ASSOCIATED ENVIRONMENTAL GROUP, LLC

Phase II Environmental Site Assessment

Conducted on:

Main Street Grocery
901 Martin Luther King Jr. Way
Tacoma, Washington 98405-4149

Prepared for:

Mr. Amarjeet "AJ" Singh
GSM Investments, LLC
15235 SE 273rd Place
Kent, Washington 98042-4325

Prepared & Reviewed by:

Nicolas Pushckor, R.S.A.
Staff Geologist

Scott Rose, L.H.G.
Senior Hydrogeologist

State of Washington
Hydrogeologist
2635
Licensed Geologist
SCOTT I ROSE

AEG Project #: 16-144
Date of Report: July 21, 2017

TABLE OF CONTENTS

1.0 INTRODUCTION

Associated Environmental Group, LLC (AEG) has completed a Phase II Environmental Site Assessment (Phase II) at 901 Martin Luther King Jr. Way, in Tacoma, Pierce County, Washington (Site). The objective of this investigation is to provide the Washington State Department of Ecology (Ecology) with an accurate assessment of the Site to be able to determine whether further action is warranted. To detect potential contamination, AEG conducted a geophysical survey on the property to identify potential abandoned underground storage tanks (USTs), and advanced five soil borings to collect soil and groundwater data where possible.

1.1 Site and Vicinity Area Background

The Site is located southeast of the intersection of Martin Luther King Jr. Way and South 9th Street in Tacoma, Washington. The Main Street Grocery occupies Pierce County parcel number 2009210011. The 0.25-acre parcel is occupied by an approximately 6,000-square-foot building, which includes a convenience store, barber shop, and self-service laundry facility. The surrounding area is residential and commercial. Figure 1, *Vicinity Map*, presents the general vicinity of the Site. The Site's current layout can be seen in Figure 2, *Site Map*.

1.2 Previous Environmental Activities

Ecology provided an opinion for the Site in a letter dated January 20, 2016. The letter stated that Ecology had determined that further remedial action was necessary before a No Further Action (NFA) determination would be considered for the Site. Ecology's opinion was based on a *Limited Phase II Site Assessment* conducted by Northwest Environmental Solutions, Inc. (NES) in January 2014, and an *Environmental Actions Report* conducted by George R. Webster (Webster) in June 2014. Ecology's comments in the January 20, 2016 opinion letter indicated that "*Overall, the reports did not contain enough information to make an informed decision as to the adequacy of the work done at the Site.*" The opinion letter also references a 1998 Phase II report and a 1999 UST Closure Report that had not been provided to Ecology. AEG was unable to obtain copies of these reports; however, according to Ecology, the Site Assessment Notice form for the UST closure stated that no contamination was found.

1.3 Site Geology and Hydrogeology

According to the Geologic Map of Washington – Southwest Quadrant, the Property and vicinity area are underlain by Till (Qgt) consisting of "Unsorted, unstratified, highly compacted mixture of clay, silt, sand, gravel, and boulders deposited directly by glacial ice; locally contains outwash sand and gravel both within the overlying till."

Soils encountered at the Site during the Phase II investigation consisted primarily of brown, medium dense, silty sand to a depth of 6 feet bgs. Below 6 feet bgs, brown, medium dense, sand with trace gravels were encountered. Five borings were advanced to a maximum depth of 20 feet bgs. Groundwater was not encountered at the time of drilling to the total depth explored of 20 feet bgs. It has been AEG's experience working on other sites in the Tacoma hilltop neighborhood that shallow perched groundwater may be seasonally present, and that the regional depth to groundwater is typically 90 to 100 feet bgs. AEG reviewed well/boring logs available on Ecology's website, and a boring advanced at 1023 Martin Luther King Jr. Way (one block to the south) to 40 feet bgs via hollow-stem auger did not encounter groundwater. This boring log is included in the attachments to this report.

Groundwater flow direction at the Site is not known, but based upon local topography, may be inferred to flow east/northeast, towards Commencement Bay located approximately 0.8 miles to the northeast.

2.0 OBJECTIVES AND SCOPE OF WORK

The objective of this Phase II investigation was to address the data gaps noted in Ecology's Opinion Letter of January 20, 2016, and determine whether residual petroleum impacts were still present at the Site. Specific tasks performed included:

- Conducting both public and private utility locates for the Site and vicinity. The public rights of way locates were performed by the Underground Utilities Locate Center; Applied Professional Services, Inc. (APS) provided private utility locates for the Site.
- Providing oversight of a geophysical survey throughout the Site performed by APS.
- Advancing five borings to a maximum depth of 20 feet bgs at select locations on the Site, using a Geoprobe® direct-push drilling rig.
- Continuously logging the subsurface media during the investigation, to observe and document soil lithology, color, moisture content, photoionization detector (PID) readings and sensory evidence of impairment.
- Collecting soil samples for laboratory analyses at various depths, based on the field observations.
- Containing investigation-derived wastes, including soil cuttings and decontamination wash fluids, in a 16-gallon steel drum, and storing the drum on Site awaiting the results of laboratory analyses.
- Transporting and submitting soil and groundwater samples to Environmental Services Network NW, Inc. (ESN), a Washington State certified analytical laboratory, for analyses.
- Evaluating laboratory analytical results and comparing data to MTCA Method A cleanup levels for soil.
- Preparing this report presenting final documentation of the field activities and methodologies, and summarizing the analytical results, conclusions, and recommendations.

3.0 FIELD METHODOLOGY

3.1 Geophysical Survey

On July 6, 2017, AEG provided oversight of a GPR and electromagnetic survey at the Site by APS in an attempt to locate potentially abandoned USTs that were reportedly removed; however, their removal was not well documented. APS ran a GPR unit and magnetometer across all portions of the property in a grid pattern searching for density and magnetic anomalies that could represent something underground. No significant density or magnetic anomalies were identified during the geophysical survey.

3.2 Soil Borings

On July 6, 2017, AEG supervised the advancement of soil borings B-1 through B-5 at the Site. The boring locations were based on the comments in Ecology's Opinion Letter, and were located in the vicinity of the USTs, east of the canopy, and in areas of previous sample locations. As stated above, no anomalies were identified to dictate potential boring locations. Five borings were advanced to a maximum depth of 20 feet bgs via Geoprobe® direct-push drilling rig operated by subcontractor Environmental Services Network NW, Inc. (ESN). Soil samples were collected during drilling for field screening and laboratory analyses. No groundwater was encountered in any of the borings. The locations of the soil borings and Site features are illustrated in Figure 2, *Site Map*. Photographs from the investigation are presented in Appendix A, *Site Photographs*. Boring logs and laboratory analytical results are provided in Appendix B, *Supporting Documents, Boring Logs, Laboratory Datasheets*.

3.3 Soil Sampling Procedures

Soil sampling methods for this work followed the protocols established by Ecology and the U.S. Environmental Protection Agency (EPA). To minimize volatile organic compound (VOC) losses, soil sampling and field preservation methods for VOCs followed methods set forth by EPA's Method 5035A and Ecology's guidance, "*Collecting and Preparing Soil Samples for VOC Analysis*". Soil samples were collected from the soil borings via continuous soil cores in an acetate sleeve inside the drilling rod's core barrel. Soils were observed to document soil lithology, color, moisture content, and sensory evidence of contamination.

Soil samples were selected for laboratory analysis based on field observations and PID readings. Soil samples were collected and placed into laboratory provided 40-milliliter glass vials and 4-ounce glass jars for the analyses of gasoline components. The soil samples were transported to the ESN laboratory in Olympia, Washington, for analyses following industry standard chain-of-

custody procedures. A total of 19 soil samples were collected, and 10 were analyzed for constituents of concern.

3.4 Laboratory Analyses

Selected soil and groundwater samples were analyzed for:

- Diesel- and oil-range petroleum hydrocarbons (TPH) using Northwest Method NWTPH-Dx/Dx Extended.
- Gasoline-range TPH, benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds, methyl tert-butyl ether (MTBE), ethylene dibromide (EDB), and 1,2-dichloroethane (EDC) using EPA Method 8260C/5035.
- Polycyclic aromatic hydrocarbons (PAHs) using EPA Method 8270.
- Lead using EPA Method 6020A/3050B.

3.5 Quality Controls

To ensure that quality information was obtained at the Site:

- All samples were collected in general accordance with industry protocols for the collection, documentation, and handling of environmental samples.
- Descriptions of soil and groundwater sampling depths were carefully logged in the field. The driller and geologist confirmed sample depths as soil samples were collected.
- Nitrile gloves were worn when handling all sampling containers and sampling devices. Clean gloves were used at each soil boring to prevent cross contamination.
- The sampling equipment was scrubbed with Alconox detergent and rinsed with water prior to each sample extracted.
- Soil samples were tightly packed into laboratory-provided dedicated sampling containers to eliminate sample headspace.
- Upon sampling, all soil samples were immediately placed into chilled ice chests, and transported for analysis under a chain-of-custody protocol to the ESN analytical laboratory in Olympia, Washington.

The analytical laboratory provided project quality assurance/quality control (QA/QC), including:

- Surrogate recoveries for each sample.
- Method blank results.
- Duplicate analysis.
- Laboratory control samples.

All analytical laboratory QA/QC results were within required limits. Analytical Laboratory results are provided in Appendix B, Supporting Documents, *Laboratory Datasheets.*

3.6 Investigation-Derived Waste

Investigation-derived waste for this project consisted of soil cuttings from the subsurface exploration activities and decontamination water from decontamination of the drilling core barrel and associated equipment. These wastes were placed in a U.S. Department of Transportation (DOT) approved 16-gallon drum. The drum was appropriately labelled, and stored on Site for subsequent characterization and disposal.

4.0 ANALYTICAL RESULTS

All analytical results obtained from soil and groundwater samples were compared to MTCA Method A cleanup levels. Copies of the laboratory analytical results are provided in Appendix B, Supporting Documents, *Laboratory Datasheets*.

4.1 Soil Results

Analytical results of the soil samples did not indicate the presence of any constituents of concern above MTCA Method A cleanup levels. Heavy-oil range TPH and total lead were detected below their respective MTCA Method A cleanup levels in boring B-5 at 10 feet bgs. Table 1, *Summary of Soil Analytical Results*, presents the soil analytical results as compared to MTCA Method A soil cleanup levels.

5.0 FINDINGS AND CONCLUSIONS

The findings and conclusions derived during the subsurface assessment activities at the Site are as follows:

5.1 Findings and Conclusions

- Five soil borings were advanced throughout the Site (as dictated by Ecology's opinion letter) to a maximum depth of 20 feet bgs.
- Soil samples collected from each boring revealed no detections of constituents of concern above MTCA Method A cleanup levels.
- Groundwater was not encountered in any boring to the total depths explored of 20 feet bgs.
- Based on the findings from this investigation, it is AEG's professional opinion that **no further action is warranted**.

5.2 Recommendations

This report should be reviewed by the Washington State Department of Ecology and the Site should be considered for a "No Further Action" determination.

6.0 LIMITATIONS

This report summarizes the findings of the services authorized under our agreement with Mr. Amarjeet Singh. It has been prepared using generally accepted professional practices, related to the nature of the work accomplished. This report was prepared for the exclusive use of the Mr. Singh and his designated representatives, for the specific application to the project purpose.

Recommendations, opinions, Site history, and proposed actions contained in this report apply to conditions and information available at the time this report was completed. Since conditions and regulations beyond our control can change at any time after completion of this report, or our proposed work, we are not responsible for any impacts of any changes in conditions, standards, practices, and/or regulations subsequent to our performance of services. We cannot warrant or validate the accuracy of information supplied by others, in whole or part.

7.0 REFERENCES

American Society for Testing and Materials (ASTM) Standard E 1903-97. *Standard Guide Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

George R. Webster. 2014. *Environmental Actions Report*

Washington State Department of Ecology. 2004. *Collecting and Preparing Soil Samples for VOC Analysis*, Implementation Memorandum #5.

Washington State Department of Ecology. 2016. *Further Action Opinion Letter Main Street Grocery*, January 20, 2016.

Washington State Department of Ecology. 2007. *Model Toxic Control Act Statute and Regulation – Chapter 173-340 WAC*, Publication number 94-06 (Revised November 2007).

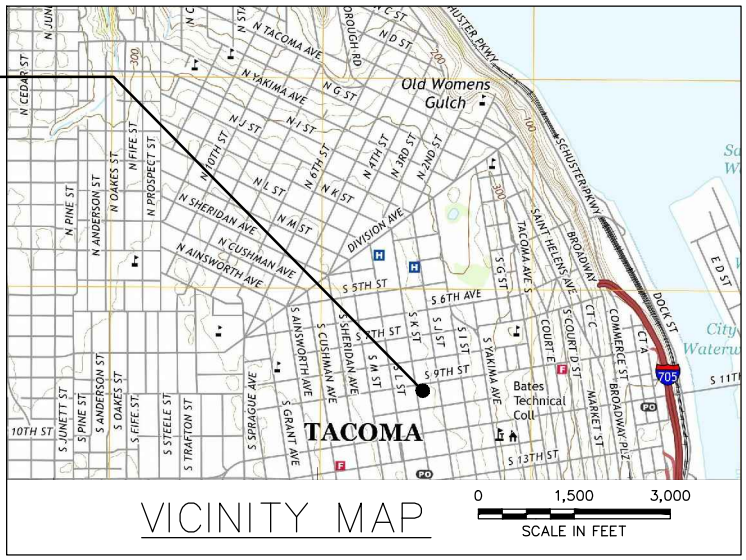
FIGURES

605 11th Ave. SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

FILENAME	DRAWN BY		CHECKED BY		APPROVED BY		PROJECT NUMBER
16-144_17Q2.DWG	ICD	6/15/2017	NP	6/15/2017	NP	6/15/2017	16-144

N
W E
S

PROJECT LOCATION



VICINITY MAP

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.

REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.
VICINITY IMAGE SOURCE: U.S. GEOLOGICAL SURVEY–2017, 7.5 MINUTE QUADRANGLE MAP
TACOMA NORTH, WASHINGTON

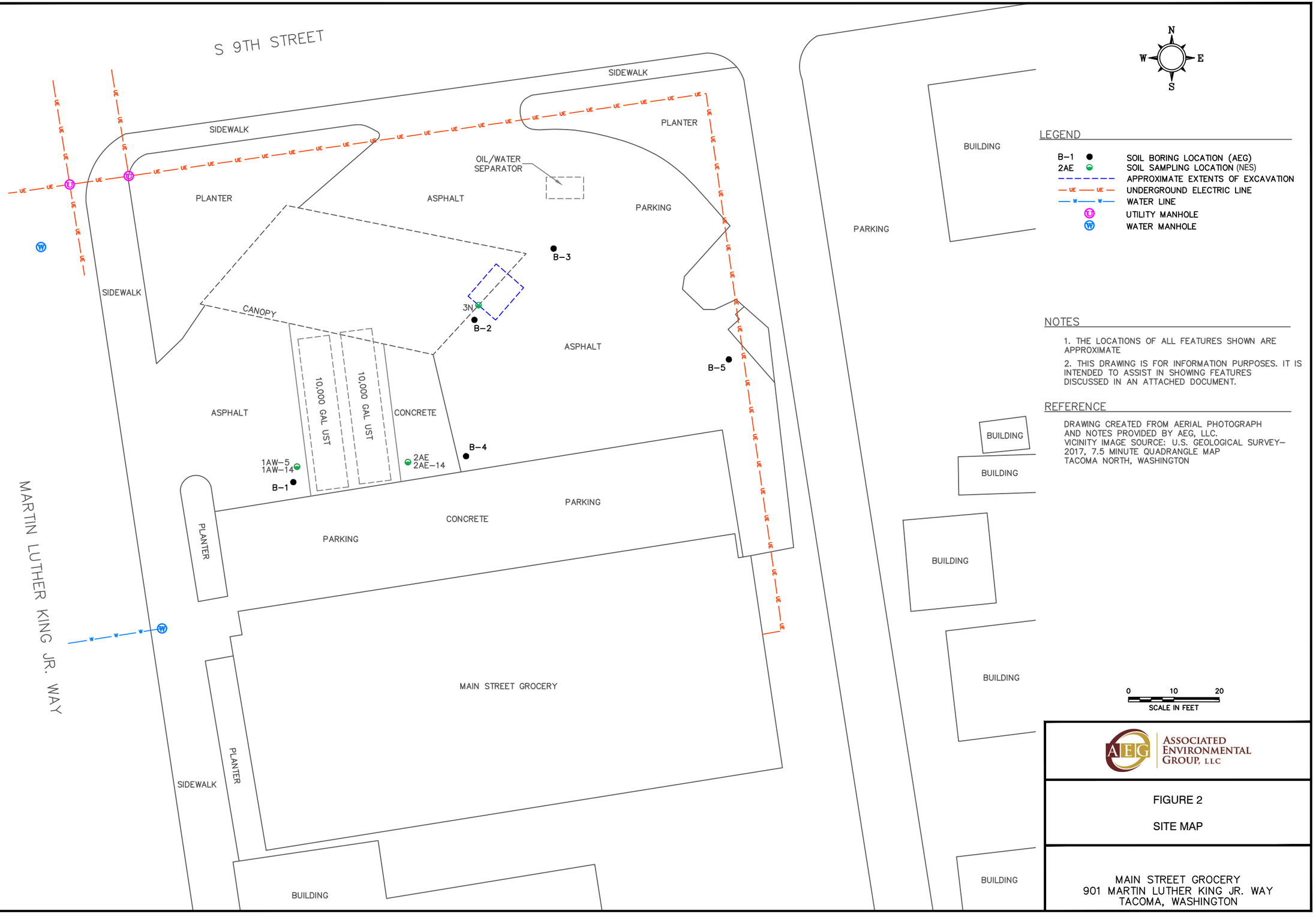
ASSOCIATED ENVIRONMENTAL GROUP, LLC

FIGURE 1

VICINITY MAP

MAIN STREET GROCERY
901 MARTIN LUTHER KING JR. WAY
TACOMA, WASHINGTON

FILENAME	DRAWN BY	CHECKED BY	APPROVED BY	PROJECT NUMBER
16-144_1702_1.DWG	ICD 7/14/2017	NP 7/14/2017	NP 7/14/2017	16-144



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.

REFERENCE

DRAWING CREATED FROM AERIAL PHOTOGRAPH AND NOTES PROVIDED BY AEG, LLC.
VICINITY IMAGE SOURCE: U.S. GEOLOGICAL SURVEY–2017, 7.5 MINUTE QUADRANGLE MAP
TACOMA NORTH, WASHINGTON

ASSOCIATED ENVIRONMENTAL GROUP, LLC

FIGURE 2

SITE MAP

MAIN STREET GROCERY
901 MARTIN LUTHER KING JR. WAY
TACOMA, WASHINGTON

TABLES

605 11th Ave. SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

Table 1 - Summary of Soil Analytical Results
Main Street Grocery
Tacoma, Washington

Sample Number	Depth Collected (feet)	Date Collected	Total Petroleum Hydrocarbons			Volatile Organic Compounds							Total Naphthalenes	Total cPAHs	Total Lead
			Gasoline	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	EDC	EDB			
B1-5	5.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B1-15	15.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B2-10	10.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	<0.02	<0.02	<5.0
B2-20	20.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B3-10	10.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B3-15	15.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	<0.02	<0.02	<5.0
B4-10	10.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B4-20	20.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
B5-10	10.0	7/6/2017	<10	<50	**270**	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	<0.02	<0.02	**34**
B5-15	15.0	7/6/2017	<10	<50	<100	<0.02	<0.05	<0.05	<0.15	<0.05	<0.05	<0.005	--	--	--
PQL			10	50	100	0.02	0.05	0.05	0.15	0.05	0.05	0.005	0.02	0.02	5.0
MTCA Method A Cleanup Levels			100	2,000	2,000	0.03	7	6	9	20	11*	0.005	5	0.1	250

Notes:
All values reported in milligrams per kilogram (mg/kg)
-- = Not analyzed for constituent
< = Not detected at the listed laboratory detection limits
PQL = Practical Quantification Limit (laboratory detection limit)
Red Bold indicates the detected concentration exceeds Ecology MTCA Method A cleanup level
Bold indicates the detected concentration is below Ecology MTCA Method A cleanup levels
* No MTCA Method A cleanup level established, Method B cleanup level used

MTBE = Methyl-t-butyl ether
EDC = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
cPAHs = Carcinogenic polycyclic aromatic hydrocarbons

APPENDIX A

Site Photographs

605 11th Ave. SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

ASSOCIATED ENVIRONMENTAL GROUP, LLC

SITE PHOTOGRAPHIC RECORD

Project No.: 16-144 **Project Name: Main Street Grocery**

				
Photo #1:	Photo looking west at GPR survey being conducted.		Photo #2:	Boring B-1 soil cores.
				
Photo #3:	Photo looking north at location of boring B-2.		Photo #4:	Boring B-2 soil cores.
				
Photo #5:	Photo looking north at location of boring B-3.		Photo #6:	Boring B-3 soil cores.

605 – 11th Avenue SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

ASSOCIATED ENVIRONMENTAL GROUP, LLC

SITE PHOTOGRAPHIC RECORD

Project No.: 16-144 **Project Name: Main Street Grocery**

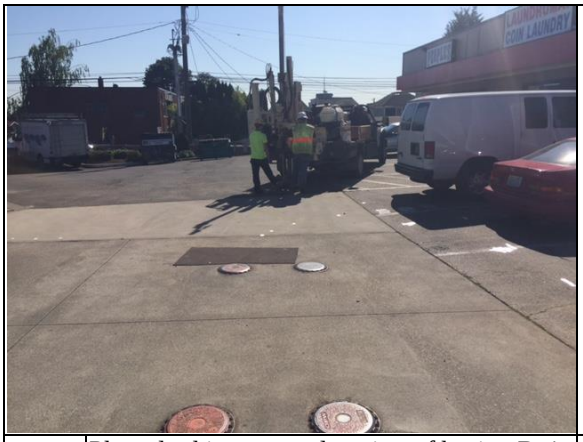


Photo #7:	Photo looking east at location of boring B-4.		Photo #8:	Boring B-4 soil cores.
				
Photo #9:	Photo looking east at location of boring B-5.		Photo #10:	Boring B-5 soil cores.
				
Photo #11:	Photo looking southeast at location of boring B-1.		Photo #12:	Photo looking southeast at utilities located south of underground storage tank pit.

605 – 11th Avenue SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

APPENDIX B

Supporting Documents

Boring Logs

Laboratory Datasheets

605 11th Ave. SE, Suite 201 • Olympia, WA • 98501
Phone: 360-352-9835 • Fax: 360-352-8164 • Email: admin@aegwa.com

ASSOCIATED ENVIRONMENTAL GROUP, LLC

LOG OF BOREHOLE

PROJECT:	***Main Street Grocery***	**JOB #** ***16-144***	**BORING #** ***B-1*** **PAGE 1 OF 1**
Location:	*901 Martin Luther King Jr. Way, Tacoma, Washington*	**Approximate Elevation:** 347 feet msl	
Subcontractor / Driller: *ESN / Brian*		**Equipment / Drilling Method:** *Geoprobe / Direct Push*	
Date:	*July 6, 2017*	**Logged By:**	*Nicolas Pushckor*

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	2 inch asphalt surface underlain by; Brown, moist, medium dense, **SILTY SAND**; fine grained sand	SM					N/A		N/A	
5					B1-5	8:25		999		
	At 7 feet; Trace gravel, coarse grained gravel									
10					B1-10	8:28		218		
	At 13.5 feet; Brown, moist, medium dense, **SAND**; coarse grained sand	SP								
15					B1-15	8:32		140		
	At 15 feet; Brown, moist, medium dense, **SILTY SAND**; fine grained sand	SM								
	At 17.5 feet; Brown, moist, medium dense, **SAND**; coarse grained sand	SP								
20					B1-20	8:38		158		
	Total Depth = 20 feet Groundwater not encountered									
25										

Explanation

- Sample Advance / Recovery
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

ASSOCIATED ENVIRONMENTAL GROUP, LLC

LOG OF BOREHOLE

PROJECT:	***Main Street Grocery***	**JOB #** ***16-144***	**BORING #** ***B-2*** **PAGE 1 OF 1**
Location:	*901 Martin Luther King Jr. Way, Tacoma, Washington*	**Approximate Elevation:** 347 feet msl	
Subcontractor / Driller: *ESN / Brian*		**Equipment / Drilling Method:** *Geoprobe / Direct Push*	
Date:	*July 6, 2017*	**Logged By:**	*Nicolas Pushckor*

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	2 inch asphalt surface underlain by; Brown, moist, medium dense, **SILTY SAND**, fine grained sand	SM					N/A		None	
5					B2-5	9:00		460		
	At 6 feet; Brown, moist, medium dense, **SAND**; fine grained sand	SP								
10	At 9 feet; Trace gravel, coarse grained gravel				B2-10	9:00		286		
15					B2-15	9:03		209		
20					B2-20	9:10		178		
	Total Depth = 20 feet Groundwater not encountered									
25										

Explanation

- Sample Advance / Recovery
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

ASSOCIATED ENVIRONMENTAL GROUP, LLC

LOG OF BOREHOLE

PROJECT:	***Main Street Grocery***	**JOB #** ***16-144***	**BORING #** ***B-3*** **PAGE 1 OF 1**
Location:	*901 Martin Luther King Jr. Way, Tacoma, Washington*	**Approximate Elevation:** 347 feet msl	
Subcontractor / Driller: *ESN / Brian*		**Equipment / Drilling Method:** *Geoprobe / Direct Push*	
Date:	*July 6, 2017*	**Logged By:**	*Nicolas Pushckor*

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	2 inch asphalt surface underlain by; Brown, moist, medium dense, **SILTY SAND**; fine grained sand	SM	1				N/A		None	
			2							
			3							
			4							
5			5		B3-5	9:26		230		
			6							
	At 6 feet; Brown, moist, medium dense, **SAND**; trace gravel, coarse grained sand, coarse grained gravel	SP	7							
			8							
			9							
10			10		B3-10	9:28		166		
			11							
			12							
			13							
			14							
15			15		B3-15	9:33		123		
	Refusal at 15 feet Groundwater not encountered									
20										
25										

Explanation

- Sample Advance / Recovery
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

ASSOCIATED ENVIRONMENTAL GROUP, LLC

LOG OF BOREHOLE

PROJECT:	***Main Street Grocery***	**JOB #** ***16-144***	**BORING #** ***B-4*** **PAGE 1 OF 1**
Location:	*901 Martin Luther King Jr. Way, Tacoma, Washington*	**Approximate Elevation:** 347 feet msl	
Subcontractor / Driller: *ESN / Brian*		**Equipment / Drilling Method:** *Geoprobe / Direct Push*	
Date:	*July 6, 2017*	**Logged By:**	*Nicolas Pushckor*

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	2 inch asphalt surface underlain by; Brown, moist, medium dense, **SILTY SAND**; fine grained sand	SM					N/A		None	
5					B4-5	9:44		160		
	At 7 feet; Brown, moist, medium dense, **SAND**; trace gravel, coarse grained sand, coarse grained gravel	SP								
10					B4-10	9:46		230		
15					B4-15	9:50		177		
20					B4-20	10:00		132		
	Total Depth = 20 feet Groundwater not encountered									
25										

Explanation

- Sample Advance / Recovery
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

ASSOCIATED ENVIRONMENTAL GROUP, LLC

LOG OF BOREHOLE

PROJECT:	***Main Street Grocery***	**JOB #** ***16-144***	**BORING #** ***B-5*** **PAGE 1 OF 1**
Location:	*901 Martin Luther King Jr. Way, Tacoma, Washington*	**Approximate Elevation:** 347 feet msl	
Subcontractor / Driller: *ESN / Brian*		**Equipment / Drilling Method:** *Geoprobe / Direct Push*	
Date:	*July 6, 2017*	**Logged By:**	*Nicolas Pushckor*

Boring Depth (feet)	Soil Description	Unified Soil Symbol	Sample Depth	Sample Recovery	Sample Number	Time	Blows/Foot	PID Reading	Sheen	Observations
	2 inch asphalt surface underlain by; Brown, moist, medium dense, **SILTY SAND**; fine grained sand	SM	1–5				N/A		None	
5					B5-5	10:07		248		
	At 8 feet; Brown, moist, medium dense, **SAND**; trace gravel, coarse grained sand, coarse grained gravel	SP	6–10							
10					B5-10	10:08		158		
			11–15							
15					B5-15	10:10		230		
			16–20							
20					B5-20	10:18		320		
	Total Depth = 20 feet Groundwater not encountered									
25										

Explanation

- Sample Advance / Recovery
- No Recovery
- Contact located approximately
- ATD — Groundwater level at time of drilling or date of measurement

ESN NORTHWEST
Environmental Services Network

July 19, 2017

Michael Chun
Associated Environmental Group, Inc.
605 11th Ave. SE, Suite 201
Olympia, WA 98501

Dear Mr. Chun:

Please find enclosed the analytical data report for the Main Street Grocery in Tacoma, Washington. Probe services were conducted on July 6, 2017. Soil samples were analyzed for Diesel and Oil by NWTPH-Dx/Dx Extended, Gasoline by NWTPH-Gx, VOC's by Method 8260, PAH's by Method 8270, and Pb by Method 6020 on July 7 - 11, 2017.

The results of the analyses are summarized in the attached table. All soil values are reported on a dry weight basis. Applicable detection limits and QA/QC data are included. An invoice for this work is also enclosed.

ESN Northwest appreciates the opportunity to have provided analytical services to Associated Environmental Group, Inc. for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Michael A Korosec

Michael A. Korosec
President

1210 Eastside Street SE, Suite 200 ■ Olympia, Washington 98501 ■ 360.459.4670 ■ FAX 360.459.3432
Web Site: *www.esnnw.com* E-Mail: *info@esnnw.com*

ESN NORTHWEST CHEMISTRY LABORATORY

Associated Environmental Group
PROJECT MAIN STREET MARKET
PROJECT #16-144
Tacoma, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Diesel Range Organics & Lube Oil Range Organics in Soil by Method NWTPH-Dx Extended

Sample Number	Date Prepared	Date Analyzed	Surrogate Recovery (%)	Diesel Range Organics (mg/kg)	Lube Oil Range Organics (mg/kg)
Method Blank	7/7/2017	7/7/2017	115	nd	nd
LCS	7/7/2017	7/7/2017	115	118%	---
B1-5	7/7/2017	7/8/2017	94	nd	nd
B1-15	7/7/2017	7/8/2017	97	nd	nd
B2-10	7/7/2017	7/8/2017	103	nd	nd
B2-20	7/7/2017	7/8/2017	103	nd	nd
B3-10	7/7/2017	7/8/2017	98	nd	nd
B3-15	7/7/2017	7/8/2017	100	nd	nd
B4-10	7/7/2017	7/8/2017	91	nd	nd
B4-20	7/7/2017	7/8/2017	89	nd	nd
B5-10	7/7/2017	7/8/2017	95	nd	**270**
B5-15	7/7/2017	7/8/2017	98	nd	nd
B5-15 Duplicate	7/7/2017	7/8/2017	110	nd	nd
Reporting Limits				50	100

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE : 50% TO 150%

ESN NORTHWEST CHEMISTRY LABORATORY

Associated Environmental Group
PROJECT MAIN STREET MARKET
PROJECT #16-144
Tacoma, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	MB	LCS	LCSD	B1-5	B1-15	B2-10	B2-20	B3-10
Date extracted		07/07/17	07/07/17	07/07/17	07/06/17	07/06/17	07/06/17	07/06/17	07/06/17
Date analyzed	(mg/Kg)	07/07/17	07/07/17	07/07/17	07/07/17	07/07/17	07/07/17	07/07/17	07/07/17
% Moisture					11%	7%	10%	5%	4%
Gasoline Range Organics	10.0	nd	88%	--	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	77%	81%	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	84%	89%	nd	nd	nd	nd	nd
Benzene	0.02	nd	81%	83%	nd	nd	nd	nd	nd
Toluene	0.05	nd	80%	85%	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	79%	89%	nd	nd	nd	nd	nd
Xylenes	0.15	nd	89%	82%	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.005	nd	71%	78%	nd	nd	nd	nd	nd
Surrogate recoveries									
Dibromofluoromethane		101%	91%	89%	104%	101%	104%	101%	101%
Toluene-d8		99%	94%	92%	101%	104%	102%	103%	102%
4-Bromofluorobenzene		109%	96%	97%	105%	104%	106%	108%	110%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Associated Environmental Group
PROJECT MAIN STREET MARKET
PROJECT #16-144
Tacoma, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Volatile Organic Compounds in Soil by Method 8260C/5035

	RL	B3-15	B4-10	B4-20	B5-10	B5-15	B5-15 Duplicate
Date extracted		07/06/17	07/06/17	07/06/17	07/06/17	07/06/17	07/06/17
Date analyzed	(mg/Kg)	07/10/17	07/10/17	07/10/17	07/10/17	07/10/17	07/10/17
% Moisture		4%	8%	14%	10%	7%	7%
Gasoline Range Organics	10.0	nd	nd	nd	nd	nd	nd
Methyl-t-butyl ether (MTBE)	0.05	nd	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	0.05	nd	nd	nd	nd	nd	nd
Benzene	0.02	nd	nd	nd	nd	nd	nd
Toluene	0.05	nd	nd	nd	nd	nd	nd
Ethylbenzene	0.05	nd	nd	nd	nd	nd	nd
Xylenes	0.15	nd	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)	0.005	nd	nd	nd	nd	nd	nd
Surrogate recoveries							
Dibromofluoromethane		104%	101%	100%	96%	100%	102%
Toluene-d8		97%	98%	98%	99%	98%	99%
4-Bromofluorobenzene		107%	107%	104%	103%	107%	104%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Associated Environmental Group
PROJECT MAIN STREET MARKET
PROJECT #16-144
Tacoma, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Polynuclear Aromatic Hydrocarbons in Soil by Method 8270

Analytical Results

		MTH BLK	LCS	B2-10	B3-15	B5-10
Date extracted	Reporting	07/11/17	07/11/17	07/11/17	07/11/17	07/11/17
Date analyzed	Limits	07/11/17	07/11/17	07/11/17	07/11/17	07/11/17
Moisture, %	(mg/kg)			10%	4%	10%
Naphthalene	0.02	nd	98%	nd	nd	nd
2-Methylnaphthalene	0.02	nd	96%	nd	nd	nd
1-Methylnaphthalene	0.02	nd	92%	nd	nd	nd
Acenaphthylene	0.02	nd	88%	nd	nd	nd
Acenaphthene	0.02	nd	91%	nd	nd	nd
Fluorene	0.02	nd	91%	nd	nd	nd
Phenanthrene	0.02	nd	89%	nd	nd	nd
Anthracene	0.02	nd	95%	nd	nd	nd
Fluoranthene	0.02	nd	87%	nd	nd	nd
Pyrene	0.02	nd	85%	nd	nd	nd
Benzo(a)anthracene*	0.02	nd	75%	nd	nd	nd
Chrysene*	0.02	nd	101%	nd	nd	nd
Benzo(b)fluoranthene*	0.02	nd	71%	nd	nd	nd
Benzo(k)fluoranthene*	0.02	nd	67%	nd	nd	nd
Benzo(a)pyrene*	0.02	nd	68%	nd	nd	nd
Indeno(1,2,3-cd)pyrene*	0.02	nd	77%	nd	nd	nd
Dibenzo(a,h)anthracene*	0.02	nd	87%	nd	nd	nd
Benzo(ghi)perylene	0.02	nd	78%	nd	nd	nd
Total Carcinogens				nd	nd	nd
Surrogate recoveries:						
2-Fluorobiphenyl		105%	85%	96%	85%	80%
p-Terphenyl-d14		106%	81%	93%	85%	83%

Data Qualifiers and Analytical Comments

* - Carcinogenic Analyte
nd - not detected at listed reporting limits
ns - not spiked
Results reported on dry-weight basis
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 35%

ESN NORTHWEST CHEMISTRY LABORATORY

Associated Environmental Group
PROJECT MAIN STREET MARKET
PROJECT #16-144
Tacoma, Washington

ESN Northwest
1210 Eastside Street SE Suite 200
Olympia, WA 98501
(360) 459-4670 (360) 459-3432 Fax
lab@esnnw.com

Analysis of Total Lead in Soil by Method 6020A/3050B

Sample Number	Date Prepared	Date Analyzed	Lead (Pb) (mg/kg)
Method Blank	7/7/2017	7/10/2017	nd
B2-10	7/7/2017	7/10/2017	nd
B3-15	7/7/2017	7/10/2017	nd
B5-10	7/7/2017	7/10/2017	**34**
Reporting Limit			5.0

"nd" Indicates not detected at listed detection limits.

QA/QC Data - Analysis of Total Metals in Soil by Method 6020A/3050B

Sample Number: B5-10

	Matrix Spike			Matrix Spike Duplicate			RPD
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)	(%)
Lead (Pb)	85.5	70.1	82.0	92.2	108	117	35M

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 75%-125%

	Laboratory Control Sample		
	Spiked Conc. (mg/kg)	Measured Conc. (mg/kg)	Spike Recovery (%)
Lead (Pb)	100	89.2	89.2

ACCEPTABLE RECOVERY LIMITS FOR LABORATORY CONTROL SAMPLES: 80%-120%
ACCEPTABLE RPD IS 20%
M - MS/MSD RPD outside limits. Both recoveries were within the required limits, so no further action was take

ESN NORTHWEST, INC. | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: AEA

ADDRESS: 605 11th Ave SE, Suite 201, Olympia, WA

PHONE: 360 352 9835 FAX: 360 352 8164

CLIENT PROJECT #: 16-144 PROJECT MANAGER: Mike Chun

DATE: 7/6/17 PAGE 1 OF 2

PROJECT NAME: Main Street Grocery

LOCATION: 901 Martin Luther King Jr, Tacoma, WA

COLLECTOR: Nicolas Pushkov DATE OF COLLECTION: 07/06/17

Sample Number	Depth	Time	Sample Type	Container Type	TPH - HCID	TPH - Diesel & Oil	TPH - Gasoline	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos - PLM	GRO Suite	DRO Suite	WO Suite	MTBE/EDC	NOTES	Total Number of Containers	Laboratory Note Number
1. B1-5	5	825	Soil	VOA/JAR	X	X	X														X				
2. B1-10	10	828																							
3. B1-15	15	832			X	X	X														X				
4. B1-20	20	838																							
5. B2-5	5	900																							
6. B2-10	10	900			X	X	X				X					X					X				
7. B2-15	15	903																							
8. B2-20	20	910			X	X	X														X				
9. B3-5	5	926																							
10. B3-10	10	929			X	X	X														X				
11. B3-15	15	933			X	X	X				X					X					X				
12. B4-5	5	944																							
13. B4-10	10	946			X	X	X														X				
14. B4-15	15	952																							
15. B4-20	20	1000			X	X	X														X				
16. B5-5	5	1007			X	X	X														X		Hold		
17. B5-10	10	1008			X	X	X				X					X					X				
18. B5-15	15	1010			X	X	X														X				

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
MM PSM	7/6/17 1045	BRIAN BOWES	7/6/17 10:45
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

1210 Eastside Street SE, Suite 200
Olympia, Washington 98501
Phone: 360-459-4670
Fax: 360-459-3432
Website: www.esnnw.com
E-Mail: info@esnnw.com

ESN NORTHWEST, INC. | Environmental Services Network

CHAIN-OF-CUSTODY RECORD

CLIENT: AEG

ADDRESS: 605 11th Ave SE, Suite 201, Olympia, WA

PHONE: 360 352 9935 FAX: 360 352 8164

CLIENT PROJECT #: 16-144 PROJECT MANAGER: Mike Chun

DATE: 7/6/17 PAGE 2 OF 2

PROJECT NAME: Main Street Grocery

LOCATION: 901 Martin Luther King Jr. Tacoma, WA

COLLECTOR: Nicolas Rushcor DATE OF COLLECTION: 07/06/17

Sample Number	Depth	Time	Sample Type	Container Type	TPH - HCID	TPH - Diesel & Oil	TPH - Gasoline	BTEX	VOC 8260CL	VOC 8260	SemiVol 8270	PAH's 8270	PCB's 8082	CL Pesticides 8081	RCRA 8 Metals	MTCA 5 Metals	Pb	Asbestos - PLM	GRO Suite	DRO Suite	WO Suite			NOTES	Total Number of Containers	Laboratory Note Number
1. B5-20	20	1018	Soil	VOA/JAR																						
2.																										
3.																										
4.																										
5.																										
6.																										
7.																										
8.																										
9.																										
10.																										
11.																										
12.																										
13.																										
14.																										
15.																										
16.																										
17.																										
18.																										

RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME
MM PM	7/6/17 1045	BRIAN BOWES	7/6/17 1045
RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED BY (Signature)	DATE/TIME

SAMPLE RECEIPT	
TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS Y/N/NA	
SEALS INTACT? Y/N/NA	
RECEIVED GOOD COND./COLD	
NOTES:	

LABORATORY NOTES:

Turn Around Time: 24 HR 48 HR (5 DAY)

1210 Eastside Street SE, Suite 200
Olympia, Washington 98501
Phone: 360-459-4670
Fax: 360-459-3432
Website: www.esnnw.com
E-Mail: info@esnnw.com

Please print, sign and return to the Department of Ecology

RESOURCE PROTECTION WELL REPORT

CURRENT Notice of Intent No. SE01846

(SUBMIT ONE WELL REPORT PER WELL INSTALLED)

Construction/Decommission *("x" in box)*

☒ Construction
☒ Decommission 272712

ORIGINAL INSTALLATION Notice of Intent Number:

Type of Well *("x in box)*

☐ Resource Protection
☒ Geotech Soil Boring

Property Owner Krazan and Assoc owner's rep

Site Address 1023 Martin Luther King Jr Way

Consulting Firm

City Tacoma County Pierce

Unique Ecology Well IDTag No.

Location SW1/4-1/4 NE1/4 Sec 5 Twn 20 R 3

EWM ☒ or WWM ☐

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Lat/Long (s, t, r still REQUIRED) Lat Deg ____ Min ____ Sec ____

Long Deg ____ Min ____ Sec ____

☒ Driller ☐ Engineer ☐ Trainee

Name (Print Last, First Name) Madrigal, Arturo

Driller/Engineer /Trainee Signature Arturo Madrigal Arturo Madrigal

Driller or Trainee License No. 2514

Tax Parcel No. 2010210003

Cased or Uncased Diameter 8" Static Level N/A

Work/Decommission Start Date 9-17-07

Work/Decommission Completed Date 9-17-07

If trainee, licensed driller's Signature and License Number:

Construction Design	Well Data	Formation Description
Drilling 1 Boring to 40' HSA I.D 8"	Back Filled Bore Hole With Bentonite chips from 40' to 1' Asphalt patching 1' to 0' 10 lb.	0' to 4" Asphalt 4" to 40' Gradle Caulk. Silty Sand

RECEIVED
SEP 24 2007
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT

SCALE: 1"= 1 PAGE 1 OF 1

ECY 050-12 (Rev. 7/06)

Ecology is an Equal Opportunity Employer