

REMEDIAL ACTION COMPLETION REPORT

FORMER WENATCHEE PUBLIC WORKS YARD SITE
25 NORTH WORTHEN STREET
WENATCHEE, WASHINGTON



Prepared for
CITY OF WENATCHEE
March 4, 2016
Project No. 0380.02.04

Prepared by
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WENATCHEE, WASHINGTON

*The material and data in this report were prepared
under the supervision and direction of the undersigned.*

MAUL FOSTER & ALONGI, INC.

03-04-2016

*Justin L. Clary, PE
Principal Engineer*

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ILLUSTRATIONS

FOLLOWING REPORT:

FIGURES

- 1 SITE LOCATION
- 2 PRE-CONSTRUCTION SITE FEATURES
- 3 ANTICIPATED REDEVELOPMENT LAYOUT
- 4 UTILITY DEMOLITION AND REFUSE EXCAVATION DOCUMENTATION
- 5 CAP MATERIAL CONSTRUCTION DELINEATION
- 6 SUBGRADE VS FINAL GRADE

ACRONYMS AND ABBREVIATIONS

the City	City of Wenatchee, Washington
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CUL	cleanup level
Ecology	Washington State Department of Ecology
Halme	Halme Construction, Inc.
MFA	Maul Foster & Alongi, Inc.
PCB	polychlorinated biphenyl
the Property	25 North Worthen Street, Wenatchee, Washington
the Site	Ecology Facility Site No. 98691464
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound

1 INTRODUCTION

On behalf of the City of Wenatchee, Washington (the City), Maul Foster & Alongi, Inc. (MFA) prepared this report describing the remedial action completed at the former Wenatchee Public Works Yard property located at 25 North Worthen Street, Wenatchee, Washington (the Property) (see Figure 1). The Property comprises two distinct areas, one consisting of a portion of the Property that is underlain with a closed municipal landfill, and the other consisting of the nonlandfill portion (Washington State Department of Ecology [Ecology] facility site ID 98691464) (the Site). The closed Worthen Street municipal landfill is a separate Ecology site (facility site ID 343), which extends north, south, and east of the Property. Figure 2 shows the location of the landfill boundary on the Property. This Remedial Action Completion Report documents completed remedial action activities specific to the Site on the Property.

During the winter of 2015-2016, Halme Construction, Inc. (Halme) of Spokane, Washington, performed utility demolition, soil grading, material hauling, and associated tasks supporting construction of a protective cap over potentially contaminated soil at the Site. The remedial action was completed by the City under Ecology's Voluntary Cleanup Program (Project No. CE0397) and in accordance with the recommended remedial action alternative identified in the Focused Site Assessment Report (MFA, 2014), which was approved by Ecology via its Opinion on Proposed Cleanup dated April 24, 2014.

2 BACKGROUND

2.1 Site Location

The Property consists of two parcels (Chelan County parcel numbers 222003821010 and 222003821015) with a combined area of approximately 3 acres, located in section 3, township 22 north, range 20 east of the Willamette Meridian. The Property is bordered by the municipal wastewater treatment plant to the northwest, North Worthen Street to the southwest, Palouse Street and the Pybus Public Market to the southeast, and Riverfront Park and the Columbia River to the northeast.

2.2 Site History

The former Public Works Yard is partially underlain by a closed municipal landfill (see Figure 2), which was operated on the bank of the Columbia River from approximately 1950 to 1970. Based on exploratory site excavations, geophysical investigation, and anecdotal reports, the landfill underlies the northern and eastern portions of the Property and extends under Riverfront Park. The western side of the Property is not underlain by the landfill.

According to historical sources and personal interviews, the Property was undeveloped until sometime between the 1930s and the 1950s, when landfill operations began. Landfilling, including municipal refuse and incinerated material, took place through approximately the early 1970s. In the 1950s, the City constructed a public works facility at the Property that was used for general equipment maintenance and repair. The public works facility also maintained fueling operations with underground storage tanks (USTs) that were decommissioned and removed in 1994. A heating oil UST used to heat former structures at the Property has also been removed. Public works operations at the Property ceased in approximately 2009, and all of the building structures were demolished.

2.3 Environmental Conditions

A number of environmental studies have been conducted at the Site, based on prior uses and the neighboring municipal landfill. The Focused Site Assessment Report (MFA, 2014) compiled the findings of all prior environmental investigations to define the nature and extent of contamination at the Site; developed a conceptual site model that identifies potential exposure pathways by which humans and ecological receptors could be exposed to site-related contaminants; identified and evaluated remedial action alternatives for addressing the contamination; and recommended a preferred remedial action.

2.3.1 Nature and Extent of Contamination

The Focused Site Assessment Report (MFA, 2014) identified contamination in soil, groundwater, and soil vapor at the Property that posed an unacceptable risk to human and/or ecological receptors.

Soil

Contaminants found in soil at the Site that exceeded associated cleanup levels (CULs) included arsenic, lead, benzene, and carcinogenic polycyclic aromatic hydrocarbons (cPAHs). Arsenic and lead CUL exceedances were found in the top 6 feet of soil; however, limited sampling locations prevented full horizontal delineation of contamination, which resulted in designation of the entire Property surface soils as potentially contaminated. Benzene and cPAH CUL exceedances were found between 7 and 12 feet below ground surface and were limited to the vicinity of the former fuel USTs.

Groundwater

Elevated concentrations of metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) were identified in groundwater throughout the Property, and diesel and lube oil were identified in groundwater beneath the portion of the Property underlain by the landfill. Based on investigation data indicating that groundwater flows from beneath the landfill across the Site (northeast to southwest), and on investigation results, it is believed that impacts in groundwater originate from the landfill and not from soil impacts associated with historical public works operations on the Site.

Soil Vapor

Elevated soil gas readings of combustible gas and organic vapors were identified in soil gas collected at the Property from locations overlying the landfill; lower concentrations were also identified in samples collected from other portions of the Property. The impacts in soil gas were attributed to migration of contaminants originating from the landfill and not associated with historical public works operations on the Site.

2.3.2 Recommended Remedial Action

Following evaluation of each remedial action alternative in relation to protectiveness, permanence, effectiveness over the long term, management of short-term risks, technical and administrative implementability, consideration of public concerns, and cost, the recommended remedial action included:

- Targeted Soil Removal. Targeted excavation of soil and/or landfill refuse, with off-site disposal at an appropriately permitted disposal facility
- Soil Consolidation. Consolidation of existing soils on site, as final design grade allows
- Capping. Construction of a protective cap consisting of demarcation fabric and a minimum 1-foot thick layer of clean soil over the entire Property
- Institutional Controls. Development of a site management plan that protects the integrity of the cap; and placement of environmental covenants on the Property that prohibit the use of groundwater from beneath the Site, that require the construction of a vapor intrusion barrier beneath any future buildings, and that protect the cap integrity in accordance with the site management plan.

2.4 Anticipated Future Site Use

The City has entered into a purchase and sale agreement for the Property with a private party. The private party plans to construct a hotel and associated appurtenances (parking lot, sidewalks, and landscaping) following the City's completion of a remedial action that enables Ecology to issue a No Further Action determination for the Site. Figure 3 presents the most recent layout of the future hotel relative to the Property. The remedial action described in the next section was designed to integrate, to the maximum extent practical, the components of the remedial action with the planned hotel design.

3 REMEDIAL ACTION

From December 1 through 22, 2015, and January 25 through 28, 2016 (construction was temporarily suspended because of weather-related adverse site conditions), Halme conducted remedial action activities, with field oversight performed by an MFA engineer. Appendix A contains photographs

taken throughout the remedial action. The following subsections describe all completed work associated with the remedial action at the Site. All work was completed under Ecology-issued Construction Stormwater General Permit No. WAR301798.

3.1 Site Preparation and Layout

Before the remedial action began, site security fencing and silt fencing were installed along the perimeter of the Property, stormwater catch basins were protected, and a site entrance was constructed in accordance with the construction plan set and the Stormwater Pollution Prevention Plan (MFA, 2015). The general excavation limits were laid out by Halme and approved by the MFA field engineer. Underground utilities at the Property were identified by a private utility locating company.

3.2 Utility Demolition

Existing water, sanitary sewer, stormwater, power, and natural gas utilities serving former site uses were removed in accordance with the construction plan set. Figure 4 presents completed work associated with utility demolition. Utilities left in place consistent with the plan set included a natural gas line and a stormwater line, both of which are anticipated for continued use when the Property is redeveloped. On December 3, 2015, Cascade Natural Gas personnel capped the natural gas line approximately 25 feet inside the nearest property line.

Demolition activities also included removal of an underground system used during public works operations to remove grass clippings and other vegetation from washwater originating from the mower wash area before discharge to the sanitary sewer.

3.3 Subgrade Preparation

To mitigate breaches of the cap during redevelopment construction, the preexisting grades were recontoured to accommodate the then current grading design for the hotel. Dependent on the existing grade relative to the final design grade, existing asphalt pavement was either removed and transported off site for recycling at Central Washington Asphalt, Inc. in Wenatchee, Washington, rubbleized in place, or left intact to provide additional subsurface structural integrity. Following actions related to existing asphalt pavement, site soils were graded in general accordance with the construction plan set.

After grading and compaction to the design subgrade, the ground surface was inspected by the MFA field engineer and a proof roll conducted with a loaded haul truck or loader to confirm subsurface integrity. In instances where the subgrade failed to meet proof roll inspection requirements, the failing area was repaired by Halme and reinspected. Appendix B provides a map identifying the location of each proof roll and a summary of each proof roll result.

3.4 Waste Disposal

Based on previous investigations of the depth to refuse in portions of the Property underlain by the landfill and the subgrade design elevations, it was anticipated that refuse would be encountered during grading activities in the northern corner of the Property. On December 3, 2015, exploratory test pits were excavated to the design subgrade depth to estimate the volume of refuse that would require excavation and off-site disposal. Consistent with the anticipated landfill (Waste Management's Greater Wenatchee Regional Landfill) characterization requirements, one four-point composite sample was collected and submitted to Onsite Environmental, Inc., of Redmond, Washington, for the following analyses:

- VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260C
- Semivolatile organic compounds and organophosphorus pesticides by USEPA Method 8270D/Selective Ion Monitoring
- PCBs by USEPA Method 8082A
- Organochlorine pesticides by USEPA Method 8081B
- Chlorinated acid herbicides by USEPA Method 8151A
- Resource Conservation and Recovery Act 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by USEPA Method 6010C
- Lead and arsenic extraction by toxicity characteristic leaching procedure by USEPA Method 1311

Based on the analytical results, Waste Management approved disposal at the Greater Wenatchee Regional Landfill in East Wenatchee, Washington, of refuse and associated soil excavated during the remedial action. Documentation associated with Waste Management's approval and the laboratory analytical results of the characterization sample are provided in Appendix C.

Refuse was excavated to the subgrade design elevation and stockpiled on site until refuse excavation was completed and disposal authorization granted. A total of 689 tons of material was transported to and disposed of at the Greater Wenatchee Regional Landfill between December 15 and 22, 2015. The approximate location of refuse excavation is presented on Figure 4. Documentation of material disposal at the landfill is also provided in Appendix C.

3.5 Cap Construction

Following approval of subgrade compaction via proof roll, orange demarcation geotextile fabric (Crown Resources, LLC Style R060OR) (Appendix D) was placed directly on the subgrade in accordance with manufacturer specifications. Imported material a minimum of 1 foot thick was then placed and compacted on the demarcation fabric. Cap material consisted of either crushed surfacing base course (gravel) or topsoil, depending on intended future site use (i.e., gravel was placed over most of the Property, where structures, asphalt pavement or concrete sidewalks are anticipated; topsoil was placed in areas where landscaping will dominate). Figure 5 presents the cap material type

relative to the Property. Prior to acceptance of import material, the contractor provided certifications of clean source for each material type for review and approval (Appendix D). A total of 12,490 tons of crushed surfacing base course and 1,018 cubic yards of topsoil were imported and placed on the Property to construct the protective cap.

Following completion of cap construction activities on a portion of the Property, the field engineer hand-excavated through the cap until the demarcation fabric was contacted to verify that material a minimum of 1 foot thick was placed above the potentially contaminated soil subgrade and demarcation fabric. Figure 6 presents the thicknesses of the protective cap recorded at various locations throughout the Property.

3.6 Piezometer Modification

Three existing, flush-mounted piezometers (PZ1, PZ2, and PZ3) required modifications during the remedial action to accommodate the new surface elevations. Figure 3 presents the location of each piezometer on the Property. In coordination with the hotel developer's design team, Halme modified the wellheads and casings of each piezometer so that the finished wellhead elevation is consistent with the designed final ground surface (following hotel construction).

3.7 As-built Survey

Following completion of cap construction activities, the Property was surveyed by a Washington State-licensed surveyor, Erlandsen, Inc., of East Wenatchee, Washington. Appendix E contains the as-built survey of the Property.

4 FINAL INSPECTION

The final inspection of the excavation work was completed on January 28, 2016. Site security fencing, silt fencing, and the construction entrance were left in place at the request of the hotel developer to accommodate future hotel construction activities. Similarly, the portion of the cap constructed of topsoil was covered with plastic sheeting secured with sandbags to protect against erosion until hotel construction activities begin. No unresolved issues or work items were identified during the final inspection.

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

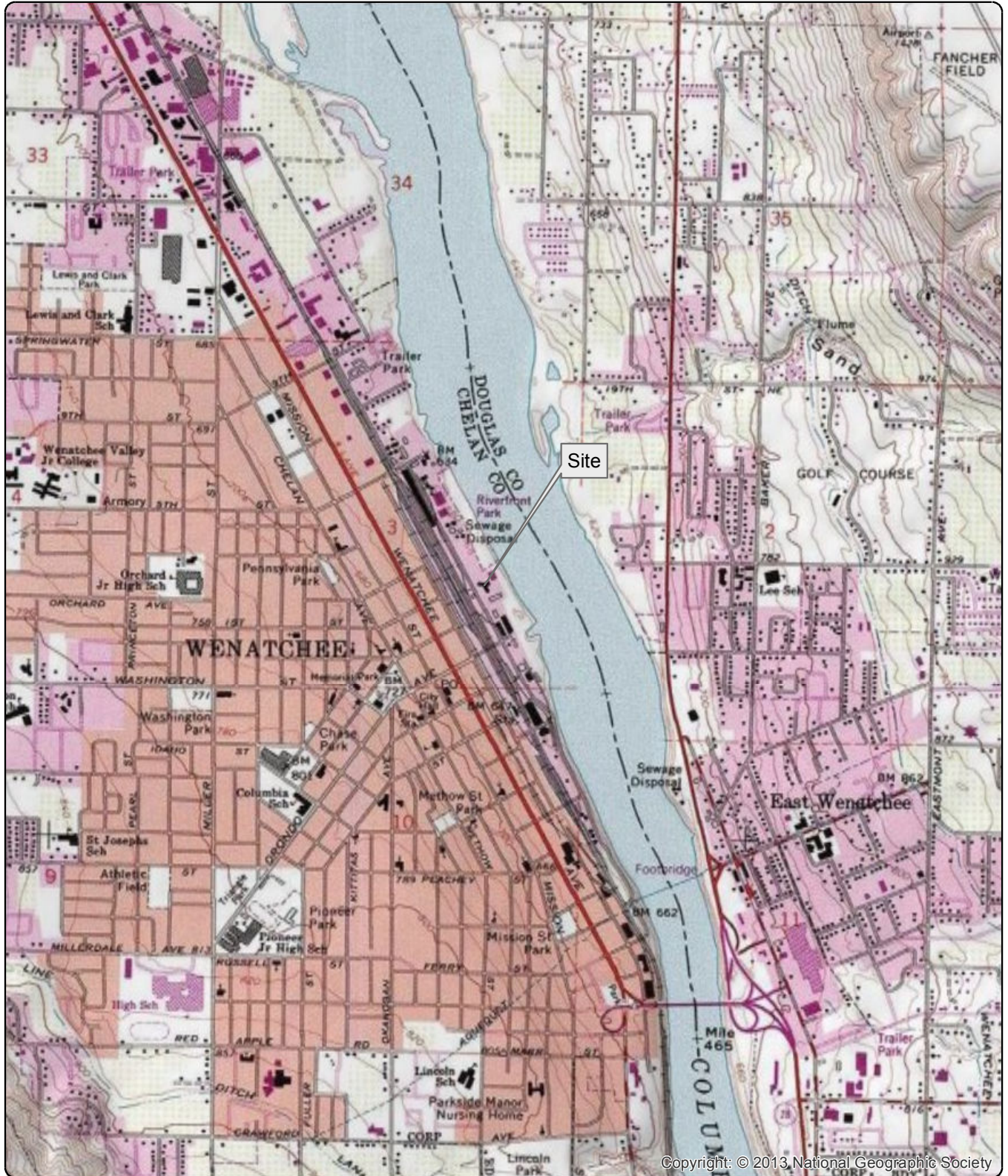
REFERENCES

MFA. 2014. Focused site assessment report, former Wenatchee public works yard property. Prepared for City of Wenatchee. Maul Foster & Alongi, Inc., Bellingham, Washington. March 4.

MFA. 2015. Stormwater pollution prevention plan, Hilton Garden Inn construction. Prepared for City of Wenatchee. Maul Foster & Alongi, Inc., Bellingham, Washington. November 23.

FIGURES





Copyright: © 2013 National Geographic Society

Site Address: 25 N Worthen St, Wenatchee, WA
 Source: US Geological Survey (1990) 7.5-minute
 topographic quadrangle: Wenatchee
 Section 3, Township 22N, Range 20E

Figure 1 Site Location

Former Wenatchee
 Public Works Yard Site
 Wenatchee, Washington



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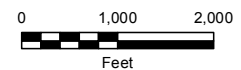




Figure 2
Pre-Construction
Site Features

Former Wenatchee
Public Works Yard Site
Wenatchee, Washington

Legend

-  Piezometer
-  Stormwater Features
-  Shoreline Buffer (200 ft from Columbia River)
-  Landfill Boundary (dashed where approximate)
-  Elevation Contour
-  Measured Landfill Area
-  Oil-Water Separator
-  Parcel Boundary (with Parcel ID Number)
- Stormwater Feature Key:
Square = Catch Basin
Circle = Manhole

0 35 70
Feet



Source: Aerial photograph obtained from Esri
ArcGIS Online.

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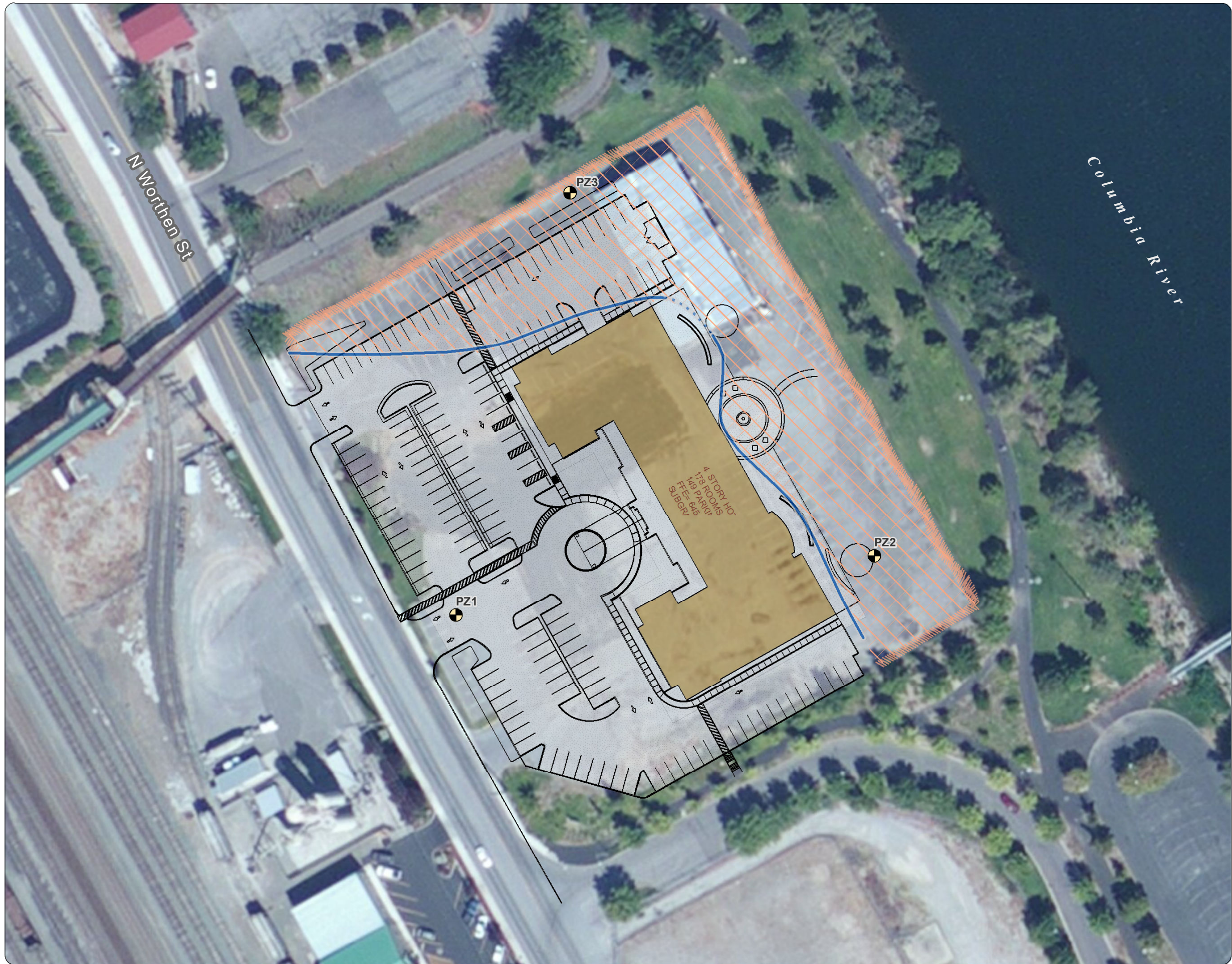


Figure 3
Anticipated Redevelopment
Layout

Former Wenatchee
Public Works Yard Site
Wenatchee, Washington

Legend

-  Piezometer
-  Landfill Boundary
(dashed where approximate)
-  Measured Landfill



Source: Aerial photograph obtained from Esri
ArcGIS Online.

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Print Date: 03/02/2016
Approved By: J. Clary
Produced By: J. Miller
Project: 0380_02.04

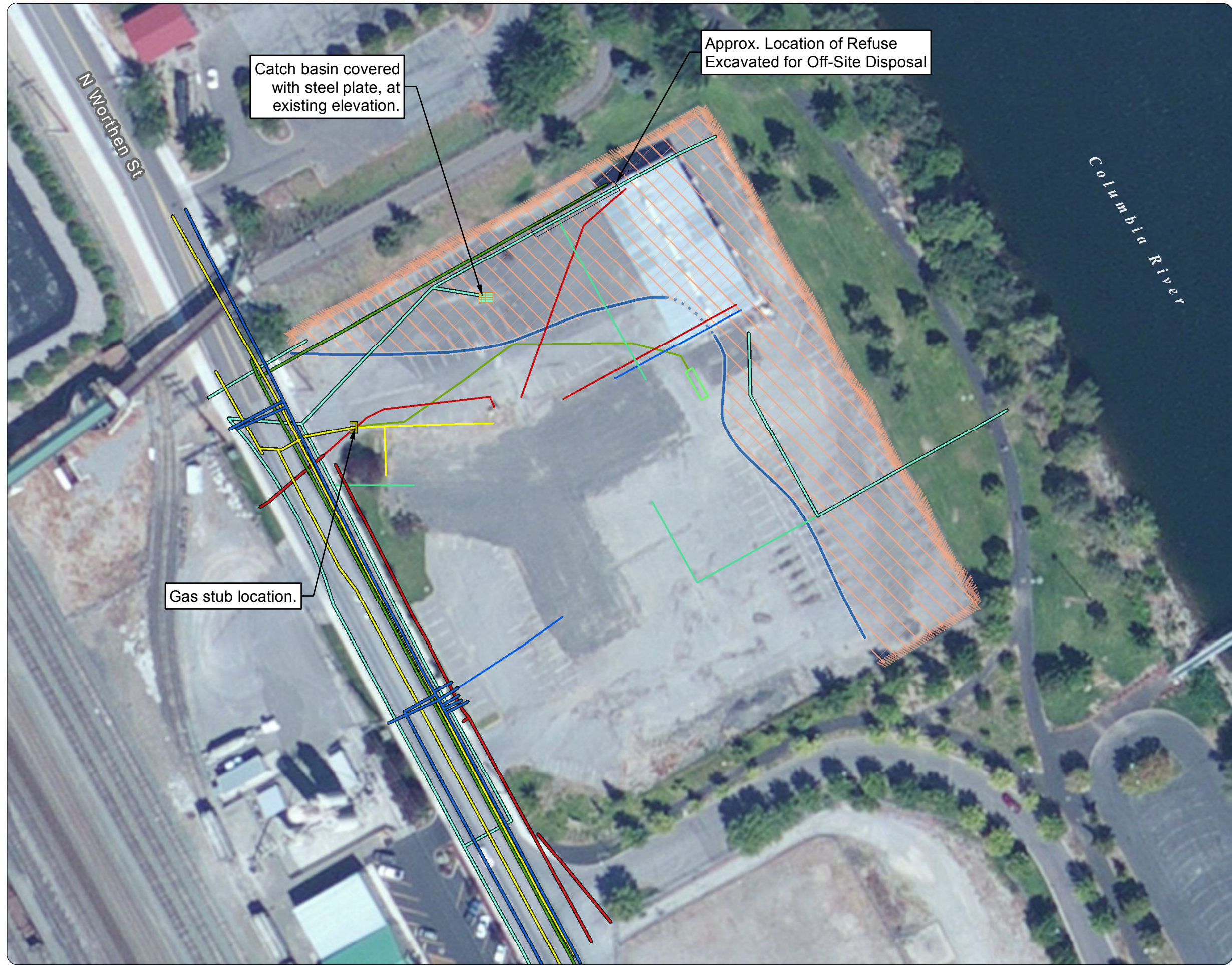


Figure 4
Utility Demolition and Refuse
Excavation Documentation

Former Wenatchee
Public Works Yard Site
Wenatchee, Washington

Legend

Landfill Boundary
(dashed where approximate)

Measured Landfill

Utilities

- Natural Gas Line, Intact
- Power Line Underground, Intact
- Sewer Pipe, Intact
- Stormwater Pipe, Intact
- Water Pipe, Intact

Demolished Utilities

- Natural Gas Pipe
- Power Line, Overhead
- Power, Underground
- Sewer Pipe
- Sewer, Tank
- Storm Pipe
- Water Pipe

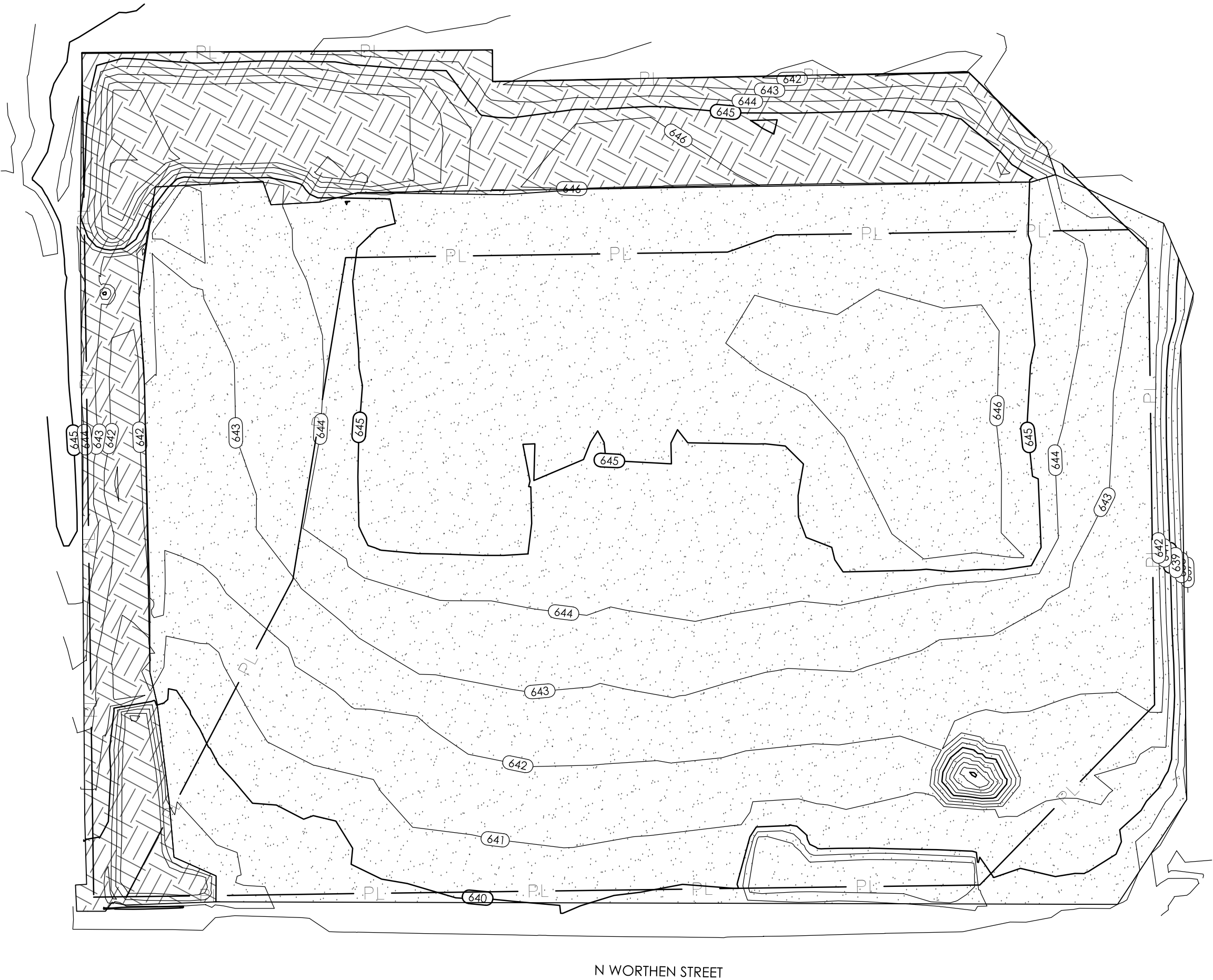
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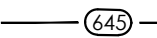
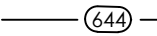
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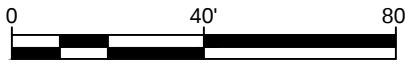
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LEGEND

-  TOPSOIL CAP SURFACING
-  CRUSHED SURFACING BASE COURSE CAP SURFACING
-  PROPERTY BOUNDARY
-  FINAL GRADE MAJOR CONTOUR
-  FINAL GRADE MINOR CONTOUR

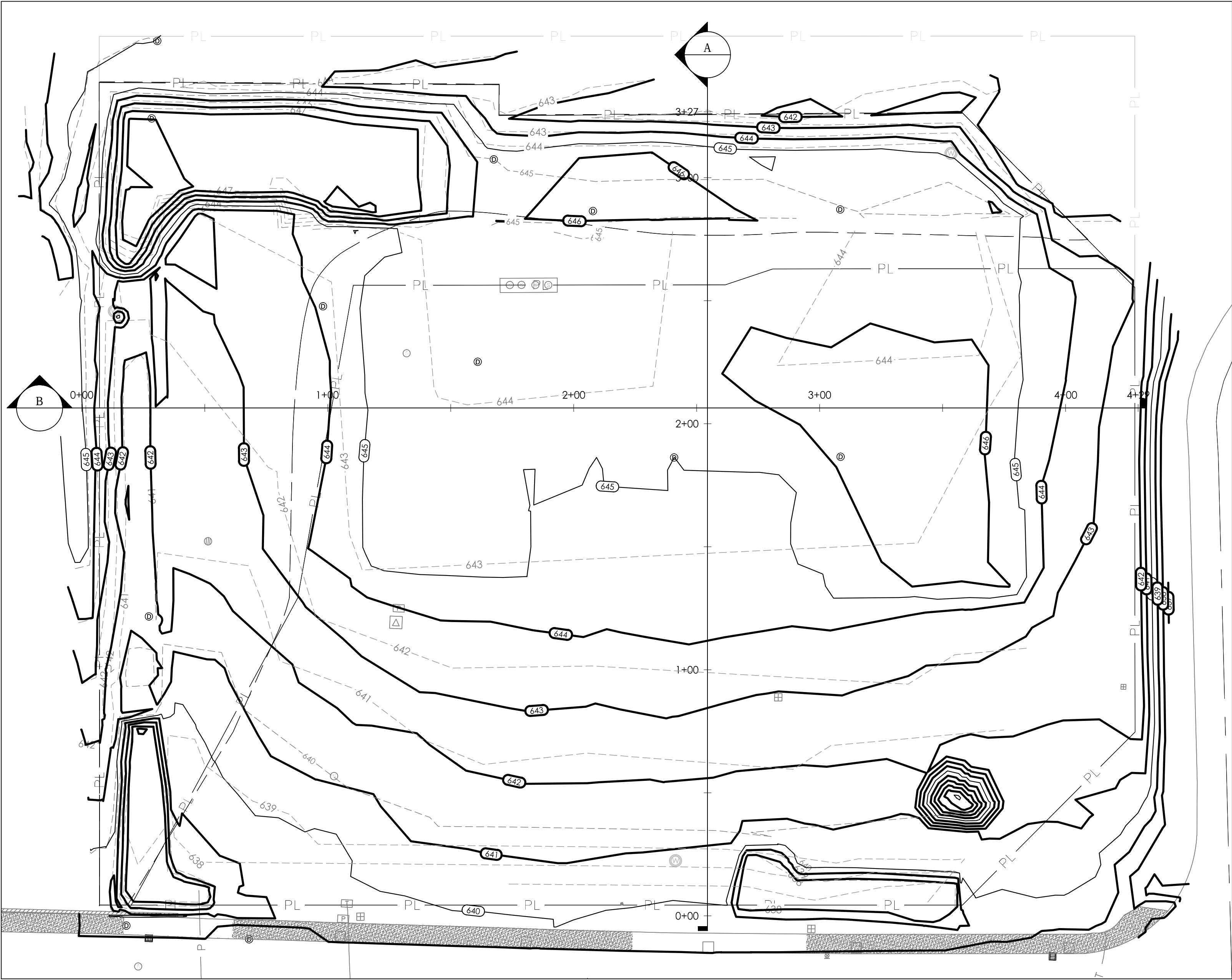


NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure 5 Cap Material Construction Delineation

Former Wenatchee Public
Works Yard
Wenatchee, Washington

PLOTTED ON: 2016/03/02 2:11 PM
 PLOTTED BY: Lindsey Crosby
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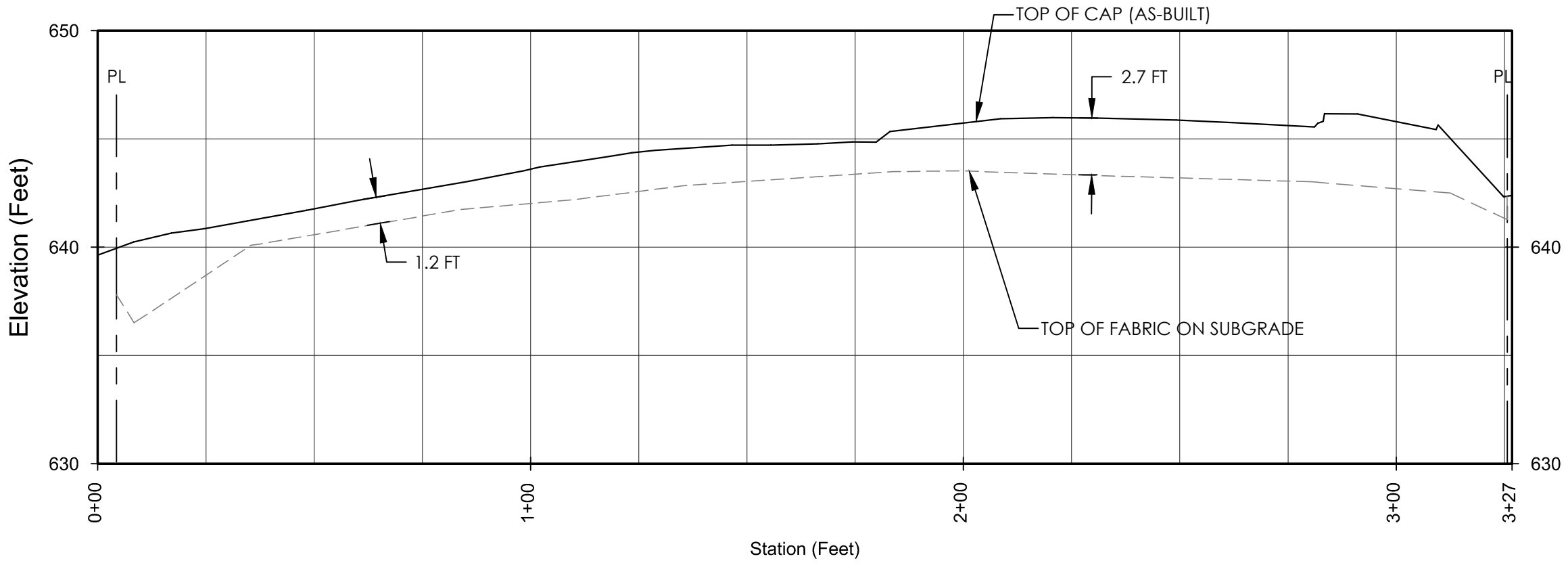


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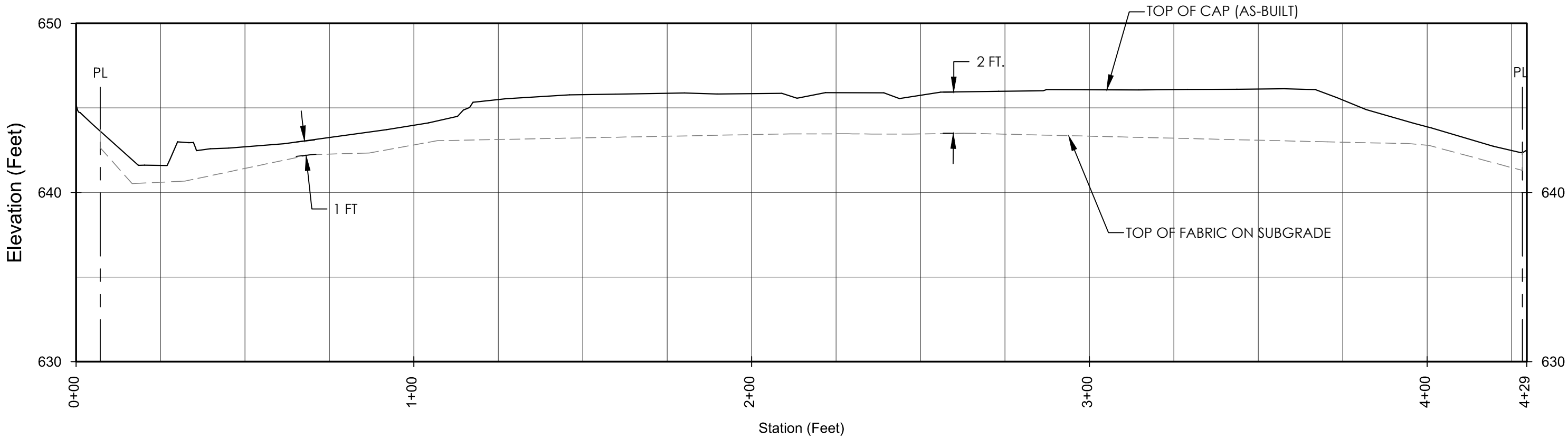
- TOP OF SUBGRADE MAJOR CONTOUR
- TOP OF SUBGRADE MINOR CONTOUR
- TOP OF CAP_AS BUILT MAJOR CONTOUR (5.0' INTERVAL)
- TOP OF CAP_AS BUILT MINOR CONTOUR (1.0' INTERVAL)

NOTE:

ELEVATION CONTOURS SHOWN ARE BASED ON PROGRESS SURVEY (RECEIVED ON 1/18/16) AND THE FINAL CAP SURFACE RECEIVED ON 2/8/16 BY ERLANDSEN SURVEYING. FINAL SUBGRADE SURFACE IS BASED ON DEMARCATION FABRIC ELEVATIONS CALCULATED FROM THE PROGRESS SURVEY POINTS. WHERE UNSTABLE SITE SOILS WERE ENCOUNTERED, UP TO 1 FOOT OF ADDITIONAL MATERIAL WAS EXCAVATED, LOWERING THE ORIGINAL DESIGN SUBGRADE ELEVATIONS.



PROFILE VIEW OF SECTION A
 HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 6'
 VERTICAL EXAGGERATION: 5



PROFILE VIEW OF SECTION B
 HORIZONTAL SCALE: 1" = 30' VERTICAL SCALE: 1" = 6'
 VERTICAL EXAGGERATION: 5

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PUBLIC WORKS YARD
 REMEDIAL ACTION
 CITY OF WENATCHEE
 WENATCHEE, WASHINGTON

ISSUE	DATE	DESCRIPTION
1A	01/25/16	REVISED GRADING PLAN

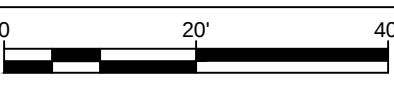
PROJECT: 0380.02.04

DESIGNED: L. CROSBY

DRAWN: L. CROSBY

CHECKED: J. CLARY

SCALE



NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE

SUBGRADE VS FINAL GRADE

SHEET

FIGURE 6

APPENDIX A

PHOTOGRAPHS



Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 1:
Construction
Entrance
Installation
(12/01/2015)*



*Figure 2: Site
Grading
(12/01/2015)*

Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 3:
Sanitary Sewer
Line
Demolition
(12/02/2015)*



*Figure 4:
Demarcation
Fabric
Placement
(12/02/2015)*

Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 5:
Exploratory
Test Pit—
Anticipated
Landfill Area
(12/03/2015)*



*Figure 6:
Cascade
Natural Gas
Co. Natural
Gas Line
Capping
(12/03/2015)*

Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 7:
Rubbleized Asphalt
(12/14/2015)*



*Figure 8: Cap
Construction
(12/15/2015)*

Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 9: Refuse
Loading for Off-
Site Disposal
(12/15/2015)*



*Figure 10: Cap
Construction—
Topsoil
(01/26/2016)*

Photograph Log
Former Public Works Yard Remedial Action
Wenatchee, Washington



*Figure 11: Post
Cap
Construction
(01/31/2016)*



*Figure 12: Post
Cap
Construction—
Topsoil
Covered with
Plastic Sheetting
(01/31/2016)*

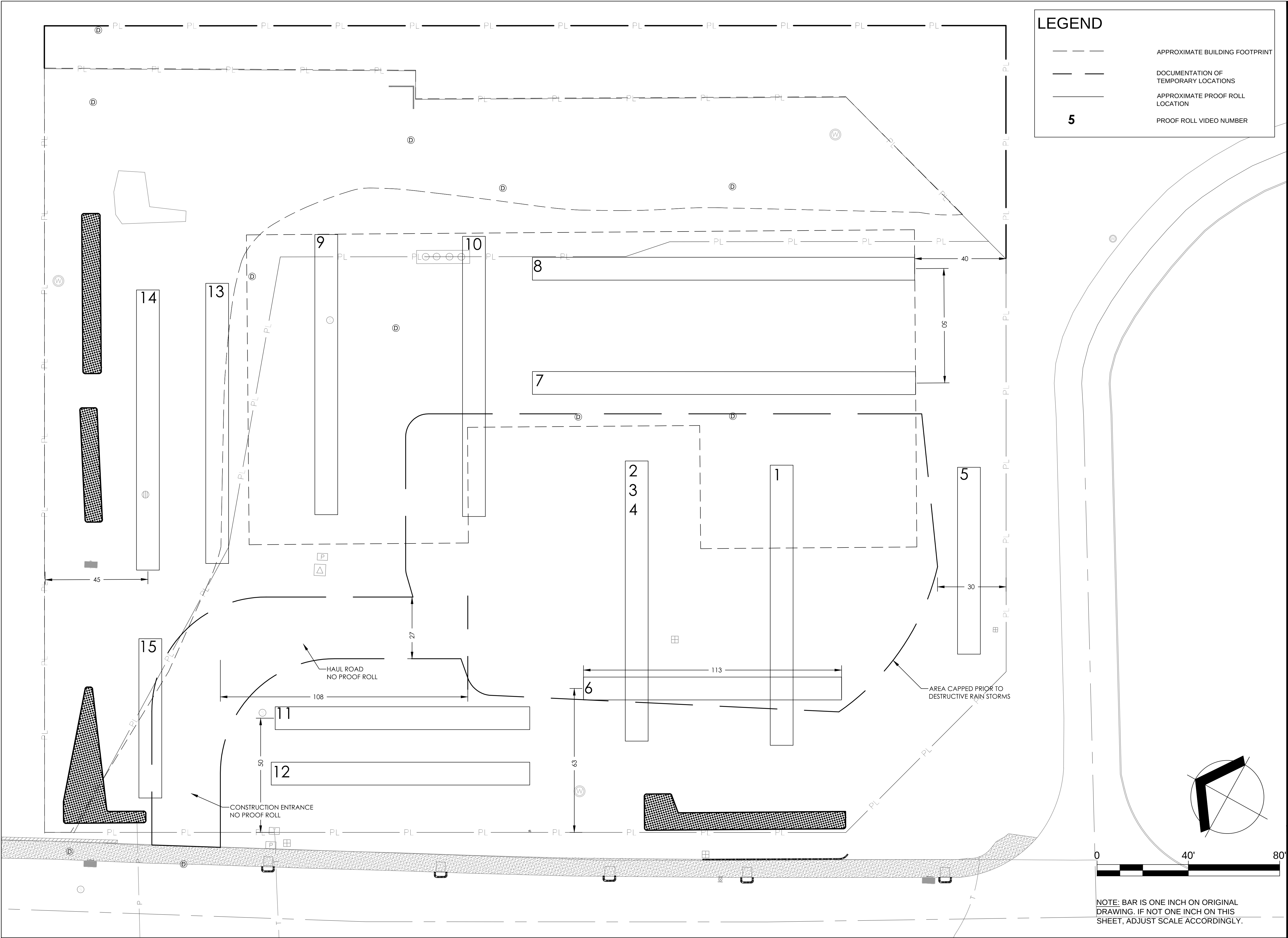
APPENDIX B

SUBGRADE PROOF ROLL DOCUMENTATION



Table
Summary of Subgrade Proof Roll Inspections
Former Public Works Yard Site, Wenatchee, Washington

Proof Roll Area	Date	Pass/Fail	Notes
Video 1	12/2/2015	Pass	Second half of proof roll area was uncovered and impacted by rainstorm. See proof roll video 6 for evidence of compaction of replaced soil. Soft spot noted in video was repaired after the video (~15 square yards); see Figure 5 in Daily Picture log for 12/02/15.
Video 2	12/2/2015	Pass	Second half of proof roll area was uncovered and impacted by rainstorm. See proof roll video 6 for evidence of compaction of replaced soil.
Video 3	12/2/2015	Pass	Second half of proof roll area was uncovered and impacted by rainstorm. See proof roll video 6 for evidence of compaction of replaced soil.
Video 4	12/2/2015	Fail	Soft spot. Repaired.
Video 5	12/2/2015	Pass	No notes.
Video 6	12/15/2015	Pass	Repaired soft spot in beginning of proof roll.
Video 7	12/15/2015	Pass with notes	No pumping visible with sheep's foot compactor, but some pumping visible after using the smooth drum compactor without vibrations. Noted to review this location in the spring. One soft spot repair along length of second half of proof roll on western side adjacent to capped area. See Exhibit A.
Video 8	12/15/2015	Pass with notes	Top 2 to 3 inches of soil shows deflection; believed to be loose soil attributed to the sheep's foot roller and not an indication of subsurface integrity. Soft spot repair approximately 10-ft x 15-ft in the middle of the proof roll after the video.
Video 9	12/16/2015	Pass with notes	One questionable area noted in the video. After probing the area (4 to 6 inches in depth of probe penetration,) it was determined that the subsurface soil was firm and unyielding.
Video 10	12/16/2015	Pass	No notes.
Video 11	12/16/2015	Pass with notes	Proof roll 50-ft off property line adjacent to N Worthen Street. Soft spot-shown in the middle of Proof Roll Video 11 was repaired. See Figure 6 in Daily Picture Log for 12/16/15.
Video 12	12/18/2015	Pass with notes	Questionable area in the beginning of proof roll near construction entrance and at the end of proof roll toward the south pond area. Probe penetrating >12-inches. Repaired with clean gravel above demarcation fabric. Unsuitable material remains adjacent to fenceline, not in designated parking area.
Video 13	12/18/2015	Pass with notes	The area at the beginning of proof roll 13, in-line and beyond construction entrance from approximately 170 ft to 200 ft perpendicularly measuring off the property line parallel and near to N Worthen Street is questionable- Location in middle of proof roll (40-45 sec in the video) questionable. Middle of proof roll 13 probing 2 to 4 inches. Probe hits what seems to be firm ground beneath.
Video 14	12/18/2015	Pass with notes	Questionable area at the very end of proof roll approaching unsuitable material stockpile.
Video 15	12/22/2015	Pass with notes	Questionable area in middle of proof roll. Probe driven 1 to 2 inches, soil beneath top 2 inches firm against the probe.



LEGEND

APPROXIMATE BUILDING FOOTPRINT

DOCUMENTATION OF
TEMPORARY LOCATIONS

APPROXIMATE PROOF ROLL
LOCATION

5

PROOF ROLL VIDEO NUMBER

PROOF ROLL VIDEO LOCATIONS

FORMER PUBLIC WORKS YARD REMEDIAL ACTION

CITY OF WENATCHEE
WENATCHEE, WA

EXHIBIT
A

MFA JOB #:

0380.02.04

ISSUE DATE:

1/4/2016

CHECKED:

J. CLARY

DRAWN:

J. CAWLEY

 MAUL FOSTER ALONGI

1329 NORTH STATE STREET, SUITE 301
BELLINGHAM, WA 98225
PHONE: 360.594.6262
www.maulfooster.com

APPENDIX C

REFUSE CHARACTERIZATION AND DISPOSAL DOCUMENTATION





Non-Hazardous WAM Approval

Requested Management Facility: **Greater Wenatchee Regional Landfill**

Profile Number: **110668WA**

Waste Approval Expiration Date: **12/11/2016**

APPROVAL DETAILS

Approval Decision: ☒ Approved ☐ Not Approved

Profile Renewal: ☐ Yes ☒ No

Management Method: **Alternate Daily Cover (ADC)**

Generator Name: **City of Wenatchee**

Material Name: **Soil and municipal waste from a closed landfill**

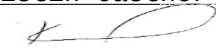
Management Facility Precautions, Special Handling Procedures or Limitation on approval:

Generator Conditions

- Shall not contain free liquids.
- Waste manifest or applicable shipping document must accompany load.
- The waste profile number must appear on the shipping papers.

WM Authorization Name: **Kristin Castner**

Title: **Waste Approval Manager**

WM Authorization Signature: 

Date: **12/11/2015**

Agency Authorization (if Required):

Date:

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Soil Field Sampling Data Sheet

Client Name	City of Wenatchee	Sample Location	NW Pond				
Project Number	0380.02.04	Sampler	JGC				
Project Name	Former Public Works Yard	Sampling Date	12/03/2015				
Sampling Event		Sample Name	S-01				
Sub Area		Sample Depth	0-4 feet composite				
FSDS QA:		Easting		Northing		TOC	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
(7) Grab	Soil	Composite	Not Sampled	4:00:00 PM	2 oz. soil	
					4 oz. soil	
					8 oz. soil	1
					Other	4
					Total Containers	5

Sample Description:

Primarily brown soil, some gray soil, silty, sandy gravel.

General Sampling Comment

Five point composite characterization sample taken of soil mixed with refuse from stormwater pond on the southwest corner of the site. Sampled one 8 oz glass jar and 1 VOA set (4 tubes).

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelby Tube, (7) Grab, (8) Other (Specify)

Signature_____



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 8, 2015

Justin Clary
Maul Foster & Alongi, Inc.
411 First Avenue S., Suite 610
Seattle, WA 98104

Re: Analytical Data for Project 0380.04.02
Laboratory Reference No. 1512-059

Dear Justin:

Enclosed are the analytical results and associated quality control data for samples submitted on December 4, 2015.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DeB" followed by a stylized flourish or checkmark.

David Baumeister
Project Manager

Enclosures

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

Case Narrative

Samples were collected on December 3, 2015 and received by the laboratory on December 4, 2015. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatiles EPA 8260C Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

Semivolatiles EPA 8270D/SIM Analysis

Sample S-01 had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Total Metals EPA 6010C/7471B Analysis

The duplicate RPD for Lead is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

VOLATILES EPA 8260C
 page 1 of 2

Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Chloromethane	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Vinyl Chloride	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Bromomethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Chloroethane	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Acetone	0.064	0.0057	EPA 8260C	12-4-15	12-4-15	Y
Iodomethane	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Carbon Disulfide	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Methylene Chloride	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Vinyl Acetate	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
2-Butanone	0.010	0.0057	EPA 8260C	12-4-15	12-4-15	Y
Bromochloromethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Chloroform	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Benzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Trichloroethene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Dibromomethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Bromodichloromethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
2-Chloroethyl Vinyl Ether	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Methyl Isobutyl Ketone	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Toluene	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

VOLATILES EPA 8260C
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Tetrachloroethene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
2-Hexanone	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Dibromochloromethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Chlorobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Ethylbenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
m,p-Xylene	ND	0.0023	EPA 8260C	12-4-15	12-4-15	
o-Xylene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Styrene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Bromoform	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Isopropylbenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Bromobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
n-Propylbenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
2-Chlorotoluene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
4-Chlorotoluene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,3,5-Trimethylbenzene	0.0016	0.0011	EPA 8260C	12-4-15	12-4-15	
tert-Butylbenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2,4-Trimethylbenzene	0.0041	0.0011	EPA 8260C	12-4-15	12-4-15	
sec-Butylbenzene	0.0018	0.0011	EPA 8260C	12-4-15	12-4-15	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
1,4-Dichlorobenzene	0.0017	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
n-Butylbenzene	0.0028	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2-Dibromo-3-chloropropane	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
Hexachlorobutadiene	ND	0.0057	EPA 8260C	12-4-15	12-4-15	
Naphthalene	0.0026	0.0011	EPA 8260C	12-4-15	12-4-15	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	12-4-15	12-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>110</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>115</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>107</i>	<i>60-146</i>				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL

page 1 of 2

Matrix: Soil
 Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1204S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Chloromethane	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Vinyl Chloride	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Bromomethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Chloroethane	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Acetone	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Iodomethane	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Carbon Disulfide	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Methylene Chloride	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Vinyl Acetate	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
2-Butanone	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Bromochloromethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Chloroform	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Benzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Trichloroethene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Dibromomethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Bromodichloromethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Toluene	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
 page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID: MB1204S1						
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Tetrachloroethene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
2-Hexanone	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Dibromochloromethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Chlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Ethylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
m,p-Xylene	ND	0.0020	EPA 8260C	12-4-15	12-4-15	
o-Xylene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Styrene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Bromoform	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Isopropylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Bromobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
n-Propylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
2-Chlorotoluene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
4-Chlorotoluene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
tert-Butylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
sec-Butylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
n-Butylbenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	12-4-15	12-4-15	
Naphthalene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	12-4-15	12-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Dibromofluoromethane</i>	<i>117</i>	<i>76-131</i>				
<i>Toluene-d8</i>	<i>120</i>	<i>80-126</i>				
<i>4-Bromofluorobenzene</i>	<i>117</i>	<i>60-146</i>				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
 Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits		RPD	RPD Limit	Flags
					Recovery						
SPIKE BLANKS											
Laboratory ID:	SB1204S1										
	SB	SBD	SB	SBD	SB	SBD					
1,1-Dichloroethene	0.0533	0.0521	0.0500	0.0500	107	104	68-126	2		15	
Benzene	0.0520	0.0495	0.0500	0.0500	104	99	75-121	5		15	
Trichloroethene	0.0477	0.0464	0.0500	0.0500	95	93	75-116	3		15	
Toluene	0.0529	0.0514	0.0500	0.0500	106	103	80-115	3		15	
Chlorobenzene	0.0461	0.0454	0.0500	0.0500	92	91	76-120	2		15	
Surrogate:											
Dibromofluoromethane					106	99	76-131				
Toluene-d8					109	103	80-126				
4-Bromofluorobenzene					104	100	60-146				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

SEMIVOLATILES EPA 8270D/SIM

page 1 of 2

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
n-Nitrosodimethylamine	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Pyridine	ND	0.38	EPA 8270D	12-4-15	12-7-15	
Phenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Aniline	ND	0.19	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroethyl)ether	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Chlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,3-Dichlorobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,4-Dichlorobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Benzyl alcohol	ND	0.19	EPA 8270D	12-4-15	12-7-15	
1,2-Dichlorobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Methylphenol (o-Cresol)	ND	0.038	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroisopropyl)ether	ND	0.038	EPA 8270D	12-4-15	12-7-15	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.038	EPA 8270D	12-4-15	12-7-15	
n-Nitroso-di-n-propylamine	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Hexachloroethane	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Nitrobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Isophorone	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Nitrophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,4-Dimethylphenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroethoxy)methane	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,4-Dichlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,2,4-Trichlorobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Naphthalene	0.015	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
4-Chloroaniline	ND	0.19	EPA 8270D	12-4-15	12-7-15	
Hexachlorobutadiene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
4-Chloro-3-methylphenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Methylnaphthalene	0.013	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
1-Methylnaphthalene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Hexachlorocyclopentadiene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,4,6-Trichlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,3-Dichloroaniline	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,4,5-Trichlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Chloronaphthalene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2-Nitroaniline	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,4-Dinitrobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Dimethylphthalate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,3-Dinitrobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,6-Dinitrotoluene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,2-Dinitrobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Acenaphthylene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
3-Nitroaniline	ND	0.038	EPA 8270D	12-4-15	12-7-15	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

SEMIVOLATILES EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
2,4-Dinitrophenol	ND	0.19	EPA 8270D	12-4-15	12-7-15	
Acenaphthene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
4-Nitrophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,4-Dinitrotoluene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Dibenzofuran	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,3,5,6-Tetrachlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
2,3,4,6-Tetrachlorophenol	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Diethylphthalate	ND	0.19	EPA 8270D	12-4-15	12-7-15	
4-Chlorophenyl-phenylether	ND	0.038	EPA 8270D	12-4-15	12-7-15	
4-Nitroaniline	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Fluorene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
4,6-Dinitro-2-methylphenol	ND	0.19	EPA 8270D	12-4-15	12-7-15	
n-Nitrosodiphenylamine	ND	0.038	EPA 8270D	12-4-15	12-7-15	
1,2-Diphenylhydrazine	ND	0.038	EPA 8270D	12-4-15	12-7-15	
4-Bromophenyl-phenylether	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Hexachlorobenzene	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Pentachlorophenol	ND	0.19	EPA 8270D	12-4-15	12-7-15	
Phenanthrene	0.032	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Anthracene	0.0075	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Carbazole	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Di-n-butylphthalate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Fluoranthene	0.021	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Benzidine	ND	0.38	EPA 8270D	12-4-15	12-7-15	
Pyrene	0.025	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Butylbenzylphthalate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
bis-2-Ethylhexyladipate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
3,3'-Dichlorobenzidine	ND	0.19	EPA 8270D	12-4-15	12-7-15	
Benzo[a]anthracene	0.014	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Chrysene	0.014	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
bis(2-Ethylhexyl)phthalate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Di-n-octylphthalate	ND	0.038	EPA 8270D	12-4-15	12-7-15	
Benzo[b]fluoranthene	0.010	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo(j,k)fluoranthene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo[a]pyrene	0.010	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Indeno[1,2,3-cd]pyrene	0.010	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Dibenz[a,h]anthracene	ND	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo[g,h,i]perylene	0.020	0.0075	EPA 8270D/SIM	12-4-15	12-7-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
2-Fluorophenol	65	24 - 117				
Phenol-d6	69	30 - 120				
Nitrobenzene-d5	23	27 - 112				
2-Fluorobiphenyl	75	35 - 113				
2,4,6-Tribromophenol	85	21 - 120				
Terphenyl-d14	78	39 - 121				

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Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**SEMIVOLATILES EPA 8270D/SIM
 METHOD BLANK QUALITY CONTROL**

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Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1204S1					
n-Nitrosodimethylamine	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Pyridine	ND	0.33	EPA 8270D	12-4-15	12-7-15	
Phenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Aniline	ND	0.17	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroethyl)ether	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Chlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,3-Dichlorobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,4-Dichlorobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Benzyl alcohol	ND	0.17	EPA 8270D	12-4-15	12-7-15	
1,2-Dichlorobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Methylphenol (o-Cresol)	ND	0.033	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroisopropyl)ether	ND	0.033	EPA 8270D	12-4-15	12-7-15	
(3+4)-Methylphenol (m,p-Cresol)	ND	0.033	EPA 8270D	12-4-15	12-7-15	
n-Nitroso-di-n-propylamine	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Hexachloroethane	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Nitrobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Isophorone	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Nitrophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,4-Dimethylphenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
bis(2-Chloroethoxy)methane	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,4-Dichlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,2,4-Trichlorobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Naphthalene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
4-Chloroaniline	ND	0.17	EPA 8270D	12-4-15	12-7-15	
Hexachlorobutadiene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
4-Chloro-3-methylphenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Methylnaphthalene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
1-Methylnaphthalene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Hexachlorocyclopentadiene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,4,6-Trichlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,3-Dichloroaniline	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,4,5-Trichlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Chloronaphthalene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2-Nitroaniline	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,4-Dinitrobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Dimethylphthalate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,3-Dinitrobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,6-Dinitrotoluene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,2-Dinitrobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Acenaphthylene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
3-Nitroaniline	ND	0.033	EPA 8270D	12-4-15	12-7-15	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1204S1					
2,4-Dinitrophenol	ND	0.17	EPA 8270D	12-4-15	12-7-15	
Acenaphthene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
4-Nitrophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,4-Dinitrotoluene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Dibenzofuran	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,3,5,6-Tetrachlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
2,3,4,6-Tetrachlorophenol	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Diethylphthalate	ND	0.17	EPA 8270D	12-4-15	12-7-15	
4-Chlorophenyl-phenylether	ND	0.033	EPA 8270D	12-4-15	12-7-15	
4-Nitroaniline	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Fluorene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
4,6-Dinitro-2-methylphenol	ND	0.17	EPA 8270D	12-4-15	12-7-15	
n-Nitrosodiphenylamine	ND	0.033	EPA 8270D	12-4-15	12-7-15	
1,2-Diphenylhydrazine	ND	0.033	EPA 8270D	12-4-15	12-7-15	
4-Bromophenyl-phenylether	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Hexachlorobenzene	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Pentachlorophenol	ND	0.17	EPA 8270D	12-4-15	12-7-15	
Phenanthrene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Anthracene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Carbazole	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Di-n-butylphthalate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Fluoranthene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Benzidine	ND	0.33	EPA 8270D	12-4-15	12-7-15	
Pyrene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Butylbenzylphthalate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
bis-2-Ethylhexyladipate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
3,3'-Dichlorobenzidine	ND	0.17	EPA 8270D	12-4-15	12-7-15	
Benzo[a]anthracene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Chrysene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
bis(2-Ethylhexyl)phthalate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Di-n-octylphthalate	ND	0.033	EPA 8270D	12-4-15	12-7-15	
Benzo[b]fluoranthene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo[j,k]fluoranthene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo[a]pyrene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Indeno[1,2,3-cd]pyrene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Dibenz[a,h]anthracene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Benzo[g,h,i]perylene	ND	0.0067	EPA 8270D/SIM	12-4-15	12-7-15	
Surrogate:	Percent Recovery	Control Limits				
2-Fluorophenol	61	24 - 117				
Phenol-d6	66	30 - 120				
Nitrobenzene-d5	55	27 - 112				
2-Fluorobiphenyl	69	35 - 113				
2,4,6-Tribromophenol	74	21 - 120				
Terphenyl-d14	79	39 - 121				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**SEMIVOLATILES EPA 8270D/SIM
 SB/SBD QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1204S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	0.888	0.832	1.33	1.33	67	63	41 - 110	7	36	
2-Chlorophenol	0.881	0.777	1.33	1.33	66	58	42 - 112	13	39	
1,4-Dichlorobenzene	0.398	0.293	0.667	0.667	60	44	37 - 104	30	39	
n-Nitroso-di-n-propylamine	0.419	0.381	0.667	0.667	63	57	39 - 102	10	34	
1,2,4-Trichlorobenzene	0.408	0.355	0.667	0.667	61	53	34 - 107	14	37	
4-Chloro-3-methylphenol	0.908	0.966	1.33	1.33	68	73	54 - 104	6	28	
Acenaphthene	0.441	0.442	0.667	0.667	66	66	52 - 103	0	30	
4-Nitrophenol	0.948	1.09	1.33	1.33	71	82	51 - 125	14	25	
2,4-Dinitrotoluene	0.455	0.488	0.667	0.667	68	73	53 - 118	7	29	
Pentachlorophenol	0.876	0.881	1.33	1.33	66	66	25 - 141	1	28	
Pyrene	0.472	0.534	0.667	0.667	71	80	57 - 120	12	22	
Surrogate:										
2-Fluorophenol					68	56	24 - 117			
Phenol-d6					69	63	30 - 120			
Nitrobenzene-d5					62	54	27 - 112			
2-Fluorobiphenyl					70	68	35 - 113			
2,4,6-Tribromophenol					74	79	21 - 120			
Terphenyl-d14					72	83	39 - 121			

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

PCBs EPA 8082A

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
Aroclor 1016	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1221	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1232	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1242	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1248	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1254	ND	0.056	EPA 8082A	12-4-15	12-7-15	
Aroclor 1260	ND	0.056	EPA 8082A	12-4-15	12-7-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>DCB</i>	<i>100</i>	<i>50-139</i>				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**PCBs EPA 8082A
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1204S2					
Aroclor 1016	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1221	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1232	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1242	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1248	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1254	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Aroclor 1260	ND	0.050	EPA 8082A	12-4-15	12-7-15	
Surrogate:	Percent Recovery	Control Limits				
DCB	102	50-139				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1204S2										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	0.535	0.535	0.500	0.500	N/A	107	107	61-135	0	11	
Surrogate:											
DCB						105	101	50-139			

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**PCB's EPA 8082A
 CONTINUING CALIBRATION SUMMARY**

Lab ID	Analyte	True Value (ppb)	Calc. Value	Percent Difference	Control Limits
Column 1					
PCBCCV 1207-2	Aroclor 1016	500	490	2.0	+/- 15%
PCBCCV 1207-2	Aroclor 1260	500	438	12	+/- 15%
Column 2					
PCBCCV 1207-2	Aroclor 1016	500	508	-1.6	+/- 15%
PCBCCV 1207-2	Aroclor 1260	500	514	-2.8	+/- 15%
Column 1					
PCBCCV 1207-3	Aroclor 1016	500	512	-2.4	+/- 15%
PCBCCV 1207-3	Aroclor 1260	500	464	7.2	+/- 15%
Column 2					
PCBCCV 1207-3	Aroclor 1016	500	535	-7.0	+/- 15%
PCBCCV 1207-3	Aroclor 1260	500	551	-10	+/- 15%

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**ORGANOCHLORINE
 PESTICIDES EPA 8081B**

Matrix: Soil
 Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
alpha-BHC	ND	5.6	EPA 8081B	12-4-15	12-4-15	
gamma-BHC	ND	5.6	EPA 8081B	12-4-15	12-4-15	
beta-BHC	ND	5.6	EPA 8081B	12-4-15	12-4-15	
delta-BHC	ND	5.6	EPA 8081B	12-4-15	12-4-15	
Heptachlor	ND	5.6	EPA 8081B	12-4-15	12-4-15	
Aldrin	ND	5.6	EPA 8081B	12-4-15	12-4-15	
Heptachlor Epoxide	ND	5.6	EPA 8081B	12-4-15	12-4-15	
gamma-Chlordane	ND	11	EPA 8081B	12-4-15	12-4-15	
alpha-Chlordane	ND	11	EPA 8081B	12-4-15	12-4-15	
4,4'-DDE	79	11	EPA 8081B	12-4-15	12-4-15	
Endosulfan I	ND	5.6	EPA 8081B	12-4-15	12-4-15	
Dieldrin	ND	11	EPA 8081B	12-4-15	12-4-15	
Endrin	ND	11	EPA 8081B	12-4-15	12-4-15	
4,4'-DDD	39	11	EPA 8081B	12-4-15	12-4-15	
Endosulfan II	ND	11	EPA 8081B	12-4-15	12-4-15	
4,4'-DDT	ND	11	EPA 8081B	12-4-15	12-4-15	
Endrin Aldehyde	ND	11	EPA 8081B	12-4-15	12-4-15	
Methoxychlor	ND	11	EPA 8081B	12-4-15	12-4-15	
Endosulfan Sulfate	ND	11	EPA 8081B	12-4-15	12-4-15	
Endrin Ketone	ND	11	EPA 8081B	12-4-15	12-4-15	
Toxaphene	ND	56	EPA 8081B	12-4-15	12-4-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
TCMX	73	53-107				
DCB	83	59-121				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**ORGANOCHLORINE
 PESTICIDES EPA 8081B
 QUALITY CONTROL**

Matrix: Soil
 Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1204S1					
alpha-BHC	ND	5.0	EPA 8081B	12-4-15	12-4-15	
gamma-BHC	ND	5.0	EPA 8081B	12-4-15	12-4-15	
beta-BHC	ND	5.0	EPA 8081B	12-4-15	12-4-15	
delta-BHC	ND	5.0	EPA 8081B	12-4-15	12-4-15	
Heptachlor	ND	5.0	EPA 8081B	12-4-15	12-4-15	
Aldrin	ND	5.0	EPA 8081B	12-4-15	12-4-15	
Heptachlor Epoxide	ND	5.0	EPA 8081B	12-4-15	12-4-15	
gamma-Chlordane	ND	10	EPA 8081B	12-4-15	12-4-15	
alpha-Chlordane	ND	10	EPA 8081B	12-4-15	12-4-15	
4,4'-DDE	ND	10	EPA 8081B	12-4-15	12-4-15	
Endosulfan I	ND	5.0	EPA 8081B	12-4-15	12-4-15	
Dieldrin	ND	10	EPA 8081B	12-4-15	12-4-15	
Endrin	ND	10	EPA 8081B	12-4-15	12-4-15	
4,4'-DDD	ND	10	EPA 8081B	12-4-15	12-4-15	
Endosulfan II	ND	10	EPA 8081B	12-4-15	12-4-15	
4,4'-DDT	ND	10	EPA 8081B	12-4-15	12-4-15	
Endrin Aldehyde	ND	10	EPA 8081B	12-4-15	12-4-15	
Methoxychlor	ND	10	EPA 8081B	12-4-15	12-4-15	
Endosulfan Sulfate	ND	10	EPA 8081B	12-4-15	12-4-15	
Endrin Ketone	ND	10	EPA 8081B	12-4-15	12-4-15	
Toxaphene	ND	50	EPA 8081B	12-4-15	12-4-15	
Surrogate:	Percent Recovery	Control Limits				
TCMX	75	53-107				
DCB	86	59-121				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS								
Laboratory ID:	SB1204S1							
	SB	SBD	SB	SBD	SB	SBD		
gamma-BHC	46.9	48.2	50.0	50.0	N/A	94 96	52-118	3 16
Heptachlor	42.3	42.1	50.0	50.0	N/A	85 84	55-117	0 16
Aldrin	46.4	47.7	50.0	50.0	N/A	93 95	57-123	3 16
Dieldrin	104	106	125	125	N/A	83 85	57-120	2 16
Endrin	107	109	125	125	N/A	86 88	54-122	2 16
4,4'-DDT	117	121	125	125	N/A	94 97	54-119	3 17
Surrogate:								
TCMX					75 77	53-107		
DCB					88 91	59-121		

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270D/SIM**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
Dichlorvos(DDVP)	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Mevinphos/Phosdrin	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Ethoprophos	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Monocrotophos	ND	0.056	EPA 8270D/SIM	12-6-15	12-7-15	
Naled	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Sulfotepp	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Phorate	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Dimethoate	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Demeton-S	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Diazinon	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Disulfoton	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Parathion-methyl	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Fenchlorphos/Ronnel	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Malathion	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Fenthion	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Parathion-ethyl	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Chlorpyrifos/Dursban	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Trichloronate	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Merphos&Merphos-oxone	ND	0.056	EPA 8270D/SIM	12-6-15	12-7-15	
Stirofos/Tetrachlorvinphos	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Tokuthion/Prothiofos	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Fensulfothion	ND	0.056	EPA 8270D/SIM	12-6-15	12-7-15	
Bolstar/Sulprofos	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
EPN	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Azinphos-methyl/Guthion	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
Coumaphos	ND	0.023	EPA 8270D/SIM	12-6-15	12-7-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Tributyl phosphate</i>	<i>75</i>	<i>41 - 114</i>				
<i>Triphenyl phosphate</i>	<i>81</i>	<i>42 - 118</i>				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270D/SIM
 METHOD BLANK QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1206S1					
Dichlorvos(DDVP)	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Mevinphos/Phosdrin	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Ethoprophos	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Monocrotophos	ND	0.050	EPA 8270D/SIM	12-6-15	12-7-15	
Naled	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Sulfotepp	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Phorate	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Dimethoate	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Demeton-S	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Diazinon	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Disulfoton	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Parathion-methyl	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Fenchlorphos/Ronnel	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Malathion	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Fenthion	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Parathion-ethyl	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Chlorpyrifos/Dursban	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Trichloronate	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Merphos&Merphos-oxone	ND	0.050	EPA 8270D/SIM	12-6-15	12-7-15	
Stirofos/Tetrachlorvinphos	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Tokuthion/Prothiofos	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Fensulfothion	ND	0.050	EPA 8270D/SIM	12-6-15	12-7-15	
Bolstar/Sulprofos	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
EPN	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Azinphos-methyl/Guthion	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Coumaphos	ND	0.020	EPA 8270D/SIM	12-6-15	12-7-15	
Surrogate:	Percent Recovery	Control Limits				
Tributyl phosphate	67	41 - 114				
Triphenyl phosphate	76	42 - 118				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**ORGANOPHOSPHORUS
 PESTICIDES EPA 8270D/SIM
 MS/MSD QUALITY CONTROL**

Matrix: Soil
 Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	12-059-01										
	MS	MSD	MS	MSD		MS	MSD				
Dichlorvos(DDVP)	0.0951	0.100	0.100	0.100	ND	95	100	28 - 130	5	37	
Mevinphos/Phosdrin	0.0719	0.0743	0.100	0.100	ND	72	74	29 - 123	3	38	
Ethoprophos	0.0901	0.0879	0.100	0.100	ND	90	88	43 - 105	2	27	
Sulfotepp	0.0811	0.0801	0.100	0.100	ND	81	80	29 - 122	1	32	
Phorate	0.0783	0.0786	0.100	0.100	ND	78	79	47 - 91	0	26	
Dimethoate	0.0796	0.0794	0.100	0.100	ND	80	79	37 - 112	0	37	
Demeton-S	0.0771	0.0763	0.100	0.100	ND	77	76	42 - 118	1	29	
Diazinon	0.0808	0.0842	0.100	0.100	ND	81	84	40 - 107	4	26	
Disulfoton	0.0806	0.0805	0.100	0.100	ND	81	81	38 - 100	0	25	
Parathion-methyl	0.0838	0.0894	0.100	0.100	ND	84	89	26 - 133	6	31	
Fenchlorphos/Ronnel	0.0809	0.0816	0.100	0.100	ND	81	82	28 - 118	1	27	
Malathion	0.0820	0.0827	0.100	0.100	ND	82	83	31 - 125	1	37	
Fenthion	0.0813	0.0818	0.100	0.100	ND	81	82	26 - 117	1	28	
Parathion-ethyl	0.0837	0.0874	0.100	0.100	ND	84	87	31 - 129	4	34	
Chlorpyrifos/Dursban	0.0812	0.0818	0.100	0.100	ND	81	82	24 - 124	1	28	
Trichloronate	0.0816	0.0825	0.100	0.100	ND	82	83	27 - 117	1	26	
Stirofos/Tetrachlorvinphos	0.0830	0.0837	0.100	0.100	ND	83	84	25 - 136	1	33	
Tokuthion/Prothiofos	0.0786	0.0795	0.100	0.100	ND	79	80	30 - 128	1	28	
Fensulfothion	0.0735	0.0807	0.100	0.100	ND	74	81	14 - 155	9	34	
Bolstar/Sulprofos	0.0784	0.0795	0.100	0.100	ND	78	80	34 - 133	1	27	
EPN	0.0780	0.0779	0.100	0.100	ND	78	78	38 - 168	0	36	
Azinphos-methyl/Guthion	0.0696	0.0734	0.100	0.100	ND	70	73	20 - 137	5	33	
Coumaphos	0.0835	0.0775	0.100	0.100	ND	84	78	27 - 153	7	35	
Surrogate:											
Tributyl phosphate						75	74	41 - 114			
Triphenyl phosphate						80	77	42 - 118			

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**CHLORINATED ACID
 HERBICIDES EPA 8151A**

Matrix: Soil
 Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	S-01					
Laboratory ID:	12-059-01					
Dalapon	ND	260	EPA 8151A	12-7-15	12-7-15	
Dicamba	ND	11	EPA 8151A	12-7-15	12-7-15	
MCP	ND	1100	EPA 8151A	12-7-15	12-7-15	
MCPA	ND	1100	EPA 8151A	12-7-15	12-7-15	
Dichlorprop	ND	80	EPA 8151A	12-7-15	12-7-15	
2,4-D	ND	11	EPA 8151A	12-7-15	12-7-15	
Pentachlorophenol	ND	5.3	EPA 8151A	12-7-15	12-7-15	
2,4,5-TP (Silvex)	ND	11	EPA 8151A	12-7-15	12-7-15	
2,4,5-T	ND	11	EPA 8151A	12-7-15	12-7-15	
2,4-DB	ND	11	EPA 8151A	12-7-15	12-7-15	
Dinoseb	ND	11	EPA 8151A	12-7-15	12-7-15	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
DCAA	73	28-98				

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**CHLORINATED ACID
 HERBICIDES EPA 8151A
 QUALITY CONTROL**

Matrix: Soil
 Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1207S1					
Dalapon	ND	230	EPA 8151A	12-7-15	12-7-15	
Dicamba	ND	9.4	EPA 8151A	12-7-15	12-7-15	
MCPPE	ND	940	EPA 8151A	12-7-15	12-7-15	
MCPA	ND	940	EPA 8151A	12-7-15	12-7-15	
Dichlorprop	ND	71	EPA 8151A	12-7-15	12-7-15	
2,4-D	ND	9.4	EPA 8151A	12-7-15	12-7-15	
Pentachlorophenol	ND	4.8	EPA 8151A	12-7-15	12-7-15	
2,4,5-TP (Silvex)	ND	9.5	EPA 8151A	12-7-15	12-7-15	
2,4,5-T	ND	9.5	EPA 8151A	12-7-15	12-7-15	
2,4-DB	ND	9.5	EPA 8151A	12-7-15	12-7-15	
Dinoseb	ND	9.5	EPA 8151A	12-7-15	12-7-15	
Surrogate:	Percent Recovery	Control Limits				
DCAA	66	28-98				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1207S1										
	SB	SBD	SB	SBD		SB	SBD				
Dicamba	72.4	72.5	100	100	N/A	72	73	54-92	0	17	
2,4-D	79.1	77.4	100	100	N/A	79	77	33-86	2	19	
Pentachlorophenol	8.41	8.17	10.0	10.0	N/A	84	82	57-106	3	18	
2,4,5-T	78.8	79.0	100	100	N/A	79	79	39-98	0	21	
2,4-DB	75.6	77.7	100	100	N/A	76	78	43-94	3	16	
Surrogate:											
DCAA						86	80	28-98			

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TOTAL METALS
 EPA 6010C/7471B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	12-059-01					
Client ID:	S-01					
Arsenic	ND	11	6010C	12-7-15	12-7-15	
Barium	140	2.8	6010C	12-7-15	12-7-15	
Cadmium	ND	0.56	6010C	12-7-15	12-7-15	
Chromium	24	0.56	6010C	12-7-15	12-7-15	
Lead	62	5.6	6010C	12-7-15	12-7-15	
Mercury	ND	0.28	7471B	12-8-15	12-8-15	
Selenium	ND	11	6010C	12-7-15	12-7-15	
Silver	ND	1.1	6010C	12-7-15	12-7-15	

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

**TOTAL METALS
EPA 6010C/7471B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 12-7&8-15

Date Analyzed: 12-7&8-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: MB1207SM1&MB1208S1

Analyte	Method	Result	PQL
Arsenic	6010C	ND	10
Barium	6010C	ND	2.5
Cadmium	6010C	ND	0.50
Chromium	6010C	ND	0.50
Lead	6010C	ND	5.0
Mercury	7471B	ND	0.25
Selenium	6010C	ND	10
Silver	6010C	ND	1.0

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TOTAL METALS
 EPA 6010C/7471B
 DUPLICATE QUALITY CONTROL**

Date Extracted: 12-7&8-15
 Date Analyzed: 12-7&8-15

 Matrix: Soil
 Units: mg/kg (ppm)

 Lab ID: 12-059-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	10	
Barium	127	130	3	2.5	
Cadmium	ND	ND	NA	0.50	
Chromium	21.2	20.9	1	0.50	
Lead	55.1	43.1	25	5.0	K
Mercury	ND	ND	NA	0.25	
Selenium	ND	ND	NA	10	
Silver	ND	ND	NA	1.0	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TOTAL METALS
 EPA 6010C/7471B
 MS/MSD QUALITY CONTROL**

Date Extracted: 12-7&8-15

Date Analyzed: 12-7&8-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 12-059-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	96.5	97	96.8	97	0	
Barium	100	245	118	244	118	0	
Cadmium	50.0	49.5	99	49.4	99	0	
Chromium	100	119	98	118	97	1	
Lead	250	278	89	270	86	3	
Mercury	0.500	0.488	98	0.489	98	0	
Selenium	100	95.0	95	93.5	93	2	
Silver	25.0	23.3	93	23.1	92	1	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TOTAL METALS
 EPA 6010C/7471B
 SPIKE BLANK QUALITY CONTROL**

Date Extracted: 12-7&8-15

Date Analyzed: 12-7&8-15

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: SB1207SM1&SB1208S1

Analyte	Method	Spike Level	SB Result	Percent Recovery
Arsenic	6010C	100	98.5	99
Barium	6010C	100	103	103
Cadmium	6010C	50.0	49.8	100
Chromium	6010C	100	103	103
Lead	6010C	250	252	101
Mercury	7471B	0.500	0.504	101
Selenium	6010C	100	98.6	99
Silver	6010C	25.0	25.7	103

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TOTAL METALS
 EPA 6010C/7471B
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Arsenic	ICV120715P	1.00	0.952	4.8	+/- 10%
Barium	ICV120715P	1.00	0.935	6.5	+/- 10%
Cadmium	ICV120715P	1.00	1.04	-4.0	+/- 10%
Chromium	ICV120715P	1.00	1.05	-5.0	+/- 10%
Lead	ICV120715P	1.00	1.05	-5.0	+/- 10%
Mercury	ICV120815Y	0.00500	0.00493	1.4	+/- 10%
Selenium	ICV120715P	1.00	1.02	-2.0	+/- 10%
Silver	ICV120715P	1.00	1.05	-5.0	+/- 10%
Arsenic	LLICV1120715P	0.100	0.0833	17	+/- 30%
Barium	LLICV1120715P	0.0200	0.0220	-10	+/- 30%
Cadmium	LLICV1120715P	0.0100	0.00994	0.60	+/- 30%
Chromium	LLICV1120715P	0.0100	0.00961	3.9	+/- 30%
Lead	LLICV1120715P	0.100	0.116	-16	+/- 30%
Selenium	LLICV1120715P	0.100	0.124	-24	+/- 30%
Silver	LLICV1120715P	0.0200	0.0190	5.0	+/- 30%
Arsenic	CCV1120715P	10.0	9.71	2.9	+/- 10%
Barium	CCV1120715P	2.00	1.95	2.5	+/- 10%
Cadmium	CCV1120715P	1.00	0.955	4.5	+/- 10%
Chromium	CCV1120715P	1.00	1.02	-2.0	+/- 10%
Lead	CCV1120715P	10.0	9.87	1.3	+/- 10%
Mercury	CCV1120815Y	0.00500	0.00531	-6.2	+/- 20%
Selenium	CCV1120715P	10.0	9.72	2.8	+/- 10%
Silver	CCV1120715P	1.00	1.02	-2.0	+/- 10%
Arsenic	CCV2120715P	10.0	9.81	1.9	+/- 10%
Barium	CCV2120715P	2.00	2.00	0	+/- 10%
Cadmium	CCV2120715P	1.00	0.964	3.6	+/- 10%
Chromium	CCV2120715P	1.00	1.03	-3.0	+/- 10%
Lead	CCV2120715P	10.0	10.1	-1.0	+/- 10%
Mercury	CCV2120815Y	0.00500	0.00548	-9.6	+/- 20%
Selenium	CCV2120715P	10.0	10.1	-1.0	+/- 10%
Silver	CCV2120715P	1.00	1.04	-4.0	+/- 10%
Arsenic	LLCCV2120715P	0.100	0.106	-6.0	+/- 30%
Barium	LLCCV2120715P	0.0200	0.0229	-15	+/- 30%
Cadmium	LLCCV2120715P	0.0100	0.00918	8.2	+/- 30%
Chromium	LLCCV2120715P	0.0100	0.0112	-12	+/- 30%
Lead	LLCCV2120715P	0.100	0.117	-17	+/- 30%
Selenium	LLCCV2120715P	0.100	0.129	-29	+/- 30%
Silver	LLCCV2120715P	0.0200	0.0176	12	+/- 30%
Mercury	CCV3120815Y	0.00500	0.00512	-2.4	+/- 20%

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

TCLP METALS
EPA 1311/6010C

Matrix: TCLP Extract
Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	12-059-01					
Client ID:	S-01					
Arsenic	ND	0.40	6010C	12-7-15	12-7-15	
Lead	ND	0.20	6010C	12-7-15	12-7-15	

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

**TCLP METALS
EPA 1311/6010C
METHOD BLANK QUALITY CONTROL**

Date Prepared: 12-4-15
Date Extracted: 12-7-15
Date Analyzed: 12-7-15

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: MB1207TM1

Analyte	Method	Result	PQL
Arsenic	6010C	ND	0.40
Lead	6010C	ND	0.20

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

**TCLP METALS
EPA 1311/6010C
DUPLICATE QUALITY CONTROL**

Date Prepared: 12-4-15
Date Extracted: 12-7-15
Date Analyzed: 12-7-15

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: 12-059-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	0.40	
Lead	ND	ND	NA	0.20	

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TCLP METALS
 EPA 1311/6010C
 MS/MSD QUALITY CONTROL**

Date Prepared: 12-4-15

Date Extracted: 12-7-15

Date Analyzed: 12-7-15

Matrix: TCLP Extract

Units: mg/L (ppm)

Lab ID: 12-059-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	4.00	3.95	99	3.84	96	3	
Lead	10.0	9.54	95	9.30	93	3	

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

**TCLP METALS
EPA 1311/6010C
SPIKE BLANK QUALITY CONTROL**

Date Prepared: 12-4-15
Date Extracted: 12-7-15
Date Analyzed: 12-7-15

Matrix: TCLP Extract
Units: mg/L (ppm)

Lab ID: SB1207TM1

Analyte	Method	Spike Level	SB	Percent Recovery
Arsenic	6010C	4.00	3.93	98
Lead	6010C	10.0	9.51	95

Date of Report: December 8, 2015
 Samples Submitted: December 4, 2015
 Laboratory Reference: 1512-059
 Project: 0380.04.02

**TCLP METALS
 EPA 1311/6010C
 CONTINUING CALIBRATION SUMMARY**

Analyte	Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
Arsenic	ICV120715P	1.00	0.952	4.8	+/- 10%
Lead	ICV120715P	1.00	1.05	-5.0	+/- 10%
Arsenic	LLICV1120715P	0.100	0.0833	17	+/- 30%
Lead	LLICV1120715P	0.100	0.116	-16	+/- 30%
Arsenic	CCV1120715P	10.0	9.71	2.9	+/- 10%
Lead	CCV1120715P	10.0	9.87	1.3	+/- 10%
Arsenic	CCV2120715P	10.0	9.81	1.9	+/- 10%
Lead	CCV2120715P	10.0	10.1	-1.0	+/- 10%
Arsenic	LLCCV2120715P	0.100	0.106	-6.0	+/- 30%
Lead	LLCCV2120715P	0.100	0.117	-17	+/- 30%
Arsenic	CCV3120715P	10.0	9.68	3.2	+/- 10%
Lead	CCV3120715P	10.0	9.83	1.7	+/- 10%
Arsenic	LLCCV3120715P	0.100	0.100	0.10	+/- 30%
Lead	LLCCV3120715P	0.100	0.112	-12	+/- 30%

Date of Report: December 8, 2015
Samples Submitted: December 4, 2015
Laboratory Reference: 1512-059
Project: 0380.04.02

% MOISTURE

Date Analyzed: 12-4-15

Client ID	Lab ID	% Moisture
S-01	12-059-01	11



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
- Z -

ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference

Page 1 of 1[illegible]

Sample/Cooler Receipt and Acceptance Checklist

Client: MFA

Client Project Name/Number: 0380.04.02

OnSite Project Number: 12-059

Initiated by: MMV

Date Initiated: 12/4/15

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1	2	3	4
1.2 Were the custody seals intact?	Yes	No	N/A	1	2	3	4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1	2	3	4
1.4 Were the samples delivered on ice or blue ice?	<u>Yes</u>	No		1	2	3	4
1.5 Were samples received between 0-6 degrees Celsius?	<u>Yes</u>	No	Temperature: <u>3</u>				
1.6 Have shipping bills (if any) been attached to the back of this form?	<u>Yes</u>	N/A					
1.7 How were the samples delivered?	Client	Courier	<u>UPS/FedEx</u>	OSE Pickup			Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	<u>Yes</u>	No	1	2	3	4
2.2 Was the COC legible and written in permanent ink?	<u>Yes</u>	No	1	2	3	4
2.3 Have samples been relinquished and accepted by each custodian?	<u>Yes</u>	No	1	2	3	4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	<u>No</u>	1	2	3	4
2.5 Were all of the samples listed on the COC submitted?	<u>Yes</u>	No	1	2	3	4
2.6 Were any of the samples submitted omitted from the COC?	Yes	<u>No</u>	1	2	3	4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	<u>No</u>	1	2	3	4	
3.2 Were any sample labels missing or illegible?	<u>Yes</u>	No	1	2	3	4	
3.3 Have the correct containers been used for each analysis requested?	<u>Yes</u>	No	1	2	3	4	
3.4 Have the samples been correctly preserved?	Yes	No	<u>N/A</u>	1	2	3	4
3.5 Are volatile samples free from headspace and bubbles greater than 6mm?	Yes	No	<u>N/A</u>	1	2	3	4
3.6 Is there sufficient sample submitted to perform requested analyses?	<u>Yes</u>	No	1	2	3	4	
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	<u>No</u>	1	2	3	4	
3.8 Was method 5035A used?	<u>Yes</u>	No	N/A	1	2	3	4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#	1	N/A	1	2	3	4

Explain any discrepancies:

<u>2.4 & 3.2) labels illegible</u>

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747704

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/15/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/15/2015 15:15:24	Inbound	cmorris		Tare	96740 lb
Out	12/15/2015 15:35:21	Outbound	cmorris		Net	41440 lb
					Tons	55300 lb
						27.65

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.65	Tons	31.50	31.36	\$870.98	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.65	Tons	5.51		\$152.35	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.65	Tons	1.00		\$27.65	CHELAN

Driver's Signature

Total Tax \$31.36
Total Ticket \$1082.34



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747665

Ph: (509) 884-2802

CUSTOMER NAME: CI OF WENATCHEE CITY OF WENAT
Ticket Date: 12/15/2015
Payment Type: Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier: Halme Const
Vehicle# 107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/15/2015 11:27:35	Inbound	janelle		Tare	99140 lb
Out	12/15/2015 11:50:53	Outbound	janelle		Net	42020 lb
					Tons	57120 lb
						28.56

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	28.56	Tons	31.50	32.39	\$899.64	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	28.56	Tons	5.51		\$157.37	CHELAN
3 CDHD FEE-Chelan Douglas	100	28.56	Tons	1.00		\$28.56	CHELAN

Driver's Signature

Total Tax \$32.39
Total Ticket \$1117.96



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747690

Ph: (509) 884-2802

WASTE MANAGEMENT

Customer Name: CITY OF WENATCHEE
Ticket Date: 12/15/2015
Payment Type: Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier: Halme Const
Vehicle#: 107
Container
Driver
Check#
Billing#: 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	100480 lb
In	12/15/2015 13:26:00	Inbound	cmorris		Tare	41980 lb
Out	12/15/2015 13:43:46	Outbound	cmorris		Net	58500 lb
					Tons	29.25

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	29.25	Tons	31.50	33.17	\$921.38	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	29.25	Tons	5.51		\$161.17	CHELAN
3 CDHD FEE-Chelan Douglas	100	29.25	Tons	1.00		\$29.25	CHELAN

Total Tax \$33.17
Total Ticket \$1144.97

Driver's Signature



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747703

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/15/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/15/2015 15:14:04	Inbound	cmorris		Tare	100180 lb 41960 lb
Out	12/15/2015 15:32:34	Outbound	cmorris		Net	58220 lb
					Tons	29.11

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	29.11	Tons	31.50	33.01	\$916.97	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	29.11	Tons	5.51		\$160.40	CHELAN
3 CDHD FEE-Chelan Douglas	100	29.11	Tons	1.00		\$29.11	CHELAN

Total Tax \$33.01
Total Ticket \$1139.49

Driver's Signature



Greater Wenatchee Regional Landfill

191 Webb Road

Wenatchee, WA, 98802

Original

Ticket# 747757

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 101
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	98800 lb
In	12/16/2015 11:11:17	Inbound	janelle		Tare	42080 lb
Out	12/16/2015 11:33:32	Outbound	janelle		Net	56720 lb
					Tons	28.36

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	28.36	Tons	31.50	32.16	\$893.34 CHELAN
2 FEA-FUEL, ENV, ADMIN	100	38.36	Tons	5.51		\$156.26 CHELAN
3 CDHD FEE-Chelan Douglas	100	28.36	Tons			\$28.36 CHELAN

Driver's Signature

Total Tax \$32.16
Total Ticket \$1110.12



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747726

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 101
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 08:14:23	Inbound	cmorris		Tare	97800 lb
Out	12/16/2015 08:39:58	Outbound	cmorris		Net	42120 lb
					Tons	55680 lb
						27.84

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.84	Tons	31.50	31.57	\$876.96	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.84	Tons	5.51		\$153.40	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.84	Tons	1.00		\$27.84	CHELAN

Total Tax \$31.57
Total Ticket \$1089.77

Driver's Signature

203WM

Don Freeman



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747774

Ph: (509) 884-2802

Customer Name: CI OF WENATCHEE CITY OF WENAT
Ticket Date: 12/16/2015
Payment Type: Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier: Halme Const
Vehicle# 101
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 13:11:00	Inbound	cmorris		Tare	99520 lb 42000 lb
Out	12/16/2015 13:36:22	Outbound	cmorris		Net	57520 lb
					Tons	28.76

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil, Pet-RGC-Tons-C	100	28.76	Tons	31.50	32.61	\$905.94	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	28.76	Tons	5.51		\$158.47	CHELAN
3 CDHD-FEE-Chelan Douglas	100	28.76	Tons	1.00		\$28.76	CHELAN

Total Tax \$32.61
Total Ticket \$1125.78

Driver's Signature

Ben Fumman



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747792
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PD# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 15:12:38	Inbound	cmorris		Tare	98860 lb
Out	12/16/2015 15:33:48	Outbound	cmorris		Net	41420 lb
					Tons	57440 lb
						28.72

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	28.72	Tons	31.50	32.57	\$904.68	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	28.72	Tons	5.51		\$158.25	CHELAN
3 CDHD FEE-Chelan Douglas	100	28.72	Tons	1.00		\$28.72	CHELAN

Driver's Signature

Total Tax \$32.57
Total Ticket \$1124.22



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747777

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 13:20:33	Inbound	cmorris		Tare	97980 lb
Out	12/16/2015 13:44:48	Outbound	cmorris		Net	41440 lb
					Tons	56540 lb
						28.27

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	28.27	Tons	31.50	32.06	\$890.51	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	28.27	Tons	5.51		\$155.77	CHELAN
3 CDHD FEE-Chelan Douglas	100	28.27	Tons	1.00		\$28.27	CHELAN

Driver's Signature

Total Tax \$32.06
Total Ticket \$1106.61



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747762
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 11:32:55	Inbound	janelle		Tare	96980 lb
Out	12/16/2015 11:55:21	Outbound	cmorris		Net	41500 lb
					Tons	55480 lb
						27.74

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.74	Tons	31.50	31.46	\$873.81	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.74	Tons	5.51		\$152.85	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.74	Tons	1.00		\$27.74	CHELAN

Driver's Signature

203WM

Total Tax \$31.46
Total Ticket \$1085.86



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747744

Ph: (509) 884-2802

WASTE MANAGEMENT

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 09:51:57	Inbound	cmorris			96760 lb
Out	12/16/2015 10:16:54	Outbound	cmorris		Tare	41500 lb
					Net	55260 lb
					Tons	27.63

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.63	Tons	31.50	31.33	\$870.35	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.63	Tons	5.51		\$152.24	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.63	Tons	1.00		\$27.63	CHELAN

Driver's Signature

203WM

Total Tax \$31.33
Total Ticket \$1081.55



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747723

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 07:54:31	Inbound	cmorris		Tare	96300 lb
Out	12/16/2015 08:25:26	Outbound	cmorris		Net	41580 lb
					Tons	54720 lb
						27.36

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.36	Tons	31.50	31.03	\$861.84	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.36	Tons	5.51		\$150.75	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.36	Tons	1.00		\$27.36	CHELAN

Driver's Signature

203WM

Total Tax \$31.03
Total Ticket \$1070.98



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747743

Ph: (509) 884-2802

WASTE MANAGEMENT

Customer Name CI OF WENATCHEE CITY OF WENAT

Ticket Date 12/16/2015

Payment Type Credit Account

Manual Ticket#

Route

Hauling Ticket#

Destination

PO# 1004

Carrier Halme Const

Vehicle# 107

Container

Driver

Check#

Billing# 0508268

Grid

Volume

	Time	Scale	Operator	Inbound	Gross
In	12/16/2015 09:39:20	Inbound	cmorris		96540 lb
Out	12/16/2015 09:58:11	Outbound	cmorris		41720 lb
					Net 54820 lb
					Tons 27.41

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.41	Tons	31.50	31.08	\$863.42	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.41	Tons	5.51		\$151.03	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.41	Tons	1.00		\$27.41	CHELAN

Driver's Signature

Total Tax \$31.08
Total Ticket \$1072.94



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747722
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 07:48:08	Inbound	cmorris		Tare	95280 lb
Out	12/16/2015 08:12:03	Outbound	cmorris		Net	41900 lb
					Tons	53380 lb
						26.69

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	26.69	Tons	31.50	30.27	\$840.74	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	26.69	Tons	5.51		\$147.06	CHELAN
3 COHD FEE-Chelan Douglas	100	26.69	Tons	1.00		\$26.69	CHELAN

Driver's Signature

Total Tax \$30.27
Total Ticket \$1044.76



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747759

Ph: (509) 884-2802

Customer Name CJ OF WENATCHEE CITY OF WENAT Carrier Halme Const
Ticket Date 12/16/2015 Vehicle# 107
Payment Type Credit Account Container
Manual Ticket# Driver
Route Check#
Hauling Ticket# Billing# 0508268
Destination Grid
PO# 1004

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 11:16:52	Inbound	janelle		Tare	96100 lb
Out	12/16/2015 11:35:51	Outbound	janelle		Net	41740 lb
					Tons	54360 lb
						27.18

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RBC-Tons-C	100	27.18	Tons	31.50	30.82	\$856.17	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.18	Tons	5.51		\$149.76	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.18	Tons	1.00		\$27.18	CHELAN

Total Tax \$30.82
Total Ticket \$1063.93

Driver's Signature



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747772
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT

Ticket Date 12/16/2015

Payment Type Credit Account

Manual Ticket#

Route

Hauling Ticket#

Destination

PD# 1004

Carrier Halme Const

Vehicle# 107

Container

Driver

Check#

Billing# 0508268

Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/16/2015 12:56:07	Inbound	cmorris		Tare	94880 lb
Out	12/16/2015 13:12:23	Outbound	cmorris		Net	41700 lb
					Tons	53180 lb
						26.59

Comments

I acknowledge I have no hazardous materials.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Cont Soil Pet-RGC-Tons-C	100	26.59	Tons	31.50	30.15	\$837.59	CHELAN
2	FEA-FUEL, ENV, ADMIN	100	26.59	Tons	5.51		\$146.51	CHELAN
3	CDHD FEE-Chelan Douglas	100	26.59	Tons	1.00		\$26.59	CHELAN

Driver's Signature

Total Tax \$30.15
Total Ticket \$1040.84



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747788
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/16/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PD# 1004

Carrier Halme Const
Vehicle# 0107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	96760 lb
In	12/16/2015 14:32:43	Inbound	cmorris		Tare	41680 lb
Out	12/16/2015 14:55:29	Outbound	cmorris		Net	55080 lb
					Tons	27.54

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.54	Tons	31.50	31.23	\$867.51	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.54	Tons	5.51		\$151.75	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.54	Tons	1.00		\$27.54	CHELAN

Total Tax \$31.23
Total Ticket \$1078.03

Driver's Signature



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747910
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/18/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/18/2015 14:28:24	Inbound	janelle		Tare	97420 lb
Out	12/18/2015 15:03:43	Outbound	janelle		Net	41740 lb
					Tons	55680 lb
						27.84

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.84	Tons	31.50	31.57	\$876.96	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.84	Tons	5.51		\$153.40	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.84	Tons	1.00		\$27.84	CHELAN

Driver's Signature

Total Tax \$31.57
Total Ticket \$1089.77



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747913
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT

Ticket Date 12/18/2015

Payment Type Credit Account

Manual Ticket#

Route

Hauling Ticket#

Destination

PD# 1004

Carrier Halme Const

Vehicle# 101

Container

Driver

Check#

Billing# 0508268

Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/18/2015 14:54:46	Inbound	janelle			100960 lb
Out	12/18/2015 15:24:39	Outbound	janelle		Tare	42000 lb
					Net	58960 lb
					Tons	29.48

Comments: Don 101 12-18-15

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	29.48	Tons	31.50	33.43	\$928.62	CHELAN
2 FEE-FUEL, ENV, ADMIN	100	29.48	Tons	5.51		\$162.43	CHELAN
3 CDHD FEE-Chelan Douglas	100	29.48	Tons	1.00		\$29.48	CHELAN

Driver's Signature

Total Tax \$33.43
Total Ticket \$1153.96



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747911

Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/18/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PD# 1004

Carrier Halme Const
Vehicle# 107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/18/2015 14:41:33	Inbound	janelle		Tare	95840 lb
Out	12/18/2015 15:05:01	Outbound	janelle		Net	42200 lb
					Tons	53640 lb
						26.82

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	26.82	Tons	31.50	30.41	\$844.83	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	26.82	Tons	5.51		\$147.78	CHELAN
3 CDHD FEE-Chelan Douglas	100	26.82	Tons	1.00		\$26.82	CHELAN

Driver's Signature

203WM

Total Tax \$30.41
Total Ticket \$1049.84



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747946

Ph: (509) 884-2802

Customer Name C1 OF WENATCHEE CITY OF WENAT
Ticket Date 12/21/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 108
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/21/2015 09:05:04	Inbound	cmorris		Tare	95260 lb
Out	12/21/2015 09:42:51	Outbound	cmorris		Net	41820 lb
					Tons	53440 lb
						26.72

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	26.72	Tons	31.50	30.30	\$841.68	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	26.72	Tons	5.51		\$147.23	CHELAN
3 CDHD FEE-Chelan Douglas	100	26.72	Tons	1.00		\$26.72	CHELAN

Driver's Signature

Total Tax \$30.30
Total Ticket \$1045.93



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Ph: (509) 884-2802

Original
Ticket# 747948

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/21/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 107
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/21/2015 09:07:53	Inbound	cmorris			96960 lb
Out	12/21/2015 10:45:45	Outbound	cmorris		Tare	42140 lb
					Net	54820 lb
					Tons	27.41

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	27.41	Tons	31.50	31.08	\$863.42	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	27.41	Tons	5.51		\$151.03	CHELAN
3 CDHD FEE-Chelan Douglas	100	27.41	Tons	1.00		\$27.41	CHELAN

Total Tax \$31.08
Total Ticket \$1072.94

Driver's Signature



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747947
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/21/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PD# 1004

Carrier Halme Const
Vehicle# 103
Container
Driver
Check#
Billing# 0508258
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/21/2015 09:06:00	Inbound	cmorris		Tare	94300 lb
Out	12/21/2015 10:00:38	Outbound	cmorris		Net	44020 lb
					Tons	50280 lb
						25.14

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	25.14	Tons	31.50	28.51	\$791.91	CHELAN
2 FER-FUEL, ENV, ADMIN	100	25.14	Tons	5.51		\$138.52	CHELAN
3 CDHD FEE-Chelan Douglas	100	25.14	Tons	1.00		\$25.14	CHELAN

Driver's Signature

Total Tax \$28.51
Total Ticket \$984.08



Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 747945

Ph: (509) 884-2802

WASTE MANAGEMENT

Customer Name **CI OF WENATCHEE CITY OF WENAT** Carrier **Halme Const**

Ticket Date **12/21/2015**

Vehicle# **101**

Volume

Payment Type **Credit Account**

Container

Manual Ticket#

Driver

Route

Check#

Hauling Ticket#

Billing# **0508268**

Destination

Grid

PO# **1004**

	Time	Scale	Operator	Inbound	Gross	
In	12/21/2015 09:04:11	Inbound	cmorris			181180 lb
Out	12/21/2015 09:33:29	Outbound	cmorris		Tare	42660 lb
					Net	58520 lb
					Tons	29.26

Handwritten: 42120, 12-21-15

Comments

Handwritten: 10 hrs, 12-21-15 BC
I acknowledge I have no hazardous materials

Product	LDX	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGD-Tons-C	100	29.26	Tons	31.50	33.18	\$921.69	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	29.26	Tons	5.51		\$161.22	CHELAN
3 CDHD FEE-Chelan Douglas	100	29.26	Tons	1.00		\$29.26	CHELAN

Handwritten: Halme, 26.96, 7.38, 96.04

Driver's Signature

Total Tax
Total Ticket

\$33.18
\$1145.35



WASTE MANAGEMENT

Greater Wenatchee Regional Landfill
191 Webb Road
Wenatchee, WA, 98802

Original
Ticket# 748024
Ph: (509) 884-2802

Customer Name CI OF WENATCHEE CITY OF WENAT
Ticket Date 12/22/2015
Payment Type Credit Account
Manual Ticket#
Route
Hauling Ticket#
Destination
PO# 1004

Carrier Halme Const
Vehicle# 103
Container
Driver
Check#
Billing# 0508268
Grid

Volume

	Time	Scale	Operator	Inbound	Gross	
In	12/22/2015 15:14:18	Inbound	cmorris		Tare	87460 lb
Out	12/22/2015 15:33:46	Outbound	cmorris		Net	44840 lb
					Tons	42620 lb
						21.31

Comments

I acknowledge I have no hazardous materials.

Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1 Cont Soil Pet-RGC-Tons-C	100	21.31	Tons	31.50	24.17	\$671.27	CHELAN
2 FEA-FUEL, ENV, ADMIN	100	21.31	Tons	5.51		\$117.42	CHELAN
3 CDHD FEE-Chelan Douglas	100	21.31	Tons	1.00		\$21.31	CHELAN

Driver's Signature

Total Tax \$24.17
Total Ticket \$834.17

APPENDIX D

PROTECTIVE CAP MATERIAL APPROVAL DOCUMENTATION





Request for Approval of Material

Contract Number 1004	FA Number	SR	Date 11/4/2015
Section / Title of Project Former Public Works Yard Remedial Action			County Chelan
Contractor Halme Construction, Inc.		Subcontractor N/A	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM #

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code
8	Demarcation Geotextile	Crown Resources, LLC Toccoa, GA	02 66 00		

Project Engineer <i>[Signature]</i>	Date 11/4/2015	State Materials Engineer	Date
--	-------------------	--------------------------	------

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

1. Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
2. Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
3. Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved ☐ Yes ☐ No
4. Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
5. Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
6. Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
7. Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
8. Source Approved:

9. Approval Withheld: Submit samples for preliminary evaluation.

10. Approval Withheld:

11. Miscellaneous Acceptance Criteria.

Remarks:

Project Engineer Distribution

- | | |
|---|--|
| ☐ Contractor | ☐ Region Materials |
| ☐ Region Operations Engineer | ☐ State Materials Lab |
| ☐ Fabrication Inspection | M/S 47365 |

State Materials Engineer Distribution

- | | |
|---------------------------------------|---|
| ☐ General File | ☐ Signing Inspection |
| ☐ Other | |

Crown Resources, LLC

2694 Hayes Wilbank Road
Toccoa, GA 30577
(864)968-0592

Geotextile Product Description Sheet

Style R060OR Orange

R060OR is a nonwoven geotextile produced by needlepunching 100% polypropylene staple fibers in a random network to form a high strength dimensionally stable fabric. The fibers are specially formulated to resist ultraviolet light deterioration, and are inert to commonly encountered soil chemicals. The fabric will not rot or mildew, is non-biodegradable, and is resistant to damage from insects and rodents. R060OR conforms to the physical property values listed below:

Fabric Property	Test Method	Units	Minimum Average Roll Value
Weight - Typical	ASTM D 5261	oz/sqyd	6.0
Grab Tensile	ASTM D 4632	lbs	160 (.711kN)
Grab Elongation	ASTM D 4632	%	50
Trap Tear	ASTM D 4533	lbs	60 (.267 kN)
CBR Puncture	ASTM D 6241	lbs	410 (1.82 kN)
Permittivity	ASTM D 4491	1/sec	1.5
Water Flow	ASTM D 4491	gpm/sqft	110 (4480 l/min/sm)
AOS	ASTM D 4751	U.S. Sieve	70 (.212 mm)
UV Resistance after 500 hrs.	ASTM D 4355	% Strength Retained	70
Packaging			
Roll Dimensions-Feet			12.5 x 360/15 x 300
Square Yards Per Roll			500
Estimated Roll Weight-Lbs.			210

To the best of our knowledge, the information contained herein is accurate. However, Crown Resources cannot anticipate all conditions under which product information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety or suitability of our products either alone or in combination with other products. Final determination of the suitability of any information or material for the use contemplated, of its manner of use, and whether the suggested use infringes any patents is the sole responsibility of the user.



Request for Approval of Material

Contract Number 1004	FA Number	SR	Date 11/20/2015
Section / Title of Project Former Public Works Yard Remedial Action			County Chelan
Contractor Halme Construction, Inc.		Subcontractor N/A	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For assistance in completing, see Instructions and Example

**For WSDOT Use Only
RAM #**

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code
10	Crushed Surfacing Base Course	Central Washington Asphalt Wenatchee, WA	1.22.00 Part 2-2.11		
09	Top Soil	Dave's Apple Barrel Bark Landscaping Supplies Chelan, WA	1.22.00 Part 2-2.10		

Project Engineer 	Date 11/20/2015	State Materials Engineer	Date
---	--------------------	--------------------------	------

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

- Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved ☐ Yes ☐ No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved:

9. Approval Withheld: Submit samples for preliminary evaluation.

10. Approval Withheld:

11. Miscellaneous Acceptance Criteria.

Remarks:

Project Engineer Distribution

- ☐ Contractor
☐ Region Operations Engineer
☐ Fabrication Inspection
☐ Region Materials
☐ State Materials Lab
 M/S 47365

State Materials Engineer Distribution

- ☐ General File
☐ Other _____
☐ Signing Inspection

MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

CLIENT:	Halme Construction	LAB NO:	15-2938
PROJECT NO:	15-190	DATE RCVD:	11/18/2015
PROJECT:	Public Works Bldg	DATE TESTED:	11/18/2015
CONTRACTOR:	Client	SUBMITTED BY:	Client
LOCATION:	Bob's Apple Barrel	SAMPLE DEPTH:	Stockpile

SIEVE SIZE	ACCUMULATED WT. RETAINED (grams)	PERCENT RETAINED	PERCENT PASSING		PERCENT FRACTURE
3/8"	0	0	100%		
#4	26.2	4%	96%		
10	148.4	23%	77%		
16	226.5	36%	64%		
30	319.4	50%	50%		
40	367.3	58%	42%		
80	463.0	73%	27%		
100	482.0	76%	24%		
200	537.6	84.6%	15.4%		
TOTAL	635.7				

REMARKS: _____

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.

CSI: Construction Special Inspection
MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

MOISTURE DENSITY RELATIONSHIP ASTM-D1557 or ASTM D-698 PROCTOR
UNIT WEIGHT AND WATER CONTENT CORRECTIONS FOR SOILS CONTAINING
OVERSIZE PARTICLES - ASTM D-4718

CLIENT:	Halme Construction	LAB NO:	15-2939
PROJ. NO:	15-190	SIEVE NO:	15-2938
PROJECT:	Public Works bldg	DATE TESTED:	11/19/2015
CONTRACTOR:	client	TEST METHOD:	D698-A
LOCATION:	bobs apple barrel	SUBMITTED BY:	client

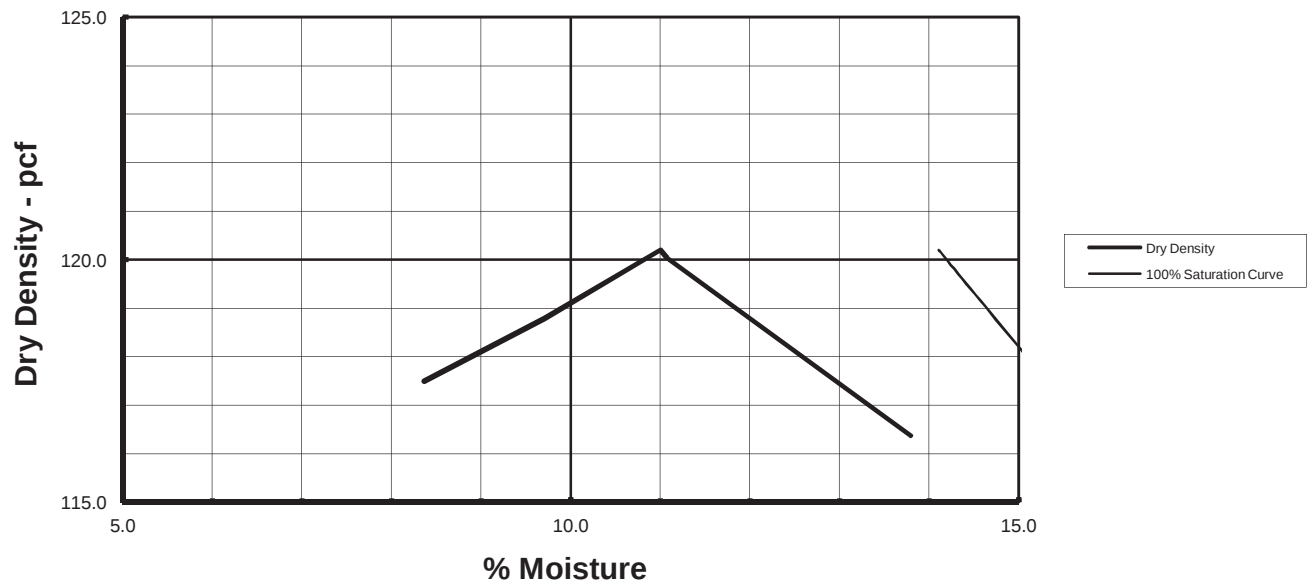
SAMPLE DESCRIPTION: top soil

OPTIMUM MOISTURE:	11.0	PCT. + #4 =	
MAXIMUM DRY DENSITY:	120.2	* PCT. + 3/8" =	
		PCT. + 3/4" =	

PREPARATION METHOD: DRY MOIST x

WATER ADDED	0	50	100	150		
MOLD + WET SOIL	13.49	13.59	13.69	13.66		
WEIGHT OF MOLD	9.25	9.25	9.25	9.25		
WT. OF WET SOIL	4.24	4.34	4.44	4.41		
WET DENSITY PCF	127.3	130.3	133.3	132.4		

PAN/PAN NUMBER	F-1	A-1	C-1	E-1		
PAN + WET SOIL	904.8	837.6	826.0	931.6		
PAN + DRY SOIL	849.6	779.9	762.4	841.6		
WEIGHT OF PAN	189.6	185.7	188.5	189.3		
WT. OF WATER	55.2	57.7	63.6	90.0		
WT. OF DRY SOIL	660.0	594.2	573.9	652.3		
PERCENT WATER	8.4	9.7	11.1	13.8		
DRY DENSITY PCF	117.5	118.8	120.0	116.4		



* Rock Correction using Bulk Specific Gravity of 2.65 Calculated _____ Estimated _____ x

* Moisture Correction = _____ %

Field Moisture = 9.1 % Rammer: Manual x Mechanical _____

REMARKS:

TECHNICIAN: R. GILL PROJECT MGR: J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.



8727 W. Hwy 2 #100
Spokane, WA 99224

P: 509-725-4200
F: 509-725-4202

info@halmeconstruction.com
www.halmeconstruction.com

WA License #HALMECI061R7
ID License #RCE-27219

Borrow Site Certification

For the purpose of satisfying the contract requirements for the City of Wenatchee's Public Works Yard Remedial Action Project (Section 02 66 00), we certify the proposed borrow site has never been contaminated with hazardous or toxic materials.

To the best of our knowledge


Name Signed

11-18-15
Date

DAVE SPANJER
Name Printed

Apple Band Break
Company

Sandy loam Screened Topsoil
Material

4480 US Hwy 97A
Borrow Site Location/Pit No.

CSI: Construction Special Inspection

TESTING - INSPECTION

104 East 9th Street
Wenatchee WA 98801

CLASSIFICATION SIEVE ANALYSIS ASTM C-136 OR D-422

CLIENT:	Halme Construction	LAB NO:	15-2936
PROJ. NO:	15-190	DATE REC'D:	11/18/2015
PROJECT:	Public works bldg	DATE TESTED:	11/18/2015
CONTRACTOR:	client	SUBMITTED BY:	client
LOCATION:	cwa pit	DEPTH:	stockpile

PERCENT MOISTURE OF FINES: 6.7%
SAMPLE DESCRIPTION: base course

SCREEN SIZE	ACC. WT. RETAINED	PERCENT RETAINED	PERCENT PASSING	FRACTURE COUNT	TOTAL PERCENT		
1 1/4"	0	0	100%		100%	99-100%	
1	325	4%	96%		96%	80-100%	
3/4	1502	18%	82%		82%		
5/8	2192	26%	74%		74%	50-80%	
3/8	4114	48%	52%		52%		
#4	5128	60.3%	39.7%		39.7%	24-45%	
TOTAL	8498						

SIEVE	ACC. WT. RETAINED	PERCENT RETAINED	PERCENT PASSING	X-FACTOR				
#8	144.2	24%	76%	0.397		30%		
10	174.3	30%	70%	0.397		28%		
40	393.1	67%	33%	0.397		13%	3-18%	
200	498.3	84.6%	15.4%	0.397		6.1%	7.5 Max%	
TOTAL	588.7							

WGT. OF PAN SAMPLE:	3593	PAN I.D & WGT.:	U.297.4
WGT. OF PAN SAMPLE - MOISTURE:	3370	WGT. PAN & WET SOIL:	925.3
		WGT. PAN & DRY SOIL:	886.1

REMARKS: _____

TECHNICIAN: D.Nyland PROJ. MGR J.HILLS

Note: All sample material will be discarded after 10 days of receipt unless otherwise notified.

CSI: Construction Special Inspection
MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

MOISTURE DENSITY RELATIONSHIP ASTM-D1557 or ASTM D-698 PROCTOR
UNIT WEIGHT AND WATER CONTENT CORRECTIONS FOR SOILS CONTAINING
OVERSIZE PARTICLES - ASTM D-4718

CLIENT:	Halme Construction	LAB NO:	15-2937
PROJ. NO:	15-190	SIEVE NO:	15-2936
PROJECT:	Public works bldg	DATE TESTED:	11/19/2015
CONTRACTOR:	client	TEST METHOD:	D698-C
LOCATION:	cwa pit	SUBMITTED BY:	client

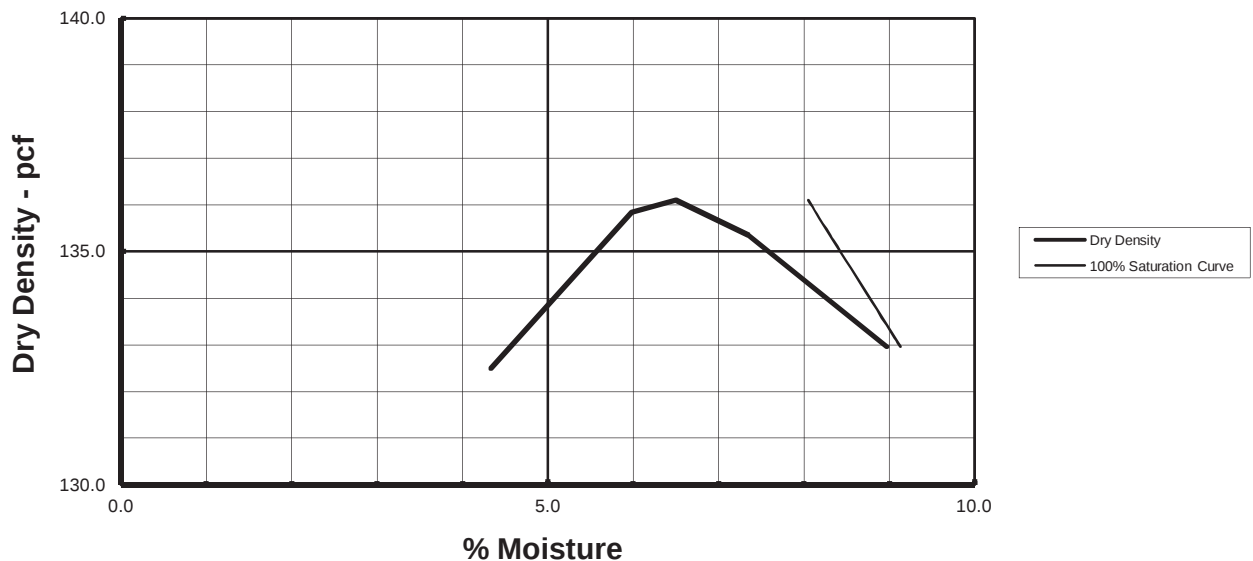
SAMPLE DESCRIPTION: base course

OPTIMUM MOISTURE:	6.5	5.5	PCT. + #4 =	
MAXIMUM DRY DENSITY:	136.1	* 140.6	PCT. + 3/8" =	
			PCT. + 3/4" =	18

PREPARATION METHOD: DRY _____ MOIST _____ x _____

WATER ADDED	0	100		200	300		
MOLD + WET SOIL	22.75	23.18		23.28	23.25		
WEIGHT OF MOLD	12.38	12.38		12.38	12.38		
WT. OF WET SOIL	10.37	10.80		10.90	10.87		
WET DENSITY PCF	138.2	144.0		145.3	144.9		

PAN/PAN NUMBER	D-1	B-1		X-1	G-1		
PAN + WET SOIL	743.8	870.7		1188.3	963.0		
PAN + DRY SOIL	721.0	832.2		1120.5	899.5		
WEIGHT OF PAN	194.8	188.8		198.2	191.9		
WT. OF WATER	22.8	38.5		67.8	63.5		
WT. OF DRY SOIL	526.2	643.4		922.3	707.6		
PERCENT WATER	4.3	6.0		7.4	9.0		
DRY DENSITY PCF	132.5	135.8		135.3	133.0		



* Rock Correction using Bulk Specific Gravity of 2.65 Calculated _____ Estimated x

* Moisture Correction = 0.9 %

Field Moisture = 6.7 % Rammer: Manual _____ Mechanical x

REMARKS:

TECHNICIAN: D. NYLAND PROJECT MGR: J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.



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WA License #HALMECI061R7
ID License #RCE-27219

Borrow Site Certification

For the purpose of satisfying the contract requirements for the City of Wenatchee's Public Works Yard Remedial Action Project (Section 02 66 00), we certify the proposed borrow site has never been contaminated with hazardous or toxic materials.

Tyson Morris
Name Signed

11/18/15 Date

Tyson Morris
Name Printed

Central Washington Asphalt
Company

Crushed Surfacing Base Course
Material

PS-K-230
Borrow Site Location/Pit No.



Request for Approval of Material

Contract Number 1004	FA Number	SR	Date 11/25/2015
Section / Title of Project Former Public Works Yard Remedial Action		County Chelan	
Contractor Halme Construction, Inc.		Subcontractor N/A	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM #

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code
09	Topsoil	Northern Fruit Co. East Wenatchee, WA	1.22.00 Part 2-2.10		

Project Engineer <i>[Signature]</i>	Date 11/25/2015	State Materials Engineer	Date
--	--------------------	--------------------------	------

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

1. Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
2. Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
3. Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved ☐ Yes ☐ No
4. Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
5. Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
6. Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
7. Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
8. Source Approved: _____
9. Approval Withheld: Submit samples for preliminary evaluation.
10. Approval Withheld: _____
11. Miscellaneous Acceptance Criteria.

Remarks:

Project Engineer Distribution

- ☐ Contractor ☐ Region Materials
☐ Region Operations Engineer ☐ State Materials Lab
☐ Fabrication Inspection M/S 47365

State Materials Engineer Distribution

- ☐ General File ☐ Signing Inspection
☐ Other _____



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WA License #HALMECI061R7
ID License #RCE-27219

Borrow Site Certification

For the purpose of satisfying the contract requirements for the City of Wenatchee's Public Works Yard Remedial Action Project (Section 02 66 00), we certify the proposed borrow site has never been contaminated with hazardous or toxic materials.

Name Signed

11/19/2015

Date

Name Printed

Alex Guerra

Company

NORTHERN FRUIT CO.

Material

Dirt/Sand

Borrow Site Location/Pit No.

1651 Rock Island Rd. E. WENATCHEE WA 98802

MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

CLIENT:	Halme Construction	LAB NO:	15-2946
PROJECT NO:	15-190	DATE RCVD:	11/19/2015
PROJECT:	Public Works Building	DATE TESTED:	11/20/2015
CONTRACTOR:	Client	SUBMITTED BY:	L.Duenas
LOCATION:	Ice Lakes Fill	SAMPLE DEPTH:	(-2')

DESCRIPTION: Topsoil

SIEVE SIZE	ACCUMULATED WT. RETAINED (grams)	PERCENT RETAINED	PERCENT PASSING		PERCENT FRACTURE
3/8"	0	0	100%		
#4	4.6	1%	99%		
10	22.1	3%	97%		
16	57.9	8%	92%		
30	153.3	21%	79%		
40	229.7	31%	69%		
80	524.3	71%	29%		
100	566.6	77%	23%		
200	658.8	89.4%	10.6%		
TOTAL	737.1				

FIELD MOISTURE: 6.2%

REMARKS:

TECHNICIAN: R. GILL PROJ. MGR. J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.

CSI: Construction Special Inspection
MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

MOISTURE DENSITY RELATIONSHIP ASTM-D1557 or ASTM D-698 PROCTOR
UNIT WEIGHT AND WATER CONTENT CORRECTIONS FOR SOILS CONTAINING
OVERSIZE PARTICLES - ASTM D-4718

CLIENT:	Halme Const	LAB NO:	15-2947
PROJ. NO:	15-190	SIEVE NO:	15-2946
PROJECT:	Public Works Building	DATE TESTED:	11/20/2015
CONTRACTOR:	Client	TEST METHOD:	D698-A
LOCATION:	Ice Lakes Fill	SUBMITTED BY:	L.Duenas

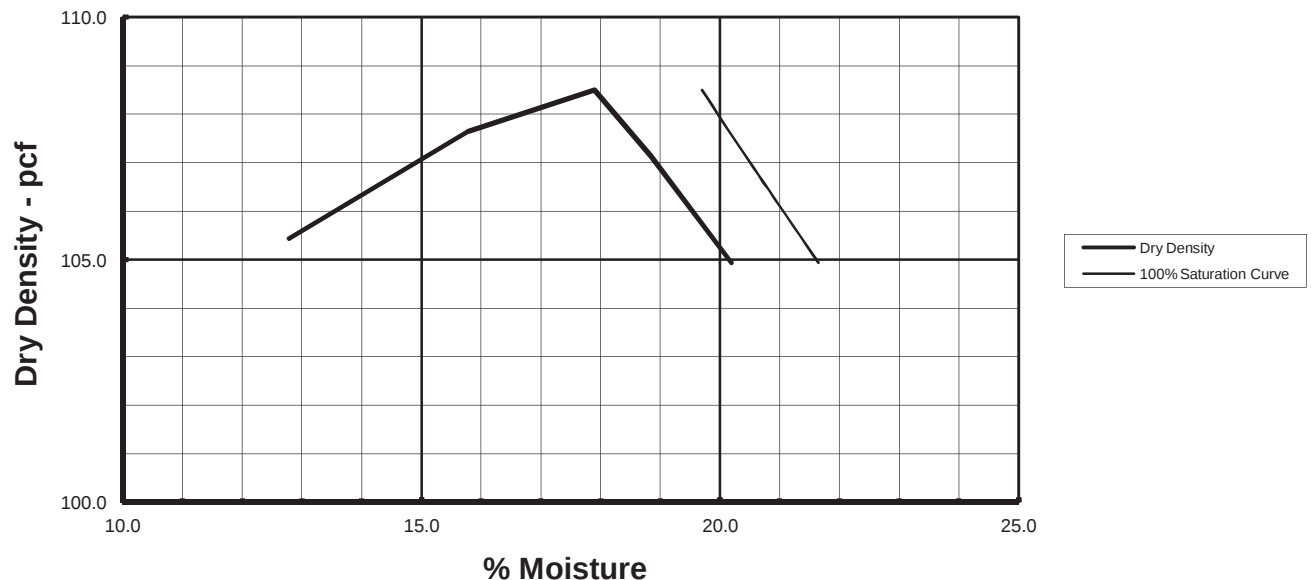
SAMPLE DESCRIPTION: Topsoil

OPTIMUM MOISTURE:	17.9	PCT. + #4 =	
MAXIMUM DRY DENSITY:	108.5	* PCT. + 3/8" =	
		PCT. + 3/4" =	

PREPARATION METHOD: DRY MOIST x

WATER ADDED	200	300		400	500		
MOLD + WET SOIL	13.21	13.40		13.49	13.45		
WEIGHT OF MOLD	9.25	9.25		9.25	9.25		
WT. OF WET SOIL	3.96	4.15		4.24	4.20		
WET DENSITY PCF	118.9	124.6		127.3	126.1		

PAN/PAN NUMBER	A-1	F-1		C-1	B-1		
PAN + WET SOIL	835.2	890.0		663.7	908.3		
PAN + DRY SOIL	761.6	794.6		588.4	787.5		
WEIGHT OF PAN	185.8	189.9		188.8	189.1		
WT. OF WATER	73.6	95.4		75.3	120.8		
WT. OF DRY SOIL	575.8	604.7		399.6	598.4		
PERCENT WATER	12.8	15.8		18.8	20.2		
DRY DENSITY PCF	105.4	107.6		107.1	104.9		



* Rock Correction using Bulk Specific Gravity of 2.65 Calculated _____ Estimated _____ x

* Moisture Correction = _____ %

Field Moisture = 6.2 % Rammer: Manual _____ x Mechanical _____

REMARKS: _____

TECHNICIAN: R. GILL PROJECT MGR: J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.



Request for Approval of Material

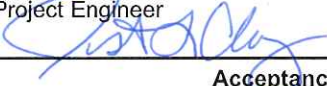
Contract Number 1004	FA Number	SR	Date 12/04/15
Section / Title of Project Former Public Works Yard Remedial Action			County Chelan
Contractor Halme Construction, Inc.		Subcontractor N/A	

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM #

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code
10	Crushed Surfacing Base Course	Central Premix Concrete Co. (CWC) PS-DO-209 Rock Island	1.22.00 Part 2-2.11		
10	Crushed Surfacing Top Course	Central Premix Concrete Co. (CWC) PS-DO-209 Rock Island	1.22.00 Part 2-2.11		

Project Engineer 	Date 12/4/2015	State Materials Engineer	Date
---	-------------------	--------------------------	------

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

1. Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
2. Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
3. Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved ☐ Yes ☐ No
4. Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
5. Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
6. Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
7. Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
8. Source Approved:
9. Approval Withheld: Submit samples for preliminary evaluation.
10. Approval Withheld:
11. Miscellaneous Acceptance Criteria.

Remarks:

Project Engineer Distribution

- ☐ Contractor
☐ Region Operations Engineer
☐ Fabrication Inspection
☐ Region Materials
☐ State Materials Lab
 M/S 47365

State Materials Engineer Distribution

- ☐ General File
☐ Other _____
☐ Signing Inspection



WSDOT MATERIALS LAB

05/17/2013

Aggregate Source Approval Report

Owner: Central Pre-Mix Concrete Co.
 Lessee:
 Located in: SE 1/4 NW 1/4 Section 25 T22N R21E

Aggregate Source: PS-DO-209
 Known as: Rock Island Pit
 County: Douglas

Remarks:

Concrete Deg test results..01/31/2013 = 78..BH

Pit Run Materials:

At the discretion of the Project Engineer, preliminary samples for Gradation and Sand Equivalent tests may be performed to determine if the material does in fact meet the specification for the intended use:

Backfill for Rock Wall	Backfill for Sand Drains	Bedding Material for Rigid Pipe
Bedding Material for Thermoplastic Pipe	Blending Sand	Foundation Material for Classes A, B or C
Gravel Backfill for Drains and Drywells	Gravel Backfill for Foundation Class B	Gravel Backfill for Pipe Zone Bedding
Gravel Backfill for Walls	Gravel Borrow	Sand Drainage Blanket
Select or Common Borrow		

No Preliminary Tests are required to be performed by the State Materials Lab

Gravel Base:

Test Date: 07/07/1994

Expiration Date: 07/07/2004

Drainage: Free

R Value: 77

Swell Pressure: 0

Contact the Regional Materials Office to request PRELIMINARY SAMPLES be acquired. Evaluation and approval of this site as a source of GRAVEL BASE is required prior to use.

Mineral Agg. and Surfacing:

Test Date: 01/08/2013

Expiration Date: 01/08/2018

Absorption:

Apparent Sp. G.:

Bulk Sp. G. (SSD): 2.723

Bulk Sp. G.:

Deg: 78

LA: 21

Currently approved as a source of aggregate for:

ATB	Ballast	BST Crushed Cover Stone
BST Crushed Screenings	Crushed Surfacing Base Course	Crushed Surfacing Key Stone
Crushed Surfacing Top Course	Gravel Backfill for Foundation Class A	HMA Other Courses
HMA Wearing Course	Maintenance Rock	Permeable Ballast

Acceptance tests need to be performed as necessary.

Portland Cement Concrete Aggregates:

Test Date: 01/31/2013

Expiration Date: 01/31/2018

ASR - 14 Day : 0.438

ASR - One Year: 0.037

CCA Absorption: 1.16

CCA Sp.G: 2.701

FCA Absorption: 1.32

FCA Organics: 1

FCA Sp. G: 2.645

LA: 22

Mortar Strength:

Petrographic Analysis:

Currently approved for:

Coarse Concrete Aggregates

Fine Concrete Aggregates

Acceptance tests need to be performed as necessary

Riprap and Quarry Spalls:

Test Date:

Expiration Date:

Please see Remarks for Riprap and Quarry Spalls results.



**Statistical Analysis 09/18/2015 - 11/24/2015
Oldcastle Materials 120_01213-Rock Island 2350-5/8" Top Course**

Sample Id	Date	Status	3/4" (19mm)	1/2" (12.5mm)	#4 (4.75mm)	#40 (0.425mm)	#200 (75µm)	Pan (%)
1938976126	09/18/2015 12:41	Pass	100.0	92.4	56.5	16.9	7.75	0.00
1590483366	09/21/2015 14:33	Pass	100.0	86.8	49.7	13.4	5.87	0.00
1929112504	09/22/2015 11:48	Pass	100.0	90.0	56.2	15.4	6.48	0.00
1903884667	09/23/2015 14:58	Pass	100.0	90.4	52.6	14.2	6.26	0.00
1868986164	09/24/2015 09:28	Pass	100.0	88.9	55.9	16.6	7.33	0.00
1872053692	09/25/2015 11:06	Pass	99.6	88.3	50.8	14.7	6.09	0.00
1936962031	09/28/2015 14:42	Pass	100.0	89.9	53.4	14.6	6.42	0.00
1872054085	09/30/2015 13:19	Pass	100.0	91.5	56.7	15.6	6.97	0.00
1941405441	10/01/2015 12:08	Pass	100.0	91.2	56.7	18.4	8.82	0.00
1843756788	10/02/2015 12:18	Pass	100.0	93.6	58.5	17.7	8.13	0.00
1912489025	10/05/2015 14:46	Pass	100.0	89.7	51.5	13.6	5.85	0.00
1843171009	10/06/2015 14:17	Pass	100.0	91.3	55.8	17.8	8.42	0.00
1868985088	10/08/2015 14:37	Pass	100.0	93.7	63.9	19.2	8.05	0.00
1844567798	10/12/2015 13:49	Pass	100.0	95.0	55.8	15.7	7.13	0.00
1784877910	10/13/2015 13:16	Pass	100.0	90.5	49.8	14.6	6.32	0.00
1872054759	10/15/2015 13:24	Pass	100.0	91.9	61.1	19.6	9.00	0.00
1859486420	10/19/2015 09:32	Pass	100.0	89.3	51.3	14.0	6.29	0.00
1784878769	10/20/2015 09:26	Pass	100.0	93.1	58.5	18.2	7.98	0.00
1941997300	10/21/2015 06:16	Pass	100.0	90.3	55.7	16.4	7.19	0.00
1847649917	10/22/2015 06:06	Pass	100.0	93.4	66.0	19.1	7.58	0.00
1844568039	10/26/2015 12:11	Pass	100.0	93.8	60.0	15.7	6.34	0.00
1961625482	10/27/2015 07:00	Pass	100.0	90.9	52.8	14.4	6.41	0.00
1859486435	10/28/2015 07:19	Pass	100.0	93.2	60.1	15.1	8.67	0.00
1707533204	11/02/2015 06:38	Pass	100.0	91.6	54.4	14.9	6.27	0.00
1912488029	11/03/2015 12:37	Pass	100.0	91.9	58.3	17.0	7.39	0.00

StonemontQC

Oldcastle Materials



Statistical Analysis 09/18/2015 - 11/24/2015
Oldcastle Materials 120_01213-Rock Island 2350-5/8" Top Course

Sample Id	Date	Status	3/4" (19mm)	1/2" (12.5mm)	#4 (4.75mm)	#40 (0.425mm)	#200 (75µm)	Pan (%)
1707533609	11/09/2015 15:12	Fail	100.0	90.4	43.7	12.0	5.28	0.00
1925147653	11/16/2015 15:20	Pass	100.0	92.2	54.2	15.8	7.23	0.00
1707533187	11/17/2015 15:12	Pass	100.0	92.9	57.2	14.0	5.67	0.00
1718748566	11/19/2015 14:56	Pass	100.0	90.8	57.2	15.4	6.38	0.00
1920462093	11/24/2015 14:18	Pass	100.0	92.1	53.6	12.6	5.18	0.00

Count	30	30	30	30	30	30	30
Min	99.6	86.8	43.7	12.0	5.18	0.00	
Max	100.0	95.0	66.0	19.6	9.00	0.00	
Range	0.4	8.2	22.3	7.6	3.82	0.00	
Mean	100.0	91.4	55.6	15.8	6.96	0.00	
St Dev	0.07	1.83	4.46	1.97	1.050	0.000	
CV	0.07	2.00	8.03	12.51	15.087		
Lower Spec (LSL)	99	80	46	8	0		
Upper Spec (USL)	100	100	66	24	10		

Query

Query Selections
 Date Created 12/04/2015
 Date Range 09/04/2015 - 12/04/2015
 Plant 120_01213-Rock Island
 Product 2350-5/8" Top Course
 Specification 9-03.9.3 Crushed Surfacing TC
 Limit Auto-Compute
 Number Of Tests 30

Passing: 29
 Failures: 1
 Conformance: 96.7 %
 Non-Conformance: 3.3 %



Statistical Analysis 06/04/2015 - 09/14/2015
Oldcastle Materials 120_01213-Rock Island 2379-1 1/4" Minus Crushed (Base Crs)

Sample Id	Date	Status	1 1/4" (31.5mm) (%)	1" (25mm) (%)	5/8" (16mm) (%)	#4 (4.75mm) (%)	#40 (0.425mm) (%)	#200 (75µm) (%)	Pan (%)
1686504412	06/04/2015 15:31	Pass	100.0	98.1	68.1	39.9	11.3	4.69	0.00
1759229988	06/25/2015 12:28	Pass	100.0	99.5	64.1	26.4	7.3	3.18	0.00
1893621836	08/06/2015 12:34	Pass	100.0	97.3	66.3	27.7	8.3	4.03	0.00
1740617266	08/10/2015 12:38	Pass	100.0	96.1	64.5	28.0	8.5	4.22	0.00
1896949963	08/11/2015 14:57	Pass	100.0	99.5	62.6	28.5	8.9	3.90	0.00
1754317848	08/12/2015 14:29	Pass	100.0	97.1	54.7	26.2	8.1	3.89	0.00
1879087966	08/13/2015 14:46	Pass	100.0	94.8	58.1	27.2	8.9	4.23	0.00
1879087324	08/28/2015 14:50	Pass	100.0	98.9	68.0	32.3	10.1	4.52	0.00
1936961483	08/31/2015 13:33	Pass	100.0	97.7	60.2	28.6	9.0	4.14	0.00
1879086834	09/01/2015 12:14	Pass	100.0	100.0	63.6	29.5	9.3	4.67	0.00
1903864697	09/02/2015 15:00	Fail	100.0	95.3	52.3	24.1	3.3	3.27	0.00
1628166849	09/03/2015 15:05	Fail	100.0	98.9	55.3	24.0	7.2	3.53	0.00
1819206299	09/08/2015 13:47	Pass	100.0	93.7	55.8	26.0	7.0	3.06	0.00
1967280539	09/09/2015 09:38	Pass	100.0	97.3	66.2	34.7	10.9	4.60	0.00
1628167632	09/10/2015 12:05	Pass	100.0	95.4	60.2	31.9	10.2	4.64	0.00
1789289921	09/14/2015 15:43	Pass	100.0	98.1	56.2	25.4	7.8	3.47	0.00



Statistical Analysis 06/04/2015 - 09/14/2015
Oldcastle Materials 120_01213-Rock Island 2379-1 1/4" Minus Crushed (Base Crs)

	1 1/4" (31.5mm) (%)	1" (25mm) (%)	5/8" (16mm) (%)	#4 (4.75mm) (%)	#40 (0.425mm) (%)	#200 (0.75mm) (%)	Pan (%)
Count	16	16	16	16	16	16	16
Min	100.0	93.7	52.3	24.0	3.3	3.06	0.00
Max	100.0	100.0	68.1	39.9	11.3	4.69	0.00
Range	0.0	6.3	15.8	15.9	8.0	1.63	0.00
Mean	100.0	97.4	61.0	28.8	8.5	4.00	0.00
St Dev	0.00	1.86	5.12	4.18	1.89	0.560	0.000
CV	0.00	1.91	8.39	14.52	22.17	13.985	
Lower Spec (LSL)	99	80	50	25	3	0	
Upper Spec (USL)	100	100	80	45	18	7.5	

Query

Query Selections
 Date Created 12/04/2015
 Date Range 06/04/2015 - 12/04/2015
 Plant 120_01213-Rock Island
 Product 2379-1 1/4" Minus Crushed (Base Crs)
 Specification 9-03.9.3 Crushed Surfacing BC
 Limit Auto-Compute
 Number Of Tests 30

Passing: 14
 Failures: 2
 Conformance: 87.5 %
 Non-Conformance: 12.5 %

CSI: Construction Special Inspection
MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

MOISTURE DENSITY RELATIONSHIP ASTM-D1557 or ASTM D-698 PROCTOR
UNIT WEIGHT AND WATER CONTENT CORRECTIONS FOR SOILS CONTAINING
OVERSIZE PARTICLES - ASTM D-4718

CLIENT:	Halme Construction	LAB NO:	15-2670
PROJ. NO:	N/A	SIEVE NO:	15-2669
PROJECT:	N/A	DATE TESTED:	8/10/2015
CONTRACTOR:	Client	TEST METHOD:	D1557-B
LOCATION:	CWC Rock Island	SUBMITTED BY:	A. Hill

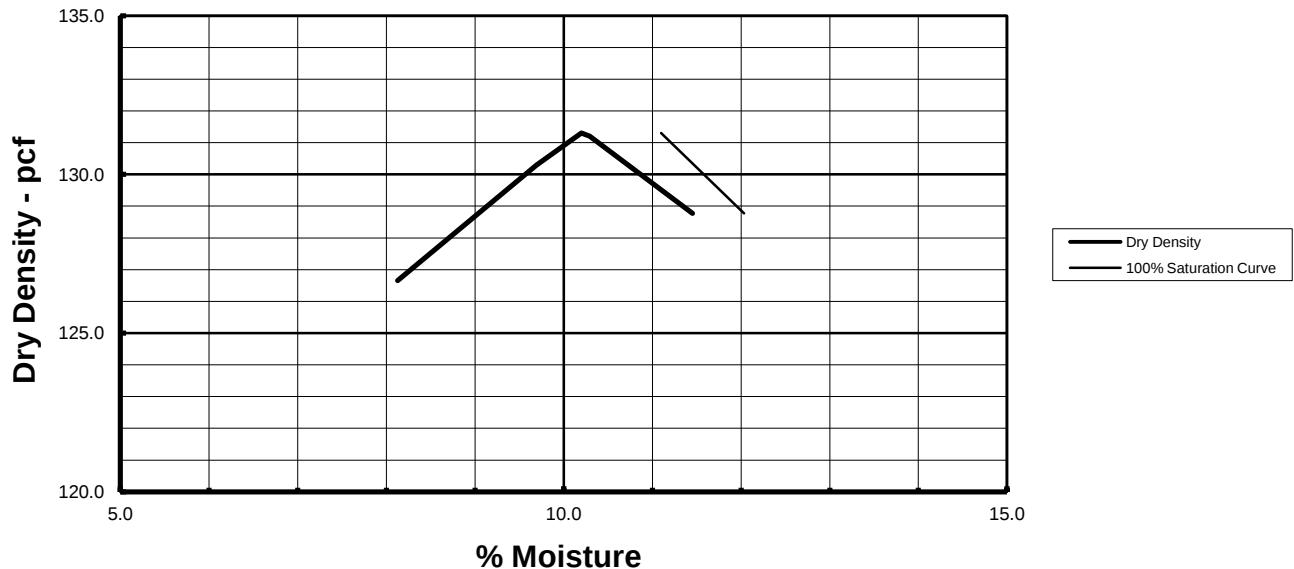
SAMPLE DESCRIPTION: Top Course

OPTIMUM MOISTURE:	10.2	7.8	PCT. + #4 =	
MAXIMUM DRY DENSITY:	131.3	* 138.4	PCT. + 3/8" =	25
			PCT. + 3/4" =	

PREPARATION METHOD: DRY _____ MOIST X

WATER ADDED	200	300		350	400		
MOLD + WET SOIL	13.78	13.98		14.04	14		
WEIGHT OF MOLD	9.20	9.20		9.20	9.2		
WT. OF WET SOIL	4.58	4.78		4.84	4.80		
WET DENSITY PCF	136.9	142.9		144.7	143.5		

PAN/PAN NUMBER	X-1	D-1		G-1	C-1		
PAN + WET SOIL	785.0	1006.7		993.9	961.8		
PAN + DRY SOIL	740.9	935.0		919.1	882.6		
WEIGHT OF PAN	198.2	195.4		192.5	191.1		
WT. OF WATER	44.1	71.7		74.8	79.2		
WT. OF DRY SOIL	542.7	739.6		726.6	691.5		
PERCENT WATER	8.1	9.7		10.3	11.5		
DRY DENSITY PCF	126.7	130.3		131.2	128.8		



* Rock Correction using Bulk Specific Gravity of 2.75 Calculated _____ Estimated X

* Moisture Correction = .7 %

Field Moisture = 2.3 % Rammer: Manual _____ Mechanical X

REMARKS:

TECHNICIAN: D. Nyland

PROJECT MGR: J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.

CSI: Construction Special Inspection**Testing - Inspection**

104 East 9th Street
Wenatchee Wa 98801
(509) 664-4843

CLASSIFICATION SIEVE ANALYSIS ASTM C-136 OR D-422

CLIENT: Halmer Construction LAB NO: 15-2826
PROJ. NO: N/A DATE REC'D: 10/15/2015
PROJECT: N/A DATE TESTED: 10/16/2015
CONTRACTOR: Client SUBMITTED BY: A.Hill
LOCATION: CWC Rock Island Pit DEPTH: Stockpile

PERCENT MOISTURE OF FINES: 1.9%
SAMPLE DESCRIPTION: Base Course

SCREEN SIZE	ACC. WT. RETAINED	PERCENT RETAINED	PERCENT PASSING	FRACTURE COUNT	TOTAL PERCENT	
1 1/4"	0	0	100%		100%	99-100
1	350	2%	98%		98%	80-100
3/4	3089	19%	81%		81%	-
5/8	4817	30%	70%		70%	50-80
3/8	8119	51%	49%		49%	-
#4	10567	65.8%	34.2%		34.2%	25-45
TOTAL	16061					

SIEVE	ACC. WT. RETAINED	PERCENT RETAINED	PERCENT PASSING	X-FACTOR			
#8	198.0	27%	73%	0.342		25%	-
10	235.2	32%	68%	0.342		23%	-
40	491.0	67%	33%	0.342		11%	3-18
100	637.0	86.7%	13.3%	0.342		4.5%	7.5 Max
TOTAL	734.5						

WGT. OF PAN SAMPLE: 5600
WGT. OF PAN SAMPLE - MOISTURE: 5494

PAN I.D & WGT.: V.297.5
WGT. PAN & WET SOIL: 1046.3
WGT. PAN & DRY SOIL: 1032.0

REMARKS: _____
TECHNICIAN: D. Nyland PROJ. MGF J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.

CSI: Construction Special Inspection
MATERIALS TESTING & SPECIAL INSPECTION

104 East Ninth Street
Wenatchee, WA 98801
(509) 664-4843

MOISTURE DENSITY RELATIONSHIP ASTM-D1557 or ASTM D-698 PROCTOR
UNIT WEIGHT AND WATER CONTENT CORRECTIONS FOR SOILS CONTAINING
OVERSIZE PARTICLES - ASTM D-4718

CLIENT:	Halme Construction	LAB NO:	15-2827
PROJ. NO:	N/A	SIEVE NO:	15-2826
PROJECT:	N/A	DATE TESTED:	10/16/2015
CONTRACTOR:	Client	TEST METHOD:	D1557-C
LOCATION:	CWC Rock Island Pit	SUBMITTED BY:	A.Hill

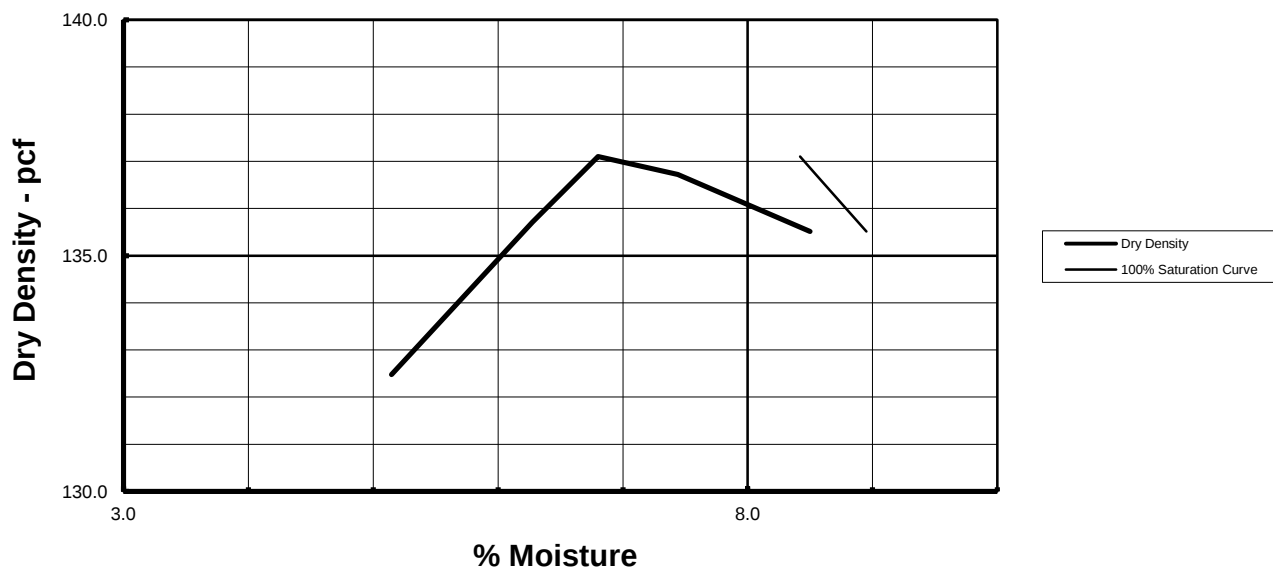
SAMPLE DESCRIPTION: Base Course

OPTIMUM MOISTURE:	6.8	5.6	PCT. + #4 =	
MAXIMUM DRY DENSITY:	137.1	* 142.1	PCT. + 3/8" =	
			PCT. + 3/4" =	19

PREPARATION METHOD: DRY _____ MOIST _____ x _____

WATER ADDED	200	300		400	500		
MOLD + WET SOIL	22.83	23.20		23.40	23.41		
WEIGHT OF MOLD	12.38	12.38		12.38	12.38		
WT. OF WET SOIL	10.45	10.82		11.02	11.03		
WET DENSITY PCF	139.3	144.2		146.9	147.0		

PAN/PAN NUMBER	F-1	X-1		A-1	E-1		
PAN + WET SOIL	981.8	879.3		1013.4	1058.1		
PAN + DRY SOIL	943.1	839.1		956.1	990.1		
WEIGHT OF PAN	191.3	198.6		186.0	189.9		
WT. OF WATER	38.7	40.2		57.3	68.0		
WT. OF DRY SOIL	751.8	640.5		770.1	800.2		
PERCENT WATER	5.1	6.3		7.4	8.5		
DRY DENSITY PCF	132.5	135.7		136.7	135.5		



* Rock Correction using Bulk Specific Gravity of 2.70 Calculated _____ Estimated _____ x

* Moisture Correction = 0.4 %

Field Moisture = 1.9 % Rammer: Manual _____ Mechanical _____ x

REMARKS:

TECHNICIAN: D. NYLAND PROJECT MGR: J.HILLS

Note: All sample material will be discarded after 30 days of receipt unless otherwise notified.



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info@halmeconstruction.com
www.halmeconstruction.com

WA License #HALMECI061R7
ID License #RCE-27219

Borrow Site Certification

For the purpose of satisfying the contract requirements for the City of Wenatchee's Public Works Yard Remedial Action Project (Section 02 66 00), we certify the proposed borrow site has never been contaminated with hazardous or toxic materials.

James H. Hest
Name Signed

12/4/15
Date

James Hest
Name Printed

Central Washington Iron Concrete
Company

WADOT Base & Top Course
Material

Rock Island PS DD 209
Borrow Site Location/Pit No.

APPENDIX E

AS-BUILT SURVEY



NOTE

1. PROPERTY BOUNDARIES SHOWN HEREON ARE BASED UPON A RETRACEMENT OF RECORD OF SURVEY RECORDED UNDER AUDITOR'S FILE NUMBER 2361609.
2. THE NORTHEASTERLY 10 FEET OF THE THE RIGHT OF WAY DEDICATED BY THE PLAT OF RIVER FRONT ADDITION TO WENATCHEE FOR WORTHEN STREET IS VACATED BY CITY ORDINANCE NO. 2008-04.
3. THE BOUNDARY PORTION OF THIS SURVEY IS BASED UPON DOCUMENTS, PLATS AND/OR SURVEYS FOUND OF PUBLIC RECORD, OR AS PROVIDED BY CLIENT, AND DOES NOT PURPORT TO SHOW OR DISCLOSE ALL RIGHTS, RIGHTS OF WAYS, EASEMENTS, RESTRICTIONS AND/OR RESERVATIONS THAT MAY BENEFIT OR BURDEN THE SUBJECT PROPERTY THAT MAY BE DISCLOSED BY A TITLE REPORT OR OTHER MEANS.

LEGEND/ABBREVIATIONS

- DOMESTIC WATER VALVE
- WATER METER
- UNDERGROUND DOMESTIC WATER LOCATE
- ELECTRICAL HANDHOLE
- UNDERGROUND POWER LOCATE
- MONITORING WELL
- STORM DRAINAGE MANHOLE
- STORM DRAINAGE CATCH BASIN
- TELEPHONE PEDESTAL
- UNDERGROUND FIBER OPTIC LOCATE
- SIGN
- TREE (CONIFEROUS)
- TREE (DECIDUOUS)
- ASPHALT
- CONCRETE
- CORRUGATED METAL PIPE
- SDMH
- SDCB
- 1' MAJOR CONTOUR INTERVAL
- 5' MINOR CONTOUR INTERVAL

DATUM

HORIZONTAL DATUM: WASHINGTON STATE PLANE
COORDINATE SYSTEM NORTH ZONE, GRID
(NAD83-1991). U.S. SURVEY FEET, GRID COORDINATES
SHOWN HEREON.

VERTICAL DATUM:
NORTH AMERICAN VERTICAL DATUM (NAVD 88), U.S.
SURVEY FEET.

BASIS OF BEARINGS:

WASHINGTON STATE PLANE GRID NORTH ZONE BASED ON
STATIC OR RAPID STATIC GPS MEASUREMENTS.
ASTRONOMIC NORTH BEARS APPROXIMATELY N 00°23'29" W

THE MEASURED DISTANCES SHOWN ON THIS MAP HAVE BEEN
PROJECTED TO THE WASHINGTON STATE PLANE COORDINATE GRID.
MULTIPLY THE MEASURED DISTANCES SHOWN BY A FACTOR OF 1.00001310
TO OBTAIN THE ACTUAL GROUND DISTANCE.

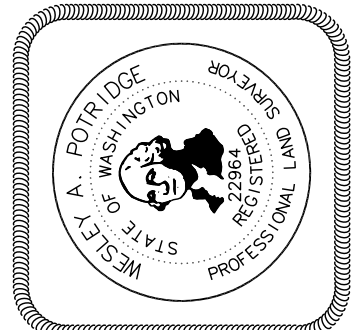
EQUIPMENT & PROCEDURES

EQUIPMENT: LEICA SYSTEM SMARTROVER

PROCEDURES: INITIAL CONTROL ESTABLISHED BY RAPID-STATIC
GPS OBSERVATIONS, WITH A PRECISION OF 12CM.
CONVENTIONAL TRAVERSES WERE PERFORMED
BETWEEN THIS CONTROL TO OBTAIN ADDITIONAL
SITE SPECIFIC DATA AND FOR CORNER
MONUMENTATION. POSITIONAL ERROR
ADJUSTMENTS WERE MADE USING LEAST SQUARES
ANALYSIS. PROCEDURES MEET OR EXCEED W.A.C.
332-130-090.

DATES OF SURVEY: CONTROL AND TOPOGRAPHIC SURVEY PERFORMED:
FEBRUARY, 2016

CITY OF WENATCHEE
HILTON HOTEL SITE
TOPOGRAPHIC SURVEY



NO.	DESCRIPTION	DATE

SHEET C-1
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250 SIMON ST SE
EAST WENATCHEE, WA 98802
PH: 509-664-2562
TOLL FREE (800) 732-7442

Erlandsen	LAYOUT: E22X34
SURVEYING PLANNING ENGINEERING GIS	FILE NO: 20150248.0000TP.LDWG
DRAWN BY: BS	DATE: 2/16/2016
JOB NO: 20150248.0000	SCALE: 1" = 30'