3-380 Drainage Area

The Building 3-380 drainage area includes a small area in the northwestern portion of the NBF site around Building 3-380 (Paint Hangar). Most of this area formerly drained to Slip 4 through a separate outfall. Descriptions and data below are presented from downstream to its upstream terminus.

The Building 3-380 storm drain line (B1 in Figure 4-11) intersects the north-central lateral at MH422, just upstream of the KC lift station. Two tributary subdrainages, identified as B2 and B3, are shown in Figure 4-11.

For storm drain solids data, PCBs, cadmium, lead, zinc, HPAH, and BEHP have been detected in one or more samples in the Building 3-380 drainage area at concentrations exceeding the SQS/LAET. In addition to the grab samples and sediment trap samples collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at one location (CB423) along B1. PCBs and zinc were detected above the SQS/LAET in one or more of these samples. PCB concentrations for all sample collection types range from 0.041 to 1.79 mg/kg DW. The table below summarizes COPC exceedances of the SQS/LAET in each subdrainage.

Chemical Exceedances of SQS/LAET by Subdrainage
Building 3-380 Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
B1 – Main Line	●	--	●	--	●	●	●	●
B2 – Drainage to MH105	●	--	●	--	●	●	NA	NA
B3 – Drainage to MH428	●	--	●	--	--	●	NA	NA

● = Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.6 Parking Lot Drainage Area

The parking lot drainage area includes the large parking lot on the northwestern portion of the NBF property and the area around Buildings 3-370 and 7-27-1.

The parking lot area storm drain line (PL1 in Figure 4-11) connects four tributary subdrainages in addition to the discharge line downstream of the KC lift station. Tributary line PL2 (Figure 4-11) intersects the discharge line downstream of the KC lift station at CB433. PL2, PL3 and PL4 each consist of long channel drains through the parking lot.

For storm drain solids data, PCBs, cadmium, lead, zinc, and BEHP have been detected in one or more samples from the parking lot drainage area at concentrations above the SQS/LAET. In addition to the grab samples and sediment trap samples collected by Landau, SAIC has collected filtered suspended solids samples in stormwater at one location (MH434) in the parking lot drainage area. This location experienced backflow from the lift station discharge at high tide, which likely compromised data quality (parking lot surface debris sampling was also performed to characterize source material in this area). For the storm drain samples in the parking lot area, PCBs and zinc were detected above the SQS/LAET in one or more of these samples. PCB concentrations for all sample collection types range from 0.19 to 2.1 mg/kg DW. The table below summarizes COPC detections exceeding the SQS/LAET in each subdrainage.

Chemicals in Exceedance of SQS/LAET by Subdrainage
Parking Lot Drainage Area

Subdrainage	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	HPAH	BEHP
PL1 – Main Line	●	--	●	--	●	●	NA	NA
PL2 – Channel Drains 283A and 436A	●	--	●	--	●	●	●	NA
PL3 – Channel Drain 434A	●	NA	NA	NA	NA	NA	NA	NA
PL4 – Channel Drain 435B	●	--	--	--	--	●	NA	●

● = Chemical detected above the SQS/LAET in one or more grab samples, sediment trap samples, or stormwater filtered suspended solids samples NA Not analyzed -- Not exceeding SQS/LAET

4.2.2.7 Stormwater Treatment Facilities

In accordance with the Administrative Settlement Agreement and Order on Consent (ASAOC) with the USEPA, Boeing installed a short-term stormwater treatment (STST) facility in the area of the north lateral drainage basin. The temporary chitosan enhanced sand filtration system was designed to remove PCBs and other COPCs in stormwater from the portion of the north lateral drainage area with the historically highest concentrations of PCBs at the Site.

Installation of the STST facility incorporated new storm drain structures, MH130A, MH130B, and MH130C. The STST facility, which was operational from September 2010 to November 2011, was capable of treating approximately 485 gallons per minute (gpm) (USEPA 2010). Prior to decommissioning, the STST treated a total of approximately 35 million gallons of stormwater. Stormwater treated in the system was consistently below the marine chronic water quality criterion (0.03 ug/L) for total PCBs and the criterion for turbidity (USEPA 2012 [N0022]).

The long-term stormwater treatment (LTST) facility was installed, as required by the ASAOC, at the King County Lift Station at NBF (USEPA 2010). A portion of stormwater from the north lateral, north-central lateral, south-central lateral, south lateral, and Building 3-380 drainage areas are treated by the LTST. Stormwater from upstream of NBF in the north lateral main line is diverted and reenters on the downstream side of the lift station. Stormwater from the parking lot drainage area discharges downstream of the treatment system and is not treated.

The LTST, which is capable of treating 1,500 gpm, began operations on October 28, 2011. As of April 12, 2012, the system has treated approximately 95 million gallons of stormwater, which accounts for roughly 72 percent of water reaching the lift station. Sampling of effluent at the point of compliance indicates the LTST is operating within ASAOC requirements. The LTST is currently monitored on a regular basis (USEPA 2012 [N0022]).

4.2.2.8 Data Gaps Related to NBF Storm Drain System

Sampling, evaluation, and replacement of the storm drain system have been ongoing activities at NBF. Recent results of video inspections of the storm drain system over large areas of the property indicate damaged lines and areas where groundwater and soil are infiltrating or potentially infiltrating the system. Assuming that portions of these damaged lines will not be replaced or repaired in the near future, sampling of soil and groundwater adjacent to known locations of infiltration is needed where contamination is known or suspected. This is especially the case for groundwater sampling near or upgradient from those storm drain line segments identified as being submerged during high-water conditions (Section 7.1.1). Some of the newly installed wells in the PEL area serve this purpose.

The most significant data gap is the lack of data from upstream, off-site sources of inflow to the NBF storm drain system. Limited data from storm drain solids collected from structures at KCIA show exceedances of the SQS/LAET by PCBs, metals, and SVOCs. The extent to which upstream sources contribute to the presence of contaminants in the NBF storm drain system is unclear; however, current efforts to sample upstream structures at NBF near the KCIA property boundary will partly fill this data gap.

Storm drain solids sampling efforts at NBF between 2009 and 2011 have provided a substantial amount of data for evaluation, filling many previous data gaps. Anthropogenic media with known or potentially elevated concentrations of COPCs likely contributes to contamination reaching the storm drain system. This data gap can be filled by investigating storm drain structures located near these contaminated anthropogenic materials, to determine if they can be sampled for solids.

Additional data gaps pertaining to the NBF storm drain system include the following:

- Interior building drain survey and documentation are incomplete and should be performed to fully demonstrate that no interior floor drains at NBF discharge to the storm drain system
- Numerous tap connections identified in the video surveys may represent an unknown source of contamination to the storm drain system
- Representative samples of solids of various grain sizes have not been evaluated

4.2.3 Concrete Joint Material Investigations

Concrete joint material (CJM) has been identified as a potential source of PCBs to the NBF storm drain system. Primary or residual CJM and associated concrete may represent a significant source of PCBs to the storm drain system and ultimately to Slip 4 sediments. A detailed evaluation of CJM at the NBF property is presented in Section 7.3.

4.2.3.1 Investigations of Concrete Joint Material

From 2000 to 2001, samples of CJM were collected at 92 locations throughout NBF. Testing of CJM for PCBs identified concentrations ranging from <1.0 to 79,000 mg/kg. Between 2001 and 2006, Boeing conducted the removal of CJM containing PCBs greater than 50 mg/kg, largely in the flightline concourse areas. CJM that had recently replaced the PCB-containing caulk was sampled in 2006. Analytical results indicated the new CJM had been contaminated with PCBs ranging from <1.0 to 370 mg/kg (Bach 2007 [0339]; Landau 2007a [2896]). It is believed that PCBs originating from the former contaminated CJM had previously migrated into portions of the adjacent concrete panels; recent desorption of PCBs from this contaminated concrete into the new CJM accounted for the elevated concentrations.

In addition, the City of Seattle sampled remnant CJM at NBF in September 2008. Samples were collected from five locations where thin zones of former caulk remained on the margins of CJM seams. PCB concentrations in these five samples ranged from 0.67 to 2,200 mg/kg (Exponent 2009 [6145]; Thomas 2010 6147]).

From 2007 to 2011, CJM was sampled at 299 locations, primarily in the flightline concourse areas. PCBs were detected in 205 samples, with concentrations ranging from <1.0 to 26,000 mg/kg. All CJM installed in the PEL area prior to 1980 was removed and replaced in 2010, and CJM in flightline areas with concentrations greater than 50 mg/kg was removed and replaced in 2011.

In July 2009, four expert witness evaluations of sources to the storm drain system and Slip 4 were completed for Boeing and the City of Seattle (Chrostowski 2009 [6120]; Exponent 2009 [6145]; Scott 2009 [6144]; Werner 2009 [6119]). All four of these reports identified caulk as a component of PCB contamination reaching the storm drain system, and three of the four reports concluded that caulk material was ultimately reaching Slip 4, in varying amounts. In addition, Boeing conducted a human health risk assessment and transport evaluation for PCBs in CJM in 2010. From the results of sampling CJM and inlet filter solids, it was determined that contaminated CJM likely contributes to PCBs in storm drain solids (Landau 2011b [8279]).

4.2.3.2 Data Gaps Related to Concrete Joint Material

The areas where CJM was previously removed consist of the following: (1) a corridor extending generally northward through the middle of the concourse areas northeast of Buildings 3-825, 3-818, 3-800 and 3-390, then turning westward and extending to Building 3-350; (2) the PEL area; and (3) a small area located on the northwest side of Building 3-390. According to Boeing reports, virtually all CJM within these broad removal zones has been removed and replaced, regardless of concentration or field designation types (Landau 2007a [2896], 2010g [6129], 2011b [8279]).

The concern for recontamination of more recently installed CJM has resulted, in part, on the need to perform further removal actions. In addition, Ecology does not consider the EPA TSCA action level of 50 mg/kg for removal of PCBs to be adequate to prevent Slip 4 recontamination, due to the potential transport of contaminated solid materials (including CJM) through the storm drain system to Slip 4. The lowest reliably attainable reporting limit (per ARI laboratory) for PCBs in caulk is approximately 0.8 mg/kg, due to preparation and interference concerns, and thus a CJM SL of 1.0 mg/kg is being applied.

Additional sampling at NBF are necessary to document that remaining CJM and surrounding concrete are not contaminated with PCBs and possibly other contaminants at unacceptable levels. These materials may constitute a continuing source of PCBs to the storm drain system. Sampling should take place in areas of CJM that previously contained significantly elevated concentrations, but have not been resampled or removed in the last few years. Sampling should take place in the vicinity of areas that have not recently been removed and contained relatively elevated concentrations, but below the TSCA level (e.g., 25 to 49 mg/kg). Sampling should also take place in areas where the sampling density in the past has been low.

4.2.4 Building Materials

Building materials, including caulk, paint, and downspouts, are potential sources of contaminants to the NBF storm drain system and possibly other environmental media. These building materials form potential sources of contaminants to the NBF storm drain system, but have had fewer investigations onsite than has CJM. Table 4-2 summarizes a number of onsite operations and components, historical and current, and the possible COPCs released at these operations. Figure 4-12 shows locations of potential historical PCB sources at NBF.

In July 2010, Boeing began conducting source evaluations related to building materials and other anthropogenic media (Table 4-1). These investigations leading to possible interim actions are summarized below in Section 4.2.4.6. Section 7.3 provides detailed information regarding the results of sampling building materials at NBF, as well as further discussion of data gaps leading to RI scoped activities.

Potential contaminant sources in building materials and components related to specific buildings or structures are described in detail for each drainage area in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]). In order to evaluate potential sources of PCBs in building materials at NBF, the age of NBF buildings was determined from historical Boeing maps and building lists and from King County parcel information. Structures built prior to 1980 were identified as potential PCB sources, and a list of these buildings was compiled. For non-PCB contaminants, SAIC reviewed chemical use information in reports from the Agency for Toxic Substances and Disease Registry (ATSDR) and evaluated this information with respect to the present-day building materials and components observed at NBF (ATSDR 1994-2008).

The following text summarizes the general occurrence of common building materials that are present at the NBF-GTSP Site, and which may represent potential sources of contaminants. Data gaps for building materials in Section 4.2.4 (caulk, paint, roof materials and downspouts, siding and other materials) are summarized below in Section 4.2.4.7.

4.2.4.1 Caulking Material

In addition to use as concrete expansion joint sealant on the flightline, caulk is also used to create a seal between building walls, and around doors, vents, and windows of NBF buildings. Recent studies from locations in the U.S. and Europe have identified building materials, particularly caulking material around windows and doors, as potential sources of PCBs to the environment. In these studies, PCB concentrations ranging as high as 550,000 mg/kg have been identified in caulking materials. Results of Toxic Characteristic Leaching Procedure (TCLP) testing demonstrated that PCBs are readily mobilized from the caulking material (SAIC 2011b [6143]).

In addition to PCBs, caulk may also be a source of lead, mercury, zinc, phthalates, and PAHs (Table 4-2). These contaminants may be present in caulk material currently used for door, vent, and window caulking at NBF. PCB-bearing caulk is more likely to be present on buildings constructed prior to 1980 (e.g., Building 3-365). The caulk that is used on buildings built or renovated after 1980 is not likely to be a source of PCBs; however, other contaminants may be present in this more recent caulk.

4.2.4.2 Paint

PCBs and metals have been detected in the exterior paints used at NBF. PCBs and lead were historically used to extend the life of the paint by increasing its durability. The use of lead-based paint was banned in 1977 for consumer products; however, it may continue to be used in industrial applications. Mercury was used as an anti-fungal agent and as pigment in exterior paints until this use was banned in 1991. Copper is currently used as an anti-fouling agent. Metals are typically used as pigments for paints (Table 4-2).

Paints are ubiquitous throughout NBF on roadways, walkways, bollards, outdoor equipment, and buildings. Chipped and/or peeling paint have been observed on many of these structures and buildings. Older paint may contain mercury and may be a persistent source of PCBs and mercury even though the paint may be encapsulated by newer paint. As the paint begins to chip, flake, and peel, layers of older paint may be contained in the chips or become exposed to further weathering. Newer paint that is chipped, flaking, or peeling may be a source of contamination that has the potential to enter the storm drain system.

According to Boeing staff, Boeing does not maintain painting records, and no information is available regarding when buildings were most recently painted or what type of paint was used (SAIC 2010c [6079]).

4.2.4.3 Rooftops and Downspouts

Rooftops at NBF appear to be constructed primarily of painted and/or galvanized metal or asphalt materials. The asphalt materials may be a source of PCBs (depending on date of construction), phthalates, and HPAHs. The metal roofing materials may be a source of zinc to the storm drain system via building downspouts, which are also made primarily of galvanized metal. The rooftops and downspouts may also serve as a pathway for air-deposited contaminants to reach the storm drain system. Many downspouts at NBF are connected directly to the storm drain system. Some downspouts discharge to the ground surface and are subsequently conveyed to a catch basin or manhole. These downspouts appear to drain smaller rooftop areas, such as door awnings.

Approximately 12 percent of the impervious surface at NBF consists of rooftops. Air emissions from the site, including paint hangars, paint booths, and shops in Building 3-818, or from offsite, may settle on rooftops and be conveyed by stormwater to the storm drain system (SAIC 2010c [6079]).

4.2.4.4 Plastics and Rubber

Plastics (including PVC) and rubber materials are present throughout NBF. These materials are potential sources of cadmium, lead, zinc, and phthalates to the storm drain system, particularly when used on building exteriors (e.g. vinyl siding) and when stored or used outdoors (e.g., cable or wire covers). Rubber materials were observed on door seals/gaskets, a loading dock (Building 3-353), and on wheels attached to some structures (e.g., Building 3-342). Plastic and rubber materials are present on a variety of components and equipment such as dumpster lids, tires, equipment cases and hoses, slats in chain link fences, signs, and numerous other applications.

4.2.4.5 Building Siding

Building siding materials are known to be a significant source of lead, copper, cadmium, and zinc to urban runoff (SAIC 2011b [6143]). Metal siding and concrete walls are the primary building exteriors observed at NBF. These materials may represent a significant source of zinc, lead, and copper to the storm drain system. A few buildings have small areas of painted wood siding (e.g., Building 3-350 and 7-27-1), which may be a localized source of lead and copper to the storm drain system. Vinyl siding is present on Building 3-350, which may be a localized source of lead and copper to the storm drain system.

4.2.4.6 Recent and Ongoing Investigations (2010-2011)

From July 2010 to October 2011, Boeing collected paint samples from pipe bollards, siding, piping, outdoor equipment, containers, flood lights, cinder blocks, wood doors, ASTs, support beams, and various metal structures. Samples were collected in areas where paint was peeling or chipped. The majority of samples were collected in the PEL area.

Concentrations of PCBs in building materials were greatest in foam (15,800 mg/kg) and caulk (14,000 mg/kg) samples collected from Building 3-626. Other samples with significant levels of PCBs (up to 2,300 mg/kg) were collected from bollards near Buildings 3-323, 3-326 and 3-353. PCB concentrations for non-bollard paint samples ranged from non-detect to 250 mg/kg. Metals were detected at various concentrations in samples of building materials collected.

Subsequent to these investigations, Boeing removed paint from areas of sample locations with PCBs concentrations greater than 50 mg/kg. Paint was also removed from locations with lower PCB concentrations where the paint was degraded. In 2010, paint was removed from the majority of bollards located in the north lateral drainage area at NBF (Landau 2010i [6132]). In October 2010, Boeing directed paint abatement activities for the support structures near CB187A and in the areas of the ASTs and Buildings 3-303, 3-310, 3-315, 3-323, 3-326, 3-350, 3-353, and 3-626. Foam and caulking with known PCB levels were also removed from Building 3-626. Boeing performed Site-wide paint abatement activities throughout 2011 and continuing into 2012.

4.2.4.7 Data Gaps Related to Building Materials

The evaluation of potential sources of environmental contaminants related to building materials is detailed in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]). Based on this assessment and the results of recent source evaluations conducted by Boeing, a large number of buildings and other structures constitute sources of contaminants that may impact the storm drain system at NBF and eventually reach Slip 4. These investigations and source removal interim actions are planned to continue through 2012.

In addition to sample results collected by Boeing, supplemental sampling of many of these building materials is required. The decision to sample these materials is based on the types of material present, the age of construction or maintenance, distribution and concentration of previous analytical results, and proximity to storm drain structures with contaminants in solids. Due to wide variations in types of materials identified on each building, a large number of samples is necessary to properly characterize these materials at each location.

In order to determine potential sources of contaminants reaching the storm drain system from building materials, a comprehensive amount of analytical data is required. Representative samples should be collected from a number of types and ages of building materials, based on the discussion above of material types and the available analytical results. In addition to paint on buildings and structures, samples should be collected of roadway point, roofing materials (including roof surface debris), gutter solids, door and window caulk, and ground surface debris. A broader range of analytes should also be tested, including PAHs, phthalates, metals, and (on a fraction of samples) dioxins/furans. In addition sample results of storm drain solids should be used as a guide to prioritizing sampling of these building materials and components.

4.2.5 Additional Outdoor Sources

In addition to sources described in Sections 4.2.3 (CJM) and 4.2.4 (Building Materials), additional outdoor contaminant sources and pathways have been identified at NBF. These include asphalt, surface solid debris, pavement sweeper debris, liquid and solid releases from vehicles and aircraft or other mobile sources, and sources related to airborne deposition. Specifically, the following sources are included in this category:

- Asphalt, concrete, and surface solid debris in the area of north lateral drainage area
- Pavement sweeper surface debris
- Solid releases of contaminated materials from vehicles and aircraft
- Liquid releases (spills) of contaminated materials from vehicles and aircraft
- Contaminants in exhaust released from vehicles and aircraft
- Deposition of offsite airborne contaminants.

These outdoor sources and pathways either are known to occur or potentially occur at NBF. The following text briefly summarizes the known, suspected or potential occurrences of these sources and pathways.

4.2.5.1 Asphalt and Surface Solid Debris

Surface materials such as asphalt, concrete, or surface solid debris may contribute to storm drain contamination which may ultimately be transported to Slip 4. Recent sampling (2010) has provided additional data to the previous limited sampling of asphalt and loose surface debris conducted in the PEL area (within the north lateral drainage area).

Boeing collected a total of 94 samples of asphalt, concrete, and surface solid debris, largely in the PEL. PCB concentrations ranged from <1.0 to 557 mg/kg. The most contaminated asphalt and surface debris samples were identified a short distance northeast of the west corner of Building 3-322. This area formerly drained to catch basin CB191, which had the highest concentration of PCBs in storm drain solids at NBF prior to disconnection of CB191 piping. PCBs in concrete were not detected at <1.0 mg/kg. Metals were also detected in all samples.

An excavation was subsequently conducted in the area of Building 3-322, to remove contaminated soil and asphalt. In addition, much of the paved area near Buildings 3-302 and 3-322 were mechanical swept for surface debris. In an effort to remove contaminated surface solids, Boeing conducted an excavation of pavement and shallow soil near Building 3-322.

4.2.5.2 Pavement Sweeper Debris

Surface debris regularly accumulates by a number of processes on the NBF flightline area, which is detrimental to aviation operations. As a result, Boeing conducts mechanical sweeping of pavement using regenerative air-type street sweepers. It is assumed that sweeping removes a significant amount of surface debris from these paved areas, but also leaves some material behind. In 2011 to 2012, Boeing conducted manual sweeping of debris in difficult access areas, such as near the blast fences. The sweeper-collected material likely originated as fragments of CJM, concrete, asphalt, vehicle and aircraft debris (e.g., tire fragments, brake dust, fasteners), chipped paint, roof debris from downspouts, airborne deposition, soil debris, plant material, and other substances.

Analytical data suggests that CJM forms a significant proportion of sweeper waste, and therefore CJM appears to be eroding and is available for transport (Chrostowski 2009). Measured concentrations of PCBs have declined over the last several years in the sweeper debris samples. Concentrations indicate that PCB-contaminated material is present on or in the paved surfaces that are being swept regularly by Boeing. Materials that remain on the surface, which are not removed during sweeping, are potentially capable of reaching the storm drain system; in some localized areas these surface materials may have significantly greater PCB concentrations than identified in these composite samples.

4.2.5.3 Outdoor Mobile Sources

Potential solid releases from vehicles, aircraft, mechanical parts, and other equipment include the presence of metals and phthalates. Lead in lead-acid batteries in vehicles may also be released to the surface. During wear and weathering of vehicle and aircraft parts and other equipment at NBF, including during brake usage and general tire wear, cadmium, copper, lead, zinc and phthalates could be released to the surface at NBF in solid fine particulates or they could become airborne and settle at more distal locations at the Site.

4.2.5.4 Atmospheric Deposition

Another possible outdoor route of transport of contaminants to the storm drain system at NBF is through the atmospheric deposition pathway. This transport process at NBF is less certain than other pathways discussed, in terms of the extent or significance in accumulating contaminants. PCBs may be transported via this pathway and may exist in air as vapors, sorbed to particulates, or as aerosols. In particular, PCBs may volatilize from CJM, especially when heated by solar radiation (Chrostowski 2009). All other contaminants may also be transported via the airborne pathway. When atmospheric transport of contaminated material gives way to deposition on the surface, the particulates are then capable of being washed into the storm drain system. Whether this mode of transport is substantial enough to result in concentration levels of concern at NBF is not known.

A limited sampling study was performed at NBF in September 2000 to attempt to determine the significance of aerial deposition of PCBs (Landau 2000 [6141]). Landau (2000 [6141]) concluded that aerial deposition of PCBs at that time was not a substantial migration pathway. Whether this limited sampling is representative of PCB aerial deposition at NBF cannot be determined.

4.2.5.5 Data Gaps Related to Additional Outdoor Sources

Not all outdoor sources or pathways discussed above can be readily investigated or remediated (such as the airborne pathway). Others can be investigated and sampled to determine extent and source of contaminants (such as surface solids).

The use of surface solids is a direct sampling method to determine source locations for contaminated material that may eventually reach the storm drain system. Samples of surface solids should be collected in areas where storm drain solids sample results have identified relatively elevated concentrations of COPCs. This investigation should be done in combination with CJM sampling in areas where CJM samples have not already been collected.

In order to focus these investigations, emphasis should be placed on the areas of relatively high-concentration COPCs in storm drain solids, including the following:

- PCBs in the central and northern flightline areas, the PEL area, and isolated areas near Buildings 3-374, 3-380, and 3-818.
- BEHP and total HPAHs in isolated portions of the site, including the area north of Building 3-323 and the area near Buildings 3-380. Since BEHP and HPAHs have not been well characterized yet in the storm drain system, surface solids samples collected for metals should also be analyzed for BEHP and PAHs if there is a sufficient sample volume.
- Cadmium along the flightline area, PEL area, and near Building 3-380.

- Copper in the southern flightline area, the PEL area, and near Building 3-374.
- Lead in isolated portions of the PEL area, the flightline, and near the KC lift station.
- Mercury in the PEL area and isolated locations in the southern flightline area.
- Zinc in the PEL area, particularly near Buildings 3-315, 3-331, 3-333, and 3-334; the flightline area; and isolated areas around Buildings 3-350, 3-374, 3-380 (particularly near MH109), and 3-818.

More regular sampling (by Boeing) should be performed of pavement sweeper debris and the debris should be analyzed for PCBs and other COPCs such as metals and PAHs. This would serve as an overall indication of concentrations of surface material on pavement in the flightline and other swept areas. It would also indicate the concentrations of material that may be released due to incomplete capture of debris in the sweeper machines (e.g., recently observed dust released behind the sweeper), or possible releases to storm drain system. An evaluation should be made of the potential for sweeper dump solids to reach the storm drain system. However, because sweeper activities are primarily operations and maintenance functions, no further data gaps or recommendations are necessary in this Work Plan.

Data gaps for outdoor mobile sources would be the same as for surface solids and pavement sweeper debris. Any data gaps for outdoor utility sources are expected to be filled by limited sampling of surface solids, soil, and groundwater.

4.3 Slip 4 Sediment Investigation and Recontamination Modeling

The RI/FS will address the transport of NBF-GTSP stormwater and storm drain solids to Slip 4, even during LTST operation, and their potential to cause sediment recontamination following Slip 4 cleanup (which was completed in February 2012). To facilitate this process, potential modeling approaches were evaluated that could estimate PCB contaminant loading and accumulation in sediments of Slip 4, and data collection needs were identified to parameterize and calibrate recontamination models (SAIC 2009a [6142]). Stormwater, filtered stormwater solids, and continuous flow measurements from the storm drain line upstream of the KCIA SD#3 outfall to Slip 4 were used as input to a one-dimensional fate and transport model to estimate the concentration of PCBs in Slip 4 sediment (after cleanup) under pre-LTST stormwater discharge conditions, and to estimate the maximum allowable concentration of PCBs in storm drain solids that will not cause recontamination of sediments to concentrations above cleanup levels (SAIC 2010d [6080]). Twenty surface sediment samples were collected in Slip 4, and results were used to calibrate the sediment recontamination model.

Modeling results indicated that, under pre-LTST conditions, surface sediment PCB concentrations were expected to attain a maximum concentration of 1.9 mg/kg DW within the upper 300 feet of Slip 4. Minimizing the potential to recontaminate Slip 4 sediments requires reducing PCB concentrations of both fine- and coarse-grained storm drain solids discharged from KCIA SD#3. The region of maximum Slip 4 PCB concentrations (100 to 300 feet from the head of the slip) was primarily attributed to the settling of fine-grained solids. Although the majority of the PCB load in storm drain solids is associated with these fine-grained materials, coarse-grained materials may cause recontamination in close proximity to the head of Slip 4 unless controlled (SAIC 2010d [6080]).

In April 2011, SAIC expanded the Slip 4 recontamination modeling to include inputs from the I-5 storm drain, and additional COPCs, including cadmium, copper, lead, mercury, zinc, total HPAHs, BEHP, and dioxins/furans (SAIC 2011). Flow-weighted annual mean concentrations in filtered stormwater solids were used as input to the model. Because filtered solids data were unavailable, sediment trap data were used to represent contaminant concentrations in I-5 storm drain solids. In addition, sediment trap data for BEHP were used, because no filtered solids BEHP data were available. Maximum Slip 4 surface sediment concentrations after Slip 4 cleanup under the modeled conditions (without stormwater treatment and based on 2009/2010 stormwater sampling data) were predicted to exceed the sediment cleanup criteria for cadmium, zinc, total HPAHs, PCBs, BEHP, and dioxins/furans.

5.0 Applicable or Relevant and Appropriate Requirements

This section summarizes potential Applicable or Relevant and Appropriate Requirements (ARARs) identified for the NBF-GTSP Site. For RI/FS and cleanup activities performed at the Site, MTCA stipulates that other regulatory requirements must be considered, and that cleanup standards must be "at least as stringent as all applicable state and federal laws" [WAC 173-340-700(6)(a)]. MTCA also states that "applicable state and federal laws may also impose certain technical and procedural requirements for performing cleanup actions." These requirements are similar to the ARAR approach of the federal Superfund law and are described in WAC 173-340-710. Remedial actions at sites under an agreed order may be exempt from the procedural requirements of certain laws, but they must still meet the substantive requirements of these other laws.

5.1 Requirement Definitions

MTCA divides applicable state and federal laws into the following two categories. (1) *Legally applicable requirements* include those cleanup standards, standards of control, and other environmental protection requirements, criteria, or limitations adopted under state or federal law that specifically address a hazardous substance, cleanup action, location or other circumstance at the site [WAC 173-340-710(3)]. (2) *Relevant and appropriate requirements* include cleanup standards, standards of control, and other environmental requirements, criteria, or limitations established under state or federal law that, while not legally applicable to the hazardous substance, cleanup action, location, or other circumstance at a site, address problems or situations sufficiently similar to those encountered at the site that their use is well suited to the particular site [WAC 173-340-710(4)]. Per MTCA, the following criteria are evaluated to determine if other regulatory requirements are relevant and appropriate for a particular hazardous substance, remedial action, or site:

- Whether the purpose for which the statute or regulations under which the requirement was created is similar to the purpose of the cleanup action
- Whether the media regulated or affected by the requirement is similar to the media contaminated or affected at the site
- Whether the hazardous substance regulated by the requirement is similar to the hazardous substance found at the site
- Whether the entities or interests affected or protected by the requirement are similar to the entities or interests affected by the site
- Whether the actions or activities regulated by the requirement are similar to the cleanup action contemplated at the site
- Whether any variance, waiver, or exemption to the requirements are available for the circumstances of the site
- Whether the type of place regulated is similar to the site

- Whether the type and size of structure or site regulated is similar to the type and size of structure or site affected by the release or contemplated by the cleanup action, and
- Whether any consideration of use or potential use of affected resources in the requirement is similar to the use or potential use of the resources affected by the site or contemplated cleanup action.

5.2 ARAR Categories

ARARs may be divided into the following broad categories: chemical-specific, action-specific, and location-specific. These three categories are defined below, and potential ARARs for the NBF-GTSP Site are presented in Tables 5-1 to 5-3. For consistency with other LDW projects, the following ARAR discussion and listing of specific ARARs are derived and modified from a number of RI reports and work plans written for sites along the LDW, originating with Weston (1993 [N0018]).

5.2.1 Chemical-Specific ARARs

Chemical-specific requirements set concentration limits or ranges in various types of environmental media. Such ARARs may set protective cleanup levels for the chemical of concern in the designated media. Chemical-specific ARARs may also indicate an appropriate level of discharge (these types of ARARs may also be considered action-specific). Chemical-specific requirements are health- or risk-based concentration limits, such as ambient water quality criteria. Table 5-1 presents a preliminary list of potential federal and state chemical-specific ARARs identified for the various media at the NBF-GTSP Site. These ARARs are based on current, publicly available information and do not reflect administrative discretion that may be exercised in the future by federal or state authorities.

5.2.2 Action-Specific ARARs

Action-specific ARARs are typically technology- or activity-based requirements or limitations on actions. These requirements are not triggered by the specific contaminants identified, but by activities related to management of these contaminants. Table 5-2 presents the potential action-specific ARARs for the various environmental media that have been identified for typical remedial actions at the NBF-GTSP Site. The final list of remedial actions will be developed during the feasibility study phase of the RI/FS. The list in Table 5-2 is necessarily long due to inclusion of a large number of potential ARARs because the site-specific remedial alternatives are not yet identified. In addition, requirements such as the standards within the Occupational Safety and Health Act (OSHA) of 1970 are excluded as action-specific ARARs because they must be adhered to under all circumstances, regardless of whether the activity conducted is related to a MTCA action.

5.2.3 Location-Specific ARARs

Location-specific ARARs are restrictions placed on either the concentration of hazardous substances or the conduct of activities performed in certain locations. They may restrict or preclude certain remedial actions or may apply only to certain portions of the area of contamination. Potential location-specific ARARs for the NBF-GTSP Site are presented in Table 5-3.

6.0 Remedial Investigation Approach

This section of the Work Plan describes the approach used to perform the RI activities, in order to effectively perform tasks of collecting and evaluating data needed to characterize Site media and develop remedial cleanup alternatives. Included in this section is an assessment of data quality objectives (DQOs) needed to identify the purpose, rationale, and uses of data collection. This section also presents a detailed evaluation of screening levels (SLs) used to determine the contaminants of potential concern (COPCs)[3] for the Site and generate analytical quality objectives, which primarily consist of required analytical methods, quantitation limits, and quality assurance measures. Additional analytical quality measures will be addressed in one or more task-specific Quality Assurance Project Plans (QAPPs) to be developed later in the RI process.

The preliminary conceptual site model (CSM), presented in Section 3, outlined the initial COPCs for the RI based on prior screening conducted in the Supplemental Data Gaps Report (SAIC 2009b). This CSM also included an evaluation of potential contaminant sources, release mechanisms, transport routes, affected media, exposure pathways, and receptors (Figure 3-1).

The Infiltration and Inflow Assessment Report (SAIC 2011b [6143]) considered COPCs that affected Slip 4 water and sediment via the storm drain system at NBF. This list of COPCs was limited because it focused on Slip 4 media and on pathways affecting sediment recontamination. This RI/FS Work Plan differs in that a much broader spectrum of contaminants is being evaluated, and all media and pathways of concern are being considered whether or not Slip 4 is the ultimate exposure medium. In addition, a much larger number of SLs and ARARs are being considered in this Work Plan than in the Supplemental Data Gaps Report or Infiltration and Inflow Assessment Report.

Section 5 of this Work Plan lists the applicable or relevant and appropriate requirements (ARARs) that have been identified as pertaining or potentially pertaining to the RI/FS for the NBF-GTSP Site. Ecology has recently developed a draft numerical listing of chemical-specific ARARs and Preliminary Screening Levels (PSLs) that pertain or may pertain to sites along the LDW, referred to as the *Draft LDW ARARs & PSLs, v13* spreadsheet (Ecology 2011a [N0006]). At Ecology's direction, this extensive listing has been evaluated and pertinent criteria have been utilized in this Work Plan to develop SLs to be applied to the NBF-GTSP Site (Section 6.2). The resultant SLs for the RI/FS are more stringent than evaluated in previous Site documents, and the resultant COPCs are more inclusive than previous listings. Project-specific cleanup levels will be developed later in the RI/FS process (Sections 8 and 9.1).

6.1 Data Quality Objectives

Ecology has not promulgated specific guidance on development or presentation of DQOs. The discussion in this Work Plan will entail a modified version of the USEPA's seven-step DQO process (USEPA 2000a, 2000b). The DQO process is intended to assist site managers in

[3] Some previous documents for the Site and Slip 4 have used the terms "chemicals of concern" or "chemicals of potential concern" (COPCs). In keeping with terminology in the Agreed Order for the Site, COPCs defined in this section and used in this Work Plan will be referred to as "contaminants of potential concern."

planning data collection of the right type, quality, and quantity to support defensible site decisions. Depending on the site conditions, the investigative phase, and the regulatory regime, the USEPA DQO process is intended to be adapted to specific needs. The DQO process described in this section includes the following seven steps:

1. State the Problem
2. Identify Decisions and Goals of the Study
3. Identify Information Inputs
4. Define Boundaries of the Study
5. Develop the Analytical Approach
6. Specify Performance/Acceptance Criteria
7. Develop Plan for Obtaining Data

Development of the seven-step process works well for a single or limited number of contaminated areas, operable units, or plumes. It is more complicated to develop and broadly apply DQOs for a site with a large number of diverse contaminated areas or plumes, such as occurs at the NBF-GTSP Site. Identifying decisions, goals, inputs, and boundaries for a number of contaminated areas of concern, and for multiple contaminants, within a large overall site is difficult to specify, particularly when environmental information for many of those areas is relatively old. As such, the following development of DQOs is somewhat generalized, with the recognition that specific planning and goals will need to be applied to each area in order to obtain adequate data to characterize the Site and develop remedial alternatives.

One major outcome of the DQO process is to aid in defining the level of analytical quality needed to perform the RI. This process involves evaluating and developing SLs for the RI, which is discussed in Section 6.2. The seven-step DQO process is included in the following sections.

6.1.1 DQO Step 1: State the Problem

This RI process is utilized to identify data needs and to collect analytical data and other information to characterize environmental contaminants and conditions at the NBF-GTSP Site. Concentrations of COPCs exceeding the initial SLs (based on ARARs and PSLs) have been identified at various areas of the Site in environmental media (e.g., soil and groundwater) and anthropogenic media (e.g., CJM and paint). The nature and extent of potentially contaminated soil and groundwater across the Site have not been defined and the Site-wide groundwater characteristics are not well understood. Anthropogenic media may be contributing to the contamination of soil and groundwater and to contaminant loading in the storm drain system and ultimately to Slip 4.

Existing environmental data for much of the Site are incomplete or inadequate to accomplish an RI/FS for the following possible reasons:

- Samples collected from historical and recent investigations were not necessarily analyzed for the full suite of COPCs identified for the RI/FS and/or Slip 4.

- Historical and recent investigations may not have characterized the full lateral and vertical extents of contamination.
- Quantitation limits, i.e. method detection limits (MDLs) and reporting limits (RLs), for historical samples may have exceeded the SLs selected for this RI and/or the LDW/Slip 4 COPCs.
- Historical data may be too old to be representative of current Site conditions.
- Historical data quality may not meet current validation and reporting requirements.
- Sources and pathways of contaminants to soil, groundwater, and the storm drain system may not have not been fully identified and characterized.

A summary of media-specific data uncertainties is included in Table 6-1. Additional data are needed to determine if the potential sources and exposure pathways identified in the preliminary CSM are significant, and to select and implement appropriate remedial actions for the Site, in order to be protective of human health and the environment. These potential sources will be evaluated in the RI via sampling, analysis, and data interpretation. These data will be used to determine the importance of each source with regard to the potential to contaminate soil, groundwater, and other media, including possible contaminant loading in the storm drain system and Slip 4.

This RI/FS Work Plan will determine if enough characterization information is available to properly define each contaminant area (based on data location, quality, and date) to aid in remedial alternative selection. Part of this evaluation is to determine if certain areas continue to qualify as contaminated areas and are necessary to undergo the alternative selection process in the FS.

6.1.2 DQO Step 2: Identify Decisions and Goals of the Study

Step 2 will identify and ask general decision questions that result in RI/FS goals. The following four pairs of decisions/goals have been identified.

Decision Question No. 1: Have all significant sources and pathways potentially contributing to soil and groundwater contaminant plumes and contaminant loading to the storm drain system been identified?

Goal No. 1: Identify potential sources/pathways contributing to contamination of soil, groundwater, and storm drain media. Collect representative samples of CJM, building materials, surface materials and debris, and other potential outdoor sources to identify onsite sources of COPCs (these sources are of much greater concern to the storm drain system than to soil and groundwater). Determine if any offsite sources are potentially contributing to soil and groundwater contamination and contaminant loading to the storm drain system at the Site.

Decision Question No. 2: Are soil and groundwater contaminant plume boundaries well defined?

Goal No. 2: Complete characterization of nature and extent of contaminants in soil and groundwater at the Site, and determine if these materials may potentially infiltrate the storm drain system. Identify vertical and lateral extent of soil contamination. Determine downgradient extent of groundwater contamination. Determine if and how COPCs in groundwater throughout the Site are affected by seasonal variations and other temporal factors.

Decision Question No. 3: Have all media and chemicals been tested in areas of concern using data of sufficient quality to meet SLs and to determine if potential exposure pathways identified in the preliminary CSM can be confirmed as complete or incomplete?

Goal No. 3: Collect appropriate high-quality data (with low enough quantitation limits) from environmental and anthropogenic media to further define the potential exposure pathways in order to determine if further evaluation in the RI/FS is necessary.

Decision Question No. 4: Are environmental data complete enough to proceed with remedial alternative selection for all areas of concern, including the possibility of eliminating areas requiring cleanup evaluation.

Goal No. 4: Evaluate environmental data (former and RI data) from a pathway and risk-based cleanup perspective to determine the need for remedial alternative selection at each area of contamination concern.

6.1.3 DQO Step 3: Identify Information Inputs

The following information has been identified that will form inputs to the RI/FS process:

- Historical site information, including former site use activities, site plans and aerial photographs, storm drain system drawings, and other information compiled in previous documents and within the Geographic Information System (GIS) project database.
- Existing data in project Access database, including analytical and physical data collected from the mid-1980s through 2011, and newly validated data from interim actions and investigations performed by Boeing, SCL, and King County (at KCIA) as the data become available.
- Results from recent studies and compilations, including the following:
    - Stormwater, base flow, and filtered solids sampling studies
    - Supplemental Data Gaps Report
    - Infiltration and Inflow Assessment Report
    - Interim actions and related investigations performed by Boeing and SCL, and
    - Salinity study performed by Boeing, which determined that criteria pertaining to marine water, not freshwater, are applicable in Slip 4 (AMEC Geomatrix 2011 [6449]).
- The CSM identified in Section 3.
- SLs selected for each medium based on ARARs/PSLs, background levels, and analytical quantitation limits. COPCs will be defined based on comparison of existing data in the project database (as of March 2011) to the selected SLs.
- Analytical data and other information collected as part of site characterization and other RI activities.

6.1.4 DQO Step 4: Define Boundaries of the Study

The physical Site boundaries were initially defined by the Agreed Order (Ecology 2008b). The Site includes the entire GTSP property, the portions of NBF that span from the PEL area at the north to the Tent Hangar and Concourse C area at the south, and from East Marginal Way S to the westernmost taxiway at KCIA. The lateral extents of the Site boundary may be expanded if it is determined that soil and groundwater contamination originating beneath the Site extends beyond the Site boundary defined in the Agreed Order. The Site includes buildings and other structures/equipment/material (e.g., tanks, bollards, pavement, debris) that may contain COPC-bearing materials, which have the potential to be conveyed to the storm drain system.

Soil and groundwater contaminant plumes originating under the Site are being evaluated in this RI/FS. Groundwater may discharge to the storm drain system, to Slip 4, or to other portions of the LDW. Contaminated groundwater potentially extending downgradient of the Site boundary will be evaluated, if identified.[4] Investigations of soil and groundwater will extend vertically until the maximum depth of contamination is defined.

Stormwater, including base flow water and any suspended storm drain solids, which eventually discharge to Slip 4, will be evaluated in this RI/FS.

Although the vapor pathway is not a priority in this RI/FS, it will be evaluated if data for volatile substances suggest that vapor intrusion may be a concern for certain buildings at the Site.

For pathways that lead to Slip 4 and the LDW, the list of COPCs in this Work Plan is limited to those found in the LDW RI, which include 56 chemicals in the following chemical classes: PCBs, dioxins/furans, metals, pesticides, phenols, phthalates, PAHs, and other SVOCs (Windward 2010). The Slip 4 COPCs are included within this list of LDW COPCs. These 56 chemicals were then used as a starting point in the COPC screening process for storm drain media in Section 6.2.

6.1.5 DQO Step 5: Develop the Analytical Approach

Samples from a variety of media will be collected and analyzed as part of this RI/FS. Specific sampling elements are outlined in Section 7 of this Work Plan and will be further defined in one or more future Sampling and Analysis Plans (SAPs). Data quality and analytical protocols will be further defined in one or more future QAPPs. The following discussion summarizes the analytical approach in this RI.

Sample collection and analysis will follow standard USEPA, Ecology, and Puget Sound Estuary Program (PSEP) guidelines and protocols (USEPA 1986; Ecology 1995, 2007, 2008a; PSEP 1997a, 1997b, 1997c). All laboratory quality control parameters stated in USEPA, Ecology, and PSEP guidance will be adhered to for each COPC. Analyses will be performed at an Ecology-accredited laboratory (Analytical Resources, Inc. [ARI] in Tukwila, Washington). Laboratories are required to comply with the requirements of the referenced test methods and task-specific

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[4] This does not include the groundwater VOC plume emanating from the former Electronics Manufacturing Facility (EMF) at the KCIA property, which extends from upgradient of the Site (east of NBF) to downgradient of NBF and crosses under the southern boundary of the Site.

SAPs and QAPPs). All chemical results gathered during this investigation will undergo independent data validation by EcoChem Inc. of Seattle, following USEPA guidance (USEPA 1994, 2008, 2009b, 2010a). Laboratory data deliverables must meet the minimum documentation needs to support the data validation. The level of data validation will be specified in the task-specific SAPs and QAPPs.

MDLs and RLs are measures of analytical sensitivity that determine the ability of a test method to detect a target chemical and the concentration at which the chemical can be reliably quantified. The MDL is the minimum concentration at which a chemical can be detected with 99 percent certainty, and the RL is the minimum concentration at which the chemical can be reliably quantified (ARI's definition of RL is equivalent to the practical quantitation limit (PQL) in MTCA (WAC 173-340-707). Chemical concentrations will be reported using both MDLs and RLs. Detected results between the MDL and RL will be reported as estimated (J-qualified) and results below the MDL will be reported as non-detected (U-qualified). Non-detected results will be reported to the associated RL values with the following exception: results generated by high-resolution gas chromatography/high-resolution mass spectroscopy (HRGC/HRMS) isotope dilution test methods will be reported to the sample-specific detection limit, or reported estimated maximum possible concentration (EMPC) value, whichever is higher.

RLs represent values equal to or supported by the lowest analytical calibration point. MDLs are values determined by MDL studies performed in accordance with standard procedures defined in 40 CFR 136. For HRGC/HRMS isotope dilution test methods, such as dioxin/furans by EPA Method 1613**,** sample-specific estimated detection limits (e.g., 2.5 times the signal-to-noise ratio) will be reported in lieu of standard MDLs. MDLs and RLs are corrected for sample volumes, analytical dilutions, percent moisture, and/or matrix interferences.

The MDL and/or the RL of the selected analytical methods must be below or meet the selected SL, when reasonably achievable. Actual MDLs and RLs will vary based on the sample volumes used for analysis, percent moisture, dilution factors, analytical conditions at the time of analysis, and matrix interferences. The laboratory will employ extract cleanup methods and/or make method modifications to achieve the lowest reasonably achievable MDLs and RLs. Method modifications may include increasing the analytical aliquot, decreasing the final extract volume, and/or adjusting the calibration range of an instrument.

Chemical analyses will be performed using the analytical protocols as listed in Table 6-2. These analytical methods represent current, standard methods for analyzing the Site COPCs. Additional methods and sample handling requirements will be detailed in task-specific SAPs/QAPPs.

6.1.6 DQO Step 6: Specify Performance/Acceptance Criteria

Samples of potentially contaminated media will be collected at a sufficient density and quantity so that a valid determination can be made as to the need for and extent of remedial actions (e.g., collecting at least one to three paint samples from building sides and at least three samples of each type of paint used; using step-out borings to define extent of soil contamination). Samples will be collected from soil and groundwater in historically contaminated areas to assess current conditions, as necessary. Additionally, sampling of all media will be focused more in areas not addressed during interim actions and to fill gaps in areas where interim actions and previous actions were performed.

Specific performance and acceptance criteria for each media will be identified through SAPs/QAPPs that will be prepared for each RI phase and investigation area. Independent data validation will determine whether laboratory calibration and other quality assurance/quality control (QA/QC) requirements have been met to accept or qualify data for use in the RI. The tolerable limits for the data reported by the laboratory will be measured with accuracy, precision, representativeness, completeness, and comparability as described below.

Accuracy is the degree to which an observed measurement agrees with an accepted reference or true value. Accuracy is a measure of the bias in the system and is expressed as the percent recoveries of spiked analytes in matrix spike/matrix spike duplicate (MS/MSD) and laboratory control sample/laboratory control sample duplicate (LCS/LCSD) samples. Accuracy will also be evaluated through the surrogate spikes in each sample during organic chemistry analysis. Performance-based laboratory control limits for accuracy will be used for this project.

Precision is a measure of mutual agreement among individual measurements of the same property under prescribed conditions. Precision will be assessed by the analysis of MS/MSD samples, field duplicate samples, and LCS/LCSD samples. The calculated relative percent differences (RPDs) for field and MS/MSD pairs will provide information on the precision of sampling and analytical procedures, and the RPDs for LCS/LCSD pairs will provide information on precision of the analytical procedures.

Representativeness expresses the degree to which data accurately and precisely represent an actual condition or characteristic at a particular sampling point. Representativeness is achieved by collecting samples representative of the matrix at the time of collection. Representativeness can be evaluated using replicate samples and blanks.

Completeness refers to the amount of measurement data collected relative to that needed to assess the project's technical objectives. It is calculated as the number of valid data points achieved divided by the total number of data points expected. For this project, completeness objectives have been established at 95 percent.

Comparability is based on the use of established USEPA- or Ecology-approved methods for the analysis of the selected parameters. The quantification of the analytical parameters is based on published methods, supplemented with well-documented procedures used in the laboratory to ensure reproducibility of the data.

Field and laboratory QC samples will be used to evaluate the data precision, accuracy, representativeness, and comparability of the analytical results. Field QC samples will be collected during sampling to quantitatively measure and ensure the quality of the sampling effort and the analytical data. Field QC samples include field duplicate samples and equipment rinse blanks. Field QC samples will be handled in the same manner as the environmental samples collected. Descriptions of the field QC samples are provided below.

Field duplicate samples will be collected when sufficient sample volume is available. Field duplicate samples will be collected at the same time and analyzed for the same chemicals as the original sample. Field duplicate sample results are used to assess the precision of the sample collection process and to help determine the representativeness of the sample. If the results of the field duplicate samples exceed QC criteria for precision, this information will be discussed in the data validation report, but data qualifiers will not be applied to the associated results.

Rinse blank samples provide a QC check on the potential for cross contamination by measuring the effectiveness of the decontamination procedures of the sampling equipment. The rinse blank samples consist of reagent-grade water provided by the laboratory rinsed across sample collection equipment. If chemicals are detected in the rinse blank samples, the detected concentrations will be compared to the associated sample results to evaluate the potential for cross contamination. The blank results will be discussed in the data validation report, and data qualifiers may be applied to the associated results.

Laboratory calibration and QC sample requirements are defined in the test methods. One laboratory method blank and LCS will be analyzed in every analytical batch for applicable test methods to assess potential laboratory contamination and accuracy. An LCSD should be analyzed if the laboratory does not have enough sample volume to prepare a project-specific QC sample. Laboratory QA/QC requirements are listed in Table 6-3. The results of these samples will provide information on the accuracy and precision of the chemical analysis.

Historical data in the project database are of variable quality and may not be suitable for all uses. These data will be evaluated as needed during the course of the RI/FS, based on factors such as analytical method used, availability of laboratory report, QA/QC protocol and validation, age of data, clarity in sample description (e.g., material sampled and depth), and location certainty.

6.1.7 DQO Step 7: Develop Plan for Obtaining Data

This RI/FS Work Plan, supplemented by future project SAPs/QAPPs, details the plan for obtaining data of the appropriate quality needed to complete the goals of the RI/FS according to the DQOs outlined above. The RI will use a phased approach to collect data in order to ensure proper characterization of the Site, to refine analytical needs, and to define physical boundaries of areas that may require remedial actions. This approach is considered to be the most effective and cost-efficient.

Additional discussion about developing COPCs and analytical quantitation limits is included in Section 6.2. Additional discussion regarding approach for obtaining data is included in Section 6.3. The specific plan for sampling will be presented in detail in Section 7.

6.2 Development of Screening Levels and COPCs

In order to screen chemicals and generate COPCs for this RI/FS Work Plan, the project database was queried for environmental data pertaining to the media of concern. Sample data included in the database were collected for a period extending from 1984 to 2011. Of all the samples in the database, approximately 65 percent were collected since the year 2000.

All contaminant sample results in the database that contained location coordinates and collection dates for specified media were used as the starting point to define COPCs. All duplicate sample results (field, lab or reanalysis) were first resolved using the highest detected value or lowest non-detected value per chemical. Samples of contaminated material that have subsequently been removed, such as during soil excavation or CJM removal, were also included. This full database set was utilized in order to be more conservative in identifying contaminants, to provide a more robust data set per media and chemical class, and in recognition that a more limited data set (excluding sample results of removed material) would have minimal impact on the designation of COPCs. Most removals of contaminated materials have focused on petroleum hydrocarbons and PCBs, which would remain as COPCs even if these data were excluded.

The process by which SLs and COPCs were evaluated and developed is outlined as a flow chart in Figure 6-1 and is discussed in detail in Section 6.2.2.

6.2.1 Screening Criteria

To compare sample concentrations to SLs, Ecology's LDW spreadsheet (Ecology 2011a [N0006]) was utilized. The Ecology 2011 spreadsheet lists ARARs, MTCA PSLs (including MTCA CULs), background concentrations, quantitation limits, and other information pertaining to hazardous substances for a variety of media and under differing pathway evaluation conditions. The individual ARARs, PSLs, and background information that were applied to all media for the NBF-GTSP RI are listed in Table 6-4. Information in the Ecology 2011 spreadsheet incorporates a recent review of Ecology's Cleanup Levels and Risk Calculation (CLARC) database (revised April 2011), pertaining to Method B standard formula values for soil, groundwater, and surface water. Also, instead of utilizing the quantitation limits (MDLs and RLs) listed in the Ecology 2011 spreadsheet, actual MDLs and RLs (or PQLs) were obtained from ARI for one or two analytical options for each medium/method combination.

The ARARs, PSLs, and other information (together referred to as "criteria") listed in Table 6-4 are designated by alphanumeric codes applied for each medium in this Work Plan. For example, SO-1 is for soil; GW-1 is for groundwater; SDW-1 is for storm drain water, including both stormwater and base flow water, which use surface water criteria; and SDS-1 is for storm drain solids and anthropogenic media materials, which all use sediment criteria. The criteria listed in Table 6-4 represent a subset of the criteria listed in the Ecology 2011 spreadsheet. The following bulleted text explains which particular criteria from the Ecology 2011 spreadsheet were included or excluded in this RI screening process, and how they pertain to the project and to MTCA.

General

- This complex Site with a large number of hazardous substances does not qualify under the definition of establishing CULs under MTCA Method A (WAC 173-340-704). CULs corresponding to Method A were not included, except for petroleum hydrocarbon ranges in soil and groundwater (which are included as table values in Method A, but not included as standard formula values in Method B).
- The Site also has not been designated as qualifying for cleanup under MTCA Method C; thus, Method C CULs were not included for any media. This RI/FS is utilizing CULs and procedures under Method B (WAC 173-340-705). MTCA recognizes that CULs more stringent than standard risk levels may be required based on site-specific conditions to protect human health and the environment. In addition, MTCA requires addressing

ARARs that may pertain to the Site, as well as background concentrations and laboratory considerations [WAC 173-340-700(6) and -707, 709, 710].

- CULs for the simplified terrestrial ecological evaluation (TEE, commercial land use) are included for soil only for the GTSP property, which qualifies for the simplified TEE under industrial/commercial land use (Integral 2011a [N0007]) (WAC 173-340-7492, Table 749-2).
- Criteria without numeric values in the Ecology 2011 spreadsheet or Ecology's CLARC database, or those requiring calculation using a model (e.g., the total petroleum hydrocarbon model) based on site-specific information, were not included in this screening process.
- For criteria where both carcinogenic and non-carcinogenic levels are available for a given hazardous substance, the lower value (typically carcinogenic) was included as the more conservative value.
- For criteria from other investigations conducted in the vicinity of the Site, only those in the immediate vicinity (approximately a 1-mile radius) of this portion of the LDW were applied, including the USEPA Boeing Plant 2 Target Media Cleanup Levels (TMCLs), Terminal 117 RI screening levels (except as noted below), and the LDW RI.
- The screening levels from the California EPA Office of Environmental Health Hazard Assessment (OEHHA) were not included and are not considered MTCA ARARs in this RI.
- All "natural" background concentrations were included for all media, whether general or pertaining to the LDW, based on the Ecology 2011 spreadsheet.
- Where pathway evaluation indicates the potential for contaminants in environmental and/or anthropogenic media to impact Slip 4 and the LDW, the screening of chemicals was limited to those 56 COPCs identified in the LDW RI (Windward 2010). One additional chemical (di-n-octyl phthalate) was included for storm drain water, because it was identified in Slip 4 and at the Lift Station.
- Individual PCB aroclors are evaluated but not considered as COPCs in this Work Plan; instead, total PCBs are considered. Similarly, individual cPAH compounds are evaluated but not generally formalized as COPCs, except for benzo(a)pyrene; instead the cPAH toxic equivalent (TEQ) concentration for benzo(a)pyrene is considered. However, for evaluation of storm drain solids, cPAHs will be considered individually because these are listed separately as COPCs for LDW and Slip 4 sediments.

Soil

- Soil pathway evaluations included direct contact, soil-to-groundwater protection, soil-to-sediment protection, and soil-to-surface-water protection; both vadose and saturated soil criteria were included, although the saturated criteria values are lower and will thus be applied in this general screening process, in order to remain conservative.
- For soil-to-surface water protection, the marine/saltwater conditions were applied, both chronic and acute conditions were applied, and both aquatic life and human health

consumption of organisms were applied. Human health consumption of water/organism was not applied because the LDW surface water is not considered potable.

- Soil protection of vapor pathway was not considered here, and numerical criteria are not included in the Ecology 2011 spreadsheet; however, potential vapor intrusion will be considered during the RI on a location-specific basis.

Groundwater

- For the CERCLA USEPA Regional Screening Levels (RSLs), only industrial and groundwater protection criteria were included (not residential).
- Groundwater at and near the Site is considered potable, until demonstration of non-potable conditions is accepted [per WAC 173-340-720(2)].
- Drinking water maximum contaminant levels (MCLs) were included for both federal and state regulations, and the federal MCL goals (MCLGs) were included for non-carcinogenic non-zero values [WAC 173-340-720(4)(b)(i)].
- For groundwater, the groundwater-to-sediment protection criteria and groundwater-to-surface water protection criteria were included.

Stormwater Including Base Flow

- A salinity survey conducted in LDW Slip 4 concluded that the slip qualifies as a marine environment because all three of the daily maximum vertical average salinity measurement exceeded the marine criterion of 10 parts per thousand (AMEC Geomatrix 2011). Thus, for storm drain water, the surface water criteria for marine conditions (not freshwater) were applied. In addition, both chronic and acute conditions were applied, and both aquatic life and human health consumption of organisms/fish were applied. Human health consumption of water/organism was not applied because the LDW surface water is not considered potable.
- For storm drain water, the NPDES surface water discharge criteria were included, based on the NPDES General Permit parameter benchmark values. The TSCA waste water criterion for PCBs was not included because this pertains to decontamination of PCB remediation waste and not to stormwater. The groundwater-to-sediment protection criteria using the SMS were included as applying to surface water.

Storm Drain Solids and Surface Solid Debris

- For storm drain solids and surface solid debris, using sediment criteria, only the dry-weight SMS criteria (not carbon-normalized) were utilized. This includes the lowest apparent effects threshold (LAET) and SQS values as identified in the LDW RI Report (Windward 2010), Puget Sound Dredge Disposal Analysis criteria for marine conditions, LDW CERCLA/MTCA threshold concentrations, Terminal 117 CERCLA/SMS criteria, and Terminal 117 RI screening levels for recreational scenario. However, the Terminal 117 “CERCLA Sediment Screening Levels” were not included because these correspond to residential soils (additive human health risk via incidental ingestion, inhalation of soil particulates, and dermal contact).

Concrete Joint Material

- For CJM, only the dry-weight SMS criteria for marine sediment were utilized. This is limited to the LAET and second-lowest apparent effects threshold (2LAET), as only PCBs have been analyzed in CJM samples from the Site.

Building Materials and Surface Materials

- Criteria protective of other media (particularly the storm drain to Slip 4 pathway) have not been established for regulating contaminants found in building materials and surface materials (aside from PCBs regulated under TSCA). For the purposes of this Work Plan, dry-weight SMS criteria for marine water (LAET and SQS) were utilized as criteria for these media.

6.2.2 Screening Process and Development of COPCs

The criteria listed in Table 6-4 were utilized in screening Site data for each medium of concern, in order to produce COPCs and develop RI SLs. Tables 6-5 through 6-12 present project database information and compare these results to criteria and to quantitation limits specific to ARI. A flow chart outlining the NBF-GTSP Site SL evaluation and development of COPCs is included as Figure 6-1.

Using Table 6-5 as an example, these tables include the following information (left to right):

- A list of chemicals (hazardous substances) that have been tested for in media throughout the Site and which are included in the project database, categorized by analytical class.
- Frequency of detections for each medium/chemical combination, listed as total numbers of detections per total numbers of analyses.
- The minimum and maximum values of detected concentrations.
- The minimum and maximum values of non-detected concentrations.
- Up to three representative SL criteria (out of a large number available in the Ecology 2011 spreadsheet) are presented for each table; these limited criteria are not necessarily the most stringent SLs, but are among the most commonly cited criteria such as Method B CULs or the SMS criteria.
- The "most stringent screening level" is the lowest value included in this full screening process, using all pertinent criteria for the medium and chemical of interest; the criteria value and reference for each are presented (references are linked to Table 6-4). Pathway evaluation is considered for soil and groundwater, resulting in two sets of most stringent SLs (leaching or non-leaching for soil, and on-site or protection of LDW for groundwater, as described below). Unless stated otherwise, further screening in these tables uses the most stringent of these pairs of criteria.
- One or two background concentrations are presented ("natural" or "LDW") for limited chemicals (from Ecology 2011 spreadsheet).

- One or two options for laboratory quantitation limits are presented, including the MDL and RL (or practical quantitation limit); these project/lab-specific quantitation limits are used in lieu of the limits presented in Ecology's spreadsheet (Ecology 2011a [N0006]). The quantitation limits in Option 2 provide generally lower-level limits than Option 1. The analytical option that was initially selected as part of this screening process is shown as bold values on the tables.
- The "RI Selected Screening Level" represents the result of an evaluative selection process that incorporates the most stringent SLs, the background concentrations, and the quantitation limits, as described below and outlined in Figure 6-1. This value is used to compare to project database analytical information. In this Work Plan, the RI selected screening levels will hereafter be referred to as the "RI screening levels" or RISLs.
- The concentration exceedances above the RISLs are presented for exceedances of both detected concentrations (using maximum value in database) and non-detected concentrations (using minimum value in database) for each chemical. The bullets within these two columns designate concentration exceedances of these chemicals.
- The COPC notes in the far right column indicate if the hazardous substance is considered to be a COPC in this Work Plan, along with some additional information.

The analytical data were extracted from the project database and summarized in order to aid in evaluating the overall range of concentrations, both detected and non-detected, and to provide a high-level comparison to the criteria in the Ecology 2011 spreadsheet. This process allows a relatively rapid screening to take place for a significant amount of data measured from a large number of environmental and anthropogenic media for the entire Site. In order to perform this high-level screening to produce COPCs, some assumptions and mostly conservative measures were taken.

An example of a simplifying assumption involves inclusion of both vadose and saturated soil values in pathway evaluation criteria, so that the lower criteria value (saturated) would potentially be utilized as the final RISL. As the RI proceeds, additional location-specific and depth-specific evaluation may focus these criteria, as appropriate, on the pertinent contaminated soils. In addition, a closer evaluation of the individual pathways at each location will allow some criteria to be eliminated from future consideration. For example, the criteria applying to the soil-to-groundwater protection pathway were included in this screening process (except for certain COPCs as described below), but these may be ruled out in some locations by evaluating the adjacent groundwater data and using an empirical demonstration, per MTCA. It is expected that a number of criteria can be eliminated from consideration by future evaluation of specific conditions.

For the soil screening process (Table 6-5), soil leaching criteria were only applied to chemicals that have been identified as COPCs in groundwater or storm drain water at the Site. Otherwise, the most stringent SLs for soil were the non-leaching criteria. Because leaching criteria do not exist for many contaminants, the net result is that these leaching criteria only have a limited application. For the groundwater screening process (Table 6-6), criteria for the "protection of LDW" were only applied to those chemicals that are considered as COPCs for the LDW and Slip 4. Otherwise, the most stringent SLs for groundwater were the on-site groundwater criteria.

RISLs are used in this Work Plan for the sake of screening chemicals early in the RI/FS process, for identification of COPCs by media, and for determining exceedances and exceedance factors for sample results in Section 7. During the RI and FS phases, cleanup levels will be developed and refined (Sections 8 and 9.1).

6.2.2.1 Evaluation of COPCs

The RISL for each medium/chemical was chosen by a final three-step process (Figure 6-1).

- First, the most stringent SL was compared to the background level (if available), and the higher of these two values was chosen (referred to as the "initial screening level" in Figure 6-1).
- Second, this initial SL was then compared to the laboratory RLs for one or two analytical options. The choice of the two analytical options for quantitation limits depended on the overall number of RLs in each chemical method class that could meet the initial SL. It is recognized that lower RLs result in greater analytical cost, additional sample volume requirements, and greater difficulty in maintaining consistent low-concentration data quality. The following decision logic was applied to determine the preferred RL (not illustrated in Figure 6-1).
    - In general, the least costly MDL/RL option was selected as the preferred option provided that the initial SLs in each chemical method class could be met.
    - If the initial SLs in each chemical method class could not be met, an alternative MDL/RL option, where available, was chosen as the preferred option for all or some of the chemicals within the class.
    - For some highly toxic chemicals (e.g., ethylene dibromide [EDB] and tetrachloroethene [PCE]), a lower-level analytical option was chosen compared to the remainder of this chemical class, in order to provide the lowest MDL/RL result possible for these chemicals.
    - Not every initial selected SL can be captured by the lower MDL/RL option. As such, the MDL/RL option that best fits the chemical class as a whole was chosen, unless otherwise noted.
- Third, the initial SL was then compared to the preferred laboratory RL.
    - In cases where the initial SL (most stringent or background) was greater than the preferred RL, then the initial SL was considered to be the RISL [cf. WAC 173-340-700(6)(d)].
    - For organic chemicals, if the concentration of the initial SL was between the preferred MDL and RL, then it was assumed that the laboratory would typically be capable of quantifying the estimated result (J-qualifier) at the initial SL concentration for organic chemicals. If the initial SL was below the preferred MDL, then the preferred RL was chosen as representing the reliably attainable quantitation limit for that analysis, and it became the RISL.
    - Metals were evaluated only to the preferred RL for this SL comparison. The analytical laboratory proposed for this RI (ARI) establishes MDLs to support the associated RL; however, the laboratory only reports metals concentrations to the

RL. If the initial SL for metals was below the preferred RL, then the preferred RL was chosen as the RISL.

6.2.2.2 Development of COPCs

To generate media-specific COPCs, RISLs were compared to the maximum detected concentrations and the minimum non-detected concentrations (Figure 6-1). The maximum concentration was used as a simple and rapid means to identify chemicals with one or more results exceeding the conservative RISLs. Other parameters could have been applied, such as an upper 95th percentile confidence limit, but it is unlikely to have made a significant difference in the final outcome. The comparison to the minimum non-detected concentration was used as a means to identify additional chemicals as COPCs in cases where the non-detected values were higher than RISLs. The minimum non-detected concentrations were used for this comparison with the assumption that they likely were more representative of the range of non-detected values; the more elevated non-detected values are usually the result of occasional interference or dilution, and these data are less numerous and less representative of the whole. Alternatively, comparisons to the maximum non-detected concentrations would have artificially generated a large number of COPCs that in many cases would not be warranted for further evaluation in the RI.

The frequency of detection was another factor in selecting COPCs [WAC 173-340-703(2)(f)]. For a given medium/chemical combination, any chemical with a detection frequency less than 5 percent was not considered to be a COPC (USEPA 1989b [N0016]). However, due to the possibility of relatively high MDLs/RLs applied in the past, if the minimum non-detected concentration for this medium/chemical was greater than the RISL, then that chemical would still be retained as a COPC.

A final factor involves evaluation of the absence of detections within an entire chemical class. This situation applies only to pesticides, which have been tested for in soil, groundwater, and stormwater at the Site. No detections have been identified for any of these media (as of March 2011), and some minimum non-detected concentrations are below RISLs. However, due to lack of any detections and lack of significant known use on the Site, these pesticides are not considered to be COPCs.

The process of COPC evaluation and determination is outlined in Figure 6-1. The final listing of COPCs at this stage in the RI/FS process is presented in Table 6-13. The COPCs are presented by medium and chemical class. This generally conservative screening process has produced a large number of COPCs, which are summarized in Table 6-14.

6.3 Prioritization and Phasing of Investigation Tasks

Due to the large areal extent of the NBF-GTSP Site and the large number of areas of concern for environmental contamination and potential sources, it is necessary to prioritize the RI process and phase the activities in order to most effectively achieve the goals of the RI/FS. During the 2009 to 2012 timeframe, the Site PLPs have performed a number of environmental source-related activities, including interim actions. Going forward, work that is specifically designated as part of the Site-wide RI/FS will need to be integrated with PLP plans for interim actions and other types of environmental activities. The RI/FS is expected to run parallel to these activities being performed by the PLPs.

Considering the ongoing activities at the Site, which have been primarily focused on the NBF PEL area, the fenceline area, and the southern GTSP property, the RI/FS will take a Site-wide viewpoint in approaching and answering the questions and problems raised in DQO steps 1 and 2 (Sections 6.1.1 and 6.1.2). Although the RI/FS process will likely evolve through time, due to changes in PLP activities and other events, the RI/FS is expected to focus on the following Site aspects:

- A Site-wide evaluation of groundwater contamination and flow, which has not been previously performed. This includes identification and definition of contaminated subsurface materials adjacent to storm drain lines and structures that have known or suspected areas of infiltration.
- An evaluation of the older identified areas of concern, which may have resulted in only partial removal of contaminated soil, but for which incomplete remediation and confirmation was performed.
- Implementing recommendations stated in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]) that are determined by the project team to be higher priority, including anthropogenic media investigations, but which the PLP has not completed or has only partially completed.
- Identification and delineation of contaminant sources and pathways that impact the storm drain system. Sources and pathways will be addressed, leading to possible future remediation, to protect sediment and water quality in Slip 4 due to the eventuality of shut down or reduction of the long-term stormwater treatment system, as well as during ongoing large storm events that are only partially treated.
- An evaluation of areas of historical activities that may have resulted in the release of COPCs but which have not been previously investigated.

Section 7 of this RI/FS Work Plan divides the Site into smaller manageable geographic units for investigation purposes and possibly also for remedial alternative development. For anthropogenic media and storm drain media, investigation units correspond to stormwater drainage areas and subdrainages because the storm drain system is the primary pathway of concern for those media. For soil and groundwater, areas of concern are defined based on areas of past investigations, source area distribution, groundwater flow direction, and site usage.

Site characterization work conducted in this RI will be performed in part using a phased approach. Timed phasing of work allows more economical operation and leads to greater flexibility in addressing and prioritizing areas of greater concern [WAC 173-340-350(7)(a)]. Phasing of activities allows the extent of contaminated areas to be characterized more efficiently. Because the project analytical laboratory (ARI) is proximal to the Site, and sample results can be obtained relatively rapidly, when necessary, this allows for fairly fast decision-making and phasing to take place, depending on priorities of cost, schedule, and available access. RI scoped sampling activities presented in Section 7 represent the initial primary phase of the RI activities. Depending on results of this primary phase, additional sampling may be recommended to further characterize areas of identified contamination or uncertainty. The sampling phase or phases subsequent to the primary phase cannot be scoped at this time, but it is expected to represent a small fraction of the scope for the primary phase. Some of the sampling activities planned for the primary phase may instead be postponed for a future phase, depending on factors such as local access, sampling difficulties, findings from adjacent sampling, and schedule.

A phased approach will assist the process of site characterization and source delineation. In general, within each area of soil/groundwater characterization, sampling will take place to fill gaps in existing data and will move approximately from areas suspected of highest remaining contamination and work outward. This step-out approach allows for better delineation and understanding of likely locations of most contaminated material, and it aids in prioritizing work around buildings and other structures. For selected sampling of storm drain solids, phased sampling will generally advance from downstream to upstream, where applicable (and where sampleable volumes are available) beginning from areas downstream of potential anthropogenic sources.

The analytical suite to be included in sampling events will be phased such that initial testing may include a larger set of COPC analytes at the necessary quantitation limits, followed by a decreasing number of analytes. This decision will be based on the analytical results of the initial sampling event and will be guided by the results summarized in the screening evaluation, above. For example, COPCs that are defined solely on non-detected concentrations, but with relatively high quantitation limits, will be assigned a lower priority of concern (compared to others with higher detection frequency and concern, such as PCBs). The lower priority COPCs will be analyzed at a lower frequency and will be terminated early during RI sampling if continued analyses for a given medium identify no or low detections above RISLs (examples include phthalates, PAHs, and dioxins/furans). During subsequent sampling events, the analytical results will be evaluated in order to refine the analyte list and appropriately tailor it for different areas of the Site.

The ultimate goal of the RI approach is to identify or delineate Site source areas and efficiently collect enough information to provide for remedial alternative selection during the FS or for interim actions to properly take place. The purpose of contaminant source identification and removal or treatment is to eventually allow stormwater from the Site to flow to Slip 4 without ongoing treatment, and to protect the Slip during ongoing storm events.

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7.0 Remedial Investigation Tasks

This section of the Work Plan summarizes information known about previously identified areas of concern, and potential areas of concern, and makes recommendations for further investigation as part of the RI. This summary is presented in more detail than that in Section 4, and it utilizes as a starting point the RISLs and COPCs generated in Section 6. It includes virtually all analytical information included in documents up through summer 2011, with an emphasis on more recent data, particularly for media that change more rapidly through time (storm drain solids, stormwater, and groundwater). These three media are only evaluated for the more recent time frame; for example, storm drain solids data are only reviewed back to 2004 and focus on the last sampling at each structure, and groundwater data are reviewed for the last three years of sampling at each well. For soil, which is a more stable medium, virtually all available results are evaluated.

Recent and ongoing interim actions and investigations have been incorporated as possible into this section. These recent interim action activities include the fenceline excavation straddling the NBF/GTSP property boundary, the Building 3-333 excavation, CJM and concrete removal, paint abatement activities, and bioremediation injections for chlorinated solvents in groundwater.

In addition to those documents included in the Supplemental Data Gaps Report (SAIC 2009b [6078]), documents and data submitted as of late summer 2011 were reviewed for incorporation into this section. Documents submitted after this date were generally reviewed for content but the specific information and data have not been incorporated into the project database or into tables and figures in this Work Plan.

In order to evaluate past information and develop proposed RI activities, Section 7.0 has been subdivided into three major sections that correspond to three general categories of sampling media. Section 7.1 discusses soil and groundwater investigations. Section 7.2 discusses storm drain solids and stormwater investigations. Section 7.3 discusses the various anthropogenic materials that are capable of reaching the storm drain system.

7.1 Soil and Groundwater Investigations

The following sections summarize available information from investigations conducted at the NBF-GTSP Site. Most of these sections discuss Site conditions and contamination on a location-specific basis, within localized areas of concern. However, the groundwater infiltration information is better defined on a Site-wide basis and is thus included in the following section (Section 7.1.1), which provides physical information used in all other sections. Section 7.1.2 introduces the approach applied to defining areas of concern for soil and groundwater contamination within five large areas of the NBF-GTSP Site. Contaminated or potentially contaminated locations within these five areas are covered in Sections 7.1.3 to 7.1.7, which discuss chemical concentrations based on COPC exceedances above RISLs defined in Section 6. Section 7.1.8 also discusses Site-wide topics regarding groundwater monitoring wells and historical PCB source areas. Section 7.1.9 provides a brief summary of RI scoped activities for soil and groundwater, including a summary table of sample locations and numbers.

7.1.1 Groundwater Infiltration to the Storm Drain System

A summary of the geologic and hydrogeologic setting for the area of the LDW and the Site is presented in Section 2.2. This section includes a discussion of depth to the water table, which varies at the Site from 1.8 to 11.2 feet below the well casing for all onsite wells. As a result, many of the lower portions of storm drain lines and structures at NBF are submerged, at least during the wet season. Because the potential for infiltration to the storm drain system impacts the prioritization of groundwater and soil investigations, this information is included in this section, prior to discussing areas of concern for these media.

Figure 2-8 (with Section 2) presents the historical groundwater depth and approximate flow direction for a large number of wells, most of which have been decommissioned. Figure 7-1.1 shows the locations of at least 69 identified existing wells on the NBF-GTSP Site, which are assumed to be available for sampling during the RI.

As discussed in Sections 2.2.2 and 7.2, the storm drain system at NBF is divided into six main drainage basins: north lateral, north-central lateral, south-central lateral, south lateral, Building 3-380 area, and the parking lot drainage areas. Video survey inspections of most storm drain lines on the NBF property were performed in 2010 to identify areas with damaged lines or other concerns (Landau 2010f [6092], 2011a [6127]). Figures 7.1-2 and 7.1-3 document locations where cracks, breaks, or other structural problems were noted by the field technicians. During the video surveys, groundwater and/or soil were observed to be infiltrating through openings into the NBF storm drain system in portions of all drainage basins except for the Building 3-380 drainage area. The majority of identified areas of infiltration were observed in the north lateral drainage area. For each storm drain segment identified in the video inspection reports, a detailed summary of the observations, including infiltration, are included as Table 7.1-1. This table and Figures 7.1-2 and 7.1-3 also identify storm drain components that have been replaced or repaired between 2007 and 2010.

Many of the breaks, fractures, off-set joints, gaps, and other compromises in the storm drain lines and structures could allow groundwater and soil, which may be contaminated, to infiltrate into the NBF storm drain system. Groundwater at the NBF-GTSP Site is expected to naturally flow toward the LDW at a relatively slow rate, while natural attenuation and other processes act upon any chemicals in the aquifer. However, if groundwater (or soil) infiltrates into the storm drain system, this material bypasses the aquifer pathway and is transported rapidly to Slip 4 and the LDW. Groundwater infiltration could potentially occur when a storm drain line is fully or partially submerged by the water table. In order to determine if storm drain lines are expected to be submerged by groundwater at any time, measured water-table elevations during high-water periods were compared to the bottom elevations of storm drain lines. Usable Site-wide groundwater elevation data (on a single datum) during high-water conditions are limited for this purpose.

Two sets of data collected during peak high-water periods for the Site were evaluated and used to determine groundwater elevations for the submergence determination. One set is from a compilation by Landau (Landau 1990 [1444]), including water level measurements taken each month for one year on a number of wells located across much of the Site and adjacent offsite (including wells no longer present). The measurement event with the highest elevation of water levels in the Landau report was January 1988, which was used in this analysis. A second set of similarly high-water data from March 1996 were also used to cover much of the Site (with no offsite wells), using five monitoring reports produced by SECOR in 1996. The two sources involved mostly different wells, yet the resultant groundwater contour maps were similar where they overlapped. Using both sources of historical groundwater data, the water table elevations were contoured across the entire Site and surrounding areas, using Boeing's NBF property-wide survey elevations for wells and storm drain components.

Figures 7.1-2 and 7.1-3 show locations of storm drain lines on the NBF property that would be partially or fully submerged at high groundwater levels. The text below discusses the line segments that are anticipated to be submerged below the water table. Specifically, if the identified high water-table elevation reaches the level at the bottom of a storm drain line (based on flow line or invert levels in structures), the line is considered to be potentially submerged at that location. Despite some interpretation and approximation involved in this process, the evaluation of potential infiltration in the NBF storm drain lines is expected to be generally representative of actual high-water Site conditions. A listing of which storm drain lines are expected to be submerged at high water is included in Table 7.1-1. Those line segments that are submerged or partially submerged are shown in blue on this table.

In some locations, storm drain lines are clearly situated above the highest expected elevation of the water table, but groundwater is seen or suspected to be infiltrating based on the video survey (Table 7.1-1). It is uncertain where this infiltrating water may be derived from, but could be related to perched water, water following the storm drain bedding material, and/or leaking utilities. However, because monitoring wells are not anticipated to be capable of screening and capturing this shallow water, Section 7.1 does not focus on these locations. The following sections for each drainage area summarize locations of potential infiltration based on submergence of storm drain lines and the video survey observations.

7.1.1.1 North Lateral Drainage Area

The maximum depth of a storm drain structure in this drainage area is 13.5 feet bgs near the downstream end, before it joins the north-central lateral storm drain. The minimum bottom-pipe depth along the north lateral main line is 5.6 feet bgs. The following storm drain tributaries (subdrainages) are submerged at high water levels (Figure 7.1-2):

- Entire main lateral line (N1) upstream to where the line enters the NBF-GTSP Site boundary
- Tributary N4 upstream a short distance to about Building 3-350
- Tributary N5 upstream to MH133D
- Tributary N6 upstream to CB626
- Tributary N7 upstream to CB193 (where it joins N11)
- Tributary N8 upstream to CB209B and UNKCB9, and between UNKCB13 and UNKCB16
- Tributary N10 upstream to CB184C
- Tributary N11 as far upstream as CB193 and MH166A.

During the August 2010 video inspection of the north lateral lines, it was indicated that several structures were in need of repair (Landau 2010f [6092]). Of the 107 segments inspected, cracks, fractures, breaks, or other defects were identified in 33 segments. Of these segments, two were identified to have been constructed of vitrified clay (MH158 to MH152 and MH152 to MH130). Signs of soil and groundwater infiltration were confirmed in 10 segments within tributaries N4, N5, N7, N10, and N11. However, N4 and N5 are only marginally submerged by groundwater during high water-table conditions.

Signs of infiltration were observed throughout the majority of N4. Soil infiltration was confirmed in segments CB118A to CB114 and CB114 to MH112. Roots were observed intruding in a segment from a blind connection downstream of CB120 to CB118A, indicating the potential for soil infiltration. Groundwater and base flow in this area has not been sampled.

In tributary N5, soil and groundwater infiltration was observed in segments CB142B to CB141 and CB141 to MH133D, respectively. Groundwater and base flow samples have not been collected in the tributary N5 area.

In tributary N7, groundwater infiltration was observed in the following segments: CB146 to UNKMH10, UNKCB23 to MH139, UNKMH9 to UNKCB23, MH139 to MH138. As stated above, N7 is submerged in groundwater during periods of high water-table elevation.

Groundwater infiltration was observed in one segment of tributary N10 (CB165 to a blind connection).

In addition, throughout the north lateral drainage area, 54 presumed inactive tap connections were observed to be unplugged or uncapped. Tap connections and areas where storm drain piping was identified as damaged during the 2010 video inspection survey are shown in Figure 7.1-2.

Following the 2010 video inspection and discovery of compromised storm drain structures, Boeing replaced line segments between former CB184 and CB165B (N10) and from CB174A to CB174 (N11), as these shallow segments represented areas of potential soil and/or groundwater infiltration. Approximately 270 linear feet of storm drain line were replaced with 6- and 8-inch PVC (Landau 2010j [6126]). Former CB184 and CB184B were decommissioned and replaced with CB184C and CB184D in alternative locations for better drainage. Catch basin CB174B was installed in the area of CB174 and CB174A for additional drainage. In addition, soil was excavated from trench lines and in the area of former CB184 and former CB184B.

7.1.1.2 North-Central Lateral Drainage Area

The maximum depth of both storm drain structures and lines in this drainage area is 12 feet bgs at the downstream end. The following storm drain tributaries (subdrainages) are submerged at high water levels (Figure 7.1-3):

- The main lateral (NC1) from the Lift Station upstream to MH226
- Tributary NC3 upstream to MH220
- Tributary NC4 upstream halfway toward MH247.

In September and October 2010, Boeing conducted a video inspection of the SD system in the north-central drainage area after jet cleaning of SD lines (Landau 2011a [6127]). Data containing results of the video inspection portions of lines NC1, NC3, and NC4 were lost due to a hard-drive malfunction. Based on remaining data, signs of soil infiltration were confirmed in line NC4 (VAULT258 to MH249). The severity and amount of intruding soil contributed to abandonment of the video inspection at this location. Soil samples have not been collected in this area, and groundwater would not impact stormwater because NC4 is never submerged at this location.

In addition, throughout the north-central drainage area, five line segments indicated cracks, fractures, or separated joints but showed no signs of infiltration. Seven tap connections were observed to be unplugged or uncapped. Little is known about soil and groundwater conditions in this area.

7.1.1.3 South-Central Lateral Drainage Area

The maximum depth of both storm drain structures and lines in this drainage area is more than 14 feet bgs near the downstream end, with a minimum line depth of 8.4 feet bgs. The following storm drain tributaries (subdrainages) are submerged at high water levels (Figure 7.1-3):

- Entire main lateral (SC1) upstream to where the line enters the NBF property from KCIA
- Tributary SC7 from MH461 upstream to near MH468 (partially offsite)
- Tributary SC9 from MH19C (MH477) upstream to beyond MH479 (offsite)
- Tributary SC10 in the immediate vicinity of MH402.

During the 2010 video inspection of the south-central drainage area (Landau 2011a [6127]), 9 of the 17 line segments inspected indicated signs of soil and/or groundwater infiltration; all were located in the main line (SC1), which is entirely submerged. A large portion of the length of SC1 indicated signs of infiltration, except on segment MH414 to MH413. One groundwater sample has been collected near a compromised line segment near Building 3-369.

In addition, four tap connections were observed as being unplugged or uncapped. Little is known about soil and groundwater conditions in the south-central lateral drainage area, as data collected are limited.

7.1.1.4 South Lateral Drainage Area

The maximum depth of both storm drain structures and lines in this drainage area is 14.4 feet bgs near the downstream end, with a minimum line depth of 7.3 feet bgs. The following storm drain tributaries (subdrainages) are submerged at high water levels (Figure 7.1-3):

- Entire main lateral (S1) upstream to where the line enters the NBF property from KCIA
- Tributary S2 from MH353 upstream to a distance under Building 3-390, and a distance north of MH401
- Tributary S6A from MH263 upstream to near MH445C and in the vicinity of OWS640
- Tributary S8 only between MH483A and MH485A.

Eight line segments inspected during the 2010 video inspection indicated signs of soil or groundwater infiltration (Landau 2011a [6127]). Two of these eight segments (MH482 to MH481 and MH281 to MH353) are located in the main line (S1). A small number of groundwater and soil samples have been collected near segment MH482 to MH481. Compromised segments in tributary S6B (MH1314 to UNKMH3 and CB503 to MH501) do not have soil samples collected nearby.

In addition, cracks, fractures, or separations were identified in approximately a third of the line segments inspected in the south lateral drainage area. Twenty-six tap connections were observed as being unplugged or uncapped. In some areas where the storm drain system has been compromised, the system is submerged in groundwater. Groundwater and soil (and storm drain solids) sample data are limited in the south lateral drainage area.

7.1.1.5 Building 3-380 Drainage Area

The maximum depth of both storm drain structures and lines in the Building 3-380 drainage area is 12 feet bgs at the downstream end. The main lateral (B1) upstream to MH105, including a short branch between CB423A and Building 3-380, is submerged at high water levels (Figure 7.1-3).

The 2010 video inspection of storm drain structures in the Building 3-380 drainage area confirmed that one storm drain line segment (CB109C to CB107A) contained minor cracks (Landau 2011a [6127]). This segment is shallow and is not submerged in groundwater during high water-table conditions. All storm drain lines and structures were observed to be free of visible signs of infiltration.

7.1.1.6 Parking Lot Drainage Area

The maximum depth of storm drain components in the parking lot drainage area is 18.2 feet bgs in the oil/water separator at the lift station. Only near the lift station is this drainage line submerged by groundwater at high water levels. Storm drain structures and lines in the parking lot area near Building 3-370 and the tributary in the Building 7-27-1 area are quite shallow; therefore, most of this drainage area is not submerged and not subject to potential infiltration (Figure 7.1-3).

The floor of the lift station oil/water separator likely is submerged (on the outside) by approximately 9 feet of groundwater during high water stage, although the lift station discharge point is above the high water level. At higher tidal levels, the water table in the vicinity of Slip 4 is likely influenced and may rise significantly, possibly submerging this storm drain discharge line through much of its length (in addition to tidal flooding inside the storm drain line).

A video inspection of storm drain structures in the parking lot area conducted in August and September 2010 reported cracks or fractures in the storm drain lines from PL2 (the end of the line segment to D436A) and from PL4 (the end of the line segment to D435B). Intruding roots were observed in a PL2 line segment (D283A to D436A). Although line segments leading to D435B and D436A are not subject to potential groundwater infiltration as discussed above, soil infiltration could occur from D283A to D436A.

7.1.2 Identification of Areas of Concern at Site

Detailed information regarding previously investigated areas identified as potential source areas at the NBF-GTSP Site is contained in the Supplemental Data Gaps Report (SAIC 2009b [6078]). Additional environmental information used in this section of the Work Plan is provided in reports completed and made available as of summer 2011. Contaminants discussed in this section, and their associated RISLs, are those included in the list of COPCs in Section 6 of this Work Plan (summarized in Table 6-13).

For sake of soil and groundwater investigation descriptions, the NBF-GTSP Site is here divided into five major sub-areas, which are distinct from the storm drain media and anthropogenic materials, which primarily have transport pathways through the storm drain system. The five Site sub-areas for soil/groundwater include: GTSP, PEL area, North Flightline area, Central Flightline area, and South Flightline area (Figure 7.1-4). These five areas are described in Sections 7.1.3 to 7.1.7 and, where appropriate, are subdivided based on physical characteristics including areas of past investigations, source area distribution, groundwater flow direction, and site usage.

These five Site sub-areas each contain a number of "areas of concern" (Figure 7.1-4). These areas of concern are based on findings of past environmental investigations and largely derived from the synthesis included in the Supplemental Data Gaps Report (SAIC 2009b [6078]). The GTSP and PEL area are each evaluated essentially over the full extent of each sub-area; however, the other three sub-areas (general flightline areas of NBF) are only evaluated with regard to local identified areas of concern.

In the sections below, a brief history of investigation is provided for each area of concern, along with an interpretation of historical sampling information. Analytical data from sampled media in these areas are compared to RISLs established in Section 6 and evaluated to determine if additional investigations are warranted at each location. Evaluation of historical data includes consideration of the sample age, proximity to receptors or pathways (including the storm drain system), depth, and the possible leaching of soil and the downgradient transport of groundwater.

Available historical soil data included in the project database were used for comparison to RISLs, and detected exceedances are shown in the numbered tables. Soil analytical data from samples where soil was subsequently excavated are included in the figures and numbered tables, with a notation indicating their removal; however, summary tables embedded within the text (unnumbered tables) exclude these data derived from historically removed soil. For most areas of concern, the summary tables present the maximum exceedances of the RISL for the entire area of concern for each COPC analyzed in soil and groundwater samples. For each area and COPC, the minimum non-detected result was listed in cases where no detected exceedances were reported. Both the concentration and the corresponding exceedance factor (EF) of the RISL for each COPC are presented in these summary tables.

Groundwater analytical data in this section include only the results originating from the last three years of sampling at each well (most recent sampling date minus three years). This time interval was deemed to be appropriately representative of recent groundwater contaminant conditions for most locations, without extending too far back in time when conditions may have been significantly different due to groundwater transport, source removal, and chemical changes (such as resulting from bioattenuation). In some cases, the most recent groundwater sampling event at a given monitoring well was a number of years ago, such as for decommissioned wells. This sampling age was taken into consideration in the evaluation, particularly for chemicals that naturally attenuate, and older data were compared to any newer data from wells in the area of concern. Historical soil and groundwater analytical data that exceed the RISLs are included in Tables 7.1-2 through 7.1-11.

For both soil and groundwater, the figures present exceedances of RISLs based on maximum concentration per COPC at each location (e.g., boring), but figures depict these exceedances only to the level of chemical class. Due to the large number of COPCs typically identified in soil and groundwater at each area of concern, the individual contaminants could not be practicably shown on a modest number of figures. Exceedances above RISLs by chemical class are shown for both detected and non-detected cases, and exceedances of classes are listed without numeric values. Non-detected cases are presented where no detections above RISLs were identified, and detection limits for one or more COPCs in the class were above the RISL. Both groundwater and soil exceedances are shown together on figures for each area, in order to evaluate the relationship between these environmental media. In the Section 7.1 figures, the approximate average groundwater flow direction is depicted.

As a result of the large amount of sample data and RISL exceedances, it was necessary to highlight the major exceedances by chemical class, to focus additional attention on the more significant areas of contamination. This was accomplished by using colors (orange or red labels) in the figures and unnumbered summary tables. As explained more fully in Section 7.2, orange was used for cases of organic chemicals where the maximum EF for a COPC was greater than 100, and red was used where the maximum EF was greater than 1,000. Due to a greater intrinsic variability in the range of concentrations (and EFs) in the environment for many organic contaminants, and with generally lower detection limits and RISLs than for most metals, these classes of contaminants were distinguished differently in terms of colors. The ranges of concentrations and other parameters were also similar between metals and TPH. Together, this produces a greater range of EF values for the organic chemicals compared to metals and TPH. Thus, for metals and TPH, orange was used where the maximum EF for a COPC was greater than 25, and red was used where the EF was greater than 125. The selection of these highlight intervals is arbitrary, but they were chosen based on the observed overall ranges of concentrations and EFs (see Section 7.2).

The following table summarizes the RISL values for soil and groundwater at the Site. Note that throughout Section 7.1, PCB concentrations always refer to total PCBs, unless stated otherwise.

RI Screening Levels for Soil and Groundwater

Chemical	Soil (mg/kg)	GW (ug/L)	Chemical	Soil (mg/kg)	GW (ug/L)
Chlorinated Aromatic Compounds			*Petroleum Hydrocarbons*		
2,3,7,8-TCDD	--	10 pg/L*	Diesel Range Hydrocarbons	2,000	500
Dioxins/Furans TEQ	--	10 pg/L*	Gasoline Range Hydrocarbons	30	800
Total PCBs	0.033	0.01	Oil Range Hydrocarbons	2,000	--

RI Screening Levels for Soil and Groundwater

Chemical	Soil (mg/kg)	GW (ug/L)	Chemical	Soil (mg/kg)	GW (ug/L)
Metals			Jet Fuel	2,000	500
Aluminum	--	50	*Phthalates, PAHs, Other SVOCs*		
Antimony	--	3.87	Bis(2-Ethylhexyl)phthalate	0.0471	1.0
Arsenic	7.0	5.0	Benzo(g,h,i)perylene	0.031	--
Barium	23.1	2.0	Benzo(a)pyrene	0.005	--
Beryllium	--	4.0	Fluoranthene	0.161	--
Cadmium	1.0	0.21	2-Methylnaphthalene	0.0432	18.2
Chromium	260	100	Naphthalene	3.6	--
Chromium, hexavalent	0.5	0.58	Total cPAH TEQ	0.005	--
Copper	36	1.3	N-Nitrosodimethylamine	0.02	--
Iron	--	300	*Volatile Organic Compounds*		
Lead	56.7	2.5	Benzene	0.001	0.795
Manganese	--	50	1,1-Dichloroethene	--	7.0
Mercury	0.07	0.02	cis-1,2-Dichloroethene	0.0052	10
Nickel	38	8.2	Methylene chloride	0.0012	5.0
Selenium	--	5.0	Tetrachloroethene (PCE)	0.001	0.2
Silver	0.3	1.53	Trichloroethene (TCE)	0.001	0.74
Thallium	--	0.47	Vinyl chloride	--	0.2
Vanadium	--	3.0			
Zinc	86	32.6			

* RISL is reported in picograms per liter (pg/L) for 2,3,7,8-TCDD and Dioxins/Furans TEQ in groundwater -- Not a COPC
The TEQ for both Dioxins/Furans and cPAHs applies ND*0.5 for non-detected values.

At the end of the section for each area of concern, a summary of the proposed RI activities is presented. These "RI Scoped Activities" are presented with a brief rationale and priority level. Implementation and schedule for these activities, including phasing and prioritization, will be outlined in detail in the RI SAP/QAPP document to be produced prior to initiation of field work.

The proposed locations for soil and groundwater sampling are presented on the contaminant figures in the following section. Locations are considered approximate and will depend on access, subsurface and surface obstructions, as well as ongoing activities and remediation. Identified utilities and other obstructions have generally been taken into account in initial placement of sampling locations within this Work Plan. Unless stated otherwise, soil boring depths are expected to continue to at least the depth of the water table, or to the base of contamination as identified in the field, whichever is deeper.

7.1.3 Areas of Concern at GTSP

GTSP first began operation in 1906 on 16 acres of land, and power-generating operations continued until 1964. Since that time, a number of environmental investigations have been performed within the boundaries of the property. The former GTSP property extended northeastward to what is now the KCIA property (Figure 7.1-5).

Areas of concern at GTSP are delineated in Figure 7.1-6. For each area of concern in this section, detected analytical results for all RISL exceedances are presented in Table 7.1-2 for soil and Table 7.1-3 for groundwater. Sample analytical results used in figures within this section are summarized by exceedances at the level of chemical class, according to maximum concentrations that exceed RISLs, and classes with significant exceedances are labeled in orange or red. A summary of maximum concentrations and EFs for each COPC is tabulated within each section, also with orange or red highlights. Information in this section has been reviewed and summarized for the following potential source areas within the GTSP property:

- North Yard Area
- East Yard Area
- Fuel Tank Area
- South Yard Area and Low-Lying Area

7.1.3.1 North Yard Area

The north yard area (NYA) of the GTSP property is located near the northern end of the powerhouse. It borders the KCIA to the north and east, and borders the powerhouse, fuel tank area, and east yard area to the south (Figure 7.1-7). The former Greeley substation was located on this northern portion of the GTSP property.

During the 2002 Phase II ESA, six soil samples were collected in the NYA at depths between 0.5 and 1.5 feet bgs. The samples were analyzed for PCBs, which were not detected (Bridgewater Group 2002 [1125]); however, the detection limits were above the RISL. One soil boring, OST-1, was advanced at the eastern property boundary. One sample was analyzed for petroleum hydrocarbons, which were not detected (Bridgewater Group 2002 [1125]).

An investigation was conducted in 2008 to assess the potential for PCBs in soil and other media to impact Slip 4. Eleven soil samples were collected in the NYA at depths of 5 feet bgs or less. PCBs were not detected in soil (Landau 2008a [2109]). Detection limits were below the RISLs.

In September 2011, Ecology published the results of an investigation on the concentrations of PAHs and dioxins/furans in Seattle neighborhoods. Georgetown, the neighborhood adjacent to the northwest boundary of the NBF-GTSP Site, was included in the study. The maximum dioxin TEQ in this study was detected in soil collected from Georgetown (110 picograms per gram, pg/g). In addition, the median concentration of dioxins in Georgetown (23 pg/g) was approximately two to three times greater than that of most other Seattle neighborhoods (Ecology 2011b [N0003]). Because dioxins/furans are released through combustion, it is likely that the operation of the former steam plant may have impacted the surface soil in the adjacent neighborhood.

RI Scoped Activities

Chemical analyses of soil samples have been limited to PCBs and TPH. Most soil samples have been collected at shallow depths of 5 feet bgs or less, and only one soil sample has been collected at the water table in this area. Although groundwater samples have not been collected at the NYA, samples have recently been collected on the adjacent KCIA property (URS 2011), and one well in the adjacent east yard area has been sampled. Only minimal additional soil and groundwater sampling is needed in this area to confirm the presence or absence of the RI COPCs.

Two soil borings will be advanced to the depth of the water table in the southwestern and southeastern portions of the NYA where no samples have been previously collected. At least two soil samples will be collected from each boring for laboratory analysis ("at least" refers to the estimated number, but field conditions could warrant additional samples). One of these samples will be collected from near the surface and one deeper. Soil samples will be analyzed for PCBs at both depths and for dioxins/furans only in the near-surface samples.

Proposed sampling locations are shown on Figure 7.1-7. Analytical results will be compared to the RISLs to determine if additional investigations are needed in the NYA. The sampling activities in the NYA are considered medium priority for investigation due to the lack of identified sources and some previous sampling data, but with unknown concentrations of dioxins/furans.

Summary of RI Scoped Activities
North Yard Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	2	2		Medium	PCBs, Dioxins

7.1.3.2 East Yard Area

The GTSP east yard area (EYA) encompasses the area northeast of the powerhouse and adjacent to the KCIA property line (Figure 7.1-7).

During the 2002 Phase II ESA, one soil boring, OST-2, was advanced at the eastern boundary with KCIA. One sample was analyzed for petroleum hydrocarbons, which were not detected (Bridgewater Group 2002 [1125]).

In 2006, one groundwater monitoring well, GTSP-1, was installed on the far eastern margin of the EYA (Figure 7.1-7). Eight soil samples were collected at 2-foot intervals from the surface to 15 feet bgs. Soil samples collected at depths between the ground surface and 4 feet bgs contained PCBs, mercury and PAHs (Integral 2006b [6002]) at concentrations exceeding the RISLs. Groundwater was encountered at 8 feet bgs. Groundwater from GTSP-1 was sampled from 2006 to 2007 and again in 2010. Concentrations of copper and cPAHs exceeding the RISLs have been detected in groundwater. Historically, TCE has also been detected at low concentrations (approximately 1 ug/L) in groundwater; however, TCE was not detected in the most recent sample collected (Table 7.1-3).

Six soil borings, GTSP08-16 through GTSP08-21, were advanced in 2008. Soil samples were collected between 3 and 5 feet bgs from five borings, and between 0.5 and 2.5 feet bgs in one boring. The samples were analyzed for PCBs only, which were not detected (Landau 2008a [2109]). The detection limits were below the RISLs.

In 2010, three soil borings, EYASB01 through EYASB03 (Figure 7.1-7) were advanced around GTSP-1. Metals, PAHs (including cPAHs), TPH, BEHP, benzene, TCE and dioxins/furans were detected in one or more of the soil samples (Integral Soil Data, 12/7/2010). Concentrations exceeding the RISLs were reported in samples collected as deep as 5 feet bgs (14 feet bgs for TCE); however, deeper samples were not analyzed for all analytes and for those that were analyzed, the detection limits were typically greater than the RISLs.

In 2011 KCIA conducted an environmental investigation on the property east and upgradient of well GTSP-1, to determine the upgradient extent of the TCE contamination (URS 2011). The investigation focused on a former large, concrete oil-storage tank; the KCIA maintenance shop; and former machinery shop, warehouse, and storage yard (Figure 7.1-5). Ten borings were advanced and three wells were installed in this area and sampled for VOCs, TPH, PAHs, and metals. Low levels of TCE (up to 2.0 ug/L) were identified in groundwater in the area generally north of GTSP-1. Investigation results indicate that the current and historical operations associated with the property are not sources of TCE in the EYA and adjacent KCIA. Based on available information, the TCE source appears to be located upgradient (approximately north-northeast) of the KCIA investigation area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
East Yard Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.035	1.1	--	--
Metals	Arsenic	8.0	1.1	--	--
	Chromium, hexavalent	--	--	3.0 U	5.2-N
	Copper	71.5	2.0	3.4	2.6
	Lead	92	1.6	--	--
	Mercury	0.27	3.9	--	--
	Zinc	114	1.3	--	--
Petroleum Hydrocarbons	Gasoline-Range	31	1.0	--	--
Phthalates	BEHP	4.4	93	--	--
PAHs	Benzo(g,h,i)perylene	0.4	13	--	--
	Benzo(a)pyrene	0.78	160	--	--
	Fluoranthene	1.7	11	--	--
	2-Methylnaphthalene	0.65	15	--	--
	cPAHs	1.0	200	--	--
SVOCs	N-Nitroso-dimethylamine	0.32 U	16-N	--	--
BTEX	Benzene	0.0059	5.9	--	--
VOCs	Methylene chloride	0.0013 U	1.1-N	--	--
	TCE	0.0014	1.4	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
-N EF based on non-detect concentration U Non-detect
Concentrations of cPAHs for Section 7 involves calculation using non-detections at ND*0.5

RI Scoped Activities

Most soil samples in the EYA have been collected at depths between the ground surface and 5 feet bgs, approximately 3 feet above the water table. Chemical analyses performed for soil samples collected at or below the water table have been limited to VOCs and a small suite of SVOCs. Metals, PAHs and phthalates have not been analyzed in samples collected below the water table. Above the water table, concentrations or detection limits of PAHs and phthalates exceeded the RISLs in soil above the water table.

Three soil borings will be advanced to at least the water table in the EYA, to fill data gaps in location and based on analyses of previous sampling. Samples will be located surrounding the area of identified exceedances near GTSP-1. At least two soil samples will be collected from each soil boring for laboratory analysis. One of these samples will be collected near the water table depth. Soil will be analyzed for PCBs, SVOCs, metals, and VOCs. In order to corroborate dioxins/ furans data from soil collected in the adjacent neighborhood (as described in Section 7.1.3.1), near-surface soil samples from two of the borings will be analyzed for dioxins/furans. Proposed sampling locations are shown on Figure 7.1-7. Analytical results will be compared to the RISLs to determine if additional investigations are needed in the EYA.

The EYA is considered low priority for investigation. Although the lateral and vertical extent of contamination in soil and groundwater has not been defined, COPC exceedances of RISLs are relatively low.

Summary of RI Scoped Activities
East Yard Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	3	2	NA	Low	PCBs, SVOCs, VOCs, Metals, Dioxins

7.1.3.3 Fuel Tank Area

The fuel tank area (FTA) is located between the powerhouse and the NBF PEL area. The FTA is the site of three former 12,000-gallon Bunker C oil USTs which were removed in 1989 (Figure 7.1-5). Currently, the FTA includes an electric transformer and transformer station.

Oil samples from the three 12,000-gallon USTs contained PCBs at concentrations ranging from 7 to 20 parts per million. Soil samples collected in the 1980s at depths ranging from 0 to 1.5 feet bgs and 10 to 10.5 feet bgs did not contain PCBs above the detection limit of 1 mg/kg (Laucks 1980, as cited in Bridgewater Group 2000 [1124]; Shapiro & Raven 1984 [2266]). In 2008, PCBs were detected at one soil boring location advanced near the former tank area from a depth of 2 to 4 feet bgs (Figure 7.1-8) (Landau 2008a [2109]).

PAHs and diesel- and heavy oil-range hydrocarbon concentrations in soil samples collected during the 1989 UST removal activities and the 2002 Phase II ESA exceed the RISLs.

In summer 2010, five soil borings, one groundwater monitoring well and three temporary groundwater monitoring wells were installed in the FTA. Gasoline-, diesel-, and heavy oil-range hydrocarbons, benzene, BEHP, and PAHs (including cPAHs) were detected in soil down to a maximum depth of 14 feet bgs at concentrations exceeding RISLs (GTSP 2010 Soil Data, December 7, 2010). Although petroleum product has been occasionally identified in the new well GTSP-6, COPCs were not detected in groundwater samples collected from this well or the three temporary wells; however, the detection limits for metals and PAHs exceeded the RISLs for the GTSP-6 sample.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Fuel Tank Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.19	5.8	--	--
Metals	Chromium, hexavalent	--	--	3.0 U	5.2-N
	Copper	71.5	2.0	3.4	2.6
Petroleum Hydrocarbons	Gasoline-Range	4,500	150	--	--
	Diesel-Range	15,000 J	7.5	--	--
	Heavy Oil-Range	18,000 J	9.0	--	--
Phthalates	BEHP	1.5	32	--	--
PAHs	Benzo(g,h,i)perylene	0.078	2.5	--	--
	Benzo(a)pyrene	0.38	76	--	--
	Fluoranthene	1.0	6.2	--	--
	2-Methylnaphthalene	15	350	--	--
	cPAHs	0.52	100	--	--
SVOCs	N-Nitroso-dimethylamine	0.32 U	16-N	--	--
BTEX	Benzene	0.051	51	--	--
VOCs	cis-1,2-DCE	0.18 U	35-N	--	--
	Methylene chloride	0.0046	3.8	--	--
	PCE	0.64 U	640-N	--	--
	TCE	0.0014	1.4	--	--

-- Not analyzed or no exceedance; therefore EF is not provided U Non-detect
EF Exceedance factor J Estimated value -N EF based on non-detect concentration

Current Remedial Actions

Due to the identified petroleum hydrocarbon contamination in the FTA, an interim action was performed within this area during summer/fall 2011. Soils containing TPH greater than 3,000 mg/kg were removed. The excavation was expected to extend to a maximum depth of approximately 15 feet bgs. The GTSP powerhouse, electrical transformer pad, and the electrical transformer station limited the excavation horizontally. The report documenting the interim action will be issued in April 2012; therefore, information and data collected during the interim action have not been incorporated into this Work Plan.

RI Scoped Activities

Soil and groundwater analytical data collected during and following the 2011 interim action at GTSP will be reviewed after validated data are received. Evaluation of data will involve comparing the remaining soil and groundwater sample concentrations to the RISLs. Following review of these data, additional investigation activities may be proposed in order to meet the RI goals. At a minimum, groundwater monitoring will take place to determine effectiveness of soil removal, using existing wells and installation of new wells to replace those removed during excavation activities.

7.1.3.4 South Yard Area and Low-Lying Area

The south yard area (SYA) and the low-lying area (LLA) comprise the southern portion of the GTSP property (Figures 7.1-9a and 7.1-9b). Investigations in the SYA and LLA are often overlapping. As such, the SYA and the LLA are considered as a combined area of concern and will be discussed together. A portion of these areas lies immediately along the fenceline with NBF, where numerous samples have been collected. Soil investigations have also taken place on the NBF side of the fenceline, and data from both immediate sides of the fenceline are discussed with the PEL area in Section 7.1.4.1.

The SYA is located south of the powerhouse and north of the LLA. The NBF Smoke Test area, a hopper shed, a coal conveyor, two stacks, cooling water intake equipment, and a portion of the blowdown ditch were historically present in the SYA. Prior to summer 2011, the SYA was largely covered in vegetation and featured a scale model railroad used by museum guests (Figure 7.1-9b) (Bridgewater Group 2002 [1125]).

The LLA is located between the SYA and the GTSP southern fenceline (Figures 7.1-9a and 7.1-9b). This area is located over the former Duwamish River shoreline, which was filled with dredged material when the river was straightened (Section 2.2.1). The LLA has been referred to as the “pond” because run-off from the SYA and other upslope areas would pool in the LLA via a drainage ditch, which was located along the fenceline of the LLA (Figure 7.1-5) (SAIC 2009b [6078]). In addition, feedwater from the boiler room was transported via the blowdown ditch to the pond, and soot from the boilers was dumped in the vicinity of the LLA (SUP, sup citation metro 1983). Overflow from the pond in the LLA was transported to the flume via nearby catch basins. The pond was filled in during March 1984 (Raven 1988 [1187]).

Four sampling events conducted in 1984 and 1985 confirmed the presence of PCB-contaminated soils in the SYA and LLA (Figure 7.1-10). Samples were collected at the surface and as deep as 11 feet bgs. Detected PCBs were primarily Aroclor 1242 and 1254 (SCL 1984 [1193]; Raven 1985 [1186]).

A multi-stage cleanup in the LLA was conducted in October/November 1985 to remove PCB-contaminated soils. An area of approximately 40 by 50 feet was excavated to a depth of 3 to 4 feet, with a goal of removing soil containing over 10 mg/kg PCBs. Subsequent sampling of the excavated areas indicated that PCB concentrations were reduced to 11 mg/kg or less (which exceeds the RISL). Detected PCBs were primarily Aroclor 1254, except at the easternmost portion of the excavation where Aroclor 1248 was detected (AB Consulting, Inc. 1986 [0328]). In 1992, soil samples collected from the drainage ditch area indicated the presence of PCBs (SAIC 2009b [6078]).

Fifteen soil samples from the SYA and LLA were collected at depths of 1.5 to 9.5 feet bgs during the 2002 Phase II ESA; PCBs and PAHs (including cPAHs) were detected in the samples. Nine metals were detected in soil samples associated with the former blowdown ditch (Bridgewater Group 2002 [1125]).

A soil and groundwater investigation was performed in the SYA and LLA in 2010. Sixteen soil borings were advanced, groundwater samples were collected from existing wells, and four temporary groundwater monitoring wells were installed. Soil samples were collected at depths to 18.5 feet bgs. PCB concentrations above the RISL were detected in 51 percent of the samples collected. The highest PCB concentrations were observed in the soil samples collected from the southwest corner of the LLA at depths between the ground surface and 6.5 feet bgs. PCBs were also detected in groundwater samples collected from this area of the LLA. Gasoline-range hydrocarbons were detected above the MTCA Method A cleanup level (CUL) in soil samples collected between 3.5 and 8 feet bgs in the southeast corner. Metals, PAHs (including cPAHs), phenols, phthalates, other SVOCs, VOCs, and pesticides were detected in soil (Integral 2010b [6138]).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
South Yard Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	7	210	--	--
Metals	Arsenic	140	20	--	--
	Cadmium	3.9	3.9	1.2	5.7
	Chromium, hexavalent	0.857 J	1.7	3.0 U	5.2-N
	Copper	2,610	73	--	--
	Lead	2,830 J	50	--	--
	Mercury	3.3	47	0.1 U	5.0-N
	Nickel	2,330	61	33	4.0
	Zinc	2,850	33	--	--
Phthalates	BEHP	0.77	16	1.7	1.7
PAHs	Benzo(g,h,i)perylene	120	3,900	--	--
	Benzo(a)pyrene	210	42,000	--	--
	Fluoranthene	440	2,700	--	--
	2-Methylnaphthalene	0.79	18	--	--
	cPAHs	286	57,000	--	--
SVOCs	N-Nitrosodimethylamine	0.32 U	16-N	--	--
BTEX	Benzene	0.016	16	1.0 U	1.3-N
VOCs	PCE	--	--	1.0 U	5.0-N
	Methylene chloride	0.0022 U	1.8-N	--	--
	PCE	0.003	3.0	--	--
	TCE	0.0011 U	1.1-N	1.0 U	1.4-N
	Vinyl chloride	--	--	1.0 U	5.0-N

-- Not analyzed or no exceedance; therefore EF is not provided U Non-detect
EF Exceedance factor J Estimated value -N EF based on non-detect concentration

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Low-Lying Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	91,000	2,800,000	4.3	430
Metals	Arsenic	17	2.4	--	--
	Cadmium	5.3	5.3	--	--
	Chromium, hexavalent	--	--	3.0 U	5.2-N
	Copper	136	3.8	2.2	1.7
	Lead	140	2.5	--	--
	Mercury	2.56	37	0.1 U	5.0-N
	Nickel	130	3.4	--	--
	Zinc	310	3.6	--	--
Petroleum Hydrocarbons	Gasoline-Range	1,200	40	--	--
Phthalates	BEHP	1.0	21	--	--
PAHs	Acenaphthalene	0.089	5.3	--	--
	Benzo(g,h,i)perylene	0.17	5.5	--	--
	Benzo(a)pyrene	0.2	40	--	--
	Fluoranthene	0.42	2.6	--	--
	2-Methylnaphthalene	0.2	4.6	--	--
	cPAHs	0.302	60	--	--
SVOCs	N-Nitroso-dimethylamine	0.32 U	6.8-N	--	--
BTEX	Benzene	0.073	73	--	--
VOCs	Methylene chloride	0.0021 U	1.8-N	--	--
	PCE	0.0011 U	1.1-N	--	--
	TCE	0.0011 U	1.1-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided U Non-detect
EF Exceedance factor J Estimated value -N EF based on non-detect concentration

Current Remedial Actions

Due to the widespread extent of identified contamination, primarily concerning PCBs and petroleum hydrocarbons, an interim action was performed within this area during summer/fall 2011. Excavation plans for the LLA and SYA involved the removal of soil containing PCBs greater than 0.5 mg/kg in areas where PCBs were detected in groundwater, which is found in the southwest corner of the property. For areas where PCBs were not detected in groundwater, soil containing PCBs greater than 1.0 mg/kg was removed as practicable. Excavation depth limits were expected to be between 9 and 10 feet bgs in the LLA (Integral 2011b [N0001]). The objective of the interim action is to remove PCBs and petroleum sources from the LLA/SYA area while simultaneously addressing other constituents.

In addition, a focused soil excavation will be conducted in the SYA just south of the powerhouse to remove soil impacted by cPAHs near boring SYASB09. This excavation was planned to reach a depth of 3 feet bgs and remove soils with concentrations of benzo(a)pyrene (cPAHs TEQ) greater than 3.3 mg/kg. The report documenting the interim actions will be issued in April 2012; therefore, information and data collected during the interim actions have not been incorporated into this Work Plan.

RI Scoped Activities

Soil and groundwater analytical data collected during and following the 2011 interim action at GTSP will be reviewed after the report and final data are received. Evaluation of data will involve comparing the remaining soil and groundwater sample concentrations to the RISLs. Following review of these data, additional investigation activities may be proposed in order to meet the RI goals. At a minimum, groundwater monitoring will take place to determine effectiveness of soil removal, using existing wells and installation of new wells to replace those removed during excavation activities.

7.1.4 Areas of Concern in PEL Area of NBF

The PEL area encompasses the northernmost portion of NBF and extends south to approximately the blast fence of Apron A. The PEL area extends west to the NBF boundary, with the Washington National Guard formerly occupying the area to the west. The eastern boundary of the PEL area is marked by the property line with GTSP and KCIA. A variety of aviation testing operations are conducted by Boeing within the PEL area.

Areas of concern in the PEL area are delineated in Figure 7.1-11. For each area of concern in this section, detected analytical results for all RISL exceedances are presented in Table 7.1-4 for soil and Table 7.1-5 for groundwater. Sample analytical results used in figures within this section are summarized by exceedances at the level of chemical class, according to maximum concentrations that exceed RISLs, and classes with significant exceedances are labeled in orange or red. A summary of maximum concentrations and EFs for each COPC is tabulated within each section, also with orange or red highlights.

Information in this section has been reviewed and summarized for the following ten identified potential source areas within the PEL area:

- NBF Fenceline Area
- Buildings 3-302 and 3-322, including Former Building 3-301
- Former Building 3-304
- Fuel Test Facility and Propulsion Test Laboratory, Buildings 3-333 and 3-335
- Former F&G Facility, Current Building 3-324
- Inlet Development Facility, Building 3-353
- Building 3-354
- Wind Tunnel Area, Former Tanks NBF-28 and NBF-29
- Green Hornet Area
- PEL Area-Wide Investigations

The first nine of these potential source areas are localized portions of the PEL area that are grouped together for sake of description and investigation. The last of these ten source areas, the PEL Area-Wide Investigations, captures all the remaining areas that are scattered throughout the PEL area.

7.1.4.1 NBF Fenceline Area

The NBF fenceline area includes those locations along the western and southern sides of the fenceline separating the NBF and GTSP properties. This area includes a narrow zone along the alley west of the fenceline, and a larger zone extending south of the fenceline, as defined by Boeing (Landau 2010e [6099]).

The NBF fenceline area with sample RISL exceedances are depicted on three different figures: Figure 7.1-9a (northwestern portion), Figure 7.1-9b (northeastern), and Figure 7.1-12 (southern). Due to the large number of investigations in the NBF fenceline area, this section will be discussed by each investigation in the following subsections. Investigations along the GTSP side of the fenceline are discussed in Section 7.1.3.4.

Tank UBF-27 Removal (1986)

A 3,000-gallon underground fuel oil storage tank (UBF-27) was located near the northwest corner of Building 3-326 (Figure 7.1-13). The tank was removed in 1986; a sample of fluid from the tank did not contain PCBs. Boeing collected soil samples during the tank excavation. A composite soil sample from the upper 4 feet indicated 40 mg/kg Aroclor 1248, and a sample from beneath the tank at a depth of 8 feet contained 13 mg/kg Aroclor 1248. Approximately 30 cubic yards of PCB-contaminated soil were removed to a depth of 12 feet bgs. Composite samples were collected after excavation at a depth of 12 feet at two locations: 3 feet from Seattle City Light (SCL) property (43 mg/kg Aroclor 1254), and 18 feet from SCL property (15 mg/kg Aroclor 1242/1254) (Boeing 1986a,b,c [0372, 0374, 0375]).

Tank UBF-25 Removal (1989)

In September 1989, Boeing removed UST UBF-25, a 500-gallon gasoline UST located east of Building 3-323 (Figure 7.1-14). The UST was in good condition, and petroleum constituents detected in soil from the excavation were all below MTCA CULs (Hart Crowser 1990a [1431]).

Dead Tree Investigation (1990)

Several small juniper trees planted along the NBF-GTSP border died shortly after they were planted in 1989, prompting an environmental investigation. Nine soil borings were advanced along the fenceline and a sample was collected from a nearby catch basin (Figure 7.1-14). Analytical results indicated the presence of TPH in soil at low concentrations that did not appear to contribute to tree death. TPH was detected at a concentration of 3,800 mg/kg in the catch basin sample. Runoff to the catch basin appeared to originate on the SCL property (GTI 1990c [1423]).

Oil/Water Separator UBF-55 and Tank UBF-27 Soil Investigation (1997)

This location, southeast of the GTSP fenceline corner, reportedly bordered an old SCL transformer storage area (Figure 7.1-13) (AGI 1998a [0330]). The site was formerly bounded by a gas meter and an air-gas dryer area, and is situated between Buildings 3-322, 3-332, and 3-326. SCL conducted a PCB cleanup in fall 1985 in this area, which only included soils on the GTSP side of the fenceline (Boeing 1986b [0374]).

In September 1997, AGI Technologies conducted an investigation for the oil/water separator designated as UBF-55 (Figure 7.1-13). This structure, currently identified as OWS-186, was located near the northeast corner of Building 3-322, adjacent to UBF-27, and near the GTSP low-lying area. It is uncertain how long this 5,000-gallon capacity steel oil/water separator had been in place (AGI 1998a [0330]; Bach 2009a [3401]).

Subsurface soil samples were collected at 18 gridded locations (“P” samples) and analyzed for TPH, PCBs, VOCs, and/or SVOCs. Samples were typically collected from an upper shallow interval (1 to 1.5 feet thick) and a second interval (usually 2 feet thick) directly above the water table at 4 feet bgs (AGI 1998a [0330]). Only 4 of the 18 shallow samples were analyzed for PCBs, at locations closest to the oil/water separator. PCB concentrations ranged up to 1,540 mg/kg PCBs, including primarily Aroclors 1248 and 1254 (AGI 1998a [0330]). The highest concentrations (172 mg/kg to 1,540 mg/kg) were found at samples located immediately adjacent to UBF-55, at both depths. PCB concentrations above 10 mg/kg were also detected at sample locations closest to the gas meter and GTSP.

Maximum detected gasoline-, diesel-, and motor oil-range concentrations were 150, 1,900, and 550 mg/kg, respectively. Only one sample contained gasoline-range hydrocarbons at a concentration above the MTCA CUL. Four samples were analyzed for VOCs and SVOCs. Two VOCs and four SVOCs were detected (AGI 1998a [0330]). Concentrations of petroleum hydrocarbons were low enough that no cleanup actions were identified for these contaminants; however, oil/water separator UBF-55 was closed in place and was removed as part of the summer/fall 2011 remedial excavation on both sides of the NBF-GTSP fenceline.

Soil Investigation along NBF-GTSP Fenceline (2006)

In 2006, a number of soil samples were collected on both sides of the fenceline, very close to the fence along the property line (Figure 7.1-15). Soil samples on the NBF side of the fenceline (“S” samples) generally showed concentrations ranging from 0.7 to 63 mg/kg PCBs, except for sample location S-19 which contained 3,900 mg/kg PCBs (SCL 2006 [3208]). An interim soil cleanup action was conducted by SCL in May 2006 to prevent PCB-contaminated soil on the GTSP property from migrating off site. Samples collected at the base of the excavation (“IA” samples) indicated residual PCB contamination at concentrations ranging from 0.08 to 3,800 mg/kg. Approximately 47 cubic yards of PCB-contaminated soil were removed (Integral 2006a [1161]).

Soil Investigation during Storm Drain Re-Route (2006-2007)

In November 2006, a total of 15 soil samples were collected from 5 soil borings (SLR-1 through SLR-5) along the proposed storm drain re-route in the area between Buildings 3-326 and 3-332 (Figure 7.1-16) (Landau 2007b [0360]). PCBs were detected in 8 of the 15 samples, ranging up to 260 mg/kg (detection limits were approximately equal to the RISL). Petroleum hydrocarbons, VOCs, and metals were sparsely detected at low concentrations in some samples.

In July 2007, during excavation for re-routing this storm drain line, a total of 30 soil samples (NBF-1 to NBF-15) were collected from 15 soil trench locations to a maximum depth of 5 feet (Figure 7.1-16) (Landau 2007d [3022]). PCBs were detected in 25 of the 30 samples, ranging up to 2,680 mg/kg, with the highest concentration at NBF-15.

Soil and Groundwater Investigation (2010)

From July to August 2010, a total of 37 soil borings were sampled along the NBF-GTSP fenceline area in an effort to characterize PCB and other COPC impacts in soil (Figure 7.1-17). In most locations, soil was continuously sampled to a maximum depth of 8 feet bgs, and to 15 feet bgs in well borings. All soil samples were analyzed for PCBs; selected samples were analyzed for metals, TPH, SVOCs, and/or VOCs (Landau 2010e [6099]). PCBs were detected in 66 of the 153 soil samples, ranging up to 2,300 mg/kg. Significantly elevated concentrations (greater than 50 mg/kg) were identified in five borings to a depth of 10 feet bgs, located within 20 feet of the fenceline north and northwest of Building 3-326. PCB concentrations above the RISL were identified as deep as 15 feet bgs.

Monitoring wells NGW501 through NGW504 were installed in four of the borings in the general vicinity of the most contaminated area near the fenceline (Figure 7.1-17). Results are discussed in the following section for the 2011 investigation.

Soil and Groundwater Investigation (2011)

Three additional wells, NGW505 through NGW507, were installed in January 2011, with soil sampling to 15 feet bgs (Figure 7.1-18) (Landau 2011c [4162]). Soil samples in the three borings were all analyzed for PCBs and TPH, and shallow samples for metals. PCBs were detected in 4 of the 24 soil samples, ranging up to 0.79 mg/kg.

Groundwater samples were collected from wells NGW501 through NGW504 in August 2010, and from NGW505 through NGW507 in January 2011. PCBs were detected in samples from five of the seven wells, ranging up to 8.1 ug/L; all detected concentrations exceeded the RISL. BEHP also exceeded the RISL in NGW501. No other contaminants exceeded the RISLs.

The following table summarizes maximum concentrations and exceedances of RISLs for remaining soil (prior to summer 2011) and recent groundwater samples in the NBF fenceline area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
NBF Fenceline Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	3,900	120,000	8.1	810
Metals	Arsenic	14	2.0	--	--
	Cadmium	2.9	2.9	--	--
	Copper	142	3.9	--	--
	Lead	74	1.3	--	--
	Mercury	5.7	81	--	--
	Nickel	57	1.5	--	--
	Zinc	4,330	50	--	--
Petroleum Hydrocarbons	Gasoline-Range	150	5.0	--	--
	Diesel-Range	2,600 U	1.3-N	--	--
Phthalates	BEHP	0.24	5.1	7.9 J	7.9

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
NBF Fenceline Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PAHs	Benzo(g,h,i)perylene	0.07	2.3	--	--
	Benzo(a)pyrene	0.38	76	--	--
	Fluoranthene	0.44	2.7	--	--
	2-Methylnaphthalene	0.2	4.6	--	--
	cPAHs	0.508	100	--	--
BTEX	Benzene	0.0049	4.9	--	--
VOCs	cis-1,2-DCE	0.7	130	--	--
	Methylene chloride	0.0073	6.1	--	--
	PCE	0.0046	4.6	--	--
	TCE	5.4	5,400	--	--

-- Not analyzed or no exceedance; therefore EF is not provided U Non-detect
EF Exceedance factor J Estimated value -N EF based on non-detect concentration

Current Remedial Actions

Due to the widespread area of identified contamination, primarily concerning PCBs but also other COPCs, an interim action was performed within the NBF fenceline area during summer/fall 2011. Excavation plans involved the removal of soil containing PCBs greater than 0.5 mg/kg in areas where PCBs were detected in groundwater, which has been identified in the vicinity of the fenceline corner near Building 3-332. For areas where PCBs were not detected in groundwater, soil containing PCBs greater than 1.0 mg/kg was removed as practicable (identical to the plan on the GTSP side of the fenceline corner).

Excavation depth limits were expected to reach between 2 and 6 feet bgs for most areas, with localized areas extending deeper to 10 feet bgs. The lateral limits of excavation were planned to extend as follows: northward along the western fenceline to north of Building 3-334, including at least the eastern half of the alley between the fenceline and buildings to the west; southward almost as far as Building 3-326 and the pipe structures extending to Building 3-322; and eastward beyond the north end of Building 3-326 (Landau 2011e [N0002]). The objective of the interim action was to remove PCB sources from the NBF Fenceline area while simultaneously addressing other constituents.

The report documenting the interim action will be issued in April 2012; therefore, information and data collected during this interim action have not been incorporated into this Work Plan.

RI Scoped Activities

Soil and groundwater analytical data collected during and following the 2011 interim action at the NBF fenceline area will be reviewed after the report and final data are received. Evaluation of data will involve comparing the remaining soil and groundwater sample concentrations to the RISLs. It is recognized that an area south of the planned excavation limits includes sample results with concentrations exceeding RISLs. Following review of these data, additional investigation activities may be proposed in order to meet the RI goals. At a minimum, groundwater monitoring will take place to determine effectiveness of soil removal, using existing wells and installation of new wells to replace those removed during excavation activities.

In addition, electrical transformers were formerly located along or near Building 3-326, potentially carrying and releasing PCB fluid (Landau 2000 [6141]). Due to the ongoing interim action, the number of existing samples in this area, and uncertainty regarding the specific location of these structures, no characterization for this potential source is presently planned at this location.

7.1.4.2 Buildings 3-302 and 3-322, including Former Building 3-301

The area encompassing Buildings 3-302, 3-322 and former Building 3-301 is located in the eastern portion of the PEL area, south of Building of 3-334 and west of the fenceline area (Figures 7.1-11 and 7.1-19).

Soil samples were collected from six locations, HA-1 through HA-6, around the perimeter of Building 3-301 in September 1994 (Figure 7.1-20). Prior to building demolition, concentrations of TPH (six locations) and PCBs (two locations) in soil were evaluated (SECOR 1994g [1522]). Soil borings were advanced to 3 feet bgs, the anticipated maximum depth required for excavation. TPH and PCBs were not detected in the soil samples; however, the detection limit for PCBs (0.071 mg/kg) exceeded the RISL.

In 2009 and 2010, soil samples were collected from 83 locations (S01 through S83) in the area of Buildings 3-302, 3-322, and former Building 3-301 prior to and during a storm drain system cleanup, surface cleanup, and soil excavation event in 2010 (Figure 7.1-21) (Bach 2009b [4160]; Landau 2010a [6076]). Soil was sampled from the surface to depths of 2 to 3 feet bgs and analyzed only for PCBs. Samples were collected for purposes of determining removal of soil with PCB concentrations greater than 0.5 mg/kg, and for confirmation sampling. For all samples collected in this investigation, PCBs were detected in 145 of 150 samples (detection limits were approximately equal to the RISL). Concentrations for surface and near-surface soil samples (0 to 0.75 feet bgs) ranged up to 140 mg/kg PCBs (EF 4,200) at S24, while deeper soil samples ranged up to only 9.4 mg/kg (EF 280) at S50 and included five non-detected results.

The excavation for this area (in conjunction with surface debris cleaning and asphalt removal and repaving) was limited vertically by the water table, with a maximum depth of 3 feet bgs in the large area between Buildings 3-302 and 3-322 (Figure 7.1-21, east to west from S52 to S81). Other areas were excavated only to 0.5 foot bgs. In the area south of Building 3-302, a layering of geofabric and activated carbon was installed at the bottom of the 3-foot deep excavation and covered by clean fill, to provide treatment of fluctuating groundwater (Landau 2010a [6076]).

In July and August 2010, a total of 28 soil samples from 7 soil borings (LAI-SB12, LAI-SB29 through LAI-SB34) (Figure 7.1-17) were advanced as part of the *Focused Soil Investigation* (Landau 2010e [6099]). Soil borings were sampled to 8 feet bgs, and all samples were analyzed for PCBs, while additional selected samples were analyzed for metals, TPH, and/or SVOCs. PCBs were detected in 9 of 28 samples, ranging up to 5.3 mg/kg, highest at LAI-SB30. Metals concentrations were relatively low, with four metals exceeding the RISLs (see table below).

Based on the *Focused Soil Investigation* results, an excavation of PCB-impacted soils in combination with the replacement of a storm drain line was conducted during fall 2010 on the north side of Building 3-302. The excavation was extended below the water table at 4 feet bgs in an attempt to achieve a cleanup level of 0.5 mg/kg total PCBs, although three confirmatory samples indicated concentrations exceeded this level (Figure 7.1-22). A layering of geofabric and activated carbon was also installed at this location. Soil was further removed in the replacement of the storm drain line segment between CB184 and CB165 (Landau 2010j [6126]). This action also removed the identified shallow soil containing PCBs at 5.3 mg/kg.

During a PEL area-wide investigation from late 2010 to early 2011, three soil borings (LAI-SB50, LAI-SB72, LAI-SB102) and two groundwater monitoring wells (NGW509, NGW510) were installed (Landau 2011c [4162]). Soil borings were sampled to a depth of 6 to 8 feet bgs, and well borings were sampled to 15 feet bgs. These soil and groundwater samples were analyzed for PCBs, TPH, SVOCs, and VOCs; soil was also analyzed for metals. PCBs were detected in 6 of 28 soil samples, ranging up to 0.54 mg/kg. Metals concentrations were moderate to low, with four metals exceeding the RISLs, including mercury up to 0.43 mg/kg (see table below).

One groundwater sample from well NGW509 showed an exceedance of the RISL for TCE at 2 ug/L. The source or extent of this VOC contamination is not known, and it may be either locally derived or related to low-level VOCs (up to 2 ug/L TCE) identified in upgradient wells at the GTSP and northern KCIA properties.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Buildings 3-302 and 3-322 Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	140	4,200	--	--
Metals	Copper	38.8	1.1	--	--
	Lead	88	1.6	--	--
	Mercury	0.43	6.1	--	--
	Zinc	138	1.6	--	--
Phthalates	BEHP	0.059 U	1.3-N	--	--
PAHs	Benzo(g,h,i)perylene	0.059 U	1.9-N	--	--
	Benzo(a)pyrene	0.059 U	12-N	--	--
	2-Methylnaphthalene	0.059 U	1.4-N	--	--
	cPAHs	0.0393 U	7.9-N	--	--
BTEX	Benzene	0.015 U	15-N	--	--
VOCs	TCE	--	--	2.0	2.7

-- Not analyzed or no exceedance; therefore EF is not provided
U Non-detect EF Exceedance factor -N EF based on non-detect concentration

RI Scoped Activities

This area has been well characterized for PCBs in shallow soil, and areas of contamination have been identified and soil removed to approximately 0.5 mg/kg total PCBs in most areas. However, some areas of significant PCB RISL exceedances remain (Figure 7.1-19, with orange or red EF designations). This includes a zone along the northwest side for Building 3-322, and the area near and north of former Building 3-303. In the latter area, three sample results ranging from 4.6 to 5.3 mg/kg PCBs (EF 140 to 160) are within remaining soil; however, some of this soil may have been removed during the CB184 storm drain line replacement. Recognizing the relatively elevated concentrations of PCBs in this full area of concern, the northwestern portion of this area warrants further soil evaluation due to the lower density of sampling and to confirm that soil exceeding the interim action cleanup levels has been removed. Some metals have also exceeded RISLs, particularly mercury.

The storm drain line in this area is shallow and submerged (at high water); downstream (west) of CB165, the video survey noted multiple pipe fractures and suspected infiltration. Therefore, four shallow soil borings are proposed in this area to fill gaps in the previous sample array, to further sample near remnant PCB contamination, and to evaluate potential infiltration to the storm drain (Figure 7.1-19). Two samples will be collected per boring for analysis for PCBs and metals. These are considered medium priority because an interim action removal has recently occurred in the vicinity and the bulk of contaminated soil has been removed.

Summary of RI Scoped Activities
Buildings 3-302 and 3-322 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	4	2	NA	Medium	PCBs, Metals

7.1.4.3 Former Building 3-304

Former Building 3-304 was located southwest of the Building 3-302/3-322 area (Figure 7.1-11 and 7.1-23).

Between 2000 and 2001, a total of 15 soil samples (“S” and “SS-304” samples) were collected as part of building pre-demolition and installation of a new utility corridor (Figures 7.1-23 and 7.1-24) (CDM 2000 [1128], 2001 [0123]). These soil samples were also collected in response to discovery of an abandoned concrete structure at 4 feet bgs, which may have been an oil/water separator. A small soil excavation (10 feet by 15 feet) was performed in the north end of this area, to a maximum depth of 5 to 6 feet bgs (depicted in Figure 7.2-23). A sheen was observed on the groundwater during excavation of the structure, and soils in the area carried a fuel-like odor. Former Building 3-304 was demolished and a new subsurface utility corridor (trending north-south through center of area) was installed throughout the former building area.

Five soil samples (of the 15) were screened for hydrocarbon identification, and two final confirmation samples (S4 and S5) showed detections. These two samples, collected at about

5 feet bgs, were analyzed for PCBs, metals, TPH, VOCs, and SVOCs. COPCs detected above RISLs include PCBs, six metals, and gasoline-range hydrocarbons. Concentrations were relatively low, except for gasoline-range hydrocarbons at 1,100 mg/kg (EF 37) and mercury at 2.68 mg/kg (EF 38) at location S5. Ten other soil samples (SS-304 locations) also showed moderate to low concentrations of COPCs, with mercury detected up to 5.1 mg/kg (EF 73) at SS-304-1.

In 2010, samples were collected at five soil borings ("LAI-SB" samples) throughout the Former Building 3-304 area as part of the *Focused Soil Investigation* (Landau 2010e [6099]). PCBs were detected in 2 of 20 samples, ranging up to only 0.036 mg/kg (detection limits were approximately equal to the RISL). Concentrations were all relatively low. Groundwater has not been sampled in this area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Former Building 3-304 Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	1.8	55	--	--
Metals	Arsenic	11	1.6	--	--
	Barium	65.4	2.8	--	--
	Cadmium	1.6	1.6	--	--
	Lead	81	1.4	--	--
	Mercury	5.1	73	--	--
	Silver	0.5	1.7	--	--
Petroleum Hydrocarbons	Gasoline-Range	1,100	37	--	--
PAHs	Benzo(a)pyrene	0.081 U	16-N	--	--
	cPAHs	0.0612 U	12-N	--	--
BTEX	Benzene	0.0011 U	1.1-N	--	--
VOCs	cis-1,2-DCE	0.012 U	2.3-N	--	--
	Methylene chloride	0.0031 U	2.6-N	--	--
	PCE	0.0011 U	1.1-N	--	--
	TCE	0.0011 U	1.1-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided
U Non-detect EF Exceedance factor -N EF based on non-detect concentration

RI Scoped Activities

Although an excavation for petroleum contamination was performed in 2001, significant concentrations may remain and this area has not been sampled since for petroleum constituents. The storm drain line in this area is shallow and submerged (at high water); downstream of CB165, the video survey noted multiple pipe fractures and suspected infiltration. Therefore, additional sampling is warranted in the area surrounding the 2001 excavation. However, a number of subsurface utilities and above-ground structures in this location prevent sampling and would impede potential remediation. As a result, no samples are proposed in this area at this time.

In addition, soil sampling is warranted adjacent to SS-304-1, where a 1-foot deep soil sample contained mercury at 5.1 mg/kg, and adjacent sample B-10 was only analyzed for TPH. A number of subsurface utilities and above-ground structures limit sampling in the area between Buildings 3-626 and 3-306, especially east of SS-304-1; thus, one boring will be advanced in this area and sampled for shallow soil. This is considered low priority due to the possible limited extent of this contamination.

Summary of RI Scoped Activities
Former Building 3-304 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	1	2	NA	Low	PCBs, Metals

7.1.4.4 Fuel Test Facility and Propulsion Test Laboratory Area, Buildings 3-333 and 3-335

The area of current Building 3-333 (former Buildings 3-318 and 3-319), current Building 3-335 (former Building 3-321), and the area between them (former Buildings 3-287 and 3-320) have been the focus of numerous past environmental investigations (Figures 7.1-25a and 7.1-25b). The following sections summarize the various investigations and soil removal activities at this area.

Building 3-333 Pre-Construction Site Assessments (1994)

In August 1994, a total of 12 soil borings (HA-1 through HA-12), were advanced around Buildings 3-318, 3-319, 3-320, 3-287, and 3-321 to assess soil conditions within the proposed footprint of Building 3-333 (originally planned to cover a larger area) and a proposed utilidor (Figure 7.1-26) (SECOR 1994d [1521]). Soil borings were advanced to the groundwater depth, approximately 6.5 feet bgs, and soil samples were analyzed for PCBs and TPH. PCBs were detected in 9 of the 12 borings, ranging up to 400 mg/kg (EF 12,000), highest in HA-11, located near Building 3-287. Gasoline-range hydrocarbons also ranged up to 5,300 mg/kg (EF 180) and diesel-range up to 3,900 mg/kg (EF 2.0), again highest in HA-11.

In November and December 1994, a total of 22 borings (SB-1 through SB-22) were drilled to 8.5 feet bgs (Figure 7.1-26) (SECOR 1995 [1524]). Soil samples were analyzed for PCBs and TPH, and two samples were analyzed also for VOCs. One groundwater monitoring well was installed at 15 feet bgs and sampled (MW-1, later labeled NGW151). Groundwater samples were collected in December 1994 and January 1995 and analyzed for TPH, BTEX, and PCBs.

In the Phase I construction area, which included Buildings 3-318/3-319 and the corridor immediately to the southeast, PCBs were analyzed in soil samples, with concentrations ranging up to 3 mg/kg, highest at SB-11 at 2 feet bgs. In the Phase II construction area, which included Buildings 3-320/3-287 and 3-321, gasoline- and diesel-range hydrocarbons in soil exceeded

RISLs (MTCA Method A CULs) only in well boring MW-1 to at least 6 feet bgs; concentrations ranged up to 12,000 mg/kg for gasoline-range and diesel-range hydrocarbons. PCBs in soil also were elevated, with concentrations up to 510 mg/kg at MW-1. Samples from six other borings in this area contained PCBs at 1.0 mg/kg or greater. Highest concentrations were found near MW-1 and along the northwest side of former Building 3-319 (SECOR 1995 [1524]).

Oil/Water Separator Remedial Excavation (1996)

During preparations for Phase I construction of Building 3-333, Boeing conducted a remedial action at this area to remove a stormwater oil/water separator located at the southwest corner of the fuel test slab (Figure 7.1-26). In March 1996, approximately 200 cubic yards of soil were removed around the oil/water separator to a depth of approximately 5 feet (about 0.5 foot below the water table) (Boeing 1996 [0461]).

A total of 18 soil samples ("S" samples) were collected (SECOR 1996a [3221]). Soils within the remediation area (collected from the sides of the excavation) contained gasoline-, and diesel-range hydrocarbons at concentrations up to 4,700 and 9,900 mg/kg (EFs 160 and 5.0), respectively (both in boring S-12). TPH-impacted soil at concentrations above MTCA Method A soil CULs remained in place along the north, south, and east sides of the excavation at the water table (SECOR 1996a [3221]). Five samples of stockpiled excavation soil were analyzed for PCBs, which were all detected at concentrations ranging up to 1.6 mg/kg (SECOR 1996a [3221]; Boeing 1996 [0461]). (Note that stockpile sample results do not have original coordinates are not included in tables or figures in this Work Plan.)

Building 3-333 Phase I Construction Interim Remedial Actions (1996)

During Phase I construction in September 1996, PCB-contaminated soil was encountered in the excavation for the north wing of Building 3-333 (Figure 7.1-25b) (Equipoise 1997 [1418]). A total of 22 soil samples (3-333-1 through 3-333-22) were initially collected from the bottom of the excavation, typically to depths of 4.5 feet bgs, and PCBs were found at concentrations up to 84 mg/kg. The soil samples were also analyzed for VOCs, with relatively low detections except for TCE at 0.22 mg/kg (EF 220) in boring 3-333-19 at 4 feet bgs. A total of 17 additional soil samples (locations 3-333-23 through 3-333-31) were collected in the northern end of the excavation to better delineate PCB contamination, reaching as deep as 6.5 feet bgs. Additional deeper soil removal took place near location 3-333-23, locally extending to approximately 6.5 feet bgs. Based on sample descriptions, at least two locations (3-333-24 and 3-333-30) contain remnant PCB-impacted soil ranging from 0.75 to 10 mg/kg (EF up to 300). The lateral extent of contamination to the northwest of this area was not evaluated.

Building 3-333 (3-287 and 3-321) Phase II Construction Site Assessments (1997)

Prior to Phase II construction for the planned west wing of Building 3-333 (which was not constructed as planned) in 1998 (Boeing 1998a [0463]), a supplemental investigation was conducted to define the extent of contamination at the location of former Buildings 3-287 and 3-321 (AGI 1997 [1413]). Subsurface soil samples were collected from 29 locations (P1 through P29; Figure 7.1-25a) and analyzed for TPH and PCBs. In general, the highest TPH and PCB concentrations were localized in the area between Buildings 3-287 and 3-321, in the vicinity of

MW-1. Maximum TPH concentrations were 7,800 mg/kg and 7,600 mg/kg (EFs 260 and 3.8) for gasoline-range and diesel-range, respectively. The maximum PCB concentration of 1,600 mg/kg (EF48,000) was detected in a boring (P16) located close to MW-1.

Excavation was conducted during August and September 1997, to remove soils between and partially including Buildings 3-287 and 3-321. This now corresponds to the area at the north end of Building 3-335 and the area northwest of the building (depicted in Figure 7.1-25a). Removal targeted soils with concentrations exceeding MTCA Method A industrial CULs to the depth of the water table. A total of 62 characterization samples were analyzed for PCBs and 40 samples for TPH (AGI 1998b [0329]). In addition, 23 confirmation samples were analyzed for PCBs and 25 samples for TPH. Excavation soil samples identified PCBs above the CUL (10 mg/kg) at 3 to 5 feet bgs with a maximum concentration of 4,150 mg/kg (EF 130,000) at location H1-10, and diesel-range TPH to 7,730 mg/kg (EF 3.9) at location F0-70, both near MW-1.

Confirmation sample results (after excavation) indicated that elevated PCB concentrations remained on the east wall (to 51 mg/kg) and on the bottom of the main excavation below the water table (up to 380 mg/kg, EF 12,000). Residual PCB concentrations in other locations ranged up to 6.3 mg/kg (bottom of excavation) and to 3.2 mg/kg (trough drain under Building 3-320) (AGI 1998b [0329]). Elevated TPH concentrations were found in these same locations: gasoline-range to 1,200 mg/kg and diesel-range to 4,300 mg/kg (EFs 40 and 2.2). MW-1 was abandoned in the excavation; no further action was taken.

Building 3-335 Soil Investigation and Removal (1998)

Contaminated soil was encountered during construction of Building 3-335 in 1998, and a site investigation was then performed. A total of 13 test pits were excavated in and around the footprint for Building 3-335 and toward Building 3-333 (Figure 7.1-27). Approximately 24 cubic yards of soil were excavated from the northeast portion of Building 3-335 and utility corridors between Buildings 3-333 and 3-335. Boeing excavated four additional test pits in the building footprint and collected soil samples. PCBs, three metals, and gasoline-range hydrocarbons were detected at levels above RISLs in these soil samples. PCB concentrations ranged from 0.25 to 7.7 mg/kg (AGI 1999 [1414]).

PCB Soil Investigation (2007)

As part of a PEL area PCB soil investigation, several soil borings were drilled near Buildings 3-333 and 3-335 in March to April 2007 (Figure 7.1-28). The highest PCB concentration of 133 mg/kg (EF 4,000) was found in boring SB-36, located between the two buildings.

Soil and Catch Basin Investigation (2008)

In November 2008, two soil borings, NBF-SD31 and NBF-SD32 were advanced to the east of Building 3-333 (Figure 7.1-29). Two soil samples were collected from each boring. PCBs were not detected in the soil samples (Landau 2008b [2348]). A soil boring sample collected between Buildings 3-335 and 3-333 (SB08-36 at 5-6 feet bgs) found PCBs at 270 mg/kg (EF 8,200) (Landau 2008a [2109]).

Soil and Groundwater Investigation (2010 to 2011)

As part of a PEL area-wide investigation, in September 2010, nine soil borings ("LAI-SB" locations) were advanced to a depth of 8 feet bgs throughout the Building 3-333 and 3-335 area (Figures 7.1-25a and 25b). In January 2011, groundwater monitoring wells NGW513, NGW515, NGW517, and NGW518 were installed in this area (and NGW516 immediately adjacent), to a depth of 15 feet bgs (Figure 7.1-18). These soil and groundwater samples were analyzed for PCBs, TPH, SVOCs, and VOCs; soil was also analyzed for metals. PCBs were detected in 29 of 71 soil samples, ranging up to 140 mg/kg PCBs (EF 4,200). The area most contaminated with PCBs is within the outline of soil removal conducted between Buildings 3-333 and 3-335. Samples from three borings within or on the south side of this excavation area (NGW516, NGW517, and LAI-SB60) contained benzene in soil at concentrations of 0.15 to 0.31 mg/kg (EF 150 to 310).

The PCB concentration in a January 2011 groundwater sample from NGW517 was 20.8 ug/L. This well is located in the middle of a PCB-contaminated soil zone. Because this new well yielded a turbid groundwater sample and may not have been developed properly, it was redeveloped and resampled. The second groundwater sample, collected in March 2011, produced a significantly lower concentration of 0.76 ug/L PCBs (EF 76). This well is located near former well MW-1, and is in the middle of the area where Boeing performed an interim action excavation in fall 2011. Another well, NGW515, located near the fuel test slab area, contains PCBs at 0.34 ug/L (EF 34).

A few of these newly installed wells contain relatively low levels of VOCs. Most significant is NGW518, located southwest of Building 3-333. Concentrations for a sample collected in January 2011 include PCE at 5.8 ug/L (EF 29) and TCE at 1.5 ug/L (EF 2.0). The source of these VOCs is unknown.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Buildings 3-333 and 3-335 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	4,150	130,000	840	84,000
Metals	Barium	115	5.0	--	--
	Cadmium	1.01	1.0	--	--
	Mercury	0.09	1.3	--	--
	Zinc	121	1.4	--	--
Petroleum Hydrocarbons	Gasoline-Range	7,800	260	2,800	3.5
	Diesel-Range	9,900	5.0	25,000	50
Phthalates	BEHP	0.058 U	1.2-N	--	--
PAHs	Benzo(g,h,i)perylene	0.058 U	1.9-N	--	--
	Benzo(a)pyrene	0.13	26	--	--
	Fluoranthene	0.18 U	1.1-N	--	--
	2-Methylnaphthalene	0.081	1.9	--	--

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Buildings 3-333 and 3-335 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
	cPAHs	0.140	28	--	--
BTEX	Benzene	0.31	310	2.5	3.1
VOCs	cis-1,2-DCE	0.14 U	27-N	--	--
	Methylene chloride	0.023 B	19	--	--
	PCE	0.0012 U	1.2-N	5.8	29
	TCE	0.221	220	1.5	2.0
	Vinyl chloride	--	--	0.7	3.5

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration B Possible or probable blank contamination

Current Remedial Actions

Because a significant amount of soil contaminated with PCBs has been identified in the area between Buildings 3-333 and 3-335 (located in the general vicinity of former well MW-1), Boeing performed an interim action for the removal of PCB-impacted soil in fall 2011 (outline depicted in Figure 7.1-18 is the initial proposed excavation limits). The excavation was planned to extend to a typical depth of 6 ft bgs, but may have extended to 8 ft bgs or more (below the water table), where practicable, to reach contaminated soils. The lateral extent of the excavation was limited by the presence of Building 3-335, by utilities, and by other infrastructure (Landau 2011d [8276]). The report documenting the interim action was issued in March 2012; therefore, information and data collected during the interim action has not been incorporated into this Work Plan.

RI Scoped Activities

Soil and groundwater analytical data collected during and following the 2011 interim action at the Building 3-335 area will be reviewed after validated data are received. Evaluation of data will involve comparing the remaining soil and groundwater sample concentrations to the RISLs. Following review of these data, additional investigation activities may be proposed in order to meet the RI goals. At a minimum, groundwater monitoring will take place to determine the effectiveness of soil removal, using existing wells and installation of one or two wells to replace those removed during excavation activities. It is anticipated that regular ongoing monitoring will continue at downgradient well NGW516.

Past investigations indicate the presence of PCB-impacted soil (to 10 mg/kg) remaining under the northern end of Building 3-333 at depths greater than 4 feet, close to the building margin. The extent of this zone of contamination to the northwest, outside the footprint of the building, has not been identified. Other samples along the northwestern margin of the building also indicate soil PCB contamination in this area (up to 1.8 mg/kg at HA-1 at 3 ft bgs). In addition, electrical transformers were formerly located along the northwest side of former Buildings 3-318/3-319 (now 3-333), potentially carrying and releasing PCB fluid (Landau 2000 [6141]). To characterize this area, five soil borings (three in the former transformer area) will be advanced along the northwestern side of the building, to depths of approximately 8 feet, with three samples anticipated from each boring to be analyzed for PCBs. Care will be taken to place the borings between the storm drain lines, the LTST diversion pipe, and other utilities. In addition, one boring will be advanced along the southeastern side of this building to evaluate the extent of TCE contamination, with an estimated two samples analyzed for VOCs and PCBs. This activity is considered medium priority, because a shallow portion of the potentially contaminated soil was removed during building construction, and additional soil may have been removed during LTST pipeline installation.

Past investigations indicate the presence of moderately elevated PCBs in soil between the eastern corner of Building 3-335 and the fuel test slab area. Maximum concentrations of PCBs in borings include 0.63 mg/kg (3-335-SS-101398 at 1 ft bgs), 0.79 mg/kg (LAI-SB103 at 0-2 ft bgs), and 2.2 mg/kg (EF 67) (NGW515 at 2-4 ft bgs, and 1.4 mg/kg at 4-6 ft). In groundwater at NGW515, PCBs have been measured at a concentration of 0.34 ug/L (EF 34). Furthermore, this location is adjacent to three storm drain segments that are submerged at high water levels, and video surveys reveal pipe problems and suspected infiltration in the main lateral downgradient of this location. Thus, additional soil sampling in this area is warranted.

Characterization will include four soil borings to be advanced to approximately 8 ft bgs in the area between Building 3-335 and the south end of the fuel test slab. An estimated two samples will be collected from each boring and analyzed for PCBs, TPH, and VOCs. The existing well NGW515 will also be sampled for these analytes for two semiannual events. Soil sampling in this area is considered medium priority due to the moderately elevated PCB concentrations in soil and groundwater samples, and the proximity to submerged and/or damaged storm drain lines. Groundwater sampling of existing wells is part of the Site-wide groundwater investigation, which is considered high priority (Section 7.1.8).

Summary of RI Scoped Activities
Buildings 3-333 and 3-335 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings (3-333)	6	3		Medium	PCBs, VOCs
Soil Borings (3-335)	4	2		Medium	PCBs, TPH, VOCs
Existing GW Well	1		2	High	PCBs, Metals, TPH, VOCs

7.1.4.5 Former F&G Facility, Current Building 3-324

This facility is located west of Building 3-335 in the southwest portion of the PEL area (Figures 7.1-11 and 7.1-30). Eight jet fuel USTs, identified as UBF-10 through UBF-17, were located at this facility. Underground storage tanks UBF-10 through UBF-13 were situated on the “F” slab at the south end of the facility (Figure 7.1-31); UBF-14 through UBF-17 were situated on the “G” slab at the north end of the facility (SEACOR 1994a [0145]). In 1994, the USTs were removed prior to construction of Building 3-324.

In 1985, hydrocarbon-contaminated soil adjacent to the USTs was encountered. Seven groundwater monitoring wells (FG-5 through FG-11) were installed around slabs F and G in 1986 (Figure 7.1-31). One soil sample was collected from each well boring for analysis. Soil samples collected from the borings were analyzed for TPH and jet fuel. Detections of TPH ranged from 46 to 500 mg/kg (below RISLs), and jet fuel was not detected. Groundwater was encountered between 5 and 6.5 feet bgs. Jet fuel and TPH were detected in groundwater (Landau 1986b [1440]).

In 1991, two of four USTs at slab G (UBF-14 and UBF-15) failed a leak test. The tanks were emptied and groundwater in the vicinity was sampled; no contamination was detected (Boeing 1992c [0136]).

Wells FG-5 through FG-11 were monitored on a quarterly basis from 1991 to 1994. An additional groundwater monitoring well (FG-MW1) was installed downgradient of FG-11 in 1993. Historical groundwater data indicate concentrations of diesel-range hydrocarbons in wells FG-5 and FG-11 and jet fuel in wells FG-6 and FG-7 exceeded the RISLs. Jet fuel analysis was performed for samples collected during the initial groundwater sampling event only. The four most recent sampling events (July 1993 to April 1994) for FG-5 and FG-11 presented varying results for diesel-range hydrocarbons. Samples from FG-5 and FG-11 in 1993 indicated the highest historical levels of diesel-range hydrocarbons, at concentrations exceeding the RISLs. In 1994, diesel-range hydrocarbons were not detected or were below MTCA Method A CULs in both wells. The groundwater monitoring wells were abandoned in 1994 during UST removal and building construction activities.

In 1993, a site assessment investigation was performed prior to beginning construction of Building 3-324. Twenty-nine soil samples were collected from 16 soil borings (SB1 through SB16), ranging from 4 to 9 feet in depth. Petroleum hydrocarbon-impacted soil was identified at three locations at depth: on the east side of the investigation area, between the “F” and “G” slabs, and on the south side of the “F” slab (south of UBF-13) (Figure 7.1-31). The majority of the contaminated soil was removed during UST removal activities in 1994.

In May/June 1994, the eight USTs and associated piping were removed (SECOR 1994e [0153]). A total of 44 soil samples were collected, including 37 samples from the excavation and 7 stockpile soil samples (Figure 7.1-31). Samples from the final excavation limits for both the “F” and “G” tank areas were analyzed for TPH; stockpile soil samples were also analyzed for BTEX and PCBs. Laboratory results indicated that PCBs were detected at elevated concentrations in four of the stockpile samples; benzene and TPH were either not detected or detected below the RISLs. Approximately 375 cubic yards of soil were excavated during the UST removal event. Ecology’s LUST database reports the release as cleaned up at this location in June 1995.

In 2010 and 2011, eight soil borings were advanced in the Building 3-324 area (“LAI-SB” and “NGW” locations) (Figure 7.1-30). Boring LAI-SB58 was advanced near the former well FG-5, which was associated with the former F& G facility tanks. At LAI-SB59, total cPAHs were identified at 2.2 mg/kg (EF 630) at 4 feet bgs. At LAI-SB64, located at the former “G” slab within the excavation outline, cPAHs were identified at 0.46 mg/kg (EF 130) at 0-2 feet bgs. PCB concentrations exceeding the RISL were detected at 0 feet bgs in boring LAI-SB64; at 0 and 2 feet bgs in boring NGW519; and at 2 and 4 feet bgs in boring LAI-SB92, with a maximum concentration of 1.03 mg/kg (EF 31). Benzene was identified in soil at three locations a short distance northeast of the "G" slab, within the Building 3-333/3-335 area (Section 7.1.4.4), at concentrations ranging from 0.15 to 0.31 mg/kg (EF 150 to 310). No analytes were detected in the groundwater sample collected from well NGW519 (Landau 2011c [4162]).

Storm drain solids samples collected from catch basins around Building 3-324 contained concentrations of PCBs, cadmium, copper, and zinc. Storm drain lines around the building are above the high seasonal water table, with the exception of a portion of storm drain line N6. During the 2010 video inspection, no problems were noted in the section of the line within this area (Figure 7.1-2).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Former F&G Facility, Current Building 3-324 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	1.03	31	0.028	2.8
Metals	Arsenic	29	4.1	--	--
	Cadmium	1.2	1.2	--	--
	Zinc	94	1.1	--	--
Petroleum Hydrocarbons	Diesel-Range	--	--	3,600	7.2
Phthalates	BEHP	0.059 U	1.3-N	--	--
PAHs	Benzo(g,h,i)perylene	0.98	32	--	--
	Benzo(a)pyrene	1.7	340	--	--
	Fluoranthene	2.1	13	--	--
	2-Methylnaphthalene	0.058 U	1.3-N	--	--
	cPAHs	2.22	440	--	--
BTEX	Benzene	0.014 U	14-N	1.1	1.4

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Recent soil samples collected in this area have contained concentrations of PCBs, PAHs, and metals at concentrations exceeding the RISLs. Remnant contamination is identified within and surrounding the former "G" slab tank area, including cPAHs as well as benzene a short distance to the northeast. In groundwater, concentrations of TPH and benzene appear to have attenuated to concentrations below current MTCA CULs and RISLs. Groundwater samples collected in this area have not been analyzed for other COPCs.

To define the nature and extent of contamination at this area, six soil borings will be advanced to at least the water table, and one monitoring well will be installed in one of these borings (Figure 7.1-30). All but one of these borings are located near the former "G" slab tank area, including one within the former tank basin, to fill spatial gaps in the existing sample locations. One boring will be installed within the former "F" slab tank basin, in an area where no previous samples have been collected, to confirm that contamination was adequately removed. No samples will be taken northeast of the "G" slab in proximity to the recent interim action excavation at the adjacent Building 3-333/335 area. A minimum of two soil samples will be collected from each boring. The monitoring well will be installed downgradient of the former "G" slab tank basin and downgradient of the adjacent excavation.

Most storm drain lines in this area are not submerged. Concentrations in the 2010 soil samples were relatively low; therefore, completion of the investigation with regard to soil is a medium priority. Installation of the monitoring well will support the Site-wide groundwater investigation (Section 7.1.8), and completion of the well is a high priority. In addition, continued groundwater monitoring at well NGW519 is a high priority.

Summary of RI Scoped Activities
Former F&G Facility, Current Building 3-324 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Soil Borings*	6	2		Medium	PCBs, PAHs, TPH, VOCs
New GW Wells	1		4	High	PCBs, PAHs, Metals, TPH, VOCs
Existing GW Wells	1		4	High	PCBs, PAHs, Metals, TPH, VOCs

* Note that the total number of soil borings also includes the boring for the new well.

7.1.4.6 Inlet Development Facility, Building 3-353

Building 3-353 is located near Buildings 3-315 and 3-368 in the northern portion of NBF (Figures 7.1-11 and 7.1-32). Former USTs BF-4, BF-5, and BF-6 were located north of the west corner of Building 3-353 (Figure 7.1-33a). The tanks were historically used to provide fuel to an engine testing laboratory. Tank BF-4 was a 10,000-gallon UST and was used to store excess fuel prior to recycling. Tanks BF-5 and BF-6 were 5,000-gallon USTs and used to store Jet A fuel and JP-4, respectively. Product piping connecting the UST complex to the former testing laboratory was installed in a 100-foot-long utility vault. The USTs were installed in 1986. The bottoms of the USTs rested at approximately 11.5 feet bgs and may have been in contact with groundwater (EFI Global 2006 [1417]). In addition, PCB-bearing transformers and/or capacitors were historically located at Building 3-353 (Section 7.1.8.2) (Landau 2000 [6141]).

In 1989, a site assessment was performed prior to the construction of Building 3-353 (Figure 7.1-33b). Five soil borings (SB-1 through SB-5) and three groundwater monitoring wells (GT-1114-1 through GT-1114-3) were advanced between Buildings 3-315 and 3-368 in the proposed footprint of the building. Groundwater was encountered at approximately 12 feet bgs. TPH at concentrations below MTCA Method A CULs were present in soil between 2.5 and 10.5 feet bgs in all borings. PCBs were reported in one soil sample at a concentration of 2.9 mg/kg in SB-3 at

5.5 feet bgs (EF 88). Arsenic, barium, chromium, copper, and zinc were reported at concentrations exceeding the RISLs at 2.5 feet bgs in soil.

The groundwater monitoring wells were sampled in November 1989 and February 1990. TPH was not detected in the groundwater samples from either sampling event (GTI 1990a [1421]); the groundwater samples were not analyzed for PCBs or metals. Phthalates were detected in groundwater at up to 110 ug/L (EF 110) in GT-1114-3. The site assessment report identified two sample locations, 1A and 2A, but without explanation as to their purpose (Figure 7.1-33b). Wells GT-1114-1 and GT-1114-3 have been abandoned, but well GT-1114-2 remains active.

In July 1990, a release of petroleum hydrocarbons occurred during excavation associated with construction of Building 3-353 (Boeing 1990b [0389]). Eight soil samples (KH706A and KH706B and KH710A through KH710F) were collected from a utility trench for jet fuel lines located near an electrical transformer and an underground vault (Figure 7.1-33b) (GTI 1990e [1157]). Results indicated TPH concentrations below MTCA Method A CULs in the walls and bottom of the excavation, and 350 mg/kg in a pile of soil excavated from the vault area. One sample was analyzed for BTEX compounds, which were not detected. None of the samples were analyzed for PCBs. Approximately 10 cubic yards of petroleum hydrocarbon-impacted soil were removed from the eastern side of the building footprint (Boeing 1990b [0389]).

The BF-4, BF-5, and BF-6 UST system was temporarily closed in late 2005 or early 2006. To extend the temporary closure status beyond 12 months, a site investigation was completed in October 2006, consisting of 11 soil borings (B-1 through B-11) around the USTs and utility vault. Groundwater was encountered between 8 and 10 feet bgs. Fourteen soil samples were analyzed for petroleum hydrocarbons (Figure 7.1-33a). Heavy oil- and diesel-range hydrocarbons were detected below RISLs (EFI Global 2006 [1417]). These tanks were removed during 2008 (Bach 2009a [3401]); it is not known whether additional samples were collected at that time.

Two soil borings, SB-11 and SB-37 were advanced near Building 3-353 and former USTs BF-4, BF-5, and BF-6 in 2007 (Figure 7.1-32). Groundwater was encountered at 4 feet bgs. Soil samples were analyzed for PCBs, which were not detected (Landau 2007c [3471]). Detection limits met the RISLs.

In 2010, eight soil borings (LAI-SB53 through LA-SB55, LAI-SB94 through LAI-SB97, and LAI-SB107) were advanced in or near the Building 3-353 area (Figure 7.1-32). Groundwater was encountered between 3 and 6 feet bgs in most borings, but was not identified in LAI-SB96 and LAI-SB97 (borings were terminated at 8 feet bgs). Concentrations of PCBs, mercury, benzene, gasoline-range hydrocarbons, and fluoranthene exceeding the RISLs were present in soil. LAI-SB107 was the source of maximum benzene (EF 65) and cPAHs (EF 38) at this area. A groundwater sample was collected from well GT-1114-2; no COPCs were detected (Landau 2011c [4162]).

Soil and groundwater infiltration has been confirmed in storm drain lines N5 and N7 located south and north of Building 3-353, respectively. Line N7 is submerged by the water table at high water levels (Figure 7.1-2). Depth to groundwater in this area ranges from 4 to 12 feet bgs. PCBs, cadmium, and zinc have been detected in storm drain solids samples collected from this line. Damage to the storm drain line was reported during the 2010 video inspection. The other lines in this area are not submerged at high water levels and have not been inspected. PCBs, mercury, cadmium, copper, and zinc have been detected in storm drain solids samples associated with these lines.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Inlet Development Facility, Building 3-353 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	2.9	88	--	--
Metals	Arsenic	28	4.0	--	--
	Barium	340	15	--	--
	Chromium	560	2.2	--	--
	Copper	63	1.8	--	--
	Mercury	0.1	1.4	--	--
	Zinc	90	1.0	--	--
Petroleum Hydrocarbons	Gasoline-Range	44	1.5	--	--
Phthalates	BEHP	0.06 U	1.3-N	110	110
PAHs	Benzo(g,h,i)perylene	0.059 U	1.9-N	--	--
	Benzo(a)pyrene	0.069	14	--	--
	Fluoranthene	0.47	2.9	--	--
	2-Methylnaphthalene	0.059 U	1.4-N	--	--
	cPAHs	0.132	26	7.55 U	110-N
BTEX	Benzene	0.065	65	5.0 U	6.3-N
VOCs	PCE	--	--	5.0 U	25-N
	TCE	--	--	5.0 U	6.8-N
	Vinyl chloride	--	--	10 U	50-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

PCB-contaminated soil appears to be limited to a depth of approximately 2 feet bgs in this area. Soil contaminated with mercury and PAHs extends to 8 feet bgs. The lateral extent of contamination has not been well-defined, although most RISL exceedance factors are relatively low, as summarized above. The two exceedances with the highest EFs are PCBs in boring SB-3 and benzene in LAI-SB107; gasoline-range hydrocarbons were present above the RISL (EF 1.5) in LAI-SB96. Based on historical groundwater monitoring data, it appears that contaminants in soil are not leaching to groundwater. One groundwater sample was collected in 2010.

To aid delineation of the nature and extent of soil contamination in this area, a total of five soil borings will be advanced; three of these are located near the borings mentioned in the paragraph above (Figure 7.1-32). These are located to fill spatial gaps in the locations of previous samples. Each soil boring will be advanced to at least 10 feet bgs. At least two samples will be collected from each boring for laboratory analysis.

One of these five borings will also include installation of a downgradient monitoring well, to replace former downgradient well GT-1114-3. At least four groundwater samples will be collected from this well. Existing wells will be monitored concurrently with the new well. Installation of the groundwater monitoring well will support the Site-wide groundwater investigation (Section 7.1.8); therefore, completion of these wells is considered high priority.

Due to infiltration in storm drain line N7 and possibly N5, PCB-contaminated storm drain solids, the historical use of PCB-bearing equipment, and PCB-impacted soils (though at relatively low levels), this is considered a medium priority area for soil sampling activities.

Summary of RI Scoped Activities
Building 3-353 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Soil Borings	5	2		Medium	PCBs, PAHs, TPH, VOCs
New GW Well	1		4	High	PCBs, Metals, TPH, SVOCs, VOCs
Existing GW Wells	1		4	High	PCBs, Metals, TPH, SVOCs, VOCs

7.1.4.7 Building 3-354 Area

The site is located on the north side of the Apron A blast fence in the PEL Area (Figures 7.1-11 and 7.1-32).

A potential release was identified in 1991 during a pre-construction environmental exploration of a site for proposed Building 3-354 (Boeing 1991 [0390]). In October 1991, eight soil borings, SB-1 through SB-8, were advanced to depths of 5.5 to 7 feet bgs (Figure 7.1-34). Groundwater was encountered at 7 feet bgs. Samples were analyzed for TPH, VOCs, metals, and PCBs. Concentrations of TPH in samples from borings SB-3, SB-4, and SB-5, located around the perimeter of a concrete slab near the center of the proposed building, exceeded the 1991 MTCA Method A CULs (TPH data not presented in tables or figure because petroleum ranges were not distinguished). PCBs (Aroclor 1260) were detected in two samples, SB-1 at 0.3 mg/kg (EF 9.1) and SB-4 at 0.1 mg/kg. Metals concentrations were below the RISLs, and VOCs were not detected (GTI 1991b [1158]).

The area around borings SB-3, SB-4, and SB-5 was subsequently excavated. Based on a sample of the excavated material, Boeing concluded that the earlier TPH results were inaccurately interpreted as a release, and were more likely the result of asphalt debris in the samples (Boeing 1992a [0393]).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-354 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.3	9.1	--	--
BTEX	Benzene	0.005 U	5.0-N	--	--
VOCS	Methylene chloride	0.005 U	4.2-N	--	--
	PCE	0.005 U	5.0-N	--	--
	TCE	0.005 U	5.0-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

PCBs were detected at concentrations above the RISL in soil at the southwest corner and southern perimeter of Building 3-354 prior to construction. The detection limit for PCBs exceeded the RISL for the soil samples collected from the remaining borings within the building footprint. A limited excavation was performed to remove TPH-contaminated material, which may have addressed PCBs in soil along the southern perimeter. To construct the foundation of the building, the footprint was excavated to depths between 2.5 and 5 feet bgs (GTI 1991b [1158]). These excavation activities may have addressed PCBs in soil; however, no analytical data are available for review.

One soil boring will be advanced at least to the water table along the southern perimeter of Building 3-354, near two locations where PCBs were detected above RISLs (Figure 7.1-32). At least two soil samples will be collected from the boring. This soil boring will also serve to characterize potential contamination along the Concourse A utilidor (Section 7.1.5.7); therefore, soil samples will be analyzed for a broader suite of analytes. In addition, a well in this area is needed to fill a spatial gap in the Site-wide groundwater monitoring network. Therefore, this boring will be completed as a well. The well will be sampled four times for a broad suite of analytes. Completion of the soil sampling activity is considered a low priority due to the relatively low concentrations, probable limited extent, and at least a partial soil removal. The groundwater sampling as part of the Site-wide network is considered high priority.

Summary of RI Scoped Activities
Building 3-354 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Soil Borings	1	2		Low	PCBs, Metals, TPH, SVOCs
New GW Well	1		4	High	PCBs, Metals, TPH, SVOCs, VOCs

7.1.4.8 Wind Tunnel Area, Former Tanks NBF-28 and NBF-29

Tanks NBF-28 and NBF-29 were located at the western end of the wind tunnel test facility and north of Building 3-311 (Figures 7.1-11 and 7.1-35). These 5,000-gallon USTs were reportedly used to store jet fuel. The USTs were abandoned and filled with sand prior to the mid-1960s. Soil and groundwater sample locations are depicted in Figure 7.1-36.

Soil samples collected in 1985 indicated the presence of petroleum hydrocarbons in soil adjacent to the USTs. In 1986, the USTs were removed from the site. During the removal activity, some evidence of floating hydrocarbons was observed on groundwater within the UST excavation. A recovery well was installed in the excavation (Figure 7.1-36). A groundwater sample collected from the well did not contain any floating product; the sample was analyzed for BTEX compounds, which were not detected. Landau then recommended decommissioning the recovery well (Landau 1986a [1439]). Additional information regarding this area of NBF was not available for review.

The pipelines associated with the former USTs at the adjacent Green Hornet area (Section 7.1.4.9) extended to the Wind Tunnel area. A remedial action was performed at the Green Hornet area in 1993 (SEACOR 1994c [0180]). As part of the remedial action, trenches were excavated along two former pipelines, and two soil samples (AT1-1 and AT2-1) were collected within these trenches in the Wind Tunnel area (Figure 7.1-37). The samples were analyzed for diesel-range hydrocarbons and BTEX. Diesel was detected at concentrations below the MTCA Method A CUL. Benzene was not detected, although the detection limits exceeded the RISL.

In 2010, five soil borings were advanced in the Wind Tunnel Area (Landau 2011c [4162]). Two borings, LAI-SB85 and LAI-SB86 were advanced in the area of former tanks NBF-28 and NBF-29, near the former recovery well (Figure 7.1-36). Groundwater was not encountered in these borings, which were terminated at 8 feet bgs. Total cPAH concentrations exceeded the RISL at 2 and 4 feet bgs. Boring LAI-SB47 was advanced to the south of the Wind Tunnel structure and boring LAI-SB99 and LAI-SB100 were advanced to the east of the Wind Tunnel. Groundwater was encountered at 3 feet bgs in boring LAI-SB47 and at 6 feet bgs in borings LAI-SB99 and LAI-SB100. At LAI-SB47, cadmium and mercury concentrations exceed the RISLs (EFs 12 and 2.1) at depths up to 6 and 4 feet bgs, respectively. PCBs were detected at a concentration of 0.17 mg/kg (EF 5.2) at 0-2 feet bgs. Total cPAHs exceeded the RISL at 2 and 4 feet bgs at concentrations up to 0.10 mg/kg (EF 29).

PCBs, mercury, cadmium, copper, lead and zinc have been detected in storm drain solids samples collected from this area. The storm drain lines are situated above the water table.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Wind Tunnel Area, Former Tanks NBF-28 and NBF-29

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.172	5.2	1.0 U	100-N
Metals	Cadmium	12	12	--	--

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Wind Tunnel Area, Former Tanks NBF-28 and NBF-29

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
	Mercury	0.15	2.1	--	--
Phthalates	BEHP	0.062 U	1.3-N	--	--
PAHs	Benzo(g,h,i)perylene	0.082 J	2.6	--	--
	Benzo(a)pyrene	0.082	16	--	--
	2-Methylnaphthalene	0.059 U	1.4-N	--	--
	cPAHs	0.101	20	--	--
BTEX	Benzene	0.013 U	13-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration J Estimated value

RI Scoped Activities

PCBs, metals, and PAHs are present in soil at relatively low concentrations above the RISLs, as summarized above. Carcinogenic PAHs are present at greatest exceedance factors. Concentrations of mercury and cadmium exceeding the RISLs are present below the water table on the southern side of the Wind Tunnel. Groundwater has not been sampled in this area.

One soil boring will be advanced to at least the depth of the water table to define the lateral extent of contamination near LAI-SB47 (Figure 7.1-36). A minimum of two soil samples will be collected for laboratory analysis. Due to the apparently limited extent and concentrations of COPCs at the area, this is considered low priority.

Summary of RI Scoped Activities
Wind Tunnel Area, Former Tanks NBF-28 and NBF-29 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Soil Borings	1	2		Low	PCBs, Metals, SVOCs, VOCs

7.1.4.9 Green Hornet Area

The Green Hornet area tank farm was located near Buildings 3-311, 3-312, and 3-313, in the northern portion of NBF (Figures 7.1-11 and 7.1-36). The site was the location of three 12,000-gallon USTs (UBF-7, UBF-8, and UBF-9) associated with the Green Hornet Wind Tunnel Facility; the tanks were used to store Jet A fuel. Soil and groundwater sample locations are depicted in Figure 7.1-36.

In 1985, shallow soil borings were advanced around the three USTs (UBF-7, UBF-8, and UBF-9) in the Green Hornet area (Figure 7.1-37). Petroleum hydrocarbons were encountered near all three tanks. Four groundwater monitoring wells (GH-1 through GH-4) were installed around the tank pad in 1986. Soil and groundwater sample results indicated detectable concentrations of TPH. Jet fuel was detected in three of the four soil samples. Kerosene was detected in all four groundwater samples. Benzene was also reported in the groundwater sample from well GH-2 (Landau 1986d [1441]).

The tanks, which were installed in 1950, failed a leak test in early 1992 (Boeing 1992b [0135]) and the fuel levels were immediately lowered to below the suspected leak depth. In July 1992, Boeing notified Ecology of their intent to permanently close the tanks (Boeing 1992b [0135]); the tanks were to be replaced with a single AST (Boeing 1992c [0136]).

In 1993, the fueling station was decommissioned. A site investigation conducted during removal of the tanks found petroleum-impacted soil in samples from the southern and western sidewalls and floor of the excavation. Floating non-aqueous phase liquid (NAPL) was observed in well GH-4 (SEACOR 1994b [3217]). Following the completion of UST removal activities, wells GH-1 through GH-4 were decommissioned (SEACOR 1993d [1494]).

In September 1993, Boeing conducted an independent soil remedial action (Figure 7.1-37). Approximately 1,250 cubic yards of soil and a concrete oil/water separator were removed from the vicinity of the former Green Hornet tank farm (SEACOR 1994c [0180]). Soil samples collected from the sides of the excavation detected the following contaminants above RISLs: gasoline- and diesel-range hydrocarbons, PAHs (including cPAHs), and mercury. Sample location EX-DE2-8.5 contained gasoline-range hydrocarbons at an EF of 47, and 2-methyl-naphthalene at an EF of 600. Location EX-SSE-4 contained cPAHs at an EF of 76. Three samples were analyzed for PCBs, which were not detected, although the detection limits exceeded the RISLs. TPH-impacted shallow soil remained on the southeast and south sides of the excavation perimeter. In addition, impacted deeper soils (greater than 4 feet bgs) remained on the northeast, east, and west excavation perimeters (SEACOR 1994c [0180]). Petroleum-impacted soil was removed to the extent feasible; however, impacted soil was not removed if existing structures would have been compromised, or where soil impacts were apparently related to the fluctuation of hydrocarbon-impacted groundwater. A visible hydrocarbon sheen was observed on groundwater (at approximately 5 feet bgs), which accumulated in the excavation (SEACOR 1994b [3217]).

A supplemental site assessment was conducted in November and December 1993 (SEACOR 1994b [3217]). Six monitoring wells were installed (GH-MW1 through GH-MW6, currently identified as NGW101 through NGW106), and soil and groundwater samples were collected (Figure 7.1-37). Samples from borings GH-MW2 and GH-MW4 contained gasoline-range hydrocarbons at concentrations above the MTCA Method A soil CUL. In groundwater, well GH-MW4 contained gasoline-range, diesel-range, and heavy oil-range hydrocarbons above the MTCA Method A CULs (SEACOR 1994b [3217]). Groundwater monitoring for diesel-range hydrocarbons continued until at least 1998 (Boeing 1998b [0901]); results indicated continuing detections of diesel-range in GH-MW4. Ecology's LUST database lists a release as "Reported Cleaned Up" in June 1995 at this location.

In 2010, five soil borings (LAI-SB48, LAI-SB49, LAI-SB68, LAI-SB98, and LAI-SB101) were advanced in the Green Hornet area (Figures 7.1-18 and 7.1-36). Groundwater was encountered at between 3 and 6 feet bgs, but was not encountered in borings LAI-SB48 and LAI-SB49 (Landau

2011c [4162]). In LAI-SB98, concentrations of benzene were detected up to 0.48 mg/kg (EF 480) and gasoline-range hydrocarbons up to 7,300 mg/kg (EF 240). In LAI-SB101, cPAH concentrations ranged up to 0.14 mg/kg (EF 41).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Green Hornet Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.101	3.1	--	--
Metals	Mercury	0.38	5.4	--	--
Petroleum Hydrocarbons	Gasoline-Range	7,300	240	--	--
	Diesel-Range	3,900	2.0	280,000	560
	Jet Fuel	--	--	1,300	2.6
Phthalates	BEHP	3.8	81	--	--
PAHs	Benzo(g,h,i)perylene	0.059 U	1.9-N	--	--
	Benzo(a)pyrene	0.18	36	--	--
	Fluoranthene	0.63	3.9	--	--
	2-Methylnaphthalene	26	600	--	--
	Naphthalene	14	3.9	--	--
	cPAHs	0.266	53	--	--
BTEX	Benzene	0.48 J	480	1.3	1.6

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration J Estimated value

RI Scoped Activities

Concentrations of petroleum hydrocarbons, metals, benzene and PAHs remain in soil within or near the limits of the excavation performed in 1993. During the 1993 remedial investigation, contaminated soil was not removed from the northeast, east, southeast, south and west sides of the excavation perimeters due to the presence of buildings and structures or where soil impacts were apparently related to the fluctuation of hydrocarbon-impacted groundwater. Historical Buildings 3-297, 3-311 and 3-312 have been removed. Reports documenting the removal of these buildings were not available for review; therefore, it is not known if contaminated soil was excavated during the building removal activities.

Soil samples from 2010 indicate that gasoline-range hydrocarbons, benzene, and mercury concentrations exceeding the RISLs are present at the west corner and northwest side of the Green Hornet area. PCBs exceeding the RISL are present at the western corner and northeastern side of the Green Hornet area. Soil on the northeast, east, southeast, and south sides of the 1993 remedial excavation was not evaluated in 2010.

Ten soil borings will be advanced in the Green Hornet area to define the lateral and vertical extent of COPCs in soil (Figure 7.1-36). Monitoring wells will be installed in two of these borings. At least two soil samples will be collected from each boring; one of these samples will be collected near the water table depth. Analytical data from the boring proposed in the Wind Tunnel area (Section 7.1.4.8) will also be used to define the nature and extent of contamination in this area.

One groundwater monitoring well will be installed downgradient of boring LAI-SB98 and downgradient of the western portion of the soil contamination area. Contaminated soil in this location is present below the water table. In addition, one groundwater monitoring well will be installed upgradient of LAI-SB49 and upgradient of the northern portion of the soil contamination area for delineation purposes. At least four groundwater monitoring events will be performed at the new and existing wells in the Green Hornet area. Installation of the groundwater monitoring wells will support the Site-wide groundwater investigation (Section 7.1.8); therefore, completion of these wells is a high priority. In addition, continued groundwater monitoring of the existing wells is a high priority.

Summary of RI Scoped Activities
Green Hornet Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Soil Borings	10	2		Medium	PCBs, PAHs, TPH, VOCs
New GW Well	2		4	High	PCBs, PAHs, TPH, VOCs
Existing GW Wells	6		4	High	PCBs, PAHs, TPH, VOCs

7.1.4.10 PEL Area-Wide Investigations

The PEL Area-Wide investigations include those locations excluded from other specifically designated areas of concern in the PEL. This area-wide zone covers the northernmost portion of NBF, including the Building 3-323 area, the south-central area of the PEL, and small zones along the western borders of the PEL.

Soil and groundwater sample locations are depicted in Figure 7.1-38, which excludes those locations that are included under other specific areas of concern in the PEL area. Due to the large number of investigations throughout the PEL area, this section will be discussed by each individual study. Investigations within other specific areas of concern within the PEL are discussed in Sections 7.1.4.1 through 7.1.4.9.

Groundwater in this large area flows in a direction between south and southwest. A portion of these areas contain storm drain lines that are submerged by seasonally high groundwater levels.

Former Georgetown Flume Investigations (1984 to 2006) and Removal (2009)

From 1984 to 2006, the City of Seattle performed several investigations to assess the condition of storm drain solids in the former Georgetown Flume. PCBs, PAHs, metals, and petroleum constituents were present in flume solids. Cleanup activities were performed once in 1985 (Herrera 2007 [6013]).

Environmental investigations were performed in 2005 and 2006 to characterize solids in the flume, and soil and groundwater near the flume. Solids and soil samples were analyzed for PCBs, PAHs, metals, hexavalent chromium, and diesel-range petroleum hydrocarbons. Solids samples indicated that the PCB concentrations in flume solids exceeded the SQS and CSL; PAHs, phenols, benzoic acid, and BEHP concentrations exceeded the SQS; and lead, mercury and zinc exceeded the CSL. PCBs and cPAHs were present in samples of creosote collected from the wooden portions of the flume. Soil samples were collected beneath wood- and concrete-lined sections of the flume up to 36 inches bgs. No exceedances of MTCA Method A CULs for industrial land use were observed in these soil samples. One groundwater sample was collected near South Myrtle Street; no contaminants were detected (Herrera 2007 [6013], 2010 [6820]).

The flume was removed in 2009 as part of a remedial action to prevent the potential conveyance of contamination to Slip 4. Flume demolition and replacement was conducted from February through September 2009 and included the removal of sediment, water, concrete, wood, and adjacent soil. In addition, the condenser pit and tunnel beneath the GTSP property were cleaned. Approximately 25 to 30 cubic yards of PCB-contaminated solids were present in the tunnel prior to cleaning. Approximately 2.75 tons of TSCA-regulated flume sediments and soil were removed (Herrera 2010 [6820]).

Willow Street Substation Investigation (2006 and 2008) and Independent Remedial Action (2011)

The Willow Street Substation area is located west of Building 3-324, at the end of Willow Street. Boeing has used this general area since the 1950s. The original Willow Street Substation was built in 1965 and was located southwest of the present-day substation (Substation 87). One transformer, with a capacity of 7,600 gallons, was installed at the original substation. Samples of transformer oil collected in 1986 indicated the presence of PCBs at 7.9 to 15 ppm. In 1996, the original transformer was removed and replaced with two transformers, which are certified as less than 1 ppm PCB (Goldberg 2006 [1155]; Herrera 2011 [N0020]).

In conjunction with the Georgetown Flume characterization activities performed in 2006, 11 soil samples were collected at the Willow Street substation (Figure 7.1-39). Samples were analyzed for PCBs, PAHs, and diesel-range hydrocarbons. PCB concentrations exceeded MTCA Method A CULs in soil samples collected along the north, south and west sides of transformer pad #1 (Herrera 2007 [6013], 2010 [6820]).

Boeing collected eight soil samples from four borings (WSS08-01 through WSS08-04) around transformer pad #1 in 2008 as part of the 2008 investigation of Potential PCB Sources to Slip 4 (Figures 7.1-38 and 7.1-39). Samples were collected at depths of 1.0 to 1.4 and 1.4 to 1.8 ft bgs. PCB concentrations ranged from 0.39 to 68 mg/kg (to EF 2,100) in these samples, with the maximum value in WSS08-03 (Landau 2008a [2109]; Herrera 2011 [N0020]).

In December 2010, two remedial excavations were performed to remove soil with concentrations of PCBs above the TSCA limit of 50 mg/kg. A second excavation was performed in an attempt to remove soil with PCBs above the MTCA Method A CUL of 1 mg/kg (Figure 7.1-39). Due to the presence of a grounding grid below transformer pad #1, the depth of the excavation was limited to 2.75 feet bgs. Confirmation samples were collected from the sidewalls and bottom of each excavation. PCB concentrations remaining in soil are between 1.3 and 29 mg/kg (max EF 880), meeting the TSCA requirement, but exceeding the MTCA Method A CUL and RISL. Due to safety constraints, additional soil removal could not be performed (Herrera 2011 [N0020]).

Soil Investigation (2004)

Two borings were sampled north of the Building 3-323 area in May 2004, and analyzed for PCBs and PAHs (Landau 2010c [6081]). One sample, OFS-1 at 2.5 feet bgs, identified total cPAHs TEQ at 3.7 mg/kg (EF 740).

PCB Soil Investigation (2007)

In March and April 2007, a total of 38 soil borings were drilled in the northern portion of NBF (Figure 7.1-40) to investigate areas that may have been impacted by PCBs due to activities at the GTSP or historical activities on the NBF property. Of these 38 borings, 13 are located in the PEL Area-Wide Zone (Landau 2007c [3471]).

PCBs were detected in samples from 6 of the 13 boring locations, and 6 of 29 samples, primarily at the shallow depth of 1 to 2 feet bgs (PCB detection limits were approximately equal to the RISL). Detected concentrations ranged up to 1.02 mg/kg PCBs (EF 31), which was identified in boring SB-17 at a depth of 1 to 2 feet bgs; this is the location of the storm drain line replacement near Building 3-323 (see below) (Landau 2007c [3471]).

Some soil samples were also analyzed for petroleum hydrocarbons and VOCs. Concentrations of gasoline-, diesel-, and petroleum hydrocarbons exceeded RISLs. One sample, SB-08, located between Building 3-626 and the fuel test slab, was found to contain 1,600 mg/kg gasoline-range hydrocarbons (EF 53) at 6 feet bgs.

Soil Sampling Associated with Storm Drain Replacement (2007)

During storm drain line replacement, one soil sample from each of six locations along the northwest side of Building 3-323 were collected, as shown in Figure 7.1-41 (Landau 2007d [3022]). In addition, two shallow groundwater samples were collected in the open excavation trench. PCBs were detected in four of the eight samples collected. PCB concentrations in soil within this area were identified up to 1.89 mg/kg (EF 57), highest in NBF-GB1 at 2 feet bgs (Figure 7.1-41). Petroleum hydrocarbons were also detected in some samples at concentrations below RISLs. One groundwater sample from the trench north of Building 3-323 contained 1.9 ug/L PCBs (EF 190).

Investigation of PCB Sources to Slip 4 (2008)

One soil sample (SB08-22) in the PEL Area-Wide area was collected during the 2008 Investigation of Potential PCB Sources to Slip 4 (Figure 7.1-29). Soil boring SB08-22 was advanced near the southern corner of Building 3-334, along the boundary with the Building 3-

302 area (Figures 7.1-19 and 7.1-38). PCBs were detected at 4.6 mg/kg (EF 140) at 1 to 2 ft bgs (Landau 2008a [2109]).

Soil and Groundwater Investigation (2010)

A three-phased soil and groundwater investigation was conducted in the PEL area between September 2010 and January 2011 (Figure 7.1-18). During the investigation, 27 soil borings and 5 monitoring wells were advanced in the PEL Area-Wide area. Soil samples were analyzed for PCBs, metals, TPH, SVOCs, and VOCs. In soil, PCBs were detected in 21 of the 138 samples collected, primarily at depths of 0 to 2 feet bgs. Only one sample contained PCBs over 1 mg/kg; the highest concentration of 9.2 mg/kg (EF 280) was detected in boring LAI-SB69, located at Building 3-323(Landau 2011c [4162]). PCBs were not detected in groundwater.

Concentrations of metals, gasoline-range hydrocarbons, and PAHs exceeded RISLs in soil samples. Sample LAI-SB104 contained gasoline-range hydrocarbons at up to 7,000 mg/kg (EF 230) at 4 feet bgs, between and the fuel test slab. Sample LAI-SB70, at Building 3-334, contained an elevated concentration of mercury at 1.04 mg/kg (EF 15). Groundwater samples were also analyzed for VOCs; relatively low concentrations of PCE and vinyl chloride exceeded RISLs.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
PEL Area-Wide Zone

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	68	2,100	1.9	190
Metals	Arsenic	9	1.3	--	--
	Copper	157	4.7	--	--
	Lead	68	1.2	--	--
	Mercury	1.04	15	--	--
Petroleum Hydrocarbons	Gasoline-Range	7,000	230	--	--
Phthalates	BEHP	0.058 U	1.2-N	--	--
PAHs	Benzo(g,h,i)perylene	0.35	11	--	--
	Benzo(a)pyrene	2.6	520	--	--
	Fluoranthene	3.0	18	--	--
	2-Methylnaphthalene	23	530	--	--
	cPAHs	3.72	740	--	--
BTEX	Benzene	0.004 U	4.0-N	500 U	630-N
VOCs	Methylene chloride	0.5 U	420-N	--	--
	PCE	0.5 U	500-N	4.3	22
	TCE	0.5 U	500-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Many of the samples collected in the PEL Area-Wide area show results without significant RISL exceedances. One local exception is the area on the north and northwest sides of Building 3-323, where PCBs in at least five shallow (less than 3 feet bgs) soil samples have been measured at between 0.54 and 9.2 mg/kg PCBs. A nearby groundwater sample from a trench also measured PCBs at 1.9 ug/L. Additional soil sampling in this vicinity is warranted, because this area is near and upstream of CB173, which has contained elevated concentrations of PCBs, metals, and other COPCs in storm drain solids. The storm drain lines in this area are also submerged under high water-table conditions.

An adjacent area about 100 feet north of CB173, closer to the fenceline, includes a shallow soil sample (OFS-1 to about 3 feet bgs) with a significantly elevated total cPAH concentration, at 3.7 mg/kg. These areas on the north side of Building 3-323 will be sampled with six shallow borings, extending to approximately 5 feet bgs, and analyzed at two depths for PCBs, PAHs, and metals. Nearby well NGW511 should also continue to be monitored for two semiannual events, and analyzed for these same analytes. These are considered high priority to determine the distribution of PCB-contaminated soils and groundwater in this area that also has relatively high PCB concentrations in storm drain solids.

An area between Building 3-626 and the fuel test slab area contains significantly elevated concentrations of petroleum hydrocarbons (particularly gasoline-range) and less significant amounts of other COPCs. Two soil borings will be advanced along this corridor to determine the extent of this contaminant zone. These are considered medium priority due to the likely limited extent of contamination and lack of significant PCBs or cPAHs.

Historical transformers or capacitors that potentially used and released PCB-bearing fluid were present at the Willow Street Substation and near Building 3-315. These historical locations are discussed in Section 7.1.8.2, for the entire Site. Samples collected at the Willow Street Substation identified PCBs ranging up to 68 mg/kg. Four borings are proposed outside the fence of the Willow Street substation, with two located near the 1965 transformer pad. Three borings are also proposed around the south sides of Building 3-315. At least two soil samples will be collected from each boring. Proposed sampling locations related to these historical potential sources of PCB fluid in the PEL area are shown on Figure 7.1-38. These are considered high priority due to the potential for remnant PCBs.

Proposed soil borings and groundwater monitoring well locations for the PEL area as a whole are shown on Figure 7.1-42.

Summary of RI Scoped Activities
PEL Area-Wide Investigations

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings (near Bldg 3-323)	6	2		High	PCBs, PAHs, Metals
Soil Borings (near Bldg 3-626)	2	2		Medium	PCBs, TPH
Soil Borings (Willow St. Subst.)	4	2		High	PCBs, PAHs
Soil Borings (near Bldg 3-315)	3	2		High	PCBs, PAHs
Existing GW Wells	1		2	High	PCBs, PAHs

7.1.5 Areas of Concern in North Flightline Area of NBF

The North Flightline area of NBF encompasses Concourse A at the northern end and Building 3-397 and a portion of Building 3-390 at the southern end. The western boundary of the area is East Marginal Way S and the eastern boundary is the property line bordering KCIA (Figure 7.1-43).

Areas of concern in the North Flightline area are delineated in Figure 7.1-43. For each area of concern in this section, detected analytical results for all RISL exceedances are presented in Table 7.1-6 for soil and Table 7.1-7 for groundwater. Sample analytical results used in figures within this section are summarized by exceedances at the level of chemical class, according to maximum concentrations that exceed RISLs, and classes with significant exceedances are labeled in orange or red. A summary of maximum concentrations and EFs for each COPC is tabulated within each section, also with orange or red highlights.

Information in this section has been reviewed and summarized for the following potential source areas within the North Flightline area:

- Former Buildings 3-360 and 3-361 and Building 3-365
- Building 3-380 Storm Drain Area
- Building 3-380 Area
- Building 7-27-1, Former Buildings 7-27-2 and 7-27-3 (Markov Property)
- Building 3-369
- Building 3-374 and Former USTs UBF-22 and UBF-23
- Building 3-390
- Concourse A

7.1.5.1 Former Buildings 3-360 and 3-361 Area

The former Buildings 3-360 and 3-361 area encompass approximately 1.8 acres (Figures 7.1-43 and 7.1-44). It is bounded by S Willow Street to the north, S Myrtle Street to the south, Occidental Avenue to the east, and Ellis Avenue S to the west.

From 1991 to 2002, 29 soil borings were advanced, 6 confirmatory soil samples were collected, and 12 groundwater monitoring wells were installed (Figures 7.1-44 and 7.1-45). Initial soil borings and monitoring wells were installed during a pre-construction site assessment event. Remaining sample locations resulted from a remedial excavation and a soil and groundwater investigation (Landau 2002c [1455]).

Historical COPCs in this area were PCBs, metals, TPH, and VOCs (particularly cis-1,2-DCE and TCE). In 2002, an excavation removed approximately 165 cubic yards of soil from the northeast corner of former Building 3-360 (Figure 7.1-45). The excavation was limited laterally by the presence of utilities and vertically by the water table. In-situ soil sampling identified concentrations above RISLs for cis-1,2-DCE and TCE, and non-detected concentrations of benzene, methylene chloride, and PCE; however, only cis-1,2-DCE and TCE exceeded screening levels established for the investigations of 2002 (Landau 2002b [1454]). In two samples, TCE was detected above RI non-leaching criteria. Maximum concentrations and EFs are listed in the table below.

In response to VOCs remaining in soil and groundwater, approximately 300 pounds of Regenesis Hydrogen Releasing Compound (HRC®) were introduced into excavated trenches (Landau 2002b [1454]). The highest concentrations of TCE were detected in groundwater less than 30 feet bgs; TCE in soil was detected at least as deep as 90 feet bgs. The presence of TCE breakdown products in soil and groundwater suggests the occurrence of reductive dechlorination of TCE (Landau 2002c [1455]). Comparison of the groundwater sample results shows a decrease in concentrations of TCE and an increase in cis-1,2-DCE and vinyl chloride, indicating that the HRC® was enhancing reductive dechlorination of TCE in groundwater in some monitoring wells. It was suggested that TCE was released in the area of CB122 and at an upgradient offsite location (Landau 2002c [1455]).

PCB-bearing transformers or capacitors were historically located at the southeast corner of former Building 3-360 (Section 7.1.8.2) (Landau 2000 [6141]). Ecology (2012 [N0021]) has summarized conditions at the upgradient offsite area formerly occupied by the Washington Air National Guard.

Groundwater depth is approximately 7.5 to 11 feet bgs and flow is generally toward the south-southwest. Storm drain lines are all above the water table depth.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Former Buildings 3-360 and 3-361Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
Metals	Mercury	0.35	5.0	--	--
	Silver	1.8 U	6.0-N	--	--
PAHs	Naphthalene	0.0061 U	1.2-N	--	--
BTEX	Benzene	0.0012 U	1.2-N	1.0 U	1.3-N
VOCs	cis-1,2-DCE	0.034	6.5	310	31
	Methylene chloride	0.76 B	630	9.0 U	1.8-N
	PCE	0.0012 U	1.2-N	1.8	9.0
	TCE	0.2	200	810	1,100
	Vinyl chloride	--	--	7	35

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration J Estimated value
B Possible or probable blank contamination

Current Remedial Actions

CALIBRE Systems, Inc. (CALIBRE) developed a work plan to conduct additional bioremediation in the area of former Building 3-360 in order to address concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride (CALIBRE 2011 [5314]). The work plan outlines the use of nine existing groundwater monitoring wells and installation of ten new wells (in a northern row and a southern row) for the purpose of two bioremediation substrate injections (Figure 7.1-44). The first injection, conducted in June 2011, utilized sucrose as a biostimulant to promote strong reducing conditions. The second injection, in about September/October 2011, utilized a sodium lactate/vegetable oil mixture (lactoil), which produces longer-lasting reducing conditions (CALIBRE 2011 [5314]). Following the second injection, TCE concentrations remained high. A third injection was scheduled for December 2011. A report detailing the progress of the bioremediation event has not yet been submitted to Ecology.

RI Scoped Activities

Soil and groundwater analytical data collected during and following the bioremediation injection interim action at former Building 3-360 will be reviewed to compare remaining soil and groundwater concentrations to the RISLs. Following review of these data, additional investigation activities may be proposed in order to meet the RI goals.

The following proposed RI activities are based on an Ecology evaluation of data and current conditions (Ecology 2012). Due to the potential for VOCs to be migrating from an offsite source at the adjacent property formerly leased by the Washington Air National Guard, four quarters of groundwater monitoring are proposed for NBF upgradient well NGW212 (Figure 7.1-44). Groundwater samples will be analyzed for VOCs. This is considered high priority due to the persistent presence of these chlorinated volatile compounds in groundwater, and the fact that these chemicals may be originating from offsite. Because active remediation is ongoing at this area of concern, no other recommendations are being made at this time.

Summary of RI Scoped Activities
Former Buildings 3-360 and 3-361Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples	Min Number of GW Samples	Priority	Analyses
Existing GW Wells	1		4	High	VOCs

7.1.5.2 Building 3-380 Storm Drain Area

The Building 3-380 storm drain area is located adjacent to and west of Building 3-380 and is bounded by the eastern border of the former Building 3-360 area (Figures 7.1-43 and 7.1-46). Two environmental investigations were performed in 2008 to identify potential PCB sources to Slip 4. Soil samples were collected from 29 soil borings adjacent to a new storm drain line, which trends perpendicular to the western side of Building 3-380, then turns north and trends approximately parallel to the former GTSP Flume (Figure 7.1-47). PCBs were detected in 10 of the 42 samples at depths of 0 to 2 and 2 to 4 feet bgs. All detections exceed the RISL for PCBs by a small margin (Landau 2008b [2348]). Three additional sample locations from Building 7-27-1 investigations are encompassed within the southern portion of the area. Results from these samples indicate non-detected exceedances of RISLs for metals, benzene, and VOCs.

The three highest PCB concentrations in soil at/near this area are from offsite locations west of the property boundary: GF-5 at 5.9 mg/kg (EF 180), GF-6 at 4.0 mg/kg (EF 120), and 0.6 mg/kg (EF 18) at SD26. The highest onsite PCB concentration in this area is at SD27 at 0.26 mg/kg (EF 7.9). Two locations with elevated VOC detections in soil (360-SB-1 and -4) are both for methylene chloride, which was also identified in the lab blank samples.

From 1991 to 2007, four groundwater monitoring wells were installed, including one from the 1991 pre-construction environmental investigation at Building 7-27-1 (Section 7.1.5.4). The most recent sampling results range from 2001 to 2007, with dates varying by well. Elevated groundwater concentrations of TCE (up to 14 ug/L during the past three years of data) and 1,2-cis-DCE (up to 120 ug/L) are found in offsite well NGW208. Concentrations of TCE have been declining since 1999, while DCE has been more stable. It is assumed that these detections are related to the VOC contamination in the upgradient former Building 3-360 area (Section 7.1.5.1).

During grading and paving activities in the southern portion of this area, from December 2001 to February 2002, stained soils and a petroleum-like odor were encountered. Approximately 215 cubic yards of impacted soil were removed, and at least 50 cubic yards of this was heavily contaminated in an area west of well NGW254. Soil samples were collected only from stockpiled material, with resultant concentrations of TPH ranging from 163 to 16,500 mg/kg and TCE ranging from 1.4 to 4.3 mg/kg (because stockpile samples represent removed soil material, without original coordinates, results are not included in tables or figures in this Work Plan). In-situ soil samples were not collected. This area has since been paved, and the excavation limits are not known (Landau 2002a [1448]).

Groundwater depth is approximately at 6.5 to 9.5 feet bgs and flow is generally toward the south-southwest. Storm drain solids in the Building 3-380 storm drain area have indicated elevated levels of PCBs and metals. Storm drain lines B2 and B3 were found to be in good condition in the 2010 video inspection (Figure 7.1-2, Table 7.1-1). These lines are not submerged and do not pose a risk of groundwater infiltration, although line N4 is damaged.

PCB-bearing transformers or capacitors were historically present along the western side of Building 3-350 (Section 7.1.8.2), which is immediately adjacent to the Building 3-380 storm drain area.

The former Ellis substation was located west of Building 3-380 near the Site boundary. In conjunction with the Georgetown Flume characterization activities performed in 2006, 12 soil samples were collected at the Ellis substation. Samples were analyzed for PCBs, PAHs, metals, hexavalent chromium, and diesel-range hydrocarbons. PCB concentrations exceeded MTCA Method A CULs in soil samples collected along the west side of the north equipment pad at the Ellis substation. Contaminated soil appeared to be sloughing into the flume (Herrera 2007 [6013], 2010 [6820]).

During the Georgetown Flume removal activities in 2009, 12 concrete pads and the chain link fence associated with the substation were removed. Concrete samples were collected from the pads and tested for PCBs, which were not detected (Herrera 2010 [6820]).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-380 Storm Drain Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	5.9	180	1.0 U	100-N
Metals	Arsenic	--	--	50 U	10-N
	Cadmium	--	--	2 U	9.5-N
	Copper	--	--	4.0	3.1
	Lead	--	--	20 U	8.0-N
	Mercury	0.1 U	1.4-N	--	--
	Nickel	--	--	10 U	1.2-N
	Silver	1.8 U	6.0-N	3 U	2.0-N
BTEX	Benzene	0.056 U	56-N	1.0 U	1.3-N
VOCs	cis-1,2-DCE	--	--	120	12
	Methylene chloride	0.71 B	590	1.0 U	5.0-N
	PCE	0.05 U	50-N	1.0 U	5.0-N
	TCE	0.05 U	50-N	14	19
	Vinyl chloride	--	--	1.0 U	5.0-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration B Possible or probable blank contamination

RI Scoped Activities

PCBs have been detected in onsite soil in this area at low concentrations (up to 0.26 mg/kg). Detections of methylene chloride in soil appear to be the result of laboratory contamination. Groundwater concentrations of COPCs in recent onsite samples have been largely non-detected. Thus no recommendations are made for the main portion of this area.

In the southern portion of this area, where the heavily petroleum-impacted soils were identified and at least partially removed, two borings will be advanced west of well NGW254 to aid in identifying the potential extent of remnant soil contamination. Borings will extend at least to the water table. At least two soil samples will be collected from each boring for laboratory analysis of PCBs, TPH, and SVOCs.

In the area near Building 3-350 where PCB-bearing transformers or capacitors were historically located, two soil borings will be advanced to a short distance below the water table. At least two soil samples will be collected from each boring for laboratory analysis of PCBs and metals. Analytical results will be compared to the RISLs to determine if additional investigations are needed in this area. Proposed sampling locations are shown in Figure 7.1-46. The Building 3-380 Storm Drain area is considered a low priority as a result of low onsite contamination.

Summary of RI Scoped Activities
Building 3-380 Storm Drain Area

RI Scoped Activity	Number of Borings	Min Number of Soil Samples per Boring	Min Number of GW Samples	Priority	Analyses
Soil Borings (near 3-350)	2	2		Medium	PCBs, Metals
Soil Borings (south area)	2	2		Medium	PCBs, TPH, SVOCs

7.1.5.3 Building 3-380

Building 3-380 is located between Buildings 3-350 and 3-369 (Figures 7.1-43 and 7.1-48). Building 3-380 is a paint hangar that was constructed between late 1990 and 1993 (Figure 7.1-49). The building replaced Buildings 3-370 through 3-373, which were demolished in late 1989 or early 1990 (GTI 1990b [1422]).

Prior to the construction of Building 3-380, two environmental assessments were performed in 1989 and 1990. Five monitoring wells (GT-1 through GT-5), 25 soil borings, and 10 test pits were advanced in the planned footprint of Building 3-380 (Figure 7.1-49). Groundwater was encountered between 6 and 8 feet bgs. Two soil samples were collected from each of the 25 borings. Soil samples from the 10 test pits were field screened for VOCs using a photo-ionizaton detector (PID), which indicated that VOCs were not present. Discrete soil samples were analyzed for TPH, SVOCs and VOCs. Composite soil samples were analyzed for PCBs; four were also analyzed for metals. Benzo(a)pyrene exceeded the RISL in boring B-3, with the cPAH TEQ at 0.85 mg/kg (EF 170). No other chemicals were detected above the RISLs (GTI 1990b [1422]).

Groundwater samples were collected in these five wells in March 1989 and 1990 and analyzed for TPH, VOCs, SVOCs and metals. Copper and mercury concentrations in groundwater significantly exceeded the RISLs, with highest values at GT-1 (EF 280 and 200 respectively). Detection limits for most metals exceeded the RISLs. VOCs, SVOCs, and TPH were not detected; however, the detection limits for BEHP and several VOCs exceeded the RISLs. Monitoring wells GT-2 through GT-5 were abandoned during the second environmental investigation. Boeing decommissioned well GT-1 prior to the construction of Building 3-380 (GTI 1990b [1422]).

Groundwater in this area flows approximately toward the southwest. Storm drain lines N1, NC1, and B1, which are adjacent to the building on the north, east, and south, are below the water table; therefore, there is potential for groundwater to infiltrate the storm drain system. The current condition of most storm drain lines in this area has not been assessed (Figure 7.1-3). PCBs, cadmium, lead, zinc, HPAHs, and BEHP have been detected in storm drain solids samples collected in the Building 3-380 area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-380 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
Metals	Antimony	--	--	1,000 U	260-N
	Arsenic	--	--	61	12
	Beryllium	--	--	10 U	2.5-N
	Cadmium	--	--	10 U	58-N
	Copper	--	--	360	280
	Lead	--	--	100 U	40-N
	Mercury	--	--	4.0	200
	Nickel	--	--	50 U	6.1-N
	Selenium	--	--	10 U	2.0-N
	Silver	4.0 U	13-N	100 U	65-N
	Thallium	--	--	250 U	53-N
	Zinc	--	--	180	5.5
Phthalates	BEHP	0.17 U	3.6-N	10 U	10-N
PAHs	Benzo(g,h,i)perylene	0.17 U	5.5-N	--	--
	Benzo(a)pyrene	0.77	150	--	--
	Fluoranthene	0.17 U	1.1-N	--	--
	2-Methylnaphthalene	0.17 U	3.9-N	--	--
	cPAHs	0.852	170	--	--
SVOCs	N-Nitroso-dimethylamine	0.17 U	8.5-N	--	--
BTEX	Benzene	0.05 U	50-N	5.0 U	6.3-N

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-380 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
VOCs	Methylene chloride	0.25 U	210-N	--	--
	PCE	0.05 U	50-N	5.0 U	25-N
	TCE	0.05 U	50-N	5.0 U	6.8-N
	Vinyl chloride	--	--	10 U	50-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Concentrations of COPCs detected in soil from the Building 3-380 area are below the RISLs, with the exception of benzo(a)pyrene, which was detected above the RISL in a single sample. Additional sampling is not needed to define the nature and extent of PAHs or other COPCs in soil in the Building 3-380 area.

Groundwater concentrations of arsenic, copper, mercury, and zinc exceeded the RISLs in samples from all five former wells in this area. The last groundwater monitoring event was performed in March 1990. Storm drain lines adjacent to the building are below the water table and there is potential for groundwater, which may be contaminated with metals, to infiltrate the storm drain system.

Two groundwater monitoring wells will be installed in this area to determine if COPCs are present in groundwater at concentrations exceeding the RISLs, and to fill gaps in the present locations of the groundwater monitoring network (Figure 7.1-48). The monitoring wells will be installed upgradient of the storm drain lines that are submerged at high water. At least two soil samples will be collected from the well borings (one near the water table depth) and analyzed for metals, PCBs, and SVOCs. Soil sampling is considered a low priority at this area. Four groundwater monitoring events will be performed at these wells. Groundwater samples will be analyzed for the same analytes as soil. Installation of the monitoring wells will support the Site-wide groundwater investigation (Section 7.1.8); therefore, completion of the wells is considered a high priority.

Summary of RI Scoped Activities
Building 3-380 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	2	2		Low	PCBs, Metals, SVOCs
New GW Well	2		4	High	PCBs, Metals, SVOCs

7.1.5.4 Building 7-27-1 Area (Markov Property)

This area of concern is bounded by a parking lot to the north, East Marginal Way S to the south, Occidental Avenue to the east, and a concrete ditch and hotel to the west (Figures 7.1-43 and 7.1-50). It consists of approximately 1.2 acres of property and encompasses Building 7-27-1 (or 7-027-1) and former Buildings 7-27-2 and 7-27-3 (Figure 7.1-51).

The paved area south of Building 7-27-1 is the location of former service station, Vic Markov Tire (SEACOR 1992a [3212]). In 1987, service station equipment was removed from the property by King County. No soil analyses were performed, and the area appeared to be free of contamination. The USTs reportedly contained leaded gasoline and aviation fuel (Landau 2002a [1448]). Boeing subleased a portion of the property from Markov between November 1986 and 1990, and then began leasing the property from King County in 1990 (Landau 2002a [1448]). Building 7-27-1 was utilized by Boeing to house an x-ray room and film developing equipment and was the site of a satellite hazardous-waste accumulation area and a flammable materials storage closet. A 1,000-gallon AST, used to temporarily store processing water and fluorescent dye, is located along the north side of Building 7-27-1. A drum storage shed is present at the western corner of the building, with a containment dike around the shed (Landau 2002a [1448]).

In 1991 and 1993, a pre-construction investigation and a supplemental site assessment were conducted (SAIC 2009b [6078]). A total of 26 soil samples and 8 groundwater samples were collected and analyzed for PCBs, metals, TPH, and/or VOCs (Figure 7.1-50) (SEACOR 1992a [3212]; 1993b [0213]). Methylene chloride (with lab blank contamination) exceeded the RISL (EF 1500) in a soil sample from NGW251. All the soil VOC exceedances on Figure 7.1-50 represent methylene chloride or acetone exceedances with blank contamination. Copper, zinc, and benzene exceeded RISLs in soil collected from the southern portion of the area at depths of up to 9 feet bgs.

The storage/parking area south of Building 7-27-1 was graded and paved in 2009 (Figure 7.1-52). Approximately 100 cubic yards of soil were excavated during regrading work, and stockpile soil samples were collected. Concentrations of TPH-motor oil and PCBs exceeded the RISL at levels up to 5,700 mg/kg (EF 2.6) and 0.51 mg/kg (EF 15), respectively. Boeing confirmed that these samples originated from within the paved bounds at the Markov property shown in Figure 7.1-52 (Bach 2009b, 2011 [6044, N0028]). However, sample location coordinates were not made available to Ecology and therefore are depicted as generalized estimated locations (Figure 7.1-50). Note that TPH was analyzed by the hydrocarbon identification (HCID) analytical method, and these results were not included in figures and tables in this Work Plan.

Three monitoring wells were previously present at the Building 7-27-1 area: NGW251, NGW252, and NGW253. PCBs, metals, TPH, and/or VOCs were analyzed in groundwater samples collected in 1991, 1993, and 2002. Copper, lead, gasoline-range hydrocarbons, benzene, TCE, and vinyl chloride all exceeded the RISLs in NGW252 and NGW253 in 1991 and 1993. However, in 2002, only TCE exceeded the RISL in NGW253, and thus it only shows up as detected in the table below. No sampling has taken place since 2002. Due to regrading and paving, it is assumed that NGW251 and NGW252 have been decommissioned or are otherwise unavailable for use in the RI, and that NGW253 is still available for monitoring.

Groundwater depth is approximately 10 to 11.5 feet bgs and flows approximately toward the south. Cracks, breaks, or fractures were not observed in this area in the 2010 video inspections of the storm drain lines, which are not submerged below the water table. As such, infiltration into the NBF storm drain system from this area is not considered to be a concern.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 7-27-1 Area (Markov Property)

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.51	15	--	--
Metals	Copper	49	1.4	--	--
	Mercury	0.1 U	1.4-N	--	--
	Silver	0.46 U	1.5-N	--	--
	Zinc	250	2.9	--	--
BTEX	Benzene	0.064	64	1.0 U	1.3-N
VOCs	Acetone	0.56 B	2.4		
	Methylene chloride	1.8 B	1,500	--	--
	PCE	0.0011 U	1.1-N	1.0 U	5.0-N
	TCE	0.0011 U	1.1-N	8.0	11
	Vinyl chloride	--	--	1.0 U	5.0-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration B Possible or probable blank contamination

RI Scoped Activities

Further investigation is recommended at the Building 7-27-1 area to define the extent of PCBs, metals, TPH, and VOCs in soil and groundwater. In the area south of the building, where soil was contaminated with petroleum hydrocarbons and low-level PCBs, four soil borings will be advanced. Borings will extend at least to the water table. At least two soil samples will be collected from each boring for laboratory analysis of PCBs, metals, TPH, and SVOCs. At least two soil samples will be collected from the well borings, with one near the water table depth.

One of the four soil borings will be completed with installation of a monitoring well, to replace the two wells that are presumed to be abandoned on the downgradient side of the area. The new well will be located approximately halfway between the former NGW251 and NGW252. This well will be sampled quarterly for a year, and analyzed for PCBs, metals, SVOCs, and TPH. The existing downgradient well NGW253 will be similarly sampled. As a result of the potential for moderate levels of PCB and petroleum contamination in an area proximal to Slip 4, the soil investigation in the Building 7-27-1 area is considered to be medium priority. Installing the new well and sampling the two downgradient wells is part of the Site-wide monitoring network and is considered high priority.

Summary of RI Scoped Activities
Building 7-27-1 Area (Markov Property)

RI Scoped Activity	Total Number of Borings/ Wells	Minimum Number of Soil Samples per Boring	Minimum Number of GW Samples per Well	Priority	Analyses
Soil Borings	4	2		Medium	PCBs, Metals, TPH, SVOCs
New GW Wells	1		4	High	PCBs, Metals, TPH, SVOCs
Existing GW Wells	1		4	High	PCBs, Metals, TPH, SVOCs

7.1.5.5 Buildings 3-369 and 3-374 Area

Building 3-369 is located west of Building 3-390, and Building 3-374 is located on the southeast side of Building 3-369 (Figures 7.1-43 and 7.1-53). Building 3-369 was built in 1967 and is used as a paint hangar. The hangar is equipped with a water wash paint system. Paint, wash water, and cleaning compounds accumulate in plenum sumps underlying the hangar floor (GTI 1989a [1419]). A wastewater treatment plant is included in this building. Former USTs UBF-22 and UBF-23 were located south of Building 3-374 (Figure 7.1-54). The 20,000-gallon USTs were used to store #6 fuel oil. Soil and groundwater sample locations are depicted in Figure 7.1-53.

An environmental site assessment was performed in 1989 to determine if soil or groundwater contamination was present due to potentially leaking sumps. Three groundwater monitoring wells, GT88-1 through GT88-3, were installed around the perimeter of Building 3-369 (Figure 7.1-54). Groundwater samples were collected and analyzed for VOCs and metals. Antimony, cadmium, chromium, copper, lead, mercury, nickel, silver, thallium, and zinc concentrations exceeded the RISLs. Chemical concentrations for VOCs were below RISLs for all samples.

In 1991, a pre-construction environmental assessment was performed on the southwest side of Building 3-369 prior to UST installation activities (Figure 7.1-54). A groundwater sample was collected from GT88-1 and analyzed for metals. Cadmium, chromium, and lead concentrations exceeded RISLs. During the UST installation activities, excavated soil was screened for VOCs with a PID, which did not indicate the presence of VOCs; therefore, no laboratory analyses were performed. Approximately 150 cubic yards of soil were removed and hauled offsite. An 8,000-gallon UST was installed in the excavation (GTI 1991a [1426]).

Four monitoring wells, BF-OW22A through BF-022D, were installed on the western and eastern sides of former tanks UBF-22 and UBF-23 in June 1986 (Figure 7.1-55). The wells were decommissioned and well casings removed in November 1992 (SEACOR 1993a [1483]). Analytical data from soil and groundwater samples collected at these wells (if any) were not available for review.

During decommissioning and removal of UBF-22 and UBF-23, odor and soil staining indicating the potential presence of petroleum hydrocarbons were observed in the UST excavation (Figure 7.1-54). An investigation and corrective action were conducted, which included the removal of approximately 135 cubic yards of soil (Boeing 1995 [0903]). Diesel-range hydrocarbons were detected below the MTCA Method A CUL in the excavated soil. Soil contamination did not extend to the water table, and a site assessment confirmed removal of all TPH-impacted soil (SECOR 1994h [3219]). None of the soil samples were analyzed for PCBs. The release was reported as cleaned up in January 1995, according to Ecology's LUST database.

Groundwater in this area flows approximately toward the southwest. Storm drain lines S1, S2, and SC2, which are adjacent to the building to the south, southeast, and west, are deep and below the water table (Figure 7.1-3). Signs of soil and groundwater infiltration were observed near MH378 in line S2 during the 2010 video inspection (Table 7.1-1). Concentrations of PCBs, mercury, cadmium, copper, lead, zinc, HPAHs and BEHP have been detected in storm drain solids samples collected in the 3-369/3-374 area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Buildings 3-369 and 3-374 Areas

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
Metals	Antimony	--	--	2,000	520
	Arsenic	--	--	500 U	100-N
	Beryllium	--	--	20 U	5.0-N
	Cadmium	--	--	110	520
	Chromium	--	--	1,600	16
	Copper	--	--	2,070	1,600
	Lead	--	--	1,560	620
	Mercury	--	--	2.0	100
	Nickel	--	--	1,260	150
	Selenium	--	--	1,000 U	200-N
	Silver	--	--	40	26
	Thallium	--	--	400	850
	Zinc	--	--	1,000	31
BTEX	Benzene	--	--	5.0 U	6.3-N
VOCs	1,1-DCE	--	--	50 U	7.1-N
	Methylene chloride	--	--	50 U	10-N
	PCE	--	--	5.0 U	25-N
	TCE	--	--	5.0 U	6.8-N
	Vinyl chloride	--	--	10 U	50-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Groundwater in monitoring wells GT88-1 through GT88-3 were last sampled in 1991. Well GT88-3 has apparently been abandoned, but GT88-1 and GT88-2 are still present onsite. Storm drain lines S1, S2, and SC2 are below the water table, and there is potential for groundwater, which may still be contaminated with metals, to infiltrate the storm drain system. Concentrations of PCBs, mercury, cadmium, copper, lead, zinc, HPAHs and BEHP have been detected in storm drain solids samples collected in the 3-369/3-374 area.

One additional groundwater monitoring well will be installed in this area to determine if metals, PCBs and SVOCs are present in groundwater at concentrations exceeding the RISLs (Figure 7.1-53). The monitoring well will be installed upgradient of the S2 storm drain line near OWS1-C, where the lines are deeply submerged. This well will form part of the Site-wide groundwater monitoring network. At least two soil samples will be collected from the well boring (one near the water table depth) and analyzed for PCBs, TPH, SVOCs, and metals. Soil sampling is considered low priority, but it supports the well installation activity. At least four groundwater monitoring events will be performed at this well and the two existing GT88 wells. Groundwater samples will be analyzed for PCBs, TPH, SVOCs, and metals during the first monitoring event. In subsequent events, wells will be sampled for metals and any additional analyte groups detected during the first monitoring event. Completion of RI activities in this area is a medium priority, due to the lack of known contaminants beyond metals, although characterization has been minimal.

Summary of RI Scoped Activities
Buildings 3-369 and 3-374 Areas

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Boring	1	2		Low	PCBs, TPH, SVOCs, Metals
New GW Well	1		4	High	PCBs, TPH, SVOCs, Metals
Existing GW Wells	2		4	High	PCBs, TPH, SVOCs, Metals

7.1.5.6 Building 3-390

Building 3-390 is the largest building at NBF and is adjacent to Building 3-800, Building 3-369, and Concourses A, and B (Figures 7.1-43 and 7.1-53). PCB-bearing transformers were historically present inside the building (Section 7.1.8.2). Soil and groundwater sample locations are depicted in Figure 7.1-53.

In 1986, two fuel USTs were removed from the area north of Building 3-390 along a planned utilidor route. In March 1990, a site assessment was performed at the former UST area prior to trenching the utilidor. Five soil borings, B-1 through B-5, were advanced to depths between 8 and 13.5 feet bgs in the former UST area (Figure 7.1-55). Soil samples were collected from each boring and screened for VOCs using a PID, which detected no VOCs. Four soil samples were submitted to a laboratory for hydrocarbon screening, which did not detect hydrocarbons (GTI 1990b [1422]).

A third UST, UBF-30, was removed from the area north of Building 3-390 in September 1989. The 120-gallon diesel UST was in good condition when removed. TPH concentrations in the excavation sidewall and bottom samples were below RISLs. Additional soil was removed from the excavation. TPH concentrations in the final sidewall and bottom samples ranged from non-detected to 380 mg/kg (Hart Crowser 1990a [1431]).

Groundwater in this area flows approximately toward the southwest. The deep storm drain lines north of Building 3-390 are submerged below the water table. During the 2010 and 2011 video inspections, cracks, fractures and flowing water were observed in the storm drain lines (Table 7.1-1, Figure 7.1-3). PCBs were detected in a storm drain solids sample collected from CB370, immediately north of the Building 3-390 area.

RI Scoped Activities

One groundwater monitoring well will be installed in this area to assess the quality of groundwater potentially infiltrating into the storm drain system (Figure 7.1-54). Two soil samples will be collected from the well boring, and one will be collected near the water table depth; soil sampling is considered low priority, but it supports the well installation activity. Soil and groundwater samples will be analyzed for petroleum hydrocarbons, metals, PCBs, SVOCs, and VOCs; VOCs in soil will only be analyzed if field indications suggest their presence. At least four groundwater samples will be collected from the well. Installation of the groundwater monitoring well will support the Site-Wide Groundwater Investigation (Section 7.1.8); therefore, completion of the well is a high priority.

Summary of RI Scoped Activities
Building 3-390 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Boring	1	2		Low	PCBs, Metals, TPH, SVOCs, VOCs
New GW Well	1		4	High	PCBs, Metals, TPH, SVOCs, VOCs

7.1.5.7 Concourse A

Concourse A is located in the northern portion of the North Flightline area south of the PEL area. The concourse extends east from Building 3-350 to Concourse B and the KCIA property line (Figures 7.1-43 and 7.1-56). A utilidor trends along the northern side of Concourse A, forming a boundary between the PEL area and the concourse (Figure 7.1-57). Soil and groundwater sample locations are depicted in Figure 7.1-56.

In June 1990, petroleum-impacted soil was encountered during a linear excavation for the utilidor of approximately 1,000 feet long and varying in depth from 6 to 8 feet (Figure 7.1-58). During the excavation for the utilidor, a French drain with wooden sides coated with tar and filled with gravel and sludge as well as a large concrete wall or foundation structure were encountered in the western half of the excavation. Tar, sludge and soil samples were collected from the French drain and analyzed for TPH, PCBs, metals, and PAHs; water from the drain was collected and analyzed for TPH and PCBs. PCBs and metals were not detected in any of these samples. TPH was detected in a sample of tar at a concentration of 150,000 mg/kg. Low levels of PAHs were detected in soil. Multiple stockpiles of soil from the utilidor excavation were sampled and analyzed for PCBs, TPH, and/or BTEX (because stockpile samples represent removed soil material, without original coordinates, results are not included in tables or figures in this Work Plan). Diesel-range concentrations in soil exceeded the current MTCA Method A CUL, with a maximum of 3,000 mg/kg. PCBs and benzene were not detected (GTI 1990d [1156]). Confirmation samples were not collected from the utilidor excavation.

During facility upgrade activities in 1996, four soil borings, A2, A4, A5, and A6, were advanced in the proposed areas for oil/water separators on Concourse A (Figure 7.1-59). Soil and groundwater samples were collected from borings A5 and A6. Impenetrable subsurface concrete prevented sampling from borings A2 and A4. Gasoline-range (8,500 mg/kg, EF 280) and diesel-range hydrocarbons (3,900 mg/kg, EF 2.0), benzene (0.12 mg/kg, EF 120), and 2-methyl-naphthalene (8.9 mg/kg, EF 210) were present above RISLs in boring A5 (TPH not shown in tables or figure due to HCID analysis). In boring A6, TPH was reported below current MTCA Method A CULs and benzene was not detected. PCBs were not detected in either boring. TPH, VOCs, PAHs, phthalates, and metals were identified in the groundwater samples (SECOR 1996d). Metals, BEHP, and 2-methylnapthalene concentrations exceeded the RISLs, with very high EF values for metals (see table below).

In late 2008, Boeing repaired a portion of a storm drain line in Concourse A to the northeast of MH228 (Figure 7.1-56) and in Concourse B between MH248 and MH249 (see Section 7.1.6.6). In order to complete the repairs, excavations were performed. Composite samples collected from stockpiled soil (presumably excavated from both concourses) were analyzed for PCBs, metals, TPHs, VOCs, and SVOCs. PCBs were detected at concentrations ranging from 2.2 to 7.5 mg/kg (EF to 230). Barium and silver were also detected above RISLs. VOCs and SVOCs were not detected, although method detection limits were elevated. Approximately 40 tons of soil were removed (Bach 2008a,b,c [2102, 2349, 2359]). Confirmation soil samples were not collected from the excavation at Concourse A.

Groundwater in this area flows approximately toward the southwest. The storm drain line that passes through the western end of the Concourse A area is below the water table. PCBs, cadmium and zinc have been detected in the storm drain solids samples collected from MH112, which is downstream from the Concourse A area. Multiple cracks and flow from a tap were reported in 2010 in the storm drain line that passes through the western side of the concourse (Table 7.1-1, Figure 7.1-2). Storm drain lines on the eastern side of this area are above the water table. PCBs, mercury, cadmium and zinc have been detected in storm drain solids samples collected from the eastern side of the Concourse A area.

A PCB-bearing transformer was historically present at the northeastern corner of Building 3-350 (Section 7.1.8.2), which is adjacent to the western side of the Concourse A area. In addition, PCB-bearing transformers or capacitors were located at Buildings A-5, A-6, 3-125, and 3-126, which are adjacent to the eastern side of the Concourse A area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Concourse A Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.5 U	15-N	--	--
Metals	Aluminum	--	--	246,000	4,900
	Arsenic	--	--	80	16
	Barium	--	--	990	500
	Beryllium	--	--	10	2.5
	Cadmium	--	--	10	48
	Chromium	--	--	500	5.0
	Copper	--	--	750	580
	Iron	--	--	215,800	720
	Lead	--	--	150	60
	Manganese	--	--	2,930	59
	Mercury	--	--	50 U	2,500-N
	Nickel	--	--	240	29
	Selenium	--	--	150	30
	Silver	--	--	10 U	3.5-N
	Thallium	--	--	50	110
	Vanadium	--	--	850	283
	Zinc	--	--	3,610	110
Phthalates	BEHP	0.89	19	7.6	7.6
PAHs	Benzo(g,h,i)perylene	0.08 U	2.6-N	--	--
	Benzo(a)pyrene	0.08 U	16-N	--	--
	Fluoranthene	0.24 U	1.5-N	--	--
	2-Methylnaphthalene	8.9	210	56	3.1
	cPAHs	0.0604 U	12-N	--	--
BTEX	Benzene	0.116	120	--	--
VOCs	PCE	--	--	1.0 U	5.0-N
	TCE	--	--	1.0 U	1.4-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Concentrations of PCBs, BEHP, PAHs, benzene, methylnaphthalene, and gasoline- and diesel-range hydrocarbons have been detected in soil in the Concourse A area. During two excavations, for the utilidor installation and storm drain line replacement, stockpiled soil was sampled and found to contain concentrations of PCBs and other COPCs above RISLs. Confirmation samples were not collected in either excavation. Therefore, the extent of soil contamination is unknown. Metals are present in groundwater at concentrations significantly exceeding the RISLs. Groundwater has not been sampled since 1996.

It is recognized that the original locations of the soil making up the stockpile samples are uncertain, and that drilling through the thick concrete surface of the concourse is not preferred. In addition, it is unlikely that a soil excavation (or other active remediation) would be proposed below the concourse surface to address moderate-level scattered detections in soil, although TPH constituents and PCB concentrations were significantly elevated (up to EF 210 and 230, respectively). However, for the Feasibility Study, in order to propose leaving soil in place (containment below concrete), the approximate range of concentrations must be quantified, along with any impact to groundwater and stormwater. Thus, limited soil sampling will be proposed to assess the range in soil concentrations, and sample locations will be kept to a minimum on the concourse surface. In addition monitoring wells will be proposed to determine the impact to groundwater, including locating one near a storm drain line that is submerged by groundwater.

A series of seven soil borings, including installation of two monitoring wells, will be advanced in this lengthy area to characterize soil along and near the utilidor, including near contamination identified at boring A5, along the storm drain line excavation area, and near locations of former transformers or capacitors. The addition of the two wells will fill gaps in the Site-wide groundwater monitoring network and will aid in determining if groundwater quality has been impacted in this area. This includes one well on the downgradient side of the utilidor area, near the N1 storm drain line, which is submerged below the water table. A second monitoring well will be installed near former temporary wells A5 and A6, near the storm drain excavation area. The spacing of borings takes into account the locations of these two borings, A5 and A6.

Note that the boring/well proposed near Building 3-354 (Section 7.1.4.7) will also serve to define the extent of contaminated soil and groundwater near the utilidor. This yields an overall average spacing for sampling along the utilidor of approximately 175 feet. Soil borings will be advanced as close as feasible to the utilidor and storm drain line excavation. One soil boring will be advanced at the northeast corner of Building 3-350 (subsurface utilities preclude an additional boring), and two soil borings will be advanced near the Building A-5 general area to evaluate the potential for PCB contamination related to historical transformers or capacitors (Figure 7.1-56).

At least two soil samples will be collected from each boring. Soil samples will be analyzed for PCBs, TPH, SVOCs, and metals; VOCs will only be analyzed if field indications suggest their presence, including the possibility of gasoline-range hydrocarbons. Four groundwater monitoring events will be performed at the wells. Samples collected during the first groundwater monitoring event will be analyzed for PCBs, TPH, SVOCs, VOCs, and metals. Samples from subsequent events will be analyzed only for the classes of COPCs that were detected at concentrations exceeding the RISLs during the first groundwater monitoring event.

Completion of the soil boring and the well at the western end of Concourse A area is a high priority because the storm drain line in this area is submerged at high water and due to the presence of PCBs in storm drain structures. Completion of the remaining soil borings, including those adjacent to the replaced storm drain line on the eastern side of the concourse is a medium priority due to the lack of submergence of storm drain lines and the moderate concentrations of contaminated soil, but the potential for the presence of PCBs. Installation of the groundwater monitoring well on the eastern side of Concourse A will support the Site-wide groundwater investigation (Section 7.1.8) and is considered a high priority.

Summary of RI Scoped Activities
Concourse A Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	7	2		Medium to High	PCBs, Metals, TPH, SVOCs, VOCs
New GW Well	2		4	High	PCBs, Metals, TPH, SVOCs, VOCs

7.1.6 Areas of Concern in Central Flightline Area of NBF

The Central Flightline area of NBF encompasses the area between the middle of Building 3-390 and Building 3-825. The western boundary of the area is East Marginal Way S and the eastern boundary is the property line bordering KCIA (Figure 7.1-59).

Areas of concern in the Central Flightline area are delineated in Figure 7.1-59. For each area of concern in this section, detected analytical results for all RISL exceedances are presented in Table 7.1-8 for soil and Table 7.1-9 for groundwater. Sample analytical results used in figures within this section are summarized by exceedances at the level of chemical class, according to maximum concentrations that exceed RISLs, and classes with significant exceedances are labeled in orange or red. A summary of maximum concentrations and EFs for each COPC is tabulated within each section, also with orange or red highlights.

Information in this section has been reviewed and summarized for the following potential source areas within the Central Flightline area:

- Building 3-801 Area
- Building 3-800 Area
- Building 3-818 Area
- Main Fuel Farm
- Concourse C Flight Line Utility Corridor Area
- Concourse B

7.1.6.1 Building 3-801 Area

Building 3-801, the Flight Test Engineering Lab, is approximately 100 by 200 feet in size and is located immediately west of Building 3-800 (Figures 7.1-59 and 7.1-60). The site slopes slightly to the east toward several storm drains that lie between Building 3-800 and Building 3-801. An electrical substation lies immediately adjacent to the northwest corner of the Building 3-801, and just west of a UST. The tank presumably contained fuel for a generator that supplied auxiliary power for the substation (SEACOR 1991a [3210]).

In 1991, Boeing installed 25 soil borings in the area around Building 3-801 during the course of two pre-construction environmental investigations. In Figure 7.1-61, the right side of the drawing presents locations of these soil borings and four wells (showing the approximate future footprint of the building). Those borings that could be identified from the report are shown on Figure 7.1-60.

Metals, petroleum hydrocarbons, TCE, and PCE were detected in soil and groundwater samples collected during the first pre-construction investigation (SAIC 2009b [6078]). TCE was identified in a soil sample at SB-15 at 0.4 mg/kg (EF 400). Results of groundwater samples collected during the second investigation indicated levels above CULs of antimony, arsenic, chromium, copper, and lead in MW-3 and MW-4 (SEACOR 1991c [3211]). Overall, the most elevated groundwater exceedances at this area included copper (EF 31) at MW-3, and arsenic (EF 34) and copper (EF 25) at MW-4. In addition, soil samples from borings SB-1A through SB-4A indicated the presence of arsenic at low concentrations in all four borings, from an unknown source (SEACOR 1991c [3211]).

During March 1992, Boeing conducted an independent soil remedial action at the proposed Building 3-801 location (SEACOR 1992f [3215]). Petroleum-impacted soil was removed within and near the northeast portion of the proposed building footprint; a utility trench was excavated in May 1992 at the northern end of the footprint near an excavated heating oil tank (see Section 7.1.6.2). A total of 53 excavation soil samples, 16 stockpile soil samples, and one test pit soil sample were collected. The left half of Figure 7.1-61 presents sample locations and TPH results within the limits of this excavation, prior to construction of Building 3-801. Petroleum-impacted soils remain along a portion of the eastern perimeter of the excavation (closer to Building 3-800 than present-day Building 3-801) at depths between 5.5 and 8 feet bgs, with TPH concentrations ranging from 410 to 26,000 mg/kg (SEACOR 1992f [3215]). These soils were not excavated due to the potential for compromising the integrity of existing structures at that time.

Groundwater in this area is about 9.5 to 11.5 feet bgs and flows approximately toward the southwest. No cracks, breaks, or fractures were observed in video inspections of storm drain lines in 2010 in the Building 3-801 area. Storm drain lines around Building 3-801 are not submerged during periods of high groundwater. As such, infiltration of impacted groundwater in the NBF storm drain system from this area is not considered to be a concern.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-801 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
Metals	Antimony	--	--	57	15
	Arsenic	7.5	1.1	170	34
	Cadmium	2.1	2.1	--	--
	Copper	153	4.3	40	31
	Lead	--	--	8.1	3.2
	Zinc	175	2.0	65	2.0
VOCs	PCE	0.005 U	5.0-N	--	--
	TCE	0.4	400	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

All previously installed groundwater monitoring wells at the Building 3-801 area have been abandoned. One well (MW-4), from a 1991 sample, showed significantly elevated concentrations of arsenic and copper in groundwater. One soil boring (SB-15) showed an elevated concentration of TCE. No samples have been collected at this area since 1991, but remaining contamination appears to be low to moderately elevated and scattered, partly located under the building, or closer to Building 3-800 for the case of petroleum hydrocarbons. The only proposed RI activity is to install one downgradient monitoring well to the west of the building to verify that contamination is not being transported from this area toward offsite. This well will form part of the Site groundwater monitoring network. The approximate location of this downgradient well is shown on Figure 7.1-60. During installation, soil will be sampled from at least two depths for VOCs, SVOCs, and metals. For the RI, at least two groundwater monitoring events will be performed at this well, and samples will be analyzed for VOCs and metals. Although the soil sampling is low priority, the groundwater monitoring network is considered high priority.

Summary of RI Scoped Activities
Building 3-801 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	1	2		Low	Metals, SVOCs, VOCs
New GW Wells	1		2	High	Metals, VOCs

7.1.6.2 Building 3-800 Area

Building 3-800, the Flight Test and Delivery Center, is located immediately north of Building 3-818 and northeast of Building 3-801(Figures 7.1-59 and 7.1-60).

In 1989, prior to the construction of Building 3-800, a 2,000-gallon heating oil UST and an unknown 300-gallon UST were removed from the footprint of Building 3-800. Forty test pits and five monitoring wells were installed (Figure 7.1-62). Diesel-range hydrocarbon concentrations in soil exceeded MTCA CULs, which led to additional environmental investigations of the building site. During a subsequent excavation of impacted soils, an abandoned sewer line containing approximately 1 gallon of fuel product was discovered. The former sewer line was connected to an active sewer line north of the Building 3-800 construction site and trended northwest-southeast across the construction site. Approximately 200 feet of the abandoned sewer line was removed from the site.

In February 1990, Boeing notified Ecology that they had discovered an underground concrete structure during construction of Building 3-800 (Boeing 1990a [0140]). Boeing records indicated that this was a septic tank, which had been removed from service in 1955. Sludge and water inside the structure were found to contain low levels of metals, VOCs, and SVOCs. Six soil borings and nine groundwater monitoring wells were installed (Figure 7.1-60). A limited excavation was conducted due to concerns of undermining and damaging adjacent structures (SEACOR 1992g [3216]).

An independent soil remedial action was conducted for an underground storage tank at this location in 1993. A report was submitted to Ecology on May 10, 1993 (Boeing 1998b [0901]); however, this report was not found in the files. Apparently, this report indicated that remedial actions were complete. Buildings now occupy this location.

A total of 45 test pits, six soil borings, and 14 monitoring wells were advanced over the course of the investigations at Building 3-800 area. Concentrations of metals, BEHP, PAHs, and VOCs in soil exceeded RISLs, while detection limits for PCBs and benzene exceeded RISLs. Concentrations of cPAHs in soil reach up to 0.84 mg/kg (EF 170) at MW-2, and concentrations of TCE reach 0.35 mg/kg (EF 350) in boring B-6, both located under the eastern portion of Building 3-800. In groundwater, concentrations of metals, PCE, TCE, and vinyl chloride significantly exceed RISLs. Historically, the highest VOC concentrations and EFs have originated in wells north of the building (especially NGW307 and NGW308, also NGW303, NGW305, MW-1, and MW-2). Concentrations of VOCs in these and other wells in this area have reduced significantly since the mid-1990s.

Groundwater in this area is found at a depth of about 7 to 9.5 feet and flows approximately toward the southwest. The main line in the south lateral drainage area is submerged below the water table, which trends directly through the area with major contamination by VOCs and other COPCs. Other storm drain lines in the vicinity of this building are not submerged. Two local storm drain line segments were reported to be cracked or fractured; however, signs of infiltration were not reported (Figure 7.1-3).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-800 Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.04 U	40-N	0.6 U	60-N
Metals	Arsenic	10	1.4	9	1.8
	Cadmium	--	--	2 U	9.5-N
	Copper	131	3.6	--	--
	Lead	--	--	9	3.6
	Mercury	0.14	2.0	0.1 U	5.0-N
	Silver	0.4 U	1.3-N	--	--
	Zinc	98.5	1.1	--	--
Phthalates	BEHP	0.052 J	1.1	10 U	10-N
PAHs	Benzo(g,h,i)perylene	0.077 U	2.5-N	--	--
	Benzo(a)pyrene	0.77	150	--	--
	Fluoranthene	0.21	1.3	--	--
	2-Methylnaphthalene	0.077 U	1.8-N	--	--
	cPAHs	0.836	170	--	--
SVOCs	N-Nitroso-dimethylamine	0.17 U	17-N	--	--

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-800 Area

Chemical Class	Chemical	Soil		GW	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
BTEX	Benzene	0.0011 U	1.1-N	1.0 U	1.3-N
VOCs	cis-1,2-DCE	0.32	62	390	39
	Methylene chloride	0.048 B	40	7.0	1.4
	PCE	0.35	350	200	1,000
	TCE	0.07	70	380	510
	Vinyl chloride	--	--	270	1,400

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration J Estimated value
B Possible or probable blank contamination

Current Remedial Actions

In 2011, CALIBRE developed a work plan designed to conduct additional bioremediation in the area of Building 3-800 in order to address groundwater concentrations of PCE, TCE, cis-1,2-DCE, and vinyl chloride (CALIBRE 2011 [5314]). The work plan outlines the use of five existing shallow monitoring wells (NGW301, NGW303, NGW305, NGW307, NGW308). Bioremediation includes two substrate injections, and the first was conducted in June 2011 utilizing sucrose as a biostimulant to promote reducing conditions. The second injection is designed to produce long-lasting reducing conditions utilizing a sodium lactate/vegetable oil mixture (“lactoil”) (CALIBRE 2011 [5314]). The second injection was scheduled for August 2011. A report detailing the progress and status of the bioremediation event has not yet been submitted to Ecology.

RI Scoped Activities

Groundwater analytical data collected following the bioremediation injection interim action at Building 3-800 will be reviewed to compare groundwater concentrations to the RISLs. Following review of these data, which extend well into the RI process, additional investigation activities may be proposed in order to meet the RI goals.

Significant levels of chlorinated VOCs and minor amounts of PAHs and metals likely remain in soil in the area north of Building 3-800 (between it and Building 3-390); and chlorinated VOCs remain at elevated concentrations in groundwater in this area. In order to further delineate the downgradient extent of this plume, one monitoring well will be installed. This well will be located northwest of Building 3-800, across the street, and downgradient of wells NGW309 and NGW310. This will aid in characterizing the downgradient margin of this VOC plume and help determine if the bioremediation is having a beneficial effect in reducing plume size, which may be a long-term process. During installation, soil will be sampled from at least two depths for VOCs, and metals. For the RI, two semi-annual groundwater monitoring events will be performed at this well, and samples will be analyzed for VOCs and metals. The proposed monitoring well location is presented in Figure 7.1-60.

In addition, two soil borings will be advanced on the southwest side of Building 3-800 to evaluate and characterize any remaining TPH impacts in soil, as indicated by documentation of the 1992 remedial excavation. The proposed sampling locations are depicted in Figure 7.1-60. A minimum of two soil samples will be collected from each boring, which will extend at least to the water table. Samples will be analyzed for TPH and VOCs. Soil sampling is considered low priority due to the limited or moderate contamination expected in these areas and because the storm drains are not submerged; however, installation of the downgradient well (above) is considered high priority as part of the Site groundwater monitoring network.

Summary of RI Scoped Activities
Building 3-800 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings (south)	2	2		Low	TPH, VOCs
Soil Borings (north)	1	2		Low	VOCs, Metals
New GW Wells (north)	1		2	High	Metals, VOCs

7.1.6.3 Building 3-818 Area

Building 3-818 is located south of Building 3-800 (Figures 7.1-59 and 7.1-63). In 1993, two monitoring wells, NBF-3-818-MW1 and NBF-3-818-MW2 were installed east of Building 3-818 to evaluate soil and groundwater conditions prior to the installation of an oil/water separator (Figure 7.1-64). Four soil and two groundwater samples were analyzed for TPH and BTEX. No chemicals were detected in the samples (SEACOR 1993c [1489]). Wells NBF-3-818-MW1 and NBF-3-818-MW2 were abandoned in October 1993 (SEACOR 1993f [1505]).

Groundwater in this area flows toward the west or southwest. Storm drain lines S1 and S6A, which pass through this area, are mostly below groundwater during high water levels (Figure 7.1-3). During the 2010 video inspection, multiple cracks and continuously infiltrating gravel were noted in the S1 line, and multiple cracks and fractures were noted in the S7 line (Table 7.1-1). PCBs, mercury, cadmium, and zinc were detected in SD solids samples collected from the storm drain structures in the Building 3-818 area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Building 3-818 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
BTEX	Benzene	0.059 U	59	1.0 U	1.3-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

One groundwater monitoring well will be installed upgradient of manhole UNKMH4, where PCBs and metals have been detected in storm drain solids samples, to assess the groundwater quality in this area as part of the Site-wide monitoring network. At least two soil samples will be collected from the well boring. Soil samples will be analyzed for PCBs and metals. Four monitoring events will be performed; groundwater samples will be analyzed for PCBs and metals during the initial monitoring event. Subsequent groundwater samples will be analyzed only for those COPCs which exceeded the RISLs in the initial monitoring event.

PCBs are present in storm drain solids in this area, and installation of the monitoring well will support the Site-wide groundwater investigation (Section 7.1.8); therefore, completion of the well is a high priority.

Summary of RI Scoped Activities
Building 3-818 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	1	2		High	PCBs, Metals
New GW Well	1		4	High	PCBs, Metals

7.1.6.4 Main Fuel Farm

The Main Fuel Farm is located in the central portion of NBF adjacent to and south of Building 3-818 (Figures 7.1-59 and 7.1-63). The Main Fuel Farm area includes Building 3-822, two 30,000-gallon ASTs near the northwest area boundary, a concrete oil/water separator and a 6,000-gallon AST near the northeast site boundary, and a fuel island near the western portion of the site (SEACOR 1992a [3212]). The eastern margin of the fuel farm is bounded by a 20-foot high concrete blast wall (SECOR 1994f [3218]).

Three USTs (UBF-1, UBF-2, and UBF-3) were formerly located at the Main Fuel Farm; these 40,000-gallon steel tanks were used for jet fuel/kerosene storage (Landau 1986c [1442]). In December 1991, these three USTs failed a leak test. According to the ERT System report, petroleum product was seeping out of the concrete (Ecology 1991 [0138]). NAPL was present in two monitoring wells, and approximately 4 gallons of NAPL were bailed from each well (SEACOR 1992b [1475]). In December 1992, UBF-1, UBF-2, and UBF-3 were decommissioned by excavation and removal.

Between 1986 and 1994, a total of 22 groundwater monitoring wells were installed in the Main Fuel Farm area (Figure 7.1-65). Historically, groundwater samples were analyzed for petroleum hydrocarbons and BTEX. Nine of the wells remain active; wells NGW354, NGW356, NGW357, and NGW358 are currently monitored on a biannual basis. Wells NGW351, NGW352, NGW353, NGW355, and NGW359 have not been sampled since 2002, when concentrations had attenuated to nondetectable levels or concentrations below the MTCA Method A CUL. Concentrations of jet fuel, diesel-range hydrocarbons, and/or benzene have exceeded RISLs in samples collected between 2008 and 2011. From January 2010 to August 2011, the highest TPH concentrations were observed in well NGW354. NAPL was present in well NGW354 during the August 2011 groundwater monitoring event. Groundwater flow direction in the Main Fuel Farm area is west to southwest.

Nine soil borings were advanced in the Main Fuel Farm area in March 1992. Soil samples were analyzed for TPH and BTEX. Depth to groundwater ranged from 6.9 to 8.7 feet. TPH was detected in five of the soil borings, and one sample exceeded the MTCA Method A CUL. BTEX was not detected in the soil samples (SEACOR 1992d [3214]).

Between July 1992, and October 1992, a NAPL extraction system was installed and operated by Boeing (SECOR 1994f [3218]). During this time, approximately 450 gallons of NAPL were recovered (SEACOR 1992e [0133]).

In December 1992, the USTs were decommissioned by excavation and removal. NAPL was observed overlying the groundwater during the decommissioning activities; which limited the extent of the excavation (SEACOR 1993e [1495]). Soil samples analyzed during UST removal indicated that diesel-range hydrocarbon concentrations above the MTCA Method A CUL were present at locations southwest of the oil/water separator, and along the northeastern side of the UST excavation, adjacent to the former location of tank UBF-1 (SEACOR 1993e [1495]).

In June 1994, the concrete oil/water separator, located in the northeast portion of the investigation area, was removed as part of a subsurface site assessment and independent soil cleanup action conducted by Boeing (Figure 7.1-65). Due to structural concerns associated with the blast wall, the east wall of the oil/water separator was left in place. The average depth of the excavation was 9.5 feet. A total of 34 confirmation soil samples were collected from the excavation sidewalls, as well as 19 stockpile characterization samples, including concrete and soil stockpile samples. Samples were analyzed for TPH, and some samples were also analyzed for BTEX, PCBs, SVOCs, and TCLP metals. An estimated 3,700 cubic yards of soil were removed from the area. Results indicated that residual petroleum-hydrocarbon impacted soil is present at limited areas in shallow soil (less than 5.5 feet bgs) on the east side of the excavation, beneath the blast wall (SECOR 1994f [3218]). In addition, residual impacted soils may remain beyond the lateral extent of the excavation in deeper soil (greater than 5.5 feet bgs) on the north, south, and east sidewalls. Impacted areas were generally within 1 foot above the observed depth to groundwater. Relatively low concentrations of VOCs and PAHs were also detected in soil (SECOR 1994f [3218]).

Groundwater in this area flows toward the west or southwest. Storm drain lines in the Main Fuel Farm area are above the water table. These lines were not evaluated during the 2010 video inspection (Figure 7.1-3). PCBs, cadmium, zinc, and BEHP have been detected in storm drain solids samples collected from the area.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Main Fuel Farm Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.074 U	2.2-N	--	--
Petroleum Hydrocarbons	Gasoline-Range	6,100	200	--	--
	Diesel-Range	18,000	9.0	200,000	400
	Jet Fuel	4,170	2.1	610,000	1,200
Phthalates	BEHP	0.074 U	1.6-N	--	--
PAHs	Benzo(g,h,i)perylene	0.87	28	--	--
	Benzo(a)pyrene	4.3	860	--	--
	Fluoranthene	22	140	--	--
	2-Methylnaphthalene	15 M	350	--	--
	Naphthalene	9.2 M	2.6	--	--
	cPAHs	6.23	1,200	--	--
BTEX	Benzene	0.0098	9.8	270	340
VOCs	cis-1,2-DCE	--	--	--	--
	Methylene chloride	0.41 B	340	--	--
	PCE	0.0012 U	1.2-N	--	--
	TCE	0.0012 U	1.2-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration
B Possible or probable blank contamination
M Estimated value of analyte with low spectral match parameters

RI Scoped Activities

Elevated levels of benzene, diesel-range hydrocarbons, and jet fuel have been observed continuously in groundwater monitoring wells in the Main Fuel Farm area. The downgradient boundary of the plume has not been defined. The presence of NAPL and elevated TPH concentrations in the current groundwater wells indicate that NAPL may remain in soil. Results from the 1994 remedial excavation indicated that residual petroleum-hydrocarbon impacted soil is present beneath the blast wall and may remain beyond the lateral extent of the excavation on the north, south, and east sidewalls (SECOR 1994f [3218]). The lateral and vertical extent of petroleum hydrocarbon contamination in soil and groundwater has not been defined in the Main Fuel Farm area.

All existing groundwater monitoring wells in the Main Fuel Farm area will be sampled prior to proceeding with new investigations. Groundwater samples will be analyzed for petroleum hydrocarbons and the full suite of VOCs.

Following the initial round of groundwater monitoring, as many as three soil borings and four monitoring wells will be installed to define the extent of contaminated soil and groundwater (Figure 7.1-63). Placement of the borings and wells will be based on the results of the initial round of groundwater monitoring. Borings and wells will be installed to define the margins of the contaminant plume(s). A minimum of two soil samples will be collected from each boring; one of these samples will be collected near the depth of the water table. The soil samples will be analyzed for petroleum hydrocarbons and VOCs. A minimum of four groundwater monitoring events will be performed at the new and existing groundwater monitoring wells. The first samples collected from the new monitoring wells will be analyzed for petroleum hydrocarbons and the full suite of VOCs; subsequent samples from new and existing wells will be analyzed for petroleum hydrocarbons and VOCs that exceed the RISLs during the first sampling event.

Measurable NAPL is present in the groundwater monitoring wells at the Main Fuel Farm, the extent of the petroleum hydrocarbon plume in soil and groundwater has not been defined, and some contaminated soil was not excavated during the 1994 remedial excavation; therefore, completion of RI activities in this area is a high priority. In addition, installation of the groundwater monitoring wells will support the Site-wide groundwater investigation (Section 7.1.8).

Summary of RI Scoped Activities
Main Fuel Farm Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	7	2		High	TPH, VOCs
New GW Wells	4		4	High	TPH, VOCs
Existing GW Wells	9		4	High	TPH, VOCs

7.1.6.5 Concourse C Flightline Utility Corridor Area

The Flightline Utility Corridor near Concourse C is approximately 10 feet wide and contained a variety of subsurface utilities including a fire main, water line, foam water line, foam line, air line, refuel/defuel lines, and a 30-inch storm drain line (SEACOR 1992c [3213]). Two power stations, a water vault, and an air/water vault are also located along the corridor. The Utility Corridor is located east of the Main Fuel Farm (Figures 7.1-59 and 7.1-63).

Prior to construction of the utilidor, two geotechnical soil borings were advanced in the area of concern (B-1-90 and B-2-90). Diesel-range hydrocarbons were identified at 5,500 mg/kg in a sample composited from B-1-90 at 1 to 4 feet bgs, located near the northwest end of the utilidor area. PCE was detected in this sample at 0.0017 mg/kg (Dames & Moore 1990 [1416]).

A Phase I soil assessment investigation was conducted at the utilidor location in 1991 (Figure 7.1-66). Eight soil borings, B-1 through B-8 were drilled to a depth of approximately 8.5 feet bgs; 31 samples were collected and analyzed for diesel-range hydrocarbons and VOCs (SEACOR 1991b [1474]). In addition, 21 hand auger borings (HA-1 through HA-21) were completed and 31 samples were collected and analyzed for diesel-range hydrocarbons (SEACOR 1992c [3213]).

Diesel-range hydrocarbons and several VOCs were detected in boring samples. Aside from chemicals attributable to laboratory contamination, benzene (0.17 mg/kg) was detected at 6 feet bgs in borings B-1 and B-2. Diesel-range hydrocarbons were detected in boring B-2 at 2,500 mg/kg and in one hand auger boring (HA-15) at 4,400 mg/kg (SEACOR 1992c [3213]).

Based on results of the Phase I investigation and field observations during removal of existing subsurface utilities and installation of the utilidor, all identified impacted soil was excavated along the Concourse C Flightline during November 1991 through January 1992 (Boeing 1991 [0390]; SEACOR 1992c [3213]). Soil was reported as being excavated to depths of 8 to 10 feet bgs; however, a total of 18 post-excavation confirmation samples from the pit floor were collected at bottom depths of only 4.5 to 6 feet bgs. Assuming soil was removed to depths of 8 to 10 feet across the excavation, all soil with COPC concentrations exceeding RISLs was removed through excavation activities. Diesel-range hydrocarbon concentrations in confirmation samples (SEACOR 1992c [3213]) were below the RISL. The only remaining possible contamination is in samples with related laboratory blank contamination.

Groundwater in this area flows toward the west or southwest. Storm drain lines are mostly above the water table.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Concourse C Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
BTEX	Benzene	0.0011 U	1.1-N	--	--
VOCs	Methylene chloride	0.0014 JB	1.2	--	--
	PCE	0.0011 U	1.1-N	--	--
	TCE	0.0011U	1.1-N	--	--

-- Not analyzed or no exceedance; therefore EF is not provided   EF Exceedance factor   U Non-detect
-N EF based on non-detect concentration   J Estimated value   B Possible or probable blank contamination

RI Scoped Activities

The excavation of soil in the Concourse C utilidor area has removed all locations with identified exceedances of RISLs for COPCs. Downgradient groundwater has been monitored for many years at the Main Fuel Farm. Thus, no additional RI activities are proposed at the Concourse C Utilidor location.

7.1.6.6 Concourse B

Concourse B is located in the northeastern portion of NBF (Figures 7.1-59 and 7.1-67). It spans the North, Central, and South Flightline areas. In 1996, two soil borings were advanced in the Central portion of Concourse B upgradient of the Main Fuel Farm to evaluate conditions for the installation of an oil/water separator (Figure 7.1-68). Temporary wells, B4 and B8, were installed in these borings. Soil and groundwater samples were analyzed for PCBs, TPH, SVOCs, and VOCs; groundwater samples were also analyzed for metals. COPCs were either not detected or were detected below RISLs in soil. BEHP, PCE, and all metal COPCs for groundwater exceeded respective RISLs from both B4 and B8. Mercury concentrations ranged up to 50 ug/L (EF 2,500), copper ranged up to 2,080 ug/L (EF 1,600), and PCE ranged up to 18 ug/L (EF 90).

Groundwater in this area flows approximately toward the southwest. Storm drain lines SC1, SC7, and S7 pass through this area of Concourse B. During the 2010 video inspection, cracks and fractures were observed in lines SC1 and S7 and base flow was observed in line SC1. Line SC1 is below the water table (Table 7.1-1, Figure 7.1-3). Cadmium, copper and zinc have been detected in storm drain solids samples collected in this area.

In late 2008, Boeing repaired a portion of the north-central storm drain line in Concourse B between MH248 and MH249 (Figure 7.1-69, repair within purple outline) as well as in Concourse A to the northeast of MH228 (Section 7.1.5.7). In order to complete the repairs, excavations were performed. Composite samples collected from stockpiled soil (presumably consisting of excavated soil from both Concourses A and B) were analyzed for PCBs, metals, TPHs, VOCs, and SVOCs (because stockpile samples represent removed soil material, without original coordinates, results are not included in tables or figures in this Work Plan). PCBs were detected at concentrations ranging from to 2.2 to 7.5 mg/kg (EF to 230). Barium and silver were also detected above RISLs. VOCs and SVOCs were not detected, although detection limits were elevated. Approximately 40 tons of soil were removed (Bach 2008a,b,c [2102, 2349, 2359]). Confirmation soil samples were not collected from the excavation at Concourse B.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Concourse B Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.5 U	15-N	--	--
Metals	Aluminum	--	--	743,200	15,000
	Arsenic	--	--	200	40
	Barium	--	--	3,000	1,500
	Beryllium	--	--	20	5.0
	Cadmium	--	--	20	95
	Chromium	--	--	1,260	13
	Copper	--	--	2,080	1,600
	Iron	--	--	442,300	1,500
	Lead	--	--	460	180
	Manganese	--	--	8,240	160
	Mercury	--	--	50	2,500
	Nickel	--	--	790	96
	Selenium	--	--	370	74
	Silver	--	--	10 U	3.5-N
	Thallium	--	--	50 U	110-N
	Vanadium	--	--	2,170	720
	Zinc	--	--	13,350	410
Phthalates	BEHP	0.085 U	1.8-N	3.9	3.9
PAHs	Benzo(g,h,i)perylene	0.085 U	2.7-N	--	--
	Benzo(a)pyrene	0.085 U	17-N	--	--
	2-Methylnaphthalene	0.085 U	2.0-N	--	--
	cPAHs	0.0680 U	14-N	--	--

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Concourse B Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
VOCs	PCE	--	--	18	90
	TCE	--	--	51	69

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration

RI Scoped Activities

Metals, BEHP, PCE and TCE are present in groundwater at concentrations exceeding the RISLs. Groundwater has not been sampled since 1996. The storm drain line (SC1) near former groundwater monitoring well B8 is downgradient of the well, is beneath the water table, and during the video survey was identified with pipe problems. During an excavation to replace a storm drain line, stockpiled soil was sampled and found to contain concentrations of PCBs and metals above RISLs. Confirmation samples were not collected in the excavation. Therefore, the extent of soil contamination is unknown.

Similar to the situation in Section 7.1.5.7 (Concourse A), it is recognized that the original locations of the soil making up the stockpile samples are uncertain, and that drilling through the thick concrete surface of the concourse is not preferred. In addition, it is unlikely that a soil excavation (or other active remediation) would be proposed below the concourse surface to address moderate-level scattered detections in soil, although PCB concentrations were significantly elevated (EF up to 230). However, for the Feasibility Study, in order to propose leaving soil in place (containment below concrete), the approximate range of concentrations must be quantified, along with any impact to groundwater and stormwater. Thus, limited soil sampling will be proposed to assess the range in soil concentrations, and sample locations will be kept to a minimum on the concourse surface.

In order to assess the groundwater quality under the concourse in an area where groundwater may infiltrate the storm drain system, one monitoring well will be installed immediately upgradient of MH461, where the storm drain lines are submerged (Figure 7.1-67). Another well will be installed along the excavation segment between MH248 and MH249 (Figure 7.1-69) to determine the impact to groundwater where PCBs are present, possibly with other COPCs. In the latter segment, three additional soil borings will be advanced in this lengthy area to characterize soil along the storm drain. This yields an overall average spacing along the storm drain segment of approximately 200 feet. Soil borings will be advanced approximately 10 feet outside the boundaries of the storm drain line excavation.

The addition of these two wells will fill gaps in the Site-wide groundwater monitoring network and will aid in determining if groundwater quality has been impacted under the concourse. At least two soil samples will be collected from each boring. Soil samples collected from the well boring near MH461 will be analyzed for PCBs, VOCs, SVOCs, and metals. Soil samples collected along the north-central storm drain line will be analyzed for PCBs and metals. Four groundwater monitoring events will be performed at each well. Samples collected during the first monitoring event will be analyzed for PCBs, VOCs, SVOCs, and metals. Samples from subsequent events will be analyzed only for the classes of COPCs that exceeded the RISLs during the first groundwater monitoring event.

Completion of the monitoring well near MH461 is a high priority because the storm drain line in this area is submerged at high water, and line SC1 is known to have breaks or other pipe problems, leading to potential infiltration. Completion of the soil borings adjacent to the replaced storm drain line is a medium priority due to the potential presence of PCB-contaminated soil, but in areas with lines above the water table. Installation of the monitoring wells will support the Site-wide groundwater investigation (Section 7.1.8).

Summary of RI Scoped Activities
Concourse B Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings (MH248-MH249)	4	2		Medium	PCBs, Metals
Soil Borings (MH461)	1	2		Medium	PCBs, Metals, VOCs, SVOCs
New GW Wells	2		4	High	PCBs, Metals, VOCs, SVOCs

7.1.7 Areas of Concern in South Flightline Area of NBF

The South Flightline area of NBF extends from Building 3-825 at the north to the Tent Hangars at the south. The western boundary of the area is East Marginal Way S and the eastern boundary is the property line bordering KCIA (Figure 7.1-70).

Areas of concern in the South Flightline area are delineated in Figure 7.1-70. For each area of concern in this section, detected analytical results for all RISL exceedances are presented in Table 7.1-10 for soil and Table 7.1-11 for groundwater. Sample analytical results used in figures within this section are summarized by exceedances at the level of chemical class, according to maximum concentrations that exceed RISLs, and classes with significant exceedances are labeled in orange or red. A summary of maximum concentrations and EFs for each COPC is tabulated within each section, also with orange or red highlights.

Information in this section has been reviewed and summarized for the following potential source areas within the South Flightline area:

- UBF-61 Area
- Former Buildings 3-830, 3-831, 3-832
- NBF-OWS-B11-MW1
- Tent Hangars

7.1.7.1 UBF-61 Area

The UBF-61 area is located east of Building 3-825 and west of the blast fence, in a parking area (Figures 7.1-70 and 7.1-71). Excavated in 1989, former tank UBF-61 was a 3,000-gallon gasoline UST located west of former Building 3-470 (Hart Crowser 1990a [1431]). The 1989 excavation extended to a depth of approximately 8 feet bgs. A total of five confirmatory soil samples were collected from the sidewalls and bottom of the excavation pit and were analyzed for BTEX (Figure 7.1-72); benzene concentrations were low (0.008 mg/kg) but exceeded the RISLs.

Groundwater in this area flows approximately toward the west. Storm drain lines in this area are above the water table. The 2010 video inspection identified multiple cracks in the storm drain line (S3) in the UBF-61 Area (Table 7.1-1).

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
UBF-61 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
BTEX	Benzene	0.008	8.0	--	--

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor

RI Scoped Activities

Soil samples collected at the limits of the 1989 excavation indicate that benzene remains in soil at concentrations slightly exceeding the RISL.

One groundwater monitoring well will be installed downgradient of the UST excavation area and also downgradient of the Former Building 3-832 area (Figure 7.1-71). A minimum of two soil samples will be collected from the well boring. At least two groundwater monitoring events will be performed at the well. Soil and groundwater samples will be analyzed for petroleum hydrocarbons and VOCs. Considering that concentrations for these 1989 samples may have attenuated since 1989, and the concentrations remaining in soil are below the non-leaching criteria concentrations (Table 6-5), completion of this RI activity is a low priority. However, completion of the well will support the Site-wide groundwater investigation (Section 7.1.8).

Summary of RI Scoped Activities
UBF-61 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Boring	1	2		Low	TPH, VOCs
New GW Wells	1		2	Low	TPH, VOCs

7.1.7.2 Former Buildings 3-830, 3-831, 3-832

Former Buildings 3-830, 3-831, and 3-832 were located on approximately 1.6 acres east of East Marginal Way S, west of Concourse B and south of Concourse C (Figures 7.1-70 and 7.1-71). A power substation was located near the northwest side of Building 3-830 (Weston 1997 [1550]). A summary of environmental assessment is depicted in Figure 7.1-73.

Three groundwater monitoring wells were installed in this area, one near the southeast corner of Building 3-830 and two north of Building 3-830 (wells HC-MW1-830NE and HC-MW2-830NE) (Figure 7.1-73). The installation dates of these wells are unknown (Weston 1997 [1550]), and it is assumed that the wells have since been abandoned.

Two USTs located southwest of former Building 3-830 were removed in May 1987, including a 2,000-gallon UST (UBF-24) used to store PS-200 oil and a 300-gallon UST (UBF-42) used to store heating oil. Diesel-range hydrocarbons were present in soil above 1991 MTCA Method A CULs (Weston 1997 [1550]). Three borings, SB-83001 through SB-83003, were advanced around the former UBF-24/UBF-42 UST pit in 1997 (Figure 7.1-73). Six soil samples were analyzed for diesel-range hydrocarbons, which were reported in four samples at concentrations below the RISL.

In September 1989, Boeing replaced UBF-40, a 110-gallon gasoline UST located north of former Building 3-831 (Figure 7.1-73). Concentrations of benzene below the RISL were detected in soil in the UST excavation (Hart Crowser 1990a [1431]).

UBF-60, a 5,000-gallon UST used to store wash water from equipment cleaning, is located east of former Building 3-830 and south of Concourse C (Figure 7.1-73). Three groundwater monitoring wells (MW-1 through MW-3) and five soil borings (B-1, B-2, and SB8308 through SB83010) were installed around the former UST. Eleven soil samples were analyzed for VOCs, six samples were analyzed for TPH, and two samples were analyzed for metals. Arsenic and barium were detected at concentrations exceeding RISLs. Groundwater samples were collected from the wells in November 1989 and analyzed for VOCs (Hart Crowser 1990b [1432]). Benzene was estimated at a concentration above the RISL in one groundwater sample. Vinyl chloride, TCE, and PCE were not detected, although the detection limits exceeded RISLs. In January 1990, the UST was abandoned-in-place by filling the tank with approximately 30 cubic yards of cement (Hart Crowser 1990b [1432]).

Prior to the demolition of Buildings 3-830, 3-831, and 3-832, an environmental investigation was performed in 1997. Two hand auger borings, SB83004 and SB83005, were advanced near the former power substation located northwest of former Building 3-830 (Figure 7.1-73). Four soil samples were analyzed for PCBs, which were reported in two soil samples from SB83005 at concentrations of 0.065 mg/kg (Aroclor 1254) and 0.1 mg/kg (Aroclor 1260) (Weston 1997 [1550]), exceeding the RISL.

Three PCB-filled transformers were associated with former Buildings 3-830 and 3-831. Two transformers were located at the southwest exterior of former Building 3-830, and one transformer was located on the roof at the northwest corner of former Building 3-831 (Section 7.1.8.2).

Groundwater in this area flows approximately toward the west. All storm drain lines in this area are located above the water table.

Chemicals in Soil and Groundwater Exceeding RI Screening Levels
Former Building 3-830, 3-831, and 3-832 Area

Chemical Class	Chemical	Soil		Groundwater	
		Max Result (mg/kg)	Max EF	Max Result (ug/L)	Max EF
PCBs	Total PCBs	0.1	9.1	--	--
Metals	Arsenic	19.6	2.8	--	--
	Barium	69	3.0	--	--
	Silver	0.4 U	1.3-N	--	--
BTEX	Benzene	0.0011 U	1.1-N	2.4	3.0
VOCs	Methylene chloride	0.049 B	41	--	--
	PCE	0.0013 U	1.3-N	1.0 U	5.0-N
	TCE	0.0013 U	1.3-N	1.0 U	1.4-N
	Vinyl chloride	--	--	3.0 U	15-N

-- Not analyzed or no exceedance; therefore EF is not provided EF Exceedance factor
U Non-detect -N EF based on non-detect concentration B Possible or probable blank contamination

RI Scoped Activities

Low concentrations of metals exceeding the RISLs remain in soil in the UBF-60 excavation area. Metals were not detected in the groundwater samples collected in this area. Storm drain lines in the area are not subject to groundwater infiltration. The UBF-60 area will not be considered for further investigation in this Work Plan.

PCBs exceeding the RISL were detected at low levels in soil near the former power substation in this area of concern and three PCB-bearing transformers are associated with these buildings. Three soil borings will be advanced to assess the potential for PCB-contaminated soil associated with the former transformers. In one of these borings, a groundwater monitoring well will be installed downgradient of the former substation (Figure 7.1-71). A minimum of two soil samples will be collected from each soil boring. At least two groundwater monitoring events will be performed at the well. Soil and groundwater samples will be analyzed for PCBs and TPH. Since the storm drain lines in this area are above the water table, completion of this RI activity is considered a medium priority. However, completion of the well will support the Site-wide groundwater investigation (Section 7.1.8).

Summary of RI Scoped Activities
Former Building 3-830, 3-831, and 3-832 Area

RI Scoped Activity	Total Number of Borings/ Wells	Min Number of Soil Samples per Boring	Min Number of GW Samples per Well	Priority	Analyses
Soil Borings	3	2		Medium	PCBs, TPH
New GW Wells	1		2	Medium	PCBs, TPH

7.1.7.3 NBF-OWS-B11-MW1

As part of design for a planned oil/water separator within Concourse B11, one monitoring well, NBF-OWS-B11-MW1, was installed (area shown in Figure 7.1-70). During this installation, soil samples were not collected for laboratory analysis. The boring log indicated no signs of impact (odor, sheen, or PID readings). The monitoring well was later abandoned due to high groundwater turbidity. Results for the sole groundwater sample collected were not disclosed. The oil/water separator was never installed.

RI Scoped Activities

As no signs of impact were identified during installation of former well NBF-OWS-B11-MW1, this area will not be considered further in this RI/FS Work Plan.

7.1.7.4 Tent Hangar

Boeing began construction of two fabric tent hangars, Buildings 3-811 and 3-812, near the southern end of the Site, in late 2008 (Figures 7.1-70 and 7.1-74). Excavations were performed to prepare the area for the tent hangar foundations and new utility lines. Approximately 25 soil stockpiles were generated during the excavation activities. Soil samples were collected from the stockpiles for waste characterization purposes (stockpile sample results are not included in Work Plan). It was reported that all soil excavated and stockpiled during this construction met applicable MTCA standards and was cleared for reuse; however, analytical data were not available for review (Bach 2008a,c [2102, 2359]).

Because soil from site preparation activities met MTCA standards and was cleared for reuse, the tent hangar area will not be considered further in this Work Plan.

7.1.8 Site-Wide Investigations

Two components of Site-wide investigations are included in this section. These involve the following: (1) proposed groundwater monitoring wells that do not coincide with specific areas of concern, and (2) investigations of potential historical sources of PCB releases due to the onsite presence of PCB-bearing electrical equipment, which also do not coincide with areas of concern.

7.1.8.1 Site-Wide Groundwater Investigation

As part of RI activities, a groundwater network will be utilized for monitoring and to determine flow and gradient across the NBF-GTSP Site. Some portions of the Site have a reasonably dense network of monitoring wells for such purpose, including GTSP, the northern PEL area, the former Building 3-360 area, the Building 3-800 area, and the Main Fuel Farm. Other areas of the Site have few or no wells, such as the concourse areas, paint hangar areas, and the southern PEL area.

In order to create a more balanced network of wells beyond those already proposed above, five additional wells will be installed at selected locations to provide for groundwater monitoring and flow determination purposes. The five new wells are added near the upgradient (eastern) boundary of the Site and along the downgradient (western) boundary of the Site, to determine groundwater quality and flow direction at these margins of the Site. Figure 7.1-75 presents the locations of existing monitoring wells, those wells proposed in the areas of concern in Sections 7.1.3 to 7.1.7, and the five additional wells added here for the Site-wide investigative purposes. Altogether, this network of monitoring wells is expected to provide coverage of the Site to understand how groundwater and contaminant plumes flow onto the Site, across the Site, and offsite. The Site-wide groundwater monitoring array adds a total of 28 proposed wells (including the five wells in this section) to the Site.

A minimum of two soil samples will be collected during the installation of each of the five new wells. Soil from these Site-wide well borings will be analyzed for PCBs and metals. At least four groundwater monitoring events will be performed at the five wells. Groundwater samples will be analyzed for PCBs, metals, TPH, and SVOCs. Soil and groundwater from all other borings and monitoring wells will be analyzed for various COPCs, as outlined in text throughout Section 7. The number of proposed RI wells, and the chemicals to be analyzed in soil and groundwater samples, are summarized in Table 7.1-12.

7.1.8.2 Site-Wide Investigation of Historical PCB Sources

PCB-bearing transformers, capacitors, and other equipment were historically used at NBF. Most of the PCB-bearing electrical equipment was owned by SCL and leased to NBF (Landau 2000 [6141]). Potential historical PCB sources are described below and the locations of these sources are shown on Figure 7.1-76. Soil and/or groundwater contamination may be associated with these historical sources. Many of these historical sources are within previously identified RI areas of concern.

Former Building 3-325: Surplus test equipment which contained 30 gallons of PCB liquid was temporarily stored at an equipment boneyard near former Building 3-325. A 1985 investigation indicated that PCBs did not leak from the surplus equipment. Boeing records indicate that this piece of equipment was the only one of its kind at NBF and no fluid leaks from the equipment were observed. This area is located in the northern PEL Area-Wide Zone (Figure 7.1-38).

Substation 87 (Willow Street Substation): A PCB-filled transformer was historically located at the North End-West Boeing Substation, which appears to be the current Substation No. 87. Substation No. 87 is near the northwest corner of Building 3-324. The former Transformer No. 88 had a volume of 177 gallons (Landau 2000 [6141]). The substation is fenced, but is not covered. The substation is also discussed in Section 7.1.5.9, PEL Area-Wide Zone (Figures 7.1-38 and 7.1-39).

Buildings A-5, A-6, 3-125, 3-126, 3-315, 3-326, 3-333, 3-350, 3-353, and 3-360: PCB-containing transformers or capacitors were historically located at these buildings. Two transformers were associated with Building 3-350, one on the west side of the building and one at the northeast exterior. The buildings listed above are located in or are adjacent to the following areas, which are also discussed in Section 7.1.4.

- Buildings A-5, A-6, 3-125, 3-126 and northeast exterior of Building 3-350, in Concourse A area (Figure 7.1-56)
- Building 3-315, in PEL Area-Wide Zone (Figure 7.1-38)
- Building 3-326, in NBF Fenceline Area (Figure 7.1-12)

- Building 3-333, in Building 3-333 Area (Figure 7.1-25b)
- West side of Building 3-350, in Building 3-380 Storm Drain Area (Figure 7.1-46)
- Building 3-353, Inlet Development Facility, in Building 3-353 Area (7.1-32)
- Building 3-360, in Buildings 3-360 and 3-361 Area (Figure 7.1-44)

Building 3-390: Former Transformers Nos. 54 and 55 were historically located in the South and North Penthouses, respectively, of the building. The volume of these transformers was 375 gallons (Landau 2000 [6141]).

Building 3-818/Vault 94: Former Transformer No. 94 was historically located at the west exterior of this building. The volume of the transformer was 655 gallons. A SCL-owned transformer, located southwest of Building 3-818, was also tested for PCBs, with a result of 213,000 ug/L (Landau 2000 [6141]). Vault 94 is now present in this location (Figure 7.1-76). The concrete pad appears to be heavily stained (SAIC 2011b [6143]).

Former Buildings 3-830 and 3-831: Two PCB-filled transformers were associated with this building. Transformers Nos. 89 and 90 were at the southwest exterior of the building and had volumes of 203 and 395 gallons, respectively (Landau 2000 [6141]). A power substation was located near the northwest corner of Building 3-830 (Weston 1997 [1550]). Former Building 3-831 was built prior to 1984 and demolished after 1997 (SAIC 2009b [6078]) and former Transformer No. 91 was located on the roof at the northwest corner of the building (Figure 7.1-71) (Landau 2000 [6141]).

Parking Lots: Thirty-six pole-mounted Boeing-owned capacitors, each containing 1.5 gallons of liquid PCBs were historically located in the parking lot north of Building 3-825 and three SCL-owned capacitors, each containing 5 gallons liquid PCBs, were present in the west parking lot south of former Building 2-35. In 1990, two SCL-owned transformers, P-840 and P-841, located east of former Building 2-35 were tested for PCBs. PCB concentrations were 155,000 and 245,000 ug/L, respectively. A PCB-containing transformer or capacitor was historically located south of former Building 3-490 (Figure 7.1-76) (Landau 2000 [6141]).

RI Scoped Activities

Soil borings will be advanced in some areas of NBF where PCB-bearing transformers or capacitors were historically located. Soil borings will be advanced to at least the water table. A minimum of two samples will be collected from each boring. Soil samples will be analyzed for PCBs and metals.

PEL Area

Building 3-325: No additional sampling related to the historical presence of PCB-bearing test equipment is proposed. The test equipment was apparently in good condition and no leaks were reported prior to removing the equipment from NBF.

Substation 87: Four soil borings will be advanced around the perimeter of Substation 87 (Willow Street Substation) as shown on Figure 7.1-38 and discussed in Section 7.1.4.10, PEL Area-Wide Investigations.

Building 3-315: Three soil borings will be advanced on the south and west sides of the building as shown on Figure 7.1-38 and described in Section 7.1.4.10, PEL Area-Wide Investigations.

Building 3-326: No additional sampling is proposed in this area due to ongoing interim actions in this area, as described in Section 7.1.4.1, NBF Fenceline Area.

Building 3-333: Three soil borings will be advanced on the northwest side of Building 3-333 as shown on Figure 7.1-25b.

Building 3-353: Five total soil borings, with installation of one well, will be advanced in this general area as shown on Figure 7.1-32 and described in Section 7.1.4.6, Inlet Development Facility, Building 3-353.

North Flightline

Former Building 3-360: Soil sampling is not proposed for this area due to the planned bioremediation injection interim action, as described in Section 7.1.5.1. Following a review of the data collected during the interim action, additional investigation activities may be proposed.

Buildings A-5, A-6, 3-125, 3-126: Two total borings, with installation of one well, will be advanced around these buildings as shown on Figure 7.1-56 and discussed in Section 7.1.5.7, Concourse A. The storm drain lines in this area are above the water table, and the area was located on the concourse concrete; therefore, completion of these additional borings is a low priority.

Building 3-350: Two soil borings will be advanced at the western side of the building as shown on Figure 7.1-46 and described in Section 7.1.5.2. One soil boring will be advanced at the northeast corner of the building as shown on Figure 7.1-56 and described in Section 7.1.5.7. Completion of the borings on the western side of the building is a medium priority; storm drain lines in this area are above the water table. At the northeastern corner of the building, storm drain lines are below the water table at high water; therefore, completion of the soil borings in this area is a high priority.

Building 3-390: Soil and groundwater sampling related to the past use of PCB-bearing transformers and/or capacitors is not proposed in this area, as it appears that the equipment was installed inside the building.

Central Flightline

Building 3-818/Vault 94: Four soil borings will be advanced around the perimeter of Vault 94 to the west of Building 3-818 as shown on Figure 7.1-76. The concrete pad under the vault is heavily stained; therefore sampling in this area is a high priority.

South Flightline

Former Buildings 3-830 and 3-831: Three total soil borings, with installation of one well, will be advanced along the western perimeter of the former buildings in this area as shown on Figure 7.1-71 and described in Section 7.1.7.1. Storm drain lines in this area are above the water table, and completion of this RI activity is a low priority.

Parking Lots

Two soil borings will be advanced in the parking lot north of Building 3-825 and east of East Marginal Way S. Both borings will be advanced in the northern end of the parking lot, located to the south and east of former Building 2-35. Three soil borings will be advanced in the parking lot south of Building 3-490. These proposed borings are shown on Figure 4.2-76. Storm drain lines in this area are above the water table and PCB-contaminated soil, if present, is capped by asphalt; therefore, soil sampling in this area is a low priority.

7.1.9 Summary of RI Scoped Activities for Soil and Groundwater

Areas of the NBF-GTSP Site requiring additional soil and groundwater assessment as part of this RI have been identified. The evaluation leading to this RI/FS Work Plan was performed by comparison of available soil and groundwater data, as well as historical information, to screening levels for COPCs established in Section 6. This Work Plan recommends additional subsurface investigations within the GTSP property and all four sub-areas of NBF (PEL Area, north flightline, central flightline, and south flightline). A total of 112 soil borings (including borings for wells) and 28 groundwater monitoring wells are proposed. A summary of currently proposed tasks and corresponding sub-divisions is provided in Table 7.1-12. It should be pointed out that this primary phase of RI activities will likely be followed by one or more additional phases of RI activities, depending on the findings of the first phase. For scoping and cost-estimating purposes, it might be assumed that additional phases will cost approximately 30 to 50 percent of that for the primary phase.

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7.2 Storm Drain System Investigations

The storm drain system at NBF is described in the Supplemental Data Gaps Report (SAIC 2009b [6078]) and the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]). Stormwater from NBF and the northern portion of KCIA is transported to the KCIA SD#3/PS44 EOF outfall at Slip 4. Stormwater is conveyed from five drainage areas via lateral storm drain lines to the KC lift station; at the lift station, stormwater is pumped into the KCIA SD#3 main line and transported to the Slip 4 outfall. Stormwater drainage from a parking lot and small area near Building 7-27-1 enters the KCIA SD#3 main line downstream of the lift station. The NBF stormwater drainage basin consists of approximately 132 acres of the NBF property, and approximately 171 acres of KCIA (Figure 2-6). Additional general information about the NBF storm drain system is provided in Section 4.2.2.

The six stormwater drainage areas (Figure 2-5) are:

- North lateral
- North-central lateral
- South-central lateral
- South lateral
- Building 3-380 area
- Parking lot area

A separate storm drain transports roof drainage from the GTSP to Slip 4. This storm drain was installed in 2009 to replace the former GTSP flume. No samples have been collected from the GTSP storm drain, and no information about other inputs to this storm drain line, if any, were available at the time this Work Plan was prepared.

Contaminants in stormwater and storm drain solids may be transported offsite to Slip 4. These contaminants may enter the storm drain system through subsurface infiltration of contaminated groundwater (Section 7.1) or through stormwater inflow from surface sources of contaminants (Section 7.3). This section describes the types of samples that have been collected to characterize contaminant concentrations in the NBF storm drain system, summarizes the currently available data on contaminant concentrations in stormwater and storm drain solids, and identifies additional data collection needed to adequately characterize this contaminant transport pathway and identify contaminant sources.

For some figures presented in Section 7.2 (and Section 7.3 for anthropogenic media), the ranges of contaminant concentrations are represented by use of exceedance factors, which correspond to multiples of the RISL values. The EFs are depicted on figures for selected COPCs by using a different color for defined interval ranges, created by lumping EF values into stepped categories known as “bins.” The selection of the bin intervals is arbitrary, but they were chosen based on the overall ranges of concentrations for storm drain media as well as for anthropogenic media that form potential inflow sources to the storm drain system.

At the NBF-GTSP Site, the primary chemical classes of concern include PCBs, metals, PAHs, and phthalates. The COPC concentrations and EFs for total PCBs extend over a significantly larger range of values than do metals. PAHs and phthalates typically tend to be intermediate between these two chemical classes. This condition appears to result from a greater intrinsic variability in concentrations of these organic chemicals in the environment, and from generally lower detection limits and RISLs than for most metals. Together, this produces a greater range of EF values for these organic chemicals compared to metals.

In order to compensate for the significantly greater ranges of concentrations and EFs for PCBs as compared to metals, two sets of EF bin ranges are utilized in this Work Plan. Metals EF bins increase by an order of five times (1–5, 5–25, 25–125, and >125). EF bins for organic chemicals (PCBs and PAHs) increase by an order of ten times (1–10, 10–100, 100–1000, and >1000). This configuration is utilized for figures depicting storm drain solids in Section 7.2 as well as for anthropogenic media and storm drain solids in Section 7.3. Note also that throughout Section 7.2, PCB concentrations always refer to total PCBs, unless stated otherwise.

7.2.1 Types of Storm Drain Samples Collected at NBF

Extensive sampling of solids from storm drain structures including catch basins, manhole access locations, oil/water separators, channel drains, and inlets throughout the NBF site has been conducted between 1984 and 2011. Storm drain sampling investigations that have been conducted at the site are described in Section 4.2.2. Data from July 2004 through August 2011 have been included in the data evaluation in this Work Plan; data collected prior to 2004 is not believed to be relevant to current conditions. Stormwater data currently being collected during the 2011-2012 wet season have not been validated and therefore are not included. Sampling being conducted by Boeing in connection with testing and operation of the Long Term Stormwater Treatment (LTST) system at the King County lift station is not addressed in this Work Plan.

Six types of storm drain samples have been collected at NBF since January 2004: grab samples of solids in storm drain pipes/structures; sediment trap samples; filtered suspended solids samples; centrifuged suspended solids samples; inlet filter solids samples; and composite whole water samples. Solids samples have been collected at a total of 302 locations and whole water samples at three locations, as follows:

Number of Storm Drain Sampling Locations by Sample Type and Drainage Area

Sample Type/ Drainage area	Grab	Sediment Trap	Filter	Inlet Filter	Centrifuge	Whole Water
Lift Station	1	0	2	0	1	1
North Lateral	152	2	10	6	0	2
North-Central Lateral	51	3	1	9	0	0
South-Central Lateral	23	2	2	7	0	0
South Lateral	40	2	2	12	0	0
Building 3-380 Area	15	0	1	0	0	0
Parking Lot Area	20	0	1	0	0	0
TOTAL	302	9	19	34	1	3

Grab samples are collected by scooping solid material from the bottom of a catch basin or pipe. They are logistically easy and inexpensive to collect. They do not measure the dissolved contaminant load and tend to contain a smaller percentage of fine-grained particles (fine silt, clay) than stormwater, and therefore may underestimate chemical concentrations in stormwater. In addition, many structures do not retain solid material and therefore a grab sample cannot be collected. Solids collected using this method represent accumulation over the time period since the structure was last cleaned. During 2009 to 2010, Boeing sampled most of the storm drain structures at the NBF site which contained enough solid material to sample (see Section 4).

Sediment traps consist of a sample bottle installed in a storm drain structure. Suspended solids in stormwater settle into the bottle over an extended period of time (four to six months). This type of sample integrates the particulate-associated chemical load over the sampling period, and is logistically simple to implement. Sediment traps do not measure dissolved load, require confined space entry to deploy, and require a long sampling period to collect an adequate volume of solids for analysis. They do not collect particles transported as bedload, and provide a less direct measurement of the overall stormwater chemical load.

Filtered suspended solids samples are collected on a flow-weighted or time-weighted basis during individual storm events or base flow sampling events. Filtered solids samples can be collected in locations where flow is not deep enough for sediment traps, are event-specific, and can be collected from multiple storm events and during base flow conditions to assess variability. Filtered solids samples do not measure dissolved load, require a power source, and sampling is relatively labor-intensive. The 5-micron polypropylene felt filter bags used for sample collection cannot be analyzed for phthalates or total organic carbon (TOC), because of interference from the filter bag material. The chemical analysis for PCBs and other organic chemicals requires special laboratory methods that involve digestion of the filter bag, and estimation of chemical concentrations based on the dry weight of the filter bag before sampling. Boeing (Landau Associates) conducted limited filter solids sampling during 2004 to 2007; SAIC and Landau conducted more extensive filtered solids sampling the 2009-2010 and 2010-2011 seasons.

Inlet filters were installed by Boeing at 25 structures in 2010 and numerous additional structures since that time. The inlet filters consist of a 180 micron filter fabric that is placed under the top grating of a catch basin. The inlet filters are intended to capture material that would otherwise enter the storm drain system. They must remain in place for a month or more in order to collect enough solids for analysis. This sampling method is easy to deploy, however does not collect smaller-sized particles which have been associated with higher contaminant concentrations. These samples are therefore believed to underestimate chemical concentrations in stormwater.

Centrifuged solids samples were collected by SAIC and Ecology during two storm events and one base flow event from the King County lift station vault in April/May 2011 to evaluate the efficiency of the filtered solids sampling units. Centrifuged samples include the finer particles that have been associated with higher contaminant concentrations. The centrifuge is logistically complex and sampling is labor-intensive. Samples represent a single storm or base flow sampling event; sampling of multiple events allows assessment of sampling variability. Results are believed to more accurately represent contaminant concentrations in stormwater than the other solids sampling methods.

Whole water composite samples have been collected at three locations at NBF: the King County lift station and two locations in the north lateral drainage area (MH108 and MH178). Whole water composite samples provide a measure of dissolved load in addition to suspended load. Samples are composited on a flow-weighted basis to provide a representative sample of a single storm event or base flow sampling event. Samples for multiple storm events can be used to assess variability, and total suspended solids (TSS) measurements in whole water samples can be used to estimate contaminant loading. Sampling requires confined space entry to deploy flow sensors and suction lines, requires an onsite power source, and preferentially captures the fines portion of the particulate load. Analytical detection limits may not be adequate to detect chemicals present in stormwater at very low concentrations, particularly for hydrophobic chemicals, unless large volumes are collected.

Three whole water grab samples have been collected at NBF to address specific issues at individual locations. Whole water grab samples represent a snapshot of chemical concentrations in stormwater at a given time and location, and are not considered representative for purposes of the RI/FS. Whole water grab samples have not been included in this evaluation.

A discussion of sampling results at NBF by sample type is presented in Section 7.2.3.

7.2.2 Storm Drain Data Summary

A summary of analytical results and RISL exceedances for storm drain solids samples collected at NBF between 2004 and 2011 is presented in Table 7.2-1. Table 7.2-2 presents an overview of exceedances by drainage area.

Sampling results are discussed in the following sections for the NBF site as a whole, the King County lift station, each of the five drainage areas upstream of the lift station, and the parking lot drainage area downstream of the lift station.

7.2.2.1 Summary of Site-Wide Storm Drain Solids Data

Metals, chlorinated aromatics, PAHs, phthalates, and other SVOCs have been detected in storm drain solids at NBF at concentrations above the RISLs (Table 7.2-1). In general, the highest concentrations of metals and chlorinated aromatics (PCBs and dioxins/furans) were detected in the north lateral drainage area; the highest concentrations of PAHs and phthalates were detected in the south lateral drainage area (Table 7.2-2).

Chemicals with the highest RISL exceedances in storm drain solids samples, collected at NBF between 2004 and 2011, are listed below. This table includes all chemicals with a maximum EF greater than 50, sorted from high to low.

RISL Exceedances by Chemical for Storm Drain Solids

Chemical	RISL (mg/kg DW, except as noted)	Maximum EF	Average EF (Detections Only)	Drainage Areas with Highest Concentrations (Maximum EF >50)
Total PCBs	0.038	34,000	401	North lateral (EF 34,000); north-central lateral (EF 11,000); south-central lateral (EF 2,700); south lateral (EF 500); parking lot area (EF 55)
Mercury	0.41	420	3.8	North lateral (EF 420)
Total cPAHs	0.062	350	47	South lateral (EF 350); north lateral (EF 210); north-central lateral (EF 120); south-central lateral (EF 100)
Benzo(a)pyrene	0.062	240	34	South lateral (EF 240); north lateral (EF 160); north-central lateral (EF 92); south-central lateral (EF 74)
Di-n-octyl phthalate	0.42	81	12	South lateral (EF 81); south-central lateral (EF 55); north-central lateral (EF 52)
Total dioxins/furans	3.9 pg/g	70	12	North lateral (EF 70)
Lead	40	70	5.6	North lateral (EF 70)
BEHP	0.73	58	10	South lateral (EF 58)
Zinc	410	56	3.3	North lateral (EF 56)

Note: Does not include chemicals with a frequency of detection less than 5 percent. DW = Dry weight

Figures 7.2-1 through 7.2.-3 are maps showing EFs for PCBs, cPAHs, and lead in storm drain solids at the NBF site. PCBs and cPAHs are presented because they represent contaminants with relatively high maximum EFs in all of the lateral storm drain lines NBF. Similarly, lead is presented because it has relatively high EFs and was detected throughout the NBF site. Similar maps for mercury and zinc are provided in Section 7.3. Maps for phthalates and dioxins are not presented due to the small number of samples that have been analyzed for these chemicals.

Total PCBs. PCBs were detected in 755 of 768 storm drain solids samples collected at NBF between 2004 and 2011 at concentrations ranging from 0.01 to 1,310 mg/kg DW, with an average concentration of 15 mg/kg DW. The average concentration exceeds the RISL (0.038 mg/kg) by a factor of 401; the maximum EF was 34,000. While concentrations in the north lateral drainage area are significantly higher than in other areas of the Site, PCB concentrations exceeded the RISL by at least a factor of 50 in all drainage areas except the Building 3-380 drainage area. In addition, the maximum and average PCB concentrations at the King County lift station were 3.3 mg/kg DW and 1.0 mg/kg DW, respectively, which represent EFs of 87 (maximum) and 26 (average). PCB concentrations in storm drain solids at NBF are shown in Figure 7.2-1.

Mercury. Mercury was detected in 409 of 435 storm drain solids samples collected at NBF between 2004 and 2011. Unlike PCBs, however, mercury exceeded the RISL (0.41 mg/kg DW) in only 29 percent of samples in which mercury was detected. The maximum detected concentration was 173 mg/kg (which represents an EF of 420), while the average concentration was 1.6 mg/kg, representing an EF of only 3.8. This indicates that mercury in storm drain solids is more localized than PCBs. Significantly higher concentrations were detected in the north lateral drainage area (average detected concentration of 3.9 mg/kg DW) than in other areas of the site. Mercury concentrations also exceeded the RISL in the south lateral (average detected concentration of 0.73 mg/kg DW) and the north-central lateral (average detected concentration of 0.53 mg/kg DW).

Total cPAHs. Carcinogenic PAHs were detected in 132 of 133 storm drain solids samples collected at NBF between 2004 and 2011. All exceeded the RISL for total cPAHs (0.062 mg/kg DW). The maximum detected concentration of total cPAHs was 22 mg/kg DW, while the average was 2.9 mg/kg DW. These correspond to EFs of 350 and 47, respectively. The highest cPAH concentrations were detected in the south lateral drainage area, with an average detected concentration of 6.1 mg/kg DW; concentrations were also high in the north lateral drainage area (average detected concentration of 2.7 mg/kg DW), north-central lateral drainage area (average detected concentration of 2.8 mg/kg DW), and south-central lateral drainage area (average detected concentration of 1.9 mg/kg DW). Total cPAH concentrations in storm drain solids at NBF are shown in Figure 7.2-2.

Benzo(a)pyrene. Benzo(a)pyrene is the most significant contributor to total cPAH concentrations. Therefore, benzo(a)pyrene concentrations and distribution closely mirror total cPAHs.

Di-n-octyl phthalate. Relatively few storm drain samples collected at NBF between 2004 and 2011 have been analyzed for phthalates. Di-n-octyl phthalate was detected in 71 of 84 storm drain solids samples, and exceeded the RISL (0.42 mg/kg DW) in 57 samples. The maximum and average detected concentrations of di-n-octyl phthalate were 34 mg/kg DW and 5.1 mg/kg DW, respectively. These represent EFs of 81 and 12. The highest concentrations of di-n-octyl phthalate were found in samples collected in the south lateral drainage area (average detected concentration of 8.6 mg/kg DW); exceedances were also significant in the south-central lateral drainage area (average detected concentration of 7.2 mg/kg DW) and north-central lateral drainage area (average detected concentration of 4.6 mg/kg DW).

Dioxins/furans. A total of 35 filtered solids samples and one centrifuged solids sample, collected between 2009 and 2011, have been analyzed for dioxins/furans. No grab samples have been analyzed for these compounds. These samples were collected between October 2009 and April 2011 at the King County lift station and 12 other sampling locations, mostly in the north lateral drainage area. The highest total dioxin/furan TEQ was 275 pg/g DW, while the average was 45 pg/g DW. These concentrations exceed the RISL (3.9 pg/g) by factors of 56 and 12, respectively. All 20 storm drain samples collected in the north lateral drainage area exceeded the RISL. At the lift station, nine of 11 samples exceeded the RISL.

Lead. Lead was detected in 416 of 420 storm drain solids samples collected at NBF between 2004 and 2011. Lead exceeded the RISL (40 mg/kg DW) in over 95 percent of the samples in which lead was detected. The maximum detected concentration was 2,780 mg/kg DW (which represents an EF of 70), while the average concentration was 224 mg/kg DW, representing an EF of 5.6. Lead exceedances occurred in every drainage basin at NBF, with the highest concentrations in the north lateral drainage area (average detected concentration of 232 mg/kg DW). Lead concentrations in storm drain solids at NBF are shown in Figure 7.2-3.

BEHP. As with di-n-octyl phthalate, relatively few samples have been analyzed for BEHP. BEHP was detected in all 86 storm drain solids samples that have been analyzed for this compound, and exceeded the RISL (0.73 mg/kg DW) in 77 samples. The highest detected concentration was 42 mg/kg DW, which represents an EF of 58; the average detected concentration was 7.4 mg/kg DW, which represents an EF of 10. The highest concentrations of all phthalates, including BEHP, were found in the south lateral drainage area; BEHP in the south lateral storm drain solids samples had an average detected concentration of 12 mg/kg DW.

Zinc. Concentrations of zinc exceeded the RISL (410 mg/kg DW) in 349 of the 420 storm drain solids samples collected between 2004 and 2011. The highest and average detected concentrations of zinc were 22,900 mg/kg DW and 1,343 mg/kg DW, respectively. These represent EFs of 56 and 3.3. Similar to lead and mercury, the highest concentrations were detected in storm drain solids samples in the north lateral drainage area, which had an average detected zinc concentration of 1,677 mg/kg DW.

The following sections discuss storm drain sampling results by drainage area. For each of the six drainage areas (north lateral, north-central lateral, south-central lateral, south lateral, Building 3-380, and parking lot) and the King County lift station, a series of tables is provided: a data summary table, a table showing maximum EFs by subdrainage area, and a table that presents all of the detected sample results by sampling location. In addition, a map of sample locations and an exceedance factor diagram is provided for each drainage area except the King County lift station. The diagram presents EFs for the most recent sample at each location and depicts the spatial relationships between storm drain structures.

7.2.2.2 North Lateral Drainage Area

Tables 7.2-3 and 7.2-4 present data summaries for storm drain solids and whole water samples, respectively, in the north lateral drainage area. These tables include all chemicals with an RISL exceedance in at least one sample.

In solids samples, metals (arsenic, cadmium, chromium, copper, lead, mercury, silver, zinc), PCBs, dioxins/furans, HPAH compounds (benzo[a]pyrene, benzo[g,h,i]perylene, dibenz[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene), total cPAHs, 2,4-dimethylphenol, and p-cresol were detected in at least one sample at a concentration more than an order of magnitude above the RISL. For all but copper, the average detected concentration also exceeded the RISL. The highest exceedances in solids samples were observed for PCBs (EF 34,000), mercury (EF 420), total cPAHs (EF 210), benzo(a)pyrene (EF 160), total dioxins/furans (EF 70), lead (EF 70), and zinc (EF 56).

In water samples, metals (cadmium, copper, lead), PCBs, and PAHs were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The highest exceedances in whole water samples were observed for total cPAHs (EF 500), chrysene (EF 430), benzo(a)pyrene (EF 360), benzo(g,h,i)perylene (EF 280), benzo(a)anthracene (EF 270), indeno(1,2,3-cd)pyrene (EF 270), dibenz(a,h)anthracene (EF 110), benzo(b)fluoranthene (EF 65), and benzo(k)fluoranthene (EF 65).

Table 7.2-5 shows the maximum exceedances for solids samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which solids samples have been collected are presented in Figure 7.2-4. PCB concentrations were highest in subdrainages N10 and N11. Most metals have exceedances throughout the north lateral drainage basin. Exceptions include mercury, with highest concentrations in N9 and, to a lesser extent, in N5, N10, and N11; and silver, which exceeded the RISL only in N10, N4, and N8. Dioxins/furans have been analyzed in only four of the subdrainage areas; the highest concentrations were detected in N11. Samples have been analyzed for PAHs in only four of the subdrainages in the north lateral drainage area: N5, N7, N10, and N11. The highest exceedances were found in N5. Relatively few PAH exceedances were observed in N10 or N11. Phthalates and other SVOCs have been analyzed in only the north lateral main line (N1).

Figures 7.2-5 through 7.2-10 provide additional information on the distribution of RISL exceedances for PCBs, mercury, and lead in the north lateral drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as “wet weight”): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area. Figures 7.2-5, 7.2-7, and 7.2-9 show storm drain structures located upstream of MH130A. Stormwater at this location is piped directly to the LTST system at the King County lift station for treatment. Stormwater downstream of MH130A (shown in Figures 7.2-6, 7.2-8, and 7.2-10) continues flowing along the north lateral to MH363A, where it connects to the north-central lateral drainage area.

Table 7.2-6 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the north lateral drainage area.

7.2.2.3 North-Central Lateral Drainage Area

Table 7.2-7 presents a data summary for storm drain solids samples in the north-central lateral drainage area. No water samples have been collected in this drainage area. This table includes all chemicals with an RISL exceedance in at least one sample. Metals (cadmium, lead, mercury), PCBs, dioxins/furans, HPAH compounds (benzo[a]pyrene, benzo[g,h,i]perylene), total cPAHs, and phthalates (BEHP, butyl benzyl phthalate, di-n-octyl phthalate) were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentration for these contaminants also exceeded the RISL. The highest exceedances were observed for PCBs (EF 11,000), total cPAHs (EF 120), benzo(a)pyrene (EF 92), and di-n-octyl phthalate (EF 52).

Table 7.2-8 shows the maximum exceedances for samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which solids samples have been collected are presented in Figure 7.2-11. PCB concentrations were highest in subdrainages NC6 and NC3 and in main line NC1 samples. The highest concentrations of mercury and arsenic were found in the north-central lateral main line. Cadmium, chromium, lead, and zinc were highest in NC5. Dioxins/furans, PAHs, phthalates, and other SVOCs have been analyzed in samples from the main line only.

Figures 7.2-12 and 7.2-13 provide additional information on the distribution of RISL exceedances for PCBs and lead in the north-central lateral drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as “wet weight”): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area.

Table 7.2-9 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the north-central lateral drainage area.

7.2.2.4 South-Central Lateral Drainage Area

Table 7.2-10 presents a data summary for storm drain solids samples in the south-central lateral drainage area. No water samples have been collected in this drainage area. This table includes all chemicals with an RISL exceedance in at least one sample. Lead, PCBs, benzo(a)pyrene, total cPAHs, and di-n-octyl phthalate were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentration for these contaminants also exceeded the RISL. The highest exceedances were observed for PCBs (EF 2,700), total cPAHs (EF 110), benzo(a)pyrene (EF 74), and di-n-octyl phthalate (EF 55).

Table 7.2-11 shows the maximum exceedances for samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which solids samples have been collected are presented in Figure 7.2-14. PCB concentrations were highest in subdrainages SC6, SC3, SC8, and SC7. The highest concentrations of metals were detected in SC8, with the exception of lead which had the highest EFs in the south-central main drainage line. Dioxins/furans, PAHs, phthalates, and other SVOCs have been analyzed in samples from the main line and SC3 only.

Figures 7.2-15 through 7.2-17 provide additional information on the distribution of RISL exceedances for PCBs, lead, and cPAHs in the south-central lateral drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as “wet weight”): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area.

Table 7.2-12 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the south-central lateral drainage area.

7.2.2.5 South Lateral Drainage Area

Table 7.2-13 presents a data summary for storm drain solids samples in the south lateral drainage area. No water samples have been collected in this drainage area. This table includes all chemicals with an RISL exceedance in at least one sample. Metals (arsenic, cadmium, lead, mercury), PCBs, LPAH compounds (acenaphthene, phenanthrene), HPAH compounds (benzo[a]pyrene, benzofluoranthenes, benzo[g,h,i]perylene, chrysene, dibenz[a,h]anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, total HPAH), total cPAHs, and phthalates (BEHP, butyl benzyl phthalate, di-n-octyl phthalate) were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentration for these contaminants also exceeded the RISL. The highest exceedances were observed for PCBs (EF 500), total cPAHs (EF 350), benzo(a)pyrene (EF 240), di-n-octyl phthalate (EF 80), and BEHP (EF 58).

Table 7.2-14 shows the maximum exceedances for samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which solids samples have been collected are presented in Figure 7.2-18. PCB concentrations were highest in subdrainages S2, S8, S7, S1 (main line), and S6A. RISL exceedances for metals were distributed throughout the south lateral drainage area, with the exception of mercury which had significantly higher concentrations in subdrainage S8. PAHs, phthalates, and other SVOCs generally were present in the south lateral main line at higher concentrations than in the subdrainages. No storm drain samples have been collected from S4, S5, or S9.

Figures 7.2-19 through 7.2-21 provide additional information on the distribution of RISL exceedances for PCBs, lead, and cPAHs in the south lateral drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as “wet weight”): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area.

Table 7.2-15 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the south lateral drainage area.

7.2.2.6 Building 3-380 Drainage Area

Table 7.2-16 presents a data summary for storm drain solids samples in the Building 3-380 drainage area. No water samples have been collected in this drainage area. This table includes all chemicals with an RISL exceedance in at least one sample. Lead, PCBs, total dioxins/furans, HPAH compounds (benzo[a]pyrene, fluoranthene), total cPAHs, and phthalates (BEHP, butyl benzyl phthalate) were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentration for these contaminants also exceeded the RISL. The highest exceedances were observed for PCBs (EF 47) and BEHP (EF 21).

Table 7.2-17 shows the maximum exceedances for samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which storm drain solids samples have been collected are presented in Figure 7.2-22. PCB concentrations were highest in the main line (B1). Contaminant concentrations in this drainage area were generally lower than in the north, north-central, south-central, and south lateral drainage areas.

Figures 7.2-23 and 7.2-24 provide additional information on the distribution of RISL exceedances for PCBs and lead in the Building 3-380 drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as "wet weight"): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area.

Table 7.2-18 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the Building 3-380 drainage area.

7.2.2.7 Parking Lot Drainage Area

Table 7.2-19 presents a data summary for storm drain solids samples in the parking lot drainage area. No water samples have been collected in this drainage area. This table includes all chemicals with an RISL exceedance in at least one sample. Metals (arsenic, chromium, lead), PCBs, total dioxins/furans, benzo(a)pyrene, and total cPAHs were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentration for these contaminants also exceeded the RISL. The highest exceedances were observed for PCBs (EF 55), total cPAHs (EF 35), benzo(a)pyrene (EF 24), lead (EF 22), and arsenic (EF 20).

Table 7.2-20 shows the maximum exceedances for samples collected during 2004 to 2011, by subdrainage area. Locations of the subdrainage areas and storm drain structures from which solids samples have been collected are presented in Figure 7.2-25. Concentrations of all chemicals were highest in subdrainage PL2. The parking lot drainage area main line (PL1) has been sampled for metals and PCBs only.

Surface debris samples were collected in 2010 near the channel drains that make up subdrainages PL3 and PL4. These were collected in lieu of filtered solids in this area to characterize materials that may enter the storm drain system via these structures. Results of surface debris sampling are provided in Section 7.3.

Figures 7.2-26 and 7.2-27 provide additional information on the distribution of RISL exceedances for PCBs and lead in the parking lot drainage area. These figures show the following information for the most recent storm drain solids sample collected at each location (excluding inlet filter samples and samples reported as "wet weight"): EF, structure name, year of sample, type of sample, and subdrainage. The data are color-coded according to the bin ranges discussed in Section 7.2 above, and show the relationships between storm drain structures from upstream to downstream within the drainage area.

Table 7.2-21 presents analytical results for all chemicals that exceeded an RISL in at least one sample in the parking lot drainage area.

7.2.2.8 King County Lift Station

Tables 7.2-22 and 7.2-23 present summaries of storm drain solids and stormwater data, respectively, collected at the King County lift station between 2004 and 2011. These tables include all chemicals with an RISL exceedance in at least one sample. Most of these samples were collected on the downstream side of the King County lift station; the tables include three filtered solids samples and three centrifuged solids samples collected from the lift station vault (upstream of the lift station pumps).

In solids samples, mercury, PCBs, dioxins/furans, benzo(a)pyrene, and total cPAHs were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The average detected concentrations also exceeded the RISL. The highest exceedances were observed for PCBs (EF 87) and total cPAHs (EF 58).

In whole water samples, cadmium, PCBs, and HPAHs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, indeno[1,2,3-cd]pyrene), and total cPAHs were detected in at least one sample at a concentration more than an order of magnitude above the RISL. The highest exceedances were observed for chrysene (EF 99), total cPAHs (EF 92), benzo(a)pyrene (EF 65), benzo(g,h,i)perylene (EF 63), and indeno(1,2,3-cd)pyrene (EF 60).

Table 7.2-24 presents analytical results for all chemicals that exceeded an RISL in at least one solids sample at the King County lift station.

7.2.2.9 Upstream Contaminant Contributions from Offsite

Limited sampling from offsite areas upstream of the NBF storm drain system has been conducted. In June 2006, King County Industrial Waste Program staff collected grab samples of solids from eight oil/water separator stormwater vaults (Figure 7.2-28). In November 2009, solids grab samples were collected from catch basins upgradient of vaults 1541 (north lateral) and 1680 (south-central lateral). Sample information is presented below:

Offsite Sampling Information for Storm Drain Solids

Sample Location	Lateral Line	Location Description	Date Sampled	Sample Type	Chemical Class
VLT1541	North	Vault 1541	6/8/2006 4/15/2011	Grab	PCBs, metals, PAHs, phthalates, TPH
CB1540	North	Upstream of vault 1541	11/20/2009	Grab	PCBs, metals, PAHs, phthalates
CB1077/CB1078	North	Upstream of vault 1541 (composite sample)	11/20/2009	Grab	PCBs, metals, PAHs, phthalates
CB1554 (WANG1550)	North	Upstream of vault 1541	4/15/2011	Grab	PCBs, metals
CB1580	North	Near KC Maintenance Facility soil pile	4/15/2011	Grab	PCBs
CB1581	North	Near KC Maintenance Facility soil pile	4/15/2011	Grab	PCBs
CB1079	North	Upstream of vault 1541	11/20/2009	Grab	PCBs, metals, PAHs, phthalates
CB1082 (CB46)	North	6518 Ellis Avenue S; upstream of vault 1541	12/22/2004	Grab	PCBs, metals, PAHs

Offsite Sampling Information for Storm Drain Solids

Sample Location	Lateral Line	Location Description	Date Sampled	Sample Type	Chemical Class
VLT1640	North	Vault 1640	6/7/2006 4/15/2011	Grab	PCBs, metals, PAHs, phthalates, TPH
VLT1650	North-Central	Vault 1650	6/7/2006	Grab	PCBs, metals, PAHs, phthalates, TPH
VLT1657	North-Central	Vault 1657	6/7/2006	Grab	PCBs, metals, PAHs, phthalates, TPH
VLT1670	South-Central	Vault 1670 (b)	6/6/2006	Grab	PCBs, metals, PAHs, phthalates, TPH
VLT1680	South-Central	Vault 1680	6/6/2006	Grab	PCBs, metals, PAHs, phthalates, TPH
CB1140	South-Central	Upstream of vault 1680	11/20/2009	Grab	PCBs
CB1154	South-Central	Upstream of vault 1680	11/20/2009	Grab	PCBs
VLT1756	South	Vault 1756	6/6/2006	Grab	PCBs, metals, PAHs, phthalates, TPH
VLT1757	South	Vault 1757 (a)	6/6/2006	Grab	PCBs

Except as noted, all vault samples collected from the final (outflow) chamber.
(a) Sample collected from middle chamber of the OWS vault.
(b) Sample collected from first (inflow) chamber of a two-chamber vault; insufficient sediment in outflow chamber.

Sampling results are presented in Table 7.2-25. Maximum PCB concentrations ranged from 0.23 mg/kg DW upstream of the north lateral to 2.1 mg/kg DW upstream of the south-central lateral. Lead exceeded the RISL in all four drainage basins, with a maximum concentration of 744 mg/kg DW upstream of the north-central lateral. Zinc and copper exceeded the RISLs upstream of the north lateral drainage area. The highest RISL exceedances were for total cPAHs (maximum EF of 1,000 upstream of the south lateral) and benzo(a)pyrene (maximum EF of 690 upstream of the south lateral). HPAH compounds exceeded RISLs in all drainage basins, as did phthalates.

KCIA upstream exceedances were compared to the most recent NBF data from sediment traps located near the NBF-KCIA boundary (upstream end of NBF lateral), and at the downstream end of each lateral, nearest the King County lift station. Results are presented below for selected chemicals:

KCIA and NBF Storm Drain Solids Comparison

Drainage Basin	KCIA Upstream of NBF (Grab Sample)	NBF Upstream Sediment Trap	NBF Downstream Sediment Trap
Maximum EFs – Total PCBs			
North Lateral	6.1	8.7	110
North-Central Lateral	19	4.1	20
South-Central Lateral	56	ND	14
South Lateral	20	4.7	18

KCIA and NBF Storm Drain Solids Comparison			
Drainage Basin	KCIA Upstream of NBF (Grab Sample)	NBF Upstream Sediment Trap	NBF Downstream Sediment Trap
Maximum EFs – Total cPAHs			
North Lateral	720	39	20
North-Central Lateral	170	120	94
South-Central Lateral	620	30	15
South Lateral	1,000	96	270
Maximum EFs – Benzo(a)pyrene			
North Lateral	520	27	14
North-Central Lateral	120	92	68
South-Central Lateral	420	21	11
South Lateral	690	68	190
Maximum EFs – Bis(2-ethylhexyl)phthalate			
North Lateral	100	2.7	2.9
North-Central Lateral	43	8.2	25
South-Central Lateral	88	5.2	5.5
South Lateral	78	5.6	26
Maximum EFs – Lead			
North Lateral	12	18	3.8
North-Central Lateral	19	9.4	9.6
South-Central Lateral	11	1.5	2.4
South Lateral	5.9	7.8	7.5

Excludes sample results reported as wet weight.

These data indicate that some COPCs, particularly PAHs in the north, north-central, and south-central lateral drainage areas, may be entering the NBF storm drain system from offsite sources. These contaminants may be transported to the King County lift station and ultimately to Slip 4. Very little stormwater or storm drain solids data have been collected at KCIA. Collection of filtered suspended solids and whole water samples near the upstream boundary between NBF and KCIA in the north-central lateral, south-central lateral, and south lateral drainage areas, is currently underway, and results should help to fill this data gap.

7.2.3 Comparison of Storm Drain Sampling Results by Sample Type

As discussed above, several types of storm drain system samples have been collected at NBF, including grab samples, sediment trap samples, filtered suspended solids samples, inlet filter samples, centrifuged solids samples, and composite whole water samples. Each sampling method has its advantages and disadvantages, and all provide a somewhat different measure of contaminants in the storm drain system.

PCB sampling results were compared by sample collection method at locations where more than one sampling method has been employed at a given location within a 6-month time period.

Where multiple samples were collected within a 6-month period, the closest sample dates were selected. Table 7.2-26 lists the samples used for this sample collection method comparison. In a few cases, a sample from the next downstream structure was used where colocated samples were not available; these were only used in locations where no major tributaries intervened between the two structures. These are listed below:

Selection of Adjacent Downstream Sample Locations

Drainage Area	Sample Location	Reason for Selection
North Lateral	MH108 CB363	Filtered solids samples collected at MH108 were compared to sediment trap samples from location CB363 (sediment trap T5), approximately 180 feet downstream.
North Lateral	MH108 CB108A CB363	Filtered solids samples collected at MH108 were compared to grab samples collected from CB108A, if available (approximately 80 feet downstream), or CB363 (approximately 180 feet downstream).
North-Central Lateral	MH221A MH226	Filtered solids samples collected at MH226 were compared to sediment trap samples from location MH221A (sediment trap T4), approximately 260 feet downstream.
South-Central Lateral	MH364 MH368	A sediment trap sample collected from MH364 (sediment trap T3) was compared to a grab sample from MH368, approximately 150 feet downstream.

Spearman's rank correlation coefficient was used to make comparisons between sampling methods. This statistical test is non-parametric, meaning that is not dependent on the distribution type of the underlying data. To calculate the Spearman's rank correlation coefficient r_s, concentrations were sorted from largest to smallest and assigned a rank, beginning with 1 for the highest concentration. The correlation coefficient measures the correlation between the rankings. A higher value of r_s indicates that site-to-site concentration variability among paired independent measurements is closely linked. In other words, a high value of r_s between two sample types means that sample locations with higher contaminant concentrations based on one sample type also tend to have higher contaminant concentrations based on the other sample type. Spearman correlation coefficients for total PCBs in different types of samples are shown below.

Spearman Rank Correlation Coefficients Between Sample Collection Methods

	Grab Samples	Filtered Solids	Sediment Traps	Inlet Filters	Centrifuged Solids	Whole Water
Grab Samples		0.92	0.77	0.71	ND	ND
Filtered Solids	0.92		0.62	ND	0.50	0.15
Sediment Traps	0.77	0.62		ND	ND	ND
Inlet Filters	0.71	ND	ND		ND	ND
Centrifuged Solids	ND	0.50	ND	ND		ND
Whole Water	ND	0.15	ND	ND	ND	

ND – No data available   Blue shading indicates correlation at a confidence level of at least 95%

A perfect positive correlation corresponds to a Spearman correlation coefficient of 1.0 (e.g., for the grab sample/filtered solids data pairs, the highest concentration in a grab sample corresponds to the highest concentration in a filtered solids sample, the second highest concentration in a grab sample corresponds to the second highest concentration in a filtered solids sample, etc.).

This comparison shows that grab sample data are strongly correlated with filtered solids, sediment trap, and inlet filter data, at a 95% confidence level. Filtered solids are correlated to a lesser extent with sediment trap and centrifuged solids data. Whole water and filtered solids data are not well correlated.

While the data may be correlated, the Spearman correlation coefficient says nothing about the magnitude of concentration differences between sample types. To evaluate this, ratios were calculated between sample types within each sample pair:

Comparison of PCB Concentrations Between Sample Collection Methods

Sample Type A	Sample Type B	No. of Sample Pairs	Ratio of Concentrations (Sample Type A / Sample Type B)	Median of Ratios	Geometric Mean of Ratios	Geometric Standard Deviation of Ratios
Grab Samples	Filtered Solids	12	0.14 to 13	0.64	0.77	3.5
Grab Samples	Inlet Filters	10	0.08 to 330	1.3	1.6	8.4
Grab Samples	Sediment Trap	16	0.01 to 27	1.1	1.2	8.0
Filtered Solids	Sediment Trap	8	0.10 to 8.4	1.4	1.1	2.6
Filtered Solids	Centrifuged Solids	3	0.14 to 0.82	0.48	0.38	2.5

While rank correlations between grab samples and filtered solids are high, there is large variability in PCB concentrations within these samples. PCB concentrations in grab samples were substantially lower than in filtered solids samples in 8 of the 12 sample pairs analyzed. PCB concentrations were generally somewhat higher in grab samples than in inlet filter (6 of 10 sample pairs) and sediment trap samples (8 of 16 sample pairs).

PCB concentrations in filtered solids samples were somewhat higher than in sediment trap samples (5 of 8 sample pairs), while PCB concentrations in filtered solids samples were substantially lower than in centrifuged solids samples (3 of 3 sample pairs). Standard deviations were relatively high for all sample comparison pairs.

This evaluation should be considered preliminary; it does not consider contaminants other than PCBs, and does not include evaluation of particle size distributions associated with the various sample types. A more thorough evaluation will be conducted as part of the RI report.

This evaluation of PCB data by sample collection method can be used to make recommendations about future sampling needs. In general, grab samples and sediment traps appear to be useful and cost-effective tools for source tracing. For purposes of this RI, grab samples are recommended in areas where anthropogenic media contain high concentrations of contaminants (see Section 7.3).

7.2.4 Storm Drain Concentration Temporal Trends

Twelve rounds of sediment trap sampling have been conducted by SPU and Boeing since 2005; the most recent data available are for samples collected in April 2011. Sediment traps are installed at 10 locations including upstream and downstream locations at NBF's north, north-central, south-central, and south lateral SD lines, and one location downstream of the combined north and north-central SD lines (near the King County Lift Station). Sediment trap locations are shown in Figures 7.2-4, 7.2-11, 7.2-14, and 7.2-18.

Figure 7.2-29 shows PCB concentrations in grab samples and sediment traps, by sample date, for all samples reported as dry weight. Concentrations have historically been much higher in the north lateral drainage area than in the north-central, south-central, and south lateral drainage areas. Sediment trap concentrations in the north lateral peaked in 2006, then dropped sharply in 2007/2008. Since July 2008, PCBs in the downstream north lateral sediment trap (T5) have consistently remained in the 2 to 4 mg/kg DW range.

In the north-central lateral, PCB concentrations in the downstream sediment trap (T4) have generally been in the 1 to 2 mg/kg DW range, with the most recent sample (April 2011) at 0.77 mg/kg DW. In the south-central lateral, sediment trap concentrations in the downstream sediment trap (T3) have ranged between 0.25 and 0.63 mg/kg DW since 2006. Similarly, the south lateral downstream sediment trap (T2) has ranged from 0.13 to 0.68 mg/kg DW, down from a high concentration of 1.5 mg/kg DW in March 2006.

While generally decreasing over time, PCB concentrations in all but sediment trap T3A (upstream sediment trap in the south-central lateral) remain at concentrations above the RISL (0.038 mg/kg DW). Sediment trap concentrations are summarized below.

PCB Concentrations in Sediment Traps at NBF

Sediment Trap Location	Range of PCB Conc (2005-2011) mg/kg DW	Most Recent PCB Conc (April 2011) mg/kg DW
T1 (MH422; downstream end of north and north-central lateral SD)	0.68 – 420	4.0
T2 (MH356; downstream end of south lateral SD)	0.010 – 1.46	0.68
T2A (MH482; upstream end of south lateral SD)	<0.02 – 0.38*	0.18*
T3 (MH364; downstream end of south-central lateral SD)	0.026 – 1.81	0.55
T3A (MH19C; upstream end of south-central lateral SD)	<0.02 – 0.73*	<0.02*
T4 (MH221A; downstream end of north-central lateral SD)	0.24 – 2.75	0.77
T4A (CB229A; upstream end of north-central lateral SD)	<0.011 – 5.60	0.15
T5 (CB363; downstream end of north lateral SD)	2.1 – 800	4.0
T5A (MH178; upstream of NBF on the north lateral SD)	0.086 – 0.67	0.33

*Most recent sample was collected in October 2009. Conc Concentration DW = Dry weight

7.2.5 Contaminant Loading Considerations

In January 2011, SAIC prepared a technical memorandum that described the estimation of contaminant mass loading from each of the lateral drainage areas at NBF (SAIC and Newfields 2011). All loadings were calculated using Ecology's *Standard Operating Procedure for Calculating Pollutant Loads for Stormwater Discharges* as a guide (Ecology 2009). The memorandum was intended to quantify total contaminant loadings from the NBF, GTSP, and KCIA properties, and the relative mass of contaminants from each of the lateral lines, to Slip 4 via the KCIA SD#3/PS44 EOF outfall. It did not evaluate loadings to Slip 4 from other sources, nor did it compare loadings to current contaminant concentrations in Slip 4 sediments. Loadings were calculated separately for storm and base flow conditions.

The north lateral SD line was the largest source of PCB loading to the lift station. Base flow loading was a major constituent of PCB loading from the north lateral line. Mercury loading was also highest in the north lateral SD line. Loadings of HPAH, cadmium, copper, lead and zinc were all highest in the south lateral SD line, partly due to the large volume of flow from this line. For many of the COPCs, the sum of loadings from the individual lateral lines was greater than the total loading calculated at the King County lift station (LS431). For all chemicals, the smaller Building 3-380 drainage and the parking lot drainage were not major contributors to total loading.

7.2.6 Summary of Data Gaps and RI Scoped Activities

A large quantity of storm drain system data has been collected to date, as described in this section. Additional data are being collected by SAIC during the 2011/2012 wet season; Boeing is continuing with storm drain system cleaning and replacement, as needed. In addition, with the construction of the LTST system, a large proportion of the stormwater flow to the King County lift station is being treated before it is discharged to Slip 4.

Because storm drain solids have been extensively characterized for most areas at NBF, and because planned cleaning and maintenance/replacement activities are in progress, no additional storm drain sampling is recommended at this time, except in relation to potential anthropogenic contaminant sources (see Section 7.3).

The most significant data gap is the limited sample data from offsite upstream areas. Samples collected in stormwater vaults at KCIA have detected concentrations of PAHs, phthalates, PCBs, and metals. The contaminants that may be entering the NBF storm drain system from offsite and their contribution to contaminant loads to Slip 4 have not been well-characterized. The following sampling is proposed:

- One grab sample at MH12 on the GTSP property, to evaluate contaminant concentrations in GTSP roof drainage. The sample should be analyzed for PCBs, metals, PAHs, phthalates, and dioxins/furans (see Section 7.3.4).
- Grab samples from three storm drain structures on KCIA property upstream of the north lateral storm drain line, to be analyzed for PAHs, metals, phthalates, PCBs, and (at one location) dioxins/furans.

- Grab samples from three storm drain structures at KCIA upstream of the north-central lateral storm drain line, to be analyzed for PAHs, phthalates, metals, PCBs, and (at one location) dioxins/furans.
- Grab samples from three storm drain structures at KCIA upstream of the south-central lateral storm drain line, to be analyzed for PAHs, phthalates, metals, PCBs, and (at one location) dioxins/furans.
- Grab samples from three storm drain structures at KCIA upstream of the south lateral storm drain line, to be analyzed for PAHs, phthalates, metals, PCBs, and (at one location) dioxins/furans.

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7.3 Anthropogenic Media Investigations

Inflow to the NBF storm drain system includes transport of contaminated materials from a number of potential sources. Transport mechanisms include surface runoff along the ground surface or on, in, or through buildings or other structures, and airborne transport. The airborne transport mechanism is not recognized as a significant pathway at NBF, and as such it is not specifically evaluated in this Work Plan. Short-term releases of contaminants to the storm drain system, such as liquid spills, are also not evaluated. Potential sources of contaminant inflow to the storm drain system are categorized into six anthropogenic (manmade) material types in this Work Plan, including: paint, building roof materials, other building/structure exterior materials, CJM, pavement (asphalt or concrete), and surface debris overlying the pavement. A detailed discussion of these anthropogenic inflow sources is included in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]).

For all contaminated anthropogenic materials at NBF, a total of ten COPCs have been identified (including total PCBs and carcinogenic PAHs TEQ, each listed as a single class). Note that throughout Section 7.3, PCB concentrations always refer to total PCBs, unless stated otherwise. Table 7.3-1 summarizes the numbers of samples and detections, the RISLs, and the maximum exceedance factors for each COPC in the six classes of anthropogenic media. Exceedance factors represent multiples of the RISLs. More detailed information on sampling results and exceedance factors for all data that exceed RISLs is included in Tables 7.3-2 through 7.3-7, for the six classes of anthropogenic media. Data utilized for anthropogenic media include all available and pertinent results in the project database, up to August 2011.

Section 7.3 of this Work Plan summarizes potential inflow sources and is divided into the following four main sub-sections.

- Section 7.3.1 consists of a brief evaluation of known or suspected contaminated building and structure materials at NBF, which are subdivided into the following three major material types: paint (at any location), roof materials (any rooftop materials), and other exterior materials (all other building/structure siding, sealant or miscellaneous materials not included as paint or roof materials).

- Section 7.3.2 consists of an evaluation of contaminated CJM, located between panels of concrete on the ground surface at NBF.

- Section 7.3.3 consists of an evaluation of contaminants within other ground surface materials at NBF, including pavement (asphalt and concrete) and loose surface debris overlying the pavement. This surface debris constitutes material that is potentially transported to the storm drain system and which originates from any of the above potential sources or other unidentified sources. Sections 7.3.1 to 7.3.3 present figures that show sampling locations by media and include PCB concentrations, because all samples have been analyzed for PCBs and this COPC is typically the primary driver for investigation and remediation activities.

- Section 7.3.4 consists of a detailed evaluation of sampling data for all anthropogenic media, arranged geographically by each drainage area, with comparison of data results to nearby storm drain solids data. Recommendations are made for further investigations to fill data gaps and identify sources potentially leading to ongoing contamination of the storm drain system. The figures within this section present all anthropogenic media samples combined, by COPC, for each drainage area.

7.3.1 Investigation of Contaminated Building Materials

Inflow of contaminants into the storm drain system may originate from a variety of building materials. As materials such as paint, roofing material, and caulk wear and breakdown over time, small fragments become dislodged from their point of origin and may be transported to and through the storm drain system. Building materials containing COPCs potentially contribute to contaminant loading in Slip 4 and the LDW. This section contains a review of building material COPCs at NBF, which include PCBs, arsenic, cadmium, chromium, copper, lead, mercury, silver, zinc, and carcinogenic PAHs (Table 7.3-1).

Historically, the north lateral drainage basin contains the most contaminated SD solids and stormwater. As such, source tracing has largely focused on this drainage area. The following subsections include discussions of these three classes of building materials: paint, roof materials, and other exterior materials.

Note that wipe sample results are not included in this Work Plan. These sample results are presented in units of mass of contaminants per wipe, which are not amenable to comparison to criteria, and because detections have been infrequent. For paint wipe samples, a number of paint chip samples have also been collected, which are included here. Note also that outdoor anthropogenic media sampling has been limited to the NBF property; no samples have been collected at the GTSP facility.

This draft Work Plan has been prepared simultaneous with a significant amount of interim action activities taking place on many portions of the Site. It has not been possible to incorporate the more recent results from these actions into the project database and into this draft plan. The cutoff for incorporation of data was approximately August 2011. With regard to anthropogenic media, in particular paint at NBF has been sampled and removed if found necessary. This sampling and abatement process is ongoing and will continue for a significant amount of time.

Although these recent specific data are not included in this Work Plan and are not displayed on figures or tables, the information in the reports has been considered in the planning of the RI activities. This information was reviewed and generally applied in developing this plan. As this Work Plan progresses from draft to final version, new data and removal information will continue to be reviewed and applied to the planning process. Based on the data currently included in the project database, this Work Plan presents anthropogenic material samples that have been removed (via interim action) by use of a notation on the figures and tables. Some tables list the maximum concentration for all samples, along with the highest concentration for remaining (in-situ) sample material.

Paint Investigations and Remediation

In an effort to evaluate the source of contaminants potentially impacting Slip 4, samples of paint and other anthropogenic media were collected as part of the following three major investigations: *2010 North Lateral Storm Drain System Evaluation of Potential Sources* (Landau 2010d [6101]), *2010 Planned Sampling to Indicate Presence of PCBs in Paint* (Landau 2010h [6133]), and 2011 Site-Wide Storm Drain System Evaluation of Potential Sources (Site-Wide Source Evaluation) (Landau 2012b [9997])[5]. Samples of paint chips were collected and analyzed for total PCBs and some also for metals. During these investigations, PCBs were detected in all 121 paint samples analyzed, with a maximum concentration of 23,000 mg/kg. RI Selected SL exceedances and other data for COPCs in paint samples are presented in Table 7.3-2. Sampling locations and concentrations of PCBs are presented in Figure 7.3-1. PCBs are discussed in this section of the Work Plan due to their significance in sampling and remediation at the Site; however, the other COPCs (metals) are only discussed in Section 7.3.4 with other anthropogenic media. In Figure 7.3-1, a black dot inside the location symbol indicates that paint at that sampling location has since been removed by Boeing during abatement activities.

From July to August 2010, paint was sampled from buildings and structures within the north lateral drainage area, including the PEL area and the northwestern portion of the flightline area (Landau 2010d [6101]). Paint chips were collected at 77 locations and analyzed for total PCBs and metals (Figure 7.3-1]). Results of paint chip sampling indicated that yellow paint on some bollards contained elevated concentrations of PCBs ranging from 46 to 23,000 mg/kg. Elevated PCBs were also detected in some paint chip samples from fire hydrants at concentrations ranging from 1,200 to 3,700 mg/kg. The primary Aroclor detected for both types of structures was Aroclor 1254, and to a lesser extent Aroclors 1248 and 1260. In general, paint samples contained a larger percent of Aroclor 1248 than seen in other materials onsite. The bollard samples that yielded the two highest PCB concentrations were collected west of Building 3-353 and on the southwest side of Building 3-326. Based on the results of PCB analyses, paint abatement was performed in October 2010 for the majority of bollards and support structures in the north lateral drainage area (Landau 2010i [6132]).

In October 2010, Boeing collected wipe samples of paint at three locations known to contain PCBs, to determine if the contaminant could be identified using this method. Results of wipe sampling confirmed the presence of PCBs in the three samples. In November 2010, Boeing proposed the use of wipe sampling in conjunction with paint chip sampling to expedite the identification of PCB-impacted paint for abatement activities (Landau 2010h [6133]).

Paint sampling resumed in April 2011 with the collection of wipe samples in the north lateral drainage area. In June, wipe sampling was followed by colocated paint chip sampling at the ten locations where PCBs were detected in wipe samples (Landau 2011g [6294]). PCBs were detected in nine of the colocated paint samples, at concentrations ranging from 7.2 to 480 mg/kg. In addition, paint samples were collected for 10 percent of wipe sample results that were non-detected for PCBs (eight samples). PCBs were non-detect in paint chips for six of the eight samples, with detection limits ranging from 0.74 to 0.80 mg/kg (Landau 2011g [6294]). Overall,

[5] Data collected during the Site-Wide Source Evaluation (prior to 09/27/2011) were incorporated into this Work Plan. The formal report documenting the activities/investigations was submitted too late for a detailed review.

wipe sampling methodology appears to be usable as an indicator of PCB concentrations in paint where total PCBs are greater than TSCA regulations (50 mg/kg). However, for purposes of the RI and the protection of Slip 4 sediments and the LDW, this methodology of identifying PCBs in paint does not appear to be adequate. Thus, paint wipe sample results are not further evaluated in this Work Plan.

In August 2011, paint abatement began with the removal of paint from columns and cross-supports, rails, three fire hydrants, and ten service valves in the north lateral drainage area. In addition, paint was removed from bollards, railings, fire hydrants, and post indicating valves in the remaining laterals. Abatement focused on paint with PCB concentrations of 50 mg/kg or greater and paint with lower concentrations of PCBs that is in poor condition (Landau 2012d [[N0013]). The report documenting abatement activities was not received in time to summarize in this Work Plan.

The Site-Wide Source Evaluation included the sampling of paint in the other drainage areas (aside from the north lateral) in July (wipe samples) and August 2011 (colocated paint chip samples). Additional paint chip samples from Building 3-818 were collected in September 2011 to characterize elevated PCB concentrations detected in July 2011 in gray paint samples (Landau 2011i [N0010], 2012b [9997]). Although the report documenting the sampling of Building 3-818 was not received in time to incorporate results in the project database and to summarize in this Work Plan, data from this interim action were taken into consideration in proposed RI activities.

Boeing has been evaluating the potential remediation of PCBs in paint (and concrete) by using a dechlorination topical agent as an alternative to traditional paint removal by stripping. The pilot test began in October 2011, and testing locations coincide with paint samples collected from the large tanks near the southeast corner of Building 3-334 and from the siding of Building 3-322. Initial results indicated that PCB concentrations were reduced by this method, but not to optimal levels. Testing is ongoing, but the process may not be more effective than traditional paint stripping.

Assessment of PCB-containing paint at the NBF property is expected to continue for areas throughout the Site. Currently, sampling efforts are addressing paint at the Wind Tunnel area and overhead utilities. This evaluation will aid further efforts to characterize paint for abatement activities (Landau 2011i [N0010]). According to Boeing's plans, paint abatement will continue for locations with a total PCB concentration of 50 mg/kg or greater, and at locations where PCBs at lower concentrations are present in paint that is in poor condition. Paint abatement activities are expected to be performed over a multi-year period (Landau 2011g [6294]; Landau 2011h,i [N0009, N0010]).

Summary of Data Gaps for Paint

Paint may form a significant contribution to the Site COPCs (especially PCBs) within SD solids (SAIC 2011b [6143]). Boeing has been sampling and evaluating paint at the Site; however, based on documents and data received and reviewed to date, only the north lateral drainage area and Building 3-818 in the south lateral drainage area have been sampled to any significant extent. A minimal number (20) of paint samples were collected in remaining drainage areas. Although a modest amount of sampling and remediation of contaminated paint has taken place since 2010, a few data gaps remain. For paint investigations, the following data gaps have been identified.

Paint on bollards in the north-lateral drainage area contained the greatest concentrations of PCBs compared to paint from other locations. Where detected, paint on fire hydrants also contained significantly elevated concentration of PCBs. As such, paint samples from bollards and fire hydrants should be collected throughout the NBF property.

Elevated concentrations of PCBs have been confirmed in paint samples from building siding at the NBF property. Although the federal ban on PCBs took place in 1980, paint should be sampled on all buildings built or renovated prior to approximately 1990 because PCB-bearing paint may have been stockpiled by contractors and used later than 1980 at the NBF property. For example, Building 3-326 was renovated in 1984, but PCBs were identified at concentrations up to 2,300 mg/kg in paint samples collected from this building.

Some paint samples from other equipment and structures contain elevated concentrations of PCBs, yet paint sampling from these locations is limited and does not clearly define a trend for PCBs in location type (railings, tanks, etc.) or paint color. Paint should be sampled for location types previously identified as containing PCBs in the *2010 North Lateral Storm Drain System Evaluation of Potential Sources* (Landau 2010d [6101]).

Paved ground surfaces at the NBF property, like other commercial properties, are painted to direct traffic flow, parking, and to designate specialized areas. Flaking and peeling of paint on pavement is common and may represent a significant source of PCBs and other COPCs to the storm drain system, yet this paint has not been sampled. Paint on pavement should be sampled, and paint characteristics such as condition and color should be recorded to identify trends.

Based on results of paint sampling during the past two years, paint samples should be collected throughout the Site, and Boeing has begun expanding the paint investigations beyond the north lateral area. While some of these analytical data were available for evaluation, a report summarizing these data was not received in time for incorporation into this Work Plan.

Paint chip sampling data collected during and following the 2011 to 2012 interim actions (including PCB-bearing paint abatement activities) at NBF will be reviewed as part of the RI after validated data are received. Evaluation of data will involve comparing the remaining paint chip sample concentrations to the RISLs and the adjacent storm drain solids data. Following review of these data, additional investigation activities may be proposed in order to determine source areas and meet the RI goals.

Details regarding future paint sampling plans (i.e. sampling locations and surface descriptions) and interim actions have not been made available as of January 31, 2012. Final decisions for paint sampling in future RI Work Plan scoping will be determined when this information becomes available for review.

In Section 7.3.4, following further description of other media, an evaluation is made of all anthropogenic media combined, and is related to storm drain solids concentrations of COPCs. Specific recommendations for RI scoped activities are made in that section.

7.3.1.1 Roof Materials Investigations

Roof materials, defined in this Work Plan as any material located on or above a roof top, with the exception of paint, were sampled during the *2010 North Lateral Storm Drain Evaluation of Potential Sources* (Landau 2010d [6101]). Sampling was limited to the north lateral drainage area, where a total of 13 samples were collected and analyzed for total PCBs and metals. PCBs were detected in only two samples, located on the roofs of Building 3-350 (11.6 mg/kg) and Building 3-368 (0.92 mg/kg).

Elevated levels of metals were detected in two samples of caulking material on the roofs of Buildings 3-315 and 3-350. Cadmium was detected at a concentration of 106 mg/kg in a caulk sample. Mercury was detected at a concentration of 14 mg/kg in the caulk sample that also contained the highest concentration of PCBs (11.6 mg/kg). Arsenic, cadmium, chromium, lead, and zinc were also detected above respective RISLs in samples of black coating material found on roof tops of multiple buildings. Roof material sampling locations and concentrations of PCBs are presented in Figure 7.3-2. RISL exceedances for COPCs of roof materials are presented in Table 7.3-3.

Summary of Data Gaps for Roof Materials

As roofing materials weather and erode, fragments may enter the storm drain system by way of roof drains or down spouts. Roofing materials (caulking in particular) have been shown to contain COPCs; however, the significance of roofing materials to contribute contaminants in storm drain solids is difficult to determine because many sample results had elevated detection limits and the dataset consisted of only 13 samples total. Many samples had detection limits of approximately 0.8 mg/kg, which apparently is a function of the matrix difficulties in the analytical process; it is unclear if this problem is resolvable. In order to better evaluate the impact of roof materials to the storm drain system, additional samples of roof materials, roof surface debris, or down spout solids should be collected for analysis and characterized.

7.3.1.2 Other Exterior Materials Investigations and Remediation

Sampling of other exterior materials (including caulking) on building sides and other structures was conducted during the *2010 North Lateral Storm Drain Evaluation of Potential Sources* (Landau 2010d [6101]). A total of 20 material samples were collected in the north lateral drainage area. Samples of caulk were collected from 10 locations, and the remaining 10 samples of other exterior materials included piping accessories, foam, rubber, and concrete walls from buildings and other structures. Samples were analyzed for total PCBs and/or metals. In addition, 17 wipe samples from building siding and equipment surfaces were collected during this investigation. Exterior materials sampling locations and concentrations of PCBs, excluding wipe samples, are presented in Figure 7.3-2. RISL exceedances for COPCs of other exterior materials are presented in Table 7.3-4.

PCBs were detected in four samples of other exterior materials from Buildings 3-315 and 3-326. Analytical data for two samples indicated highly elevated PCB concentrations (14,000 and 15,800 mg/kg). Both samples originated from Building 3-326; materials sampled consisted of window seal caulk and black foam squares at the base of the building. Material at these two locations was removed in November 2010 under TSCA regulation (Landau 2010k [6134]). Detected PCB concentrations for the remaining two samples were 1.1 and 9.8 mg/kg. PCBs were below reporting limits in all wipe samples.

Elevated levels of mercury were detected in two samples of other exterior materials on Building 3-326. The concentrations of mercury for these samples are 17 and 40.8 mg/kg; the RISL for mercury is 0.41 mg/kg. Sample material consisted of wrap/tape on piping and window seal caulk. The window seal caulk was removed based on its PCB concentration as described above. In addition, mercury exceeded the RISL in a caulk sample collected from Building 3-368.

Summary of Data Gaps for Other Exterior Materials

Only one sample of window seal caulking material was collected at Building 3-326. A total of five window seals were sampled for the entire north lateral drainage area. Representative sampling is recommended for caulk on all windows and doors at Building 3-326. Representative sampling of caulking material is recommended for buildings throughout NBF built or renovated prior to approximately 1990, as stockpiles of PCB-bearing materials may have been used after the ban on PCBs in 1980.

The sample of black foam squares from Building 3-326 was collected from the base of the building. The function of the foam squares was not described in the data report. PCBs were not detected in similar foam-like samples collected from Building 3-326. Where present, black foam squares from other buildings should be surveyed and sampled as they were collected only from Building 3-326.

Galbestos siding was identified on Building 3-626 while sampling peeling paint in July 2010; Boeing plans on sampling this material for PCB analysis. Galbestos may be present on other buildings at the NBF property. In 1998, the USEPA categorized Galbestos as a non-liquid PCB (M.L. Press 2007). In addition to PCBs, this material may represent a significant source of zinc, lead, and copper to the storm drain system. Buildings at NBF should be inspected for the presence of Galbestos siding and analyzed to determine if this material is a source of contaminants to the NBF storm drain system. .

7.3.2 Investigation of Contaminated Concrete Joint Material

CJM investigations and information were described at length in the Infiltration and Inflow Assessment Report (SAIC 2011b [6143]). CJM, also referred to as caulk, has been identified as a potential source of PCBs to the NBF storm drain system. Primary or residual CJM and adjacent contaminated concrete may represent a significant source of PCBs to the storm drain system and ultimately to Slip 4 and LDW sediments. Although caulk is known at other sites to contain polychlorinated terphenyls (PCTs), phthalates, PAHs, mercury, lead, and zinc (Chrostowski 2009 [6120]), these contaminants have never been analyzed for in NBF CJM samples.

7.3.2.1 CJM Investigations and Remediation

A number of environmental investigations and removal/replacement of CJM have taken place at NBF, as summarized below. During these activities, PCBs in CJM samples have been detected at concentrations exceeding the RISL (1.0 mg/kg total PCBs) or even the TSCA cleanup level being used by Boeing (50 mg/kg) in various portions of the Site. Sampling locations of CJM for all known locations, as well as concentrations of PCBs, are presented in Figure 7.3-3. In this figure, a black dot inside the location symbol indicates that CJM at that sampling location has since been removed by Boeing during CJM replacement. Table 7.3-5 presents sampling data for all results that exceed the RISL.

In 2001, Boeing estimated that approximately 500 linear feet of concrete joints contained “primary” CJM with PCBs at concentrations greater than 50 mg/kg, which is the TSCA action level for total PCBs. Boeing also indicated that an additional 57,000 linear feet of concrete joints with “residual” CJM of the same type (i.e., containing PCBs above 50 mg/kg) were identified. Residual CJM consists of fragments of caulk material not removed during episodes of past maintenance or re-caulking activities.

In 2000 and 2001, Boeing and Landau Associates mapped the distribution of CJM types and collected samples for PCB analysis (Landau 2001 [1171]). Samples were collected in November 2000, April 2001, and June–July 2001. Results showed PCB concentrations ranging from non-detected up to 79,000 mg/kg. The principal PCB Aroclor found in these CJM samples was Aroclor 1254, and to a lesser extent Aroclor 1260, and rarely Aroclor 1248. The locations of higher concentrations were in the central flightline area (generally east of Building 3-800) and in the areas northwest and northeast of Building 3-390 (Figure 7.3-3).

Removal of PCB-containing CJM was then conducted in phases between 2002 and 2006, in the central and northern flightline areas, as follows (Landau 2007a [2896]):

- 2002 (August): 900 linear feet of primary CJM and some residual CJM
- 2003 (July to September): 16,225 linear feet of residual CJM
- 2004 (June to October): 30,500 linear feet of residual CJM
- 2005 (June to October): 36,650 linear feet of residual CJM, plus 4,000 linear feet of joint material used to fill cracks in the concrete
- 2006 (May): 1,450 linear feet of primary and residual CJM

Removal and replacement of caulk extended to a depth of approximately ¾ inch (Boeing 2001 [6051]), below which is a joint backer rod. Altogether, an estimated 89,000 linear feet of CJM were removed and replaced at NBF between 2002 and 2006.

In December 2006, Boeing collected five samples of newer CJM that had recently replaced the former PCB-containing caulk at NBF. This new CJM contained PCBs at concentrations ranging from non-detect to 370 mg/kg (Bach 2007 [0339]; Landau 2007a [2896]). Based on similar conditions investigated at the Boeing Everett facility, it was recognized that PCBs originating from the former contaminated CJM had previously migrated into portions of the concrete panels in the immediate area of the joints, and recent desorption of PCBs from this contaminated concrete into the new CJM had resulted in detections of PCBs (SAIC 2009b [6078]; Landau 2011b [8279]). The extent or severity of this problem is unknown and may be limited to areas of concrete previously contaminated with significant levels of PCBs in CJM; concentrations may depend on the timing of CJM replacement.

The City of Seattle (with Integral Consulting) sampled remnant CJM at NBF in September 2008. Samples were collected from five locations where thin zones of caulk remained on the margins of CJM seams due to previously incomplete caulk removal at those locations. These samples thus were not representative of the full seam width. PCB concentrations in these five samples ranged from 0.67 to 2,200 mg/kg (Exponent 2009 [6145]; Thomas 2010 [6147]).

Between August and October 2010, CJM removal activities were conducted in and near the PEL area, largely within the north lateral drainage area. All CJM material was removed that had not been removed during the 2002 to 2006 CJM removal efforts, but excluding all concrete areas documented to have been installed after 1980. No CJM samples were collected prior to or after removal. Approximately 3,900 linear feet of CJM were removed from this area (Landau 2010g [6129]).

In 2010, additional sampling of CJM for PCB analysis was conducted by Landau for Boeing (Landau 2011b [8279]). A total of 131 CJM samples were collected throughout the NBF flightline area in September and October 2010. Concentrations were detected in 49 samples, ranging up to 1,200 mg/kg PCBs. Two values above 50 mg/kg (730 and 1,200 mg/kg) were located in the east-central flightline area, to the east and northeast of Building 3-800. As part of this investigation, Landau also collected colocated samples of CJM and storm drain inlet filter solids, in order to compare PCB concentrations. A moderate correlation trend is apparent, suggesting that CJM may form at least a modest component of PCBs in storm drain solids, although other unidentified sources cannot be ruled out.

As a result of the two significant concentrations identified in the 2010 investigation, Landau collected 90 additional CJM samples in the northern half of the flightline area in May 2011. An additional 62 CJM samples were collected in the central flightline area in June and July 2011, in support of concrete pad replacement. Of these 152 total samples, PCBs were identified in 68 samples. Six of the 152 samples contained concentrations greater than 50 mg/kg, ranging up to 26,000 mg/kg PCBs (highest value in sample CJM-248 located east of Building 3-800). The next higher values were 2,300 and 130 mg/kg, located east of Building 3-380. The principal PCB Aroclor found in these CJM samples was Aroclor 1254, and to a lesser extent, Aroclor 1260 (Landau 2011f [N0019]).

Based on 2010–2011 analytical results, as well as the 2006 and 2008 results, Boeing removed CJM in eight separate areas in August and September 2011 (shown in Figure 7.3-3). Seven areas were located in the central flightline area and one area was located east of Building 3-380. Each area contained one or more samples with PCB concentrations of at least 50 mg/kg. Five of these eight removal areas were located in areas where CJM had been previously removed. A total of approximately 5,725 linear feet of CJM were removed in 2011 (Landau 2011j [N0011]).

The full areas where CJM was previously removed consist of a corridor extending generally northward through the middle and eastern side of the flightline area northeast of Buildings 3-825, 3-818, 3-800 and 3-390, then turning westward and extending toward Building 3-350. Other small removal areas are located on the northwest sides of Buildings 3-390, in scattered locations within the PEL area, and near former Building 3-361. According to Boeing reports, virtually all CJM within these broad removal zones was removed and replaced, regardless of concentration or field designation (Landau 2007a [2896]).

CJM removal at NBF has focused on the TSCA cleanup level of 50 mg/kg for total PCBs. Ecology does not consider the USEPA TSCA action level of 50 mg/kg for removal of PCBs to be adequate to prevent Slip 4 recontamination, due to the potential transport of contaminated solid materials (including CJM) through the storm drain system to Slip 4. Ecology recognizes that the lowest reliably attainable reporting limit (which is essentially the same as the detection limit) for PCBs in caulk and some other building materials is approximately 0.8 mg/kg, due to preparation and interference concerns, and thus a CJM RISL of 1.0 mg/kg has been established (see Landau 2010g [6129]).

All currently identified areas with CJM concentrations of total PCBs equal to or greater than 50 mg/kg have been removed at NBF. Of the CJM samples included in the project database, seven samples that range from 25 to 49 mg/kg PCBs are located in areas where CJM has not been previously removed; and 28 samples that range from 10 to 24 mg/kg are located in areas where CJM has not been removed. Numerous sample results also range between 1 and 10 mg/kg PCBs, including many non-detected values.

Samples of CJM (in unremoved areas) with concentrations in the lower ranges (1 to 10 mg/kg, and to a lesser extent 10 to 25 mg/kg) tend to occur in scattered locations over large areas at the Site. Samples ranging from 25 to 49 tend to be more isolated and located near areas that historically have measured significant concentrations of PCBs (e.g., greater than 1,000 mg/kg). These include the concourse area north of the northern end of Building 3-390 and the area east of Building 3-350.

In this Work Plan, historical PCB concentrations in removed CJM were included because these locations may include caulk left behind in the removal process or may be an indicator of PCB recontamination due to the concrete desorption process. Thus, very high concentrations in the past may correspond to high concentrations now.

7.3.2.2 Summary of Data Gaps for CJM

Although a significant amount of sampling and remediation of contaminated CJM has taken place in recent years, a few data gaps remain. For CJM investigations, the following data gaps have been identified.

Areas where CJM sample results are less than 50 mg/kg total PCBs but values approach this number (such as 25 to 49 mg/kg) should be tested in adjacent segments of CJM. This would apply to those areas where CJM was not replaced in 2011 (Figure 7.3-3). Given the variability of PCB results laterally, there may be nearby areas where CJM exceeds 50 mg/kg that have not been recently investigated. Furthermore, although the TSCA value of 50 mg/kg is a USEPA regulatory criterion, Ecology does not accept this as being protective of transport of contaminated CJM through the storm drain system and eventually to Slip 4. Thus, an evaluation of CJM in the vicinity of samples with PCB concentrations in the range of approximately 25 to 49 mg/kg is warranted. As mentioned above, this includes areas north of Building 3-390 and east of Building 3-350.

Areas of CJM that have been analyzed in the past with significant concentrations of PCBs (greater than 1,000 mg/kg) have the potential to contaminate adjacent concrete and resorb back into the newly replaced CJM. In areas with concentrations in this range, as measured in 2000 and 2001, and where subsequent resampling has not occurred or removal in 2011 did not take place, additional sampling is warranted to determine if significant concentrations remain in CJM.

A large number of samples have been collected for CJM analysis at NBF, mainly in the flightline areas. However, one area that has a low density of sampling is a portion of the flightline area northeast of the middle of Building 3-390, which warrants further sampling especially in areas that were not removed in 2001 to 2006.

Although investigations at other sites in the country have shown that CJM contains COPCs beyond PCBs (Chrostowski 2009 [6120]), only PCBs have been tested in NBF caulk. A representative number of samples in areas of concern mentioned above (areas not recently replaced) should be tested for these other analytes, including PAHs, phthalates, mercury, lead, and zinc.

In Section 7.3.4, following further description of other media, an evaluation is made of all anthropogenic media combined, and related to storm drain solids concentrations of COPCs. Specific recommendations for RI scoped activities are made in that section.

7.3.3 Investigation of Contaminated Pavement and Surface Debris

Ground surface materials include pavement (asphalt and concrete) and surface debris overlying the pavement. Surface debris represents a mixture of eroded pavement, fragments of CJM, paint chips, and other miscellaneous materials deposited on the ground surface, including down spout solids. Surface materials have been identified as potential sources of PCBs and metals to the NBF storm drain system and could impact Slip 4 sediments and the LDW. Pavement at NBF has also been found to contain PCBs. Due to the non-homogeneous nature of surface debris, COPCs in surface debris are difficult to predict; however, this material may represent a source of PCBs, metals, cPAHs and other COPCs.

7.3.3.1 Pavement and Surface Debris Investigations and Remediation

This section will focus on the history of surface materials investigations and remediation with regard to PCBs. All other COPCs (metals and cPAHs) are discussed as part of the multi-media evaluation in Section 7.3.4. Table 7.3-1 provides an analytical summary of COPCs in anthropogenic media. Analytical data exceeding RISLs are presented in Tables 7.3-6 (pavement) and 7.3-7 (surface debris).

The majority of pavement and surface debris sampling has been conducted in the north lateral drainage area. Limited location-specific sampling of surface debris has been conducted in the parking lot drainage area. Pavement and surface debris from the north lateral drainage area were analyzed for PCBs and/or metals. Surface debris samples in the parking lot area were also analyzed for cPAHs. Sampling locations and concentrations of PCBs are presented in Figure 7.3-4 (pavement) and Figure 7.3-5 (surface debris). In these figures, a black dot inside the location symbol indicates that material at that sampling location has since been removed by Boeing during excavation and/or repaving activities.

In 2009, Boeing conducted an investigation of storm drain solids sources that included sampling asphalt and surface debris near Building 3-322 (Bach 2009b [4160]). A total of 30 surface debris samples and 6 asphalt samples were collected for PCB analysis. PCBs were detected in all asphalt samples and 23 surface debris samples, with maximum detections of 380 and 557 mg/kg, respectively. The principal Aroclor found in these samples was Aroclor 1254, and to a lesser extent, Aroclors 1260 and 1248.

Surface cleaning and asphalt replacement were conducted by Boeing in the spring of 2010 for locations identified in the 2009 investigation, under regulation of TSCA (containing greater than 50 mg/kg PCBs) and MTCA (containing between 0.5 and 50 mg/kg PCBs) (Landau 2010a [6076]). Lateral limits of surface cleaning encompass much of the area surrounding Buildings 3-323, 3-334, and 3-322. Asphalt removal was conducted in areas between and south of Buildings 3-302 and 3-322. Although much of the asphalt between Buildings 3-302 and 3-322 was removed, PCB-impacted asphalt is still present in this area. Remaining confirmation samples from the edges of the TSCA excavation near Building 3-322 detected PCBs in four of the five asphalt samples, ranging from 3.8 to 7.5 mg/kg (see Section 7.3.4.2).

Along with other media, 16 pavement and 25 surface debris samples were collected in the north lateral drainage area in the summer of 2010. Sample locations were based on PCB and metal concentrations in storm drain solids collected in March and April, in combination with visual inspection of pavement staining and the potential for surface debris to transport to the storm drain system (Landau 2010d [6101]). PCBs were detected in 10 pavement samples and 19 surface debris samples, with maximum PCB concentrations of 1.09 and 15 mg/kg, respectively. The principal Aroclor in these samples was Aroclor 1254. Sample locations and PCB concentrations are presented in Figures 7.3-4 and 7.3-5.

Additional surface debris samples were collected by SAIC near trench drains in the parking lot drainage area in July 2010. PCBs were detected in each of the six samples, with a maximum concentration of 0.34 mg/kg. The principal Aroclors in these samples were Aroclor 1260 and Aroclor 1254, and to a lesser degree Aroclor 1248. These samples are the only anthropogenic media onsite that have been analyzed for cPAHs, which were detected in all six samples.

Boeing conducts frequent mechanical sweeping (using regenerative air-type street sweepers) in the flightline area to remove surface debris from pavement. Sweeping activity in the plane stalls occurs when stalls are not occupied by aircraft. Scheduling is arranged so that each stall is typically swept at least once per week. Other areas of NBF that are not used by aircraft, including the PEL area, are swept irregularly, depending on need and access. Combined waste from this sweeping activity is sampled prior to disposal, approximately on a semi-annual basis. However, these represent composite samples collected from a very large area. PCB analytical results from this mechanical sweeping are presented in the table below, to show the overall average concentrations of surface debris from the flightline areas, which is disposed at the sweeper decant station (Building 3-341).

PCB Analytical Data for Mechanical Sweeping Waste Analyses

Sample Date	Aroclor 1254 (mg/kg DW)	Aroclor 1260/1262 (mg/kg DW)	Total PCBs (mg/kg DW)
12/16/2005	2.5	< 0.31	2.5
3/28/2007	0.38	0.89	1.3
6/11/2008	0.38	0.23	0.61
6/24/2009	< 0.36	0.72	0.72
6/8/2010	< 0.46	< 0.46	ND

DW Dry weight ND Non-detect

Identified areas of pavement and surface debris with concentrations of total PCBs equal to or greater than 50 mg/kg were removed by Boeing in 2010. Of the pavement and surface debris that were not removed at sample locations, PCB concentrations range from 0.045 to 14 mg/kg in pavement and 0.041 to 15 mg/kg in surface debris (Landau 2010a [6076]).

In addition to the regular mechanical sweeping, during the latter half of 2011 Boeing performed manual removal of surface debris accumulated in areas that could not be accessed by the sweeper trucks. This was primarily conducted in areas along the blast fences, but also in other areas where physical limitations prevented access by the sweeper trucks (Landau 2011k [N0012]).

7.3.3.2 Summary of Data Gaps for Pavement and Surface Debris

With a total of 27 pavement samples collected solely in the north lateral drainage area, data for this medium are limited. Areas could be sampled where visual inspection indicates potential contamination (staining) of pavement related to current or former equipment.

Samples of surface solid debris should be collected in areas where storm drain solids sample results have identified relatively elevated concentrations of COPCs, and the sources are not well recognized. Use of surface solid debris will serve as source tracing in these locations, but will depend on the presence and sampleable amounts of the solid debris at those locations. For problem areas with unknown sources, sample material should also be used for visual examination to aid in potentially determining material types and potential specific sources.

7.3.4 Evaluation of Contaminated Anthropogenic Materials by Location

Section 7.3.4 summarizes analytical data for all anthropogenic material in each drainage area, to aid in understanding impacts from these various materials into the storm drain system. This evaluation utilizes storm drain solids sample results, which serve to prioritize areas of the property that are of greater concern for inflow to the storm drain system. This process leads to proposed RI activities that are presented at the end of the sections below for each drainage area.

The previous sections (7.3.1 to 7.3.3) reviewed the sampling locations and PCB analytical results (concentrations) for each type of anthropogenic medium. Section 7.3.4 instead summarizes all identified COPCs for all media combined, within each drainage area. Concentration results are presented in terms of exceedance factor ranges (multiples of the RISLs), for each sample.

Exceedance factors (EFs) are applied instead of concentrations in order to compare all these media and COPCs on a generally similar basis with respect to exceedances. EFs are calculated by dividing the result concentration by the RISL. The following table lists the RISLs for COPCs.

RI Screening Levels for
Storm Drain Solids and Anthropogenic Media

Chemical	SD Solids	Building Materials	CJM	Pavement	Surface Debris
Total PCBs	0.038	0.13	1.0	0.13	0.038
Arsenic	7.3	57	--	NC	7.3
Cadmium	3.7	5.1	--	5.1	3.7
Chromium	35.6	260	--	NC	35.6
Copper	310	390	--	390	310
Lead	40	450	--	450	40
Mercury	0.41	0.41	--	0.41	0.41
Silver	6.1	6.1	--	NC	NC
Zinc	410	410	--	410	410
cPAHs	0.062	--	--	--	0.062

-- Not analyzed NC Not a COPC Concentrations all reported in mg/kg
Building Materials include paint, roof materials, and other exterior materials.

CJM at the Site has only been analyzed for PCBs to date. Dioxins/furans and SVOCs (such as phthalates) have not been analyzed in samples of anthropogenic media, with the exception of cPAHs. Carcinogenic PAHs have been analyzed in only a limited number of samples of surface debris collected from the parking lot drainage area. The cells in the table without RISL values reveal gaps in the screening process, because analytical data do not exist for use in determining COPCs for these media in future evaluation. When sampling and analysis eventually takes place for these media/chemicals, SLs will be developed for them. It is anticipated that SLs for CJM will apply the metals values from building materials, depending on the reporting limit capabilities of the analytical laboratory.

Figures within this section combine results of anthropogenic media and storm drain solids (Figures 7.3-6 to 7.3-15) for the six drainage areas. The analytical data utilized for storm drain solids include only the most recent result for any type of samples collected within a storm drain structure. This includes grab samples, sediment trap, and filtered solids samples collected between 2004 and April 2011, but does not include inlet filter solids. These EFs are presented on figures as colored Thiessen polygons surrounding each storm drain structure. These polygons are used as representations of localized drainage areas around each storm drain structure and for sample locations of other media, with the recognition that they are only approximations of the actual local drainage, and that some structures may have a very limited capture zone around them. To account for these assumptions, the upstream/ downstream and adjacent polygons are also considered, by inspection of general contaminant distribution in figures, and this is incorporated into the RI proposed activities.

Throughout Section 7.3.4, exceedance factor severity will be discussed by categorization into color ranges that are numerically distinct for organic chemicals and metals, as depicted in the table below. Due to the large number of sampling locations and COPCs, and in order to prioritize areas of concern and investigations, this evaluation will focus on the higher colored EF ranges, particularly orange and red (organics greater than 100 EF and metals greater than 25 EF). For some anthropogenic media samples, COPCs were not detected, but the laboratory reporting limit (RL) exceeded the RISL for that media. In these situations, the EF was calculated by dividing the RL by the RISL. In this Work Plan, these EFs are referred to as a "non-detected exceedance". On the tables and figures in this section, these EFs are flagged with '–N' to indicate that the COPC was not detected, but the RL exceeded the RISL.

Exceedance Factor Color Ranges for Storm Drain Solids and Anthropogenic Media

EF Color Range	PCBs and cPAHs	Metals
	Not sampled	Not sampled
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 – 10	> 1.0 – 5.0
(yellow)	> 10 – 100	> 5.0 – 25
(orange)	> 100 – 1,000	> 25 – 125
(red)	> 1,000	> 125

Tables within this section also combine results of anthropogenic media and storm drain solids for the six NBF drainage areas (Tables 7.3-8 to 7.3-13). These tables identify which sample locations have since undergone removal of contaminated media, either by paint abatement or CJM removal. In addition, embedded within the text are unnumbered tables that briefly summarize maximum results for concentration and/or EF for each anthropogenic media and COPC; these tables also indicate if these locations of maximum results have undergone removal. Colors in all tables correspond to EF ranges as shown above.

Tables 7.3-14 to 7.3-16 include summary listings of locations and numbers of samples to be collected, as related to anthropogenic media.

7.3.4.1 Georgetown Steam Plant Property

No known anthropogenic material samples have been collected from the exterior of the large GTSP building. However, by comparison to other buildings at NBF and in the Lower Duwamish basin, as well as the storm drain COPCs, the GTSP building exterior may contain contaminants that should be evaluated, including include PCBs, metals, PAHs, and phthalates.

RI Scoped Activities

In order to characterize potential contaminants of exterior materials from the GTSP building, proposed activities for the RI include collection of ten paint samples from the building, with approximately two each from north and south sides, and three each from east and west sides. This should be distributed to include different types or ages (layers) of paint, as determined based on a field evaluation. Analysis will include PCBs and metals for all samples, as well as PAHs and phthalates for four samples (one on each side), and dioxins/furans for two samples.

In addition, a total of four samples of rooftop surface debris will be collected on the powerhouse building in the vicinity of four different roof drain inlets. These samples will be collected to represent the roof materials that are mobile and potentially being conveyed directly to the storm drain system (the flume replacement line). Four separate samples will aid in identifying potential source areas of contamination on the roof. All samples will be analyzed for PCBs and metals, and two of the samples will be selected for PAHs and phthalates. These analytes were selected to include the principal COPCs for storm drain media, as recommended in Section 7.2. A summary of the proposed number of anthropogenic media samples is included in Table 7.3-14.

In addition, a single grab sample from the storm drain system downstream of the powerhouse will be collected, to characterize the overall storm drain solids transported from the roof drains through the replacement flume. This sample is planned to be collected at MH12, but the location depends on field access. As above, the sample will be analyzed for PCBs, metals, PAHs, phthalates, and dioxins/furans. Proposed storm drain samples that are based on anthropogenic media concerns are included in Table 7.3-16.

7.3.4.2 North Lateral Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RISLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-8 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the north lateral drainage area. Storm drain solids from 82 percent of storm drain structures that constitute this drainage area have been sampled at least once since 2004. In general, the highest PCBs and metals concentrations detected in storm drain solids at NBF have been in the north lateral storm drain structures (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media in this area. Media sampled in the north lateral drainage area include building materials (90 paint, 13 roof materials, and 20 other exterior materials samples) and ground surface materials (20 CJM, 27 pavement, and 54 surface debris samples). Samples were analyzed for PCBs and in some cases also metals.

In order to prioritize and focus on areas of greater concern in the six drainage areas at NBF, Tables 7.3-8 to 7.3-13 and the remainder of this section present concentrations and EFs under two conditions: (1) locations (Thiessen polygons) where storm drain solids analytical data are elevated, and (2) locations where anthropogenic media data are elevated but storm drain solids data are not elevated. The maximum concentration and EF for each COPC/media combination for the north lateral drainage area are summarized in the two tables below, split out by medium.

Chemicals in Building Materials Exceeding RI Screening Levels
North Lateral Drainage Area

Chemical	Paint Maximum Result		Roof Materials Maximum Result		Exterior Materials Maximum Result	
	Conc (mg/kg)	EF	Conc (mg/kg)	EF	Conc (mg/kg)	EF
Total PCBs	2,300 R (480)	18,000 R (3,700)	11.6	89	15,800 R (9.8)	120,000 R (75)
Arsenic	140	2.5	295	5.2	NE	NE
Cadmium	219	43	106	21	12.1	2.4
Chromium	35,600 R (23,300)	140 R (90)	307	1.2	NE	NE
Copper	2,950	7.6	NE	NE	74	≤ 1.0
Lead	69,800	160	844	1.9	NE	NE
Mercury	130	320	14	34	40.8 R (17)	100 R (41)
Silver	14	2.3	NE	NE	NE	NE
Zinc	123,000	300	9,070	22	21,100 R (13,900)	51 R (34)

Concentration and exceedance factor represent the maximum for each COPC and medium.
-- Not analyzed NE No exceedance of RI selected screening level Conc Concentration
R Removed material (#) Maximum value of in-situ samples (unremoved material)

Chemicals in Ground Surface Materials Exceeding RI Selected Screening Levels
North Lateral Drainage Area

Chemical	CJM Maximum Result		Pavement Maximum Result		Surface Debris Maximum Result	
	Conc (mg/kg)	EF	Conc (mg/kg)	EF	Conc (mg/kg)	EF
Total PCBs	35,000 R (49)	35,000 R (49)	380 R (14)	2,900 R (110)	557 R (15)	150,000 R (390)
Arsenic	--	--	NC	NC	80	11
Cadmium	--	--	31.9	6.3	33	8.9
Chromium	--	--	NC	NC	489	14
Copper	--	--	406	1.0	618	2.0
Lead	--	--	1,900	4.2	1,350	34
Mercury	--	--	1.25	3.0	9.8	24
Silver	--	--	NC	NC	NC	NC
Zinc	--	--	2,140	5.2	9,190	22

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
For locations sampled more than once, the most recent concentration was considered for this table.
-- Not analyzed Conc Concentration NC Analyzed but not a COPC R Removed material
(#) Maximum value of in-situ samples (unremoved material)

PCBs

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. The following text focuses on results of anthropogenic media samples in areas that have significantly elevated EFs for PCBs in samples from associated storm drain solids. Storm drain solids listed in the table below contained PCB concentrations in the orange to red EF ranges, which are thus greater than 100 times the RISL (storm drain solids EFs ranged up to 8,700). SD structures are listed in this table (and subsequent tables) whether or not anthropogenic samples were collected within the boundaries of the polygon.

Elevated PCB Exceedances in Storm Drain Solids Samples and Associated Anthropogenic Media Results North Lateral Drainage Area

SD Structure	Maximum EF					
	Paint	Roof Materials	Other Exterior Materials	CJM	Pavement	Surface Debris
CB147	45	7.1	6.2-N	≤ 1.0	NS	95-N
CB159	20	NS	NS	NS	NS	NS
CB165	NS	NS	NS	NS	NS	NS
CB185	NS	NS	6.1-N	NS	NS	790 R
CB187A	93 R	NS	NS	NS	57	950 R
CB192	NS	NS	6.1-N	NS	NS	NS
CB193	210	NS	NS	NS	≤ 1.0	35
Former CB184	1,200	NS	NS	160 R	180 R	4,200 R
Former CB184B	750	NS	NS	NS	≤ 1.0	55 R
Former CB191	1,900	NS	NS	270 R	2,900	15,000 R
MH108	NS	NS	NS	NS	NS	NS
MH130	NS	NS	NS	NS	NS	NS
MH138	NS	NS	5.8-N	NS	NS	NS
MH166A	1,000	NS	NS	NS	NS	NS
MH169	6.2-N	NS	NS	NS	NS	NS
MH178	NS	NS	NS	NS	NS	NS
MH179	NS	NS	NS	NS	NS	≤ 1.0-N
MH179B	NS	NS	NS	NS	NS	NS
MH181A	49	NS	NS	≤ 1.0	NS	29 R
MH187	NS	NS	NS	NS	NS	NS
MH193	1,000	NS	NS	NS	NS	NS
MH652	130	NS	NS	NS	NS	NS
OWS612-2	NS	NS	NS	NS	NS	NS
UNKCB19	NS	28-N	NS	NS	NS	NS

For locations sampled more than once, the most recent concentration was considered for this table.
-N Maximum EF is non-detected NS Not sampled R Removed material

A number of sample locations shown in this table contained anthropogenic media with significantly elevated maximum EF values. The most notable exceedances in the above table include results for paint, CJM, pavement, and surface debris associated with former structures CB191 and CB184, which contained PCB concentrations in the red EF range, up to 15,000 (material at this location has since been removed). PCBs in paint samples from a few other locations also yielded elevated EFs up to 1,900. Note that virtually all CJM that has been identified at greater than 50 mg/kg (EF 50) has been removed by Boeing. Paint is also in the process of being removed where identified greater than 50 mg/kg (EF 385).

Former catch basin CB191 was partially excavated and abandoned in place in 2010. In addition, former catch basins CB184 and CB184B were replaced by CB184C and CB184D, respectively. The material surrounding these structures and adjacent lines were removed, including pavement. Results for these abandoned storm drain structures are included for historical purposes as they relate to potential ongoing sources, and because replacement structures do not have associated storm drain solid results.

Based on general EF distribution in the above table and on figures, the anthropogenic exceedances show a generally strong correlation to storm drain solids exceedances, indicating that these contaminated media are impacting local storm drain structures via inflow. Some of the anthropogenic materials, particularly paint in the general area between the Wind Tunnel and Building 3-323, have elevated concentrations of PCBs that often contain Aroclor 1248. This Aroclor is also unusually elevated (about half the total PCB concentration) in filtered solids samples from CB173, which is located downstream of this portion of the PEL area (SAIC 2012 [N0014]). Some of the contaminated anthropogenic materials in this area and other portions of the PEL area have since been removed or are planned for removal; locations that are known to be removed as of fall 2011 are identified in Figures 7.3-6 to 7.3-15 and in Table 7.3-8.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

In addition to those locations discussed above with elevated exceedance levels in storm drain solids results, anthropogenic media samples collected from within 13 additional drainage areas indicated PCB concentrations in the orange or red EF ranges for at least one of these anthropogenic media (see table below). The majority of orange and red range EF values were identified in paint and other exterior materials, with less notable exceedances for CJM and surface debris. At the locations with red or orange EF ranges, six associated storm drain solids samples show yellow EF ranges and five storm drain locations have not been sampled for solids. As a result, conclusions about inflow impacts to storm drain solids cannot be made.

Elevated PCB Exceedances in Anthropogenic Media Samples and Associated Storm Drain Solids Results
North Lateral Drainage Area

Associated SD Structure	Maximum EF					
	Paint	Roof Materials	Other Exterior Materials	CJM	Pavement	Surface Debris
CB113	NS	NS	NS	35,000 R	NS	NS
CB114	130	89	NS	NS	NS	NS
CB118A	350	NS	NS	NS	NS	NS
CB142C	13,000 R	NS	NS	NS	≤ 1.0	5.5
CB150	18,000 R	6.1-N	6.1-N	NS	8.4	≤ 1.0-N
CB162	NS	NS	6.2-N	NS	NS	290
CB174	170	NS	19-N	NS	NS	NS
CB174A	200	NS	NS	NS	NS	NS
CB188A	6.2-N	12-N	110,000 R	NS	NS	NS
CB189A	6-N	NS	120-N	NS	NS	5.5
MH172	5,800 R	NS	NS	NS	NS	NS
UNKCB23	430	NS	NS	NS	NS	19
UNKMH10	NS	NS	120,000 R	NS	NS	260

For locations sampled more than once, the most recent concentration was considered for this table.
-N Maximum EF is non-detected NS (or uncolored SD cell) Not sampled
R Removed material

Overall, sample results for PCBs in anthropogenic media (shown in tables and figures) suggest a moderate to strong correlation and impact to storm drain solids in the north lateral drainage area.

Metals

<u>**Anthropogenic Media in Areas with Elevated EFs in SD Solids**</u>

Metals results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. Source tracing conducted by Boeing in 2010 and 2011 indicated that arsenic, chromium, and copper were detected at low EF ranges (blue to yellow) in anthropogenic media collected in the north lateral drainage area (Figures 7.3-7, 7.3-8, and 7.3-10). Therefore, these COPCs are considered as a lower priority and are not discussed further in this section.

Concentrations of cadmium, lead, mercury, silver, and/or zinc corresponded to the orange and red EF ranges (up to 420 EF) for the 14 storm drain structures listed in the table below in the column labeled “SDS”. The maximum EFs for anthropogenic media are provided for samples collected near these storm drain structures in the column labeled “AM”. EFs for storm drain solids with low ranges (blue to yellow EF ranges) for some metals are also provided for completeness.

Elevated Metals Exceedances in SD Solids Samples and Associated Anthropogenic Media Results North Lateral Drainage Area

SD Structure	Medium	Maximum EF									
		Cadmium		Lead		Mercury		Silver		Zinc	
		SDS	AM	SDS	AM	SDS	AM	SDS	AM	SDS	AM
CB136	All					93	NS				
CB141	Paint			4.0	69	26	1.8				
CB142B	Debris					63	≤ 1.0				
CB147	Debris			31	7.5						
CB165	All					30	NS	26	NS		
CB181B	All									51	NS
CB185	All					48	NS				
D153B	All	29	NS							29	NS
D153C	All									56	NS
MH133D	All	28	NS								
MH178	All					36	NS				
MH651	All					150	NS				
MH652	Paint			31	450-N	420	9.8				
OWS109A	All	27	NS								

Empty cells indicate EF ranges of yellow or below for all media sampled.
SDS Storm drain solids AM Anthropogenic media -N Maximum EF is non-detected NS Not sampled

As presented in the figures, storm drain structures with highly elevated EF ranges (orange and red) for metals are located near Buildings 3-315, 3-303, 3-323, 3-332, 3-350, 3-353, the Fuel Test area, the Wind Tunnel area, and the sweeper decant station.

Anthropogenic media samples were collected near 4 of these 14 storm drain structures. Where storm drain solids results were elevated for a metal COPC, EF ranges for anthropogenic media were low (green to yellow) or did not exceed the RISL (blue), with the exception of one non-detected lead exceedance for a paint sample collected near MH652.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

For anthropogenic media near SD structures with low (green or yellow) EF ranges, the metals cadmium, chromium, lead, mercury, and/or zinc were elevated (orange and red) in 35 samples of anthropogenic media collected from the north lateral drainage area. One of these samples has since been removed. The table below summarizes maximum EFs for sample locations where at least one of the COPC metals contains elevated EFs (red or orange) in anthropogenic media. The maximum elevated exceedances of the RISLs were most commonly detected in samples of paint, and were most prevalent for lead, mercury, and zinc. As shown in this table, the maximum concentrations of metals exceeded RISLs by factors ranging up to 320 (or 450 non-detected). Arsenic, copper, and silver exceeded RISLs to a lesser degree (EF up to 25, yellow). Therefore, these COPCs are considered as a lower priority and are not discussed further in this section.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results North Lateral Drainage Area

Associated SD Structure	Medium	Maximum EF									
		Cadmium		Chromium		Lead		Mercury		Zinc	
		SDS	AM	SDS	AM	SDS	AM	SDS	AM	SDS	AM
CB114	Paint					3.7	48	≤ 1.0	68	1.9	45
CB117	Paint									7.7	73
CB118E	Paint					4.3	28	≤ 1.0	49	3.0	43
CB133B	Paint					3.3	37				
CB135	Paint			3.2	110 R	7.5	49			3.9	82
CB141	Paint			1.9	41	4.0	69	26	1.8		
CB142	Paint					8.4	30				
CB142A	OEM									12	34
CB142C	Paint			5.4	140 R	8.9	130 R				
CB147	Paint							17	120	12	300
CB149	Paint			3.0	78	15	96	≤ 1.0	84	2.9	30
CB150	Paint			2.9	34	6.1	40			2.2	70
CB174	Paint			5.1	29	7.2	73			4.7	43
CB174A	Paint							≤ 1.0	61		
Former CB184	Paint							3.9	90		
Former CB184B	Paint					4.2	26	1.2	56	5.6	48
CB187A	Paint	NS	30 R			NS	34				
CB188A	OEM							NS	100 R		
CB189A	Paint							NS	31		
Former CB191	Paint							NS	320		
CB193	Paint					NS	60				
CB194	Paint			2.8	61	2.5	140				
CB195	Paint					1.7	33				
CB196	Paint									1.5	31
MH106A	Paint							NS	41		
MH160	Paint	NS	43								
MH166A	Paint									NS	83
MH169	Paint			NS	68	NS	80				
MH172	Paint			≤ 1.0	110 R	≤ 1.0	120				
MH181A	Paint							≤ 1.0	100		
MH193	Paint					NS	27				
MH652	Paint					31	450-N	420	9.8		
UNKCB9	Paint									1.8	32
UNKMH10	Paint									3.8	51
UNKCB23	Paint			NS	29						

Empty cells indicate EF ranges of yellow or below for all media sampled.
AM Anthropogenic media SDS Storm drain solids -N Non-detected maximum EF NS Not sampled
OEM Other exterior materials R Removed material

For the source tracing sampling conducted by Boeing in 2010 and 2011, results correspond to orange and red EF ranges for chromium, lead, mercury, and/or zinc for 45 samples of paint, one of roof materials, five of other exterior materials, and one of surface debris. Of these 52 total sample locations, 38 locations correspond to nearby storm drain structures where storm drain solids data are available. EF ranges for storm drain solids samples were generally one to two color ranges lower than their corresponding anthropogenic media samples. Storm drain solids results did not exceed the RISLs for metals at six locations where nearby anthropogenic media results showed elevated concentrations. Specific metals results are summarized below.

Cadmium. An EF range of orange was identified for cadmium from two paint samples in the north lateral drainage area, from equipment and structures near Buildings 3-322 and 3-626 (Figure 7.3-8). Manholes MH187 and MH160, near the location of these samples, have not been sampled. In the vicinity of samples near Building 3-322, paint was removed by Boeing in 2010 due to PCB concentrations in paint samples).

Chromium. EFs for chromium in paint samples ranged up to 140. Samples of paint were collected from bollards, piping materials, a shed roof, and other equipment (Figure 7.3-9) near ten storm drain structures, eight of which have been sampled. Storm drain solids contained low concentrations of chromium (blue to yellow EF ranges). In 2010, paint was removed from bollards in the north lateral drainage area.

Lead. For lead in anthropogenic media, EFs ranged up to 140, excluding non-detected exceedances. In the north lateral drainage area, orange and red EF ranges for lead were identified in 22 paint chip samples and one surface debris (down spout solid) sample north of Building 3-322 (Figure 7.3-11). Paint samples were collected from bollards, building exterior materials, piping, and other equipment. Storm drain solids from structures nearest these samples contained lead at low concentrations (blue to yellow EF ranges), with the exception of MH652. Storm drain solids from MH652 were highly elevated (EF value of 31, orange range). Storm drain solids at CB187A, CB193, MH169, and MH193 have not been sampled.

Mercury. EFs ranging up to 320 (red range) were identified for mercury in anthropogenic media in the north lateral, with approximately 80 percent deriving from paint samples. Samples were collected from exterior building materials, an AST, piping materials, and other equipment in the north lateral drainage area (Figure 7.3-12). Window seal caulk from one window of Building 3-326 was removed in 2010 based on results of a sample collected near CB188A. Mercury in storm drain solids from nearby structures ranged from less than the RISL up to an EF of 17. Storm drain solids from four structures have not been sampled.

Zinc. Sixteen samples of paint and three of other exterior material were elevated for zinc (orange and red ranges) with EFs ranging up to 300. Paint samples were collected from bollards, exterior building materials, and other equipment. Other exterior material samples included window seal caulk, rubber weather stripping, and foam (Figure 7.3-14). Storm drain solids from nearby structures contained low levels of zinc (green to yellow EF ranges). One storm drain structure, MH166A, was not sampled for SD solids. Foam was removed from Building 3-626, which had a zinc EF of 51.

Overall, sample results for metals in anthropogenic media (shown in tables and figures) suggest perhaps a moderate correlation and impact to storm drain solids in the north lateral drainage area. The metals of most concern based on past sampling results are lead, mercury, and zinc.

Summary of RI Scoped Activities for North Lateral Drainage Area

The proposed RI sampling activities regarding anthropogenic media in this Work Plan are divided into two general categories: (1) building material samples, for buildings and major structures, and (2) all other samples, which include ground surface samples (CJM, surface debris, pavement, and paint on the pavement) and small structures such as bollards and hydrants.

Although a number of buildings were sampled for building materials by Boeing in 2010, the sampling density was relatively low, considering the concentrations of COPCs, and a number of buildings and structures have not yet been sampled, based on available information. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium. The number of samples for each building and other areas in the storm drain structure drainage area takes into account previous sampling performed by Boeing. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth of samples will be analyzed for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated.

As part of the RI activities, building materials samples will be collected from buildings that were constructed and/or renovated prior to approximately 1990 and therefore may represent a potential source of PCB-bearing materials. In addition, building material samples will be collected to focus on those buildings (and portions of buildings) that are adjacent to storm drain structures where COPC concentrations in storm drain solids samples correspond to the orange or red EF ranges. Buildings to be sampled, their construction dates, and the proposed number of samples are listed in Table 7.3-14. The general guidelines applied to determine the locations and numbers of these building material samples include:

- At least one to three paint samples per paint color will be collected from each side of each building.
- At least two to four caulk samples will be collected from door frames, window frames or vents/utilities that breech the exterior of a building.
- At least two samples of window glaze, from two different windows, will be collected from buildings built/renovated prior to about 1990. Samples will be collected only where glazing is visibly degrading (i.e., peeling or flaking).
- At least one composite sample of loose debris will be collected from the roof or gutters of each building to represent the roof materials that are mobile and potentially being conveyed directly to the storm drain system. Additional samples may be added, depending on the size and other attributes of the building roof or to target potential sources.

In addition to building materials, samples of CJM, paint (from small structures and pavement), and/or surface debris will be collected within the drainage areas of storm drain structures where COPC concentrations in storm drain solids samples correspond to the orange or red EF ranges. This sampling is proposed to identify locations of potential sources of COPCs to these storm drain structures with highly elevated exceedances. Proposed sampling areas and numbers for each storm drain structure drainage area are listed in Table 7.3-15. The general guidelines applied to determine the locations and numbers of these samples include:

- The proposed number of samples listed for each storm drain structure drainage area was made with the assumption that paint (on small structures or ground), CJM, or surface debris is present in the drainage area. In some cases, a sufficient volume of one or more of the media may not be available for sampling, and sample numbers are approximate and will be finalized during field evaluation.
- The proposed number of samples was further based on the historical sampling results and the size of the storm drain structure drainage area (more samples are recommended for larger drainage areas).
- CJM will be sampled in areas where previous CJM sample results are 25 mg/kg PCBs or greater, where proximal CJM has not been resampled since the original analysis, and where CJM was not replaced in 2011 (Section 7.3.2). CJM will also be sampled in areas with elevated EF ranges for COPCs. This applies to only limited samples in the southern side of the north lateral drainage area, and includes analysis for PCBs, metals, PAHs, phthalates, and dioxins/furans, at the frequencies listed above. These analytes are included based on investigations at other sites (Chrostowski 2009 [6120]), which have shown that they may be present in the CJM at NBF, as previously discussed.
- For surface debris, sampling will be focused near potential sources such as buildings or other structures. In the interim action area around Building 3-322, surface debris sampling is recommended to confirm that recontamination from ongoing sources is not recurring, following the interim actions performed by Boeing.

The above general guidelines apply not only to the north lateral drainage area, but also to the other drainage areas, unless stated otherwise.

Grab samples of storm drain solids will be collected during the RI based on results of nearby anthropogenic media samples having results with elevated EFs. The definition of “nearby” could include anthropogenic media samples that were located in the general vicinity of a storm drain structure, upstream of a structure, or that were on any part of a building located near a structure. Storm drain structures are proposed for sampling of solids if they meet the following criteria: (1) a sample of anthropogenic media with an elevated EF (generally orange or red range) was located within, near, or upstream of the polygon boundary for the storm drain structure; and (2) the structure has not been sampled for storm drain solids since the end of 2009 (samples prior to this date included only a limited analyte suite, typically only PCBs).

Storm drain solids samples will be analyzed for PCBs, metals, PAHs, phthalates, and (in approximately 20 percent of samples) dioxins/furans. These analytes were selected to include the principal COPCs for storm drain media, as recommended in Section 7.2. It is recognized that, in some cases, a sufficient volume of storm drain solids may not be available for sampling or the volume may not be large enough to perform all chemical analyses. To account for the approximation of storm drain structure drainage boundaries and for the potential lack of sufficient solids in a given structure, downstream and adjacent storm drain structures were considered in the proposed sampling. Sample location and numbers will be finalized during field evaluation, and PCB analysis will take priority over other analyses.

Based on the above criteria, a total of 10 storm drain structures within the north lateral drainage area are proposed for storm drain solids sampling, as listed in Table 7.3-16.

7.3.4.3 North-Central Lateral Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RISLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-9 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the north-central lateral drainage area. Storm drain solids from 65 percent of storm drain structures that constitute this drainage area have been sampled at least once since 2004. Samples of storm drain solids contain concentrations of PCBs and metals significantly above RISLs (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media. Media sampled in the north-central lateral drainage area include 8 paint, 87 CJM, and 8 surface debris samples, which were analyzed for PCBs and in some cases metals.

The maximum concentration and EFs for each COPC/media combination for the north-central lateral drainage area are summarized in the table below (colors correspond to EF ranges as shown above).

Chemicals in Anthropogenic Media Exceeding RI Screening Levels
North-Central Lateral Drainage Area

Chemical	CJM Maximum Result		Paint Maximum Result		Surface Debris Maximum Result	
	Conc (mg/kg)	EF	Conc (mg/kg)	EF	Conc (mg/kg)	EF
Total PCBs	26,000 R (45)	26,000 R (45)	37	280	0.66	17
Arsenic	NS	NS	50 U	≤ 1.0-N	6	≤ 1.0
Cadmium	NS	NS	439	86	33.6	9.1
Chromium	NS	NS	23,100	89	90.9	2.6
Copper	NS	NS	295	≤ 1.0	117	≤ 1.0
Lead	NS	NS	122,000	270	137	3.4
Mercury	NS	NS	1.5	3.7	0.04	≤ 1.0
Silver	NS	NS	1.5	≤ 1.0	NS	NS
Zinc	NS	NS	17,400	42	1,030	2.5

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
For locations sampled more than once, the most recent concentration was considered for this table.
U Non-detect -N Maximum EF is non-detected NS Not sampled R Removed material
(#) Maximum value of in-situ samples (unremoved material)

PCBs

Anthropogenic Media in Areas with Elevated EFs in SD Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. The following text focuses on anthropogenic media samples in areas that have significantly elevated EFs for PCBs in samples from associated storm drain solids within the north-central lateral drainage area. Storm drain solids listed in the table below contained PCB concentrations in the orange EF range (up to 890). CJM samples collected from the associated drainage areas contained PCB concentrations in the blue to red EF range (up to 26,000). CJM samples with PCB concentrations in the orange to red EF ranges have been removed and replaced. Results from storm drain solids sample collected in two structures, CB372A and MH422, contained PCB concentrations in the orange EF range (up to 120). No samples of anthropogenic media have been collected within the drainage area of these structures.

Elevated PCB Exceedances in SD Solids Samples and Associated Anthropogenic Media Results
North-Central Lateral Drainage Area

SD Structure	Maximum EF
	CJM
MH220	≤ 1.0
MH247	16,000 R
UNKMH21	≤ 1.0
CB225	26,000 R
CB364A	23,000 R
CB372A	NS
MH249	≤ 1.0
MH422	NS

For locations sampled more than once, the most recent concentration was considered for this table.
NS Not sampled R Removed material

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids

In addition to those discussed above, anthropogenic media collected near five storm drain structures indicated PCB concentrations in the orange or red EF ranges for paint and CJM, as shown in the table below. The red range EFs were identified in CJM, and the orange EF range was identified in paint. Storm drain solids samples have been collected from only three of the associated structures, where PCB concentrations were all in the yellow EF range.

Elevated PCB Exceedances in Anthropogenic Media Samples and Associated SD Solids Results
North-Central Lateral Drainage Area

Associated SD Structure	Maximum EF		
	Paint	CJM	Surface Debris
MH223	NS	20,000 R	NS
CB224	18	20,000 R	17

Elevated PCB Exceedances in Anthropogenic Media Samples and Associated SD Solids Results North-Central Lateral Drainage Area

Associated SD Structure	Maximum EF		
	Paint	CJM	Surface Debris
MH248	NS	17,000 R	NS
CB255	59	1,200 R	NS
MH228	280	NS	NS

For locations sampled more than once, the most recent concentration was considered for this table.
NS (or uncolored SD cell) Not sampled

Although sampling data are somewhat limited, sample results for PCBs in anthropogenic media (shown in tables and figures) suggest a weak to moderate correlation and impact to storm drain solids in the north-central lateral drainage area.

Metals

Anthropogenic Media in Areas with Elevated EFs in SD Solids

Metals results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. Seven samples of paint and one sample of surface debris were analyzed for metals. Of the storm drain solids sampled for metals, an elevated EF (orange range) was identified in only one sample of storm drain solids from CB244, but anthropogenic media have not been sampled near this location.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids

Cadmium, chromium, lead, and zinc were identified at highly elevated EF ranges (orange and red). As shown in the table below, the maximum concentrations for these metals were greater than the RISLs by EFs ranging up to 120. Mercury and zinc were detected above screening levels to a lesser degree. Concentrations of arsenic, copper, and silver did not exceed the RISLs and are not evaluated further in this section. The table below summarizes maximum EFs for sample locations where at least one of the COPC metals contains elevated EFs (red or orange) in anthropogenic media.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results North-Central Lateral Drainage Area

Associated SD Structure	Medium	Maximum EF							
		Cadmium		Chromium		Lead		Zinc	
		SDS	AM	SDS	AM	SDS	AM	SDS	AM
CB224	Paint					5.1	30		
CB246	Paint	8.9	86						
CB255	Paint					3.7	120	≤ 1.0	42
MH228	Paint	NS		NS	89	NS	270	NS	32

Empty cells indicate EF ranges of yellow or below for all media sampled.
SDS Storm drain solids AM Anthropogenic media NS Not sampled

Source tracing for the 2011 Site-Wide Source Evaluation indicated seven samples of paint with orange to red EF ranges for cadmium, chromium, lead, and/or zinc. Of the seven sample locations, six were collected near storm drain structures where storm drain solids data are available. Concentrations of storm drain solids from CB224, CB246, and CB255 were low (green and yellow EF ranges) for cadmium and lead. Concentrations of zinc in storm drain solids from CB255 did not exceed the RISL. These structures are located in Concourse A, south of the Wind Tunnel, and in Concourse B.

EF ranges were also elevated in paint (orange and red) for chromium, lead, and zinc near MH228 in Concourse A, where SD solids have not been sampled.

Overall, sample results for metals in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the north-central lateral drainage area. The metals of most concern based on past sampling results are cadmium, chromium, lead, and zinc.

Summary of RI Scoped Activities for North-Central Lateral Drainage Area

Boeing has collected a small number of paint and surface debris samples within the north-central lateral drainage area. CJM sampling has been fairly widespread; however, a few areas remain where few or no CJM samples have been collected. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium.

As in the north lateral drainage area (Section 7.3.4.2), building materials samples will be collected from buildings that were constructed and/or renovated prior to about 1990 and therefore may represent a potential source of PCB-bearing materials. CJM, paint (from non-building structures and pavement), and/or surface debris will be collected within the drainage areas of storm drain structures where COPC concentrations in storm drain solids samples were in the orange or red EF range. This sampling is proposed to identify locations of potential sources of COPCs to these storm drain structures with highly elevated exceedances.

Previous sampling performed by Boeing was taken into consideration when determining the number of samples needed. Building materials to be sampled and the proposed number of samples are listed in Table 7.3-14. Proposed sampling areas and numbers for ground surface and small structures (e.g. bollards or fire hydrants) in each storm drain structure drainage area are listed in Table 7.3-15. The proposed numbers of samples listed for each storm drain structure drainage area was made with the assumption that paint, CJM, or surface debris is present in the drainage area. In some cases, a sufficient volume of one or more of these media may not be available for sampling. Further, the presence and numbers of painted small structures is also not known; sample numbers are approximate and will be finalized during field evaluation. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth of samples will be analyzed for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated. Sampling guidelines are generally similar to those described in Section 7.3.4.2, with the following exception:

- The majority of the north-central lateral drainage area consists of the concourse areas, which are swept of surface debris regularly. Therefore, surface debris sampling is recommended only near the blast wall, if any debris remains at this location.
- In addition to guidelines in Section 7.3.4.2, CJM will also be collected in areas with a low density of existing sampling, including the area northeast of the middle of Building 3-390, where minimal samples have been collected. This includes analysis for PCBs, metals, PAHs, phthalates, and dioxins/furans, at the frequencies listed above. These analytes are included based on investigations at other sites (Chrostowski 2009 [6120]), which have shown that they may be present in the CJM at NBF, as previously discussed.

Grab samples of storm drain solids will be collected during the RI based on results of nearby anthropogenic media samples having results with elevated EFs. Storm drain solids samples will be analyzed for PCBs, metals, PAHs, phthalates, and (in approximately 20 percent of samples) dioxins/furans. These analytes were selected to include the principal COPCs for storm drain media, as recommended in Section 7.2. Based on the criteria listed in Section 7.3.4.2, a total of four storm drain structures within the north-central lateral drainage area are proposed for sampling of solids, as listed in Table 7.3-16.

7.3.4.4 South-Central Lateral Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RISLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-10 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the south-central lateral drainage area. Storm drain solids from approximately 60 percent of storm drain structures that constitute this drainage area have been sampled since 2004. Samples of storm drain solids contain concentrations of PCBs and metals significantly above RISLs (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media. Media sampled in the south-central lateral drainage area include 63 paint samples and 108 CJM samples. Samples were analyzed for PCBs and in some cases also metals.

The maximum concentrations and EFs for each COPC/media combination for the south-central lateral drainage area are summarized in the table below (colors correspond to EF ranges as shown above).

Chemicals in Anthropogenic Media Exceeding RI Selected Screening Levels
South-Central Lateral Drainage Area

Chemical	Paint Maximum Result		CJM Maximum Result	
	Conc (mg/kg)	EF	Conc (mg/kg)	EF
Total PCBs	16.1	120	59,000 R (43)	59,000 R (43)
Cadmium	10	2.0	--	--
Chromium	41,100	160	--	--
Lead	151,000	340	--	--
Mercury	3.8	9.3	--	--
Zinc	30,200	74	--	--

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
For locations sampled more than once, the most recent concentration was considered for this table.
-- Not analyzed R Removed material
(#) Maximum value of in-situ samples (unremoved material)

PCBs

Anthropogenic Media in Areas with Elevated EFs in SD Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. Storm drain solids from one structure, MH471, contained PCB concentrations in the orange EF range (180). CJM samples collected from the associated drainage area contained PCB concentrations in the blue to yellow EF range (up to 14).

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids

Anthropogenic media collected near six storm drain structures indicated PCB concentrations in the orange or red EF range for at least one media, as shown in the table below. The red range EFs were identified in CJM and the orange range EFs were identified in paint. Storm drain solids samples have been collected from only four of the associated storm drain structures, where PCB concentrations were in the green to yellow EF range.

Elevated PCB Exceedances in Anthropogenic Media Samples
and Associated SD Solids Results
South-Central Lateral Drainage Area

Associated SD Structure	Maximum EF	
	Paint	CJM
CB371	120	1.1 R
CB406	110	21
CB418	NS	59,000 R
CB420	NS	4,200 R
MH461	NS	35,000 R

For locations sampled more than once, the most recent concentration was considered for this table.
NS (or uncolored SD cell) Not sampled R Removed material

Although storm drain solids sampling data are limited, sample results for PCBs in anthropogenic media (shown in tables and figures) suggest a weak to moderate correlation and impact to storm drain solids in the south-central lateral drainage area.

Metals

Anthropogenic Media in Areas with Elevated EFs in SD Solids

Metals results for anthropogenic media (paint) and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. Seven paint samples were analyzed for metals. Storm drain solid analytical data for structures in the south-central lateral drainage area indicate low EF ranges (blue to yellow); EFs did not reach the orange or red ranges.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids

Chromium, lead, and zinc have been detected at highly elevated EF ranges (orange and red) in paint in the south-central lateral drainage area. Cadmium and mercury exceeded the RISLs to a lesser degree (green and yellow EF ranges). Arsenic and silver were not detected above the RISLs. The table below summarizes maximum EFs for sample locations where at least one of the COPC metals contains elevated EF (orange or red ranges) in anthropogenic media.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results
South-Central Lateral Drainage Area

Associated SD Structure	Medium	Maximum EF					
		Chromium		Lead		Zinc	
		SDS	AM	SDS	AM	SDS	AM
CB371	Paint	NS	160	NS	340	NS	39
MH368	Paint	--	37	≤ 1.0	100	≤ 1.0	74

SDS Storm drain solids AM Anthropogenic media NS Not sampled

Source tracing for the 2011 Site-Wide Source Evaluation indicated six samples of paint with orange to red EF ranges for chromium, lead, mercury, and/or zinc. These paint samples were collected near CB371 and MH368, from the northern exterior of Building 3-390 and nearby structures. Storm drain solids from structure CB371 have not been sampled.

Overall, sample results for metals in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the south-central lateral drainage area. The metals of most concern based on past sampling results are chromium, lead, and zinc.

Summary of RI Scoped Activities for South-Central Lateral Drainage Area

Boeing has collected a small number of paint and surface debris samples within the south-central lateral drainage area. CJM sampling has been fairly widespread; however, a few areas remain where few or no CJM samples have been collected. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium.

As in the north lateral drainage area (Section 7.3.4.2), building materials samples will be collected from buildings that were constructed and/or renovated prior to about 1990 and therefore may represent a potential source of PCB-bearing materials. CJM, paint (from non-building structures and pavement), and/or surface materials and debris will be collected within the drainage areas of storm drain structures where COPC concentrations in storm drain solids samples were in the orange or red EF range. This sampling is proposed to identify locations of potential sources of COPCs to these storm drain structures with highly elevated exceedances.

Previous sampling performed by Boeing was taken into consideration when determining the number of samples needed. Building materials to be sampled and the proposed number of samples are listed in Table 7.3-14. Proposed sampling areas and numbers for ground surface and small structures in each storm drain structure drainage area are listed in Table 7.3-15. The proposed numbers of samples listed for each storm drain structure drainage area was made with the assumption that paint, CJM, or surface debris is present in the drainage area. In some cases, a sufficient volume of one or more of these media may not be available for sampling; sample numbers are approximate and will be finalized during field evaluation. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth of samples will be sampled for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated. Sampling guidelines are generally similar to those described in Section 7.3.4.2, with the following exceptions:

- Due to the large size of Building 3-390, additional samples of paint, caulk and window glaze (if present and degrading) are proposed.
- The majority of the south-central lateral drainage area consists of the concourse areas, which are swept of surface debris regularly. Therefore, surface debris sampling is recommended only near Building 3-390.
- CJM sampling considerations are the same as listed in Section 7.3.4.3.

Grab samples of storm drain solids will be collected during the RI based on results of nearby anthropogenic media samples having results with elevated EFs. Storm drain solids samples will be analyzed for PCBs, metals, PAHs, phthalates, and (in approximately 20 percent of samples) dioxins/furans. These analytes were selected to include the principal COPCs for storm drain media, as recommended in Section 7.2. Based on the criteria listed in Section 7.3.4.2, a total of five storm drain structures within the south-central lateral drainage area are proposed for storm drain solids sampling, as listed in Table 7.3-16.

7.3.4.5 South Lateral Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RI SLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-11 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the south lateral drainage area. Storm drain solids from only 21 storm drain structures in the south lateral drainage area have been sampled since 2004. Samples of storm drain solids contain concentrations of PCBs and metals significantly above RISLs (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media. Media sampled in the south lateral drainage area include building materials (11 paint samples) and surface materials (157 CJM samples). These samples were analyzed for PCBs and in some cases metals.

For the south lateral drainage area, the maximum concentrations and corresponding maximum EFs for each COPC/media combination are summarized in the table below (colors correspond to EF ranges as shown above).

Chemicals in Anthropogenic Media Exceeding RI Screening Levels
South Lateral Drainage Area

Chemical	Paint Maximum Result		CJM Maximum Result	
	Conc (mg/kg)	EF	Conc (mg/kg)	EF
Total PCBs	2,200	17,000	26,000 R (24)	26,000 R (24)
Arsenic	200	3.5	--	--
Cadmium	43	8.4	--	--
Chromium	38,000	150	--	--
Copper	NE	≤ 1.0	--	--
Lead	151,000	340	--	--
Mercury	62	150	--	--
Silver	NE	≤ 1.0	--	--
Zinc	99,600	240	--	--

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
-- Not analyzed NE No exceedance R Removed material
(#) Maximum value of in-situ samples (unremoved material)

PCBs

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. This includes only CJM and paint samples. Results of storm drain solids sampling in the south lateral area contained elevated PCB concentrations in the orange EF range (up to 180) for six storm drain structures; no EF values reached the red range.

Within these six storm drain polygons in the south lateral area, CJM was the only anthropogenic material sampled, with PCB concentrations as high as yellow EF range (up to 24).

Elevated PCB Exceedances in SD Solids Samples and Associated Anthropogenic Media Results
South Lateral Drainage Area

SD Structure	Maximum EF	
	Paint	CJM
CB384	NS	NS
CB453	NS	5.1
MH483A	NS	≤ 1.0
MH642	NS	24
OWS1-C	NS	NS
OWS483E/D	NS	24

NS Not sampled

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Storm drain solids analytical data are not available for structures adjacent to the collection locations of most anthropogenic media samples in the south lateral drainage area. Of those storm drain structures without solids sample data or with sample results that are not elevated (no red or orange EF ranges), five anthropogenic media samples (one CJM and four paint) contained PCBs with orange to red EFs (100 to 26,000), as shown in the table below.

Elevated PCB Exceedances in Anthropogenic Media Samples and Associated SD Solids Results
South Lateral Drainage Area

Associated SD Structure	Maximum EF	
	Paint	CJM
CB261	NS	26,000 R
CB266B	17,000	NS
CB352	270	NS
CB400	110	NS
CB448	510	NS
MH378	170	NS
OWS443B/446B	4,400	NS

NS (or uncolored SD cell) Not sampled R Removed material

The CJM sample with an EF of 26,000 was collected in Concourse B, within the eastern outlier portion of this drainage area. Surrounding CJM samples have green to orange EF ranges, and most of this CJM material has been removed and replaced.

One paint sample on Building 3-818 contained the second highest concentration of PCBs among onsite paint samples (2,200 mg/kg, EF 17,000). Another paint sample collected to the southeast of Building 3-818 contains PCBs in the red EF range (570 mg/kg, EF 4,400). Storm drain solids samples have not been collected near these anthropogenic sample locations.

Storm drain solids sampling data are very limited, and sample results for PCBs in anthropogenic media (shown in tables and figures) suggest a weak correlation and impact to storm drain solids in the south lateral drainage area.

Metals

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

Metals results for anthropogenic media (paint) and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. Results of storm drain solids sampling in the south lateral area contained an elevated mercury concentration in the orange EF range (35) for one storm drain structure, OWS483E/D; no EF values reached the red range. Anthropogenic media samples have not been collected from the associated drainage area.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Chromium, lead, mercury and zinc have been detected at highly elevated levels in paint samples collected from the south lateral drainage area. As shown in the table below, maximum concentrations for all metals were greater than the RISLs by at least a factor of 150. Arsenic and cadmium exceeded the screening levels to a lesser degree (EF up to 8.4). Silver and copper were not detected above the screening levels. The table below summarizes maximum EFs for sample locations where at least one of the COPC metals contains elevated EFs (red or orange range) in anthropogenic media.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results
South Lateral Drainage Area

Associated SD Structure	Medium	Maximum EF							
		Chromium		Lead		Mercury		Zinc	
		SDS	AM	SDS	AM	SDS	AM	SDS	AM
CB308	Paint					≤ 1.0	100	5.5	52
CB448	Paint					≤ 1.0	120		
CB266B	Paint					NS	83		
CB352	Paint	NS	150	NS	340				
CB380	Paint							NS	240
CB400	Paint					NS	140		
CB449	Paint					NS	150		
OWS443B/446B	Paint	NS	45	NS	100	NS	≤ 1.0		

Empty cells indicate EF ranges of yellow or below for all media sampled.
SDS Storm drain solids AM Anthropogenic media NS Not sampled

Source tracing for the 2011 Site-Wide Source Evaluation indicated eight samples of paint with orange to red EF ranges for chromium, lead, mercury, and/or zinc. Of the eight sample locations, only two correspond to storm drain structure drain areas where storm drain solids data are available (CB308 and CB448).

EF ranges were elevated (orange and red) for chromium and lead in two paint samples collected from bollards located west of Building 3-390 near CB352, and east of Building 3-818 near OWS443B/446B. Paint abatement was performed on the bollard east of Building 3-818.

Elevated EFs ranges for mercury were detected in five samples of paint (three orange and two red). Samples with red EF ranges for mercury were collected from a cart northwest of Building 3-390 and from a guard shack in the Main Fuel Farm area near CB400 and CB449. A paint sample from Building 3-822 (Main Fuel Farm) with a corresponding EF in the orange range was collected near CB308. Two sample results for paint from the exterior of Building 3-818 have EFs in the orange range. Only catch basins CB308 and CB448 have been sampled for storm drain solids; mercury concentrations in these samples did not exceed the RISL.

EF ranges were elevated (orange and red) for zinc in two samples of paint. Samples were collected from the exterior of Building 3-822 and piping west of Building 397. A sample of storm drain solids from CB308, located near Building 3-822, is in the yellow EF range. Storm drain solids near Building 397 have not been analyzed for zinc.

Overall, sample results for metals in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the south lateral drainage area. The metals of most concern based on past sampling results are chromium, lead, mercury, and zinc.

Summary of RI Scoped Activities for South Lateral Drainage Area

Boeing has collected a small number of paint and surface debris samples within the south lateral drainage area. CJM sampling has been fairly widespread. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium.

As in the north lateral drainage area (Section 7.3.4.2), building materials samples will be collected from buildings that were constructed and/or renovated prior to about 1990 and therefore may represent a potential source of PCB-bearing materials. CJM, paint (from non-building structures and pavement), and/or surface materials and debris will be collected within the drainage areas of storm drain structures where COPC concentrations in storm drain solids samples were in the orange or red EF range. This sampling is proposed to identify locations of potential sources of COPCs to these storm drain structures with highly elevated exceedances.

Previous sampling performed by Boeing was taken into consideration when determining the number of samples needed. Building materials to be sampled and the proposed number of samples are listed in Table 7.3-14. Proposed sampling areas and numbers for ground surface and small structures in each storm drain structure drainage area are listed in Table 7.3-15. The proposed numbers of samples listed for each storm drain structure drainage area was made with the assumption that paint, CJM, or surface debris is present in the drainage area. In some cases, a sufficient volume of one or more of these media may not be available for sampling; sample numbers are approximate and will be finalized during field evaluation. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth of samples will be analyzed for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated.. Sampling guidelines are generally similar to those described in Section 7.3.4.2, with the following exceptions:

- Boeing has collected many paint samples from Building 3-818; therefore, no additional paint samples are recommended for this building.
- Surface debris sampling is not recommended for the storm drain structures that are on the concourse area, which is swept of surface debris regularly.
- Additional CJM sampling is recommended at only two locations on the concourse.

Grab samples of storm drain solids will be collected during the RI based on results of nearby anthropogenic media samples having results with elevated EFs. Storm drain solids samples will be analyzed for PCBs, metals, PAHs, phthalates, and (in approximately 20 percent of samples) dioxins/furans. These analytes were selected to include the principal COPCs for storm drain media, as recommended in Section 7.2. Based on the criteria listed in Section 7.3.4.2, a total of ten storm drain structures within the south lateral drainage area are proposed for storm drain solids sampling, as listed in Table 7.3-16.

7.3.4.6 Building 3-380 Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RI SLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-12 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the Building 3-380 drainage area. Storm drain solids from all but one structure that constitutes this drainage area have been sampled. Samples of storm drain solids contain concentrations of PCBs and metals significantly above RISLs (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media. Media sampled in the Building 3-380 drainage area is limited to three paint samples. Samples were analyzed for PCBs and metals.

The maximum concentrations and EFs for each COPC/media combination for the Building 3-380 drainage area are summarized in the table below (colors correspond to EF ranges as shown above).

Chemicals in Anthropogenic Media Exceeding RI Screening Levels
Building 3-380 Drainage Area

Chemical	Paint Maximum Result	
	Conc (mg/kg)	EF
Total PCBs	271	2,100
Arsenic	100-N	1.8
Cadmium	11	2.2

Chemicals in Anthropogenic Media Exceeding RI Screening Levels
Building 3-380 Drainage Area

Chemical	Paint Maximum Result	
	Conc (mg/kg)	EF
Chromium	40,900	160
Copper	503	1.3
Lead	155,000	340
Mercury	0.49	1.2
Silver	--	--
Zinc	22,600	55

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
-- Not analyzed -N Maximum EF is non-detected

PCBs

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. Exceedance factors from storm drain solids samples in the Building 3-380 drainage area did not exceed 100 (orange) for PCBs. The maximum PCB exceedance in storm drain solids in this area was in the green EF range (CB107, EF 9.2). An EF value of 35 (yellow) was observed for a sample of paint collected near CB107.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Results from one paint sample collected near catch basin CB428C indicated PCB concentrations in the red EF range (2,100). PCB concentrations in the storm drain solids sample collected from this structure were in the green EF range (2.6).

Overall, sample results for PCBs in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the Building 3-380 drainage area.

Metals

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

Metals results for anthropogenic media (paint) and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. A total of three paint samples were collected from this area. Results of storm drain solids sampling in the Building 3-380 drainage area indicate low EF ranges (blue to yellow) for metals. The maximum EF range was 15 (yellow) for lead in storm drain solids collected from CB106.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Chromium, lead, and zinc were detected at highly elevated EF ranges (orange and red) from paint samples in the Building 3-380 area. As shown in the table below, the maximum concentrations of these metals were greater than the RISLs by at least a factor of 30. Arsenic, cadmium, copper, and mercury exceed the screening levels to a lesser degree. The table below summarizes elevated EF ranges for metals in anthropogenic media and EF ranges of storm drain solids from associated storm drain structures.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results
Building 3-380 Drainage Area

Associated SD Structure	Medium	Maximum EF					
		Chromium		Lead		Zinc	
		SDS	AM	SDS	AM	SDS	AM
CB107	Paint	3.4	32	7.1	79		
CB428C	Paint	1.6	160	1.9	340		
MH428A	Paint	NS	65			NS	55

Empty cells indicate EF ranges of yellow or below for all media sampled.
SDS Storm drain solids AM Anthropogenic media NS Not sampled

A total of three paint chip samples comprise all anthropogenic media collected in the Building 3-380 drainage area. EF ranges were elevated (orange and red) for chromium and lead in paint samples collected from the northern end of the parking lot and north of Building 7-27-1. EF ranges were low (green to yellow) for storm drain solids from associated storm drain structures CB107 and CB428C. In the paint sample collected west of Building 3-380, orange EF ranges were identified for chromium and zinc. Samples of storm drain solids from structure MH428A have not been collected.

Overall, sample results for metals in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the Building 3-380 drainage area. The metals of most concern based on past sampling results are chromium, lead, and zinc.

Summary of RI Scoped Activities for Building 3-380 Drainage Area

Boeing has collected a small number of paint and surface debris samples within the Building 3-380 drainage area. CJM is generally not present in this area. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium.

As in the north lateral drainage area (Section 7.3.4.2), building materials samples will be collected from buildings that were constructed and/or renovated prior to about 1990 and therefore may represent a potential source of PCB-bearing materials. Paint (from non-building structures and pavement), and/or surface materials and debris will be collected within the drainage areas of storm drain structures where COPC concentrations in storm drain solids samples were in the orange or red EF range. This sampling is proposed to identify locations of potential sources of COPCs to these storm drain structures with highly elevated exceedances.

Previous sampling performed by Boeing was taken into consideration when determining the number of samples needed. Building materials to be sampled and the proposed number of samples are listed in Table 7.3-14. Proposed sampling areas are listed in Table 7.3-15. The proposed numbers of samples listed for each storm drain structure drainage area was made with the assumption that paint or surface debris is present in the drainage area. In some cases, a sufficient volume of one or more of the media may not be available for sampling; sample numbers are approximate and will be finalized during field evaluation. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth of samples will be analyzed for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated. Sampling guidelines are generally similar to those described in Section 7.3.4.2, with the following exceptions:

- CJM samples will not be collected in this drainage area, as it is not generally present in the Building 3-380 drainage area.

Based on analytical results of anthropogenic media collected within the Building 3-380 drainage area, no additional sampling of storm drain solids is recommended.

7.3.4.7 Parking Lot Drainage Area

Sample locations and EFs for anthropogenic media and storm drain solids are presented in Figures 7.3-6 to 7.3-15. Exceedances of the RISLs for anthropogenic media sampled are presented in Tables 7.3-2 through 7.3-7. Table 7.3-13 presents concentration and EF data for both storm drain solids and anthropogenic media sampled in the parking lot drainage area. Storm drain solids from approximately 70 percent of storm drain structures that constitute the parking lot drainage area have been sampled. Samples of storm drain solids contain concentrations of PCBs and metals above RISLs (see Section 7.1).

In an effort to trace potential sources of contamination to the storm drain system, Boeing has conducted recent investigations of anthropogenic media. Media sampled in the parking lot drainage area is limited to two paint samples and two CJM samples; six surface debris samples have also been collected. Samples were analyzed for PCBs and metals. In addition, cPAHs were analyzed in samples of surface debris.

The maximum concentrations and EFs for each COPC and media combination for the parking lot drainage area are summarized in the tables below (colors correspond to EF ranges as shown above).

Chemicals in Anthropogenic Media Exceeding RI Screening Levels Parking Lot Drainage Area						
Chemical	**Paint Maximum Result**		**CJM Maximum Result**		**Surface Debris Maximum Result**	
	Conc (mg/kg)	**EF**	**Conc (mg/kg)**	**EF**	**Conc (mg/kg)**	**EF**
Total PCBs	0.8-N	6.2-N	3.1	3.1	0.34	8.9
Arsenic	50-N	≤ 1.0	--	--	40	5.5
Cadmium	2.1	≤ 1.0	--	--	--	--
Chromium	10,900	42	--	--	137	3.8
Copper	43.9	≤ 1.0	--	--	--	--
Lead	42,300	94	--	--	427	11
Mercury	0.13	≤ 1.0	--	--	--	--
Silver	3-N	≤ 1.0	--	--	--	--
Zinc	43,600	110	--	--	756	1.8

Concentration and exceedance factor (EF) represent the maximum for each COPC and medium.
-- Not analyzed -N Maximum EF is non-detected

PCBs

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

PCB results for anthropogenic media and storm drain solids samples, in terms of EF values or ranges, are presented in Figure 7.3-6. Concentrations of PCBs in storm drain solids samples collected in the parking lot drainage area were identified below the orange and red EF ranges. The maximum PCB exceedance in storm drain solids in this area was in the yellow EF range (CB633, EF 55), but anthropogenic media samples have not been collected from in or near this structure drainage area. Note also that CB633 is located along tributary line PL2, which is subject to water backup from the lift station discharge at high tidal levels, obscuring the usefulness of the analytical data.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Concentrations of PCBs in anthropogenic media samples collected in this area are in the green EF range. The maximum EF factor was 8.9 in a surface debris sample collected from the D283A drainage area. The PCB concentration in storm drain solids at this structure was in the yellow EF range (28).

Overall, sample results for PCBs in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the parking lot drainage area. However, concentrations of PCBs do not appear to be at levels of significant concern.

Metals

Anthropogenic Media in Areas with Elevated EFs in Storm Drain Solids

Metals results for anthropogenic media (paint) and storm drain solids samples, in terms of EF values or ranges, are presented in Figures 7.3-7 to 7.3-14. Concentrations of metals in storm drain solids samples collected in the parking lot drainage area had a maximum exceedance of yellow EF range for lead (CB631, EF 22). Anthropogenic media samples have not been collected from this structure drainage area.

Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in Storm Drain Solids

Chromium, lead, and zinc have been detected at elevated levels in paint chip samples collected from the parking lot drainage area. As shown in the table below, the maximum concentrations for these metals were in the orange EF range. Arsenic in surface debris exceeded the screening levels to a lesser degree (EF up to 5.5). Cadmium, copper, and silver were not identified above the screening levels. The table below summarizes maximum EFs for sample locations where at least one of the COPC metals contains elevated EFs (orange) in anthropogenic media.

Elevated Metals Exceedances in Anthropogenic Media Samples and Associated SD Solids Results

Parking Lot Drainage Area

SD Structure	Medium	Maximum EF					
		Chromium		Lead		Zinc	
		SDS	AM	SDS	AM	SDS	AM
CB102D	Paint					2.3	110
CB432	Paint	6.7	42	16	94		

Empty cells indicate EF ranges of yellow or below for all media sampled.
SDS Storm drain solids AM Anthropogenic media

Source tracing for the 2011 Site-Wide Source Evaluation indicated two samples of paint with elevated EF ranges (orange) for chromium, lead, and/or zinc. EF ranges for chromium and lead were elevated in one sample of paint collected near CB432, west of Building 3-369. Storm drain solid analytical data from CB432 indicated low EF ranges (yellow). The paint sample located near CB102D, with an EF range of 110 for zinc, was collected from piping on the roof of Building 7-27-1. The EF range was low (green) in storm drain solids from CB102D.

Overall, sample results for metals in anthropogenic media and storm drain solids (shown in tables and figures) are too limited to suggest a correlation and impact to the storm drain system in the parking lot drainage area. The metals of most concern based on past sampling results are chromium, lead, and zinc.

Carcinogenic PAHs

Carcinogenic PAHs were tested for in six surface debris samples collected next to the strip drains in the parking lots. Concentrations were uniformly low, in the green EF range, with EF values ranging from 1.6 to 9.9 (Figure 7.3-15). Storm drain solids have been analyzed for cPAHs in only limited locations, and concentrations correspond to EF ranges of green to yellow in the parking lot area. As a result, cPAHs are not considered further for surface debris samples.

Summary of RI Scoped Activities for Parking Lot Drainage Area

Boeing has collected a small number of paint and surface debris samples within the parking lot drainage area. CJM is generally not present in this area. Additional physical and analytical data from storm drain solids and anthropogenic media are required in order to evaluate the pathway and potential impact of contaminants between each medium. Storm drain solids samples collected from this area have not contained concentrations of COPCs that fall within the orange or red EF range. For this reason, additional sampling of CJM, paint from non-building structures and pavement, and surface debris is not recommended in this area.

Three buildings in the drainage area may represent potential sources of COPCs to the storm drain system. Materials used at Building 7-27-1 may be a source of PCBs; therefore, sampling materials from this building is a greater priority than sampling the materials at Buildings 3-370 and 3-380. Based on the above evaluation, all samples will be analyzed for PCBs and metals. In addition, approximately one-third of samples will be analyzed for PAHs and phthalates, and approximately one-fifth will be sampled for dioxins/furans. The need for continuation of the latter three chemical classes will be evaluated early in the RI process, on a media-specific basis; thus the number of analyses for these COPCs is estimated.

As in the north lateral drainage area (Section 7.3.4.2), building materials samples will be collected from buildings that were constructed and/or renovated prior to about 1990 and therefore may represent a potential source of PCB-bearing materials. Previous sampling performed by Boeing was taken into consideration when determining the number of samples needed. Buildings to be sampled and the proposed number of samples are listed in Table 7.3-14.

Based on analytical results of anthropogenic media collected within the parking lot drainage area, no additional sampling of storm drain solids is recommended.

8.0 Remedial Investigation Reporting

The NBF-GTSP Site RI/FS and associated documents, including this Work Plan, will be conducted and developed in accordance with the Model Toxics Control Act (WAC 173-340-350). The purpose of the RI is to collect, develop, and evaluate sufficient information regarding a site contaminated with hazardous substances. The information collected will be used to select and evaluate remedial alternatives during the FS, leading to one or more cleanup actions or interim actions.

Following RI field and analytical activities for the NBF-GTSP Site, an RI Report will be prepared to compile, evaluate, and present data leading to the Feasibility Study. The RI Report will include and expand upon portions of this RI/FS Work Plan that summarize information to date. The following outline is expected to be used within the RI Report.

- Section 1 – Introduction
  - Includes general Site description, historical operations, regulatory and investigative history, previous remedial actions, contaminants of potential concern
- Section 2 – RI Investigation Activities
  - Includes summary of field and analytical activities performed during the RI
- Section 3 – Physical Setting of Site
  - Includes geologic, hydrogeologic, surficial, and stormwater setting of Site
- Section 4 – Nature and Extent of Contamination
  - Includes developing cleanup levels for contaminants, data quality assessment, nature and extent of contaminants by media and area, and conceptual site model with pathways analysis

During the RI phase, cleanup levels will be developed and refined, for comparison of Site data to determine extent of contamination. Figures in the RI Report will present storm drain features, wells and borings, pertinent buildings and structures, and other sampling locations. Figures will also include maps depicting concentrations and/or exceedance factors for areas of the Site that have been investigated during the RI. Historical data and locations will be included where appropriate to define the type and extent of contamination. These figures will be compiled by media or groups of media (such as anthropogenic materials), and by contaminants or classes of chemicals, and where appropriate will show aspects of depth for soil. Water-table contour maps will also depict the groundwater flow pattern under varying seasonal conditions for the entire Site and for localized areas. Geologic cross-sections will be generated where necessary to show zones of contamination or preferential flow.

Tables will be compiled to present key analytical and physical data, including historical data. Concentrations and/or exceedance factors for cleanup levels will be presented. Bulk data will be compiled in appendices, which may be distributed solely in electronic format.

Section 10 of this Work Plan presents the anticipated schedule for the various versions of the RI Report. These versions include a preliminary draft RI Report for Ecology review, a second preliminary draft RI Report for PLP review, a draft RI Report for public review and public meeting, a revised draft RI Report for Ecology review, a final draft RI Report for PLP review, and a final RI Report. Draft and final responsiveness summaries will also be prepared for Ecology and PLP review.

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9.0 Feasibility Study

Following preparation of the RI Report, an FS Report will be prepared for the Site in accordance with the Model Toxics Control Act [WAC 173-340-350(8)]. The purpose of the FS is to develop and evaluate cleanup action alternatives to enable selection of a cleanup action for the site. The FS will be conducted by a sequence of: developing cleanup standards to be used for the Site, identifying and developing alternatives, initial screening of alternatives, and performing an evaluation of alternatives and selection of the preferred alternative (Ecology 2011c [N0023]).

The following outline is expected to be used within the FS Report, and the main components of the FS process are described in the sections below. The FS process is graphically portrayed in Figure 9-1.

- Section 1 – Introduction and RI Summary
- Section 2 – Establishment of Cleanup Standards
- Section 3 – Development of Alternatives
- Section 4 – Screening of Alternatives
- Section 5 – Evaluation and Selection of Alternatives

9.1 Establishment of Cleanup Standards

In this RI Work Plan, the RI *screening levels* have been applied, based on preliminary screening levels and other criteria. These RISLs are intended to be conservative in order to identify potential areas of contamination for RI characterization purposes. In the RI Report, *cleanup levels* will be developed (by refining RISLs) for sake of defining nature and extent of contamination. Depending on available information, cleanup levels may be refined throughout the RI/FS process [WAC 173-340-350(9)(a)]. In the FS Report, *cleanup standards* will be established (WAC 173-340-700 to -760).

Cleanup standards in MTCA are defined for each hazardous substance present in each environmental medium and for each pathway through which humans and/or the environment may be exposed. Each cleanup standard will address the cleanup levels for hazardous substances, the appropriate point of compliance where these levels must be met, and other applicable regulatory requirements [WAC 173-340-700(3) and (4)]. Under MTCA, a point of compliance specific to each medium and exposure pathway must be established, and it marks the regulatory location (such as depth) where cleanup levels should be attained. Cleanup standards together with area-specific information constitute the remedial action goals.

A cleanup level is the concentration of a hazardous substance in a particular medium that is determined to be protective of human health and the environment under specified exposure conditions. Cleanup levels in combination with points of compliance (cleanup standards) typically define the area or volume of contaminated environmental media at a site that must be addressed by a cleanup action.

In addition to cleanup levels, MTCA allows development of remediation levels at sites where a combination of cleanup action components are used to achieve cleanup levels at the point of compliance or where the cleanup action involves containment of soil (WAC 173-340-355). Remediation levels are used to define the concentration of hazardous substances at which different cleanup action components will be used. In cases where contamination at the Site will be left in place, such as containment under buildings or concourses, remediation levels will be addressed, which by definition would exceed cleanup levels. For these cases, the cleanup action may be determined to comply with cleanup standards if the requirements of WAC 173-340-740(6)(f) are met, including protectiveness and the use of institutional controls.

9.2 Development of Alternatives

A "cleanup action alternative" is defined as one or more treatment technology, containment action, removal action, engineered control, institutional control, or other type of remedial action that, individually or in combination, achieves a cleanup action at a site (WAC 173-340-200). For the NBF-GTSP Site FS, an alternative component will be considered to address a specific media/exposure pathway. Based on the environmental media and the area requiring cleanup, alternatives will be developed from one or more components that address the presence of contaminants at the NBF-GTSP Site. This section of the FS Report will identify alternatives or components with a focus on the rationale for the actions that have been developed.

A range of cleanup action alternatives will be developed by assembling appropriate cleanup components that take into account the characteristics and complexity of the Site. Each alternative will include components that are expected to be capable of attaining the cleanup standards established for a particular exposure pathway and contaminants, as identified in Section 9.1. MTCA defines expectations for the development of remedial alternatives (WAC 173-340-370), which represent the types of cleanup actions that would yield likely results of the remedy selection process (Section 9.4). Selection of a specific cleanup action component for detailed evaluation in the FS does not preclude later (post-FS) consideration of other similar components.

The alternatives developed for the NBF-GTSP Site will provide cleanup actions capable of protecting human health and the environment, as required by MTCA [WAC 173-340-360(2)]. This is accomplished with alternatives that are designed to eliminate, reduce, or otherwise control risks posed through each exposure pathway and migration route [WAC 173-340-350(8)(c)(i)]. For media with contaminants exceeding cleanup levels, identifying the exposure route rather than just the acceptable contaminant levels is important because protectiveness can be achieved by preventing exposures (e.g., by containment or institutional controls) as well as by active cleanup. Although MTCA strongly reflects a preference for permanent remedial actions, less permanent solutions may be accepted if controls are put into place to ensure that the solution is protective of human and ecological receptors.

MTCA requires that a feasibility study include at least one "permanent cleanup action alternative" that is used "to serve as a baseline against which other alternatives shall be evaluated for the purpose of determining whether the cleanup action selected is permanent to the maximum extent practicable" [WAC 173-340-350(8)(c)(ii)]. MTCA defines a permanent cleanup action to be one in which the cleanup standards can be met following the action, without any further action being required at the site, with the exception of the disposal of any treatment residue.

A major difficulty in developing and analyzing alternatives at the NBF-GTSP Site is the large number and diversity of potential areas of concern. The FS process works well for a single area or site, or a closely related set of areas within a site. However, the large number of NBF-GTSP areas of concern with differing characteristics and environmental media potentially needing to be evaluated within the FS creates challenges in the evaluation process. It is difficult to develop alternatives and to subsequently perform analysis (see Section 9.4) for numerous areas that are not comparable in attributes or related in remedial aspects. The FS process may require combining areas of concern into sets of areas based on media, location, and contaminants. For example, the potential soil contamination areas in the PEL area that may be amenable to excavation could be evaluated together to determine what is the most effective remedial alternative for the group. Therefore, the development and analysis of alternatives in the FS may be performed for groups of areas and not in a single combined step.

One of the underlying aspects in identifying the remedial alternatives for the NBF-GTSP Site is that removal or treatment of source material (e.g., contaminated soil or anthropogenic media) will eventually produce a beneficial effect on groundwater or stormwater quality. For example, alternatives may be developed that address only soil or that address both soil and groundwater directly. The more thoroughly the soil is remediated, the less a cleanup action will need to rely on active or passive groundwater remediation.

9.3 Screening of Alternatives

In this section of the FS Report, alternatives will be screened for their applicability in addressing site contamination and achieving remedial objectives (meeting cleanup standards). The various alternatives or components will be screened to narrow the list of technologies and other measures that should be considered for detailed evaluation in the FS. MTCA provides for an initial screening step based on the ability of an alternative to meet the minimum MTCA requirements and also based on its technical feasibility. According to WAC 173-340-350(8)(b), a cleanup alternative or its components may be screened from further consideration if either of the following conditions applies.

- The cleanup action does not meet threshold requirements [WAC 173-340-360(2)(a)], including alternatives in which costs are clearly disproportionate; more specifically:
    - The alternative is not protective of human health and the environment, or
    - The alternative does not comply with the cleanup standards, or
    - The alternative does not comply with applicable state or federal laws, or
    - The alternative does not provide for compliance monitoring.
- The alternative or component is not technically feasible.

MTCA also requires that cleanup alternatives meeting threshold requirements also fulfill the following “other” requirements [WAC 173-340-360(2)(b)]:

- Use permanent solutions to the extent practicable,
- Provide for reasonable restoration time frames, and
- Consider public concerns.

Further screening will be performed to carry forward the most appropriate alternatives or components among those determined to meet the above requirements. This evaluation screens alternatives for which costs are clearly disproportionate or clearly do not meet the criteria of WAC 173-340-360(3) (see Section 9.4).

9.4 Evaluation and Selection of Alternatives

The alternatives developed in the NBF-GTSP Site FS are intended to eliminate risk by removing or destroying contaminants above cleanup level or remediation level concentrations in the media of concern. The FS will involve a comparison of alternatives utilizing a criteria-based evaluation process. MTCA requires that the restoration time frame for each cleanup alternative be evaluated for reasonableness using factors listed in WAC 173-340-360(4).

MTCA further requires the use of permanent solutions in which cleanup levels will be attained at the site without additional remedial actions; however, MTCA recognizes that costs of permanent solutions may be disproportionate to the benefits they provide. Disproportionate costs are defined in MTCA as cases where the incremental costs of an alternative over that of a lower cost alternative exceed the incremental degree of benefits provided by the higher cost alternative. In the case of disproportionate costs, MTCA allows selection of a lower cost alternative that "uses permanent solutions to the maximum extent practicable" [WAC 173-340-360(3)]. Lower cost alternatives are selected by conducting a disproportionate cost analysis, which compares the costs and benefits of remedial alternatives in the FS. This analysis also provides a framework for evaluating non-cost criteria of alternatives.

MTCA specifies several criteria for evaluation and comparison of alternatives when conducting the disproportionate cost analysis to determine whether a remedial action is permanent to the extent practicable. The analysis will involve an evaluation of each alternative relative to the specified criteria listed below [WAC 173-340-360(3)].

- Protectiveness
- Permanence
- Cost
- Long-term effectiveness
- Management of short-term risks
- Technical and administrative implementability
- Consideration of public concerns

The disproportionate cost analysis requires that the alternatives be ranked from most to least permanent and that the most permanent solution alternative serve as the baseline against which all other alternatives are evaluated. When the benefits of two or more alternatives are equal, the lower cost alternative will be selected as the preferred alternative.

Following the disproportionate cost analysis, a comparative evaluation of alternatives will summarize the main aspects (benefits and disadvantages) of each alternative. This last step will highlight the salient features of each alternative. This information will provide the rationale for selection of the preferred remedy [WAC 173-340-350(8)(c)(i)].

The NBF-GTSP Site FS Report will utilize a limited number of figures to depict the cleanup action alternatives proposed at each area of concern. A number of tables will be provided to summarize cleanup standards, development of cleanup alternatives, the screening process, and the analysis of alternatives.

Section 10 of this Work Plan presents the anticipated schedule for the various draft versions of the FS Report. These versions include a preliminary draft FS Report for Ecology review, a second preliminary draft FS Report for PLP review, a draft FS Report for public review and public meeting, a revised draft FS Report for Ecology review, a final draft FS Report for PLP review, and a final FS Report. Draft and final responsiveness summaries will also be prepared for Ecology and PLP review.

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10.0 RI/FS Schedule

The anticipated schedule for completion of the RI/FS deliverables or activities is tabulated below, based in part on the Agreed Order (Appendix A). The schedule dates are necessarily estimated and approximate, and many of these dates are dependent on the timing of previous events that may need to be adjusted. Some activities or deliverables may be modified or their order changed during the RI/FS process. The schedule for the Preliminary Draft RI Report may be revised depending on the phasing of tasks. The RI and FS Reports may also be combined into a single report. For deliverables that are prepared by Ecology, Ecology may extend dates or otherwise modify this schedule at its discretion. Thus, the following schedule is considered to be preliminary and subject to modification.

Estimated Date	RI/FS Deliverable or Activity (with time interval for performing activity)
April 17, 2012	Draft RI/FS Work Plan
April 30, 2012	Draft Cost Estimate (approximate) for RI
May 29, 2012	Review comments from PLPs for Draft RI/FS Work Plan (40 days)
July 9, 2012	Final RI/FS Work Plan (40 days)
September 7, 2012	Draft SAP/QAPP (60 days)
September 24, 2012	Review comments from Ecology for Draft SAP/QAPP (15 days)
October 9, 2012	Final Draft SAP/QAPP (15 days)
October 24, 2012	Review comments from PLPs for Draft SAP/QAPP (15 days)
November 12, 2012	Final SAP/QAPP/HSP, Final Cost Estimate and SOW for RI (15 days)
Nov 2012 to Sep 2013	*Remedial Investigation phase*
September 9, 2013	Preliminary Draft RI Report (300 days after Final SAP/QAPP/HSP)
October 9, 2013	Review comments from Ecology for Preliminary Draft RI Report (30 days)
November 8, 2013	Second Preliminary Draft RI Report (30 days)
December 9, 2013	Review comments from PLPs for Second Preliminary Draft RI Report (30 days)
January 8, 2014	Draft RI Report (30 days)
February 12, 2014	Public comment period for Draft RI Report (35 days)
March 14, 2014	Draft Responsiveness Summary and Revised Draft RI Report (30 days)
March 31, 2014	Review comments from Ecology for Revised Draft RI Report (15 days)
April 15, 2014	Final Draft Responsiveness Summary and Final Draft RI Report (15 days)
April 30, 2014	Review comments from PLPs for Final Draft RI Report (15 days)
May 15, 2014	Final Responsiveness Summary and Final RI Report (15 days)
May to Aug 2014	*Feasibility Study phase*
August 13, 2014	Preliminary Draft FS Report (90 days)
September 12, 2014	Review comments from Ecology for Preliminary Draft FS Report (30 days)
October 13, 2014	Second Preliminary Draft FS Report (30 days)
November 12, 2014	Review comments from PLPs for Second Preliminary Draft FS Report (30 days)
December 12, 2014	Draft FS Report and Draft SEPA Environmental Checklist (30 days)
January 16, 2015	Public comment period for Draft FS Report (35 days)
February 16, 2015	Draft Responsiveness Summary, Revised Draft FS Report, and Revised Draft SEPA Environmental Checklist (30 days)
March 3, 2015	Review comments from Ecology for above documents (15 days)
March 18, 2015	Final Draft Responsiveness Summary, Final Draft FS Report, and Final Draft SEPA Environmental Checklist (15 days)
April 2, 2015	Review comments from PLPs for above documents (15 days)
April 17, 2015	Final Responsiveness Summary, Final FS Report, and Final SEPA Environmental Checklist (15 days)

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11.0 References

[Brackets refer to internal document numbers and will be removed in the final version of this Work Plan.]

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by: **The Boeing Company, King County and the City of Seattle**	North Boeing Field/Georgetown Steam Plant AGREED ORDER No. DE 5685

TO: <u>POTENTIALLY LIABLE PERSONS</u>

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I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and the Boeing Company, King County and the City of Seattle under this Agreed Order (Order) is to facilitate Ecology-conducted remedial action at a facility where there has been a release or threatened release of hazardous substances. Under the terms of this Order, the Boeing Company, King County and the City of Seattle agree to grant Ecology access to property they respectively own and/or control, located at 7370 E. Marginal Way South and 6700-13th Avenue South in Seattle, King County, WA., for the purpose of completing a Remedial Investigation/Feasibility Study (RI/FS) and for conducting one or more interim actions, if appropriate, for the North Boeing Field/Georgetown Steam Plant Site (Site). The Boeing Company, King County, and the City of Seattle shall be given the first opportunity to perform any interim actions that may be required under this Order. If the PLPs are unable to perform interim actions required under this Order, Ecology may perform interim actions and bill the PLPs for all interim action costs. The Boeing Company, King County and the City of Seattle agree to make payments of remedial action costs for state-conducted remedial actions at the Site. Ecology intends to use the funds received from the PLPs to complete the RI/FS and any interim actions performed by Ecology for the Site. Ecology believes the actions required by this Order are in the public interest.

II. JURISDICTION

This Agreed Order is issued pursuant to the authority of the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

III. PARTIES BOUND

This Agreed Order shall apply to and be binding upon the Parties to this Order, their successors and assigns. The undersigned representative of each Party hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such Party to comply with the Order. The Boeing Company, King County and the City of Seattle agree to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter the Boeing Company's, King County's and the City of Seattle's responsibility under this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms used in this Order.

A. Site: The Site is referred to as the North Boeing Field/Georgetown Steam Plant Site and is generally located at 7370 E. Marginal Way South and 6700-13th Avenue South in Seattle, King County, WA. The Site is defined by the extent of contamination caused by the release of hazardous substances at the Site. Based upon factors currently known to Ecology, the Site is more particularly described in Exhibit A to this Order, which includes a detailed Site diagram. The Site constitutes a Facility under RCW 70.105D.020(5).

B. Parties: Refers to the State of Washington, Department of Ecology (Ecology) the Boeing Company, King County and the City of Seattle.

C. Potentially Liable Persons (PLPs): Refers to the Boeing Company, King County and the City of Seattle.

D. Agreed Order or Order: Refers to this Order and each of the exhibits to the Order. All exhibits are integral and enforceable parts of this Order. The terms "Agreed Order" or "Order" shall include all exhibits to the Order.

V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by the PLPs:

A. The Site, which is defined by the extent of contamination caused by the release of hazardous substances, includes land impacted by industrial practices at the Georgetown Steam Plant (GTSP) and North Boeing Field (NBF) properties which are located northeast and east of Slip 4, respectively, and approximately 4 miles south of downtown Seattle. The approximate Site boundaries are shown in Exhibit A. Slip 4 is part of the Lower Duwamish Waterway (LDW) Superfund site. The GTSP is located near the intersection of Warsaw and Ellis Avenue South near the northwest corner of King County International Airport (KCIA). The GTSP property contains an old powerhouse that currently houses the Georgetown Powerplant Museum. A condenser pit beneath the powerhouse is connected to an underground concrete tunnel that discharges into a flume (the GTSP flume). The GTSP flume extends for approximately 0.4 mile from the powerhouse into the head of Slip 4. The City of Seattle owns the 7.29-acre property that contains the powerhouse and property adjacent to the GTSP flume.

King County owns most of the land within NBF, which is bounded to the northwest by Ellis Avenue South, the southeast by the southern end of the Boeing Company's flight line and taxi ways, the northeast by the eastern edge of the Boeing Company's flight line and taxi ways, and the southwest by East Marginal Way South. The Boeing Company leases about 117 acres of NBF property from King County and owns the improvements it has constructed on the leased property. The Boeing Company also leases a few acres on either side of the GTSP flume from the City of Seattle and owns the parcel containing Building 3-390 (King County parcel number 2924049106) and an adjacent parcel used for parking (King County parcel number 2924049066). The Boeing Company manages numerous research, testing, and manufacturing facilities on the property. A network of stormwater catch basins, drains, and pipes collect and convey stormwater from NBF to the head of Slip 4.

B. The Site has been the subject of numerous environmental investigations and cleanups beginning in the early 1980s. These investigations and cleanups are summarized in the following report:

North Boeing Field and Georgetown Steam Plant Summary of Existing Information and Identification of Data Gaps, dated February 2007 by Science Applications International Corporation (SAIC).

More detailed information on individual investigations and cleanups is available in the references listed in this report.

C. Environmental investigations and cleanups revealed releases of polychlorinated biphenyls (PCBs), petroleum hydrocarbons, polynuclear aromatic hydrocarbons (PAHs), antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc to soil; petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), antimony, arsenic, chromium, and lead to groundwater; and PCBs, PAHs, SVOCs, arsenic, copper, lead, mercury, and zinc to suspended solids in stormwater.

D. The U.S. Environmental Protection Agency (EPA) added the LDW to the federal Superfund list on September 13, 2001. EPA has entered into a Memorandum of Understanding with Ecology under which Ecology has been designated the Lead Agency to implement efforts to investigate and control sources of contamination to LDW sediments. PCBs and SVOCs have been identified as contaminants of concern in Slip 4 sediments, and Slip 4 has been identified as an early action area for sediment remediation. Releases of PCBs, PAHs, SVOCs, and metals have been identified in suspended solids in storm water and deposited in storm water piping systems from the Site. Since stormwater from the Site discharges into Slip 4, there is the potential for suspended solids in stormwater from the Site to contaminate sediment in Slip 4. Cleanup of sediment in Slip 4 has been delayed because of potential recontamination of sediment in Slip 4 that might result from contaminant releases from the Site.

E. On the basis of the facts set forth herein, Ecology has determined that a release or threatened release of hazardous substances at the Site requires remedial actions to protect human health and the environment. This Order sets forth the measures that need to be taken to perform a remedial investigation/feasibility study for the Site.

F. Ecology and the PLPs have determined that it is in the best interests of the Parties for Ecology to perform the RI/FS for the Site. The PLPs have agreed to reimburse Ecology for the costs of performing the RI/FS in accordance with Exhibit D of this Order.

VI. ECOLOGY DETERMINATIONS

A. The PLPs are "owners or operators as defined in RCW 70.105D.020(17) of a "facility" as defined in RCW 70.105D.020(5) because the PLPs owned or operated facilities on property at which, and from which, hazardous substances were released into the environment during the PLPs' ownership or operations.

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substance(s)" as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to each PLP dated March 9, 2007, pursuant to RCW 70.105D.040, -.020(21) and WAC 173-340-500. After providing for notice and opportunity for comment, reviewing any comments submitted, and concluding that credible evidence supported a finding of potential liability, Ecology issued determinations that The Boeing Company, King County, and the City of Seattle are PLPs under RCW 70.105D.040 and notified each PLP of this determination by letter dated April 20, 2007.

D. Pursuant to RCW 70.105D.030(1) and .050(1), Ecology may require the PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Ecology is also authorized under MTCA to conduct remedial actions and require access for that purpose. RCW 70.105D.030 (1) (a), (b). Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action. Cleanup of contaminated sediment in Slip 4 has been delayed because of the potential for sediment recontamination as a result of contaminant releases from the Site. Investigation of the Site may reveal sources of contamination to Slip 4 that if addressed promptly will allow Slip 4 remediation to proceed. The need to reduce or eliminate sources of contamination to Slip 4 or imminent threats to human health or the environment might warrant an interim action consistent with WAC 173-340-430. The PLPs shall be given the first opportunity to perform any interim actions that may be required under this Order. Interim actions performed by the PLPs shall be in conformance with WAC 173-340-430. If the PLPs are unable to perform interim actions required under this Order, Ecology may perform interim actions and bill the PLPs for all interim action costs in accordance with Exhibit D of this Order. Such interim actions may be conducted under an amendment to Exhibit B (Scope of Work) for this Order

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that PLPs take the following remedial actions at the Site and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. Access

Each of the PLPs shall provide access to Ecology, any authorized representative of Ecology, and any party or entity directed or authorized by Ecology, to all property at the Site that the PLP either owns, controls, or has access rights to at all reasonable times, so that Ecology can perform any remedial actions that Ecology deems necessary for conducting or monitoring the RI/FS or interim action work at the Site. Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that the PLPs either own, control, or have access rights to at all reasonable times for the purposes of, *inter alia*: conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work performed for purposes of the RI/FS, and any other activity necessary to conduct the RI/FS or any interim actions under WAC 173-340-430 and Section VI E. of this Order. The PLPs shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by the PLPs where remedial investigations will be performed pursuant to this Order.

Ecology or any Ecology authorized representative shall give reasonable notice to any PLP before entering any Site property owned or controlled by that PLP or to which that PLP has access rights unless an emergency prevents such notice. All persons who access the Site pursuant to this Section shall comply with any applicable Health and Safety Plan(s), appropriate PLP access and security procedures, and applicable FAA requirements. Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access. Any required activities that could potentially interrupt airport operations must be performed to minimize impact to airport operations. Any required activities within the Runway Safety Areas must be scheduled with the Airport a minimum of 14 days prior to the proposed work.

Each PLP's Project Coordinator or other representative may accompany Ecology's representative(s) at all times at property owned or operated by that PLP. If property is owned or operated by more than one PLP, then each PLP who is an owner, lessee, or operator may have its Project Coordinator or other representative accompany Ecology's representative. Any photography, video or audio recording of any activities at property owned or operated by The Boeing Company may be reviewed by The Boeing Company, to enable The Boeing Company to make a claim of business confidentiality related to any such photographs or recordings. In the event Ecology receives a public disclosure request for information related to this Site, The Boeing Company agrees not to assert any business confidentiality claim with regard to any geologic, hydrologic or analytical data.

PLPs shall provide information to Ecology and any Ecology authorized representatives regarding the nature and location of all utilities, including but not limited to buried utilities, in areas of the site where RI/FS activities will be conducted. If requested by Ecology, PLPs shall assign staff with relevant training and knowledge of utilities to escort Ecology staff and any Ecology authorized representatives when they enter the Site to conduct RI/FS or interim action related activities. PLPs shall indemnify, and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property arising from disturbing, damaging or otherwise coming in contact with utilities on the Site. However, PLPs shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, resulting from disturbing, damaging or otherwise coming in contact with utilities on the Site.

VIII. TERMS AND CONDITIONS OF ORDER

A. Public Notices

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that the Order is inadequate or improper in any respect.

B. Remedial Action Costs

For work performed by Ecology's contractor on the RI/FS or interim actions for the Site, the PLPs shall make payments to Ecology in accordance with the North Boeing Field/Georgetown Steam Plant Site Receivable Agreement attached hereto as Exhibit D and incorporated herein. The payments provided pursuant to that agreement will constitute payment of remedial action costs for state-conducted remedial action at the Site, including but not limited to a remedial investigation and feasibility study, and interim actions Ecology deems necessary or appropriate for Ecology to perform under WAC 173-340-430.

For work other than that performed by Ecology's contractor on the RI/FS or interim actions for the Site, the PLPs shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2). These costs shall include work performed by

Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of the Order. Costs for work prior to issuance of the Order began to accrue on August 1, 2007. The PLPs shall pay the required amount within ninety (90) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

C. Implementation of Remedial Action

Except where necessary to abate an emergency situation, PLPs shall not perform any remedial actions at the Site unless Ecology concurs, in writing, with such additional remedial actions.

D. Designated Project Coordinators

The project coordinator for Ecology is:

Mark H. Edens
Washington State Department of Ecology
Northwest Regional Office
Toxics Cleanup Program
3190 – 160th Avenue S.E.
Bellevue, WA 98008-5452
Telephone: 425-649-7070

The project coordinators for the PLPs are:

Peter Dumaliang
King County International Airport
7277 Perimeter Road S.
Seattle, WA 98112
Telephone: 206-296-7597

Tom Meyer
City of Seattle/City Light Department
P.O. Box 34023
Seattle, WA 98124
Telephone: 206-386-9168

Carl Bach
The Boeing Company
P.O. Box 3707, M/C 1W-12
Seattle WA 98124-2207
Telephone: 206-898-0438

The Ecology project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and the PLPs, and all communications, including reports and other documents, concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project coordinator(s).

Ecology and PLPs may change their respective project coordinator, but must provide ten (10) days advance written notification of the change to the other parties.

E. Public Participation

A public participation plan is required for this Site. Ecology has developed a public participation plan in conjunction with the PLPs, which is included as Exhibit C. Exhibit C is incorporated by reference and is an integral and enforceable part of this Order.

Ecology shall maintain the responsibility for public participation at the Site. However, the PLPs shall cooperate with Ecology, and shall:

1. Notify Ecology's project coordinator five business days prior to any of the following scheduled activities: the issuance of press releases; distribution of fact sheets; performance of other outreach activities; meetings with the interested public and/or local governments. Likewise, Ecology shall notify PLPs five business days prior to the issuance of press releases and fact sheets, and before meetings with the interested public and local governments. When a PLP or Ecology conducts or participates in an unscheduled public involvement activity such as those described above, the PLP or Ecology shall provide the other

Parties with notice of such activities within five business days following the unscheduled activity. For all scheduled press releases, fact sheets, meetings, and other outreach efforts by the PLPs that do not receive prior Ecology approval, the PLPs shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology;

2. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter;

3. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

a. South Park Library
8604 Eight Ave S. Cloverdale St.
Seattle, WA 98108

b. Ecology's Northwest Regional Office
3190 – 160th Avenue S.E.
Bellevue, WA 98008-5452

At a minimum, copies of all public notices, fact sheets, and press releases; all quality assured monitoring data; remedial action plans and reports; supplemental remedial planning documents; and all other similar documents relating to performance of the remedial action required by this Order shall be promptly placed in these repositories.

F. Retention of Records

During the pendency of this Order and for ten (10) years from the date of completion of work performed pursuant to this Order, PLPs shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order. Upon request of Ecology, PLPs shall make all records consistent with Chapter 42.56 RCW available to Ecology and allow access for review within a reasonable time. In the event Ecology receives a public disclosure request for information related to this Site, Ecology agrees to notify the Boeing

Company in order to allow the Boeing Company to oppose release of records pursuant to RCW 42.56.540. The Boeing Company agrees not to assert any business confidentiality claim with regard to any geologic, hydrologic or analytical data.

G. Resolution of Disputes

1. In the event a dispute arises regarding access to the Site by Ecology or its authorized representatives or other decisions by Ecology, the Parties shall utilize the dispute resolution procedure set forth below.

a. Upon receipt of the Ecology project coordinator's decision regarding a Site access dispute or other Ecology decision, PLPs have fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision.

i. The PLPs shall include in the written objection sufficient detail to allow Ecology to evaluate the merits of the dispute.

ii. Such detail shall include the specific Ecology determination regarding Site access or other Ecology decision in dispute and shall include specific argument(s) documenting the basis for invoking the dispute resolution procedure.

iii. Clarification of Ecology directions or determinations shall not be managed through the dispute resolution procedure. The Ecology project coordinator will make such clarifications in a manner and time they deem appropriate to expedite to the maximum extent practicable the work performed under this order.

b. The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

c. PLPs may then request Ecology management review of the decision. This request shall be submitted in writing to the Northwest Region Toxics Cleanup Section

Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

d. The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within sixty (60) days of PLP's request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

H. Comment and Review by PLPs and Ecology

1. Ecology shall provide copies of the following documents to the PLPs for review and comment:

Supplemental Data Gaps Report

Remedial Investigation Work Plan

Remedial Investigation Work Plan Amendments

Remedial Investigation Report

Feasibility Study Report

Interim Action Recommendations, Plans, Reports, or Memoranda

Additional documents may be provided for review at Ecology's discretion.

PLPs may submit comments on documents submitted to them for review and comment no later than 30 days after receiving the documents from Ecology. The time limits for document review may be extended by written permission from Ecology. Ecology will consider the PLPs' timely submitted comments, and may incorporate them into the documents or make changes to the documents based on them as deemed appropriate by Ecology.

2. For interim actions performed by the PLPs, the PLPs shall submit a draft interim action report to Ecology in accordance with WAC 173-340-430(7). Ecology shall provide the

PLPs with comments on the interim action report no later than 30 days after receiving the document from the PLPs. The time limits for interim action report review may be extended or decreased by mutual agreement between Ecology and the PLPs. The PLPs shall address Ecology's review comments, prepare a final interim action report, and submit the final interim action report to Ecology for approval. Plans or reports for interim action construction shall be submitted to Ecology for review and approval in accordance with WAC 173-300-400.

I. Amendment of Order

This Order may be formally amended only by the written consent of both Ecology and the PLPs. If the amendment to the Order represents a substantial change, Ecology will provide additional public notice and opportunity to comment. At Ecology's discretion amendments to Exhibit B (Scope of Work) of this Order for interim actions may not be considered a substantial change to this Order by Ecology if generally such interim actions have been identified as potential interim actions in Exhibit B prior to the Amendment. Ecology may elect to discontinue performance of the RI/FS or interim actions at any time and instead have the PLPs carry out, or complete carrying out, under a new scope of work, the RI/FS or interim action(s). In that event, Ecology shall provide 30 days advance written notice to PLPs of its intention to discontinue its performance of the RI/FS and require the PLPs to carry out or complete the RI/FS or any interim actions.

J. Endangerment

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

K. Reservation of Rights

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. In addition, Ecology will not take additional enforcement actions against PLPs regarding remedial actions required by this Order, provided PLPs comply with this Order. Ecology reserves its rights under Chapter 70.105D RCW, including the right to require remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

L. Transfer of Interest in Property

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by any of the PLPs without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to any PLP's transfer of any interest in all or any portion of the Site, and during the effective period of this Order, all PLPs shall serve a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, a PLP shall notify Ecology of said transfer. Upon transfer of any interest, a PLP shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

M. Indemnification

PLPs agree to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property arising or resulting from entry into and implementation of this Order, or from Ecology's or its agents' entry onto the Site and performance of tasks necessary to complete the RI/FS for the site. However, PLPs shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Order.

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon PLP's receipt of written notification from Ecology that Ecology has completed the RI/FS and any required interim action(s), the PLPs have made final payments of invoiced amounts as required by the North Boeing Field/Georgetown Steam Plant Receivable Agreement, and access for the purposes of performing the RI/FS is no longer required.

X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for remedial actions and orders related to the Site.

C. In the event PLPs refuse, without sufficient cause, to comply with any term of this Order, PLPs will be liable for:

1. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

2. Civil penalties of up to $25,000 per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: AUGUST 14, 2008

The Boeing Company

Steven Shestag
EHS Remediation Director
The Boeing Company
P.O. Box 3707, M/C 055-T487
Seattle, WA 98124-2207
Telephone: 818-466-8822

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY

Robert Warren, P.Hg., MBA
Regional Section Manager
Toxics Cleanup Program
Northwest Regional Office
3190 – 160th Avenue S.E.
Bellevue, WA 98008-5452
Telephone: 425-649-7054

action(s), the PLPs have made final payments of invoiced amounts as required by the North Boeing Field/Georgetown Steam Plant Receivable Agreement, and access for the purposes of performing the RI/FS is no longer required.

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B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for remedial actions and orders related to the Site.

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Effective date of this Order: August 14, 2008

The Boeing Company

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Steven Shestag
EHS Remediation Director
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STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY

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King County

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The City of Seattle

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Mayor
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EXHIBIT A – North Boeing Field-Georgetown Steam Plant Agreed Order – Site Diagram

EXHIBIT B
SCOPE OF WORK AND SCHEDULE
North Boeing Field/Georgetown Steam Plant RI/FS

SCOPE OF WORK

PURPOSE
The purpose of this RI/FS Scope of Work (SOW) for the North Boeing Field/Georgetown Steam Plant Site (the Site) is to describe the work to be carried out by the parties to the Agreed Order (AO) entered into by the Department of Ecology (Ecology) and the city of Seattle, King County, and The Boeing Company (the PLPs). The AO provides that Ecology may perform the RI/FS. The PLPs will be given the first opportunity to perform any interim actions that may be required under the AO. If the PLPs are unable to perform interim actions required under the AO, Ecology may perform interim actions and bill the PLPs for all interim action costs. The RI/FS is intended to provide sufficient data, analysis, and evaluations to enable Ecology to select a cleanup alternative for the Site. The SOW is divided into five major tasks. Tasks 1, 2, 3, & 5 may be completed by Ecology's contractor. Task 4, Potential Interim Actions will be performed by the PLPs unless they are unable to perform interim actions. If the PLPs are unable to perform interim actions, Ecology or Ecology's contractor may perform interim actions. The five SOW tasks are as follows:

Task 1. Progress Reports
Task 2. Supplemental Summary of Existing Information and Data Gaps Report and RI/FS Project Plans
Task 3. Remedial Investigation
Task 4. Potential Interim Actions
Task 5. Feasibility Study and SEPA Compliance

This SOW assumes that separate RI and FS reports will be prepared and submitted for public review. Ecology may direct the preparation of a combined RI/FS report, if project staff resources and schedules allow for preparation of a combined report.

TASK 1. PROGRESS REPORTS

As long as Ecology is conducting the RI/FS it shall require that its contractor(s) submit progress reports to it monthly for the duration of the RI/FS project. Ecology will request that its contractor submit progress reports to the Ecology project coordinator by the 15th of the month following the reporting month. If this day is a weekend or holiday, the progress report will be submitted to Ecology on the next business day. At a minimum, progress reports should contain the following information regarding the preceding reporting period:

- A description of the actions which have been taken to comply with the AO and SOW during the previous reporting period.

- An estimate of the percentage of RI/FS work completed to date.
- Summaries of sampling and testing reports and other data reports received.
- Summaries of deviations from approved work plans, including schedule changes.
- Summaries of contacts with representatives of the local community, public interest groups, press, and federal, state, or tribal governments.
- Summaries of problems or anticipated problems in meeting the schedule or objectives set forth in the SOW and Work Plan.
- Summaries of solutions developed and implemented or planned to address any actual or anticipated problems or delays.
- Changes in key personnel.
- A description of work planned for the next reporting period.

TASK 2. SUPPLEMENTAL SUMMARY OF EXISTING INFORMATION AND DATA GAPS REPORT AND RI/FS PROJECT PLANS

Task 2.1 Supplemental Summary of Existing Information and Data Gaps Report

Science Applications International Corporation (SAIC) prepared a *Summary of Existing Information and Identification of Data Gaps* report for the Site in February 2007 (Data Gaps Report). This report included information and data through mid-September 2006. Current information will be needed to determine the data gaps that need to be addressed during the RI/FS. Within sixty (60) days of signing the AO, the PLPs shall provide additional information that was not included in the Data Gaps Report. This information shall include historical or recent Site environmental monitoring data that were not included in the Data Gaps Report; a description of any past and present buildings, structures (including utility and storm drain lines) and areas on the Site that were not described in the Data Gaps Report including drawings, maps of their locations, descriptions of the activities that occurred at these locations including hazardous substances that might have been used, and potential releases of hazardous substances that might have occurred; a description of any historical or recent remedial actions taken at the Site that were not described in the Data Gaps Report; and a description of any future investigations or cleanups that have been planned for the Site.

A *Supplemental Summary of Existing Information and Identification of Data Gaps* report (Supplemental Data Gaps Report) may be prepared by the Ecology contractor, which should provide the following information:

- Historical or recent Site environmental monitoring data that was not included in the Data Gaps Report.
- A description of any past and present buildings, structures, and areas on the Site that were not described in the Data Gaps Report including maps of their locations, descriptions of the activities that occurred at these locations, including hazardous substances that might have been used, and potential releases of hazardous substances that might have occurred.

- A description of any historical or recent remedial actions taken at the Site that were not described in the Data Gaps Report.
- A description of any future investigations or cleanups that have been planned for the Site.
- Data gaps related to the objectives of the RI/FS based on available Site-related information

The purpose of the supplemental information described above and information in the February 2007 Data Gaps Report is to prepare a list of data gaps that need to be addressed as part of the RI and to identify contaminants of concern (COCs) for various Site locations and media. Ten (10) copies of the draft Supplemental Data Gaps Report are to be prepared and submitted to Ecology for review and comment. After Ecology's comments on the draft report are addressed, ten (10) copies of the final draft report are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments on the final draft report are addressed, ten (10) copies of the final report are to be prepared and submitted to Ecology for distribution. Draft, final draft and final deliverables shall also be provided electronically in Word/Excel and Adobe .pdf formats. Historical data reviewed and/or summarized during this task will not be uploaded to Ecology's Environmental Information Management (EIM) database.

Task 2.2 RI/FS Project Plans

Task 2.2.1. RI/FS Work Plan

To plan and manage the RI/FS, the project tasks and management strategies may be summarized in an RI/FS Work Plan (Work Plan) that will be developed and submitted to Ecology and the PLPs for review in accordance with this SOW. The Work Plan is to specify and describe all tasks to be accomplished to complete an RI/FS that meets the requirements of WAC 173-340-350 in accordance with the AO and this SOW. The Work Plan is to outline the overall technical approach, and should include, at a minimum, the following elements:

- Preliminary conceptual Site model.
- Summary of results of Data Gaps Report and Supplemental Data Gaps Report.
- Overall description of RI/FS activities.
- Project management strategy for implementing and reporting on RI/FS activities, including phasing of activities.
- Responsibility and authority of all organizations and key personnel involved in conducting the RI/FS.
- Description of individual RI/FS tasks, subtasks and interim and final deliverables.
- A plan for prioritizing the RI to prioritize investigations that focus on existing or potential contaminant releases that might recontaminate Slip 4.
- Draft outline of final RI and FS reports, including types of data evaluation, figures, and tables that will be included.

- Proposed schedule, including a timeline for completion of all RI/FS tasks, subtasks, and interim and final deliverables, including but not limited to the deliverables listed in this SOW. The objectives and anticipated content of any deliverable not listed in this SOW will also be provided.

The Work Plan is not to be implemented until approved by Ecology. Once approved by Ecology, the Work Plan may be implemented according to the schedule contained in this SOW or any schedules contained or revised in the Work Plan that are approved by Ecology. RI/FS subtasks may be developed to address the data gaps identified in the Data Gaps Report and the Supplemental Data Gaps Report prepared as Task 2.1 of this SOW. RI/FS tasks and subtasks may be developed to include, as appropriate, the following:

- Development of a conceptual Site model – Identification of potential contaminant sources, types and concentrations of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors.
- Analysis of applicable or relevant and appropriate requirements (ARARs) – Identification of MTCA cleanup levels, maximum contaminant levels, Sediment Management Standards, and other regulatory limits for Site COCs and other regulatory requirements for the Site.
- Determination of data quality objectives – Determination of the level of data quality needed for environmental sampling and testing and the contaminant detection limits that will be achievable and necessary to determine compliance with ARARs.
- Analysis and investigation of documented areas of contamination – Analysis of Site areas identified in the Data Gaps Report or Supplemental Data Gaps Report where environmental investigations or cleanups have been conducted, and plans for subsurface soil and groundwater investigations of Site areas that have residual contamination exceeding ARARs or that have the potential to contaminate Site stormwater.
- Investigation of suspected areas of contamination – Plans for subsurface soil and groundwater investigations of Site areas that are suspected to be contaminated on the basis of information in the February 2007 Data Gaps Report or the Supplemental Data Gaps Report prepared for Task 2.1 of this SOW.
- Analysis and investigation of stormwater system – Plans for sampling and testing of Site stormwater and sediments to trace sources of contaminants into the stormwater system; analysis of stormwater system historical maps and recent inspections to identify abandoned or damaged piping or structures that might be allowing contaminants to enter into the system; plans for subsurface soil and groundwater sampling and testing of areas that are suspected to be sources of contaminants into the stormwater system.
- Analysis and investigation of contaminated joint sealant material – Analysis of contaminated joint sealant sampling and testing, removal, and replacement; analysis of replacement joint sealant that has become recontaminated to determine the mechanism for recontamination; plans for sampling and testing concrete associated with contaminated joint sealant; analysis of airport sweeping data to evaluate impacts of joint sealant removal and replacement on contaminant

concentrations; plans for sampling and testing remaining contaminated joint sealant and associated concrete for leachability and weathering to determine if these materials might continue to be a source of stormwater contamination.
- Analysis and investigation of building coatings, caulk, and roofing materials – Analysis of coatings, caulk, and roofing materials on buildings and structures on the Site to determine if these materials contain contaminants that might be released to stormwater; plans for sampling and testing these materials for the presence of contaminants and for the potential release of these contaminants to stormwater.
- Other field investigations, as appropriate.
- Phasing of RI tasks to prioritize investigations that focus on existing or potential contaminant releases that might recontaminate Slip 4.
- Data evaluation.
- Terrestrial ecological evaluation.
- RI Report.
- Remedial alternatives development and screening.
- Detailed analysis of alternatives.
- FS Report.

Ten (10) copies of the draft RI/FS work plan are to be prepared and submitted to Ecology for review and comment. After Ecology's comments on the draft work plan are addressed, ten (10) copies of the final draft work plan are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments on the final draft work plan are addressed, ten (10) copies of the final work plan are to be prepared and submitted to Ecology for distribution. Draft, final draft, and final work plan deliverables shall also be provided electronically in Word/Excel and Adobe .pdf formats.

Task 2.2.2 Other Project Plans

Pursuant to WAC 173-340-350(7)(c)(iv), a Sampling and Analysis Plan (SAP) and a Quality Assurance Project Plan (QAPP) is to be prepared and submitted for review by Ecology and the PLPs. A Health and Safety Plan (HSP) may also be prepared and submitted but will not be subject to Ecology or PLP review.

Sampling and Analysis Plan

A SAP for RI sampling and analysis activities is to be prepared in accordance with WAC 173-340-820. The purpose of the SAP is to describe the sample collection, handling, and analysis procedures to be used in the RI sampling program, such that the information obtained will meet the data needs identified in the Work Plan. The SAP should describe the sampling objectives and the rationale for the sampling approach. A detailed description of sampling tasks may then be provided, including specification for sample identifiers; the type, number, and location of samples to be collected; contingency measures if samples cannot be collected or if insufficient sample volumes are obtained: the analyses to be performed; descriptions of sampling equipment and collection methods to be used; and descriptions of sample documentation and sample containers, collection, preservation and handling.

Quality Assurance Project Plan

A QAPP for RI sampling and analysis activities is to be prepared. The QAPP will identify and describe measures that will be taken during the performance of all sampling and analysis tasks to ensure the fulfillment of data quality objectives. Data quality objectives will reflect the criteria or threshold values used for remedial decisions. The QAPP will include the following elements:

- A brief project description, referencing the Work Plan and/or SAP for details.
- Project personnel and QA responsibilities.
- Quality assurance objectives, including precision, accuracy, and level of data validation.
- Field QA measures, including sample acceptability criteria, field QA samples, and calibration of field instruments, referencing the SAP for a discussion of decontamination procedures and sample custody and handling.

An Ecology accredited laboratory, accredited for the specific analyses to be performed under this AO, will be used. If an unaccredited lab is proposed to be used, the results of recent performance audits and systems audits will be provided to Ecology prior to use of the lab.

Health and Safety Plan

An HSP for RI activities is to be prepared in accordance with WAC 173-340-810. The HSP must be consistent with the requirements of the Washington Industrial Safety and Health Act of 1973, chapter 49.17 RCW, including any updates or amendments. The HSP should identify specific monitoring and management responsibilities and activities to ensure the protection of human health during the conduct of activities associated with the RI.

Ten (10) copies of the draft SAP and draft QAPP are to be prepared and submitted to Ecology for review and comment. After Ecology's comments on the draft SAP and QAPP are addressed, ten (10) copies of the final draft SAP and final draft QAPP are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments are addressed, ten (10) copies of the final SAP and final QAPP are to be prepared and submitted to Ecology for distribution together with ten (10) copies of the final HSP. Draft, draft final, and final SAP and QAPP shall also be provided electronically in Word/Excel and Adobe .pdf formats.

TASK 3. REMEDIAL INVESTIGATION

An RI that meets the requirements of WAC 173-340-350(7) is to be conducted according to the Work Plan as approved by Ecology. The RI will determine the nature and extent of contamination exceeding MTCA cleanup levels, maximum contaminant levels, Sediment Management Standards, and other regulatory requirements, and will provide sufficient data and information for Ecology to select a final remedy for the Site. The RI will be phased to prioritize investigations that focus on existing or potential contaminant releases that might recontaminate Slip 4. The RI will include, as appropriate, the following elements:

- Subsurface sampling and testing of soil and groundwater in Site areas with confirmed or suspected soil or groundwater contamination that exceeds ARARs or has the potential to contaminate stormwater.
- Identification and location of abandoned or damaged stormwater piping, abandoned piping conduits, subsurface debris, and structures that might be pathways for contamination of stormwater.
- Sampling and testing of stormwater and sediments before and after system cleaning to locate sources of contaminants into the stormwater system.
- Sampling and testing of joint sealant material for the presence of contaminants and for susceptibility to weathering and leaching; sampling and testing of concrete associated with contaminated joint sealant to evaluate potential contamination because of leaching of contaminants from joint sealant material and, if needed, for susceptibility to weathering and leaching; sampling and testing of exposed surfaces in areas where joint sealant has been removed to evaluate residual contamination and susceptibility to weathering and leaching.
- Sampling and testing of solids from airport sweeping.
- Sampling and testing of coatings, caulk, and roofing materials on buildings and structures for the presence of contaminants and for the potential release of contaminants to stormwater.
- Preparation and submittal of interim data reports and updates as new Site data and information become available.

Ecology will be informed of changes to the Work Plan and other project plans and of issues and problems as they develop during the RI. Ecology and the PLPs may verbally agree to minor changes to the work to be performed without formally amending the AO. Minor changes will be documented in writing by Ecology. Major changes to the work, as determined by Ecology, will be addressed in accordance with Section VIII.I of the AO.

The results of the Site investigation are to be compiled into an RI report. Ten (10) copies of the preliminary draft RI report are to be prepared and submitted to Ecology for review and comment. After Ecology's comments on the preliminary draft report are addressed, ten (10) copies of a second preliminary draft RI report are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments on the second preliminary draft report are addressed, ten (10) copies of a draft RI report are to be prepared and submitted to Ecology for distribution and public comment. Preliminary draft and draft deliverables shall also be provided electronically in Word/Excel and Adobe .pdf formats.

The draft RI report is to be presented at one public meeting or hearing. After the public comment period is completed, a draft responsiveness summary is to be prepared that addresses public comments and a revised draft RI report is to be prepared. Ten (10) copies of the draft responsiveness summary and revised draft RI report are to be prepared and submitted to Ecology for review and comment. After Ecology's comments are addressed, ten (10) copies of a final draft responsiveness summary and final draft RI report are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments are addressed, ten copies of the final responsiveness summary and final RI report are to be prepared and submitted to Ecology for distribution. Revised draft, final draft, and final deliverables shall also be provided electronically in Word/Excel and Adobe .pdf formats. In addition, RI-generated analytical data will be uploaded to Ecology's Environmental Information Management (EIM) database.

TASK 4. POTENTIAL INTERIM ACTIONS

Remedial actions implemented prior to completion of the RI/FS will be considered interim actions, will be implemented in accordance with WAC 173-340-430 and the AO, and will be designed in a manner that will not foreclose reasonable alternatives for any final cleanup action that may be required.

If an interim action is identified by Ecology that needs to be implemented prior to completion of the RI/FS, the PLPs will be given the first opportunity to perform the interim action. If the PLPs are unable to perform identified interim actions, Ecology may perform interim actions and bill the PLPs for all interim action costs.

Interim action work plans and reports will be prepared and submitted for review in accordance with the AO. Upon successful completion of the work, an Interim Action Report will be prepared as a separate deliverable. Interim action deliverables shall be submitted in hard copy and provided electronically in Word/Excel and Adobe .pdf formats.

The scope of the interim actions may include, but not be limited to, typical source control or containment elements such as:

- Soil removal.
- Groundwater remediation
- Repair, slip lining, replacement, or closure of stormwater piping or other structures such as
  conduit, vaults, catch basins, etc.
- Performance and/or confirmation sampling
- Removal of joint sealant material
- Removal of contaminated building or other structural material
- Construction of an interim or final treatment facility

TASK 5. FEASIBILITY STUDY AND SEPA COMPLIANCE

Task 5.1 Feasibility Study

The information obtained in the RI is to be used to conduct an FS that meets the requirements of WAC 173-340-350(8) according to the Work Plan as approved by Ecology. The FS is to include the following elements:

- Determination of cleanup standards and applicable laws.
- Identification and screening of cleanup technologies.
- Basis for assembly of cleanup action alternatives.
- Description of cleanup alternatives.
- Comparative evaluation of cleanup alternatives in accordance with WAC 173-340-360.

The results of these analyses are to be compiled into an FS report. Ten (10) copies of the preliminary draft FS report are to be prepared and submitted to Ecology for review and comment. After Ecology's comments on the preliminary draft report are addressed, ten (10) copies of a second preliminary draft FS report are to be prepared and submitted to Ecology for distribution to the PLPs. After Ecology's comments on the second preliminary draft FS report are addressed, ten (10) copies of a draft FS report are to be prepared and submitted to Ecology for distribution and public comment. Preliminary draft and draft deliverables shall also be provided electronically in Word/Excel and Adobe.pdf formats.

The draft FS report and SEPA evaluation are to be presented at one public meeting or hearing, in conjunction with the SEPA evaluation (see Task 4.2 below). After the public comment period is completed, a draft responsiveness summary is to be prepared to address public comments and a preliminary draft final FS report is to be prepared. Ten (10) copies of the draft responsiveness summary and preliminary draft final FS report are to be prepared and submitted to Ecology for review and comment. After Ecology's comments are addressed, ten (10) copies of the draft final responsiveness summary and draft final FS report are to be prepared and submitted to Ecology for distribution to the PLPs for review and comment. After the PLPs' comments are addressed, ten (10) copies of the final responsiveness summary and final FS report are to be prepared and submitted to Ecology for distribution. Preliminary draft, draft and final deliverables shall also be provided electronically in Word/Excel and Adobe .pdf formats.

Task 5.2 SEPA Compliance

The RI/FS must comply with the State Environmental Policy Act (SEPA) Rules including preparation and circulation of an environmental checklist, making a threshold determination, and issuing a determination of nonsignificance (DNS) or determination of significance (DS). If it is necessary to issue a DS, draft and final environmental impact statements must be prepared under a separate Scope of Work to be prepared by Ecology. SEPA public involvement requirements must be coordinated with MTCA public involvement requirements whenever possible, such that public comment periods and meetings or hearings can be held concurrently.

The SEPA evaluations are to be presented at one public meeting or hearing in conjunction with the draft FS report (see Task 4.1 above) and any additional presentations at separate meetings or hearings that might be required for SEPA compliance. Preliminary draft, draft, revised draft, final draft, and final environmental checklists are to be prepared and submitted concurrently with the deliverables described in Task 4.1.

SCHEDULE

A general schedule for deliverables for this SOW is presented below. If a deliverable is due on a weekend or holiday, the deliverable will be submitted on the next business day. For deliverables that may be prepared by Ecology, Ecology may extend dates or otherwise modify this schedule at its discretion. The schedule for the preliminary draft RI report may be revised depending on the phasing of tasks as described in the work plan, A more detailed project schedule will be prepared as part of Task 2.2.1.

RI/FS Deliverables	**Completion Times**
Task 1. Progress Reports	15^{th} of every month beginning the first full month after execution of the work order with Ecology's contractor
Task 2.1 Draft Supplemental Summary of Existing Information and Data Gaps Report	60 calendar days after receiving supplemental Site information from PLPs
Task 2.1 Final Draft Supplemental Summary of Existing Information and Data Gaps Report	15 calendar days after receiving review comments from Ecology
Task 2.1 Final Supplemental Summary of Existing Information and Data Gaps Report	15 calendar days after receiving review comments from the PLPs
Task 2.2.1 Draft RI/FS Work Plan	120 calendar days after completing the final Supplemental Data Gaps Report
Task 2.2.1 Final Draft RI/FS Work Plan	30 calendar days after receiving review comments from Ecology
Task 2.2.1 Final RI/FS Work Plan	30 calendar days after receiving review comments from the PLPs
Task 2.2.2 Draft SAP and QAPP	60 calendar days after completing the final RI/FS Work Plan
Task 2.2.2 Final Draft SAP and QAPP	15 calendar days after receiving review comments from Ecology
Task 2.2.2 Final SAP, QAPP, and HSP	15 calendar days after receiving review comments from the PLPs

Task 3 Preliminary Draft RI Report	300 calendar days after completing the final SAP and QAPP and HSP
Task 3 Second Preliminary Draft RI Report	30 calendar days after receiving review comments from Ecology
Task 3 Draft RI Report	30 calendar days after receiving review comments from the PLPs
Task 3 Draft Responsiveness Summary and Revised Draft RI Report	30 calendar days after completion of the public comment period
Task 3 Final Draft Responsiveness Summary and Final Draft RI Report	15 calendar days after receiving review comments from Ecology
Task 3 Final Responsiveness Summary and Final RI Report	15 calendar days after receiving review comments from the PLPs
Task 4. Interim Action Work Plans and Reports	To be determined by Ecology
Task 4. Final Interim Action Report	To be determined by Ecology
Task 5 Preliminary Draft FS Report and Draft Environmental Checklist	90 calendar days after completion of the RI Report
Task 5 Second Preliminary Draft FS Report and Revised Draft Environmental Checklist	30 calendar days after receiving review comments from Ecology
Task 5 Draft FS Report and Draft Environmental Checklist	30 calendar days after receiving review comments from the PLPs
Task 5 Draft Responsiveness Summary, Revised Draft FS Report, and Revised Draft Environmental Checklist	30 calendar days after completion of the public comment period
Task 5 Final Draft Responsiveness Summary, Final Draft FS Report, and Final Draft Environmental Checklist	15 calendar days after receiving review comments from Ecology
Task 5 Final Responsiveness Summary, Final FS Report, and Final Environmental Checklist	15 calendar days after receiving review comments from the PLPs

WASHINGTON STATE
DEPARTMENT OF
ECOLOGY

EXHIBIT C

PUBLIC PARTICIPATION PLAN

NORTH BOEING FIELD/GEORGETOWN STEAM PLANT SITE

SEATTLE, WASHINGTON

Prepared by
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

July 2008

Table of Contents

Introduction

The Washington State Department of Ecology (Ecology) prepared this Public Participation Plan (Plan) according to the Model Toxics Control Act (MTCA). This plan is designed to promote meaningful community involvement during the Remedial Investigation/Feasibility Study at the North Boeing Field/Georgetown Steam Plant properties located at 7370 East E. Marginal Way South and 6700 13th Avenue South in Seattle, Washington. This plan outlines and describes the tools Ecology will use to inform the public about site activities, and it identifies opportunities for the community to become involved in this process.

Ecology and the Boeing Company, the city of Seattle, and King County have negotiated a legal agreement called an Agreed Order to conduct a Remedial Investigation/Feasibility Study at the site. The purpose of the Remedial Investigation (RI) is to determine the nature and extent of contamination on the site. An analysis of potential sources of contaminants into the stormwater system on the site will be included as part of the investigation. Stormwater from the site is an on-going source of contamination to sediments in Slip 4 of the Lower Duwamish Waterway that could cause a violation of sediment cleanup goals. The Feasibility Study (FS) will use the results of the RI to evaluate and select effective measures to prevent releases of contamination from the site, including any sources of contamination migrating from the site to the Lower Duwamish Waterway.

Cleanup actions might be identified during the RI that will eliminate or minimize current releases of contamination to Lower Duwamish Waterway sediments or that are necessary to prevent an imminent threat to human health or the environment. Ecology will consider implementing such cleanup actions as interim actions under the existing Agreed Order.

Location and Site Background

The North Boeing Field/Georgetown Steam Plant properties are located at 7370 East E. Marginal Way South and 6700 13th Avenue South in Seattle, Washington on the east site of the Lower Duwamish Waterway. The Site is bordered to the northwest by Ellis Avenue South, the southwest by East Marginal Way South, and the east by King County International Airport (See figure on page 7 for the approximate site boundaries). Final site boundaries will be defined by the extent of contamination determined during the RI.

Site Background

The Site includes the Georgetown Steam Plant (GTSP) and North Boeing Field (NBF) properties. The GTSP is located near the intersection of Warsaw and Ellis Avenue South near the northwest corner of King County International Airport. The GTSP property contains an old powerhouse that currently houses the Georgetown Power plant Museum. A condenser pit beneath the powerhouse is connected to an underground concrete tunnel that discharges into a flume (the GTSP flume). The GTSP flume extends for about 0.4 mile from the powerhouse into the head of Slip 4. The city of Seattle owns the 7.29-acre property that contains the powerhouse and property adjacent to the GTSP flume.

King County owns most of the land within NBF, which is bounded to the northwest by Ellis Avenue South, the southeast by the southern end of the Boeing Company's flight line and taxi ways, the northeast by the eastern edge of the Boeing Company's flight line and taxi ways, and the southwest by East Marginal Way South. The Boeing Company leases about 117 acres of NBF property from King County and owns the improvements it has constructed on the leased property. The Boeing Company also leases a few acres on either side of the GTSP flume from the City of Seattle and owns land containing one of their buildings and a parcel used for parking. The Boeing Company manages numerous research, testing, and manufacturing facilities on the property. A network of stormwater catch basins, drains, and pipes collect and convey stormwater from NBF to the head of Slip 4.

The GTSP was built by the Seattle Electric Company in 1906 to provide power during periods of high use. Use of the GTSP decreased after 1912 after Puget Power bought it. When built, the GTSP was next to the Duwamish River. Around 1916 the river was straightened to form the Duwamish Waterway. A 0.4 mile flume was built to carry cooling water to Slip 4. In 1951, the city of Seattle bought the GTSP from Puget Power and still owns the 7.29-acre property that contains the powerhouse and property next to the flume. The city of Seattle operated the GTSP on stand-by until they decommissioned it in 1973.

Boeing has operated at NBF since the 1940s for aircraft and aerospace manufacturing, maintenance, and research. Yet few records are available on site operations before the 1970s. Currently Boeing owns about 80 buildings on NBF. NBF's complicated storm drain system includes over 400 catch basins and 400 manholes, up to 16 oil water separators and lift stations, parking lot ditches, and roof drains. The system is connected with seven to eight miles of piping that ranges from four to 48 inches in diameter. Storm water from the GTSP flume and from NBF flows into Slip 4, which is part of the Lower Duwamish Waterway (LDW) Superfund site.

Contaminants of Concern

Contamination at the site is due to industrial operation and maintenance. A general list of contaminants of concern includes the following:

- Polychlorinated biphenyls (PCBs)
- Total petroleum hydrocarbons (TPH)
- Polynuclear aromatic hydrocarbons (PAHs)
- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Metals

There have been numerous environmental investigations and cleanups at the site. These investigations and cleanups have detected concentrations of polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs), antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc in soil exceeding the applicable cleanup levels in various areas of the site. Concentrations of TPH, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), antimony, arsenic, chromium, and lead have also been detected in groundwater at the site exceeding applicable cleanup levels. PCBs, PAHs, SVOCs, arsenic, copper, lead, mercury, and zinc have been detected in sediment collected from the storm water drainage systems. PCBs and SVOCs have been identified as contaminants of concern in Slip 4 sediments. The potential for sediment recontamination from site storm water has delayed cleanup of sediments in Slip 4.

Current Activity

The proposed actions to be conducted under the Agreed Order include the following:

- Review and summarize site history and existing environmental data.

- Identify data gaps.
- Investigate the site and fill data gaps.
- Analyze potential pathways of ongoing contamination to the Lower Duwamish Waterway sediments.
- Analyze feasible alternatives for source control and overall site cleanup.

Site Map: North Boeing Field-Georgetown Steam Plant Site

Community Profile

For decades much of the land adjacent to the Lower Duwamish Waterway has been industrialized. Current commercial and industrial operations include cargo handling and storage, marine construction, boat manufacturing, marina operations, concrete manufacturing, paper and metals fabrication, food processing, metal forging and airplane parts manufacturing.

Although the Lower Duwamish Waterway is viewed mainly as an industrial corridor, two residential neighborhoods border the banks of the river: South Park and Georgetown. The South Park neighborhood is located on the western shore of the Duwamish Waterway, and the Georgetown neighborhood is located on the eastern shore of the Duwamish Waterway. The residents of the communities are well known for their commitment to neighborhood issues. This includes the ongoing site cleanups along the Lower Duwamish Waterway. A description of these communities is provided below.

South Park Community Description

The South Park neighborhood is located in South Seattle, on the west bank of the Duwamish River. The first residents of South Park were Native Americans of the Duwamish tribe who lived on the shores of the Duwamish River for thousands of years. This area was once a small farming town composed of Italian and Japanese farmers who supplied fresh produce to Seattle's Pike Place Market. South Park became part of the city of Seattle in 1907.

By 1920 the Duwamish River was straightened out into a straight, deep channel that would accept ocean-going ships and barges. This change in the Duwamish greatly impacted South Park. The curving meanders had been straightened, which made it easier for industry to develop along the banks of the waterway.

In the mid 1960s, South Park was rezoned as industrial. Over 4,000 people complained and the city of Seattle changed the zoning to low-density residential. The city of Seattle built the South Park community center in 1989 which remains a vital resource within the community.

The South Park community center offers a wide variety of free and low cost programs and special events. Special events include free breakfasts and family events. The community center provides before and after-school programs and school break camps for students. They also offer adult classes ranging from yoga to technology to English classes.

The Seattle Public Library opened the new South Park branch at 8604 Eighth Avenue South (at Cloverdale Street) in September 2006. This new branch is 5,019 square feet and has the capacity to hold 18,700 books and materials (about one-third of the collection is Spanish-language, including bilingual children's materials and Spanish Language fiction and non-fiction). The library also has bilingual staff on hand to answer questions and to help patrons.

The South Park neighborhood is comprised of about 3,717 people of various ethnicities: 37% Hispanic, 34% white, 14% Asian, 7 % Black, 5% multiracial, 2% American Indian, 1% Native Hawaiian/Pacific Islander. The average age is 31 years old and the average income is $20,917 (based on records from 2005). A variety of retail and service businesses are located along 14th Avenue South. Data from the Seattle Office of Economic Development lists the primary categories of employment in South Park as wholesale trade, transportation and utilities; construction/resources; manufacturing;. and services.

Georgetown Community Description

The Georgetown neighborhood is located in South Seattle, on the east bank of the Duwamish River across the river from the South Park community. Georgetown is Seattle's oldest neighborhood, settled by Luther Collins in 1851. It was incorporated as the city of Georgetown from 1904-1910.

According to records from 2005, just over 1,100 people live in Georgetown. The largest local employers in Georgetown are in the arts, entertainment, and recreation industries. The Georgetown community council is very active.

The Duwamish River Cleanup Coalition

The Duwamish River Cleanup Coalition (DRCC) is an advisory group that works with the South Park and Georgetown neighborhoods. The DRCC has a goal of a Duwamish River cleanup that is accepted by and benefits the community and is protective of fish, wildlife and human health.

DRCC was formed by an alliance of community, environmental and small business groups affected by pollution and cleanup plans in the Duwamish River. The members include: Community Coalition for Environmental Justice, The Duwamish Tribe, The Green-Duwamish Watershed Alliance, The Environmental Coalition of South Seattle, Georgetown Community Council, People for Puget Sound, Puget Soundkeeper Alliance, Washington Toxics Coalition, and Waste Action Project.

DRCC is a formal "community advisory group" recognized by EPA and representing the interests of the community toward the cleanup work along the Lower Duwamish Waterway. DRCC receives public participation grant funding from Ecology. They also receive technical assistance grants from EPA for technical advisors to review all Lower Duwamish Superfund cleanup related studies and plans. They are involved in all aspects of the proposed Superfund cleanup and related MTCA cleanups. DRCC is working with Ecology to ensure that the cleanup and source control measures meet community standards.

Key Community Concerns and Issues

Ecology and EPA conducted interviews with community members, environmental organizations, and community organizations in October 2002 for the Lower Duwamish Waterway Site Community Involvement Plan. The North Boeing Field/Georgetown Steam Plant site is located within the larger Lower Duwamish Waterway Site. Ecology conducted an abbreviated version community interviews in 2006 and determined that the concerns raised in 2002 were still pertinent. Ecology also met with the community in June 2007 to discuss the site and source control for Slip 4. Many of the same concerns were discussed at the meeting in 2007.

There is clear interest in this cleanup process. The following is representative of significant concerns and issues expressed during the community interviews. Ecology will work to respond to community concerns throughout the cleanup process and through coordination with EPA, other organizations, such as state and local health agencies, and the community advisory group that has been established for the site.

- **Health:** One person interviewed was confident that health risks will be addressed, but others are concerned that living close to the Duwamish Waterway could affect their health. People expressed concern about consumption of all bottom fish and parts of other fish, as well as contamination from chemicals, bacteria and viruses. There is concern about exposure to contaminated sediments through contact at public access parks, employment at industries on the waterway, restoration work, and other cleanup work. Some said that there should be limited access to the river if there is a health risk. At the 2007 meeting, some in the community were concerned about the potential for contaminated dust, soils, water, and sediments moving from the site into the Georgetown neighborhood. The community is also concerned about exposure to contaminants as contaminated soils are trucked through the community.

- **Wildlife:** Not everyone interviewed believes that wildlife is being affected by contamination, but most expressed concern for fish and wildlife. Sea lions, salmon, bottomfish, crabs, mussels, clams, opossums, squirrels, ducks and other birds were mentioned, as well as concern about the disappearance of herons and for herons on Kellogg Island in the Duwamish Waterway.

- **Domestic Animals:** There is concern about dogs eating garbage from the river and horses being on a greenbelt above the river.

- **River and Groundwater Contamination:** There is concern that the river is dying and that it contains contaminants, including PCBs and mercury. There is concern about the effect of septic systems near the river; sewer overflows; surface water runoff, including oil, antifreeze and fertilizers; unreported spills and illegal dumping; and pumping of waste into the river or groundwater. There is concern that permits for discharges to the river are not being enforced or will be revised to be less strict. There is concern that sources of PCBs are not being addressed.

- **Economics**: Some people interviewed are concerned about contamination lowering property values. Others are concerned that businesses will leave the area due to the designation of the Lower Duwamish Waterway as a Superfund site.

- **Cleanup:** Some people are concerned that South Park and the businesses on the water will be affected by cleanup activities, such as increased truck or barge traffic and potential accidents. There are concerns about the costs of damages to natural resources and the possibility that parties responsible for contamination will do some early cleanup activities but nothing more.

- **Information:** Several people expressed concern about a lack of warning signs for fishermen and recreational users and suggested that such signs should be installed. People are concerned about whether adequate information reaches the Spanish-speaking and other non-English-speaking communities and whether the average person and immigrants understand the risks.

- **Image:** While some people described the Duwamish Waterway neighborhood as an industrial area, others are concerned that it is perceived as a dumping ground. At the 2007 meeting, residents were concerned that many of the businesses in the area that were inspected were not following regulatory requirements and needed corrective action.

Additional public concerns may be identified over the course of the cleanup through: public comment periods; further community interviews; surveys; meetings; and other contacts with individuals, community groups, or organizations.

Ecology will work to respond to community concerns through the cleanup process and will coordinate with other regulatory agencies and property owners as necessary.

Public Participation Activities and Responsibilities

The purpose of this Public Participation Plan is to promote public understanding and participation in the MTCA activities planned for this site. This section of the plan addresses how Ecology will share information and receive public comments and community input on the site activities.

Public Involvement Activities

Ecology uses a variety of activities to facilitate public participation in the investigation and cleanup of MTCA sites. Ecology will implement input provided by community residents, businesses, and other stakeholders whenever possible.

The following is a list of the public involvement activities that Ecology will use, their purposes, and descriptions of when and how they will be used during this site source control investigation.

Formal Public Comment Periods

Comment periods are the primary method Ecology uses to get feedback from the public on proposed cleanup decisions. Comment periods usually last 30 days and are required at key points during the investigation and cleanup process before final decisions are made.

During a comment period, the public can comment in writing. Verbal comments are taken if a public hearing is held. After formal comment periods, Ecology reviews all comments received and may respond in a document called a Responsiveness Summary.

Ecology will consider the need for changes or revisions based on input from the public. If significant changes are made, then a second comment period may be held. If no significant changes are made, then the draft document(s) will be finalized.

Additional public comment periods will be held for any potential draft Remedial Investigation/Feasibility Studies (RI/FS), for any potential draft cleanup action plans that are developed for the site, and for any future legal agreements regarding this site.

Public Meetings and Hearings

Public meetings will be held at key points during the RI/FS. Ecology also may offer public meetings for actions expected to be of particular interest to the community. These meetings will be held at locations convenient to the community.

Information Repositories

Information repositories are places where the public may read and review site information, including documents that are the subject of public comment.

Ecology has established two repositories for the North Boeing Field/Georgetown Steam Plant remedial investigation/feasibility study project.

- Washington State Department of Ecology, 3190 160th Avenue SE, Bellevue, WA 98008, (425) 649-7190. Please call for an appointment.
- South Park Library, 8604 Eight Ave S. at Cloverdale St. Seattle, WA

Site information also will be posted on Ecology's web site at:

http://www.ecy.wa.gov/programs/tcp/sites/lower_duwamish/sites/nBoeingGeorgeTnStmPlant/nBoeingGeorgetown.htm

Site Register

Ecology's Toxics Cleanup Program uses its bimonthly *Site Register* to announce all of its public meetings and comment periods, as well as many other activities. To receive the *Site Register* in electronic or hard copy format, contact Linda Thompson at (360) 407-6069 or by e-mail at Ltho461@ecy.wa.gov. It is also available on Ecology's web site at http://www.ecy.wa.gov/programs/tcp/pub_inv/pub_inv2.html

Mailing List

Ecology has compiled a mailing list for the site. The list includes individuals, groups, public agencies, elected officials, private businesses, business associations, potentially affected parties, and other known interested parties. The list will be maintained at Ecology's Northwest Regional Office and will be updated as needed.

To have your address added or deleted from this mailing list, please contact the Ecology's public involvement coordinator **Molly Morris at (425) 649-7135 or** momo461@ecy.wa.gov.

Fact Sheets

Ecology will mail fact sheets to persons, businesses, and organizations interested in the North Boeing Field/Georgetown Steam Plant RI/FS to inform them of public meetings and comment opportunities and important site activities. Ecology also may mail fact sheets about the progress of site activities.

Newspaper Display Ads

Ecology will place ads in the *Seattle Times* and *Seattle Post Intelligencer,* to announce public comment periods and public meetings or hearings for the site.

Enhanced Public Participation

Ecology will work with EPA and stakeholders according to the enhanced public participation efforts that occur for the Lower Duwamish Waterway Superfund site. Ecology site managers and community involvement coordinators may participate in community meetings and events as needed. Ecology will coordinate with DRCC throughout the public involvement process. This may include such activities as coordination for public meetings and sharing drafts of documents with DRCC for review, as appropriate.

Public Participation Plan Update

This public participation plan may be updated as the project proceeds. If an update is necessary, the revised plan will be submitted to the public for comment.

Points of Contact

If you have questions or need more information about this plan or the North Boeing Field/Georgetown Steam Plant site, please contact the following:

Mark Edens, Site Manager
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008
Tel: (425) 649-7070
E-mail: mede461@ecy.wa.gov

Molly Morris, Public Involvement Coordinator
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008
Tel: (425) 649-7135
E-mail: momo461@ecy.wa.gov

Glossary

Agreed Order: A legal document issued by Ecology which formalizes an agreement between the department and potentially liable persons (PLPs) for cleanup actions needed at a site. Orders are subject to public comment. If an order is substantially changed, an additional comment period may occur.

Antimony: Antimony is a silvery-white metal that is found in the earth's crust. Antimony isn't used alone because it breaks easily, but when mixed into alloys, it is used in lead storage batteries, solder, sheet and pipe metal, bearings, castings, and pewter. Antimony oxide is added to textiles and plastics to prevent them from catching fire. It is also used in paints, ceramics, and fireworks, and as enamels for plastics, metal, and glass. Breathing high levels for a long time can irritate your eyes and lungs and can cause heart and lung problems, stomach pain, diarrhea, vomiting, and stomach ulcers. Ingesting large doses of antimony can cause vomiting.

Arsenic: A metallic element that forms a number of poisonous compounds, arsenic is found in nature at low levels mostly in compounds with oxygen, chlorine, and sulfur.

Cadmium: A metallic element whose salts are toxic and cause cancer.

Chromium: Chromium is a naturally occurring element found in rocks, animals, plants, soil, and in volcanic dust and gases. Chromium (III) is an essential nutrient that helps the body use sugar, protein, and fat. Chromium (VI) at high levels can damage the nose and can cause cancer. Ingesting large amounts of chromium (VI) can cause stomach upsets and ulcers, convulsions, kidney and liver damage, and even death.

Cleanup: Actions taken to deal with a release, or threatened release of hazardous substances that could affect public health and/or the environment. The term "cleanup" is often used broadly to describe various response actions or phases of remedial responses such as the remedial investigation/feasibility study.

Comment Period: A time period during which the public can review and comment on various documents and proposed actions. For example, a comment period may be provided to allow community members to review and comment on proposed cleanup action alternatives and proposed plans.

Copper: A ductile, malleable, reddish-brown metallic element that is an excellent conductor of heat and electricity and is widely used for electrical wiring, water piping, and corrosion-resistant parts, either pure or in alloys such as brass and bronze. Copper is toxic in its unbound form.

Contaminant: Any hazardous substance that does not occur naturally or occurs at greater than natural background levels

Feasibility Study: A study to evaluate alternative cleanup actions for a site. A comment period on the draft report is required. Ecology selects the preferred alternative after reviewing those documents.

Groundwater: Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In some aquifers, ground water occurs in sufficient quantities that it can be used for drinking water, irrigation and other purposes.

Hazardous Substance: Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

Information Repository: A file containing current information, technical reports, and reference documents available for public review. The information repository is usually located in a public building that is convenient for local residents such as a public school, city hall, or library.

Lead: A bluish-white soft malleable ductile plastic but inelastic heavy metallic element found mostly in combination and used especially in pipes, cable sheaths, batteries, solder, and shields against radioactivity. Lead may cause irreversible neurological damage as well as renal disease, cardiovascular effects, and reproductive toxicity.

Mercury: A silvery-white poisonous metallic element, liquid at room temperature and used in thermometers, barometers, vapor lamps, and batteries and in the preparation of chemical pesticides. Mercury damages the central nervous system, endocrine system, kidneys, and other organs, and adversely affects the mouth, gums, and teeth.

Model Toxics Control Act (MTCA): Legislation passed by citizens of the State of Washington through an initiative in 1988. Its purpose is to identify, investigate, and clean up facilities where hazardous substances have been released. It defines the role of Ecology and encourages public involvement in the decision making process. MTCA regulations are administered by the Washington State Department of Ecology.

PAH (Polynuclear Aromatic Hydrocarbons): PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, such as tobacco and charbroiled meat. There are more than 100 different PAHs.

PCBs (polychlorinated biphenyls): A group of toxic, persistent chemicals. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including transformers and capacitators for insulating purposes, and in gas pipeline systems as a lubricant. PCBs are a serious threat to public health because they have been proven to cause cancer in animals. In 1977 they were made illegal to produce, yet large amounts still remain in the environment.

Potentially Liable Person: Any individual(s) or company(s) potentially responsible for, or contributing to, the contamination problems at a site. Whenever possible, Ecology requires these PLPs, through administrative and legal actions, to clean up sites.

Public Participation Plan: A plan prepared under the authority of WAC 173-340-600 to encourage coordinated and effective public involvement tailored to the public's needs at a particular site.

Remedial Investigation: A study to define the extent of problems at a site. A comment period on the draft report is required.

Remedial Investigation/Feasibility Study: Two distinct but related studies. They are usually performed at the same time, and together referred to as the "RI/FS." They are intended to:

-Gather the data necessary to determine the type and extent of contamination;
-Establish criteria for cleaning up the site;
-Identify and screen cleanup alternatives for remedial action; and
-Analyze in detail the technology and costs of the alternatives.

Responsiveness Summary: A summary of oral and/or written public comments received by Ecology during a comment period on key documents, and Ecology's responses to those comments. The responsiveness summary is especially valuable during the Cleanup Action Plan phase at a site when it highlights community concerns.

Site: Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft; or any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

Site Register: Publication issued every two weeks of major activities conducted statewide related to the study and cleanup of hazardous waste sites under the Model Toxics Control Act. To receive this publication, please call (360) 407-7200.

Superfund: The federal government's program to clean up the nation's uncontrolled hazardous waste sites.

SVOCs (semi-volatile organic compounds): This group includes a variety of chemicals that have boiling points higher than water and that may become a gas at temperatures above room temperature. Most of these substances are used as industrial chemicals. They include phenols, polynuclear aromatic hydrocarbons (PAHs), and phthalates. Sites where these potentially toxic chemicals may be found include burn pits, chemical manufacturing plants and disposal areas, electroplating/metal finishing shops, firefighting training areas, hangars/aircraft maintenance areas, solvent degreasing areas, vehicle maintenance areas, and wood preserving pits. These compounds generally evaporate slowly at room temperature. Their water solubility and environmental persistence is highly variable, and they are commonly found as contaminants in soil and water.

TPHs (total petroleum hydrocarbons): Describes a large family of several hundred chemical compounds that originally come from crude oil. Crude oil is used to make petroleum products, which can contaminate the environment. TPH is a mixture of chemicals, but they are all made mainly from hydrogen and carbon, called hydrocarbons. Scientists divide TPH into groups of petroleum hydrocarbons that act alike in soil or water. These groups are called petroleum hydrocarbon fractions. Each fraction contains many individual chemicals.

Toxicity: The degree to which a substance at a particular concentration is capable of causing harm to living organisms, including people, plants and animals.

VOCs (volatile organic compounds): include a variety of chemicals that become a gas at room temperature. Most such substances are industrial chemicals and solvents. They include light alcohols, acetone, trichloroethylene, perchloroethylene, dichloroethylene, benzene, vinyl chloride, toluene, and methylene chloride. These potentially toxic chemicals are used as solvents, degreasers, paints, thinners, and fuels. Because of their volatile nature, they readily evaporate into the air, increasing the potential exposure to humans. Due to their low water solubility, environmental persistence, and widespread industrial use, they are commonly found in soil and water.

Zinc: Zinc is a metallic chemical element; it has a white color with a bluish tinge. It has a high resistance to atmospheric corrosion. A major use is as a protective coating for iron and steel sheet and wire. Excess zinc in the body interferes with the metabolism of other minerals in the body.

EXHIBIT D

North Boeing Field/Georgetown Steam Plant Site

RECEIVABLE AGREEMENT

Between

State of Washington, Department of Ecology

And

The Boeing Company, King County and the City of Seattle

THIS AGREEMENT is made and entered into by and between the DEPARTMENT OF ECOLOGY, hereinafter referred to as Ecology, and THE BOEING COMPANY, KING COUNTY, and THE CITY OF SEATTLE, hereinafter referred to as the Potentially Liable Parties (PLPs).

IT IS THE PURPOSE OF THIS AGREEMENT to have the PLPs provide funding, as required by Agreed Order No. DE 5685 (the AO), for Ecology to pay its contractor(s) to undertake the remedial investigation and feasibility study (RI/FS) and any necessary interim actions that the PLPs are unable to perform at the North Boeing Field/Georgetown Steam Plant Model Toxics Control Act remedial action site (hereinafter, the Site).

THEREFORE, IT IS MUTUALLY AGREED THAT: Ecology shall endeavor to conduct an RI/FS for, and any necessary interim actions that the PLPs are unable to perform at, the Site, through the services of a contractor or contractors. As Ecology incurs costs of paying contractors to carry out the RI/FS and any interim actions performed by Ecology, Ecology shall submit invoices to the PLPs for the costs incurred by Ecology. The PLPs shall pay to Ecology the amount presented in Ecology's invoices within thirty (30) days of receipt of the invoices.

I. PERIOD OF PERFORMANCE

Subject to its other provisions, the period of performance of this Agreement shall commence on the effective date of the AO, and be completed when the AO is satisfied in accordance with Section IX of the AO, unless terminated sooner or extended as provided herein.

II. PAYMENT

Ecology has estimated that the cost of the RI/FS will not exceed two million five hundred thousand dollars ($2,500,000).

Ecology shall send invoices to Accounts Payable, King County International Airport, 7277 Perimeter Road South, Seattle, WA 98108; Mr. Steven Tochko Environmental Remediation Manager, The Boeing Company, P.O. Box 3707, M/C 6Y-94, Seattle, WA 98124-2207; Jennie Goldberg, Seattle City Light, Environmental Affairs, P.O. Box 34023, Seattle, WA 98124-4023; and Judith Noble, Corporate Policy and Performance, Seattle Public Utilities, P.O. Box 34018, Seattle, WA 98124-4018.

Payment to Ecology for completed work shall be made by warrant or account transfer by the PLPs within **thirty (30)** days of receipt of the invoices. Payments shall be sent to DEPARTMENT OF ECOLOGY CASHIERING UNIT, PO BOX 47611, OLYMPIA, WA 98504-7611. Upon expiration of the Agreement, any claim for payment not already made shall be submitted within sixty (60) days after the expiration date or the end of the fiscal year, whichever is earlier.

III. RECORDS MAINTENANCE

Ecology and its contractors shall each maintain books, records, documents and other evidence which sufficiently and properly reflect all direct and indirect costs expended by Ecology's contractors in the performance of the services described herein. These records shall be subject to inspection, review or audit by personnel of the other parties to this agreement, other personnel duly authorized by any party, the Office of the State Auditor, and federal officials so authorized by law. All books, records, documents, and other material relevant to this Agreement will be retained for six years after expiration and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

Records and other documents concerning the implementation of this Agreement, in any medium, furnished by one party to this agreement to another party, will remain the property of the furnishing party, unless otherwise agreed. Records received by Ecology concerning the implementation of this Agreement shall become public records pursuant to the Public Records Act, chapter 42.56 RCW, and will be retained in compliance with Ecology's record retention policy. The receiving party will not disclose or make available under the Public Records Act records received from other parties to this Agreement to any third Parties without first giving notice to the furnishing party and providing reasonable security procedures and protections to assure that confidential or proprietary records and documents provided by the other party are not erroneously disclosed to third parties.

IV. AGREEMENT ALTERATIONS AND AMENDMENTS

This agreement may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

V. TERMINATION

Any party may terminate this Agreement upon 30 days prior written notification to the other parties. If this Agreement is so terminated, the parties shall be liable only for performance rendered or costs incurred in accordance with the terms of this Agreement prior to the effective date of termination.

VI. TERMINATION FOR CAUSE

If for any cause, the PLPs or Ecology do not fulfill in a timely and proper manner their obligations under this Agreement, or if the PLPs or Ecology violate any of these terms and conditions, the PLPs or Ecology will give the other parties written notice of such failure or violation. The party responsible for the failure or violation will be given the opportunity to correct the violation or failure within 15 working days. If the failure or violation is not corrected by that party, the Agreement may be terminated immediately by written notice of Ecology to the PLPs or the PLPs to Ecology.

VII. DISPUTES

In the event a dispute arises under this agreement, the Parties shall utilize the dispute resolution procedure set forth below.

Upon receipt of the Ecology project coordinator's written decision regarding a reimbursement issue, PLPs have fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision. The PLPs shall include in the written objection sufficient detail to allow Ecology to evaluate the merits of the dispute, and shall copy all parties to this Agreement on the written objection. Such detail shall include the specific Ecology determination regarding reimbursement and shall include specific argument(s) documenting the basis for invoking the dispute resolution procedure. Clarification of Ecology directions or determinations regarding reimbursement shall not be managed through the dispute resolution procedure. The Ecology project coordinator will make such clarifications in a manner and time Ecology deems appropriate to expedite to the maximum extent practicable the work performed under Agreed Order No. DE 5685.

The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

PLPs may then request Ecology management review of the decision. This request shall be submitted in writing to the Northwest Region Toxics Cleanup Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within sixty (60) days of PLP's request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Nothing in this section shall be construed to prohibit the parties from exercising their right to terminate this Agreement for convenience.

VIII. GOVERNANCE

This Agreement is entered into pursuant to and under the authority granted by the laws of the State of Washington and any applicable federal laws. The provisions of this agreement shall be construed to conform to those laws.

In the event of an inconsistency in the terms of this Agreement or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order:

a. Applicable state and federal statutes and rules;

b. Any other provisions of the agreement, including materials incorporated by reference.

All parties hereby agree and consent to the exclusive jurisdiction of the courts of the state of

Washington and that the venue of any action brought hereunder shall be King County, Washington.

IX. HOLD HARMLESS AND INDEMNIFICATION

Ecology and the PLPs agree, to the extent permitted by law, to defend, protect, save and hold harmless the other parties, their officers, agents, and employees from any and all claims, costs, damages, and expenses suffered due to that party's own negligent actions or those of its officers, officials, employees and/or agents in the performance of this Agreement.

X. WAIVER

A failure by any of the parties to exercise their rights under this Agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

XI. SEVERABILITY

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision if such remainder conforms to the requirements of applicable law and the fundamental purpose of this Agreement, and to this end the provisions of this Agreement are declared to be severable.

XII. ALL WRITINGS CONTAINED HEREIN

This Agreement contains all the terms and conditions agreed upon by the parties concerning the subject matter of this agreement.

XIII. CONTRACT MANAGEMENT

The contract manager for each of the parties shall be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement. The Contract Manager for Ecology is:

Mr. Mark H. Edens
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452
(425) 649-7070

The Contract Managers for the PLPs are:

Mr. Steven Tochko
Environmental Remediation Manager
The Boeing Company
P.O. Box 3707
M/C 6Y-94
Seattle, WA 98124-2207

Martin Baker
Strategic Advisor
Seattle Public Utilities
700 Fifth Avenue
Seattle, WA 98124

Mr. Robert Burke, Airport Director
King County International Airport
7277 Perimeter Road South
Seattle, WA 98108

North Boeing Field/Georgetown Steam Plant Site
Receivable Agreement
July 3, 2008

IN WITNESS WHEREOF, the parties have executed this Agreement.

The Boeing Company

Steven Shestag
EHS Remediation Director
The Boeing Company
P.O. Box 3707, M/C 055-T487
Seattle, WA 98124-2207
Telephone: 818-466-8822

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY

Polly Zehm
Deputy Director
Washington State Dept. of Ecology
300 Desmond Drive
Lacey, WA 98504-7600
Telephone: 360-407-7011

King County

____

Ron Sims
King County Executive
701 Fifth Avenue, Suite 3210
Seattle, WA 98104
Telephone: 206-296-4040

The City of Seattle

____

Greg Nickels
Mayor
City Hall
600 Fourth Avenue, 7th Floor
Seattle, WA 98124
Telephone: 206-684-4000

IN WITNESS WHEREOF, the parties have executed this Agreement.

The Boeing Company

____

Steven Shestag
EHS Remediation Director
The Boeing Company
P.O. Box 3707, M/C 055-T487
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STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY

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Steven Shestag
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Telephone: 206-296-4040

The City of Seattle

____

Greg Nickels
Mayor
City Hall
600 Fourth Avenue, 7^{th} Floor
Seattle, WA 98124
Telephone: 206-684-4000

Table 3-1
Partial List of Possible Sources of COPCs at NBF-GTSP Site

Potential COPC Source	GTSP		NBF	
	Historical	Current	Historical	Current
Operations and Activities at GTSP and NBF				
Coal conveyance system	●			
Condenser solids and cooling water discharges to the former flume	●		●	
Boiler feed wastewater discharges to the low-lying area	●			
Receipt of transformer oil deliveries from approximately 1953 to 1980	●			
Stockpiling and grading of contaminated fill materials from offsite sources at the GTSP property	●			
Aircraft finishing, including wet sanding, cleaning and painting			●	●
Aircraft testing, including testing of hydraulic and other parts, jet fuel testing, aircraft water distribution testing, wastewater collection systems testing, and fire suppression systems testing			●	●
Fueling and defueling aircraft			●	●
Deicing and equipment washing at wash stall (C-13)			●	●
Photographic and x-ray laboratories			●	●
Metal and wood working shops			●	●
Operation of a wastewater treatment plant			●	●
Handling of hazardous and non-hazardous new materials and waste	●		●	●
Materials and Equipment Used in Operations				
USTs, ASTs, and utility lines	●	●	●	●
Contaminant-bearing materials in vehicles and aircraft (e.g., breaks, tires, batteries)	●	●	●	●
Fertilizer, herbicides, and insecticides	●	●	●	●
PCB-filled transformers			●	
Building Materials and Components				
Concrete joint material				●
Paint		●		●
Door and Window Caulk		●		●

Table 4-1
Source Control Activities at NBF-GTSP Site Since 2009

Location	Date	Activity	Description
Past Source Control Activities			
GTSP	Feb – Sep 2009	Removal/Replacement of Georgetown Flume	The City of Seattle completed removal and replacement of the Georgetown Flume in September 2009 (Herrera 2010 [6820]). Specific activities included removal of sediment/water in the flume, removal of PCB and cPAH contaminated soil immediately surrounding the flume, and replacement of the flume with a new pipe and bioswale that provides stormwater conveyance for the GTSP power house and S Myrtle Street right-of-way.
NBF	May – Sep 2009	Storm Drain Investigation and Cleanout	Based on results of storm drain structure sampling throughout NBF, Boeing conducted cleanout of selected manhole, catch basin, and oil/water separator structures (SAIC 2011c [N0027]).
NBF-GTSP	Aug 2009	Supplemental Data Gaps Report	Ecology compiled sampling data and other new information obtained since publication of the original Data Gaps Report in April 2007 in a comprehensive Supplemental Summary of Existing Information and Identification of Data Gaps Report (SAIC 2009b [6078]).
NBF	Oct 2009 – Feb 2010	Preliminary Stormwater Sampling	Ecology conducted sampling of whole water and filtered suspended solids during five storm events at two locations: the King County Lift Station (LS431), and a north lateral manhole (MH108) (SAIC 2010a [6077]).
NBF	Mar – Apr 2010	Surface Cleaning, Storm Drain Structure Cleaning, and Soil Removal	Boeing conducted pressure cleaning of surface areas around Buildings 3-323, 3-302, and 3-322 to remove residual PCBs from surface debris. In addition, Boeing removed asphalt and underlying soil along the north side of Building 3-322 and on the west side of Building 3-302. Catch basin filters were installed in storm drain structures in the vicinity of these buildings. Seven catch basins with PCB concentrations in solids greater than 50 mg/kg were cleaned (Landau 2010a [6076]).
NBF	Mar – Apr 2010	Storm Drain Structure Grouting	Boeing identified 13 catch basin and/or manhole locations with observed (or potential for) groundwater infiltration. These were sealed with polyurethane grout (SAIC 2011c [N0027]).
NBF	Mar – May 2010	Storm Drain Structure Sampling	Boeing collected samples from all storm drain structures (containing sufficient material to sample) in the north lateral drainage area for metals and PCB analyses. In addition, Boeing collected samples from storm drain structures in the north-central lateral drainage area and from selected storm drain structures in the south and south-central lateral drainage areas (Landau 2010b [6053]).

Table 4-1
Source Control Activities at NBF-GTSP Site Since 2009

Location	Date	Activity	Description
NBF	Mar – Jun 2010	Expanded Stormwater Sampling	Ecology collected whole water and filtered solids samples during five additional storm events and two base flow events at the LS431 and MH108 locations. In addition, Ecology collected filtered solids samples from the north-central, south-central, and south lateral storm drain lines, as well as the Building 3-380 and parking lot drainage areas and from six additional locations in the north lateral drainage area during three storm events and one base flow event (SAIC 2011a [6484]).
NBF	Apr – Jul 2010	Infiltration and Inflow Assessment	Ecology prepared a draft assessment of potential sources and pathways for infiltration of contaminated soil/groundwater and inflow of contaminated surface runoff to the storm drain system at NBF. The final report was submitted in February 2011 (SAIC 2011b [6143]).
Slip 4	May – Sep 2010	Slip 4 Sediment Recontamination Modeling	Ecology collected surface sediment samples in Slip 4 and filtered stormwater solids for particle size fractionation in support of sediment recontamination modeling. The model was calibrated using site-specific data, and the maximum allowable concentration of PCBs in storm drain solids that will not cause recontamination of sediments was estimated (SAIC 2010d [6080]).
NBF	May – Jul 2010	Storm Drain Structure and Line Cleaning	Boeing completed jet cleaning of storm drain structures and lines in the north lateral; jet cleaning of structures and lines in the other storm drain lateral drainage areas was performed from August to December 2010 (Landau 2010f [6092]).
GTSP	Jun – Aug 2010	Soil and Groundwater Sampling at GTSP	The City of Seattle conducted soil and groundwater sampling to support an interim action at the GTSP property (Integral 2010d [6111]).
NBF	Jul – Oct 2010	Source Evaluation, North Lateral Storm Drain Area	Boeing conducted a source evaluation in the north lateral drainage area to identify potential contaminant sources in areas where PCBs and metals in storm drain structures were detected at concentrations above screening levels. Sampling included paint from building and equipment surfaces, caulk from windows or door jams, surface debris, concrete, asphalt, and roofing materials (Landau 2010d [6101]).
NBF	Jul – Oct 2010	Focused Soil Investigation – PEL Area	Boeing conducted a focused soil investigation in the PEL area. Sampling was conducted to provide additional characterization of PCBs in soil in the area southeast and southwest of the GTSP property (fenceline area) and in the area near Building 3-302 where Boeing planned to replace a storm drain line (Landau 2010e [6099]).
NBF	Jul – Oct 2010	Concrete Joint Material Removal in the PEL Area	Boeing removed approximately 3,900 linear feet of CJM in the PEL area; no samples were collected (Landau 2010g [6129]).

Table 4-1
Source Control Activities at NBF-GTSP Site Since 2009

Location	Date	Activity	Description
NBF	Aug – Dec 2010	Storm Drain Cleaning and Video-Inspection	Boeing conducted a video inspection of the north, north-central, south, south-central, Building 3-380, and parking lot drainage areas following jet cleaning of structures and lines to confirm that cleaning had adequately removed solids and debris, and to inspect for cracks, fractures, or breaks that could allow soil intrusion or groundwater infiltration. Video inspection of lines indicated the need for storm drain repairs (Landau 2011a [6127]).
NBF	Sep – Oct 2010	Removal and Replacement of Storm Drain Lines	Boeing removed and replaced storm drain lines in the vicinity of Building 3-302 in the north lateral drainage area (Landau 2010j [6126]).
NBF	Sep – Dec 2010	Human Health Risk Assessment and Transportation Evaluation for PCBs in CJM	Boeing conducted an HHRA/TE investigation to evaluate risks associated with onsite exposure to PCB-containing CJM at NBF and to assess the potential for the migration or transport of PCBs in CJM to Slip 4. Boeing collected samples of CJM, inlet filter solids, indoor air, and wipe samples of ground surfaces. It was determined that PCB-containing CJM is not a risk to human health; however, PCB-containing CJM does appear to contribute to PCBs in storm drain solids (Landau 2011b [8279]).
NBF	Sep 2010 – Jan 2011	Soil and Groundwater Investigation in the PEL Area	Boeing advanced 61 soil borings and installed 19 groundwater monitoring wells within the PEL area. Sampling was conducted to provide additional characterization of PCBs and other potential contaminants where further excavations may be needed (Landau 2011c [4162]).
NBF	Sep 2010 – Nov 2011	Short-Term Stormwater Treatment System (STST)	Boeing installed the STST in the north lateral drainage area designed to remove PCBs and other contaminants in stormwater from a portion of the north lateral. The STST treated 35 million gallons of stormwater (Landau 2011i [N0010]).
NBF	Oct 2010	Paint Abatement Activities in PEL Area	Boeing performed paint abatement for structures in the PEL area found to contain PCBs greater than 50 mg/kg. Paint was removed from 14 yellow bollards and one equipment support structure (Landau 2010i [6132]).
NBF	Nov 2010	Building Material Removal from Building 3-626	Boeing removed foam and caulk from Building 3-626 containing PCBs up to 15,800 mg/kg (Landau 2010k [6134]).
NBF	Nov 2010 – May 2011	Stormwater Sampling	Ecology collected whole water and/or filtered solids samples during nine storm events and three base flow events at the following locations: LS431, MH108, CB173, and MH178. In addition, Ecology collected centrifuge solid samples at LS431 during two storm events and one base flow event (SAIC 2012 [N0014]).
NBF	Apr 2011	Paint Sampling in the North Lateral Drainage Area	Boeing conducted wipe and paint chip sampling from structures in the north lateral drainage area. PCBs were detected in 10 of 84 wipe samples and 12 of 18 paint chip samples collected (Landau 2011g [6294]). Data were evaluated for the purpose of paint abatement.

Table 4-1
Source Control Activities at NBF-GTSP Site Since 2009

Location	Date	Activity	Description
NBF	May & July 2011	Concrete Joint Material Sampling	To supplement data in the 2010 HHRA/TE, Boeing collected 152 samples of CJM within the flightline area, in part during concrete pad replacement (Landau 2011f [N0019]).
NBF	Jul – Aug 2011	Storm Drain Solids Sampling	Storm drain solid samples were collected from MH108B and other catch basins to evaluate PCB sources in the north lateral drainage area. Additional storm drain structures were sampled prior to inspection for leaks in the line (Landau 2011h [N0009]).
NBF	Summer 2011	Bioremediation Substrate Injections near Buildings 3-360 and 3-800	Boeing conducted bioremediation injections to address VOC groundwater plumes present near former Building 3-360 and Building 3-800. A final report has not been provided.
NBF-GTSP	Summer – fall 2011	NBF-GTSP Fenceline Excavation	The City of Seattle and Boeing performed a joint interim action along the NBF-GTSP fenceline. An excavation was conducted in order to remove PCB-contaminated soils and improve groundwater and stormwater quality in an effort to prevent the potential recontamination of Slip 4 sediments (Landau 2012a [N0026]).
NBF	Summer – fall 2011	Surface Debris Removal	Surface debris in areas inaccessible by mechanical sweepers, such as beneath blast fences and sheds, were swept manually. The areas near Buildings 3-332 and 3-350 were included in the manual removal of surface debris (Landau 2011i [N0010]).
NBF	Jul – Dec 2011	Site-Wide Source Evaluation	Boeing conducted a site-wide investigation for PCBs in paint. PCBs were detected in 15 of 110 wipe samples and 15 of 25 paint chip samples collected throughout NBF (Landau 2012b [9997]). Data were evaluated for the purpose of paint abatement.
NBF	Aug – Sep 2011	Concrete Joint Material Removal	Based on results of CJM sampling for the 2010 HHRA/TE, Boeing removed CJM containing PCBs greater than 50 mg/kg in the areas of Concourse B and northwest of Building 3-390. Approximately 5,725 linear feet of CJM were removed (Landau 2011j [N0011]).
NBF	Sep 2011	Storm Drain Cleaning and Video-Inspection	A small portion of the south-central storm drain line east of Building 3-390 was cleaned and video inspected for cracks, breaks, and to determine location. This storm drain line segment was not included in the 2010 Storm Drain Line Cleaning and Video-Inspection (Landau 2011k [N0012]).
NBF	Sep 2011 – Mar 2012	Stormwater Sampling	Ecology collected whole water and/or filtered solids samples during six storm events at the following sampling locations: MH138, MH172, CB175, MH356, MH362, MH368, MH461, MH482, and UNKCB27 (SAIC, report in preparation).

Table 4-1
Source Control Activities at NBF-GTSP Site Since 2009

Location	Date	Activity	Description
NBF	Oct 2011	Paint Sampling near Wind Tunnel and Building 3-332	Boeing collected paint chip samples from the Wind Tunnel and overhead utilities of Building 3-332. PCBs were detected in 10 of 13 samples from the Wind Tunnel and 13 of 17 samples from Building 3-332. Data were evaluated for the purpose of paint abatement (Landau 2012c [N0025]).
NBF	Oct 2011	Soil Excavation near Buildings 3-333 and 3-335	Boeing excavated soil in the area between Buildings 3-333 and 3-335 in an effort to remove soil containing PCBs greater than 0.5 mg/kg. Approximately 200 cubic yards of soil were removed (Landau 2012e [N0024]).
NBF	Oct 2011 – Present	Long-Term Stormwater Treatment System (LTST)	Boeing installed the LTST at the Lift Station LS431. The LTST is designed to remove PCBs and other contaminants in stormwater from the north, north-central, south, and south-central laterals, as well as the Building 3-380 drainage area. The upstream north lateral stormwater is now diverted around the Lift Station (Landau 2011i [N0010]).
NBF	2011	Site-Wide Paint Abatement	Boeing performed paint abatement activities for paint found to contain PCBs greater than 50 mg/kg during 2011 paint sampling events. PCB-impacted paint was removed from hydrants, post indicating valves, bollards, railings, engine compartment tanks, large air tanks, support beams, and louvers (Landau 2012d [N0013]).
Source Control Activities Currently in Progress			
NBF	Oct 2011 – Present	Long-Term Stormwater Treatment System (LTST)	Boeing installed the LTST at the Lift Station LS431 in October 2011. Influent and effluent stormwater from the LTST is monitored on a regular basis (Landau 2011i [N0010]).
NBF-GTSP	Scheduled for 2012	NBF-GTSP Fenceline Excavation Report	Field work has been completed; the NBF-GTSP Fenceline Excavation Report is scheduled for 2012 submittal.
NBF	Multi-year	Paint Abatement Activities	Paint abatement activities at NBF will continue over a multi-year period. Planning for paint abatement in 2012 is currently in progress.

Table 4-2
Possible Uses of COPCs at NBF-GTSP Site

Potential Source/Application	PCBs	Mercury	Cadmium	Copper	Lead	Zinc	PAHs	BEHP
Building and Surface Materials/Components								
Air Conditioning				●				
Air Compressor Oils	●							
Asphalt	●						●	
Boilers		●						
Cable/Wire Coverings	●				●			●
Caulk/Grout/Sealant	●	●			●		●	●
Cement/Concrete	●				●			●
Electrical Materials/Equipment and Electronics	●	●	●	●	●			●
Flame/Fire retardants	●				●			
Floor Tiles								●
Fluorescent Lights		●						
Glass/Ceramics/Enamels/Glazes	●		●		●			
Heat transfer system fluids	●							
Paints/Pigments	●	● Red (anti-fouling agent)	● Orange, green, red, & yellow	● Green, blue, purple (anti-fouling agent)	● Black, red, yellow, & white	● White		
Plastic/Plastics Stabilizers/Plasticizers/PVC	●		●		●			●
Plumbing/Welding/Soldering fluxes				●	●	●		
Protective Coatings	●		●		●	●		●
Rubber, door seams, tires						●		●
Storage Tanks					●			
Wood preservatives - utility poles, building lumber, wood foundations	●			●		●		
Aircraft and Vehicles								
Aircraft Parts and Protective Coatings			●			●		
Aviation Fuel					●	●	●	
Brake Pads/Linings			●	●		●		●
Die Casting (Aviation Parts)	●							
Engine Exhaust							●	
Hydraulic fluids/Lubricants	●		●			●		
Serpentine belts								●
Materials Potentially Used in Operations								
Adhesives	●	●				●		●
Batteries/Battery Cart		●	●		●	●		
Chemical Resistant Linings					●			
Fungicides/Pesticides/Insectides/Herbicides	●	●	●	●	● Historical use			●
Noise Control Materials					●			
Process Vessels					●			
Radiation Equipment Shielding					●			
Rain Gear								●
Solar Cells			●					
Miscellaneous								
Coal-/Petroleum-fueled Electricity Generating Facilities	●	● Coal				● Coal		
Natural Gas Lines	●	●						

PCB = polychlorinated biphenyl
PAH = polycyclic aromatic hydrocarbon
BEHP = bis(2-ethylhexyl)phthalate
PVC = polyvinyl chloride

Table 5-1
Potential Chemical-Specific ARARs, NBF-GTSP Site

Requirement, Standard, Criteria, or Limitation	Citation	Description/Comments
Federal		
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization (SARA)	42 USC 103	Cleanup standards, standards of control and other substantive requirements, criteria or limitations promulgated under Federal environmental or State environmental or facility site laws that directly and fully address a hazardous substance, pollutant, contaminant, action being taken, or location, or other circumstances found at a CERCLA site.
National Oil & Hazardous Substances Pollution Contingency Plan (NCP)	40 CFR 300	Implements CERCLA and provides the organizational structure and procedures for responding to releases of hazardous substances, pollutants, and contaminants.
Resource Conservation and Recovery Act (RCRA) (42 USCA 7401-7642) (40 CFR 260-280)	Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste (40 CFR 261.24.10-11, Subpart B)	Meets listing or characteristic definitions (includes threshold levels for Toxic Characteristic Leaching Procedure). Lists and characteristics for identifying hazardous wastes. Using appropriate analytical methods or knowledge of the source of contamination, determination should be made whether wastes contain hazardous waste characteristic; certain requirements for management of hazardous wastes may be applicable or relevant and appropriate.
Clean Air Act (CAA) (42 USC 7401 et seq.; 40 CFR 50-69)	Sec.109; 40 CFR 50	Site located in nonattainment area for National Ambient Air Quality Standards. National primary and secondary ambient air quality standards. Not anticipated as ARAR; in general, emissions from Site not expected to qualify as significant source.
Toxic Substances Control Act (TSCA) (40 CFR 761)	40 CFR 761.61	Because PCBs are a COC at this site, regulations pertaining to PCB remediation waste apply. Cleanup levels may be determined based on expected exposure and proximity to sensitive environments. High occupancy areas may be required to meet lower remediation levels. Soils with PCB concentrations greater than 50 milligrams per kilogram (mg/kg) need to be handled per TSCA. Soils with PCB concentrations less than 50 mg/kg might need to be handled per TSCA on a case-by-case basis as determined by USEPA.
Water Pollution Control Act/ Clean Water Act (CWA) (33 USCA 1251-1376; 40 CFR 100-149)	40 CFR 131	Ambient water quality criteria for the protection of aquatic organisms and human health. Narrative and quantitative limitations for surface water protection. Management of stormwater discharge to Slip 4. Anticipated as relevant and appropriate to control releases that create concentrations of concern.
EPA Regional Screening Levels (RSLs)	EPA Regional Screening Table User's Guide (May 2010)	Chemical-specific concentrations for individual contaminants in air, drinking water, and soil. Used to determine whether levels of contaminants found at the Site may warrant further investigation or cleanup. Formerly referred to as Preliminary Remedial Goals (PRGs) by EPA Region 9.
National Recommended Water Quality Criteria (NRWQC)	Pursuant to Section 304(a) of the CWA	Water quality criteria for the protection of aquatic life and human health in surface water. MTCA regulations specifically identify the 1999 NRWQC as an ARAR at MTCA sites, the 2002 NRWQC are potentially relevant and appropriate under MTCA.

Table 5-1
Potential Chemical-Specific ARARs, NBF-GTSP Site

Requirement, Standard, Criteria, or Limitation	Citation	Description/Comments
State		
Model Toxics Control Act (MTCA) (WAC 173-340)	WAC 173-340, including Sections 720, 730, 740-749, 750	Any hazardous waste site being investigated or cleaned up in Washington under Ecology. Requirements for establishing numeric or risk-based standards and selecting cleanup actions. Applicable for cleanup of soil, groundwater, surface water, and indoor air.
Washington State Clean Air Act (WAC 173-400)	General Requirements for Air Pollution Sources (WAC 173-400)	Establishes feasible and attainable standards and rules applicable to control of air contaminant emissions. State implementation of ambient air quality standards. Potential ARAR for investigative or remedial actions that produce emissions to air.
Puget Sound Clean Air Agency (PSCAA) ambient and emission standards.	PSCAA Regulations I and III	Secures and maintains safe levels of air quality. Potential ARAR for investigative or remedial actions, including fugitive dust emissions.
Washington Dangerous Waste Regulations (WAC 173-303)	WAC 173-303	Meets listing or characteristic definitions, or concentrations exceed defined threshold criteria. State criteria for dangerous waste, which are broader than federal criteria. The appropriate waste designation for state-listed or characteristic waste should be made in order to determine the applicability or relevance and appropriateness of state requirements for the management of dangerous waste.
Washington State Water Quality Standards (WQS) for Surface Waters (WAC 173-201A)	WAC 173-201A-240	State WQS; conventional water quality parameters and toxic criteria. Narrative and quantitative limitations for surface water protection. Management of stormwater discharge to Slip 4. Anticipated as relevant and appropriate to control releases that create concentrations of concern during remediation and other operations.
Washington State WQS for Ground Waters (WAC 173-200)	WAC 173-200-040	Protection of a variety of beneficial uses of groundwater. State WQS; criteria for maximum contaminant levels and goals. Narrative and quantitative limitations to protect existing and future beneficial uses of groundwater through the reduction or elimination of discharge of contaminants.
Washington State Public Water Supplies (WAC 246-290)	WAC 246-290-310 (Federal MCLs, 40 CFR 141)	Public drinking water supply. Includes Maximum Contaminant Levels (MCLs) for drinking water. MCLs could be a potential ARAR for groundwater if it is determined to be a localized source of public drinking water or if the groundwater is classified as potable.
Washington Sediment Management Standards (SMS) (WAC 173-204)	WAC 173-204	Numerical and narrative criteria for sediment quality standards (SQS), cleanup screening levels (CSL), and minimum cleanup levels. Applicable to site due to contaminant discharges to LDW. Anticipated as relevant and appropriate to control releases that create concentrations of concern in the sediment.
EPA, LDW Boeing Plant 2, Target Media Cleanup Levels (TMCLs)	Administrative Order on Consent, AOC 1092-01-022-3008(h)	Non-promulgated risk-based standard, To Be Considered (TBC), but is not likely to be selected as an ARAR.

Table 5-1
Potential Chemical-Specific ARARs, NBF-GTSP Site

Requirement, Standard, Criteria, or Limitation	Citation	Description/Comments
Development of Freshwater Sediment Quality Values for Use in Washington State, Phase II Report: Ecology	Ecology Publication #03-09-088, Table 3.3	Protection of freshwater sediments. Applicable to site due to contaminant discharges to LDW. Anticipated as relevant and appropriate to control releases that create concentrations of concern in the sediment.
Dredged Material Management Program (DMMP)	Sediment Quality Guidelines for Standard Chemicals of Concern and Dredged Material Evaluation and Disposal Procedures (User's Manual)	DMMP screening levels provide a guideline to identify chemical concentrations below which there is no reason to believe that dredged material (e.g. LDW sediments) would result in unacceptable adverse effects.

CFR = Code of Federal Regulations
RCW = Revised Code of Washington
USC (or USCA) = United States Code (Annotated)
WAC = Washington Administrative Code

Table 5-2
Potential Action-Specific ARARs, NBF-GTSP Site

Action	Requirements	Prerequisite	Citation	Comments
General Investigation/Remediation Activities				
General investigation and remediation	CERCLA	Any hazardous waste site being investigated or cleaned up under the Superfund National Priorities List.	CERCLA, as amended by the SARA (42 USC 103)	42 USC Section 9621 states that a cleanup shall require, at completion, a level or standard of control for contaminants which at least attain standards set by ARARs. On-site actions must attain Federal standards, requirements, criteria, limitations or more stringent State standards determined to be legally applicable or relevant and appropriate to the circumstances at a given site. Applicable Federal and State ARARs are listed in Tables 5-1, 5-2, and 5-3.
	MTCA	Any hazardous waste site being investigated or cleaned up under MTCA	WAC 173-340, Chapter 70.105D RCW	Sets strict cleanup standards to ensure that the quality of hazardous waste site cleanup and protection of human health and the environment are not compromised and establishes the rules that allow cleanup under MTCA to be tailored to individual sites.
Interim actions	MTCA	Any hazardous waste site being investigated or cleaned up under MTCA	WAC 173-340-430	Interim actions are technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance at a facility. Interim actions may achieve cleanup standards for a portion of a site, provide partial cleanup, or provide information on how to achieve cleanup to set standards.
Water well construction	Requirements for installation and maintenance of monitoring or remediation wells	Necessary for construction of all resource protection wells	Minimum Standards for Construction and Maintenance of Wells (RCW 18.104; WAC 173-160)	Applicable for installation and maintenance of monitoring wells and remediation wells.
Noise control	Maximum noise levels	Activities that may result in exceedance of maximum noise levels	Noise Control Act of 1974 (RCW 80.107; WAC 173-60)	Potentially relevant and appropriate depending upon investigative or remedial activities selected.
Source control; Ecology construction stormwater general permit	Requirements for protecting sediment and surface water quality	Ongoing sources of chemicals to LDW.	State Water Pollution Control Act (RCW 90.48); CWA (40 CFR 100-149); SMS (WAC 173-204); MTCA (WAC 173-340)	Applicable to chemical sources that create concentrations of concern in LDW. Requirements are implemented differently depending on whether discharges are subject to NPDES permits (see below). NPDES may be required for discharges related to ongoing remedial action. Construction stormwater permit applies to construction activities that affect 1 acre or more.

Table 5-2
Potential Action-Specific ARARs, NBF-GTSP Site

Action	Requirements	Prerequisite	Citation	Comments
Discharge to POTW (Publicly-Owned Treatment Works)	Contaminated water must be permitted and pretreated to certain limits prior to discharge	Nonhazardous waste	National Pretreatment Standards (40 CFR 403); Metro District Wastewater Discharge Ordinance	Discharges to POTW subject to permitting and pre-treatment standards per King County wastewater treatment requirements; would be applicable to excavation dewatering.
Discharge to surface waters	Point-source standards for discharges into surface water bodies	Point-source discharge or site runoff directed to surface water body when the discharges are subject to an National Pollutant Discharge Elimination System (NPDES) Permit	NPDES (40 CFR 122, 125); State Discharge Permit Program, NPDES Program (WAC 173-216, 220)	Anticipated to be applicable to some discharges related to remediation. Construction stormwater requirements to be satisfied for handling of soil by development of SWPPP.
	Federal criteria for water quality to protect human health and aquatic life	Discharges to surface water bodies	Federal Water Quality Criteria (40 CFR 131)	Requires attainment of water quality criteria where relevant and appropriate to circumstances of the release. Requirements are implemented differently depending on whether discharges are subject to NPDES permits. Anticipated to be relevant and appropriate for remedial measures involving this activity.
	State WQS for Surface Water	Discharges to surface water bodies.	WAC 173-201-045, -047	State implementation of federal requirement to develop water quality control plan. Narrative and quantitative limitations for surface water and groundwater protection, based upon beneficial uses. Anticipated to be as relevant and appropriate.
	Requirement for use of all known available and reasonable technologies for treating wastewater prior to discharge to waters of the state	Industrial sources	State Water Pollution Control Act (RCW 90.48), Water Resources Act (RCW 90.54)	Anticipated to be applicable to remedial technologies involving discharges to surface or groundwater.
Air stripping	Meet ambient air quality requirements for significant sources	Site located in nonattainment area for National Ambient Air Quality Standards; treatment unit would be major source	National Ambient Air Quality Standards (40 CFR 50)	Possible ARAR if technology is used, but not anticipated to qualify as major source.
Granular-activated carbon treatment	Meet design and operating standards for treatment and storage units	Treatment and storage of RCRA hazardous waste	40 CFR 264, Subpart I-Containers 40 CFR 264, Subpart J-Tanks 40 CFR 264, Subpart X-Misc. units	Anticipated to be relevant and appropriate if technology is implemented.

Table 5-2
Potential Action-Specific ARARs, NBF-GTSP Site

Action	Requirements	Prerequisite	Citation	Comments
Treatment, storage, or disposal of hazardous wastes	Disposal of contaminated soil or debris is subject to land disposal prohibitions or treatment standards	Dangerous or hazardous waste	40 CFR 268 Federal Land Disposal Restrictions; WAC 173-303-140, -141 Land Disposal Restrictions	May be an ARAR if placement of hazardous or dangerous waste occurs during remediation.
Storage or disposal of solid wastes	Requirements for solid waste management	Solid waste (nonhazardous)	Solid Waste Disposal (Act 42 USC Sec. 3251-3259, 6901-6991) as administered under 40 CFR 257, 258; Solid Waste Handling Standards (WAC 173-304, -350)	Potentially an ARAR for nonhazardous waste generated during remedial activities
Transportation of Hazardous Materials	Hazardous materials transportation regulations	Required if hazardous materials are transported off-site	Hazardous Materials Regulations (49 USC 5101-5127; 49 CFR 171 to 180)	Applies to any hazardous materials transported off-site as part of remedial actions.
Air Emissions				
Air emissions	National Primary and Secondary Ambient Air Quality Standards	Emissions from a "major" source	Clean Air Act (Sec. 109, 40 CFR 50)	Emissions from site not expected to qualify as major source unless activities will result in emissions of >100 tons/year or of a specified air contaminant.
	Regional ambient air quality standards	Emission of regulated air contaminant	PSCAA Regulation I	Not anticipated as an ARAR
	National Emissions Standards for Hazardous Air Pollutants (NESHAPs)	Industrial emissions	Clean Air Act, NESHAPs (40 CFR 61); State Emission Standards for Hazardous Air Pollutants (WAC 173-400-075)	Emission standards may need to be converted to area source standards for use at site, if determined to be relevant and appropriate to releases of hazardous air pollutants from remedial actions.
	New Source Pretreatment Standards	New source of hazardous air pollutants	40 CFR 60	Potentially applicable to releases from remedial actions.
	Controls for New Sources of Toxic Air Pollutants	Emission of any Class A or Class B toxic air pollutant (identified in WAC 173-460-150 through -160) into ambient air	WAC 173-460	Potentially applicable to releases from remedial actions.
	Regional Emission Standards for Toxic Air Pollutants	Source of toxic air contaminant requires a notice of construction	PSCAA Regulation III	Potentially applicable depending upon remedial technology used.

Table 5-2
Potential Action-Specific ARARs, NBF-GTSP Site

Action	Requirements	Prerequisite	Citation	Comments
Soil/Fill Remediation				
General remediation of hazardous waste	RCRA hazardous waste management requirements	RCRA hazardous waste management in treatment, storage, or disposal facility (TSDF)	RCRA as amended by the Hazardous and Solid Waste Amendments (HSWA) (42 USCA 6901 et seq.)]; 40 CFR 264 for permitted TSDFs	Need to determine waste designation for investigation derived waste (IDW) and remediation waste. In general, RCRA requirements are anticipated to be applicable or relevant and appropriate depending upon designation of waste, if generated.
	State hazardous waste management requirements	Management of wastes that pass criteria for Washington hazardous waste as specified in WAC 173-303-070	General Facility Standards (WAC 173-303-280-395)	In general, state hazardous waste requirements are broader and more stringent than federal requirements; anticipated to be relevant and appropriate.
Remediation of PCB-contaminated waste	Regulations pertain to PCB remediation waste	PCBs as chemical of concern	TSCA (40 CFR 761.61)	Cleanup levels may be determined based on expected exposure and proximity to sensitive environments. PCB-contaminated waste materials will need to be managed and disposed in accordance with TSCA requirements.
Surface impoundments	Requirements for containment system, emergency repair, contingency plans, design, etc.	New RCRA surface impoundment	Federal: 40 CFR 264.220 et seq.; State: WAC 173-303-650	Not anticipated to be relevant and appropriate unless this technology is used during remediation.
Waste piles	Requirements for non-containerized solid, non-flowing material	RCRA hazardous waste stored in pile; State dangerous waste stored in pile	Federal: 40 CFR 264.254 et seq.; State: WAC 173-303-660	Potentially relevant and appropriate if employed during investigation or remediation.
Land treatment	Operating, monitoring, and closure requirements; hazardous chemicals must be degraded, transformed, or immobilized within the treatment zone; treatment efficiency must be demonstrated, design criteria must be met, monitoring must be established, and control fugitive and odor emissions.	RCRA hazardous waste treatment in land farming unit	40 CFR 264, Subpart M	May be ARAR if technology is selected for remediation.
Chemical, physical, and biological treatment	Operating, monitoring, and closure requirements	RCRA hazardous waste	Federal: 40 CFR 264; State: WAC 173-303	Potentially applicable if hazardous or state dangerous wastes are treated using any of these methods. Otherwise, anticipated to be relevant and appropriate for the treatment of nonhazardous waste.

Table 5-2
Potential Action-Specific ARARs, NBF-GTSP Site

Action	Requirements	Prerequisite	Citation	Comments
Incineration	Requirements include monitoring and analysis of waste feed and residuals, and disposal of treatment residuals.	RCRA hazardous waste; State dangerous waste	Federal: 40 CFR 264.340 et seq.; State: WAC 173-303-670	Anticipated to be relevant and appropriate should this technology be implemented. Onsite operations would need to meet substantive requirements of the operating permit. State requirements would be applicable for non-RCRA hazardous wastes.
	Performance standards for incinerators	Incinerator with charging rates of more than 45 metric tons per day	Federal: CAA 42 USCA 7401-7642; State: WAC 173-303-670; PSCAA emission and ambient standards	Anticipated to be relevant and appropriate if this technology is employed.
Thermal treatment (other than incineration)	Operating, monitoring, and closure requirements	Treatment using technologies other than controlled flame combustion	Federal: 40 CFR 265, Subpart P; State: WAC 173-303-680	Potentially applicable if wastes are treated using this method. Otherwise, anticipated to be relevant and appropriate for wastes sufficiently similar to hazardous or dangerous waste.
Excavation and disposal of hazardous wastes	Disposal of contaminated soil or debris is subject to land disposal prohibitions of treatment standards	RCRA hazardous waste State dangerous waste	Federal: 40 CFR 268, federal land disposal restrictions; State: Land Disposal Restrictions (WAC 173-303-140, -141)	May be ARAR if placement of hazardous or dangerous waste occurs during remediation.
Excavation and disposal of solid wastes	Requirements for solid waste management	Solid waste (nonhazardous)	Federal: Solid Waste Disposal Act (42 USC Sec. 325103259, 6901-6991), as administered under 40 CFR 257, 258 State: Solid Waste Handling Standards (WAC 173-350)	Potentially applicable to the disposal of nonhazardous waste generated during remedial activities.
Treatment of non-RCRA hazardous or state dangerous wastes	Treatment requirements for non-RCRA hazardous waste or state dangerous waste	Non-RCRA hazardous waste Non-RCRA state-only dangerous waste	Federal: 40 CFR 257, 258, 761; State: WAC 173-303-141	Standards for non-RCRA hazardous or non-RCRA state dangerous waste, including PCB waste, incinerator treatment residuals, etc. Anticipated to be applicable to non-RCRA hazardous and dangerous wastes, or relevant and appropriate to sufficiently similar wastes.

CFR = Code of Federal Regulations
RCW = Revised Code of Washington
USC (or USCA) = United States Code (Annotated)
WAC = Washington Administrative Code

Table 5-3
Potential Location-Specific ARARs, NBF-GTSP Site

Location/Activity	Requirements	Prerequisite	Citation	Comments
Evaluation of environmental impacts/ grading activities	Jurisdiction through City of Seattle for State Environmental Policy Act (SEPA) Checklist, including grading permits and other approvals	Activities such as excavation requires grading permit and other approvals from City	SEPA Rules; RCW 43.21C; WAC 197-11; Seattle Municipal Code (SMC, Title 22.804)	SEPA Checklist/Grading permit required for certain construction activities, including excavation work and drainage.
Actions within floodplain	Actions must be performed so as to avoid adverse impacts, minimize potential harm, restore and preserve natural and beneficial values of the floodplain.	Actions that will occur in a floodplain (i.e., lowlands) and relatively flat areas adjoining inland and coastal waters and other flood-prone areas	Executive Order 11988, Protection of Floodplains (40 CFR 6, Appendix A)	Could be applicable to remedial actions taken at site (note: the NBF-GTSP Site is outside the 100-year floodplain, but this ARAR is not-specific to a 100-year floodplain).
Critical habitat upon which endangered or threatened species depend	Actions must be performed so as to conserve endangered or threatened species, including consultation with the Department of the Interior and National Marine Fisheries Service.	Determination of endangered or threatened species and the essential fish habitat on which they depend	Endangered Species Act of 1973 (16 USC 1531 et seq.; 50 CFR Part 200, 50 CFR Part 402) Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act (50 CFR 600)	LDW is used as a salmon migratory route, and it is possible that other endangered or threatened species visit the NBF-GTSP Site.
Habitat for fish, plants, or birds subject to State of Washington Department of Fish and Wildlife (WDFW) oversight	Prohibits water pollution with any substance deleterious to fish, plant life, or bird life	Discharges of chemicals to LDW or other areas with wildlife	US Fish and Wildlife Coordination Act. 16 USC 661-667e	LDW is used as a salmon migratory route and provides habitat for other species of fish and wildlife. Certain plants and birds may find habitat at the NBF-GTSP Site. Requirements are implemented differently depending on whether discharges are subject to NPDES permits.
Historic sites or structures	Alternatives must be evaluated to avoid, minimize, or mitigate the impact on historic sites or structures.	Activities that could disturb historical sites or structures	National Historic Preservation Act (16 USC 470f; 36 CFR Parts 60, 63, and 800)	Applicable to the GTSP structure, which is a National Historic Landmark; activities must be conducted to minimize impact to the GTSP property.

CFR = Code of Federal Regulations
RCW = Revised Code of Washington
USC = United States Code
WAC = Washington Administrative Code

Table 6-1
Summary of Data Collection and Data Needs for NBF-GTSP Site Media

Soil	Groundwater	CJM and Other Surface Materials	Building Materials and Components
• Soil investigations have been conducted on the GTSP property and in five areas of NBF: the PEL area, the Green Hornet area, the Building 3-380 and former Building 3-360 area, the Buildings 3-800 and 3-801 area, and the Main Fuel Farm area; additional soil investigations have been performed in isolated areas across NBF. • Not all historical and recent investigation areas have been fully characterized with respect to the lateral and vertical extent of contamination of the RI COPCs or the previously identified LDW/Slip 4 COPCs. • Historical and current investigations and remedial actions may have left materials in place with COPC concentrations that significantly exceed the RI screening levels (RISLs).	• Groundwater investigations have mainly been conducted on the GTSP property and in five areas of NBF: the PEL area, the Green Hornet area, the Building 3-380 and former Building 3-360 area, the Buildings 3-800 and 3-801, and the Main Fuel Farm area. • Additional groundwater investigations have been performed in isolated areas across NBF, but groundwater has not been characterized across the Site. • The downgradient and lateral extents of all contaminant plumes have not been fully characterized with respect to the RI COPCs.	• CJM is a known source of PCBs at NBF; most CJM in areas identified as containing more than 50 mg/kg total PCBs has been removed from the Site, and in the PEL area all CJM has recently been replaced. • CJM containing less than 50 mg/kg PCBs may represent a continuing source to the storm drain system and environmental media. • PCBs leaching from CJM may have contaminated other media (such as concrete). PCBs in these contaminated media may represent a source of PCBs to new CJM (through resorption) and to environmental media. • CJM has not been analyzed for other RI COPCs and may contain metals, PAHs, phthalates and other contaminants. • Concrete, asphalt and surface debris are known to contain RI COPCs; the extent of contaminated surface solids has not been characterized, and loose debris is a direct source to the NBF storm drain system.	• Building materials such as caulk, paint, and other exterior materials are known to contain many of the RI COPCs. • Limited characterization of building materials has been performed until recently at NBF. • Building materials throughout the Site need to be characterized to determine if these materials form sources of contaminants to environmental media, such as soil and groundwater, and/or contribute to contaminant loading in the NBF storm drain system.

Table 6-2
Analytical Methods, Sample Containers, Preservation and Holding Time Requirements

Chemical Class	Analytical Method	Sample Container	Preservation	Holding Time
Solid Samples (soil, storm drain solids, surface material and debris, building material, CJM)				
Dioxins/Furans	EPA 1613B	Glass jar	Freeze (-20°C)	1 year to extract, 40 days to analyze
PCB Aroclors	EPA 8082	Glass jar	Cool (0-6°C)	14 days to extract, 40 days to analyze (1 year to extract if frozen)
SVOCs (including phthalates and PAHs)	EPA 8270D or EPA 8270D-SIM			
VOCs	EPA 8260C	40-mL VOA vial with Teflon septa	Sodium bisulfate or methanol; cool (0-6°C)	14 days
Mercury	EPA 7471A	Glass jar	Cool (0-6°C)	28 days (6 months if frozen)
Other metals	EPA 6010C/200.8			6 months (2 years if frozen)
Total Organic Carbon	Plumb (1981)			14 days (6 months if frozen)
Total solids	EPA 160.3			
Grain size	PSEP (1986)	Glass or HDPE jar	Cool (0-6°C)	6 months
Aqueous Samples (stormwater, base flow water, groundwater)				
Dioxins/Furans	EPA 1613B	Glass amber bottles	cool (0-6°C)	1 year to extract, 40 days to analyze
VOCs	EPA 8260C	40-mL VOA vial with Teflon septa	HCl; cool (0-6°C)	14 days
PCB Aroclors	EPA 8082	Glass amber bottles	cool (0-6°C)	7 days to extract, 40 days to analyze
SVOCs (including phthalates and PAHs)	EPA 8270D or EPA 8270D-SIM	Glass amber bottles	cool (0-6°C)	7 days to extract, 40 days to analyze
Metals (including mercury)	EPA 6010C/200.8/7470A	HDPE bottle	Nitric acid	28 days for mercury, 6 months for other metals

HCl - hydrochloric acid
HDPE - high-density polyethylene
VOA - volatile organic analyses

Table 6-3
Laboratory QA/QC Requirements

Analysis Type	Initial Calibration	CCV	LCS	Method Blanks	Lab Duplicate	MS/ MSD	Surrogates	SRM
Dioxins/ Furans	Prior to analysis	Start of 12-hour batch	One per prep batch	One per prep batch	NA	NA	Every sample	One per prep batch
Pesticides	Prior to analysis	Start of batch, every 12 hours and end of batch	One per prep batch	One per prep batch	NA	MS/MSD at rate of 5% of samples	Every sample	One per prep batch
PCBs	Prior to analysis	Start of batch, every 12 hours and end of batch	One per prep batch	One per prep batch	NA	MS/MSD at rate of 5% of samples	Every sample	One per prep batch
SVOCs and SVOCs by SIM	Prior to analysis	Start of 12-hour batch	One per prep batch	One per prep batch	NA	MS/MSD at rate of 5% of samples	Every sample	One per prep batch
Metals (including mercury)	Daily, prior to analysis	Start of batch, every 10 samples and end of batch	One per prep batch	One per prep batch	One at rate of 5% of samples	MS at rate of 5% of samples	NA	One per prep batch
Total Organic Carbon	Daily, prior to analysis	Start of batch, every 10 samples and end of batch	One per prep batch	One per prep batch	One at rate of 5% of samples	MS at rate of 5% of samples	NA	One per prep batch
Total Solids	NA	NA	NA	NA	One per prep batch	NA	NA	NA
Grain Size	NA	NA	NA	NA	One per prep batch	NA	NA	NA

CCV - Continuing calibration verification
LCS/LCSD - Laboratory control sample/laboratory control sample duplicate; an ongoing precision and recovery sample may be substituted for an LCS for analysis of dioxins/furans
MS/MSD - Matrix spike/matrix spike duplicate
SRM - Standard Reference Material
NA - not applicable

Table 6-4
Criteria Used as Screening Levels for NBF-GTSP Media

Criteria Type and Designation	Description and Reference for ARARs, PSLs and Background
SOIL	
Soil Method A:	
SO-1	Method A, Unrestricted Land Use - HH, WAC 173-340-740(2)(b)(iii), CLARC Database, Table 740-1 [Method A used only for TPH components]
SO-2	Simplified TEE - Industrial Land Use, WAC 173-340-745(3)(b)(iii), Table 749-2 [applied for GTSP and surrounding areas]
Soil Method B:	
SO-3	Direct Contact, Method B - HH, Carcinogen, WAC 173-340-740(3)(b)(iii)(B)(II), CLARC Database, Eq. 740-2
SO-4	Direct Contact, Method B - HH, Non-carcinogen, WAC 173-340-740(3)(b)(iii)(B)(I), CLARC Database, Eq. 740-1
Soil Pathway Evaluation:	
SO-5	Method B - HH Groundwater Protection - NC, WAC 173-340-740(3)(b)(iii)(A), Eq. 747-1/ 747-2, Vadose Soil
SO-6	Method B - HH Groundwater Protection - NC, WAC 173-340-740(3)(b)(iii)(A), Eq. 747-1/ 747-2, Saturated Soil
SO-7	Method B - HH Groundwater Protection - Carc, WAC 173-340-740(3)(b)(iii)(A), Eq. 747-1/ 747-2, Vadose Soil
SO-8	Method B - HH Groundwater Protection - Carc, WAC 173-340-740(3)(b)(iii)(A), Eq. 747-1/ 747-2, Saturated Soil
SO-9	Soil to Sediment Protection, Ecology CSL, WAC 173-340-740(1)(d), Eq. 747-1/ 747-2, Vadose Soil
SO-10	Soil to Sediment Protection, Ecology SQS, WAC 173-340-740(1)(d), Eq. 747-1/ 747-2, Vadose Soil
SO-11	Soil to Sediment Protection, Ecology CSL, WAC 173-340-740(1)(d), Eq. 747-1/ 747-2, Saturated Soil
SO-12	Soil to Sediment Protection, Ecology SQS, WAC 173-340-740(1)(d), Eq. 747-1/ 747-2, Saturated Soil
SO-13	Soil to Surface Water Protection, Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Acute, Vadose Soil
SO-14	Soil to Surface Water Protection, Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Acute, Saturated Soil
SO-15	Soil to Surface Water Protection, Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Chronic, Vadose Soil
SO-16	Soil to Surface Water Protection, Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Chronic, Saturated Soil
SO-17	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, Saltwater - Acute, Eq. 747-1/ 747-2, Vadose Soil
SO-18	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, Saltwater - Acute, Eq. 747-1/ 747-2, Saturated Soil
SO-19	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, Saltwater - Chronic, Eq. 747-1/ 747-2, Vadose Soil
SO-20	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, Saltwater - Chronic, Eq. 747-1/ 747-2, Saturated Soil
SO-21	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, HH-Consumption Organisms, Eq. 747-1/ 747-2, Vadose Soil
SO-22	Soil to Surface Water Protection, WAC 173-340-740(1)(d), NRWQC, HH-Consumption Organisms, Eq. 747-1/ 747-2, Saturated Soil
SO-23	Soil to Surface Water Protection, Aquatic Life, Marine/Acute, NTR - 40 CFR 131.36, Vadose Soil
SO-24	Soil to Surface Water Protection, Aquatic Life, Marine/Acute, NTR - 40 CFR 131.36, Saturated Soil
SO-25	Soil to Surface Water Protection, Aquatic Life, Marine/Chronic, NTR - 40 CFR 131.36, Vadose Soil
SO-26	Soil to Surface Water Protection, Aquatic Life, Marine/Chronic, NTR - 40 CFR 131.36, Saturated Soil
Soil Potential ARARs:	
SO-27	CERCLA, EPA Regional Screening Level (RSL; May, 2010), Residential
SO-28	CERCLA - National Oil & Hazardous Substances Pollution Contingency Plan (NCP) - 40 CFR 300, Preliminary Remediation/Cleanup Goals (PRGs) (2007)
SO-29	Soil Protection of Surface Water, HH – Organoleptic Effects, CWA §304 NRWQC, Vadose Soil
SO-30	Soil Protection of Surface Water, HH – Organoleptic Effects, CWA §304 NRWQC, Saturated Soil
SO-31	Toxics Substances Control Act (TSCA), 40 CFR 761.61
SO-32	CERCLA, EPA Regional Screening Level (RSL; May, 2010), Groundwater Protection (Risk Based)
SO-33	EPA, LDW Plant 2, TMCLs, Groundwater Protection (Risk Based)
Background (Always Applicable):	
SO-34	Natural Background Levels, Ch. 173-340 WAC

Table 6-4
Criteria Used as Screening Levels for NBF-GTSP Media

Criteria Type and Designation	Description and Reference for ARARs, PSLs and Background
GROUNDWATER	
Groundwater Method A:	
GW-1	Method A - HH, Potable (Table 720-1), WAC 173-340-720(3)(b)(i) [Method A used only for TPH components]
Groundwater Method B:	
GW-2	Method B - HH, Potable ARARs, WAC 173-340-720(4)(b)(i), Safe Drinking Water Standards - MCLs
GW-3	Method B - HH, Potable ARARs, WAC 173-340-720(4)(b)(i), Safe Drinking Water Standards - MCLGs [only non-carcinogenic non-zero goals]
GW-4	Method B - HH, Potable ARARs, WAC 173-340-720(4)(b)(i), State Department of Health Standards - MCLs
GW-5	Method B - HH, Non-carcinogenic/Potable, WAC 173-340-720(4)(b)(iii)(A), CLARC Database
GW-6	Method B - HH, Carcinogen/Potable, WAC 173-340-720(4)(b)(iii)(B), CLARC Database
Groundwater Pathway Evaluation:	
GW-7	Method B - HH, Potable/Protect Surface Water, WAC 173-340-720(4)(b)(ii)
GW-8	Groundwater to Sediment Protection, Ecology CSL, WAC 173-340-720(1)(c)
GW-9	Groundwater to Sediment Protection, Ecology SQS, WAC 173-340-720(1)(c)
ARARs:	
GW-10	EPA RCRA Plant 2, TMCLs
Background (Always Applicable):	
GW-11	Natural Background Levels, Ch. 173-340 WAC
STORM DRAIN WATER (Based on Surface Water)	
Surface Water Method B:	
SDW-1	Method B - HH, Non-carcinogen, Fish Consumption, WAC 173-340-730(3)(b)(iii)(A), Eq. 730-1, CLARC Database
SDW-2	Method B - HH, Non-carcinogen, Fish Consumption, WAC 173-340-730(3)(c), Eq. 730-1, Mod - Tribal Adult
SDW-3	Method B - HH, Non-carcinogen, Fish Consumption, WAC 173-340-730(3)(c), Eq. 730-1, Mod - Tribal Child
SDW-4	Method B - HH, Carcinogen, Fish Consumption, WAC 173-340-730(3)(b)(iii)(B), Eq. 730-2, CLARC Database
SDW-5	Method B - HH, Carcinogen, Fish Consumption, WAC 173-340-730(3)(b)(iii)(B), Eq. 730-2, Mod - Tribal Adult
SDW-6	Method B - HH, Carcinogen, Fish Consumption, WAC 173-340-730(3)(b)(iii)(B), Eq. 730-2, Mod - Tribal Child
SDW-7	Method B - HH, Petroleum Mixtures, WAC 173-340-730(3)(b)(iii)(c), Using Method A for Groundwater [TPH levels only]
Surface Water Method A,B,C Required ARARs:	
SDW-8	Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Acute
SDW-9	Aquatic Life, SWQS:RCW 90.48; Ch. 173-201A-240 per MTCA, WAC 173-340-730(2)(b)(i)(A), Marine - Chronic
SDW-10	HH – Consumption; Organism Only (Marine), CWA §304, NRWQC
SDW-11	HH – Organoleptic Effects, CWA §304, NRWQC
SDW-12	Aquatic Life, Marine/Acute, CWA §304, NRWQC
SDW-13	Aquatic Life, Marine/Chronic, CWA §304, NRWQC
SDW-14	Aquatic Life, Marine/Acute, NTR - 40 CFR 131.36
SDW-15	Aquatic Life, Marine/Chronic, NTR - 40 CFR 131.36
SDW-16	HH - Marine Water, Organism Consumption Only, NTR - 40 CFR 131.36 (WAC 173-201A-040[5]), HH - 10-6 Carc Risk
Surface Water ARARs:	
SDW-17	Surface Water Discharge (NPDES), 40 CFR 122,125/ RCW 90.48; WAC 173-216, -220, -122
SDW-18	Groundwater to Sediment Protection, Ecology CSL, WAC 173-340-730(1)(d)
SDW-19	Groundwater to Sediment Protection, Ecology SQS, WAC 173-340-730(1)(d)
SDW-20	HH - Adult, Non-Carcinogen, Tribal Fish Consumption w/o Salmon, EPA RCRA (using MTCA Eq. 730-1)
SDW-21	HH - Child, Non-Carcinogen, Tribal Fish Consumption w/o Salmon, EPA RCRA (using MTCA Eq. 730-1)
SDW-22	HH - Adult, Carcinogen, Tribal Fish Consumption w/o Salmon, EPA RCRA (using MTCA Eq. 730-2)
SDW-23	HH - Child, Carcinogen, Tribal Fish Consumption w/o Salmon, EPA RCRA (using MTCA Eq. 730-2)

Table 6-4
Criteria Used as Screening Levels for NBF-GTSP Media

Criteria Type and Designation	Description and Reference for ARARs, PSLs and Background
Background (Always Applicable):	
SDW-24	Natural Background Levels, Ch. 173-340 WAC
SDW-25	Natural Background Levels, Ch. 173-340 WAC, *LDW* [using upstream Green River data, LDW RI Report 2010]
	STORM DRAIN SOLIDS and SURFACE SOLID DEBRIS (Based on Sediments)
Sediment Required ARARs (Marine Waters):	
SDS-1	SMS, SQS, WAC 173-340-760 [for chemicals that are not OC-normalized]
SDS-2	SMS, CSL, WAC 173-340-760 [for chemicals that are not OC-normalized]
Sediment Apparent Effect Thresholds (Marine Waters):	
SDS-3	SMS, LAET, WAC 173-340-760 [dry weight values instead of OC-normalized, from LDW RI Report, 2010]
SDS-4	SMS, 2LAET, WAC 173-340-760 [dry weight values instead of OC-normalized, from LDW RI Report 2010]
Puget Sound Dredge Disposal Analysis (PSDDA):	
SDS-5	PSDDA Screening Level (SL1), Marine
SDS-6	PSDDA Screening Level (SL2), Marine
SDS-7	PSDDA Bioaccumulation Trigger (BT), Marine
SDS-8	PSDDA Maximum Level (ML), Marine
Sediment Potential ARARs:	
SDS-9	CERCLA/MTCA, HH Risk Based Threshold Concentrations, 40 CFR 160, *LDW*
SDS-10	CERCLA/MTCA, HH Risk Based Threshold Concentrations, 40 CFR 160, *LDW (Netfishing)*
SDS-11	CERCLA/MTCA, HH Risk Based Threshold Concentrations, 40 CFR 160, *LDW (Beach Play & Clam Fishing)*
SDS-12	CERCLA, SMS/SQS ARAR, WAC 173-340-760, *T-117*
SDS-13	CERCLA, Sediment Screening Level - Recreational Scenario, *T-117*
Background (Always Applicable):	
SDS-14	Natural Background Levels, Ch. 173-340 WAC
	CONCRETE JOINT MATERIAL (Based on Sediments)
Sediment Required ARARs (Marine Waters):	
SDS-1	SMS, SQS, WAC 173-340-760 [for chemicals that are not OC-normalized; none yet analyzed on CJM]
SDS-2	SMS, CSL, WAC 173-340-760 [for chemicals that are not OC-normalized; none yet analyzed on CJM]
Sediment Apparent Effect Thresholds (Marine Waters):	
SDS-3	SMS, LAET, WAC 173-340-760 [dry weight values instead of OC-normalized, values from LDW RI Report, 2010]
SDS-4	SMS, 2LAET, WAC 173-340-760 [dry weight values instead of OC-normalized, values from LDW RI Report 2010]
	BUILDING MATERIALS and PAVEMENT (Based on Sediments)
Sediment Required ARARs (Marine Waters):	
SDS-1	SMS, SQS, WAC 173-340-760 [for chemicals that are not OC-normalized]
Sediment Apparent Effect Thresholds (Marine Waters):	
SDS-3	SMS, LAET, WAC 173-340-760 [dry weight values instead of OC-normalized]

Note: ARARs, PSLs, background levels, and acronyms are derived from Ecology (2011); designations (e.g., SL-1) were developed specific to this Work Plan.
ARAR = Applicable or Relevant and Appropriate Requirement
PSL = Preliminary Screening Level
HH = human health
Carc = carcinogenic
NC = non-carcinogenic
NTR = National Toxics Rule
SWQS = Surface Water Quality Standards
Other acronyms are identified in text or in Table 5-1

Table 6-5
Soil Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels: Direct Contact Method B Carc/NC (SO-3/4) (TPH, SO-1)	Representative Screening Levels: Method B GW Protection Carc/NC (SO-7/5) Vadose	Representative Screening Levels: Method B GW Protection Carc/NC (SO-8/6) Saturated	Most Stringent Screening Level: Non-Leaching Criteria Value	Most Stringent Screening Level: Non-Leaching Criteria Reference	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Value	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Reference	Soil Background Level (SO-34)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL: Max Detected	Concentration Exceeds RISL: Min Non-Detected	COPC Notes
Chlorinated Aromatic Compounds																					
Dioxins/Furans (pg/g)																					
2,3,7,8-TCDD	2 / 14	0.122	0.152	0.0378	0.0911	--	1.7	0.085	4.5	SO-27	7.48E-04	SO-22	5.2	**0.34**	**1.0**	--	--	5.2			
Dioxins/Furans TEQ (0 DL)	14 / 14	0.00236	1.05	--	--	--	1.7	0.085	4.5	SO-27	7.48E-04	SO-22	5.2	--	--	--	--	5.2			
Dioxins/Furans TEQ (0.5 DL)	14 / 14	0.0662	1.14	--	--	--	1.7	0.085	4.5	SO-27	7.48E-04	SO-22	5.2	--	--	--	--	5.2			
PCB Aroclors (mg/kg)																					
Aroclor 1016	2 / 1206	0.054	0.22	1.00E-04	910	5.6	0.612	0.0306	3.9	SO-27	6.14E-05	SO-33	--	0.024	0.10	**0.0020**	**0.033**	0.033	●		See Total PCBs
Aroclor 1016/1242	0 / 67	--	--	0.04	8.8	--	--	--	--	--	--	--	--	0.024	0.10	**0.0020**	**0.033**	--			
Aroclor 1221	1 / 1118	0.042	0.042	1.00E-04	910	--	--	--	0.14	SO-27	3.97E-06	SO-33	--	0.024	0.10	**0.0020**	**0.033**	0.033	●		See Total PCBs
Aroclor 1232	0 / 1121	--	--	1.00E-04	910	--	--	--	0.14	SO-27	1.20E-04	SO-32	--	0.024	0.10	**0.0020**	**0.033**	0.033	●		See Total PCBs
Aroclor 1242	12 / 1245	0.036	6.9	1.00E-04	910	--	--	--	0.22	SO-27	3.61E-05	SO-33	--	0.030	0.10	**0.0025**	**0.033**	0.033	●		See Total PCBs
Aroclor 1242/1254	1 / 1	15	15	--	--				--	--	--	--	--	--	--	**--**	**--**	--			
Aroclor 1248	118 / 1314	0.032	2,300	1.00E-04	910	--	--	--	0.22	SO-27	0.0052	SO-32	--	0.030	0.10	**0.0025**	**0.033**	0.033	●		See Total PCBs
Aroclor 1254	548 / 1339	0.016	4,150	1.00E-04	710	1.6	0.485	0.0243	0.22	SO-27	1.44E-05	SO-33	--	0.030	0.10	**0.0025**	**0.033**	0.033	●		See Total PCBs
Aroclor 1260	213 / 1312	3.00E-04	88	1.00E-04	910	--	--	--	0.22	SO-27	1.62E-04	SO-33	--	0.030	0.10	**0.0025**	**0.033**	0.033	●		See Total PCBs
Aroclor 1262	5 / 48	0.013	0.048	0.011	35	--	--	--	--	--	--	--	--	0.030	0.10	**0.0025**	**0.033**	--			
Aroclor 1268	0 / 40	--	--	0.011	35	--	--	--	--	--	--	--	--	0.030	0.10	**0.0025**	**0.033**	--			
Total PCBs	694 / 1462	3.00E-04	91,000	1.00E-04	88	0.5	0.04	0.00198	0.22	SO-27	2.89E-06	SO-22	--	0.030	0.10	**0.0025**	**0.033**	0.033	●		COPC
Metals (mg/kg)														ICP-AES (EPA 6010)		ICP-MS (EPA 200.8)					
Aluminum	5 / 5	5,860	11,540	--	--	80,000	--	--	77,000	SO-27	55,000	SO-32	--	**2.4**	**5.0**	20	20	55,000		●	Major ion, not COPC
Antimony	1 / 22	11	11	2.3	40	32	5.79	0.29	31	SO-27	0.29	SO-6	5	**0.41**	**5.0**	0.011	0.2	5	●		<5% detections, not COPC
Arsenic	84 / 267	0.5	28	0.05	10	0.67	0.034	0.00171	0.39	SO-27	0.0013	SO-32	7	**0.31**	**5.0**	0.17	0.5	7.0	●		COPC
Barium	23 / 26	0.238	340	0.5	0.5	16,000	461	23.1	15,000	SO-27	23.1	SO-6	--	**0.13**	**0.3**	0.062	0.5	23.1	●		COPC
Beryllium	22 / 48	0.1	1.6	0.094	0.8	160	506	25.3	160	SO-4/27	25.3	SO-6	--	**0.02**	**0.1**	0.018	0.2	25.3			
Cadmium	126 / 286	0.004	12	0.01	1	--	1.1	0.0559	70	SO-27	0.0559	SO-6	1	**0.02**	**0.2**	0.016	0.2	1.0	●		COPC
Calcium	5 / 5	2,841	11,950	--	--	--	--	--	--	--	--	--	--	**0.83**	**5.0**	50	50	--			Major ion
Chromium	281 / 286	6.1	560	0.005	4	120,000	--	--	120,000	SO-4/27	260	SO-12	117	**0.26**	**0.5**	0.15	0.5	260	●		COPC
Chromium, hexavalent	3 / 34	0.135	0.857	0.115	0.246	240	18.4	0.926	0.29	SO-27	8.30E-04	SO-32	--	**0.26**	**0.5**	0.15	0.5	0.5	●		COPC
Copper	232 / 233	6.5	2,610	4	4	3,200	263	13.2	3,100	SO-27	0.0535	SO-24/26	36	**0.04**	**0.2**	0.096	0.5	36	●		COPC
Iron	5 / 5	9,558	17,230	--	--	56,000	--	--	55,000	SO-27	640	SO-32	--	**1.3**	**5.0**	20	20	640	●	●	Major ion, not COPC
Lead	207 / 259	1	2,830	0.02	5	--	--	--	400	SO-27	56.7	SO-12	17	**0.18**	**2.0**	0.30	1.0	56.7	●		COPC
Magnesium	5 / 5	1,815	3,789	--	--	--	--	--	--	--	--	--	--	**0.63**	**5.0**	20	20	--			Major ion
Mercury	166 / 288	0.0049	5.7	1.00E-04	0.5	--	5.01	0.251	5.6	SO-27	0.00131	SO-16/26	0.07	**0.002**	**0.025**	--	--	0.07	●		COPC
Nickel	95 / 96	4.4	137	4	4	1,600	417	20.9	1,600	SO-4	0.535	SO-16/20/26	38	**0.86**	**1.0**	0.21	0.5	38	●		COPC
Selenium	6 / 47	0.1	0.9	0.005	10	400	8.32	0.423	390	SO-27	0.423	SO-6	--	**0.59**	**5.0**	0.46	2.0	5.0			
Silver	6 / 47	0.02	0.5	0.003	4	400	13.6	0.687	390	SO-27	0.0163	SO-14/18/24	--	**0.04**	**0.3**	0.007	0.2	0.3	●		COPC
Sodium	5 / 5	1,006	1,062	--	--	--	--	--	--	--	--	--	--	**15**	**50**	100	100	--			Major ion
Thallium	0 / 27	--	--	0.05	27	--	1.59	0.0798	--	--	0.0798	SO-6	--	**0.25**	**5.0**	0.006	0.2	5.0			
Tin	6 / 38	1	79	0.22	1	48,000	--	--	47,000	SO-27	5,500 ^	SO-32	--	**0.19**	**1.0**	--	--	47,000			
Zinc	230 / 233	10	4,330	4	1,410	24,000	5,971	299	23,000	SO-27	5.05	SO-16	86	**0.37**	**1.0**	1.9	4.0	86	●		COPC
Pesticides (mg/kg)																					
Aldrin	0 / 5	--	--	2.00E-04	0.002	0.0588	0.235	0.000126	0.029	SO-27	2.45E-06 ^	SO-22	--	**0.00043**	**0.0017**	--	--	0.029			
alpha-BHC	0 / 5	--	--	1.60E-04	0.002	0.159	0.000545	2.85E-05	0.077	SO-27	1.00E-05 ^	SO-22	--	**0.00044**	**0.0017**	--	--	0.077			
beta-BHC	0 / 5	--	--	2.90E-04	0.003	0.556	0.00227	0.000118	0.27	SO-27	4.12E-05 ^	SO-22	--	**0.00085**	**0.0017**	--	--	0.27			
delta-BHC	0 / 4	--	--	2.80E-04	0.0028	--	--	--	--	--	--	--	--	**0.00068**	**0.0017**	--	--	--			
cis-Chlordane	0 / 5	--	--	2.60E-04	0.003	--	--	--	--	--	--	--	--	**0.00034**	**0.0017**	--	--	--			
trans-Chlordane	0 / 5	--	--	2.40E-04	0.003	--	--	--	--	--	--	--	--	**0.00099**	**0.0017**	--	--	--			
Chlordane	0 / 5	--	--	2.40E-04	0.003	2.86	0.258	0.0129	1.6	SO-27	4.18E-05 ^	SO-22	--	**0.00099**	**0.0017**	--	--	1.6			

Table 6-5
Soil Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels			Most Stringent Screening Level				Soil Background Level (SO-34)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
						Direct Contact Method B Carc/NC (SO-3/4) (TPH, SO-1)	Method B GW Protection Carc/NC (SO-7/5) Vadose	Method B GW Protection Carc/NC (SO-8/6) Saturated	Non-Leaching		Leaching (via GW or SDW)										
		Min	Max	Min	Max				Criteria Value	Criteria Reference	Criteria Value	Criteria Reference		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
4,4'-DDD	0 / 5	--	--	5.30E-04	0.0053	4.17	0.335	0.0168	2	SO-27	0.0168 ^	SO-8	--	**0.00069**	**0.0033**	--	--	2			
4,4'-DDE	0 / 5	--	--	5.20E-04	0.0053	2.94	0.446	0.0223	1.4	SO-27	0.0223 ^	SO-8	--	**0.00069**	**0.0033**	--	--	1.4			
4,4'-DDT	0 / 5	--	--	5.30E-04	0.0053	2.94	3.49	0.175	1.7	SO-27	1.49E-04 ^	SO-22	--	**0.00059**	**0.0033**	--	--	1.7			
Dieldrin	0 / 5	--	--	5.20E-04	0.0053	0.0625	0.00281	0.000141	0.03	SO-27	1.39E-06 ^	SO-22	--	**0.00066**	**0.0033**	--	--	0.03			
Endosulfan I	0 / 5	--	--	2.50E-04	0.0025	480	4.3	0.223	370	SO-27	0.223 ^	SO-6	--	**0.00037**	**0.0017**	--	--	370			
Endosulfan II	0 / 5	--	--	5.20E-04	0.0052	480	4.3	0.223	370	SO-27	0.223 ^	SO-6	--	**0.00064**	**0.0033**	--	--	370			
Endosulfan sulfate	0 / 5	--	--	7.80E-04	0.008	480	4.3	0.223	370	SO-27	0.223 ^	SO-6	--	**0.00078**	**0.0033**	--	--	370			
Endrin	0 / 5	--	--	4.80E-04	0.0048	24	1.06	0.0533	18	SO-27	0.0533 ^	SO-6	--	**0.00056**	**0.0033**	--	--	18			
Endrin aldehyde	0 / 4	--	--	8.90E-04	0.009	--	--	0.0533	18	SO-27	0.0533 ^	SO-6	--	**0.00057**	**0.0033**	--	--	18			
Endrin ketone	0 / 5	--	--	6.10E-04	0.0062	--	--	--	--	--	--	--	--	**0.00068**	**0.0033**	--	--	--			
Heptachlor	0 / 5	--	--	2.00E-04	0.002	0.222	0.00378	0.000191	0.11	SO-27	7.75E-07 ^	SO-22	--	**0.00062**	**0.0017**	--	--	0.11			
Heptachlor epoxide	0 / 5	--	--	2.60E-04	0.0027	0.11	0.00802	0.000401	0.11	SO-3	3.26E-06 ^	SO-22	--	**0.00050**	**0.0017**	--	--	0.11			
Methoxychlor	0 / 5	--	--	0.0033	0.033	400	--	--	400	SO-4	--	--	--	**0.0026**	**0.017**	--	--	400			
Lindane	0 / 5	--	--	1.60E-04	0.003	24	0.149	0.00787	0.52	SO-27	2.62E-04 ^	SO-24	--	**0.00037**	**0.0017**	--	--	0.52			
Toxaphene	0 / 5	--	--	0.15	1.6	0.909	--	--	0.44	SO-27	0.0094 ^	SO-32	--	**0.17**	**0.17**	--	--	0.44			
Petroleum Hydrocarbons (mg/kg)																					
Diesel Range Hydrocarbons	400 / 878	3.1	25,000	0.0052	2,600	2,000	--	--	2,000	SO-1	2,000	SO-1	--	**0.74**	**5.0**	--	--	2,000	●		COPC
Gasoline Range Hydrocarbons	115 / 580	0.013	7,800	0.0056	40	30	--	--	30	SO-1	30	SO-1	--	**2.4**	**5.0**	--	--	30	●		COPC
Oil Range Hydrocarbons	347 / 596	7.7	60,000	0.01	110	2,000	--	--	2,000	SO-1	2,000	SO-1	--	**1.3**	**10**	--	--	2,000	●		COPC
Jet Fuel (applied to diesel range)	15 / 21	10	7,140	10	10	2,000	--	--	2,000	SO-1	2,000	SO-1	--	**3.2**	**10**	--	--	2,000	●		COPC
Semivolatile Organic Compounds (SVOCs)																					
Phenols (mg/kg)														EPA 8270D (Soil)		EPA 8270D (PSEP)					
2-Chlorophenol	0 / 170	--	--	0.0046	330	400	--	--	400	SO-4	--	--	--	0.014	0.067	**0.0048**	**0.020**	400			
4-Chloro-3-methylphenol	0 / 170	--	--	0.015	330	--	--	--	--	--	--	--	--	0.12	0.33	**0.015**	**0.10**	--			
2,4-Dichlorophenol	0 / 170	--	--	0.002	330	240	--	--	240	SO-4	--	--	--	0.075	0.33	**0.018**	**0.10**	240			
2,4-Dimethylphenol	0 / 169	--	--	0.0076	7.5	1,600	--	--	1,200	SO-27	0.00203 ^	SO-11/12	--	0.016	0.067	**0.0080**	**0.020**	1,200			
4,6-Dinitro-2-methylphenol	0 / 169	--	--	0.039	7.8	--	--	--	--	--	--	--	--	0.12	0.67	**0.041**	**0.20**	--			
2,4-Dinitrophenol	0 / 170	--	--	0.048	1,600	160	--	--	160	SO-4	--	--	--	0.077	0.67	**0.050**	**0.20**	160			
o-Cresol	0 / 170	--	--	0.0051	330	4,000	--	--	3,100	SO-27	1.5 ^	SO-32	--	0.023	0.067	**0.0053**	**0.020**	3,100			
p-Cresol	2 / 186	0.31	0.98	0.0046	330	400	--	--	310	SO-27	0.0556 ^	SO-11/12	--	0.022	0.067	**0.0048**	**0.020**	310			
2-Nitrophenol	0 / 170	--	--	0.0091	330	--	--	--	--	--	--	--	--	0.063	0.067	**0.0095**	**0.020**	--			
4-Nitrophenol	0 / 170	--	--	0.027	1,600	--	--	--	--	--	--	--	--	0.048	0.33	**0.028**	**0.10**	--			
Pentachlorophenol	0 / 170	--	--	0.026	1,600	2.5	0.0522	0.00267	2.5	SO-3	0.00267	SO-8	--	0.096	0.33	**0.027**	**0.10**	0.10			
Phenol	4 / 186	0.015	0.28	0.0036	330	24,000	20.9	1.46	18,000	SO-27	0.0435 ^	SO-12	--	0.016	0.067	**0.0038**	**0.020**	18,000			
2,4,5-Trichlorophenol	0 / 170	--	--	0.02	1,600	8,000	--	--	8,000	SO-4	--	--	--	0.15	0.33	**0.021**	**0.10**	8,000			
2,4,6-Trichlorophenol	0 / 170	--	--	0.011	330	80	0.111	0.00589	44	SO-27	0.00589 ^	SO-8	--	0.14	0.33	**0.011**	**0.10**	44			
2,6-bis(1,1-Dimethyl)phenol	0 / 27	--	--	0.063	0.066				--	--	--	--	--	--	--	**--**	**--**	--			
Phthalates (mg/kg)														EPA 8270D (Soil)		EPA 8270D (PSEP)					
Butyl benzyl phthalate	2 / 187	0.11	0.31	0.0039	330	530	612	30.9	260	SO-27	0.00505 ^	SO-12	--	**0.025**	**0.067**	0.0041	0.020	260			
Dibutyl phthalate	19 / 187	0.057	490	0.0045	2.9	8,000	53.1	2.79	6,100	SO-27	1.65 ^	SO-33	--	**0.033**	**0.067**	0.0047	0.020	6,100			
Diethyl phthalate	2 / 171	0.013	0.044	0.0036	330	64,000	--	--	49,000	SO-27	12 ^	SO-32	--	**0.021**	**0.067**	0.0038	0.020	49,000			
Dimethyl phthalate	4 / 187	0.035	0.058	0.0036	330	--	--	--	--	--	0.094 ^	SO-12	--	**0.027**	**0.067**	0.0037	0.020	--			
Di-n-Octyl phthalate	3 / 187	0.14	0.6	0.005	330	--	--	--	--	--	--	--	--	**0.019**	**0.067**	0.0052	0.020	--			
Bis(2-Ethylhexyl)phthalate	26 / 187	0.048	7.2	0.0084	30	71	20.7	1.04	35	SO-27	0.0471	SO-12	--	**0.024**	**0.067**	0.0087	0.020	0.0471	●		
Polycyclic Aromatic Hydrocarbons (mg/kg)														EPA 8270D (PSEP)		EPA 8270D-SIM					
Acenaphthene	18 / 393	0.011	3.8	0.0016	330	4,800	121	6.15	3,400	SO-27	0.0167 ^	SO-12	--	0.0033	0.020	**0.0021**	**0.0050**	3,400			
Acenaphthylene	9 / 393	0.02	0.23	0.0014	330	--	--	--	--	--	66 ^	SO-33	--	0.0030	0.020	**0.0011**	**0.0050**	--			
Anthracene	22 / 393	0.0054	7.3	0.0013	330	24,000	1,980	99.3	17,000	SO-27	0.223 ^	SO-12	--	0.0044	0.020	**0.00086**	**0.0050**	17,000			

Table 6-5
Soil Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels: Direct Contact Method B Carc/NC (SO-3/4) (TPH, SO-1)	Representative Screening Levels: Method B GW Protection Carc/NC (SO-7/5) Vadose	Representative Screening Levels: Method B GW Protection Carc/NC (SO-8/6) Saturated	Most Stringent Screening Level: Non-Leaching Criteria Value	Most Stringent Screening Level: Non-Leaching Criteria Reference	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Value	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Reference	Soil Background Level (SO-34)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL: Max Detected	Concentration Exceeds RISL: Min Non-Detected	COPC Notes
Benzo(a)anthracene	60 / 395	0.033	8.5	0.0022	330	--	0.102	0.00512	0.15	SO-27	3.97E-04 ^	SO-33	--	0.0046	0.020	**0.0014**	**0.0050**	0.15	●		See Total cPAH
Benzo(b)fluoranthene	40 / 201	0.038	6	0.0048	330	--	0.193	0.00964	0.15	SO-27	6.31E-04 ^	SO-33	--	--	--	**0.0019**	**0.0050**	0.15	●		See Total cPAH
Benzo(k)fluoranthene	40 / 201	0.038	2.8	0.0055	330	--	0.189	0.00945	1.5	SO-27	6.47E-04 ^	SO-33	--	--	--	**0.0019**	**0.0050**	1.5	●		See Total cPAH
Total Benzofluoranthenes	59 / 301	0.006	8.8	0.0048	330	--	--	--	--	--	--	--	--	0.0057	0.020	**0.0019**	**0.0050**	--			
Benzo(g,h,i)perylene	36 / 393	0.0084	0.98	0.002	330	--	--	--	--	--	0.031	SO-12	--	0.0048	0.020	**0.00091**	**0.0050**	0.031	●		COPC
Benzo(a)pyrene	62 / 395	0.041	4.3	0.0022	330	0.14	0.189	0.00945	0.015	SO-27	7.73E-05	SO-33	--	0.0051	0.020	**0.00094**	**0.0050**	0.0050	●		COPC (individual & cPAH)
Chrysene	78 / 395	0.036	12	0.0017	330	--	0.0567	0.00284	15	SO-27	0.00284 ^	SO-8	--	0.0058	0.020	**0.0017**	**0.0050**	15			
Dibenzo(a,h)anthracene	14 / 379	0.012	0.34	0.0022	330	--	0.629	0.0315	0.015	SO-27	0.00104 ^	SO-33	--	0.0045	0.020	**0.0013**	**0.0050**	0.015	●		See Total cPAH
Dibenzofuran	25 / 390	0.005	1.3	0.0016	330	80	7.35	0.37	78	SO-27	0.0154 ^	SO-12	--	0.0032	0.020	**0.0014**	**0.0050**	78			
Fluoranthene	93 / 393	0.011	22	0.0014	330	3,200	909	45.5	2,300	SO-27	0.161	SO-12	--	0.0044	0.020	**0.0018**	**0.0050**	0.161	●		COPC
Fluorene	30 / 393	0.0079	8.9	0.0014	330	3,200	147	7.41	2,300	SO-27	0.0236 ^	SO-12	--	0.0036	0.020	**0.0013**	**0.0050**	2,300			
Indeno(1,2,3-cd)pyrene	31 / 395	0.0054	1	0.0016	330	--	0.642	0.321	0.15	SO-27	8.86E-04 ^	SO-33	--	0.0051	0.020	**0.0020**	**0.0050**	0.15	●		See Total cPAH
1-Methylnaphthalene	25 / 305	0.0099	9.4	0.0013	0.62	35	--	--	35	SO-3	0.0012 ^	SO-32	--	0.0027	0.020	**0.0017**	**0.0050**	35			
2-Methylnaphthalene	50 / 387	0.024	26	0.0021	330	320	--	--	310	SO-27	0.0432	SO-12	--	0.0030	0.020	**0.0014**	**0.0050**	0.0432	●		COPC
2-Methoxynaphthalene	0 / 6	--	--	0.17	1	--	--	--	--	--	--	--	--	--	--	--	--	--			
Naphthalene	31 / 420	0.034	14	1.00E-04	330	1,600	6.52	0.34	3.6	SO-27	4.70E-04 ^	SO-32	--	0.0027	0.020	**0.0017**	**0.0050**	3.6	●		COPC
Phenanthrene	83 / 393	0.01	36	0.0014	330	--	--	--	--	--	0.101 ^	SO-12	--	0.0036	0.020	**0.0016**	**0.0050**	--			
Pyrene	97 / 393	0.013	23	0.0014	330	2,400	668	33.5	1,700	SO-27	1.0 ^	SO-12	--	0.0048	0.020	**0.0011**	**0.0050**	1,700			
Retene	13 / 27	0.034	0.65	0.13	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--			
Total cPAHs (0 DL)	87 / 395	4.70E-04	6.203	--	--	0.14	0.102	0.00284	0.015	SO-27	7.73E-05	SO-33	--	--	--	--	--	0.0050	●		See Total cPAHs (0.5 DL)
Total cPAHs (0.5 DL)	87 / 395	0.0025	6.23	0.00165	249	0.14	0.102	0.00284	0.015	SO-27	7.73E-05	SO-33	--	--	--	--	--	0.0050	●		COPC
Other SVOCs (mg/kg)														EPA 8270D (Soil)		EPA 8270D (PSEP)					
Aniline	0 / 47	--	--	0.063	330	--	--	--	--	--	--	--	--	0.022	0.067	**0.0018**	**0.020**	--			
Azobenzene	0 / 20	--	--	0.063	0.066	9.1	--	--	9.1	SO-3	--	--	--	--	--	--	--	9.1			
Benzidine	0 / 20	--	--	1.7	1,600	240	--	--	240	SO-3	--	--	--	0.21	0.67	**0.20**	**0.20**	240			
Benzoic Acid	3 / 170	0.062	1.4	0.041	1,600	320,000	--	--	240,000	SO-27	0.675 ^	SO-11/12	--	0.25	0.67	**0.043**	**0.20**	240,000			
Benzyl Alcohol	0 / 171	--	--	0.019	330	8,000	10.4	0.726	6,100	SO-27	0.055 ^	SO-12	--	0.087	0.33	**0.046**	**0.10**	6,100			
4-Bromophenyl phenyl ether	0 / 171	--	--	0.0036	330	--	--	--	--	--	--	--	--	0.019	0.067	**0.0038**	**0.020**	--			
Butyldiphenylphosphate	3 / 46	0.12	11	0.0055	11	--	--	--	--	--	--	--	--	0.045	0.067	**0.0057**	**0.020**	--			
Carbazole	6 / 144	0.01	0.064	0.0023	0.78	--	--	--	--	--	--	--	--	0.015	0.067	**0.0024**	**0.020**	--			
4-Chloroaniline	0 / 171	--	--	0.023	330	--	--	--	--	--	--	--	--	0.10	0.33	**0.024**	**0.10**	--			
2-Chloronaphthalene	0 / 171	--	--	0.0028	330	6,400	--	--	6,400	SO-4	--	--	--	0.021	0.067	**0.0029**	**0.020**	6,400			
bis(2-Chloroethoxy)methane	0 / 171	--	--	0.0023	330	--	--	--	--	--	--	--	--	0.017	0.067	**0.0024**	**0.020**	--			
bis(2-Chloroethyl)ether	0 / 153	--	--	0.0051	330	0.91	--	--	0.91	SO-3	--	--	--	0.017	0.067	**0.0053**	**0.020**	0.91			
bis(2-Chloro-1-methylethyl)ether	0 / 171	--	--	0.0028	330	14	--	--	14	SO-3	--	--	--	0.019	0.067	**0.0030**	**0.020**	14			
4-Chlorophenyl-phenylether	0 / 171			0.0028	330	--	--	--	--	--	--	--	--	0.021	0.067	**0.0030**	**0.020**	--			
Dibutylphenylphosphate	9 / 46	0.021	55	0.0047	0.71	--	--	--	--	--	--	--	--	0.015	0.067	**0.0024**	**0.020**	--			
1,2-Dichlorobenzene	0 / 239	--	--	5.00E-05	330	7,200	9.36	0.525	1,900	SO-27	0.00379 ^	SO-11/12	--	0.018	0.067	**0.0030**	**0.020**	1,900			
1,3-Dichlorobenzene	0 / 239	--	--	1.40E-04	330	--	--	--	--	--	--	--	--	0.016	0.067	**0.0027**	**0.020**	--			
1,4-Dichlorobenzene	0 / 239	--	--	2.60E-04	330	42	--	--	2.4	SO-27	4.10E-04 ^	SO-32	--	0.016	0.067	**0.0027**	**0.020**	2.4			
3,3'-Dichlorobenzidine	0 / 171	--	--	0.052	670	2.2	--	--	2.2	SO-3	--	--	--	0.089	0.33	**0.054**	**0.10**	2.2			
2,4-Dinitrotoluene	0 / 171	--	--	0.019	330	160	--	--	160	SO-4	--	--	--	0.096	0.33	**0.019**	**0.10**	160			
2,6-Dinitrotoluene	0 / 171	--	--	0.014	330	8	--	--	8	SO-4	--	--	--	0.096	0.33	**0.015**	**0.10**	8			
1,4-Dioxane	0 / 27	--	--	0.063	0.066	--	--	--	--	--	--	--	--	--	--	--	--	--			
Hexachlorobenzene	0 / 171	--	--	5.60E-04	330	64	--	--	0.3	SO-27	1.06E-06 ^	SO-22	--	0.019	0.067	**0.0034**	**0.020**	0.3			
Hexachlorobutadiene	1 / 198	1.6	1.6	2.10E-04	330	13	--	--	6.2	SO-27	0.0017 ^	SO-32	--	0.019	0.067	**0.0029**	**0.020**	6.2			
Hexachlorocyclopentadiene	0 / 171	--	--	0.012	330	480	--	--	480	SO-4	--	--	--	0.062	0.33	**0.012**	**0.10**	480			
Hexachloroethane	0 / 171	--	--	0.0047	330	71	--	--	71	SO-3	--	--	--	0.019	0.067	**0.0049**	**0.020**	71			
Isophorone	2 / 171	0.22	5.3	0.0026	330	1,100	--	--	1,100	SO-3	0.023 ^	SO-32	--	0.013	0.067	**0.0027**	**0.020**	1,100			
2-Nitroaniline	0 / 171	--	--	0.018	1,600	800	--	--	800	SO-4	--	--	--	0.12	0.33	**0.019**	**0.10**	800			
3-Nitroaniline	0 / 171	--	--	0.024	1,600	--	--	--	--	--	--	--	--	0.10	0.33	**0.025**	**0.10**	--			
4-Nitroaniline	0 / 171	--	--	0.022	1,600	--	--	--	--	--	--	--	--	0.10	0.33	**0.023**	**0.10**	--			
Nitrobenzene	0 / 171	--	--	0.0036	330	160	--	--	160	SO-4	--	--	--	0.026	0.067	**0.0038**	**0.020**	160			
N-Nitrosodimethylamine	0 / 46	--	--	0.17	1	0.02	--	--	0.02	SO-3	--	--	--	0.084	0.33	**0.014**	**0.10**	0.02		●	No detections, COPC
N-Nitrosodiphenylamine	0 / 171	--	--	0.019	330	200	--	--	99	SO-27	0.0116 ^	SO-11/12	--	0.067	0.067	**0.013**	**0.020**	99			
N-Nitrosodi-n-propylamine	0 / 171	--	--	0.0027	330	0.14	--	--	0.14	SO-3	7.20E-06 ^	SO-32	--	0.021	0.067	**0.0028**	**0.020**	0.14			
Phosphoric acid tributyl ester (Tributyl phosphate)	18 / 46	0.037	96	0.0054	0.17	--	--	--	--	--	--	--	--	--	--	--	--	--			

Table 6-5
Soil Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels: Direct Contact Method B Carc/NC (SO-3/4) (TPH, SO-1)	Representative Screening Levels: Method B GW Protection Carc/NC (SO-7/5) Vadose	Representative Screening Levels: Method B GW Protection Carc/NC (SO-8/6) Saturated	Most Stringent Screening Level: Non-Leaching Criteria Value	Most Stringent Screening Level: Non-Leaching Criteria Reference	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Value	Most Stringent Screening Level: Leaching (via GW or SDW) Criteria Reference	Soil Background Level (SO-34)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL: Max Detected	Concentration Exceeds RISL: Min Non-Detected	COPC Notes
Pyridine	0 / 27	--	--	0.32	0.33	80	--	--	80	SO-4	--	--	--	--	--	--	--	80			
1,2,4-Trichlorobenzene	0 / 198	--	--	2.90E-04	330	35	--	--	22	SO-27	0.00113 ^	SO-12	--	0.016	0.067	**0.0038**	**0.020**	22			
Triphenyl phosphate	0 / 46	--	--	0.0059	29	--	--	--	--	--	--	--	--	0.025	0.067	**0.0062**	**0.020**	--			
Volatile Organic Compounds (mg/kg)														Medium Level		Low Level					
Acetone	96 / 250	0.0034	65	0.0036	10	72,000	3.23	0.231	61,000	SO-27	0.231 ^	SO-6	--	2.3	2.5	**0.00048**	**0.0050**	61,000			
Acrolein	0 / 61	--	--	0.0012	16	1,600	--	--	1,600	SO-4	--	--	--	1.5	25	**0.0038**	**0.050**	1,600			
Acrylonitrile	0 / 61	--	--	3.60E-04	1.6	1.9	--	--	1.9	SO-3	--	--	--	0.19	2.5	**0.0010**	**0.0050**	1.9			
Benzene	20 / 528	8.00E-04	0.48	2.00E-04	5	18	0.00612	0.00359	1.1	SO-27	2.10E-04	SO-32	--	0.18	0.5	**0.00030**	**0.0010**	0.001	●		COPC
Bromobenzene	0 / 61	--	--	1.80E-04	0.32	--	--	--	--	--	--	--	--	0.17	0.5	**0.00015**	**0.0010**	--			
Bromochloromethane	0 / 61	--	--	2.60E-04	0.39	--	--	--	--	--	--	--	--	0.24	0.5	**0.00032**	**0.0010**	--			
Bromoethane	0 / 61	--	--	5.60E-04	0.83	--	--	--	--	--	--	--	--	0.15	1.0	**0.00044**	**0.0020**	--			
Bromoform	1 / 249	0.29	0.29	5.30E-04	5	130	--	--	130	SO-3	--	--	--	0.27	0.5	**0.00030**	**0.0010**	130			
Bromomethane	2 / 198	0.0013	0.0014	4.30E-04	10	110	--	--	110	SO-4	--	--	--	0.51	0.5	**0.00019**	**0.0010**	110			
n-Butylbenzene	2 / 61	1.5	3.1	2.50E-04	0.028	--	--	--	--	--	--	--	--	0.45	0.5	**0.00026**	**0.0010**	--			
sec-Butylbenzene	4 / 61	0.0016	2.2	1.90E-04	0.014	--	--	--	--	--	--	--	--	0.38	0.5	**0.00024**	**0.0010**	--			
tert-Butylbenzene	0 / 61	--	--	1.20E-04	0.32	--	--	--	--	--	--	--	--	0.35	0.5	**0.00031**	**0.0010**	--			
2-Butoxyethanol	0 / 8	--	--	0.005	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--			
Carbon Disulfide	17 / 194	8.00E-04	0.0038	3.80E-04	5	8,000	--	--	8,000	SO-4	0.31 ^	SO-32	--	0.16	0.5	**0.00056**	**0.0010**	8,000			
Carbon Tetrachloride	1 / 249	0.33	0.33	4.30E-04	5	14	--	--	0.61	SO-27	1.70E-04 ^	SO-32	--	0.25	0.5	**0.00021**	**0.0010**	0.61			
CFC-11 (Trichlorofluoromethane)	1 / 181	0.003	0.003	4.10E-04	1.4	24,000	--	--	24,000	SO-4	--	--	--	0.19	0.5	**0.00027**	**0.0010**	24,000			
CFC-12 (Dichlorodifluoromethane)	0 / 22	--	--	3.90E-04	0.58	16,000		--	16,000	SO-4	--	--	--	0.31	0.5	**0.00021**	**0.0010**	16,000			
CFC-113 (1,1,2-Trichloro-1,2,2-Trifluoroethane)	8 / 164	9.00E-04	3.5	4.10E-04	7.1	2,400,000	--	--	2,400,000	SO-4	--	--	--	0.24	1.0	**0.00029**	**0.0020**	2,400,000			
Chlorobenzene	1 / 224	0.001	0.001	1.10E-04	5	1,600	1.53	0.0887	290	SO-27	0.062 ^	SO-32	--	0.24	0.5	**0.00022**	**0.0010**	290			
Chlorodibromomethane	1 / 249	0.31	0.31	3.20E-04	5	--	--	--	--	--	--	--	--	0.25	0.5	**0.00027**	**0.0010**	--			
Chloroethane	0 / 224	--	--	4.70E-04	10	--	--	--	15,000	SO-27	5.9 ^	SO-32	--	0.31	0.5	**0.00046**	**0.0010**	15,000			
2-Chloroethyl vinyl ether	1 / 161	0.0052	0.0052	4.90E-04	10	--	--	--	--	--	--	--	--	0.84	2.5	**0.00028**	**0.0050**	--			
Chloroform	10 / 254	4.00E-04	0.44	3.70E-04	5	800	0.0356	0.00231	0.29	SO-27	5.30E-05 ^	SO-32	--	0.19	0.5	**0.00023**	**0.0010**	0.29	●		<5% detections, not COPC
Chloromethane	0 / 197	--	--	1.00E-04	10	--	0.0166	0.00101	120	SO-27	0.00101 ^	SO-8	--	0.25	0.5	**0.00026**	**0.0010**	120			
2-Chlorotoluene	0 / 61	--	--	2.70E-04	0.4	--	--	--	--	--	--	--	--	0.35	0.5	**0.00030**	**0.0010**	--			
4-Chlorotoluene	0 / 61	--	--	7.00E-05	0.32	--	--	--	--	--	--	--	--	0.40	0.5	**0.00028**	**0.0010**	--			
1,2-Dibromo-3-chloropropane	0 / 61	--	--	6.50E-04	1.6	1.3	--	--	1.3	SO-3	--	--	--	0.81	2.5	**0.00059**	**0.0050**	1.3			
Dibromomethane	0 / 61	--	--	2.90E-04	0.43	--	--	--	--	--	--	--	--	0.37	0.5	**0.00015**	**0.0010**	--			
Dichlorobromomethane	1 / 249	0.35	0.35	5.20E-04	5	--	--	--	--	--	--	--	--	0.24	0.5	**0.00025**	**0.0010**	--			
trans-1,4-Dichloro-2-butene	0 / 61	--	--	3.10E-04	1.6	--	--	--	--	--	--	--	--	0.00	2.5	**0.00044**	**0.0050**	--			
1,1-Dichloroethane	1 / 254	0.39	0.39	1.40E-04	5	16,000	4.08	0.257	3.3	SO-27	6.90E-04 ^	SO-32	--	0.23	0.5	**0.00020**	**0.0010**	3.3			
1,2-Dichloroethane (EDC)	1 / 249	0.38	0.38	3.80E-04	5	11	0.00238	0.000159	0.43	SO-27	4.20E-05 ^	SO-32	--	0.19	0.5	**0.00019**	**0.0010**	0.43			
1,1-Dichloroethene	0 / 224	--	--	2.00E-04	5	4,000	0.472	0.0232	240	SO-27	0.0232	SO-6	--	0.26	0.5	**0.00034**	**0.0010**	0.0232			
1,2-Dichloroethene	2 / 58	0.0082	0.13	9.00E-04	0.094	--	--	--	--	--	--	--	--	--	--	--	--	--			
cis-1,2-Dichloroethene	15 / 152	0.001	0.7	1.20E-04	1.4	160	--	0.0052	160	SO-4	0.0052	SO-6	--	0.23	0.5	**0.00024**	**0.0010**	0.0052	●		COPC
trans-1,2-Dichloroethene	2 / 166	0.024	0.024	2.20E-04	5	1,600	--	0.052	150	SO-27	0.031 ^	SO-32	--	0.24	0.5	**0.00027**	**0.0010**	150			
1,2-Dichloropropane	1 / 249	0.35	0.35	3.90E-04	5	--	--	--	--	--	--	--	--	0.26	0.5	**0.00016**	**0.0010**	--			
1,3-Dichloropropane	0 / 61	--	--	1.30E-04	0.32	--	--	--	--	--	--	--	--	0.33	0.5	**0.00021**	**0.0010**	--			
2,2-Dichloropropane	0 / 61	--	--	1.60E-04	0.32	--	--	--	--	--	--	--	--	0.39	0.5	**0.00029**	**0.0010**	--			
1,1-Dichloropropene	0 / 61	--	--	1.80E-04	0.32	--	--	--	--	--	--	--	--	0.35	0.5	**0.00031**	**0.0010**	--			
cis-1,3-Dichloropropene	0 / 223	--	--	2.10E-04	5	10	--	--	10	SO-3	--	--	--	0.27	0.5	**0.00023**	**0.0010**	10			
trans-1,3-Dichloropropene	0 / 224	--	--	2.00E-04	5	10	--	--	10	SO-3	--	--	--	0.28	0.5	**0.00022**	**0.0010**	10			
Ethylbenzene	30 / 528	0.0015	4.6	1.00E-04	5	8,000	11.9	0.644	5.4	SO-27/33	0.0017 ^	SO-32	--	0.23	0.5	**0.00020**	**0.0010**	5.4			
Ethylene dibromide (EDB)	0 / 87	--	--	1.90E-04	0.32	0.012	--	--	0.012	SO-3	--	--	--	0.29	0.5	**0.00018**	**0.0010**	0.012			
2-Hexanone	1 / 220	0.0077	0.0077	8.90E-04	10	--	--	--	--	--	--	--	--	0.27	2.5	**0.00044**	**0.0050**	--			
Cumene (Isopropylbenzene)	1 / 61	0.33	0.33	1.90E-04	0.28	8,000	--	--	8,000	SO-4	--	--	--	0.30	0.5	**0.00023**	**0.0010**	8,000			
p-Isopropyltoluene	3 / 61	0.0011	1.8	1.50E-04	0.014	--	--	--	--	--	--	--	--	0.38	0.5	**0.00024**	**0.0010**	--			
Methyl ethyl ketone	39 / 250	0.0015	67	0.0011	11	48,000	--	--	28,000	SO-27	1.5 ^	SO-32	--	1.1	2.5	**0.00051**	**0.0050**	28,000			
Methyl tert-butyl ether	0 / 22	--	--	1.80E-04	2.1	--	--	--	--	--	--	--	--	0.31	0.5	**0.00023**	**0.0010**	--			
Methyl Iodide	0 / 61	--	--	3.30E-04	0.49	--	--	--	--	--	--	--	--	0.29	0.5	**0.00022**	**0.0010**	--			
4-Methyl-2-pentanone (Methyl isobutyl ketone)	3 / 220	0.036	9	0.001	10	6,400	--	--	5,300	SO-27	0.45 ^	SO-32	--	2.1	2.5	**0.00042**	**0.0050**	5,300			
Methylene chloride	84 / 264	7.00E-04	87	7.60E-04	5	--	0.0282	0.00181	--	--	0.0012	SO-32	--	0.36	1.0	**0.00064**	**0.0020**	0.0012	●		COPC

Table 6-5
Soil Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels			Most Stringent Screening Level				Soil Background Level (SO-34)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
									Non-Leaching		Leaching (via GW or SDW)										
		Min	Max	Min	Max	Direct Contact Method B Carc/NC (SO-3/4) (TPH, SO-1)	Method B GW Protection Carc/NC (SO-7/5) Vadose	Method B GW Protection Carc/NC (SO-8/6) Saturated	Criteria Value	Criteria Reference	Criteria Value	Criteria Reference		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
2-Pentanone	0 / 15	--	--	0.005	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--			
n-Propylbenzene	2 / 61	0.94	1.8	1.60E-04	0.014	--	--	--	--	--	--	--	--	0.32	0.5	**0.00027**	**0.0010**	--			
Styrene	1 / 220	0.0081	0.0081	2.50E-04	5	16,000	0.0212	0.00117	6,300	SO-27	0.00117 ^	SO-8	--	0.31	0.5	**0.00014**	**0.0010**	6,300			
1,1,1,2-Tetrachloroethane	0 / 87	--	--	1.80E-04	0.32	38	--	--	38	SO-3	--	--	--	0.37	0.5	**0.00023**	**0.0010**	38			
1,1,2,2-Tetrachloroethane	0 / 229	--	--	2.40E-04	5	5	--	--	5	SO-3	--	--	--	0.27	0.5	**0.00025**	**0.0010**	5			
Tetrachloroethene (PCE)	20 / 241	0.0014	98	4.30E-04	5	1.9	0.00634	0.000338	0.55	SO-27	4.90E-05	SO-32	--	0.23	0.5	**0.00026**	**0.0010**	0.001	●		COPC
Toluene	63 / 553	6.00E-04	11	2.00E-04	5	6,400	15.6	0.887	5,000	SO-27	0.887 ^	SO-6	--	0.46	0.5	**0.00015**	**0.0010**	5,000			
1,2,3-Trichlorobenzene	0 / 61	--	--	1.90E-04	1.6	--	--	--	--	--	--	--	--	0.61	2.5	**0.00031**	**0.0050**	--			
1,1,1-Trichloroethane	10 / 254	0.0013	0.33	1.30E-04	5	72,000	44.6	2.41	8,700	SO-27	2.41 ^	SO-6	--	0.15	0.5	**0.00023**	**0.0010**	8,700			
1,1,2-Trichloroethane	1 / 249	0.34	0.34	2.70E-04	5	18	0.00416	0.00272	1.1	SO-27	7.80E-05 ^	SO-32	--	0.23	0.5	**0.00029**	**0.0010**	1.1			
Trichloroethene (TCE)	20 / 241	6.00E-04	5.4	5.50E-04	5	11	0.016	9.10E-04	2.8	SO-27	1.74E-04	SO-8	--	0.17	0.5	**0.00021**	**0.0010**	0.001	●		COPC
Trichlorofluoroethane	0 / 2	--	--	0.012	0.32	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,3-Trichloropropane	0 / 61	--	--	5.20E-04	0.78	0.033	--	--	0.033	SO-3	--	--	--	2.7	1.0	**0.00052**	**0.0020**	0.033			
1,2,4-Trimethylbenzene	5 / 61	0.0023	6.3	1.30E-04	0.014	--	--	--	--	--	--	--	--	0.30	0.5	**0.00023**	**0.0010**	--			
1,3,5-Trimethylbenzene	2 / 61	0.014	1.4	1.90E-04	0.26	800	7.47	0.396	780	SO-27	0.396 ^	SO-6	--	0.36	0.5	**0.00025**	**0.0010**	780			
Vinyl acetate	0 / 176	--	--	3.50E-04	10	--	--	--	--	--	--	--	--	0.24	2.5	**0.00038**	**0.0050**	--			
Vinyl chloride	7 / 224	0.0016	0.12	1.70E-04	10	1.4	0.000187	9.00E-06	0.06	SO-27	5.60E-05	SO-32	--	0.25	0.5	**0.00024**	**0.0010**	0.001	●		<5% detections, not COPC
m-Xylene	1 / 26	3.6096	3.6096	2.00E-04	0.0002	16,000	--	--	16,000	SO-3	--	--	--	--	--	--	--	16,000			
m, p-Xylene	25 / 322	0.0015	1.3	3.10E-04	5	16,000	--	--	16,000	SO-3	--	--	--	0.55	0.5	**0.00039**	**0.0010**	16,000			
o-Xylene	67 / 348	0.0026	9	2.00E-04	5	16,000	--	--	16,000	SO-3	--	--	--	0.28	0.5	**0.00022**	**0.0010**	16,000			
Total Xylenes	115 / 561	6.00E-04	21	2.00E-04	5	16,000	209	11.7	630	SO-27	0.2 ^	SO-32	--	0.55	0.5	**0.00039**	**0.0010**	630			

ARI = Analytical Resources, Inc.
Carc/NC = Carcinogenic/Non-Carcinogenic
GW = Groundwater
ICP-AES = Inductively Coupled Plasma - Atomic Emission Spectometry
ICP-MS = Inductively Coupled Plasma - Mass Spectometry
MDL = Method Detection Limit
PSEP = Puget Sound Estuary Program
RISL = RI Selected Screening Level
RL = Reporting Limit
SIM = Selected Ion Monitoring
SDL = Sample Detection Limit
SDW = Storm Drain Water
SO = Soil (see criteria in Table 6-4)
TPH = Total Petroleum Hydrocarbons
-- = Non-detected, not applicable, or not available
^ = Leaching criteria are not applied to these chemicals that are not identified as COPCs in groundwater or storm drain water

Total cPAHs: Criteria based on the most stringent of seven indiviual congeners [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene]
Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels Carc/NC (GW-5/6) (TPH, GW-1)	Representative Screening Levels Sediment Protection SQS (GW-9)	Most Stringent Screening Levels On-site GW Criteria Value	Most Stringent Screening Levels On-site GW Criteria Ref.	Most Stringent Screening Levels Protection of LDW Criteria Value	Most Stringent Screening Levels Protection of LDW Criteria Ref.	GW Background Level (GW-11)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL Max Detected	Concentration Exceeds RISL Min Non-Detected	COPC Notes
Chlorinated Aromatic Compounds																				
Dioxins/Furans (pg/L)																				
2,3,7,8-TCDD	0 / 4	--	--	10,000,000	10,000,000	0.58	--	2.06E-04	GW-10	--	--	--	**3.67**	**10**	--	--	10		●	No detections, COPC
Dioxins/Furans TEQ (0 DL)	0 / 4	--	--	--	--	0.58	--	2.06E-04	GW-10	--	--	--	--	--	--	--	10			
Dioxins/Furans TEQ (0.5 DL)	0 / 4	--	--	5,000,000	5,000,000	0.58	--	2.06E-04	GW-10	--	--	--	--	--	--	--	10		●	No detections, COPC
PCB Aroclors (ug/L)																				
Aroclor 1016	1 / 52	0.23	0.23	0.0026	6.6	1.12	0.443	6.41E-05	GW-10	0.443	GW-9	--	0.122	1.0	**0.0026**	**0.01**	0.01	●		See Total PCBs
Aroclor 1016/1242	0 / 9	--	--	0.6	1	--	--	--	--	--	--	--	0.122	1.0	**0.0026**	**0.01**	--			
Aroclor 1221	0 / 42	--	--	0.0032	2	--	--	2.31E-05	GW-10	--	--	--	0.122	1.0	**0.0026**	**0.01**	0.01			
Aroclor 1232	0 / 42	--	--	0.0032	2	--	--	--	--	--	--	--	0.122	1.0	**0.0026**	**0.01**	--			
Aroclor 1242	4 / 52	0.16	0.24	0.0032	7.6	--	--	2.31E-05	GW-10	--	--	--	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1248	5 / 61	1.9	11	0.0032	160	--	0.273	2.31E-05	GW-10	0.273	GW-9	--	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1254	7 / 61	10	840	0.0032	1.2	0.32	0.159	5.49E-06	GW-10	0.159	GW-9	--	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1260	0 / 61	--	--	0.0032	80	--	0.058	2.31E-05	GW-10	0.058	GW-9	--	0.079	1.0	**0.0032**	**0.01**	0.01			
Aroclor 1262	0 / 8	--	--	0.0032	1	--	--	--	--	--	--	--	0.079	1.0	**0.0032**	**0.01**	--			
Aroclor 1268	0 / 8	--	--	0.0032	1	--	--	--	--	--	--	--	0.079	1.0	**0.0032**	**0.01**	--			
Total PCBs	14 / 55	0.16	840	0.0026	1	0.044	0.268	2.31E-05	GW-10	6.40E-05	GW-7	--	0.079	1.0	**0.0032**	**0.01**	0.01	●		COPC
Metals (ug/L)													ICP-AES (EPA 6010B)		ICP-MS (EPA 200.8)					
Aluminum	4 / 4	165,200	743,200	--	--	16,000	--	50	GW-2	--	--	--	14.8	50	**1.697**	**20**	50	●		COPC
Antimony	4 / 24	21	2,000	50	1,000	6.4	--	3.87	GW-10	--	--	--	6.28	50	**0.008**	**0.2**	3.87	●	●	COPC
Arsenic	237 / 395	0.5	200	0.1	500	0.0583	--	0.0583	GW-6	0.71	GW-7	5	7.21	50	**0.164**	**0.5**	5.0	●		COPC
Barium	5 / 11	16	3,000	10	100	3,200	--	2	GW-4	--	--	--	1.98	3.0	**0.024**	**0.5**	2.0	●	●	COPC
Beryllium	6 / 28	1	20	0.5	20	32	--	4	GW-2/3/4	--	--	--	0.24	1.0	**0.027**	**0.2**	4.0	●		COPC
Bismuth	4 / 4	150	470	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
Cadmium	60 / 405	0.002	110	0.002	50	16	2.56	0.21	GW-10	2.56	GW-9	--	0.31	2.0	**0.022**	**0.2**	0.21	●		COPC
Calcium	11 / 11	36,300	237,200	--	--	--	--	--	--	--	--	--	5.88	50.0	**3.698**	**50**	--			Major ion
Chromium	184 / 410	5	1,600	0.005	100	24,000	306	100	GW-2/3/4	306	GW-9	--	3.29	5.0	**0.125**	**0.5**	100	●		COPC
Chromium, hexavalent	0 / 16	--	--	3	11	48	--	0.58	GW-10	--	--	--	Refer to Total Chromium				0.58		●	No detections, COPC
Cobalt	4 / 4	90	400	--	--	--	--	--	--	--	--	--	0.51	3.0	**0.007**	**0.2**	--			
Copper	32 / 50	0.8	2,080	0.12	100	640	123	1.3	GW-4	123	GW-8/9	--	1.13	2.0	**0.246**	**0.5**	1.3	●		COPC
Iron	5 / 5	61,300	442,300	--	--	11,000	--	300	GW-2/4	--	--	--	7.15	50	**3.814**	**20**	300	●		COPC
Lead	224 / 397	1	1,560	0.15	200	--	11.3	2.5	GW-10	11.3	GW-9	--	1.92	20	**0.205**	**1.0**	2.5	●		COPC
Magnesium	11 / 11	3,080	66,630	--	--	--	--	--	--	--	--	--	10.81	50	**0.142**	**20**	--			Major ion
Manganese	5 / 5	968	8,240	--	--	--	--	50	GW-2/4	--	--	--	0.85	1.0	**0.02**	**0.5**	50	●		COPC
Mercury	42 / 398	0.1	50	1.00E-04	50	--	0.00516	0.012	GW-10	0.00516	GW-9	--	0.0089	0.1	**0.0037**	**0.02**	0.02	●		COPC
Nickel	27 / 42	0.7	1,260	10	100	320	--	8.2	GW-10	--	--	--	5	10	**0.183**	**0.5**	8.2	●	●	COPC
Potassium	1 / 1	9,300	9,300	--	--	--	--	--	--	--	--	--	69.07	500	**1.91**	**20**	--			Major ion
Selenium	4 / 29	80	370	1	1,000	80	--	5	GW-10	--	--	--	6.1	50	**0.207**	**2.0**	5.0	●		COPC
Silver	2 / 31	4	40	3	100	80	1.53	22	GW-10	1.53	GW-8/9	--	0.55	3.0	**0.009**	**0.2**	1.53	●	●	COPC
Sodium	5 / 5	28,500	167,300	--	--	--	--	--	--	--	--	--	159	500	**3.93**	**100**	--			Major ion
Thallium	3 / 26	400	400	1	250	--	--	0.47	GW-10	--	--	--	5.2	50	**0.003**	**0.2**	0.47	●		COPC
Tin	1 / 12	30	30	0.79	1.8	9,600	--	9,600	GW-5	--	--	--	1.82	10	--	--	9,600			
Vanadium	7 / 8	3	2,170	2	2	1.1	--	1.1	GW-5	--	--	--	--	--	**0.61**	**3.0**	3.0	●		COPC
Zinc	24 / 47	5	13,350	0.81	100	4,800	32.6	56	GW-10	32.6	GW-9	--	3.94	10	**0.814**	**4.0**	32.6	●		COPC

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels Carc/NC (GW-5/6) (TPH, GW-1)	Representative Screening Levels Sediment Protection SQS (GW-9)	Most Stringent Screening Levels On-site GW Criteria Value	Most Stringent Screening Levels On-site GW Criteria Ref.	Most Stringent Screening Levels Protection of LDW Criteria Value	Most Stringent Screening Levels Protection of LDW Criteria Ref.	GW Background Level (GW-11)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL Max Detected	Concentration Exceeds RISL Min Non-Detected	COPC Notes
Pesticides (ug/L)																				
Aldrin	0 / 11	--	--	0.01	0.1	0.00257	--	0.00257	GW-6	--	--	--	0.010	0.050	**0.0012**	**0.0050**	0.00257		●	Not a COPC (see notes)
Alpha-BHC	0 / 11	--	--	0.0085	0.1	0.0139	--	0.0139	GW-6	--	--	--	0.0085	0.050	**0.00076**	**0.0050**	0.0139			
Beta-BHC	0 / 11	--	--	0.0098	0.1	0.0486	--	0.0486	GW-6	--	--	--	0.0098	0.050	**0.0013**	**0.0050**	0.0486			
Delta-BHC	0 / 11	--	--	0.0087	0.1	--	--	--	--	--	--	--	0.0087	0.050	**0.0014**	**0.0050**	--			
cis-Chlordane	0 / 7	--	--	0.0082	0.06	--	--	--	--	--	--	--	0.0082	0.050	**0.00058**	**0.0050**	--			
trans-Chlordane	0 / 7	--	--	0.0082	0.06	--	--	--	--	--	--	--	0.0082	0.050	**0.00064**	**0.0050**	--			
Chlordane	0 / 11	--	--	0.0082	0.1	0.25	--	0.002	GW-2/4	--	--	--	0.0082	0.050	**0.00064**	**0.0050**	0.002		●	Not a COPC (see notes)
4,4'-DDD	0 / 11	--	--	0.019	0.12	0.365	--	0.365	GW-6	--	--	--	0.019	0.10	**0.0017**	**0.010**	0.365			
4,4'-DDE	0 / 11	--	--	0.018	0.1	0.257	--	0.257	GW-6	--	--	--	0.018	0.10	**0.0015**	**0.010**	0.257			
4,4'-DDT	0 / 11	--	--	0.017	0.1	0.257	--	0.257	GW-6	--	--	--	0.017	0.10	**0.0015**	**0.010**	0.257			
Dieldrin	0 / 11	--	--	0.017	0.1	0.00547	--	0.00547	GW-6	--	--	--	0.017	0.10	**0.0013**	**0.010**	0.00547		●	Not a COPC (see notes)
Endosulfan I	0 / 11	--	--	0.0089	0.1	96	--	96	GW-5	--	--	--	0.0089	0.050	**0.00067**	**0.0050**	96			
Endosulfan II	0 / 11	--	--	0.014	0.1	96	--	96	GW-5	--	--	--	0.014	0.10	**0.0018**	**0.010**	96			
Endosulfan sulfate	0 / 11	--	--	0.024	0.18	96	--	96	GW-5	--	--	--	0.024	0.10	**0.0024**	**0.010**	96			
Endrin	0 / 11	--	--	0.017	0.1	4.8	--	0.002	GW-2/3/4	--	--	--	0.017	0.10	**0.0015**	**0.010**	0.002		●	Not a COPC (see notes)
Endrin aldehyde	0 / 6	--	--	0.016	0.1	4.8	--	0.002	GW-2/3/4	--	--	--	0.016	0.10	**0.0018**	**0.010**	0.002		●	Not a COPC (see notes)
Endrin ketone	0 / 7	--	--	0.015	0.12	--	--	--	--	--	--	--	0.015	0.10	**0.0017**	**0.010**	--			
Heptachlor	0 / 11	--	--	0.011	0.1	0.0194	--	4.00E-04	GW-2/4	--	--	--	0.011	0.050	**0.0013**	**0.0050**	0.005		●	Not a COPC (see notes)
Heptachlor epoxide	0 / 11	--	--	0.0079	0.1	0.00481	--	2.00E-04	GW-2/4	--	--	--	0.0079	0.050	**0.00056**	**0.0050**	0.005		●	Not a COPC (see notes)
Lindane	0 / 11	--	--	0.016	0.1	4.8	--	2.00E-04	GW-2/3/4	--	--	--	0.016	0.050	**0.0017**	**0.0050**	0.005		●	Not a COPC (see notes)
Methoxychlor	0 / 11	--	--	0.074	0.16	--	--	--	--	--	--	--	0.074	0.50	**0.0048**	**0.050**	--			
Toxaphene	0 / 11	--	--	0.22	4.5	--	--	--	--	--	--	--	0.22	5.0	**0.21**	**0.50**	--			
Petroleum Hydrocarbons (ug/L)																				
Diesel Range Hydrocarbons	228 / 745	40	280,000	10	3,000	500	--	500	GW-1	--	--	--	**16**	**100**	--	--	500	●		COPC
Gasoline Range Hydrocarbons	155 / 373	250	3,200	60	3,000	800	--	800	GW-1	--	--	--	**15**	**30**	--	--	800	●		COPC
Oil Range Hydrocarbons	2 / 280	7.7	60,000	50	250,000	500	--	500	GW-1	--	--	--	**49**	**200**	--	--	500			
Jet Fuel (applied to diesel	99 / 154	180	610,000	100	600	500	--	500	GW-1	--	--	--	**79**	**500**	--	--	500	●		COPC
Semivolatile Organic Compounds (SVOCs)																				
Phenols (ug/L)													EPA 8270D		EPA 8270D-SIM					
2-Chlorophenol	0 / 40	--	--	0.53	10	--	--	--	--	--	--	--	**0.53**	**1.0**	--	--	--			
4-Chloro-3-methylphenol	0 / 40	--	--	2	10	--	--	--	--	--	--	--	**2.4**	**5.0**	--	--	--			
2,4-Dichlorophenol	0 / 40	--	--	2.6	10	24	--	24	GW-5	--	--	--	**2.6**	**5.0**	--	--	24			
2,4-Dimethylphenol	0 / 40	--	--	0.36	10	--	2.02	655	GW-10	2.02	GW-8/9	--	**0.36**	**1.0**	--	--	2.02			
4,6-Dinitro-2-methylphenol	0 / 40	--	--	3.1	50	--	--	--	--	--	--	--	**3.1**	**10**	--	--	--			
2,4-Dinitrophenol	0 / 40	--	--	3.5	50	--	--	--	--	--	--	--	**3.5**	**10**	--	--	--			
o-Cresol	0 / 40	--	--	0.53	10	400	7.11	3,054	GW-10	--	--	--	**0.53**	**1.0**	--	--	3,054			
p-Cresol	1 / 37	0.5	0.5	0.52	10	40	77.2	40	GW-5	77.2	GW-8/9	--	**0.52**	**1.0**	--	--	40			
2-Nitrophenol	0 / 40	--	--	2	10	--	--	--	--	--	--	--	**2.0**	**5.0**	--	--	--			
4-Nitrophenol	0 / 40	--	--	2.6	50	--	--	--	--	--	--	--	**2.6**	**5.0**	--	--	--			
Pentachlorophenol	0 / 40	--	--	0.2	50	0.219	5.33	0.219	GW-6	5.33	GW-9	--	**2.4**	**5.0**	--	--	5.0			
Phenol	2 / 44	0.4	320	0.52	10	4,800	78.4	4,800	GW-5	78.4	GW-9	--	**0.52**	**1.0**	--	--	78.4	●		<5% detections, not COPC

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels Carc/NC (GW-5/6) (TPH, GW-1)	Representative Screening Levels Sediment Protection SQS (GW-9)	Most Stringent Screening Levels On-site GW Criteria Value	On-site GW Criteria Ref.	Protection of LDW Criteria Value	Protection of LDW Criteria Ref.	GW Background Level (GW-11)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL Max Detected	Concentration Exceeds RISL Min Non-Detected	COPC Notes
2,4,5-Trichlorophenol	0 / 40	--	--	2.2	50	800	--	800	GW-5	--	--	--	**2.2**	**5.0**	--	--	800			
2,4,6-Trichlorophenol	0 / 40	--	--	0.5	10	4.0	--	4.0	GW-6	--	--	--	**2.4**	**5.0**	--	--	4.0			
2,6-bis(1,1-Dimethyl)phenol	0 / 10	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--			
Phthalates (ug/L)																				
Butyl benzyl phthalate	0 / 50	--	--	0.56	10	46	0.524	46	GW-6	0.524	GW-9	--	**0.56**	**1.0**	--	--	1.0			
Dibutyl phthalate	5 / 50	0.5	1.8	0.54	10	1,600	151	46.6	GW-10	--	--	--	**0.54**	**1.0**	--	--	46.6			
Diethyl phthalate	3 / 46	1	2	0.58	10	13,000	484	18,400	GW-10	--	--	--	**0.58**	**1.0**	--	--	18,400			
Dimethyl phthalate	1 / 50	1.9	1.9	0.53	10	--	143	1,100,000	GW-10	143	GW-8/9	--	**0.53**	**1.0**	--	--	143			
Di-n-Octyl phthalate	0 / 50	--	--	0.51	10	--	0.296	--	--	0.296	GW-9	--	**0.51**	**1.0**	--	--	0.296		●	<5% detections, not COPC
bis(2-Ethylhexyl)phthalate	11 / 50	0.4	110	1	10	6.25	0.285	1.2	GW-10	0.285	GW-9	--	**1.9**	**1.0**	--	--	1.0	●		COPC
Polycyclic Aromatic Hydrocarbons (ug/L)													EPA 8270D		EPA 8270D-SIM					
Acenaphthene	6 / 59	0.016	1.5	0.01	10	960	2.61	115	GW-10	2.61	GW-9	--	0.55	1.0	**0.007**	**0.01**	2.61			
Acenaphthylene	0 / 59	--	--	0.01	10	--	--	--	--	--	--	--	0.48	1.0	**0.001**	**0.01**	--			
Anthracene	0 / 59	--	--	0.01	10	4,800	10.8	200	GW-10	10.8	GW-9	--	0.53	1.0	**0.003**	**0.01**	10.8			
Benzo(a)anthracene	1 / 59	0.18	0.18	0.01	10	0.012	0.258	1.12E-04	GW-10	0.258	GW-9	--	0.52	1.0	**0.003**	**0.01**	0.01	●		<5% detections, not COPC
Benzo(b)fluoranthene	0 / 47	--	--	0.01	10	0.012	0.286	5.27E-05	GW-10	0.286	GW-9	--	0.58	1.0	**0.005**	**0.02**	0.02			
Benzo(k)fluoranthene	0 / 47	--	--	0.01	10	0.012	0.292	5.52E-05	GW-10	0.292	GW-9	--	0.58	1.0	**0.005**	**0.02**	0.02			
Total Benzofluoranthenes	0 / 55	--	--	0.01	10	--	--	--	--	--	--	--	0.58	1.0	**0.005**	**0.02**	--			
Benzo(g,h,i)perylene	0 / 59	--	--	0.01	10	--	0.0116	--	--	0.0116	GW-9	--	0.55	1.0	**0.005**	**0.01**	0.0116			
Benzo(a)pyrene	0 / 59	--	--	0.01	10	0.012	0.126	6.59E-06	GW-10	0.018	GW-7	--	0.48	1.0	**0.005**	**0.01**	0.01			
Chrysene	0 / 59	--	--	0.01	10	0.012	0.466	0.00112	GW-10	0.466	GW-9	--	0.55	1.0	**0.004**	**0.01**	0.01			
Dibenzo(a,h)anthracene	0 / 55	--	--	0.006	10	0.012	0.00458	2.72E-05	GW-10	0.00458	GW-9	--	0.48	1.0	**0.002**	**0.01**	0.01			
Dibenzofuran	2 / 59	0.11	1.8	0.01	10	16	1.33	16	GW-5	1.33	GW-9	--	0.48	1.0	**0.006**	**0.01**	1.33	●		<5% detections, not COPC
Fluoranthene	2 / 59	0.18	0.5	0.01	10	640	2.26	11	GW-10	2.26	GW-9	--	0.52	1.0	**0.009**	**0.01**	2.26			
Fluorene	5 / 59	0.011	1.7	0.01	10	640	2.04	45	GW-10	2.04	GW-9	--	0.56	1.0	**0.006**	**0.01**	2.04			
Indeno(1,2,3-cd)pyrene	0 / 59	--	--	0.01	10	0.012	0.0127	2.27E-05	GW-10	0.0127	GW-9	--	0.49	1.0	**0.003**	**0.01**	0.01			
1-Methylnaphthalene	2 / 28	0.42	0.94	0.01	1	--	--	--	--	--	--	--	0.48	1.0	**0.004**	**0.01**	--			
2-Methylnaphthalene	4 / 59	0.012	56	0.01	10	32	18.2	32	GW-5	18.2	GW-9	--	0.48	1.0	**0.007**	**0.01**	18.2	●		COPC
Naphthalene	12 / 189	0.01	13	0.01	15	160	53.8	112	GW-10	53.8	GW-9	--	0.52	1.0	**0.008**	**0.01**	53.8			
Phenanthrene	1 / 59	0.54	0.54	0.01	10	--	4.81	--	--	4.81	GW-9	--	0.56	1.0	**0.019**	**0.01**	4.81			
Pyrene	1 / 59	0.5	0.5	0.01	10	480	14.4	9.8	GW-10	14.4	GW-9	--	0.55	1.0	**0.009**	**0.01**	9.8			
Retene	0 / 10	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--			
Total cPAHs (0 DL)	1 / 59	0.018	0.018	--	--	0.012	0.00458	6.59E-06	GW-10	0.00458	GW-9	--	--	--	--	--	0.01	●		<5% detections, not COPC
Total cPAHs (0.5 DL)	1 / 59	0.0885	0.0885	0.00755	7.55	0.012	0.00458	6.59E-06	GW-10	0.00458	GW-9	--	--	--	--	--	0.01	●		<5% detections, not COPC
Other SVOCs (ug/L)																				
Aniline	0 / 17	--	--	1	10	56	--	56	GW-5	--	--	--	**0.26**	**1.0**	--	--	56			
Azobenzene	0 / 10	--	--	0.1	1	0.8	--	0.8	GW-6	--	--	--	--	--	--	--	0.8			
Benzidine	0 / 20	--	--	5	100	3.80E-04	--	3.80E-04	GW-6	--	--	--	**3.2**	**10**	--	--	10			
Benzoic acid	2 / 40	20	26	5.1	50	64,000	2,240	64,000	GW-5	2,240	GW-8/9	--	**5.1**	**10**	--	--	2,240			
Benzyl alcohol	2 / 40	0.4	0.8	2	10	800	182	800	GW-5	182	GW-9	--	**2.0**	**5.0**	--	--	182			
4-Bromophenyl phenyl ether	0 / 41	--	--	0.42	10	--	--	--	--	--	--	--	**0.42**	**1.0**	--	--	--			
Butyldiphenylphosphate	0 / 22	--	--	0.52	2	--	--	--	--	--	--	--	**0.52**	**1.0**	--	--	--			
Carbazole	0 / 26	--	--	0.31	1	--	--	--	--	--	--	--	**0.31**	**1.0**	--	--	--			
bis(2-Chloro-1-methylethyl)ether	0 / 41	--	--	2.6	10	0.63	--	320	GW-5	--	--	--	**0.62**	**1.0**	--	--	320			
4-Chloroaniline	0 / 41	--	--	0.48	10	0.22	--	0.219	GW-6	--	--	--	**2.6**	**5.0**	--	--	5.0			
2-Chloronaphthalene	0 / 41	--	--	0.56	10	640	--	640	GW-5	--	--	--	**0.51**	**1.0**	--	--	640			

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Levels				GW Background Level (GW-11)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
								On-site GW		Protection of LDW										
		Min	Max	Min	Max	Carc/NC (GW-5/6) (TPH, GW-1)	Sediment Protection SQS (GW-9)	Criteria Value	Criteria Ref.	Criteria Value	Criteria Ref.		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
bis(2-Chloroethoxy)methane	0 / 41	--	--	0.1	10	--	--	--	--	--	--	--	**0.57**	**1.0**	--	--	--			
bis(2-Chloroethyl)ether	0 / 38	--	--	0.62	10	--	--	--	--	--	--	--	**0.58**	**1.0**	--	--	--			
4-Chlorophenyl-phenylether	0 / 41	--	--	0.45	10	--	--	--	--	--	--	--	**0.45**	**1.0**	--	--	--			
Dibutylphenylphosphate	1 / 22	4.1	4.1	0.48	2	--	--	--	--	--	--	--	**0.48**	**1.0**	--	--	--			
1,2-Dichlorobenzene	0 / 204	--	--	0.06	50	720	5.19	440	GW-10	5.19	GW-8/9	--	**0.40**	**1.0**	--	--	5.19			
1,3-Dichlorobenzene	0 / 204	--	--	0.04	50	--	--	--	--	--	--	--	**0.41**	**1.0**	--	--	--			
1,4-Dichlorobenzene	0 / 204	--	--	0.06	50	--	7.14	75	GW-2/3/4	7.14	GW-9	--	**0.42**	**1.0**	--	--	7.14			
3,3'-Dichlorobenzidine	0 / 41	--	--	0.5	50	--	--	--	--	--	--	--	**1.5**	**5.0**	--	--	--			
2,4-Dinitrotoluene	0 / 41	--	--	2.5	10	32	--	32	GW-5	--	--	--	**2.5**	**5.0**	--	--	32			
2,6-Dinitrotoluene	0 / 41	--	--	2.4	10	16	--	16	GW-5	--	--	--	**2.4**	**5.0**	--	--	16			
1,4-Dioxane	0 / 10	--	--	1	1	--	--	--	--	--	--	--	--	--	--	--	--			
Hexachlorobenzene	0 / 41	--	--	0.01	10	0.055	0.112	0.055	GW-6	0.112	GW-9	--	**0.47**	**1.0**	--	--	1.0			
Hexachlorobutadiene	0 / 181	--	--	0.012	15	0.56	3.92	0.56	GW-6	--	--	--	**0.35**	**1.0**	--	--	0.56			
Hexachlorocyclopentadiene	0 / 41	--	--	1.2	10	48	--	48	GW-5	--	--	--	**1.2**	**5.0**	--	--	48			
Hexachloroethane	0 / 41	--	--	0.35	10	3.1	--	3.1	GW-6	--	--	--	**0.39**	**1.0**	--	--	3.1			
Isophorone	0 / 41	--	--	0.48	10	46	--	46	GW-6	--	--	--	**0.48**	**1.0**	--	--	46			
2-Nitroaniline	0 / 41	--	--	2.6	50	160	--	160	GW-5	--	--	--	**2.6**	**5.0**	--	--	160			
3-Nitroaniline	0 / 41	--	--	2.3	50	--	--	--	--	--	--	--	**2.3**	**5.0**	--	--	--			
4-Nitroaniline	0 / 41	--	--	2.2	50	--	--	--	--	--	--	--	**2.2**	**5.0**	--	--	--			
Nitrobenzene	0 / 41	--	--	0.58	10	16	--	16	GW-5	--	--	--	**0.58**	**1.0**	--	--	16			
N-Nitrosodimethylamine	0 / 13	--	--	0.5	10	8.60E-04	--	8.60E-04	GW-6	--	--	--	**2.6**	**5.0**	--	--	5.0			
N-Nitrosodiphenylamine	0 / 41	--	--	0.46	10	--	1.96	1.59	GW-10	1.96	GW-8/9	--	**0.50**	**1.0**	--	--	1.59			
N-Nitrosodi-n-propylamine	0 / 41	--	--	0.56	10	--	--	--	--	--	--	--	**0.56**	**1.0**	--	--	--			
Phosphoric acid tributyl ester (Tributyl phosphate)	6 / 22	2.4	26	0.54	1	--	--	--	--	--	--	--	--	--	--	--	--			
Pyridine	0 / 10	--	--	5	5	8	--	8	GW-5	--	--	--	--	--	--	--	8			
1,2,4-Trichlorobenzene	0 / 181	--	--	0.1	5	1.5	1.13	1.5	GW-6	1.13	GW-9	--	**0.48**	**1.0**	--	--	1.13			
Triphenyl phosphate	0 / 22	--	--	0.52	5	--	--	--	--	--	--	--	**0.52**	**1.0**	--	--	--			
Volatile Organic Compounds (ug/L)																				
Acetone	55 / 616	1.2	81	0.72	100	7,200	--	7,200	GW-5	--	--	--	**2.95**	**10**	0.72	5.0	7,200			
Acrolein	0 / 163	--	--	0.29	150	4	--	4	GW-5	--	--	--	**1.91**	**10**	0.29	5.0	4.0			
Acrylonitrile	0 / 163	--	--	0.18	100	0.081	--	0.081	GW-6	--	--	--	**0.50**	**5.0**	0.19	1.0	5.0			
Benzene	97 / 1086	0.5	240	0.06	50	0.795	--	0.795	GW-6	--	--	--	**0.25**	**1.0**	0.056	0.2	0.795	●		COPC
Bromobenzene	0 / 159	--	--	0.05	6	--	--	--	--	--	--	--	**0.24**	**1.0**	0.051	0.2	--			
Bromochloromethane	0 / 159	--	--	0.07	6	--	--	--	--	--	--	--	**0.20**	**1.0**	0.067	0.2	--			
Bromoethane	0 / 159	--	--	0.09	6	--	--	--	--	--	--	--	**0.42**	**2.0**	0.090	0.2	--			
Bromoform	0 / 617	--	--	0.07	50	5.5	--	5.5	GW-6	--	--	--	**0.29**	**1.0**	0.070	0.2	5.5			
Bromomethane	0 / 613	--	--	0.04	100	--	--	--	--	--	--	--	**0.43**	**1.0**	0.043	1.0	--			
n-Butylbenzene	0 / 159	--	--	0.11	6	--	--	--	--	--	--	--	**0.37**	**1.0**	0.11	0.2	--			
sec-Butylbenzene	0 / 159	--	--	0.08	6	--	--	--	--	--	--	--	**0.13**	**1.0**	0.077	0.2	--			
tert-Butylbenzene	0 / 159	--	--	0.06	6	--	--	--	--	--	--	--	**0.40**	**1.0**	0.061	0.2	--			
Carbon disulfide	48 / 614	0.2	8	0.09	50	--	--	800	GW-5	--	--	--	**0.18**	**1.0**	0.087	0.2	800			
Carbon tetrachloride	0 / 617	--	--	0.08	50	0.63	--	0.248	GW-10	--	--	--	**0.23**	**1.0**	0.075	0.2	0.248			
CFC-11	0 / 594	--	--	0.09	50	2,400	--	2,400	GW-5	--	--	--	**0.18**	**1.0**	0.092	0.2	2,400			
CFC-12	0 / 24	--	--	0.08	5	--	--	--	--	--	--	--	**0.25**	**1.0**	0.084	0.2	--			
CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)	5 / 576	2.3	23	0.11	6	240,000	--	240,000	GW-5	--	--	--	**0.18**	**2.0**	0.11	0.2	240,000			
Chlorobenzene	0 / 613	--	--	0.04	50	160	--	100	GW-2/3/4	--	--	--	**0.15**	**1.0**	0.042	0.2	100			
Chlorodibromomethane	1 / 617	1	1	0.09	50	--	--	--	--	--	--	--	**0.23**	**1.0**	0.090	0.2	--			

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Levels				GW Background Level (GW-11)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
								On-site GW		Protection of LDW										
		Min	Max	Min	Max	Carc/NC (GW-5/6) (TPH, GW-1)	Sediment Protection SQS (GW-9)	Criteria Value	Criteria Ref.	Criteria Value	Criteria Ref.		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Chloroethane	1 / 613	2.4	2.4	0.15	100	--	--	21,000	GW-10	--	--	--	**0.19**	**1.0**	0.15	0.2	21,000			
2-Chloroethyl vinyl ether	0 / 574	--	--	0.09	100	--	--	--	--	--	--	--	**0.22**	**5.0**	0.086	1.0	--			
Chloroform	25 / 625	0.2	23	0.08	50	80	--	4.3	GW-10	--	--	--	**0.19**	**1.0**	0.081	0.2	4.3	●		<5% detections, not COPC
Chloromethane	16 / 613	0.2	0.5	0.1	100	--	--	--	--	--	--	--	**0.13**	**1.0**	0.10	0.5	--			
2-Chlorotoluene	0 / 159	--	--	0.04	6	--	--	--	--	--	--	--	**0.15**	**1.0**	0.042	0.2	--			
4-Chlorotoluene	0 / 159	--	--	0.07	6	--	--	--	--	--	--	--	**0.21**	**1.0**	0.073	0.2	--			
Cumene (Isopropylbenzene)	0 / 159	--	--	0.06	6	800	--	800	GW-5	--	--	--	**0.30**	**1.0**	0.062	0.2	800			
1,2-Dibromo-3-chloropropane	0 / 159	--	--	0.21	30	0.055	--	0.0547	GW-6	--	--	--	**0.44**	**5.0**	0.21	0.5	5.0			
Dibromomethane	0 / 159	--	--	0.08	6	--	--	--	--	--	--	--	**0.29**	**1.0**	0.081	0.2	--			
Dichlorobromomethane	3 / 617	0.5	1.6	0.05	50	--	--	--	--	--	--	--	**0.19**	**1.0**	0.053	0.2	--			
trans-1,4-Dichloro-2-butene	0 / 159	--	--	0.24	30	--	--	--	--	--	--	--	**0.86**	**5.0**	0.24	1.0	--			
1,1-Dichloroethane	14 / 621	0.2	2.2	0.05	50	1,600	--	33.3	GW-10	--	--	--	**0.21**	**1.0**	0.053	0.2	33.3			
1,2-Dichloroethane (EDC)	0 / 617	--	--	0.08	50	0.48	--	0.48	GW-6	--	--	--	**0.24**	**1.0**	0.075	0.2	0.48			
1,1-Dichloroethene	40 / 613	0.058	25	0.005	50	400	--	7.0	GW-2/3/4	--	--	--	**0.31**	**1.0**	0.091	0.2	7.0	●		COPC
cis-1,2-Dichloroethene	359 / 671	0.28	440	0.1	74	16	--	10	GW-3	--	--	--	**0.10**	**1.0**	0.10	0.2	10	●		COPC
trans-1,2-Dichloroethene	48 / 592	0.2	4.6	0.001	50	160	--	100	GW-3	--	--	--	**0.20**	**1.0**	0.085	0.2	100			
1,2-Dichloroethene	5 / 21	2	380	1	5	--	--	--	--	--	--	--	**0.20**	**1.00**	0.10	0.20	--			
1,2-Dichloropropane	0 / 617	--	--	0.09	50	--	--	--	--	--	--	--	**0.23**	**1.0**	0.093	0.2	--			
1,3-Dichloropropane	0 / 159	--	--	0.02	6	--	--	--	--	--	--	--	**0.17**	**5.0**	0.020	0.2	--			
2,2-Dichloropropane	0 / 159	--	--	0.08	6	--	--	--	--	--	--	--	**0.10**	**1.0**	0.083	0.2	--			
1,1-Dichloropropene	0 / 159	--	--	0.09	6	--	--	--	--	--	--	--	**0.27**	**1.0**	0.092	0.2	--			
cis-1,3-Dichloropropene	0 / 613	--	--	0.06	50	0.44	--	0.438	GW-6	--	--	--	**0.23**	**1.0**	0.058	0.2	0.438			
trans-1,3-Dichloropropene	0 / 613	--	--	0.06	50	0.44	--	0.438	GW-6	--	--	--	**0.20**	**1.0**	0.059	0.2	0.438			
Ethylbenzene	89 / 1079	0.9	240	0.09	50	800	--	700	GW-2/3/4	--	--	--	**0.18**	**1.0**	0.094	0.2	700			
Ethylene dibromide (EDB)	0 / 159	--	--	0.08	6	5.10E-04	--	5.10E-04	GW-5/6	--	--	--	0.18	1.0	**0.075**	**0.2**	0.2			
Ethane	0 / 8	--	--	1.2	500	--	--	--	--	--	--	--	--	--	--	--	--			
Ethylene	0 / 8	--	--	1.1	500	--	--	--	--	--	--	--	--	--	--	--	--			
2-Hexanone	0 / 612	--	--	0.31	50	--	--	--	--	--	--	--	**0.93**	**5.0**	0.31	5.0	--			
p-Isopropyltoluene	0 / 159	--	--	0.08	6	--	--	--	--	--	--	--	**0.35**	**1.0**	0.075	0.2	--			
Methane	7 / 8	103	14,500	0.7	0.7	--	--	--	--	--	--	--	--	--	--	--	--			
Methyl ethyl ketone	5 / 620	5.9	21	0.81	100	4,800	--	4,800	GW-5	--	--	--	**1.96**	**5.0**	0.81	5.0	4,800			
Methyl tert-butyl ether	0 / 28	--	--	0.05	0.2	--	--	--	--	--	--	--	**0.16**	**1.0**	0.046	0.5	--			
Methyl Iodide	0 / 159	--	--	0.04	6	--	--	--	--	--	--	--	**0.26**	**1.0**	0.040	1.0	--			
Methylene chloride	0 / 612	--	--	0.38	50	5.83	--	5	GW-2/4	--	--	--	**0.19**	**2.0**	0.39	0.5	5.0	●		COPC
4-Methyl-2-pentanone (Methyl isobutyl ketone)	32 / 621	0.5	31	0.3	50	640	--	640	GW-5	--	--	--	**0.37**	**5.0**	0.38	5.0	640			
n-Propylbenzene	0 / 159	--	--	0.08	6	800	--	800	GW-5	--	--	--	**0.12**	**1.0**	0.081	0.2	800			
Styrene	0 / 612	--	--	0.07	50	1,600	--	1.46	GW-6	--	--	--	**0.12**	**1.0**	0.066	0.2	1.46			
1,1,1,2-Tetrachloroethane	0 / 159	--	--	0.07	6	1.7	--	1.7	GW-6	--	--	--	**0.29**	**1.0**	0.068	0.2	1.7			
1,1,2,2-Tetrachloroethane	0 / 617	--	--	0.07	50	0.22	--	0.22	GW-6	--	--	--	**0.14**	**1.0**	0.067	0.2	0.22			
Tetrachloroethene (PCE)	219 / 670	0.012	410	0.004	50	80	--	0.0205	GW-10	--	--	--	0.09	1.0	**0.088**	**0.2**	0.2	●		COPC
Toluene	34 / 1090	0.3	9	0.06	50	640	--	640	GW-5	--	--	--	**0.18**	**1.0**	0.056	0.2	640			
1,2,3-Trichlorobenzene	0 / 159	--	--	0.09	15	--	--	--	--	--	--	--	**0.32**	**5.0**	0.087	0.5	--			
1,1,1-Trichloroethane	9 / 621	0.7	12	0.09	50	7,200	--	200	GW-2/3/4	--	--	--	**0.18**	**1.0**	0.089	0.2	200			
1,1,2-Trichloroethane	1 / 617	0.2	0.2	0.04	50	0.768	--	0.768	GW-6	--	--	--	**0.26**	**1.0**	0.035	0.2	0.768			
Trichloroethene (TCE)	384 / 712	0.044	1,300	0.02	270	2.4	--	0.74	GW-10	--	--	--	0.29	1.0	**0.076**	**0.2**	0.74	●		COPC
1,2,3-Trichloropropane	0 / 159	--	--	0.23	15	0.0015	--	0.00146	GW-6	--	--	--	**0.54**	**2.0**	0.23	0.5	2.0			
1,2,3-Trimethylbenzene	1 / 1	3,000	3,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
1,2,4-Trimethylbenzene	0 / 159	--	--	0.06	6	--	--	--	--	--	--	--	**0.15**	**1.0**	0.058	0.2	--			
1,3,5-Trimethylbenzene	0 / 159	--	--	0.06	6	80	--	45	GW-10	--	--	--	**0.14**	**1.0**	0.063	0.2	45			

Table 6-6
Groundwater Screening Information

Chemicals	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Levels				GW Background Level (GW-11)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
								On-site GW		Protection of LDW										
		Min	Max	Min	Max	Carc/NC (GW-5/6) (TPH, GW-1)	Sediment Protection SQS (GW-9)	Criteria Value	Criteria Ref.	Criteria Value	Criteria Ref.		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Vinyl acetate	0 / 612	--	--	0.07	50	--	--	--	--	--	--	--	**0.22**	**5.0**	0.068	1.0	--			
Vinyl chloride	333 / 708	0.001	270	0.002	100	0.061	--	0.0608	GW-6	--	--	--	0.25	1.0	**0.075**	**0.2**	0.2	●		COPC
m, p-Xylene	73 / 736	1	920	0.14	590	1,600	--	1,600	GW-5	--	--	--	**0.36**	**2.0**	0.14	0.4	1,600			
o-Xylene	38 / 736	1	39	0.06	10	1,600	--	1,600	GW-5	--	--	--	**0.22**	**1.0**	0.057	0.2	1,600			
Total Xylenes	103 / 1086	0.6	932	0.06	50	1,600	--	1,300	GW-10	--	--	--	**0.36**	**2.0**	0.14	0.4	1,300			

ARI = Analytical Resources, Inc.
Carc/NC = Carcinogenic/Non-Carcinogenic
GW = Groundwater (see criteria in Table 6-4)
ICP-AES = Inductively Coupled Plasma - Atomic Emission Spectometry
ICP-MS = Inductively Coupled Plasma - Mass Spectometry
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SIM = Selected Ion Monitoring
TPH = Total Petroleum Hydrocarbons
-- = Non-detected, not applicable, or not available

Total cPAHs: Criteria based on the most stringent of seven indiviual congeners [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene]
Pesticides have not been detected in samples from any NBF-GTSP media and are not recognized as chemicals used to any significant extent at the Site. Therefore, pesticides will not be considered as COPCs.
Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media
Criteria for the "Protection of LDW" were only applied to those chemicals that are considered as COPCs in the LDW and Slip 4

Table 6-7
Storm Drain Water Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Levels: Surface Water Method B Carc. Fish Consumption (SDW-5)	Representative Screening Levels: GW-to-Sediment Protection (SDW-19)	Most Stringent Screening Level: Criteria Value	Most Stringent Screening Level: Criteria Reference	Surface Water Background Levels: General (SDW-24)	Surface Water Background Levels: LDW (SDW-25)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL: Max Detected	Concentration Exceeds RISL: Min Non-Detected	COPC Notes
Chlorinated Aromatic Compounds																			
PCB Aroclors (ug/L)																			
Aroclor 1016	0 / 27	--	--	0.01	0.1	0.000452	0.443	4.52E-04	SDW-5	--	0.00153	0.122	1.0	**0.0026**	**0.01**	0.01			
Aroclor 1221	0 / 27	--	--	0.01	0.1	--	--	2.30E-05	SDW-22	--	0.00153	0.122	1.0	**0.0026**	**0.01**	0.01			
Aroclor 1232	0 / 27	--	--	0.01	0.1	--	--	0.03	SDW-15	--	0.00153	0.122	1.0	**0.0026**	**0.01**	0.03			
Aroclor 1242	5 / 27	0.014	47	0.01	0.1	--	--	2.30E-05	SDW-22	--	0.00153	0.122	1.0	**0.0026**	**0.01**	0.01	●		See Total PCBs
Aroclor 1248	4 / 27	0.014	0.74	0.01	0.1	--	0.273	2.30E-05	SDW-22	--	0.00153	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1254	19 / 27	0.012	0.12	0.01	0.1	1.58E-05	0.159	5.48E-06	SDW-22	--	0.00153	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1260	6 / 27	0.012	0.023	0.01	0.1	--	0.058	2.30E-05	SDW-22	--	0.00153	0.079	1.0	**0.0032**	**0.01**	0.01	●		See Total PCBs
Aroclor 1262	0 / 4	--	--	0.01	0.01	--	--	--	--	--	--	0.079	1.0	**0.0032**	**0.01**	--			
Aroclor 1268	0 / 4	--	--	0.01	0.01	--	--	--	--	--	--	0.079	1.0	**0.0032**	**0.01**	--			
Total PCBs*	23 / 30	0.012	47	0.01	1	1.58E-05	0.268	1.58E-05	SDW-5	0.00033	0.00153	0.079	1.0	**0.0032**	**0.01**	0.01	●		COPC
Metals (ug/L)																			
Arsenic*	43 / 48	0.3	3.1	0.5	0.95	0.015	--	0.00539	SDW-22	0.71	0.87	7.21	50	**0.164**	**0.5**	0.87	●		COPC
Cadmium*	21 / 48	0.2	16.5	0.2	0.2	6.58	2.56	0.426	SDW-21	--	--	0.31	2.0	**0.022**	**0.2**	0.426	●		COPC
Calcium	30 / 30	2,410	42,600	--	--	--	--	--	--	--	--	5.88	50	**3.698**	**50**	--			
Chromium*	34 / 48	0.5	3.95	0.5	0.5	--	306	306	SDW-19	--	--	3.29	5.0	**0.125**	**0.5**	306			
Copper*	40 / 48	1.2	33.2	0.4	5	866	123	2.4	SDW-14/15	--	--	1.13	2.0	**0.246**	**0.5**	2.4	●		COPC
Lead*	23 / 48	1	18	0.2	1	--	11.3	8.1	SDW-9/13/15	--	--	1.92	20.0	**0.205**	**1.0**	8.1	●		COPC
Magnesium	30 / 30	250	14,800	--	--	--	--	--	--	--	--	10.81	50	**0.142**	**20**	--			
Mercury*	0 / 48	--	--	0.02	0.1	--	0.00516	0.00516	SDW-19	--	--	0.0089	0.1	**0.0037**	**0.02**	0.02			
Nickel*	42 / 48	0.5	5.1	0.5	0.5	358	--	8.2	SDW-9/13/15	--	--	5.0	10	**0.183**	**0.5**	8.2			
Selenium	7 / 48	0.5	5.8	0.5	2	878	--	15.0	SDW-21	--	--	6.1	50	**0.207**	**2.0**	15.0			
Silver*	0 / 48	--	--	0.04	0.2	8,424	1.53	1.53	SDW-19	--	--	0.55	3.0	**0.009**	**0.2**	1.53			
Zinc*	46 / 48	12.5	127	4	4	2,468	32.6	32.6	SDW-19	--	--	3.94	10.0	**0.814**	**4.0**	32.6	●		COPC
Pesticides (ug/L)																			
Aldrin*	0 / 4	--	--	0.05	0.05	1.24E-05	--	1.24E-05	SDW-5	--	--	**0.010**	**0.050**	0.0012	0.0050	0.05			
Alpha-BHC*	0 / 4	--	--	0.05	0.05	0.00121	--	0.00121	SDW-5	--	--	**0.0085**	**0.050**	0.00076	0.0050	0.00121		●	Not a COPC (see notes)
Beta-BHC*	0 / 4	--	--	0.05	0.05	0.00422	--	0.00422	SDW-5	--	--	**0.0098**	**0.050**	0.0013	0.0050	0.00422		●	Not a COPC (see notes)
Delta-BHC	0 / 4	--	--	0.05	0.05	--	--	--	--	--	--	**0.0087**	**0.050**	0.0014	0.0050	--			
cis-Chlordane	0 / 4	--	--	0.05	0.05	0.0002	--	2.00E-04	SDW-5	--	--	**0.0082**	**0.050**	0.00058	0.0050	0.05			
trans-Chlordane	0 / 4	--	--	0.05	0.05	0.0002	--	2.00E-04	SDW-5	--	--	**0.0082**	**0.050**	0.00064	0.0050	0.05			
Chlordane*	0 / 4	--	--	0.05	0.05	--	--	--	--	--	--	--	--	--	--	--			
4,4'-DDD	0 / 4	--	--	0.1	0.1	7.67E-05	--	7.67E-05	SDW-5	--	--	**0.019**	**0.10**	0.0017	0.010	0.10			
4,4'-DDE	0 / 4	--	--	0.1	0.1	5.42E-05	--	5.42E-05	SDW-5	--	--	**0.018**	**0.10**	0.0015	0.010	0.10			
4,4'-DDT	0 / 4	--	--	0.1	0.1	5.42E-05	--	5.42E-05	SDW-5	--	--	**0.017**	**0.10**	0.0015	0.010	0.10			
Total DDTs*	0 / 4	--	--	0.1	0.1	--	--	--	--	--	--	--	--	--	--	--			
Dieldrin*	0 / 4	--	--	0.1	0.1	1.32E-05	--	1.32E-05	SDW-5	--	--	**0.017**	**0.10**	0.0013	0.010	0.10			
Endosulfan I	0 / 4	--	--	0.05	0.05	18.7	--	0.0087	SDW-9/13/15	--	--	**0.0089**	**0.050**	0.00067	0.0050	0.0087		●	Not COPC (not LDW COPC)
Endosulfan II	0 / 4	--	--	0.1	0.1	18.7	--	0.0087	SDW-9/13/15	--	--	**0.014**	**0.10**	0.0018	0.010	0.10			
Endosulfan Sulfate	0 / 4	--	--	0.1	0.1	18.7	--	0.0087	SDW-9/13/15	--	--	**0.024**	**0.10**	0.0024	0.010	0.10			
Endrin	0 / 4	--	--	0.1	0.1	0.0637	--	0.0023	SDW-9/13/15	--	--	**0.017**	**0.10**	0.0015	0.010	0.10			
Endrin Aldehyde	0 / 4	--	--	0.1	0.1	0.0637	--	0.0023	SDW-9/13/15	--	--	**0.016**	**0.10**	0.0018	0.010	0.10			
Endrin Ketone	0 / 4	--	--	0.1	0.1	--	--	--	--	--	--	**0.015**	**0.10**	0.0017	0.010	--			
Heptachlor*	0 / 4	--	--	0.05	0.05	1.96E-05	--	1.96E-05	SDW-5	--	--	**0.011**	**0.050**	0.0013	0.0050	0.05			
Heptachlor Epoxide*	0 / 4	--	--	0.05	0.05	9.69E-06	--	9.69E-06	SDW-5	--	--	**0.0079**	**0.050**	0.00056	0.0050	0.05			
Lindane*	0 / 4	--	--	0.5	0.5	1.94	--	0.063	SDW-16	--	--	**0.016**	**0.050**	0.0017	0.0050	0.063		●	Not COPC (not LDW COPC)
Methoxychlor	0 / 4	--	--	0.05	0.05	--	--	--	--	--	--	**0.074**	**0.50**	0.0048	0.050	--			
Toxaphene	0 / 4	--	--	5	5	6.85E-05	--	6.85E-05	SDW-5	--	--	**0.22**	**5.0**	--	--	5.0			

Table 6-7
Storm Drain Water Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Level		Surface Water Background Levels		ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	Surface Water Method B Carc. Fish Consumption (SDW-5)	GW-to-Sediment Protection (SDW-19)	Criteria Value	Criteria Reference	General (SDW-24)	LDW (SDW-25)	MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Semivolatile Organic Compounds (SVOCs)																			
Phenols (ug/L)												EPA 8270D		EPA 8270D-SIM					
2-Chlorophenol	0 / 1	--	--	1	1	--	--	--	--	--	--	**0.53**	**1.0**	--	--	--			
4-Chloro-3-methylphenol	0 / 1	--	--	5	5	--	--	--	--	--	--	**2.4**	**5.0**	--	--	--			
2,4-Dichlorophenol	0 / 1	--	--	5	5	--	--	--	--	--	--	**2.6**	**5.0**	--	--	--			
2,4-Dimethylphenol*	0 / 23	--	--	1	1	180	2.02	2.02	SDW-19	--	--	**0.36**	**1.0**	--	--	2.02			
4,6-Dinitro-2-methylphenol	0 / 1	--	--	10	10	--	--	--	--	--	--	**3.1**	**10**	--	--	--			
2,4-Dinitrophenol	0 / 1	--	--	10	10	--	--	--	--	--	--	**3.5**	**10**	--	--	--			
o-Cresol	0 / 23	--	--	1	1	--	7.11	7.11	SDW-19	--	--	**0.53**	**1.0**	--	--	7.11			
p-Cresol*	0 / 23	--	--	1	1	--	77.2	77.2	SDW-19	--	--	**0.52**	**1.0**	--	--	77.2			
2-Nitrophenol	0 / 1	--	--	5	5	--	--	--	--	--	--	**2.0**	**5.0**	--	--	--			
4-Nitrophenol	0 / 1	--	--	5	5	--	--	--	--	--	--	**2.6**	**5.0**	--	--	--			
Pentachlorophenol*	0 / 23	--	--	5	5	0.748	5.33	0.698	SDW-22	--	--	2.4	5.0	**0.15**	**0.50**	0.698		●	No detections, COPC
Phenol*	5 / 23	1.1	3.2	1	1	361,000	78.4	78.4	SDW-19	--	--	**0.52**	**1.0**	--	--	78.4			
2,4,5-Trichlorophenol	0 / 1	--	--	5	5	--	--	--	--	--	--	**2.2**	**5.0**	--	--	--			
2,4,6-Trichlorophenol	0 / 1	--	--	5	5	0.598	--	0.558	SDW-22	--	--	**2.4**	**5.0**	--	--	5.0			
Phthalates (ug/L)																			
Butyl benzyl phthalate*	0 / 23	--	--	1	1	1.26	0.524	0.41	SDW-22	--	--	**0.56**	**1.0**	--	--	1.0			
Dibutyl phthalate	2 / 23	1.1	1.3	1	1	947	151	46.6	SDW-21	--	--	**0.54**	**1.0**	--	--	46.6			
Diethyl phthalate	1 / 23	1.3	1.3	1	1	9,230	484	484	SDW-19	--	--	**0.58**	**1.0**	--	--	484			
Dimethyl phthalate*	0 / 23	--	--	1	1	23,400	143	143	SDW-19	--	--	**0.53**	**1.0**	--	--	143			
Di-n-Octyl phthalate	3 / 23	1.1	2.1	1	1	--	0.296	0.296	SDW-19	--	--	**0.51**	**1.0**	--	--	1.0	●		COPC (Slip 4 COPC)
Bis(2-Ethylhexyl)phthalate*	4 / 23	0.8	3.2	1	4.4	0.542	0.285	0.285	SDW-19	1.37	--	**1.9**	**1.0**	--	--	1.37	●		COPC
Polycyclic Aromatic Hydrocarbons (ug/L)												EPA 8270D		EPA 8270D-SIM					
Acenaphthene*	16 / 24	0.011	0.078	0.01	0.01	209	2.61	2.61	SDW-19	--	--	0.55	1.0	**0.007**	**0.01**	2.61			
Acenaphthylene	1 / 24	0.06	0.06	0.01	0.01	--	10.8	10.8	SDW-19	--	--	0.48	1.0	**0.001**	**0.01**	10.8			
Anthracene*	5 / 24	0.013	0.16	0.01	0.01	8,420	10.8	10.8	SDW-19	--	--	0.53	1.0	**0.003**	**0.01**	10.8			
Benzo(a)anthracene*	16 / 24	0.013	0.61	0.01	0.01	0.00451	0.258	2.58E-04	SDW-22	0.00022	0.0032	0.52	1.0	**0.003**	**0.01**	0.01	●		See Total cPAHs
Benzo(b)fluoranthene	19 / 24	0.012	1.3	0.01	1	0.00451	0.286	1.21E-04	SDW-22	--	0.0032	0.58	1.0	**0.005**	**0.02**	0.02	●		See Total cPAHs
Benzo(k)fluoranthene	19 / 24	0.012	1.3	0.01	1	0.00451	0.292	1.27E-04	SDW-22	--	--	0.58	1.0	**0.005**	**0.02**	0.02	●		See Total cPAHs
Total Benzofluoranthenes*	19 / 24	0.024	2.6	0.01	1	--	--	--	--	--	--	0.58	1.0	**0.005**	**0.02**	--			
Benzo(g,h,i)perylene*	17 / 24	0.014	1.3	0.01	0.01	--	0.0116	0.0116	SDW-19	--	--	0.55	1.0	**0.005**	**0.01**	0.0116	●		COPC
Benzo(a)pyrene*	17 / 24	0.013	1.2	0.01	0.01	0.00451	0.126	1.52E-05	SDW-22	--	0.0032	0.48	1.0	**0.005**	**0.01**	0.01	●		COPC (individual & cPAH)
Chrysene*	23 / 24	0.01	1.7	0.01	0.01	0.00451	0.467	0.00258	SDW-22	--	0.0032	0.55	1.0	**0.004**	**0.01**	0.01	●		See Total cPAHs
Dibenzo(a,h)anthracene*	13 / 24	0.01	0.39	0.01	0.01	0.00451	0.00458	6.25E-05	SDW-22	--	0.0032	0.48	1.0	**0.002**	**0.01**	0.01	●		See Total cPAHs
Dibenzofuran*	9 / 24	0.01	0.059	0.01	0.01	--	1.33	1.33	SDW-19	--	--	0.48	1.0	**0.006**	**0.01**	1.33			
Fluoranthene*	23 / 24	0.015	2.7	0.01	0.01	29.3	2.26	2.26	SDW-19	--	--	0.52	1.0	**0.009**	**0.01**	2.26	●		COPC
Fluorene*	10 / 24	0.01	0.22	0.01	0.01	1,120	2.04	2.04	SDW-19	--	--	0.56	1.0	**0.006**	**0.01**	2.04			
Indeno(1,2,3-cd)pyrene*	17 / 24	0.011	0.96	0.01	0.01	0.00451	0.0127	5.23E-05	SDW-22	--	0.0032	0.49	1.0	**0.003**	**0.01**	0.01	●		See Total cPAHs
1-Methylnaphthalene	16 / 24	0.012	0.28	0.01	0.01	--	--	--	--	--	--	0.48	1.0	**0.004**	**0.01**	--			
2-Methylnaphthalene*	18 / 24	0.01	0.37	0.01	0.01	--	18.2	18.2	SDW-19	--	--	0.48	1.0	**0.007**	**0.01**	18.2			
Naphthalene*	24 / 24	0.012	0.27	--	--	1,600	53.8	53.8	SDW-19	--	--	0.52	1.0	**0.008**	**0.01**	53.8			
Phenanthrene*	22 / 24	0.019	1.2	0.01	0.01	--	4.81	4.81	SDW-19	--	--	0.56	1.0	**0.019**	**0.01**	4.81			
Pyrene*	23 / 24	0.012	2	0.01	0.01	--	14.4	9.83	SDW-21	--	--	0.55	1.0	**0.009**	**0.01**	9.83			
Total cPAHs (0 DL)*	23 / 24	1.00E-04	1.67	--	--	0.00451	0.00458	1.52E-05	SDW-22	--	--	--	--	--	--	0.01	●		See Total cPAHs (0.5 DL)
Total cPAHs (0.5DL)*	23 / 24	0.00767	1.67	0.00755	0.00755	0.00451	0.00458	1.52E-05	SDW-22	--	--	--	--	--	--	0.01	●		COPC

Table 6-7
Storm Drain Water Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Level		Surface Water Background Levels		ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	Surface Water Method B Carc. Fish Consumption (SDW-5)	GW-to-Sediment Protection (SDW-19)	Criteria Value	Criteria Reference	General (SDW-24)	LDW (SDW-25)	MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Other SVOCs (ug/L)											--								
Benzoic Acid*	0 / 23	--	--	10	10	--	2,240	2,240	SDW-19	--	--	5.1	10	--	--	2,240			
Benzyl Alcohol*	0 / 23	--	--	5	5	--	182	182	SDW-19	--	--	2.0	5.0	--	--	182			
4-Bromophenyl phenyl ether	0 / 1	--	--	1	1	--	--	--	--	--	--	0.42	1.0	--	--	--			
Carbazole*	0 / 1	--	--	1	1	--	--	--	--	--	--	0.31	1.0	--	--	--			
Bis(2-chloro-1-methylethyl)ether	0 / 1	--	--	5	5	--	--	37	SDW-1	--	--	0.62	1.0	--	--	37			
4-Chloroaniline	0 / 1	--	--	1	1	--	--	--	--	--	--	2.6	5.0	--	--	--			
2-Chloronaphthalene	0 / 1	--	--	1	1	--	--	--	--	--	--	0.51	1.0	--	--	--			
Bis(2-Chloroethoxy)methane	0 / 1	--	--	1	1	--	--	--	--	--	--	0.57	1.0	--	--	--			
Bis(2-Chloroethyl)ether	0 / 1	--	--	1	1	--	--	--	--	--	--	0.58	1.0	--	--	--			
4-Chlorophenyl-phenylether	0 / 1	--	--	1	1	--	--	--	--	--	--	0.45	1.0	--	--	--			
1,2-Dichlorobenzene*	0 / 25	--	--	0.2	0.5	1,360	5.19	5.19	SDW-19	--	--	0.40	1.0	--	--	5.19			
1,3-Dichlorobenzene	0 / 25	--	--	0.2	0.5	--	--	960	SDW-10	--	--	0.41	1.0	--	--	960			
1,4-Dichlorobenzene*	0 / 25	--	--	0.2	0.5	0.74	7.14	0.74	SDW-5	--	--	0.42	1.0	--	--	0.74			
3,3'-Dichlorobenzidine	0 / 1	--	--	5	5	--	--	--	--	--	--	1.5	5.0	--	--	--			
2,4-Dinitrotoluene	0 / 1	--	--	5	5	--	--	--	--	--	--	2.5	5.0	--	--	--			
2,6-Dinitrotoluene	0 / 1	--	--	5	5	--	--	--	--	--	--	2.4	5.0	--	--	--			
Hexachlorobenzene*	0 / 23	--	--	0.05	1	7.09E-05	0.112	6.62E-05	SDW-22	--	--	0.47	1.0	--	--	1.0			
Hexachlorobutadiene	0 / 24	--	--	0.05	0.5	4.52	3.92	3.92	SDW-19	--	--	0.35	1.0	--	--	3.92			
Hexachlorocyclopentadiene	0 / 1	--	--	5	5	--	--	--	--	--	--	1.2	5.0	--	--	--			
Hexachloroethane	0 / 1	--	--	1	1	--	--	--	--	--	--	0.39	1.0	--	--	--			
Isophorone	0 / 1	--	--	1	1	--	--	236	SDW-5	--	--	0.48	1.0	--	--	236			
2-Nitroaniline	0 / 1	--	--	5	5	--	--	--	--	--	--	2.6	5.0	--	--	--			
3-Nitroaniline	0 / 1	--	--	5	5	--	--	--	--	--	--	2.3	5.0	--	--	--			
4-Nitroaniline	0 / 1	--	--	5	5	--	--	--	--	--	--	2.2	5.0	--	--	--			
Nitrobenzene	0 / 1	--	--	1	1	--	--	--	--	--	--	0.58	1.0	--	--	--			
N-Nitrosodiphenylamine*	0 / 23	--	--	1	5	1.48	1.96	1.48	SDW-5	--	--	0.50	1.0	--	--	1.48			
N-Nitrosodi-n-propylamine	0 / 1	--	--	1	1	--	--	0.128	SDW-5	--	--	0.56	1.0	--	--	1.0			
1,2,4-Trichlorobenzene*	0 / 24	--	--	0.5	0.5	73.9	1.13	1.13	SDW-19	--	--	0.48	1.0	--	--	1.13			
Volatile Organic Compounds (ug/L)																			
Acetone	19 / 24	5.1	1,600	5	5	--	--	110,000	SDW-21	--	--	2.95	10	0.72	5.0	110,000			
Acrolein	0 / 24	--	--	5	5	--	--	--	--	--	--	1.91	10	0.29	5.0	--			
Acrylonitrile	0 / 24	--	--	1	1	--	--	--	--	--	--	0.50	5.0	0.19	1.0	--			
Benzene	0 / 24	--	--	0.2	0.2	3.22	--	2.03	SDW-22	--	--	0.25	1.0	0.056	0.2	2.03			
Bromobenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.24	1.0	0.051	0.2	--			
Bromochloromethane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.20	1.0	0.067	0.2	--			
Bromoethane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.42	2.0	0.090	0.2	--			
Bromoform	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	0.29	1.0	0.070	0.2	--			
Bromomethane	0 / 25	--	--	0.5	1	--	--	--	--	--	--	0.43	1.0	0.043	1.0	--			
n-Butylbenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.37	1.0	0.11	0.2	--			
sec-Butylbenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.13	1.0	0.077	0.2	--			
tert-Butylbenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.40	1.0	0.061	0.2	--			
Carbon Disulfide	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.18	1.0	0.087	0.2	--			
Carbon Tetrachloride	0 / 25	--	--	0.2	0.5	0.405	--	0.248	SDW-22	--	--	0.23	1.0	0.075	0.2	0.248			
CFC-11 (Trichlorofluoromethane)	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	0.18	1.0	0.092	0.2	--			
CFC-12 (Dichlorodifluoromethane)	0 / 1	--	--	0.5	0.5	--	--	--	--	--	--	0.25	1.0	0.084	0.2	--			
CFC-113 (1,1,2-Trichloro-1,2,2-Trifluoroethane)	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.18	2.0	0.11	0.2	--			
Chlorobenzene	0 / 25	--	--	0.2	0.5	43.2	--	20	SDW-11	--	--	0.15	1.0	0.042	0.2	20			
Chlorodibromomethane	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	0.23	1.0	0.090	0.2	--			
Chloroethane	0 / 25	--	--	0.2	0.5	--	--	34	SDW-16	--	--	0.19	1.0	0.15	0.2	34			
2-Chloroethyl vinyl ether	0 / 25	--	--	1	1	--	--	--	--	--	--	0.22	5.0	0.086	1.0	--			
Chloroform	3 / 25	0.3	0.7	0.2	0.5	--	--	4.3	SDW-22	--	--	0.19	1.0	0.081	0.2	4.3			
Chloromethane	1 / 25	0.6	0.6	0.5	0.5	20.3	0.467	20.3	SDW-5	--	--	0.13	1.0	0.10	0.5	20.3			
2-Chlorotoluene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.15	1.0	0.042	0.2	--			
4-Chlorotoluene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.21	1.0	0.073	0.2	--			
1,2-Dibromo-3-chloropropane	0 / 24	--	--	0.5	0.5	--	--	--	--	--	--	0.44	5.0	0.21	0.5	--			
Dibromomethane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	0.29	1.0	0.081	0.2	--			
Dichlorobromomethane	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	0.19	1.0	0.053	0.2	--			

Table 6-7
Storm Drain Water Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		Most Stringent Screening Level		Surface Water Background Levels		ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	Surface Water Method B Carc. Fish Consumption (SDW-5)	GW-to-Sediment Protection (SDW-19)	Criteria Value	Criteria Reference	General (SDW-24)	LDW (SDW-25)	MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
trans-1,4-Dichloro-2-butene	0 / 24	--	--	1	1	--	--	--	--	--	--	**0.86**	**5.0**	0.24	1.0	--			
1,1-Dichloroethane	0 / 25	--	--	0.2	0.5	--	--	33.3	SDW-22	--	--	**0.21**	**1.0**	0.053	0.2	33.3			
1,2-Dichloroethane (EDC)	0 / 25	--	--	0.2	0.5	9.04	--	3.55	SDW-22	--	--	**0.24**	**1.0**	0.075	0.2	3.55			
1,1-Dichloroethene	0 / 25	--	--	0.2	0.2	7,520	--	3.2	SDW-16	--	--	**0.31**	**1.0**	0.091	0.2	3.2			
cis-1,2-Dichloroethene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.10**	**1.0**	0.10	0.2	--			
trans-1,2-Dichloroethene	0 / 25	--	--	0.2	0.5	--	--	4,800	SDW-3	--	--	**0.20**	**1.0**	0.085	0.2	4,800			
1,2-Dichloropropane	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	**0.23**	**1.0**	0.093	0.2	--			
1,3-Dichloropropane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.17**	**5.0**	0.020	0.2	--			
2,2-Dichloropropane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.10**	**1.0**	0.083	0.2	--			
1,1-Dichloropropene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.27**	**1.0**	0.092	0.2	--			
cis-1,3-Dichloropropene	0 / 25	--	--	0.2	0.5	--	--	33.9	SDW-4	--	--	**0.23**	**1.0**	0.058	0.2	33.9			
trans-1,3-Dichloropropene	0 / 25	--	--	0.2	0.5	--	--	33.9	SDW-4	--	--	**0.20**	**1.0**	0.059	0.2	33.9			
Ethylbenzene	0 / 24	--	--	0.2	0.2	2.39	--	2.39	SDW-5	--	--	**0.18**	**1.0**	0.094	0.2	2.39			
Ethylene dibromide (EDB)	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.18**	**1.0**	0.075	0.2	--			
2-Hexanone	0 / 24	--	--	5	5	--	--	--	--	--	--	**0.93**	**5.0**	0.31	5.0	--			
Cumene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.30**	**1.0**	0.062	0.2	--			
p-Isopropyltoluene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.35**	**1.0**	0.075	0.2	--			
Methyl ethyl ketone	24 / 26	6	130	5	5	--	--	73,400	SDW-21	--	--	**1.96**	**5.0**	0.81	5.0	73,400			
Methyl Iodide	0 / 24	--	--	1	1	--	--	--	--	--	--	**0.26**	**1.0**	0.040	1.0	--			
4-Methyl-2-pentanone	0 / 24	--	--	5	5	--	--	--	--	--	--	**0.37**	**5.0**	0.38	5.0	--			
Methylene chloride	23 / 25	0.8	5.2	0.5	0.5	146	--	61.4	SDW-22	--	--	**0.19**	**2.0**	0.39	0.5	61.4			
n-Propylbenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.12**	**1.0**	0.081	0.2	--			
Styrene	2 / 24	0.2	0.5	0.2	0.2	--	--	--	--	--	--	**0.12**	**1.0**	0.066	0.2	--			
1,1,1,2-Tetrachloroethane	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.29**	**1.0**	0.068	0.2	--			
1,1,2,2-Tetrachloroethane	0 / 25	--	--	0.2	0.5	--	--	--	--	--	--	**0.14**	**1.0**	0.067	0.2	--			
Tetrachloroethene (PCE)	0 / 25	--	--	0.2	0.5	0.059	--	0.021	SDW-22	--	--	0.09	1.0	**0.088**	**0.2**	0.2			
Toluene	0 / 24	--	--	0.2	0.2	6,300	--	1,290	SDW-21	--	--	**0.18**	**1.0**	0.056	0.2	1,290			
1,2,3-Trichlorobenzene	0 / 24	--	--	0.5	0.5	--	--	--	--	--	--	**0.32**	**5.0**	0.087	0.5	--			
1,1,1-Trichloroethane	0 / 25	--	--	0.2	0.5	301,000	--	46,000	SDW-21	--	--	**0.18**	**1.0**	0.089	0.2	46,000			
1,1,2-Trichloroethane	0 / 25	--	--	0.2	0.5	3.85	--	2.34	SDW-22	--	--	**0.26**	**1.0**	0.035	0.2	2.34			
Trichloroethene (TCE)	0 / 25	--	--	0.2	0.5	1.01	--	0.739	SDW-22	--	--	0.29	1.0	**0.076**	**0.2**	0.739			
1,2,3-Trichloropropane	0 / 24	--	--	0.5	0.5	--	--	--	--	--	--	**0.54**	**2.0**	0.23	0.5	--			
1,2,4-Trimethylbenzene	0 / 24	--	--	0.2	0.2	--	--	--	--	--	--	**0.15**	**1.0**	0.058	0.2	--			
1,3,5-Trimethylbenzene	0 / 24	--	--	0.2	0.2	--	--	45.2	SDW-21	--	--	**0.14**	**1.0**	0.063	0.2	45.2			
Vinyl acetate	0 / 24	--	--	1	1	--	--	--	--	--	--	**0.22**	**5.0**	0.068	1.0	--			
Vinyl chloride	0 / 25	--	--	0.2	1	0.563	--	0.533	SDW-22	--	--	0.25	1.0	**0.075**	**0.2**	0.533			
m, p-Xylene	0 / 24	--	--	0.4	0.4	--	--	1,580	SDW-21	--	--	**0.36**	**2.0**	0.14	0.4	1,580			
o-Xylene	0 / 24	--	--	0.2	0.2	--	--	1,580	SDW-21	--	--	**0.22**	**1.0**	0.057	0.2	1,580			
Total xylenes	0 / 24	--	--	0.2	0.2	--	--	1,580	SDW-21	--	--	**0.36**	**2.0**	0.14	0.4	1,580			

ARI = Analytical Resources, Inc.
Carc/NC = Carcinogenic/Non-Carcinogenic
GW = Groundwater
ICP-AES = Inductively Coupled Plasma - Atomic Emission Spectometry
ICP-MS = Inductively Coupled Plasma - Mass Spectometry
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDW = Storm Drain Water (see criteria in Table 6-4)
SIM = Selected Ion Monitoring
-- = Non-detected, not applicable, or not available

* Chemicals listed as COPCs in the LDW RI (Windward 2010). Additional LDW RI COPCs not analyzed for at NBF-GTSP Site include dioxins/furans, tributyltin, and vanadium. Di-n-octyl phthalate is also retained as NBF-GTSP COPC due to presence at LS431 and Slip 4.
Total cPAHs: Criteria based on the most stringent of seven indiviual congeners [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene]
Pesticides have not been detected in samples from any NBF-GTSP media and are not recognized as chemicals used to any significant extent at the Site. Therefore, pesticides will not be considered as COPCs.
Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-8
Storm Drain Solids Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Level	Most Stringent Screening Level		Sediment Background Level (SDS-14)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	LAET/SQS (SDS-3/1)	Criteria Value	Criteria Reference		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Chlorinated Aromatic Compounds																	
Dioxins/Furans (pg/g)																	
2,3,7,8-TCDD	18 / 21	0.138	6.64	0.282	0.793	--	3.9	SDS-11	--	**0.34**	**1.0**	--	--	3.9	●		COPC
Dioxins/Furans TEQ (0 DL)*	21 / 21	1.96	157	--	--	--	3.9	SDS-11	--	--	--	--	--	3.9	●		COPC
Dioxins/Furans TEQ (0.5 DL)*	21 / 21	2.24	157	--	--	--	3.9	SDS-11	--	--	--	--	--	3.9	●		COPC
PCB Aroclors (mg/kg)																	
Aroclor 1016	0 / 823	--	--	0.004	140	--	--	--	--	**0.0010**	**0.020**	0.0010	0.0040	--			
Aroclor 1016/1242	20 / 241	0.007	580	0.01	100	--	--	--	--	**0.0010**	**0.020**	0.0010	0.0040	--			
Aroclor 1221	0 / 894	--	--	0.004	140	--	--	--	--	**0.0010**	**0.020**	0.0010	0.0040	--			
Aroclor 1232	0 / 1012	--	--	0.004	140	--	--	--	--	**0.0010**	**0.020**	0.0010	0.0040	--			
Aroclor 1242	25 / 823	0.028	570	0.004	140	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1248	150 / 1059	0.007	470	0.004	660	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1254	997 / 1068	0.0094	930	0.01	20	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1260	773 / 1061	0.009	310	0.01	140	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1262	2 / 205	0.19	0.22	0.01	8.66	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1268	0 / 14	--	--	0.013	1.76	--	--	--	--	**0.0014**	**0.020**	0.0014	0.0040	--			
Aroclor 1310	0 / 1	--	--	0.063	0.063	--	--	--	--	**--**	**--**	--	--	--			
Aroclor 1321	0 / 1	--	--	0.063	0.063	--	--	--	--	**--**	**--**	--	--	--			
Aroclor 1337	0 / 1	--	--	0.094	0.094	--	--	--	--	**--**	**--**	--	--	--			
Aroclor 1343	1 / 1	0.24	0.24	--	--	--	--	--	--	**--**	**--**	--	--	--			
Aroclor 1349	1 / 1	0.42	0.42	--	--	--	--	--	--	**--**	**--**	--	--	--			
Total PCBs*	1050 / 1093	0.01	11,000	0.01	20	0.13	0.038	SDS-7	--	**0.0014**	**0.020**	0.0014	0.0040	0.038	●		COPC
Metals (mg/kg)										ICP-AES (EPA 6010B)		ICP-MS (EPA 200.8)					
Arsenic*	263 / 420	3.5	150	0.02	160	57	0.39	SDS-11	7.3	**0.31**	**5.0**	0.17	0.5	7.3	●		COPC
Barium	1 / 1	47.8	47.8	--	--	--	540	SDS-11	--	**0.13**	**0.3**	0.062	0.5	540			
Cadmium*	305 / 310	0.5	110	0.5	7	5.1	3.7	SDS-11	0.398	**0.02**	**0.2**	0.016	0.2	3.7	●		COPC
Chromium*	309 / 309	6.7	629	--	--	260	1.6	SDS-11	35.6	**0.26**	**0.5**	0.15	0.5	35.6	●		COPC
Copper*	419 / 419	0.185	6,320	--	--	390	310	SDS-11	24.9	**0.04**	**0.2**	0.096	0.5	310	●		COPC
Lead*	416 / 420	4	2,780	20	70	450	40	SDS-11	10.9	**0.18**	**2.0**	0.30	1.0	40	●		COPC
Mercury*	401 / 436	0.021	305	0.00719	0.7	0.41	0.41	SDS-1/5/12	0.1	**0.002**	**0.025**	--	--	0.41	●		COPC
Nickel*	8 / 8	6.09	49	--	--	--	140	SDS-1/5	36.6	**0.86**	**1.0**	0.21	0.5	140			
Selenium	0 / 2	--	--	0.397	20	--	3.0	SDS-7	0.575	**0.59**	**5.0**	0.46	2.0	5.0			
Silver*	83 / 303	0.5	160	0.3	10	6.1	6.1	SDS-1/5/12	--	**0.04**	**0.3**	0.007	0.2	6.1	●		COPC
Zinc*	418 / 419	30	22,900	405	405	410	410	SDS-1/5/12	59.7	**0.37**	**1.0**	1.9	4.0	410	●		COPC
Petroleum Hydrocarbons (mg/kg)																	
Diesel Range Hydrocarbons	92 / 93	0.94	6,000	99	99	--	--	--	--	**0.74**	**5.0**	--	--	--			
Oil Range Hydrocarbons	94 / 94	3.5	13,000	--	--	--	--	--	--	**1.3**	**10**	--	--	--			

Table 6-8
Storm Drain Solids Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Level	Most Stringent Screening Level		Sediment Background Level (SDS-14)	ARI Option 1		ARI Option 2		RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	LAET/SQS (SDS-3/1)	Criteria Value	Criteria Reference		MDL	RL	MDL	RL		Max Detected	Min Non-Detected	
Semivolatile Organic Compounds (SVOCs)																	
Phenols (mg/kg)																	
2-Chlorophenol	0 / 56	--	--	0.02	10	--	--	--	--	**0.014**	**0.067**	0.0048	0.020	--			
4-Chloro-3-methylphenol	0 / 56	--	--	0.041	23	--	--	--	--	**0.12**	**0.33**	0.015	0.10	--			
2,4-Dichlorophenol	0 / 56	--	--	0.099	23	--	--	--	--	**0.075**	**0.33**	0.018	0.10	--			
2,4-Dimethylphenol*	7 / 114	0.2	2.9	0.02	10	0.029	0.029	SDS-3/5	--	**0.016**	**0.067**	0.0080	0.020	0.029	●		COPC
4,6-Dinitro-2-methylphenol	0 / 56	--	--	0.2	46	--	--	--	--	**0.12**	**0.67**	0.041	0.20	--			
2,4-Dinitrophenol	0 / 56	--	--	0.2	46	--	--	--	--	**0.077**	**0.67**	0.050	0.20	--			
o-Cresol	1 / 91	0.14	0.14	0.02	10	0.063	0.063	SDS-3/5	--	**0.023**	**0.067**	0.0053	0.020	0.063	●		<5% detections, not COPC
p-Cresol*	35 / 91	0.1	12	0.058	10	0.67	0.67	SDS-3/5	--	**0.022**	**0.067**	0.0048	0.020	0.67	●		COPC
2-Nitrophenol	0 / 56	--	--	0.06	23	--	--	--	--	**0.063**	**0.067**	0.0095	0.020	--			
4-Nitrophenol	0 / 56	--	--	0.099	23	--	--	--	--	**0.048**	**0.33**	0.028	0.10	--			
Pentachlorophenol	0 / 91	--	--	0.099	23	0.36	0.14	SDS-3	--	**0.096**	**0.33**	0.027	0.10	0.14			
Phenol*	20 / 114	0.04	1.9	0.02	10	0.42	0.42	SDS-3/5	--	**0.016**	**0.067**	0.0038	0.020	0.42	●		COPC
2,4,5-Trichlorophenol	0 / 56	--	--	0.099	23	--	--	--	--	**0.15**	**0.33**	0.021	0.10	--			
2,4,6-Trichlorophenol	0 / 56	--	--	0.099	23	--	--	--	--	**0.14**	**0.33**	0.011	0.10	--			
Phthalates (mg/kg)																	
Butyl benzyl phthalate*	63 / 112	0.062	4.09	0.037	5.6	0.063	0.063	SDS-3/5	--	0.025	0.067	**0.0041**	**0.020**	0.063	●		COPC
Dibutyl phthalate	35 / 99	0.046	6.9	0.035	10	1.4	1.4	SDS-3/5	--	0.033	0.067	**0.0047**	**0.020**	1.4	●		Not LDW COPC, not COPC
Diethyl phthalate	1 / 99	0.049	0.049	0.02	10	0.048	0.048	SDS-3	--	0.021	0.067	**0.0038**	**0.020**	0.048	●		<5% detections, not COPC
Dimethyl phthalate*	5 / 99	0.04	0.33	0.02	10	0.071	0.071	SDS-3/5	--	0.027	0.067	**0.0037**	**0.020**	0.071	●		COPC
Di-n-Octyl phthalate	80 / 99	0.044	34	0.06	10	0.42	0.42	SDS-3	--	0.019	0.067	**0.0052**	**0.020**	0.42	●		Not LDW COPC, not COPC
Bis(2-Ethylhexyl)phthalate*	112 / 112	0.11	232	--	--	1.3	0.73	SDS-12	--	0.024	0.067	**0.0087**	**0.020**	0.73	●		COPC
Polycyclic Aromatic Hydrocarbons (mg/kg)																	
Acenaphthene*	47 / 152	0.043	4.9	0.02	4.6	0.5	0.25	SDS-12/13	--	**0.016**	**0.067**	0.0033	0.020	0.25	●		COPC
Acenaphthylene	13 / 152	0.018	0.34	0.033	10	0.56	0.56	SDS-3/5	--	**0.021**	**0.067**	0.0030	0.020	0.56			
Anthracene*	87 / 152	0.048	26	0.037	4.6	0.96	0.96	SDS-3/5	--	**0.020**	**0.067**	0.0044	0.020	0.96	●		COPC
Benzo(a)anthracene*	137 / 152	0.036	190	0.037	4.6	1.3	1.3	SDS-3/5	--	**0.019**	**0.067**	0.0046	0.020	1.3	●		See Total cPAHs
Benzo(b)fluoranthene	147 / 152	0.032	190	0.082	0.41	--	--	--	--	**0.033**	**0.067**	0.0057	0.020	--			
Benzo(k)fluoranthene	145 / 152	0.023	96	0.037	0.41	--	--	--	--	**0.033**	**0.067**	0.0057	0.020	--			
Total Benzofluoranthenes*	149 / 154	0.032	286	0.082	0.41	3.2	3.2	SDS-3/5	--	**0.033**	**0.067**	0.0057	0.020	3.2	●		COPC, see Total cPAHs
Benzo(g,h,i)perylene*	126 / 143	0.032	91	0.02	4.6	0.67	0.48	SDS-12	--	**0.026**	**0.067**	0.0048	0.020	0.48	●		COPC
Benzo(a)pyrene*	143 / 152	0.038	120	0.037	0.41	1.6	0.062	SDS-11	0.00797	**0.021**	**0.067**	0.0051	0.020	0.062	●		COPC (individual & cPAH)
Chrysene*	152 / 152	0.028	210	--	--	1.4	1.4	SDS-3/5	--	**0.021**	**0.067**	0.0058	0.020	1.4	●		COPC, see Total cPAHs
Dibenzo(a,h)anthracene*	78 / 152	0.038	14	0.02	4.6	0.23	0.19	SDS-12	--	**0.025**	**0.067**	0.0045	0.020	0.19	●		COPC, see Total cPAHs
Dibenzofuran*	41 / 121	0.031	5.3	0.02	4.6	0.54	0.23	SDS-12/13	--	**0.018**	**0.067**	0.0032	0.020	0.23	●		COPC
Fluoranthene*	152 / 152	0.044	470	--	--	1.7	1.7	SDS-3/5	--	**0.042**	**0.067**	0.0044	0.020	1.7	●		COPC
Fluorene*	61 / 152	0.06	7.6	0.02	4.6	0.54	0.36	SDS-9/13	--	**0.016**	**0.067**	0.0036	0.020	0.36	●		COPC
Indeno(1,2,3-cd)pyrene*	135 / 152	0.024	130	0.037	4.6	0.6	0.53	SDS-12	--	**0.027**	**0.067**	0.0051	0.020	0.53	●		COPC, see Total cPAHs
1-Methylnaphthalene	3 / 63	0.28	0.47	0.049	0.98	--	--	--	--	**0.029**	**0.067**	0.0027	0.020	--			
2-Methylnaphthalene*	36 / 129	0.042	4	0.045	10	0.67	0.59	SDS-12/13	--	**0.024**	**0.067**	0.0030	0.020	0.59	●		COPC

Table 6-8
Storm Drain Solids Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Level LAET/SQS (SDS-3/1)	Most Stringent Screening Level Criteria Value	Most Stringent Screening Level Criteria Reference	Sediment Background Level (SDS-14)	ARI Option 1 MDL	ARI Option 1 RL	ARI Option 2 MDL	ARI Option 2 RL	RI Selected Screening Level	Concentration Exceeds RISL Max Detected	Concentration Exceeds RISL Min Non-Detected	COPC Notes
Naphthalene*	34 / 152	0.037	0.89	0.02	10	2.1	1.5	SDS-12	--	**0.015**	**0.067**	0.0027	0.020	1.5			
Phenanthrene*	146 / 152	0.019	120	0.064	0.31	1.5	1.5	SDS-3/5	--	**0.020**	**0.067**	0.0036	0.020	1.5	●		COPC
Pyrene*	152 / 152	0.036	370	--	--	2.6	2.6	SDS-3/5	--	**0.047**	**0.067**	0.0048	0.020	2.6	●		COPC
Total cPAHs (0 DL)*	154 / 155	8.40E-04	184.1	0.001	0.001	0.23	0.062	SDS-11	0.00797	--	--	--	--	0.062	●		See Total cPAHs (O.5 DL)
Total cPAHs (0.5 DL)*	154 / 155	0.02938	184.1	0.001	0.001	0.23	0.062	SDS-11	0.00797	--	--	--	--	0.062	●		COPC
Total HPAHs*	158 / 158	0.14	1,881	--	--	12	12	SDS-3/5	--	**0.047**	**0.067**	0.0058	0.020	12	●		COPC
Total LPAHs*	152 / 158	0.019	158.5	0.064	0.31	5.2	5.2	SDS-3/5	--	**0.024**	**0.067**	0.0044	0.020	5.2	●		COPC
Other SVOCs (mg/kg)																	
Benzoic Acid*	4 / 91	2.6	3.7	0.2	46	0.65	0.65	SDS-3/5	--	0.25	0.67	**0.043**	**0.20**	0.65	●		<5% detections, not COPC
Benzyl Alcohol*	2 / 91	0.13	200	0.02	23	0.057	0.057	SDS-3/5	--	0.087	0.33	**0.046**	**0.10**	0.057	●		<5% detections, not COPC
4-Bromophenyl phenyl ether	0 / 56	--	--	0.02	10	--	--	--	--	0.019	0.067	**0.0038**	**0.020**	--			
Carbazole*	41 / 56	0.068	35	0.058	4.6	--	--	--	--	0.015	0.067	**0.0024**	**0.020**	--			
4-Chloroaniline	0 / 56	--	--	0.099	23	--	--	--	--	0.10	0.33	**0.024**	**0.10**	--			
2-Chloronaphthalene	0 / 56	--	--	0.02	10	--	--	--	--	0.021	0.067	**0.0029**	**0.020**	--			
bis(2-Chloroethoxy)methane	0 / 56	--	--	0.02	10	--	--	--	--	0.017	0.067	**0.0024**	**0.020**	--			
bis(2-Chloroethyl)ether	0 / 56	--	--	0.02	10	--	--	--	--	0.017	0.067	**0.0053**	**0.020**	--			
bis(2-Chloro-1-methyletherl)ether	0 / 56	--	--	0.02	10	--	--	--	--	0.019	0.067	**0.0030**	**0.020**	--			
4-Chlorophenyl-phenylether	0 / 56	--	--	0.02	10	--	--	--	--	0.021	0.067	**0.0030**	**0.020**	--			
1,2-Dichlorobenzene*	0 / 91	--	--	0.02	10	0.035	0.035	SDS-3/5	--	0.018	0.067	**0.0030**	**0.020**	0.035			
1,3-Dichlorobenzene	0 / 91	--	--	0.02	10	0.17	0.17	SDS-3/5	--	0.016	0.067	**0.0027**	**0.020**	0.17			
1,4-Dichlorobenzene*	0 / 91	--	--	0.02	10	0.11	0.048	SDS-12	--	0.016	0.067	**0.0027**	**0.020**	0.048			
3,3'-Dichlorobenzidine	0 / 56	--	--	0.099	23	--	--	--	--	0.089	0.33	**0.054**	**0.10**	--			
2,4-Dinitrotoluene	0 / 56	--	--	0.099	23	--	--	--	--	0.096	0.33	**0.019**	**0.10**	--			
2,6-Dinitrotoluene	0 / 55	--	--	0.099	23	--	--	--	--	0.096	0.33	**0.015**	**0.10**	--			
Hexachlorobenzene*	0 / 91	--	--	0.02	10	0.022	0.0059	SDS-12	--	0.019	0.067	**0.0034**	**0.020**	0.0059		●	No detections, COPC
Hexachlorobutadiene	0 / 91	--	--	0.02	10	0.011	0.011	SDS-3/5	--	0.019	0.067	**0.0029**	**0.020**	0.011		●	Not LDW COPC, not COPC
Hexachlorocyclopentadiene	0 / 56	--	--	0.099	23	--	--	--	--	0.062	0.33	**0.012**	**0.10**	--			
Hexachloroethane	0 / 91	--	--	0.02	10	--	--	--	--	0.019	0.067	**0.0049**	**0.020**	--			
Isophorone	0 / 56	--	--	0.02	10	--	--	--	--	0.013	0.067	**0.0027**	**0.020**	--			
2-Nitroaniline	0 / 56	--	--	0.02	23	--	--	--	--	0.12	0.33	**0.019**	**0.10**	--			
3-Nitroaniline	0 / 56	--	--	0.099	23	--	--	--	--	0.10	0.33	**0.025**	**0.10**	--			
4-Nitroaniline	0 / 56	--	--	0.099	23	--	--	--	--	0.10	0.33	**0.023**	**0.10**	--			
Nitrobenzene	0 / 56	--	--	0.02	10	--	--	--	--	0.026	0.067	**0.0038**	**0.020**	--			
N-Nitrosodiphenylamine*	0 / 90	--	--	0.02	4.6	0.028	0.028	SDS-3/5	--	0.067	0.067	**0.013**	**0.020**	0.028			
N-Nitrosodi-n-propylamine	0 / 56	--	--	0.099	23	--	--	--	--	0.021	0.067	**0.0028**	**0.020**	--			
1,2,4-Trichlorobenzene*	0 / 91	--	--	0.02	10	0.031	0.031	SDS-3/5	--	0.016	0.067	**0.0038**	**0.020**	0.031			

ARI = Analytical Resources, Inc.
ICP-AES = Inductively Coupled Plasma - Atomic Emission Spectometry
ICP-MS = Inductively Coupled Plasma - Mass Spectometry
LAET = Lowest Apparent Effects Threshold
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDS = Storm Drain Solids (see criteria in Table 6-4)
RISL = RI Selected Screening Level
SQS = Sediment Quality Standard
-- = Non-detected, not applicable, or not available

* Chemicals listed as COPCs in the LDW RI (Windward 2010). Additional LDW RI COPCs not analyzed for at NBF-GTSP Site include aldrin, alpha-BHC, beta-BHC, dieldrin, heptachlor, heptachlor epoxide, lindane, total chlordane, total DDTs, tributyltin, and vanadium.
Total cPAHs: Criteria based on the most stringent of seven indiviual congeners [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene]
Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-9
Surface Solid Debris Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Level	Most Stringent Screening Level		Sediment Background Level (SDS-14)	ARI MDL	ARI RL	RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	LAET/SQS (SDS-3/SDS-1)	Criteria Value	Criteria Reference					Max Detected	Min Non-Detected	
Chlorinated Aromatic Compounds															
PCB Aroclors (mg/kg)															
Aroclor 1016	0 / 61	--	--	0.019	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13			
Aroclor 1016/1242	2 / 2	0.049	0.31	--	--	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1221	2 / 63	0.049	0.31	0.019	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1232	2 / 63	0.049	0.31	0.019	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1242	1 / 61	47	47	0.019	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1248	9 / 63	0.026	0.8	0.03	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1254	53 / 63	0.041	510	0.03	0.79	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1260	43 / 61	0.048	8.1	0.03	22	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1260/1262	2 / 2	0.31	0.89	--	--	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Aroclor 1268	2 / 2	0.049	0.31	--	--	0.13	0.13	SDS-3	--	**0.0010**	**0.020**	0.13	●		See Total PCBs
Total PCBs	53 / 63	0.041	557	0.03	0.79	0.13	0.038	SDS-7	--	**0.0010**	**0.020**	0.038	●		COPC
Metals (mg/kg)															
Arsenic	12 / 28	5	80	5	120	57	0.39	SDS-11	7.3	**0.31**	**5.0**	7.3	●		COPC
Cadmium	27 / 28	0.6	33.6	1	1	5.1	3.7	SDS-11	0.398	**0.02**	**0.2**	3.7	●		COPC
Chromium	28 / 28	20.1	489	--	--	260	1.6	SDS-11	35.6	**0.26**	**0.5**	35.6	●		COPC
Copper	27 / 27	24	364	--	--	390	310	SDS-11	24.9	**0.04**	**0.2**	310	●		COPC
Lead	27 / 28	7	819	50	50	450	40	SDS-11	10.9	**0.18**	**2.0**	40	●	●	COPC
Mercury	26 / 28	0.03	0.59	0.02	0.02	0.41	0.41	SDS-1/5/12	0.10	**0.002**	**0.025**	0.41	●		COPC
Silver	2 / 28	1.1	1.7	0.3	7	6.1	6.1	SDS-1/5/12	--	**0.04**	**0.3**	6.1			
Zinc	28 / 28	103	2,780	--	--	410	410	SDS-1/5/12	59.7	**0.37**	**1.0**	410	●		COPC
Semivolatile Organic Compounds (SVOCs)															
Polycyclic Aromatic Hydrocarbons (mg/kg)															
Acenaphthene	0 / 6	--	--	0.023	0.05	0.5	0.25	SDS-12/13	--	**0.016**	**0.067**	0.25			
Acenaphthylene	0 / 6	--	--	0.023	0.05	1.3	0.56	SDS-3/5	--	**0.021**	**0.067**	0.56			
Anthracene	1 / 6	0.05	0.05	0.023	0.046	0.96	0.96	SDS-3/5	--	**0.020**	**0.067**	0.96			
Benzo(a)anthracene	6 / 6	0.064	0.42	--	--	1.3	1.3	SDS-3/5	0.00797	**0.019**	**0.067**	1.3			
Benzofluoranthene	6 / 6	0.21	1.3	--	--	3.2	3.2	SDS-3/5	--	**0.033**	**0.067**	3.2			
Benzo(g,h,i)perylene	6 / 6	0.064	0.22	--	--	0.67	0.48	SDS-12	--	**0.026**	**0.067**	0.48			
Benzo(a)pyrene	6 / 6	0.087	0.54	--	--	1.6	0.062	SDS-11	0.00797	**0.021**	**0.067**	0.062	●		COPC (individual & cPAH)
Chrysene	6 / 6	0.12	0.68	--	--	1.4	1.4	SDS-3/5	0.00797	**0.021**	**0.067**	1.4			
Dibenzo(a,h)anthracene	1 / 6	0.055	0.055	0.023	0.046	0.23	0.19	SDS-12	0.00797	**0.025**	**0.067**	0.19			
Dibenzofuran	0 / 6	--	--	0.023	0.05	0.54	0.23	SDS-12/13	--	**0.018**	**0.067**	0.23			
Fluoranthene	6 / 6	0.23	1.5	--	--	1.7	1.7	SDS-3/5	--	**0.042**	**0.067**	1.7			
Fluorene	0 / 6	--	--	0.023	0.05	0.54	0.36	SDS-12/13	--	**0.016**	**0.067**	0.36			
Indeno(1,2,3-cd)pyrene	6 / 6	0.048	0.22	--	--	0.6	0.53	SDS-12	0.00797	**0.027**	**0.067**	0.53			
1-Methylnaphthalene	0 / 6	--	--	0.023	0.05	--	--	--	--	**0.029**	**0.067**	--			
2-Methylnaphthalene	0 / 6	--	--	0.023	0.05	0.67	0.59	SDS-12/13	--	**0.024**	**0.067**	0.59			
Naphthalene	0 / 6	--	--	0.023	0.05	2.1	1.5	SDS-5	--	**0.015**	**0.067**	1.5			
Phenanthrene	6 / 6	0.12	0.72	--	--	1.5	1.5	SDS-3/5	--	**0.020**	**0.067**	1.5			
Pyrene	6 / 6	0.2	1.4	--	--	2.6	2.6	SDS-3/5	--	**0.047**	**0.067**	2.6			
Total cPAHs (0 DL)	6 / 6	0.1204	0.7463	--	--	0.23	0.062	SDS-11	0.00797	--	--	0.062	●		See Total cPAHs (O.5 DL)
Total cPAHs (0.5 DL)	6 / 6	0.12155	0.7463	--	--	0.23	0.062	SDS-11	0.00797	--	--	0.062	●		COPC
Total HPAHs	6 / 6	1.023	6.335	--	--	12	12	SDS-3/5	--	**0.047**	**0.067**	12			
Total LPAHs	6 / 6	0.12	0.77	--	--	5.2	5.2	SDS-3/5	--	**0.024**	**0.067**	5.2			

ARI = Analytical Resources, Inc.
LAET = Lowest Apparent Effects Threshold
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDS = Storm Drain Solids (see criteria in Table 6-4)
SQS = Sediment Management Standard
-- = Non-detected, not applicable, or not available

Total cPAHs: Criteria based on the most stringent of seven indiviual congeners [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene]
Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-10
Concrete Joint Material Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Levels		ARI MDL	ARI RL	RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	LAET (SDS-3)	2LAET (SDS-4)				Max Detected	Min Non-Detected	
Chlorinated Aromatic Compounds													
PCB Aroclors (mg/kg)													
Aroclor 1016	0 / 100	--	--	0.79	2,000	0.13	1.0	**0.8**	**0.8**	1.0			
Aroclor 1221	0 / 100	--	--	0.79	4,000	0.13	1.0	**0.8**	**0.8**	1.0			
Aroclor 1232	0 / 100	--	--	0.79	2,000	0.13	1.0	**0.8**	**0.8**	1.0			
Aroclor 1242	0 / 105	--	--	0.08	2,000	0.13	1.0	**0.8**	**0.8**	1.0			
Aroclor 1248	2 / 105	7.1	54	0.08	2,000	0.13	1.0	**0.8**	**0.8**	1.0	●		See Total PCBs
Aroclor 1254	77 / 108	0.54	62,000	0.025	270	0.13	1.0	**0.8**	**0.8**	1.0	●		See Total PCBs
Aroclor 1260	39 / 108	0.171	19,000	0.4	980	0.13	1.0	**0.8**	**0.8**	1.0	●		See Total PCBs
Total PCBs	81 / 108	0.171	79,000	0.79	20	0.13	1.0	**0.8**	**0.8**	1.0	●		COPC

LAET - Lowest Apparent Effects Threshold
2LAET - Second Lowest Apparent Effects Threshold
ARI = Analytical Resources, Inc.
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDS = Storm Drain Solids (see criteria in Table 6-4)
-- = Non-detected, not applicable, or not available

Bold values indicate selected laboratory analytical method (Preferred RL)
The attainable reporting limit for PCBs in CJM caulk is approximately 0.8 mg/kg; due to preparation and interference concerns, an interim screening level of 1.0 mg/kg has been established (equivalent to SDS-4).
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-11
Building Materials Screening Information

Chemical	Frequency of Detection	Detected Concentration Min	Detected Concentration Max	Non-Detected Concentration Min	Non-Detected Concentration Max	Representative Screening Level LAET/SQS (SDS-3/1)	ARI MDL	ARI RL	RI Selected Screening Level	Concentration Exceeds RISL Max Detected	Concentration Exceeds RISL Min Non-Detected	COPC Notes
Chlorinated Aromatic Compounds												
PCB Aroclors (mg/kg)												
Aroclor 1016	0 / 120	--	--	0.03	1,600	0.13	0.1	0.8	0.13			
Aroclor 1221	0 / 118	--	--	0.03	1,600	0.13	0.1	0.8	0.13			
Aroclor 1232	0 / 118	--	--	0.03	1,600	0.13	0.1	0.8	0.13			
Aroclor 1242	1 / 120	6	6	0.03	1,600	0.13	0.1	0.8	0.13	●		See total PCBs
Aroclor 1248	18 / 120	0.054	14,000	0.03	950	0.13	0.1	0.8	0.13	●		See total PCBs
Aroclor 1254	40 / 120	0.058	4,800	0.03	2,400	0.13	0.1	0.8	0.13	●		See total PCBs
Aroclor 1260	15 / 120	0.036	11,000	0.03	1,600	0.13	0.1	0.8	0.13	●		See total PCBs
Aroclor 1262	0 / 2	--	--	0.044	0.049	0.13	0.1	0.8	0.13			
Aroclor 1268	0 / 2	--	--	0.037	0.041	0.13	0.1	0.8	0.13			
Total PCBs	46 / 120	0.058	15,800	0.03	16	0.13	0.1	0.8	0.13	●		COPC
Metals (mg/kg)												
Arsenic	18 / 103	6	295	5	250	57	**0.31**	**5.0**	57	●		COPC
Cadmium	77 / 103	0.2	439	0.2	10	5.1	**0.02**	**0.2**	5.1	●		COPC
Chromium	96 / 103	0.6	35,600	1	5	260	**0.26**	**0.5**	260	●		COPC
Copper	103 / 103	0.4	2,950	--	--	390	**0.04**	**0.2**	390	●		COPC
Lead	83 / 103	3	58,600	2	100	450	**0.18**	**2.0**	450	●		COPC
Mercury	76 / 103	0.02	130	0.02	0.03	0.41	**0.002**	**0.025**	0.41	●		COPC
Nickel	1 / 1	32	32	--	--	--	**0.86**	**1.0**	--			
Silver	17 / 102	0.9	12	0.3	10	6.1	**0.04**	**0.3**	6.1	●		COPC
Tin	1 / 1	1	1	--	--	--	**0.19**	**1.0**	--			
Zinc	103 / 103	7	123,000	--	--	410	**0.37**	**1.0**	410	●		COPC
Petroleum Hydrocarbons (mg/kg)												
Diesel Range Hydrocarbons	0 / 1	--	--	28	28	--	**0.74**	**5.0**	--			
Gasoline Range Hydrocarbons	0 / 1	--	--	28	28	--	**2.4**	**5.0**	--			
Oil Range Hydrocarbons	0 / 1	--	--	69	69	--	**1.3**	**10**	--			

ARI = Analytical Resources, Inc.
LAET = Lowest Apparent Effects Threshold
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDS = Storm Drain Solids (see criteria in Table 6-4)
SQS = Sediment Quality Standard
-- = Non-detected, not applicable, or not available

Building materials include paint, roof materials, and other exterior materials
Bold values indicate selected laboratory analytical method (Preferred RL)
Note: MDLs and RLs are approximate and depend on the specific matrix material; it is recognized that often the laboratory cannot analyze down to the Selected SL for PCBs in these materials.
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-12
Pavement Screening Information

Chemical	Frequency of Detection	Detected Concentration		Non-Detected Concentration		Representative Screening Level	ARI MDL	ARI RL	RI Selected Screening Level	Concentration Exceeds RISL		COPC Notes
		Min	Max	Min	Max	LAET/SQS (SDS-3/1)				Max Detected	Min Non-Detected	
Chlorinated Aromatic Compounds												
PCB Aroclors (mg/kg)												
Aroclor 1016	0 / 28	--	--	0.03	32	0.13	**0.024**	**0.10**	0.13			
Aroclor 1221	0 / 28	--	--	0.03	32	0.13	**0.024**	**0.10**	0.13			
Aroclor 1232	0 / 28	--	--	0.03	32	0.13	**0.024**	**0.10**	0.13			
Aroclor 1242	0 / 28	--	--	0.03	32	0.13	**0.030**	**0.10**	0.13			
Aroclor 1248	4 / 28	0.091	5.1	0.03	32	0.13	**0.030**	**0.10**	0.13	●		See total PCBs
Aroclor 1254	20 / 28	0.039	380	0.031	0.8	0.13	**0.030**	**0.10**	0.13	●		See total PCBs
Aroclor 1260	9 / 28	0.035	0.45	0.031	32	0.13	**0.030**	**0.10**	0.13	●		See total PCBs
Total PCBs	21 / 28	0.045	380	0.031	0.8	0.13	**0.030**	**0.10**	0.13	●		COPC
Metals (mg/kg)												
Arsenic	5 / 16	10	50	5	30	57	**0.31**	**5.0**	57			
Cadmium	16 / 16	0.4	31.9	--	--	5.1	**0.02**	**0.2**	5.1	●		COPC
Chromium	16 / 16	24.4	43	--	--	260	**0.26**	**0.5**	260			
Copper	16 / 16	16	406	--	--	390	**0.04**	**0.2**	390	●		COPC
Lead	16 / 16	8	1,900	--	--	450	**0.18**	**2.0**	450	●		COPC
Mercury	10 / 16	0.03	1.25	0.02	0.02	0.41	**0.002**	**0.025**	0.41	●		COPC
Silver	1 / 16	1.8	1.8	0.3	2	6.1	**0.04**	**0.3**	6.1			
Zinc	16 / 16	54	2,140	--	--	410	**0.37**	**1.0**	410	●		COPC

ARI = Analytical Resources, Inc.
LAET = Lowest Apparent Effects Threshold
MDL = Method Detection Limit
RISL = RI Selected Screening Level
RL = Reporting Limit
SDS = Storm Drain Solids (see criteria in Table 6-4)
SQS = Sediment Quality Standard
-- = Non-detected, not applicable, or not available

Bold values indicate selected laboratory analytical method (Preferred RL)
Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-13
Chemicals of Potential Concern at NBF-GTSP Site

COPCs for NBF-GTSP	RISL	Reference for RISL	COPC with No Detections
Soil			
Chlorinated Aromatic Compounds: ***PCB Aroclors (mg/kg)***			
Total PCBs	0.033	ARI RL - Option 2	
Metals (mg/kg)			
Arsenic	7.0	SL-34	
Barium	23.1	SL-6	
Cadmium	1.0	SL-34	
Chromium	260	SL-12	
Chromium, hexavalent	0.5	ARI RL - Option 1	
Copper	36	SL-34	
Lead	56.7	SL-12	
Mercury	0.07	SL-34	
Nickel	38	SL-34	
Silver	0.3	ARI RL - Option 1	
Zinc	86	SL-34	
Petroleum Hydrocarbons (mg/kg)			
Diesel Range Hydrocarbons	2,000	SL-1	
Gasoline Range Hydrocarbons	30	SL-1	
Oil Range Hydrocarbons	2,000	SL-1	
Jet Fuel (applied to diesel range)	2,000	SL-1	
Semivolatile Organic Compounds (mg/kg): ***Phthalates, PAHs, Other SVOCs***			
Bis(2-Ethylhexyl)phthalate	0.0471	SL-12	
Benzo(g,h,i)perylene	0.031	SL-12	
Benzo(a)pyrene	0.005	ARI RL - Option 2	
Fluoranthene	0.161	SL-12	
2-Methylnaphthalene	0.0432	SL-12	
Naphthalene	3.6	SL-27	
Total cPAH TEQ	0.005	ARI RL - Option 2	
N-Nitrosodimethylamine	0.02	SL-3	●
Volatile Organic Compounds (mg/kg)			
Benzene	0.001	ARI RL - Option 2	
cis-1,2-Dichloroethene	0.0052	SL-6	
Methylene chloride	0.0012	SL-32	
Tetrachloroethene (PCE)	0.001	ARI RL - Option 2	
Trichloroethene (TCE)	0.001	ARI RL - Option 2	

Table 6-13
Chemicals of Potential Concern at NBF-GTSP Site

COPCs for NBF-GTSP	RISL	Reference for RISL	COPC with No Detections
Groundwater			
Chlorinated Aromatic Compounds: ***Dioxins/Furans (pg/L), PCB Aroclors (ug/L)***			
2,3,7,8-TCDD	10	ARI RL - Option 1	
Dioxins/Furans TEQ	10	ARI RL - Option 1	●
Total PCBs	0.01	ARI RL - Option 2	●
Metals (ug/L)			
Aluminum	50	GW-2	
Antimony	3.87	GW-10	
Arsenic	5.0	GW-11	
Barium	2.0	GW-4	
Beryllium	4.0	GW-2/3/4	
Cadmium	0.21	GW-10	
Chromium	100	GW-2/3/4	
Chromium, hexavalent	0.58	GW-10	●
Copper	1.3	GW-4	
Iron	300	GW-2/4	
Lead	2.5	GW-10	
Manganese	50	GW-2/4	
Mercury	0.02	ARI RL - Option 2	
Nickel	8.2	GW-10	
Selenium	5.0	GW-10	
Silver	1.53	GW-8/9	
Thallium	0.47	GW-10	
Vanadium	3.0	ARI RL - Option 2	
Zinc	32.6	GW-9	
Petroleum Hydrocarbons (ug/L)			
Diesel Range Hydrocarbons	500	GW-1	
Gasoline Range Hydrocarbons	800	GW-1	
Jet Fuel (applied to diesel range)	500	GW-1	
Semivolatile Organic Compounds (ug/L): ***Phthalates, PAHs***			
Bis(2-Ethylhexyl)phthalate	1.0	ARI RL - Option 1	
2-Methylnaphthalene	18.2	GW-9	
Volatile Organic Compounds (ug/L)			
Benzene	0.795	GW-6	
1,1-Dichloroethene	7.0	GW-2/3/4	
cis-1,2-Dichloroethene	10	GW-3	
Methylene chloride	5.0	GW-2/4	
Tetrachloroethene (PCE)	0.2	ARI RL - Option 2	
Trichloroethene (TCE)	0.74	GW-10	
Vinyl chloride	0.2	ARI RL - Option 2	

Table 6-13
Chemicals of Potential Concern at NBF-GTSP Site

COPCs for NBF-GTSP	RISL	Reference for RISL	COPC with No Detections
Storm Drain Water			
Chlorinated Aromatic Compounds (ug/L): PCB Aroclors			
Total PCBs	0.01	ARI RL - Option 2	
Metals (ug/L)			
Arsenic	0.87	SDW-25	
Cadmium	0.426	SDW-21	
Copper	2.4	SDW-14/15	
Lead	8.1	SDW-9/13/15	
Zinc	32.6	SDW-19	
Semivolatile Organic Compounds (ug/L): *Phenols, Phthalates, PAHs*			
Pentachlorophenol	0.698	SDW-22	●
Di-n-octyl phthalate	1.0	ARI RL - Option 1	
Bis(2-Ethylhexyl)phthalate	1.37	SDW-24	
Benzo(g,h,i)perylene	0.0116	SDW-19	
Benzo(a)pyrene	0.01	ARI RL - Option 2	
Fluoranthene	2.26	SDW-19	
Total cPAH TEQ	0.01	ARI RL - Option 2	
Storm Drain Solids			
Chlorinated Aromatic Compounds: *Dioxins/Furans (pg/g), PCB Aroclors (mg/kg)*			
2,3,7,8-TCDD	3.9	SDS-11	
Dioxins/Furans TEQ	3.9	SDS-11	
Total PCBs	0.038	SDS-7	
Metals (mg/kg)			
Arsenic	7.3	SDS-14	
Cadmium	3.7	SDS-11	
Chromium	35.6	SDS-14	
Copper	310	SDS-11	
Lead	40	SDS-11	
Mercury	0.41	SDS-1/5	
Silver	6.1	SDS-1/5/12	
Zinc	410	SDS-1/5/12	
Semivolatile Organic Compounds (mg/kg): *Phenols, Phthalates, PAHs, Other SVOCs*			
2,4-Dimethylphenol	0.029	SDS-3/5	
p-Cresol	0.67	SDS-3/5	
Phenol	0.42	SDS-3/5	
Butyl benzyl phthalate	0.063	SDS-3/5	
Dimethyl phthalate	0.071	SDS-3/5	
Bis(2-Ethylhexyl)phthalate	0.73	SDS-12	
Acenaphthene	0.25	SDS-12/13	
Anthracene	0.96	SDS-3/5	
Benzo(g,h,i)perylene	0.48	SDS-12	
Benzo(a)pyrene	0.062	SDS-11	
Dibenzofuran	0.23	SDS-12/13	
Fluoranthene	1.7	SDS-3/5	
Fluorene	0.36	SDS-9/13	
2-Methylnaphthalene	0.59	SDS-12/13	
Phenanthrene	1.5	SDS-3/5	
Pyrene	2.6	SDS-3/5	
Total cPAH TEQ*	0.062	SDS-11	
Total HPAHs	12	SDS-3/5	
Total LPAHs	5.2	SDS-3/5	
Hexachlorobenzene	0.0059	SDS-12	●

Table 6-13
Chemicals of Potential Concern at NBF-GTSP Site

COPCs for NBF-GTSP	RISL	Reference for RISL	COPC with No Detections
Surface Solid Debris			
Chlorinated Aromatic Compounds (mg/kg): PCB Aroclors			
Total PCBs	0.038	SDS-7	
Metals (mg/kg)			
Arsenic	7.3	SDS-14	
Cadmium	3.7	SDS-11	
Chromium	35.6	SDS-14	
Copper	310	SDS-11	
Lead	40	SDS-11	
Mercury	0.41	SDS-1/5/12	
Zinc	410	SDS-1/5/12	
Semivolatile Organic Compounds (mg/kg): *PAHs*			
Benzo(a)pyrene	0.062	SDS-11	
Total cPAH TEQ	0.062	SDS-11	
Concrete Joint Material			
Chlorinated Aromatic Compounds (mg/kg): PCB Aroclors			
Total PCBs	1.0	Interim SL (=SDS-4)	
Building Materials			
Chlorinated Aromatic Compounds (mg/kg): PCB Aroclors			
Total PCBs	0.13	SDS-3	
Metals (mg/kg)			
Arsenic	57	SDS-1	
Cadmium	5.1	SDS-1	
Chromium	260	SDS-1	
Copper	390	SDS-1	
Lead	450	SDS-1	
Mercury	0.41	SDS-1	
Silver	6.1	SDS-1	
Zinc	410	SDS-1	
Pavement			
Chlorinated Aromatic Compounds (mg/kg): PCB Aroclors			
Total PCBs	0.13	SDS-3	
Metals (mg/kg)			
Cadmium	5.1	SDS-1	
Copper	390	SDS-1	
Lead	450	SDS-1	
Mercury	0.41	SDS-1	
Zinc	410	SDS-1	

ARAR = Applicable or Relevant and Appropriate Requirements
ARI = Analytical Resources, Inc.
COPC = Contaminant of Potential Concern
RISL = RI Selected Screening Level
RL = Reporting Limit
-- = Non-detect/Not Applicable/Not Available
* = Individual cPAHs are being evaluated for storm drain solids

Refer to Table 6-4 for definitions of ARARs and PSLs used as screening levels for NBF-GTSP media

Table 6-14
Numbers of COPCs at NBF-GTSP Site

NBF-GTSP Site Media	Dioxins/ Furans	PCBs	Metals	Petroleum Hydrocarbons	Pesticides	SVOCs	VOCs
Soil		1	11	4		8	5
Groundwater	1	1	19	3		2	7
Storm Drain Water		1	5			7	
Storm Drain Solids	1	1	8			20	
Surface Solid Debris		1	7			2	
Concrete Joint Material		1					
Building Materials		1	8				
Pavement		1	5				

Numbers of COPCs are based on the following:
Dioxins/Furans: single class of compounds
PCBs: single class of compounds
Metals: numbers of metals, including chromium and hexavalent chromium separately
Pesticides: numbers of individual contaminants
Petroleum Hydrocarbons: numbers of TPH ranges
SVOCs: numbers of contaminants plus cPAH, LPAH & HPAH
VOCs: numbers of individual contaminants

Table 7.1-1
NBF Storm Drain System
Summary of 2010 Video Inspection Results and Areas of Potential Infiltration

SD Line Sub-drainage	SD Line Segment	SD Structures within Segments	SD Video Infiltration Notes	SD Video General Notes
	(Water-Table Submergence of Lines Shown in Orange)			
Off-Site, North of NBF-GTSP Property				
Off-Site	North of GTSP to Buried MH	--	Suspected GW	Multiple cracks, multiple taps, H2O level 30%
North Lateral Drainage Area				
N1	Buried MH to MH178	--	Suspected GW	Multiple cracks, H2O level 30%
N1	MH178 to MH170	MH172	--	H2O level 35%, visible flow, encrustations
N1	MH170 to MH169	--	--	Flowing water
N1	MH169 to MH158	MH163	--	Standing H2O
N1	MH158 to MH152	--	Suspected GW	2 taps (3-626?), flowing water
N1	MH152 to MH130	--	Suspected GW	Minor crack, encrustations, flowing water
N1	MH130 to MH112	MH130A to MH130C	Suspected GW	Multiple cracks, flow from tap, H2O level 10%
N1	MH112 to MH108	--	Suspected GW	Multiple cracks, H2O level >1"
N1	MH108 to Lift Station	CB108A, CB363	--	Video inspection not performed
N2	CB108B to CB363	--	--	Video inspection not performed
N3	MH111 to CB110	--	--	Video inspection not performed
N3	CB110 to MH109	--	--	Small crack, appears to be repaired
N3	Bldg. 3-350 downspout to MH109	--	--	Clean, dry, no damage
N4	CB124 to CB122	--	--	Sag in pipe, H2O level 80%
N4	CB121B to CB122	CB120E	--	Standing H2O
N4	CB120E to CB120D	--	--	Clean, dry, no damage
N4	CB120D to CB120C	--	--	Sag in pipe, H2O level 10%
N4	CB120C to CB120B	--	--	Clean, dry, no damage
N4	Blind connection downstream of CB120 to CB118A	--	Suspected Soil	Fracture, intruding roots, survey abandoned
N4	CB118G to CB118A	CB118B to CB118F	--	Clean, dry, no damage
N4	CB119 to CB118	--	--	Sag in pipe, H2O level 10%, CB119 blocked
N4	CB118A to CB114	--	Soil, Suspected GW	Multiple cracks, separated joints, sag, standing H2O
N4	CB114 to MH112	--	Soil, GW	Multiple cracks, multiple taps
N4	D117A to CB114	CB117, CB116	--	Video inspection not performed
N5	CB137A to CB136	OWS137	--	Video inspection not performed
N5	CB136 to CB135	--	--	Clean, dry, no damage
N5	CB135 to CB142B	--	Suspected Soil	Multiple cracks, encrustations, standing water
N5	CB134 to N5 before CB142B	--	--	Video inspection not performed
N5	CB142B to CB141	--	Soil	Multiple cracks, large hole, off-set joint
N5	CB141 to MH133D	--	GW	Multiple cracks
N5	D133C to MH133D	--	--	Video inspection not performed
N5	CB133B to NC5	--	--	Clean, dry, no damage
N5	MH133D to MH130A	--	--	Video inspection not performed
N6	CB127 to N1 near MH130	--	Suspected Soil, Suspected GW	Multiple cracks, large fracture
N6	CB131 to MH130	CB133, D133A, OWS132, CB128	--	Video inspection not performed
N6	CB625B to CB625	CB625A	--	Clean, dry, no damage
N6	CB621 to CB625	CB622, CB623, UNKCB8	--	Clean, dry, no damage
N6	CB625 to CB626	--	--	Sag in pipe, H2O level 5%
N6	CB622 to CB626	--	Suspected GW	Under Bldg. 3-324, pipe size change, inflow of water
N6	CB626 to CB627	--	--	Sag in pipe, H2O level 10%
N6	CB620 to CB627	CB628	--	Clean, dry, no damage
N6	CB627 to MH130	--	--	Clean, dry, no damage

Table 7.1-1
NBF Storm Drain System
Summary of 2010 Video Inspection Results and Areas of Potential Infiltration

SD Line Sub-drainage	SD Line Segment (Water-Table Submergence of Lines Shown in Orange)	SD Structures within Segments	SD Video Infiltration Notes	SD Video General Notes
N7	**CB193 to CB146**	--	--	Clean, dry, no damage
	CB146 to UNKMH10	--	GW	Multiple cracks, fractures, breaks, standing water
	UNKMH10 to OWS612-2	--	--	Clean, dry, no damage
	OWS612-2 to UNKMH9	--	--	Clean, dry, no damage
	UNKMH10 to UNKMH9	--	--	Clean, dry, no damage
	UNKMH9 to UNKCB23	--	GW	Multiple cracks, sag in pipe, H2O level 15%
	CB142A to N7 near **UNKCB23**	--	--	Video inspection not performed
	UNKCB23 to MH139	--	GW	Nothing noted
	CB140 to MH139	--	Suspected GW	Multiple fractures
	MH139 to MH138	--	GW	Multiple cracks
N8	CB173A to unknown	--	--	Clean, dry, no damage
	UNKCB18 to UNKCB16	UNKCB17	--	Clean, dry, no damage
	UNKCB16 to UNKCB14	--	--	Sag in pipe, H2O level 20%
	CB56A to CB209B	--	--	Tap connection, sag in pipe, H2O level 55%
	CB55A to UNKCB13	--	--	Video inspection not performed
	UNKCB20 TO D333A	--	--	Video inspection not performed
	CB201 TO D333A	--	--	Video inspection not performed
	UNK to UNKCB15	D333B to D333D	--	Video inspection not performed
	UNKCB12 to UNKCB15	CB209B	--	Clean, dry, no damage
	CB209B to OWS153	--	Suspected GW	Multiple cracks, sag in pipe, H2O level 70%
	UNKCB11 to **UNKCB9**	UNKCB7, CB154	--	Clean, dry, no damage
	UNKCB9 to OWS152	--	--	Video inspection not performed
N9	CB647 to CB652A	CB164, MH651, MH652	--	Clean, dry, no damage
	CB649 to MH651	--	--	Defect in coating
	MH651 to CB159	--	--	Video inspection not performed
N10	**CB184 to CB167**	**CB184B**	--	Unidentified obstruction, **line replaced 10/2010**
	CB184C to CB167	**CB184D**	--	CB184C, CB184D new structures, not inspected
	CB167 to CB165	--	--	One tap, Clean, dry, no damage, **line replaced 10/2010**
	CB165B to CB165A	--	--	Clean, dry, no damage, **line replaced 10/2010**
	CB165A to CB165	--	--	Broken PVC, **line replaced 10/2010**
	CB165 to unknown	--	Suspected GW	Multiple fractures, sag in pipe, standing water
N11	CB150 to **CB193**	--	Suspected GW	Small fracture
	MH193 to CB193	--	Suspected GW	Material change, deformed PVC
	CB194 to **MH193**	UNKCB19	Suspected GW	Multiple cracks
	MH193 to MH187	--	--	Clean, dry, no damage
	UNKCB22 to unknown	--	--	Multiple cracks
	CB189A to CB188A	--	--	Multiple taps, material and size change
	CB189 to CB182	CB188, CB188A, CB188B, MH187, CB187A, CB185, CB181B	--	Clean, dry, no damage
	CB182 to CB181	**MH101**	--	Clean, dry, no damage
	MH166A to MH181A	--	--	H2O level 10%
	MH187A and MH181A to MH179	--	--	Clean, dry, no damage
	MH179A to MH179B	--	--	Clean, dry, no damage
	MH179B to CB175	--	--	Clean, dry, no damage
	CB175 to MH172	**CB173**	--	H2O level 10%
	CB174A to CB174	CB174B	Soil, GW	Small crack, survey abandoned, **line replaced 10/2010, CB174B is a new structure**
N12	CB195 to MH178	--	Suspected GW	Off-set joint
	CB177 to MH178	--	--	Shifted joint, survey abandoned

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	(Water-Table Submergence of Lines Shown in Orange)			
North-Central Lateral Drainage Area				
NC1	KCIA Manhole to CB229A	--	--	Encrustations, pipe size change, survey abandoned
	CB229A to CB229	UNKCB27	--	Clean, dry, no damage
	CB229A to MH228C	UNKCB6	--	Intruding seal ring
	MH228C to UNKMH19	--	--	Clean, dry, no damage
	UNKMH19 to MH228	--	--	H2O level 20%
	MH228 to **MH221A**	**MH226**	--	Clean, dry, no damage
	MH221A to MH358	**MH219, MH363A, MH362**	--	Video inspection not performed
	MH358 to MH422	--	--	Video inspeciton not performed
NC2	**CB364A to MH362**	--	--	H2O level 5-10%
NC3	CB225 to **MH363A**	MH223, **MH220**	--	Video inspection data corrupted
	CB224 to MH223	--	--	Video inspection data corrupted
	CB222 to MH220	--	--	Video inspection data corrupted
	MH220 to MH221A	CB221, OWS220A, UNKMH16,	--	Video inspection data corrupted
NC4	CB257 to CB256	--	--	H2O level 15-20%
	CB256 to CB255	--	--	Clean, dry, no damage
	CB255 to CB254	--	--	H2O level 10-15%
	CB254 to CB253	--	--	Clean, dry, no damage
	CB253 to CB251	CB252	--	Sag in pipe, H2O level 10%
	CB251 to CB250	--	--	Clean, dry, no damage
	CB250 to VAULT258	--	--	H2O level 30%
	VAULT258 to MH249	--	Soil	Intruding soil, pipe size change
	MH249 to MH248	--	--	Defect in lining
	MH248 to MH247	--	--	Off-set joint
	MH248 toward MH469 on SC7	--	--	Material change, pipe corrosion, off-set joint plug, H2O level 15%
	MH247 to **UNKMH17**	CB372, CB372A	--	Video inspection not performed
	CB227 to **UNKMH17**	--	--	Video inspection not performed
	UNKMH17 to MH226	--	--	H2O level 20-100%
	UNKMH17 to OWS226A	UNKMH18	--	Video inspection not performed
	OWS226A to MH226	--	--	Clean, dry, no damage
NC5	CB246 to CB137C	CB244	--	Clean, dry, no damage
	CB244 to MH240	CB241A, CB241 to CB243	--	H2O level <1", 3 active taps
	MH240 to MH610	CB237 to CB239	--	H2O level 10%, 3 active taps
	MH610 to MH609	--	--	Clean, dry, no damage
	CB236 to MH609	--	--	Clean, dry, no damage
	MH609 to MH607	--	--	Off-set joint
	CB608 to MH607	--	--	H2O level 10%+
	MH607 to CB231	--	--	Off-set joint, survey abandoned
	CB231 to CB231C	--	--	One active tap
	CB231C to UNKMH6	--	--	Clean, dry, no damage
	UNKMH7 to UNKMH6	--	--	H2O level 15-20%
	UNKMH6 to MH228	--	--	Fracture
NC6	CB228F to MH228D	--	--	H2O level 25%
	MH228D to UNKMH21	--	--	H2O level 40%+
	UNKMH21 to UNKCB6	--	--	Clean, dry, no damage
	UNKMH21 to OWSA6	--	--	Clean, dry, no damage
	UNKMH21 to MH228C	--	--	Clean, dry, no damage

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SD Line Sub-drainage	SD Line Segment	SD Structures within Segments	SD Video Infiltration Notes	SD Video General Notes
	(Water-Table Submergence of Lines Shown in Orange)			
South-Central Lateral Drainage Area				
SC1	MH478 to MH461	--	--	Video inspection not performed
SC1	MH461 to MH414	--	GW	H2O level 10%, cracks, fractures, flowing water
SC1	MH414 to MH368	MH413, CB455, CB412, CB411, MH410, CB409, CB373	GW	Multiple cracks & fractures, H2O level 5-10%, one active tap
SC1	MH368 to CB364	CB367, CB367A	GW	Cracks, fractures, flowing water, survey abandoned (debris)
SC1	CB364 to MH361	--	GW	H2O level 15%, flowing water, encrustations
SC1	MH361 to MHPRD	--	GW	Intruding tap, survey abandoned (debris)
SC1	MHPRD to OWS421	--	--	Video inspection not performed
SC2	Roof drain from Bldg. 3-369 to MHPRD	CB359	--	Video inspection not performed
SC3	CB371 to MH368	MH369	--	Video inspection not performed
SC4	CB374 to CB373	--	--	Video inspection not performed
SC5	CB412 to MH410	CB411	--	Video inspection not performed
SC6	CB419 to CB420	CB418, CB416, CB415, MH414	--	Video inspection not performed
SC7	MH471 to MH461	MH470 to MH464	--	Video inspection not performed
SC8	CB462 to CB472	CB463	--	Video inspection not performed
SC8	CB476 to CB472	CB473 to CB475	--	Clean, dry, no damage
SC9	IN480 to MH19C	MH497	--	Video inspection not performed
SC10	Toward D405C from MH402	D405B, D405A	Suspected GW	Cracks, fractures, 2 active tap, pipe size change
SC10	D408 to MH402	D407, D406, D405	--	Video inspection not performed
South Lateral Drainage Area				
S1	MH492 to OWS483F	CB492A, MH483A	--	Video inspection not performed
S1	OWS483F to MH482	--	Suspected GW	Multiple cracks, one tap
S1	MH482 to MH481	--	Soil/gravel	Multiple cracks, continuously infiltrating gravel
S1	MH481 to UNKMH4	--	--	Clean, dry, no damage
S1	UNKMH4 to CB266	MH263, MH266A	--	Clean, dry, no damage, 4 active taps
S1	CB266 to MH271B	CB267, CB268, CB271	--	H2O level 10%
S1	MH271B to MH281	CB348	--	Clean, dry, no damage
S1	MH281 to MH353	--	Suspected Soil, Suspected GW	H2O level 10-15%, encrusted gravel, intruding roots, 3 active taps
S1	MH353 to MH356	CB355A to CB355C	--	Clean, dry, no damage
S1	MH356 to MH443	CB355	--	H2O level 5-10%
S1	MH443 to LS431*	OWS421	--	Clean, dry, no damage
S2	CB400 to CB395	D393A, UNKCB5	--	Clean, dry, no damage
S2	CB395 to CB392	UNKCB5	--	H2O level 10%
S2	CB392 to OWS1-C	MH401	--	Video inspection not performed
S2	IN388 to MH378	CB387, MH385, CB384, CB386, CB383, CB382, OWS1-C, CB380, CB379	--	Video inspection not performed
S2	UNKCB4 to discharge point	--	--	Clean, dry, no damage
S2	CB375 to discharge point	--	Suspected GW	Multiple cracks
S2	MH376 to MH378	--	--	Clean, dry, no damage
S2	MH378 to MH353	--	Soil, GW	H2O level 0-5%, crack, sand bags in pipe

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	(Water-Table Submergence of Lines Shown in Orange)			
S3	CB346 to IN343	IN345, IN344	--	Multiple cracks & fractures
	IN343 to CB342A		--	Clean, dry, no damage
	CB342A to IN341	IN342	--	Multiple cracks & fractures
	IN341 to IN340	--	--	Clean, dry, no damage
	IN340 to IN327	IN329, CB328A, IN328	--	Multiple cracks & fractures, one capped tap
	IN327 to IN326	--	Suspected Soil, GW	Multiple cracks, break in pipe, intruding roots
	IN326 to UNK3	UNK2	--	Multiple cracks, one capped tap
	UNK3 to CB324	--	Suspected Soil	Multiple cracks, intruding roots
	CB324 TO MH311	IN323, IN322, IN321, CB320, UNKCB2, UNKCB3	--	Video inspection not performed
	UNK1 to IN307D	IN307E	--	Multiple cracks
	IN307D to CB307C	--	--	Clean, dry, no damage
	CB307C to IN307A	CB307B	--	Multiple cracks
	IN307A to IN307	--	--	Clean, dry, no damage
	IN307 to CB305	IN306	--	Multiple cracks
	CB305 to CB299	IN300 to IN304	--	Multiple cracks, one capped tap
	CB299 to IN296	IN298, IN297	--	Multiple cracks, standing water, sag in pipe
	IN296 to CB290	UNKCB1, IN295 to IN292	--	Video inspection not performed
	CB290A to CB291	CB290	--	Clean, dry, no damage, survey abandoned
	CB291 to MH288	OWS289	--	Video inspection not performed
	IN288J to MH311	IN288I - IN288E, MH312	--	Video inspection not performed
	MH311 to UNKMH5	MH288	--	Video inspection not performed
	CB285A to UNKMH5	--	--	Clean, dry, no damage
	CB288A to CB288D	CB288B, CB288C	--	Video inspection not performed
	CB288C to discharge point	--	--	Video inspection not performed
	IN288K to MH281	IN288L	--	Video inspection not performed
	CB288N to discharge point	--	--	Clean, dry, no damage
	UNKMH5 to MH281	CB286, CB284, IN288M	--	Video inspection not performed
S4	CB279 to CB278	--	--	Multiple cracks & fractures
	CB278 to CB277	CB833	--	Video inspection not performed
	CB277A to CB277	CB276	--	Clean, dry, no damage
	CB276 to CB274	--	--	Video inspection not performed
	CB273 to CB271C	CB274	--	Clean, dry, no damage
	CB280 to CB271C	CB273A, CB279A, CB274	--	Video inspection not performed
	CB271C to CB271A	--	--	One crack
	CB271A to **MH271B**	--	--	Clean, dry, no damage
S5	CB277B to CB277C	--	--	Video inspection not performed
	CB277C to CB266B	--	--	Clean, dry, no damage
	CB266B to MH266A	--	--	Fracture
S6A	CB310A to MH310F	CB310B to CB310D, CB310E	--	Video inspection not performed
	MH310F to MH310	--	--	H2O level 15%
	MH310 to MH309B	MH309	--	Multiple cracks, H2O level 15%
	MH1302 to CB1307	MH1306	--	Clean, dry, no damage
	MH1306 to MH1316	MH1315, MH1311, CB1310	--	Clean, dry, no damage
	MH1318 to MH1316	MH460A, MH459A	--	Clean, dry, no damage
	MH459B to MH452	MH457A, MH458A, CB446A	--	Clean, dry, no damage
	MH459A to MH459B	--	--	Multiple cracks
	CB448 to CB308	CB447, CB446, CB449, CB450, CB451	--	Video inspection not performed
	MH445C to MH453A	MH445B, MH445A	--	Clean, dry, no damage
	UNKMH13 to MH445C	OWS443B	--	H2O level 15%
	MH445C to UNKMH1	--	--	Clean, dry, no damage
	UNKMH1 to MH444	--	--	Sediments & debris, one tap
	OWS640 to UNKMH4	--	--	Clean, dry, no damage

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SD Line Sub-drainage	SD Line Segment	SD Structures within Segments	SD Video Infiltration Notes	SD Video General Notes
	(Water-Table Submergence of Lines Shown in Orange)			
S6B	CB503 to MH501	--	GW	Multiple cracks, dislodged seal ring
	CB502 to MH500	MH501	--	Minor cracks, encrusted debris
	MH500 to MH499	--	--	Clean, dry, no damage
	MH499 to MH1314	--	--	Multiple fractures
	CB654 to MH657	MH655, CB656, CB510, CB509	--	Clean, dry, no damage
	MH657 to MH505	--	--	Clean, dry, no damage, intruding lateral/ tap
	MH505 to MH1309	CB505A, CB1303, MH505B	--	Clean, dry, no damage
	MH1309 to MH1314	CB1313	--	Clean, dry, no damage
	MH1314 to **UNKMH3**	--	Soil, GW	Multiple holes, cracks, fractures, one abandoned tap
S7	CB260 to CB259	--	--	Video inspection not performed
	CB259 to UNKMH11	--	--	Clean, dry, no damage
	CB261 to UNKMH12	UNKMH11	--	Multiple cracks and fractures
	UNKMH12 to MH642	**MH414**	--	Multiple cracks, H_2O level 15%
	MH642 to **UNKMH4**	--	--	Clean, dry, no damage
S8	CB491 to CB490	--	--	Clean, dry, no damage
	CB490 to CB486	CB489, CB488, CB487	--	H_2O level 10-40%
	CB486 to CB485	--	--	Sag in pipe, H_2O level 10%
	CB485 to **MH483A**	MH485A	--	Multiple cracks, H_2O level <1%
	CB484 to CB483	--	--	H_2O level 20%
	CB483 to MH483A	--	--	Clean, dry, no damage
	MH483A to OWS483F	**OWS483B/C, OWS483E/D**	--	Video inspection not performed
S9	CB351 to **MH281**	--	--	Video inspection not performed
	CB349A to **MH281**	CB349, CB347	--	Video inspeciton not performed
South Lateral Branch	IN495 to MH438A	MH494, MH493, MH492, CB492A	--	Video inspection not performed
Building 3-380 Drainage Area				
B1	CB109C to CB107A	--	--	Minor cracks
	CB107A to CB429	--	--	H_2O level 10%
	CB429 to MH427A	MH428A, MH428	--	Clean, dry, no damage
	MH427A to CB427		--	Clean, dry, no damage
	CB427 to **CB104**	MH105	--	Clean, dry, no damage
	CB104 to CB423A	--	--	H_2O level 15%
	CB423A to MH422	CB423	--	Clean, dry, no damage
B2	CB107 to CB106A	CB106	--	Clean, dry, no damage
	CB106 to MH105	--	--	Clean, dry, no damage, survey abandoned
B3	CB428C to MH428	CB428B	--	Clean, dry, no damage
Parking Lot Drainage Area				
PL1	CB432 to CB435	CB433, CB433A		Video inspection not performed
PL2	D283A to D436A	CB283	Soil	Intruding roots, tee connection, survey abandoned
	D436A to CB436	--	--	Clean, dry, no damage
	CB436 to CB631	CB630	--	Clean, dry, no damage
	CB631 to MH632	--	--	Clean, dry, no damage
	IN437 TO CB633	MH632	--	Fine settled sands
	CB633 to MH434	--	--	Video inspection not performed
PL3	D434A to MH434	--	--	Video inspection not performed
PL4	End of drain to D435B	--	--	Cracks & fractures
	D435B to CB435	--	--	Clean, dry, no damage
	CB435 to MH434	--	--	Video inspection not performed
PL5	CB102D to CB102A	CB102C, CB102B	--	Clean, dry, no damage
PL5	CB102 to CB433A	CB102A	--	Clean, dry, no damage

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	(Water-Table Submergence of Lines Shown in Orange)			

Notes
Segments are listed by lateral and subdrainage from the upstream to downstream structures, as possible.
Bold & blue text signifies the location of submergence (partial or full) of SD lines under high water-table conditions.
* Lift Station LS431 is included with the S1 line, but is downstream of five SD drainage areas.

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
North Yard Area										
No detected exceedances										
East Yard Area										
EYASB01	SB	A00-06-21DEYASB01-0.5	08/19/10	0 - 0.5	TPH	Gasoline Range Hydrocarbons	31	30	1.0	
EYASB01	SB	A00-06-21DEYASB01-0.5	08/19/10	0 - 0.5	PAH	2-Methylnaphthalene	0.25	0.0432	5.8	
EYASB01	SB	A00-06-21DEYASB01-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.02365	0.005	4.7	
EYASB01	SB	A00-06-21DEYASB01-14	08/18/10	12.5 - 14	VOC	Trichloroethene (TCE)	0.0014	0.001	1.4	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	MET	Arsenic	8	7.0	1.1	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	MET	Copper	71.5	36	2.0	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	MET	Lead	92	56.7	1.6	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	MET	Mercury	0.27	0.07	3.9	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	MET	Zinc	114	86	1.3	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PHT	Bis(2-Ethylhexyl) Phthalate	4.4	0.0471	93	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.12	0.031	3.9	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PAH	Benzo(a)pyrene	0.29	0.005	58	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PAH	Fluoranthene	0.75	0.161	4.7	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PAH	2-Methylnaphthalene	0.65	0.0432	15	
EYASB01	SB	A00-06-21DEYASB01-2	08/18/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.3998	0.005	80	
EYASB01	SB	A00-06-21DEYASB01-5S	08/18/10	3.5 - 5	PAH	Benzo(g,h,i)perylene	0.033	0.031	1.1	
EYASB01	SB	A00-06-21DEYASB01-5S	08/18/10	3.5 - 5	PAH	Benzo(a)pyrene	0.05	0.005	10	
EYASB01	SB	A00-06-21DEYASB01-5S	08/18/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.06936	0.005	14	
EYASB02	SB	A00-06-21DEYASB02-0.5	08/19/10	0 - 0.5	PAH	2-Methylnaphthalene	0.11	0.0432	2.5	
EYASB02	SB	A00-06-21DEYASB02-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.02058	0.005	4.1	
EYASB02	SB	A00-06-21DEYASB02-2	08/19/10	0.5 - 2	MET	Copper	70.8	36	2.0	
EYASB02	SB	A00-06-21DEYASB02-2	08/19/10	0.5 - 2	PAH	2-Methylnaphthalene	0.069	0.0432	1.6	
EYASB02	SB	A00-06-21DEYASB02-2	08/19/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.01167	0.005	2.3	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	MET	Mercury	0.08	0.07	1.1	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	PAH	Benzo(g,h,i)perylene	0.22	0.031	7.1	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	PAH	Benzo(a)pyrene	0.5	0.005	100	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	PAH	Fluoranthene	1.1	0.161	6.8	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.682	0.005	140	
EYASB02	SB	A00-06-21DEYASB02-3.5	08/19/10	2 - 3.5	BTX	Benzene	0.0059	0.001	5.9	
EYASB02	SB	A00-06-21DEYASB02-5	08/19/10	3.5 - 5	PAH	Benzo(g,h,i)perylene	0.057	0.031	1.8	
EYASB02	SB	A00-06-21DEYASB02-5	08/19/10	3.5 - 5	PAH	Benzo(a)pyrene	0.11	0.005	22	
EYASB02	SB	A00-06-21DEYASB02-5	08/19/10	3.5 - 5	PAH	Fluoranthene	0.26	0.161	1.6	
EYASB02	SB	A00-06-21DEYASB02-5	08/19/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.1523	0.005	30	
EYASB03	SB	A00-06-21DEYASB03-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.11	0.005	22	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
EYASB03	SB	A00-06-21DEYASB03-0.5	08/19/10	0 - 0.5	PAH	Fluoranthene	0.26	0.161	1.6	
EYASB03	SB	A00-06-21DEYASB03-0.5	08/19/10	0 - 0.5	PAH	2-Methylnaphthalene	0.16	0.0432	3.7	
EYASB03	SB	A00-06-21DEYASB03-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.1584	0.005	32	
EYASB03	SB	A00-06-21DEYASB03-3.5	08/19/10	2 - 3.5	PAH	Benzo(g,h,i)perylene	0.23	0.031	7.4	
EYASB03	SB	A00-06-21DEYASB03-3.5	08/19/10	2 - 3.5	PAH	Benzo(a)pyrene	0.32 J	0.005	64	
EYASB03	SB	A00-06-21DEYASB03-3.5	08/19/10	2 - 3.5	PAH	Fluoranthene	0.7 J	0.161	4.3	
EYASB03	SB	A00-06-21DEYASB03-3.5	08/19/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.4349	0.005	87	
EYASB03	SB	A00-06-21DEYASB03-3.5S	08/19/10	2 - 3.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.19	0.0471	4.0	
EYASB03	SB	A00-06-21DEYASB03-3.5S	08/19/10	2 - 3.5	BTX	Benzene	0.0032	0.001	3.2	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PCB	Total PCBs	0.035	0.033	1.1	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	MET	Mercury	0.08	0.07	1.1	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PAH	Benzo(g,h,i)perylene	0.4	0.031	13	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PAH	Benzo(a)pyrene	0.78	0.005	160	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PAH	Fluoranthene	1.6	0.161	9.9	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PAH	2-Methylnaphthalene	0.58	0.0432	13	
GTSP-1	SB	SCL-GTSP1-A	07/27/06	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	1.0224	0.005	200	
GTSP-1	SB	SCL-GTSP1-B	07/27/06	2 - 4	PAH	Benzo(g,h,i)perylene	0.32	0.031	10	
GTSP-1	SB	SCL-GTSP1-B	07/27/06	2 - 4	PAH	Benzo(a)pyrene	0.7	0.005	140	
GTSP-1	SB	SCL-GTSP1-B	07/27/06	2 - 4	PAH	Fluoranthene	1.7	0.161	11	
GTSP-1	SB	SCL-GTSP1-B	07/27/06	2 - 4	PAH	2-Methylnaphthalene	0.3	0.0432	6.9	
GTSP-1	SB	SCL-GTSP1-B	07/27/06	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.9233	0.005	180	
Fuel Tank Area										
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	TPH	Diesel Range Hydrocarbons	4,200	2,000	2.1	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	TPH	Heavy Oil Range Hydrocarbons	2,200	2,000	1.1	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	PAH	Benzo(g,h,i)perylene	0.078	0.031	2.5	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	PAH	Benzo(a)pyrene	0.38	0.005	76	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	PAH	Fluoranthene	0.33	0.161	2.0	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	PAH	2-Methylnaphthalene	3	0.0432	69	
FOU-1	SB	FOU-1	09/19/01	7.5 - 9	PAH	Carcinogenic PAHs, ND*0.5	0.5246	0.005	100	
FTASB01	SB	A00-06-21DFTASB01-11	08/17/10	9.5 - 11	TPH	Gasoline Range Hydrocarbons	1,400	30	47	
FTASB01	SB	A00-06-21DFTASB01-11	08/17/10	9.5 - 11	TPH	Diesel Range Hydrocarbons	4,300	2,000	2.2	
FTASB01	SB	A00-06-21DFTASB01-11	08/17/10	9.5 - 11	TPH	Heavy Oil Range Hydrocarbons	4,500	2,000	2.2	
FTASB01	SB	A00-06-21DFTASB01-8	08/17/10	6.5 - 8	TPH	Gasoline Range Hydrocarbons	1,800	30	60	
FTASB01	SB	A00-06-21DFTASB01-8	08/17/10	6.5 - 8	TPH	Diesel Range Hydrocarbons	8,900	2,000	4.5	
FTASB01	SB	A00-06-21DFTASB01-8	08/17/10	6.5 - 8	TPH	Heavy Oil Range Hydrocarbons	9,300	2,000	4.7	
FTASB01	SB	A00-06-21DFTASB01-9.5	08/17/10	8 - 9.5	TPH	Gasoline Range Hydrocarbons	2,700	30	90	
FTASB01	SB	A00-06-21DFTASB01-9.5	08/17/10	8 - 9.5	TPH	Diesel Range Hydrocarbons	12,000	2,000	6.0	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
FTASB01	SB	A00-06-21DFTASB01-9.5	08/17/10	8 - 9.5	TPH	Heavy Oil Range Hydrocarbons	13,000	2,000	6.5	
FTASB02	SB	A00-06-21DFTASB02-9.5	08/16/10	8 - 9.5	TPH	Diesel Range Hydrocarbons	3,900 J	2,000	2.0	
FTASB02	SB	A00-06-21DFTASB02-9.5	08/16/10	8 - 9.5	TPH	Heavy Oil Range Hydrocarbons	4,000	2,000	2.0	
FTASB02	SB	A00-06-21DFTASB02-9.5	08/16/10	8 - 9.5	PAH	2-Methylnaphthalene	0.69	0.0432	16	
FTASB02	SB	A00-06-21DFTASB02-9.5S	08/16/10	8 - 9.5	TPH	Gasoline Range Hydrocarbons	880	30	29	
FTASB02	SB	A00-06-21DFTASB02-9.5S	08/16/10	8 - 9.5	PAH	Fluoranthene	0.31	0.161	1.9	
FTASB02	SB	A00-06-21DFTASB02-9.5S	08/16/10	8 - 9.5	PAH	Carcinogenic PAHs, ND*0.5	0.0903	0.005	18	
FTASB04	SB	A00-06-21DFTASB04-8	08/16/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.089 J	0.031	2.9	
FTASB04	SB	A00-06-21DFTASB04-8	08/16/10	6.5 - 8	PAH	Benzo(a)pyrene	0.05 J	0.005	10	
FTASB04	SB	A00-06-21DFTASB04-8	08/16/10	6.5 - 8	PAH	2-Methylnaphthalene	0.069 J	0.0432	1.6	
FTASB04	SB	A00-06-21DFTASB04-8	08/16/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.0561	0.005	11	
FTATW01	TW	A00-06-21DFTATW01-11	07/30/10	9.5 - 11	TPH	Gasoline Range Hydrocarbons	2,200	30	73	
FTATW01	TW	A00-06-21DFTATW01-11	07/30/10	9.5 - 11	TPH	Diesel Range Hydrocarbons	15,000 J	2,000	7.5	
FTATW01	TW	A00-06-21DFTATW01-11	07/30/10	9.5 - 11	TPH	Heavy Oil Range Hydrocarbons	18,000 J	2,000	9.0	
FTATW01	TW	A00-06-21DFTATW01-12.5	07/30/10	11 - 12.5	TPH	Diesel Range Hydrocarbons	7,300	2,000	3.7	
FTATW01	TW	A00-06-21DFTATW01-12.5	07/30/10	11 - 12.5	TPH	Heavy Oil Range Hydrocarbons	8,300	2,000	4.2	
FTATW01	TW	A00-06-21DFTATW01-14	07/30/10	12.5 - 14	TPH	Diesel Range Hydrocarbons	2,200	2,000	1.1	
FTATW01	TW	A00-06-21DFTATW01-14	07/30/10	12.5 - 14	TPH	Heavy Oil Range Hydrocarbons	2,600	2,000	1.3	
FTATW01	TW	A00-06-21DFTATW01-9.5	07/30/10	8 - 9.5	TPH	Gasoline Range Hydrocarbons	1,500	30	50	
FTATW01	TW	A00-06-21DFTATW01-9.5	07/30/10	8 - 9.5	TPH	Diesel Range Hydrocarbons	4,600 J	2,000	2.3	
FTATW01	TW	A00-06-21DFTATW01-9.5	07/30/10	8 - 9.5	TPH	Heavy Oil Range Hydrocarbons	5,100 J	2,000	2.6	
FTATW02	TW	A00-06-21DFTATW02-8	07/29/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	1.5	0.0471	32	
FTATW02	TW	A00-06-21DFTATW02-8	07/29/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.047 J	0.031	1.5	
FTATW02	TW	A00-06-21DFTATW02-8	07/29/10	6.5 - 8	PAH	Benzo(a)pyrene	0.041 J	0.005	8.2	
FTATW02	TW	A00-06-21DFTATW02-8	07/29/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.0621	0.005	12	
FTATW02	TW	A00-06-21DFTATW02-8	07/29/10	6.5 - 8	BTX	Benzene	0.0013	0.001	1.3	
FTATW02	TW	A00-06-21DFTATW02-9.5	07/29/10	8 - 9.5	TPH	Gasoline Range Hydrocarbons	4,500	30	150	
FTATW02	TW	A00-06-21DFTATW02-9.5	07/29/10	8 - 9.5	TPH	Diesel Range Hydrocarbons	4,100 J	2,000	2.0	
FTATW02	TW	A00-06-21DFTATW02-9.5	07/29/10	8 - 9.5	TPH	Heavy Oil Range Hydrocarbons	4,200	2,000	2.1	
FTATW02	TW	A00-06-21DFTATW02-9.5	07/29/10	8 - 9.5	PAH	Fluoranthene	0.22 J	0.161	1.4	
FTATW02	TW	A00-06-21DFTATW02-9.5	07/29/10	8 - 9.5	PAH	Carcinogenic PAHs, ND*0.5	0.1248	0.005	25	
GTSP08-39	SB	GTSP08-39-2-4	09/16/08	2 - 4	PCB	Total PCBs	0.113	0.033	3.4	
GTSP-6	MW	A00-06-21DGTSP6A-SS-0.5	06/16/10	0 - 0.5	TPH	Gasoline Range Hydrocarbons	44	30	1.5	
GTSP-6	MW	A00-06-21DGTSP6F-BH-8.0	06/16/10	6.5 - 8	VOC	Methylene Chloride	0.0037	0.0012	3.1	
GTSP-6	MW	A00-06-21DGTSP6G-BH-9.5	06/16/10	8 - 9.5	PAH	2-Methylnaphthalene	0.83	0.0432	19	
GTSP-6	MW	A00-06-21DGTSP6G-BH-9.5	06/16/10	8 - 9.5	PAH	Carcinogenic PAHs, ND*0.5	0.03897 U	0.005	7.8	
GTSP-6	MW	A00-06-21DGTSP6G-BH-9.5	06/16/10	8 - 9.5	VOC	Methylene Chloride	0.0046	0.0012	3.8	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	TPH	Gasoline Range Hydrocarbons	2,400	30	80	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	TPH	Diesel Range Hydrocarbons	6,300 J	2,000	3.2	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	TPH	Heavy Oil Range Hydrocarbons	7,800	2,000	3.9	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	PAH	Fluoranthene	1	0.161	6.2	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	PAH	2-Methylnaphthalene	15	0.0432	350	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	PAH	Carcinogenic PAHs, ND*0.5	0.136	0.005	27	
GTSP-6	MW	A00-06-21DGTSP6H-BH-11.0	06/16/10	9.5 - 11	BTX	Benzene	0.051	0.001	51	
GTSP-6	MW	A00-06-21DGTSP6I-BH-12.5	06/16/10	11 - 12.5	TPH	Diesel Range Hydrocarbons	7,200	2,000	3.6	
GTSP-6	MW	A00-06-21DGTSP6I-BH-12.5	06/16/10	11 - 12.5	TPH	Heavy Oil Range Hydrocarbons	8,200	2,000	4.1	
GX-62	SS	GX-62	10/12/87	0 - 1.2	TPH	Heavy Oil Range Hydrocarbons	8,240	2,000	4.1	Removed
GX-63	SS	GX-63	10/12/87	0	TPH	Heavy Oil Range Hydrocarbons	35,690	2,000	18	Removed
S-1	RE	S-1	11/17/05	0	PCB	Total PCBs	0.138	0.033	4.2	
S-2	RE	S-2	11/17/05	0	PCB	Total PCBs	0.159	0.033	4.8	
S-3	RE	S-3	11/17/05	0	PCB	Total PCBs	0.19	0.033	5.8	
South Yard Area										
23	EX	23	10/10/85	NA	PCB	Total PCBs	1	0.033	30	
4	EX	4	10/10/85	3	PCB	Total PCBs	21	0.033	640	Removed
4a	EX	4a	10/16/85	NA	PCB	Total PCBs	2.8	0.033	85	
6	EX	6	10/10/85	2	PCB	Total PCBs	28	0.033	850	Removed
6a	EX	6a	10/16/85	NA	PCB	Total PCBs	3.4	0.033	100	
BD-2	SB	BD-2	09/19/01	5 - 7	MET	Copper	59.1	36	1.6	
BD-2	SB	BD-2	09/19/01	5 - 7	MET	Lead	57	56.7	1.0	
BD-2	SB	BD-2	09/19/01	5 - 7	MET	Mercury	1.1	0.07	16	
BFP-3	SB	BFP-3 (DUP)	09/19/01	1.5 - 6	PAH	Benzo(g,h,i)perylene	0.1	0.031	3.2	
BFP-3	SB	BFP-3 (DUP)	09/19/01	1.5 - 6	PAH	Benzo(a)pyrene	0.32	0.005	64	
BFP-3	SB	BFP-3 (DUP)	09/19/01	1.5 - 6	PAH	Fluoranthene	0.68	0.161	4.2	
BFP-3	SB	BFP-3 (DUP)	09/19/01	1.5 - 6	PAH	2-Methylnaphthalene	0.064	0.0432	1.5	
BFP-3	SB	BFP-3 (DUP)	09/19/01	1.5 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.4672	0.005	93	
BFP-5	SB	BFP-5	09/19/01	4 - 6	PAH	Benzo(g,h,i)perylene	0.14	0.031	4.5	
BFP-5	SB	BFP-5	09/19/01	4 - 6	PAH	Benzo(a)pyrene	0.63	0.005	130	
BFP-5	SB	BFP-5	09/19/01	4 - 6	PAH	Fluoranthene	1.6	0.161	9.9	
BFP-5	SB	BFP-5	09/19/01	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.8742	0.005	170	
CCS-1	SB	CCS-1	09/19/01	5.5 - 7	MET	Zinc	180	86	2.1	
CCS-2	SB	CCS-2	09/19/01	0.5 - 2.5	MET	Mercury	0.17	0.07	2.4	
CCS-2	SB	CCS-2	09/19/01	0.5 - 2.5	MET	Nickel	137	38	3.6	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	MET	Copper	68	36	1.9	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	MET	Mercury	0.36	0.07	5.1	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	MET	Zinc	94.2	86	1.1	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	PAH	Benzo(g,h,i)perylene	0.061	0.031	2.0	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	PAH	Benzo(a)pyrene	0.22	0.005	44	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	PAH	Fluoranthene	0.39	0.161	2.4	
CCS-3	SB	CCS-3	09/19/01	5.5 - 7	PAH	Carcinogenic PAHs, ND*0.5	0.3105	0.005	62	
CCS-4	SB	CCS-4	09/19/01	1 - 3	PAH	Benzo(a)pyrene	0.053	0.005	11	
CCS-4	SB	CCS-4	09/19/01	1 - 3	PAH	Carcinogenic PAHs, ND*0.5	0.12954	0.005	26	
D-2	SB	D-2	08/08/84	0 - 7	PCB	Total PCBs	0.56	0.033	17	
D-3	SB	D-3	08/08/84	0 - 7	PCB	Total PCBs	0.69	0.033	21	
D-60	SB	D-60	08/23/84	0 - 0.5	PCB	Total PCBs	1.61	0.033	49	
D-61	SB	D-61	08/23/84	0 - 0.5	PCB	Total PCBs	4.05	0.033	120	
FTASB05	SB	A00-06-21DFTASB05-6.5	08/19/10	5 - 6.5	MET	Copper	236	36	6.6	
FTASB05	SB	A00-06-21DFTASB05-6.5	08/19/10	5 - 6.5	MET	Lead	76 J	56.7	1.3	
FTASB05	SB	A00-06-21DFTASB05-6.5	08/19/10	5 - 6.5	MET	Zinc	237	86	2.8	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Arsenic	20	7.0	2.9	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Cadmium	3.5	1.0	3.5	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Copper	2,610	36	73	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Lead	2,830 J	56.7	50	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Mercury	0.23	0.07	3.3	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Nickel	88	38	2.3	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	MET	Zinc	2,850	86	33	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	PAH	Benzo(a)pyrene	0.39 J	0.005	78	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	PAH	Fluoranthene	0.84	0.161	5.2	
FTASB05	SB	A00-06-21DFTASB05-8	08/19/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.5131	0.005	100	
GTSP-2	SB	SCL-GTSP2-A	07/27/06	0 - 0.5	PCB	Total PCBs	0.26	0.033	7.9	
GTSP-2	SB	SCL-GTSP2-A	07/27/06	0 - 0.5	MET	Mercury	0.12	0.07	1.7	
GTSP-2	SB	SCL-GTSP2-A	07/27/06	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.035 J	0.031	1.1	
GTSP-2	SB	SCL-GTSP2-A	07/27/06	0 - 0.5	PAH	Benzo(a)pyrene	0.059 J	0.005	12	
GTSP-2	SB	SCL-GTSP2-A	07/27/06	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.08113	0.005	16	
GTSP-2	SB	SCL-GTSP2-B	07/27/06	2.5 - 4	MET	Mercury	0.11	0.07	1.6	
GTSP-2	SB	SCL-GTSP2-B	07/27/06	2.5 - 4	PAH	2-Methylnaphthalene	0.19	0.0432	4.4	
GTSP-2	SB	SCL-GTSP2-D	07/27/06	6 - 8	PAH	2-Methylnaphthalene	0.063 J	0.0432	1.5	
GTSP-4	SB	SCL-GTSP4-A	07/27/06	0 - 1.5	PCB	Total PCBs	0.54	0.033	16	
GTSP-4	SB	SCL-GTSP4-A	07/27/06	0 - 1.5	MET	Mercury	1.1	0.07	16	
GTSP-4	SB	SCL-GTSP4-A	07/27/06	0 - 1.5	PAH	Benzo(a)pyrene	0.052 J	0.005	10	
GTSP-4	SB	SCL-GTSP4-A	07/27/06	0 - 1.5	PAH	Carcinogenic PAHs, ND*0.5	0.07546	0.005	15	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	MET	Mercury	0.62	0.07	8.9	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	PAH	Benzo(g,h,i)perylene	0.041 J	0.031	1.3	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	PAH	Benzo(a)pyrene	0.11	0.005	22	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	PAH	Fluoranthene	0.34	0.161	2.1	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	PAH	2-Methylnaphthalene	0.048 J	0.0432	1.1	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	PAH	Carcinogenic PAHs, ND*0.5	0.14895	0.005	30	
GTSP-4	SB	SCL-GTSP4-B	07/27/06	4.5 - 5.5	VOC	Tetrachloroethene (PCE)	0.003	0.001	3.0	
GTSP-4	SB	SCL-GTSP4-C	07/27/06	5.5 - 7	VOC	Tetrachloroethene (PCE)	0.0014	0.001	1.4	
GTSP-4	SB	SCL-GTSP4-ES	07/27/06	9 - 11	MET	Chromium, Hexavalent	0.857 J	0.5	1.7	
J4	RE	SCL-J4-B1	01/27/06	0.25 - 3	PCB	Total PCBs	7	0.033	210	
J4	RE	SCL-J4-B1	01/27/06	0.25 - 3	MET	Mercury	1.36	0.07	19	
J4	RE	SCL-J4-F1	01/26/06	0	PCB	Total PCBs	5	0.033	150	
J4	RE	SCL-J4-F1	01/26/06	0	MET	Arsenic	9	7.0	1.3	
J4	RE	SCL-J4-F1	01/26/06	0	MET	Cadmium	1.6	1.0	1.6	
J4	RE	SCL-J4-F1	01/26/06	0	MET	Copper	46.8	36	1.3	
J4	RE	SCL-J4-F1	01/26/06	0	MET	Mercury	2.16	0.07	31	
J4	RE	SCL-J4-F1	01/26/06	0	MET	Zinc	712	86	8.3	
J4	RE	SCL-J4-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.068	0.005	14	
J4	RE	SCL-J4-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.09289	0.005	19	
J4	RE	SCL-J4-S1	01/26/06	0 - 0.25	PCB	Total PCBs	0.15	0.033	4.5	
J4	RE	SCL-J4-S1	01/26/06	0 - 0.25	MET	Copper	48.5	36	1.3	
J4	RE	SCL-J4-S1	01/26/06	0 - 0.25	MET	Mercury	0.52	0.07	7.4	
LLASB09	SB	A00-06-21DLLASB09-0.5	07/23/10	0 - 0.5	PCB	Total PCBs	0.37	0.033	11	
LLASB09	SB	A00-06-21DLLASB09-2	07/23/10	0.5 - 2	PCB	Total PCBs	0.23	0.033	7.0	
LLASB09	SB	A00-06-21DLLASB09-3.5	07/23/10	2 - 3.5	PCB	Total PCBs	0.54	0.033	16	
LLASB09	SB	A00-06-21DLLASB09-5	07/23/10	3.5 - 5	PCB	Total PCBs	0.55	0.033	17	
LLASB09	SB	A00-06-21DLLASB09-6.5	07/23/10	5 - 6.5	PCB	Total PCBs	1.4	0.033	42	
LLASB09	SB	A00-06-21DLLASB09-8	07/23/10	6.5 - 8	PCB	Total PCBs	0.52	0.033	16	
LLASB09	SB	A00-06-21DLLASB09-9.5	07/23/10	8 - 9.5	PCB	Total PCBs	0.118	0.033	3.6	
RR-2	SB	RR-2	09/19/01	0.5 - 2	PCB	Total PCBs	0.39	0.033	12	
RR-3	SB	RR-3	09/19/01	0.5 - 2	PCB	Total PCBs	0.65	0.033	20	
RR-5	SB	RR-5	09/19/01	0.5 - 2	PCB	Total PCBs	0.22	0.033	6.7	
RR-6	SB	RR-6	09/19/01	0.5 - 2	PCB	Total PCBs	0.039	0.033	1.2	
RR-7	SB	RR-7	09/19/01	0.5 - 2	PCB	Total PCBs	0.21	0.033	6.4	
SYASB01	SB	A00-06-21DSYASB01-0.5	07/23/10	0 - 0.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.11	0.0471	2.3	
SYASB01	SB	A00-06-21DSYASB01-0.5	07/23/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.05	0.031	1.6	
SYASB01	SB	A00-06-21DSYASB01-0.5	07/23/10	0 - 0.5	PAH	Benzo(a)pyrene	0.067	0.005	13	
SYASB01	SB	A00-06-21DSYASB01-0.5	07/23/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.09238	0.005	18	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB01	SB	A00-06-21DSYASB01-2	07/23/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.054	0.031	1.7	
SYASB01	SB	A00-06-21DSYASB01-2	07/23/10	0.5 - 2	PAH	Benzo(a)pyrene	0.088	0.005	18	
SYASB01	SB	A00-06-21DSYASB01-2	07/23/10	0.5 - 2	PAH	Fluoranthene	0.17	0.161	1.1	
SYASB01	SB	A00-06-21DSYASB01-2	07/23/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1213	0.005	24	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Arsenic	16	7.0	2.3	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Copper	104	36	2.9	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Lead	126	56.7	2.2	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Mercury	2.21	0.07	32	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Nickel	47	38	1.2	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	MET	Zinc	233 J	86	2.7	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	PAH	Benzo(a)pyrene	0.034 J	0.005	6.8	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	PAH	2-Methylnaphthalene	0.43	0.0432	10	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.05274	0.005	11	
SYASB01	SB	A00-06-21DSYASB01-5	07/23/10	3.5 - 5	BTX	Benzene	0.003	0.001	3.0	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Cadmium	2.9	1.0	2.9	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Copper	71	36	2.0	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Lead	91	56.7	1.6	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Mercury	0.26	0.07	3.7	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Nickel	64	38	1.7	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	MET	Zinc	549 J	86	6.4	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.064	0.0471	1.4	
SYASB01	SB	A00-06-21DSYASB01-6.5	07/23/10	5 - 6.5	PAH	Carcinogenic PAHs, ND*0.5	0.01517	0.005	3.0	
SYASB01	SB	A00-06-21DSYASB01-8	07/23/10	6.5 - 8	MET	Nickel	107	38	2.8	
SYASB01	SB	A00-06-21DSYASB01-8	07/23/10	6.5 - 8	PAH	Benzo(a)pyrene	0.018 J	0.005	3.6	
SYASB01	SB	A00-06-21DSYASB01-8	07/23/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.0248	0.005	5.0	
SYASB01	SB	A00-06-21DSYASB01-8	07/23/10	6.5 - 8	BTX	Benzene	0.0042	0.001	4.2	
SYASB01	SB	A00-06-21DSYASB01-8S	07/23/10	6.5 - 8	MET	Copper	49	36	1.4	
SYASB01	SB	A00-06-21DSYASB01-8S	07/23/10	6.5 - 8	MET	Lead	186	56.7	3.3	
SYASB01	SB	A00-06-21DSYASB01-8S	07/23/10	6.5 - 8	MET	Zinc	176 J	86	2.0	
SYASB01	SB	A00-06-21DSYASB01-8S	07/23/10	6.5 - 8	PAH	2-Methylnaphthalene	0.052	0.0432	1.2	
SYASB02	SB	A00-06-21DSYASB02-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.081	0.005	16	
SYASB02	SB	A00-06-21DSYASB02-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.11233	0.005	22	
SYASB02	SB	A00-06-21DSYASB02-2	08/19/10	0.5 - 2	PAH	2-Methylnaphthalene	0.08 J	0.0432	1.9	
SYASB02	SB	A00-06-21DSYASB02-2	08/19/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.04433	0.005	8.9	
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	MET	Arsenic	10	7.0	1.4	
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	MET	Copper	39.5	36	1.1	
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	MET	Mercury	1.01	0.07	14	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	PAH	Benzo(a)pyrene	0.015 J	0.005	3.0	
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	PAH	2-Methylnaphthalene	0.21	0.0432	4.9	
SYASB02	SB	A00-06-21DSYASB02-3.5	08/18/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.02803	0.005	5.6	
SYASB02	SB	A00-06-21DSYASB02-6.5	08/18/10	5 - 6.5	MET	Copper	53.8	36	1.5	
SYASB02	SB	A00-06-21DSYASB02-6.5	08/18/10	5 - 6.5	MET	Mercury	0.15	0.07	2.1	
SYASB02	SB	A00-06-21DSYASB02-6.5	08/18/10	5 - 6.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.3	0.0471	6.4	
SYASB02	SB	A00-06-21DSYASB02-6.5	08/18/10	5 - 6.5	PAH	2-Methylnaphthalene	0.24	0.0432	5.6	
SYASB02	SB	A00-06-21DSYASB02-6.5	08/18/10	5 - 6.5	PAH	Carcinogenic PAHs, ND*0.5	0.01524	0.005	3.0	
SYASB02	SB	A00-06-21DSYASB02-8	08/18/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	0.32	0.0471	6.8	
SYASB03	SB	A00-06-21DSYASB03-0.5	07/23/10	0 - 0.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.074	0.0471	1.6	
SYASB03	SB	A00-06-21DSYASB03-0.5	07/23/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.72	0.031	23	
SYASB03	SB	A00-06-21DSYASB03-0.5	07/23/10	0 - 0.5	PAH	Benzo(a)pyrene	1.2	0.005	240	
SYASB03	SB	A00-06-21DSYASB03-0.5	07/23/10	0 - 0.5	PAH	Fluoranthene	2.5	0.161	16	
SYASB03	SB	A00-06-21DSYASB03-0.5	07/23/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	1.689	0.005	340	
SYASB03	SB	A00-06-21DSYASB03-2	07/23/10	0.5 - 2	PHT	Bis(2-Ethylhexyl) Phthalate	0.12	0.0471	2.5	
SYASB03	SB	A00-06-21DSYASB03-2	07/23/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.59	0.031	19	
SYASB03	SB	A00-06-21DSYASB03-2	07/23/10	0.5 - 2	PAH	Benzo(a)pyrene	1.5	0.005	300	
SYASB03	SB	A00-06-21DSYASB03-2	07/23/10	0.5 - 2	PAH	Fluoranthene	3.2	0.161	20	
SYASB03	SB	A00-06-21DSYASB03-2	07/23/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	2.029	0.005	410	
SYASB03	SB	A00-06-21DSYASB03-5	07/23/10	3.5 - 5	PAH	2-Methylnaphthalene	0.55	0.0432	13	
SYASB03	SB	A00-06-21DSYASB03-5	07/23/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.01532	0.005	3.1	
SYASB03	SB	A00-06-21DSYASB03-8	07/23/10	6.5 - 8	PAH	Benzo(a)pyrene	0.037	0.005	7.4	
SYASB03	SB	A00-06-21DSYASB03-8	07/23/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.0483	0.005	9.7	
SYASB04	SB	A00-06-21DSYASB04-0.5	07/22/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.1	0.031	3.2	
SYASB04	SB	A00-06-21DSYASB04-0.5	07/22/10	0 - 0.5	PAH	Benzo(a)pyrene	0.16	0.005	32	
SYASB04	SB	A00-06-21DSYASB04-0.5	07/22/10	0 - 0.5	PAH	Fluoranthene	0.29	0.161	1.8	
SYASB04	SB	A00-06-21DSYASB04-0.5	07/22/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.2222	0.005	44	
SYASB04	SB	A00-06-21DSYASB04-2	07/22/10	0.5 - 2	PAH	Benzo(a)pyrene	0.061	0.005	12	
SYASB04	SB	A00-06-21DSYASB04-2	07/22/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.07708	0.005	15	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	MET	Arsenic	8	7.0	1.1	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	MET	Copper	118	36	3.3	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	MET	Mercury	0.67	0.07	9.6	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	MET	Nickel	44	38	1.2	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	PAH	Benzo(a)pyrene	0.023	0.005	4.6	
SYASB04	SB	A00-06-21DSYASB04-3.5	07/22/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.030515	0.005	6.1	
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Arsenic	140	7.0	20	
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Cadmium	3.9	1.0	3.9	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Copper	241	36	6.7	
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Lead	137	56.7	2.4	
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Nickel	236	38	6.2	
SYASB04	SB	A00-06-21DSYASB04-5	07/22/10	3.5 - 5	MET	Zinc	196	86	2.3	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	MET	Copper	92.1	36	2.6	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	MET	Mercury	0.26	0.07	3.7	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	MET	Nickel	43	38	1.1	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	MET	Zinc	98	86	1.1	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	PAH	Benzo(a)pyrene	0.046	0.005	9.2	
SYASB04	SB	A00-06-21DSYASB04-6.5	07/22/10	5 - 6.5	PAH	Carcinogenic PAHs, ND*0.5	0.055125	0.005	11	
SYASB04	SB	A00-06-21DSYASB04-8	07/22/10	6.5 - 8	MET	Copper	51.8	36	1.4	
SYASB04	SB	A00-06-21DSYASB04-8	07/22/10	6.5 - 8	MET	Mercury	0.08	0.07	1.1	
SYASB04	SB	A00-06-21DSYASB04-8	07/22/10	6.5 - 8	MET	Nickel	41	38	1.1	
SYASB04	SB	A00-06-21DSYASB04-8	07/22/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.1	0.031	3.2	
SYASB04	SB	A00-06-21DSYASB04-8	07/22/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.03248	0.005	6.5	
SYASB05	SB	A00-06-21DSYASB05-0.5	07/24/10	0 - 0.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.053 J	0.0471	1.1	
SYASB05	SB	A00-06-21DSYASB05-0.5	07/24/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.17	0.031	5.5	
SYASB05	SB	A00-06-21DSYASB05-0.5	07/24/10	0 - 0.5	PAH	Benzo(a)pyrene	0.38	0.005	76	
SYASB05	SB	A00-06-21DSYASB05-0.5	07/24/10	0 - 0.5	PAH	Fluoranthene	0.73	0.161	4.5	
SYASB05	SB	A00-06-21DSYASB05-0.5	07/24/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.5163	0.005	100	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Arsenic	30	7.0	4.3	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Cadmium	1.3	1.0	1.3	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Copper	94.8	36	2.6	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Lead	323	56.7	5.7	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Mercury	0.36 J	0.07	5.1	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Nickel	2,330	38	61	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	MET	Zinc	233 J	86	2.7	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.13	0.031	4.2	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	PAH	Benzo(a)pyrene	0.34	0.005	68	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	PAH	Fluoranthene	0.85	0.161	5.3	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	PAH	2-Methylnaphthalene	0.3	0.0432	6.9	
SYASB05	SB	A00-06-21DSYASB05-2	07/24/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.4594	0.005	92	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	MET	Arsenic	9	7.0	1.3	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	MET	Copper	60	36	1.7	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	MET	Mercury	0.24 J	0.07	3.4	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	MET	Nickel	58	38	1.5	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	MET	Zinc	417 J	86	4.8	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	PAH	Benzo(a)pyrene	0.084	0.005	17	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	PAH	Fluoranthene	0.27	0.161	1.7	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	PAH	2-Methylnaphthalene	0.24	0.0432	5.6	
SYASB05	SB	A00-06-21DSYASB05-3.5	07/24/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.11735	0.005	23	
SYASB05	SB	A00-06-21DSYASB05-5	07/24/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.04944	0.005	9.9	
SYASB05	SB	A00-06-21DSYASB05-5S	07/24/10	3.5 - 5	MET	Copper	50.5	36	1.4	
SYASB05	SB	A00-06-21DSYASB05-5S	07/24/10	3.5 - 5	MET	Mercury	0.57 J	0.07	8.1	
SYASB05	SB	A00-06-21DSYASB05-5S	07/24/10	3.5 - 5	MET	Zinc	277 J	86	3.2	
SYASB05	SB	A00-06-21DSYASB05-5S	07/24/10	3.5 - 5	PAH	2-Methylnaphthalene	0.25	0.0432	5.8	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Arsenic	24	7.0	3.4	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Copper	61	36	1.7	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Lead	87	56.7	1.5	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Mercury	3.3	0.07	47	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Nickel	216	38	5.7	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	MET	Zinc	100 J	86	1.2	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.09	0.0471	1.9	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	PAH	2-Methylnaphthalene	0.054 J	0.0432	1.3	
SYASB05	SB	A00-06-21DSYASB05-6.5	07/24/10	5 - 6.5	PAH	Carcinogenic PAHs, ND*0.5	0.04548	0.005	9.1	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	MET	Arsenic	13	7.0	1.9	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	MET	Copper	50.5	36	1.4	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	MET	Lead	72	56.7	1.3	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	MET	Mercury	0.22 J	0.07	3.1	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	MET	Zinc	106 J	86	1.2	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	0.13	0.0471	2.8	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	PAH	2-Methylnaphthalene	0.093	0.0432	2.2	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.05223	0.005	10	
SYASB05	SB	A00-06-21DSYASB05-8	07/24/10	6.5 - 8	BTX	Benzene	0.016	0.001	16	
SYASB05	SB	A00-06-21DSYASB05-9.5	07/24/10	8 - 9.5	PAH	Benzo(a)pyrene	0.047	0.005	9.4	
SYASB05	SB	A00-06-21DSYASB05-9.5	07/24/10	8 - 9.5	PAH	Carcinogenic PAHs, ND*0.5	0.06406	0.005	13	
SYASB06	SB	A00-06-21DSYASB06-0.5	08/17/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.65	0.031	21	
SYASB06	SB	A00-06-21DSYASB06-0.5	08/17/10	0 - 0.5	PAH	Benzo(a)pyrene	0.96	0.005	190	
SYASB06	SB	A00-06-21DSYASB06-0.5	08/17/10	0 - 0.5	PAH	Fluoranthene	2.4	0.161	15	
SYASB06	SB	A00-06-21DSYASB06-0.5	08/17/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	1.339	0.005	270	
SYASB06	SB	A00-06-21DSYASB06-2	08/17/10	0.5 - 2	PHT	Bis(2-Ethylhexyl) Phthalate	0.53	0.0471	11	
SYASB06	SB	A00-06-21DSYASB06-2	08/17/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.22 J	0.031	7.1	
SYASB06	SB	A00-06-21DSYASB06-2	08/17/10	0.5 - 2	PAH	Benzo(a)pyrene	0.33 J	0.005	66	
SYASB06	SB	A00-06-21DSYASB06-2	08/17/10	0.5 - 2	PAH	Fluoranthene	0.6 J	0.161	3.7	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB06	SB	A00-06-21DSYASB06-2	08/17/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.4467	0.005	89	
SYASB06	SB	A00-06-21DSYASB06-5	08/17/10	3.5 - 5	PAH	Benzo(a)pyrene	0.026	0.005	5.2	
SYASB06	SB	A00-06-21DSYASB06-5	08/17/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.03589	0.005	7.2	
SYASB07	SB	A00-06-21DSYASB07-0.5	07/22/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.04	0.031	1.3	
SYASB07	SB	A00-06-21DSYASB07-0.5	07/22/10	0 - 0.5	PAH	Benzo(a)pyrene	0.073	0.005	15	
SYASB07	SB	A00-06-21DSYASB07-0.5	07/22/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.09622	0.005	19	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	MET	Copper	75	36	2.1	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	MET	Lead	110	56.7	1.9	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	MET	Mercury	0.2	0.07	2.9	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	MET	Zinc	525	86	6.1	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.033	0.031	1.1	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	PAH	Benzo(a)pyrene	0.08	0.005	16	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	PAH	Fluoranthene	0.31	0.161	1.9	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	PAH	2-Methylnaphthalene	0.79	0.0432	18	
SYASB07	SB	A00-06-21DSYASB07-2	07/22/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1115	0.005	22	
SYASB07	SB	A00-06-21DSYASB07-3.5	07/22/10	2 - 3.5	PAH	Benzo(g,h,i)perylene	0.1	0.031	3.2	
SYASB07	SB	A00-06-21DSYASB07-3.5	07/22/10	2 - 3.5	PAH	Benzo(a)pyrene	0.3	0.005	60	
SYASB07	SB	A00-06-21DSYASB07-3.5	07/22/10	2 - 3.5	PAH	Fluoranthene	0.57	0.161	3.5	
SYASB07	SB	A00-06-21DSYASB07-3.5	07/22/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.376	0.005	75	
SYASB08	SB	A00-06-21DSYASB08-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.063	0.005	13	
SYASB08	SB	A00-06-21DSYASB08-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.09196	0.005	18	
SYASB08	SB	A00-06-21DSYASB08-2	08/18/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.065	0.031	2.1	
SYASB08	SB	A00-06-21DSYASB08-2	08/18/10	0.5 - 2	PAH	Benzo(a)pyrene	0.16	0.005	32	
SYASB08	SB	A00-06-21DSYASB08-2	08/18/10	0.5 - 2	PAH	Fluoranthene	0.36	0.161	2.2	
SYASB08	SB	A00-06-21DSYASB08-2	08/18/10	0.5 - 2	PAH	2-Methylnaphthalene	0.071	0.0432	1.6	
SYASB08	SB	A00-06-21DSYASB08-2	08/18/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.21395	0.005	43	
SYASB08	SB	A00-06-21DSYASB08-5	08/18/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.01512	0.005	3.0	
SYASB09	SB	A00-06-21DSYASB09-0.5	08/18/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	120	0.031	3,900	
SYASB09	SB	A00-06-21DSYASB09-0.5	08/18/10	0 - 0.5	PAH	Benzo(a)pyrene	210	0.005	42,000	
SYASB09	SB	A00-06-21DSYASB09-0.5	08/18/10	0 - 0.5	PAH	Fluoranthene	440	0.161	2,700	
SYASB09	SB	A00-06-21DSYASB09-0.5	08/18/10	0 - 0.5	PAH	2-Methylnaphthalene	0.44 J	0.0432	10	
SYASB09	SB	A00-06-21DSYASB09-0.5	08/18/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	285.6	0.005	57,000	
SYASB09	SB	A00-06-21DSYASB09-2	08/17/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	20	0.031	650	
SYASB09	SB	A00-06-21DSYASB09-2	08/17/10	0.5 - 2	PAH	Benzo(a)pyrene	34	0.005	6,800	
SYASB09	SB	A00-06-21DSYASB09-2	08/17/10	0.5 - 2	PAH	Fluoranthene	50	0.161	310	
SYASB09	SB	A00-06-21DSYASB09-2	08/17/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	45.48	0.005	9,100	
SYASB09	SB	A00-06-21DSYASB09-5	08/17/10	3.5 - 5	PAH	Benzo(g,h,i)perylene	0.27	0.031	8.7	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SYASB09	SB	A00-06-21DSYASB09-5	08/17/10	3.5 - 5	PAH	Benzo(a)pyrene	0.39	0.005	78	
SYASB09	SB	A00-06-21DSYASB09-5	08/17/10	3.5 - 5	PAH	Fluoranthene	0.66	0.161	4.1	
SYASB09	SB	A00-06-21DSYASB09-5	08/17/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.5333	0.005	110	
SYASB09	SB	A00-06-21DSYASB09-8	08/17/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.44	0.031	14	
SYASB09	SB	A00-06-21DSYASB09-8	08/17/10	6.5 - 8	PAH	Benzo(a)pyrene	0.69	0.005	140	
SYASB09	SB	A00-06-21DSYASB09-8	08/17/10	6.5 - 8	PAH	Fluoranthene	1.3	0.161	8.1	
SYASB09	SB	A00-06-21DSYASB09-8	08/17/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.9648	0.005	190	
SYASB10	SB	A00-06-21DSYASB10-0.5	08/19/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.11	0.031	3.5	
SYASB10	SB	A00-06-21DSYASB10-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.36	0.005	72	
SYASB10	SB	A00-06-21DSYASB10-0.5	08/19/10	0 - 0.5	PAH	Fluoranthene	0.54	0.161	3.4	
SYASB10	SB	A00-06-21DSYASB10-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.4856	0.005	97	
SYASB10	SB	A00-06-21DSYASB10-2	08/18/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.084 J	0.031	2.7	
SYASB10	SB	A00-06-21DSYASB10-2	08/18/10	0.5 - 2	PAH	Benzo(a)pyrene	0.23	0.005	46	
SYASB10	SB	A00-06-21DSYASB10-2	08/18/10	0.5 - 2	PAH	Fluoranthene	0.31	0.161	1.9	
SYASB10	SB	A00-06-21DSYASB10-2	08/18/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.3089	0.005	62	
SYASB11	SB	A00-06-21DSYASB11-0.5	08/19/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.24	0.031	7.7	
SYASB11	SB	A00-06-21DSYASB11-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.92	0.005	180	
SYASB11	SB	A00-06-21DSYASB11-0.5	08/19/10	0 - 0.5	PAH	Fluoranthene	2	0.161	12	
SYASB11	SB	A00-06-21DSYASB11-0.5	08/19/10	0 - 0.5	PAH	2-Methylnaphthalene	0.073	0.0432	1.7	
SYASB11	SB	A00-06-21DSYASB11-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	1.263	0.005	250	
SYASB11	SB	A00-06-21DSYASB11-2	08/18/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.036	0.031	1.2	
SYASB11	SB	A00-06-21DSYASB11-2	08/18/10	0.5 - 2	PAH	Benzo(a)pyrene	0.069	0.005	14	
SYASB11	SB	A00-06-21DSYASB11-2	08/18/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.09999	0.005	20	
SYASB11	SB	A00-06-21DSYASB11-5	08/18/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.0152	0.005	3.0	
SYASB12	SB	A00-06-21DSYASB12-0.5	08/19/10	0 - 0.5	PAH	Benzo(g,h,i)perylene	0.066	0.031	2.1	
SYASB12	SB	A00-06-21DSYASB12-0.5	08/19/10	0 - 0.5	PAH	Benzo(a)pyrene	0.18	0.005	36	
SYASB12	SB	A00-06-21DSYASB12-0.5	08/19/10	0 - 0.5	PAH	Fluoranthene	0.6	0.161	3.7	
SYASB12	SB	A00-06-21DSYASB12-0.5	08/19/10	0 - 0.5	PAH	2-Methylnaphthalene	0.15	0.0432	3.5	
SYASB12	SB	A00-06-21DSYASB12-0.5	08/19/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.2716	0.005	54	
SYASB12	SB	A00-06-21DSYASB12-2	08/18/10	0.5 - 2	PAH	Benzo(a)pyrene	0.016 J	0.005	3.2	
SYASB12	SB	A00-06-21DSYASB12-2	08/18/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.02431	0.005	4.9	
SYASB12	SB	A00-06-21DSYASB12-8	08/18/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	0.77	0.0471	16	
Low-Lying Area										
1	EX	1	10/10/85	NA	PCB	Total PCBs	3.7	0.033	110	
25	EX	25	10/16/85	2	PCB	Total PCBs	58	0.033	1,800	Removed
26	EX	26	10/22/85	2	PCB	Total PCBs	11	0.033	330	
27	EX	27	10/22/85	2	PCB	Total PCBs	3	0.033	91	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
28	EX	28	10/22/85	NA	PCB	Total PCBs	10	0.033	300	
5	EX	5	10/10/85	2	PCB	Total PCBs	1.4	0.033	42	
B-1	SB	B-1	03/29/85	1 - 1.33	PCB	Total PCBs	180	0.033	5,500	
B-13	SB	B-13	03/29/85	1 - 1.67	PCB	Total PCBs	100	0.033	3,000	
B-14	SB	B-14	03/29/85	1.83 - 2.5	PCB	Total PCBs	100	0.033	3,000	
B-15	SB	B-15	03/29/85	2.67 - 3.5	PCB	Total PCBs	2.5	0.033	76	
B-16	SB	B-16	03/29/85	3.83 - 4.17	PCB	Total PCBs	0.2	0.033	6.1	
B-17	SB	B-17	03/29/85	1 - 1.17	PCB	Total PCBs	390	0.033	12,000	
B-18	SB	B-18	03/29/85	1 - 1.17	PCB	Total PCBs	91,000	0.033	2,800,000	
B-19	SB	B-19	03/29/85	1.67 - 2.5	PCB	Total PCBs	4,000	0.033	120,000	
B-2	SB	B-2	03/29/85	2.17 - 2.5	PCB	Total PCBs	7.9	0.033	240	
B-20	SB	B-20	03/29/85	3 - 3.17	PCB	Total PCBs	6,800	0.033	210,000	
B-21	SB	B-21	03/29/85	4 - 4.17	PCB	Total PCBs	7.7	0.033	230	
B-23	SB	B-23	03/29/85	6 - 7	PCB	Total PCBs	0.8	0.033	24	
B-24	SB	B-24	03/29/85	6 - 7	PCB	Total PCBs	0.6	0.033	18	
B-26	SB	B-26	03/29/85	7 - 8	PCB	Total PCBs	0.1	0.033	3.0	
B-27	SB	B-27	03/29/85	7 - 8	PCB	Total PCBs	0.2	0.033	6.1	
B-28	SB	B-28	03/29/85	7 - 8	PCB	Total PCBs	0.6	0.033	18	
B-3	SB	B-3	03/29/85	3 - 3.33	PCB	Total PCBs	0.1	0.033	3.0	
B-4	SB	B-4	03/29/85	3.75 - 4.08	PCB	Total PCBs	0.4	0.033	12	
B-5	SB	B-5	03/29/85	1.17 - 1.33	PCB	Total PCBs	310	0.033	9,400	
B-6	SB	B-6	03/29/85	1.83 - 2	PCB	Total PCBs	86	0.033	2,600	
B-7	SB	B-7	03/29/85	2.83 - 3	PCB	Total PCBs	0.4	0.033	12	
B-9	SB	B-9	03/29/85	1 - 2.33	PCB	Total PCBs	16,000	0.033	480,000	
D-1	SB	D-1	08/08/84	0 - 7.5	PCB	Total PCBs	0.24	0.033	7.3	
D-4	SB	D-4	08/08/84	0 - 7	PCB	Total PCBs	1.05	0.033	32	
D-52	SB	D-52	08/08/84	0 - 0.5	PCB	Total PCBs	1.53	0.033	46	
D-6	SB	D-6	08/21/84	0 - 7	PCB	Total PCBs	1.52	0.033	46	
D-62	SB	D-62	08/23/84	0 - 0.5	PCB	Total PCBs	1.28	0.033	39	
D-65	SS	D-65	08/28/84	0	PCB	Total PCBs	0.9	0.033	27	Removed
D-66	SS	D-66	08/28/84	0	PCB	Total PCBs	0.6	0.033	18	Removed
D-67	SS	D-67	08/28/84	0	PCB	Total PCBs	403	0.033	12,000	
D-7	SS	D-7	08/28/84	0	PCB	Total PCBs	49.9	0.033	1,500	Removed
D-8	SS	D-8	08/28/84	0	PCB	Total PCBs	34.7	0.033	1,100	Removed
D-80	SS	D-80	08/28/84	0	PCB	Total PCBs	4.02	0.033	120	Removed
D-81	SS	D-81	08/28/84	0	PCB	Total PCBs	17.7	0.033	540	Removed
D-9	SS	D-9	08/28/84	0	PCB	Total PCBs	33.2	0.033	1,000	Removed

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
Detention basin	SS	S17	03/29/84	0	PCB	Total PCBs	500	0.033	15,000	
GF-7	SB	GF-9	04/24/87	NA	PCB	Total PCBs	15	0.033	450	
GF-8	SS	GF-4	04/24/87	0	PCB	Total PCBs	1.2	0.033	36	
GTSP08-12	SB	GTSP08-12-6-8	09/15/08	6 - 8	PCB	Total PCBs	2.3	0.033	70	
GTSP08-13	SB	GTSP08-13-3-5	09/15/08	3 - 5	PCB	Total PCBs	0.2	0.033	6.1	
GTSP08-13	SB	GTSP08-13-7-9	09/15/08	7 - 9	PCB	Total PCBs	0.18	0.033	5.5	
GTSP08-15	SB	GTSP08-15-1.5-3.5	09/15/08	1.5 - 3.5	PCB	Total PCBs	0.082	0.033	2.5	
GTSP08-4	SB	GTSP08-4-3-5	09/15/08	3 - 5	PCB	Total PCBs	1	0.033	30	
GTSP08-8	SB	GTSP08-8-5.5-7	09/15/08	5.5 - 7	PCB	Total PCBs	6.2	0.033	190	
GTSP08-8	SB	GTSP08-8-7-9	09/15/08	7 - 9	PCB	Total PCBs	0.037	0.033	1.1	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	PCB	Total PCBs	3.8	0.033	120	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	MET	Cadmium	5.3	1.0	5.3	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	MET	Mercury	1.38	0.07	20	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	PAH	Benzo(g,h,i)perylene	0.086	0.031	2.8	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	PAH	Benzo(a)pyrene	0.079	0.005	16	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	PAH	2-Methylnaphthalene	0.052 J	0.0432	1.2	
GTSP-3	SB	SCL-GTSP3-A	07/27/06	0 - 3	PAH	Carcinogenic PAHs, ND*0.5	0.11416	0.005	23	
GTSP-3	SB	SCL-GTSP3-C	07/27/06	4 - 6	PCB	Total PCBs	0.069	0.033	2.1	
GTSP-5	SB	SCL-GTSP5-A	07/28/06	0 - 2	PCB	Total PCBs	0.25	0.033	7.6	
GTSP-5	SB	SCL-GTSP5-B	07/28/06	2 - 4	PCB	Total PCBs	0.11	0.033	3.3	
GTSP-5	SB	SCL-GTSP5-C	07/28/06	4 - 6	PCB	Total PCBs	1.3	0.033	39	
GTSP-5	SB	SCL-GTSP5-C	07/28/06	4 - 6	MET	Mercury	0.1	0.07	1.4	
GTSP-5	SB	SCL-GTSP5-C	07/28/06	4 - 6	PHT	Bis(2-Ethylhexyl) Phthalate	0.25	0.0471	5.3	
GTSP-5	SB	SCL-GTSP5-CS	07/28/06	4 - 6	TPH	Gasoline Range Hydrocarbons	120 J	30	4.0	
GTSP-5	SB	SCL-GTSP5-D	07/28/06	6 - 8	PCB	Total PCBs	0.26	0.033	7.9	
GTSP-5	SB	SCL-GTSP5-D	07/28/06	6 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	0.07	0.0471	1.5	
GTSP-5	SB	SCL-GTSP5-E	07/28/06	8 - 10	PCB	Total PCBs	0.133	0.033	4.0	
GTSP-5	SB	SCL-GTSP5-E	07/28/06	8 - 10	PHT	Bis(2-Ethylhexyl) Phthalate	0.072	0.0471	1.5	
GTSP-5	SB	SCL-GTSP5-F	07/28/06	10 - 12	PCB	Total PCBs	0.102	0.033	3.1	
GTSP-5	SB	SCL-GTSP5-F	07/28/06	10 - 12	PHT	Bis(2-Ethylhexyl) Phthalate	0.088	0.0471	1.9	
GTSP-5	SB	SCL-GTSP5-G	07/28/06	12 - 14	PCB	Total PCBs	0.092	0.033	2.8	
GTSP-5	SB	SCL-GTSP5-H	07/28/06	14 - 15	PCB	Total PCBs	0.036	0.033	1.1	
LLA-1	SB	LLA-1	09/19/01	5.5 - 7.5	PCB	Total PCBs	8	0.033	240	
LLA-2	SB	LLA-2	09/19/01	5 - 6.5	PCB	Total PCBs	0.22	0.033	6.7	
LLA-3	SB	LLA-3	09/19/01	6 - 7.5	PCB	Total PCBs	0.057	0.033	1.7	
LLA-3	SB	LLA-3	09/19/01	6 - 7.5	PAH	2-Methylnaphthalene	0.045	0.0432	1.0	
LLASB02	SB	A00-06-21DLLASB02-0.5	07/27/10	0 - 0.5	PCB	Total PCBs	0.41	0.033	12	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
LLASB02	SB	A00-06-21DLLASB02-2	07/28/10	0.5 - 2	PCB	Total PCBs	7.4	0.033	220	
LLASB02	SB	A00-06-21DLLASB02-5	07/28/10	3.5 - 5	TPH	Gasoline Range Hydrocarbons	1,200	30	40	
LLASB02	SB	A00-06-21DLLASB02-5	07/28/10	3.5 - 5	PHT	Bis(2-Ethylhexyl) Phthalate	0.15	0.0471	3.2	
LLASB02	SB	A00-06-21DLLASB02-5	07/28/10	3.5 - 5	PAH	2-Methylnaphthalene	0.11 J	0.0432	2.5	
LLASB02	SB	A00-06-21DLLASB02-5	07/28/10	3.5 - 5	PAH	Carcinogenic PAHs, ND*0.5	0.0038685	0.005	≤ 1.0	
LLASB03	SB	A00-06-21DLLASB03-0.5	07/21/10	0 - 0.5	PCB	Total PCBs	0.2	0.033	6.1	
LLASB03	SB	A00-06-21DLLASB03-2	07/21/10	0.5 - 2	PCB	Total PCBs	1.08	0.033	33	
LLASB03	SB	A00-06-21DLLASB03-3.5	07/21/10	2 - 3.5	PCB	Total PCBs	0.18	0.033	5.5	
LLASB03	SB	A00-06-21DLLASB03-5	07/21/10	3.5 - 5	PCB	Total PCBs	0.049	0.033	1.5	
LLASB03	SB	A00-06-21DLLASB03-6.5	07/21/10	5 - 6.5	PCB	Total PCBs	0.138	0.033	4.2	
LLASB04	SB	A00-06-21DLLASB04-0.5	07/21/10	0 - 0.5	PCB	Total PCBs	1.02	0.033	31	
LLASB04	SB	A00-06-21DLLASB04-2	07/21/10	0.5 - 2	PCB	Total PCBs	0.68	0.033	21	
LLASB04	SB	A00-06-21DLLASB04-3.5	07/21/10	2 - 3.5	PCB	Total PCBs	5.2	0.033	160	
LLASB04	SB	A00-06-21DLLASB04-5	07/21/10	3.5 - 5	PCB	Total PCBs	0.109	0.033	3.3	
LLASB04	SB	A00-06-21DLLASB04-6.5	07/21/10	5 - 6.5	PCB	Total PCBs	0.41	0.033	12	
LLASB05	SB	A00-06-21DLLASB05-0.5	07/24/10	0 - 0.5	PCB	Total PCBs	0.45	0.033	14	
LLASB05	SB	A00-06-21DLLASB05-2	07/24/10	0.5 - 2	PCB	Total PCBs	0.7	0.033	21	
LLASB05	SB	A00-06-21DLLASB05-3.5	07/24/10	2 - 3.5	PCB	Total PCBs	1.45	0.033	44	
LLASB05	SB	A00-06-21DLLASB05-5	07/24/10	3.5 - 5	PCB	Total PCBs	1.18	0.033	36	
LLASB05	SB	A00-06-21DLLASB05-6.5	07/24/10	5 - 6.5	PCB	Total PCBs	12.5	0.033	380	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PCB	Total PCBs	5.6	0.033	170	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Arsenic	11	7.0	1.6	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Cadmium	2.6	1.0	2.6	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Copper	136	36	3.8	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Lead	140	56.7	2.5	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Mercury	2.56	0.07	37	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Nickel	130	38	3.4	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	MET	Zinc	310	86	3.6	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	1	0.0471	21	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.17	0.031	5.5	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PAH	Benzo(a)pyrene	0.2	0.005	40	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PAH	Fluoranthene	0.42	0.161	2.6	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PAH	2-Methylnaphthalene	0.2	0.0432	4.6	
LLASB05	SB	A00-06-21DLLASB05-8	07/24/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.3024	0.005	60	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PCB	Total PCBs	0.28	0.033	8.5	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.3	0.0471	6.4	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PAH	Benzo(g,h,i)perylene	0.036	0.031	1.2	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PAH	Benzo(a)pyrene	0.053	0.005	11	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PAH	Fluoranthene	0.17	0.161	1.1	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PAH	2-Methylnaphthalene	0.086	0.0432	2.0	
LLASB05	SB	A00-06-21DLLASB05-9.5	07/24/10	8 - 9.5	PAH	Carcinogenic PAHs, ND*0.5	0.08084	0.005	16	
LLASB06	SB	A00-06-21DLLASB06-0.5	07/26/10	0 - 0.5	PCB	Total PCBs	0.25	0.033	7.6	
LLASB06	SB	A00-06-21DLLASB06-2	07/26/10	0.5 - 2	MET	Arsenic	9	7.0	1.3	
LLASB06	SB	A00-06-21DLLASB06-2	07/26/10	0.5 - 2	PAH	Benzo(a)pyrene	0.035	0.005	7.0	
LLASB06	SB	A00-06-21DLLASB06-2	07/26/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.04041	0.005	8.1	
LLASB06	SB	A00-06-21DLLASB06-3.5	07/26/10	2 - 3.5	MET	Arsenic	10	7.0	1.4	
LLASB06	SB	A00-06-21DLLASB06-5	07/26/10	3.5 - 5	MET	Arsenic	17	7.0	2.4	
LLASB06	SB	A00-06-21DLLASB06-5	07/26/10	3.5 - 5	MET	Zinc	137	86	1.6	
LLASB06	SB	A00-06-21DLLASB06-6.5	07/26/10	5 - 6.5	MET	Arsenic	11	7.0	1.6	
LLASB06	SB	A00-06-21DLLASB06-6.5	07/26/10	5 - 6.5	MET	Zinc	95	86	1.1	
LLASB06	SB	A00-06-21DLLASB06-8S	07/26/10	6.5 - 8	MET	Arsenic	8	7.0	1.1	
LLASB07	SB	A00-06-21DLLASB07-0.5	07/26/10	0 - 0.5	PCB	Total PCBs	0.44	0.033	13	
LLASB07	SB	A00-06-21DLLASB07-2	07/28/10	0.5 - 2	PCB	Total PCBs	0.086	0.033	2.6	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	MET	Arsenic	16	7.0	2.3	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	MET	Copper	50.9	36	1.4	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	MET	Mercury	0.12	0.07	1.7	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	MET	Zinc	112	86	1.3	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	PAH	2-Methylnaphthalene	0.068	0.0432	1.6	
LLASB07	SB	A00-06-21DLLASB07-3.5	07/28/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.01537	0.005	3.1	
LLASB07	SB	A00-06-21DLLASB07-6.5	07/28/10	5 - 6.5	MET	Arsenic	11	7.0	1.6	
LLASB07	SB	A00-06-21DLLASB07-6.5	07/28/10	5 - 6.5	MET	Copper	63	36	1.8	
LLASB07	SB	A00-06-21DLLASB07-6.5	07/28/10	5 - 6.5	MET	Mercury	0.14	0.07	2.0	
LLASB07	SB	A00-06-21DLLASB07-6.5	07/28/10	5 - 6.5	PAH	2-Methylnaphthalene	0.077	0.0432	1.8	
LLASB07	SB	A00-06-21DLLASB07-8	07/28/10	6.5 - 8	MET	Zinc	234	86	2.7	
LLASB07	SB	A00-06-21DLLASB07-8	07/28/10	6.5 - 8	PAH	2-Methylnaphthalene	0.16	0.0432	3.7	
LLASB08	SB	A00-06-21DLLASB08-0.5	07/24/10	0 - 0.5	PCB	Total PCBs	4.1	0.033	120	
LLASB08	SB	A00-06-21DLLASB08-2	07/24/10	0.5 - 2	PCB	Total PCBs	0.39	0.033	12	
LLASB08	SB	A00-06-21DLLASB08-9.5	07/24/10	8 - 9.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.062	0.0471	1.3	
LLASB10	SB	A00-06-21DLLASB10-0.5	07/26/10	0 - 0.5	PCB	Total PCBs	1.4	0.033	42	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	PCB	Total PCBs	0.36	0.033	11	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	MET	Arsenic	12	7.0	1.7	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	MET	Copper	39.6	36	1.1	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	MET	Lead	85	56.7	1.5	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	MET	Mercury	0.34 J	0.07	4.9	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	MET	Zinc	95	86	1.1	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	PAH	Benzo(a)pyrene	0.026	0.005	5.2	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	PAH	2-Methylnaphthalene	0.06	0.0432	1.4	
LLASB10	SB	A00-06-21DLLASB10-2	07/26/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.03664	0.005	7.3	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	PCB	Total PCBs	0.071	0.033	2.2	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	MET	Arsenic	13	7.0	1.9	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	MET	Zinc	88	86	1.0	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	PAH	Benzo(a)pyrene	0.01 J	0.005	2.0	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	PAH	2-Methylnaphthalene	0.086	0.0432	2.0	
LLASB10	SB	A00-06-21DLLASB10-3.5	07/26/10	2 - 3.5	PAH	Carcinogenic PAHs, ND*0.5	0.01525	0.005	3.1	
LLASB10	SB	A00-06-21DLLASB10-5S	07/26/10	3.5 - 5	MET	Arsenic	12	7.0	1.7	
LLASB10	SB	A00-06-21DLLASB10-5S	07/26/10	3.5 - 5	MET	Zinc	109	86	1.3	
LLASB10	SB	A00-06-21DLLASB10-6.5	07/26/10	5 - 6.5	PCB	Total PCBs	0.047	0.033	1.4	
LLASB10	SB	A00-06-21DLLASB10-8	07/26/10	6.5 - 8	MET	Mercury	0.17 J	0.07	2.4	
LLASB11	SB	A00-06-21DLLASB11-0.5	07/26/10	0 - 0.5	PCB	Total PCBs	0.29	0.033	8.8	
LLASB11	SB	A00-06-21DLLASB11-8	07/26/10	6.5 - 8	MET	Arsenic	14	7.0	2.0	
LLASB11	SB	A00-06-21DLLASB11-8	07/26/10	6.5 - 8	MET	Zinc	118	86	1.4	
LLASB11	SB	A00-06-21DLLASB11-8	07/26/10	6.5 - 8	PAH	2-Methylnaphthalene	0.19	0.0432	4.4	
LLASB11	SB	A00-06-21DLLASB11-8	07/26/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.01518	0.005	3.0	
LLASB12	SB	A00-06-21DLLASB12-0.5	07/29/10	0 - 0.5	PCB	Total PCBs	0.25	0.033	7.6	
LLASB12	SB	A00-06-21DLLASB12-5	07/28/10	3.5 - 5	MET	Copper	45.2	36	1.3	
LLASB12	SB	A00-06-21DLLASB12-5	07/28/10	3.5 - 5	PHT	Bis(2-Ethylhexyl) Phthalate	0.1	0.0471	2.1	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	MET	Arsenic	9	7.0	1.3	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	MET	Copper	63	36	1.8	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	MET	Mercury	0.49	0.07	7.0	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.21	0.0471	4.5	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	PAH	Benzo(a)pyrene	0.012 J	0.005	2.4	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	PAH	2-Methylnaphthalene	0.099	0.0432	2.3	
LLASB12	SB	A00-06-21DLLASB12-6.5	07/28/10	5 - 6.5	PAH	Carcinogenic PAHs, ND*0.5	0.01699	0.005	3.4	
LLASB12	SB	A00-06-21DLLASB12-7.5	07/28/10	6.5 - 7.5	MET	Arsenic	11	7.0	1.6	
LLASB12	SB	A00-06-21DLLASB12-7.5	07/28/10	6.5 - 7.5	MET	Copper	109	36	3.0	
LLATW01	NA	A00-06-21DLLATW01-0.5	07/20/10	0 - 0.5	PCB	Total PCBs	1.67	0.033	51	
LLATW01	NA	A00-06-21DLLATW01-11	07/21/10	9.5 - 11	PCB	Total PCBs	0.13	0.033	3.9	
LLATW01	NA	A00-06-21DLLATW01-2	07/20/10	0.5 - 2	PCB	Total PCBs	0.36	0.033	11	
LLATW01	NA	A00-06-21DLLATW01-3.5	07/20/10	2 - 3.5	PCB	Total PCBs	0.2	0.033	6.1	
LLATW01	NA	A00-06-21DLLATW01-5	07/20/10	3.5 - 5	PCB	Total PCBs	79	0.033	2,400	
LLATW01	NA	A00-06-21DLLATW01-5	07/20/10	3.5 - 5	PAH	2-Methylnaphthalene	0.16	0.0432	3.7	

Table 7.1-2
RI Selected Screening Level Exceedances for Detected COPCs in Soil at GTSP

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
LLATW01	NA	A00-06-21DLLATW01-6.5	07/20/10	5 - 6.5	PCB	Total PCBs	2.4	0.033	73	
LLATW01	NA	A00-06-21DLLATW01-8	07/20/10	6.5 - 8	PCB	Total PCBs	0.064	0.033	1.9	
LLATW02	NA	A00-06-21DLLATW02-0.5	07/23/10	0 - 0.5	PCB	Total PCBs	0.29	0.033	8.8	
LLATW02	NA	A00-06-21DLLATW02-2	07/23/10	0.5 - 2	PCB	Total PCBs	1.6	0.033	48	
LLATW02	NA	A00-06-21DLLATW02-3.5	07/23/10	2 - 3.5	PCB	Total PCBs	0.66	0.033	20	
LLATW02	NA	A00-06-21DLLATW02-4.5	07/23/10	3.5 - 4.5	PCB	Total PCBs	0.17	0.033	5.2	
LLATW03	NA	A00-06-21DLLATW03-0.5	07/20/10	0 - 0.5	PCB	Total PCBs	62	0.033	1,900	
LLATW03	NA	A00-06-21DLLATW03-11	07/21/10	9.5 - 11	PCB	Total PCBs	0.08	0.033	2.4	
LLATW03	NA	A00-06-21DLLATW03-15.5	07/21/10	14 - 15.5	PCB	Total PCBs	0.067	0.033	2.0	
LLATW03	NA	A00-06-21DLLATW03-3.5	07/20/10	2 - 3.5	PCB	Total PCBs	5.4	0.033	160	
LLATW03	NA	A00-06-21DLLATW03-5	07/20/10	3.5 - 5	PCB	Total PCBs	1.1	0.033	33	
LLATW03	NA	A00-06-21DLLATW03-6.5	07/20/10	5 - 6.5	PCB	Total PCBs	0.52	0.033	16	
LLATW03	NA	A00-06-21DLLATW03-6.5	07/20/10	5 - 6.5	BTX	Benzene	0.073	0.001	73	
LLATW04	NA	A00-06-21DLLATW04-0.5	07/20/10	0 - 0.5	PAH	Benzo(a)pyrene	0.033	0.005	6.6	
LLATW04	NA	A00-06-21DLLATW04-0.5	07/20/10	0 - 0.5	PAH	Carcinogenic PAHs, ND*0.5	0.04305	0.005	8.6	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PCB	Total PCBs	16	0.033	480	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PHT	Bis(2-Ethylhexyl) Phthalate	0.097	0.0471	2.1	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PAH	Benzo(g,h,i)perylene	0.055	0.031	1.8	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PAH	Benzo(a)pyrene	0.12	0.005	24	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PAH	Fluoranthene	0.24	0.161	1.5	
LLATW04	NA	A00-06-21DLLATW04-2	07/20/10	0.5 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1663	0.005	33	
LLATW04	NA	A00-06-21DLLATW04-3.5	07/20/10	2 - 3.5	PCB	Total PCBs	12	0.033	360	
LLATW04	NA	A00-06-21DLLATW04-5	07/20/10	3.5 - 5	PCB	Total PCBs	2.3	0.033	70	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PCB	Total PCBs	9.3	0.033	280	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PHT	Bis(2-Ethylhexyl) Phthalate	0.059	0.0471	1.3	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PAH	Benzo(g,h,i)perylene	0.037	0.031	1.2	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PAH	Benzo(a)pyrene	0.084	0.005	17	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PAH	2-Methylnaphthalene	0.2	0.0432	4.6	
LLATW04	NA	A00-06-21DLLATW04-8	07/20/10	6.5 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.11031	0.005	22	
LLATW04	NA	A00-06-21DLLATW04-9.5	07/20/10	8 - 9.5	PCB	Total PCBs	0.19	0.033	5.8	
RR-4	SB	RR-4	09/19/01	0.5 - 2	PCB	Total PCBs	3.6	0.033	110	
S-0	SS	S-0	08/28/84	0	PCB	Total PCBs	54.5	0.033	1,700	Removed
T-42	SS	T-42	08/28/84	0	PCB	Total PCBs	1,662	0.033	50,000	

BTX = BTEX
EX = Excavation
J = Estimated value
MET = Metals
MW = Monitoring well
NA = Not available
PAH = Polycyclic aromatic hydrocarbons
PCB = Polychlorinated biphenyls
PHT = Phthalates
RE = Retaining wall
RISL = RI Selected Screening Level
SB = Soil boring
SS = Surface soil
TPH = Total petroleum hydrocarbons
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-3
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at GTSP

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
East Yard Area								
GTSP-1	MW	A00-06-21DGTSP-1-GW-6-10	06/18/10	MET	Copper	3.4	1.3	2.6
GTSP-1	MW	SCL-GTSP1-1	08/01/06	VOC	Trichloroethene (TCE)	1.2	0.74	1.6
GTSP-1	MW	SCL-GTSP1-2	11/16/06	VOC	Trichloroethene (TCE)	1	0.74	1.4
GTSP-1	MW	SCL-GTSP1-3	02/28/07	VOC	Trichloroethene (TCE)	0.98	0.74	1.3
GTSP-1	MW	SCL-GTSP1-4	05/30/07	VOC	Trichloroethene (TCE)	1.1	0.74	1.5
Fuel Tank Area								
No detected exceedances								
South Yard Area								
GTSP-2	MW	A00-06-21DGTSP-2-GW-6-10LR	06/17/10	MET	Cadmium	1.2	0.21	5.7
GTSP-4	MW	A00-06-21DGTSP-4-GW-6-10	06/18/10	MET	Nickel	33	8.2	4.0
SYATW01	TW	A00-06-21DSYATW01-GW	07/29/10	PHT	Bis(2-Ethylhexyl) Phthalate	1.7	1.0	1.7
Low-Lying Area								
GTSP-3	MW	A00-06-21DGTSP-3-GW-6-10	06/18/10	MET	Copper	2.2	1.3	1.7
GTSP-5	MW	SCL-GTSP5-1	08/02/06	PCB	Total PCBs	0.24	0.01	24
GTSP-5	MW	SCL-GTSP5-2D	11/16/06	PCB	Total PCBs	0.19	0.01	19
GTSP-5	MW	SCL-GTSP5-3	02/28/07	PCB	Total PCBs	0.16	0.01	16
GTSP-5	MW	SCL-GTSP5-4	05/30/07	PCB	Total PCBs	0.17	0.01	17
LLATW01	MW	A00-06-21DLLATW01-GW	07/22/10	PCB	Total PCBs	4.3	0.01	430
LLATW03	MW	A00-06-21DLLATW03-GW	07/22/10	PCB	Total PCBs	0.012	0.01	1.2
LLATW04	MW	A00-06-21DLLATW04-GW	07/22/10	PCB	Total PCBs	0.157	0.01	16

MW = Monitoring well
MET = Metals
PCB = Polychlorinated biphenyls
PHT = Phthalates
RISL = RI Selected Screening Level
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
NBF Fenceline Area										
Composite #1	SB	Composite #1 (7,8,11,12,15,16,17)	10/10/85	1.9 - 4.5	PCB	Total PCBs	190	0.033	5,800	
Composite #2	SB	Composite #2 (9,10,13,14,18,19,20)	10/11/85	1.9 - 4.5	PCB	Total PCBs	220	0.033	6,700	
FL-3	SB	FL-3	05/18/04	2 - 3	PCB	Total PCBs	102	0.033	3,100	
Former Tank BF-27	EX	BF-27 8'(area composite)	05/21/86	4	PCB	Total PCBs	40	0.033	1,200	
Former Tank BF-27	EX	BF-27 4'(area composite)	05/22/86	8	PCB	Total PCBs	13	0.033	390	
Former Tank BF-27	EX	BF-27 12'(S. composite)	05/28/86	12	PCB	Total PCBs	43	0.033	1,300	
IA01	EX	SCL-IA01	05/16/06	1 - 1.5	PCB	Total PCBs	890	0.033	27,000	
IA02	EX	SCL-IA02	05/16/06	1 - 1.5	PCB	Total PCBs	15	0.033	450	
IA03	EX	SCL-IA03	05/16/06	1 - 1.5	PCB	Total PCBs	140	0.033	4,200	
IA04	EX	SCL-IA04	05/16/06	1.4 - 1.9	PCB	Total PCBs	160	0.033	4,800	
IA05	EX	SCL-IA05	05/16/06	1.8 - 2.3	PCB	Total PCBs	110	0.033	3,300	
IA06	EX	SCL-IA06	05/16/06	2.2 - 2.7	PCB	Total PCBs	1,100	0.033	33,000	
IA07	EX	SCL-IA07	05/16/06	2.6 - 3.1	PCB	Total PCBs	930	0.033	28,000	
IA08	EX	SCL-IA08	05/16/06	2.5 - 3	PCB	Total PCBs	3,800	0.033	120,000	
IA09	EX	SCL-IA09	05/16/06	2.5 - 3	PCB	Total PCBs	2,500	0.033	76,000	
IA10	EX	SCL-IA10	05/16/06	2.5 - 3	PCB	Total PCBs	2,000	0.033	61,000	
IA11	EX	SCL-IA11	05/16/06	2.5 - 3	PCB	Total PCBs	120	0.033	3,600	
IA12	EX	SCL-IA12	05/16/06	2.5 - 3	PCB	Total PCBs	62	0.033	1,900	
IA15	EX	SCL-IA15	05/17/06	2.7 - 3.2	PCB	Total PCBs	2.2	0.033	67	
IA17	EX	SCL-IA17	05/17/06	2.7 - 3.2	PCB	Total PCBs	1.3	0.033	39	
IA19	EX	SCL-IA19	05/17/06	2.8 - 3.3	PCB	Total PCBs	0.35	0.033	11	
IA21	EX	SCL-IA21	05/17/06	3.2 - 3.8	PCB	Total PCBs	120	0.033	3,600	
IA23	EX	SCL-IA23	05/17/06	3.1 - 3.6	PCB	Total PCBs	0.33	0.033	10	
IA25	EX	SCL-IA25	05/18/06	2.6 - 3.1	PCB	Total PCBs	1.4	0.033	42	
IA27	EX	SCL-IA27	05/18/06	2.8 - 3.3	PCB	Total PCBs	1.2	0.033	36	
IA29	EX	SCL-IA29	05/18/06	3 - 3.6	PCB	Total PCBs	1.4	0.033	42	
IA31	EX	SCL-IA31	05/18/06	3.4 - 3.9	PCB	Total PCBs	0.06	0.033	1.8	
IA32	EX	SCL-IA32	05/18/06	3.4 - 3.9	PCB	Total PCBs	0.077	0.033	2.3	
IA33	EX	SCL-IA33	05/18/06	3.4 - 3.9	PCB	Total PCBs	0.2	0.033	6.1	
J1	RE	SCL-J1-F1	01/26/06	0	PCB	Total PCBs	0.52	0.033	16	
J1	RE	SCL-J1-F1	01/26/06	0	MET	Arsenic	8	7.0	1.1	
J1	RE	SCL-J1-F1	01/26/06	0	MET	Mercury	1.02 J	0.07	15	
J1	RE	SCL-J1-F1	01/26/06	0	MET	Zinc	1,130 J	86	13	
J1	RE	SCL-J1-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.049 J	0.005	9.8	
J1	RE	SCL-J1-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.06842	0.005	14	
J1	RE	SCL-J1-B1	01/27/06	0.25 - 3	PCB	Total PCBs	0.07	0.033	2.1	
J1	RE	SCL-J1-B2	01/27/06	0.25 - 3	MET	Mercury	1.08	0.07	15	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
J2	RE	SCL-J2-F1	01/26/06	0	PCB	Total PCBs	11	0.033	330	
J2	RE	SCL-J2-S1	01/26/06	0 - 0.25	PCB	Total PCBs	0.32	0.033	9.7	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Arsenic	10	7.0	1.4	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Cadmium	1.7	1.0	1.7	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Copper	50.9	36	1.4	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Lead	74	56.7	1.3	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Mercury	1.39	0.07	20	
J2	RE	SCL-J2-S1	01/26/06	0 - 0.25	MET	Mercury	0.18 J	0.07	2.6	
J2	RE	SCL-J2-F1	01/26/06	0	MET	Zinc	344	86	4.0	
J2	RE	SCL-J2-S1	01/26/06	0 - 0.25	MET	Zinc	588	86	6.8	
J2	RE	SCL-J2-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.06 J	0.005	12	
J2	RE	SCL-J2-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.0866	0.005	17	
J2	RE	SCL-J2-B1	01/27/06	0.25 - 3	PCB	Total PCBs	36	0.033	1,100	
J2	RE	SCL-J2-B1	01/27/06	0.25 - 3	MET	Mercury	2.9	0.07	41	
J2	RE	SCL-J2-B1	01/27/06	0.25 - 3	MET	Zinc	175	86	2.0	
J3	RE	SCL-J3-F1	01/26/06	0	PCB	Total PCBs	6	0.033	180	
J3	RE	SCL-J3-S1	01/26/06	0 - 0.25	PCB	Total PCBs	0.087	0.033	2.6	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Arsenic	9	7.0	1.3	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Cadmium	1.4	1.0	1.4	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Copper	42	36	1.2	
J3	RE	SCL-J3-S1	01/26/06	0 - 0.25	MET	Copper	40.7	36	1.1	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Lead	58	56.7	1.0	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Mercury	1.19	0.07	17	
J3	RE	SCL-J3-F1	01/26/06	0	MET	Zinc	269	86	3.1	
J3	RE	SCL-J3-S1	01/26/06	0 - 0.25	MET	Zinc	242	86	2.8	
J3	RE	SCL-J3-F1	01/26/06	0	PAH	Benzo(g,h,i)perylene	0.054 J	0.031	1.7	
J3	RE	SCL-J3-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.22	0.005	44	
J3	RE	SCL-J3-F1	01/26/06	0	PAH	Fluoranthene	0.4	0.161	2.5	
J3	RE	SCL-J3-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.307	0.005	61	
J3	RE	SCL-J3-B1	01/27/06	0.25 - 3	PCB	Total PCBs	28	0.033	850	
J3	RE	SCL-J3-B1	01/27/06	0.25 - 3	MET	Mercury	0.9	0.07	13	
J5	RE	SCL-J5-F1	01/26/06	0	PCB	Total PCBs	28	0.033	850	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	PCB	Total PCBs	0.42	0.033	13	
J5	RE	SCL-J5-F1	01/26/06	0	MET	Arsenic	9	7.0	1.3	
J5	RE	SCL-J5-F1	01/26/06	0	MET	Cadmium	1.7	1.0	1.7	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	MET	Cadmium	1.5	1.0	1.5	
J5	RE	SCL-J5-F1	01/26/06	0	MET	Copper	48.3	36	1.3	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	MET	Copper	142	36	3.9	
J5	RE	SCL-J5-F1	01/26/06	0	MET	Mercury	1.82	0.07	26	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	MET	Nickel	40	38	1.1	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	MET	Zinc	4,330	86	50	
J5	RE	SCL-J5-F1	01/26/06	0	PAH	Benzo(g,h,i)perylene	0.07	0.031	2.3	
J5	RE	SCL-J5-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.38	0.005	76	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	PAH	Benzo(a)pyrene	0.046 J	0.005	9.2	
J5	RE	SCL-J5-F1	01/26/06	0	PAH	Fluoranthene	0.44	0.161	2.7	
J5	RE	SCL-J5-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.508	0.005	100	
J5	RE	SCL-J5-S1	01/26/06	0 - 0.25	PAH	Carcinogenic PAHs, ND*0.5	0.07307	0.005	15	
J5	RE	SCL-J5-B1	01/27/06	0.25 - 3	PCB	Total PCBs	16	0.033	480	
J5	RE	SCL-J5-B1	01/27/06	0.25 - 3	MET	Arsenic	10	7.0	1.4	
J5	RE	SCL-J5-B1	01/27/06	0.25 - 3	MET	Cadmium	1.1	1.0	1.1	
J5	RE	SCL-J5-B1	01/27/06	0.25 - 3	MET	Mercury	2.03	0.07	29	
J5	RE	SCL-J5-B1	01/27/06	0.25 - 3	MET	Zinc	153	86	1.8	
J6	RE	SCL-J6-F1	01/26/06	0	PCB	Total PCBs	410	0.033	12,000	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	PCB	Total PCBs	2.6	0.033	79	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Arsenic	9	7.0	1.3	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Cadmium	2.9	1.0	2.9	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Copper	60.3	36	1.7	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	MET	Copper	75.1	36	2.1	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Lead	67	56.7	1.2	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Mercury	4.33	0.07	62	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	MET	Mercury	0.32	0.07	4.6	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	MET	Nickel	57	38	1.5	
J6	RE	SCL-J6-F1	01/26/06	0	MET	Zinc	978	86	11	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	MET	Zinc	1,110	86	13	
J6	RE	SCL-J6-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.053 J	0.005	11	
J6	RE	SCL-J6-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.07884	0.005	16	
J6	RE	SCL-J6-S1	01/26/06	0 - 0.25	PAH	Carcinogenic PAHs, ND*0.5	0.05091	0.005	10	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	PCB	Total PCBs	3,900	0.033	120,000	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	MET	Arsenic	14	7.0	2.0	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	MET	Cadmium	2.5	1.0	2.5	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	MET	Copper	36.8	36	1.0	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	MET	Mercury	5.7	0.07	81	
J6	RE	SCL-J6-B1	01/27/06	0.25 - 3	MET	Zinc	224	86	2.6	
J7	RE	SCL-J7-F1	01/26/06	0	PCB	Total PCBs	58	0.033	1,800	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	PCB	Total PCBs	78	0.033	2,400	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Arsenic	9	7.0	1.3	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Cadmium	2.1	1.0	2.1	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Copper	62.6	36	1.7	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Lead	64	56.7	1.1	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Mercury	0.49	0.07	7.0	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	MET	Zinc	256	86	3.0	
J7	RE	SCL-J7-F1	01/26/06	0	PAH	Benzo(a)pyrene	0.055 J	0.005	11	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	PAH	Benzo(a)pyrene	0.13	0.005	26	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	PAH	Fluoranthene	0.27	0.161	1.7	
J7	RE	SCL-J7-F1	01/26/06	0	PAH	Carcinogenic PAHs, ND*0.5	0.08221	0.005	16	
J7	RE	SCL-J7-S1	01/26/06	0 - 0.25	PAH	Carcinogenic PAHs, ND*0.5	0.1859	0.005	37	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	PCB	Total PCBs	63	0.033	1,900	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	MET	Arsenic	9	7.0	1.3	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	MET	Cadmium	1.4	1.0	1.4	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	MET	Copper	39.5	36	1.1	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	MET	Mercury	0.63	0.07	9.0	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	MET	Zinc	139	86	1.6	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	PAH	Benzo(a)pyrene	0.063 J	0.005	13	
J7	RE	SCL-J7-B1	01/27/06	0.25 - 3	PAH	Carcinogenic PAHs, ND*0.5	0.08816	0.005	18	
LAI-SB01	SB	SB01(0-2)071310	07/13/10	0 - 2	PCB	Total PCBs	0.2	0.033	6.1	
LAI-SB02	SB	SB02(2-4)071310	07/13/10	2 - 4	BTX	Benzene	0.0033	0.001	3.3	
LAI-SB02	SB	SB02(2-4)071310	07/13/10	2 - 4	VOC	Methylene Chloride	0.0068	0.0012	5.7	
LAI-SB02	SB	SB02(2-4)071310	07/13/10	2 - 4	VOC	Tetrachloroethene (PCE)	0.0046	0.001	4.6	
LAI-SB02	SB	SB02(2-4)071310	07/13/10	2 - 4	VOC	Trichloroethene (TCE)	0.12	0.001	120	
LAI-SB03	SB	SB03(0-2)071310	07/13/10	0 - 2	PCB	Total PCBs	0.43	0.033	13	
LAI-SB03	SB	SB03(2-4)071310	07/13/10	2 - 4	PCB	Total PCBs	0.65	0.033	20	
LAI-SB03	SB	SB03(2-4)071310	07/13/10	2 - 4	MET	Arsenic	10	7.0	1.4	
LAI-SB03	SB	SB03(2-4)071310	07/13/10	2 - 4	MET	Copper	59	36	1.6	
LAI-SB03	SB	SB03(2-4)071310	07/13/10	2 - 4	MET	Lead	57	56.7	1.0	
LAI-SB03	SB	SB03(2-4)071310	07/13/10	2 - 4	MET	Mercury	0.18	0.07	2.6	
LAI-SB04	SB	SB04(0-2)071310	07/13/10	0 - 2	PCB	Total PCBs	5.4	0.033	160	
LAI-SB04	SB	SB04(0-2)071310	07/13/10	0 - 2	VOC	Methylene Chloride	0.0073	0.0012	6.1	
LAI-SB04	SB	SB04(0-2)071310	07/13/10	0 - 2	VOC	Trichloroethene (TCE)	0.0019	0.001	1.9	
LAI-SB04	SB	SB04(2-4)071310	07/13/10	2 - 4	PCB	Total PCBs	0.47	0.033	14	
LAI-SB04	SB	SB04(4-6)071410	07/14/10	4 - 6	PCB	Total PCBs	0.108	0.033	3.3	
LAI-SB05	SB	SB05(0-2)071310	07/13/10	0 - 2	PCB	Total PCBs	0.065	0.033	2.0	
LAI-SB06	SB	SB06(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.091	0.033	2.8	
LAI-SB07	SB	SB07(0-2)071310	07/13/10	0 - 2	PCB	Total PCBs	3.2	0.033	97	
LAI-SB07	SB	SB07(0-2)071310	07/13/10	0 - 2	BTX	Benzene	0.0049	0.001	4.9	
LAI-SB07	SB	SB07(0-2)071310	07/13/10	0 - 2	VOC	Methylene Chloride	0.004	0.0012	3.3	
LAI-SB07	SB	SB07(2-4)071310	07/13/10	2 - 4	PCB	Total PCBs	640	0.033	19,000	
LAI-SB07	SB	SB07(2-4)071310	07/13/10	2 - 4	MET	Cadmium	2.5	1.0	2.5	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LAI-SB07	SB	SB07(2-4)071310	07/13/10	2 - 4	MET	Mercury	4	0.07	57	
LAI-SB07	SB	SB07(4-6)071410	07/14/10	4 - 6	PCB	Total PCBs	2,300	0.033	70,000	
LAI-SB07	SB	SB07(6-8)071410	07/14/10	6 - 8	PCB	Total PCBs	0.26	0.033	7.9	
LAI-SB08	SB	SB08(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	8.9	0.033	270	
LAI-SB09	SB	SB09(0-2)071410	07/14/10	0 - 2	PCB	Total PCBs	0.072	0.033	2.2	
LAI-SB09	SB	SB09(0-2)071410	07/14/10	0 - 2	PAH	2-Methylnaphthalene	0.2	0.0432	4.6	
LAI-SB09	SB	SB09(0-2)071410	07/14/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.0461	0.005	9.2	
LAI-SB09	SB	SB09(4-6)071410	07/14/10	4 - 6	PCB	Total PCBs	0.41	0.033	12	
LAI-SB09	SB	SB09(6-8)071410	07/14/10	6 - 8	PCB	Total PCBs	0.138	0.033	4.2	
LAI-SB11	SB	SB11(0-2)071410	07/14/10	0 - 2	PCB	Total PCBs	0.32	0.033	9.7	
LAI-SB13	SB	SB13(2-4)071410	07/14/10	2 - 4	MET	Mercury	0.23	0.07	3.3	
LAI-SB14	SB	SB14(0-2)071410	07/14/10	0 - 2	PCB	Total PCBs	0.36	0.033	11	
LAI-SB16	SB	SB16(0-2)071410	07/14/10	0 - 2	PCB	Total PCBs	0.034	0.033	1.0	
LAI-SB16	SB	SB16(2-4)071410	07/14/10	2 - 4	PCB	Total PCBs	0.039	0.033	1.2	
LAI-SB17	SB	SB17(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.046	0.033	1.4	
LAI-SB22	SB	SB22(2-4)071510	07/15/10	2 - 4	PCB	Total PCBs	0.22	0.033	6.7	
LAI-SB35	SB	LAISB-35-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	1.4	0.033	42	
LAI-SB35	SB	LAISB-35-2-4-080310	08/03/10	2 - 4	PCB	Total PCBs	0.07	0.033	2.1	
LAI-SB37	SB	LAISB-37-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	0.44	0.033	13	
LAI-SB38	SB	LAISB-38-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	0.047	0.033	1.4	
LAI-SB39	SB	LAISB-39-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	1.05	0.033	32	
LAI-SB40	SB	LAISB-40-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	9.2	0.033	280	
LAI-SB41	SB	LAISB-41-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	2.1	0.033	64	
LAI-SB42	SB	LAISB-42-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	260	0.033	7,900	
LAI-SB42	SB	LAISB-42-2-4-080310	08/03/10	2 - 4	PCB	Total PCBs	560	0.033	17,000	
LAI-SB42	SB	LAISB-42-4-6-080310	08/03/10	4 - 6	PCB	Total PCBs	100	0.033	3,000	
LAI-SB42	SB	LAISB-42-6-8-080310	08/03/10	6 - 8	PCB	Total PCBs	0.037	0.033	1.1	
LAI-SB43	SB	LAISB-43-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	0.146	0.033	4.4	
LAI-SB43	SB	LAISB-43-2-4-080310	08/03/10	2 - 4	PCB	Total PCBs	1.25	0.033	38	
LAI-SB43	SB	LAISB-43-4-6-080310	08/03/10	4 - 6	PCB	Total PCBs	0.4	0.033	12	
LAI-SB43	SB	LAISB-43-6-8-080310	08/03/10	6 - 8	PCB	Total PCBs	0.036	0.033	1.1	
LAI-SB44	SB	LAISB-44-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	3.1	0.033	94	
LAI-SB46	SB	LAISB-46-0-2-080310	08/03/10	0 - 2	PCB	Total PCBs	320	0.033	9,700	
LAI-SB46	SB	LAISB-46-2-4-080310	08/03/10	2 - 4	PCB	Total PCBs	0.105	0.033	3.2	
LAI-SB46	SB	LAISB-46-4-6-080310	08/03/10	4 - 6	PCB	Total PCBs	1.8	0.033	55	
LLASB01	SB	A00-06-21DLLASB01-2	07/27/10	0.5 - 2	PCB	Total PCBs	530	0.033	16,000	
LLASB01	SB	A00-06-21DLLASB01-3.5	07/27/10	2 - 3.5	PCB	Total PCBs	24	0.033	720	
LLASB01	SB	A00-06-21DLLASB01-5LR	07/27/10	3.5 - 5	MET	Mercury	0.1	0.07	1.4	
LLASB01	SB	A00-06-21DLLASB01-5S	07/27/10	3.5 - 5	PAH	2-Methylnaphthalene	0.059	0.0432	1.4	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LLASB01	SB	A00-06-21DLLASB01-6.5	07/27/10	5 - 6.5	PCB	Total PCBs	0.085	0.033	2.6	
LLASB01	SB	A00-06-21DLLASB01-0.5	07/28/10	0 - 0.5	PCB	Total PCBs	64	0.033	1,900	
NBF08-13	SB	NBF08-13-1-2	09/18/08	1 - 2	PCB	Total PCBs	880	0.033	27,000	
NBF08-14	SB	NBF08-14-3-4	09/18/08	3 - 4	PCB	Total PCBs	0.43	0.033	13	
NBF08-8	SB	NBF08-8-1-2	09/18/08	1 - 2	PCB	Total PCBs	0.45	0.033	14	
NBF-1	EX	NBF-1	06/07/07	2.75 - 3.75	PCB	Total PCBs	43	0.033	1,300	
NBF-10	EX	NBF-10	06/19/07	1 - 2	PCB	Total PCBs	1.4	0.033	42	
NBF-10	EX	NBF-10	06/19/07	4.5 - 5	PCB	Total PCBs	7.9	0.033	240	
NBF-11	EX	NBF-11	06/19/07	1 - 2	PCB	Total PCBs	0.075	0.033	2.3	
NBF-11	EX	NBF-11	06/19/07	4 - 5	PCB	Total PCBs	0.29	0.033	8.8	
NBF-12	EX	NBF-12	07/09/07	1 - 2	PCB	Total PCBs	21	0.033	640	
NBF-12	EX	NBF-12	07/09/07	3 - 4	PCB	Total PCBs	0.056	0.033	1.7	
NBF-13	EX	NBF-13	07/09/07	1 - 2	PCB	Total PCBs	200	0.033	6,100	
NBF-13	EX	NBF-13	07/09/07	3 - 4	PCB	Total PCBs	180	0.033	5,500	
NBF-14	EX	NBF-14	07/09/07	1 - 2	PCB	Total PCBs	15.4	0.033	470	
NBF-14	EX	NBF-14	07/09/07	3 - 4	PCB	Total PCBs	80	0.033	2,400	
NBF-15	EX	NBF-15	07/09/07	1 - 2	PCB	Total PCBs	20	0.033	610	
NBF-15	EX	NBF-15	07/09/07	3 - 4	PCB	Total PCBs	2,700	0.033	82,000	
NBF-2	EX	NBF-2	06/07/07	2.75 - 3.75	PCB	Total PCBs	186	0.033	5,600	
NBF-3	EX	NBF-3	06/07/07	1 - 2	PCB	Total PCBs	0.11	0.033	3.3	
NBF-4	EX	NBF-4	06/07/07	1 - 2	PCB	Total PCBs	0.049	0.033	1.5	
NBF-5	EX	NBF-5	06/07/07	1 - 2	PCB	Total PCBs	6.5	0.033	200	
NBF-5	EX	NBF-5	06/07/07	3 - 4	PCB	Total PCBs	8.6	0.033	260	
NBF-6	EX	NBF-6	06/08/07	1 - 2	PCB	Total PCBs	62	0.033	1,900	
NBF-6	EX	NBF-6	06/08/07	3 - 4	PCB	Total PCBs	15	0.033	450	
NBF-7	EX	NBF-7	06/12/07	1 - 2	PCB	Total PCBs	69	0.033	2,100	
NBF-7	EX	NBF-7	06/12/07	3 - 4	PCB	Total PCBs	3.5	0.033	110	
NBF-8	EX	NBF-8	06/18/07	1 - 2	PCB	Total PCBs	1,100	0.033	33,000	
NBF-8	EX	NBF-8	06/18/07	3 - 4	PCB	Total PCBs	0.31	0.033	9.4	
NBF-9	EX	NBF-9	06/19/07	1 - 2	PCB	Total PCBs	0.66	0.033	20	
NGW501	MW	NGW501(0-2)082410	08/24/10	0 - 2	PCB	Total PCBs	18	0.033	550	
NGW501	MW	NGW501(2-4)082410	08/24/10	2 - 4	PCB	Total PCBs	8.9	0.033	270	
NGW501	MW	NGW501(4-6)082410	08/24/10	4 - 6	PCB	Total PCBs	2.1	0.033	64	
NGW501	MW	NGW501(8-10)082410	08/24/10	8 - 10	PCB	Total PCBs	0.109	0.033	3.3	
NGW502	MW	NGW502(0-2)082410	08/24/10	0 - 2	PCB	Total PCBs	48	0.033	1,500	
NGW502	MW	NGW502(10-12)082410	08/24/10	10 - 12	PCB	Total PCBs	0.097	0.033	2.9	
NGW502	MW	NGW502(12-14)082410	08/24/10	12 - 14	PCB	Total PCBs	0.14	0.033	4.2	
NGW502	MW	NGW502(14-15)082410	08/24/10	14 - 15	PCB	Total PCBs	0.07	0.033	2.1	
NGW502	MW	NGW502(2-4)082410	08/24/10	2 - 4	PCB	Total PCBs	61	0.033	1,800	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
NGW502	MW	NGW502(4-6)082410	08/24/10	4 - 6	PCB	Total PCBs	520	0.033	16,000	
NGW502	MW	NGW502(6-8)082410	08/24/10	6 - 8	PCB	Total PCBs	210	0.033	6,400	
NGW502	MW	NGW502(8-10)082410	08/24/10	8 - 10	PCB	Total PCBs	220	0.033	6,700	
NGW503	MW	NGW503(0-2)082410	08/24/10	0 - 2	PCB	Total PCBs	1.6	0.033	48	
NGW503	MW	NGW503(4-6)082410	08/24/10	4 - 6	PCB	Total PCBs	0.12	0.033	3.6	
NGW503	MW	NGW503(8-10)082410	08/24/10	8 - 10	PCB	Total PCBs	0.11	0.033	3.3	
NGW504	MW	NGW504(0-2)082410	08/24/10	0 - 2	PCB	Total PCBs	64	0.033	1,900	
NGW504	MW	NGW504(10-12)082410	08/24/10	10 - 12	PCB	Total PCBs	0.039	0.033	1.2	
NGW504	MW	NGW504(12-14)082410	08/24/10	12 - 14	PCB	Total PCBs	0.041	0.033	1.2	
NGW504	MW	NGW504(14-15)082410	08/24/10	14 - 15	PCB	Total PCBs	0.12	0.033	3.6	
NGW504	MW	NGW504(2-4)082410	08/24/10	2 - 4	PCB	Total PCBs	160	0.033	4,800	
NGW504	MW	NGW504(4-6)082410	08/24/10	4 - 6	PCB	Total PCBs	104	0.033	3,200	
NGW504	MW	NGW504(6-8)082410	08/24/10	6 - 8	PCB	Total PCBs	11.5	0.033	350	
NGW504	MW	NGW504(8-10)082410	08/24/10	8 - 10	PCB	Total PCBs	52	0.033	1,600	
NGW505	MW	NGW505(0-2)012111	01/21/11	0 - 2	PCB	Total PCBs	0.185	0.033	5.6	
NGW505	MW	NGW505(2-4)012111	01/21/11	2 - 4	MET	Arsenic	8	7.0	1.1	
NGW505	MW	NGW505(2-4)012111	01/21/11	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.03968	0.005	7.9	
NGW506	MW	NGW506(0-2)012111	01/21/11	0 - 2	PCB	Total PCBs	0.117	0.033	3.5	
NGW507	MW	NGW507(0-2)012111	01/21/11	0 - 2	PCB	Total PCBs	0.79	0.033	24	
NGW507	MW	NGW507(0-2)012111	01/21/11	0 - 2	PAH	Benzo(a)pyrene	0.094	0.005	19	
NGW507	MW	NGW507(0-2)012111	01/21/11	0 - 2	PAH	Fluoranthene	0.19	0.161	1.2	
NGW507	MW	NGW507(0-2)012111	01/21/11	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1105	0.005	22	
NGW507	MW	NGW507(2-4)012111	01/21/11	2 - 4	PCB	Total PCBs	0.143	0.033	4.3	
NGW507	MW	NGW507(2-4)012111	01/21/11	2 - 4	MET	Mercury	0.08	0.07	1.1	
P1	SB	UBF-55/P1/3.4-5.9	09/15/97	3.4 - 5.9	PCB	Total PCBs	0.28	0.033	8.5	
P11	SB	UBF-55/P11/2.2-4.1	09/15/97	2.2 - 4.1	PCB	Total PCBs	0.07	0.033	2.1	
P11	SB	UBF-55/P11/2.2-4.1	09/15/97	2.2 - 4.1	PHT	Bis(2-Ethylhexyl) Phthalate	0.19	0.0471	4.0	
P13	SB	UBF-55/P13B/2.2-4.1	09/15/97	2.2 - 4.1	PCB	Total PCBs	0.66	0.033	20	
P14	SB	UBF-55/P14/2.3-4.1	09/15/97	2.3 - 4.1	PCB	Total PCBs	0.095	0.033	2.9	
P15	SB	UBF-55/P151/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	7.1	0.033	220	
P16	SB	UBF-55/P16/0.3-2.2-DL	09/15/97	0.3 - 2.2	PCB	Total PCBs	172	0.033	5,200	
P17	SB	UBF-55/P17/0.3-2.2	09/15/97	0.3 - 2.2	PCB	Total PCBs	0.92	0.033	28	
P17	SB	UBF-55/P17/2.2-4.1	09/15/97	2.2 - 4.1	PCB	Total PCBs	0.12	0.033	3.6	
P18	SB	UBF-55/P18/2.2-4.1	09/15/97	2.2 - 4.1	PCB	Total PCBs	0.052	0.033	1.6	
P19	SB	UBF-55/P19/2.2-4.1	09/15/97	2.2 - 4.1	PCB	Total PCBs	0.17	0.033	5.2	
P2	SB	UBF-55/P2/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	36	0.033	1,100	
P3	SB	UBF-55/P3/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	18	0.033	550	
P3	SB	UBF-55/P3/2.2-4.1	09/15/97	2.2 - 4.1	TPH	Gasoline Range Hydrocarbons	150	30	5.0	
P3	SB	UBF-55/P3/2.2-4.1	09/15/97	2.2 - 4.1	PHT	Bis(2-Ethylhexyl) Phthalate	0.24	0.0471	5.1	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
P3	SB	UBF-55/P3/2.2-4.1	09/15/97	2.2 - 4.1	PAH	Carcinogenic PAHs, ND*0.5	0.05585	0.005	11	
P4	SB	UBF-55/P4/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	46	0.033	1,400	
P6	SB	UBF-55/P6/0.3-2.2	09/15/97	0.3 - 2.2	PCB	Total PCBs	0.048	0.033	1.5	
P7	SB	UBF-55/P7/0.3-2.2-DL	09/15/97	0.3 - 2.2	PCB	Total PCBs	260	0.033	7,900	
P7	SB	UBF-55/P7/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	570	0.033	17,000	
P7	SB	UBF-55/P7/2.2-4.1	09/15/97	2.2 - 4.1	PHT	Bis(2-Ethylhexyl) Phthalate	0.11	0.0471	2.3	
P7	SB	UBF-55/P7/2.2-4.1	09/15/97	2.2 - 4.1	PAH	Carcinogenic PAHs, ND*0.5	0.05585	0.005	11	
P8	SB	UBF-55/P8/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	5.5	0.033	170	
P9	SB	UBF-55/P9/2.2-4.1-DL	09/15/97	2.2 - 4.1	PCB	Total PCBs	96	0.033	2,900	
S-10	RE	S-10	11/17/05	0	PCB	Total PCBs	0.056	0.033	1.7	
S-11	RE	S-11	11/17/05	0	PCB	Total PCBs	0.78	0.033	24	
S-12	RE	S-12	11/17/05	0	PCB	Total PCBs	0.2	0.033	6.1	
S-13	RE	S-13	11/17/05	0	PCB	Total PCBs	2.2	0.033	67	
S-14	RE	S-14	11/17/05	0	PCB	Total PCBs	0.63	0.033	19	
S-15	RE	S-15	11/17/05	0	PCB	Total PCBs	6.8	0.033	210	
S-16	RE	S-16	11/17/05	0	PCB	Total PCBs	2,400	0.033	73,000	
S-17	RE	S-17	11/17/05	0	PCB	Total PCBs	5.1	0.033	150	
S-18	RE	S-18	11/17/05	0	PCB	Total PCBs	22	0.033	670	
S-19	RE	S-19	11/17/05	0	PCB	Total PCBs	400	0.033	12,000	
S-20	RE	S-20	11/17/05	0	PCB	Total PCBs	98	0.033	3,000	
S-7	RE	S-7	11/17/05	0	PCB	Total PCBs	0.11	0.033	3.3	
S-8	RE	S-8	11/17/05	0	PCB	Total PCBs	0.049	0.033	1.5	
S-9	RE	S-9	11/17/05	0	PCB	Total PCBs	0.058	0.033	1.8	
SB-26	SB	SB-26-1-2	04/02/07	1 - 2	PCB	Total PCBs	0.23	0.033	7.0	
SB-26	SB	SB-26-5-6	04/02/07	5 - 6	PCB	Total PCBs	0.042	0.033	1.3	
SB-28	SB	SB-28-1-2	03/30/07	1 - 2	PCB	Total PCBs	0.121	0.033	3.7	
SB-30	SB	SB-30-1-2	04/02/07	1 - 2	PCB	Total PCBs	18	0.033	550	
SB-31	SB	SB-31-1-2	03/30/07	1 - 2	PCB	Total PCBs	26	0.033	790	
SB-31	SB	SB-31-5-6	03/30/07	5 - 6	PCB	Total PCBs	3.4	0.033	100	
SB-32	SB	SB-32-1-2	03/30/07	1 - 2	PCB	Total PCBs	0.41	0.033	12	
SB-32	SB	SB-32-5-6	03/30/07	5 - 6	PCB	Total PCBs	0.09	0.033	2.7	
SB-33	SB	SB-33-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.047	0.033	1.4	
SB-34	SB	SB-34-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.55	0.033	17	
SLR-1	SB	SLR-1(3-4)	11/22/06	3 - 4	PCB	Total PCBs	0.039	0.033	1.2	
SLR-1	SB	SLR-1(5-6)	11/22/06	5 - 6	PCB	Total PCBs	3.8	0.033	120	
SLR-2	SB	SLR-2(1-2)	11/22/06	1 - 2	PCB	Total PCBs	200	0.033	6,100	
SLR-2	SB	SLR-2(3-4)	11/22/06	3 - 4	PCB	Total PCBs	0.85	0.033	26	
SLR-2	SB	SLR-2(5-6)	11/22/06	5 - 6	PCB	Total PCBs	200	0.033	6,100	
SLR-3	SB	SLR-3(1-2)	11/22/06	1 - 2	PCB	Total PCBs	260	0.033	7,900	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
SLR-3	SB	SLR-3(3-4)	11/22/06	3 - 4	VOC	cis-1,2-Dichloroethene	0.14	0.0052	27	
SLR-3	SB	SLR-3(3-4)	11/22/06	3 - 4	VOC	Trichloroethene (TCE)	0.035	0.001	35	
SLR-3	SB	SLR-3(5-6)	11/22/06	5 - 6	PCB	Total PCBs	0.04	0.033	1.2	
SLR-4	SB	SLR-4(1-2)	11/22/06	1 - 2	PCB	Total PCBs	2.3	0.033	70	
SLR-5	SB	SLR-5(1-2)	11/22/06	1 - 2	PCB	Total PCBs	0.12	0.033	3.6	
Buildings 3-302 and 3-322 Area										
LAI-SB102	SB	LAI-SB102(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.093	0.033	2.8	
LAI-SB29	SB	SB29(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.16	0.033	4.8	
LAI-SB29	SB	SB29(2-4)071510	07/15/10	2 - 4	MET	Copper	38.8	36	1.1	
LAI-SB29	SB	SB29(2-4)071510	07/15/10	2 - 4	MET	Lead	88	56.7	1.6	
LAI-SB29	SB	SB29(2-4)071510	07/15/10	2 - 4	MET	Mercury	0.38	0.07	5.4	
LAI-SB29	SB	SB29(2-4)071510	07/15/10	2 - 4	MET	Zinc	138	86	1.6	
LAI-SB30	SB	SB30(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	5.3	0.033	160	
LAI-SB30	SB	SB30(2-4)071510	07/15/10	2 - 4	PCB	Total PCBs	0.53	0.033	16	
LAI-SB50	SB	LAI-SB50(0-2)091310	09/13/10	0 - 2	PCB	Total PCBs	0.54	0.033	16	
LAI-SB50	SB	LAI-SB50(2-4)091310	09/13/10	2 - 4	PCB	Total PCBs	0.179	0.033	5.4	
LAI-SB50	SB	LAI-SB50(2-4)091310	09/13/10	2 - 4	MET	Mercury	0.43	0.07	6.1	
LAI-SB50	SB	LAI-SB50(4-6)091310	09/13/10	4 - 6	MET	Mercury	0.35	0.07	5.0	
LAI-SB72	SB	LAI-SB72(0-2)091710	09/17/10	0 - 2	PCB	Total PCBs	0.099	0.033	3.0	
S01	SB	PM25E	08/28/09	0 - 0.25	PCB	Total PCBs	4.5	0.033	140	Removed
S01	SB	PM25F	08/28/09	0.25 - 0.5	PCB	Total PCBs	5.6	0.033	170	Removed
S01	SB	PM25G	08/28/09	0.5 - 0.75	PCB	Total PCBs	14.1	0.033	430	Removed
S01	SB	QN41C	03/10/10	1.5 - 2	PCB	Total PCBs	4.3	0.033	130	Removed
S01	SB	QN41D	03/10/10	2.5 - 3	PCB	Total PCBs	6.4	0.033	190	Removed
S02	SB	PM25A	08/28/09	0 - 0.25	PCB	Total PCBs	24	0.033	730	Removed
S02	SB	PM25B	08/28/09	0.25 - 0.5	PCB	Total PCBs	10.4	0.033	320	Removed
S02	SB	PM25C	08/28/09	0.5 - 0.75	PCB	Total PCBs	10.9	0.033	330	Removed
S02	SB	QN41E	03/10/10	1.5 - 2	PCB	Total PCBs	2.2	0.033	67	Removed
S02	SB	QN41F	03/10/10	2.5 - 3	PCB	Total PCBs	1.5	0.033	45	Removed
S03	SB	PM25H	08/28/09	0 - 0.25	PCB	Total PCBs	0.2	0.033	6.1	Removed
S03	SB	PM25I	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.22	0.033	6.7	Removed
S03	SB	PM25J	08/28/09	0.5 - 0.75	PCB	Total PCBs	0.2	0.033	6.1	Removed
S04	SB	PM25Q	08/28/09	0 - 0.25	PCB	Total PCBs	0.16	0.033	4.8	Removed
S04	SB	PM25R	08/28/09	0.25 - 0.5	PCB	Total PCBs	10	0.033	300	Removed
S04	SB	PM25D	08/28/09	0.5 - 0.75	PCB	Total PCBs	4.3	0.033	130	Removed
S04	SB	QN41G	03/10/10	1.5 - 2	PCB	Total PCBs	2.2	0.033	67	Removed
S04	SB	QN41H	03/10/10	2.5 - 3	PCB	Total PCBs	0.062	0.033	1.9	Removed
S05	SB	PM25O	08/28/09	0.25 - 0.5	PCB	Total PCBs	3.4	0.033	100	Removed

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
S05	SB	PM25P	08/28/09	0.5 - 0.75	PCB	Total PCBs	9.6	0.033	290	Removed
S05	SB	QN41I	03/10/10	1.5 - 2	PCB	Total PCBs	9.1	0.033	280	Removed
S05	SB	QN41J	03/10/10	2.5 - 3	PCB	Total PCBs	0.3	0.033	9.1	Removed
S06	SB	PM25K	08/28/09	0 - 0.25	PCB	Total PCBs	0.12	0.033	3.6	Removed
S06	SB	PM25L	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.9	0.033	27	Removed
S06	SB	PM25M	08/28/09	0.5 - 0.75	PCB	Total PCBs	0.51	0.033	15	Removed
S07	SB	PM26C	08/28/09	0 - 0.25	PCB	Total PCBs	40	0.033	1,200	Removed
S07	SB	PM26D	08/28/09	0.25 - 0.5	PCB	Total PCBs	30	0.033	910	Removed
S07	SB	PM26E	08/28/09	0.5 - 0.75	PCB	Total PCBs	10	0.033	300	Removed
S07	SB	QN41A	03/10/10	1.5 - 2	PCB	Total PCBs	1.6	0.033	48	Removed
S07	SB	QN41B	03/10/10	2.5 - 3	PCB	Total PCBs	2	0.033	61	Removed
S08	SB	PM26J	08/28/09	0 - 0.25	PCB	Total PCBs	1.1	0.033	33	Removed
S08	SB	PM26K	08/28/09	0.25 - 0.5	PCB	Total PCBs	1.03	0.033	31	Removed
S09	SB	PM26L	08/28/09	0 - 0.25	PCB	Total PCBs	0.13	0.033	3.9	Removed
S09	SB	PM26M	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.078	0.033	2.4	Removed
S10	SB	PM26N	08/28/09	0 - 0.25	PCB	Total PCBs	0.31	0.033	9.4	
S10	SB	PM26O	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.165	0.033	5.0	
S11	SB	PM26P	08/28/09	0 - 0.25	PCB	Total PCBs	0.24	0.033	7.3	
S11	SB	PM26Q	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.36	0.033	11	
S11	SB	PM26R	08/28/09	0.5 - 0.75	PCB	Total PCBs	0.27	0.033	8.2	
S12	SB	PM27A	08/28/09	0 - 0.25	PCB	Total PCBs	0.068	0.033	2.1	
S12	SB	PM27B	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.22	0.033	6.7	
S13	SB	PM27C	08/28/09	0 - 0.25	PCB	Total PCBs	0.25	0.033	7.6	
S13	SB	PM27D	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.086	0.033	2.6	
S14	SB	PM27E	08/28/09	0 - 0.25	PCB	Total PCBs	0.18	0.033	5.5	
S14	SB	PM27F	08/28/09	0.25 - 0.5	PCB	Total PCBs	0.15	0.033	4.5	
S15	SB	QN41K	03/10/10	0 - 0.5	PCB	Total PCBs	1.27	0.033	38	Removed
S15	SB	QN41L	03/10/10	1.5 - 2	PCB	Total PCBs	0.084	0.033	2.5	Removed
S15	SB	QN41M	03/10/10	2.5 - 3	PCB	Total PCBs	0.04	0.033	1.2	Removed
S16	SB	QN41N	03/10/10	0 - 0.5	PCB	Total PCBs	0.95	0.033	29	Removed
S16	SB	QN41O	03/10/10	1.5 - 2	PCB	Total PCBs	0.14	0.033	4.2	Removed
S17	SB	QN98A	03/15/10	0 - 0.25	PCB	Total PCBs	0.3	0.033	9.1	
S17	SB	QN98B	03/15/10	1 - 1.5	PCB	Total PCBs	0.68	0.033	21	
S17	SB	QN98C	03/15/10	1.5 - 2	PCB	Total PCBs	0.94	0.033	28	
S18	SB	QN98D	03/15/10	0 - 0.25	PCB	Total PCBs	0.65	0.033	20	
S18	SB	QN98E	03/15/10	1 - 1.5	PCB	Total PCBs	0.56	0.033	17	
S18	SB	QN98F	03/15/10	1.5 - 2	PCB	Total PCBs	0.13	0.033	3.9	
S19	SB	QN98G	03/15/10	0 - 0.25	PCB	Total PCBs	0.76	0.033	23	
S19	SB	QN98H	03/15/10	1 - 1.5	PCB	Total PCBs	1.04	0.033	32	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
S19	SB	QN98I	03/15/10	1.5 - 2	PCB	Total PCBs	1.8	0.033	55	
S20	SB	QN98J	03/15/10	0 - 0.25	PCB	Total PCBs	3.5	0.033	110	
S20	SB	QN98K	03/15/10	1 - 1.5	PCB	Total PCBs	0.7	0.033	21	
S20	SB	QN98L	03/15/10	1.5 - 2	PCB	Total PCBs	0.66	0.033	20	
S21	SB	QO26A	03/16/10	0 - 0.25	PCB	Total PCBs	2.9	0.033	88	
S21	SB	QO26B	03/16/10	1 - 1.5	PCB	Total PCBs	0.86	0.033	26	
S21	SB	QO26C	03/16/10	1.5 - 2	PCB	Total PCBs	1.6	0.033	48	
S22	SB	QO26D	03/16/10	0 - 0.25	PCB	Total PCBs	0.42	0.033	13	
S22	SB	QO26E	03/16/10	1 - 1.5	PCB	Total PCBs	0.95	0.033	29	
S22	SB	QO26F	03/16/10	1.5 - 2	PCB	Total PCBs	1.1	0.033	33	
S23	SB	QO26G	03/16/10	0 - 0.25	PCB	Total PCBs	0.54	0.033	16	
S23	SB	QO26H	03/16/10	0.5 - 1	PCB	Total PCBs	0.82	0.033	25	
S24	SB	QO26I	03/16/10	0 - 0.25	PCB	Total PCBs	140	0.033	4,200	
S24	SB	QO26J	03/16/10	0.5 - 1	PCB	Total PCBs	6.7	0.033	200	
S25	SB	QO26K	03/16/10	0 - 0.25	PCB	Total PCBs	0.85	0.033	26	
S25	SB	QO26L	03/16/10	1 - 1.5	PCB	Total PCBs	1.05	0.033	32	
S25	SB	QO26M	03/16/10	1.5 - 2	PCB	Total PCBs	0.55	0.033	17	
S26	SB	QO26N	03/16/10	0 - 0.25	PCB	Total PCBs	11	0.033	330	
S26	SB	QO26O	03/16/10	1 - 1.5	PCB	Total PCBs	1.19	0.033	36	
S26	SB	QO26P	03/16/10	1.5 - 2	PCB	Total PCBs	1.42	0.033	43	
S27	SB	QP11A	03/19/10	0.25 - 0.5	PCB	Total PCBs	0.47	0.033	14	
S28	SB	QP11B	03/19/10	0.25 - 0.5	PCB	Total PCBs	0.21	0.033	6.4	
S29	SB	QP11C	03/19/10	0.5 - 3	PCB	Total PCBs	0.37	0.033	11	
S30	SB	QP11D	03/19/10	0.5 - 3	PCB	Total PCBs	0.093	0.033	2.8	
S31	SB	QP11E	03/19/10	0.25 - 0.5	PCB	Total PCBs	0.28	0.033	8.5	
S32	SB	QP11F	03/19/10	0.25 - 0.5	PCB	Total PCBs	0.26	0.033	7.9	
S33	SB	QP11G	03/19/10	0.25 - 0.75	PCB	Total PCBs	2	0.033	61	Removed
S34	SB	QP11H	03/19/10	0.25 - 0.5	PCB	Total PCBs	1.3	0.033	39	
S35	SB	QP11J	03/19/10	2.5 - 3	PCB	Total PCBs	1.4	0.033	42	Removed
S36	SB	QP11I	03/19/10	0.25 - 0.75	PCB	Total PCBs	0.83	0.033	25	
S37	SB	QP11K	03/19/10	0 - 0.25	PCB	Total PCBs	0.183	0.033	5.5	
S38	SB	QP11L	03/19/10	0 - 0.25	PCB	Total PCBs	0.22	0.033	6.7	
S39	SB	QP11M	03/19/10	0.5 - 3	PCB	Total PCBs	0.049	0.033	1.5	
S40	SB	QP11N	03/19/10	0 - 0.25	PCB	Total PCBs	0.48	0.033	15	
S41	SB	QP11O	03/19/10	0.25 - 0.75	PCB	Total PCBs	0.84	0.033	25	Removed
S42	SB	QP11P	03/19/10	0.5 - 3	PCB	Total PCBs	0.3	0.033	9.1	
S43	SB	QP11Q	03/19/10	0.5 - 3	PCB	Total PCBs	0.45	0.033	14	
S44	SB	QP25K	03/22/10	0.5 - 1	PCB	Total PCBs	1.1	0.033	33	
S45	SB	QP25L	03/22/10	0.5 - 1	PCB	Total PCBs	0.49	0.033	15	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
S46	SB	QP25M	03/22/10	0.5 - 1	PCB	Total PCBs	1.34	0.033	41	
S47	SB	QP25N	03/22/10	0.5 - 1	PCB	Total PCBs	2.9	0.033	88	Removed
S48	SB	QP25O	03/22/10	3 - 3	PCB	Total PCBs	0.84	0.033	25	Removed
S49	SB	QP25B	03/22/10	2.5 - 3	PCB	Total PCBs	2.8	0.033	85	
S50	SB	QP25C	03/22/10	2.5 - 3	PCB	Total PCBs	9.4	0.033	280	
S51	SB	QP25D	03/22/10	2.5 - 3	PCB	Total PCBs	8.1	0.033	250	
S52	SB	QP25E	03/22/10	0.5 - 1	PCB	Total PCBs	1.21	0.033	37	
S53	SB	QP25F	03/22/10	0.5 - 1	PCB	Total PCBs	1	0.033	30	
S54	SB	QP25G	03/22/10	0.5 - 1	PCB	Total PCBs	3.6	0.033	110	Removed
S55	SB	QP25H	03/22/10	0.5 - 1	PCB	Total PCBs	1.1	0.033	33	
S56	SB	QP25I	03/22/10	0.5 - 1	PCB	Total PCBs	0.35	0.033	11	
S57	SB	QP25J	03/22/10	0.5 - 3	PCB	Total PCBs	0.17	0.033	5.2	
S58	SB	QP25A	03/22/10	2.5 - 3	PCB	Total PCBs	33	0.033	1,000	
S59	SB	QP92A	03/26/10	0 - 0.5	PCB	Total PCBs	0.97	0.033	29	
S59	SB	QP92B	03/26/10	1.5 - 2	PCB	Total PCBs	0.11	0.033	3.3	
S59	SB	QP92C	03/26/10	2.5 - 3	PCB	Total PCBs	0.058	0.033	1.8	
S60	SB	QP92D	03/26/10	0 - 0.5	PCB	Total PCBs	0.21	0.033	6.4	
S60	SB	QP92E	03/26/10	1.5 - 2	PCB	Total PCBs	0.05	0.033	1.5	
S60	SB	QP92F	03/26/10	2.5 - 3	PCB	Total PCBs	1.8	0.033	55	
S61	SB	QP92G	03/26/10	0 - 0.5	PCB	Total PCBs	0.35	0.033	11	
S61	SB	QP92H	03/26/10	1.5 - 2	PCB	Total PCBs	5.2	0.033	160	
S61	SB	QP92I	03/26/10	2.5 - 3	PCB	Total PCBs	0.42	0.033	13	
S62	SB	QP92J	03/26/10	0 - 0.5	PCB	Total PCBs	0.27	0.033	8.2	
S62	SB	QP92K	03/26/10	1.5 - 2	PCB	Total PCBs	0.041	0.033	1.2	
S63	SB	QP92M	03/26/10	0 - 0.5	PCB	Total PCBs	0.23	0.033	7.0	
S63	SB	QP92N	03/26/10	1.5 - 2	PCB	Total PCBs	0.91	0.033	28	
S63	SB	QP92O	03/26/10	2.5 - 3	PCB	Total PCBs	0.24	0.033	7.3	
S64	SB	QP92P	03/26/10	0 - 0.5	PCB	Total PCBs	0.21	0.033	6.4	
S65	SB	QS16A	04/09/10	2.5 - 3	PCB	Total PCBs	0.6	0.033	18	
S66	SB	QS16B	04/09/10	2 - 2.25	PCB	Total PCBs	0.96	0.033	29	
S67	SB	QS16C	04/09/10	2 - 2.25	PCB	Total PCBs	0.3	0.033	9.1	
S68	SB	QS16D	04/09/10	0.75 - 1	PCB	Total PCBs	0.93	0.033	28	
S69	SB	QS16E	04/09/10	2.5 - 3	PCB	Total PCBs	0.87	0.033	26	
S70	SB	QS16F	04/09/10	2.5 - 2.75	PCB	Total PCBs	0.043	0.033	1.3	
S71	SB	QS16G	04/09/10	2 - 2.5	PCB	Total PCBs	0.072	0.033	2.2	
S72	SB	QS16H	04/09/10	2 - 2.5	PCB	Total PCBs	0.06	0.033	1.8	
S73	SB	QS16I	04/09/10	2.5 - 2.75	PCB	Total PCBs	0.69	0.033	21	
S74	SB	QS16J	04/09/10	2.5 - 2.75	PCB	Total PCBs	0.24	0.033	7.3	
S76	SB	QS16L	04/09/10	2.5 - 3	PCB	Total PCBs	0.1	0.033	3.0	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
S77	SB	QS16M	04/09/10	2.5 - 3	PCB	Total PCBs	1.4	0.033	42	
S78	SB	QS16N	04/09/10	2.5 - 3	PCB	Total PCBs	0.67	0.033	20	
S79	SB	QS16O	04/09/10	2.5 - 3	PCB	Total PCBs	1.4	0.033	42	
S80	SB	QS16P	04/09/10	2.75 - 3	PCB	Total PCBs	0.056	0.033	1.7	
S81	SB	QS16Q	04/09/10	2.75 - 3	PCB	Total PCBs	0.52	0.033	16	
S82	SB	QS16R	04/09/10	0.5 - 3	PCB	Total PCBs	0.08	0.033	2.4	
S83	SB	QS16S	04/09/10	0.5 - 3	PCB	Total PCBs	0.099	0.033	3.0	
S84	SB	QS16T	04/09/10	1 - 3	PCB	Total PCBs	0.138	0.033	4.2	
SB-21	SB	SB-21-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.31	0.033	9.4	
SB-22	SB	SB-22-1-2	04/02/07	1 - 2	PCB	Total PCBs	5.3	0.033	160	
SB-23	SB	SB-23-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.6	0.033	18	
SB-24	SB	SB-24-1-2	03/30/07	1 - 2	PCB	Total PCBs	1.2	0.033	36	
SB-39	SB	SB-39-1-2	04/02/07	1 - 2	PCB	Total PCBs	0.96	0.033	29	
Former Building 3-304 Area										
LAI-SB24	SB	SB24(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.035	0.033	1.1	
LAI-SB24	SB	SB24(2-4)071510	07/15/10	2 - 4	MET	Arsenic	9	7.0	1.3	
LAI-SB24	SB	SB24(2-4)071510	07/15/10	2 - 4	MET	Mercury	0.12	0.07	1.7	
LAI-SB28	SB	SB28(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.036	0.033	1.1	
LAI-SB28	SB	SB28(2-4)071510	07/15/10	2 - 4	MET	Mercury	0.26	0.07	3.7	
S4	EX	S4	11/05/01	5 - 6	PCB	Total PCBs	1.8	0.033	55	
S4	EX	S4	11/05/01	5 - 6	MET	Arsenic	8	7.0	1.1	
S4	EX	S4	11/05/01	5 - 6	TPH	Gasoline Range Hydrocarbons	67	30	2.2	
S5	EX	S5	11/05/01	5 - 6	MET	Arsenic	11	7.0	1.6	
S5	EX	S5	11/05/01	5 - 6	MET	Mercury	2.68	0.07	38	
S5	EX	S5	11/05/01	5 - 6	TPH	Gasoline Range Hydrocarbons	1,100	30	37	
SS-304-1	SB	SS-304-1(1')	10/31/00	1 - 1	PCB	Total PCBs	1.5	0.033	45	
SS-304-1	SB	SS-304-1(1')	10/31/00	1 - 1	MET	Barium	56.4	23.1	2.4	
SS-304-1	SB	SS-304-1(1')	10/31/00	1 - 1	MET	Cadmium	1.6	1.0	1.6	
SS-304-1	SB	SS-304-1(1')	10/31/00	1 - 1	MET	Lead	81	56.7	1.4	
SS-304-1	SB	SS-304-1(1')	10/31/00	1 - 1	MET	Mercury	5.1	0.07	73	
SS-304-2	SB	SS-304-2(1')	10/31/00	1 - 1	MET	Barium	65.4	23.1	2.8	
SS-304-2	SB	SS-304-2(1')	10/31/00	1 - 1	MET	Silver	0.5	0.3	1.7	
SS-304-7	SB	SS-304-7(1.8')	10/31/00	1.8 - 1.8	MET	Barium	51.7	23.1	2.2	
SS-304-8	SB	SS-304-8(3')	10/31/00	3 - 3	MET	Barium	61.5	23.1	2.7	
Buildings 3-333 and 3-335 Area										
3-333-19	EX	3-333-19	09/12/96	4 - 4.5	VOC	Trichloroethene (TCE)	0.2206	0.001	220	
3-333-20	EX	3-333-20	09/12/96	4 - 4.5	PCB	Total PCBs	16.6	0.033	500	Removed
3-333-23	EX	3-333-23S	09/16/97	4 - 4.5	PCB	Total PCBs	2.9	0.033	88	Removed

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
3-333-23	EX	3-333-23D	09/16/97	6 - 6	PCB	Total PCBs	77	0.033	2,300	Removed
3-333-23	EX	3-333-23A	09/23/97	6 - 6.5	PCB	Total PCBs	67	0.033	2,000	Removed
3-333-24	EX	3-333-24S	09/16/97	4 - 4.5	PCB	Total PCBs	84	0.033	2,500	Removed
3-333-24	EX	3-333-24D	09/16/97	6 - 6	PCB	Total PCBs	0.75	0.033	23	
3-333-24	EX	3-333-24A	09/23/97	6 - 6.5	PCB	Total PCBs	3.1	0.033	94	
3-333-25	EX	3-333-25D	09/16/97	6 - 6	PCB	Total PCBs	0.1	0.033	3.0	
3-333-30	EX	3-333-30S	09/16/97	4 - 4.5	PCB	Total PCBs	10	0.033	300	
3-335-SS-101398	TP	3-335-SS-101398	10/13/98	1	PCB	Total PCBs	0.63	0.033	19	
3-335-SS-101398	TP	3-335-SS-101398	10/13/98	1	MET	Barium	114.5	23.1	5.0	
3-335-SS-101398	TP	3-335-SS-101398	10/13/98	1	MET	Cadmium	1.01	1.0	1.0	
3-335-SS-101398	TP	3-335-SS-101398	10/13/98	1	MET	Zinc	88.29	86	1.0	
3-335-SS1-100598	TP	3-335-SS1-100598	10/05/98	1	PCB	Total PCBs	0.61	0.033	18	
3-335-SS1-100598	TP	3-335-SS1-100598	10/05/98	1	MET	Barium	83.58	23.1	3.6	
3-335-SS1-100598	TP	3-335-SS1-100598	10/05/98	1	MET	Zinc	106.8	86	1.2	
3-335-SS2-100598	TP	3-335-SS2-100598	10/05/98	1	PCB	Total PCBs	0.37	0.033	11	
3-335-SS2-100598	TP	3-335-SS2-100598	10/05/98	1	MET	Barium	80.98	23.1	3.5	
3-335-SS2-100598	TP	3-335-SS2-100598	10/05/98	1	MET	Zinc	120.8	86	1.4	
3-335-SS3-100598	TP	3-335-SS3-100598	10/05/98	1	PCB	Total PCBs	0.56	0.033	17	
3-335-SS3-100598	TP	3-335-SS3-100598	10/05/98	1	MET	Barium	98.5	23.1	4.3	
3-335-SS3-100598	TP	3-335-SS3-100598	10/05/98	1	MET	Zinc	96.96	86	1.1	
3-335-SS3-100598	TP	3-335-SS3-100598	10/05/98	1	TPH	Gasoline Range Hydrocarbons	53	30	1.8	
3-335-SS4-100598	TP	3-335-SS4-100598	10/05/98	1	PCB	Total PCBs	0.56	0.033	17	
3-335-SS4-100598	TP	3-335-SS4-100598	10/05/98	1	MET	Barium	89.79	23.1	3.9	
3-335-SS4-100598	TP	3-335-SS4-100598	10/05/98	1	MET	Zinc	99.27	86	1.2	
A(1)-93-7.0	TP	A(1)-93-7.0	10/22/98	7	PCB	Total PCBs	0.25	0.033	7.6	
A1-31	EX	A1-31-2.0	08/25/97	2	PCB	Total PCBs	3.3	0.033	100	
A2-82	EX	A2-82-2.5	08/25/97	2.5	PCB	Total PCBs	1.7	0.033	52	
A3-33	EX	A3-33-4.0	08/20/97	4	PCB	Total PCBs	20.2	0.033	610	
A4-60	EX	A4-60-2.4	08/21/97	2.4	PCB	Total PCBs	0.6	0.033	18	
A4-60	EX	A4-60-4.1	08/21/97	4.1	PCB	Total PCBs	7	0.033	210	
AA0-44	EX	AA0-44-3.9	08/21/97	3.9	PCB	Total PCBs	12.4	0.033	380	
AA0-50	EX	AA0-50-4.2	08/25/97	4.2	PCB	Total PCBs	15.9	0.033	480	
AA1-62	EX	AA1-62-3.7	08/25/97	3.7	PCB	Total PCBs	59.6	0.033	1,800	
AA1-62	EX	AA1-62-3.7	08/25/97	3.7	TPH	Gasoline Range Hydrocarbons	490	30	16	
AA1-62	EX	AA1-62-3.7	08/25/97	3.7	TPH	Diesel Range Hydrocarbons	5,710	2,000	2.9	
AA1-6200	EX	AA1-6200-3.7	08/25/97	3.7	PCB	Total PCBs	46	0.033	1,400	
AA1-6200	EX	AA1-6200-3.7	08/25/97	3.7	TPH	Gasoline Range Hydrocarbons	860	30	29	
AA1-6200	EX	AA1-6200-3.7-DL	08/25/97	3.7	TPH	Diesel Range Hydrocarbons	4,300	2,000	2.2	
AA2-81	EX	AA2-81-4.7	08/25/97	4.7	PCB	Total PCBs	6.9	0.033	210	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
AA2-81	EX	AA2-81-4.7-Dup	08/25/97	4.7	TPH	Diesel Range Hydrocarbons	3,040	2,000	1.5	
B0-31	EX	B0-31-4.0	08/21/97	4	PCB	Total PCBs	3.5	0.033	110	
B0-54	EX	B0-54-4.6	08/25/97	4.6	PCB	Total PCBs	8.1	0.033	250	
B0-54	EX	B0-54-4.6	08/25/97	4.6	TPH	Gasoline Range Hydrocarbons	1,200	30	40	
B0-54	EX	B0-54-4.6	08/25/97	4.6	TPH	Diesel Range Hydrocarbons	6,400	2,000	3.2	
C0-21	EX	C0-21-4.3	08/21/97	4.3	PCB	Total PCBs	14.3	0.033	430	
D1-70	EX	D1-70-3.7	08/25/97	3.7	PCB	Total PCBs	1.4	0.033	42	
D2-30	EX	D2-30-4.2	08/19/97	4.2	PCB	Total PCBs	19.1	0.033	580	
D2-30	EX	D2-30-4.2	08/19/97	4.2	TPH	Diesel Range Hydrocarbons	2,630	2,000	1.3	
D2-43	EX	D2-43-4.5	08/19/97	4.5	PCB	Total PCBs	15	0.033	450	
D2-43	EX	D2-43-4.5	08/19/97	4.5	TPH	Diesel Range Hydrocarbons	4,670	2,000	2.3	
D3-63	EX	D3-63-2.4	08/21/97	2.4	PCB	Total PCBs	3.4	0.033	100	
D4-21	EX	D4-21-5.0	08/25/97	5	PCB	Total PCBs	4.4	0.033	130	
E1-12	EX	E1-12-4.5	08/21/97	4.5	PCB	Total PCBs	39.6	0.033	1,200	
E2-30	EX	E2-30-3.5	08/19/97	3.5	PCB	Total PCBs	217	0.033	6,600	
E2-30	EX	E2-30-3.5	08/19/97	3.5	TPH	Diesel Range Hydrocarbons	5,250	2,000	2.6	
F0-10	EX	F0-10-4.0	08/20/97	4	PCB	Total PCBs	216	0.033	6,500	
F0-70	EX	F0-70-4.5	08/19/97	4.5	PCB	Total PCBs	23	0.033	700	
F0-70	EX	F0-70-4.5	08/19/97	4.5	TPH	Diesel Range Hydrocarbons	7,730	2,000	3.9	
G0-40	EX	G0-40-5.2	08/19/97	5.2	PCB	Total PCBs	1.1	0.033	33	
G0-772-Sump	EX	G0-72-Sump	08/22/97	NA	PCB	Total PCBs	5	0.033	150	
H1-10	EX	H1-10-3.4	08/20/97	3.4	PCB	Total PCBs	4,150	0.033	130,000	
H1-10	EX	H1-10-4.9	08/20/97	4.9	PCB	Total PCBs	1,520	0.033	46,000	
H1-10	EX	H1-10-4.9	08/20/97	4.9	TPH	Diesel Range Hydrocarbons	6,390	2,000	3.2	
H2-12	EX	H2-12-5.2	08/26/97	5.2	PCB	Total PCBs	530	0.033	16,000	
H2-12	EX	H2-12-5.2	08/26/97	5.2	TPH	Gasoline Range Hydrocarbons	1,100	30	37	
H2-12	EX	H2-12-5.2	08/26/97	5.2	TPH	Diesel Range Hydrocarbons	4,220	2,000	2.1	
H2-1200	EX	H2-1200-5.2	08/26/97	5.2	PCB	Total PCBs	340	0.033	10,000	
H2-1200	EX	H2-1200-5.2	08/26/97	5.2	TPH	Gasoline Range Hydrocarbons	1,200	30	40	
H2-1200	EX	H2-1200-5.2	08/26/97	5.2	TPH	Diesel Range Hydrocarbons	3,100	2,000	1.6	
HA-1	SB	HA-1	08/11/94	3 - 3.5	PCB	Total PCBs	1.8	0.033	55	
HA-10	SB	HA-10	08/11/94	6 - 6.5	PCB	Total PCBs	0.87	0.033	26	
HA-10	SB	HA-10	08/11/94	6 - 6.5	TPH	Gasoline Range Hydrocarbons	2,400	30	80	
HA-10	SB	HA-10	08/11/94	6 - 6.5	TPH	Diesel Range Hydrocarbons	2,800	2,000	1.4	
HA-11	SB	HA-11	08/11/94	6 - 6.5	PCB	Total PCBs	400	0.033	12,000	
HA-11	SB	HA-11	08/11/94	6 - 6.5	TPH	Gasoline Range Hydrocarbons	5,300	30	180	
HA-11	SB	HA-11	08/11/94	6 - 6.5	TPH	Diesel Range Hydrocarbons	3,900	2,000	2.0	
HA-12	SB	HA-12	08/11/94	6 - 6.5	PCB	Total PCBs	1.6	0.033	48	
HA-2	SB	HA-2	08/11/94	3 - 3.5	PCB	Total PCBs	1	0.033	30	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
HA-3	SB	HA-3	08/11/94	3 - 3.5	PCB	Total PCBs	0.11	0.033	3.3	
HA-5	SB	HA-5	08/11/94	3 - 3.5	PCB	Total PCBs	0.14	0.033	4.2	
HA-6	SB	HA-6	08/11/94	3 - 3.5	PCB	Total PCBs	0.77	0.033	23	
HA-8	SB	HA-8	08/11/94	6 - 6.5	PCB	Total PCBs	0.1	0.033	3.0	
J2-42	EX	J2-42-4.3	08/19/97	4.3	PCB	Total PCBs	294	0.033	8,900	
K2-113	EX	K2-113-3.9	08/25/97	3.9	PCB	Total PCBs	7.9	0.033	240	
K4-30	EX	K4-30-4.7	08/25/97	4.7	PCB	Total PCBs	0.5	0.033	15	
LAI-SB103	SB	LAI-SB103(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.79	0.033	24	
LAI-SB103	SB	LAI-SB103(2-4)092810	09/28/10	2 - 4	PCB	Total PCBs	0.083	0.033	2.5	
LAI-SB103	SB	LAI-SB103(2-4)092810	09/28/10	2 - 4	MET	Mercury	0.08	0.07	1.1	
LAI-SB103	SB	LAI-SB103(4-6)092810	09/28/10	4 - 6	PCB	Total PCBs	0.13	0.033	3.9	
LAI-SB105	SB	LAI-SB105(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.21	0.033	6.4	
LAI-SB105	SB	LAI-SB105(2-4)092810	09/28/10	2 - 4	PCB	Total PCBs	0.52	0.033	16	
LAI-SB105	SB	LAI-SB105(2-4)092810	09/28/10	2 - 4	MET	Mercury	0.09	0.07	1.3	
LAI-SB106	SB	LAI-SB106(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.048	0.033	1.5	
LAI-SB106	SB	LAI-SB106(0-2)092810	09/28/10	0 - 2	TPH	Gasoline Range Hydrocarbons	50	30	1.7	
LAI-SB60	SB	LAI-SB60(2-4)091410	09/14/10	2 - 4	PAH	Benzo(a)pyrene	0.063	0.005	13	
LAI-SB60	SB	LAI-SB60(2-4)091410	09/14/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.0723	0.005	14	
LAI-SB60	SB	LAI-SB60(4-6)091410	09/14/10	4 - 6	MET	Zinc	119	86	1.4	
LAI-SB60	SB	LAI-SB60(4-6)091410	09/14/10	4 - 6	TPH	Gasoline Range Hydrocarbons	39	30	1.3	
LAI-SB60	SB	LAI-SB60(4-6)091410	09/14/10	4 - 6	BTX	Benzene	0.31	0.001	310	
LAI-SB61	SB	LAI-SB61(0-2)091410	09/14/10	0 - 2	PCB	Total PCBs	0.125	0.033	3.8	
LAI-SB61	SB	LAI-SB61(6-8)091610	09/16/10	6 - 8	PCB	Total PCBs	20	0.033	610	
LAI-SB61	SB	LAI-SB61(6-8)091610	09/16/10	6 - 8	TPH	Gasoline Range Hydrocarbons	170	30	5.7	
LAI-SB62	SB	LAI-SB62(0-2)091410	09/14/10	0 - 2	PCB	Total PCBs	0.037	0.033	1.1	
LAI-SB63	SB	LAI-SB63(0-2)091410	09/14/10	0 - 2	PCB	Total PCBs	0.17	0.033	5.2	
LAI-SB63	SB	LAI-SB63(2-4)091410	09/14/10	2 - 4	PCB	Total PCBs	2.9	0.033	88	
LAI-SB63	SB	LAI-SB63(4-6)091410	09/14/10	4 - 6	PCB	Total PCBs	3.9	0.033	120	
LAI-SB63	SB	LAI-SB63(4-6)091410	09/14/10	4 - 6	PAH	Benzo(a)pyrene	0.13	0.005	26	
LAI-SB63	SB	LAI-SB63(4-6)091410	09/14/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.139765	0.005	28	
LAI-SB79	SB	LAI-SB79(0-2)091710	09/17/10	0 - 2	PCB	Total PCBs	0.038	0.033	1.2	
LAI-SB79	SB	LAI-SB79(4-6)091710	09/17/10	4 - 6	MET	Mercury	0.09	0.07	1.3	
LAI-SB79	SB	LAI-SB79(4-6)091710	09/17/10	4 - 6	PAH	2-Methylnaphthalene	0.081	0.0432	1.9	
LAI-SB93	SB	LAI-SB93(0-2)092210	09/22/10	0 - 2	PCB	Total PCBs	0.16	0.033	4.8	
NGW513	MW	NGW513(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	0.77	0.033	23	
NGW515	MW	NGW515(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	1.5	0.033	45	
NGW515	MW	NGW515(2-4)012011	01/20/11	2 - 4	PCB	Total PCBs	2.2	0.033	67	
NGW515	MW	NGW515(4-6)012011	01/20/11	4 - 6	PCB	Total PCBs	1.4	0.033	42	
NGW516	MW	NGW516(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	0.44	0.033	13	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
NGW516	MW	NGW516(10-12)012011	01/20/11	10 - 12	PAH	2-Methylnaphthalene	0.076	0.0432	1.8	
NGW516	MW	NGW516(10-12)012011	01/20/11	10 - 12	BTX	Benzene	0.15 J	0.001	150	
NGW516	MW	NGW516(2-4)012011	01/20/11	2 - 4	PCB	Total PCBs	0.131	0.033	4.0	
NGW517	MW	NGW517(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	0.2	0.033	6.1	
NGW517	MW	NGW517(0-2)012011	01/20/11	0 - 2	PAH	Benzo(a)pyrene	0.068	0.005	14	
NGW517	MW	NGW517(0-2)012011	01/20/11	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.07794	0.005	16	
NGW517	MW	NGW517(10-12)012011	01/20/11	10 - 12	PCB	Total PCBs	8.2	0.033	250	
NGW517	MW	NGW517(12-14)012011	01/20/11	12 - 14	PCB	Total PCBs	3.4	0.033	100	
NGW517	MW	NGW517(14-15)012011	01/20/11	14 - 15	PCB	Total PCBs	0.48	0.033	15	
NGW517	MW	NGW517(2-4)012011	01/20/11	2 - 4	PCB	Total PCBs	0.106	0.033	3.2	
NGW517	MW	NGW517(2-4)012011	01/20/11	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.04041	0.005	8.1	
NGW517	MW	NGW517(4-6)012011	01/20/11	4 - 6	PCB	Total PCBs	0.14	0.033	4.2	
NGW517	MW	NGW517(4-6)012011	01/20/11	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.03969	0.005	7.9	
NGW517	MW	NGW517(6-8)012011	01/20/11	6 - 8	PCB	Total PCBs	140	0.033	4,200	
NGW517	MW	NGW517(6-8)012011	01/20/11	6 - 8	BTX	Benzene	0.17	0.001	170	
NGW517	MW	NGW517(8-10)012011	01/20/11	8 - 10	PCB	Total PCBs	9.5	0.033	290	
NGW518	MW	NGW518(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	0.28	0.033	8.5	
NGW518	MW	NGW518(2-4)012011	01/20/11	2 - 4	PCB	Total PCBs	0.143	0.033	4.3	
NGW518	MW	NGW518(9-11)012011	01/20/11	9 - 11	PAH	Carcinogenic PAHs, ND*0.5	0.0459	0.005	9.2	
P1	SB	3.321/P1/3.2-4.2	06/21/97	3.2 - 4.2	PCB	Total PCBs	0.106	0.033	3.2	
P11	SB	3-321/P11/3.7-6.7	06/20/97	3.7 - 6.7	PCB	Total PCBs	22	0.033	670	Removed
P11	SB	3-321/P11/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Gasoline Range Hydrocarbons	600	30	20	Removed
P12	SB	3-321/P12/3.5-6.5	06/20/97	3.5 - 6.5	PCB	Total PCBs	9.8	0.033	300	Removed
P12	SB	3-321/P12/3.5-6.5	06/20/97	3.5 - 6.5	TPH	Gasoline Range Hydrocarbons	820	30	27	Removed
P12	SB	3-321/P12/3.5-6.5	06/20/97	3.5 - 6.5	TPH	Diesel Range Hydrocarbons	3,900	2,000	2.0	Removed
P13	SB	3-321/P13/3.7-6.7	06/20/97	3.7 - 6.7	PCB	Total PCBs	120	0.033	3,600	Removed
P13	SB	3-321/P13/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Gasoline Range Hydrocarbons	430	30	14	Removed
P13	SB	3-321/P13/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Diesel Range Hydrocarbons	2,600	2,000	1.3	Removed
P14	SB	3-321/P14/3.1-5.6	06/20/97	3.1 - 5.6	PCB	Total PCBs	180	0.033	5,500	Removed
P14	SB	3-321/P14/3.1-5.6	06/20/97	3.1 - 5.6	TPH	Gasoline Range Hydrocarbons	2,000	30	67	Removed
P14	SB	3-321/P14/3.1-5.6	06/20/97	3.1 - 5.6	TPH	Diesel Range Hydrocarbons	2,900	2,000	1.5	Removed
P15	SB	3-321/P15/3.6-6.6	06/20/97	3.6 - 6.6	PCB	Total PCBs	630	0.033	19,000	Removed
P15	SB	3-321/P15/3.6-6.6	06/20/97	3.6 - 6.6	TPH	Gasoline Range Hydrocarbons	890	30	30	Removed
P15	SB	3-321/P15/3.6-6.6	06/20/97	3.6 - 6.6	TPH	Diesel Range Hydrocarbons	4,800	2,000	2.4	Removed
P16	SB	3-321/P16/3.7-6.7	06/20/97	3.7 - 6.7	PCB	Total PCBs	83	0.033	2,500	Removed
P16	SB	3-321/P16/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Gasoline Range Hydrocarbons	7,500	30	250	Removed
P17	SB	3.321/P17/3.7-6.7	06/21/97	3.7 - 6.7	PCB	Total PCBs	3.7	0.033	110	Removed
P17	SB	3.321/P171/3.7-6.7	06/21/97	3.7 - 6.7	TPH	Gasoline Range Hydrocarbons	4,800	30	160	Removed
P18	SB	3-321/P181/1.7-3.7	06/20/97	1.7 - 3.7	TPH	Gasoline Range Hydrocarbons	370	30	12	Removed

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
P18	SB	3-321/P18/3.7-6.7	06/20/97	3.7 - 6.7	PCB	Total PCBs	280	0.033	8,500	Removed
P18	SB	3-321/P181/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Gasoline Range Hydrocarbons	7,800	30	260	Removed
P18	SB	3-321/P181/3.7-6.7	06/20/97	3.7 - 6.7	TPH	Diesel Range Hydrocarbons	7,600	2,000	3.8	Removed
P19	SB	3-321/P19/4.0-6.0	06/20/97	4 - 6	PCB	Total PCBs	0.53	0.033	16	Removed
P20	SB	3-321/P20/0.5-1.5	06/20/97	0.5 - 1.5	PCB	Total PCBs	0.14	0.033	4.2	Removed
P28	SB	3.321/P28/0.5-1.5	06/21/97	0.5 - 1.5	PCB	Total PCBs	0.048	0.033	1.5	
P28	SB	3.321/P28/1.5-3.0	06/21/97	1.5 - 3	PCB	Total PCBs	0.16	0.033	4.8	
P29	SB	3.321/P29/3.5.5.0	06/21/97	3.5 - 5	VOC	Methylene Chloride	0.0063	0.0012	5.3	
P5	SB	3.321/P-5/0.4-1.4	06/21/97	0.4 - 1.4	PCB	Total PCBs	0.58	0.033	18	
P5	SB	3.321/P5-/1.4-3.4	06/21/97	1.4 - 3.4	PCB	Total PCBs	0.052	0.033	1.6	
P5	SB	3.321/P5-/3.4-6.4	06/21/97	3.4 - 6.4	PCB	Total PCBs	4	0.033	120	
P6	SB	3.321/P-6/0.5-1.2	06/21/97	0.5 - 1.2	PCB	Total PCBs	0.088	0.033	2.7	
PCBPC-Int	EX	PCBPC-Int	08/26/97	NA	PCB	Total PCBs	4.5	0.033	140	
S-12	EX	S-12	03/12/96	4	TPH	Gasoline Range Hydrocarbons	4,700	30	160	
S-12	EX	S-12	03/12/96	4	TPH	Diesel Range Hydrocarbons	9,900	2,000	5.0	
S-3	EX	S-3	03/12/96	4	TPH	Gasoline Range Hydrocarbons	1,800	30	60	
S-3	EX	S-3	03/12/96	4	TPH	Diesel Range Hydrocarbons	8,800	2,000	4.4	
S-4	EX	S-4	03/12/96	4	TPH	Gasoline Range Hydrocarbons	3,700	30	120	
S-4	EX	S-4	03/12/96	4	TPH	Diesel Range Hydrocarbons	3,000	2,000	1.5	
SB01	SB	SB01@1.5	11/30/94	1.5 - 1.5	PCB	Total PCBs	0.044	0.033	1.3	
SB-01	SB	SB-01-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.07	0.033	2.1	
SB-02	SB	SB-02-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.12	0.033	3.6	
SB-03	SB	SB-03-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.066	0.033	2.0	
SB05	SB	SB05@2	11/29/94	2 - 2	PCB	Total PCBs	0.15	0.033	4.5	
SB08	SB	SB08@2	11/29/94	2 - 2	PCB	Total PCBs	0.096	0.033	2.9	
SB08	SB	SB08@6	11/29/94	6 - 6	PCB	Total PCBs	0.11	0.033	3.3	
SB08-36	SB	SB08-36-5-6	09/18/08	5 - 6	PCB	Total PCBs	270	0.033	8,200	
SB11	SB	SB11@2.0	11/29/94	2 - 2	PCB	Total PCBs	3	0.033	91	
SB11	SB	SB11@5.5	11/29/94	5.5 - 5.5	TPH	Gasoline Range Hydrocarbons	420	30	14	
SB12	SB	SB12@3	11/30/94	3 - 3	PCB	Total PCBs	0.28	0.033	8.5	
SB12	SB	SB12@8	11/30/94	8 - 8	PCB	Total PCBs	1.2	0.033	36	
SB-12	SB	SB-12-1-2	04/03/07	1 - 2	PCB	Total PCBs	0.23	0.033	7.0	
SB14	SB	SB14@1	11/30/94	1 - 1	PCB	Total PCBs	1.4	0.033	42	
SB15	SB	SB15@3	11/30/94	3 - 3	PCB	Total PCBs	0.32	0.033	9.7	
SB18	SB	SB18@2	11/30/94	2 - 2	PCB	Total PCBs	0.08	0.033	2.4	
SB20	SB	SB20@6	11/30/94	6 - 6	VOC	Methylene Chloride	0.023 B	0.0012	19	
SB-36	SB	SB-36-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.11	0.033	3.3	
SB-36	SB	SB-36-5-6	03/29/07	5 - 6	PCB	Total PCBs	133	0.033	4,000	
SB-36	SB	SB-36-5-6	03/29/07	5 - 6	TPH	Gasoline Range Hydrocarbons	2,900	30	97	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
TP8/4.7	TP	TP8/4.7	09/22/98	4.7	PCB	Total PCBs	7.7	0.033	230	
TP8/4.7	TP	TP8/4.7	09/22/98	4.7	TPH	Gasoline Range Hydrocarbons	560	30	19	
TP9/4.3	TP	TP9/4.3	09/22/98	4.3	PCB	Total PCBs	0.96	0.033	29	
Building 3-324 Area										
LAI-SB58	SB	LAI-SB58(2-4)091410	09/14/10	2 - 4	PAH	Benzo(g,h,i)perylene	0.13	0.031	4.2	
LAI-SB58	SB	LAI-SB58(2-4)091410	09/14/10	2 - 4	PAH	Benzo(a)pyrene	0.2	0.005	40	
LAI-SB58	SB	LAI-SB58(2-4)091410	09/14/10	2 - 4	PAH	Fluoranthene	0.21	0.161	1.3	
LAI-SB58	SB	LAI-SB58(2-4)091410	09/14/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.2311	0.005	46	
LAI-SB58	SB	LAI-SB58(4-6)091410	09/14/10	4 - 6	PAH	Benzo(g,h,i)perylene	0.12	0.031	3.9	
LAI-SB58	SB	LAI-SB58(4-6)091410	09/14/10	4 - 6	PAH	Benzo(a)pyrene	0.21	0.005	42	
LAI-SB58	SB	LAI-SB58(4-6)091410	09/14/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.24205	0.005	48	
LAI-SB58	SB	LAI-SB58(6-8)091610	09/16/10	6 - 8	PAH	Benzo(a)pyrene	0.086	0.005	17	
LAI-SB58	SB	LAI-SB58(6-8)091610	09/16/10	6 - 8	PAH	Carcinogenic PAHs, ND*0.5	0.1008	0.005	20	
LAI-SB59	SB	LAI-SB59(4-6)091410	09/14/10	4 - 6	PAH	Benzo(g,h,i)perylene	0.98	0.031	32	
LAI-SB59	SB	LAI-SB59(4-6)091410	09/14/10	4 - 6	PAH	Benzo(a)pyrene	1.7	0.005	340	
LAI-SB59	SB	LAI-SB59(4-6)091410	09/14/10	4 - 6	PAH	Fluoranthene	2.1	0.161	13	
LAI-SB59	SB	LAI-SB59(4-6)091410	09/14/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	2.218	0.005	440	
LAI-SB64	SB	LAI-SB64(0-2)091610	09/16/10	0 - 2	PCB	Total PCBs	0.105	0.033	3.2	
LAI-SB64	SB	LAI-SB64(0-2)091610	09/16/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.26	0.031	8.4	
LAI-SB64	SB	LAI-SB64(0-2)091610	09/16/10	0 - 2	PAH	Benzo(a)pyrene	0.38	0.005	76	
LAI-SB64	SB	LAI-SB64(0-2)091610	09/16/10	0 - 2	PAH	Fluoranthene	0.94	0.161	5.8	
LAI-SB64	SB	LAI-SB64(0-2)091610	09/16/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.4552	0.005	91	
LAI-SB91	SB	LAI-SB91(0-2)092210	09/22/10	0 - 2	PCB	Total PCBs	0.071	0.033	2.2	
LAI-SB91	SB	LAI-SB91(4-6)092210	09/22/10	4 - 6	PAH	Benzo(a)pyrene	0.068	0.005	14	
LAI-SB91	SB	LAI-SB91(4-6)092210	09/22/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.08154	0.005	16	
LAI-SB92	SB	LAI-SB92(0-2)092210	09/22/10	0 - 2	PCB	Total PCBs	0.67	0.033	20	
LAI-SB92	SB	LAI-SB92(0-2)092210	09/22/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.1	0.031	3.2	
LAI-SB92	SB	LAI-SB92(0-2)092210	09/22/10	0 - 2	PAH	Benzo(a)pyrene	0.085	0.005	17	
LAI-SB92	SB	LAI-SB92(0-2)092210	09/22/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.09493	0.005	19	
LAI-SB92	SB	LAI-SB92(2-4)092210	09/22/10	2 - 4	PCB	Total PCBs	1.03	0.033	31	
LAI-SB92	SB	LAI-SB92(2-4)092210	09/22/10	2 - 4	MET	Arsenic	10	7.0	1.4	
LAI-SB92	SB	LAI-SB92(4-6)092210	09/22/10	4 - 6	PCB	Total PCBs	0.25	0.033	7.6	
LAI-SB92	SB	LAI-SB92(4-6)092210	09/22/10	4 - 6	MET	Arsenic	24	7.0	3.4	
LAI-SB92	SB	LAI-SB92(4-6)092210	09/22/10	4 - 6	MET	Cadmium	1.2	1.0	1.2	
LAI-SB92	SB	LAI-SB92(4-6)092210	09/22/10	4 - 6	MET	Zinc	94	86	1.1	
NGW519	MW	NGW519(0-2)012411	01/24/11	0 - 2	PCB	Total PCBs	0.17	0.033	5.2	
NGW519	MW	NGW519(2-4)012411	01/24/11	2 - 4	PCB	Total PCBs	0.32	0.033	9.7	
NGW519	MW	NGW519(2-4)012411	01/24/11	2 - 4	MET	Arsenic	29	7.0	4.1	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
NGW519	MW	NGW519(4-6)012411	01/24/11	4 - 6	MET	Arsenic	23	7.0	3.3	
SB6	SB	FG-SB6@6.5-7	11/30/93	6.5 - 7	TPH	Gasoline Range Hydrocarbons	120	30	4.0	Removed
SB8	SB	FG-SB8@7-7.5	11/30/93	7 - 7.5	TPH	Gasoline Range Hydrocarbons	1,000	30	33	Removed
SB8	SB	FG-SB8@8.5-9	11/30/93	8.5 - 9	TPH	Gasoline Range Hydrocarbons	130	30	4.3	Removed
WF-2	SB	WF-2	05/18/04	4 - 5	PCB	Total PCBs	0.33	0.033	10	
Building 3-353 Area										
LAI-SB107	SB	LAI-SB107(0-2)092810	09/28/10	0 - 2	PAH	Fluoranthene	0.47	0.161	2.9	
LAI-SB107	SB	LAI-SB107(0-2)092810	09/28/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1321	0.005	26	
LAI-SB107	SB	LAI-SB107(0-2)092810	09/28/10	0 - 2	BTX	Benzene	0.065	0.001	65	
LAI-SB107	SB	LAI-SB107(2-4)092810	09/28/10	2 - 4	MET	Mercury	0.08	0.07	1.1	
LAI-SB107	SB	LAI-SB107(4-6)092810	09/28/10	4 - 6	MET	Mercury	0.1	0.07	1.4	
LAI-SB54	SB	LAI-SB54(0-2)091410	09/14/10	0 - 2	PCB	Total PCBs	0.037	0.033	1.1	
LAI-SB54	SB	LAI-SB54(2-4)091410	09/14/10	2 - 4	MET	Mercury	0.1	0.07	1.4	
LAI-SB54	SB	LAI-SB54(4-6)091410	09/14/10	4 - 6	MET	Mercury	0.08	0.07	1.1	
LAI-SB81	SB	LAI-SB81(0-2)092010	09/20/10	0 - 2	PCB	Total PCBs	0.17	0.033	5.2	
LAI-SB81	SB	LAI-SB81(2-4)092010	09/20/10	2 - 4	PAH	Benzo(a)pyrene	0.069	0.005	14	
LAI-SB81	SB	LAI-SB81(2-4)092010	09/20/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.07941	0.005	16	
LAI-SB81	SB	LAI-SB81(4-6)092010	09/20/10	4 - 6	PCB	Total PCBs	0.13	0.033	3.9	
LAI-SB95	SB	LAI-SB95(0-2)092310	09/23/10	0 - 2	PCB	Total PCBs	0.14	0.033	4.2	
LAI-SB96	SB	LAI-SB96(2-4)092310	09/23/10	2 - 4	TPH	Gasoline Range Hydrocarbons	44	30	1.5	
SB-1	SB	SB-1A	09/21/89	2.5	MET	Arsenic	11	7.0	1.6	
SB-1	SB	SB-1A	09/21/89	2.5	MET	Barium	340	23.1	15	
SB-1	SB	SB-1A	09/21/89	2.5	MET	Chromium	290	260	1.1	
SB-2	SB	SB-2A	09/21/89	2.5	MET	Arsenic	28	7.0	4.0	
SB-2	SB	SB-2A	09/21/89	2.5	MET	Barium	220	23.1	9.5	
SB-2	SB	SB-2A	09/21/89	2.5	MET	Chromium	560	260	2.2	
SB-2	SB	SB-2A	09/21/89	2.5	MET	Copper	63	36	1.8	
SB-2	SB	SB-2A	09/21/89	2.5	MET	Zinc	90	86	1.0	
SB-3	SB	SB-3A	09/21/89	2.5	MET	Barium	88	23.1	3.8	
SB-3	SB	SB-3B	09/21/89	5.5	PCB	Total PCBs	2.9	0.033	88	
SB-4	SB	SB-4A	09/21/89	2.5	MET	Barium	73	23.1	3.2	
SB-5	SB	SB-5A	09/21/89	2.5	MET	Arsenic	8.9	7.0	1.3	
SB-5	SB	SB-5A	09/21/89	2.5	MET	Barium	110	23.1	4.8	
Building 3-354 Area										
SB-1A-1B	SB	SB-1A-1B	10/30/91	2.5 - 5.5	PCB	Total PCBs	0.3	0.033	9.1	
SB-4A-4B	SB	SB-4A-4B	10/30/91	2.5 - 5.5	PCB	Total PCBs	0.1	0.033	3.0	Removed
Wind Tunnel Area										
LAI-SB47	SB	LAI-SB47(0-2)091310	09/13/10	0 - 2	PCB	Total PCBs	0.172	0.033	5.2	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LAI-SB47	SB	LAI-SB47(0-2)091310	09/13/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.082 J	0.031	2.6	
LAI-SB47	SB	LAI-SB47(0-2)091310	09/13/10	0 - 2	PAH	Benzo(a)pyrene	0.082	0.005	16	
LAI-SB47	SB	LAI-SB47(0-2)091310	09/13/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.10058	0.005	20	
LAI-SB47	SB	LAI-SB47(2-4)091310	09/13/10	2 - 4	MET	Cadmium	12	1.0	12	
LAI-SB47	SB	LAI-SB47(2-4)091310	09/13/10	2 - 4	MET	Mercury	0.15	0.07	2.1	
LAI-SB47	SB	LAI-SB47(2-4)091310	09/13/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.04239	0.005	8.5	
LAI-SB47	SB	LAI-SB47(4-6)091310	09/13/10	4 - 6	MET	Cadmium	1.1	1.0	1.1	
LAI-SB85	SB	LAI-SB85(0-2)092010	09/20/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.04027	0.005	8.1	
LAI-SB86	SB	LAI-SB86(2-4)092010	09/20/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.04717	0.005	9.4	
Green Hornet Area										
EX2	EX	NBF-GH-EX2	02/10/93	3	TPH	Diesel Range Hydrocarbons	13,000	2,000	6.5	Removed
EX-2-NE	EX	EX-2-NE	09/07/93	9	TPH	Gasoline Range Hydrocarbons	180	30	6.0	
EX-DE2-8.5	EX	EX-DE2-8.5	09/14/93	8.5	TPH	Gasoline Range Hydrocarbons	1,400	30	47	
EX-DE2-8.5	EX	EX-DE2-8.5	09/14/93	8.5	TPH	Diesel Range Hydrocarbons	3,900	2,000	2.0	
EX-DE2-8.5	EX	EX-DE2-8.5	09/14/93	8.5	PAH	2-Methylnaphthalene	26	0.0432	600	
EX-DE2-8.5	EX	EX-DE2-8.5	09/14/93	8.5	PAH	Naphthalene	14	3.6	3.9	
EX-DMW-8	EX	EX-DMW-8	09/13/93	8	MET	Mercury	0.09	0.07	1.3	
EX-DSE-8	EX	EX-DSE-8	09/13/93	8	PHT	Bis(2-Ethylhexyl) Phthalate	3.8	0.0471	81	
EX-DWW-8	EX	EX-DWW-8	09/10/93	8	TPH	Gasoline Range Hydrocarbons	260	30	8.7	
EX-DWW-8	EX	EX-DWW-8	09/10/93	8	PAH	2-Methylnaphthalene	0.33 M	0.0432	7.6	
EX-SMW-4	EX	EX-SMW-4	09/13/93	4	TPH	Gasoline Range Hydrocarbons	150	30	5.0	
EX-SMW-4	EX	EX-SMW-4	09/13/93	4	PAH	2-Methylnaphthalene	4.9	0.0432	110	
EX-SSE-4	EX	EX-SSE-4	09/13/93	4	MET	Mercury	0.38	0.07	5.4	
EX-SSE-4	EX	EX-SSE-4	09/13/93	4	PAH	Benzo(a)pyrene	0.18	0.005	36	
EX-SSE-4	EX	EX-SSE-4	09/13/93	4	PAH	Fluoranthene	0.63	0.161	3.9	
EX-SSE-4	EX	EX-SSE-4	09/13/93	4	PAH	Carcinogenic PAHs, ND*0.5	0.2662	0.005	53	
EX-SWW-4	EX	EX-SWW-4	09/10/93	4	MET	Mercury	0.11	0.07	1.6	
GH-MW2	SB	GH-MW2@6-6.5	11/29/93	6 - 6.5	TPH	Gasoline Range Hydrocarbons	210	30	7.0	
GH-MW4	SB	GH-MW4@6.5-7	11/29/93	6.5 - 7	TPH	Gasoline Range Hydrocarbons	500	30	17	
LAI-SB101	SB	LAI-SB101(0-2)092310	09/23/10	0 - 2	PCB	Total PCBs	0.034	0.033	1.0	
LAI-SB101	SB	LAI-SB101(2-4)092310	09/23/10	2 - 4	PCB	Total PCBs	0.034	0.033	1.0	
LAI-SB101	SB	LAI-SB101(4-6)092310	09/23/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.04796	0.005	9.6	
LAI-SB49	SB	LAI-SB49(2-4)091310	09/13/10	2 - 4	MET	Mercury	0.13	0.07	1.9	
LAI-SB49	SB	LAI-SB49(2-4)091310	09/13/10	2 - 4	TPH	Gasoline Range Hydrocarbons	50	30	1.7	
LAI-SB98	SB	LAI-SB98(0-2)092310	09/23/10	0 - 2	PCB	Total PCBs	0.101	0.033	3.1	
LAI-SB98	SB	LAI-SB98(0-2)092310	09/23/10	0 - 2	TPH	Gasoline Range Hydrocarbons	5,800	30	190	
LAI-SB98	SB	LAI-SB98(0-2)092310	09/23/10	0 - 2	PAH	2-Methylnaphthalene	7.9	0.0432	180	
LAI-SB98	SB	LAI-SB98(2-4)092310	09/23/10	2 - 4	MET	Mercury	0.08	0.07	1.1	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LAI-SB98	SB	LAI-SB98(2-4)092310	09/23/10	2 - 4	TPH	Gasoline Range Hydrocarbons	7,300	30	240	
LAI-SB98	SB	LAI-SB98(2-4)092310	09/23/10	2 - 4	PAH	2-Methylnaphthalene	0.76	0.0432	18	
LAI-SB98	SB	LAI-SB98(4-6)092310	09/23/10	4 - 6	MET	Mercury	0.09	0.07	1.3	
LAI-SB98	SB	LAI-SB98(4-6)092310	09/23/10	4 - 6	TPH	Gasoline Range Hydrocarbons	720	30	24	
LAI-SB98	SB	LAI-SB98(4-6)092310	09/23/10	4 - 6	PAH	2-Methylnaphthalene	0.71	0.0432	16	
LAI-SB98	SB	LAI-SB98(4-6)092310	09/23/10	4 - 6	BTX	Benzene	0.087 J	0.001	87	
LAI-SB98	SB	LAI-SB98(6-8)092310	09/23/10	6 - 8	TPH	Gasoline Range Hydrocarbons	620	30	21	
LAI-SB98	SB	LAI-SB98(6-8)092310	09/23/10	6 - 8	PAH	2-Methylnaphthalene	0.43	0.0432	10	
LAI-SB98	SB	LAI-SB98(6-8)092310	09/23/10	6 - 8	BTX	Benzene	0.48 J	0.001	480	
NBF-GH-2	SB	NBF-GH-2	04/24/86	5.5	TPH	Jet Fuel	7,140	2,000	3.6	Removed
PEL Area-Wide Zone										
LAI-SB104	SB	LAI-SB104(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.048	0.033	1.5	
LAI-SB104	SB	LAI-SB104(2-4)092810	09/28/10	2 - 4	PCB	Total PCBs	0.2	0.033	6.1	
LAI-SB104	SB	LAI-SB104(4-6)092810	09/28/10	4 - 6	PCB	Total PCBs	0.046	0.033	1.4	
LAI-SB104	SB	LAI-SB104(4-6)092810	09/28/10	4 - 6	TPH	Gasoline Range Hydrocarbons	7,000	30	230	
LAI-SB104	SB	LAI-SB104(6-8)092810	09/28/10	6 - 8	TPH	Gasoline Range Hydrocarbons	420	30	14	
LAI-SB12	SB	SB12(0-2)071410	07/14/10	0 - 2	PCB	Total PCBs	0.26	0.033	7.9	
LAI-SB12	SB	SB12(2-4)071410	07/14/10	2 - 4	PCB	Total PCBs	0.22	0.033	6.7	
LAI-SB12	SB	SB12(2-4)071410	07/14/10	2 - 4	MET	Copper	36.6	36	1.0	
LAI-SB12	SB	SB12(2-4)071410	07/14/10	2 - 4	MET	Mercury	0.09	0.07	1.3	
LAI-SB12	SB	SB12(2-4)071410	07/14/10	2 - 4	MET	Zinc	156	86	1.8	
LAI-SB12	SB	SB12-(6-8)071410	07/14/10	6 - 8	PCB	Total PCBs	0.054	0.033	1.6	
LAI-SB31	SB	SB31(0-2)071510	07/15/10	0 - 2	PCB	Total PCBs	0.85	0.033	26	
LAI-SB31	SB	SB31(4-6)071610	07/16/10	4 - 6	PCB	Total PCBs	0.034	0.033	1.0	
LAI-SB51	SB	LAI-SB51(0-2)091310	09/13/10	0 - 2	PCB	Total PCBs	0.091	0.033	2.8	
LAI-SB51	SB	LAI-SB51(2-4)091310	09/13/10	2 - 4	MET	Mercury	0.11	0.07	1.6	
LAI-SB52	SB	LAI-SB52(2-4)091310	09/13/10	2 - 4	PAH	Benzo(a)pyrene	0.1	0.005	20	
LAI-SB52	SB	LAI-SB52(2-4)091310	09/13/10	2 - 4	PAH	Fluoranthene	0.33	0.161	2.0	
LAI-SB52	SB	LAI-SB52(2-4)091310	09/13/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.116	0.005	23	
LAI-SB52	SB	LAI-SB52(4-6)091310	09/13/10	4 - 6	MET	Copper	49.1	36	1.4	
LAI-SB53	SB	LAI-SB53(0-2)091410	09/14/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.079	0.031	2.5	
LAI-SB53	SB	LAI-SB53(0-2)091410	09/14/10	0 - 2	PAH	Benzo(a)pyrene	0.091	0.005	18	
LAI-SB53	SB	LAI-SB53(0-2)091410	09/14/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1082	0.005	22	
LAI-SB53	SB	LAI-SB53(4-6)091410	09/14/10	4 - 6	PAH	2-Methylnaphthalene	0.065	0.0432	1.5	
LAI-SB65	SB	LAI-SB65(2-4)091510	09/15/10	2 - 4	MET	Mercury	0.12	0.07	1.7	
LAI-SB65	SB	LAI-SB65(4-6)091510	09/15/10	4 - 6	MET	Copper	157	36	4.4	
LAI-SB65	SB	LAI-SB65(4-6)091510	09/15/10	4 - 6	MET	Mercury	0.08	0.07	1.1	
LAI-SB66	SB	LAI-SB66(0-2)091510	09/15/10	0 - 2	PCB	Total PCBs	0.072	0.033	2.2	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	MET	Mercury	0.17	0.07	2.4	
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	MET	Zinc	1,430	86	17	
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	PAH	Benzo(g,h,i)perylene	0.35	0.031	11	
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	PAH	Benzo(a)pyrene	0.77	0.005	150	
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	PAH	Fluoranthene	1.4	0.161	8.7	
LAI-SB67	SB	LAI-SB67(2-4)091510	09/15/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.945	0.005	190	
LAI-SB67	SB	LAI-SB67(4-6)091510	09/15/10	4 - 6	MET	Zinc	104	86	1.2	
LAI-SB67	SB	LAI-SB67(4-6)091510	09/15/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.04865	0.005	9.7	
LAI-SB69	SB	LAI-SB69(0-2)091710	09/17/10	0 - 2	PCB	Total PCBs	9.2	0.033	280	
LAI-SB69	SB	LAI-SB69(0-2)091710	09/17/10	0 - 2	PAH	2-Methylnaphthalene	0.062	0.0432	1.4	
LAI-SB69	SB	LAI-SB69(2-4)091710	09/17/10	2 - 4	PCB	Total PCBs	0.12	0.033	3.6	
LAI-SB69	SB	LAI-SB69(2-4)091710	09/17/10	2 - 4	MET	Copper	37.6	36	1.0	
LAI-SB69	SB	LAI-SB69(2-4)091710	09/17/10	2 - 4	MET	Mercury	0.8 J	0.07	11	
LAI-SB69	SB	LAI-SB69(2-4)091710	09/17/10	2 - 4	PAH	2-Methylnaphthalene	0.089	0.0432	2.1	
LAI-SB69	SB	LAI-SB69(2-4)091710	09/17/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.043	0.005	8.6	
LAI-SB69	SB	LAI-SB69(4-6)091710	09/17/10	4 - 6	PCB	Total PCBs	0.072	0.033	2.2	
LAI-SB69	SB	LAI-SB69(4-6)091710	09/17/10	4 - 6	MET	Mercury	0.11	0.07	1.6	
LAI-SB70	SB	LAI-SB70(2-4)091710	09/17/10	2 - 4	PCB	Total PCBs	0.041	0.033	1.2	
LAI-SB70	SB	LAI-SB70(2-4)091710	09/17/10	2 - 4	MET	Mercury	1.04	0.07	15	
LAI-SB70	SB	LAI-SB70(2-4)091710	09/17/10	2 - 4	MET	Zinc	188	86	2.2	
LAI-SB71	SB	LAI-SB71(2-4)091710	09/17/10	2 - 4	MET	Mercury	0.08	0.07	1.1	
LAI-SB74	SB	LAI-SB74(0-2)091710	09/17/10	0 - 2	PCB	Total PCBs	0.61	0.033	18	
LAI-SB74	SB	LAI-SB74(2-4)091710	09/17/10	2 - 4	PCB	Total PCBs	0.24	0.033	7.3	
LAI-SB74	SB	LAI-SB74(2-4)091710	09/17/10	2 - 4	MET	Copper	43.6	36	1.2	
LAI-SB74	SB	LAI-SB74(2-4)091710	09/17/10	2 - 4	MET	Mercury	0.13	0.07	1.9	
LAI-SB74	SB	LAI-SB74(4-6)091710	09/17/10	4 - 6	PCB	Total PCBs	0.061	0.033	1.8	
LAI-SB74	SB	LAI-SB74(4-6)091710	09/17/10	4 - 6	MET	Mercury	0.14	0.07	2.0	
LAI-SB75	SB	LAI-SB75(0-2)091710	09/17/10	0 - 2	PCB	Total PCBs	0.083	0.033	2.5	
LAI-SB83	SB	LAI-SB83(0-2)092010	09/20/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.065	0.031	2.1	
LAI-SB83	SB	LAI-SB83(0-2)092010	09/20/10	0 - 2	PAH	Benzo(a)pyrene	0.097	0.005	19	
LAI-SB83	SB	LAI-SB83(0-2)092010	09/20/10	0 - 2	PAH	Fluoranthene	0.2	0.161	1.2	
LAI-SB83	SB	LAI-SB83(0-2)092010	09/20/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1102	0.005	22	
LAI-SB83	SB	LAI-SB83(2-4)092010	09/20/10	2 - 4	PAH	Benzo(g,h,i)perylene	0.068	0.031	2.2	
LAI-SB83	SB	LAI-SB83(2-4)092010	09/20/10	2 - 4	PAH	Benzo(a)pyrene	0.11	0.005	22	
LAI-SB83	SB	LAI-SB83(2-4)092010	09/20/10	2 - 4	PAH	Fluoranthene	0.35	0.161	2.2	
LAI-SB83	SB	LAI-SB83(2-4)092010	09/20/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.14995	0.005	30	
LAI-SB83	SB	LAI-SB83(4-6)092010	09/20/10	4 - 6	PAH	Benzo(a)pyrene	0.15	0.005	30	
LAI-SB83	SB	LAI-SB83(4-6)092010	09/20/10	4 - 6	PAH	Fluoranthene	0.38	0.161	2.4	
LAI-SB83	SB	LAI-SB83(4-6)092010	09/20/10	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.199	0.005	40	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
LAI-SB84	SB	LAI-SB84(0-2)092010	09/20/10	0 - 2	PAH	Benzo(g,h,i)perylene	0.062	0.031	2.0	
LAI-SB84	SB	LAI-SB84(0-2)092010	09/20/10	0 - 2	PAH	Benzo(a)pyrene	0.089	0.005	18	
LAI-SB84	SB	LAI-SB84(0-2)092010	09/20/10	0 - 2	PAH	Fluoranthene	0.22	0.161	1.4	
LAI-SB84	SB	LAI-SB84(0-2)092010	09/20/10	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.1027	0.005	21	
LAI-SB84	SB	LAI-SB84(2-4)092010	09/20/10	2 - 4	PAH	Benzo(a)pyrene	0.1	0.005	20	
LAI-SB84	SB	LAI-SB84(2-4)092010	09/20/10	2 - 4	PAH	Fluoranthene	0.31	0.161	1.9	
LAI-SB84	SB	LAI-SB84(2-4)092010	09/20/10	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.1336	0.005	27	
LAI-SB87	SB	LAI-SB87(0-2)092810	09/28/10	0 - 2	PCB	Total PCBs	0.29	0.033	8.8	
LAI-SB87	SB	LAI-SB87(2-4)092810	09/28/10	2 - 4	MET	Arsenic	9	7.0	1.3	
LAI-SB88	SB	LAI-SB88(0-2)092210	09/22/10	0 - 2	PCB	Total PCBs	0.068	0.033	2.1	
LAI-SB88	SB	LAI-SB88(2-4)092210	09/22/10	2 - 4	MET	Lead	68	56.7	1.2	
LAI-SB88	SB	LAI-SB88(2-4)092210	09/22/10	2 - 4	PAH	2-Methylnaphthalene	0.064	0.0432	1.5	
LAI-SB94	SB	LAI-SB94(0-2)092210	09/22/10	0 - 2	PCB	Total PCBs	0.064	0.033	1.9	
NBF-GB1	EX	NBF-GB1	09/06/07	2 - 3	PCB	Total PCBs	1.9	0.033	58	
NBF-GB3	EX	NBF-GB3	09/06/07	2 - 3	PCB	Total PCBs	0.54	0.033	16	
NBF-GB4	EX	NBF-GB4	09/10/07	6 - 7	PCB	Total PCBs	0.046	0.033	1.4	
NGW508	MW	NGW508(0-2)012111	01/21/11	0 - 2	PAH	Benzo(a)pyrene	0.18	0.005	36	
NGW508	MW	NGW508(0-2)012111	01/21/11	0 - 2	PAH	Fluoranthene	0.39	0.161	2.4	
NGW508	MW	NGW508(0-2)012111	01/21/11	0 - 2	PAH	Carcinogenic PAHs, ND*0.5	0.2085	0.005	42	
NGW508	MW	NGW508(2-4)012111	01/21/11	2 - 4	PAH	Benzo(g,h,i)perylene	0.11 J	0.031	3.5	
NGW508	MW	NGW508(2-4)012111	01/21/11	2 - 4	PAH	Benzo(a)pyrene	0.22	0.005	44	
NGW508	MW	NGW508(2-4)012111	01/21/11	2 - 4	PAH	Fluoranthene	0.58	0.161	3.6	
NGW508	MW	NGW508(2-4)012111	01/21/11	2 - 4	PAH	Carcinogenic PAHs, ND*0.5	0.2577	0.005	52	
NGW508	MW	NGW508(4-6)012111	01/21/11	4 - 6	PAH	Benzo(a)pyrene	0.088	0.005	18	
NGW508	MW	NGW508(4-6)012111	01/21/11	4 - 6	PAH	Fluoranthene	0.21	0.161	1.3	
NGW508	MW	NGW508(4-6)012111	01/21/11	4 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.1059	0.005	21	
NGW510	MW	NGW510(2-4)012411	01/24/11	2 - 4	PCB	Total PCBs	0.107	0.033	3.2	
NGW510	MW	NGW510(2-4)012411	01/24/11	2 - 4	MET	Mercury	0.33	0.07	4.7	
NGW510	MW	NGW510(4-6)012411	01/24/11	4 - 6	PCB	Total PCBs	0.073	0.033	2.2	
NGW510	MW	NGW510(4-6)012411	01/24/11	4 - 6	MET	Mercury	0.22	0.07	3.1	
NGW510	MW	NGW510(6-8)012411	01/24/11	6 - 8	PCB	Total PCBs	0.043	0.033	1.3	
NGW512	MW	NGW512(2-4)012411	01/24/11	2 - 4	MET	Mercury	0.1	0.07	1.4	
NGW512	MW	NGW512(4-6)012411	01/24/11	4 - 6	MET	Mercury	0.1	0.07	1.4	
NGW514	MW	NGW514(0-2)012011	01/20/11	0 - 2	PCB	Total PCBs	0.05	0.033	1.5	
NGW514	MW	NGW514(4-6)012011	01/20/11	4 - 6	PCB	Total PCBs	0.061	0.033	1.8	
OFS-1	SB	OFS-1	05/18/04	2.5 - 3	PAH	Benzo(a)pyrene	2.6	0.005	520	
OFS-1	SB	OFS-1	05/18/04	2.5 - 3	PAH	Fluoranthene	3	0.161	19	
OFS-1	SB	OFS-1	05/18/04	2.5 - 3	PAH	2-Methylnaphthalene	23	0.0432	530	
OFS-1	SB	OFS-1	05/18/04	2.5 - 3	PAH	Carcinogenic PAHs, ND*0.5	3.72	0.005	740	

Table 7.1-4
RI Selected Screening Level Exceedances for Detected COPCs in Soil at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL	RISL Exceedance Factor	Excavation Status
S-4	RE	S-4	11/17/05	0	PCB	Total PCBs	0.2	0.033	6.1	
S-5	RE	S-5	11/17/05	0	PCB	Total PCBs	0.23	0.033	7.0	
S-6	RE	S-6	11/17/05	0	PCB	Total PCBs	0.18	0.033	5.5	
SB-07	SB	SB-07-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.051	0.033	1.5	
SB-08	SB	SB-08-1-2	04/02/07	1 - 2	PCB	Total PCBs	0.2	0.033	6.1	
SB-08	SB	SB-08-6-7	04/02/07	6 - 7	TPH	Gasoline Range Hydrocarbons	1,600	30	53	
SB08-22	SB	SB08-22-1-2	09/18/08	1 - 2	PCB	Total PCBs	4.6	0.033	140	
SB-14	SB	SB-14-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.111	0.033	3.4	
SB-16	SB	SB-16-1-2	03/29/07	1 - 2	PCB	Total PCBs	0.19	0.033	5.8	
SB-17	SB	SB-17-1-2	03/29/07	1 - 2	PCB	Total PCBs	1.02	0.033	31	
SB-20	SB	SB-20-7-8	03/30/07	7 - 8	PCB	Total PCBs	0.42	0.033	13	
TNF-1	SB	TNF-1	05/18/04	2 - 3	PCB	Total PCBs	0.062	0.033	1.9	
TNF-1	SB	TNF-1	05/18/04	4.7 - 5.3	PAH	2-Methylnaphthalene	0.13	0.0432	3.0	
TNF-1	SB	TNF-1	05/18/04	4.7 - 5.3	PAH	Carcinogenic PAHs, ND*0.5	0.0398	0.005	8.0	
WSS08-01	SB	WSS08-01-1-1.4	09/19/08	1 - 1.4	PCB	Total PCBs	0.39	0.033	12	
WSS08-01	SB	WSS08-01-1.4-1.8	09/19/08	1.4 - 1.8	PCB	Total PCBs	0.62	0.033	19	
WSS08-02	SB	WSS08-02-1-1.4	09/19/08	1 - 1.4	PCB	Total PCBs	6	0.033	180	
WSS08-02	SB	WSS08-02-1.4-1.8	09/19/08	1.4 - 1.8	PCB	Total PCBs	13	0.033	390	
WSS08-03	SB	WSS08-03-1-1.4	09/19/08	1 - 1.4	PCB	Total PCBs	6.4	0.033	190	
WSS08-03	SB	WSS08-03-1.4-1.8	09/19/08	1.4 - 1.8	PCB	Total PCBs	68	0.033	2,100	
WSS08-04	SB	WSS08-04-1-1.4	09/19/08	1 - 1.4	PCB	Total PCBs	2	0.033	61	
WSS08-04	SB	WSS08-04-1.4-1.8	09/19/08	1.4 - 1.8	PCB	Total PCBs	0.68	0.033	21	

B = Possible or probable blank contamination
BTX = BTEX
Conc = Concentration
EX = Excavation
J = Estimated value
MET = Metals
MW = Monitoring well
NA = Not available
PAH = Polycyclic aromatic hydrocarbons
PCB = Polychlorinated biphenyls
PHT = Phthalates
RE = Retaining wall
RISL = RI Selected Screening Level
SB = Soil boring
SS = Surface soil
TPH = Total petroleum hydrocarbons
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-5
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NBF Fenceline Area								
NGW501	MW	NGW5011-GW-083010	08/30/10	PCB	Total PCBs	2.4	0.01	240
NGW501	MW	NGW5011-GW-083010	08/30/10	PHT	Bis(2-Ethylhexyl) Phthalate	7.9 J	1.0	7.9
NGW502	MW	NGW502-GW-083010	08/30/10	PCB	Total PCBs	8.1	0.01	810
NGW503	MW	NGW503-GW-083010	08/30/10	PCB	Total PCBs	0.088	0.01	8.8
NGW504	MW	NGW504-GW-083010	08/30/10	PCB	Total PCBs	2.4	0.01	240
NGW507	MW	NGW507-012711	01/27/11	PCB	Total PCBs	0.032	0.01	3.2
Buildings 3-302 and 3-322 Area								
NGW509	MW	NGW509-012711	01/27/11	VOC	Trichloroethene (TCE)	2	0.74	2.7
Buildings 3-333 and 3-335 Area								
FG-6	MW	FG-6	08/14/86	TPH	Jet Fuel	1,390	500	2.8
NGW151	MW	MW-1	12/02/94	PCB	Total PCBs	840	0.01	84,000
NGW151	MW	MW-1	12/02/94	PCB	Total PCBs	840	0.01	84,000
NGW151	MW	MW-1	01/25/95	PCB	Total PCBs	12	0.01	1,200
NGW151	MW	MW-1	05/24/95	PCB	Total PCBs	34	0.01	3,400
NGW151	MW	NBF-3-333-MW-1	05/24/95	PCB	Total PCBs	34	0.01	3,400
NGW151	MW	MW-1	09/19/95	PCB	Total PCBs	63	0.01	6,300
NGW151	MW	MW-1	03/20/96	PCB	Total PCBs	23	0.01	2,300
NGW151	MW	3-333-MW-1 (unf)	09/05/96	PCB	Total PCBs	8.5	0.01	850
NGW151	MW	3-333-MW-1	03/20/97	PCB	Total PCBs	63	0.01	6,300
NGW151	MW	MW-1	07/16/97	PCB	Total PCBs	10	0.01	1,000
NGW151	MW	MW-1	12/02/94	TPH	Gasoline Range Hydrocarbons	2,800	800	3.5
NGW151	MW	NBF-3-333-MW-1-DUP	05/24/95	TPH	Gasoline Range Hydrocarbons	1,100	800	1.4
NGW151	MW	MW-1	09/19/95	TPH	Gasoline Range Hydrocarbons	1,300	800	1.6
NGW151	MW	3-333-MW-1 (unf)	09/05/96	TPH	Gasoline Range Hydrocarbons	890	800	1.1
NGW151	MW	MW-1	12/02/94	TPH	Diesel Range Hydrocarbons	25,000	500	50
NGW151	MW	MW-1	01/25/95	TPH	Diesel Range Hydrocarbons	600	500	1.2
NGW151	MW	MW-1	05/24/95	TPH	Diesel Range Hydrocarbons	3,600	500	7.2
NGW151	MW	MW-1	09/19/95	TPH	Diesel Range Hydrocarbons	3,100	500	6.2
NGW151	MW	MW-1	03/20/96	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW151	MW	3-333-MW-1 (unf)	09/05/96	TPH	Diesel Range Hydrocarbons	1,500	500	3.0
NGW151	MW	3-333-MW-1	03/20/97	TPH	Diesel Range Hydrocarbons	2,200	500	4.4
NGW151	MW	MW-1	07/16/97	TPH	Diesel Range Hydrocarbons	980	500	2.0
NGW151	MW	MW-1	12/02/94	BTX	Benzene	1.6	0.795	2.0
NGW151	MW	MW-1	05/24/95	BTX	Benzene	2.5	0.795	3.1
NGW151	MW	MW-1	09/19/95	BTX	Benzene	1.5	0.795	1.9

Table 7.1-5
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW513	MW	NGW513	01/26/11	VOC	Vinyl Chloride	0.3	0.2	1.5
NGW515	MW	NGW515	01/26/11	PCB	Total PCBs	0.03	0.01	3.0
NGW515	MW	NGW515-030811	03/08/11	PCB	Total PCBs	0.34	0.01	34
NGW516	MW	NGW516-013011	01/30/11	PCB	Total PCBs	0.028	0.01	2.8
NGW517	MW	NGW517-013011	01/30/11	PCB	Total PCBs	20.8	0.01	2,100
NGW517	MW	NGW517-030811	03/08/11	PCB	Total PCBs	0.76	0.01	76
NGW518	MW	NGW518-013011	01/30/11	VOC	Tetrachloroethene (PCE)	5.8	0.2	29
NGW518	MW	NGW518-013011	01/30/11	VOC	Trichloroethene (TCE)	1.5	0.74	2.0
NGW518	MW	NGW518-013011	01/30/11	VOC	Vinyl Chloride	0.7	0.2	3.5
Building 3-324 Area								
FG-11	MW	FG-11	03/31/92	TPH	Diesel Range Hydrocarbons	2,400	500	4.8
FG-11	MW	FG-11	07/21/92	TPH	Diesel Range Hydrocarbons	1,000	500	2.0
FG-11	MW	FG-11	10/28/92	TPH	Diesel Range Hydrocarbons	3,600	500	7.2
FG-11	MW	FG-11	01/25/93	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
FG-11	MW	FG-11	10/26/93	TPH	Diesel Range Hydrocarbons	1,900	500	3.8
FG-11	MW	FG-11	07/21/92	BTX	Benzene	1.1	0.795	1.4
FG-7	MW	FG-7	08/14/86	TPH	Jet Fuel	1,580	500	3.2
Building 3-353 Area								
GT-1114-2	MW	GT-1114-2	02/06/90	PHT	Bis(2-Ethylhexyl) Phthalate	48	1.0	48
GT-1114-3	MW	GT-1114-3	02/06/90	PHT	Bis(2-Ethylhexyl) Phthalate	110	1.0	110
Wind Tunnel Area								
No detected exceedance								
Green Hornet Area								
GH-1	MW	GH-1	01/25/93	BTX	Benzene	1.3	0.795	1.6
GH-2	MW	GH-2	03/31/92	TPH	Diesel Range Hydrocarbons	79,000	500	160
GH-2	MW	GH-2	07/21/92	TPH	Diesel Range Hydrocarbons	280,000	500	560
GH-2	MW	GH-2	01/25/93	TPH	Diesel Range Hydrocarbons	250,000	500	500
GH-2	MW	NBF-GH-2	08/14/86	TPH	Jet Fuel	1,390	500	2.8
GH-2	MW	NBF-GH-2	08/14/86	BTX	Benzene	6	0.795	7.5
GH-3	MW	GH-3	03/31/92	TPH	Diesel Range Hydrocarbons	15,000	500	30
GH-3	MW	GH-3	07/21/92	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
GH-3	MW	GH-3	01/25/93	TPH	Diesel Range Hydrocarbons	930	500	1.9
GH-3	MW	NBF-GH-3	08/14/86	TPH	Jet Fuel	1,440	500	2.9
GH-4	MW	NBF-GH-4	08/14/86	TPH	Jet Fuel	540	500	1.1
NGW102	MW	GH-MW-2	03/19/97	TPH	Diesel Range Hydrocarbons	520	500	1.0
NGW102	MW	GH-MW2	07/20/94	BTX	Benzene	3.6	0.795	4.5

Table 7.1-5
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW104	MW	GH-MW-4	12/07/93	TPH	Gasoline Range Hydrocarbons	3,200	800	4.0
NGW104	MW	GH-MW4	01/26/94	TPH	Diesel Range Hydrocarbons	3,600	500	7.2
NGW104	MW	GH-MW4	04/15/94	TPH	Diesel Range Hydrocarbons	4,000	500	8.0
NGW104	MW	GH-MW4	10/24/94	TPH	Diesel Range Hydrocarbons	550	500	1.1
NGW104	MW	GH-MW-4	01/24/95	TPH	Diesel Range Hydrocarbons	7,300	500	15
NGW104	MW	GH-MW-4	09/08/95	TPH	Diesel Range Hydrocarbons	14,000	500	28
NGW104	MW	GH-MW-4	03/26/96	TPH	Diesel Range Hydrocarbons	570	500	1.1
NGW104	MW	GH-MW-4	03/17/97	TPH	Diesel Range Hydrocarbons	2,700	500	5.4
NGW104	MW	GH-MW-4	08/29/97	TPH	Diesel Range Hydrocarbons	2,300	500	4.6
NGW104	MW	GH-MW4	02/25/98	TPH	Diesel Range Hydrocarbons	1,400	500	2.8
NGW104	MW	NGW104	02/19/01	TPH	Diesel Range Hydrocarbons	810	500	1.6
NGW104	MW	NGW104	02/25/02	TPH	Diesel Range Hydrocarbons	910	500	1.8
NGW104	MW	NGW104	08/19/02	TPH	Diesel Range Hydrocarbons	510	500	1.0
NGW104	MW	NGW104	02/19/03	TPH	Diesel Range Hydrocarbons	670	500	1.3
NGW104	MW	NGW104	02/20/06	TPH	Diesel Range Hydrocarbons	1,000	500	2.0
NGW104	MW	NGW104	02/21/07	TPH	Diesel Range Hydrocarbons	600	500	1.2
NGW104	MW	NGW104	02/19/08	TPH	Diesel Range Hydrocarbons	520	500	1.0
NGW104	MW	NGW104	02/18/10	TPH	Diesel Range Hydrocarbons	910	500	1.8
NGW104	MW	NGW104	02/19/01	TPH	Jet Fuel	790	500	1.6
NGW104	MW	NGW104	02/25/02	TPH	Jet Fuel	990	500	2.0
NGW104	MW	NGW104	02/19/03	TPH	Jet Fuel	740	500	1.5
NGW104	MW	NGW104	02/20/06	TPH	Jet Fuel	1,200	500	2.4
NGW104	MW	NGW104	02/21/07	TPH	Jet Fuel	750	500	1.5
NGW104	MW	NGW104	02/19/08	TPH	Jet Fuel	590	500	1.2
NGW104	MW	NGW104	02/16/09	TPH	Jet Fuel	640	500	1.3
NGW104	MW	NGW104	02/18/10	TPH	Jet Fuel	1,300	500	2.6
NGW104	MW	GH-MW4	01/26/94	BTX	Benzene	1	0.795	1.3
NGW105	MW	GH-MW5	12/07/93	TPH	Diesel Range Hydrocarbons	5,000	500	10
NGW105	MW	GH-MW5	04/15/94	BTX	Benzene	3.4	0.795	4.3
NGW105	MW	GH-MW5	07/20/94	BTX	Benzene	2	0.795	2.5
NGW105	MW	GH-MW5	10/24/94	BTX	Benzene	3.7	0.795	4.7
NGW105	MW	GH-MW-5	01/24/95	BTX	Benzene	3.3	0.795	4.2
NGW105	MW	GH-MW-5	09/08/95	BTX	Benzene	2.2	0.795	2.8
PEL Area-Wide Zone								
FG-5	MW	FG-5	07/21/92	TPH	Diesel Range Hydrocarbons	790	500	1.6
FG-5	MW	FG-5	07/20/93	TPH	Diesel Range Hydrocarbons	720	500	1.4
FG-5	MW	FG-5	10/26/93	TPH	Diesel Range Hydrocarbons	1,000	500	2.0

Table 7.1-5
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at PEL Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NBF-GW01	EX	NBF-GW01	09/10/07	PCB	Total PCBs	1.9	0.01	190
NGW508	MW	NGW508-013011	01/30/11	VOC	Tetrachloroethene (PCE)	4.3	0.2	22
NGW514	MW	NGW514	01/26/11	VOC	Vinyl Chloride	0.9	0.2	4.5

BTX = BTEX

Conc = Concentration

EX = Excavation

J = Estimated value

MET = Metals

MW = Monitoring well

PCB = Polychlorinated biphenyls

PHT = Phthalates

RISL = RI Selected Screening Level

TPH = Total petroleum hydrocarbons

VOC = Volatile organic compounds

Table 7.1-6
RI Selected Screening Level Exceedances for Detected COPCs in Soil at North Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
Former Buildings 3-360 and 3-361 Area										
3-360-SS1	EX	SS1-9-9.5	03/25/02	9 - 9.5	VOC	cis-1,2-Dichloroethene	0.7	0.0052	130	
3-360-SS1	EX	SS1-9-9.5	03/25/02	9 - 9.5	VOC	Trichloroethene (TCE)	3.7	0.001	3,700	
3-360-SS2	EX	SS2-7-7.5	03/25/02	7 - 7.5	VOC	Trichloroethene (TCE)	0.017	0.001	17	
3-360-SS3	EX	SS3-7-7.5	03/25/02	7 - 7.5	VOC	cis-1,2-Dichloroethene	0.013	0.0052	2.5	
3-360-SS3	EX	SS3-7-7.5	03/25/02	7 - 7.5	VOC	Trichloroethene (TCE)	0.15	0.001	150	
3-360-SS4	EX	SS4-7-7.5	03/26/02	7 - 7.5	VOC	Trichloroethene (TCE)	0.24	0.001	240	
3-360-SS5	EX	SS5-7-7.5	03/26/02	7 - 7.5	VOC	cis-1,2-Dichloroethene	0.07	0.0052	13	
3-360-SS5	EX	SS5-7-7.5	03/26/02	7 - 7.5	VOC	Trichloroethene (TCE)	0.34	0.001	340	
3-360-SS6	EX	SS6-9-9.5	03/26/02	9 - 9.5	VOC	cis-1,2-Dichloroethene	0.5	0.0052	96	
3-360-SS6	EX	SS6-9-9.5	03/26/02	9 - 9.5	VOC	Trichloroethene (TCE)	5.4	0.001	5,400	
360-HA-2	SB	360/1/S-HA-2-7	11/14/91	7 - 7.5	VOC	Methylene Chloride	0.72 B	0.0012	600	
360-SB-2	SB	360/1/5-SB-2-4.5	11/13/91	4.5 - 5	MET	Mercury	0.35	0.07	5	
360-SB-2	SB	360/1/5-SB-2-8	11/13/91	8 - 8.5	VOC	Methylene Chloride	0.76 B	0.0012	630	
360-SB-7	SB	360/1/S-SB-7-7.5	11/14/91	7.5 - 8	VOC	Methylene Chloride	0.65 B	0.0012	540	
DP1	TW	DP1-8-10	05/23/02	8 - 10	VOC	cis-1,2-Dichloroethene	0.034	0.0052	6.5	
DP1	TW	DP1-8-10	05/23/02	8 - 10	VOC	Trichloroethene (TCE)	0.2	0.001	200	
NGW209	MW	MW-9 5'	09/29/95	5	VOC	Methylene Chloride	0.0048 B	0.0012	4	
NGW210	MW	MW-10 5'	09/29/95	5	VOC	Methylene Chloride	0.0048 B	0.0012	4	
NGW211	MW	MW-11 5'	10/05/95	5	VOC	Methylene Chloride	0.016 B	0.0012	13	
Building 3-380 Storm Drain Area										
360-SB-1	SB	360/1/5-SB-1-8.5	11/13/91	8 - 8.5	VOC	Methylene Chloride	0.57 B	0.0012	480	
360-SB-4	SB	360/1/S-SB-4-7.5	11/14/91	7.5 - 8	VOC	Methylene Chloride	0.71 B	0.0012	590	
ESS08-01	SB	ESS08-01-0-0.5	09/18/08	0 - 0.5	PCB	Total PCBs	0.042	0.033	1.3	
ESS08-02	SB	ESS08-02-0-0.5	09/18/08	0 - 0.5	PCB	Total PCBs	0.068	0.033	2.1	
ESS08-02	SB	ESS08-02-0.5-1	09/18/08	0.5 - 1	PCB	Total PCBs	0.036	0.033	1.1	
ESS08-03	SB	ESS08-03-0-0.5	09/18/08	0 - 0.5	PCB	Total PCBs	0.12	0.033	3.6	
ESS08-03	SB	ESS08-03-0.5-1	09/18/08	0.5 - 1	PCB	Total PCBs	0.054	0.033	1.6	
ESS08-04	SB	ESS08-04-0-0.5	09/18/08	0 - 0.5	PCB	Total PCBs	0.31	0.033	9.4	
ESS08-04	SB	ESS08-04-0.5-1	09/18/08	0.5 - 1	PCB	Total PCBs	0.15	0.033	4.5	
ESS08-05	SB	ESS08-05-0-0.5	09/18/08	0 - 0.5	PCB	Total PCBs	0.058	0.033	1.8	
ESS08-05	SB	ESS08-05-0.5-1	09/18/08	0.5 - 1	PCB	Total PCBs	0.079	0.033	2.4	
ESS08-07	SB	ESS08-07-0-1	09/23/08	0 - 1	PCB	Total PCBs	0.05	0.033	1.5	
ESS08-07	SB	ESS08-07-1-2	09/23/08	1 - 2	PCB	Total PCBs	0.075	0.033	2.3	
ESS08-07	SB	ESS08-07-3-4	09/23/08	3 - 4	PCB	Total PCBs	0.04	0.033	1.2	
GF-5	SB	GF-7	04/24/87	NA	PCB	Total PCBs	5.9	0.033	180	

Table 7.1-6
RI Selected Screening Level Exceedances for Detected COPCs in Soil at North Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
GF-6	SB	GF-8	04/24/87	NA	PCB	Total PCBs	4	0.033	120	
SD20	SB	NBF-SD20-0-2	11/17/08	0 - 2	PCB	Total PCBs	0.062	0.033	1.9	
SD21	SB	NBF-SD21-0-2	11/17/08	0 - 2	PCB	Total PCBs	0.037	0.033	1.1	
SD21	SB	NBF-SD21-2-4	11/17/08	2 - 4	PCB	Total PCBs	0.057	0.033	1.7	
SD22	SB	NBF-SD22-0-2	11/17/08	0 - 2	PCB	Total PCBs	0.048	0.033	1.5	
SD24	SB	NBF-SD24-0-2	11/17/08	0 - 2	PCB	Total PCBs	0.077	0.033	2.3	
SD26	SB	NBF-SD26-2-4	11/17/08	2 - 4	PCB	Total PCBs	0.6	0.033	18	
SD27	SB	NBF-SD27-0-2	11/18/08	0 - 2	PCB	Total PCBs	0.26	0.033	7.9	
SD28	SB	NBF-SD28-0-2	11/18/08	0 - 2	PCB	Total PCBs	0.23	0.033	7	
SD29	SB	NBF-SD29-0-2	11/18/08	0 - 2	PCB	Total PCBs	0.042	0.033	1.3	
SD29	SB	NBF-SD29-2-4	11/18/08	2 - 4	PCB	Total PCBs	0.044	0.033	1.3	
Building 3-380 Area										
B-3	SB	B-3	03/13/90	2 - 6	PAH	Benzo(a)pyrene	0.77	0.005	150	
B-3	SB	B-3	03/13/90	2 - 6	PAH	Carcinogenic PAHs, ND*0.5	0.8516	0.005	170	
Building 7-27-1 Area										
027-HA-1	SB	027-HA-1-4.5	11/13/91	4.5 - 5	MET	Zinc	100	86	1.2	
027-HA-1	SB	027-HA-1-7.3	11/13/91	7.3 - 7.8	VOC	Methylene Chloride	0.7 B	0.0012	580	
027-SB-1	SB	027-SB-1-8	11/12/91	8 - 8.5	VOC	Methylene Chloride	0.9 B	0.0012	750	
027-SB-8	SB	027-SB-8-9.5	11/13/91	9.5 - 10	VOC	Methylene Chloride	0.53 B	0.0012	440	
3-350-S1	GR	3-350-S1-091208	12/08/09	NA	PCB	Total PCBs	0.11	0.033	3.3	
3-350-S2	GR	3-350-S2-091208	12/08/09	NA	PCB	Total PCBs	0.51	0.033	15	
3-350-S3	GR	3-350-S3-091208	12/08/09	NA	PCB	Total PCBs	0.3	0.033	9.1	
3-350-S4	GR	3-350-S4-091208	12/08/09	NA	PCB	Total PCBs	0.37	0.033	11	
3-350-S5	GR	3-350-S5-091208	12/08/09	NA	PCB	Total PCBs	0.32	0.033	9.7	
NGW251	MW	027-MW-1-9.5	11/11/91	9 - 9.5	BTX	Benzene	0.064	0.001	64	
NGW251	MW	027-MW-1-9.5	11/11/91	9 - 9.5	VOC	Methylene Chloride	1.8 B	0.0012	1,500	
NGW252	MW	027-MW-2-9	11/11/91	9 - 9.5	MET	Copper	49	36	1.4	
NGW252	MW	027-MW-2-9	11/11/91	9 - 9.5	MET	Zinc	250	86	2.9	
NGW252	MW	027-MW-2-9	11/11/91	9 - 9.5	VOC	Methylene Chloride	0.91 B	0.0012	760	
SB-11A	SB	SB-11A (7-7.5)	02/04/93	7 - 7.5	VOC	Methylene Chloride	0.0049	0.0012	4.1	

Table 7.1-6
RI Selected Screening Level Exceedances for Detected COPCs in Soil at North Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
Building 3-390 Area										
No detected exceedances										
Concourse A Area										
A5	SB	A5 @ 6.0	07/25/96	6	PHT	Bis(2-Ethylhexyl) Phthalate	0.89	0.0471	19	
A5	SB	A5 @ 6.0	07/25/96	6	PAH	2-Methylnaphthalene	8.9	0.0432	210	
A5	SB	A5 @ 6.0	07/25/96	6	BTX	Benzene	0.11574	0.001	120	
A6	SB	A6 @ 6.0	07/25/96	6	PHT	Bis(2-Ethylhexyl) Phthalate	0.1	0.0471	2.1	

B = Possible or probable blank contamination
BTX = BTEX
EX = Excavation
GR = Grading
MET = Metals
MW = Monitoring well
NA = Not available
PAH = Polycyclic aromatic hydrocarbons
PCB = Polychlorinated biphenyls
PHT = Phthalates
RE = Retaining wall
RISL = RI Selected Screening Level
SB = Soil boring
SS = Surface soil
TPH = Total petroleum hydrocarbons
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
Former Buildings 3-360 and 3-361 Area								
DP1	TW	DP10-15 EJ99G	05/22/02	VOC	cis-1,2-Dichloroethene	38	10	3.8
DP1	TW	DP1-15 EK12A	05/23/02	VOC	cis-1,2-Dichloroethene	310	10	31
DP1	TW	DP11-15 EK30K	05/28/02	VOC	cis-1,2-Dichloroethene	58	10	5.8
DP1	TW	DP13-15 EK51K	05/30/02	VOC	cis-1,2-Dichloroethene	41	10	4.1
DP1	TW	DP11-15 EK30K	05/28/02	VOC	Tetrachloroethene (PCE)	1.8	0.2	9.0
DP1	TW	DP10-15 EJ99G	05/22/02	VOC	Trichloroethene (TCE)	90	0.74	120
DP1	TW	DP1-15 EK12A	05/23/02	VOC	Trichloroethene (TCE)	810	0.74	1,100
DP1	TW	DP1-45 EK12C	05/23/02	VOC	Trichloroethene (TCE)	0.9	0.74	1.2
DP1	TW	DP11-15 EK30K	05/28/02	VOC	Trichloroethene (TCE)	170	0.74	230
DP1	TW	DP10-60 EJ99J	05/22/02	VOC	Vinyl Chloride	0.3	0.2	1.5
DP1	TW	DP1-15 EK12A	05/23/02	VOC	Vinyl Chloride	0.4	0.2	2.0
DP2	TW	DP2-15 EK11A	05/23/02	VOC	Trichloroethene (TCE)	8.9	0.74	12
DP3	TW	DP3-15 EK12G	05/23/02	VOC	cis-1,2-Dichloroethene	73	10	7.3
DP3	TW	DP3-15 EK12G	05/23/02	VOC	Trichloroethene (TCE)	130	0.74	180
DP4	TW	DP4-15 EK20D	05/24/02	VOC	cis-1,2-Dichloroethene	27	10	2.7
DP4	TW	DP4-15 EK20D	05/24/02	VOC	Tetrachloroethene (PCE)	0.3	0.2	1.5
DP4	TW	DP4-15 EK20D	05/24/02	VOC	Trichloroethene (TCE)	100	0.74	140
DP5	TW	DP5-15 EK20I	05/24/02	VOC	Trichloroethene (TCE)	28	0.74	38
DP6	TW	DP6-15 EK39D	05/29/02	VOC	cis-1,2-Dichloroethene	44	10	4.4
DP6	TW	DP6-30 EK39E	05/29/02	VOC	cis-1,2-Dichloroethene	12	10	1.2
DP6	TW	DP6-15 EK39D	05/29/02	VOC	Tetrachloroethene (PCE)	0.4 J	0.2	2.0
DP6	TW	DP6-15 EK39D	05/29/02	VOC	Trichloroethene (TCE)	160	0.74	220
DP7	TW	DP7-15 EK39J	05/29/02	VOC	cis-1,2-Dichloroethene	120	10	12
DP7	TW	DP7-15 EK39J	05/29/02	VOC	Trichloroethene (TCE)	410	0.74	550
DP7	TW	DP7-75 EK51C	05/30/02	VOC	Vinyl Chloride	1.2	0.2	6.0
DP8	TW	DP8-15 EK51E	05/30/02	VOC	cis-1,2-Dichloroethene	67	10	6.7
DP8	TW	DP8-15 EK51E	05/30/02	VOC	Tetrachloroethene (PCE)	0.3	0.2	1.5
DP8	TW	DP8-15 EK51E	05/30/02	VOC	Trichloroethene (TCE)	95	0.74	130
DP9	TW	DP9-15 EJ99A	05/20/02	VOC	cis-1,2-Dichloroethene	43	10	4.3
NGW201	MW	MW-1	10/27/93	MET	Arsenic	10	5.0	2.0
NGW201	MW	MW-1	04/20/94	MET	Arsenic	7	5.0	1.4
NGW201	MW	NGW201	07/20/94	MET	Arsenic	10	5.0	2.0
NGW201	MW	MW-1	10/24/94	MET	Arsenic	14	5.0	2.8

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW201	MW	NGW201	05/11/95	MET	Arsenic	45	5.0	9.0
NGW201	MW	MW-1	09/14/95	MET	Arsenic	38	5.0	7.6
NGW201	MW	MW-1	07/23/93	MET	Cadmium	5	0.21	24
NGW201	MW	MW-1	01/24/95	MET	Cadmium	2	0.21	9.5
NGW201	MW	MW-1	10/27/93	MET	Lead	4	2.5	1.6
NGW201	MW	NGW201	07/20/94	MET	Lead	4	2.5	1.6
NGW201	MW	MW-1	10/24/94	MET	Lead	6	2.5	2.4
NGW201	MW	NGW201	05/11/95	MET	Lead	7	2.5	2.8
NGW201	MW	MW-1	09/14/95	MET	Lead	5	2.5	2.0
NGW201	MW	MW-1	11/20/91	TPH	Diesel Range Hydrocarbons	1,400	500	2.8
NGW201	MW	MW-1	10/27/93	VOC	cis-1,2-Dichloroethene	15	10	1.5
NGW201	MW	MW-1	01/25/94	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW201	MW	NGW201	04/20/94	VOC	cis-1,2-Dichloroethene	25	10	2.5
NGW201	MW	MW-1	01/24/95	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW201	MW	NGW201	05/11/95	VOC	cis-1,2-Dichloroethene	33	10	3.3
NGW201	MW	MW-1	09/14/95	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW201	MW	MW-1	03/20/96	VOC	cis-1,2-Dichloroethene	73	10	7.3
NGW201	MW	3-360-MW-1	03/14/97	VOC	cis-1,2-Dichloroethene	86	10	8.6
NGW201	MW	3-360-MW-1	08/26/97	VOC	cis-1,2-Dichloroethene	72	10	7.2
NGW201	MW	MW-1	02/23/98	VOC	cis-1,2-Dichloroethene	78	10	7.8
NGW201	MW	MW-1	07/27/98	VOC	cis-1,2-Dichloroethene	88	10	8.8
NGW201	MW	NGW201	01/19/99	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW201	MW	NGW201	07/19/99	VOC	cis-1,2-Dichloroethene	66	10	6.6
NGW201	MW	NGW201	02/22/00	VOC	cis-1,2-Dichloroethene	76	10	7.6
NGW201	MW	NGW201	07/25/00	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW201	MW	NGW201	02/20/01	VOC	cis-1,2-Dichloroethene	52	10	5.2
NGW201	MW	NGW201	08/21/01	VOC	cis-1,2-Dichloroethene	53	10	5.3
NGW201	MW	NGW201	02/19/02	VOC	cis-1,2-Dichloroethene	50	10	5.0
NGW201	MW	NGW201	08/20/02	VOC	cis-1,2-Dichloroethene	78	10	7.8
NGW201	MW	NGW201U	02/18/03	VOC	cis-1,2-Dichloroethene	40	10	4.0
NGW201	MW	NGW201U	07/15/03	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW201	MW	NGW201U	02/10/04	VOC	cis-1,2-Dichloroethene	85	10	8.5
NGW201	MW	NGW201-Dup	02/19/08	VOC	cis-1,2-Dichloroethene	55	10	5.5
NGW201	MW	3-360/361/365-MW-1	11/20/91	VOC	Tetrachloroethene (PCE)	5	0.2	25

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW201	MW	MW-1	07/23/93	VOC	Tetrachloroethene (PCE)	1	0.2	5.0
NGW201	MW	MW-1	10/27/93	VOC	Tetrachloroethene (PCE)	1.8	0.2	9.0
NGW201	MW	MW-1	01/25/94	VOC	Tetrachloroethene (PCE)	1.5	0.2	7.5
NGW201	MW	NGW201	07/20/94	VOC	Tetrachloroethene (PCE)	1	0.2	5.0
NGW201	MW	MW-1	10/24/94	VOC	Tetrachloroethene (PCE)	1.8	0.2	9.0
NGW201	MW	MW-1	01/24/95	VOC	Tetrachloroethene (PCE)	1.2	0.2	6.0
NGW201	MW	3-360-MW-1	08/26/97	VOC	Tetrachloroethene (PCE)	1.1	0.2	5.5
NGW201	MW	MW-1	02/23/98	VOC	Tetrachloroethene (PCE)	1.3	0.2	6.5
NGW201	MW	3-360/361/365-MW-1	11/20/91	VOC	Trichloroethene (TCE)	1,000	0.74	1,400
NGW201	MW	MW-1	07/23/93	VOC	Trichloroethene (TCE)	12	0.74	16
NGW201	MW	MW-1	10/27/93	VOC	Trichloroethene (TCE)	280	0.74	380
NGW201	MW	MW-1	01/25/94	VOC	Trichloroethene (TCE)	240	0.74	320
NGW201	MW	NGW201	04/20/94	VOC	Trichloroethene (TCE)	280	0.74	380
NGW201	MW	NGW201	07/20/94	VOC	Trichloroethene (TCE)	90	0.74	120
NGW201	MW	MW-1	10/24/94	VOC	Trichloroethene (TCE)	120	0.74	160
NGW201	MW	MW-1	01/24/95	VOC	Trichloroethene (TCE)	160	0.74	220
NGW201	MW	NGW201	05/11/95	VOC	Trichloroethene (TCE)	150	0.74	200
NGW201	MW	MW-1	09/14/95	VOC	Trichloroethene (TCE)	120	0.74	160
NGW201	MW	MW-1	03/20/96	VOC	Trichloroethene (TCE)	170	0.74	230
NGW201	MW	3-360-MW-1	03/14/97	VOC	Trichloroethene (TCE)	140	0.74	190
NGW201	MW	3-360-MW-1	08/26/97	VOC	Trichloroethene (TCE)	160	0.74	220
NGW201	MW	MW-1	02/23/98	VOC	Trichloroethene (TCE)	180	0.74	240
NGW201	MW	MW-1	07/27/98	VOC	Trichloroethene (TCE)	210	0.74	280
NGW201	MW	NGW201	01/19/99	VOC	Trichloroethene (TCE)	89	0.74	120
NGW201	MW	NGW201	07/19/99	VOC	Trichloroethene (TCE)	120	0.74	160
NGW201	MW	NGW201	02/22/00	VOC	Trichloroethene (TCE)	130	0.74	180
NGW201	MW	NGW201	07/25/00	VOC	Trichloroethene (TCE)	73	0.74	99
NGW201	MW	NGW201	02/20/01	VOC	Trichloroethene (TCE)	92	0.74	120
NGW201	MW	NGW201	08/21/01	VOC	Trichloroethene (TCE)	84	0.74	110
NGW201	MW	NGW201	02/19/02	VOC	Trichloroethene (TCE)	77	0.74	100
NGW201	MW	NGW201	08/20/02	VOC	Trichloroethene (TCE)	86	0.74	120
NGW201	MW	NGW201U	02/18/03	VOC	Trichloroethene (TCE)	71	0.74	96
NGW201	MW	NGW201U	07/15/03	VOC	Trichloroethene (TCE)	72	0.74	97
NGW201	MW	NGW201U	02/10/04	VOC	Trichloroethene (TCE)	67	0.74	91

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW201	MW	NGW201-Dup	02/19/08	VOC	Trichloroethene (TCE)	30	0.74	41
NGW203	MW	MW-3	10/27/93	MET	Arsenic	21	5.0	4.2
NGW203	MW	MW-3	01/25/94	MET	Arsenic	7	5.0	1.4
NGW203	MW	NGW203	04/20/94	MET	Arsenic	6	5.0	1.2
NGW203	MW	NGW203	07/20/94	MET	Arsenic	15	5.0	3.0
NGW203	MW	MW-3	10/24/94	MET	Arsenic	18	5.0	3.6
NGW203	MW	MW-3	01/24/95	MET	Arsenic	7	5.0	1.4
NGW203	MW	NGW203	05/11/95	MET	Arsenic	27	5.0	5.4
NGW203	MW	MW-3	09/14/95	MET	Arsenic	16	5.0	3.2
NGW203	MW	MW-3	07/23/93	MET	Cadmium	5	0.21	24
NGW203	MW	MW-3	10/27/93	MET	Cadmium	3	0.21	14
NGW203	MW	NGW203	04/20/94	MET	Cadmium	2	0.21	9.5
NGW203	MW	3-360/361/365-MW-3	11/20/91	MET	Copper	9.5	1.3	7.3
NGW203	MW	MW-3	11/20/91	MET	Copper	9.5	1.3	7.3
NGW203	MW	MW-3	10/27/93	MET	Lead	10	2.5	4.0
NGW203	MW	NGW203	07/20/94	MET	Lead	8	2.5	3.2
NGW203	MW	MW-3	10/24/94	MET	Lead	9	2.5	3.6
NGW203	MW	NGW203	05/11/95	MET	Lead	9	2.5	3.6
NGW203	MW	MW-3	09/14/95	MET	Lead	8	2.5	3.2
NGW203	MW	NGW203	05/11/95	MET	Mercury	0.1	0.02	5.0
NGW203	MW	3-360/361/365-MW-3	11/20/91	MET	Nickel	11	8.2	1.3
NGW203	MW	MW-3	11/20/91	MET	Nickel	11	8.2	1.3
NGW203	MW	MW-3	07/23/93	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	MW-3	10/27/93	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	MW-3	01/25/94	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	NGW203	04/20/94	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	NGW203	07/20/94	VOC	cis-1,2-Dichloroethene	40	10	4.0
NGW203	MW	MW-3	10/24/94	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW203	MW	NGW203	05/11/95	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW203	MW	MW-3	09/14/95	VOC	cis-1,2-Dichloroethene	19	10	1.9
NGW203	MW	MW-3	07/27/98	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW203	MW	NGW203	07/25/00	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW203	MW	NGW203	02/20/01	VOC	cis-1,2-Dichloroethene	18	10	1.8
NGW203	MW	NGW203	08/21/01	VOC	cis-1,2-Dichloroethene	32	10	3.2

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW203	MW	NGW203	08/20/02	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	NGW203	12/02/02	VOC	cis-1,2-Dichloroethene	35	10	3.5
NGW203	MW	NGW203U	02/18/03	VOC	cis-1,2-Dichloroethene	48	10	4.8
NGW203	MW	NGW203U	07/15/03	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW203	MW	NGW203	08/09/04	VOC	cis-1,2-Dichloroethene	23	10	2.3
NGW203	MW	NGW203	02/07/05	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW203	MW	NGW203	08/18/05	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW203	MW	NGW203	08/14/06	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW203	MW	NGW203	02/20/07	VOC	cis-1,2-Dichloroethene	21	10	2.1
NGW203	MW	NGW203	08/22/07	VOC	cis-1,2-Dichloroethene	34	10	3.4
NGW203	MW	NGW203	02/19/08	VOC	cis-1,2-Dichloroethene	31	10	3.1
NGW203	MW	NGW203	08/20/08	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW203	MW	NGW203	02/16/09	VOC	cis-1,2-Dichloroethene	33	10	3.3
NGW203	MW	NGW203	02/18/10	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW203	MW	NGW203	08/19/10	VOC	cis-1,2-Dichloroethene	86	10	8.6
NGW203	MW	MW-3	07/23/93	VOC	Tetrachloroethene (PCE)	3.3	0.2	17
NGW203	MW	MW-3	10/27/93	VOC	Tetrachloroethene (PCE)	6.5	0.2	33
NGW203	MW	MW-3	01/25/94	VOC	Tetrachloroethene (PCE)	7.8	0.2	39
NGW203	MW	NGW203	04/20/94	VOC	Tetrachloroethene (PCE)	4.5	0.2	23
NGW203	MW	NGW203	07/20/94	VOC	Tetrachloroethene (PCE)	7	0.2	35
NGW203	MW	MW-3	10/24/94	VOC	Tetrachloroethene (PCE)	6.2	0.2	31
NGW203	MW	MW-3	01/24/95	VOC	Tetrachloroethene (PCE)	1	0.2	5.0
NGW203	MW	MW-3	09/14/95	VOC	Tetrachloroethene (PCE)	2.4	0.2	12
NGW203	MW	3-360-MW-3	08/26/97	VOC	Tetrachloroethene (PCE)	1.6	0.2	8.0
NGW203	MW	MW-3	07/27/98	VOC	Tetrachloroethene (PCE)	1.3	0.2	6.5
NGW203	MW	MW-3	07/23/93	VOC	Trichloroethene (TCE)	620	0.74	840
NGW203	MW	MW-3	10/27/93	VOC	Trichloroethene (TCE)	810	0.74	1,100
NGW203	MW	MW-3	01/25/94	VOC	Trichloroethene (TCE)	1,300	0.74	1,800
NGW203	MW	NGW203	04/20/94	VOC	Trichloroethene (TCE)	730	0.74	990
NGW203	MW	NGW203	07/20/94	VOC	Trichloroethene (TCE)	730	0.74	990
NGW203	MW	MW-3	10/24/94	VOC	Trichloroethene (TCE)	890	0.74	1,200
NGW203	MW	MW-3	01/24/95	VOC	Trichloroethene (TCE)	110	0.74	150
NGW203	MW	NGW203	05/11/95	VOC	Trichloroethene (TCE)	94	0.74	130
NGW203	MW	MW-3	09/14/95	VOC	Trichloroethene (TCE)	190	0.74	260

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW203	MW	MW-3	03/20/96	VOC	Trichloroethene (TCE)	42	0.74	57
NGW203	MW	3-360-MW-3	03/14/97	VOC	Trichloroethene (TCE)	36	0.74	49
NGW203	MW	3-360-MW-3	08/26/97	VOC	Trichloroethene (TCE)	76	0.74	100
NGW203	MW	MW-3	02/23/98	VOC	Trichloroethene (TCE)	1.2	0.74	1.6
NGW203	MW	MW-3	07/27/98	VOC	Trichloroethene (TCE)	78	0.74	110
NGW203	MW	NGW203	01/19/99	VOC	Trichloroethene (TCE)	6.4	0.74	8.6
NGW203	MW	NGW203	07/19/99	VOC	Trichloroethene (TCE)	28	0.74	38
NGW203	MW	NGW203	02/22/00	VOC	Trichloroethene (TCE)	38	0.74	51
NGW203	MW	NGW203	07/25/00	VOC	Trichloroethene (TCE)	39	0.74	53
NGW203	MW	NGW203	02/20/01	VOC	Trichloroethene (TCE)	48	0.74	65
NGW203	MW	NGW203	08/21/01	VOC	Trichloroethene (TCE)	67	0.74	91
NGW203	MW	NGW203	08/20/02	VOC	Trichloroethene (TCE)	39	0.74	53
NGW203	MW	NGW203	12/02/02	VOC	Trichloroethene (TCE)	38	0.74	51
NGW203	MW	NGW203U	02/18/03	VOC	Trichloroethene (TCE)	59	0.74	80
NGW203	MW	NGW203U	07/15/03	VOC	Trichloroethene (TCE)	42	0.74	57
NGW203	MW	NGW203U	02/10/04	VOC	Trichloroethene (TCE)	8.4	0.74	11
NGW203	MW	NGW203	08/09/04	VOC	Trichloroethene (TCE)	38	0.74	51
NGW203	MW	NGW203	02/07/05	VOC	Trichloroethene (TCE)	24	0.74	32
NGW203	MW	NGW203	08/18/05	VOC	Trichloroethene (TCE)	25	0.74	34
NGW203	MW	NGW203	02/21/06	VOC	Trichloroethene (TCE)	9.1	0.74	12
NGW203	MW	NGW203	02/20/07	VOC	Trichloroethene (TCE)	11	0.74	15
NGW203	MW	NGW203	08/22/07	VOC	Trichloroethene (TCE)	10	0.74	14
NGW203	MW	NGW203	02/19/08	VOC	Trichloroethene (TCE)	9	0.74	12
NGW203	MW	NGW203	08/20/08	VOC	Trichloroethene (TCE)	7.9	0.74	11
NGW203	MW	NGW203	02/16/09	VOC	Trichloroethene (TCE)	6.8	0.74	9.2
NGW203	MW	NGW203	02/18/10	VOC	Trichloroethene (TCE)	4.5	0.74	6.1
NGW203	MW	NGW203	08/19/10	VOC	Trichloroethene (TCE)	4.6	0.74	6.2
NGW203	MW	NGW203	07/20/94	VOC	Vinyl Chloride	0.22	0.2	1.1
NGW203	MW	NGW203	08/14/06	VOC	Vinyl Chloride	1	0.2	5.0
NGW203	MW	NGW203	08/19/10	VOC	Vinyl Chloride	0.7	0.2	3.5
NGW204	MW	MW-4	10/27/93	MET	Arsenic	6	5.0	1.2
NGW204	MW	NGW204	07/20/94	MET	Arsenic	8	5.0	1.6
NGW204	MW	MW-4	10/24/94	MET	Arsenic	8	5.0	1.6
NGW204	MW	NGW204	05/11/95	MET	Arsenic	42	5.0	8.4

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW204	MW	MW-4	09/14/95	MET	Arsenic	43	5.0	8.6
NGW204	MW	MW-4	07/23/93	MET	Cadmium	2	0.21	9.5
NGW204	MW	MW-4	10/27/93	MET	Cadmium	3	0.21	14
NGW204	MW	NGW204	07/20/94	MET	Lead	3	2.5	1.2
NGW204	MW	MW-4	10/24/94	MET	Lead	3	2.5	1.2
NGW204	MW	NGW204	05/11/95	MET	Lead	4	2.5	1.6
NGW204	MW	MW-4	09/14/95	MET	Lead	9	2.5	3.6
NGW204	MW	MW-4	09/14/95	MET	Mercury	0.2	0.02	10
NGW204	MW	MW-4	11/20/91	TPH	Diesel Range Hydrocarbons	4,600	500	9.2
NGW204	MW	MW-4	07/23/93	VOC	Tetrachloroethene (PCE)	1	0.2	5.0
NGW204	MW	MW-4	07/23/93	VOC	Trichloroethene (TCE)	12	0.74	16
NGW205	MW	NGW205	05/12/95	MET	Arsenic	145	5.0	29
NGW205	MW	MW-5	09/14/95	MET	Arsenic	105	5.0	21
NGW205	MW	NGW205	05/12/95	MET	Lead	23	2.5	9.2
NGW205	MW	MW-5	09/14/95	MET	Lead	13	2.5	5.2
NGW205	MW	NGW205	05/12/95	MET	Mercury	0.2	0.02	10
NGW205	MW	NGW205	05/12/95	VOC	Trichloroethene (TCE)	8.8	0.74	12
NGW205	MW	MW-5	09/14/95	VOC	Trichloroethene (TCE)	18	0.74	24
NGW205	MW	MW-5	03/20/96	VOC	Trichloroethene (TCE)	12	0.74	16
NGW205	MW	3-360-MW-5	03/14/97	VOC	Trichloroethene (TCE)	12	0.74	16
NGW205	MW	3-360-MW-5	08/26/97	VOC	Trichloroethene (TCE)	10	0.74	14
NGW205	MW	MW-5	02/23/98	VOC	Trichloroethene (TCE)	7.1	0.74	9.6
NGW205	MW	MW-5	07/27/98	VOC	Trichloroethene (TCE)	16	0.74	22
NGW205	MW	NGW205	01/19/99	VOC	Trichloroethene (TCE)	5.5	0.74	7.4
NGW205	MW	NGW205	07/19/99	VOC	Trichloroethene (TCE)	3.1	0.74	4.2
NGW205	MW	NGW205	02/22/00	VOC	Trichloroethene (TCE)	3.9	0.74	5.3
NGW205	MW	NGW205	07/25/00	VOC	Trichloroethene (TCE)	7.3	0.74	9.9
NGW205	MW	NGW205	02/20/01	VOC	Trichloroethene (TCE)	9.4	0.74	13
NGW205	MW	NGW205	08/21/01	VOC	Trichloroethene (TCE)	5.1	0.74	6.9
NGW205	MW	NGW205	02/19/02	VOC	Trichloroethene (TCE)	5.4	0.74	7.3
NGW206	MW	NGW206	05/12/95	MET	Arsenic	32	5.0	6.4
NGW206	MW	MW-6	09/14/95	MET	Arsenic	33	5.0	6.6
NGW206	MW	NGW206	05/12/95	MET	Lead	75	2.5	30
NGW206	MW	MW-6	09/14/95	MET	Lead	39	2.5	16

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW206	MW	NGW206	05/12/95	MET	Mercury	0.3	0.02	15
NGW206	MW	NGW206	05/12/95	VOC	cis-1,2-Dichloroethene	56	10	5.6
NGW206	MW	MW-6	09/14/95	VOC	cis-1,2-Dichloroethene	42	10	4.2
NGW206	MW	MW-6	03/20/96	VOC	cis-1,2-Dichloroethene	46	10	4.6
NGW206	MW	3-360-MW-6	03/14/97	VOC	cis-1,2-Dichloroethene	52	10	5.2
NGW206	MW	3-360-MW-6	08/26/97	VOC	cis-1,2-Dichloroethene	42	10	4.2
NGW206	MW	MW-6	02/23/98	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW206	MW	MW-6	07/27/98	VOC	cis-1,2-Dichloroethene	43	10	4.3
NGW206	MW	NGW206	01/19/99	VOC	cis-1,2-Dichloroethene	53	10	5.3
NGW206	MW	NGW206-Dup	07/19/99	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW206	MW	NGW206	02/22/00	VOC	cis-1,2-Dichloroethene	88	10	8.8
NGW206	MW	NGW206	07/25/00	VOC	cis-1,2-Dichloroethene	120	10	12
NGW206	MW	NGW206	02/20/01	VOC	cis-1,2-Dichloroethene	95	10	9.5
NGW206	MW	NGW206	08/21/01	VOC	cis-1,2-Dichloroethene	180	10	18
NGW206	MW	NGW206	02/19/02	VOC	cis-1,2-Dichloroethene	120	10	12
NGW206	MW	NGW206	08/20/02	VOC	cis-1,2-Dichloroethene	120	10	12
NGW206	MW	NGW206U	02/18/03	VOC	cis-1,2-Dichloroethene	160	10	16
NGW206	MW	NGW206U	07/15/03	VOC	cis-1,2-Dichloroethene	180	10	18
NGW206	MW	NGW206U	02/10/04	VOC	cis-1,2-Dichloroethene	140	10	14
NGW206	MW	NGW206	08/09/04	VOC	cis-1,2-Dichloroethene	130	10	13
NGW206	MW	NGW206	02/07/05	VOC	cis-1,2-Dichloroethene	87	10	8.7
NGW206	MW	NGW206	08/18/05	VOC	cis-1,2-Dichloroethene	63	10	6.3
NGW206	MW	NGW206	02/21/06	VOC	cis-1,2-Dichloroethene	37	10	3.7
NGW206	MW	NGW206	02/20/07	VOC	cis-1,2-Dichloroethene	45	10	4.5
NGW206	MW	NGW206	08/22/07	VOC	cis-1,2-Dichloroethene	58	10	5.8
NGW206	MW	NGW206	02/19/08	VOC	cis-1,2-Dichloroethene	93	10	9.3
NGW206	MW	NGW206	08/20/08	VOC	cis-1,2-Dichloroethene	90	10	9.0
NGW206	MW	NGW206	02/16/09	VOC	cis-1,2-Dichloroethene	61	10	6.1
NGW206	MW	NGW206	02/19/10	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW206	MW	NGW206	08/19/10	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW206	MW	NGW206	05/12/95	VOC	Trichloroethene (TCE)	260	0.74	350
NGW206	MW	MW-6	09/14/95	VOC	Trichloroethene (TCE)	200	0.74	270
NGW206	MW	MW-6	03/20/96	VOC	Trichloroethene (TCE)	200	0.74	270
NGW206	MW	3-360-MW-6	03/14/97	VOC	Trichloroethene (TCE)	160	0.74	220

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW206	MW	3-360-MW-6	08/26/97	VOC	Trichloroethene (TCE)	150	0.74	200
NGW206	MW	MW-6	02/23/98	VOC	Trichloroethene (TCE)	120	0.74	160
NGW206	MW	MW-6	07/27/98	VOC	Trichloroethene (TCE)	160	0.74	220
NGW206	MW	NGW206	01/19/99	VOC	Trichloroethene (TCE)	190	0.74	260
NGW206	MW	NGW206-Dup	07/19/99	VOC	Trichloroethene (TCE)	98	0.74	130
NGW206	MW	NGW206	02/22/00	VOC	Trichloroethene (TCE)	170	0.74	230
NGW206	MW	NGW206	07/25/00	VOC	Trichloroethene (TCE)	220	0.74	300
NGW206	MW	NGW206	02/20/01	VOC	Trichloroethene (TCE)	190	0.74	260
NGW206	MW	NGW206	08/21/01	VOC	Trichloroethene (TCE)	250	0.74	340
NGW206	MW	NGW206	02/19/02	VOC	Trichloroethene (TCE)	220	0.74	300
NGW206	MW	NGW206	08/20/02	VOC	Trichloroethene (TCE)	240	0.74	320
NGW206	MW	NGW206U	02/18/03	VOC	Trichloroethene (TCE)	250	0.74	340
NGW206	MW	NGW206U	07/15/03	VOC	Trichloroethene (TCE)	270	0.74	360
NGW206	MW	NGW206U	02/10/04	VOC	Trichloroethene (TCE)	280	0.74	380
NGW206	MW	NGW206	08/09/04	VOC	Trichloroethene (TCE)	220	0.74	300
NGW206	MW	NGW206	02/07/05	VOC	Trichloroethene (TCE)	160	0.74	220
NGW206	MW	NGW206	08/18/05	VOC	Trichloroethene (TCE)	190	0.74	260
NGW206	MW	NGW206	02/21/06	VOC	Trichloroethene (TCE)	97	0.74	130
NGW206	MW	NGW206	08/14/06	VOC	Trichloroethene (TCE)	130	0.74	180
NGW206	MW	NGW206	02/20/07	VOC	Trichloroethene (TCE)	84	0.74	110
NGW206	MW	NGW206	08/22/07	VOC	Trichloroethene (TCE)	100	0.74	140
NGW206	MW	NGW206	02/19/08	VOC	Trichloroethene (TCE)	130	0.74	180
NGW206	MW	NGW206	08/20/08	VOC	Trichloroethene (TCE)	100	0.74	140
NGW206	MW	NGW206	02/16/09	VOC	Trichloroethene (TCE)	58	0.74	78
NGW206	MW	NGW206	02/18/10	VOC	Trichloroethene (TCE)	25	0.74	34
NGW206	MW	NGW206	08/19/10	VOC	Trichloroethene (TCE)	40	0.74	54
NGW206	MW	NGW206L	07/15/03	VOC	Vinyl Chloride	3.3	0.2	17
NGW206	MW	NGW206U	02/10/04	VOC	Vinyl Chloride	14	0.2	70
NGW206	MW	NGW206	02/20/07	VOC	Vinyl Chloride	1.8	0.2	9.0
NGW206	MW	NGW206	08/19/10	VOC	Vinyl Chloride	0.3	0.2	1.5
NGW207	MW	NGW207	05/12/95	MET	Arsenic	32	5.0	6.4
NGW207	MW	MW-7	09/14/95	MET	Arsenic	11	5.0	2.2
NGW207	MW	NGW207	05/12/95	MET	Chromium	122	100	1.2
NGW207	MW	NGW207	05/12/95	MET	Lead	28	2.5	11

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW207	MW	MW-7	09/14/95	MET	Lead	4	2.5	1.6
NGW207	MW	NGW207	05/12/95	MET	Mercury	0.3	0.02	15
NGW207	MW	NGW207	05/12/95	VOC	Trichloroethene (TCE)	5.4	0.74	7.3
NGW207	MW	MW-7	09/14/95	VOC	Trichloroethene (TCE)	7.6	0.74	10
NGW207	MW	MW-7	03/20/96	VOC	Trichloroethene (TCE)	5.4	0.74	7.3
NGW207	MW	3-360-MW-7	03/14/97	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW207	MW	3-360-MW-7	08/26/97	VOC	Trichloroethene (TCE)	4.8	0.74	6.5
NGW207	MW	MW-7	02/23/98	VOC	Trichloroethene (TCE)	3.4	0.74	4.6
NGW207	MW	MW-7	07/27/98	VOC	Trichloroethene (TCE)	4.8	0.74	6.5
NGW207	MW	NGW207	01/19/99	VOC	Trichloroethene (TCE)	1	0.74	1.4
NGW207	MW	NGW207	07/19/99	VOC	Trichloroethene (TCE)	2.6	0.74	3.5
NGW207	MW	NGW207	02/22/00	VOC	Trichloroethene (TCE)	2.7	0.74	3.6
NGW207	MW	NGW207	07/25/00	VOC	Trichloroethene (TCE)	2.6	0.74	3.5
NGW207	MW	NGW207	02/20/01	VOC	Trichloroethene (TCE)	3	0.74	4.1
NGW207	MW	NGW207	08/21/01	VOC	Trichloroethene (TCE)	2.6	0.74	3.5
NGW207	MW	NGW207	02/19/02	VOC	Trichloroethene (TCE)	2.4	0.74	3.2
NGW207	MW	NGW207	08/20/02	VOC	Trichloroethene (TCE)	2.8	0.74	3.8
NGW207	MW	NGW207	08/19/10	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW209	MW	MW-9	10/17/95	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW209	MW	MW-9	03/22/96	VOC	cis-1,2-Dichloroethene	19	10	1.9
NGW209	MW	3-360-MW-9	03/14/97	VOC	cis-1,2-Dichloroethene	27	10	2.7
NGW209	MW	3-360-MW-9	08/26/97	VOC	cis-1,2-Dichloroethene	33	10	3.3
NGW209	MW	MW-9	02/23/98	VOC	cis-1,2-Dichloroethene	35	10	3.5
NGW209	MW	MW-9	07/27/98	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW209	MW	NGW209	01/19/99	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW209	MW	NGW209	07/19/99	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW209	MW	NGW209	02/22/00	VOC	cis-1,2-Dichloroethene	38	10	3.8
NGW209	MW	NGW209	07/25/00	VOC	cis-1,2-Dichloroethene	27	10	2.7
NGW209	MW	NGW209	02/20/01	VOC	cis-1,2-Dichloroethene	21	10	2.1
NGW209	MW	NGW209	08/21/01	VOC	cis-1,2-Dichloroethene	23	10	2.3
NGW209	MW	NGW209	02/19/02	VOC	cis-1,2-Dichloroethene	23	10	2.3
NGW209	MW	NGW209	08/20/02	VOC	cis-1,2-Dichloroethene	33	10	3.3
NGW209	MW	NGW209	12/02/02	VOC	cis-1,2-Dichloroethene	35	10	3.5
NGW209	MW	NGW209M	01/29/03	VOC	cis-1,2-Dichloroethene	35	10	3.5

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW209	MW	MW-9	10/17/95	VOC	Tetrachloroethene (PCE)	1.5	0.2	7.5
NGW209	MW	MW-9	03/22/96	VOC	Tetrachloroethene (PCE)	1.2	0.2	6.0
NGW209	MW	3-360-MW-9	03/14/97	VOC	Tetrachloroethene (PCE)	1.1	0.2	5.5
NGW209	MW	3-360-MW-9	08/26/97	VOC	Tetrachloroethene (PCE)	1.4	0.2	7.0
NGW209	MW	MW-9	02/23/98	VOC	Tetrachloroethene (PCE)	1.2	0.2	6.0
NGW209	MW	MW-9	07/27/98	VOC	Tetrachloroethene (PCE)	1.4	0.2	7.0
NGW209	MW	MW-9	10/17/95	VOC	Trichloroethene (TCE)	110	0.74	150
NGW209	MW	MW-9	03/22/96	VOC	Trichloroethene (TCE)	110	0.74	150
NGW209	MW	3-360-MW-9	03/14/97	VOC	Trichloroethene (TCE)	120	0.74	160
NGW209	MW	3-360-MW-9	08/26/97	VOC	Trichloroethene (TCE)	130	0.74	180
NGW209	MW	MW-9	02/23/98	VOC	Trichloroethene (TCE)	140	0.74	190
NGW209	MW	MW-9	07/27/98	VOC	Trichloroethene (TCE)	200	0.74	270
NGW209	MW	NGW209	01/19/99	VOC	Trichloroethene (TCE)	120	0.74	160
NGW209	MW	NGW209	07/19/99	VOC	Trichloroethene (TCE)	130	0.74	180
NGW209	MW	NGW209	02/22/00	VOC	Trichloroethene (TCE)	120	0.74	160
NGW209	MW	NGW209	07/25/00	VOC	Trichloroethene (TCE)	59	0.74	80
NGW209	MW	NGW209	02/20/01	VOC	Trichloroethene (TCE)	39	0.74	53
NGW209	MW	NGW209	08/21/01	VOC	Trichloroethene (TCE)	52	0.74	70
NGW209	MW	NGW209	02/19/02	VOC	Trichloroethene (TCE)	48	0.74	65
NGW209	MW	NGW209	08/20/02	VOC	Trichloroethene (TCE)	53	0.74	72
NGW209	MW	NGW209	12/02/02	VOC	Trichloroethene (TCE)	38	0.74	51
NGW209	MW	NGW209L	01/29/03	VOC	Trichloroethene (TCE)	2	0.74	2.7
NGW209	MW	NGW209M	01/29/03	VOC	Trichloroethene (TCE)	56	0.74	76
NGW210	MW	MW-10	10/17/95	MET	Copper	118	1.3	91
NGW210	MW	MW-10	10/17/95	MET	Iron	61,300	300	200
NGW210	MW	MW-10	10/17/95	MET	Manganese	968	50	19
NGW210	MW	MW-10	10/17/95	MET	Zinc	148	32.6	4.5
NGW210	MW	MW-10	10/17/95	VOC	cis-1,2-Dichloroethene	22	10	2.2
NGW210	MW	MW-10	03/22/96	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW210	MW	3-360-MW-10	03/14/97	VOC	cis-1,2-Dichloroethene	28	10	2.8
NGW210	MW	3-360-MW-10	08/26/97	VOC	cis-1,2-Dichloroethene	42	10	4.2
NGW210	MW	MW-10	02/23/98	VOC	cis-1,2-Dichloroethene	37	10	3.7
NGW210	MW	MW-10	07/27/98	VOC	cis-1,2-Dichloroethene	41	10	4.1
NGW210	MW	NGW210	01/19/99	VOC	cis-1,2-Dichloroethene	57	10	5.7

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW210	MW	NGW210	07/19/99	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW210	MW	NGW210	02/22/00	VOC	cis-1,2-Dichloroethene	90	10	9.0
NGW210	MW	NGW210	07/25/00	VOC	cis-1,2-Dichloroethene	51	10	5.1
NGW210	MW	NGW210	02/20/01	VOC	cis-1,2-Dichloroethene	73	10	7.3
NGW210	MW	NGW210	08/21/01	VOC	cis-1,2-Dichloroethene	63	10	6.3
NGW210	MW	NGW210	02/19/02	VOC	cis-1,2-Dichloroethene	64	10	6.4
NGW210	MW	NGW210	08/20/02	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW210	MW	MW-10	10/17/95	VOC	Tetrachloroethene (PCE)	3	0.2	15
NGW210	MW	MW-10	03/22/96	VOC	Tetrachloroethene (PCE)	3.1	0.2	16
NGW210	MW	3-360-MW-10	03/14/97	VOC	Tetrachloroethene (PCE)	2	0.2	10
NGW210	MW	3-360-MW-10	08/26/97	VOC	Tetrachloroethene (PCE)	2.1	0.2	11
NGW210	MW	MW-10	02/23/98	VOC	Tetrachloroethene (PCE)	1.5	0.2	7.5
NGW210	MW	MW-10	07/27/98	VOC	Tetrachloroethene (PCE)	1.5	0.2	7.5
NGW210	MW	NGW210	01/19/99	VOC	Tetrachloroethene (PCE)	1.3	0.2	6.5
NGW210	MW	MW-10	10/17/95	VOC	Trichloroethene (TCE)	260	0.74	350
NGW210	MW	MW-10	03/22/96	VOC	Trichloroethene (TCE)	280	0.74	380
NGW210	MW	3-360-MW-10	03/14/97	VOC	Trichloroethene (TCE)	160	0.74	220
NGW210	MW	3-360-MW-10	08/26/97	VOC	Trichloroethene (TCE)	120	0.74	160
NGW210	MW	MW-10	02/23/98	VOC	Trichloroethene (TCE)	120	0.74	160
NGW210	MW	MW-10	07/27/98	VOC	Trichloroethene (TCE)	130	0.74	180
NGW210	MW	NGW210	01/19/99	VOC	Trichloroethene (TCE)	140	0.74	190
NGW210	MW	NGW210	07/19/99	VOC	Trichloroethene (TCE)	55	0.74	74
NGW210	MW	NGW210	02/22/00	VOC	Trichloroethene (TCE)	80	0.74	110
NGW210	MW	NGW210	07/25/00	VOC	Trichloroethene (TCE)	58	0.74	78
NGW210	MW	NGW210	02/20/01	VOC	Trichloroethene (TCE)	48	0.74	65
NGW210	MW	NGW210	08/21/01	VOC	Trichloroethene (TCE)	38	0.74	51
NGW210	MW	NGW210	02/19/02	VOC	Trichloroethene (TCE)	41	0.74	55
NGW210	MW	NGW210	08/20/02	VOC	Trichloroethene (TCE)	54	0.74	73
NGW211	MW	3-360-MW-11	08/26/97	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW211	MW	MW-11	02/23/98	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW211	MW	MW-11	07/27/98	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW211	MW	NGW211	01/19/99	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW211	MW	NGW211	07/19/99	VOC	cis-1,2-Dichloroethene	29	10	2.9
NGW211	MW	NGW211	02/22/00	VOC	cis-1,2-Dichloroethene	13	10	1.3

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW211	MW	NGW211	07/25/00	VOC	cis-1,2-Dichloroethene	27	10	2.7
NGW211	MW	NGW211	02/20/01	VOC	cis-1,2-Dichloroethene	31	10	3.1
NGW211	MW	NGW211	08/21/01	VOC	cis-1,2-Dichloroethene	26	10	2.6
NGW211	MW	NGW211	02/19/02	VOC	cis-1,2-Dichloroethene	16	10	1.6
NGW211	MW	NGW211	08/20/02	VOC	cis-1,2-Dichloroethene	25	10	2.5
NGW211	MW	NGW211	08/19/10	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW211	MW	MW-11	10/17/95	VOC	Trichloroethene (TCE)	46	0.74	62
NGW211	MW	MW-11	03/22/96	VOC	Trichloroethene (TCE)	58	0.74	78
NGW211	MW	3-360-MW-11	03/14/97	VOC	Trichloroethene (TCE)	51	0.74	69
NGW211	MW	3-360-MW-11	08/26/97	VOC	Trichloroethene (TCE)	66	0.74	89
NGW211	MW	MW-11	02/23/98	VOC	Trichloroethene (TCE)	60	0.74	81
NGW211	MW	MW-11	07/27/98	VOC	Trichloroethene (TCE)	72	0.74	97
NGW211	MW	NGW211	01/19/99	VOC	Trichloroethene (TCE)	40	0.74	54
NGW211	MW	NGW211	07/19/99	VOC	Trichloroethene (TCE)	50	0.74	68
NGW211	MW	NGW211	02/22/00	VOC	Trichloroethene (TCE)	36	0.74	49
NGW211	MW	NGW211	07/25/00	VOC	Trichloroethene (TCE)	27	0.74	36
NGW211	MW	NGW211	02/20/01	VOC	Trichloroethene (TCE)	23	0.74	31
NGW211	MW	NGW211	08/21/01	VOC	Trichloroethene (TCE)	16	0.74	22
NGW211	MW	NGW211	02/19/02	VOC	Trichloroethene (TCE)	18	0.74	24
NGW211	MW	NGW211	08/20/02	VOC	Trichloroethene (TCE)	20	0.74	27
NGW211	MW	NGW211	08/19/10	VOC	Trichloroethene (TCE)	3.1	0.74	4.2
NGW212	MW	NGW212	12/02/02	VOC	cis-1,2-Dichloroethene	26	10	2.6
NGW212	MW	NGW212L	01/29/03	VOC	cis-1,2-Dichloroethene	76	10	7.6
NGW212	MW	NGW212M	01/29/03	VOC	cis-1,2-Dichloroethene	300	10	30
NGW212	MW	NGW212U	01/29/03	VOC	cis-1,2-Dichloroethene	440	10	44
NGW212	MW	NGW212U	02/18/03	VOC	cis-1,2-Dichloroethene	110	10	11
NGW212	MW	NGW212U	07/15/03	VOC	cis-1,2-Dichloroethene	79	10	7.9
NGW212	MW	NGW212U	02/10/04	VOC	cis-1,2-Dichloroethene	16	10	1.6
NGW212	MW	NGW212	08/09/04	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW212	MW	NGW212-Dup	02/07/05	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW212	MW	NGW212	08/18/05	VOC	cis-1,2-Dichloroethene	15	10	1.5
NGW212	MW	NGW212	08/14/06	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW212	MW	NGW212	08/22/07	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW212	MW	NGW212	02/19/08	VOC	cis-1,2-Dichloroethene	20	10	2.0

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW212	MW	NGW212	08/20/08	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW212	MW	NGW212	02/16/09	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW212	MW	NGW212	02/19/10	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW212	MW	NGW212	08/19/10	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW212	MW	NGW212	12/02/02	VOC	Trichloroethene (TCE)	32	0.74	43
NGW212	MW	NGW212L	01/29/03	VOC	Trichloroethene (TCE)	10	0.74	14
NGW212	MW	NGW212M	01/29/03	VOC	Trichloroethene (TCE)	150	0.74	200
NGW212	MW	NGW212U	01/29/03	VOC	Trichloroethene (TCE)	200	0.74	270
NGW212	MW	NGW212U	02/18/03	VOC	Trichloroethene (TCE)	46	0.74	62
NGW212	MW	NGW212U	07/15/03	VOC	Trichloroethene (TCE)	54	0.74	73
NGW212	MW	NGW212U	02/10/04	VOC	Trichloroethene (TCE)	28	0.74	38
NGW212	MW	NGW212	08/09/04	VOC	Trichloroethene (TCE)	30	0.74	41
NGW212	MW	NGW212-Dup	02/07/05	VOC	Trichloroethene (TCE)	20	0.74	27
NGW212	MW	NGW212	08/18/05	VOC	Trichloroethene (TCE)	24	0.74	32
NGW212	MW	NGW212	02/21/06	VOC	Trichloroethene (TCE)	17	0.74	23
NGW212	MW	NGW212	08/14/06	VOC	Trichloroethene (TCE)	12	0.74	16
NGW212	MW	NGW212	02/20/07	VOC	Trichloroethene (TCE)	12	0.74	16
NGW212	MW	NGW212	08/22/07	VOC	Trichloroethene (TCE)	16	0.74	22
NGW212	MW	NGW212	02/19/08	VOC	Trichloroethene (TCE)	10	0.74	14
NGW212	MW	NGW212	08/20/08	VOC	Trichloroethene (TCE)	11	0.74	15
NGW212	MW	NGW212	02/16/09	VOC	Trichloroethene (TCE)	11	0.74	15
NGW212	MW	NGW212	02/19/10	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW212	MW	NGW212L	01/29/03	VOC	Vinyl Chloride	200	0.2	1,000
NGW212	MW	NGW212M	01/29/03	VOC	Vinyl Chloride	230	0.2	1,200
NGW212	MW	NGW212U	01/29/03	VOC	Vinyl Chloride	240	0.2	1,200
NGW212	MW	NGW212U	02/18/03	VOC	Vinyl Chloride	100	0.2	500
NGW212	MW	NGW212U	07/15/03	VOC	Vinyl Chloride	57	0.2	290
NGW212	MW	NGW212U	02/10/04	VOC	Vinyl Chloride	17	0.2	85
NGW212	MW	NGW212	08/09/04	VOC	Vinyl Chloride	8.8	0.2	44
NGW212	MW	NGW212-Dup	02/07/05	VOC	Vinyl Chloride	4	0.2	20
NGW212	MW	NGW212	08/18/05	VOC	Vinyl Chloride	3.6	0.2	18
NGW212	MW	NGW212	02/21/06	VOC	Vinyl Chloride	3.2	0.2	16
NGW212	MW	NGW212	02/20/07	VOC	Vinyl Chloride	3.1	0.2	16
NGW212	MW	NGW212	08/22/07	VOC	Vinyl Chloride	4.4	0.2	22

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW212	MW	NGW212	02/19/08	VOC	Vinyl Chloride	5.1	0.2	26
NGW212	MW	NGW212	08/20/08	VOC	Vinyl Chloride	4.3	0.2	22
NGW212	MW	NGW212	02/16/09	VOC	Vinyl Chloride	6	0.2	30
NGW212	MW	NGW212	02/19/10	VOC	Vinyl Chloride	4	0.2	20
NGW212	MW	NGW212	08/19/10	VOC	Vinyl Chloride	7	0.2	35
Building 3-380 Storm Drain Area								
MW-B4	MW	MW-B4	06/28/07	MET	Copper	4	1.3	3.1
NGW202	MW	NGW202	05/11/95	MET	Arsenic	35	5.0	7.0
NGW202	MW	MW-2	09/14/95	MET	Arsenic	100	5.0	20
NGW202	MW	MW-2-DUPL	09/14/95	MET	Arsenic	100	5.0	20
NGW202	MW	MW-2	07/23/93	MET	Cadmium	5	0.21	24
NGW202	MW	MW-2	10/27/93	MET	Cadmium	5	0.21	24
NGW202	MW	NGW202	07/20/94	MET	Cadmium	2	0.21	9.5
NGW202	MW	3-360/361/365-MW-2	11/20/91	MET	Copper	11	1.3	8.5
NGW202	MW	MW-2	11/20/91	MET	Copper	11	1.3	8.5
NGW202	MW	MW-2	01/25/94	MET	Lead	3	2.5	1.2
NGW202	MW	MW-2	10/24/94	MET	Lead	4	2.5	1.6
NGW202	MW	MW-2	01/24/95	MET	Lead	3	2.5	1.2
NGW202	MW	MW-2	09/14/95	MET	Lead	24	2.5	9.6
NGW202	MW	MW-2-DUPL	09/14/95	MET	Lead	23	2.5	9.2
NGW202	MW	NGW202	07/20/94	MET	Mercury	0.1	0.02	5.0
NGW202	MW	MW-2	09/14/95	MET	Mercury	0.2	0.02	10
NGW202	MW	MW-2-DUPL	09/14/95	MET	Mercury	0.3	0.02	15
NGW202	MW	MW-2	11/20/91	TPH	Diesel Range Hydrocarbons	1,000	500	2.0
NGW202	MW	MW-2	07/23/93	VOC	Methylene Chloride	11	5.0	2.2
NGW202	MW	MW-2	07/23/93	VOC	Tetrachloroethene (PCE)	4.1	0.2	21
NGW202	MW	MW-2	10/27/93	VOC	Tetrachloroethene (PCE)	1.1	0.2	5.5
NGW202	MW	MW-2	01/25/94	VOC	Tetrachloroethene (PCE)	4.7	0.2	24
NGW202	MW	NGW202	04/20/94	VOC	Tetrachloroethene (PCE)	1.9	0.2	9.5
NGW202	MW	NGW202	07/20/94	VOC	Tetrachloroethene (PCE)	1.2	0.2	6.0
NGW202	MW	MW-2	01/24/95	VOC	Tetrachloroethene (PCE)	1.9	0.2	9.5
NGW202	MW	3-360-MW-2	08/26/97	VOC	Tetrachloroethene (PCE)	1.1	0.2	5.5
NGW202	MW	MW-2	07/23/93	VOC	Trichloroethene (TCE)	7.5	0.74	10
NGW202	MW	MW-2	10/27/93	VOC	Trichloroethene (TCE)	2	0.74	2.7

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW202	MW	MW-2	01/25/94	VOC	Trichloroethene (TCE)	7.8	0.74	11
NGW202	MW	NGW202	04/20/94	VOC	Trichloroethene (TCE)	3.5	0.74	4.7
NGW202	MW	NGW202	07/20/94	VOC	Trichloroethene (TCE)	2.4	0.74	3.2
NGW202	MW	MW-2	10/24/94	VOC	Trichloroethene (TCE)	1.5	0.74	2.0
NGW202	MW	MW-2	01/24/95	VOC	Trichloroethene (TCE)	2.7	0.74	3.6
NGW202	MW	MW-2	09/14/95	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW202	MW	3-360-MW-2	08/26/97	VOC	Trichloroethene (TCE)	1.9	0.74	2.6
NGW202	MW	MW-2	07/27/98	VOC	Trichloroethene (TCE)	1.5	0.74	2.0
NGW202	MW	NGW202	05/11/95	VOC	Vinyl Chloride	0.9	0.2	4.5
NGW202	MW	MW-2	03/20/96	VOC	Vinyl Chloride	0.43	0.2	2.2
NGW202	MW	3-360-MW-2	03/14/97	VOC	Vinyl Chloride	0.46	0.2	2.3
NGW202	MW	MW-2	02/23/98	VOC	Vinyl Chloride	0.29	0.2	1.5
NGW208	MW	NGW208	05/12/95	MET	Arsenic	22	5.0	4.4
NGW208	MW	MW-8	09/14/95	MET	Arsenic	13	5.0	2.6
NGW208	MW	NGW208	05/12/95	MET	Lead	28	2.5	11
NGW208	MW	MW-8	09/14/95	MET	Lead	10	2.5	4.0
NGW208	MW	NGW208	05/12/95	MET	Mercury	0.1	0.02	5.0
NGW208	MW	NGW208	05/12/95	VOC	cis-1,2-Dichloroethene	24	10	2.4
NGW208	MW	MW-8	09/14/95	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW208	MW	MW-8	03/20/96	VOC	cis-1,2-Dichloroethene	40	10	4.0
NGW208	MW	3-360-MW-8	03/14/97	VOC	cis-1,2-Dichloroethene	56	10	5.6
NGW208	MW	3-360-MW-8	08/26/97	VOC	cis-1,2-Dichloroethene	73	10	7.3
NGW208	MW	MW-8	07/27/98	VOC	cis-1,2-Dichloroethene	130	10	13
NGW208	MW	NGW208	07/19/99	VOC	cis-1,2-Dichloroethene	100	10	10
NGW208	MW	NGW208	07/25/00	VOC	cis-1,2-Dichloroethene	70	10	7.0
NGW208	MW	NGW208	08/21/01	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW208	MW	NGW208	02/25/02	VOC	cis-1,2-Dichloroethene	92	10	9.2
NGW208	MW	NGW208	08/20/02	VOC	cis-1,2-Dichloroethene	77	10	7.7
NGW208	MW	NGW208	02/18/03	VOC	cis-1,2-Dichloroethene	84	10	8.4
NGW208	MW	NGW208	07/15/03	VOC	cis-1,2-Dichloroethene	94	10	9.4
NGW208	MW	NGW208U	02/10/04	VOC	cis-1,2-Dichloroethene	140	10	14
NGW208	MW	NGW208	08/09/04	VOC	cis-1,2-Dichloroethene	78	10	7.8
NGW208	MW	NGW208	02/07/05	VOC	cis-1,2-Dichloroethene	49	10	4.9
NGW208	MW	NGW208	08/18/05	VOC	cis-1,2-Dichloroethene	91	10	9.1

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW208	MW	NGW208	02/21/06	VOC	cis-1,2-Dichloroethene	74	10	7.4
NGW208	MW	NGW208	08/14/06	VOC	cis-1,2-Dichloroethene	110	10	11
NGW208	MW	NGW208	08/22/07	VOC	cis-1,2-Dichloroethene	56	10	5.6
NGW208	MW	NGW208	02/19/08	VOC	cis-1,2-Dichloroethene	100	10	10
NGW208	MW	NGW208	08/20/08	VOC	cis-1,2-Dichloroethene	92	10	9.2
NGW208	MW	NGW208	02/16/09	VOC	cis-1,2-Dichloroethene	120	10	12
NGW208	MW	NGW208	02/18/10	VOC	cis-1,2-Dichloroethene	49	10	4.9
NGW208	MW	NGW208	05/12/95	VOC	Trichloroethene (TCE)	160	0.74	220
NGW208	MW	MW-8	09/14/95	VOC	Trichloroethene (TCE)	120	0.74	160
NGW208	MW	MW-8	03/20/96	VOC	Trichloroethene (TCE)	140	0.74	190
NGW208	MW	3-360-MW-8	03/14/97	VOC	Trichloroethene (TCE)	110	0.74	150
NGW208	MW	3-360-MW-8	08/26/97	VOC	Trichloroethene (TCE)	98	0.74	130
NGW208	MW	MW-8	07/27/98	VOC	Trichloroethene (TCE)	160	0.74	220
NGW208	MW	NGW208	07/19/99	VOC	Trichloroethene (TCE)	62	0.74	84
NGW208	MW	NGW208	07/25/00	VOC	Trichloroethene (TCE)	43	0.74	58
NGW208	MW	NGW208	08/21/01	VOC	Trichloroethene (TCE)	30	0.74	41
NGW208	MW	NGW208	02/25/02	VOC	Trichloroethene (TCE)	37	0.74	50
NGW208	MW	NGW208	08/20/02	VOC	Trichloroethene (TCE)	23	0.74	31
NGW208	MW	NGW208	02/18/03	VOC	Trichloroethene (TCE)	22	0.74	30
NGW208	MW	NGW208	07/15/03	VOC	Trichloroethene (TCE)	22	0.74	30
NGW208	MW	NGW208U	02/10/04	VOC	Trichloroethene (TCE)	27	0.74	36
NGW208	MW	NGW208	08/09/04	VOC	Trichloroethene (TCE)	20	0.74	27
NGW208	MW	NGW208	02/07/05	VOC	Trichloroethene (TCE)	14	0.74	19
NGW208	MW	NGW208	08/18/05	VOC	Trichloroethene (TCE)	28	0.74	38
NGW208	MW	NGW208	02/21/06	VOC	Trichloroethene (TCE)	22	0.74	30
NGW208	MW	NGW208	08/14/06	VOC	Trichloroethene (TCE)	19	0.74	26
NGW208	MW	NGW208	08/22/07	VOC	Trichloroethene (TCE)	11	0.74	15
NGW208	MW	NGW208	02/19/08	VOC	Trichloroethene (TCE)	14	0.74	19
NGW208	MW	NGW208	08/20/08	VOC	Trichloroethene (TCE)	12	0.74	16
NGW208	MW	NGW208	02/16/09	VOC	Trichloroethene (TCE)	10	0.74	14
NGW208	MW	NGW208	02/18/10	VOC	Trichloroethene (TCE)	8.1	0.74	11
NGW208	MW	NGW208	08/14/06	VOC	Vinyl Chloride	1	0.2	5.0
NGW254	MW	7-027-MW-4	11/20/91	MET	Copper	9.4	1.3	7.2
NGW254	MW	MW-4	02/03/93	VOC	Vinyl Chloride	0.7	0.2	3.5

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
Building 3-380 Area								
GT-1	MW	GT-1	03/20/89	MET	Arsenic	61	5.0	12
GT-1	MW	GT-1	03/20/89	MET	Copper	360	1.3	280
GT-1	MW	GT-1	03/20/89	MET	Mercury	4	0.02	200
GT-1	MW	GT-1	03/20/89	MET	Zinc	180	32.6	5.5
GT-2	MW	GT-2	03/20/89	MET	Arsenic	36	5.0	7.2
GT-2	MW	GT-2	03/20/89	MET	Copper	50	1.3	38
GT-2	MW	GT-2	03/20/89	MET	Mercury	3	0.02	150
GT-3	MW	GT-3	03/20/89	MET	Arsenic	9	5.0	1.8
GT-3	MW	GT-3	03/20/89	MET	Copper	62	1.3	48
GT-3	MW	GT-3	03/20/89	MET	Mercury	2	0.02	100
GT-4	MW	GT-4	03/20/89	MET	Arsenic	17	5.0	3.4
GT-4	MW	GT-4	03/20/89	MET	Copper	72	1.3	55
GT-4	MW	GT-4	03/20/89	MET	Mercury	2	0.02	100
GT-4	MW	GT-4	03/20/89	MET	Zinc	69	32.6	2.1
GT-5	MW	GT-5	03/20/89	MET	Arsenic	15	5.0	3.0
GT-5	MW	GT-5	03/20/89	MET	Copper	59	1.3	45
GT-5	MW	GT-5	03/20/89	MET	Mercury	2	0.02	100
GT-5	MW	GT-5	03/20/89	MET	Zinc	78	32.6	2.4
Building 7-27-1 Area								
NGW252	MW	7-027-MW-2	11/20/91	MET	Copper	9.8	1.3	7.5
NGW252	MW	7-027-MW-2	11/20/91	MET	Lead	46	2.5	18
NGW252	MW	MW-2D	02/03/93	TPH	Gasoline Range Hydrocarbons	1,600	800	2.0
NGW252	MW	7-027-MW-2	11/20/91	BTX	Benzene	4	0.795	5.0
NGW252	MW	MW-2D	02/03/93	BTX	Benzene	1.5	0.795	1.9
NGW253	MW	7-027-MW-3	11/20/91	VOC	Trichloroethene (TCE)	24	0.74	32
NGW253	MW	MW-3	02/03/93	VOC	Trichloroethene (TCE)	22	0.74	30
NGW253	MW	NGW253	01/16/02	VOC	Trichloroethene (TCE)	8	0.74	11
NGW253	MW	MW-3	02/03/93	VOC	Vinyl Chloride	1.2	0.2	6.0
Building 3-369 Area								
GT88-1	MW	GT88-1	06/21/91	MET	Cadmium	110	0.21	520
GT88-1	MW	GT88-1	08/09/89	MET	Chromium	600	100	6.0
GT88-1	MW	GT88-1	06/21/91	MET	Chromium	1,600	100	16

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
GT88-1	MW	GT88-1	08/09/89	MET	Copper	2,000	1.3	1,500
GT88-1	MW	GT88-1	06/21/91	MET	Copper	2,070	1.3	1,600
GT88-1	MW	GT88-1	06/21/91	MET	Lead	1,560	2.5	620
GT88-1	MW	GT88-1	08/09/89	MET	Mercury	2	0.02	100
GT88-1	MW	GT88-1	08/09/89	MET	Nickel	400	8.2	49
GT88-1	MW	GT88-1	06/21/91	MET	Nickel	1,260	8.2	150
GT88-1	MW	GT88-1	06/21/91	MET	Silver	40	1.53	26
GT88-1	MW	GT88-1	08/09/89	MET	Thallium	400	0.47	850
GT88-1	MW	GT88-1	08/09/89	MET	Zinc	1,000	32.6	31
GT88-1	MW	GT88-1	06/21/91	MET	Zinc	380	32.6	12
GT88-2	MW	GT88-2	08/09/89	MET	Antimony	2,000	3.87	520
GT88-2	MW	GT88-2	08/09/89	MET	Mercury	0.9	0.02	45
GT88-2	MW	GT88-2	08/09/89	MET	Thallium	400	0.47	850
GT88-3	MW	GT88-3	08/09/89	MET	Antimony	2,000	3.87	520
GT88-3	MW	GT88-3	08/09/89	MET	Chromium	300	100	3.0
GT88-3	MW	GT88-3	08/09/89	MET	Mercury	2	0.02	100
GT88-3	MW	GT88-3	08/09/89	MET	Nickel	200	8.2	24
GT88-3	MW	GT88-3	08/09/89	MET	Thallium	400	0.47	850
GT88-3	MW	GT88-3	08/09/89	MET	Zinc	600	32.6	18
Concourse A Area								
A5	TW	A5	07/25/96	MET	Aluminum	165,200	50	3,300
A5	TW	A5	07/25/96	MET	Arsenic	80	5.0	16
A5	TW	A5	07/25/96	MET	Barium	670	2.0	340
A5	TW	A5	07/25/96	MET	Chromium	300	100	3.0
A5	TW	A5	07/25/96	MET	Copper	410	1.3	320
A5	TW	A5	07/25/96	MET	Iron	188,300	300	630
A5	TW	A5	07/25/96	MET	Lead	100	2.5	40
A5	TW	A5	07/25/96	MET	Manganese	2,930	50	59
A5	TW	A5	07/25/96	MET	Nickel	160	8.2	20
A5	TW	A5	07/25/96	MET	Selenium	80	5.0	16
A5	TW	A5	07/25/96	MET	Vanadium	470	3.0	160
A5	TW	A5	07/25/96	MET	Zinc	3,610	32.6	110
A5	TW	A5	07/25/96	PHT	Bis(2-Ethylhexyl) Phthalate	7.6	1.0	7.6
A5	TW	A5	07/25/96	PAH	2-Methylnaphthalene	56	18.2	3.1

Table 7.1-7
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at North Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
A6	TW	A6	07/25/96	MET	Aluminum	246,000	50	4,900
A6	TW	A6	07/25/96	MET	Arsenic	70	5.0	14
A6	TW	A6	07/25/96	MET	Barium	990	2.0	500
A6	TW	A6	07/25/96	MET	Beryllium	10	4.0	2.5
A6	TW	A6	07/25/96	MET	Cadmium	10	0.21	48
A6	TW	A6	07/25/96	MET	Chromium	500	100	5.0
A6	TW	A6	07/25/96	MET	Copper	750	1.3	580
A6	TW	A6	07/25/96	MET	Iron	251,800	300	840
A6	TW	A6	07/25/96	MET	Lead	150	2.5	60
A6	TW	A6	07/25/96	MET	Manganese	2,480	50	50
A6	TW	A6	07/25/96	MET	Nickel	240	8.2	29
A6	TW	A6	07/25/96	MET	Selenium	150	5.0	30
A6	TW	A6	07/25/96	MET	Vanadium	850	3.0	280
A6	TW	A6	07/25/96	MET	Zinc	2,910	32.6	89
A6	TW	A6	07/25/96	PHT	Bis(2-Ethylhexyl) Phthalate	1.2	1.0	1.2

BTX = BTEX
Conc = Concentration
J = Estimated value
MET = Metals
MW = Monitoring well
PAH = Polycyclic aromatic hydrocarbons
PCB = Polychlorinated biphenyls
PHT = Phthalates
RISL = RI Selected Screening Level
TPH = Total petroleum hydrocarbons
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-8
RI Selected Screening Level Exceedances for Detected COPCs in Soil at Central Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
Building 3-801 Area										
810N-14	TP	810N-14	10/03/89	7 - 7	PAH	2-Methylnaphthalene	0.5 J	0.0432	12	Removed
810N-14	TP	810N-14	10/03/89	7 - 7	VOC	Methylene Chloride	0.032 B	0.0012	27	Removed
SB-1	SB	SB-1-3.5-4	07/05/91	4.5 - 5	MET	Cadmium	1.1	1.0	1.1	
SB-1	SB	SB-1-3.5-4	07/05/91	4.5 - 5	MET	Copper	69	36	1.9	
SB-1	SB	SB-1-3.5-4	07/05/91	4.5 - 5	MET	Zinc	95.1	86	1.1	
SB-11	SB	SB-11-2.5-3	07/05/91	3.5 - 4	MET	Cadmium	1.7	1.0	1.7	
SB-11	SB	SB-11-2.5-3	07/05/91	3.5 - 4	MET	Copper	58.5	36	1.6	
SB-12	SB	SB-12-2.5-3	07/05/91	3.5 - 4	MET	Cadmium	2.1	1.0	2.1	
SB-12	SB	SB-12-2.5-3	07/05/91	3.5 - 4	MET	Copper	80.3	36	2.2	
SB-12	SB	SB-12-2.5-3	07/05/91	3.5 - 4	MET	Zinc	119	86	1.4	
SB-15	SB	SB-15-3.5-4	07/05/91	4.5 - 5	MET	Cadmium	1.3	1.0	1.3	
SB-15	SB	SB-15-3.5-4	07/05/91	4.5 - 5	VOC	Trichloroethene (TCE)	0.4	0.001	400	
SB-16	SB	SB-16-5.5-6	07/05/91	6.5 - 7	MET	Cadmium	1.1	1.0	1.1	
SB-17	SB	SB-17-5.5-6	07/05/91	6.5 - 7	MET	Cadmium	1.2	1.0	1.2	
SB-1A	SB	SB-1A@8	09/19/91	9 - 9.5	MET	Arsenic	7.5	7.0	1.1	
SB-21	SB	SB-21-6.5-7	07/05/91	7.5 - 8	MET	Cadmium	1.1	1.0	1.1	
SB-3	SB	SB-3-5.5-6	07/05/91	6.5 - 7	MET	Cadmium	2	1.0	2.0	
SB-3	SB	SB-3-5.5-6	07/05/91	6.5 - 7	MET	Copper	81.6	36	2.3	
SB-3	SB	SB-3-5.5-6	07/05/91	6.5 - 7	MET	Zinc	109	86	1.3	
SB-7	SB	SB-7-2.5-3	07/05/91	3.5 - 4	MET	Cadmium	1.1	1.0	1.1	
SB-9	SB	SB-9-5.5-6	07/05/91	6.5 - 7	MET	Cadmium	2.1	1.0	2.1	
SB-9	SB	SB-9-5.5-6	07/05/91	6.5 - 7	MET	Copper	153	36	4.3	
SB-9	SB	SB-9-5.5-6	07/05/91	6.5 - 7	MET	Zinc	175	86	2.0	
Building 3-800 Area										
B-2	SB	B-2	02/07/90	10	VOC	Tetrachloroethene (PCE)	0.0082	0.001	8.2	
B-2	SB	B-2	02/07/90	10	VOC	Trichloroethene (TCE)	0.03	0.001	30	
B-3	SB	B-3	02/07/90	10	VOC	Tetrachloroethene (PCE)	0.0042	0.001	4.2	
B-5	SB	B-5	02/07/90	10	PHT	Bis(2-Ethylhexyl) Phthalate	0.048 M	0.0471	1.0	
B-5	SB	B-5	02/07/90	10	PAH	Benzo(a)pyrene	0.099	0.005	20	
B-5	SB	B-5	02/07/90	10	PAH	Fluoranthene	0.21	0.161	1.3	
B-5	SB	B-5	02/07/90	10	PAH	Carcinogenic PAHs, ND*0.5	0.12065	0.005	24	
B-5	SB	B-5	02/07/90	10	VOC	Tetrachloroethene (PCE)	0.074	0.001	74	
B-6	SB	B-6	02/07/90	10	VOC	Methylene Chloride	0.048 B	0.0012	40	
B-6	SB	B-6	02/07/90	10	VOC	Tetrachloroethene (PCE)	0.35	0.001	350	
MW-2	SB	B2-8.5 (MW-2)	02/15/90	8.5	PAH	Benzo(a)pyrene	0.77	0.005	150	
MW-2	SB	B2-8.5 (MW-2)	02/15/90	8.5	PAH	Carcinogenic PAHs, ND*0.5	0.8363	0.005	170	

Table 7.1-8
RI Selected Screening Level Exceedances for Detected COPCs in Soil at Central Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
NGW302	MW	MW101B-9.5	03/02/92	10.5	MET	Mercury	0.1	0.07	1.4	
NGW302	MW	MW101B-9.5	03/02/92	10.5	PHT	Bis(2-Ethylhexyl) Phthalate	0.052 J	0.0471	1.1	
NGW302	MW	MW101B-9.5	03/02/92	10.5	VOC	Methylene Chloride	0.0023 B	0.0012	1.9	
NGW302	MW	MW101B-9.5	03/02/92	10.5	VOC	Tetrachloroethene (PCE)	0.0081	0.001	8.1	
NGW302	MW	MW101B-14.5	03/02/92	15.5	VOC	cis-1,2-Dichloroethene	0.014	0.0052	2.7	
NGW302	MW	MW101B-14.5	03/02/92	15.5	VOC	Methylene Chloride	0.0054 B	0.0012	4.5	
NGW302	MW	MW101B-27	03/02/92	28	VOC	Methylene Chloride	0.0028 B	0.0012	2.3	
NGW302	MW	MW101B-38.5	03/02/92	39.5	VOC	Methylene Chloride	0.0036 B	0.0012	3.0	
NGW304	MW	MW102B-10	03/04/92	11	MET	Copper	131	36	3.6	
NGW304	MW	MW102B-10	03/04/92	11	MET	Mercury	0.09	0.07	1.3	
NGW304	MW	MW102B-10	03/04/92	11	MET	Zinc	98.5	86	1.1	
NGW304	MW	MW102B-10	03/04/92	11	VOC	Methylene Chloride	0.0023 JB	0.0012	1.9	
NGW304	MW	MW102B-23	03/04/92	24	VOC	Methylene Chloride	0.0014 JB	0.0012	1.2	
NGW304	MW	MW102B-38	03/04/92	39	VOC	Methylene Chloride	0.0014 JB	0.0012	1.2	
NGW304	MW	MW102B-6	03/04/92	7	VOC	Methylene Chloride	0.0015 JB	0.0012	1.3	
NGW304	MW	MW102B-6	03/04/92	7	VOC	Tetrachloroethene (PCE)	0.0093	0.001	9.3	
NGW305	MW	RMW103A-5.0-5.5	01/17/94	5 - 5.5	VOC	cis-1,2-Dichloroethene	0.12	0.0052	23	
NGW305	MW	RMW103A-5.0-5.5	01/17/94	5 - 5.5	VOC	Tetrachloroethene (PCE)	0.02	0.001	20	
NGW305	MW	RMW103A-5.0-5.5	01/17/94	5 - 5.5	VOC	Trichloroethene (TCE)	0.008	0.001	8.0	
NGW306	MW	MW103B-10	03/03/92	11	MET	Copper	95.6	36	2.7	
NGW306	MW	MW103B-10	03/03/92	11	MET	Zinc	86.4	86	1.0	
NGW306	MW	MW103B-10	03/03/92	11	PAH	Carcinogenic PAHs, ND*0.5	0.05923	0.005	12	
NGW306	MW	MW103B-10	03/03/92	11	VOC	Methylene Chloride	0.0024 JB	0.0012	2.0	
NGW306	MW	MW103B-25	03/03/92	26	VOC	Methylene Chloride	0.0016 JB	0.0012	1.3	
NGW306	MW	MW103B-25	03/03/92	26	VOC	Tetrachloroethene (PCE)	0.0072	0.001	7.2	
NGW306	MW	MW103B-38.5	03/03/92	39.5	VOC	Methylene Chloride	0.0022 JB	0.0012	1.8	
NGW306	MW	MW103B-6	03/03/92	7	VOC	Methylene Chloride	0.0015 JB	0.0012	1.3	
NGW306	MW	MW103B-6	03/03/92	7	VOC	Tetrachloroethene (PCE)	0.18	0.001	180	
NGW306	MW	MW103B-6	03/03/92	7	VOC	Trichloroethene (TCE)	0.0066	0.001	6.6	
NGW307	MW	MW104A-9.5	03/03/92	10.5	MET	Copper	43.9	36	1.2	
NGW307	MW	MW104A-9.5	03/03/92	10.5	MET	Mercury	0.14	0.07	2.0	
NGW307	MW	MW104A-9.5	03/03/92	10.5	VOC	Methylene Chloride	0.0031 B	0.0012	2.6	
NGW307	MW	MW104A-14	03/03/92	15	VOC	Methylene Chloride	0.0021 JB	0.0012	1.8	
NGW307	MW	MW104A-14	03/03/92	15	VOC	Tetrachloroethene (PCE)	0.048	0.001	48	
NGW307	MW	MW104A-14	03/03/92	15	VOC	Trichloroethene (TCE)	0.0028	0.001	2.8	
NGW307	MW	MW104A-7	03/03/92	8	VOC	cis-1,2-Dichloroethene	0.037	0.0052	7.1	
NGW307	MW	MW104A-7	03/03/92	8	VOC	Methylene Chloride	0.0028 B	0.0012	2.3	

Table 7.1-8
RI Selected Screening Level Exceedances for Detected COPCs in Soil at Central Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
NGW307	MW	RMW104A-6.0-6.5	01/17/94	6 - 6.5	VOC	cis-1,2-Dichloroethene	0.32	0.0052	62	
NGW307	MW	RMW104A-6.0-6.5	01/17/94	6 - 6.5	VOC	Tetrachloroethene (PCE)	0.085	0.001	85	
NGW307	MW	RMW104A-6.0-6.5	01/17/94	6 - 6.5	VOC	Trichloroethene (TCE)	0.07	0.001	70	
NGW308	MW	MW105A-9.5	03/04/92	10.5	MET	Arsenic	10	7.0	1.4	
NGW308	MW	MW105A-9.5	03/04/92	10.5	MET	Copper	46.9	36	1.3	
NGW308	MW	MW105A-9.5	03/04/92	10.5	MET	Mercury	0.09	0.07	1.3	
NGW308	MW	MW105A-9.5	03/04/92	10.5	VOC	Methylene Chloride	0.0029 B	0.0012	2.4	
NGW308	MW	MW105A-14.5	03/04/92	15.5	VOC	Methylene Chloride	0.0063 B	0.0012	5.3	
NGW308	MW	MW105A-6.5	03/04/92	7.5	VOC	Methylene Chloride	0.0035 B	0.0012	2.9	
NGW308	MW	MW105A-6.5	03/04/92	7.5	VOC	Tetrachloroethene (PCE)	0.0027	0.001	2.7	
Building 3-818 Area										
No detected exceedances										
Main Fuel Farm Area										
B-7	SB	NBF-C-B7 E4	08/22/91	4	VOC	Methylene Chloride	0.011 B	0.0012	9.2	
B-8	SB	NBF-C-B8 E4	08/22/91	4	VOC	Methylene Chloride	0.0035 B	0.0012	2.9	
EW6	EX	BMFF-EW6@4'	07/01/94	4	TPH	Gasoline Range Hydrocarbons	4,500	30	150	
EW6	EX	BMFF-EW6@4'	07/01/94	4	TPH	Diesel Range Hydrocarbons	4,100	2,000	2.1	
EW6	EX	BMFF-EW6@4'	07/01/94	4	PAH	2-Methylnaphthalene	1.1 M	0.0432	25	
EW6	EX	BMFF-EW6@4'	07/01/94	4	VOC	Methylene Chloride	0.31 B	0.0012	260	
EW8	EX	BMFF-EW8@8	07/01/94	8	TPH	Gasoline Range Hydrocarbons	1,500	30	50	
MW-13	SB	NBF-MF-13	04/29/86	10	TPH	Jet Fuel	2,500	2,000	1.3	
MW-19	SB	NBF-MF-19	04/28/86	3	TPH	Jet Fuel	4,170	2,000	2.1	
NW28	EX	BMFF-NW28@8'	07/22/94	8	TPH	Gasoline Range Hydrocarbons	310	30	10	
NWW	EX	BMFF-NWW@4'	06/29/94	4	TPH	Gasoline Range Hydrocarbons	39	30	1.3	
NWW	EX	BMFF-NWW@4'	06/29/94	4	BTX	Benzene	0.0098	0.001	9.8	
NWW	EX	BMFF-NWW@8'	06/29/94	8	TPH	Gasoline Range Hydrocarbons	710	30	24	
NWW	EX	BMFF-NWW@8'	06/29/94	8	PAH	2-Methylnaphthalene	1.3	0.0432	30	
NWW	EX	BMFF-NWW@8'	06/29/94	8	VOC	Methylene Chloride	0.41 B	0.0012	340	
SW16	EX	BMFF-SW16@8	07/11/94	8	TPH	Gasoline Range Hydrocarbons	6,100	30	200	
SW16	EX	BMFF-SW16@8	07/11/94	8	TPH	Diesel Range Hydrocarbons	6,600	2,000	3.3	
SW21	EX	BMFF-SW21@8	07/14/94	8	TPH	Diesel Range Hydrocarbons	18,000	2,000	9.0	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	Benzo(g,h,i)perylene	0.87	0.031	28	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	Benzo(a)pyrene	4.3	0.005	860	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	Fluoranthene	22	0.161	140	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	2-Methylnaphthalene	15 M	0.0432	350	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	Naphthalene	9.2 M	3.6	2.6	
SW21	EX	BMFF-SW21@8	07/14/94	8	PAH	Carcinogenic PAHs, ND*0.5	6.226	0.005	1,200	

Table 7.1-8
RI Selected Screening Level Exceedances for Detected COPCs in Soil at Central Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
SW21	EX	BMFF-SW21@8	07/14/94	8	VOC	Methylene Chloride	0.011 B	0.0012	9.2	
WW19	EX	BMFF-WW19@7	07/14/94	7	TPH	Gasoline Range Hydrocarbons	320	30	11	
WW19	EX	BMFF-WW19@7	07/14/94	7	PAH	Benzo(a)pyrene	0.19	0.005	38	
WW19	EX	BMFF-WW19@7	07/14/94	7	PAH	Fluoranthene	0.82	0.161	5.1	
WW19	EX	BMFF-WW19@7	07/14/94	7	PAH	Carcinogenic PAHs, ND*0.5	0.2782	0.005	56	
WW19	EX	BMFF-WW19@7	07/14/94	7	VOC	Methylene Chloride	0.044 B	0.0012	37	
Concourse C Area										
B-1	SB	NBF-C-B1 E2	08/22/91	2	VOC	Methylene Chloride	1.6 B	0.0012	1,300	Removed
B-1	SB	NBF-C-B1 E4	08/22/91	4	VOC	Methylene Chloride	0.0075 B	0.0012	6.3	Removed
B-1	SB	NBF-C-B1 E6	08/22/91	6	BTX	Benzene	0.17	0.001	170	Removed
B-1	SB	NBF-C-B1 E6	08/22/91	6	VOC	Methylene Chloride	0.01 B	0.0012	8.3	Removed
B-1-90	SB	B-1 1&2-A Composite	09/06/90	1 - 6	TPH	Diesel Range Hydrocarbons	5,500	2,000	2.8	Removed
B-1-90	SB	B-1 1&2-A Composite	09/06/90	1 - 6	VOC	Methylene Chloride	0.089 B	0.0012	74	Removed
B-1-90	SB	B-1 1&2-A Composite	09/06/90	1 - 6	VOC	Tetrachloroethene (PCE)	0.0017	0.001	1.7	Removed
B-2	SB	NBF-C-B2 E4	08/22/91	4	TPH	Diesel Range Hydrocarbons	2,500	2,000	1.3	Removed
B-2	SB	NBF-C-B2 E4	08/22/91	4	VOC	Methylene Chloride	6.8 B	0.0012	5,700	Removed
B-2	SB	NBF-C-B2 E6	08/22/91	6	BTX	Benzene	0.0081	0.001	8.1	Removed
B-2	SB	NBF-C-B2 E6	08/22/91	6	VOC	Methylene Chloride	0.018 B	0.0012	15	Removed
B-2-90	SB	B-2 2&3-A Composite	09/06/90	1 - 6	VOC	Methylene Chloride	0.0014 JB	0.0012	1.2	
B-3	SB	NBF-C-B3 E6	08/22/91	6	VOC	Methylene Chloride	0.0038 B	0.0012	3.2	Removed
B-4	SB	NBF-C-B4 E4	08/22/91	4	VOC	Methylene Chloride	0.0023 JB	0.0012	1.9	Removed
B-4	SB	NBF-C-B4 E6	08/22/91	6	VOC	Methylene Chloride	0.0043 B	0.0012	3.6	Removed
B-4	SB	NBF-C-B4 E8	08/22/91	8	VOC	Methylene Chloride	0.0033 B	0.0012	2.8	Removed
B-5	SB	NBF-C-B5 E4	08/22/91	4	VOC	Methylene Chloride	0.0065 B	0.0012	5.4	Removed
B-6	SB	NBF-C-B6 E4	08/22/91	4	VOC	Methylene Chloride	0.0066 B	0.0012	5.5	
HA-15	SB	NBFC-HA-15-03'	10/09/91	3	TPH	Diesel Range Hydrocarbons	4,400	2,000	2.2	Removed
Concourse B Area										
No detected exceedances										

B = Possible or probable blank contamination
BTX = BTEX
EX = Excavation
J = Estimated value
M = Estimated value of analyte with low spectral match parameters
MET = Metals
MW = Monitoring well
NA = Not available

PAH = Polycyclic aromatic hydrocarbons
PHT = Phthalates
RISL = RI Selected Screening Level
SB = Soil boring
SS = Surface soil
TP = Test pit
TPH = Total petroleum hydrocarbons
VOC = Volatile organic compounds

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
Building 3-801 Area								
MW-3	MW	MW-3	09/04/91	MET	Antimony	21	3.87	5.4
MW-3	MW	MW-3	09/04/91	MET	Arsenic	6.4	5.0	1.3
MW-3	MW	MW-3	09/04/91	MET	Copper	40	1.3	31
MW-3	MW	MW-3	09/04/91	MET	Lead	2.8	2.5	1.1
MW-4	MW	MW-4	09/04/91	MET	Antimony	57	3.87	15
MW-4	MW	MW-4	07/11/91	MET	Arsenic	170	5.0	34
MW-4	MW	MW-4	09/04/91	MET	Arsenic	6.5	5.0	1.3
MW-4	MW	MW-4	07/11/91	MET	Copper	20	1.3	15
MW-4	MW	MW-4	09/04/91	MET	Copper	33	1.3	25
MW-4	MW	MW-4	07/11/91	MET	Lead	5	2.5	2.0
MW-4	MW	MW-4	09/04/91	MET	Lead	8.1	2.5	3.2
MW-4	MW	MW-4	09/04/91	MET	Zinc	65	32.6	2.0
Building 3-800 Area								
MW-1	MW	MW-1	02/16/90	VOC	Tetrachloroethene (PCE)	97	0.2	490
MW-1	MW	MW-1	02/16/90	VOC	Trichloroethene (TCE)	380	0.74	510
MW-1	MW	MW-1	02/16/90	VOC	Vinyl Chloride	64	0.2	320
MW-2	MW	MW-2	02/16/90	VOC	1,1-Dichloroethene	25	7.0	3.6
MW-2	MW	MW-2	02/16/90	VOC	Tetrachloroethene (PCE)	62	0.2	310
MW-2	MW	MW-2	02/16/90	VOC	Trichloroethene (TCE)	350	0.74	470
MW-2	MW	MW-2	02/16/90	VOC	Vinyl Chloride	230	0.2	1,200
MW-5A	MW	MW-5A	03/06/90	VOC	Vinyl Chloride	59	0.2	300
NGW301	MW	MW101A	03/09/92	MET	Arsenic	8	5.0	1.6
NGW301	MW	MW101A	10/06/92	MET	Arsenic	12	5.0	2.4
NGW301	MW	NGW301	08/18/02	MET	Arsenic	12	5.0	2.4
NGW301	MW	MW101A	07/22/93	MET	Cadmium	5	0.21	24
NGW301	MW	MW101A	10/06/92	MET	Chromium	300	100	3.0
NGW301	MW	MW101A	03/09/92	MET	Copper	125	1.3	96
NGW301	MW	MW101A	03/09/92	MET	Lead	22	2.5	8.8
NGW301	MW	MW101A	10/06/92	MET	Lead	68	2.5	27
NGW301	MW	MW101A	07/22/93	MET	Lead	3	2.5	1.2
NGW301	MW	MW-101A	02/24/98	MET	Lead	5	2.5	2.0
NGW301	MW	MW-101A-Dup	07/28/98	MET	Lead	4	2.5	1.6
NGW301	MW	MW101A	03/09/92	MET	Mercury	0.2	0.02	10
NGW301	MW	MW101A	10/06/92	MET	Mercury	0.7	0.02	35
NGW301	MW	MW101A	03/09/92	MET	Nickel	50	8.2	6.1

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW301	MW	MW101A	03/09/92	MET	Zinc	157	32.6	4.8
NGW301	MW	MW101A	03/09/92	VOC	cis-1,2-Dichloroethene	79	10	7.9
NGW301	MW	MW101A	10/06/92	VOC	cis-1,2-Dichloroethene	180	10	18
NGW301	MW	MW101A	10/27/93	VOC	cis-1,2-Dichloroethene	75	10	7.5
NGW301	MW	MW101A	01/24/94	VOC	cis-1,2-Dichloroethene	60	10	6.0
NGW301	MW	MW101A	04/19/94	VOC	cis-1,2-Dichloroethene	100	10	10
NGW301	MW	MW101A	07/19/94	VOC	cis-1,2-Dichloroethene	180	10	18
NGW301	MW	MW101A	10/20/94	VOC	cis-1,2-Dichloroethene	150	10	15
NGW301	MW	MW101A	01/23/95	VOC	cis-1,2-Dichloroethene	54	10	5.4
NGW301	MW	MW101A	09/18/95	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW301	MW	MW101A	03/27/96	VOC	cis-1,2-Dichloroethene	26	10	2.6
NGW301	MW	NGW301/MW101A	09/10/96	VOC	cis-1,2-Dichloroethene	36	10	3.6
NGW301	MW	NGW301/MW101A	03/18/97	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW301	MW	MW-101A	07/28/98	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW301	MW	NGW301	07/24/00	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW301	MW	NGW301	02/18/01	VOC	cis-1,2-Dichloroethene	58	10	5.8
NGW301	MW	NGW301	02/18/02	VOC	cis-1,2-Dichloroethene	37	10	3.7
NGW301	MW	NGW301	08/18/02	VOC	cis-1,2-Dichloroethene	39	10	3.9
NGW301	MW	NGW301	02/17/03	VOC	cis-1,2-Dichloroethene	39	10	3.9
NGW301	MW	NGW301	07/10/03	VOC	cis-1,2-Dichloroethene	55	10	5.5
NGW301	MW	NGW301-Dup	02/09/04	VOC	cis-1,2-Dichloroethene	28	10	2.8
NGW301	MW	NGW301	08/06/04	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW301	MW	NGW301	02/07/05	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW301	MW	NGW301	08/18/05	VOC	cis-1,2-Dichloroethene	43	10	4.3
NGW301	MW	NGW301	02/20/06	VOC	cis-1,2-Dichloroethene	32	10	3.2
NGW301	MW	NGW301	08/14/06	VOC	cis-1,2-Dichloroethene	26	10	2.6
NGW301	MW	NGW301	02/20/07	VOC	cis-1,2-Dichloroethene	24	10	2.4
NGW301	MW	NGW301	08/20/07	VOC	cis-1,2-Dichloroethene	52	10	5.2
NGW301	MW	NGW301	02/19/08	VOC	cis-1,2-Dichloroethene	60	10	6.0
NGW301	MW	NGW301	08/20/08	VOC	cis-1,2-Dichloroethene	140	10	14
NGW301	MW	NGW301	02/12/09	VOC	cis-1,2-Dichloroethene	50	10	5.0
NGW301	MW	NGW301	02/18/10	VOC	cis-1,2-Dichloroethene	30	10	3.0
NGW301	MW	NGW301	08/18/10	VOC	cis-1,2-Dichloroethene	24	10	2.4
NGW301	MW	NGW301	02/18/01	VOC	Methylene Chloride	6.3	5.0	1.3
NGW301	MW	MW101A	03/09/92	VOC	Tetrachloroethene (PCE)	240	0.2	1,200
NGW301	MW	MW101A	10/06/92	VOC	Tetrachloroethene (PCE)	120	0.2	600
NGW301	MW	MW101A	07/22/93	VOC	Tetrachloroethene (PCE)	0.7 J	0.2	3.5

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW301	MW	MW101A	10/27/93	VOC	Tetrachloroethene (PCE)	30	0.2	150
NGW301	MW	MW101A	01/24/94	VOC	Tetrachloroethene (PCE)	130	0.2	650
NGW301	MW	MW101A	04/19/94	VOC	Tetrachloroethene (PCE)	240	0.2	1,200
NGW301	MW	MW101A	07/19/94	VOC	Tetrachloroethene (PCE)	190	0.2	950
NGW301	MW	MW101A	10/20/94	VOC	Tetrachloroethene (PCE)	50	0.2	250
NGW301	MW	MW101A	01/23/95	VOC	Tetrachloroethene (PCE)	210	0.2	1,100
NGW301	MW	MW101A	09/18/95	VOC	Tetrachloroethene (PCE)	26	0.2	130
NGW301	MW	MW101A	03/27/96	VOC	Tetrachloroethene (PCE)	92	0.2	460
NGW301	MW	NGW301/MW101A	09/10/96	VOC	Tetrachloroethene (PCE)	83	0.2	420
NGW301	MW	NGW301/MW101A	03/18/97	VOC	Tetrachloroethene (PCE)	54	0.2	270
NGW301	MW	NGW301/MW101A	08/27/97	VOC	Tetrachloroethene (PCE)	28	0.2	140
NGW301	MW	MW-101A	02/24/98	VOC	Tetrachloroethene (PCE)	25	0.2	130
NGW301	MW	MW-101A-Dup	07/28/98	VOC	Tetrachloroethene (PCE)	38	0.2	190
NGW301	MW	NGW301	01/18/99	VOC	Tetrachloroethene (PCE)	42	0.2	210
NGW301	MW	NGW301	07/19/99	VOC	Tetrachloroethene (PCE)	42	0.2	210
NGW301	MW	NGW301	02/21/00	VOC	Tetrachloroethene (PCE)	41	0.2	210
NGW301	MW	NGW301	07/24/00	VOC	Tetrachloroethene (PCE)	51	0.2	260
NGW301	MW	NGW301	02/18/01	VOC	Tetrachloroethene (PCE)	72	0.2	360
NGW301	MW	NGW301	08/20/01	VOC	Tetrachloroethene (PCE)	11	0.2	55
NGW301	MW	NGW301	02/18/02	VOC	Tetrachloroethene (PCE)	89	0.2	450
NGW301	MW	NGW301	08/18/02	VOC	Tetrachloroethene (PCE)	44	0.2	220
NGW301	MW	NGW301	02/17/03	VOC	Tetrachloroethene (PCE)	84	0.2	420
NGW301	MW	NGW301	07/10/03	VOC	Tetrachloroethene (PCE)	29	0.2	150
NGW301	MW	NGW301-Dup	02/09/04	VOC	Tetrachloroethene (PCE)	60	0.2	300
NGW301	MW	NGW301	08/06/04	VOC	Tetrachloroethene (PCE)	6.8	0.2	34
NGW301	MW	NGW301	02/07/05	VOC	Tetrachloroethene (PCE)	54	0.2	270
NGW301	MW	NGW301	08/18/05	VOC	Tetrachloroethene (PCE)	8	0.2	40
NGW301	MW	NGW301	02/20/06	VOC	Tetrachloroethene (PCE)	66	0.2	330
NGW301	MW	NGW301	08/14/06	VOC	Tetrachloroethene (PCE)	1.6	0.2	8.0
NGW301	MW	NGW301	02/20/07	VOC	Tetrachloroethene (PCE)	22	0.2	110
NGW301	MW	NGW301	08/20/07	VOC	Tetrachloroethene (PCE)	3.4	0.2	17
NGW301	MW	NGW301	02/19/08	VOC	Tetrachloroethene (PCE)	60	0.2	300
NGW301	MW	NGW301	08/20/08	VOC	Tetrachloroethene (PCE)	3.6	0.2	18
NGW301	MW	NGW301	02/12/09	VOC	Tetrachloroethene (PCE)	6.4	0.2	32
NGW301	MW	NGW301	02/18/10	VOC	Tetrachloroethene (PCE)	1.8	0.2	9.0
NGW301	MW	NGW301	08/18/10	VOC	Tetrachloroethene (PCE)	0.4	0.2	2.0
NGW301	MW	MW101A	03/09/92	VOC	Trichloroethene (TCE)	91	0.74	120

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW301	MW	MW101A	10/06/92	VOC	Trichloroethene (TCE)	130	0.74	180
NGW301	MW	MW101A	07/22/93	VOC	Trichloroethene (TCE)	1.1	0.74	1.5
NGW301	MW	MW101A	10/27/93	VOC	Trichloroethene (TCE)	54	0.74	73
NGW301	MW	MW101A	01/24/94	VOC	Trichloroethene (TCE)	60	0.74	81
NGW301	MW	MW101A	04/19/94	VOC	Trichloroethene (TCE)	120	0.74	160
NGW301	MW	MW101A	07/19/94	VOC	Trichloroethene (TCE)	160	0.74	220
NGW301	MW	MW101A	10/20/94	VOC	Trichloroethene (TCE)	80	0.74	110
NGW301	MW	MW101A	01/23/95	VOC	Trichloroethene (TCE)	69	0.74	93
NGW301	MW	MW101A	09/18/95	VOC	Trichloroethene (TCE)	11	0.74	15
NGW301	MW	MW101A	03/27/96	VOC	Trichloroethene (TCE)	14	0.74	19
NGW301	MW	NGW301/MW101A	09/10/96	VOC	Trichloroethene (TCE)	19	0.74	26
NGW301	MW	NGW301/MW101A	03/18/97	VOC	Trichloroethene (TCE)	5.9	0.74	8.0
NGW301	MW	NGW301/MW101A	08/27/97	VOC	Trichloroethene (TCE)	3.9	0.74	5.3
NGW301	MW	MW-101A	02/24/98	VOC	Trichloroethene (TCE)	2.6	0.74	3.5
NGW301	MW	MW-101A-Dup	07/28/98	VOC	Trichloroethene (TCE)	11	0.74	15
NGW301	MW	NGW301	01/18/99	VOC	Trichloroethene (TCE)	4.6	0.74	6.2
NGW301	MW	NGW301	07/19/99	VOC	Trichloroethene (TCE)	7.4	0.74	10
NGW301	MW	NGW301	02/21/00	VOC	Trichloroethene (TCE)	5.4	0.74	7.3
NGW301	MW	NGW301	07/24/00	VOC	Trichloroethene (TCE)	13	0.74	18
NGW301	MW	NGW301	02/18/01	VOC	Trichloroethene (TCE)	26	0.74	35
NGW301	MW	NGW301	08/20/01	VOC	Trichloroethene (TCE)	3.9	0.74	5.3
NGW301	MW	NGW301	02/18/02	VOC	Trichloroethene (TCE)	29	0.74	39
NGW301	MW	NGW301	08/18/02	VOC	Trichloroethene (TCE)	20	0.74	27
NGW301	MW	NGW301	02/17/03	VOC	Trichloroethene (TCE)	30	0.74	41
NGW301	MW	NGW301	07/10/03	VOC	Trichloroethene (TCE)	20	0.74	27
NGW301	MW	NGW301-Dup	02/09/04	VOC	Trichloroethene (TCE)	31	0.74	42
NGW301	MW	NGW301	08/06/04	VOC	Trichloroethene (TCE)	4.9	0.74	6.6
NGW301	MW	NGW301	02/07/05	VOC	Trichloroethene (TCE)	21	0.74	28
NGW301	MW	NGW301	08/18/05	VOC	Trichloroethene (TCE)	18	0.74	24
NGW301	MW	NGW301	02/20/06	VOC	Trichloroethene (TCE)	33	0.74	45
NGW301	MW	NGW301	08/14/06	VOC	Trichloroethene (TCE)	5.6	0.74	7.6
NGW301	MW	NGW301	02/20/07	VOC	Trichloroethene (TCE)	17	0.74	23
NGW301	MW	NGW301	08/20/07	VOC	Trichloroethene (TCE)	1.2	0.74	1.6
NGW301	MW	NGW301	02/19/08	VOC	Trichloroethene (TCE)	54	0.74	73
NGW301	MW	NGW301	08/20/08	VOC	Trichloroethene (TCE)	8	0.74	11
NGW301	MW	NGW301	02/12/09	VOC	Trichloroethene (TCE)	19	0.74	26
NGW301	MW	MW101A	03/09/92	VOC	Vinyl Chloride	51	0.2	260

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW301	MW	MW101A	10/06/92	VOC	Vinyl Chloride	29	0.2	150
NGW301	MW	MW101A	07/22/93	VOC	Vinyl Chloride	2.9	0.2	15
NGW301	MW	MW101A	10/27/93	VOC	Vinyl Chloride	38	0.2	190
NGW301	MW	MW101A	01/24/94	VOC	Vinyl Chloride	15	0.2	75
NGW301	MW	MW101A	04/19/94	VOC	Vinyl Chloride	2.8	0.2	14
NGW301	MW	MW101A	07/19/94	VOC	Vinyl Chloride	18	0.2	90
NGW301	MW	MW101A	10/20/94	VOC	Vinyl Chloride	22	0.2	110
NGW301	MW	MW101A	01/23/95	VOC	Vinyl Chloride	1.5	0.2	7.5
NGW301	MW	MW101A	09/18/95	VOC	Vinyl Chloride	2.3	0.2	12
NGW301	MW	MW101A	03/27/96	VOC	Vinyl Chloride	0.96	0.2	4.8
NGW301	MW	NGW301/MW101A	09/10/96	VOC	Vinyl Chloride	4.1	0.2	21
NGW301	MW	MW-101A	07/28/98	VOC	Vinyl Chloride	0.32	0.2	1.6
NGW301	MW	NGW301	07/19/99	VOC	Vinyl Chloride	0.7 J	0.2	3.5
NGW301	MW	NGW301	07/24/00	VOC	Vinyl Chloride	5.3	0.2	27
NGW301	MW	NGW301	02/18/01	VOC	Vinyl Chloride	6.2	0.2	31
NGW301	MW	NGW301	08/20/01	VOC	Vinyl Chloride	1.9	0.2	9.5
NGW301	MW	NGW301	02/18/02	VOC	Vinyl Chloride	2.2	0.2	11
NGW301	MW	NGW301	08/18/02	VOC	Vinyl Chloride	4.4	0.2	22
NGW301	MW	NGW301	02/17/03	VOC	Vinyl Chloride	1.9	0.2	9.5
NGW301	MW	NGW301	07/10/03	VOC	Vinyl Chloride	4.7	0.2	24
NGW301	MW	NGW301	08/06/04	VOC	Vinyl Chloride	1.9	0.2	9.5
NGW301	MW	NGW301	08/18/05	VOC	Vinyl Chloride	1.3	0.2	6.5
NGW301	MW	NGW301	02/20/07	VOC	Vinyl Chloride	1.5	0.2	7.5
NGW301	MW	NGW301	08/20/07	VOC	Vinyl Chloride	1.8	0.2	9.0
NGW301	MW	NGW301	02/19/08	VOC	Vinyl Chloride	2.1	0.2	11
NGW301	MW	NGW301	08/20/08	VOC	Vinyl Chloride	6.1	0.2	31
NGW301	MW	NGW301	02/12/09	VOC	Vinyl Chloride	1.4	0.2	7.0
NGW301	MW	NGW301	02/18/10	VOC	Vinyl Chloride	4.5	0.2	23
NGW301	MW	NGW301	08/18/10	VOC	Vinyl Chloride	10	0.2	50
NGW302	MW	MW101B	10/06/92	MET	Cadmium	34	0.21	160
NGW302	MW	MW101B	07/22/93	MET	Cadmium	6	0.21	29
NGW302	MW	MW101B	10/27/93	MET	Cadmium	2	0.21	9.5
NGW302	MW	MW101B	03/09/92	MET	Copper	57	1.3	44
NGW302	MW	MW101B	03/09/92	MET	Lead	12	2.5	4.8
NGW302	MW	MW101B	10/06/92	MET	Lead	11	2.5	4.4
NGW302	MW	MW101B	07/22/93	MET	Lead	4	2.5	1.6
NGW302	MW	MW101B	10/27/93	MET	Lead	3	2.5	1.2

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW302	MW	NGW302/MW-101B	09/10/96	MET	Lead	3	2.5	1.2
NGW302	MW	MW101B	03/09/92	MET	Mercury	0.1	0.02	5.0
NGW302	MW	MW101B	03/09/92	MET	Nickel	50	8.2	6.1
NGW302	MW	MW101B	03/09/92	MET	Zinc	73	32.6	2.2
NGW302	MW	NBF800-MW101B	03/16/92	PAH	Carcinogenic PAHs, ND*0.5	0.0885	0.071	1.2
NGW302	MW	NGW302	02/18/01	VOC	Methylene Chloride	6.4	5.0	1.3
NGW302	MW	MW101B	07/19/94	VOC	Tetrachloroethene (PCE)	4.7	0.2	24
NGW302	MW	MW101B	07/19/94	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW302	MW	MW101B	04/19/94	VOC	Vinyl Chloride	1.1	0.2	5.5
NGW302	MW	MW101B	07/19/94	VOC	Vinyl Chloride	14	0.2	70
NGW302	MW	MW101B	03/27/96	VOC	Vinyl Chloride	0.43	0.2	2.2
NGW302	MW	NGW302/MW-101B	03/18/97	VOC	Vinyl Chloride	0.26	0.2	1.3
NGW302	MW	NGW302/MW-101B	08/27/97	VOC	Vinyl Chloride	0.3	0.2	1.5
NGW303	MW	MW102A	03/09/92	MET	Arsenic	21	5.0	4.2
NGW303	MW	MW102A	10/06/92	MET	Arsenic	10	5.0	2.0
NGW303	MW	NGW303/MW-102A	08/27/97	MET	Arsenic	6	5.0	1.2
NGW303	MW	MW102A	03/09/92	MET	Beryllium	5	4.0	1.3
NGW303	MW	MW102A	03/09/92	MET	Cadmium	3	0.21	14
NGW303	MW	MW102A	10/06/92	MET	Cadmium	6	0.21	29
NGW303	MW	MW102A	07/22/93	MET	Cadmium	10	0.21	48
NGW303	MW	MW102A	10/27/93	MET	Cadmium	8	0.21	38
NGW303	MW	MW102A	01/24/94	MET	Cadmium	7	0.21	33
NGW303	MW	MW102A	03/09/92	MET	Chromium	346	100	3.5
NGW303	MW	MW102A	10/06/92	MET	Chromium	216	100	2.2
NGW303	MW	MW102A	03/09/92	MET	Copper	457	1.3	350
NGW303	MW	MW102A	03/09/92	MET	Lead	94.4	2.5	38
NGW303	MW	MW102A	10/06/92	MET	Lead	67	2.5	27
NGW303	MW	MW102A	10/27/93	MET	Lead	4	2.5	1.6
NGW303	MW	MW102A	01/24/94	MET	Lead	5	2.5	2.0
NGW303	MW	NGW303/MW-102A	09/10/96	MET	Lead	3	2.5	1.2
NGW303	MW	MW102A	03/09/92	MET	Mercury	0.6	0.02	30
NGW303	MW	MW102A	10/06/92	MET	Mercury	0.5	0.02	25
NGW303	MW	MW102A	03/09/92	MET	Nickel	200	8.2	24
NGW303	MW	MW102A	03/09/92	MET	Silver	4	1.53	2.6
NGW303	MW	MW102A	03/09/92	MET	Zinc	489	32.6	15
NGW303	MW	MW102A	03/09/92	VOC	cis-1,2-Dichloroethene	190	10	19
NGW303	MW	MW102A	10/06/92	VOC	cis-1,2-Dichloroethene	130	10	13

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW303	MW	MW102A	07/22/93	VOC	cis-1,2-Dichloroethene	73	10	7.3
NGW303	MW	MW102A	10/27/93	VOC	cis-1,2-Dichloroethene	56	10	5.6
NGW303	MW	MW102A	01/24/94	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW303	MW	MW102A	04/19/94	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW303	MW	MW102A	01/23/95	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW303	MW	MW102A	03/27/96	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW303	MW	NGW303/MW-102A	03/18/97	VOC	cis-1,2-Dichloroethene	11	10	1.1
NGW303	MW	NGW303/MW-102A	08/27/97	VOC	cis-1,2-Dichloroethene	55	10	5.5
NGW303	MW	MW-102A	07/28/98	VOC	cis-1,2-Dichloroethene	14	10	1.4
NGW303	MW	NGW303	02/21/00	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW303	MW	NGW303	02/18/01	VOC	Methylene Chloride	6.3	5.0	1.3
NGW303	MW	MW102A	03/09/92	VOC	Tetrachloroethene (PCE)	2	0.2	10
NGW303	MW	MW102A	10/06/92	VOC	Tetrachloroethene (PCE)	4.4	0.2	22
NGW303	MW	MW102A	07/22/93	VOC	Tetrachloroethene (PCE)	8.5	0.2	43
NGW303	MW	MW102A	10/27/93	VOC	Tetrachloroethene (PCE)	7.6	0.2	38
NGW303	MW	MW102A	01/24/94	VOC	Tetrachloroethene (PCE)	34	0.2	170
NGW303	MW	MW102A	04/19/94	VOC	Tetrachloroethene (PCE)	9.4	0.2	47
NGW303	MW	MW102A	10/20/94	VOC	Tetrachloroethene (PCE)	5.1	0.2	26
NGW303	MW	MW102A	01/23/95	VOC	Tetrachloroethene (PCE)	15	0.2	75
NGW303	MW	MW102A	09/18/95	VOC	Tetrachloroethene (PCE)	1.6	0.2	8.0
NGW303	MW	MW102A	03/27/96	VOC	Tetrachloroethene (PCE)	2.2	0.2	11
NGW303	MW	NGW303/MW-102A	09/10/96	VOC	Tetrachloroethene (PCE)	1.5	0.2	7.5
NGW303	MW	NGW303/MW-102A	03/18/97	VOC	Tetrachloroethene (PCE)	52	0.2	260
NGW303	MW	NGW303/MW-102A	08/27/97	VOC	Tetrachloroethene (PCE)	4.4	0.2	22
NGW303	MW	MW-102A	02/24/98	VOC	Tetrachloroethene (PCE)	21	0.2	110
NGW303	MW	MW-102A	07/28/98	VOC	Tetrachloroethene (PCE)	2.3	0.2	12
NGW303	MW	NGW303	01/18/99	VOC	Tetrachloroethene (PCE)	7.6	0.2	38
NGW303	MW	NGW303	07/19/99	VOC	Tetrachloroethene (PCE)	1.7	0.2	8.5
NGW303	MW	NGW303	02/21/00	VOC	Tetrachloroethene (PCE)	2.1	0.2	11
NGW303	MW	NGW303	07/24/00	VOC	Tetrachloroethene (PCE)	2.1	0.2	11
NGW303	MW	NGW303	02/18/01	VOC	Tetrachloroethene (PCE)	1.4	0.2	7.0
NGW303	MW	NGW303	08/20/01	VOC	Tetrachloroethene (PCE)	1.8	0.2	9.0
NGW303	MW	NGW303	02/18/02	VOC	Tetrachloroethene (PCE)	6.2	0.2	31
NGW303	MW	NGW303	08/18/02	VOC	Tetrachloroethene (PCE)	1.9	0.2	9.5
NGW303	MW	MW102A	03/09/92	VOC	Trichloroethene (TCE)	3.5	0.74	4.7
NGW303	MW	MW102A	10/06/92	VOC	Trichloroethene (TCE)	2	0.74	2.7
NGW303	MW	MW102A	07/22/93	VOC	Trichloroethene (TCE)	3	0.74	4.1

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW303	MW	MW102A	10/27/93	VOC	Trichloroethene (TCE)	3.6	0.74	4.9
NGW303	MW	MW102A	01/24/94	VOC	Trichloroethene (TCE)	8.1	0.74	11
NGW303	MW	MW102A	04/19/94	VOC	Trichloroethene (TCE)	2.9	0.74	3.9
NGW303	MW	MW102A	10/20/94	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW303	MW	MW102A	01/23/95	VOC	Trichloroethene (TCE)	3.6	0.74	4.9
NGW303	MW	MW102A	03/27/96	VOC	Trichloroethene (TCE)	1.2	0.74	1.6
NGW303	MW	NGW303/MW-102A	03/18/97	VOC	Trichloroethene (TCE)	5.3	0.74	7.2
NGW303	MW	NGW303/MW-102A	08/27/97	VOC	Trichloroethene (TCE)	3.2	0.74	4.3
NGW303	MW	MW-102A	02/24/98	VOC	Trichloroethene (TCE)	6.2	0.74	8.4
NGW303	MW	MW-102A	07/28/98	VOC	Trichloroethene (TCE)	2.5	0.74	3.4
NGW303	MW	NGW303	01/18/99	VOC	Trichloroethene (TCE)	13	0.74	18
NGW303	MW	NGW303	07/19/99	VOC	Trichloroethene (TCE)	1.3	0.74	1.8
NGW303	MW	NGW303	02/18/02	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW303	MW	MW102A	03/09/92	VOC	Vinyl Chloride	99	0.2	500
NGW303	MW	MW102A	10/06/92	VOC	Vinyl Chloride	55	0.2	280
NGW303	MW	MW102A	07/22/93	VOC	Vinyl Chloride	52	0.2	260
NGW303	MW	MW102A	10/27/93	VOC	Vinyl Chloride	70	0.2	350
NGW303	MW	MW102A	01/24/94	VOC	Vinyl Chloride	68	0.2	340
NGW303	MW	MW102A	04/19/94	VOC	Vinyl Chloride	39	0.2	200
NGW303	MW	MW102A	10/20/94	VOC	Vinyl Chloride	8.6	0.2	43
NGW303	MW	MW102A	01/23/95	VOC	Vinyl Chloride	4.6	0.2	23
NGW303	MW	MW102A	09/18/95	VOC	Vinyl Chloride	2	0.2	10
NGW303	MW	MW102A	03/27/96	VOC	Vinyl Chloride	65	0.2	330
NGW303	MW	NGW303/MW-102A	09/10/96	VOC	Vinyl Chloride	35	0.2	180
NGW303	MW	NGW303/MW-102A	03/18/97	VOC	Vinyl Chloride	6.4	0.2	32
NGW303	MW	NGW303/MW-102A	08/27/97	VOC	Vinyl Chloride	170	0.2	850
NGW303	MW	MW-102A	02/24/98	VOC	Vinyl Chloride	5.8	0.2	29
NGW303	MW	MW-102A	07/28/98	VOC	Vinyl Chloride	23	0.2	120
NGW303	MW	NGW303	01/18/99	VOC	Vinyl Chloride	2.6	0.2	13
NGW303	MW	NGW303	07/19/99	VOC	Vinyl Chloride	8.8	0.2	44
NGW303	MW	NGW303-Dup	02/21/00	VOC	Vinyl Chloride	5.4	0.2	27
NGW303	MW	NGW303	07/24/00	VOC	Vinyl Chloride	24	0.2	120
NGW303	MW	NGW303	02/18/01	VOC	Vinyl Chloride	1	0.2	5.0
NGW303	MW	NGW303	08/20/01	VOC	Vinyl Chloride	1.2	0.2	6.0
NGW303	MW	NGW303	02/18/02	VOC	Vinyl Chloride	0.99	0.2	5.0
NGW303	MW	NGW303	08/18/02	VOC	Vinyl Chloride	1.7	0.2	8.5
NGW304	MW	MW102B	03/09/92	MET	Cadmium	3	0.21	14

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW304	MW	MW102B	10/06/92	MET	Cadmium	5	0.21	24
NGW304	MW	MW102B	10/27/93	MET	Cadmium	4	0.21	19
NGW304	MW	MW102B	03/09/92	MET	Chromium	101	100	1.0
NGW304	MW	MW102B	03/09/92	MET	Copper	46	1.3	35
NGW304	MW	MW102B	03/09/92	MET	Lead	13	2.5	5.2
NGW304	MW	MW102B	10/06/92	MET	Lead	9	2.5	3.6
NGW304	MW	MW102B	07/22/93	MET	Lead	5	2.5	2.0
NGW304	MW	MW102B	10/27/93	MET	Lead	4	2.5	1.6
NGW304	MW	MW102B	01/24/94	MET	Lead	3	2.5	1.2
NGW304	MW	MW102B	03/09/92	MET	Nickel	130	8.2	16
NGW304	MW	MW102B	03/09/92	MET	Zinc	96	32.6	2.9
NGW304	MW	MW102B	03/09/92	PHT	Bis(2-Ethylhexyl) Phthalate	18	1.0	18
NGW304	MW	MW102B	10/20/94	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW304	MW	NGW304	02/18/01	VOC	Methylene Chloride	6.5	5.0	1.3
NGW304	MW	MW102B	10/20/94	VOC	Tetrachloroethene (PCE)	11	0.2	55
NGW304	MW	MW102B	10/20/94	VOC	Trichloroethene (TCE)	14	0.74	19
NGW304	MW	MW102B	03/09/92	VOC	Vinyl Chloride	6.6	0.2	33
NGW304	MW	MW102B	04/19/94	VOC	Vinyl Chloride	0.44	0.2	2.2
NGW304	MW	MW102B	10/20/94	VOC	Vinyl Chloride	5.4	0.2	27
NGW305	MW	MW103A	10/06/92	MET	Arsenic	8	5.0	1.6
NGW305	MW	RMW103A	01/24/94	MET	Arsenic	8	5.0	1.6
NGW305	MW	NGW305/MW-103A	09/10/96	MET	Arsenic	6	5.0	1.2
NGW305	MW	NGW305/MW-103A	03/18/97	MET	Arsenic	8	5.0	1.6
NGW305	MW	NGW305/MW-103A	08/27/97	MET	Arsenic	6	5.0	1.2
NGW305	MW	MW-103A	02/24/98	MET	Arsenic	10	5.0	2.0
NGW305	MW	MW-103A	07/28/98	MET	Arsenic	12	5.0	2.4
NGW305	MW	NGW305	01/18/99	MET	Arsenic	9	5.0	1.8
NGW305	MW	NGW305	07/19/99	MET	Arsenic	6	5.0	1.2
NGW305	MW	NGW305	02/21/00	MET	Arsenic	9	5.0	1.8
NGW305	MW	NGW305-Dup	07/24/00	MET	Arsenic	8	5.0	1.6
NGW305	MW	MW103A	10/06/92	MET	Cadmium	10	0.21	48
NGW305	MW	MW103A	07/22/93	MET	Cadmium	5	0.21	24
NGW305	MW	MW103A	10/27/93	MET	Cadmium	3	0.21	14
NGW305	MW	RMW103A	01/24/94	MET	Cadmium	5	0.21	24
NGW305	MW	MW103A	10/06/92	MET	Chromium	204	100	2.0
NGW305	MW	MW-103A	02/24/98	MET	Chromium	139	100	1.4
NGW305	MW	MW103A	10/06/92	MET	Lead	50	2.5	20

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW305	MW	MW103A	07/22/93	MET	Lead	4	2.5	1.6
NGW305	MW	MW103A	10/27/93	MET	Lead	5	2.5	2.0
NGW305	MW	RMW103A	01/24/94	MET	Lead	3	2.5	1.2
NGW305	MW	RMW103A	04/19/94	MET	Lead	3	2.5	1.2
NGW305	MW	NGW305/MW-103A	09/10/96	MET	Lead	6	2.5	2.4
NGW305	MW	NGW305/MW-103A	03/18/97	MET	Lead	8	2.5	3.2
NGW305	MW	NGW305/MW-103A	08/27/97	MET	Lead	5	2.5	2.0
NGW305	MW	MW-103A	02/24/98	MET	Lead	17	2.5	6.8
NGW305	MW	MW-103A	07/28/98	MET	Lead	10	2.5	4.0
NGW305	MW	NGW305	01/18/99	MET	Lead	11	2.5	4.4
NGW305	MW	NGW305	07/19/99	MET	Lead	4	2.5	1.6
NGW305	MW	NGW305	02/21/00	MET	Lead	5	2.5	2.0
NGW305	MW	NGW305	07/24/00	MET	Lead	4	2.5	1.6
NGW305	MW	NGW305-Dup	08/18/02	MET	Lead	3	2.5	1.2
NGW305	MW	MW103A	10/06/92	MET	Mercury	5	0.02	250
NGW305	MW	RMW103A	01/24/94	MET	Mercury	0.1	0.02	5.0
NGW305	MW	NGW305	01/18/99	MET	Mercury	0.1	0.02	5.0
NGW305	MW	MW103A	03/09/92	VOC	cis-1,2-Dichloroethene	28	10	2.8
NGW305	MW	MW103A	10/27/93	VOC	cis-1,2-Dichloroethene	25	10	2.5
NGW305	MW	RMW103A	07/19/94	VOC	cis-1,2-Dichloroethene	17	10	1.7
NGW305	MW	RMW103A	10/20/94	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW305	MW	RMW103A	03/27/96	VOC	cis-1,2-Dichloroethene	73	10	7.3
NGW305	MW	NGW305/MW-103A	09/10/96	VOC	cis-1,2-Dichloroethene	54	10	5.4
NGW305	MW	NGW305/MW-103A	03/18/97	VOC	cis-1,2-Dichloroethene	75	10	7.5
NGW305	MW	NGW305-Dup	02/18/01	VOC	Methylene Chloride	7	5.0	1.4
NGW305	MW	MW103A	03/09/92	VOC	Tetrachloroethene (PCE)	19	0.2	95
NGW305	MW	MW103A	10/06/92	VOC	Tetrachloroethene (PCE)	38	0.2	190
NGW305	MW	MW103A	07/22/93	VOC	Tetrachloroethene (PCE)	43	0.2	220
NGW305	MW	MW103A	10/27/93	VOC	Tetrachloroethene (PCE)	35	0.2	180
NGW305	MW	RMW103A	01/24/94	VOC	Tetrachloroethene (PCE)	3.7	0.2	19
NGW305	MW	RMW103A	04/19/94	VOC	Tetrachloroethene (PCE)	12	0.2	60
NGW305	MW	RMW103A	07/19/94	VOC	Tetrachloroethene (PCE)	26	0.2	130
NGW305	MW	RMW103A	10/20/94	VOC	Tetrachloroethene (PCE)	11	0.2	55
NGW305	MW	RMW103A	01/23/95	VOC	Tetrachloroethene (PCE)	17	0.2	85
NGW305	MW	RMW103A	09/18/95	VOC	Tetrachloroethene (PCE)	2.2	0.2	11
NGW305	MW	RMW103A	03/27/96	VOC	Tetrachloroethene (PCE)	1.6	0.2	8.0
NGW305	MW	NGW305/MW-103A	09/10/96	VOC	Tetrachloroethene (PCE)	2.3	0.2	12

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW305	MW	NGW305/MW-103A	03/18/97	VOC	Tetrachloroethene (PCE)	3.6	0.2	18
NGW305	MW	NGW305/MW-103A	08/27/97	VOC	Tetrachloroethene (PCE)	1.4	0.2	7.0
NGW305	MW	MW-103A	02/24/98	VOC	Tetrachloroethene (PCE)	3	0.2	15
NGW305	MW	MW-103A	07/28/98	VOC	Tetrachloroethene (PCE)	3.7	0.2	19
NGW305	MW	NGW305	01/18/99	VOC	Tetrachloroethene (PCE)	5.1	0.2	26
NGW305	MW	NGW305	07/19/99	VOC	Tetrachloroethene (PCE)	0.6 J	0.2	3.0
NGW305	MW	NGW305	02/21/00	VOC	Tetrachloroethene (PCE)	4.1	0.2	21
NGW305	MW	NGW305-Dup	07/24/00	VOC	Tetrachloroethene (PCE)	2	0.2	10
NGW305	MW	NGW305	02/18/01	VOC	Tetrachloroethene (PCE)	4	0.2	20
NGW305	MW	NGW305-Dup	08/20/01	VOC	Tetrachloroethene (PCE)	2.4	0.2	12
NGW305	MW	NGW305	02/18/02	VOC	Tetrachloroethene (PCE)	4.9	0.2	25
NGW305	MW	NGW305-Dup	08/18/02	VOC	Tetrachloroethene (PCE)	3.2	0.2	16
NGW305	MW	NGW305	08/18/10	VOC	Tetrachloroethene (PCE)	1.4	0.2	7.0
NGW305	MW	MW103A	03/09/92	VOC	Trichloroethene (TCE)	7.4	0.74	10
NGW305	MW	MW103A	10/06/92	VOC	Trichloroethene (TCE)	8.6	0.74	12
NGW305	MW	MW103A	07/22/93	VOC	Trichloroethene (TCE)	13	0.74	18
NGW305	MW	MW103A	10/27/93	VOC	Trichloroethene (TCE)	13	0.74	18
NGW305	MW	RMW103A	01/24/94	VOC	Trichloroethene (TCE)	2	0.74	2.7
NGW305	MW	RMW103A	04/19/94	VOC	Trichloroethene (TCE)	4.9	0.74	6.6
NGW305	MW	RMW103A	07/19/94	VOC	Trichloroethene (TCE)	8	0.74	11
NGW305	MW	RMW103A	10/20/94	VOC	Trichloroethene (TCE)	14	0.74	19
NGW305	MW	RMW103A	01/23/95	VOC	Trichloroethene (TCE)	7.6	0.74	10
NGW305	MW	RMW103A	03/27/96	VOC	Trichloroethene (TCE)	17	0.74	23
NGW305	MW	NGW305/MW-103A	09/10/96	VOC	Trichloroethene (TCE)	3.2	0.74	4.3
NGW305	MW	NGW305/MW-103A	03/18/97	VOC	Trichloroethene (TCE)	3.1	0.74	4.2
NGW305	MW	NGW305	02/21/00	VOC	Trichloroethene (TCE)	2.3	0.74	3.1
NGW305	MW	NGW305	02/18/01	VOC	Trichloroethene (TCE)	0.9 J	0.74	1.2
NGW305	MW	NGW305	02/18/02	VOC	Trichloroethene (TCE)	1.2	0.74	1.6
NGW305	MW	MW103A	03/09/92	VOC	Vinyl Chloride	46	0.2	230
NGW305	MW	MW103A	10/06/92	VOC	Vinyl Chloride	3.7	0.2	19
NGW305	MW	MW103A	07/22/93	VOC	Vinyl Chloride	2.7	0.2	14
NGW305	MW	MW103A	10/27/93	VOC	Vinyl Chloride	3.4	0.2	17
NGW305	MW	RMW103A	01/24/94	VOC	Vinyl Chloride	4.5	0.2	23
NGW305	MW	RMW103A	04/19/94	VOC	Vinyl Chloride	2.1	0.2	11
NGW305	MW	RMW103A	07/19/94	VOC	Vinyl Chloride	3.4	0.2	17
NGW305	MW	RMW103A	10/20/94	VOC	Vinyl Chloride	5.4	0.2	27
NGW305	MW	RMW103A	01/23/95	VOC	Vinyl Chloride	6.6	0.2	33

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW305	MW	RMW103A	09/18/95	VOC	Vinyl Chloride	26	0.2	130
NGW305	MW	RMW103A	03/27/96	VOC	Vinyl Chloride	130	0.2	650
NGW305	MW	NGW305/MW-103A	09/10/96	VOC	Vinyl Chloride	150	0.2	750
NGW305	MW	NGW305/MW-103A	03/18/97	VOC	Vinyl Chloride	160	0.2	800
NGW305	MW	NGW305/MW-103A	08/27/97	VOC	Vinyl Chloride	86	0.2	430
NGW305	MW	MW-103A	02/24/98	VOC	Vinyl Chloride	36	0.2	180
NGW305	MW	MW-103A	07/28/98	VOC	Vinyl Chloride	7.4	0.2	37
NGW305	MW	NGW305	01/18/99	VOC	Vinyl Chloride	4.6	0.2	23
NGW305	MW	NGW305	07/19/99	VOC	Vinyl Chloride	2.3	0.2	12
NGW305	MW	NGW305	02/21/00	VOC	Vinyl Chloride	9.8	0.2	49
NGW305	MW	NGW305-Dup	07/24/00	VOC	Vinyl Chloride	4.8	0.2	24
NGW305	MW	NGW305-Dup	02/18/01	VOC	Vinyl Chloride	4.3	0.2	22
NGW305	MW	NGW305-Dup	08/20/01	VOC	Vinyl Chloride	2.1	0.2	11
NGW305	MW	NGW305	02/18/02	VOC	Vinyl Chloride	2.8	0.2	14
NGW305	MW	NGW305-Dup	08/18/02	VOC	Vinyl Chloride	2.9	0.2	15
NGW306	MW	MW103B	10/06/92	MET	Arsenic	7	5.0	1.4
NGW306	MW	MW103B	10/06/92	MET	Cadmium	49	0.21	230
NGW306	MW	MW103B	07/22/93	MET	Cadmium	3	0.21	14
NGW306	MW	MW103B	10/27/93	MET	Cadmium	3	0.21	14
NGW306	MW	MW103B	10/06/92	MET	Lead	22	2.5	8.8
NGW306	MW	MW103B	07/22/93	MET	Lead	4	2.5	1.6
NGW306	MW	MW103B	10/27/93	MET	Lead	6	2.5	2.4
NGW306	MW	MW103B	01/24/94	MET	Lead	4	2.5	1.6
NGW306	MW	MW103B	10/06/92	MET	Mercury	0.2	0.02	10
NGW306	MW	NGW306	02/18/01	VOC	Methylene Chloride	6.4	5.0	1.3
NGW306	MW	MW103B	10/20/94	VOC	Tetrachloroethene (PCE)	2.6	0.2	13
NGW306	MW	MW103B	03/09/92	VOC	Vinyl Chloride	1.1 J	0.2	5.5
NGW306	MW	MW103B	04/19/94	VOC	Vinyl Chloride	0.27	0.2	1.4
NGW306	MW	MW103B	10/20/94	VOC	Vinyl Chloride	0.95	0.2	4.8
NGW306	MW	MW103B	09/18/95	VOC	Vinyl Chloride	0.26	0.2	1.3
NGW306	MW	MW103B	03/27/96	VOC	Vinyl Chloride	0.34	0.2	1.7
NGW306	MW	NGW306/MW-103B	09/10/96	VOC	Vinyl Chloride	0.29	0.2	1.5
NGW307	MW	RMW104A	01/24/94	MET	Arsenic	7	5.0	1.4
NGW307	MW	NGW307/MW-104A	08/27/97	MET	Arsenic	8	5.0	1.6
NGW307	MW	MW-104A	02/24/98	MET	Arsenic	13	5.0	2.6
NGW307	MW	MW-104A	07/28/98	MET	Arsenic	7	5.0	1.4
NGW307	MW	NGW307	07/19/99	MET	Arsenic	6	5.0	1.2

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW307	MW	MW104A	10/06/92	MET	Cadmium	7	0.21	33
NGW307	MW	MW104A	07/22/93	MET	Cadmium	11	0.21	52
NGW307	MW	MW104A	10/27/93	MET	Cadmium	4	0.21	19
NGW307	MW	MW104A	10/06/92	MET	Chromium	177	100	1.8
NGW307	MW	MW-104A-Dup	02/24/98	MET	Chromium	151	100	1.5
NGW307	MW	MW104A	10/06/92	MET	Lead	52	2.5	21
NGW307	MW	MW104A	07/22/93	MET	Lead	3	2.5	1.2
NGW307	MW	RMW104A	01/24/94	MET	Lead	11	2.5	4.4
NGW307	MW	RMW104A	04/19/94	MET	Lead	3	2.5	1.2
NGW307	MW	NGW307/MW-104A	09/10/96	MET	Lead	4	2.5	1.6
NGW307	MW	NGW307/MW-104A	08/27/97	MET	Lead	9	2.5	3.6
NGW307	MW	MW-104A-Dup	02/24/98	MET	Lead	14	2.5	5.6
NGW307	MW	MW-104A	07/28/98	MET	Lead	5	2.5	2.0
NGW307	MW	NGW307	07/19/99	MET	Lead	4	2.5	1.6
NGW307	MW	NGW307	08/20/01	MET	Lead	3	2.5	1.2
NGW307	MW	NGW307	02/18/02	MET	Lead	3	2.5	1.2
NGW307	MW	MW104A	10/06/92	MET	Mercury	0.4	0.02	20
NGW307	MW	NGW307	07/19/99	MET	Mercury	0.1	0.02	5.0
NGW307	MW	RMW104A	10/20/94	VOC	cis-1,2-Dichloroethene	24	10	2.4
NGW307	MW	RMW104A	01/23/95	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW307	MW	RMW104A	09/19/95	VOC	cis-1,2-Dichloroethene	25	10	2.5
NGW307	MW	RMW104A	03/27/96	VOC	cis-1,2-Dichloroethene	220	10	22
NGW307	MW	NGW307/MW-104A	09/10/96	VOC	cis-1,2-Dichloroethene	300	10	30
NGW307	MW	NGW307/MW-104A	03/18/97	VOC	cis-1,2-Dichloroethene	350	10	35
NGW307	MW	NGW307/MW-104A	08/27/97	VOC	cis-1,2-Dichloroethene	390	10	39
NGW307	MW	MW-104A	02/24/98	VOC	cis-1,2-Dichloroethene	120	10	12
NGW307	MW	MW-104A	07/28/98	VOC	cis-1,2-Dichloroethene	22	10	2.2
NGW307	MW	NGW307	01/18/99	VOC	cis-1,2-Dichloroethene	210	10	21
NGW307	MW	NGW307	07/19/99	VOC	cis-1,2-Dichloroethene	77	10	7.7
NGW307	MW	NGW307	02/21/00	VOC	cis-1,2-Dichloroethene	150	10	15
NGW307	MW	NGW307	07/24/00	VOC	cis-1,2-Dichloroethene	110	10	11
NGW307	MW	NGW307	02/18/02	VOC	cis-1,2-Dichloroethene	20	10	2.0
NGW307	MW	NGW307	02/17/03	VOC	cis-1,2-Dichloroethene	31	10	3.1
NGW307	MW	NGW307	02/09/04	VOC	cis-1,2-Dichloroethene	120	10	12
NGW307	MW	NGW307	02/20/06	VOC	cis-1,2-Dichloroethene	66	10	6.6
NGW307	MW	NGW307	02/12/09	VOC	cis-1,2-Dichloroethene	44	10	4.4
NGW307	MW	NGW307	02/18/10	VOC	cis-1,2-Dichloroethene	17	10	1.7

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW307	MW	NGW307	02/18/01	VOC	Methylene Chloride	6.2	5.0	1.2
NGW307	MW	MW104A	03/09/92	VOC	Tetrachloroethene (PCE)	42	0.2	210
NGW307	MW	MW104A	10/06/92	VOC	Tetrachloroethene (PCE)	62	0.2	310
NGW307	MW	MW104A	07/22/93	VOC	Tetrachloroethene (PCE)	37	0.2	190
NGW307	MW	MW104A	10/27/93	VOC	Tetrachloroethene (PCE)	8.3	0.2	42
NGW307	MW	RMW104A	01/24/94	VOC	Tetrachloroethene (PCE)	12	0.2	60
NGW307	MW	RMW104A	04/19/94	VOC	Tetrachloroethene (PCE)	42	0.2	210
NGW307	MW	RMW104A	07/19/94	VOC	Tetrachloroethene (PCE)	29	0.2	150
NGW307	MW	RMW104A	10/20/94	VOC	Tetrachloroethene (PCE)	72	0.2	360
NGW307	MW	RMW104A	01/23/95	VOC	Tetrachloroethene (PCE)	140	0.2	700
NGW307	MW	RMW104A	09/19/95	VOC	Tetrachloroethene (PCE)	5.4	0.2	27
NGW307	MW	RMW104A	03/27/96	VOC	Tetrachloroethene (PCE)	64	0.2	320
NGW307	MW	NGW307/MW-104A	09/10/96	VOC	Tetrachloroethene (PCE)	9.8	0.2	49
NGW307	MW	NGW307/MW-104A	03/18/97	VOC	Tetrachloroethene (PCE)	200	0.2	1,000
NGW307	MW	NGW307/MW-104A	08/27/97	VOC	Tetrachloroethene (PCE)	14	0.2	70
NGW307	MW	MW-104A-Dup	02/24/98	VOC	Tetrachloroethene (PCE)	170	0.2	850
NGW307	MW	MW-104A	07/28/98	VOC	Tetrachloroethene (PCE)	14	0.2	70
NGW307	MW	NGW307	01/18/99	VOC	Tetrachloroethene (PCE)	93	0.2	470
NGW307	MW	NGW307	07/19/99	VOC	Tetrachloroethene (PCE)	5.6	0.2	28
NGW307	MW	NGW307	02/21/00	VOC	Tetrachloroethene (PCE)	140	0.2	700
NGW307	MW	NGW307	07/24/00	VOC	Tetrachloroethene (PCE)	5.3	0.2	27
NGW307	MW	NGW307	02/18/01	VOC	Tetrachloroethene (PCE)	8.3	0.2	42
NGW307	MW	NGW307	08/20/01	VOC	Tetrachloroethene (PCE)	8	0.2	40
NGW307	MW	NGW307	02/18/02	VOC	Tetrachloroethene (PCE)	24	0.2	120
NGW307	MW	NGW307	08/18/02	VOC	Tetrachloroethene (PCE)	8.1	0.2	41
NGW307	MW	NGW307	02/17/03	VOC	Tetrachloroethene (PCE)	15	0.2	75
NGW307	MW	NGW307	07/10/03	VOC	Tetrachloroethene (PCE)	9.3	0.2	47
NGW307	MW	NGW307	02/09/04	VOC	Tetrachloroethene (PCE)	130	0.2	650
NGW307	MW	NGW307	02/07/05	VOC	Tetrachloroethene (PCE)	9.5	0.2	48
NGW307	MW	NGW307	08/18/05	VOC	Tetrachloroethene (PCE)	4.9	0.2	25
NGW307	MW	NGW307	02/20/06	VOC	Tetrachloroethene (PCE)	48	0.2	240
NGW307	MW	NGW307	08/14/06	VOC	Tetrachloroethene (PCE)	4	0.2	20
NGW307	MW	NGW307	02/20/07	VOC	Tetrachloroethene (PCE)	6.3	0.2	32
NGW307	MW	NGW307	08/20/07	VOC	Tetrachloroethene (PCE)	6.2	0.2	31
NGW307	MW	NGW307	02/19/08	VOC	Tetrachloroethene (PCE)	8.2	0.2	41
NGW307	MW	NGW307	08/20/08	VOC	Tetrachloroethene (PCE)	4.3	0.2	22
NGW307	MW	NGW307	02/12/09	VOC	Tetrachloroethene (PCE)	7.2	0.2	36

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW307	MW	NGW307	02/18/10	VOC	Tetrachloroethene (PCE)	2.5	0.2	13
NGW307	MW	MW104A	03/09/92	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW307	MW	MW104A	10/06/92	VOC	Trichloroethene (TCE)	7.3	0.74	9.9
NGW307	MW	MW104A	07/22/93	VOC	Trichloroethene (TCE)	11	0.74	15
NGW307	MW	MW104A	10/27/93	VOC	Trichloroethene (TCE)	3.2	0.74	4.3
NGW307	MW	RMW104A	01/24/94	VOC	Trichloroethene (TCE)	3.2	0.74	4.3
NGW307	MW	RMW104A	04/19/94	VOC	Trichloroethene (TCE)	11	0.74	15
NGW307	MW	RMW104A	07/19/94	VOC	Trichloroethene (TCE)	9.9	0.74	13
NGW307	MW	RMW104A	10/20/94	VOC	Trichloroethene (TCE)	28	0.74	38
NGW307	MW	RMW104A	01/23/95	VOC	Trichloroethene (TCE)	88	0.74	120
NGW307	MW	RMW104A	09/19/95	VOC	Trichloroethene (TCE)	3.8	0.74	5.1
NGW307	MW	RMW104A	03/27/96	VOC	Trichloroethene (TCE)	81	0.74	110
NGW307	MW	NGW307/MW-104A	09/10/96	VOC	Trichloroethene (TCE)	34	0.74	46
NGW307	MW	NGW307/MW-104A	03/18/97	VOC	Trichloroethene (TCE)	120	0.74	160
NGW307	MW	NGW307/MW-104A	08/27/97	VOC	Trichloroethene (TCE)	6.1	0.74	8.2
NGW307	MW	MW-104A-Dup	02/24/98	VOC	Trichloroethene (TCE)	170	0.74	230
NGW307	MW	MW-104A	07/28/98	VOC	Trichloroethene (TCE)	3	0.74	4.1
NGW307	MW	NGW307	01/18/99	VOC	Trichloroethene (TCE)	250	0.74	340
NGW307	MW	NGW307	07/19/99	VOC	Trichloroethene (TCE)	2.5	0.74	3.4
NGW307	MW	NGW307	02/21/00	VOC	Trichloroethene (TCE)	140	0.74	190
NGW307	MW	NGW307	07/24/00	VOC	Trichloroethene (TCE)	2	0.74	2.7
NGW307	MW	NGW307	02/18/01	VOC	Trichloroethene (TCE)	1.3	0.74	1.8
NGW307	MW	NGW307	08/20/01	VOC	Trichloroethene (TCE)	1.7	0.74	2.3
NGW307	MW	NGW307	02/18/02	VOC	Trichloroethene (TCE)	12	0.74	16
NGW307	MW	NGW307	02/17/03	VOC	Trichloroethene (TCE)	17	0.74	23
NGW307	MW	NGW307	02/09/04	VOC	Trichloroethene (TCE)	69	0.74	93
NGW307	MW	NGW307	02/07/05	VOC	Trichloroethene (TCE)	1.1	0.74	1.5
NGW307	MW	NGW307	02/20/06	VOC	Trichloroethene (TCE)	46	0.74	62
NGW307	MW	NGW307	08/14/06	VOC	Trichloroethene (TCE)	1	0.74	1.4
NGW307	MW	NGW307	02/19/08	VOC	Trichloroethene (TCE)	1	0.74	1.4
NGW307	MW	NGW307	02/12/09	VOC	Trichloroethene (TCE)	2.7	0.74	3.6
NGW307	MW	NGW307	02/18/10	VOC	Trichloroethene (TCE)	1.1	0.74	1.5
NGW307	MW	MW104A	03/09/92	VOC	Vinyl Chloride	4.7	0.2	24
NGW307	MW	MW104A	10/06/92	VOC	Vinyl Chloride	2.9 M	0.2	15
NGW307	MW	MW104A	07/22/93	VOC	Vinyl Chloride	1.5 J	0.2	7.5
NGW307	MW	MW104A	10/27/93	VOC	Vinyl Chloride	1.7 J	0.2	8.5
NGW307	MW	RMW104A	01/24/94	VOC	Vinyl Chloride	2.9	0.2	15

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW307	MW	RMW104A	04/19/94	VOC	Vinyl Chloride	5	0.2	25
NGW307	MW	RMW104A	07/19/94	VOC	Vinyl Chloride	2.8	0.2	14
NGW307	MW	RMW104A	10/20/94	VOC	Vinyl Chloride	5.3	0.2	27
NGW307	MW	RMW104A	01/23/95	VOC	Vinyl Chloride	19	0.2	95
NGW307	MW	RMW104A	09/19/95	VOC	Vinyl Chloride	47	0.2	240
NGW307	MW	RMW104A	03/27/96	VOC	Vinyl Chloride	76	0.2	380
NGW307	MW	NGW307/MW-104A	09/10/96	VOC	Vinyl Chloride	190	0.2	950
NGW307	MW	NGW307/MW-104A	03/18/97	VOC	Vinyl Chloride	92	0.2	460
NGW307	MW	NGW307/MW-104A	08/27/97	VOC	Vinyl Chloride	270	0.2	1,400
NGW307	MW	MW-104A-Dup	02/24/98	VOC	Vinyl Chloride	73	0.2	370
NGW307	MW	MW-104A	07/28/98	VOC	Vinyl Chloride	140	0.2	700
NGW307	MW	NGW307	01/18/99	VOC	Vinyl Chloride	13	0.2	65
NGW307	MW	NGW307	07/19/99	VOC	Vinyl Chloride	93	0.2	470
NGW307	MW	NGW307	02/21/00	VOC	Vinyl Chloride	5.4	0.2	27
NGW307	MW	NGW307	07/24/00	VOC	Vinyl Chloride	180	0.2	900
NGW307	MW	NGW307	02/18/01	VOC	Vinyl Chloride	22	0.2	110
NGW307	MW	NGW307	08/20/01	VOC	Vinyl Chloride	6.2	0.2	31
NGW307	MW	NGW307	02/18/02	VOC	Vinyl Chloride	95	0.2	480
NGW307	MW	NGW307	08/18/02	VOC	Vinyl Chloride	31	0.2	160
NGW307	MW	NGW307	02/17/03	VOC	Vinyl Chloride	9.1	0.2	46
NGW307	MW	NGW307	07/10/03	VOC	Vinyl Chloride	9.8	0.2	49
NGW307	MW	NGW307	02/07/05	VOC	Vinyl Chloride	3.6	0.2	18
NGW307	MW	NGW307	08/18/05	VOC	Vinyl Chloride	2.8	0.2	14
NGW307	MW	NGW307	02/20/06	VOC	Vinyl Chloride	2	0.2	10
NGW307	MW	NGW307	08/14/06	VOC	Vinyl Chloride	3.2	0.2	16
NGW307	MW	NGW307	02/20/07	VOC	Vinyl Chloride	7.6	0.2	38
NGW307	MW	NGW307	08/20/07	VOC	Vinyl Chloride	1.5	0.2	7.5
NGW307	MW	NGW307	02/19/08	VOC	Vinyl Chloride	3.7	0.2	19
NGW307	MW	NGW307	08/20/08	VOC	Vinyl Chloride	3.2	0.2	16
NGW307	MW	NGW307	02/12/09	VOC	Vinyl Chloride	15	0.2	75
NGW307	MW	NGW307	02/18/10	VOC	Vinyl Chloride	22	0.2	110
NGW308	MW	MW105A	10/06/92	MET	Arsenic	6	5.0	1.2
NGW308	MW	RMW105A	01/24/94	MET	Arsenic	8	5.0	1.6
NGW308	MW	RMW105A	04/19/94	MET	Arsenic	8	5.0	1.6
NGW308	MW	NGW308/MW-105A	09/10/96	MET	Arsenic	12	5.0	2.4
NGW308	MW	NGW308/MW-105A	03/18/97	MET	Arsenic	20	5.0	4.0
NGW308	MW	NGW308/MW-105A	08/27/97	MET	Arsenic	26	5.0	5.2

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW308	MW	MW-105A	02/24/98	MET	Arsenic	50	5.0	10
NGW308	MW	MW-105A	07/28/98	MET	Arsenic	21	5.0	4.2
NGW308	MW	NGW308	01/18/99	MET	Arsenic	24	5.0	4.8
NGW308	MW	NGW308	08/20/01	MET	Arsenic	8	5.0	1.6
NGW308	MW	NGW308	02/18/02	MET	Arsenic	6	5.0	1.2
NGW308	MW	NGW308	08/18/02	MET	Arsenic	9	5.0	1.8
NGW308	MW	MW105A	07/22/93	MET	Cadmium	6	0.21	29
NGW308	MW	NGW308	01/18/99	MET	Cadmium	3	0.21	14
NGW308	MW	MW105A	10/06/92	MET	Chromium	130	100	1.3
NGW308	MW	NGW308/MW-105A	09/10/96	MET	Chromium	144	100	1.4
NGW308	MW	NGW308/MW-105A	03/18/97	MET	Chromium	311	100	3.1
NGW308	MW	NGW308/MW-105A	08/27/97	MET	Chromium	155	100	1.6
NGW308	MW	MW-105A	02/24/98	MET	Chromium	1,600	100	16
NGW308	MW	MW-105A	07/28/98	MET	Chromium	156	100	1.6
NGW308	MW	NGW308	01/18/99	MET	Chromium	593	100	5.9
NGW308	MW	MW105A	10/06/92	MET	Lead	37	2.5	15
NGW308	MW	MW105A	07/22/93	MET	Lead	3	2.5	1.2
NGW308	MW	MW105A	10/27/93	MET	Lead	3	2.5	1.2
NGW308	MW	RMW105A	01/24/94	MET	Lead	14	2.5	5.6
NGW308	MW	RMW105A	04/19/94	MET	Lead	8	2.5	3.2
NGW308	MW	NGW308/MW-105A	09/10/96	MET	Lead	13	2.5	5.2
NGW308	MW	NGW308/MW-105A	03/18/97	MET	Lead	57	2.5	23
NGW308	MW	NGW308/MW-105A	08/27/97	MET	Lead	11	2.5	4.4
NGW308	MW	MW-105A	02/24/98	MET	Lead	370	2.5	150
NGW308	MW	MW-105A	07/28/98	MET	Lead	20	2.5	8.0
NGW308	MW	NGW308	01/18/99	MET	Lead	74	2.5	30
NGW308	MW	MW105A	10/06/92	MET	Mercury	0.3	0.02	15
NGW308	MW	RMW105A	01/24/94	MET	Mercury	0.2	0.02	10
NGW308	MW	NGW308/MW-105A	03/18/97	MET	Mercury	0.5	0.02	25
NGW308	MW	MW-105A	02/24/98	MET	Mercury	2.8	0.02	140
NGW308	MW	MW-105A	07/28/98	MET	Mercury	0.4	0.02	20
NGW308	MW	NGW308	01/18/99	MET	Mercury	0.7	0.02	35
NGW308	MW	RMW105A	01/23/95	VOC	cis-1,2-Dichloroethene	98	10	9.8
NGW308	MW	RMW105A	09/19/95	VOC	cis-1,2-Dichloroethene	12	10	1.2
NGW308	MW	RMW105A	03/27/96	VOC	cis-1,2-Dichloroethene	160	10	16
NGW308	MW	NGW308/MW-105A	09/10/96	VOC	cis-1,2-Dichloroethene	290	10	29
NGW308	MW	NGW308/MW-105A	03/18/97	VOC	cis-1,2-Dichloroethene	210	10	21

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW308	MW	NGW308/MW-105A	08/27/97	VOC	cis-1,2-Dichloroethene	200	10	20
NGW308	MW	MW-105A	02/24/98	VOC	cis-1,2-Dichloroethene	190	10	19
NGW308	MW	MW-105A	07/28/98	VOC	cis-1,2-Dichloroethene	68	10	6.8
NGW308	MW	NGW308	01/18/99	VOC	cis-1,2-Dichloroethene	83	10	8.3
NGW308	MW	NGW308	07/19/99	VOC	cis-1,2-Dichloroethene	18	10	1.8
NGW308	MW	NGW308	02/21/00	VOC	cis-1,2-Dichloroethene	34	10	3.4
NGW308	MW	NGW308	02/18/01	VOC	cis-1,2-Dichloroethene	15	10	1.5
NGW308	MW	NGW308	08/20/01	VOC	cis-1,2-Dichloroethene	33	10	3.3
NGW308	MW	NGW308	02/18/02	VOC	cis-1,2-Dichloroethene	16	10	1.6
NGW308	MW	NGW308	07/10/03	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW308	MW	NGW308	08/18/05	VOC	cis-1,2-Dichloroethene	38	10	3.8
NGW308	MW	NGW308	08/20/08	VOC	cis-1,2-Dichloroethene	24	10	2.4
NGW308	MW	NGW308	08/18/10	VOC	cis-1,2-Dichloroethene	13	10	1.3
NGW308	MW	NGW308	02/18/01	VOC	Methylene Chloride	6	5.0	1.2
NGW308	MW	MW105A	03/09/92	VOC	Tetrachloroethene (PCE)	1.3	0.2	6.5
NGW308	MW	MW105A	10/06/92	VOC	Tetrachloroethene (PCE)	5.4	0.2	27
NGW308	MW	MW105A	07/22/93	VOC	Tetrachloroethene (PCE)	3	0.2	15
NGW308	MW	RMW105A	01/24/94	VOC	Tetrachloroethene (PCE)	3.4	0.2	17
NGW308	MW	RMW105A	04/19/94	VOC	Tetrachloroethene (PCE)	9.3	0.2	47
NGW308	MW	RMW105A	07/19/94	VOC	Tetrachloroethene (PCE)	31	0.2	160
NGW308	MW	RMW105A	10/20/94	VOC	Tetrachloroethene (PCE)	4	0.2	20
NGW308	MW	RMW105A	01/23/95	VOC	Tetrachloroethene (PCE)	380	0.2	1,900
NGW308	MW	RMW105A	09/19/95	VOC	Tetrachloroethene (PCE)	1.9	0.2	9.5
NGW308	MW	RMW105A	03/27/96	VOC	Tetrachloroethene (PCE)	350	0.2	1,800
NGW308	MW	NGW308/MW-105A	09/10/96	VOC	Tetrachloroethene (PCE)	280	0.2	1,400
NGW308	MW	NGW308/MW-105A	03/18/97	VOC	Tetrachloroethene (PCE)	410	0.2	2,100
NGW308	MW	NGW308/MW-105A	08/27/97	VOC	Tetrachloroethene (PCE)	190	0.2	950
NGW308	MW	MW-105A	02/24/98	VOC	Tetrachloroethene (PCE)	180	0.2	900
NGW308	MW	MW-105A	07/28/98	VOC	Tetrachloroethene (PCE)	120	0.2	600
NGW308	MW	NGW308	01/18/99	VOC	Tetrachloroethene (PCE)	130	0.2	650
NGW308	MW	NGW308-Dup	07/19/99	VOC	Tetrachloroethene (PCE)	92	0.2	460
NGW308	MW	NGW308	02/21/00	VOC	Tetrachloroethene (PCE)	79	0.2	400
NGW308	MW	NGW308	07/24/00	VOC	Tetrachloroethene (PCE)	56	0.2	280
NGW308	MW	NGW308	02/18/01	VOC	Tetrachloroethene (PCE)	32	0.2	160
NGW308	MW	NGW308	08/20/01	VOC	Tetrachloroethene (PCE)	61	0.2	310
NGW308	MW	NGW308	02/18/02	VOC	Tetrachloroethene (PCE)	94	0.2	470
NGW308	MW	NGW308	08/18/02	VOC	Tetrachloroethene (PCE)	18	0.2	90

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW308	MW	NGW308	02/17/03	VOC	Tetrachloroethene (PCE)	54	0.2	270
NGW308	MW	NGW308	07/10/03	VOC	Tetrachloroethene (PCE)	19	0.2	95
NGW308	MW	NGW308	02/09/04	VOC	Tetrachloroethene (PCE)	43	0.2	220
NGW308	MW	NGW308	02/07/05	VOC	Tetrachloroethene (PCE)	28	0.2	140
NGW308	MW	NGW308	08/18/05	VOC	Tetrachloroethene (PCE)	35	0.2	180
NGW308	MW	NGW308	02/20/06	VOC	Tetrachloroethene (PCE)	24	0.2	120
NGW308	MW	NGW308	08/14/06	VOC	Tetrachloroethene (PCE)	19	0.2	95
NGW308	MW	NGW308	02/20/07	VOC	Tetrachloroethene (PCE)	5.9	0.2	30
NGW308	MW	NGW308	08/20/07	VOC	Tetrachloroethene (PCE)	13	0.2	65
NGW308	MW	NGW308	02/19/08	VOC	Tetrachloroethene (PCE)	21	0.2	110
NGW308	MW	NGW308	08/20/08	VOC	Tetrachloroethene (PCE)	32	0.2	160
NGW308	MW	NGW308	02/12/09	VOC	Tetrachloroethene (PCE)	10	0.2	50
NGW308	MW	NGW308	02/18/10	VOC	Tetrachloroethene (PCE)	1.6	0.2	8.0
NGW308	MW	NGW308	08/18/10	VOC	Tetrachloroethene (PCE)	6.7	0.2	34
NGW308	MW	MW105A	10/06/92	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW308	MW	MW105A	07/22/93	VOC	Trichloroethene (TCE)	1.4	0.74	1.9
NGW308	MW	RMW105A	04/19/94	VOC	Trichloroethene (TCE)	1.1	0.74	1.5
NGW308	MW	RMW105A	07/19/94	VOC	Trichloroethene (TCE)	7.4	0.74	10
NGW308	MW	RMW105A	01/23/95	VOC	Trichloroethene (TCE)	120	0.74	160
NGW308	MW	RMW105A	09/19/95	VOC	Trichloroethene (TCE)	5.8	0.74	7.8
NGW308	MW	RMW105A	03/27/96	VOC	Trichloroethene (TCE)	180	0.74	240
NGW308	MW	NGW308/MW-105A	09/10/96	VOC	Trichloroethene (TCE)	170	0.74	230
NGW308	MW	NGW308/MW-105A	03/18/97	VOC	Trichloroethene (TCE)	140	0.74	190
NGW308	MW	NGW308/MW-105A	08/27/97	VOC	Trichloroethene (TCE)	120	0.74	160
NGW308	MW	MW-105A	02/24/98	VOC	Trichloroethene (TCE)	74	0.74	100
NGW308	MW	MW-105A	07/28/98	VOC	Trichloroethene (TCE)	31	0.74	42
NGW308	MW	NGW308	01/18/99	VOC	Trichloroethene (TCE)	42	0.74	57
NGW308	MW	NGW308	07/19/99	VOC	Trichloroethene (TCE)	13	0.74	18
NGW308	MW	NGW308	02/21/00	VOC	Trichloroethene (TCE)	14	0.74	19
NGW308	MW	NGW308	07/24/00	VOC	Trichloroethene (TCE)	5	0.74	6.8
NGW308	MW	NGW308	02/18/01	VOC	Trichloroethene (TCE)	4.2	0.74	5.7
NGW308	MW	NGW308	08/20/01	VOC	Trichloroethene (TCE)	19	0.74	26
NGW308	MW	NGW308	02/18/02	VOC	Trichloroethene (TCE)	14	0.74	19
NGW308	MW	NGW308	08/18/02	VOC	Trichloroethene (TCE)	3.7	0.74	5.0
NGW308	MW	NGW308	02/17/03	VOC	Trichloroethene (TCE)	4.4	0.74	5.9
NGW308	MW	NGW308	07/10/03	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW308	MW	NGW308	02/09/04	VOC	Trichloroethene (TCE)	4.8	0.74	6.5

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW308	MW	NGW308	02/07/05	VOC	Trichloroethene (TCE)	2.9	0.74	3.9
NGW308	MW	NGW308	08/18/05	VOC	Trichloroethene (TCE)	12	0.74	16
NGW308	MW	NGW308	02/20/06	VOC	Trichloroethene (TCE)	2.5	0.74	3.4
NGW308	MW	NGW308	08/14/06	VOC	Trichloroethene (TCE)	3.1	0.74	4.2
NGW308	MW	NGW308	08/20/07	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW308	MW	NGW308	02/19/08	VOC	Trichloroethene (TCE)	2.6	0.74	3.5
NGW308	MW	NGW308	08/20/08	VOC	Trichloroethene (TCE)	8.4	0.74	11
NGW308	MW	NGW308	02/12/09	VOC	Trichloroethene (TCE)	2.3	0.74	3.1
NGW308	MW	NGW308	08/18/10	VOC	Trichloroethene (TCE)	3.3	0.74	4.5
NGW308	MW	MW105A	03/09/92	VOC	Vinyl Chloride	1 M	0.2	5.0
NGW308	MW	RMW105A	04/19/94	VOC	Vinyl Chloride	0.78	0.2	3.9
NGW308	MW	RMW105A	07/19/94	VOC	Vinyl Chloride	0.87	0.2	4.4
NGW308	MW	RMW105A	10/20/94	VOC	Vinyl Chloride	0.66	0.2	3.3
NGW308	MW	RMW105A	01/23/95	VOC	Vinyl Chloride	5.3	0.2	27
NGW308	MW	RMW105A	09/19/95	VOC	Vinyl Chloride	1.2	0.2	6.0
NGW308	MW	RMW105A	03/27/96	VOC	Vinyl Chloride	31	0.2	160
NGW308	MW	NGW308/MW-105A	09/10/96	VOC	Vinyl Chloride	41	0.2	210
NGW308	MW	NGW308/MW-105A	03/18/97	VOC	Vinyl Chloride	33	0.2	170
NGW308	MW	NGW308/MW-105A	08/27/97	VOC	Vinyl Chloride	24	0.2	120
NGW308	MW	MW-105A	02/24/98	VOC	Vinyl Chloride	7.7	0.2	39
NGW308	MW	MW-105A	07/28/98	VOC	Vinyl Chloride	4.1	0.2	21
NGW308	MW	NGW308	01/18/99	VOC	Vinyl Chloride	4.6	0.2	23
NGW308	MW	NGW308-Dup	07/19/99	VOC	Vinyl Chloride	0.37	0.2	1.9
NGW308	MW	NGW308	02/21/00	VOC	Vinyl Chloride	4	0.2	20
NGW308	MW	NGW308	07/24/00	VOC	Vinyl Chloride	1.3	0.2	6.5
NGW308	MW	NGW308	02/18/01	VOC	Vinyl Chloride	1.2	0.2	6.0
NGW308	MW	NGW308	08/20/01	VOC	Vinyl Chloride	1.7	0.2	8.5
NGW308	MW	NGW308	02/18/02	VOC	Vinyl Chloride	0.46	0.2	2.3
NGW308	MW	NGW308	08/18/02	VOC	Vinyl Chloride	3	0.2	15
NGW308	MW	NGW308	02/17/03	VOC	Vinyl Chloride	1	0.2	5.0
NGW308	MW	NGW308	07/10/03	VOC	Vinyl Chloride	6.9	0.2	35
NGW308	MW	NGW308	02/07/05	VOC	Vinyl Chloride	1.3	0.2	6.5
NGW308	MW	NGW308	08/18/05	VOC	Vinyl Chloride	2.5	0.2	13
NGW308	MW	NGW308	02/20/06	VOC	Vinyl Chloride	1.7	0.2	8.5
NGW308	MW	NGW308	08/14/06	VOC	Vinyl Chloride	1.5	0.2	7.5
NGW308	MW	NGW308	02/19/08	VOC	Vinyl Chloride	0.7	0.2	3.5
NGW308	MW	NGW308	08/20/08	VOC	Vinyl Chloride	4.1	0.2	21

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW308	MW	NGW308	02/12/09	VOC	Vinyl Chloride	0.8	0.2	4.0
NGW308	MW	NGW308	02/18/10	VOC	Vinyl Chloride	0.4	0.2	2.0
NGW308	MW	NGW308	08/18/10	VOC	Vinyl Chloride	2.4	0.2	12
NGW309	MW	MW106A	10/06/92	MET	Cadmium	24	0.21	110
NGW309	MW	MW106A	10/27/93	MET	Cadmium	31	0.21	150
NGW309	MW	MW106A	01/24/94	MET	Cadmium	10	0.21	48
NGW309	MW	MW106A	04/19/94	MET	Cadmium	18	0.21	86
NGW309	MW	MW106A	10/06/92	MET	Chromium	105	100	1.1
NGW309	MW	MW106A	10/06/92	MET	Lead	31	2.5	12
NGW309	MW	MW106A	01/24/94	MET	Lead	3	2.5	1.2
NGW309	MW	MW106A	10/06/92	MET	Mercury	0.2	0.02	10
NGW309	MW	NGW309	02/18/01	VOC	Methylene Chloride	7.1	5.0	1.4
NGW309	MW	MW106A	03/09/92	VOC	Vinyl Chloride	1.6 J	0.2	8.0
NGW309	MW	MW106A	04/19/94	VOC	Vinyl Chloride	0.9	0.2	4.5
NGW309	MW	MW106A	07/19/94	VOC	Vinyl Chloride	0.55	0.2	2.8
NGW309	MW	MW106A	10/20/94	VOC	Vinyl Chloride	0.6	0.2	3.0
NGW309	MW	MW106A	01/23/95	VOC	Vinyl Chloride	0.96	0.2	4.8
NGW309	MW	MW106A	09/18/95	VOC	Vinyl Chloride	0.64	0.2	3.2
NGW309	MW	MW106A	03/27/96	VOC	Vinyl Chloride	0.44	0.2	2.2
NGW309	MW	NGW309/MW-106A	09/10/96	VOC	Vinyl Chloride	0.61	0.2	3.1
NGW309	MW	NGW309/MW-106A	03/18/97	VOC	Vinyl Chloride	0.52	0.2	2.6
NGW309	MW	NGW309/MW-106A	08/27/97	VOC	Vinyl Chloride	0.27	0.2	1.4
NGW309	MW	MW-106A	02/24/98	VOC	Vinyl Chloride	1	0.2	5.0
NGW309	MW	MW-106A	07/28/98	VOC	Vinyl Chloride	0.68	0.2	3.4
NGW309	MW	NGW309	01/18/99	VOC	Vinyl Chloride	0.92	0.2	4.6
NGW309	MW	NGW309	07/19/99	VOC	Vinyl Chloride	1.3	0.2	6.5
NGW309	MW	NGW309	02/21/00	VOC	Vinyl Chloride	1.2	0.2	6.0
NGW309	MW	NGW309	07/24/00	VOC	Vinyl Chloride	2.5	0.2	13
NGW309	MW	NGW309	02/18/01	VOC	Vinyl Chloride	2.2	0.2	11
NGW309	MW	NGW309	08/20/01	VOC	Vinyl Chloride	0.95	0.2	4.8
NGW309	MW	NGW309	02/18/02	VOC	Vinyl Chloride	0.79	0.2	4.0
NGW309	MW	NGW309	02/19/08	VOC	Vinyl Chloride	0.4	0.2	2.0
NGW309	MW	NGW309	08/20/08	VOC	Vinyl Chloride	0.3	0.2	1.5
NGW309	MW	NGW309	02/12/09	VOC	Vinyl Chloride	0.4	0.2	2.0
NGW309	MW	NGW309	02/18/10	VOC	Vinyl Chloride	0.3	0.2	1.5
NGW310	MW	MW106B	10/06/92	MET	Arsenic	6	5.0	1.2
NGW310	MW	MW106B	10/06/92	MET	Cadmium	51	0.21	240

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW310	MW	MW106B	07/22/93	MET	Cadmium	4	0.21	19
NGW310	MW	MW106B	10/27/93	MET	Cadmium	9	0.21	43
NGW310	MW	MW106B	04/19/94	MET	Cadmium	4	0.21	19
NGW310	MW	MW106B	10/06/92	MET	Lead	32	2.5	13
NGW310	MW	MW106B	07/22/93	MET	Lead	6	2.5	2.4
NGW310	MW	MW106B	10/27/93	MET	Lead	15	2.5	6.0
NGW310	MW	MW106B	04/19/94	MET	Lead	3	2.5	1.2
NGW310	MW	MW106B	10/06/92	MET	Mercury	0.1	0.02	5.0
NGW310	MW	NGW310	02/18/01	VOC	Methylene Chloride	6.9	5.0	1.4
NGW311	MW	MW107B	10/06/92	MET	Cadmium	48	0.21	230
NGW311	MW	MW107B	07/22/93	MET	Cadmium	22	0.21	100
NGW311	MW	MW107B	10/27/93	MET	Cadmium	10	0.21	48
NGW311	MW	MW107B	01/24/94	MET	Cadmium	4	0.21	19
NGW311	MW	MW107B	04/19/94	MET	Cadmium	2	0.21	9.5
NGW311	MW	MW107B	10/06/92	MET	Lead	9	2.5	3.6
NGW311	MW	MW107B	07/22/93	MET	Lead	6	2.5	2.4
NGW311	MW	MW107B	10/27/93	MET	Lead	10	2.5	4.0
NGW311	MW	MW107B	01/24/94	MET	Lead	4	2.5	1.6
NGW311	MW	NGW311	02/18/01	VOC	Methylene Chloride	6.5	5.0	1.3
NGW311	MW	NGW311	07/19/99	VOC	Vinyl Chloride	1	0.2	5.0
NGW311	MW	NGW311	02/21/00	VOC	Vinyl Chloride	0.78	0.2	3.9
NGW311	MW	NGW311	07/24/00	VOC	Vinyl Chloride	2	0.2	10
NGW311	MW	NGW311	02/18/01	VOC	Vinyl Chloride	1.2	0.2	6.0
NGW311	MW	NGW311	08/20/01	VOC	Vinyl Chloride	0.45	0.2	2.3
NGW311	MW	NGW311	02/18/02	VOC	Vinyl Chloride	0.22	0.2	1.1
Building 3-818 Area								
No detected exceedances								
Main Fuel Farm Area								
MW-12	MW	MF-12	12/04/91	TPH	Diesel Range Hydrocarbons	1,200	500	2.4
MW-12	MW	MF-12	04/01/92	TPH	Diesel Range Hydrocarbons	1,400	500	2.8
MW-12	MW	MF-12	07/22/92	TPH	Diesel Range Hydrocarbons	850	500	1.7
MW-12	MW	NBF-MF-12	08/13/86	TPH	Jet Fuel	2,920	500	5.8
MW-12	MW	NBF-MF-12	08/13/86	BTX	Benzene	4	0.795	5.0
MW-12	MW	MF-12	07/22/92	BTX	Benzene	1.4	0.795	1.8
MW-13	MW	NBF-MF-13	08/13/86	TPH	Jet Fuel	1,300	500	2.6
MW-14	MW	NBF-MF-14	08/13/86	TPH	Jet Fuel	4,470	500	8.9

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
MW-16	MW	MF-16	04/01/92	TPH	Diesel Range Hydrocarbons	780	500	1.6
MW-18	MW	MF-18	12/04/91	TPH	Diesel Range Hydrocarbons	49,000	500	98
MW-18	MW	MF-18	04/01/92	TPH	Diesel Range Hydrocarbons	58,000	500	120
MW-19	MW	MF-19	04/01/92	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
MW-19	MW	NBF-MF-19	08/13/86	TPH	Jet Fuel	600	500	1.2
MW-28	MW	MW-28	04/01/92	TPH	Diesel Range Hydrocarbons	820	500	1.6
MW-28	MW	MF-28	07/22/92	TPH	Diesel Range Hydrocarbons	540	500	1.1
MW-28	MW	MF-28	10/30/92	TPH	Diesel Range Hydrocarbons	820	500	1.6
MW-28	MW	MF-28	04/26/93	TPH	Diesel Range Hydrocarbons	900	500	1.8
MW-28	MW	MF-28	10/26/93	TPH	Diesel Range Hydrocarbons	1,400	500	2.8
MW-28	MW	MF-28	01/25/94	TPH	Diesel Range Hydrocarbons	650	500	1.3
MW-28	MW	MW-28	04/01/92	BTX	Benzene	5.9	0.795	7.4
MW-28	MW	MF-28	07/22/92	BTX	Benzene	5.7	0.795	7.2
MW-28	MW	MF-28	01/26/93	BTX	Benzene	5.5	0.795	6.9
MW-28	MW	MF-28	04/26/93	BTX	Benzene	1.2	0.795	1.5
MW-28	MW	MF-28	07/21/93	BTX	Benzene	6.2	0.795	7.8
MW-28	MW	MF-28	10/26/93	BTX	Benzene	35	0.795	44
MW-28	MW	MF-28	01/25/94	BTX	Benzene	10	0.795	13
MW-28	MW	MW-28	04/20/94	BTX	Benzene	5.8	0.795	7.3
NGW353	MW	NGW353	08/14/01	TPH	Diesel Range Hydrocarbons	4,200	500	8.4
NGW353	MW	NGW353	08/14/01	TPH	Jet Fuel	7,200	500	14
NGW354	MW	MW-27	10/25/94	TPH	Diesel Range Hydrocarbons	560	500	1.1
NGW354	MW	MW-27	05/18/95	TPH	Diesel Range Hydrocarbons	3,900	500	7.8
NGW354	MW	MFF-MW-27	09/12/95	TPH	Diesel Range Hydrocarbons	1,900	500	3.8
NGW354	MW	MW-27	03/21/96	TPH	Diesel Range Hydrocarbons	790	500	1.6
NGW354	MW	MFF-MW-27	03/20/97	TPH	Diesel Range Hydrocarbons	52,000	500	100
NGW354	MW	MFF-MW-27	08/28/97	TPH	Diesel Range Hydrocarbons	29,000	500	58
NGW354	MW	MW-27	07/29/98	TPH	Diesel Range Hydrocarbons	6,800	500	14
NGW354	MW	NGW354	01/21/99	TPH	Diesel Range Hydrocarbons	2,700	500	5.4
NGW354	MW	NGW354	02/23/00	TPH	Diesel Range Hydrocarbons	4,900	500	9.8
NGW354	MW	NGW354	07/26/00	TPH	Diesel Range Hydrocarbons	24,000	500	48
NGW354	MW	NGW354	02/21/01	TPH	Diesel Range Hydrocarbons	61,000	500	120
NGW354	MW	NGW354	08/14/01	TPH	Diesel Range Hydrocarbons	36,000	500	72
NGW354	MW	NGW354	02/21/02	TPH	Diesel Range Hydrocarbons	18,000	500	36
NGW354	MW	NGW354	08/15/02	TPH	Diesel Range Hydrocarbons	2,200	500	4.4
NGW354	MW	NGW354	02/17/03	TPH	Diesel Range Hydrocarbons	30,000	500	60
NGW354	MW	NGW354	07/10/03	TPH	Diesel Range Hydrocarbons	27,000	500	54

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW354	MW	NGW354	02/11/04	TPH	Diesel Range Hydrocarbons	4,300	500	8.6
NGW354	MW	NGW354	08/06/04	TPH	Diesel Range Hydrocarbons	6,600	500	13
NGW354	MW	NGW354	02/08/05	TPH	Diesel Range Hydrocarbons	7,500	500	15
NGW354	MW	NGW354	08/19/05	TPH	Diesel Range Hydrocarbons	11,000	500	22
NGW354	MW	NGW354	02/20/06	TPH	Diesel Range Hydrocarbons	4,700	500	9.4
NGW354	MW	NGW354	08/15/06	TPH	Diesel Range Hydrocarbons	3,600	500	7.2
NGW354	MW	NGW354	02/19/07	TPH	Diesel Range Hydrocarbons	40,000	500	80
NGW354	MW	NGW354	08/23/07	TPH	Diesel Range Hydrocarbons	3,800	500	7.6
NGW354	MW	NGW354	02/20/08	TPH	Diesel Range Hydrocarbons	3,700	500	7.4
NGW354	MW	NGW354	08/21/08	TPH	Diesel Range Hydrocarbons	21,000	500	42
NGW354	MW	NGW354	02/12/09	TPH	Diesel Range Hydrocarbons	28,000	500	56
NGW354	MW	NGW354	08/19/09	TPH	Diesel Range Hydrocarbons	16,000	500	32
NGW354	MW	NGW354	02/19/10	TPH	Diesel Range Hydrocarbons	200,000	500	400
NGW354	MW	NGW354	02/21/01	TPH	Jet Fuel	180,000	500	360
NGW354	MW	NGW354	08/14/01	TPH	Jet Fuel	82,000	500	160
NGW354	MW	NGW354	02/21/02	TPH	Jet Fuel	47,000	500	94
NGW354	MW	NGW354	02/17/03	TPH	Jet Fuel	83,000	500	170
NGW354	MW	NGW354	07/10/03	TPH	Jet Fuel	66,000	500	130
NGW354	MW	NGW354	02/11/04	TPH	Jet Fuel	9,600	500	19
NGW354	MW	NGW354	08/06/04	TPH	Jet Fuel	13,000	500	26
NGW354	MW	NGW354	02/08/05	TPH	Jet Fuel	18,000	500	36
NGW354	MW	NGW354	08/19/05	TPH	Jet Fuel	23,000	500	46
NGW354	MW	NGW354	02/20/06	TPH	Jet Fuel	10,000	500	20
NGW354	MW	NGW354	08/15/06	TPH	Jet Fuel	11,000	500	22
NGW354	MW	NGW354	02/19/07	TPH	Jet Fuel	95,000	500	190
NGW354	MW	NGW354	08/23/07	TPH	Jet Fuel	11,000	500	22
NGW354	MW	NGW354	02/20/08	TPH	Jet Fuel	8,400	500	17
NGW354	MW	NGW354	08/21/08	TPH	Jet Fuel	35,000	500	70
NGW354	MW	NGW354	02/12/09	TPH	Jet Fuel	71,000	500	140
NGW354	MW	NGW354	08/19/09	TPH	Jet Fuel	28,000	500	56
NGW354	MW	NGW354	02/19/10	TPH	Jet Fuel	610,000	500	1,200
NGW354	MW	NGW354	08/19/10	TPH	Jet Fuel	7,300	500	15
NGW354	MW	MW-27	04/01/92	BTX	Benzene	4.9	0.795	6.2
NGW354	MW	MF-27	07/22/92	BTX	Benzene	51	0.795	64
NGW354	MW	MF-27	10/29/92	BTX	Benzene	40	0.795	50
NGW354	MW	MF-27	01/26/93	BTX	Benzene	9.6	0.795	12
NGW354	MW	MF-27	04/26/93	BTX	Benzene	5.1	0.795	6.4

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW354	MW	MF-27	07/21/93	BTX	Benzene	4.8	0.795	6.0
NGW354	MW	MF-27	10/26/93	BTX	Benzene	27	0.795	34
NGW354	MW	MF-27	01/25/94	BTX	Benzene	5.7	0.795	7.2
NGW354	MW	MW-27	07/20/94	BTX	Benzene	49	0.795	62
NGW354	MW	MW-27	10/25/94	BTX	Benzene	62	0.795	78
NGW354	MW	MW-27	01/25/95	BTX	Benzene	2.3	0.795	2.9
NGW354	MW	MFF-MW-27	09/12/95	BTX	Benzene	48	0.795	60
NGW354	MW	MW-27	03/21/96	BTX	Benzene	4.1	0.795	5.2
NGW354	MW	MFF-MW-27	03/20/97	BTX	Benzene	13	0.795	16
NGW354	MW	MFF-MW-27	08/28/97	BTX	Benzene	85	0.795	110
NGW354	MW	MW-27	07/29/98	BTX	Benzene	58	0.795	73
NGW354	MW	NGW354	01/21/99	BTX	Benzene	25	0.795	31
NGW354	MW	NGW354	02/23/00	BTX	Benzene	110 E	0.795	140
NGW354	MW	NGW354	07/26/00	BTX	Benzene	63	0.795	79
NGW354	MW	NGW354	02/21/01	BTX	Benzene	94	0.795	120
NGW354	MW	NGW354	08/14/01	BTX	Benzene	110	0.795	140
NGW354	MW	NGW354	02/21/02	BTX	Benzene	30	0.795	38
NGW354	MW	NGW354	08/15/02	BTX	Benzene	59	0.795	74
NGW354	MW	NGW354	02/17/03	BTX	Benzene	44	0.795	55
NGW354	MW	NGW354	07/10/03	BTX	Benzene	10	0.795	13
NGW354	MW	NGW354	02/11/04	BTX	Benzene	48	0.795	60
NGW354	MW	NGW354	08/06/04	BTX	Benzene	240	0.795	300
NGW354	MW	NGW354	02/08/05	BTX	Benzene	56	0.795	70
NGW354	MW	NGW354	08/19/05	BTX	Benzene	77	0.795	97
NGW354	MW	NGW354	02/20/06	BTX	Benzene	34	0.795	43
NGW354	MW	NGW354	08/15/06	BTX	Benzene	120	0.795	150
NGW354	MW	NGW354	02/19/07	BTX	Benzene	21	0.795	26
NGW354	MW	NGW354	08/23/07	BTX	Benzene	79	0.795	99
NGW354	MW	NGW354	02/20/08	BTX	Benzene	51	0.795	64
NGW354	MW	NGW354	08/21/08	BTX	Benzene	180	0.795	230
NGW354	MW	NGW354	02/12/09	BTX	Benzene	100	0.795	130
NGW354	MW	NGW354	08/19/09	BTX	Benzene	50	0.795	63
NGW354	MW	NGW354	02/19/10	BTX	Benzene	10	0.795	13
NGW354	MW	NGW354	08/19/10	BTX	Benzene	270	0.795	340
NGW355	MW	NGW355	02/21/01	TPH	Jet Fuel	900	500	1.8
NGW356	MW	MW-30	01/25/95	TPH	Diesel Range Hydrocarbons	2,000	500	4.0
NGW356	MW	MW-30	05/19/95	TPH	Diesel Range Hydrocarbons	1,300	500	2.6

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW356	MW	MFF-MW-30	09/11/95	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW356	MW	MW-30	03/21/96	TPH	Diesel Range Hydrocarbons	930	500	1.9
NGW356	MW	MFF-MW-30	03/20/97	TPH	Diesel Range Hydrocarbons	1,800	500	3.6
NGW356	MW	MFF-MW-30	08/28/97	TPH	Diesel Range Hydrocarbons	2,600	500	5.2
NGW356	MW	MW-30-Dup	07/29/98	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW356	MW	NGW356	01/21/99	TPH	Diesel Range Hydrocarbons	600	500	1.2
NGW356	MW	NGW356	02/23/00	TPH	Diesel Range Hydrocarbons	700	500	1.4
NGW356	MW	NGW356	07/26/00	TPH	Diesel Range Hydrocarbons	750	500	1.5
NGW356	MW	NGW356	02/21/01	TPH	Diesel Range Hydrocarbons	2,000	500	4.0
NGW356	MW	NGW356	08/14/01	TPH	Diesel Range Hydrocarbons	1,700	500	3.4
NGW356	MW	NGW356	02/21/02	TPH	Diesel Range Hydrocarbons	950	500	1.9
NGW356	MW	NGW356	08/15/02	TPH	Diesel Range Hydrocarbons	1,200	500	2.4
NGW356	MW	NGW356	02/17/03	TPH	Diesel Range Hydrocarbons	1,400	500	2.8
NGW356	MW	NGW356	07/10/03	TPH	Diesel Range Hydrocarbons	1,200	500	2.4
NGW356	MW	NGW356	02/11/04	TPH	Diesel Range Hydrocarbons	810	500	1.6
NGW356	MW	NGW356	08/06/04	TPH	Diesel Range Hydrocarbons	870	500	1.7
NGW356	MW	NGW356	02/08/05	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW356	MW	NGW356	08/19/05	TPH	Diesel Range Hydrocarbons	580	500	1.2
NGW356	MW	NGW356	02/20/06	TPH	Diesel Range Hydrocarbons	1,200	500	2.4
NGW356	MW	NGW356	02/19/07	TPH	Diesel Range Hydrocarbons	620	500	1.2
NGW356	MW	NGW356	08/23/07	TPH	Diesel Range Hydrocarbons	800	500	1.6
NGW356	MW	NGW356	02/20/08	TPH	Diesel Range Hydrocarbons	630	500	1.3
NGW356	MW	NGW356	08/21/08	TPH	Diesel Range Hydrocarbons	640	500	1.3
NGW356	MW	NGW356	02/12/09	TPH	Diesel Range Hydrocarbons	1,000	500	2.0
NGW356	MW	NGW356	08/19/09	TPH	Diesel Range Hydrocarbons	870	500	1.7
NGW356	MW	NGW356	02/19/10	TPH	Diesel Range Hydrocarbons	600	500	1.2
NGW356	MW	NGW356	02/21/01	TPH	Jet Fuel	2,200	500	4.4
NGW356	MW	NGW356	08/14/01	TPH	Jet Fuel	1,500	500	3.0
NGW356	MW	NGW356	02/21/02	TPH	Jet Fuel	1,000	500	2.0
NGW356	MW	NGW356	02/17/03	TPH	Jet Fuel	1,200	500	2.4
NGW356	MW	NGW356	07/10/03	TPH	Jet Fuel	1,000	500	2.0
NGW356	MW	NGW356	02/11/04	TPH	Jet Fuel	770	500	1.5
NGW356	MW	NGW356	08/06/04	TPH	Jet Fuel	720	500	1.4
NGW356	MW	NGW356	02/08/05	TPH	Jet Fuel	1,000	500	2.0
NGW356	MW	NGW356	02/20/06	TPH	Jet Fuel	1,100	500	2.2
NGW356	MW	NGW356	08/23/07	TPH	Jet Fuel	810	500	1.6
NGW356	MW	NGW356	02/20/08	TPH	Jet Fuel	560	500	1.1

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW356	MW	NGW356	02/12/09	TPH	Jet Fuel	810	500	1.6
NGW356	MW	NGW356	08/19/09	TPH	Jet Fuel	570	500	1.1
NGW356	MW	NGW356	02/19/10	TPH	Jet Fuel	620	500	1.2
NGW356	MW	NGW356	08/18/10	TPH	Jet Fuel	600	500	1.2
NGW356	MW	MFF-MW-30	09/11/95	BTX	Benzene	1.7	0.795	2.1
NGW356	MW	MW-30	03/21/96	BTX	Benzene	1.3	0.795	1.6
NGW357	MW	MW-31	01/25/95	TPH	Diesel Range Hydrocarbons	3,200	500	6.4
NGW357	MW	MW-31	05/19/95	TPH	Diesel Range Hydrocarbons	1,500	500	3.0
NGW357	MW	MFF-MW-31	09/12/95	TPH	Diesel Range Hydrocarbons	3,600	500	7.2
NGW357	MW	MW-31	03/21/96	TPH	Diesel Range Hydrocarbons	1,700	500	3.4
NGW357	MW	MFF-MW-31	03/20/97	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW357	MW	MFF-MW-31	08/28/97	TPH	Diesel Range Hydrocarbons	860	500	1.7
NGW357	MW	MW-31	07/29/98	TPH	Diesel Range Hydrocarbons	820	500	1.6
NGW357	MW	NGW357	01/21/99	TPH	Diesel Range Hydrocarbons	720	500	1.4
NGW357	MW	NGW357	07/20/99	TPH	Diesel Range Hydrocarbons	580	500	1.2
NGW357	MW	NGW357	02/23/00	TPH	Diesel Range Hydrocarbons	990	500	2.0
NGW357	MW	NGW357	07/26/00	TPH	Diesel Range Hydrocarbons	640	500	1.3
NGW357	MW	NGW357	02/21/01	TPH	Diesel Range Hydrocarbons	2,000	500	4.0
NGW357	MW	NGW357	08/14/01	TPH	Diesel Range Hydrocarbons	1,500	500	3.0
NGW357	MW	NGW357	02/21/02	TPH	Diesel Range Hydrocarbons	1,900	500	3.8
NGW357	MW	NGW357	08/15/02	TPH	Diesel Range Hydrocarbons	850	500	1.7
NGW357	MW	NGW357	02/17/03	TPH	Diesel Range Hydrocarbons	1,700	500	3.4
NGW357	MW	NGW357	07/10/03	TPH	Diesel Range Hydrocarbons	930	500	1.9
NGW357	MW	NGW357	02/11/04	TPH	Diesel Range Hydrocarbons	740	500	1.5
NGW357	MW	NGW357	08/06/04	TPH	Diesel Range Hydrocarbons	560	500	1.1
NGW357	MW	NGW357	02/08/05	TPH	Diesel Range Hydrocarbons	680	500	1.4
NGW357	MW	NGW357	02/20/06	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW357	MW	NGW357	08/15/06	TPH	Diesel Range Hydrocarbons	530	500	1.1
NGW357	MW	NGW357	02/19/07	TPH	Diesel Range Hydrocarbons	600	500	1.2
NGW357	MW	NGW357	02/20/08	TPH	Diesel Range Hydrocarbons	810	500	1.6
NGW357	MW	NGW357	02/12/09	TPH	Diesel Range Hydrocarbons	780	500	1.6
NGW357	MW	NGW357	08/19/09	TPH	Diesel Range Hydrocarbons	520	500	1.0
NGW357	MW	NGW357	02/19/10	TPH	Diesel Range Hydrocarbons	1,200	500	2.4
NGW357	MW	NGW357	02/21/01	TPH	Jet Fuel	2,800	500	5.6
NGW357	MW	NGW357	08/14/01	TPH	Jet Fuel	1,800	500	3.6
NGW357	MW	NGW357	02/21/02	TPH	Jet Fuel	2,200	500	4.4
NGW357	MW	NGW357	02/17/03	TPH	Jet Fuel	1,800	500	3.6

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW357	MW	NGW357	07/10/03	TPH	Jet Fuel	1,100	500	2.2
NGW357	MW	NGW357	02/11/04	TPH	Jet Fuel	1,000	500	2.0
NGW357	MW	NGW357	08/06/04	TPH	Jet Fuel	710	500	1.4
NGW357	MW	NGW357	02/08/05	TPH	Jet Fuel	880	500	1.8
NGW357	MW	NGW357	08/19/05	TPH	Jet Fuel	640	500	1.3
NGW357	MW	NGW357	02/20/06	TPH	Jet Fuel	1,200	500	2.4
NGW357	MW	NGW357	08/15/06	TPH	Jet Fuel	850	500	1.7
NGW357	MW	NGW357	02/19/07	TPH	Jet Fuel	670	500	1.3
NGW357	MW	NGW357	08/23/07	TPH	Jet Fuel	770	500	1.5
NGW357	MW	NGW357	02/20/08	TPH	Jet Fuel	1,000	500	2.0
NGW357	MW	NGW357	02/12/09	TPH	Jet Fuel	870	500	1.7
NGW357	MW	NGW357	08/19/09	TPH	Jet Fuel	590	500	1.2
NGW357	MW	NGW357	02/19/10	TPH	Jet Fuel	1,700	500	3.4
NGW357	MW	NGW357	08/18/10	TPH	Jet Fuel	720	500	1.4
NGW357	MW	MFF-MW-31	03/20/97	BTX	Benzene	5.8	0.795	7.3
NGW358	MW	MW-32	01/25/95	TPH	Diesel Range Hydrocarbons	14,000	500	28
NGW358	MW	MW-32	05/18/95	TPH	Diesel Range Hydrocarbons	8,000	500	16
NGW358	MW	MFF-MW-32	09/12/95	TPH	Diesel Range Hydrocarbons	20,000	500	40
NGW358	MW	MW-32	03/21/96	TPH	Diesel Range Hydrocarbons	3,000	500	6.0
NGW358	MW	MFF-MW-32	03/20/97	TPH	Diesel Range Hydrocarbons	6,600	500	13
NGW358	MW	MFF-MW-32	08/28/97	TPH	Diesel Range Hydrocarbons	2,500	500	5.0
NGW358	MW	MW-32	07/29/98	TPH	Diesel Range Hydrocarbons	3,200	500	6.4
NGW358	MW	NGW358	01/21/99	TPH	Diesel Range Hydrocarbons	1,100	500	2.2
NGW358	MW	NGW358	02/21/01	TPH	Diesel Range Hydrocarbons	1,600	500	3.2
NGW358	MW	NGW358-Dup	08/14/01	TPH	Diesel Range Hydrocarbons	840	500	1.7
NGW358	MW	NGW358	02/21/02	TPH	Diesel Range Hydrocarbons	2,600	500	5.2
NGW358	MW	NGW358	08/15/02	TPH	Diesel Range Hydrocarbons	2,000	500	4.0
NGW358	MW	NGW358	02/17/03	TPH	Diesel Range Hydrocarbons	3,700	500	7.4
NGW358	MW	NGW358	07/10/03	TPH	Diesel Range Hydrocarbons	2,100	500	4.2
NGW358	MW	NGW358-Dup	02/11/04	TPH	Diesel Range Hydrocarbons	2,100	500	4.2
NGW358	MW	NGW358	08/06/04	TPH	Diesel Range Hydrocarbons	2,200	500	4.4
NGW358	MW	NGW358	02/08/05	TPH	Diesel Range Hydrocarbons	5,000	500	10
NGW358	MW	NGW358	08/19/05	TPH	Diesel Range Hydrocarbons	930	500	1.9
NGW358	MW	NGW358	02/20/06	TPH	Diesel Range Hydrocarbons	970	500	1.9
NGW358	MW	NGW358	02/20/08	TPH	Diesel Range Hydrocarbons	850	500	1.7
NGW358	MW	NGW358	08/21/08	TPH	Diesel Range Hydrocarbons	690	500	1.4
NGW358	MW	NGW358	02/12/09	TPH	Diesel Range Hydrocarbons	2,800	500	5.6

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW358	MW	NGW358	08/19/09	TPH	Diesel Range Hydrocarbons	2,400	500	4.8
NGW358	MW	NGW358	02/19/10	TPH	Diesel Range Hydrocarbons	2,800	500	5.6
NGW358	MW	NGW358	02/21/01	TPH	Jet Fuel	3,400	500	6.8
NGW358	MW	NGW358-Dup	08/14/01	TPH	Jet Fuel	1,800	500	3.6
NGW358	MW	NGW358	02/21/02	TPH	Jet Fuel	4,600	500	9.2
NGW358	MW	NGW358	02/17/03	TPH	Jet Fuel	5,000	500	10
NGW358	MW	NGW358	07/10/03	TPH	Jet Fuel	2,800	500	5.6
NGW358	MW	NGW358-Dup	02/11/04	TPH	Jet Fuel	3,600	500	7.2
NGW358	MW	NGW358	08/06/04	TPH	Jet Fuel	3,000	500	6.0
NGW358	MW	NGW358	02/08/05	TPH	Jet Fuel	6,400	500	13
NGW358	MW	NGW358	08/19/05	TPH	Jet Fuel	1,700	500	3.4
NGW358	MW	NGW358	02/20/06	TPH	Jet Fuel	1,600	500	3.2
NGW358	MW	NGW358	08/15/06	TPH	Jet Fuel	1,100	500	2.2
NGW358	MW	NGW358	02/19/07	TPH	Jet Fuel	780	500	1.6
NGW358	MW	NGW358	08/23/07	TPH	Jet Fuel	740	500	1.5
NGW358	MW	NGW358	02/20/08	TPH	Jet Fuel	1,300	500	2.6
NGW358	MW	NGW358	08/21/08	TPH	Jet Fuel	980	500	2.0
NGW358	MW	NGW358	02/12/09	TPH	Jet Fuel	3,100	500	6.2
NGW358	MW	NGW358	08/19/09	TPH	Jet Fuel	2,700	500	5.4
NGW358	MW	NGW358	02/19/10	TPH	Jet Fuel	4,200	500	8.4
NGW358	MW	NGW358	08/18/10	TPH	Jet Fuel	4,000	500	8.0
NGW358	MW	MW-32	01/25/95	BTX	Benzene	210	0.795	260
NGW358	MW	MFF-MW-32	09/12/95	BTX	Benzene	160	0.795	200
NGW358	MW	MW-32	03/21/96	BTX	Benzene	100	0.795	130
NGW358	MW	MFF-MW-32	03/20/97	BTX	Benzene	9.3	0.795	12
NGW358	MW	MFF-MW-32	08/28/97	BTX	Benzene	6.6	0.795	8.3
NGW358	MW	MW-32	07/29/98	BTX	Benzene	3.9	0.795	4.9
NGW358	MW	NGW358	01/21/99	BTX	Benzene	1.4	0.795	1.8
NGW358	MW	NGW358	07/26/00	BTX	Benzene	1.1	0.795	1.4
NGW358	MW	NGW358	02/21/01	BTX	Benzene	4.4	0.795	5.5
NGW358	MW	NGW358-Dup	08/14/01	BTX	Benzene	5.4	0.795	6.8
NGW358	MW	NGW358	02/21/02	BTX	Benzene	3.9	0.795	4.9
NGW358	MW	NGW358	08/15/02	BTX	Benzene	5.2	0.795	6.5
NGW358	MW	NGW358-Dup	02/17/03	BTX	Benzene	3.5	0.795	4.4
NGW358	MW	NGW358	07/10/03	BTX	Benzene	5.3	0.795	6.7
NGW358	MW	NGW358-Dup	02/11/04	BTX	Benzene	3.3	0.795	4.2
NGW358	MW	NGW358	08/06/04	BTX	Benzene	4.8	0.795	6.0

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
NGW358	MW	NGW358	02/08/05	BTX	Benzene	2.4	0.795	3.0
NGW358	MW	NGW358	08/15/06	BTX	Benzene	1	0.795	1.3
NGW359	MW	MW-33	01/25/95	TPH	Diesel Range Hydrocarbons	9,100	500	18
NGW359	MW	MW-33	05/18/95	TPH	Diesel Range Hydrocarbons	81,000	500	160
NGW359	MW	MFF-MW-33	09/12/95	TPH	Diesel Range Hydrocarbons	46,000	500	92
NGW359	MW	MW-33	03/21/96	TPH	Diesel Range Hydrocarbons	28,000	500	56
NGW359	MW	MFF-MW-33	03/20/97	TPH	Diesel Range Hydrocarbons	19,000	500	38
NGW359	MW	MFF-MW-33	08/28/97	TPH	Diesel Range Hydrocarbons	13,000	500	26
NGW359	MW	MW-33	07/29/98	TPH	Diesel Range Hydrocarbons	580	500	1.2
NGW359	MW	MW-33	01/25/95	BTX	Benzene	24	0.795	30
NGW359	MW	MFF-MW-33	09/12/95	BTX	Benzene	10	0.795	13
NGW359	MW	MW-33	03/21/96	BTX	Benzene	3.3	0.795	4.2
Concourse B Area								
B4	TW	B4	07/25/96	MET	Aluminum	469,000	50	9,400
B4	TW	B4	07/25/96	MET	Arsenic	140	5.0	28
B4	TW	B4	07/25/96	MET	Barium	1,570	2.0	790
B4	TW	B4	07/25/96	MET	Beryllium	10	4.0	2.5
B4	TW	B4	07/25/96	MET	Cadmium	10	0.21	48
B4	TW	B4	07/25/96	MET	Chromium	700	100	7.0
B4	TW	B4	07/25/96	MET	Copper	1,660	1.3	1,300
B4	TW	B4	07/25/96	MET	Iron	325,900	300	1,100
B4	TW	B4	07/25/96	MET	Lead	320	2.5	130
B4	TW	B4	07/25/96	MET	Manganese	3,960	50	79
B4	TW	B4	07/25/96	MET	Nickel	340	8.2	41
B4	TW	B4	07/25/96	MET	Selenium	290	5.0	58
B4	TW	B4	07/25/96	MET	Vanadium	1,980	3.0	660
B4	TW	B4	07/25/96	MET	Zinc	2,850	32.6	87
B4	TW	B4	07/25/96	PHT	Bis(2-Ethylhexyl) Phthalate	2	1.0	2.0
B4	TW	B4	07/25/96	VOC	Tetrachloroethene (PCE)	18	0.2	90
B8	TW	B8	07/25/96	MET	Aluminum	743,200	50	15,000
B8	TW	B8	07/25/96	MET	Arsenic	200	5.0	40
B8	TW	B8	07/25/96	MET	Barium	3,000	2.0	1,500
B8	TW	B8	07/25/96	MET	Beryllium	20	4.0	5.0
B8	TW	B8	07/25/96	MET	Cadmium	20	0.21	95
B8	TW	B8	07/25/96	MET	Chromium	1,260	100	13
B8	TW	B8	07/25/96	MET	Copper	2,080	1.3	1,600

Table 7.1-9
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at Central Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RISL Exceedance Factor
B8	TW	B8	07/25/96	MET	Iron	442,300	300	1,500
B8	TW	B8	07/25/96	MET	Lead	460	2.5	180
B8	TW	B8	07/25/96	MET	Manganese	8,240	50	160
B8	TW	B8	07/25/96	MET	Mercury	50	0.02	2,500
B8	TW	B8	07/25/96	MET	Nickel	790	8.2	96
B8	TW	B8	07/25/96	MET	Selenium	370	5.0	74
B8	TW	B8	07/25/96	MET	Vanadium	2,170	3.0	720
B8	TW	B8	07/25/96	MET	Zinc	13,350	32.6	410
B8	TW	B8	07/25/96	PHT	Bis(2-Ethylhexyl) Phthalate	3.9	1.0	3.9
B8	TW	B8	07/25/96	VOC	Tetrachloroethene (PCE)	1	0.2	5.0
B8	TW	B8	07/25/96	VOC	Trichloroethene (TCE)	51	0.74	69

BTX = BTEX
J = Estimated value
MET = Metals
MW = Monitoring well
PAH = Polycyclic aromatic hydrocarbons
PCB = Polychlorinated biphenyls
PHT = Phthalates
RISL = RI Selected Screening Level
TPH = Total petroleum hydrocarbons
TW = Temporary well
VOC = Volatile organic compounds

Table 7.1-10
RI Selected Screening Level Exceedances for Detected COPCs in Soil at South Flightline Area, NBF

Location Name	Location Type	Sample ID	Sample Date	Depth (ft bgs)	Chemical Class	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Excavation Status
UBF-61 Area										
UBF-61	EX	V61B-1	10/02/89	8	BTX	Benzene	0.008	0.001	8.0	
UBF-61	EX	V61E-1	10/02/89	6	BTX	Benzene	0.0012	0.001	1.2	
UBF-61	EX	V61P-1	10/02/89	NA	BTX	Benzene	0.0061	0.001	6.1	
Former Buildings 3-830, 3-831, and 3-832 Area										
B-1	SB	B-1	10/25/89	10	MET	Barium	55.2	23.1	2.4	
B-1	SB	B-1	10/25/89	10	VOC	Methylene Chloride	0.0054 B	0.0012	4.5	
B-2	SB	B-2	10/25/89	10	MET	Arsenic	19.6	7.0	2.8	
B-2	SB	B-2	10/25/89	10	MET	Barium	69	23.1	3.0	
B-2	SB	B-2	10/25/89	10	VOC	Methylene Chloride	0.049 B	0.0012	41	
MW-1	SB	MW-1	11/08/89	7.5	VOC	Methylene Chloride	0.0019 J	0.0012	1.6	
MW-2	SB	MW-2	11/08/89	7.5	VOC	Methylene Chloride	0.0019 JB	0.0012	1.6	
MW-3	SB	MW-3	11/08/89	7.5	VOC	Methylene Chloride	0.0015 JB	0.0012	1.3	
SB-83005	SB	SB-83005-0010	01/10/97	1	PCB	Total PCBs	0.065	0.033	2.0	
SB-83005	SB	SB-83005-0025	01/10/97	2.5	PCB	Total PCBs	0.1	0.033	3.0	

B = Possible or probable blank contamination
BTX = BTEX
EX = Excavation
J = Estimated value
MET = Metals
NA = Not available
PCB = Polychlorinated biphenyls
RISL = RI Selected Screening Level
SB = Soil boring
VOC = Volatile organic compounds

Table 7.1-11
RI Selected Screening Level Exceedances for Detected COPCs in Groundwater at South Flightline, NBF

Location Name	Location Type	Sample ID	Sample Date	Chemical Class	Chemical	Concentration (ug/L)	RISL (ug/L)	RI SL Exceedance Factor
Buildings 3-830, 3-831, and 3-832 Area								
MW-1	MW	MW-1	11/09/89	BTX	Benzene	1.2 M	0.795	1.5
MW-2	MW	MW-2	11/09/89	BTX	Benzene	2.4	0.795	3.0

BTX = BTEX

M = Estimated value of analyte with low spectral match parameters

MW = Monitoring well

RISL = RI Selected Screening Level

Table 7.1-12
Summary of Proposed RI Activities

Site Sub-Area / Area of Concern	Proposed Soil Borings*	Proposed Groundwater Monitoring Wells	Existing Groundwater Monitoring Wells for RI Monitoring	Minimum Number of Soil Samples per Area of Concern	Minimum Number of Groundwater Samples per Area of Concern	Priority	Analyses
GTSP							
North Yard Area	2	0	0	4	0	Medium	PCB, Dioxins/Furans
East Yard Area	3	0	0	6	0	Low	PCB, Metals, SVOC, VOCs
Fuel Tank Area	Proposal pending review of 2011 interim action data						
South Yard Area and Low-Lying Area	Proposal pending review of 2011 interim action data						
NBF -- PEL Area							
NBF Fenceline Area	Proposal pending review of 2011 interim action data						
Buildings 3-302 and 3-322 Area	4	0	0	8	0	Medium	PCB, Metals
Former Building 3-304 Area	1	0	0	2	0	Low	PCB, Metals
Buildings 3-333 and 3-335 Area							
• Proposed Soil Borings, (Bldg 3-333)	6	0	--	18	--	Medium	PCBs, VOCs
• Proposed Soil Borings, (Bldg 3-335)	4	0	--	8	--	Medium	PCBs, TPH, VOCs
• Existing Monitoring Well	--	0	1	0	2	High	PCBs, Metals, TPH, VOCs
Building 3-324 Area							
• Proposed Soil Borings	6	--	--	12	--	Medium	PCBs, TPH, PAHs, VOCs
• Monitoring Wells	--	1	1	--	8	High	PCBs, Metals, TPH, PAHs, VOCs
Building 3-353 Area							
• Proposed Soil Borings	5	--	--	10	--	Medium	PCBs, TPH, PAHs, VOCs
• Monitoring Wells	--	1	1	--	8	High	PCBs, Metals, TPH, SVOCs, VOCs
Building 3-354 Area							
• Proposed Soil Boring	1	--	0	2	--	Low	PCBs, Metals, TPH, SVOCs
• Proposed Monitoring Well	--	1	0	--	4	High	PCB, Metals, TPH, SVOC, VOC
Wind Tunnel Area	1	0	0	2	0	Low	PCB, Metals, SVOCs, VOCs
Green Hornet Area	10	2	6	20	32	Medium (Soil) High (GW)	PCB, PAHs, TPH, VOC
PEL Area-Wide Zone							
• Proposed Soil Borings, near Bldg 3-323	6	0	0	12	0	High	PCBs, Metals, PAHs
• Proposed Soil Borings, near Bldg 3-626	2	0	0	4	0	Medium	PCBs, TPH
• Proposed Soil Borings, Willow St. Substation	4	0	0	8	0	High	PCBs, PAHs
• Proposed Soil Borings, near Bldg 3-315	3	0	0	6	0	High	PCBs, PAHs
• Existing GW Monitoring Well	0	0	1	0	2	High	PCBs, PAHs
NBF -- North Flightline							
Former Buildings 3-360 and 3-361 Area	Proposal pending review of bioremediation injection interim action data						
Building 3-380 Storm Drain Area							
• Proposed Soil Borings, near Building 3-350	2	0	0	4	0	Medium	PCB, Metals
• Proposed Soil Borings, south end of area	2	0	0	4	0	Medium	PCB, TPH, SVOCs
Building 3-380 Area	2	2	0	4	8	Low (Soil) High (GW)	PCBs, Metals, SVOCs
Building 7-27-1 Area	4	1	1	8	8	Med (Soil) High (GW)	PCBs, Metals, TPH, VOCs
Buildings 3-369 and 3-374 Area	1	1	2	2	12	Low (Soil) High (GW)	PCBs, Metals, TPH, SVOCs
Building 3-390 Area	1	1	0	2	4	Low (Soil) High (GW)	PCBs, Metals, TPH, SVOCs, VOCs
Concourse A Area	7	2	0	14	8	Med to High (Soil) High (GW)	PCBs, Metals, TPH, SVOCs, VOCs

Table 7.1-12
Summary of Proposed RI Activities

Site Sub-Area / Area of Concern	Proposed Soil Borings*	Proposed Groundwater Monitoring Wells	Existing Groundwater Monitoring Wells for RI Monitoring	Minimum Number of Soil Samples per Area of Concern	Minimum Number of Groundwater Samples per Area of Concern	Priority	Analyses
NBF -- Central Flightline							
Building 3-801 Area							
● Proposed Soil Boring	1	--	0	2	--	Low	Metals, SVOCs, VOCs
● Proposed Monitoring Well	--	1	0	--	2	Medium	Metals, VOCs
Building 3-800 Area							
● Proposed Soil Borings, south	2	0	--	4	0	Low	TPH, VOCs
● Proposed Soil Boring, north	1	--	--	2	--	Low	Metals, VOCs
● Proposed Monitoring Well	--	1	0	--	2	High	Metals, VOCs
Building 3-818 Area	1	1	0	2	4	High	PCBs, Metals
Main Fuel Farm Area	7	4	9	12	52	High	TPH, VOCs
Concourse C Area	No proposed RI Activities						
Concourse B Area							
● Proposed Soil Borings, near MH248 - MH249	4	--	0	8	--	Medium	PCBs, Metals
● Proposed Soil Boring, near MH461	1	--	0	2	--	Medium	PCBs, Metals, SVOCs, VOCs
● Proposed Monitoring Wells, one per area	--	2	0	--	8	High	PCBs, Metals, SVOCs, VOCs
NBF -- South Flightline							
UBF-61 Area	1	1	0	2	2	Low	TPH, VOCs
Buildings 3-830, 3-831, and 3-832 Area	3	1	0	6	2	Medium	PCBs, TPH
NBF-OWS-B11-MW1	No proposed RI Activities						
Tent Hangars	No proposed RI Activities						
Site-Wide Investigations							
Site-Wide Groundwater Investigation							
● Proposed Soil Borings	5	--	--	10	--	Low	PCBs, Metals
● Proposed Monitoring Wells	--	5	22**	--	10	High	PCBs, Metals, TPH, and SVOCs
Site-Wide Historical PCB Sources Investigation	9	0	0	18	0	High	PCBs, Metals
RI Total:	**112**	**28**	**22**	**228**	**178**		

* Includes borings for proposed monitoring wells
** Additional sampling is not recommended for the Site-Wide Groundwater Investigation
-- Not applicable

Table 7.2-1
Data Summary: Storm Drain Solids
NBF Site-Wide

Chemical Class	Chemical	No. of Samples	No. of Detections	Frequency of Detection	Maximum Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	No. of Samples Above RISL	Frequency of Detections Above RISL	Maximum Exceedance Factor*	Average Exceedance Factor*
Metals	Arsenic	420	249	59%	150	23	7.3	238	96%	21	3.1
	Cadmium	343	341	99%	110	13	3.7	271	79%	30	3.6
	Chromium	343	343	100%	629	110	35.6	319	93%	18	3.1
	Copper	420	420	100%	3,270	236	310	98	23%	11	0.76
	Lead	420	416	99%	2,780	224	40	400	96%	70	5.6
	Mercury**	435	409	94%	173	1.6	0.41	120	29%	420	3.8
	Silver	343	89	26%	160	4.8	6.1	8	9%	26	0.78
	Zinc	420	420	100%	22,900	1,343	410	349	83%	56	3.3
Chlorinated Aromatics	Total PCBs	768	755	98%	1310	15	0.038	748	99%	34,000	401
	Total dioxins/furans (pg/g)	36	36	100%	275	45	3.9	34	94%	70	12
PAHs	2-Methylnaphthalene	130	42	32%	4.0	0.34	0.59	6	14%	6.8	0.58
	Acenaphthene	133	44	33%	2.5	0.32	0.25	16	36%	10	1.3
	Anthracene	133	73	55%	2.6	0.44	0.96	9	12%	2.7	0.46
	Fluorene	133	58	44%	3.1	0.34	0.36	16	28%	8.6	0.93
	Phenanthrene	133	127	95%	19	2.8	1.5	76	60%	13	1.8
	Total LPAH	138	132	96%	28	3.4	5.2	20	15%	5.4	0.66
	Benzo(a)anthracene	133	121	91%	11	1.5	1.3	43	36%	8.5	1.1
	Benzo(a)pyrene	133	127	95%	15	2.1	0.062	127	100%	240	34
	Benzofluoranthenes	133	130	98%	43	5.3	3.2	75	58%	13	1.7
	Benzo(g,h,i)perylene	124	115	93%	9.4	1.5	0.48	92	80%	20	3.0
	Chrysene	133	132	99%	23	3.2	1.4	82	62%	16	2.3
	Dibenz(a,h)anthracene	134	76	57%	3.6	0.64	0.19	59	78%	19	3.4
	Fluoranthene	133	132	99%	45	6.0	1.7	100	76%	26	3.5
	Indeno(1,2,3-cd)pyrene	133	121	91%	11	1.5	0.53	92	76%	21	2.8
	Pyrene	133	132	99%	23	3.5	2.6	64	48%	8.8	1.3
	Total cPAH	133	132	99%	22	2.9	0.062	132	100%	350	47
	Total HPAH	138	137	99%	180	25	12	91	66%	15	2.1
Phthalates	Bis(2-Ethylhexyl)phthalate	86	86	100%	42	7.4	0.73	77	90%	58	10
	Butyl benzyl phthalate	86	40	47%	1.6	0.50	0.063	39	98%	25	7.9
	Dibutyl phthalate	84	29	35%	6.9	0.71	1.4	2	7%	4.9	0.51
	Dimethylphthalate	84	1	1%	0.33	0.33	0.071	1	100%	4.6	4.6
	Di-n-Octyl phthalate	84	71	85%	34	5.1	0.42	57	80%	81	12
Other SVOCs	2,4-Dimethylphenol***	87	2	2%	0.44	0.33	0.029	2	100%	15	11
	Benzoic acid	84	6	7%	3.7	2.4	0.65	5	83%	5.7	3.7
	Benzyl alcohol***	84	1	1%	200	200	0.057	1	100%	3,500	3,509
	p-Cresol	84	31	37%	12	1.6	0.67	13	42%	18	2.3
	Dibenzofuran	130	46	35%	1.8	0.26	0.23	19	41%	7.8	1.1
	Phenol	87	13	15%	1.9	0.48	0.42	5	38%	4.5	1.2

(light shading) Maximum exceedance factor >5 for metals and >10 for organic chemicals.
(dark shading) Average exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g TEQ.
* Maximum and average exceedance factors for detected values.
**Excludes grab sample collected on 3/31/2010 from MH652; sample contained a paint chip and is therefore not representative storm drain solids concentrations.
***Not shaded because frequency of detection is less than 5%
RISL = RI Selected Screening Level

Table 7.2-2
Maximum Exceedance Factors in Storm Drain Solids, by Drainage Area

Chemical Class	Chemical	Lift Station	North Lateral	North-Central Lateral	South-Central Lateral	South Lateral	Bldg 3-380 Area	Parking Lot Area
Metals	Arsenic		●	●	●	●		●
	Cadmium		●●	●●	●	●		
	Chromium		●	●	●	●	●	●
	Copper		●					
	Lead	●	●●	●	●●	●	●	●
	Mercury**	●	●●●	●		●●		
	Silver		●●					
	Zinc		●●	●		●	●	
Chlorinated Aromatics	Total PCBs	●	●●●●	●●●●	●●●	●●	●	●
	Total dioxins/furans (pg/g)	●	●	●			●	●
PAHs	2-Methylnaphthalene							
	Acenaphthene							
	Anthracene							
	Fluorene							
	Phenanthrene					●		
	Total LPAH							
	Benzo(a)anthracene							
	Benzo(a)pyrene	●	●●	●	●	●●	●	●
	Benzofluoranthenes					●		
	Benzo(g,h,i)perylene		●			●		
	Chrysene					●		
	Dibenz(a,h)anthracene		●			●		
	Fluoranthene		●			●	●	
	Indeno(1,2,3-cd)pyrene		●			●		
	Pyrene							
	Total HPAH					●		
	Total cPAH	●	●●	●●	●●	●●	●	●
Phthalates	Bis(2-Ethylhexyl)phthalate		●	●		●	●	
	Butyl benzyl phthalate		●	●		●	●	
	Dibutyl phthalate							
	Dimethylphthalate							
	Di-n-Octyl phthalate		●	●	●	●		
Other SVOCs	Benzoic acid							
	p-Cresol		●					
	Dibenzofuran							
	Phenol							

● Maximum exceedance factor >5 to 25 for metals, >10 to 100 for organics
●● Maximum exceedance factor >25 to 125 for metals, >100 to 1,000 for organics
●●● Maximum exceedance factor >125 to 625 for metals, >1,000 to 10,000 for organics
●●●● Maximum exceedance factor >625 for metals, >10,000 for organics
[shaded box] Indicates location of highest detected value.
**Excludes grab sample collected on 3/31/2010 from MH652; sample contained a paint chip and is therefore not representative storm drain solids concentrations.

Table 7.2-3
Data Summary: Storm Drain Solids
North Lateral Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	136 / 213	6.0	150	23	7.3	131 / 136	21
	Cadmium	185 / 186	0.5	108	13	3.7	148 / 185	29
	Chromium	186 / 186	12	629	111	35.6	174 / 186	18
	Copper	213 / 213	24	3,270	276	310	65 / 213	11
	Lead	212 / 213	8.0	2,780	232	40	204 / 212	70
	Mercury**	221 / 223	0.040	305	3.9	0.41	91 / 221	420**
	Silver	63 / 64	0.50	160	6.2	6.1	8 / 63	26
	Zinc	213 / 213	69	22,900	1,677	410	186 / 213	56
Chlorinated Aromatics	Total PCBs	353 / 355	0.037	1,310	26	0.038	352 / 353	34,000
	Total dioxins/furans (pg/g)	20 / 20	4.1	275	63	3.9	20 / 20	70
PAHs	2-Methylnaphthalene	19 / 51	0.029	0.7	0.22	0.59	2 / 19	1.1
	Acenaphthene	16 / 53	0.016	1.2	0.24	0.25	4 / 16	4.8
	Anthracene	25 / 53	0.023	2.2	0.36	0.96	2 / 25	2.3
	Fluorene	21 / 53	0.020	1.4	0.27	0.36	3 / 21	3.9
	Phenanthrene	50 / 53	0.10	13.0	2.4	0.36	31 / 50	8.7
	Total LPAH	51 / 53	0.099	18	2.9	5.2	4 / 51	3.5
	Benzo(a)anthracene	49 / 53	0.093	8.3	1.4	1.3	18 / 49	6.4
	Benzo(a)pyrene	50 / 53	0.13	9.8	1.9	0.062	50 / 50	160
	Benzofluoranthenes	52 / 53	0.28	20	4.6	3.2	29 / 52	6.2
	Benzo(g,h,i)perylene	45 / 49	0.85	6.8	1.4	0.48	35 / 45	14
	Chrysene	52 / 53	0.17	12	2.9	1.4	30 / 53	8.6
	Dibenz(a,h)anthracene	31 / 53	0.02	3.6	0.68	0.19	23 / 31	19
	Fluoranthene	52 / 53	0.30	22	5.3	1.7	38 / 52	13
	Indeno(1,2,3-cd)pyrene	49 / 53	0.091	11	1.60	0.53	36 / 49	21
	Pyrene	52 / 53	0.18	14	3.3	2.6	27 / 52	5.4
	Total HPAH	53 / 53	1.4	97	23	12	34 / 53	8.1
	Total cPAH	52 / 53	0.18	13	2.7	0.062	52 / 52	210
Phthalates	Bis(2-Ethylhexyl)phthalate	27 / 27	0.39	34	9.3	0.73	25 / 27	47
	Butyl benzyl phthalate	15 / 27	0.14	1.3	0.53	0.063	15 / 15	21
	Di-n-Octyl phthalate	23 / 26	0.069	16	3.9	0.42	20 / 23	38
Other SVOCs	2,4-Dimethylphenol	1 / 28	0.44	0.44	0.44	0.029	1 / 1	15
	Benzoic acid	3 / 26	0.39	3.5	1.6	0.65	2 / 3	5.4
	Dibenzofuran	18 / 51	0.016	0.6	0.18	0.23	5 / 18	2.6
	p-Cresol	19 / 26	0.28	12	2.2	0.67	11 / 19	18
	Phenol	4 / 28	0.30	1.9	0.79	0.42	2 / 4	4.5

* Maximum exceedance factor for detected values.
**Excludes grab sample collected on 3/31/2010 from MH652; sample contained a paint chip and is therefore not representative storm drain solids concentrations.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; acenaphthylene; benzyl alcohol; diethyl phthalate; dimethyl phthalate; hexachlorobenzene; hexachlorobutadiene; n-Nitrosodiphenylamine; pentachlorophenol;

Table 7.2-4
Data Summary: Stormwater
North Lateral Drainage Area

Chemical Class	Chemical	Frequency of Detection	Minimum Detect (ug/L)	Maximum Detect (ug/L)	Average Detect (ug/L)	RISL (ug/L)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	47 / 50	0.30	7.0	1.2	0.87	20 / 47	8.0
	Cadmium	27 / 50	0.10	16	1.6	0.43	9 / 27	37
	Copper	48 / 50	0.90	94	13	2.4	39 / 48	39
	Lead	29 / 50	0.10	236	20	8.1	8 / 29	29
	Mercury	1 / 50	0.10	0.10	0.10	0.020	1 / 1	5.0
	Nickel	48 / 50	0.50	12	2.1	8.2	2 / 48	1.4
	Zinc	49 / 50	6.0	280	61	32.6	40 / 49	8.6
Chlorinated Aromatics	Total PCBs	23 / 25	0.013	0.27	0.091	0.010	23 / 23	27
PAHs	Benzo(a)anthracene	14 / 25	0.012	2.7	0.47	0.010	14 / 14	270
	Benzo(a)pyrene	15 / 25	0.011	3.6	0.68	0.010	15 / 15	360
	Benzo(b)fluoranthene	8 / 13	0.012	1.3	0.23	0.020	8 / 8	65
	Benzo(g,h,i)perylene	15 / 25	0.012	3.2	0.65	0.012	15 / 15	280
	Benzo(k)fluoranthene	8 / 13	0.012	1.3	0.23	0.020	5 / 8	65
	Chrysene	23 / 25	0.010	4.3	0.56	0.010	22 / 23	430
	Dibenz(a,h)anthracene	12 / 25	0.010	1.1	0.26	0.010	11 / 12	110
	Fluoranthene	23 / 25	0.010	9.0	1.0	2.3	3 / 23	4.0
	Indeno(1,2,3-cd)pyrene	14 / 25	0.011	2.7	0.57	0.010	14 / 14	270
	Total cPAH	23 / 25	0.0071	5.0	0.63	0.010	17 / 23	500
Phthalates	Bis(2-Ethylhexyl)phthalate	6 / 24	0.80	3.2	1.8	1.4	3 / 6	2.3

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
RISL = RI Selected Screening Level

Table 7.2-5
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
North Lateral Drainage Area

Chemical Class	Chemical	N1 (Main Line)	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12
Metals	Arsenic	9.6	ND	1.4	2.7	21	4.8	21	8.6	4.1	4.1	12	1.5
	Cadmium	4.5	2.6	27	5.9	28	11	14	29	16	7.2	8.4	1.5
	Chromium	3.4	5.5	3.2	4.7	7.7	5.4	18	13	9.7	4.9	6.6	4.0
	Copper	2.6	<1	<1	1.4	<1	2.5	2.6	2.7	1.5	<1	11	<1
	Lead	24	6	6.4	9.4	8.2	8.4	31	16	70	14	15	11
	Mercury	39	<1	<1	2.2	93	1.5	17	1.4	420	30	48	<1
	Silver	1.3	<1	<1	8.1	<1	<1	<1	3.9	<1	26	<1	<1
	Zinc	3.7	3.3	23	7.7	9.0	7.0	12	56	10	12	51	1.9
Chlorinated Aromatics	Total PCBs	21,000	27	19	740	130	39	500	33	440	8,400	34,000	37
	Total dioxins/furans	40	--	--	--	8.9	--	4.5	--	--	13	70	--
PAHs	2-Methylnaphthalene	1.1	--	--	--	ND	--	ND	--	--	<1	<1	--
	Acenaphthene	4.4	--	--	--	4.8	--	ND	--	--	<1	<1	--
	Anthracene	1.9	--	--	--	2.3	--	<1	--	--	<1	<1	--
	Fluorene	3.6	--	--	--	3.9	--	ND	--	--	<1	<1	--
	Phenanthrene	6.1	--	--	--	8.7	--	1.2	--	--	<1	<1	--
	Total LPAH	2.6	--	--	--	3.5	--	<1	--	--	<1	<1	--
	Benzo(a)anthracene	4.0	--	--	--	6.4	--	<1	--	--	<1	<1	--
	Benzo(a)pyrene	140	--	--	--	160	--	21	--	--	9.2	7.1	--
	Benzofluoranthenes	6.2	--	--	--	5.2	--	<1	--	--	<1	<1	--
	Benzo(g,h,i)perylene	9.6	--	--	--	14	--	3.1	--	--	1.7	2.5	--
	Chrysene	8.6	--	--	--	7.9	--	1.4	--	--	<1	<1	--
	Dibenzo(a,h)anthracene	19	--	--	--	14	--	ND	--	--	<1	<1	--
	Fluoranthene	12	--	--	--	13	--	2.4	--	--	<1	<1	--
	Indeno(1,2,3-cd)pyrene	21	--	--	--	12	--	2.1	--	--	<1	<1	--
	Pyrene	4.2	--	--	--	5.4	--	1.3	--	--	<1	<1	--
	Total HPAHs	7.5	--	--	--	8.2	--	1.3	--	--	<1	<1	--
	Total cPAHs	190	--	--	--	210	--	28	--	--	13	12	--
Phthalates	Bis(2-Ethylhexyl)phthalate	47	--	--	--	--	--	--	--	--	--	--	--
	Butyl benzyl phthalate	21	--	--	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	<1	--	--	--	--	--	--	--	--	--	--	--
	Di-n-Octyl phthalate	38	--	--	--	--	--	--	--	--	--	--	--
Other SVOCs	2,4-Dimethylphenol	15	--	--	--	--	--	--	--	--	--	--	--
	Benzoic acid	5.4	--	--	--	--	--	--	--	--	--	--	--
	p-Cresol	18	--	--	--	--	--	--	--	--	--	--	--
	Dibenzofuran	2.6	--	--	--	ND	--	ND	--	--	<1	<1	--
	Phenol	4.5	--	--	--	--	--	--	--	--	--	--	--

"--" indicates sample not analyzed for this parameter
ND - not detected
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-4.

	EF = 0 to 1
	EF = >1 to 5 for metals, >1 to 10 for organics
	EF = >5 to 25 for metals, >10 to 100 for organics
	EF = >25 to 125 for metals, >100 to 1,000 for organics
	EF = >625 for metals, >1,000 to 10,000 for organics
	EF = >10,000 for organics

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB108A	N1	8/24/2011	Grab	Total PCBs	2.9	mg/kg	0.038	76
CB108A	N1	6/16/2009	Grab	Total PCBs	4.8	mg/kg	0.038	130
CB108B	N2	4/6/2010	Grab	Cadmium	9.5	mg/kg	3.7	2.6
CB108B	N2	4/6/2010	Grab	Chromium	196	mg/kg	35.6	5.5
CB108B	N2	4/6/2010	Grab	Copper	234	mg/kg	310	0.75
CB108B	N2	4/6/2010	Grab	Lead	241	mg/kg	40	6.0
CB108B	N2	4/6/2010	Grab	Mercury	0.16	mg/kg	0.41	0.39
CB108B	N2	4/6/2010	Grab	Silver	1.6	mg/kg	6.1	0.26
CB108B	N2	6/15/2011	Grab	Total PCBs	0.042	mg/kg	0.038	1.1
CB108B	N2	4/6/2010	Grab	Total PCBs	1.04	mg/kg	0.038	27
CB108B	N2	4/6/2010	Grab	Zinc	1340	mg/kg	410	3.3
CB110	N3	4/7/2010	Grab	Cadmium	2.3	mg/kg	3.7	0.62
CB110	N3	4/7/2010	Grab	Chromium	78.2	mg/kg	35.6	2.2
CB110	N3	4/7/2010	Grab	Copper	72.9 J	mg/kg	310	0.24
CB110	N3	4/7/2010	Grab	Lead	257 J	mg/kg	40	6.4
CB110	N3	4/7/2010	Grab	Mercury	0.1 J	mg/kg	0.41	0.24
CB110	N3	8/24/2011	Grab	Total PCBs	0.5	mg/kg	0.038	13
CB110	N3	4/7/2010	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
CB110	N3	4/7/2010	Grab	Zinc	863 J	mg/kg	410	2.1
CB113	N4	4/7/2010	Grab	Cadmium	20.7	mg/kg	3.7	5.6
CB113	N4	4/7/2010	Grab	Chromium	169	mg/kg	35.6	4.7
CB113	N4	4/7/2010	Grab	Copper	225	mg/kg	310	0.73
CB113	N4	4/7/2010	Grab	Lead	280	mg/kg	40	7.0
CB113	N4	4/7/2010	Grab	Mercury	0.17	mg/kg	0.41	0.41
CB113	N4	8/24/2011	Grab	Total PCBs	1.6	mg/kg	0.038	42
CB113	N4	4/7/2010	Grab	Total PCBs	3	mg/kg	0.038	79
CB113	N4	6/9/2009	Grab	Total PCBs	6.5	mg/kg	0.038	170
CB113	N4	3/13/2007	Grab	Total PCBs	8	mg/kg	0.038	210
CB113	N4	9/26/2005	Grab	Total PCBs	28	mg/kg	0.038	740
CB113	N4	4/7/2010	Grab	Zinc	1360	mg/kg	410	3.3
CB114	N4	4/5/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
CB114	N4	4/5/2010	Grab	Cadmium	2.5	mg/kg	3.7	0.68
CB114	N4	4/5/2010	Grab	Chromium	79.7	mg/kg	35.6	2.2
CB114	N4	4/5/2010	Grab	Copper	96.1	mg/kg	310	0.31
CB114	N4	4/5/2010	Grab	Lead	146	mg/kg	40	3.7
CB114	N4	4/5/2010	Grab	Mercury	0.26	mg/kg	0.41	0.63
CB114	N4	4/5/2010	Grab	Silver	12.4	mg/kg	6.1	2.0
CB114	N4	8/24/2011	Grab	Total PCBs	0.2	mg/kg	0.038	5.3
CB114	N4	4/5/2010	Grab	Total PCBs	0.95	mg/kg	0.038	25
CB114	N4	10/19/2005	Filter/Undifferentiated	Total PCBs	1.17	mg/kg	0.038	31
CB114	N4	9/26/2005	Grab	Total PCBs	0.87	mg/kg	0.038	23
CB114	N4	4/5/2010	Grab	Zinc	773	mg/kg	410	1.9
CB116	N4	4/5/2010	Grab	Arsenic	15	mg/kg	7.3	2.1
CB116	N4	4/5/2010	Grab	Cadmium	3.4	mg/kg	3.7	0.92
CB116	N4	4/5/2010	Grab	Chromium	163 J	mg/kg	35.6	4.6
CB116	N4	4/5/2010	Grab	Copper	161	mg/kg	310	0.52
CB116	N4	4/5/2010	Grab	Lead	339 J	mg/kg	40	8.5
CB116	N4	4/5/2010	Grab	Mercury	0.91 J	mg/kg	0.41	2.2
CB116	N4	4/5/2010	Grab	Silver	1.6	mg/kg	6.1	0.26
CB116	N4	4/5/2010	Grab	Total PCBs	0.56	mg/kg	0.038	15
CB116	N4	4/5/2010	Grab	Zinc	1160	mg/kg	410	2.8
CB117	N4	4/5/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB117	N4	4/5/2010	Grab	Cadmium	8.1	mg/kg	3.7	2.2
CB117	N4	4/5/2010	Grab	Chromium	165	mg/kg	35.6	4.6

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB117	N4	4/5/2010	Grab	Copper	247	mg/kg	310	0.80
CB117	N4	4/5/2010	Grab	Lead	375	mg/kg	40	9.4
CB117	N4	4/5/2010	Grab	Mercury	0.51	mg/kg	0.41	1.2
CB117	N4	4/5/2010	Grab	Silver	1.9	mg/kg	6.1	0.31
CB117	N4	4/5/2010	Grab	Total PCBs	2.4	mg/kg	0.038	63
CB117	N4	4/5/2010	Grab	Zinc	3150	mg/kg	410	7.7
CB118	N4	4/12/2010	Grab	Cadmium	3	mg/kg	3.7	0.81
CB118	N4	4/12/2010	Grab	Chromium	48.3	mg/kg	35.6	1.4
CB118	N4	4/12/2010	Grab	Copper	90.3	mg/kg	310	0.29
CB118	N4	4/12/2010	Grab	Lead	73	mg/kg	40	1.8
CB118	N4	4/12/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB118	N4	4/12/2010	Grab	Total PCBs	0.54	mg/kg	0.038	14
CB118	N4	4/12/2010	Grab	Zinc	449	mg/kg	410	1.1
CB118A	N4	4/6/2010	Grab	Cadmium	2.7	mg/kg	3.7	0.73
CB118A	N4	4/6/2010	Grab	Chromium	59.4	mg/kg	35.6	1.7
CB118A	N4	4/6/2010	Grab	Copper	46.1	mg/kg	310	0.15
CB118A	N4	4/6/2010	Grab	Lead	47	mg/kg	40	1.2
CB118A	N4	4/6/2010	Grab	Mercury	0.11	mg/kg	0.41	0.27
CB118A	N4	4/6/2010	Grab	Silver	49.2	mg/kg	6.1	8.1
CB118A	N4	4/6/2010	Grab	Total PCBs	0.19	mg/kg	0.038	5.0
CB118A	N4	4/6/2010	Grab	Zinc	359	mg/kg	410	0.88
CB118B	N4	4/6/2010	Grab	Cadmium	3.8 J	mg/kg	3.7	1.0
CB118B	N4	4/6/2010	Grab	Chromium	71.5	mg/kg	35.6	2.0
CB118B	N4	4/6/2010	Grab	Copper	128	mg/kg	310	0.41
CB118B	N4	4/6/2010	Grab	Lead	154	mg/kg	40	3.9
CB118B	N4	4/6/2010	Grab	Mercury	0.09	mg/kg	0.41	0.22
CB118B	N4	4/6/2010	Grab	Total PCBs	0.59	mg/kg	0.038	16
CB118B	N4	4/6/2010	Grab	Zinc	2590	mg/kg	410	6.3
CB118C	N4	4/6/2010	Grab	Cadmium	1.8	mg/kg	3.7	0.49
CB118C	N4	4/6/2010	Grab	Chromium	33.6	mg/kg	35.6	0.94
CB118C	N4	4/6/2010	Grab	Copper	62.3	mg/kg	310	0.20
CB118C	N4	4/6/2010	Grab	Lead	48	mg/kg	40	1.2
CB118C	N4	4/6/2010	Grab	Mercury	0.04	mg/kg	0.41	0.098
CB118C	N4	4/6/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
CB118C	N4	4/6/2010	Grab	Total PCBs	0.204	mg/kg	0.038	5.4
CB118C	N4	4/6/2010	Grab	Zinc	1040	mg/kg	410	2.5
CB118D	N4	4/6/2010	Grab	Cadmium	3.5	mg/kg	3.7	0.95
CB118D	N4	4/6/2010	Grab	Chromium	93	mg/kg	35.6	2.6
CB118D	N4	4/6/2010	Grab	Copper	175	mg/kg	310	0.56
CB118D	N4	4/6/2010	Grab	Lead	221	mg/kg	40	5.5
CB118D	N4	4/6/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB118D	N4	4/6/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
CB118D	N4	4/6/2010	Grab	Total PCBs	1.01	mg/kg	0.038	27
CB118D	N4	4/6/2010	Grab	Zinc	1560	mg/kg	410	3.8
CB118E	N4	4/6/2010	Grab	Cadmium	3.2	mg/kg	3.7	0.86
CB118E	N4	4/6/2010	Grab	Chromium	75	mg/kg	35.6	2.1
CB118E	N4	4/6/2010	Grab	Copper	156	mg/kg	310	0.50
CB118E	N4	4/6/2010	Grab	Lead	173	mg/kg	40	4.3
CB118E	N4	4/6/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB118E	N4	4/6/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
CB118E	N4	4/6/2010	Grab	Total PCBs	0.9	mg/kg	0.038	24
CB118E	N4	4/6/2010	Grab	Zinc	1240	mg/kg	410	3.0
CB118F	N4	4/6/2010	Grab	Cadmium	1.3	mg/kg	3.7	0.35
CB118F	N4	4/6/2010	Grab	Chromium	42.2	mg/kg	35.6	1.2

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB118F	N4	4/6/2010	Grab	Copper	78.9	mg/kg	310	0.25
CB118F	N4	4/6/2010	Grab	Lead	74	mg/kg	40	1.9
CB118F	N4	4/6/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB118F	N4	4/6/2010	Grab	Total PCBs	0.24	mg/kg	0.038	6.3
CB118F	N4	4/6/2010	Grab	Zinc	693	mg/kg	410	1.7
CB118G	N4	4/6/2010	Grab	Cadmium	1.1	mg/kg	3.7	0.30
CB118G	N4	4/6/2010	Grab	Chromium	31.1	mg/kg	35.6	0.87
CB118G	N4	4/6/2010	Grab	Copper	73	mg/kg	310	0.24
CB118G	N4	4/6/2010	Grab	Lead	65	mg/kg	40	1.6
CB118G	N4	4/6/2010	Grab	Mercury	0.06	mg/kg	0.41	0.15
CB118G	N4	4/6/2010	Grab	Total PCBs	0.15	mg/kg	0.038	3.9
CB118G	N4	4/6/2010	Grab	Zinc	280	mg/kg	410	0.68
CB120	N4	4/5/2010	Grab	Cadmium	16.9	mg/kg	3.7	4.6
CB120	N4	4/5/2010	Grab	Chromium	130	mg/kg	35.6	3.7
CB120	N4	4/5/2010	Grab	Copper	185	mg/kg	310	0.60
CB120	N4	4/5/2010	Grab	Lead	240	mg/kg	40	6.0
CB120	N4	4/5/2010	Grab	Mercury	0.27	mg/kg	0.41	0.66
CB120	N4	4/5/2010	Grab	Total PCBs	0.44	mg/kg	0.038	12
CB120	N4	4/5/2010	Grab	Zinc	1110	mg/kg	410	2.7
CB120A	N4	4/5/2010	Grab	Cadmium	15.6	mg/kg	3.7	4.2
CB120A	N4	4/5/2010	Grab	Chromium	101	mg/kg	35.6	2.8
CB120A	N4	4/5/2010	Grab	Copper	168	mg/kg	310	0.54
CB120A	N4	4/5/2010	Grab	Lead	223	mg/kg	40	5.6
CB120A	N4	4/5/2010	Grab	Mercury	0.19	mg/kg	0.41	0.46
CB120A	N4	4/5/2010	Grab	Total PCBs	0.48	mg/kg	0.038	13
CB120A	N4	4/5/2010	Grab	Zinc	1370	mg/kg	410	3.3
CB120C	N4	4/5/2010	Grab	Cadmium	3.5	mg/kg	3.7	0.95
CB120C	N4	4/5/2010	Grab	Chromium	35.7	mg/kg	35.6	1.0
CB120C	N4	4/5/2010	Grab	Copper	145	mg/kg	310	0.47
CB120C	N4	4/5/2010	Grab	Lead	73	mg/kg	40	1.8
CB120C	N4	4/5/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB120C	N4	4/5/2010	Grab	Total PCBs	0.181	mg/kg	0.038	4.8
CB120C	N4	4/5/2010	Grab	Zinc	449	mg/kg	410	1.1
CB120D	N4	4/5/2010	Grab	Arsenic	6	mg/kg	7.3	0.82
CB120D	N4	4/5/2010	Grab	Cadmium	2.3	mg/kg	3.7	0.62
CB120D	N4	4/5/2010	Grab	Chromium	30.2	mg/kg	35.6	0.85
CB120D	N4	4/5/2010	Grab	Copper	113	mg/kg	310	0.36
CB120D	N4	4/5/2010	Grab	Lead	36	mg/kg	40	0.90
CB120D	N4	4/5/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB120D	N4	4/5/2010	Grab	Total PCBs	0.16	mg/kg	0.038	4.2
CB120D	N4	4/5/2010	Grab	Zinc	284	mg/kg	410	0.69
CB120E	N4	4/5/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB120E	N4	4/5/2010	Grab	Cadmium	10.3	mg/kg	3.7	2.8
CB120E	N4	4/5/2010	Grab	Chromium	92.1	mg/kg	35.6	2.6
CB120E	N4	4/5/2010	Grab	Copper	186	mg/kg	310	0.60
CB120E	N4	4/5/2010	Grab	Lead	183	mg/kg	40	4.6
CB120E	N4	4/5/2010	Grab	Mercury	0.33	mg/kg	0.41	0.80
CB120E	N4	4/5/2010	Grab	Total PCBs	0.4	mg/kg	0.038	11
CB120E	N4	4/5/2010	Grab	Zinc	1400	mg/kg	410	3.4
CB121	N4	4/5/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB121	N4	4/5/2010	Grab	Cadmium	9.1	mg/kg	3.7	2.5
CB121	N4	4/5/2010	Grab	Chromium	127	mg/kg	35.6	3.6
CB121	N4	4/5/2010	Grab	Copper	283	mg/kg	310	0.91
CB121	N4	4/5/2010	Grab	Lead	271	mg/kg	40	6.8

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB121	N4	4/5/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB121	N4	4/5/2010	Grab	Total PCBs	0.26	mg/kg	0.038	6.8
CB121	N4	4/5/2010	Grab	Zinc	1160	mg/kg	410	2.8
CB121A	N4	4/5/2010	Grab	Cadmium	8.9	mg/kg	3.7	2.4
CB121A	N4	4/5/2010	Grab	Chromium	95	mg/kg	35.6	2.7
CB121A	N4	4/5/2010	Grab	Copper	436	mg/kg	310	1.4
CB121A	N4	4/5/2010	Grab	Lead	177	mg/kg	40	4.4
CB121A	N4	4/5/2010	Grab	Mercury	0.15	mg/kg	0.41	0.37
CB121A	N4	4/5/2010	Grab	Total PCBs	0.42	mg/kg	0.038	11
CB121A	N4	4/10/2007	Grab	Total PCBs	0.82	mg/kg	0.038	22
CB121A	N4	4/5/2010	Grab	Zinc	3030	mg/kg	410	7.4
CB121B	N4	4/5/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB121B	N4	4/5/2010	Grab	Cadmium	12.5	mg/kg	3.7	3.4
CB121B	N4	4/5/2010	Grab	Chromium	108	mg/kg	35.6	3.0
CB121B	N4	4/5/2010	Grab	Copper	287	mg/kg	310	0.93
CB121B	N4	4/5/2010	Grab	Lead	223	mg/kg	40	5.6
CB121B	N4	4/5/2010	Grab	Mercury	0.14	mg/kg	0.41	0.34
CB121B	N4	4/5/2010	Grab	Total PCBs	0.56	mg/kg	0.038	15
CB121B	N4	4/5/2010	Grab	Zinc	1310	mg/kg	410	3.2
CB122	N4	4/5/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB122	N4	4/5/2010	Grab	Cadmium	9.1	mg/kg	3.7	2.5
CB122	N4	4/5/2010	Grab	Chromium	90.1	mg/kg	35.6	2.5
CB122	N4	4/5/2010	Grab	Copper	238	mg/kg	310	0.77
CB122	N4	4/5/2010	Grab	Lead	156	mg/kg	40	3.9
CB122	N4	4/5/2010	Grab	Mercury	0.14	mg/kg	0.41	0.34
CB122	N4	4/5/2010	Grab	Total PCBs	0.24	mg/kg	0.038	6.3
CB122	N4	4/5/2010	Grab	Zinc	1450	mg/kg	410	3.5
CB124	N4	4/5/2010	Grab	Cadmium	21.8	mg/kg	3.7	5.9
CB124	N4	4/5/2010	Grab	Chromium	116	mg/kg	35.6	3.3
CB124	N4	4/5/2010	Grab	Copper	324	mg/kg	310	1.0
CB124	N4	4/5/2010	Grab	Lead	228	mg/kg	40	5.7
CB124	N4	4/5/2010	Grab	Mercury	0.16	mg/kg	0.41	0.39
CB124	N4	4/5/2010	Grab	Total PCBs	0.26	mg/kg	0.038	6.8
CB124	N4	4/5/2010	Grab	Zinc	1690	mg/kg	410	4.1
CB127	N5	4/7/2010	Grab	Cadmium	4.1	mg/kg	3.7	1.1
CB127	N5	4/7/2010	Grab	Chromium	96.1	mg/kg	35.6	2.7
CB127	N5	4/7/2010	Grab	Copper	135	mg/kg	310	0.44
CB127	N5	4/7/2010	Grab	Lead	177	mg/kg	40	4.4
CB127	N5	4/7/2010	Grab	Mercury	0.17	mg/kg	0.41	0.41
CB127	N5	4/7/2010	Grab	Total PCBs	0.61	mg/kg	0.038	16
CB127	N5	4/7/2010	Grab	Zinc	923	mg/kg	410	2.3
CB128	N5	4/7/2010	Grab	Arsenic	23	mg/kg	7.3	3.2
CB128	N5	4/7/2010	Grab	Cadmium	1.9	mg/kg	3.7	0.51
CB128	N5	4/7/2010	Grab	Chromium	47.7	mg/kg	35.6	1.3
CB128	N5	4/7/2010	Grab	Copper	141	mg/kg	310	0.45
CB128	N5	4/7/2010	Grab	Lead	45	mg/kg	40	1.1
CB128	N5	4/7/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB128	N5	4/7/2010	Grab	Total PCBs	0.35	mg/kg	0.038	9.2
CB128	N5	4/7/2010	Grab	Zinc	268	mg/kg	410	0.65
CB131	N5	4/1/2010	Grab	Arsenic	21	mg/kg	7.3	2.9
CB131	N5	4/1/2010	Grab	Cadmium	8.3	mg/kg	3.7	2.2
CB131	N5	4/1/2010	Grab	Chromium	151	mg/kg	35.6	4.2
CB131	N5	4/1/2010	Grab	Copper	351	mg/kg	310	1.1
CB131	N5	4/1/2010	Grab	Lead	208	mg/kg	40	5.2

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB131	N5	4/1/2010	Grab	Mercury	0.62	mg/kg	0.41	1.5
CB131	N5	4/1/2010	Grab	Total PCBs	1.5	mg/kg	0.038	39
CB131	N5	6/8/2009	Grab	Total PCBs	1.38	mg/kg	0.038	36
CB131	N5	4/1/2010	Grab	Zinc	1130	mg/kg	410	2.8
CB133	N5	4/7/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB133	N5	4/7/2010	Grab	Cadmium	5.3	mg/kg	3.7	1.4
CB133	N5	4/7/2010	Grab	Chromium	120	mg/kg	35.6	3.4
CB133	N5	4/7/2010	Grab	Copper	192	mg/kg	310	0.62
CB133	N5	4/7/2010	Grab	Lead	138	mg/kg	40	3.5
CB133	N5	4/7/2010	Grab	Mercury	0.36	mg/kg	0.41	0.88
CB133	N5	4/7/2010	Grab	Total PCBs	1.16	mg/kg	0.038	31
CB133	N5	4/7/2010	Grab	Zinc	966	mg/kg	410	2.4
CB133B	N5	4/1/2010	Grab	Cadmium	9.5	mg/kg	3.7	2.6
CB133B	N5	4/1/2010	Grab	Chromium	105	mg/kg	35.6	2.9
CB133B	N5	4/1/2010	Grab	Copper	192	mg/kg	310	0.62
CB133B	N5	4/1/2010	Grab	Lead	130	mg/kg	40	3.3
CB133B	N5	4/1/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB133B	N5	4/1/2010	Grab	Total PCBs	0.52	mg/kg	0.038	14
CB133B	N5	4/1/2010	Grab	Zinc	976	mg/kg	410	2.4
CB134	N5	4/1/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB134	N5	4/1/2010	Grab	Cadmium	46.1	mg/kg	3.7	12
CB134	N5	4/1/2010	Grab	Chromium	161	mg/kg	35.6	4.5
CB134	N5	4/1/2010	Grab	Copper	246	mg/kg	310	0.79
CB134	N5	4/1/2010	Grab	Lead	327	mg/kg	40	8.2
CB134	N5	4/1/2010	Grab	Mercury	1.05	mg/kg	0.41	2.6
CB134	N5	4/1/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
CB134	N5	4/1/2010	Grab	Total PCBs	0.83	mg/kg	0.038	22
CB134	N5	4/1/2010	Grab	Zinc	1480	mg/kg	410	3.6
CB135	N5	4/1/2010	Grab	Arsenic	40	mg/kg	7.3	5.5
CB135	N5	4/1/2010	Grab	Cadmium	18.6	mg/kg	3.7	5.0
CB135	N5	4/1/2010	Grab	Chromium	115	mg/kg	35.6	3.2
CB135	N5	4/1/2010	Grab	Copper	166	mg/kg	310	0.54
CB135	N5	4/1/2010	Grab	Lead	298	mg/kg	40	7.5
CB135	N5	4/1/2010	Grab	Mercury	7.8	mg/kg	0.41	19
CB135	N5	4/1/2010	Grab	Total PCBs	1.1	mg/kg	0.038	29
CB135	N5	4/1/2010	Grab	Zinc	1580	mg/kg	410	3.9
CB136	N5	4/1/2010	Grab	Arsenic	15	mg/kg	7.3	2.1
CB136	N5	4/1/2010	Grab	Cadmium	36.4	mg/kg	3.7	9.8
CB136	N5	4/1/2010	Grab	Chromium	119	mg/kg	35.6	3.3
CB136	N5	4/1/2010	Grab	Copper	193	mg/kg	310	0.62
CB136	N5	4/1/2010	Grab	Lead	258	mg/kg	40	6.5
CB136	N5	4/1/2010	Grab	Mercury	38	mg/kg	0.41	93
CB136	N5	4/1/2010	Grab	Total PCBs	1.69	mg/kg	0.038	44
CB136	N5	4/1/2010	Grab	Zinc	2460	mg/kg	410	6.0
CB137A	N5	4/1/2010	Grab	Arsenic	13	mg/kg	7.3	1.8
CB137A	N5	4/1/2010	Grab	Cadmium	24.8	mg/kg	3.7	6.7
CB137A	N5	4/1/2010	Grab	Chromium	119	mg/kg	35.6	3.3
CB137A	N5	4/1/2010	Grab	Copper	219	mg/kg	310	0.71
CB137A	N5	4/1/2010	Grab	Lead	186	mg/kg	40	4.7
CB137A	N5	4/1/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB137A	N5	4/1/2010	Grab	Silver	0.5	mg/kg	6.1	0.082
CB137A	N5	4/1/2010	Grab	Total PCBs	0.78	mg/kg	0.038	21
CB137A	N5	4/1/2010	Grab	Zinc	1810	mg/kg	410	4.4
CB140	N7	4/1/2010	Grab	Arsenic	20	mg/kg	7.3	2.7

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB140	N7	4/1/2010	Grab	Cadmium	7.5	mg/kg	3.7	2.0
CB140	N7	4/1/2010	Grab	Chromium	161	mg/kg	35.6	4.5
CB140	N7	4/1/2010	Grab	Copper	381	mg/kg	310	1.2
CB140	N7	4/1/2010	Grab	Lead	165	mg/kg	40	4.1
CB140	N7	4/1/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB140	N7	4/1/2010	Grab	Silver	1.3	mg/kg	6.1	0.21
CB140	N7	4/1/2010	Grab	Total PCBs	0.5	mg/kg	0.038	13
CB140	N7	4/1/2010	Grab	Zinc	953	mg/kg	410	2.3
CB141	N5	4/1/2010	Grab	Arsenic	80	mg/kg	7.3	11
CB141	N5	4/1/2010	Grab	Cadmium	24	mg/kg	3.7	6.5
CB141	N5	4/1/2010	Grab	Chromium	68	mg/kg	35.6	1.9
CB141	N5	4/1/2010	Grab	Copper	102	mg/kg	310	0.33
CB141	N5	4/1/2010	Grab	Lead	160	mg/kg	40	4.0
CB141	N5	4/1/2010	Grab	Mercury	10.5	mg/kg	0.41	26
CB141	N5	4/1/2010	Grab	Total PCBs	0.56	mg/kg	0.038	15
CB141	N5	4/1/2010	Grab	Zinc	1120	mg/kg	410	2.7
CB142	N7	4/1/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB142	N7	4/1/2010	Grab	Cadmium	26.5	mg/kg	3.7	7.2
CB142	N7	4/1/2010	Grab	Chromium	380	mg/kg	35.6	11
CB142	N7	4/1/2010	Grab	Copper	759	mg/kg	310	2.4
CB142	N7	4/1/2010	Grab	Lead	335	mg/kg	40	8.4
CB142	N7	4/1/2010	Grab	Mercury	0.14	mg/kg	0.41	0.34
CB142	N7	4/1/2010	Grab	Silver	1.1	mg/kg	6.1	0.18
CB142	N7	4/1/2010	Grab	Total PCBs	0.63	mg/kg	0.038	17
CB142	N7	4/1/2010	Grab	Zinc	2820	mg/kg	410	6.9
CB142A	N7	4/1/2010	Grab	Cadmium	33	mg/kg	3.7	8.9
CB142A	N7	4/1/2010	Grab	Chromium	316	mg/kg	35.6	8.9
CB142A	N7	4/1/2010	Grab	Copper	295	mg/kg	310	0.95
CB142A	N7	4/1/2010	Grab	Lead	310	mg/kg	40	7.8
CB142A	N7	4/1/2010	Grab	Mercury	0.2	mg/kg	0.41	0.49
CB142A	N7	4/1/2010	Grab	Silver	3	mg/kg	6.1	0.49
CB142A	N7	4/1/2010	Grab	Total PCBs	1.09	mg/kg	0.038	29
CB142A	N7	4/1/2010	Grab	Zinc	5080	mg/kg	410	12
CB142B	N5	4/1/2010	Grab	Arsenic	150	mg/kg	7.3	21
CB142B	N5	4/1/2010	Grab	Cadmium	31	mg/kg	3.7	8.4
CB142B	N5	4/1/2010	Grab	Chromium	95	mg/kg	35.6	2.7
CB142B	N5	4/1/2010	Grab	Copper	147	mg/kg	310	0.47
CB142B	N5	4/1/2010	Grab	Lead	220	mg/kg	40	5.5
CB142B	N5	4/1/2010	Grab	Mercury	26	mg/kg	0.41	63
CB142B	N5	4/1/2010	Grab	Total PCBs	0.33	mg/kg	0.038	8.7
CB142B	N5	4/1/2010	Grab	Zinc	1200	mg/kg	410	2.9
CB142C	N7	4/1/2010	Grab	Cadmium	4.2	mg/kg	3.7	1.1
CB142C	N7	4/1/2010	Grab	Chromium	192	mg/kg	35.6	5.4
CB142C	N7	4/1/2010	Grab	Copper	414	mg/kg	310	1.3
CB142C	N7	4/1/2010	Grab	Lead	343	mg/kg	40	8.6
CB142C	N7	4/1/2010	Grab	Mercury	0.25	mg/kg	0.41	0.61
CB142C	N7	4/1/2010	Grab	Total PCBs	0.45	mg/kg	0.038	12
CB142C	N7	4/1/2010	Grab	Zinc	3290	mg/kg	410	8.0
CB144	N7	4/1/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB144	N7	4/1/2010	Grab	Cadmium	6.7	mg/kg	3.7	1.8
CB144	N7	4/1/2010	Grab	Chromium	122	mg/kg	35.6	3.4
CB144	N7	4/1/2010	Grab	Copper	233	mg/kg	310	0.75
CB144	N7	4/1/2010	Grab	Lead	179	mg/kg	40	4.5
CB144	N7	4/1/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB144	N7	4/1/2010	Grab	Total PCBs	1.29	mg/kg	0.038	34
CB144	N7	4/1/2010	Grab	Zinc	1150	mg/kg	410	2.8
CB145A	N7	4/1/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB145A	N7	4/1/2010	Grab	Cadmium	3.7	mg/kg	3.7	1.0
CB145A	N7	4/1/2010	Grab	Chromium	255	mg/kg	35.6	7.2
CB145A	N7	4/1/2010	Grab	Copper	145	mg/kg	310	0.47
CB145A	N7	4/1/2010	Grab	Lead	818	mg/kg	40	20
CB145A	N7	4/1/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB145A	N7	4/1/2010	Grab	Silver	0.6	mg/kg	6.1	0.098
CB145A	N7	4/1/2010	Grab	Total PCBs	0.54	mg/kg	0.038	14
CB145A	N7	4/1/2010	Grab	Zinc	983	mg/kg	410	2.4
CB146	N7	4/1/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB146	N7	4/1/2010	Grab	Cadmium	11.7	mg/kg	3.7	3.2
CB146	N7	4/1/2010	Grab	Chromium	165 J	mg/kg	35.6	4.6
CB146	N7	4/1/2010	Grab	Copper	269 J	mg/kg	310	0.87
CB146	N7	4/1/2010	Grab	Lead	345	mg/kg	40	8.6
CB146	N7	4/1/2010	Grab	Mercury	1.39 J	mg/kg	0.41	3.4
CB146	N7	4/1/2010	Grab	Total PCBs	1.4	mg/kg	0.038	37
CB146	N7	4/1/2010	Grab	Zinc	1810	mg/kg	410	4.4
CB147	N7	4/1/2010	Grab	Arsenic	150	mg/kg	7.3	21
CB147	N7	4/1/2010	Grab	Cadmium	52	mg/kg	3.7	14
CB147	N7	4/1/2010	Grab	Chromium	629	mg/kg	35.6	18
CB147	N7	4/1/2010	Grab	Copper	798	mg/kg	310	2.6
CB147	N7	4/1/2010	Grab	Lead	1220	mg/kg	40	31
CB147	N7	4/1/2010	Grab	Mercury	6.86	mg/kg	0.41	17
CB147	N7	4/1/2010	Grab	Silver	2	mg/kg	6.1	0.33
CB147	N7	4/1/2010	Grab	Total PCBs	19	mg/kg	0.038	500
CB147	N7	4/1/2010	Grab	Zinc	4960	mg/kg	410	12
CB149	N11	4/1/2010	Grab	Arsenic	14	mg/kg	7.3	1.9
CB149	N11	4/1/2010	Grab	Cadmium	11.8	mg/kg	3.7	3.2
CB149	N11	4/1/2010	Grab	Chromium	107	mg/kg	35.6	3.0
CB149	N11	4/1/2010	Grab	Copper	167	mg/kg	310	0.54
CB149	N11	4/1/2010	Grab	Lead	602	mg/kg	40	15
CB149	N11	4/1/2010	Grab	Mercury	0.15	mg/kg	0.41	0.37
CB149	N11	4/1/2010	Grab	Total PCBs	0.55	mg/kg	0.038	14
CB149	N11	4/1/2010	Grab	Zinc	1060	mg/kg	410	2.6
CB150	N11	3/29/2010	Grab	Cadmium	8	mg/kg	3.7	2.2
CB150	N11	3/29/2010	Grab	Chromium	104	mg/kg	35.6	2.9
CB150	N11	3/29/2010	Grab	Copper	138	mg/kg	310	0.45
CB150	N11	3/29/2010	Grab	Lead	245	mg/kg	40	6.1
CB150	N11	3/29/2010	Grab	Mercury	0.67	mg/kg	0.41	1.6
CB150	N11	3/29/2010	Grab	Total PCBs	1.09	mg/kg	0.038	29
CB150	N11	3/29/2010	Grab	Zinc	883	mg/kg	410	2.2
CB154	N8	4/12/2010	Grab	Cadmium	2	mg/kg	3.7	0.54
CB154	N8	4/12/2010	Grab	Chromium	76.2	mg/kg	35.6	2.1
CB154	N8	4/12/2010	Grab	Copper	147	mg/kg	310	0.47
CB154	N8	4/12/2010	Grab	Lead	88	mg/kg	40	2.2
CB154	N8	4/12/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB154	N8	4/12/2010	Grab	Total PCBs	0.16	mg/kg	0.038	4.2
CB154	N8	5/15/2007	Grab	Total PCBs	0.7	mg/kg	0.038	18
CB154	N8	5/14/2007	Grab	Total PCBs	0.43	mg/kg	0.038	11
CB154	N8	4/12/2010	Grab	Zinc	586	mg/kg	410	1.4
CB159	N9	3/31/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB159	N9	3/31/2010	Inlet Filter	Arsenic	20	mg/kg	7.3	2.7

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB159	N9	3/31/2010	Inlet Filter	Cadmium	60.3	mg/kg	3.7	16
CB159	N9	3/31/2010	Grab	Cadmium	58.3	mg/kg	3.7	16
CB159	N9	3/31/2010	Grab	Chromium	347	mg/kg	35.6	9.7
CB159	N9	3/31/2010	Inlet Filter	Chromium	146	mg/kg	35.6	4.1
CB159	N9	3/31/2010	Grab	Copper	470	mg/kg	310	1.5
CB159	N9	3/31/2010	Inlet Filter	Copper	333	mg/kg	310	1.1
CB159	N9	3/31/2010	Grab	Lead	201	mg/kg	40	5.0
CB159	N9	3/31/2010	Inlet Filter	Lead	142	mg/kg	40	3.6
CB159	N9	3/31/2010	Grab	Mercury	1.96	mg/kg	0.41	4.8
CB159	N9	3/31/2010	Inlet Filter	Mercury	0.31	mg/kg	0.41	0.76
CB159	N9	3/31/2010	Grab	Total PCBs	16.9	mg/kg	0.038	440
CB159	N9	3/31/2010	Inlet Filter	Total PCBs	14.7	mg/kg	0.038	390
CB159	N9	3/31/2010	Grab	Zinc	2950	mg/kg	410	7.2
CB159	N9	3/31/2010	Inlet Filter	Zinc	2540	mg/kg	410	6.2
CB161	N9	3/31/2010	Grab	Arsenic	25	mg/kg	7.3	3.4
CB161	N9	3/31/2010	Grab	Cadmium	40	mg/kg	3.7	11
CB161	N9	3/31/2010	Grab	Chromium	130	mg/kg	35.6	3.7
CB161	N9	3/31/2010	Grab	Copper	341	mg/kg	310	1.1
CB161	N9	3/31/2010	Grab	Lead	189	mg/kg	40	4.7
CB161	N9	3/31/2010	Grab	Mercury	0.61	mg/kg	0.41	1.5
CB161	N9	3/31/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
CB161	N9	3/31/2010	Grab	Total PCBs	2.4	mg/kg	0.038	63
CB161	N9	3/31/2010	Grab	Zinc	3580	mg/kg	410	8.7
CB162	N9	4/7/2010	Grab	Cadmium	10.4	mg/kg	3.7	2.8
CB162	N9	4/7/2010	Grab	Chromium	89.1	mg/kg	35.6	2.5
CB162	N9	4/7/2010	Grab	Copper	245	mg/kg	310	0.79
CB162	N9	4/7/2010	Grab	Lead	155	mg/kg	40	3.9
CB162	N9	4/7/2010	Grab	Mercury	4.7	mg/kg	0.41	11
CB162	N9	4/7/2010	Grab	Total PCBs	2.9	mg/kg	0.038	76
CB162	N9	4/7/2010	Grab	Zinc	871	mg/kg	410	2.1
CB165	N10	6/2/2010	Filter/Stormwater	2-Methylnaphthalene	0.13	mg/kg	0.59	0.22
CB165	N10	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.12	mg/kg	0.59	0.20
CB165	N10	4/27/2010	Filter/Stormwater	Acenaphthene	0.048	mg/kg	0.25	0.19
CB165	N10	4/27/2010	Filter/Stormwater	Anthracene	0.091	mg/kg	0.96	0.095
CB165	N10	6/2/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
CB165	N10	5/20/2010	Filter/Stormwater	Arsenic	9	mg/kg	7.3	1.2
CB165	N10	4/27/2010	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
CB165	N10	3/30/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB165	N10	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.43	mg/kg	1.3	0.33
CB165	N10	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.44	mg/kg	1.3	0.34
CB165	N10	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	0.57	mg/kg	0.062	9.2
CB165	N10	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.52	mg/kg	0.062	8.4
CB165	N10	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.8	mg/kg	0.48	1.7
CB165	N10	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.48	mg/kg	0.48	1.0
CB165	N10	6/2/2010	Filter/Stormwater	Benzofluoranthene	1.14	mg/kg	3.2	0.36
CB165	N10	4/27/2010	Filter/Stormwater	Benzofluoranthene	1.04	mg/kg	3.2	0.33
CB165	N10	6/2/2010	Filter/Stormwater	Cadmium	6.3	mg/kg	3.7	1.7
CB165	N10	5/20/2010	Filter/Stormwater	Cadmium	3.2	mg/kg	3.7	0.86
CB165	N10	4/27/2010	Filter/Stormwater	Cadmium	13	mg/kg	3.7	3.5
CB165	N10	3/30/2010	Grab	Cadmium	8.6	mg/kg	3.7	2.3
CB165	N10	6/2/2010	Filter/Stormwater	Chromium	117	mg/kg	35.6	3.3
CB165	N10	5/20/2010	Filter/Stormwater	Chromium	79.2	mg/kg	35.6	2.2
CB165	N10	4/27/2010	Filter/Stormwater	Chromium	133 J	mg/kg	35.6	3.7
CB165	N10	3/30/2010	Grab	Chromium	121	mg/kg	35.6	3.4

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB165	N10	6/2/2010	Filter/Stormwater	Chrysene	1	mg/kg	1.4	0.71
CB165	N10	4/27/2010	Filter/Stormwater	Chrysene	0.87	mg/kg	1.4	0.62
CB165	N10	6/2/2010	Filter/Stormwater	Copper	150	mg/kg	310	0.48
CB165	N10	5/20/2010	Filter/Stormwater	Copper	87.4 J	mg/kg	310	0.28
CB165	N10	4/27/2010	Filter/Stormwater	Copper	278	mg/kg	310	0.90
CB165	N10	3/30/2010	Grab	Copper	242	mg/kg	310	0.78
CB165	N10	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.17	mg/kg	0.19	0.89
CB165	N10	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.14	mg/kg	0.19	0.74
CB165	N10	4/27/2010	Filter/Stormwater	Dibenzofuran	0.071	mg/kg	0.23	0.31
CB165	N10	6/2/2010	Filter/Stormwater	Fluoranthene	1.6	mg/kg	1.7	0.94
CB165	N10	4/27/2010	Filter/Stormwater	Fluoranthene	1.3	mg/kg	1.7	0.76
CB165	N10	4/27/2010	Filter/Stormwater	Fluorene	0.083	mg/kg	0.36	0.23
CB165	N10	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.44	mg/kg	0.53	0.83
CB165	N10	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.37	mg/kg	0.53	0.70
CB165	N10	6/2/2010	Filter/Stormwater	Lead	332	mg/kg	40	8.3
CB165	N10	5/20/2010	Filter/Stormwater	Lead	205	mg/kg	40	5.1
CB165	N10	4/27/2010	Filter/Stormwater	Lead	320	mg/kg	40	8.0
CB165	N10	3/30/2010	Grab	Lead	284	mg/kg	40	7.1
CB165	N10	6/2/2010	Filter/Stormwater	Mercury	2.17 J	mg/kg	0.41	5.3
CB165	N10	5/20/2010	Filter/Stormwater	Mercury	2.08 J	mg/kg	0.41	5.1
CB165	N10	4/27/2010	Filter/Stormwater	Mercury	12.4 J	mg/kg	0.41	30
CB165	N10	3/30/2010	Grab	Mercury	6.6	mg/kg	0.41	16
CB165	N10	11/18/2008	Grab	Mercury	2.4	mg/kg	0.41	5.9
CB165	N10	1/26/2007	Filter/Undifferentiated	Mercury	2.1	mg/kg	0.41	5.1
CB165	N10	6/2/2010	Filter/Stormwater	Phenanthrene	0.94	mg/kg	1.5	0.63
CB165	N10	4/27/2010	Filter/Stormwater	Phenanthrene	0.83	mg/kg	1.5	0.55
CB165	N10	6/2/2010	Filter/Stormwater	Pyrene	1.3	mg/kg	2.6	0.50
CB165	N10	4/27/2010	Filter/Stormwater	Pyrene	1.3	mg/kg	2.6	0.50
CB165	N10	5/20/2010	Filter/Stormwater	Silver	160	mg/kg	6.1	26
CB165	N10	6/2/2010	Filter/Stormwater	Total cPAH	0.798	mg/kg	0.062	13
CB165	N10	4/27/2010	Filter/Stormwater	Total cPAH	0.728	mg/kg	0.062	12
CB165	N10	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	49.6	pg/g	3.9	13
CB165	N10	6/2/2010	Filter/Stormwater	Total HPAHs	7.5	mg/kg	12	0.63
CB165	N10	4/27/2010	Filter/Stormwater	Total HPAHs	6.5	mg/kg	12	0.54
CB165	N10	6/2/2010	Filter/Stormwater	Total LPAHs	1.06	mg/kg	5.2	0.20
CB165	N10	4/27/2010	Filter/Stormwater	Total LPAHs	1.21	mg/kg	5.2	0.23
CB165	N10	6/2/2010	Filter/Stormwater	Total PCBs	2.6	mg/kg	0.038	68
CB165	N10	5/20/2010	Filter/Stormwater	Total PCBs	1.3	mg/kg	0.038	34
CB165	N10	4/27/2010	Filter/Stormwater	Total PCBs	7.5	mg/kg	0.038	200
CB165	N10	3/30/2010	Grab	Total PCBs	3.2	mg/kg	0.038	84
CB165	N10	8/5/2009	Grab	Total PCBs	1.14	mg/kg	0.038	30
CB165	N10	11/18/2008	Grab	Total PCBs	0.71	mg/kg	0.038	19
CB165	N10	3/13/2007	Grab	Total PCBs	5.7	mg/kg	0.038	150
CB165	N10	1/26/2007	Filter/Undifferentiated	Total PCBs	14.4	mg/kg	0.038	380
CB165	N10	1/22/2007	Filter/Undifferentiated	Total PCBs	22	mg/kg	0.038	580
CB165	N10	6/2/2010	Filter/Stormwater	Zinc	2810	mg/kg	410	6.9
CB165	N10	5/20/2010	Filter/Stormwater	Zinc	1640	mg/kg	410	4.0
CB165	N10	4/27/2010	Filter/Stormwater	Zinc	4770 J	mg/kg	410	12
CB165	N10	3/30/2010	Grab	Zinc	3160	mg/kg	410	7.7
CB165A	N10	3/30/2010	Grab	Cadmium	10.7	mg/kg	3.7	2.9
CB165A	N10	3/30/2010	Grab	Chromium	174	mg/kg	35.6	4.9
CB165A	N10	3/30/2010	Grab	Copper	162	mg/kg	310	0.52
CB165A	N10	3/30/2010	Grab	Lead	571	mg/kg	40	14
CB165A	N10	3/30/2010	Grab	Mercury	0.32	mg/kg	0.41	0.78

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB165A	N10	3/30/2010	Grab	Total PCBs	1.22	mg/kg	0.038	32
CB165A	N10	8/5/2009	Grab	Total PCBs	0.172	mg/kg	0.038	4.5
CB165A	N10	3/30/2010	Grab	Zinc	810	mg/kg	410	2.0
CB165B	N10	8/5/2009	Grab	Total PCBs	0.197	mg/kg	0.038	5.2
CB167	N10	3/30/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB167	N10	3/30/2010	Grab	Cadmium	3.5	mg/kg	3.7	0.95
CB167	N10	3/30/2010	Grab	Chromium	75.3	mg/kg	35.6	2.1
CB167	N10	3/30/2010	Grab	Copper	197	mg/kg	310	0.64
CB167	N10	3/30/2010	Grab	Lead	106	mg/kg	40	2.7
CB167	N10	3/30/2010	Grab	Mercury	1.65	mg/kg	0.41	4.0
CB167	N10	11/18/2008	Grab	Mercury	0.59	mg/kg	0.41	1.4
CB167	N10	3/30/2010	Grab	Total PCBs	2.1	mg/kg	0.038	55
CB167	N10	6/8/2009	Grab	Total PCBs	1.87	mg/kg	0.038	49
CB167	N10	11/18/2008	Grab	Total PCBs	0.81	mg/kg	0.038	21
CB167	N10	3/13/2007	Grab	Total PCBs	11.8	mg/kg	0.038	310
CB167	N10	3/30/2010	Grab	Zinc	3280	mg/kg	410	8.0
CB171	N1	3/30/2010	Grab	Cadmium	4.5	mg/kg	3.7	1.2
CB171	N1	3/30/2010	Grab	Chromium	120	mg/kg	35.6	3.4
CB171	N1	3/30/2010	Grab	Copper	120	mg/kg	310	0.39
CB171	N1	3/30/2010	Grab	Lead	335	mg/kg	40	8.4
CB171	N1	3/30/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB171	N1	3/30/2010	Grab	Silver	0.6	mg/kg	6.1	0.098
CB171	N1	3/30/2010	Grab	Total PCBs	0.28	mg/kg	0.038	7.4
CB171	N1	3/30/2010	Grab	Zinc	1010	mg/kg	410	2.5
CB173	N11	12/12/2010	Filter/Stormwater	2-Methylnaphthalene	0.071	mg/kg	0.59	0.12
CB173	N11	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.21	mg/kg	0.59	0.36
CB173	N11	4/27/2010	Filter/Stormwater	Acenaphthene	0.072	mg/kg	0.25	0.29
CB173	N11	4/27/2010	Filter/Stormwater	Anthracene	0.097	mg/kg	0.96	0.10
CB173	N11	4/21/2011	Filter/Baseflow	Arsenic	80	mg/kg	7.3	11
CB173	N11	3/23/2011	Filter/Baseflow	Arsenic	23	mg/kg	7.3	3.2
CB173	N11	1/21/2011	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
CB173	N11	12/12/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
CB173	N11	6/30/2010	Filter/Baseflow	Arsenic	90	mg/kg	7.3	12
CB173	N11	3/29/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB173	N11	12/12/2010	Filter/Stormwater	Benzo(a)anthracene	0.29	mg/kg	1.3	0.22
CB173	N11	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.17	mg/kg	1.3	0.13
CB173	N11	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.27	mg/kg	1.3	0.21
CB173	N11	12/12/2010	Filter/Stormwater	Benzo(a)pyrene	0.29	mg/kg	0.062	4.7
CB173	N11	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	0.24	mg/kg	0.062	3.9
CB173	N11	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.44	mg/kg	0.062	7.1
CB173	N11	1/21/2011	Filter/Stormwater	Benzo(g,h,i)perylene	1.2 J	mg/kg	0.48	2.5
CB173	N11	12/12/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.27	mg/kg	0.48	0.56
CB173	N11	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.59	mg/kg	0.48	1.2
CB173	N11	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.58	mg/kg	0.48	1.2
CB173	N11	4/21/2011	Filter/Baseflow	Benzofluoranthene	0.53	mg/kg	3.2	0.17
CB173	N11	1/21/2011	Filter/Stormwater	Benzofluoranthene	0.88 J	mg/kg	3.2	0.28
CB173	N11	12/12/2010	Filter/Stormwater	Benzofluoranthene	0.78 J	mg/kg	3.2	0.24
CB173	N11	6/2/2010	Filter/Stormwater	Benzofluoranthene	0.72	mg/kg	3.2	0.23
CB173	N11	4/27/2010	Filter/Stormwater	Benzofluoranthene	1.16	mg/kg	3.2	0.36
CB173	N11	4/21/2011	Filter/Baseflow	Cadmium	7	mg/kg	3.7	1.9
CB173	N11	3/23/2011	Filter/Baseflow	Cadmium	2	mg/kg	3.7	0.54
CB173	N11	1/27/2011	Filter/Baseflow	Cadmium	5	mg/kg	3.7	1.4
CB173	N11	1/21/2011	Filter/Stormwater	Cadmium	6.7	mg/kg	3.7	1.8
CB173	N11	12/12/2010	Filter/Stormwater	Cadmium	15.2	mg/kg	3.7	4.1

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB173	N11	11/30/2010	Filter/Stormwater	Cadmium	14	mg/kg	3.7	3.8
CB173	N11	11/17/2010	Filter/Stormwater	Cadmium	12	mg/kg	3.7	3.2
CB173	N11	6/30/2010	Filter/Baseflow	Cadmium	11.1	mg/kg	3.7	3.0
CB173	N11	6/2/2010	Filter/Stormwater	Cadmium	9	mg/kg	3.7	2.4
CB173	N11	5/20/2010	Filter/Stormwater	Cadmium	31.2	mg/kg	3.7	8.4
CB173	N11	4/27/2010	Filter/Stormwater	Cadmium	8.3	mg/kg	3.7	2.2
CB173	N11	3/29/2010	Grab	Cadmium	6	mg/kg	3.7	1.6
CB173	N11	4/21/2011	Filter/Baseflow	Chromium	70	mg/kg	35.6	2.0
CB173	N11	3/23/2011	Filter/Baseflow	Chromium	42.5	mg/kg	35.6	1.2
CB173	N11	1/27/2011	Filter/Baseflow	Chromium	19	mg/kg	35.6	0.53
CB173	N11	1/21/2011	Filter/Stormwater	Chromium	43 J	mg/kg	35.6	1.2
CB173	N11	12/12/2010	Filter/Stormwater	Chromium	116 J	mg/kg	35.6	3.3
CB173	N11	11/30/2010	Filter/Stormwater	Chromium	82	mg/kg	35.6	2.3
CB173	N11	11/17/2010	Filter/Stormwater	Chromium	222	mg/kg	35.6	6.2
CB173	N11	6/30/2010	Filter/Baseflow	Chromium	74	mg/kg	35.6	2.1
CB173	N11	6/2/2010	Filter/Stormwater	Chromium	74	mg/kg	35.6	2.1
CB173	N11	5/20/2010	Filter/Stormwater	Chromium	81	mg/kg	35.6	2.3
CB173	N11	4/27/2010	Filter/Stormwater	Chromium	67 J	mg/kg	35.6	1.9
CB173	N11	3/29/2010	Grab	Chromium	94	mg/kg	35.6	2.6
CB173	N11	4/21/2011	Filter/Baseflow	Chrysene	0.35	mg/kg	1.4	0.25
CB173	N11	1/21/2011	Filter/Stormwater	Chrysene	0.95 J	mg/kg	1.4	0.68
CB173	N11	12/12/2010	Filter/Stormwater	Chrysene	0.51	mg/kg	1.4	0.36
CB173	N11	6/2/2010	Filter/Stormwater	Chrysene	0.76	mg/kg	1.4	0.54
CB173	N11	4/27/2010	Filter/Stormwater	Chrysene	1	mg/kg	1.4	0.71
CB173	N11	4/21/2011	Filter/Baseflow	Copper	466	mg/kg	310	1.5
CB173	N11	3/23/2011	Filter/Baseflow	Copper	125	mg/kg	310	0.40
CB173	N11	1/27/2011	Filter/Baseflow	Copper	102 J	mg/kg	310	0.33
CB173	N11	1/21/2011	Filter/Stormwater	Copper	165	mg/kg	310	0.53
CB173	N11	12/12/2010	Filter/Stormwater	Copper	268 J	mg/kg	310	0.86
CB173	N11	11/30/2010	Filter/Stormwater	Copper	231	mg/kg	310	0.75
CB173	N11	11/17/2010	Filter/Stormwater	Copper	320	mg/kg	310	1.0
CB173	N11	6/30/2010	Filter/Baseflow	Copper	382	mg/kg	310	1.2
CB173	N11	6/2/2010	Filter/Stormwater	Copper	311	mg/kg	310	1.0
CB173	N11	5/20/2010	Filter/Stormwater	Copper	278 J	mg/kg	310	0.90
CB173	N11	4/27/2010	Filter/Stormwater	Copper	245	mg/kg	310	0.79
CB173	N11	3/29/2010	Grab	Copper	295	mg/kg	310	0.95
CB173	N11	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.15	mg/kg	0.19	0.79
CB173	N11	12/12/2010	Filter/Stormwater	Dibenzofuran	0.078	mg/kg	0.23	0.34
CB173	N11	4/27/2010	Filter/Stormwater	Dibenzofuran	0.13	mg/kg	0.23	0.57
CB173	N11	4/21/2011	Filter/Baseflow	Fluoranthene	0.43	mg/kg	1.7	0.25
CB173	N11	1/21/2011	Filter/Stormwater	Fluoranthene	1.1	mg/kg	1.7	0.65
CB173	N11	12/12/2010	Filter/Stormwater	Fluoranthene	0.73	mg/kg	1.7	0.43
CB173	N11	6/2/2010	Filter/Stormwater	Fluoranthene	0.86	mg/kg	1.7	0.51
CB173	N11	4/27/2010	Filter/Stormwater	Fluoranthene	1.2	mg/kg	1.7	0.71
CB173	N11	12/12/2010	Filter/Stormwater	Fluorene	0.066	mg/kg	0.36	0.18
CB173	N11	4/27/2010	Filter/Stormwater	Fluorene	0.14	mg/kg	0.36	0.39
CB173	N11	12/12/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.2	mg/kg	0.53	0.38
CB173	N11	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.24	mg/kg	0.53	0.45
CB173	N11	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.4	mg/kg	0.53	0.75
CB173	N11	4/21/2011	Filter/Baseflow	Lead	130	mg/kg	40	3.3
CB173	N11	3/23/2011	Filter/Baseflow	Lead	51	mg/kg	40	1.3
CB173	N11	1/27/2011	Filter/Baseflow	Lead	42 J	mg/kg	40	1.1
CB173	N11	1/21/2011	Filter/Stormwater	Lead	131 J	mg/kg	40	3.3
CB173	N11	12/12/2010	Filter/Stormwater	Lead	335 J	mg/kg	40	8.4

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB173	N11	11/30/2010	Filter/Stormwater	Lead	210	mg/kg	40	5.3
CB173	N11	11/17/2010	Filter/Stormwater	Lead	160	mg/kg	40	4.0
CB173	N11	6/30/2010	Filter/Baseflow	Lead	211	mg/kg	40	5.3
CB173	N11	6/2/2010	Filter/Stormwater	Lead	210	mg/kg	40	5.3
CB173	N11	5/20/2010	Filter/Stormwater	Lead	202	mg/kg	40	5.1
CB173	N11	4/27/2010	Filter/Stormwater	Lead	142	mg/kg	40	3.6
CB173	N11	3/29/2010	Grab	Lead	158	mg/kg	40	4.0
CB173	N11	4/21/2011	Filter/Baseflow	Mercury	1.8	mg/kg	0.41	4.4
CB173	N11	3/23/2011	Filter/Baseflow	Mercury	18	mg/kg	0.41	44
CB173	N11	1/27/2011	Filter/Baseflow	Mercury	0.4	mg/kg	0.41	0.98
CB173	N11	1/21/2011	Filter/Stormwater	Mercury	0.5 J	mg/kg	0.41	1.2
CB173	N11	12/12/2010	Filter/Stormwater	Mercury	0.78	mg/kg	0.41	1.9
CB173	N11	11/30/2010	Filter/Stormwater	Mercury	1	mg/kg	0.41	2.4
CB173	N11	11/17/2010	Filter/Stormwater	Mercury	1.17	mg/kg	0.41	2.9
CB173	N11	6/30/2010	Filter/Baseflow	Mercury	0.73	mg/kg	0.41	1.8
CB173	N11	6/2/2010	Filter/Stormwater	Mercury	0.8 J	mg/kg	0.41	2.0
CB173	N11	5/20/2010	Filter/Stormwater	Mercury	12.9 J	mg/kg	0.41	31
CB173	N11	4/27/2010	Filter/Stormwater	Mercury	0.57 J	mg/kg	0.41	1.4
CB173	N11	3/29/2010	Grab	Mercury	0.77	mg/kg	0.41	1.9
CB173	N11	12/12/2010	Filter/Stormwater	Phenanthrene	0.58	mg/kg	1.5	0.39
CB173	N11	6/2/2010	Filter/Stormwater	Phenanthrene	0.48	mg/kg	1.5	0.32
CB173	N11	4/27/2010	Filter/Stormwater	Phenanthrene	0.92	mg/kg	1.5	0.61
CB173	N11	4/21/2011	Filter/Baseflow	Pyrene	0.52	mg/kg	2.6	0.20
CB173	N11	1/21/2011	Filter/Stormwater	Pyrene	1.5	mg/kg	2.6	0.58
CB173	N11	12/12/2010	Filter/Stormwater	Pyrene	1	mg/kg	2.6	0.38
CB173	N11	6/2/2010	Filter/Stormwater	Pyrene	0.76	mg/kg	2.6	0.29
CB173	N11	4/27/2010	Filter/Stormwater	Pyrene	1.4	mg/kg	2.6	0.54
CB173	N11	12/12/2010	Filter/Stormwater	Silver	0.9	mg/kg	6.1	0.15
CB173	N11	4/21/2011	Filter/Baseflow	Total cPAH	0.271	mg/kg	0.062	4.4
CB173	N11	1/21/2011	Filter/Stormwater	Total cPAH	0.748	mg/kg	0.062	12
CB173	N11	12/12/2010	Filter/Stormwater	Total cPAH	0.424	mg/kg	0.062	6.8
CB173	N11	6/2/2010	Filter/Stormwater	Total cPAH	0.368	mg/kg	0.062	5.9
CB173	N11	4/27/2010	Filter/Stormwater	Total cPAH	0.648	mg/kg	0.062	10
CB173	N11	3/23/2011	Filter/Baseflow	Total Dioxin/Furan	64.2	pg/g	3.9	16
CB173	N11	11/30/2010	Filter/Stormwater	Total Dioxin/Furan	275	pg/g	3.9	70
CB173	N11	6/30/2010	Filter/Baseflow	Total Dioxin/Furan	65.0	pg/g	3.9	17
CB173	N11	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	74.3	pg/g	3.9	19
CB173	N11	4/21/2011	Filter/Baseflow	Total HPAHs	1.83	mg/kg	12	0.15
CB173	N11	1/21/2011	Filter/Stormwater	Total HPAHs	5.6	mg/kg	12	0.47
CB173	N11	12/12/2010	Filter/Stormwater	Total HPAHs	4.1	mg/kg	12	0.34
CB173	N11	6/2/2010	Filter/Stormwater	Total HPAHs	4.34	mg/kg	12	0.36
CB173	N11	4/27/2010	Filter/Stormwater	Total HPAHs	6.6	mg/kg	12	0.55
CB173	N11	12/12/2010	Filter/Stormwater	Total LPAHs	0.76	mg/kg	5.2	0.15
CB173	N11	6/2/2010	Filter/Stormwater	Total LPAHs	0.48	mg/kg	5.2	0.092
CB173	N11	4/27/2010	Filter/Stormwater	Total LPAHs	1.47	mg/kg	5.2	0.28
CB173	N11	7/21/2011	Grab	Total PCBs	1.5	mg/kg	0.038	39
CB173	N11	4/21/2011	Filter/Baseflow	Total PCBs	98	mg/kg	0.038	2600
CB173	N11	3/23/2011	Filter/Baseflow	Total PCBs	74	mg/kg	0.038	1900
CB173	N11	1/21/2011	Filter/Stormwater	Total PCBs	9.7	mg/kg	0.038	260
CB173	N11	12/12/2010	Filter/Stormwater	Total PCBs	8.2	mg/kg	0.038	220
CB173	N11	11/30/2010	Filter/Stormwater	Total PCBs	6.9	mg/kg	0.038	180
CB173	N11	11/17/2010	Filter/Stormwater	Total PCBs	1.3	mg/kg	0.038	34
CB173	N11	6/30/2010	Filter/Baseflow	Total PCBs	43	mg/kg	0.038	1100
CB173	N11	6/2/2010	Filter/Stormwater	Total PCBs	17	mg/kg	0.038	450

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB173	N11	5/20/2010	Filter/Stormwater	Total PCBs	10	mg/kg	0.038	260
CB173	N11	4/27/2010	Filter/Stormwater	Total PCBs	33	mg/kg	0.038	870
CB173	N11	3/29/2010	Grab	Total PCBs	13.8	mg/kg	0.038	360
CB173	N11	6/9/2009	Grab	Total PCBs	27	mg/kg	0.038	710
CB173	N11	3/13/2007	Grab	Total PCBs	94	mg/kg	0.038	2500
CB173	N11	12/8/2006	Grab	Total PCBs	40	mg/kg	0.038	1100
CB173	N11	6/22/2006	Grab	Total PCBs	26	mg/kg	0.038	680
CB173	N11	5/30/2006	Grab	Total PCBs	120	mg/kg	0.038	3200
CB173	N11	4/26/2006	Grab	Total PCBs	29	mg/kg	0.038	760
CB173	N11	3/21/2006	Grab	Total PCBs	110	mg/kg	0.038	2900
CB173	N11	11/15/2005	Filter/Undifferentiated	Total PCBs	510	mg/kg	0.038	13000
CB173	N11	10/24/2005	Grab	Total PCBs	400	mg/kg	0.038	11000
CB173	N11	9/26/2005	Grab	Total PCBs	1310	mg/kg	0.038	34000
CB173	N11	4/21/2011	Filter/Baseflow	Zinc	1100	mg/kg	410	2.7
CB173	N11	3/23/2011	Filter/Baseflow	Zinc	342	mg/kg	410	0.83
CB173	N11	1/27/2011	Filter/Baseflow	Zinc	722 J	mg/kg	410	1.8
CB173	N11	1/21/2011	Filter/Stormwater	Zinc	1050	mg/kg	410	2.6
CB173	N11	12/12/2010	Filter/Stormwater	Zinc	2170	mg/kg	410	5.3
CB173	N11	11/30/2010	Filter/Stormwater	Zinc	2230	mg/kg	410	5.4
CB173	N11	11/17/2010	Filter/Stormwater	Zinc	4990	mg/kg	410	12
CB173	N11	6/30/2010	Filter/Baseflow	Zinc	2320	mg/kg	410	5.7
CB173	N11	6/2/2010	Filter/Stormwater	Zinc	2090	mg/kg	410	5.1
CB173	N11	5/20/2010	Filter/Stormwater	Zinc	1910	mg/kg	410	4.7
CB173	N11	4/27/2010	Filter/Stormwater	Zinc	2040 J	mg/kg	410	5.0
CB173	N11	3/29/2010	Grab	Zinc	1320	mg/kg	410	3.2
CB173A	N8	3/30/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB173A	N8	3/30/2010	Grab	Cadmium	6.2	mg/kg	3.7	1.7
CB173A	N8	3/30/2010	Grab	Chromium	148	mg/kg	35.6	4.2
CB173A	N8	3/30/2010	Grab	Copper	214	mg/kg	310	0.69
CB173A	N8	3/30/2010	Grab	Lead	368	mg/kg	40	9.2
CB173A	N8	3/30/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB173A	N8	3/30/2010	Grab	Total PCBs	0.65	mg/kg	0.038	17
CB173A	N8	3/30/2010	Grab	Zinc	1730	mg/kg	410	4.2
CB174	N11	3/29/2010	Grab	Cadmium	5.7	mg/kg	3.7	1.5
CB174	N11	3/29/2010	Grab	Chromium	180	mg/kg	35.6	5.1
CB174	N11	3/29/2010	Grab	Copper	376	mg/kg	310	1.2
CB174	N11	3/29/2010	Grab	Lead	287	mg/kg	40	7.2
CB174	N11	3/29/2010	Grab	Mercury	0.61	mg/kg	0.41	1.5
CB174	N11	3/29/2010	Grab	Total PCBs	1.9	mg/kg	0.038	50
CB174	N11	6/9/2009	Grab	Total PCBs	3.1	mg/kg	0.038	82
CB174	N11	3/13/2007	Grab	Total PCBs	7.2	mg/kg	0.038	190
CB174	N11	12/8/2006	Grab	Total PCBs	9	mg/kg	0.038	240
CB174	N11	10/24/2005	Grab	Total PCBs	13.7	mg/kg	0.038	360
CB174	N11	3/29/2010	Grab	Zinc	1920	mg/kg	410	4.7
CB174A	N11	3/30/2010	Grab	Cadmium	6.2	mg/kg	3.7	1.7
CB174A	N11	3/30/2010	Grab	Chromium	84	mg/kg	35.6	2.4
CB174A	N11	3/30/2010	Grab	Copper	145	mg/kg	310	0.47
CB174A	N11	3/30/2010	Grab	Lead	183	mg/kg	40	4.6
CB174A	N11	3/30/2010	Grab	Mercury	0.27	mg/kg	0.41	0.66
CB174A	N11	3/30/2010	Grab	Total PCBs	0.7	mg/kg	0.038	18
CB174A	N11	6/9/2009	Grab	Total PCBs	0.86	mg/kg	0.038	23
CB174A	N11	3/13/2007	Grab	Total PCBs	0.72	mg/kg	0.038	19
CB174A	N11	10/24/2005	Grab	Total PCBs	7.2	mg/kg	0.038	190
CB174A	N11	3/30/2010	Grab	Zinc	1990	mg/kg	410	4.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB175	N11	3/29/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB175	N11	3/29/2010	Grab	Cadmium	1.1	mg/kg	3.7	0.30
CB175	N11	3/29/2010	Grab	Chromium	35.9	mg/kg	35.6	1.0
CB175	N11	3/29/2010	Grab	Copper	111	mg/kg	310	0.36
CB175	N11	3/29/2010	Grab	Lead	28	mg/kg	40	0.70
CB175	N11	3/29/2010	Grab	Mercury	0.31	mg/kg	0.41	0.76
CB175	N11	3/29/2010	Grab	Total PCBs	1.4	mg/kg	0.038	37
CB175	N11	4/26/2006	Grab	Total PCBs	3.2	mg/kg	0.038	84
CB175	N11	10/24/2005	Grab	Total PCBs	2.9	mg/kg	0.038	76
CB175	N11	3/29/2010	Grab	Zinc	251	mg/kg	410	0.61
CB175A	N11	3/29/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
CB175A	N11	3/29/2010	Grab	Cadmium	4.2	mg/kg	3.7	1.1
CB175A	N11	3/29/2010	Grab	Chromium	62	mg/kg	35.6	1.7
CB175A	N11	3/29/2010	Grab	Copper	104	mg/kg	310	0.34
CB175A	N11	3/29/2010	Grab	Lead	70	mg/kg	40	1.8
CB175A	N11	3/29/2010	Grab	Mercury	0.11	mg/kg	0.41	0.27
CB175A	N11	3/29/2010	Grab	Total PCBs	0.7	mg/kg	0.038	18
CB175A	N11	8/5/2009	Grab	Total PCBs	0.29	mg/kg	0.038	7.6
CB175A	N11	3/29/2010	Grab	Zinc	804	mg/kg	410	2.0
CB177	N12	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB177	N12	3/29/2010	Grab	Cadmium	5.6	mg/kg	3.7	1.5
CB177	N12	3/29/2010	Grab	Chromium	142 J	mg/kg	35.6	4.0
CB177	N12	3/29/2010	Grab	Copper	139	mg/kg	310	0.45
CB177	N12	3/29/2010	Grab	Lead	443 J	mg/kg	40	11
CB177	N12	3/29/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB177	N12	3/29/2010	Grab	Total PCBs	1.42	mg/kg	0.038	37
CB177	N12	3/29/2010	Grab	Zinc	799	mg/kg	410	1.9
CB180	N11	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB180	N11	3/29/2010	Grab	Cadmium	9.2	mg/kg	3.7	2.5
CB180	N11	3/29/2010	Inlet Filter	Cadmium	3.8	mg/kg	3.7	1.0
CB180	N11	3/29/2010	Grab	Chromium	147	mg/kg	35.6	4.1
CB180	N11	3/29/2010	Inlet Filter	Chromium	59.1	mg/kg	35.6	1.7
CB180	N11	3/29/2010	Grab	Copper	357	mg/kg	310	1.2
CB180	N11	3/29/2010	Inlet Filter	Copper	124	mg/kg	310	0.40
CB180	N11	3/29/2010	Grab	Lead	295	mg/kg	40	7.4
CB180	N11	3/29/2010	Inlet Filter	Lead	91	mg/kg	40	2.3
CB180	N11	3/29/2010	Grab	Mercury	0.59	mg/kg	0.41	1.4
CB180	N11	3/29/2010	Inlet Filter	Mercury	0.17	mg/kg	0.41	0.41
CB180	N11	3/29/2010	Inlet Filter	Silver	0.8	mg/kg	6.1	0.13
CB180	N11	3/29/2010	Grab	Total PCBs	2.1	mg/kg	0.038	55
CB180	N11	3/29/2010	Inlet Filter	Total PCBs	0.71	mg/kg	0.038	19
CB180	N11	8/5/2009	Grab	Total PCBs	0.65	mg/kg	0.038	17
CB180	N11	6/8/2009	Grab	Total PCBs	1.8	mg/kg	0.038	47
CB180	N11	3/29/2010	Grab	Zinc	2330	mg/kg	410	5.7
CB180	N11	3/29/2010	Inlet Filter	Zinc	827	mg/kg	410	2.0
CB181B	N11	3/29/2010	Grab	Cadmium	13.2	mg/kg	3.7	3.6
CB181B	N11	3/29/2010	Grab	Chromium	89	mg/kg	35.6	2.5
CB181B	N11	3/29/2010	Grab	Copper	484	mg/kg	310	1.6
CB181B	N11	3/29/2010	Grab	Lead	143	mg/kg	40	3.6
CB181B	N11	3/29/2010	Grab	Mercury	0.32	mg/kg	0.41	0.78
CB181B	N11	3/29/2010	Grab	Silver	5	mg/kg	6.1	0.82
CB181B	N11	3/29/2010	Grab	Total PCBs	0.74	mg/kg	0.038	19
CB181B	N11	7/15/2009	Grab	Total PCBs	2.2	mg/kg	0.038	58
CB181B	N11	3/13/2007	Grab	Total PCBs	40	mg/kg	0.038	1100

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB181B	N11	12/8/2006	Grab	Total PCBs	17	mg/kg	0.038	450
CB181B	N11	3/29/2010	Grab	Zinc	21000	mg/kg	410	51
CB182	N11	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB182	N11	3/29/2010	Grab	Cadmium	15.5	mg/kg	3.7	4.2
CB182	N11	3/29/2010	Grab	Chromium	171	mg/kg	35.6	4.8
CB182	N11	3/29/2010	Grab	Copper	1090	mg/kg	310	3.5
CB182	N11	3/29/2010	Grab	Lead	299	mg/kg	40	7.5
CB182	N11	3/29/2010	Grab	Mercury	1.04	mg/kg	0.41	2.5
CB182	N11	3/29/2010	Grab	Silver	0.8	mg/kg	6.1	0.13
CB182	N11	3/29/2010	Grab	Total PCBs	3.1	mg/kg	0.038	82
CB182	N11	6/8/2009	Grab	Total PCBs	10.3	mg/kg	0.038	270
CB182	N11	12/8/2006	Grab	Total PCBs	9.2	mg/kg	0.038	240
CB182	N11	4/26/2006	Grab	Total PCBs	6.1	mg/kg	0.038	160
CB182	N11	3/21/2006	Inlet Filter	Total PCBs	14	mg/kg	0.038	370
CB182	N11	3/29/2010	Grab	Zinc	5600	mg/kg	410	14
CB182A	N11	3/29/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
CB182A	N11	3/29/2010	Grab	Cadmium	0.7	mg/kg	3.7	0.19
CB182A	N11	3/29/2010	Grab	Chromium	22.4	mg/kg	35.6	0.63
CB182A	N11	3/29/2010	Grab	Copper	32.5	mg/kg	310	0.10
CB182A	N11	3/29/2010	Grab	Lead	8	mg/kg	40	0.20
CB182A	N11	3/29/2010	Grab	Mercury	0.23	mg/kg	0.41	0.56
CB182A	N11	3/29/2010	Grab	Total PCBs	0.9	mg/kg	0.038	24
CB182A	N11	3/29/2010	Grab	Zinc	246	mg/kg	410	0.60
CB184	N10	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB184	N10	3/29/2010	Grab	Cadmium	14.9	mg/kg	3.7	4.0
CB184	N10	3/29/2010	Grab	Chromium	85	mg/kg	35.6	2.4
CB184	N10	3/29/2010	Grab	Copper	275	mg/kg	310	0.89
CB184	N10	3/29/2010	Grab	Lead	240	mg/kg	40	6.0
CB184	N10	3/29/2010	Grab	Mercury	1.6	mg/kg	0.41	3.9
CB184	N10	11/18/2008	Grab	Mercury	1.1	mg/kg	0.41	2.7
CB184	N10	3/29/2010	Grab	Total PCBs	11	mg/kg	0.038	290
CB184	N10	6/8/2009	Grab	Total PCBs	8	mg/kg	0.038	210
CB184	N10	11/18/2008	Grab	Total PCBs	2.2	mg/kg	0.038	58
CB184	N10	3/13/2007	Grab	Total PCBs	320	mg/kg	0.038	8400
CB184	N10	3/29/2010	Grab	Zinc	2640	mg/kg	410	6.4
CB184B	N10	3/29/2010	Grab	Cadmium	26.8	mg/kg	3.7	7.2
CB184B	N10	3/29/2010	Grab	Chromium	72	mg/kg	35.6	2.0
CB184B	N10	3/29/2010	Grab	Copper	195	mg/kg	310	0.63
CB184B	N10	3/29/2010	Grab	Lead	169	mg/kg	40	4.2
CB184B	N10	3/29/2010	Grab	Mercury	0.5	mg/kg	0.41	1.2
CB184B	N10	3/29/2010	Grab	Total PCBs	9.7	mg/kg	0.038	260
CB184B	N10	7/15/2009	Grab	Total PCBs	10.7	mg/kg	0.038	280
CB184B	N10	3/29/2010	Grab	Zinc	2280	mg/kg	410	5.6
CB185	N11	3/29/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB185	N11	3/29/2010	Grab	Cadmium	6.1	mg/kg	3.7	1.6
CB185	N11	3/29/2010	Grab	Chromium	182	mg/kg	35.6	5.1
CB185	N11	3/29/2010	Grab	Copper	830	mg/kg	310	2.7
CB185	N11	3/29/2010	Grab	Lead	151	mg/kg	40	3.8
CB185	N11	3/29/2010	Grab	Mercury	19.5	mg/kg	0.41	48
CB185	N11	3/29/2010	Grab	Total PCBs	15	mg/kg	0.038	390
CB185	N11	6/8/2009	Grab	Total PCBs	24	mg/kg	0.038	630
CB185	N11	3/13/2007	Grab	Total PCBs	8.4	mg/kg	0.038	220
CB185	N11	12/8/2006	Grab	Total PCBs	11	mg/kg	0.038	290
CB185	N11	7/25/2006	Grab	Total PCBs	2	mg/kg	0.038	53

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB185	N11	4/26/2006	Grab	Total PCBs	11	mg/kg	0.038	290
CB185	N11	3/21/2006	Inlet Filter	Total PCBs	5.5	mg/kg	0.038	140
CB185	N11	3/29/2010	Grab	Zinc	1490	mg/kg	410	3.6
CB187A	N11	7/15/2009	Grab	Total PCBs	7.5	mg/kg	0.038	200
CB188	N11	3/30/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
CB188	N11	3/30/2010	Grab	Cadmium	5.1	mg/kg	3.7	1.4
CB188	N11	3/30/2010	Grab	Chromium	89.4	mg/kg	35.6	2.5
CB188	N11	3/30/2010	Grab	Copper	157	mg/kg	310	0.51
CB188	N11	3/30/2010	Grab	Lead	131	mg/kg	40	3.3
CB188	N11	3/30/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB188	N11	3/30/2010	Grab	Total PCBs	0.45	mg/kg	0.038	12
CB188	N11	7/15/2009	Grab	Total PCBs	0.46	mg/kg	0.038	12
CB188	N11	11/17/2006	Grab	Total PCBs	0.39	mg/kg	0.038	10
CB188	N11	3/30/2010	Grab	Zinc	947	mg/kg	410	2.3
CB188B	N11	3/30/2010	Grab	Cadmium	4	mg/kg	3.7	1.1
CB188B	N11	3/30/2010	Grab	Chromium	198 J	mg/kg	35.6	5.6
CB188B	N11	3/30/2010	Grab	Copper	3270	mg/kg	310	11
CB188B	N11	3/30/2010	Grab	Lead	196 J	mg/kg	40	4.9
CB188B	N11	3/30/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB188B	N11	3/30/2010	Grab	Total PCBs	2	mg/kg	0.038	53
CB188B	N11	7/15/2009	Grab	Total PCBs	0.64	mg/kg	0.038	17
CB188B	N11	3/30/2010	Grab	Zinc	1680	mg/kg	410	4.1
CB189	N11	3/30/2010	Grab	Arsenic	6	mg/kg	7.3	0.82
CB189	N11	4/7/2010	Grab	Cadmium	4.5	mg/kg	3.7	1.2
CB189	N11	3/30/2010	Grab	Cadmium	4.3	mg/kg	3.7	1.2
CB189	N11	4/7/2010	Grab	Chromium	36	mg/kg	35.6	1.0
CB189	N11	3/30/2010	Grab	Chromium	49.3	mg/kg	35.6	1.4
CB189	N11	4/7/2010	Grab	Copper	57.8	mg/kg	310	0.19
CB189	N11	3/30/2010	Grab	Copper	68.6	mg/kg	310	0.22
CB189	N11	4/7/2010	Grab	Lead	59	mg/kg	40	1.5
CB189	N11	3/30/2010	Grab	Lead	87	mg/kg	40	2.2
CB189	N11	4/7/2010	Grab	Total PCBs	0.215	mg/kg	0.038	5.7
CB189	N11	3/30/2010	Grab	Total PCBs	0.193	mg/kg	0.038	5.1
CB189	N11	4/7/2010	Grab	Zinc	518	mg/kg	410	1.3
CB189	N11	3/30/2010	Grab	Zinc	575	mg/kg	410	1.4
CB189A	N11	11/17/2006	Grab	Total PCBs	0.57	mg/kg	0.038	15
CB191	N11	7/15/2009	Grab	Total PCBs	180	mg/kg	0.038	4700
CB192	N11	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB192	N11	3/29/2010	Grab	Cadmium	18.3	mg/kg	3.7	4.9
CB192	N11	3/29/2010	Grab	Chromium	235	mg/kg	35.6	6.6
CB192	N11	3/29/2010	Grab	Copper	306	mg/kg	310	0.99
CB192	N11	3/29/2010	Grab	Lead	313	mg/kg	40	7.8
CB192	N11	3/29/2010	Grab	Mercury	0.53	mg/kg	0.41	1.3
CB192	N11	3/29/2010	Grab	Silver	0.6	mg/kg	6.1	0.098
CB192	N11	3/29/2010	Grab	Total PCBs	8	mg/kg	0.038	210
CB192	N11	3/29/2010	Grab	Zinc	1420	mg/kg	410	3.5
CB193	N11	3/13/2007	Grab	Total PCBs	79	mg/kg	0.038	2100
CB193	N11	12/8/2006	Grab	Total PCBs	1.2	mg/kg	0.038	32
CB193	N11	7/25/2006	Grab	Total PCBs	12	mg/kg	0.038	320
CB193	N11	10/27/2005	Grab	Total PCBs	17	mg/kg	0.038	450
CB194	N11	3/30/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB194	N11	3/30/2010	Grab	Cadmium	9.9	mg/kg	3.7	2.7
CB194	N11	3/30/2010	Grab	Chromium	100	mg/kg	35.6	2.8
CB194	N11	3/30/2010	Grab	Copper	84.6	mg/kg	310	0.27

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB194	N11	3/30/2010	Grab	Lead	100	mg/kg	40	2.5
CB194	N11	3/30/2010	Grab	Mercury	3.12	mg/kg	0.41	7.6
CB194	N11	3/30/2010	Grab	Silver	0.7	mg/kg	6.1	0.11
CB194	N11	3/30/2010	Grab	Total PCBs	2.8	mg/kg	0.038	74
CB194	N11	8/5/2009	Grab	Total PCBs	2.2	mg/kg	0.038	58
CB194	N11	3/13/2007	Grab	Total PCBs	9.3	mg/kg	0.038	240
CB194	N11	12/8/2006	Grab	Total PCBs	30	mg/kg	0.038	790
CB194	N11	7/25/2006	Grab	Total PCBs	20	mg/kg	0.038	530
CB194	N11	10/24/2005	Grab	Total PCBs	14.1	mg/kg	0.038	370
CB194	N11	3/30/2010	Grab	Zinc	651	mg/kg	410	1.6
CB195	N12	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB195	N12	3/29/2010	Grab	Cadmium	1.9	mg/kg	3.7	0.51
CB195	N12	3/29/2010	Grab	Chromium	39.7	mg/kg	35.6	1.1
CB195	N12	3/29/2010	Grab	Copper	84.9	mg/kg	310	0.27
CB195	N12	3/29/2010	Grab	Lead	66	mg/kg	40	1.7
CB195	N12	3/29/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB195	N12	3/24/2011	Grab	Total PCBs	0.12	mg/kg	0.038	3.2
CB195	N12	3/29/2010	Grab	Total PCBs	0.5	mg/kg	0.038	13
CB195	N12	3/29/2010	Grab	Zinc	424	mg/kg	410	1.0
CB196	N1	4/7/2010	Grab	Cadmium	11	mg/kg	3.7	3.0
CB196	N1	4/7/2010	Grab	Chromium	70.8	mg/kg	35.6	2.0
CB196	N1	4/7/2010	Grab	Copper	131	mg/kg	310	0.42
CB196	N1	4/7/2010	Grab	Lead	118	mg/kg	40	3.0
CB196	N1	4/7/2010	Grab	Mercury	0.7	mg/kg	0.41	1.7
CB196	N1	3/24/2011	Grab	Total PCBs	0.29	mg/kg	0.038	7.6
CB196	N1	4/7/2010	Grab	Total PCBs	7.2	mg/kg	0.038	190
CB196	N1	4/7/2010	Grab	Zinc	633	mg/kg	410	1.5
CB197	N1	4/7/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB197	N1	4/7/2010	Grab	Cadmium	4.5	mg/kg	3.7	1.2
CB197	N1	4/7/2010	Grab	Chromium	68.7	mg/kg	35.6	1.9
CB197	N1	4/7/2010	Grab	Copper	189	mg/kg	310	0.61
CB197	N1	4/7/2010	Grab	Lead	52	mg/kg	40	1.3
CB197	N1	4/7/2010	Grab	Mercury	0.06	mg/kg	0.41	0.15
CB197	N1	4/7/2010	Grab	Total PCBs	0.196	mg/kg	0.038	5.2
CB197	N1	4/7/2010	Grab	Zinc	492	mg/kg	410	1.2
CB199A	N12	3/30/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB199A	N12	3/30/2010	Grab	Cadmium	4.9	mg/kg	3.7	1.3
CB199A	N12	3/30/2010	Grab	Chromium	88.3	mg/kg	35.6	2.5
CB199A	N12	3/30/2010	Grab	Copper	155	mg/kg	310	0.50
CB199A	N12	3/30/2010	Grab	Lead	239	mg/kg	40	6.0
CB199A	N12	3/30/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB199A	N12	3/30/2010	Grab	Silver	1.3	mg/kg	6.1	0.21
CB199A	N12	3/30/2010	Grab	Total PCBs	0.55	mg/kg	0.038	14
CB199A	N12	3/30/2010	Grab	Zinc	685	mg/kg	410	1.7
CB200	N1	3/30/2010	Grab	Arsenic	12	mg/kg	7.3	1.6
CB200	N1	3/30/2010	Grab	Cadmium	3.5	mg/kg	3.7	0.95
CB200	N1	3/30/2010	Grab	Chromium	66.6	mg/kg	35.6	1.9
CB200	N1	3/30/2010	Grab	Copper	107	mg/kg	310	0.35
CB200	N1	3/30/2010	Grab	Lead	139	mg/kg	40	3.5
CB200	N1	3/30/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB200	N1	3/30/2010	Grab	Total PCBs	0.24	mg/kg	0.038	6.3
CB200	N1	3/30/2010	Grab	Zinc	686	mg/kg	410	1.7
CB201	N8	3/31/2010	Grab	Arsenic	63	mg/kg	7.3	8.6
CB201	N8	3/31/2010	Grab	Cadmium	6.9	mg/kg	3.7	1.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB201	N8	3/31/2010	Grab	Chromium	231	mg/kg	35.6	6.5
CB201	N8	3/31/2010	Grab	Copper	223	mg/kg	310	0.72
CB201	N8	3/31/2010	Grab	Lead	631	mg/kg	40	16
CB201	N8	3/31/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB201	N8	3/31/2010	Grab	Total PCBs	0.42	mg/kg	0.038	11
CB201	N8	6/9/2009	Grab	Total PCBs	0.48	mg/kg	0.038	13
CB201	N8	3/31/2010	Grab	Zinc	1230	mg/kg	410	3.0
CB203	N8	3/31/2010	Inlet Filter	Arsenic	20	mg/kg	7.3	2.7
CB203	N8	3/31/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB203	N8	3/31/2010	Inlet Filter	Cadmium	17.5	mg/kg	3.7	4.7
CB203	N8	3/31/2010	Grab	Cadmium	4.6	mg/kg	3.7	1.2
CB203	N8	3/31/2010	Inlet Filter	Chromium	126	mg/kg	35.6	3.5
CB203	N8	3/31/2010	Grab	Chromium	37.7	mg/kg	35.6	1.1
CB203	N8	3/31/2010	Inlet Filter	Copper	460	mg/kg	310	1.5
CB203	N8	3/31/2010	Grab	Copper	73.2	mg/kg	310	0.24
CB203	N8	3/31/2010	Inlet Filter	Lead	171	mg/kg	40	4.3
CB203	N8	3/31/2010	Grab	Lead	32	mg/kg	40	0.80
CB203	N8	3/31/2010	Inlet Filter	Mercury	0.17	mg/kg	0.41	0.41
CB203	N8	3/31/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB203	N8	3/31/2010	Inlet Filter	Silver	1.6	mg/kg	6.1	0.26
CB203	N8	3/31/2010	Inlet Filter	Total PCBs	0.77	mg/kg	0.038	20
CB203	N8	3/31/2010	Inlet Filter	Zinc	2510	mg/kg	410	6.1
CB203	N8	3/31/2010	Grab	Zinc	666	mg/kg	410	1.6
CB209B	N8	3/31/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB209B	N8	3/31/2010	Grab	Cadmium	7.2	mg/kg	3.7	1.9
CB209B	N8	3/31/2010	Grab	Chromium	94.5	mg/kg	35.6	2.7
CB209B	N8	3/31/2010	Grab	Copper	166	mg/kg	310	0.54
CB209B	N8	3/31/2010	Grab	Lead	149	mg/kg	40	3.7
CB209B	N8	3/31/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
CB209B	N8	3/31/2010	Grab	Silver	0.7	mg/kg	6.1	0.11
CB209B	N8	3/3/2011	Grab	Total PCBs	0.37	mg/kg	0.038	9.7
CB209B	N8	3/31/2010	Grab	Total PCBs	0.47	mg/kg	0.038	12
CB209B	N8	9/26/2005	Grab	Total PCBs	0.066	mg/kg	0.038	1.7
CB209B	N8	3/31/2010	Grab	Zinc	936	mg/kg	410	2.3
CB363	N1	1/8/2007	Sediment Trap	2,4-Dimethylphenol	0.44	mg/kg	0.029	15
CB363	N1	4/6/2009	Sediment Trap	2-Methylnaphthalene	0.27 J	mg/kg	0.59	0.46
CB363	N1	3/18/2008	Sediment Trap	2-Methylnaphthalene	0.65	mg/kg	0.59	1.1
CB363	N1	4/8/2010	Sediment Trap	Acenaphthene	0.14 J	mg/kg	0.25	0.56
CB363	N1	3/18/2008	Sediment Trap	Acenaphthene	1.1	mg/kg	0.25	4.4
CB363	N1	4/5/2011	Sediment Trap	Anthracene	0.1 J	mg/kg	0.96	0.10
CB363	N1	4/8/2010	Sediment Trap	Anthracene	0.54	mg/kg	0.96	0.56
CB363	N1	4/6/2009	Sediment Trap	Anthracene	0.25 J	mg/kg	0.96	0.26
CB363	N1	3/18/2008	Sediment Trap	Anthracene	1.8	mg/kg	0.96	1.9
CB363	N1	1/8/2007	Sediment Trap	Anthracene	0.27	mg/kg	0.96	0.28
CB363	N1	8/11/2005	Sediment Trap	Anthracene	0.21	mg/kg	0.96	0.22
CB363	N1	4/5/2011	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
CB363	N1	4/8/2010	Sediment Trap	Arsenic	15	mg/kg	7.3	2.1
CB363	N1	6/9/2009	Grab	Arsenic	9	mg/kg	7.3	1.2
CB363	N1	4/6/2009	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
CB363	N1	12/3/2008	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
CB363	N1	7/30/2008	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
CB363	N1	3/18/2008	Sediment Trap	Arsenic	10	mg/kg	7.3	1.4
CB363	N1	1/8/2007	Sediment Trap	Arsenic	10	mg/kg	7.3	1.4
CB363	N1	10/11/2006	Sediment Trap	Arsenic	40	mg/kg	7.3	5.5

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	8/11/2005	Sediment Trap	Arsenic	21	mg/kg	7.3	2.9
CB363	N1	2/16/2005	Grab	Arsenic	8	mg/kg	7.3	1.1
CB363	N1	4/5/2011	Sediment Trap	Benzo(a)anthracene	0.6	mg/kg	1.3	0.46
CB363	N1	4/8/2010	Sediment Trap	Benzo(a)anthracene	2.8	mg/kg	1.3	2.2
CB363	N1	6/9/2009	Grab	Benzo(a)anthracene	0.098	mg/kg	1.3	0.075
CB363	N1	4/6/2009	Sediment Trap	Benzo(a)anthracene	1.5	mg/kg	1.3	1.2
CB363	N1	12/3/2008	Sediment Trap	Benzo(a)anthracene	0.9	mg/kg	1.3	0.69
CB363	N1	7/30/2008	Sediment Trap	Benzo(a)anthracene	0.42	mg/kg	1.3	0.32
CB363	N1	3/18/2008	Sediment Trap	Benzo(a)anthracene	4	mg/kg	1.3	3.1
CB363	N1	10/29/2007	Sediment Trap	Benzo(a)anthracene	0.44 J	mg/kg	1.3	0.34
CB363	N1	5/14/2007	Sediment Trap	Benzo(a)anthracene	1.1	mg/kg	1.3	0.85
CB363	N1	1/8/2007	Sediment Trap	Benzo(a)anthracene	1.4	mg/kg	1.3	1.1
CB363	N1	10/11/2006	Sediment Trap	Benzo(a)anthracene	1.3	mg/kg	1.3	1.0
CB363	N1	3/16/2006	Sediment Trap	Benzo(a)anthracene	2.5	mg/kg	1.3	1.9
CB363	N1	8/11/2005	Sediment Trap	Benzo(a)anthracene	0.94	mg/kg	1.3	0.72
CB363	N1	2/16/2005	Grab	Benzo(a)anthracene	0.28	mg/kg	1.3	0.22
CB363	N1	4/5/2011	Sediment Trap	Benzo(a)pyrene	0.86	mg/kg	0.062	14
CB363	N1	4/8/2010	Sediment Trap	Benzo(a)pyrene	4.5	mg/kg	0.062	73
CB363	N1	6/9/2009	Grab	Benzo(a)pyrene	0.13	mg/kg	0.062	2.1
CB363	N1	4/6/2009	Sediment Trap	Benzo(a)pyrene	2.2	mg/kg	0.062	35
CB363	N1	12/3/2008	Sediment Trap	Benzo(a)pyrene	1.4	mg/kg	0.062	23
CB363	N1	7/30/2008	Sediment Trap	Benzo(a)pyrene	0.69	mg/kg	0.062	11
CB363	N1	3/18/2008	Sediment Trap	Benzo(a)pyrene	5.4	mg/kg	0.062	87
CB363	N1	10/29/2007	Sediment Trap	Benzo(a)pyrene	0.39 J	mg/kg	0.062	6.3
CB363	N1	5/14/2007	Sediment Trap	Benzo(a)pyrene	1.7	mg/kg	0.062	27
CB363	N1	1/8/2007	Sediment Trap	Benzo(a)pyrene	2.2	mg/kg	0.062	35
CB363	N1	10/11/2006	Sediment Trap	Benzo(a)pyrene	2.3	mg/kg	0.062	37
CB363	N1	3/16/2006	Sediment Trap	Benzo(a)pyrene	3	mg/kg	0.062	48
CB363	N1	8/11/2005	Sediment Trap	Benzo(a)pyrene	1.2	mg/kg	0.062	19
CB363	N1	2/16/2005	Grab	Benzo(a)pyrene	0.3	mg/kg	0.062	4.8
CB363	N1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	3	mg/kg	0.48	6.3
CB363	N1	6/9/2009	Grab	Benzo(g,h,i)perylene	0.1	mg/kg	0.48	0.21
CB363	N1	4/6/2009	Sediment Trap	Benzo(g,h,i)perylene	2.2	mg/kg	0.48	4.6
CB363	N1	12/3/2008	Sediment Trap	Benzo(g,h,i)perylene	1.2	mg/kg	0.48	2.5
CB363	N1	7/30/2008	Sediment Trap	Benzo(g,h,i)perylene	0.69	mg/kg	0.48	1.4
CB363	N1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	3.4	mg/kg	0.48	7.1
CB363	N1	5/14/2007	Sediment Trap	Benzo(g,h,i)perylene	1.1	mg/kg	0.48	2.3
CB363	N1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	1.5	mg/kg	0.48	3.1
CB363	N1	8/11/2005	Sediment Trap	Benzo(g,h,i)perylene	0.6	mg/kg	0.48	1.3
CB363	N1	2/16/2005	Grab	Benzo(g,h,i)perylene	0.17	mg/kg	0.48	0.35
CB363	N1	4/5/2011	Sediment Trap	Benzo(g,h,i)perylene	0.85	mg/kg		
CB363	N1	4/5/2011	Sediment Trap	Benzofluoranthene	2	mg/kg	3.2	0.63
CB363	N1	4/8/2010	Sediment Trap	Benzofluoranthene	8.8	mg/kg	3.2	2.8
CB363	N1	6/9/2009	Grab	Benzofluoranthene	0.28	mg/kg	3.2	0.088
CB363	N1	4/6/2009	Sediment Trap	Benzofluoranthene	6.4	mg/kg	3.2	2.0
CB363	N1	12/3/2008	Sediment Trap	Benzofluoranthene	3.4	mg/kg	3.2	1.1
CB363	N1	7/30/2008	Sediment Trap	Benzofluoranthene	1.9	mg/kg	3.2	0.59
CB363	N1	3/18/2008	Sediment Trap	Benzofluoranthene	11	mg/kg	3.2	3.4
CB363	N1	10/29/2007	Sediment Trap	Benzofluoranthene	2.6	mg/kg	3.2	0.81
CB363	N1	5/14/2007	Sediment Trap	Benzofluoranthene	5.1	mg/kg	3.2	1.6
CB363	N1	1/8/2007	Sediment Trap	Benzofluoranthene	5.9	mg/kg	3.2	1.8
CB363	N1	10/11/2006	Sediment Trap	Benzofluoranthene	6.1	mg/kg	3.2	1.9
CB363	N1	3/16/2006	Sediment Trap	Benzofluoranthene	7.4	mg/kg	3.2	2.3
CB363	N1	8/11/2005	Sediment Trap	Benzofluoranthene	2.7	mg/kg	3.2	0.84

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	2/16/2005	Grab	Benzofluoranthene	0.76	mg/kg	3.2	0.24
CB363	N1	4/5/2011	Sediment Trap	Benzoic Acid	0.78 J	mg/kg	0.65	1.2
CB363	N1	4/6/2009	Sediment Trap	Benzoic Acid	3.5 J	mg/kg	0.65	5.4
CB363	N1	4/5/2011	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.1	mg/kg	0.73	2.9
CB363	N1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	10	mg/kg	0.73	14
CB363	N1	6/9/2009	Grab	Bis(2-Ethylhexyl)phthalate	0.39	mg/kg	0.73	0.53
CB363	N1	4/6/2009	Sediment Trap	Bis(2-Ethylhexyl)phthalate	34	mg/kg	0.73	47
CB363	N1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	5.9	mg/kg	0.73	8.1
CB363	N1	7/30/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	6.1	mg/kg	0.73	8.4
CB363	N1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	13	mg/kg	0.73	18
CB363	N1	10/29/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	8 J	mg/kg	0.73	11
CB363	N1	5/14/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	15	mg/kg	0.73	21
CB363	N1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	7.3	mg/kg	0.73	10
CB363	N1	10/11/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	19	mg/kg	0.73	26
CB363	N1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	8.3	mg/kg	0.73	11
CB363	N1	8/11/2005	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.7	mg/kg	0.73	3.7
CB363	N1	2/16/2005	Grab	Bis(2-Ethylhexyl)phthalate	0.5	mg/kg	0.73	0.68
CB363	N1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.28 J	mg/kg	0.063	4.4
CB363	N1	4/6/2009	Sediment Trap	Butyl benzyl phthalate	1.3	mg/kg	0.063	21
CB363	N1	12/3/2008	Sediment Trap	Butyl benzyl phthalate	0.86	mg/kg	0.063	14
CB363	N1	7/30/2008	Sediment Trap	Butyl benzyl phthalate	0.37	mg/kg	0.063	5.9
CB363	N1	3/18/2008	Sediment Trap	Butyl benzyl phthalate	1.2	mg/kg	0.063	19
CB363	N1	10/29/2007	Sediment Trap	Butyl benzyl phthalate	0.69 J	mg/kg	0.063	11
CB363	N1	1/8/2007	Sediment Trap	Butyl benzyl phthalate	0.23	mg/kg	0.063	3.7
CB363	N1	10/11/2006	Sediment Trap	Butyl benzyl phthalate	0.44	mg/kg	0.063	7.0
CB363	N1	8/11/2005	Sediment Trap	Butyl benzyl phthalate	0.14	mg/kg	0.063	2.2
CB363	N1	4/5/2011	Sediment Trap	Chrysene	1.2	mg/kg	1.4	0.86
CB363	N1	4/8/2010	Sediment Trap	Chrysene	5.5	mg/kg	1.4	3.9
CB363	N1	6/9/2009	Grab	Chrysene	0.17	mg/kg	1.4	0.12
CB363	N1	4/6/2009	Sediment Trap	Chrysene	3.7	mg/kg	1.4	2.6
CB363	N1	12/3/2008	Sediment Trap	Chrysene	2.1	mg/kg	1.4	1.5
CB363	N1	7/30/2008	Sediment Trap	Chrysene	1.1	mg/kg	1.4	0.79
CB363	N1	3/18/2008	Sediment Trap	Chrysene	7	mg/kg	1.4	5.0
CB363	N1	10/29/2007	Sediment Trap	Chrysene	1.2 J	mg/kg	1.4	0.86
CB363	N1	5/14/2007	Sediment Trap	Chrysene	2.1	mg/kg	1.4	1.5
CB363	N1	1/8/2007	Sediment Trap	Chrysene	2.7	mg/kg	1.4	1.9
CB363	N1	10/11/2006	Sediment Trap	Chrysene	3.7	mg/kg	1.4	2.6
CB363	N1	3/16/2006	Sediment Trap	Chrysene	4.3	mg/kg	1.4	3.1
CB363	N1	8/11/2005	Sediment Trap	Chrysene	1.4	mg/kg	1.4	1.0
CB363	N1	2/16/2005	Grab	Chrysene	0.4	mg/kg	1.4	0.29
CB363	N1	4/5/2011	Sediment Trap	Copper	560	mg/kg	310	1.8
CB363	N1	4/8/2010	Sediment Trap	Copper	287	mg/kg	310	0.93
CB363	N1	6/9/2009	Grab	Copper	32.6	mg/kg	310	0.11
CB363	N1	4/6/2009	Sediment Trap	Copper	764	mg/kg	310	2.5
CB363	N1	12/3/2008	Sediment Trap	Copper	556	mg/kg	310	1.8
CB363	N1	7/30/2008	Sediment Trap	Copper	328	mg/kg	310	1.1
CB363	N1	3/18/2008	Sediment Trap	Copper	257	mg/kg	310	0.83
CB363	N1	10/29/2007	Sediment Trap	Copper	366	mg/kg	310	1.2
CB363	N1	5/14/2007	Sediment Trap	Copper	251	mg/kg	310	0.81
CB363	N1	1/8/2007	Sediment Trap	Copper	140	mg/kg	310	0.45
CB363	N1	10/11/2006	Sediment Trap	Copper	640	mg/kg	310	2.1
CB363	N1	3/16/2006	Sediment Trap	Copper	297	mg/kg	310	0.96
CB363	N1	8/11/2005	Sediment Trap	Copper	148	mg/kg	310	0.48
CB363	N1	2/16/2005	Grab	Copper	45.1	mg/kg	310	0.15

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	4/5/2011	Sediment Trap	Dibenzo(a,h)anthracene	0.31	mg/kg	0.19	1.6
CB363	N1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	1.1	mg/kg	0.19	5.8
CB363	N1	4/6/2009	Sediment Trap	Dibenzo(a,h)anthracene	0.38 J	mg/kg	0.19	2.0
CB363	N1	12/3/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.39	mg/kg	0.19	2.1
CB363	N1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	1.5	mg/kg	0.19	7.9
CB363	N1	10/11/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.48	mg/kg	0.19	2.5
CB363	N1	4/8/2010	Sediment Trap	Dibenzofuran	0.2 J	mg/kg	0.23	0.87
CB363	N1	3/18/2008	Sediment Trap	Dibenzofuran	0.6	mg/kg	0.23	2.6
CB363	N1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	2.5	mg/kg	0.42	6.0
CB363	N1	4/6/2009	Sediment Trap	Di-n-Octyl phthalate	11	mg/kg	0.42	26
CB363	N1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	1.6	mg/kg	0.42	3.8
CB363	N1	7/30/2008	Sediment Trap	Di-n-Octyl phthalate	2.3	mg/kg	0.42	5.5
CB363	N1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	4.4	mg/kg	0.42	10
CB363	N1	10/29/2007	Sediment Trap	Di-n-Octyl phthalate	4.4 J	mg/kg	0.42	10
CB363	N1	5/14/2007	Sediment Trap	Di-n-Octyl phthalate	8.8	mg/kg	0.42	21
CB363	N1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	2.3	mg/kg	0.42	5.5
CB363	N1	10/11/2006	Sediment Trap	Di-n-Octyl phthalate	7.2	mg/kg	0.42	17
CB363	N1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	5.5	mg/kg	0.42	13
CB363	N1	8/11/2005	Sediment Trap	Di-n-Octyl phthalate	1.2	mg/kg	0.42	2.9
CB363	N1	2/16/2005	Grab	Di-n-Octyl phthalate	0.069	mg/kg	0.42	0.16
CB363	N1	4/5/2011	Sediment Trap	Fluoranthene	2.4	mg/kg	1.7	1.4
CB363	N1	4/8/2010	Sediment Trap	Fluoranthene	10	mg/kg	1.7	5.9
CB363	N1	6/9/2009	Grab	Fluoranthene	0.3 J	mg/kg	1.7	0.18
CB363	N1	4/6/2009	Sediment Trap	Fluoranthene	5.8	mg/kg	1.7	3.4
CB363	N1	12/3/2008	Sediment Trap	Fluoranthene	3.7	mg/kg	1.7	2.2
CB363	N1	7/30/2008	Sediment Trap	Fluoranthene	1.8	mg/kg	1.7	1.1
CB363	N1	3/18/2008	Sediment Trap	Fluoranthene	14	mg/kg	1.7	8.2
CB363	N1	10/29/2007	Sediment Trap	Fluoranthene	2.2 J	mg/kg	1.7	1.3
CB363	N1	5/14/2007	Sediment Trap	Fluoranthene	3.9	mg/kg	1.7	2.3
CB363	N1	1/8/2007	Sediment Trap	Fluoranthene	3.7	mg/kg	1.7	2.2
CB363	N1	10/11/2006	Sediment Trap	Fluoranthene	6.5	mg/kg	1.7	3.8
CB363	N1	3/16/2006	Sediment Trap	Fluoranthene	9.7	mg/kg	1.7	5.7
CB363	N1	8/11/2005	Sediment Trap	Fluoranthene	2.9	mg/kg	1.7	1.7
CB363	N1	2/16/2005	Grab	Fluoranthene	0.75	mg/kg	1.7	0.44
CB363	N1	4/8/2010	Sediment Trap	Fluorene	0.25	mg/kg	0.36	0.69
CB363	N1	3/18/2008	Sediment Trap	Fluorene	1.3	mg/kg	0.36	3.6
CB363	N1	4/5/2011	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.74	mg/kg	0.53	1.4
CB363	N1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.7	mg/kg	0.53	5.1
CB363	N1	6/9/2009	Grab	Indeno(1,2,3-cd)pyrene	0.091	mg/kg	0.53	0.17
CB363	N1	4/6/2009	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg	0.53	3.8
CB363	N1	12/3/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.53	2.1
CB363	N1	7/30/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.6	mg/kg	0.53	1.1
CB363	N1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	3.3	mg/kg	0.53	6.2
CB363	N1	10/29/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.17 J	mg/kg	0.53	0.32
CB363	N1	5/14/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	11	mg/kg	0.53	21
CB363	N1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.84	mg/kg	0.53	1.6
CB363	N1	10/11/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg	0.53	2.6
CB363	N1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.6	mg/kg	0.53	3.0
CB363	N1	8/11/2005	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.68	mg/kg	0.53	1.3
CB363	N1	2/16/2005	Grab	Indeno(1,2,3-cd)pyrene	0.18	mg/kg	0.53	0.34
CB363	N1	4/5/2011	Sediment Trap	Lead	151	mg/kg	40	3.8
CB363	N1	4/8/2010	Sediment Trap	Lead	277	mg/kg	40	6.9
CB363	N1	6/9/2009	Grab	Lead	25 J	mg/kg	40	0.63
CB363	N1	4/6/2009	Sediment Trap	Lead	275	mg/kg	40	6.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	12/3/2008	Sediment Trap	Lead	273	mg/kg	40	6.8
CB363	N1	7/30/2008	Sediment Trap	Lead	199	mg/kg	40	5.0
CB363	N1	3/18/2008	Sediment Trap	Lead	186	mg/kg	40	4.7
CB363	N1	10/29/2007	Sediment Trap	Lead	240	mg/kg	40	6.0
CB363	N1	5/14/2007	Sediment Trap	Lead	210	mg/kg	40	5.3
CB363	N1	1/8/2007	Sediment Trap	Lead	102	mg/kg	40	2.6
CB363	N1	10/11/2006	Sediment Trap	Lead	310	mg/kg	40	7.8
CB363	N1	3/16/2006	Sediment Trap	Lead	184	mg/kg	40	4.6
CB363	N1	8/11/2005	Sediment Trap	Lead	109	mg/kg	40	2.7
CB363	N1	2/16/2005	Grab	Lead	110	mg/kg	40	2.8
CB363	N1	4/5/2011	Sediment Trap	Mercury	0.85	mg/kg	0.41	2.1
CB363	N1	4/8/2010	Sediment Trap	Mercury	0.34	mg/kg	0.41	0.83
CB363	N1	6/9/2009	Grab	Mercury	0.18 J	mg/kg	0.41	0.44
CB363	N1	4/6/2009	Sediment Trap	Mercury	0.7	mg/kg	0.41	1.7
CB363	N1	12/3/2008	Sediment Trap	Mercury	1	mg/kg	0.41	2.4
CB363	N1	7/30/2008	Sediment Trap	Mercury	0.6	mg/kg	0.41	1.5
CB363	N1	3/18/2008	Sediment Trap	Mercury	1.07	mg/kg	0.41	2.6
CB363	N1	10/29/2007	Sediment Trap	Mercury	4.4	mg/kg	0.41	11
CB363	N1	5/14/2007	Sediment Trap	Mercury	1.8	mg/kg	0.41	4.4
CB363	N1	1/8/2007	Sediment Trap	Mercury	5.11	mg/kg	0.41	12
CB363	N1	10/11/2006	Sediment Trap	Mercury	2.9	mg/kg	0.41	7.1
CB363	N1	3/16/2006	Sediment Trap	Mercury	2.02	mg/kg	0.41	4.9
CB363	N1	8/11/2005	Sediment Trap	Mercury	1.12	mg/kg	0.41	2.7
CB363	N1	2/16/2005	Grab	Mercury	0.7	mg/kg	0.41	1.7
CB363	N1	4/5/2011	Sediment Trap	p-Cresol	0.72	mg/kg	0.67	1.1
CB363	N1	4/8/2010	Sediment Trap	p-Cresol	0.66	mg/kg	0.67	0.99
CB363	N1	4/6/2009	Sediment Trap	p-Cresol	11	mg/kg	0.67	16
CB363	N1	12/3/2008	Sediment Trap	p-Cresol	0.34	mg/kg	0.67	0.51
CB363	N1	7/30/2008	Sediment Trap	p-Cresol	2.4	mg/kg	0.67	3.6
CB363	N1	3/18/2008	Sediment Trap	p-Cresol	0.76	mg/kg	0.67	1.1
CB363	N1	10/29/2007	Sediment Trap	p-Cresol	0.28	mg/kg	0.67	0.42
CB363	N1	1/8/2007	Sediment Trap	p-Cresol	4.6	mg/kg	0.67	6.9
CB363	N1	10/11/2006	Sediment Trap	p-Cresol	0.59	mg/kg	0.67	0.88
CB363	N1	8/11/2005	Sediment Trap	p-Cresol	0.36	mg/kg	0.67	0.54
CB363	N1	4/5/2011	Sediment Trap	Phenanthrene	0.95	mg/kg	1.5	0.63
CB363	N1	4/8/2010	Sediment Trap	Phenanthrene	4.2	mg/kg	1.5	2.8
CB363	N1	6/9/2009	Grab	Phenanthrene	0.099	mg/kg	1.5	0.066
CB363	N1	4/6/2009	Sediment Trap	Phenanthrene	2.6	mg/kg	1.5	1.7
CB363	N1	12/3/2008	Sediment Trap	Phenanthrene	1.4	mg/kg	1.5	0.93
CB363	N1	7/30/2008	Sediment Trap	Phenanthrene	0.78	mg/kg	1.5	0.52
CB363	N1	3/18/2008	Sediment Trap	Phenanthrene	9.2	mg/kg	1.5	6.1
CB363	N1	10/29/2007	Sediment Trap	Phenanthrene	0.84 J	mg/kg	1.5	0.56
CB363	N1	5/14/2007	Sediment Trap	Phenanthrene	1.6	mg/kg	1.5	1.1
CB363	N1	1/8/2007	Sediment Trap	Phenanthrene	1.8	mg/kg	1.5	1.2
CB363	N1	10/11/2006	Sediment Trap	Phenanthrene	2.4	mg/kg	1.5	1.6
CB363	N1	3/16/2006	Sediment Trap	Phenanthrene	3.7	mg/kg	1.5	2.5
CB363	N1	8/11/2005	Sediment Trap	Phenanthrene	1.6	mg/kg	1.5	1.1
CB363	N1	2/16/2005	Grab	Phenanthrene	0.26	mg/kg	1.5	0.17
CB363	N1	4/6/2009	Sediment Trap	Phenol	1.9	mg/kg	0.42	4.5
CB363	N1	1/8/2007	Sediment Trap	Phenol	0.33	mg/kg	0.42	0.79
CB363	N1	10/11/2006	Sediment Trap	Phenol	0.3	mg/kg	0.42	0.71
CB363	N1	4/5/2011	Sediment Trap	Pyrene	1.3	mg/kg	2.6	0.50
CB363	N1	4/8/2010	Sediment Trap	Pyrene	5.5	mg/kg	2.6	2.1
CB363	N1	6/9/2009	Grab	Pyrene	0.18	mg/kg	2.6	0.069

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	4/6/2009	Sediment Trap	Pyrene	4.2	mg/kg	2.6	1.6
CB363	N1	12/3/2008	Sediment Trap	Pyrene	2.3	mg/kg	2.6	0.88
CB363	N1	7/30/2008	Sediment Trap	Pyrene	1.4	mg/kg	2.6	0.54
CB363	N1	3/18/2008	Sediment Trap	Pyrene	9.9	mg/kg	2.6	3.8
CB363	N1	10/29/2007	Sediment Trap	Pyrene	1.1 J	mg/kg	2.6	0.42
CB363	N1	5/14/2007	Sediment Trap	Pyrene	1.8	mg/kg	2.6	0.69
CB363	N1	1/8/2007	Sediment Trap	Pyrene	3.4	mg/kg	2.6	1.3
CB363	N1	10/11/2006	Sediment Trap	Pyrene	4.1	mg/kg	2.6	1.6
CB363	N1	3/16/2006	Sediment Trap	Pyrene	5.1	mg/kg	2.6	2.0
CB363	N1	8/11/2005	Sediment Trap	Pyrene	2	mg/kg	2.6	0.77
CB363	N1	2/16/2005	Grab	Pyrene	0.66	mg/kg	2.6	0.25
CB363	N1	4/5/2011	Sediment Trap	Total cPAH	1.24	mg/kg	0.062	20
CB363	N1	4/8/2010	Sediment Trap	Total cPAH	6.10	mg/kg	0.062	98
CB363	N1	6/9/2009	Grab	Total cPAH	0.182	mg/kg	0.062	2.9
CB363	N1	4/6/2009	Sediment Trap	Total cPAH	3.27	mg/kg	0.062	53
CB363	N1	12/3/2008	Sediment Trap	Total cPAH	2	mg/kg	0.062	32
CB363	N1	7/30/2008	Sediment Trap	Total cPAH	1.01	mg/kg	0.062	16
CB363	N1	3/18/2008	Sediment Trap	Total cPAH	7.45	mg/kg	0.062	120
CB363	N1	10/29/2007	Sediment Trap	Total cPAH	0.729	mg/kg	0.062	12
CB363	N1	5/14/2007	Sediment Trap	Total cPAH	3.46	mg/kg	0.062	56
CB363	N1	1/8/2007	Sediment Trap	Total cPAH	3.05	mg/kg	0.062	49
CB363	N1	10/11/2006	Sediment Trap	Total cPAH	3.27	mg/kg	0.062	53
CB363	N1	3/16/2006	Sediment Trap	Total cPAH	4.25	mg/kg	0.062	69
CB363	N1	8/11/2005	Sediment Trap	Total cPAH	1.65	mg/kg	0.062	27
CB363	N1	2/16/2005	Grab	Total cPAH	0.429	mg/kg	0.062	6.9
CB363	N1	4/5/2011	Sediment Trap	Total HPAHs	9	mg/kg	12	0.75
CB363	N1	4/8/2010	Sediment Trap	Total HPAHs	40	mg/kg	12	3.3
CB363	N1	6/9/2009	Grab	Total HPAHs	1.35	mg/kg	12	0.11
CB363	N1	4/6/2009	Sediment Trap	Total HPAHs	28.4	mg/kg	12	2.4
CB363	N1	12/3/2008	Sediment Trap	Total HPAHs	16.5	mg/kg	12	1.4
CB363	N1	7/30/2008	Sediment Trap	Total HPAHs	8.6	mg/kg	12	0.72
CB363	N1	3/18/2008	Sediment Trap	Total HPAHs	60	mg/kg	12	5.0
CB363	N1	10/29/2007	Sediment Trap	Total HPAHs	8.1	mg/kg	12	0.68
CB363	N1	5/14/2007	Sediment Trap	Total HPAHs	28	mg/kg	12	2.3
CB363	N1	1/8/2007	Sediment Trap	Total HPAHs	20.1	mg/kg	12	1.7
CB363	N1	10/11/2006	Sediment Trap	Total HPAHs	25.9	mg/kg	12	2.2
CB363	N1	3/16/2006	Sediment Trap	Total HPAHs	35.1	mg/kg	12	2.9
CB363	N1	8/11/2005	Sediment Trap	Total HPAHs	12.4	mg/kg	12	1.0
CB363	N1	3/15/2005	Sediment Trap	Total HPAHs	35.1	mg/kg	12	2.9
CB363	N1	2/16/2005	Grab	Total HPAHs	3.5	mg/kg	12	0.29
CB363	N1	4/5/2011	Sediment Trap	Total LPAHs	1.1	mg/kg	5.2	0.21
CB363	N1	4/8/2010	Sediment Trap	Total LPAHs	5.1	mg/kg	5.2	0.98
CB363	N1	6/9/2009	Grab	Total LPAHs	0.099	mg/kg	5.2	0.019
CB363	N1	4/6/2009	Sediment Trap	Total LPAHs	2.9	mg/kg	5.2	0.56
CB363	N1	12/3/2008	Sediment Trap	Total LPAHs	1.4	mg/kg	5.2	0.27
CB363	N1	7/30/2008	Sediment Trap	Total LPAHs	0.78	mg/kg	5.2	0.15
CB363	N1	3/18/2008	Sediment Trap	Total LPAHs	13.4	mg/kg	5.2	2.6
CB363	N1	10/29/2007	Sediment Trap	Total LPAHs	0.84	mg/kg	5.2	0.16
CB363	N1	5/14/2007	Sediment Trap	Total LPAHs	1.6	mg/kg	5.2	0.31
CB363	N1	1/8/2007	Sediment Trap	Total LPAHs	2.1	mg/kg	5.2	0.40
CB363	N1	10/11/2006	Sediment Trap	Total LPAHs	2.4	mg/kg	5.2	0.46
CB363	N1	3/16/2006	Sediment Trap	Total LPAHs	3.7	mg/kg	5.2	0.71
CB363	N1	8/11/2005	Sediment Trap	Total LPAHs	1.8	mg/kg	5.2	0.35
CB363	N1	3/15/2005	Sediment Trap	Total LPAHs	3.7	mg/kg	5.2	0.71

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB363	N1	2/16/2005	Grab	Total LPAHs	0.26	mg/kg	5.2	0.050
CB363	N1	8/24/2011	Grab	Total PCBs	3	mg/kg	0.038	79
CB363	N1	4/5/2011	Sediment Trap	Total PCBs	4	mg/kg	0.038	110
CB363	N1	4/8/2010	Sediment Trap	Total PCBs	2.6	mg/kg	0.038	68
CB363	N1	6/9/2009	Grab	Total PCBs	6.8	mg/kg	0.038	180
CB363	N1	4/6/2009	Sediment Trap	Total PCBs	2.1	mg/kg	0.038	55
CB363	N1	12/3/2008	Sediment Trap	Total PCBs	3.1	mg/kg	0.038	82
CB363	N1	7/30/2008	Sediment Trap	Total PCBs	4.2	mg/kg	0.038	110
CB363	N1	3/18/2008	Sediment Trap	Total PCBs	16	mg/kg	0.038	420
CB363	N1	10/29/2007	Sediment Trap	Total PCBs	62	mg/kg	0.038	1600
CB363	N1	5/14/2007	Sediment Trap	Total PCBs	180	mg/kg	0.038	4700
CB363	N1	3/14/2007	Grab	Total PCBs	230	mg/kg	0.038	6100
CB363	N1	1/8/2007	Sediment Trap	Total PCBs	200	mg/kg	0.038	5300
CB363	N1	12/8/2006	Grab	Total PCBs	107	mg/kg	0.038	2800
CB363	N1	10/11/2006	Sediment Trap	Total PCBs	800	mg/kg	0.038	21000
CB363	N1	3/16/2006	Sediment Trap	Total PCBs	114	mg/kg	0.038	3000
CB363	N1	8/11/2005	Sediment Trap	Total PCBs	24	mg/kg	0.038	630
CB363	N1	2/16/2005	Grab	Total PCBs	7	mg/kg	0.038	180
CB363	N1	4/5/2011	Sediment Trap	Zinc	670	mg/kg	410	1.6
CB363	N1	4/8/2010	Sediment Trap	Zinc	705	mg/kg	410	1.7
CB363	N1	6/9/2009	Grab	Zinc	219 J	mg/kg	410	0.53
CB363	N1	4/6/2009	Sediment Trap	Zinc	1280	mg/kg	410	3.1
CB363	N1	12/3/2008	Sediment Trap	Zinc	1510	mg/kg	410	3.7
CB363	N1	7/30/2008	Sediment Trap	Zinc	933	mg/kg	410	2.3
CB363	N1	3/18/2008	Sediment Trap	Zinc	611	mg/kg	410	1.5
CB363	N1	10/29/2007	Sediment Trap	Zinc	1120	mg/kg	410	2.7
CB363	N1	5/14/2007	Sediment Trap	Zinc	751	mg/kg	410	1.8
CB363	N1	1/8/2007	Sediment Trap	Zinc	428	mg/kg	410	1.0
CB363	N1	10/11/2006	Sediment Trap	Zinc	1370	mg/kg	410	3.3
CB363	N1	3/16/2006	Sediment Trap	Zinc	717	mg/kg	410	1.7
CB363	N1	8/11/2005	Sediment Trap	Zinc	553	mg/kg	410	1.3
CB363	N1	2/16/2005	Grab	Zinc	272	mg/kg	410	0.66
CB53	N8	3/31/2010	Grab	Arsenic	30 0	mg/kg	7.3	4.1
CB53	N8	3/31/2010	Grab	Cadmium	41.2	mg/kg	3.7	11
CB53	N8	3/31/2010	Grab	Chromium	410	mg/kg	35.6	12
CB53	N8	3/31/2010	Grab	Copper	555	mg/kg	310	1.8
CB53	N8	3/31/2010	Grab	Lead	193	mg/kg	40	4.8
CB53	N8	3/31/2010	Grab	Mercury	0.21	mg/kg	0.41	0.51
CB53	N8	3/31/2010	Grab	Silver	7.4	mg/kg	6.1	1.2
CB53	N8	3/31/2010	Grab	Total PCBs	1.26	mg/kg	0.038	33
CB53	N8	3/31/2010	Grab	Zinc	2760	mg/kg	410	6.7
CB54A	N8	3/30/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB54A	N8	3/30/2010	Grab	Cadmium	34.7	mg/kg	3.7	9.4
CB54A	N8	3/30/2010	Grab	Chromium	193	mg/kg	35.6	5.4
CB54A	N8	3/30/2010	Grab	Copper	500	mg/kg	310	1.6
CB54A	N8	3/30/2010	Grab	Lead	244	mg/kg	40	6.1
CB54A	N8	3/30/2010	Grab	Mercury	0.31	mg/kg	0.41	0.76
CB54A	N8	3/30/2010	Grab	Silver	3	mg/kg	6.1	0.49
CB54A	N8	3/30/2010	Grab	Total PCBs	0.92	mg/kg	0.038	24
CB54A	N8	3/30/2010	Grab	Zinc	3240	mg/kg	410	7.9
CB55	N8	3/30/2010	Grab	Cadmium	30.1	mg/kg	3.7	8.1
CB55	N8	3/30/2010	Grab	Chromium	141	mg/kg	35.6	4.0
CB55	N8	3/30/2010	Grab	Copper	450	mg/kg	310	1.5
CB55	N8	3/30/2010	Grab	Lead	197	mg/kg	40	4.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB55	N8	3/30/2010	Grab	Mercury	0.21	mg/kg	0.41	0.51
CB55	N8	3/30/2010	Grab	Silver	6	mg/kg	6.1	0.98
CB55	N8	3/30/2010	Grab	Total PCBs	0.73	mg/kg	0.038	19
CB55	N8	3/30/2010	Grab	Zinc	4800	mg/kg	410	12
CB55A	N8	3/30/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB55A	N8	3/30/2010	Grab	Cadmium	16.8	mg/kg	3.7	4.5
CB55A	N8	3/30/2010	Grab	Chromium	167	mg/kg	35.6	4.7
CB55A	N8	3/30/2010	Grab	Copper	492	mg/kg	310	1.6
CB55A	N8	3/30/2010	Grab	Lead	231	mg/kg	40	5.8
CB55A	N8	3/30/2010	Grab	Mercury	0.21	mg/kg	0.41	0.51
CB55A	N8	3/30/2010	Grab	Silver	20.8	mg/kg	6.1	3.4
CB55A	N8	3/30/2010	Grab	Total PCBs	0.74	mg/kg	0.038	19
CB55A	N8	3/30/2010	Grab	Zinc	3010	mg/kg	410	7.3
CB56A	N8	3/30/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB56A	N8	3/30/2010	Grab	Cadmium	14.2	mg/kg	3.7	3.8
CB56A	N8	3/30/2010	Grab	Chromium	205	mg/kg	35.6	5.8
CB56A	N8	3/30/2010	Grab	Copper	508	mg/kg	310	1.6
CB56A	N8	3/30/2010	Grab	Lead	359	mg/kg	40	9.0
CB56A	N8	3/30/2010	Grab	Mercury	0.33	mg/kg	0.41	0.80
CB56A	N8	3/30/2010	Grab	Silver	2.5	mg/kg	6.1	0.41
CB56A	N8	3/30/2010	Grab	Total PCBs	0.59	mg/kg	0.038	16
CB56A	N8	3/30/2010	Grab	Zinc	2540	mg/kg	410	6.2
CB620	N6	4/5/2010	Grab	Cadmium	4.1	mg/kg	3.7	1.1
CB620	N6	4/5/2010	Grab	Chromium	102	mg/kg	35.6	2.9
CB620	N6	4/5/2010	Grab	Copper	166	mg/kg	310	0.54
CB620	N6	4/5/2010	Grab	Lead	249	mg/kg	40	6.2
CB620	N6	4/5/2010	Grab	Mercury	0.21	mg/kg	0.41	0.51
CB620	N6	4/5/2010	Grab	Total PCBs	0.46	mg/kg	0.038	12
CB620	N6	4/5/2010	Grab	Zinc	954	mg/kg	410	2.3
CB621	N6	4/12/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB621	N6	4/12/2010	Grab	Cadmium	22.9	mg/kg	3.7	6.2
CB621	N6	4/12/2010	Grab	Chromium	159	mg/kg	35.6	4.5
CB621	N6	4/12/2010	Grab	Copper	426	mg/kg	310	1.4
CB621	N6	4/12/2010	Grab	Lead	337	mg/kg	40	8.4
CB621	N6	4/12/2010	Grab	Mercury	0.44	mg/kg	0.41	1.1
CB621	N6	4/12/2010	Grab	Silver	1.5	mg/kg	6.1	0.25
CB621	N6	4/12/2010	Grab	Total PCBs	0.36	mg/kg	0.038	9.5
CB621	N6	4/12/2010	Grab	Zinc	1380	mg/kg	410	3.4
CB622	N6	4/5/2010	Grab	Arsenic	35	mg/kg	7.3	4.8
CB622	N6	4/5/2010	Grab	Cadmium	16.8	mg/kg	3.7	4.5
CB622	N6	4/5/2010	Grab	Chromium	193	mg/kg	35.6	5.4
CB622	N6	4/5/2010	Grab	Copper	502	mg/kg	310	1.6
CB622	N6	4/5/2010	Grab	Lead	282	mg/kg	40	7.1
CB622	N6	4/5/2010	Grab	Mercury	0.39	mg/kg	0.41	0.95
CB622	N6	4/5/2010	Grab	Silver	1.2	mg/kg	6.1	0.20
CB622	N6	4/5/2010	Grab	Total PCBs	0.36	mg/kg	0.038	9.5
CB622	N6	4/5/2010	Grab	Zinc	2860	mg/kg	410	7.0
CB623	N6	4/12/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
CB623	N6	4/12/2010	Grab	Cadmium	3.5	mg/kg	3.7	0.95
CB623	N6	4/12/2010	Grab	Chromium	64.6	mg/kg	35.6	1.8
CB623	N6	4/12/2010	Grab	Copper	132	mg/kg	310	0.43
CB623	N6	4/12/2010	Grab	Lead	66	mg/kg	40	1.7
CB623	N6	4/12/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB623	N6	4/12/2010	Grab	Total PCBs	0.125	mg/kg	0.038	3.3

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB623	N6	4/12/2010	Grab	Zinc	609	mg/kg	410	1.5
CB625	N6	3/31/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB625	N6	3/31/2010	Grab	Cadmium	4.9	mg/kg	3.7	1.3
CB625	N6	3/31/2010	Grab	Chromium	126	mg/kg	35.6	3.5
CB625	N6	3/31/2010	Grab	Copper	777	mg/kg	310	2.5
CB625	N6	3/31/2010	Grab	Lead	303	mg/kg	40	7.6
CB625	N6	3/31/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
CB625	N6	3/31/2010	Grab	Total PCBs	0.25	mg/kg	0.038	6.6
CB625	N6	5/14/2007	Grab	Total PCBs	0.25	mg/kg	0.038	6.6
CB625	N6	3/31/2010	Grab	Zinc	1330	mg/kg	410	3.2
CB625A	N6	3/31/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB625A	N6	3/31/2010	Grab	Cadmium	2.8	mg/kg	3.7	0.76
CB625A	N6	3/31/2010	Grab	Chromium	70.1	mg/kg	35.6	2.0
CB625A	N6	3/31/2010	Grab	Copper	528	mg/kg	310	1.7
CB625A	N6	3/31/2010	Grab	Lead	134	mg/kg	40	3.4
CB625A	N6	3/31/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB625A	N6	3/31/2010	Grab	Silver	0.5	mg/kg	6.1	0.082
CB625A	N6	3/31/2010	Grab	Total PCBs	0.27	mg/kg	0.038	7.1
CB625A	N6	5/14/2007	Grab	Total PCBs	0.39	mg/kg	0.038	10
CB625A	N6	3/31/2010	Grab	Zinc	1200	mg/kg	410	2.9
CB625B	N6	3/31/2010	Grab	Arsenic	15	mg/kg	7.3	2.1
CB625B	N6	3/31/2010	Grab	Cadmium	7.4	mg/kg	3.7	2.0
CB625B	N6	3/31/2010	Grab	Chromium	90.6	mg/kg	35.6	2.5
CB625B	N6	3/31/2010	Grab	Copper	221	mg/kg	310	0.71
CB625B	N6	3/31/2010	Grab	Lead	161	mg/kg	40	4.0
CB625B	N6	3/31/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
CB625B	N6	3/31/2010	Grab	Total PCBs	0.32	mg/kg	0.038	8.4
CB625B	N6	5/14/2007	Grab	Total PCBs	0.92	mg/kg	0.038	24
CB625B	N6	3/31/2010	Grab	Zinc	766	mg/kg	410	1.9
CB626	N6	3/31/2010	Grab	Arsenic	13	mg/kg	7.3	1.8
CB626	N6	3/31/2010	Grab	Cadmium	3.8	mg/kg	3.7	1.0
CB626	N6	3/31/2010	Grab	Chromium	43.6	mg/kg	35.6	1.2
CB626	N6	3/31/2010	Grab	Copper	276	mg/kg	310	0.89
CB626	N6	3/31/2010	Grab	Lead	44	mg/kg	40	1.1
CB626	N6	3/31/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
CB626	N6	3/31/2010	Grab	Total PCBs	0.09	mg/kg	0.038	2.4
CB626	N6	5/14/2007	Grab	Total PCBs	0.105	mg/kg	0.038	2.8
CB626	N6	3/31/2010	Grab	Zinc	828	mg/kg	410	2.0
CB627	N6	3/31/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB627	N6	3/31/2010	Grab	Cadmium	10.1	mg/kg	3.7	2.7
CB627	N6	3/31/2010	Grab	Chromium	140	mg/kg	35.6	3.9
CB627	N6	3/31/2010	Grab	Copper	367	mg/kg	310	1.2
CB627	N6	3/31/2010	Grab	Lead	287	mg/kg	40	7.2
CB627	N6	3/31/2010	Grab	Mercury	0.27	mg/kg	0.41	0.66
CB627	N6	3/31/2010	Grab	Total PCBs	1.01	mg/kg	0.038	27
CB627	N6	3/31/2010	Grab	Zinc	1900	mg/kg	410	4.6
CB628	N6	4/5/2010	Grab	Cadmium	1.7	mg/kg	3.7	0.46
CB628	N6	4/5/2010	Grab	Chromium	38.2	mg/kg	35.6	1.1
CB628	N6	4/5/2010	Grab	Copper	113	mg/kg	310	0.36
CB628	N6	4/5/2010	Grab	Lead	78	mg/kg	40	2.0
CB628	N6	4/5/2010	Grab	Mercury	0.21	mg/kg	0.41	0.51
CB628	N6	4/5/2010	Grab	Total PCBs	0.82	mg/kg	0.038	22
CB628	N6	4/5/2010	Grab	Zinc	349	mg/kg	410	0.85
CB647	N9	3/31/2010	Grab	Cadmium	9.5	mg/kg	3.7	2.6

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB647	N9	3/31/2010	Grab	Chromium	109	mg/kg	35.6	3.1
CB647	N9	3/31/2010	Grab	Copper	318	mg/kg	310	1.0
CB647	N9	3/31/2010	Grab	Lead	230	mg/kg	40	5.8
CB647	N9	3/31/2010	Grab	Mercury	5.6	mg/kg	0.41	14
CB647	N9	3/31/2010	Grab	Total PCBs	1.6	mg/kg	0.038	42
CB647	N9	3/31/2010	Grab	Zinc	4290	mg/kg	410	10
CB648	N9	3/31/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB648	N9	3/31/2010	Grab	Cadmium	14.2	mg/kg	3.7	3.8
CB648	N9	3/31/2010	Grab	Chromium	104	mg/kg	35.6	2.9
CB648	N9	3/31/2010	Grab	Copper	216	mg/kg	310	0.70
CB648	N9	3/31/2010	Grab	Lead	163	mg/kg	40	4.1
CB648	N9	3/31/2010	Grab	Mercury	1.52	mg/kg	0.41	3.7
CB648	N9	3/31/2010	Grab	Silver	0.7	mg/kg	6.1	0.11
CB648	N9	3/31/2010	Grab	Total PCBs	0.75	mg/kg	0.038	20
CB648	N9	3/31/2010	Grab	Zinc	2110	mg/kg	410	5.1
CB649	N9	3/31/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB649	N9	3/31/2010	Grab	Cadmium	13.6	mg/kg	3.7	3.7
CB649	N9	3/31/2010	Grab	Chromium	133 J	mg/kg	35.6	3.7
CB649	N9	3/31/2010	Grab	Copper	290	mg/kg	310	0.94
CB649	N9	3/31/2010	Grab	Lead	257	mg/kg	40	6.4
CB649	N9	3/31/2010	Grab	Mercury	0.75	mg/kg	0.41	1.8
CB649	N9	3/31/2010	Grab	Silver	3.5	mg/kg	6.1	0.57
CB649	N9	3/31/2010	Grab	Total PCBs	1.5	mg/kg	0.038	39
CB649	N9	3/31/2010	Grab	Zinc	1680	mg/kg	410	4.1
CB652A	N9	3/31/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB652A	N9	3/31/2010	Grab	Cadmium	13.2	mg/kg	3.7	3.6
CB652A	N9	3/31/2010	Grab	Chromium	122	mg/kg	35.6	3.4
CB652A	N9	3/31/2010	Grab	Copper	256	mg/kg	310	0.83
CB652A	N9	3/31/2010	Grab	Lead	635	mg/kg	40	16
CB652A	N9	3/31/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB652A	N9	3/31/2010	Grab	Silver	0.7	mg/kg	6.1	0.11
CB652A	N9	3/31/2010	Grab	Total PCBs	2.7	mg/kg	0.038	71
CB652A	N9	3/31/2010	Grab	Zinc	2030	mg/kg	410	5.0
CB74A	N8	3/31/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB74A	N8	3/31/2010	Grab	Cadmium	2.7	mg/kg	3.7	0.73
CB74A	N8	3/31/2010	Grab	Chromium	61.2	mg/kg	35.6	1.7
CB74A	N8	3/31/2010	Grab	Copper	106	mg/kg	310	0.34
CB74A	N8	3/31/2010	Grab	Lead	110	mg/kg	40	2.8
CB74A	N8	3/31/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB74A	N8	3/31/2010	Grab	Silver	0.8	mg/kg	6.1	0.13
CB74A	N8	3/31/2010	Grab	Total PCBs	0.24	mg/kg	0.038	6.3
CB74A	N8	3/31/2010	Grab	Zinc	608	mg/kg	410	1.5
D109B	N3	5/4/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
D109B	N3	5/4/2010	Grab	Cadmium	90.5	mg/kg	3.7	24
D109B	N3	5/4/2010	Grab	Chromium	115	mg/kg	35.6	3.2
D109B	N3	5/4/2010	Grab	Copper	211	mg/kg	310	0.68
D109B	N3	5/4/2010	Grab	Lead	164	mg/kg	40	4.1
D109B	N3	5/4/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
D109B	N3	5/4/2010	Grab	Total PCBs	0.45	mg/kg	0.038	12
D109B	N3	5/4/2010	Grab	Zinc	4820	mg/kg	410	12
D133C	N5	5/4/2010	Grab	Cadmium	7.7	mg/kg	3.7	2.1
D133C	N5	5/4/2010	Grab	Chromium	193	mg/kg	35.6	5.4
D133C	N5	5/4/2010	Grab	Copper	123	mg/kg	310	0.40
D133C	N5	5/4/2010	Grab	Lead	324	mg/kg	40	8.1

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
D133C	N5	5/4/2010	Grab	Mercury	0.2	mg/kg	0.41	0.49
D133C	N5	5/4/2010	Grab	Total PCBs	0.92	mg/kg	0.038	24
D133C	N5	5/4/2010	Grab	Zinc	3680	mg/kg	410	9.0
D153B	N8	5/10/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
D153B	N8	5/10/2010	Grab	Cadmium	108	mg/kg	3.7	29
D153B	N8	5/10/2010	Grab	Chromium	119	mg/kg	35.6	3.3
D153B	N8	5/10/2010	Grab	Copper	339	mg/kg	310	1.1
D153B	N8	5/10/2010	Grab	Lead	308	mg/kg	40	7.7
D153B	N8	5/10/2010	Grab	Mercury	0.17	mg/kg	0.41	0.41
D153B	N8	5/10/2010	Grab	Total PCBs	0.8	mg/kg	0.038	21
D153B	N8	5/10/2010	Grab	Zinc	12000	mg/kg	410	29
D153C	N8	5/4/2010	Grab	Cadmium	89.5	mg/kg	3.7	24
D153C	N8	5/4/2010	Grab	Chromium	192	mg/kg	35.6	5.4
D153C	N8	5/4/2010	Grab	Copper	596	mg/kg	310	1.9
D153C	N8	5/4/2010	Grab	Lead	447	mg/kg	40	11
D153C	N8	5/4/2010	Grab	Mercury	0.26	mg/kg	0.41	0.63
D153C	N8	5/4/2010	Grab	Total PCBs	0.49	mg/kg	0.038	13
D153C	N8	5/4/2010	Grab	Zinc	22900	mg/kg	410	56
D333A	N8	5/4/2010	Grab	Cadmium	2	mg/kg	3.7	0.54
D333A	N8	5/4/2010	Grab	Chromium	69	mg/kg	35.6	1.9
D333A	N8	5/4/2010	Grab	Copper	208	mg/kg	310	0.67
D333A	N8	5/4/2010	Grab	Lead	127	mg/kg	40	3.2
D333A	N8	5/4/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
D333A	N8	5/4/2010	Grab	Silver	1	mg/kg	6.1	0.16
D333A	N8	5/4/2010	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
D333A	N8	5/4/2010	Grab	Zinc	385	mg/kg	410	0.94
D333B	N8	5/4/2010	Grab	Cadmium	5.1	mg/kg	3.7	1.4
D333B	N8	5/4/2010	Grab	Chromium	463	mg/kg	35.6	13
D333B	N8	5/4/2010	Grab	Copper	830	mg/kg	310	2.7
D333B	N8	5/4/2010	Grab	Lead	157	mg/kg	40	3.9
D333B	N8	5/4/2010	Grab	Mercury	0.15	mg/kg	0.41	0.37
D333B	N8	5/4/2010	Grab	Silver	24	mg/kg	6.1	3.9
D333B	N8	5/4/2010	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
D333B	N8	5/4/2010	Grab	Zinc	1270	mg/kg	410	3.1
D333C	N8	5/4/2010	Grab	Arsenic	12	mg/kg	7.3	1.6
D333C	N8	5/4/2010	Grab	Cadmium	6.8	mg/kg	3.7	1.8
D333C	N8	5/4/2010	Grab	Chromium	96.6	mg/kg	35.6	2.7
D333C	N8	5/4/2010	Grab	Copper	219	mg/kg	310	0.71
D333C	N8	5/4/2010	Grab	Lead	204	mg/kg	40	5.1
D333C	N8	5/4/2010	Grab	Mercury	0.11	mg/kg	0.41	0.27
D333C	N8	5/4/2010	Grab	Silver	1.6	mg/kg	6.1	0.26
D333C	N8	5/4/2010	Grab	Total PCBs	0.45	mg/kg	0.038	12
D333C	N8	5/4/2010	Grab	Zinc	2370	mg/kg	410	5.8
D333D	N8	5/4/2010	Grab	Cadmium	6.2	mg/kg	3.7	1.7
D333D	N8	5/4/2010	Grab	Chromium	126	mg/kg	35.6	3.5
D333D	N8	5/4/2010	Grab	Copper	148	mg/kg	310	0.48
D333D	N8	5/4/2010	Grab	Lead	123	mg/kg	40	3.1
D333D	N8	5/4/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
D333D	N8	5/4/2010	Grab	Silver	0.6	mg/kg	6.1	0.098
D333D	N8	5/4/2010	Grab	Total PCBs	0.22	mg/kg	0.038	5.8
D333D	N8	5/4/2010	Grab	Zinc	834	mg/kg	410	2.0
MH108	N1	3/9/2011	Filter/Stormwater	2-Methylnaphthalene	0.11	mg/kg	0.59	0.19
MH108	N1	12/12/2010	Filter/Stormwater	2-Methylnaphthalene	0.081	mg/kg	0.59	0.14
MH108	N1	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.12	mg/kg	0.59	0.20

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH108	N1	3/29/2010	Filter/Stormwater	2-Methylnaphthalene	0.061	mg/kg	0.59	0.10
MH108	N1	2/11/2010	Filter/Stormwater	2-Methylnaphthalene	0.62	mg/kg	0.59	1.1
MH108	N1	11/6/2009	Filter/Stormwater	2-Methylnaphthalene	0.51 J	mg/kg	0.59	0.86
MH108	N1	12/12/2010	Filter/Stormwater	Acenaphthene	0.049	mg/kg	0.25	0.20
MH108	N1	4/27/2010	Filter/Stormwater	Acenaphthene	0.054	mg/kg	0.25	0.22
MH108	N1	3/29/2010	Filter/Stormwater	Acenaphthene	0.084	mg/kg	0.25	0.34
MH108	N1	3/9/2011	Filter/Stormwater	Anthracene	0.041	mg/kg	0.96	0.043
MH108	N1	12/12/2010	Filter/Stormwater	Anthracene	0.15	mg/kg	0.96	0.16
MH108	N1	4/27/2010	Filter/Stormwater	Anthracene	0.065	mg/kg	0.96	0.068
MH108	N1	3/29/2010	Filter/Stormwater	Anthracene	0.23	mg/kg	0.96	0.24
MH108	N1	11/6/2009	Filter/Stormwater	Anthracene	0.19 J	mg/kg	0.96	0.20
MH108	N1	4/27/2011	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH108	N1	3/9/2011	Filter/Stormwater	Arsenic	10	mg/kg	7.3	1.4
MH108	N1	11/30/2010	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH108	N1	6/30/2010	Filter/Baseflow	Arsenic	70	mg/kg	7.3	9.6
MH108	N1	6/2/2010	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH108	N1	5/20/2010	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH108	N1	3/29/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
MH108	N1	11/6/2009	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH108	N1	10/17/2009	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
MH108	N1	3/9/2011	Filter/Stormwater	Benzo(a)anthracene	0.28	mg/kg	1.3	0.22
MH108	N1	12/12/2010	Filter/Stormwater	Benzo(a)anthracene	1.5	mg/kg	1.3	1.2
MH108	N1	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.83	mg/kg	1.3	0.64
MH108	N1	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.27	mg/kg	1.3	0.21
MH108	N1	3/29/2010	Filter/Stormwater	Benzo(a)anthracene	1.1	mg/kg	1.3	0.85
MH108	N1	2/11/2010	Filter/Stormwater	Benzo(a)anthracene	0.24	mg/kg	1.3	0.18
MH108	N1	11/6/2009	Filter/Stormwater	Benzo(a)anthracene	1.1 J	mg/kg	1.3	0.85
MH108	N1	3/9/2011	Filter/Stormwater	Benzo(a)pyrene	0.5	mg/kg	0.062	8.1
MH108	N1	12/12/2010	Filter/Stormwater	Benzo(a)pyrene	1	mg/kg	0.062	16
MH108	N1	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	1.4	mg/kg	0.062	23
MH108	N1	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.43	mg/kg	0.062	6.9
MH108	N1	3/29/2010	Filter/Stormwater	Benzo(a)pyrene	2.5	mg/kg	0.062	40
MH108	N1	2/11/2010	Filter/Stormwater	Benzo(a)pyrene	0.47	mg/kg	0.062	7.6
MH108	N1	11/6/2009	Filter/Stormwater	Benzo(a)pyrene	2 J	mg/kg	0.062	32
MH108	N1	3/9/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.39	mg/kg	0.48	0.81
MH108	N1	12/12/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.81	mg/kg	0.48	1.7
MH108	N1	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.7	mg/kg	0.48	3.5
MH108	N1	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.67	mg/kg	0.48	1.4
MH108	N1	3/29/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.8	mg/kg	0.48	3.8
MH108	N1	2/11/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.55	mg/kg	0.48	1.1
MH108	N1	11/6/2009	Filter/Stormwater	Benzo(g,h,i)perylene	2.1 J	mg/kg	0.48	4.4
MH108	N1	3/9/2011	Filter/Stormwater	Benzofluoranthene	1.4	mg/kg	3.2	0.44
MH108	N1	12/12/2010	Filter/Stormwater	Benzofluoranthene	3.7	mg/kg	3.2	1.2
MH108	N1	6/2/2010	Filter/Stormwater	Benzofluoranthene	4.6	mg/kg	3.2	1.4
MH108	N1	4/27/2010	Filter/Stormwater	Benzofluoranthene	1.6	mg/kg	3.2	0.50
MH108	N1	3/29/2010	Filter/Stormwater	Benzofluoranthene	4.6	mg/kg	3.2	1.4
MH108	N1	2/11/2010	Filter/Stormwater	Benzofluoranthene	1.4	mg/kg	3.2	0.44
MH108	N1	11/6/2009	Filter/Stormwater	Benzofluoranthene	4.4	mg/kg	3.2	1.4
MH108	N1	4/27/2011	Filter/Stormwater	Cadmium	9.5	mg/kg	3.7	2.6
MH108	N1	3/9/2011	Filter/Stormwater	Cadmium	3.1	mg/kg	3.7	0.84
MH108	N1	1/21/2011	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
MH108	N1	12/12/2010	Filter/Stormwater	Cadmium	6.7	mg/kg	3.7	1.8
MH108	N1	11/30/2010	Filter/Stormwater	Cadmium	11.1	mg/kg	3.7	3.0
MH108	N1	6/30/2010	Filter/Baseflow	Cadmium	4	mg/kg	3.7	1.1

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH108	N1	6/2/2010	Filter/Stormwater	Cadmium	7	mg/kg	3.7	1.9
MH108	N1	5/20/2010	Filter/Stormwater	Cadmium	9.1	mg/kg	3.7	2.5
MH108	N1	4/27/2010	Filter/Stormwater	Cadmium	10	mg/kg	3.7	2.7
MH108	N1	3/29/2010	Filter/Stormwater	Cadmium	6.1	mg/kg	3.7	1.6
MH108	N1	2/11/2010	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
MH108	N1	12/15/2009	Filter/Stormwater	Cadmium	6.5	mg/kg	3.7	1.8
MH108	N1	12/14/2009	Filter/Stormwater	Cadmium	9	mg/kg	3.7	2.4
MH108	N1	11/6/2009	Filter/Stormwater	Cadmium	9.8	mg/kg	3.7	2.6
MH108	N1	10/29/2009	Filter/Stormwater	Cadmium	4.5	mg/kg	3.7	1.2
MH108	N1	10/17/2009	Filter/Stormwater	Cadmium	16.7	mg/kg	3.7	4.5
MH108	N1	4/27/2011	Filter/Stormwater	Chromium	87	mg/kg	35.6	2.4
MH108	N1	3/9/2011	Filter/Stormwater	Chromium	41	mg/kg	35.6	1.2
MH108	N1	1/21/2011	Filter/Stormwater	Chromium	58	mg/kg	35.6	1.6
MH108	N1	12/12/2010	Filter/Stormwater	Chromium	68	mg/kg	35.6	1.9
MH108	N1	11/30/2010	Filter/Stormwater	Chromium	66	mg/kg	35.6	1.9
MH108	N1	6/30/2010	Filter/Baseflow	Chromium	22	mg/kg	35.6	0.62
MH108	N1	6/2/2010	Filter/Stormwater	Chromium	59	mg/kg	35.6	1.7
MH108	N1	5/20/2010	Filter/Stormwater	Chromium	76	mg/kg	35.6	2.1
MH108	N1	4/27/2010	Filter/Stormwater	Chromium	53 J	mg/kg	35.6	1.5
MH108	N1	3/29/2010	Filter/Stormwater	Chromium	65	mg/kg	35.6	1.8
MH108	N1	2/23/2010	Filter/Baseflow	Chromium	30	mg/kg	35.6	0.84
MH108	N1	2/11/2010	Filter/Stormwater	Chromium	52	mg/kg	35.6	1.5
MH108	N1	12/15/2009	Filter/Stormwater	Chromium	110	mg/kg	35.6	3.1
MH108	N1	12/14/2009	Filter/Stormwater	Chromium	70	mg/kg	35.6	2.0
MH108	N1	11/6/2009	Filter/Stormwater	Chromium	111	mg/kg	35.6	3.1
MH108	N1	10/29/2009	Filter/Stormwater	Chromium	63	mg/kg	35.6	1.8
MH108	N1	10/17/2009	Filter/Stormwater	Chromium	116	mg/kg	35.6	3.3
MH108	N1	3/9/2011	Filter/Stormwater	Chrysene	0.87	mg/kg	1.4	0.62
MH108	N1	12/12/2010	Filter/Stormwater	Chrysene	2.1	mg/kg	1.4	1.5
MH108	N1	6/2/2010	Filter/Stormwater	Chrysene	3.4	mg/kg	1.4	2.4
MH108	N1	4/27/2010	Filter/Stormwater	Chrysene	1.4	mg/kg	1.4	1.0
MH108	N1	3/29/2010	Filter/Stormwater	Chrysene	3.4	mg/kg	1.4	2.4
MH108	N1	2/11/2010	Filter/Stormwater	Chrysene	1	mg/kg	1.4	0.71
MH108	N1	11/6/2009	Filter/Stormwater	Chrysene	3.1 J	mg/kg	1.4	2.2
MH108	N1	4/27/2011	Filter/Stormwater	Copper	190	mg/kg	310	0.61
MH108	N1	3/9/2011	Filter/Stormwater	Copper	139	mg/kg	310	0.45
MH108	N1	1/21/2011	Filter/Stormwater	Copper	213	mg/kg	310	0.69
MH108	N1	12/12/2010	Filter/Stormwater	Copper	187	mg/kg	310	0.60
MH108	N1	11/30/2010	Filter/Stormwater	Copper	227	mg/kg	310	0.73
MH108	N1	6/30/2010	Filter/Baseflow	Copper	71	mg/kg	310	0.23
MH108	N1	6/2/2010	Filter/Stormwater	Copper	247	mg/kg	310	0.80
MH108	N1	5/20/2010	Filter/Stormwater	Copper	386 J	mg/kg	310	1.2
MH108	N1	4/27/2010	Filter/Stormwater	Copper	329	mg/kg	310	1.1
MH108	N1	3/29/2010	Filter/Stormwater	Copper	319	mg/kg	310	1.0
MH108	N1	2/23/2010	Filter/Baseflow	Copper	165	mg/kg	310	0.53
MH108	N1	2/11/2010	Filter/Stormwater	Copper	311	mg/kg	310	1.0
MH108	N1	12/15/2009	Filter/Stormwater	Copper	421	mg/kg	310	1.4
MH108	N1	12/14/2009	Filter/Stormwater	Copper	264	mg/kg	310	0.85
MH108	N1	11/6/2009	Filter/Stormwater	Copper	301	mg/kg	310	0.97
MH108	N1	10/29/2009	Filter/Stormwater	Copper	298	mg/kg	310	0.96
MH108	N1	10/17/2009	Filter/Stormwater	Copper	311	mg/kg	310	1.0
MH108	N1	3/9/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	0.017	mg/kg	0.19	0.089
MH108	N1	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.4	mg/kg	0.19	2.1
MH108	N1	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.19	mg/kg	0.19	1.0

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH108	N1	3/29/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.53	mg/kg	0.19	2.8
MH108	N1	11/6/2009	Filter/Stormwater	Dibenzo(a,h)anthracene	0.69 J	mg/kg	0.19	3.6
MH108	N1	3/9/2011	Filter/Stormwater	Dibenzofuran	0.041	mg/kg	0.23	0.18
MH108	N1	12/12/2010	Filter/Stormwater	Dibenzofuran	0.11	mg/kg	0.23	0.48
MH108	N1	4/27/2010	Filter/Stormwater	Dibenzofuran	0.17	mg/kg	0.23	0.74
MH108	N1	3/29/2010	Filter/Stormwater	Dibenzofuran	0.14	mg/kg	0.23	0.61
MH108	N1	11/6/2009	Filter/Stormwater	Dibenzofuran	0.28 J	mg/kg	0.23	1.2
MH108	N1	3/9/2011	Filter/Stormwater	Fluoranthene	1.2	mg/kg	1.7	0.71
MH108	N1	12/12/2010	Filter/Stormwater	Fluoranthene	3.5	mg/kg	1.7	2.1
MH108	N1	6/2/2010	Filter/Stormwater	Fluoranthene	5.9	mg/kg	1.7	3.5
MH108	N1	4/27/2010	Filter/Stormwater	Fluoranthene	2.7	mg/kg	1.7	1.6
MH108	N1	3/29/2010	Filter/Stormwater	Fluoranthene	5.9	mg/kg	1.7	3.5
MH108	N1	2/11/2010	Filter/Stormwater	Fluoranthene	1.5	mg/kg	1.7	0.88
MH108	N1	11/6/2009	Filter/Stormwater	Fluoranthene	4.9 J	mg/kg	1.7	2.9
MH108	N1	3/9/2011	Filter/Stormwater	Fluorene	0.045	mg/kg	0.36	0.13
MH108	N1	12/12/2010	Filter/Stormwater	Fluorene	0.084	mg/kg	0.36	0.23
MH108	N1	4/27/2010	Filter/Stormwater	Fluorene	0.17	mg/kg	0.36	0.47
MH108	N1	3/29/2010	Filter/Stormwater	Fluorene	0.11	mg/kg	0.36	0.31
MH108	N1	2/11/2010	Filter/Stormwater	Fluorene	0.13	mg/kg	0.36	0.36
MH108	N1	11/6/2009	Filter/Stormwater	Fluorene	0.23 J	mg/kg	0.36	0.64
MH108	N1	3/9/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.35	mg/kg	0.53	0.66
MH108	N1	12/12/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.75	mg/kg	0.53	1.4
MH108	N1	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.4	mg/kg	0.53	2.6
MH108	N1	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.62	mg/kg	0.53	1.2
MH108	N1	3/29/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.7	mg/kg	0.53	3.2
MH108	N1	2/11/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.39	mg/kg	0.53	0.74
MH108	N1	11/6/2009	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.7 J	mg/kg	0.53	3.2
MH108	N1	4/27/2011	Filter/Stormwater	Lead	178	mg/kg	40	4.5
MH108	N1	3/9/2011	Filter/Stormwater	Lead	134	mg/kg	40	3.4
MH108	N1	1/21/2011	Filter/Stormwater	Lead	140	mg/kg	40	3.5
MH108	N1	12/12/2010	Filter/Stormwater	Lead	272	mg/kg	40	6.8
MH108	N1	11/30/2010	Filter/Stormwater	Lead	187	mg/kg	40	4.7
MH108	N1	6/30/2010	Filter/Baseflow	Lead	30	mg/kg	40	0.75
MH108	N1	6/2/2010	Filter/Stormwater	Lead	170	mg/kg	40	4.3
MH108	N1	5/20/2010	Filter/Stormwater	Lead	239	mg/kg	40	6.0
MH108	N1	4/27/2010	Filter/Stormwater	Lead	120	mg/kg	40	3.0
MH108	N1	3/29/2010	Filter/Stormwater	Lead	210	mg/kg	40	5.3
MH108	N1	2/11/2010	Filter/Stormwater	Lead	90	mg/kg	40	2.3
MH108	N1	12/15/2009	Filter/Stormwater	Lead	452	mg/kg	40	11
MH108	N1	12/14/2009	Filter/Stormwater	Lead	150	mg/kg	40	3.8
MH108	N1	11/6/2009	Filter/Stormwater	Lead	253	mg/kg	40	6.3
MH108	N1	10/29/2009	Filter/Stormwater	Lead	163	mg/kg	40	4.1
MH108	N1	10/17/2009	Filter/Stormwater	Lead	406	mg/kg	40	10
MH108	N1	4/27/2011	Filter/Stormwater	Mercury	0.37	mg/kg	0.41	0.90
MH108	N1	3/9/2011	Filter/Stormwater	Mercury	0.54	mg/kg	0.41	1.3
MH108	N1	1/21/2011	Filter/Stormwater	Mercury	0.4	mg/kg	0.41	0.98
MH108	N1	12/12/2010	Filter/Stormwater	Mercury	0.27	mg/kg	0.41	0.66
MH108	N1	11/30/2010	Filter/Stormwater	Mercury	0.39	mg/kg	0.41	0.95
MH108	N1	6/30/2010	Filter/Baseflow	Mercury	0.2	mg/kg	0.41	0.49
MH108	N1	6/2/2010	Filter/Stormwater	Mercury	0.6 J	mg/kg	0.41	1.5
MH108	N1	5/20/2010	Filter/Stormwater	Mercury	0.55 J	mg/kg	0.41	1.3
MH108	N1	4/27/2010	Filter/Stormwater	Mercury	1.4 J	mg/kg	0.41	3.4
MH108	N1	3/29/2010	Filter/Stormwater	Mercury	0.75 J	mg/kg	0.41	1.8
MH108	N1	2/23/2010	Filter/Baseflow	Mercury	2.29	mg/kg	0.41	5.6

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH108	N1	2/11/2010	Filter/Stormwater	Mercury	1.7	mg/kg	0.41	4.1
MH108	N1	2/5/2010	Filter/Stormwater	Mercury	0.2	mg/kg	0.41	0.49
MH108	N1	12/15/2009	Filter/Stormwater	Mercury	2.67	mg/kg	0.41	6.5
MH108	N1	12/14/2009	Filter/Stormwater	Mercury	0.7	mg/kg	0.41	1.7
MH108	N1	11/6/2009	Filter/Stormwater	Mercury	0.5	mg/kg	0.41	1.2
MH108	N1	10/29/2009	Filter/Stormwater	Mercury	0.35 J	mg/kg	0.41	0.85
MH108	N1	10/17/2009	Filter/Stormwater	Mercury	0.34	mg/kg	0.41	0.83
MH108	N1	3/9/2007	Filter/Undifferentiated	Mercury	0.09	mg/kg	0.41	0.22
MH108	N1	3/9/2011	Filter/Stormwater	Phenanthrene	0.6	mg/kg	1.5	0.40
MH108	N1	12/12/2010	Filter/Stormwater	Phenanthrene	1.6	mg/kg	1.5	1.1
MH108	N1	6/2/2010	Filter/Stormwater	Phenanthrene	2.6	mg/kg	1.5	1.7
MH108	N1	4/27/2010	Filter/Stormwater	Phenanthrene	1.3	mg/kg	1.5	0.87
MH108	N1	3/29/2010	Filter/Stormwater	Phenanthrene	2.3	mg/kg	1.5	1.5
MH108	N1	2/11/2010	Filter/Stormwater	Phenanthrene	0.61	mg/kg	1.5	0.41
MH108	N1	11/6/2009	Filter/Stormwater	Phenanthrene	2.4 J	mg/kg	1.5	1.6
MH108	N1	3/9/2011	Filter/Stormwater	Pyrene	0.95	mg/kg	2.6	0.37
MH108	N1	12/12/2010	Filter/Stormwater	Pyrene	3.2	mg/kg	2.6	1.2
MH108	N1	6/2/2010	Filter/Stormwater	Pyrene	3.4	mg/kg	2.6	1.3
MH108	N1	4/27/2010	Filter/Stormwater	Pyrene	1.7	mg/kg	2.6	0.65
MH108	N1	3/29/2010	Filter/Stormwater	Pyrene	2.7	mg/kg	2.6	1.0
MH108	N1	2/11/2010	Filter/Stormwater	Pyrene	0.92	mg/kg	2.6	0.35
MH108	N1	11/6/2009	Filter/Stormwater	Pyrene	3.6 J	mg/kg	2.6	1.4
MH108	N1	4/27/2011	Filter/Stormwater	Silver	1.6	mg/kg	6.1	0.26
MH108	N1	3/9/2011	Filter/Stormwater	Silver	1.2	mg/kg	6.1	0.20
MH108	N1	12/12/2010	Filter/Stormwater	Silver	3.6	mg/kg	6.1	0.59
MH108	N1	3/29/2010	Filter/Stormwater	Silver	1.2	mg/kg	6.1	0.20
MH108	N1	12/15/2009	Filter/Stormwater	Silver	2	mg/kg	6.1	0.33
MH108	N1	11/6/2009	Filter/Stormwater	Silver	5	mg/kg	6.1	0.82
MH108	N1	10/29/2009	Filter/Stormwater	Silver	2	mg/kg	6.1	0.33
MH108	N1	10/17/2009	Filter/Stormwater	Silver	2	mg/kg	6.1	0.33
MH108	N1	3/9/2011	Filter/Stormwater	Total cPAH	0.713	mg/kg	0.062	12
MH108	N1	12/12/2010	Filter/Stormwater	Total cPAH	1.62	mg/kg	0.062	26
MH108	N1	6/2/2010	Filter/Stormwater	Total cPAH	2.16	mg/kg	0.062	35
MH108	N1	4/27/2010	Filter/Stormwater	Total cPAH	0.712	mg/kg	0.062	11
MH108	N1	3/29/2010	Filter/Stormwater	Total cPAH	3.33	mg/kg	0.062	54
MH108	N1	2/11/2010	Filter/Stormwater	Total cPAH	0.690	mg/kg	0.062	11
MH108	N1	11/6/2009	Filter/Stormwater	Total cPAH	2.82	mg/kg	0.062	45
MH108	N1	4/27/2011	Filter/Stormwater	Total Dioxin/Furan	53.0	pg/g	3.9	14
MH108	N1	4/25/2011	Filter/Stormwater	Total Dioxin/Furan	74.22	pg/g	3.9	19
MH108	N1	1/21/2011	Filter/Stormwater	Total Dioxin/Furan	69.43	pg/g	3.9	18
MH108	N1	6/30/2010	Filter/Baseflow	Total Dioxin/Furan	5.94	pg/g	3.9	1.5
MH108	N1	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	12.8	pg/g	3.9	3.3
MH108	N1	2/23/2010	Filter/Baseflow	Total Dioxin/Furan	17.7	pg/g	3.9	4.5
MH108	N1	12/15/2009	Filter/Stormwater	Total Dioxin/Furan	157	pg/g	3.9	40
MH108	N1	10/29/2009	Filter/Stormwater	Total Dioxin/Furan	144	pg/g	3.9	37
MH108	N1	3/9/2011	Filter/Stormwater	Total HPAHs	6	mg/kg	12	0.50
MH108	N1	12/12/2010	Filter/Stormwater	Total HPAHs	16.6	mg/kg	12	1.4
MH108	N1	6/2/2010	Filter/Stormwater	Total HPAHs	23	mg/kg	12	1.9
MH108	N1	4/27/2010	Filter/Stormwater	Total HPAHs	9.6	mg/kg	12	0.80
MH108	N1	3/29/2010	Filter/Stormwater	Total HPAHs	24.2	mg/kg	12	2.0
MH108	N1	2/11/2010	Filter/Stormwater	Total HPAHs	6.5	mg/kg	12	0.54
MH108	N1	11/6/2009	Filter/Stormwater	Total HPAHs	23.6	mg/kg	12	2.0
MH108	N1	3/9/2011	Filter/Stormwater	Total LPAHs	0.77	mg/kg	5.2	0.15
MH108	N1	12/12/2010	Filter/Stormwater	Total LPAHs	2	mg/kg	5.2	0.38

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH108	N1	6/2/2010	Filter/Stormwater	Total LPAHs	2.8	mg/kg	5.2	0.54
MH108	N1	4/27/2010	Filter/Stormwater	Total LPAHs	1.8	mg/kg	5.2	0.35
MH108	N1	3/29/2010	Filter/Stormwater	Total LPAHs	2.8	mg/kg	5.2	0.54
MH108	N1	2/11/2010	Filter/Stormwater	Total LPAHs	1.05	mg/kg	5.2	0.20
MH108	N1	11/6/2009	Filter/Stormwater	Total LPAHs	3.1	mg/kg	5.2	0.60
MH108	N1	4/27/2011	Filter/Stormwater	Total PCBs	1.5	mg/kg	0.038	39
MH108	N1	4/25/2011	Filter/Stormwater	Total PCBs	4.4	mg/kg	0.038	120
MH108	N1	3/9/2011	Filter/Stormwater	Total PCBs	2	mg/kg	0.038	53
MH108	N1	1/21/2011	Filter/Stormwater	Total PCBs	2.9	mg/kg	0.038	76
MH108	N1	12/12/2010	Filter/Stormwater	Total PCBs	2.5	mg/kg	0.038	66
MH108	N1	11/30/2010	Filter/Stormwater	Total PCBs	4.4	mg/kg	0.038	120
MH108	N1	6/30/2010	Filter/Baseflow	Total PCBs	22	mg/kg	0.038	580
MH108	N1	6/2/2010	Filter/Stormwater	Total PCBs	5	mg/kg	0.038	130
MH108	N1	5/20/2010	Filter/Stormwater	Total PCBs	1.3	mg/kg	0.038	34
MH108	N1	4/27/2010	Filter/Stormwater	Total PCBs	4	mg/kg	0.038	110
MH108	N1	3/29/2010	Filter/Stormwater	Total PCBs	3.6	mg/kg	0.038	95
MH108	N1	2/23/2010	Filter/Baseflow	Total PCBs	25	mg/kg	0.038	660
MH108	N1	2/11/2010	Filter/Stormwater	Total PCBs	17.7	mg/kg	0.038	470
MH108	N1	2/5/2010	Filter/Stormwater	Total PCBs	18.3	mg/kg	0.038	480
MH108	N1	12/15/2009	Filter/Stormwater	Total PCBs	3.3	mg/kg	0.038	87
MH108	N1	12/14/2009	Filter/Stormwater	Total PCBs	3.1	mg/kg	0.038	82
MH108	N1	11/6/2009	Filter/Stormwater	Total PCBs	5.6	mg/kg	0.038	150
MH108	N1	10/29/2009	Filter/Stormwater	Total PCBs	6.1	mg/kg	0.038	160
MH108	N1	10/17/2009	Filter/Stormwater	Total PCBs	2.16	mg/kg	0.038	57
MH108	N1	3/9/2007	Filter/Undifferentiated	Total PCBs	18.4	mg/kg	0.038	480
MH108	N1	7/25/2006	Grab	Total PCBs	6.6	mg/kg	0.038	170
MH108	N1	4/27/2011	Filter/Stormwater	Zinc	952	mg/kg	410	2.3
MH108	N1	3/9/2011	Filter/Stormwater	Zinc	465	mg/kg	410	1.1
MH108	N1	1/21/2011	Filter/Stormwater	Zinc	765	mg/kg	410	1.9
MH108	N1	12/12/2010	Filter/Stormwater	Zinc	846	mg/kg	410	2.1
MH108	N1	11/30/2010	Filter/Stormwater	Zinc	1370	mg/kg	410	3.3
MH108	N1	6/30/2010	Filter/Baseflow	Zinc	320	mg/kg	410	0.78
MH108	N1	6/2/2010	Filter/Stormwater	Zinc	901	mg/kg	410	2.2
MH108	N1	5/20/2010	Filter/Stormwater	Zinc	1230	mg/kg	410	3.0
MH108	N1	4/27/2010	Filter/Stormwater	Zinc	950 J	mg/kg	410	2.3
MH108	N1	3/29/2010	Filter/Stormwater	Zinc	921	mg/kg	410	2.2
MH108	N1	2/23/2010	Filter/Baseflow	Zinc	310	mg/kg	410	0.76
MH108	N1	2/11/2010	Filter/Stormwater	Zinc	880	mg/kg	410	2.1
MH108	N1	12/15/2009	Filter/Stormwater	Zinc	1100	mg/kg	410	2.7
MH108	N1	12/14/2009	Filter/Stormwater	Zinc	1510	mg/kg	410	3.7
MH108	N1	11/6/2009	Filter/Stormwater	Zinc	1310	mg/kg	410	3.2
MH108	N1	10/29/2009	Filter/Stormwater	Zinc	785	mg/kg	410	1.9
MH108	N1	10/17/2009	Filter/Stormwater	Zinc	1360	mg/kg	410	3.3
MH111	N3	4/7/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
MH111	N3	4/7/2010	Grab	Cadmium	3.8	mg/kg	3.7	1.0
MH111	N3	4/7/2010	Grab	Chromium	105	mg/kg	35.6	2.9
MH111	N3	4/7/2010	Grab	Copper	134	mg/kg	310	0.43
MH111	N3	4/7/2010	Grab	Lead	245	mg/kg	40	6.1
MH111	N3	4/7/2010	Grab	Mercury	0.26	mg/kg	0.41	0.63
MH111	N3	4/7/2010	Grab	Silver	1.4	mg/kg	6.1	0.23
MH111	N3	8/24/2011	Grab	Total PCBs	0.65	mg/kg	0.038	17
MH111	N3	4/7/2010	Grab	Total PCBs	0.51	mg/kg	0.038	13
MH111	N3	4/7/2010	Grab	Zinc	879	mg/kg	410	2.1
MH130	N1	3/13/2007	Grab	Total PCBs	60	mg/kg	0.038	1600

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH130	N1	10/11/2005	Filter/Undifferentiated	Total PCBs	1.42	mg/kg	0.038	37
MH130	N1	9/26/2005	Grab	Total PCBs	2.3	mg/kg	0.038	61
MH133D	N5	6/2/2010	Filter/Stormwater	Acenaphthene	1.2	mg/kg	0.25	4.8
MH133D	N5	6/2/2010	Filter/Stormwater	Anthracene	2.2	mg/kg	0.96	2.3
MH133D	N5	6/2/2010	Filter/Stormwater	Arsenic	110	mg/kg	7.3	15
MH133D	N5	5/20/2010	Filter/Stormwater	Arsenic	90	mg/kg	7.3	12
MH133D	N5	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	8.3	mg/kg	1.3	6.4
MH133D	N5	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	9.8	mg/kg	0.062	160
MH133D	N5	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	6.8	mg/kg	0.48	14
MH133D	N5	6/2/2010	Filter/Stormwater	Benzofluoranthene	16.6	mg/kg	3.2	5.2
MH133D	N5	6/2/2010	Filter/Stormwater	Cadmium	102	mg/kg	3.7	28
MH133D	N5	5/20/2010	Filter/Stormwater	Cadmium	78	mg/kg	3.7	21
MH133D	N5	4/7/2010	Grab	Cadmium	4.6	mg/kg	3.7	1.2
MH133D	N5	6/2/2010	Filter/Stormwater	Chromium	274	mg/kg	35.6	7.7
MH133D	N5	5/20/2010	Filter/Stormwater	Chromium	78	mg/kg	35.6	2.2
MH133D	N5	4/7/2010	Grab	Chromium	38	mg/kg	35.6	1.1
MH133D	N5	6/2/2010	Filter/Stormwater	Chrysene	11	mg/kg	1.4	7.9
MH133D	N5	6/2/2010	Filter/Stormwater	Copper	134	mg/kg	310	0.43
MH133D	N5	5/20/2010	Filter/Stormwater	Copper	125 J	mg/kg	310	0.40
MH133D	N5	4/7/2010	Grab	Copper	63.4	mg/kg	310	0.20
MH133D	N5	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	2.7	mg/kg	0.19	14
MH133D	N5	6/2/2010	Filter/Stormwater	Fluoranthene	22	mg/kg	1.7	13
MH133D	N5	6/2/2010	Filter/Stormwater	Fluorene	1.4	mg/kg	0.36	3.9
MH133D	N5	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	6.2	mg/kg	0.53	12
MH133D	N5	6/2/2010	Filter/Stormwater	Lead	230	mg/kg	40	5.8
MH133D	N5	5/20/2010	Filter/Stormwater	Lead	120	mg/kg	40	3.0
MH133D	N5	4/7/2010	Grab	Lead	75	mg/kg	40	1.9
MH133D	N5	6/2/2010	Filter/Stormwater	Mercury	3.46 J	mg/kg	0.41	8.4
MH133D	N5	5/20/2010	Filter/Stormwater	Mercury	3.24 J	mg/kg	0.41	7.9
MH133D	N5	4/7/2010	Grab	Mercury	1.38	mg/kg	0.41	3.4
MH133D	N5	6/2/2010	Filter/Stormwater	Phenanthrene	13	mg/kg	1.5	8.7
MH133D	N5	6/2/2010	Filter/Stormwater	Pyrene	14	mg/kg	2.6	5.4
MH133D	N5	6/2/2010	Filter/Stormwater	Total cPAH	13.3	mg/kg	0.062	210
MH133D	N5	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	34.9	pg/g	3.9	8.9
MH133D	N5	6/2/2010	Filter/Stormwater	Total HPAHs	97	mg/kg	12	8.1
MH133D	N5	6/2/2010	Filter/Stormwater	Total LPAHs	18	mg/kg	5.2	3.5
MH133D	N5	6/2/2010	Filter/Stormwater	Total PCBs	1.26	mg/kg	0.038	33
MH133D	N5	5/20/2010	Filter/Stormwater	Total PCBs	0.27	mg/kg	0.038	7.1
MH133D	N5	4/7/2010	Grab	Total PCBs	0.037	mg/kg	0.038	0.97
MH133D	N5	9/26/2005	Grab	Total PCBs	0.111	mg/kg	0.038	2.9
MH133D	N5	6/2/2010	Filter/Stormwater	Zinc	2650	mg/kg	410	6.5
MH133D	N5	5/20/2010	Filter/Stormwater	Zinc	2200	mg/kg	410	5.4
MH133D	N5	4/7/2010	Grab	Zinc	309	mg/kg	410	0.75
MH138	N7	6/2/2010	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH138	N7	5/20/2010	Filter/Stormwater	Arsenic	90	mg/kg	7.3	12
MH138	N7	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	1.3	mg/kg	0.062	21
MH138	N7	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.5	mg/kg	0.48	3.1
MH138	N7	6/2/2010	Filter/Stormwater	Benzofluoranthene	2.4	mg/kg	3.2	0.75
MH138	N7	6/2/2010	Filter/Stormwater	Cadmium	11.1	mg/kg	3.7	3.0
MH138	N7	5/20/2010	Filter/Stormwater	Cadmium	10	mg/kg	3.7	2.7
MH138	N7	6/2/2010	Filter/Stormwater	Chromium	78	mg/kg	35.6	2.2
MH138	N7	5/20/2010	Filter/Stormwater	Chromium	100	mg/kg	35.6	2.8
MH138	N7	6/2/2010	Filter/Stormwater	Chrysene	2	mg/kg	1.4	1.4
MH138	N7	6/2/2010	Filter/Stormwater	Copper	149	mg/kg	310	0.48

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH138	N7	5/20/2010	Filter/Stormwater	Copper	126 J	mg/kg	310	0.41
MH138	N7	6/2/2010	Filter/Stormwater	Fluoranthene	4	mg/kg	1.7	2.4
MH138	N7	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.53	2.1
MH138	N7	6/2/2010	Filter/Stormwater	Lead	90	mg/kg	40	2.3
MH138	N7	5/20/2010	Filter/Stormwater	Lead	120	mg/kg	40	3.0
MH138	N7	6/2/2010	Filter/Stormwater	Mercury	0.37 J	mg/kg	0.41	0.90
MH138	N7	5/20/2010	Filter/Stormwater	Mercury	0.4 J	mg/kg	0.41	0.98
MH138	N7	1/26/2007	Filter/Undifferentiated	Mercury	0.27	mg/kg	0.41	0.66
MH138	N7	6/2/2010	Filter/Stormwater	Phenanthrene	1.8	mg/kg	1.5	1.2
MH138	N7	6/2/2010	Filter/Stormwater	Pyrene	3.5	mg/kg	2.6	1.3
MH138	N7	6/2/2010	Filter/Stormwater	Total cPAH	1.75	mg/kg	0.062	28
MH138	N7	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	17.6	pg/g	3.9	4.5
MH138	N7	6/2/2010	Filter/Stormwater	Total HPAHs	15.8	mg/kg	12	1.3
MH138	N7	6/2/2010	Filter/Stormwater	Total LPAHs	1.8	mg/kg	5.2	0.35
MH138	N7	6/2/2010	Filter/Stormwater	Total PCBs	10	mg/kg	0.038	260
MH138	N7	5/20/2010	Filter/Stormwater	Total PCBs	0.77	mg/kg	0.038	20
MH138	N7	1/26/2007	Filter/Undifferentiated	Total PCBs	17	mg/kg	0.038	450
MH138	N7	1/22/2007	Filter/Undifferentiated	Total PCBs	9.4	mg/kg	0.038	250
MH138	N7	6/2/2010	Filter/Stormwater	Zinc	1250	mg/kg	410	3.0
MH138	N7	5/20/2010	Filter/Stormwater	Zinc	2890	mg/kg	410	7.0
MH152	N1	6/2/2010	Filter/Stormwater	2-Methylnaphthalene	0.11	mg/kg	0.59	0.19
MH152	N1	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.12	mg/kg	0.59	0.20
MH152	N1	4/27/2010	Filter/Stormwater	Acenaphthene	0.043	mg/kg	0.25	0.17
MH152	N1	4/27/2010	Filter/Stormwater	Anthracene	0.086	mg/kg	0.96	0.090
MH152	N1	6/2/2010	Filter/Stormwater	Arsenic	50	mg/kg	7.3	6.8
MH152	N1	5/20/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
MH152	N1	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.5	mg/kg	1.3	0.38
MH152	N1	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.69	mg/kg	1.3	0.53
MH152	N1	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	0.93	mg/kg	0.062	15
MH152	N1	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.57	mg/kg	0.062	9.2
MH152	N1	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.6	mg/kg	0.48	3.3
MH152	N1	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.2	mg/kg	0.48	2.5
MH152	N1	6/2/2010	Filter/Stormwater	Benzofluoranthene	3.8	mg/kg	3.2	1.2
MH152	N1	4/27/2010	Filter/Stormwater	Benzofluoranthene	3.4	mg/kg	3.2	1.1
MH152	N1	6/2/2010	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
MH152	N1	5/20/2010	Filter/Stormwater	Cadmium	4.6	mg/kg	3.7	1.2
MH152	N1	4/27/2010	Filter/Stormwater	Cadmium	7	mg/kg	3.7	1.9
MH152	N1	6/2/2010	Filter/Stormwater	Chromium	58	mg/kg	35.6	1.6
MH152	N1	5/20/2010	Filter/Stormwater	Chromium	56	mg/kg	35.6	1.6
MH152	N1	4/27/2010	Filter/Stormwater	Chromium	59 J	mg/kg	35.6	1.7
MH152	N1	6/2/2010	Filter/Stormwater	Chrysene	3	mg/kg	1.4	2.1
MH152	N1	4/27/2010	Filter/Stormwater	Chrysene	4 J	mg/kg	1.4	2.9
MH152	N1	6/2/2010	Filter/Stormwater	Copper	419	mg/kg	310	1.4
MH152	N1	5/20/2010	Filter/Stormwater	Copper	328 J	mg/kg	310	1.1
MH152	N1	4/27/2010	Filter/Stormwater	Copper	393	mg/kg	310	1.3
MH152	N1	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.34	mg/kg	0.19	1.8
MH152	N1	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.33	mg/kg	0.19	1.7
MH152	N1	6/2/2010	Filter/Stormwater	Dibenzofuran	0.2	mg/kg	0.23	0.87
MH152	N1	4/27/2010	Filter/Stormwater	Dibenzofuran	0.24	mg/kg	0.23	1.0
MH152	N1	6/2/2010	Filter/Stormwater	Fluoranthene	4.8	mg/kg	1.7	2.8
MH152	N1	4/27/2010	Filter/Stormwater	Fluoranthene	12	mg/kg	1.7	7.1
MH152	N1	6/2/2010	Filter/Stormwater	Fluorene	0.1	mg/kg	0.36	0.28
MH152	N1	4/27/2010	Filter/Stormwater	Fluorene	0.16	mg/kg	0.36	0.44
MH152	N1	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.3	mg/kg	0.53	2.5

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH152	N1	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.2	mg/kg	0.53	2.3
MH152	N1	6/2/2010	Filter/Stormwater	Lead	210	mg/kg	40	5.3
MH152	N1	5/20/2010	Filter/Stormwater	Lead	189	mg/kg	40	4.7
MH152	N1	4/27/2010	Filter/Stormwater	Lead	190	mg/kg	40	4.8
MH152	N1	6/2/2010	Filter/Stormwater	Mercury	0.4 J	mg/kg	0.41	0.98
MH152	N1	5/20/2010	Filter/Stormwater	Mercury	0.52 J	mg/kg	0.41	1.3
MH152	N1	4/27/2010	Filter/Stormwater	Mercury	1.3 J	mg/kg	0.41	3.2
MH152	N1	1/26/2007	Filter/Undifferentiated	Mercury	0.29	mg/kg	0.41	0.71
MH152	N1	6/2/2010	Filter/Stormwater	Phenanthrene	2.2	mg/kg	1.5	1.5
MH152	N1	4/27/2010	Filter/Stormwater	Phenanthrene	2.8	mg/kg	1.5	1.9
MH152	N1	6/2/2010	Filter/Stormwater	Pyrene	2.8	mg/kg	2.6	1.1
MH152	N1	4/27/2010	Filter/Stormwater	Pyrene	2.3 J	mg/kg	2.6	0.88
MH152	N1	6/2/2010	Filter/Stormwater	Total cPAH	1.55	mg/kg	0.062	25
MH152	N1	4/27/2010	Filter/Stormwater	Total cPAH	1.17	mg/kg	0.062	19
MH152	N1	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	48.9	pg/g	3.9	13
MH152	N1	6/2/2010	Filter/Stormwater	Total HPAHs	19.1	mg/kg	12	1.6
MH152	N1	4/27/2010	Filter/Stormwater	Total HPAHs	26	mg/kg	12	2.2
MH152	N1	6/2/2010	Filter/Stormwater	Total LPAHs	2.5	mg/kg	5.2	0.48
MH152	N1	4/27/2010	Filter/Stormwater	Total LPAHs	3.3	mg/kg	5.2	0.63
MH152	N1	6/2/2010	Filter/Stormwater	Total PCBs	3.7	mg/kg	0.038	97
MH152	N1	5/20/2010	Filter/Stormwater	Total PCBs	0.99	mg/kg	0.038	26
MH152	N1	4/27/2010	Filter/Stormwater	Total PCBs	2.9	mg/kg	0.038	76
MH152	N1	1/26/2007	Filter/Undifferentiated	Total PCBs	25	mg/kg	0.038	660
MH152	N1	1/22/2007	Filter/Undifferentiated	Total PCBs	23	mg/kg	0.038	610
MH152	N1	6/2/2010	Filter/Stormwater	Zinc	1160	mg/kg	410	2.8
MH152	N1	5/20/2010	Filter/Stormwater	Zinc	686	mg/kg	410	1.7
MH152	N1	4/27/2010	Filter/Stormwater	Zinc	869 J	mg/kg	410	2.1
MH163	N1	6/8/2009	Grab	Total PCBs	2.3	mg/kg	0.038	61
MH166A	N11	7/15/2009	Grab	Total PCBs	18	mg/kg	0.038	470
MH169	N1	1/26/2007	Filter/Undifferentiated	Mercury	0.09	mg/kg	0.41	0.22
MH169	N1	1/26/2007	Filter/Undifferentiated	Total PCBs	40	mg/kg	0.038	1100
MH169	N1	1/22/2007	Filter/Undifferentiated	Total PCBs	18.2	mg/kg	0.038	480
MH172	N1	3/29/2010	Grab	Cadmium	0.5	mg/kg	3.7	0.14
MH172	N1	3/29/2010	Grab	Chromium	11.7	mg/kg	35.6	0.33
MH172	N1	3/29/2010	Grab	Copper	24.1	mg/kg	310	0.078
MH172	N1	3/29/2010	Grab	Lead	25	mg/kg	40	0.63
MH172	N1	3/29/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
MH172	N1	3/29/2010	Grab	Total PCBs	1.1	mg/kg	0.038	29
MH172	N1	3/29/2010	Grab	Zinc	69	mg/kg	410	0.17
MH178	N1	5/25/2011	Filter/Stormwater	2-Methylnaphthalene	0.58	mg/kg	0.59	0.98
MH178	N1	4/21/2011	Filter/Baseflow	2-Methylnaphthalene	0.029	mg/kg	0.59	0.049
MH178	N1	3/9/2011	Filter/Stormwater	2-Methylnaphthalene	0.052	mg/kg	0.59	0.088
MH178	N1	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.087	mg/kg	0.59	0.15
MH178	N1	4/6/2009	Sediment Trap	2-Methylnaphthalene	0.16 J	mg/kg	0.59	0.27
MH178	N1	5/25/2011	Filter/Stormwater	Acenaphthene	0.32	mg/kg	0.25	1.3
MH178	N1	4/21/2011	Filter/Baseflow	Acenaphthene	0.042	mg/kg	0.25	0.17
MH178	N1	3/9/2011	Filter/Stormwater	Acenaphthene	0.016	mg/kg	0.25	0.064
MH178	N1	4/27/2010	Filter/Stormwater	Acenaphthene	0.077	mg/kg	0.25	0.31
MH178	N1	4/8/2010	Sediment Trap	Acenaphthene	0.35 J	mg/kg	0.25	1.4
MH178	N1	4/6/2009	Sediment Trap	Acenaphthene	0.15 J	mg/kg	0.25	0.60
MH178	N1	4/21/2011	Filter/Baseflow	Anthracene	0.071	mg/kg	0.96	0.074
MH178	N1	4/5/2011	Sediment Trap	Anthracene	0.22 J	mg/kg	0.96	0.23
MH178	N1	3/9/2011	Filter/Stormwater	Anthracene	0.023	mg/kg	0.96	0.024
MH178	N1	4/27/2010	Filter/Stormwater	Anthracene	0.14	mg/kg	0.96	0.15

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	4/8/2010	Sediment Trap	Anthracene	0.83	mg/kg	0.96	0.86
MH178	N1	4/6/2009	Sediment Trap	Anthracene	0.36	mg/kg	0.96	0.38
MH178	N1	12/3/2008	Sediment Trap	Anthracene	0.48	mg/kg	0.96	0.50
MH178	N1	3/18/2008	Sediment Trap	Anthracene	0.2	mg/kg	0.96	0.21
MH178	N1	8/11/2005	Sediment Trap	Anthracene	0.15	mg/kg	0.96	0.16
MH178	N1	4/27/2011	Filter/Stormwater	Arsenic	30	mg/kg	7.3	4.1
MH178	N1	4/25/2011	Filter/Stormwater	Arsenic	50	mg/kg	7.3	6.8
MH178	N1	4/5/2011	Sediment Trap	Arsenic	14	mg/kg	7.3	1.9
MH178	N1	3/21/2011	Filter/Baseflow	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	3/9/2011	Filter/Stormwater	Arsenic	10	mg/kg	7.3	1.4
MH178	N1	6/2/2010	Filter/Stormwater	Arsenic	40	mg/kg	7.3	5.5
MH178	N1	5/20/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	4/27/2010	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	4/8/2010	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	12/3/2008	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	7/30/2008	Sediment Trap	Arsenic	10	mg/kg	7.3	1.4
MH178	N1	5/14/2007	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	10/11/2006	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	3/16/2006	Sediment Trap	Arsenic	20	mg/kg	7.3	2.7
MH178	N1	8/11/2005	Sediment Trap	Arsenic	14	mg/kg	7.3	1.9
MH178	N1	5/25/2011	Filter/Stormwater	Benzo(a)anthracene	2.3	mg/kg	1.3	1.8
MH178	N1	5/15/2011	Filter/Stormwater	Benzo(a)anthracene	0.22	mg/kg	1.3	0.17
MH178	N1	4/21/2011	Filter/Baseflow	Benzo(a)anthracene	0.42	mg/kg	1.3	0.32
MH178	N1	4/5/2011	Sediment Trap	Benzo(a)anthracene	1.2	mg/kg	1.3	0.92
MH178	N1	3/9/2011	Filter/Stormwater	Benzo(a)anthracene	0.16	mg/kg	1.3	0.12
MH178	N1	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	1.3	mg/kg	1.3	1.0
MH178	N1	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.72	mg/kg	1.3	0.55
MH178	N1	4/8/2010	Sediment Trap	Benzo(a)anthracene	5.2	mg/kg	1.3	4.0
MH178	N1	4/6/2009	Sediment Trap	Benzo(a)anthracene	2.2	mg/kg	1.3	1.7
MH178	N1	12/3/2008	Sediment Trap	Benzo(a)anthracene	2.7	mg/kg	1.3	2.1
MH178	N1	7/30/2008	Sediment Trap	Benzo(a)anthracene	1.2	mg/kg	1.3	0.92
MH178	N1	3/18/2008	Sediment Trap	Benzo(a)anthracene	0.95	mg/kg	1.3	0.73
MH178	N1	10/29/2007	Sediment Trap	Benzo(a)anthracene	1.5 J	mg/kg	1.3	1.2
MH178	N1	5/14/2007	Sediment Trap	Benzo(a)anthracene	1.4	mg/kg	1.3	1.1
MH178	N1	1/8/2007	Sediment Trap	Benzo(a)anthracene	1.8	mg/kg	1.3	1.4
MH178	N1	10/11/2006	Sediment Trap	Benzo(a)anthracene	2	mg/kg	1.3	1.5
MH178	N1	10/6/2006	Sediment Trap	Benzo(a)anthracene	2	mg/kg	1.3	1.5
MH178	N1	3/16/2006	Sediment Trap	Benzo(a)anthracene	3.2	mg/kg	1.3	2.5
MH178	N1	8/11/2005	Sediment Trap	Benzo(a)anthracene	0.84	mg/kg	1.3	0.65
MH178	N1	5/25/2011	Filter/Stormwater	Benzo(a)pyrene	2.7	mg/kg	0.062	44
MH178	N1	5/15/2011	Filter/Stormwater	Benzo(a)pyrene	0.36	mg/kg	0.062	5.8
MH178	N1	4/21/2011	Filter/Baseflow	Benzo(a)pyrene	0.67	mg/kg	0.062	11
MH178	N1	4/5/2011	Sediment Trap	Benzo(a)pyrene	1.7	mg/kg	0.062	27
MH178	N1	3/9/2011	Filter/Stormwater	Benzo(a)pyrene	0.27	mg/kg	0.062	4.4
MH178	N1	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	2.3	mg/kg	0.062	37
MH178	N1	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	1.3	mg/kg	0.062	21
MH178	N1	4/8/2010	Sediment Trap	Benzo(a)pyrene	8.4	mg/kg	0.062	140
MH178	N1	4/6/2009	Sediment Trap	Benzo(a)pyrene	3.5	mg/kg	0.062	56
MH178	N1	12/3/2008	Sediment Trap	Benzo(a)pyrene	4	mg/kg	0.062	65
MH178	N1	7/30/2008	Sediment Trap	Benzo(a)pyrene	1.9	mg/kg	0.062	31
MH178	N1	3/18/2008	Sediment Trap	Benzo(a)pyrene	1.3	mg/kg	0.062	21
MH178	N1	10/29/2007	Sediment Trap	Benzo(a)pyrene	1.2 J	mg/kg	0.062	19
MH178	N1	5/14/2007	Sediment Trap	Benzo(a)pyrene	2.2	mg/kg	0.062	35
MH178	N1	1/8/2007	Sediment Trap	Benzo(a)pyrene	2.3	mg/kg	0.062	37

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	10/11/2006	Sediment Trap	Benzo(a)pyrene	3	mg/kg	0.062	48
MH178	N1	10/6/2006	Sediment Trap	Benzo(a)pyrene	3	mg/kg	0.062	48
MH178	N1	3/16/2006	Sediment Trap	Benzo(a)pyrene	4.5	mg/kg	0.062	73
MH178	N1	8/11/2005	Sediment Trap	Benzo(a)pyrene	1.1	mg/kg	0.062	18
MH178	N1	5/25/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.69	mg/kg	0.48	1.4
MH178	N1	5/15/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.45	mg/kg	0.48	0.94
MH178	N1	4/21/2011	Filter/Baseflow	Benzo(g,h,i)perylene	0.62	mg/kg	0.48	1.3
MH178	N1	3/9/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.2	mg/kg	0.48	0.42
MH178	N1	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	2.9	mg/kg	0.48	6.0
MH178	N1	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.7	mg/kg	0.48	3.5
MH178	N1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	4.6	mg/kg	0.48	9.6
MH178	N1	4/6/2009	Sediment Trap	Benzo(g,h,i)perylene	2.2	mg/kg	0.48	4.6
MH178	N1	12/3/2008	Sediment Trap	Benzo(g,h,i)perylene	2.5	mg/kg	0.48	5.2
MH178	N1	7/30/2008	Sediment Trap	Benzo(g,h,i)perylene	1.5	mg/kg	0.48	3.1
MH178	N1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	0.85	mg/kg	0.48	1.8
MH178	N1	5/14/2007	Sediment Trap	Benzo(g,h,i)perylene	1.2	mg/kg	0.48	2.5
MH178	N1	10/6/2006	Sediment Trap	Benzo(g,h,i)perylene	2	mg/kg	0.48	4.2
MH178	N1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	2.1	mg/kg	0.48	4.4
MH178	N1	8/11/2005	Sediment Trap	Benzo(g,h,i)perylene	0.45	mg/kg	0.48	0.94
MH178	N1	4/5/2011	Sediment Trap	Benzo(g,h,i)perylene	1.5	mg/kg		
MH178	N1	5/25/2011	Filter/Stormwater	Benzofluoranthene	1.1	mg/kg	3.2	0.34
MH178	N1	5/15/2011	Filter/Stormwater	Benzofluoranthene	1.1	mg/kg	3.2	0.34
MH178	N1	4/21/2011	Filter/Baseflow	Benzofluoranthene	1.6	mg/kg	3.2	0.50
MH178	N1	4/5/2011	Sediment Trap	Benzofluoranthene	4	mg/kg	3.2	1.3
MH178	N1	3/9/2011	Filter/Stormwater	Benzofluoranthene	0.69	mg/kg	3.2	0.22
MH178	N1	6/2/2010	Filter/Stormwater	Benzofluoranthene	9.2	mg/kg	3.2	2.9
MH178	N1	4/27/2010	Filter/Stormwater	Benzofluoranthene	3.8	mg/kg	3.2	1.2
MH178	N1	4/8/2010	Sediment Trap	Benzofluoranthene	19.8	mg/kg	3.2	6.2
MH178	N1	4/6/2009	Sediment Trap	Benzofluoranthene	9.5	mg/kg	3.2	3.0
MH178	N1	12/3/2008	Sediment Trap	Benzofluoranthene	9	mg/kg	3.2	2.8
MH178	N1	7/30/2008	Sediment Trap	Benzofluoranthene	4.5	mg/kg	3.2	1.4
MH178	N1	3/18/2008	Sediment Trap	Benzofluoranthene	2.9	mg/kg	3.2	0.91
MH178	N1	10/29/2007	Sediment Trap	Benzofluoranthene	6.9	mg/kg	3.2	2.2
MH178	N1	5/14/2007	Sediment Trap	Benzofluoranthene	6.7	mg/kg	3.2	2.1
MH178	N1	1/8/2007	Sediment Trap	Benzofluoranthene	5.6	mg/kg	3.2	1.8
MH178	N1	10/11/2006	Sediment Trap	Benzofluoranthene	7.7	mg/kg	3.2	2.4
MH178	N1	10/6/2006	Sediment Trap	Benzofluoranthene	7.7	mg/kg	3.2	2.4
MH178	N1	3/16/2006	Sediment Trap	Benzofluoranthene	11.7	mg/kg	3.2	3.7
MH178	N1	8/11/2005	Sediment Trap	Benzofluoranthene	2.4	mg/kg	3.2	0.75
MH178	N1	4/5/2011	Sediment Trap	Benzoic Acid	0.39 J	mg/kg	0.65	0.60
MH178	N1	4/5/2011	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2	mg/kg	0.73	2.7
MH178	N1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	16	mg/kg	0.73	22
MH178	N1	4/6/2009	Sediment Trap	Bis(2-Ethylhexyl)phthalate	24	mg/kg	0.73	33
MH178	N1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	9.8	mg/kg	0.73	13
MH178	N1	7/30/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	5.8	mg/kg	0.73	7.9
MH178	N1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	0.99	mg/kg	0.73	1.4
MH178	N1	10/29/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	13 J	mg/kg	0.73	18
MH178	N1	5/14/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	13	mg/kg	0.73	18
MH178	N1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	3.6	mg/kg	0.73	4.9
MH178	N1	10/11/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	10	mg/kg	0.73	14
MH178	N1	10/6/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	10	mg/kg	0.73	14
MH178	N1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	10	mg/kg	0.73	14
MH178	N1	8/11/2005	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.8	mg/kg	0.73	2.5
MH178	N1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.3 J	mg/kg	0.063	4.8

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	4/6/2009	Sediment Trap	Butyl benzyl phthalate	0.24 J	mg/kg	0.063	3.8
MH178	N1	12/3/2008	Sediment Trap	Butyl benzyl phthalate	0.37	mg/kg	0.063	5.9
MH178	N1	7/30/2008	Sediment Trap	Butyl benzyl phthalate	0.32	mg/kg	0.063	5.1
MH178	N1	10/11/2006	Sediment Trap	Butyl benzyl phthalate	0.58	mg/kg	0.063	9.2
MH178	N1	10/6/2006	Sediment Trap	Butyl benzyl phthalate	0.58	mg/kg	0.063	9.2
MH178	N1	5/25/2011	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
MH178	N1	5/15/2011	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
MH178	N1	4/27/2011	Filter/Stormwater	Cadmium	3.1	mg/kg	3.7	0.84
MH178	N1	4/25/2011	Filter/Stormwater	Cadmium	3	mg/kg	3.7	0.81
MH178	N1	4/21/2011	Filter/Baseflow	Cadmium	4	mg/kg	3.7	1.1
MH178	N1	3/21/2011	Filter/Baseflow	Cadmium	1.2	mg/kg	3.7	0.32
MH178	N1	3/9/2011	Filter/Stormwater	Cadmium	2.1	mg/kg	3.7	0.57
MH178	N1	6/2/2010	Filter/Stormwater	Cadmium	4	mg/kg	3.7	1.1
MH178	N1	5/20/2010	Filter/Stormwater	Cadmium	4.5	mg/kg	3.7	1.2
MH178	N1	4/27/2010	Filter/Stormwater	Cadmium	6.2	mg/kg	3.7	1.7
MH178	N1	3/29/2010	Grab	Cadmium	1.2	mg/kg	3.7	0.32
MH178	N1	5/25/2011	Filter/Stormwater	Chromium	45	mg/kg	35.6	1.3
MH178	N1	5/15/2011	Filter/Stormwater	Chromium	54	mg/kg	35.6	1.5
MH178	N1	4/27/2011	Filter/Stormwater	Chromium	40	mg/kg	35.6	1.1
MH178	N1	4/25/2011	Filter/Stormwater	Chromium	39	mg/kg	35.6	1.1
MH178	N1	4/21/2011	Filter/Baseflow	Chromium	27	mg/kg	35.6	0.76
MH178	N1	3/21/2011	Filter/Baseflow	Chromium	23	mg/kg	35.6	0.65
MH178	N1	3/9/2011	Filter/Stormwater	Chromium	88	mg/kg	35.6	2.5
MH178	N1	6/2/2010	Filter/Stormwater	Chromium	55	mg/kg	35.6	1.5
MH178	N1	5/20/2010	Filter/Stormwater	Chromium	63	mg/kg	35.6	1.8
MH178	N1	4/27/2010	Filter/Stormwater	Chromium	57 J	mg/kg	35.6	1.6
MH178	N1	3/29/2010	Grab	Chromium	21.4	mg/kg	35.6	0.60
MH178	N1	5/25/2011	Filter/Stormwater	Chrysene	6.9	mg/kg	1.4	4.9
MH178	N1	5/15/2011	Filter/Stormwater	Chrysene	0.72	mg/kg	1.4	0.51
MH178	N1	4/21/2011	Filter/Baseflow	Chrysene	0.83	mg/kg	1.4	0.59
MH178	N1	4/5/2011	Sediment Trap	Chrysene	2.3	mg/kg	1.4	1.6
MH178	N1	3/9/2011	Filter/Stormwater	Chrysene	0.39	mg/kg	1.4	0.28
MH178	N1	6/2/2010	Filter/Stormwater	Chrysene	6.8	mg/kg	1.4	4.9
MH178	N1	4/27/2010	Filter/Stormwater	Chrysene	2.9	mg/kg	1.4	2.1
MH178	N1	4/8/2010	Sediment Trap	Chrysene	12	mg/kg	1.4	8.6
MH178	N1	4/6/2009	Sediment Trap	Chrysene	5	mg/kg	1.4	3.6
MH178	N1	12/3/2008	Sediment Trap	Chrysene	4.7	mg/kg	1.4	3.4
MH178	N1	7/30/2008	Sediment Trap	Chrysene	2.3	mg/kg	1.4	1.6
MH178	N1	3/18/2008	Sediment Trap	Chrysene	1.4	mg/kg	1.4	1.0
MH178	N1	10/29/2007	Sediment Trap	Chrysene	3.1 J	mg/kg	1.4	2.2
MH178	N1	5/14/2007	Sediment Trap	Chrysene	2.8	mg/kg	1.4	2.0
MH178	N1	1/8/2007	Sediment Trap	Chrysene	2.9	mg/kg	1.4	2.1
MH178	N1	10/11/2006	Sediment Trap	Chrysene	4.4	mg/kg	1.4	3.1
MH178	N1	10/6/2006	Sediment Trap	Chrysene	4.4	mg/kg	1.4	3.1
MH178	N1	3/16/2006	Sediment Trap	Chrysene	6.3	mg/kg	1.4	4.5
MH178	N1	8/11/2005	Sediment Trap	Chrysene	1.2	mg/kg	1.4	0.86
MH178	N1	5/25/2011	Filter/Stormwater	Copper	362	mg/kg	310	1.2
MH178	N1	5/15/2011	Filter/Stormwater	Copper	244	mg/kg	310	0.79
MH178	N1	4/27/2011	Filter/Stormwater	Copper	181	mg/kg	310	0.58
MH178	N1	4/25/2011	Filter/Stormwater	Copper	175	mg/kg	310	0.56
MH178	N1	4/21/2011	Filter/Baseflow	Copper	126	mg/kg	310	0.41
MH178	N1	4/5/2011	Sediment Trap	Copper	144	mg/kg	310	0.46
MH178	N1	3/21/2011	Filter/Baseflow	Copper	92.2	mg/kg	310	0.30
MH178	N1	3/9/2011	Filter/Stormwater	Copper	155	mg/kg	310	0.50

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	6/2/2010	Filter/Stormwater	Copper	413	mg/kg	310	1.3
MH178	N1	5/20/2010	Filter/Stormwater	Copper	397 J	mg/kg	310	1.3
MH178	N1	4/27/2010	Filter/Stormwater	Copper	352	mg/kg	310	1.1
MH178	N1	4/8/2010	Sediment Trap	Copper	248	mg/kg	310	0.80
MH178	N1	3/29/2010	Grab	Copper	71.1	mg/kg	310	0.23
MH178	N1	4/6/2009	Sediment Trap	Copper	759	mg/kg	310	2.4
MH178	N1	12/3/2008	Sediment Trap	Copper	316 J	mg/kg	310	1.0
MH178	N1	7/30/2008	Sediment Trap	Copper	206	mg/kg	310	0.66
MH178	N1	3/18/2008	Sediment Trap	Copper	76.9	mg/kg	310	0.25
MH178	N1	10/29/2007	Sediment Trap	Copper	359	mg/kg	310	1.2
MH178	N1	5/14/2007	Sediment Trap	Copper	227	mg/kg	310	0.73
MH178	N1	1/8/2007	Sediment Trap	Copper	103	mg/kg	310	0.33
MH178	N1	10/11/2006	Sediment Trap	Copper	818	mg/kg	310	2.6
MH178	N1	3/16/2006	Sediment Trap	Copper	541	mg/kg	310	1.7
MH178	N1	8/11/2005	Sediment Trap	Copper	113	mg/kg	310	0.36
MH178	N1	5/25/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	3.6	mg/kg	0.19	19
MH178	N1	5/15/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	0.13	mg/kg	0.19	0.68
MH178	N1	4/5/2011	Sediment Trap	Dibenzo(a,h)anthracene	0.61	mg/kg	0.19	3.2
MH178	N1	3/9/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	0.016	mg/kg	0.19	0.084
MH178	N1	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.7	mg/kg	0.19	3.7
MH178	N1	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.63	mg/kg	0.19	3.3
MH178	N1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	2	mg/kg	0.19	11
MH178	N1	4/6/2009	Sediment Trap	Dibenzo(a,h)anthracene	0.63	mg/kg	0.19	3.3
MH178	N1	12/3/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.89	mg/kg	0.19	4.7
MH178	N1	7/30/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.3	mg/kg	0.19	1.6
MH178	N1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.29	mg/kg	0.19	1.5
MH178	N1	10/11/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.64	mg/kg	0.19	3.4
MH178	N1	10/6/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.64	mg/kg	0.19	3.4
MH178	N1	5/25/2011	Filter/Stormwater	Dibenzofuran	0.32	mg/kg	0.23	1.4
MH178	N1	4/21/2011	Filter/Baseflow	Dibenzofuran	0.071	mg/kg	0.23	0.31
MH178	N1	3/9/2011	Filter/Stormwater	Dibenzofuran	0.016	mg/kg	0.23	0.070
MH178	N1	4/27/2010	Filter/Stormwater	Dibenzofuran	0.18	mg/kg	0.23	0.78
MH178	N1	4/8/2010	Sediment Trap	Dibenzofuran	0.28 J	mg/kg	0.23	1.2
MH178	N1	4/6/2009	Sediment Trap	Dibenzofuran	0.2 J	mg/kg	0.23	0.87
MH178	N1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	16	mg/kg	0.42	38
MH178	N1	4/6/2009	Sediment Trap	Di-n-Octyl phthalate	2	mg/kg	0.42	4.8
MH178	N1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	3.5	mg/kg	0.42	8.3
MH178	N1	7/30/2008	Sediment Trap	Di-n-Octyl phthalate	0.53	mg/kg	0.42	1.3
MH178	N1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	0.18	mg/kg	0.42	0.43
MH178	N1	10/29/2007	Sediment Trap	Di-n-Octyl phthalate	2.8 J	mg/kg	0.42	6.7
MH178	N1	5/14/2007	Sediment Trap	Di-n-Octyl phthalate	3.7	mg/kg	0.42	8.8
MH178	N1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	1.3	mg/kg	0.42	3.1
MH178	N1	10/11/2006	Sediment Trap	Di-n-Octyl phthalate	4.8	mg/kg	0.42	11
MH178	N1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	2.5	mg/kg	0.42	6.0
MH178	N1	8/11/2005	Sediment Trap	Di-n-Octyl phthalate	0.22	mg/kg	0.42	0.52
MH178	N1	5/25/2011	Filter/Stormwater	Fluoranthene	14	mg/kg	1.7	8.2
MH178	N1	5/15/2011	Filter/Stormwater	Fluoranthene	1.8	mg/kg	1.7	1.1
MH178	N1	4/21/2011	Filter/Baseflow	Fluoranthene	1.3	mg/kg	1.7	0.76
MH178	N1	4/5/2011	Sediment Trap	Fluoranthene	4.8	mg/kg	1.7	2.8
MH178	N1	3/9/2011	Filter/Stormwater	Fluoranthene	0.63	mg/kg	1.7	0.37
MH178	N1	6/2/2010	Filter/Stormwater	Fluoranthene	12	mg/kg	1.7	7.1
MH178	N1	4/27/2010	Filter/Stormwater	Fluoranthene	3.7	mg/kg	1.7	2.2
MH178	N1	4/8/2010	Sediment Trap	Fluoranthene	20	mg/kg	1.7	12
MH178	N1	4/6/2009	Sediment Trap	Fluoranthene	8.1	mg/kg	1.7	4.8

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	12/3/2008	Sediment Trap	Fluoranthene	9.5	mg/kg	1.7	5.6
MH178	N1	7/30/2008	Sediment Trap	Fluoranthene	4.1	mg/kg	1.7	2.4
MH178	N1	3/18/2008	Sediment Trap	Fluoranthene	3.1	mg/kg	1.7	1.8
MH178	N1	10/29/2007	Sediment Trap	Fluoranthene	5.8 J	mg/kg	1.7	3.4
MH178	N1	5/14/2007	Sediment Trap	Fluoranthene	5.6	mg/kg	1.7	3.3
MH178	N1	1/8/2007	Sediment Trap	Fluoranthene	5.9	mg/kg	1.7	3.5
MH178	N1	10/11/2006	Sediment Trap	Fluoranthene	6.9	mg/kg	1.7	4.1
MH178	N1	10/6/2006	Sediment Trap	Fluoranthene	6.9	mg/kg	1.7	4.1
MH178	N1	3/16/2006	Sediment Trap	Fluoranthene	13	mg/kg	1.7	7.6
MH178	N1	8/11/2005	Sediment Trap	Fluoranthene	2.4	mg/kg	1.7	1.4
MH178	N1	5/25/2011	Filter/Stormwater	Fluorene	0.32	mg/kg	0.36	0.89
MH178	N1	4/21/2011	Filter/Baseflow	Fluorene	0.058	mg/kg	0.36	0.16
MH178	N1	3/9/2011	Filter/Stormwater	Fluorene	0.02	mg/kg	0.36	0.056
MH178	N1	4/27/2010	Filter/Stormwater	Fluorene	0.17	mg/kg	0.36	0.47
MH178	N1	4/8/2010	Sediment Trap	Fluorene	0.4	mg/kg	0.36	1.1
MH178	N1	4/6/2009	Sediment Trap	Fluorene	0.19 J	mg/kg	0.36	0.53
MH178	N1	12/3/2008	Sediment Trap	Fluorene	0.23	mg/kg	0.36	0.64
MH178	N1	5/25/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	4.1	mg/kg	0.53	7.7
MH178	N1	5/15/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.37	mg/kg	0.53	0.70
MH178	N1	4/21/2011	Filter/Baseflow	Indeno(1,2,3-cd)pyrene	0.54	mg/kg	0.53	1.0
MH178	N1	4/5/2011	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg	0.53	2.6
MH178	N1	3/9/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.18	mg/kg	0.53	0.34
MH178	N1	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	2.6	mg/kg	0.53	4.9
MH178	N1	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.7	mg/kg	0.53	3.2
MH178	N1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	4.7	mg/kg	0.53	8.9
MH178	N1	4/6/2009	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.4	mg/kg	0.53	4.5
MH178	N1	12/3/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.4	mg/kg	0.53	4.5
MH178	N1	7/30/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg	0.53	2.6
MH178	N1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.81	mg/kg	0.53	1.5
MH178	N1	5/14/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.2	mg/kg	0.53	2.3
MH178	N1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.53	2.1
MH178	N1	10/11/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg	0.53	3.8
MH178	N1	10/6/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg	0.53	3.8
MH178	N1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.2	mg/kg	0.53	4.2
MH178	N1	8/11/2005	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.52	mg/kg	0.53	0.98
MH178	N1	5/25/2011	Filter/Stormwater	Lead	430	mg/kg	40	11
MH178	N1	5/15/2011	Filter/Stormwater	Lead	250	mg/kg	40	6.3
MH178	N1	4/27/2011	Filter/Stormwater	Lead	297	mg/kg	40	7.4
MH178	N1	4/25/2011	Filter/Stormwater	Lead	190	mg/kg	40	4.8
MH178	N1	4/21/2011	Filter/Baseflow	Lead	160	mg/kg	40	4.0
MH178	N1	4/5/2011	Sediment Trap	Lead	716 J	mg/kg	40	18
MH178	N1	3/21/2011	Filter/Baseflow	Lead	92	mg/kg	40	2.3
MH178	N1	3/9/2011	Filter/Stormwater	Lead	125	mg/kg	40	3.1
MH178	N1	6/2/2010	Filter/Stormwater	Lead	240	mg/kg	40	6.0
MH178	N1	5/20/2010	Filter/Stormwater	Lead	230	mg/kg	40	5.8
MH178	N1	4/27/2010	Filter/Stormwater	Lead	237	mg/kg	40	5.9
MH178	N1	4/8/2010	Sediment Trap	Lead	342	mg/kg	40	8.6
MH178	N1	3/29/2010	Grab	Lead	135	mg/kg	40	3.4
MH178	N1	4/6/2009	Sediment Trap	Lead	257	mg/kg	40	6.4
MH178	N1	12/3/2008	Sediment Trap	Lead	687 J	mg/kg	40	17
MH178	N1	7/30/2008	Sediment Trap	Lead	172	mg/kg	40	4.3
MH178	N1	3/18/2008	Sediment Trap	Lead	92	mg/kg	40	2.3
MH178	N1	10/29/2007	Sediment Trap	Lead	486	mg/kg	40	12
MH178	N1	5/14/2007	Sediment Trap	Lead	194	mg/kg	40	4.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	1/8/2007	Sediment Trap	Lead	100	mg/kg	40	2.5
MH178	N1	10/11/2006	Sediment Trap	Lead	381	mg/kg	40	9.5
MH178	N1	3/16/2006	Sediment Trap	Lead	233	mg/kg	40	5.8
MH178	N1	8/11/2005	Sediment Trap	Lead	962	mg/kg	40	24
MH178	N1	5/25/2011	Filter/Stormwater	Mercury	0.6	mg/kg	0.41	1.5
MH178	N1	5/15/2011	Filter/Stormwater	Mercury	2.5	mg/kg	0.41	6.1
MH178	N1	4/27/2011	Filter/Stormwater	Mercury	14.6	mg/kg	0.41	36
MH178	N1	4/25/2011	Filter/Stormwater	Mercury	3.69	mg/kg	0.41	9.0
MH178	N1	4/21/2011	Filter/Baseflow	Mercury	2.62	mg/kg	0.41	6.4
MH178	N1	4/5/2011	Sediment Trap	Mercury	0.21 J	mg/kg	0.41	0.51
MH178	N1	3/21/2011	Filter/Baseflow	Mercury	16.1	mg/kg	0.41	39
MH178	N1	3/9/2011	Filter/Stormwater	Mercury	1.7	mg/kg	0.41	4.1
MH178	N1	6/2/2010	Filter/Stormwater	Mercury	0.3 J	mg/kg	0.41	0.73
MH178	N1	5/20/2010	Filter/Stormwater	Mercury	0.25 J	mg/kg	0.41	0.61
MH178	N1	4/27/2010	Filter/Stormwater	Mercury	0.36 J	mg/kg	0.41	0.88
MH178	N1	4/8/2010	Sediment Trap	Mercury	0.31	mg/kg	0.41	0.76
MH178	N1	3/29/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
MH178	N1	4/6/2009	Sediment Trap	Mercury	0.42	mg/kg	0.41	1.0
MH178	N1	12/3/2008	Sediment Trap	Mercury	0.58 J	mg/kg	0.41	1.4
MH178	N1	7/30/2008	Sediment Trap	Mercury	0.21	mg/kg	0.41	0.51
MH178	N1	3/18/2008	Sediment Trap	Mercury	0.14	mg/kg	0.41	0.34
MH178	N1	10/29/2007	Sediment Trap	Mercury	0.4	mg/kg	0.41	0.98
MH178	N1	5/14/2007	Sediment Trap	Mercury	0.38	mg/kg	0.41	0.93
MH178	N1	2/1/2007	Filter/Undifferentiated	Mercury	0.09	mg/kg	0.41	0.22
MH178	N1	1/8/2007	Sediment Trap	Mercury	0.15	mg/kg	0.41	0.37
MH178	N1	10/11/2006	Sediment Trap	Mercury	0.4	mg/kg	0.41	0.98
MH178	N1	3/16/2006	Sediment Trap	Mercury	0.27	mg/kg	0.41	0.66
MH178	N1	8/11/2005	Sediment Trap	Mercury	0.86	mg/kg	0.41	2.1
MH178	N1	4/5/2011	Sediment Trap	p-Cresol	1	mg/kg	0.67	1.5
MH178	N1	4/6/2009	Sediment Trap	p-Cresol	12	mg/kg	0.67	18
MH178	N1	12/3/2008	Sediment Trap	p-Cresol	1.3	mg/kg	0.67	1.9
MH178	N1	7/30/2008	Sediment Trap	p-Cresol	0.31	mg/kg	0.67	0.46
MH178	N1	10/29/2007	Sediment Trap	p-Cresol	1.6 J	mg/kg	0.67	2.4
MH178	N1	1/8/2007	Sediment Trap	p-Cresol	1.9	mg/kg	0.67	2.8
MH178	N1	10/11/2006	Sediment Trap	p-Cresol	0.53	mg/kg	0.67	0.79
MH178	N1	3/16/2006	Sediment Trap	p-Cresol	0.83	mg/kg	0.67	1.2
MH178	N1	8/11/2005	Sediment Trap	p-Cresol	0.41	mg/kg	0.67	0.61
MH178	N1	5/25/2011	Filter/Stormwater	Phenanthrene	5.8	mg/kg	1.5	3.9
MH178	N1	5/15/2011	Filter/Stormwater	Phenanthrene	0.67	mg/kg	1.5	0.45
MH178	N1	4/21/2011	Filter/Baseflow	Phenanthrene	0.62	mg/kg	1.5	0.41
MH178	N1	4/5/2011	Sediment Trap	Phenanthrene	1.7	mg/kg	1.5	1.1
MH178	N1	3/9/2011	Filter/Stormwater	Phenanthrene	0.28	mg/kg	1.5	0.19
MH178	N1	6/2/2010	Filter/Stormwater	Phenanthrene	4.8	mg/kg	1.5	3.2
MH178	N1	4/27/2010	Filter/Stormwater	Phenanthrene	2	mg/kg	1.5	1.3
MH178	N1	4/8/2010	Sediment Trap	Phenanthrene	7.8	mg/kg	1.5	5.2
MH178	N1	4/6/2009	Sediment Trap	Phenanthrene	3.5	mg/kg	1.5	2.3
MH178	N1	12/3/2008	Sediment Trap	Phenanthrene	3.8	mg/kg	1.5	2.5
MH178	N1	7/30/2008	Sediment Trap	Phenanthrene	1.7	mg/kg	1.5	1.1
MH178	N1	3/18/2008	Sediment Trap	Phenanthrene	1.3	mg/kg	1.5	0.87
MH178	N1	10/29/2007	Sediment Trap	Phenanthrene	2.3 J	mg/kg	1.5	1.5
MH178	N1	5/14/2007	Sediment Trap	Phenanthrene	2.1	mg/kg	1.5	1.4
MH178	N1	1/8/2007	Sediment Trap	Phenanthrene	2.2	mg/kg	1.5	1.5
MH178	N1	10/11/2006	Sediment Trap	Phenanthrene	2.9	mg/kg	1.5	1.9
MH178	N1	10/6/2006	Sediment Trap	Phenanthrene	2.9	mg/kg	1.5	1.9

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	3/16/2006	Sediment Trap	Phenanthrene	4.6	mg/kg	1.5	3.1
MH178	N1	8/11/2005	Sediment Trap	Phenanthrene	1.3	mg/kg	1.5	0.87
MH178	N1	4/6/2009	Sediment Trap	Phenol	0.64	mg/kg	0.42	1.5
MH178	N1	5/25/2011	Filter/Stormwater	Pyrene	7.9	mg/kg	2.6	3.0
MH178	N1	5/15/2011	Filter/Stormwater	Pyrene	0.77	mg/kg	2.6	0.30
MH178	N1	4/21/2011	Filter/Baseflow	Pyrene	1	mg/kg	2.6	0.38
MH178	N1	4/5/2011	Sediment Trap	Pyrene	2.5	mg/kg	2.6	0.96
MH178	N1	3/9/2011	Filter/Stormwater	Pyrene	0.46	mg/kg	2.6	0.18
MH178	N1	6/2/2010	Filter/Stormwater	Pyrene	6	mg/kg	2.6	2.3
MH178	N1	4/27/2010	Filter/Stormwater	Pyrene	3.1	mg/kg	2.6	1.2
MH178	N1	4/8/2010	Sediment Trap	Pyrene	11	mg/kg	2.6	4.2
MH178	N1	4/6/2009	Sediment Trap	Pyrene	5.8	mg/kg	2.6	2.2
MH178	N1	12/3/2008	Sediment Trap	Pyrene	5.5	mg/kg	2.6	2.1
MH178	N1	7/30/2008	Sediment Trap	Pyrene	3.2	mg/kg	2.6	1.2
MH178	N1	3/18/2008	Sediment Trap	Pyrene	2	mg/kg	2.6	0.77
MH178	N1	10/29/2007	Sediment Trap	Pyrene	3 J	mg/kg	2.6	1.2
MH178	N1	5/14/2007	Sediment Trap	Pyrene	2.7	mg/kg	2.6	1.0
MH178	N1	1/8/2007	Sediment Trap	Pyrene	3.4	mg/kg	2.6	1.3
MH178	N1	10/11/2006	Sediment Trap	Pyrene	5.2	mg/kg	2.6	2.0
MH178	N1	10/6/2006	Sediment Trap	Pyrene	5.2	mg/kg	2.6	2.0
MH178	N1	3/16/2006	Sediment Trap	Pyrene	6	mg/kg	2.6	2.3
MH178	N1	8/11/2005	Sediment Trap	Pyrene	1.7	mg/kg	2.6	0.65
MH178	N1	4/27/2011	Filter/Stormwater	Silver	8.2	mg/kg	6.1	1.3
MH178	N1	3/21/2011	Filter/Baseflow	Silver	1.3	mg/kg	6.1	0.21
MH178	N1	5/25/2011	Filter/Stormwater	Total cPAH	3.88	mg/kg	0.062	63
MH178	N1	5/15/2011	Filter/Stormwater	Total cPAH	0.549	mg/kg	0.062	8.9
MH178	N1	4/21/2011	Filter/Baseflow	Total cPAH	0.935	mg/kg	0.062	15
MH178	N1	4/5/2011	Sediment Trap	Total cPAH	2.44	mg/kg	0.062	39
MH178	N1	3/9/2011	Filter/Stormwater	Total cPAH	0.379	mg/kg	0.062	6.1
MH178	N1	6/2/2010	Filter/Stormwater	Total cPAH	3.75	mg/kg	0.062	60
MH178	N1	4/27/2010	Filter/Stormwater	Total cPAH	2.01	mg/kg	0.062	32
MH178	N1	4/8/2010	Sediment Trap	Total cPAH	11.7	mg/kg	0.062	190
MH178	N1	4/6/2009	Sediment Trap	Total cPAH	5.02	mg/kg	0.062	81
MH178	N1	12/3/2008	Sediment Trap	Total cPAH	5.55	mg/kg	0.062	89
MH178	N1	7/30/2008	Sediment Trap	Total cPAH	2.66	mg/kg	0.062	43
MH178	N1	3/18/2008	Sediment Trap	Total cPAH	1.81	mg/kg	0.062	29
MH178	N1	10/29/2007	Sediment Trap	Total cPAH	2.13	mg/kg	0.062	34
MH178	N1	5/14/2007	Sediment Trap	Total cPAH	3.18	mg/kg	0.062	51
MH178	N1	1/8/2007	Sediment Trap	Total cPAH	3.20	mg/kg	0.062	52
MH178	N1	10/11/2006	Sediment Trap	Total cPAH	4.28	mg/kg	0.062	69
MH178	N1	10/6/2006	Sediment Trap	Total cPAH	4.28	mg/kg	0.062	69
MH178	N1	3/16/2006	Sediment Trap	Total cPAH	6.31	mg/kg	0.062	100
MH178	N1	8/11/2005	Sediment Trap	Total cPAH	1.49	mg/kg	0.062	24
MH178	N1	4/27/2011	Filter/Stormwater	Total Dioxin/Furan	28.98	pg/g	3.9	7.4
MH178	N1	4/25/2011	Filter/Stormwater	Total Dioxin/Furan	31.42	pg/g	3.9	8.1
MH178	N1	3/21/2011	Filter/Baseflow	Total Dioxin/Furan	4.09	pg/g	3.9	1.0
MH178	N1	5/20/2010	Filter/Stormwater	Total Dioxin/Furan	24.79	pg/g	3.9	6.4
MH178	N1	5/25/2011	Filter/Stormwater	Total HPAHs	43	mg/kg	12	3.6
MH178	N1	5/15/2011	Filter/Stormwater	Total HPAHs	5.9	mg/kg	12	0.49
MH178	N1	4/21/2011	Filter/Baseflow	Total HPAHs	7	mg/kg	12	0.58
MH178	N1	4/5/2011	Sediment Trap	Total HPAHs	19	mg/kg	12	1.6
MH178	N1	3/9/2011	Filter/Stormwater	Total HPAHs	3	mg/kg	12	0.25
MH178	N1	6/2/2010	Filter/Stormwater	Total HPAHs	44	mg/kg	12	3.7
MH178	N1	4/27/2010	Filter/Stormwater	Total HPAHs	19.6	mg/kg	12	1.6

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	4/8/2010	Sediment Trap	Total HPAHs	90	mg/kg	12	7.5
MH178	N1	4/6/2009	Sediment Trap	Total HPAHs	39.3	mg/kg	12	3.3
MH178	N1	12/3/2008	Sediment Trap	Total HPAHs	41.2	mg/kg	12	3.4
MH178	N1	7/30/2008	Sediment Trap	Total HPAHs	20.4	mg/kg	12	1.7
MH178	N1	3/18/2008	Sediment Trap	Total HPAHs	13.6	mg/kg	12	1.1
MH178	N1	10/29/2007	Sediment Trap	Total HPAHs	21.5	mg/kg	12	1.8
MH178	N1	5/14/2007	Sediment Trap	Total HPAHs	23.8	mg/kg	12	2.0
MH178	N1	1/8/2007	Sediment Trap	Total HPAHs	23	mg/kg	12	1.9
MH178	N1	10/11/2006	Sediment Trap	Total HPAHs	31.8	mg/kg	12	2.7
MH178	N1	10/6/2006	Sediment Trap	Total HPAHs	33.8	mg/kg	12	2.8
MH178	N1	3/16/2006	Sediment Trap	Total HPAHs	49	mg/kg	12	4.1
MH178	N1	8/11/2005	Sediment Trap	Total HPAHs	10.6	mg/kg	12	0.88
MH178	N1	5/25/2011	Filter/Stormwater	Total LPAHs	6.8	mg/kg	5.2	1.3
MH178	N1	5/15/2011	Filter/Stormwater	Total LPAHs	0.67	mg/kg	5.2	0.13
MH178	N1	4/21/2011	Filter/Baseflow	Total LPAHs	0.82	mg/kg	5.2	0.16
MH178	N1	4/5/2011	Sediment Trap	Total LPAHs	1.9	mg/kg	5.2	0.37
MH178	N1	3/9/2011	Filter/Stormwater	Total LPAHs	0.38	mg/kg	5.2	0.073
MH178	N1	6/2/2010	Filter/Stormwater	Total LPAHs	4.8	mg/kg	5.2	0.92
MH178	N1	4/27/2010	Filter/Stormwater	Total LPAHs	2.5	mg/kg	5.2	0.48
MH178	N1	4/8/2010	Sediment Trap	Total LPAHs	9.4	mg/kg	5.2	1.8
MH178	N1	4/6/2009	Sediment Trap	Total LPAHs	4.2	mg/kg	5.2	0.81
MH178	N1	12/3/2008	Sediment Trap	Total LPAHs	4.5	mg/kg	5.2	0.87
MH178	N1	7/30/2008	Sediment Trap	Total LPAHs	1.7	mg/kg	5.2	0.33
MH178	N1	3/18/2008	Sediment Trap	Total LPAHs	1.5	mg/kg	5.2	0.29
MH178	N1	10/29/2007	Sediment Trap	Total LPAHs	2.3	mg/kg	5.2	0.44
MH178	N1	5/14/2007	Sediment Trap	Total LPAHs	2.1	mg/kg	5.2	0.40
MH178	N1	1/8/2007	Sediment Trap	Total LPAHs	2.2	mg/kg	5.2	0.42
MH178	N1	10/11/2006	Sediment Trap	Total LPAHs	2.9	mg/kg	5.2	0.56
MH178	N1	10/6/2006	Sediment Trap	Total LPAHs	2.9	mg/kg	5.2	0.56
MH178	N1	3/16/2006	Sediment Trap	Total LPAHs	4.6	mg/kg	5.2	0.88
MH178	N1	8/11/2005	Sediment Trap	Total LPAHs	1.5	mg/kg	5.2	0.29
MH178	N1	5/25/2011	Filter/Stormwater	Total PCBs	5.3	mg/kg	0.038	140
MH178	N1	5/15/2011	Filter/Stormwater	Total PCBs	0.47	mg/kg	0.038	12
MH178	N1	4/27/2011	Filter/Stormwater	Total PCBs	0.56	mg/kg	0.038	15
MH178	N1	4/25/2011	Filter/Stormwater	Total PCBs	0.61	mg/kg	0.038	16
MH178	N1	4/21/2011	Filter/Baseflow	Total PCBs	0.57	mg/kg	0.038	15
MH178	N1	4/5/2011	Sediment Trap	Total PCBs	0.33	mg/kg	0.038	8.7
MH178	N1	3/21/2011	Filter/Baseflow	Total PCBs	0.99	mg/kg	0.038	26
MH178	N1	3/9/2011	Filter/Stormwater	Total PCBs	0.21	mg/kg	0.038	5.5
MH178	N1	6/2/2010	Filter/Stormwater	Total PCBs	1.3	mg/kg	0.038	34
MH178	N1	5/20/2010	Filter/Stormwater	Total PCBs	0.116	mg/kg	0.038	3.1
MH178	N1	4/27/2010	Filter/Stormwater	Total PCBs	0.59	mg/kg	0.038	16
MH178	N1	4/8/2010	Sediment Trap	Total PCBs	0.44	mg/kg	0.038	12
MH178	N1	3/29/2010	Grab	Total PCBs	0.33	mg/kg	0.038	8.7
MH178	N1	4/6/2009	Sediment Trap	Total PCBs	0.13	mg/kg	0.038	3.4
MH178	N1	12/3/2008	Sediment Trap	Total PCBs	0.31	mg/kg	0.038	8.2
MH178	N1	7/30/2008	Sediment Trap	Total PCBs	0.21	mg/kg	0.038	5.5
MH178	N1	3/18/2008	Sediment Trap	Total PCBs	0.121	mg/kg	0.038	3.2
MH178	N1	10/29/2007	Sediment Trap	Total PCBs	0.67	mg/kg	0.038	18
MH178	N1	5/14/2007	Sediment Trap	Total PCBs	0.39	mg/kg	0.038	10
MH178	N1	2/1/2007	Filter/Undifferentiated	Total PCBs	0.72	mg/kg	0.038	19
MH178	N1	1/8/2007	Sediment Trap	Total PCBs	0.086	mg/kg	0.038	2.3
MH178	N1	10/11/2006	Sediment Trap	Total PCBs	0.6	mg/kg	0.038	16
MH178	N1	10/6/2006	Sediment Trap	Total PCBs	0.6	mg/kg	0.038	16

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH178	N1	3/16/2006	Sediment Trap	Total PCBs	0.65	mg/kg	0.038	17
MH178	N1	8/11/2005	Sediment Trap	Total PCBs	0.106	mg/kg	0.038	2.8
MH178	N1	11/5/2004	Filter/Undifferentiated	Total PCBs	0.09	mg/kg	0.038	2.4
MH178	N1	5/25/2011	Filter/Stormwater	Zinc	640	mg/kg	410	1.6
MH178	N1	5/15/2011	Filter/Stormwater	Zinc	508	mg/kg	410	1.2
MH178	N1	4/27/2011	Filter/Stormwater	Zinc	397	mg/kg	410	0.97
MH178	N1	4/25/2011	Filter/Stormwater	Zinc	349	mg/kg	410	0.85
MH178	N1	4/21/2011	Filter/Baseflow	Zinc	250	mg/kg	410	0.61
MH178	N1	4/5/2011	Sediment Trap	Zinc	356	mg/kg	410	0.87
MH178	N1	3/21/2011	Filter/Baseflow	Zinc	122	mg/kg	410	0.30
MH178	N1	3/9/2011	Filter/Stormwater	Zinc	255	mg/kg	410	0.62
MH178	N1	6/2/2010	Filter/Stormwater	Zinc	565	mg/kg	410	1.4
MH178	N1	5/20/2010	Filter/Stormwater	Zinc	812	mg/kg	410	2.0
MH178	N1	4/27/2010	Filter/Stormwater	Zinc	652 J	mg/kg	410	1.6
MH178	N1	4/8/2010	Sediment Trap	Zinc	1380	mg/kg	410	3.4
MH178	N1	3/29/2010	Grab	Zinc	126	mg/kg	410	0.31
MH178	N1	4/6/2009	Sediment Trap	Zinc	1000	mg/kg	410	2.4
MH178	N1	12/3/2008	Sediment Trap	Zinc	691	mg/kg	410	1.7
MH178	N1	7/30/2008	Sediment Trap	Zinc	374	mg/kg	410	0.91
MH178	N1	3/18/2008	Sediment Trap	Zinc	201	mg/kg	410	0.49
MH178	N1	10/29/2007	Sediment Trap	Zinc	781	mg/kg	410	1.9
MH178	N1	5/14/2007	Sediment Trap	Zinc	464	mg/kg	410	1.1
MH178	N1	1/8/2007	Sediment Trap	Zinc	209	mg/kg	410	0.51
MH178	N1	10/11/2006	Sediment Trap	Zinc	945	mg/kg	410	2.3
MH178	N1	3/16/2006	Sediment Trap	Zinc	597	mg/kg	410	1.5
MH178	N1	8/11/2005	Sediment Trap	Zinc	220	mg/kg	410	0.54
MH179	N11	8/5/2009	Inlet Filter	Total PCBs	1	mg/kg	0.038	26
MH179	N11	7/15/2009	Grab	Total PCBs	330	mg/kg	0.038	8700
MH179	N11	3/13/2007	Grab	Total PCBs	0.7	mg/kg	0.038	18
MH179	N11	7/25/2006	Grab	Total PCBs	47	mg/kg	0.038	1200
MH179	N11	4/26/2006	Grab	Total PCBs	34	mg/kg	0.038	890
MH179	N11	9/26/2005	Grab	Total PCBs	15.3	mg/kg	0.038	400
MH179A	N11	9/26/2005	Grab	Total PCBs	3.7	mg/kg	0.038	97
MH179B	N11	3/29/2010	Grab	Arsenic	13	mg/kg	7.3	1.8
MH179B	N11	3/29/2010	Grab	Cadmium	1.4	mg/kg	3.7	0.38
MH179B	N11	3/29/2010	Grab	Chromium	28.1	mg/kg	35.6	0.79
MH179B	N11	3/29/2010	Grab	Copper	59.8	mg/kg	310	0.19
MH179B	N11	3/29/2010	Grab	Lead	23	mg/kg	40	0.57
MH179B	N11	3/29/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
MH179B	N11	3/29/2010	Grab	Total PCBs	8.1	mg/kg	0.038	210
MH179B	N11	3/29/2010	Grab	Zinc	364	mg/kg	410	0.89
MH181A	N11	3/29/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
MH181A	N11	3/29/2010	Grab	Cadmium	8.5	mg/kg	3.7	2.3
MH181A	N11	3/29/2010	Grab	Chromium	143	mg/kg	35.6	4.0
MH181A	N11	3/29/2010	Grab	Copper	531	mg/kg	310	1.7
MH181A	N11	3/29/2010	Grab	Lead	225	mg/kg	40	5.6
MH181A	N11	3/29/2010	Grab	Mercury	1.21	mg/kg	0.41	3.0
MH181A	N11	3/29/2010	Grab	Total PCBs	4.2	mg/kg	0.038	110
MH181A	N11	7/15/2009	Grab	Total PCBs	15.4	mg/kg	0.038	410
MH181A	N11	3/13/2007	Grab	Total PCBs	12.8	mg/kg	0.038	340
MH181A	N11	12/8/2006	Grab	Total PCBs	17.9	mg/kg	0.038	470
MH181A	N11	3/29/2010	Grab	Zinc	1860	mg/kg	410	4.5
MH187	N11	3/13/2007	Grab	Total PCBs	100	mg/kg	0.038	2600
MH187	N11	12/8/2006	Grab	Total PCBs	64	mg/kg	0.038	1700

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH187	N11	10/4/2005	Grab	Total PCBs	9.2	mg/kg	0.038	240
MH193	N11	3/13/2007	Grab	Total PCBs	170	mg/kg	0.038	4500
MH193	N11	1/8/2007	Grab	Total PCBs	24	mg/kg	0.038	630
MH193	N11	7/25/2006	Grab	Total PCBs	190	mg/kg	0.038	5000
MH193	N11	9/26/2005	Grab	Total PCBs	84	mg/kg	0.038	2200
MH651	N9	4/7/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
MH651	N9	4/7/2010	Grab	Cadmium	7.1	mg/kg	3.7	1.9
MH651	N9	4/7/2010	Grab	Chromium	46.9	mg/kg	35.6	1.3
MH651	N9	4/7/2010	Grab	Copper	228	mg/kg	310	0.74
MH651	N9	4/7/2010	Grab	Lead	90	mg/kg	40	2.3
MH651	N9	4/7/2010	Grab	Mercury	61	mg/kg	0.41	150
MH651	N9	4/7/2010	Grab	Total PCBs	1.07	mg/kg	0.038	28
MH651	N9	4/7/2010	Grab	Zinc	1420	mg/kg	410	3.5
MH652	N9	4/14/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
MH652	N9	3/31/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
MH652	N9	4/14/2010	Grab	Cadmium	14.8	mg/kg	3.7	4.0
MH652	N9	3/31/2010	Grab	Cadmium	10.7	mg/kg	3.7	2.9
MH652	N9	4/14/2010	Grab	Chromium	119	mg/kg	35.6	3.3
MH652	N9	3/31/2010	Grab	Chromium	74.3	mg/kg	35.6	2.1
MH652	N9	4/14/2010	Grab	Copper	295	mg/kg	310	0.95
MH652	N9	3/31/2010	Grab	Copper	205	mg/kg	310	0.66
MH652	N9	4/14/2010	Grab	Lead	2780	mg/kg	40	70
MH652	N9	3/31/2010	Grab	Lead	391	mg/kg	40	9.8
MH652	N9	4/14/2010	Grab	Mercury	173	mg/kg	0.41	420
MH652	N9	3/31/2010	Grab	Mercury	305 (a)	mg/kg	0.41	740
MH652	N9	4/14/2010	Grab	Silver	3.1	mg/kg	6.1	0.51
MH652	N9	3/31/2010	Grab	Silver	1	mg/kg	6.1	0.16
MH652	N9	3/31/2010	Grab	Total PCBs	4.3	mg/kg	0.038	110
MH652	N9	6/17/2009	Grab	Total PCBs	10.2	mg/kg	0.038	270
MH652	N9	2/26/2007	Grab	Total PCBs	8.2	mg/kg	0.038	220
MH652	N9	4/14/2010	Grab	Zinc	1970	mg/kg	410	4.8
MH652	N9	3/31/2010	Grab	Zinc	1370	mg/kg	410	3.3
OWS109A	N3	4/6/2010	Grab	Cadmium	98.1	mg/kg	3.7	27
OWS109A	N3	4/6/2010	Grab	Chromium	106	mg/kg	35.6	3.0
OWS109A	N3	4/6/2010	Grab	Copper	179	mg/kg	310	0.58
OWS109A	N3	4/6/2010	Grab	Lead	242	mg/kg	40	6.1
OWS109A	N3	4/6/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
OWS109A	N3	4/6/2010	Grab	Total PCBs	0.72	mg/kg	0.038	19
OWS109A	N3	4/6/2010	Grab	Zinc	9570	mg/kg	410	23
OWS132	N5	6/8/2009	Grab	Total PCBs	6.3	mg/kg	0.038	170
OWS132	N5	3/15/2007	Grab	Total PCBs	14.3	mg/kg	0.038	380
OWS132	N5	1/5/2006	Grab	Total PCBs	7.3	mg/kg	0.038	190
OWS132	N5	9/26/2005	Grab	Total PCBs	12	mg/kg	0.038	320
OWS137	N5	6/9/2009	Grab	Total PCBs	4.9	mg/kg	0.038	130
OWS153	N8	3/3/2011	Grab	Total PCBs	1.1	mg/kg	0.038	29
OWS153	N8	1/5/2006	Grab	Total PCBs	1	mg/kg	0.038	26
OWS186	N11	3/13/2007	Grab	Total PCBs	110	mg/kg	0.038	2900
OWS186	N11	7/25/2006	Grab	Total PCBs	1200	mg/kg	0.038	32000
OWS186	N11	9/26/2005	Grab	Total PCBs	49	mg/kg	0.038	1300
OWS186	N11	5/13/2005	Grab	Total PCBs	33	mg/kg	0.038	870
OWS612-2	N7	4/1/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
OWS612-2	N7	4/1/2010	Grab	Cadmium	17	mg/kg	3.7	4.6
OWS612-2	N7	4/1/2010	Grab	Chromium	170	mg/kg	35.6	4.8
OWS612-2	N7	4/1/2010	Grab	Copper	323	mg/kg	310	1.0

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
OWS612-2	N7	4/1/2010	Grab	Lead	272	mg/kg	40	6.8
OWS612-2	N7	4/1/2010	Grab	Mercury	0.34	mg/kg	0.41	0.83
OWS612-2	N7	4/1/2010	Grab	Silver	1	mg/kg	6.1	0.16
OWS612-2	N7	4/1/2010	Grab	Total PCBs	4.6	mg/kg	0.038	120
OWS612-2	N7	4/1/2010	Grab	Zinc	2660	mg/kg	410	6.5
UNKCB10	N7	4/1/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
UNKCB10	N7	4/1/2010	Grab	Cadmium	8.2	mg/kg	3.7	2.2
UNKCB10	N7	4/1/2010	Grab	Chromium	133	mg/kg	35.6	3.7
UNKCB10	N7	4/1/2010	Grab	Copper	162	mg/kg	310	0.52
UNKCB10	N7	4/1/2010	Grab	Lead	133	mg/kg	40	3.3
UNKCB10	N7	4/1/2010	Grab	Mercury	0.09	mg/kg	0.41	0.22
UNKCB10	N7	4/1/2010	Grab	Total PCBs	1.2	mg/kg	0.038	32
UNKCB10	N7	4/1/2010	Grab	Zinc	1050	mg/kg	410	2.6
UNKCB11	N8	3/31/2010	Grab	Cadmium	4.3	mg/kg	3.7	1.2
UNKCB11	N8	3/31/2010	Grab	Chromium	97	mg/kg	35.6	2.7
UNKCB11	N8	3/31/2010	Grab	Copper	338	mg/kg	310	1.1
UNKCB11	N8	3/31/2010	Grab	Lead	174	mg/kg	40	4.4
UNKCB11	N8	3/31/2010	Grab	Mercury	0.15	mg/kg	0.41	0.37
UNKCB11	N8	3/31/2010	Grab	Total PCBs	0.4	mg/kg	0.038	11
UNKCB11	N8	3/31/2010	Grab	Zinc	914	mg/kg	410	2.2
UNKCB12	N8	3/31/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
UNKCB12	N8	3/31/2010	Grab	Cadmium	22.8	mg/kg	3.7	6.2
UNKCB12	N8	3/31/2010	Grab	Chromium	113	mg/kg	35.6	3.2
UNKCB12	N8	3/31/2010	Grab	Copper	427	mg/kg	310	1.4
UNKCB12	N8	3/31/2010	Grab	Lead	162	mg/kg	40	4.1
UNKCB12	N8	3/31/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
UNKCB12	N8	3/31/2010	Grab	Silver	1	mg/kg	6.1	0.16
UNKCB12	N8	3/31/2010	Grab	Total PCBs	0.66	mg/kg	0.038	17
UNKCB12	N8	3/31/2010	Grab	Zinc	2290	mg/kg	410	5.6
UNKCB15	N8	4/7/2010	Grab	Arsenic	16	mg/kg	7.3	2.2
UNKCB15	N8	4/7/2010	Grab	Cadmium	9.4	mg/kg	3.7	2.5
UNKCB15	N8	4/7/2010	Grab	Chromium	109	mg/kg	35.6	3.1
UNKCB15	N8	4/7/2010	Grab	Copper	231	mg/kg	310	0.75
UNKCB15	N8	4/7/2010	Grab	Lead	160	mg/kg	40	4.0
UNKCB15	N8	4/7/2010	Grab	Mercury	0.59	mg/kg	0.41	1.4
UNKCB15	N8	4/7/2010	Grab	Silver	1.3	mg/kg	6.1	0.21
UNKCB15	N8	4/7/2010	Grab	Total PCBs	0.35	mg/kg	0.038	9.2
UNKCB15	N8	4/7/2010	Grab	Zinc	1400	mg/kg	410	3.4
UNKCB19	N11	3/30/2010	Grab	Cadmium	16	mg/kg	3.7	4.3
UNKCB19	N11	3/30/2010	Grab	Chromium	179	mg/kg	35.6	5.0
UNKCB19	N11	3/30/2010	Grab	Copper	507	mg/kg	310	1.6
UNKCB19	N11	3/30/2010	Grab	Lead	430	mg/kg	40	11
UNKCB19	N11	3/30/2010	Grab	Mercury	0.7	mg/kg	0.41	1.7
UNKCB19	N11	3/30/2010	Grab	Total PCBs	6	mg/kg	0.038	160
UNKCB19	N11	3/30/2010	Grab	Zinc	3950	mg/kg	410	9.6
UNKCB20	N8	3/30/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
UNKCB20	N8	3/30/2010	Grab	Cadmium	6.7	mg/kg	3.7	1.8
UNKCB20	N8	3/30/2010	Grab	Chromium	163	mg/kg	35.6	4.6
UNKCB20	N8	3/30/2010	Grab	Copper	183	mg/kg	310	0.59
UNKCB20	N8	3/30/2010	Grab	Lead	473	mg/kg	40	12
UNKCB20	N8	3/30/2010	Grab	Mercury	0.16	mg/kg	0.41	0.39
UNKCB20	N8	3/30/2010	Grab	Silver	0.9	mg/kg	6.1	0.15
UNKCB20	N8	3/30/2010	Grab	Total PCBs	0.85	mg/kg	0.038	22
UNKCB20	N8	3/30/2010	Grab	Zinc	1320	mg/kg	410	3.2

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
UNKCB22	N11	3/30/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
UNKCB22	N11	3/30/2010	Grab	Cadmium	13.1	mg/kg	3.7	3.5
UNKCB22	N11	3/30/2010	Grab	Chromium	96.9	mg/kg	35.6	2.7
UNKCB22	N11	3/30/2010	Grab	Copper	325	mg/kg	310	1.0
UNKCB22	N11	3/30/2010	Grab	Lead	132	mg/kg	40	3.3
UNKCB22	N11	3/30/2010	Grab	Mercury	0.3	mg/kg	0.41	0.73
UNKCB22	N11	3/30/2010	Grab	Total PCBs	0.9	mg/kg	0.038	24
UNKCB22	N11	3/30/2010	Grab	Zinc	1180	mg/kg	410	2.9
UNKCB24	N8	4/7/2010	Grab	Cadmium	6.8	mg/kg	3.7	1.8
UNKCB24	N8	4/7/2010	Grab	Chromium	76	mg/kg	35.6	2.1
UNKCB24	N8	4/7/2010	Grab	Copper	143	mg/kg	310	0.46
UNKCB24	N8	4/7/2010	Grab	Lead	189	mg/kg	40	4.7
UNKCB24	N8	4/7/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
UNKCB24	N8	4/7/2010	Grab	Total PCBs	0.25	mg/kg	0.038	6.6
UNKCB24	N8	4/7/2010	Grab	Zinc	2090	mg/kg	410	5.1
UNKCB25	N8	4/14/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
UNKCB25	N8	4/14/2010	Grab	Cadmium	40.3	mg/kg	3.7	11
UNKCB25	N8	4/7/2010	Grab	Cadmium	5.7	mg/kg	3.7	1.5
UNKCB25	N8	4/14/2010	Grab	Chromium	187	mg/kg	35.6	5.3
UNKCB25	N8	4/7/2010	Grab	Chromium	82	mg/kg	35.6	2.3
UNKCB25	N8	4/14/2010	Grab	Copper	259	mg/kg	310	0.84
UNKCB25	N8	4/7/2010	Grab	Copper	127	mg/kg	310	0.41
UNKCB25	N8	4/14/2010	Grab	Lead	221	mg/kg	40	5.5
UNKCB25	N8	4/7/2010	Grab	Lead	199	mg/kg	40	5.0
UNKCB25	N8	4/14/2010	Grab	Mercury	0.2	mg/kg	0.41	0.49
UNKCB25	N8	4/7/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
UNKCB25	N8	4/14/2010	Grab	Silver	1.7	mg/kg	6.1	0.28
UNKCB25	N8	4/14/2010	Grab	Total PCBs	0.4	mg/kg	0.038	11
UNKCB25	N8	4/7/2010	Grab	Total PCBs	0.37	mg/kg	0.038	9.7
UNKCB25	N8	4/14/2010	Grab	Zinc	1380	mg/kg	410	3.4
UNKCB25	N8	4/7/2010	Grab	Zinc	1030	mg/kg	410	2.5
UNKCB29	N3	8/24/2011	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
UNKCB7	N8	3/31/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
UNKCB7	N8	3/31/2010	Grab	Cadmium	2.9	mg/kg	3.7	0.78
UNKCB7	N8	3/31/2010	Grab	Chromium	72.7	mg/kg	35.6	2.0
UNKCB7	N8	3/31/2010	Grab	Copper	188	mg/kg	310	0.61
UNKCB7	N8	3/31/2010	Grab	Lead	128	mg/kg	40	3.2
UNKCB7	N8	3/31/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
UNKCB7	N8	3/31/2010	Grab	Total PCBs	0.38	mg/kg	0.038	10
UNKCB7	N8	3/31/2010	Grab	Zinc	951	mg/kg	410	2.3
UNKCB8	N6	4/5/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
UNKCB8	N6	4/5/2010	Grab	Cadmium	7.6	mg/kg	3.7	2.1
UNKCB8	N6	4/5/2010	Grab	Chromium	90.5	mg/kg	35.6	2.5
UNKCB8	N6	4/5/2010	Grab	Copper	201	mg/kg	310	0.65
UNKCB8	N6	4/5/2010	Grab	Lead	111	mg/kg	40	2.8
UNKCB8	N6	4/5/2010	Grab	Mercury	0.16	mg/kg	0.41	0.39
UNKCB8	N6	4/5/2010	Grab	Silver	0.5	mg/kg	6.1	0.082
UNKCB8	N6	4/5/2010	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
UNKCB8	N6	4/5/2010	Grab	Zinc	1310	mg/kg	410	3.2
UNKCB9	N8	4/12/2010	Grab	Cadmium	1.8	mg/kg	3.7	0.49
UNKCB9	N8	4/12/2010	Grab	Chromium	53.1	mg/kg	35.6	1.5
UNKCB9	N8	4/12/2010	Grab	Copper	105	mg/kg	310	0.34
UNKCB9	N8	4/12/2010	Grab	Lead	73	mg/kg	40	1.8
UNKCB9	N8	4/12/2010	Grab	Mercury	0.09	mg/kg	0.41	0.22

Table 7.2-6
Storm Drain Solids Sampling Results - North Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
UNKCB9	N8	4/12/2010	Grab	Silver	20	mg/kg	6.1	3.3
UNKCB9	N8	4/12/2010	Grab	Total PCBs	0.2	mg/kg	0.038	5.3
UNKCB9	N8	4/12/2010	Grab	Zinc	718	mg/kg	410	1.8
UNKMH10	N7	4/1/2010	Grab	Arsenic	12	mg/kg	7.3	1.6
UNKMH10	N7	4/1/2010	Grab	Cadmium	10.7	mg/kg	3.7	2.9
UNKMH10	N7	4/1/2010	Grab	Chromium	154	mg/kg	35.6	4.3
UNKMH10	N7	4/1/2010	Grab	Copper	199	mg/kg	310	0.64
UNKMH10	N7	4/1/2010	Grab	Lead	175	mg/kg	40	4.4
UNKMH10	N7	4/1/2010	Grab	Mercury	0.4	mg/kg	0.41	0.98
UNKMH10	N7	4/1/2010	Grab	Total PCBs	1.7	mg/kg	0.038	45
UNKMH10	N7	4/1/2010	Grab	Zinc	1540	mg/kg	410	3.8
UNKMH9	N7	4/1/2010	Grab	Cadmium	10.5	mg/kg	3.7	2.8
UNKMH9	N7	4/1/2010	Grab	Chromium	247	mg/kg	35.6	6.9
UNKMH9	N7	4/1/2010	Grab	Copper	263	mg/kg	310	0.85
UNKMH9	N7	4/1/2010	Grab	Lead	166	mg/kg	40	4.2
UNKMH9	N7	4/1/2010	Grab	Mercury	0.55	mg/kg	0.41	1.3
UNKMH9	N7	4/1/2010	Grab	Total PCBs	1.83	mg/kg	0.038	48
UNKMH9	N7	4/1/2010	Grab	Zinc	1550	mg/kg	410	3.8

Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.

[shaded box] Indicates exceedance of screening level.

Table 7.2-7
Data Summary: Storm Drain Solids
North-Central Lateral Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	44 / 70	6.0	70	18	7.3	42 / 44	9.6
	Cadmium	44 / 44	1.5	110	20	3.7	40 / 44	30
	Chromium	44 / 44	29	287	123	35.6	43 / 44	8.1
	Copper	70 / 70	36	469	187	310	8 / 70	1.5
	Lead	70 / 70	50	830	229	40	70 / 70	21
	Mercury	68 / 70	0.02	83	0.53	0.41	15 / 68	20
	Zinc	70 / 70	309	3,280	1,218	410	61 / 70	8.0
Chlorinated Aromatics	Total PCBs	144 / 147	0.058	420	12	0.038	144 / 144	11,000
	Total dioxins/furans (pg/g)	1 / 1	45	45	45	3.9	1 / 1	11
PAHs	2-Methylnaphthalene	4 / 31	0.078	4.0	1.2	0.59	2 / 4	6.8
	Acenaphthene	9 / 31	0.044	1.3	0.38	0.25	3 / 9	5.2
	Anthracene	19 / 31	0.071	1.5	0.41	0.96	2 / 19	1.6
	Fluorene	12 / 31	0.07	1.1	0.36	0.36	3 / 12	3.1
	Phenanthrene	31 / 31	0.30	8.9	2.7	0.36	20 / 31	5.9
	Total LPAH	34 / 34	0.44	13	3.1	5.2	5 / 34	2.5
	Benzo(a)anthracene	30 / 31	0.23	3.9	1.4	1.3	13 / 30	3.0
	Benzo(a)pyrene	31 / 31	0.30	5.7	2.0	0.062	31 / 31	92
	Benzofluoranthenes	31 / 31	0.72	12	4.9	3.2	20 / 31	3.9
	Benzo(g,h,i)perylene	27 / 27	0.12	4.9	1.4	0.48	23 / 27	10
	Chrysene	31 / 31	0.49	7.9	2.8	1.4	24 / 31	5.6
	Dibenz(a,h)anthracene	16 / 31	0.12	1.3	0.56	0.19	15 / 16	6.8
	Fluoranthene	31 / 31	0.92	13	5.3	1.7	28 / 31	7.6
	Indeno(1,2,3-cd)pyrene	31 / 31	0.22	4.4	1.30	0.53	26 / 31	8.3
	Pyrene	31 / 31	0.086	7.6	3.3	2.6	15 / 31	2.9
	Total HPAH	34 / 34	4.4	55	22	12	27 / 34	4.6
	Total cPAH	31 / 31	0.43	7.7	2.8	0.062	31 / 31	120
Phthalates	Bis(2-Ethylhexyl)phthalate	29 / 29	0.39	19	5.0	0.73	28 / 29	25
	Butyl benzyl phthalate	11 / 29	0.10	1.2	0.41	0.063	11 / 11	19
	Dibutyl phthalate	13 / 29	0.13	6.9	0.83	1.4	1 / 13	4.9
	Di-n-Octyl phthalate	29 / 29	0.12	22	4.6	0.42	25 / 29	52
Other SVOCs	2,4-Dimethylphenol	1 / 29	0.21	0.21	0.21	0.029	1 / 1	7.2
	Benzoic acid	3 / 29	2.6	3.7	3.2	0.65	3 / 3	5.7
	Dibenzofuran	9 / 31	0.079	0.74	0.31	0.23	5 / 9	3.2

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dinitrophenol; benzyl alcohol; diethyl phthalate; dimethyl phthalate; hexachlorobenzene; hexachlorobutadiene; N-nitrosodiphenylamine; pentachlorophenol; and phenol.

Table 7.2-8
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
North-Central Lateral Drainage Area

Chemical Class	Chemical	NC1 (Main Line)	NC2	NC3	NC4	NC5	NC6
	Subdrainage:						
Metals	Arsenic	9.6	--	2.7	2.7	2.1	2.7
	Cadmium	5.9	--	12	9.2	30	5.0
	Chromium	3.7	--	8.1	4.9	6.9	5.1
	Copper	1.5	--	1.3	<1	1.2	<1
	Lead	10	--	9.7	8.4	21	13
	Mercury	20	--	1.2	<1	5.5	1.7
	Zinc	6.2	--	5.2	3.8	8.0	4.2
Chlorinated Aromatics	Total PCBs	11,000	290	1,100	870	47	1,300
	Total dioxins/furans	11	--	--	--	--	--
PAHs	2-Methylnaphthalene	6.8	--	--	--	--	--
	Acenaphthene	5.2	--	--	--	--	--
	Anthracene	1.6	--	--	--	--	--
	Fluorene	3.1	--	--	--	--	--
	Phenanthrene	5.9	--	--	--	--	--
	Total LPAH	2.5	--	--	--	--	--
	Benzo(a)anthracene	3.0	--	--	--	--	--
	Benzo(a)pyrene	92	--	--	--	--	--
	Benzofluoranthenes	3.9	--	--	--	--	--
	Benzo(g,h,i)perylene	10	--	--	--	--	--
	Chrysene	5.6	--	--	--	--	--
	Dibenzo(a,h)anthracene	6.8	--	--	--	--	--
	Fluoranthene	7.6	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	8.3	--	--	--	--	--
	Pyrene	2.9	--	--	--	--	--
	Total HPAHs	4.6	--	--	--	--	--
	Total cPAHs	120	--	--	--	--	--
Phthalates	Bis(2-Ethylhexyl)phthalate	26	--	--	--	--	--
	Butyl benzyl phthalate	19	--	--	--	--	--
	Dibutyl phthalate	4.9	--	--	--	--	--
	Di-n-Octyl phthalate	52	--	--	--	--	--
Other SVOCs	2,4-Dimethylphenol	7.2	--	--	--	--	--
	Benzoic acid	5.7	--	--	--	--	--
	Dibenzofuran	3.2	--	--	--	--	--

"--" indicates sample not analyzed for this parameter
ND - not detected
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-11.

Blue	EF = 0 to 1
Green	EF = >1 to 5 for metals, >1 to 10 for organics
Yellow	EF = >5 to 25 for metals, >10 to 100 for organics
Light orange	EF = >25 to 125 for metals, >100 to 1,000 for organics
Rose	EF = >625 for metals, >1,000 to 10,000 for organics
Dark red	EF = >10,000 for organics

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB137C	NC5	4/12/2010	Grab	Cadmium	62.9	mg/kg	3.7	17
CB137C	NC5	4/12/2010	Inlet Filter	Cadmium	13.9	mg/kg	3.7	3.8
CB137C	NC5	4/12/2010	Grab	Chromium	127	mg/kg	35.6	3.6
CB137C	NC5	4/12/2010	Inlet Filter	Chromium	59	mg/kg	35.6	1.7
CB137C	NC5	4/12/2010	Grab	Copper	239	mg/kg	310	0.77
CB137C	NC5	4/12/2010	Inlet Filter	Copper	92.3	mg/kg	310	0.30
CB137C	NC5	4/12/2010	Grab	Lead	284	mg/kg	40	7.1
CB137C	NC5	4/12/2010	Inlet Filter	Lead	95	mg/kg	40	2.4
CB137C	NC5	4/12/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB137C	NC5	4/12/2010	Inlet Filter	Mercury	0.03	mg/kg	0.41	0.073
CB137C	NC5	4/12/2010	Grab	Total PCBs	0.46	mg/kg	0.038	12
CB137C	NC5	4/12/2010	Inlet Filter	Total PCBs	0.22	mg/kg	0.038	5.8
CB137C	NC5	4/12/2010	Grab	Zinc	1830	mg/kg	410	4.5
CB137C	NC5	4/12/2010	Inlet Filter	Zinc	730	mg/kg	410	1.8
CB221	NC3	12/16/2010	Inlet Filter	Total PCBs	0.89	mg/kg	0.038	23
CB221	NC3	6/16/2009	Grab	Total PCBs	2.8	mg/kg	0.038	74
CB221	NC3	12/30/2008	Grab	Total PCBs	1.3	mg/kg	0.038	34
CB222	NC3	4/14/2010	Grab	Cadmium	2.7	mg/kg	3.7	0.73
CB222	NC3	4/14/2010	Grab	Chromium	156	mg/kg	35.6	4.4
CB222	NC3	4/14/2010	Grab	Copper	128	mg/kg	310	0.41
CB222	NC3	4/14/2010	Grab	Lead	157	mg/kg	40	3.9
CB222	NC3	4/14/2010	Grab	Mercury	0.04	mg/kg	0.41	0.098
CB222	NC3	4/14/2010	Grab	Total PCBs	1.04	mg/kg	0.038	27
CB222	NC3	12/30/2008	Grab	Total PCBs	2	mg/kg	0.038	53
CB222	NC3	4/14/2010	Grab	Zinc	528	mg/kg	410	1.3
CB224	NC3	4/15/2010	Grab	Cadmium	23.5	mg/kg	3.7	6.4
CB224	NC3	4/15/2010	Grab	Chromium	125	mg/kg	35.6	3.5
CB224	NC3	4/15/2010	Grab	Copper	174 J	mg/kg	310	0.56
CB224	NC3	4/15/2010	Grab	Lead	202	mg/kg	40	5.1
CB224	NC3	4/15/2010	Grab	Mercury	0.13	mg/kg	0.41	0.32
CB224	NC3	4/15/2010	Grab	Total PCBs	2.5	mg/kg	0.038	66
CB224	NC3	12/30/2008	Grab	Total PCBs	4.6	mg/kg	0.038	120
CB224	NC3	9/22/2008	Grab	Total PCBs	4.3	mg/kg	0.038	110
CB224	NC3	3/13/2007	Grab	Total PCBs	26	mg/kg	0.038	680
CB224	NC3	7/25/2006	Grab	Total PCBs	10	mg/kg	0.038	260
CB224	NC3	5/13/2005	Grab	Total PCBs	43	mg/kg	0.038	1100
CB224	NC3	4/15/2010	Grab	Zinc	1220	mg/kg	410	3.0
CB225	NC3	4/15/2010	Grab	Cadmium	28.1	mg/kg	3.7	7.6
CB225	NC3	4/15/2010	Grab	Chromium	175	mg/kg	35.6	4.9
CB225	NC3	4/15/2010	Grab	Copper	261	mg/kg	310	0.84
CB225	NC3	4/15/2010	Grab	Lead	242	mg/kg	40	6.1
CB225	NC3	4/15/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB225	NC3	4/15/2010	Grab	Total PCBs	4.9	mg/kg	0.038	130
CB225	NC3	12/30/2008	Grab	Total PCBs	2	mg/kg	0.038	53
CB225	NC3	9/22/2008	Grab	Total PCBs	1.9	mg/kg	0.038	50
CB225	NC3	3/13/2007	Grab	Total PCBs	12	mg/kg	0.038	320
CB225	NC3	12/8/2006	Grab	Total PCBs	13.8	mg/kg	0.038	360
CB225	NC3	7/25/2006	Grab	Total PCBs	28	mg/kg	0.038	740
CB225	NC3	4/15/2010	Grab	Zinc	1320	mg/kg	410	3.2
CB227	NC4	4/15/2010	Grab	Cadmium	34.1	mg/kg	3.7	9.2
CB227	NC4	4/15/2010	Grab	Chromium	175	mg/kg	35.6	4.9
CB227	NC4	4/15/2010	Grab	Copper	282	mg/kg	310	0.91
CB227	NC4	4/15/2010	Grab	Lead	232	mg/kg	40	5.8
CB227	NC4	4/15/2010	Grab	Mercury	0.2	mg/kg	0.41	0.49

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB227	NC4	4/15/2010	Grab	Total PCBs	1.9	mg/kg	0.038	50
CB227	NC4	6/10/2009	Grab	Total PCBs	2.8	mg/kg	0.038	74
CB227	NC4	3/14/2007	Grab	Total PCBs	2.6	mg/kg	0.038	68
CB227	NC4	7/25/2006	Grab	Total PCBs	7.5	mg/kg	0.038	200
CB227	NC4	4/15/2010	Grab	Zinc	1340	mg/kg	410	3.3
CB228F	NC6	4/15/2010	Grab	Cadmium	18	mg/kg	3.7	4.9
CB228F	NC6	4/15/2010	Grab	Chromium	181	mg/kg	35.6	5.1
CB228F	NC6	4/15/2010	Grab	Copper	187	mg/kg	310	0.60
CB228F	NC6	4/15/2010	Grab	Lead	501	mg/kg	40	13
CB228F	NC6	4/15/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB228F	NC6	12/16/2010	Inlet Filter	Total PCBs	0.66	mg/kg	0.038	17
CB228F	NC6	4/15/2010	Grab	Total PCBs	0.76	mg/kg	0.038	20
CB228F	NC6	6/10/2009	Grab	Total PCBs	1.52	mg/kg	0.038	40
CB228F	NC6	9/22/2008	Grab	Total PCBs	22	mg/kg	0.038	580
CB228F	NC6	3/14/2007	Grab	Total PCBs	50	mg/kg	0.038	1300
CB228F	NC6	5/13/2005	Grab	Total PCBs	22	mg/kg	0.038	580
CB228F	NC6	4/15/2010	Grab	Zinc	1100	mg/kg	410	2.7
CB229A	NC1	2/16/2005	Grab	2-Methylnaphthalene	0.66	mg/kg	0.59	1.1
CB229A	NC1	4/8/2010	Sediment Trap	Acenaphthene	0.17 J	mg/kg	0.25	0.68
CB229A	NC1	2/16/2005	Grab	Acenaphthene	0.93	mg/kg	0.25	3.7
CB229A	NC1	4/8/2010	Sediment Trap	Anthracene	0.68	mg/kg	0.96	0.71
CB229A	NC1	3/18/2008	Sediment Trap	Anthracene	0.12	mg/kg WW	0.96	0.13
CB229A	NC1	1/8/2007	Sediment Trap	Anthracene	0.21	mg/kg	0.96	0.22
CB229A	NC1	8/11/2005	Sediment Trap	Anthracene	0.18	mg/kg	0.96	0.19
CB229A	NC1	2/16/2005	Grab	Anthracene	1.2	mg/kg	0.96	1.3
CB229A	NC1	4/15/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB229A	NC1	4/8/2010	Sediment Trap	Arsenic	14	mg/kg	7.3	1.9
CB229A	NC1	10/29/2007	Sediment Trap	Arsenic	6	mg/kg WW	7.3	0.82
CB229A	NC1	1/8/2007	Sediment Trap	Arsenic	12	mg/kg WW	7.3	1.6
CB229A	NC1	10/11/2006	Sediment Trap	Arsenic	20	mg/kg WW	7.3	2.7
CB229A	NC1	3/16/2006	Sediment Trap	Arsenic	13	mg/kg WW	7.3	1.8
CB229A	NC1	8/11/2005	Sediment Trap	Arsenic	16	mg/kg WW	7.3	2.2
CB229A	NC1	2/16/2005	Grab	Arsenic	30	mg/kg WW	7.3	4.1
CB229A	NC1	4/8/2010	Sediment Trap	Benzo(a)anthracene	3.9	mg/kg WW	1.3	3.0
CB229A	NC1	4/6/2009	Sediment Trap	Benzo(a)anthracene	1.1	mg/kg WW	1.3	0.85
CB229A	NC1	7/30/2008	Sediment Trap	Benzo(a)anthracene	0.63	mg/kg WW	1.3	0.48
CB229A	NC1	3/18/2008	Sediment Trap	Benzo(a)anthracene	0.46	mg/kg WW	1.3	0.35
CB229A	NC1	1/8/2007	Sediment Trap	Benzo(a)anthracene	0.92	mg/kg WW	1.3	0.71
CB229A	NC1	3/16/2006	Sediment Trap	Benzo(a)anthracene	1	mg/kg WW	1.3	0.77
CB229A	NC1	8/11/2005	Sediment Trap	Benzo(a)anthracene	0.86	mg/kg WW	1.3	0.66
CB229A	NC1	2/16/2005	Grab	Benzo(a)anthracene	3	mg/kg WW	1.3	2.3
CB229A	NC1	4/8/2010	Sediment Trap	Benzo(a)pyrene	5.7	mg/kg WW	0.062	92
CB229A	NC1	4/6/2009	Sediment Trap	Benzo(a)pyrene	2.1	mg/kg WW	0.062	34
CB229A	NC1	7/30/2008	Sediment Trap	Benzo(a)pyrene	1.2	mg/kg WW	0.062	19
CB229A	NC1	3/18/2008	Sediment Trap	Benzo(a)pyrene	0.73	mg/kg WW	0.062	12
CB229A	NC1	1/8/2007	Sediment Trap	Benzo(a)pyrene	1.5	mg/kg WW	0.062	24
CB229A	NC1	3/16/2006	Sediment Trap	Benzo(a)pyrene	1.6	mg/kg WW	0.062	26
CB229A	NC1	8/11/2005	Sediment Trap	Benzo(a)pyrene	1.4	mg/kg WW	0.062	23
CB229A	NC1	2/16/2005	Grab	Benzo(a)pyrene	3.4	mg/kg WW	0.062	55
CB229A	NC1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	2.9	mg/kg WW	0.48	6.0
CB229A	NC1	4/6/2009	Sediment Trap	Benzo(g,h,i)perylene	2.3	mg/kg WW	0.48	4.8
CB229A	NC1	7/30/2008	Sediment Trap	Benzo(g,h,i)perylene	1.2	mg/kg WW	0.48	2.5
CB229A	NC1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	0.59	mg/kg WW	0.48	1.2
CB229A	NC1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	0.9	mg/kg WW	0.48	1.9

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB229A	NC1	8/11/2005	Sediment Trap	Benzo(g,h,i)perylene	0.71	mg/kg WW	0.48	1.5
CB229A	NC1	2/16/2005	Grab	Benzo(g,h,i)perylene	1.3	mg/kg WW	0.48	2.7
CB229A	NC1	4/8/2010	Sediment Trap	Benzofluoranthene	11	mg/kg WW	3.2	3.4
CB229A	NC1	4/6/2009	Sediment Trap	Benzofluoranthene	6.1	mg/kg WW	3.2	1.9
CB229A	NC1	7/30/2008	Sediment Trap	Benzofluoranthene	3.4	mg/kg WW	3.2	1.1
CB229A	NC1	3/18/2008	Sediment Trap	Benzofluoranthene	2.2	mg/kg WW	3.2	0.69
CB229A	NC1	1/8/2007	Sediment Trap	Benzofluoranthene	4.8	mg/kg WW	3.2	1.5
CB229A	NC1	3/16/2006	Sediment Trap	Benzofluoranthene	4.4	mg/kg WW	3.2	1.4
CB229A	NC1	8/11/2005	Sediment Trap	Benzofluoranthene	3.4	mg/kg WW	3.2	1.1
CB229A	NC1	2/16/2005	Grab	Benzofluoranthene	9	mg/kg WW	3.2	2.8
CB229A	NC1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	6	mg/kg WW	0.73	8.2
CB229A	NC1	4/6/2009	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.5	mg/kg WW	0.73	3.4
CB229A	NC1	7/30/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.7	mg/kg WW	0.73	2.3
CB229A	NC1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.4	mg/kg WW	0.73	1.9
CB229A	NC1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	3.7	mg/kg WW	0.73	5.1
CB229A	NC1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.6	mg/kg WW	0.73	3.6
CB229A	NC1	8/11/2005	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.6	mg/kg WW	0.73	3.6
CB229A	NC1	2/16/2005	Grab	Bis(2-Ethylhexyl)phthalate	2.2	mg/kg WW	0.73	3.0
CB229A	NC1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.63	mg/kg WW	0.063	10
CB229A	NC1	1/8/2007	Sediment Trap	Butyl benzyl phthalate	0.22	mg/kg WW	0.063	3.5
CB229A	NC1	4/15/2010	Grab	Cadmium	3.2	mg/kg WW	3.7	0.86
CB229A	NC1	4/15/2010	Grab	Chromium	29	mg/kg WW	35.6	0.81
CB229A	NC1	4/8/2010	Sediment Trap	Chrysene	6.5	mg/kg WW	1.4	4.6
CB229A	NC1	4/6/2009	Sediment Trap	Chrysene	3.3	mg/kg WW	1.4	2.4
CB229A	NC1	7/30/2008	Sediment Trap	Chrysene	1.6	mg/kg WW	1.4	1.1
CB229A	NC1	3/18/2008	Sediment Trap	Chrysene	1.1	mg/kg WW	1.4	0.79
CB229A	NC1	1/8/2007	Sediment Trap	Chrysene	2	mg/kg WW	1.4	1.4
CB229A	NC1	3/16/2006	Sediment Trap	Chrysene	2.5	mg/kg WW	1.4	1.8
CB229A	NC1	8/11/2005	Sediment Trap	Chrysene	1.7	mg/kg WW	1.4	1.2
CB229A	NC1	2/16/2005	Grab	Chrysene	4.2	mg/kg WW	1.4	3.0
CB229A	NC1	4/15/2010	Grab	Copper	35.6	mg/kg WW	310	0.11
CB229A	NC1	4/8/2010	Sediment Trap	Copper	248 J	mg/kg WW	310	0.80
CB229A	NC1	10/29/2007	Sediment Trap	Copper	61	mg/kg WW	310	0.20
CB229A	NC1	1/8/2007	Sediment Trap	Copper	76	mg/kg WW	310	0.25
CB229A	NC1	10/11/2006	Sediment Trap	Copper	262	mg/kg WW	310	0.85
CB229A	NC1	3/16/2006	Sediment Trap	Copper	75.2	mg/kg WW	310	0.24
CB229A	NC1	8/11/2005	Sediment Trap	Copper	94.3	mg/kg WW	310	0.30
CB229A	NC1	2/16/2005	Grab	Copper	85.5	mg/kg WW	310	0.28
CB229A	NC1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	1.2	mg/kg WW	0.19	6.3
CB229A	NC1	4/6/2009	Sediment Trap	Dibenzo(a,h)anthracene	0.32 J	mg/kg WW	0.19	1.7
CB229A	NC1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.22	mg/kg WW	0.19	1.2
CB229A	NC1	4/8/2010	Sediment Trap	Dibenzofuran	0.2 J	mg/kg WW	0.23	0.87
CB229A	NC1	2/16/2005	Grab	Dibenzofuran	0.56	mg/kg WW	0.23	2.4
CB229A	NC1	4/8/2010	Sediment Trap	Dibutyl phthalate	0.32	mg/kg WW	1.4	0.23
CB229A	NC1	4/6/2009	Sediment Trap	Dibutyl phthalate	0.42 J	mg/kg WW	1.4	0.30
CB229A	NC1	3/18/2008	Sediment Trap	Dibutyl phthalate	0.13	mg/kg WW	1.4	0.093
CB229A	NC1	1/8/2007	Sediment Trap	Dibutyl phthalate	0.24	mg/kg WW	1.4	0.17
CB229A	NC1	8/11/2005	Sediment Trap	Dibutyl phthalate	0.35	mg/kg WW	1.4	0.25
CB229A	NC1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	1.2	mg/kg WW	0.42	2.9
CB229A	NC1	4/6/2009	Sediment Trap	Di-n-Octyl phthalate	16	mg/kg WW	0.42	38
CB229A	NC1	7/30/2008	Sediment Trap	Di-n-Octyl phthalate	5.9	mg/kg WW	0.42	14
CB229A	NC1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	2.6	mg/kg WW	0.42	6.2
CB229A	NC1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	7.2	mg/kg WW	0.42	17
CB229A	NC1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	9.6	mg/kg WW	0.42	23

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB229A	NC1	8/11/2005	Sediment Trap	Di-n-Octyl phthalate	4.3	mg/kg WW	0.42	10
CB229A	NC1	2/16/2005	Grab	Di-n-Octyl phthalate	0.24	mg/kg WW	0.42	0.57
CB229A	NC1	4/8/2010	Sediment Trap	Fluoranthene	13	mg/kg WW	1.7	7.6
CB229A	NC1	4/6/2009	Sediment Trap	Fluoranthene	4.8	mg/kg WW	1.7	2.8
CB229A	NC1	7/30/2008	Sediment Trap	Fluoranthene	2.5	mg/kg WW	1.7	1.5
CB229A	NC1	3/18/2008	Sediment Trap	Fluoranthene	1.8	mg/kg WW	1.7	1.1
CB229A	NC1	1/8/2007	Sediment Trap	Fluoranthene	3.2	mg/kg WW	1.7	1.9
CB229A	NC1	3/16/2006	Sediment Trap	Fluoranthene	4.2	mg/kg WW	1.7	2.5
CB229A	NC1	8/11/2005	Sediment Trap	Fluoranthene	3.1	mg/kg WW	1.7	1.8
CB229A	NC1	2/16/2005	Grab	Fluoranthene	11	mg/kg WW	1.7	6.5
CB229A	NC1	4/8/2010	Sediment Trap	Fluorene	0.26	mg/kg WW	0.36	0.72
CB229A	NC1	2/16/2005	Grab	Fluorene	1.1	mg/kg WW	0.36	3.1
CB229A	NC1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.8	mg/kg WW	0.53	5.3
CB229A	NC1	4/6/2009	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.1	mg/kg WW	0.53	4.0
CB229A	NC1	7/30/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.2	mg/kg WW	0.53	2.3
CB229A	NC1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.56	mg/kg WW	0.53	1.1
CB229A	NC1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.67	mg/kg WW	0.53	1.3
CB229A	NC1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.95	mg/kg WW	0.53	1.8
CB229A	NC1	8/11/2005	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.78	mg/kg WW	0.53	1.5
CB229A	NC1	2/16/2005	Grab	Indeno(1,2,3-cd)pyrene	1.5	mg/kg WW	0.53	2.8
CB229A	NC1	4/15/2010	Grab	Lead	91	mg/kg WW	40	2.3
CB229A	NC1	4/8/2010	Sediment Trap	Lead	376 J	mg/kg WW	40	9.4
CB229A	NC1	10/29/2007	Sediment Trap	Lead	77	mg/kg WW	40	1.9
CB229A	NC1	1/8/2007	Sediment Trap	Lead	121	mg/kg WW	40	3.0
CB229A	NC1	10/11/2006	Sediment Trap	Lead	414	mg/kg WW	40	10
CB229A	NC1	3/16/2006	Sediment Trap	Lead	116	mg/kg WW	40	2.9
CB229A	NC1	8/11/2005	Sediment Trap	Lead	144	mg/kg WW	40	3.6
CB229A	NC1	2/16/2005	Grab	Lead	155	mg/kg WW	40	3.9
CB229A	NC1	4/15/2010	Grab	Mercury	0.04	mg/kg WW	0.41	0.098
CB229A	NC1	4/8/2010	Sediment Trap	Mercury	0.23	mg/kg WW	0.41	0.56
CB229A	NC1	10/29/2007	Sediment Trap	Mercury	0.07	mg/kg WW	0.41	0.17
CB229A	NC1	1/8/2007	Sediment Trap	Mercury	0.09	mg/kg WW	0.41	0.22
CB229A	NC1	10/11/2006	Sediment Trap	Mercury	0.3	mg/kg WW	0.41	0.73
CB229A	NC1	3/16/2006	Sediment Trap	Mercury	0.1	mg/kg WW	0.41	0.24
CB229A	NC1	8/11/2005	Sediment Trap	Mercury	0.19	mg/kg WW	0.41	0.46
CB229A	NC1	2/16/2005	Grab	Mercury	0.07	mg/kg WW	0.41	0.17
CB229A	NC1	4/8/2010	Sediment Trap	Phenanthrene	4.9	mg/kg WW	1.5	3.3
CB229A	NC1	4/6/2009	Sediment Trap	Phenanthrene	2.3	mg/kg WW	1.5	1.5
CB229A	NC1	7/30/2008	Sediment Trap	Phenanthrene	1	mg/kg WW	1.5	0.67
CB229A	NC1	3/18/2008	Sediment Trap	Phenanthrene	0.8	mg/kg WW	1.5	0.53
CB229A	NC1	1/8/2007	Sediment Trap	Phenanthrene	1.4	mg/kg WW	1.5	0.93
CB229A	NC1	3/16/2006	Sediment Trap	Phenanthrene	1.6	mg/kg WW	1.5	1.1
CB229A	NC1	8/11/2005	Sediment Trap	Phenanthrene	1.7	mg/kg WW	1.5	1.1
CB229A	NC1	2/16/2005	Grab	Phenanthrene	8.9	mg/kg WW	1.5	5.9
CB229A	NC1	4/8/2010	Sediment Trap	Pyrene	7.1	mg/kg WW	2.6	2.7
CB229A	NC1	4/6/2009	Sediment Trap	Pyrene	3.9	mg/kg WW	2.6	1.5
CB229A	NC1	7/30/2008	Sediment Trap	Pyrene	2	mg/kg WW	2.6	0.77
CB229A	NC1	3/18/2008	Sediment Trap	Pyrene	1.2	mg/kg WW	2.6	0.46
CB229A	NC1	1/8/2007	Sediment Trap	Pyrene	2.3	mg/kg WW	2.6	0.88
CB229A	NC1	3/16/2006	Sediment Trap	Pyrene	2.4	mg/kg WW	2.6	0.92
CB229A	NC1	8/11/2005	Sediment Trap	Pyrene	2.1	mg/kg WW	2.6	0.81
CB229A	NC1	2/16/2005	Grab	Pyrene	7.6	mg/kg WW	2.6	2.9
CB229A	NC1	4/8/2010	Sediment Trap	Total cPAH	7.655	mg/kg WW	0.062	120
CB229A	NC1	4/6/2009	Sediment Trap	Total cPAH	3.095	mg/kg WW	0.062	50

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB229A	NC1	7/30/2008	Sediment Trap	Total cPAH	1.7655	mg/kg WW	0.062	28
CB229A	NC1	3/18/2008	Sediment Trap	Total cPAH	1.085	mg/kg WW	0.062	18
CB229A	NC1	1/8/2007	Sediment Trap	Total cPAH	2.167	mg/kg WW	0.062	35
CB229A	NC1	3/16/2006	Sediment Trap	Total cPAH	2.29	mg/kg WW	0.062	37
CB229A	NC1	8/11/2005	Sediment Trap	Total cPAH	1.929	mg/kg WW	0.062	31
CB229A	NC1	2/16/2005	Grab	Total cPAH	4.803	mg/kg WW	0.062	77
CB229A	NC1	4/8/2010	Sediment Trap	Total HPAHs	54	mg/kg WW	12	4.5
CB229A	NC1	4/6/2009	Sediment Trap	Total HPAHs	26	mg/kg WW	12	2.2
CB229A	NC1	7/30/2008	Sediment Trap	Total HPAHs	13.7	mg/kg WW	12	1.1
CB229A	NC1	3/18/2008	Sediment Trap	Total HPAHs	8.9	mg/kg WW	12	0.74
CB229A	NC1	1/8/2007	Sediment Trap	Total HPAHs	15.4	mg/kg WW	12	1.3
CB229A	NC1	3/16/2006	Sediment Trap	Total HPAHs	18	mg/kg WW	12	1.5
CB229A	NC1	3/15/2006	Sediment Trap	Total HPAHs	17.95	mg/kg WW	12	1.5
CB229A	NC1	8/11/2005	Sediment Trap	Total HPAHs	14.1	mg/kg WW	12	1.2
CB229A	NC1	2/16/2005	Grab	Total HPAHs	41	mg/kg WW	12	3.4
CB229A	NC1	4/8/2010	Sediment Trap	Total LPAHs	6	mg/kg WW	5.2	1.2
CB229A	NC1	4/6/2009	Sediment Trap	Total LPAHs	2.3	mg/kg WW	5.2	0.44
CB229A	NC1	7/30/2008	Sediment Trap	Total LPAHs	1	mg/kg WW	5.2	0.19
CB229A	NC1	3/18/2008	Sediment Trap	Total LPAHs	0.92	mg/kg WW	5.2	0.18
CB229A	NC1	1/8/2007	Sediment Trap	Total LPAHs	1.6	mg/kg WW	5.2	0.31
CB229A	NC1	3/16/2006	Sediment Trap	Total LPAHs	1.6	mg/kg WW	5.2	0.31
CB229A	NC1	3/15/2006	Sediment Trap	Total LPAHs	1.6	mg/kg WW	5.2	0.31
CB229A	NC1	8/11/2005	Sediment Trap	Total LPAHs	1.9	mg/kg WW	5.2	0.37
CB229A	NC1	2/16/2005	Grab	Total LPAHs	12.1	mg/kg WW	5.2	2.3
CB229A	NC1	4/5/2011	Sediment Trap	Total PCBs	0.154	mg/kg WW	0.038	4.1
CB229A	NC1	4/15/2010	Grab	Total PCBs	0.111	mg/kg WW	0.038	2.9
CB229A	NC1	4/8/2010	Sediment Trap	Total PCBs	0.68	mg/kg WW	0.038	18
CB229A	NC1	9/22/2008	Grab	Total PCBs	0.074	mg/kg WW	0.038	1.9
CB229A	NC1	7/30/2008	Sediment Trap	Total PCBs	0.058	mg/kg WW	0.038	1.5
CB229A	NC1	3/18/2008	Sediment Trap	Total PCBs	0.42	mg/kg WW	0.038	11
CB229A	NC1	10/29/2007	Sediment Trap	Total PCBs	0.099	mg/kg WW	0.038	2.6
CB229A	NC1	4/10/2007	Grab	Total PCBs	0.1	mg/kg WW	0.038	2.6
CB229A	NC1	1/8/2007	Sediment Trap	Total PCBs	0.103	mg/kg WW	0.038	2.7
CB229A	NC1	10/11/2006	Sediment Trap	Total PCBs	0.24	mg/kg WW	0.038	6.3
CB229A	NC1	3/16/2006	Sediment Trap	Total PCBs	0.114	mg/kg WW	0.038	3.0
CB229A	NC1	8/11/2005	Sediment Trap	Total PCBs	0.45	mg/kg WW	0.038	12
CB229A	NC1	2/16/2005	Grab	Total PCBs	5.6	mg/kg WW	0.038	150
CB229A	NC1	4/15/2010	Grab	Zinc	590	mg/kg WW	410	1.4
CB229A	NC1	4/8/2010	Sediment Trap	Zinc	551	mg/kg WW	410	1.3
CB229A	NC1	10/29/2007	Sediment Trap	Zinc	309	mg/kg WW	410	0.75
CB229A	NC1	1/8/2007	Sediment Trap	Zinc	433	mg/kg WW	410	1.1
CB229A	NC1	10/11/2006	Sediment Trap	Zinc	1220	mg/kg WW	410	3.0
CB229A	NC1	3/16/2006	Sediment Trap	Zinc	337	mg/kg WW	410	0.82
CB229A	NC1	8/11/2005	Sediment Trap	Zinc	460	mg/kg WW	410	1.1
CB229A	NC1	2/16/2005	Grab	Zinc	1130	mg/kg WW	410	2.8
CB231	NC5	4/14/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB231	NC5	4/14/2010	Grab	Cadmium	33.8	mg/kg WW	3.7	9.1
CB231	NC5	4/14/2010	Grab	Chromium	154	mg/kg WW	35.6	4.3
CB231	NC5	4/14/2010	Grab	Copper	286	mg/kg WW	310	0.92
CB231	NC5	4/14/2010	Grab	Lead	298	mg/kg WW	40	7.5
CB231	NC5	4/14/2010	Grab	Mercury	0.63	mg/kg WW	0.41	1.5
CB231	NC5	4/14/2010	Grab	Total PCBs	0.95	mg/kg WW	0.038	25
CB231	NC5	6/9/2009	Grab	Total PCBs	1.05	mg/kg WW	0.038	28
CB231	NC5	4/14/2010	Grab	Zinc	2890	mg/kg WW	410	7.0

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB232	NC5	4/12/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB232	NC5	4/12/2010	Grab	Cadmium	20.7	mg/kg WW	3.7	5.6
CB232	NC5	4/12/2010	Grab	Chromium	149	mg/kg WW	35.6	4.2
CB232	NC5	4/12/2010	Grab	Copper	201	mg/kg WW	310	0.65
CB232	NC5	4/12/2010	Grab	Lead	390	mg/kg WW	40	9.8
CB232	NC5	4/12/2010	Grab	Mercury	0.74	mg/kg WW	0.41	1.8
CB232	NC5	4/12/2010	Grab	Total PCBs	1.19	mg/kg WW	0.038	31
CB232	NC5	4/12/2010	Grab	Zinc	2270	mg/kg WW	410	5.5
CB236	NC5	4/14/2010	Grab	Cadmium	14	mg/kg WW	3.7	3.8
CB236	NC5	4/14/2010	Inlet Filter	Cadmium	3.5	mg/kg WW	3.7	0.95
CB236	NC5	4/14/2010	Grab	Chromium	159	mg/kg WW	35.6	4.5
CB236	NC5	4/14/2010	Inlet Filter	Chromium	87.4	mg/kg WW	35.6	2.5
CB236	NC5	4/14/2010	Grab	Copper	276	mg/kg WW	310	0.89
CB236	NC5	4/14/2010	Inlet Filter	Copper	123	mg/kg WW	310	0.40
CB236	NC5	4/14/2010	Grab	Lead	405	mg/kg WW	40	10
CB236	NC5	4/14/2010	Inlet Filter	Lead	205	mg/kg WW	40	5.1
CB236	NC5	4/14/2010	Inlet Filter	Mercury	0.28	mg/kg WW	0.41	0.68
CB236	NC5	4/14/2010	Grab	Mercury	0.22	mg/kg WW	0.41	0.54
CB236	NC5	4/14/2010	Inlet Filter	Total PCBs	0.5	mg/kg WW	0.038	13
CB236	NC5	4/14/2010	Grab	Total PCBs	0.47	mg/kg WW	0.038	12
CB236	NC5	4/14/2010	Grab	Zinc	2910	mg/kg WW	410	7.1
CB236	NC5	4/14/2010	Inlet Filter	Zinc	1060	mg/kg WW	410	2.6
CB237	NC5	4/14/2010	Grab	Arsenic	8	mg/kg WW	7.3	1.1
CB237	NC5	4/14/2010	Grab	Cadmium	6.8	mg/kg WW	3.7	1.8
CB237	NC5	4/14/2010	Grab	Chromium	164	mg/kg WW	35.6	4.6
CB237	NC5	4/14/2010	Grab	Copper	202	mg/kg WW	310	0.65
CB237	NC5	4/14/2010	Grab	Lead	359	mg/kg WW	40	9.0
CB237	NC5	4/14/2010	Grab	Mercury	0.11	mg/kg WW	0.41	0.27
CB237	NC5	4/14/2010	Grab	Total PCBs	0.29	mg/kg WW	0.038	7.6
CB237	NC5	4/14/2010	Grab	Zinc	3280	mg/kg WW	410	8.0
CB238	NC5	4/14/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB238	NC5	4/14/2010	Grab	Cadmium	13.8	mg/kg WW	3.7	3.7
CB238	NC5	4/14/2010	Grab	Chromium	175	mg/kg WW	35.6	4.9
CB238	NC5	4/14/2010	Grab	Copper	368	mg/kg WW	310	1.2
CB238	NC5	4/14/2010	Grab	Lead	378	mg/kg WW	40	9.5
CB238	NC5	4/14/2010	Grab	Mercury	0.24	mg/kg WW	0.41	0.59
CB238	NC5	4/14/2010	Grab	Total PCBs	0.45	mg/kg WW	0.038	12
CB238	NC5	4/14/2010	Grab	Zinc	2820	mg/kg WW	410	6.9
CB239	NC5	4/14/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB239	NC5	4/14/2010	Grab	Cadmium	54.1	mg/kg WW	3.7	15
CB239	NC5	4/14/2010	Inlet Filter	Cadmium	14.6	mg/kg WW	3.7	3.9
CB239	NC5	4/14/2010	Inlet Filter	Chromium	245 J	mg/kg WW	35.6	6.9
CB239	NC5	4/14/2010	Grab	Chromium	155	mg/kg WW	35.6	4.4
CB239	NC5	4/14/2010	Inlet Filter	Copper	350	mg/kg WW	310	1.1
CB239	NC5	4/14/2010	Grab	Copper	335	mg/kg WW	310	1.1
CB239	NC5	4/14/2010	Inlet Filter	Lead	830 J	mg/kg WW	40	21
CB239	NC5	4/14/2010	Grab	Lead	352	mg/kg WW	40	8.8
CB239	NC5	4/14/2010	Inlet Filter	Mercury	0.32 J	mg/kg WW	0.41	0.78
CB239	NC5	4/14/2010	Grab	Mercury	0.27	mg/kg WW	0.41	0.66
CB239	NC5	4/14/2010	Inlet Filter	Total PCBs	1.38	mg/kg WW	0.038	36
CB239	NC5	4/14/2010	Grab	Total PCBs	0.77	mg/kg WW	0.038	20
CB239	NC5	4/14/2010	Grab	Zinc	1990	mg/kg WW	410	4.9
CB239	NC5	4/14/2010	Inlet Filter	Zinc	1550	mg/kg WW	410	3.8
CB241	NC5	4/14/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB241	NC5	4/14/2010	Grab	Cadmium	40.8	mg/kg WW	3.7	11
CB241	NC5	4/14/2010	Grab	Chromium	119	mg/kg WW	35.6	3.3
CB241	NC5	4/14/2010	Grab	Copper	217	mg/kg WW	310	0.70
CB241	NC5	4/14/2010	Grab	Lead	214	mg/kg WW	40	5.4
CB241	NC5	4/14/2010	Grab	Mercury	0.13	mg/kg WW	0.41	0.32
CB241	NC5	4/14/2010	Grab	Total PCBs	0.33	mg/kg WW	0.038	8.7
CB241	NC5	4/14/2010	Grab	Zinc	2480	mg/kg WW	410	6.0
CB241A	NC5	4/12/2010	Grab	Arsenic	9	mg/kg WW	7.3	1.2
CB241A	NC5	4/12/2010	Grab	Cadmium	8.7	mg/kg WW	3.7	2.4
CB241A	NC5	4/12/2010	Grab	Chromium	80.6	mg/kg WW	35.6	2.3
CB241A	NC5	4/12/2010	Grab	Copper	203	mg/kg WW	310	0.65
CB241A	NC5	4/12/2010	Grab	Lead	148	mg/kg WW	40	3.7
CB241A	NC5	4/12/2010	Grab	Mercury	0.07	mg/kg WW	0.41	0.17
CB241A	NC5	4/12/2010	Grab	Total PCBs	0.58	mg/kg WW	0.038	15
CB241A	NC5	4/12/2010	Grab	Zinc	2280	mg/kg WW	410	5.6
CB242	NC5	4/14/2010	Grab	Arsenic	8	mg/kg WW	7.3	1.1
CB242	NC5	4/14/2010	Grab	Cadmium	23.2	mg/kg WW	3.7	6.3
CB242	NC5	4/14/2010	Grab	Chromium	123	mg/kg WW	35.6	3.5
CB242	NC5	4/14/2010	Grab	Copper	180	mg/kg WW	310	0.58
CB242	NC5	4/14/2010	Grab	Lead	196	mg/kg WW	40	4.9
CB242	NC5	4/14/2010	Grab	Mercury	0.12	mg/kg WW	0.41	0.29
CB242	NC5	4/14/2010	Grab	Total PCBs	0.33	mg/kg WW	0.038	8.7
CB242	NC5	4/14/2010	Grab	Zinc	1880	mg/kg WW	410	4.6
CB243	NC5	4/14/2010	Grab	Cadmium	4.8	mg/kg WW	3.7	1.3
CB243	NC5	4/14/2010	Grab	Chromium	119	mg/kg WW	35.6	3.3
CB243	NC5	4/14/2010	Grab	Copper	250	mg/kg WW	310	0.81
CB243	NC5	4/14/2010	Grab	Lead	270	mg/kg WW	40	6.8
CB243	NC5	4/14/2010	Grab	Mercury	0.2	mg/kg WW	0.41	0.49
CB243	NC5	4/14/2010	Grab	Total PCBs	0.71	mg/kg WW	0.038	19
CB243	NC5	4/14/2010	Grab	Zinc	1470	mg/kg WW	410	3.6
CB244	NC5	4/12/2010	Grab	Cadmium	110	mg/kg WW	3.7	30
CB244	NC5	4/12/2010	Grab	Chromium	132	mg/kg WW	35.6	3.7
CB244	NC5	4/12/2010	Grab	Copper	263	mg/kg WW	310	0.85
CB244	NC5	4/12/2010	Grab	Lead	417	mg/kg WW	40	10
CB244	NC5	4/12/2010	Grab	Mercury	0.23	mg/kg WW	0.41	0.56
CB244	NC5	4/12/2010	Grab	Total PCBs	0.96	mg/kg WW	0.038	25
CB244	NC5	4/12/2010	Grab	Zinc	3190	mg/kg WW	410	7.8
CB246	NC5	4/12/2010	Grab	Cadmium	33.1	mg/kg WW	3.7	8.9
CB246	NC5	4/12/2010	Grab	Chromium	91	mg/kg WW	35.6	2.6
CB246	NC5	4/12/2010	Grab	Copper	181	mg/kg WW	310	0.58
CB246	NC5	4/12/2010	Grab	Lead	199	mg/kg WW	40	5.0
CB246	NC5	4/12/2010	Grab	Mercury	0.07	mg/kg WW	0.41	0.17
CB246	NC5	4/12/2010	Grab	Total PCBs	0.48	mg/kg WW	0.038	13
CB246	NC5	4/12/2010	Grab	Zinc	1260	mg/kg WW	410	3.1
CB250	NC4B	4/21/2010	Grab	Cadmium	4.5	mg/kg WW	3.7	1.2
CB250	NC4B	4/21/2010	Grab	Chromium	40.1	mg/kg WW	35.6	1.1
CB250	NC4B	4/21/2010	Grab	Copper	44.1	mg/kg WW	310	0.14
CB250	NC4B	4/21/2010	Grab	Lead	128	mg/kg WW	40	3.2
CB250	NC4B	4/21/2010	Grab	Total PCBs	0.4	mg/kg WW	0.038	11
CB250	NC4B	4/21/2010	Grab	Zinc	366	mg/kg WW	410	0.89
CB251	NC4B	4/21/2010	Grab	Cadmium	5.1	mg/kg WW	3.7	1.4
CB251	NC4B	4/21/2010	Grab	Chromium	42.2	mg/kg WW	35.6	1.2
CB251	NC4B	4/21/2010	Grab	Copper	60.7	mg/kg WW	310	0.20
CB251	NC4B	4/21/2010	Grab	Lead	208	mg/kg WW	40	5.2

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB251	NC4B	4/21/2010	Grab	Total PCBs	0.58	mg/kg WW	0.038	15
CB251	NC4B	4/21/2010	Grab	Zinc	440	mg/kg WW	410	1.1
CB252	NC4B	4/21/2010	Grab	Arsenic	15	mg/kg WW	7.3	2.1
CB252	NC4B	4/21/2010	Grab	Cadmium	23.2	mg/kg WW	3.7	6.3
CB252	NC4B	4/21/2010	Grab	Chromium	151	mg/kg WW	35.6	4.2
CB252	NC4B	4/21/2010	Grab	Copper	164	mg/kg WW	310	0.53
CB252	NC4B	4/21/2010	Grab	Lead	245	mg/kg WW	40	6.1
CB252	NC4B	4/21/2010	Grab	Mercury	0.15	mg/kg WW	0.41	0.37
CB252	NC4B	12/16/2010	Inlet Filter	Total PCBs	1.33	mg/kg WW	0.038	35
CB252	NC4B	4/21/2010	Grab	Total PCBs	0.89	mg/kg WW	0.038	23
CB252	NC4B	6/11/2009	Grab	Total PCBs	0.49	mg/kg WW	0.038	13
CB252	NC4B	4/21/2010	Grab	Zinc	819	mg/kg WW	410	2.0
CB253	NC4B	4/21/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB253	NC4B	4/21/2010	Grab	Cadmium	11.2	mg/kg WW	3.7	3.0
CB253	NC4B	4/21/2010	Grab	Chromium	73.6	mg/kg WW	35.6	2.1
CB253	NC4B	4/21/2010	Grab	Copper	150	mg/kg WW	310	0.48
CB253	NC4B	4/21/2010	Grab	Lead	150	mg/kg WW	40	3.8
CB253	NC4B	4/21/2010	Grab	Mercury	0.08	mg/kg WW	0.41	0.20
CB253	NC4B	4/21/2010	Grab	Total PCBs	0.65	mg/kg WW	0.038	17
CB253	NC4B	6/11/2009	Grab	Total PCBs	0.45	mg/kg WW	0.038	12
CB253	NC4B	4/21/2010	Grab	Zinc	616	mg/kg WW	410	1.5
CB254	NC4B	4/21/2010	Grab	Cadmium	8.6	mg/kg WW	3.7	2.3
CB254	NC4B	4/21/2010	Grab	Chromium	147	mg/kg WW	35.6	4.1
CB254	NC4B	4/21/2010	Grab	Copper	147	mg/kg WW	310	0.47
CB254	NC4B	4/21/2010	Grab	Lead	207	mg/kg WW	40	5.2
CB254	NC4B	4/21/2010	Grab	Mercury	0.09	mg/kg WW	0.41	0.22
CB254	NC4B	4/21/2010	Grab	Total PCBs	1.12	mg/kg WW	0.038	29
CB254	NC4B	4/21/2010	Grab	Zinc	593	mg/kg WW	410	1.4
CB255	NC4B	4/21/2010	Grab	Arsenic	8	mg/kg WW	7.3	1.1
CB255	NC4B	4/21/2010	Grab	Cadmium	7.7	mg/kg WW	3.7	2.1
CB255	NC4B	4/21/2010	Grab	Chromium	68.5	mg/kg WW	35.6	1.9
CB255	NC4B	4/21/2010	Grab	Copper	170	mg/kg WW	310	0.55
CB255	NC4B	4/21/2010	Grab	Lead	146	mg/kg WW	40	3.7
CB255	NC4B	4/21/2010	Grab	Mercury	0.1	mg/kg WW	0.41	0.24
CB255	NC4B	4/21/2010	Grab	Total PCBs	0.71	mg/kg WW	0.038	19
CB255	NC4B	4/21/2010	Grab	Zinc	394	mg/kg WW	410	0.96
CB256	NC4B	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB256	NC4B	4/21/2010	Grab	Cadmium	28.9	mg/kg WW	3.7	7.8
CB256	NC4B	4/21/2010	Grab	Chromium	121	mg/kg WW	35.6	3.4
CB256	NC4B	4/21/2010	Grab	Copper	282	mg/kg WW	310	0.91
CB256	NC4B	4/21/2010	Grab	Lead	167	mg/kg WW	40	4.2
CB256	NC4B	4/21/2010	Grab	Mercury	0.14	mg/kg WW	0.41	0.34
CB256	NC4B	4/21/2010	Grab	Total PCBs	1.25	mg/kg WW	0.038	33
CB256	NC4B	6/11/2009	Grab	Total PCBs	1.01	mg/kg WW	0.038	27
CB256	NC4B	4/21/2010	Grab	Zinc	1140	mg/kg WW	410	2.8
CB257	NC4B	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB257	NC4B	4/21/2010	Grab	Cadmium	24.5	mg/kg WW	3.7	6.6
CB257	NC4B	4/21/2010	Grab	Chromium	129	mg/kg WW	35.6	3.6
CB257	NC4B	4/21/2010	Grab	Copper	216	mg/kg WW	310	0.70
CB257	NC4B	4/21/2010	Grab	Lead	337	mg/kg WW	40	8.4
CB257	NC4B	4/21/2010	Grab	Mercury	0.08	mg/kg WW	0.41	0.20
CB257	NC4B	4/21/2010	Grab	Total PCBs	1.06	mg/kg WW	0.038	28
CB257	NC4B	4/21/2010	Grab	Zinc	993	mg/kg WW	410	2.4
CB364A	NC2	12/16/2010	Inlet Filter	Total PCBs	2.2	mg/kg WW	0.038	58

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB364A	NC2	6/10/2009	Grab	Total PCBs	4.5	mg/kg WW	0.038	120
CB364A	NC2	12/30/2008	Grab	Total PCBs	2.8	mg/kg WW	0.038	74
CB364A	NC2	3/14/2007	Grab	Total PCBs	5.4	mg/kg WW	0.038	140
CB364A	NC2	7/26/2006	Grab	Total PCBs	5.5	mg/kg WW	0.038	140
CB364A	NC2	5/13/2005	Grab	Total PCBs	11	mg/kg WW	0.038	290
CB372	NC4A	4/15/2010	Grab	Cadmium	4.4	mg/kg WW	3.7	1.2
CB372	NC4A	4/15/2010	Grab	Chromium	139	mg/kg WW	35.6	3.9
CB372	NC4A	4/15/2010	Grab	Copper	220	mg/kg WW	310	0.71
CB372	NC4A	4/15/2010	Grab	Lead	201	mg/kg WW	40	5.0
CB372	NC4A	4/15/2010	Grab	Mercury	0.11	mg/kg WW	0.41	0.27
CB372	NC4A	12/16/2010	Inlet Filter	Total PCBs	1.8	mg/kg WW	0.038	47
CB372	NC4A	4/15/2010	Grab	Total PCBs	1.12	mg/kg WW	0.038	29
CB372	NC4A	6/10/2009	Grab	Total PCBs	4.1	mg/kg WW	0.038	110
CB372	NC4A	9/22/2008	Grab	Total PCBs	2.6	mg/kg WW	0.038	68
CB372	NC4A	3/14/2007	Grab	Total PCBs	6.2	mg/kg WW	0.038	160
CB372	NC4A	7/26/2006	Grab	Total PCBs	33	mg/kg WW	0.038	870
CB372	NC4A	4/15/2010	Grab	Zinc	912	mg/kg WW	410	2.2
CB372A	NC4A	4/15/2010	Grab	Cadmium	20.9	mg/kg WW	3.7	5.6
CB372A	NC4A	4/15/2010	Grab	Chromium	167	mg/kg WW	35.6	4.7
CB372A	NC4A	4/15/2010	Grab	Copper	242	mg/kg WW	310	0.78
CB372A	NC4A	4/15/2010	Grab	Lead	238	mg/kg WW	40	6.0
CB372A	NC4A	4/15/2010	Grab	Mercury	0.3	mg/kg WW	0.41	0.73
CB372A	NC4A	4/15/2010	Grab	Total PCBs	4.5	mg/kg WW	0.038	120
CB372A	NC4A	6/10/2009	Grab	Total PCBs	4.9	mg/kg WW	0.038	130
CB372A	NC4A	9/22/2008	Grab	Total PCBs	3.9	mg/kg WW	0.038	100
CB372A	NC4A	3/14/2007	Grab	Total PCBs	33	mg/kg WW	0.038	870
CB372A	NC4A	5/13/2005	Grab	Total PCBs	8.8	mg/kg WW	0.038	230
CB372A	NC4A	4/15/2010	Grab	Zinc	1560	mg/kg WW	410	3.8
CB608	NC5	4/12/2010	Grab	Cadmium	4	mg/kg WW	3.7	1.1
CB608	NC5	4/12/2010	Inlet Filter	Cadmium	1.5	mg/kg WW	3.7	0.41
CB608	NC5	4/12/2010	Grab	Chromium	93	mg/kg WW	35.6	2.6
CB608	NC5	4/12/2010	Inlet Filter	Chromium	65	mg/kg WW	35.6	1.8
CB608	NC5	4/12/2010	Grab	Copper	115	mg/kg WW	310	0.37
CB608	NC5	4/12/2010	Inlet Filter	Copper	63	mg/kg WW	310	0.20
CB608	NC5	4/12/2010	Grab	Lead	155	mg/kg WW	40	3.9
CB608	NC5	4/12/2010	Inlet Filter	Lead	58	mg/kg WW	40	1.5
CB608	NC5	4/12/2010	Grab	Mercury	0.14	mg/kg WW	0.41	0.34
CB608	NC5	4/12/2010	Inlet Filter	Mercury	0.02	mg/kg WW	0.41	0.049
CB608	NC5	4/12/2010	Grab	Total PCBs	0.46	mg/kg WW	0.038	12
CB608	NC5	4/12/2010	Inlet Filter	Total PCBs	0.177	mg/kg WW	0.038	4.7
CB608	NC5	4/12/2010	Grab	Zinc	1110	mg/kg WW	410	2.7
CB608	NC5	4/12/2010	Inlet Filter	Zinc	443	mg/kg WW	410	1.1
D313A	NC6	5/10/2010	Grab	Total PCBs	2	mg/kg WW	0.038	53
MH219	NC1	6/10/2009	Grab	Acenaphthene	0.084	mg/kg WW	0.25	0.34
MH219	NC1	6/10/2009	Grab	Arsenic	22	mg/kg WW	7.3	3.0
MH219	NC1	6/10/2009	Grab	Benzo(a)anthracene	0.23	mg/kg WW	1.3	0.18
MH219	NC1	6/10/2009	Grab	Benzo(a)pyrene	0.3 J	mg/kg WW	0.062	4.8
MH219	NC1	6/10/2009	Grab	Benzo(g,h,i)perylene	0.24 J	mg/kg WW	0.48	0.50
MH219	NC1	6/10/2009	Grab	Benzofluoranthene	0.72	mg/kg WW	3.2	0.23
MH219	NC1	6/10/2009	Grab	Benzoic Acid	3.7 J	mg/kg WW	0.65	5.7
MH219	NC1	6/10/2009	Grab	Bis(2-Ethylhexyl)phthalate	0.39	mg/kg WW	0.73	0.53
MH219	NC1	6/10/2009	Grab	Chrysene	0.51	mg/kg WW	1.4	0.36
MH219	NC1	6/10/2009	Grab	Copper	49.8	mg/kg WW	310	0.16
MH219	NC1	6/10/2009	Grab	Dibenzofuran	0.079	mg/kg WW	0.23	0.34

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH219	NC1	6/10/2009	Grab	Di-n-Octyl phthalate	0.34	mg/kg WW	0.42	0.81
MH219	NC1	6/10/2009	Grab	Fluoranthene	1.2 J	mg/kg WW	1.7	0.71
MH219	NC1	6/10/2009	Grab	Fluorene	0.086	mg/kg WW	0.36	0.24
MH219	NC1	6/10/2009	Grab	Indeno(1,2,3-cd)pyrene	0.22 J	mg/kg WW	0.53	0.42
MH219	NC1	6/10/2009	Grab	Lead	59 J	mg/kg WW	40	1.5
MH219	NC1	6/10/2009	Grab	Mercury	0.09 J	mg/kg WW	0.41	0.22
MH219	NC1	6/10/2009	Grab	Phenanthrene	1.2 J	mg/kg WW	1.5	0.80
MH219	NC1	6/10/2009	Grab	Pyrene	0.93 J	mg/kg WW	2.6	0.36
MH219	NC1	6/10/2009	Grab	Total cPAH	0.43	mg/kg WW	0.062	6.9
MH219	NC1	6/10/2009	Grab	Total HPAHs	4.4	mg/kg WW	12	0.37
MH219	NC1	6/10/2009	Grab	Total LPAHs	1.4	mg/kg WW	5.2	0.27
MH219	NC1	6/10/2009	Grab	Total PCBs	0.5	mg/kg WW	0.038	13
MH219	NC1	6/10/2009	Grab	Zinc	637	mg/kg WW	410	1.6
MH220	NC3	4/14/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
MH220	NC3	4/14/2010	Grab	Cadmium	44.8	mg/kg WW	3.7	12
MH220	NC3	4/14/2010	Grab	Chromium	287	mg/kg WW	35.6	8.1
MH220	NC3	4/14/2010	Grab	Copper	417	mg/kg WW	310	1.3
MH220	NC3	4/14/2010	Grab	Lead	387	mg/kg WW	40	9.7
MH220	NC3	4/14/2010	Grab	Mercury	0.5	mg/kg WW	0.41	1.2
MH220	NC3	4/14/2010	Grab	Total PCBs	34	mg/kg WW	0.038	890
MH220	NC3	6/16/2009	Grab	Total PCBs	15.9	mg/kg WW	0.038	420
MH220	NC3	12/30/2008	Grab	Total PCBs	3.6	mg/kg WW	0.038	95
MH220	NC3	4/14/2010	Grab	Zinc	2140	mg/kg WW	410	5.2
MH221A	NC1	8/11/2005	Sediment Trap	2-Methylnaphthalene	4	mg/kg WW	0.59	6.8
MH221A	NC1	8/11/2005	Sediment Trap	Acenaphthene	1.3	mg/kg WW	0.25	5.2
MH221A	NC1	4/8/2010	Sediment Trap	Anthracene	0.42	mg/kg WW	0.96	0.44
MH221A	NC1	1/8/2007	Sediment Trap	Anthracene	0.5	mg/kg WW	0.96	0.52
MH221A	NC1	8/11/2005	Sediment Trap	Anthracene	1.5	mg/kg WW	0.96	1.6
MH221A	NC1	2/16/2005	Grab	Anthracene	0.071	mg/kg WW	0.96	0.074
MH221A	NC1	4/8/2010	Sediment Trap	Arsenic	30	mg/kg WW	7.3	4.1
MH221A	NC1	3/18/2008	Sediment Trap	Arsenic	18	mg/kg WW	7.3	2.5
MH221A	NC1	10/29/2007	Sediment Trap	Arsenic	50	mg/kg WW	7.3	6.8
MH221A	NC1	1/8/2007	Sediment Trap	Arsenic	10	mg/kg WW	7.3	1.4
MH221A	NC1	10/11/2006	Sediment Trap	Arsenic	70	mg/kg WW	7.3	9.6
MH221A	NC1	3/16/2006	Sediment Trap	Arsenic	20	mg/kg WW	7.3	2.7
MH221A	NC1	2/16/2005	Grab	Arsenic	12	mg/kg WW	7.3	1.6
MH221A	NC1	4/8/2010	Sediment Trap	Benzo(a)anthracene	2.3	mg/kg WW	1.3	1.8
MH221A	NC1	4/6/2009	Sediment Trap	Benzo(a)anthracene	0.7	mg/kg WW	1.3	0.54
MH221A	NC1	12/3/2008	Sediment Trap	Benzo(a)anthracene	0.55	mg/kg WW	1.3	0.42
MH221A	NC1	3/18/2008	Sediment Trap	Benzo(a)anthracene	0.34	mg/kg WW	1.3	0.26
MH221A	NC1	1/8/2007	Sediment Trap	Benzo(a)anthracene	2.3	mg/kg WW	1.3	1.8
MH221A	NC1	3/16/2006	Sediment Trap	Benzo(a)anthracene	1.6	mg/kg WW	1.3	1.2
MH221A	NC1	8/11/2005	Sediment Trap	Benzo(a)anthracene	3	mg/kg WW	1.3	2.3
MH221A	NC1	2/16/2005	Grab	Benzo(a)anthracene	0.28	mg/kg WW	1.3	0.22
MH221A	NC1	4/8/2010	Sediment Trap	Benzo(a)pyrene	4.2	mg/kg WW	0.062	68
MH221A	NC1	4/6/2009	Sediment Trap	Benzo(a)pyrene	1.5	mg/kg WW	0.062	24
MH221A	NC1	12/3/2008	Sediment Trap	Benzo(a)pyrene	0.92	mg/kg WW	0.062	15
MH221A	NC1	7/30/2008	Sediment Trap	Benzo(a)pyrene	0.83	mg/kg WW	0.062	13
MH221A	NC1	3/18/2008	Sediment Trap	Benzo(a)pyrene	0.6	mg/kg WW	0.062	9.7
MH221A	NC1	1/8/2007	Sediment Trap	Benzo(a)pyrene	3.3	mg/kg WW	0.062	53
MH221A	NC1	3/16/2006	Sediment Trap	Benzo(a)pyrene	2	mg/kg WW	0.062	32
MH221A	NC1	8/11/2005	Sediment Trap	Benzo(a)pyrene	3.4	mg/kg WW	0.062	55
MH221A	NC1	2/16/2005	Grab	Benzo(a)pyrene	0.4	mg/kg WW	0.062	6.5
MH221A	NC1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	3	mg/kg WW	0.48	6.3

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH221A	NC1	4/6/2009	Sediment Trap	Benzo(g,h,i)perylene	1.6	mg/kg WW	0.48	3.3
MH221A	NC1	12/3/2008	Sediment Trap	Benzo(g,h,i)perylene	0.81	mg/kg WW	0.48	1.7
MH221A	NC1	7/30/2008	Sediment Trap	Benzo(g,h,i)perylene	0.96	mg/kg WW	0.48	2.0
MH221A	NC1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	0.47	mg/kg WW	0.48	0.98
MH221A	NC1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	0.99	mg/kg WW	0.48	2.1
MH221A	NC1	8/11/2005	Sediment Trap	Benzo(g,h,i)perylene	1.6	mg/kg WW	0.48	3.3
MH221A	NC1	2/16/2005	Grab	Benzo(g,h,i)perylene	0.23	mg/kg WW	0.48	0.48
MH221A	NC1	4/8/2010	Sediment Trap	Benzofluoranthene	9.8	mg/kg WW	3.2	3.1
MH221A	NC1	4/6/2009	Sediment Trap	Benzofluoranthene	4.4	mg/kg WW	3.2	1.4
MH221A	NC1	12/3/2008	Sediment Trap	Benzofluoranthene	2.7	mg/kg WW	3.2	0.84
MH221A	NC1	7/30/2008	Sediment Trap	Benzofluoranthene	2.3	mg/kg WW	3.2	0.72
MH221A	NC1	3/18/2008	Sediment Trap	Benzofluoranthene	1.6	mg/kg WW	3.2	0.50
MH221A	NC1	1/8/2007	Sediment Trap	Benzofluoranthene	9.6	mg/kg WW	3.2	3.0
MH221A	NC1	3/16/2006	Sediment Trap	Benzofluoranthene	5	mg/kg WW	3.2	1.6
MH221A	NC1	8/11/2005	Sediment Trap	Benzofluoranthene	7.2	mg/kg WW	3.2	2.3
MH221A	NC1	2/16/2005	Grab	Benzofluoranthene	1.11	mg/kg WW	3.2	0.35
MH221A	NC1	4/6/2009	Sediment Trap	Benzoic Acid	3.4 J	mg/kg WW	0.65	5.2
MH221A	NC1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	18	mg/kg WW	0.73	25
MH221A	NC1	4/6/2009	Sediment Trap	Bis(2-Ethylhexyl)phthalate	19	mg/kg WW	0.73	26
MH221A	NC1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	5.5	mg/kg WW	0.73	7.5
MH221A	NC1	7/30/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.8	mg/kg WW	0.73	3.8
MH221A	NC1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.3	mg/kg WW	0.73	3.2
MH221A	NC1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	9	mg/kg WW	0.73	12
MH221A	NC1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	7.4	mg/kg WW	0.73	10
MH221A	NC1	8/11/2005	Sediment Trap	Bis(2-Ethylhexyl)phthalate	6	mg/kg WW	0.73	8.2
MH221A	NC1	2/16/2005	Grab	Bis(2-Ethylhexyl)phthalate	0.76	mg/kg WW	0.73	1.0
MH221A	NC1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.32 J	mg/kg WW	0.063	5.1
MH221A	NC1	1/8/2007	Sediment Trap	Butyl benzyl phthalate	0.44	mg/kg WW	0.063	7.0
MH221A	NC1	4/8/2010	Sediment Trap	Chrysene	6.2	mg/kg WW	1.4	4.4
MH221A	NC1	4/6/2009	Sediment Trap	Chrysene	2.6	mg/kg WW	1.4	1.9
MH221A	NC1	12/3/2008	Sediment Trap	Chrysene	1.8	mg/kg WW	1.4	1.3
MH221A	NC1	7/30/2008	Sediment Trap	Chrysene	1.1	mg/kg WW	1.4	0.79
MH221A	NC1	3/18/2008	Sediment Trap	Chrysene	0.77	mg/kg WW	1.4	0.55
MH221A	NC1	1/8/2007	Sediment Trap	Chrysene	4.4	mg/kg WW	1.4	3.1
MH221A	NC1	3/16/2006	Sediment Trap	Chrysene	3.1	mg/kg WW	1.4	2.2
MH221A	NC1	8/11/2005	Sediment Trap	Chrysene	4.1	mg/kg WW	1.4	2.9
MH221A	NC1	2/16/2005	Grab	Chrysene	0.49	mg/kg WW	1.4	0.35
MH221A	NC1	4/8/2010	Sediment Trap	Copper	334	mg/kg WW	310	1.1
MH221A	NC1	4/6/2009	Sediment Trap	Copper	61.4	mg/kg WW	310	0.20
MH221A	NC1	3/18/2008	Sediment Trap	Copper	85.8	mg/kg WW	310	0.28
MH221A	NC1	10/29/2007	Sediment Trap	Copper	329	mg/kg WW	310	1.1
MH221A	NC1	1/8/2007	Sediment Trap	Copper	125	mg/kg WW	310	0.40
MH221A	NC1	10/11/2006	Sediment Trap	Copper	271	mg/kg WW	310	0.87
MH221A	NC1	3/16/2006	Sediment Trap	Copper	134	mg/kg WW	310	0.43
MH221A	NC1	2/16/2005	Grab	Copper	38.5	mg/kg WW	310	0.12
MH221A	NC1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	1	mg/kg WW	0.19	5.3
MH221A	NC1	4/6/2009	Sediment Trap	Dibenzo(a,h)anthracene	0.41	mg/kg WW	0.19	2.2
MH221A	NC1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.2	mg/kg WW	0.19	1.1
MH221A	NC1	8/11/2005	Sediment Trap	Dibenzo(a,h)anthracene	0.73	mg/kg WW	0.19	3.8
MH221A	NC1	8/11/2005	Sediment Trap	Dibenzofuran	0.74	mg/kg WW	0.23	3.2
MH221A	NC1	4/8/2010	Sediment Trap	Dibutyl phthalate	0.89	mg/kg WW	1.4	0.64
MH221A	NC1	1/8/2007	Sediment Trap	Dibutyl phthalate	0.34	mg/kg WW	1.4	0.24
MH221A	NC1	8/11/2005	Sediment Trap	Dibutyl phthalate	0.26	mg/kg WW	1.4	0.19
MH221A	NC1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	22	mg/kg WW	0.42	52

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH221A	NC1	4/6/2009	Sediment Trap	Di-n-Octyl phthalate	22	mg/kg WW	0.42	52
MH221A	NC1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	3.6	mg/kg WW	0.42	8.6
MH221A	NC1	7/30/2008	Sediment Trap	Di-n-Octyl phthalate	3.3	mg/kg WW	0.42	7.9
MH221A	NC1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	2.4	mg/kg WW	0.42	5.7
MH221A	NC1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	11	mg/kg WW	0.42	26
MH221A	NC1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	6.9	mg/kg WW	0.42	16
MH221A	NC1	8/11/2005	Sediment Trap	Di-n-Octyl phthalate	3.7	mg/kg WW	0.42	8.8
MH221A	NC1	2/16/2005	Grab	Di-n-Octyl phthalate	0.12	mg/kg WW	0.42	0.29
MH221A	NC1	4/8/2010	Sediment Trap	Fluoranthene	11	mg/kg WW	1.7	6.5
MH221A	NC1	4/6/2009	Sediment Trap	Fluoranthene	4.2	mg/kg WW	1.7	2.5
MH221A	NC1	12/3/2008	Sediment Trap	Fluoranthene	3.8	mg/kg WW	1.7	2.2
MH221A	NC1	7/30/2008	Sediment Trap	Fluoranthene	1.9	mg/kg WW	1.7	1.1
MH221A	NC1	3/18/2008	Sediment Trap	Fluoranthene	1.3	mg/kg WW	1.7	0.76
MH221A	NC1	1/8/2007	Sediment Trap	Fluoranthene	8.7	mg/kg WW	1.7	5.1
MH221A	NC1	3/16/2006	Sediment Trap	Fluoranthene	6.1	mg/kg WW	1.7	3.6
MH221A	NC1	8/11/2005	Sediment Trap	Fluoranthene	8.9	mg/kg WW	1.7	5.2
MH221A	NC1	2/16/2005	Grab	Fluoranthene	0.92	mg/kg WW	1.7	0.54
MH221A	NC1	4/8/2010	Sediment Trap	Fluorene	0.24 J	mg/kg WW	0.36	0.67
MH221A	NC1	1/8/2007	Sediment Trap	Fluorene	0.34	mg/kg WW	0.36	0.94
MH221A	NC1	8/11/2005	Sediment Trap	Fluorene	1	mg/kg WW	0.36	2.8
MH221A	NC1	2/16/2005	Grab	Fluorene	0.073	mg/kg WW	0.36	0.20
MH221A	NC1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.8	mg/kg WW	0.53	5.3
MH221A	NC1	4/6/2009	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg WW	0.53	2.6
MH221A	NC1	12/3/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.73	mg/kg WW	0.53	1.4
MH221A	NC1	7/30/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.83	mg/kg WW	0.53	1.6
MH221A	NC1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.45	mg/kg WW	0.53	0.85
MH221A	NC1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg WW	0.53	2.6
MH221A	NC1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	1	mg/kg WW	0.53	1.9
MH221A	NC1	8/11/2005	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.9	mg/kg WW	0.53	3.6
MH221A	NC1	2/16/2005	Grab	Indeno(1,2,3-cd)pyrene	0.26	mg/kg WW	0.53	0.49
MH221A	NC1	4/8/2010	Sediment Trap	Lead	382	mg/kg WW	40	9.6
MH221A	NC1	4/6/2009	Sediment Trap	Lead	83	mg/kg WW	40	2.1
MH221A	NC1	3/18/2008	Sediment Trap	Lead	115	mg/kg WW	40	2.9
MH221A	NC1	10/29/2007	Sediment Trap	Lead	288	mg/kg WW	40	7.2
MH221A	NC1	1/8/2007	Sediment Trap	Lead	175	mg/kg WW	40	4.4
MH221A	NC1	10/11/2006	Sediment Trap	Lead	330	mg/kg WW	40	8.3
MH221A	NC1	3/16/2006	Sediment Trap	Lead	190	mg/kg WW	40	4.8
MH221A	NC1	2/16/2005	Grab	Lead	50	mg/kg WW	40	1.3
MH221A	NC1	4/8/2010	Sediment Trap	Mercury	0.37	mg/kg WW	0.41	0.90
MH221A	NC1	4/6/2009	Sediment Trap	Mercury	0.11	mg/kg WW	0.41	0.27
MH221A	NC1	3/18/2008	Sediment Trap	Mercury	0.021	mg/kg WW	0.41	0.051
MH221A	NC1	10/29/2007	Sediment Trap	Mercury	0.5	mg/kg WW	0.41	1.2
MH221A	NC1	1/8/2007	Sediment Trap	Mercury	0.4	mg/kg WW	0.41	0.98
MH221A	NC1	10/11/2006	Sediment Trap	Mercury	0.6	mg/kg WW	0.41	1.5
MH221A	NC1	3/16/2006	Sediment Trap	Mercury	0.4	mg/kg WW	0.41	0.98
MH221A	NC1	2/16/2005	Grab	Mercury	0.09	mg/kg WW	0.41	0.22
MH221A	NC1	4/8/2010	Sediment Trap	Phenanthrene	4.3	mg/kg WW	1.5	2.9
MH221A	NC1	4/6/2009	Sediment Trap	Phenanthrene	1.8	mg/kg WW	1.5	1.2
MH221A	NC1	12/3/2008	Sediment Trap	Phenanthrene	2.8	mg/kg WW	1.5	1.9
MH221A	NC1	7/30/2008	Sediment Trap	Phenanthrene	0.82	mg/kg WW	1.5	0.55
MH221A	NC1	3/18/2008	Sediment Trap	Phenanthrene	0.56	mg/kg WW	1.5	0.37
MH221A	NC1	1/8/2007	Sediment Trap	Phenanthrene	4.1	mg/kg WW	1.5	2.7
MH221A	NC1	3/16/2006	Sediment Trap	Phenanthrene	2.8	mg/kg WW	1.5	1.9
MH221A	NC1	8/11/2005	Sediment Trap	Phenanthrene	8.6	mg/kg WW	1.5	5.7

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH221A	NC1	2/16/2005	Grab	Phenanthrene	0.3	mg/kg WW	1.5	0.20
MH221A	NC1	4/8/2010	Sediment Trap	Pyrene	5.2	mg/kg WW	2.6	2.0
MH221A	NC1	4/6/2009	Sediment Trap	Pyrene	2.6	mg/kg WW	2.6	1.0
MH221A	NC1	12/3/2008	Sediment Trap	Pyrene	2.5	mg/kg WW	2.6	0.96
MH221A	NC1	7/30/2008	Sediment Trap	Pyrene	1.4	mg/kg WW	2.6	0.54
MH221A	NC1	3/18/2008	Sediment Trap	Pyrene	0.086	mg/kg WW	2.6	0.033
MH221A	NC1	1/8/2007	Sediment Trap	Pyrene	5.6	mg/kg WW	2.6	2.2
MH221A	NC1	3/16/2006	Sediment Trap	Pyrene	3.5	mg/kg WW	2.6	1.3
MH221A	NC1	8/11/2005	Sediment Trap	Pyrene	6.8	mg/kg WW	2.6	2.6
MH221A	NC1	2/16/2005	Grab	Pyrene	0.87	mg/kg WW	2.6	0.33
MH221A	NC1	4/8/2010	Sediment Trap	Total cPAH	5.852	mg/kg WW	0.062	94
MH221A	NC1	4/6/2009	Sediment Trap	Total cPAH	2.217	mg/kg WW	0.062	36
MH221A	NC1	12/3/2008	Sediment Trap	Total cPAH	1.349	mg/kg WW	0.062	22
MH221A	NC1	7/30/2008	Sediment Trap	Total cPAH	1.202	mg/kg WW	0.062	19
MH221A	NC1	3/18/2008	Sediment Trap	Total cPAH	0.8637	mg/kg WW	0.062	14
MH221A	NC1	1/8/2007	Sediment Trap	Total cPAH	4.688	mg/kg WW	0.062	76
MH221A	NC1	3/16/2006	Sediment Trap	Total cPAH	2.8185	mg/kg WW	0.062	45
MH221A	NC1	8/11/2005	Sediment Trap	Total cPAH	4.724	mg/kg WW	0.062	76
MH221A	NC1	2/16/2005	Grab	Total cPAH	0.5728	mg/kg WW	0.062	9.2
MH221A	NC1	4/8/2010	Sediment Trap	Total HPAHs	46	mg/kg WW	12	3.8
MH221A	NC1	4/6/2009	Sediment Trap	Total HPAHs	19.4	mg/kg WW	12	1.6
MH221A	NC1	12/3/2008	Sediment Trap	Total HPAHs	13.8	mg/kg WW	12	1.2
MH221A	NC1	7/30/2008	Sediment Trap	Total HPAHs	9.3	mg/kg WW	12	0.78
MH221A	NC1	3/18/2008	Sediment Trap	Total HPAHs	5.8	mg/kg WW	12	0.48
MH221A	NC1	1/8/2007	Sediment Trap	Total HPAHs	35.3	mg/kg WW	12	2.9
MH221A	NC1	3/16/2006	Sediment Trap	Total HPAHs	23.3	mg/kg WW	12	1.9
MH221A	NC1	3/15/2006	Sediment Trap	Total HPAHs	23.29	mg/kg WW	12	1.9
MH221A	NC1	8/11/2005	Sediment Trap	Total HPAHs	37.6	mg/kg WW	12	3.1
MH221A	NC1	2/16/2005	Grab	Total HPAHs	4.56	mg/kg WW	12	0.38
MH221A	NC1	4/8/2010	Sediment Trap	Total LPAHs	5	mg/kg WW	5.2	0.96
MH221A	NC1	4/6/2009	Sediment Trap	Total LPAHs	1.8	mg/kg WW	5.2	0.35
MH221A	NC1	12/3/2008	Sediment Trap	Total LPAHs	2.8	mg/kg WW	5.2	0.54
MH221A	NC1	7/30/2008	Sediment Trap	Total LPAHs	0.82	mg/kg WW	5.2	0.16
MH221A	NC1	3/18/2008	Sediment Trap	Total LPAHs	0.56	mg/kg WW	5.2	0.11
MH221A	NC1	1/8/2007	Sediment Trap	Total LPAHs	4.9	mg/kg WW	5.2	0.94
MH221A	NC1	3/16/2006	Sediment Trap	Total LPAHs	2.8	mg/kg WW	5.2	0.54
MH221A	NC1	3/15/2006	Sediment Trap	Total LPAHs	2.8	mg/kg WW	5.2	0.54
MH221A	NC1	8/11/2005	Sediment Trap	Total LPAHs	13.1	mg/kg WW	5.2	2.5
MH221A	NC1	2/16/2005	Grab	Total LPAHs	0.44	mg/kg WW	5.2	0.085
MH221A	NC1	4/5/2011	Sediment Trap	Total PCBs	0.77	mg/kg WW	0.038	20
MH221A	NC1	4/8/2010	Sediment Trap	Total PCBs	1.07	mg/kg WW	0.038	28
MH221A	NC1	4/6/2009	Sediment Trap	Total PCBs	0.34	mg/kg WW	0.038	8.9
MH221A	NC1	12/3/2008	Sediment Trap	Total PCBs	0.24	mg/kg WW	0.038	6.3
MH221A	NC1	7/30/2008	Sediment Trap	Total PCBs	0.78	mg/kg WW	0.038	21
MH221A	NC1	3/18/2008	Sediment Trap	Total PCBs	0.44	mg/kg WW	0.038	12
MH221A	NC1	10/29/2007	Sediment Trap	Total PCBs	1.9	mg/kg WW	0.038	50
MH221A	NC1	5/17/2007	Sediment Trap	Total PCBs	1.59	mg/kg WW	0.038	42
MH221A	NC1	5/14/2007	Sediment Trap	Total PCBs	1.59	mg/kg WW	0.038	42
MH221A	NC1	1/8/2007	Sediment Trap	Total PCBs	1.7	mg/kg WW	0.038	45
MH221A	NC1	10/11/2006	Sediment Trap	Total PCBs	0.94	mg/kg WW	0.038	25
MH221A	NC1	3/16/2006	Sediment Trap	Total PCBs	1.09	mg/kg WW	0.038	29
MH221A	NC1	8/11/2005	Sediment Trap	Total PCBs	2.8	mg/kg WW	0.038	74
MH221A	NC1	2/16/2005	Grab	Total PCBs	1.49	mg/kg WW	0.038	39
MH221A	NC1	4/8/2010	Sediment Trap	Zinc	1880	mg/kg WW	410	4.6

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH221A	NC1	4/6/2009	Sediment Trap	Zinc	317	mg/kg WW	410	0.77
MH221A	NC1	3/18/2008	Sediment Trap	Zinc	1080	mg/kg WW	410	2.6
MH221A	NC1	10/29/2007	Sediment Trap	Zinc	1990	mg/kg WW	410	4.9
MH221A	NC1	1/8/2007	Sediment Trap	Zinc	828	mg/kg WW	410	2.0
MH221A	NC1	10/11/2006	Sediment Trap	Zinc	2460	mg/kg WW	410	6.0
MH221A	NC1	3/16/2006	Sediment Trap	Zinc	733	mg/kg WW	410	1.8
MH221A	NC1	2/16/2005	Grab	Zinc	332	mg/kg WW	410	0.81
MH226	NC1	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.078	mg/kg WW	0.59	0.13
MH226	NC1	4/27/2010	Filter/Stormwater	Acenaphthene	0.044	mg/kg WW	0.25	0.18
MH226	NC1	6/2/2010	Filter/Stormwater	Anthracene	0.25	mg/kg WW	0.96	0.26
MH226	NC1	4/27/2010	Filter/Stormwater	Anthracene	0.14	mg/kg WW	0.96	0.15
MH226	NC1	6/2/2010	Filter/Stormwater	Arsenic	60	mg/kg WW	7.3	8.2
MH226	NC1	5/20/2010	Filter/Stormwater	Arsenic	40	mg/kg WW	7.3	5.5
MH226	NC1	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	1.6	mg/kg WW	1.3	1.2
MH226	NC1	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.53	mg/kg WW	1.3	0.41
MH226	NC1	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	3.7	mg/kg WW	0.062	60
MH226	NC1	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.87	mg/kg WW	0.062	14
MH226	NC1	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	4.9	mg/kg WW	0.48	10.2
MH226	NC1	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.5	mg/kg WW	0.48	3.1
MH226	NC1	6/2/2010	Filter/Stormwater	Benzofluoranthene	12.4	mg/kg WW	3.2	3.9
MH226	NC1	4/27/2010	Filter/Stormwater	Benzofluoranthene	2.8	mg/kg WW	3.2	0.88
MH226	NC1	6/2/2010	Filter/Stormwater	Cadmium	22	mg/kg WW	3.7	5.9
MH226	NC1	5/20/2010	Filter/Stormwater	Cadmium	13	mg/kg WW	3.7	3.5
MH226	NC1	4/27/2010	Filter/Stormwater	Cadmium	10	mg/kg WW	3.7	2.7
MH226	NC1	6/2/2010	Filter/Stormwater	Chromium	132	mg/kg WW	35.6	3.7
MH226	NC1	5/20/2010	Filter/Stormwater	Chromium	97	mg/kg WW	35.6	2.7
MH226	NC1	4/27/2010	Filter/Stormwater	Chromium	56 J	mg/kg WW	35.6	1.6
MH226	NC1	6/2/2010	Filter/Stormwater	Chrysene	7.9	mg/kg WW	1.4	5.6
MH226	NC1	4/27/2010	Filter/Stormwater	Chrysene	4	mg/kg WW	1.4	2.9
MH226	NC1	6/2/2010	Filter/Stormwater	Copper	469	mg/kg WW	310	1.5
MH226	NC1	5/20/2010	Filter/Stormwater	Copper	291 J	mg/kg WW	310	0.94
MH226	NC1	4/27/2010	Filter/Stormwater	Copper	211	mg/kg WW	310	0.68
MH226	NC1	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	1.3	mg/kg WW	0.19	6.8
MH226	NC1	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.43	mg/kg WW	0.19	2.3
MH226	NC1	6/2/2010	Filter/Stormwater	Dibenzofuran	0.36	mg/kg WW	0.23	1.6
MH226	NC1	4/27/2010	Filter/Stormwater	Dibenzofuran	0.17	mg/kg WW	0.23	0.74
MH226	NC1	6/2/2010	Filter/Stormwater	Fluoranthene	12	mg/kg WW	1.7	7.1
MH226	NC1	4/27/2010	Filter/Stormwater	Fluoranthene	7.8	mg/kg WW	1.7	4.6
MH226	NC1	4/27/2010	Filter/Stormwater	Fluorene	0.11	mg/kg WW	0.36	0.31
MH226	NC1	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	4.4	mg/kg WW	0.53	8.3
MH226	NC1	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.4	mg/kg WW	0.53	2.6
MH226	NC1	6/2/2010	Filter/Stormwater	Lead	300	mg/kg WW	40	7.5
MH226	NC1	5/20/2010	Filter/Stormwater	Lead	308	mg/kg WW	40	7.7
MH226	NC1	4/27/2010	Filter/Stormwater	Lead	200	mg/kg WW	40	5.0
MH226	NC1	6/2/2010	Filter/Stormwater	Mercury	0.3 J	mg/kg WW	0.41	0.73
MH226	NC1	5/20/2010	Filter/Stormwater	Mercury	0.3 J	mg/kg WW	0.41	0.73
MH226	NC1	4/27/2010	Filter/Stormwater	Mercury	0.4 J	mg/kg WW	0.41	0.98
MH226	NC1	6/2/2010	Filter/Stormwater	Phenanthrene	5	mg/kg WW	1.5	3.3
MH226	NC1	4/27/2010	Filter/Stormwater	Phenanthrene	2.9	mg/kg WW	1.5	1.9
MH226	NC1	6/2/2010	Filter/Stormwater	Pyrene	6.6	mg/kg WW	2.6	2.5
MH226	NC1	4/27/2010	Filter/Stormwater	Pyrene	2.9	mg/kg WW	2.6	1.1
MH226	NC1	6/2/2010	Filter/Stormwater	Total cPAH	5.749	mg/kg WW	0.062	93
MH226	NC1	4/27/2010	Filter/Stormwater	Total cPAH	1.426	mg/kg WW	0.062	23
MH226	NC1	5/20/2010	Filter/Stormwater	Total Dioxins/Furans	44.6722	mg/kg WW	3.9	11

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH226	NC1	6/2/2010	Filter/Stormwater	Total HPAHs	55	mg/kg WW	12	4.6
MH226	NC1	4/27/2010	Filter/Stormwater	Total HPAHs	22.2	mg/kg WW	12	1.9
MH226	NC1	6/2/2010	Filter/Stormwater	Total LPAHs	5.3	mg/kg WW	5.2	1.0
MH226	NC1	4/27/2010	Filter/Stormwater	Total LPAHs	3.3	mg/kg WW	5.2	0.63
MH226	NC1	6/2/2010	Filter/Stormwater	Total PCBs	0.5	mg/kg WW	0.038	13
MH226	NC1	5/20/2010	Filter/Stormwater	Total PCBs	0.54	mg/kg WW	0.038	14
MH226	NC1	4/27/2010	Filter/Stormwater	Total PCBs	0.34	mg/kg WW	0.038	8.9
MH226	NC1	3/14/2007	Grab	Total PCBs	50	mg/kg WW	0.038	1300
MH226	NC1	7/25/2006	Grab	Total PCBs	25	mg/kg WW	0.038	660
MH226	NC1	6/2/2010	Filter/Stormwater	Zinc	2540	mg/kg WW	410	6.2
MH226	NC1	5/20/2010	Filter/Stormwater	Zinc	1710	mg/kg WW	410	4.2
MH226	NC1	4/27/2010	Filter/Stormwater	Zinc	1170 J	mg/kg WW	410	2.9
MH228	NC1	4/10/2007	Grab	Total PCBs	1.9	mg/kg WW	0.038	50
MH228C	NC1	6/10/2009	Grab	Total PCBs	0.105	mg/kg WW	0.038	2.8
MH228C	NC1	4/10/2007	Grab	Total PCBs	20	mg/kg WW	0.038	530
MH228D	NC6	6/10/2009	Grab	Total PCBs	7.3	mg/kg WW	0.038	190
MH228D	NC6	4/10/2007	Grab	Total PCBs	20	mg/kg WW	0.038	530
MH247	NC4	3/14/2007	Grab	Total PCBs	30	mg/kg WW	0.038	790
MH249	NC4	3/14/2007	Grab	Total PCBs	4	mg/kg WW	0.038	110
MH249	NC4	7/26/2006	Grab	Total PCBs	11.2	mg/kg WW	0.038	290
MH249	NC4	5/13/2005	Grab	Total PCBs	11.6	mg/kg WW	0.038	310
MH422	NC1	1/8/2007	Sediment Trap	2,4-Dimethylphenol	0.21	mg/kg WW	0.029	7.2
MH422	NC1	8/11/2005	Sediment Trap	2-Methylnaphthalene	0.12	mg/kg WW	0.59	0.20
MH422	NC1	4/8/2010	Sediment Trap	Acenaphthene	0.2 J	mg/kg WW	0.25	0.80
MH422	NC1	3/18/2008	Sediment Trap	Acenaphthene	0.37	mg/kg WW	0.25	1.5
MH422	NC1	1/8/2007	Sediment Trap	Acenaphthene	0.09	mg/kg WW	0.25	0.36
MH422	NC1	8/11/2005	Sediment Trap	Acenaphthene	0.21	mg/kg WW	0.25	0.84
MH422	NC1	4/8/2010	Sediment Trap	Anthracene	0.56	mg/kg WW	0.96	0.58
MH422	NC1	12/3/2008	Sediment Trap	Anthracene	0.085	mg/kg WW	0.96	0.089
MH422	NC1	3/18/2008	Sediment Trap	Anthracene	0.51	mg/kg WW	0.96	0.53
MH422	NC1	10/29/2007	Sediment Trap	Anthracene	0.12 J	mg/kg WW	0.96	0.13
MH422	NC1	1/8/2007	Sediment Trap	Anthracene	0.22	mg/kg WW	0.96	0.23
MH422	NC1	10/11/2006	Sediment Trap	Anthracene	0.29	mg/kg WW	0.96	0.30
MH422	NC1	3/16/2006	Sediment Trap	Anthracene	0.38	mg/kg WW	0.96	0.40
MH422	NC1	8/11/2005	Sediment Trap	Anthracene	0.36	mg/kg WW	0.96	0.38
MH422	NC1	4/8/2010	Sediment Trap	Arsenic	15	mg/kg WW	7.3	2.1
MH422	NC1	7/30/2008	Sediment Trap	Arsenic	10	mg/kg WW	7.3	1.4
MH422	NC1	3/18/2008	Sediment Trap	Arsenic	19	mg/kg WW	7.3	2.6
MH422	NC1	10/29/2007	Sediment Trap	Arsenic	6	mg/kg WW	7.3	0.82
MH422	NC1	5/14/2007	Sediment Trap	Arsenic	20	mg/kg WW	7.3	2.7
MH422	NC1	1/8/2007	Sediment Trap	Arsenic	9	mg/kg WW	7.3	1.2
MH422	NC1	10/11/2006	Sediment Trap	Arsenic	30	mg/kg WW	7.3	4.1
MH422	NC1	3/16/2006	Sediment Trap	Arsenic	10	mg/kg WW	7.3	1.4
MH422	NC1	8/11/2005	Sediment Trap	Arsenic	11	mg/kg WW	7.3	1.5
MH422	NC1	4/8/2010	Sediment Trap	Benzo(a)anthracene	3.1	mg/kg WW	1.3	2.4
MH422	NC1	4/6/2009	Sediment Trap	Benzo(a)anthracene	0.82	mg/kg WW	1.3	0.63
MH422	NC1	12/3/2008	Sediment Trap	Benzo(a)anthracene	0.54	mg/kg WW	1.3	0.42
MH422	NC1	7/30/2008	Sediment Trap	Benzo(a)anthracene	0.86	mg/kg WW	1.3	0.66
MH422	NC1	3/18/2008	Sediment Trap	Benzo(a)anthracene	1.6	mg/kg WW	1.3	1.2
MH422	NC1	10/29/2007	Sediment Trap	Benzo(a)anthracene	0.57 J	mg/kg WW	1.3	0.44
MH422	NC1	5/14/2007	Sediment Trap	Benzo(a)anthracene	1.9	mg/kg WW	1.3	1.5
MH422	NC1	1/8/2007	Sediment Trap	Benzo(a)anthracene	1.1	mg/kg WW	1.3	0.85
MH422	NC1	10/11/2006	Sediment Trap	Benzo(a)anthracene	1.6	mg/kg WW	1.3	1.2
MH422	NC1	3/16/2006	Sediment Trap	Benzo(a)anthracene	1.8	mg/kg WW	1.3	1.4

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH422	NC1	8/11/2005	Sediment Trap	Benzo(a)anthracene	1.4	mg/kg WW	1.3	1.1
MH422	NC1	4/8/2010	Sediment Trap	Benzo(a)pyrene	4.6	mg/kg WW	0.062	74
MH422	NC1	4/6/2009	Sediment Trap	Benzo(a)pyrene	1.3	mg/kg WW	0.062	21
MH422	NC1	12/3/2008	Sediment Trap	Benzo(a)pyrene	0.76	mg/kg WW	0.062	12
MH422	NC1	7/30/2008	Sediment Trap	Benzo(a)pyrene	1.1	mg/kg WW	0.062	18
MH422	NC1	3/18/2008	Sediment Trap	Benzo(a)pyrene	1.9	mg/kg WW	0.062	31
MH422	NC1	10/29/2007	Sediment Trap	Benzo(a)pyrene	0.83 J	mg/kg WW	0.062	13
MH422	NC1	5/14/2007	Sediment Trap	Benzo(a)pyrene	2.6	mg/kg WW	0.062	42
MH422	NC1	1/8/2007	Sediment Trap	Benzo(a)pyrene	1.4	mg/kg WW	0.062	23
MH422	NC1	10/11/2006	Sediment Trap	Benzo(a)pyrene	2.8	mg/kg WW	0.062	45
MH422	NC1	3/16/2006	Sediment Trap	Benzo(a)pyrene	2	mg/kg WW	0.062	32
MH422	NC1	8/11/2005	Sediment Trap	Benzo(a)pyrene	1.7	mg/kg WW	0.062	27
MH422	NC1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	3.6	mg/kg WW	0.48	7.5
MH422	NC1	4/6/2009	Sediment Trap	Benzo(g,h,i)perylene	1.2	mg/kg WW	0.48	2.5
MH422	NC1	12/3/2008	Sediment Trap	Benzo(g,h,i)perylene	0.6	mg/kg WW	0.48	1.3
MH422	NC1	7/30/2008	Sediment Trap	Benzo(g,h,i)perylene	1.1	mg/kg WW	0.48	2.3
MH422	NC1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	1.3	mg/kg WW	0.48	2.7
MH422	NC1	10/29/2007	Sediment Trap	Benzo(g,h,i)perylene	0.12 J	mg/kg WW	0.48	0.25
MH422	NC1	5/14/2007	Sediment Trap	Benzo(g,h,i)perylene	1.3	mg/kg WW	0.48	2.7
MH422	NC1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	0.89	mg/kg WW	0.48	1.9
MH422	NC1	8/11/2005	Sediment Trap	Benzo(g,h,i)perylene	0.72	mg/kg WW	0.48	1.5
MH422	NC1	4/8/2010	Sediment Trap	Benzofluoranthene	8.6	mg/kg WW	3.2	2.7
MH422	NC1	4/6/2009	Sediment Trap	Benzofluoranthene	2.9	mg/kg WW	3.2	0.91
MH422	NC1	12/3/2008	Sediment Trap	Benzofluoranthene	1.76	mg/kg WW	3.2	0.55
MH422	NC1	7/30/2008	Sediment Trap	Benzofluoranthene	2.7	mg/kg WW	3.2	0.84
MH422	NC1	3/18/2008	Sediment Trap	Benzofluoranthene	4.3	mg/kg WW	3.2	1.3
MH422	NC1	10/29/2007	Sediment Trap	Benzofluoranthene	2.7	mg/kg WW	3.2	0.84
MH422	NC1	5/14/2007	Sediment Trap	Benzofluoranthene	7	mg/kg WW	3.2	2.2
MH422	NC1	1/8/2007	Sediment Trap	Benzofluoranthene	3.3	mg/kg WW	3.2	1.0
MH422	NC1	10/11/2006	Sediment Trap	Benzofluoranthene	7.3	mg/kg WW	3.2	2.3
MH422	NC1	3/16/2006	Sediment Trap	Benzofluoranthene	4.7	mg/kg WW	3.2	1.5
MH422	NC1	8/11/2005	Sediment Trap	Benzofluoranthene	3.7	mg/kg WW	3.2	1.2
MH422	NC1	12/3/2008	Sediment Trap	Benzoic Acid	2.6	mg/kg WW	0.65	4.0
MH422	NC1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	7.4	mg/kg WW	0.73	10
MH422	NC1	4/6/2009	Sediment Trap	Bis(2-Ethylhexyl)phthalate	7.3	mg/kg WW	0.73	10
MH422	NC1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.3	mg/kg WW	0.73	3.2
MH422	NC1	7/30/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.7	mg/kg WW	0.73	2.3
MH422	NC1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.2	mg/kg WW	0.73	3.0
MH422	NC1	10/29/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.9 J	mg/kg WW	0.73	4.0
MH422	NC1	5/14/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	9.8	mg/kg WW	0.73	13
MH422	NC1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.2	mg/kg WW	0.73	1.6
MH422	NC1	10/11/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	10	mg/kg WW	0.73	14
MH422	NC1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.6	mg/kg WW	0.73	3.6
MH422	NC1	8/11/2005	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.4	mg/kg WW	0.73	3.3
MH422	NC1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.33	mg/kg WW	0.063	5.2
MH422	NC1	4/6/2009	Sediment Trap	Butyl benzyl phthalate	0.24 J	mg/kg WW	0.063	3.8
MH422	NC1	12/3/2008	Sediment Trap	Butyl benzyl phthalate	0.1	mg/kg WW	0.063	1.6
MH422	NC1	7/30/2008	Sediment Trap	Butyl benzyl phthalate	0.48	mg/kg WW	0.063	7.6
MH422	NC1	10/29/2007	Sediment Trap	Butyl benzyl phthalate	0.39 J	mg/kg WW	0.063	6.2
MH422	NC1	10/11/2006	Sediment Trap	Butyl benzyl phthalate	1.2	mg/kg WW	0.063	19
MH422	NC1	8/11/2005	Sediment Trap	Butyl benzyl phthalate	0.12	mg/kg WW	0.063	1.9
MH422	NC1	4/8/2010	Sediment Trap	Chrysene	5.1	mg/kg WW	1.4	3.6
MH422	NC1	4/6/2009	Sediment Trap	Chrysene	1.5	mg/kg WW	1.4	1.1
MH422	NC1	12/3/2008	Sediment Trap	Chrysene	0.97	mg/kg WW	1.4	0.69

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH422	NC1	7/30/2008	Sediment Trap	Chrysene	1.6	mg/kg WW	1.4	1.1
MH422	NC1	3/18/2008	Sediment Trap	Chrysene	2.5	mg/kg WW	1.4	1.8
MH422	NC1	10/29/2007	Sediment Trap	Chrysene	1.2 J	mg/kg WW	1.4	0.86
MH422	NC1	5/14/2007	Sediment Trap	Chrysene	3	mg/kg WW	1.4	2.1
MH422	NC1	1/8/2007	Sediment Trap	Chrysene	1.6	mg/kg WW	1.4	1.1
MH422	NC1	10/11/2006	Sediment Trap	Chrysene	4.3	mg/kg WW	1.4	3.1
MH422	NC1	3/16/2006	Sediment Trap	Chrysene	2.7	mg/kg WW	1.4	1.9
MH422	NC1	8/11/2005	Sediment Trap	Chrysene	1.9	mg/kg WW	1.4	1.4
MH422	NC1	4/8/2010	Sediment Trap	Copper	140	mg/kg WW	310	0.45
MH422	NC1	12/3/2008	Sediment Trap	Copper	168	mg/kg WW	310	0.54
MH422	NC1	7/30/2008	Sediment Trap	Copper	142	mg/kg WW	310	0.46
MH422	NC1	3/18/2008	Sediment Trap	Copper	80.1	mg/kg WW	310	0.26
MH422	NC1	10/29/2007	Sediment Trap	Copper	79.3	mg/kg WW	310	0.26
MH422	NC1	5/14/2007	Sediment Trap	Copper	123	mg/kg WW	310	0.40
MH422	NC1	1/8/2007	Sediment Trap	Copper	133	mg/kg WW	310	0.43
MH422	NC1	10/11/2006	Sediment Trap	Copper	325	mg/kg WW	310	1.0
MH422	NC1	3/16/2006	Sediment Trap	Copper	110	mg/kg WW	310	0.35
MH422	NC1	8/11/2005	Sediment Trap	Copper	83.6	mg/kg WW	310	0.27
MH422	NC1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	1.3	mg/kg WW	0.19	6.8
MH422	NC1	4/6/2009	Sediment Trap	Dibenzo(a,h)anthracene	0.34	mg/kg WW	0.19	1.8
MH422	NC1	12/3/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.2	mg/kg WW	0.19	1.1
MH422	NC1	7/30/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.23	mg/kg WW	0.19	1.2
MH422	NC1	1/8/2007	Sediment Trap	Dibenzo(a,h)anthracene	0.12	mg/kg WW	0.19	0.63
MH422	NC1	10/11/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.7	mg/kg WW	0.19	3.7
MH422	NC1	8/11/2005	Sediment Trap	Dibenzo(a,h)anthracene	0.26	mg/kg WW	0.19	1.4
MH422	NC1	4/8/2010	Sediment Trap	Dibenzofuran	0.24	mg/kg WW	0.23	1.0
MH422	NC1	3/18/2008	Sediment Trap	Dibenzofuran	0.26	mg/kg WW	0.23	1.1
MH422	NC1	8/11/2005	Sediment Trap	Dibenzofuran	0.15	mg/kg WW	0.23	0.65
MH422	NC1	4/8/2010	Sediment Trap	Dibutyl phthalate	6.9	mg/kg WW	1.4	4.9
MH422	NC1	3/18/2008	Sediment Trap	Dibutyl phthalate	0.2	mg/kg WW	1.4	0.14
MH422	NC1	10/29/2007	Sediment Trap	Dibutyl phthalate	0.22 J	mg/kg WW	1.4	0.16
MH422	NC1	3/16/2006	Sediment Trap	Dibutyl phthalate	0.36	mg/kg WW	1.4	0.26
MH422	NC1	8/11/2005	Sediment Trap	Dibutyl phthalate	0.13	mg/kg WW	1.4	0.093
MH422	NC1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	1.9	mg/kg WW	0.42	4.5
MH422	NC1	4/6/2009	Sediment Trap	Di-n-Octyl phthalate	1.9	mg/kg WW	0.42	4.5
MH422	NC1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	0.44	mg/kg WW	0.42	1.0
MH422	NC1	7/30/2008	Sediment Trap	Di-n-Octyl phthalate	0.55	mg/kg WW	0.42	1.3
MH422	NC1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	0.47	mg/kg WW	0.42	1.1
MH422	NC1	10/29/2007	Sediment Trap	Di-n-Octyl phthalate	0.98 J	mg/kg WW	0.42	2.3
MH422	NC1	5/14/2007	Sediment Trap	Di-n-Octyl phthalate	2.7	mg/kg WW	0.42	6.4
MH422	NC1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	0.24	mg/kg WW	0.42	0.57
MH422	NC1	10/11/2006	Sediment Trap	Di-n-Octyl phthalate	1.5	mg/kg WW	0.42	3.6
MH422	NC1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	1	mg/kg WW	0.42	2.4
MH422	NC1	8/11/2005	Sediment Trap	Di-n-Octyl phthalate	0.44	mg/kg WW	0.42	1.0
MH422	NC1	4/8/2010	Sediment Trap	Fluoranthene	9.9	mg/kg WW	1.7	5.8
MH422	NC1	4/6/2009	Sediment Trap	Fluoranthene	2.5	mg/kg WW	1.7	1.5
MH422	NC1	12/3/2008	Sediment Trap	Fluoranthene	1.9	mg/kg WW	1.7	1.1
MH422	NC1	7/30/2008	Sediment Trap	Fluoranthene	3.4	mg/kg WW	1.7	2.0
MH422	NC1	3/18/2008	Sediment Trap	Fluoranthene	5.6	mg/kg WW	1.7	3.3
MH422	NC1	10/29/2007	Sediment Trap	Fluoranthene	2.2 J	mg/kg WW	1.7	1.3
MH422	NC1	5/14/2007	Sediment Trap	Fluoranthene	5.8	mg/kg WW	1.7	3.4
MH422	NC1	1/8/2007	Sediment Trap	Fluoranthene	2.4	mg/kg WW	1.7	1.4
MH422	NC1	10/11/2006	Sediment Trap	Fluoranthene	7.7	mg/kg WW	1.7	4.5
MH422	NC1	3/16/2006	Sediment Trap	Fluoranthene	6.6	mg/kg WW	1.7	3.9

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH422	NC1	8/11/2005	Sediment Trap	Fluoranthene	4.1	mg/kg WW	1.7	2.4
MH422	NC1	4/8/2010	Sediment Trap	Fluorene	0.26	mg/kg WW	0.36	0.72
MH422	NC1	3/18/2008	Sediment Trap	Fluorene	0.49	mg/kg WW	0.36	1.4
MH422	NC1	1/8/2007	Sediment Trap	Fluorene	0.13	mg/kg WW	0.36	0.36
MH422	NC1	8/11/2005	Sediment Trap	Fluorene	0.19	mg/kg WW	0.36	0.53
MH422	NC1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	3.1	mg/kg WW	0.53	5.8
MH422	NC1	4/6/2009	Sediment Trap	Indeno(1,2,3-cd)pyrene	1	mg/kg WW	0.53	1.9
MH422	NC1	12/3/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.56	mg/kg WW	0.53	1.1
MH422	NC1	7/30/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.94	mg/kg WW	0.53	1.8
MH422	NC1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.2	mg/kg WW	0.53	2.3
MH422	NC1	10/29/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.3 J	mg/kg WW	0.53	0.57
MH422	NC1	5/14/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.3	mg/kg WW	0.53	2.5
MH422	NC1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.53	mg/kg WW	0.53	1.0
MH422	NC1	10/11/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg WW	0.53	3.8
MH422	NC1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.93	mg/kg WW	0.53	1.8
MH422	NC1	8/11/2005	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.81	mg/kg WW	0.53	1.5
MH422	NC1	4/8/2010	Sediment Trap	Lead	309	mg/kg WW	40	7.7
MH422	NC1	12/3/2008	Sediment Trap	Lead	215	mg/kg WW	40	5.4
MH422	NC1	7/30/2008	Sediment Trap	Lead	190	mg/kg WW	40	4.8
MH422	NC1	3/18/2008	Sediment Trap	Lead	90	mg/kg WW	40	2.3
MH422	NC1	10/29/2007	Sediment Trap	Lead	84	mg/kg WW	40	2.1
MH422	NC1	5/14/2007	Sediment Trap	Lead	227	mg/kg WW	40	5.7
MH422	NC1	1/8/2007	Sediment Trap	Lead	159	mg/kg WW	40	4.0
MH422	NC1	10/11/2006	Sediment Trap	Lead	216	mg/kg WW	40	5.4
MH422	NC1	3/16/2006	Sediment Trap	Lead	97	mg/kg WW	40	2.4
MH422	NC1	8/11/2005	Sediment Trap	Lead	140	mg/kg WW	40	3.5
MH422	NC1	4/8/2010	Sediment Trap	Mercury	0.36	mg/kg WW	0.41	0.88
MH422	NC1	12/3/2008	Sediment Trap	Mercury	0.33	mg/kg WW	0.41	0.80
MH422	NC1	7/30/2008	Sediment Trap	Mercury	2.64	mg/kg WW	0.41	6.4
MH422	NC1	3/18/2008	Sediment Trap	Mercury	0.43	mg/kg WW	0.41	1.0
MH422	NC1	10/29/2007	Sediment Trap	Mercury	1.16 J	mg/kg WW	0.41	2.8
MH422	NC1	5/14/2007	Sediment Trap	Mercury	2.66	mg/kg WW	0.41	6.5
MH422	NC1	1/8/2007	Sediment Trap	Mercury	3.65	mg/kg WW	0.41	8.9
MH422	NC1	10/11/2006	Sediment Trap	Mercury	8.3	mg/kg WW	0.41	20
MH422	NC1	3/16/2006	Sediment Trap	Mercury	0.93	mg/kg WW	0.41	2.3
MH422	NC1	8/11/2005	Sediment Trap	Mercury	1.1	mg/kg WW	0.41	2.7
MH422	NC1	4/8/2010	Sediment Trap	Phenanthrene	4	mg/kg WW	1.5	2.7
MH422	NC1	4/6/2009	Sediment Trap	Phenanthrene	1.1	mg/kg WW	1.5	0.73
MH422	NC1	12/3/2008	Sediment Trap	Phenanthrene	0.77	mg/kg WW	1.5	0.51
MH422	NC1	7/30/2008	Sediment Trap	Phenanthrene	2	mg/kg WW	1.5	1.3
MH422	NC1	3/18/2008	Sediment Trap	Phenanthrene	4.3	mg/kg WW	1.5	2.9
MH422	NC1	10/29/2007	Sediment Trap	Phenanthrene	0.95 J	mg/kg WW	1.5	0.63
MH422	NC1	5/14/2007	Sediment Trap	Phenanthrene	2.7	mg/kg WW	1.5	1.8
MH422	NC1	1/8/2007	Sediment Trap	Phenanthrene	1.2	mg/kg WW	1.5	0.80
MH422	NC1	10/11/2006	Sediment Trap	Phenanthrene	2.9	mg/kg WW	1.5	1.9
MH422	NC1	3/16/2006	Sediment Trap	Phenanthrene	2.5	mg/kg WW	1.5	1.7
MH422	NC1	8/11/2005	Sediment Trap	Phenanthrene	2.8	mg/kg WW	1.5	1.9
MH422	NC1	4/8/2010	Sediment Trap	Pyrene	5.4	mg/kg WW	2.6	2.1
MH422	NC1	4/6/2009	Sediment Trap	Pyrene	1.9	mg/kg WW	2.6	0.73
MH422	NC1	12/3/2008	Sediment Trap	Pyrene	1.2	mg/kg WW	2.6	0.46
MH422	NC1	7/30/2008	Sediment Trap	Pyrene	2.6	mg/kg WW	2.6	1.0
MH422	NC1	3/18/2008	Sediment Trap	Pyrene	3.8	mg/kg WW	2.6	1.5
MH422	NC1	10/29/2007	Sediment Trap	Pyrene	1.7 J	mg/kg WW	2.6	0.65
MH422	NC1	5/14/2007	Sediment Trap	Pyrene	3.9	mg/kg WW	2.6	1.5

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH422	NC1	1/8/2007	Sediment Trap	Pyrene	2.1	mg/kg WW	2.6	0.81
MH422	NC1	10/11/2006	Sediment Trap	Pyrene	4.7	mg/kg WW	2.6	1.8
MH422	NC1	3/16/2006	Sediment Trap	Pyrene	3.4	mg/kg WW	2.6	1.3
MH422	NC1	8/11/2005	Sediment Trap	Pyrene	3	mg/kg WW	2.6	1.2
MH422	NC1	4/8/2010	Sediment Trap	Total cPAH	6.261	mg/kg WW	0.062	100
MH422	NC1	4/6/2009	Sediment Trap	Total cPAH	1.821	mg/kg WW	0.062	29
MH422	NC1	12/3/2008	Sediment Trap	Total cPAH	1.0757	mg/kg WW	0.062	17
MH422	NC1	7/30/2008	Sediment Trap	Total cPAH	1.589	mg/kg WW	0.062	26
MH422	NC1	3/18/2008	Sediment Trap	Total cPAH	2.6595	mg/kg WW	0.062	43
MH422	NC1	10/29/2007	Sediment Trap	Total cPAH	1.20335	mg/kg WW	0.062	19
MH422	NC1	5/14/2007	Sediment Trap	Total cPAH	3.674	mg/kg WW	0.062	59
MH422	NC1	1/8/2007	Sediment Trap	Total cPAH	1.921	mg/kg WW	0.062	31
MH422	NC1	10/11/2006	Sediment Trap	Total cPAH	4.003	mg/kg WW	0.062	65
MH422	NC1	3/16/2006	Sediment Trap	Total cPAH	2.787	mg/kg WW	0.062	45
MH422	NC1	8/11/2005	Sediment Trap	Total cPAH	2.336	mg/kg WW	0.062	38
MH422	NC1	4/8/2010	Sediment Trap	Total HPAHs	44.7	mg/kg WW	12	3.7
MH422	NC1	4/6/2009	Sediment Trap	Total HPAHs	13.5	mg/kg WW	12	1.1
MH422	NC1	12/3/2008	Sediment Trap	Total HPAHs	8.5	mg/kg WW	12	0.71
MH422	NC1	7/30/2008	Sediment Trap	Total HPAHs	14.5	mg/kg WW	12	1.2
MH422	NC1	3/18/2008	Sediment Trap	Total HPAHs	22.2	mg/kg WW	12	1.9
MH422	NC1	10/29/2007	Sediment Trap	Total HPAHs	9.6	mg/kg WW	12	0.80
MH422	NC1	5/14/2007	Sediment Trap	Total HPAHs	26.8	mg/kg WW	12	2.2
MH422	NC1	1/8/2007	Sediment Trap	Total HPAHs	12.6	mg/kg WW	12	1.1
MH422	NC1	10/11/2006	Sediment Trap	Total HPAHs	31.1	mg/kg WW	12	2.6
MH422	NC1	3/16/2006	Sediment Trap	Total HPAHs	23	mg/kg WW	12	1.9
MH422	NC1	3/15/2006	Sediment Trap	Total HPAHs	23.02	mg/kg WW	12	1.9
MH422	NC1	8/11/2005	Sediment Trap	Total HPAHs	17.6	mg/kg WW	12	1.5
MH422	NC1	4/8/2010	Sediment Trap	Total LPAHs	5	mg/kg WW	5.2	0.96
MH422	NC1	4/6/2009	Sediment Trap	Total LPAHs	1.1	mg/kg WW	5.2	0.21
MH422	NC1	12/3/2008	Sediment Trap	Total LPAHs	0.86	mg/kg WW	5.2	0.17
MH422	NC1	7/30/2008	Sediment Trap	Total LPAHs	2	mg/kg WW	5.2	0.38
MH422	NC1	3/18/2008	Sediment Trap	Total LPAHs	5.7	mg/kg WW	5.2	1.1
MH422	NC1	10/29/2007	Sediment Trap	Total LPAHs	1.07	mg/kg WW	5.2	0.21
MH422	NC1	5/14/2007	Sediment Trap	Total LPAHs	2.7	mg/kg WW	5.2	0.52
MH422	NC1	1/8/2007	Sediment Trap	Total LPAHs	1.6	mg/kg WW	5.2	0.31
MH422	NC1	10/11/2006	Sediment Trap	Total LPAHs	3.2	mg/kg WW	5.2	0.62
MH422	NC1	3/16/2006	Sediment Trap	Total LPAHs	2.9	mg/kg WW	5.2	0.56
MH422	NC1	3/15/2006	Sediment Trap	Total LPAHs	2.88	mg/kg WW	5.2	0.55
MH422	NC1	8/11/2005	Sediment Trap	Total LPAHs	3.6	mg/kg WW	5.2	0.69
MH422	NC1	4/5/2011	Sediment Trap	Total PCBs	4.1	mg/kg WW	0.038	110
MH422	NC1	4/8/2010	Sediment Trap	Total PCBs	4	mg/kg WW	0.038	110
MH422	NC1	4/6/2009	Sediment Trap	Total PCBs	0.68	mg/kg WW	0.038	18
MH422	NC1	12/3/2008	Sediment Trap	Total PCBs	19	mg/kg WW	0.038	500
MH422	NC1	7/30/2008	Sediment Trap	Total PCBs	10	mg/kg WW	0.038	260
MH422	NC1	3/18/2008	Sediment Trap	Total PCBs	7.6	mg/kg WW	0.038	200
MH422	NC1	10/29/2007	Sediment Trap	Total PCBs	22	mg/kg WW	0.038	580
MH422	NC1	5/14/2007	Sediment Trap	Total PCBs	420	mg/kg WW	0.038	11000
MH422	NC1	1/8/2007	Sediment Trap	Total PCBs	260	mg/kg WW	0.038	6800
MH422	NC1	10/11/2006	Sediment Trap	Total PCBs	110	mg/kg WW	0.038	2900
MH422	NC1	3/16/2006	Sediment Trap	Total PCBs	107	mg/kg WW	0.038	2800
MH422	NC1	8/11/2005	Sediment Trap	Total PCBs	10	mg/kg WW	0.038	260
MH422	NC1	4/8/2010	Sediment Trap	Zinc	554	mg/kg WW	410	1.4
MH422	NC1	12/3/2008	Sediment Trap	Zinc	518	mg/kg WW	410	1.3
MH422	NC1	7/30/2008	Sediment Trap	Zinc	563	mg/kg WW	410	1.4

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH422	NC1	3/18/2008	Sediment Trap	Zinc	717	mg/kg WW	410	1.7
MH422	NC1	10/29/2007	Sediment Trap	Zinc	313	mg/kg WW	410	0.76
MH422	NC1	5/14/2007	Sediment Trap	Zinc	474	mg/kg	410	1.2
MH422	NC1	1/8/2007	Sediment Trap	Zinc	382	mg/kg	410	0.93
MH422	NC1	10/11/2006	Sediment Trap	Zinc	1140	mg/kg	410	2.8
MH422	NC1	3/16/2006	Sediment Trap	Zinc	435	mg/kg	410	1.1
MH422	NC1	8/11/2005	Sediment Trap	Zinc	368	mg/kg	410	0.90
MH607	NC5	4/14/2010	Grab	Arsenic	15	mg/kg	7.3	2.1
MH607	NC5	4/14/2010	Grab	Cadmium	10.5	mg/kg	3.7	2.8
MH607	NC5	4/14/2010	Grab	Chromium	79.3	mg/kg	35.6	2.2
MH607	NC5	4/14/2010	Grab	Copper	139	mg/kg	310	0.45
MH607	NC5	4/14/2010	Grab	Lead	150	mg/kg	40	3.8
MH607	NC5	4/14/2010	Grab	Mercury	2.27	mg/kg	0.41	5.5
MH607	NC5	4/14/2010	Grab	Total PCBs	0.76	mg/kg	0.038	20
MH607	NC5	4/14/2010	Grab	Zinc	1040	mg/kg	410	2.5
MH609	NC5	4/14/2010	Grab	Cadmium	31.5	mg/kg	3.7	8.5
MH609	NC5	4/14/2010	Grab	Chromium	119	mg/kg	35.6	3.3
MH609	NC5	4/14/2010	Grab	Copper	241	mg/kg	310	0.78
MH609	NC5	4/14/2010	Grab	Lead	304	mg/kg	40	7.6
MH609	NC5	4/14/2010	Grab	Mercury	0.28	mg/kg	0.41	0.68
MH609	NC5	4/14/2010	Grab	Total PCBs	1.8	mg/kg	0.038	47
MH609	NC5	4/14/2010	Grab	Zinc	1890	mg/kg	410	4.6
OWS220A	NC3	12/30/2008	Grab	Total PCBs	2.8	mg/kg	0.038	74
OWS226A	NC4A	3/14/2007	Grab	Total PCBs	11.3	mg/kg	0.038	300
OWS226A	NC4A	7/25/2006	Grab	Total PCBs	17	mg/kg	0.038	450
OWS226A	NC4A	1/5/2006	Grab	Total PCBs	32	mg/kg	0.038	840
OWS231A	NC5	6/10/2009	Grab	Total PCBs	1.45	mg/kg	0.038	38
UNKCB28	NC6	4/15/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
UNKCB28	NC6	4/15/2010	Grab	Cadmium	7.2	mg/kg	3.7	1.9
UNKCB28	NC6	4/15/2010	Grab	Chromium	90	mg/kg	35.6	2.5
UNKCB28	NC6	4/15/2010	Grab	Copper	242	mg/kg	310	0.78
UNKCB28	NC6	4/15/2010	Grab	Lead	262	mg/kg	40	6.6
UNKCB28	NC6	4/15/2010	Grab	Mercury	0.26	mg/kg	0.41	0.63
UNKCB28	NC6	4/15/2010	Grab	Total PCBs	0.22	mg/kg	0.038	5.8
UNKCB28	NC6	4/15/2010	Grab	Zinc	1060	mg/kg	410	2.6
UNKCB6	NC6	4/15/2010	Grab	Cadmium	18.4	mg/kg	3.7	5.0
UNKCB6	NC6	4/15/2010	Grab	Chromium	136	mg/kg	35.6	3.8
UNKCB6	NC6	4/15/2010	Grab	Copper	277	mg/kg	310	0.89
UNKCB6	NC6	4/15/2010	Grab	Lead	197	mg/kg	40	4.9
UNKCB6	NC6	4/15/2010	Grab	Mercury	0.2	mg/kg	0.41	0.49
UNKCB6	NC6	4/15/2010	Grab	Total PCBs	1.5	mg/kg	0.038	39
UNKCB6	NC6	4/15/2010	Grab	Zinc	1720	mg/kg	410	4.2
UNKMH21	NC6	4/15/2010	Grab	Cadmium	13.9	mg/kg	3.7	3.8
UNKMH21	NC6	4/15/2010	Grab	Chromium	116	mg/kg	35.6	3.3
UNKMH21	NC6	4/15/2010	Grab	Copper	244	mg/kg	310	0.79
UNKMH21	NC6	4/15/2010	Grab	Lead	261	mg/kg	40	6.5
UNKMH21	NC6	4/15/2010	Grab	Mercury	0.68	mg/kg	0.41	1.7
UNKMH21	NC6	4/15/2010	Grab	Total PCBs	7.5	mg/kg	0.038	200
UNKMH21	NC6	4/15/2010	Grab	Zinc	1290	mg/kg	410	3.1
UNKMH7	NC5	4/14/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
UNKMH7	NC5	4/14/2010	Grab	Cadmium	13.7	mg/kg	3.7	3.7
UNKMH7	NC5	4/14/2010	Grab	Chromium	73.2	mg/kg	35.6	2.1
UNKMH7	NC5	4/14/2010	Grab	Copper	120	mg/kg	310	0.39
UNKMH7	NC5	4/14/2010	Grab	Lead	163	mg/kg	40	4.1

Table 7.2-9
Storm Drain Solids Sampling Results - North-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
UNKMH7	NC5	4/14/2010	Grab	Mercury	0.23	mg/kg	0.41	0.56
UNKMH7	NC5	4/14/2010	Grab	Total PCBs	1.12	mg/kg	0.038	29
UNKMH7	NC5	4/14/2010	Grab	Zinc	1150	mg/kg	410	2.8

All samples presented as dry weight concentrations except as noted.
WW = wet weight
RISL = RI Selected Screening Level
Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.
[shaded box] Indicates exceedance of screening level.

Table 7.2-10
Data Summary: Storm Drain Solids
South-Central Lateral Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	17 / 33	8.0	70	22	7.3	17 / 17	9.6
	Cadmium	20 / 21	2.4	35	13	3.7	15 / 20	9.3
	Chromium	21 / 21	53	240	117	35.6	21 / 21	6.7
	Copper	33 / 33	4.3	842	211	310	8 / 33	2.7
	Lead	31 / 33	4	1,070	234	40	28 / 31	27
	Zinc	33 / 33	30	1,810	577	410	19 / 33	4.4
Chlorinated Aromatics	Total PCBs	83 / 88	0.026	104	6.0	0.038	78 / 83	2,700
	Total dioxins/furans (pg/g)	1 / 1	17	17	17	3.9	1 / 1	4.4
PAHs	Acenaphthene	5 / 13	0.068	0.37	0.14	0.25	2 / 5	1.5
	Fluorene	7 / 13	0.10	0.53	0.22	0.36	2 / 7	1.5
	Phenanthrene	11 / 13	0.30	6.0	1.8	0.36	6 / 11	4.0
	Total LPAH	11 / 13	0.36	7.5	2.2	5.2	1 / 11	1.4
	Benzo(a)anthracene	11 / 13	0.21	3.6	1.1	1.3	2 / 11	2.8
	Benzo(a)pyrene	12 / 13	0.076	4.6	1.4	0.062	12 / 12	74
	Benzofluoranthenes	12 / 13	0.15	13	3.8	3.2	7 / 12	3.9
	Benzo(g,h,i)perylene	10 / 12	0.22	2.2	0.80	0.48	7 / 10	4.6
	Chrysene	13 / 13	0.084	6.8	2.0	1.4	7 / 13	4.9
	Dibenz(a,h)anthracene	7 / 13	0.060	0.60	0.24	0.19	3 / 7	3.2
	Fluoranthene	13 / 13	0.10	12	3.4	1.7	8 / 13	7.1
	Indeno(1,2,3-cd)pyrene	11 / 13	0.22	2.5	0.90	0.53	7 / 11	4.7
	Pyrene	13 / 13	0.085	8.4	2.2	2.6	4 / 13	3.2
	Total HPAH	13 / 13	0.27	53	15	12	7 / 13	4.4
	Total cPAH	13 / 13	0.06	6.6	1.9	0.062	13 / 13	110
Phthalates	Bis(2-Ethylhexyl)phthalate	11 / 11	0.27	4.8	2.3	0.73	7 / 11	6.6
	Butyl benzyl phthalate	4 / 11	0.062	0.54	0.23	0.063	3 / 4	8.6
	Di-n-Octyl phthalate	8 / 11	0.044	23	7.2	0.42	5 / 8	55

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dimethylphenol; 2,4-dinitrophenol; 2-methylnaphthalene; acenaphthylene; benzoic acid; benzyl alcohol; dibenzofuran; diethyl phthalate; dimethyl phthalate; hexachlorobenzene; hexachlorobutadiene; mercury; N-nitrosodiphenylamine; pentachlorophenol; phenol; and silver.

Table 7.2-11
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
South-Central Lateral Drainage Area

Chemical Class	Chemical (Subdrainage:)	SC1 (Main Line)	SC2	SC3	SC4	SC5	SC6	SC7	SC8
Metals	Arsenic	2.7	--	9.6	<1	--	2.7	1.4	4.1
	Cadmium	1.1	--	2.4	<1	--	4.9	<1	9.3
	Chromium	1.6	--	3.0	1.8	--	4.8	2.9	6.7
	Copper	<1	--	<1	<1	--	2.7	2.1	1.6
	Lead	27	--	3.3	2.7	--	8.2	6.2	12
	Zinc	1.6	--	2.0	1.5	--	3.5	1.5	4.4
Chlorinated Aromatics	Total PCBs	47	18	740	35	38	2,700	340	630
	Total dioxins/furans	--	--	4.4	--	--	--	--	--
PAHs	Acenaphthene	1.5	--	<1	--	--	--	--	--
	Fluorene	1.5	--	<1	--	--	--	--	--
	Phenanthrene	4.0	--	<1	--	--	--	--	--
	Total LPAH	1.4	--	<1	--	--	--	--	--
	Benzo(a)anthracene	2.8	--	<1	--	--	--	--	--
	Benzo(a)pyrene	74	--	7.4	--	--	--	--	--
	Benzofluoranthenes	3.9	--	<1	--	--	--	--	--
	Benzo(g,h,i)perylene	4.6	--	<1	--	--	--	--	--
	Chrysene	4.9	--	<1	--	--	--	--	--
	Dibenzo(a,h)anthracene	3.2	--	<1	--	--	--	--	--
	Fluoranthene	7.1	--	<1	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	4.7	--	<1	--	--	--	--	--
	Pyrene	3.2	--	<1	--	--	--	--	--
	Total HPAHs	4.4	--	<1	--	--	--	--	--
	Total cPAHs	110	--	10	--	--	--	--	--
Phthalates	Bis(2-Ethylhexyl)phthalate	6.6	--	--	--	--	--	--	--
	Butyl benzyl phthalate	8.6	--	--	--	--	--	--	--
	Di-n-Octyl phthalate	55	--	--	--	--	--	--	--

"--" indicates sample not analyzed for this parameter
ND - not detected
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-14.

Blue	EF = 0 to 1
Green	EF = >1 to 5 for metals, >1 to 10 for organics
Yellow	EF = >5 to 25 for metals, >10 to 100 for organics
Orange	EF = >25 to 125 for metals, >100 to 1,000 for organics
Red	EF = >625 for metals, >1,000 for organics

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB359	SC2	12/30/2008	Grab	Total PCBs	0.67	mg/kg WW	0.038	18
CB364	SC1	4/8/2010	Sediment Trap	Benzo(a)anthracene	0.44	mg/kg	1.3	0.34
CB364	SC1	3/18/2008	Sediment Trap	Benzo(a)anthracene	0.21	mg/kg WW	1.3	0.16
CB364	SC1	1/8/2007	Sediment Trap	Benzo(a)anthracene	1.3	mg/kg	1.3	1.0
CB364	SC1	3/16/2006	Sediment Trap	Benzo(a)anthracene	1.2	mg/kg	1.3	0.92
CB364	SC1	4/8/2010	Sediment Trap	Benzo(a)pyrene	0.67	mg/kg	0.062	11
CB364	SC1	3/18/2008	Sediment Trap	Benzo(a)pyrene	0.31	mg/kg WW	0.062	5.0
CB364	SC1	1/8/2007	Sediment Trap	Benzo(a)pyrene	1.9	mg/kg	0.062	31
CB364	SC1	3/16/2006	Sediment Trap	Benzo(a)pyrene	1.5	mg/kg	0.062	24
CB364	SC1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	0.55	mg/kg WW	0.48	1.1
CB364	SC1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	0.22	mg/kg WW	0.48	0.46
CB364	SC1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	0.95	mg/kg WW	0.48	2.0
CB364	SC1	4/8/2010	Sediment Trap	Benzofluoranthene	1.62	mg/kg WW	3.2	0.51
CB364	SC1	3/18/2008	Sediment Trap	Benzofluoranthene	0.74	mg/kg WW	3.2	0.23
CB364	SC1	1/8/2007	Sediment Trap	Benzofluoranthene	4.7	mg/kg WW	3.2	1.5
CB364	SC1	3/16/2006	Sediment Trap	Benzofluoranthene	4.3	mg/kg WW	3.2	1.3
CB364	SC1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	4	mg/kg WW	0.73	5.5
CB364	SC1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	0.34	mg/kg WW	0.73	0.47
CB364	SC1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	0.49	mg/kg WW	0.73	0.67
CB364	SC1	1/8/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	3.6	mg/kg WW	0.73	4.9
CB364	SC1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	4.8	mg/kg WW	0.73	6.6
CB364	SC1	4/8/2010	Sediment Trap	Chrysene	1.1	mg/kg WW	1.4	0.79
CB364	SC1	12/3/2008	Sediment Trap	Chrysene	0.084	mg/kg WW	1.4	0.060
CB364	SC1	3/18/2008	Sediment Trap	Chrysene	0.39	mg/kg WW	1.4	0.28
CB364	SC1	1/8/2007	Sediment Trap	Chrysene	2.6	mg/kg WW	1.4	1.9
CB364	SC1	3/16/2006	Sediment Trap	Chrysene	2.6	mg/kg WW	1.4	1.9
CB364	SC1	10/29/2007	Sediment Trap	Copper	4.3	mg/kg WW	310	0.014
CB364	SC1	1/8/2007	Sediment Trap	Copper	72.2	mg/kg WW	310	0.23
CB364	SC1	10/11/2006	Sediment Trap	Copper	106	mg/kg WW	310	0.34
CB364	SC1	3/16/2006	Sediment Trap	Copper	99	mg/kg WW	310	0.32
CB364	SC1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	0.18 J	mg/kg WW	0.19	0.95
CB364	SC1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.06	mg/kg WW	0.19	0.32
CB364	SC1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	20	mg/kg WW	0.42	48
CB364	SC1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	2	mg/kg WW	0.42	4.8
CB364	SC1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	1.6	mg/kg WW	0.42	3.8
CB364	SC1	1/8/2007	Sediment Trap	Di-n-Octyl phthalate	11	mg/kg WW	0.42	26
CB364	SC1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	23	mg/kg WW	0.42	55
CB364	SC1	4/8/2010	Sediment Trap	Fluoranthene	1.8	mg/kg WW	1.7	1.1
CB364	SC1	12/3/2008	Sediment Trap	Fluoranthene	0.1	mg/kg WW	1.7	0.059
CB364	SC1	3/18/2008	Sediment Trap	Fluoranthene	0.69	mg/kg WW	1.7	0.41
CB364	SC1	1/8/2007	Sediment Trap	Fluoranthene	4.7	mg/kg WW	1.7	2.8
CB364	SC1	3/16/2006	Sediment Trap	Fluoranthene	4.8	mg/kg WW	1.7	2.8
CB364	SC1	3/16/2006	Sediment Trap	Fluorene	0.53	mg/kg WW	0.36	1.5
CB364	SC1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.48	mg/kg WW	0.53	0.91
CB364	SC1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.22	mg/kg WW	0.53	0.42
CB364	SC1	1/8/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.4	mg/kg WW	0.53	2.6
CB364	SC1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.93	mg/kg WW	0.53	1.8
CB364	SC1	10/29/2007	Sediment Trap	Lead	4	mg/kg WW	40	0.10
CB364	SC1	1/8/2007	Sediment Trap	Lead	97	mg/kg WW	40	2.4
CB364	SC1	10/11/2006	Sediment Trap	Lead	100	mg/kg WW	40	2.5
CB364	SC1	3/16/2006	Sediment Trap	Lead	120	mg/kg WW	40	3.0
CB364	SC1	3/16/2006	Sediment Trap	Mercury	0.3	mg/kg WW	0.41	0.73
CB364	SC1	4/8/2010	Sediment Trap	Phenanthrene	0.76	mg/kg WW	1.5	0.51
CB364	SC1	3/18/2008	Sediment Trap	Phenanthrene	0.3	mg/kg WW	1.5	0.20
CB364	SC1	1/8/2007	Sediment Trap	Phenanthrene	2	mg/kg WW	1.5	1.3
CB364	SC1	3/16/2006	Sediment Trap	Phenanthrene	1.8	mg/kg WW	1.5	1.2
CB364	SC1	4/8/2010	Sediment Trap	Pyrene	1.1	mg/kg WW	2.6	0.42
CB364	SC1	12/3/2008	Sediment Trap	Pyrene	0.09	mg/kg WW	2.6	0.035
CB364	SC1	3/18/2008	Sediment Trap	Pyrene	0.48	mg/kg WW	2.6	0.18
CB364	SC1	1/8/2007	Sediment Trap	Pyrene	2.9	mg/kg WW	2.6	1.1
CB364	SC1	3/16/2006	Sediment Trap	Pyrene	2.7	mg/kg WW	2.6	1.0
CB364	SC1	4/8/2010	Sediment Trap	Total cPAH	0.953	mg/kg WW	0.062	15
CB364	SC1	12/3/2008	Sediment Trap	Total cPAH	0.06234	mg/kg WW	0.062	1.0
CB364	SC1	3/18/2008	Sediment Trap	Total cPAH	0.4369	mg/kg WW	0.062	7.0
CB364	SC1	1/8/2007	Sediment Trap	Total cPAH	2.69	mg/kg WW	0.062	43
CB364	SC1	3/16/2006	Sediment Trap	Total cPAH	2.1955	mg/kg WW	0.062	35

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB364	SC1	4/8/2010	Sediment Trap	Total HPAHs	7.9	mg/kg WW	12	0.66
CB364	SC1	12/3/2008	Sediment Trap	Total HPAHs	0.27	mg/kg WW	12	0.023
CB364	SC1	3/18/2008	Sediment Trap	Total HPAHs	3.32	mg/kg WW	12	0.28
CB364	SC1	1/8/2007	Sediment Trap	Total HPAHs	19.5	mg/kg WW	12	1.6
CB364	SC1	3/16/2006	Sediment Trap	Total HPAHs	19	mg/kg WW	12	1.6
CB364	SC1	4/8/2010	Sediment Trap	Total LPAHs	0.76	mg/kg WW	5.2	0.15
CB364	SC1	3/18/2008	Sediment Trap	Total LPAHs	0.36	mg/kg WW	5.2	0.069
CB364	SC1	1/8/2007	Sediment Trap	Total LPAHs	2	mg/kg WW	5.2	0.38
CB364	SC1	3/16/2006	Sediment Trap	Total LPAHs	2.3	mg/kg WW	5.2	0.44
CB364	SC1	4/5/2011	Sediment Trap	Total PCBs	0.55	mg/kg WW	0.038	14
CB364	SC1	4/8/2010	Sediment Trap	Total PCBs	0.25	mg/kg WW	0.038	6.6
CB364	SC1	4/6/2009	Sediment Trap	Total PCBs	0.028	mg/kg WW	0.038	0.74
CB364	SC1	12/3/2008	Sediment Trap	Total PCBs	0.026	mg/kg WW	0.038	0.68
CB364	SC1	7/30/2008	Sediment Trap	Total PCBs	0.032	mg/kg WW	0.038	0.84
CB364	SC1	3/18/2008	Sediment Trap	Total PCBs	0.09	mg/kg WW	0.038	2.4
CB364	SC1	1/8/2007	Sediment Trap	Total PCBs	0.43	mg/kg WW	0.038	11
CB364	SC1	10/11/2006	Sediment Trap	Total PCBs	0.63	mg/kg WW	0.038	17
CB364	SC1	3/16/2006	Sediment Trap	Total PCBs	1.8	mg/kg WW	0.038	47
CB364	SC1	8/11/2005	Sediment Trap	Total PCBs	1.4	mg/kg WW	0.038	37
CB364	SC1	10/29/2007	Sediment Trap	Zinc	30	mg/kg WW	410	0.073
CB364	SC1	1/8/2007	Sediment Trap	Zinc	293	mg/kg WW	410	0.71
CB364	SC1	10/11/2006	Sediment Trap	Zinc	660	mg/kg WW	410	1.6
CB364	SC1	3/16/2006	Sediment Trap	Zinc	448	mg/kg WW	410	1.1
CB370	SC3	12/16/2010	Inlet Filter	Total PCBs	2	mg/kg WW	0.038	53
CB370	SC3	6/10/2009	Grab	Total PCBs	2.6	mg/kg WW	0.038	68
CB370	SC3	3/14/2007	Grab	Total PCBs	6	mg/kg WW	0.038	160
CB370	SC3	7/26/2006	Grab	Total PCBs	28	mg/kg WW	0.038	740
CB374	SC4	4/19/2010	Grab	Cadmium	2.4	mg/kg WW	3.7	0.65
CB374	SC4	4/19/2010	Grab	Chromium	62.6	mg/kg WW	35.6	1.8
CB374	SC4	4/19/2010	Grab	Copper	200	mg/kg WW	310	0.65
CB374	SC4	4/19/2010	Grab	Lead	109	mg/kg WW	40	2.7
CB374	SC4	4/19/2010	Grab	Mercury	0.04	mg/kg WW	0.41	0.098
CB374	SC4	4/19/2010	Grab	Total PCBs	1.03	mg/kg WW	0.038	27
CB374	SC4	6/10/2009	Grab	Total PCBs	1.32	mg/kg WW	0.038	35
CB374	SC4	4/19/2010	Grab	Zinc	597	mg/kg WW	410	1.5
CB412	SC5	12/16/2010	Inlet Filter	Total PCBs	0.47	mg/kg WW	0.038	12
CB412	SC5	6/11/2009	Grab	Total PCBs	1.45	mg/kg WW	0.038	38
CB416	SC6	4/19/2010	Grab	Cadmium	10.6	mg/kg WW	3.7	2.9
CB416	SC6	4/19/2010	Grab	Chromium	124	mg/kg WW	35.6	3.5
CB416	SC6	4/19/2010	Grab	Copper	365	mg/kg WW	310	1.2
CB416	SC6	4/19/2010	Grab	Lead	161	mg/kg WW	40	4.0
CB416	SC6	4/19/2010	Grab	Mercury	0.12	mg/kg WW	0.41	0.29
CB416	SC6	12/16/2010	Inlet Filter	Total PCBs	1.8	mg/kg WW	0.038	47
CB416	SC6	4/19/2010	Grab	Total PCBs	1.9	mg/kg WW	0.038	50
CB416	SC6	6/11/2009	Grab	Total PCBs	5.4	mg/kg WW	0.038	140
CB416	SC6	3/14/2007	Grab	Total PCBs	3.7	mg/kg WW	0.038	97
CB416	SC6	7/26/2006	Grab	Total PCBs	15	mg/kg WW	0.038	390
CB416	SC6	6/6/2005	Grab	Total PCBs	16	mg/kg WW	0.038	420
CB416	SC6	5/13/2005	Grab	Total PCBs	50	mg/kg WW	0.038	1300
CB416	SC6	4/19/2010	Grab	Zinc	1220	mg/kg WW	410	3.0
CB418	SC6	4/19/2010	Grab	Cadmium	13	mg/kg WW	3.7	3.5
CB418	SC6	4/19/2010	Grab	Chromium	141	mg/kg WW	35.6	4.0
CB418	SC6	4/19/2010	Grab	Copper	322	mg/kg WW	310	1.0
CB418	SC6	4/19/2010	Grab	Lead	168	mg/kg WW	40	4.2
CB418	SC6	4/19/2010	Grab	Mercury	0.19	mg/kg WW	0.41	0.46
CB418	SC6	4/19/2010	Grab	Total PCBs	1.19	mg/kg WW	0.038	31
CB418	SC6	3/14/2007	Grab	Total PCBs	2.8	mg/kg WW	0.038	74
CB418	SC6	6/6/2005	Grab	Total PCBs	4	mg/kg WW	0.038	110
CB418	SC6	4/19/2010	Grab	Zinc	1160	mg/kg WW	410	2.8
CB419	SC6	4/19/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB419	SC6	4/19/2010	Grab	Cadmium	18.1	mg/kg WW	3.7	4.9
CB419	SC6	4/19/2010	Grab	Chromium	172	mg/kg WW	35.6	4.8
CB419	SC6	4/19/2010	Grab	Copper	378	mg/kg WW	310	1.2
CB419	SC6	4/19/2010	Grab	Lead	327	mg/kg WW	40	8.2
CB419	SC6	4/19/2010	Grab	Mercury	0.13	mg/kg WW	0.41	0.32
CB419	SC6	12/16/2010	Inlet Filter	Total PCBs	0.96	mg/kg WW	0.038	25

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB419	SC6	4/19/2010	Grab	Total PCBs	2.2	mg/kg WW	0.038	58
CB419	SC6	6/11/2009	Grab	Total PCBs	3.5	mg/kg WW	0.038	92
CB419	SC6	3/14/2007	Grab	Total PCBs	3.4	mg/kg WW	0.038	89
CB419	SC6	7/26/2006	Grab	Total PCBs	6.2	mg/kg WW	0.038	160
CB419	SC6	6/6/2005	Grab	Total PCBs	22	mg/kg WW	0.038	580
CB419	SC6	4/19/2010	Grab	Zinc	1440	mg/kg WW	410	3.5
CB420	SC6	4/19/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
CB420	SC6	4/19/2010	Grab	Cadmium	17.9	mg/kg WW	3.7	4.8
CB420	SC6	4/19/2010	Grab	Chromium	71.5	mg/kg WW	35.6	2.0
CB420	SC6	4/19/2010	Grab	Copper	842	mg/kg WW	310	2.7
CB420	SC6	4/19/2010	Grab	Lead	41	mg/kg WW	40	1.0
CB420	SC6	4/19/2010	Grab	Mercury	0.34	mg/kg WW	0.41	0.83
CB420	SC6	4/19/2010	Grab	Total PCBs	0.52	mg/kg WW	0.038	14
CB420	SC6	6/11/2009	Grab	Total PCBs	0.25	mg/kg WW	0.038	6.6
CB420	SC6	3/14/2007	Grab	Total PCBs	3.7	mg/kg WW	0.038	97
CB420	SC6	7/26/2006	Grab	Total PCBs	8.4	mg/kg WW	0.038	220
CB420	SC6	5/13/2005	Grab	Total PCBs	30	mg/kg WW	0.038	790
CB420	SC6	4/19/2010	Grab	Zinc	492	mg/kg WW	410	1.2
CB462	SC8	4/21/2010	Grab	Arsenic	18	mg/kg	7.3	2.5
CB462	SC8	4/21/2010	Grab	Cadmium	18.4	mg/kg WW	3.7	5.0
CB462	SC8	4/21/2010	Grab	Chromium	127 J	mg/kg WW	35.6	3.6
CB462	SC8	4/21/2010	Grab	Copper	193 J	mg/kg WW	310	0.62
CB462	SC8	4/21/2010	Grab	Lead	312 J	mg/kg WW	40	7.8
CB462	SC8	4/21/2010	Grab	Mercury	0.2	mg/kg WW	0.41	0.49
CB462	SC8	4/21/2010	Grab	Total PCBs	0.83	mg/kg WW	0.038	22
CB462	SC8	4/21/2010	Grab	Zinc	695	mg/kg WW	410	1.7
CB463	SC8	4/21/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB463	SC8	4/21/2010	Grab	Cadmium	25.7	mg/kg WW	3.7	6.9
CB463	SC8	4/21/2010	Grab	Chromium	173	mg/kg WW	35.6	4.9
CB463	SC8	4/21/2010	Grab	Copper	385	mg/kg WW	310	1.2
CB463	SC8	4/21/2010	Grab	Lead	479	mg/kg WW	40	12
CB463	SC8	4/21/2010	Grab	Mercury	0.15	mg/kg WW	0.41	0.37
CB463	SC8	4/21/2010	Grab	Total PCBs	0.61	mg/kg WW	0.038	16
CB463	SC8	6/11/2009	Grab	Total PCBs	0.68	mg/kg WW	0.038	18
CB463	SC8	4/10/2007	Grab	Total PCBs	5.5	mg/kg WW	0.038	140
CB463	SC8	4/21/2010	Grab	Zinc	1240	mg/kg WW	410	3.0
CB472	SC8	4/21/2010	Grab	Arsenic	12	mg/kg	7.3	1.6
CB472	SC8	4/21/2010	Grab	Cadmium	3.6	mg/kg WW	3.7	0.97
CB472	SC8	4/21/2010	Grab	Chromium	60.9	mg/kg WW	35.6	1.7
CB472	SC8	4/21/2010	Grab	Copper	109	mg/kg WW	310	0.35
CB472	SC8	4/21/2010	Grab	Lead	20	mg/kg WW	40	0.50
CB472	SC8	4/21/2010	Grab	Mercury	0.04	mg/kg WW	0.41	0.098
CB472	SC8	12/16/2010	Inlet Filter	Total PCBs	0.78	mg/kg WW	0.038	21
CB472	SC8	4/21/2010	Grab	Total PCBs	0.041	mg/kg WW	0.038	1.1
CB472	SC8	4/10/2007	Grab	Total PCBs	0.18	mg/kg WW	0.038	4.7
CB472	SC8	4/21/2010	Grab	Zinc	241	mg/kg WW	410	0.59
CB473	SC8	4/21/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB473	SC8	4/21/2010	Grab	Cadmium	11	mg/kg WW	3.7	3.0
CB473	SC8	4/21/2010	Grab	Chromium	135	mg/kg WW	35.6	3.8
CB473	SC8	4/21/2010	Grab	Copper	148	mg/kg WW	310	0.48
CB473	SC8	4/21/2010	Grab	Lead	256	mg/kg WW	40	6.4
CB473	SC8	4/21/2010	Grab	Total PCBs	0.72	mg/kg WW	0.038	19
CB473	SC8	4/10/2007	Grab	Total PCBs	1.3	mg/kg WW	0.038	34
CB473	SC8	4/21/2010	Grab	Zinc	661	mg/kg WW	410	1.6
CB474	SC8	4/21/2010	Grab	Arsenic	15	mg/kg	7.3	2.1
CB474	SC8	4/21/2010	Grab	Cadmium	18.5	mg/kg WW	3.7	5.0
CB474	SC8	4/21/2010	Grab	Chromium	173	mg/kg WW	35.6	4.9
CB474	SC8	4/21/2010	Grab	Copper	296	mg/kg WW	310	0.95
CB474	SC8	4/21/2010	Grab	Lead	308	mg/kg WW	40	7.7
CB474	SC8	4/21/2010	Grab	Mercury	0.09	mg/kg WW	0.41	0.22
CB474	SC8	12/16/2010	Inlet Filter	Total PCBs	1.03	mg/kg WW	0.038	27
CB474	SC8	4/21/2010	Grab	Total PCBs	1.5	mg/kg WW	0.038	39
CB474	SC8	6/11/2009	Grab	Total PCBs	1.3	mg/kg WW	0.038	34
CB474	SC8	4/21/2010	Grab	Zinc	1030	mg/kg WW	410	2.5
CB475	SC8	4/21/2010	Grab	Arsenic	20	mg/kg	7.3	2.7
CB475	SC8	4/21/2010	Grab	Cadmium	26.7	mg/kg WW	3.7	7.2

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB475	SC8	4/21/2010	Grab	Chromium	165	mg/kg WW	35.6	4.6
CB475	SC8	4/21/2010	Grab	Copper	231	mg/kg WW	310	0.75
CB475	SC8	4/21/2010	Grab	Lead	215	mg/kg WW	40	5.4
CB475	SC8	4/21/2010	Grab	Mercury	0.08	mg/kg WW	0.41	0.20
CB475	SC8	12/16/2010	Inlet Filter	Total PCBs	1.4	mg/kg WW	0.038	37
CB475	SC8	4/21/2010	Grab	Total PCBs	0.85	mg/kg WW	0.038	22
CB475	SC8	4/21/2010	Grab	Zinc	814	mg/kg WW	410	2.0
CB476	SC8	4/21/2010	Grab	Arsenic	19	mg/kg	7.3	2.6
CB476	SC8	4/21/2010	Grab	Cadmium	22.7	mg/kg WW	3.7	6.1
CB476	SC8	4/21/2010	Grab	Chromium	240	mg/kg WW	35.6	6.7
CB476	SC8	4/21/2010	Grab	Copper	492	mg/kg WW	310	1.6
CB476	SC8	4/21/2010	Grab	Lead	183	mg/kg WW	40	4.6
CB476	SC8	4/21/2010	Grab	Mercury	0.07	mg/kg WW	0.41	0.17
CB476	SC8	4/21/2010	Grab	Total PCBs	0.79	mg/kg WW	0.038	21
CB476	SC8	4/21/2010	Grab	Zinc	971	mg/kg WW	410	2.4
MH19C	SC1	3/18/2008	Sediment Trap	Acenaphthene	0.1 J	mg/kg	0.25	0.40
MH19C	SC1	1/9/2007	Sediment Trap	Acenaphthene	0.076 J	mg/kg	0.25	0.30
MH19C	SC1	10/6/2006	Sediment Trap	Acenaphthene	0.083	mg/kg	0.25	0.33
MH19C	SC1	3/15/2006	Sediment Trap	Acenaphthene	0.37 J	mg/kg	0.25	1.5
MH19C	SC1	4/7/2009	Sediment Trap	Arsenic	20 J	mg/kg	7.3	2.7
MH19C	SC1	3/16/2006	Sediment Trap	Arsenic	12	mg/kg	7.3	1.6
MH19C	SC1	8/5/2008	Sediment Trap	Benzo(a)anthracene	0.82	mg/kg	1.3	0.63
MH19C	SC1	3/18/2008	Sediment Trap	Benzo(a)anthracene	1.8	mg/kg	1.3	1.4
MH19C	SC1	1/9/2007	Sediment Trap	Benzo(a)anthracene	1.1	mg/kg	1.3	0.85
MH19C	SC1	10/6/2006	Sediment Trap	Benzo(a)anthracene	1.1	mg/kg	1.3	0.85
MH19C	SC1	3/15/2006	Sediment Trap	Benzo(a)anthracene	3.6	mg/kg	1.3	2.8
MH19C	SC1	8/5/2008	Sediment Trap	Benzo(a)pyrene	1.3	mg/kg	0.062	21
MH19C	SC1	3/18/2008	Sediment Trap	Benzo(a)pyrene	2.6	mg/kg	0.062	42
MH19C	SC1	1/9/2007	Sediment Trap	Benzo(a)pyrene	1.6	mg/kg	0.062	26
MH19C	SC1	10/6/2006	Sediment Trap	Benzo(a)pyrene	1.5	mg/kg	0.062	24
MH19C	SC1	3/15/2006	Sediment Trap	Benzo(a)pyrene	4.6	mg/kg	0.062	74
MH19C	SC1	8/5/2008	Sediment Trap	Benzo(g,h,i)perylene	0.88	mg/kg WW	0.48	1.8
MH19C	SC1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	1	mg/kg WW	0.48	2.1
MH19C	SC1	1/9/2007	Sediment Trap	Benzo(g,h,i)perylene	0.88	mg/kg WW	0.48	1.8
MH19C	SC1	10/6/2006	Sediment Trap	Benzo(g,h,i)perylene	0.51	mg/kg WW	0.48	1.1
MH19C	SC1	3/15/2006	Sediment Trap	Benzo(g,h,i)perylene	2.2 J	mg/kg WW	0.48	4.6
MH19C	SC1	8/5/2008	Sediment Trap	Benzofluoranthene	3.8	mg/kg WW	3.2	1.2
MH19C	SC1	3/18/2008	Sediment Trap	Benzofluoranthene	8.3	mg/kg WW	3.2	2.6
MH19C	SC1	1/9/2007	Sediment Trap	Benzofluoranthene	4.5	mg/kg WW	3.2	1.4
MH19C	SC1	10/6/2006	Sediment Trap	Benzofluoranthene	3.3	mg/kg WW	3.2	1.0
MH19C	SC1	3/15/2006	Sediment Trap	Benzofluoranthene	13	mg/kg WW	3.2	3.9
MH19C	SC1	8/5/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	3.8	mg/kg WW	0.73	5.2
MH19C	SC1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	2.9	mg/kg WW	0.73	4.0
MH19C	SC1	1/9/2007	Sediment Trap	Bis(2-Ethylhexyl)phthalate	0.8	mg/kg WW	0.73	1.1
MH19C	SC1	10/6/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	0.67	mg/kg WW	0.73	0.92
MH19C	SC1	3/15/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	3.8	mg/kg WW	0.73	5.2
MH19C	SC1	3/18/2008	Sediment Trap	Butyl benzyl phthalate	0.17 J	mg/kg WW	0.063	2.7
MH19C	SC1	1/9/2007	Sediment Trap	Butyl benzyl phthalate	0.14	mg/kg WW	0.063	2.2
MH19C	SC1	10/6/2006	Sediment Trap	Butyl benzyl phthalate	0.062	mg/kg WW	0.063	0.98
MH19C	SC1	3/15/2006	Sediment Trap	Butyl benzyl phthalate	0.54 J	mg/kg WW	0.063	8.6
MH19C	SC1	8/5/2008	Sediment Trap	Chrysene	2.2	mg/kg WW	1.4	1.6
MH19C	SC1	3/18/2008	Sediment Trap	Chrysene	4.2	mg/kg WW	1.4	3.0
MH19C	SC1	1/9/2007	Sediment Trap	Chrysene	2.1	mg/kg WW	1.4	1.5
MH19C	SC1	10/6/2006	Sediment Trap	Chrysene	2.1	mg/kg WW	1.4	1.5
MH19C	SC1	3/15/2006	Sediment Trap	Chrysene	6.8	mg/kg WW	1.4	4.9
MH19C	SC1	10/7/2009	Sediment Trap	Copper	56 J	mg/kg WW	310	0.18
MH19C	SC1	4/7/2009	Sediment Trap	Copper	63.4 J	mg/kg WW	310	0.20
MH19C	SC1	8/5/2008	Sediment Trap	Copper	86	mg/kg WW	310	0.28
MH19C	SC1	3/18/2008	Sediment Trap	Copper	117	mg/kg WW	310	0.38
MH19C	SC1	5/17/2007	Sediment Trap	Copper	121	mg/kg WW	310	0.39
MH19C	SC1	10/6/2006	Sediment Trap	Copper	282	mg/kg WW	310	0.91
MH19C	SC1	3/16/2006	Sediment Trap	Copper	142	mg/kg WW	310	0.46
MH19C	SC1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	0.32	mg/kg WW	0.19	1.7
MH19C	SC1	1/9/2007	Sediment Trap	Dibenzo(a,h)anthracene	0.17	mg/kg WW	0.19	0.89
MH19C	SC1	10/6/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.25	mg/kg WW	0.19	1.3
MH19C	SC1	3/15/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.6	mg/kg WW	0.19	3.2

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH19C	SC1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	0.1 J	mg/kg WW	0.42	0.24
MH19C	SC1	10/6/2006	Sediment Trap	Di-n-Octyl phthalate	0.044	mg/kg WW	0.42	0.10
MH19C	SC1	8/5/2008	Sediment Trap	Fluoranthene	2.7	mg/kg WW	1.7	1.6
MH19C	SC1	3/18/2008	Sediment Trap	Fluoranthene	7.4	mg/kg WW	1.7	4.4
MH19C	SC1	1/9/2007	Sediment Trap	Fluoranthene	4	mg/kg WW	1.7	2.4
MH19C	SC1	10/6/2006	Sediment Trap	Fluoranthene	3.7	mg/kg WW	1.7	2.2
MH19C	SC1	3/15/2006	Sediment Trap	Fluoranthene	12	mg/kg WW	1.7	7.1
MH19C	SC1	3/18/2008	Sediment Trap	Fluorene	0.15 J	mg/kg WW	0.36	0.42
MH19C	SC1	1/9/2007	Sediment Trap	Fluorene	0.11 J	mg/kg WW	0.36	0.31
MH19C	SC1	10/6/2006	Sediment Trap	Fluorene	0.1	mg/kg WW	0.36	0.28
MH19C	SC1	3/15/2006	Sediment Trap	Fluorene	0.42 J	mg/kg WW	0.36	1.2
MH19C	SC1	8/5/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.84	mg/kg WW	0.53	1.6
MH19C	SC1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.3	mg/kg WW	0.53	2.5
MH19C	SC1	1/9/2007	Sediment Trap	Indeno(1,2,3-cd)pyrene	1.1	mg/kg WW	0.53	2.1
MH19C	SC1	10/6/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.58	mg/kg WW	0.53	1.1
MH19C	SC1	3/15/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2.5	mg/kg WW	0.53	4.7
MH19C	SC1	10/7/2009	Sediment Trap	Lead	60 J	mg/kg WW	40	1.5
MH19C	SC1	4/7/2009	Sediment Trap	Lead	64 J	mg/kg WW	40	1.6
MH19C	SC1	8/5/2008	Sediment Trap	Lead	250	mg/kg WW	40	6.3
MH19C	SC1	3/18/2008	Sediment Trap	Lead	405	mg/kg WW	40	10
MH19C	SC1	5/17/2007	Sediment Trap	Lead	787	mg/kg WW	40	20
MH19C	SC1	10/6/2006	Sediment Trap	Lead	1070	mg/kg WW	40	27
MH19C	SC1	3/16/2006	Sediment Trap	Lead	740	mg/kg WW	40	19
MH19C	SC1	3/18/2008	Sediment Trap	Mercury	0.1	mg/kg WW	0.41	0.24
MH19C	SC1	3/16/2006	Sediment Trap	Mercury	0.16	mg/kg WW	0.41	0.39
MH19C	SC1	8/5/2008	Sediment Trap	Phenanthrene	1.3	mg/kg WW	1.5	0.87
MH19C	SC1	3/18/2008	Sediment Trap	Phenanthrene	2.7	mg/kg WW	1.5	1.8
MH19C	SC1	1/9/2007	Sediment Trap	Phenanthrene	1.7	mg/kg WW	1.5	1.1
MH19C	SC1	10/6/2006	Sediment Trap	Phenanthrene	1.8	mg/kg WW	1.5	1.2
MH19C	SC1	3/15/2006	Sediment Trap	Phenanthrene	6	mg/kg WW	1.5	4.0
MH19C	SC1	8/5/2008	Sediment Trap	Pyrene	2.2	mg/kg WW	2.6	0.85
MH19C	SC1	3/18/2008	Sediment Trap	Pyrene	4.2	mg/kg WW	2.6	1.6
MH19C	SC1	1/9/2007	Sediment Trap	Pyrene	2.4	mg/kg WW	2.6	0.92
MH19C	SC1	10/6/2006	Sediment Trap	Pyrene	2.6	mg/kg WW	2.6	1.0
MH19C	SC1	3/15/2006	Sediment Trap	Pyrene	8.4	mg/kg WW	2.6	3.2
MH19C	SC1	8/5/2008	Sediment Trap	Total cPAH	1.8815	mg/kg WW	0.062	30
MH19C	SC1	3/18/2008	Sediment Trap	Total cPAH	3.814	mg/kg WW	0.062	62
MH19C	SC1	1/9/2007	Sediment Trap	Total cPAH	2.308	mg/kg WW	0.062	37
MH19C	SC1	10/6/2006	Sediment Trap	Total cPAH	2.044	mg/kg WW	0.062	33
MH19C	SC1	3/15/2006	Sediment Trap	Total cPAH	6.588	mg/kg WW	0.062	110
MH19C	SC1	8/5/2008	Sediment Trap	Total HPAHs	14.7	mg/kg WW	12	1.2
MH19C	SC1	3/18/2008	Sediment Trap	Total HPAHs	31.1	mg/kg WW	12	2.6
MH19C	SC1	1/9/2007	Sediment Trap	Total HPAHs	17.9	mg/kg WW	12	1.5
MH19C	SC1	10/6/2006	Sediment Trap	Total HPAHs	15.6	mg/kg WW	12	1.3
MH19C	SC1	3/15/2006	Sediment Trap	Total HPAHs	53	mg/kg WW	12	4.4
MH19C	SC1	8/5/2008	Sediment Trap	Total LPAHs	1.3	mg/kg WW	5.2	0.25
MH19C	SC1	3/18/2008	Sediment Trap	Total LPAHs	3.3	mg/kg WW	5.2	0.63
MH19C	SC1	1/9/2007	Sediment Trap	Total LPAHs	2.1	mg/kg WW	5.2	0.40
MH19C	SC1	10/6/2006	Sediment Trap	Total LPAHs	2.3	mg/kg WW	5.2	0.44
MH19C	SC1	3/15/2006	Sediment Trap	Total LPAHs	7.5	mg/kg WW	5.2	1.4
MH19C	SC1	4/7/2009	Sediment Trap	Total PCBs	0.23	mg/kg WW	0.038	6.1
MH19C	SC1	8/5/2008	Sediment Trap	Total PCBs	0.24	mg/kg WW	0.038	6.3
MH19C	SC1	5/17/2007	Sediment Trap	Total PCBs	0.078	mg/kg WW	0.038	2.1
MH19C	SC1	1/9/2007	Sediment Trap	Total PCBs	0.19	mg/kg WW	0.038	5.0
MH19C	SC1	3/16/2006	Sediment Trap	Total PCBs	0.73	mg/kg WW	0.038	19
MH19C	SC1	8/11/2005	Sediment Trap	Total PCBs	0.038	mg/kg WW	0.038	1.0
MH19C	SC1	10/7/2009	Sediment Trap	Zinc	163 J	mg/kg WW	410	0.40
MH19C	SC1	4/7/2009	Sediment Trap	Zinc	162 J	mg/kg WW	410	0.40
MH19C	SC1	8/5/2008	Sediment Trap	Zinc	179	mg/kg WW	410	0.44
MH19C	SC1	3/18/2008	Sediment Trap	Zinc	241	mg/kg WW	410	0.59
MH19C	SC1	5/17/2007	Sediment Trap	Zinc	289	mg/kg WW	410	0.70
MH19C	SC1	10/6/2006	Sediment Trap	Zinc	418	mg/kg WW	410	1.0
MH19C	SC1	3/16/2006	Sediment Trap	Zinc	276	mg/kg WW	410	0.67
MH368	SC1	6/15/2009	Grab	Arsenic	11	mg/kg	7.3	1.5
MH368	SC1	6/15/2009	Grab	Benzo(a)pyrene	0.076 J	mg/kg WW	0.062	1.2
MH368	SC1	6/15/2009	Grab	Benzofluoranthene	0.146	mg/kg WW	3.2	0.046

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH368	SC1	6/15/2009	Grab	Bis(2-Ethylhexyl)phthalate	0.27	mg/kg WW	0.73	0.37
MH368	SC1	6/15/2009	Grab	Chrysene	0.086 J	mg/kg WW	1.4	0.061
MH368	SC1	6/15/2009	Grab	Copper	26.6	mg/kg WW	310	0.086
MH368	SC1	6/15/2009	Grab	Di-n-Octyl phthalate	0.23	mg/kg WW	0.42	0.55
MH368	SC1	6/15/2009	Grab	Fluoranthene	0.14 J	mg/kg WW	1.7	0.082
MH368	SC1	6/15/2009	Grab	Lead	37	mg/kg WW	40	0.93
MH368	SC1	6/15/2009	Grab	Mercury	0.06	mg/kg WW	0.41	0.15
MH368	SC1	6/15/2009	Grab	Pyrene	0.085	mg/kg WW	2.6	0.033
MH368	SC1	6/15/2009	Grab	Total cPAH	0.10106	mg/kg WW	0.062	1.6
MH368	SC1	6/15/2009	Grab	Total HPAHs	0.53	mg/kg WW	12	0.044
MH368	SC1	6/15/2009	Grab	Total PCBs	0.54	mg/kg WW	0.038	14
MH368	SC1	6/15/2009	Grab	Zinc	163	mg/kg WW	410	0.40
MH369	SC3	4/27/2010	Filter/Stormwater	Acenaphthene	0.068	mg/kg	0.25	0.27
MH369	SC3	6/2/2010	Filter/Stormwater	Arsenic	70	mg/kg	7.3	9.6
MH369	SC3	5/20/2010	Filter/Stormwater	Arsenic	70	mg/kg	7.3	9.6
MH369	SC3	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.36	mg/kg	1.3	0.28
MH369	SC3	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.38	mg/kg	1.3	0.29
MH369	SC3	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	0.42	mg/kg	0.062	6.8
MH369	SC3	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.46 J	mg/kg	0.062	7.4
MH369	SC3	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.36	mg/kg WW	0.48	0.75
MH369	SC3	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.4 J	mg/kg WW	0.48	0.83
MH369	SC3	6/2/2010	Filter/Stormwater	Benzofluoranthene	0.86	mg/kg WW	3.2	0.27
MH369	SC3	4/27/2010	Filter/Stormwater	Benzofluoranthene	0.86	mg/kg WW	3.2	0.27
MH369	SC3	6/2/2010	Filter/Stormwater	Cadmium	5	mg/kg WW	3.7	1.4
MH369	SC3	5/20/2010	Filter/Stormwater	Cadmium	6	mg/kg WW	3.7	1.6
MH369	SC3	4/27/2010	Filter/Stormwater	Cadmium	9	mg/kg WW	3.7	2.4
MH369	SC3	6/2/2010	Filter/Stormwater	Chromium	80	mg/kg WW	35.6	2.2
MH369	SC3	5/20/2010	Filter/Stormwater	Chromium	98	mg/kg WW	35.6	2.8
MH369	SC3	4/27/2010	Filter/Stormwater	Chromium	108 J	mg/kg WW	35.6	3.0
MH369	SC3	6/2/2010	Filter/Stormwater	Chrysene	1	mg/kg WW	1.4	0.71
MH369	SC3	4/27/2010	Filter/Stormwater	Chrysene	0.99	mg/kg WW	1.4	0.71
MH369	SC3	6/2/2010	Filter/Stormwater	Copper	86	mg/kg WW	310	0.28
MH369	SC3	5/20/2010	Filter/Stormwater	Copper	111 J	mg/kg WW	310	0.36
MH369	SC3	4/27/2010	Filter/Stormwater	Copper	133	mg/kg WW	310	0.43
MH369	SC3	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.12 J	mg/kg WW	0.19	0.63
MH369	SC3	6/2/2010	Filter/Stormwater	Fluoranthene	1.3	mg/kg WW	1.7	0.76
MH369	SC3	4/27/2010	Filter/Stormwater	Fluoranthene	1.5	mg/kg WW	1.7	0.88
MH369	SC3	6/2/2010	Filter/Stormwater	Fluorene	0.12	mg/kg WW	0.36	0.33
MH369	SC3	4/27/2010	Filter/Stormwater	Fluorene	0.13	mg/kg WW	0.36	0.36
MH369	SC3	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.26	mg/kg WW	0.53	0.49
MH369	SC3	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.31 J	mg/kg WW	0.53	0.58
MH369	SC3	6/2/2010	Filter/Stormwater	Lead	60	mg/kg WW	40	1.5
MH369	SC3	5/20/2010	Filter/Stormwater	Lead	90	mg/kg WW	40	2.3
MH369	SC3	4/27/2010	Filter/Stormwater	Lead	130	mg/kg WW	40	3.3
MH369	SC3	6/2/2010	Filter/Stormwater	Mercury	0.1 J	mg/kg WW	0.41	0.24
MH369	SC3	5/20/2010	Filter/Stormwater	Mercury	0.2 J	mg/kg WW	0.41	0.49
MH369	SC3	4/27/2010	Filter/Stormwater	Mercury	0.2 J	mg/kg WW	0.41	0.49
MH369	SC3	6/2/2010	Filter/Stormwater	Phenanthrene	0.78	mg/kg WW	1.5	0.52
MH369	SC3	4/27/2010	Filter/Stormwater	Phenanthrene	0.99	mg/kg WW	1.5	0.66
MH369	SC3	6/2/2010	Filter/Stormwater	Pyrene	1.1	mg/kg WW	2.6	0.42
MH369	SC3	4/27/2010	Filter/Stormwater	Pyrene	0.86	mg/kg WW	2.6	0.33
MH369	SC3	6/2/2010	Filter/Stormwater	Total cPAH	0.584	mg/kg WW	0.062	9.4
MH369	SC3	4/27/2010	Filter/Stormwater	Total cPAH	0.6369	mg/kg WW	0.062	10
MH369	SC3	5/20/2010	Filter/Stormwater	Total Dioxins/Furans	17.33695	mg/kg WW	3.9	4.4
MH369	SC3	6/2/2010	Filter/Stormwater	Total HPAHs	5.7	mg/kg WW	12	0.48
MH369	SC3	4/27/2010	Filter/Stormwater	Total HPAHs	5.9	mg/kg WW	12	0.49
MH369	SC3	6/2/2010	Filter/Stormwater	Total LPAHs	1.04	mg/kg WW	5.2	0.20
MH369	SC3	4/27/2010	Filter/Stormwater	Total LPAHs	1.41	mg/kg WW	5.2	0.27
MH369	SC3	6/2/2010	Filter/Stormwater	Total PCBs	0.69	mg/kg WW	0.038	18
MH369	SC3	5/20/2010	Filter/Stormwater	Total PCBs	0.23	mg/kg WW	0.038	6.1
MH369	SC3	4/27/2010	Filter/Stormwater	Total PCBs	1.06	mg/kg WW	0.038	28
MH369	SC3	6/2/2010	Filter/Stormwater	Zinc	630	mg/kg WW	410	1.5
MH369	SC3	5/20/2010	Filter/Stormwater	Zinc	630	mg/kg WW	410	1.5
MH369	SC3	4/27/2010	Filter/Stormwater	Zinc	820 J	mg/kg WW	410	2.0
MH402	SC1	4/19/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
MH402	SC1	4/19/2010	Grab	Cadmium	2.5	mg/kg WW	3.7	0.68

Table 7.2-12
Storm Drain Solids Sampling Results - South-Central Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH402	SC1	4/19/2010	Grab	Chromium	53.4	mg/kg WW	35.6	1.5
MH402	SC1	4/19/2010	Grab	Copper	83.9	mg/kg WW	310	0.27
MH402	SC1	4/19/2010	Grab	Lead	94	mg/kg WW	40	2.4
MH402	SC1	4/19/2010	Grab	Mercury	0.04	mg/kg WW	0.41	0.098
MH402	SC1	4/19/2010	Grab	Total PCBs	0.68	mg/kg WW	0.038	18
MH402	SC1	6/11/2009	Grab	Total PCBs	1.3	mg/kg WW	0.038	34
MH402	SC1	4/19/2010	Grab	Zinc	304	mg/kg WW	410	0.74
MH413	SC1	4/19/2010	Grab	Cadmium	3	mg/kg WW	3.7	0.81
MH413	SC1	4/19/2010	Grab	Chromium	54	mg/kg WW	35.6	1.5
MH413	SC1	4/19/2010	Grab	Copper	115	mg/kg WW	310	0.37
MH413	SC1	4/19/2010	Grab	Lead	100	mg/kg WW	40	2.5
MH413	SC1	4/19/2010	Grab	Total PCBs	0.37	mg/kg WW	0.038	9.7
MH413	SC1	4/19/2010	Grab	Zinc	103	mg/kg WW	410	0.25
MH414	SC1	4/19/2010	Grab	Cadmium	4	mg/kg WW	3.7	1.1
MH414	SC1	4/19/2010	Grab	Chromium	56	mg/kg WW	35.6	1.6
MH414	SC1	4/19/2010	Grab	Copper	12	mg/kg WW	310	0.039
MH414	SC1	4/19/2010	Grab	Total PCBs	0.12	mg/kg WW	0.038	3.2
MH414	SC1	4/10/2007	Grab	Total PCBs	0.37	mg/kg WW	0.038	9.7
MH414	SC1	4/19/2010	Grab	Zinc	110	mg/kg WW	410	0.27
MH415	SC6	4/19/2010	Grab	Chromium	60	mg/kg WW	35.6	1.7
MH415	SC6	4/19/2010	Grab	Copper	125	mg/kg WW	310	0.40
MH415	SC6	4/19/2010	Grab	Total PCBs	0.3	mg/kg WW	0.038	7.9
MH415	SC6	6/11/2009	Grab	Total PCBs	17	mg/kg WW	0.038	450
MH415	SC6	9/22/2008	Grab	Total PCBs	8.2	mg/kg WW	0.038	220
MH415	SC6	4/10/2007	Grab	Total PCBs	47	mg/kg WW	0.038	1200
MH415	SC6	3/14/2007	Grab	Total PCBs	104	mg/kg WW	0.038	2700
MH415	SC6	6/6/2005	Grab	Total PCBs	13	mg/kg WW	0.038	340
MH415	SC6	4/19/2010	Grab	Zinc	120	mg/kg WW	410	0.29
MH461	SC1	11/24/2004	Filter/Undifferentiated	Total PCBs	0.04	mg/kg WW	0.038	1.1
MH471	SC7	4/21/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
MH471	SC7	4/21/2010	Grab	Cadmium	3.3	mg/kg WW	3.7	0.89
MH471	SC7	4/21/2010	Grab	Chromium	105	mg/kg WW	35.6	2.9
MH471	SC7	4/21/2010	Grab	Copper	658	mg/kg WW	310	2.1
MH471	SC7	4/21/2010	Grab	Lead	248	mg/kg WW	40	6.2
MH471	SC7	4/21/2010	Grab	Mercury	0.1	mg/kg WW	0.41	0.24
MH471	SC7	4/21/2010	Grab	Total PCBs	6.8	mg/kg WW	0.038	180
MH471	SC7	6/11/2009	Grab	Total PCBs	12.8	mg/kg WW	0.038	340
MH471	SC7	4/21/2010	Grab	Zinc	619	mg/kg WW	410	1.5
OWS472A	SC8	6/11/2009	Grab	Total PCBs	0.28	mg/kg WW	0.038	7.4
OWS472A	SC8	3/14/2007	Grab	Total PCBs	24	mg/kg WW	0.038	630
OWS472A	SC8	1/5/2006	Grab	Total PCBs	5.6	mg/kg WW	0.038	150
UNKMH15	SC8	4/19/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
UNKMH15	SC8	4/19/2010	Grab	Cadmium	35	mg/kg WW	3.7	9.3
UNKMH15	SC8	4/19/2010	Grab	Chromium	191	mg/kg WW	35.6	5.4
UNKMH15	SC8	4/19/2010	Grab	Copper	496	mg/kg WW	310	1.6
UNKMH15	SC8	4/19/2010	Grab	Lead	210	mg/kg WW	40	5.3
UNKMH15	SC8	4/19/2010	Grab	Mercury	0.15	mg/kg WW	0.41	0.37
UNKMH15	SC8	4/19/2010	Grab	Total PCBs	0.88	mg/kg WW	0.038	23
UNKMH15	SC8	4/19/2010	Grab	Zinc	1810	mg/kg WW	410	4.4

All samples presented as dry weight concentrations except as noted.
WW = wet weight
RISL = RI Selected Screening Level
Table includes only chemicals that exceed the screening level in at least one sample in this drainage area
Indicates exceedance of screening level.

Table 7.2-13
Data Summary: Storm Drain Solids
South Lateral Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	26 / 44	7.0	110	23	7.3	25 / 26	15
	Cadmium	35 / 35	1.5	82	19	3.7	32 / 35	22
	Chromium	35 / 35	37	312	145	35.6	35 / 35	8.8
	Copper	44 / 44	34	1,200	329	310	15 / 44	3.9
	Lead	44 / 44	41	851	221	40	44 / 44	21
	Mercury	40 / 44	0.060	14	0.73	0.41	11 / 40	35
	Zinc	44 / 44	137	2,990	1,265	410	40 / 44	7.3
Chlorinated Aromatics	Total PCBs	93 / 96	0.010	19	1.9	0.038	91 / 93	500
	Total dioxins/furans (pg/g)	1 / 1	6.600	6.6	6.6	3.9	1 / 1	1.7
PAHs	2-Methylnaphthalene	5 / 17	0.14	1.4	0.61	0.59	2 / 5	2.4
	Acenaphthene	7 / 18	0.13	2.5	0.66	0.25	6 / 7	10
	Anthracene	12 / 18	0.097	2.6	0.96	0.96	5 / 12	2.7
	Fluorene	8 / 18	0.19	3.1	0.76	0.36	6 / 8	8.6
	Phenanthrene	17 / 18	0.19	19	6.1	1.5	13 / 17	13
	Total LPAH	17 / 18	0.19	28	8.0	5.2	10 / 17	5.4
	Benzo(a)anthracene	15 / 18	0.21	11	3.3	1.3	9 / 15	8.5
	Benzo(a)pyrene	18 / 18	0.072	15	4.2	0.062	18 / 18	240
	Benzofluoranthenes	18 / 18	0.19	43	12	3.2	13 / 18	13
	Benzo(g,h,i)perylene	16 / 18	0.072	9.4	2.5	0.48	13 / 16	20
	Chrysene	18 / 18	0.076	23	7.0	1.4	13 / 18	16
	Dibenz(a,h)anthracene	11/18	0.11	3.5	1.1	0.19	10 / 11	18
	Fluoranthene	18 / 18	0.14	45	14	1.7	14 / 18	26
	Indeno(1,2,3-cd)pyrene	15 / 18	0.15	9.2	2.7	0.53	12 / 15	17
	Pyrene	18 / 18	0.092	23	7.3	2.6	13 / 18	8.8
	Total HPAH	18 / 18	0.64	180	59	12	15 / 18	15
	Total cPAH	18 / 18	0.10	22	6.1	0.062	18 / 18	350
Phthalates	Bis(2-Ethylhexyl)phthalate	16 / 16	0.44	42	12	0.73	14 / 16	58
	Butyl benzyl phthalate	8 / 16	0.44	1.6	0.70	0.063	8 / 8	25
	Dibutyl phthalate	6 / 17	0.079	1.6	0.59	1.4	1 / 6	1.1
	Dimethyl phthalate	1 / 15	0.33	0.33	0.33	0.071	1 / 1	4.6
	Di-n-Octyl phthalate	9 / 17	0.13	34	8.6	0.42	6 / 9	81
Other SVOCs	Dibenzofuran	6 / 17	0.26	1.8	0.62	0.23	6 / 6	7.8
	p-Cresol	3 / 15	0.10	0.82	0.44	0.67	1 / 3	1.2
	Phenol	3 / 16	0.54	0.67	0.63	0.42	3 / 3	1.6

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level
Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dimethylphenol; 2,4-dinitrophenol; acenaphthylene; benzoic acid; benzyl alcohol; diethyl phthalate; hexachlorobenzene; hexachlorobutadiene; naphthalene; N-nitrosodiphenylamine; and pentachlorophenol.

Table 7.2-14
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
South Lateral Drainage Area

Chemical Class	Chemical (Subdrainage:)	S1 (Main Line)	S2	S3	S6A	S6B	S7	S8
Metals	Arsenic	4.1	<1	15	2.7	2.7	2.7	5.5
	Cadmium	4.3	4.3	<1	22	11	13	15
	Chromium	3.0	8.8	2.2	6.4	4.2	4.2	7.4
	Copper	<1	1.3	<1	2.8	3.9	1.4	2.4
	Lead	11	10	4.2	11	5.5	21	10
	Mercury	2.0	1.3	<1	2.5	<1	2.5	35
	Zinc	3.8	3.9	3.6	7.3	3.2	3.0	7.3
Chlorinated Aromatics	Total PCBs	130	500	6.3	110	11	230	370
	Total dioxins/furans	1.7	--	--	--	--	--	--
PAHs	2-Methylnaphthalene			--	1.7	--	<1	2.4
	Acenaphthene	2.3	<1	--	1.3	--	<1	10
	Anthracene	1.8	<1	--	<1	--	<1	2.7
	Fluorene	1.6	<1	--	1.0	--	<1	8.6
	Phenanthrene	10	1.9	--	1.9	--	4.9	13
	Total LPAH	3.2	<1	--	<1	--	1.4	5.4
	Benzo(a)anthracene	8.5	<1	--	1.4	--	<1	6.6
	Benzo(a)pyrene	240	31	--	40	--	58	130
	Benzofluoranthenes	13	1.5	--	1.4	--	3.2	6.9
	Benzo(g,h,i)perylene	20	2.9	--	2.5	--	<1	5.4
	Chrysene	16	2.4	--	1.7	--	5.6	8.6
	Dibenzo(a,h)anthracene	18	<1	--	<1	--	<1	6.3
	Fluoranthene	26	4.7	--	3.1	--	8.2	24
	Indeno(1,2,3-cd)pyrene	17	2.1	--	2.3	--	<1	5.5
	Pyrene	8.8	1.7	--	1.4	--	3.6	6.2
	Total HPAHs	15	2.2	--	1.9	--	3.8	9.2
	Total cPAHs	350	43	--	53	--	84	190
Phthalates	Bis(2-Ethylhexyl)phthalate	47	14	--	8.1	--	36	58
	Butyl benzyl phthalate	25	13	--	7.0	--	<1	13
	Dibutyl phthalate	1.1	<1	--	<1	--	<1	<1
	Dimethyl phthalate	<1	<1	--	<1	--	<1	4.6
	Di-n-Octyl phthalate	64	81	--	1.3	--	<1	11
Other SVOCs	Dibenzofuran	2.1	<1	--	<1	--	<1	7.8
	p-Cresol	1.2	<1	--	<1	--	<1	<1
	Phenol	1.6	<1	--	<1	--	<1	<1

"--" indicates sample not analyzed for this parameter
No samples have been collected in subdrainages S4, S5, and S9
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-18.

(blue)	EF = 0 to 1
(green)	EF = >1 to 5 for metals, >1 to 10 for organics
(yellow)	EF = >5 to 25 for metals, >10 to 100 for organics
(orange)	EF = >25 to 125 for metals, >100 to 1,000 for organics

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB1307	S6A	4/27/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB1307	S6A	4/27/2010	Grab	Cadmium	14.6	mg/kg WW	3.7	3.9
CB1307	S6A	4/27/2010	Grab	Chromium	205	mg/kg WW	35.6	5.8
CB1307	S6A	4/27/2010	Grab	Copper	874	mg/kg WW	310	2.8
CB1307	S6A	4/27/2010	Grab	Lead	201	mg/kg WW	40	5.0
CB1307	S6A	4/27/2010	Grab	Mercury	0.34	mg/kg WW	0.41	0.83
CB1307	S6A	4/27/2010	Grab	Total PCBs	0.6	mg/kg WW	0.038	16
CB1307	S6A	4/27/2010	Grab	Zinc	1730	mg/kg WW	410	4.2
CB1308	S6B	4/27/2010	Grab	Arsenic	17	mg/kg WW	7.3	2.3
CB1308	S6B	4/27/2010	Grab	Cadmium	40.8	mg/kg WW	3.7	11
CB1308	S6B	4/27/2010	Grab	Chromium	151	mg/kg WW	35.6	4.2
CB1308	S6B	4/27/2010	Grab	Copper	1200	mg/kg WW	310	3.9
CB1308	S6B	4/27/2010	Grab	Lead	74	mg/kg WW	40	1.9
CB1308	S6B	4/27/2010	Grab	Mercury	0.14	mg/kg WW	0.41	0.34
CB1308	S6B	12/16/2010	Inlet Filter	Total PCBs	0.28	mg/kg WW	0.038	7.4
CB1308	S6B	4/27/2010	Grab	Total PCBs	0.41	mg/kg WW	0.038	11
CB1308	S6B	4/27/2010	Grab	Zinc	1330	mg/kg WW	410	3.2
CB1310	S6A	12/16/2010	Inlet Filter	Total PCBs	0.25	mg/kg WW	0.038	6.6
CB259	S7	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB259	S7	4/21/2010	Grab	Cadmium	19.7	mg/kg WW	3.7	5.3
CB259	S7	4/21/2010	Grab	Chromium	148	mg/kg WW	35.6	4.2
CB259	S7	4/21/2010	Grab	Copper	228	mg/kg WW	310	0.74
CB259	S7	4/21/2010	Grab	Lead	851	mg/kg WW	40	21
CB259	S7	4/21/2010	Grab	Mercury	0.12	mg/kg WW	0.41	0.29
CB259	S7	4/21/2010	Grab	Total PCBs	1.34	mg/kg WW	0.038	35
CB259	S7	4/21/2010	Grab	Zinc	895	mg/kg WW	410	2.2
CB260	S7	4/21/2010	Grab	Arsenic	17	mg/kg WW	7.3	2.3
CB260	S7	4/21/2010	Grab	Cadmium	14.3	mg/kg WW	3.7	3.9
CB260	S7	4/21/2010	Grab	Chromium	126	mg/kg WW	35.6	3.5
CB260	S7	4/21/2010	Grab	Copper	255	mg/kg WW	310	0.82
CB260	S7	4/21/2010	Grab	Lead	327	mg/kg WW	40	8.2
CB260	S7	4/21/2010	Grab	Mercury	0.12	mg/kg WW	0.41	0.29
CB260	S7	12/16/2010	Inlet Filter	Total PCBs	1.7	mg/kg WW	0.038	45
CB260	S7	4/21/2010	Grab	Total PCBs	0.91	mg/kg WW	0.038	24
CB260	S7	4/21/2010	Grab	Zinc	1010	mg/kg WW	410	2.5
CB261	S7	4/26/2010	Grab	Arsenic	18	mg/kg WW	7.3	2.5
CB261	S7	7/26/2006	Grab	Benzo(a)pyrene	3.6	mg/kg WW	0.062	58
CB261	S7	7/26/2006	Grab	Benzofluoranthene	10.2	mg/kg WW	3.2	3.2
CB261	S7	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	26	mg/kg WW	0.73	36
CB261	S7	4/26/2010	Grab	Cadmium	49.3	mg/kg WW	3.7	13
CB261	S7	4/26/2010	Grab	Chromium	138	mg/kg WW	35.6	3.9
CB261	S7	7/26/2006	Grab	Chrysene	7.9	mg/kg WW	1.4	5.6
CB261	S7	4/26/2010	Grab	Copper	444	mg/kg WW	310	1.4
CB261	S7	7/26/2006	Grab	Fluoranthene	14	mg/kg WW	1.7	8.2
CB261	S7	4/26/2010	Grab	Lead	113	mg/kg WW	40	2.8
CB261	S7	4/26/2010	Grab	Mercury	0.09	mg/kg WW	0.41	0.22
CB261	S7	7/26/2006	Grab	Phenanthrene	7.4	mg/kg WW	1.5	4.9
CB261	S7	7/26/2006	Grab	Pyrene	9.4	mg/kg WW	2.6	3.6
CB261	S7	7/26/2006	Grab	Total cPAH	5.209	mg/kg WW	0.062	84
CB261	S7	7/26/2006	Grab	Total HPAHs	45	mg/kg WW	12	3.8
CB261	S7	7/26/2006	Grab	Total LPAHs	7.4	mg/kg WW	5.2	1.4
CB261	S7	4/26/2010	Grab	Total PCBs	1.5	mg/kg WW	0.038	39
CB261	S7	6/11/2009	Grab	Total PCBs	8.8	mg/kg WW	0.038	230
CB261	S7	4/26/2010	Grab	Zinc	1210	mg/kg WW	410	3.0

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
9A	S3	5/10/2010	Grab	Total PCBs	0.097	mg/kg WW	0.038	2.6
CB308	S6A	4/26/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB308	S6A	4/26/2010	Inlet Filter	Cadmium	82	mg/kg WW	3.7	22
CB308	S6A	4/26/2010	Grab	Cadmium	10.8	mg/kg WW	3.7	2.9
CB308	S6A	4/26/2010	Grab	Chromium	229	mg/kg WW	35.6	6.4
CB308	S6A	4/26/2010	Inlet Filter	Chromium	119	mg/kg WW	35.6	3.3
CB308	S6A	4/26/2010	Grab	Copper	250	mg/kg WW	310	0.81
CB308	S6A	4/26/2010	Inlet Filter	Copper	213	mg/kg WW	310	0.69
CB308	S6A	4/26/2010	Grab	Lead	128	mg/kg WW	40	3.2
CB308	S6A	4/26/2010	Inlet Filter	Lead	117	mg/kg WW	40	2.9
CB308	S6A	4/26/2010	Inlet Filter	Mercury	0.17	mg/kg WW	0.41	0.41
CB308	S6A	4/26/2010	Grab	Mercury	0.16	mg/kg WW	0.41	0.39
CB308	S6A	4/26/2010	Grab	Total PCBs	0.85	mg/kg WW	0.038	22
CB308	S6A	4/26/2010	Inlet Filter	Total PCBs	0.61	mg/kg WW	0.038	16
CB308	S6A	4/26/2010	Grab	Zinc	2240	mg/kg WW	410	5.5
CB308	S6A	4/26/2010	Inlet Filter	Zinc	1440	mg/kg WW	410	3.5
CB310B	S6A	4/29/2010	Grab	Cadmium	2.2	mg/kg WW	3.7	0.59
CB310B	S6A	4/29/2010	Grab	Chromium	86.1	mg/kg WW	35.6	2.4
CB310B	S6A	4/29/2010	Grab	Copper	134	mg/kg WW	310	0.43
CB310B	S6A	4/29/2010	Grab	Lead	125	mg/kg WW	40	3.1
CB310B	S6A	4/29/2010	Grab	Mercury	0.06	mg/kg WW	0.41	0.15
CB310B	S6A	4/29/2010	Grab	Total PCBs	0.27	mg/kg WW	0.038	7.1
CB310B	S6A	4/29/2010	Grab	Zinc	565	mg/kg WW	410	1.4
CB310D	S6A	4/29/2010	Grab	Cadmium	1.5	mg/kg WW	3.7	0.41
CB310D	S6A	4/29/2010	Grab	Chromium	68.1	mg/kg WW	35.6	1.9
CB310D	S6A	4/29/2010	Grab	Copper	87.2	mg/kg WW	310	0.28
CB310D	S6A	4/29/2010	Grab	Lead	54	mg/kg WW	40	1.4
CB310D	S6A	4/29/2010	Grab	Total PCBs	0.3	mg/kg WW	0.038	7.9
CB310D	S6A	4/29/2010	Grab	Zinc	285	mg/kg WW	410	0.70
CB310G	S6A	4/27/2010	Grab	Cadmium	4.9	mg/kg WW	3.7	1.3
CB310G	S6A	4/27/2010	Grab	Chromium	152	mg/kg WW	35.6	4.3
CB310G	S6A	4/27/2010	Grab	Copper	194	mg/kg WW	310	0.63
CB310G	S6A	4/27/2010	Grab	Lead	458	mg/kg WW	40	11
CB310G	S6A	4/27/2010	Grab	Mercury	0.23	mg/kg WW	0.41	0.56
CB310G	S6A	4/27/2010	Grab	Total PCBs	0.6	mg/kg WW	0.038	16
CB310G	S6A	4/27/2010	Grab	Zinc	1530	mg/kg WW	410	3.7
CB384	S2	9/23/2008	Grab	Total PCBs	3.6	mg/kg WW	0.038	95
CB384	S2	3/14/2007	Grab	Total PCBs	19	mg/kg WW	0.038	500
CB384	S2	5/13/2005	Grab	Total PCBs	16	mg/kg WW	0.038	420
CB446	S6A	7/26/2006	Grab	2-Methylnaphthalene	0.98	mg/kg	0.59	1.7
CB446	S6A	7/26/2006	Grab	Acenaphthene	0.32	mg/kg	0.25	1.3
CB446	S6A	7/26/2006	Grab	Anthracene	0.53	mg/kg WW	0.96	0.55
CB446	S6A	7/26/2006	Grab	Benzo(a)anthracene	1.8	mg/kg WW	1.3	1.4
CB446	S6A	7/26/2006	Grab	Benzo(a)pyrene	2.5	mg/kg WW	0.062	40
CB446	S6A	7/26/2006	Grab	Benzo(g,h,i)perylene	1.2	mg/kg WW	0.48	2.5
CB446	S6A	7/26/2006	Grab	Benzofluoranthene	4.6	mg/kg WW	3.2	1.4
CB446	S6A	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	5.9	mg/kg WW	0.73	8.1
CB446	S6A	7/26/2006	Grab	Butyl benzyl phthalate	0.44	mg/kg WW	0.063	7.0
CB446	S6A	7/26/2006	Grab	Chrysene	2.4	mg/kg WW	1.4	1.7
CB446	S6A	7/26/2006	Grab	Di-n-Octyl phthalate	0.55	mg/kg WW	0.42	1.3
CB446	S6A	7/26/2006	Grab	Fluoranthene	5.3	mg/kg WW	1.7	3.1
CB446	S6A	7/26/2006	Grab	Fluorene	0.37	mg/kg WW	0.36	1.0
CB446	S6A	7/26/2006	Grab	Indeno(1,2,3-cd)pyrene	1.2	mg/kg WW	0.53	2.3
CB446	S6A	7/26/2006	Grab	Phenanthrene	2.9	mg/kg WW	1.5	1.9
CB446	S6A	7/26/2006	Grab	Pyrene	3.7	mg/kg WW	2.6	1.4

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB446	S6A	7/26/2006	Grab	Total cPAH	3.3	mg/kg WW	0.062	53
CB446	S6A	7/26/2006	Grab	Total HPAHs	22.7	mg/kg WW	12	1.9
CB446	S6A	7/26/2006	Grab	Total LPAHs	4.1	mg/kg WW	5.2	0.79
CB448	S6A	4/26/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB448	S6A	4/26/2010	Grab	Cadmium	11.4	mg/kg WW	3.7	3.1
CB448	S6A	4/26/2010	Grab	Chromium	177	mg/kg WW	35.6	5.0
CB448	S6A	4/26/2010	Grab	Copper	197	mg/kg WW	310	0.64
CB448	S6A	4/26/2010	Grab	Lead	382	mg/kg WW	40	9.6
CB448	S6A	4/26/2010	Grab	Mercury	0.12	mg/kg WW	0.41	0.29
CB448	S6A	4/26/2010	Grab	Total PCBs	2.1	mg/kg WW	0.038	55
CB448	S6A	6/16/2009	Grab	Total PCBs	2.9	mg/kg WW	0.038	76
CB448	S6A	4/26/2010	Grab	Zinc	1000	mg/kg WW	410	2.4
CB451	S6A	4/26/2010	Grab	Arsenic	11	mg/kg WW	7.3	1.5
CB451	S6A	4/26/2010	Grab	Cadmium	10.1	mg/kg WW	3.7	2.7
CB451	S6A	4/26/2010	Grab	Chromium	132	mg/kg WW	35.6	3.7
CB451	S6A	4/26/2010	Grab	Copper	202	mg/kg WW	310	0.65
CB451	S6A	4/26/2010	Grab	Lead	120	mg/kg WW	40	3.0
CB451	S6A	4/26/2010	Grab	Mercury	0.13	mg/kg WW	0.41	0.32
CB451	S6A	4/26/2010	Grab	Total PCBs	1.26	mg/kg WW	0.038	33
CB451	S6A	4/26/2010	Grab	Zinc	1940	mg/kg WW	410	4.7
CB453	S6A	4/29/2010	Grab	Cadmium	16.2	mg/kg WW	3.7	4.4
CB453	S6A	4/29/2010	Grab	Chromium	121	mg/kg WW	35.6	3.4
CB453	S6A	4/29/2010	Grab	Copper	279	mg/kg WW	310	0.90
CB453	S6A	4/29/2010	Grab	Lead	125	mg/kg WW	40	3.1
CB453	S6A	4/29/2010	Grab	Mercury	0.57	mg/kg WW	0.41	1.4
CB453	S6A	12/16/2010	Inlet Filter	Total PCBs	1.9	mg/kg WW	0.038	50
CB453	S6A	4/29/2010	Grab	Total PCBs	4.1	mg/kg WW	0.038	110
CB453	S6A	6/16/2009	Grab	Total PCBs	3.8	mg/kg WW	0.038	100
CB453	S6A	4/29/2010	Grab	Zinc	1910	mg/kg WW	410	4.7
CB456	S6A	4/26/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB456	S6A	4/26/2010	Grab	Cadmium	28.8	mg/kg WW	3.7	7.8
CB456	S6A	4/26/2010	Grab	Chromium	179	mg/kg WW	35.6	5.0
CB456	S6A	4/26/2010	Grab	Copper	812	mg/kg WW	310	2.6
CB456	S6A	4/26/2010	Grab	Lead	142	mg/kg WW	40	3.6
CB456	S6A	4/26/2010	Grab	Mercury	0.83	mg/kg WW	0.41	2.0
CB456	S6A	4/26/2010	Grab	Total PCBs	0.65	mg/kg WW	0.038	17
CB456	S6A	6/16/2009	Grab	Total PCBs	2.5	mg/kg WW	0.038	66
CB456	S6A	4/26/2010	Grab	Zinc	1900	mg/kg WW	410	4.6
CB457	S6A	12/16/2010	Inlet Filter	Total PCBs	0.53	mg/kg WW	0.038	14
CB458	S6A	4/26/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB458	S6A	4/26/2010	Grab	Cadmium	40.7	mg/kg WW	3.7	11
CB458	S6A	4/26/2010	Grab	Chromium	217	mg/kg WW	35.6	6.1
CB458	S6A	4/26/2010	Grab	Copper	664	mg/kg WW	310	2.1
CB458	S6A	4/26/2010	Grab	Lead	324	mg/kg WW	40	8.1
CB458	S6A	4/26/2010	Grab	Mercury	0.73	mg/kg WW	0.41	1.8
CB458	S6A	4/26/2010	Grab	Total PCBs	1.17	mg/kg WW	0.038	31
CB458	S6A	4/26/2010	Grab	Zinc	2990	mg/kg WW	410	7.3
CB483	S8	4/21/2010	Grab	Arsenic	12	mg/kg WW	7.3	1.6
CB483	S8	4/21/2010	Grab	Cadmium	12.2	mg/kg WW	3.7	3.3
CB483	S8	4/21/2010	Grab	Chromium	78.7	mg/kg WW	35.6	2.2
CB483	S8	4/21/2010	Grab	Copper	274	mg/kg WW	310	0.88
CB483	S8	4/21/2010	Grab	Lead	154	mg/kg WW	40	3.9
CB483	S8	4/21/2010	Grab	Mercury	0.1	mg/kg WW	0.41	0.24
CB483	S8	4/21/2010	Grab	Total PCBs	0.29	mg/kg WW	0.038	7.6
CB483	S8	4/21/2010	Grab	Zinc	656	mg/kg WW	410	1.6

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB486	S8	4/21/2010	Grab	Arsenic	7	mg/kg WW	7.3	0.96
CB486	S8	4/21/2010	Grab	Cadmium	9.7	mg/kg WW	3.7	2.6
CB486	S8	4/21/2010	Grab	Chromium	61.4	mg/kg WW	35.6	1.7
CB486	S8	4/21/2010	Grab	Copper	166	mg/kg WW	310	0.54
CB486	S8	4/21/2010	Grab	Lead	100	mg/kg WW	40	2.5
CB486	S8	4/21/2010	Grab	Mercury	0.06	mg/kg WW	0.41	0.15
CB486	S8	4/21/2010	Grab	Total PCBs	0.28	mg/kg WW	0.038	7.4
CB486	S8	4/21/2010	Grab	Zinc	602	mg/kg WW	410	1.5
CB487	S8	4/21/2010	Grab	Arsenic	10	mg/kg WW	7.3	1.4
CB487	S8	4/21/2010	Grab	Cadmium	9.5	mg/kg WW	3.7	2.6
CB487	S8	4/21/2010	Grab	Chromium	62.6	mg/kg WW	35.6	1.8
CB487	S8	4/21/2010	Grab	Copper	434	mg/kg WW	310	1.4
CB487	S8	4/21/2010	Grab	Lead	59	mg/kg WW	40	1.5
CB487	S8	4/21/2010	Grab	Mercury	1.59	mg/kg WW	0.41	3.9
CB487	S8	12/16/2010	Inlet Filter	Total PCBs	2.4	mg/kg WW	0.038	63
CB487	S8	4/21/2010	Grab	Total PCBs	0.68	mg/kg WW	0.038	18
CB487	S8	4/21/2010	Grab	Zinc	775	mg/kg WW	410	1.9
CB488	S8	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB488	S8	4/21/2010	Grab	Cadmium	11.3	mg/kg WW	3.7	3.1
CB488	S8	4/21/2010	Grab	Chromium	132	mg/kg WW	35.6	3.7
CB488	S8	4/21/2010	Grab	Copper	502	mg/kg WW	310	1.6
CB488	S8	4/21/2010	Grab	Lead	119	mg/kg WW	40	3.0
CB488	S8	4/21/2010	Grab	Mercury	0.19	mg/kg WW	0.41	0.46
CB488	S8	4/21/2010	Grab	Total PCBs	0.72	mg/kg WW	0.038	19
CB488	S8	4/21/2010	Grab	Zinc	1250	mg/kg WW	410	3.0
CB489	S8	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB489	S8	4/21/2010	Grab	Cadmium	10.8	mg/kg WW	3.7	2.9
CB489	S8	4/21/2010	Grab	Chromium	131	mg/kg WW	35.6	3.7
CB489	S8	4/21/2010	Grab	Copper	376	mg/kg WW	310	1.2
CB489	S8	4/21/2010	Grab	Lead	104	mg/kg WW	40	2.6
CB489	S8	4/21/2010	Grab	Mercury	0.28	mg/kg WW	0.41	0.68
CB489	S8	12/16/2010	Inlet Filter	Total PCBs	1.11	mg/kg WW	0.038	29
CB489	S8	4/21/2010	Grab	Total PCBs	0.96	mg/kg WW	0.038	25
CB489	S8	4/21/2010	Grab	Zinc	1290	mg/kg WW	410	3.1
CB490	S8	4/21/2010	Grab	Arsenic	21	mg/kg WW	7.3	2.9
CB490	S8	4/21/2010	Grab	Cadmium	15.5	mg/kg WW	3.7	4.2
CB490	S8	4/21/2010	Grab	Chromium	139	mg/kg WW	35.6	3.9
CB490	S8	4/21/2010	Grab	Copper	366	mg/kg WW	310	1.2
CB490	S8	4/21/2010	Grab	Lead	134	mg/kg WW	40	3.4
CB490	S8	4/21/2010	Grab	Mercury	0.31	mg/kg WW	0.41	0.76
CB490	S8	4/21/2010	Grab	Total PCBs	0.185	mg/kg WW	0.038	4.9
CB490	S8	6/11/2009	Grab	Total PCBs	0.2	mg/kg WW	0.038	5.3
CB490	S8	4/21/2010	Grab	Zinc	1600	mg/kg WW	410	3.9
CB491	S8	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB491	S8	4/21/2010	Grab	Cadmium	12.1	mg/kg WW	3.7	3.3
CB491	S8	4/21/2010	Grab	Chromium	155	mg/kg WW	35.6	4.4
CB491	S8	4/21/2010	Grab	Copper	509	mg/kg WW	310	1.6
CB491	S8	4/21/2010	Grab	Lead	155	mg/kg WW	40	3.9
CB491	S8	4/21/2010	Grab	Mercury	0.17	mg/kg WW	0.41	0.41
CB491	S8	4/21/2010	Grab	Total PCBs	0.191	mg/kg WW	0.038	5.0
CB491	S8	4/21/2010	Grab	Zinc	968	mg/kg WW	410	2.4
CB502	S6B	12/16/2010	Inlet Filter	Total PCBs	0.154	mg/kg WW	0.038	4.1
CB502	S6B	6/16/2009	Grab	Total PCBs	0.39	mg/kg WW	0.038	10
CB503	S6B	4/21/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
CB503	S6B	4/21/2010	Grab	Cadmium	7.1	mg/kg WW	3.7	1.9

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
CB503	S6B	4/21/2010	Grab	Chromium	141	mg/kg WW	35.6	4.0
CB503	S6B	4/21/2010	Grab	Copper	536	mg/kg WW	310	1.7
CB503	S6B	4/21/2010	Grab	Lead	218	mg/kg WW	40	5.5
CB503	S6B	4/21/2010	Grab	Mercury	0.28	mg/kg WW	0.41	0.68
CB503	S6B	4/21/2010	Grab	Total PCBs	0.31	mg/kg WW	0.038	8.2
CB503	S6B	4/21/2010	Grab	Zinc	457	mg/kg WW	410	1.1
D393A	S2	5/10/2010	Grab	Total PCBs	0.95	mg/kg WW	0.038	25
MH1302	S6A	12/16/2010	Inlet Filter	Total PCBs	0.73	mg/kg WW	0.038	19
MH281	S1	6/15/2009	Grab	Anthracene	0.097	mg/kg WW	0.96	0.10
MH281	S1	6/15/2009	Grab	Arsenic	30	mg/kg WW	7.3	4.1
MH281	S1	6/15/2009	Grab	Benzo(a)anthracene	0.49	mg/kg WW	1.3	0.38
MH281	S1	6/15/2009	Grab	Benzo(a)pyrene	0.61	mg/kg WW	0.062	9.8
MH281	S1	6/15/2009	Grab	Benzo(g,h,i)perylene	0.22	mg/kg WW	0.48	0.46
MH281	S1	6/15/2009	Grab	Benzofluoranthene	1.36	mg/kg WW	3.2	0.43
MH281	S1	6/15/2009	Grab	Bis(2-Ethylhexyl)phthalate	0.56	mg/kg WW	0.73	0.77
MH281	S1	6/15/2009	Grab	Chrysene	0.8	mg/kg WW	1.4	0.57
MH281	S1	6/15/2009	Grab	Copper	141	mg/kg WW	310	0.45
MH281	S1	6/15/2009	Grab	Dibenzo(a,h)anthracene	0.11	mg/kg WW	0.19	0.58
MH281	S1	6/15/2009	Grab	Fluoranthene	1.7	mg/kg WW	1.7	1.0
MH281	S1	6/15/2009	Grab	Indeno(1,2,3-cd)pyrene	0.25	mg/kg WW	0.53	0.47
MH281	S1	6/15/2009	Grab	Lead	82	mg/kg WW	40	2.1
MH281	S1	6/15/2009	Grab	Mercury	0.09	mg/kg WW	0.41	0.22
MH281	S1	6/15/2009	Grab	p-Cresol	0.1	mg/kg WW	0.67	0.15
MH281	S1	6/15/2009	Grab	Phenanthrene	0.44	mg/kg WW	1.5	0.29
MH281	S1	6/15/2009	Grab	Pyrene	0.78	mg/kg WW	2.6	0.30
MH281	S1	6/15/2009	Grab	Total cPAH	0.839	mg/kg WW	0.062	14
MH281	S1	6/15/2009	Grab	Total HPAHs	6.3	mg/kg WW	12	0.53
MH281	S1	6/15/2009	Grab	Total LPAHs	0.54	mg/kg WW	5.2	0.10
MH281	S1	6/15/2009	Grab	Total PCBs	0.58	mg/kg WW	0.038	15
MH281	S1	6/15/2009	Grab	Zinc	497	mg/kg WW	410	1.2
MH356	S1	6/2/2010	Filter/Stormwater	2-Methylnaphthalene	0.14	mg/kg	0.59	0.24
MH356	S1	4/27/2010	Filter/Stormwater	2-Methylnaphthalene	0.17 J	mg/kg	0.59	0.29
MH356	S1	6/2/2010	Filter/Stormwater	Acenaphthene	0.29	mg/kg	0.25	1.2
MH356	S1	4/27/2010	Filter/Stormwater	Acenaphthene	0.13 J	mg/kg	0.25	0.52
MH356	S1	4/8/2010	Sediment Trap	Acenaphthene	0.43 J	mg/kg	0.25	1.7
MH356	S1	6/2/2010	Filter/Stormwater	Anthracene	0.25	mg/kg WW	0.96	0.26
MH356	S1	4/27/2010	Filter/Stormwater	Anthracene	1.6 J	mg/kg	0.96	1.7
MH356	S1	4/8/2010	Sediment Trap	Anthracene	1.3	mg/kg	0.96	1.4
MH356	S1	3/16/2006	Sediment Trap	Anthracene	1.7	mg/kg	0.96	1.8
MH356	S1	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	1.9	mg/kg WW	1.3	1.5
MH356	S1	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	1.2 J	mg/kg WW	1.3	0.92
MH356	S1	4/8/2010	Sediment Trap	Benzo(a)anthracene	7.2	mg/kg WW	1.3	5.5
MH356	S1	12/3/2008	Sediment Trap	Benzo(a)anthracene	0.33	mg/kg WW	1.3	0.25
MH356	S1	3/16/2006	Sediment Trap	Benzo(a)anthracene	11	mg/kg WW	1.3	8.5
MH356	S1	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	3.5	mg/kg WW	0.062	56
MH356	S1	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	1.5 J	mg/kg WW	0.062	24
MH356	S1	4/8/2010	Sediment Trap	Benzo(a)pyrene	12	mg/kg WW	0.062	190
MH356	S1	12/3/2008	Sediment Trap	Benzo(a)pyrene	0.52	mg/kg WW	0.062	8.4
MH356	S1	3/16/2006	Sediment Trap	Benzo(a)pyrene	15	mg/kg WW	0.062	240
MH356	S1	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	4.5	mg/kg WW	0.48	9.4
MH356	S1	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.3 J	mg/kg WW	0.48	2.7
MH356	S1	4/8/2010	Sediment Trap	Benzo(g,h,i)perylene	9.4	mg/kg WW	0.48	20
MH356	S1	12/3/2008	Sediment Trap	Benzo(g,h,i)perylene	0.6	mg/kg WW	0.48	1.3
MH356	S1	3/16/2006	Sediment Trap	Benzo(g,h,i)perylene	9	mg/kg WW	0.48	19
MH356	S1	6/2/2010	Filter/Stormwater	Benzofluoranthene	13.6	mg/kg WW	3.2	4.3

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH356	S1	4/27/2010	Filter/Stormwater	Benzofluoranthene	13.6	mg/kg WW	3.2	4.3
MH356	S1	4/8/2010	Sediment Trap	Benzofluoranthene	26	mg/kg WW	3.2	8.1
MH356	S1	12/3/2008	Sediment Trap	Benzofluoranthene	1.68	mg/kg WW	3.2	0.53
MH356	S1	3/16/2006	Sediment Trap	Benzofluoranthene	43	mg/kg WW	3.2	13
MH356	S1	4/8/2010	Sediment Trap	Bis(2-Ethylhexyl)phthalate	19	mg/kg WW	0.73	26
MH356	S1	12/3/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	1.5	mg/kg WW	0.73	2.1
MH356	S1	3/16/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	34	mg/kg WW	0.73	47
MH356	S1	4/8/2010	Sediment Trap	Butyl benzyl phthalate	0.53	mg/kg WW	0.063	8.4
MH356	S1	3/16/2006	Sediment Trap	Butyl benzyl phthalate	1.6	mg/kg WW	0.063	25
MH356	S1	6/2/2010	Filter/Stormwater	Cadmium	14	mg/kg WW	3.7	3.8
MH356	S1	5/20/2010	Filter/Stormwater	Cadmium	14	mg/kg WW	3.7	3.8
MH356	S1	4/27/2010	Filter/Stormwater	Cadmium	16	mg/kg WW	3.7	4.3
MH356	S1	6/2/2010	Filter/Stormwater	Chromium	101	mg/kg WW	35.6	2.8
MH356	S1	5/20/2010	Filter/Stormwater	Chromium	98	mg/kg WW	35.6	2.8
MH356	S1	4/27/2010	Filter/Stormwater	Chromium	94 J	mg/kg WW	35.6	2.6
MH356	S1	6/2/2010	Filter/Stormwater	Chrysene	9.9	mg/kg WW	1.4	7.1
MH356	S1	4/27/2010	Filter/Stormwater	Chrysene	9.7 J	mg/kg WW	1.4	6.9
MH356	S1	4/8/2010	Sediment Trap	Chrysene	16	mg/kg WW	1.4	11
MH356	S1	12/3/2008	Sediment Trap	Chrysene	0.85	mg/kg WW	1.4	0.61
MH356	S1	3/16/2006	Sediment Trap	Chrysene	23	mg/kg WW	1.4	16
MH356	S1	6/2/2010	Filter/Stormwater	Copper	250	mg/kg WW	310	0.81
MH356	S1	5/20/2010	Filter/Stormwater	Copper	254 J	mg/kg WW	310	0.82
MH356	S1	4/27/2010	Filter/Stormwater	Copper	226	mg/kg WW	310	0.73
MH356	S1	10/29/2007	Sediment Trap	Copper	40.9	mg/kg WW	310	0.13
MH356	S1	10/11/2006	Sediment Trap	Copper	276	mg/kg WW	310	0.89
MH356	S1	10/6/2006	Sediment Trap	Copper	276	mg/kg WW	310	0.89
MH356	S1	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	1.4	mg/kg WW	0.19	7.4
MH356	S1	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.87 J	mg/kg WW	0.19	4.6
MH356	S1	4/8/2010	Sediment Trap	Dibenzo(a,h)anthracene	3.5	mg/kg WW	0.19	18
MH356	S1	3/16/2006	Sediment Trap	Dibenzo(a,h)anthracene	2.1	mg/kg WW	0.19	11
MH356	S1	6/2/2010	Filter/Stormwater	Dibenzofuran	0.37	mg/kg WW	0.23	1.6
MH356	S1	4/27/2010	Filter/Stormwater	Dibenzofuran	0.26 J	mg/kg WW	0.23	1.1
MH356	S1	4/8/2010	Sediment Trap	Dibenzofuran	0.43 J	mg/kg WW	0.23	1.9
MH356	S1	4/8/2010	Sediment Trap	Dibutyl phthalate	1.6	mg/kg WW	1.4	1.1
MH356	S1	4/8/2010	Sediment Trap	Di-n-Octyl phthalate	27	mg/kg WW	0.42	64
MH356	S1	12/3/2008	Sediment Trap	Di-n-Octyl phthalate	0.28	mg/kg WW	0.42	0.67
MH356	S1	3/16/2006	Sediment Trap	Di-n-Octyl phthalate	9.8	mg/kg WW	0.42	23
MH356	S1	6/2/2010	Filter/Stormwater	Fluoranthene	18 J	mg/kg WW	1.7	11
MH356	S1	4/27/2010	Filter/Stormwater	Fluoranthene	18 J	mg/kg WW	1.7	11
MH356	S1	4/8/2010	Sediment Trap	Fluoranthene	28	mg/kg WW	1.7	16
MH356	S1	12/3/2008	Sediment Trap	Fluoranthene	1.1	mg/kg WW	1.7	0.65
MH356	S1	3/16/2006	Sediment Trap	Fluoranthene	45	mg/kg WW	1.7	26
MH356	S1	6/2/2010	Filter/Stormwater	Fluorene	0.24	mg/kg WW	0.36	0.67
MH356	S1	4/27/2010	Filter/Stormwater	Fluorene	0.19 J	mg/kg WW	0.36	0.53
MH356	S1	4/8/2010	Sediment Trap	Fluorene	0.57	mg/kg WW	0.36	1.6
MH356	S1	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	4.4	mg/kg WW	0.53	8.3
MH356	S1	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.7 J	mg/kg WW	0.53	3.2
MH356	S1	4/8/2010	Sediment Trap	Indeno(1,2,3-cd)pyrene	8.5	mg/kg WW	0.53	16
MH356	S1	12/3/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	0.53	mg/kg WW	0.53	1.0
MH356	S1	3/16/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	9.2	mg/kg WW	0.53	17
MH356	S1	6/2/2010	Filter/Stormwater	Lead	200	mg/kg WW	40	5.0
MH356	S1	5/20/2010	Filter/Stormwater	Lead	250	mg/kg WW	40	6.3
MH356	S1	4/27/2010	Filter/Stormwater	Lead	180	mg/kg WW	40	4.5
MH356	S1	10/29/2007	Sediment Trap	Lead	43	mg/kg WW	40	1.1
MH356	S1	10/11/2006	Sediment Trap	Lead	300	mg/kg WW	40	7.5

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH356	S1	10/6/2006	Sediment Trap	Lead	300	mg/kg WW	40	7.5
MH356	S1	5/20/2010	Filter/Stormwater	Mercury	0.3 J	mg/kg WW	0.41	0.73
MH356	S1	4/27/2010	Filter/Stormwater	Mercury	0.3 J	mg/kg WW	0.41	0.73
MH356	S1	10/29/2007	Sediment Trap	Mercury	0.08	mg/kg WW	0.41	0.20
MH356	S1	10/11/2006	Sediment Trap	Mercury	0.6	mg/kg WW	0.41	1.5
MH356	S1	10/6/2006	Sediment Trap	Mercury	0.6	mg/kg WW	0.41	1.5
MH356	S1	6/2/2010	Filter/Stormwater	Phenanthrene	5	mg/kg WW	1.5	3.3
MH356	S1	4/27/2010	Filter/Stormwater	Phenanthrene	1.7 J	mg/kg WW	1.5	1.1
MH356	S1	4/8/2010	Sediment Trap	Phenanthrene	11	mg/kg WW	1.5	7.3
MH356	S1	12/3/2008	Sediment Trap	Phenanthrene	0.39	mg/kg WW	1.5	0.26
MH356	S1	3/16/2006	Sediment Trap	Phenanthrene	15	mg/kg WW	1.5	10
MH356	S1	6/2/2010	Filter/Stormwater	Pyrene	6.8	mg/kg WW	2.6	2.6
MH356	S1	4/27/2010	Filter/Stormwater	Pyrene	4.3 J	mg/kg WW	2.6	1.7
MH356	S1	4/8/2010	Sediment Trap	Pyrene	15	mg/kg WW	2.6	5.8
MH356	S1	12/3/2008	Sediment Trap	Pyrene	0.81	mg/kg WW	2.6	0.31
MH356	S1	3/16/2006	Sediment Trap	Pyrene	23	mg/kg WW	2.6	8.8
MH356	S1	6/2/2010	Filter/Stormwater	Total cPAH	5.729	mg/kg WW	0.062	92
MH356	S1	4/27/2010	Filter/Stormwater	Total cPAH	3.334	mg/kg WW	0.062	54
MH356	S1	4/8/2010	Sediment Trap	Total cPAH	16.68	mg/kg WW	0.062	270
MH356	S1	12/3/2008	Sediment Trap	Total cPAH	0.7869	mg/kg WW	0.062	13
MH356	S1	3/16/2006	Sediment Trap	Total cPAH	21.76	mg/kg WW	0.062	350
MH356	S1	5/20/2010	Filter/Stormwater	Total Dioxins/Furans	6.58348	mg/kg WW	3.9	1.7
MH356	S1	6/2/2010	Filter/Stormwater	Total HPAHs	64	mg/kg WW	12	5.3
MH356	S1	4/27/2010	Filter/Stormwater	Total HPAHs	52	mg/kg WW	12	4.3
MH356	S1	4/8/2010	Sediment Trap	Total HPAHs	126	mg/kg WW	12	11
MH356	S1	12/3/2008	Sediment Trap	Total HPAHs	6.4	mg/kg WW	12	0.53
MH356	S1	3/15/2006	Sediment Trap	Total HPAHs	180	mg/kg WW	12	15
MH356	S1	6/2/2010	Filter/Stormwater	Total LPAHs	6	mg/kg WW	5.2	1.2
MH356	S1	4/27/2010	Filter/Stormwater	Total LPAHs	3.8	mg/kg WW	5.2	0.73
MH356	S1	4/8/2010	Sediment Trap	Total LPAHs	13	mg/kg WW	5.2	2.5
MH356	S1	12/3/2008	Sediment Trap	Total LPAHs	0.39	mg/kg WW	5.2	0.075
MH356	S1	3/15/2006	Sediment Trap	Total LPAHs	16.7	mg/kg WW	5.2	3.2
MH356	S1	4/5/2011	Sediment Trap	Total PCBs	0.68	mg/kg WW	0.038	18
MH356	S1	6/2/2010	Filter/Stormwater	Total PCBs	0.47	mg/kg WW	0.038	12
MH356	S1	5/20/2010	Filter/Stormwater	Total PCBs	0.27	mg/kg WW	0.038	7.1
MH356	S1	4/27/2010	Filter/Stormwater	Total PCBs	0.82	mg/kg WW	0.038	22
MH356	S1	4/8/2010	Sediment Trap	Total PCBs	0.46	mg/kg WW	0.038	12
MH356	S1	4/6/2009	Sediment Trap	Total PCBs	0.048	mg/kg WW	0.038	1.3
MH356	S1	12/3/2008	Sediment Trap	Total PCBs	0.01	mg/kg WW	0.038	0.26
MH356	S1	7/30/2008	Sediment Trap	Total PCBs	0.024	mg/kg WW	0.038	0.63
MH356	S1	3/18/2008	Sediment Trap	Total PCBs	0.085	mg/kg WW	0.038	2.2
MH356	S1	10/29/2007	Sediment Trap	Total PCBs	0.133	mg/kg WW	0.038	3.5
MH356	S1	5/17/2007	Sediment Trap	Total PCBs	0.128	mg/kg WW	0.038	3.4
MH356	S1	5/14/2007	Sediment Trap	Total PCBs	0.128	mg/kg WW	0.038	3.4
MH356	S1	1/9/2007	Sediment Trap	Total PCBs	0.32	mg/kg WW	0.038	8.4
MH356	S1	1/8/2007	Sediment Trap	Total PCBs	0.32	mg/kg WW	0.038	8.4
MH356	S1	10/11/2006	Sediment Trap	Total PCBs	1.23	mg/kg WW	0.038	32
MH356	S1	10/6/2006	Sediment Trap	Total PCBs	1.23	mg/kg WW	0.038	32
MH356	S1	3/16/2006	Sediment Trap	Total PCBs	1.46	mg/kg WW	0.038	38
MH356	S1	8/11/2005	Sediment Trap	Total PCBs	0.84	mg/kg WW	0.038	22
MH356	S1	6/2/2010	Filter/Stormwater	Zinc	1320	mg/kg WW	410	3.2
MH356	S1	5/20/2010	Filter/Stormwater	Zinc	1460	mg/kg WW	410	3.6
MH356	S1	4/27/2010	Filter/Stormwater	Zinc	1420 J	mg/kg WW	410	3.5
MH356	S1	10/29/2007	Sediment Trap	Zinc	222	mg/kg WW	410	0.54
MH356	S1	10/11/2006	Sediment Trap	Zinc	1560	mg/kg WW	410	3.8

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH356	S1	10/6/2006	Sediment Trap	Zinc	1560	mg/kg WW	410	3.8
MH445A	S6A	7/26/2006	Grab	Benzo(a)anthracene	0.21	mg/kg WW	1.3	0.16
MH445A	S6A	7/26/2006	Grab	Benzo(a)pyrene	0.29	mg/kg WW	0.062	4.7
MH445A	S6A	7/26/2006	Grab	Benzo(g,h,i)perylene	0.16	mg/kg WW	0.48	0.33
MH445A	S6A	7/26/2006	Grab	Benzofluoranthene	0.58	mg/kg WW	3.2	0.18
MH445A	S6A	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	0.75	mg/kg WW	0.73	1.0
MH445A	S6A	7/26/2006	Grab	Chrysene	0.31	mg/kg WW	1.4	0.22
MH445A	S6A	7/26/2006	Grab	Dibutyl phthalate	0.46	mg/kg WW	1.4	0.33
MH445A	S6A	7/26/2006	Grab	Fluoranthene	0.53	mg/kg WW	1.7	0.31
MH445A	S6A	7/26/2006	Grab	Indeno(1,2,3-cd)pyrene	0.15	mg/kg WW	0.53	0.28
MH445A	S6A	7/26/2006	Grab	Phenanthrene	0.19	mg/kg WW	1.5	0.13
MH445A	S6A	7/26/2006	Grab	Pyrene	0.39	mg/kg WW	2.6	0.15
MH445A	S6A	7/26/2006	Grab	Total cPAH	0.3904	mg/kg WW	0.062	6.3
MH445A	S6A	7/26/2006	Grab	Total HPAHs	2.62	mg/kg WW	12	0.22
MH445A	S6A	7/26/2006	Grab	Total LPAHs	0.19	mg/kg WW	5.2	0.037
MH481	S1	7/26/2006	Grab	Benzo(a)pyrene	0.072	mg/kg WW	0.062	1.2
MH481	S1	7/26/2006	Grab	Benzo(g,h,i)perylene	0.072	mg/kg WW	0.48	0.15
MH481	S1	7/26/2006	Grab	Benzofluoranthene	0.19	mg/kg WW	3.2	0.059
MH481	S1	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	1.1	mg/kg WW	0.73	1.5
MH481	S1	7/26/2006	Grab	Chrysene	0.076	mg/kg WW	1.4	0.054
MH481	S1	7/26/2006	Grab	Di-n-Octyl phthalate	0.13	mg/kg WW	0.42	0.31
MH481	S1	7/26/2006	Grab	Fluoranthene	0.14	mg/kg WW	1.7	0.082
MH481	S1	7/26/2006	Grab	Pyrene	0.092	mg/kg WW	2.6	0.035
MH481	S1	7/26/2006	Grab	Total cPAH	0.10131	mg/kg WW	0.062	1.6
MH481	S1	7/26/2006	Grab	Total HPAHs	0.64	mg/kg WW	12	0.053
MH482	S1	10/6/2006	Sediment Trap	2-Methylnaphthalene	0.36	mg/kg	0.59	0.61
MH482	S1	3/18/2008	Sediment Trap	Acenaphthene	0.38 W	mg/kg WW	0.25	1.5
MH482	S1	10/6/2006	Sediment Trap	Acenaphthene	0.57	mg/kg	0.25	2.3
MH482	S1	3/18/2008	Sediment Trap	Anthracene	1.1 W	mg/kg WW	0.96	1.1
MH482	S1	10/11/2006	Sediment Trap	Anthracene	0.83	mg/kg WW	0.96	0.86
MH482	S1	10/6/2006	Sediment Trap	Anthracene	0.83	mg/kg WW	0.96	0.86
MH482	S1	7/26/2006	Grab	Anthracene	0.52	mg/kg WW	0.96	0.54
MH482	S1	4/27/2010	Grab	Arsenic	12	mg/kg WW	7.3	1.6
MH482	S1	3/18/2008	Sediment Trap	Benzo(a)anthracene	6.1 RW	mg/kg WW	1.3	4.7
MH482	S1	10/11/2006	Sediment Trap	Benzo(a)anthracene	2.6	mg/kg WW	1.3	2.0
MH482	S1	10/6/2006	Sediment Trap	Benzo(a)anthracene	2.6	mg/kg WW	1.3	2.0
MH482	S1	7/26/2006	Grab	Benzo(a)anthracene	2.8	mg/kg WW	1.3	2.2
MH482	S1	3/18/2008	Sediment Trap	Benzo(a)pyrene	8.3 W	mg/kg WW	0.062	130
MH482	S1	10/11/2006	Sediment Trap	Benzo(a)pyrene	4.2	mg/kg WW	0.062	68
MH482	S1	10/6/2006	Sediment Trap	Benzo(a)pyrene	4.2	mg/kg WW	0.062	68
MH482	S1	7/26/2006	Grab	Benzo(a)pyrene	3.6	mg/kg WW	0.062	58
MH482	S1	3/18/2008	Sediment Trap	Benzo(g,h,i)perylene	3.8 W	mg/kg WW	0.48	7.9
MH482	S1	10/11/2006	Sediment Trap	Benzo(g,h,i)perylene	1.8	mg/kg WW	0.48	3.8
MH482	S1	10/6/2006	Sediment Trap	Benzo(g,h,i)perylene	1.8	mg/kg WW	0.48	3.8
MH482	S1	7/26/2006	Grab	Benzo(g,h,i)perylene	1.7	mg/kg WW	0.48	3.5
MH482	S1	3/18/2008	Sediment Trap	Benzofluoranthene	24	mg/kg WW	3.2	7.5
MH482	S1	10/11/2006	Sediment Trap	Benzofluoranthene	11.8	mg/kg WW	3.2	3.7
MH482	S1	10/6/2006	Sediment Trap	Benzofluoranthene	11.8	mg/kg WW	3.2	3.7
MH482	S1	7/26/2006	Grab	Benzofluoranthene	8.1	mg/kg WW	3.2	2.5
MH482	S1	3/18/2008	Sediment Trap	Bis(2-Ethylhexyl)phthalate	11 W	mg/kg WW	0.73	15
MH482	S1	10/11/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	4.1	mg/kg WW	0.73	5.6
MH482	S1	10/6/2006	Sediment Trap	Bis(2-Ethylhexyl)phthalate	4.1	mg/kg WW	0.73	5.6
MH482	S1	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	0.92	mg/kg WW	0.73	1.3
MH482	S1	3/18/2008	Sediment Trap	Butyl benzyl phthalate	0.45 RW	mg/kg WW	0.063	7.1
MH482	S1	10/11/2006	Sediment Trap	Butyl benzyl phthalate	0.5	mg/kg WW	0.063	7.9

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH482	S1	10/6/2006	Sediment Trap	Butyl benzyl phthalate	0.5	mg/kg WW	0.063	7.9
MH482	S1	4/27/2010	Grab	Cadmium	5.7	mg/kg WW	3.7	1.5
MH482	S1	4/27/2010	Grab	Chromium	37.1	mg/kg WW	35.6	1.0
MH482	S1	3/18/2008	Sediment Trap	Chrysene	13 RW	mg/kg WW	1.4	9.3
MH482	S1	10/11/2006	Sediment Trap	Chrysene	5.5	mg/kg WW	1.4	3.9
MH482	S1	10/6/2006	Sediment Trap	Chrysene	5.5	mg/kg WW	1.4	3.9
MH482	S1	7/26/2006	Grab	Chrysene	4.4	mg/kg WW	1.4	3.1
MH482	S1	4/27/2010	Grab	Copper	49	mg/kg WW	310	0.16
MH482	S1	10/7/2009	Sediment Trap	Copper	216 J	mg/kg WW	310	0.70
MH482	S1	4/7/2009	Sediment Trap	Copper	211 J	mg/kg WW	310	0.68
MH482	S1	3/18/2008	Sediment Trap	Copper	263	mg/kg WW	310	0.85
MH482	S1	10/11/2006	Sediment Trap	Copper	33.9	mg/kg WW	310	0.11
MH482	S1	10/6/2006	Sediment Trap	Copper	33.9	mg/kg WW	310	0.11
MH482	S1	3/18/2008	Sediment Trap	Dibenzo(a,h)anthracene	1.1 W	mg/kg WW	0.19	5.8
MH482	S1	10/11/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.78	mg/kg WW	0.19	4.1
MH482	S1	10/6/2006	Sediment Trap	Dibenzo(a,h)anthracene	0.78	mg/kg WW	0.19	4.1
MH482	S1	7/26/2006	Grab	Dibenzo(a,h)anthracene	0.37	mg/kg WW	0.19	1.9
MH482	S1	3/18/2008	Sediment Trap	Dibenzofuran	0.39 W	mg/kg WW	0.23	1.7
MH482	S1	10/6/2006	Sediment Trap	Dibenzofuran	0.49	mg/kg WW	0.23	2.1
MH482	S1	3/18/2008	Sediment Trap	Dibutyl phthalate	0.23 W	mg/kg WW	1.4	0.16
MH482	S1	10/6/2006	Sediment Trap	Dibutyl phthalate	0.25 B	mg/kg WW	1.4	0.18
MH482	S1	3/18/2008	Sediment Trap	Di-n-Octyl phthalate	0.5 W	mg/kg WW	0.42	1.2
MH482	S1	10/6/2006	Sediment Trap	Di-n-Octyl phthalate	0.19	mg/kg WW	0.42	0.45
MH482	S1	3/18/2008	Sediment Trap	Fluoranthene	20 RW	mg/kg WW	1.7	12
MH482	S1	10/11/2006	Sediment Trap	Fluoranthene	12	mg/kg WW	1.7	7.1
MH482	S1	10/6/2006	Sediment Trap	Fluoranthene	12	mg/kg WW	1.7	7.1
MH482	S1	7/26/2006	Grab	Fluoranthene	8.1	mg/kg WW	1.7	4.8
MH482	S1	3/18/2008	Sediment Trap	Fluorene	0.47 W	mg/kg WW	0.36	1.3
MH482	S1	10/11/2006	Sediment Trap	Fluorene	0.56	mg/kg WW	0.36	1.6
MH482	S1	10/6/2006	Sediment Trap	Fluorene	0.56	mg/kg WW	0.36	1.6
MH482	S1	3/18/2008	Sediment Trap	Indeno(1,2,3-cd)pyrene	4.1 W	mg/kg WW	0.53	7.7
MH482	S1	10/11/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg WW	0.53	3.8
MH482	S1	10/6/2006	Sediment Trap	Indeno(1,2,3-cd)pyrene	2	mg/kg WW	0.53	3.8
MH482	S1	7/26/2006	Grab	Indeno(1,2,3-cd)pyrene	1.8	mg/kg WW	0.53	3.4
MH482	S1	4/27/2010	Grab	Lead	145	mg/kg WW	40	3.6
MH482	S1	10/7/2009	Sediment Trap	Lead	311 J	mg/kg WW	40	7.8
MH482	S1	4/7/2009	Sediment Trap	Lead	275 J	mg/kg WW	40	6.9
MH482	S1	3/18/2008	Sediment Trap	Lead	424	mg/kg WW	40	11
MH482	S1	10/11/2006	Sediment Trap	Lead	41	mg/kg WW	40	1.0
MH482	S1	10/6/2006	Sediment Trap	Lead	41	mg/kg WW	40	1.0
MH482	S1	4/27/2010	Grab	Mercury	0.28	mg/kg WW	0.41	0.68
MH482	S1	10/7/2009	Sediment Trap	Mercury	0.25 J	mg/kg WW	0.41	0.61
MH482	S1	4/7/2009	Sediment Trap	Mercury	0.2 J	mg/kg WW	0.41	0.49
MH482	S1	3/18/2008	Sediment Trap	Mercury	0.3	mg/kg WW	0.41	0.73
MH482	S1	3/18/2008	Sediment Trap	p-Cresol	0.4 W	mg/kg WW	0.67	0.60
MH482	S1	10/6/2006	Sediment Trap	p-Cresol	0.82	mg/kg WW	0.67	1.2
MH482	S1	3/18/2008	Sediment Trap	Phenanthrene	9.2 W	mg/kg WW	1.5	6.1
MH482	S1	10/11/2006	Sediment Trap	Phenanthrene	6.2	mg/kg WW	1.5	4.1
MH482	S1	10/6/2006	Sediment Trap	Phenanthrene	6.2	mg/kg WW	1.5	4.1
MH482	S1	7/26/2006	Grab	Phenanthrene	3.3	mg/kg WW	1.5	2.2
MH482	S1	3/18/2008	Sediment Trap	Phenol	0.54 W	mg/kg WW	0.42	1.3
MH482	S1	10/11/2006	Sediment Trap	Phenol	0.67	mg/kg WW	0.42	1.6
MH482	S1	10/6/2006	Sediment Trap	Phenol	0.67 B	mg/kg WW	0.42	1.6
MH482	S1	3/18/2008	Sediment Trap	Pyrene	12 RW	mg/kg WW	2.6	4.6
MH482	S1	10/11/2006	Sediment Trap	Pyrene	7	mg/kg WW	2.6	2.7

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
MH482	S1	10/6/2006	Sediment Trap	Pyrene	7	mg/kg WW	2.6	2.7
MH482	S1	7/26/2006	Grab	Pyrene	5.6	mg/kg WW	2.6	2.2
MH482	S1	3/18/2008	Sediment Trap	Total cPAH	11.91	mg/kg WW	0.062	190
MH482	S1	10/11/2006	Sediment Trap	Total cPAH	5.973	mg/kg WW	0.062	96
MH482	S1	10/6/2006	Sediment Trap	Total cPAH	5.973	mg/kg WW	0.062	96
MH482	S1	7/26/2006	Grab	Total cPAH	4.951	mg/kg WW	0.062	80
MH482	S1	3/18/2008	Sediment Trap	Total HPAHs	90	mg/kg WW	12	7.5
MH482	S1	10/11/2006	Sediment Trap	Total HPAHs	48	mg/kg WW	12	4.0
MH482	S1	10/6/2006	Sediment Trap	Total HPAHs	48	mg/kg WW	12	4.0
MH482	S1	7/26/2006	Grab	Total HPAHs	36.5	mg/kg WW	12	3.0
MH482	S1	3/18/2008	Sediment Trap	Total LPAHs	11.3	mg/kg WW	5.2	2.2
MH482	S1	10/11/2006	Sediment Trap	Total LPAHs	7.6	mg/kg WW	5.2	1.5
MH482	S1	10/6/2006	Sediment Trap	Total LPAHs	8.2	mg/kg WW	5.2	1.6
MH482	S1	7/26/2006	Grab	Total LPAHs	3.8	mg/kg WW	5.2	0.73
MH482	S1	12/16/2010	Inlet Filter	Total PCBs	0.146	mg/kg WW	0.038	3.8
MH482	S1	4/27/2010	Grab	Total PCBs	0.25	mg/kg WW	0.038	6.6
MH482	S1	10/7/2009	Sediment Trap	Total PCBs	0.179	mg/kg WW	0.038	4.7
MH482	S1	4/7/2009	Sediment Trap	Total PCBs	0.2	mg/kg WW	0.038	5.3
MH482	S1	8/5/2008	Sediment Trap	Total PCBs	0.36	mg/kg WW	0.038	9.5
MH482	S1	5/17/2007	Sediment Trap	Total PCBs	0.23	mg/kg WW	0.038	6.1
MH482	S1	1/9/2007	Sediment Trap	Total PCBs	0.28	mg/kg WW	0.038	7.4
MH482	S1	3/15/2006	Sediment Trap	Total PCBs	0.38	mg/kg WW	0.038	10
MH482	S1	8/11/2005	Sediment Trap	Total PCBs	0.18	mg/kg WW	0.038	4.7
MH482	S1	12/13/2004	Filter/Undifferentiated	Total PCBs	0.127	mg/kg WW	0.038	3.3
MH482	S1	4/27/2010	Grab	Zinc	411	mg/kg WW	410	1.0
MH482	S1	10/7/2009	Sediment Trap	Zinc	1200 J	mg/kg WW	410	2.9
MH482	S1	4/7/2009	Sediment Trap	Zinc	1140 J	mg/kg WW	410	2.8
MH482	S1	3/18/2008	Sediment Trap	Zinc	1280	mg/kg WW	410	3.1
MH482	S1	10/11/2006	Sediment Trap	Zinc	137	mg/kg	410	0.33
MH482	S1	10/6/2006	Sediment Trap	Zinc	137	mg/kg	410	0.33
MH483A	S1	4/21/2010	Grab	Arsenic	11	mg/kg WW	7.3	1.5
MH483A	S1	4/21/2010	Grab	Cadmium	15.2	mg/kg WW	3.7	4.1
MH483A	S1	4/21/2010	Grab	Chromium	106	mg/kg WW	35.6	3.0
MH483A	S1	4/21/2010	Grab	Copper	255	mg/kg WW	310	0.82
MH483A	S1	4/21/2010	Grab	Lead	375	mg/kg WW	40	9.4
MH483A	S1	4/21/2010	Grab	Mercury	0.84	mg/kg WW	0.41	2.0
MH483A	S1	4/21/2010	Grab	Total PCBs	4.8	mg/kg WW	0.038	130
MH483A	S1	6/11/2009	Grab	Total PCBs	1.7	mg/kg WW	0.038	45
MH483A	S1	5/13/2005	Grab	Total PCBs	3.5	mg/kg WW	0.038	92
MH483A	S1	4/21/2010	Grab	Zinc	836	mg/kg WW	410	2.0
MH642	S7	4/26/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
MH642	S7	4/26/2010	Grab	Cadmium	16.3	mg/kg WW	3.7	4.4
MH642	S7	4/26/2010	Grab	Chromium	127	mg/kg WW	35.6	3.6
MH642	S7	4/26/2010	Grab	Copper	217	mg/kg WW	310	0.70
MH642	S7	4/26/2010	Grab	Lead	291	mg/kg WW	40	7.3
MH642	S7	4/26/2010	Grab	Mercury	1.02	mg/kg WW	0.41	2.5
MH642	S7	4/26/2010	Grab	Total PCBs	6.1	mg/kg WW	0.038	160
MH642	S7	6/16/2009	Grab	Total PCBs	6.5	mg/kg WW	0.038	170
MH642	S7	4/26/2010	Grab	Zinc	1170	mg/kg WW	410	2.9
OWS1-C	S2	7/26/2006	Grab	Benzo(a)anthracene	1.2	mg/kg WW	1.3	0.92
OWS1-C	S2	7/26/2006	Grab	Benzo(a)pyrene	1.9	mg/kg WW	0.062	31
OWS1-C	S2	7/26/2006	Grab	Benzo(g,h,i)perylene	1.4	mg/kg WW	0.48	2.9
OWS1-C	S2	7/26/2006	Grab	Benzofluoranthene	4.9	mg/kg WW	3.2	1.5
OWS1-C	S2	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	10	mg/kg WW	0.73	14
OWS1-C	S2	7/26/2006	Grab	Butyl benzyl phthalate	0.81	mg/kg WW	0.063	13

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
OWS1-C	S2	4/26/2010	Grab	Cadmium	16 J	mg/kg WW	3.7	4.3
OWS1-C	S2	4/26/2010	Grab	Chromium	312 J	mg/kg WW	35.6	8.8
OWS1-C	S2	7/26/2006	Grab	Chrysene	3.3	mg/kg WW	1.4	2.4
OWS1-C	S2	4/26/2010	Grab	Copper	418 J	mg/kg WW	310	1.3
OWS1-C	S2	7/26/2006	Grab	Di-n-Octyl phthalate	34	mg/kg WW	0.42	81
OWS1-C	S2	7/26/2006	Grab	Fluoranthene	8	mg/kg WW	1.7	4.7
OWS1-C	S2	7/26/2006	Grab	Indeno(1,2,3-cd)pyrene	1.1	mg/kg WW	0.53	2.1
OWS1-C	S2	4/26/2010	Grab	Lead	350 J	mg/kg WW	40	8.8
OWS1-C	S2	4/26/2010	Grab	Mercury	0.55	mg/kg WW	0.41	1.3
OWS1-C	S2	7/26/2006	Grab	Phenanthrene	2.9	mg/kg WW	1.5	1.9
OWS1-C	S2	7/26/2006	Grab	Pyrene	4.4	mg/kg WW	2.6	1.7
OWS1-C	S2	7/26/2006	Grab	Total cPAH	2.69	mg/kg WW	0.062	43
OWS1-C	S2	7/26/2006	Grab	Total HPAHs	26.2	mg/kg WW	12	2.2
OWS1-C	S2	7/26/2006	Grab	Total LPAHs	2.9	mg/kg WW	5.2	0.56
OWS1-C	S2	4/26/2010	Grab	Total PCBs	6.2	mg/kg WW	0.038	160
OWS1-C	S2	7/26/2006	Grab	Total PCBs	2.2	mg/kg WW	0.038	58
OWS1-C	S2	1/13/2006	Grab	Total PCBs	4.7	mg/kg WW	0.038	120
OWS1-C	S2	4/26/2010	Grab	Zinc	1590 J	mg/kg WW	410	3.9
OWS289	S3	4/26/2010	Grab	Arsenic	110	mg/kg WW	7.3	15
OWS289	S3	4/26/2010	Grab	Cadmium	2.9	mg/kg WW	3.7	0.78
OWS289	S3	4/26/2010	Grab	Chromium	80	mg/kg WW	35.6	2.2
OWS289	S3	4/26/2010	Grab	Copper	145	mg/kg WW	310	0.47
OWS289	S3	4/26/2010	Grab	Lead	166	mg/kg WW	40	4.2
OWS289	S3	4/26/2010	Grab	Mercury	0.14	mg/kg WW	0.41	0.34
OWS289	S3	4/26/2010	Grab	Total PCBs	0.24	mg/kg WW	0.038	6.3
OWS289	S3	6/16/2009	Grab	Total PCBs	0.155	mg/kg WW	0.038	4.1
OWS289	S3	4/26/2010	Grab	Zinc	1470	mg/kg WW	410	3.6
C	S8	3/15/2007	Grab	2-Methylnaphthalene	1.4	mg/kg	0.59	2.4
C	S8	3/15/2007	Grab	Acenaphthene	2.5	mg/kg	0.25	10
C	S8	3/15/2007	Grab	Anthracene	2.6	mg/kg	0.96	2.7
C	S8	4/27/2010	Grab	Arsenic	40	mg/kg WW	7.3	5.5
C	S8	3/15/2007	Grab	Benzo(a)anthracene	8.6	mg/kg WW	1.3	6.6
C	S8	3/15/2007	Grab	Benzo(a)pyrene	8.3	mg/kg WW	0.062	130
C	S8	7/26/2006	Grab	Benzo(a)pyrene	4.9	mg/kg WW	0.062	79
C	S8	3/15/2007	Grab	Benzo(g,h,i)perylene	2.6	mg/kg WW	0.48	5.4
C	S8	3/15/2007	Grab	Benzofluoranthene	22	mg/kg WW	3.2	6.9
C	S8	7/26/2006	Grab	Benzofluoranthene	13	mg/kg WW	3.2	4.1
C	S8	3/15/2007	Grab	Bis(2-Ethylhexyl)phthalate	35	mg/kg WW	0.73	48
C	S8	7/26/2006	Grab	Bis(2-Ethylhexyl)phthalate	42	mg/kg WW	0.73	58
C	S8	3/15/2007	Grab	Butyl benzyl phthalate	0.8	mg/kg WW	0.063	13
C	S8	4/27/2010	Grab	Cadmium	50.2	mg/kg WW	3.7	14
C	S8	4/27/2010	Grab	Chromium	225	mg/kg WW	35.6	6.3
C	S8	3/15/2007	Grab	Chrysene	12	mg/kg WW	1.4	8.6
C	S8	7/26/2006	Grab	Chrysene	9.7	mg/kg WW	1.4	6.9
C	S8	4/27/2010	Grab	Copper	676	mg/kg WW	310	2.2
C	S8	3/15/2007	Grab	Dibenzo(a,h)anthracene	1.2	mg/kg WW	0.19	6.3
C	S8	3/15/2007	Grab	Dibenzofuran	1.8	mg/kg WW	0.23	7.8
C	S8	3/15/2007	Grab	Dibutyl phthalate	0.93 B	mg/kg WW	1.4	0.66
C	S8	3/15/2007	Grab	Dimethyl phthalate	0.33	mg/kg WW	0.071	4.6
C	S8	3/15/2007	Grab	Di-n-Octyl phthalate	4.6	mg/kg WW	0.42	11
C	S8	3/15/2007	Grab	Fluoranthene	40	mg/kg WW	1.7	24
C	S8	7/26/2006	Grab	Fluoranthene	20	mg/kg WW	1.7	12
C	S8	3/15/2007	Grab	Fluorene	3.1	mg/kg WW	0.36	8.6
C	S8	3/15/2007	Grab	Indeno(1,2,3-cd)pyrene	2.9	mg/kg WW	0.53	5.5
C	S8	4/27/2010	Grab	Lead	344	mg/kg WW	40	8.6

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
C	S8	4/27/2010	Grab	Mercury	1.23	mg/kg WW	0.41	3.0
C	S8	3/15/2007	Grab	Phenanthrene	19	mg/kg WW	1.5	13
C	S8	7/26/2006	Grab	Phenanthrene	12	mg/kg WW	1.5	8.0
C	S8	3/15/2007	Grab	Pyrene	16	mg/kg WW	2.6	6.2
C	S8	7/26/2006	Grab	Pyrene	13	mg/kg WW	2.6	5.0
C	S8	3/15/2007	Grab	Total cPAH	11.85	mg/kg WW	0.062	190
C	S8	7/26/2006	Grab	Total cPAH	6.987	mg/kg WW	0.062	110
C	S8	3/15/2007	Grab	Total HPAHs	110	mg/kg WW	12	9.2
C	S8	7/26/2006	Grab	Total HPAHs	60	mg/kg WW	12	5.0
C	S8	3/15/2007	Grab	Total LPAHs	28	mg/kg WW	5.2	5.4
C	S8	7/26/2006	Grab	Total LPAHs	12	mg/kg WW	5.2	2.3
C	S8	4/27/2010	Grab	Total PCBs	4	mg/kg WW	0.038	110
C	S8	3/15/2007	Grab	Total PCBs	0.74	mg/kg WW	0.038	19
C	S8	7/26/2006	Grab	Total PCBs	3.6	mg/kg WW	0.038	95
C	S8	4/27/2010	Grab	Zinc	2310	mg/kg WW	410	5.6
D	S8	4/27/2010	Grab	Arsenic	40	mg/kg WW	7.3	5.5
D	S8	4/27/2010	Grab	Cadmium	55.3	mg/kg WW	3.7	15
D	S8	4/27/2010	Grab	Chromium	265	mg/kg WW	35.6	7.4
D	S8	4/27/2010	Grab	Copper	729	mg/kg WW	310	2.4
D	S8	4/27/2010	Grab	Lead	414	mg/kg WW	40	10
D	S8	4/27/2010	Grab	Mercury	14.2	mg/kg WW	0.41	35
D	S8	4/27/2010	Grab	Total PCBs	14	mg/kg WW	0.038	370
D	S8	6/11/2009	Grab	Total PCBs	2	mg/kg WW	0.038	53
D	S8	1/5/2006	Grab	Total PCBs	6.6	mg/kg WW	0.038	170
D	S8	4/27/2010	Grab	Zinc	2990	mg/kg WW	410	7.3
OWS483F	S8	3/15/2007	Grab	Anthracene	0.15	mg/kg WW	0.96	0.16
OWS483F	S8	3/15/2007	Grab	Benzo(a)anthracene	0.96	mg/kg WW	1.3	0.74
OWS483F	S8	3/15/2007	Grab	Benzo(a)pyrene	1.2	mg/kg WW	0.062	19
OWS483F	S8	3/15/2007	Grab	Benzo(g,h,i)perylene	0.6	mg/kg WW	0.48	1.3
OWS483F	S8	3/15/2007	Grab	Benzofluoranthene	3	mg/kg WW	3.2	0.94
OWS483F	S8	3/15/2007	Grab	Bis(2-Ethylhexyl)phthalate	0.44	mg/kg WW	0.73	0.60
OWS483F	S8	3/15/2007	Grab	Chrysene	1.4	mg/kg WW	1.4	1.0
OWS483F	S8	3/15/2007	Grab	Dibenzo(a,h)anthracene	0.29	mg/kg WW	0.19	1.5
OWS483F	S8	3/15/2007	Grab	Dibutyl phthalate	0.079 B	mg/kg WW	1.4	0.056
OWS483F	S8	3/15/2007	Grab	Fluoranthene	3	mg/kg WW	1.7	1.8
OWS483F	S8	3/15/2007	Grab	Indeno(1,2,3-cd)pyrene	0.72	mg/kg WW	0.53	1.4
OWS483F	S8	3/15/2007	Grab	Phenanthrene	1.1	mg/kg WW	1.5	0.73
OWS483F	S8	3/15/2007	Grab	Pyrene	1.5	mg/kg WW	2.6	0.58
OWS483F	S8	3/15/2007	Grab	Total cPAH	1.711	mg/kg WW	0.062	28
OWS483F	S8	3/15/2007	Grab	Total HPAHs	12.7	mg/kg WW	12	1.1
OWS483F	S8	3/15/2007	Grab	Total LPAHs	1.3	mg/kg WW	5.2	0.25
OWS483F	S8	3/15/2007	Grab	Total PCBs	0.14	mg/kg WW	0.038	3.7
OWS640	S6A	4/26/2010	Grab	Arsenic	20	mg/kg WW	7.3	2.7
OWS640	S6A	4/26/2010	Grab	Cadmium	18.7	mg/kg WW	3.7	5.1
OWS640	S6A	4/26/2010	Grab	Chromium	184	mg/kg WW	35.6	5.2
OWS640	S6A	4/26/2010	Grab	Copper	346	mg/kg WW	310	1.1
OWS640	S6A	4/26/2010	Grab	Lead	210	mg/kg WW	40	5.3
OWS640	S6A	4/26/2010	Grab	Mercury	1.02	mg/kg WW	0.41	2.5
OWS640	S6A	4/26/2010	Grab	Total PCBs	1.26	mg/kg WW	0.038	33
OWS640	S6A	1/5/2006	Grab	Total PCBs	2.6	mg/kg WW	0.038	68
OWS640	S6A	4/26/2010	Grab	Zinc	1780	mg/kg WW	410	4.3
UNKCB4	S2	4/20/2010	Grab	Cadmium	10	mg/kg WW	3.7	2.7
UNKCB4	S2	4/20/2010	Grab	Chromium	291	mg/kg WW	35.6	8.2
UNKCB4	S2	4/20/2010	Grab	Copper	230	mg/kg WW	310	0.74
UNKCB4	S2	4/20/2010	Grab	Lead	406	mg/kg WW	40	10

Table 7.2-15
Storm Drain Solids Sampling Results - South Lateral Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	Exceedance Factor
UNKCB4	S2	4/20/2010	Grab	Mercury	0.22	mg/kg WW	0.41	0.54
UNKCB4	S2	4/20/2010	Grab	Total PCBs	1.05	mg/kg WW	0.038	28
UNKCB4	S2	4/20/2010	Grab	Zinc	1600	mg/kg WW	410	3.9

All samples presented as dry weight concentrations except as noted.
WW = wet weight
RISL = RI Selected Screening Level
Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.
[shaded box] Indicates exceedance of screening level.

Table 7.2-16
Data Summary: Storm Drain Solids
Building 3-380 Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	6 / 13	7.0	20	10	7.3	5 / 6	2.7
	Cadmium	13 / 13	1.2	16	5.9	3.7	8 / 13	4.4
	Chromium	13 / 13	56	224	116	35.6	13 / 13	6.3
	Copper	14 / 14	65	326	152	310	2 / 14	1.1
	Lead	14 / 14	77	592	264	40	14 / 14	15
	Zinc	14 / 14	365	2,970	1,426	410	13 / 14	7.2
Chlorinated Aromatics	Total PCBs	24 / 24	0.041	1.8	0.37	0.038	24 / 24	47
	Total dioxins/furans (pg/g)	1 / 1	45	45	45	3.9	1 / 1	12
PAHs	Benzo(a)pyrene	1 / 2	0.71	0.71	0.71	0.062	1 / 1	11
	Benzo(g,h,i)perylene	2 / 2	0.48	0.65	0.57	0.48	1 / 2	1.4
	Fluoranthene	2 / 2	0.73	2.7	1.7	1.7	1 / 2	15
	Total cPAH	2 / 2	0.31	1.1	0.7	0.062	2 / 2	17
Phthalates	Bis(2-Ethylhexyl)phthalate	1 / 1	15	15	15	0.73	1 / 1	21
	Butyl benzyl phthalate	1 / 1	0.89	0.89	0.89	0.063	1 / 1	14
	Di-n-Octyl phthalate	1 / 1	0.64	0.64	0.64	0.42	1 / 1	1.5

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dimethylphenol; 2,4-dinitrophenol; 2-methylnaphthalene; acenaphthene; acenaphthylene; benzoic acid; benzyl alcohol; dibenzo(a,h)anthracene; dibenzofuran; diethyl phthalate; dimethyl phthalate; fluorene; hexachlorobenzene; hexachlorobutadiene; indeno(1,2,3-cd)pyrene; N-nitrosodiphenylamine; pentachlorophenol; and phenol.

Table 7.2-17
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
Building 3-380 Drainage Area

Chemical Class	Chemical	B1 (Main Line)	B2	B3
Metals	Arsenic	2.7	1.4	<1
	Cadmium	1.7	4.4	1.6
	Chromium	5.8	6.3	2.9
	Copper	1.1	<1	<1
	Lead	12	15	5.2
	Zinc	7.2	3.3	2.3
Chlorinated Aromatics	Total PCBs	47	10	4.8
	Total dioxins/furans	12	--	--
PAHs	Benzo(a)pyrene	11	--	--
	Benzo(g,h,i)perylene	1.4	--	--
	Fluoranthene	1.6	--	--
	Total cPAHs	17	--	--
Phthalates	Bis(2-Ethylhexyl)phthalate	21	--	--
	Butyl benzyl phthalate	14	--	--
	Di-n-Octyl phthalate	1.5	--	--

"--" indicates sample not analyzed for this parameter
EF = exceedance factor
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-22.

Blue	EF = 0 to 1
Green	EF = >1 to 5 for metals, >1 to 10 for organics
Yellow	EF = >5 to 25 for metals, >10 to 100 for organics

Table 7.2-18
Storm Drain Solids Sampling Results - Building 3-380 Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB104	B1	11/18/2008	Grab	Total PCBs	0.12	mg/kg	0.038	3.2
CB106	B2	4/21/2010	Grab	Zinc	1370	mg/kg	410	3.3
CB106	B2	4/21/2010	Grab	Total PCBs	0.39	mg/kg	0.038	10
CB106	B2	11/18/2008	Grab	Total PCBs	0.044	mg/kg	0.038	1.2
CB106	B2	4/21/2010	Grab	Lead	592	mg/kg	40	15
CB106	B2	4/21/2010	Grab	Copper	130	mg/kg	310	0.42
CB106	B2	4/21/2010	Grab	Chromium	224	mg/kg	35.6	6.3
CB106	B2	4/21/2010	Grab	Cadmium	16	mg/kg	3.7	4.3
CB106	B2	4/21/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB106A	B2	4/21/2010	Grab	Zinc	622	mg/kg	410	1.5
CB106A	B2	4/21/2010	Grab	Total PCBs	0.28	mg/kg	0.038	7.4
CB106A	B2	4/21/2010	Grab	Lead	111	mg/kg	40	2.8
CB106A	B2	4/21/2010	Grab	Copper	73.8	mg/kg	310	0.24
CB106A	B2	4/21/2010	Grab	Chromium	58.8	mg/kg	35.6	1.7
CB106A	B2	4/21/2010	Grab	Cadmium	2.8	mg/kg	3.7	0.76
CB106A	B2	4/21/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
CB107	B2	4/21/2010	Grab	Zinc	1270	mg/kg	410	3.1
CB107	B2	4/21/2010	Grab	Total PCBs	0.35	mg/kg	0.038	9.2
CB107	B2	4/21/2010	Grab	Lead	285	mg/kg	40	7.1
CB107	B2	4/21/2010	Grab	Copper	116	mg/kg	310	0.37
CB107	B2	4/21/2010	Grab	Chromium	121	mg/kg	35.6	3.4
CB107	B2	4/21/2010	Grab	Cadmium	16.3	mg/kg	3.7	4.4
CB107	B2	4/21/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB107A	B1	12/30/2008	Grab	Total PCBs	0.058	mg/kg	0.038	1.5
CB109C	B1	4/21/2010	Grab	Zinc	2160	mg/kg	410	5.3
CB109C	B1	4/21/2010	Grab	Total PCBs	0.43	mg/kg	0.038	11
CB109C	B1	4/21/2010	Grab	Lead	373	mg/kg	40	9.3
CB109C	B1	4/21/2010	Grab	Copper	326 J	mg/kg	310	1.1
CB109C	B1	4/21/2010	Grab	Chromium	207	mg/kg	35.6	5.8
CB109C	B1	4/21/2010	Grab	Cadmium	6.4 J	mg/kg	3.7	1.7
CB423	B1	6/2/2010	er	Zinc	1860	mg/kg	410	4.5
CB423	B1	5/28/2010	er	Zinc	1630	mg/kg	410	4.0
CB423	B1	5/20/2010	er	Zinc	1360	mg/kg	410	3.3
CB423	B1	6/2/2010	er	Total PCBs	1.79	mg/kg	0.038	47
CB423	B1	5/28/2010	er	Total PCBs	0.74	mg/kg	0.038	19
CB423	B1	5/20/2010	er	Total PCBs	0.175	mg/kg	0.038	4.6
CB423	B1	5/20/2010	er	Total Dioxins/Furans	45.43	pg/g	3.9	12
CB423	B1	6/2/2010	er	Total cPAH	0.313	mg/kg	0.062	5.0
CB423	B1	6/2/2010	er	Lead	132	mg/kg	40	3.3
CB423	B1	5/28/2010	er	Lead	88	mg/kg	40	2.2
CB423	B1	5/20/2010	er	Lead	190	mg/kg	40	4.8
CB423	B1	6/2/2010	er	Fluoranthene	0.73	mg/kg	1.7	0.43
CB423	B1	6/2/2010	er	Copper	153	mg/kg	310	0.49
CB423	B1	5/28/2010	er	Copper	91.7	mg/kg	310	0.30
CB423	B1	5/20/2010	er	Copper	264 J	mg/kg	310	0.85
CB423	B1	6/2/2010	er	Chromium	110	mg/kg	35.6	3.1
CB423	B1	5/28/2010	er	Chromium	65 J	mg/kg	35.6	1.8
CB423	B1	5/20/2010	er	Chromium	114	mg/kg	35.6	3.2
CB423	B1	6/2/2010	er	Cadmium	5	mg/kg	3.7	1.4
CB423	B1	5/28/2010	er	Cadmium	4.4	mg/kg	3.7	1.2

Table 7.2-18
Storm Drain Solids Sampling Results - Building 3-380 Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB423	B1	5/20/2010	er	Cadmium	5	mg/kg	3.7	1.4
CB423	B1	6/2/2010	er	Benzo(g,h,i)perylene	0.48	mg/kg	0.48	1.0
CB423A	B1	12/30/2008	Grab	Total PCBs	0.25	mg/kg	0.038	6.6
CB423A	B1	11/18/2008	Grab	Total PCBs	0.2	mg/kg	0.038	5.3
CB427	B1	4/21/2010	Grab	Zinc	1680	mg/kg	410	4.1
CB427	B1	4/21/2010	Grab	Total PCBs	0.42	mg/kg	0.038	11
CB427	B1	11/18/2008	Grab	Total PCBs	0.31	mg/kg	0.038	8.2
CB427	B1	4/21/2010	Grab	Lead	469	mg/kg	40	12
CB427	B1	4/21/2010	Grab	Copper	105	mg/kg	310	0.34
CB427	B1	4/21/2010	Grab	Chromium	163	mg/kg	35.6	4.6
CB427	B1	4/21/2010	Grab	Cadmium	4.8	mg/kg	3.7	1.3
CB428B	B3	4/21/2010	Grab	Zinc	949	mg/kg	410	2.3
CB428B	B3	4/21/2010	Grab	Total PCBs	0.183	mg/kg	0.038	4.8
CB428B	B3	4/21/2010	Grab	Lead	209	mg/kg	40	5.2
CB428B	B3	4/21/2010	Grab	Copper	98.5	mg/kg	310	0.32
CB428B	B3	4/21/2010	Grab	Chromium	105	mg/kg	35.6	2.9
CB428B	B3	4/21/2010	Grab	Cadmium	5.8	mg/kg	3.7	1.6
CB428C	B3	4/26/2010	Grab	Zinc	365	mg/kg	410	0.89
CB428C	B3	4/26/2010	Grab	Total PCBs	0.098	mg/kg	0.038	2.6
CB428C	B3	4/26/2010	Grab	Lead	77	mg/kg	40	1.9
CB428C	B3	4/26/2010	Grab	Copper	65.1	mg/kg	310	0.21
CB428C	B3	4/26/2010	Grab	Chromium	55.9	mg/kg	35.6	1.6
CB428C	B3	4/26/2010	Grab	Cadmium	1.2	mg/kg	3.7	0.32
CB429	B1	4/21/2010	Grab	Zinc	1930	mg/kg	410	4.7
CB429	B1	4/21/2010	Grab	Total PCBs	0.41	mg/kg	0.038	11
CB429	B1	11/18/2008	Grab	Total PCBs	0.26	mg/kg	0.038	6.8
CB429	B1	4/21/2010	Grab	Lead	413	mg/kg	40	10
CB429	B1	4/21/2010	Grab	Copper	188	mg/kg	310	0.61
CB429	B1	4/21/2010	Grab	Chromium	154	mg/kg	35.6	4.3
CB429	B1	4/21/2010	Grab	Cadmium	3.7	mg/kg	3.7	1.0
CB429	B1	4/21/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
MH105	B1	6/9/2009	Grab	Zinc	2970	mg/kg	410	7.2
MH105	B1	6/9/2009	Grab	Total PCBs	1.34	mg/kg	0.038	35
MH105	B1	6/9/2009	Grab	Total cPAH	1.059	mg/kg	0.062	17
MH105	B1	6/9/2009	Grab	Lead	486	mg/kg	40	12
MH105	B1	6/9/2009	Grab	Fluoranthene	2.7	mg/kg	1.7	1.6
MH105	B1	6/9/2009	Grab	Di-n-Octyl phthalate	0.64	mg/kg	0.42	1.5
MH105	B1	6/9/2009	Grab	Copper	321	mg/kg	310	1.0
MH105	B1	6/9/2009	Grab	Butyl benzyl phthalate	0.89	mg/kg	0.063	14
MH105	B1	6/9/2009	Grab	Bis(2-Ethylhexyl)phthalate	15	mg/kg	0.73	21
MH105	B1	6/9/2009	Grab	Benzo(g,h,i)perylene	0.65	mg/kg	0.48	1.4
MH105	B1	6/9/2009	Grab	Benzo(a)pyrene	0.71	mg/kg	0.062	11
MH105	B1	6/9/2009	Grab	Arsenic	20	mg/kg	7.3	2.7
MH427A	B1	4/29/2010	Grab	Zinc	1190	mg/kg	410	2.9
MH427A	B1	4/29/2010	Grab	Total PCBs	0.29	mg/kg	0.038	7.6
MH427A	B1	12/30/2008	Grab	Total PCBs	0.18	mg/kg	0.038	4.7
MH427A	B1	4/29/2010	Grab	Lead	164	mg/kg	40	4.1
MH427A	B1	4/29/2010	Grab	Copper	90.3	mg/kg	310	0.29
MH427A	B1	4/29/2010	Grab	Chromium	68.1	mg/kg	35.6	1.9
MH427A	B1	4/29/2010	Grab	Cadmium	2.4	mg/kg	3.7	0.65

Table 7.2-18
Storm Drain Solids Sampling Results - Building 3-380 Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH427A	B1	4/29/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
MH428	B1	12/30/2008	Grab	Total PCBs	0.041	mg/kg	0.038	1.1
MH428A	B1	12/30/2008	Grab	Total PCBs	0.39	mg/kg	0.038	10

All samples presented as dry weight concentrations except as noted.
WW = wet weight
RISL = RI Selected Screening Level
Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.
[shaded box] Indicates exceedance of screening level.

Table 7.2-19
Data Summary: Storm Drain Solids
Parking Lot Drainage Area

Chemical Class	Chemical	Frequency of Detection	Min Detect (mg/kg DW)	Max Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	15 / 18	7	144	36	7.3	14 / 15	20
	Cadmium	16 / 16	1.4	8.4	3.6	3.7	4 / 16	2.3
	Chromium	18 / 18	2.2	410	94	35.6	18 / 18	12
	Lead	18 / 18	55	870	267	40	18 / 18	22
	Zinc	18 / 18	394	1,500	839	410	17 / 18	3.7
Chlorinated Aromatics	Total PCBs	25 / 25	0.19	2.1	0.68	0.038	25 / 25	55
	Total dioxins/furans (pg/g)	1 / 1	66	66	66	3.9	1 / 1	17
PAHs	Phenanthrene	4 / 4	0.19	2.1	1	1.5	2 / 4	1.4
	Benzo(a)pyrene	3 / 4	0.48	1.5	0.97	0.062	3 / 3	24
	Benzofluoranthenes	4 / 4	0.3	4	2.1	3.2	1 / 4	1.3
	Benzo(g,h,i)perylene	3 / 3	0.2	1.7	1	0.48	2 / 3	3.5
	Dibenz(a,h)anthracene	2 / 4	0.4	0.5	0.45	0.19	2 / 2	2.6
	Fluoranthene	4 / 4	0.38	4.2	2.1	1.7	2 / 4	2.5
	Indeno(1,2,3-cd)pyrene	3 / 4	0.18	1.3	0.83	0.53	2 / 3	2.5
	Pyrene	4 / 4	0.2	3.1	1.8	2.6	2 / 4	1.2
	Total HPAH	4 / 4	1.2	19	10	12	2 / 4	1.6
	Total cPAH	4 / 4	0.12	2.2	1.1	0.062	4 / 4	35
Phthalates	Bis(2-Ethylhexyl)phthalate	2 / 2	1.5	2	1.75	0.73	2 / 2	2.7
	Butyl benzyl phthalate	1 / 2	0.086	0.086	0.086	0.063	1 / 1	1.4
Other SVOCs	Dibenzofuran	2 / 4	0.16	0.25	0.21	0.23	1 / 2	1.1

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Note: The following non-detected chemicals exceeded the screening level in at least one sample: 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,4-dichlorobenzene; 2,4-dimethylphenol; 2,4-dinitrophenol; benzoic acid; benzyl alchohol; diethyl phthalate; dimethyl phthalate; hexachlorobenzene; hexachlorobutadiene; N-nitrosodiphenylamine; pentachlorophenol.

Table 7.2-20
Maximum Screening Level Exceedance Factors in Storm Drain Solids, by Subdrainage
Parking Lot Drainage Area

Chemical Class	Chemical	PL1 (Main Line)	PL2	PL3	PL4	PL5
	Subdrainage:					
Metals	Arsenic	1.5	20	--	4.5	1.9
	Cadmium	2.2	2.3	--	<1	<1
	Chromium	6.7	12	--	1.5	2.1
	Lead	16	22	--	2.8	18
	Zinc	3.7	3.6	--	1.2	2.4
Chlorinated Aromatics	Total PCBs	15	55	14	13	13
	Total dioxins/furans	--	17	--	--	--
PAHs	Phenanthrene	--	1.4	--	<1	--
	Benzo(a)pyrene	--	24	--	ND	--
	Benzo(g,h,i)perylene	--	3.5	--	<1	--
	Benzofluoranthenes	--	1.3	--	<1	--
	Chrysene	--	1.6	--	<1	--
	Dibenzo(a,h)anthracene	--	2.6	--	<1	--
	Fluoranthene	--	2.5	--	<1	--
	Indeno(1,2,3-cd)pyrene	--	2.5	--	<1	--
	Pyrene	--	1.2	--	<1	--
	Total HPAHs	--	1.6	--	<1	--
	Total cPAHs	--	35	--	2.0	--
Phthalates	Bis(2-Ethylhexyl)phthalate	--	ND	--	2.1	--
Other SVOCs	Dibenzofuran	--	1.1	--	<1	--

"--" indicates sample not analyzed for this parameter
ND - not detected
Table shows maximum exceedance factors for detected chemicals only.
Subdrainage locations are shown in Figure 7.2-26.

Blue	EF = 0 to 1
Green	EF = >1 to 5 for metals, >1 to 10 for organics
Yellow	EF = >5 to 25 for metals, >10 to 100 for organics

Table 7.2-21
Storm Drain Solids Sampling Results - Parking Lot Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB102	PL5	4/20/2010	Grab	Arsenic	14	mg/kg	7.3	1.9
CB102	PL5	4/20/2010	Grab	Cadmium	3.6	mg/kg	3.7	0.97
CB102	PL5	4/20/2010	Grab	Chromium	69.4	mg/kg	35.6	1.9
CB102	PL5	4/20/2010	Grab	Lead	715	mg/kg	40	18
CB102	PL5	4/20/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
CB102	PL5	4/20/2010	Grab	Total PCBs	0.27	mg/kg	0.038	7.1
CB102	PL5	4/20/2010	Grab	Zinc	699	mg/kg	410	1.7
CB102A	PL5	4/20/2010	Grab	Arsenic	8	mg/kg	7.3	1.1
CB102A	PL5	4/20/2010	Grab	Cadmium	2.5	mg/kg	3.7	0.68
CB102A	PL5	4/20/2010	Grab	Chromium	74.7	mg/kg	35.6	2.1
CB102A	PL5	4/20/2010	Grab	Lead	89	mg/kg	40	2.2
CB102A	PL5	4/20/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB102A	PL5	4/20/2010	Grab	Total PCBs	0.46	mg/kg	0.038	12
CB102A	PL5	4/20/2010	Grab	Zinc	990	mg/kg	410	2.4
CB102B	PL5	4/20/2010	Grab	Cadmium	1.4	mg/kg	3.7	0.38
CB102B	PL5	4/20/2010	Grab	Chromium	41.8	mg/kg	35.6	1.2
CB102B	PL5	4/20/2010	Grab	Lead	69	mg/kg	40	1.7
CB102B	PL5	4/20/2010	Grab	Mercury	0.06	mg/kg	0.41	0.15
CB102B	PL5	4/20/2010	Grab	Total PCBs	0.49	mg/kg	0.038	13
CB102B	PL5	4/20/2010	Grab	Zinc	460	mg/kg	410	1.1
CB102C	PL5	4/20/2010	Grab	Arsenic	7	mg/kg	7.3	0.96
CB102C	PL5	4/20/2010	Grab	Cadmium	1.7	mg/kg	3.7	0.46
CB102C	PL5	4/20/2010	Grab	Chromium	36.7	mg/kg	35.6	1.0
CB102C	PL5	4/20/2010	Grab	Lead	55	mg/kg	40	1.4
CB102C	PL5	4/20/2010	Grab	Mercury	0.04	mg/kg	0.41	0.098
CB102C	PL5	4/20/2010	Grab	Total PCBs	0.37	mg/kg	0.038	9.7
CB102C	PL5	4/20/2010	Grab	Zinc	559	mg/kg	410	1.4
CB102D	PL5	4/20/2010	Grab	Cadmium	2.8	mg/kg	3.7	0.76
CB102D	PL5	4/20/2010	Grab	Chromium	47.9	mg/kg	35.6	1.3
CB102D	PL5	4/20/2010	Grab	Lead	77	mg/kg	40	1.9
CB102D	PL5	4/20/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB102D	PL5	4/20/2010	Grab	Total PCBs	0.3	mg/kg	0.038	7.9
CB102D	PL5	4/20/2010	Grab	Zinc	941	mg/kg	410	2.3
CB432	PL1	4/20/2010	Grab	Arsenic	10	mg/kg	7.3	1.4
CB432	PL1	4/20/2010	Grab	Cadmium	8	mg/kg	3.7	2.2
CB432	PL1	4/20/2010	Grab	Chromium	238 J	mg/kg	35.6	6.7
CB432	PL1	4/20/2010	Grab	Lead	657 J	mg/kg	40	16
CB432	PL1	4/20/2010	Grab	Mercury	0.14	mg/kg	0.41	0.34
CB432	PL1	4/20/2010	Grab	Total PCBs	0.57	mg/kg	0.038	15
CB432	PL1	4/20/2010	Grab	Zinc	1500	mg/kg	410	3.7
CB433	PL1	4/20/2010	Grab	Arsenic	11	mg/kg	7.3	1.5
CB433	PL1	4/20/2010	Grab	Cadmium	2	mg/kg	3.7	0.54
CB433	PL1	4/20/2010	Grab	Chromium	62	mg/kg	35.6	1.7
CB433	PL1	4/20/2010	Grab	Lead	111	mg/kg	40	2.8
CB433	PL1	4/20/2010	Grab	Mercury	0.06	mg/kg	0.41	0.15
CB433	PL1	4/20/2010	Grab	Total PCBs	0.25	mg/kg	0.038	6.6
CB433	PL1	4/20/2010	Grab	Zinc	668	mg/kg	410	1.6
CB435	PL4	4/20/2010	Grab	Arsenic	33	mg/kg	7.3	4.5
CB435	PL4	6/15/2009	Grab	Arsenic	30	mg/kg	7.3	4.1
CB435	PL4	6/15/2009	Grab	Benzofluoranthene	0.3	mg/kg	3.2	0.094
CB435	PL4	6/15/2009	Grab	Bis(2-Ethylhexyl)phthalate	1.5	mg/kg	0.73	2.1
CB435	PL4	4/20/2010	Grab	Cadmium	2	mg/kg	3.7	0.54

Table 7.2-21
Storm Drain Solids Sampling Results - Parking Lot Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
CB435	PL4	4/20/2010	Grab	Chromium	54.6	mg/kg	35.6	1.5
CB435	PL4	6/15/2009	Grab	Chrysene	0.2	mg/kg	1.4	0.14
CB435	PL4	6/15/2009	Grab	Fluoranthene	0.38	mg/kg	1.7	0.22
CB435	PL4	4/20/2010	Grab	Lead	113	mg/kg	40	2.8
CB435	PL4	6/15/2009	Grab	Lead	95	mg/kg	40	2.4
CB435	PL4	4/20/2010	Grab	Mercury	0.08	mg/kg	0.41	0.20
CB435	PL4	6/15/2009	Grab	Mercury	0.04	mg/kg	0.41	0.098
CB435	PL4	6/15/2009	Grab	Phenanthrene	0.19	mg/kg	1.5	0.13
CB435	PL4	6/15/2009	Grab	Pyrene	0.2	mg/kg	2.6	0.077
CB435	PL4	6/15/2009	Grab	Total cPAH	0.123	mg/kg	0.062	2.0
CB435	PL4	6/15/2009	Grab	Total HPAHs	1.21	mg/kg	12	0.10
CB435	PL4	6/15/2009	Grab	Total LPAHs	0.19	mg/kg	5.2	0.037
CB435	PL4	4/20/2010	Grab	Total PCBs	0.24	mg/kg	0.038	6.3
CB435	PL4	6/15/2009	Grab	Total PCBs	0.19	mg/kg	0.038	5.0
CB435	PL4	4/20/2010	Grab	Zinc	487	mg/kg	410	1.2
CB435	PL4	6/15/2009	Grab	Zinc	394	mg/kg	410	0.96
CB435A	PL1	4/20/2010	Grab	Arsenic	9	mg/kg	7.3	1.2
CB435A	PL1	4/20/2010	Grab	Cadmium	1.7	mg/kg	3.7	0.46
CB435A	PL1	4/20/2010	Grab	Chromium	75	mg/kg	35.6	2.1
CB435A	PL1	4/20/2010	Grab	Lead	118	mg/kg	40	3.0
CB435A	PL1	4/20/2010	Grab	Mercury	0.07	mg/kg	0.41	0.17
CB435A	PL1	4/20/2010	Grab	Total PCBs	0.257	mg/kg	0.038	6.8
CB435A	PL1	4/20/2010	Grab	Zinc	746	mg/kg	410	1.8
CB436	PL1	4/20/2010	Grab	Arsenic	144	mg/kg	7.3	20
CB436	PL1	4/20/2010	Grab	Cadmium	6.4	mg/kg	3.7	1.7
CB436	PL1	4/20/2010	Grab	Chromium	238	mg/kg	35.6	6.7
CB436	PL1	4/20/2010	Grab	Lead	706	mg/kg	40	18
CB436	PL1	4/20/2010	Grab	Mercury	0.12	mg/kg	0.41	0.29
CB436	PL1	4/20/2010	Grab	Total PCBs	0.91	mg/kg	0.038	24
CB436	PL1	4/20/2010	Grab	Zinc	1030	mg/kg	410	2.5
CB631	PL1	4/20/2010	Grab	Arsenic	30	mg/kg	7.3	4.1
CB631	PL1	4/20/2010	Grab	Cadmium	8.4	mg/kg	3.7	2.3
CB631	PL1	4/20/2010	Grab	Chromium	410	mg/kg	35.6	12
CB631	PL1	4/20/2010	Grab	Lead	870	mg/kg	40	22
CB631	PL1	4/20/2010	Grab	Mercury	0.18	mg/kg	0.41	0.44
CB631	PL1	4/20/2010	Grab	Total PCBs	0.5	mg/kg	0.038	13
CB631	PL1	4/20/2010	Grab	Zinc	1490	mg/kg	410	3.6
CB633	PL1	4/20/2010	Grab	Arsenic	32	mg/kg	7.3	4.4
CB633	PL1	4/20/2010	Grab	Cadmium	3.1	mg/kg	3.7	0.84
CB633	PL1	4/20/2010	Grab	Chromium	55.3	mg/kg	35.6	1.6
CB633	PL1	4/20/2010	Grab	Lead	283	mg/kg	40	7.1
CB633	PL1	4/20/2010	Grab	Mercury	0.1	mg/kg	0.41	0.24
CB633	PL1	4/20/2010	Grab	Total PCBs	2.1	mg/kg	0.038	55
CB633	PL1	4/20/2010	Grab	Zinc	689	mg/kg	410	1.7
D283A	PL2	5/10/2010	Grab	Total PCBs	1.05	mg/kg	0.038	28
D434A	PL3	5/10/2010	Grab	Total PCBs	0.55	mg/kg	0.038	14
D435B	PL4	5/10/2010	Grab	Total PCBs	0.5	mg/kg	0.038	13
D436A	PL2	5/10/2010	Grab	Total PCBs	0.41	mg/kg	0.038	11
IN433A	PL5	4/20/2010	Grab	Cadmium	1.4	mg/kg	3.7	0.38
IN433A	PL5	4/20/2010	Grab	Chromium	54.4	mg/kg	35.6	1.5
IN433A	PL5	4/20/2010	Grab	Lead	98	mg/kg	40	2.5

Table 7.2-21
Storm Drain Solids Sampling Results - Parking Lot Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
IN433A	PL5	4/20/2010	Grab	Mercury	0.05	mg/kg	0.41	0.12
IN433A	PL5	4/20/2010	Grab	Total PCBs	0.2	mg/kg	0.038	5.3
IN433A	PL5	4/20/2010	Grab	Zinc	830	mg/kg	410	2.0
IN437	PL2	6/15/2009	Grab	Total PCBs	0.58	mg/kg	0.038	15
MH100	NA	2/16/2005	Grab	Arsenic	20	mg/kg	7.3	2.7
MH100	NA	2/16/2005	Grab	Benzo(a)pyrene	0.48	mg/kg	0.062	7.7
MH100	NA	2/16/2005	Grab	Benzo(g,h,i)perylene	0.2	mg/kg	0.48	0.42
MH100	NA	2/16/2005	Grab	Benzofluoranthene	1.22	mg/kg	3.2	0.38
MH100	NA	2/16/2005	Grab	Bis(2-Ethylhexyl)phthalate	2	mg/kg	0.73	2.7
MH100	NA	2/16/2005	Grab	Butyl benzyl phthalate	0.086	mg/kg	0.063	1.4
MH100	NA	2/16/2005	Grab	Chrysene	0.62	mg/kg	1.4	0.44
MH100	NA	2/16/2005	Grab	Fluoranthene	0.88	mg/kg	1.7	0.52
MH100	NA	2/16/2005	Grab	Indeno(1,2,3-cd)pyrene	0.18	mg/kg	0.53	0.34
MH100	NA	2/16/2005	Grab	Lead	142	mg/kg	40	3.6
MH100	NA	2/16/2005	Grab	Mercury	0.2	mg/kg	0.41	0.49
MH100	NA	2/16/2005	Grab	Phenanthrene	0.25	mg/kg	1.5	0.17
MH100	NA	2/16/2005	Grab	Pyrene	0.81	mg/kg	2.6	0.31
MH100	NA	2/16/2005	Grab	Total cPAH	0.66715	mg/kg	0.062	11
MH100	NA	2/16/2005	Grab	Total HPAHs	4.77	mg/kg	12	0.40
MH100	NA	2/16/2005	Grab	Total LPAHs	0.39	mg/kg	5.2	0.075
MH100	NA	6/10/2009	Grab	Total PCBs	1.8	mg/kg	0.038	47
MH100	NA	2/16/2005	Grab	Total PCBs	2	mg/kg	0.038	53
MH100	NA	2/16/2005	Grab	Zinc	411	mg/kg	410	1.0
MH101	NA	6/10/2009	Grab	Total PCBs	0.98	mg/kg	0.038	26
MH434	PL2	6/2/2010	Filter/Stormwater	Arsenic	90	mg/kg	7.3	12
MH434	PL2	5/28/2010	Filter/Stormwater	Arsenic	39	mg/kg	7.3	5.3
MH434	PL2	4/27/2010	Filter/Stormwater	Arsenic	60	mg/kg	7.3	8.2
MH434	PL2	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	1.5	mg/kg	0.062	24
MH434	PL2	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.93	mg/kg	0.062	15
MH434	PL2	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.7	mg/kg	0.48	3.5
MH434	PL2	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.2	mg/kg	0.48	2.5
MH434	PL2	6/2/2010	Filter/Stormwater	Benzofluoranthene	4	mg/kg	3.2	1.3
MH434	PL2	4/27/2010	Filter/Stormwater	Benzofluoranthene	2.8	mg/kg	3.2	0.88
MH434	PL2	6/2/2010	Filter/Stormwater	Cadmium	5.1	mg/kg	3.7	1.4
MH434	PL2	5/28/2010	Filter/Stormwater	Cadmium	3.4	mg/kg	3.7	0.92
MH434	PL2	4/27/2010	Filter/Stormwater	Cadmium	3.4	mg/kg	3.7	0.92
MH434	PL2	6/2/2010	Filter/Stormwater	Chromium	93	mg/kg	35.6	2.6
MH434	PL2	5/28/2010	Filter/Stormwater	Chromium	65.8 J	mg/kg	35.6	1.8
MH434	PL2	4/27/2010	Filter/Stormwater	Chromium	76 J	mg/kg	35.6	2.1
MH434	PL2	6/2/2010	Filter/Stormwater	Chrysene	2.3	mg/kg	1.4	1.6
MH434	PL2	4/27/2010	Filter/Stormwater	Chrysene	2.2	mg/kg	1.4	1.6
MH434	PL2	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.5	mg/kg	0.19	2.6
MH434	PL2	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.4	mg/kg	0.19	2.1
MH434	PL2	6/2/2010	Filter/Stormwater	Dibenzofuran	0.16	mg/kg	0.23	0.70
MH434	PL2	4/27/2010	Filter/Stormwater	Dibenzofuran	0.25	mg/kg	0.23	1.1
MH434	PL2	6/2/2010	Filter/Stormwater	Fluoranthene	4.2	mg/kg	1.7	2.5
MH434	PL2	4/27/2010	Filter/Stormwater	Fluoranthene	2.9	mg/kg	1.7	1.7
MH434	PL2	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.3	mg/kg	0.53	2.5
MH434	PL2	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1	mg/kg	0.53	1.9
MH434	PL2	6/2/2010	Filter/Stormwater	Lead	236	mg/kg	40	5.9
MH434	PL2	5/28/2010	Filter/Stormwater	Lead	219	mg/kg	40	5.5

Table 7.2-21
Storm Drain Solids Sampling Results - Parking Lot Drainage Area

Sample Location	Sub-Drainage	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
MH434	PL2	4/27/2010	Filter/Stormwater	Lead	146	mg/kg	40	3.7
MH434	PL2	6/2/2010	Filter/Stormwater	Mercury	0.2 J	mg/kg	0.41	0.49
MH434	PL2	5/28/2010	Filter/Stormwater	Mercury	0.13	mg/kg	0.41	0.32
MH434	PL2	4/27/2010	Filter/Stormwater	Mercury	0.1 J	mg/kg	0.41	0.24
MH434	PL2	6/2/2010	Filter/Stormwater	Phenanthrene	2.1	mg/kg	1.5	1.4
MH434	PL2	4/27/2010	Filter/Stormwater	Phenanthrene	1.6	mg/kg	1.5	1.1
MH434	PL2	6/2/2010	Filter/Stormwater	Pyrene	3.1	mg/kg	2.6	1.2
MH434	PL2	4/27/2010	Filter/Stormwater	Pyrene	2.9	mg/kg	2.6	1.1
MH434	PL2	6/2/2010	Filter/Stormwater	Total cPAH	2.181	mg/kg	0.062	35
MH434	PL2	4/27/2010	Filter/Stormwater	Total cPAH	1.425	mg/kg	0.062	23
MH434	PL2	5/28/2010	Filter/Stormwater	Total Dioxins/Furans	65.6396	pg/g	3.9	17
MH434	PL2	6/2/2010	Filter/Stormwater	Total HPAHs	19.4	mg/kg	12	1.6
MH434	PL2	4/27/2010	Filter/Stormwater	Total HPAHs	14.9	mg/kg	12	1.2
MH434	PL2	6/2/2010	Filter/Stormwater	Total LPAHs	2.3	mg/kg	5.2	0.44
MH434	PL2	4/27/2010	Filter/Stormwater	Total LPAHs	2.5	mg/kg	5.2	0.48
MH434	PL2	6/2/2010	Filter/Stormwater	Total PCBs	0.61	mg/kg	0.038	16
MH434	PL2	5/28/2010	Filter/Stormwater	Total PCBs	0.57	mg/kg	0.038	15
MH434	PL2	4/27/2010	Filter/Stormwater	Total PCBs	0.76	mg/kg	0.038	20
MH434	PL2	6/2/2010	Filter/Stormwater	Zinc	1350	mg/kg	410	3.3
MH434	PL2	5/28/2010	Filter/Stormwater	Zinc	941	mg/kg	410	2.3
MH434	PL2	4/27/2010	Filter/Stormwater	Zinc	923 J	mg/kg	410	2.3

All samples presented as dry weight concentrations except as noted.

Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.

[ ] Indicates exceedance of screening level.

RISL = RI Selected Screening Level

Table 7.2-22
Data Summary: Storm Drain Solids
King County Lift Station

Chemical Class	Chemical	Frequency of Detection	Minimum Detect (mg/kg DW)	Maximum Detect (mg/kg DW)	Average Detect (mg/kg DW)	RISL (mg/kg DW)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	5 / 29	9.0	20	12	7.3	5 / 5	2.7
	Cadmium	29 / 29	2.9	11	5.1	3.7	24 / 29	3.0
	Chromium	29 / 29	17	102	41	35.6	18 / 29	2.9
	Lead	28 / 29	22	293	88	40	23 / 28	7.3
	Mercury	27 / 30	0.05	5.6	0.42	0.41	3 / 27	14
	Zinc	29 / 29	125	1,200	432	410	14 / 29	2.9
Chlorinated Aromatics	Total dioxins/furans (pg/g)	11 / 11	2.2	68	18	3.9	9 / 11	17
	Total PCBs	35 / 35	0.076	3.3	1.0	0.038	35 / 35	87
PAHs	Acenaphthene	6 / 12	0.044	0.54	0.22	0.25	2 / 6	2.2
	Fluorene	9 / 12	0.009	0.43	0.17	0.36	2 / 9	1.2
	Phenanthrene	12 / 12	0.087	3.1	1.4	1.5	4 / 12	2.1
	Benzo(a)anthracene	12 / 12	0.049	1.7	0.66	1.3	1 / 12	1.3
	Benzo(a)pyrene	12 / 12	0.067	2.6	0.99	0.062	12 / 12	42
	Benzofluoranthenes	12 / 12	0.22	6.0	2.8	3.2	5 / 12	1.9
	Benzo(g,h,i)perylene	12 / 12	0.074	2.5	1.0	0.48	9 / 12	5.2
	Chrysene	12 / 12	0.14	4.3	1.9	1.4	6 / 12	3.1
	Dibenz(a,h)anthracene	9 / 12	0.026	1.0	0.39	0.19	6 / 9	5.3
	Fluoranthene	12 / 12	0.21	7.8	3.0	1.7	8 / 12	4.6
	Indeno(1,2,3-cd)pyrene	12 / 12	0.063	2.3	0.97	0.53	9 / 12	4.3
	Pyrene	12 / 12	0.15	4.1	1.8	2.6	3 / 12	1.6
	Total cPAH	12 / 12	0.10	3.6	1.5	0.062	12 / 12	58
	Total HPAH	12 / 12	0.97	30	13	12	6 / 12	2.5
Other SVOCs	Dibenzofuran	8 / 12	0.017	0.45	0.19	0.23	2 / 8	2.0

* Maximum exceedance factor for detected values.
Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.
Dioxin/furan concentrations are in units of pg/g.
RISL = RI Selected Screening Level

Table 7.2-23
Data Summary: Stormwater
King County Lift Station

Chemical Class	Chemical	Frequency of Detection	Minimum Detect (ug/L)	Maximum Detect (ug/L)	Average Detect (ug/L)	RISL (ug/L)	Fraction of Detections Above RISL	Maximum Exceedance Factor*
Metals	Arsenic	43 / 46	0.30	4.6	0.93	0.87	17 / 43	5.3
	Cadmium	20 / 46	0.20	17	1.5	0.43	10 / 20	39
	Copper	40 / 46	1.0	18	5.2	2.4	26 / 40	7.3
	Lead	25 / 46	0.20	31	4.7	8.1	4 / 25	3.8
	Zinc	44 / 46	7.0	99	36	33	20 / 44	3.0
Chlorinated Aromatics	Total PCBs	19 / 23	0.011	0.17	0.037	0.010	19 / 19	17
PAHs	Benzo(a)anthracene	21 / 23	0.013	0.37	0.069	0.010	21 / 21	37
	Benzo(a)pyrene	20 / 23	0.019	0.65	0.11	0.010	20 / 20	65
	Benzo(b)fluoranthene	11 / 13	0.025	0.71	0.17	0.020	11 / 11	36
	Benzo(g,h,i)perylene	20 / 23	0.018	0.73	0.12	0.012	20 / 20	63
	Benzo(k)fluoranthene	11 / 13	0.026	0.71	0.16	0.020	11 / 11	36
	Chrysene	23 / 23	0.010	0.99	0.19	0.010	22 / 23	99
	Dibenz(a,h)anthracene	15 / 23	0.010	0.23	0.047	0.010	14 / 15	23
	Indeno(1,2,3-cd)pyrene	20 / 23	0.014	0.60	0.10	0.010	20 / 20	60
	Total cPAH	23 / 23	0.0083	0.92	0.16	0.010	22 / 23	92
Phthalates	Bis(2-Ethylhexyl)phthalate	6 / 23	1.0	2.0	1.3	1.4	2 / 6	1.5
	Di-n-Octyl phthalate	4 / 23	1.0	2.1	1.5	1.0	3 / 4	2.1

* Maximum exceedance factor for detected values.

Shading indicates a maximum exceedance factor >5 for metals and >10 for organic chemicals.

RISL = RI Selected Screening Level

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	2/11/2010	Filter/Stormwater	Acenaphthene	0.49	mg/kg	0.25	2.0
LS431	3/29/2010	Filter/Stormwater	Acenaphthene	0.12	mg/kg	0.25	0.48
LS431	4/27/2010	Filter/Stormwater	Acenaphthene	0.095	mg/kg	0.25	0.38
LS431	1/28/2011	Filter/Baseflow	Acenaphthene	0.056	mg/kg	0.25	0.22
LS431	11/6/2009	Filter/Stormwater	Arsenic	20	mg/kg	7.3	2.7
LS431	3/29/2010	Filter/Stormwater	Arsenic	10	mg/kg	7.3	1.4
LS431	4/28/2011	Filter/Stormwater	Arsenic	10	mg/kg	7.3	1.4
LS431	10/17/2009	Filter/Stormwater	Arsenic	9	mg/kg	7.3	1.2
LS431	5/15/2011	Filter/Stormwater	Arsenic	9	mg/kg	7.3	1.2
LS431	11/6/2009	Filter/Stormwater	Benzo(a)anthracene	1.7 J	mg/kg	1.3	1.3
LS431	3/29/2010	Filter/Stormwater	Benzo(a)anthracene	1.2	mg/kg	1.3	0.92
LS431	2/11/2010	Filter/Stormwater	Benzo(a)anthracene	0.81	mg/kg	1.3	0.62
LS431	12/12/2010	Filter/Stormwater	Benzo(a)anthracene	0.68	mg/kg	1.3	0.52
LS431	6/2/2010	Filter/Stormwater	Benzo(a)anthracene	0.61	mg/kg	1.3	0.47
LS431	3/9/2011	Filter/Stormwater	Benzo(a)anthracene	0.45	mg/kg	1.3	0.35
LS431	5/15/2011	Filter/Stormwater	Benzo(a)anthracene	0.32	mg/kg	1.3	0.25
LS431	11/17/2010	Filter/Stormwater	Benzo(a)anthracene	0.22	mg/kg	1.3	0.17
LS431	4/27/2010	Filter/Stormwater	Benzo(a)anthracene	0.2 J	mg/kg	1.3	0.15
LS431	1/28/2011	Filter/Baseflow	Benzo(a)anthracene	0.049	mg/kg	1.3	0.038
LS431	3/29/2010	Filter/Stormwater	Benzo(a)pyrene	2.6	mg/kg	0.062	42
LS431	11/6/2009	Filter/Stormwater	Benzo(a)pyrene	2.5 J	mg/kg	0.062	40
LS431	12/12/2010	Filter/Stormwater	Benzo(a)pyrene	1.1	mg/kg	0.062	18
LS431	6/2/2010	Filter/Stormwater	Benzo(a)pyrene	1	mg/kg	0.062	16
LS431	2/11/2010	Filter/Stormwater	Benzo(a)pyrene	0.95	mg/kg	0.062	15
LS431	3/9/2011	Filter/Stormwater	Benzo(a)pyrene	0.67	mg/kg	0.062	11
LS431	5/15/2011	Filter/Stormwater	Benzo(a)pyrene	0.51	mg/kg	0.062	8.2
LS431	4/27/2010	Filter/Stormwater	Benzo(a)pyrene	0.31 J	mg/kg	0.062	5.0
LS431	11/17/2010	Filter/Stormwater	Benzo(a)pyrene	0.28	mg/kg	0.062	4.5
LS431	1/28/2011	Filter/Baseflow	Benzo(a)pyrene	0.067	mg/kg	0.062	1.1
LS431	11/6/2009	Filter/Stormwater	Benzo(g,h,i)perylene	2.5 J	mg/kg	0.48	5.2
LS431	3/29/2010	Filter/Stormwater	Benzo(g,h,i)perylene	2.1	mg/kg	0.48	4.4
LS431	6/2/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.2	mg/kg	0.48	2.5
LS431	12/12/2010	Filter/Stormwater	Benzo(g,h,i)perylene	1.1	mg/kg	0.48	2.3
LS431	2/11/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.84	mg/kg	0.48	1.8
LS431	3/9/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.78	mg/kg	0.48	1.6
LS431	5/15/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.68	mg/kg	0.48	1.4
LS431	4/27/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.5 J	mg/kg	0.48	1.0
LS431	11/17/2010	Filter/Stormwater	Benzo(g,h,i)perylene	0.38	mg/kg	0.48	0.79
LS431	1/28/2011	Filter/Baseflow	Benzo(g,h,i)perylene	0.074	mg/kg	0.48	0.15
LS431	3/29/2010	Filter/Stormwater	Benzofluoranthene	6	mg/kg	3.2	1.9
LS431	11/6/2009	Filter/Stormwater	Benzofluoranthene	5.4	mg/kg	3.2	1.7
LS431	12/12/2010	Filter/Stormwater	Benzofluoranthene	3.4	mg/kg	3.2	1.1
LS431	6/2/2010	Filter/Stormwater	Benzofluoranthene	3.4	mg/kg	3.2	1.1
LS431	2/11/2010	Filter/Stormwater	Benzofluoranthene	2.6	mg/kg	3.2	0.81
LS431	3/9/2011	Filter/Stormwater	Benzofluoranthene	2.2	mg/kg	3.2	0.69
LS431	5/15/2011	Filter/Stormwater	Benzofluoranthene	1.5	mg/kg	3.2	0.47
LS431	4/27/2010	Filter/Stormwater	Benzofluoranthene	1.2	mg/kg	3.2	0.38
LS431	11/17/2010	Filter/Stormwater	Benzofluoranthene	1.1	mg/kg	3.2	0.34
LS431	1/28/2011	Filter/Baseflow	Benzofluoranthene	0.22	mg/kg	3.2	0.069
LS431	11/6/2009	Filter/Stormwater	Cadmium	11.1	mg/kg	3.7	3.0
LS431	10/29/2009	Filter/Stormwater	Cadmium	8	mg/kg	3.7	2.2
LS431	3/29/2010	Filter/Stormwater	Cadmium	7	mg/kg	3.7	1.9
LS431	4/27/2010	Filter/Stormwater	Cadmium	7	mg/kg	3.7	1.9
LS431	5/25/2011	Filter/Stormwater	Cadmium	7	mg/kg	3.7	1.9
LS431	10/17/2009	Filter/Stormwater	Cadmium	6.1	mg/kg	3.7	1.6
LS431	12/15/2009	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	5/20/2010	Filter/Stormwater	Cadmium	6	mg/kg	3.7	1.6
LS431	3/9/2011	Filter/Stormwater	Cadmium	5.3	mg/kg	3.7	1.4
LS431	2/5/2010	Filter/Stormwater	Cadmium	5	mg/kg	3.7	1.4
LS431	2/11/2010	Filter/Stormwater	Cadmium	5	mg/kg	3.7	1.4
LS431	5/28/2010	Filter/Stormwater	Cadmium	5	mg/kg	3.7	1.4
LS431	6/2/2010	Filter/Stormwater	Cadmium	5	mg/kg	3.7	1.4
LS431	4/28/2011	Filter/Stormwater	Cadmium	5	mg/kg	3.7	1.4
LS431	3/20/2010	Filter/Baseflow	Cadmium	4.9	mg/kg	3.7	1.3
LS431	5/15/2011	Filter/Stormwater	Cadmium	4.4	mg/kg	3.7	1.2
LS431	12/12/2010	Filter/Stormwater	Cadmium	4.3	mg/kg	3.7	1.2
LS431	1/21/2011	Filter/Stormwater	Cadmium	4	mg/kg	3.7	1.1
LS431	11/17/2010	Filter/Stormwater	Cadmium	4	mg/kg	3.7	1.1
LS431	11/30/2010	Filter/Stormwater	Cadmium	4	mg/kg	3.7	1.1
LS431	1/28/2011	Filter/Baseflow	Cadmium	4	mg/kg	3.7	1.1
LS431	4/25/2011	Filter/Stormwater	Cadmium	3.9	mg/kg	3.7	1.1
LS431	6/30/2010	Filter/Baseflow	Cadmium	3	mg/kg	3.7	0.81
LS431	3/21/2011	Filter/Baseflow	Cadmium	2.9	mg/kg	3.7	0.78
LS431	11/6/2009	Filter/Stormwater	Chromium	102	mg/kg	35.6	2.9
LS431	10/29/2009	Filter/Stormwater	Chromium	73	mg/kg	35.6	2.1
LS431	3/20/2010	Filter/Baseflow	Chromium	61 J	mg/kg	35.6	1.7
LS431	3/29/2010	Filter/Stormwater	Chromium	54	mg/kg	35.6	1.5
LS431	5/20/2010	Filter/Stormwater	Chromium	49	mg/kg	35.6	1.4
LS431	1/21/2011	Filter/Stormwater	Chromium	45	mg/kg	35.6	1.3
LS431	4/27/2010	Filter/Stormwater	Chromium	44 J	mg/kg	35.6	1.2
LS431	5/25/2011	Filter/Stormwater	Chromium	44	mg/kg	35.6	1.2
LS431	2/5/2010	Filter/Stormwater	Chromium	42	mg/kg	35.6	1.2
LS431	12/15/2009	Filter/Stormwater	Chromium	42	mg/kg	35.6	1.2
LS431	6/2/2010	Filter/Stormwater	Chromium	40	mg/kg	35.6	1.1
LS431	3/9/2011	Filter/Stormwater	Chromium	39	mg/kg	35.6	1.1
LS431	12/12/2010	Filter/Stormwater	Chromium	37.5	mg/kg	35.6	1.1
LS431	10/17/2009	Filter/Stormwater	Chromium	36.9	mg/kg	35.6	1.0
LS431	2/11/2010	Filter/Stormwater	Chromium	36	mg/kg	35.6	1.0
LS431	5/28/2010	Filter/Stormwater	Chromium	36 J	mg/kg	35.6	1.0
LS431	5/15/2011	Filter/Stormwater	Chromium	32.5	mg/kg	35.6	0.91
LS431	4/28/2011	Filter/Stormwater	Chromium	32	mg/kg	35.6	0.90
LS431	11/17/2010	Filter/Stormwater	Chromium	31	mg/kg	35.6	0.87
LS431	11/30/2010	Filter/Stormwater	Chromium	30	mg/kg	35.6	0.84
LS431	6/30/2010	Filter/Baseflow	Chromium	27	mg/kg	35.6	0.76
LS431	1/28/2011	Filter/Baseflow	Chromium	25	mg/kg	35.6	0.70
LS431	3/21/2011	Filter/Baseflow	Chromium	20	mg/kg	35.6	0.56
LS431	4/25/2011	Filter/Stormwater	Chromium	18.4	mg/kg	35.6	0.52
LS431	3/29/2010	Filter/Stormwater	Chrysene	4.3	mg/kg	1.4	3.1
LS431	11/6/2009	Filter/Stormwater	Chrysene	3.6 J	mg/kg	1.4	2.6
LS431	6/2/2010	Filter/Stormwater	Chrysene	2.4	mg/kg	1.4	1.7
LS431	12/12/2010	Filter/Stormwater	Chrysene	1.9	mg/kg	1.4	1.4
LS431	2/11/2010	Filter/Stormwater	Chrysene	1.8	mg/kg	1.4	1.3
LS431	3/9/2011	Filter/Stormwater	Chrysene	1.3	mg/kg	1.4	0.93
LS431	5/15/2011	Filter/Stormwater	Chrysene	1	mg/kg	1.4	0.71
LS431	4/27/2010	Filter/Stormwater	Chrysene	0.89 J	mg/kg	1.4	0.64
LS431	11/17/2010	Filter/Stormwater	Chrysene	0.84	mg/kg	1.4	0.60
LS431	1/28/2011	Filter/Baseflow	Chrysene	0.14	mg/kg	1.4	0.10
LS431	11/6/2009	Filter/Stormwater	Dibenzo(a,h)anthracene	1 J	mg/kg	0.19	5.3
LS431	3/29/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.58	mg/kg	0.19	3.1
LS431	6/2/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.36	mg/kg	0.19	1.9
LS431	2/11/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.27	mg/kg	0.19	1.4
LS431	4/27/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.18 J	mg/kg	0.19	0.95

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	3/9/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	0.045	mg/kg	0.19	0.24
LS431	12/12/2010	Filter/Stormwater	Dibenzo(a,h)anthracene	0.026	mg/kg	0.19	0.14
LS431	2/11/2010	Filter/Stormwater	Dibenzofuran	0.32	mg/kg	0.23	1.4
LS431	11/6/2009	Filter/Stormwater	Dibenzofuran	0.22 J	mg/kg	0.23	0.96
LS431	6/2/2010	Filter/Stormwater	Dibenzofuran	0.17	mg/kg	0.23	0.74
LS431	3/29/2010	Filter/Stormwater	Dibenzofuran	0.16	mg/kg	0.23	0.70
LS431	4/27/2010	Filter/Stormwater	Dibenzofuran	0.11	mg/kg	0.23	0.48
LS431	3/9/2011	Filter/Stormwater	Dibenzofuran	0.05	mg/kg	0.23	0.22
LS431	11/6/2009	Filter/Stormwater	Fluoranthene	7.8 J	mg/kg	1.7	4.6
LS431	3/29/2010	Filter/Stormwater	Fluoranthene	6.6	mg/kg	1.7	3.9
LS431	2/11/2010	Filter/Stormwater	Fluoranthene	3.3	mg/kg	1.7	1.9
LS431	6/2/2010	Filter/Stormwater	Fluoranthene	3.2	mg/kg	1.7	1.9
LS431	12/12/2010	Filter/Stormwater	Fluoranthene	2.9	mg/kg	1.7	1.7
LS431	5/15/2011	Filter/Stormwater	Fluoranthene	1.9	mg/kg	1.7	1.1
LS431	3/9/2011	Filter/Stormwater	Fluoranthene	1.8	mg/kg	1.7	1.1
LS431	4/27/2010	Filter/Stormwater	Fluoranthene	1.5	mg/kg	1.7	0.88
LS431	11/17/2010	Filter/Stormwater	Fluoranthene	1.2	mg/kg	1.7	0.71
LS431	1/28/2011	Filter/Baseflow	Fluoranthene	0.21	mg/kg	1.7	0.12
LS431	2/11/2010	Filter/Stormwater	Fluorene	0.39	mg/kg	0.36	1.1
LS431	11/6/2009	Filter/Stormwater	Fluorene	0.19 J	mg/kg	0.36	0.53
LS431	3/29/2010	Filter/Stormwater	Fluorene	0.16	mg/kg	0.36	0.44
LS431	6/2/2010	Filter/Stormwater	Fluorene	0.14	mg/kg	0.36	0.39
LS431	4/27/2010	Filter/Stormwater	Fluorene	0.12	mg/kg	0.36	0.33
LS431	3/9/2011	Filter/Stormwater	Fluorene	0.059	mg/kg	0.36	0.16
LS431	1/28/2011	Filter/Baseflow	Fluorene	0.009 J	mg/kg	0.36	0.025
LS431	11/6/2009	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	2.3 J	mg/kg	0.53	4.3
LS431	3/29/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	2	mg/kg	0.53	3.8
LS431	6/2/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	1.1	mg/kg	0.53	2.1
LS431	12/12/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.97	mg/kg	0.53	1.8
LS431	2/11/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.81	mg/kg	0.53	1.5
LS431	3/9/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.73	mg/kg	0.53	1.4
LS431	5/15/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.56	mg/kg	0.53	1.1
LS431	4/27/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.5 J	mg/kg	0.53	0.94
LS431	11/17/2010	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.31	mg/kg	0.53	0.58
LS431	1/28/2011	Filter/Baseflow	Indeno(1,2,3-cd)pyrene	0.063	mg/kg	0.53	0.12
LS431	3/20/2010	Filter/Baseflow	Lead	293 J	mg/kg	40	7.3
LS431	11/6/2009	Filter/Stormwater	Lead	265	mg/kg	40	6.6
LS431	1/21/2011	Filter/Stormwater	Lead	140	mg/kg	40	3.5
LS431	5/15/2011	Filter/Stormwater	Lead	138	mg/kg	40	3.5
LS431	3/29/2010	Filter/Stormwater	Lead	134	mg/kg	40	3.4
LS431	10/29/2009	Filter/Stormwater	Lead	130	mg/kg	40	3.3
LS431	12/12/2010	Filter/Stormwater	Lead	120	mg/kg	40	3.0
LS431	5/20/2010	Filter/Stormwater	Lead	100	mg/kg	40	2.5
LS431	10/17/2009	Filter/Stormwater	Lead	86	mg/kg	40	2.2
LS431	2/5/2010	Filter/Stormwater	Lead	80	mg/kg	40	2.0
LS431	4/28/2011	Filter/Stormwater	Lead	79	mg/kg	40	2.0
LS431	5/28/2010	Filter/Stormwater	Lead	70	mg/kg	40	1.8
LS431	6/2/2010	Filter/Stormwater	Lead	70	mg/kg	40	1.8
LS431	11/30/2010	Filter/Stormwater	Lead	70	mg/kg	40	1.8
LS431	3/9/2011	Filter/Stormwater	Lead	70	mg/kg	40	1.8
LS431	12/15/2009	Filter/Stormwater	Lead	60	mg/kg	40	1.5
LS431	11/17/2010	Filter/Stormwater	Lead	60	mg/kg	40	1.5
LS431	5/25/2011	Filter/Stormwater	Lead	60	mg/kg	40	1.5
LS431	4/27/2010	Filter/Stormwater	Lead	50	mg/kg	40	1.3
LS431	1/28/2011	Filter/Baseflow	Lead	50	mg/kg	40	1.3
LS431	4/25/2011	Filter/Stormwater	Lead	32	mg/kg	40	0.80

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	2/11/2010	Filter/Stormwater	Lead	30	mg/kg	40	0.75
LS431	3/21/2011	Filter/Baseflow	Lead	27	mg/kg	40	0.68
LS431	11/17/2010	Filter/Stormwater	Mercury	5.6	mg/kg	0.41	14
LS431	10/29/2009	Filter/Stormwater	Mercury	2 J	mg/kg	0.41	4.9
LS431	12/12/2010	Filter/Stormwater	Mercury	0.44	mg/kg	0.41	1.1
LS431	5/20/2010	Filter/Stormwater	Mercury	0.38 J	mg/kg	0.41	0.93
LS431	3/29/2010	Filter/Stormwater	Mercury	0.37 J	mg/kg	0.41	0.90
LS431	11/6/2009	Filter/Stormwater	Mercury	0.3	mg/kg	0.41	0.73
LS431	12/15/2009	Filter/Stormwater	Mercury	0.18	mg/kg	0.41	0.44
LS431	4/27/2010	Filter/Stormwater	Mercury	0.16 J	mg/kg	0.41	0.39
LS431	6/30/2010	Filter/Baseflow	Mercury	0.15 J	mg/kg	0.41	0.37
LS431	2/5/2010	Filter/Stormwater	Mercury	0.14	mg/kg	0.41	0.34
LS431	10/17/2009	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	2/11/2010	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	5/28/2010	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	3/9/2011	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	4/28/2011	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	5/25/2011	Filter/Stormwater	Mercury	0.12	mg/kg	0.41	0.29
LS431	11/30/2010	Filter/Stormwater	Mercury	0.11	mg/kg	0.41	0.27
LS431	6/2/2010	Filter/Stormwater	Mercury	0.1 J	mg/kg	0.41	0.24
LS431	1/21/2011	Filter/Stormwater	Mercury	0.09	mg/kg	0.41	0.22
LS431	1/28/2011	Filter/Baseflow	Mercury	0.09	mg/kg	0.41	0.22
LS431	5/15/2011	Filter/Stormwater	Mercury	0.07	mg/kg	0.41	0.17
LS431	3/20/2010	Filter/Baseflow	Mercury	0.06	mg/kg	0.41	0.15
LS431	4/25/2011	Filter/Stormwater	Mercury	0.06	mg/kg	0.41	0.15
LS431	3/29/2010	Filter/Stormwater	Phenanthrene	2.8	mg/kg	1.5	1.9
LS431	11/6/2009	Filter/Stormwater	Phenanthrene	2.7 J	mg/kg	1.5	1.8
LS431	2/11/2010	Filter/Stormwater	Phenanthrene	2.2	mg/kg	1.5	1.5
LS431	6/2/2010	Filter/Stormwater	Phenanthrene	1.3	mg/kg	1.5	0.87
LS431	12/12/2010	Filter/Stormwater	Phenanthrene	1.1	mg/kg	1.5	0.73
LS431	3/9/2011	Filter/Stormwater	Phenanthrene	0.75	mg/kg	1.5	0.50
LS431	4/27/2010	Filter/Stormwater	Phenanthrene	0.65	mg/kg	1.5	0.43
LS431	5/15/2011	Filter/Stormwater	Phenanthrene	0.64	mg/kg	1.5	0.43
LS431	11/17/2010	Filter/Stormwater	Phenanthrene	0.48	mg/kg	1.5	0.32
LS431	1/28/2011	Filter/Baseflow	Phenanthrene	0.087	mg/kg	1.5	0.058
LS431	3/29/2010	Filter/Stormwater	Pyrene	4.1	mg/kg	2.6	1.6
LS431	11/6/2009	Filter/Stormwater	Pyrene	3.2 J	mg/kg	2.6	1.2
LS431	2/11/2010	Filter/Stormwater	Pyrene	1.9	mg/kg	2.6	0.73
LS431	6/2/2010	Filter/Stormwater	Pyrene	1.9	mg/kg	2.6	0.73
LS431	12/12/2010	Filter/Stormwater	Pyrene	1.9	mg/kg	2.6	0.73
LS431	3/9/2011	Filter/Stormwater	Pyrene	1.2	mg/kg	2.6	0.46
LS431	5/15/2011	Filter/Stormwater	Pyrene	1.1	mg/kg	2.6	0.42
LS431	4/27/2010	Filter/Stormwater	Pyrene	0.95 J	mg/kg	2.6	0.37
LS431	11/17/2010	Filter/Stormwater	Pyrene	0.84 J	mg/kg	2.6	0.32
LS431	1/28/2011	Filter/Baseflow	Pyrene	0.15	mg/kg	2.6	0.058
LS431	3/29/2010	Filter/Stormwater	Total cPAH	3.621	mg/kg	0.062	58
LS431	11/6/2009	Filter/Stormwater	Total cPAH	3.576	mg/kg	0.062	58
LS431	12/12/2010	Filter/Stormwater	Total cPAH	1.6266	mg/kg	0.062	26
LS431	6/2/2010	Filter/Stormwater	Total cPAH	1.571	mg/kg	0.062	25
LS431	2/11/2010	Filter/Stormwater	Total cPAH	1.417	mg/kg	0.062	23
LS431	3/9/2011	Filter/Stormwater	Total cPAH	1.0255	mg/kg	0.062	17
LS431	5/15/2011	Filter/Stormwater	Total cPAH	0.7685	mg/kg	0.062	12
LS431	4/27/2010	Filter/Stormwater	Total cPAH	0.5269	mg/kg	0.062	8.5
LS431	11/17/2010	Filter/Stormwater	Total cPAH	0.4629	mg/kg	0.062	7.5
LS431	1/28/2011	Filter/Baseflow	Total cPAH	0.10215	mg/kg	0.062	1.6
LS431	10/29/2009	Filter/Stormwater	Total Dioxins/Furans	67.5131	pg/g	3.9	17

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	4/28/2011	Filter/Stormwater	Total Dioxins/Furans	35.3506	pg/g	3.9	9.1
LS431	4/25/2011	Filter/Stormwater	Total Dioxins/Furans	27.2241	pg/g	3.9	7.0
LS431	12/15/2009	Filter/Stormwater	Total Dioxins/Furans	26.2763	pg/g	3.9	6.7
LS431	11/30/2010	Filter/Stormwater	Total Dioxins/Furans	15.48447	pg/g	3.9	4.0
LS431	1/21/2011	Filter/Stormwater	Total Dioxins/Furans	7.53376	pg/g	3.9	1.9
LS431	5/20/2010	Filter/Stormwater	Total Dioxins/Furans	5.250465	pg/g	3.9	1.3
LS431	3/21/2011	Filter/Baseflow	Total Dioxins/Furans	2.87016	pg/g	3.9	0.74
LS431	6/30/2010	Filter/Baseflow	Total Dioxins/Furans	2.23916	pg/g	3.9	0.57
LS431	11/6/2009	Filter/Stormwater	Total HPAHs	30	mg/kg	12	2.5
LS431	3/29/2010	Filter/Stormwater	Total HPAHs	29.5	mg/kg	12	2.5
LS431	6/2/2010	Filter/Stormwater	Total HPAHs	15.2	mg/kg	12	1.3
LS431	12/12/2010	Filter/Stormwater	Total HPAHs	14	mg/kg	12	1.2
LS431	2/11/2010	Filter/Stormwater	Total HPAHs	13.3	mg/kg	12	1.1
LS431	3/9/2011	Filter/Stormwater	Total HPAHs	9.2	mg/kg	12	0.77
LS431	5/15/2011	Filter/Stormwater	Total HPAHs	7.6	mg/kg	12	0.63
LS431	4/27/2010	Filter/Stormwater	Total HPAHs	6.2	mg/kg	12	0.52
LS431	11/17/2010	Filter/Stormwater	Total HPAHs	5.2	mg/kg	12	0.43
LS431	1/28/2011	Filter/Baseflow	Total HPAHs	0.97	mg/kg	12	0.081
LS431	2/1/2007	Filter/Undifferentiated	Total PCBs	3.3	mg/kg	0.038	87
LS431	1/13/2006	Grab	Total PCBs	3	mg/kg	0.038	79
LS431	2/5/2010	Filter/Stormwater	Total PCBs	2.8	mg/kg	0.038	74
LS431	2/11/2010	Filter/Stormwater	Total PCBs	2.3	mg/kg	0.038	61
LS431	1/17/2007	Filter/Undifferentiated	Total PCBs	2.2	mg/kg	0.038	58
LS431	3/29/2010	Filter/Stormwater	Total PCBs	1.9	mg/kg	0.038	50
LS431	10/29/2009	Filter/Stormwater	Total PCBs	1.82	mg/kg	0.038	48
LS431	11/6/2009	Filter/Stormwater	Total PCBs	1.7	mg/kg	0.038	45
LS431	12/12/2010	Filter/Stormwater	Total PCBs	1.7	mg/kg	0.038	45
LS431	3/20/2010	Filter/Baseflow	Total PCBs	1.58	mg/kg	0.038	42
LS431	4/28/2011	Filter/Stormwater	Total PCBs	0.96	mg/kg	0.038	25
LS431	4/27/2010	Filter/Stormwater	Total PCBs	0.87	mg/kg	0.038	23
LS431	1/28/2011	Filter/Baseflow	Total PCBs	0.82	mg/kg	0.038	22
LS431	11/30/2010	Filter/Stormwater	Total PCBs	0.79	mg/kg	0.038	21
LS431	10/17/2009	Filter/Stormwater	Total PCBs	0.69	mg/kg	0.038	18
LS431	12/15/2009	Filter/Stormwater	Total PCBs	0.66	mg/kg	0.038	17
LS431	11/17/2010	Filter/Stormwater	Total PCBs	0.64	mg/kg	0.038	17
LS431	3/9/2011	Filter/Stormwater	Total PCBs	0.61	mg/kg	0.038	16
LS431	5/28/2010	Filter/Stormwater	Total PCBs	0.6	mg/kg	0.038	16
LS431	6/30/2010	Filter/Baseflow	Total PCBs	0.53	mg/kg	0.038	14
LS431	6/2/2010	Filter/Stormwater	Total PCBs	0.52	mg/kg	0.038	14
LS431	4/25/2011	Filter/Stormwater	Total PCBs	0.4	mg/kg	0.038	11
LS431	8/26/2004	Filter/Undifferentiated	Total PCBs	0.39	mg/kg	0.038	10
LS431	5/20/2010	Filter/Stormwater	Total PCBs	0.36	mg/kg	0.038	9.5
LS431	5/15/2011	Filter/Stormwater	Total PCBs	0.36	mg/kg	0.038	9.5
LS431	1/21/2011	Filter/Stormwater	Total PCBs	0.32	mg/kg	0.038	8.4
LS431	4/10/2005	Filter/Undifferentiated	Total PCBs	0.31	mg/kg	0.038	8.2
LS431	3/21/2011	Filter/Baseflow	Total PCBs	0.092	mg/kg	0.038	2.4
LS431	7/20/2004	Filter/Undifferentiated	Total PCBs	0.076	mg/kg	0.038	2.0
LS431	11/6/2009	Filter/Stormwater	Zinc	1200	mg/kg	410	2.9
LS431	10/29/2009	Filter/Stormwater	Zinc	823	mg/kg	410	2.0
LS431	12/15/2009	Filter/Stormwater	Zinc	760	mg/kg	410	1.9
LS431	5/25/2011	Filter/Stormwater	Zinc	730	mg/kg	410	1.8
LS431	5/20/2010	Filter/Stormwater	Zinc	705	mg/kg	410	1.7
LS431	3/29/2010	Filter/Stormwater	Zinc	704	mg/kg	410	1.7
LS431	4/27/2010	Filter/Stormwater	Zinc	610 J	mg/kg	410	1.5
LS431	4/28/2011	Filter/Stormwater	Zinc	553	mg/kg	410	1.3
LS431	5/28/2010	Filter/Stormwater	Zinc	491	mg/kg	410	1.2

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431	6/2/2010	Filter/Stormwater	Zinc	487	mg/kg	410	1.2
LS431	3/9/2011	Filter/Stormwater	Zinc	454	mg/kg	410	1.1
LS431	2/11/2010	Filter/Stormwater	Zinc	450	mg/kg	410	1.1
LS431	10/17/2009	Filter/Stormwater	Zinc	443	mg/kg	410	1.1
LS431	2/5/2010	Filter/Stormwater	Zinc	430	mg/kg	410	1.0
LS431	11/30/2010	Filter/Stormwater	Zinc	381	mg/kg	410	0.93
LS431	12/12/2010	Filter/Stormwater	Zinc	370	mg/kg	410	0.90
LS431	5/15/2011	Filter/Stormwater	Zinc	357	mg/kg	410	0.87
LS431	1/21/2011	Filter/Stormwater	Zinc	356	mg/kg	410	0.87
LS431	11/17/2010	Filter/Stormwater	Zinc	303	mg/kg	410	0.74
LS431	1/28/2011	Filter/Baseflow	Zinc	254	mg/kg	410	0.62
LS431	3/20/2010	Filter/Baseflow	Zinc	245 J	mg/kg	410	0.60
LS431	6/30/2010	Filter/Baseflow	Zinc	220	mg/kg	410	0.54
LS431	4/25/2011	Filter/Stormwater	Zinc	160	mg/kg	410	0.39
LS431	3/21/2011	Filter/Baseflow	Zinc	125	mg/kg	410	0.30
LS431CENT	5/26/2011	Centrifuge	Acenaphthene	0.54	mg/kg	0.25	2.2
LS431CENT	5/26/2011	Centrifuge	Benzo(a)anthracene	1.1	mg/kg	1.3	0.85
LS431CENT	5/26/2011	Centrifuge	Benzo(a)pyrene	1.5	mg/kg	0.062	24
LS431CENT	5/26/2011	Centrifuge	Benzo(g,h,i)perylene	1.9	mg/kg	0.48	4.0
LS431CENT	5/26/2011	Centrifuge	Benzofluoranthene	5.4	mg/kg	3.2	1.7
LS431CENT	3/25/2011	Centrifuge	Cadmium	6	mg/kg	3.7	1.6
LS431CENT	4/28/2011	Centrifuge	Cadmium	3.9	mg/kg	3.7	1.1
LS431CENT	3/25/2011	Centrifuge	Chromium	83	mg/kg	35.6	2.3
LS431CENT	4/28/2011	Centrifuge	Chromium	38.6	mg/kg	35.6	1.1
LS431CENT	5/26/2011	Centrifuge	Chrysene	3.5	mg/kg	1.4	2.5
LS431CENT	5/26/2011	Centrifuge	Dibenzo(a,h)anthracene	0.68	mg/kg	0.19	3.6
LS431CENT	5/26/2011	Centrifuge	Dibenzofuran	0.45	mg/kg	0.23	2.0
LS431CENT	5/26/2011	Centrifuge	Fluoranthene	4.7	mg/kg	1.7	2.8
LS431CENT	5/26/2011	Centrifuge	Fluorene	0.43	mg/kg	0.36	1.2
LS431CENT	5/26/2011	Centrifuge	Indeno(1,2,3-cd)pyrene	1.7	mg/kg	0.53	3.2
LS431CENT	4/28/2011	Centrifuge	Lead	103	mg/kg	40	2.6
LS431CENT	3/25/2011	Centrifuge	Lead	70	mg/kg	40	1.8
LS431CENT	4/28/2011	Centrifuge	Mercury	0.05	mg/kg	0.41	0.12
LS431CENT	5/26/2011	Centrifuge	Phenanthrene	3.1	mg/kg	1.5	2.1
LS431CENT	5/26/2011	Centrifuge	Pyrene	3.4	mg/kg	2.6	1.3
LS431CENT	5/26/2011	Centrifuge	Total cPAH	2.423	mg/kg	0.062	39
LS431CENT	4/28/2011	Centrifuge	Total Dioxins/Furans	4.3895	pg/g	3.9	1.1
LS431CENT	5/26/2011	Centrifuge	Total HPAHs	23.9	mg/kg	12	2.0
LS431CENT	5/26/2011	Centrifuge	Total PCBs	1.7	mg/kg	0.038	45
LS431CENT	3/25/2011	Centrifuge	Total PCBs	0.63	mg/kg	0.038	17
LS431CENT	4/28/2011	Centrifuge	Total PCBs	0.22	mg/kg	0.038	5.8
LS431CENT	3/25/2011	Centrifuge	Zinc	280	mg/kg	410	0.68
LS431CENT	4/28/2011	Centrifuge	Zinc	188	mg/kg	410	0.46
LS431UP	5/25/2011	Filter/Stormwater	Acenaphthene	0.044	mg/kg	0.25	0.18
LS431UP	5/25/2011	Filter/Stormwater	Benzo(a)anthracene	0.55	mg/kg	1.3	0.42
LS431UP	5/25/2011	Filter/Stormwater	Benzo(a)pyrene	0.43	mg/kg	0.062	6.9
LS431UP	5/25/2011	Filter/Stormwater	Benzo(g,h,i)perylene	0.31	mg/kg	0.48	0.65
LS431UP	5/25/2011	Filter/Stormwater	Benzofluoranthene	0.87	mg/kg	3.2	0.27
LS431UP	4/28/2011	Filter/Stormwater	Cadmium	3.6	mg/kg	3.7	0.97
LS431UP	3/25/2011	Filter/Undifferentiated	Cadmium	3.5	mg/kg	3.7	0.95
LS431UP	5/25/2011	Filter/Stormwater	Cadmium	3.4	mg/kg	3.7	0.92
LS431UP	3/25/2011	Filter/Undifferentiated	Chromium	20	mg/kg	35.6	0.56
LS431UP	4/28/2011	Filter/Stormwater	Chromium	19.6	mg/kg	35.6	0.55
LS431UP	5/25/2011	Filter/Stormwater	Chromium	17	mg/kg	35.6	0.48
LS431UP	5/25/2011	Filter/Stormwater	Chrysene	0.62	mg/kg	1.4	0.44
LS431UP	5/25/2011	Filter/Stormwater	Dibenzo(a,h)anthracene	0.33	mg/kg	0.19	1.7

Table 7.2-24
Storm Drain Solids Sampling Results - Lift Station

Sample Location	Sample Date	Sample Type	Chemical	Result	Units	RISL	RISL Exceedance Factor
LS431UP	5/25/2011	Filter/Stormwater	Dibenzofuran	0.017	mg/kg	0.23	0.074
LS431UP	5/25/2011	Filter/Stormwater	Fluoranthene	1.2	mg/kg	1.7	0.71
LS431UP	5/25/2011	Filter/Stormwater	Fluorene	0.047	mg/kg	0.36	0.13
LS431UP	5/25/2011	Filter/Stormwater	Indeno(1,2,3-cd)pyrene	0.58	mg/kg	0.53	1.1
LS431UP	3/25/2011	Filter/Undifferentiated	Lead	41	mg/kg	40	1.0
LS431UP	5/25/2011	Filter/Stormwater	Lead	26	mg/kg	40	0.65
LS431UP	4/28/2011	Filter/Stormwater	Lead	22	mg/kg	40	0.55
LS431UP	4/28/2011	Filter/Stormwater	Mercury	0.06	mg/kg	0.41	0.15
LS431UP	3/25/2011	Filter/Undifferentiated	Mercury	0.06	mg/kg	0.41	0.15
LS431UP	5/25/2011	Filter/Stormwater	Mercury	0.05	mg/kg	0.41	0.12
LS431UP	5/25/2011	Filter/Stormwater	Phenanthrene	0.62	mg/kg	1.5	0.41
LS431UP	5/25/2011	Filter/Stormwater	Pyrene	0.89	mg/kg	2.6	0.34
LS431UP	5/25/2011	Filter/Stormwater	Total cPAH	0.6692	mg/kg	0.062	11
LS431UP	4/28/2011	Filter/Stormwater	Total Dioxins/Furans	3.98143	pg/g	3.9	1.0
LS431UP	5/25/2011	Filter/Stormwater	Total HPAHs	5.8	mg/kg	12	0.48
LS431UP	3/25/2011	Filter/Undifferentiated	Total PCBs	0.3	mg/kg	0.038	7.9
LS431UP	5/25/2011	Filter/Stormwater	Total PCBs	0.24	mg/kg	0.038	6.3
LS431UP	4/28/2011	Filter/Stormwater	Total PCBs	0.18	mg/kg	0.038	4.7
LS431UP	3/25/2011	Filter/Undifferentiated	Zinc	177	mg/kg	410	0.43
LS431UP	5/25/2011	Filter/Stormwater	Zinc	140	mg/kg	410	0.34
LS431UP	4/28/2011	Filter/Stormwater	Zinc	135	mg/kg	410	0.33

All samples presented as dry weight concentrations except as noted.
Table includes only chemicals that exceed the screening level in at least one sample in this drainage area.
[shaded box] Indicates exceedance of screening level.
RISL = RI Selected Screening Level

Table 7.2-25
Maximum Exceedances in Storm Drain Solids Samples
KCIA Upstream of NBF

Chemical Class	Chemical	RISL (mg/kg DW)	Upstream of North Lateral		Upstream of North-Central Lateral		Upstream of South-Central Lateral		Upstream of South Lateral	
			Max Detect (mg/kg DW)	Max EF	Max Detect (mg/kg DW)	Max EF	Max Detect (mg/kg DW)	Max EF	Max Detect (mg/kg DW)	Max EF
Metals	Arsenic	7.3	23	3.2	34	4.7	29	4.0	12	1.6
	Copper	310	5,660	18	567	1.8	284	<1	286	<1
	Lead	40	463	12	744	19	420	11	237	5.9
	Mercury	0.41	0.21	<1	0.24	<1	0	<1	0.54	1.3
	Zinc	410	3,530	8.6	1,810	4.4	1,240	3.0	1,580	3.9
Chlorinated Aromatics	Total PCBs	0.038	0.23	6.1	0.72	19	2.1	56	0.76	20
PAHs	Acenaphthene	0.25	ND	ND	ND	ND	1.0	4.0	ND	ND
	Anthracene	0.96	5.0	5.2	0.99	1.0	4.2	4.3	4.4	4.6
	Fluorene	0.36	3.0	8.3	ND	ND	1.7	4.7	ND	ND
	Phenanthrene	1.5	35	23	7.0	4.7	21	14	34	22
	Total LPAH	5.2	43	8.3	8.0	1.5	28	5.3	38	7.3
	Benzo(a)anthracene	1.3	27	21	4.5	3.5	20	15	31	24
	Benzo(a)pyrene	0.062	32	520	7.2	120	26	420	43	690
	Benzofluoranthenes	3.2	68	21	20	6.3	67	21	136	43
	Benzo(g,h,i)perylene	0.48	16	33	7.3	15	25	52	43	89
	Chrysene	1.4	43	31	11	7.7	32	23	67	48
	Dibenz(a,h)anthracene	0.19	5.4	28	2.3	12	7.5	39	10	55
	Fluoranthene	1.7	85	50	18	11	53	31	106	62
	Indeno(1,2,3-cd)pyrene	0.53	19	36	6.6	12	23	44	40	76
	Pyrene	2.6	49	19	14	5.4	45	17	77	29
	Total HPAH	12	344	29	90	7.5	298	25	553	46
	Total cPAH	0.062	44	720	11	170	38	620	65	1,000
Phthalates	Bis(2-Ethylhexyl)phthalate	0.73	73	100	32	43	64	88	57	78
	Butyl benzyl phthalate	0.063	2.0	32	3.1	50	3.0	48	3.5	56
	Dibutyl phthalate	1.4	ND	ND	3.2	2.3	2.8	2	ND	ND

ND = not detected

Maximum exceedance factor for detected values.

[light shading] Maximum exceedance factor >5 for metals and >10 for organic chemicals.

[dark shading] Maximum exceedance factor >25 for metals and >100 for organic chemicals.

RISL = RI Selected Screening Level

Table 7.2-26
Samples Used for Sampling Method Comparison

Sample Location	Drainage Area	Sample Type	Date Sampled	PCB Conc'n (mg/kg for solids, ug/L for water)	Exceedance Factor
CB114	North	Filter	10/19/2005	1.2	31
CB114	North	Grab	9/26/2005	0.87	23
CB159	North	Grab	3/31/2010	17	440
CB159	North	Inlet Filter	3/31/2010	15	390
CB165	North	Filter	4/27/2010	7.5	200
CB165	North	Grab	3/30/2010	3.2	84
CB165	North	Filter	1/26/2007	14	380
CB165	North	Grab	3/13/2007	5.7	150
CB173	North	Filter	11/15/2005	510	13,000
CB173	North	Grab	10/24/2005	400	11,000
CB173	North	Grab	3/29/2010	14	360
CB173	North	Filter	4/27/2010	33	870
CB173	North	Grab	7/21/2011	1.5	39
CB173	North	Filter	1/21/2011	9.7	260
CB182	North	Grab	4/26/2006	6.1	160
CB182	North	Inlet Filter	3/21/2006	14	370
CB185	North	Grab	4/26/2006	11	290
CB185	North	Inlet Filter	3/21/2006	5.5	140
CB203	North	Grab	3/31/2010	0.063	1.7
CB203	North	Inlet Filter	3/31/2010	0.77	20
MH108	North	Filter	3/9/2007	18	480.0
CB363	North	Grab	3/14/2007	230	6,100
CB363	North	Sed Trap	5/14/2007	180	4,700
CB363	North	Grab	12/8/2006	107	2,800
CB363	North	Sed Trap	1/8/2007	200	5,300
CB363	North	Grab	2/16/2005	7.0	180
CB363	North	Sed Trap	8/11/2005	24	630
CB363	North	Sed Trap	10/11/2006	800	21,000
MH108	North	Grab	7/25/2006	6.6	170
CB363	North	Grab	6/9/2009	6.8	180
CB363	North	Sed Trap	4/6/2009	2.1	55
CB363	North	Sed Trap	4/8/2010	2.6	68
MH108	North	Filter	3/29/2010	3.6	95
CB363	North	Sed Trap	4/5/2011	4.0	110
MH108	North	Filter	4/25/2011	4.4	120
MH130	North	Grab	9/26/2005	2.3	61
MH130	North	Filter	10/11/2005	1.4	37
MH133D	North	Grab	4/7/2010	0.037	1.0
MH133D	North	Filter	5/20/2010	0.27	7.1
MH108	North	Filter	4/27/2011	1.5	39
CB108A	North	Grab	8/24/2011	2.9	76
MH108	North	Filter	10/17/2009	2.2	57
CB108A	North	Grab	6/16/2009	4.8	130
MH108	North	Water	10/17/2009	0.036	3.6
MH108	North	Filter	10/17/2009	2.16	57
MH108	North	Water	10/29/2009	0.016	1.6
MH108	North	Filter	10/29/2009	6.1	160
MH108	North	Water	11/6/2009	0.036	3.6
MH108	North	Filter	11/6/2009	5.6	150

Table 7.2-26
Samples Used for Sampling Method Comparison

Sample Location	Drainage Area	Sample Type	Date Sampled	PCB Conc'n (mg/kg for solids, ug/L for water)	Exceedance Factor
MH108	North	Water	12/15/2009	0.054	5.4
MH108	North	Filter	12/15/2009	3.3	87
MH108	North	Water	2/5/2010	0.028	2.8
MH108	North	Filter	2/5/2010	18.3	480
MH108	North	Water	2/11/2010	0.145	15
MH108	North	Filter	2/11/2010	17.7	470
MH108	North	Water	2/23/2010	0.22	22
MH108	North	Filter	2/23/2010	25	660
MH108	North	Water	3/29/2010	0.119	12
MH108	North	Filter	3/29/2010	3.6	95
MH108	North	Water	4/27/2010	0.027	2.7
MH108	North	Filter	4/27/2010	4	110
MH108	North	Water	5/20/2010	0.108	11
MH108	North	Filter	5/20/2010	1.3	34
MH108	North	Water	6/2/2010	0.046	4.6
MH108	North	Filter	6/2/2010	5	130
MH108	North	Water	6/29/2010	0.27	27
MH108	North	Filter	6/30/2010	22	580
MH108	North	Water	11/30/2010	0.013	1.3
MH108	North	Filter	11/30/2010	4.4	120
MH108	North	Water	12/12/2010	0.017	1.7
MH108	North	Filter	12/12/2010	2.5	66
MH108	North	Water	1/21/2011	0.053	5.3
MH108	North	Filter	1/21/2011	2.9	76
MH178	North	Water	3/9/2011	0.22	22
MH178	North	Filter	3/9/2011	0.21	5.5
MH108	North	Water	3/9/2011	0.101	10
MH108	North	Filter	3/9/2011	2	53
MH178	North	Water	3/21/2011	0.048	4.8
MH178	North	Filter	3/21/2011	0.99	26
MH178	North	Water	4/21/2011	0.13	13
MH178	North	Filter	4/21/2011	0.57	15
MH108	North	Water	4/25/2011	0.041	4.1
MH108	North	Filter	4/25/2011	4.4	120
MH178	North	Water	4/27/2011	0.23	23
MH178	North	Filter	4/27/2011	0.56	15
MH108	North	Water	4/27/2011	0.09	9.0
MH108	North	Filter	4/27/2011	1.5	39
MH178	North	Grab	3/29/2010	0.33	8.7
MH178	North	Sed Trap	4/8/2010	0.44	12
MH178	North	Filter	4/27/2010	0.59	16
MH178	North	Filter	2/1/2007	0.72	19
MH178	North	Sed Trap	1/8/2007	0.086	2.3
MH178	North	Sed Trap	4/5/2011	0.33	8.7
MH178	North	Filter	4/25/2011	0.61	16
MH179	North	Grab	7/15/2009	330	8,700
MH179	North	Inlet Filter	8/5/2009	1.0	26
CB137C	North-Central	Grab	4/12/2010	0.46	12
CB137C	North-Central	Inlet Filter	4/12/2010	0.22	5.8

Table 7.2-26
Samples Used for Sampling Method Comparison

Sample Location	Drainage Area	Sample Type	Date Sampled	PCB Conc'n (mg/kg for solids, ug/L for water)	Exceedance Factor
CB229A	North-Central	Grab	2/16/2005	5.6	150
CB229A	North-Central	Sed Trap	8/11/2005	0.45	12
CB229A	North-Central	Grab	4/15/2010	0.11	2.9
CB229A	North-Central	Sed Trap	4/8/2010	0.68	18
CB229A	North-Central	Grab	4/10/2007	0.10	2.6
CB229A	North-Central	Sed Trap	1/8/2007	0.10	2.7
CB229A	North-Central	Grab	9/22/2008	0.074	1.9
CB229A	North-Central	Sed Trap	7/30/2008	0.058	1.5
CB236	North-Central	Grab	4/14/2010	0.47	12
CB236	North-Central	Inlet Filter	4/14/2010	0.50	13
CB239	North-Central	Grab	4/14/2010	0.77	20
CB239	North-Central	Inlet Filter	4/14/2010	1.4	36
CB608	North-Central	Grab	4/12/2010	0.46	12
CB608	North-Central	Inlet Filter	4/12/2010	0.18	4.7
MH221A	North-Central	Sed Trap	4/8/2010	1.1	28
MH226	North-Central	Filter	4/27/2010	0.34	8.9
MH221A	North-Central	Sed Trap	4/6/2009	0.34	8.9
MH219	North-Central	Grab	6/10/2009	0.50	13
MH221A	North-Central	Sed Trap	5/17/2007	1.59	42
MH226	North-Central	Grab	3/14/2007	30	790
MH221A	North-Central	Sed Trap	10/11/2006	0.94	25
MH226	North-Central	Grab	7/25/2006	25	660
MH221A	North-Central	Grab	2/16/2005	1.5	39
MH221A	North-Central	Sed Trap	8/11/2005	2.8	74
MH364	South-Central	Sed Trap	4/6/2009	0.028	0.74
MH368	South-Central	Grab	6/15/2009	0.54	14
CB308	South	Grab	4/26/2010	0.85	22
CB308	South	Inlet Filter	4/26/2010	0.61	16
MH356	South	Sed Trap	4/8/2010	0.46	12
MH356	South	Filter	4/27/2010	0.82	22
MH482	South	Grab	4/27/2010	0.25	6.6
MH482	South	Sed Trap	10/7/2009	0.18	4.7
LS431V	Lift Station	Centrifuge	5/26/2011	1.7	45
LS431V	Lift Station	Filter	5/25/2011	0.24	6.3
LS431V	Lift Station	Centrifuge	3/25/2011	0.63	17
LS431V	Lift Station	Filter	3/25/2011	0.30	7.9
LS431V	Lift Station	Centrifuge	4/28/2011	0.22	5.8
LS431V	Lift Station	Filter	4/28/2011	0.18	4.7
LS431	Lift Station	Water	11/6/2009	0.037	3.7
LS431	Lift Station	Filter	11/6/2009	1.7	45
LS431	Lift Station	Water	12/15/2009	0.018	1.8
LS431	Lift Station	Filter	12/15/2009	0.66	17
LS431	Lift Station	Water	2/5/2010	0.012	1.2
LS431	Lift Station	Filter	2/5/2010	2.8	74
LS431	Lift Station	Water	2/11/2010	0.028	2.8
LS431	Lift Station	Filter	2/11/2010	2.3	61
LS431	Lift Station	Water	3/29/2010	0.097	9.7
LS431	Lift Station	Filter	3/29/2010	1.9	50
LS431	Lift Station	Water	4/27/2010	0.016	1.6
LS431	Lift Station	Filter	4/27/2010	0.87	23

Table 7.2-26
Samples Used for Sampling Method Comparison

Sample Location	Drainage Area	Sample Type	Date Sampled	PCB Conc'n (mg/kg for solids, ug/L for water)	Exceedance Factor
LS431	Lift Station	Water	5/20/2010	0.043	4.3
LS431	Lift Station	Filter	5/20/2010	0.36	9.5
LS431	Lift Station	Water	6/30/2010	0.016	1.6
LS431	Lift Station	Filter	6/30/2010	0.53	14
LS431	Lift Station	Water	11/17/2010	0.17	17
LS431	Lift Station	Filter	11/17/2010	0.64	17
LS431	Lift Station	Water	11/30/2010	0.015	1.5
LS431	Lift Station	Filter	11/30/2010	0.79	21
LS431	Lift Station	Water	12/11/2010	0.058	5.8
LS431	Lift Station	Filter	12/12/2010	1.7	45
LS431	Lift Station	Water	1/21/2011	0.035	3.5
LS431	Lift Station	Filter	1/21/2011	0.32	8.4
LS431	Lift Station	Water	3/9/2011	0.045	4.5
LS431	Lift Station	Filter	3/9/2011	0.61	16
LS431	Lift Station	Water	3/21/2011	0.013	1.3
LS431	Lift Station	Filter	3/21/2011	0.092	2.4
LS431	Lift Station	Water	4/25/2011	0.011	1.1
LS431	Lift Station	Filter	4/25/2011	0.4	11
LS431	Lift Station	Water	4/28/2011	0.057	5.7
LS431	Lift Station	Filter	4/28/2011	0.96	25
LS431	Lift Station	Water	5/15/2011	0.012	1.2
LS431	Lift Station	Filter	5/15/2011	0.36	9.5

Table 7.3-1
Frequency of Detection and Maximum Exceedance Factors for COPCs in Anthropogenic Media

Chemicals	Building Materials							CJM			Pavement			Surface Debris		
	RISL	Paint		Roof Materials		Other Exterior		RISL	Freq. of Detection	Max EF	RISL	Freq. of Detection	Max EF	RISL	Freq. of Detection	Max EF
		Freq. of Detection	Max EF	Freq. of Detection	Max EF	Freq. of Detection	Max EF									
Chlorinated Aromatic Compounds																
Total PCBs	***0.13***	121 / 121	18,000	13 / 13	89	18 / 20	120,000	***1.0***	200 / 400	79,000	***0.13***	17 / 17	2,900	***0.038***	54 / 61	15,000
Metals																
Arsenic	***57***	25 / 108	3.5	4 / 13	5.2	NE	NE	--	--	--	***NC***	NC	NC	***7.3***	23 / 30	11*
Cadmium	***5.1***	55 / 108	86	3 / 13	21	3 / 19	2.4	--	--	--	***5.1***	3 / 16	6.3	***3.7***	13 / 30	9.1
Chromium	***260***	59 / 108	160	2 / 13	1.2	NE	NE	--	--	--	***NC***	NC	NC	***35.6***	24 / 30	14
Copper	***390***	10 / 108	7.6	NE	NE	NE	NE	--	--	--	***390***	1 / 16	1	***310***	2 / 29	2.0
Lead	***450***	71 / 108	340	1 / 13	1.9	NE	NE	--	--	--	***450***	1 / 16	4.2	***40***	27 / 30	34
Mercury	***0.41***	43 / 108	320	1 / 13	34	3 / 19	100	--	--	--	***0.41***	2 / 16	3.0	***0.41***	4 / 30	24
Silver	***6.1***	22 / 108	2.3	1 / 13	1.6-N	NE	NE	--	--	--	***NC***	NC	NC	***NC***	NC	NC
Zinc	***410***	89 / 108	300	5 / 13	22	7 / 19	51	--	--	--	***410***	5 / 16	5.2	***410***	24 / 30	22
Polycyclic Aromatic Hydrocarbons																
BaP/Total cPAHs	--	--	--	--	--	--	--	--	--	--	--	--	--	***0.062***	6 / 6	9.9

--	Not analyzed and not a COPC
*	Maximum non-detected exceedance factor is 25
BaP	Benzo(a)pyrene
cPAHs	Carcinogenic polycyclic aromatic hydrocarbons (TEQ)
EF	Exceedance factor
-N	Maximum reported concentration is non-detected, no detected exceedances reported
NC	Analyzed, but not a COPC
NE	No exceedances of RI/FS Selected SL
PCBs	Polychlorinated biphenyls
RISL	RI Selected Screening Level

Exceedance factors represent the concentration divided by the RI Selected Screening Level, and numbers are rounded to two significant figures.

Numbers of detections/samples and exceedance factors include samples that are both removed and in place

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
North Lateral Drainage Area													
NLS-PAINT01	2602	NLS-PAINT01-072010	07/20/10	Total PCBs	0.8 U	0.13	6.2 -N		BL	Bollard	Metal	Y	6101
NLS-PAINT01	2602	NLS-PAINT01-072010	07/20/10	Silver	6.8 J	6.1	1.1		BL	Bollard	Metal	Y	6101
NLS-PAINT01	2602	NLS-PAINT01-072010	07/20/10	Zinc	15,500	410	38		BL	Bollard	Metal	Y	6101
NLS-PAINT03	2603	NLS-PAINT03-072010	07/20/10	Total PCBs	0.8 U	0.13	6.2 -N		BE	Wall			6101
NLS-PAINT04	2604	NLS-PAINT04-072010	07/20/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Cart	Metal	W	6101
NLS-PAINT04	2604	NLS-PAINT04-072010	07/20/10	Arsenic	120 U	57	2.1 -N		ES	Cart	Metal	W	6101
NLS-PAINT04	2604	NLS-PAINT04-072010	07/20/10	Cadmium	15	5.1	2.9		ES	Cart	Metal	W	6101
NLS-PAINT04	2604	NLS-PAINT04-072010	07/20/10	Silver	7 U	6.1	1.1 -N		ES	Cart	Metal	W	6101
NLS-PAINT04	2604	NLS-PAINT04-072010	07/20/10	Zinc	5,950	410	15		ES	Cart	Metal	W	6101
NLS-PAINT06	2606	NLS-PAINT06-072010	07/20/10	Total PCBs	0.8 U	0.13	6.2 -N		PV	Asphalt			6101
NLS-PAINT06	2606	NLS-PAINT06-072010	07/20/10	Chromium	2,850	260	11		PV	Asphalt			6101
NLS-PAINT06	2606	NLS-PAINT06-072010	07/20/10	Lead	11,400	450	25		PV	Asphalt			6101
NLS-PAINT06	2606	NLS-PAINT06-072010	07/20/10	Zinc	1,670	410	4.1		PV	Asphalt			6101
NLS-PAINT07	2607	NLS-PAINT07-072010	07/20/10	Total PCBs	0.79 U	0.13	6.1 -N		PM	Pipe			6101
NLS-PAINT07	2607	NLS-PAINT07-072010	07/20/10	Arsenic	120 U	57	2.1 -N		PM	Pipe			6101
NLS-PAINT07	2607	NLS-PAINT07-072010	07/20/10	Cadmium	25	5.1	4.9		PM	Pipe			6101
NLS-PAINT07	2607	NLS-PAINT07-072010	07/20/10	Silver	7 U	6.1	1.1 -N		PM	Pipe			6101
NLS-PAINT07	2607	NLS-PAINT07-072010	07/20/10	Zinc	123,000	410	300		PM	Pipe			6101
NLS-PAINT08	2608	NLS-PAINT08-072010	07/20/10	Total PCBs	1,700	0.13	13,000	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT08	2608	NLS-PAINT08-072010	07/20/10	Chromium	35,600	260	140	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT08	2608	NLS-PAINT08-072010	07/20/10	Lead	58,600	450	130	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT08	2608	NLS-PAINT08-072010	07/20/10	Zinc	943	410	2.3	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Tub Skid			6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Arsenic	120 U	57	2.1 -N		ES	Tub Skid			6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Cadmium	7	5.1	1.4		ES	Tub Skid			6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Chromium	1,080	260	4.2		ES	Tub Skid			6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Lead	13,400	450	30		ES	Tub Skid			6101
NLS-PAINT09	2609	NLS-PAINT09-072110	07/21/10	Silver	7 U	6.1	1.1 -N		ES	Tub Skid			6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Total PCBs	0.8 U	0.13	6.2 -N		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Arsenic	110 U	57	1.9 -N		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Cadmium	35	5.1	6.9		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Chromium	610	260	2.3		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Lead	1,400	450	3.1		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Silver	7 U	6.1	1.1 -N		BE	Door		Gy	6101
NLS-PAINT10	2610	NLS-PAINT10-072110	07/21/10	Zinc	1,730	410	4.2		BE	Door		Gy	6101
NLS-PAINT11	2611	NLS-PAINT11-072110	07/21/10	Total PCBs	0.8 U	0.13	6.2 -N		BE	Edge		Gy	6101
NLS-PAINT11	2611	NLS-PAINT11-072110	07/21/10	Arsenic	120 U	57	2.1 -N		BE	Edge		Gy	6101
NLS-PAINT11	2611	NLS-PAINT11-072110	07/21/10	Silver	7 U	6.1	1.1 -N		BE	Edge		Gy	6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT12	2612	NLS-PAINT12-072210	07/22/10	Total PCBs	0.78 U	0.13	6.0 -N		BE	Siding		Gy	6101
NLS-PAINT13	2613	NLS-PAINT13-072210	07/22/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Eye Wash	Metal	Y	6101
NLS-PAINT13	2613	NLS-PAINT13-072210	07/22/10	Cadmium	10.6	5.1	2.1		ES	Eye Wash	Metal	Y	6101
NLS-PAINT13	2613	NLS-PAINT13-072210	07/22/10	Chromium	10,700	260	41		ES	Eye Wash	Metal	Y	6101
NLS-PAINT13	2613	NLS-PAINT13-072210	07/22/10	Lead	31,000	450	69		ES	Eye Wash	Metal	Y	6101
NLS-PAINT13	2613	NLS-PAINT13-072210	07/22/10	Mercury	0.74	0.41	1.8		ES	Eye Wash	Metal	Y	6101
NLS-PAINT14	2614	NLS-PAINT14-072210	07/22/10	Total PCBs	0.79 U	0.13	6.1 -N		BL	Bollard	Metal	Y	6101
NLS-PAINT14	2614	NLS-PAINT14-072210	07/22/10	Chromium	4,120	260	16		BL	Bollard	Metal	Y	6101
NLS-PAINT14	2614	NLS-PAINT14-072210	07/22/10	Lead	16,600	450	37		BL	Bollard	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Total PCBs	2.6	0.13	20		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Cadmium	59	5.1	12		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Chromium	1,300	260	5.0		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Copper	542	390	1.4		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Lead	1,150	450	2.6		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT15	2615	NLS-PAINT15-072210	07/22/10	Zinc	3,400	410	8.3		PM	Pipes/Supports	Metal	Y	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Arsenic	120 U	57	2.1 -N		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Cadmium	219	5.1	43		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Chromium	2,150	260	8.3		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Copper	717	390	1.8		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Silver	7 U	6.1	1.1 -N		ES	Equipment		LB	6101
NLS-PAINT16	2616	NLS-PAINT16-072210	07/22/10	Zinc	6,990	410	17		ES	Equipment		LB	6101
NLS-PAINT17	2617	NLS-PAINT17-072210	07/22/10	Total PCBs	9.4	0.13	72		BE	Foundation	Concrete	W	6101
NLS-PAINT17	2617	NLS-PAINT17-072210	07/22/10	Cadmium	22.6	5.1	4.4		BE	Foundation	Concrete	W	6101
NLS-PAINT17	2617	NLS-PAINT17-072210	07/22/10	Mercury	2.3	0.41	5.6		BE	Foundation	Concrete	W	6101
NLS-PAINT17	2617	NLS-PAINT17-072210	07/22/10	Zinc	3,030	410	7.4		BE	Foundation	Concrete	W	6101
NLS-PAINT18	2618	NLS-PAINT18-072210	07/22/10	Total PCBs	16.9	0.13	130		BE	Siding	Galbestos		6101
NLS-PAINT18	2618	NLS-PAINT18-072210	07/22/10	Cadmium	7.3	5.1	1.4		BE	Siding	Galbestos		6101
NLS-PAINT18	2618	NLS-PAINT18-072210	07/22/10	Mercury	4	0.41	9.8		BE	Siding	Galbestos		6101
NLS-PAINT18	2618	NLS-PAINT18-072210	07/22/10	Zinc	1,870	410	4.6		BE	Siding	Galbestos		6101
NLS-PAINT19	2619	NLS-PAINT19-072610	07/26/10	Total PCBs	5.4	0.13	42		BE	Siding		W	6101
NLS-PAINT19	2619	NLS-PAINT19-072610	07/26/10	Mercury	50	0.41	120		BE	Siding		W	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Total PCBs	1.4	0.13	11		ES	Rails & Stairs		Gy	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Cadmium	7	5.1	1.4		ES	Rails & Stairs		Gy	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Chromium	442	260	1.7		ES	Rails & Stairs		Gy	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Lead	1,520	450	3.4		ES	Rails & Stairs		Gy	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Mercury	2.11	0.41	5.1		ES	Rails & Stairs		Gy	6101
NLS-PAINT20	2620	NLS-PAINT20-072610	07/26/10	Zinc	1,880	410	4.6		ES	Rails & Stairs		Gy	6101
NLS-PAINT21	2621	NLS-PAINT21-072610	07/26/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Structure	Metal		6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT21	2621	NLS-PAINT21-072610	07/26/10	Arsenic	110 U	57	1.9 -N		ES	Structure	Metal		6101
NLS-PAINT21	2621	NLS-PAINT21-072610	07/26/10	Chromium	460	260	1.8		ES	Structure	Metal		6101
NLS-PAINT21	2621	NLS-PAINT21-072610	07/26/10	Silver	7 U	6.1	1.1 -N		ES	Structure	Metal		6101
NLS-PAINT21	2621	NLS-PAINT21-072610	07/26/10	Zinc	530	410	1.3		ES	Structure	Metal		6101
NLS-PAINT22	2622	NLS-PAINT22-072610	07/26/10	Total PCBs	5.77	0.13	45		ES	Equipment			6101
NLS-PAINT22	2622	NLS-PAINT22-072610	07/26/10	Lead	1,770	450	3.9		ES	Equipment			6101
NLS-PAINT22	2622	NLS-PAINT22-072610	07/26/10	Mercury	6	0.41	15		ES	Equipment			6101
NLS-PAINT22	2622	NLS-PAINT22-072610	07/26/10	Zinc	5,580	410	14		ES	Equipment			6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Total PCBs	2.4	0.13	18		BL	Bollard	Metal	Y	6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Cadmium	8	5.1	1.6		BL	Bollard	Metal	Y	6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Chromium	20,400	260	78		BL	Bollard	Metal	Y	6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Lead	43,400	450	96		BL	Bollard	Metal	Y	6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Mercury	0.46	0.41	1.1		BL	Bollard	Metal	Y	6101
NLS-PAINT24	2624	NLS-PAINT24-072610	07/26/10	Zinc	12,100	410	30		BL	Bollard	Metal	Y	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Total PCBs	30	0.13	230		ES	Tank		Gn	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Arsenic	140	57	2.5		ES	Tank		Gn	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Cadmium	68	5.1	13		ES	Tank		Gn	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Chromium	6,920	260	27		ES	Tank		Gn	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Lead	16,600	450	37		ES	Tank		Gn	6101
NLS-PAINT27	2626	NLS-PAINT27-072810	07/28/10	Zinc	5,760	410	14		ES	Tank		Gn	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Total PCBs	4.4	0.13	34		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Arsenic	120 U	57	2.1 -N		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Cadmium	17	5.1	3.3		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Chromium	8,890	260	34		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Lead	18,200	450	40		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Mercury	2.21	0.41	5.4		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Silver	7 U	6.1	1.1 -N		ES	Tank		P	6101
NLS-PAINT28	2627	NLS-PAINT28-072810	07/28/10	Zinc	6,760	410	16		ES	Tank		P	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Total PCBs	27	0.13	210		ES	Tank		Bl	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Cadmium	28.2	5.1	5.5		ES	Tank		Bl	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Chromium	4,490	260	17		ES	Tank		Bl	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Lead	27,000	450	60		ES	Tank		Bl	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Mercury	0.85	0.41	2.1		ES	Tank		Bl	6101
NLS-PAINT29	2628	NLS-PAINT29-072810	07/28/10	Zinc	3,520	410	8.6		ES	Tank		Bl	6101
NLS-PAINT31	2629	NLS-PAINT31-072810	07/28/10	Total PCBs	6.6	0.13	51		ES	Container		W	6101
NLS-PAINT31	2629	NLS-PAINT31-072810	07/28/10	Cadmium	12	5.1	2.4		ES	Container		W	6101
NLS-PAINT31	2629	NLS-PAINT31-072810	07/28/10	Chromium	647	260	2.5		ES	Container		W	6101
NLS-PAINT31	2629	NLS-PAINT31-072810	07/28/10	Zinc	28,600	410	70		ES	Container		W	6101
NLS-PAINT32	2630	NLS-PAINT32-072810	07/28/10	Total PCBs	4.5	0.13	35		BR	Enclosure	Metal	Bl	6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT32	2630	NLS-PAINT32-072810	07/28/10	Cadmium	8.3	5.1	1.6		BR	Enclosure	Metal	Bl	6101
NLS-PAINT32	2630	NLS-PAINT32-072810	07/28/10	Chromium	8,940	260	34		BR	Enclosure	Metal	Bl	6101
NLS-PAINT32	2630	NLS-PAINT32-072810	07/28/10	Copper	2,950	390	7.6		BR	Enclosure	Metal	Bl	6101
NLS-PAINT32	2630	NLS-PAINT32-072810	07/28/10	Zinc	11,100	410	27		BR	Enclosure	Metal	Bl	6101
NLS-PAINT33	2631	NLS-PAINT33-072610	07/26/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Box	Metal	Y	6101
NLS-PAINT33	2631	NLS-PAINT33-072610	07/26/10	Chromium	17,600	260	68		ES	Box	Metal	Y	6101
NLS-PAINT33	2631	NLS-PAINT33-072610	07/26/10	Lead	35,900	450	80		ES	Box	Metal	Y	6101
NLS-PAINT33	2631	NLS-PAINT33-072610	07/26/10	Zinc	13,900	410	34		ES	Box	Metal	Y	6101
NLS-PAINT34	2632	NLS-PAINT34-072610	07/26/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Beam	Metal	W	6101
NLS-PAINT34	2632	NLS-PAINT34-072610	07/26/10	Cadmium	13.1	5.1	2.6		ES	Beam	Metal	W	6101
NLS-PAINT34	2632	NLS-PAINT34-072610	07/26/10	Zinc	1,400	410	3.4		ES	Beam	Metal	W	6101
NLS-PAINT35	2633	NLS-PAINT35-072610	07/26/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Flood Light	Metal	R, W	6101
NLS-PAINT35	2633	NLS-PAINT35-072610	07/26/10	Lead	601	450	1.3		ES	Flood Light	Metal	R, W	6101
NLS-PAINT35	2633	NLS-PAINT35-072610	07/26/10	Zinc	12,700	410	31		ES	Flood Light	Metal	R, W	6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Arsenic	120 U	57	2.1 -N		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Cadmium	19	5.1	3.7		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Chromium	2,130	260	8.2		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Lead	500	450	1.1		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Silver	7 U	6.1	1.1 -N		ES	Switch			6101
NLS-PAINT36	2634	NLS-PAINT36-072610	07/26/10	Zinc	9,500	410	23		ES	Switch			6101
NLS-PAINT37	2635	NLS-PAINT37-072610	07/26/10	Total PCBs	4.9	0.13	38		ES	Structure	Metal	LGn	6101
NLS-PAINT37	2635	NLS-PAINT37-072610	07/26/10	Mercury	0.63	0.41	1.5		ES	Structure	Metal	LGn	6101
NLS-PAINT37	2635	NLS-PAINT37-072610	07/26/10	Zinc	2,090	410	5.1		ES	Structure	Metal	LGn	6101
NLS-PAINT38	2636	NLS-PAINT38-072610	07/26/10	Total PCBs	750	0.13	5,800	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT38	2636	NLS-PAINT38-072610	07/26/10	Chromium	27,500	260	110	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT38	2636	NLS-PAINT38-072610	07/26/10	Lead	54,700	450	120	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT38	2636	NLS-PAINT38-072610	07/26/10	Zinc	885	410	2.2	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Total PCBs	3.3	0.13	25		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Arsenic	120 U	57	2.1 -N		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Chromium	2,440	260	9.4		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Lead	32,700	450	73		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Mercury	5.3	0.41	13		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Silver	7 U	6.1	1.1 -N		ES	Tank		W	6101
NLS-PAINT39	2637	NLS-PAINT39-072610	07/26/10	Zinc	4,440	410	11		ES	Tank		W	6101
NLS-PAINT41	2638	NLS-PAINT41-072810	07/28/10	Total PCBs	6.4	0.13	49		BE	Cinder Block	Concrete	LGn	6101
NLS-PAINT41	2638	NLS-PAINT41-072810	07/28/10	Cadmium	10.6	5.1	2.1		BE	Cinder Block	Concrete	LGn	6101
NLS-PAINT41	2638	NLS-PAINT41-072810	07/28/10	Mercury	43	0.41	100		BE	Cinder Block	Concrete	LGn	6101
NLS-PAINT41	2638	NLS-PAINT41-072810	07/28/10	Zinc	1,120	410	2.7		BE	Cinder Block	Concrete	LGn	6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Total PCBs	25.5	0.13	200		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Arsenic	120 U	57	2.1 -N		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Cadmium	16	5.1	3.1		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Chromium	830	260	3.2		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Copper	872	390	2.2		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Lead	1,520	450	3.4		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Mercury	25	0.41	61		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Silver	9	6.1	1.5		ES	Support	Metal	LGn	6101
NLS-PAINT42	2639	NLS-PAINT42-072810	07/28/10	Zinc	2,840	410	6.9		ES	Support	Metal	LGn	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Arsenic	120 U	57	2.1 -N		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Cadmium	9	5.1	1.8		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Chromium	7,540	260	29		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Copper	757	390	1.9		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Lead	830	450	1.8		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Mercury	9	0.41	22		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Silver	7 U	6.1	1.1 -N		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT43	2640	NLS-PAINT43-072810	07/28/10	Zinc	17,800	410	43		ES	Scaffolding	Metal	R, Bk	6101
NLS-PAINT44	2641	NLS-PAINT44-072910	07/29/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT44	2641	NLS-PAINT44-072910	07/29/10	Arsenic	120 U	57	2.1 -N		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT44	2641	NLS-PAINT44-072910	07/29/10	Silver	7 U	6.1	1.1 -N		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT45	2642	NLS-PAINT45-072910	07/29/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Wheel Stop	Concrete	Y	6101
NLS-PAINT45	2642	NLS-PAINT45-072910	07/29/10	Chromium	617	260	2.4		ES	Wheel Stop	Concrete	Y	6101
NLS-PAINT45	2642	NLS-PAINT45-072910	07/29/10	Lead	2,640	450	5.9		ES	Wheel Stop	Concrete	Y	6101
NLS-PAINT45	2642	NLS-PAINT45-072910	07/29/10	Zinc	5,540	410	14		ES	Wheel Stop	Concrete	Y	6101
NLS-PAINT47	2643	NLS-PAINT47-072910	07/29/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Table		Multiple Layers	6101
NLS-PAINT47	2643	NLS-PAINT47-072910	07/29/10	Cadmium	8.9	5.1	1.7		ES	Table		Multiple Layers	6101
NLS-PAINT47	2643	NLS-PAINT47-072910	07/29/10	Chromium	598	260	2.3		ES	Table		Multiple Layers	6101
NLS-PAINT47	2643	NLS-PAINT47-072910	07/29/10	Lead	1,920	450	4.3		ES	Table		Multiple Layers	6101
NLS-PAINT47	2643	NLS-PAINT47-072910	07/29/10	Zinc	4,770	410	12		ES	Table		Multiple Layers	6101
NLS-PAINT48	2644	NLS-PAINT48-073010	07/30/10	Total PCBs	0.52 U	0.13	4.0 -N		ES	Container		Off-W	6101
NLS-PAINT48	2644	NLS-PAINT48-073010	07/30/10	Arsenic	120 U	57	2.1 -N		ES	Container		Off-W	6101
NLS-PAINT48	2644	NLS-PAINT48-073010	07/30/10	Silver	7 U	6.1	1.1 -N		ES	Container		Off-W	6101
NLS-PAINT48	2644	NLS-PAINT48-073010	07/30/10	Zinc	620	410	1.5		ES	Container		Off-W	6101
NLS-PAINT49	2645	NLS-PAINT49-073010	07/30/10	Total PCBs	0.65 U	0.13	5.0 -N		BE	Siding			6101
NLS-PAINT49	2645	NLS-PAINT49-073010	07/30/10	Cadmium	5.6	5.1	1.1		BE	Siding			6101
NLS-PAINT49	2645	NLS-PAINT49-073010	07/30/10	Lead	12,400	450	28		BE	Siding			6101
NLS-PAINT49	2645	NLS-PAINT49-073010	07/30/10	Mercury	20	0.41	49		BE	Siding			6101
NLS-PAINT49	2645	NLS-PAINT49-073010	07/30/10	Zinc	17,500	410	43		BE	Siding			6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT50	2646	NLS-PAINT50-073010	07/30/10	Total PCBs	0.77 U	0.13	5.9 -N		BE	Door	Wood	Br	6101
NLS-PAINT51	2647	NLS-PAINT51-073010	07/30/10	Total PCBs	0.53 U	0.13	4.1 -N		ES	Blast fence	Metal		6101
NLS-PAINT51	2647	NLS-PAINT51-073010	07/30/10	Zinc	2,760	410	6.7		ES	Blast fence	Metal		6101
NLS-PAINT52	2648	NLS-PAINT52-073010	07/30/10	Total PCBs	0.69 U	0.13	5.3 -N		PM	Fire Hydrant	Metal		6101
NLS-PAINT52	2648	NLS-PAINT52-073010	07/30/10	Cadmium	51	5.1	10		PM	Fire Hydrant	Metal		6101
NLS-PAINT52	2648	NLS-PAINT52-073010	07/30/10	Lead	5,330	450	12		PM	Fire Hydrant	Metal		6101
NLS-PAINT52	2648	NLS-PAINT52-073010	07/30/10	Mercury	4.3	0.41	10		PM	Fire Hydrant	Metal		6101
NLS-PAINT52	2648	NLS-PAINT52-073010	07/30/10	Zinc	4,340	410	11		PM	Fire Hydrant	Metal		6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Total PCBs	0.6 U	0.13	4.6 -N		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Arsenic	120 U	57	2.1 -N		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Cadmium	12	5.1	2.4		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Chromium	3,280	260	13		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Lead	11,100	450	25		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Silver	7 U	6.1	1.1 -N		ES	Tub Skid		Gn	6101
NLS-PAINT53	2649	NLS-PAINT53-073010	07/30/10	Zinc	3,620	410	8.8		ES	Tub Skid		Gn	6101
NLS-PAINT55	2650	NLS-PAINT55-073010	07/30/10	Total PCBs	0.39 U	0.13	3.0 -N		ES	Container	Metal	LGn	6101
NLS-PAINT55	2650	NLS-PAINT55-073010	07/30/10	Lead	1,570	450	3.5		ES	Container	Metal	LGn	6101
NLS-PAINT56	2651	NLS-PAINT56-073010	07/30/10	Total PCBs	0.48 U	0.13	3.7 -N		ES	Container	Metal	LGy	6101
NLS-PAINT57	2652	NLS-PAINT57-073010	07/30/10	Total PCBs	0.54 U	0.13	4.2 -N		ES	Container	Metal	W, Bl	6101
NLS-PAINT57	2652	NLS-PAINT57-073010	07/30/10	Cadmium	11	5.1	2.2		ES	Container	Metal	W, Bl	6101
NLS-PAINT57	2652	NLS-PAINT57-073010	07/30/10	Chromium	1,110	260	4.3		ES	Container	Metal	W, Bl	6101
NLS-PAINT57	2652	NLS-PAINT57-073010	07/30/10	Lead	10,600	450	24		ES	Container	Metal	W, Bl	6101
NLS-PAINT57	2652	NLS-PAINT57-073010	07/30/10	Zinc	30,100	410	73		ES	Container	Metal	W, Bl	6101
NLS-PAINT58	2653	NLS-PAINT58-073010	07/30/10	Total PCBs	17.3	0.13	130		BR	Vent			6101
NLS-PAINT58	2653	NLS-PAINT58-073010	07/30/10	Cadmium	42.3	5.1	8.3		BR	Vent			6101
NLS-PAINT58	2653	NLS-PAINT58-073010	07/30/10	Lead	21,800	450	48		BR	Vent			6101
NLS-PAINT58	2653	NLS-PAINT58-073010	07/30/10	Mercury	28	0.41	68		BR	Vent			6101
NLS-PAINT58	2653	NLS-PAINT58-073010	07/30/10	Zinc	18,600	410	45		BR	Vent			6101
NLS-PAINT59	2654	NLS-PAINT59-072810	07/28/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Pillar	Metal	W	6101
NLS-PAINT59	2654	NLS-PAINT59-072810	07/28/10	Arsenic	120 U	57	2.1 -N		ES	Pillar	Metal	W	6101
NLS-PAINT59	2654	NLS-PAINT59-072810	07/28/10	Silver	7 U	6.1	1.1 -N		ES	Pillar	Metal	W	6101
NLS-PAINT59	2654	NLS-PAINT59-072810	07/28/10	Zinc	750	410	1.8		ES	Pillar	Metal	W	6101
NLS-PAINT60	2655	NLS-PAINT60-072810	07/28/10	Total PCBs	98	0.13	750		ES	Tank		W	6101
NLS-PAINT60	2655	NLS-PAINT60-072810	07/28/10	Cadmium	116	5.1	23		ES	Tank		W	6101
NLS-PAINT60	2655	NLS-PAINT60-072810	07/28/10	Lead	11,500	450	26		ES	Tank		W	6101
NLS-PAINT60	2655	NLS-PAINT60-072810	07/28/10	Mercury	23	0.41	56		ES	Tank		W	6101
NLS-PAINT60	2655	NLS-PAINT60-072810	07/28/10	Zinc	19,500	410	48		ES	Tank		W	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Total PCBs	136	0.13	1,000		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Arsenic	120 U	57	2.1 -N		ES	Metal Pillar	Metal	Be/Gn	6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Cadmium	14	5.1	2.7		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Chromium	1,130	260	4.3		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Copper	512	390	1.3		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Lead	3,210	450	7.1		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Mercury	17	0.41	41		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Silver	7 U	6.1	1.1 -N		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT61	2656	NLS-PAINT61-072810	07/28/10	Zinc	5,460	410	13		ES	Metal Pillar	Metal	Be/Gn	6101
NLS-PAINT62	2657	NLS-PAINT62-072810	07/28/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Elevator Unit	Metal	S	6101
NLS-PAINT62	2657	NLS-PAINT62-072810	07/28/10	Cadmium	21	5.1	4.1		ES	Elevator Unit	Metal	S	6101
NLS-PAINT62	2657	NLS-PAINT62-072810	07/28/10	Silver	12	6.1	2.0		ES	Elevator Unit	Metal	S	6101
NLS-PAINT62	2657	NLS-PAINT62-072810	07/28/10	Zinc	34,200	410	83		ES	Elevator Unit	Metal	S	6101
NLS-PAINT64	2658	NLS-PAINT64-072910	07/29/10	Total PCBs	8.6	0.13	66		ES	Overhang	Metal		6101
NLS-PAINT64	2658	NLS-PAINT64-072910	07/29/10	Cadmium	34.3	5.1	6.7		ES	Overhang	Metal		6101
NLS-PAINT64	2658	NLS-PAINT64-072910	07/29/10	Lead	1,710	450	3.8		ES	Overhang	Metal		6101
NLS-PAINT64	2658	NLS-PAINT64-072910	07/29/10	Mercury	14	0.41	34		ES	Overhang	Metal		6101
NLS-PAINT64	2658	NLS-PAINT64-072910	07/29/10	Zinc	8,510	410	21		ES	Overhang	Metal		6101
NLS-PAINT65	2659	NLS-PAINT65-072810	07/28/10	Total PCBs	250	0.13	1,900		BE	Siding			6101
NLS-PAINT65	2659	NLS-PAINT65-072810	07/28/10	Cadmium	8.4	5.1	1.6		BE	Siding			6101
NLS-PAINT65	2659	NLS-PAINT65-072810	07/28/10	Mercury	130	0.41	320		BE	Siding			6101
NLS-PAINT66	2660	NLS-PAINT66-072810	07/28/10	Total PCBs	12.1	0.13	93	Removed	ES	Support Beam	Metal	Y	6101
NLS-PAINT66	2660	NLS-PAINT66-072810	07/28/10	Cadmium	154	5.1	30	Removed	ES	Support Beam	Metal	Y	6101
NLS-PAINT66	2660	NLS-PAINT66-072810	07/28/10	Lead	519	450	1.2	Removed	ES	Support Beam	Metal	Y	6101
NLS-PAINT66	2660	NLS-PAINT66-072810	07/28/10	Mercury	1.61	0.41	3.9	Removed	ES	Support Beam	Metal	Y	6101
NLS-PAINT66	2660	NLS-PAINT66-072810	07/28/10	Zinc	2,780	410	6.8	Removed	ES	Support Beam	Metal	Y	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Total PCBs	5.9	0.13	45		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Arsenic	120 U	57	2.1 -N		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Cadmium	15	5.1	2.9		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Chromium	1,630	260	6.3		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Copper	462	390	1.2		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Lead	5,070	450	11		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Mercury	10	0.41	24		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Silver	7 U	6.1	1.1 -N		BE	Door	Metal	Gy	6101
NLS-PAINT68	2661	NLS-PAINT68-072910	07/29/10	Zinc	6,600	410	16		BE	Door	Metal	Gy	6101
NLS-PAINT70	2662	NLS-PAINT70-072910	07/29/10	Total PCBs	160	0.13	1,200		BR	Roof	Concrete	Stained O	6101
NLS-PAINT70	2662	NLS-PAINT70-072910	07/29/10	Cadmium	9	5.1	1.8		BR	Roof	Concrete	Stained O	6101
NLS-PAINT70	2662	NLS-PAINT70-072910	07/29/10	Mercury	37	0.41	90		BR	Roof	Concrete	Stained O	6101
NLS-PAINT70	2662	NLS-PAINT70-072910	07/29/10	Zinc	3,610	410	8.8		BR	Roof	Concrete	Stained O	6101
NLS-PAINT71	2663	NLS-PAINT71-072910	07/29/10	Total PCBs	0.8 U	0.13	6.2 -N		BE	Siding			6101
NLS-PAINT71	2663	NLS-PAINT71-072910	07/29/10	Mercury	3.1	0.41	7.6		BE	Siding			6101

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT71	2663	NLS-PAINT71-072910	07/29/10	Zinc	2,890	410	7.0		BE	Siding			6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Tub Skid		R	6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Arsenic	120 U	57	2.1 -N		ES	Tub Skid		R	6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Cadmium	6	5.1	1.2		ES	Tub Skid		R	6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Chromium	360	260	1.4		ES	Tub Skid		R	6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Silver	7 U	6.1	1.1 -N		ES	Tub Skid		R	6101
NLS-PAINT72	2664	NLS-PAINT72-073010	07/30/10	Zinc	1,040	410	2.5		ES	Tub Skid		R	6101
NLS-PAINT73	2665	NLS-PAINT73-073010	07/30/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT73	2665	NLS-PAINT73-073010	07/30/10	Chromium	7,280	260	28		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT73	2665	NLS-PAINT73-073010	07/30/10	Lead	9,580	450	21		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT73	2665	NLS-PAINT73-073010	07/30/10	Zinc	539	410	1.3		ES	Tub Skid		W, Bl, R	6101
NLS-PAINT74	2666	NLS-PAINT74-080310	08/03/10	Total PCBs	2,300	0.13	18,000	Removed	BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT74	2666	NLS-PAINT74-082510	08/25/10	Total PCBs	1,900	0.13	15,000	Removed	BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT75	2667	NLS-PAINT75-080310	08/03/10	Total PCBs	1.1 U	0.13	8.5 -N		BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT76	2668	NLS-PAINT76-080310	08/03/10	Total PCBs	0.79 U	0.13	6.1 -N		BL	Bollard	Metal	Y	6101
NLS-PAINT77	2669	NLS-PAINT77-080310	08/03/10	Total PCBs	0.8 U	0.13	6.2 -N		BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT78	2670	NLS-PAINT78-080310	08/03/10	Total PCBs	1 U	0.13	7.7 -N		BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT79	2671	NLS-PAINT79-080310	08/03/10	Total PCBs	1.7	0.13	13	Removed	BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT80	2672	NLS-PAINT80-080410	08/04/10	Total PCBs	4.6	0.13	35	Removed	BL	Bollard	Metal	Y (Y, W)	6101
NLS-PAINT82	2674	NLS-PAINT82-080410	08/04/10	Total PCBs	1.1	0.13	8.5		BL	Bollard	Metal	Y	6101
NLS-PAINT83	2675	NLS-PAINT83-080410	08/04/10	Total PCBs	46	0.13	380	Removed	BL	Bollard	Metal	Y	6101
NLS-PAINT84	2676	NLS-PAINT84-080410	08/04/10	Total PCBs	0.79 U	0.13	6.1 -N		BE	Hangar Door		Gy/Br	6101
NLS-PAINT84	2676	NLS-PAINT84-080410	08/04/10	Mercury	0.85	0.41	2.1		BE	Hangar Door		Gy/Br	6101
NLS-PAINT85	2677	NLS-PAINT85-082510	08/25/10	Total PCBs	5.3	0.13	41		ES	Tank		W (W, Gn, Be, Pi)	6101
NLS-PAINT86	2678	NLS-PAINT86-082510	08/25/10	Total PCBs	22.6	0.13	180		ES	Tank		W (W, Be, Gn)	6101
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Total PCBs	12	0.13	92		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Arsenic	100 U	57	1.8 -N		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Cadmium	13	5.1	2.5		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Chromium	440	260	1.7		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Lead	21,200	450	47		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Mercury	2.91	0.41	7.1		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Silver	14	6.1	2.3		ES	Support beam			6294
NLS-PAINT-W24	3587	NLS-PAINT-W24-061511	06/15/11	Zinc	600	410	1.5		ES	Support beam			6294
NLS-PAINT-W29	3588	NLS-PAINT-W29-061411	06/14/11	Total PCBs	8.6	0.13	66		ES	Structure	Concrete		6294
NLS-PAINT-W29	3588	NLS-PAINT-W29-061411	06/14/11	Cadmium	14	5.1	2.7		ES	Structure	Concrete		6294
NLS-PAINT-W29	3588	NLS-PAINT-W29-061411	06/14/11	Lead	480	450	1.1		ES	Structure	Concrete		6294
NLS-PAINT-W29	3588	NLS-PAINT-W29-061411	06/14/11	Mercury	34.3	0.41	84		ES	Structure	Concrete		6294
NLS-PAINT-W29	3588	NLS-PAINT-W29-061411	06/14/11	Zinc	1,020	410	2.5		ES	Structure	Concrete		6294
NLS-PAINT-W30	3589	NLS-PAINT-W30-061411	06/14/11	Total PCBs	1.2	0.13	9.2		ES	Balcony			6294

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT-W30	3589	NLS-PAINT-W30-061411	06/14/11	Mercury	5	0.41	12		ES	Balcony			6294
NLS-PAINT-W30	3589	NLS-PAINT-W30-061411	06/14/11	Zinc	740	410	1.8		ES	Balcony			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Total PCBs	7.2	0.13	55		ES	Blast fence			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Arsenic	100 U	57	1.8 -N		ES	Blast fence			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Cadmium	16	5.1	3.1		ES	Blast fence			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Chromium	6,070	260	23		ES	Blast fence			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Lead	69,800	450	160		ES	Blast fence			6294
NLS-PAINT-W32	3590	NLS-PAINT-W32-061411	06/14/11	Zinc	25,500	410	62		ES	Blast fence			6294
NLS-PAINT-W37	3591	NLS-PAINT-W37-061411	06/14/11	Total PCBs	480	0.13	3,700		PM	Fire hydrant	Metal	Gn	6294
NLS-PAINT-W37	3591	NLS-PAINT-W37-061411	06/14/11	Chromium	314	260	1.2		PM	Fire hydrant	Metal	Gn	6294
NLS-PAINT-W37	3591	NLS-PAINT-W37-061411	06/14/11	Copper	530	390	1.4		PM	Fire hydrant	Metal	Gn	6294
NLS-PAINT-W37	3591	NLS-PAINT-W37-061411	06/14/11	Lead	2,060	450	4.6		PM	Fire hydrant	Metal	Gn	6294
NLS-PAINT-W37	3591	NLS-PAINT-W37-061411	06/14/11	Zinc	7,250	410	18		PM	Fire hydrant	Metal	Gn	6294
NLS-PAINT-W38	3592	NLS-PAINT-W38-061411	06/14/11	Total PCBs	160	0.13	1,200		PM	Fire hydrant	Metal	Y	6294
NLS-PAINT-W38	3592	NLS-PAINT-W38-061411	06/14/11	Lead	1,110	450	2.5		PM	Fire hydrant	Metal	Y	6294
NLS-PAINT-W38	3592	NLS-PAINT-W38-061411	06/14/11	Zinc	4,360	410	11		PM	Fire hydrant	Metal	Y	6294
NLS-PAINT-W41	3593	NLS-PAINT-W41-061511	06/15/11	Total PCBs	5.6	0.13	43		ES	Railing/Stairs		Y	6294
NLS-PAINT-W41	3593	NLS-PAINT-W41-061511	06/15/11	Chromium	15,800	260	61		ES	Railing/Stairs		Y	6294
NLS-PAINT-W41	3593	NLS-PAINT-W41-061511	06/15/11	Lead	62,800	450	140		ES	Railing/Stairs		Y	6294
NLS-PAINT-W41	3593	NLS-PAINT-W41-061511	06/15/11	Mercury	0.94	0.41	2.3		ES	Railing/Stairs		Y	6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Total PCBs	135	0.13	1,000		BE	Door			6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Cadmium	7.6	5.1	1.5		BE	Door			6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Chromium	629	260	2.4		BE	Door			6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Lead	12,300	450	27		BE	Door			6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Mercury	66.8	0.41	160		BE	Door			6294
NLS-PAINT-W43	3594	NLS-PAINT-W43-061511	06/15/11	Zinc	6,360	410	16		BE	Door			6294
NLS-PAINT-W45	3595	NLS-PAINT-W45-061611	06/16/11	Total PCBs	0.8 U	0.13	6.2 -N		ES	Guard	Metal	Y	6294
NLS-PAINT-W45	3595	NLS-PAINT-W45-061611	06/16/11	Cadmium	12.4	5.1	2.4		ES	Guard	Metal	Y	6294
NLS-PAINT-W45	3595	NLS-PAINT-W45-061611	06/16/11	Chromium	22,100	260	85		ES	Guard	Metal	Y	6294
NLS-PAINT-W45	3595	NLS-PAINT-W45-061611	06/16/11	Lead	22,200	450	49		ES	Guard	Metal	Y	6294
NLS-PAINT-W45	3595	NLS-PAINT-W45-061611	06/16/11	Zinc	33,700	410	82		ES	Guard	Metal	Y	6294
NLS-PAINT-W50	3596	NLS-PAINT-W50-061611	06/16/11	Total PCBs	206	0.13	1,600		PM	Fire hydrant	Metal		6294
NLS-PAINT-W50	3596	NLS-PAINT-W50-061611	06/16/11	Chromium	9,090	260	35		PM	Fire hydrant	Metal		6294
NLS-PAINT-W50	3596	NLS-PAINT-W50-061611	06/16/11	Lead	41,500	450	92		PM	Fire hydrant	Metal		6294
NLS-PAINT-W52	3597	NLS-PAINT-W52-061411	06/14/11	Total PCBs	0.78 U	0.13	6.0 -N		BE	Paneled wall	Wood		6294
NLS-PAINT-W52	3597	NLS-PAINT-W52-061411	06/14/11	Mercury	12.8	0.41	31		BE	Paneled wall	Wood		6294
NLS-PAINT-W52	3597	NLS-PAINT-W52-061411	06/14/11	Zinc	2,350	410	5.7		BE	Paneled wall	Wood		6294
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Total PCBs	120	0.13	920		ES	Air gas heater			6294
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Cadmium	21.6	5.1	4.2		ES	Air gas heater			6294

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Chromium	636	260	2.4		ES	Air gas heater			6294
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Lead	567	450	1.3		ES	Air gas heater			6294
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Mercury	31.4	0.41	77		ES	Air gas heater			6294
NLS-PAINT-W60	3598	NLS-PAINT-W60-061511	06/15/11	Zinc	1,860	410	4.5		ES	Air gas heater			6294
NLS-PAINT-W62	3599	NBF-HYDRANT338-PAINT-060911	06/09/11	Total PCBs	0.75 U	0.13	5.8 -N		PM	Fire hydrant	Metal		6294
NLS-PAINT-W62	3599	NBF-HYDRANT338-PAINT-060911	06/09/11	Cadmium	5.3	5.1	1.0		PM	Fire hydrant	Metal		6294
NLS-PAINT-W62	3599	NBF-HYDRANT338-PAINT-060911	06/09/11	Chromium	23,300	260	90		PM	Fire hydrant	Metal		6294
NLS-PAINT-W62	3599	NBF-HYDRANT338-PAINT-060911	06/09/11	Lead	47,800	450	110		PM	Fire hydrant	Metal		6294
NLS-PAINT-W62	3599	NBF-HYDRANT338-PAINT-060911	06/09/11	Zinc	479	410	1.2		PM	Fire hydrant	Metal		6294
NLS-PAINT-W70	3600	NLS-PAINT-W70-061511	06/15/11	Total PCBs	0.74 U	0.13	5.7 -N		ES	Rack structure			6294
NLS-PAINT-W70	3600	NLS-PAINT-W70-061511	06/15/11	Chromium	3,750	260	14		ES	Rack structure			6294
NLS-PAINT-W70	3600	NLS-PAINT-W70-061511	06/15/11	Lead	14,800	450	33		ES	Rack structure			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Total PCBs	56	0.13	430		ES	Sign post			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Cadmium	30	5.1	5.9		ES	Sign post			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Copper	433	390	1.1		ES	Sign post			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Lead	1,450	450	3.2		ES	Sign post			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Mercury	0.71	0.41	1.7		ES	Sign post			6294
NLS-PAINT-W81	3601	NLS-PAINT-W81-061611	06/16/11	Zinc	1,100	410	2.7		ES	Sign post			6294
NLS-PAINT-W84	3602	NLS-PAINT-W84-061611	06/16/11	Total PCBs	0.75 U	0.13	5.8 -N		BE	Wall	Concrete		6294
NLS-PAINT-W84	3602	NLS-PAINT-W84-061611	06/16/11	Zinc	13,000	410	32		BE	Wall	Concrete		6294
NLS-PAINT-W98	3603	NLS-PAINT-W98-061611	06/16/11	Total PCBs	0.8 U	0.13	6.2 -N		ES	Wall	Concrete	Y	6294
NLS-PAINT-W98	3603	NLS-PAINT-W98-061611	06/16/11	Chromium	1,550	260	6.0		ES	Wall	Concrete	Y	6294
NLS-PAINT-W98	3603	NLS-PAINT-W98-061611	06/16/11	Lead	6,310	450	14		ES	Wall	Concrete	Y	6294
North-Central Lateral Drainage Area													
NCLS-PAINT-W01	3582	NCLS-PAINT-W01-081611	08/16/11	Total PCBs	0.8 U	0.13	6.2 -N		NA	NA			9997
NCLS-PAINT-W01	3582	NCLS-PAINT-W01-081611	08/16/11	Chromium	1,810	260	7.0		NA	NA			9997
NCLS-PAINT-W01	3582	NCLS-PAINT-W01-081611	08/16/11	Lead	8,840	450	20		NA	NA			9997
NCLS-PAINT-W01	3582	NCLS-PAINT-W01-081611	08/16/11	Zinc	7,320	410	18		NA	NA			9997
NCLS-PAINT-W04	3583	NCLS-PAINT-W04-081611	08/16/11	Total PCBs	0.77 U	0.13	5.9 -N		NA	NA			9997
NCLS-PAINT-W04	3583	NCLS-PAINT-W04-081611	08/16/11	Lead	640	450	1.4		NA	NA			9997
NCLS-PAINT-W21	3584	NCLS-PAINT-W21-081711	08/17/11	Total PCBs	7.7	0.13	59		NA	NA			9997
NCLS-PAINT-W21	3584	NCLS-PAINT-W21-081711	08/17/11	Cadmium	12	5.1	2.4		NA	NA			9997
NCLS-PAINT-W21	3584	NCLS-PAINT-W21-081711	08/17/11	Chromium	4,990	260	19		NA	NA			9997
NCLS-PAINT-W21	3584	NCLS-PAINT-W21-081711	08/17/11	Lead	55,700	450	120		NA	NA			9997
NCLS-PAINT-W21	3584	NCLS-PAINT-W21-081711	08/17/11	Zinc	17,400	410	42		NA	NA			9997
NCLS-PAINT-W23	3585	NCLS-PAINT-W23-081711	08/17/11	Total PCBs	37	0.13	280		NA	NA			9997
NCLS-PAINT-W23	3585	NCLS-PAINT-W23-081711	08/17/11	Cadmium	9	5.1	1.8		NA	NA			9997
NCLS-PAINT-W23	3585	NCLS-PAINT-W23-081711	08/17/11	Chromium	23,100	260	89		NA	NA			9997
NCLS-PAINT-W23	3585	NCLS-PAINT-W23-081711	08/17/11	Lead	122,000	450	270		NA	NA			9997

Table 7.3-2
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Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
NCLS-PAINT-W23	3585	NCLS-PAINT-W23-081711	08/17/11	Zinc	13,300	410	32		NA	NA			9997
NLS-PAINT05	2605	NLS-PAINT05-072010	07/20/10	Total PCBs	2.4	0.13	18		ES	Container			6101
NLS-PAINT05	2605	NLS-PAINT05-072010	07/20/10	Cadmium	17.4	5.1	3.4		ES	Container			6101
NLS-PAINT05	2605	NLS-PAINT05-072010	07/20/10	Lead	13,600	450	30		ES	Container			6101
NLS-PAINT05	2605	NLS-PAINT05-072010	07/20/10	Zinc	2,440	410	6.0		ES	Container			6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Total PCBs	0.8 U	0.13	6.2 -N		ES	Support	Metal		6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Cadmium	439	5.1	86		ES	Support	Metal		6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Chromium	289	260	1.1		ES	Support	Metal		6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Lead	970	450	2.2		ES	Support	Metal		6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Mercury	1.5	0.41	3.7		ES	Support	Metal		6101
NLS-PAINT23	2623	NLS-PAINT23-072610	07/26/10	Zinc	458	410	1.1		ES	Support	Metal		6101
NLS-PAINT25	2625	NLS-PAINT25-072610	07/26/10	Total PCBs	0.79 U	0.13	6.2 -N		ES	Tank	Metal		6101
NLS-PAINT25	2625	NLS-PAINT25-072610	07/26/10	Zinc	7,300	410	18		ES	Tank	Metal		6101
NLS-PAINT81	2673	NLS-PAINT81-080410	08/04/10	Total PCBs	0.79 U	0.13	6.2 -N		BL	Bollard	Metal	Y (Y, W)	6101
South-Central Lateral Drainage Area													
SCLS-PAINT-W01	3632	SCLS-PAINT-W01-081611	08/16/11	Total PCBs	2.3	0.13	18		NA	NA			9997
SCLS-PAINT-W01	3632	SCLS-PAINT-W01-081611	08/16/11	Cadmium	10	5.1	2.0		NA	NA			9997
SCLS-PAINT-W01	3632	SCLS-PAINT-W01-081611	08/16/11	Lead	2,440	450	5.4		NA	NA			9997
SCLS-PAINT-W01	3632	SCLS-PAINT-W01-081611	08/16/11	Zinc	30,200	410	74		NA	NA			9997
SCLS-PAINT-W02	3633	SCLS-PAINT-W02-081611	08/16/11	Total PCBs	3	0.13	23		NA	NA			9997
SCLS-PAINT-W02	3633	SCLS-PAINT-W02-081611	08/16/11	Chromium	9,640	260	37		NA	NA			9997
SCLS-PAINT-W02	3633	SCLS-PAINT-W02-081611	08/16/11	Lead	46,200	450	100		NA	NA			9997
SCLS-PAINT-W02	3633	SCLS-PAINT-W02-081611	08/16/11	Zinc	4,240	410	10		NA	NA			9997
SCLS-PAINT-W08	3635	SCLS-PAINT-W08-081811	08/18/11	Total PCBs	0.75 U	0.13	5.8 -N		NA	NA			9997
SCLS-PAINT-W08	3635	SCLS-PAINT-W08-081811	08/18/11	Chromium	2,340	260	9.0		NA	NA			9997
SCLS-PAINT-W08	3635	SCLS-PAINT-W08-081811	08/18/11	Lead	17,200	450	38		NA	NA			9997
SCLS-PAINT-W08	3635	SCLS-PAINT-W08-081811	08/18/11	Zinc	16,100	410	39		NA	NA			9997
SCLS-PAINT-W09	3636	SCLS-PAINT-W09-081611	08/16/11	Total PCBs	3.55	0.13	28		NA	NA			9997
SCLS-PAINT-W09	3636	SCLS-PAINT-W09-081611	08/16/11	Chromium	41,100	260	160		NA	NA			9997
SCLS-PAINT-W09	3636	SCLS-PAINT-W09-081611	08/16/11	Lead	151,000	450	340		NA	NA			9997
SCLS-PAINT-W09	3636	SCLS-PAINT-W09-081611	08/16/11	Zinc	540	410	1.3		NA	NA			9997
SCLS-PAINT-W11	3637	SCLS-PAINT-W11-081611	08/16/11	Total PCBs	16.1	0.13	120		NA	NA			9997
SCLS-PAINT-W11	3637	SCLS-PAINT-W11-081611	08/16/11	Chromium	17,400	260	67		NA	NA			9997
SCLS-PAINT-W11	3637	SCLS-PAINT-W11-081611	08/16/11	Lead	84,900	450	190		NA	NA			9997
SCLS-PAINT-W11	3637	SCLS-PAINT-W11-081611	08/16/11	Zinc	3,990	410	9.7		NA	NA			9997
SCLS-PAINT-W12	3638	SCLS-PAINT-W12-081611	08/16/11	Total PCBs	5.4	0.13	42		NA	NA			9997
SCLS-PAINT-W12	3638	SCLS-PAINT-W12-081611	08/16/11	Chromium	27,400	260	110		NA	NA			9997
SCLS-PAINT-W12	3638	SCLS-PAINT-W12-081611	08/16/11	Lead	124,000	450	280		NA	NA			9997
SCLS-PAINT-W12	3638	SCLS-PAINT-W12-081611	08/16/11	Zinc	9,430	410	23		NA	NA			9997

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
SCLS-PAINT-W17	3639	SCLS-PAINT-W17-081611	08/16/11	Total PCBs	14.5	0.13	110		NA	NA			9997
SCLS-PAINT-W17	3639	SCLS-PAINT-W17-081611	08/16/11	Chromium	1,340	260	5.2		NA	NA			9997
SCLS-PAINT-W17	3639	SCLS-PAINT-W17-081611	08/16/11	Lead	8,410	450	19		NA	NA			9997
SCLS-PAINT-W17	3639	SCLS-PAINT-W17-081611	08/16/11	Mercury	3.8	0.41	9.3		NA	NA			9997
SCLS-PAINT-W17	3639	SCLS-PAINT-W17-081611	08/16/11	Zinc	8,960	410	22		NA	NA			9997
South Lateral Drainage Area													
SCLS-PAINT-W05	3634	SCLS-PAINT-W05-081611	08/16/11	Total PCBs	14.6	0.13	110		NA	NA			9997
SCLS-PAINT-W05	3634	SCLS-PAINT-W05-081611	08/16/11	Lead	1,950	450	4.3		NA	NA			9997
SCLS-PAINT-W05	3634	SCLS-PAINT-W05-081611	08/16/11	Mercury	57	0.41	140		NA	NA			9997
SCLS-PAINT-W05	3634	SCLS-PAINT-W05-081611	08/16/11	Zinc	1,560	410	3.8		NA	NA			9997
SLS-PAINT-W03	3640	SLS-PAINT-W03-081711	08/17/11	Total PCBs	0.78 U	0.13	6.0 -N		NA	NA			9997
SLS-PAINT-W03	3640	SLS-PAINT-W03-081711	08/17/11	Chromium	2,150	260	8.3		NA	NA			9997
SLS-PAINT-W03	3640	SLS-PAINT-W03-081711	08/17/11	Lead	960	450	2.1		NA	NA			9997
SLS-PAINT-W03	3640	SLS-PAINT-W03-081711	08/17/11	Zinc	10,300	410	25		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Total PCBs	22.2	0.13	170		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Cadmium	9	5.1	1.8		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Chromium	262	260	1.0		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Lead	1,430	450	3.2		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Mercury	5.5	0.41	13		NA	NA			9997
SLS-PAINT-W05	3641	SLS-PAINT-W05-081711	08/17/11	Zinc	6,780	410	17		NA	NA			9997
SLS-PAINT-W07	3642	SLS-PAINT-W07-081711	08/17/11	Total PCBs	0.8 U	0.13	6.2 -N		NA	NA			9997
SLS-PAINT-W07	3642	SLS-PAINT-W07-081711	08/17/11	Arsenic	100 U	57	1.8 -N		NA	NA			9997
SLS-PAINT-W07	3642	SLS-PAINT-W07-081711	08/17/11	Cadmium	11	5.1	2.2		NA	NA			9997
SLS-PAINT-W07	3642	SLS-PAINT-W07-081711	08/17/11	Zinc	99,600	410	240		NA	NA			9997
SLS-PAINT-W10	3643	SLS-PAINT-W10-081711	08/17/11	Total PCBs	35	0.13	270		NA	NA			9997
SLS-PAINT-W10	3643	SLS-PAINT-W10-081711	08/17/11	Chromium	38,000	260	150		NA	NA			9997
SLS-PAINT-W10	3643	SLS-PAINT-W10-081711	08/17/11	Lead	151,000	450	340		NA	NA			9997
SLS-PAINT-W10	3643	SLS-PAINT-W10-081711	08/17/11	Zinc	870	410	2.1		NA	NA			9997
SLS-PAINT-W17	3644	SLS-PAINT-W17-081711	08/17/11	Total PCBs	2,200	0.13	17,000		NA	NA			9997
SLS-PAINT-W17	3644	SLS-PAINT-W17-081711	08/17/11	Cadmium	7	5.1	1.4		NA	NA			9997
SLS-PAINT-W17	3644	SLS-PAINT-W17-081711	08/17/11	Mercury	34	0.41	83		NA	NA			9997
SLS-PAINT-W17	3644	SLS-PAINT-W17-081711	08/17/11	Zinc	1,950	410	4.8		NA	NA			9997
SLS-PAINT-W34	3645	SLS-PAINT-W34-081711	08/17/11	Total PCBs	66	0.13	510		NA	NA			9997
SLS-PAINT-W34	3645	SLS-PAINT-W34-081711	08/17/11	Cadmium	11	5.1	2.2		NA	NA			9997
SLS-PAINT-W34	3645	SLS-PAINT-W34-081711	08/17/11	Lead	490	450	1.1		NA	NA			9997
SLS-PAINT-W34	3645	SLS-PAINT-W34-081711	08/17/11	Mercury	49	0.41	120		NA	NA			9997
SLS-PAINT-W34	3645	SLS-PAINT-W34-081711	08/17/11	Zinc	1,480	410	3.6		NA	NA			9997
SLS-PAINT-W35	3646	SLS-PAINT-W35-081711	08/17/11	Total PCBs	570	0.13	4,400		NA	NA			9997
SLS-PAINT-W35	3646	SLS-PAINT-W35-081711	08/17/11	Arsenic	200	57	3.5		NA	NA			9997

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID
SLS-PAINT-W35	3646	SLS-PAINT-W35-081711	08/17/11	Chromium	10,700	260	41		NA	NA			9997
SLS-PAINT-W35	3646	SLS-PAINT-W35-081711	08/17/11	Lead	47,200	450	100		NA	NA			9997
SLS-PAINT-W35	3646	SLS-PAINT-W35-081711	08/17/11	Zinc	2,970	410	7.2		NA	NA			9997
SLS-PAINT-W36	3647	SLS-PAINT-W36-081711	08/17/11	Total PCBs	0.78 U	0.13	6.0 -N		NA	NA			9997
SLS-PAINT-W36	3647	SLS-PAINT-W36-081711	08/17/11	Mercury	62	0.41	150		NA	NA			9997
SLS-PAINT-W38	3648	SLS-PAINT-W38-081711	08/17/11	Total PCBs	1.1	0.13	8.5		NA	NA			9997
SLS-PAINT-W38	3648	SLS-PAINT-W38-081711	08/17/11	Cadmium	43	5.1	8.4		NA	NA			9997
SLS-PAINT-W38	3648	SLS-PAINT-W38-081711	08/17/11	Lead	1,780	450	4.0		NA	NA			9997
SLS-PAINT-W38	3648	SLS-PAINT-W38-081711	08/17/11	Mercury	41.1	0.41	100		NA	NA			9997
SLS-PAINT-W38	3648	SLS-PAINT-W38-081711	08/17/11	Zinc	21,200	410	52		NA	NA			9997
Building 3-380 Area													
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Total PCBs	4.58	0.13	35		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Arsenic	100 U	57	1.8 -N		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Cadmium	11	5.1	2.2		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Chromium	8,340	260	32		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Copper	503	390	1.3		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Lead	35,600	450	79		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Mercury	0.49	0.41	1.2		NA	NA			9997
380S-PAINT-W05	3377	380S-PAINT-W05-081611	08/16/11	Zinc	2,850	410	7.0		NA	NA			9997
380S-PAINT-W08	3378	380S-PAINT-W08-081611	08/16/11	Total PCBs	271	0.13	2,100		NA	NA			9997
380S-PAINT-W08	3378	380S-PAINT-W08-081611	08/16/11	Chromium	40,900	260	160		NA	NA			9997
380S-PAINT-W08	3378	380S-PAINT-W08-081611	08/16/11	Lead	155,000	450	340		NA	NA			9997
380S-PAINT-W08	3378	380S-PAINT-W08-081611	08/16/11	Zinc	3,610	410	8.8		NA	NA			9997
380S-PAINT-W12	3379	380S-PAINT-W12-081711	08/17/11	Total PCBs	1.8	0.13	14		NA	NA			9997
380S-PAINT-W12	3379	380S-PAINT-W12-081711	08/17/11	Chromium	17,000	260	65		NA	NA			9997
380S-PAINT-W12	3379	380S-PAINT-W12-081711	08/17/11	Zinc	22,600	410	55		NA	NA			9997
Parking Lot Area													
NLS-PAINT-W20	3586	NLS-PAINT-W20-061511	06/15/11	Total PCBs	0.8 U	0.13	6.2 -N		NA	NA			6294
NLS-PAINT-W20	3586	NLS-PAINT-W20-061511	06/15/11	Chromium	10,900	260	42		NA	NA			6294
NLS-PAINT-W20	3586	NLS-PAINT-W20-061511	06/15/11	Lead	42,300	450	94		NA	NA			6294
NLS-PAINT-W20	3586	NLS-PAINT-W20-061511	06/15/11	Zinc	1,030	410	2.5		NA	NA			6294
PLS-PAINT-W04	3616	PLS-PAINT-W04-081611	08/16/11	Total PCBs	0.8 U	0.13	6.2 -N		NA	NA			9997
PLS-PAINT-W04	3616	PLS-PAINT-W04-081611	08/16/11	Zinc	43,600	410	110		NA	NA			9997

Table 7.3-2
RI Selected Screening Level Exceedances for COPCs in Paint

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concentration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Paint Color	User Study ID

()	Layered colors	-N	Exceedance factor for a non-detected concentration
Bk	Black	NA	Not available
BE	Building exterior	O	Orange
Be	Beige	P	Peach
BL	Bollard	PCBs	Polychlorinated biphenyls
Bl	Blue	Pi	Pink
BR	Building roof	PM	Piping and associated materials
Br	Brown	PV	Pavement
ES	Equipment/Structure	R	Red
Gn	Green	RISL	RI Selected Screening Level
Gy	Gray	S	Silver
J	Estimated value	U	Non-detected
LBl	Light blue	W	White
LGn	Light green	Y	Yellow
LGy	Light gray		

Exceedance factors represent the concentration divided by the RISL, and numbers are rounded to two significant figures.

Table 7.3-3
RI Selected Screening Level Exceedances for COPCs in Roof Materials

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Substrate Material	Material Color	User Study ID
North Lateral Drainage Area													
NLS-CAULK03	2561	NLS-CAULK03-072110	07/21/10	Total PCBs	0.8 U	0.13	6.2 -N		Caulk	Joint Seam	Concrete Wall		6101
NLS-CAULK03	2561	NLS-CAULK03-072110	07/21/10	Cadmium	106	5.1	21		Caulk	Joint Seam	Concrete Wall		6101
NLS-CAULK16	2567	NLS-CAULK16-073010	07/30/10	Total PCBs	11.6	0.13	89		Caulk	Vent			6101
NLS-CAULK16	2567	NLS-CAULK16-073010	07/30/10	Mercury	14	0.41	34		Caulk	Vent			6101
NLS-CAULK17	2568	NLS-CAULK17-072810	07/28/10	Total PCBs	0.79 U	0.13	6.2 -N		Caulk	Vent			6101
NLS-MAT04	2584	NLS-MAT04-072110	07/21/10	Total PCBs	0.79 U	0.13	6.1 -N		Roof	CTM		Bk, S	6101
NLS-MAT04	2584	NLS-MAT04-072110	07/21/10	Arsenic	79	57	1.4		Roof	CTM		Bk, S	6101
NLS-MAT09	2588	NLS-MAT09-072810	07/28/10	Total PCBs	0.79 U	0.13	6.1 -N		Roof	CTM		Bk, S	6101
NLS-MAT09	2588	NLS-MAT09-072810	07/28/10	Arsenic	63	57	1.1		Roof	CTM		Bk, S	6101
NLS-MAT12	2590	NLS-MAT12-073010	07/30/10	Total PCBs	0.68 U	0.13	5.2 -N		Roof	CTM		Bk, S	6101
NLS-MAT12	2590	NLS-MAT12-073010	07/30/10	Lead	844	450	1.9		Roof	CTM		Bk, S	6101
NLS-MAT12	2590	NLS-MAT12-073010	07/30/10	Zinc	503	410	1.2		Roof	CTM		Bk, S	6101
NLS-MAT13	2591	NLS-MAT13-073010	07/30/10	Total PCBs	0.62 U	0.13	4.8 -N		Roof	Asphalt Shingle		Bk	6101
NLS-MAT13	2591	NLS-MAT13-073010	07/30/10	Zinc	9,070	410	22		Roof	Asphalt Shingle		Bk	6101
NLS-MAT16	2594	NLS-MAT16-072910	07/29/10	Total PCBs	0.79 U	0.13	6.1 -N		ES	Metal Mesh		Rusted	6101
NLS-MAT16	2594	NLS-MAT16-072910	07/29/10	Arsenic	250 U	57	4.4 -N		ES	Metal Mesh		Rusted	6101
NLS-MAT16	2594	NLS-MAT16-072910	07/29/10	Cadmium	10 U	5.1	2.0 -N		ES	Metal Mesh		Rusted	6101
NLS-MAT16	2594	NLS-MAT16-072910	07/29/10	Silver	10 U	6.1	1.6 -N		ES	Metal Mesh		Rusted	6101
NLS-MAT16	2594	NLS-MAT16-072910	07/29/10	Zinc	850	410	2.1		ES	Metal Mesh		Rusted	6101
NLS-MAT17	2595	NLS-MAT17-072910	07/29/10	Total PCBs	1.6 U	0.13	12 -N		Roof	CTM		Bk, S	6101
NLS-MAT17	2595	NLS-MAT17-072910	07/29/10	Arsenic	295	57	5.2		Roof	CTM		Bk, S	6101
NLS-MAT17	2595	NLS-MAT17-072910	07/29/10	Chromium	280	260	1.1		Roof	CTM		Bk, S	6101
NLS-MAT17	2595	NLS-MAT17-072910	07/29/10	Zinc	1,150	410	2.8		Roof	CTM		Bk, S	6101
NLS-ROOF05	2679	NLS-ROOF05-072110	07/21/10	Total PCBs	0.8 U	0.13	6.2 -N		Roof	Roof Material	Tar-Like material	Bk	6101
NLS-ROOF05	2679	NLS-ROOF05-072110	07/21/10	Cadmium	12	5.1	2.4		Roof	Roof Material	Tar-Like material	Bk	6101
NLS-ROOF05	2679	NLS-ROOF05-072110	07/21/10	Chromium	307	260	1.2		Roof	Roof Material	Tar-Like material	Bk	6101
NLS-ROOF05	2679	NLS-ROOF05-072110	07/21/10	Zinc	965	410	2.4		Roof	Roof Material	Tar-Like material	Bk	6101
NLS-ROOF08	2680	NLS-ROOF08-072810	07/28/10	Total PCBs	0.92	0.13	7.1		Roof	Roof Material		Bk	6101
NLS-ROOF18	2681	NLS-ROOF18-072910	07/29/10	Total PCBs	3.7 U	0.13	28 -N		Roof	Roof Material	Asphalt	Bk	6101
NLS-ROOF20	2682	NLS-ROOF20-072910	07/29/10	Total PCBs	0.8 U	0.13	6.2 -N		Roof	Roof Material	Tar-Like material	Bk, S	6101

Bk	Black	-N	Exceedance factor for a non-detected concentration	S	Silver
CTM	Coating and tinsel-like material	PCBs	Polychlorinated biphenyls	U	Non-detected
ES	Equipment/Structure	RISL	RI Selected Screening Level		

Exceedance factors represent the concentration divided by the RISL, and numbers are rounded to two significant figures.

Samples of Roof Materials were collected in only the North Lateral Drainage Area.

Table 7.3-4
RI Selected Screening Level Exceedances for COPCs in Other Exterior Materials

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	Material Color	User Study ID
North Lateral Drainage Area												
NLS-CAULK01	2559	NLS-CAULK01-072110	07/21/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Window Seal		6101
NLS-CAULK02	2560	NLS-CAULK02-072110	07/21/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Concrete Wall Joint Seam		6101
NLS-CAULK04	2562	NLS-CAULK04-072210	07/22/10	Total PCBs	0.77 U	0.13	5.9 -N		Caulk	Door Seam		6101
NLS-CAULK10	2563	NLS-CAULK10-072810	07/28/10	Total PCBs	0.8 U	0.13	6.2 -N		Caulk	Concrete Wall Joint Seam		6101
NLS-CAULK10	2563	NLS-CAULK10-072810	07/28/10	Mercury	3.7	0.41	9.0		Caulk	Concrete Wall Joint Seam		6101
NLS-CAULK11	2564	NLS-CAULK11-072810	07/28/10	Total PCBs	0.8 U	0.13	6.2 -N		Caulk	Window Seal		6101
NLS-CAULK11	2564	NLS-CAULK11-072810	07/28/10	Zinc	12,800	410	31		Caulk	Window Seal		6101
NLS-CAULK12	2565	NLS-CAULK12-072810	07/28/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Door Seal		6101
NLS-CAULK14	2566	NLS-CAULK14-072910	07/29/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Window Seal		6101
NLS-CAULK19	2569	NLS-CAULK19-072910	07/29/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Concrete Wall Joint Seam		6101
NLS-CAULK20	2570	NLS-CAULK20-072910	07/29/10	Total PCBs	14,000	0.13	110,000	Removed	Caulk	Window Seal		6101
NLS-CAULK20	2570	NLS-CAULK20-072910	07/29/10	Cadmium	10.7	5.1	2.1	Removed	Caulk	Window Seal		6101
NLS-CAULK20	2570	NLS-CAULK20-072910	07/29/10	Mercury	40.8	0.41	100	Removed	Caulk	Window Seal		6101
NLS-CAULK20	2570	NLS-CAULK20-072910	07/29/10	Zinc	485	410	1.2	Removed	Caulk	Window Seal		6101
NLS-CAULK22	2571	NLS-CAULK22-072910	07/29/10	Total PCBs	0.79 U	0.13	6.1 -N		Caulk	Concrete Wall Joint Seam		6101
NLS-CAULK22	2571	NLS-CAULK22-072910	07/29/10	Zinc	490	410	1.2		Caulk	Concrete Wall Joint Seam		6101
NLS-MAT01	2581	NLS-MAT01-072110	07/21/10	Total PCBs	0.79 U	0.13	6.1 -N		PM	Foam-like Material	O	6101
NLS-MAT01	2581	NLS-MAT01-072110	07/21/10	Cadmium	6	5.1	1.2		PM	Foam-like Material	O	6101
NLS-MAT01	2581	NLS-MAT01-072110	07/21/10	Zinc	1,050	410	2.6		PM	Foam-like Material	O	6101
NLS-MAT02	2582	NLS-MAT02-072110	07/21/10	Total PCBs	0.79 U	0.13	6.1 -N		PM	Caulk-like Material	Bk, W	6101
NLS-MAT03	2583	NLS-MAT03-072110	07/21/10	Total PCBs	1.1	0.13	8.5		Rubber	Weather Stripping		6101
NLS-MAT03	2583	NLS-MAT03-072110	07/21/10	Cadmium	12.1	5.1	2.4		Rubber	Weather Stripping		6101
NLS-MAT03	2583	NLS-MAT03-072110	07/21/10	Zinc	13,900	410	34		Rubber	Weather Stripping		6101
NLS-MAT05	2585	NLS-MAT05-072210	07/22/10	Total PCBs	0.75 U	0.13	5.8 -N		BE	Foam-like Material		6101
NLS-MAT06	2586	NLS-MAT06-072210	07/22/10	Total PCBs	15,800	0.13	120,000	Removed	BE	Foam	Bk	6101
NLS-MAT06	2586	NLS-MAT06-072210	07/22/10	Zinc	21,100	410	51	Removed	BE	Foam	Bk	6101
NLS-MAT10	2589	NLS-MAT10-073010	07/30/10	Total PCBs	2.5 U	0.13	19 -N		PM	Pipe Insulation	W	6101
NLS-MAT14	2592	NLS-MAT14-073010	07/30/10	Total PCBs	9.8	0.13	75		PM	Wrap/tape		6101
NLS-MAT14	2592	NLS-MAT14-073010	07/30/10	Mercury	17	0.41	41		PM	Wrap/tape		6101
NLS-MAT14	2592	NLS-MAT14-073010	07/30/10	Zinc	8,600	410	21		PM	Wrap/tape		6101
NLS-MAT15	2593	NLS-MAT15-073010	07/30/10	Total PCBs	16 U	0.13	120 -N		Foam	Foam-like Material	O	6101
NLS-MAT23	2601	NLS-MAT23-080410	08/04/10	Total PCBs	0.8 U	0.13	6.2 -N		Foam	Foam	B	6101

Bk	Black	O	Orange	RISL	RI Selected Screening Level
BE	Building exterior	PCBs	Polychlorinated biphenyls	U	Non-detect
-N	Exceedance factor for a non-detected concentration	PM	Piping & Associated Material	W	White

Exceedance factors represent the concentration divided by the RI Selected Screening Level, and numbers are rounded to two significant figures.

Sample of Other Exterior Materials were collected in only the North Lateral Drainage Area.

Table 7.3-5
RI Selected Screening Level Exceedances for COPCs in Concrete Joint Material

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	User Study ID
North Lateral Drainage Area									
CJM-002	3114	CJM-002-090810	09/08/10	Total PCBs	2	1.0	2.0		6125
CJM-010	3118	CJM-010-090810	09/08/10	Total PCBs	25.5	1.0	26		6125
SP01	1539	H-SP01	11/06/00	Total PCBs	164	1.0	160	Removed	1172
SP03	1545	E-SP03	11/06/00	Total PCBs	5.2	1.0	5.2		1173
SP08	1550	B-SP08	11/07/00	Total PCBs	41.9	1.0	42	Removed	1173
SP09	1540	H-SP09	11/07/00	Total PCBs	19.9	1.0	20		1172
SP10	1551	D-SP10	11/07/00	Total PCBs	1.4	1.0	1.4		1173
SP33	1570	G-SP33	11/08/00	Total PCBs	50,000	1.0	50,000	Removed	1173
SP49	1585	H-SP49	04/02/01	Total PCBs	270	1.0	270	Removed	1173
SP50	1586	H-SP50	04/02/01	Total PCBs	25.1	1.0	25	Removed	1173
SP53	1589	H-SP53	04/02/01	Total PCBs	9	1.0	9.0		1173
SP56	1592	A-SP56	04/02/01	Total PCBs	49	1.0	49		1173
SP57	1616	G-SP57	04/02/01	Total PCBs	3,900	1.0	3,900	Removed	9999
SP58	1617	G-SP58	04/02/01	Total PCBs	35,000	1.0	35,000	Removed	9999
North-Central Lateral Drainage Area									
CJM-007	3116	CJM-007-090810	09/08/10	Total PCBs	1.5	1.0	1.5		6125
CJM-016	3122	CJM-016-090810	09/08/10	Total PCBs	6.3	1.0	6.3		6125
CJM-018	3123	CJM-018-090810	09/08/10	Total PCBs	1.8	1.0	1.8		6125
CJM-020	3125	CJM-020-090810	09/08/10	Total PCBs	1.5	1.0	1.5		6125
CJM-036	3129	CJM-036-090810	09/08/10	Total PCBs	45	1.0	45		6125
CJM-039	3130	CJM-039-091310	09/13/10	Total PCBs	31.5	1.0	32		6125
CJM-043	3133	CJM-043-091310	09/13/10	Total PCBs	2.4	1.0	2.4		6125
CJM-048	3137	CJM-048-091310	09/13/10	Total PCBs	1.8	1.0	1.8		6125
CJM-084	3149	CJM-084-091310	09/13/10	Total PCBs	1,200	1.0	1,200	Removed	6125
CJM-085	3150	CJM-085-091310	09/13/10	Total PCBs	3	1.0	3.0		6125
CJM-194	3393	CJM-194-050911	05/09/11	Total PCBs	2.4	1.0	2.4		9995
CJM-195	3394	CJM-195-050911	05/09/11	Total PCBs	17.2	1.0	17		9995
CJM-196	3395	CJM-196-050911	05/09/11	Total PCBs	1.9	1.0	1.9		9995
CJM-197	3396	CJM-197-050911	05/09/11	Total PCBs	1.8	1.0	1.8		9995
CJM-198	3397	CJM-198-050911	05/09/11	Total PCBs	16.2	1.0	16		9995
CJM-199	3398	CJM-199-050911	05/09/11	Total PCBs	14.4	1.0	14		9995
CJM-200	3399	CJM-200-050911	05/09/11	Total PCBs	14.7	1.0	15		9995
CJM-201	3400	CJM-201-050911	05/09/11	Total PCBs	25.1	1.0	25		9995
CJM-202	3401	CJM-202-050911	05/09/11	Total PCBs	5.1	1.0	5.1		9995
CJM-203	3402	CJM-203-050911	05/09/11	Total PCBs	17.8	1.0	18		9995
CJM-204	3403	CJM-204-050911	05/09/11	Total PCBs	24.4	1.0	24		9995
CJM-205	3404	CJM-205-050911	05/09/11	Total PCBs	16	1.0	16		9995
CJM-206	3405	CJM-206-050911	05/09/11	Total PCBs	26.2	1.0	26		9995
CJM-207	3406	CJM-207-050911	05/09/11	Total PCBs	1.8	1.0	1.8		9995
CJM-230	3429	CJM-230-051011	05/10/11	Total PCBs	26	1.0	26	Removed	9995
CJM-231	3430	CJM-231-051011	05/10/11	Total PCBs	2.5	1.0	2.5		9995
CJM-233	3432	CJM-233-051011	05/10/11	Total PCBs	2.5	1.0	2.5		9995
CJM-234	3433	CJM-234-051011	05/10/11	Total PCBs	6.2	1.0	6.2	Removed	9995
CJM-235	3434	CJM-235-051011	05/10/11	Total PCBs	130	1.0	130	Removed	9995
CJM-236	3435	CJM-236-051011	05/10/11	Total PCBs	2,300	1.0	2,300	Removed	9995
CJM-263	3462	CJM-263-051311	05/13/11	Total PCBs	16.8	1.0	17	Removed	9995
CJM-264	3463	CJM-264-051311	05/13/11	Total PCBs	1.9	1.0	1.9	Removed	9995
CJM-268	3467	CJM-268-051311	05/13/11	Total PCBs	28.6	1.0	29	Removed	9995
CJM-CB221	3217	CJM-CB221-102010	10/20/10	Total PCBs	2.3	1.0	2.3		6125
CJM-CB252	3219	CJM-CB252-101810	10/18/10	Total PCBs	3.14	1.0	3.1		6125
CJM-CB364A	3221	CJM-CB364A-101810	10/18/10	Total PCBs	3.2	1.0	3.2	Removed	6125
SP14	1554	A-SP14	11/07/00	Total PCBs	23,000	1.0	23,000	Removed	1173
SP15	1541	H-SP15	11/07/00	Total PCBs	1.7	1.0	1.7	Removed	1172

Table 7.3-5
RI Selected Screening Level Exceedances for COPCs in Concrete Joint Material

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	User Study ID
SP22	1542	H-SP22	11/07/00	Total PCBs	11.6	1.0	12	Removed	1172
SP23	1561	I-SP23	11/08/00	Total PCBs	1.2	1.0	1.2		1173
SP34	1571	J-SP34	11/08/00	Total PCBs	1.1	1.0	1.1		1173
SP35	1572	F-SP35	11/09/00	Total PCBs	1.2	1.0	1.2		1173
SP59	1618	G-SP59 Res	04/02/01	Total PCBs	20,000	1.0	20,000	Removed	9999
SP60	1593	H-SP60 Res	04/02/01	Total PCBs	42	1.0	42	Removed	1173
SP61	1619	G-SP61 Res	04/02/01	Total PCBs	19,900	1.0	20,000	Removed	9999
SP65	1534	A-SP65	04/03/01	Total PCBs	68,000	1.0	68,000	Removed	1173
SP65	1534	SP65 (New)	12/19/06	Total PCBs	160	1.0	160	Removed	2896
SP66	1535	A-SP66	04/03/01	Total PCBs	79,000	1.0	79,000	Removed	1173
SP66	1535	SP66 (New)	12/19/06	Total PCBs	370	1.0	370	Removed	2896
SP67	1620	G-SP67 Res	04/03/01	Total PCBs	25,700	1.0	26,000	Removed	9999
SP68	1598	H-SP68 Res	04/03/01	Total PCBs	20.9	1.0	21		1173
SP69	1536	H-SP69 Res	04/03/01	Total PCBs	2,240	1.0	2,200	Removed	1173
SP69	1536	SP69 (New)	12/19/06	Total PCBs	1.6	1.0	1.6		2896
SP70	1621	G-SP70 Res	04/03/01	Total PCBs	16,100	1.0	16,000	Removed	9999
SP74	1602	H-SP74 Res	04/03/01	Total PCBs	1.8	1.0	1.8		1173
SP76	1623	G-SP76 Res	04/04/01	Total PCBs	17,200	1.0	17,000	Removed	9999
South-Central Lateral Drainage Area									
CJM-033	3126	CJM-033-092310	09/23/10	Total PCBs	22	1.0	22		6125
CJM-047	3136	CJM-047-090810	09/08/10	Total PCBs	1.3	1.0	1.3		6125
CJM-051	3138	CJM-051-091310	09/13/10	Total PCBs	19	1.0	19		6125
CJM-057	3141	CJM-057-091310	09/13/10	Total PCBs	6.27	1.0	6.3		6125
CJM-060	3142	CJM-060-091310	09/13/10	Total PCBs	2.4	1.0	2.4		6125
CJM-061	3143	CJM-061-091310	09/13/10	Total PCBs	3.6	1.0	3.6		6125
CJM-087	3151	CJM-087-091310	09/13/10	Total PCBs	1.4	1.0	1.4		6125
CJM-107	3158	CJM-107-091510	09/15/10	Total PCBs	1.5	1.0	1.5		6125
CJM-108	3159	CJM-108-092310	09/23/10	Total PCBs	2.4	1.0	2.4		6125
CJM-113	3164	CJM-113-092310	09/23/10	Total PCBs	6.2	1.0	6.2		6125
CJM-118	3168	CJM-118-092310	09/23/10	Total PCBs	2.8	1.0	2.8		6125
CJM-122	3171	CJM-122-091510	09/15/10	Total PCBs	2.7	1.0	2.7		6125
CJM-123	3172	CJM-123-091610	09/16/10	Total PCBs	3.7	1.0	3.7		6125
CJM-124	3173	CJM-124-091610	09/16/10	Total PCBs	1.5	1.0	1.5		6125
CJM-125	3174	CJM-125-091610	09/16/10	Total PCBs	12.7	1.0	13		6125
CJM-130	3177	CJM-130-091610	09/16/10	Total PCBs	1.7	1.0	1.7		6125
CJM-208	3407	CJM-208-050911	05/09/11	Total PCBs	6.1	1.0	6.1		9995
CJM-209	3408	CJM-209-050911	05/09/11	Total PCBs	14	1.0	14		9995
CJM-210	3409	CJM-210-050911	05/09/11	Total PCBs	13.7	1.0	14		9995
CJM-212	3411	CJM-212-050911	05/09/11	Total PCBs	2.99	1.0	3.0		9995
CJM-213	3412	CJM-213-050911	05/09/11	Total PCBs	8.3	1.0	8.3		9995
CJM-224	3423	CJM-224-051011	05/10/11	Total PCBs	8.4	1.0	8.4		9995
CJM-225	3424	CJM-225-051011	05/10/11	Total PCBs	3.9	1.0	3.9		9995
CJM-226	3425	CJM-226-051011	05/10/11	Total PCBs	14	1.0	14		9995
CJM-227	3426	CJM-227-051011	05/10/11	Total PCBs	8.1	1.0	8.1		9995
CJM-228	3427	CJM-228-051011	05/10/11	Total PCBs	4	1.0	4.0		9995
CJM-229	3428	CJM-229-051011	05/10/11	Total PCBs	4.8	1.0	4.8		9995
CJM-232	3431	CJM-232-051011	05/10/11	Total PCBs	1.3	1.0	1.3		9995
CJM-239	3438	CJM-239-051211	05/12/11	Total PCBs	3.3	1.0	3.3		9995
CJM-240	3439	CJM-240-051211	05/12/11	Total PCBs	2.7	1.0	2.7		9995
CJM-243	3442	CJM-243-051211	05/12/11	Total PCBs	1.4	1.0	1.4		9995
CJM-244	3443	CJM-244-051211	05/12/11	Total PCBs	15.2	1.0	15		9995
CJM-269	3468	CJM-269-051311	05/13/11	Total PCBs	17.8	1.0	18	Removed	9995
CJM-270	3469	CJM-270-051311	05/13/11	Total PCBs	38	1.0	38	Removed	9995
CJM-380001	3475	NBF-CJM-380001-070711	07/07/11	Total PCBs	89	1.0	89	Removed	9996

Table 7.3-5
RI Selected Screening Level Exceedances for COPCs in Concrete Joint Material

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	User Study ID
CJM-B0401	3488	NBF-CJM-B0401-070711	07/07/11	Total PCBs	7.2	1.0	7.2		9996
CJM-B0501	3489	NBF-CJM-B0501-071411	07/14/11	Total PCBs	66	1.0	66	Removed	9996
CJM-B0702	3494	NBF-CJM-B0702-070811	07/08/11	Total PCBs	10	1.0	10		9996
CJM-B0801	3495	NBF-CJM-B0801-070811	07/08/11	Total PCBs	50	1.0	50	Removed	9996
CJM-CB370	3222	CJM-CB370-092310	09/23/10	Total PCBs	2.7	1.0	2.7		6125
CJM-CB419	3226	CJM-CB419-092310	09/23/10	Total PCBs	1.6	1.0	1.6		6125
NBF-JM08-01	2205	NBF-JM08-01	09/22/08	Total PCBs	24	1.0	24		5708
NBF-JM08-02	2206	NBF-JM08-02	09/22/08	Total PCBs	2,200	1.0	2,200	Removed	5708
NBF-JM08-03	2207	NBF-JM08-03	09/22/08	Total PCBs	51	1.0	51	Removed	5708
SP16	1555	B-SP16	11/07/00	Total PCBs	1.1	1.0	1.1	Removed	1173
SP17	1556	D1-SP17	11/07/00	Total PCBs	2.7	1.0	2.7	Removed	1173
SP20	1559	G-SP20	11/07/00	Total PCBs	6.1	1.0	6.1	Removed	1173
SP25	1563	B-SP25	11/08/00	Total PCBs	4.3	1.0	4.3	Removed	1173
SP29	1566	D-SP29	11/08/00	Total PCBs	1.1	1.0	1.1		1173
SP30	1567	G-SP30	11/08/00	Total PCBs	35,300	1.0	35,000	Removed	1173
SP62	1594	H-SP62	04/03/01	Total PCBs	17.3	1.0	17		1173
SP64	1595	C2-SP64	04/03/01	Total PCBs	2.7	1.0	2.7		1173
SP75	1622	G-SP75	04/03/01	Total PCBs	14.1	1.0	14	Removed	9999
SP77	1603	H-SP77 Res	04/04/01	Total PCBs	20.5	1.0	21		1173
SP78	1624	G-SP78	04/04/01	Total PCBs	59,000	1.0	59,000	Removed	9999
SP80	1537	G-SP80 Res	04/04/01	Total PCBs	57,000	1.0	57,000	Removed	339
SP80	1537	SP80 (New)	12/19/06	Total PCBs	1.9	1.0	1.9		2896
SP80	1537	G-SP80 Res	01/05/07	Total PCBs	1.9	1.0	1.9	Removed	339
SP82	1538	G-SP82	04/04/01	Total PCBs	61,000	1.0	61,000	Removed	339
SP83	1605	A-SP83	04/04/01	Total PCBs	43	1.0	43		1173
SP85	1625	G-SP85 Res	04/04/01	Total PCBs	4,200	1.0	4,200	Removed	9999
South Lateral Drainage Area									
CJM-106	3157	CJM-106-091510	09/15/10	Total PCBs	1.3	1.0	1.3		6125
CJM-109	3160	CJM-109-092310	09/23/10	Total PCBs	730	1.0	730	Removed	6125
CJM-110	3161	CJM-110-092310	09/23/10	Total PCBs	14	1.0	14		6125
CJM-111	3162	CJM-111-091510	09/15/10	Total PCBs	5.1	1.0	5.1		6125
CJM-132	3178	CJM-132-091510	09/15/10	Total PCBs	1.1	1.0	1.1		6125
CJM-142	3182	CJM-142-091510	09/15/10	Total PCBs	3.7	1.0	3.7		6125
CJM-188	3387	CJM-188-050911	05/09/11	Total PCBs	2.6	1.0	2.6		9995
CJM-245	3444	CJM-245-051211	05/12/11	Total PCBs	23.7	1.0	24		9995
CJM-246	3445	CJM-246-051211	05/12/11	Total PCBs	6.38	1.0	6.4		9995
CJM-247	3446	CJM-247-051211	05/12/11	Total PCBs	12.5	1.0	13		9995
CJM-248	3447	CJM-248-051211	05/12/11	Total PCBs	26,000	1.0	26,000	Removed	9995
CJM-249	3448	CJM-249-051211	05/12/11	Total PCBs	14.7	1.0	15	Removed	9995
CJM-250	3449	CJM-250-051211	05/12/11	Total PCBs	2.5	1.0	2.5	Removed	9995
CJM-251	3450	CJM-251-051211	05/12/11	Total PCBs	4.9	1.0	4.9	Removed	9995
CJM-252	3451	CJM-252-051211	05/12/11	Total PCBs	2.6	1.0	2.6	Removed	9995
CJM-253	3452	CJM-253-051211	05/12/11	Total PCBs	2.2	1.0	2.2		9995
CJM-254	3453	CJM-254-051211	05/12/11	Total PCBs	3.2	1.0	3.2	Removed	9995
CJM-255	3454	CJM-255-051211	05/12/11	Total PCBs	2.4	1.0	2.4	Removed	9995
CJM-256	3455	CJM-256-051211	05/12/11	Total PCBs	3.8	1.0	3.8	Removed	9995
CJM-258	3457	CJM-258-051211	05/12/11	Total PCBs	1.7	1.0	1.7		9995
CJM-381801	3482	NBF-CJM-381801-070711	07/07/11	Total PCBs	1.1	1.0	1.1		9996
CJM-B1001	3499	NBF-CJM-B1001-070711	07/07/11	Total PCBs	24	1.0	24		9996
CJM-C0303	3515	NBF-CJM-C0303-071411	07/14/11	Total PCBs	3.14	1.0	3.1		9996
CJM-C0703	3525	NBF-CJM-C0703-070111	07/01/11	Total PCBs	2.45	1.0	2.5		9996
CJM-C0803	3529	NBF-CJM-C0803-070111	07/01/11	Total PCBs	9.2	1.0	9.2		9996
CJM-C0901	3530	NBF-CJM-C0901-063011	06/30/11	Total PCBs	7.6 U	1.0	7.6 -N		9996
CJM-C0902	3531	NBF-CJM-C0902-063011	06/30/11	Total PCBs	7.9 U	1.0	7.9 -N		9996

Table 7.3-5
RI Selected Screening Level Exceedances for COPCs in Concrete Joint Material

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	User Study ID
CJM-C0904	3533	NBF-CJM-C0904-063011	06/30/11	Total PCBs	7.6 U	1.0	7.6 -N		9996
CJM-C0905	3534	NBF-CJM-C0905-063011	06/30/11	Total PCBs	8 U	1.0	8.0 -N		9996
CJM-CB260	3220	CJM-CB260-101810	10/18/10	Total PCBs	2.2	1.0	2.2		6125
CJM-CB453	3227	CJM-CB453-092310	09/23/10	Total PCBs	5.2	1.0	5.2		6125
CJM-MH500	3245	CJM-MH500-092310	09/23/10	Total PCBs	12	1.0	12		6125
NBF-JM08-05	2209	NBF-JM08-05	09/22/08	Total PCBs	1.6	1.0	1.6		5708
SP24	1562	B1-SP24	11/08/00	Total PCBs	1.2	1.0	1.2	Removed	1173
SP31	1568	C-SP31	11/08/00	Total PCBs	1.3	1.0	1.3		1173
SP39	1576	C1-SP39	11/09/00	Total PCBs	20 U	1.0	20 -N		1173
SP72	1600	C2-SP72	04/03/01	Total PCBs	13	1.0	13		1173
SP81	1604	H-SP81 Res	04/04/01	Total PCBs	50	1.0	50	Removed	1173
SP84	1606	H-SP84 Res	04/04/01	Total PCBs	24	1.0	24		1173
SP86	1607	H-SP86 Res	04/04/01	Total PCBs	8.1	1.0	8.1		1173
SP88	1609	H-SP88	04/04/01	Total PCBs	4.4	1.0	4.4		1173
Parking Lot Drainage Area									
SP07	1549	F-SP07	11/06/00	Total PCBs	3.1	1.0	3.1		1173
Unassigned Drainage Area									
CJM-384002	3486	NBF-CJM-384002-070811	07/08/11	Total PCBs	1.3	1.0	1.3		9996
JC-3	1532	JC-3	07/22/05	Total PCBs	1.69	1.0	1.7		105
SP45	1581	A-SP45	11/09/00	Total PCBs	5 U	1.0	5.0 -N		1173
SP47	1583	H-SP47	11/09/00	Total PCBs	3.9	1.0	3.9		1173
SP90	1627	H-SP90	06/20/01	Total PCBs	1.9	1	1.9		6047
SP91	1628	H-SP91	06/20/01	Total PCBs	5.8	1	5.8		6047
SP92	1629	H-SP92	06/20/01	Total PCBs	1.4	1	1.4		6047
SP94	1631	H-SP94	06/20/01	Total PCBs	4.2	1	4.2		6047
SP95	1632	H-SP95	06/20/01	Total PCBs	22	1	22		6047

-N Exceedance factor for a non-detected concentration
PCBs Polychlorinated biphenyls
RISL RI Selected Screening Level
U Non-detect

Exceedance factors represent the concentration divided by the RISL, and numbers are rounded to two significant figures.

Samples of CJM were not collected in the Building 3-380 Area

Table 7.3-6
RI Selected Screening Level Exceedances for COPCs in Pavement

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Sub Type	User Study ID
North Lateral Drainage Area										
ASP01	1610	PM26A	08/28/09	Total PCBs	34	0.13	260	Removed	Asphalt	4160
ASP02	1611	PM26B	08/28/09	Total PCBs	380	0.13	2,900	Removed	Asphalt	4160
ASP03	1612	PM26F	08/28/09	Total PCBs	23.1	0.13	180	Removed	Asphalt	4160
ASP04	1613	PM26G	08/28/09	Total PCBs	0.7	0.13	5.4	Removed	Asphalt	4160
ASP05	1614	PM26H	08/28/09	Total PCBs	18.5	0.13	140	Removed	Asphalt	4160
ASP06	1615	PM26I	08/28/09	Total PCBs	0.35	0.13	2.7	Removed	Asphalt	4160
ASP-Bulk01	2336	QO26Q	03/16/10	Total PCBs	7.4	0.13	57		Asphalt	6076
ASP-Bulk02	2337	QO26R	03/16/10	Total PCBs	14	0.13	110		Asphalt	6076
ASP-Bulk03	2338	QO26S	03/16/10	Total PCBs	3.8	0.13	29		Asphalt	6076
ASP-Bulk04	2339	QO26T	03/16/10	Total PCBs	7.8	0.13	60	Removed	Asphalt	6076
ASP-Bulk05	2340	QO26U	03/16/10	Total PCBs	0.8 U	0.13	6.2 -N		Asphalt	6076
NLS-ASP01	2551	NLS-ASP01-072210	07/22/10	Total PCBs	1.04	0.13	8.0		Asphalt	6101
NLS-ASP03	2553	NLS-ASP03-072010	07/20/10	Mercury	1.13	0.41	2.8		Asphalt	6101
NLS-ASP04	2554	NLS-ASP04-073010	07/30/10	Total PCBs	0.16	0.13	1.2		Asphalt	6101
NLS-ASP05	2555	NLS-ASP05-073010	07/30/10	Total PCBs	0.6	0.13	4.6		Asphalt	6101
NLS-ASP05	2555	NLS-ASP05-073010	07/30/10	Lead	1,900	450	4.2		Asphalt	6101
NLS-ASP07	2557	NLS-ASP07-072910	07/29/10	Total PCBs	1.09	0.13	8.4		Asphalt	6101
NLS-ASP07	2557	NLS-ASP07-072910	07/29/10	Cadmium	19.1	5.1	3.7		Asphalt	6101
NLS-ASP07	2557	NLS-ASP07-072910	07/29/10	Mercury	1.25	0.41	3.0		Asphalt	6101
NLS-CONC01	2572	NLS-CONC01-072010	07/20/10	Cadmium	7.8	5.1	1.5		Concrete	6101
NLS-CONC02	2573	NLS-CONC02-072810	07/28/10	Cadmium	31.9	5.1	6.3		Concrete	6101
NLS-CONC02	2573	NLS-CONC02-072810	07/28/10	Zinc	2,140	410	5.2		Concrete	6101
NLS-CONC04	2575	NLS-CONC04-072610	07/26/10	Total PCBs	0.551	0.13	4.2		Concrete	6101
NLS-CONC04	2575	NLS-CONC04-072610	07/26/10	Zinc	467	410	1.1		Concrete	6101
NLS-CONC06	2576	NLS-CONC06-072010	07/20/10	Total PCBs	0.38	0.13	2.9		Concrete	6101
NLS-CONC06	2576	NLS-CONC06-072010	07/20/10	Copper	406	390	1.0		Concrete	6101
NLS-CONC06	2576	NLS-CONC06-072010	07/20/10	Zinc	478	410	1.2		Concrete	6101
NLS-CONC07	2577	NLS-CONC07-072910	07/29/10	Zinc	1,050	410	2.6		Concrete	6101
NLS-CONC10	2580	NLS-CONC10-080210	08/02/10	Zinc	2,130	410	5.2		Concrete	6101

-N Exceedance factor for a non-detected concentration
PCBs Polychlorinated biphenyls
RISL RI Selected Screening Level
U Non-detect

Exceedance factors represent the concentration divided by the RISL, and numbers are rounded to two significant figures.
Samples of Pavement were collected in only the North Lateral Drainage Area

Table 7.3-7
RI Selected Screening Level Exceedances for COPCs in Surface Debris

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	User Study ID
North Lateral Drainage Area											
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Total PCBs	15	0.038	390		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Arsenic	180 U	7.3	25 -N		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Cadmium	30	3.7	8.1		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Chromium	190	35.6	5.3		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Copper	618	310	2.0		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Lead	1,350	40	34		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Mercury	9.8	0.41	24		Roof Drain	Down Spout Solid	6101
NLS-MAT19	2597	NLS-MAT19-072010	07/20/10	Zinc	9,190	410	22		Roof Drain	Down Spout Solid	6101
NLS-MAT22	2600	NLS-MAT22-072810	07/28/10	Total PCBs	3.6 U	0.038	95 -N		Roof Drain	Down Spout Solid	6101
NLS-MAT22	2600	NLS-MAT22-072810	07/28/10	Arsenic	22	7.3	3.0		Roof Drain	Down Spout Solid	6101
NLS-MAT22	2600	NLS-MAT22-072810	07/28/10	Lead	171	40	4.3		Roof Drain	Down Spout Solid	6101
NLS-MAT22	2600	NLS-MAT22-072810	07/28/10	Mercury	0.67	0.41	1.6		Roof Drain	Down Spout Solid	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Total PCBs	0.35	0.038	9.2		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Cadmium	10.5	3.7	2.8		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Chromium	489	35.6	14		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Copper	364	310	1.2		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Lead	245	40	6.1		Ground Surface	Surface Solids	6101
NLS-SURFACE01	2683	NLS-SURFACE01-072010	07/20/10	Zinc	1,260	410	3.1		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Total PCBs	0.34	0.038	8.9		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Arsenic	16	7.3	2.2		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Cadmium	12.8	3.7	3.5		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Chromium	371	35.6	10		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Lead	428	40	11		Ground Surface	Surface Solids	6101
NLS-SURFACE03	2685	NLS-SURFACE03-072010	07/20/10	Zinc	934	410	2.3		Ground Surface	Surface Solids	6101
NLS-SURFACE04	2686	NLS-SURFACE04-072010	07/20/10	Total PCBs	0.6	0.038	16		Ground Surface	Surface Solids	6101
NLS-SURFACE04	2686	NLS-SURFACE04-072010	07/20/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE04	2686	NLS-SURFACE04-072010	07/20/10	Chromium	232	35.6	6.5		Ground Surface	Surface Solids	6101
NLS-SURFACE04	2686	NLS-SURFACE04-072010	07/20/10	Lead	819	40	20		Ground Surface	Surface Solids	6101
NLS-SURFACE04	2686	NLS-SURFACE04-072010	07/20/10	Zinc	1,020	410	2.5		Ground Surface	Surface Solids	6101
NLS-SURFACE05	2687	NLS-SURFACE05-072210	07/22/10	Total PCBs	0.77 U	0.038	20 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE05	2687	NLS-SURFACE05-072210	07/22/10	Cadmium	7.4	3.7	2.0		Ground Surface	Surface Solids	6101
NLS-SURFACE05	2687	NLS-SURFACE05-072210	07/22/10	Chromium	51.5	35.6	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE05	2687	NLS-SURFACE05-072210	07/22/10	Lead	61	40	1.5		Ground Surface	Surface Solids	6101
NLS-SURFACE06	2688	NLS-SURFACE06-072910	07/29/10	Total PCBs	0.79 U	0.038	21 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE07	2689	NLS-SURFACE07-072910	07/29/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE07	2689	NLS-SURFACE07-072910	07/29/10	Lead	52	40	1.3		Ground Surface	Surface Solids	6101
NLS-SURFACE07	2689	NLS-SURFACE07-072910	07/29/10	Zinc	1,210	410	3.0		Ground Surface	Surface Solids	6101

Table 7.3-7
RI Selected Screening Level Exceedances for COPCs in Surface Debris

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	User Study ID
NLS-SURFACE08	2690	NLS-SURFACE08-072910	07/29/10	Arsenic	120 U	7.3	16 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE08	2690	NLS-SURFACE08-072910	07/29/10	Cadmium	7	3.7	1.9		Ground Surface	Surface Solids	6101
NLS-SURFACE08	2690	NLS-SURFACE08-072910	07/29/10	Chromium	250	35.6	7.0		Ground Surface	Surface Solids	6101
NLS-SURFACE08	2690	NLS-SURFACE08-072910	07/29/10	Lead	50 U	40	1.3 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Total PCBs	9.8	0.038	260		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Arsenic	50 U	7.3	6.8 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Cadmium	33	3.7	8.9		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Chromium	446	35.6	13		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Lead	170	40	4.3		Ground Surface	Surface Solids	6101
NLS-SURFACE09	2691	NLS-SURFACE09-080210	08/02/10	Zinc	2,540	410	6.2		Ground Surface	Surface Solids	6101
NLS-SURFACE10	2692	NLS-SURFACE10-080210	08/02/10	Total PCBs	0.212	0.038	5.5		Ground Surface	Surface Solids	6101
NLS-SURFACE10	2692	NLS-SURFACE10-080210	08/02/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE10	2692	NLS-SURFACE10-080210	08/02/10	Chromium	51	35.6	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE10	2692	NLS-SURFACE10-080210	08/02/10	Lead	70	40	1.8		Ground Surface	Surface Solids	6101
NLS-SURFACE10	2692	NLS-SURFACE10-080210	08/02/10	Zinc	437	410	1.1		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Total PCBs	3.11	0.038	82		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Arsenic	80	7.3	11		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Cadmium	15.3	3.7	4.1		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Chromium	236	35.6	6.6		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Lead	298	40	7.5		Ground Surface	Surface Solids	6101
NLS-SURFACE11	2693	NLS-SURFACE11-080210	08/02/10	Zinc	2,780	410	6.8		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Total PCBs	1.33	0.038	35		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Arsenic	30	7.3	4.1		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Cadmium	30	3.7	8.1		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Chromium	142	35.6	4.0		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Lead	560	40	14		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Mercury	0.59	0.41	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE12	2694	NLS-SURFACE12-080210	08/02/10	Zinc	2,050	410	5.0		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Total PCBs	0.208	0.038	5.5		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Cadmium	11.7	3.7	3.2		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Chromium	93	35.6	2.6		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Lead	102	40	2.6		Ground Surface	Surface Solids	6101
NLS-SURFACE13	2695	NLS-SURFACE13-080210	08/02/10	Zinc	1,050	410	2.6		Ground Surface	Surface Solids	6101
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Total PCBs	0.2	0.038	5.3		Ground Surface	Surface Solids	6101
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Cadmium	5.1	3.7	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Chromium	81	35.6	2.3		Ground Surface	Surface Solids	6101
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Lead	214	40	5.4		Ground Surface	Surface Solids	6101

Table 7.3-7
RI Selected Screening Level Exceedances for COPCs in Surface Debris

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	User Study ID
NLS-SURFACE14	2696	NLS-SURFACE14-080210	08/02/10	Zinc	482	410	1.2		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Total PCBs	0.74	0.038	19		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Arsenic	30 U	7.3	4.1 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Cadmium	17	3.7	4.6		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Chromium	232	35.6	6.5		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Lead	120	40	3.0		Ground Surface	Surface Solids	6101
NLS-SURFACE15	2697	NLS-SURFACE15-080210	08/02/10	Zinc	904	410	2.2		Ground Surface	Surface Solids	6101
NLS-SURFACE16	2698	NLS-SURFACE16-080210	08/02/10	Total PCBs	0.145	0.038	3.8		Ground Surface	Surface Solids	6101
NLS-SURFACE16	2698	NLS-SURFACE16-080210	08/02/10	Chromium	66.9	35.6	1.9		Ground Surface	Surface Solids	6101
NLS-SURFACE16	2698	NLS-SURFACE16-080210	08/02/10	Lead	189	40	4.7		Ground Surface	Surface Solids	6101
NLS-SURFACE16	2698	NLS-SURFACE16-080210	08/02/10	Zinc	2,060	410	5.0		Ground Surface	Surface Solids	6101
NLS-SURFACE17	2699	NLS-SURFACE17-080210	08/02/10	Total PCBs	0.24	0.038	6.3		Ground Surface	Surface Solids	6101
NLS-SURFACE17	2699	NLS-SURFACE17-080210	08/02/10	Mercury	0.58	0.41	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE18	2700	NLS-SURFACE18-080210	08/02/10	Total PCBs	0.041	0.038	1.1		Ground Surface	Surface Solids	6101
NLS-SURFACE18	2700	NLS-SURFACE18-080210	08/02/10	Lead	71	40	1.8		Ground Surface	Surface Solids	6101
NLS-SURFACE18	2700	NLS-SURFACE18-080210	08/02/10	Zinc	2,050	410	5.0		Ground Surface	Surface Solids	6101
NLS-SURFACE19	2701	NLS-SURFACE19-080210	08/02/10	Total PCBs	0.238	0.038	6.3		Ground Surface	Surface Solids	6101
NLS-SURFACE19	2701	NLS-SURFACE19-080210	08/02/10	Lead	42	40	1.1		Ground Surface	Surface Solids	6101
NLS-SURFACE19	2701	NLS-SURFACE19-080210	08/02/10	Zinc	453	410	1.1		Ground Surface	Surface Solids	6101
NLS-SURFACE20	2702	NLS-SURFACE20-080210	08/02/10	Total PCBs	0.361	0.038	9.5		Ground Surface	Surface Solids	6101
NLS-SURFACE20	2702	NLS-SURFACE20-080210	08/02/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE20	2702	NLS-SURFACE20-080210	08/02/10	Chromium	75	35.6	2.1		Ground Surface	Surface Solids	6101
NLS-SURFACE20	2702	NLS-SURFACE20-080210	08/02/10	Lead	148	40	3.7		Ground Surface	Surface Solids	6101
NLS-SURFACE20	2702	NLS-SURFACE20-080210	08/02/10	Zinc	560	410	1.4		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Total PCBs	0.133	0.038	3.5		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Arsenic	10 U	7.3	1.4 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Cadmium	6.3	3.7	1.7		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Chromium	68	35.6	1.9		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Lead	78	40	2.0		Ground Surface	Surface Solids	6101
NLS-SURFACE21	2703	NLS-SURFACE21-080210	08/02/10	Zinc	1,610	410	3.9		Ground Surface	Surface Solids	6101
NLS-SURFACE22	2704	NLS-SURFACE22-080210	08/02/10	Arsenic	20 U	7.3	2.7 -N		Ground Surface	Surface Solids	6101
NLS-SURFACE22	2704	NLS-SURFACE22-080210	08/02/10	Chromium	38	35.6	1.1		Ground Surface	Surface Solids	6101
NLS-SURFACE23	2705	NLS-SURFACE23-080410	08/04/10	Total PCBs	11.1	0.038	290		Ground Surface	Surface Solids	6101
Surface01	1676	PG89J	07/15/09	Total PCBs	7.6	0.038	200	Removed	Ground Surface	Surface Solids	4160
Surface02	1677	PG89K	07/15/09	Total PCBs	30	0.038	790	Removed	Ground Surface	Surface Solids	4160
Surface03	1678	PG90A	07/15/09	Total PCBs	8.8	0.038	230	Removed	Ground Surface	Surface Solids	4160
Surface03b	1679	PG90B	07/15/09	Total PCBs	8.8	0.038	230	Removed	Ground Surface	Surface Solids	4160
Surface04	1680	PG90C	07/15/09	Total PCBs	8.9	0.038	230	Removed	Ground Surface	Surface Solids	4160
Surface05	1681	PG90D	07/15/09	Total PCBs	1.32	0.038	34	Removed	Ground Surface	Surface Solids	4160

Table 7.3-7
RI Selected Screening Level Exceedances for COPCs in Surface Debris

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	User Study ID
Surface06	1682	PG90E	07/15/09	Total PCBs	5.19	0.038	140	Removed	Ground Surface	Surface Solids	4160
Surface07	1683	PG90F	07/15/09	Total PCBs	160	0.038	4,200	Removed	Ground Surface	Surface Solids	4160
Surface08	1684	PG90G	07/15/09	Total PCBs	17.8	0.038	470	Removed	Ground Surface	Surface Solids	4160
Surface09	1685	PG90H	07/15/09	Total PCBs	0.6	0.038	16	Removed	Ground Surface	Surface Solids	4160
Surface10	1686	PG90I	07/15/09	Total PCBs	2.09	0.038	55	Removed	Ground Surface	Surface Solids	4160
Surface11	1687	PG90J	07/15/09	Total PCBs	1.09	0.038	29	Removed	Ground Surface	Surface Solids	4160
Surface12	1688	PJ30A	08/05/09	Total PCBs	46.2	0.038	1,200	Removed	Ground Surface	Surface Solids	4160
Surface12b	1689	PJ30B	08/05/09	Total PCBs	36	0.038	950	Removed	Ground Surface	Surface Solids	4160
Surface12c	1690	PJ30C	08/05/09	Total PCBs	19	0.038	500	Removed	Ground Surface	Surface Solids	4160
Surface13	1691	PJ30D	08/05/09	Total PCBs	557	0.038	15,000	Removed	Ground Surface	Surface Solids	4160
Surface14	1692	PJ30E	08/05/09	Total PCBs	290	0.038	7,600	Removed	Ground Surface	Surface Solids	4160
Surface15	1693	PJ30F	08/05/09	Total PCBs	3.34	0.038	87	Removed	Ground Surface	Surface Solids	4160
Surface16	1694	PJ30G	08/05/09	Total PCBs	1.52	0.038	40	Removed	Ground Surface	Surface Solids	4160
Surface17	1695	PJ30H	08/05/09	Total PCBs	0.77	0.038	20	Removed	Ground Surface	Surface Solids	4160
Surface18	1696	PJ30I	08/05/09	Total PCBs	0.1	0.038	2.6	Removed	Ground Surface	Surface Solids	4160
Surface19	1697	PJ30J	08/05/09	Total PCBs	0.33	0.038	8.7	Removed	Ground Surface	Surface Solids	4160
Surface20	1698	PJ30K	08/05/09	Total PCBs	0.195	0.038	5.3	Removed	Ground Surface	Surface Solids	4160
Surface21	1699	PJ30L	08/05/09	Total PCBs	0.192	0.038	5.0		Ground Surface	Surface Solids	4160
Surface22	1700	PJ30M	08/05/09	Total PCBs	0.57	0.038	15	Removed	Ground Surface	Surface Solids	4160
Surface23	1701	PJ30Q	08/05/09	Total PCBs	0.254	0.038	6.6	Removed	Ground Surface	Surface Solids	4160
North-Central Lateral Drainage Area											
NLS-SURFACE02	2684	NLS-SURFACE02-072010	07/20/10	Total PCBs	0.66	0.038	17		Ground Surface	Surface Solids	6101
NLS-SURFACE02	2684	NLS-SURFACE02-072010	07/20/10	Cadmium	33.6	3.7	9.1		Ground Surface	Surface Solids	6101
NLS-SURFACE02	2684	NLS-SURFACE02-072010	07/20/10	Chromium	90.9	35.6	2.6		Ground Surface	Surface Solids	6101
NLS-SURFACE02	2684	NLS-SURFACE02-072010	07/20/10	Lead	137	40	3.4		Ground Surface	Surface Solids	6101
NLS-SURFACE02	2684	NLS-SURFACE02-072010	07/20/10	Zinc	1,030	410	2.5		Ground Surface	Surface Solids	6101
Parking Lot Area											
D283A	2769	NBF-D283A-071310-S	07/13/10	Total PCBs	0.34	0.038	8.9		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Arsenic	18	7.3	2.5		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Chromium	128	35.6	3.6		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Lead	427	40	11		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Zinc	585	410	1.4		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Benzo(a)pyrene	0.54	0.062	8.7		Ground Surface	Surface Solids	6118
D283A	2769	NBF-D283A-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.6163	0.062	9.9		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Total PCBs	0.116	0.038	3.1		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Arsenic	9	7.3	1.2		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Chromium	62.8	35.6	1.8		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Lead	75	40	1.9		Ground Surface	Surface Solids	6118

Table 7.3-7
RI Selected Screening Level Exceedances for COPCs in Surface Debris

Location Name	User Location ID	Sample ID	Sample Date	Chemical	Concen-tration (mg/kg)	RISL (mg/kg)	RISL Exceedance Factor	Removal Status	Location Type	Location Sub Type	User Study ID
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Zinc	466	410	1.1		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Benzo(a)pyrene	0.13	0.062	2.1		Ground Surface	Surface Solids	6118
D434AN	2437	NBF-D434AN-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.1504	0.062	2.4		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Total PCBs	0.205	0.038	5.4		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Arsenic	20	7.3	2.7		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Chromium	69.5	35.6	2.0		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Lead	126	40	3.2		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Zinc	684	410	1.7		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Benzo(a)pyrene	0.21	0.062	3.4		Ground Surface	Surface Solids	6118
D434AS	2438	NBF-D434AS-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.23865	0.062	3.8		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Total PCBs	0.314	0.038	8.2		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Arsenic	20	7.3	2.7		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Chromium	120	35.6	3.4		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Lead	252	40	6.3		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Zinc	756	410	1.8		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Benzo(a)pyrene	0.16	0.062	2.6		Ground Surface	Surface Solids	6118
D435BN	2439	NBF-D435BN-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.1849	0.062	3.0		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Total PCBs	0.253	0.038	6.6		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Arsenic	30	7.3	4.1		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Chromium	105	35.6	2.9		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Lead	292	40	7.3		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Zinc	724	410	1.8		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Benzo(a)pyrene	0.087	0.062	1.4		Ground Surface	Surface Solids	6118
D435BS	2440	NBF-D435BS-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.10055	0.062	1.6		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Total PCBs	0.199	0.038	5.3		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Arsenic	40	7.3	5.5		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Chromium	137	35.6	3.8		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Lead	387	40	9.7		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Zinc	652	410	1.6		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Benzo(a)pyrene	0.24	0.062	3.9		Ground Surface	Surface Solids	6118
D436A	2770	NBF-D436A-071310-S	07/13/10	Carcinogenic PAHs, ND*0.5	0.2713	0.062	4.4		Ground Surface	Surface Solids	6118

-N Exceedance factor for a non-detected concentration
ND Non-detect
PAHs Polycyclic aromatic hydrocarbons
PCBs Polychlorinated biphenyls
RISL RI Selected Screening Level
U Non-detect

Samples of Surface Debris were collected in only the North Lateral, North-Central, and Parking Lot drainage areas

Exceedance factors represent the concentration divided by the RISL, and numbers are rounded to two significant figures.

Table 7.3-8
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at North Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count per EF Range	Removal Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
PCBs	MH179	8,700	330	Surface Debris	≤0.038	≤0.038	2	Y
	Former CB191	4,700	180	Surface Debris	15,000	557	2	Y
				Pavement	2,900	380	1	Y
				Paint	1,900	250	1	N
				CJM	270	270	1	Y
				Pavement	260	34	1	Y
				Surface Debris	88	3.34	2	Y
				Pavement	6.2-N	0.8 U	2	Y
					≤0.13	≤0.13	1	N
	MH193	4,500	170	Paint	1,000	135	1	N
	OWS186	2,900	110					
	MH187	2,600	100	NS	NS	NS	NS	NA
	CB193	2,100	79	Paint	210	27	1	N
					92	12	1	N
				Surface Debris	35	1.33	1	N
				Paint	9.2	1.2	1	N
				Pavement	≤0.13	≤0.13	1	N
	MH130	1,600	60	NS	NS	NS	NS	NA
	MH169	1,100	40	Paint	6.2-N	0.8 U	1	N
	CB147	500	18.9	Surface Debris	95-N	3.6 U	2	N
				Paint	45	5.77	3	N
					6.1-N	0.79 U	1	N
				Roof Materials	7.1	0.92	2	N
				Other Exterior Mat.	6.2	6.2	2	N
				CJM	≤1.0	≤1.0	1	N
	MH166A	480	18	Paint	1,000	136	1	N
					6.2-N	0.8 U	1	N
	CB159	440	16.9	Paint	20	2.6	1	N
	CB185	390	15	Surface Debris	790	30	4	Y
				Other Exterior Mat.	6.1	6.1	1	N
	Former CB184	290	11	Surface Debris	4,200	160	2	Y
				Paint	1,200	160	1	N
					920	120	1	N
				Surface Debris	500	19	2	Y
				Pavement	180	23.1	2	Y
				CJM	160	160	1	Y
				Paint	66	8.6	1	N
				Pavement	60	7.8	2	Y
				CJM	25	25	1	Y
				Pavement	5.4	0.7	1	Y
				Surface Debris	2.6	0.1	1	Y
	MH138	260	10	Other Exterior Mat.	5.8-N	0.75 U	1	N
	Former CB184B	260	9.7	Paint	750	98	1	N
				Surface Debris	55	2.09	1	Y
				Paint	8.5	1.1	1	N
				Pavement	≤0.13	≤0.13	1	N
	MH179B	210	8.1	NS	NS	NS	NS	NA
	CB192	210	8	Other Exterior Mat.	6.1	6.1	1	N
	CB187A	200	7.5	Surface Debris	950	36	4	3 Y, 1N
				Paint	93	12.1	1	Y
				Pavement	57	7.4	1	Y
	CB165	200	7.46	NS	NS	NS	NS	NA
	UNKCB19	160	6	Roof Materials	28-N	3.7 U	1	N
	MH178	140	5.3	NS	NS	NS	NS	NS
	OWS612-2	120	4.6	NS	NS	NS	NS	NA
	MH108	120	4.4	NS	NS	NS	NS	NA
	MH652	110	4.3	Paint	130	16.9	1	N
	MH181A	110	4.2	Paint	49	6.4	1	N
				Surface Debris	29	1.09	1	Y
				CJM	≤1.0	≤1.0	1	N
Cadmium	D153B	29	108	NS	NS	NS	NS	NA
	MH133D	28	102	NS	NS	NS	NS	NA
	OWS109A	27	98.1	NS	NS	NS	NS	NA
Lead	MH652	70	2,780	Paint	≤450	≤450	1	N
	CB147	31	1,220	Surface Debris	7.5	298	1	N
					4.3	171	1	N
				Paint	3.9	1,770	2	N
					≤450	≤450	1	N

Table 7.3-8
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at North Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count per EF Range	Removal Status (Y/N)
Mercury	MH652	420	173	Paint	9.8	4	1	N
	MH651	150	61	NS	NS	NS	NS	NA
	CB136	93	38	NS	NS	NS	NS	NA
	CB142B	63	26	Surface Debris	≤0.41	≤0.41	1	N
	CB185	48	19.5	NS	NS	NS	NS	NA
	CB165	30	12.4 J	NS	NS	NS	NS	NA
	MH178	36	14.6	NS	NS	NS	NS	NS
	CB141	26	10.5	Paint	1.8	0.74	1	N
Silver	CB165	26	160	NS	NS	NS	NS	NA
Zinc	D153C	56	22,900	Paint	3.4	1,400	1	N
	CB181B	51	21,000	NS	NS	NS	NS	NA
	D153B	29	12,000	NS	NS	NS	NS	NA
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
PCBs	UNKMH10	45	1.7	Other Exterior Mat.	120,000	15,800	1	Y
				Surface Debris	260	9.8	1	N
	CB188A	NS	NS	Other Exterior Mat.	110,000	110,000	1	Y
					75	75	2	N
				Roof Materials	12-N	1.6 U	1	N
				Paint	6.2-N	0.8 U	1	N
	CB113	42	1.6	CJM	35,000	35,000	3	Y
					20	20	1	N
	CB150	29	1.09	Paint	18,000	2,300	4	2 Y, 2 N
					230	30	1	N
					55	7.2	1	N
				Pavement	8.4	1.09	1	N
				Roof Materials	6.1-N	0.79 U	1	N
				Other Exterior Mat.	6.1	6.1	1	N
				Surface Debris	≤0.038	≤0.038	1	N
	CB142C	12	0.45	Paint	13,000	1,700	2	Y, N
				Surface Debris	5.6	0.212	1	N
				Pavement	≤0.13	≤0.13	2	N
	MH172	29	1.1	Paint	5,800	750	1	Y
					5.8-N	0.75 U	1	N
	UNKCB23	NS	NS	Paint	430	56	1	N
				Surface Debris	19	0.74	1	N
				Paint	6.2-N	0.8 U	2	N
	CB118A	5.0	0.19	Paint	350	46	1	Y
	CB162	NS	NS	Surface Debris	290	11.1	1	N
					20-N	0.77 U	1	N
				Other Exterior Mat.	6.2-N	0.8 U	1	N
	CB174A	18	0.7	Paint	200	25.5	1	N
	CB174	50	1.89	Paint	170	22.6	1	N
					25	3.3	1	N
				Other Exterior Mat.	19	19	1	N
				Paint	6.1-N	0.79 U	1	N
				Other Exterior Mat.	6.1	6.1	1	N
	CB114	5.3	0.2	Paint	130	17.3	1	N
				Roof Materials	89	11.6	1	N
				Paint	5.3-N	0.69 U	3	N
				Roof Materials	5.2-N	0.68 U	2	N
	CB189A	NS	NS	Other Exterior Mat.	120-N	16 U	1	N
				Paint	6-N	0.78 U	1	N
				Surface Debris	5.5	0.208	1	N
Cadmium	MH160	NS	NS	Paint	43	219	1	N
	CB187A	NS	NS	Paint	30	154	1	Y
Chromium	CB142C	5.4	192	Paint	140	35,600	1	Y
					35	9,090	1	N
				Surface Debris	1.4	51	1	N
	MH172	≤35.6	≤35.6	Paint	110	27,500	2	Y, N
	CB135	3.2	115	Paint	85	22,100	1	N
				Other Exterior Mat.	≤260	≤260	1	N
	CB149	3	107	Paint	78	20,400	2	N
	MH169	NS	NS	Paint	68	17,600	1	N
	CB194	2.8	100	Paint	61	15,800	1	N
					6.3	1,630	1	N
	CB141	1.9	68	Paint	41	10,700	1	N
	CB150	2.9	104	Paint	34	8,890	2	N
					23	6,070	2	N
				Surface Debris	7	250	1	N
				Paint	2.5	647	1	N
					≤260	≤260	1	N

Table 7.3-8
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at North Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count per EF Range	Removal Status (Y/N)
Chromium	CB174	5.1	180	Paint	29	7,540	1	N
					9.4	2,440	1	N
	UNKCB23	NS	NS	Paint	28	7,280	1	N
				Surface Debris	6.5	232	1	N
				Paint	≤260	≤260	2	N
Lead	CB150	6.1	245	Paint	160	69,800	1	N
					40	18,200	2	N
					25	1,110	1	N
				Surface Debris	1.3-N	50 U	1	N
				Paint	≤450	≤450	1	N
				Roof Materials	≤450	≤450	1	N
				Other Exterior Mat.	≤450	≤450	1	N
	CB194	2.5	100	Paint	140	62,800	1	N
					11	5,070	1	N
	CB142C	8.9	343	Paint	130	58,600	1	Y
					92	41,500	1	N
				Surface Debris	1.8	70	1	N
	MH172	≤40	≤40	Paint	120	54,700	2	Y, N
	CB149	15	602	Paint	96	43,400	1	N
					1.1	480	1	N
					≤450	≤450	1	N
	MH169	NS	NS	Paint	80	35,900	1	N
	CB174	7.2	287	Paint	73	32,700	1	N
					1.8	830	1	N
	CB141	4	160	Paint	69	31,000	1	N
	CB193	NS	NS	Paint	60	27,000	2	N
				Surface Debris	14	560	1	N
				Paint	≤450	≤450	1	N
	CB135	7.5	298	Paint	49	22,200	1	N
	CB114	3.7	146	Paint	48	21,800	1	N
					25	11,100	2	N
				Roof Materials	1.9	844	2	N
					≤450	≤450	1	N
	CB133B	3.3	130	Paint	37	16,600	1	N
				Surface Debris	11	428	1	N
	CB187	NS	NS	Surface Debris	34	1,350	1	N
				Paint	1.2	519	1	Y
	CB195	1.65	66	Paint	33	16,600	1	N
	CB142	8.4	335	Paint	30	13,400	1	N
	CB118E	4.3	173	Paint	28	12,400	2	N
	MH193	NS	NS	Paint	27	12,300	1	N
	Former CB184B	4.2	169	Paint	26	11,500	1	N
Mercury	Former CB191	NS	NS	Paint	320	130	1	N
	CB147	17	6.86	Paint	120	50	1	N
					5.1	2.11	1	N
				Other Exterior Mat.	9	9	1	N
				Surface Debris	1.6	0.67	1	N
	MH181A	≤0.41	≤0.41	Paint	100	43	1	N
	CB188A	NS	NS	Other Exterior Mat.	100	40.8	2	Y, N
				Paint	7.6	3.1	1	N
	Former CB184	3.9	1.6	Paint	90	37	3	N
	CB149	≤0.41	≤0.41	Paint	84	34.3	1	N
					1.1	0.46	1	N
					≤0.41	≤0.41	1	N
	CB114	≤0.41	≤0.41	Paint	68	28	1	N
				Roof Materials	34	14	1	N
				Paint	10	4.3	2	N
					≤0.41	≤0.41	1	N
				Roof Materials	≤0.41	≤0.41	1	N
	CB174A	≤0.41	≤0.41	Paint	61	25	1	N
	Former CB184B	1.2	0.5	Paint	56	23	1	N
	CB118E	≤0.41	≤0.41	Paint	49	20	1	N
	MH106A	NS	NS	Paint	41	17	1	N
					≤0.41	≤0.41	1	N
	CB189A	NS	NS	Paint	31	12.8	1	N
				Surface Debris	≤0.41	≤0.41	1	N

Table 7.3-8
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at North Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count per EF Range	Removal Status (Y/N)
Zinc	CB147	12	4,960	Paint	300	123,000	1	N
				Other Exterior Mat.	31	31	1	N
				Surface Debris	6.8	2,780	1	N
				Paint	1.8	740	1	N
					≤410	≤410	1	N
				Roof Materials	≤410	≤410	2	N
				Surface Debris	≤410	≤410	1	N
	MH166A	NS	NS	Paint	83	34,200	1	N
					13	5,460	1	N
	CB135	3.9	1,580	Paint	82	33,700	1	N
				Other Exterior Mat.	≤410	≤410	1	N
				Pavement	≤410	≤410	1	N
	CB117	7.7	3,150	Paint	73	30,100	1	N
				Surface Debris	1.4	560	1	N
	CB150	2.2	883	Paint	70	28,600	2	N
					18	7,250	4	N
				Roof Materials	2.1	850	1	N
				Other Exterior Mat.	1.2	1.2	1	N
				Pavement	≤410	≤410	1	N
				Surface Debris	≤410	≤410	1	N
	UNKMH10	3.8	1,540	Other Exterior Mat.	51	21,100	1	Y
				Surface Debris	6.2	2,540	1	N
	Former CB184B	5.6	2,280	Paint	48	19,500	1	N
				Pavement	≤410	≤410	1	N
	CB114	1.9	773	Paint	45	18,600	1	N
					8.8	3,620	2	N
				Roof Materials	22	9,070	1	N
					1.2	503	1	N
	CB174	4.7	1,920	Paint	43	17,800	1	N
					11	4,440	1	N
				Other Exterior Mat.	≤410	≤410	2	N
	CB118E	3	1,240	Paint	43	17,500	1	N
					1.5	620	1	N
	CB333B	NS	NS	Paint	38	15,500	1	N
	MH169	NS	NS	Paint	34	13,900	1	N
	CB142A	12	5,080	Other Exterior Mat.	34	13,900	1	N
				Paint	4.2	1,730	1	N
				Other Exterior Mat.	2.6	2.6	1	N
	UNKCB9	1.8	718	Paint	32	13,000	1	N
	CB196	1.5	633	Paint	31	12,700	1	N
				Pavement	≤410	≤410	1	N
	CB149	2.9	1,060	Paint	30	12,100	2	N
					2.5	1,020	1	N

Notes:
CB - Catch basin
CJM - Concrete joint material
EF - Exceedance factor
MH - Manhole
NS - Not sampled (due to lack of sufficient solids)
SD - Storm drain
UNK - Unknown

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-9
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at North-Central Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count	Removed Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
PCBs	MH220	890	34	CJM	≤ 1.0	1.0	2	N
	MH247	790	30	CJM	16,000	16,000	1	Y
					2.4	2.4	2	N
					≤ 1.0	≤ 1.0	1	N
	UNKMH21	200	7.5	CJM	≤ 1.0	≤ 1.0	1	N
	CB225	130	4.9	CJM	26,000	26,000	1	Y
					≤ 1.0	≤ 1.0	2	Y, N
	CB364A	120	4.5	CJM	23,000	23,000	2	Y
					370	370	3	Y
					6.2	6.2	2	Y
					2.5	2.5	2	N
	CB372A	120	4.5	NA	NA	NS	NA	NA
	MH422	110	4.1	NA	NA	NS	NA	NA
	MH249	110	4	CJM	≤ 1.0	≤ 1.0	6	N
Cadmium	CB244	30	23.5	NA	NA	NS	NA	NA
cPAHs	CB229A	120	7.67	NA	NA	NS	NA	NA
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
PCBs	MH223	NA	NS	CJM	20,000	20,000	1	Y
	CB224	25	2.5	CJM	20,000	20,000	1	Y
					42	42	1	Y
				Paint	18	2.4	1	N
				Surface debris	17	0.66	1	N
				CJM	≤ 1.0	≤ 1.0	1	N
	MH248	NA	NS	CJM	17,000	17,000	1	Y
					≤ 1.0	≤ 1.0	2	N
	CB255	19	0.71	CJM	1,200	1,200	1	Y
					29	29	2	Y
				Paint	59	7.7	1	N
				CJM	1.9	1.9	1	Y
					3	3	1	N
					≤ 1.0	≤ 1.0	3	2 Y, 1 N
	MH228	50	1.9	Paint	280	37	1	N
Cadmium	CB246	8.9	33.1	Paint	86	439	1	N
Chromium	MH228	NA	NS	Paint	89	23,100	1	N
Lead	MH228	NA	NS	Paint	270	122,000	1	N
	CB255	3.7	146	Paint	120	55,700	1	N
	CB224	10	202	Paint	30	13,600	1	N
				Surface debris	3.4	137	1	N
Zinc	CB255	0.96	394	Paint	42	17,400	1	N
	MH228	NA	NS	Paint	32	13,300	1	N

Notes:
CB - Catch basin
CJM - Concrete joint material
EF - Exceedance factor
MH - Manhole
NA - Not applicable
NS - Not sampled
SD - Storm drain
UNK - Unknown

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-10
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at South-Central Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count	Removed Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
PCBs	MH471	180	6.8	CJM	14	14	1	Y
					6.1	6	1	Y
					≤1.0	≤1.0	1	N
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
PCBs	CB418	31	1.19	CJM	59,000	59,000	2	Y
					24	24	1	N
					4.3	4.3	1	Y
					≤1.0	≤1.0	2	N
	CB420	14	0.52	CJM	4,200	4,200	1	Y
					6.2	6.2	1	N
					≤1.0	≤1.0	1	N
	MH461	1.1	0.04	CJM	35,000	35,000	2	Y
					66	66	2	Y
					≤1.0	≤1.0	2	N
	CB371	NA	NS	Paint	120	16.1	1	N
					42	5.4	2	N
					5.8-N	0.75 U	1	N
				CJM	1.1	1.1	1	Y
					≤1.0	≤1.0	1	N
	CB406	NA	NS	Paint	110	14.5	1	N
				CJM	21	21	1	N
					≤1.0	≤1.0	1	N
Chromium	CB371	NA	NS	Paint	160	41,100	1	N
					110	27,400	2	N
					9.0	2,340	1	N
	MH368	NA	NS	Paint	37	9,640	1	N
Lead	CB371	NA	NS	Paint	340	151,000	3	N
					38	17,200	1	N
	MH368	≤1.0	37	Paint	100	46,200	1	N
					5.4	2,440	1	N
Zinc	MH368	≤1.0	1.63	Paint	74	30,200	1	N
	CB371	NA	NS	Paint	39	16,100	1	N
					23	9,430	2	N
					1.3	540	1	N

Notes:
CB - Catch basin
CJM - Concrete joint material
EF - Exceedance factor
MH - Manhole
NA - Not applicable
NS - Not sampled
SD - Storm drain
UNK - Unknown

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-11
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at South Lateral Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count	Removed Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
PCBs	CB384	510	19.3	NA	NA	NS	NA	NA
	OWS483E/D	370	14	CJM	24	24	1	N
	OWS1-C	160	6.16	NA	NA	NS	NA	NA
	MH642	160	6.1	CJM	24	24	1	N
					1	1	1	N
					≤1.0	≤1.0	2	N
	MH483A	130	4.81	CJM	≤1.0	≤1.0	1	N
	CB453	110	4.1	CJM	5	5	1	N
	OWS483B/C	110	4.0	NA	NA	NS	NA	NA
Mercury	OWS483E/D	35	14.2	NA	NA	NS	NA	NA
cPAHs	MH482	190	11.9	NA	NA	NS	NA	NA
	OWS483B/C	190	11.9	NA	NA	NS	NA	NA
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
PCBs	CB261	38	1.45	CJM	26,000	26,000	1	Y
					730	730	1	Y
					24	24	4	1 Y, 3 N
					6.4	6.4	4	3 Y, 1 N
	CB266B	NA	NS	Paint	17,000	2,200	1	N
	OWS433B/446B	NA	NS	Paint	4,400	570	1	N
	CB448	54	2.05	Paint	510	66	1	N
	CB352	NA	NS	Paint	270	35	1	N
	MH378	NA	NS	Paint	170	22.2	1	N
	CB393A	NA	NS	Paint	110	14.6	1	N
Chromium	CB352	NA	NS	Paint	150	38,000	1	N
	OWS433B/446B	NA	NS	Paint	41	10,700	1	N
Lead	CB352	NA	NS	Paint	340	151,000	1	N
	OWS433B/446B	NA	NS	Paint	100	47,200	1	N
Mercury	CB449	NA	NS	Paint	150	62	1	N
	CB400	NA	NS	Paint	140	57	1	N
	CB448	≤1.0	<0.41	Paint	120	49	1	N
	CB308	NA	NS	Paint	100	41.1	1	N
	CB266B	NA	NS	Paint	83	34	1	N
Zinc	CB380	NA	NS	Paint	240	99,600	1	N
	CB308	5.5	2,240	Paint	52	21,200	1	N

Notes:
CB - Catch basin
CJM - Concrete joint material
EF - Exceedance factor
MH - Manhole
NA - Not applicable
NS - Not sampled
SD - Storm drain
UNK - Unknown

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-12
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at Building 3-380 Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count	Removed Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
Exceedance factors for SD solids in the parking lot drainage area did not exceed 100 for PCBs or cPAHs, or 25 for metals								
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
PCBs	CB428C	2.6	0.098	Paint	2,100	271	1	N
Chromium	CB428C	1.6	55.9	Paint	160	40,900	1	N
	MH428A	NA	NS	Paint	65	17,000	1	N
	CB107	3.4	121	Paint	32	8,340	1	N
Lead	CB428C	1.9	77	Paint	340	155,000	1	N
	CB107	7.1	285	Paint	79	35,600	1	N
Zinc	MH428A	NA	NS	Paint	55	22,600	1	N

Notes:
CB - Catch basin
CJM - Concrete joint material
EF - Exceedance factor
MH - Manhole
NA - Not applicable
NS - Not sampled
SD - Storm drain
UNK - Unknown

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-13
Exceedance Factors and Concentrations for Elevated Levels of COPCs in Storm Drain Solids and Anthropogenic Media at Parking Lot Drainage Area

Chemical	SD Solids			Anthropogenic Media				
	SD Structure	EF	Most Recent Concentration (mg/kg DW)	Medium	Maximum EF	Maximum Concentration (mg/kg)	Sample Count	Removed Status (Y/N)
Anthropogenic Media in Areas with Elevated EFs in SD Solids								
Exceedance factors for SD solids in the parking lot drainage area did not exceed 100 for PCBs or cPAHs, or 25 for metals								
Elevated EFs in Anthropogenic Media in Areas without Elevated EFs in SD Solids								
Chromium	CB432	6.7	238 J	Paint	42	10,900	1	N
Lead	CB432	16	657 J	Paint	94	42,300	1	N
Zinc	CB102D	2.3	941	Paint	110	43,600	1	N

Notes:
CB - Catch basin
EF - Exceedance factor
J - Estimated value
NS - Not sampled
SD - Storm drain

EF Ranges	PCBs and cPAHs	Metals
(blue)	≤ 1.0	≤ 1.0
(green)	> 1.0 - 10	> 1.0 - 5.0
(yellow)	> 10 - 100	> 5.0 - 25
(orange)	> 100 - 1,000	> 25 - 125
(red)	> 1,000	> 125

A limited number of locations were sampled more than once; the most recent analytical data are reported in this table.

Table 7.3-14
Summary of Proposed Sampling Locations
for Anthropogenic Media on Buildings

Building/Structure	Construction Date	Paint	Caulk	Window Glaze	Roof Tops/ Gutters
Georgetown Steam Plant					
Powerhouse	1906	10	--	--	4
North Lateral Drainage Area					
3-302	pre-1953*	4	4	2	1
3-306	1983	4	3	--	1
3-310	1962*	6	3	2	1
3-315	1979	7	3	2	1
3-322	1955	4	4	2	1
3-323	1954	5	4	2	1
3-324	~1993-1995	--	3	--	1
3-326	~1984	7	4	2	1
3-331	Unknown*	4	4	2	1
3-332	Recent	6	4	--	1
3-333	1997	6	3	--	1
3-334	1997	6	4	--	1
3-335	1999	4	4	--	1
3-341	NA	2	--	--	1
3-342	NA	2	--	--	1
3-343	NA	2	--	--	1
3-350	1945*	2	2	--	2
3-352	Unknown	4	--	--	1
3-353	1991	6	4	2	1
3-354	1992	3	3	--	1
3-355	Unknown	3	3	--	1
3-356	after 1980	3	3	--	1
3-357	Unknown*	3	3	--	1
3-365	1956	5	3	2	1
3-368	1969	4	4	2	1
3-626	1966	8	3	2	1
Total:		110	75	22	27
North-Central Lateral Drainage Area					
3-313	1989	4	3	--	1
Total:		4	3	0	1
South-Central and South Lateral Drainage Areas					
3-369	1966	4	--	2	1
3-374	1967	3	3	2	1
3-390	1953	12	10	6	1
3-397	1953	4	3	2	1
3-800	1990	8	3	--	1
3-801	1992	8	3	--	1
3-818	1966	0	3	2	1
3-822	1954	3	3	2	1
3-825	1966	4	3	2	1
Total:		46	31	18	9
Building 3-380 and Parking Lot Drainage Areas					
7-27-1	pre-1956	4	3	2	1
3-370	~1993	4	3	--	1
3-380	1991	4	3	--	1
Total:		12	9	2	3
Total (All Areas):		**182**	**118**	**42**	**40**

* Boeing personnel indicate this structure was renovated or reconstructed after 1980;
Roof top sample on Building 3-350 includes one sample of asphalt roof.

-- Sampling not proposed NA - Not applicable, this is a covered storage area, not a building.

Table 7.3-15
Summary of Proposed Sampling Locations for Anthropogenic Media on Ground Surface and Small Structures

Drainage Area (SD polygons and surrounding areas)	Adjacent Buildings	CJM	Paint*	Surface Debris
Georgetown Steam Plant				
No proposed samples	Powerhouse	--	--	--
North Lateral Drainage Area				
MH169	3-310	--	2	1
D153C	--	--	--	1
CB141	3-315	--	2	1
CB142	3-315	--	2	1
OWS612-2	3-315	--	2	1
MH179B	3-323	--	2	1
CB173	--	--	1	1
MH178	--	--	1	1
CB181B	3-323/3-331/3-334	--	--	1
MH166A	3-323/3-331/3-334	--	--	1
MH181A	3-323/3-334	--	--	1
MH187	3-326	--	2	1
CB185	3-332	--	--	1
D153B	--	--	2	1
CB165	3-334	--	2	1
MH130	--	--	2	1
MH133D	--	--	2	2
CB112	3-350	1	2	1
CB113	3-350	2	2	1
MH108	3-350	2	2	--
OWS109A	3-350	1	2	--
CB136	--	--	2	1
CB147	3-368/Wind Tunnel	--	2	2
MH138	3-626	--	2	1
MH652	3-626	--	2	1
MH179	GTSP	--	2	1
Total:		**6**	**40**	**26**
North-Central Lateral Drainage Area				
CB224	--	2	--	--
CB225	--	3	2	1
CB256	--	2	--	--
CB257	--	2	--	--
CB372	--	2	--	--
CB372A	--	2	2	--
MH220	--	--	1	--
MH223	--	3	2	--
MH228D	--	--	1	--
MH228F	--	2	--	--

Table 7.3-15
Summary of Proposed Sampling Locations for Anthropogenic Media on Ground Surface and Small Structures

Drainage Area (SD polygons and surrounding areas)	**Adjacent Buildings**	**CJM**	**Paint***	**Surface Debris**
MH247	--	2	2	--
MH248	--	3	2	--
MH249	--	--	2	--
UNKMH18	--	1	--	--
UNKMH21	--	--	1	--
CB244	--	--	2	1
Total:		**24**	**17**	**2**
South-Central Lateral Drainage Area				
CB374	--	1	--	--
CB420	--	2	--	--
MH471	--	2	--	--
CB367A	3-390	--	2	1
CB371	3-390	--	2	1
D405	3-390	1	--	--
D405A	3-390	1	--	--
D406	3-390	2	--	--
D407	3-390	2	--	--
MH402	3-390	1	--	--
Total:		**12**	**4**	**2**
South Lateral Drainage Area				
CB420	--	1	--	--
CB453	--	--	2	1
MH483A	--	--	2	1
MH642	--	--	2	1
OWS483E/D	--	1	2	--
OWS1-C	3-374/3-390	--	2	1
	Total	**2**	**10**	**4**
Building 3-380 Drainage Area				
MH422	--	--	2	1
Total:		**0**	**2**	**1**
Parking Lot Drainage Area				
No proposed samples	--	--	--	--
All Areas				
Total (All Areas):		**44**	**73**	**35**

Note: Samples will be collected from the SD polygon listed and possibly also from the surrounding polygon areas, depending on field determination of flow direction.

* Paint samples will be collected from ground surface or small structures such as bollards or fire hydrants, depending on local presence.

Table 7.3-16
Summary of Proposed Sampling Locations for Storm Drain Solids
Based on Anthropogenic Media Sample Results

Storm Drain Structure To Be Sampled	Adjacent Buildings	Last Sampling of Solids in Storm Drain Structure	Nearby Anthropogenic Media With Known or Suspected COPCs*			
			Paint	Roof and Other Exterior Materials	CJM	Pavement or Surface Debris
Georgetown Steam Plant						
MH12 (draining downspouts)	GTSP Powerhouse	uncertain		●		
Total Number of Structures to be Sampled: 1						
North Lateral Drainage Area						
MH112	3-350	NS			●	
MH160	3-626	NS	●			
MH166A	3-331, 3-334	7/2009, PCBs only	●			
MH169	3-310	1/2007, PCBs & Hg only	●			
CB174B	3-323	NS, new catch basin	●			
CB184D	3-302, 3-334	NS, new catch basin	●			
MH187	3-326	3/2007, PCBs only	●	●		●
CB187A	3-322, 3-326	7/2009, PCBs only	●			●
CB193	--	3/2007, PCBs only	●			●
MH193	3-322	7/2009, PCBs only	●			
Total Number of Structures to be Sampled: 10						
North-Central Lateral Drainage Area						
MH223	--	NS			●	
MH228	--	4/2007, PCBs only	●			
MH247	--	3/2007, PCBs only			●	
MH248	--	NS			●	
Total Number of Structures to be Sampled: 4						
South-Central Lateral Drainage Area						
CB367A	3-390	NS	●		●	
CB371	3-390	NS	●			
CB373	3-390	NS	●			
D405	3-390	NS	●		●	
D405A	3-390	NS	●		●	
Total Number of Structures to be Sampled: 5						
South Lateral Drainage Area						
CB266B	3-818, 3-800	NS	●			
CB268	3-390	NS	●			
CB276	3-818, 3-800, 3-801	NS	●			
CB347	3-390	NS	●			
CB352	3-397	NS	●			
CB379	3-374, 3-397	NS	●			
CB395	3-390	NS	●			
MH444	3-818	NS	●			
MH445C	3-818	NS	●			
CB446	MFF, 3-818	7/2006, SVOCs only	●			
Total Number of Structures to be Sampled: 10						

Table 7.3-16
Summary of Proposed Sampling Locations for Storm Drain Solids
Based on Anthropogenic Media Sample Results

Storm Drain Structure To Be Sampled	Adjacent Buildings	Last Sampling of Solids in Storm Drain Structure	Nearby Anthropogenic Media With Known or Suspected COPCs*			
			Paint	Roof and Other Exterior Materials	CJM	Pavement or Surface Debris
Building 3-380 Drainage Area						
No proposed samples						
Parking Lot Drainage Area						
No proposed samples						
All Areas						
Total Number of Structures to be Sampled for All Areas: 30						

* Includes anthropogenic media sample results with COPC exceedances from sample locations near or upstream of the SD structure, or on a portion of a building near the structure, or material suspected to be of concern.

NS = No samples have been collected in this storm drain structure since 2004.

Note: RI samples will be collected from the storm drain structure listed or from adjacent/downstream structures, depending on field determination of drainage direction and the availability of sampleable storm drain solids.

North Boeing Field/ Georgetown Steam Plant Site Remedial Investigation/Feasibility Study

Remedial Investigation/Feasibility Study Work Plan

VOLUME 2: FIGURES

DRAFT

Prepared for

Toxics Cleanup Program
Northwest Regional Office
Washington State Department of Ecology
Bellevue, Washington

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Science Applications International Corporation
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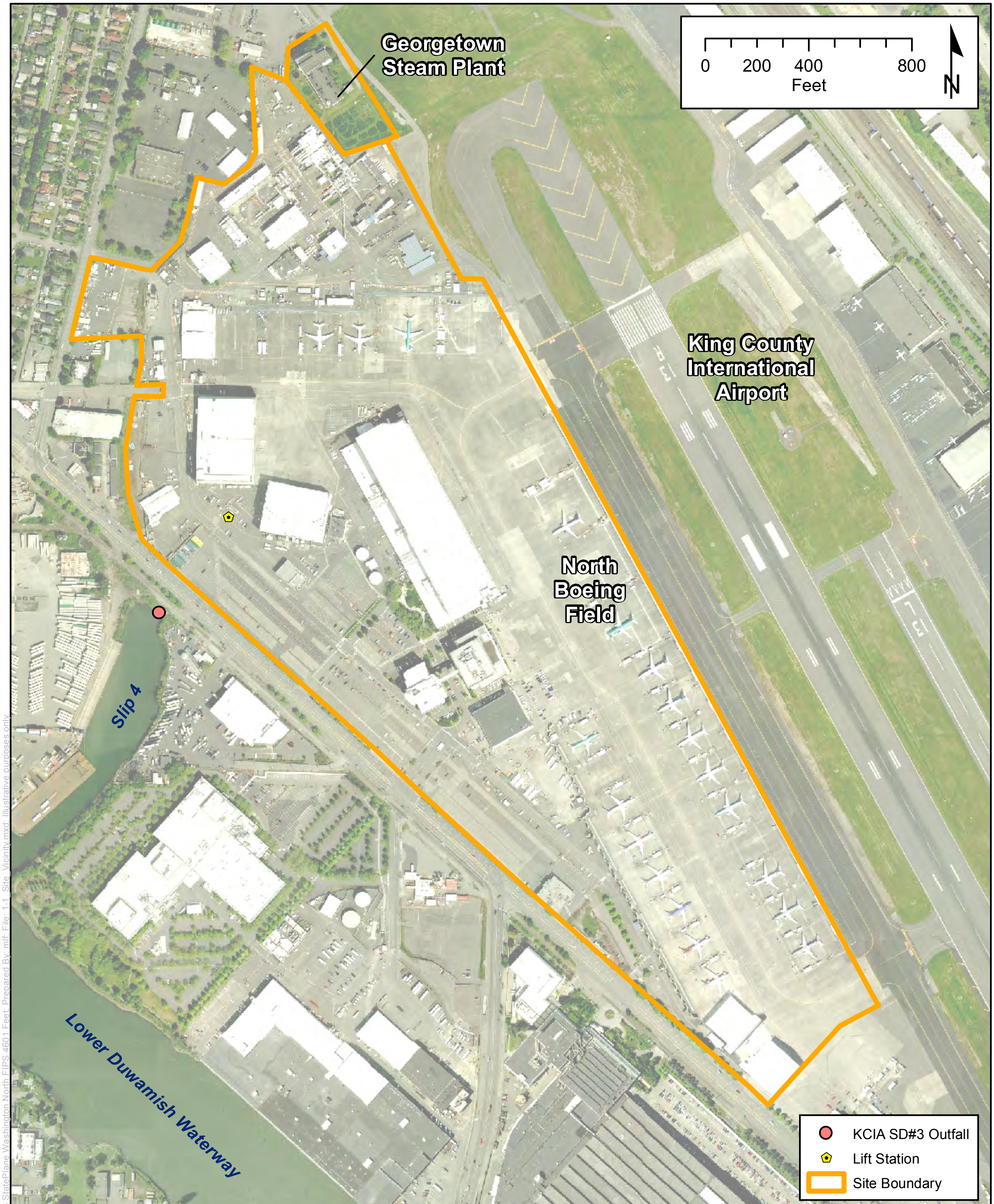
April 17, 2012

Volume 2: Figures



Coordinate System:NAD 1983 StatePlane Washington North FIPS 4601 Feet; Prepared By: mlf; File: 1-1_Site_Vicinity.mxd; Illustrative purposes only.

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Figure 1-1. NBF-GTSP Site and Vicinity

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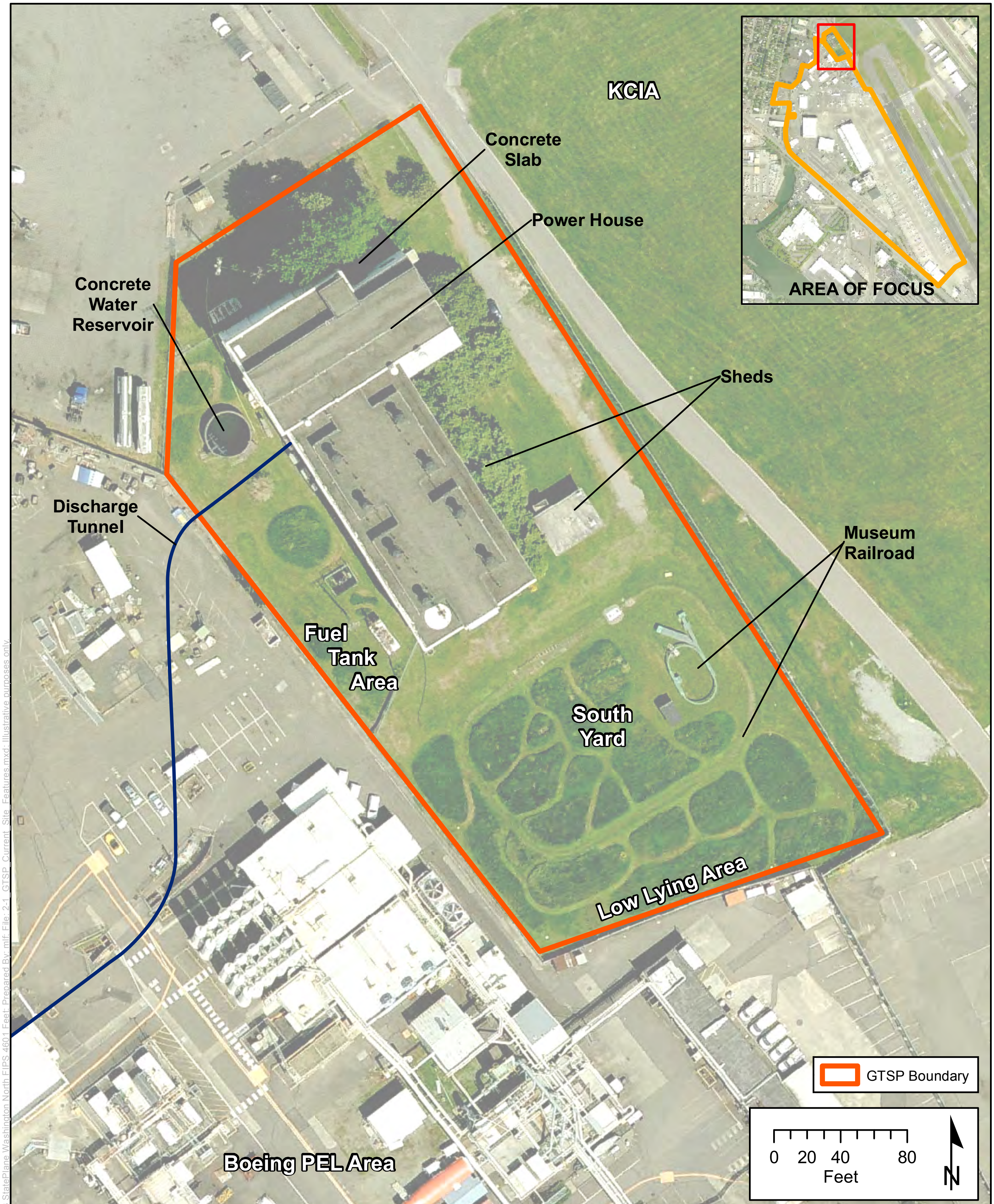

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Figure 2-1. Georgetown Steam Plant Current Site Features

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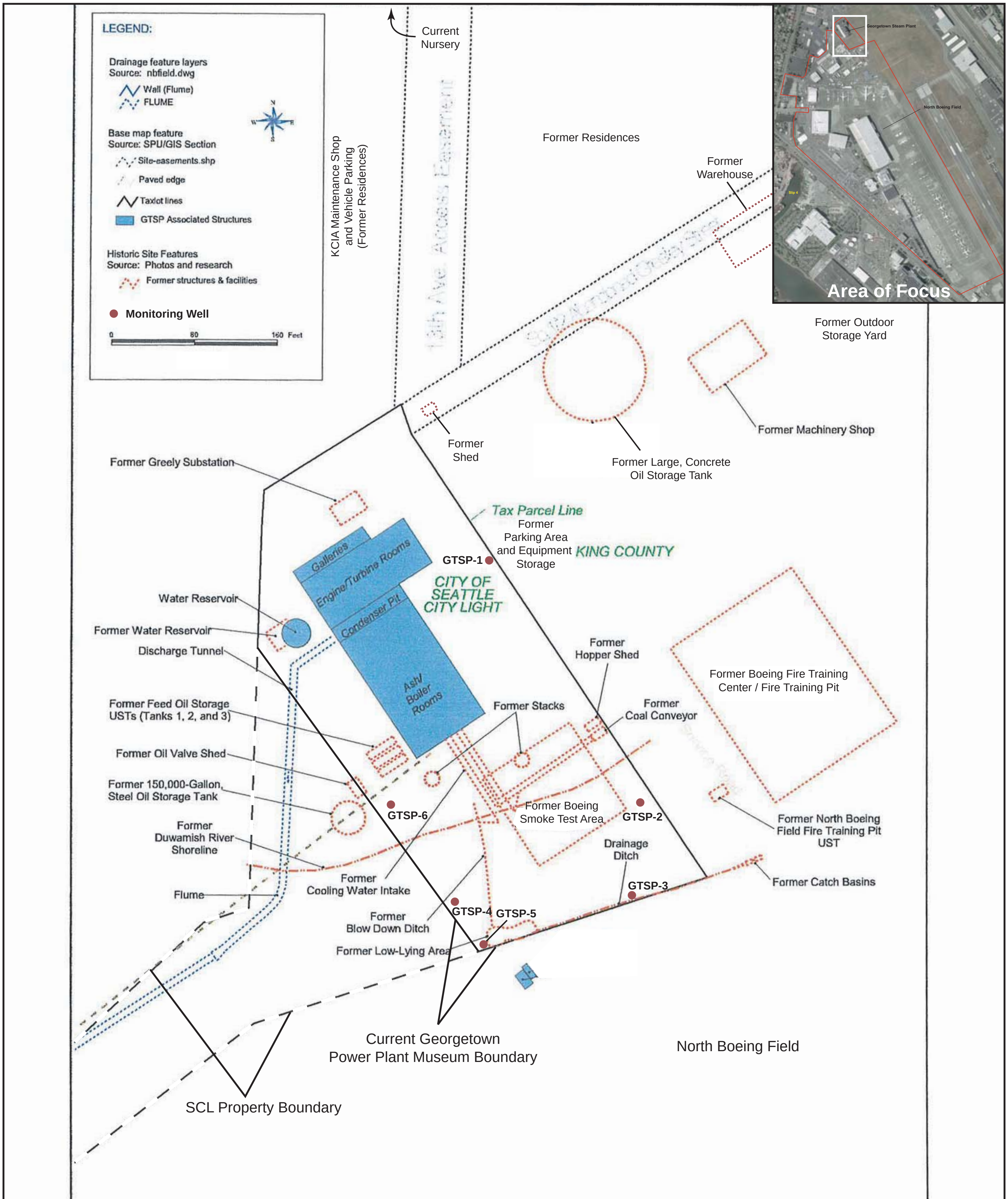
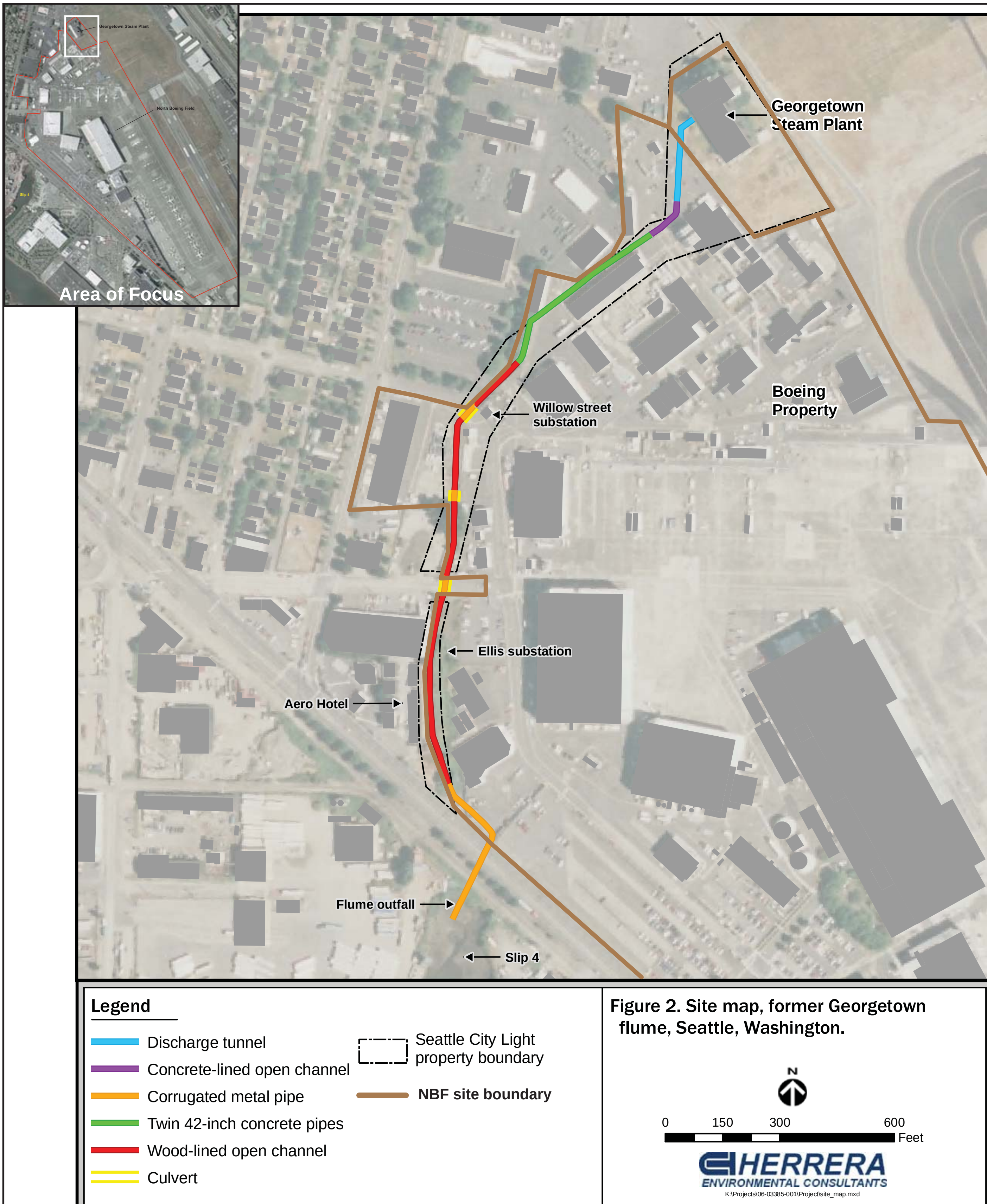


Figure 2–2. Historical Site Features of GTSP and Vicinity



Source: Herrera 2010 [6820]

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Figure 2–3. Former Georgetown Flume Location

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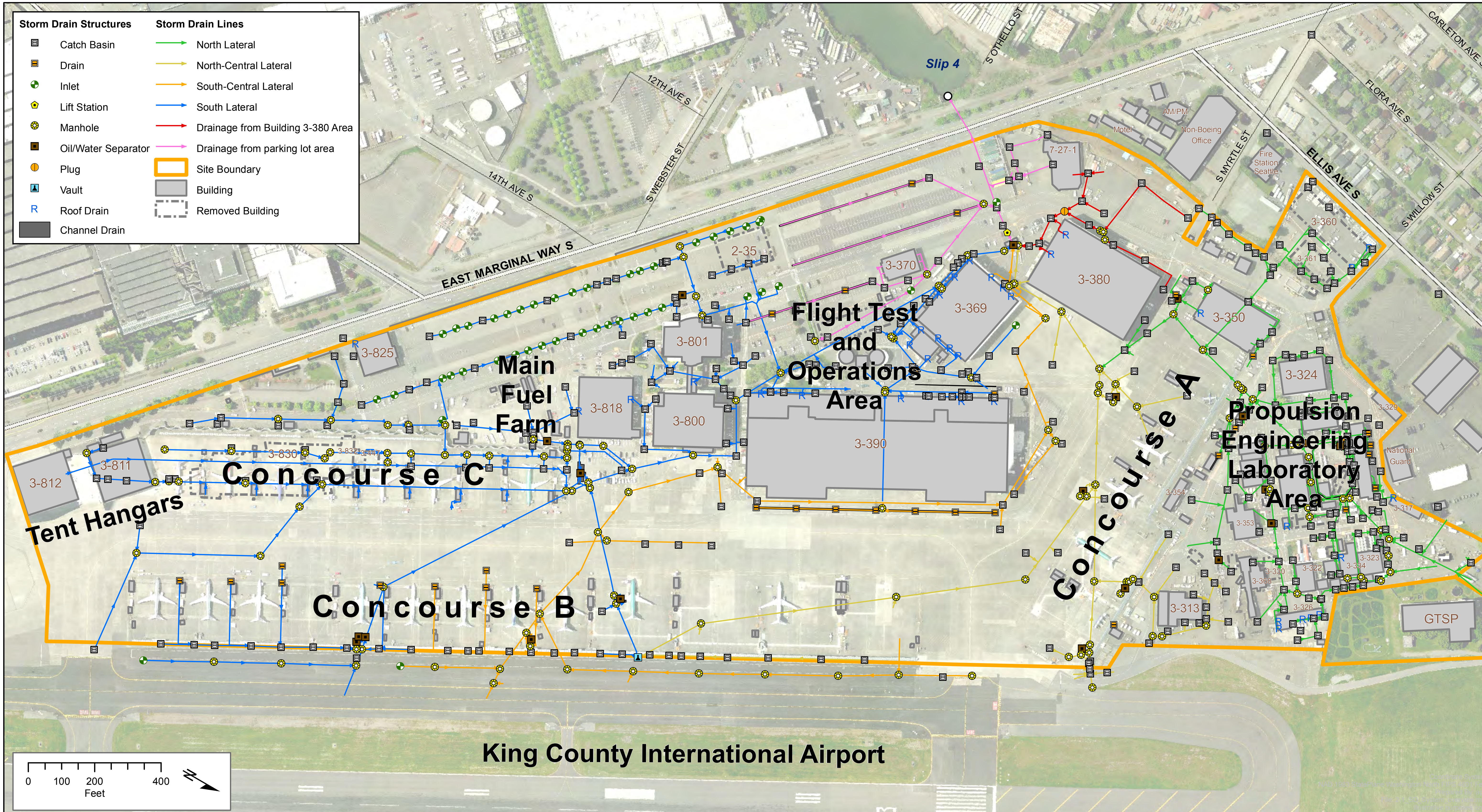

Figure 2-4. Overview of NBF Facility

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File: 2-4_Overview.mxd
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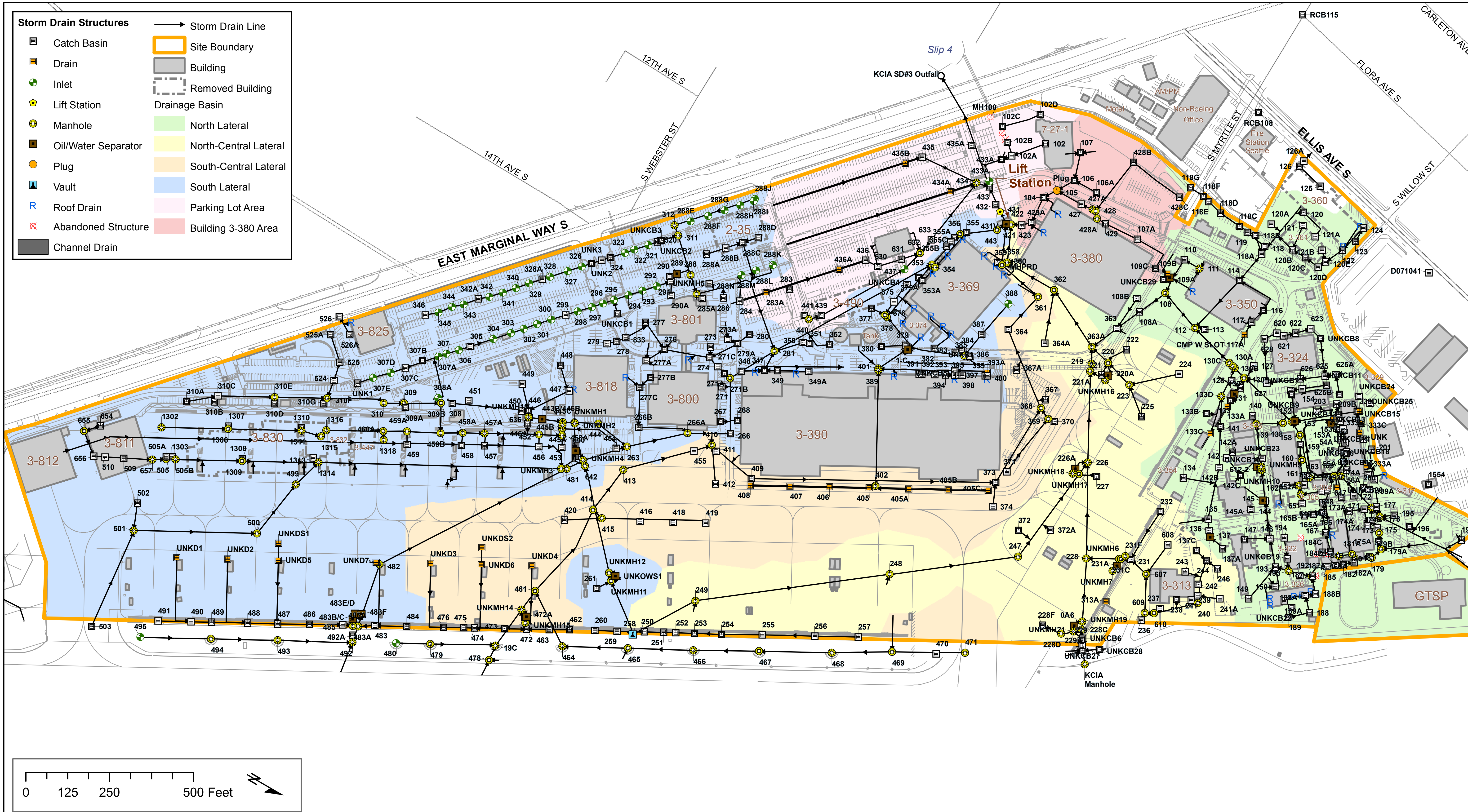

Figure 2-5. NBF Storm Drain System Overview

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Coordinate System:
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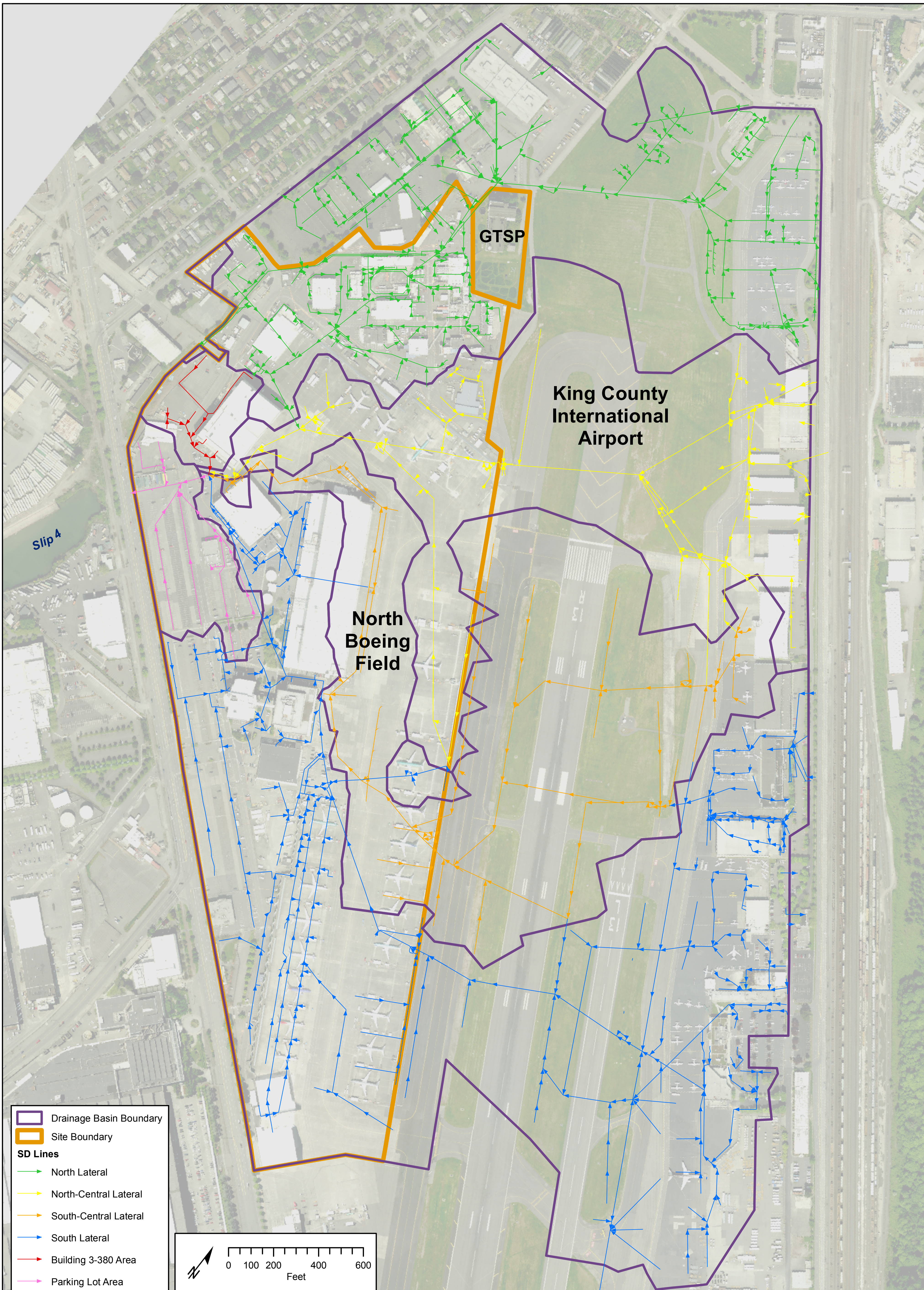

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Figure 2-6. NBF-GTSP and KCIA Drainage Areas

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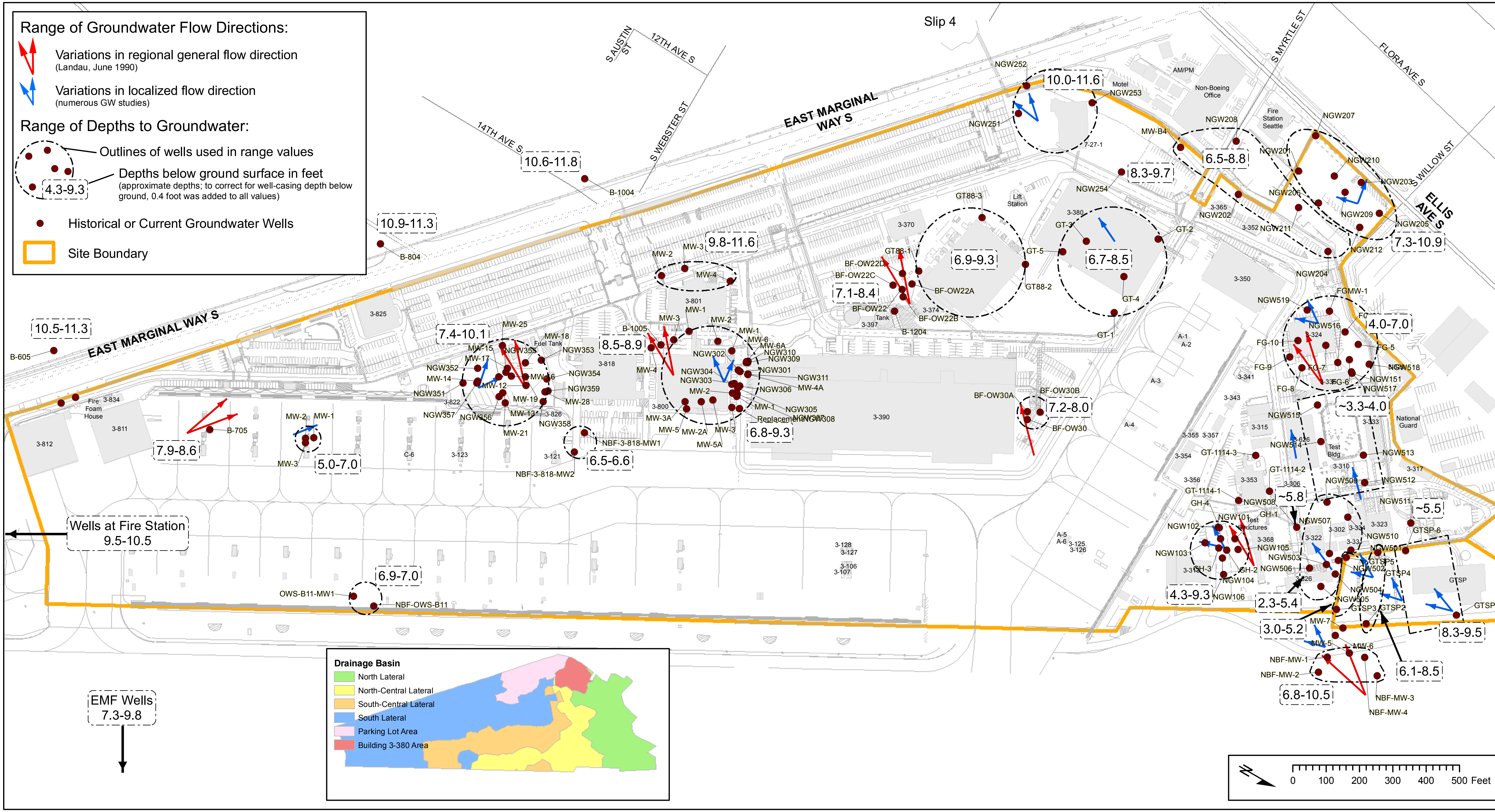

Figure 2-7. Groundwater Flow and Depth at NBF-GTSP Site

Coordinate System:
NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet
Prepared By: apw/mlf
File: 2-7_Flow-Depth_GroundWater.mxd
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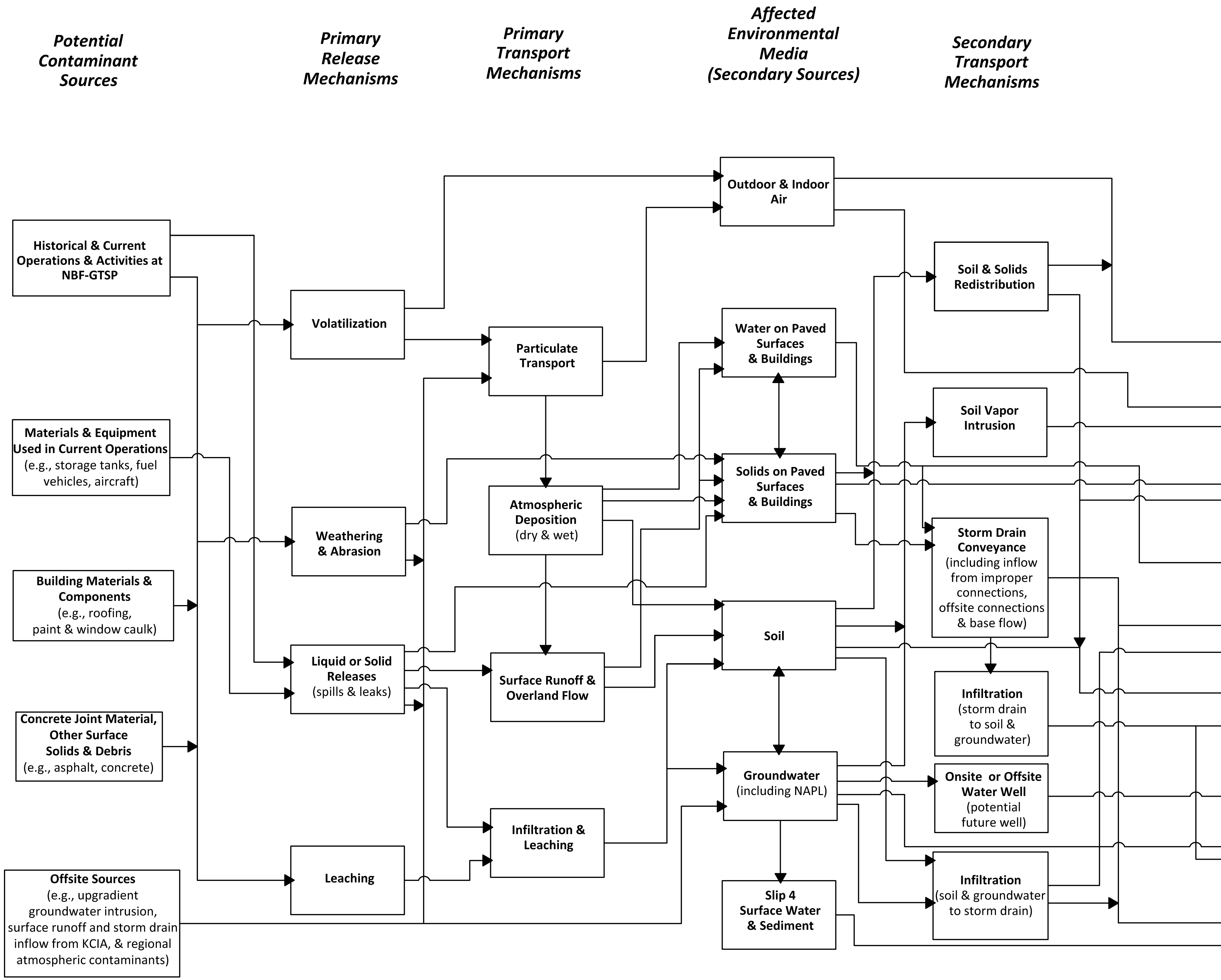

Exposure Media	Exposure Pathways	Onsite Industrial Workers	Onsite Construction Workers	GTSP Museum Visitors (Children & Adults)	Offsite Industrial & Construction Workers	Offsite Residents (Children & Adults)	Recreational Users (Slip 4 area)	Terrestrial Biological Receptors	Slip 4 Biological Receptors
		Potential Receptors: Human Receptors						Ecological Receptors	
Outdoor Air	Inhalation	●	●	○	○	○	○	○	–
Indoor Air	Inhalation	●	●	●	●	●	–	–	–
Surface Solids	Ingestion	●	●	●	–	–	–	○	–
	Dermal Contact	●	●	●	–	–	–	○	–
Water on Ground Surface	Ingestion	–	–	–	–	–	–	○	–
	Dermal Contact	○	○	○	–	–	–	○	–
Stormwater, Suspended Solids & Storm Drain Solids	Ingestion	○	●	○	○	–	–	–	–
	Dermal Contact	○	●	○	○	–	–	–	–
Soil	Ingestion	○	●	○	–	–	–	●	–
	Dermal Contact	○	●	○	–	–	–	●	–
Potable Groundwater	Ingestion	●	○	○	○	○	–	–	–
	Dermal Contact	●	○	○	○	○	–	–	–
Groundwater (in aquifer)	Ingestion	–	○	–	○	–	–	–	–
	Dermal Contact	–	●	–	○	–	–	●	–
Slip 4 Surface Water & Sediment	Ingestion	–	–	–	○	–	○	–	●
	Dermal Contact	–	–	–	●	–	●	–	●

Exposure Pathways

- ● Potentially Complete
- ○ Potentially Complete but Insignificant
- – Incomplete
- → Flow Path

Figure 3-1. Preliminary Conceptual Site Model for NBF-GTSP Site

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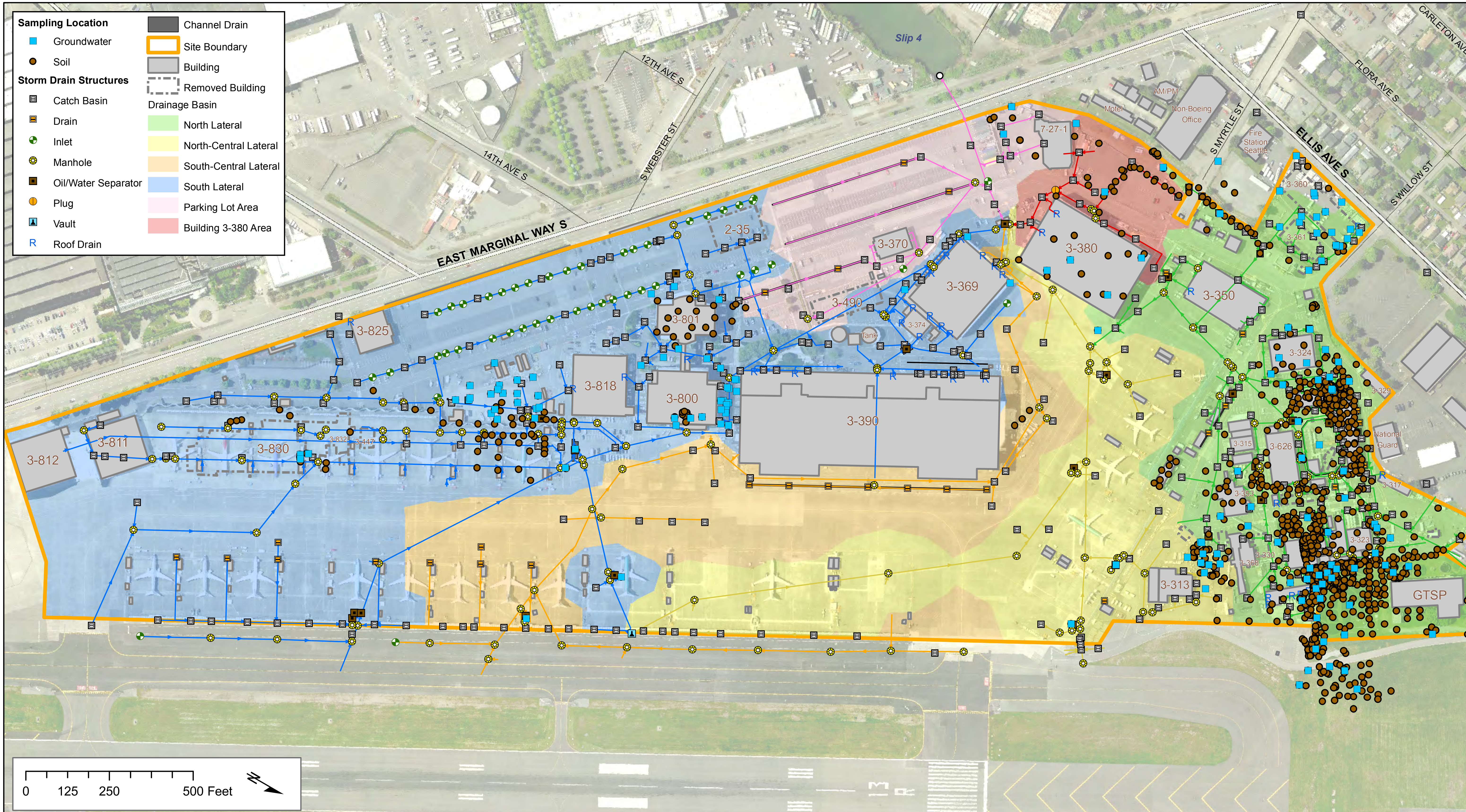

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Figure 4-1. Historical Soil and Groundwater Sampling Locations at NBF-GTSP

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
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File: 4-1_Soil_GW_sampling_locations.mxd
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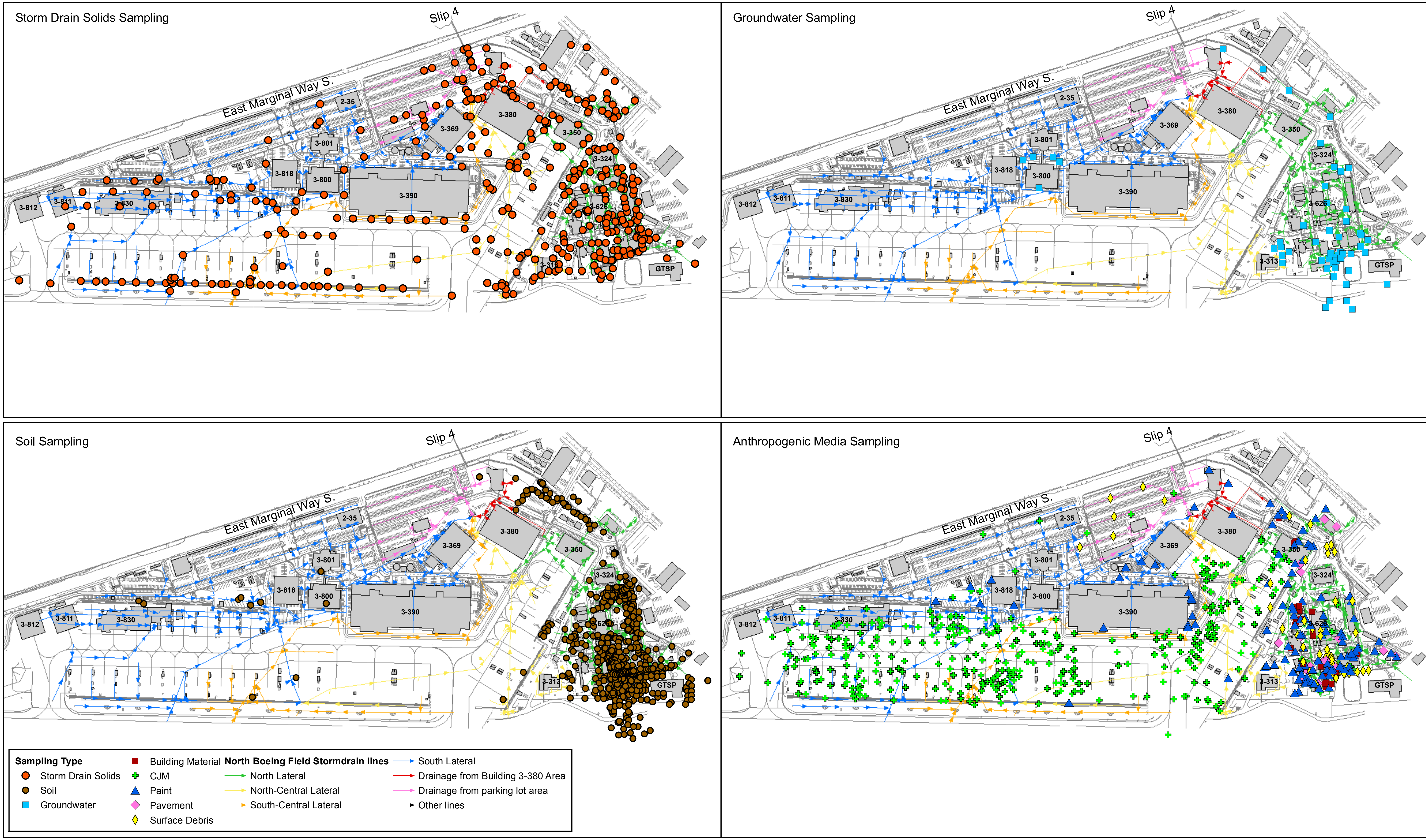

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Figure 4-2. Historical Sampling for PCB Analysis at NBF-GTSP

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 4-2_NBF_PCBs_4x4.mxd
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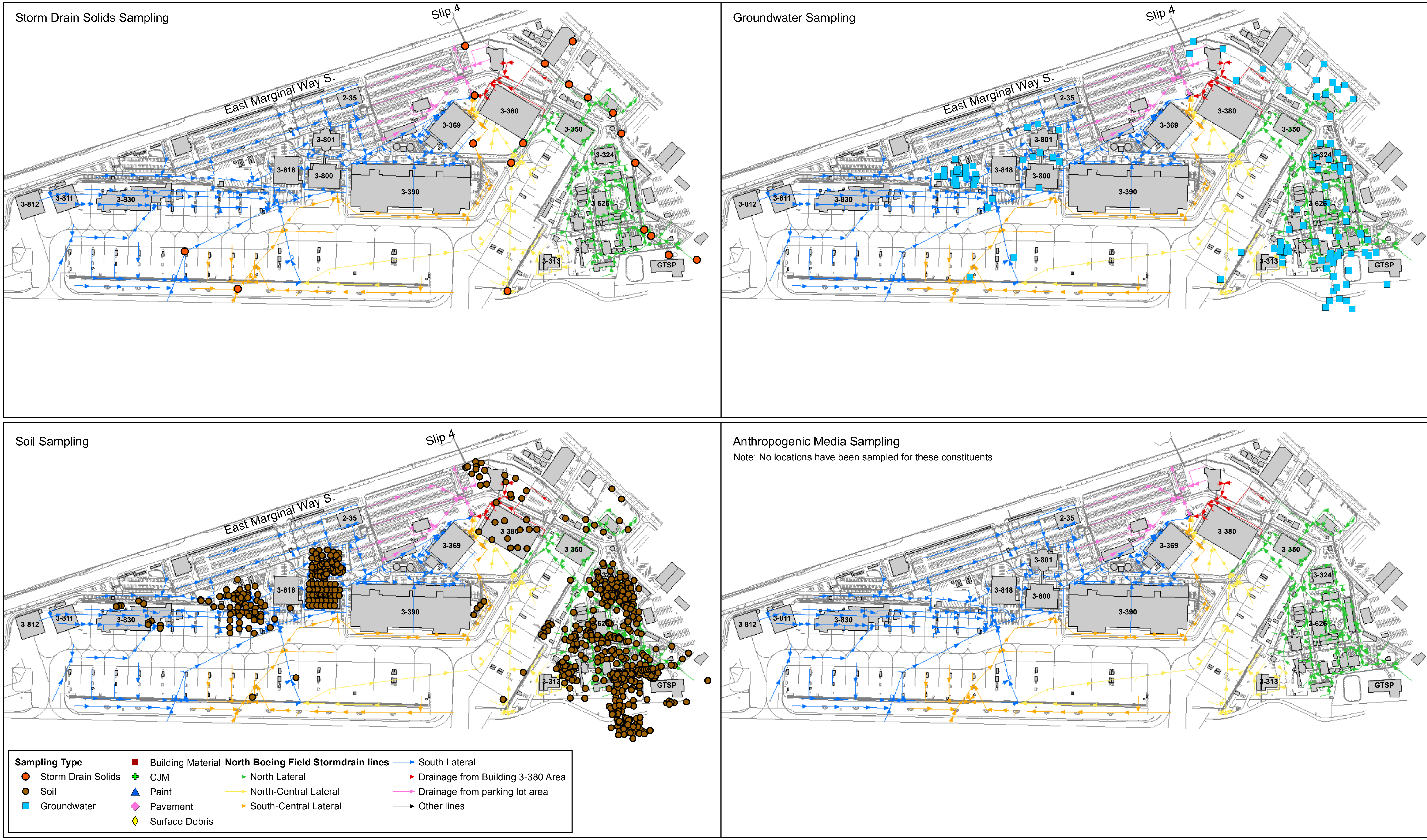

0 250 500 1,000 Feet

Figure 4-3. Historical Sampling for TPH Analysis at NBF-GTSP

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 4-3_NBF_TPH_4x4.mxd
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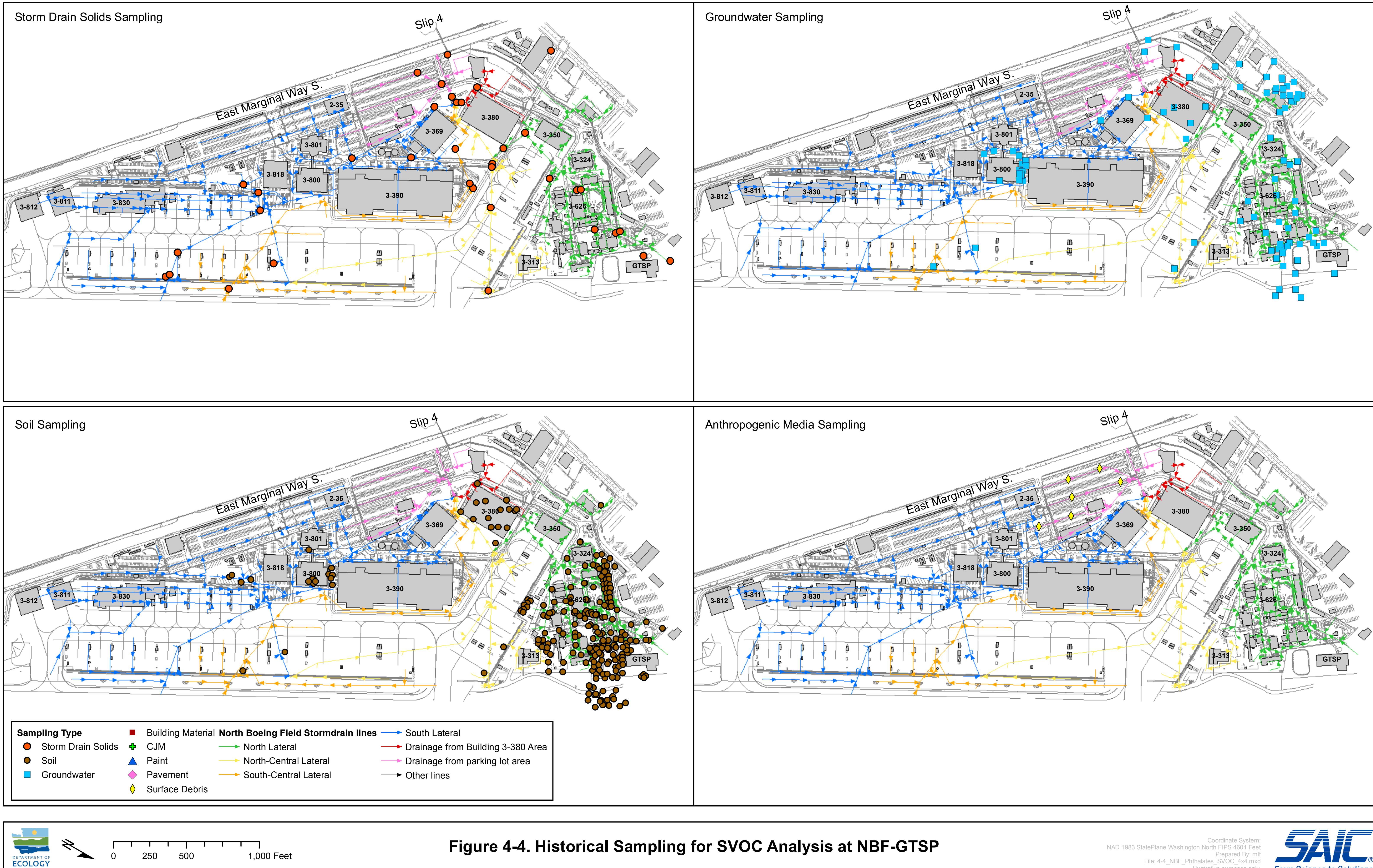

Figure 4-4. Historical Sampling for SVOC Analysis at NBF-GTSP

Coordinate System:
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File: 4-4_NBF_Phthalates_SVOC_4x4.mxd
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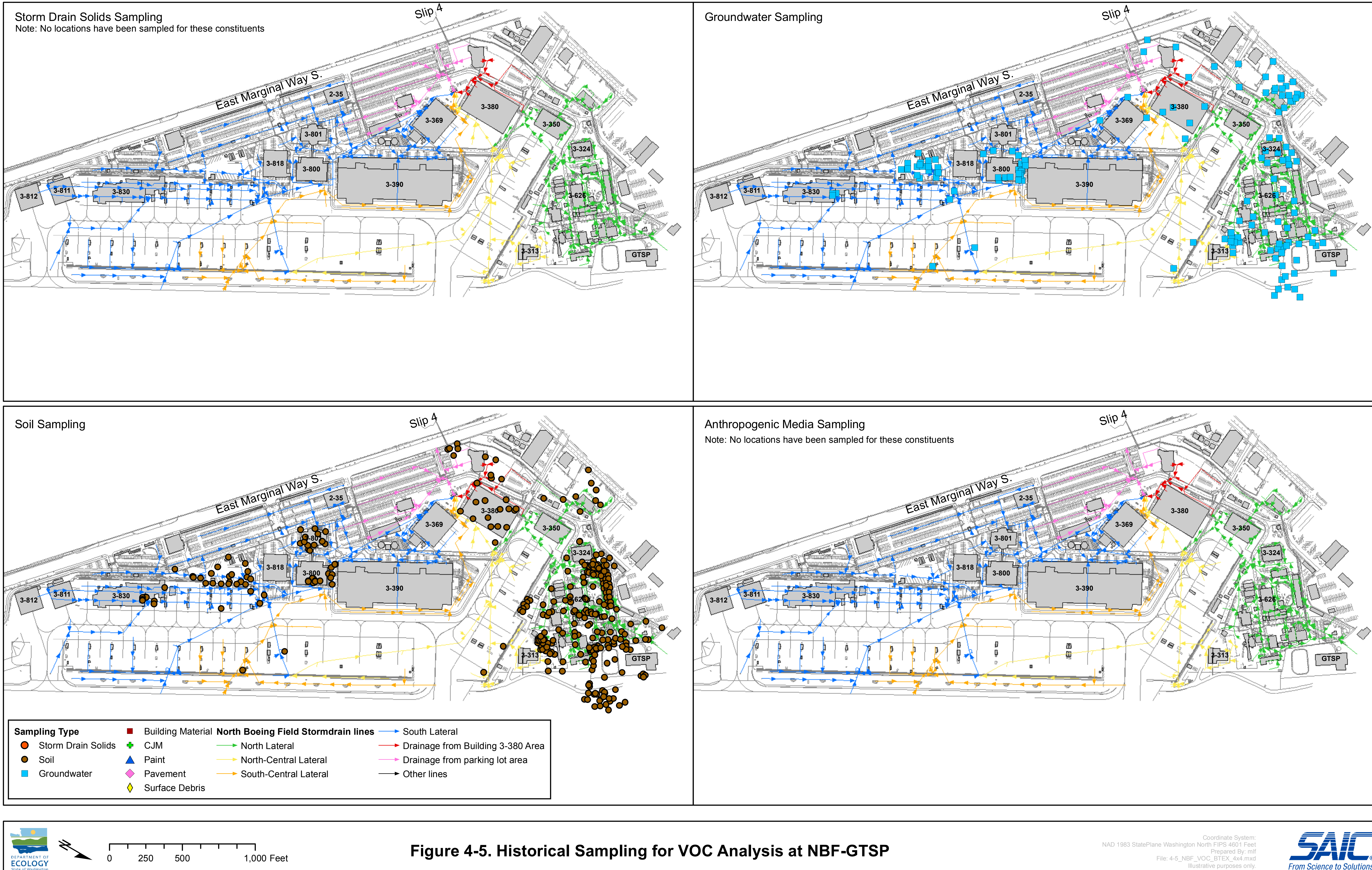

Figure 4-5. Historical Sampling for VOC Analysis at NBF-GTSP

Coordinate System:
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Prepared By: mlf
File: 4-5_NBF_VOC_BTEX_4x4.mxd
Illustrative purposes only.

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0 250 500 1,000 Feet

Figure 4-6. Historical Sampling for Metals Analysis at NBF-GTSP

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 4-6_NBF_Metals_4x4.mxd
Illustrative purposes only.

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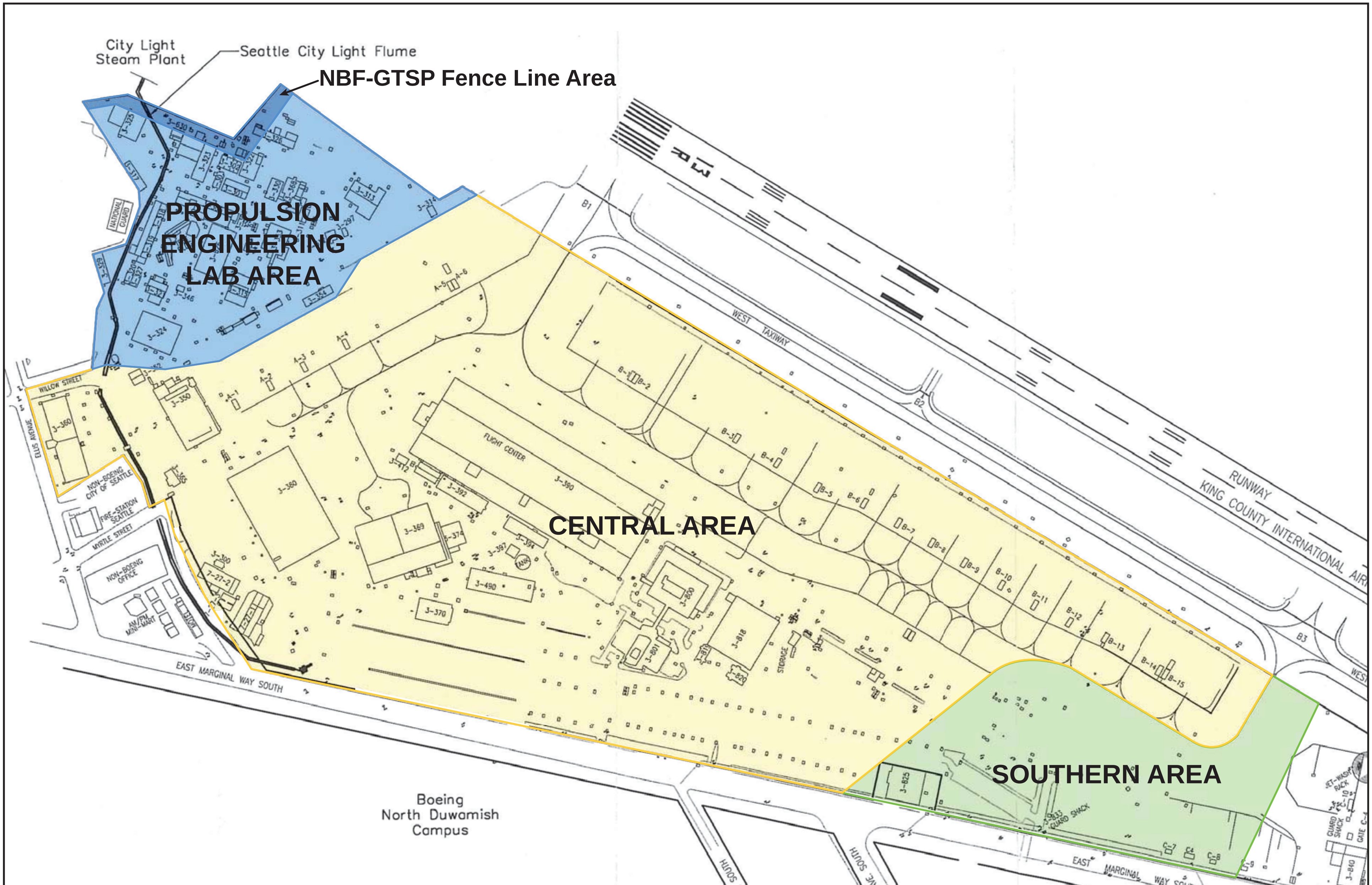

Figure 4–7. North Boeing Field Areas of Investigation

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Figure 4–8. Historical Areas of Investigations: PEL Area

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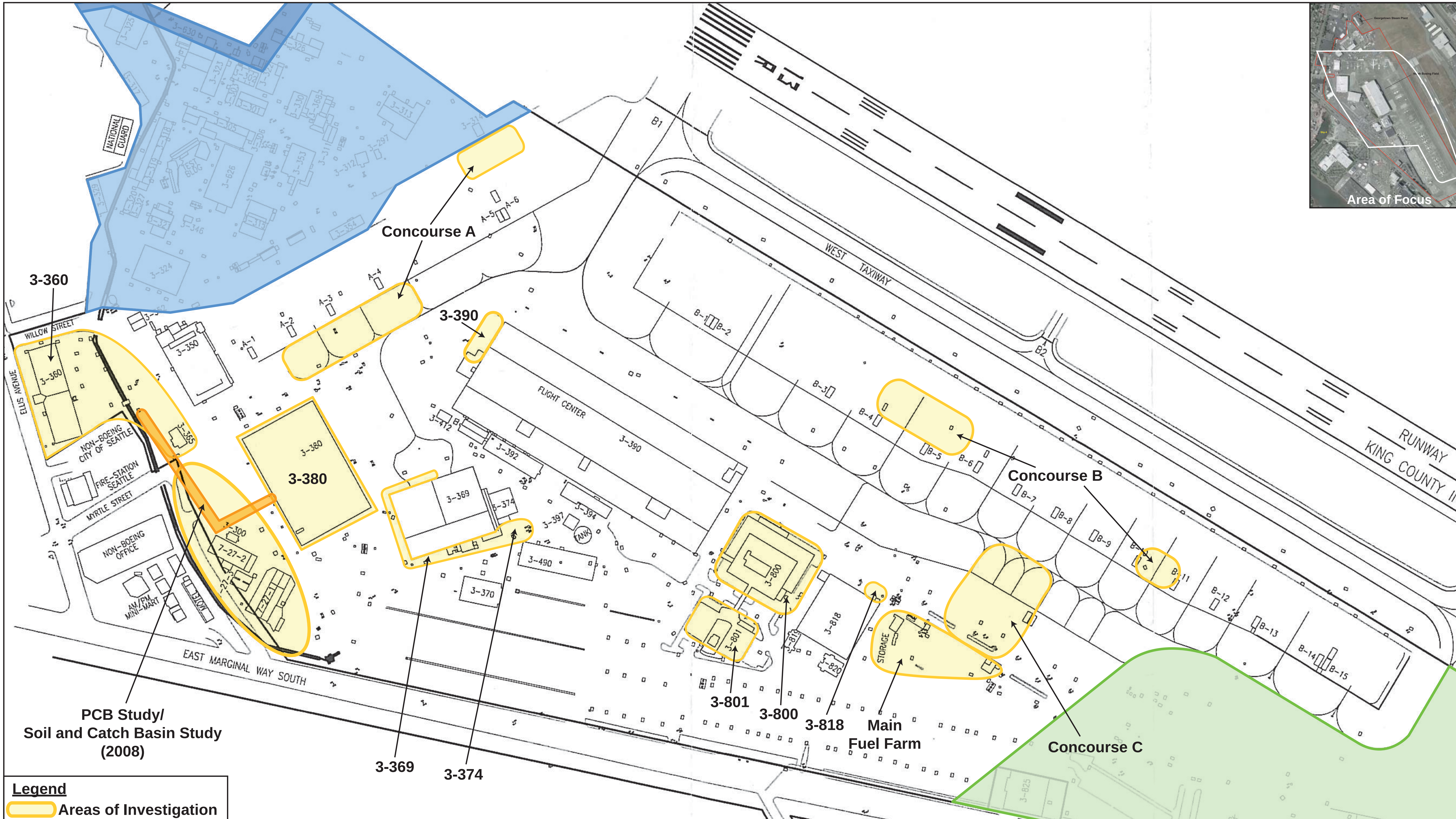

Figure 4–9. Areas of Investigation: Central Area of North Boeing Field

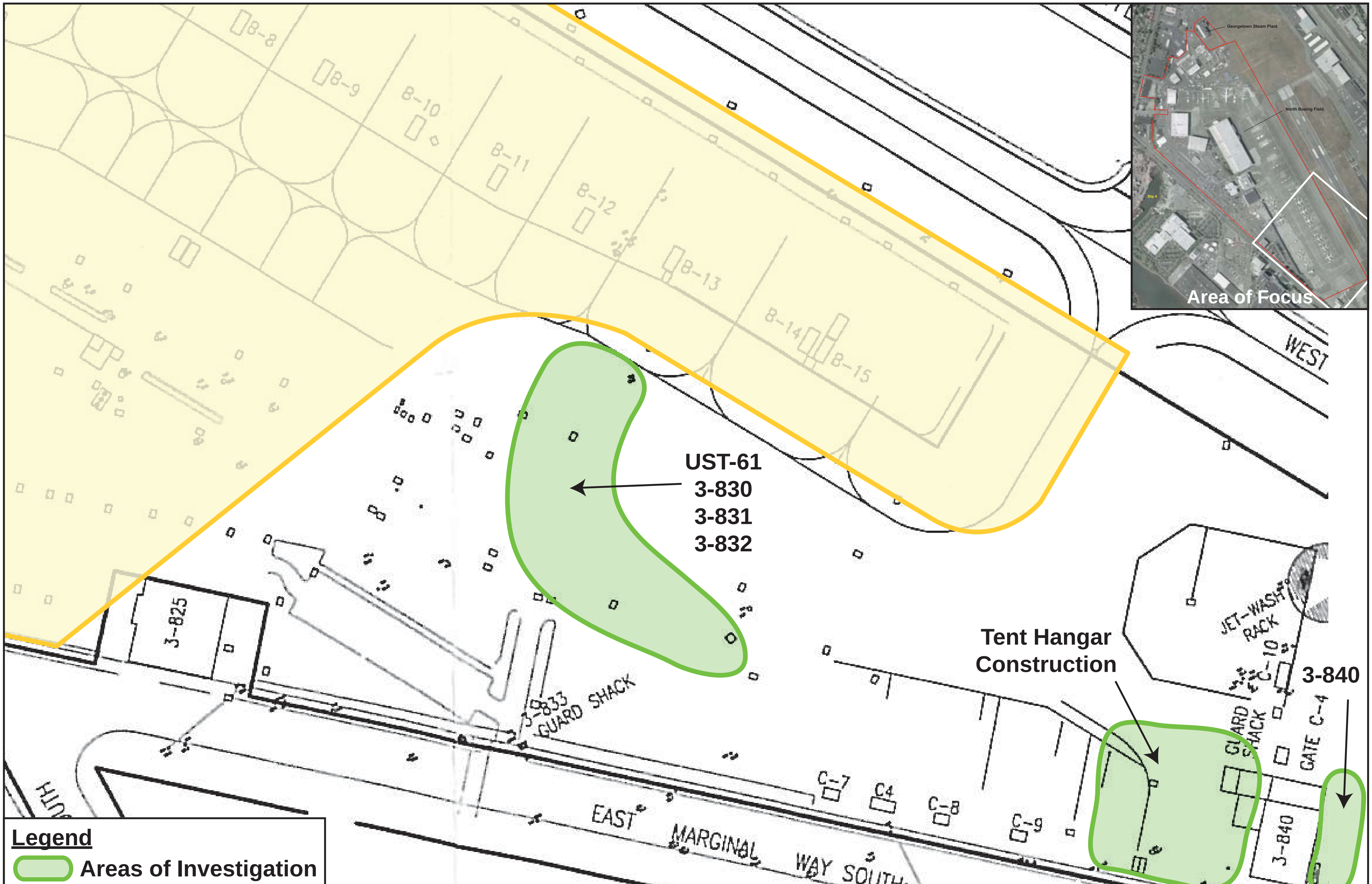

Figure 4–10. Areas of Investigation: Southern Area of North Boeing Field

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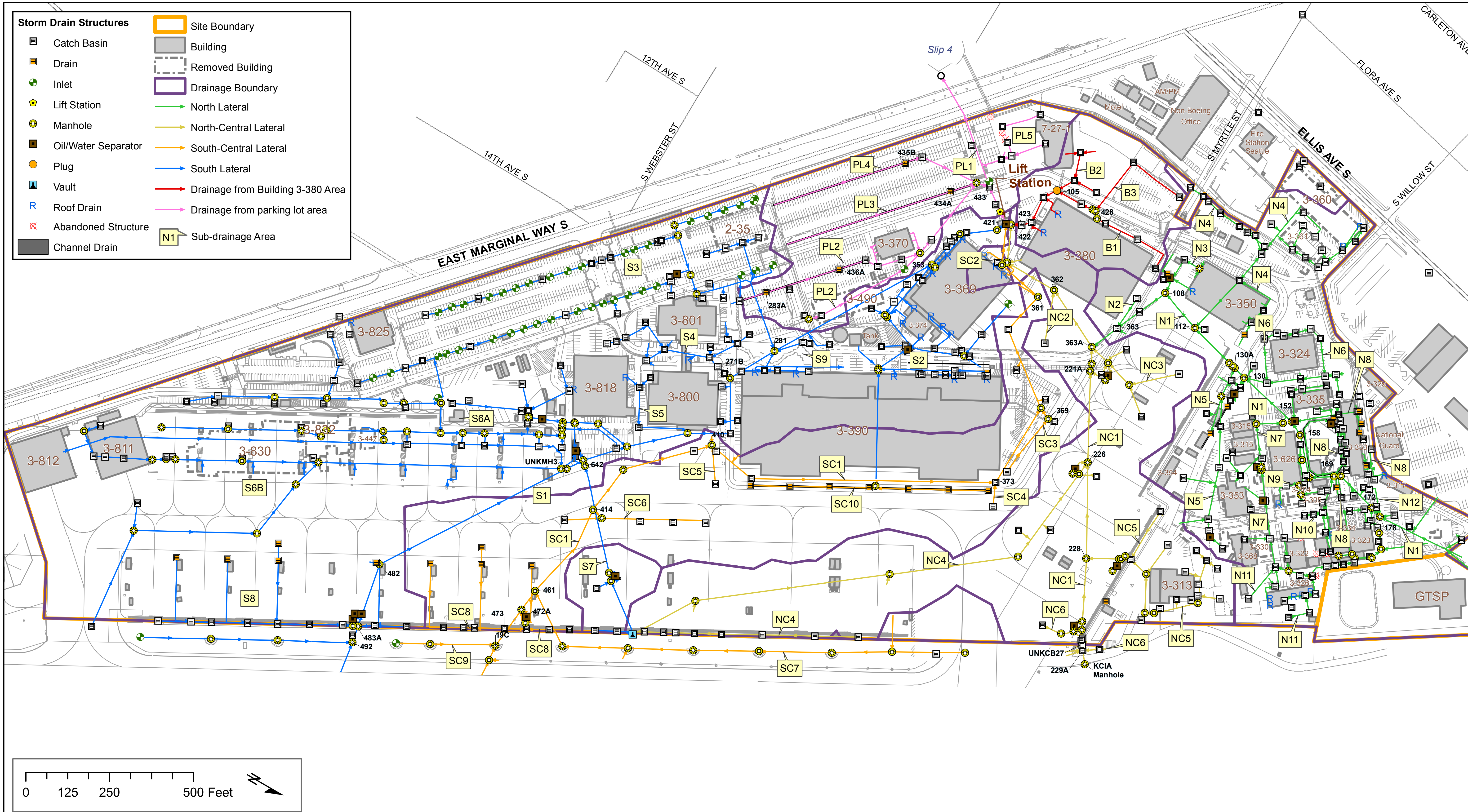

Figure 4-11. NBF Storm Drain System Drainage Areas

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Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
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File: 4-11_SD_System_Drainage.mxd
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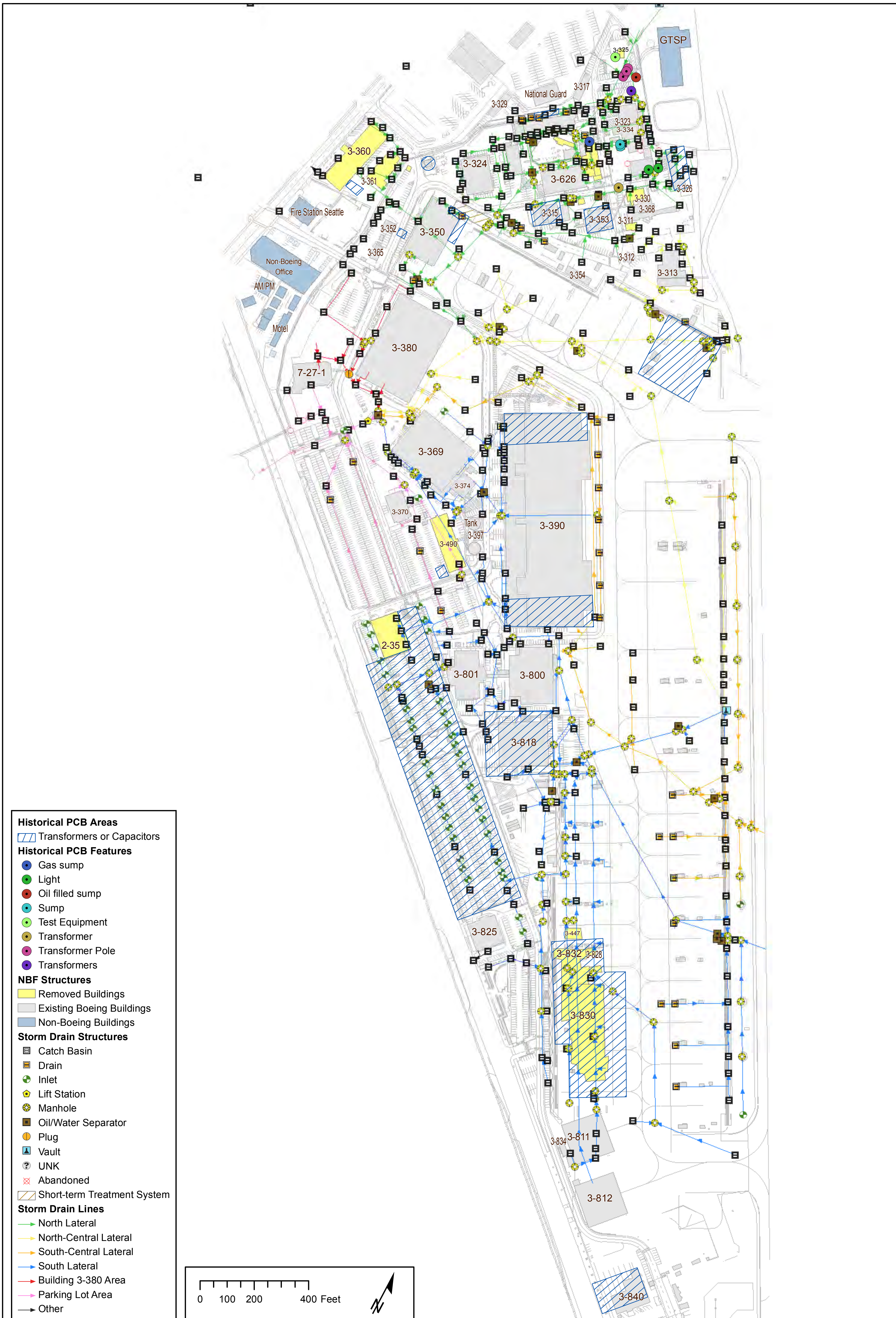

Figure 4-12. NBF-GTSP Areas with Potential Historical PCB Sources

Coordinate System:
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Prepared By: mlf
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Illustrative purposes only.

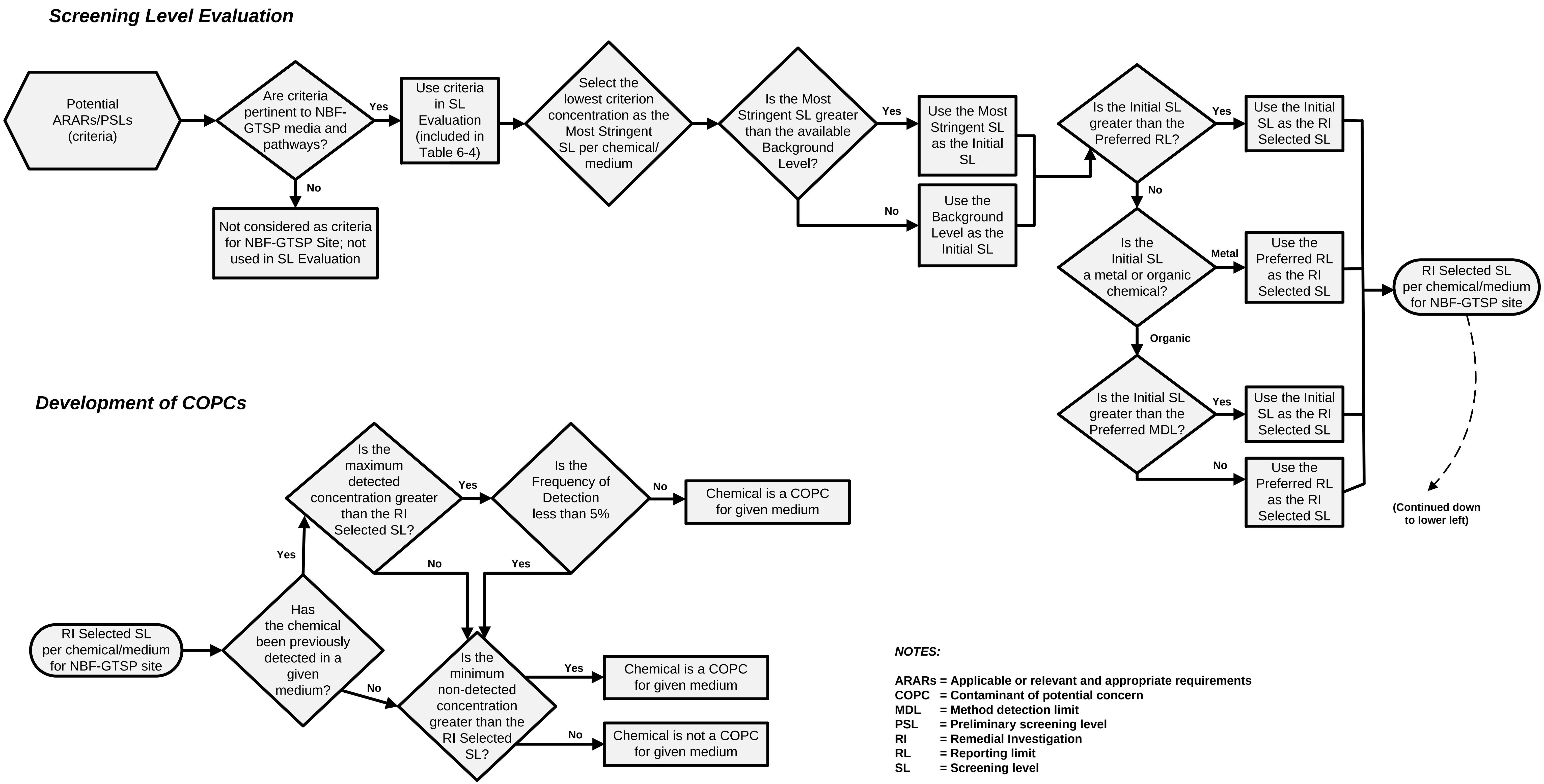

Figure 6-1. NBF-GTSP Site Screening Level Evaluation and Development of COPCs

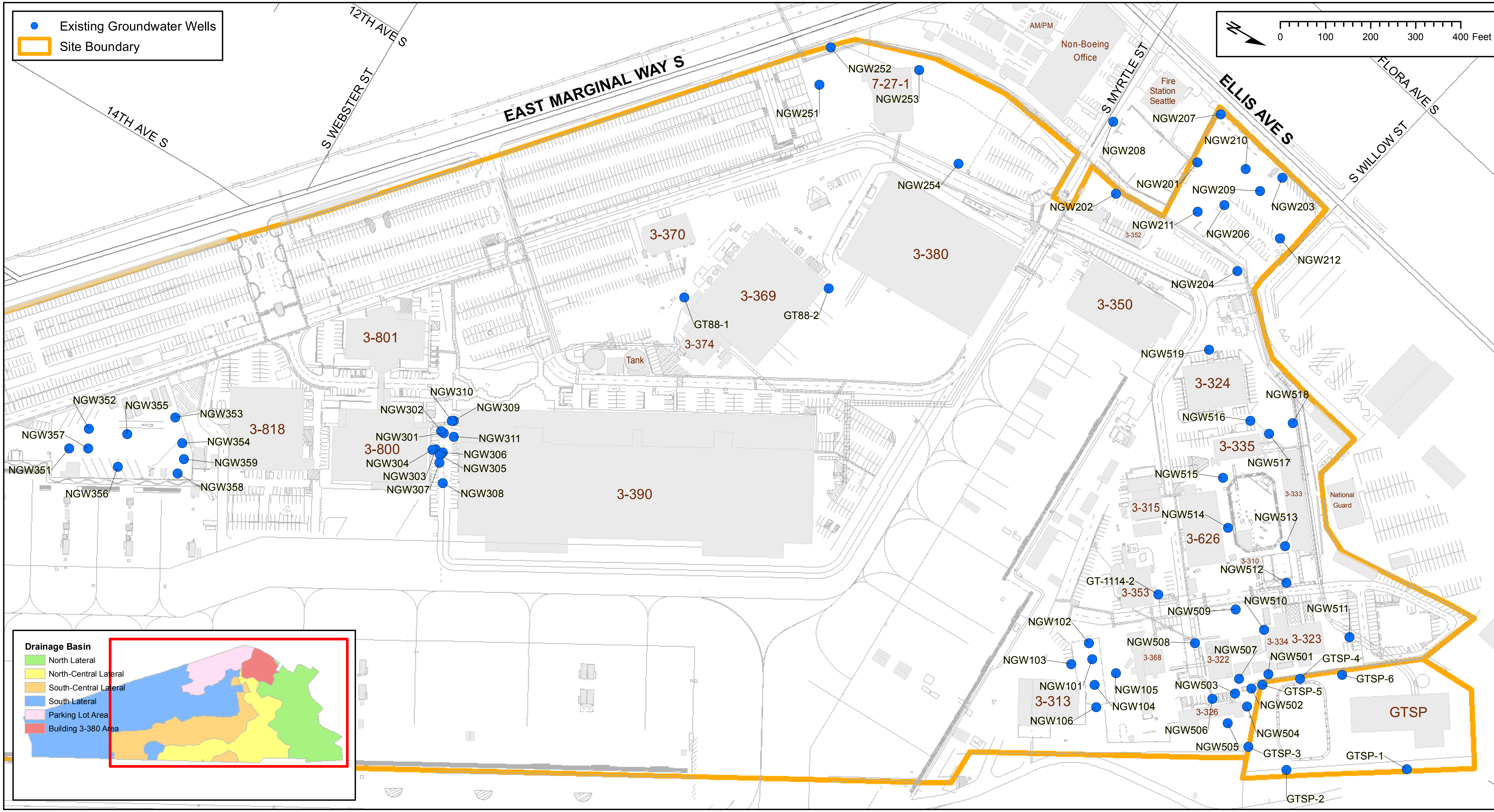

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Figure 7.1-1. Existing Groundwater Monitoring Well Locations at NBF-GTSP Site

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Coordinate System:
NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet
Prepared By: apw/mlf
File: figure-7_1-1_GW_Monitoring_Wells.mxd
Illustrative purposes only.

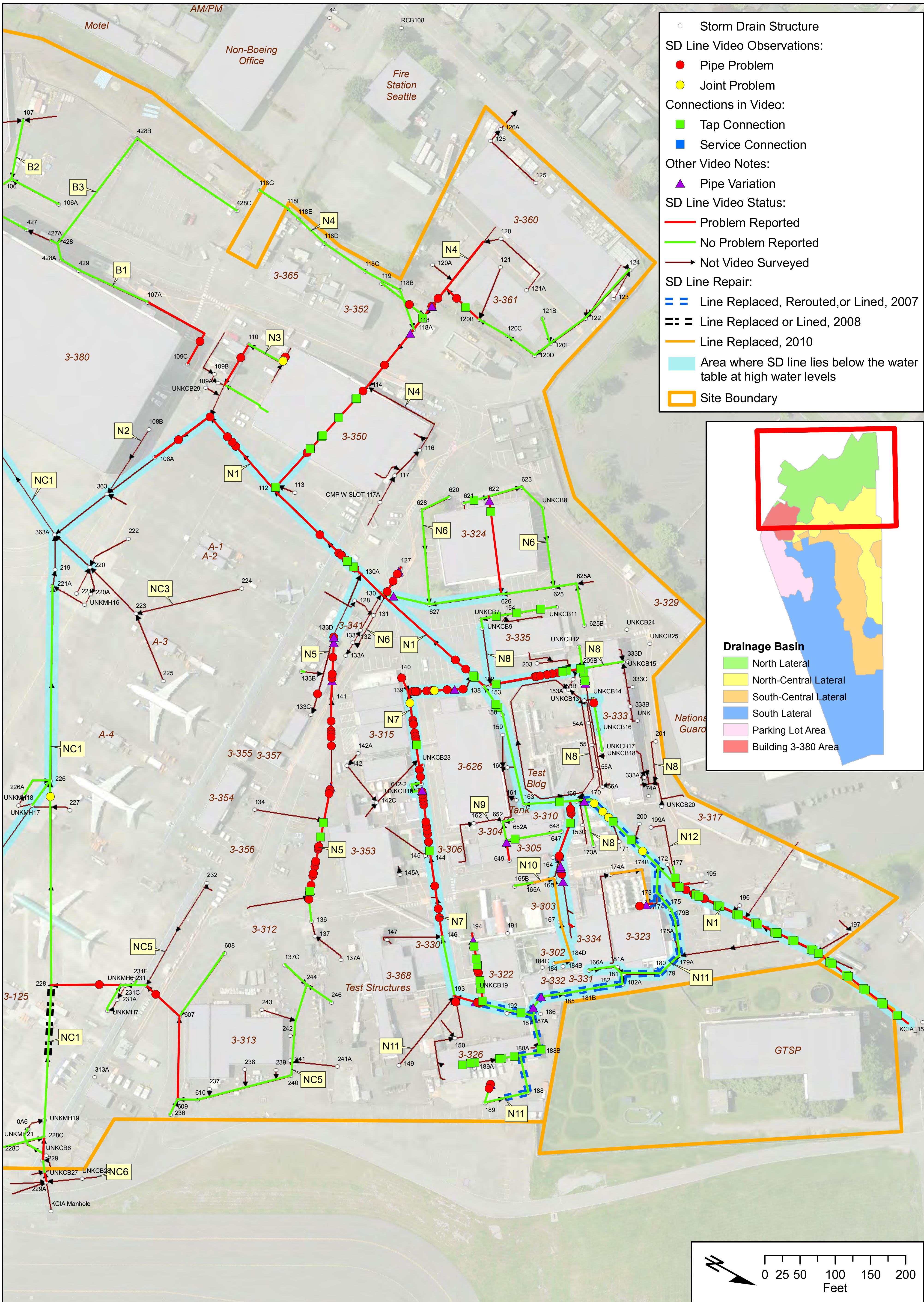

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Figure 7.1-2. Results of 2010 Storm Drain Video Inspection - North

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Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-2_North_Video_Lines.mxd
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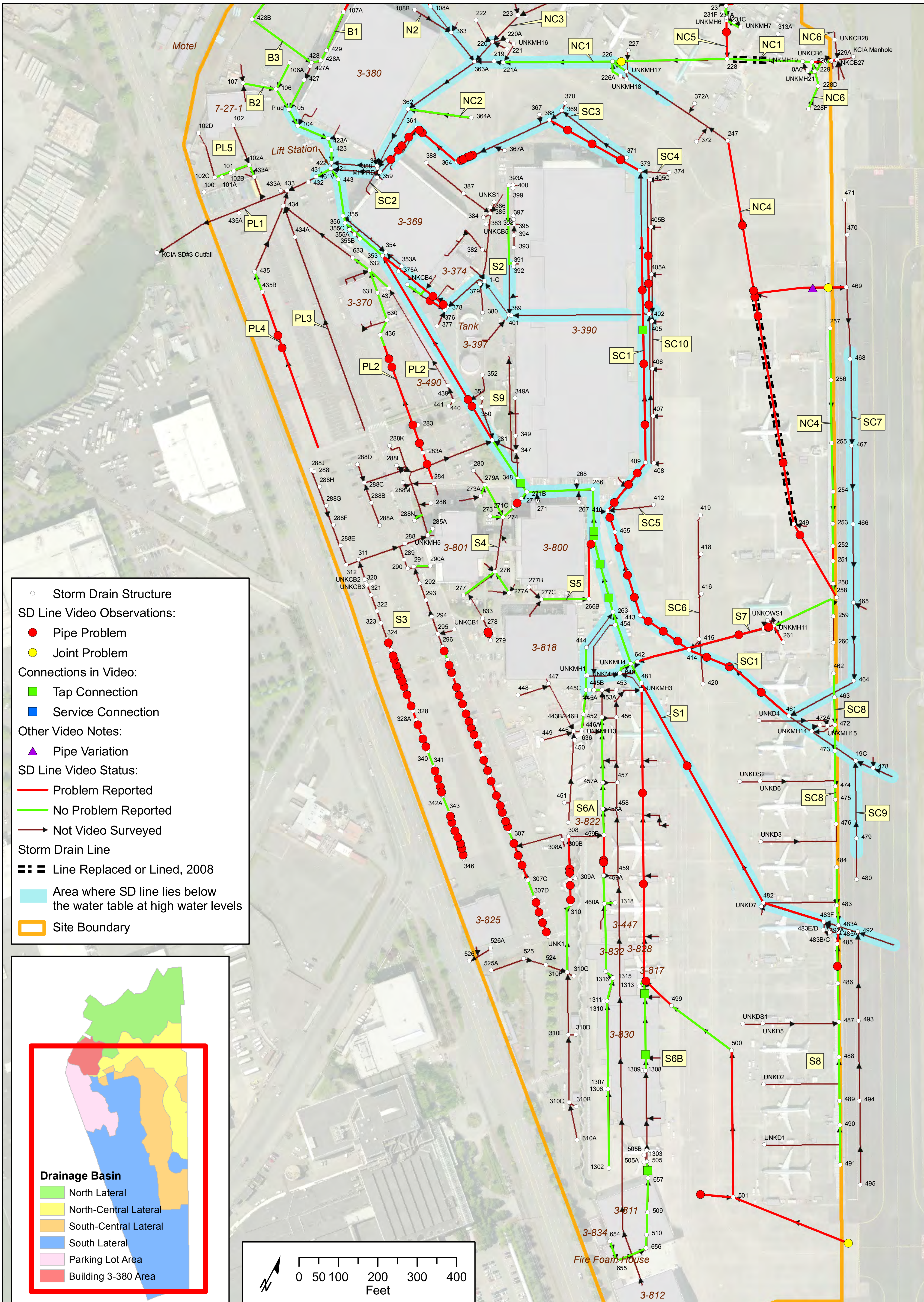

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Figure 7.1-3. Results of 2010 Storm Drain Video Inspection - South

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Coordinate System:
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Prepared By: apw
File: Figure_7_1-3_South_Video_Lines.mxd
Illustrative purposes only.

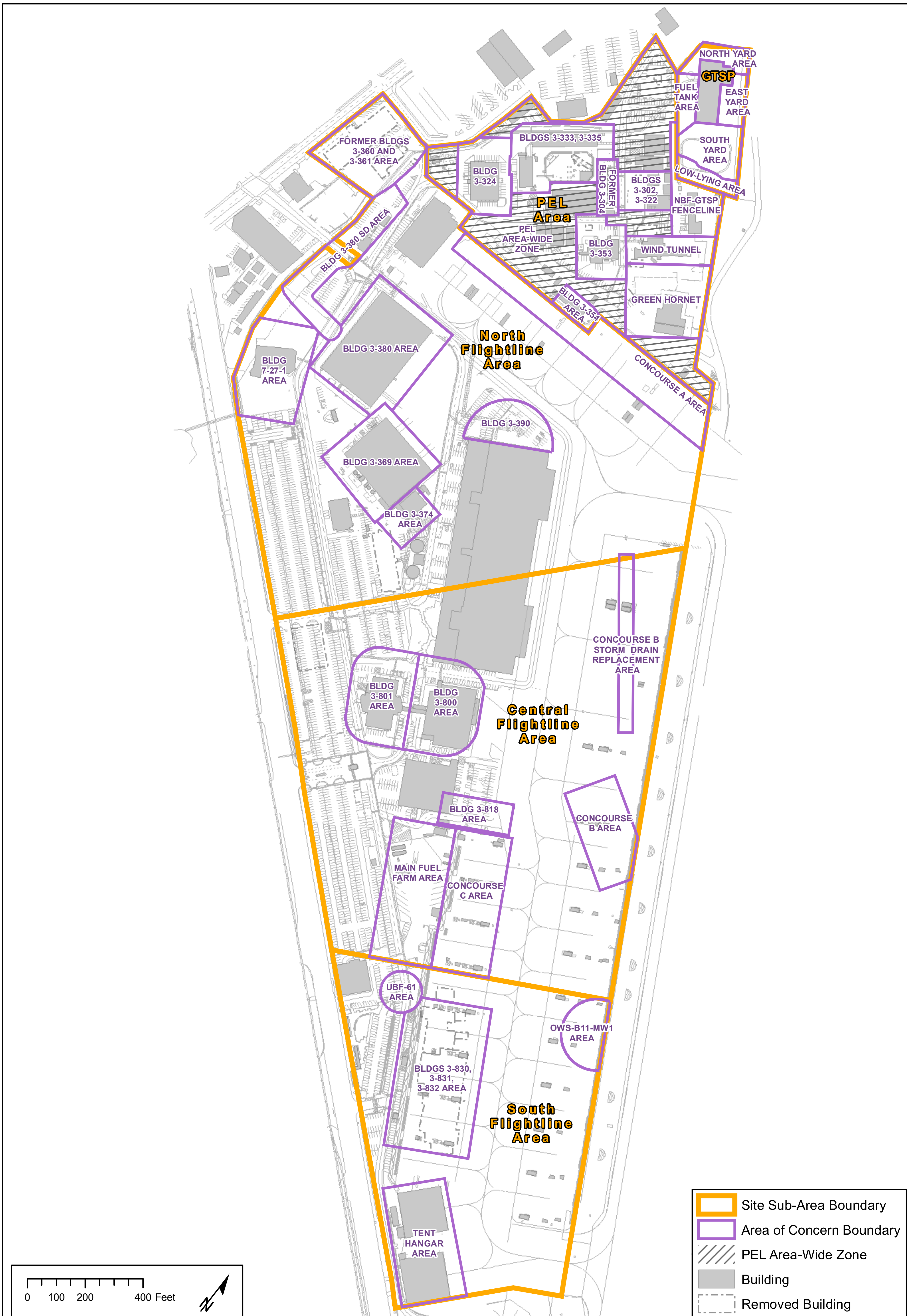

Figure 7.1-4. Areas of Concern at NBF-GTSP Site

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-04_Areas_of_Concern.mxd
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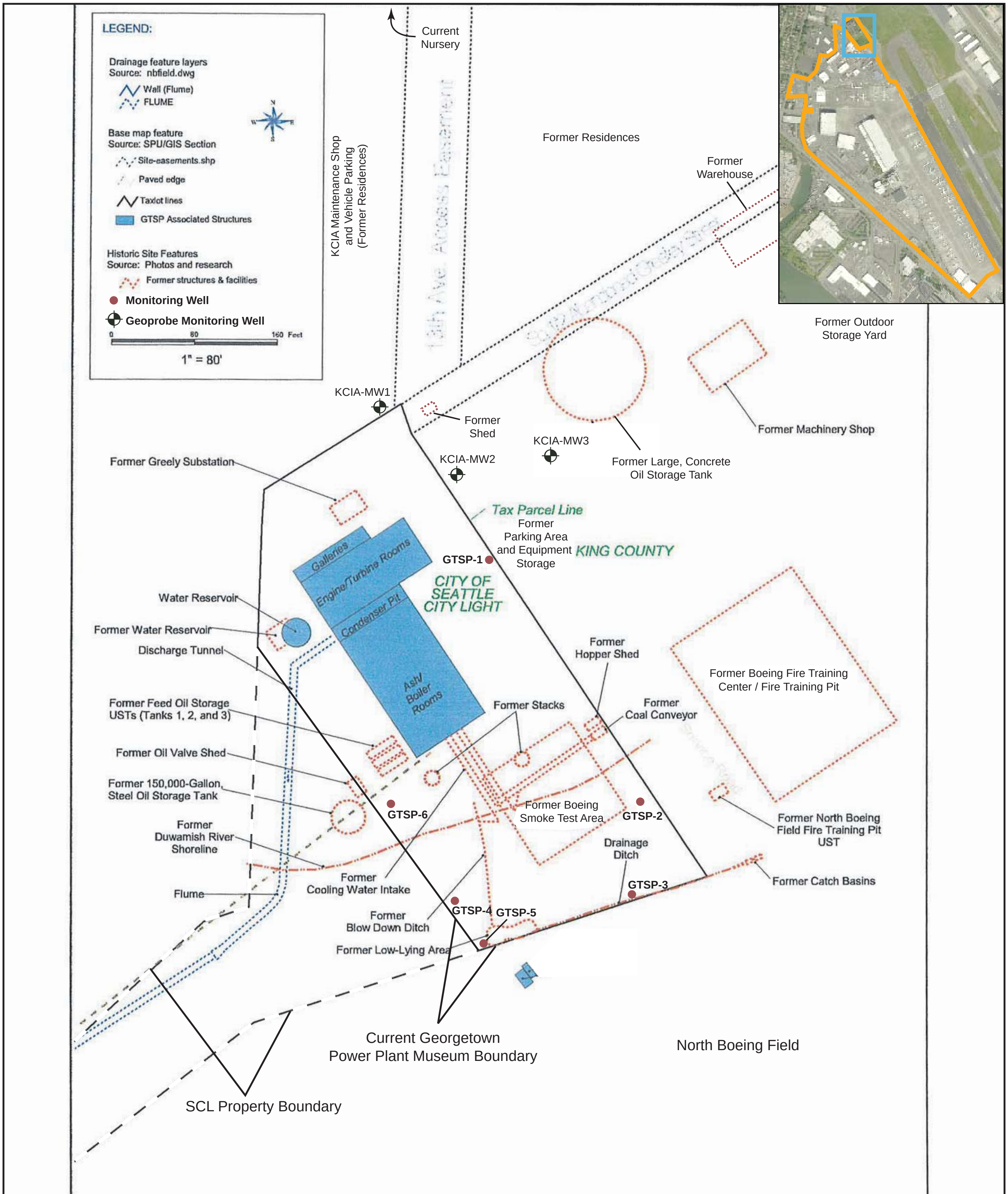

Source: Adapted from Bridgewater Group 2000

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Figure 7.1–5. Historical Site Features of GTSP and Northern KCIA

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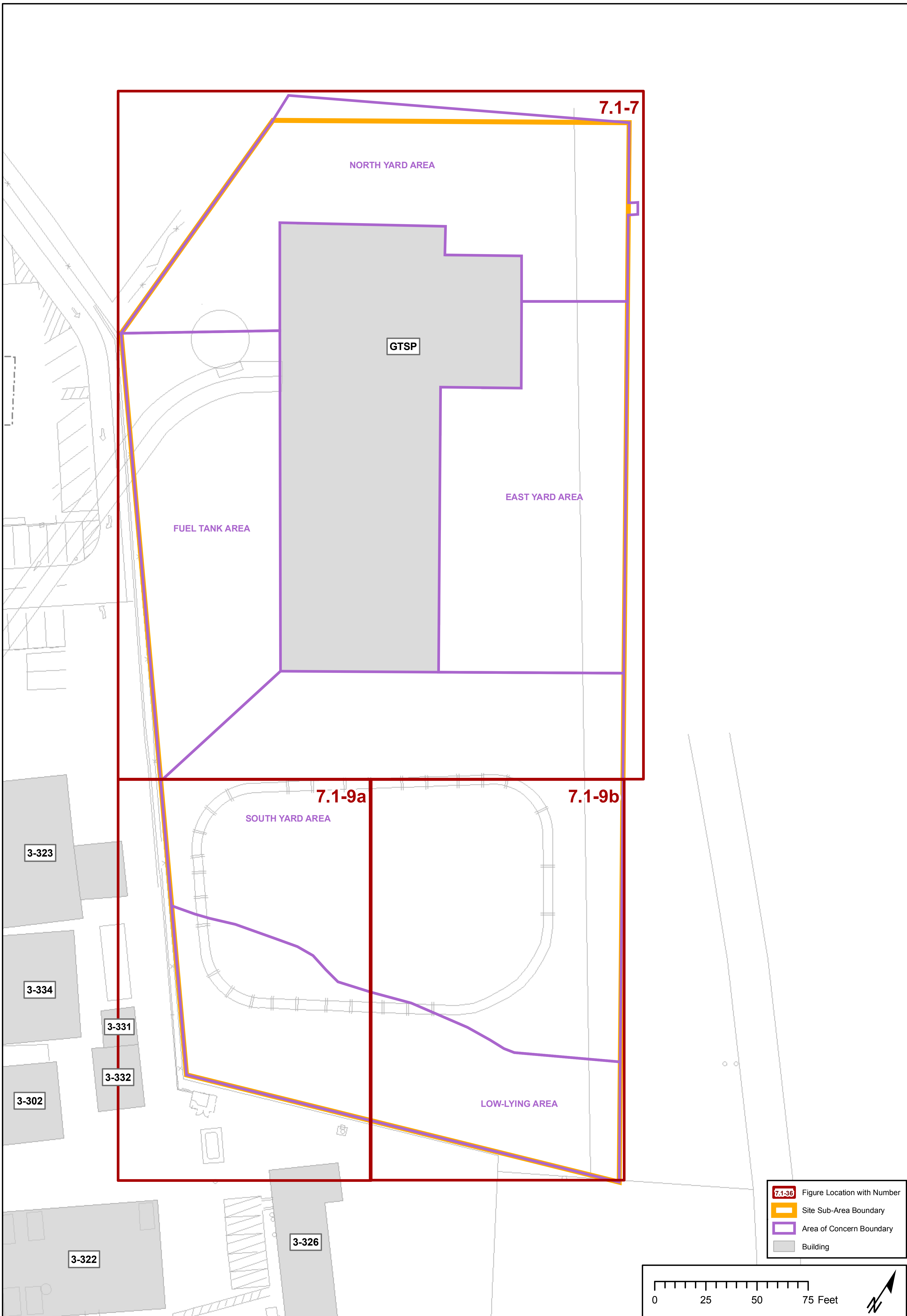

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Figure 7.1-6. Areas of Concern at GTSP

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-06_Area_of_Concern_at_GTSP.mxd
Illustrative purposes only.

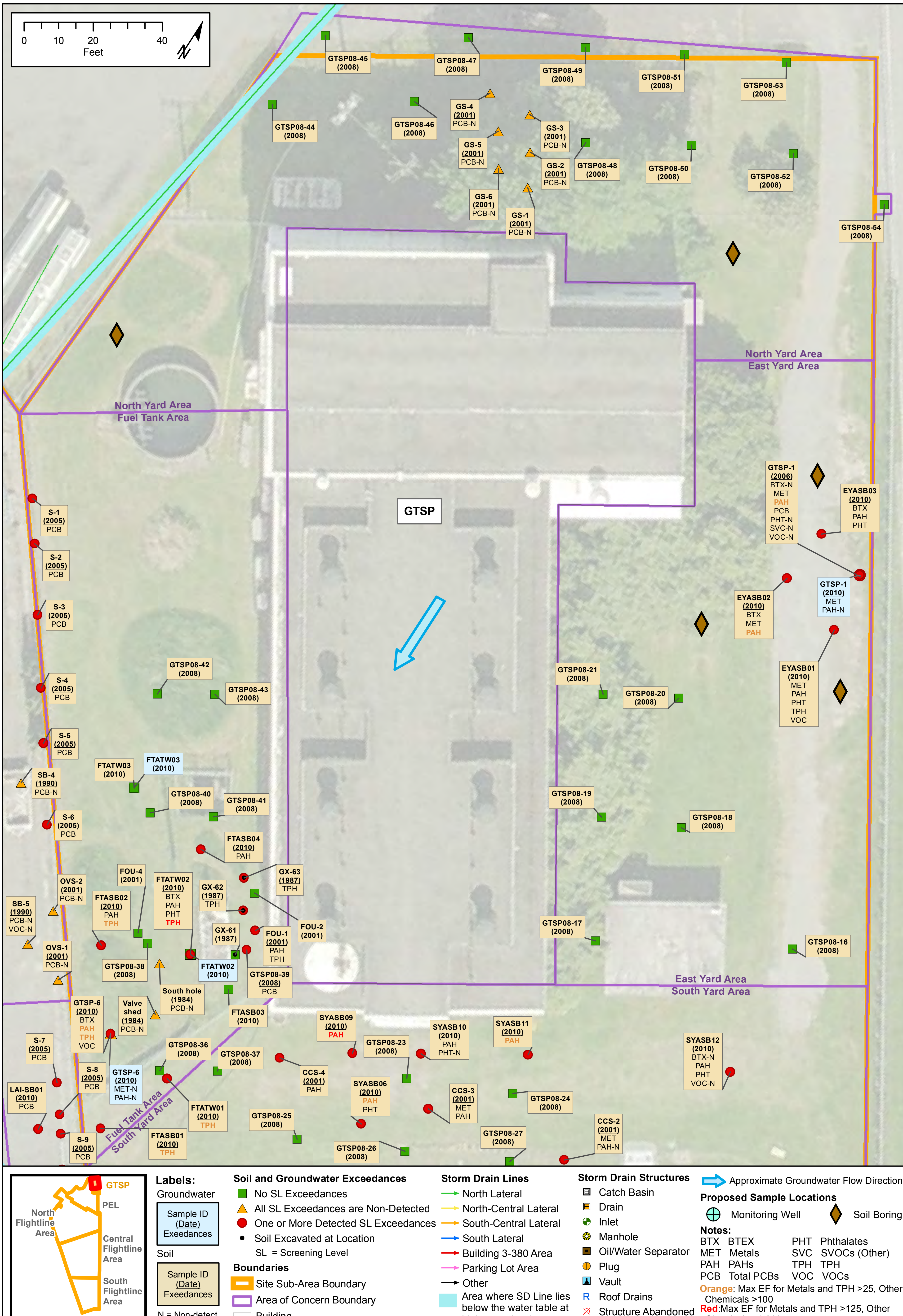

Figure 7.1-7. Soil and Groundwater Sample Locations at North Yard, East Yard, and Fuel Tank Areas

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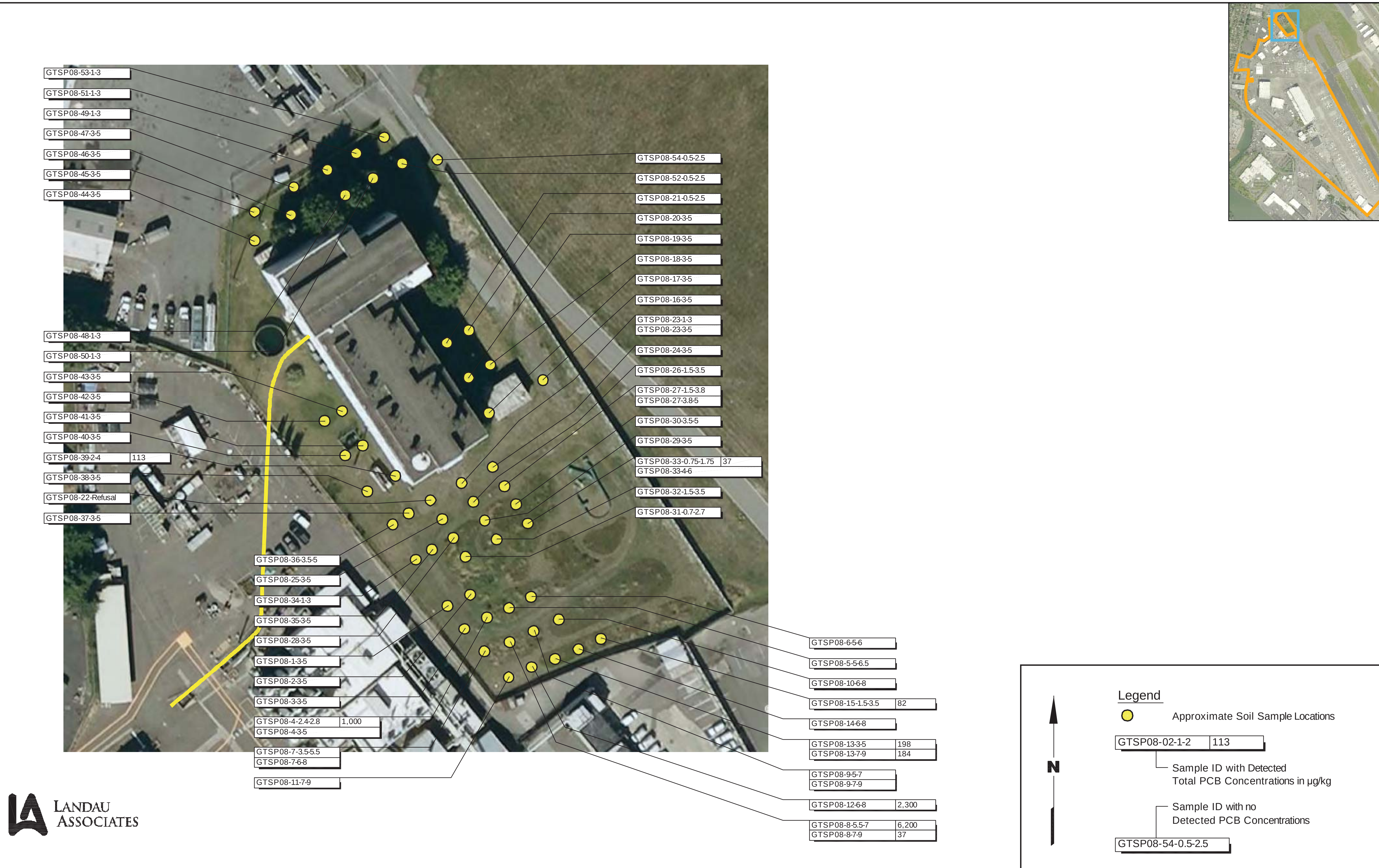
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_GTSP.mxd
Illustrative purposes only.



Source: Landau 2008a [2109]

Figure 7.1–8. Investigation of Potential PCB Sources to Slip 4 (2008)

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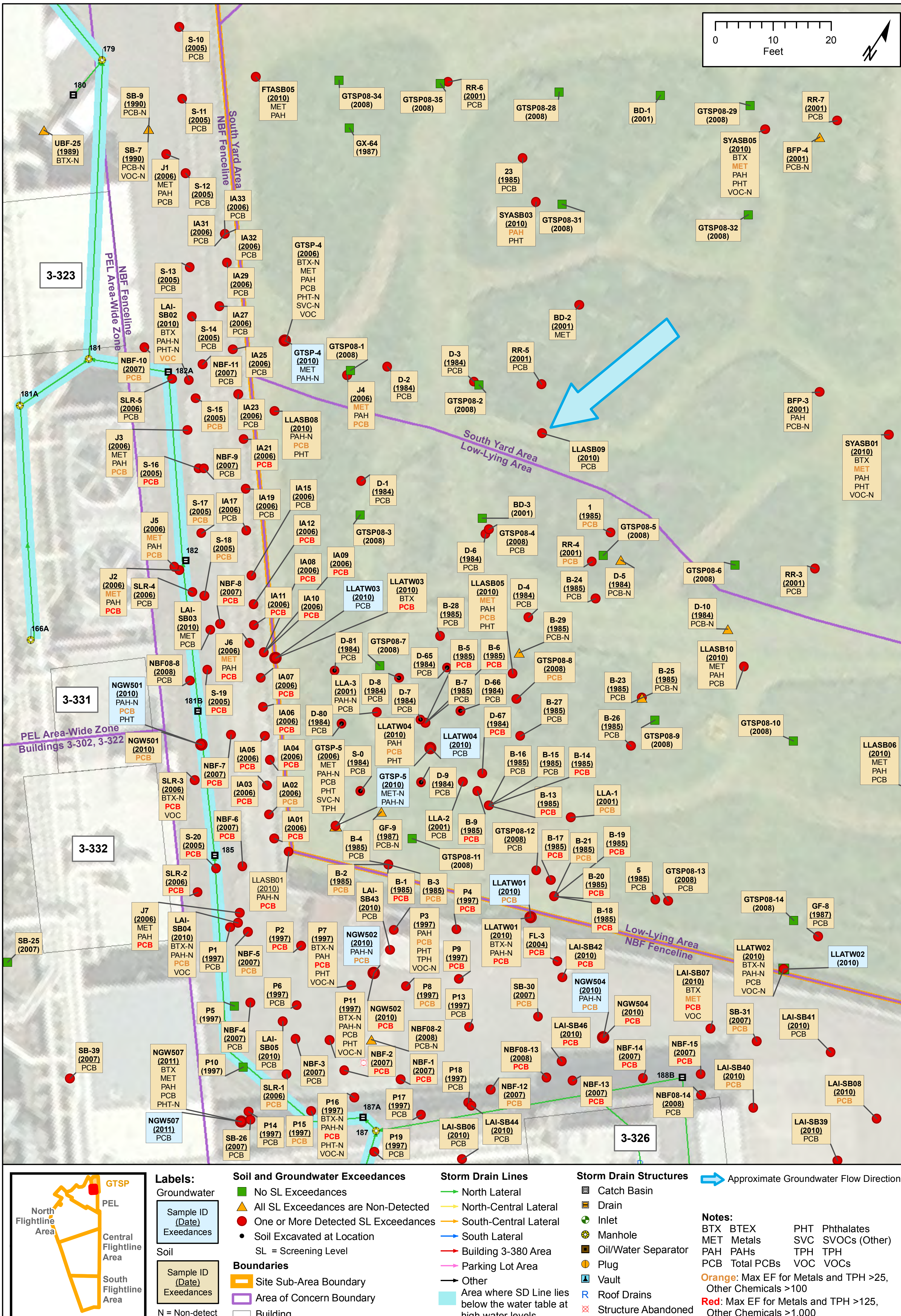

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Figure 7.1-9a. Soil and Groundwater Sample Locations at Southern GTSP and NBF Fenceline Areas (West Half)

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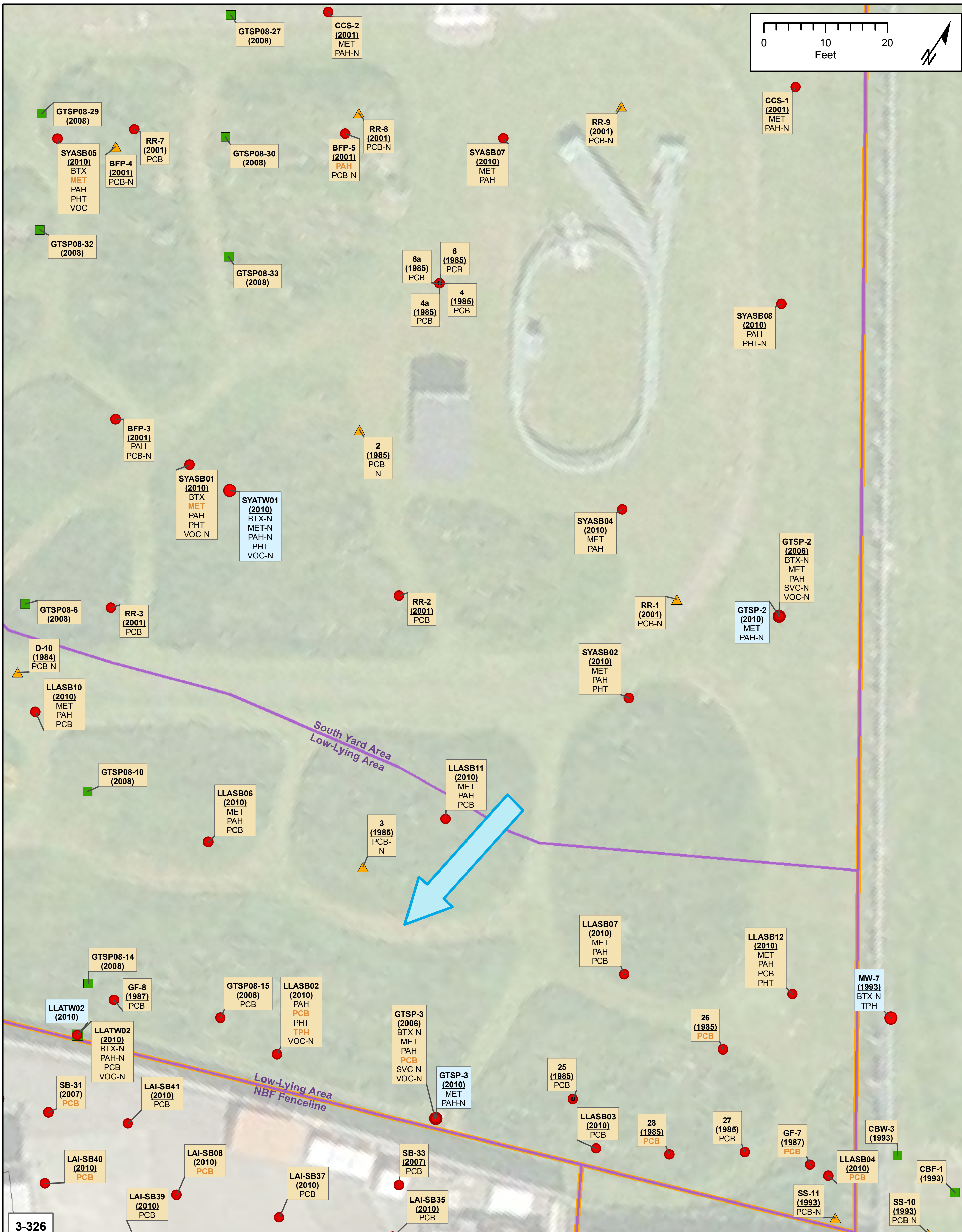
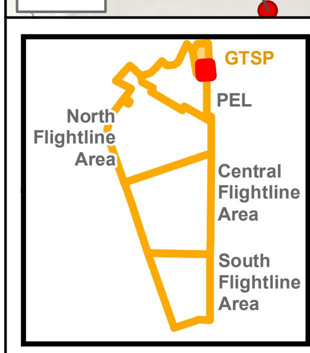
Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_Fenceline.mxd
Illustrative purposes only.





Labels:

Groundwater

Sample ID
(Date)
Exeedances

Soil

Sample ID
(Date)
Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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Figure 7.1-9b. Soil and Groundwater Sample Locations at Southern GTSP and NBF Fenceline Areas (East Half)

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_Fenceline.mxd
Illustrative purposes only.

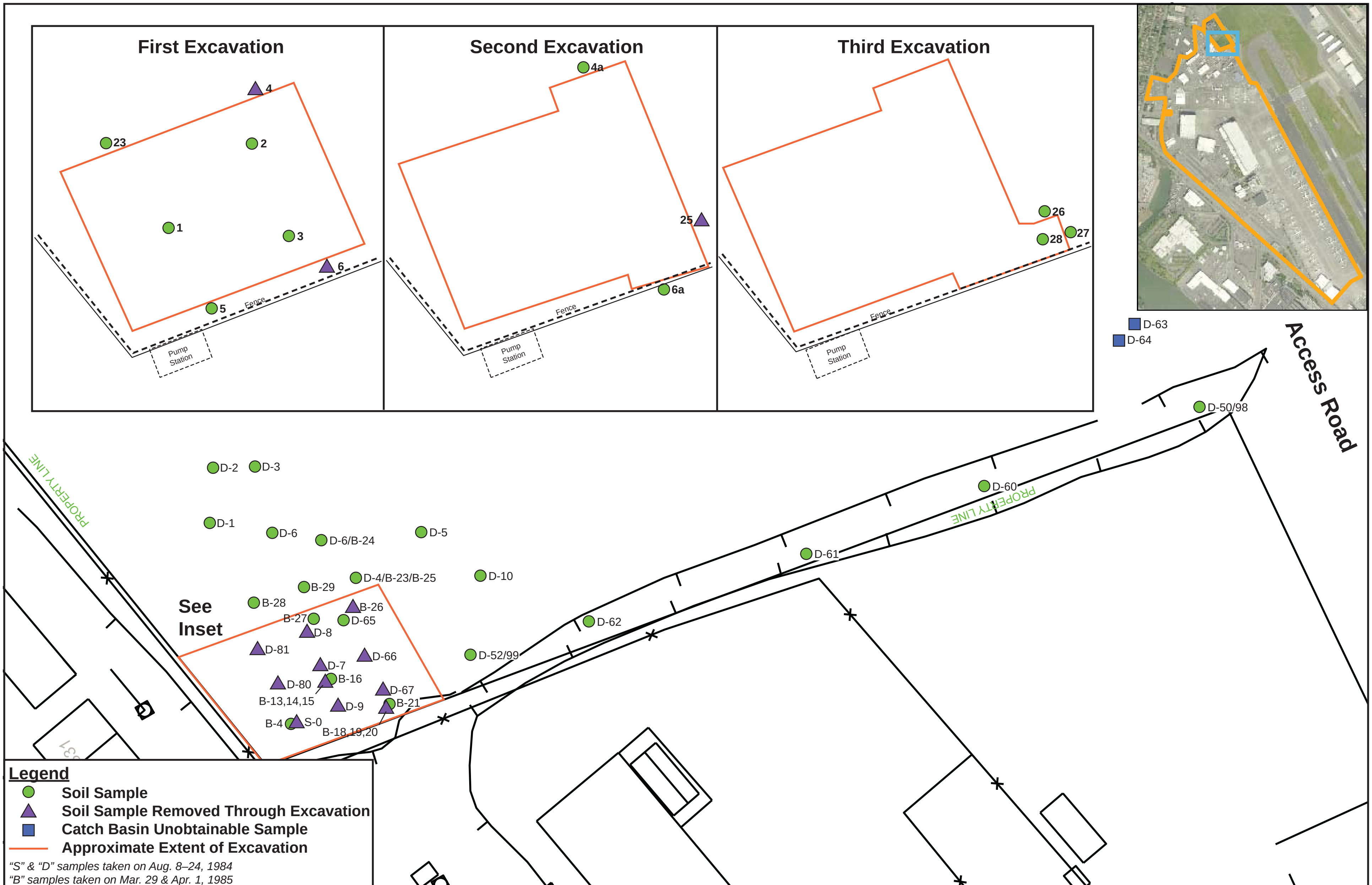

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Figure 7.1–10. GTSP
Drainage Ditch and Excavation Sampling Locations
(1984–1985)

SAIC® From Science to Solutions

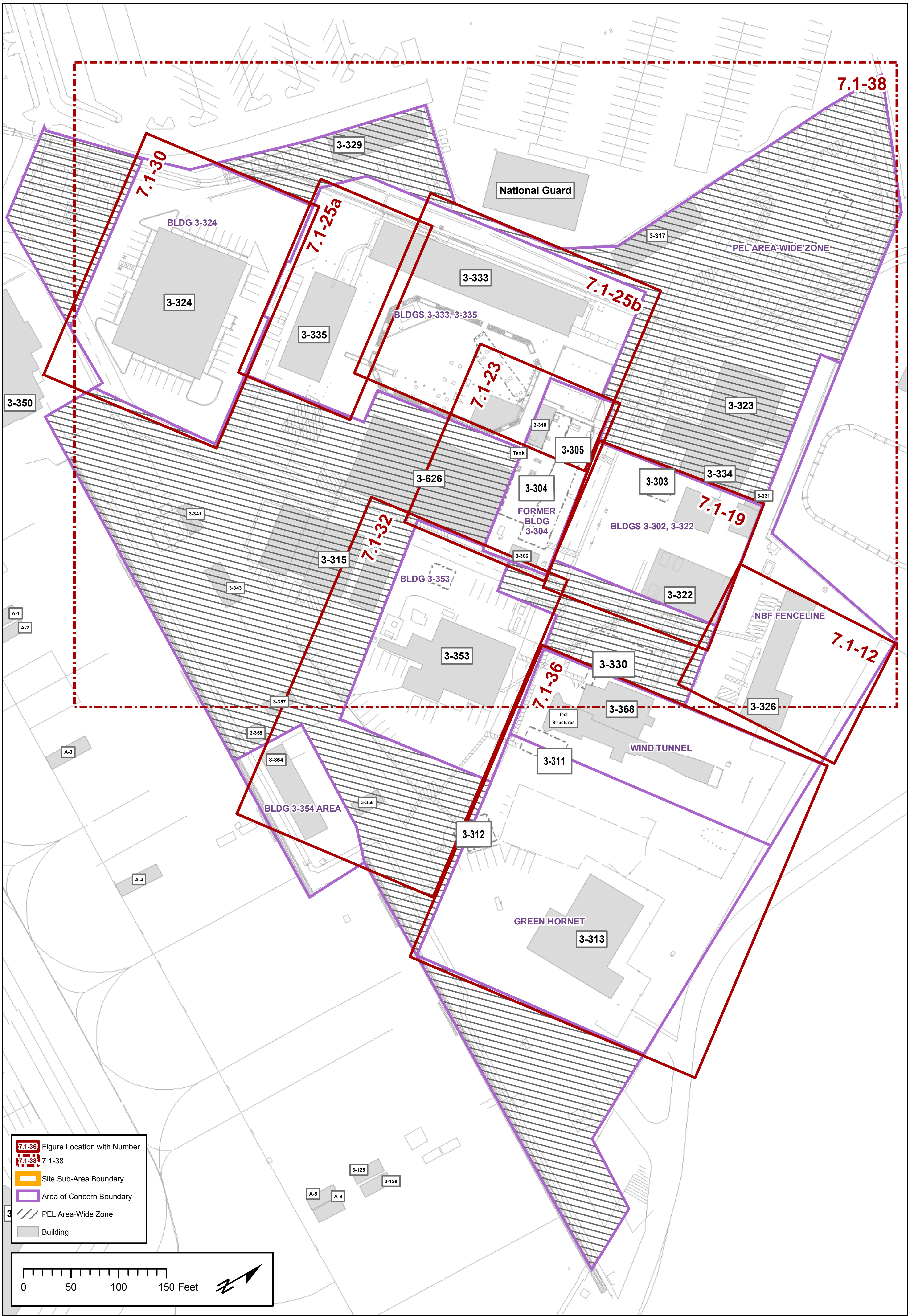

Figure 7.1-11. Areas of Concern at PEL Area

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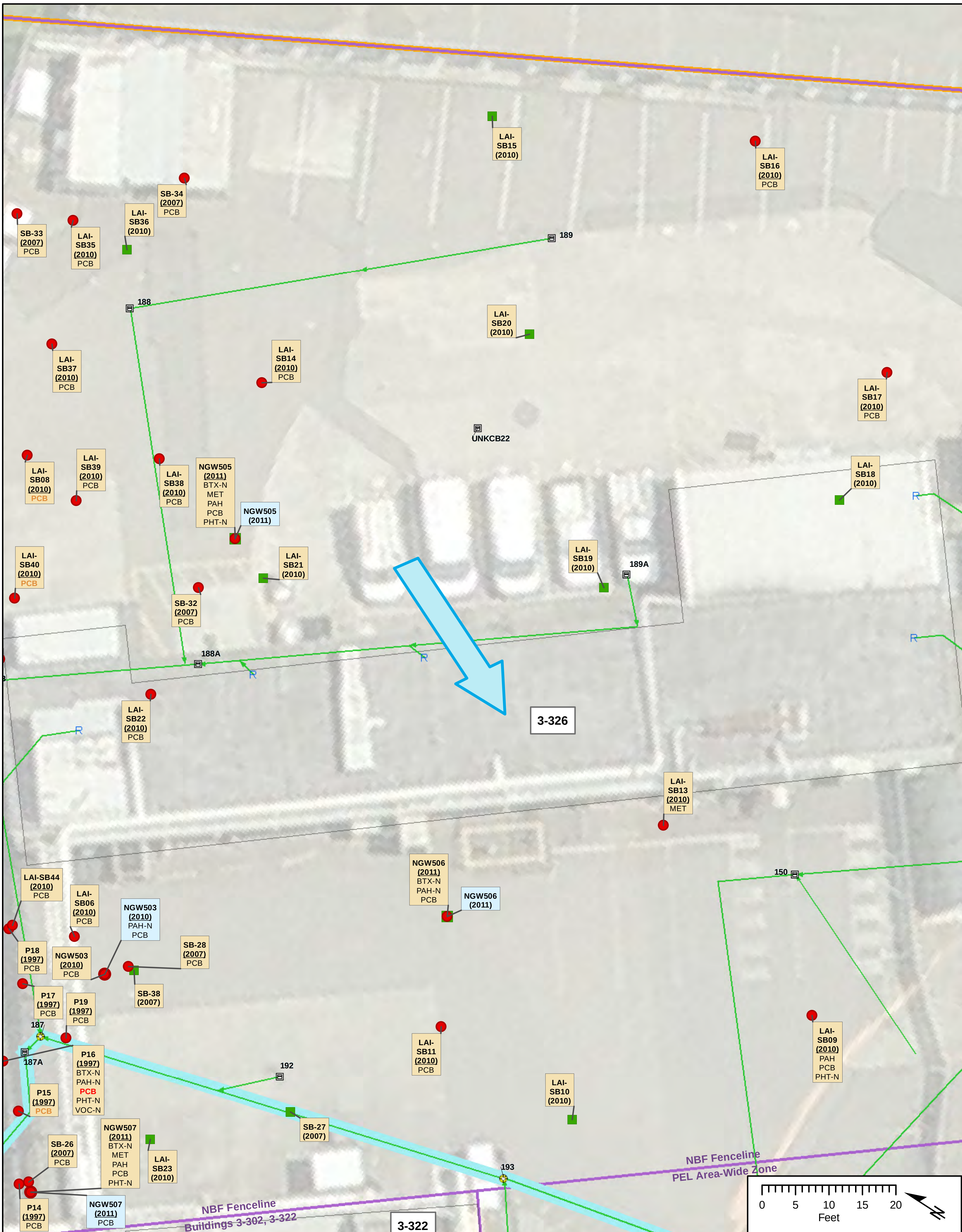
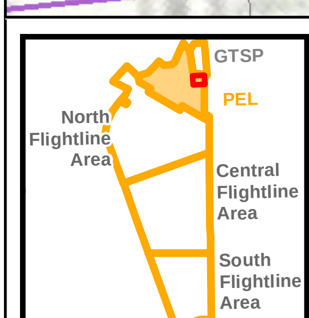
SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_2-12_Areas_of_Concern_at_PEL_Area.mxd
Illustrative purposes only.





Labels:

Groundwater: Sample ID (Date) Exeedances

Soil: Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location
- SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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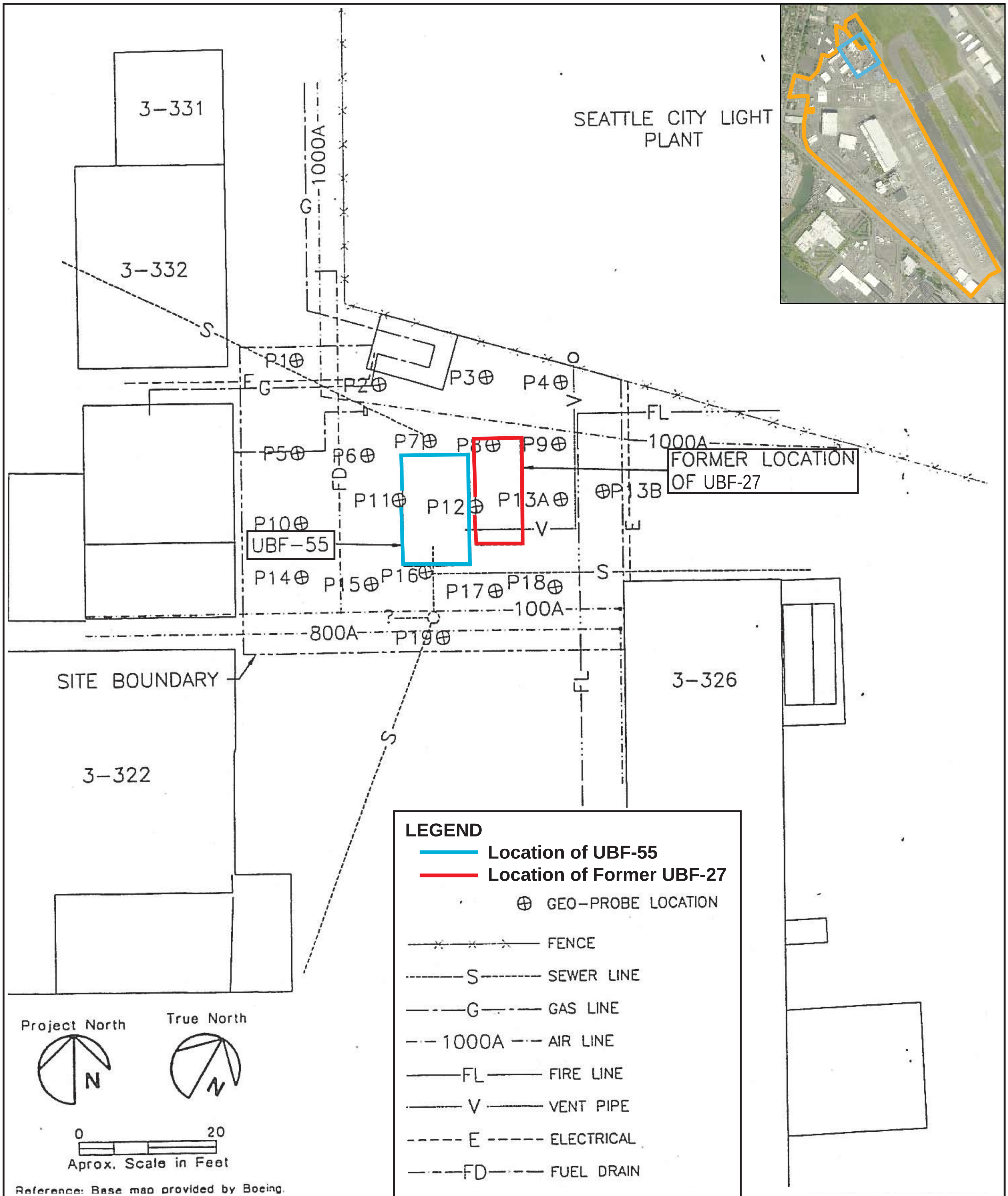
Figure 7.1-12. Soil and Groundwater Sample Locations at NBF Fenceline Area

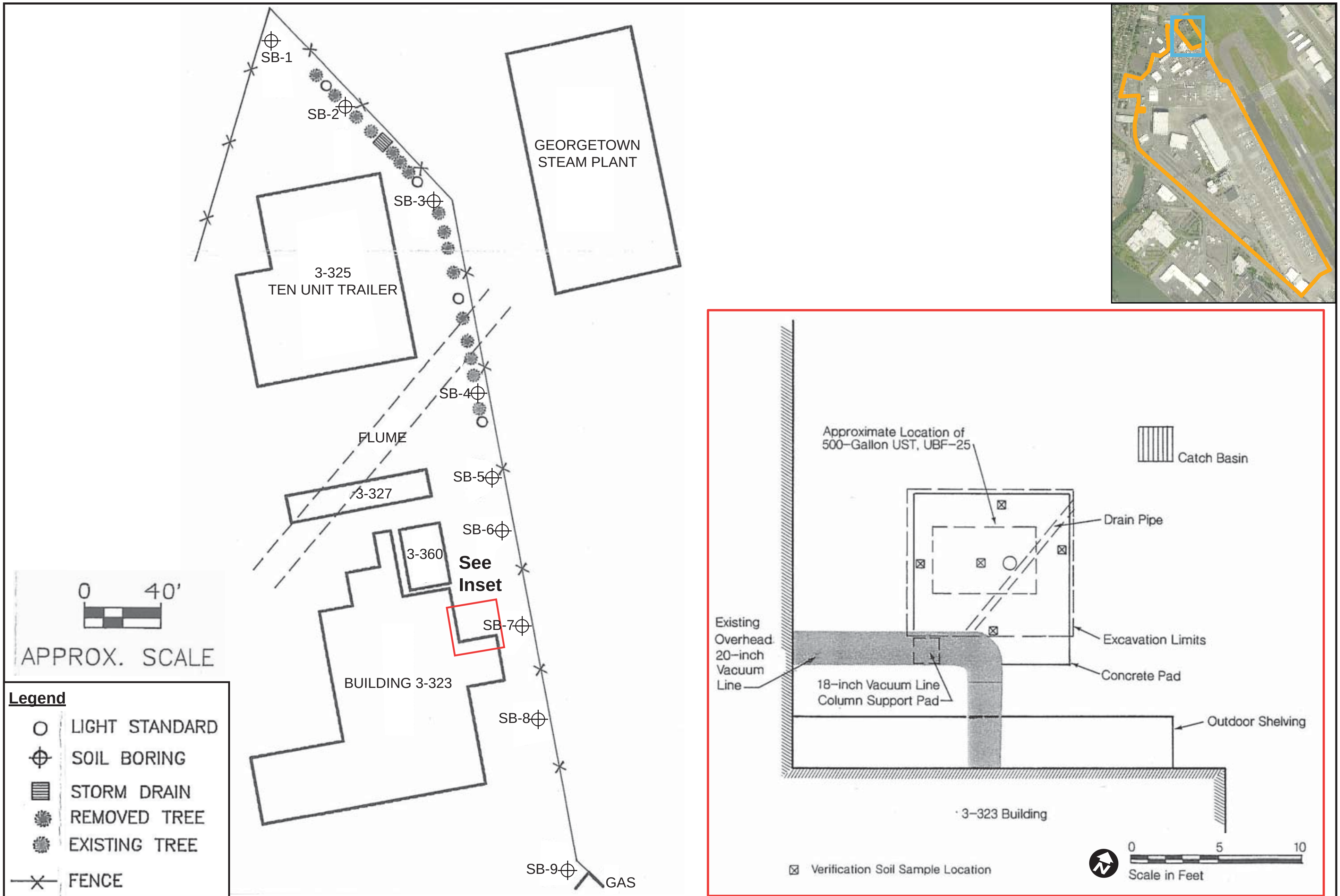
SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Source: AGI Technologies 1997

Figure 7.1–13. Oil/Water Separator UBF-55 and UBF-27 (1997)



Source: GTI 1990c [1423]

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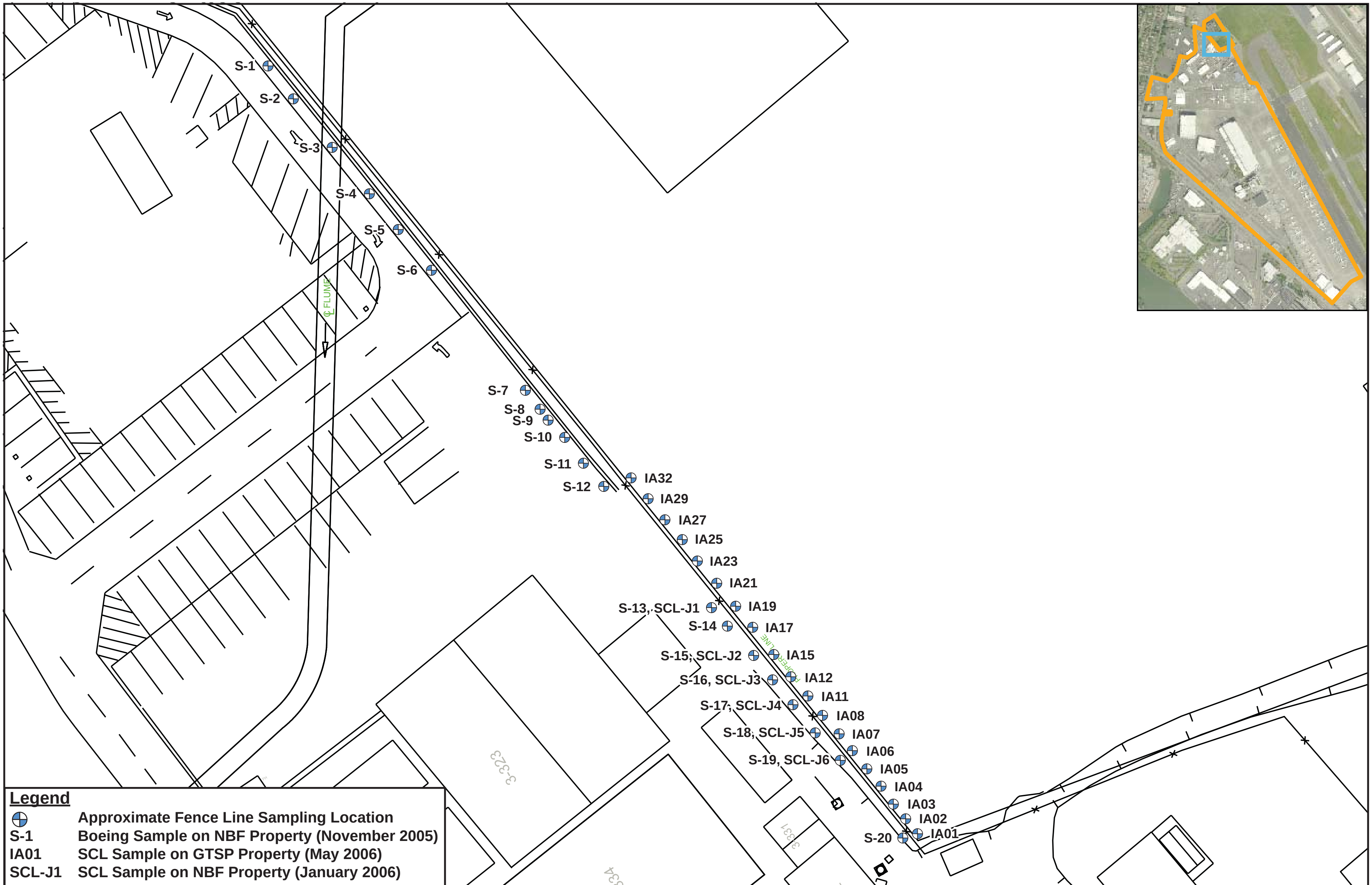
Figure 7.1–14. UBF-25 Removal (1989) and Dead Tree Investigation (1990)

SAIC From Science to Solutions



Source: Integral 2006b [6002]

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Figure 7.1–15. NBF-GTSP Fenceline Soil Sampling Locations

SAIC® From Science to Solutions

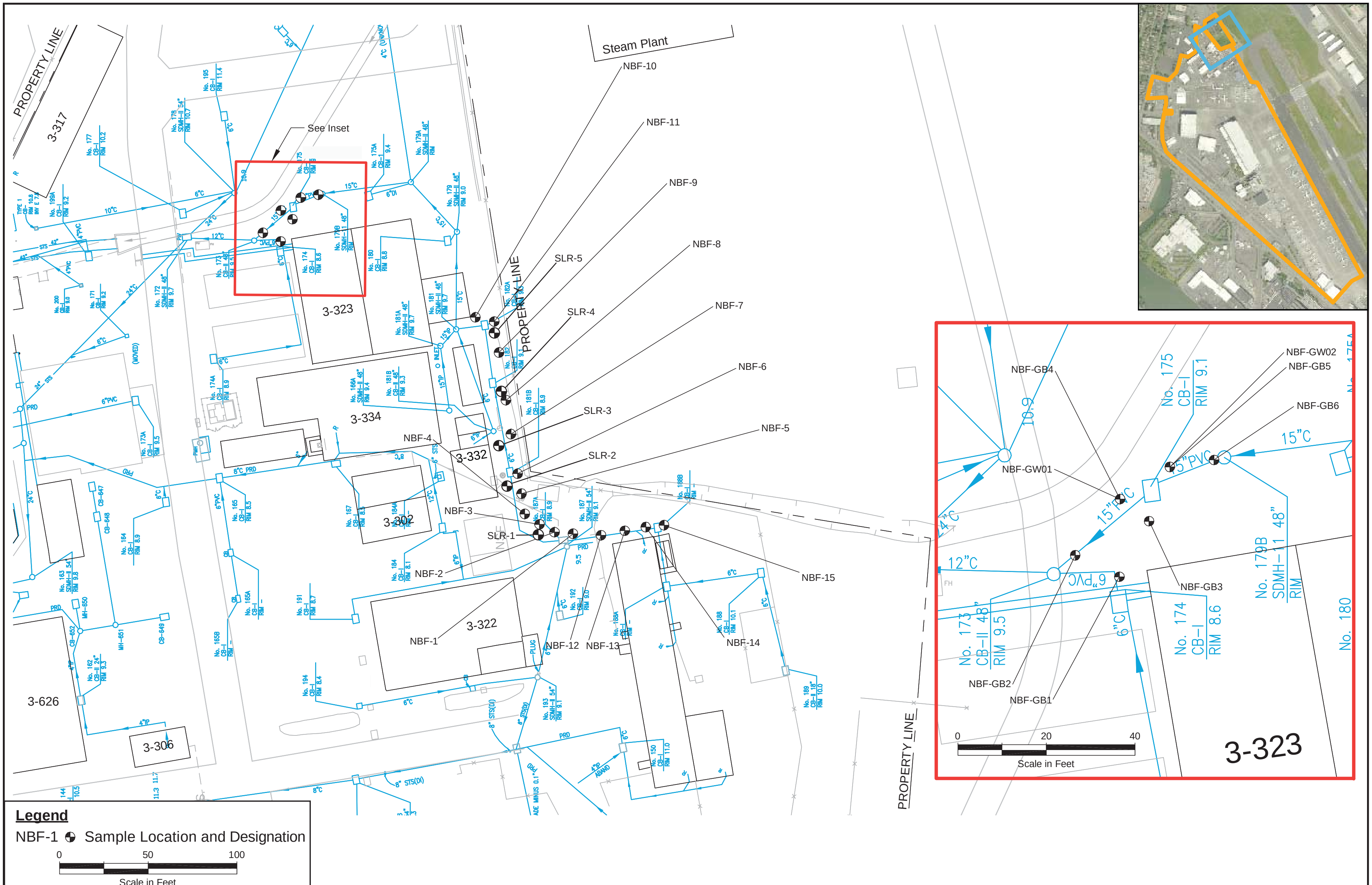

Figure 7.1–16. Soil Samples Associated with Storm Drain Line Replacement (2006–2007)

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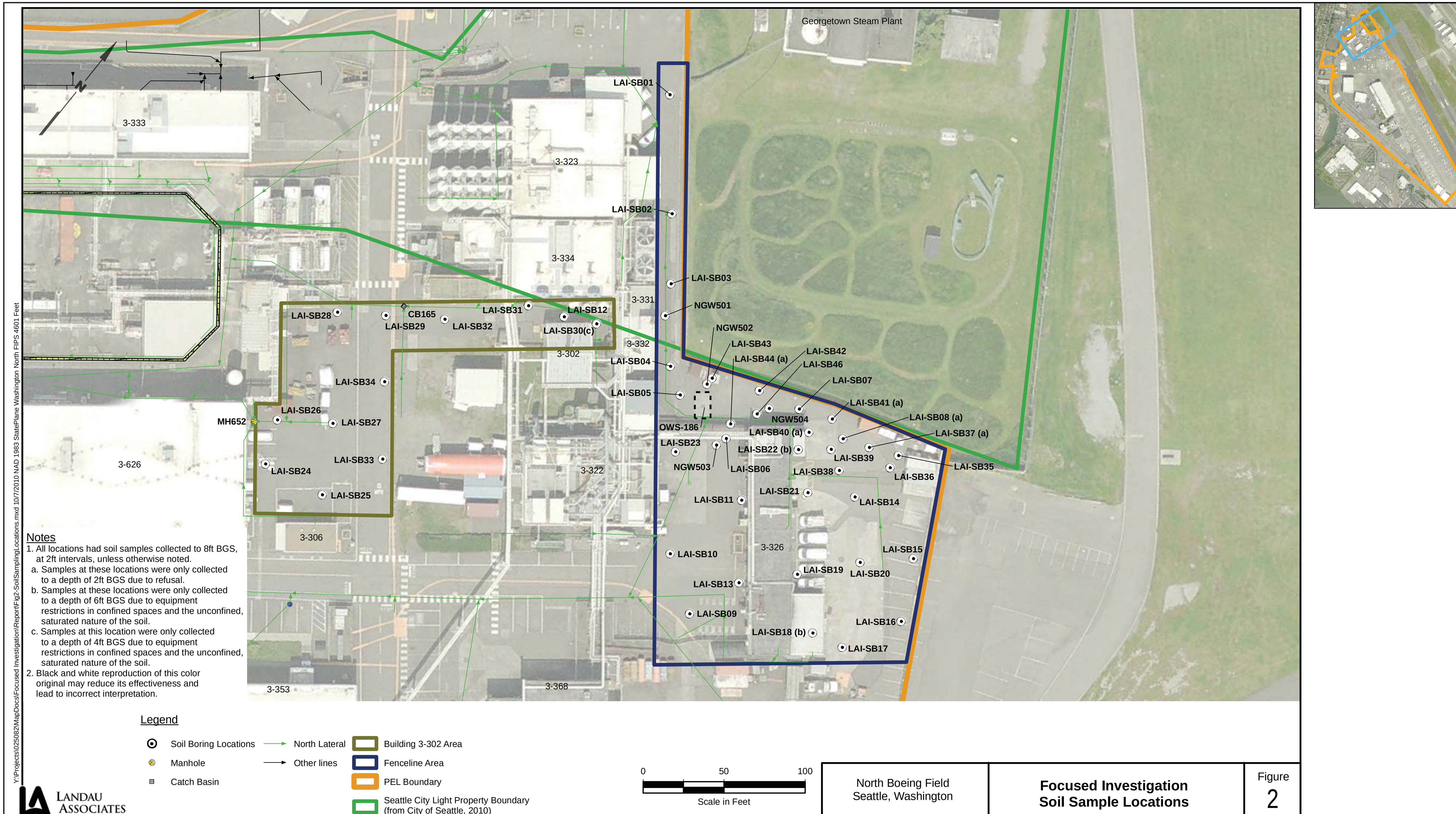
SAIC® From Science to Solutions

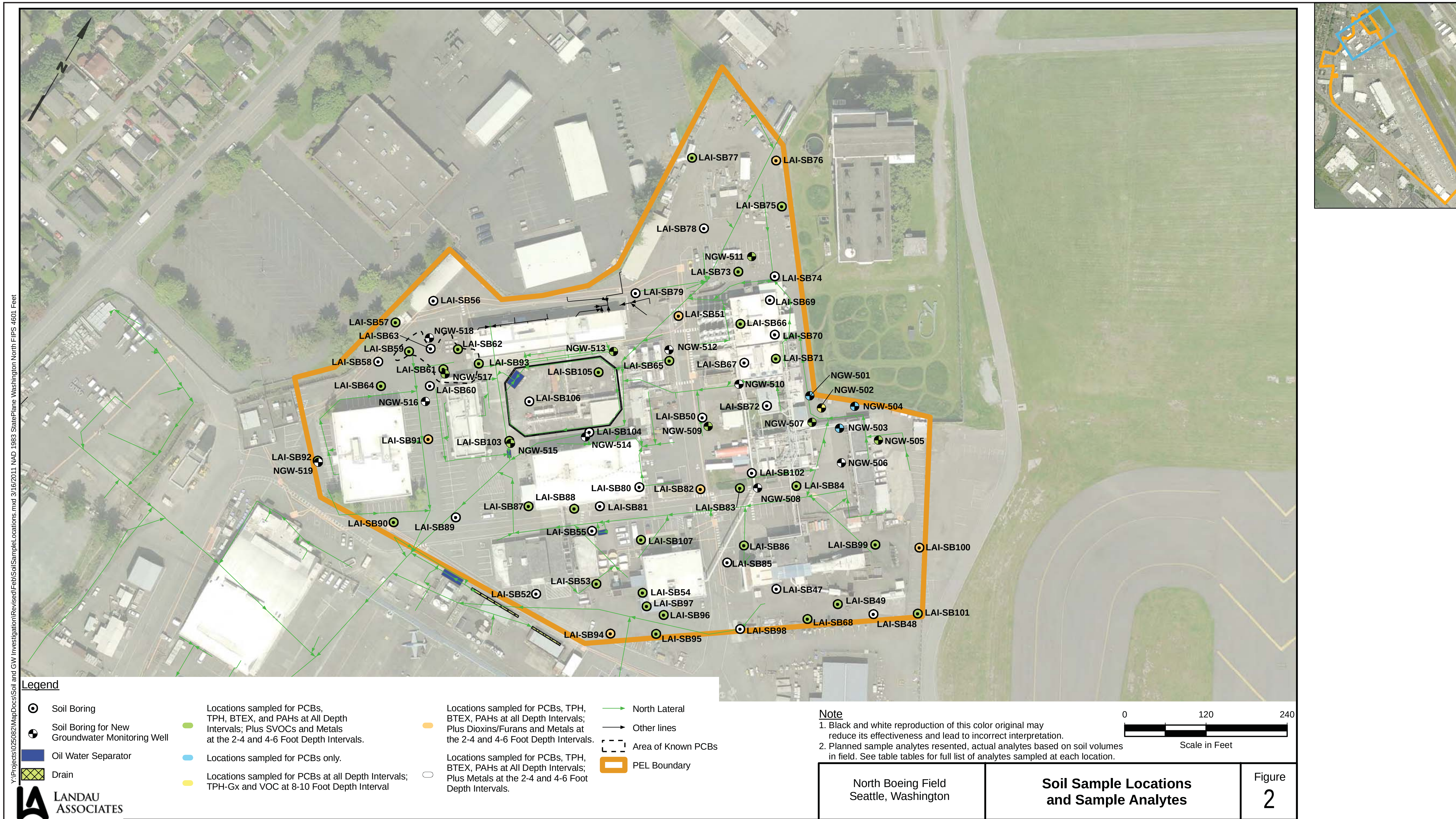


Source: Landau 2010e [6099]

Figure 7.1–17. Focused Investigation Soil Sample Locations (2010)

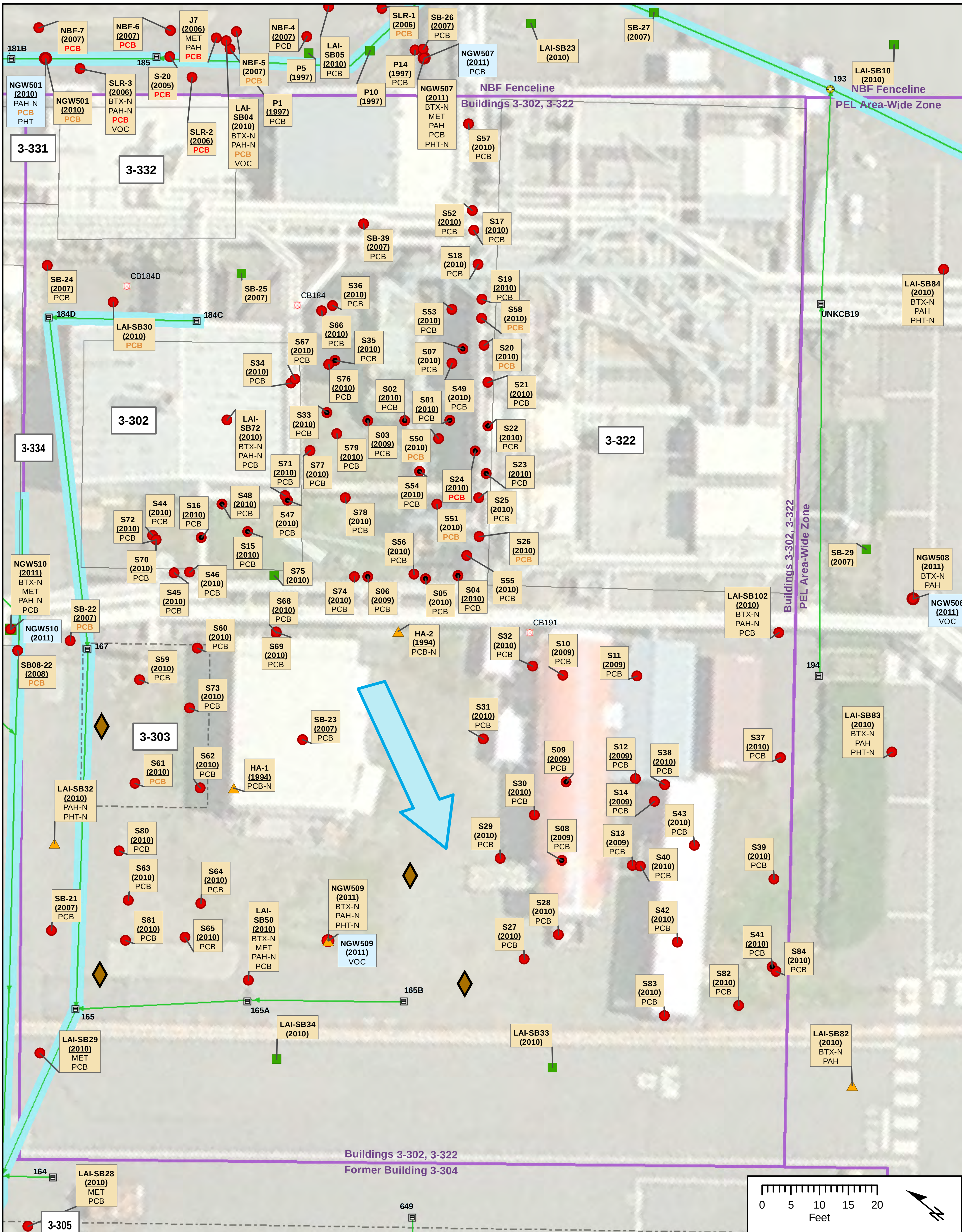
DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions



Source: Landau 2011c [4162]

Figure 7.1–18. PEL Area Soil and Groundwater Sample Locations (2010)



Labels:

Groundwater: Sample ID (Date) Exceedances

Soil: Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

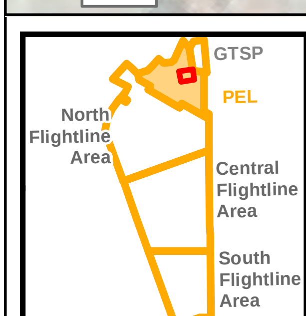
Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring



Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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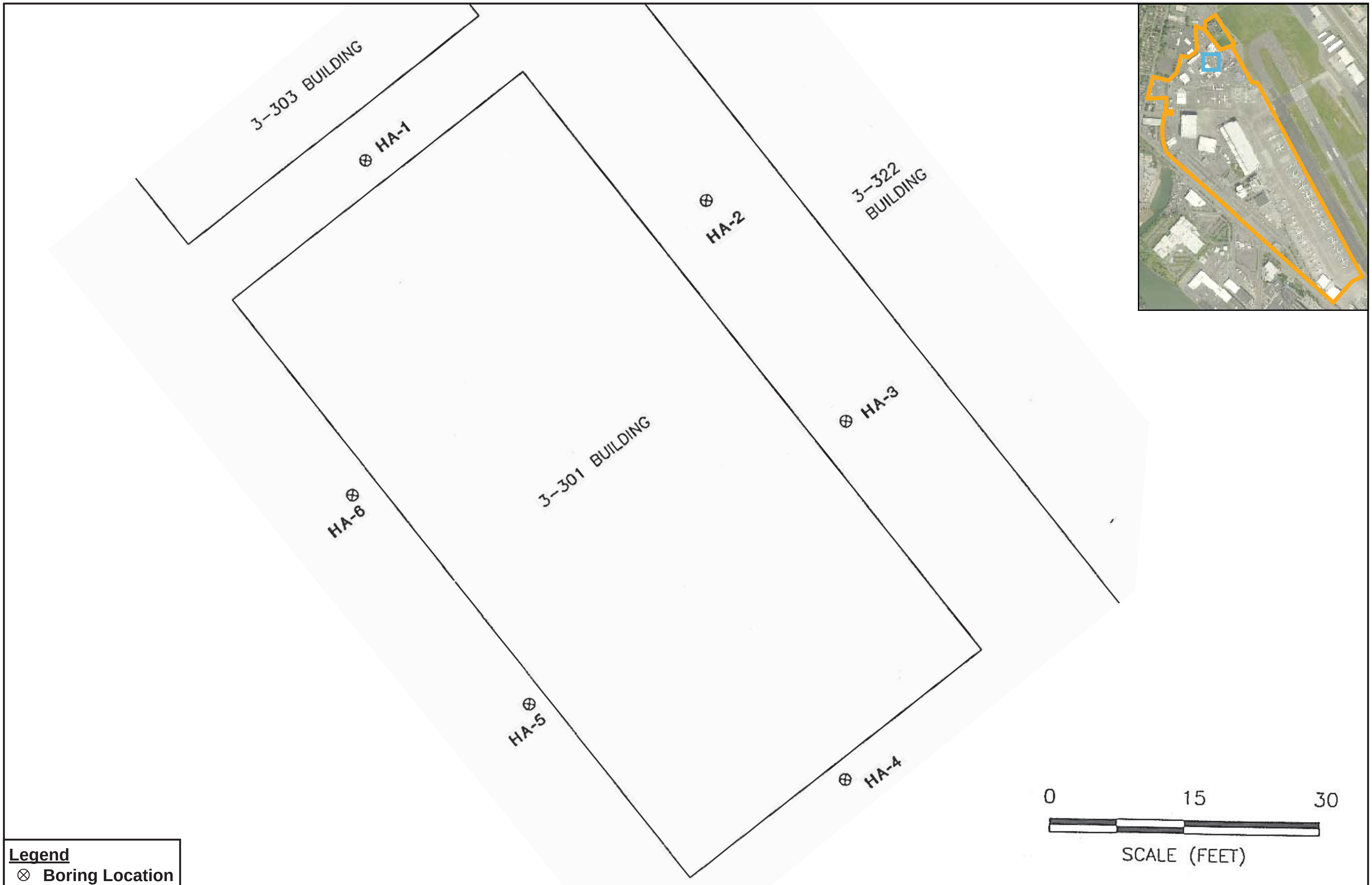
Figure 7.1-19. Soil and Groundwater Sample Locations at Buildings 3-302 and 3-322

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Source: SECOR 1994g [1522]

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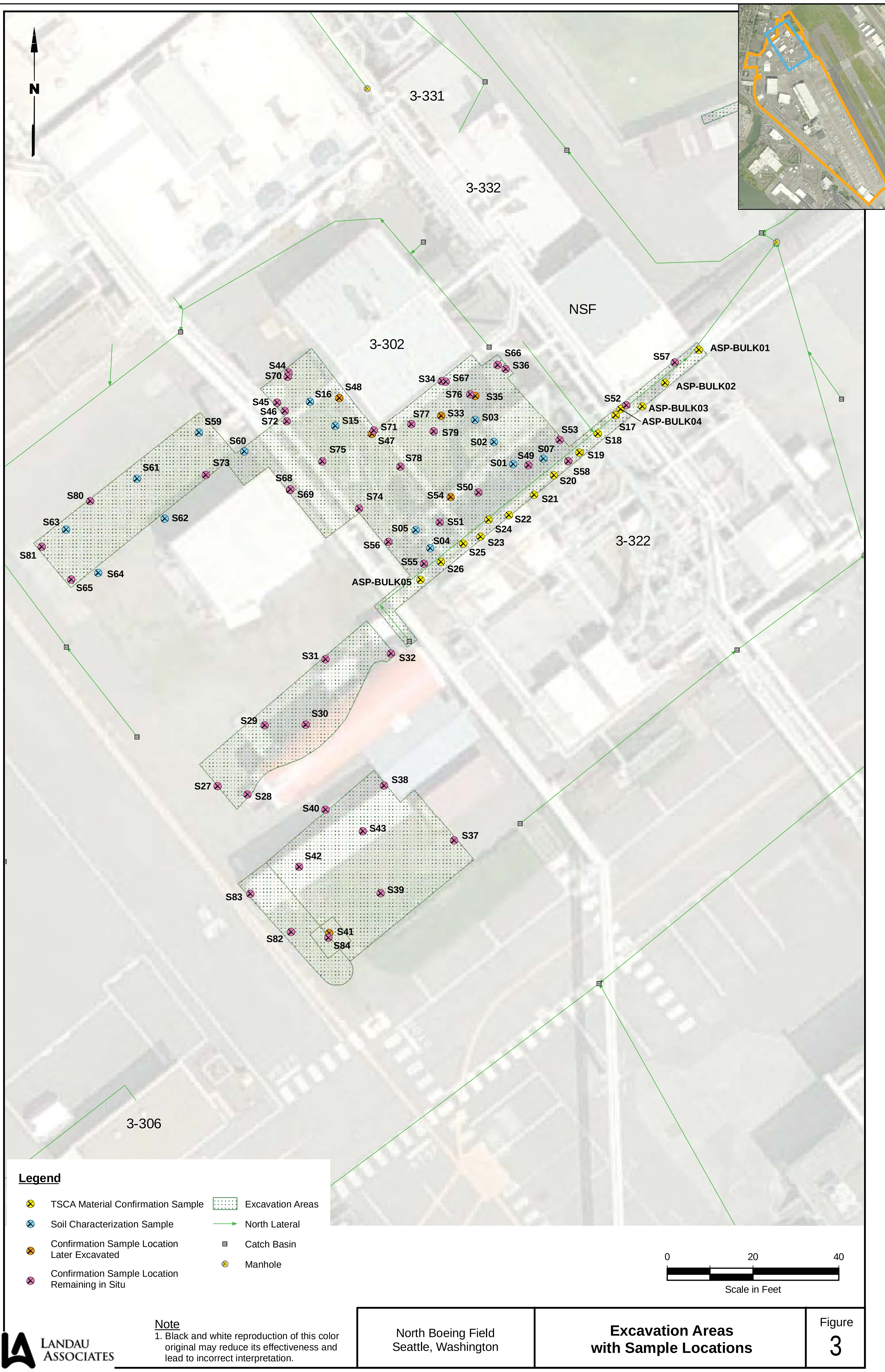
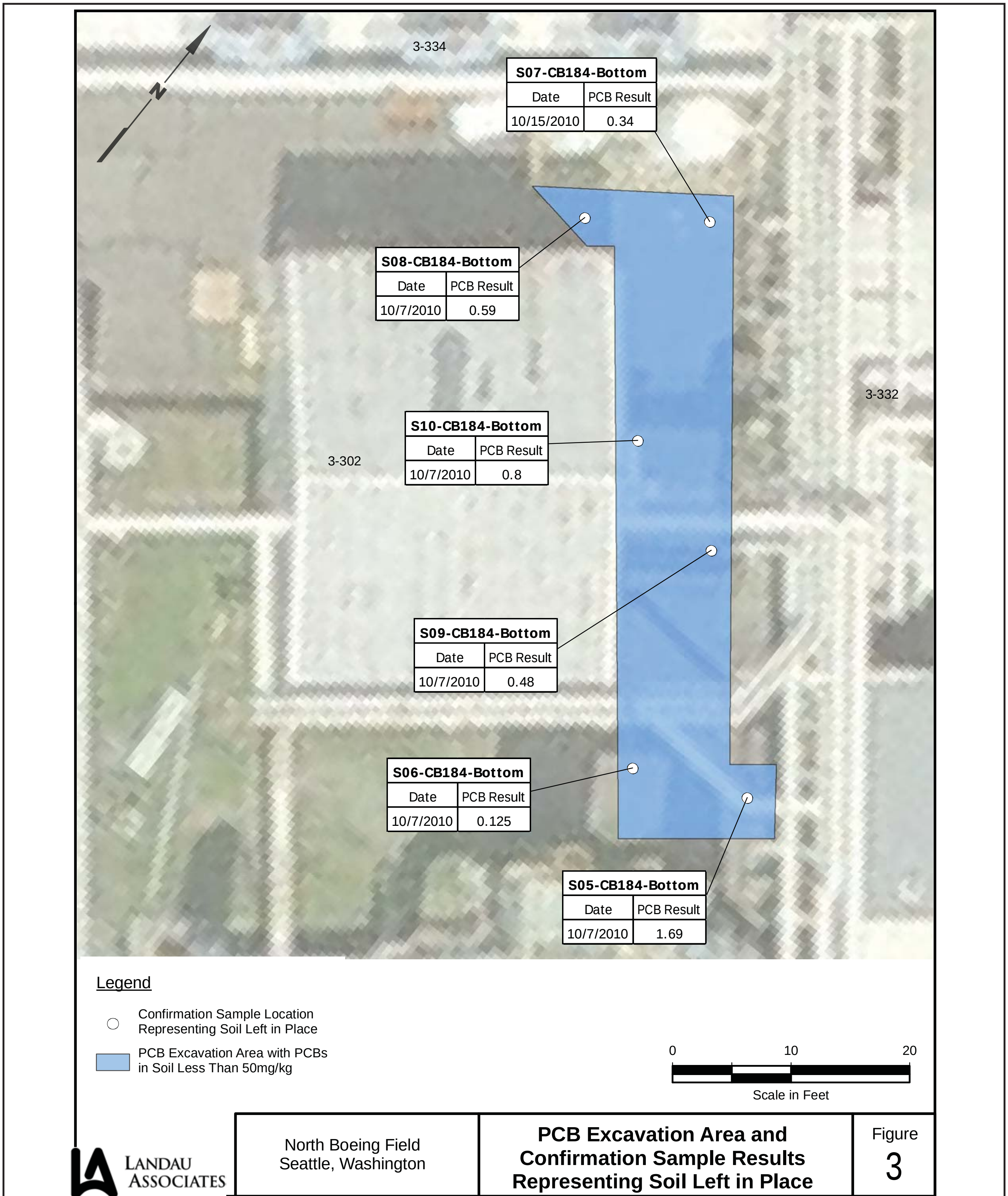
Figure 7.1–20. Building 3-301 Environmental Assessment (1994)

SAIC® From Science to Solutions



Source: Landau 2010a [6076]

Figure 7.1–21. Excavation Areas and Sample Locations at Buildings 3-302 and 3-322 (2010)



Source: Landau 2010j [6126]

Figure 7.1–22. Building 3-302 PCB Excavation Area and Confirmation Sample Results (2010)

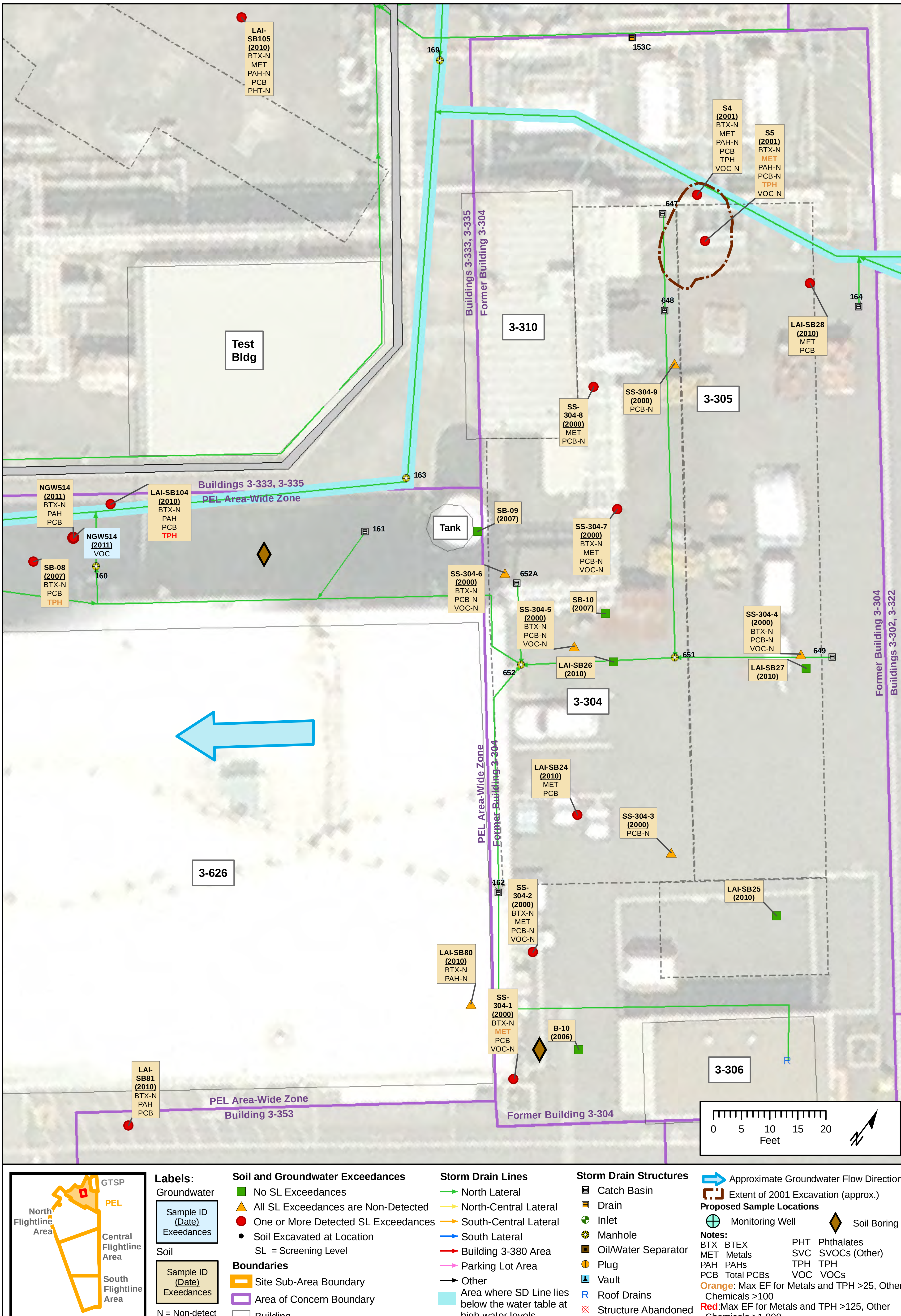


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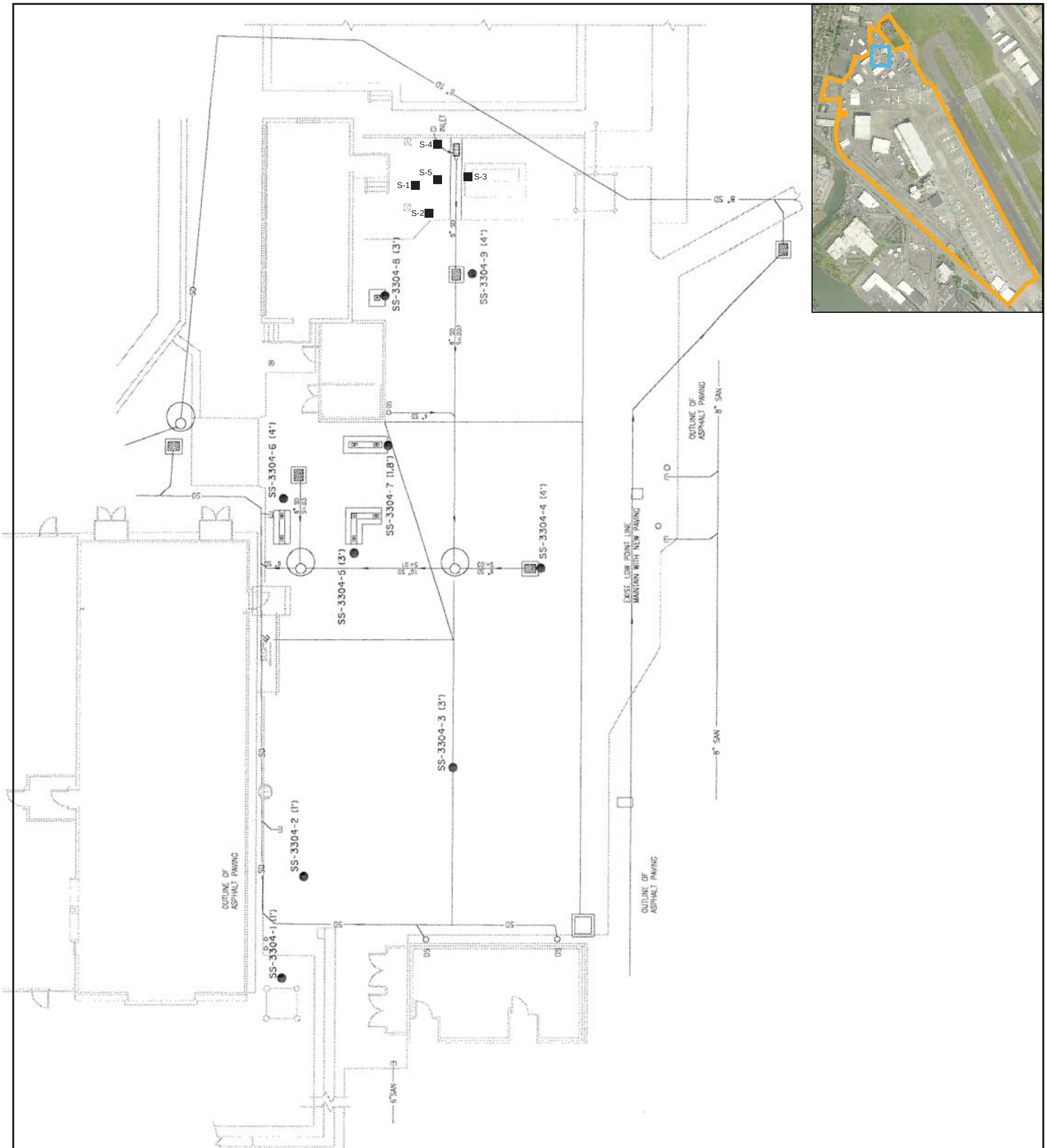
Figure 7.1-23. Soil and Groundwater Sample Locations at Building 3-304

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Legend

- ● Sample Location and Depth
- ■ 2001 Excavation Confirmation Sample

1/16" = 1'- 0"

8 4 0 8 16

Source: CDM 2000, 2001

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Figure 7.1–24. Former Building 3-304 Environmental Assessments (2000–2001)

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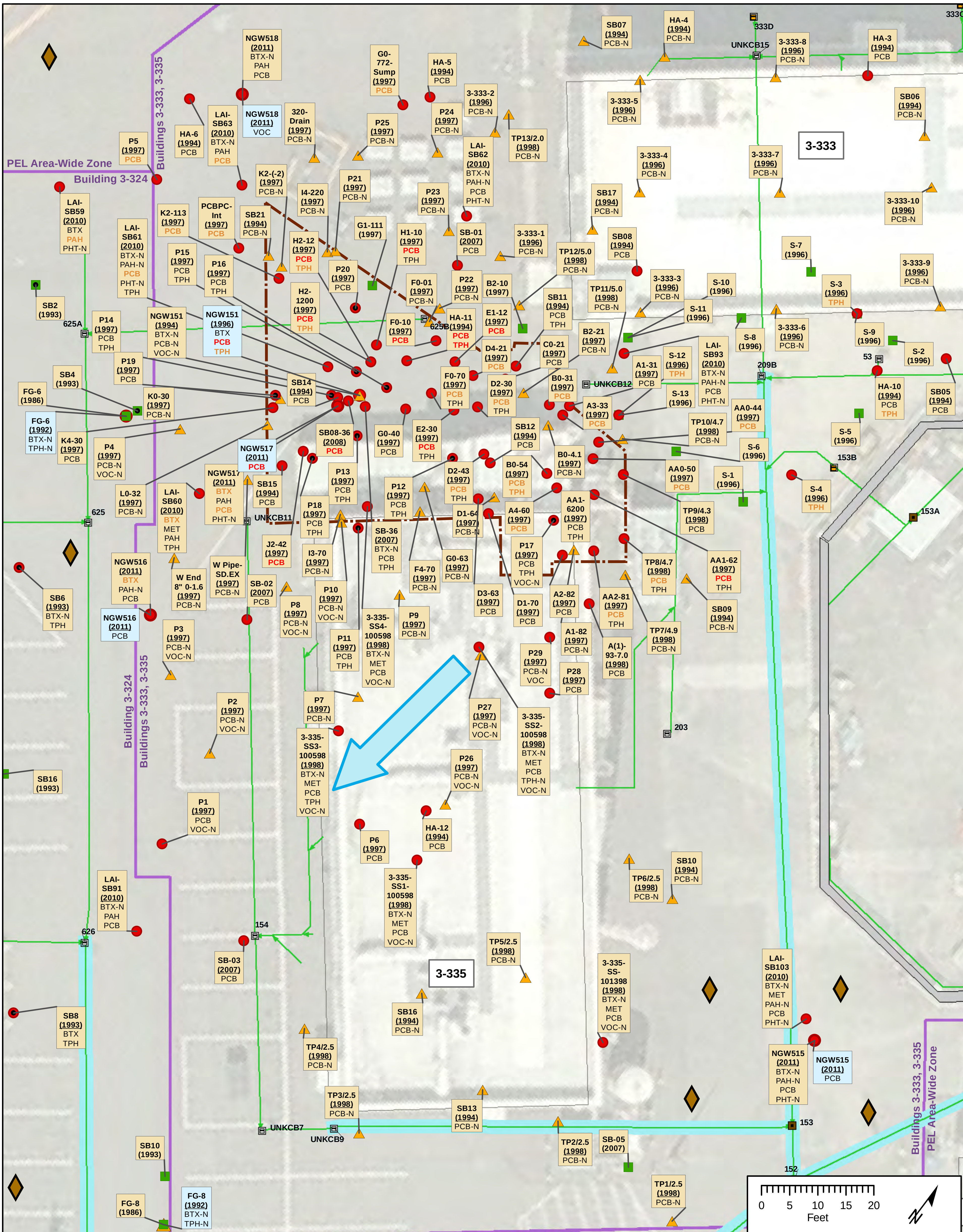

Labels:

Groundwater: Sample ID (Date) Exeedances

Soil: Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances
- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location
- SL = Screening Level

Boundaries
- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines
- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures
- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Extent of 1997 Excavation (approx.)

Proposed Sample Locations
- Monitoring Well
- Soil Boring

Notes:
BTX BTEX
MET Metals
PAH PAHs
PCB Total PCBs
PHT Phthalates
SVC SVOCs (Other)
TPH TPH
VOC VOCs
Orange: Max EF for Metals and TPH >25, Other Chemicals >100
Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

GTSP, PEL, North Flightline Area, Central Flightline Area, South Flightline Area

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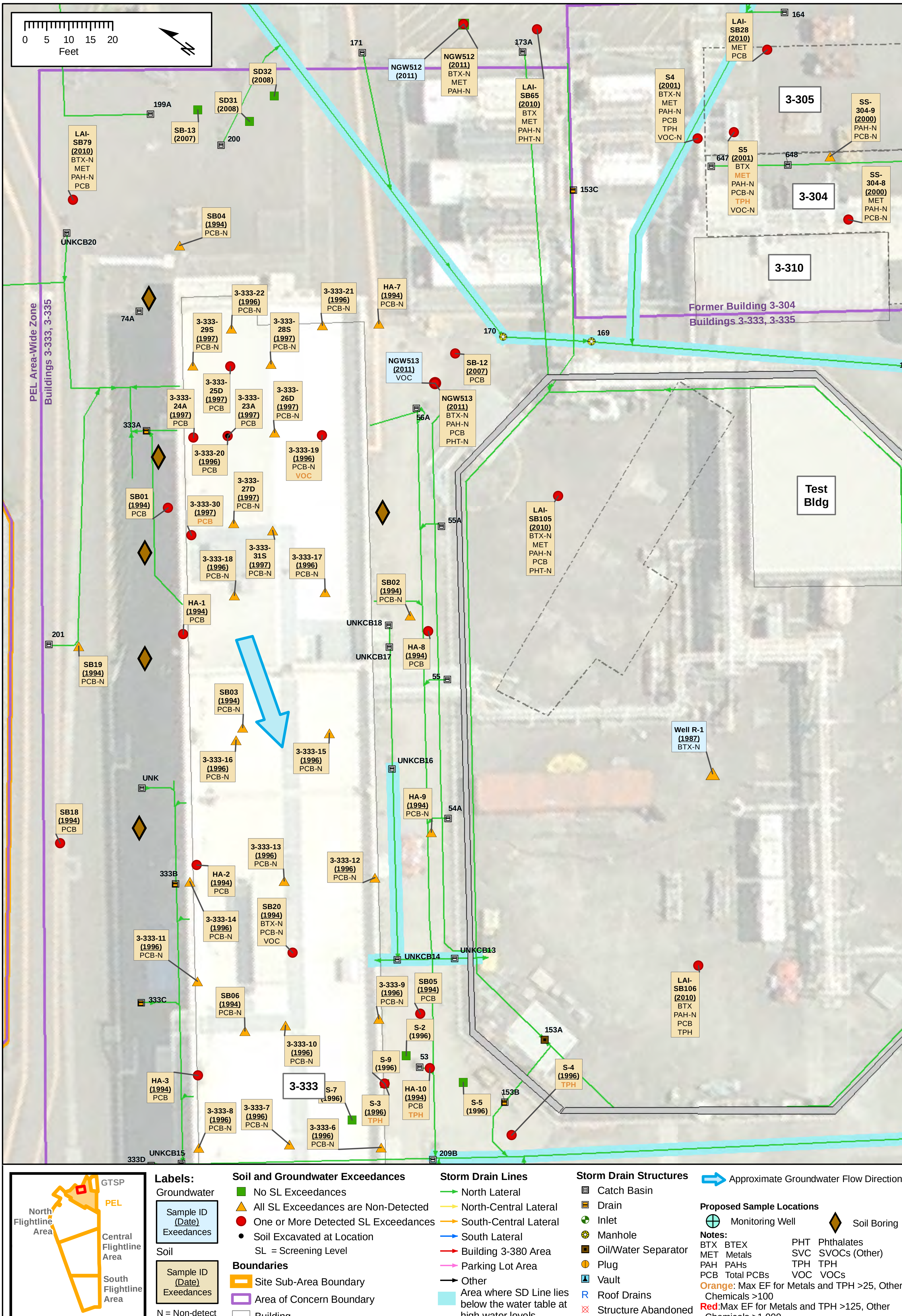
Figure 7.1-25a. Soil and Groundwater Sample Locations at Buildings 3-333 and 3-335 (West Half)

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



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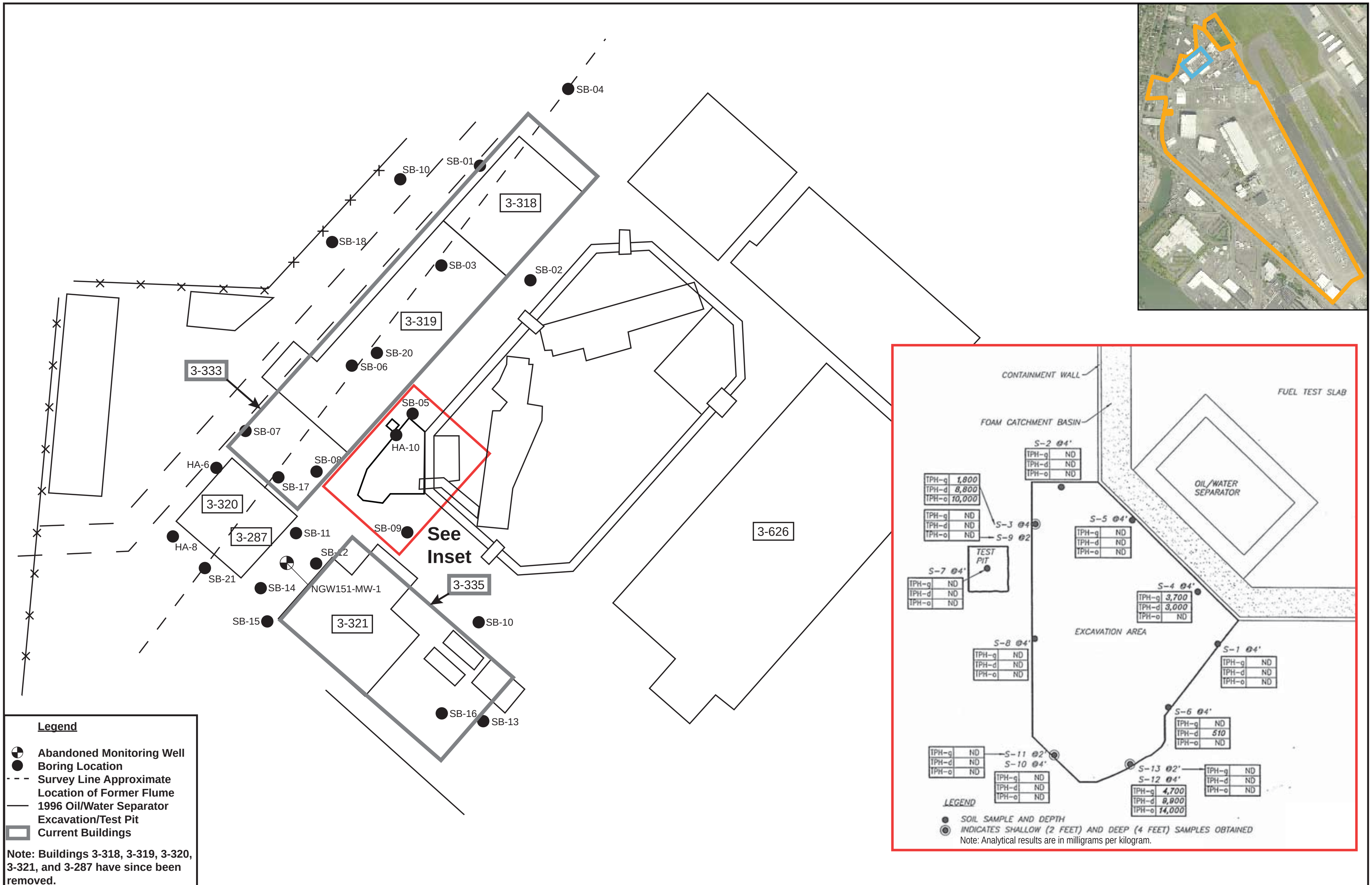
State of Washington

Figure 7.1-25b. Soil and Groundwater Sample Locations at Buildings 3-333 and 3-335 (East Half)

SAIC
From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Source: SEACOR 1995, 2996

Figure 7.1–26. Building 3-333 Assessments and Remedial Excavation (1994–1996)

Source: AGI 1999 [1414]

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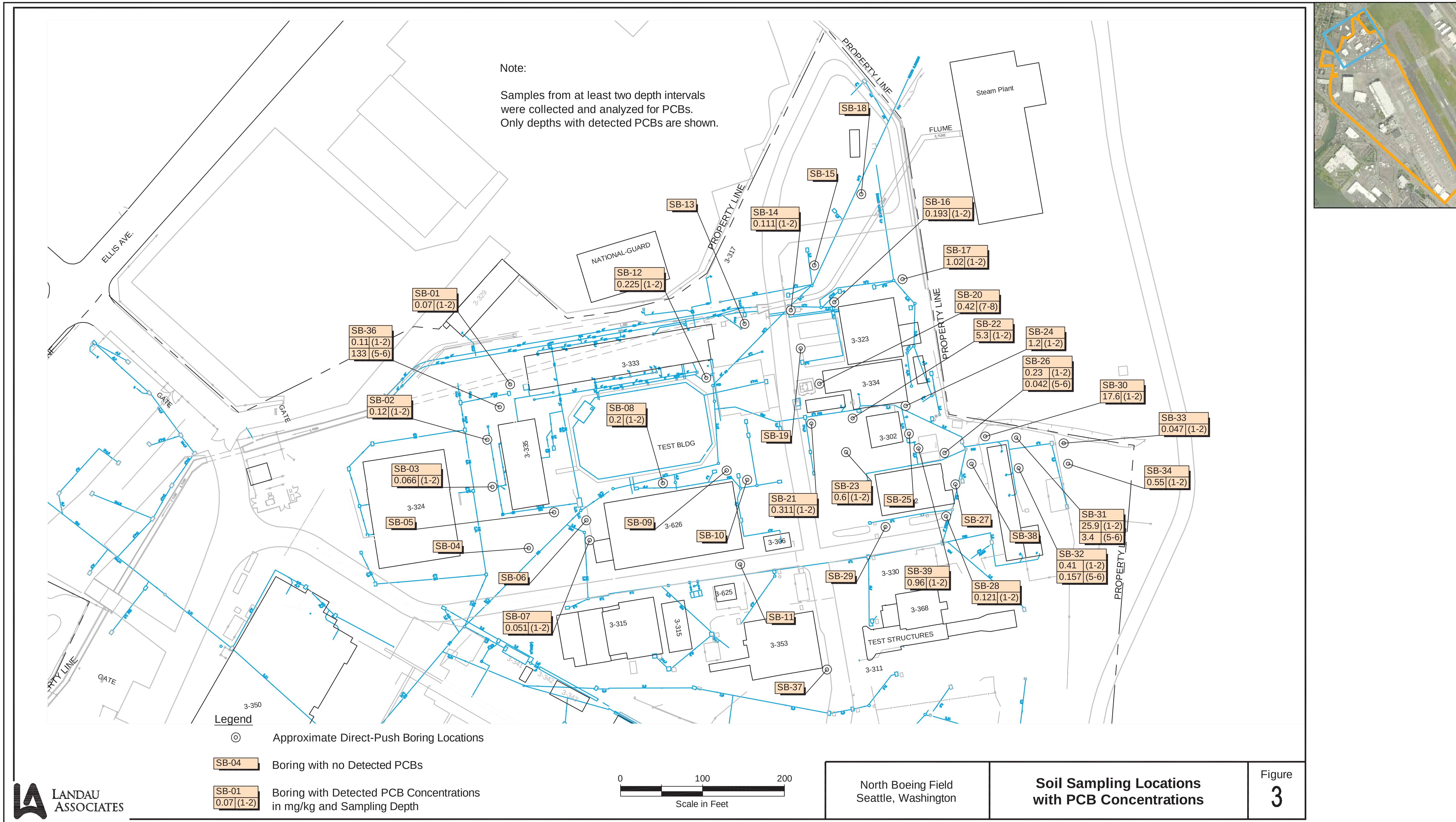
Figure 7.1–27. Building 3-335 Environmental Assessment (1998)

SAIC From Science to Solutions



Source: Landau 2007c [3471]

Figure 7.1–28. Soil Sampling Locations with PCB Concentrations (2007)

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Source: Landau 2008a,b [2109, 2348]

Figure 7.1–29. Investigation of PCB Sources to Slip 4 (2008) and Soil and Catch Basin Investigation (2008) PEL Area

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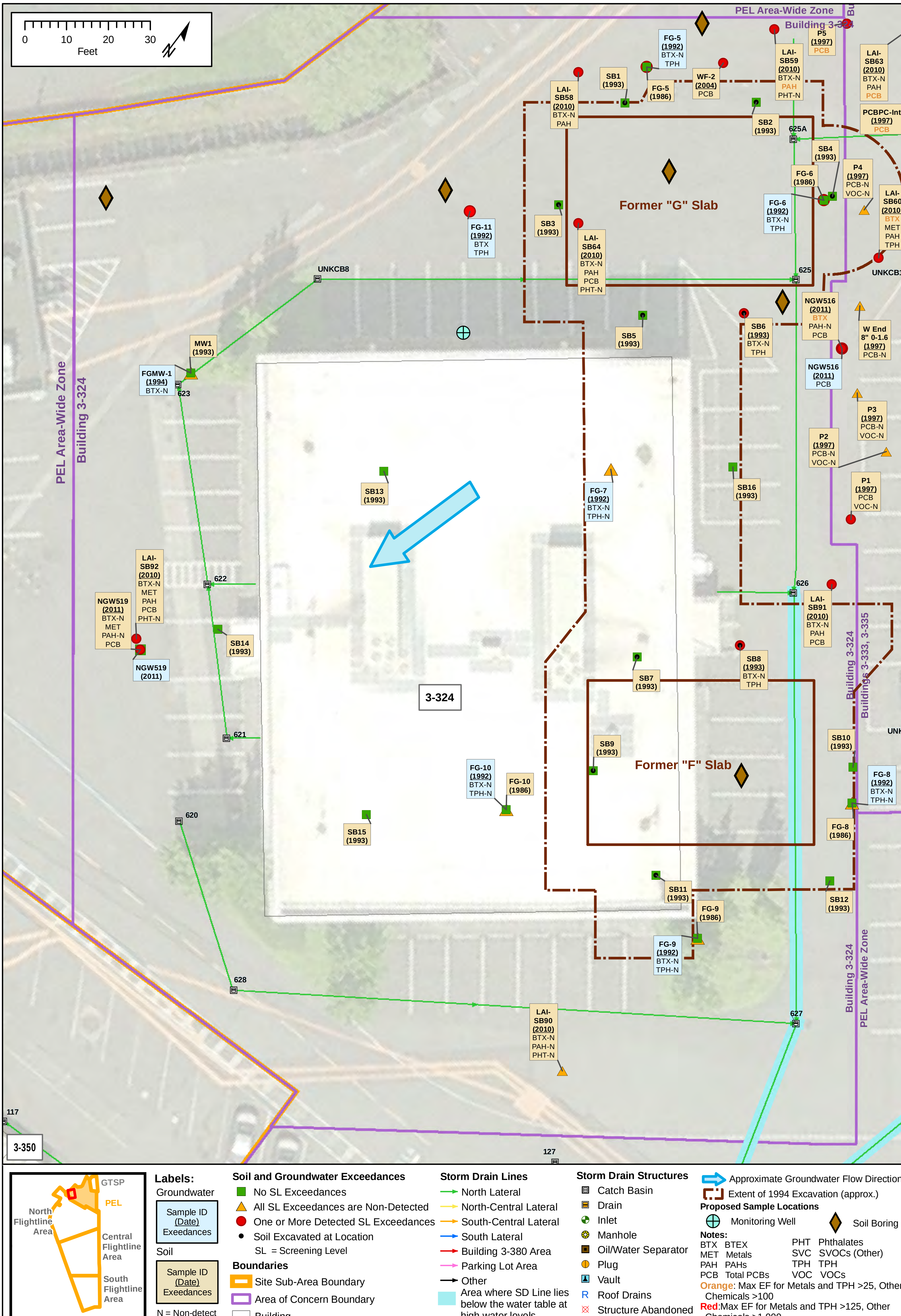
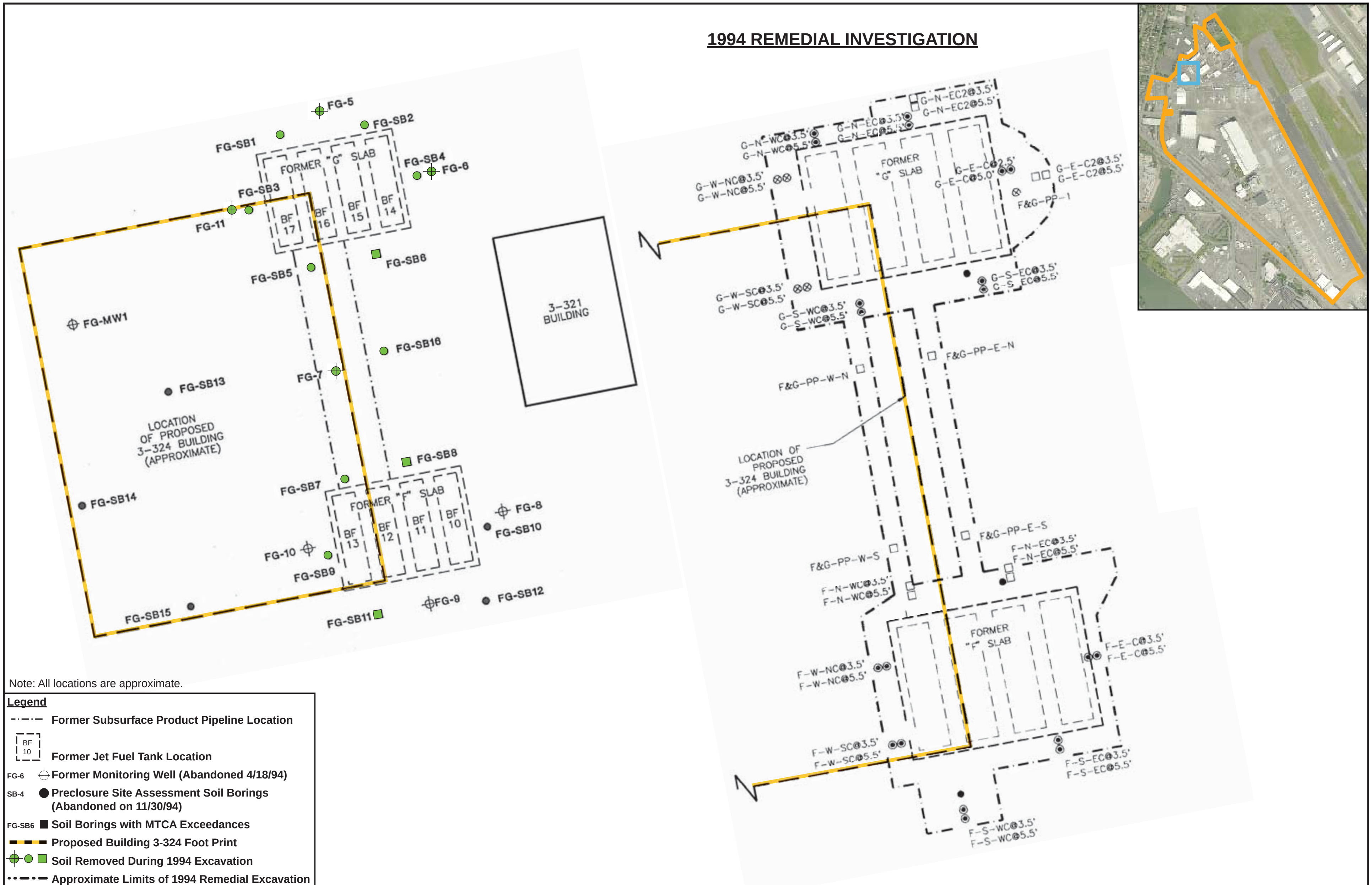


Figure 7.1-30. Soil and Groundwater Sample Locations at Building 3-324

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Source: SECOR 1994e [0153]

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Figure 7.1–31. Former F&G Facility Environmental Assessments (1986, 1993–1994)

SAIC® From Science to Solutions

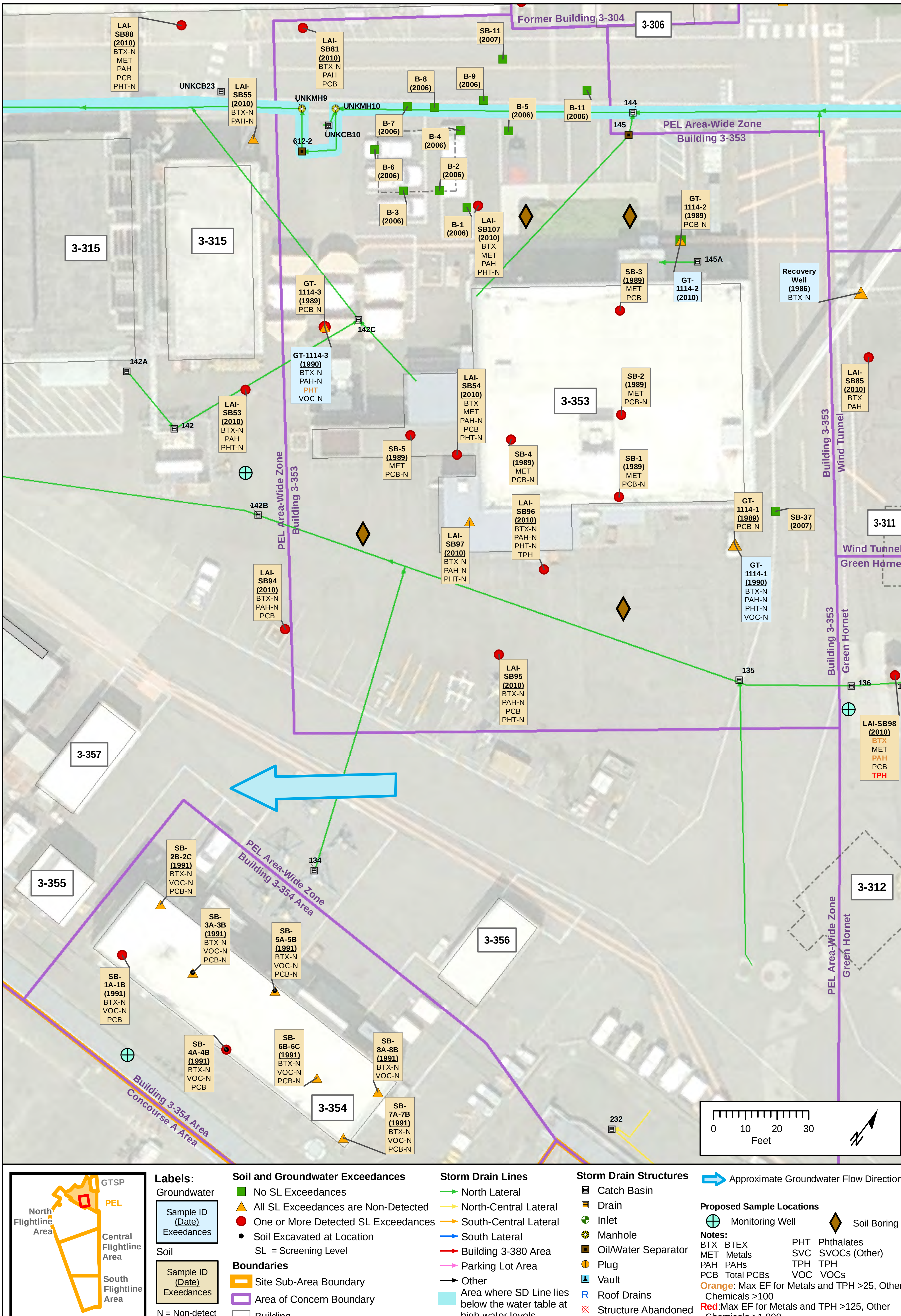

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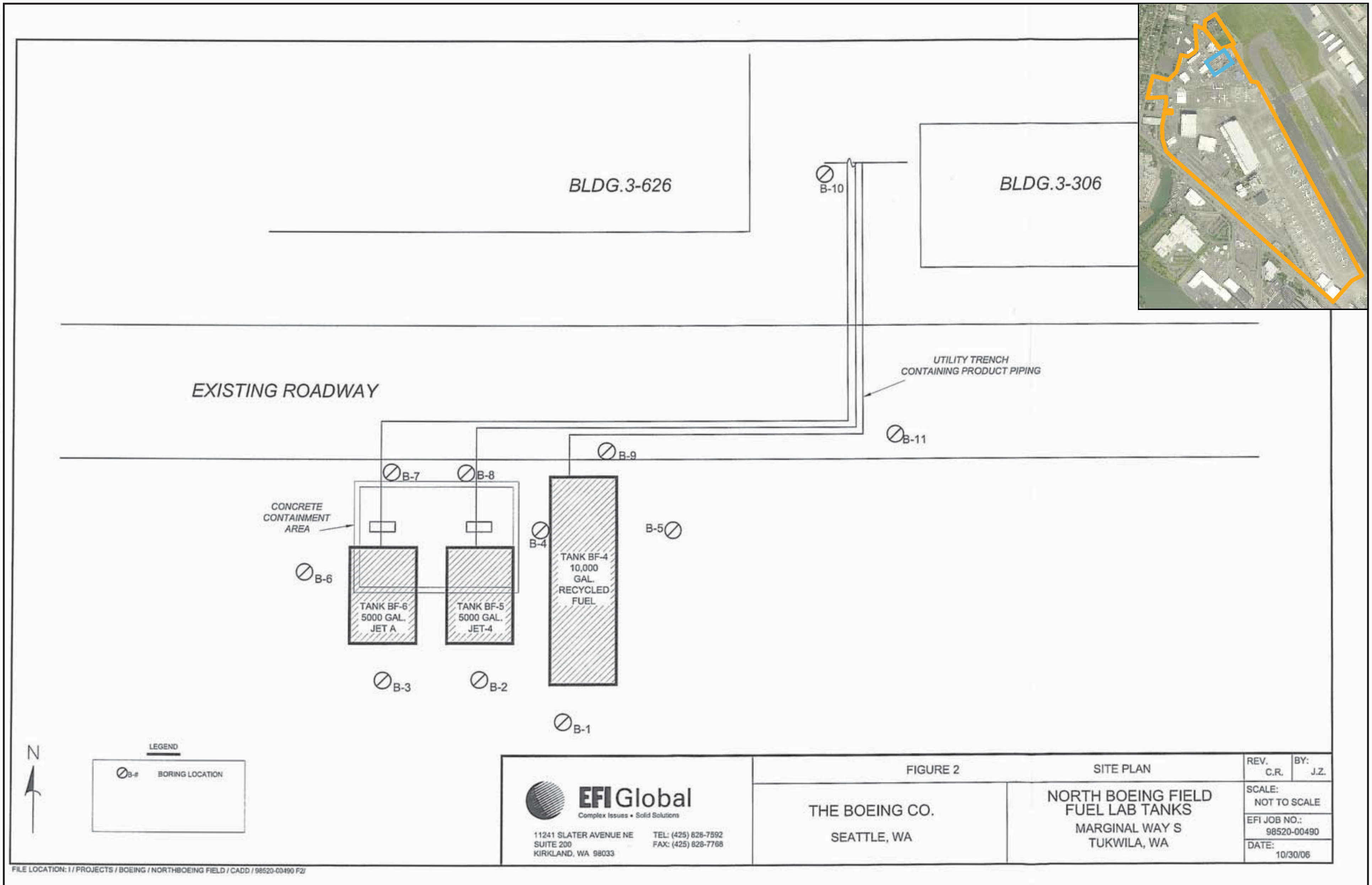
Figure 7.1-32. Soil and Groundwater Sample Locations at Buildings 3-353 and 3-354

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mtf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Source: EFI Global 2006

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Figure 7.1–33a. Tanks BF-4, BF-5, and BF-6 Assessment

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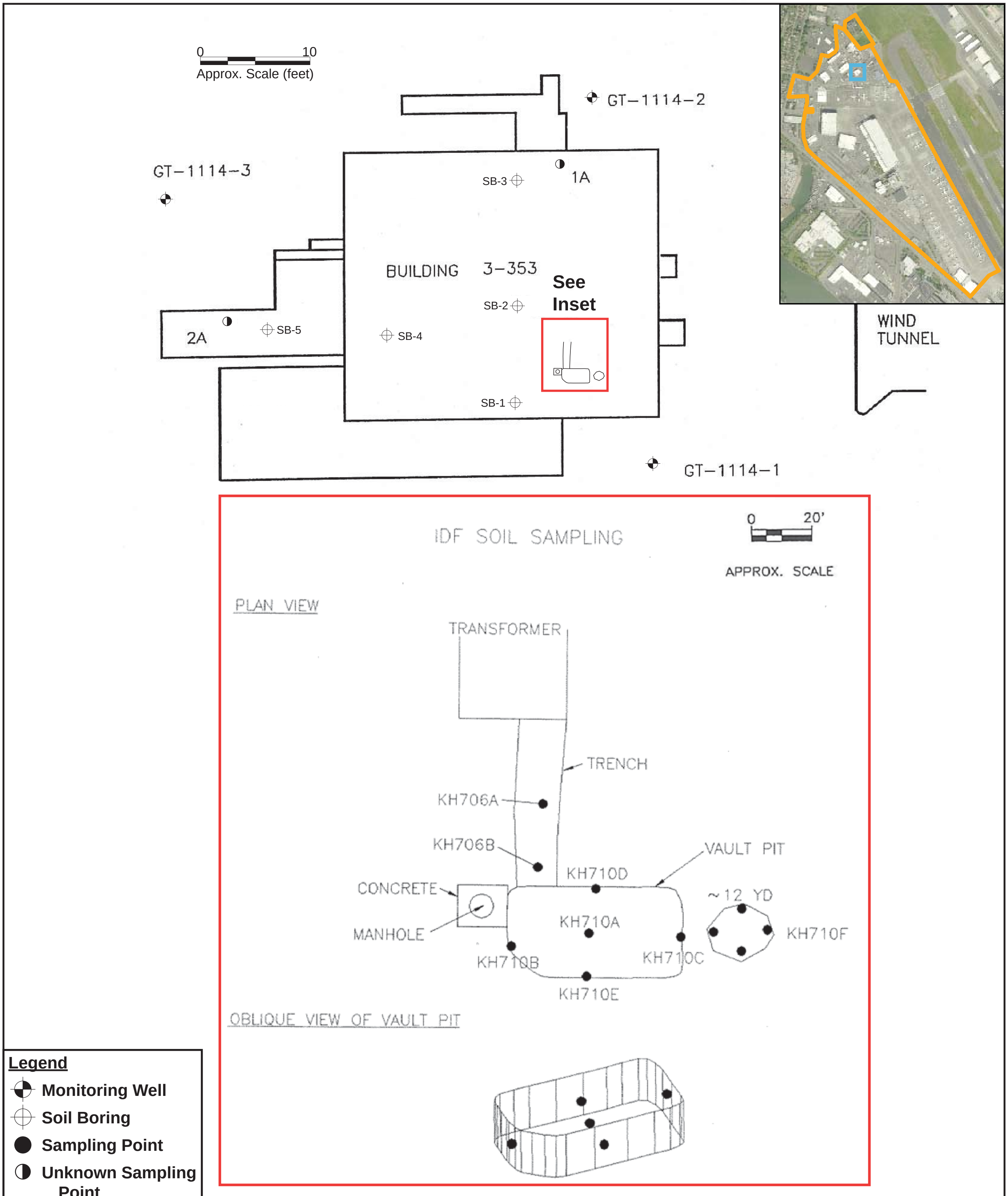

Source: GTI 1990a,e [1421, 1157]

Figure 7.1–33b. Building 3-353 Assessment and Remedial Excavation (1989–1990)

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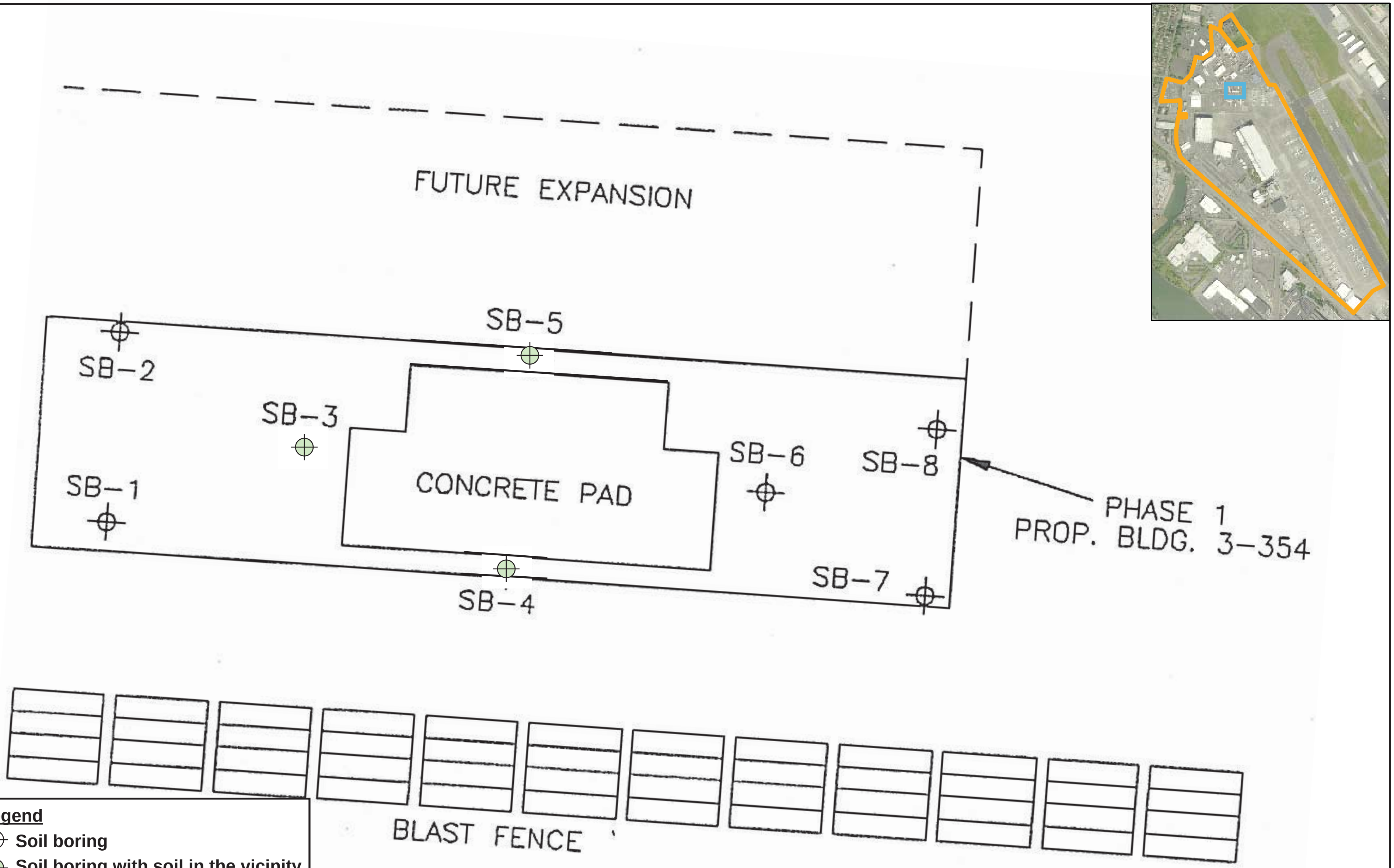
SAIC® From Science to Solutions



Legend
- Soil boring
- Soil boring with soil in the vicinity excavated in 1992. Excavation limits are unknown.

Source: GTI 1991b [1158]

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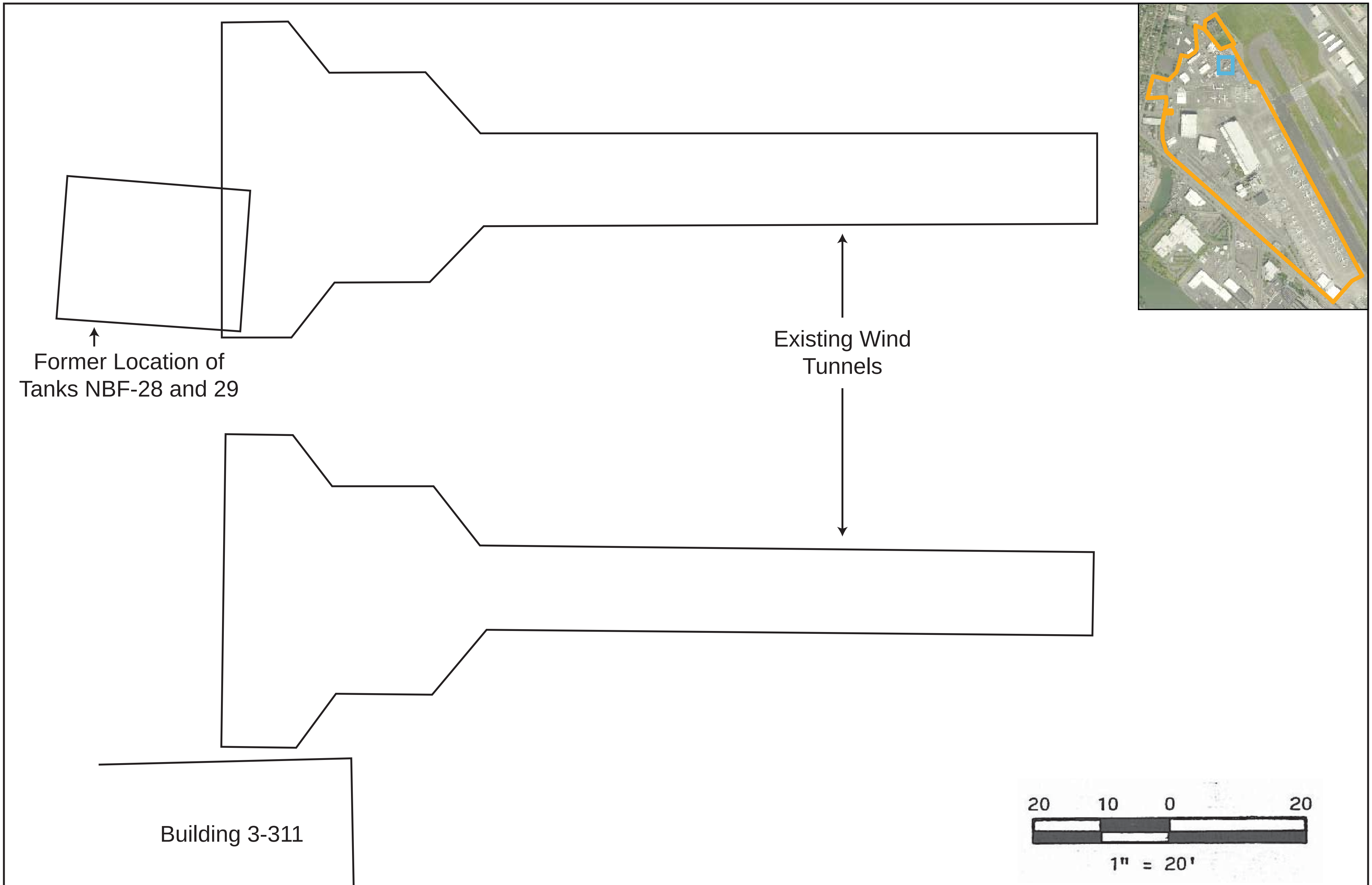
Figure 7.1–34. Building 3-354 Assessment and Remedial Excavation

0 20’ Approx. Scale

SAIC® *From Science to Solutions*



Source: Landau 1986a [1439]

Figure 7.1–35. Former Tanks NBF-28 and NBF-29 (1985–1986)

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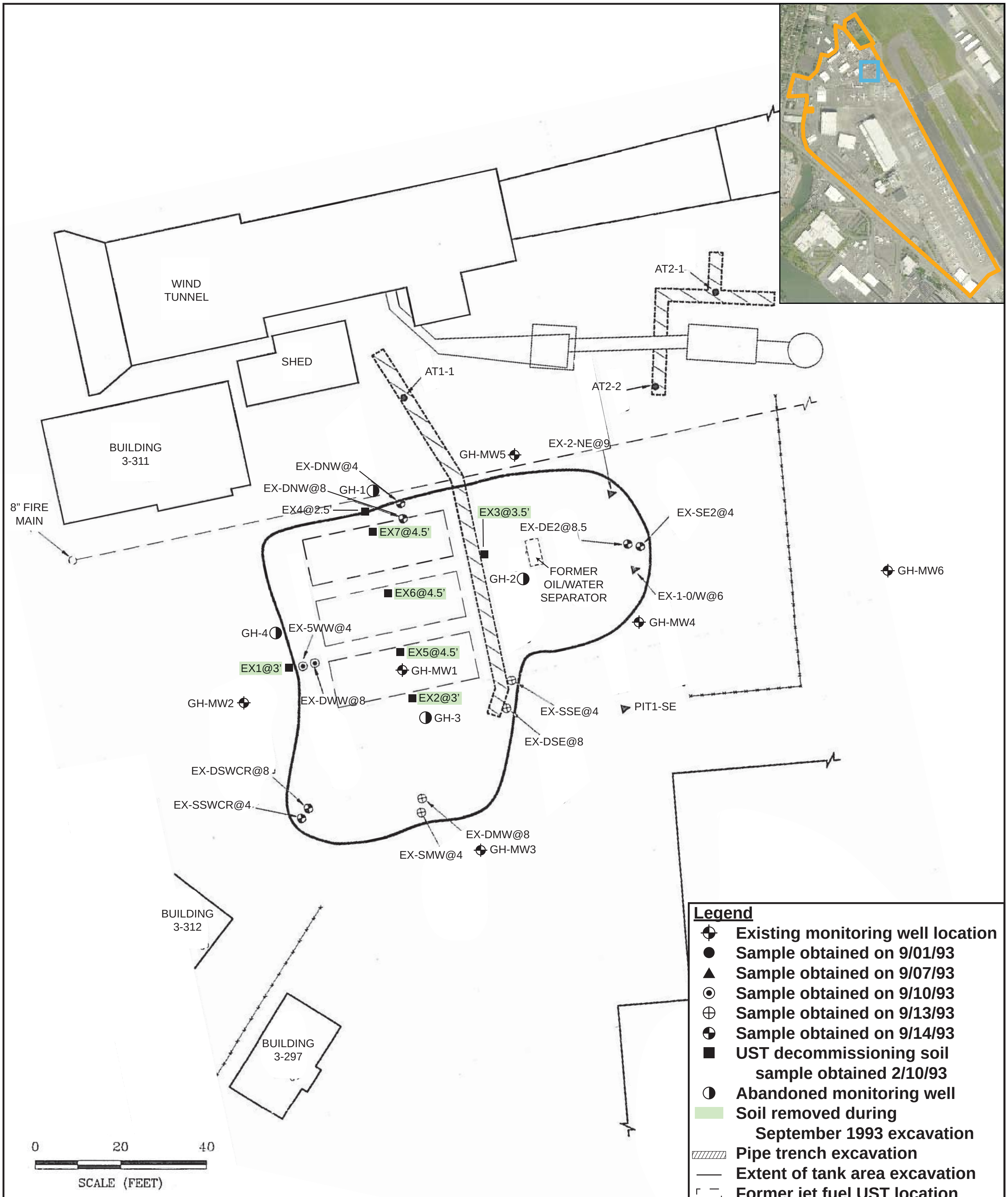
Figure 7.1-36. Soil and Groundwater Sample Locations at Wind Tunnel and Green Hornet Areas

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_PEL.mxd
Illustrative purposes only.



Sources: Landau 1986b [1440]; SEACOR 1993d [1494], 1994c [0180]

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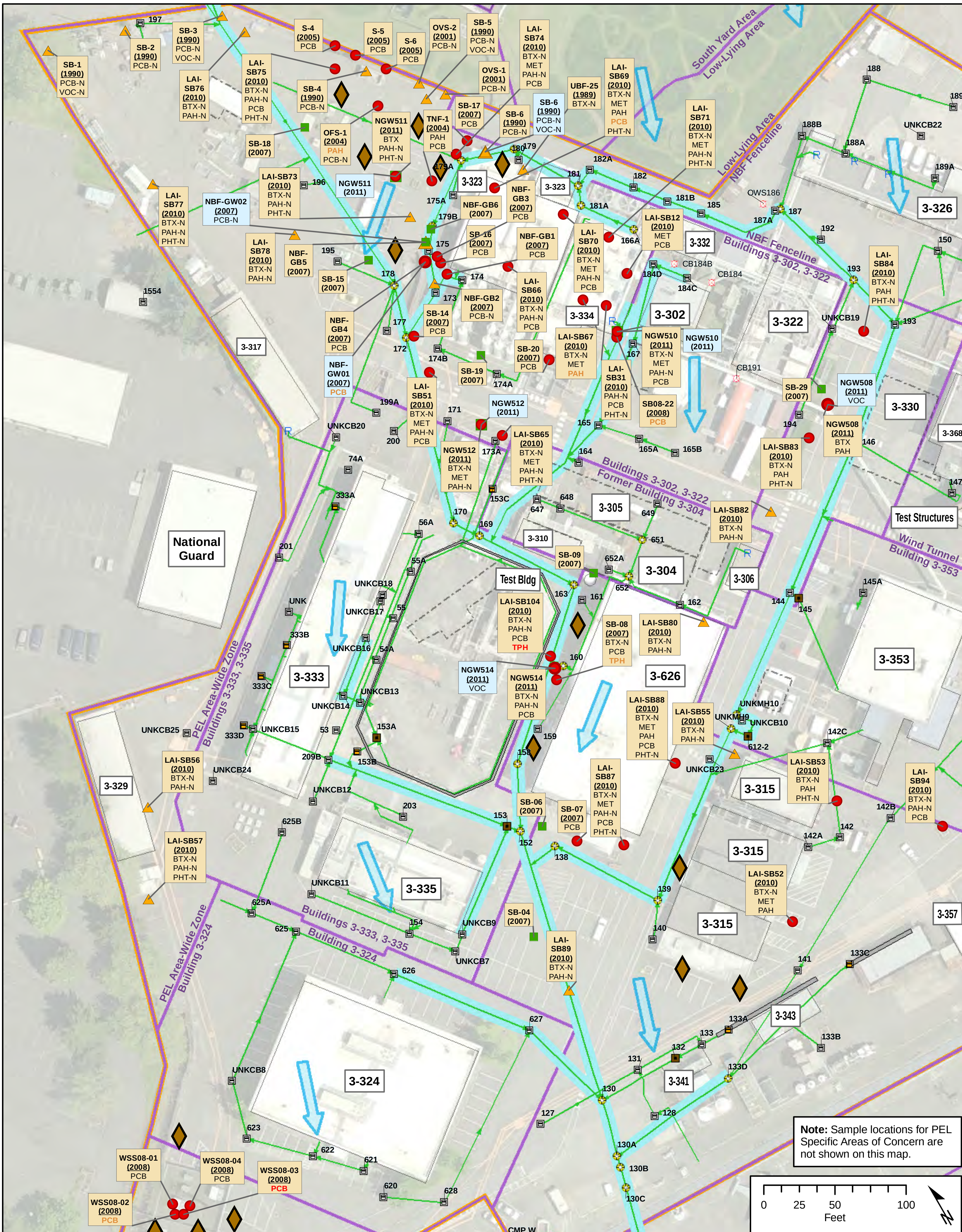
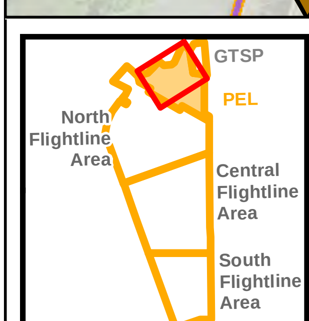
Figure 7.1–37. Green Hornet Area Assessments and Remedial Excavation (1985–1986 and 1992–1994)

SAIC From Science to Solutions





Labels:

Groundwater: Sample ID (Date) Exceedances

Soil: Sample ID (Date) Exceedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

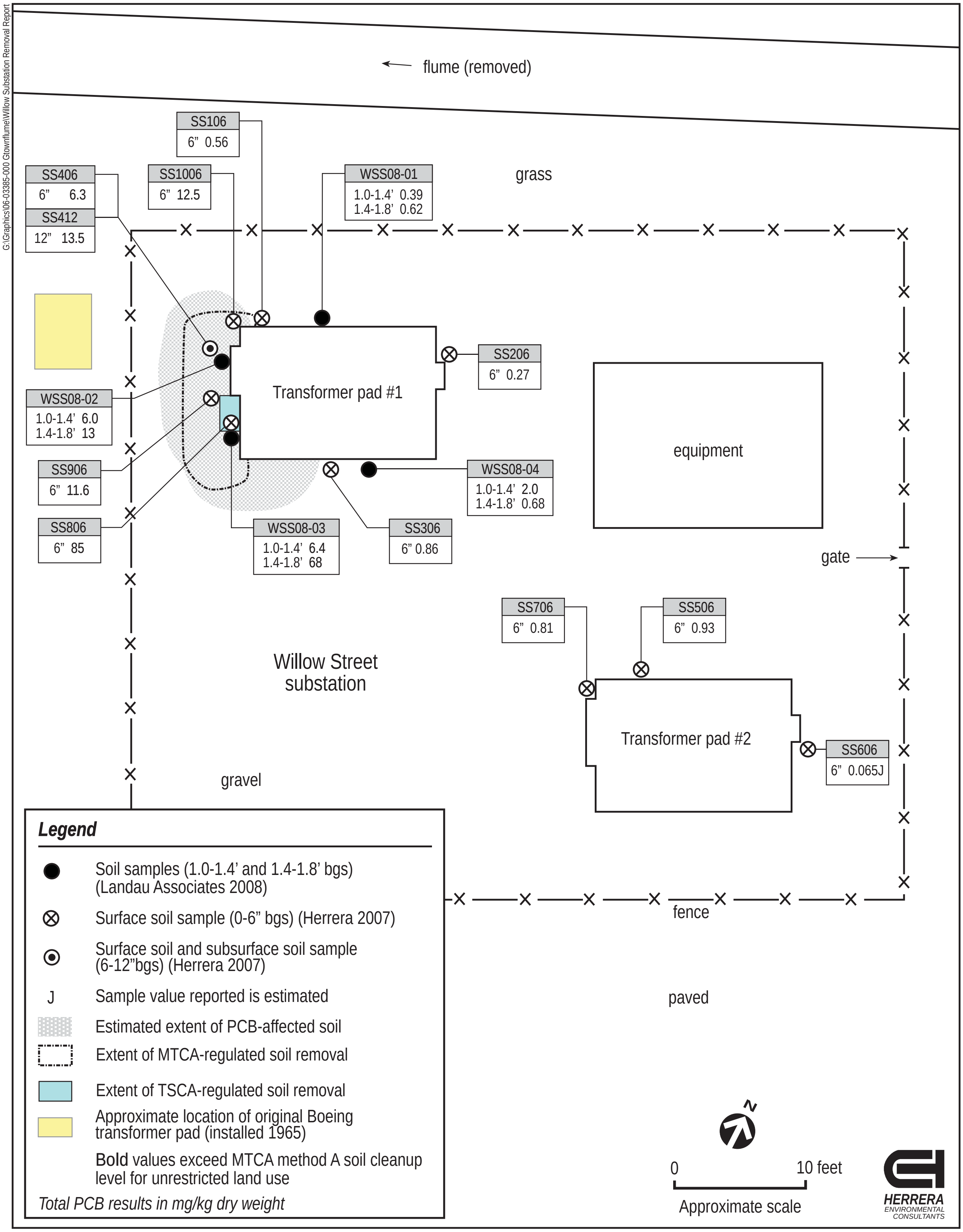
Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

DEPARTMENT OF ECOLOGY State of Washington

Figure 7.1-38. Soil and Groundwater Sample Locations at the PEL Area-Wide Zone

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-38_Soil&GW_Exceedances_PEL_AreaWide.mxd
Illustrative purposes only.



Source: Herrera 2011 [N0020]

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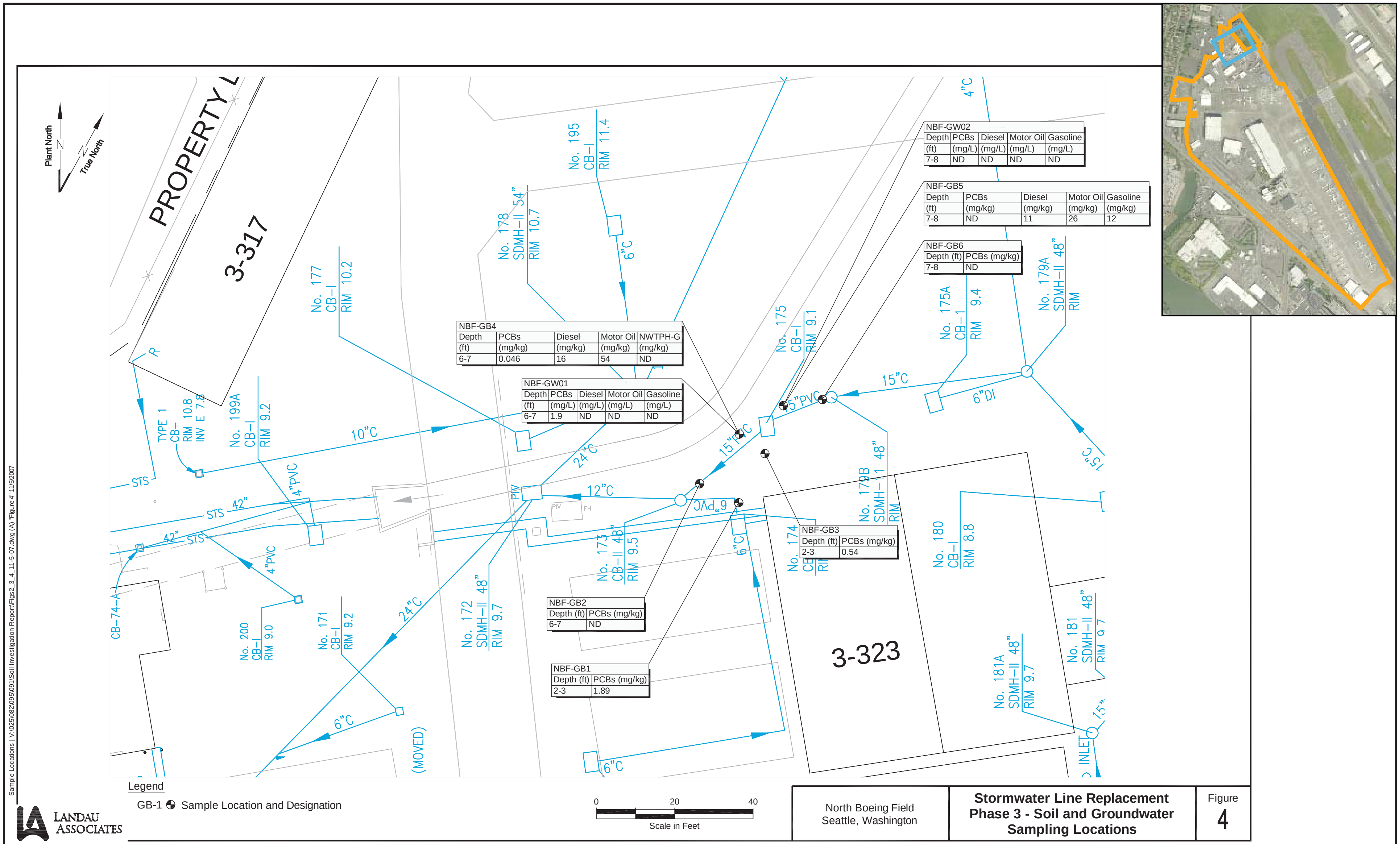
Figure 7.1–39. Willow Street Substation Assessments and Remedial Excavation (2006–2010)

SAIC From Science to Solutions

Figure 7.1–40. PCB Soil Investigation (2007)



Source: Landau 2007d [3022]

Figure 7.1–41. Soil and Groundwater Samples Associated with Storm Drain Line Replacement (2007)

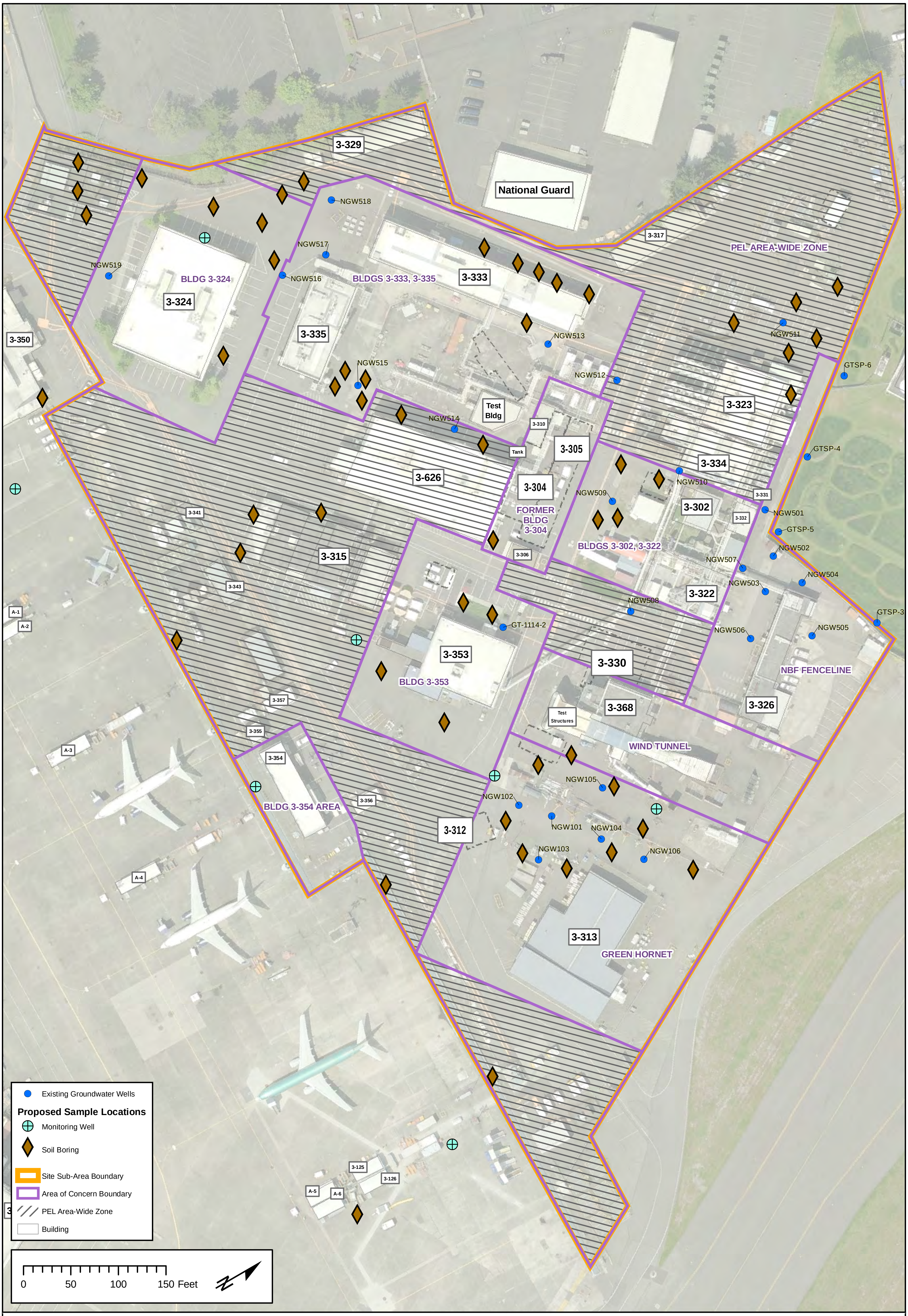


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Figure 7.1-42. Proposed Soil Borings and Groundwater Monitoring Well Locations at PEL Area, NBF

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-42_Wells_at_PEL_Area.mxd
Illustrative purposes only.

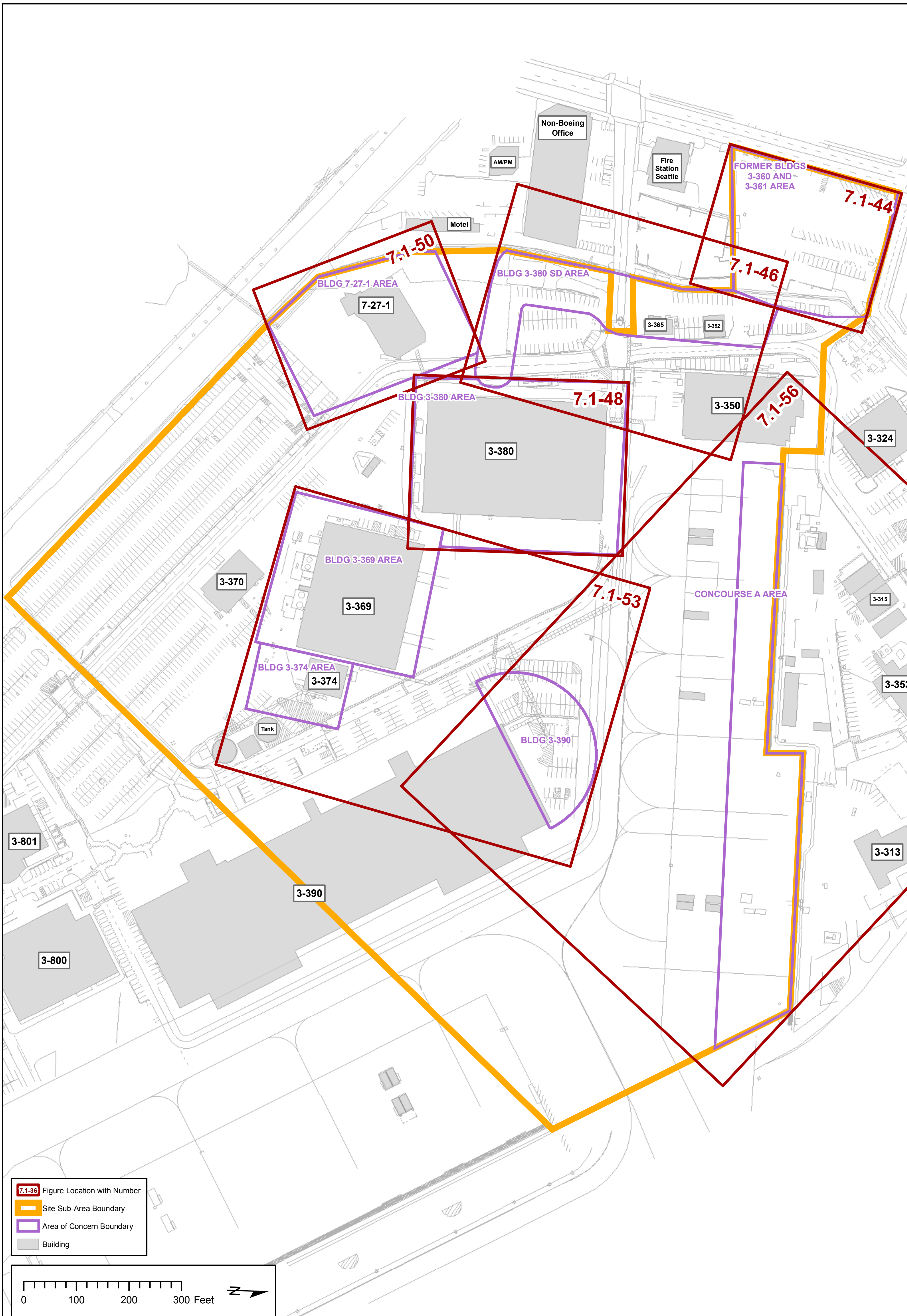

Figure 7.1-43. Areas of Concern at North Flightline Area

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State of Washington

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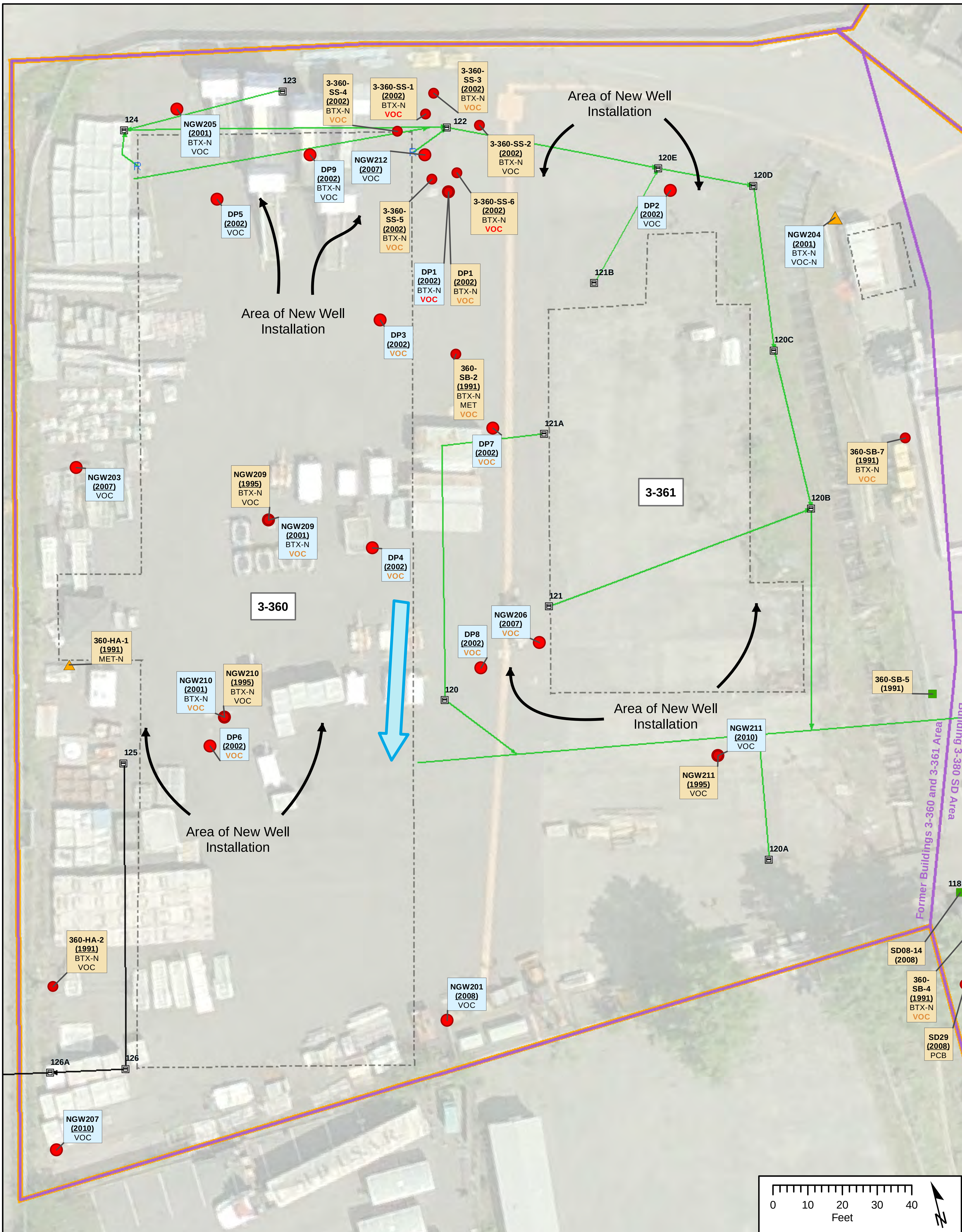
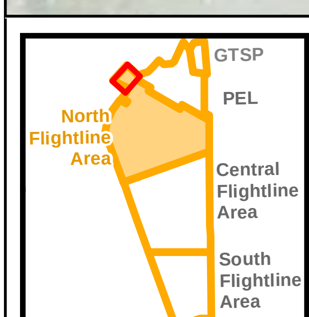
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-42_Areas_of_Concern_at_North_Flightline_Area.mxd
Illustrative purposes only.





Labels:

Groundwater

Sample ID (Date) Exeedances

Soil

Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

Monitoring Well   Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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Figure 7.1-44. Soil and Groundwater Sample Locations at Former Buildings 3-360 and 3-361

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_NFA.mxd
Illustrative purposes only.

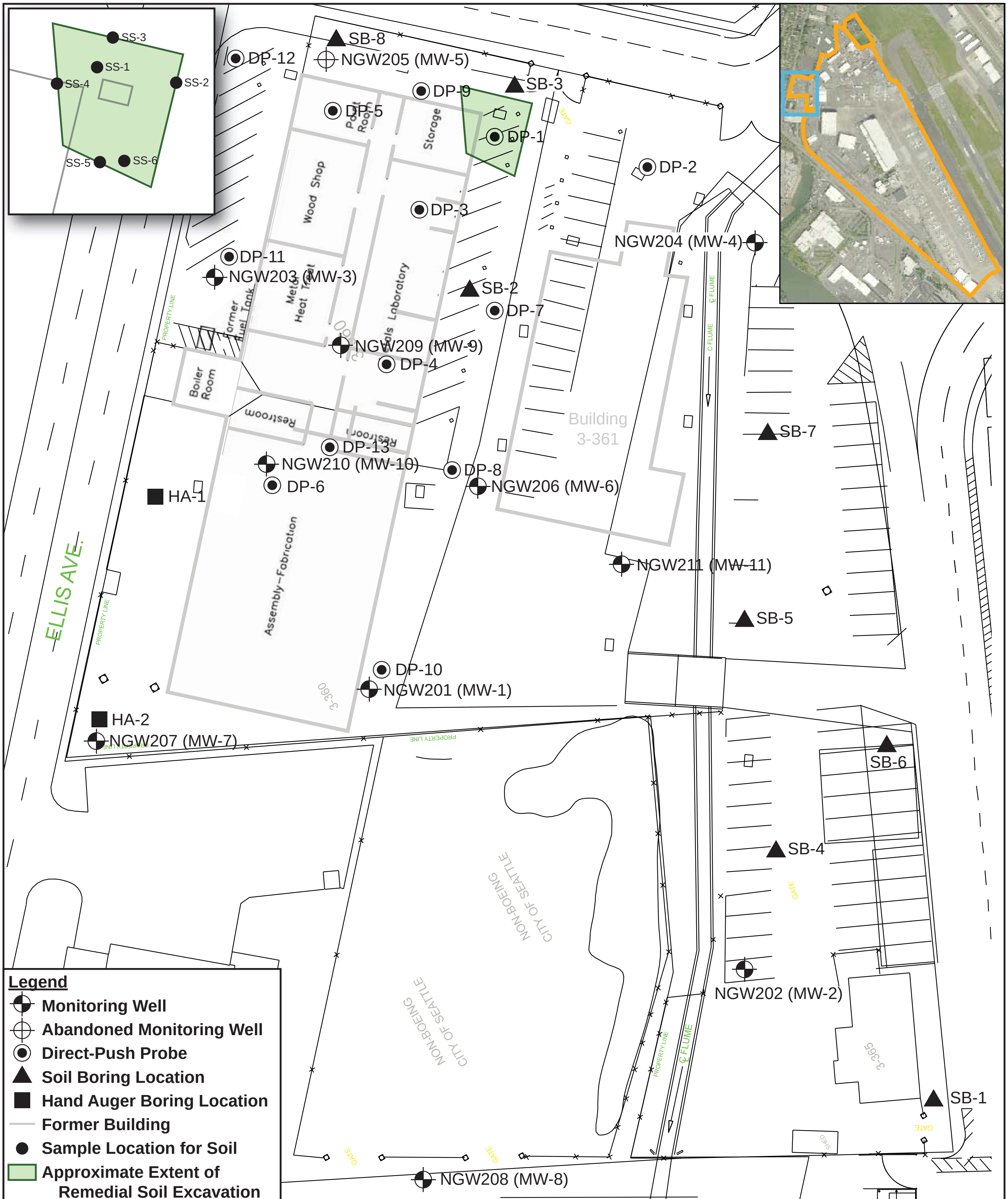

Figure 7.1–45. Buildings 3-360, 3-361, and 3-365 Assessments (1991, 1993–2003)

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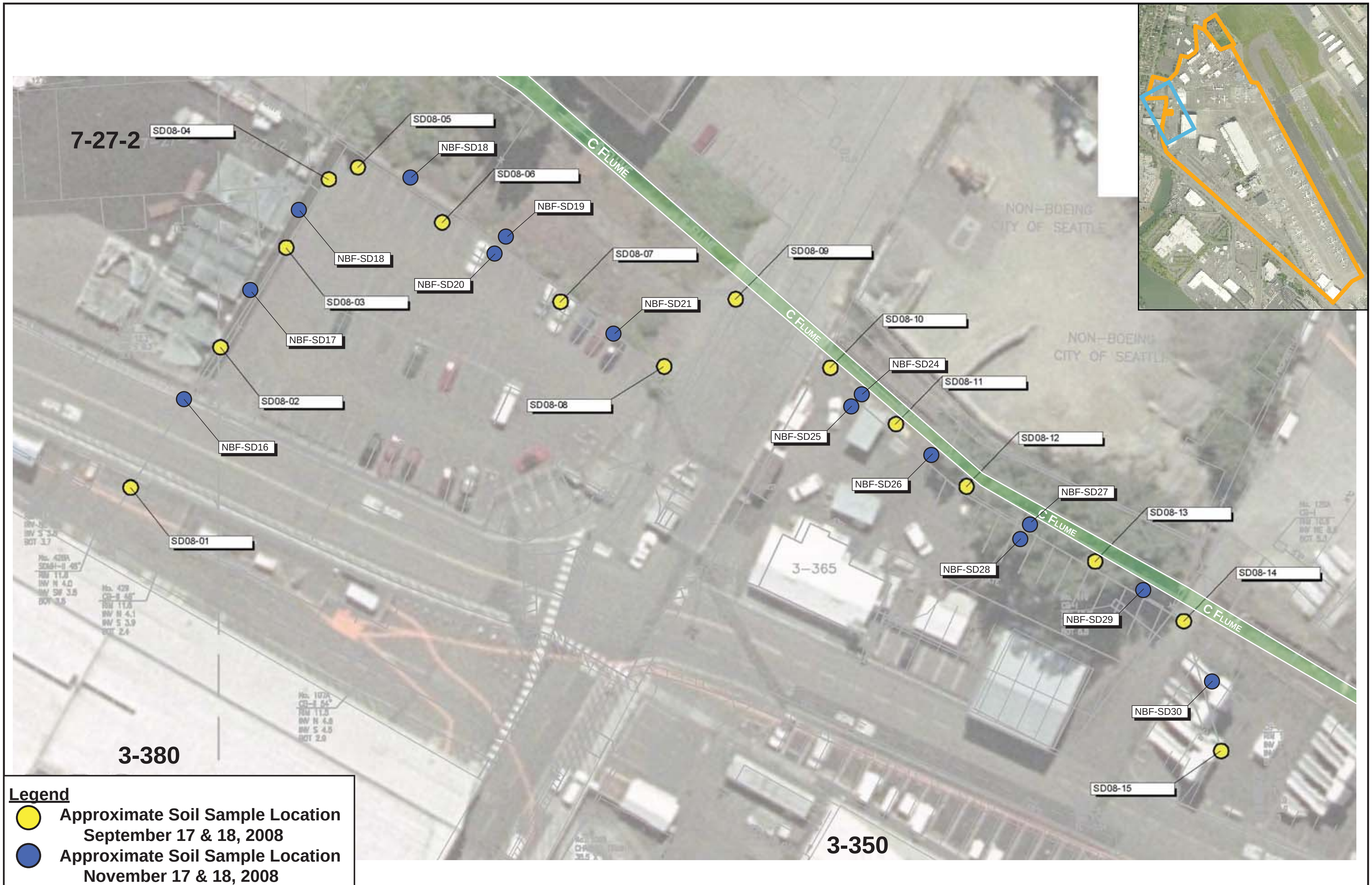
Figure 7.1-46. Soil and Groundwater Sample Locations at Building 3-380 Storm Drain Area

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_NFA.mxd
Illustrative purposes only.



Source: Landau 2008a,b [2109, 2348]

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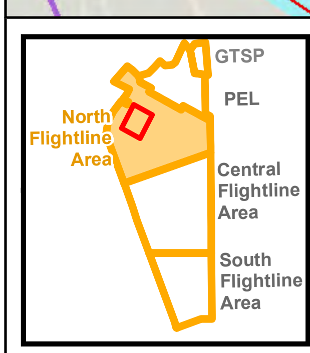
Figure 7.1–47. Potential PCB Sources to Slip 4 Study and Soil and Catch Basin Investigation (2008) North Flightline Area

SAIC From Science to Solutions



Labels:

Groundwater

Sample ID (Date) Exeedances

Soil

Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedences
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedences
- Soil Excavated at Location
- SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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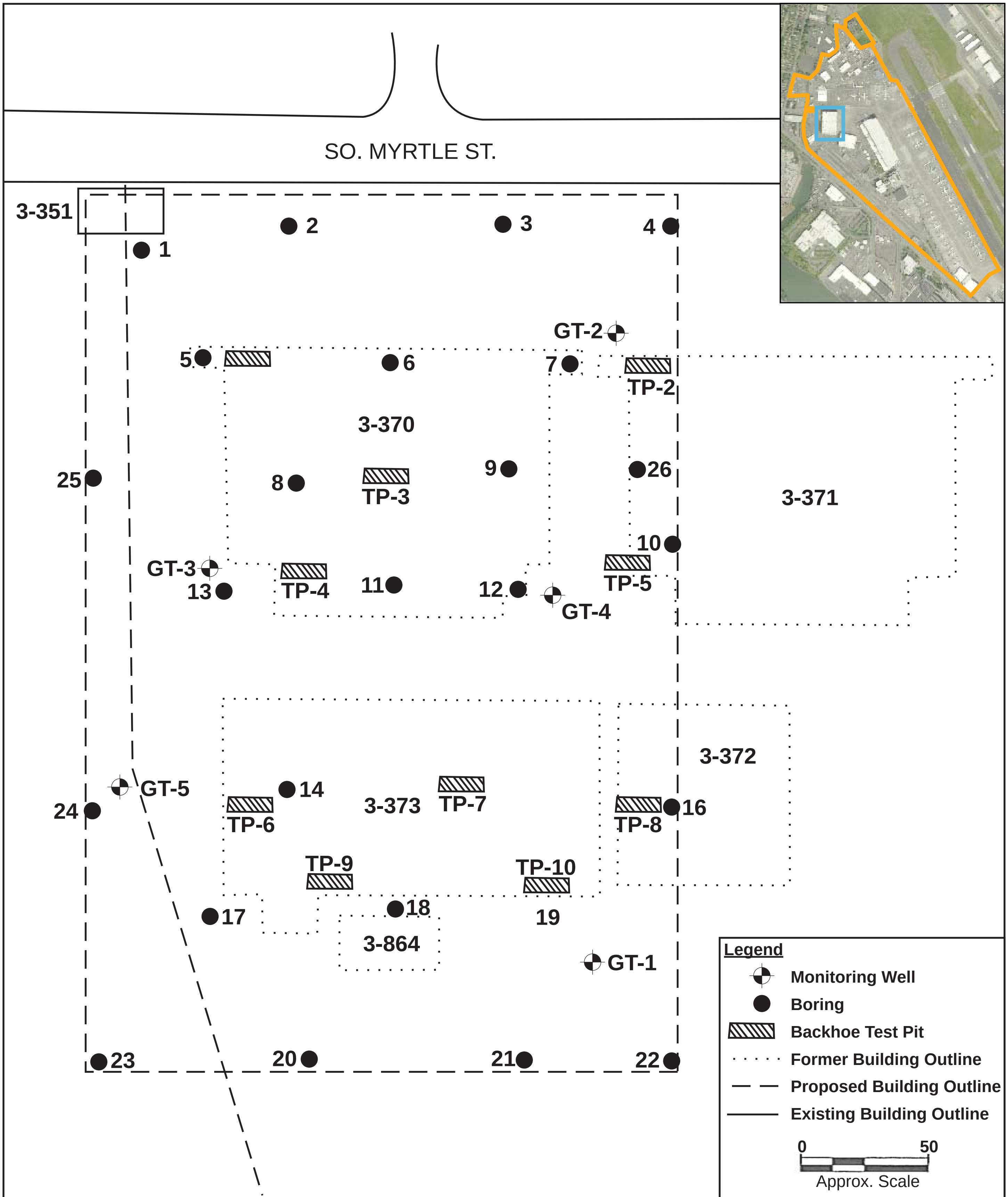
Figure 7.1-48. Soil and Groundwater Sample Locations at Building 3-380

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_NFA.mxd
Illustrative purposes only.

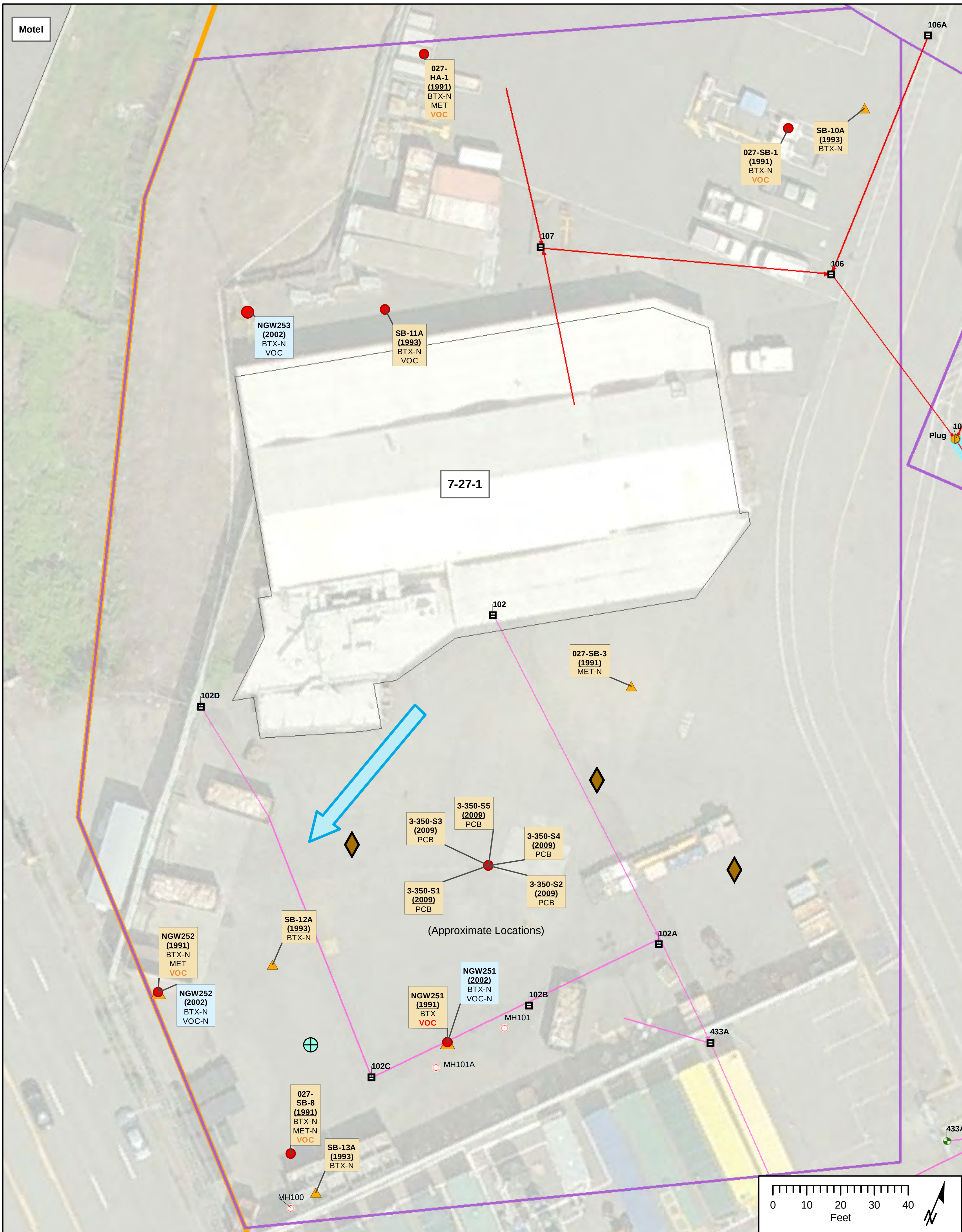


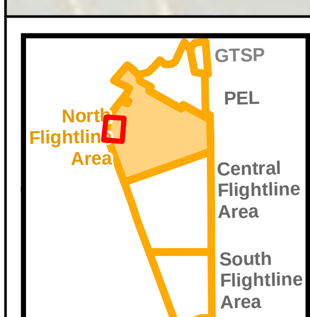
Source: GTI 1990b [1422]

Figure 7.1–49. Building 3-380 Pre-Construction Site Assessments (1989–1990)

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions





Labels:
Groundwater
Sample ID (Date) Exeedances
Soil
Sample ID (Date) Exeedances
N = Non-detect

Soil and Groundwater Exceedances
No SL Exceedances
All SL Exceedances are Non-Detected
One or More Detected SL Exceedances
Soil Excavated at Location
SL = Screening Level

Boundaries
Site Sub-Area Boundary
Area of Concern Boundary
Building

Storm Drain Lines
North Lateral
North-Central Lateral
South-Central Lateral
South Lateral
Building 3-380 Area
Parking Lot Area
Other
Area where SD Line lies below the water table at high water levels

Storm Drain Structures
Catch Basin
Drain
Inlet
Manhole
Oil/Water Separator
Plug
Vault
R Roof Drains
Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations
Monitoring Well
Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100
Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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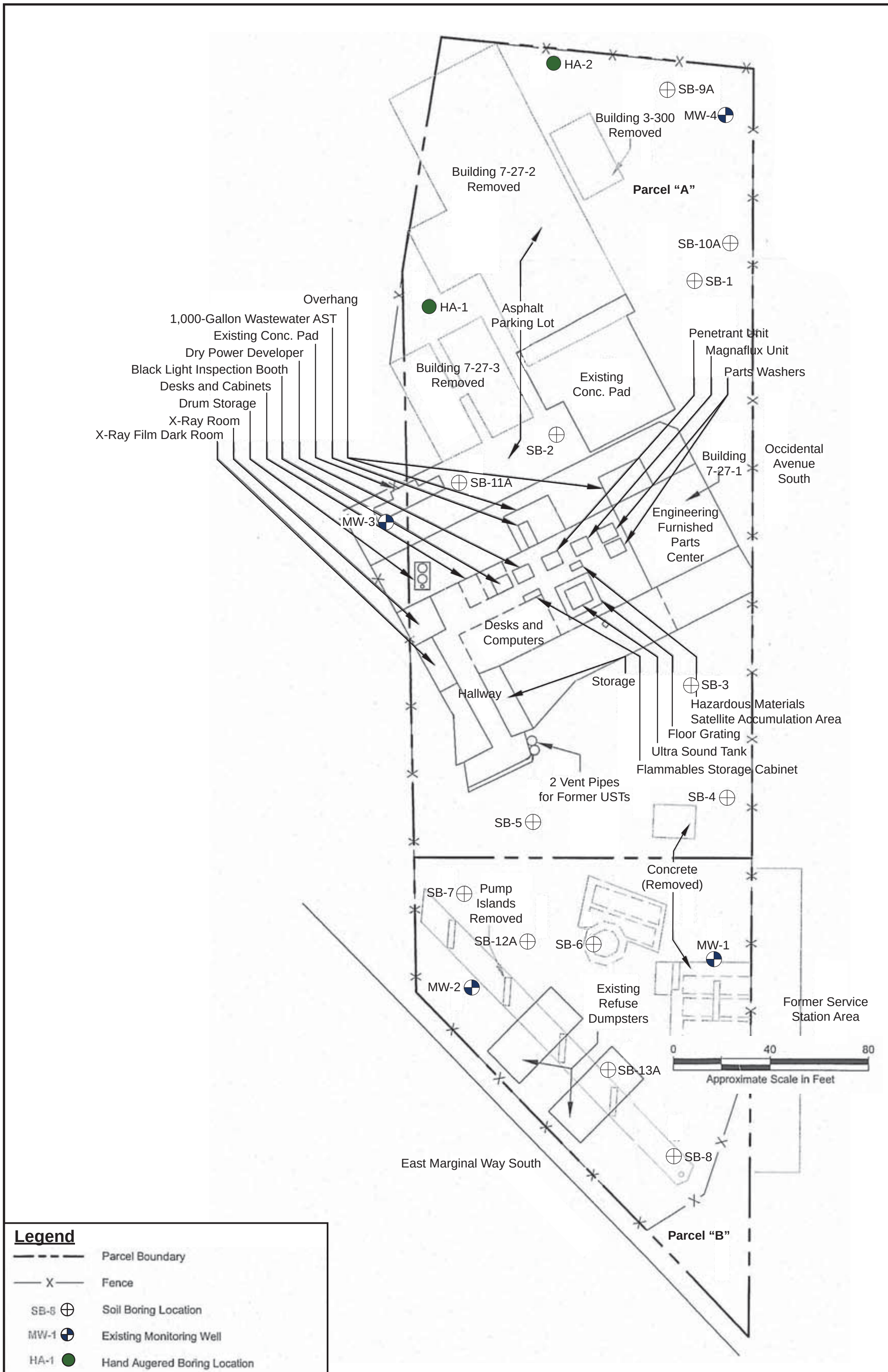
Figure 7.1-50. Soil and Groundwater Sample Locations at Building 7-27-1

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_NFA.mxd
Illustrative purposes only.



Source: Landau 2002a [1448]

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Figure 7.1–51. Buildings 7-27-1, 7-27-2, and 7-27-3 Property and Building Features and Assessments (1991)

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Figure 7.1–52. Asphalt Paving Location at Building 7-27-1 (2009)

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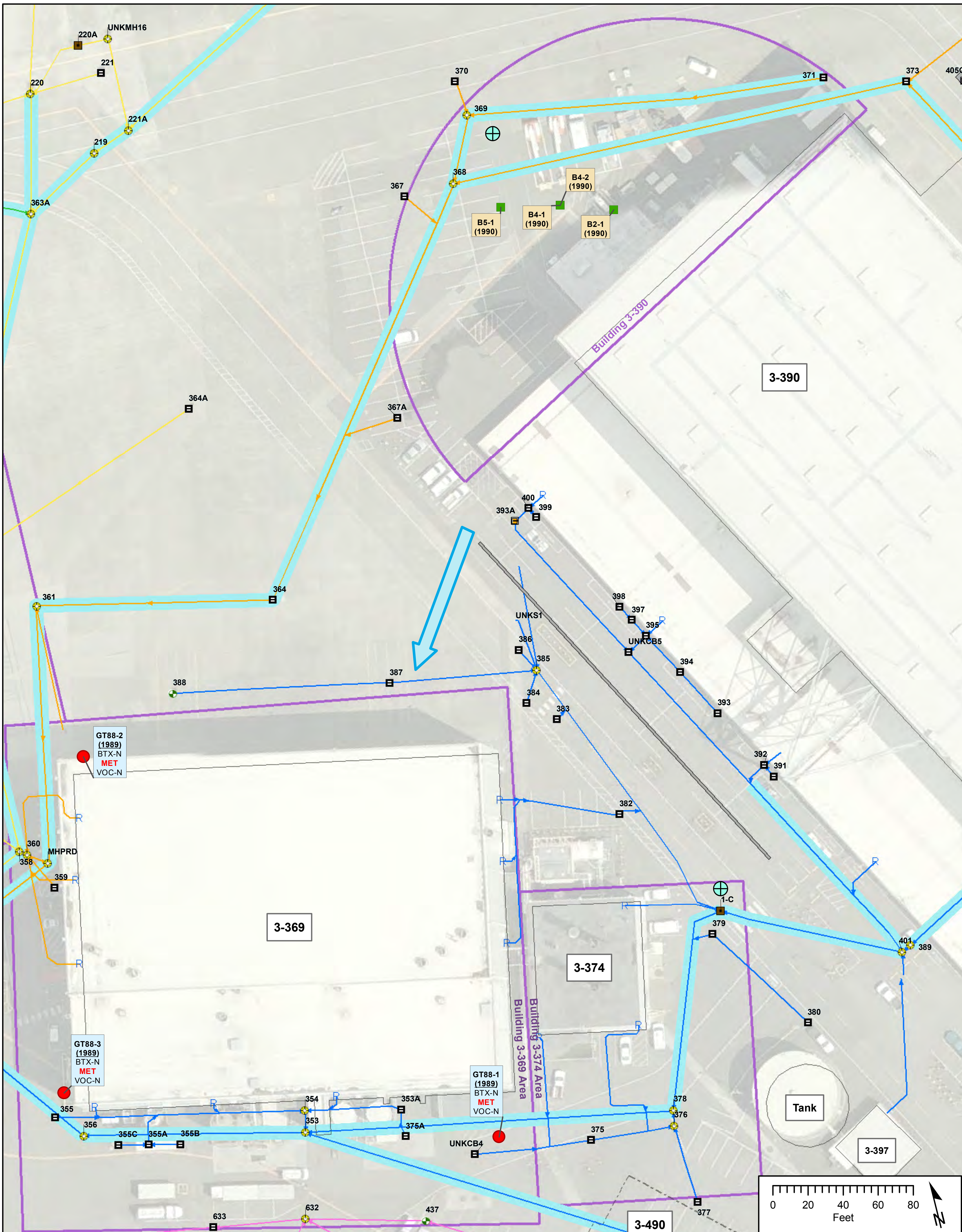

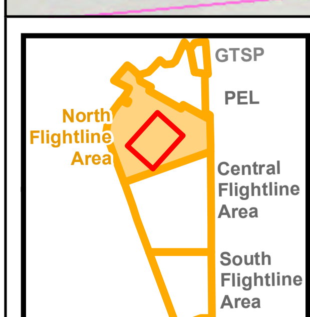

Labels:

Groundwater

Sample ID
(Date)
Exeedances

Soil

Sample ID
(Date)
Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location
- SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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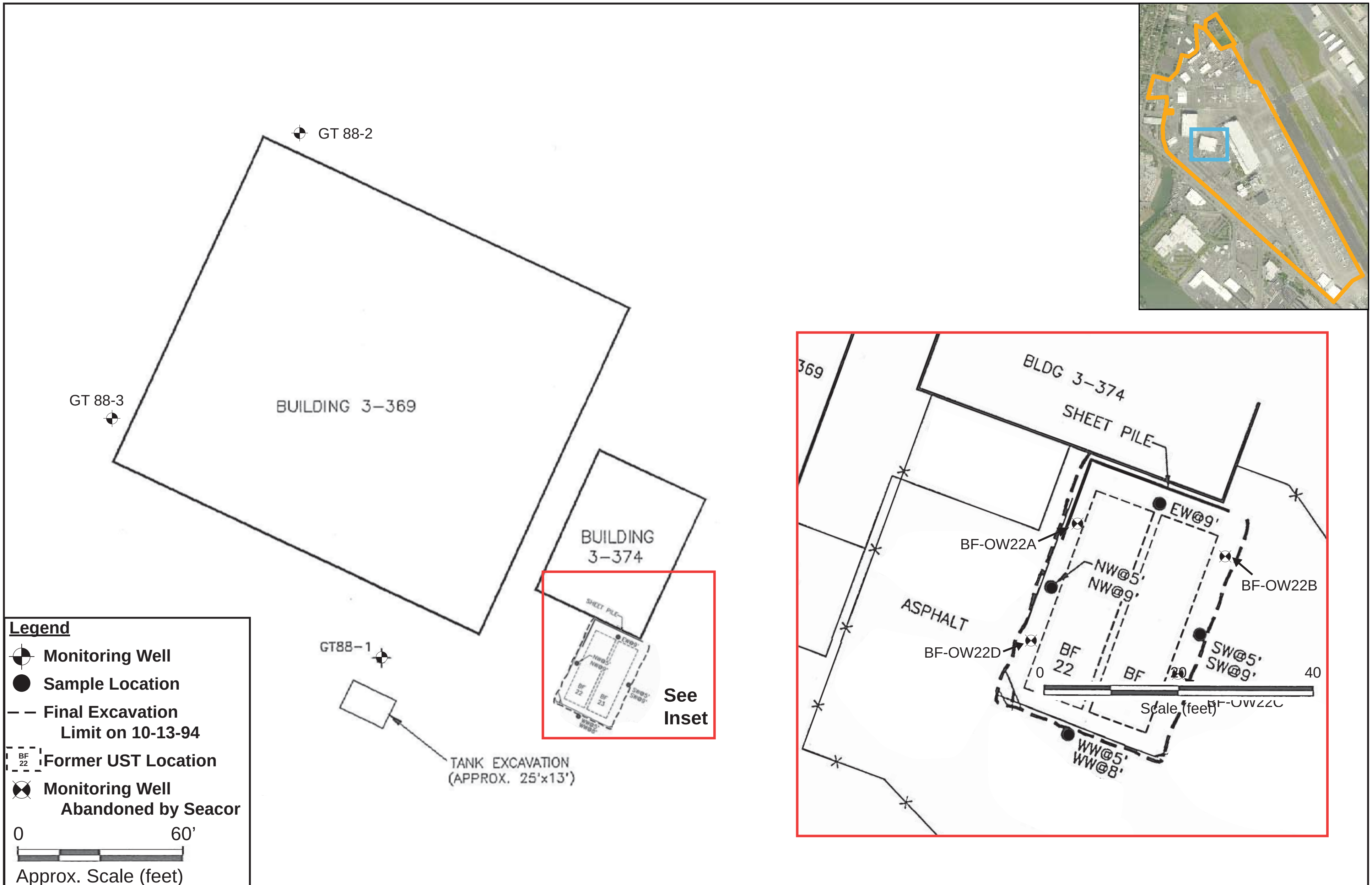
Figure 7.1-53. Soil and Groundwater Sample Locations at Buildings 3-369, 3-374, and 3-390

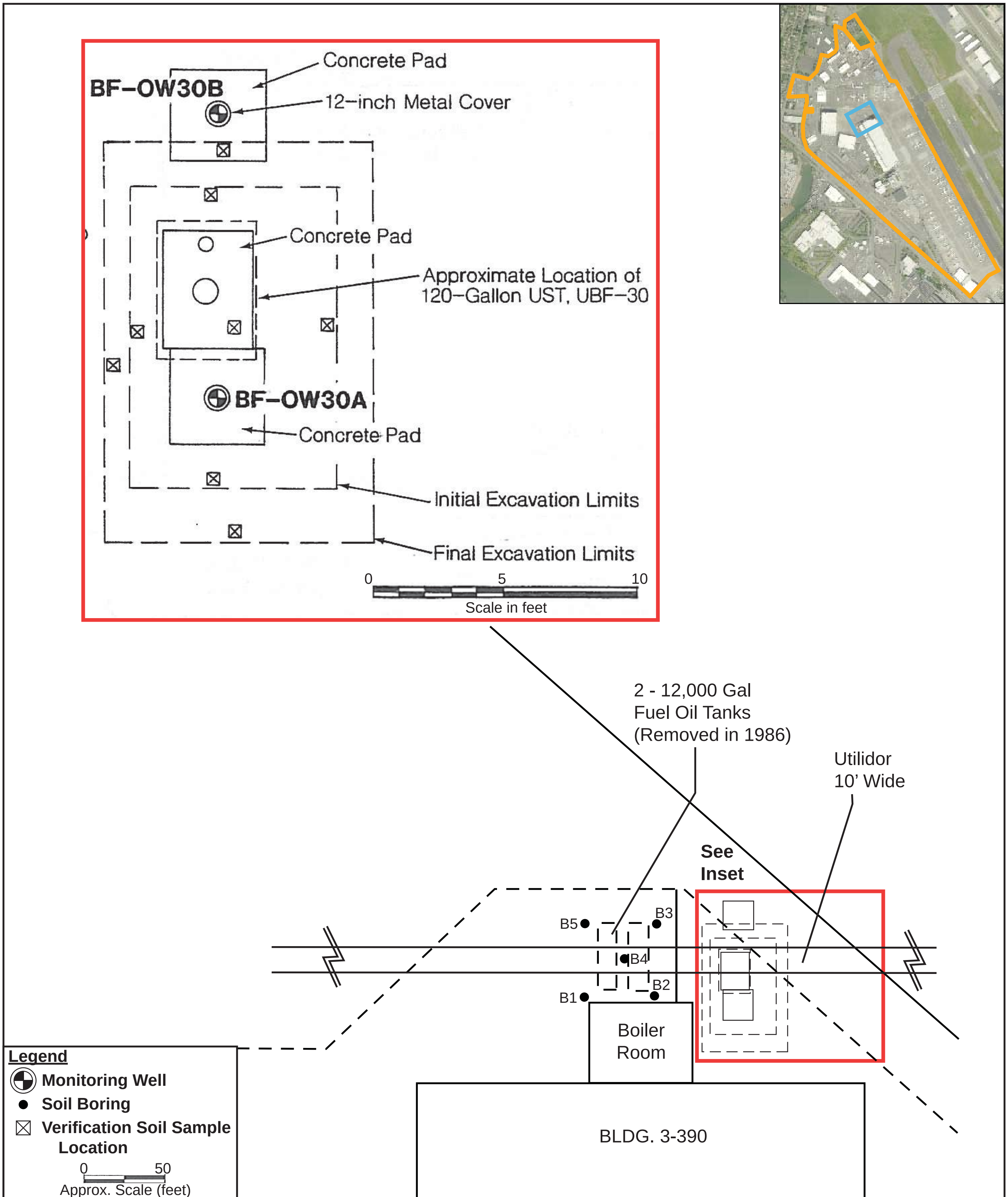
SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_NFA.mxd
Illustrative purposes only.



Source: *GTI 1989b [1420], 1991a [1426]; SEACOR 1993a [1483], SECOR 1994h [3219]*

Figure 7.1–54. Buildings 3-369 and 3-374 Assessments (1989–1991, 1995)

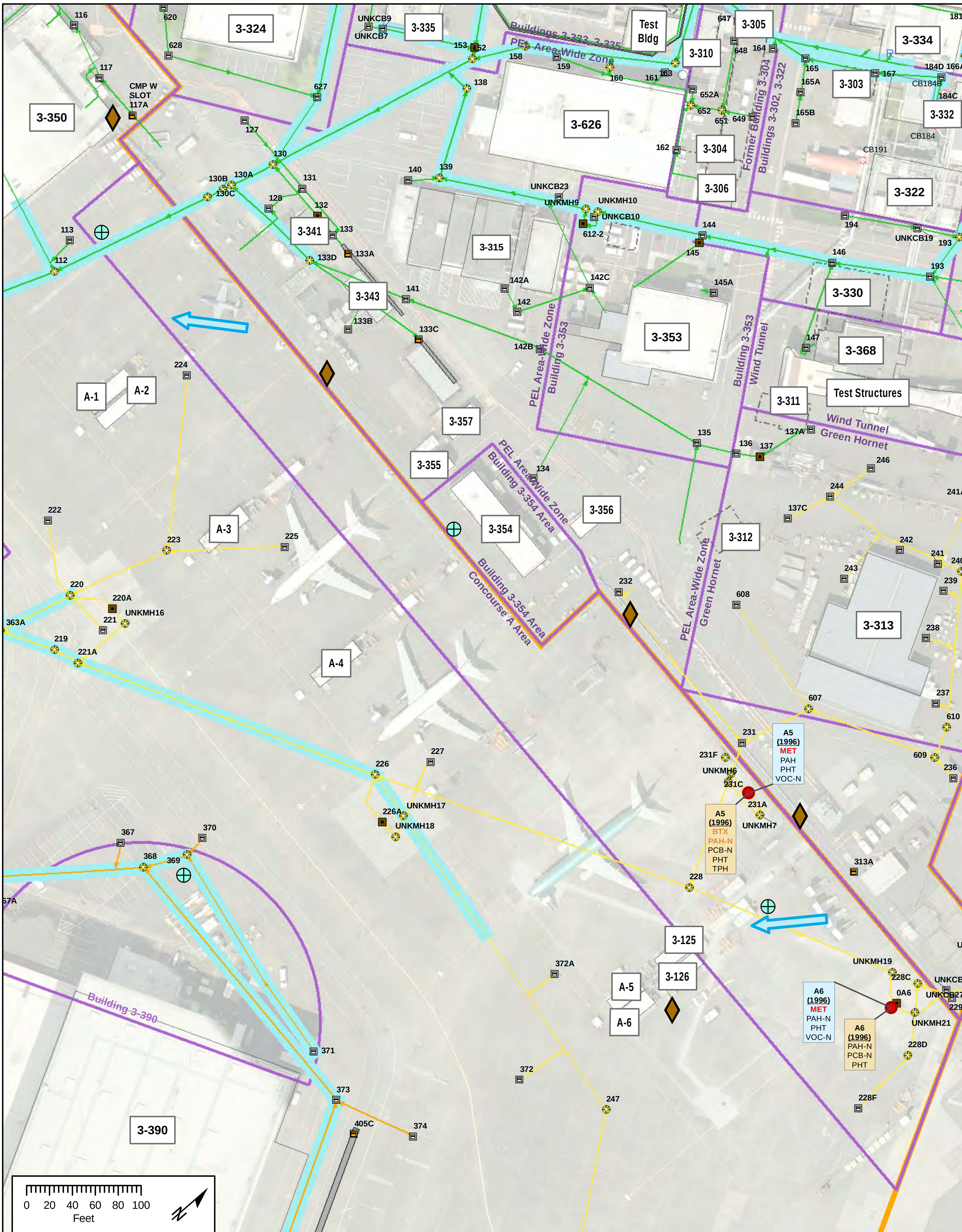


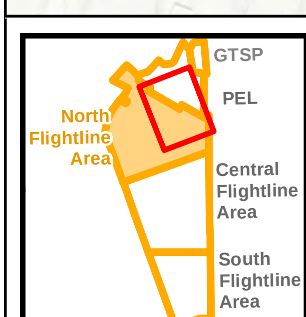
Sources: GTI 1990b [1422];
Hart Crowser 1990a [1431]

Figure 7.1–55. Building 3-390
UST Assessments (1989–1991)

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions





Labels:

Groundwater: Sample ID (Date) Exceedances

Soil: Sample ID (Date) Exceedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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Figure 7.1-56. Soil and Groundwater Sample Locations at Concourse A

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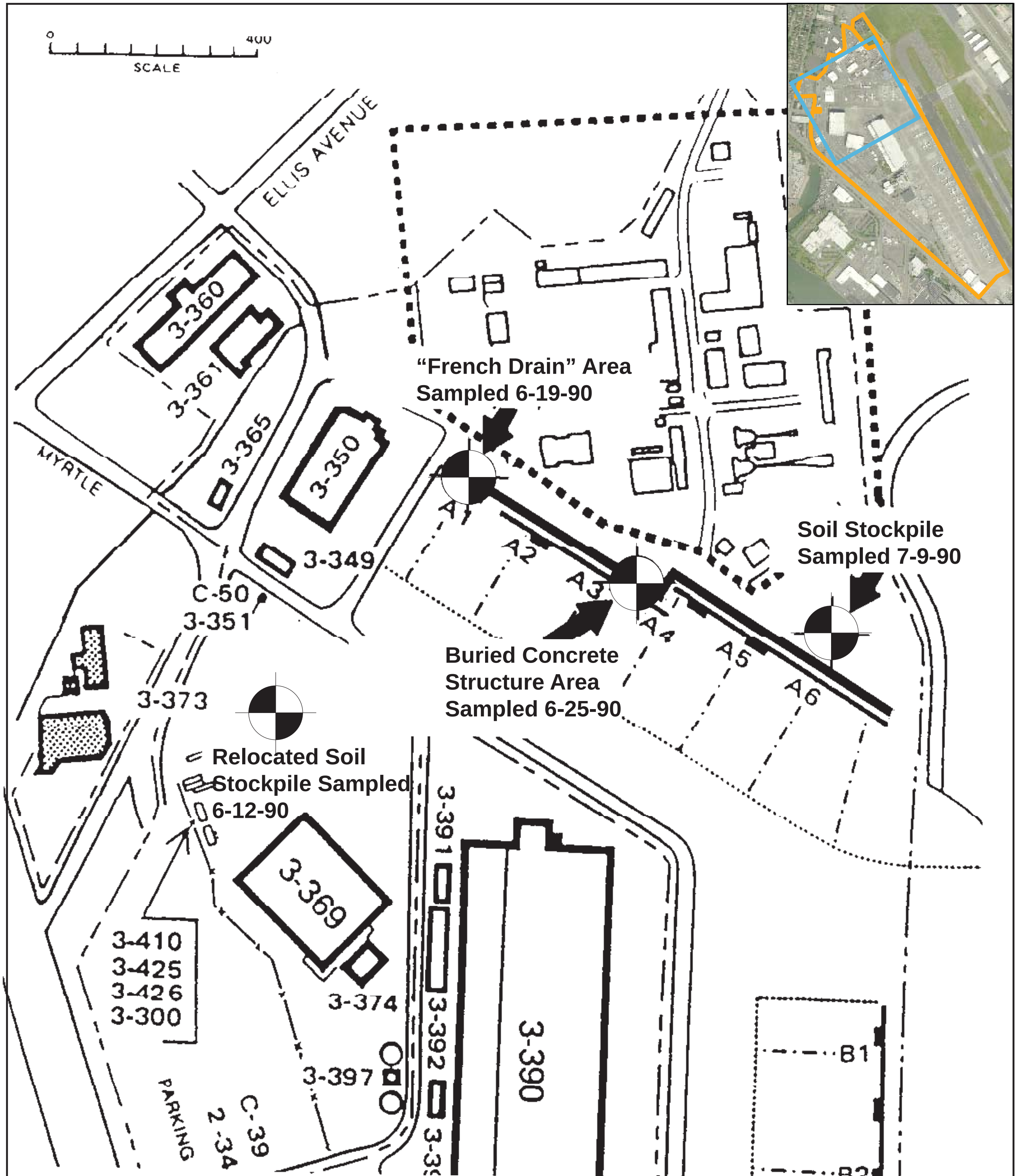
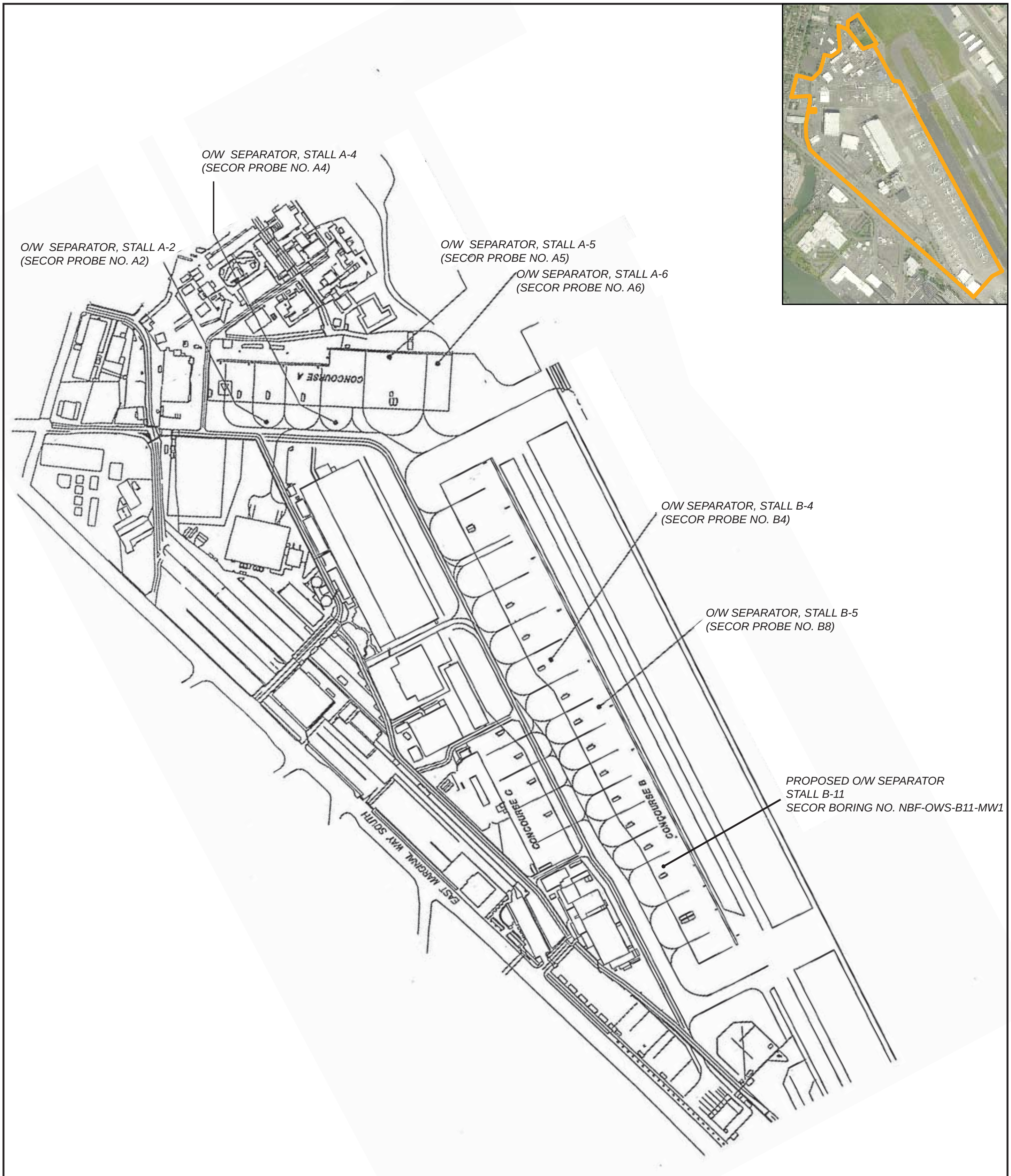
Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil@GW_Exceedances_NFA_ConcourseA.mxd
Illustrative purposes only.



Source: Groundwater Technology Inc., August 1990

Figure 7.1–57. Utilidor Project (1990)



REFERENCE: COVER SHEET, 7/25/96, DRAWING NO. 3.YD-CO. BOEING FACILITIES DEPARTMENT

Sources: SECOR 1996b [1548]; SAIC 2009b [6078]

Figure 7.1–58. Concourses A and B Oil/Water Separator Pre-Construction Assessments (1996)

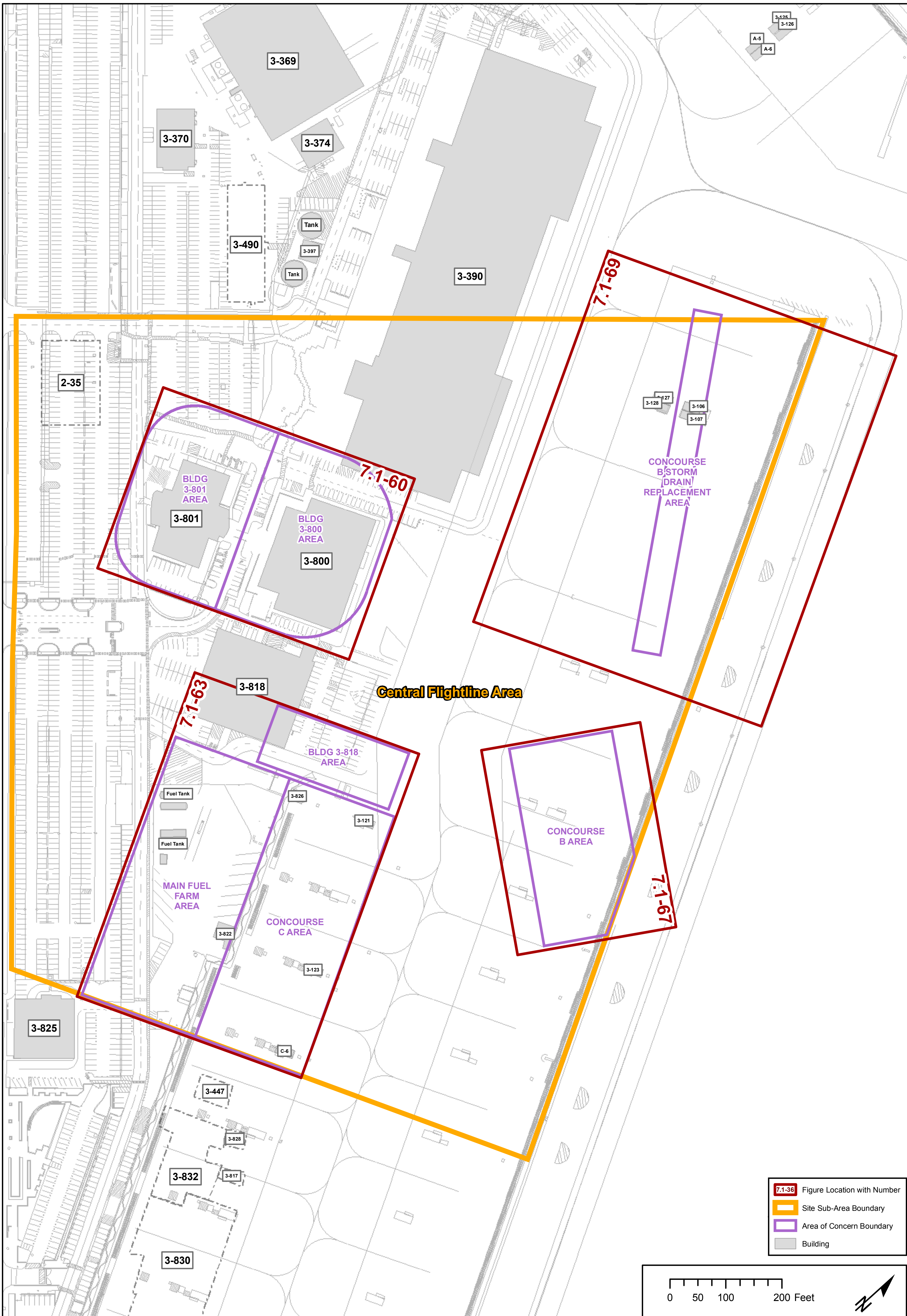


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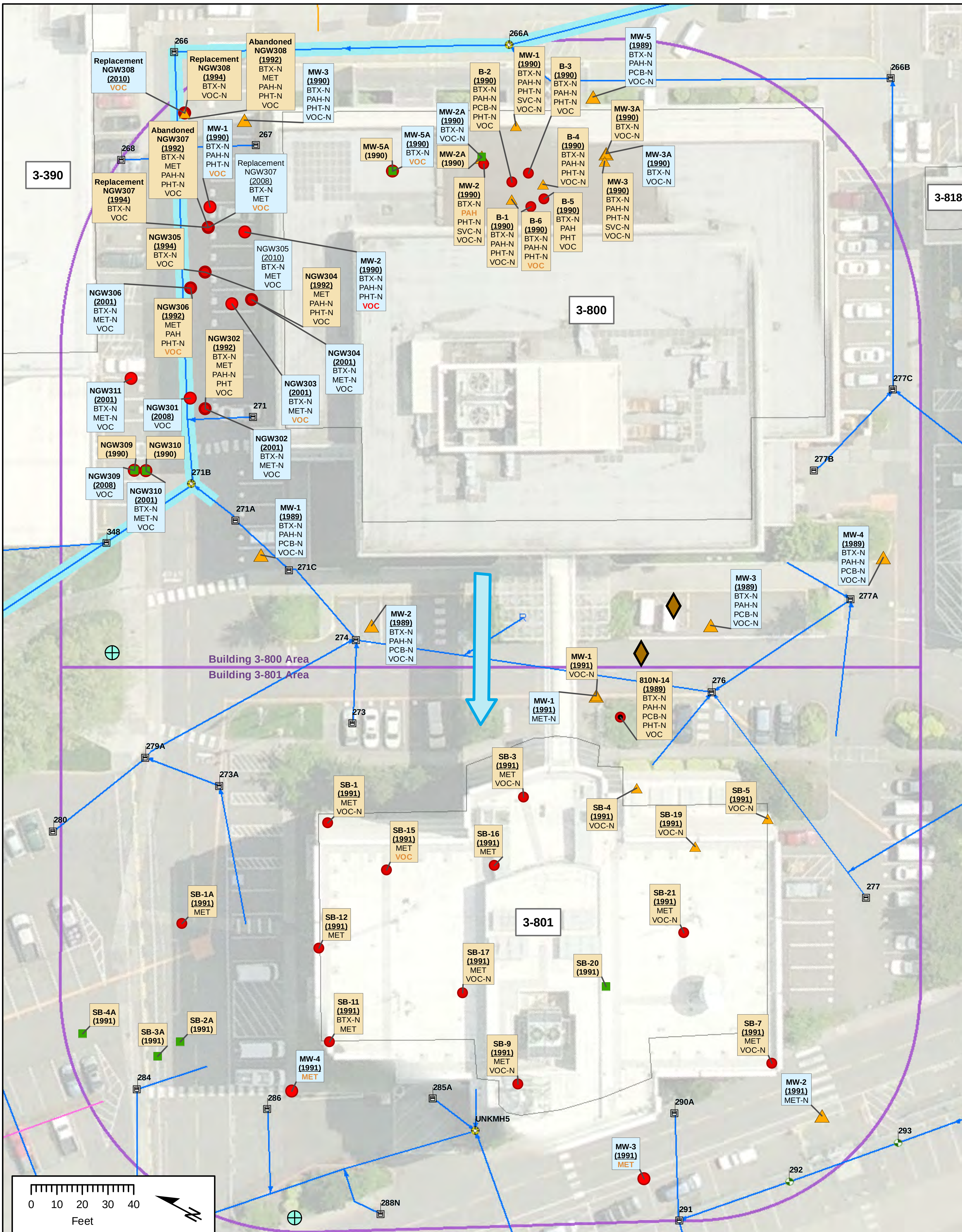
Figure 7.1-59. Areas of Concern at Central Flightline Area

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-59_Area_of_Concern_at_Central_&_South_Flightline_Areas.mxd
Illustrative purposes only.



Labels:

Groundwater

Sample ID
(Date)
Exeedances

Soil

Sample ID
(Date)
Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

GTSP
PEL
North Flightline Area
Central Flightline Area
South Flightline Area

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

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Figure 7.1-60. Soil and Groundwater Sample Locations at Buildings 3-800 and 3-801

SAIC®
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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_CFA.mxd
Illustrative purposes only.

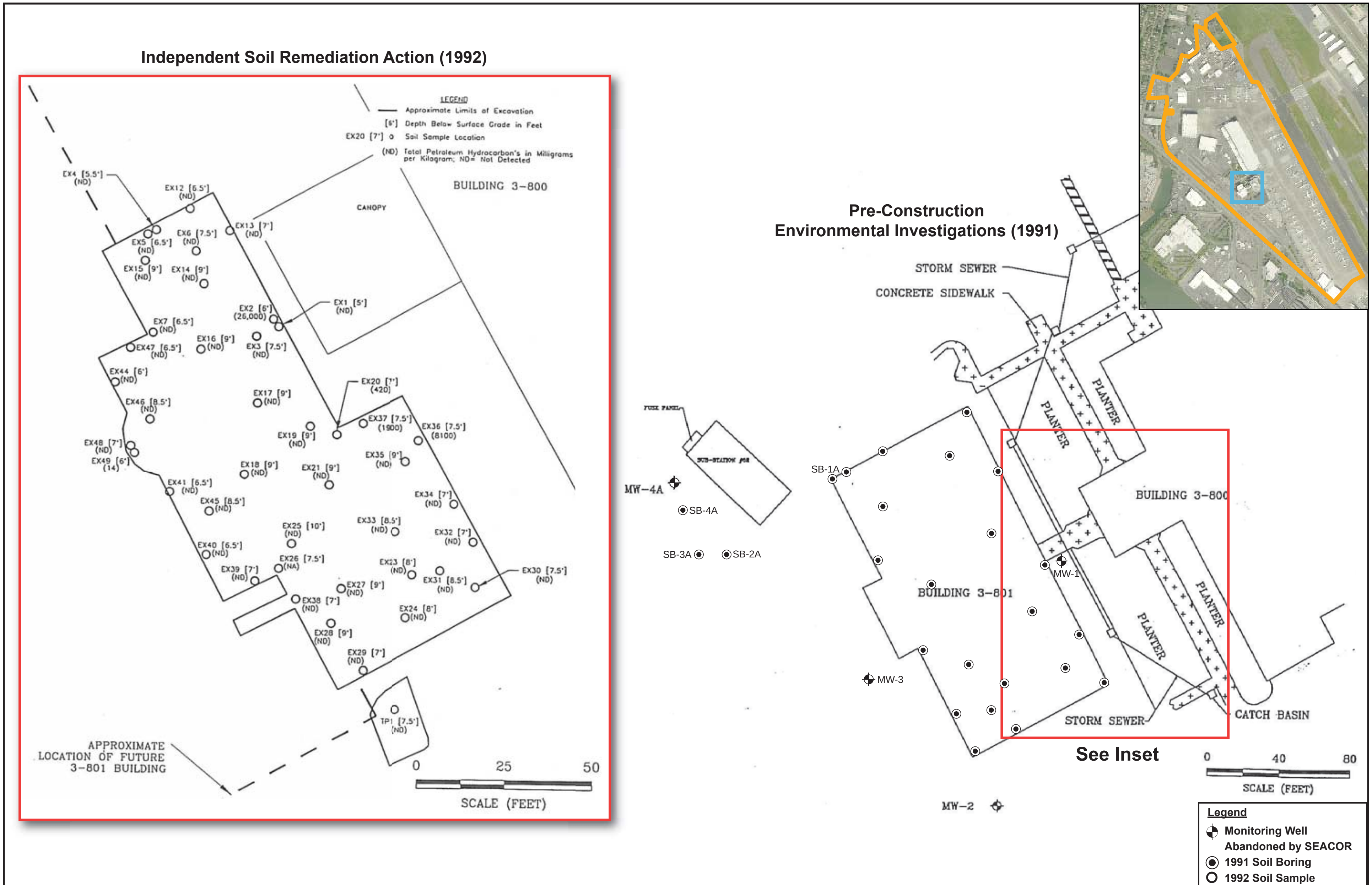

Figure 7.1–61. Building 3–801 Assessment and Remedial Excavation (1991–1992)

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SAIC® From Science to Solutions

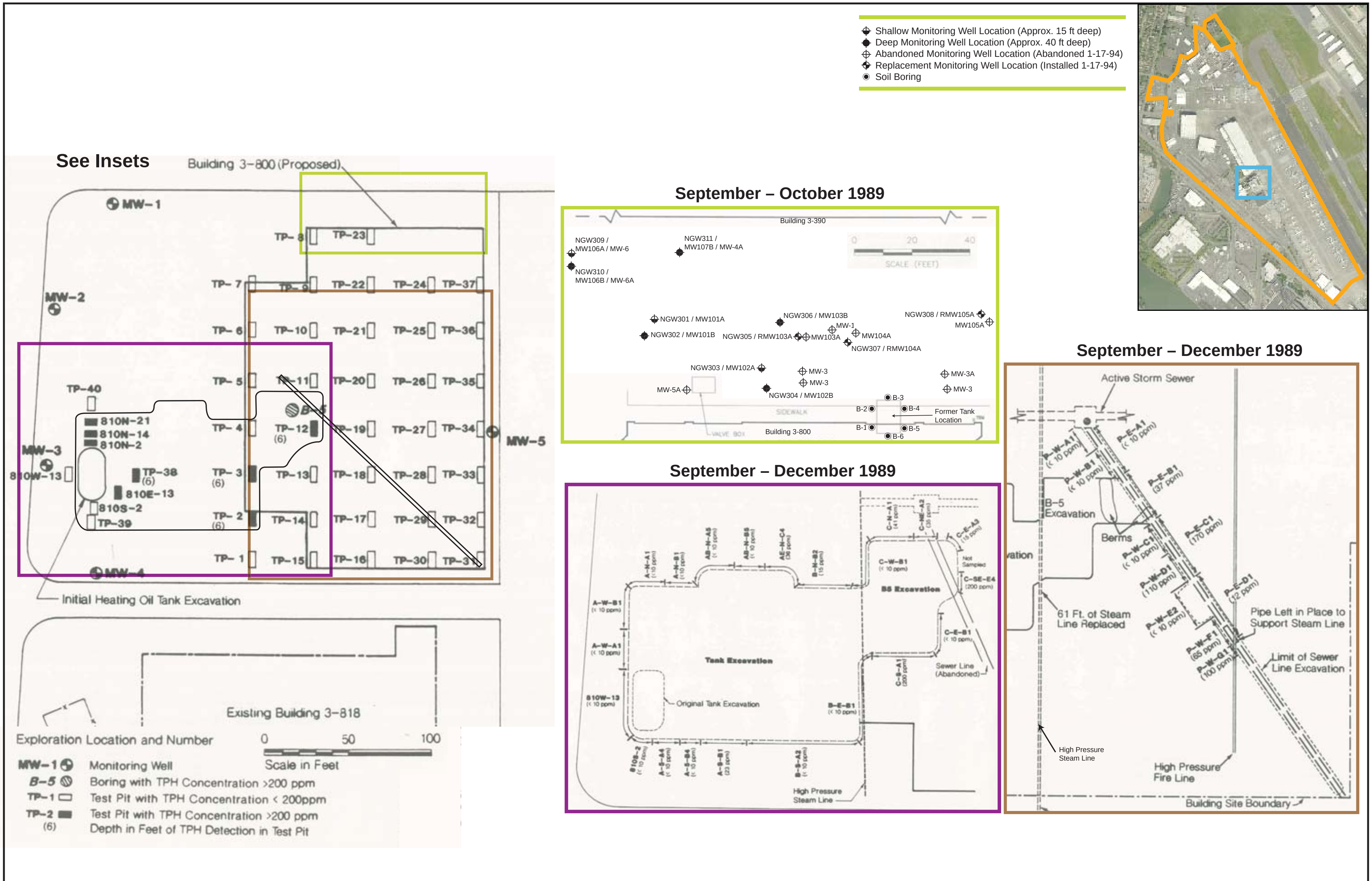
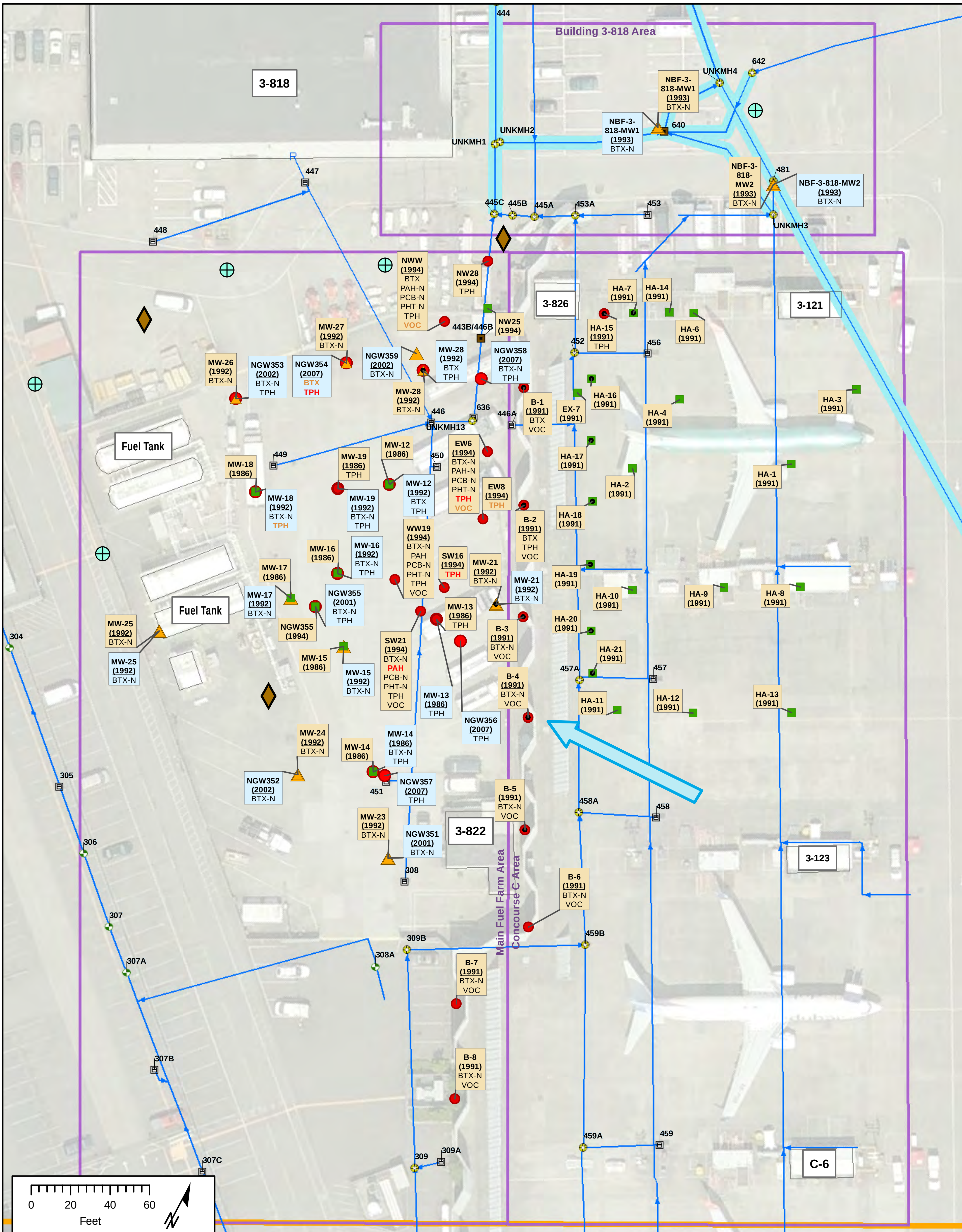


Figure 7.1–62. Building 3-800 Assessment (1989)



Labels:

Groundwater

Sample ID (Date) Exeedances

Soil

Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedences
- All SL Exceedences are Non-Detected
- One or More Detected SL Exceedences
- Soil Excavated at Location
- SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

Monitoring Well Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

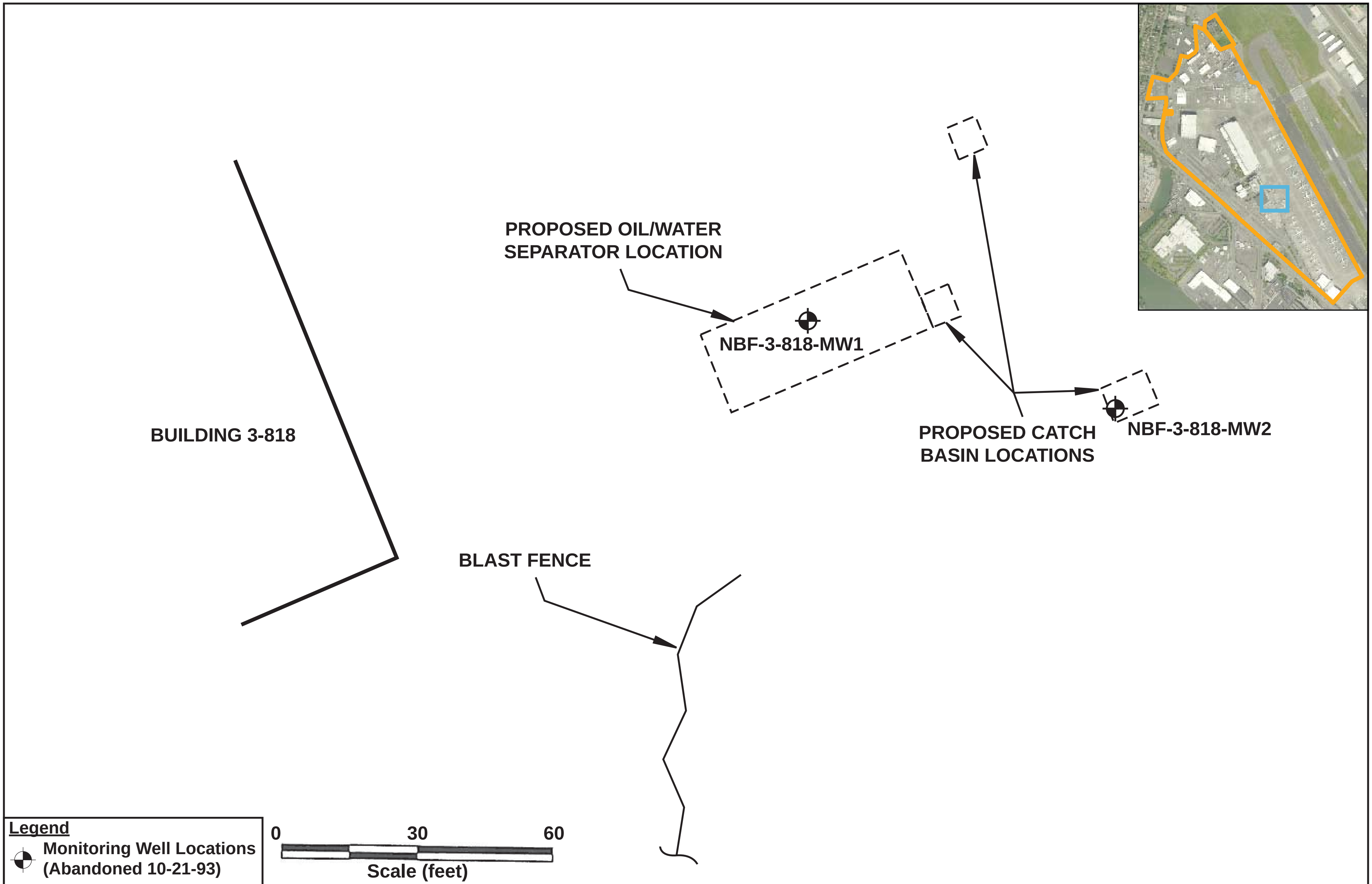
Red: Max EF for Metals and TPH >125, Other Chemicals >1,000

DEPARTMENT OF ECOLOGY State of Washington

Figure 7.1-63. Soil and Groundwater Sample Locations at Building 3-818, Main Fuel Farm, and Concourse C

SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_CFA.mxd
Illustrative purposes only.



Source: SEACOR 1993c [1489]

Figure 7.1–64. Building 3-818
Oil/Water Separator Pre-Construction Environmental Assessment (1993)

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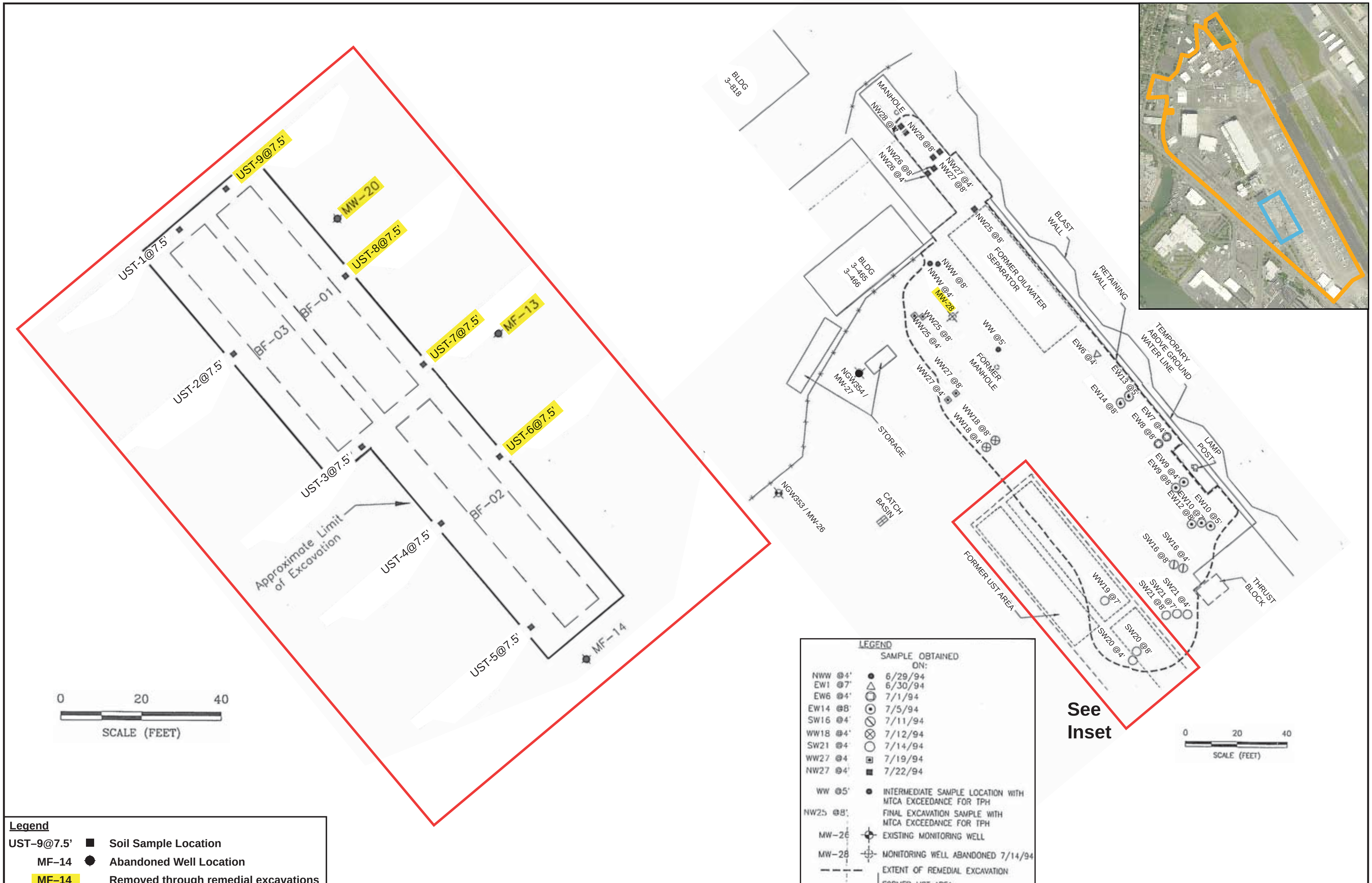
SAIC From Science to Solutions



Source: SECOR 1994f [3218]

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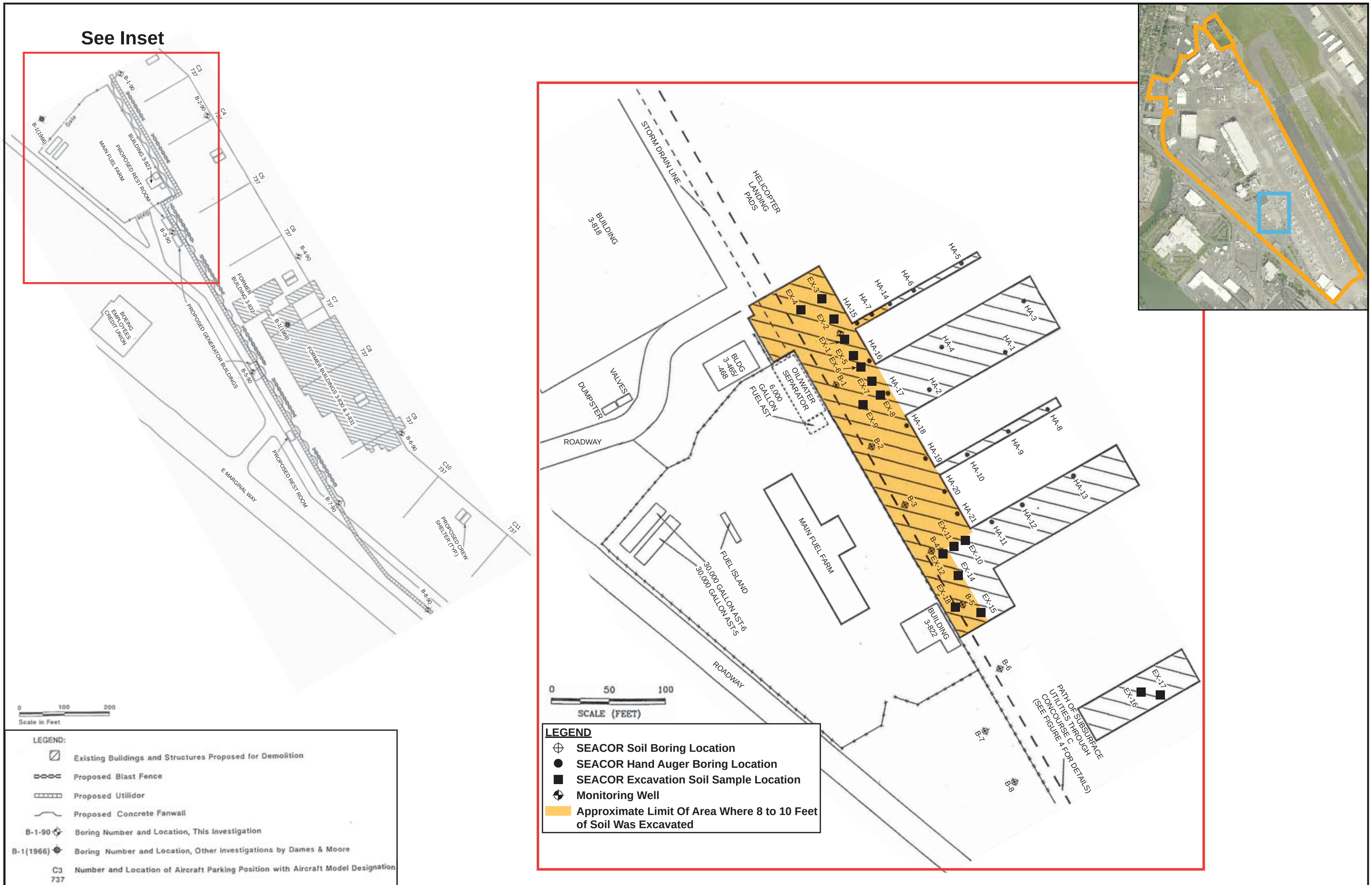
Figure 7.1–65. Main Fuel Farm Remedial Excavations and Assessments (1992–1994)

SAIC® From Science to Solutions

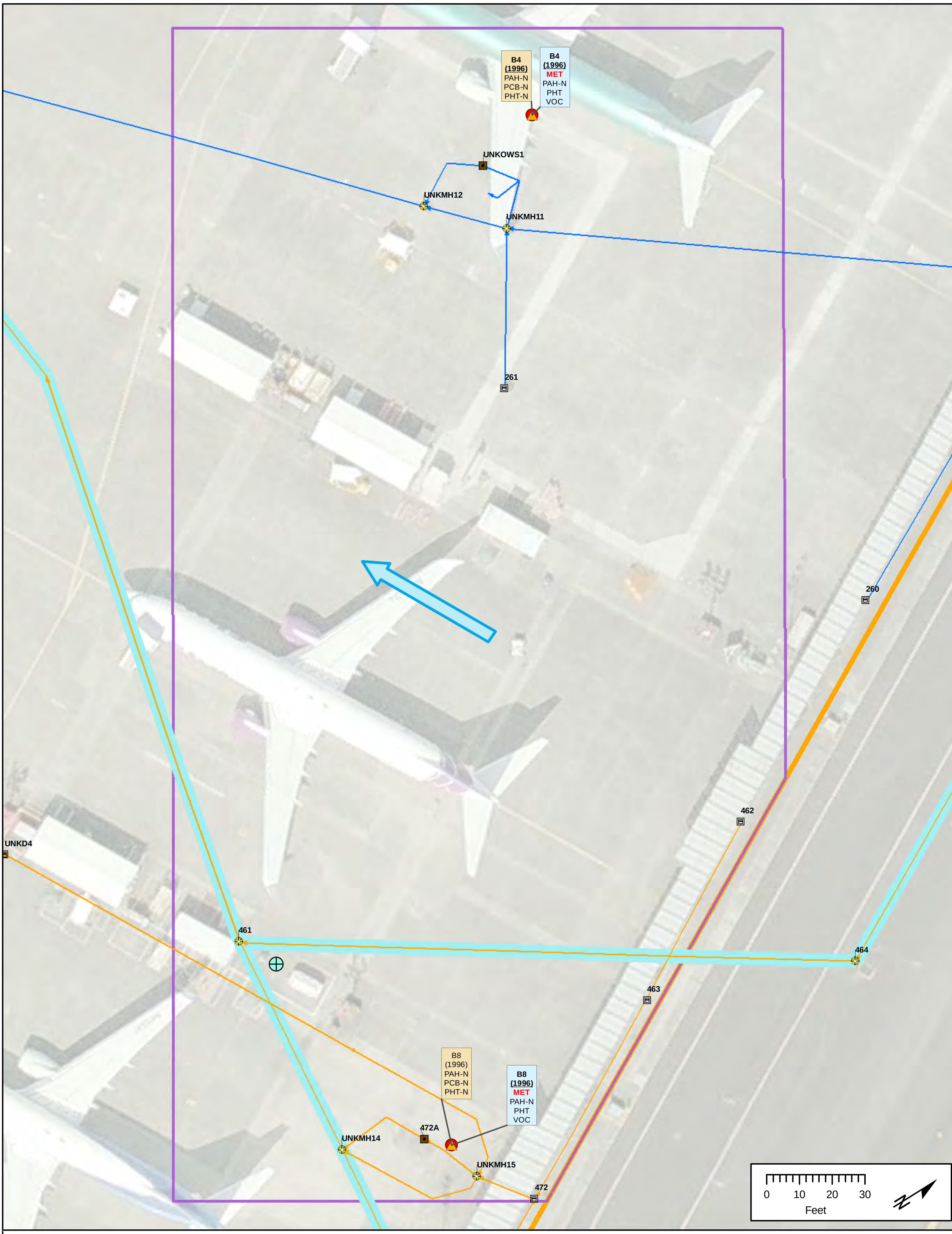


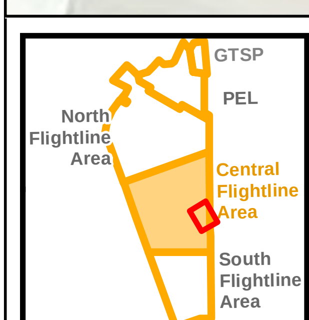
Sources: Dames & Moore 1990 [1416]; SEACOR 1992c [3213]

Figure 7.1–66. Concourse C Assessments and Remedial Excavation (1990–1992)

DEPARTMENT OF ECOLOGY State of Washington

SAIC From Science to Solutions





Labels:

Groundwater

Sample ID (Date) Exeedances

Soil

Sample ID (Date) Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

Monitoring Well

Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100

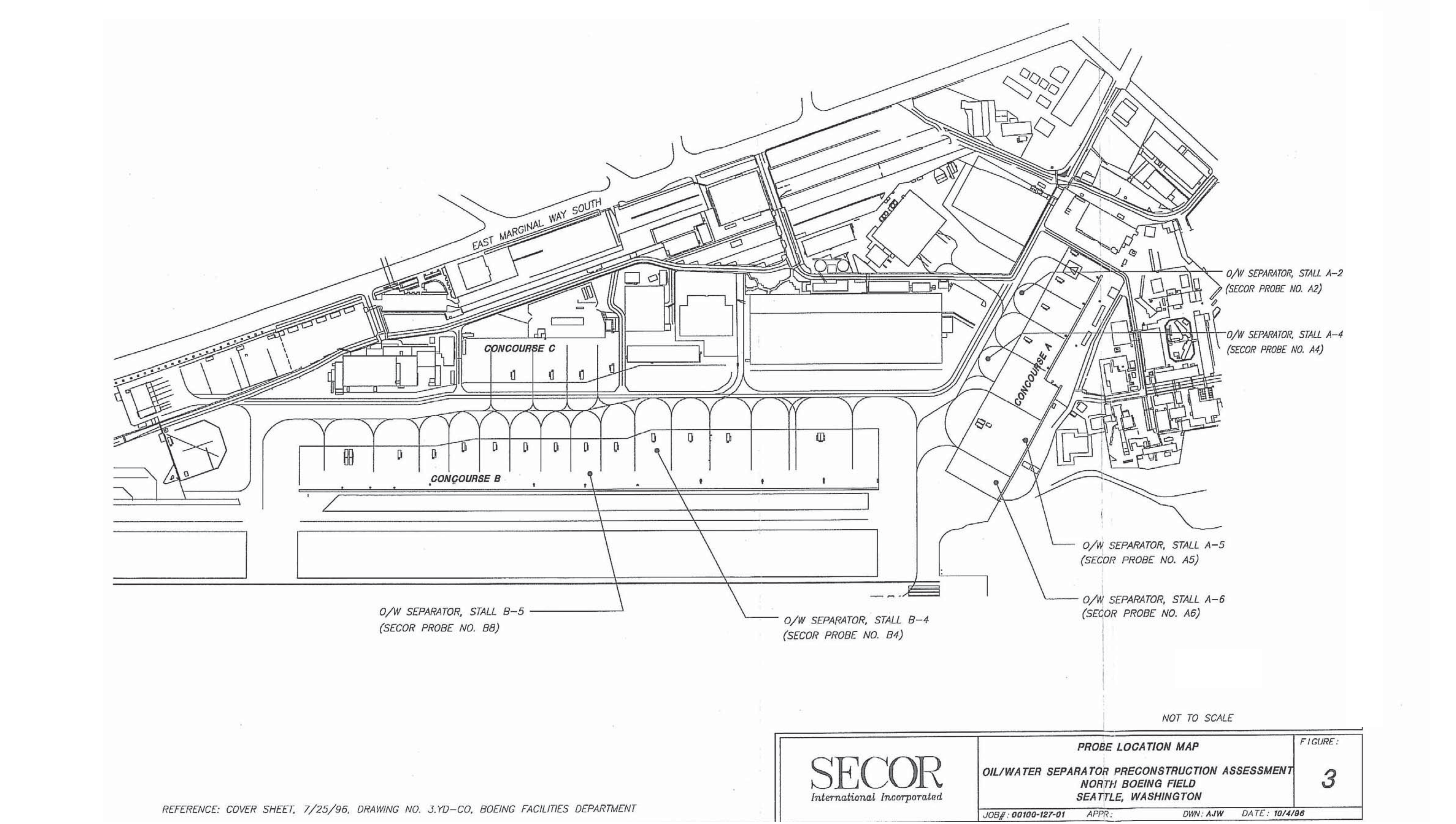
Red:Max EF for Metals and TPH >125, Other Chemicals >1,000

DEPARTMENT OF ECOLOGY State of Washington

Figure 7.1-67. Soil and Groundwater Sample Locations at Concourse B

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_CFA.mxd
Illustrative purposes only.



Source: SECOR 1996b [1548]

Figure 7.1–68. Oil/Water Separator Pre-Construction Assessment (1996)

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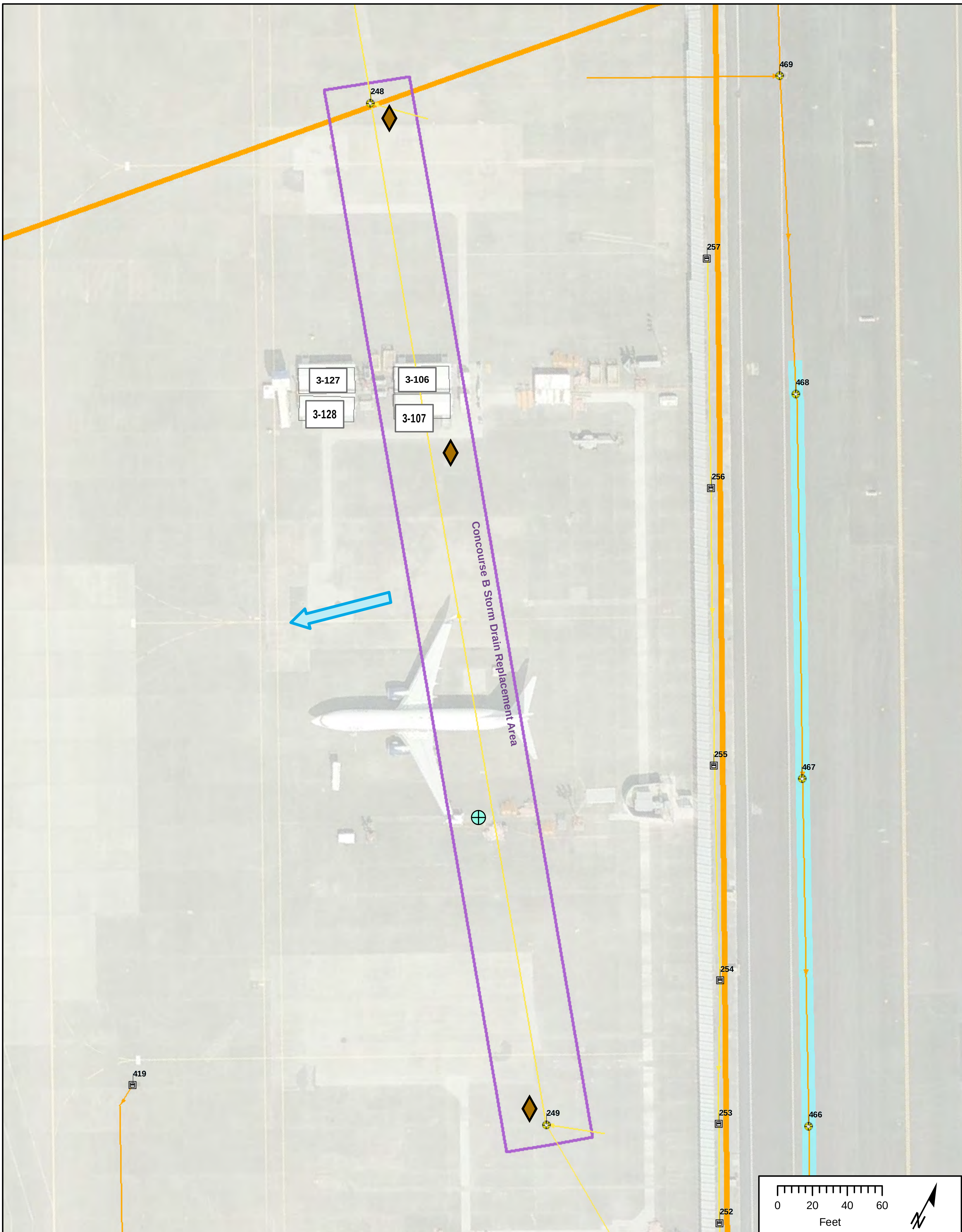

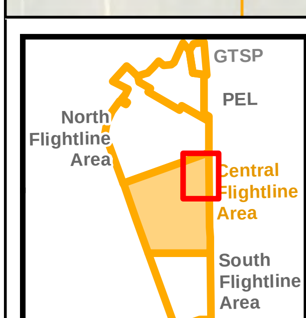

Labels:
Groundwater
Sample ID
(Date)
Exeedances
Soil
Sample ID
(Date)
Exeedances
N = Non-detect

Soil and Groundwater Exceedances
- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries
- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines
- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures
- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations
- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

Orange: Max EF for Metals and TPH >25, Other Chemicals >100
Red:Max EF for Metals and TPH >125, Other Chemicals >1,000

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Figure 7.1-69. Concourse B Storm Drain Line Excavation Area

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_CFA.mxd
Illustrative purposes only.

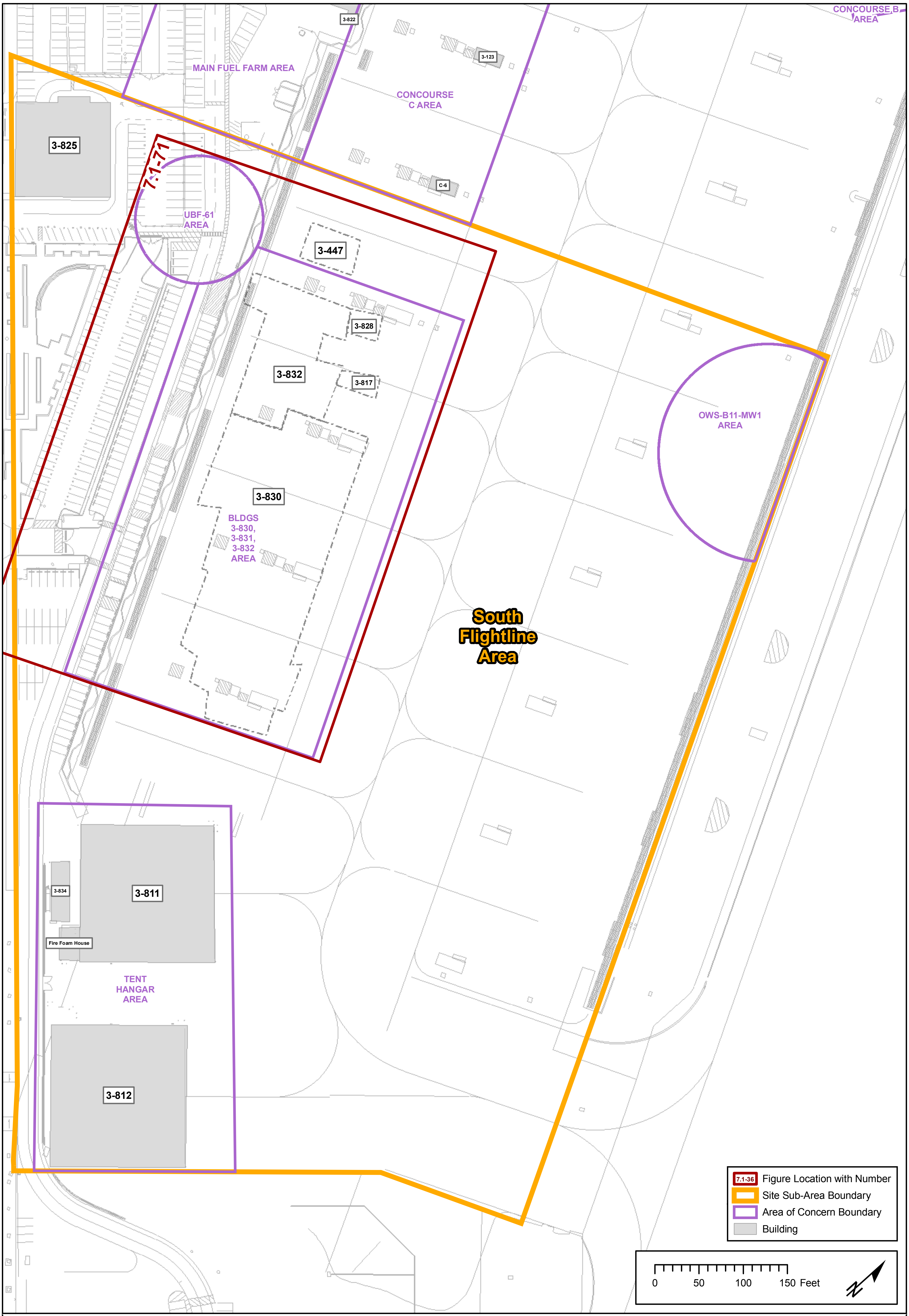

Figure 7.1-70. Areas of Concern at South Flightline Area

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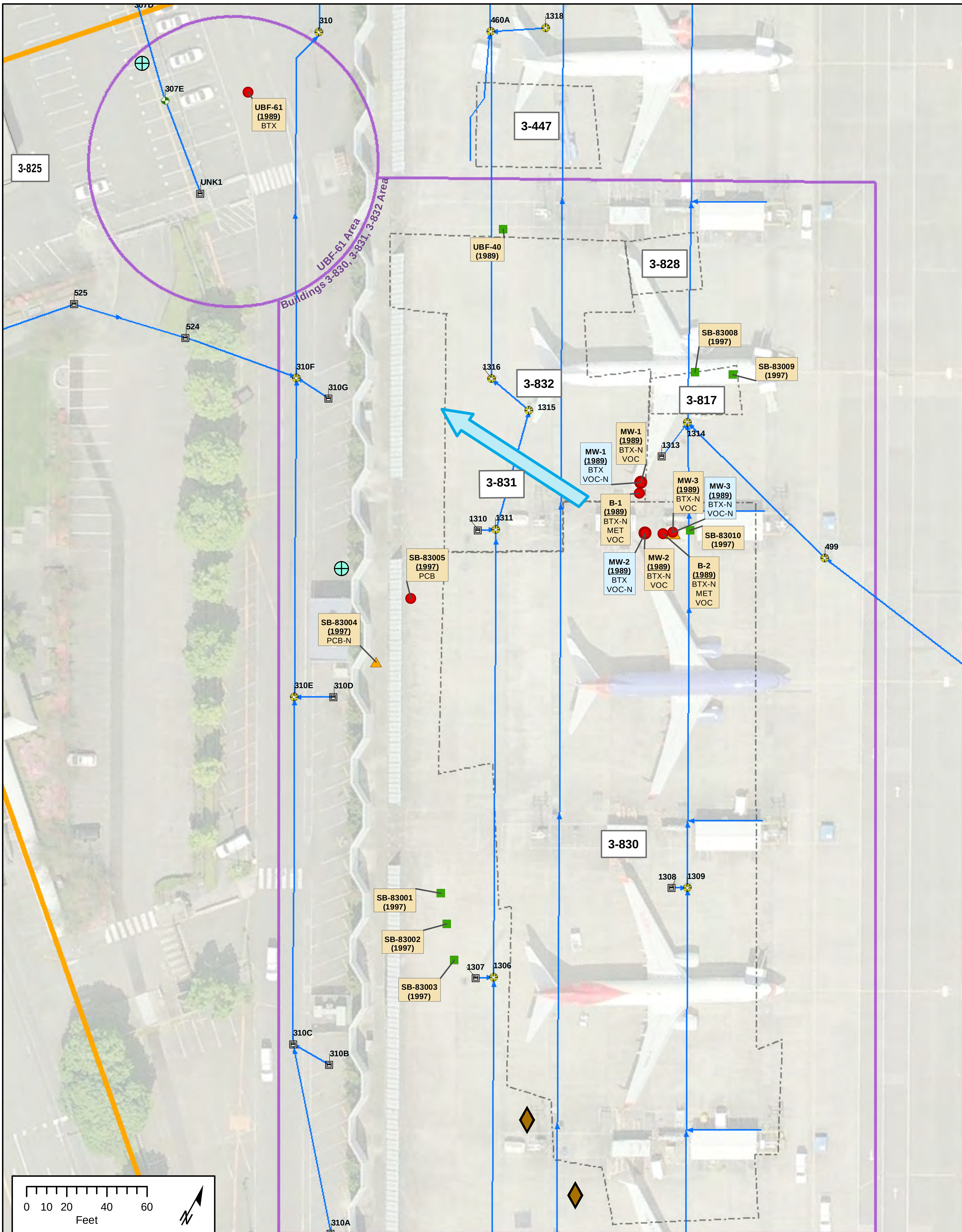
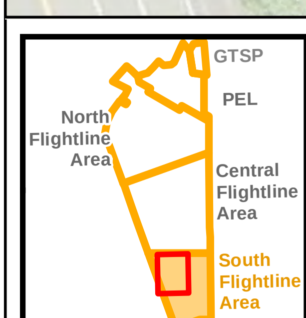
SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-70_Area_of_Concern_at_South_Flightline.mxd
Illustrative purposes only.





Labels:

Groundwater

Sample ID
(Date)
Exeedances

Soil

Sample ID
(Date)
Exeedances

N = Non-detect

Soil and Groundwater Exceedances

- No SL Exceedances
- All SL Exceedances are Non-Detected
- One or More Detected SL Exceedances
- Soil Excavated at Location

SL = Screening Level

Boundaries

- Site Sub-Area Boundary
- Area of Concern Boundary
- Building

Storm Drain Lines

- North Lateral
- North-Central Lateral
- South-Central Lateral
- South Lateral
- Building 3-380 Area
- Parking Lot Area
- Other
- Area where SD Line lies below the water table at high water levels

Storm Drain Structures

- Catch Basin
- Drain
- Inlet
- Manhole
- Oil/Water Separator
- Plug
- Vault
- R Roof Drains
- Structure Abandoned

Approximate Groundwater Flow Direction

Proposed Sample Locations

- Monitoring Well
- Soil Boring

Notes:

BTX	BTEX	PHT	Phthalates
MET	Metals	SVC	SVOCs (Other)
PAH	PAHs	TPH	TPH
PCB	Total PCBs	VOC	VOCs

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Figure 7.1-71. Soil and Groundwater Sample Locations at UBF-61 and Buildings 3-830, 3-831, and 3-832

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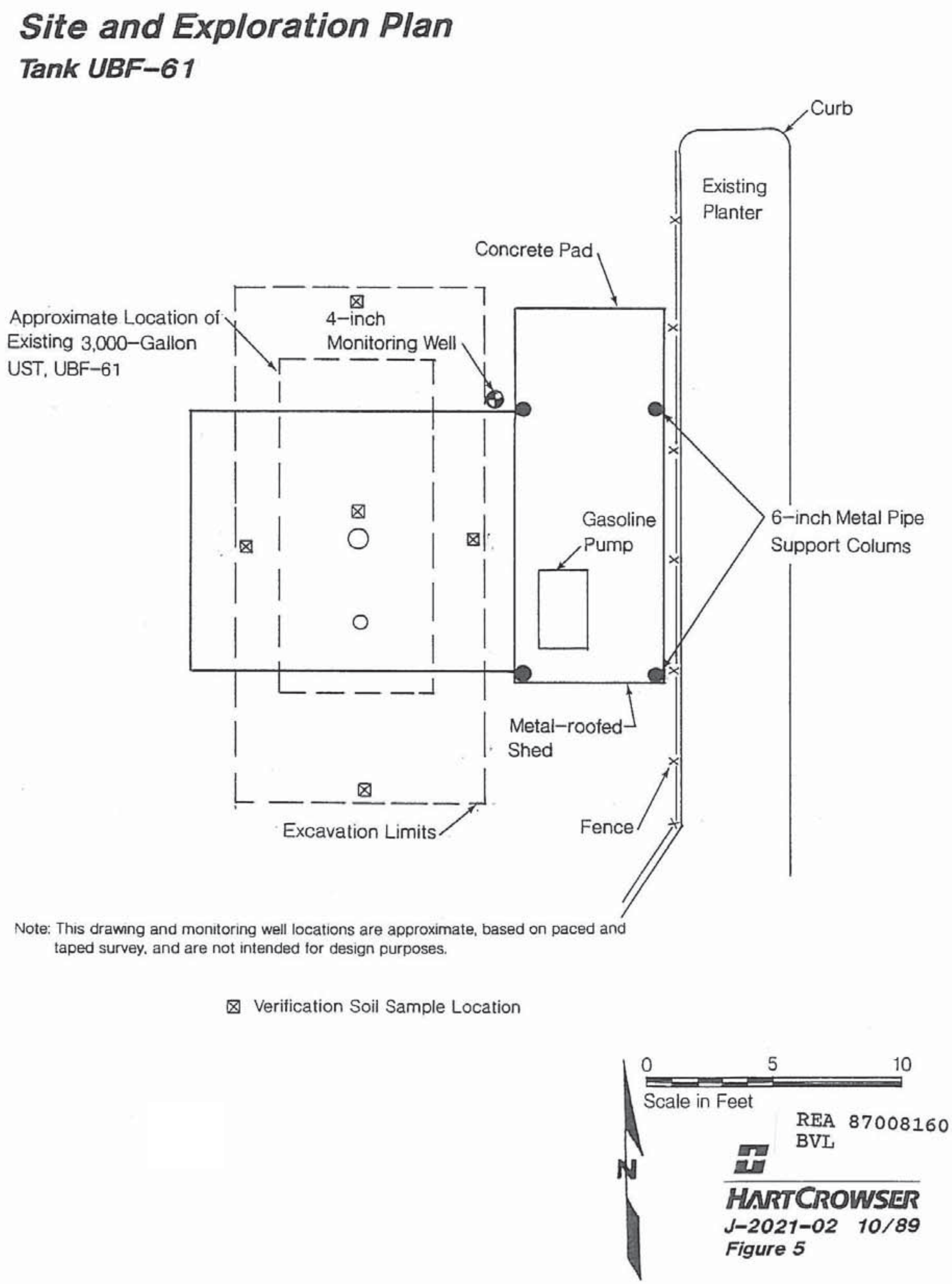
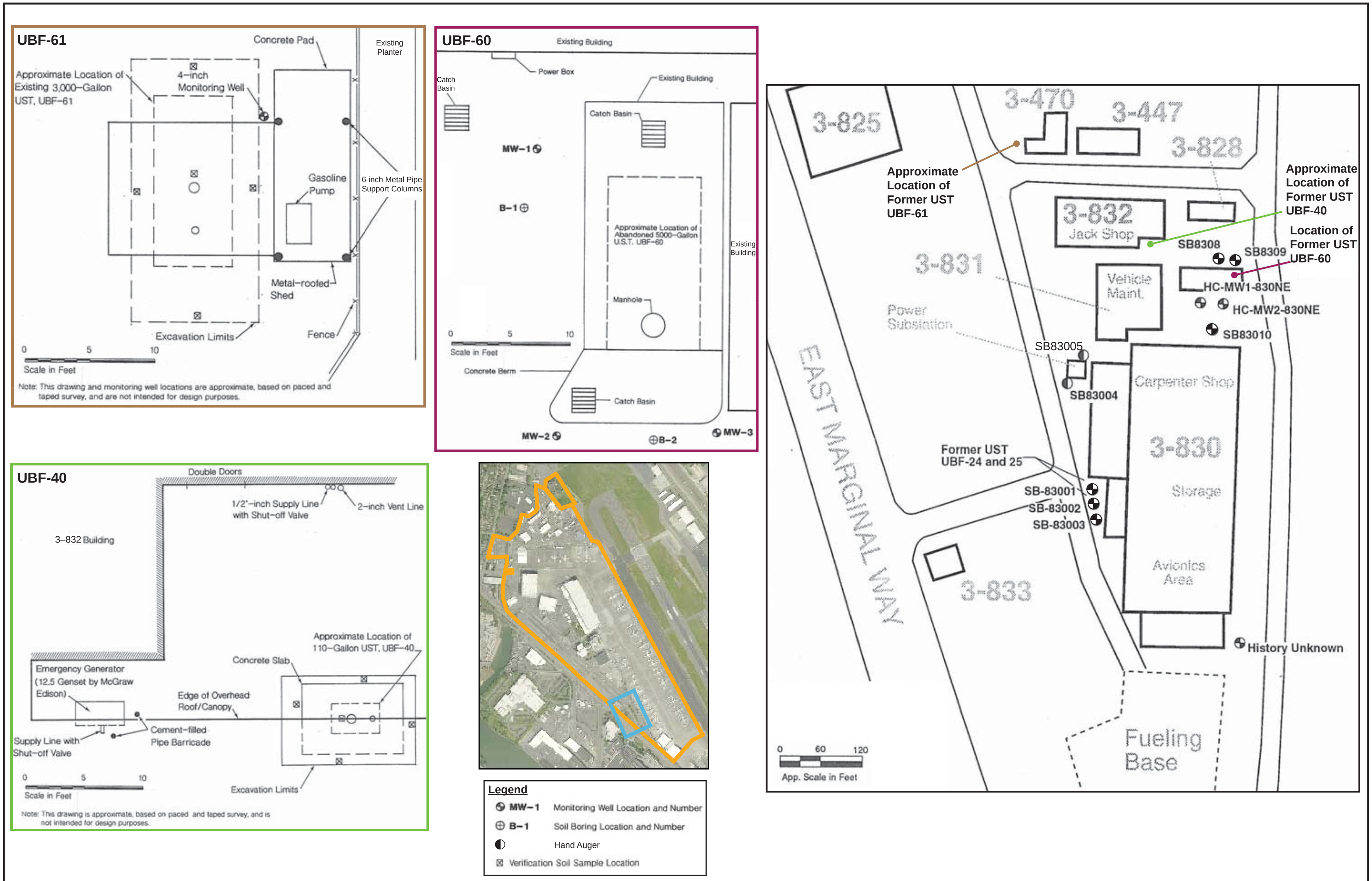
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: RI_Soil&GW_Exceedances_SFA.mxd
Illustrative purposes only.



Source: Hart Crowser 1990a [1431]

Figure 7.1–72. Site and Exploration Plan Tank UBF-61



Sources: Hart Crowser 1990a,b [1431, 1432]; Weston 1997 [1550]

Figure 7.1–73. Former Buildings 3-830, 3-831, and 3-832 UST Removals and Assessments (1987, 1989, 1990, and 1997)

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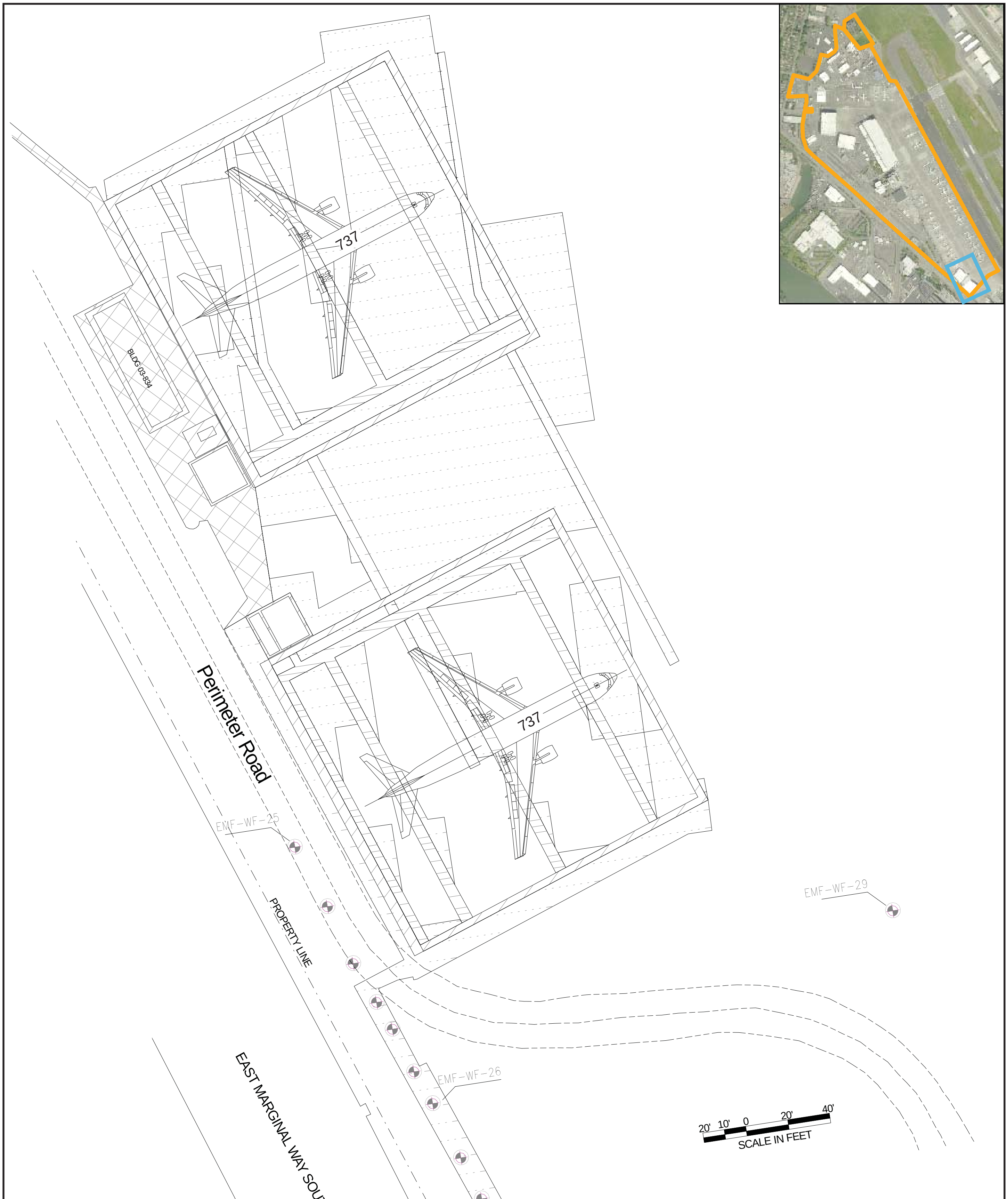

Source: CALIBRE 2008 [2107]

Figure 7.1–74. Tent Hangar Construction (2008)

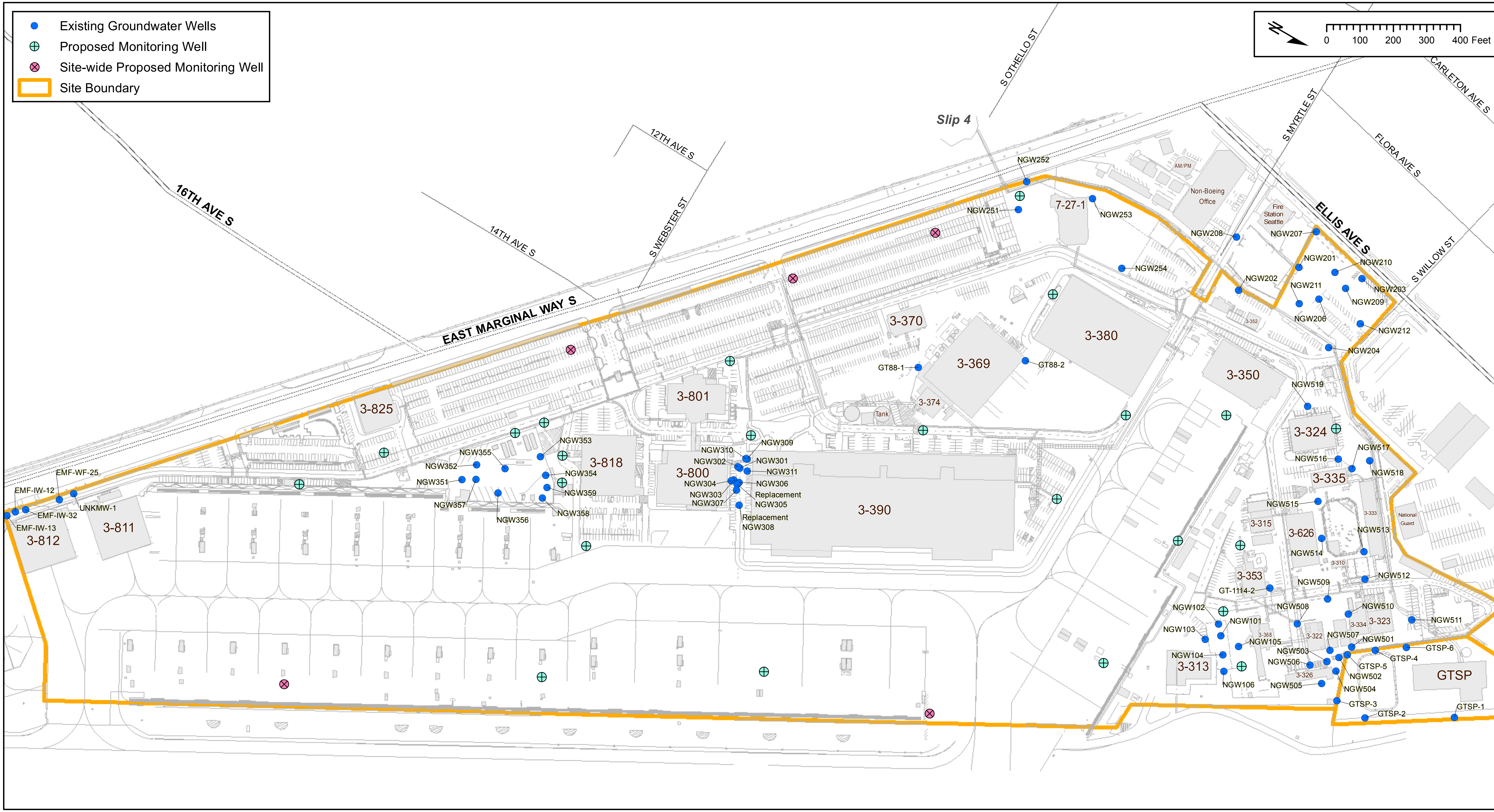

Figure 7.1-75. Existing and Proposed Groundwater Monitoring Well Locations

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Coordinate System:
NAD 1983 HARN StatePlane Washington North FIPS 4601 Feet
Prepared By: apw/mlf
File: figure-7_1-75_Existing&Proposed_GW_Wells.mxd
Illustrative purposes only.

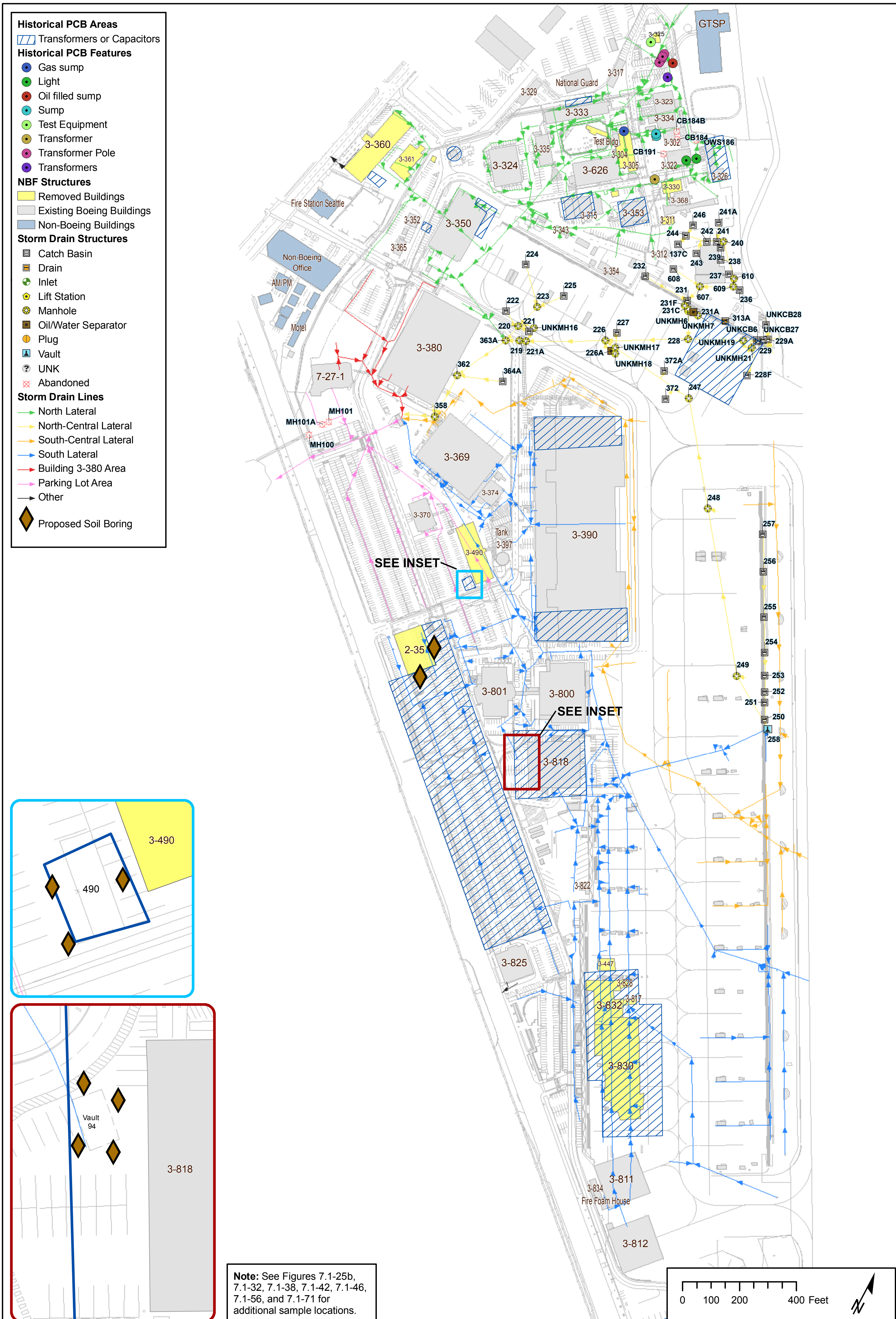

Figure 7.1-76. Proposed Soil Sampling Locations in NBF Areas with Historical Transformers and Capacitors

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_1-76_Area_with_Potential_Historical_PCBs.mxd
Illustrative purposes only.

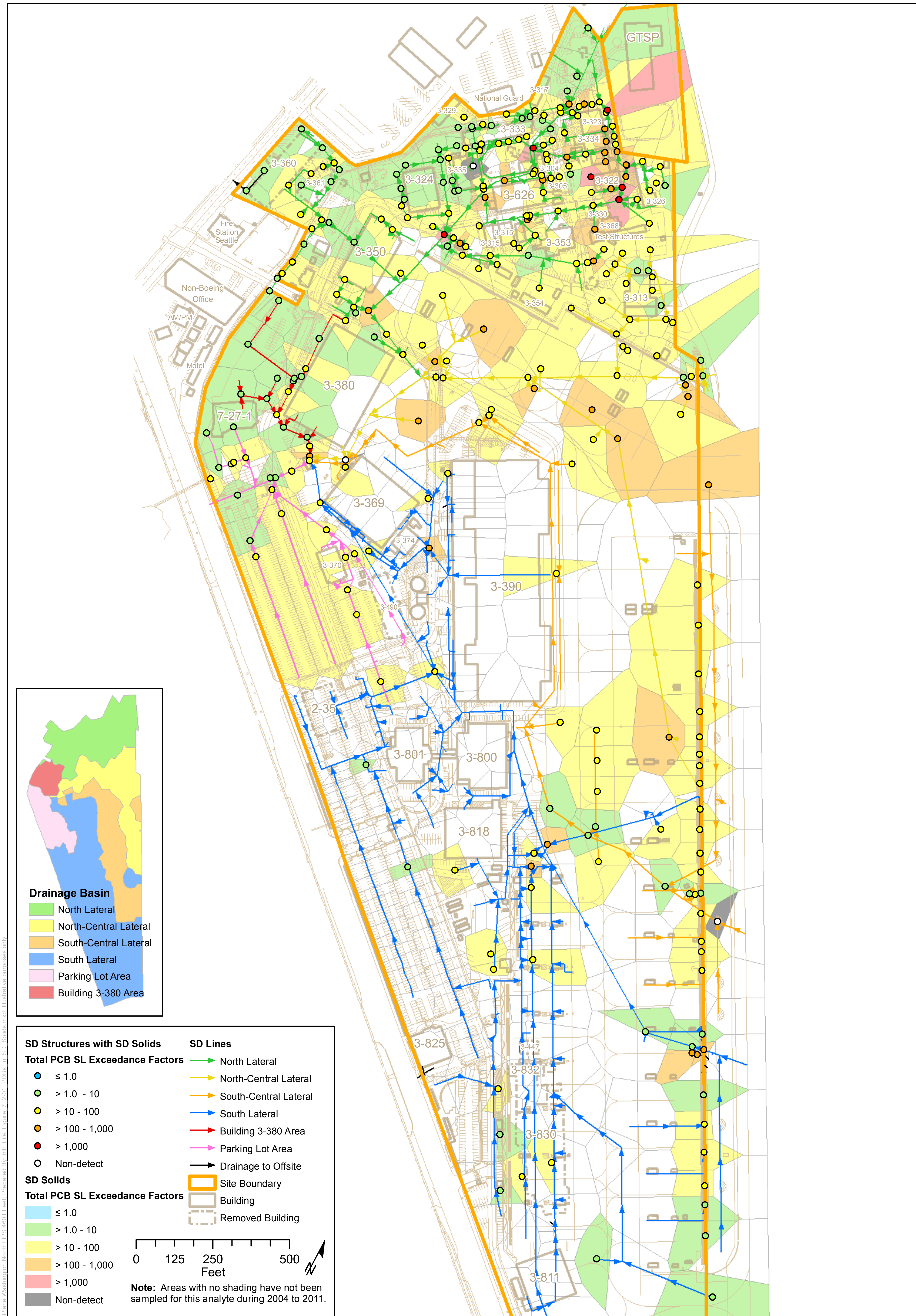

Figure 7.2-1. PCBs in Storm Drain Solids at NBF-GTSP Site

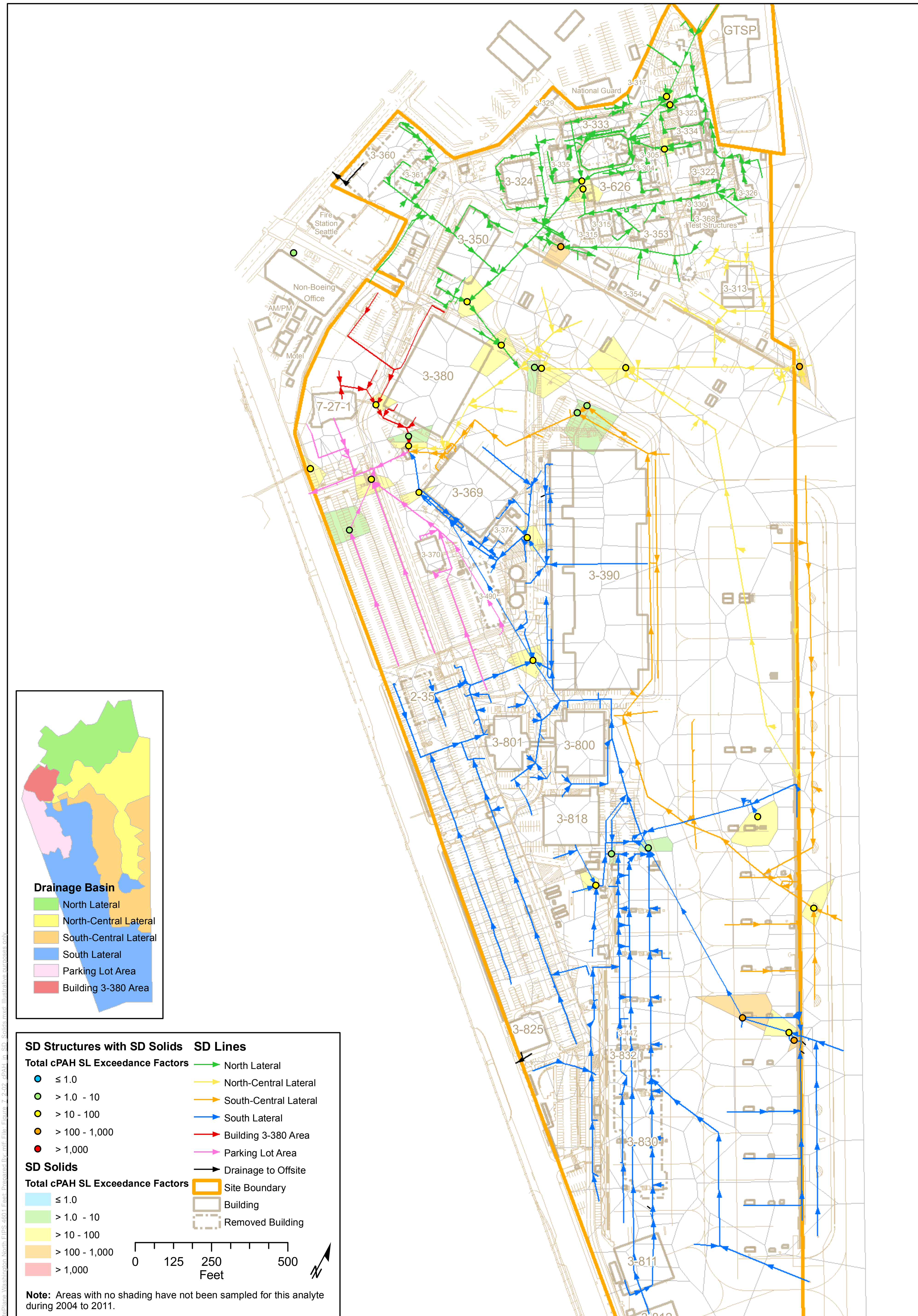

Figure 7.2-2. Total cPAHs in Storm Drain Solids at NBF-GTSP Site

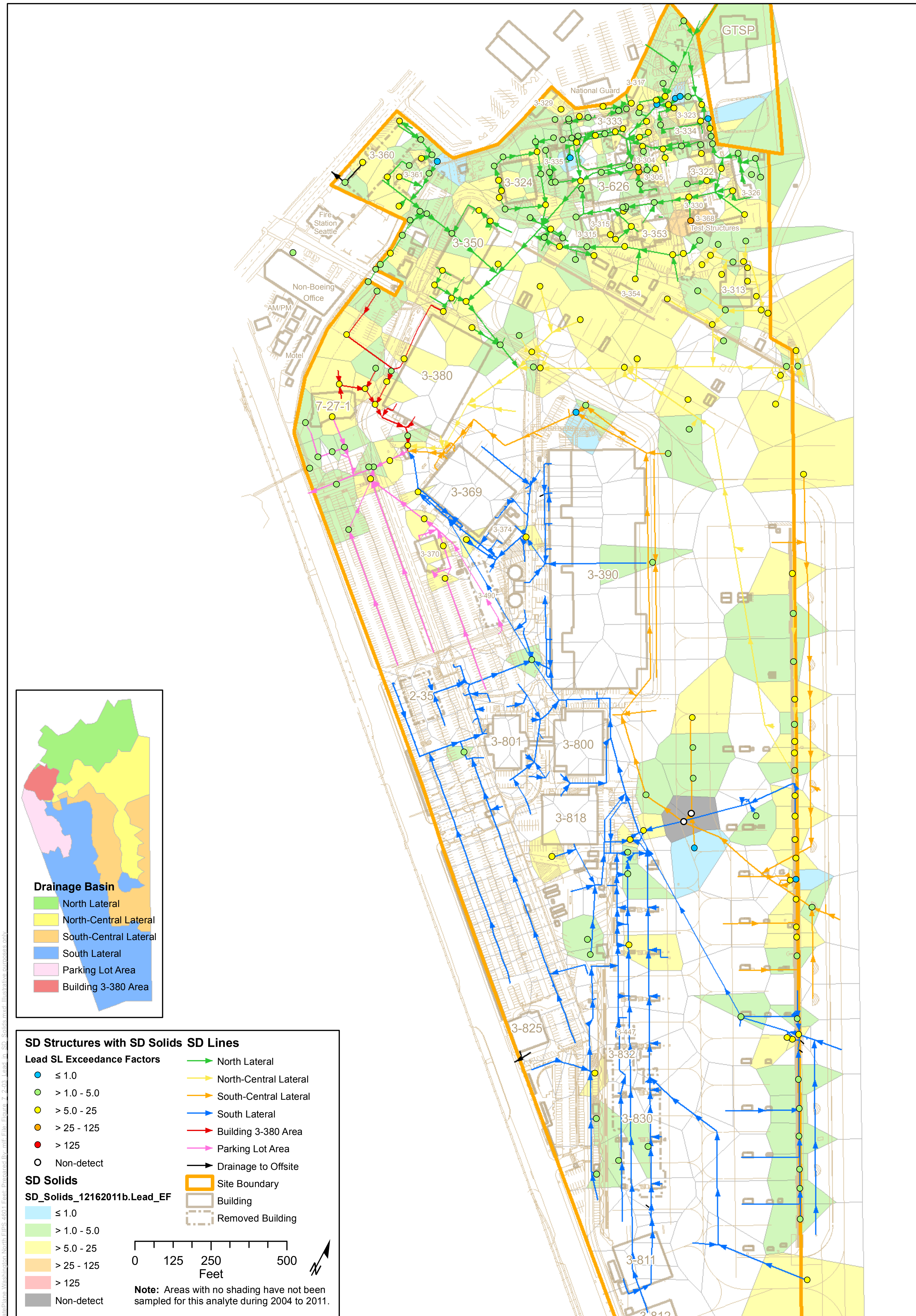

Figure 7.2-3. Lead in Storm Drain Solids at NBF-GTSP Site

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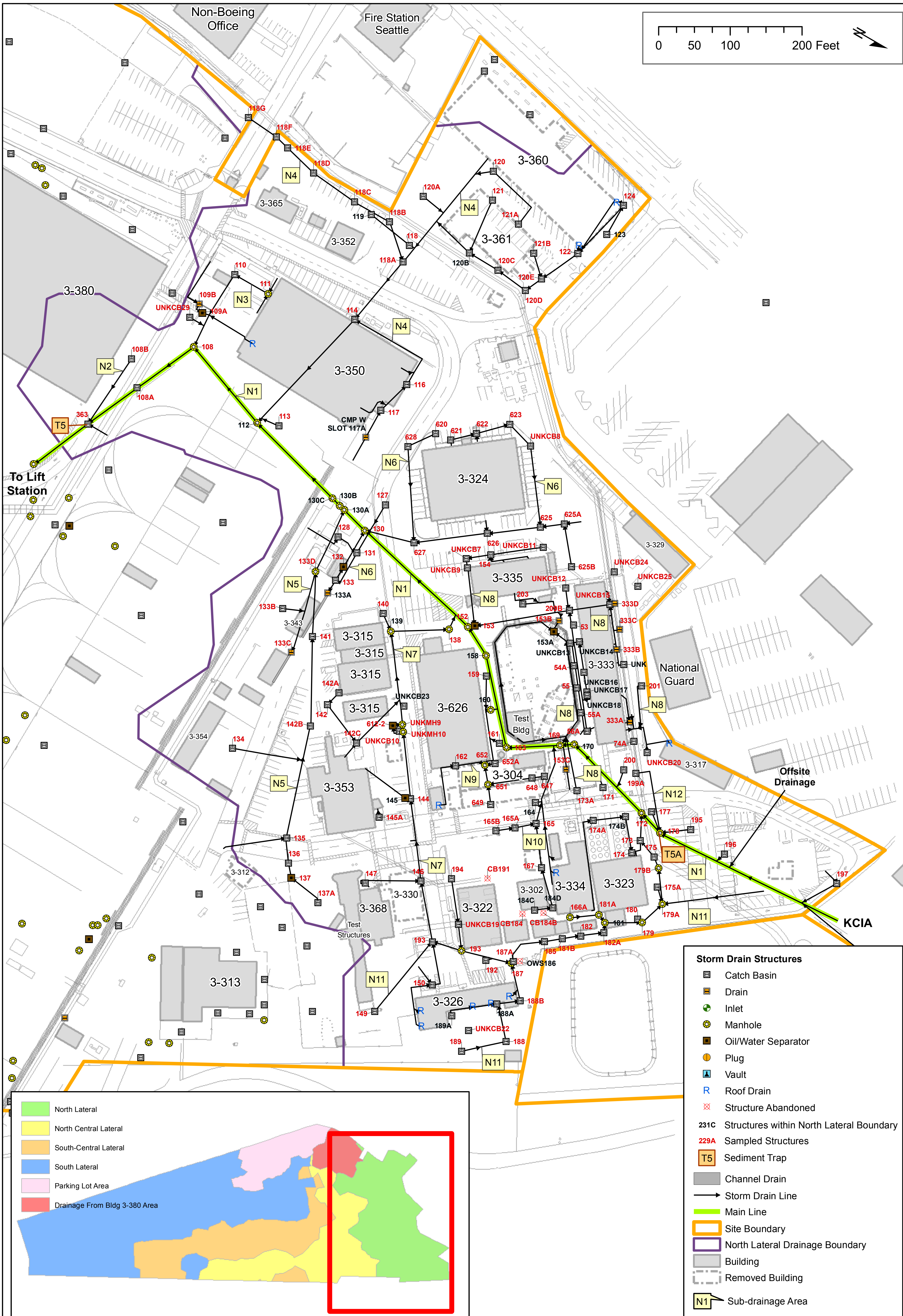

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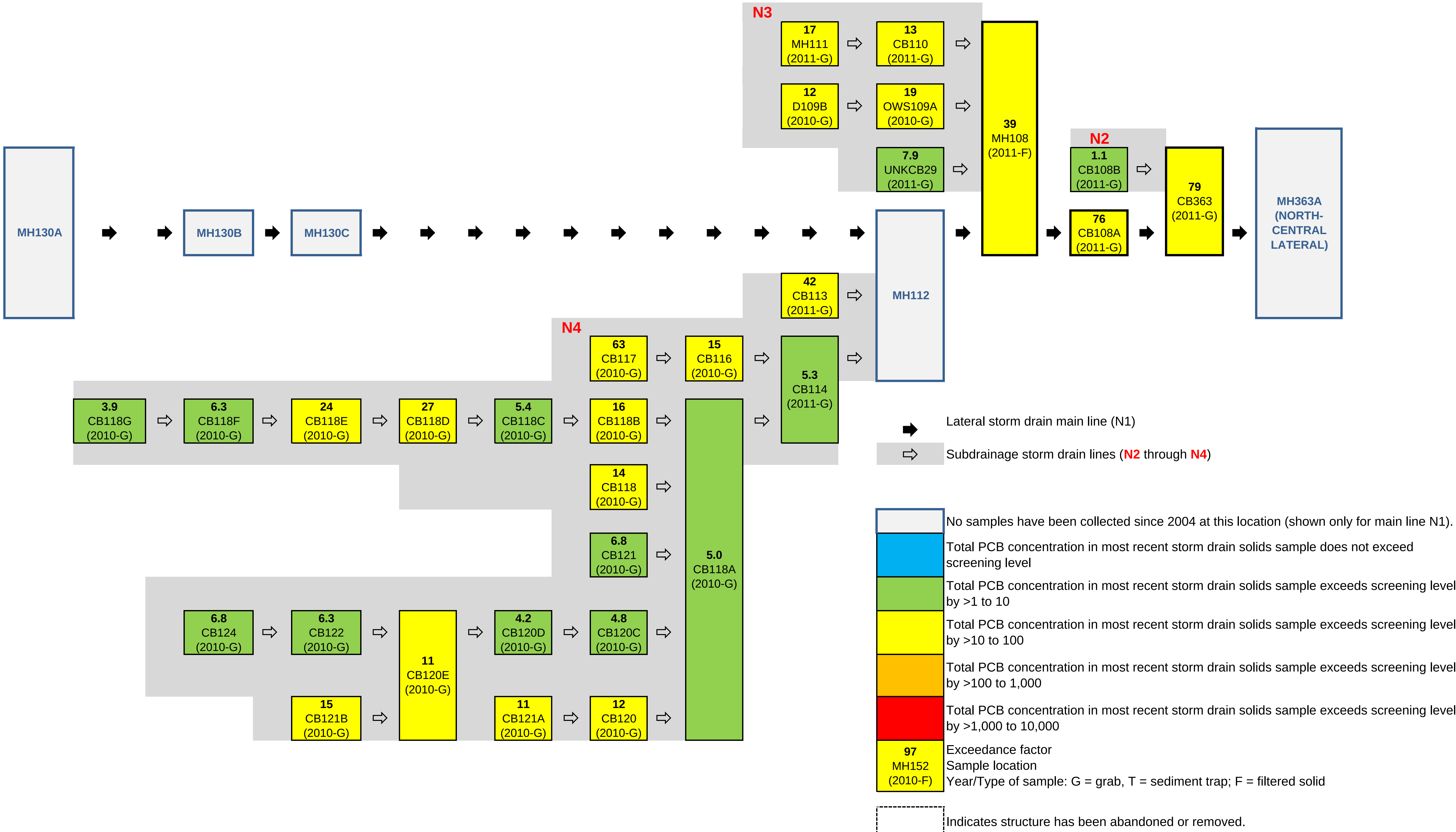
Figure 7.2-4. North Lateral Storm Drain Line

SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-04_SD_System_North_Lateral.mxd
Illustrative purposes only.

Figure 7.2-5. Most Recent PCB Exceedance Factors in the North Lateral Drainage Area Upstream of MH130A

Figure 7.2-6. Most Recent PCB Exceedance Factors in the North Lateral Drainage Area Downstream of MH130A



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

Figure 7.2-7. Most Recent Mercury Exceedance Factors in the North Lateral Drainage Area Upstream of MH130A

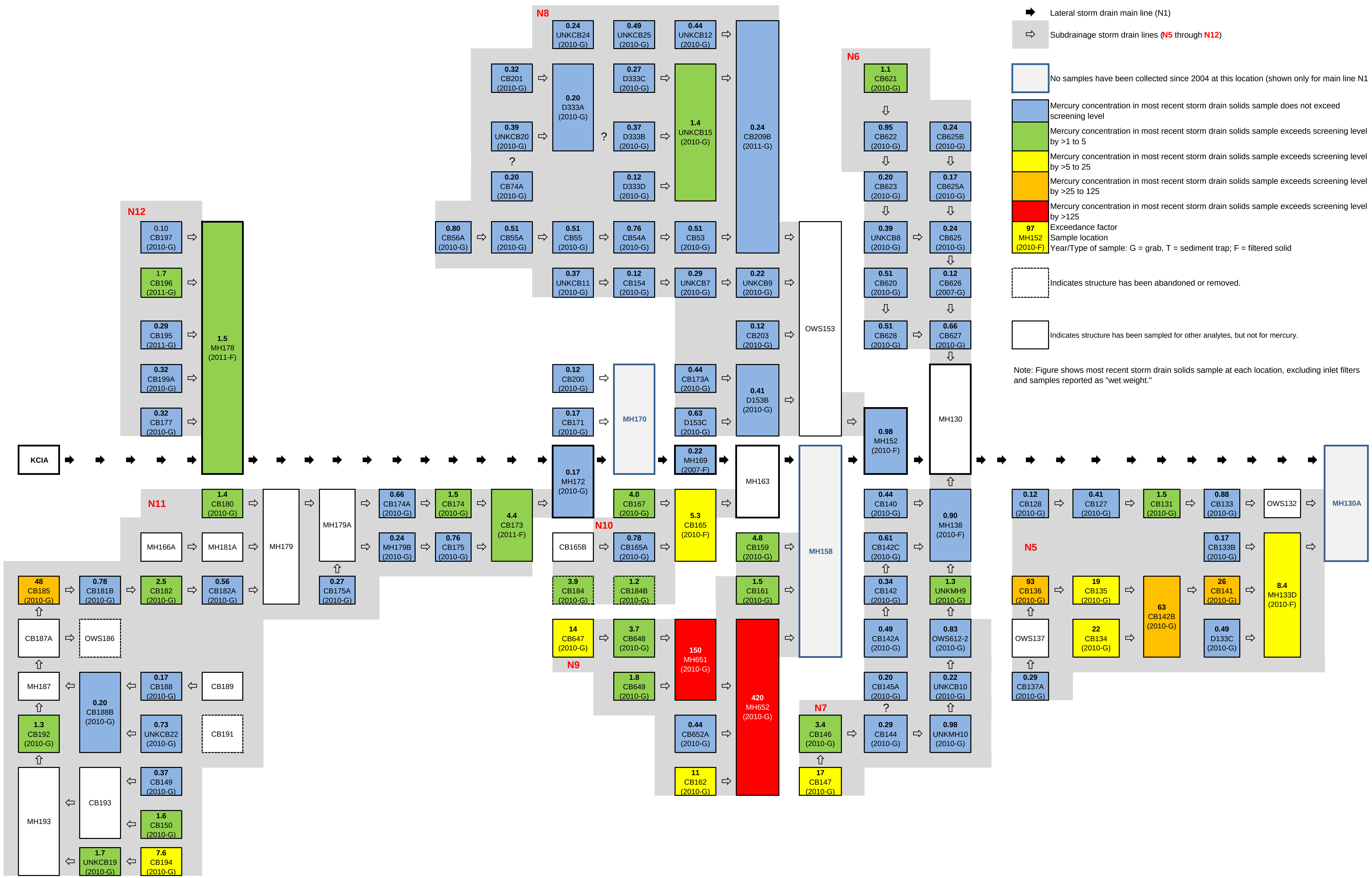
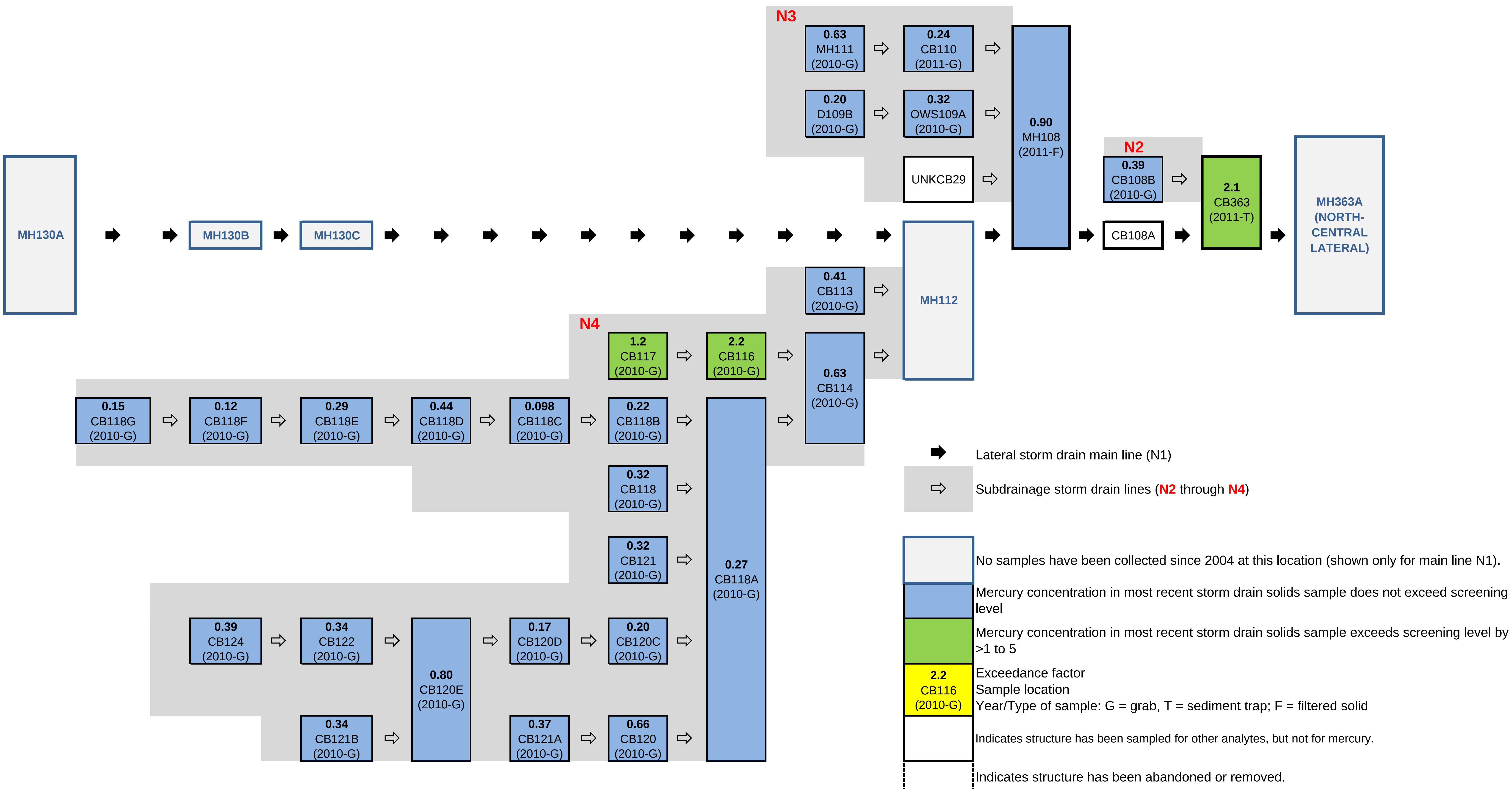


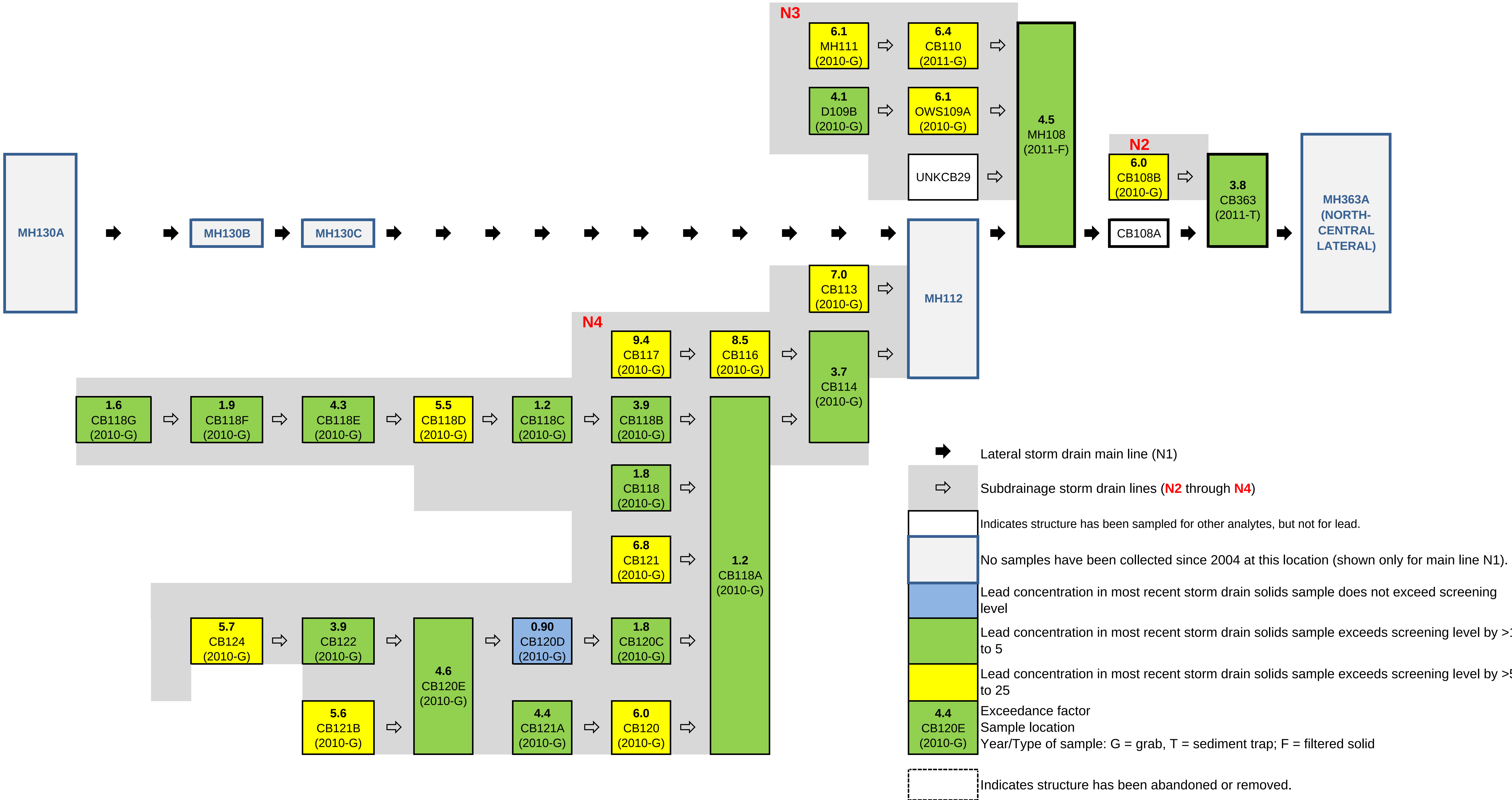
Figure 7.2-8. Most Recent Mercury Exceedance Factors in the North Lateral Drainage Area Downstream of MH130A



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

Figure 7.2-9. Most Recent Lead Exceedance Factors in the North Lateral Drainage Area Upstream of MH130A

Figure 7.2-10. Most Recent Lead Exceedance Factors in the North Lateral Drainage Area Downstream of MH130A



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

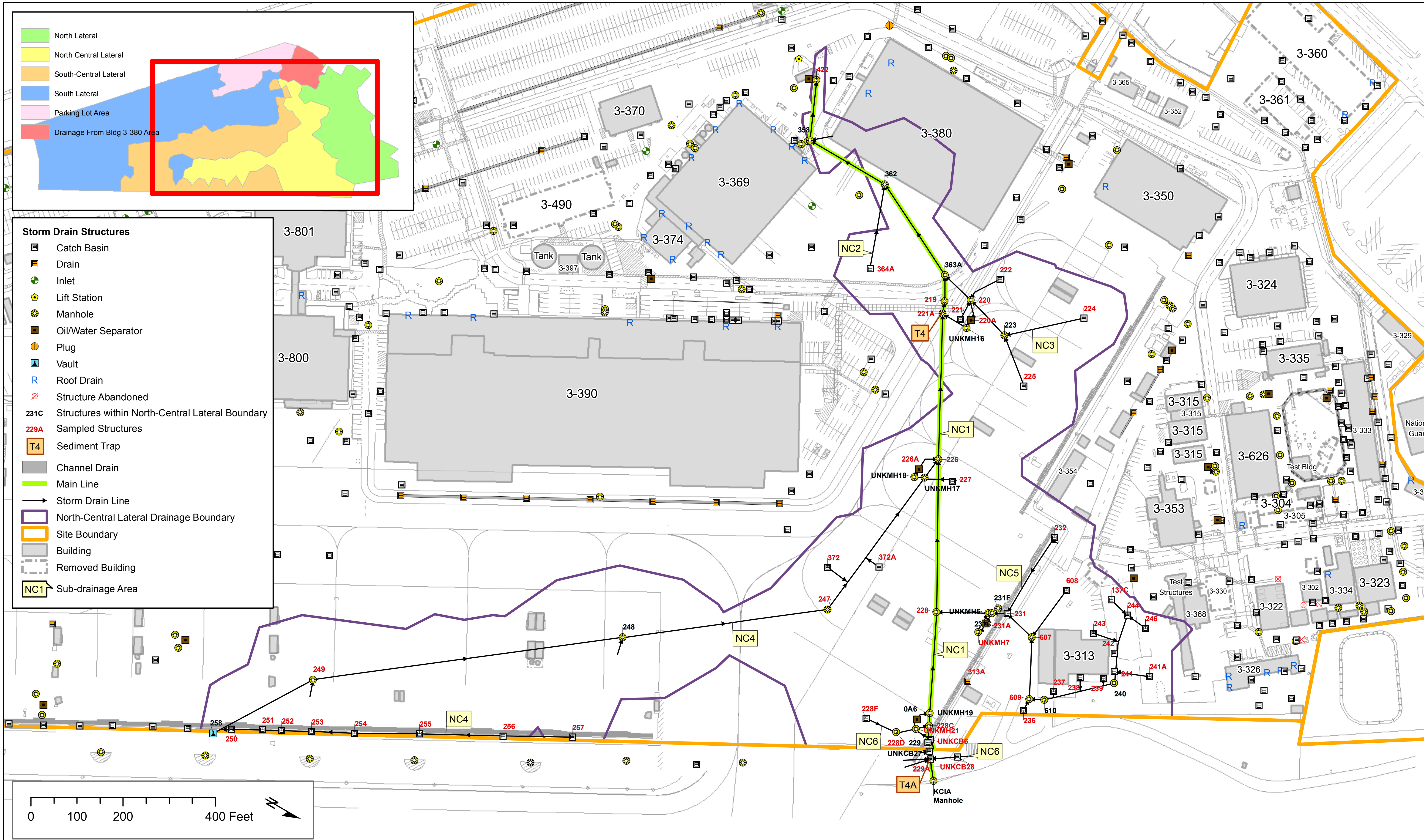


Figure 7.2-11. North-Central Lateral Storm Drain Line

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-11_SD_System_NorthCentral_Lateral.mxd
Illustrative purposes only.

Figure 7.2-12. Most Recent PCB Exceedance Factors in North-Central Lateral Drainage Area

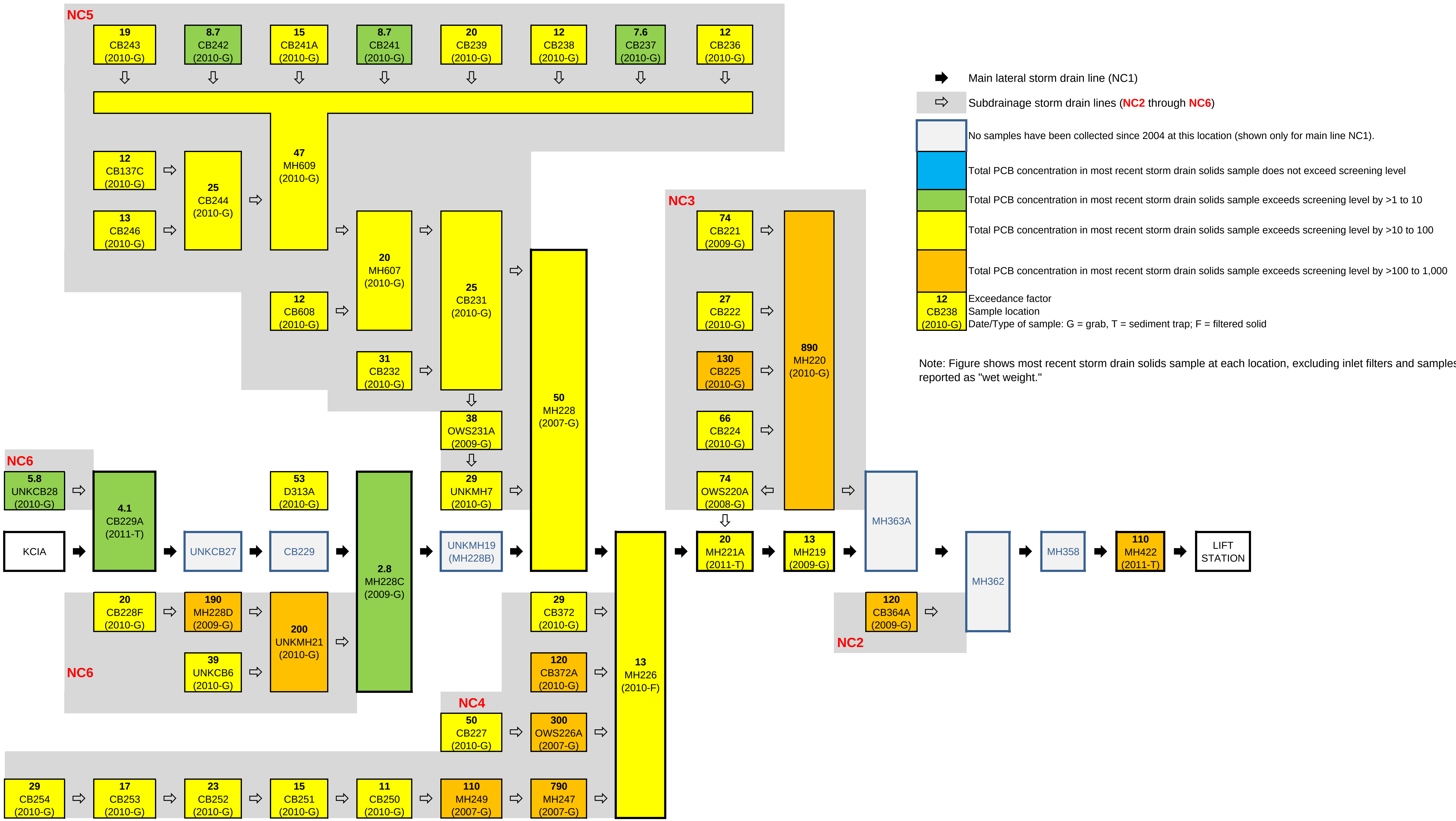
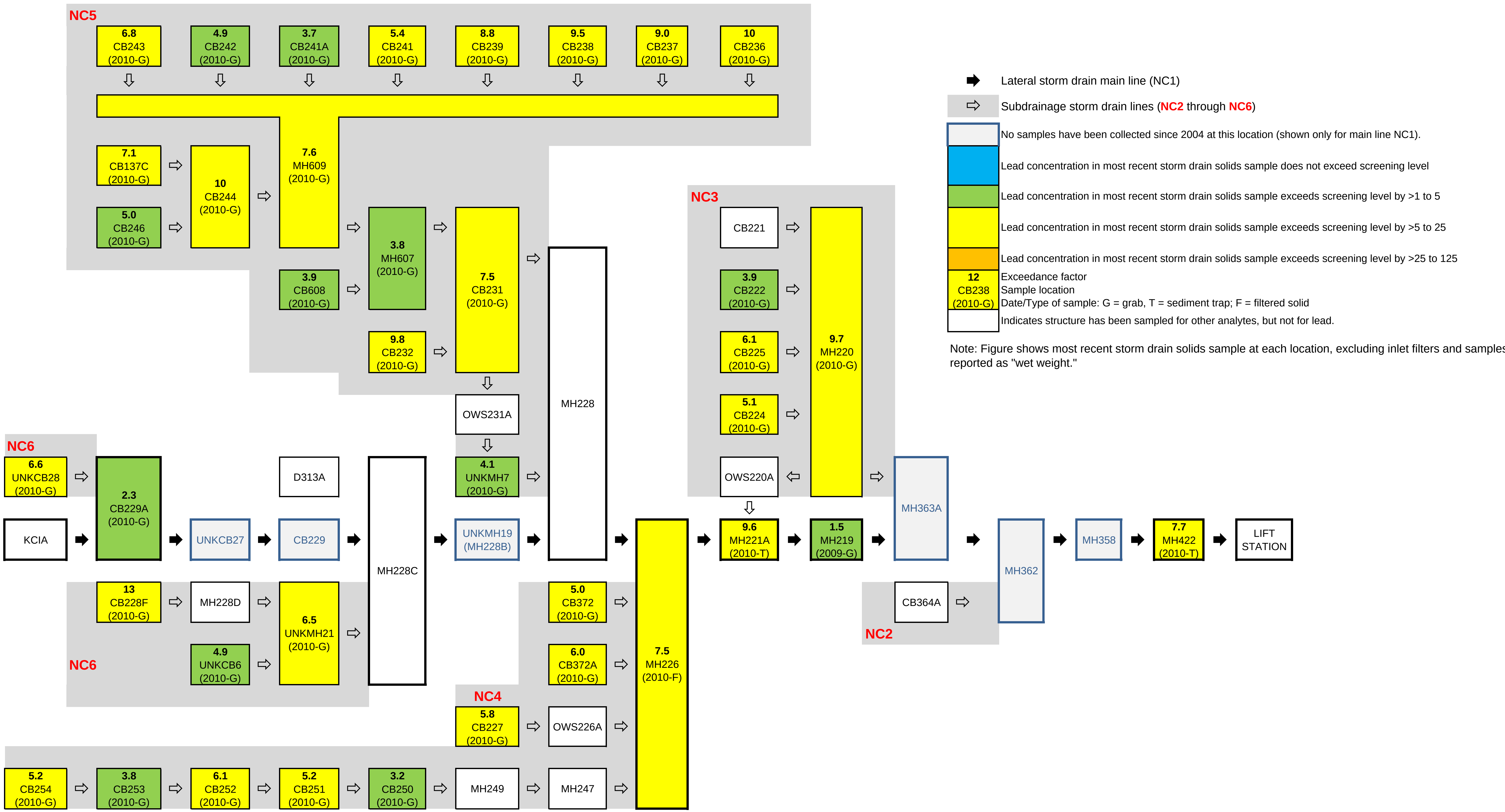


Figure 7.2-13. Most Recent Lead Exceedance Factors in North-Central Lateral Drainage Area



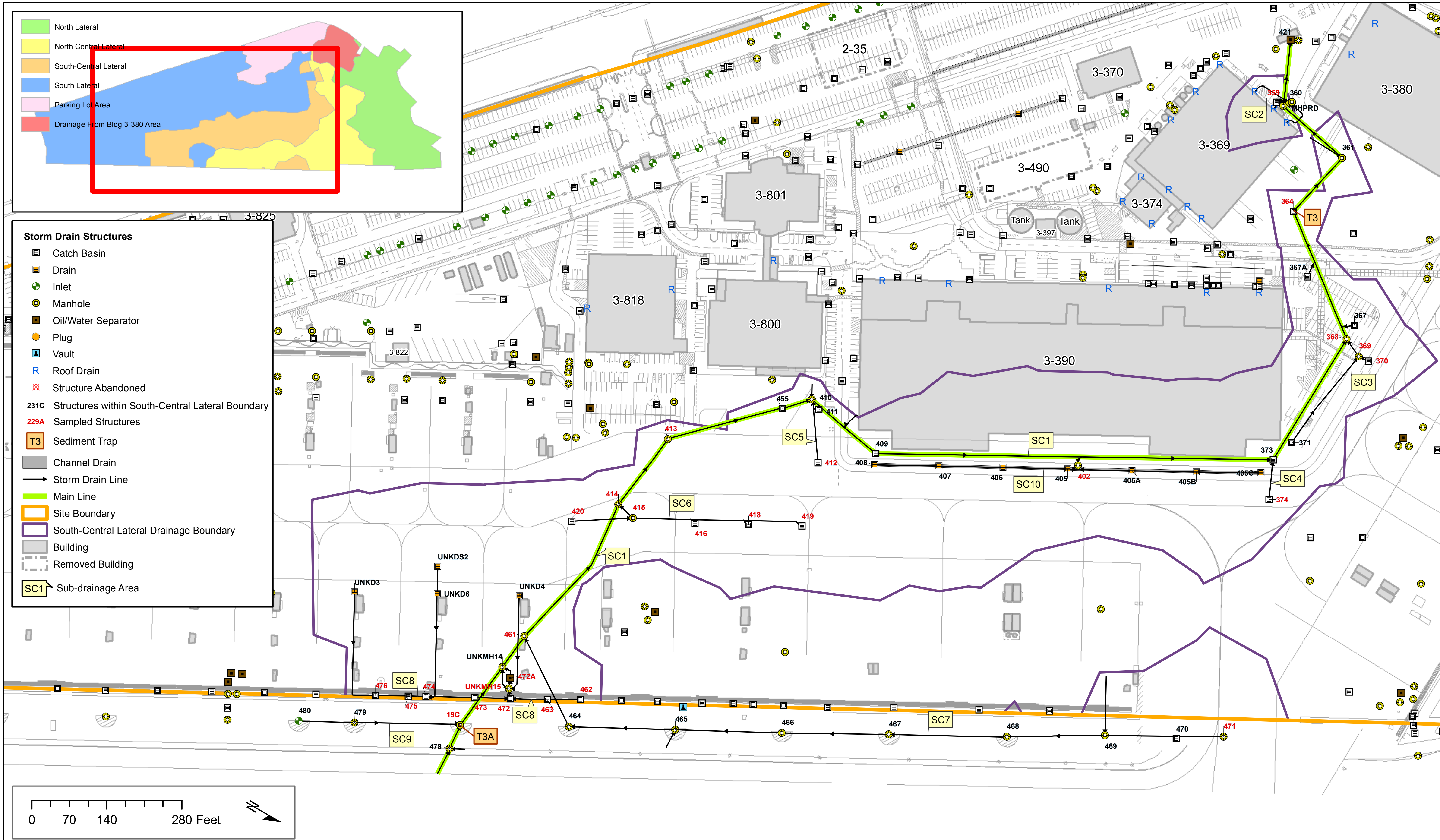


Figure 7.2-14. South-Central Lateral Storm Drain Line

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Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-14_SD_System_SouthCentral_Lateral.mxd
Illustrative purposes only.

Figure 7.2-15. Most Recent PCB Exceedance Factors in the South-Central Lateral Drainage Area

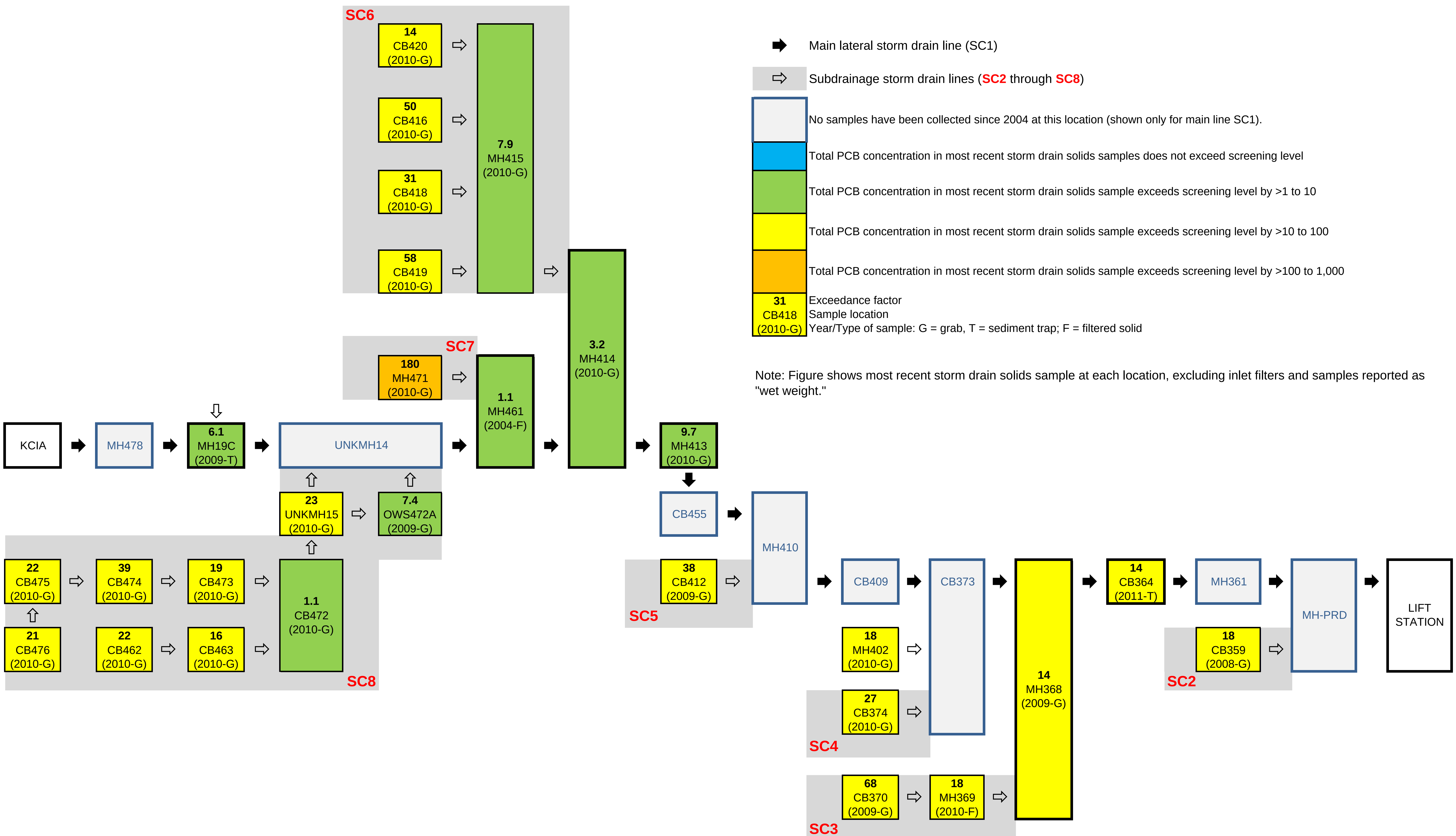


Figure 7.2-16. Most Recent Lead Exceedance Factors in the South-Central Lateral Drainage Area

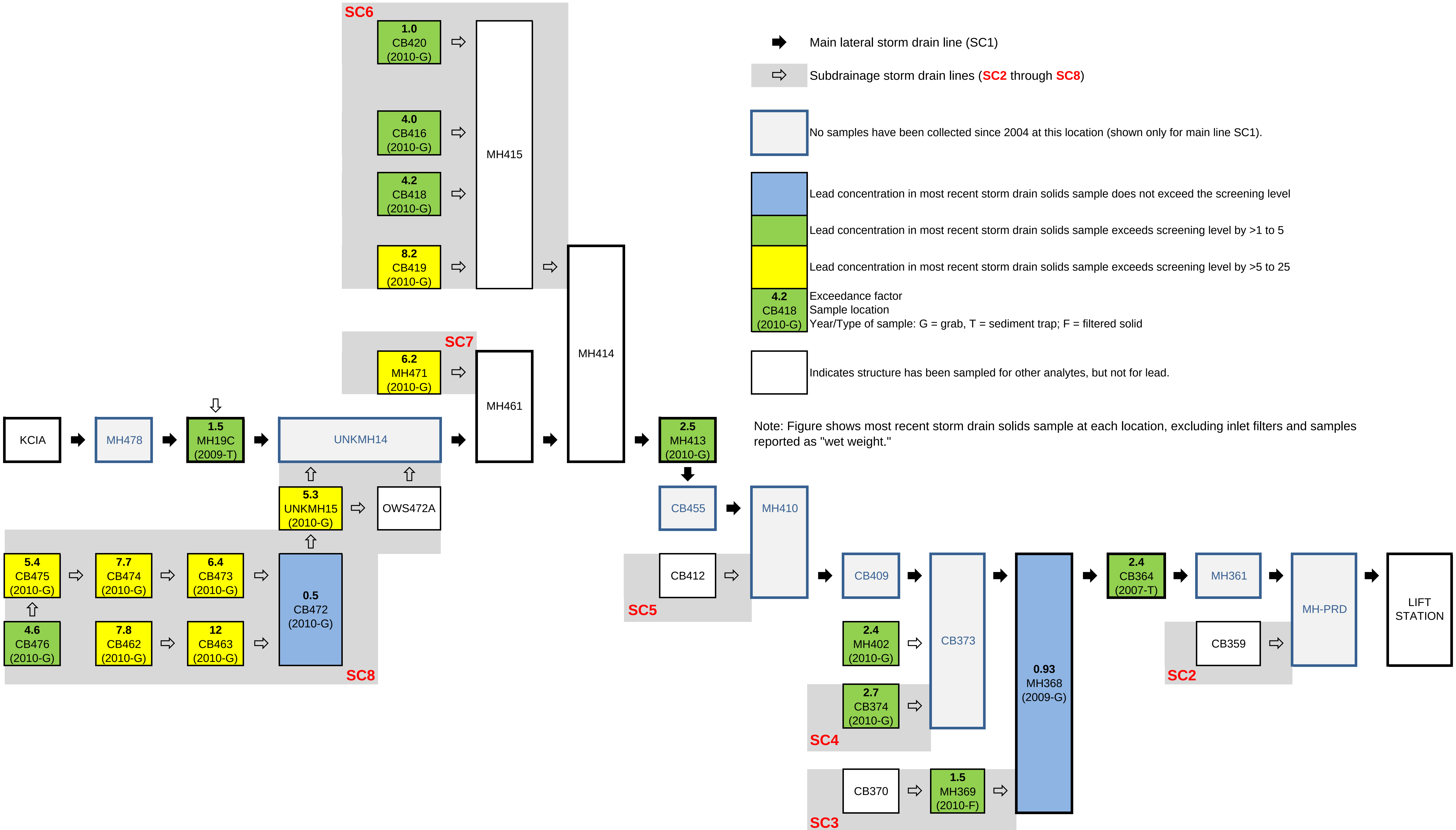
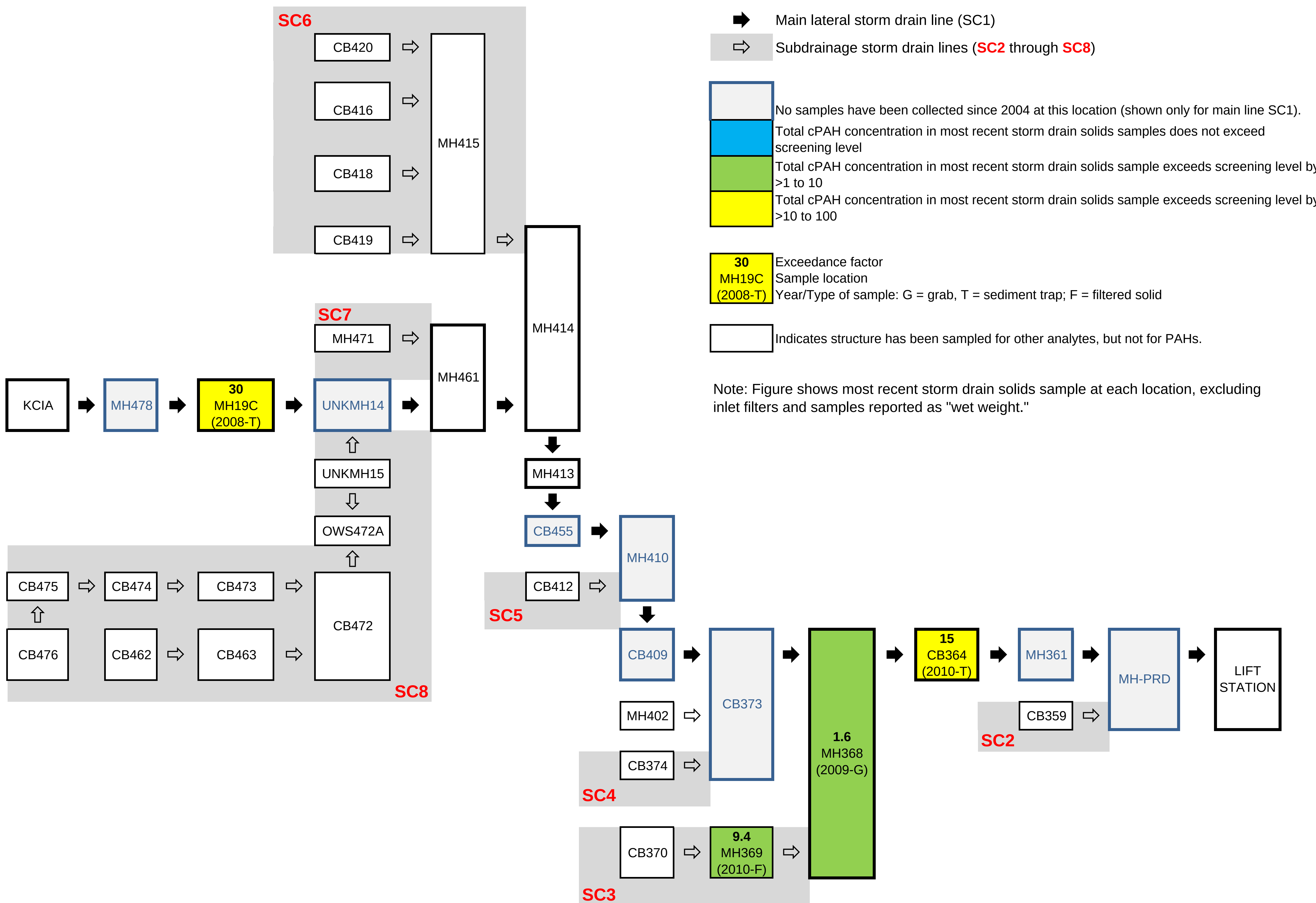


Table 7.2-17. Most Recent Total cPAH Exceedance Factors in the South-Central Lateral Drainage Area



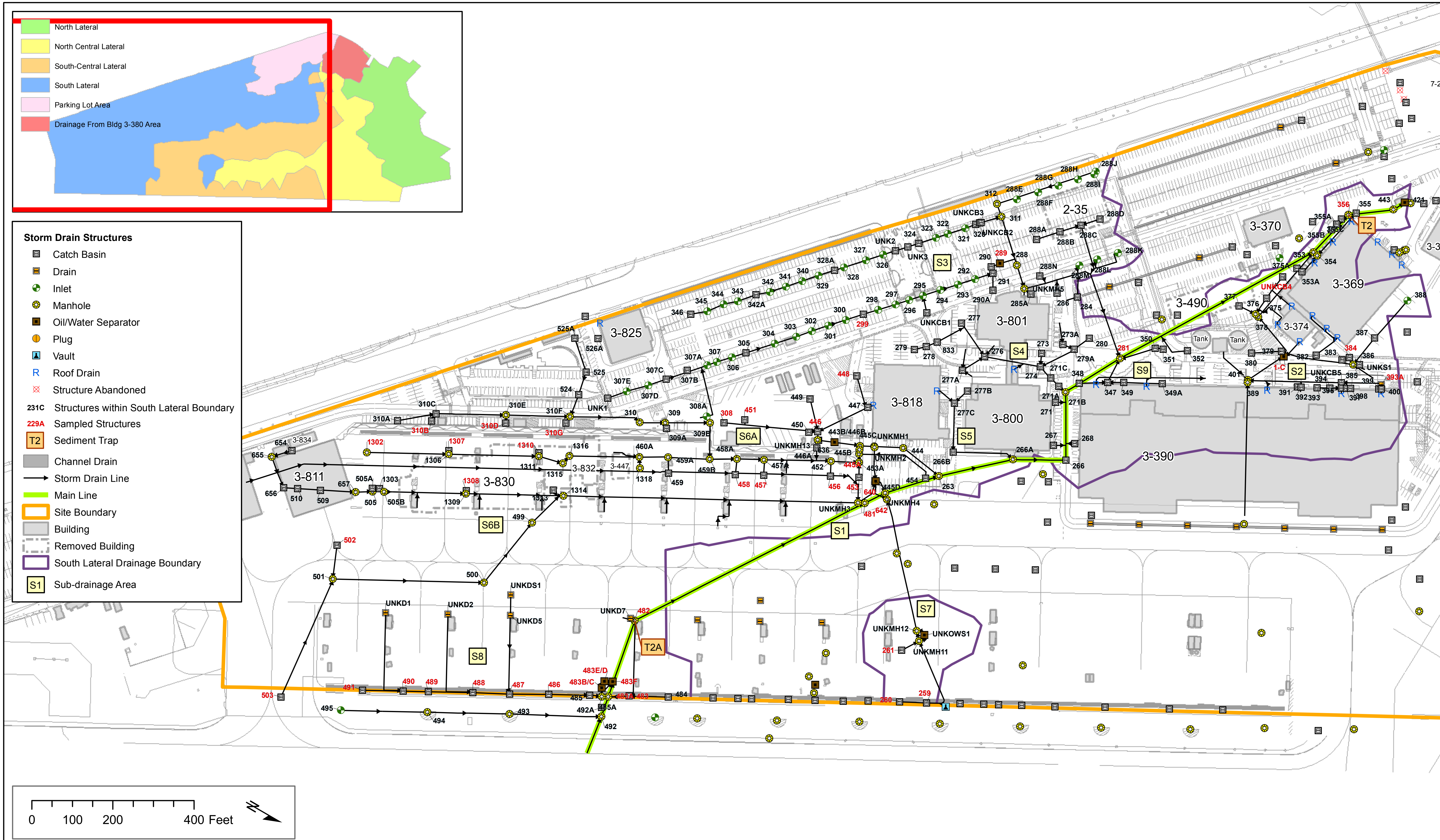


Figure 7.2-18. South Lateral Storm Drain Line

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-18_SD_System_South_Lateral.mxd
Illustrative purposes only.

Table 7.2-19. Most Recent PCB Exceedance Factors in the South Lateral Drainage Area

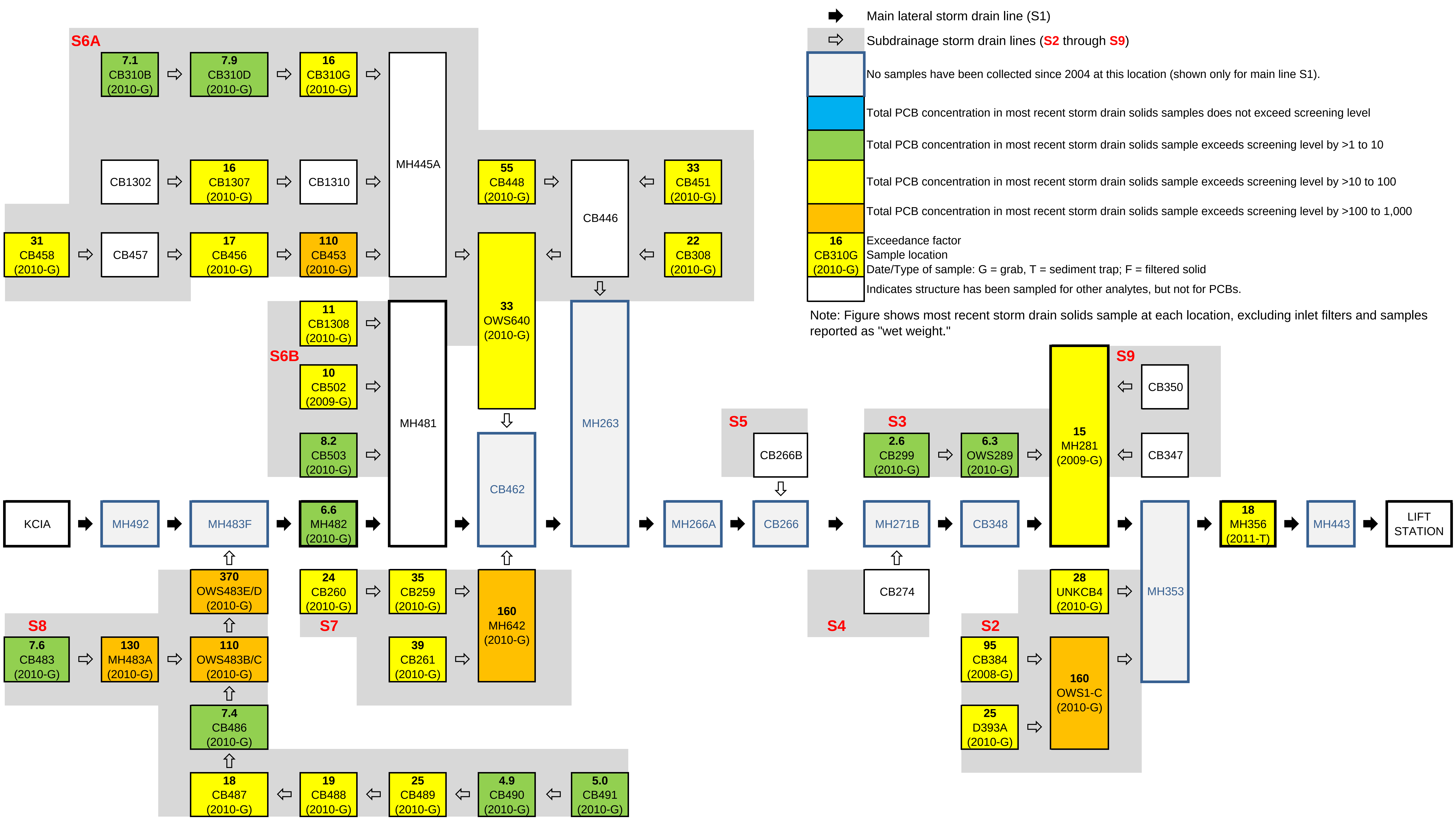


Table 7.2-20. Most Recent Lead Exceedance Factors in the South Lateral Drainage Area

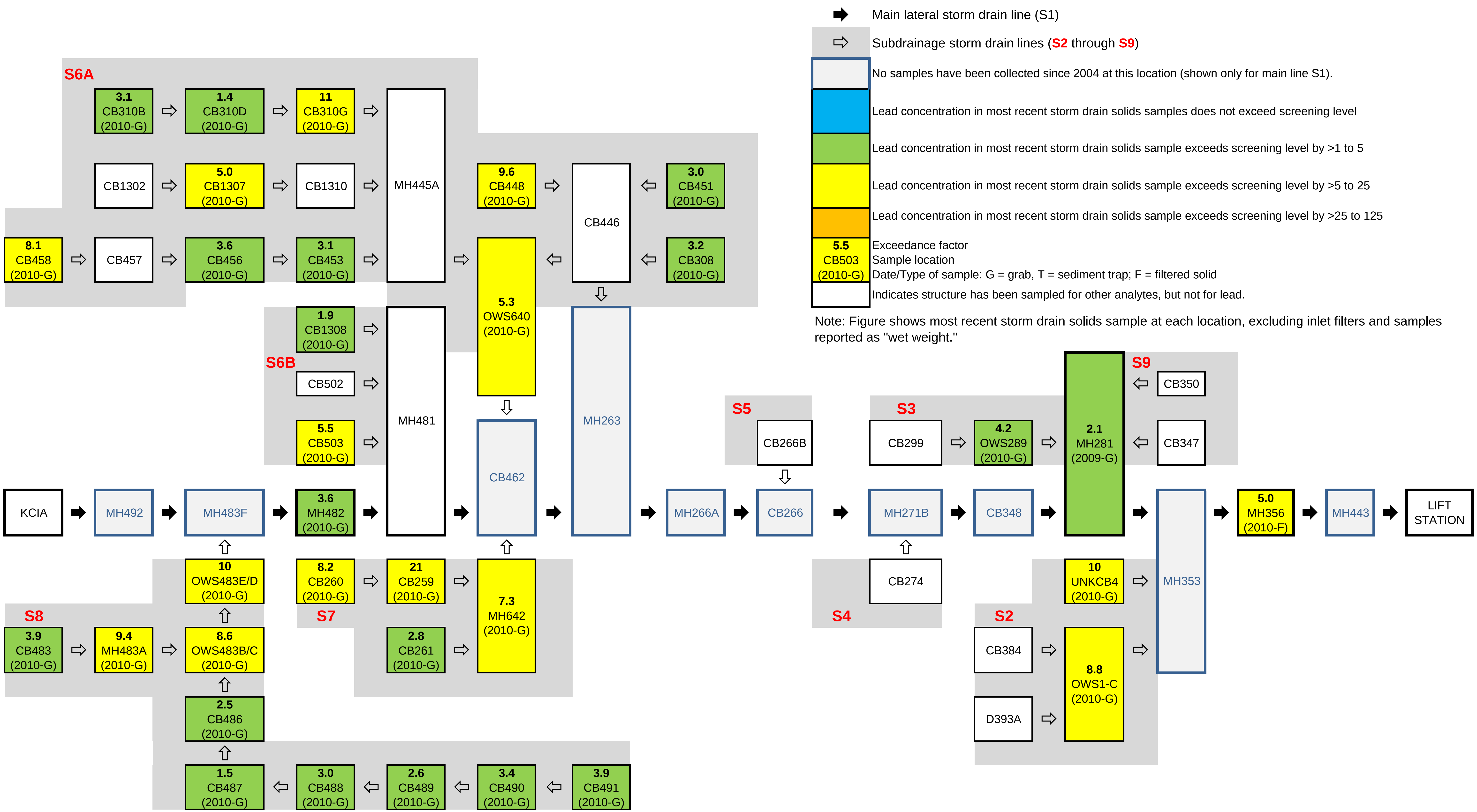
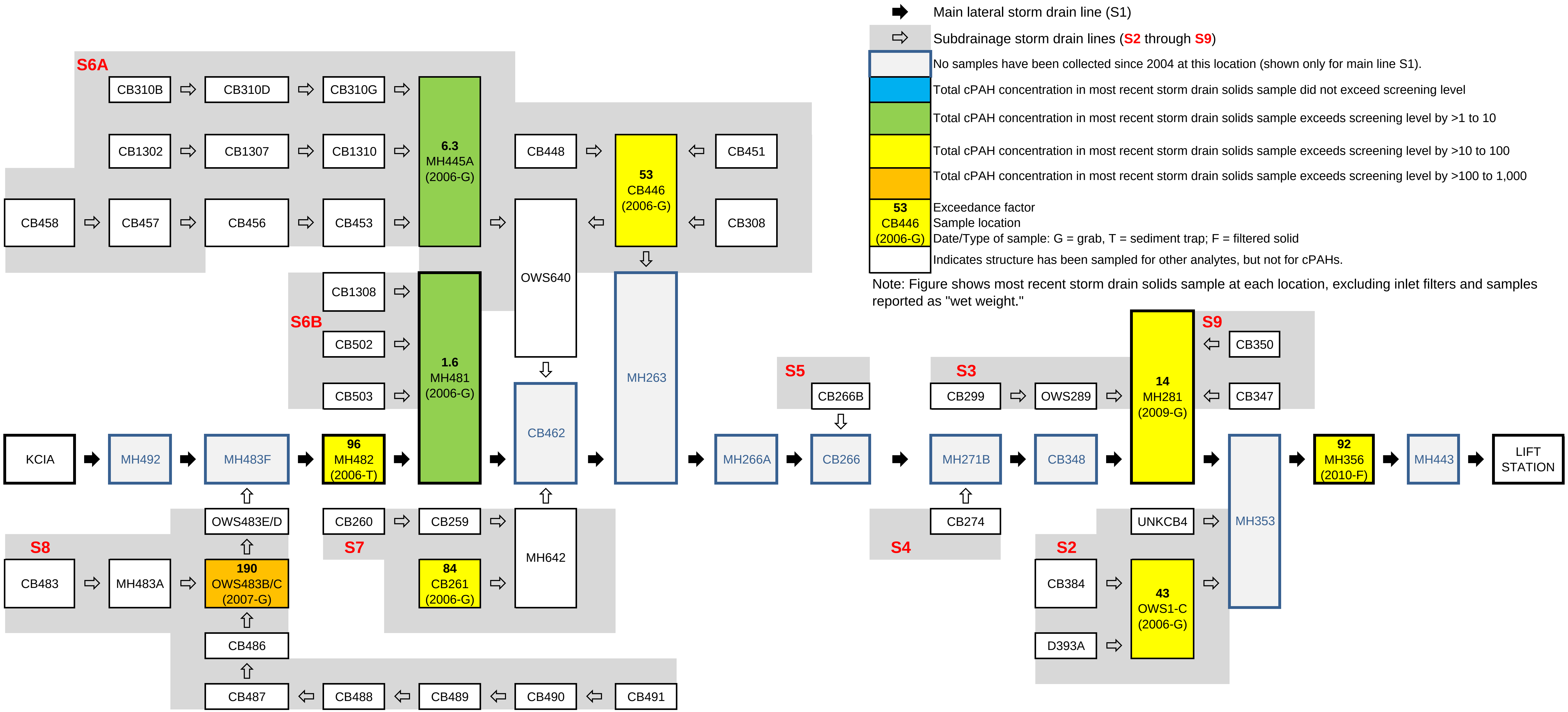


Table 7.2-21. Most Recent cPAH Exceedance Factors in the South Lateral Drainage Area



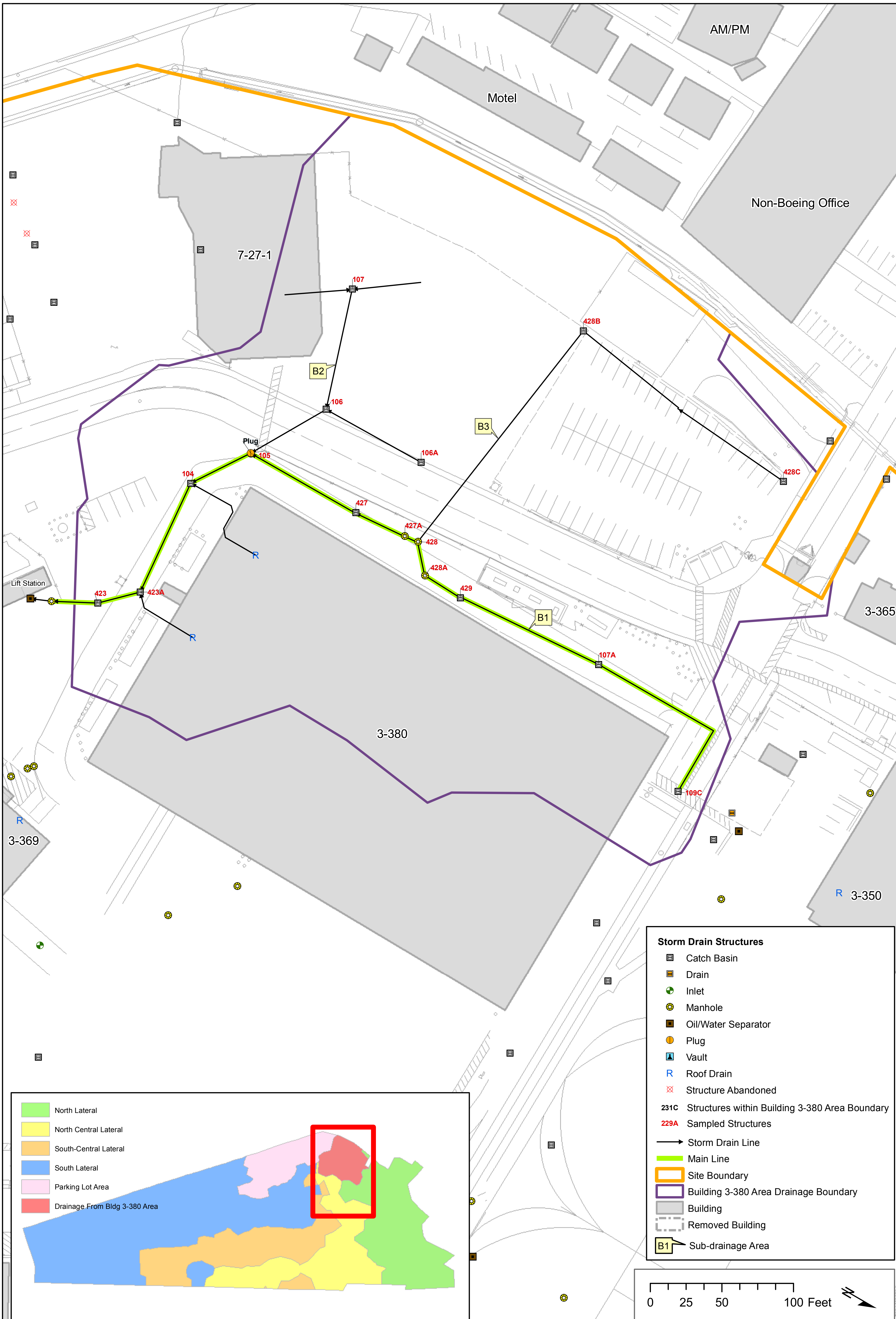


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Figure 7.2-22. Building 3-380 Storm Drain Line

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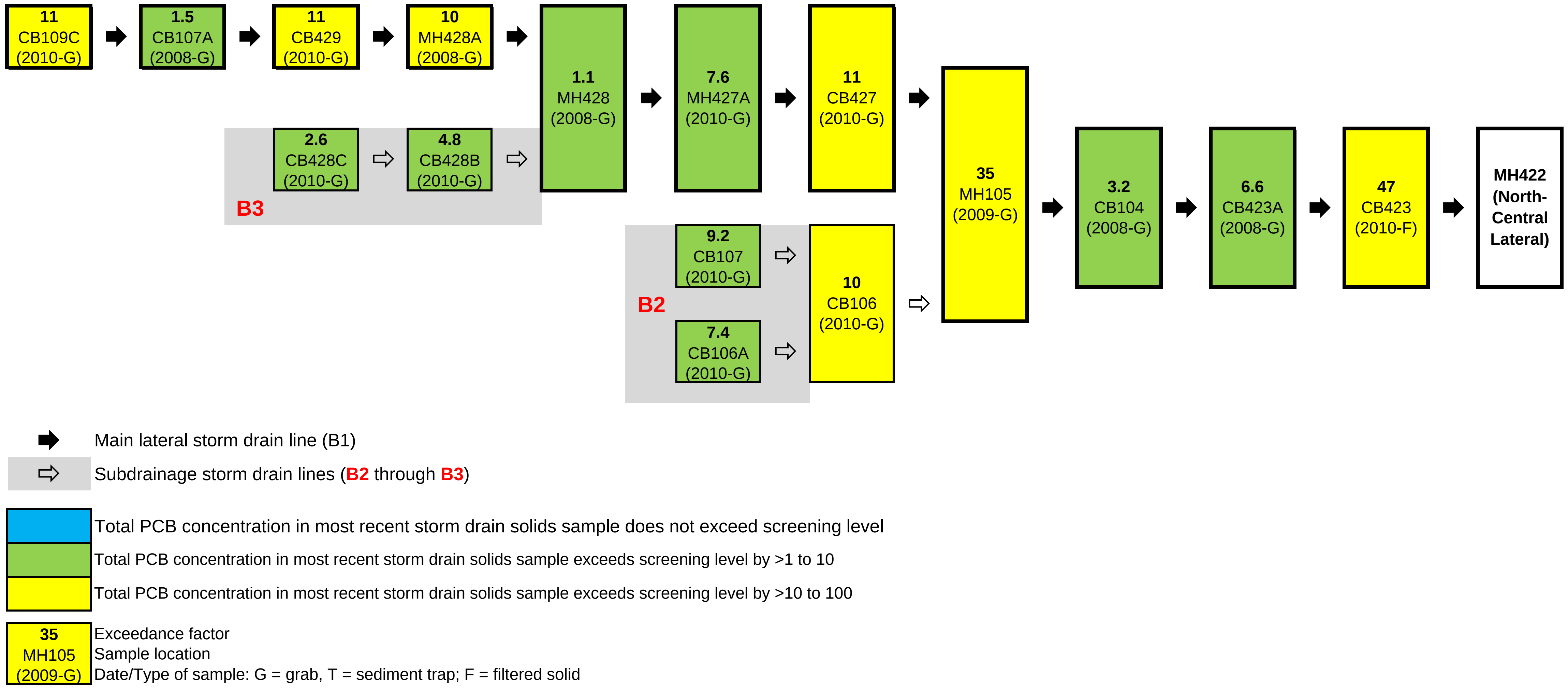
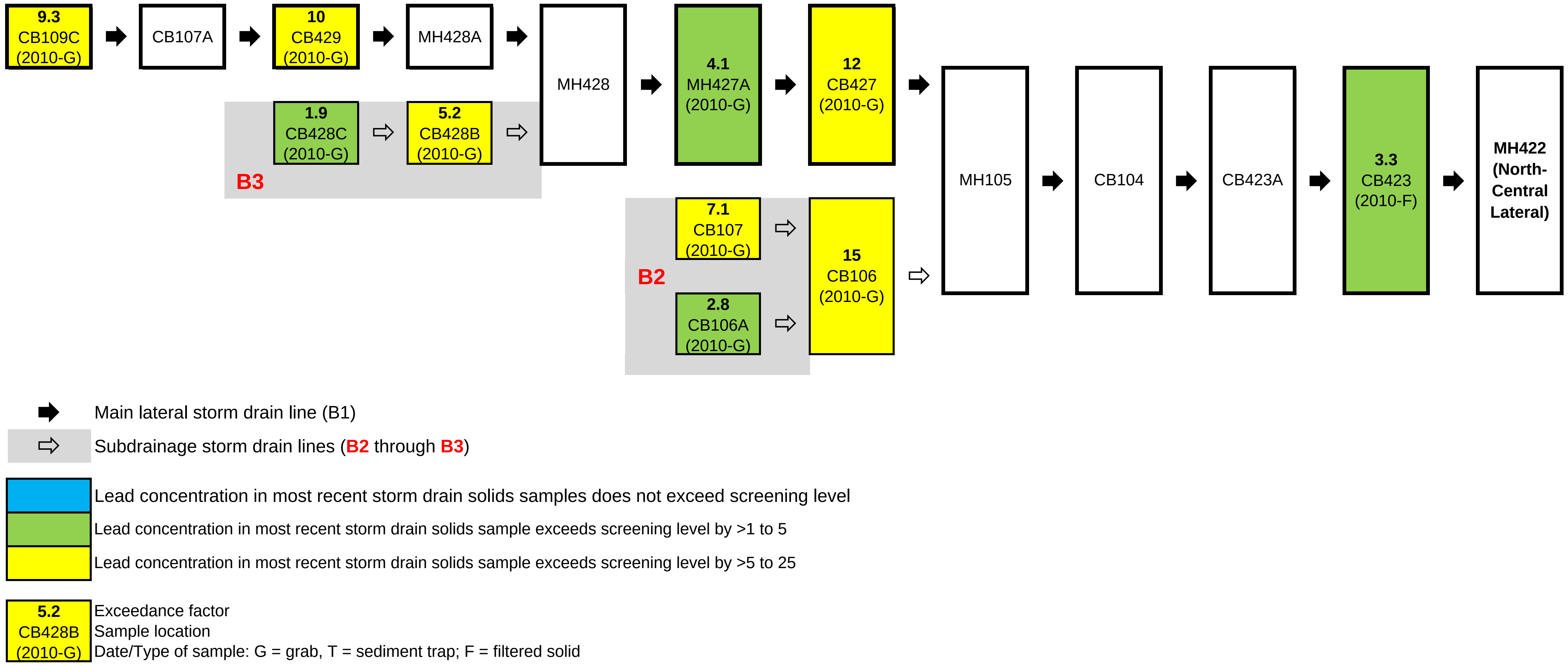
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-22_SD_System_Bldg-3-380_Lateral.mxd
Illustrative purposes only.

Figure 7.2-23. Most Recent PCB Exceedance Factors in Building 3-380 Drainage Area



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

Figure 7.2-24. Most Recent Lead Exceedance Factors in Building 3-380 Drainage Area



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

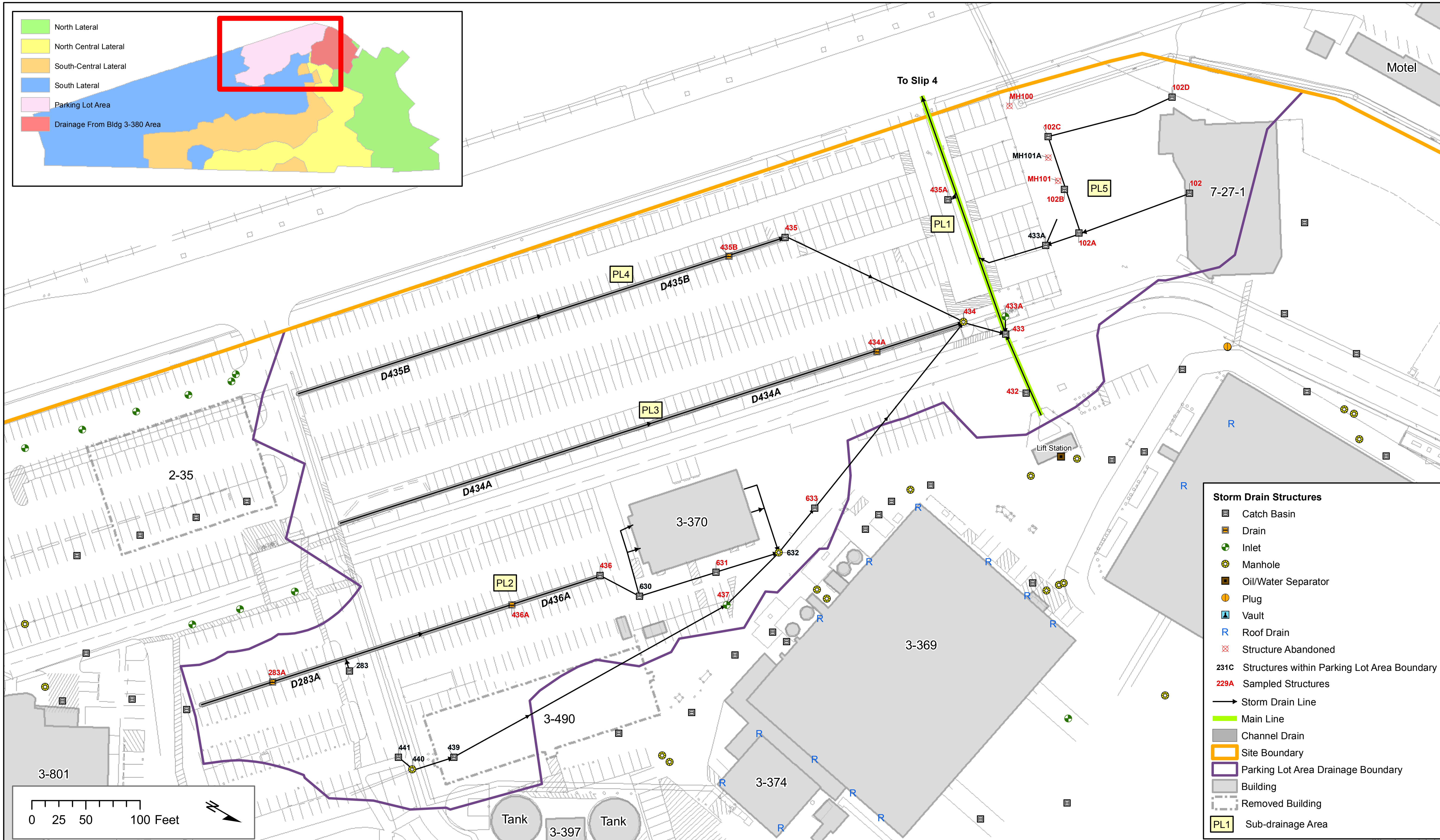


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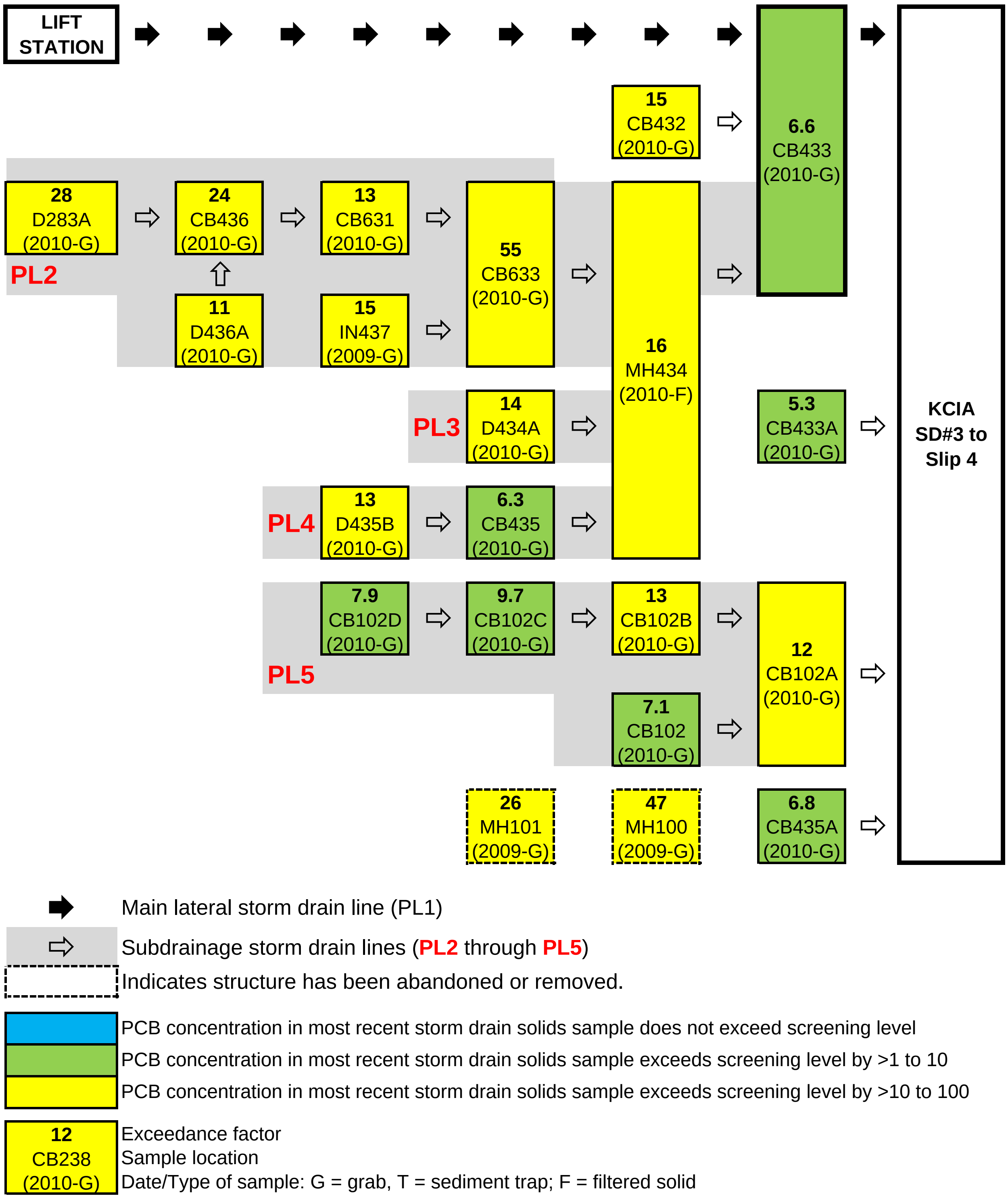
Figure 7.2-25. Parking Lot Area Storm Drain Line

SAIC From Science to Solutions

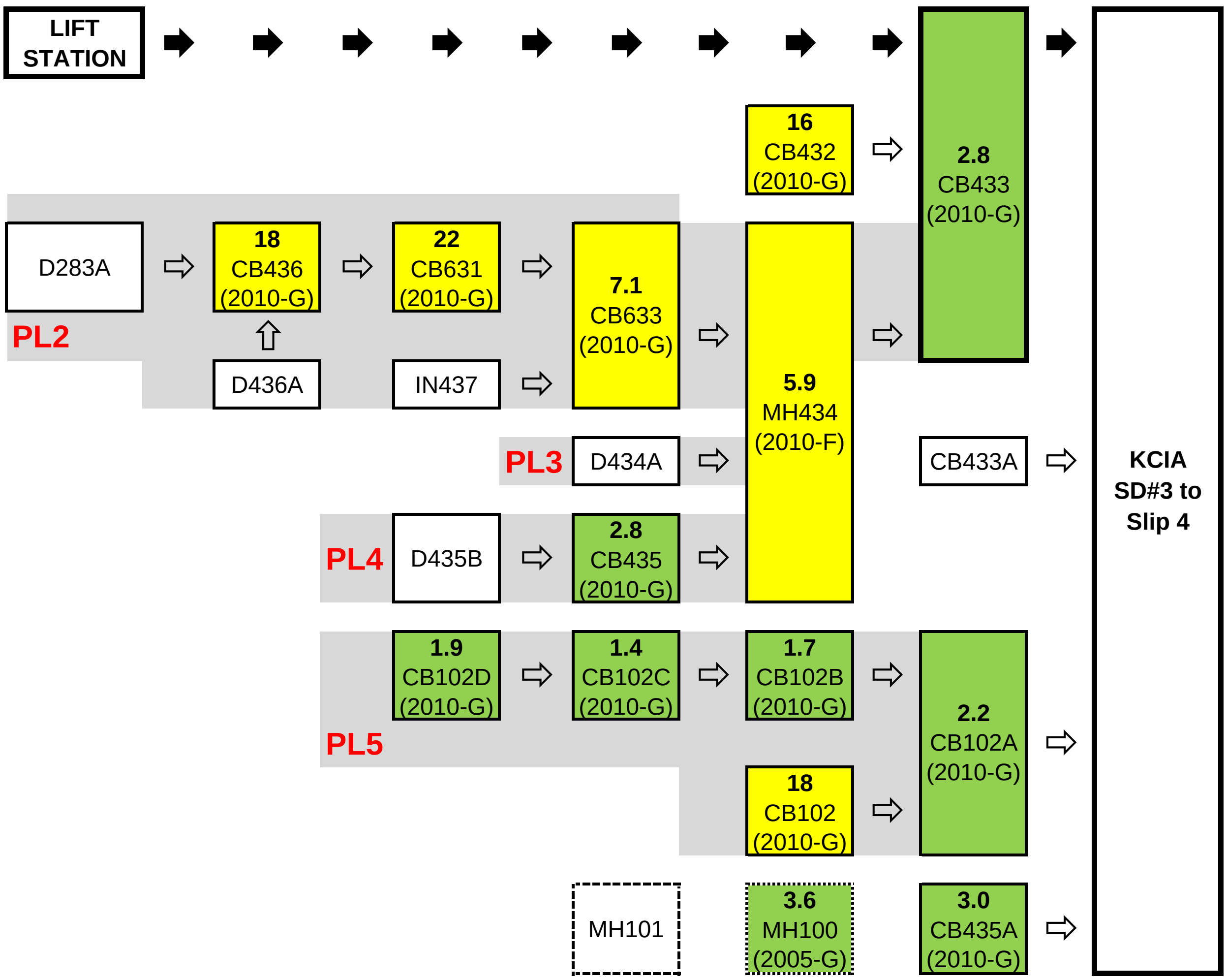
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: 7_2-26_SD_System_ParkingLot_Lateral.mxd
Illustrative purposes only.

Figure 7.2-26. Most Recent PCB Exceedances in Parking Lot Drainage Area



Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

Figure 7.2-27. Most Recent Lead Exceedances in Parking Lot Drainage Area



Main lateral storm drain line (PL1)

Subdrainage storm drain lines (**PL2** through **PL5**)

Indicates structure has been abandoned or removed.

Lead concentration in most recent storm drain solids sample does not exceed screening level

Lead concentration in most recent storm drain solids sample exceeds screening level by >1 to 5

Lead concentration in most recent storm drain solids sample exceeds screening level by >5 to 25

18 / CB102 / (2010-G)

Exceedance factor
Sample location
Date/Type of sample: G = grab, T = sediment trap; F = filtered solid

Indicates structure has been sampled for other analytes, but not for lead.

Note: Figure shows most recent storm drain solids sample at each location, excluding inlet filters and samples reported as "wet weight."

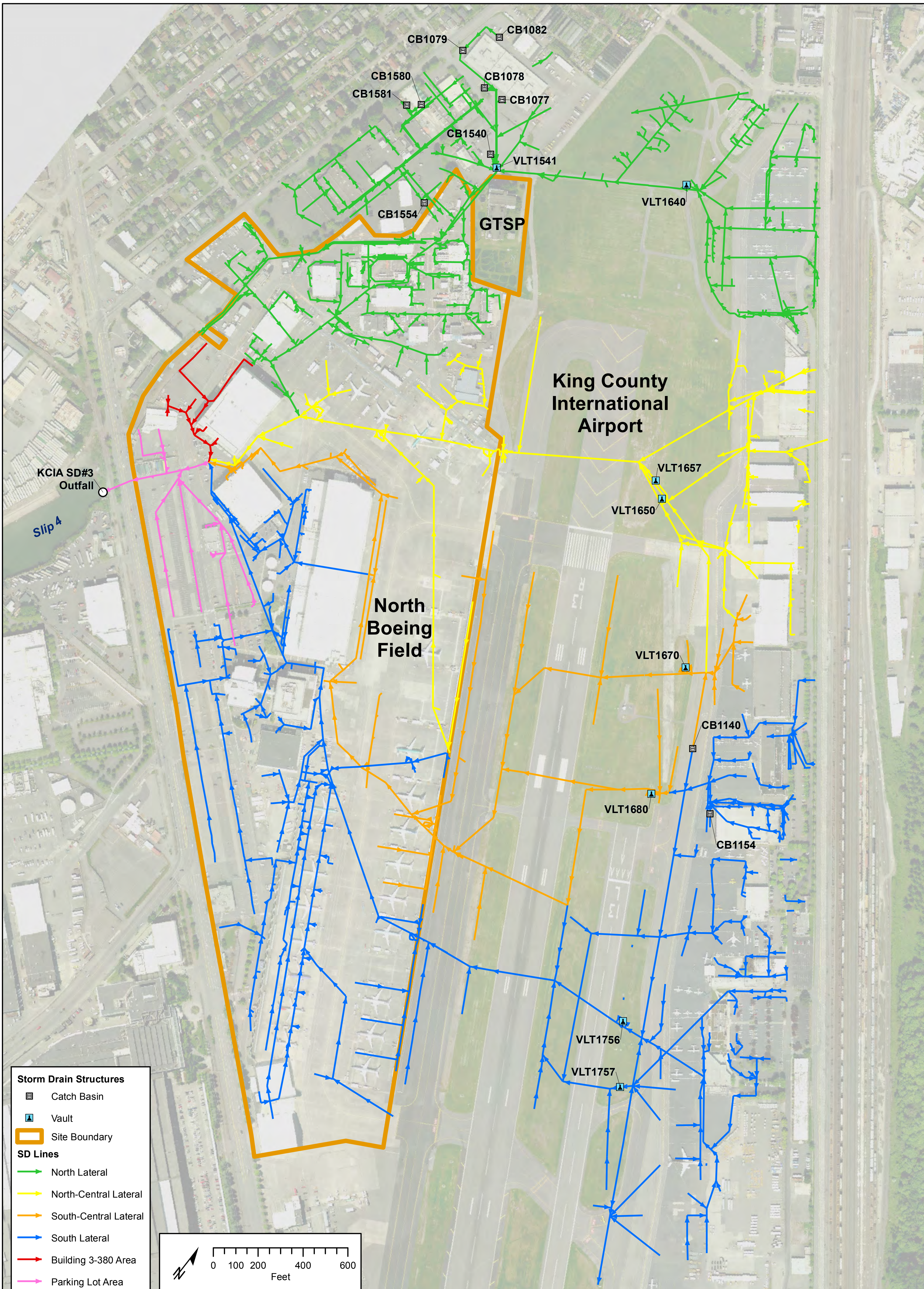


Figure 7.2-28. KCIA Storm Drain Structures Sampled Between 2004 and 2011

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_2-28_KCI_SW_Structures_Sampled.mxd
Illustrative purposes only.

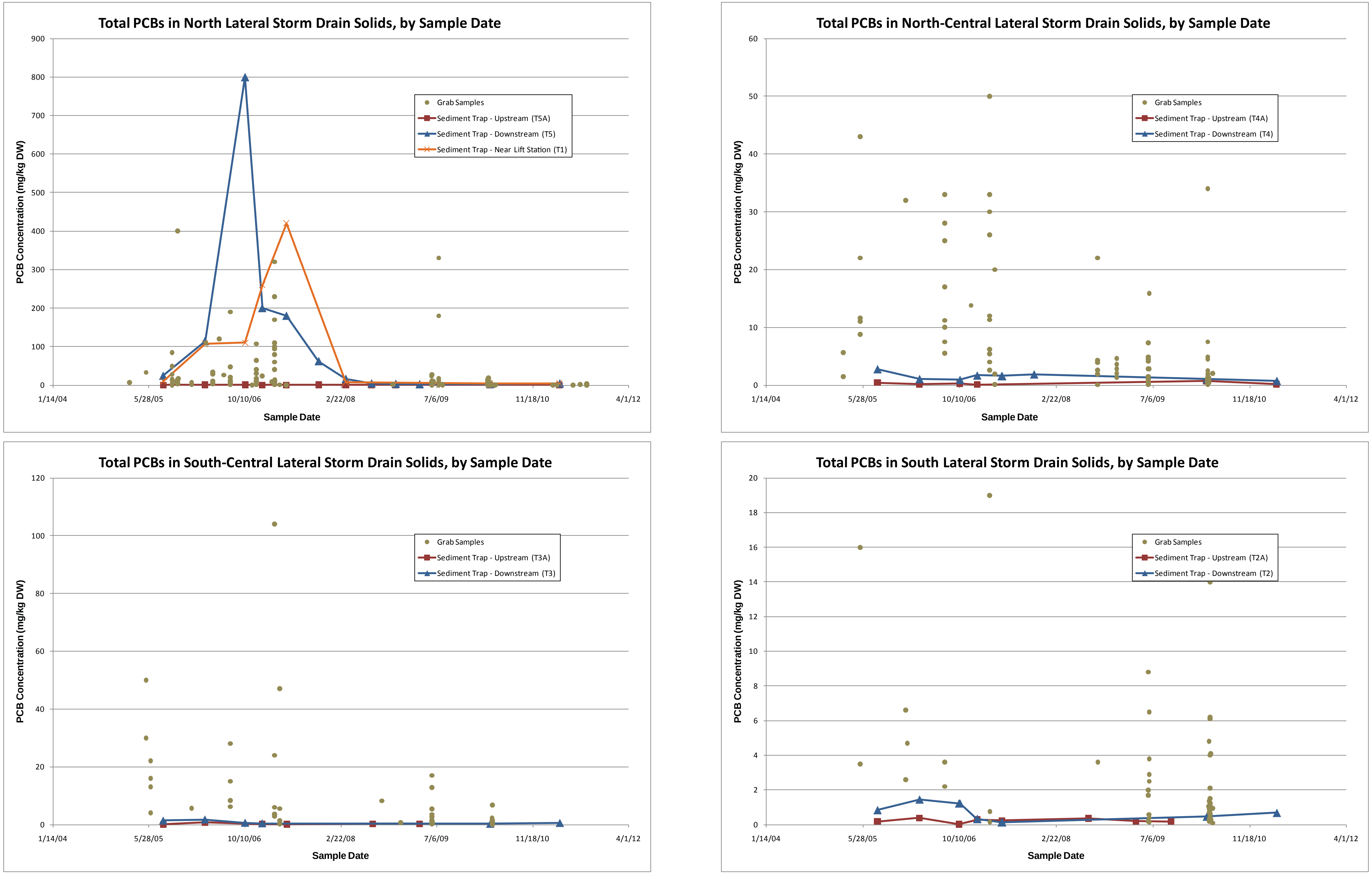

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Figure 7.2-29. Total PCB Concentrations in Storm Drain Solids, by Sample Date

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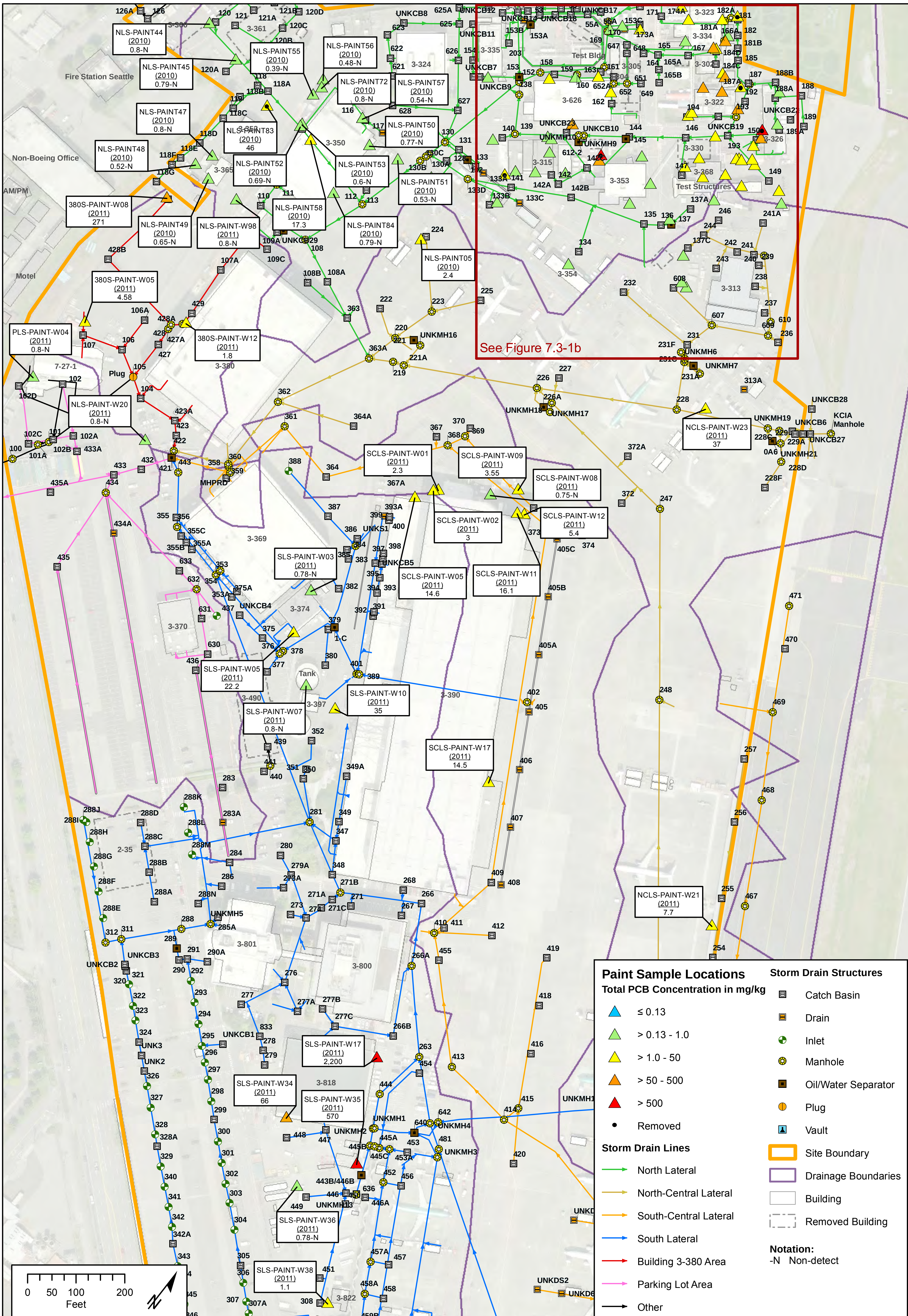

7.3-1a. Paint Sample Locations at NBF

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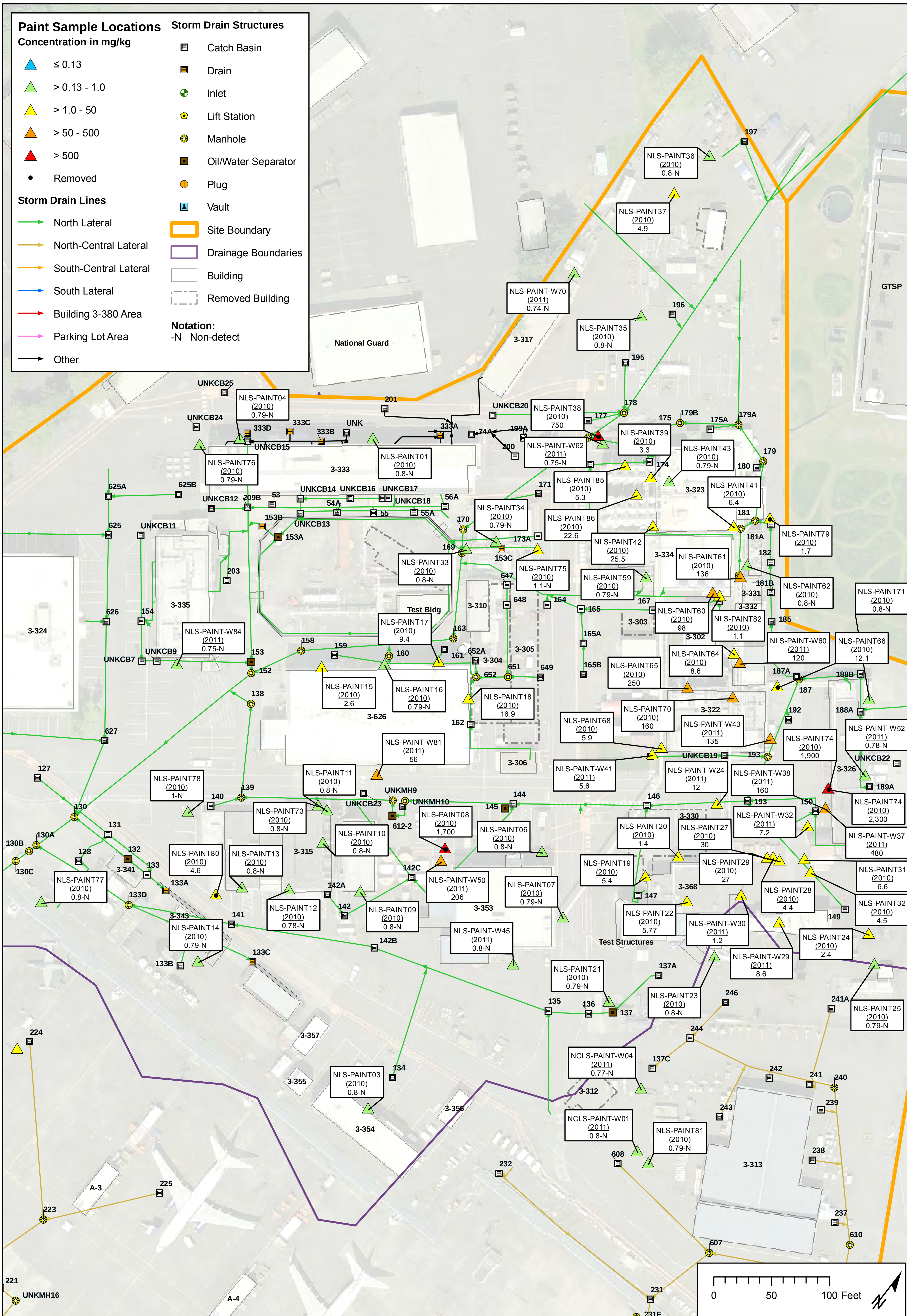
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-1a_Paint_Samples.mxd
Illustrative purposes only.



7.3-1b. Paint Sample Locations at NBF

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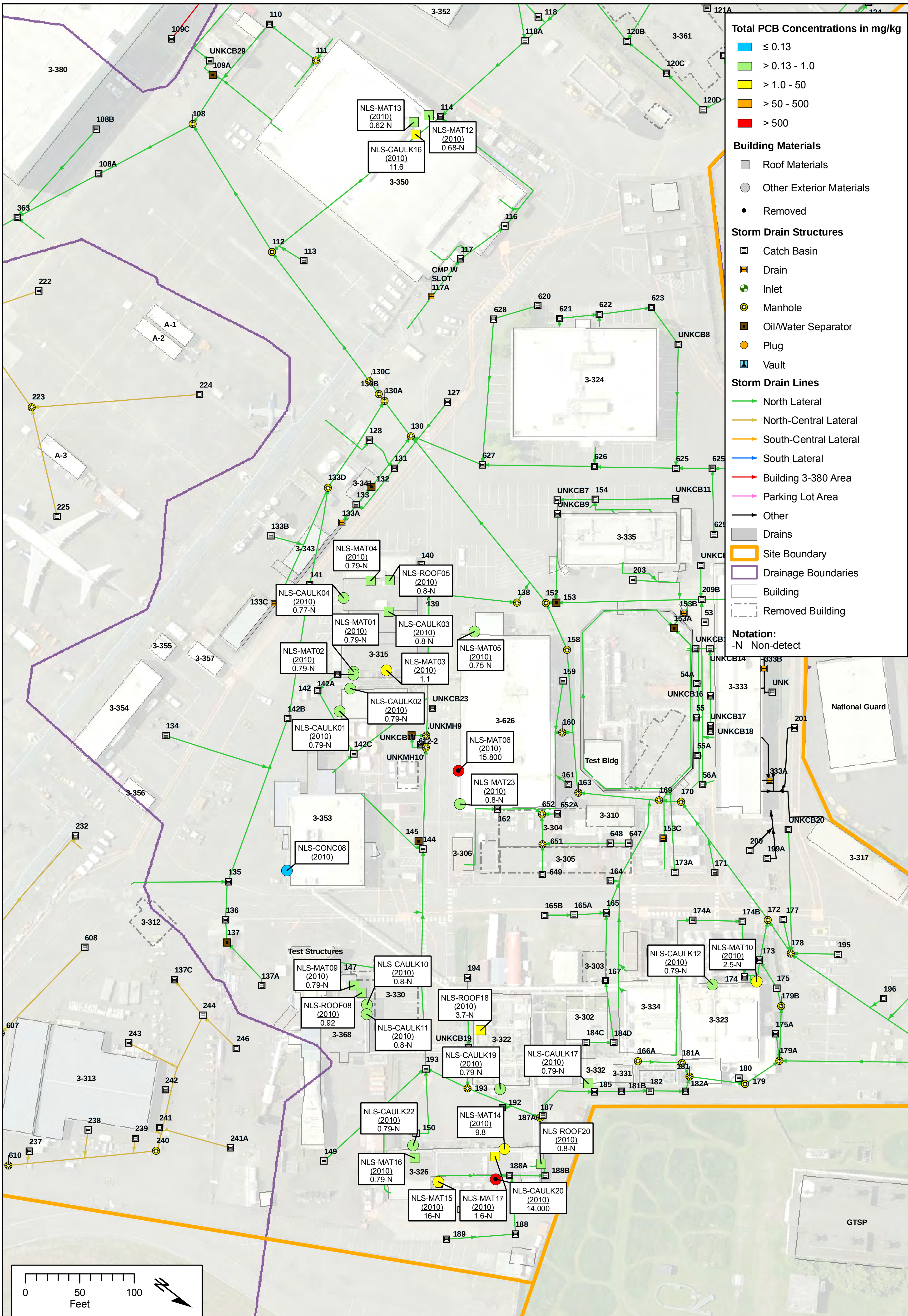
SAIC
From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-1b_Paint_Samples_PEL.mxd
Illustrative purposes only.



7.3-2. Roof Materials and Other Exterior Materials Sample Locations at NBF

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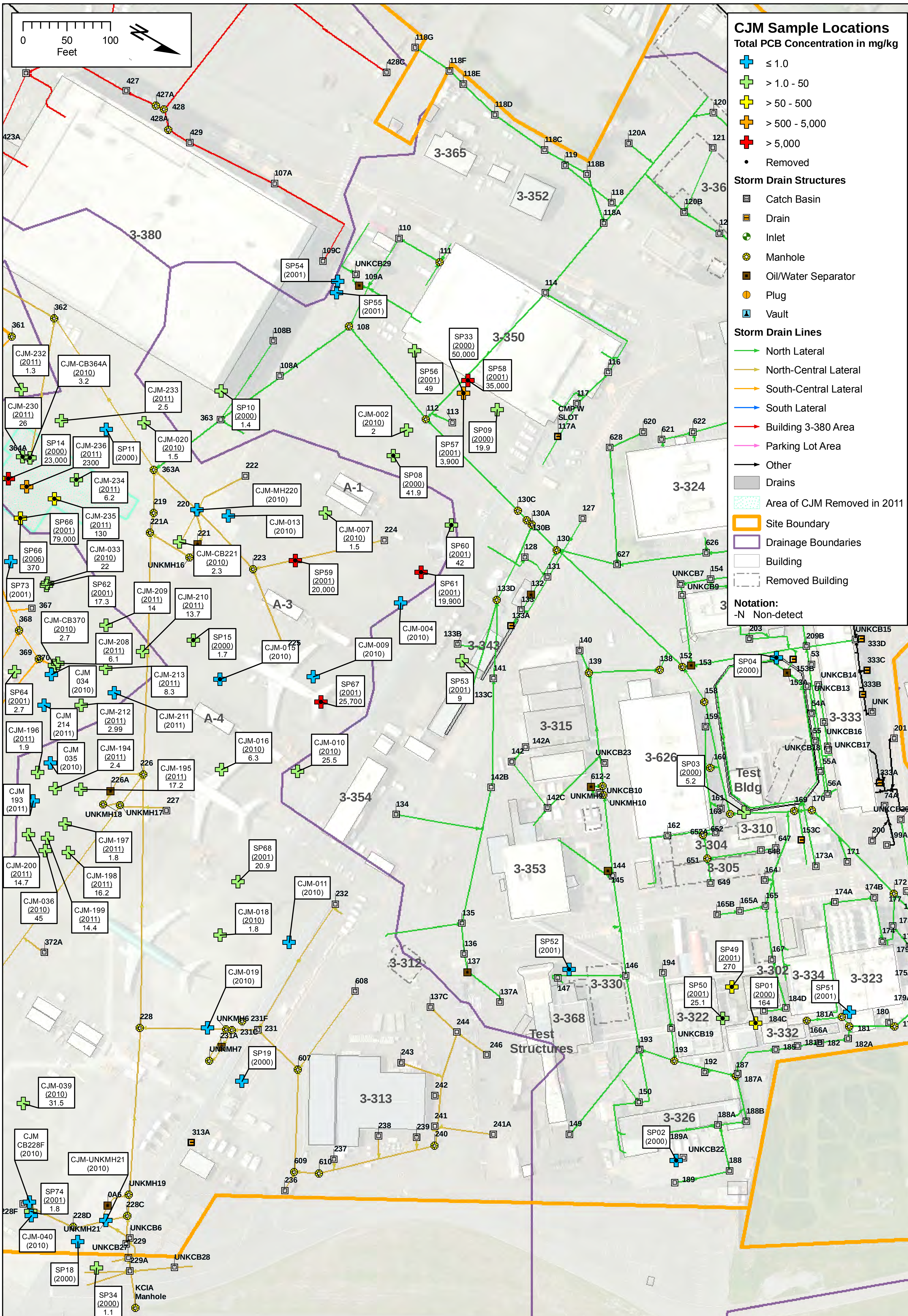
SAIC From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-2_Roof_Exterior_Materials.mxd
Illustrative purposes only.



7.3-3a. Concrete Joint Material Sample Locations at NBF

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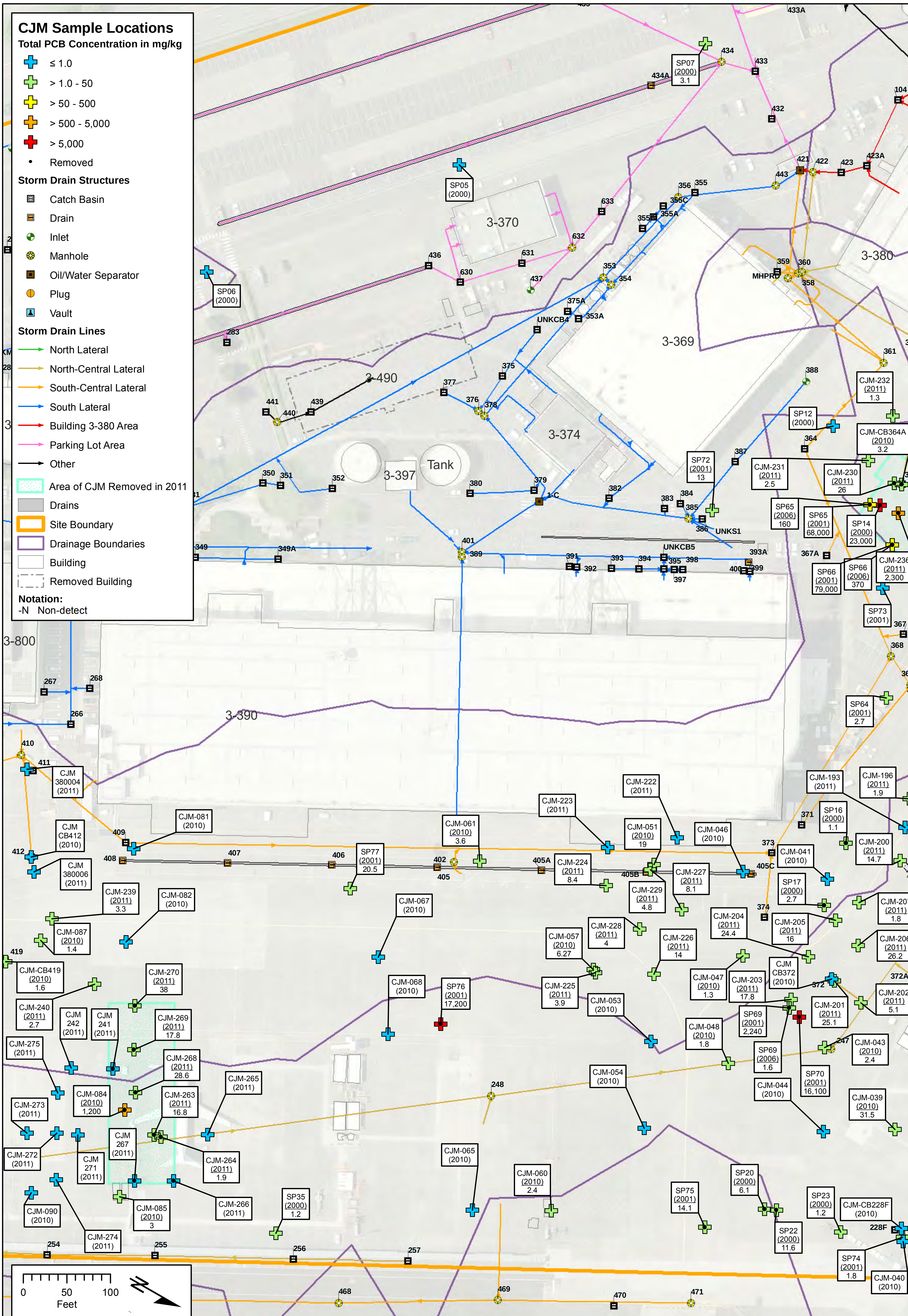
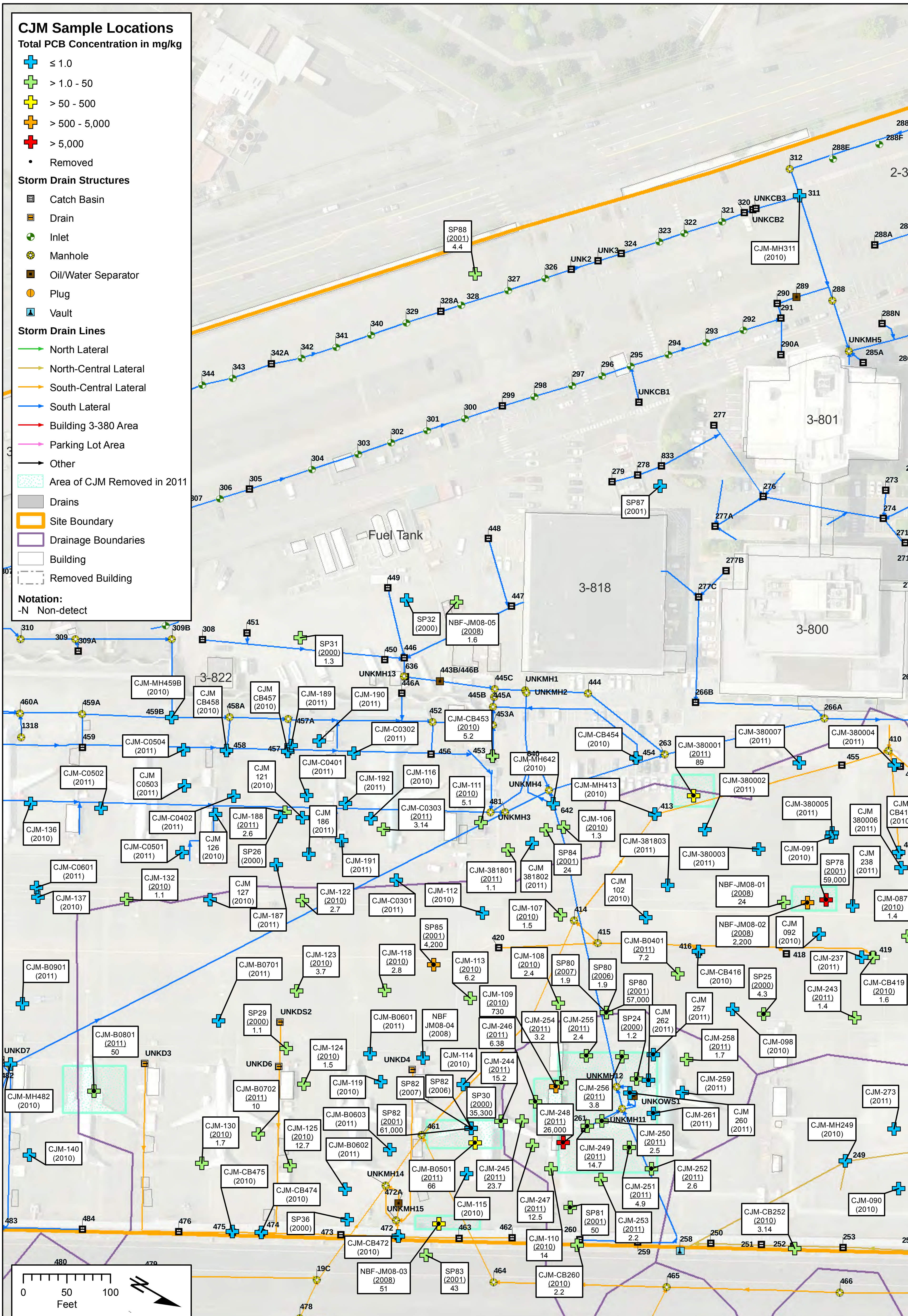
SAIC From Science to Solutions

Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-3a_CJM_Samples.mxd
Illustrative purposes only.



7.3-3b. Concrete Joint Material Sample Locations at NBF

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7-03b_CJM_Samples.mxd
Illustrative purposes only.



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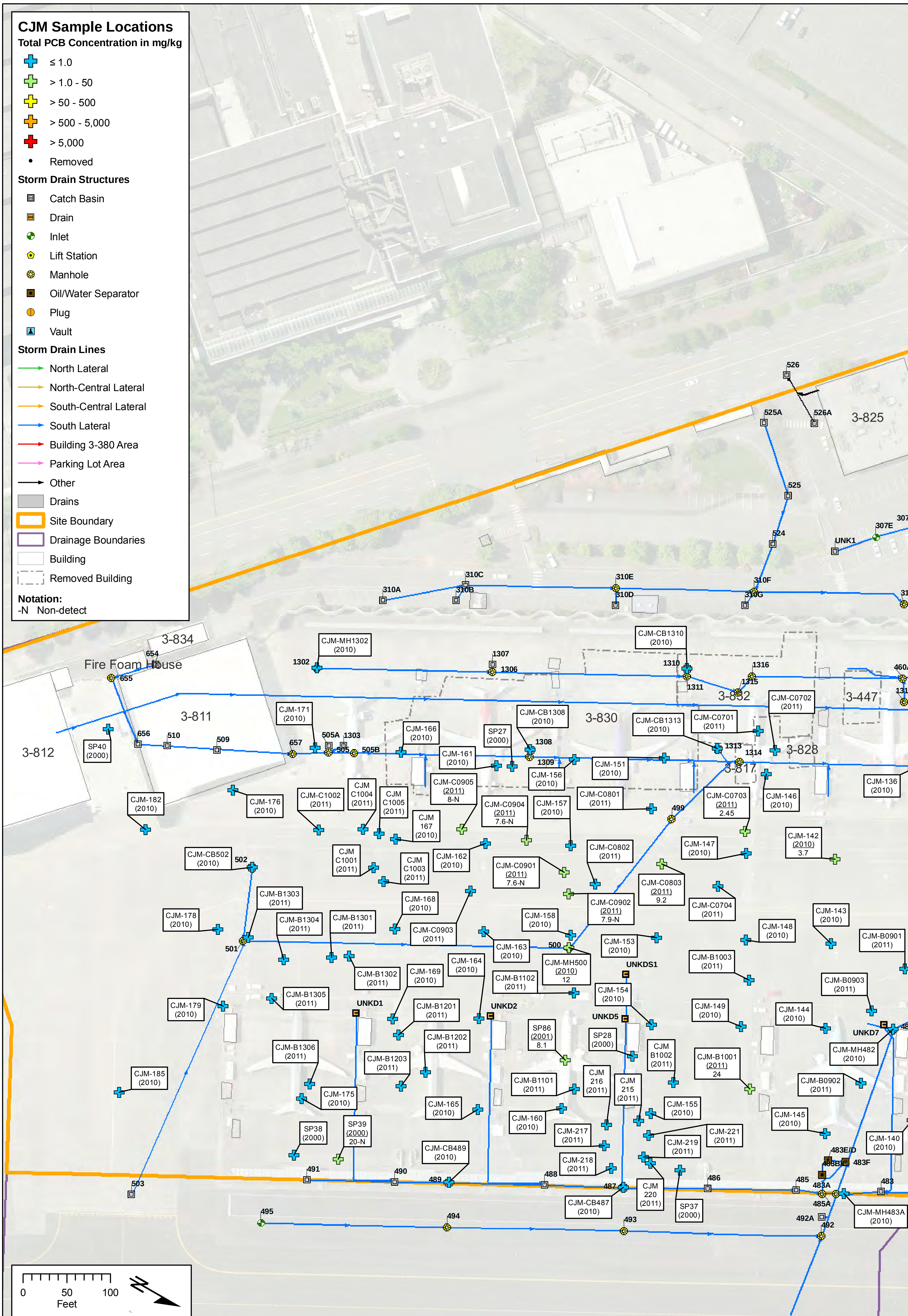
State of Washington

7.3-3c. Concrete Joint Material Sample Locations at NBF

SAIC
From Science to Solutions

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-3c_CJM_Samples.mxd
Illustrative purposes only.



7.3-3d. Concrete Joint Material Sample Locations at NBF

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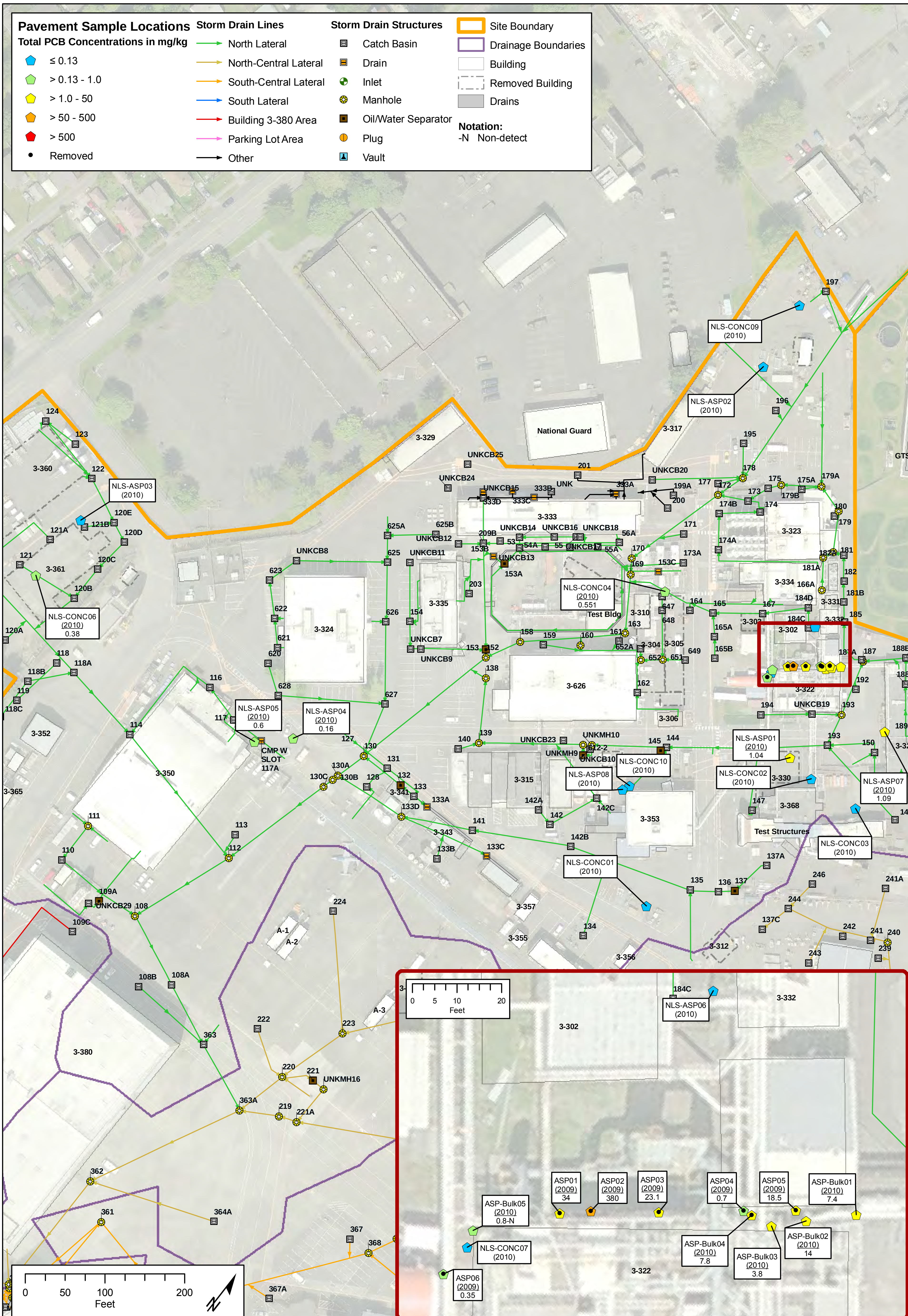
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-3d_CJM_Samples.mxd
Illustrative purposes only.



7.3-4. Pavement Sample Locations at NBF

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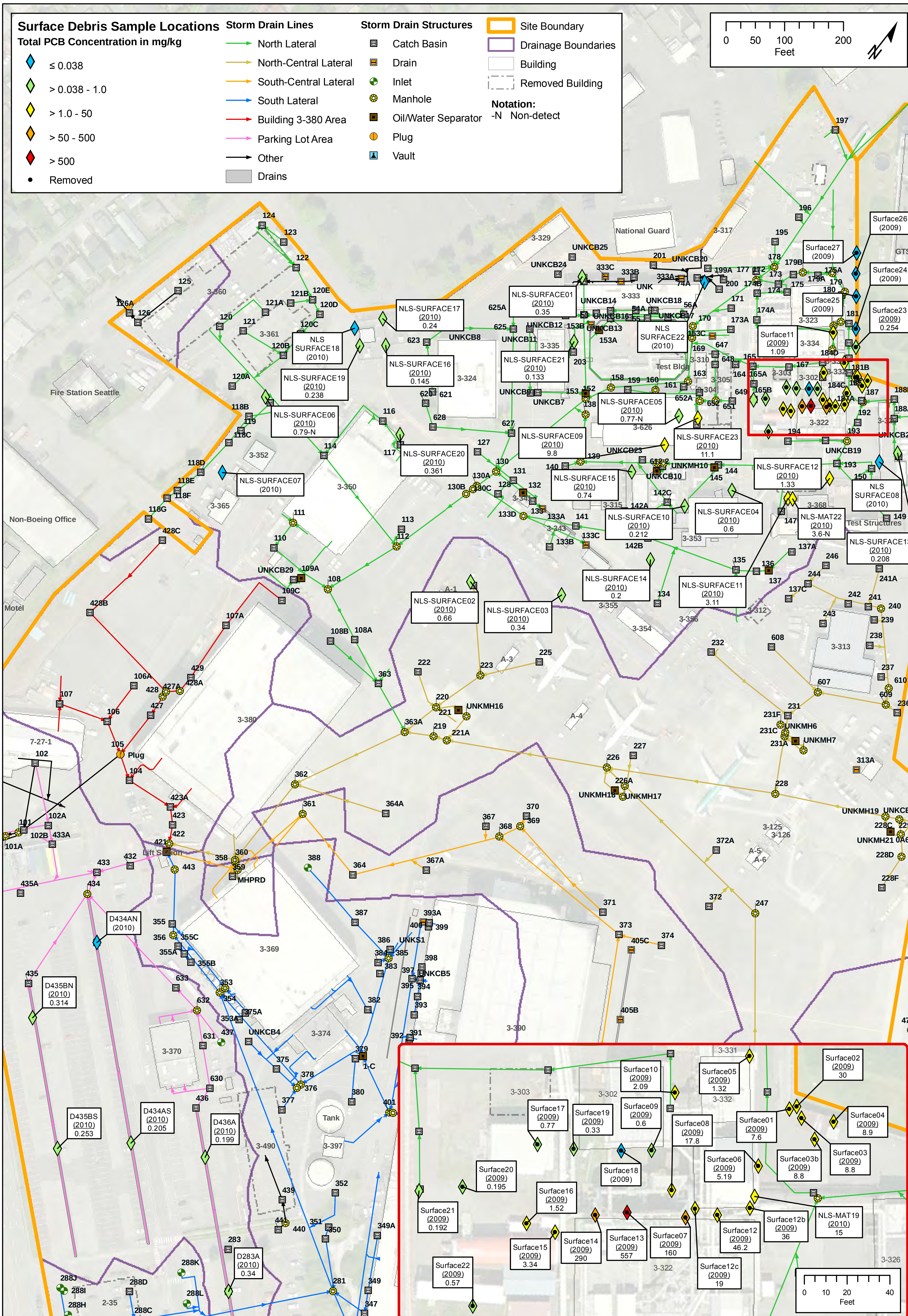
Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-4_Pavement.mxd
Illustrative purposes only.



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7.3-5. Surface Debris Sample Locations at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-5_Surface_Debris.mxd
Illustrative purposes only.

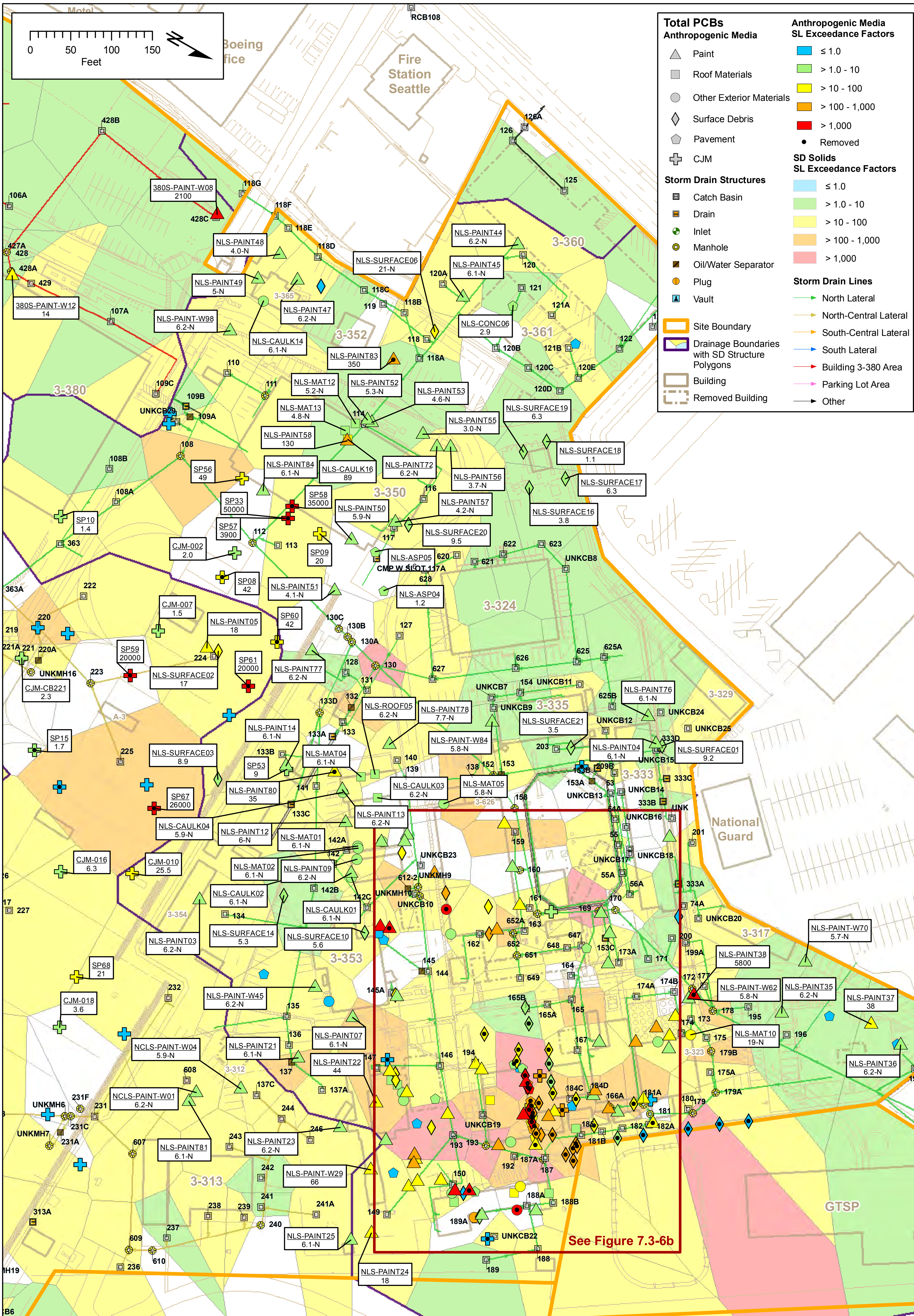

Figure 7.3-6a. Total PCB Results for Anthropogenic Media and SD Solids at NBF

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-06a_TotalPCBs_Samples.mxd
Illustrative purposes only.

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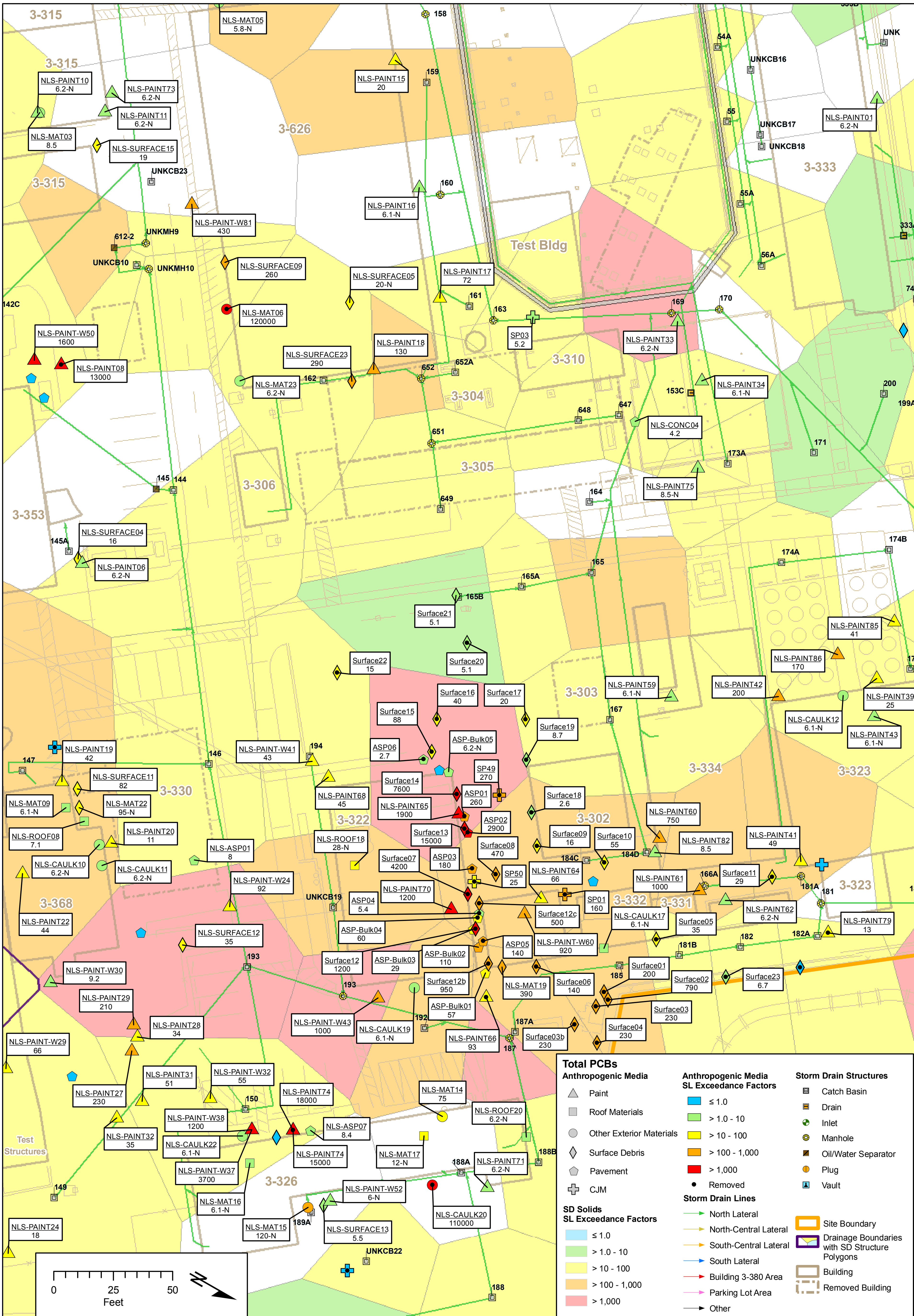

Figure 7.3-6b. Total PCB Results for Anthropogenic Media and SD Solids at NBF

Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-06b_TotalPCBs_Samples.mxd
Illustrative purposes only.

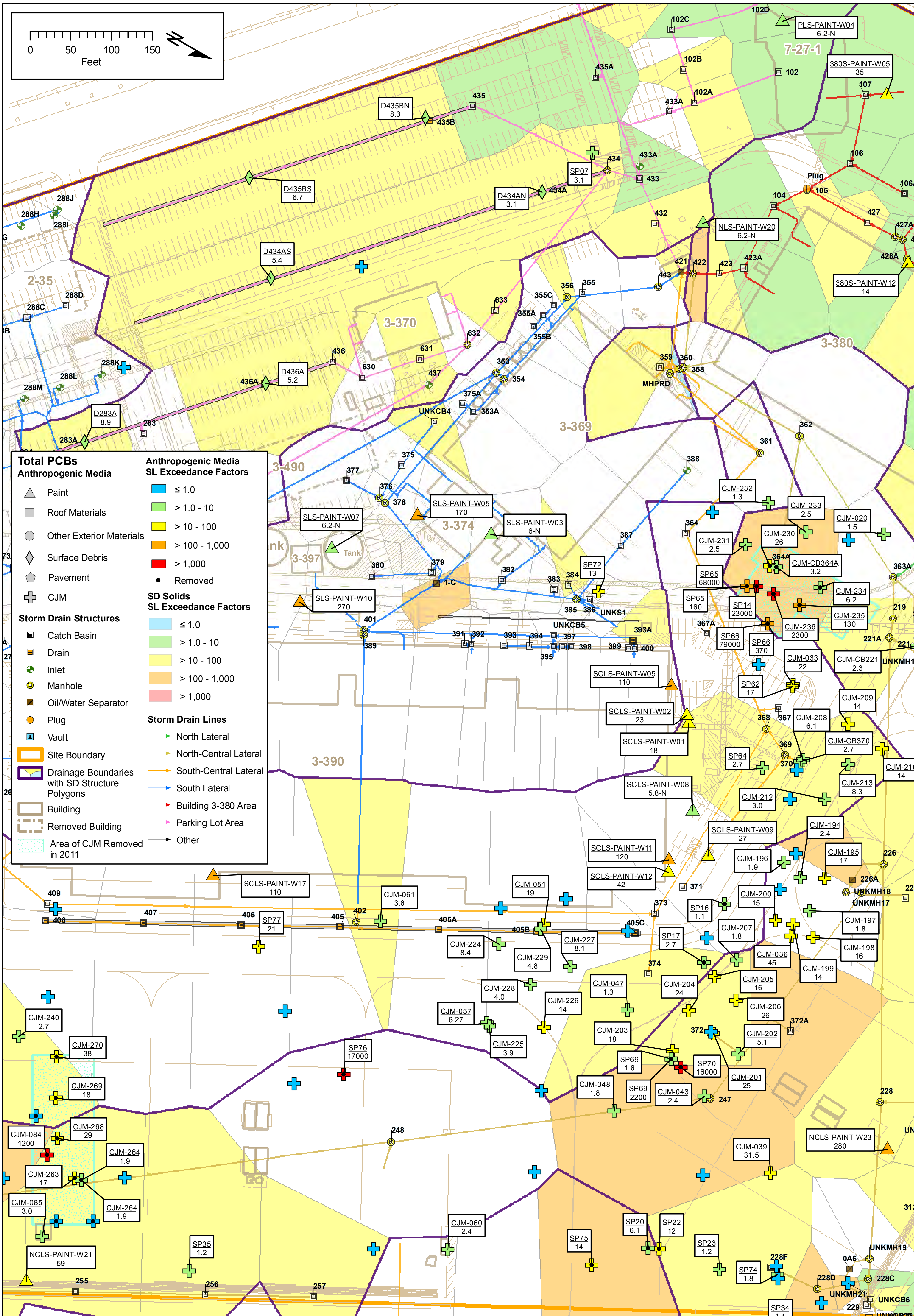

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Figure 7.3-6c. Total PCB Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-06c_TotalPCBs_Samples.mxd
Illustrative purposes only.

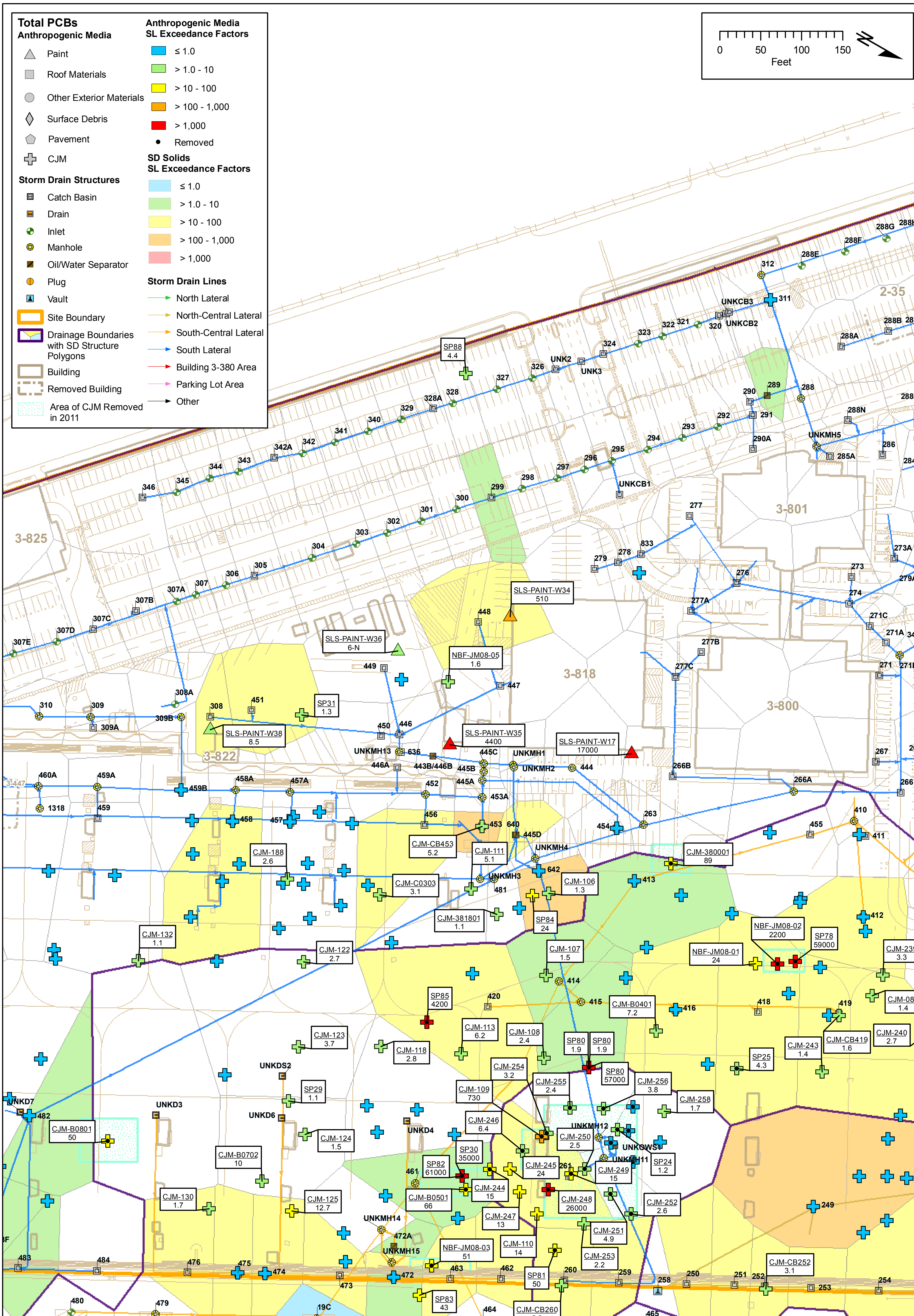

Figure 7.3-6d. Total PCB Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-06d_TotalPCBs_Samples.mxd
Illustrative purposes only.

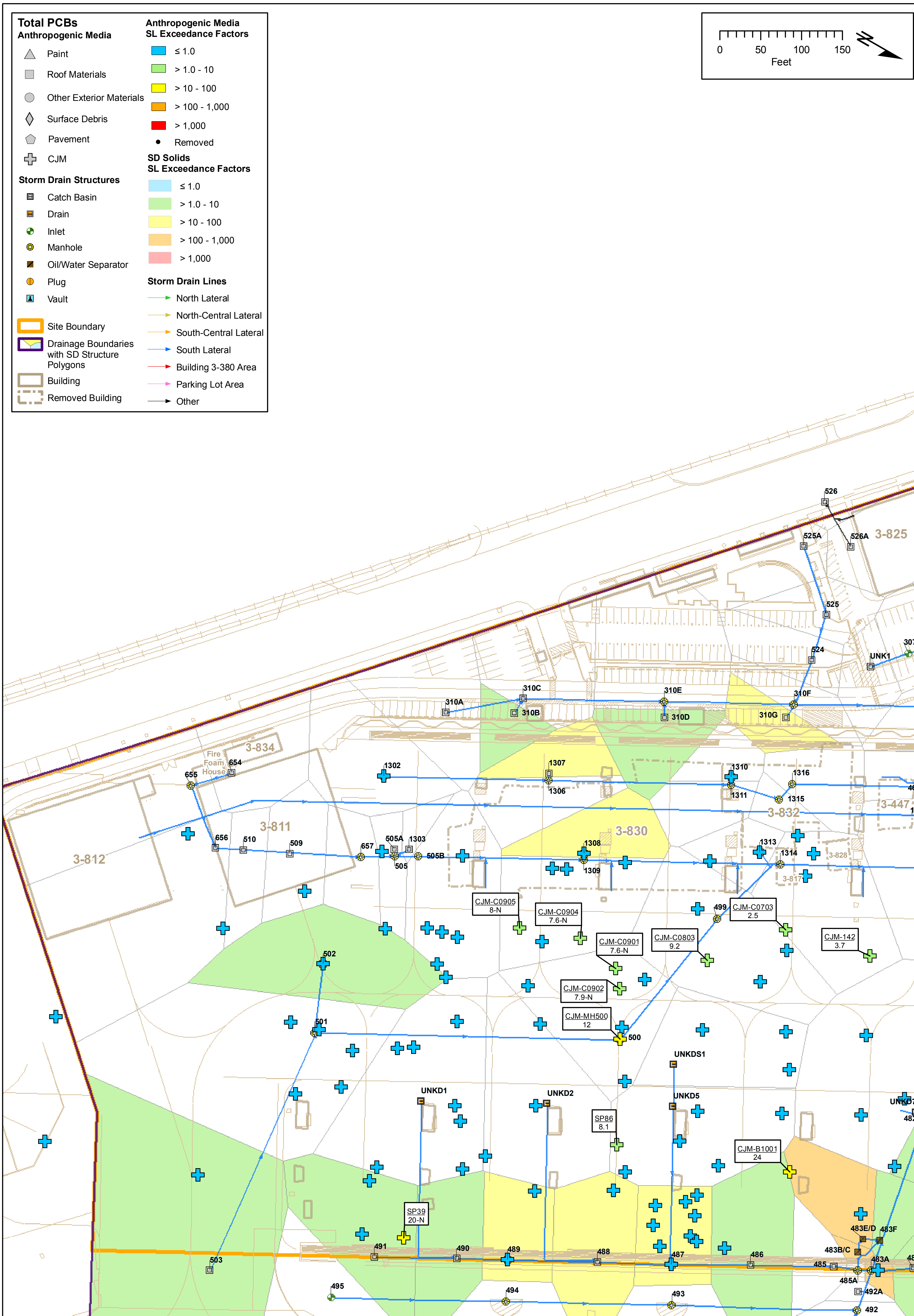

Figure 7.3-6e. Total PCB Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-06e_TotalPCBs_Samples.mxd
Illustrative purposes only.

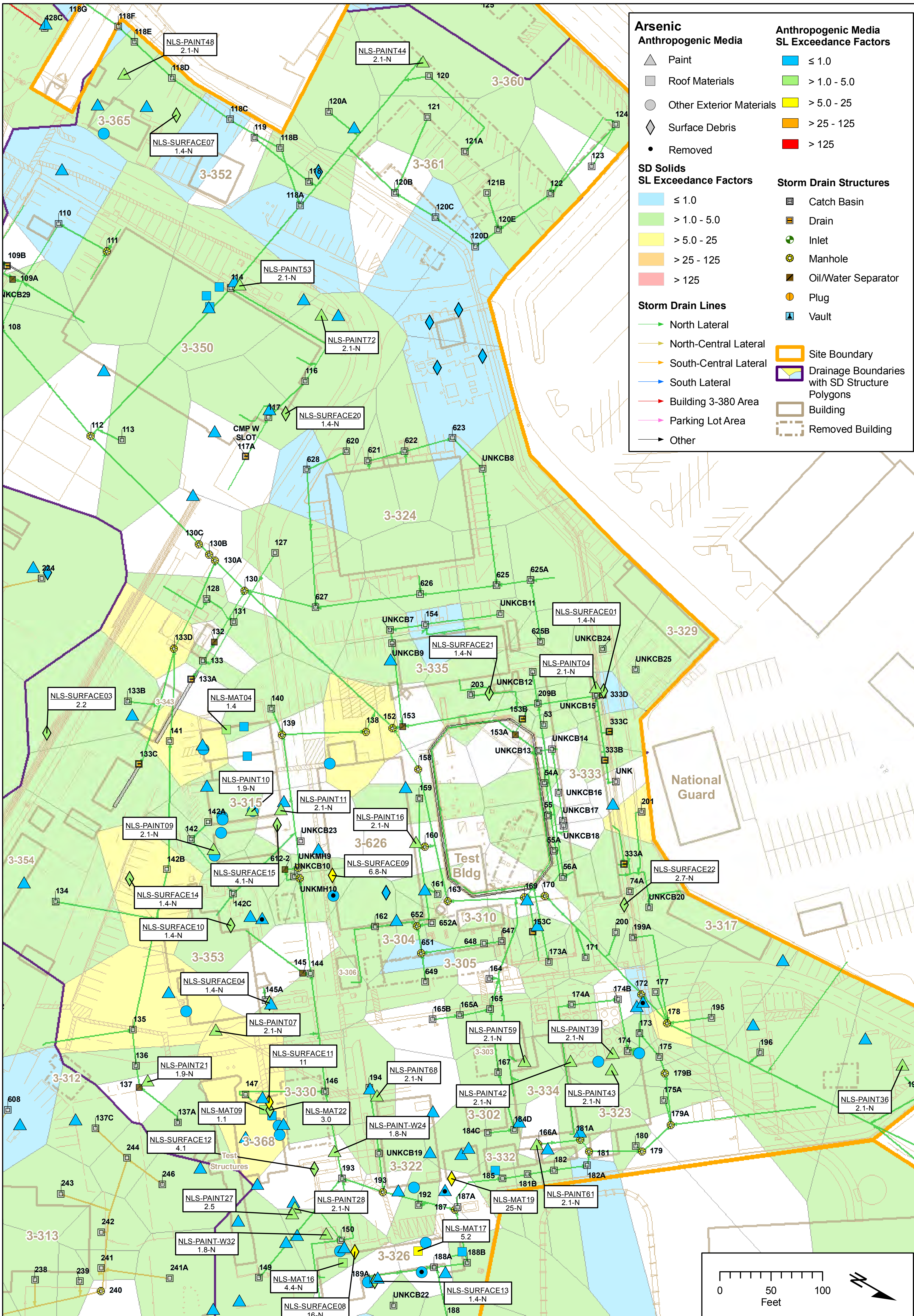

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Figure 7.3-7a. Arsenic Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-07a_Arsenic_Samples.mxd
Illustrative purposes only.

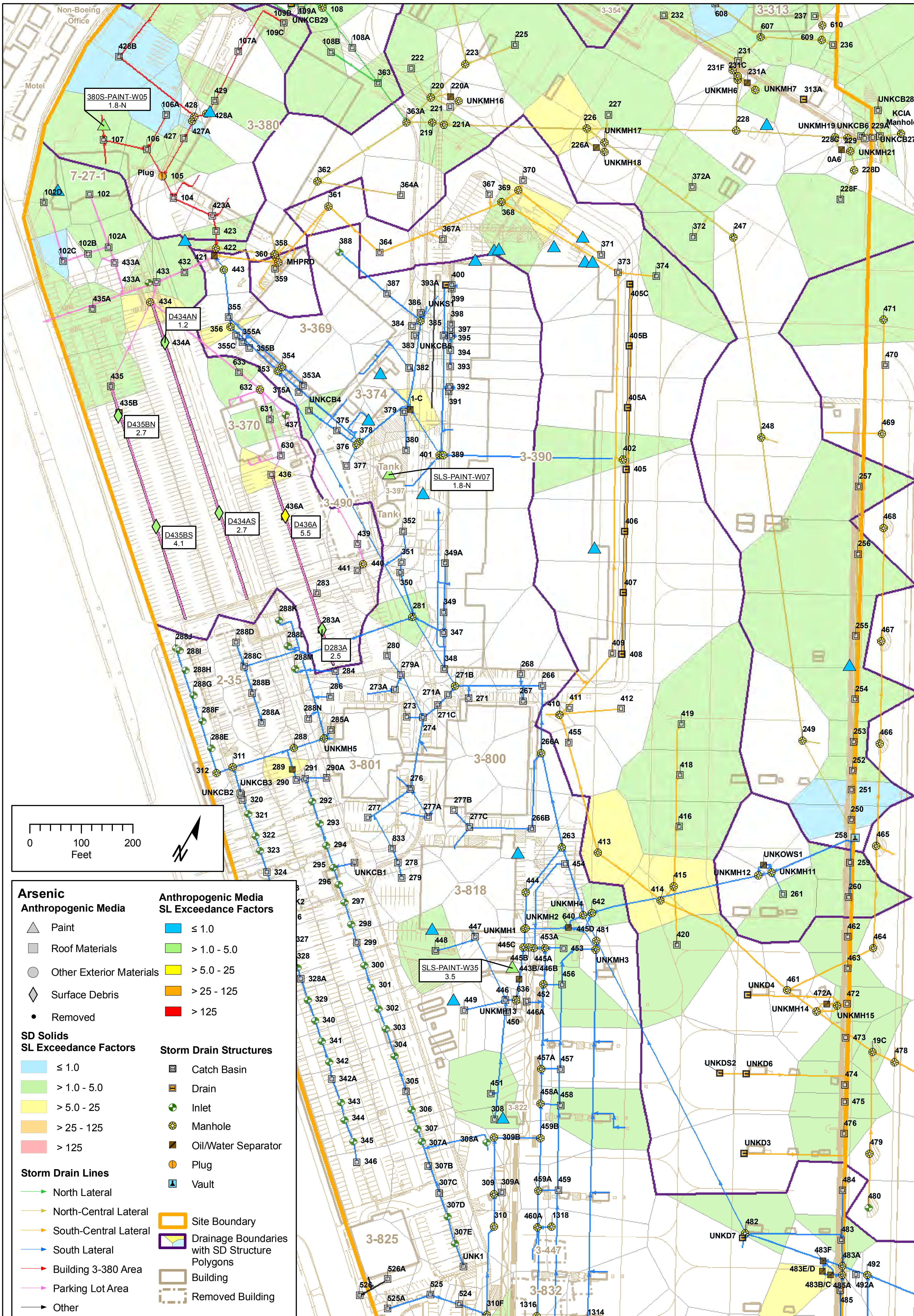

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Figure 7.3-7b. Arsenic Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-07b_Arsenic_Samples.mxd
Illustrative purposes only.

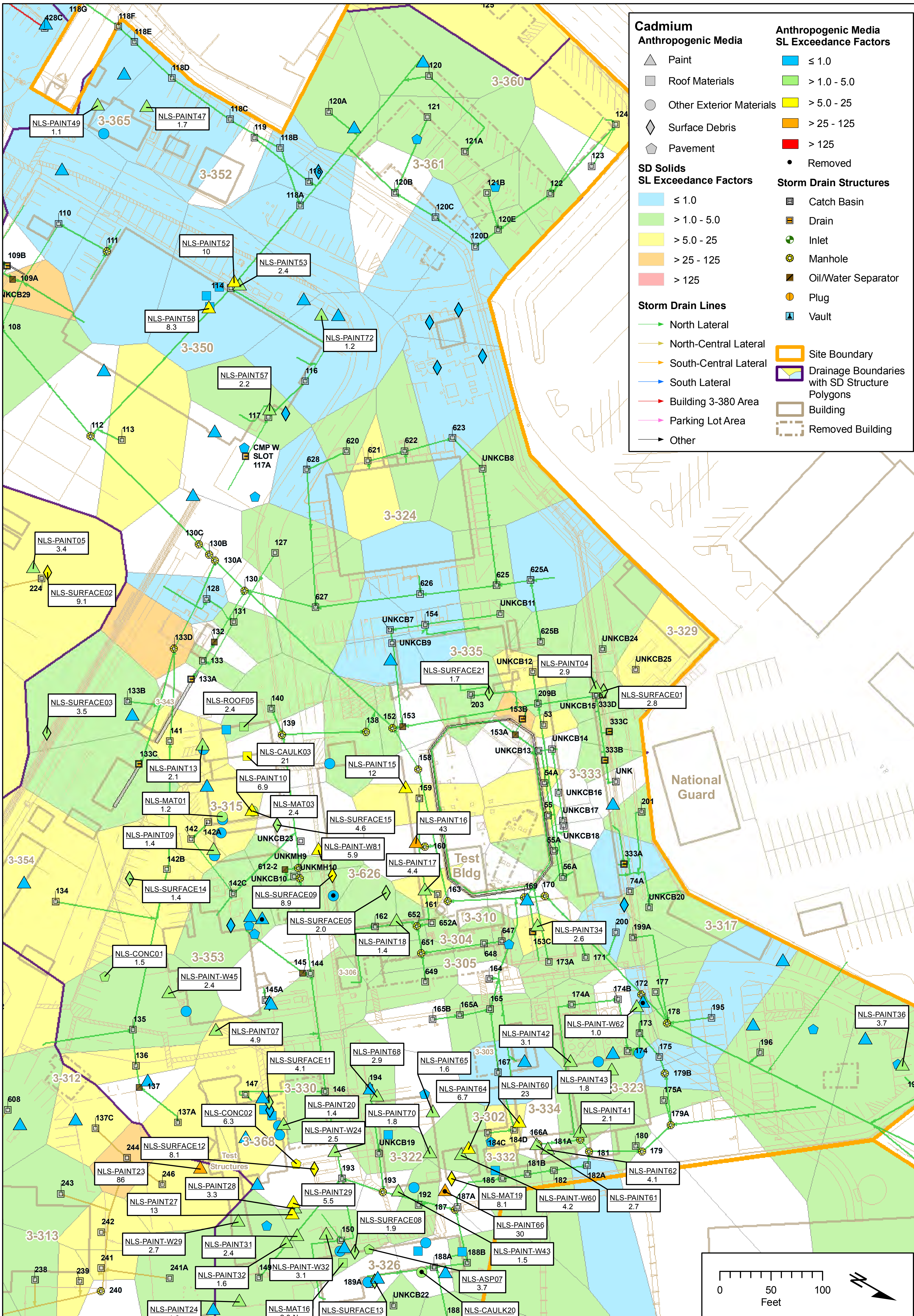

Figure 7.3-8a. Cadmium Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-08a_Cadmium_Samples.mxd
Illustrative purposes only.

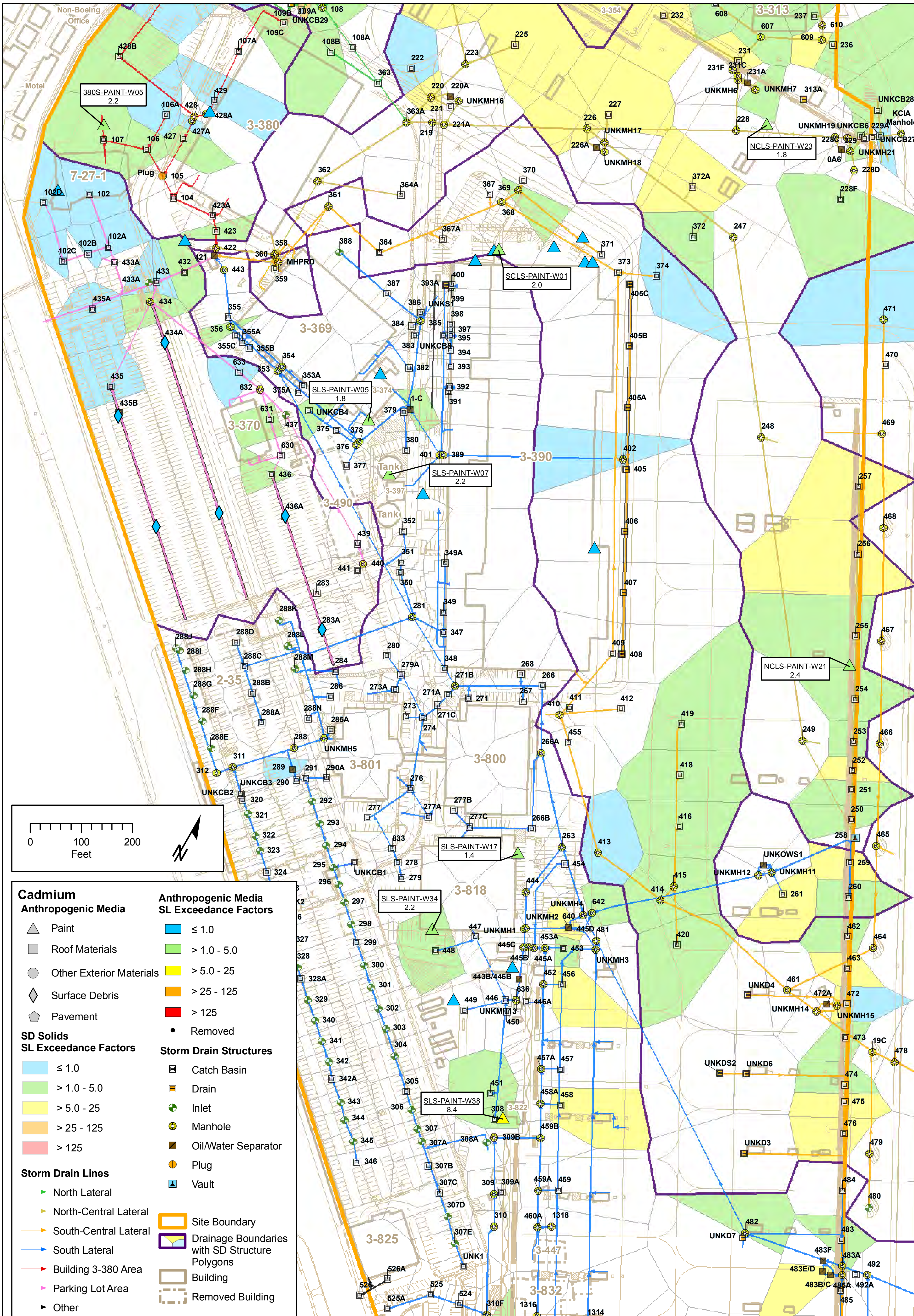

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Figure 7.3-8b. Cadmium Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-08b_Lead_Samples.mxd
Illustrative purposes only.

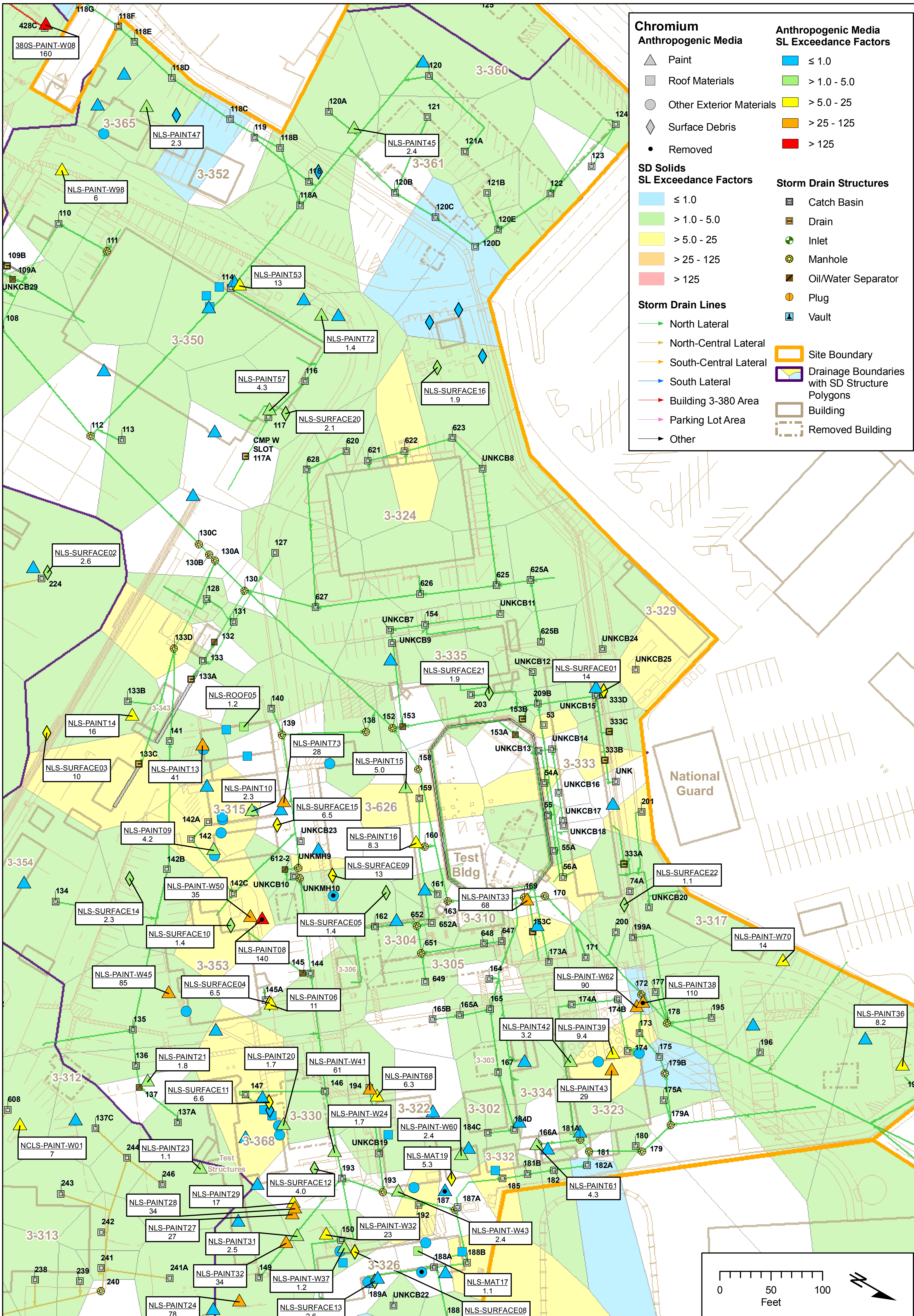

Figure 7.3-9a. Chromium Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-09a_Chromium_Samples.mxd
Illustrative purposes only.

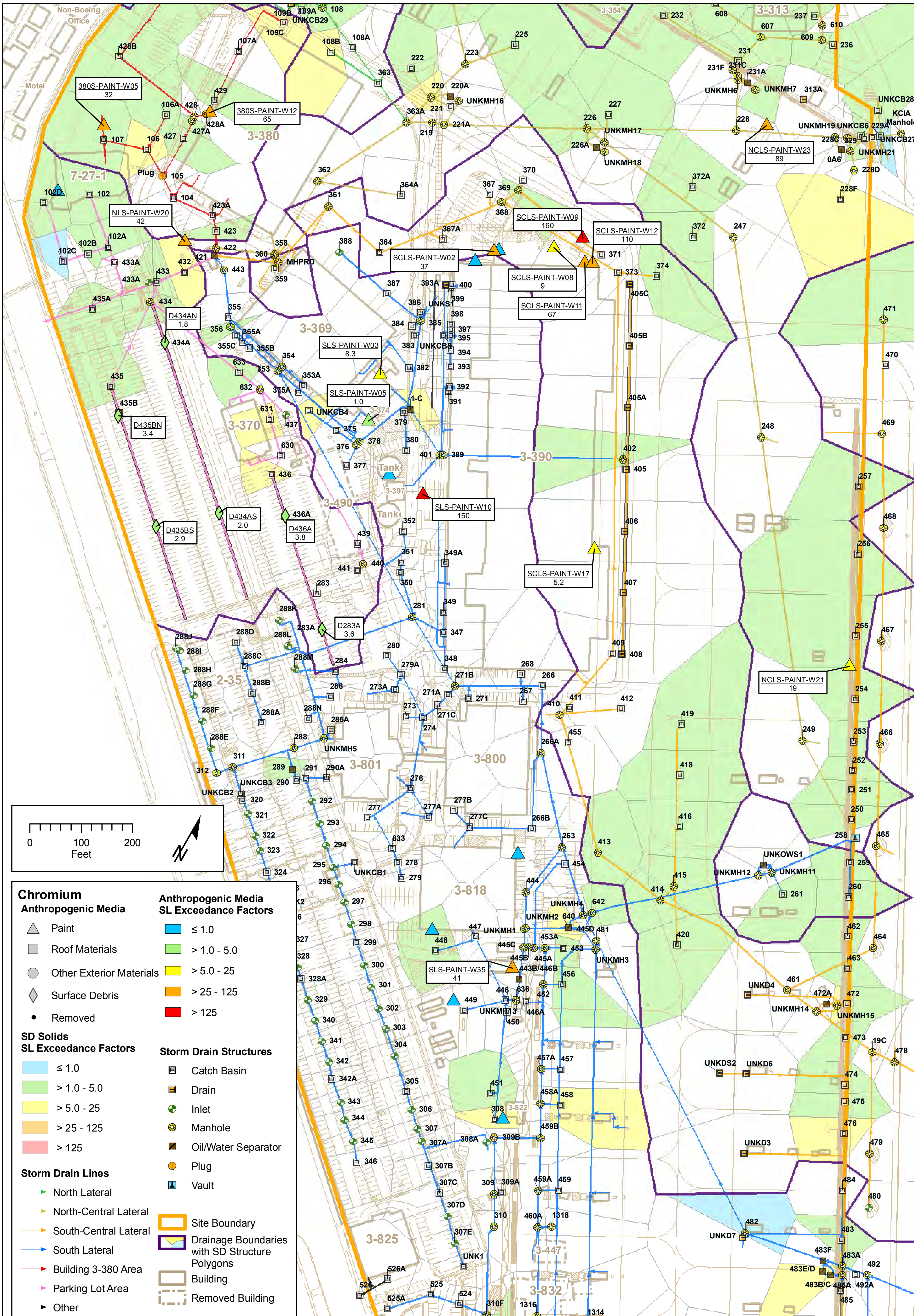

Figure 7.3-9b. Chromium Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-08b_Lead_Samples.mxd
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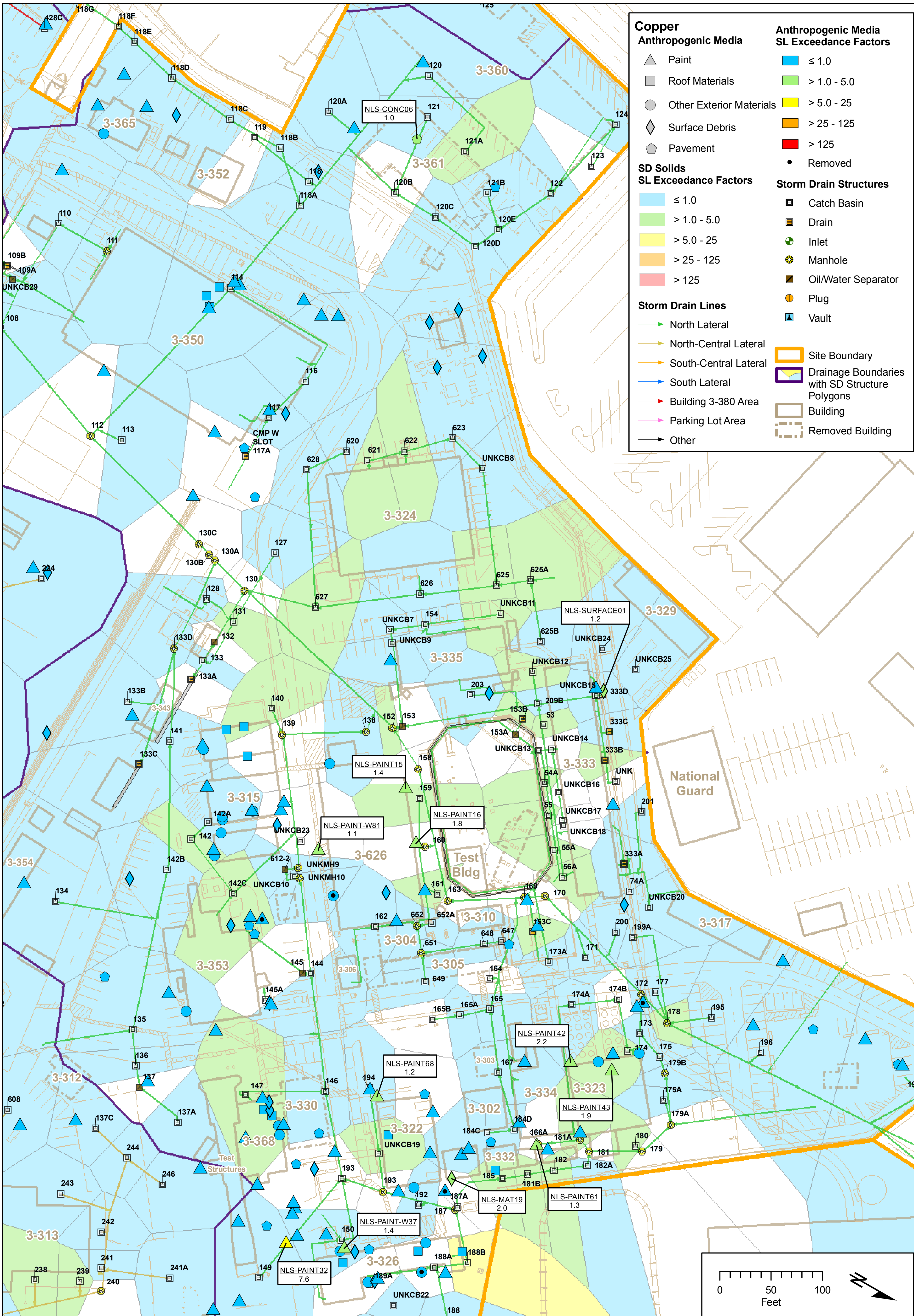

Figure 7.3-10a. Copper Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-10a_Copper_Samples.mxd
Illustrative purposes only.

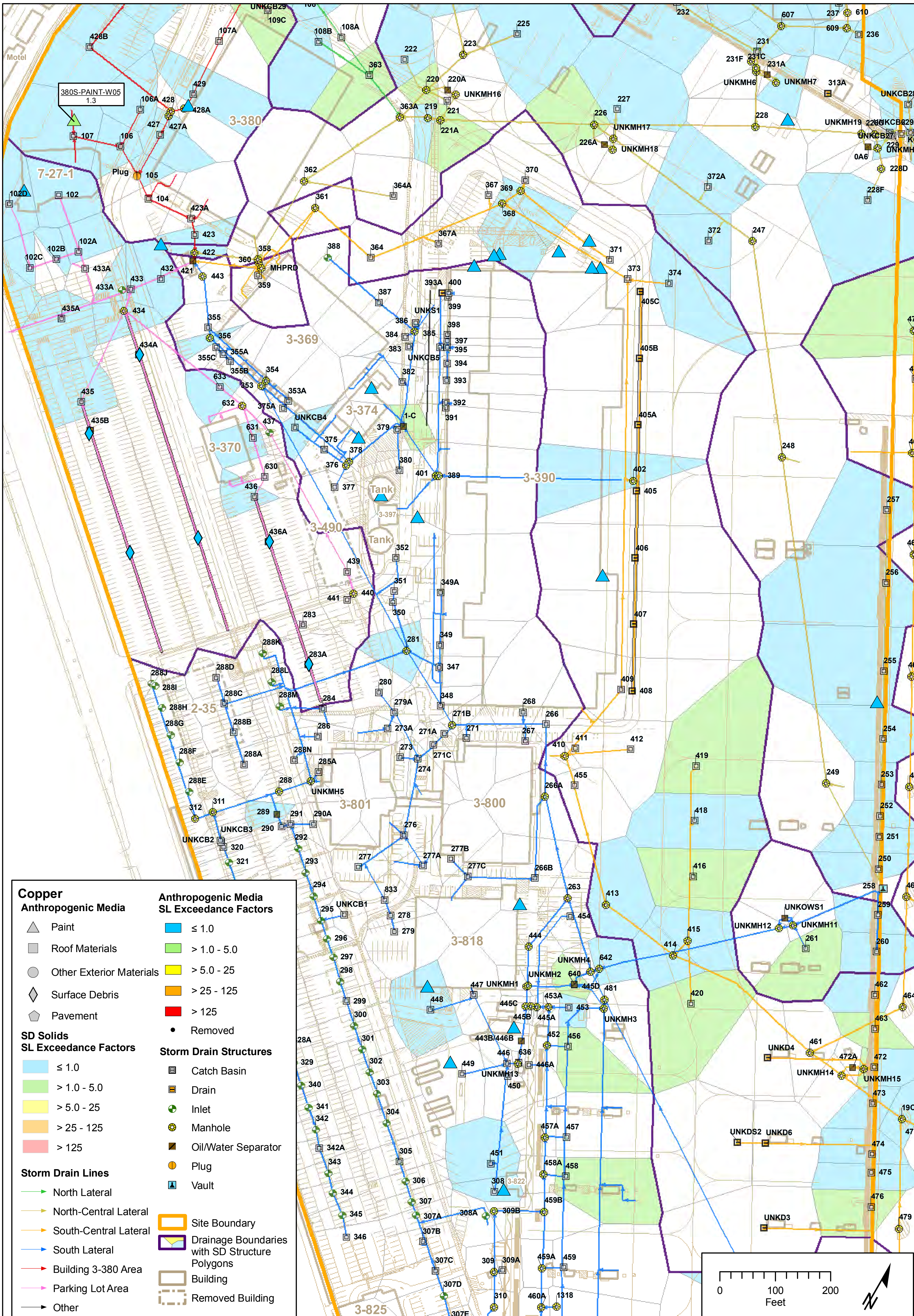

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Figure 7.3-10b. Copper Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-10b_Copper_Samples.mxd
Illustrative purposes only.

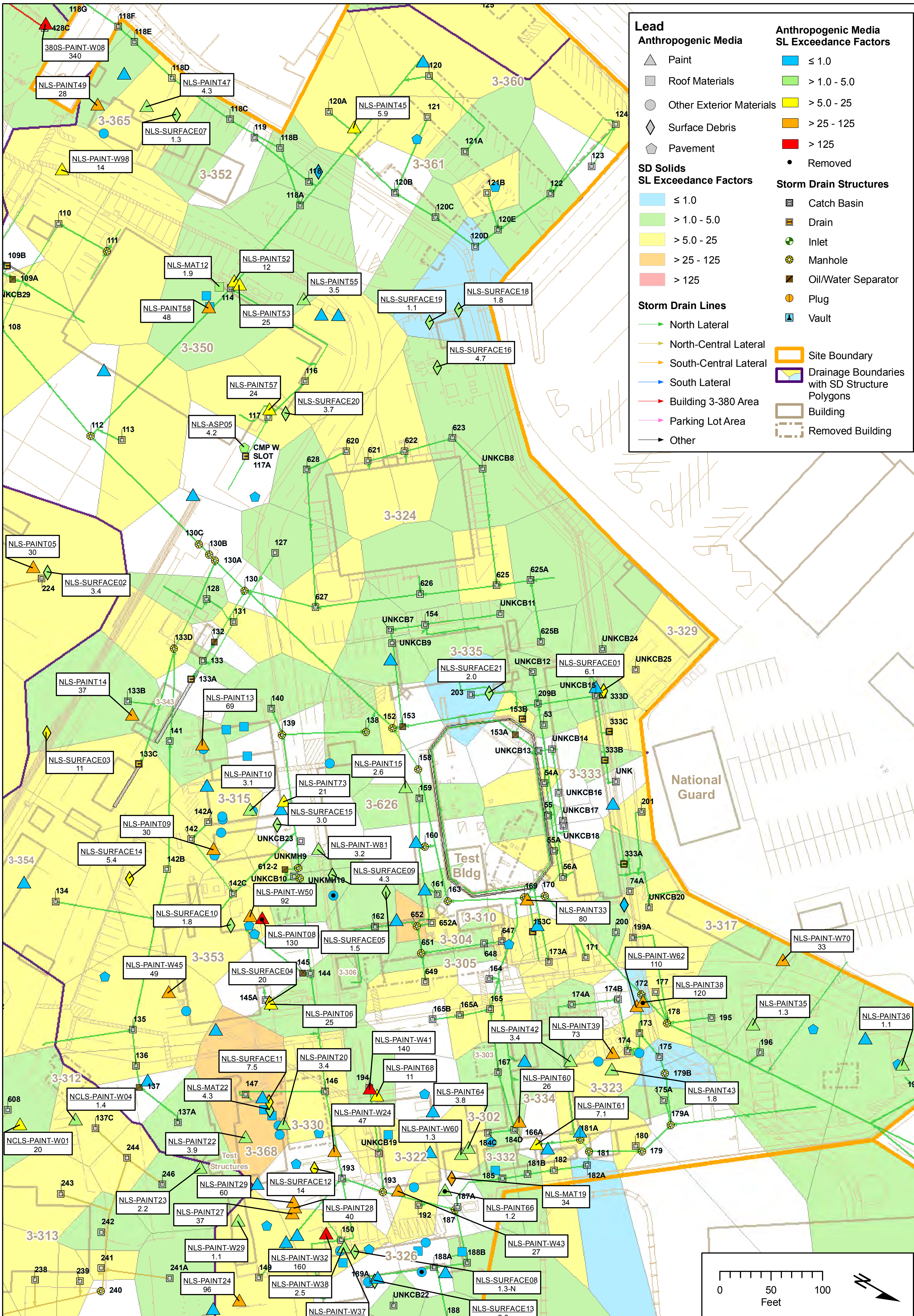

Figure 7.3-11a. Lead Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_3-11a_Lead_Samples.mxd
Illustrative purposes only.

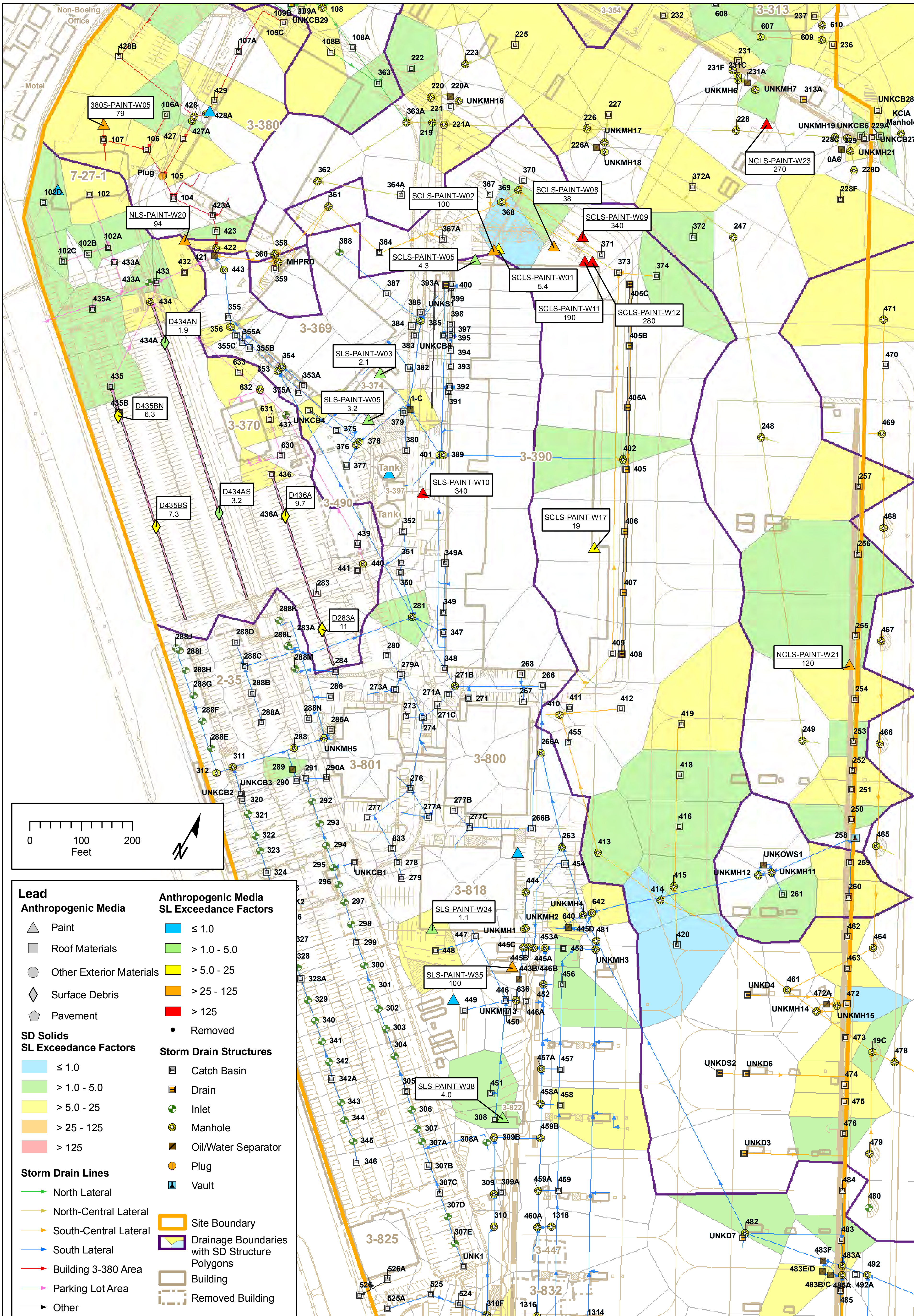

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Figure 7.3-11b. Lead Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-11b_Lead_Samples.mxd
Illustrative purposes only.

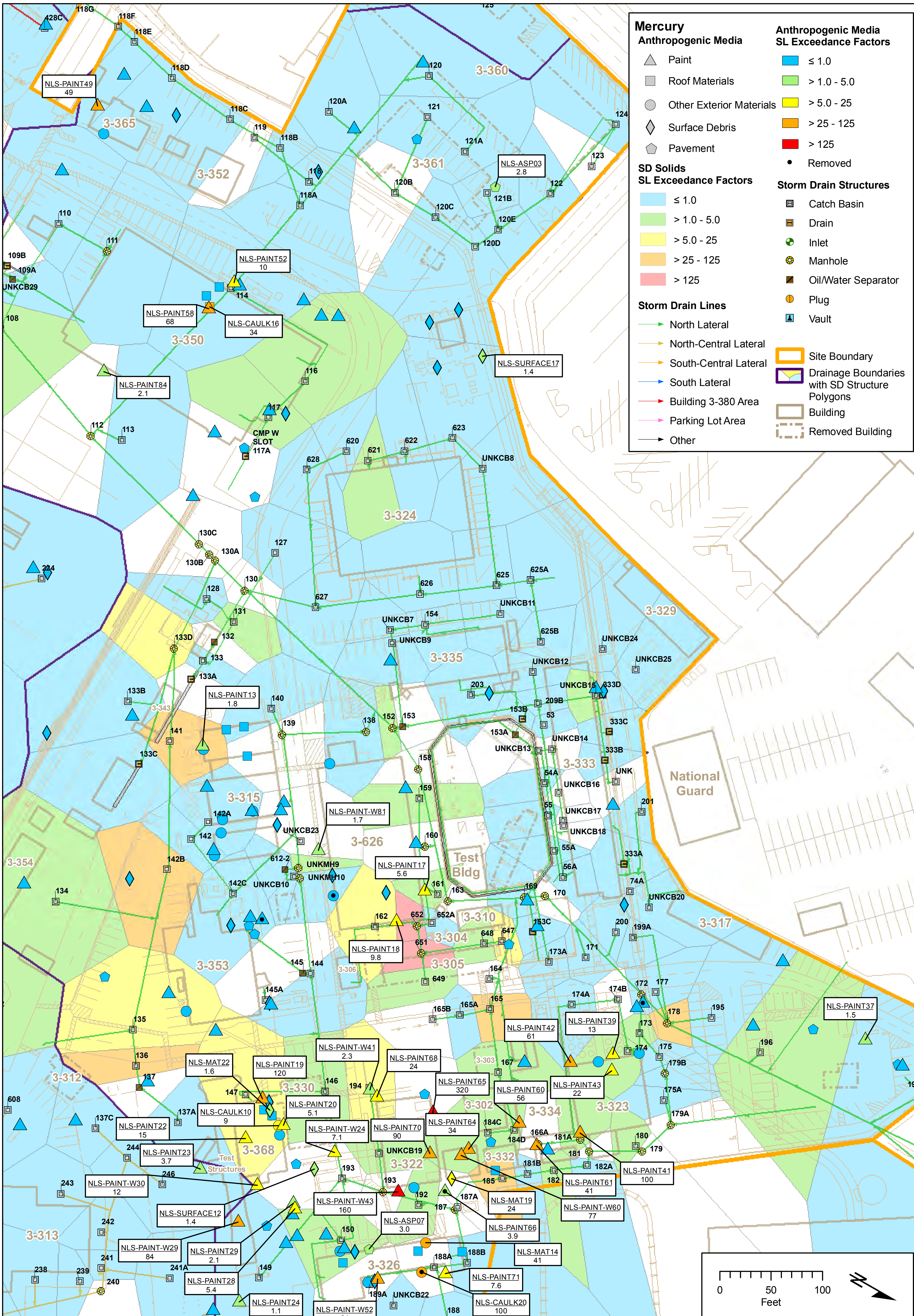

Figure 7.3-12a. Mercury Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-12a_Mercury_Samples.mxd
Illustrative purposes only.

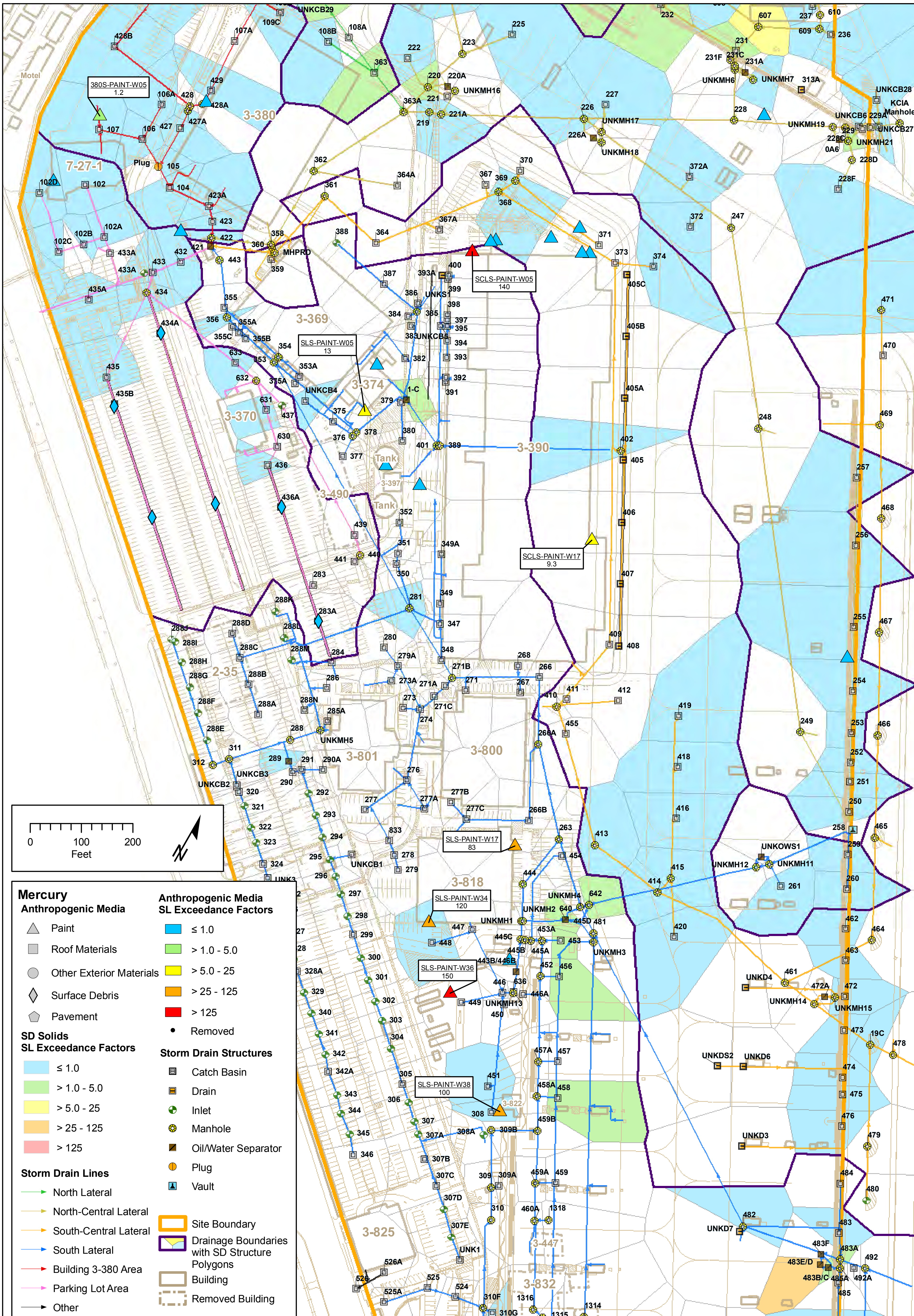

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Figure 7.3-12b. Mercury Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-12b_Mercury_Samples.mxd
Illustrative purposes only.

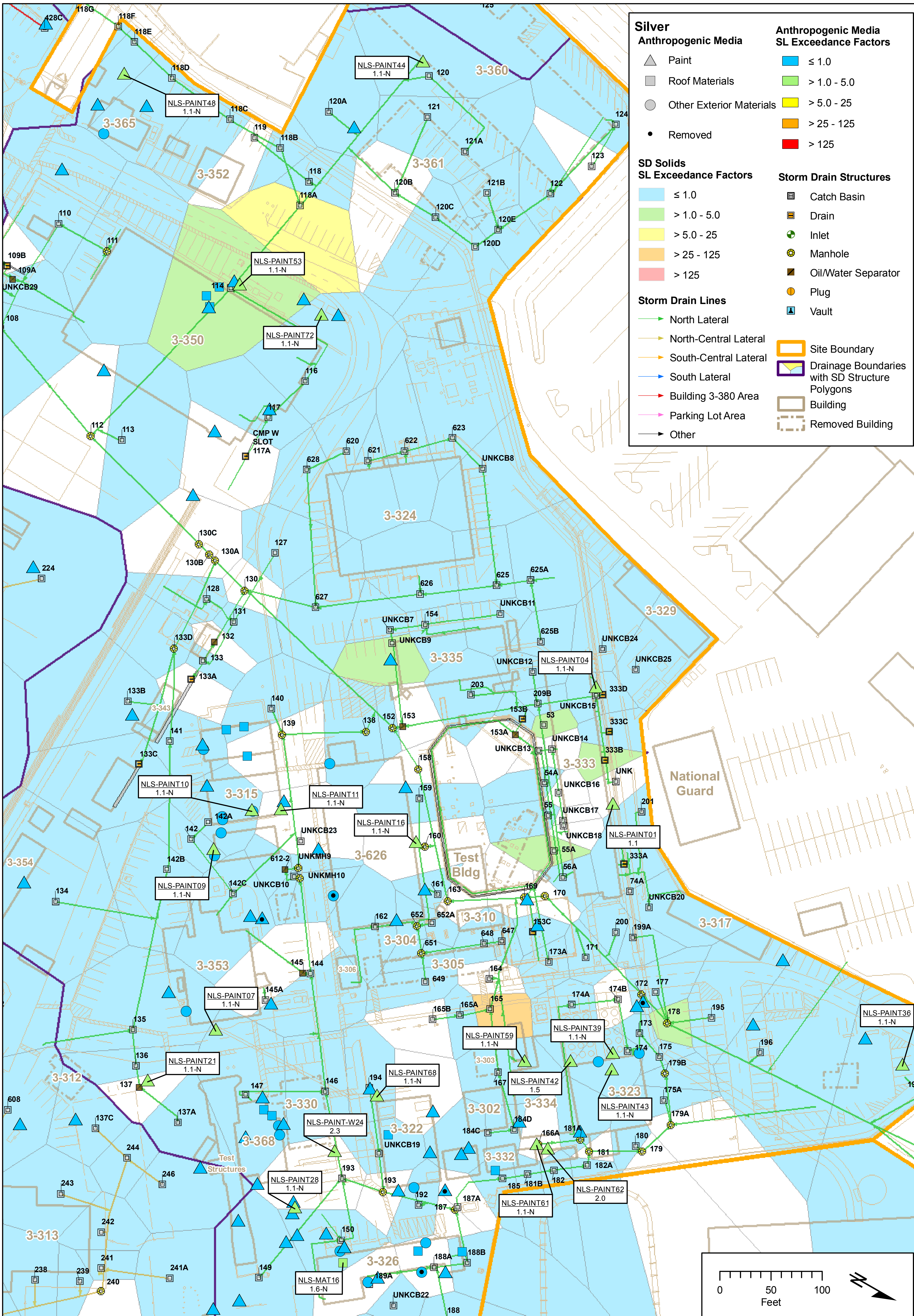

Figure 7.3-13a. Silver Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-13a_Silver_Samples.mxd
Illustrative purposes only.

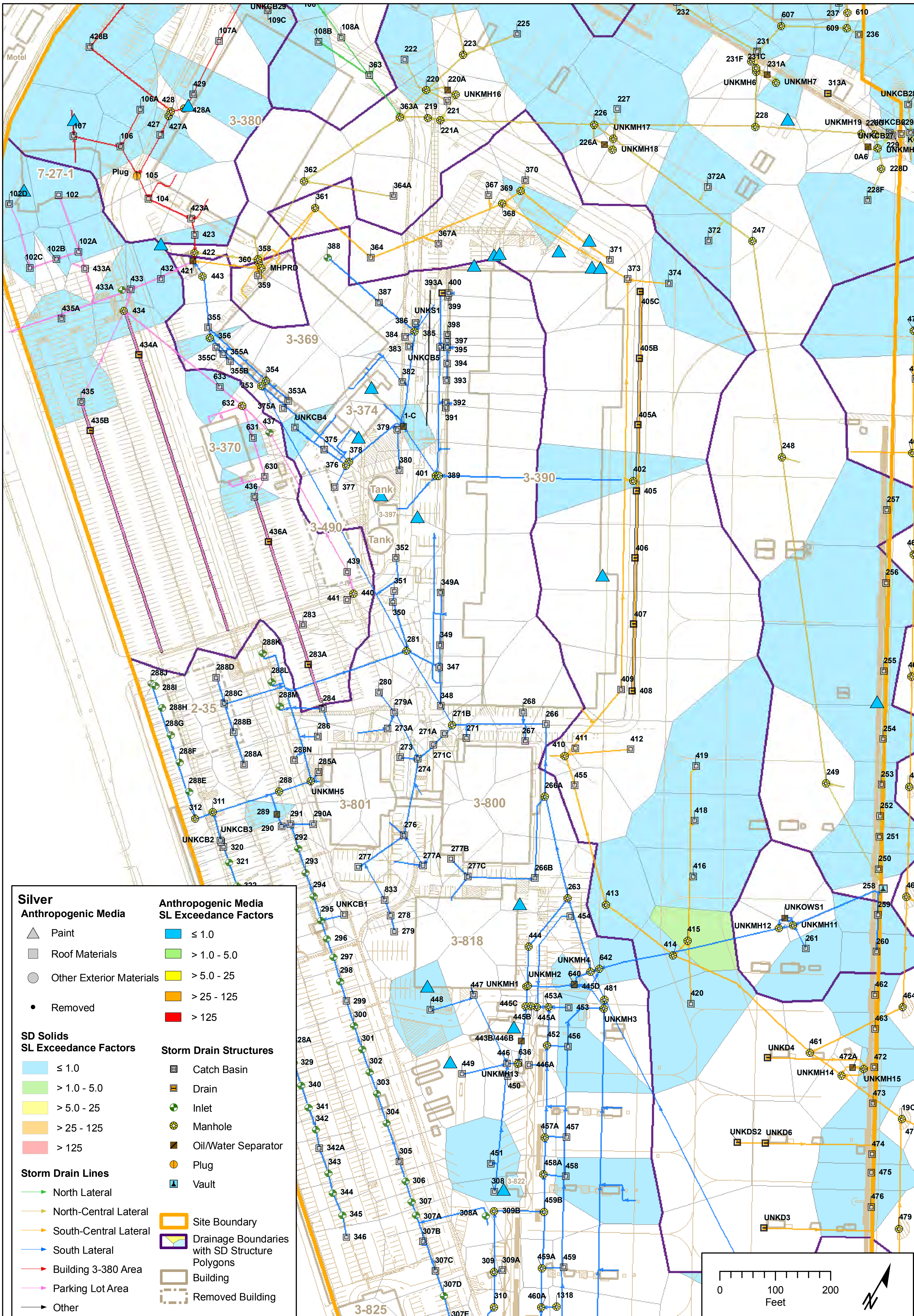

Figure 7.3-13b. Silver Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-13b_Silver_Samples.mxd
Illustrative purposes only.

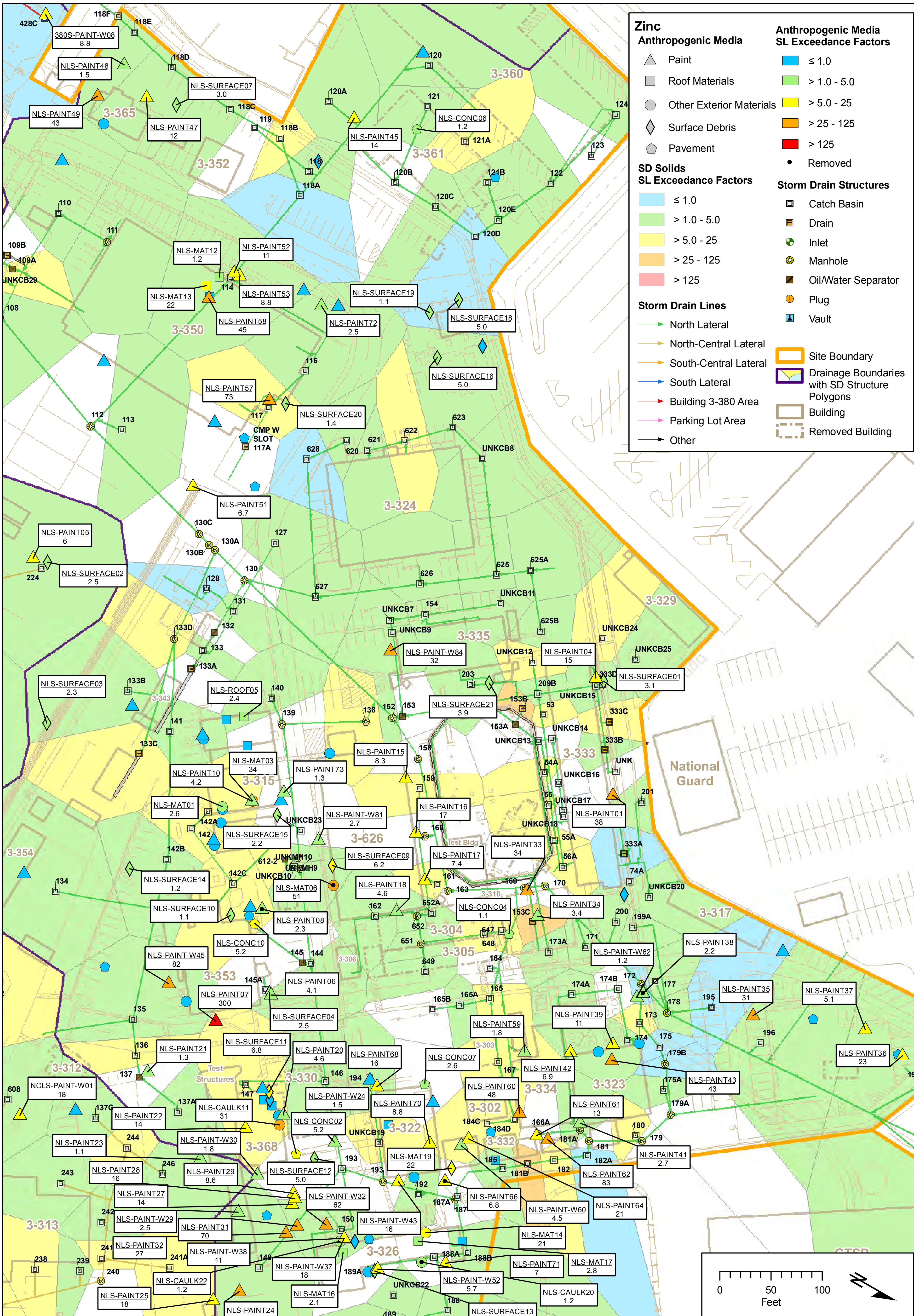

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Figure 7.3-14a. Zinc Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-13a_Zinc_Samples.mxd
Illustrative purposes only.

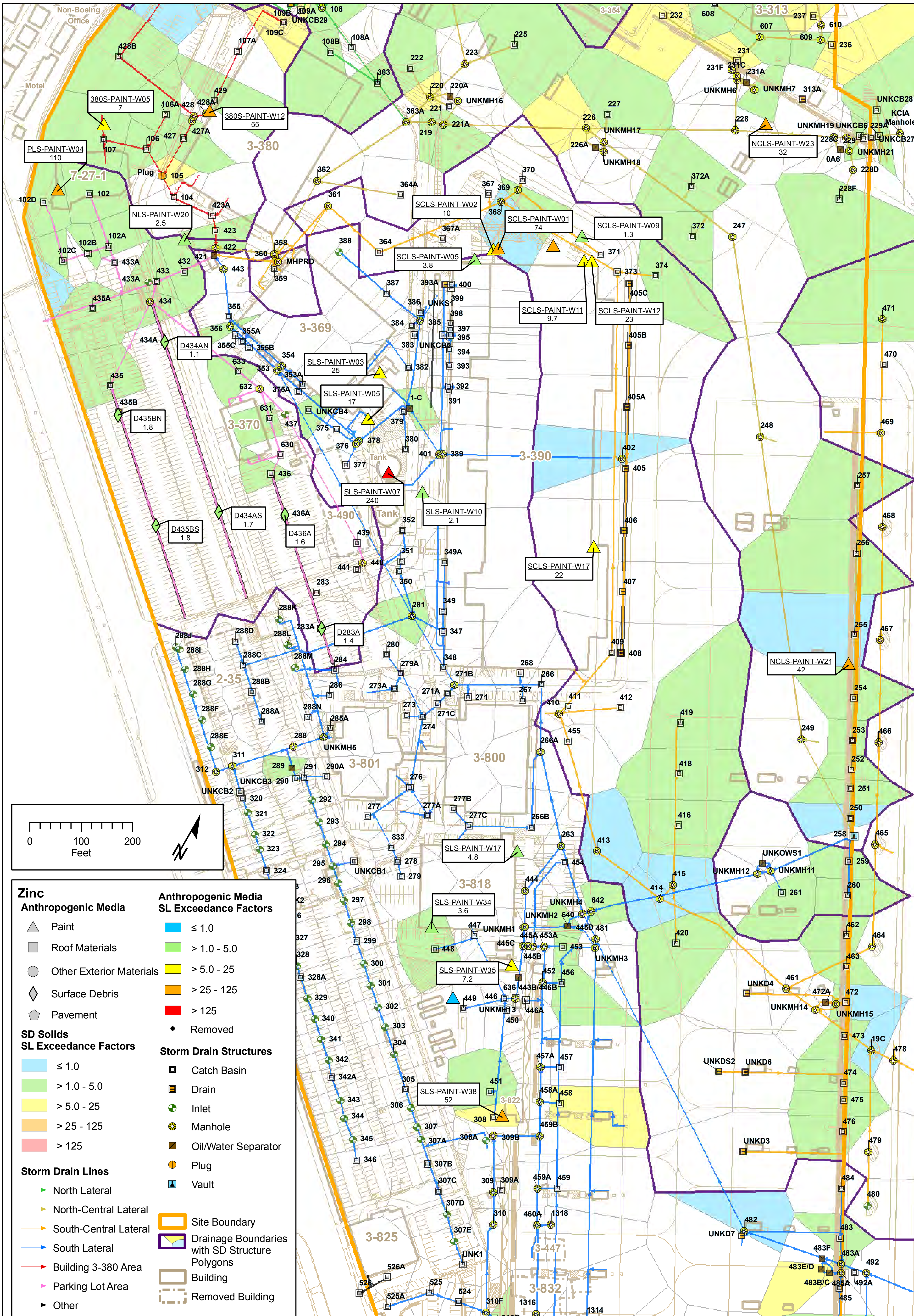

Figure 7.3-14b. Zinc Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-14b_Zinc_Samples.mxd
Illustrative purposes only.

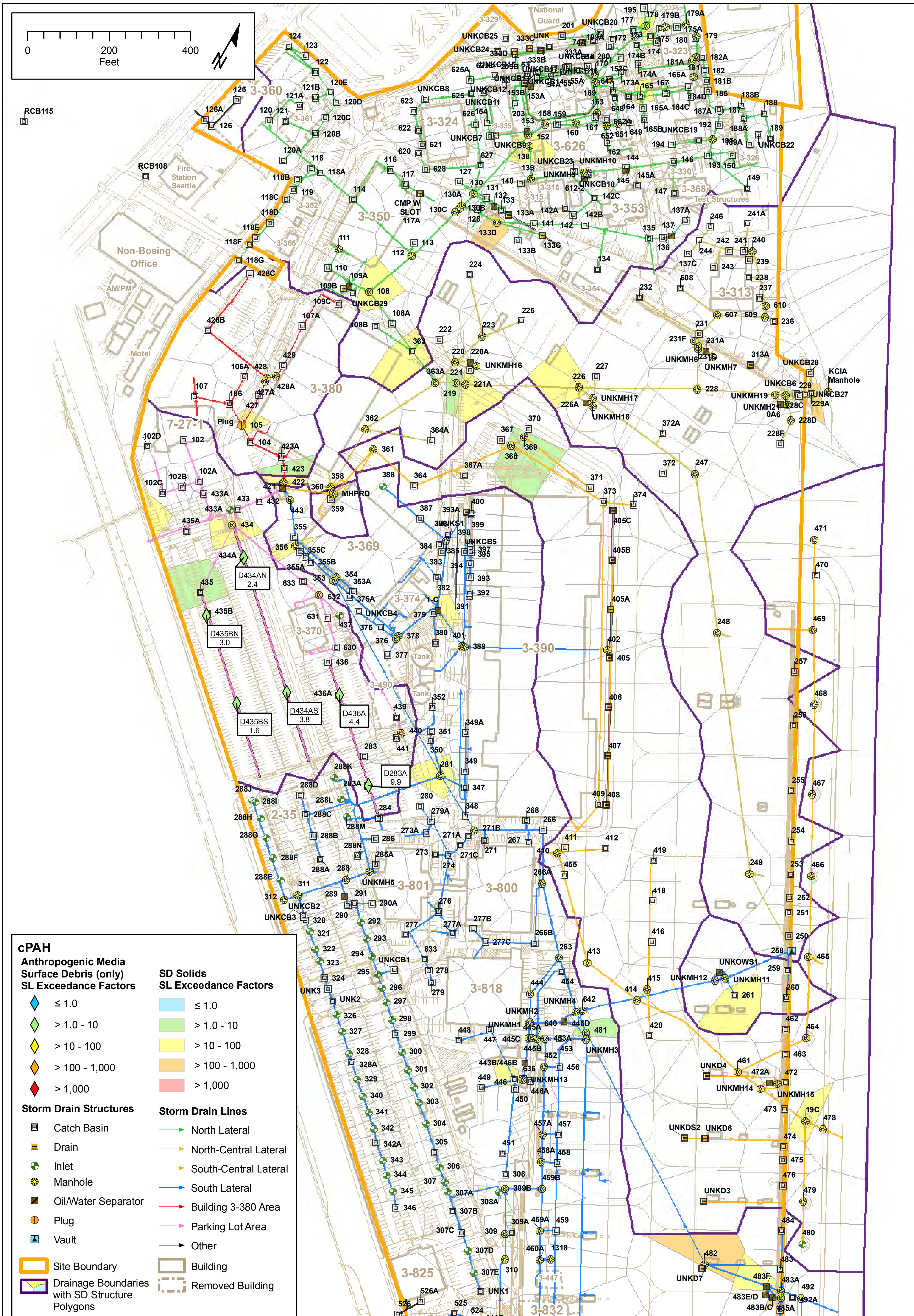

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Figure 7.3-15. cPAH Results for Anthropogenic Media and SD Solids at NBF

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Coordinate System:
NAD 1983 StatePlane Washington North FIPS 4601 Feet
Prepared By: mlf
File: Figure_7_3-15_cPAH_Samples.mxd
Illustrative purposes only.

Establish Cleanup Standards

- Cleanup levels and possible remediation levels
- Points of compliance
- Other applicable regulatory requirements

WAC 173-340-700 to 760
WAC 173-340-355

↓

Develop Alternatives

- Reasonable number and types of alternatives
- At least one permanent cleanup alternative for comparison
- At least one alternative with standard point of compliance

WAC 173-340-350(8)
WAC 173-340-360(2)
WAC 173-340-370

↓

Screen Alternatives

- Screen alternatives that do not meet the threshold and "other" requirements
- Screen alternatives or components that are not technically possible
- Screen alternatives with costs that are clearly disproportionate

WAC 173-340-350(8)(b)
WAC 173-340-360(2)

↓

Evaluate and Select Alternatives

- Evaluate reasonableness of restoration timeframe for alternatives
- Determine the costs and benefits of alternatives using evaluation criteria
- Conduct disproportionate cost analysis and rank alternatives by permanence
- Compare benefits/disadvantages and select preferred remedy

WAC 173-340-350(8)(c)
WAC 173-340-360
WAC 173-340-370

Modified from Ecology 2011 [N0023]

Figure 9-1. Feasibility Study Process

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