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January 30, 2020

Washington State Department of Ecology
P.O. Box 47600
Olympia, Washington 98504-7500

Attention: Christopher Maurer, P.E.

Subject: Notice Under IRIS – 500 Fifth Avenue North Property Environmental Covenant – Site ID No. 2593
Broad Street Triangle Landscape and Maintenance Pathways Project
Seattle, Washington
File No. 12068-001-27

INTRODUCTION

This letter summarizes the grading and landscaping activities (the "Broad Street Triangle Landscape and Maintenance Pathways Project") completed for the 500 Fifth Avenue North Property (Property) located in Seattle, Washington (Figure 1). Soil disturbance activities were completed east and south of existing office buildings of the Bill & Melinda Gates Foundation and included the installation of new irrigation lines, drainage, retaining walls, plantings and paving as well as grading and alteration of the existing engineering controls (protective barriers) that are being utilized at the property to isolate the residual contamination remaining in place following initial property development. The work completed for the Broad Street Triangle Landscape and Maintenance Pathways Project was in accordance with the Post-Construction Environmental Management Plan dated June 15, 2017.

Current property conditions, engineering controls implemented to isolate residual contamination remaining in place following initial property development, work completed under the landscape project and reestablishment of the engineering controls are summarized below.

BACKGROUND INFORMATION

Property development began in January 2007 with the construction of the 5th Avenue North Parking Garage which occupies an approximately one city block area located in the southwest corner of the Site (Figure 2). The first phase of campus construction (Phase 1 Campus, consisting of Building A [north office building] and Building B [south office building] spanned by an underground parking garage) was completed in 2011. In addition, construction activities in the eastern portion of the Property were completed in 2012 to facilitate road surface improvements associated with the State Route 99/Alaskan Way Tunnel Project (Phase 2A Campus) and Mercer Street Widening Project. Following the completion of the 5th Avenue North

Parking Garage, Phase 1 Campus and Phase 2A Campus development projects, Ecology issued a No Further Action (NFA) opinion letter on October 17, 2017 stating that no further remedial action is necessary, and that the post-cleanup engineering and institutional controls are to be maintained and monitored to ensure their long-term effectiveness and performance.

Property conditions based on the results of previous investigations and following cleanup are summarized below.

Previous Investigation Findings

Remedial investigations completed at the Property prior to development activities identified three "sites" (as defined by the MTCA) where hazardous substances have come to be located. The term "site" refers to the location of media (soil, groundwater or soil vapor) that are impacted by a specific hazardous substance, as opposed to a real property boundary. Identified sites at the Property prior to redevelopment included:

- **Contaminated Fill Site** – Randomly distributed petroleum hydrocarbon, metal (arsenic, mercury and lead) and cPAH contaminated soil related to historic backfill imported to the Property from the Pacific Place Site (downtown Seattle, at 6th Avenue and Pine Street) and other unknown locations;
- **Stoddard Solvent Contamination Site** – Stoddard solvent contaminated soil related to a historic off-property dry cleaner located south of the Property; and
- **Gasoline Contamination Site** – Gasoline contaminated soil and groundwater related to historic City of Seattle bus barn maintenance and fueling facilities in the northern portion of the Property.

Cleanup Actions During Property Development

During development activities for the 5th Avenue North Parking Garage, Phase 1 Campus and Phase 2A Campus, portions of the Contaminated Fill Site, Gasoline Contamination, Stoddard Solvent Contamination Site and the eight additional sites discovered during construction were managed under Ecology's Voluntary Cleanup Program (VCP No. NW1493), MTCA and associated implementing regulations (i.e., WAC 173-340). Soil with detected contaminant concentrations exceeding Natural Background (Washington State background soil metal concentrations for arsenic, cadmium and lead [Ecology 1994] and site-specific concentrations for chromium and mercury) including native soil with residual metals, PAHs, volatile organic compounds (VOCs) and petroleum hydrocarbons, and all of the fill soil within the 5th Avenue North Parking Garage, Phase 1 Campus and Phase 2A Campus construction excavation footprints (approximately 418,700 cubic yards) were transported from the Property for permitted landfill disposal. The remaining volume of soil, excavated for construction purposes where contaminants either were not detected or detected at concentrations less than Natural Background (approximately 113,000 cubic yards), either was transported from the Property for unrestricted land use or was reused at the Property for backfill.

Current Property Conditions

Based on visual observations, field screening results and/or chemical analytical data, residual contamination associated with the Gasoline Contamination Site, Contaminated Fill Site, Stoddard Solvent Contamination Site and Gasoline underground storage tank (UST) Contamination Site No.1 (one of the eight additional sites identified during construction) remains in soil and/or groundwater beyond the limits of the initial development construction footprint (Figure 2).

Areas with a relatively small volume of residual contamination remain in-place at the Property (as compared to the large volume of soil that was removed during Property redevelopment) are summarized below:

- Residual gasoline-related contamination associated with the Gasoline Contamination Site remains in soil and groundwater beneath and adjacent to the Phase 1 Campus footprint;
- Residual gasoline-related contamination associated with the Gasoline UST Contamination Site No.1 remains in soil at the southwest corner of the 5th Avenue North Parking Garage; and,
- Fill soil containing randomly distributed petroleum hydrocarbon, cPAH and metal concentrations associated with the Contaminated Fill Site remains adjacent to the 5th Avenue North Parking Garage, Phase 1 Campus and Phase 2A Campus construction excavation footprints (all fill soil within these footprints was removed).

Engineering Controls

Soil Cap

Residual contaminant concentrations in soil associated with the Gasoline Contamination Site, Gasoline UST Contamination No. 1 Site, Stoddard Solvent Contamination Site and Contaminated Fill Site remaining in-place at the Property have been contained/isolated by protective caps (Figure 2). The protective caps established for the Property consist of:

- Concrete building walls and floor,
- Concrete sidewalks,
- Asphalt/concrete paved roads,
- Topsoil cap (approximate 3-foot thickness within landscaped areas) with visual marker (non-woven geotextile fabric, orange construction type plastic fence material or similar) located at the base of the topsoil cap. The purpose of the visual marker is to assist future workers in identifying the boundary between the topsoil cap and potentially contaminated fill soil, and
- Vegetated soil cover isolating residual soil contamination in the eastern portion of the Property (vegetated slope west of 6th Avenue North) and southeastern portion of the Property (Triangle Property).

Chemical Vapor Controls

GeoEngineers, Inc. (GeoEngineers) evaluated the risk for vapor intrusion at the Property due to the potential migration of vapors from residual contaminants in either soil or groundwater into portions of the campus and associated structures. Based on the results of this evaluation, passive venting and a chemical vapor barrier (Liquid Boot®) were utilized to protect against chemical vapor intrusion.

PASSIVE VENTING SYSTEM INSTALLATION

A network of 3-inch diameter perforated drainage piping was placed beneath portions of the 5th Avenue North Parking Garage and Phase 1 Campus. The drainpipes were placed in trenches lined with a permeable geotextile fabric and backfilled with drainage material (pea gravel or similar). The under-slab drainage network connects to the subgrade foundation wall drain drainage system, which consists of a permeable geotextile drain board attached to all of the subgrade foundation wall surfaces.

CHEMICAL VAPOR BARRIER

A chemical vapor barrier (Liquid Boot®) was applied to the southern shoring wall of the 5th Avenue North Parking Garage and all of the Phase 1 Campus subsurface foundation walls and beneath the campus floor slab to protect the potential occupants from exposure to chemical vapors associated with the gasoline-related contaminated soil and groundwater remaining adjacent and/or beneath portions of the Phase 1 Campus and 5th Avenue North Parking Garage.

In-Situ Groundwater Treatment and Long-Term Compliance Groundwater Monitoring

Remediation of the residual Gasoline Contamination Site contamination remaining in place beneath the Phase 1 Campus was accomplished utilizing a combination of air sparging (AS) and soil vapor extraction (SVE) technologies. The residual gasoline-contaminated groundwater at the Site was addressed through the use of an active in-situ treatment system operated by the Seattle Center to remove gasoline-range total petroleum hydrocarbons (TPH-G) in groundwater and meet cleanup levels in groundwater at the conditional point of compliance (72-inch brick sewer). Monitoring activities consisted of quarterly groundwater sampling between February 2011 and March 2016. In March 2016, the in-situ treatment system was shut off and rebound monitoring completed for an additional eight quarterly monitoring events in accordance with the Post-Construction Groundwater Monitoring Plan (Shannon & Wilson 2017). At this time, it was determined that the objectives of the first component of rebound monitoring were met (i.e., a stable plume status observed and cleanup levels at the point of compliance were not exceeded) and the above ground components of the treatment system were removed.

Currently, performance monitoring is being performed by the Seattle Center on a bi-annual basis. Results of groundwater monitoring continue to show a stable plume and exceedances of the groundwater cleanup level at the conditional point of compliance have not been observed.

BROAD STREET TRIANGLE LANDSCAPE AND MAINTENANCE PATHWAYS PROJECT

Work completed for the Broad Street Triangle and Maintenance Pathways Project were completed east of Building A and south of Building B. As a result of this project, engineering controls including topsoil and vegetated soil cover (sod) from the North Maintenance Pathway and Broad Street Triangle Construction Areas (Figure 2) were removed to facilitate the installation of two new maintenance pathways, irrigation lines, site drainage, plantings and paving as well as establishing new site grades.

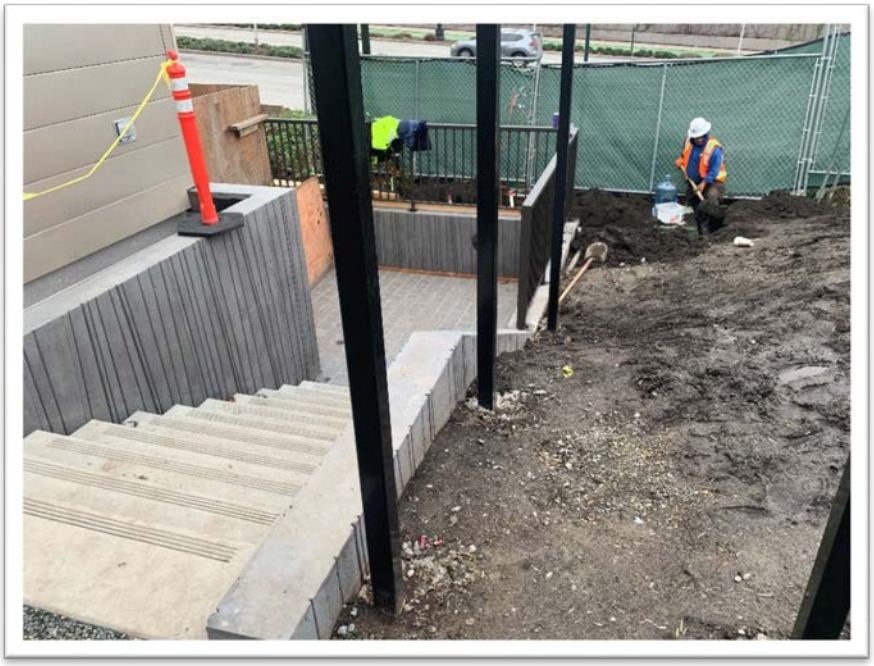
North Maintenance Pathway Construction Activities

Excavation of up to 3 feet of topsoil over a visual marker (orange construction fencing) followed by the excavation of the underlying Contaminated Fill Site soil was completed east of Building A to facilitate the installation of a new maintenance pathway connecting the campus courtyard with campus parking garage entrance at Mercer Street (Figure 2). In accordance with the Post-Construction Environmental Management Plan, excavated topsoil overlying the visual marker (approximately 15 cubic yards) was temporarily stockpiled in the eastern portion of the Property on asphalt pavement (former 6th Avenue) and secured with plastic sheeting pending reuse. Based on visual observation and field screening results (i.e., soil staining, odors and sheen), soil generated from the underlying Contaminated Fill Site (approximately 5 cubic yards) was also temporarily stockpiled in the eastern portion of the Property in a separate stockpile and secured with plastic sheeting pending reuse.

Within the work area, a new maintenance pathway (Photograph 1) and staircase with retaining wall (Photograph 2) were constructed. Following installation of these new features, stockpiled soil generated from the Contaminated Fill Site was reused to backfill the area adjacent to the new staircase and retaining wall. Prior to the placement of stockpiled soil to meet design grades and restore the landscaping in this area, a new visual marker (orange construction fencing) was placed over the portions of the Contaminated Fill Site exposed by construction in this area. New plantings were subsequently installed to match pre-existing conditions.



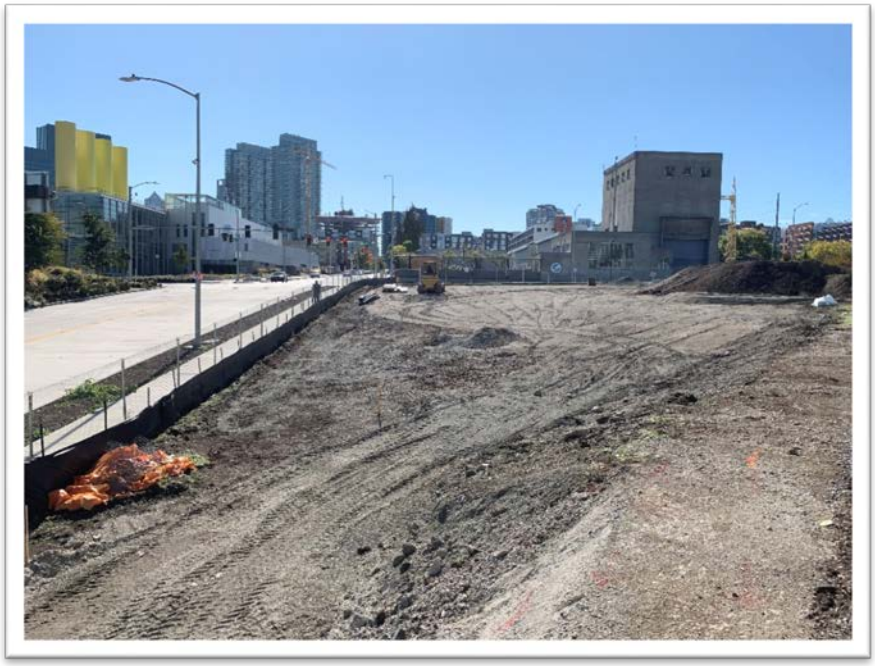
Photograph 1 – Newly installed compact gravel pathway located east of Building A. Approximately 6-inches of gravel was placed over a geotextile grid (visual marker) preventing exposure to the underlying Contaminated Fill Site.



Photograph 2 – Newly installed concrete staircase with retaining wall providing access to the campus parking garage entry/exit at Mercer Street. Residual contamination is isolated by the concrete staircase and retaining wall and orange construction fencing (visual marker) within the landscaped area east of the new pathway.

Broad Street Triangle Construction Activities

Excavation of up to 1 foot of topsoil and sod by the excavation of the underlying Contaminated Fill Site soil was completed south of Building B to facilitate installation of new irrigation, drainage lines and utilities as well as facilitate new landscape plantings and design grades. In accordance with the Post-Construction Environmental Management Plan, topsoil and sod (approximately 30 cubic yards) overlying the Contaminated Fill Site was removed under GeoEngineers oversight and temporarily stockpiled within the work area (former Broad Street offramp) pending reuse (Photograph 3). In addition, a network of shallow trenches for new irrigation lines, drainage and utilities and depressions to contain the root balls for new landscape trees within the Contaminated Fill Site were excavated in the work area. Based on visual observation and field screening results (i.e., soil staining, odors and sheen), soil generated from the Contaminated Fill Site (approximately 15 cubic yards) was used to backfill the network of trenches or spread about the site to meet the new design grades for this area.



Photograph 3 – Broad Street Triangle Construction Area with removed topsoil temporarily stockpiled pending reuse.

Following the installation of new utilities, irrigation lines and drainage features, a visual marker (orange construction fencing) was placed over the portions of the Contaminated Fill Site exposed by the construction activities in this area (Photograph 4). Following placement of the visual marker, new imported topsoil was blended with the existing stockpile of topsoil and placed throughout the work area to meet the project design grades.

In addition to construction activities completed within the property boundary, new trees were also placed adjacent to the 6th Avenue and Harrison Street Rights-of-Way (ROW). To facilitate planting of these new trees, the earthwork contractor for the project hydro-excavated holes for the tree root balls using a Vactor truck (Photograph 5). Vactor truck waste generated by these activities (approximately 41.39 tons) were subsequently transported to Waste Management's Duwamish Reload Facility for solidification prior to transport to their Columbia Ridge Subtitle D landfill in Arlington, Oregon, for permitted disposal. A copy of the certificate of disposal is attached.



Photograph 4 – Visual marker (orange construction fencing) positioned within the Broad Street Triangle Construction Area prior to the placement of topsoil to meet design grades.



Photograph 5 – Hydro-excavated holes to facilitate the planting of trees adjacent to the 6th Avenue and Harrison Street ROWs as required by the City of Seattle to meet the requirements of the project permit.

CONCLUSIONS

This letter summarizes the grading and landscaping activities completed for the 500 Fifth Avenue North Property. Construction activities resulted in the disturbance of engineering controls installed during initial property development. In accordance with the Post-Construction Environmental Management Plan dated June 15, 2017, topsoil generated during soil disturbance activities was stockpiled on site pending reuse. In addition, portions of the Contaminated Fill Site disturbed by the construction activities were segregated from the excavated topsoil, field screened for the potential presence of contamination and stockpiled pending reuse. With the exception of the soil generated during the disturbance activities adjacent to the 6th Avenue and Harrison Street ROWs, all soil generated from the North Maintenance Pathway and Broad Street Triangle Construction Areas was reused at the Property. Soil generated from the Contaminated Fill site was placed beneath a visual marker and covered with topsoil to restore the engineering controls to isolate residual contamination remaining in place. Soil generated from the landscaping activities adjacent to the 6th Avenue and Harrison Street ROWs was transported from the Property for permitted landfill disposal. Except for meadow seed planting within the Broad Street Triangle Construction Area, all restoration activities have been completed for the 500 Fifth Avenue North Property. It is anticipated that the meadow seed planting within the Broad Street Triangle Construction Area will be completed by April 2020 during favorable weather conditions to promote seed growth.

Please let us know if you have any questions concerning the activities completed at the 500 Fifth Avenue North Property (Site ID No 2593).

Sincerely,
GeoEngineers, Inc.

Robert S. Trahan
Senior Environmental Scientist

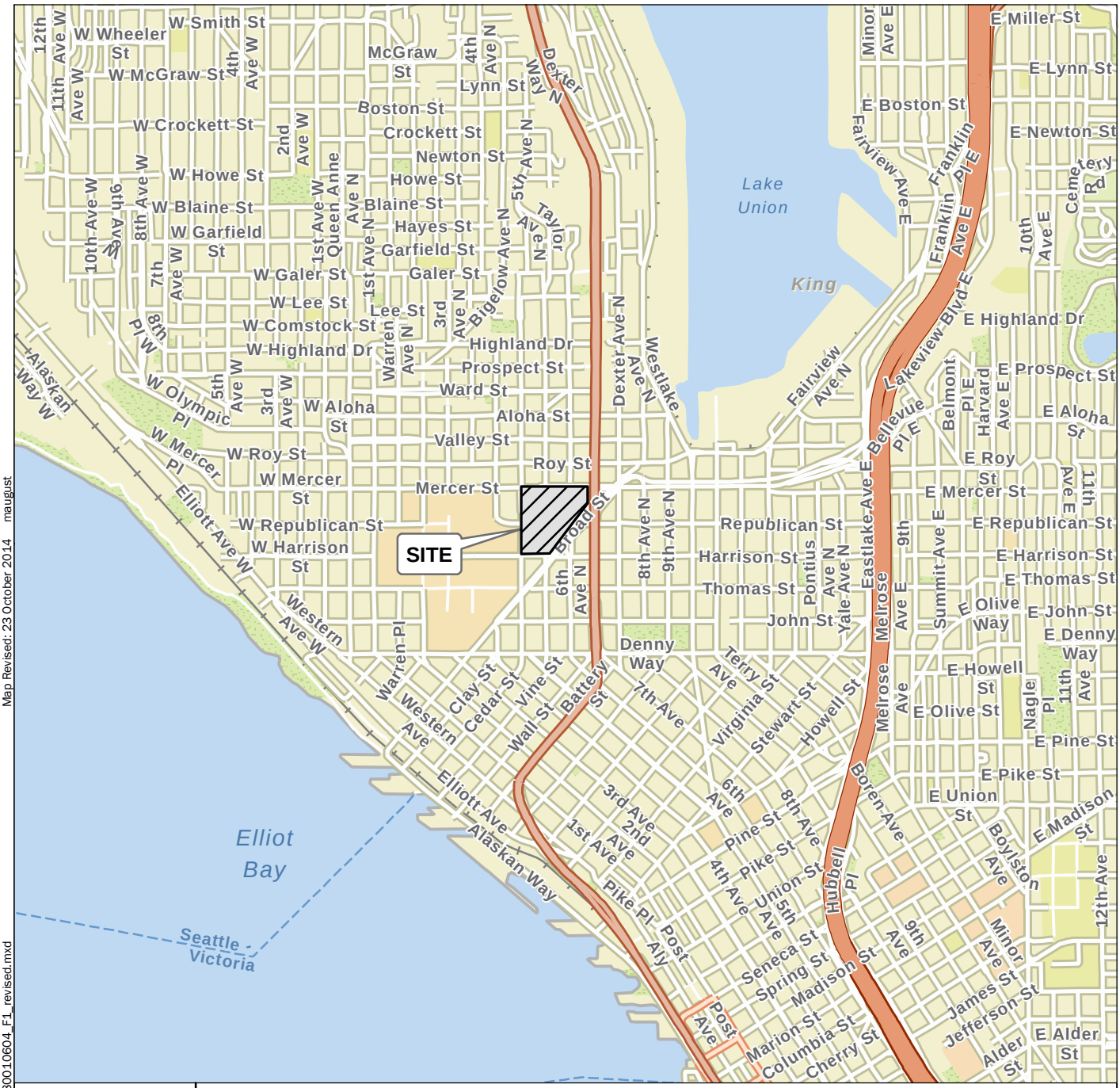
Tim L. Syverson
Associate

RST:TLS:ch

Attachments:
Figure 1. Vicinity Map
Figure 2. Site Plan
Disposal Receipt

cc: Christine Page, IRIS Holdings, LLC, christene.page@gatesfoundation.com
Slade Bedford Slade.Bedford@gatesfoundation.org
Lisa Johnsen Lisa.Johnsen@gatesfoundation.org
Debi Hudacek, Seneca Group, debih@senecagroup.com
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Data Sources: ESRI Data & Maps

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Projection: NAD 1983 UTM Zone 10N

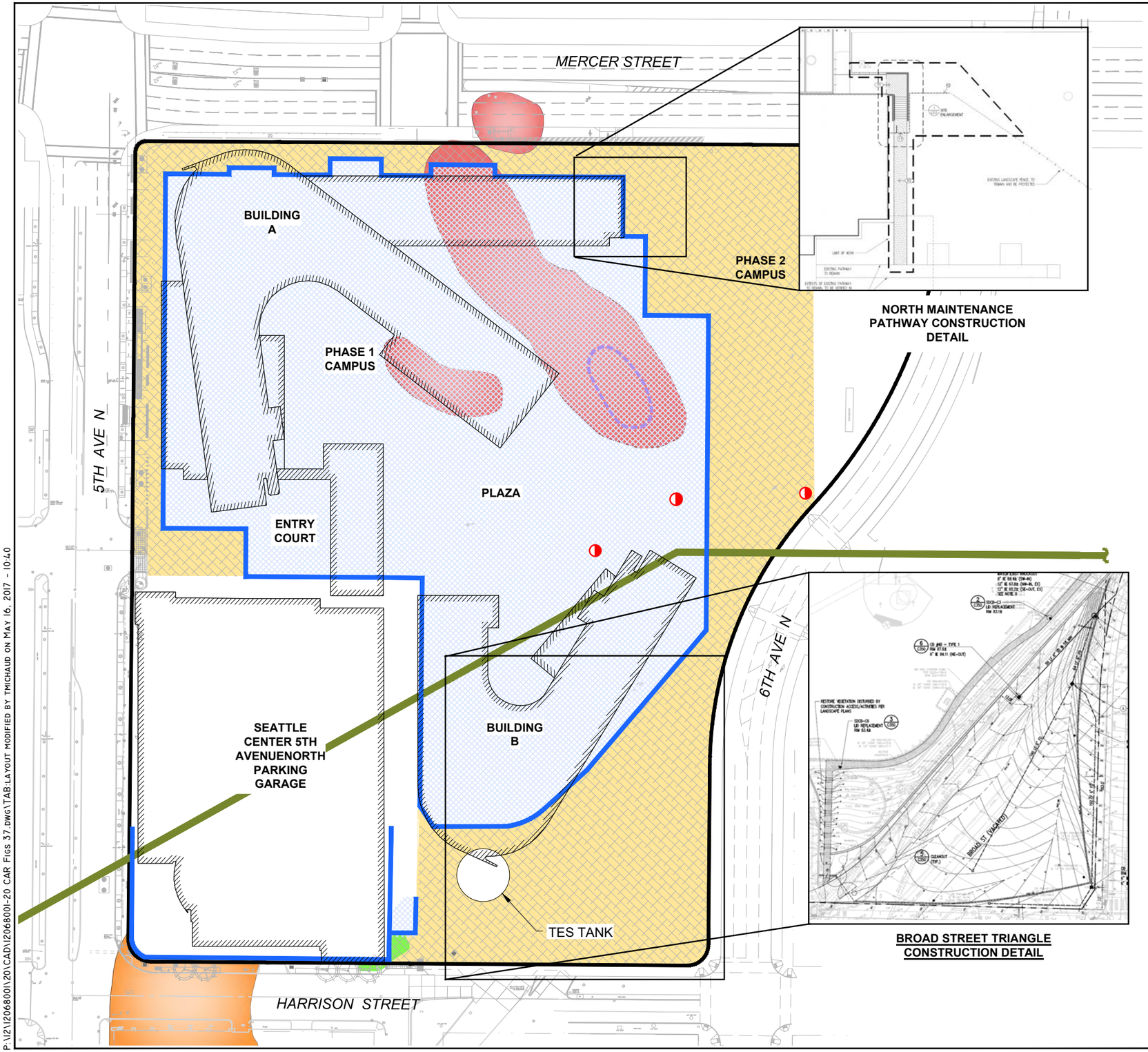
Vicinity Map

500 Fifth Avenue North Property
Seattle, Washington

GeoEngineers

Figure 1

Office: Path: \\sea\projects\12\12068001\06\GIS\MXDs\120680010604_F1_revised.mxd Map Revised: 23 October 2014 maugust



LEGEND:

- Property Boundary
- 72-inch Diameter Brick Lined Sewer (Elevation of Approximately 14 feet)
- TES — Thermal Energy Storage
- Conditional Point of Compliance Monitoring Well (Shannon & Wilson)

Contamination Sites:

- Stoddard Solvent Contamination Site (Approximate Extent) (Source is south of the subject property, across Harrison Street)
- Gasoline UST Contamination Site No. 1 (Approximate Extent)
- Contaminated Fill Site (Random Distribution, Conceptual Extent)
- Gasoline Contamination Site (Soil Portion, Approximate Extent)
- Gasoline Contamination Site (Groundwater Portion, Approximate Extent February 2017)

Engineering Controls:

- Concrete, Asphalt Surfaces, Soil over Geotextile, and/or Vegetated Soil Cover
- Chemical Vapor Barrier (Liquid Boot®, Approximate Horizontal Under Slab Extent)
- Chemical Vapor Barrier (Liquid Boot®, Approximate Vertical Under Slab Extent
- Underslab Drainage Piping (Passive Venting System)

N W E S

100 0 100
FEET

NOTES:

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Reference: CAD file entitled "SV1KPFF0001.dwg" dated 01/06/06, provided by KPFF Consulting Engineers.

Site Plan

500 Fifth Avenue North Property
Seattle, Washington

GeoEngineers | **Figure 2**

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WASTE MANAGEMENT

Columbia Ridge Landfill
18177 Cedar Springs Lane
Arlington, OR 97812
(541) 454-2030

January 10, 2020

IRIS Holdings, LLC c/o Seneca Group
1191 Second Ave, Suite 1500
Seattle, WA 98101

CERTIFICATE OF DISPOSAL

Waste Management Inc., dba Columbia Ridge Landfill has received NON-HAZARDOUS Waste material from IRIS Holdings, LLC c/o Seneca Group.

Date Received at ASTF:	12/9 – 12/11, 2019
Profile #:	114923WA
Total Tons Received:	5
Total Tons Received:	41.39
Waste Type:	WAT03

I certify, on behalf of the above listed facility, that the above-described non-hazardous waste material was managed in compliance with all applicable laws.

Julie Valdez

Julie Valdez
WM Ops Specialist