AECOM
111 SW Columbia
Portland, OR 97201
aecom.com

Project name:
Shell Harbor Island Terminal

Project ref:
Voluntary Compliance Agreement
Equilon Enterprises LLC
City of Seattle

From:
Nicky Moody, Senior Project Manager

Date:
January 25, 2019

To:
Mr. Reed Blanchard
Seattle Public Utilities
700 5th Avenue, Suite 4900
PO Box 34018
Seattle, WA 98124

cc:
Shell Oil Products US
HSE – Environmental Services
Delivery Group – US Region

Mr. Jerome Cruz
Washington Department
of Ecology
Northwest Region Office
3190 160th Avenue SE
Bellevue, WA 98008

Memo

Subject: Stormwater System Pipe Rehabilitation Construction Completion Memorandum

AECOM, on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), submits the following memorandum summarizing stormwater pipe rehabilitation, involving Cured In Place Pipe (CIPP) installation and stormwater pipe cleaning activities, on the City of Seattle (City) stormwater system's 24-inch reinforced concrete pipe (RCP) mainline located directly north of the Main Tank Farm at the Shell Harbor Island Terminal in Seattle, Washington (Figure 1).

This memorandum includes the following attachments:

A. Permitting Documents
B. Closed-Circuit Television (CCTV) Files (on DVD):
    a. Pre-CIPP Installation
    b. Post-CIPP Installation
    c. Post-CIPP Installation Cleaning
C. Waste Shipping Documentation
D. Waste Profiling Information
    a. Profile Sample Analytical Results
    b. Waste Profile Documentation
E. Daily Field Reports
F. Photographic Log

1. Location

The Shell Harbor Island Terminal is an active petroleum distribution facility located on Harbor Island, approximately one mile southwest of downtown Seattle at the mouth of the Duwamish River (the Terminal; Figure 1). Harbor Island divides the Duwamish River into the West Waterway and the East Waterway as the Duwamish River empties into the Puget Sound. The Terminal is comprised of three parcels located at 2555 13th Avenue SW, 1835 13th Avenue SW, and 1711 13th Avenue SW. These parcels are designated as the Main Tank Farm, North Tank Farm, and Shoreline Manifold Area, respectively.

The 24-inch RCP mainline of the City's stormwater system is located directly north of the Main Tank Farm. The mainline routes stormwater west, under SW Florida Street, to the Duwamish Waterway (Figure 2). The 24-inch RCP mainline receives stormwater from laterals at multiple catch basins located in the vicinity of SW Florida Street. The mainline and laterals shown on Figure 2 are herein also referred to as the Site. CIPP installation was planned for the mainline from manhole D050-016 to D050-014 (Figure 2). Reinstatement of active laterals to the mainline between these two manholes was planned with CIPP T-liner installation at the lateral connections. After CIPP installation, cleaning of the CIPP-lined portions of the mainline was planned along with cleaning approximately 800 feet of the mainline downgradient from D050-014 to the outfall (D049-037).

2. Summary of CIPP Installation and Cleaning Activities

CIPP installation and post-installation cleaning involved the following activities:

- Obtain permits from the Seattle Department of Transportation (SDOT) Seattle Public Utilities (SPU) and King County Industrial Waste Program (KCIW)
- Pre-installation CCTV and pipe measurement
- Pre-installation cleaning and CCTV
- CIPP installation from D050-016 to D050-014
- Post-installation CCTV
- Management of non-storm discharge waste
- Post-installation cleaning and CCTV

2.1 Permits

Prior to conducting CIPP installation activities, AECOM obtained the following permits. Copies of the permits are provided in Attachment A:

- SDOT Street Use Permit No. 317390 for closure of City parking lots, side street closures, and lane closures (issued February 22, 2018, revision issued June 19, 2018)
- SDOT Hydrant Permit No. 331009 for water access from the hydrant near D050-016
- KCIW Verbal Authorization 50452-01 Discharge permit

2.2 Pre-Installation CCTV and Pipe Measurement

Michels Corporation verified pipe measurements and conditions on March 8, 2018 to support ordering lining materials. Observations and CCTV of the mainline between D050-016 and D050-014 confirmed the presence of three active laterals (746064, 746062, and 746061). The remaining three laterals (746030, 746031, and 746056)

which connect to the mainline in the CIPP area were confirmed to be inactive (Figure 2). CCTV files from field activities on March 8, 2018 are provided in Attachment B. This information was provided to the City, who confirmed the status of the laterals. The City approved the plan to only reinstate the three active laterals (746064, 746062, and 746061) in an electronic mail to Gene Hoilman on April 9, 2018.

2.3 Pre-Installation Stormwater Pipe Cleaning and CCTV

Mainline cleaning was conducted prior to installation of the CIPP liner. AECOM and Michels mobilized to the Site on June 25, 2018 to begin setting up the bypass system to prevent stormwater from entering the work area in the mainline upstream of D050-017. Once the bypass system was in place, the 440-foot section of mainline between D050-016 and D050-014 (the CIPP installation section) was cleaned using a jet rod. Clean water was flushed through the each of the catch basins that connect to the mainline, and plugs were placed within the laterals (746064, 746062, and 746061) prior to jet rodding through the mainline. Water was collected with a vacuum truck stationed at D050-014 with a plug positioned in the downstream portion of this manhole. Approximately 1,200 gallons of non-hazardous rinse water was transported to Stericycle in Kent, Washington (facility name: Burlington Environmental, LLC) for disposal (Attachment C). CCTV was performed on June 26, 2018 throughout the 24-inch cleaned section of mainline to ensure that the line was sufficiently prepared for placement of the CIPP.

2.4 CIPP Installation

The CIPP liner was installed on June 26, 2018 by insertion through manhole D050-016. Prior to insertion, end seal O-rings were set at the mainline junction with each manhole from D050-016 downstream to D050-014. One end seal pair was installed at the downstream connection with manhole D050-016; one end seal pair each was installed at the upstream connection and at the downstream connection with manhole D050-015; and one end seal pair was installed at the upstream connection with D050-014. End seals were installed one foot away from mainline connection with the manhole. A pre-liner was then installed prior to insertion of the CIPP liner. The CIPP liner was then cured using heated water. Once curing was complete, the heated water was removed, liner ends were cut at manholes D050-016 and D050-014, and a pressure test was conducted on the cured liner. The liner was then cut to reinstate access at manhole D050-015. Active laterals were then reinstated, including the installation of lateral T-liners.

2.4.1 Bypass System Installation

The installation of the temporary bypass system was completed on June 26, 2018 and was maintained in “stand-by” mode throughout the duration of the construction activities. The bypass system included two self-priming trash pumps, with 24-hour fuel capacity located up gradient of manhole D050-016. One pump was staged at manhole D050-017, and the second was staged at manhole D050-189. Each pump was equipped with a high-low float switch to activate pumping of stormwater from the pipe between the pre-set elevations. If the system was activated due to a rain event, the bypass system was constructed such that water would be discharged to 18,000 gallon settling tanks for the duration of the CIPP installation work. The work was completed during the dry season, and no stormwater was collected from the bypass system during work activities.

2.4.2 CIPP Liner Material Insertion and Curing

On June 26, 2018, a pre-liner was installed within the CIPP installation section of the mainline prior to installation of the CIPP liner. The pre-liner installation was necessary step due to the presence of groundwater infiltration at the cracks in the mainline. The pre-liner was inserted into D050-016 and pulled through with a rover attached to a guide rope down to D050-014.

The CIPP liner was then inserted into manhole D050-016 using clean water flowing through a four-inch diameter lay flat hose spliced to the end of the CIPP liner to fill and push the continuous 440-foot length of liner downstream to D050-014. Water was supplied from a City hydrant located near D050-016 in accordance with an SPU hydrant permit. After placement of the liner was completed, a boiler and pump were used to heat and

circulate the water through the four inch lay flat hose within the lined section of pipe to raise the temperature uniformly above the temperature required to cure the resin.

The anticipated duration for cure time was five hours with a three hour cool down time. A “z-line” installed with the liner measured temperature at discrete intervals along its length. Both temperature and pressure readings were recorded every 15 minutes throughout the curing and cool down process. During the curing process, a section of CIPP liner near the end at manhole D050-014 was not reaching the appropriate temperature according to data from the installed z-line. It was determined that the anomalous temperature readings were being influenced by the groundwater infiltration creating a heat sink effect. In addition, the lay flat hose circulating heated water to the downstream end of the liner at manhole D050-014 became disconnected from the downstream liner end requiring the lay-flat hose to be pulled from the pipe at D050-016 and reinstalled. The reinstalled lay-flat hose reached 400 feet down the liner and could not be installed the full 440-foot length. The curing process was extended well beyond the expected five hours to ensure that all areas of the liner reached the appropriate curing temperature. Because the reinstalled lay flat hose did not travel the entire 440-foot length of the liner, a hole was cut in the end of the liner at D050-014 to draw hot water the remaining 40 feet through the line to the end. This process generated additional cure water during the curing process. Water discharging from the end of the liner was collected at manhole D050-014 and pumped to a nearby roll-off tank and held until it cooled enough to be transported via vacuum truck and discharged to the sanitary sewer at manhole D050-233.

Verbal authorization 50452-01 from KCIW (Attachment A) provided approval to discharge up to 75,000 gallons of cure water for treatment at the King County’s wastewater treatment plant (WWTP) under the condition that cure water was sampled prior to discharge with analytical results meeting KCIW screening criteria for volatile organic compounds (VOCs). A cure water sample was collected on June 27, 2018 and analyzed for VOCs by method 8260C/5030C at ESN Northwest Chemistry Laboratory located in Olympia, Washington. Analytical results (Attachment D) met KCIW screening criteria. Separate verbal authorization from the City allowed discharge into the City’s sanitary sewer; limiting the discharge rate to 50 gallons per minute, not to exceed 25,000 gallons per day.

On June 28, 2018, Michels determined that the entire CIPP liner was sufficiently cured, and then the cooldown process was implemented. Water was gradually pumped from the liner into roll-off tanks at D050-016 while cold water was added to facilitate cooldown. Cure water was then discharged into the designated sanitary sewer location at the authorized flow rate. Once cure water in the liner reached 103 degrees, all cure water was removed and pumped to the roll off tanks at D050-016 for eventual discharge. In total, approximately 56,000 gallons of cure water were discharged into the sanitary system. Complete chronicles of daily field records (DFR) are included in Attachment E.

2.4.3 CIPP Liner Pressure Test

The ends of the liner were cut at D050-016 and D050-014 on June 28, 2018 in preparation for the air pressure test of the CIPP liner, and a visual inspection of the liner was conducted using CCTV to verify adequate curing along the liner length. When the upstream bypass system plug was removed from D050-016, it was discovered that non-stormwater had accumulated upstream of this plug. This non-stormwater was released into the lined portion of the pipe, travelling downstream to D050-014, where it was captured. The water was observed to be dark and opaque with a hydrocarbon odor. This water was pumped out of D050-014 and placed in a nearby roll-off tank to be held for disposal.

The pressure test was performed on June 29, 2018. A standard plug was placed in the upstream end of the liner at D050-016 and a specialized plug was placed in the downstream end of the liner at D050-014. Non-stormwater that accumulated in D050-016 during the pressure test was pumped to a nearby roll-off tank and stored for disposal. During the pressure test a plugged valve on the pressure control equipment resulted in the pressure gauge not indicating a pressure reading despite the liner being under pressure. The plug at D050-014 was subsequently displaced from position due to over-pressure in the liner and had to be reset. Once the equipment failure was resolved the pressure test resumed. Air pressure in the line was brought to 3.6 pounds per square inch (psi). Pressure in the liner was then monitored for a 15-minute period. No loss of pressure was observed during the monitoring period.

2.4.4 Lateral Reinstatement

Michels and Iron Horse reinstated active lateral connections to the mainline on June 29, 2018. Before reinstating laterals, a plug was positioned in the upstream portion of D050-016 to prevent further accumulation of non-stormwater in the manhole. CIPP liner in the mainline was cut out at active lateral connections (746064, 746062, and 746061) using a hand-held router tool. The cut-out areas were then prepared for T-liner installation.

2.4.5 T-Liner Installation

On June 30, 2018, Iron Horse installed T-liners at lateral connections (746064, 746062, and 746061); the liners had been prepared the previous day. After each T-liner was set, it was steam cured, allowed to cooldown, and a visual inspection was performed with a push camera to verify the installation quality.

2.5 Post Installation CCTV

CCTV was conducted throughout the CIPP lined portion of mainline between D050-016 and D050-014 on June 30, 2018. During the CCTV, grout was applied to the cut ends of CIPP liner at D050-016, D050-015, and D050-014. A small amount of groundwater infiltration was observed from the upstream cut end at D050-015 and the cut end at D050-014. The observed groundwater infiltration was significantly reduced within the pipe from what had been seen prior to CIPP installation. The CCTV verified that the CIPP and T-liner installation was successful. Michels representatives noted that the lining was completed to the extent practicable and that given adequate time for the hydrophilic end seals to expand, the observed groundwater infiltration may likely further reduce. Post-installation CCTV video is presented in Attachment B.

2.6 Management of Non-Storm Discharge

As noted in Section 2.4.3, non-stormwater accumulated upstream of the plug placed for the bypass system in D050-016 during the CIPP liner installation between June 25, 2018 and June 30, 2018. This discharge was containerized in 18,000-gallon roll-off tanks located on site and transported via vacuum truck by Bravo Environmental to Stericyle in Kent, Washington (facility name: Burlington Environmental, LLC) for disposal. The discharge was characterized under the non-hazardous stormwater and sediments profile (Attachment D). Approximately 14,500 gallons of non-stormwater was disposed of following the CIPP liner installation (Attachment C). Bravo also performed pressure washing of the on-site roll-off tanks, and rinse water was included in the total volume of non-stormwater taken to Stericycle.

2.7 Post-installation stormwater pipe cleaning and CCTV

AECOM oversaw post-installation cleaning and CCTV inspection conducted by Cowlitz Clean Sweep (CCS) and Pro-Vac between September 10, 2018 and September 25, 2018. Approximately 1,250 feet of the mainline was cleaned using a jet rod between D050-016 and D049-037. Pipe cleaning was executed using jet rodding equipment and a vacuum truck in three sections (D050-016 to D050-014, D050-014 to D049-038, and D049-038 to D049-037).

The first section of cleaning occurred between manholes D050-016 and D050-014. Three active laterals (746064, 746062, and 746061) with a combined distance of 81 feet were also cleaned. Rinse water was collected from downstream manholes via vacuum truck. A plug was placed within the downstream portion of D050-014. Rinse water generated within the mainline from D050-014 up to D050-016 appeared to be clear. During cleaning, the jetting head went upstream past D050-016 approximately 10 feet. Dark, oily water and sludge was pulled from upstream of D050-016. The jet rodding head pulled back a large mass of dirty mesh that appeared to be erosion control bags that had surrounded an upstream catch basin. CCS containerized the mesh bags and transported them off site for disposal. CCTV inspection of the mainline occurred after cleaning (Attachment B). The CCTV survey did not show groundwater infiltration from the CIPP liner ends at D050-015 or D050-014.

The second section of cleaning occurred between manholes D050-014 and D049-038. A large absorbent boom was found and removed from D050-039. The boom was discolored, and sheen was present in the water accumulated inside the manhole. The boom was placed into a drum liner and then into a 55-gallon steel drum. The City was contacted about the discovery of the boom and confirmed that it had been placed by the City. City representatives picked up the boom for disposal. A plug was then placed in the downstream portion of D049-038 and cleaning was conducted upstream to D050-014. Rinse water through this section was black with a strong oily odor and contained a large amount of sediment. A low spot in the mainline was detected with CCTV starting at about 20 feet upstream of D049-038 and extending toward D049-039. Approximately three inches of water pooled in the low spot impacting video quality of the bottom portion of the pipe within this section of the mainline. Discussion of this low spot was included in the CCTV video narrative (Attachment B).

The final section of mainline cleaning occurred between D049-038 and D049-037 with a plug placed in the upstream portion of D049-038. Several large masses of fiber and debris were removed from the mainline during cleaning. To capture rinse water, workers were staged both on a boat at the outfall (D049-037) and at a vacuum truck staged on land nearby. Rinse water did not flow from the outfall as anticipated. The vacuum truck was re-positioned at D049-038, and water was pulled back with the jet rod for collection upstream. Post-cleaning CCTV showed a debris dam near the end of D049-037 that was not entirely removed despite all reasonable effort including several cleaning passes.

Approximately 4,600 gallons of non-hazardous rinse water was generated during the mainline cleaning activities and transported to Stericycle in Kent, Washington (facility name: Burlington Environmental, LLC) for disposal. Analytical reports and waste profiling documentation are presented in Attachment C and waste shipping documents are presented in Attachment C.

2.8 Deviations from Work Plan

Deviations from the work plan were limited and are not expected to affect the quality of the CIPP installation.

Rinse water to be generated from the cleaning was profiled prior to CIPP liner construction activities. A sample of stormwater was collected from the mainline and analyzed for disposal prior to commencing any cleaning activities on site. This was done to eliminate the need to containerize the rinse water pending analysis on site while awaiting analytical results necessary for waste characterization, profiling, and disposal. Water removed during pre-lining cleaning activities was directly transported in tanker trucks to a disposal facility rather than placed in a roll-off tank within the Terminal.

The CIPP liner was installed as a single continuous 440 long piece rather than as two separate sections as specified in the work plan. This eliminated the need to perform two separate curing events, thereby reducing the time to complete the construction project. A pre-liner was also placed in the mainline prior to CIPP installation due to the groundwater infiltration at cracks in the mainline.

The CIPP liner required greater than anticipated curing time to ensure adequate temperature was reached along the entire length of the liner to cure the resin. In addition, cure water was not disposed of at a waste disposal facility, but rather a discharge permit was granted for disposal into the City's sanitary sewer system with treatment at the King County WWTP.

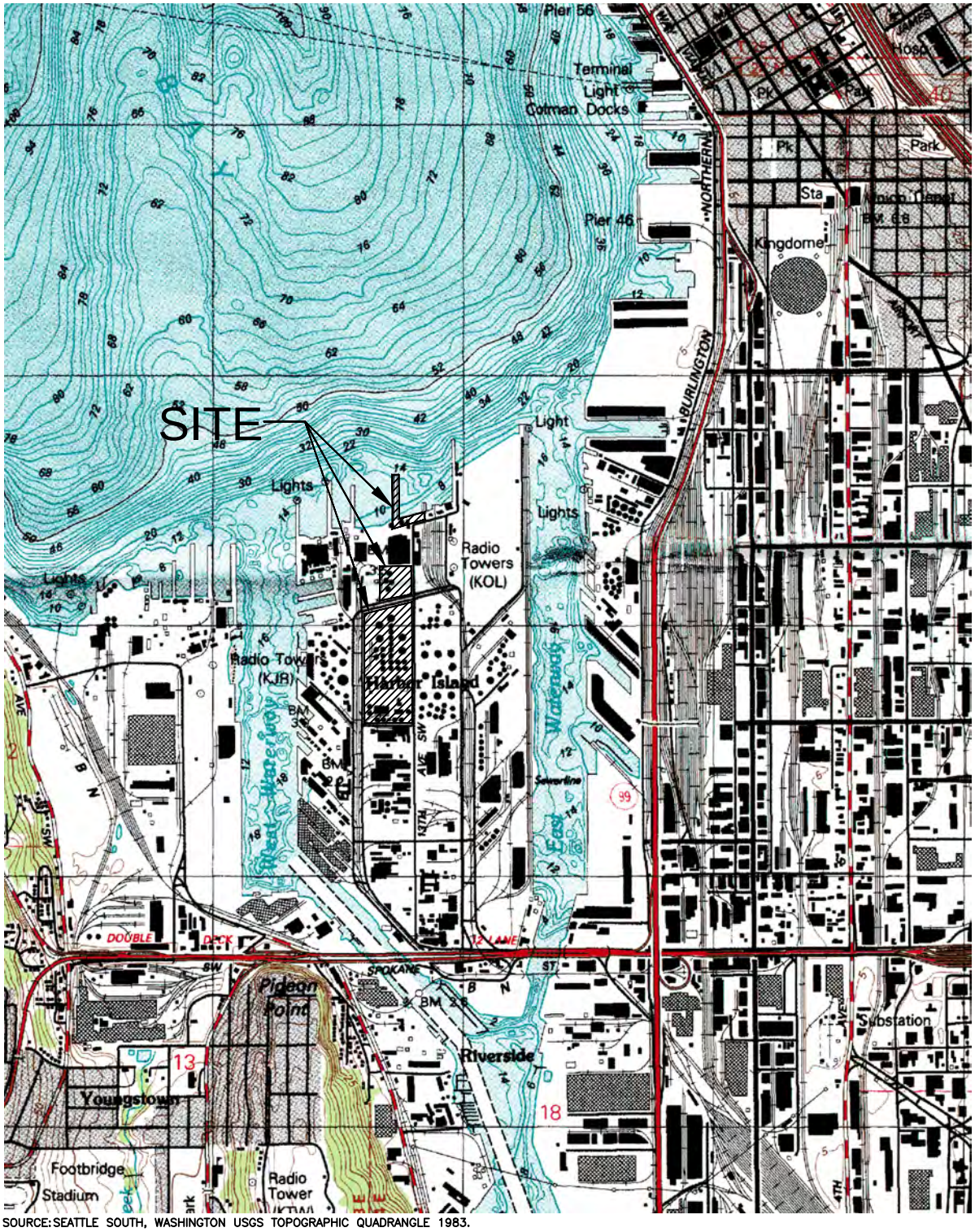
Six lateral connections were specified for T-liner installation in the work plan. Field observations confirmed that three of the specified laterals had been abandoned. According to the City's confirmation, only the three active laterals were reinstated and T-lined.

A remote-control cutting device was not used to reinstate lateral connections because the router bit was too short to reach the lateral locations from inside the mainline. Lateral connections were manually cut using a hand-held router from inside the mainline.

3. References

AECOM 2015. *Draft Storm Water System Pipe Repair Work Plan*, Shell Harbor Island Terminal, Seattle, Washington. August 2015.

Figures



SOURCE: SEATTLE SOUTH, WASHINGTON USGS TOPOGRAPHIC QUADRANGLE 1983.

SITE LOCATION MAP

SHELL HARBOR ISLAND TERMINAL
STORM WATER PIPE REHABILITATION
CONSTRUCTION COMPLETION REPORT MEMORANDUM
SEATTLE, WASHINGTON

FIGURE 1

AECOM

K:\46194268_Seattle_Terminal\MXD\2018\CCR\Fig 1 Site Vicinity Map.dwg Mar 05, 2018 - 8:48am

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Map Features

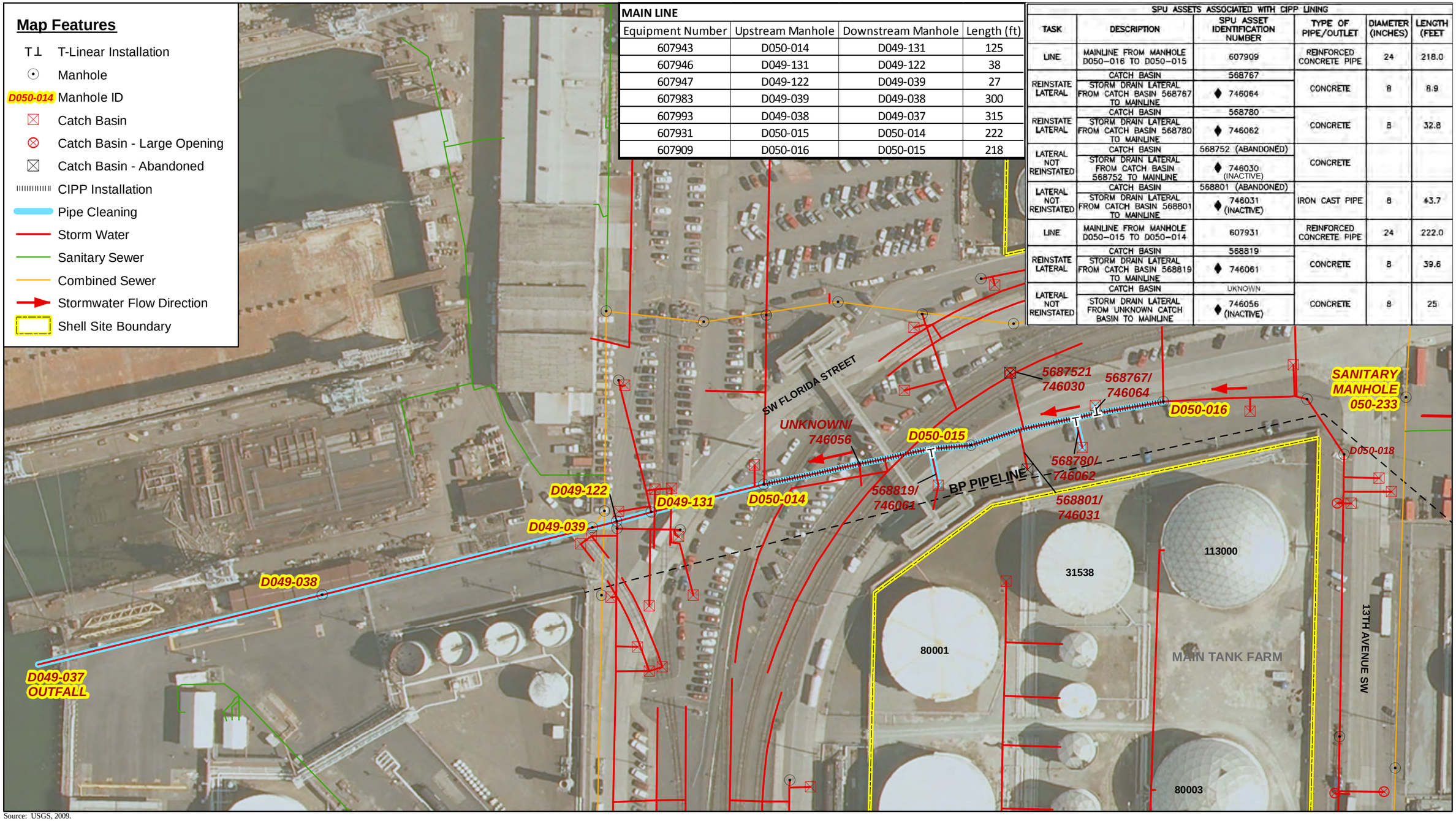
- T⊥ T-Linear Installation
- Manhole
- D050-014 Manhole ID
- Catch Basin
- Catch Basin - Large Opening
- Catch Basin - Abandoned
- CIPP Installation
- Pipe Cleaning
- Storm Water
- Sanitary Sewer
- Combined Sewer
- Stormwater Flow Direction
- Shell Site Boundary

MAIN LINE

Equipment Number	Upstream Manhole	Downstream Manhole	Length (ft)
607943	D050-014	D049-131	125
607946	D049-131	D049-122	38
607947	D049-122	D049-039	27
607983	D049-039	D049-038	300
607993	D049-038	D049-037	315
607931	D050-015	D050-014	222
607909	D050-016	D050-015	218

SPU ASSETS ASSOCIATED WITH CIPP LINING

TASK	DESCRIPTION	SPU ASSET IDENTIFICATION NUMBER	TYPE OF PIPE/OUTLET	DIAMETER (INCHES)	LENGTH (FEET
LINE	MAINLINE FROM MANHOLE D050-016 TO D050-015	607909	REINFORCED CONCRETE PIPE	24	218.0
REINSTATE LATERAL	CATCH BASIN	568767	CONCRETE	8	8.9
	STORM DRAIN LATERAL FROM CATCH BASIN 568767 TO MAINLINE	♦ 746064			
REINSTATE LATERAL	CATCH BASIN	568780	CONCRETE	8	32.8
	STORM DRAIN LATERAL FROM CATCH BASIN 568780 TO MAINLINE	♦ 746062			
LATERAL NOT REINSTATED	CATCH BASIN	568752 (ABANDONED)	CONCRETE		
	STORM DRAIN LATERAL FROM CATCH BASIN 568752 TO MAINLINE	♦ 746030 (INACTIVE)			
LATERAL NOT REINSTATED	CATCH BASIN	568801 (ABANDONED)	IRON CAST PIPE	8	43.7
	STORM DRAIN LATERAL FROM CATCH BASIN 568801 TO MAINLINE	♦ 746031 (INACTIVE)			
LINE	MAINLINE FROM MANHOLE D050-015 TO D050-014	607931	REINFORCED CONCRETE PIPE	24	222.0
REINSTATE LATERAL	CATCH BASIN	568819	CONCRETE	8	39.6
	STORM DRAIN LATERAL FROM CATCH BASIN 568819 TO MAINLINE	♦ 746061			
LATERAL NOT REINSTATED	CATCH BASIN	UKNOWN	CONCRETE	8	25
	STORM DRAIN LATERAL FROM UNKNOWN CATCH BASIN TO MAINLINE	♦ 746056 (INACTIVE)			



Source: USGS, 2009.

100 0 100 200

SCALE IN FEET

AECOM

CIPP INSTALLATION AND STORMWATER PIPE CLEANING

SHELL
HARBOR ISLAND TERMINAL
SEATTLE, WASHINGTON

FIGURE 2

K:\46194268_Seattle_Terminal\MXD\2018\Storm_Drain_Repair\Fig 2 CIPP Installation and SW Pipe Cleaning.mxd

Attachment A: Permitting Documents

Seattle Dept of Transportation
Street Use Permits, 23rd Floor
700 Fifth Ave, Suite 2300
P O Box 34996
Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

☐ Inspector Copy ☐ Permittee Copy ☐ File Copy

Project ID: **IMPACT Project ID: n/a** **Estimated Project Completion Date: 12/01/2016**

Inspector: Michael Minor
Inspection District: WEST SEATTLE

LOCATION

Address: 2404 13TH AVE SW
High Impact Area: N
Details: SOUTH SIDE OF SW FLORIDA ST (SOUTH ROUTE), BETWEEN 13TH AVE SW & 15TH AVE SW, NORTH TRAVEL LANE

Application Date: 8/11/16 12:56 pm
Issue Date: 2/22/18 7:42 am

PARTIES (* Primary Applicant)

Role	Name	Address	Phone	From	To
***Former Applicant**	BREWER, DENNIS	1002 CENTRAL AVE N,,KENT,WA,98032	(206)878-0221		
Permittee	EQUILON ENTERPRISES LLC	2555 13TH AVE SW,DBA SHELL OIL PRODUCT US / DAVE FELGER,SEA,WA,98134-	(310)816-2053		
24 Hour Contact	HOILMAN, GENE	111 SW COLUMBIA, STE 1500,,PORTLAND,OREGON,97212	(503)504-0500		
Contractor'S Agent	PALMIERI, ANTHONY	1111 3RD AVE,SUITE 1600,SEATTLE,WA,98101	(206)438-2417 x		
Former Applicant	MOODY, NICKY	111 SW COLUMBIA ST , SUITE 1500,,PORTLAND,OR,97201	(503)478-2765		

PERMITTED USES

To Be Restored By: PERMITTEE

SW FLORIDA ST BETWEEN 13TH AVE SW AND 16TH AVE SW - ARTERIAL
Use 51K Space A - Installing or maintaining sewer or drainage lines
Condition Description
Start Date 03/08/2018 - North Travel lane on South route of SW Florida St

Start Date	Duration	End Date	Sq. Ft	Issue Date	Ext.	Side of Street	Location Type	Closure Type	Peak Work OK	Day or Time Rstrctns
03/08/2018	10	06/06/2018	1,200	02/22/2018	N	SOUTH	TRAVEL LANE	CLOSED		

CONDITIONS OF USE

DESCRIPTION OF WORK :
Additional Notes: *SCOPE: Access SPU owned maintenace hole for and cleanout of mains and stormwater discharge pipe repair/reline, Arterial, No anticipated restoration*
MOBILITY IMPACT: South side of SW Florida St (South Route), between 13th Ave SW & 15th Ave SW, North travel lane
CUSTOMER DESCRIPTION: Storm Drain clean out at city main hole D050-015 in ROW

E1.15 :
MULCHING AND MATTING - Apply mulch to protect exposed soils and promote plant establishment.

E1.40 :
PERMANENT SEEDING AND PLANTING - Install temporary surface runoff control measures prior to seeding or planting to protect the surface from erosion until the vegetation is established. Establish permanent vegetation (e.g., grasses, legumes, trees, and shrubs) as rapidly as possible to prevent soil erosion by wind or water.

E1.45 :
SODDING - Establish permanent turf for immediate erosion protection or to stabilize drainage pathways where concentrated overland flow will occur.

E1.50 :
TOPSOILING - Preserve and use topsoil to enhance final site stabilization with vegetation and to provide a suitable growth medium for final site stabilization with vegetation.

E3.25 :

Seattle Dept of Transportation
Street Use Permits, 23rd Floor
700 Fifth Ave, Suite 2300
P O Box 34996
Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

Project ID:	IMPACT Project ID: n/a	Estimated Project Completion Date: 12/01/2016

STORM DRAIN INLET PROTECTION - Install storm drain covers on stormwater structures less than 12 inches deep during construction. Install catch basin filter socks in stormwater structures greater than 12 inches deep. Place the storm drain or catch basin grate on top of the catch basin filter sock to hold it in place.

C1.20 :
USE OF CHEMICALS DURING CONSTRUCTION - Use only the recommended amounts of chemical materials and apply them in a proper manner. Neutralize the pH of concrete wash water from concrete mixers, if necessary.

C1.35 :
SAWCUTTING AND PAVING POLLUTION PREVENTION - Vacuum slurry and cuttings during the activity to prevent migration offsite and do not leave slurry and cuttings on permanent concrete or asphalt paving overnight. Dispose of collected slurry and cuttings, waste material, and demolition debris in a manner that does not violate groundwater or surface water quality standards. Implement preventative measures such as berms, barriers, secondary containment, and vactor trucks if observations indicate that a violation of water quality standards could occur.

C1.45 :
SOLID WASTE HANDLING AND DISPOSAL - Remove and dispose of accumulated solid waste at authorized disposal areas. Label waste containers and place them in a covered area with closed lids. Salvage and recycle any useful materials.

BMP5 :
SPILL PREVENTION AND CLEANUP-Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP16 :
CONCRETE POURING, CONCRETE/ASPHALT CUTTING, AND ASPHALT APPLICATION - Sweep or shovel loose aggregate chunks and dust for recycling or proper disposal. Place storm drain covers or similarly effective containment devices over all storm drains located downslope or adjacent to the work area. Shovel or vacuum all slurry and remove from the site. Perform cleaning of concrete application and mixing equipment or concrete-delivery vehicles in a designated area where the rinse water is controlled.

BMP20 :
LANDSCAPING AND LAWN VEGETATION MANAGEMENT - Use proper fertilizer and herbicide application techniques to minimize nutrient pollution of stormwater. Implement proper landscaping and mulching techniques to prevent plant material and excess mulch from entering the separate storm drainage system. Do not dispose of collected vegetation in separate storm drainage systems, waterways, water bodies or greenbelt areas.

DAMAGED OR DESTROYED UTILITY :
SDOT makes no representation regarding the safety or integrity of the subject structure. If the structure is damaged or destroyed, SDOT will have no obligation to provide an alternative location for the permit utility.

PED MOBILITY COORDINATION :
PEDESTRIAN MOBILITY COORDINATION: One sidewalk at this location must remain open for safe pedestrian passage at all times. Prior to the beginning of any construction, this permit requires: Contractor will coordinate with existing permit holders to coordinate construction impacts on this street segment. Contractor must ensure that one sidewalk or temporary pedestrian pathway remain open at all times to provide for safe pedestrian passage. SDOT reserves the right to require documentation confirming coordination on future permit requests or extensions when deemed necessary. Permittee is required to notify the district Street Use inspector to ensure all required inspections are scheduled.

RIGHTS - ALREADY APV CONTRACTR :
RIGHTS TO OTHER CONTRACTORS ALREADY APPROVED FOR WORK: The scope of work listed in this permit is approved for the scheduled dates only. SDOT recognizes that construction coordination may be required to allow other contractors with existing approved permits priority in conducting work in the right of way where potential construction conflicts may occur. If, in any given area, the work allowed under this permit conflicts with other area work where contractors demonstrate an existing approved permit, the permittee must move to another location. Permittee is required to notify district Street Use inspector regarding conflicts and any work that is rescheduled due to conflicts. Work that is rescheduled may require an extension or revision to the Street Use permit.

TREE TRUNK OR ROOTS :
Contact the City Arborist Office (684-8733) a minimum of five working-days prior to digging within any landscaped areas in the street rights-of-way. The edge of all trenching must be at least five feet (5') from any street trees. When trenching near trees with trunks greater than twelve inches (12") in diameter, hand dig all trenching for a distance of ten feet (10'), measured five feet (5') radius from the tree trunk. When encountering tree roots, cut off cleanly with sharp saw (do not leave torn or ripped tree roots unattended). Do not cut roots greater than two inches (2") in diameter (contractor will have to hand tunnel underneath the roots). Do not paint ends of roots. Notify Landscape Maintenance at 684-4121 at least forty eight (48) hours in advance when working in landscaped areas or on trees.

FEES PAID AT THE COUNTER OR ONLINE

Description	Date	Amount
ISSUANCE FEE - SIGNIFICANT	02/21/2018	$305.00
USE FEE - USE 51K - SPACE A	02/21/2018	$120.00
Totals:		$425.00

Seattle Dept of Transportation
Street Use Permits, 23rd Floor
700 Fifth Ave, Suite 2300
P O Box 34996
Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

Project ID:	IMPACT Project ID: n/a	Estimated Project Completion Date: 12/01/2016

STREET USE INSPECTOR Michael Minor

Permittee _____ Director Per _____

GENERAL REQUIREMENTS

1. ***Nature of permit.*** This permit is issued according to Seattle Municipal Code ("SMC"), Chapter 15.04, for the use or occupancy of the public right of way in a manner consistent with the terms and conditions in this permit. This permit is wholly of a temporary nature, vests no permanent rights, and is revocable according to SMC Section 15.04.070.
2. ***Acceptance of terms, conditions, and requirements.*** The Permittee accepts the terms, conditions, and requirements of this permit and agrees to comply with them to the satisfaction of the Seattle Department of Transportation, Street Use Division ("Street Use"), or such other agency as may be designated by the City. The Permittee further agrees to comply with all applicable City ordinances, including but not limited to SMC Title 15, and all applicable state and federal laws.
3. ***Copy of permit.*** A copy of the issued permit and current approved plans shall be on site and available at all times.
4. ***Expiration of permit.*** This permit shall remain valid until revoked according to SMC Section 15.04.070; provided that the permit shall expire automatically if the authorized work does not begin within six months from the date the permit is issued. The Permittee is responsible for keeping the permit up to date including submitting updated plans for approval. The Permittee shall submit requests to update a permit in writing or in person, and all requests shall be made to Street Use in a timely manner; otherwise, the Permittee may lose access to requested schedule for continued work in the right of way.
5. ***Superiority of Street Improvement Permits.*** When a Street Improvement Permit exists, rights acquired under the Street Improvement Permit supersede those acquired under any other Street Use or Utility Permits. Work not approved under the Street Improvement Permit shall require separate Street Use or Utility Permits and Permittee shall obtain these permits in advance of work.
6. ***Compliance with technical requirements and standards.*** All work within the public right of way shall be performed and completed according to the current or subsequently-amended requirements in the following technical documents published by the City: Right-of-Way Improvements Manual; Street Tree Manual; Standard Specifications for Road, Bridge and Municipal Construction; Standard Plans for Municipal Construction; Right of Way Opening and Restoration Rule; and Traffic Control Manual for In-Street Work.
7. ***Scope of work.*** The Permittee shall stage equipment or materials and construct or install the improvements and infrastructure reflected in and in accordance with this permit and the City-approved construction plans. Any revisions, omissions, or additions to the scope of work shall be reviewed and approved by the City before implementation.
8. ***Street Use notification.*** Construction work may be completed in several phases: site preparation (installing traffic control, saw-cutting, etc.); ground breaking; restoration; and staging of equipment and materials. Before beginning any phase of work in the public right of way, the Permittee shall notify Street Use of each start date. The Permittee shall be responsible for notifying Street Use Job Start at (206-684-5270) or SDOTJobStart@seattle.gov a minimum of 2-business days before starting work and shall provide the following information:
   - Permit number;
   - Job-site address;
   - Start date: please specify if Job Start date is the same as the excavation or ground breaking date. If the dates are different, please provide both dates;
   - Brief work description; and
   - Job-site contact name and phone number.

   Failure to notify Street Use Job Start shall result in a $300 penalty or other amounts according to SMC Section 15.04.074. For Street Improvement Permits and Utility Major Permits, a preconstruction meeting is required before starting construction, and the assigned inspector shall be notified a minimum of 2-business days before required inspections. Construction or utility activity occurring with, but not approved under, a Street Improvement or Utility Major Permit shall be permitted under separate Street Use permits. The Permittee shall apply for and obtain these Street Use permits in advance of work. Failure to do so may subject the Permittee to penalties and additional permit review charges may apply.
9. ***Underground and overhead utility notification.*** The Permittee shall notify the following entities, as applicable, 2-business days in advance:
   - Utility Underground Locate Center (811 or 1-800-424-5555) before ground disturbance; and
   - Seattle City Light (206-684-4911) if working within 10 feet of high-voltage lines.
10. ***Olympic Pipe Line Company notification.*** When work in the right of way occurs within 100 feet of an Olympic Pipe Line Company ("OPLC") pipeline, the Permittee shall coordinate the work with OPLC, which may include submitting detailed construction plans to OPLC. The Permittee shall notify OPLC's field coordinator 10-business days in advance of the work (425-981-2506) and an OPLC representative may be required to be onsite during the work.
11. ***King County Metro notification.*** The contractor shall notify King County Metro Transit in advance of any construction that may disrupt transit service according to the following schedule.
   - Five working days notice for any work requiring a temporary bus stop.
   - Ten working days notice for relocation of a bus shelter or reroute of bus service.
   - King County Metro Transit's electric storage battery Trolley Busses can be activated for weekend outage requires with 15 working days notification. Subject to vehicle and staff support capacity restrictions.

- No two consecutive transit stops may be closed

If trolley wires are present, call 206-477-1150 or email trolley.impacts@kingcounty.gov
If trolley wires are not present, call 206-477-1140 or email construction.coord@kingcounty.gov

Public notification. Notification requirements shall comply with following:

- For ROW Management and Major permits on non-arterial streets and Public Space Management Short-term Activity permits, the permittee shall hand deliver and/or mail a project notification to adjacent residents and businesses at least 2 business days prior to beginning right of way work or activity
- For ROW Management and Major permits on arterial streets in an Urban Center or Urban Village, the permittee shall hand deliver and/or mail a project notification to all potentially affected residents and businesses within a 2-block radius and community organizations at least 10 business days prior to beginning right of way work or activity, including alleys. For multi-family housing units, notifications must be mailed or emailed to each individual unit, posted predominantly in the building common areas and/or distributed to each individual unit by the building manager/owner.
    - For projects longer than 6 months in duration, the permittee shall a project notification must be delivered monthly and provide an on-site project notice
    - If there is any change of right of way use at any point in the project, an updated project notification must be provided at least 10 business days prior to beginning right of way work or activity
- The project notification shall include the following:
    - The name, address, and description of the project
    - The duration of the project, with beginning and end dates listed
    - Permittee 24-hour contact information (name, phone number, and email)
    - List of right of way closures with dates, duration, and hours of closures
        - For projects longer than 6 months in duration, the right of way closures shall be represented in a visual map
    - SDCI and SDOT permit numbers
    - If available, a link to the project website
- For projects longer than 6 months in duration, an on-site project information notice shall be posted and maintained at each closure that is visible to the public that shall include the following:
    - The name, address, description, and duration of the project
    - Permittee 24-hour contact information (name, phone number, and email)
    - List of right of way closures with dates, duration, and hours of closures
    - SDCI and SDOT permit numbers
    - A reference to 684-ROAD for residents to report safety or mobility concerns
    - If available, a link to the project website
- For crosswalk closures longer than two weeks in duration, a crosswalk closure notice must be posted to, and maintained, on each crosswalk closure barricade and include the following:
    - The name and address of the project
    - Permittee 24-hour contact information (name, phone number, and email)
    - The duration and hours of the closure
    - A reference to 684-ROAD for residents to report safety or mobility concerns
    - If available, a link to the project website
- If the project requires a closure of any portion of an alleyway, the permittee shall notify all impacted residents and businesses at least 10 business days prior to work in the alleyway and coordinate closure dates and times with the following agencies:
    - Seattle Public Utilities: Sally Hulsman (206-684-4682 or sally.hulsman@seattle.gov) and Mike Mannery (206-684-9271 or mike.mannery@seattle.gov)
    - Seattle Fire Department Special Events Division at 206-386-1450 (this division will provide coordination information for the local fire station)
- If the project will close or reduce down to one general purpose lane an arterial street in the Central Business District, the permittee shall notify King County Metro (construction.coord@kingcounty.gov) and the SDOT Transportation Operations Center (construction.coordination@seattle.gov) at least 10 business days prior to beginning work in the public right of way and coordinate closure dates and times with the following agencies:
    - Seattle Fire Department Special Events Division at 206-386-1450 (this division will provide coordination information for the local fire station)
    - Seattle Police Department Non-Emergency Division at 206-625-5011 or SPDdispatch@seattle.gov
- If the project is working outside of approved hours due to an emergency event that will impact public health and safety, the contractor must notify the Street Use inspector, inspector lead, and the Transportation Operations Center at TOC@seattle.gov as soon as the issue has been identified
- If a tree has been approved for removal, the permittee shall post a "tree removal" public-notice placard at least 10-business days prior to beginning work
- If an SDOT public notice comment period is required prior to permitting, the permittee shall conduct the public notice outreach prior to

commencement of the SDOT public notice comment period. The comment period will occur as part of the SDOT review process.

12. ***Alley notification.*** Where this permit authorizes work in an alley, the Permittee shall notify all potentially impacted property owners and businesses prior to any activity occurring in the alley, including and especially those property owners and businesses with tenants using the alley to access parking or for building ingress/egress or deliveries. The Permittee shall schedule work around waste-management-collection days. If this is not possible, the Permittee shall coordinate with waste management services to either provide intermittent alley access during waste pickup or to temporarily establish waste pickup at an alternate location. If an alley is to remain open during permitted work, a minimum 11-foot clear width is required for vehicular access. If an alley is closed to through traffic, the Permittee shall notify the nearest Seattle Fire Department fire station and the Seattle Police Department at the non-emergency numbers prior to commencing work.
13. ***Coordination of work.*** In performing work authorized by this permit, the Permittee shall coordinate with other contractors, public agencies and other permitees working in the public right of way to minimize impact to the public. Documented coordination agreements may be required prior to permit issuance and additional notification to the public may be required.
14. ***Hours of work.*** Work performed in the public right of way shall occur only during hours authorized under all applicable codes, regulations, rules, and permits.
15. ***Off-hours work.*** Work outside of normal working hours, 8:00 AM - 5:00 PM Monday through Friday, is considered "off-hours work" and requires a minimum of 3-business days advanced notice to the Street Use Inspection Supervisor before the off-hours work commences. Off-hours work may also require a separately-approved traffic control plan. A minimum of two hours of inspection time shall be charged for off-hours inspections at the premium rate. A Stop Work order or Citation may be issued for failing to notify Street Use at least 3-business days before the off-hours work.
16. ***Inspection fees.*** The Permittee shall pay for City inspections of work authorized under this permit according to the current fee schedule established by SMC Section 15.04.074 and all other associated costs.
17. ***Billing.*** All fees and costs billed according to this permit shall be paid to the City of Seattle within 30-calendar days from the invoice date. Past due invoices may be subject to interest charges and may be sent to collections.
19. ***Deposits, charges, and future billings.*** The Permittee, also identified as the "Financially Responsible Party" on Street Use permit applications, is responsible and liable for all permit-related charges. If a deposit was made for estimated future Street Use services, any unused portion of the deposit shall be refunded to the Permittee. Any charges in excess of the deposit shall be billed to the Permittee on a monthly basis.
20. ***Corrective work.*** The Permittee is responsible for any additional costs incurred by the City resulting from temporary or corrective measures required to bring the work area into compliance with standards that apply, including but not limited to: temporary traffic control, requirements for temporary structures, temporary stabilization, and temporary restoration when the Permittee is not on site.
21. ***Indemnification.*** The Permittee agrees to defend, indemnify, and hold harmless the City of Seattle, its officials, officers, employees, and agents; against any liability, claims, causes of action, judgments, or expenses, including reasonable attorney fees; resulting directly or indirectly from any act or omission of the Permittee, its contractors, subcontractors, anyone directly or indirectly employed by them, and anyone for whose acts or omissions they may be liable; arising out of the Permittee's use or occupancy of the public right of way; and all loss by the failure of the Permittee to fully or adequately perform, in any respect, all authorizations or obligations under this Permit.
22. ***Insurance.*** The Permittee shall obtain and maintain in full force and effect, at its own expense, public liability insurance in an amount sufficient to protect the City from all potential claims and risks of loss from perils in connection with any activity that may arise from or be related to the Permittee's activity upon or the use or occupation of the public right of way allowed by the permit; and all claims and risks in connection with activities performed by the Permittee by virtue of the permission granted by the permit. The Permittee shall meet all other insurance requirements in SMC 15.04.045.

EXISTING IMPROVEMENTS

1. ***Costs of damage to City property and improvements.*** The Permittee shall be responsible for the costs of repairing any damage to City property or improvements, including street trees, resulting from work performed by or on behalf of the Permittee within the public right of way. Damage to street trees is assessed on the value of the tree according to SMC subsection 15.90.018.B.
2. ***Utility protection.*** The Permittee shall be responsible for checking locations and providing adequate protection for all utilities in the work area.
3. ***Utility relocation.*** The Permittee shall be responsible for notifying affected utilities and requesting any necessary relocation.
4. ***Survey monuments.*** Before removing, destroying, disturbing, or covering a survey monument such that the survey point is no longer visible or readily accessible, the Permittee shall obtain a permit from the Department of Natural Resources according to Washington Administrative Code, Chapter 332-120.
5. ***Protecting, removing, and relocating existing improvements.*** In addition to General Requirements item 12, the Permittee, at their own cost and expense, shall be responsible for coordinating the removal and relocation of existing improvements within the public right of way that their construction or permitted project may interfere with. These existing improvements include, but are not limited to trees, bike racks, newsstands, bike-share stations, signs, benches, artwork, and waste receptacles.
   - For existing improvements, the Permittee shall contact the improvement owner at least 10-business days before starting work to coordinate the temporary removal of the improvement.
   - For newsstands, the Permittee shall coordinate temporary relocation during the construction period by posting notice of upcoming construction projects at SeattleNewsstands.org at least 10-business days before starting work.

   The Permittee shall be responsible for reinstalling the improvements or coordinating the reinstallation in their original location or at a reasonable alternative location approved by the existing improvement owner and meeting all applicable City requirements. The Permittee is further responsible for protecting all trees within the construction project area and shall contact Urban Forestry to disclose and describe any construction

impacts to trees.
Failure to contact the improvement owners or Urban Forestry is cause for Street Use to revoke this permit.

6. ***Monorail system proximity requirements.*** The Permittee shall be responsible for coordinating with the Seattle Center when any work, deliveries, or loading/unloading will occur within 14 feet of a Monorail structure or 20 feet of a Monorail foundation or below-ground installation. The Permittee shall contact the Seattle Center at 206-905-2601 at least 10-business days before starting construction. Failure to do so is cause for permit revocation.
7. ***Monorail system proximity guidelines.*** Below grade: The restricted digging area includes a 45-degree cone extending outward and downward from the ground level of all monorail piers. Nearby excavations shall be monitored to assure footing stability. At- or above-grade: The piers above ground level cannot be moved, nor can any item like lighting or signage be attached to the piers without prior written consent from the Seattle Center Director. Piers shall not be painted. Landscaping shall not occur adjacent to piers or within 10 feet of a Monorail structure without prior written consent of the Seattle Center Director. Any construction activity in the area of the power rails shall follow OSHA guidelines for working around high voltage. Construction equipment shall be located and operated in awareness of and taking account of beam height and the train's 14-foot-operational envelope from each side of the beam. Contractors shall string warning lines from pier to pier under the beams as a guide. Spotters shall be employed when any construction activity occurs within 25 feet of the beams.

ENVIRONMENTAL PROTECTION

1. ***Best management practices required.*** The Permittee shall be responsible for protecting the public place, including but not limited to protecting existing street trees and green stormwater infrastructure, and controlling surface runoff, erosion and sediment at the construction site, as required by: the Stormwater Code, (SMC Title 22, Subtitle VIII); the Street and Sidewalk Use Code, (SMC Title 15); the Standard Specifications for Road, Bridge, and Municipal Construction; and Department of Planning and Development Director's Rule 21-2015/Seattle Public Utilities DWW 200, or successor rules or provisions. The site and the surrounding area shall generally be kept clean and free of construction debris or other material, including but not limited to mud, dust, rock, asphalt, and concrete. Waste materials shall be collected and disposed of at an appropriate disposal site. These materials shall be prevented from entering any part of the public sewer and storm drain system, and any surface waters.

TRAFFIC CONTROL REQUIREMENTS

1. ***Compliance with the Traffic Control Manual for In-Street Work.*** In order to provide safe and effective work areas and to ward, control, protect, and expedite vehicular and pedestrian traffic; signage for all construction within the public right of way shall comply with the City of Seattle Traffic Control Manual for In-Street Work, as amended. When required, the conditions on the traffic control plan shall supersede any conflicting provisions or requirements in the City of Seattle Traffic Control Manual for In-Street Work. A copy of the current City of Seattle Traffic Control Manual for
In-Street Work and the approved traffic control plan shall be on site at all times.
2. ***Lanes to remain open during peak hours.*** Traffic lanes shall not be closed during the following peak hours: 6:00 AM - 9:00 AM and 3:00 PM - 7:00 PM in the Central Business District; and 7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM for arterials elsewhere in the City, unless specifically noted on the approved traffic control plan.
3. ***Maintain access.*** Access to adjoining properties and businesses shall be maintained or accommodated during construction. Pedestrian access around construction sites shall be implemented and maintained per SDOT Director's Rule 10-2015, or successor rule.
4. ***Width of temporary traffic lanes.*** Temporary traffic lanes created during the permitted work shall be a minimum of 11 feet in width unless otherwise approved on the traffic control plan.
5. ***Working within restricted curb spaces.*** When the project impacts a restricted curb space, such as meters, pay stations, specific use and load zones; the Permittee shall obtain permission from SDOT Traffic Operations and reserve the spaces with the Traffic Operations Permit Counter (206-684-5086) before starting work.
6. ***Temporary No Parking signs and easels.*** In areas without parking pay stations or parking meters, or when Traffic Operations allows reserved parking spaces to be controlled with Temporary No Parking signs, establishing a Temporary No Parking Zone requires placing type R7-T38 (T-38) or R7-T39 (T-39) easels and completing an online verification form in conformance with the Traffic Control Manual for In-Street Work. In high impact areas, the Central Business District, and in areas where construction projects are densely clustered (such as in City-designated "Construction Hubs"), additional requirements for establishing a Temporary No Parking Zone may apply.
7. ***Nighttime illumination.*** Four or more Type B warning lights of sufficient brilliance to be seen from 500 feet shall be maintained at all times during the hours of darkness at the points of obstruction or excavation of any right of way.
8. ***Work in alleys.*** For work occurring in alleys that impedes vehicular access, including but not limited to egress, ingress, or through travel; "Street Closed" signs shall be placed at each end of the alley. Property owners adjacent to the alley shall be contacted, and their access concerns shall be addressed and mitigated if possible. This may require alternative work scheduling in the case of Solid Waste collection days

CAUTION
DO NOT USE HYDRANTS
WITH RED BAND
AROUND HOSEPORT CAPS

CITY OF SEATTLE PUBLIC UTILITIES

HYDRANT PERMIT

Permit No. **331009**

Approved from 6/25/2018 to 6/29/2018

I hereby apply for the use of water from hydrant located at **HYDRANT 1311 SW FLORIDA ST - E36** for a period of **4 days** from date hereof, all water so used to be paid for in accordance with ordinances of the City of Seattle relating thereto. I agree to use due care in operating the hydrant and **will be responsible for any damage** occurring to hydrant or any part of the equipment connected therewith.

Invoice No. 20180602

Contractor AECOM

Contact Gene Hoilman Phone 503-948-7209

Billing Address 111 SW Columbia, Suite 1500
Portland, OR 97201

Applicant Gene Hoilman Phone 503-948-7209

Signature

INSTRUCTIONS FOR OPERATING HYDRANT

Remove cap from port; see that independent shut-off valve is closed, then attach hose. Turn main stem until valve is WIDE OPEN; hydrant is then ready for use. to control flow of water, operate independent shut-off valve, but leave main valve stem alone until through with the use of water. To discontinue use of water, TURN OFF MAIN VALVE, and then turn off independent valve; remove hose connection and replace hydrant cap. USE ONLY A COREY HYDRANT WRENCH.

Permission to use hydrant as specified above is hereby granted.

Purpose Cure water for CIPP installation

Comments

Director of Seattle Public Utilities.

By Kerry Murdock

Date: 6/20/2018 Phone 206-684-5131

Hydrant Permit Requirements

- One specific hydrant must be identified and approved by Seattle Public Utilities (SPU) prior to use. No other hydrant is to be used unless exclusively identified and approved.
- It is the responsibility of the hydrant user to use a reduced pressure backflow assembly (RPBA) or approved air gap at all times. SPU has the right to inspect customer's equipment.
- Hydrant permits and satisfactory tank inspection reports (if applicable) must be in the possession of the hydrant user.
- Fire Department access to the hydrant must be unobstructed.
- SPU hydrant equipment must be returned in same-as-issued condition. In the event of damaged or lost equipment, SPU will assess charges equal to the cost of the damaged or lost equipment, including overhead cost. If there is any evidence of hydrant meter tampering or damage to the hydrant meter prohibiting SPU to accurately determine the amount of water used, at SPU's discretion, per day charges will be assessed for the entire term of the permit.
- Approved barricades must be used to prevent hydrant hoses from coming in contact with vehicle and/or pedestrian traffic.
- This permit is effective until the expiration date. Any subsequent use is illegal and will be subject to a fine.
- Failure to comply may result in the cancellation of hydrant permit(s).

Hydrant Operations Rules

- Check all engine port caps to insure they are tightly secure before operating the hydrant.
- Using a hydrant builds pressure that can blow out loose fittings. Never bend or hunch over the hydrant when you are operating and always stand to the back of the hydrant while charging.
- Operate the hydrant with a hydrant wrench only. Never operate using a pipe wrench – it strips the operating nut.
- Never open or close a hydrant rapidly. Opening or closing a hydrant too fast can send a water hammer through the water main that can cause it to rupture and/or damage the hydrant. It disturbs the sediment in the water main affecting water quality and causing dirty water complaints.
- To control flow, use the valve on the SPU hydrant meter. If private equipment is being used, connect a 2" ball valve or gate valve to the engine port. Never throttle a hydrant from the operation nut. Operate the hydrant to the fully open or fully closed positions. Leaving partially open or closed burns the main rubber valve.
- Hydrant permit holders operate hydrants at their own risk and assume all responsibility for personal injury or damage to SPU equipment.
- If a hydrant is not operating properly, call SPU at (206) 386-1800 to report the problem.

Seattle Dept of Transportation
Street Use Permits, 23rd Floor
700 Fifth Ave, Suite 2300
P O Box 34996
Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

☐ Inspector Copy ☐ Permittee Copy ☐ File Copy

Project ID: **IMPACT Project ID: n/a** **Estimated Project Completion Date: 07/09/2018**

Inspector: Michael Minor
Inspection District: WEST SEATTLE

LOCATION

Address: 2404 13TH AVE SW
High Impact Area: N
Details: SOUTH SIDE OF SW FLORIDA ST (SOUTH ROUTE), BETWEEN 13TH AVE SW & 15TH AVE SW, NORTH TRAVEL LANE

Application Date: 8/11/16 12:56 pm
Issue Date: 6/19/18 7:39 am

PARTIES (* Primary Applicant)

Role	Name	Address	Phone	From	To
***Former Applicant**	BREWER, DENNIS	1002 CENTRAL AVE N,,KENT,WA,98032	(206)878-0221		
Permittee	EQUILON ENTERPRISES LLC	2555 13TH AVE SW,DBA SHELL OIL PRODUCT US / DAVE FELGER,SEA,WA,98134-	(310)816-2053		
24 Hour Contact	HOILMAN, GENE	111 SW COLUMBIA, STE 1500,,PORTLAND,OREGON,97212	(503)504-0500		
Contractor'S Agent	PALMIERI, ANTHONY	1111 3RD AVE,SUITE 1600,SEATTLE,WA,98101	(206)438-2417 x		
Former Applicant	MOODY, NICKY	111 SW COLUMBIA ST , SUITE 1500,,PORTLAND,OR,97201	(503)478-2765		

PERMITTED USES

To Be Restored By: PERMITTEE

SW FLORIDA ST BETWEEN 13TH AVE SW AND 16TH AVE SW - ARTERIAL
Use 51K Space A - Installing or maintaining sewer or drainage lines
Condition Description
Start Date 06/25/2018 - North Travel lane on South route of SW Florida St
Start Date 03/08/2018 - North Travel lane on South route of SW Florida St

Start Date	Duration	End Date	Sq. Ft	Issue Date	Ext.	Side of Street	Location Type	Closure Type	Peak Work OK	Day or Time Rstrctns
06/25/2018	10	09/23/2018	1,200	06/19/2018	Y	SOUTH	TRAVEL LANE	CLOSED		
03/08/2018	10	06/06/2018	1,200	02/22/2018	N	SOUTH	TRAVEL LANE	CLOSED		

CONDITIONS OF USE

DESCRIPTION OF WORK :
Additional Notes: *SCOPE: Access SPU owned maintenace hole for and cleanout of mains and stormwater discharge pipe repair/reline, Arterial, No anticipated restoration*
MOBILITY IMPACT: South side of SW Florida St (South Route), between 13th Ave SW & 15th Ave SW, North travel lane
CUSTOMER DESCRIPTION: Storm Drain clean out at city main hole D050-015 in ROW

E1.15 :
MULCHING AND MATTING - Apply mulch to protect exposed soils and promote plant establishment.

E1.40 :
PERMANENT SEEDING AND PLANTING - Install temporary surface runoff control measures prior to seeding or planting to protect the surface from erosion until the vegetation is established. Establish permanent vegetation (e.g., grasses, legumes, trees, and shrubs) as rapidly as possible to prevent soil erosion by wind or water.

E1.45 :
SODDING - Establish permanent turf for immediate erosion protection or to stabilize drainage pathways where concentrated overland flow will occur.

E1.50 :

Seattle Dept of Transportation
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Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

Project ID:	IMPACT Project ID: n/a	Estimated Project Completion Date: 07/09/2018

TOPSOILING - Preserve and use topsoil to enhance final site stabilization with vegetation and to provide a suitable growth medium for final site stabilization with vegetation.

E3.25 :
STORM DRAIN INLET PROTECTION - Install storm drain covers on stormwater structures less than 12 inches deep during construction. Install catch basin filter socks in stormwater structures greater than 12 inches deep. Place the storm drain or catch basin grate on top of the catch basin filter sock to hold it in place.

C1.20 :
USE OF CHEMICALS DURING CONSTRUCTION - Use only the recommended amounts of chemical materials and apply them in a proper manner. Neutralize the pH of concrete wash water from concrete mixers, if necessary.

C1.35 :
SAWCUTTING AND PAVING POLLUTION PREVENTION - Vacuum slurry and cuttings during the activity to prevent migration offsite and do not leave slurry and cuttings on permanent concrete or asphalt paving overnight. Dispose of collected slurry and cuttings, waste material, and demolition debris in a manner that does not violate groundwater or surface water quality standards. Implement preventative measures such as berms, barriers, secondary containment, and vactor trucks if observations indicate that a violation of water quality standards could occur.

C1.45 :
SOLID WASTE HANDLING AND DISPOSAL - Remove and dispose of accumulated solid waste at authorized disposal areas. Label waste containers and place them in a covered area with closed lids. Salvage and recycle any useful materials.

BMP5 :
SPILL PREVENTION AND CLEANUP-Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP16 :
CONCRETE POURING, CONCRETE/ASPHALT CUTTING, AND ASPHALT APPLICATION - Sweep or shovel loose aggregate chunks and dust for recycling or proper disposal. Place storm drain covers or similarly effective containment devices over all storm drains located downslope or adjacent to the work area. Shovel or vacuum all slurry and remove from the site. Perform cleaning of concrete application and mixing equipment or concrete-delivery vehicles in a designated area where the rinse water is controlled.

BMP20 :
LANDSCAPING AND LAWN VEGETATION MANAGEMENT - Use proper fertilizer and herbicide application techniques to minimize nutrient pollution of stormwater. Implement proper landscaping and mulching techniques to prevent plant material and excess mulch from entering the separate storm drainage system. Do not dispose of collected vegetation in separate storm drainage systems, waterways, water bodies or greenbelt areas.

DAMAGED OR DESTROYED UTILITY :
SDOT makes no representation regarding the safety or integrity of the subject structure. If the structure is damaged or destroyed, SDOT will have no obligation to provide an alternative location for the permit utility.

PED MOBILITY COORDINATION :
PEDESTRIAN MOBILITY COORDINATION: One sidewalk at this location must remain open for safe pedestrian passage at all times. Prior to the beginning of any construction, this permit requires: Contractor will coordinate with existing permit holders to coordinate construction impacts on this street segment. Contractor must ensure that one sidewalk or temporary pedestrian pathway remain open at all times to provide for safe pedestrian passage. SDOT reserves the right to require documentation confirming coordination on future permit requests or extensions when deemed necessary. Permittee is required to notify the district Street Use inspector to ensure all required inspections are scheduled.

RIGHTS - ALREADY APV CONTRACTR :
RIGHTS TO OTHER CONTRACTORS ALREADY APPROVED FOR WORK: The scope of work listed in this permit is approved for the scheduled dates only. SDOT recognizes that construction coordination may be required to allow other contractors with existing approved permits priority in conducting work in the right of way where potential construction conflicts may occur. If, in any given area, the work allowed under this permit conflicts with other area work where contractors demonstrate an existing approved permit, the permittee must move to another location. Permittee is required to notify district Street Use inspector regarding conflicts and any work that is rescheduled due to conflicts. Work that is rescheduled may require an extension or revision to the Street Use permit.

TREE TRUNK OR ROOTS :
Contact the City Arborist Office (684-8733) a minimum of five working-days prior to digging within any landscaped areas in the street rights-of-way. The edge of all trenching must be at least five feet (5') from any street trees. When trenching near trees with trunks greater than twelve inches (12") in diameter, hand dig all trenching for a distance of ten feet (10'), measured five feet (5') radius from the tree trunk. When encountering tree roots, cut off cleanly with sharp saw (do not leave torn or ripped tree roots unattended). Do not cut roots greater than two inches (2") in diameter (contractor will have to hand tunnel underneath the roots). Do not paint ends of roots. Notify Landscape Maintenance at 684-4121 at least forty eight (48) hours in advance when working in landscaped areas or on trees.

FEES PAID AT THE COUNTER OR ONLINE

Seattle Dept of Transportation
Street Use Permits, 23rd Floor
700 Fifth Ave, Suite 2300
P O Box 34996
Seattle, WA 98124-4996

STREET USE PERMIT

Permit No.: 317390

Project ID:	IMPACT Project ID: n/a	Estimated Project Completion Date: 07/09/2018

Description	Date	Amount
ISSUANCE FEE - SIGNIFICANT	02/21/2018	$305.00
USE FEE - USE 51K - SPACE A	02/21/2018	$120.00
MODIFICATION FEE	06/18/2018	$159.00
USE FEE - USE 51K - SPACE A	06/18/2018	$120.00
Totals:		$704.00

STREET USE INSPECTOR Michael Minor

Permittee _____ Director Per _____

GENERAL REQUIREMENTS

1. ***Nature of permit.*** This permit is issued according to Seattle Municipal Code ("SMC"), Chapter 15.04, for the use or occupancy of the public right of way in a manner consistent with the terms and conditions in this permit. This permit is wholly of a temporary nature, vests no permanent rights, and is revocable according to SMC Section 15.04.070.
2. ***Acceptance of terms, conditions, and requirements.*** The Permittee accepts the terms, conditions, and requirements of this permit and agrees to comply with them to the satisfaction of the Seattle Department of Transportation, Street Use Division ("Street Use"), or such other agency as may be designated by the City. The Permittee further agrees to comply with all applicable City ordinances, including but not limited to SMC Title 15, and all applicable state and federal laws.
3. ***Copy of permit.*** A copy of the issued permit and current approved plans shall be on site and available at all times.
4. ***Expiration of permit.*** This permit shall remain valid until revoked according to SMC Section 15.04.070; provided that the permit shall expire automatically if the authorized work does not begin within six months from the date the permit is issued. The Permittee is responsible for keeping the permit up to date including submitting updated plans for approval. The Permittee shall submit requests to update a permit in writing or in person, and all requests shall be made to Street Use in a timely manner; otherwise, the Permittee may lose access to requested schedule for continued work in the right of way.
5. ***Superiority of Street Improvement Permits.*** When a Street Improvement Permit exists, rights acquired under the Street Improvement Permit supersede those acquired under any other Street Use or Utility Permits. Work not approved under the Street Improvement Permit shall require separate Street Use or Utility Permits and Permittee shall obtain these permits in advance of work.
6. ***Compliance with technical requirements and standards.*** All work within the public right of way shall be performed and completed according to the current or subsequently-amended requirements in the following technical documents published by the City: Right-of-Way Improvements Manual; Street Tree Manual; Standard Specifications for Road, Bridge and Municipal Construction; Standard Plans for Municipal Construction; Right of Way Opening and Restoration Rule; and Traffic Control Manual for In-Street Work.
7. ***Scope of work.*** The Permittee shall stage equipment or materials and construct or install the improvements and infrastructure reflected in and in accordance with this permit and the City-approved construction plans. Any revisions, omissions, or additions to the scope of work shall be reviewed and approved by the City before implementation.
8. ***Street Use notification.*** Construction work may be completed in several phases: site preparation (installing traffic control, saw-cutting, etc.); ground breaking; restoration; and staging of equipment and materials. Before beginning any phase of work in the public right of way, the Permittee shall notify Street Use of each start date. The Permittee shall be responsible for notifying Street Use Job Start at (206-684-5270) or SDOTJobStart@seattle.gov a minimum of 2-business days before starting work and shall provide the following information:
   - Permit number;
   - Job-site address;
   - Start date: please specify if Job Start date is the same as the excavation or ground breaking date. If the dates are different, please provide both dates;
   - Brief work description; and
   - Job-site contact name and phone number.

   Failure to notify Street Use Job Start shall result in a $300 penalty or other amounts according to SMC Section 15.04.074. For Street Improvement Permits and Utility Major Permits, a preconstruction meeting is required before starting construction, and the assigned inspector shall be notified a minimum of 2-business days before required inspections. Construction or utility activity occurring with, but not approved under, a Street Improvement or Utility Major Permit shall be permitted under separate Street Use permits. The Permittee shall apply for and obtain these Street Use permits in advance of work. Failure to do so may subject the Permittee to penalties and additional permit review charges may apply.
9. ***Underground and overhead utility notification.*** The Permittee shall notify the following entities, as applicable, 2-business days in advance:

- Utility Underground Locate Center (811 or 1-800-424-5555) before ground disturbance; and
- Seattle City Light (206-684-4911) if working within 10 feet of high-voltage lines.

10. ***Olympic Pipe Line Company notification.*** When work in the right of way occurs within 100 feet of an Olympic Pipe Line Company ("OPLC") pipeline, the Permittee shall coordinate the work with OPLC, which may include submitting detailed construction plans to OPLC. The Permittee shall notify OPLC's field coordinator 10-business days in advance of the work (425-981-2506) and an OPLC representative may be required to be onsite during the work.
11. ***King County Metro notification.*** The contractor shall notify King County Metro Transit in advance of any construction that may disrupt transit service according to the following schedule.
    - Five working days notice for any work requiring a temporary bus stop.
    - Ten working days notice for relocation of a bus shelter or reroute of bus service.
    - King County Metro Transit's electric storage battery Trolley Busses can be activated for weekend outage requires with 15 working days notification. Subject to vehicle and staff support capacity restrictions.
    - No two consecutive transit stops may be closed

    If trolley wires are present, call 206-477-1150 or email trolley.impacts@kingcounty.gov
    If trolley wires are not present, call 206-477-1140 or email construction.coord@kingcounty.gov

Public notification. Notification requirements shall comply with following:

- For ROW Management and Major permits on non-arterial streets and Public Space Management Short-term Activity permits, the permittee shall hand deliver and/or mail a project notification to adjacent residents and businesses at least 2 business days prior to beginning right of way work or activity
- For ROW Management and Major permits on arterial streets in an Urban Center or Urban Village, the permittee shall hand deliver and/or mail a project notification to all potentially affected residents and businesses within a 2-block radius and community organizations at least 10 business days prior to beginning right of way work or activity, including alleys. For multi-family housing units, notifications must be mailed or emailed to each individual unit, posted predominantly in the building common areas and/or distributed to each individual unit by the building manager/owner.
    - For projects longer than 6 months in duration, the permittee shall a project notification must be delivered monthly and provide an on-site project notice
    - If there is any change of right of way use at any point in the project, an updated project notification must be provided at least 10 business days prior to beginning right of way work or activity
- The project notification shall include the following:
    - The name, address, and description of the project
    - The duration of the project, with beginning and end dates listed
    - Permittee 24-hour contact information (name, phone number, and email)
    - List of right of way closures with dates, duration, and hours of closures
        - For projects longer than 6 months in duration, the right of way closures shall be represented in a visual map
    - SDCI and SDOT permit numbers
    - If available, a link to the project website
- For projects longer than 6 months in duration, an on-site project information notice shall be posted and maintained at each closure that is visible to the public that shall include the following:
    - The name, address, description, and duration of the project
    - Permittee 24-hour contact information (name, phone number, and email)
    - List of right of way closures with dates, duration, and hours of closures
    - SDCI and SDOT permit numbers
    - A reference to 684-ROAD for residents to report safety or mobility concerns
    - If available, a link to the project website
- For crosswalk closures longer than two weeks in duration, a crosswalk closure notice must be posted to, and maintained, on each crosswalk closure barricade and include the following:
    - The name and address of the project
    - Permittee 24-hour contact information (name, phone number, and email)
    - The duration and hours of the closure
    - A reference to 684-ROAD for residents to report safety or mobility concerns
    - If available, a link to the project website
- If the project requires a closure of any portion of an alleyway, the permittee shall notify all impacted residents and businesses at least 10 business days prior to work in the alleyway and coordinate closure dates and times with the following agencies:
    - Seattle Public Utilities: Sally Hulsman (206-684-4682 or sally.hulsman@seattle.gov) and Mike Mannery (206-684-9271 or mike.mannery@seattle.gov)
    - Seattle Fire Department Special Events Division at 206-386-1450 (this division will provide coordination information for the local fire station)
- If the project will close or reduce down to one general purpose lane an arterial street in the Central Business District, the permittee shall notify

King County Metro (construction.coord@kingcounty.gov) and the SDOT Transportation Operations Center (construction.coordination@seattle.gov) at least 10 business days prior to beginning work in the public right of way and coordinate closure dates and times with the following agencies:
  - Seattle Fire Department Special Events Division at 206-386-1450 (this division will provide coordination information for the local fire station)
  - Seattle Police Department Non-Emergency Division at 206-625-5011 or SPDdispatch@seattle.gov
- If the project is working outside of approved hours due to an emergency event that will impact public health and safety, the contractor must notify the Street Use inspector, inspector lead, and the Transportation Operations Center at TOC@seattle.gov as soon as the issue has been identified
- If a tree has been approved for removal, the permittee shall post a "tree removal" public-notice placard at least 10-business days prior to beginning work
- If an SDOT public notice comment period is required prior to permitting, the permittee shall conduct the public notice outreach prior to commencement of the SDOT public notice comment period. The comment period will occur as part of the SDOT review process.

12. ***Alley notification.*** Where this permit authorizes work in an alley, the Permittee shall notify all potentially impacted property owners and businesses prior to any activity occurring in the alley, including and especially those property owners and businesses with tenants using the alley to access parking or for building ingress/egress or deliveries. The Permittee shall schedule work around waste-management-collection days. If this is not possible, the Permittee shall coordinate with waste management services to either provide intermittent alley access during waste pickup or to temporarily establish waste pickup at an alternate location. If an alley is to remain open during permitted work, a minimum 11-foot clear width is required for vehicular access. If an alley is closed to through traffic, the Permittee shall notify the nearest Seattle Fire Department fire station and the Seattle Police Department at the non-emergency numbers prior to commencing work.
13. ***Coordination of work.*** In performing work authorized by this permit, the Permittee shall coordinate with other contractors, public agencies and other permitees working in the public right of way to minimize impact to the public. Documented coordination agreements may be required prior to permit issuance and additional notification to the public may be required.
14. ***Hours of work.*** Work performed in the public right of way shall occur only during hours authorized under all applicable codes, regulations, rules, and permits.
15. ***Off-hours work.*** Work outside of normal working hours, 8:00 AM - 5:00 PM Monday through Friday, is considered "off-hours work" and requires a minimum of 3-business days advanced notice to the Street Use Inspection Supervisor before the off-hours work commences. Off-hours work may also require a separately-approved traffic control plan. A minimum of two hours of inspection time shall be charged for off-hours inspections at the premium rate. A Stop Work order or Citation may be issued for failing to notify Street Use at least 3-business days before the off-hours work.
16. ***Inspection fees.*** The Permittee shall pay for City inspections of work authorized under this permit according to the current fee schedule established by SMC Section 15.04.074 and all other associated costs.
17. ***Billing.*** All fees and costs billed according to this permit shall be paid to the City of Seattle within 30-calendar days from the invoice date. Past due invoices may be subject to interest charges and may be sent to collections.
19. ***Deposits, charges, and future billings.*** The Permittee, also identified as the "Financially Responsible Party" on Street Use permit applications, is responsible and liable for all permit-related charges. If a deposit was made for estimated future Street Use services, any unused portion of the deposit shall be refunded to the Permittee. Any charges in excess of the deposit shall be billed to the Permittee on a monthly basis.
20. ***Corrective work.*** The Permittee is responsible for any additional costs incurred by the City resulting from temporary or corrective measures required to bring the work area into compliance with standards that apply, including but not limited to: temporary traffic control, requirements for temporary structures, temporary stabilization, and temporary restoration when the Permittee is not on site.
21. ***Indemnification.*** The Permittee agrees to defend, indemnify, and hold harmless the City of Seattle, its officials, officers, employees, and agents; against any liability, claims, causes of action, judgments, or expenses, including reasonable attorney fees; resulting directly or indirectly from any act or omission of the Permittee, its contractors, subcontractors, anyone directly or indirectly employed by them, and anyone for whose acts or omissions they may be liable; arising out of the Permittee's use or occupancy of the public right of way; and all loss by the failure of the Permittee to fully or adequately perform, in any respect, all authorizations or obligations under this Permit.
22. ***Insurance.*** The Permittee shall obtain and maintain in full force and effect, at its own expense, public liability insurance in an amount sufficient to protect the City from all potential claims and risks of loss from perils in connection with any activity that may arise from or be related to the Permittee's activity upon or the use or occupation of the public right of way allowed by the permit; and all claims and risks in connection with activities performed by the Permittee by virtue of the permission granted by the permit. The Permittee shall meet all other insurance requirements in SMC 15.04.045.

EXISTING IMPROVEMENTS

1. ***Costs of damage to City property and improvements.*** The Permittee shall be responsible for the costs of repairing any damage to City property or improvements, including street trees, resulting from work performed by or on behalf of the Permittee within the public right of way. Damage to street trees is assessed on the value of the tree according to SMC subsection 15.90.018.B.
2. ***Utility protection.*** The Permittee shall be responsible for checking locations and providing adequate protection for all utilities in the work area.
3. ***Utility relocation.*** The Permittee shall be responsible for notifying affected utilities and requesting any necessary relocation.
4. ***Survey monuments.*** Before removing, destroying, disturbing, or covering a survey monument such that the survey point is no longer visible or readily accessible, the Permittee shall obtain a permit from the Department of Natural Resources according to Washington

Administrative Code, Chapter 332-120.

5. ***Protecting, removing, and relocating existing improvements.*** In addition to General Requirements item 12, the Permittee, at their own cost and expense, shall be responsible for coordinating the removal and relocation of existing improvements within the public right of way that their construction or permitted project may interfere with. These existing improvements include, but are not limited to trees, bike racks, newsstands, bike-share stations, signs, benches, artwork, and waste receptacles.
   - For existing improvements, the Permittee shall contact the improvement owner at least 10-business days before starting work to coordinate the temporary removal of the improvement.
   - For newsstands, the Permittee shall coordinate temporary relocation during the construction period by posting notice of upcoming construction projects at SeattleNewsstands.org at least 10-business days before starting work.

   The Permittee shall be responsible for reinstalling the improvements or coordinating the reinstallation in their original location or at a reasonable alternative location approved by the existing improvement owner and meeting all applicable City requirements. The Permittee is further responsible for protecting all trees within the construction project area and shall contact Urban Forestry to disclose and describe any construction impacts to trees.
   Failure to contact the improvement owners or Urban Forestry is cause for Street Use to revoke this permit.
6. ***Monorail system proximity requirements.*** The Permittee shall be responsible for coordinating with the Seattle Center when any work, deliveries, or loading/unloading will occur within 14 feet of a Monorail structure or 20 feet of a Monorail foundation or below-ground installation. The Permittee shall contact the Seattle Center at 206-905-2601 at least 10-business days before starting construction. Failure to do so is cause for permit revocation.
7. ***Monorail system proximity guidelines.*** Below grade: The restricted digging area includes a 45-degree cone extending outward and downward from the ground level of all monorail piers. Nearby excavations shall be monitored to assure footing stability. At- or above-grade: The piers above ground level cannot be moved, nor can any item like lighting or signage be attached to the piers without prior written consent from the Seattle Center Director. Piers shall not be painted. Landscaping shall not occur adjacent to piers or within 10 feet of a Monorail structure without prior written consent of the Seattle Center Director. Any construction activity in the area of the power rails shall follow OSHA guidelines for working around high voltage. Construction equipment shall be located and operated in awareness of and taking account of beam height and the train's 14-foot-operational envelope from each side of the beam. Contractors shall string warning lines from pier to pier under the beams as a guide. Spotters shall be employed when any construction activity occurs within 25 feet of the beams.

ENVIRONMENTAL PROTECTION

1. ***Best management practices required.*** The Permittee shall be responsible for protecting the public place, including but not limited to protecting existing street trees and green stormwater infrastructure, and controlling surface runoff, erosion and sediment at the construction site, as required by: the Stormwater Code, (SMC Title 22, Subtitle VIII); the Street and Sidewalk Use Code, (SMC Title 15); the Standard Specifications for Road, Bridge, and Municipal Construction; and Department of Planning and Development Director's Rule 21-2015/Seattle Public Utilities DWW 200, or successor rules or provisions. The site and the surrounding area shall generally be kept clean and free of construction debris or other material, including but not limited to mud, dust, rock, asphalt, and concrete. Waste materials shall be collected and disposed of at an appropriate disposal site. These materials shall be prevented from entering any part of the public sewer and storm drain system, and any surface waters.

TRAFFIC CONTROL REQUIREMENTS

1. ***Compliance with the Traffic Control Manual for In-Street Work.*** In order to provide safe and effective work areas and to ward, control, protect, and expedite vehicular and pedestrian traffic; signage for all construction within the public right of way shall comply with the City of Seattle Traffic Control Manual for In-Street Work, as amended. When required, the conditions on the traffic control plan shall supersede any conflicting provisions or requirements in the City of Seattle Traffic Control Manual for In-Street Work. A copy of the current City of Seattle Traffic Control Manual for
   In-Street Work and the approved traffic control plan shall be on site at all times.
2. ***Lanes to remain open during peak hours.*** Traffic lanes shall not be closed during the following peak hours: 6:00 AM - 9:00 AM and 3:00 PM - 7:00 PM in the Central Business District; and 7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM for arterials elsewhere in the City, unless specifically noted on the approved traffic control plan.
3. ***Maintain access.*** Access to adjoining properties and businesses shall be maintained or accommodated during construction. Pedestrian access around construction sites shall be implemented and maintained per SDOT Director's Rule 10-2015, or successor rule.
4. ***Width of temporary traffic lanes.*** Temporary traffic lanes created during the permitted work shall be a minimum of 11 feet in width unless otherwise approved on the traffic control plan.
5. ***Working within restricted curb spaces***. When the project impacts a restricted curb space, such as meters, pay stations, specific use and load zones; the Permittee shall obtain permission from SDOT Traffic Operations and reserve the spaces with the Traffic Operations Permit Counter (206-684-5086) before starting work.
6. ***Temporary No Parking signs and easels.*** In areas without parking pay stations or parking meters, or when Traffic Operations allows reserved parking spaces to be controlled with Temporary No Parking signs, establishing a Temporary No Parking Zone requires placing type R7-T38 (T-38) or R7-T39 (T-39) easels and completing an online verification form in conformance with the Traffic Control Manual for In-Street Work. In high impact areas, the Central Business District, and in areas where construction projects are densely clustered (such as in City-designated "Construction Hubs"), additional requirements for establishing a Temporary No Parking Zone may apply.
7. ***Nighttime illumination.*** Four or more Type B warning lights of sufficient brilliance to be seen from 500 feet shall be maintained at all times

during the hours of darkness at the points of obstruction or excavation of any right of way.

8. ***Work in alleys.*** For work occurring in alleys that impedes vehicular access, including but not limited to egress, ingress, or through travel; "Street Closed" signs shall be placed at each end of the alley. Property owners adjacent to the alley shall be contacted, and their access concerns shall be addressed and mitigated if possible. This may require alternative work scheduling in the case of Solid Waste collection days

Hoilman, Gene

From: Salem, Ryan <Ryan.Salem@kingcounty.gov>
Sent: Thursday, June 21, 2018 2:35 PM
To: Andrea.Wing@Shell.com
Cc: jim.mahady@seattle.gov; athomso@michels.us; Hoilman, Gene; IW Doc Review
Subject: Verbal Authorization 50452-01 for Shell Oil Products - Equilon and City of Seattle Stormwater Pipe Lining and Cleaning Project to Discharge to the Sanitary Sewer from June 25, 2018, through July 9, 2018
Attachments: 1705_KCIW-voc-screening-local-limits.pdf

Verbal Authorization 50452-01 for Shell, Oil Products - Equilon and City of Seattle Stormwater Pipe Lining and Cleaning Project to Discharge to the Sanitary Sewer from June 25, 2018, through July 9, 2018

Dear Ms. Wing,

The King County Industrial Waste Program (KCIW) has reviewed your request to discharge wastewater from cure in place pipe lining and stormwater that is out of compliance with surface water limits to the sanitary sewer from the Shell Oil Products - Equilon and City of Seattle Stormwater Pipe Lining and Cleaning Project located at 2555 13th Avenue SW, Seattle, Washington. In accordance with King County Code 28.84.060 (available on the Internet at: www.kingcounty.gov/council/legislation/kc_code.aspx), KCIW grants approval for the discharge of up to 75,000 gallons any time from June 25, 2018, through July 9, 2018, provided that:

- You obtain the required approval from Seattle Public Utilities before discharging to allow for permitting of a connection to the sanitary sewer, the setting of a maximum discharge rate (GPM), and assessment of sewer charges. Please email Jim Mahady (jim.mahady@seattle.gov) to obtain required approval.
- You meet the discharge limitations listed below.
- You hold the wastewater generated from CIPP processes, collect a VOC sample, have the sample analyzed at a lab certified by the Washington Department of Ecology to perform the analysis (8260C or 624.1 are sufficient), confirm that all VOCs are below KCIW screening levels (see memo attached to this email) prior to discharge. If VOCs exceed screening levels you must haul the wastewater offsite for treatment at an approved facility or contact KCIW to discuss potential treatment options.

Discharge Limitations

Discharge rate	As set by Seattle Public Utilities
Total discharge volume	75,000 gallons
Settleable solids (by Imhoff cone)	7.0 mL/L
Nonpolar fats, oils, and grease (FOG)	100 mg/L
pH minimum	5.5 s.u.
pH maximum	12.0 s.u.

There shall be no odor of solvent, gasoline, or hydrogen sulfide (rotten egg odor), oil sheen, unusual color, or visible turbidity. The discharge must remain translucent. If you exceed any of the discharge limits, you must stop discharging and notify KCIW by calling 206-477-5300.

If you have any questions about this authorization, or other questions about your wastewater discharge, please call me at 206-477-5476. You may also wish to visit our program's Internet pages at: www.kingcounty.gov/industrialwaste. There is no fee for this verbal authorization.

Thank you for helping support our mission to protect public health and enhance the environment

Ryan Salem
Compliance Investigator
Industrial Waste Program
Office: (206)477-5476 / Cell: (206)852-8381
ryan.salem@kingcounty.gov

King County Industrial Waste Program (KCIW)

Information about volatile organic compound screening levels

5/18/2017

How KCIW Determines organic compound discharge limits:

The local limit for organic compounds prohibits the discharge of any organic pollutant that results in the presence of toxic gases, vapors, or fumes within a public or private sewer or treatment works in a quantity that may cause worker health and safety problems. The local limit also provides the authority to use various methods (applied on a site-specific basis) for limiting the discharges of organic compounds. The need for restrictions must be based on a site-specific evaluation as described in the following table.

Elements in a Site-Specific Evaluation of Organics

A site-specific evaluation includes these elements:	Conditions in public or private sewers downstream of the discharge, including dilution by other wastes upstream. Worker safety and public health standards. Type of chemical compound. Proximity to other discharges that may cause adverse conditions in combination with the discharge. Technological achievability of removal. Potential impacts to public, private, or side sewers; treatment works; sludge; or receiving waters. The duration of the discharge.

Discharge Screening for Volatile Organic Compounds

Most frequently, the highest concentrations of organic compounds are found in the discharges from groundwater remediation facilities, waste treatment facilities, and in landfill leachate.

Screening levels in the following table have been calculated for many of the volatile organic compounds that are commonly used in industries and have Washington State permissible exposure limits (PELs) per Chapter 296-62 WAC (General Occupational Health Standards). Screening levels are the concentration in the wastewater that could potentially produce sewer gas concentrations in excess of the PEL. The calculations of the screening levels are based on Henry's law equilibrium between the volatile organic compound in the wastewater and the sewer gases.

The screening also assumes that:

– There is no venting in the collection system.

– There is a continuous flow of the volatile organic compound.

– There is adequate retention time to complete the equilibrium between the sewer gases and the wastewater.

Discharge Screening Levels for Volatile Organic Compounds Based on Occupational Standards and Henry's Law Constants

Compounds	CAS-RN	PEL (mg/m^3)	Henry's Law Constant $(mg/m^3)/(mg/l)$ (A)	Discharge Screening Level (mg/l)
Acrolein	107-02-8	0.8	4.9	**0.16**
Acrylonitrile	107-13-1	4.34	4.5	**0.96**
Benzene	71-43-2	16	228	**0.070**
Bromoform	75-25-2	5	22.8	**0.22**
Carbon disulfide	75-15-0	36	490 (B)	**0.073**
Carbon tetrachloride	56-23-5	12.6	1185	**0.011**
Chlorobenzene	108-90-7	350	151	**2.3**
Chloroethane (Ethyl chloride)	75-00-3	2600	449	**5.8**
Chloroform (Trichloromethane)	67-66-3	9.78	163.5	**0.060**
Dichloroethane, 1,1-	75-34-3	400	240.4	**1.7**
Dichloroethane, 1,2- (Ethylene dichloride)	107-06-2	8	48.1	**0.17**
Dichloroethylene, 1,1- (Vinylidene chloride)	75-35-4	4	1202.1	**0.003**
Dichloroethylene, *cis*-1,2-	156-59-2	395 (E)	389.3	**1.0 (E)**
Dichloroethylene, *trans*-1,2-	156-60-5	395 (E)	389.3	**1.0 (E)**
Dichlorodifluoromethane	75-71-8	4950	121801 (B)	**0.041**
Dichloropropane, 1,2- (Propylene dichloride)	78-87-5	350	118.5	**3.0**
Dichloropropene, 1,3-	542-75-6	5	55.3 (B)	**0.090**
Ethyl benzene	100-41-4	545	327	**1.7**
Methyl bromide (Bromomethane)	74-83-9	20	255.5	**0.078**
Methyl chloride (Chloromethane)	74-87-3	210	371.6	**0.57**
Methylene chloride	75-09-2	434	104.8	**4.1**
Methyl isobutyl ketone (4-Methyl-2-pentanone)	108-10-1	300	20 (C)	**15**
Naphthalene	91-20-3	75	19.62 (B)	**3.82**
Nitrobenzene	98-95-3	5	0.53 (B)	**2 (D)**
Tetrachloroethane, 1,1,2,2-	79-34-5	7	18.6	**0.38**
Tetrachloroethylene (Perchloroethylene/PCE)	127-18-4	170	717.1	**0.24**
Toluene	108-88-3	375	272.5	**1.4**
Trichloroethane, 1,1,1- (Methyl chloroform)	71-55-6	1900	692.7	**2.7**
Trichloroethane, 1,1,2-	79-00-5	45	34.1	**1.3**
Trichloroethylene (TCE)	79-01-6	270	408.7	**0.5 (D)**
Vinyl chloride	75-01-4	12.8	1048	**0.012**
Xylenes, Total-	1330-20-7	655	300 (C)	**2.2**

Notes:

(A) - Local Limits Development Guidance (EPA, 2004)

(B) - Guidance to Protect POTW Workers From Toxic And Reactive Gases And Vapors (EPA, 1992)

(C) - TOXCHEM (v. 3) Wastewater Model - Enviromega, Inc.; Ontario, Canada; T: 905-689-4410
(D) - Chapter 173-303 WAC - Dangerous Waste Regulations
(E) – Based on the PEL of total 1,2-dichloroethylene divided 50% to the *cis*-isomer and 50% to the *trans*- isomer.
CAS-RN - Chemical Abstract Service - Registry Number
PEL – Permissible Exposure Limits (TWA or STEL) per WAC 296-62-07515

STEL - Short-Term Exposure Limit

TWA - Time-Weighted Average

Field-testing performed by KCIW revealed that actual sewer-gas concentrations are less than projections using the Henry's law equilibrium method. Therefore, the screening levels are not recommended as numerical limits, but rather should be used to evaluate the need for best management practices or other controls to protect worker health and safety. The first step in determining the need to control discharges of organic compounds should be to require representative sampling and analysis, and comparison of the results to screening levels. When the screening levels have been exceeded, KCIW has historically used a range of control methods, including the following:

- Using the AKART approach, by selecting the pretreatment method (e.g., carbon treatment or air stripping).
- Requiring air monitoring at the first potential occupational exposure point(s). Typically, IW has only required short-term samplings to determine if the sewer gas exceeds occupational standards.
- Requiring ongoing wastewater sampling and comparing the results with the screening levels.
- Requiring implementation of best management practices to reduce the amount of organics discharged into the sewer.

Hoilman, Gene

From:	Barlow, Caroline <Caroline.Barlow@seattle.gov>
Sent:	Friday, June 22, 2018 5:03 PM
To:	Hoilman, Gene
Cc:	Pimentel, Ron; Blanchard, Reed G
Subject:	Harbor Island - Process Water Discharge

Hi Gene,

I wanted to follow up and let you know that the Development Services Office with Seattle Public Utilities contact us to follow up on the King County permit. Jim Mahady also requested that the Drainage and Waste Water Line of Business to comment. We received feedback from the Line of Business on the following items that will need to be implemented out in the field next week as follows:

- Due to limitations on the downstream Pump Station, discharge flows need to be limited to 50 gpm.
- It is anticipated that process water discharge will also needed to be metered and a nominal charge will be required to discharge to the sewer system. I have asked Ron Pimental to coordinate this effort.

Please let us know if you have any questions or comments in this regard. Thanks!

Caroline E. Barlow, P.E.
Senior Civil Engineer
City of Seattle, Seattle Public Utilities
O: 206-386-9872 | caroline.barlow@seattle.gov
Facebook | Twitter

Attachment B: Closed-Circuit Television (CCTV) Files (on DVD)

Attachment C: Waste Shipping Documentation

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2649 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 225312-18

	DELIVERY DATE / JOB #3223936
SHIPPER / CUSTOMER: EQUILON ENT LLC/DBA SHELL OIL TERMINAL	POINT OF CONTACT: Tia Bruce
ADDRESS: 2555 13TH AVE SW	PHONE #: (206)224-0489
CITY, STATE, ZIP: SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER: ~~Stericycle Specialty Waste~~ Michels	PHONE #: 503-364-1199
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 72th Avenue South	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT, WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity	UOM
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	1200	G
B	F1109				
C					
D					

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STARB01 (2)

RWR# 8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all times listed above are true and correct.

		MONTH	DAY	YEAR
(SHIPPER) PRINT OR TYPE NAME: X Aubrey Naylor on behalf of Shell Oil Products US	SIGNATURE: X	6	26	18
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: X	SIGNATURE: X Ryan Gauernier	6	26-15	
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: X Megan Swick	SIGNATURE: X	6	26	18

CARRIER

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 235700-18

	DELIVERY DATE: JOB #3223936
SHIPPER / CUSTOMER: EQUILON ENT LLC/DBA SHELL OIL TERMINAL	POINT OF CONTACT: Tia Bruce
ADDRESS: 2555 13TH AVE SW	PHONE #: (206)224-0489
CITY, STATE, ZIP: SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER: Bravo Environmental	PHONE #: ( ) -
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 77th Avenue South	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity	UOM
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	5,000	G
B	F1178				
C					
D					

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STABB01 (5)

RWR #8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all times listed above are true and correct.

		MONTH	DAY	YEAR
(SHIPPER) PRINT OR TYPE NAME: X Tom Hoskins on behalf of Shell Oil Products US	SIGNATURE: X	7	6	18
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: X John Ramsey	SIGNATURE: X	7	6	18
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: X Christine Santos	SIGNATURE: X	07	06	18

CONSIGNEE

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

217649-18
Lading Manifest: ~~235713-18~~

DELIVERY DATE 7-3-18	JOB #3223936
SHIPPER / CUSTOMER: EQUILON ENT LLC/DBA SHELL OIL TERMINAL	POINT OF CONTACT: Tia Bruce
ADDRESS: 2555 13TH AVE SW	PHONE #: (206)224-0489
CITY, STATE, ZIP: SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER: Bravo Environmental	PHONE #: ( ) -
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 77th Avenue South	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity	UOM
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	3,500	G
B					
C					
D					

F116B

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STABB01 (6)

RWR# 8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all times listed above are true and correct.

		MONTH	DAY	YEAR
(SHIPPER) PRINT OR TYPE NAME: x Tom Haskins on behalf of Shell Oil Products US	SIGNATURE: x	7	3	18
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: x JOHN RAMSEY	SIGNATURE: x John Ramsey	7	3	18
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: x Christine Santos	SIGNATURE: x	07	03	18

CONSIGNEE

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 235698-18

DELIVERY DATE	JOB # 3223936

SHIPPER / CUSTOMER EQUILON ENT LLC/DBA SHELL OIL TERMINAL	POINT OF CONTACT Tia Bruce
ADDRESS 2555 13TH AVE SW	PHONE # (206)224-0489
CITY, STATE, ZIP SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER Bravo Environmental	PHONE # ( ) -
CONSIGNEE / FACILITY BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS 20245 77th Avenue South	PHONE # (253)872-8030
CITY, STATE, ZIP KENT , WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity	UOM
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	6,000	G
B	F1170				
C					
D					

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STABB01 (4)

RWRII 8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations." I also certify that all times listed above are true and correct.

		MONTH	DAY	YEAR
(SHIPPER) PRINT OR TYPE NAME X Tom Hosking on behalf of Shell Oil Products US	SIGNATURE X	7	5	18
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME X John RAMSEY	SIGNATURE X	7	5	18
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME x Christine Santos	SIGNATURE X	07	05	18

CONSIGNEE

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD001684588

2. Page 1 of 1

3. Emergency Response Phone: 888-423-6316

4. Waste Tracking Number: ~~8518244~~ 347253

5. Generator's Name and Mailing Address: Equilon ENT LLC, dBA Shell Oil Products US. Seattle Terminal 2565 13th Ave SW Seattle, WA 98134

Generator's Site Address (if different than mailing address)

Generator's Phone: (206) 224-0489

U.S. EPA ID Number: WAH000014944

6. Transporter 1 Company Name: CCS A DIVISION OF PNE CORP.

U.S. EPA ID Number

7. Transporter 2 Company Name: C

U.S. EPA ID Number: WAD991281767

8. Designated Facility Name and Site Address: Burlington Environmental LLC 20245 77th Ave S Kent, WA 98032

Facility's Phone: (253) 872-8030

HM	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Regulated MATERIAL Stormwater & Sediments	01	TT	1150	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

PERMIT/APPROVAL/RECEIPT# RWR# 13999

CCS JOB# 8518244

TRUCK# 308

STORMWATER & SEDIMENTS STABB01

GHD Emergency #(866) 812-9565

Profile # 937852-00

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Aubrey Naylor employee On Behalf of Shell Oil Products US

Signature

Month: 9 Day: 11 Year: 18

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ray Naylor

Signature

Month: 09 Day: 11 Year: 2018

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: CHRISTINE Santos

Signature

Month: 09 Day: 11 Year: 18

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	WAD001684588	1	888-423-6316	347255-18

5. Generator's Name and Mailing Address: EQUILON ENT LLC, dBA Shell Oil Products US, Seattle Terminal, 2555 13th AVE SW Seattle, WA 98134
Generator's Phone: (206) 224-0489
Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: CCS A DIVISION OF PNE CORP. — U.S. EPA ID Number: WAH000014944

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: Burlington Environmental LLC, 20245 77th AVE S Kent, WA 98032 — U.S. EPA ID Number: WAD991281767
Facility's Phone: (253) 872-8030

HM	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-REGULATED Material STORMWATER & Sediments	01	TT	1,800	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

PERMIT/APPROVAL/RECEIPT# RWR #13999 — CCS JOB# 8518244 — TRUCK# 308

GHD Emergency # (866) 812-9565 — Profile # 937852-00

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Audrey Naylor employed by Accam on behalf of Shell Oil Products US — Signature — Month: 9 — Day: 12 — Year: 18

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ray Mayer — Signature — Month: 9 — Day: 12 — Year: 2018

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Christine Santos — Signature — Month: 09 — Day: 13 — Year: 18

TRANSPORTER #1

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: WAD001684588
2. Page 1 of: 1
3. Emergency Response Phone: 800-423-6316
4. Waste Tracking Number: 34929S-M

GENERATOR

5. Generator's Name and Mailing Address: EQUILON ENT LLC, dba Shell Oil Products US, Seattle Terminal, 3555 13th Ave SW, Seattle, WA 98134
Generator's Site Address (if different than mailing address):
Generator's Phone: 206-284-0489

6. Transporter 1 Company Name: CCS A DIVISION OF PNE CORP.
U.S. EPA ID Number: WAH000014944

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Burlington Environmental LLC, 20345 72nd Ave S Kent, WA 98032
U.S. EPA ID Number:
Facility's Phone: 253-872-8030

HM	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-regulated material Stormwater & Sediments	1	TT	1650	US G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
PERMIT/APPROVAL/RECEIPT# RWR# 13999
CCS JOB# 8518244 TRUCK# 308
GHD Emergency #866-812-9565 Profile # 937852-00

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.
Generator's/Offeror's Printed/Typed Name: Aubrey Naylor employed by Aecom on behalf of Shell Oil Products US
Signature:
Month: 9 Day: 24 Year: 18

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Larry Thelen
Signature:
Month: 9 Day: 24 Year: 18
Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Christine Santos
Signature:
Month: 09 Day: 26 Year: 18

GC Labels • Printed in the USA 1-800-997-6966

TRANSPORTER #1

Reorder Part# MANIFEST CONTINUE 913-397-6986

Attachment D: Waste Profiling Information

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Tel: (253)922-2310

TestAmerica Job ID: 580-50085-1
Client Project/Site: Shell Harbor Island - Storm Drain

For:
URS Corporation
111 SW Columbia Suite 1500
Portland, Oregon 97201-5814

Attn: Brian Pletcher

Authorized for release by:
5/28/2015 2:36:43 PM

Sarah Murphy, Project Manager I
(253)922-2310
sarah.murphy@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Case Narrative

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

Job ID: 580-50085-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-50085-1

Comments
No additional comments.

Receipt
The samples were received on 5/21/2015 12:54 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6º C.

Receipt Exceptions
A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

Extra containers were provided for the following sample that are not needed for the analyses requested: SD02W (580-50085-1).

GC/MS VOA
Method(s) 8260C: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: SD02W (580-50085-1). Sample was analyzed within 7 days of sampling as recommended for EPA unpreserved waters, therefore no holding time violation was observed.

Method(s) 8260C: The surrogate (1,2-Dichloroethane-d4) recovery for the LCS associated with batch 190442 was outside the upper control limits. All associated sample surrogate fell within acceptance criteria; therefore, the data have been reported.

Method(s) 8260C: The laboratory control sample (LCS) for batch preparation batch 580-190317 and analytical batch 580-190442 recovered outside control limits for the following analytes: Chlorobromomethane, Dibromomethane, Chloromethane, Dibromochloromethane, trans-1,3-Dichloropropene, 1,1-Dichloropropene, Chloroform, 1,2-Dichloroethane, Trichloroethene, Methyl tert-butyl ether and 1,1-Dichloroethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6010B: The laboratory control sample duplicate (LCSD) for batch preparation batch 580-190187 and analytical batch 580-190249 recovered outside control limits for the following analytes: Cd. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: SD02W

Date Collected: 05/20/15 17:15
Date Received: 05/21/15 12:54

Lab Sample ID: 580-50085-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			05/26/15 22:25	1
Toluene	ND		2.0		ug/L			05/26/15 22:25	1
Ethylbenzene	ND		3.0		ug/L			05/26/15 22:25	1
m-Xylene & p-Xylene	ND		3.0		ug/L			05/26/15 22:25	1
o-Xylene	ND		2.0		ug/L			05/26/15 22:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*85 - 120*		*05/26/15 22:25*	*1*
Trifluorotoluene (Surr)	*100*		*70 - 136*		*05/26/15 22:25*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*05/26/15 22:25*	*1*
Dibromofluoromethane (Surr)	*106*		*85 - 115*		*05/26/15 22:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*70 - 120*		*05/26/15 22:25*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			05/27/15 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*		*05/27/15 18:36*	*1*
Trifluorotoluene (Surr)	*99*		*50 - 150*		*05/27/15 18:36*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.33**		0.0050		mg/L		05/26/15 11:09	05/27/15 13:53	5
Barium	**3.7**		0.0060		mg/L		05/26/15 11:09	05/27/15 13:53	5
Cadmium	**0.031**		0.0020		mg/L		05/26/15 11:09	05/27/15 13:53	5
Chromium	**0.98**		0.0020		mg/L		05/26/15 11:09	05/27/15 13:53	5
Lead	**3.4**		0.0020		mg/L		05/26/15 11:09	05/27/15 13:53	5
Selenium	**0.013**		0.0050		mg/L		05/26/15 11:09	05/27/15 13:53	5
Silver	**0.0071**		0.0020		mg/L		05/26/15 11:09	05/27/15 13:53	5

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0077**		0.00020		mg/L		05/26/15 11:59	05/26/15 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.93**	**HF**	0.0100		SU			05/21/15 22:11	1

Client Sample ID: SD01S

Date Collected: 05/20/15 18:10
Date Received: 05/21/15 12:54

Lab Sample ID: 580-50085-2

Matrix: Solid
Percent Solids: 53.1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		44		ug/Kg	☼	05/21/15 17:56	05/27/15 16:21	1
Toluene	ND		110		ug/Kg	☼	05/21/15 17:56	05/27/15 16:21	1
Ethylbenzene	ND		110		ug/Kg	☼	05/21/15 17:56	05/27/15 16:21	1
m-Xylene & p-Xylene	ND		110		ug/Kg	☼	05/21/15 17:56	05/27/15 16:21	1
o-Xylene	ND		110		ug/Kg	☼	05/21/15 17:56	05/27/15 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*80 - 120*	*05/21/15 17:56*	*05/27/15 16:21*	*1*
Trifluorotoluene (Surr)	*99*		*65 - 140*	*05/21/15 17:56*	*05/27/15 16:21*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 120*	*05/21/15 17:56*	*05/27/15 16:21*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 132*	*05/21/15 17:56*	*05/27/15 16:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*71 - 136*	*05/21/15 17:56*	*05/27/15 16:21*	*1*

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**22**		11		mg/Kg	☼	05/21/15 13:17	05/27/15 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*05/21/15 13:17*	*05/27/15 19:41*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**6.5**		5.1		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Barium	**190**		0.86		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Cadmium	ND	*	1.7		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Chromium	**58**		2.2		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Lead	**99**		2.6		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Selenium	ND		8.6		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1
Silver	ND		4.3		mg/Kg	☼	05/22/15 11:54	05/22/15 17:00	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.094**		0.034		mg/Kg	☼	05/26/15 12:03	05/26/15 14:54	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.89**				SU			05/21/15 22:18	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**53**		0.10		%			05/22/15 10:20	1
Percent Moisture	**47**		0.10		%			05/22/15 10:20	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-190292/4
Matrix: Water
Analysis Batch: 190292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		2.0		ug/L			05/26/15 12:30	1
Toluene	ND		2.0		ug/L			05/26/15 12:30	1
Ethylbenzene	ND		3.0		ug/L			05/26/15 12:30	1
m-Xylene & p-Xylene	ND		3.0		ug/L			05/26/15 12:30	1
o-Xylene	ND		2.0		ug/L			05/26/15 12:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*104*		*85 - 120*		*05/26/15 12:30*	*1*
Trifluorotoluene (Surr)	*103*		*70 - 136*		*05/26/15 12:30*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*05/26/15 12:30*	*1*
Dibromofluoromethane (Surr)	*97*		*85 - 115*		*05/26/15 12:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*70 - 120*		*05/26/15 12:30*	*1*

Lab Sample ID: LCS 580-190292/5
Matrix: Water
Analysis Batch: 190292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			20.0	18.8		ug/L		94	80 - 120		
Toluene			20.0	19.0		ug/L		95	75 - 120		
Ethylbenzene			20.0	20.1		ug/L		101	75 - 125		
m-Xylene & p-Xylene			20.0	20.4		ug/L		102	75 - 130		
o-Xylene			20.0	20.0		ug/L		100	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*85 - 120*
Trifluorotoluene (Surr)	*101*		*70 - 136*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*
Dibromofluoromethane (Surr)	*98*		*85 - 115*
1,2-Dichloroethane-d4 (Surr)	*86*		*70 - 120*

Lab Sample ID: LCSD 580-190292/6
Matrix: Water
Analysis Batch: 190292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			20.0	17.5		ug/L		88	80 - 120	7	30
Toluene			20.0	17.3		ug/L		87	75 - 120	9	30
Ethylbenzene			20.0	18.4		ug/L		92	75 - 125	9	30
m-Xylene & p-Xylene			20.0	18.6		ug/L		93	75 - 130	9	30
o-Xylene			20.0	19.4		ug/L		97	80 - 120	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*103*		*85 - 120*
Trifluorotoluene (Surr)	*100*		*70 - 136*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*
Dibromofluoromethane (Surr)	*99*		*85 - 115*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-190292/6
Matrix: Water
Analysis Batch: 190292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 120

Lab Sample ID: MB 580-190317/1-A
Matrix: Solid
Analysis Batch: 190442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190317

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		16		ug/Kg		05/26/15 12:17	05/27/15 13:36	1
Toluene	ND		40		ug/Kg		05/26/15 12:17	05/27/15 13:36	1
Ethylbenzene	ND		40		ug/Kg		05/26/15 12:17	05/27/15 13:36	1
m-Xylene & p-Xylene	ND		40		ug/Kg		05/26/15 12:17	05/27/15 13:36	1
o-Xylene	ND		40		ug/Kg		05/26/15 12:17	05/27/15 13:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 120	05/26/15 12:17	05/27/15 13:36	1
Trifluorotoluene (Surr)	99		65 - 140	05/26/15 12:17	05/27/15 13:36	1
4-Bromofluorobenzene (Surr)	100		70 - 120	05/26/15 12:17	05/27/15 13:36	1
Dibromofluoromethane (Surr)	103		75 - 132	05/26/15 12:17	05/27/15 13:36	1
1,2-Dichloroethane-d4 (Surr)	111		71 - 136	05/26/15 12:17	05/27/15 13:36	1

Lab Sample ID: LCS 580-190317/2-A
Matrix: Solid
Analysis Batch: 190442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190317

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	800	1020		ug/Kg		128	70 - 128
Toluene	800	833		ug/Kg		104	75 - 126
Ethylbenzene	800	848		ug/Kg		106	78 - 126
m-Xylene & p-Xylene	800	869		ug/Kg		109	78 - 126
o-Xylene	800	891		ug/Kg		111	77 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	88		80 - 120
Trifluorotoluene (Surr)	88		65 - 140
4-Bromofluorobenzene (Surr)	107		70 - 120
Dibromofluoromethane (Surr)	120		75 - 132
1,2-Dichloroethane-d4 (Surr)	140	X	71 - 136

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-190473/5
Matrix: Water
Analysis Batch: 190473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050		mg/L			05/27/15 14:14	1

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-190473/5
Matrix: Water
Analysis Batch: 190473

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		50 - 150		05/27/15 14:14	1
Trifluorotoluene (Surr)	105		50 - 150		05/27/15 14:14	1

Lab Sample ID: LCS 580-190473/6
Matrix: Water
Analysis Batch: 190473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			1.16	1.07		mg/L		92	79 - 110		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		50 - 150
Trifluorotoluene (Surr)	111		50 - 150

Lab Sample ID: LCSD 580-190473/7
Matrix: Water
Analysis Batch: 190473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			1.16	1.09		mg/L		94	79 - 110	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		50 - 150
Trifluorotoluene (Surr)	114		50 - 150

Lab Sample ID: MB 580-190477/1-A
Matrix: Solid
Analysis Batch: 190495

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190477

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.0		mg/Kg		05/27/15 13:17	05/27/15 14:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		50 - 150	05/27/15 13:17	05/27/15 14:11	1

Lab Sample ID: LCS 580-190477/2-A
Matrix: Solid
Analysis Batch: 190495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190477

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline			40.0	35.7		mg/Kg		89	68 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		50 - 150

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-190477/3-A
Matrix: Solid
Analysis Batch: 190495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190477

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline			40.0	35.6		mg/Kg		89	68 - 120	0	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*91*		*50 - 150*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 580-190187/17-A
Matrix: Solid
Analysis Batch: 190249

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		3.0		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Barium	ND		0.50		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Cadmium	ND		1.0		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Chromium	ND		1.3		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Lead	ND		1.5		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Selenium	ND		5.0		mg/Kg		05/22/15 11:54	05/22/15 16:18	1
Silver	ND		2.5		mg/Kg		05/22/15 11:54	05/22/15 16:18	1

Lab Sample ID: LCS 580-190187/18-A
Matrix: Solid
Analysis Batch: 190249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190187

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			200	208		mg/Kg		104	80 - 120		
Barium			200	222		mg/Kg		111	80 - 120		
Cadmium			5.00	6.50	*	mg/Kg		130	80 - 120		
Chromium			20.0	19.6		mg/Kg		98	80 - 120		
Lead			50.0	52.8		mg/Kg		106	80 - 120		
Selenium			200	203		mg/Kg		101	80 - 120		
Silver			30.0	32.8		mg/Kg		109	80 - 120		

Lab Sample ID: LCSD 580-190187/19-A
Matrix: Solid
Analysis Batch: 190249

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190187

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			200	217		mg/Kg		109	80 - 120	4	20
Barium			200	237		mg/Kg		119	80 - 120	7	20
Cadmium			5.00	6.82	*	mg/Kg		136	80 - 120	5	20
Chromium			20.0	20.6		mg/Kg		103	80 - 120	5	20
Lead			50.0	55.3		mg/Kg		111	80 - 120	5	20
Selenium			200	211		mg/Kg		106	80 - 120	4	20
Silver			30.0	34.7		mg/Kg		116	80 - 120	6	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 580-190187/20-A
Matrix: Solid
Analysis Batch: 190249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190187

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	139	147		mg/Kg		106.0	70.4 - 140.3
Barium	203	224		mg/Kg		110.5	73.4 - 127.1
Cadmium	96.0	104		mg/Kg		108.6	73.2 - 127.1
Chromium	136	151		mg/Kg		111.3	69.9 - 129.4
Lead	133	143		mg/Kg		107.2	72.9 - 127.8
Selenium	177	186		mg/Kg		104.9	67.8 - 131.6
Silver	40.2	44.5		mg/Kg		110.6	66.2 - 134.1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-190278/14-A
Matrix: Water
Analysis Batch: 190511

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 190278

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050		mg/L		05/26/15 11:09	05/27/15 12:25	5
Barium	ND		0.0060		mg/L		05/26/15 11:09	05/27/15 12:25	5
Cadmium	ND		0.0020		mg/L		05/26/15 11:09	05/27/15 12:25	5
Chromium	ND		0.0020		mg/L		05/26/15 11:09	05/27/15 12:25	5
Lead	ND		0.0020		mg/L		05/26/15 11:09	05/27/15 12:25	5
Selenium	ND		0.0050		mg/L		05/26/15 11:09	05/27/15 12:25	5
Silver	ND		0.0020		mg/L		05/26/15 11:09	05/27/15 12:25	5

Lab Sample ID: LCS 580-190278/15-A
Matrix: Water
Analysis Batch: 190511

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 190278

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.00	3.86		mg/L		96	80 - 120
Barium	4.00	4.08		mg/L		102	80 - 120
Cadmium	0.100	0.102		mg/L		102	80 - 120
Chromium	0.400	0.404		mg/L		101	80 - 120
Lead	1.00	0.974		mg/L		97	80 - 120
Selenium	4.00	3.86		mg/L		96	80 - 120
Silver	0.600	0.620		mg/L		103	80 - 120

Lab Sample ID: LCSD 580-190278/16-A
Matrix: Water
Analysis Batch: 190511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 190278

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	4.00	3.95		mg/L		99	80 - 120	2	20
Barium	4.00	4.15		mg/L		104	80 - 120	2	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-190278/16-A
Matrix: Water
Analysis Batch: 190511

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 190278

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	0.100	0.103		mg/L		103	80 - 120	1	20
Chromium	0.400	0.409		mg/L		102	80 - 120	1	20
Lead	1.00	0.992		mg/L		99	80 - 120	2	20
Selenium	4.00	3.94		mg/L		98	80 - 120	2	20
Silver	0.600	0.639		mg/L		106	80 - 120	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-190301/14-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190301

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		05/26/15 11:59	05/26/15 15:25	1

Lab Sample ID: LCS 580-190301/15-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00210		mg/L		105	80 - 120

Lab Sample ID: LCSD 580-190301/16-A
Matrix: Water
Analysis Batch: 190402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190301

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00200	0.00205		mg/L		102	80 - 120	3	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-190304/22-A
Matrix: Solid
Analysis Batch: 190401

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190304

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		05/26/15 12:03	05/26/15 14:08	1

Lab Sample ID: LCS 580-190304/23-A
Matrix: Solid
Analysis Batch: 190401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190304

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.162		mg/Kg		97	80 - 120

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-190304/24-A
Matrix: Solid
Analysis Batch: 190401

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190304

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.167	0.162		mg/Kg		97	80 - 120	0	20

QC Association Summary

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

GC/MS VOA

Analysis Batch: 190292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total/NA	Water	8260C	
LCS 580-190292/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 580-190292/6	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 580-190292/4	Method Blank	Total/NA	Water	8260C	

Prep Batch: 190317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	5035	
LCS 580-190317/2-A	Lab Control Sample	Total/NA	Solid	5035	
MB 580-190317/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 190442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	8260C	190317
LCS 580-190317/2-A	Lab Control Sample	Total/NA	Solid	8260C	190317
MB 580-190317/1-A	Method Blank	Total/NA	Solid	8260C	190317

GC VOA

Analysis Batch: 190473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total/NA	Water	NWTPH-Gx	
LCS 580-190473/6	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 580-190473/7	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
MB 580-190473/5	Method Blank	Total/NA	Water	NWTPH-Gx	

Prep Batch: 190477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	5035	
LCS 580-190477/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-190477/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 580-190477/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 190495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	NWTPH-Gx	190477
LCS 580-190477/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	190477
LCSD 580-190477/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	190477
MB 580-190477/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	190477

Metals

Prep Batch: 190187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	3050B	
LCS 580-190187/18-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-190187/19-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
LCSSRM 580-190187/20-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 580-190187/17-A	Method Blank	Total/NA	Solid	3050B	

Metals (Continued)

Analysis Batch: 190249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	6010B	190187
LCS 580-190187/18-A	Lab Control Sample	Total/NA	Solid	6010B	190187
LCSD 580-190187/19-A	Lab Control Sample Dup	Total/NA	Solid	6010B	190187
LCSSRM 580-190187/20-A	Lab Control Sample	Total/NA	Solid	6010B	190187
MB 580-190187/17-A	Method Blank	Total/NA	Solid	6010B	190187

Prep Batch: 190278

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total Recoverable	Water	3005A	
LCS 580-190278/15-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 580-190278/16-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 580-190278/14-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 190301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total/NA	Water	7470A	
LCS 580-190301/15-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 580-190301/16-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 580-190301/14-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 190304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	7471A	
LCS 580-190304/23-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-190304/24-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-190304/22-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 190401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	7471A	190304
LCS 580-190304/23-A	Lab Control Sample	Total/NA	Solid	7471A	190304
LCSD 580-190304/24-A	Lab Control Sample Dup	Total/NA	Solid	7471A	190304
MB 580-190304/22-A	Method Blank	Total/NA	Solid	7471A	190304

Analysis Batch: 190402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total/NA	Water	7470A	190301
LCS 580-190301/15-A	Lab Control Sample	Total/NA	Water	7470A	190301
LCSD 580-190301/16-A	Lab Control Sample Dup	Total/NA	Water	7470A	190301
MB 580-190301/14-A	Method Blank	Total/NA	Water	7470A	190301

Analysis Batch: 190511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total Recoverable	Water	6020A	190278
LCS 580-190278/15-A	Lab Control Sample	Total Recoverable	Water	6020A	190278
LCSD 580-190278/16-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	190278
MB 580-190278/14-A	Method Blank	Total Recoverable	Water	6020A	190278

QC Association Summary

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

General Chemistry

Analysis Batch: 190145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-1	SD02W	Total/NA	Water	SM 4500 H+ B	
580-50085-2	SD01S	Total/NA	Solid	9045C	

Analysis Batch: 190171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50085-2	SD01S	Total/NA	Solid	D 2216	

Lab Chronicle

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

Client Sample ID: SD02W

Lab Sample ID: 580-50085-1

Date Collected: 05/20/15 17:15

Matrix: Water

Date Received: 05/21/15 12:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	190292	05/26/15 22:25	TL1	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	190473	05/27/15 18:36	D1R	TAL SEA
Total Recoverable	Prep	3005A			190278	05/26/15 11:09	PAB	TAL SEA
Total Recoverable	Analysis	6020A		5	190511	05/27/15 13:53	FCW	TAL SEA
Total/NA	Prep	7470A			190301	05/26/15 11:59	PAB	TAL SEA
Total/NA	Analysis	7470A		1	190402	05/26/15 15:54	FCW	TAL SEA
Total/NA	Analysis	SM 4500 H+ B		1	190145	05/21/15 22:11	JSM	TAL SEA

Client Sample ID: SD01S

Lab Sample ID: 580-50085-2

Date Collected: 05/20/15 18:10

Matrix: Solid

Date Received: 05/21/15 12:54

Percent Solids: 53.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			190317	05/21/15 17:56	STA	TAL SEA
Total/NA	Analysis	8260C		1	190442	05/27/15 16:21	CJ	TAL SEA
Total/NA	Prep	5035			190477	05/21/15 13:17	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	190495	05/27/15 19:41	TL1	TAL SEA
Total/NA	Prep	3050B			190187	05/22/15 11:54	MKN	TAL SEA
Total/NA	Analysis	6010B		1	190249	05/22/15 17:00	HJM	TAL SEA
Total/NA	Prep	7471A			190304	05/26/15 12:03	MKN	TAL SEA
Total/NA	Analysis	7471A		1	190401	05/26/15 14:54	FCW	TAL SEA
Total/NA	Analysis	9045C		1	190145	05/21/15 22:18	JSM	TAL SEA
Total/NA	Analysis	D 2216		1	190171	05/22/15 10:20	DCV	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Sample Summary

Client: URS Corporation
Project/Site: Shell Harbor Island - Storm Drain

TestAmerica Job ID: 580-50085-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-50085-1	SD02W	Water	05/20/15 17:15	05/21/15 12:54
580-50085-2	SD01S	Solid	05/20/15 18:10	05/21/15 12:54

TestAmerica Portland
9405 SW Nimbus Avenue
Beaverton, OR 97008
Phone: 503.906.9200 Fax:

Chain of Custody Record

091128

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

5/28/2015

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Brian Pletcher	Site Contact: Bret Waldron	Date: 5/21/15	COC No:
Company Name: AECOM	Tel/Fax: 503-222-7200	Lab Contact:	Carrier:	1 of 1 COCs
Address: 111 SW Columbia	Analysis Turnaround Time			Sampler: Bret Waldron
City/State/Zip: Portland, OR	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 503-222-7200	TAT if different from Below			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Shell Harbor Island- Storm Drain	☐ 1 week			Job / SDG No.:
Site: Harbor Island	☒ 2 days			
PO# 60411076	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	RCRA 8 Metals	PAH	TPH-G	BTEX	Sample Specific Notes:
SD02W	5/20/15	1715	G	W	11	N		X	X	X	X	
SD01S	5/20/15	1810	G	S	5	N		X	X	X	X	
TRIP BLANK ana 5/21/15												

580-50085 Chain of Custody

IR2
Cooler/TB Dig/IR cor 5.5 °C unc 6.1 °C
Cooler Dsc Med Bl@Lab 1425
Wet/Packs Packing Bubble
w/o LC

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____

	Company	Date/Time		Company	Date/Time
Relinquished by: Bret Waldron	AECOM	5/21/15/1254	Received by:	TH-SEA	5/21/15 1254
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 580-50085-1

Login Number: 50085
List Number: 1
Creator: Abello, Andrea N

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ESN NORTHWEST CHEMISTRY LABORATORY

Michel's
PROJECT SHELL HARBOR ISLAND
Washington

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

Analysis of Volatile Organic Compounds in Water by Method 8260C/5030C

Analytical Results

	RL	MB	Cure-20180626
Date analyzed	(ug/L)	06/27/18	06/27/18
Dichlorodifluoromethane	1.0	nd	nd
Chloromethane	1.0	nd	nd
Vinyl chloride	0.2	nd	nd
Bromomethane	1.0	nd	nd
Chloroethane	1.0	nd	nd
Trichlorofluoromethane	1.0	nd	nd
Acetone	10.0	nd	nd
1,1-Dichloroethene	1.0	nd	nd
Methylene chloride	1.0	nd	nd
Methyl-t-butyl ether (MTBE)	1.0	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd
1,1-Dichloroethane	1.0	nd	nd
2-Butanone (MEK)	10.0	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd
2,2-Dichloropropane	1.0	nd	nd
Chloroform	1.0	nd	**38**
Bromochloromethane	1.0	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd
1,1-Dichloropropene	1.0	nd	nd
Carbon tetrachloride	1.0	nd	nd
Benzene	1.0	nd	nd
Trichloroethene (TCE)	1.0	nd	nd
1,2-Dichloropropane	1.0	nd	nd
Dibromomethane	1.0	nd	nd
Bromodichloromethane	1.0	nd	**1.7**
4-Methyl-2-pentanone (MIBK)	1.0	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd
Toluene	1.0	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd
2-Hexanone	1.0	nd	nd
1,3-Dichloropropane	1.0	nd	nd
Dibromochloromethane	1.0	nd	nd
Tetrachloroethene (PCE)	1.0	nd	nd
1,2-Dibromoethane (EDB)	1.0	nd	nd
Chlorobenzene	1.0	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd
Ethylbenzene	1.0	nd	nd
Xylenes	3.0	nd	nd
Styrene	1.0	nd	**1.3**
Bromoform	1.0	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd
Isopropylbenzene	1.0	nd	nd
1,2,3-Trichloropropane	1.0	nd	nd
Bromobenzene	1.0	nd	nd

ESN NORTHWEST CHEMISTRY LABORATORY

Michel's
PROJECT SHELL HARBOR ISLAND
Washington

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

Analysis of Volatile Organic Compounds in Water by Method 8260C/5030C

Analytical Results

	RL	MB	Cure-20180626
Date analyzed	(ug/L)	06/27/18	06/27/18
n-Propylbenzene	1.0	nd	nd
2-Chlorotoluene	1.0	nd	nd
4-Chlorotoluene	1.0	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd
tert-Butylbenzene	1.0	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	**1.1**
sec-Butylbenzene	1.0	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd
Isopropyltoluene	1.0	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd
n-Butylbenzene	1.0	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd
Naphthalene	1.0	nd	**6.5**
Hexachloro-1,3-butadiene	1.0	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd

Surrogate recoveries		
Dibromofluoromethane	97%	90%
Toluene-d8	87%	89%
4-Bromofluorobenzene	117%	109%

Data Qualifiers and Analytical Comments

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

Generator's Waste Profile 937852-00

Status : PENDING

Stericycle Environmental Solutions

Starts : 05 MAR 2018
Expires : 31 MAR 2019

Sales Rep 0137 Aaron Hayward
Acct Mngr 0023 Jeff Tanka

A: GENERATOR (14613) SITE INFORMATION

EQUILON ENT LLC/DBA SHELL OIL TERMINAL
2555 13TH AVE SW
SEATTLE, WA 98134-0000

EPA WAD001684588
NAICS 2992 Neshap N

> Contact Tia Bruce
Phone (206) 224-0489
TSDF Approval List No

B: CUSTOMER (91133) INFORMATION

AECOM
111 SW Columbia Street Ste 150 0
Portland, OR 97201

C: WASTE INFORMATION

On File > MSDS No Analysis Yes Sample No

Waste Name STORMWATER AND SEDIMENT
Process STORM DRAIN CLEANOUT
Unused Commercial Product No Spill Residue No

D: PHYSICAL CHARACTERISTICS OF WASTE

Phys States L-Liq, G-Slu
Top Color VARIES
Mid Color VARIES
Bot Color
% Ash NS
% Water 50-70
Odor None
Layers Bi-Layered
Spec Grav .8-1.2
BTU/Lbs N/A
% Halogens N/A
PH Range 4-10
Free Liq % 50-70
Flash Test NT
Flash Rnge N/A
Viscosity Med
Pumpable Yes

E: CHEMICAL COMPOSITION OF WASTE

WATER (50 - 70 %) SANDY SLUDGE (30 - 50 %)

PCB's NS Cyanides NS Phenolics No Sulfides NS Dioxins No
TOC <1% VOC <500PPM Information Provided By Generator

F: METALS METHOD Total

Arsenic	<5	Cadmium	<1	Chromium	<5	Silver	<5
Barium	<100	Merc TCLP	<0.2	Selenium	<1	Nickel	
		Lead	<5	Merc Tot		Thallium	

Zinc
Copper
Chrome-6

G: OTHER CHARACTERISTICS OF WASTE

Ign. Solid	No	Oxidizer	No	Explosive	No	Shock Sensitive	No	Cyanide Reactive	No	Sulfide Reactive	No
Explosive		Asbestos	N/A			Radioactive	No	Water Reactive	No	Reactive (Other)	No
Herbicides	No	Pesticides	NS			Ammonia	No	Infectious	No	Medical	No

H: EPA / STATE WASTE IDENTIFICATION

EPA Waste No State Waste No TSCA No Waste Water No Universal Waste No
Form W119 Source G12 Origin 1 SubPart CC No NESHAPS No CERCLA No Debris No Reg. Organics No

EPA Codes
State Codes
UHC
Categorical Discharge Standards No CTW Category N/A DW/EHW:

I: SHIPPING INFORMATION

Marine Pollutant No

Containers TT Tank Trucks
Qty to Ship Now G
Projected Volume 3000/Seasonal
DOT Descrip MATERIALS NOT REGULATED BY THE DOT

J: SPECIAL DISPOSAL INSTRUCTIONS

Generator's Waste Profile 937852-00

Stericycle Environmental Solutions

Status : PENDING

Starts : 05 MAR 2018
Expires : 31 MAR 2019

Sales Rep 0137 Aaron Hayward
Acct Mngr 0023 Jeff Tanka

GENERATOR CERTIFICATION

I hereby represent and warrant that I have personally examined and am familiar with the information contained and submitted on this waste profile and all attached documents. Based on my inquiry and personal knowledge of those individuals responsible for supplying or obtaining the information, the information contained herein is true, accurate, and complete to the best of my knowledge and belief. Furthermore, no material fact has been omitted as to make this misleading. I understand that others may rely on this representation and warranty in the handling and processing of the waste material described herein. By signing this waste profile, I am certifying that I am authorized to sign such documentation on behalf of the generator.

Signature	Printed Name	Title	Date
	Aubrey Naylor	Environmental Scientist	3/6/18

Burlington Environmental, LLC maintains the appropriate permits for and will accept the dangerous waste the generator is shipping as required by WAC 173-303-290(3).

Attachment E: Daily Field Reports

AECOM

FIELD ACTIVITY LOG

PROJECT Harbor Island - Stormline COMPLETED BY AN

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/25/18 SHEET 1 OF 1

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0600	Aubrey Naylor Arrived onsite - Aecom
0620	George Holman arrived onsite - Aecom
0800	Michels Partial Crew arrival onsite
0900	Plugs for manholes arrival
0935	Michels crew onsite & perform tailgate Meeting - Raining
0950	John Glass arrived onsite to do safety audit
1028	Began work at MH14 to install 24" Plug - 4in trash pump broken
1145	Plug installed in the downstream portion of MW-14. (Same pressure issue with hose saver) Began pumping water into nearby CB that fed up in manhole pipe with a submersible pump (trash pumps 3" & 4" not working). Catch Basin not draining properly. Michels crew depart site for fire hydrant fitting
1415	Began Moved hose to CB down street to pump out water as bypass for line coming from across street at Viser.
1515	Michels arrive back onsite / Glen offsite STILL Not called. Departed site for fitting on Bellaire for fire hydrant

fitting returned w/no fitting 3:00

VISITORS ON SITE:
John Glass

CHANGES FROM PLANS OR IMPORTANT DECISIONS:
No bypass accounted for from line coming from viser Setup a pump and divert to CB near MH14

WEATHER CONDITIONS:

IMPORTANT TELEPHONE CALLS:

PERSONNEL ON SITE:

695623

1735 pulled plug from 14 and packed up equipment.
1820 Began setting up hoses to pumps & tanks for bypass
1845 Depart site for day

✓PI - opening manhole with finger (no gloves or tool)
✓6/26 - Checking gaskets on hose connections before using to prevent leaks
✓6/26 ✓ Using MH barricades at all times
✓ Cleanup trip hazards
✓ Hydraulic Spill
6/27 - Hoses spread all over work area near MH-16 / tidy up and reduce trip hazards.
6/27 ✓ Stop work to assess removing 6" lay flat safely
6/28 Michels lead reminded employee to use gloves when working
6/27 Made sure Michels was aware of the 14 hour workday - The nature of their work requires extremly long shifts

AECOM

FIELD ACTIVITY LOG

PROJECT Shell Harbor Is. CIPP COMPLETED BY GRH

JOB NO. _____ APPROVED BY _____

DAY & DATE Monday 6/25/18 SHEET 1 OF 1

Supplemental

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

UR = United Rentals

TIME	
11:30	discussed Moving vehicles in E portion of lot w/ Vigor Security, asked employees in area on break about cars - None. Moved
12:00	Called Port of Seattle Police on Vigor Security's Suggestion
1:00 pm	Second set of pumps delivered by United Rentals
	still waiting on last bypass tank delivery from Alder.
	Decision made to site tanks further West of parked vehicles along tank farm wall.
	Ron Pimentel (city) inspects & OK's Michel's airgap on vac truck
1:45pm	Equipment/Trucks/Trailers moved to make way for tanks
	Two Michels crew members getting fittings for hydrant meter connection. Glenn (Michels crew lead) has
	been off site since ≈ 12:00 when he went to see about re-arranging hotel reservations. Still Not back.
2:30pm	24" plug for upstream MH (17) arrives. UR rep
	talks over pump features w/Michels rep.
3:10pm	Glenn arrives on site
	Third tank arrives, begins setting up
	Determine we can't clean tonight b/c fitting not available
	for hydrant - Send Altas home

VISITORS ON SITE:
John Glass ≈ 3:30pm - 4:40pm

CHANGES FROM PLANS OR IMPORTANT DECISIONS:

WEATHER CONDITIONS:

IMPORTANT TELEPHONE CALLS:

PERSONNEL ON SITE:

CSE = Confined Space Entry

4:45: Setting up final tank, Plan is to set up by pass ~~exp~~ except for plugs & Remove downstream plug (@ MH 14) so we do not have to run pumps overnight. Paused to discuss safety of removing plug with tide behind it. Will Not require CSE. Can release pressure and tid will push plug out, which will be retrieved using tethers ~~attachede~~ attached from above. Will check dstm manhole to ensure low enough head for Safety.

5:45: Check Manhole Dstm of 14. About 10% of pipe above water, indicating low head. Pulled plug. Demobed equipment from MH 14.

6:20 With one work site, Aubrey Naylor left to oversee bypass tank Setup. Hoilman off Site, but not before discussing Site Securing & tomorrow's expectations:
Safety Meeting
Set plugs (CSE) & finalize bypass
clean line and CCTV
liner insertion & cure

AECOM

FIELD ACTIVITY LOG

PROJECT Shell Harbor Island CIPP COMPLETED BY GRH.

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/26/18 Tuesday SHEET 1 OF 1

SW = Stormwater

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
05:30	AECOM on site. Altus on site upon arrival
06:00	Michels on Site. Safety meeting & planning w/ Michels & Altus
06:45	Begin gathering equipment / Mobilizing. Today's plan:
	- Set Plugs / activate bypass system
	- Clean & CCTV line
	→ Complete for delivery to Stericycle by end of A.M.
	- Set liner, fill, and cure.
	Michels is ordering another tank to hold cure water. expect delivery today. will place next to SW bypass tanks.
06:50	Hoilman off site. - Attend Shell Terminal 7:00 safety meeting
07:35	Hoilman leave shell terminal to retain to work site.
08:00	Set lateral plugs main plugs already in place
08:40	begin line cleaning / CCTV
09:20	cleaning CCTV complete. Prep vac truck for delivery to Stericycle. Begin end seal install (CSE)
0927	CSE permitted - entry begins
0933	end seal set - Set up on MH15 with Altus traffic control
0940	CSE Permitted - entry to MH15 - set end seals
0946	Exit MH15

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	**IMPORTANT TELEPHONE CALLS:**

PERSONNEL ON SITE:

≈ 0945 Aubrey Naylor off site to obtain Bill of Lading documents from Stericycle; who will only accept their document.

GW = groundwater

0956: CSE Permitting @ MH 14 for end seals entry - also Need to ~~~~ right-end rover, which tipped over ≈ 40' from end @ MH 14.

10:15 End Seals inserted @ MH 14, Prep for Pre liner insertion
↳ Andy decided on Pre-liner due to productive GW intrusion

Shell Rep briefly on Site to relay Neighbor concerns of Street Use. Observed activity and commented it appeared Safe and Needed. Neighbor's concerned about traffic impacts (not safety). Relayed expectation that traffic control should not be needed over 3hrs.

10:30 Begin Pre-liner insertion. Permitted CSE @ MH 16 to guide pre-liner while rover pulls toward MH 14. Observation @ MH ~~15~~ 15 (under Altus, ~~to~~ Control) from Surface (MH gate in place) to verify Seals @ 15 remain in place

11:10 Connection to pre-liner appears lost from rope. Enter MH ~~#~~ 15 (CSE) to correct

11:17 City backflow prevention on site to inspect air gap per hydrant permit

11:25 Pre-liner connection Corrected. Remove CSE from MH 15. Set up CSE on MH 16. Continue Pulling Pre-liner

11:35 Add-on section of Pre liner: ~~~~ tape together after insering upstream Section into ~~Dnts~~ Dowstream Section.

~~Discu~~ Discussed entry/exit from liner platform. Ok to go on, but once ~~ele~~ level Need ladder to come down

11:48 Pre-liner pulled up @ MH 14

12:10 Begin Setup For liner insertion on MH 16

12:45 Pause for lunch while a Michels crew member gets a ladder for crew on platform.

1355 ladder arrives. Michels discusses insertion task, Safe platform exit, Begins insertion

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave COMPLETED BY AN

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/26/18 SHEET 1 OF 3

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0605	Arrived onsite - Michels & Aths onsite performed tailgate and plan for the day
0630	Began setup to install plugs
0700	Setup around MH-16 for entry and plug upstream
0720	Setup around MH-14 for entry & plug downstream
0750	Ron (City of Seattle) arrived onsite
0800	Install plug in CB laterals along Florida St
0816	Installed 2nd plug on CB Florida St.
0815	Install 3rd plug on CB in parking lot
0825	Began cleaning & TVing Pipe
0925	Departed site to pickup Shipping papers for stormline cleaning water from Stencycle - (Aubrey Aecom)
1045	returned to site as installing pre-liner
1145	pre-liner pulled through to MH-14
1245	Michels break for lunch
1310	Vac truck departs to stencycle

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW **COMPLETED BY** AN

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 6/26/18 **SHEET** 2 **OF** 3

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
1320	Depart (Aeam) for lunch
1400	Began insertion of liner @ MH 16
1437	Hydraulic fluid leaking from platform of boiler truck - caused by knocking loose of a hose for platform. Quickly applied spill rags onto the spilled hydraulic fluid - (boiler tube caught on swivel of hose and popped it off as raising platform - Pulled guy out of MH to fix problem liner is flowing with some water waiting to be put into the 90° bend in MH.
1448	fix on boiler platform completed resume insertion of liner
1456	6YD 4th tank arrived and placed onsite for water
1501	Continuing to insert liner 8th/11 @ ≈ 40 Ft
1523	Liner continuing to be fed into pipe
1545	Get to end of ~~first section of~~ liner near MH 15 working on installing the lay flat for heating

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW COMPLETED BY AN

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/26/18 SHEET 3 OF 3

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
	liner. Halfway through MH-15 with liner and will continue to feed water to liner and on to MH-14.
1645	Dave Lewis (Aecom) arrived onsite to do night shift of the liner curing process.
	Liner completely inserted down to MH-14. Setup to start the curing process
1720	
1751	Started up boiler & circulating system to begin heating water.
1755	Frequent issue with water leaking/spraying from pumps as many hoses connected without checking the gasket prior to turning on pumps or valves left open on boiler truck.
1805	Running pump and one line had a small leak - Had them change out the hose to manage the leak
1815	Instructed Michels to cleanup the rags from hydraulic leak on pavement now that activity level had slowed down

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

1815 continued - discussed cleanup of site for evening.
1845 Abray Acam depart site for evening

Daily Field Report

DATE 6/26/8

Start Time: 1700
End Time:

PROJECT MANAGER: Nicky Moody / Gene Hoilman
PROJECT NAME: Shell Harbor Island Storm Drain Lining
SITE NAME: Shell Harbor Island
PROJECT NO.:
CFM/COMPANY:

DAY	S	M	TU	W	TH	F	S

WEATHER	SNOW	RAIN	OVERCAST	CLEAR	BRIGHT SUN
TEMP	To 32	32-50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No.	
HUMIDITY	Dry	Moder	Humid		

SUB-CONTRACTORS ON SITE: Michels

EQUIPMENT ON SITE:

SUMMARY OF HEATH AND SAFETY MEETING: *Tailgate Form Attached? Y / N*

SUMMARY OF WORK COMPLETED: *Photolog Attached? Y / N*

1645 ~~1700~~ Arrive on site meet Aubrey, Gene, & Ron from city of Seattle. Get oriented to site & process.
1715 Michels setting pumps up preparing for curing. testing pumps, clearing air from lines.
1880 Start running hot water through lining.
1830 Aubrey leaving site. Most of the Michels crew leaving except for the curing crew.
1835 Pump malfunctioning, crew staying will replace with pump for rain water bypass, get one for the bypass from United Rental
1900 Starting pumps again getting up to curing temperature.
2005 Shutting down system unspecified problems, pulling hose from storm drain, Andy (foremen) to upset to communicate problem right now. Working out solution.

BY TITLE

SHEET 1 OF 2

AECOM

Field Activity Log

Project Name: Shell Harbor Island Completed By: DLewis
Project Number: Date: 6/26/18
Field Activity: Storm Drain Lining Weather: Clear
Personnel on site: DLewis

The splice for the lay-flat failed, they pulled it to repair/replace it.

2125 Reinstalling lay-flat.
going to pump water from liner into side drain + into sewer - less than 50 gal/min.

2235 started pumping water from liner, starting up boiler. Using Vac Truck to transport water to sewer.

6/27/18

0550 Gene back on sight, still trying to get up to temperature in the boiler.

Gene
503-504-0500

AECOM

FIELD ACTIVITY LOG

PROJECT Shell HI CIPP COMPLETED BY GRH

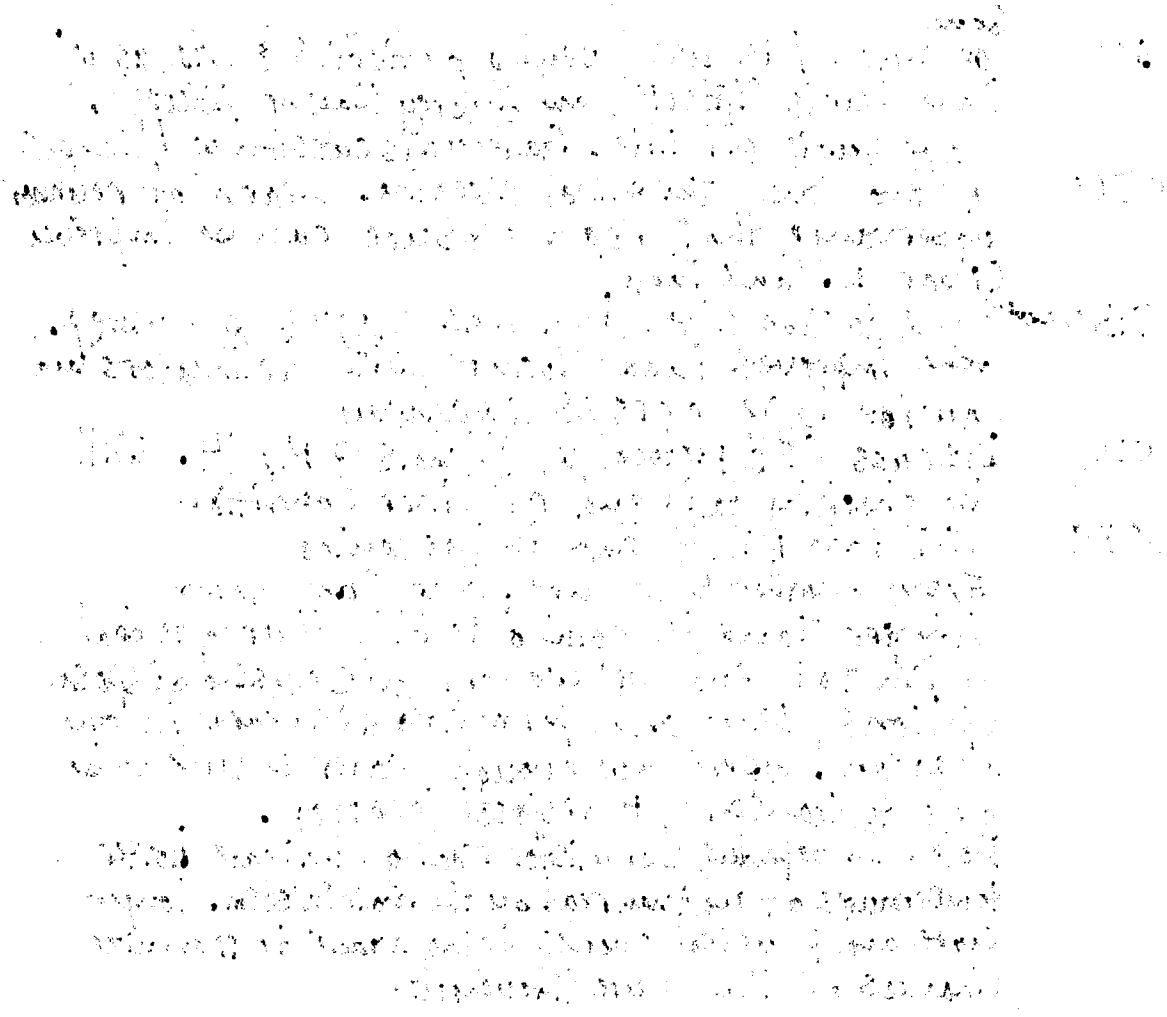
JOB NO. 60569419 APPROVED BY

DAY & DATE 6/28/2018 Wed. SHEET 1 OF 21

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0600	Gene on Site. Discuss evening activities & Status w/ Dave Lewis (AECOM) and Aubrey Naylor (AECOM). Dave Lewis off site. Safety discussion w/ Michels
0700	Attend Shell terminal meeting. Learn of neighbor observance that road closure can be improved (Near N. Tank Farm).
07:30	Gene Back to Job site. Discuss status w/ Aubrey. Gene improves Road Closure with delinators and Caution Tape across roadway
08:00	Discuss CSE protocol w/ Michels @ MH 14. Will be checking tail end of liner condition
0839	CSE into MH 14 End is hardening Expect another 5 hr Cure, 3 hr Cool down Another Tank is coming to MH 14 area to deal with tail end cure water, discussed disposal options, since only permitted discharge in one location. expect low enough water in tank to be able to transport to disposal location. Note: Independent thermistor readings indicate hotter temperatures at end than read by the main System. longer cure and physical checks being made to maximize Chances of Full cure throughout.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	



AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW COMPLETED BY AN

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/27/18 SHEET 1 OF 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0600	Arrived onsite Michels curing crew still onsite from evening shift. Problems overnight and two lay flat had to be removed and repaired at seam that broke in the evening. Down for at least 3hrs during the evening and section of liner toward MH-14 not reaching temp according to T-line (temp)
0615	Dave Lewis (Aecom night crew) departed site.
0630	Had Michels crew member cleanup site around Dater truck - many trippage hazards from hoses layed out all over (consolidate slack and tuck up next to truck to open up walking area/ reduce trips - Safety tailgate @ MH-16
0645	Checked on Michels crew member @ downstream MH-14. Discussed site cleanup and importance of usire manhole barricade which was not setup on Aecom arrival @ MH-16. Mate indicated that he had been dumping contents of vac truck →

VISITORS ON SITE:
Ron Pimentel (City)

CHANGES FROM PLANS OR IMPORTANT DECISIONS:
Cooking of liner not done as planned/issue with temp line?

WEATHER CONDITIONS:
Partly Cloudy
70°

IMPORTANT TELEPHONE CALLS:

PERSONNEL ON SITE:
Gene Hollman, Aubrey Naylor, Dave Lewis
Michels crew

into sanitary sewer opening in Visor parking lot. Cure water building up in hole and filling Vac truck ¾ (1200 gallons) every hour. Told Michels employee we are not to be discharging into sanitary before analytical from cure water is back and get okay from COS (City) to discharge. Also not where we should be discharging. Asked to have Andy Thompson from Michels to call immediatly & discuss. Instructed to put cure water in one of the tanks when needed to empty Vac even if its slowing process & inconvenient.

Plan on having a Michels crew come out this morning and get into the hole @ MH-14 and check the liner to see if it is "tacky" or not

0810 Michels additional crew arrive onsite

0820 Head over to MW-14 to check on liner by CS entry. Called Gene (Aecom) who was setting up better traffic control @ road closure area to go check on the crew @ MH-14. They did not have a CSE supervisor/ permit plan in place. Left worksite at MW-16 unattended Aecom head over to MH-16 worksite while Michels crew & Gene stay at MH 14 to enter the hole. (0835)

0845 5 hr code time starts
Glen from Michels arrived onsite. Has another tank coming for water coming from MH-14 end. Sample for cure water going to lab in Renton (Gene Hoilman) taking it to Lab for Michels.

0930 Michels wants to open MH-15 and check the liner. Altus is not onsite to do traffic control. Michels could do the TC however we dont have signage. Michels wants to have the lay flat pulled out and a new line put in place however this line is full of hot

AECOM

FIELD ACTIVITY LOG

PROJECT 2355 13th Ave SW **COMPLETED BY** AN

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 6/27/18 **SHEET** 2 **OF** 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
	water and would have to be physically pulled out with hot water in it or the entire system cooled. At the time Safety hazard and risk to implement this would be to great and not a good plan
1045	Tank to collect cure water from MH-14 arrived and will be placed over by MH-14. Spoke with Dustin @ Attis they can drive signage for TC so that Michels can execute TC and check on MH-15.
1100	Spoke with Andy about the removal of lay flat and concerns with hazards to crew as well as implementing the work safely. Told him we need to have him onsite to assist in executing the removal of 6" lay flat & replacing w/ 8" lay flat. One of Michels crew members suggested (approx the lid @ MH-15) real quick to look and see if there was water in the hole without traffic control. - firm no. Same Michels employee suggested entering MH-15 w/o a CSP. Another firm no.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:

PERSONNEL ON SITE:

1120 - Andy arrived onsite
Fuel delivery truck for pumps & boiler arrived onsite

Michels crew discussion on how to safely remove lay flat to replace with 4" layflat & pump. Will tie ropes to cam lock latchs and pull hose connections from a distance and shake loose from a distance. Wearing heavy gloves to pull lay flat out as it drains. Additional Michels crew arrived onsite and night crew guys sent home.

1200 Glen left to get lay flat from vendor off marginal way. Hose & layflat pulled from pipe.

1324 Spoke with Dave Lewis to confirm he could be out for the night during cook process that will continue once 4" lay flat is inserted into pipe.

1330 Glen (Michels) arrived back from picking up 4" lay flat

1335 Gene back from dropping cure water samples @ lab in Olympia.

1350 Began to insert 4" lay flat into pipe Cattached to cleaning tube + many attempt and difficulty getting the insertion to work had to remove from hole several times

1530 Still not able to successfully get 4" lay flat thru pipe.

1630 Dave Lewis arrived onsite for evening shift

1706 Sent Glen from Michels to get fishtape from Platt Electric to try and pull the lay flat thru. Going to remove the tie back to see if that will allow lay flat to shoot through

1745 Able to get lay flat into hole to 400ft going to attempt to use fishline to pull it all the way thru the hole.

1835 Depart site for evening

AECOM

Field Activity Log

Page: 1 of 1

Project Name: Shell Harbor Leland
Project Number:
Field Activity: Storm Drain Lining
Completed By:
Date: 6/27/18
Weather: overcast 70°
Personnel on site: Dave Lewis

1630 onsite, Aubrey Naylor + Gene Holeman on site
Michels on site.
Still trying to get the new lay-flat into drain, using 4" lay-flat.
1727 Starting to run lay-flat through pipe.
Feeding w/hose from vac truck (jetter line)
1755 Stopped ~~at~~ because leaking vac truck hose - repairing, have ~~to~~ 60ft to go in pipe.
1823 Can't repair water line because repair tool is malfunctioning. going to pull lay flat + try using a fish tape to pull it through.
1955 Retrieved fish tape from other end.
2015 got fish tape hooked up, pulling lay flat through pipe
2023 lay flat all the way through pipe.
2048 Starting uptake bolts
2110 Most of crew leaving.
2142 checking occasionally with operator
Note: Michels has been discharging water to sewer periodically from VAC TRK
6/28/18
0330 only half of lay flat is up to curing temperature
0450 Allen on site
0600 Aubrey on site, temperature still not up to where they want it

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW **COMPLETED BY** AN

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 6/28/18 **SHEET** 1 **OF** 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0600	Arrived onsite - Dave Lewis & Michels' night Crew onsite. Had tailgate meeting and discussed hazards of train traffic. The same section of liner that was not come up to temperature is staying around 80-90° degrees. Michels wants to wait until that section in the middle comes up and stays up for 3 hrs before starting the cool down. Suggested moving the lay flat back in the hole to that area so hot water is delivered to the section not come up to temp. or using fishline to send another Z-line thru pipe to diagnose the temperature & determine if the Z-line installed with liner is failing in that section. No Michels lead onsite. Spoke with Gene on phone and gave update.
0700	Attended Shell morning safety meeting. Discussed not planning on discharging until at least late afternoon. Shells discharge will take place as planned today given our schedule is delayed →

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS: Partly Cloudy	**IMPORTANT TELEPHONE CALLS:**
PERSONNEL ON SITE: Aubrey Naylor	

instructed to communicate with Kiri if we plan on discharging before 3 or 4 pm. Also informed Shell we would likely be onsite Saturday to demob.

0730 Arrived back at site. No Michels leads onsite, still the night cook crew.

0748 Ron Pimentel called (SPU) to check on how things are going. Gave him update and he said he spoke with Andy Thompson who is on his way back to Oregon. Andy said it was going to be a slow day. Glen will be the Michels lead.

0750 Attempted to call both Andy & Glen no answer. No communication with them since departed site yesterday at 630pm.

0805 Glen (Michels) arrived onsite. Discussed what the plan might be. Does not seem to have one at the moment but wants to take a look at whats happening and discuss with his office. Suggested sending another temp line into the hole - They would need to get another fish line and waters really hot at the end now so might be a safety issue

0815 Michels day crew arrived onsite

0845 Michels has decided to start the cooldown process. They think the liner has cured completely and that the z-line might be in contact with infiltration water on the outside of the liner in the area where the saw infiltration happening on the TV.

0900 Spoke with Ron (SPU) and updated on the progress - he will be onsite soon. Ron stopped by and left

0920 Cooldown will take approximately 4-5 hours.

0948 Glen left site, did not communicate where he was going. 1100 Glen returned (was getting a pump)

1020 Altus left site (perhaps taking lunch) returned to site shortly after left.

1134 Michels beginning to drain some water off at the insertion (MH-16) point to try and speed up the cooldown.

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW **COMPLETED BY** AN

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 6/28/18 **SHEET** 2 **OF** 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
1222	Temperature is dropping at a optimal rate according to Michels at about 115° and will continue to release water into tank near MH-16 and add cold water into system until it reaches 103-104°. Once this temp is reached water can be drawn into the tank and the liner emptied completely.
1240	Ken called to get an update. Told him where we are at (Glen did not text him back) and that still looking like laterals will be cut around 2-3 pm.
1306	Spoke to Gene and updated him on where we are at in the process. He is expected to arrive later this afternoon
1321	Glen returned from picking up rigid hose to use for draining into tank as they empty the system.
1326	Ken called and said he wants to be here while they cut the laterals. Told him that if it happens any sooner than 6 or 7 we will call/text him.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

1448 Michels is ready to start discharging water from a tank into sanitary sewer. They have been adding cool water to the system and releasing water into tank to cool down. Called Kiri at the terminal to verify that the terminal has completed their discharge for the day so that we can use the line for releasing cure water. Kiri said we were good to release into the sanitary.

1528 Spoke with Tyler Henry about the hydraulic spill that occured on Tuesday.

AECOM

FIELD ACTIVITY LOG

PROJECT Shell HI CIPP COMPLETED BY GRH

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/28/18 Thursday SHEET 1 OF 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
@400pm	Genc. On Site, discuss day's activities & Site Safety w/ Aubrey & Michels Crew.
	liner is cooling down - one section remains to get down to temp.
	Discharging from one tank while filling another. 18kgal tank now discharging was 2/3 full (12k gal) Can discharge = (2) 2/3 full tanks (~~12~~ 24k gal) then must stop. Flow rate throttled to meet discharge permit conditions (under 50gPm)
	Discussed planned activities for evening:
	• Finish cool down & Pump out line
	• Cut liner ends & CCTV to check Cure condition
	• Pressure test liner
	• Reinstate laterals
	• end work for day / Secure Site
@4:45pm	Discussed safety around potential night work & lighting needs. Can illuminate work area w/ truck lights Flaggers (for Mlt 15 work) need light plants. Kevin (Altus) leaves to get light plants from their shop.
@5:15pm	discuss water management in tanks w/ Michels - impress that whatever they choose to do, they must keep track of how much they've discharged before adding to discharging tank

Aubrey off Site →

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

AECOM

FIELD ACTIVITY LOG

PROJECT Shell HI CIPP COMPLETED BY GRH

JOB NO. _____ APPROVED BY _____

DAY & DATE 6/28/18 Thursday SHEET 2 OF 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
5:45pm	Stop Circulation Pumps. Prepare to drain liner. Ron Pimentel (SPU) on Site. Discuss pressure test → to be done to SPU ~~Spect~~ Specs: Pump air to 3.5 psi. Evening Safety talk w/Michels. liner must hold air for ≈14 min. can drop up to 1.0psi
6:30pm	Draining liner. filling tank at MH14. Pulling 1,000 per load w/vac truck to prevent overfill keeping track of # of truckloads to ensure permit compliance (<25k gal/day). dump cure water from vac truck directly into permitted sewer @ required rate. Not discharging from tank in ~~up~~ main work area while dumping vac truck
7:30pm	Continue draining liner. discussed Metering and estimated discharge rate with Ron. Noted our calculations indicated proper flow rate (12k in tank should drain in ≈3hr, which it did. Also observed MH in sewer just upstm of pump station: flow not backed up and is ~~with~~ well within flow channels. Ron accepted and commended our calcs and checks. Discussed Tide level and safety of workers who will eventually enter MH 14 w/ Michels. Noted tide is high but decreasing. observed water level in dstm MH from MH 14 was a half full pipe = low pressure on plug.

MH 14 → 5 vac truck loads

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

~~8:00~~ 8:00pm: Begin discharging full cure water tank (18k gal.) - Pause while Discharging Vac Truck

~~9~~ 9:00pm Water removal nearly complete. Pause to eat pizza ordered for crew and prepare for next phase

~~9~~ 9:15p Begin Cutting top end of felt @ MH 16

~~9~~ 9:40pm Cutting ends (permitted CSEs) @ MHs 14 & 16
Check-in discussion about CSE protocols; how Michels meter functions, and what are the Procedures when it goes into alarm

1120pm end Cutting complete and rope pulling @ MH 16. Still getting stubborn tie-back end out at MH 14.

12:00am: ≈⅓ of tank discharged. Day 1 total discharge ≈ 6K+5K+5K = 23K gal. Begin Day 2 discharg

12:30am Tie-back out and working on clearing all obstructions (lay flat hose) from line

01:19am - With late hour, review S3NA-009-PR1, Fitness for duty.
Day crew working extended hours - Determine that reinstating laterals has potential to involve high risk work for fatigued workers. Prioritize lower risk work completion for the night:
- cctv line to check cure visually
- Pressure test line Per COS/SPU spec.
This allows day crew to get rest so they can work tomorrow; Iron Horse's work (T-liner install) will be pushed into tomorrow afternoon.
Discussed with crews need to watch each other for fatigue and be aware of themselves.
Night crew will stay to clean up/secure site and then go sleep.
~~after~~ Day crew / AECOM will leave after Pressure test. Because only cleanup is being done, Night crew provided AECOM contact list & call Priority (Hoilmen, Henry, Moody, Edwards) ~~that~~ will Pull Main bypass plugs to remove need for bypass pumps overnight.

02:20: CCTV Complete. Liner looks good. Set up for pressure test.

03:10; when pulling 24" plug in MH 16, water came from behind plug and pooled at plugged MH 14. Water ~~was~~ is dark and opaque. Hydrocarbon odor. At end of pumping, incoming water was clear

04:00 Begin filling plugged pipe section for pressure test

05:10 Needle on gage Still has not moved. Suspect Compressor on truck is not a sufficient capacity to pressurize the 400 ft of 24" line Decided to secure area and have crew get some sleep - meet back at 11am

0600 leave Site (AECOM & Michels)

AECOM

FIELD ACTIVITY LOG

PROJECT Shell HI CTPP COMPLETED BY GRH

JOB NO. _____ APPROVED BY _____

DAY & DATE Friday 6/29/18 SHEET 1 OF 1

FIELD ACTIVITY SUBJECT: B1500 Gene off site
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
11:00	AECOM on Site, Michels arrives, Iron Horse Arrives. Safety and coordination meeting. Discuss Fatigue Management and CSE as main topics. Discuss Schedule for the day: · Air test · Reinstate laterals · install one T-liner
11:50	Demetrio on Site - Manager Visit Discuss site safety (AECOM). Iron Horse/Michels Mob to MH 14 for Pressure test
12:30	Demetrio - Offsite. Begin pressure test. Note Needle on line pressure not moving. Pull plug and notice connections on improper lines. Correct. ~~Rept~~ confirm air to line is functional and replace. Re-set plug and begin test.
12:45	Needle still not moving. Plug suddenly slides out of tube, ~~spraying~~ spraying water out of Manhole. No discharge, but also no indications of pollution. Immediately stop work discuss what went Right, what went wrong, and how we will move forward Safely. Documented on Near Miss form and discussed w/ Tyler, PM designee.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
Demetrio (AECOM) 11:50-1230	
WEATHER CONDITIONS: overcast	**IMPORTANT TELEPHONE CALLS:**
PERSONNEL ON SITE:	

update J&A with security and tank checks * Fencing around tanks
While filling or precipitation

↱ Dave Lewis on Site

13:30 → Michels notices additional water build up in MH 16, even though our project had not been generating water. Confirmed flow of non-storm discharge by observing the two manholes upstream of MH 17 - active flow (low, but present) seen in second.

- even though source is unknown it is the same source that was characterized by the sample collected during dry weather before the March pre-lining measurement activity.

Discuss site status and plan with Dave Lewis for hand-off

Need to secure open top tanks or have person on site ~~de~~ Security

1500 Gene off site

AECOM

Field Activity Log

Project Name: Shell Harbor Island
Project Number: 60569419 11001
Field Activity: Stormwater lining
Completed By: Dave Lewis
Date: 6/29/18
Weather: overcast 60°
Personnel on site: Dave Lewis, Gene Hartman

1340 on site, orientation from Gene. There is non-storm generated water flowing through the storm drain (laterals) that is building up behind the plug at manhole 14. Gene talking to PMs

1500 Measuring area to be fenced around tanks to call Tyler who will call Mickels.

1530 Performing ~~Recon~~ Mickels of how much fencing we will need to order. They are having problems with plug on upstream side of Manhole 14, going to get additional parts

1535 Notable to find a company that has that much fencing in stock at this short notice.

1540 water flowing in from lateral from Virgo into manhole 14 (East)

1555 Flow from Virgo Lateral has slowed, mickels pumping into tanks.

1637 Pumping water from Manhole 14 into vac trucks + discharging to tanks

1645 Have problem w/ plug at manhole 14 solved, rental equipment had a blockage. Setting up to pressure test - Setting up plug, bracing w/ 4X4s, inflating plug.

1711 turning air on for pressure test.

FENCING

Security Contractor Services: 206-767-7383 John

Jason: 425-251-1642 (425-864-5422)

(Mickels)

Sam Rogers 503-364-1199

14.30 ~~psi~~

3.6 psi min.

300 = 350'
50
60

350
320 = 700 ft. of fence
30 + 30 + 100 = 160 x 2 =

25' x 25' x 150' x 150'

50 x 50
15 x 15 x ~~30 x 30~~

200#. ~~#~~ 130 #

AECOM

Field Activity Log

Project Name: Shell Harbor Island
Project Number: 60569419.11001
Field Activity: Stormwater lining
Completed By: Dave Lewis
Date: 6/29/18
Weather: overcast 60°
Personnel on site: Dave Lewis

1715 start pressure test at 3.6 psi
1730 test over, no air loss over 15 min - successful test.
1740 Still pumping water out of manhole 16
1747 Finished pumping out Manhole 16, will move plug from downstream side to upstream.
1813 Removing plug from manhole 16.
1840 Installing plug in upstream side of manhole 16 and removing downstream plug.
1857 Lowering cutter down into manhole 16 to start reinstatement of laterals.
1916 Removing water from catch basin downstream of manhole 16
1945 Having problems with the cutter, they may send a person down to do it.
1955 Sending a man into the hole
Talked to Gene, he's not coming back out tonight, he's not fit for duty. He wants to have the water removed from tank on trailer and brought over to main staging area tanks.
2005 Trying to get first lateral from backside by going into catch basin. Iron Horse trying it.
2028 Got lateral clear, need to clean it up a bit. Moving to catch basin for the next lateral. Iron Horse
2045 Not sure if they got it thru or not. Iron Horse
2050 Punching from catch basin at next downstream lateral - Iron Horse.
2120 Lowering man into hole to do the cutting / clean up of lateral entrances, a blower w/ air is set up. Camera down there with him & on him, radio contact, on a roller sled being pulled through from tail end of pipe.

AECOM

Field Activity Log

Project Name: Shell Harbor Island
Project Number: 60569419.11001
Field Activity: Storm drain lining
Completed By: Dave Lewis
Date: 6/29/18
Weather: overcast 55°
Personnel on site: Dave Lewis

2153 Alarm on gas meter went off. Pulled man out to tail end because CO alarm went off when he ~~purchase~~ cut lateral. Will get air ventilation into catch basins as well, and ventilate for awhile.

2203 Setting up to open middle lateral, ~~setting~~ to get more ventilation + be closer to tail end. Setting up traffic cones + flaggers.

2238 Tyler going down into Manhole 15 to access other laterals. Finishing up second lateral.

2303 Moving on to third lateral, backs to manhole 15 first.

2312 on third lateral.

2336 finished lateral, pulling everything + man out to manhole 15.

2355 Michels demobing. Iron Horse already off site. Michels cutting dirt middle section in Manhole 15

June 30
0050 Michels leaving site, be back at 7am. They left w/o closing the manhole at tail end. Too heavy for me to left w/o a hook.

AECOM

FIELD ACTIVITY LOG

PROJECT Shell HI CTPP COMPLETED BY GRH

JOB NO. _____ APPROVED BY _____

DAY & DATE Saturday, 6/30/18 SHEET 1 OF 1

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0535	Arrive on Site, discuss activities and Status w/ Dave Lewis
0600	Dave Lewis is off Site
	Plan for day: Iron Horse T-Lining, Remove bypass, Demob.
	- will need to secure non-storm discharge held by bypass
	Requires fencing or security guard
	- Need to consolidate Stored bypass water
06:50	Iron Horse On Site; Michels on Site; Safety & Coordination meeting
07:20	Iron Horse prep for T-lining; Michels assisted and Move Water in Vac truck to Storage tank in upper work area
09:16	Iron horse cannot pull equipment through MH 15 due to bottom cut out @ MH 15. Reconfiguring plan to get equipment to lateral from MH 15 - Also - Pipes are Still too hot to Send liner from MH 14. Will drop in liner @ MH 15. Traffic control is active.
≈ 11:00	Begin T liner installation @ Catch basin 568819. Arrange Security guard Service to babysit tanks. Arranged for person to be here @ expected finish time of 1800
13:00	T liner installation finished, but equipment is stuck in pipe.
13:50	Complete retreival of equipment - had to move robot back and forth to get un stuck. Iron horse will add more lubricant to unit for next pass Water supply hose broke in process, also retrieved remotely. Repaired for Next pass

VISITORS ON SITE:

Ron Pimentel (SPU) ≈ 10:45
intermittently on Site

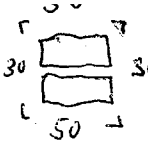
CHANGES FROM PLANS OR IMPORTANT DECISIONS:

WEATHER CONDITIONS:

IMPORTANT TELEPHONE CALLS:

PERSONNEL ON SITE:

Fence Needs: 

130 per tank OR (260 for two separate)


160 for two side by side

United Site Services: Talked w/ Ashley
Theresa - out of office
Lisa - Not typically in - Jeff is getting email from Ashley to call me

Emerald City fence: closed Sat.
All-City Fence: closed
National Fence: closed - opens 6am Monday
Rental Fence Service: closed → 253-606-2846 → 503-581-7329
Honey bucket: Called Joe Ellwood - left Message; called Rosie @ dispatch who connected me with Ken - also left message
→ Ken called back → No fence for a while can buy - He's seen prices for $75/panel

security Guard Service

Central Protection 206-786-5500
→ Support person is checking availability (9:36am)

Security Services Northwest (SSN)
$45/hr → Joe; 1080/24 hrs (non holiday)
holiday is x1.5

1425 Insert T-liner into MH 15 for installation @ catch basin 568767
1445 T liner set. Start Steam Cure
1540 Liner cooled and cooled down. Begin visual assessment.
1545 Assessment OK. Begin removing equipment
1555 Equipment removed from MH 15; Prepare for next liner

1625 Discuss Demob plan with Glenn (Michels)
- Keep Meter in case Need water source to clean tanks after bypass water is removed
- Keep Porta Potty for guard.
- Keep one Pump/hose/connections set to use to move bypass water - if needed (4")
- Empty tank may be out on Monday

1642 Insert equipment into MH 15 for T Liner installation @ catch basin 568801
1650 working on setting T-liner
1656 T-liner Set. Begin Steam Cure
1750 Cure and cool-down complete. Visual assessment w/ Push cam
1815 Equipment (launcher) out of MH15. Work on getting remaining equipment out
~~1825~~ 1845 Remaining Iron Horse Equipment Out, Michels setting up for CCTV
1857 cody with SSN on Site. Discuss safety/orient to site, Provide AECOM Contact
1915 Begin cctv. Grouting cut ends as camera gets to them. Start at MH 16.
1940 Discuss hazards of rushing during demob while pausing cctv activities
2011 complete CCTV. leaking at grout ~~at~~ from end @ MH 14 and @ ~~MH 15~~ MH 15, upstream end
Pull Plugs @ top and bottom. Begin Buttoning up site. Iron Horse off site

Michels will come with better grout to fix

AECOM

FIELD ACTIVITY LOG

PROJECT Harbor Island sewer re-line **COMPLETED BY** TH

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 7/2/18 **SHEET** **OF**

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0545	Justin Vetter (JV) & Thomas Haskins (TH) on-site
	↳ security on-site
~0610	Michels (Tyler & Ryan) arrive
0740	~~TOM~~ TH calls Gene Hoilman (GH) to check-in.
0800	JV offsite. Tyler and Ryan offsite.
0815	Tyler and Ryan back onsite.
0830	Tyler and Ryan offsite to bring pump to United.
0935	TH talks to Altus. They will pick-up signs tomorrow. Time is TBD.
1120	GH texts TH, still working on Stericycle. TH talks to Michels guys, empty baker tanks will start to be picked up today.
1200	All United Rentals equipment offsite, except 1 pump.
1300	North fuel area tank is picked up. Driver cannot pick up another tank today
1400	TH offsite.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	**IMPORTANT TELEPHONE CALLS:**

PERSONNEL ON SITE:

AECOM

FIELD ACTIVITY LOG

PROJECT Harbor Island CIPP **COMPLETED BY** TH

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 7/3/14 **SHEET** **OF**

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0630	TH onsite. Scope: empty baker tank in main lot.
	Demob 3 tanks in main lot. Altus pick up.
0700	Michels (Tyler and Ryan) onsite. TH gives
	safety briefing.
	- Bravo onsite. Begin pumping tank in
	main lot. Michels begin pressure washing
0715	Altus onsite to pickup cones/signs.
0800	TH calls GH, Michels can leave. Bravo offsite.
0815	Michels Tyler and Ryan off site.
0815	Adler onsite to pick up first tank.
0920	Adler offsite with a tank. Two remain in
	main parking lot.
1240	Adler on site to retrieve another tank.
1400	Adler hooked up both tanks, one offsite
1405	TH offsite to get spill prevention equipment
1410	TH drops off water meter with Kiri (Shell).
1600	TH onsite w/ emergency spill equipment
1615	TH offsite. One tank remaining

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
PERSONNEL ON SITE:	

AECOM

FIELD ACTIVITY LOG

PROJECT Harbor Island CIPP **COMPLETED BY** TH

JOB NO. _____ **APPROVED BY** _____

DAY & DATE 7/5/18 **SHEET** **OF**

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0545	Tim Hastings onsite. Scope: pump 6,000 gal from tank remaining @ site.
~~0645~~	
0645	Bravo onsite. Begin pumping tank
0745	Bravo offsite w/ 6,000 gallons.
0800	TH offsite.
1245	TH onsite to deliver Spill Plan
1300	TH offsite.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS:	**IMPORTANT TELEPHONE CALLS:**
PERSONNEL ON SITE:	

AECOM

DATE 7/6/18

DAY	S	M	T	W	TH	(F)	S

WEATHER	BRIGHT SUN	(CLEAR)	OVERCAST	RAIN	SNOW
TEMP	To 32	32-50	50-70	(70-85)	85 up
WIND	(Still)	Moder	High	Report No	
HUMIDITY	(Dry)	Moder	Humid		

PROJECT MANAGER:

PROJECT: Harbor Island CIPP

JOB NO.:

AECOM FIELD REP: Tim Haskins (TH)

SUB-CONTRACTORS ON SITE:

EQUIPMENT ON SITE:

WORK PERFORMED:

0600: TH onsite
0645: Bravo onsite to pump tank.
0700: TH calls Gene Hailman, tank will be empty. Coordinate to clean tank and remove from site.
0745: Bravo offsite
0830 Altus onsite – picks up cones/signs/candlesticks
Bravo Vac-truck onsite to clean tank.
0835: TH calls GH to discuss possible confined entry for workers in tank. Side values are open, top is open. Bravo considers tank confined space. TH is confined space certified, and signs entry permit so that work can take place immediately. Last & second changes required quick safety meeting for confined entry.
0850: Adler onsite.
1010 = Bravo offsite
1045: Adler offsite with tank.
1100: TH and Security offsite.

BY TITLE

SHEET ____ OF ____

This is an example of a CONFINED SPACE ENTRY PERMIT. The actual entry permit you will use depends on the atmospheric and physical hazards of that particular confined space. All regulations for that permit are addressed in 29 CFR Part 1910.146 Permit-Required Confined Spaces for General Industry.

CONFINED SPACE ENTRY PERMIT

1. Permit Space to be Entered: Adler Tank
2. Purpose of Entry: Tank Cleaning for P/u
3. Date of Entry: 7-6-18 — Authorized Duration of Entry Permit: 2 hrs
4. Authorized Entrants: Cory Schumacher; Tom Hoskins AECOM
5. Attendants(s): DaShaun
6. Name of Current Entry Supervisor(s): 1. DaShaun Time 0800am; 2. _____ Time _____
   Entry Supervisor who Originally Authorized Entry: _____ *Signature or Initials*

7. Record hazards of the permit space to be entered.				8. Check or list the measures used to isolate the permit space and to eliminate or control permit space hazards before entry.
Hazard	Yes	No	N/A	
A. Lack of Oxygen		✓		☑ A. Purge-Flush and Vent Vac
B. Combustible Gases		✓		
C. Combustible Vapors		✓		☐ B. Ventilation
D. Combustible Dusts		✓		
E. Toxic Gases		✓		☐ C. Lockout/Tag Out
F. Toxic Vapors		✓		
G. Chemical Contact		✓		☐ D. Inerting
H. Electrical Hazards		✓		
I. Mechanical Exposure		✓		☐ E. Blanking, Blocking, Bleeding
J. Temperature		✓		
K. Engulfment		✓		☐ F. External Barricades
L. Entrapment		✓		
M. Others		✓		☐ G. Confined Space Identification/Signs
				☐ H. Other

DO NOT DESTROY THIS PERMIT
AFTER CANCELLATION THIS ENTRY PERMIT MUST BE RETAINED BY EMPLOYER FOR AT LEAST ONE YEAR.

184-F 2195
(Rev. 5/07)

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 235713-18

DELIVERY DATE	JOB #
7.2.18	3225936

SHIPPER / CUSTOMER	POINT OF CONTACT
EQUILON ENT LLC/DBA SHELL OIL TERMINAL	Tia Bruce
ADDRESS: 2555 13TH AVE SW	PHONE #: (206)224-0489
CITY, STATE, ZIP: SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER: Bravo Environmental	PHONE #: ( ) -
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 77th Avenue South	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	3,500
B				
C				
D				

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STABB01 (6)

PWR# 8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are class packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulat I also certify that all times listed above are true and correct.

		MONTH	DAY
(SHIPPER) PRINT OR TYPE NAME: X Tom Hawkins on behalf of Shell Oil Products US	SIGNATURE: X	7	
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: X JOHN RAMSEY	SIGNATURE: X	7	2
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: X	SIGNATURE: X		

SHIPPER

DATABAR (800) 878-4919 FORM # 4020 10/14

***24 HOUR EMERGENCY RESPONSE, CALL (877) 577-2669 ***

Stericycle®
Environmental Solutions

SHIPPING PAPER

Lading Manifest: 235698-18

DELIVERY DATE	JOB # 3223936
SHIPPER / CUSTOMER: EQUILON ENT LLC/DBA SHELL OIL TERMINAL	POINT OF CONTACT: Tia Bruce
ADDRESS: 2555 13TH AVE SW	PHONE #: (206)224-0489
CITY, STATE, ZIP: SEATTLE WA 98134-0000	
CARRIER / TRANSPORTER: Bravo Environmental	PHONE #: ( ) -
CONSIGNEE / FACILITY: BURLINGTON ENVIRONMENTAL, LLC.	POINT OF CONTACT
ADDRESS: 20245 77th Avenue South	PHONE #: (253)872-8030
CITY, STATE, ZIP: KENT , WA 98032	

HM	US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	Containers No.	Containers Type	Total Quantity
A	MATERIALS NOT REGULATED BY THE DOT	1	TT	3,000
B				
C				
D				

Special Handling Instruction and Additional Information:

a) 937852-00 - STORMWATER AND SEDIMENT - STABB01 (4)

RWRII 8841

Placards Provided YES_____ NO_____

SHIPPER'S CERTIFICATION: "I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are class packaged, marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulat I also certify that all times listed above are true and correct.

		MONTH	DAY
(SHIPPER) PRINT OR TYPE NAME: X Tor Hasking on behalf of Shell Oil Products US	SIGNATURE: X	7	5
(CARRIER/TRANSPORTER) PRINT OR TYPE NAME: X John Ramsey	SIGNATURE: X	7	5
(CONSIGNEE/FACILITY) PRINT OR TYPE NAME: X	SIGNATURE: X	MONTH	DAY

SHIPPER

DATABARI (800) 878-4919 FORM # 4020 10/14

ALTUS TRAFFIC
NO INJURIES. NO DELAYS. NO WORRIES.

Altus Traffic Management, LLC
1002 Central Avenue N.
Kent, WA 98032
TEL 206-878-0221
FAX 206-870-3804
EIN: 41-2211215

Type of Ticket

Partial	
Complete	X
Takedown	

RETURN TICKET

Stop Rent	06/29/18
Pickup On	07/03/18
Clock In	
Onsite By	
Takedown By	

Customer ID: URS010
Customer: AECOM - WA
Job Addr/Name: 1299 SW Florida ST
Seattle

Job ID: 010820
Ticket#: R0002005

Dispatcher Katrina Romero
Called In 07/02 09:24 AM
Job No.
PO No. 79306
Foreman Laurence Brown
206-300-2893

Called in By: Gene Hoilman 503-948-7209

7/3/18
7:00 AM

Special Instructions : Pick up PCMS and cones

RET	ORD	DESCRIPTION	RET	ORD	DESCRIPTION	RET	ORD	DESCRIPTION
6	6	Cones 28in						
1	1	PCMS board - Monthly						
1	1	ROAD CLOSED AHEAD						
2	2	TYPE 3						
1	1	FLAGGER AHEAD						
1	1	BE PREPARED						
1	1	ROAD WORK AHEAD						
2	2	ROAD CLOSED						
5	5	SIGN STAND						

Crew Name	Trk#	Driver	TL	Leave Yard	Start on Site	End on Site	Arrive Yard	Break	Total Hours	Classification
Dustin Blanchard	R2-~~C81585~~ L			0630	0715	0730	0800			

Driver's On-site Notes:

Truck # R2 Mileage Start 4730 End _____ TMA # _____ AB # _____ MB # _____
Truck # _____ Mileage Start _____ End _____ TMA # _____ AB# _____ MB # _____
Truck # _____ Mileage Start _____ End _____ TMA # _____ AB # _____ MB # _____

Terms and Conditions are as stated in rate card, contract or bid. For any questions call Altus home office at 972.790.7100.
LESSEE MUST CALL DISPATCH OFFICE TO ARRANGE FOR PICKUP OF EQUIPMENT - PICKUPS WILL NOT BE MADE AUTOMATICALLY. PRELIMINARY FIELD COPY ONLY - SUBJECT TO CORRECTIONS IN OFFICE.

Customer Signature: _____ **Driver Signature:** Dust Blanchard
Printed Name: _____ **Driver Name:** Dustin Blanchard
Date: _____ **Time:** _____ **Date:** 7/3/18 **Time:** _____
7/3/18

BRAVO environmental

WORK ORDER 51823

Order Date: 7/
Required Date: 6/
Work Date: /18

BRAVO JOB # D059532 DISPATCH # 59557

Ordered by:
Company: AECOM
1111 3RD AVE, STE 1600
SEATTLE, WA 98101

Location:
2402 13th AVE SW
SEATTLE, WA

Phone: 206 438 2700
Job: HARBOR ISLAND
PO #:

Site Phone: 315 456 8139
Site Contact: TOM

Service Description

CLEAN BAKER TANK

Notes:

ALDER TANK A5227 OT

Start Travel: 0730 am/pm	Start Job: 0830 am/pm	Finish Job: 1000 am/pm	Finish off-loading: am/pm	Stop Travel: am/pm	
Disposal Site: BRAVO TANKER	Estimated Tons: /	Receipt # for Disposal: 235700-18			
Decant Site: /	Estimated Gallons: /	Water District: SHOP			
Truck: Full Empty	Laborer: /	Estimated Gallons: 500			
Rates, prevailing wage: ☒	Operator: DaSHAUN	Truck Number: B46			
Rates Non-prevailing wage: ☒					
3 hour minimum, portal to portal					

Signature: [signature] **Signed by:** TOM HOSTIS

Signature above acknowledges approval of all work completed as stated on this work order:

Payment Terms: Net 30, all overdue accounts will be charged 1.5% monthly

6437 South 144th Street • Tukwila, WA 98168 • phone: 425.424.9000 • fax: 425.424.9002 • toll free: 888.BRAVO44
www.BravoEnvironmental.com

AECOM	AECOM Shell SGW (US) **Daily Tailgate Meeting & Job Clearance Form**	Issue: 1/2/2011 Revision 11: October 2016 Do NOT pre-populate any field.

Job Location:	2955 13th Ave SW	Date:	9/10/18
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Gene Heilman

List activities to be performed today:	
Permitted Activities (specific permit to be competed):	☒ Not Applicable ☒ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by Regional Operations.

Muster Point:	Foot bridge	Spill Kit Location:	Vac truck
First Aid Kit Location:	Vac truck	Fire Extinguisher Location:	Vac truck
Emergency cut-off switches:	Vac truck	Designated cell phone use area(s):	Vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☐ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☐ Yes ☐ No* ☒ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* ☒ N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☒ Yes ☐ No* ☐ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☐ Yes ☒ No ☐ N/A
Do all members of the work team have API Safety Keys (AECOM excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have a Shell "Life Saving Rules" Training card?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☐ Yes ☐ No* ☒ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	driving	Title of Subcontractor's JSAs reviewed today:	confined space

All personnel are wearing (regardless of activity):	☒ Hard Hat ☒ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 11: October 2016 Do NOT pre-populate any field

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

* You understand that compliance with Shell's Life Saving Rules is mandatory and that failing to follow to them may result in termination.
* You have been involved in reviewing the JSAs and understand the hazards and control measures associated with each task you are about to perform.
* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.

I arrived and departed fit for duty:

* You are physically and mentally fit for duty,
* You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Arbrey Naylor	Aecom	0640 In & Fit	1515 Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Arbrey Naylor	I will make sure work area is trip free

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	☐ Yes ☒ No	If yes, provide details:
Were there any 'Stop Work' interventions?	☐ Yes ☒ No	If yes, provide details:
Were there any areas for improvement noted?	☒ Yes ☐ No	If yes, provide details: need a different plug for the holes
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	☒ Yes ☐ No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	☒ Yes ☐ No	AECOM Site Supervisor Signature:

AECOM

DATE 9/10/18

DAY | S | (M) | T | W | TH | F | S |

PROJECT MANAGER: Gene Hoilman

PROJECT: 2555 13th Ave SE - Harbor Island Stormline Clearout

JOB NO.: 60569419

AECOM FIELD REP: Aubrey

WEATHER	BRIGHT SUN	CLEAR	(OVERCAST)	RAIN	SNOW
TEMP	To 32	32-50	(50-70)	70-85	85 up
WIND	Still	(Moder)	High	Report No.	
HUMIDITY	Dry	(Moder)	Humid		

SUB-CONTRACTORS ON SITE: CCS, Pro Vac

EQUIPMENT ON SITE: Vac truck, John boat, liquid vac truck, support truck

WORK PERFORMED: 0645 Attend the Seaport Orientation, discuss TWIC card rules for escorting -
0735 Tailgate meeting to discuss hazards
0750 Site walk to assess the same plan and access to manholes. Manhole 14 still has a car parked over it. Manhole 16 has car parked in front of it. Manhole on Visor property is larger than 24" ≈ 36-48". CCS does not have a plug large enough for that diameter. ~Five feet of water in manhole on Visor @ 845a.m
Ran Pimentel from SPU came onsite and discussed the work schedule will communicate with him as we progress. He spoke w/ CCTV (Pro-Vac) - Kyle and asked to have the video split on seperate CD for each section of line. Onsite for ≈ 20 minutes
0945 Spoke with Gene @ Aecom to discuss issue with car being on MH14 - and the larger diameter opening in MH @ Visor.
Will put up no parking notices in areas where we can't access for tommorow, CCS to get a larger plug. Weather to be rainy this week, will need to work around the rain.

BY TITLE

SHEET ____ OF ____

AECOM

DAILY QUALITY CONTROL REPORT

PROJECT: _____ REPORT NO. _____

JOB NO.: _____ DATE _____

1245 depart site to pickup No parking notices and place at site.
1330 CCs depart site to get larger plug and receptacle for water coming from outfall
1515 Placed No park signs and left for day

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

TOMORROW'S EXPECTATIONS:

BY _____ TITLE _____

SHEET ____ OF ____

AECOM	AECOM Shell SGW (US) **Daily Tailgate Meeting & Job Clearance Form**	Issue: 1/2/2011 Revision 11: October 2016 Do NOT pre-populate any field.

Job Location:	2555 13th Ave SW	Date: 9/11/18	
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Irene Hollman

List activities to be performed today:	Stormline cleanout
Permitted Activities (specific permit to be competed):	☒ Not Applicable ☐ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by Regional Operations.

Muster Point:	footbridge	Spill Kit Location:	Vac truck
First Aid Kit Location:	Vac truck	Fire Extinguisher Location:	Vac truck
Emergency cut-off switches:		Designated cell phone use area(s):	In Vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☐ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☐ Yes ☐ No* ☒ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* ☒ N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☒ Yes ☐ No* ☐ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☒ Yes ☐ No ☐ N/A
Do all members of the work team have API Safety Keys (AECOM excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have a Shell "Life Saving Rules" Training card?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☐ Yes ☐ No* ☒ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	driving	Title of Subcontractor's JSAs reviewed today:	Confined Space

All personnel are wearing (regardless of activity):	☒ Hard Hat ☐ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 11: October 2016 Do NOT pre-populate any field.

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

* You understand that compliance with Shell's Life Saving Rules is mandatory and that failing to follow to them may result in termination.
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* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.

I arrived and departed fit for duty:

* You are physically and mentally fit for duty,
* You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Aubrey Naylor-Acaon	Aubrey Naylor	0840 In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Aubrey Naylor	I will watch for traffic

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	☒ Yes ☐ No	If yes, provide details:
Were there any 'Stop Work' interventions?	☐ Yes ☒ No	If yes, provide details:
Were there any areas for improvement noted?	☐ Yes ☒ No	If yes, provide details:
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	☐ Yes ☒ No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	☒ Yes ☐ No	AECOM Site Supervisor Signature:

AECOM

DATE 9/11/18

DAY	S	M	T	W	TH	F	S
			(T)				

WEATHER	BRIGHT SUN	CLEAR	OVERCAST	RAIN	SNOW
			(OVERCAST)		
TEMP	To 32	32-50	50-70	70-85	85 up
			(50-70)		
WIND	Still	Moder	High	Report No	
		(Moder)			
HUMIDITY	Dry	Mode	Humid		
		(Mode)			

PROJECT MANAGER: Gene Hoilman

PROJECT: 2555 13th Ave - Stormline

JOB NO.: 60569419

AECOM FIELD REP: Aubrey Naylor

SUB-CONTRACTORS ON SITE: CCS, Pro-Vac

EQUIPMENT ON SITE:

WORK PERFORMED: 0845 met onsite a performed tailgate Meeting.

0900 - Checked parking areas to see if vehicles moved. Area around MH14 is clear of vehicles. Area by MH-16 cones moved & vehicles parked. Called number on one of the trucks to notify of No parking zone

0930 Setup at MH14 to place plug. No meter on hydrant yet by MH16.

1010 - Setup for confined space entry @ MH14 Placed plug in downstream hole to start cleaning upstream laterals and mainline from MH-16 down to 14.

1045 Called Gene to verify the laterals being cleaned and make sure the one running from 16 is not in scope.
Cleaned first lateral down from MH16 @ catch basin along edge of road. (Florida St)

1000 Cleaned lateral from CB in pkg lot on Florida

1105 Cleaned lateral from CB on Florida near foot bridge - left message for Ron - No hydrant meter onsite

1145 CCTV setup to film laterals started with downstream lateral from CB @ footbridge

BY TITLE

SHEET ____ OF ____

405623

AECOM

DAILY QUALITY CONTROL REPORT

PROJECT: | REPORT NO.

JOB NO.: | DATE

1215 Began cleaning mainline from MH 14 to MH 16. Went past MH 16 upstream a bit and pulled back thru. Line from 14 to 16 water coming back looked clean @ MH 16 alot of oily dark water and sludge came back from upstream of MH-16. Smelled like oil. Took photos. Pulled back 2 mesh bags (oily looking absorbents in the bags (erosion control for Catch Basins) Bagged into garbage bags. CCS will dispose of them.

1319 Still no meter for hydrant from City of Seattle. Pro-Vac has brought a second load of water to fill truck. They filled it yesterday also.

1345 - CCS vac truck departed site to take a load ≈ 1200 gallons to stericycle in Kent. Began to pull plug from MH 14 to shut down for the day. Ran camera down line from MH-16 - to MH-14 to see how the line looked.

1410 Spoke with Gene to discuss if we need to run the jet hose thru mainline again. Looks relatively clean. Called Ran from SPU and he is picking up meter assembly for hydrant and bringing to site / he will look at video to see if it looks clean.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

1443 Ran brought hydrant meter to site. Looked at video and there is a soda can down towards 14 would like to get that removed. Onsite for ≈ 45 minutes

TOMORROW'S EXPECTATIONS:

1515 Departed site for Day

BY | TITLE

SHEET ____ OF ____

AECOM	AECOM Shell SGW (US) **Daily Tailgate Meeting & Job Clearance Form**	Issue: 1/2/2011 Revision 12: February 2018 Do NOT pre-populate any field.

Job Location:	2555 13th Ave SW	Date: 9/12/18	
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Gene Hollman

List activities to be performed today:	Stormline cleaning & CCTV
Permitted Activities (specific permit to be competed):	☐ Not Applicable ☒ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by AECOM Shell Program Lead.

Muster Point:	South gate Visor	Spill Kit Location:	Vac truck
First Aid Kit Location:	Vac truck	Fire Extinguisher Location:	Vac truck
Emergency cut-off switches:	Vac truck	Designated smoking/cell phone area(s):	in Vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☐ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☐ Yes ☐ No* ☒ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* ☒ N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☒ Yes ☐ No* ☐ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☐ Yes ☒ No ☐ N/A
Do all members of the work team have API Safety Keys (AECOM/Teaming Partners excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have Shell "Life Saving Rules" and "Safe System of Work" Training cards?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☒ Yes ☐ No* ☐ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	Confined space	Title of Subcontractor's JSAs reviewed today:	confined space

All personnel are wearing (regardless of activity):	☒ Hard Hat ☒ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 12: February 2018 Do NOT pre-populate any field.

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

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* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.
* You are physically and mentally fit for duty, including not under the influence of any medication, drug, or alcohol that may affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Aubrey Naylor - Aecom		0645 In & Fit	1645 Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Aubrey Naylor	I will make sure housekeeping is done to prevent tripping.

Short Service Employees (SSE) or staff with <6-months experience performing tasks/work covered by this JCF

SSE Name	Tasks/work that requires direct supervision	On-site Mentor's Name

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	(Yes) No	If yes, provide details:
Were there any 'Stop Work' interventions or areas for improvement identified?	Yes (No)	If yes, provide details:
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	(Yes) No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	(Yes) No	AECOM Site Supervisor Signature:

AECOM

DATE 9/12/18

DAY | S | M | T | (W) | TH | F | S

PROJECT MANAGER: Rene Holman

PROJECT: 2555 13th Ave SW - Stormline Cleanout

JOB NO.: 60569419

AECOM FIELD REP: Aubrey Naylor

WEATHER	BRIGHT SUN	CLEAR	(OVERCAST)	RAIN	SNOW
TEMP	To 32	32-50	(50-70)	70-85	85 up
WIND	Still	(Moder)	High	Report No	
HUMIDITY	Dry	Moder	(Humid)		

SUB-CONTRACTORS ON SITE:

EQUIPMENT ON SITE:

WORK PERFORMED: 645 Arrived onsite, CCS present. Attend Seaport-morning meeting. Tailgate meeting
0715 Fill vac truck with water from hydrant.
Went to Visor to ask that they open gate along dock so that we can access MH-38
0735 - Opened MH39 and found a large absorbent boom very dirty, sheen in water. Removed with boom from vac truck, extremely heavy. Called Ron @ SPU to let him know what we found. Was not placed by Shell. He will call back and let us know what they want to do with it. Placed in drum liner and left next to south gate @ Visor. - Notified Rene & Nicky. they will work on getting a drum delivered if we are going to be tasked w/ disposal.
0845 Ron Pimentel came to site to see absorbent boom and progress - waiting for tide to go out to place plug in MH38.
1130 Able to place plug in MH 38 and start cleaning from MH-41 downstream to MH38. Set up at MH 38 and working upstream pulling back water to 38.
1310 Departed site to pick up drum at ICS (Industrial Container Services) for absorbent from MH39. Ran Pimentel is working on getting an answer as to whether or not the absorbent was placed by City.

BY _____ TITLE _____

SHEET ____ OF ____

AECOM

DAILY QUALITY CONTROL REPORT

PROJECT: REPORT NO.

JOB NO.: DATE

Picked up drum labels from Acom Seattle office.
1520 material from downstream of MH14 is very black, oily smelling, and a lot of sludge. Have made 5 passes up from MH38 to MH14 to get line clean.
1640 Spoke with Ron and Caroline @ City of Seattle left message that boom was placed by city. They will dispose of. We placed in drum at South gate of visor w/ pending analysis label - Ron as Contact.
1820 Began breaking down to depart site for day. Spoke with Aaron @ Stericycle to let him know we would not make the 3:30 drop off deadline for stormwater / sediment load. He said tommorow 7:00 a.m would be okay to drop off for disposal in Kent.
1645 Depart site for day

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

TOMORROW'S EXPECTATIONS:

BY TITLE

SHEET ____ OF ____

AECOM	AECOM Shell SGW (US) **Daily Tailgate Meeting & Job Clearance Form**	Issue: 1/2/2011 Revision 12: February 2018 Do NOT pre-populate any field.

Job Location:	2555 13th Ave SW	Date: 9/13/18	
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Gene Hollman

List activities to be performed today:	Stormline cleaning / CCTV
Permitted Activities (specific permit to be competed):	☐ Not Applicable ☒ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by AECOM Shell Program Lead.

Muster Point:	South gate Visor	Spill Kit Location:	Vac truck
First Aid Kit Location:	Vac truck	Fire Extinguisher Location:	Vac truck
Emergency cut-off switches:	Vac truck	Designated smoking/cell phone area(s):	in vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☐ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☐ Yes ☐ No* ☒ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* ☒ N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☒ Yes ☐ No* ☐ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☐ Yes ☐ No ☒ N/A
Do all members of the work team have API Safety Keys (AECOM/Teaming Partners excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have Shell "Life Saving Rules" and "Safe System of Work" Training cards?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☒ Yes ☐ No* ☐ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	Confined Space	Title of Subcontractor's JSAs reviewed today:	Confined Space

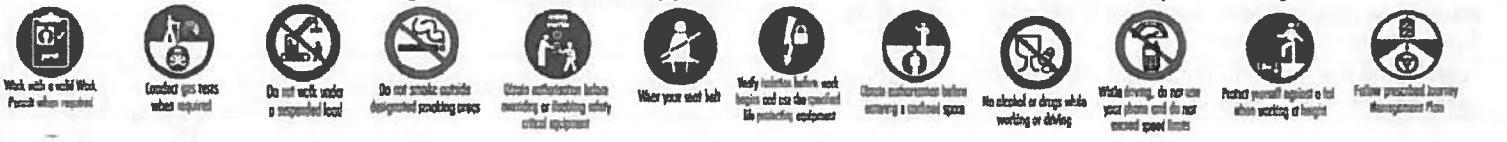
All personnel are wearing (regardless of activity):	☒ Hard Hat ☒ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:



AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 12: February 2018 Do NOT pre-populate any field.

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

* You understand that compliance with Shell's Life Saving Rules is mandatory and that failing to follow to them may result in termination.
* You have been involved in reviewing the JSAs and understand the hazards and control measures associated with each task you are about to perform.
* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.
* You are physically and mentally fit for duty, including not under the influence of any medication, drug, or alcohol that may affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Aubrey Naylor - Aecom		0645 (In) & Fit	1945 (Out) & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Aubrey Naylor	I will make sure life vests are worn while in boat.

Short Service Employees (SSE) or staff with <6-months experience performing tasks/work covered by this JCF

SSE Name	Tasks/work that requires direct supervision	On-site Mentor's Name

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	~~Yes~~ No	If yes, provide details:
Were there any 'Stop Work' interventions or areas for improvement identified?	Yes (No)	If yes, provide details:
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	(Yes) No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	(Yes) No	AECOM Site Supervisor Signature:

AECOM

DATE 9/13/18

DAY	S	M	T	W	TH	F	S

WEATHER	BRIGHT SUN	CLEAR	OVERCAS	RAIN	SNOW
TEMP	To 32	32-50	50-70	70-85	85 up
WIND	Still	Moder	High	Report No	
HUMIDITY	Dry	Moder	Humid		

PROJECT MANAGER: Gene Holman
PROJECT: 2555 13th Ave SW - Stormline Cleanout
JOB NO.: 60569419
AECOM FIELD REP: Aubrey Naylor

SUB-CONTRACTORS ON SITE: CCS, Pro Vac
EQUIPMENT ON SITE: Vac truck, jetting truck

WORK PERFORMED: Stormline cleanout

0645 Arrived onsite for morning mtg @ Seaport Discussed same plan for last section of pipe. Will wait for low tide ≈ 11:00 to place plyse in MH38 upstream.

0830 Called Ron to discuss the section of pipe upstream of MH38 with a "belly" - low spot that starts ≈ 20ft in from MH38 and extends upstream toward MH39. Water settling in this low area - can't get a good video of bottom w/ 3" of water pooling there.

Del Spoke with Ron and he requested that Kyle @ Pro-Vac (CCTV) add narrative to the video detailing the belly in the pipe and explain that water in low portion prevents from getting a good look thru 5" of water." He is aware that we went back & forth thru pipe 5 times yesterday and it is likely sufficiently cleaned. Asked that we speak with Caroline or Beth @ the City of Seattle as they would like us to dispose of the drummed boom from MH39 and invoice them.

1245 Placed plug in upstream portion of MH38 to begin cleaning down to outfall. Liquid Vac is stationed @ Seaport property in corner closest to outfall.

Ray & Mike (CCS) went to launch boat @ AMG.

BY TITLE

SHEET ___ OF ___

AECOM

DAILY QUALITY CONTROL REPORT

PROJECT: _____ REPORT NO. _____

JOB NO.: _____ DATE _____

1315 - Ron called an the City will come get the drum.

1345 - Boat at launch will not start
- fuel line has a knick and when pumping the line fuel was flowing from cut. Pulled boat repaired line. Attempt start and no success.

1445 - After attemp to repair boat w/ no success CCS crew came back to viser Tide returning back to above check valve on outfall. Will not be able to complete work based on tide until mid next week. Called Ron @ City to notify about the boat and anticipated schedule to complete work based on tide table for next week.

1350 Removed plug from MH-38 and spoke w/ Gene about rescheduling work for next week. Tide favors Wednesday - Friday.

1445 - Depart site for day

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

TOMORROW'S EXPECTATIONS:

BY _____ TITLE _____

SHEET ____ OF ____

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: 1/2/2011 Revision 11: October 2016 Do NOT pre-populate any field.

Job Location:	2555 13th Ave SW	Date:	9/24/18
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Nicky Moody

List activities to be performed today:	Stormline jet rodding
Permitted Activities (specific permit to be competed):	☐ Not Applicable ☒ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by Regional Operations.

Muster Point:	Main entrance Visier	Spill Kit Location:	Vac truck
First Aid Kit Location:	vac truck / boat	Fire Extinguisher Location:	vac truck / boat
Emergency cut-off switches:	Vac truck	Designated cell phone use area(s):	in vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☐ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☒ Yes ☐ No* ☐ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* ☒ N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☒ Yes ☐ No* ☐ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☐ Yes ☒ No ☐ N/A
Do all members of the work team have API Safety Keys (AECOM excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have a Shell "Life Saving Rules" Training card?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☒ Yes ☐ No* ☐ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	confined space / Work on water	Title of Subcontractor's JSAs reviewed today:	confined space

All personnel are wearing (regardless of activity):	☒ Hard Hat ☒ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 11: October 2016 Do NOT pre-populate any field.

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

* You understand that compliance with Shell's Life Saving Rules is mandatory and that failing to follow to them may result in termination.
* You have been involved in reviewing the JSAs and understand the hazards and control measures associated with each task you are about to perform.
* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.

I arrived and departed fit for duty:

* You are physically and mentally fit for duty,
* You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Aubrey Naylor - Aecom		0645 In & Fit AN	1600 Out & Fit AN
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Aubrey Naylor	Ensure site is clean and free of trip hazards

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	☒ Yes ☐ No	If yes, provide details:
Were there any 'Stop Work' interventions?	☐ Yes ☒ No	If yes, provide details:
Were there any areas for improvement noted?	☐ Yes ☒ No	If yes, provide details:
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	☒ Yes ☐ No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	☒ Yes ☐ No	AECOM Site Supervisor Signature:

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW- Storm line COMPLETED BY AN

JOB NO. 60569419 APPROVED BY _____

DAY & DATE 9/24/18 SHEET 1 OF 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
0645	Arrived onsite CCS present attend BP mtg
0715	Spoke w/ Visor to let them know we will be working onsite
0800	ProVac arrived onsite tailgate meeting
0810	Setup to put plug in MH038 confined
0910	- Space entry waiting for line to empty out w/ tide
1020	Still waiting on tide to go down & pipe to drain
1115	Placed plug, launched boat and began cleaning water from MH 38 toward outfall w/ vac @ outfall. No water coming from outfall while jet rodding. Maybe a debri dam in pipe. Moved vac truck to MH38 and ran camera down line after 1st load of water used to go up and down pipe 4x. Removed several large balls of fiber & a lot of debris. Filled liquid vac truck @ hydrant. Flapper is in poor condition alot of shells / barnacles etc in opening

VISITORS ON SITE:
City of Seattle
Air Gap Inspector

CHANGES FROM PLANS OR IMPORTANT DECISIONS:
Stericycle not able to recieve load- Driver was late. Will return on 9/26 @ 1:00 to drop SW & sediments

WEATHER CONDITIONS:
Sunny 70°

IMPORTANT TELEPHONE CALLS:
Ron Pimentel

PERSONNEL ON SITE:
CCS, Aecom, Provac

AECOM

FIELD ACTIVITY LOG

PROJECT 25513th Ave SW- Stormline COMPLETED BY AN

JOB NO. 60569419 APPROVED BY _____

DAY & DATE 9/24/18 SHEET 2 OF 2

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

TIME	
1145	City of Seattle inspector stopped by briefly ~20 minutes to inspect air gap on vac truck for hydrant.
1345	Vac truck working from MH-38 to remove water & sediments in line. Tide starting to come back in to line. CCTV'd line but unable to get a good video due to tide filling in the stormline. Discussed returning tomorrow to complete the CCTV of line from MH39 to the outfall.
1410	CCS Vac truck departed site to go to Stericycle in Kent. Began breaking down for the day after completing work. Spoke with Ron Pimental on the phone. He will come out to site tomorrow to watch CCTV of line.
1600	Depart site.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
City of Seattle Inspector	
WEATHER CONDITIONS: Sunny 70°	**IMPORTANT TELEPHONE CALLS:** Ron Pimental

PERSONNEL ON SITE: CCS, ProVac, Aecom

AECOM	AECOM Shell SGW (US) **Daily Tailgate Meeting & Job Clearance Form**	Issue: 1/2/2011 Revision 11: October 2016 Do NOT pre-populate any field.

Job Location:	2555 13th Ave SW - Stormline	Date: 9/25/18	
AECOM Site Supervisor:	Aubrey Naylor	AECOM PM:	Irene Hoilman

List activities to be performed today:	CCTV of Stormline from MH-39 to Outfall
Permitted Activities (specific permit to be competed):	☒ Not Applicable ☐ Confined Space Entry ☐ Excavation/Trenching ☐ Hot Work ☐ Hoisting/Rigging (any lifting with equipment, excluding drill rigs) ☐ Natural Gas System Maintenance

The above Permit-required activities require onsite AECOM supervision unless approved by Regional Operations.

Muster Point:	South gate Visger ProVac truck	Spill Kit Location:	ProVac truck
First Aid Kit Location:		Fire Extinguisher Location:	ProVac truck
Emergency cut-off switches:		Designated cell phone use area(s):	In Vehicle

Has the Site Manager/Owner been notified of the work activities and/or participated in a pre-work site walk?	☒ Yes ☐ No ☒ N/A
Is a fuel delivery scheduled for today? If yes, plan to Stop Work during fuel delivery.	☐ Yes ☐ No ☒ N/A
Has a site walk been performed to identify additional hazards?	☒ Yes ☐ No*
Have all personnel reviewed and understand the site specific HASP?	☒ Yes ☐ No*
Does each activity have a Job Safety Analysis (JSA)?	☒ Yes ☐ No*
Does each subcontractor have JSAs for their activities?	☒ Yes ☐ No* ☐ N/A
Have JSAs been reviewed by the work team and newly identified hazards been added to the JSA?	☒ Yes ☐ No*
Per our lone worker procedure, is each employee either accompanied by or in communications with another?	☐ Yes ☐ No* ☒ N/A
Has a Safe Lift Plan been completed and reviewed/approved by an AECOM Subject Matter Expert?	☐ Yes ☐ No* X N/A
Have all members of the work team confirmed understanding of the work, hazards, and controls/ mitigation?	☒ Yes ☐ No*
Has each person on the work team discussed all hazards and mitigation measures associated with any task which will require their feet to leave the ground?	☐ Yes ☐ No* ☒ N/A
Have work areas been properly cordoned-off to protect workers, site staff, and the public?	☒ Yes ☐ No* ☐ N/A
Have equipment checks been completed, documented, and reviewed?	☒ Yes ☐ No* ☐ N/A
Have there been any equipment modifications made by subcontractor(s)? Is yes, discuss modifications.	☐ Yes ☒ No ☐ N/A
Do all members of the work team have API Safety Keys (AECOM excluded)?	☒ Yes ☐ No* ☐ N/A
Do all members of the work team have a Shell "Life Saving Rules" Training card?	☒ Yes ☐ No*
Do all site workers understand injury/ intervention reporting requirements including immediately notifying the AECOM Site Supervisor of any injury, near miss, unsafe condition, hazard observation, or release?	☒ Yes ☐ No*
If permits are required, have they been reviewed and permit conditions understood by the Team?	☐ Yes ☐ No* ☒ N/A
If drilling, did driller physically point out all pinch points to entire team (AECOM and all subs)?	☐ Yes ☐ No* ☒ N/A
If drilling, has the driller & crew agreed the audible and visible signals for "all clear" prior to engaging controls?	☐ Yes ☐ No* ☒ N/A

** If No, then work cannot be performed until corrective action is completed and documented.*

Title of AECOM JSAs reviewed today:	Driving	Title of Subcontractor's JSAs reviewed today:	

All personnel are wearing (regardless of activity):	☒ Hard Hat ☐ Safety Glasses ☒ Safety Vest ☒ Steel-Toed Boots ☒ Gloves (appropriate for task) See JSA for additional task specific PPE requirements.

Stop Work Authority & Obligation

* All employees will stop the job any time anyone is concerned or uncertain about safety.
* All employees will stop the job if anyone identifies a hazard or additional mitigation not recorded on the JSA.
* All employees will be alerted to any changes in personnel or conditions at the worksite.
* All employees will stop the job and reassess a task, hazards, and mitigations, and then amend the JSA as needed.

Other Items Discussed Today:

Circle the Life Saving Rule Icons that are applicable to the work/activities that will take place today:

AECOM	AECOM Shell SGW (US) Daily Tailgate Meeting & Job Clearance Form	Issue: January 2, 2011 Revision 11: October 2016 Do NOT pre-populate any field.

SITE WORKERS (including AECOM Contractors and Subcontractors): By signing here, you are stating the following:

* You understand that compliance with Shell's Life Saving Rules is mandatory and that failing to follow to them may result in termination.
* You have been involved in reviewing the JSAs and understand the hazards and control measures associated with each task you are about to perform.
* You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
* You understand the Shell Life Saving Rules and are aware that tasks or work that is not risk-assessed shall not be performed.
* You are aware of your authority and obligation to 'Stop Work'.

I arrived and departed fit for duty:

* You are physically and mentally fit for duty,
* You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
* You are aware of your responsibility to immediately report any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the AECOM Site Supervisor.
* You will sign-out uninjured unless you have otherwise informed the AECOM Site Supervisor.

Print Name & Company	Signature	Initials & Sign In Time	Initials & Sign Out Time
Aubrey Naylor - Aecom		1200 In & Fit	1900 Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit
		In & Fit	Out & Fit

(Attach additional Site Worker sign-in/out sheets if needed)

PERSONAL SAFETY COMMITMENT (Attach additional Personal Safety Commitment sheets, if needed)

Print Name	"I will personally commit to do the following to positively improve site safety today":
Aubrey Naylor	I will watch for vehicle traffic coming in and out of parking area.

SITE VISITORS (attach additional Site Visitor sign-in/out sheets if needed)

Print Name	Company Name	Arrival Time	Departure Time	Signature

SITE REPRESENTATIVE Sign In/Out (operating sites only, and signature must be requested. If the operator refuses to sign, note this on the Form)

Sign In: *I have discussed this Job Clearance Form with the contractor*		Sign Out: *I have discussed this Job Clearance Form with the contractor*	
Site Representative Name	**Site Representative Signature**	**Site Representative Name**	**Site Representative Signature**

TWILIGHT TOOL BOX TALK (Complete the following once field activities for the day have been concluded):

Were there any Incidents, Near Misses, Potential Incidents, or Positive Interventions today?	☐ Yes ☒ No	If yes, provide details:
Were there any 'Stop Work' interventions?	☐ Yes ☒ No	If yes, provide details:
Were there any areas for improvement noted?	☐ Yes ☒ No	If yes, provide details:
Is the Site Manager/Owner happy with the way you left the site (including the location of waste drums and/or equipment)?	☒ Yes ☐ No	If no, provide details:
I certify that the above information is true and the job site is being left in a safe condition	☒ Yes ☐ No	AECOM Site Supervisor Signature:

AECOM

FIELD ACTIVITY LOG

PROJECT 2555 13th Ave SW - Storm line COMPLETED BY AW

JOB NO. 60569419 APPROVED BY _____

DAY & DATE 9/25/18 SHEET 1 OF 1

FIELD ACTIVITY SUBJECT:
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

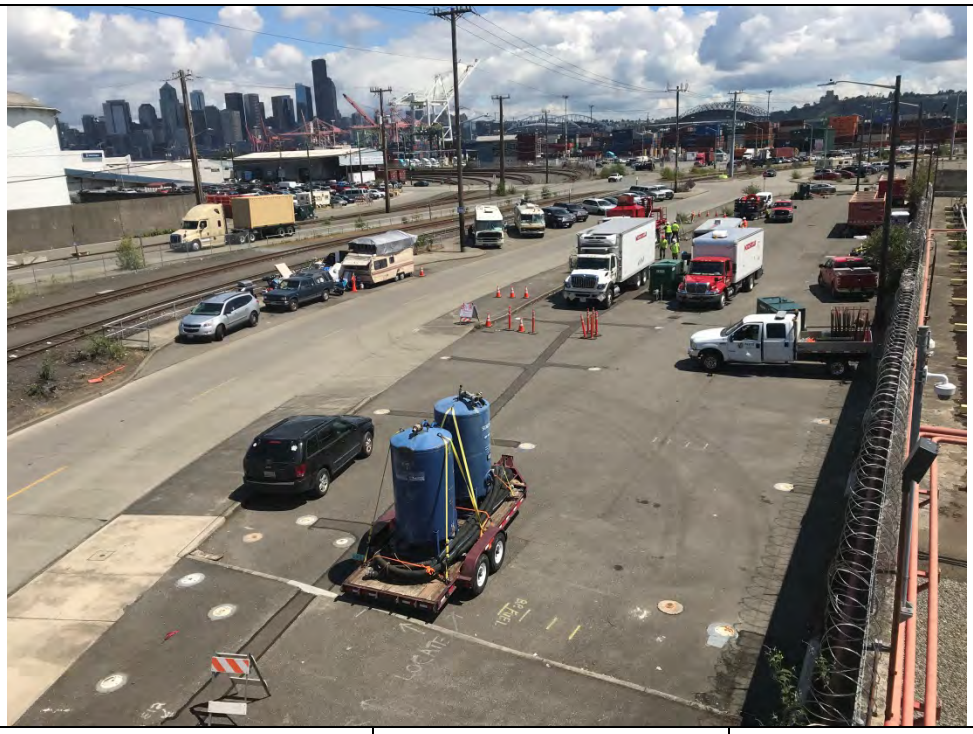
TIME	
1200	Arrived onsite. ProVac present to complete CCTV of line from MH-39 to outfall.
1215	Opened MH39 and put camera down the line. From MH39 to MH38 line has some water in pipe looked pretty clear from MH38 to outfall ± 3 inches of sludgey water in pipe - several large clumps of fiber in line similar to ones removed on 9/24/18. Spoke with Ron Pimental on phone. He is not able to come to site today as planned. Will meet tomorrow @ 1100 to give him videos & hydrant meter
1345	Completed CCTV of ~~three~~ line and departed site.

VISITORS ON SITE:	CHANGES FROM PLANS OR IMPORTANT DECISIONS:
WEATHER CONDITIONS: Sunny 70°	**IMPORTANT TELEPHONE CALLS:** Ron Pimental - City of Seattle
PERSONNEL ON SITE: Aecom, ProVac	

Attachment F: Photographic Log

Attachment F: PHOTOGRAPHIC LOG

Description: Installation of CIPP pre-liner	**Date Taken:** 6/26/2018	**File Name:** 20180636_2657.jpg



Description: Worksite setup at D050-016 from footbridge over SW Florida St.	**Date Taken:** 6/26/2018	**File Name:** 20180626_2661.jpg

Description: Boiler truck at D050-016	**Date Taken:** 6/26/2018	**File Name:** 20180626_2662.jpg

Description: 18,000 gallon settling tanks staged for bypass system	**Date Taken:** 6/26/2018	**File Name:** 20180626_175452.jpg

Description: CIPP liner removed from cold storage truck during insertion at D050-016.	**Date Taken:** 6/26/2018	**File Name:** 20180626_2668.jpg

Description: Access point cut into liner for pump hoses to circulate heated water	**Date Taken:** 6/26/2018	**File Name:** 20180626_2675.jpg

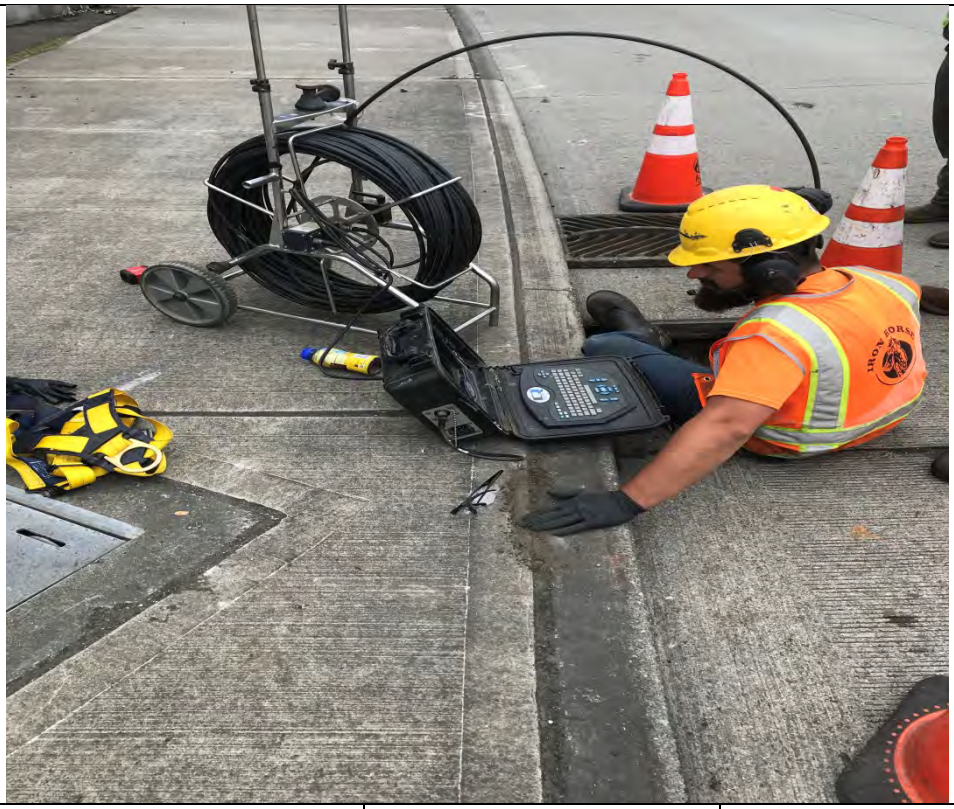
Description: Pump circulating water through CIPP liner	**Date Taken:** 6/26/2018	**File Name:** 20180626_175621.jpg

Description: Setup of CIPP during curing process	**Date Taken:** 6/27/2018	**File Name:** 20180627_121444.jpg

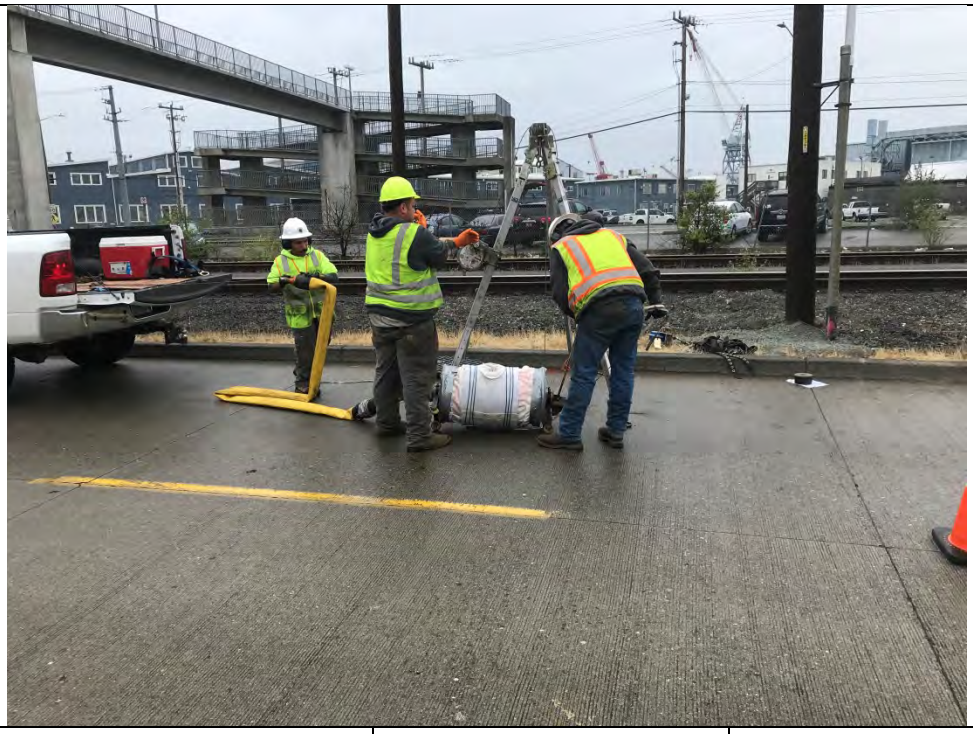
Description: Heated cure water pumped from CIPP liner to roll-off tank to cool for discharge	**Date Taken:** 6/28/2018	**File Name:** 20180628_113932.jpg

Description: Non-stormwater discharge from bypass system placed into roll-off for disposal	**Date Taken:** 6/29/2018	**File Name:** 20180629_2687.jpg

Description: Control panel used for air test	**Date Taken:** 6/29/2018	**File Name:** 20180629_2688.jpg

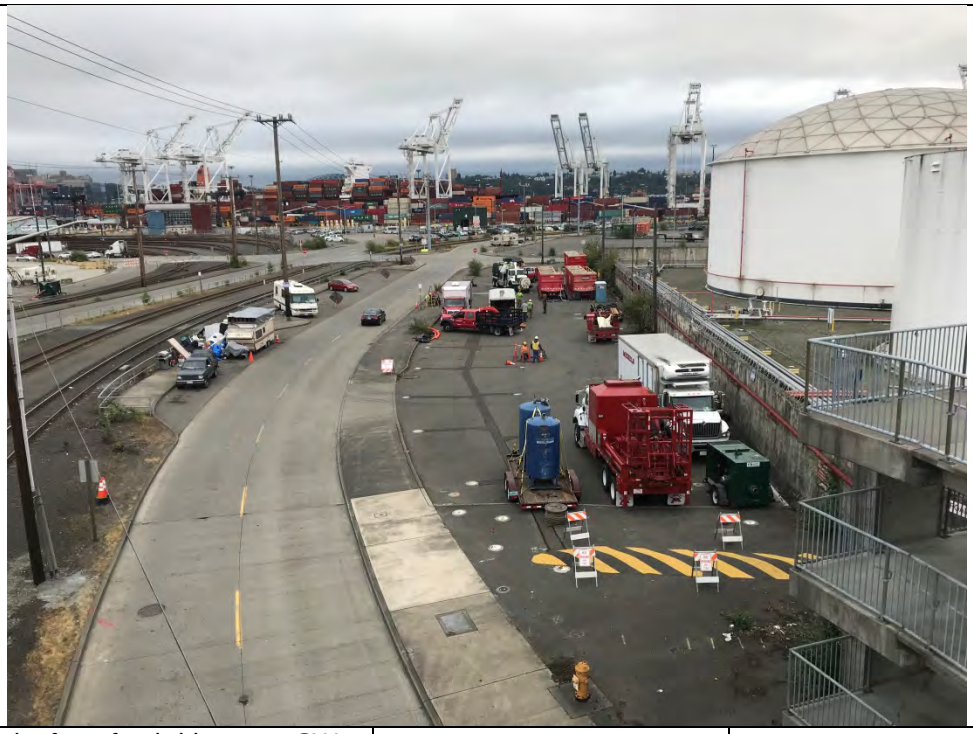


Description: CCTV of t-liners installed in laterals	**Date Taken:** 6/30/2018	**File Name:** 20180630_2709.jpg



Description: Preparing T-liner launch "pig" for insertion at D050-015.	**Date Taken:** 6/30/2018	**File Name:** 20180630_2713.jpg

Description: Worksite setup at D050-014 from footbridge over SW Florida St.	**Date Taken:** 6/30/18	**File Name:** 20180630_2700.jpg



Description: Worksite from footbridge over SW Florida Street during demobilization	**Date Taken:** 7/05/2018	**File Name:** 20180705_2701.jpg

Description: Absorbent boom found inside D050-039	**Date Taken:** 9/12/2018	**File Name:** 20180912_075611.jpg

Description: Absorbent boom removed from D050-039	**Date Taken:** 9/12/2018	**File Name:** 20180912_080336.jpg

Description: Large fiber mass pulled out with jet-rod during post CIPP cleaning	**Date Taken:** 9/24/2018	**File Name:** 20180924_142937.jpg

Description: Fiber mass caught on CCTV rover during post CIPP cleaning	**Date Taken:** 9/25/2018	**File Name:** 20180925_131909.jpg