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November 8, 2016

Miller's Market
Mr. Mike Bauman
3152 Washington Way
Longview, Washington

Subject: Miller's Market – Soil Boring Workplan
VCP #SW1380
3152 Washington Way
Longview, Washington
Antea Group Project No. STCG-047-2
Colony Claim No. 021164

Dear Mr. Bauman:

Antea®Group (Antea Group) has prepared this workplan for the drilling of six soil borings, confirmation sampling at the above-referenced site (hereinafter referred to as the Site), and subsequent reporting of the event and analytical results. The purpose of the soil borings and confirmation sampling is to address data gaps that were noted in the Further Action letter issued by the Pollution Liability Insurance Agency (PLIA) on October 5, 2016. The Site Location Map and Site layout is shown on Figures 1 and 2.

This project will be initiated and performed following approval from Argo Pro/Colony Insurance (Colony). The work will not commence until Antea Group has received acceptance of this workplan by Colony, and the workplan has been signed by the insured, Mr. Mike Bauman.

SITE DESCRIPTION AND BACKGROUND

Property Description and History

The Site is currently an active gasoline fueling station with above ground structures that include a station building in the central portion of the property and one dispenser-island located south of the station building. Five underground storage tanks (USTs) were decommissioned and removed from the Site in 1991. The USTs were replaced by one 12,000-gallon, one 8,000-gallon, and one-6,000-gallon UST in the southeastern portion of the property. The locations of the decommissioned and operational USTs on the property are shown on Figure 2.



Land use in the vicinity of the property consists primarily of commercial and residential developments. The property is bound to the south by Washington Way with residential houses across the street. To the north and to the west (across 32nd Ave) are residential houses. The adjacent property to the east is a paved parking lot and restaurant.

According to USGS topography map, the property is situated approximately less than 20 feet above mean sea level in the Columbia River Basin. The area directly around the Site and the City of Longview is relatively flat. The Columbia River is located approximately 4,500 feet southwest of the Site. The property is paved with asphalt and concrete.

Previous Investigations

September 1991 – Initial Discovery

In September 1991, five underground storage tanks (USTs) were decommissioned by removal. Samples collected from the UST excavation on the west side of the Site had concentrations of gasoline-range petroleum hydrocarbons and BTEX compounds in soil above current Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels. Removal of petroleum hydrocarbon-affected soil was limited due to the location of the street and the station building. A notice of confirmed release was filed with Ecology's Leaking Underground Storage Tank (LUST) program on September 19, 1991 and the station was listed with the Cleanup Site, ID number 11051.

March 31, 2003 – Subsequent Release & Emergency Response

On March 31, 2003, a release of approximately 700 gallons of unleaded gasoline occurred at the Site. The release was reportedly caused when a transfer pump was left on, resulting in an overfilling of one of three USTs at the Site.

Emergency response services were provided by All-Out Industrial Environmental. Information provided by their site supervisor indicates that most of the fuel was recovered over a four day period.

June 25, 2003 – Initial Site Investigation

On June 25, 2003, Delta Environmental Consultants, Inc. (Delta) advanced five hand auger borings (P-1, P-2, P-6, P-7 and P-7A) at the Site. Soil and groundwater samples were collected where possible. On July 09, 2003, GeoTech Explorations (GeoTech) of Tualatin, Oregon, under Delta supervision, advanced five Geoprobe borings (P-3, P-4, P-7A (deepened), P-8 and P-9) at the Site. The Geoprobe borings were advanced using hydraulic push-probe equipment with a five-foot by two-inch outside-diameter macrosampler. The borings were advanced to depths ranging from approximately 3 feet to 15 feet below grade. The location of the hand auger and Geoprobe borings, in relation to existing site features, is provided in Figure 2. The findings of the initial site investigation were presented in a report dated August 14, 2003 prepared by Delta.

November 5 and 6, 2003 –Site Investigation

On November 5 and 6, 2003, GeoTech, under Delta supervision, advanced four soil borings at the Site for the construction of three monitoring wells and one recovery well. The three borings for the monitoring wells (MW-1, MW-2, and MW-3) were advanced using a truck-mounted drill rig equipped with hollow-stem augers. These borings were advanced to depths ranging from approximately 20.5 feet to 21.5 feet below ground surface (bgs). The boring for the recovery well construction was advanced by using a vacuum truck to extract the soil. This boring was completed to a depth of approximately eight feet bgs. The well locations are shown in Figure 2.

October 27, 2005 & November 21, 2005 – Well Installation

Delta directed drilling and well installation activities on October 27 and November 21, 2005. Five soil borings were advanced using a hollow stem auger drill rig and split spoon sampling technique and were completed as groundwater monitoring wells MW-4 through MW-8. Monitoring wells MW-4, MW-5, and MW-6 were completed to 20 feet bgs and wells MW-7 and MW-8 were completed to 18 feet bgs. Analytical laboratory results indicated concentrations of TPH-G above MTCA Method A cleanup levels in the vicinity of monitoring well MW-6.

July 25, 2012 – Injection Trench Installation and Injections

On July 25, 2012 Antea Group, formerly Delta, installed an injection trench upgradient of well MW-3 in order to begin injecting sulfate and treat the residual hydrocarbons in the groundwater in this area. The sulfate was not migrating to monitoring well MW-3 as planned. Following approval from Ecology, injections took place directly into well MW-3 in addition to the injection trench. Sulfate injections took place until fourth quarter of 2013.

December 29, 2015 – Soil Vapor Point Installation and Sampling

On December 29, 2015, Antea Group personnel drilled and installed one sub-slab soil gas point north of groundwater monitoring well MW-3 inside the station building to evaluate the potential vapor intrusion pathway into the station building. Antea Group collected a soil vapor sample from the newly installed soil vapor monitoring point on January 6, 2016. Laboratory analytical results for the soil vapor sample indicated that a concentration of benzene was detected above the Ecology Vapor Guidance, sub-slab soil gas screening level at 12 micrograms per cubic meter (ug/m³).

May 24, 2016 – Performance monitoring

On May 24, 2016, Antea Group personnel conducted an 8 hour time integrated ambient air sampling event, designed to evaluate the exposure to occupational receptors at the Site. Three ambient air samples were collected from the Site; one indoor in the office, one between the dispensers and station building, and another on the north side of the station to represent background ambient air away from the fueling system. Additionally, a sub-slab soil vapor sample was collected from the soil vapor monitoring point installed in December of 2015 to verify the concentration of sub-slab soil vapor. Concentrations of benzene exceeded the Ecology draft screening levels in both outdoor and indoor air samples. The highest concentration observed was in the background ambient sample

collected on the north side of the building. The repeat sub-slab soil vapor sample did not contain concentrations of benzene above the laboratory MRLs indicating that the source of the benzene detected inside the station building ambient air was from outdoor air entering the station through the doors or other means.

SCOPE OF WORK

This proposed scope of work includes the following tasks: 6) Soil borings and confirmation sampling and 7) Reporting - Soil boring and confirmation sampling. Tasks one through five have previously been approved for the Site and are either complete or are currently being performed.

Task 6 – Soil Borings and Confirmation Sampling

This task includes Antea Group's time and materials to have six borings drilled at the Site on the west edge and the southwest and southeast corners of the Site as well as to conduct confirmation soil and water sampling. This task is being proposed in order to address data gaps in the soil and groundwater delineation as noted in the Further Action Letter from PLIA dated October 5, 2016. Historical soil analytical data is presented on Table 1. Soil analytical results above MTCA Method A cleanup levels are clearly shown in Bold. In addition, the depths and analytical parameters of the proposed sampling locations are presented on Table 1. This inclusion is to show that the proposed sample locations will confirm that soil is no longer impacted above MTCA, and that they will delineate the soil impacts vertically. The proposed soil sample locations are adjacent to the historical soil sample locations that they are designed to assess and are shown in Table 1 and on Figure 2.

Before the project can be initiated, Antea group will work with the City of Longview to obtain a permit to install three of the borings within the sidewalks adjacent to the Site on the south and west. A traffic control plan will likely be required to address pedestrian traffic during the project, but it is not expected that we will have to do any work in the street. Once the permit is obtained, and prior to drilling, Antea Group will notify One Call (Public Underground Utility Notification) and will contract a private utility locator to delineate and mark the location of underground utilities and other potential subsurface obstructions in the vicinity of the proposed borings. The majority of the locations are within a concrete surface, and concrete coring will be required. Once the cores are complete, the borings will be cleared with an air knife/vacuum truck to 5 feet bgs. The borings will then be drilled by a licensed driller using a hydraulic push sample rig. The borings will be drilled to a total depth of 15 feet each. A lithological description of soil samples will be recorded on a boring log form and each soil sample will be screened with a photo-ionization detector (PID).

Previous soil impacts encountered in these areas ranged in depth from approximately 2.5 to 6 feet bgs. Soil samples will be collected from depths above, level with, and below each of the previously impacted soil depths in order to ensure that the soil is vertically delineated. Soil samples will be collected continuously using a clean, disposable acetate sleeve during direct push drilling. Soil samples will be collected for laboratory analysis from 2.5, 5, 10, and

15 feet bgs in borings B-1, B-2, and B-5, near MW-8, P-6, and MW-6, respectively. Boring B-1 is only being installed in order to delineate groundwater to the north of well MW-8. Soil samples from B-1 will only be submitted for analyses if there are any field indications of soil impacts. Field indications include PID readings, visual evidence and odors. Based on the location of Boring B-1 relative to source areas on Site, and the fact that the 5 foot soil sample from the boring for well MW-8 was non-detect for all constituents, we do not expect to encounter soil impacts here. Soil samples will be collected from 2.5, 5, 10 and 15 feet bgs in proposed boring B-3, and will serve to delineate soil and groundwater concentrations in the southwest corner of the Site. Soil samples will be collected from 1.5, 3, 6, 10, and 15 feet bgs in boring B-4, located near MW-3. Soil samples will be collected from 1.5, 2.5, 5, 6, 10, and 15 feet bgs in boring B-6, located near P-2 and RW-1. Soil samples that are to be collected within the top 5 feet of the subsurface will require the air knife equipment to halt approximately 1 foot above the sample location. A hand auger will then be used to clear the next foot of soil prior to sample collection. The soil samples will be collected in accordance with Ecology Method 5035 guidance for the volatile components. Soil samples will be placed in laboratory-supplied glass jars and placed into iced coolers for transport to the laboratory under standard chain-of-custody protocol. All soil sampling equipment will be washed in a water-alconox or similar EPA approved solution and double rinsed between sampling locations in order to prevent potential cross contamination.

Soil samples will be analyzed for the following parameters:

- Total petroleum hydrocarbons as gasoline (TPH-G) using Northwest Method NWTPH-Gx;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MTBE using EPA Method 8021B.

Samples from 15 feet bgs will only be analyzed if petroleum hydrocarbon concentrations exceed the designated MTCA Method A cleanup levels in the 10 foot sample. If samples from a boring exhibit petroleum hydrocarbon concentrations that exceed the designated MTCA Method A cleanup levels, Antea will have those samples analyzed for Extractable Petroleum Hydrocarbons (EPH) by Washington State Method NWEPH, and Volatile Petroleum Hydrocarbons (VPH) and n-Hexane by Washington State Method NWVPH in order to calculate potential Method B cleanup levels for the Site. Antea Group may also choose to use the generic TPH cleanup level of 1,500 mg/kg and the CLARK values for BTEX compounds, if the soil on site meets these levels, as allowed under Model Remedy #5, listed in Ecology's "Model Remedies for Sites with Petroleum Impacts to Groundwater" (August 2016 Publication No. 16-09-057).

Groundwater samples will be collected from each boring location to further delineate groundwater concentrations at the Site. A temporary well will be set at each location using a 5 foot length of ¾" PVC screen and a ¾" PVC riser to the ground surface. A tube will be lowered through the PVC to water where the groundwater sample will then be collected with the use of a peristaltic pump. A new screen interval and new tubing will be used at each boring. The riser will be decontaminated between borings and reused. Groundwater samples will be placed in laboratory-supplied containers, labeled and placed into iced coolers for transport to the laboratory under standard chain-of-custody protocol.

Groundwater samples will analyzed for the following parameters:

- Total petroleum hydrocarbons as gasoline (TPH-G) using Northwest Method NWTPH-Gx;
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MTBE using EPA Method 8021B.

All soil cuttings and decontamination water generated during drilling and cleaning activities will be contained in 55-gallon drums and temporarily stored on site for eventual transport and disposal at a licensed facility.

Task 7 – Reporting - Soil Borings and Confirmation Sampling

Antea Group will prepare a site investigation report following the boring and confirmation sampling event. The report will include tables summarizing soil analytical data, boring logs, a site map showing boring locations and soil concentrations, a site map showing boring locations and groundwater concentrations, a discussion of field procedures, field data and analytical results, and a brief evaluation of the data. The report will be suitable for submittal to the Department of Ecology.

SCHEDULE

Antea Group anticipates that the scope of work described herein will be initiated during November 2016. The scope of work proposed herein includes drilling six borings, soil and groundwater sampling of those borings, and preparation of a subsurface investigation report for submittal to Ecology.

Antea Group appreciates the opportunity to provide environmental services to you. Please call Matthew Miller at 425-498-7722 if you have any questions regarding the scope of work or proposed budget or any matter concerning this site.

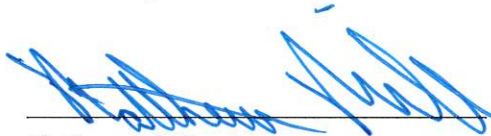
Sincerely,



Jaime Sasse
Project Professional

Date: November 8, 2016

Reviewed by:



Matthew R. Miller, LG
Senior Project Manager



Date: November 8, 2016

Enclosure: Table 1 – Summary of Historical Soil Analytical Results and Proposed Borings with Sample Depths
Figure 1 - Site Location Map
Figure 2 – Site Map with Proposed Soil Boring Locations

cc: Ms. Sandra Caldwell, Southwest Region, Department of Ecology, Olympia, Washington (Hard copy)
Mr. Nnamdi Madakor, PLIA, Olympia, Washington (Hard Copy)
Mr. Mark Newman, Vertex, Seattle, Washington (Electronic Copy)
Ms. Carrie Pederson, PLIA, Olympia, Washington (Electronic copy issued by Vertex)
File, Antea Group

Tables

Table 1 - Summary of Historical Soil Analytical Results and Proposed Borings with Sample Depths

TABLE 1
SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS and PROPOSED BORINGS WITH SAMPLE DEPTHS
MILLER'S MARKET
3152 Washington Way
Longview, Washington

Sample ID	Sample Date	Depth BGS (feet)	Gasoline Range (mg/kg)	Diesel Range (mg/kg)	Oil Range (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
RW-1-2.5	11/06/03	2.5	78	--	--	<0.1	0.2	0.3	0.2	1.8
RW-1-5	11/06/03	5	230	--	--	<0.2	0.5	<0.1	1.8	5.0
B-6	--	1.5	--	--	--	--	--	--	--	--
B-6	--	2.5	--	--	--	--	--	--	--	--
B-6	--	5	--	--	--	--	--	--	--	--
B-6	--	6	--	--	--	--	--	--	--	--
B-6	--	10	--	--	--	--	--	--	--	--
MW-4-5	10/27/05	5	15	<26	<52	<2	<0.03	<0.05	0.05	<0.2
MW-5-5	11/21/06	5	<4	<26	<51	--	<0.04	<0.07	<0.07	<0.2
MW-6-5	11/21/06	5	320	<28	<56	--	<0.07	<0.1	1.2	0.6
B-5	--	2.5	--	--	--	--	--	--	--	--
B-5	--	5	--	--	--	--	--	--	--	--
B-5	--	10	--	--	--	--	--	--	--	--
MW-7-5	11/21/06	5	<3	<25	<50	--	<0.03	<0.05	<0.05	<0.2
MW-8-5	11/21/06	5	<3	<25	<50	--	<0.03	<0.05	<0.05	<0.2
B-1	--	2.5	--	--	--	--	--	--	--	--
B-1	--	5	--	--	--	--	--	--	--	--
B-1	--	10	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Levels:			100/30^a	2,000	2,000	0.1	0.03	7	6	9

NOTES:

mg/kg = milligrams per kilogram

Depth in feet below ground surface

Benzene, toluene, ethylbenzene, and xylenes and MTBE = Aromatic compounds by EPA Method 8260

TPH-G = Total Petroleum Hydrocarbons as Gasoline by Northwest Method NWTPH-Gx

TPH-D = Total Petroleum Hydrocarbons as Diesel by Northwest Method NWTPH-Dx

TPH-O = Total Petroleum Hydrocarbons as Oil by Northwest Method NWTPH-Dx

< = Less than the stated laboratory reporting limit

"--" - Data not available

Bolded values equal or exceed MTCA Method A Cleanup Levels

MTCA = Model Toxics Control Act

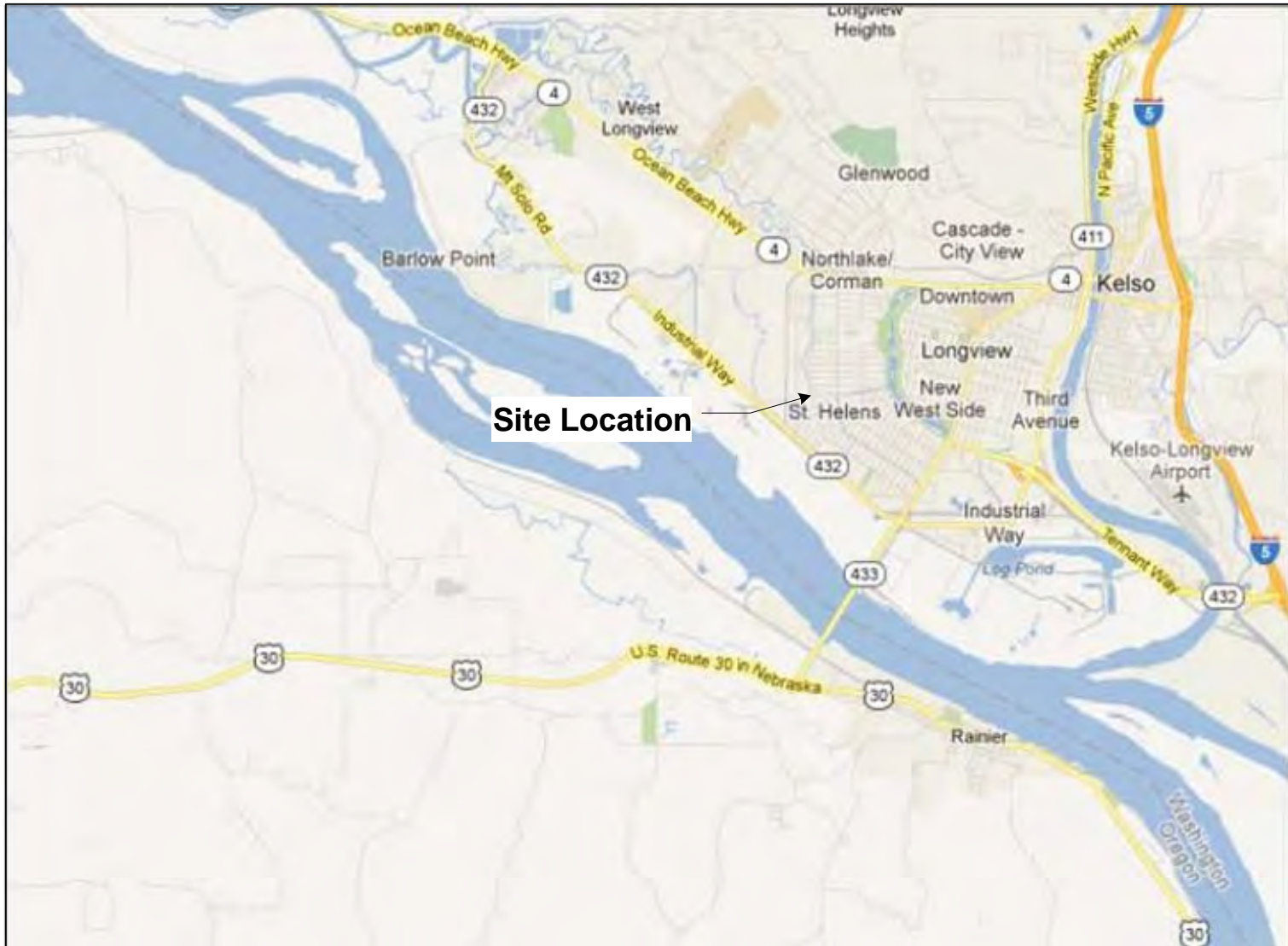
^a MTCA Method A Cleanup levels for TPH-g are 100 mg/kg when no Benzene is present and 30 mg/kg when Benzene is present

-Boring B-2 through B-6 are proposed to assess current soil conditions adjacent to documented soil detection in the previous sample on the table.

-Boring B-1 is only being installed in order to delineate groundwater to the north of well MW-8. Soil samples from B-1 will only be submitted for analysis if there are any field indications of soil impacts.

Figures

- Figure 1 Site Location Map
- Figure 2 Site Map with Proposed Soil Boring Locations



Site Location

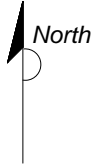


FIGURE 1
SITE LOCATION MAP

MILLER'S MARKET
3152 WASHINGTON WAY
LONGVIEW, WASHINGTON

PROJECT NO. STCG-047-2	DRAWN BY JK 5-12-12
FILE NO. STCG-047-2	PREPARED BY JK
REVISION NO.	REVIEWED BY MM



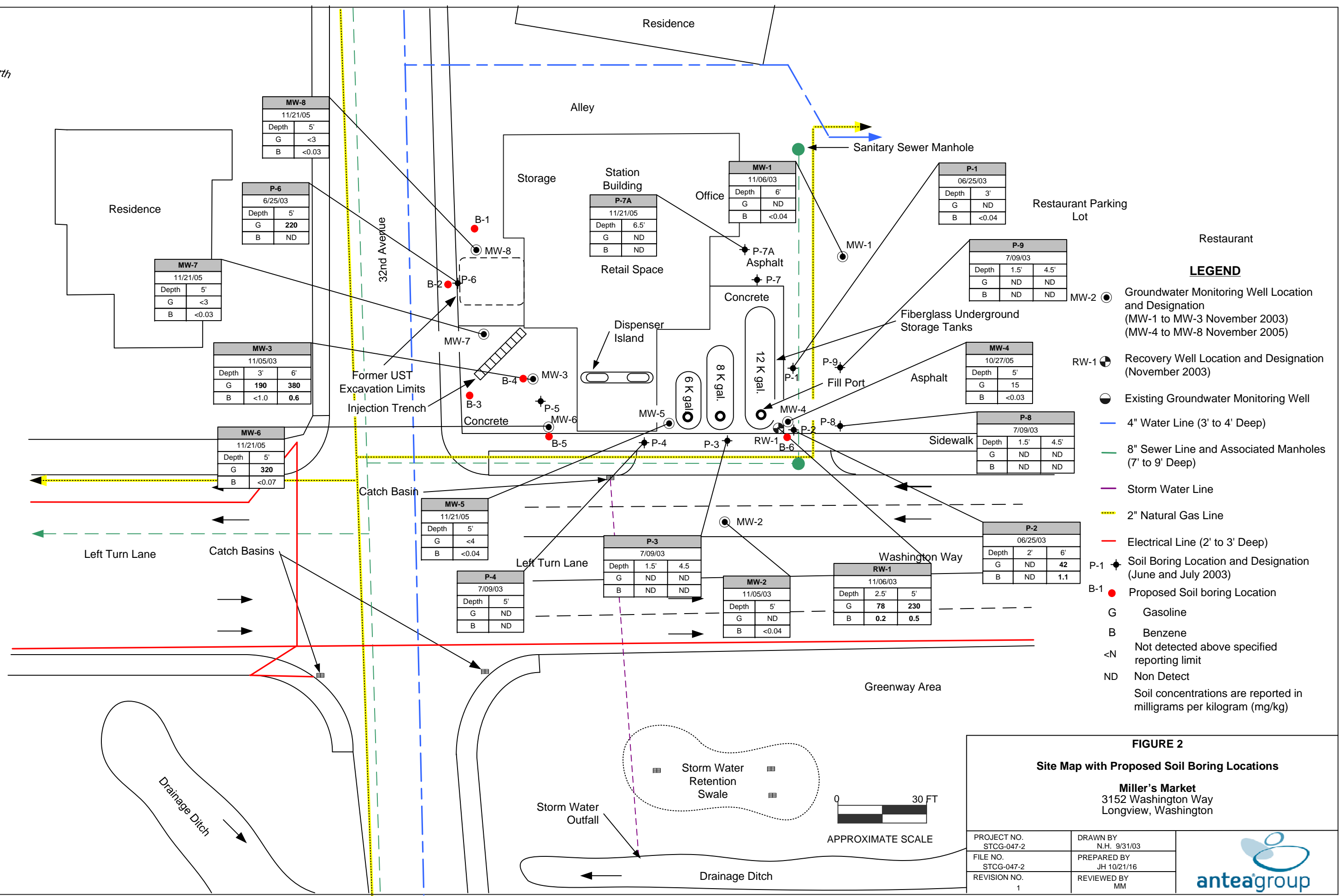
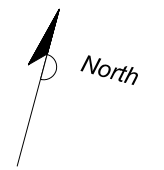


FIGURE 2
Site Map with Proposed Soil Boring Locations
 Miller's Market
 3152 Washington Way
 Longview, Washington

PROJECT NO. STCG-047-2	DRAWN BY N.H. 9/31/03
FILE NO. STCG-047-2	PREPARED BY JH 10/21/16
REVISION NO. 1	REVIEWED BY MM

