Former E.A. Nord Door Site

Summary of Source Control Evaluation to Assess Data Gaps for Completion of RI/FS

Prepared for: JELD-WEN, Inc.

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Prepared for:

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Klamath Falls, Oregon

This document has been prepared by SLR International Corporation. The material and data in this report were prepared under the supervision and direction of the undersigned.

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1. INTRODUCTION

SLR International Corporation (SLR) has prepared this summary of completed Source Control Evaluation (SCE) activities to Assess Data Gaps for Completion of the Remedial Investigation (RI)/Feasibility Study (FS) for the Former E.A. Nord Door facility (i.e. JELD-WEN Cleanup Site; FS ID 2757) located at 300 West Marine View Drive in Everett, Washington (Site). A Site Location Map is included as **Figure 1**. This summary report outlines activities completed per the December 2017 *SCE Work Plan to Address Data Gaps Identified in RI/FS and Draft Cleanup Action Plan* (SLR, 2017).

In addition, this summary report presents proposed additional assessment based on the findings of the SCE activities.

1.1 PURPOSE

The SCE activities presented in the SCE Work Plan focused on data gaps identified during Washington Department of Ecology (Ecology) initial review of the *Final Draft RI/FS and Draft Cleanup Action Plan* (SLR, 2016). Investigation activities at the Site were performed to meet the objectives in the Agreed Order for RI/FS Study and Draft Cleanup Action Plan (CAP) dated January 2, 2008.

1.2 OBJECTIVES

The overall objective of the RI/FS is to identify whether hazardous substances have been released to the environment; assess the nature, extent, and distribution of these substances; identify the potential migration pathways and receptors; assess the theoretical risk to human health and the environment; and generate or use data of sufficient quality for site characterization, risk assessment, and the subsequent analysis and selection of remedial alternatives.

The objective of the SCE activities presented in the SCE Work Plan was for further characterization of: 1) groundwater seeps; 2) the existing site stormwater drainage system; and, 3) the North Truck Dock (NTD) stormwater sump.

2. SOURCE CONTROL EVALUATION ACTIVITIES

Based on the findings of the RI, previous sampling conducted at the Site, and a series of communications with Ecology, the following additional investigation activities were completed to address identified data gaps. Sampling activities were completed per the Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), and Health, Environmental, and Safety Plan (HSEP), included as Attachments to the SCE Work Plan.

SCE activities per the SCE Work Plan were completed for further characterization of groundwater seeps to Port Gardner Bay, the existing site stormwater drainage system, and the NTD stormwater sump.

2.1 GROUNDWATER SEEPS

Near-shore groundwater seep sampling was completed as a source control evaluation tool. An assessment of groundwater seeps observed discharging into Port Gardner Bay on the northern, western, and southern side of the Site was completed to identify potential impacts to surface water and sediment via groundwater seep drainage from the Site. The groundwater seep assessment consisted of identification of observed seeps during low tidal conditions, visual observations from identified seeps, and groundwater seep sampling of select groundwater seep locations along the shoreline of the Site.

The investigation of the groundwater seeps was completed in two phases: a groundwater seep survey followed by groundwater seep sampling.

2.1.1 GROUNDWATER SEEP SURVEY

From April 17 to 20, 2018, SLR completed a groundwater seep survey per the SCE Work Plan. **Figure 2** includes a Site Plan with locations of identified groundwater seeps and **Table 1** provides a summary of field measurements and observations from the seep survey. The groundwater seep survey included the following scope of work:

- Coordinated site access with the respective property owners to complete the proposed scope of work.

- Identified groundwater seeps that are accessible during low tidal conditions while considering observed seep flow, historical groundwater flow direction, access, and safety. Seeps along the northern, western, and southern side of the Site were assessed, and the locations were marked with a labelled flag and the approximate locations were drawn onto a scaled site plan. In addition, the marked groundwater seeps were surveyed by Signature Surveying (a Washington State licensed surveyor). A table of the surveyed coordinates is included as **Attachment 1**.

- Water quality parameters including specific conductance, pH, temperature, dissolved oxygen (DO), and oxidation reduction potential (ORP) were recorded using calibrated multi-parameter water quality meters on a grab sample from the seep locations during outgoing and incoming tidal stages. Water quality parameters were also recorded for the adjacent surface water during

the outgoing tidal stage. A summary of the water quality parameter measurements and field observations are included on **Table 1**.

- Per comments from Ecology on the draft SCE Work Plan, the "finger area" was the focus of the groundwater seep survey due to its proximity to identified contaminated areas; however, the entire northern, western, and southern shoreline (including the knoll area) was included as part of the groundwater seep survey.

Per the SCE Work Plan, proposed groundwater seep sampling locations were identified based on the findings of the groundwater seep survey described above. Considerations for the proposed groundwater seep sampling locations included access/safety, observed groundwater seep flow rate during the seep survey, proximity to areas with identified sediment impacts, and representativeness of significant observations or areas (i.e. unusually high flow areas).

The proposed groundwater seep sampling locations and rationale were submitted to Ecology in the May 11, 2018 *Summary of Groundwater Seep Survey and Proposed Groundwater Seep Sampling Plan* (SLR, 2018), and are summarized below.

- Seep-N-2: This observed groundwater seep is the nearest seep to the inland portion of the finger area that is directly attributable to the former E.A Nord property. This seep is also adjacent to previously identified sediment impacts. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for Total Petroleum Hydrocarbons - Diesel and Oil Range (TPH-Dx), carcinogenic Polynuclear Aromatic Hydrocarbons (cPAHs), naphthalene, benzene, and dioxins/furans.

- Seep-N-14: This observed groundwater seep is within the finger area. This seep is also adjacent to previously identified sediment impacts. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, and dioxins/furans.

- Seep-N-18/19: These observed groundwater seeps are within the finger area. These seeps are adjacent to each other. One of the seeps was sampled (Seep-N-19), determined on access and observed flow during the seep sampling event. This seep is also adjacent to previously identified sediment impacts. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, and dioxins/furans.

- Seep-S-1: This observed groundwater seep is on the south shoreline. This seep is also adjacent to previously identified sediment impacts. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, dioxins/furans, and Polychlorinated Biphenyl (PCB) congeners.

- Seep-S-9: This groundwater seep exhibited relatively high flow during the seep survey (along with Seep-S-7, Seep-S-8, and Seep-S-10). The seep is adjacent to the leased Cadman Asphalt

property. The flow appeared to stay consistent throughout the seep survey period. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, and PCB congeners.

- Seep-S-14: This groundwater seep is the nearest seep to the previously identified TPH in upland Geoprobe location GP-24 adjacent to monitoring well MW-1. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, dioxins/furans, and PCB congeners.

- Seep-S-16: This groundwater seep is adjacent to the knoll area where upland impacts were previously identified in soil and groundwater. This seep is also in the vicinity of previously identified sediment impacts. This area has sufficient access and sufficient groundwater flow was observed during the seep survey for sample collection. This sample location was analyzed for TPH-Dx, cPAHs, naphthalene, benzene, dioxins/furans, and PCB congeners.

As presented in the *Proposed Groundwater Seep Sampling Plan*, alternate locations in the vicinity of the selected sampling locations were identified in case conditions restricted potential sample collection (i.e. access/safety issues or insufficient flow).

2.1.2 GROUNDWATER SEEP SAMPLING

From May 14 to 15, 2018, SLR completed a groundwater seep sampling event per the *SCE Work Plan* and the *Proposed Groundwater Seep Sampling Plan*. The groundwater seep sampling included the following scope of work:

- Near low tide, grab samples of water emitting from the selected groundwater seeps were collected directly into a clean laboratory-provided container by directing groundwater discharge from the groundwater seeps to the containers using a decontaminated vessel as necessary (i.e. Geoprobe sampler tube). At some locations, construction of an artificial channel was necessary to provide sufficient seep water for sample collection (see Photo Sheet in **Attachment 2**).

- Water quality parameters were measured and recorded as was completed for the April 2018 groundwater seep survey. Copies of field data sheets are included in **Attachment 3**.

- Groundwater seep samples were submitted to the analytical laboratory for the contaminants of potential concern (COPCs) identified in the seep sampling plan, and described above.

The groundwater flow from Seep location Seep-S-16 was observed to have a lack of groundwater seep flow during the seep sampling event. An alternate location was selected approximately 18 feet to the north of the original location. While this alternate location produced a slightly better flow, a channel in the sediment was constructed due to the low flow of the seep and the shallow grade of the shoreline. This method potentially introduced potentially-impacted sediment into the groundwater seep sample. Field notes for this sample location indicate the water was very turbid and black (see **Attachment 3**).

The duplicate sample from location Seep-S-16 was laboratory filtered with a 0.45-micron filter prior to sample extraction and analysis. The Seep-S-16 duplicate sample (DUPLICATE-0518) was analyzed for benzene and naphthalene, cPAHs, TPH-Dx, and PCB congeners.

2.1.2.1 Laboratory Analytical Results – Seep Sampling

Laboratory analytical results for groundwater seep samples with applicable Preliminary Cleanup Levels (PCLs) are summarized on **Table 2** and calculations used for toxic equivalent concentration (TEQ) values using the toxicity equivalency factors (TEF) for cPAHs, dioxin/furans, and PCB congeners are shown on **Table 3** (Ecology, 2015; Ecology, 2016). Copies of the laboratory analytical reports are included in **Attachment 4**. It should be noted that multiple discussions with Ecology have occurred regarding applicable PCLs. The PCLs presented in the summary tables included in this summary report are considered to be sufficient to screen the results of the SCE activities for their potential risk to human health and/or the environment and will be used for any proposed additional assessment.

Concentrations of benzene and naphthalene were not detected above the laboratory reporting limit in any of the seven seep locations sampled. TEQ cPAH concentrations using ½ the detection limit for non-detect values (ND= ½ DL) were below the applicable PCL at each of the seven sample locations. TPH-Dx was not measured above the laboratory reporting limit at seeps N-2, N-14, S-1, S-14, or S-16 and concentrations of TPH-Dx measured at seeps N-18 and S-9 were below the applicable PCL. Dioxins/furans TEQ values using ND= ½ DL were measured below the applicable PCL at the seep locations selected for dioxin/furan analysis.

Total PCB congeners were measured above the applicable PCL (per human health Surface Water Applicable or Relevant and Appropriate Requirement [ARAR] from Model Toxics Control Act [MTCA]) at the four locations selected for PCB congeners analysis, with elevated concentrations observed at Seep-S-16 (located adjacent to the knoll area). The TEQ value for dioxin-like PCB congeners was measured below the practical quantitation limit (PQL) at all four sample locations.

2.1.3 FINDINGS – GROUNDWATER SEEPS

A *Summary of Groundwater Seep Sampling* was submitted to Ecology on August 29, 2018 (SLR, 2018). The findings presented in that summary document are summarized below.

The only exceedance of applicable PCLs was for Total PCB congeners observed at seep sample locations Seep-S-1, Seep-S-9, Seep-S-14, and Seep-S-16; however, concentrations of dioxin-like PCB congeners calculated using the TEF methodology were below the PQL at each of these locations.

Previous upland assessments at the knoll area have been conducted including Geoprobe borings in 2009 and 2012 and test pitting with soil sampling in 2012. Two groundwater samples (GP-334 and GP-335) and ten soil samples were collected from within the knoll area and analyzed for PCB Aroclors. Only two soil samples measured a single PCB Aroclor above the laboratory reporting limit, and neither of these detections was measured above the PCL presented in the RI/FS. Sediment samples adjacent to seep location Seep-S-16 have measured PCB congeners above applicable PCLs in previous investigations. The construction of a channel in the sediment was necessary for groundwater seep sample collection due to

the low flow of the seep and the shallow grade; however, this appears to have introduced colloidal interference (turbidity) into the water sample that was not removed by laboratory filtering of the duplicate sample. The seep sample with the highest observed turbidity had the highest total PCB congeners which was unaffected by laboratory filtering.

2.2 EXISTING STORMWATER DRAINAGE SYSTEM

While door manufacturing at the Site ceased in 2005, the Industrial Stormwater General Permit for the door manufacturing operations was not terminated until March 2007 (see Attachment 5 of the SCE Work Plan). As a component to the SCE, an assessment of the Site stormwater drainage system configuration was completed to locate and identify current and/or historical outfalls, drainage system collection points, pipe locations, and the approximate drainage areas for the collection points.

The SCE activities did not address cleanup of the stormwater drainage system or characterization of stormwater and storm drain solids (with the exception of the NTD stormwater sump, described below). Any potential cleanout of the stormwater drainage system or long-term stormwater monitoring may be considered as part of the upland cleanup alternatives.

2.2.1 STORMWATER DRAINAGE SYSTEM TRACING

On April 4, 2018 SLR completed a site walk to compare the stormwater system components identified on the site plan depicted on the 2005 SWPPP to the existing site conditions and to identify potential access points for the proposed assessment.

Based on the findings of the site walk, on April 5, 6, and 9, 2018, SLR subcontracted APS (utility locating service provider) to trace identified catch basins, outfalls, and roof drain connections with an electro-magnetic tracer line. The results of the tracing were marked on the surface and photographed. SLR documented the findings on a scaled site plan, utilizing a measuring wheel and taking measurements in reference to existing site features. It should be noted that the accuracy of the site plan should only be considered accurate to the degree implied by the method used. Additional tracing was completed in select storm lines with a tracer line affixed with a camera to assess pipe material, pipe condition (cracks/breaks), piping diameter, significant debris accumulation or blockage, and to identify other pipe connections.

The findings of the stormwater drainage system tracing are presented on **Figure 3** and detailed in **Table 4**. Forty-one catch basins, thirteen downspouts, and ten outfalls were identified. It should be noted that several additional downspouts were identified which appeared to discharge onto the site's surface and drain as sheet flow, therefore they were not noted within this scope.

2.2.2 FINDINGS - STORMWATER DRAINAGE SYSTEM TRACING

The subject property appears to support a network of stormwater lines which discharge towards the northern 'finger area', southern tidal flat, and the stormwater network below the west-adjacent West Marine View Drive. The stormwater lines generally consist of 4-inch to 12-inch lines constructed with

either concrete or PVC. In general, the concrete storm lines were constructed in jointed segments. The PVC stormwater lines appeared in overall good condition and no major breaks or fractures were observed during the video inspections.

Based on the findings from this assessment, it appears that the storm lines have not been serviced or cleaned for several years and many of the catch basins and stormwater lines were partially or completely filled with sediment, debris, and/or stagnant water. Several of the lines were completely blocked with sediment or debris, which made tracing of those lines unsuccessful. Several of the catch basins were filled with sediment and/or vegetation and did not allow sufficient drainage at the time of our field work. When possible, the sediment and/or vegetation was removed to assess the condition and functionality of the catch basin(s) and stormwater lines. It could not be determined when the blockages occurred or whether they can be directly attributed to former JELD-WEN operations.

Outfall designated OF-4 was observed to have continuous water discharging from it regardless of recent precipitation events. Based on the camera tracing, it appears that water infiltrates the pipe between the first 40 to 150 feet of the line, nearest the outfall. The source of the water was not identified during the camera tracing due to the in-line water stirring up debris and distorting the images.

Modifications to the stormwater system were performed by the site property owner during summer of 2018, including redirecting downspout connections DS-1 and DS-2 from the NTD to an existing on-site catch basin.

While additional catch basins and a varying stormwater system configuration were observed, the general stormwater system drainage system was relatively similar to that presented in the 2005 SWPPP. No non-stormwater connections were observed during this assessment. The water discharging from OF-4 appeared to be water infiltration (groundwater) and not a connection.

2.3 NORTH TRUCK DOCK STORMWATER SUMP

As part of the stormwater drainage assessment, the stormwater sump in the North Truck Dock (NTD) area was traced and mapped by the utility locating service, and samples were collected of water entering the sump, solids inside the sump, and soil adjacent to observed current and historical discharge points.

2.3.1 NORTH TRUCK DOCK STORMWATER SUMP PIPING TRACING

On April 4th and 5th, 2018, SLR completed an investigation focused on the NTD stormwater sump located adjacent to the north entrance to the Site. The following section presents a summary of the findings from the sump piping tracing, sump solids sampling, and sump inlet water sampling.

SLR met with APS on April 5, 2018 to trace the NTD sump piping. **Figure 5** presents a zoom-in of the sump area and identified stormwater lines during this assessment. The NTD sump pump pumps water into a black 3-inch PVC above ground pipe to the edge of the loading dock retaining wall. The black PVC line has a series of elbow fittings and a cleanout, which then ties into a belowground 6-inch white PVC pipe which discharges to the northern side of the property. The 6-inch PVC formerly made a 90 degree

elbow and continued to the west along the concrete wall and chain-link fence on the northwestern edge of the property. The 90 degree elbow was broken at the time of the assessment and it is not known when this connection was altered. The former continuation of pipe from the broken connection towards the finger area is both aboveground and shallowly below ground. The former discharge point is aboveground and clear of debris, which terminates approximately 80 feet from the finger area. Photos from the sump tracing are included on **Figure 4**.

Inlets to the NTD sump include a 3-inch inlet and 8-inch inlet on the southwest side of the sump. The 3-inch line was found to be connected to the adjacent strip drain in the NTD and also tied to a roof downspout at the corner of the Main Warehouse Building (identified as DS-1 on Figure 4). The 8-inch line was found to be connected to a roof downspout within the Main Warehouse Building (identified as DS-2 on Figure 4). In addition, two weep holes or ring lift holes were observed during the water sampling activities (described below).

Upon discussions with the current property owner, SLR understands that the following activities have been performed at the NTD area by the current property owner:

- Plugged the two weep holes and confirmed that water is not entering the sump through the plugged weep holes.
- Cleaned dirt and debris from the NTD area and stockpiled that material on plastic and covered with plastic, per Ecology's recommendation.
- Replaced the sump pump and redirected the sump discharges to an on-site catch basin west of the NTD area.
- Temporarily redirected the rood downspout at the NE corner of the building to drain across the sidewalk and into the City of Everett stormwater drainage system. The roof downspout was reconnected and drains to the NTD trench drain/sump where it is pumped to the on-property stormwater catch basin.
- The current property owner has engaged in on-going communications with the Port of Everett and the City of Everett regarding drainage from West Marine View Drive onto the property and in the NTD area.

With these changes to the drainage in the NTD area the water entering the NTD area is limited to surface stormwater drainage, stormwater from an internal roof drain that connects to the sump via plastic piping, and stormwater from the roof drain from the NE corner of the building that discharges to the NTD trench drain and into the sump. The discharge from the NTD sump no longer discharges to the Port of Everett property. The water in the sump is pumped to an on-property stormwater catch basin.

2.3.2 SUMP INLET WATER SAMPLING

On April 4th and 5th, 2018 SLR met Ecology to collect samples from the NTD sump per the *SCE Work Plan*. This assessment was completed during a rain event. The sump pump was enabled to discharge

water from the sump and any water backed up in the piping was allowed to completely drain into the sump, before being pumped out. Continuous flow was observed from two inlets to the sump: a 3-inch line on the southwest side of the sump (sample ID of NTD-SW-3"-0418) and an 8-inch line on the southwest side of the sump (sample ID of NTD-SW-8"-0418). The 8-inch line appeared to have increased flow related with an increase in precipitation. Stormwater samples were collected directly into laboratory-provided containers for the site COPCs from each of these inlets. In addition, water quality parameters were recorded with a multi-parameter meter after conditions were allowed to equilibrate for approximately two minutes. Two weep holes or lift holes were observed discharging to the sump and samples were collected with a decontaminated stainless steel cup and transferred into laboratory-provided containers from the water discharging to the sump from these holes (sample IDs of NTD-SW-West-0418 and NTD-SW-East-0418). These water samples were also submitted for laboratory analysis of site COPCs.

Field parameter and laboratory analytical results are summarized on **Table 5**. Copies of the laboratory analytical reports are included in **Attachment 4**.

2.3.3 SUMP SOLIDS SAMPLING

One grab sample was collected of the sump solids and analyzed for site COPCs (sample ID of NTD-SED-0418). This sample was collected with a decontaminated stainless steel spoon after the sump pump was enabled to drain the contents of the sump. Laboratory analytical results are summarized on **Table 6** and copies of the analytical reports are included in **Attachment 4**.

Findings from the NTD investigation were submitted to Ecology via the *North Truck Dock Stormwater Sump Investigation Summary* (SLR, 2018).

2.3.4 NORTH TRUCK DOCK DISCHARGE SOIL SAMPLING

The NTD discharge point soil sampling was completed by SLR on July 9, 2018. Mr. Mahbub Alam (Ecology) was on-site during the sampling activities. Based on discussions with Ecology concerning the *North Truck Dock Stormwater Sump Investigation Summary*, the following scope of work was completed for the soil sampling on the Port of Everett property.

- Two (2) composite soil samples were collected: one composite sample from the approximate area of the disconnected discharge pipe (NTD-SED-A); and, one composite sample from the approximate original terminus of the discharge pipe (NTD-SED-B). These sample locations are shown on **Figure 4**.

- The composite soil samples consisted of three aliquots of soil of similar volume collected with a decontaminated stainless steel spoon and gently composited in a decontaminated stainless steel bowl and then placed directly into laboratory-provided containers with appropriate preservative (with the exception of volatiles analysis, which was collected per the 5035 method from in-situ soil).

- The sample aliquots were collected from within one horizontal foot of the current discharge point and below the uppermost plant root zone to limit potential organic interference in the laboratory analyses.

2.3.5 LABORATORY ANALYTICAL RESULTS – NORTH TRUCK DOCK INVESTIGATION

Low concentrations of some COPCs were measured in the stormwater inlet water samples, including naphthalene, TPH-Dx (diesel and residual range), dioxins/furans, and PCB congeners; however, concentrations of naphthalene and dioxins/furans were measured below the PCLs. The concentration of TPH-Dx (diesel range) in sump samples NTD-SW-East-0418 and NTD-SW-West-0418, and TPH-Dx (residual range) in NTD-SW-West-0418 measured above the PCLs. It should be noted that a laboratory procedure to remove potential organic interference (silica gel cleanup) was not performed on these samples per Ecology's *Guidance for Remediation of Petroleum Contaminated Sites* (Publication No. 10-09-057). Concentrations of Total PCB congeners observed at each of the water sample locations exceeded the PCL (based on ARAR Human Health criteria); however, concentrations of dioxin-like PCB congeners calculated using the TEF methodology were below the PCL at each of these locations.

Concentrations of benzene, naphthalene, cPAHs, TPH-Dx, and PCB congeners in the sump solids sample measured below the PCLs. The TEQ value for dioxins/furans measured 102 picograms per gram (pg/g), which is above the PCL of 6.3 pg/g based on the laboratory PQL (**Table 6**).

Based on the dialogue with Ecology concerning the *North Truck Dock Stormwater Sump Investigation Summary*, the discharge point soil samples were analyzed for the site COPCs and conventional parameters (Total Volatile Solids [TVS], Total Solids, Ammonia Nitrogen, Total Organic Carbon [TOC], and Grain Size).

A summary of the laboratory analytical results with a comparison to PCLs and the results of the NTD sump solids sample is provided on **Table 6**.

Benzene, naphthalene, TPH-Dx (Diesel Range), and PCB congeners (total and TEQ) were measured below the PCLs in both soil samples. Concentrations of cPAHs (TEQ) and dioxins/furans (TEQ) were measured above the PCLs in both soil samples. In addition, TPH-Dx (Residual Range) was measured above the PCL in NTD-SED-B (identified as most closely resembling motor oil in the laboratory report narrative). Copies of the laboratory analytical reports are included as **Attachment 4**.

2.3.6 FINDINGS – NORTH TRUCK DOCK INVESTIGATION

It was previously identified that surface drainage into the NTD area includes drainage from West Marine View Drive. Weep holes or ring lift holes were identified in the NTD sump and water samples were collected. The weep holes were subsequently plugged. Line tracing identified only stormwater piping was connected to the NTD sump, primarily via roof drain piping.

Two composited soil samples were collected on the Port of Everett property at the locations shown on **Figure 5**. The sample collection and analysis was completed per the SCE Work Plan, communications with Ecology, the June 26, 2018 Proposal for Soil Sampling – Port of Everett, and the access agreement

between JELD-WEN and the Port of Everett. The laboratory-measured concentrations of benzene, naphthalene, TPH-Dx (Diesel Range), and PCBs (total and TEQ) were below the PCLs in both samples. Concentrations of cPAHs (TEQ) and dioxins/furans (TEQ) were measured above the PCLs in both soil samples. TPH-Dx (Residual Range) was measured above the PCL in soil sample NTD-SED-B.

2.4 DATA QUALITY OBJECTIVES

The completed number of sampling locations, sampling depths, types of samples, and types of laboratory analysis were selected to meet the objective of the RI/FS and were proposed in the SAP and QAPP (Attachment 2 and 3 of the SCE Work Plan).

The data quality objectives (DQOs) for the RI/FS are designed to ensure that data of sufficient quality and quantity will be available to identify if hazardous compounds are present at the Site, evaluate risks posed by the presence of hazardous compounds, and identify if hazardous compounds may pose unacceptable risk to current and future human and ecological receptors via direct contact or migration.

Below is a summary of DQOs for the SCE activities.

Field Duplicate

One duplicate sample was collected from groundwater seep sample Seep-S-16 and analyzed for applicable COPCs. The relative percent difference (RPD) for Total PCB congeners was 0% (16,200 pg/L was measured in both the parent and the duplicate sample).

Laboratory Methods

Laboratory analysis of cPAHs was performed by the laboratory utilizing the 8270SIM method, as opposed to the 8310LL method that was proposed in the Work Plan. The TEQ PQL for the 8310LL method based on the laboratory reporting limit was calculated at 0.015 µg/L. When using the laboratory detection limit on the individual batch of samples per the 8270SIM method, a TEQ of 0.008 ug/L was achieved.

Data Validation and Data Reporting

Laboratory analytical results were validated per Section 4 of the QAPP including completing EPA validation level for all analytes. Future sampling for dioxin/furan and PCB Congener results will be evaluated by a third-party data analysis firm per the EPA4 validation level as required by the 2018 Ecology EIM database policy.

3. RECOMMENDATIONS FOR ADDITIONAL ASSESSMENT

This section provides recommendations for additional assessment based on the findings of the SCE activities.

3.1 GROUNDWATER SEEPS

Identified exceedances of applicable PCLs in groundwater seep samples was for Total PCB congeners observed at seep sample locations Seep-S-1, Seep-S-9, Seep-S-14, and Seep-S-16; however, concentrations of dioxin-like PCB congeners calculated using the TEF methodology were below the PCL at each of these locations.

Seep-S-16 had notably higher concentrations of Total PCB congeners and TEF concentration compared to the other seep samples; therefore, additional assessment is proposed for this area. Despite filtering the duplicate sample from Seep-S-16 by the laboratory, the concentration of Total PCB congeners was consistent between the parent sample and the filtered duplicate sample and it appears that laboratory filtering did not effectively remove PCB-contaminated sediment colloidal interference from the groundwater seep sample. It is our opinion that bulk water testing from the groundwater seep will not effectively remove PCB-contaminated sediment colloidal interference.

To assess the upland groundwater conditions that may be contributing to the groundwater seep concentrations measured at Seep-S-16, JELD-WEN proposes to install one permanent groundwater monitoring well in the upland area adjacent to the shoreline and Seep-S-16, pending access and safety issues. This monitoring well will be installed by a Washington-licensed drilling subcontractor and will be properly developed per Ecology guidelines. Upon completion of well installation and development activities, one groundwater sampling event will be conducted for PCB Congeners during outgoing tidal conditions. JELD-WEN understands that Ecology may request additional sampling events for PCB congeners to represent the cyclical nature of the groundwater system, or analysis of additional site COPCs at this well location.

3.2 EXISTING STORMWATER DRAINAGE SYSTEM

The Site appears to support a network of stormwater lines which discharge towards the northern ‘finger area’, southern tidal flat, and the stormwater network below the west-adjacent West Marine View Drive. The stormwater lines generally consist of 4-inch to 12-inch lines constructed with either concrete or PVC. In general, the concrete storm lines were constructed in jointed segments. The PVC stormwater lines appeared in overall good condition and no major breaks or fractures were observed.

Outfall designated OF-4 was observed to have continuous water discharging from it regardless of recent precipitation events. Based on the camera tracing, it appears that water infiltrates the pipe between the first 40 to 150 feet of the line, nearest the outfall. The source of the water was not identified during the camera tracing due to the in-line water stirring up debris and distorting the images. As stated below, catch basins have recently been modified to include discharge from downspouts that formerly discharged to the NTD sump.

No additional assessment is proposed for the existing stormwater drainage system; however, any potential cleanout of the stormwater drainage system or long-term stormwater monitoring would be considered as part of the upland cleanup alternatives.

3.3 NORTH TRUCK DOCK STORMWATER SUMP

Line tracing identified only stormwater piping was connected to the NTD sump, primarily via roof drain piping. It was previously identified that surface drainage into the NTD area includes drainage from West Marine View Drive. Weep holes or ring lift holes were identified in the NTD sump and water samples were collected. Modifications to the stormwater system were performed by the site property owner during summer of 2018, including plugging the weep holes in the sump and redirecting downspout connections DS-1 and DS-2 from the NTD sump to an existing on-property catch basin.

Based on discussions with Ecology and the Port of Everett (property owner of the adjacent site), additional assessment of the NTD discharge area will be conducted by Port of Everett as part of the RI/FS being conducted for the Former Baywood Site.

4. CONCLUSION

SLR requests a telephone conversation with Ecology to discuss the contents of this document and the recommended scope of additional assessment. Once Ecology has approved the additional assessment scope, SLR will prepare a work plan addendum with the appropriate details and QAPP changes to include EPA data validation of dioxin/furan and PCB congeners results using a third-party data analysis firm following Ecology's EIM database policy. The additional assessment proposed is intended to complete the Source Control Evaluation work at the Site, allowing for completion of the Remedial Investigation and Feasibility Study.

5. REFERENCES

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FIGURES

TABLES

ATTACHMENT 1

SURVEY OF GROUNDWATER SEEP LOCATIONS

ATTACHMENT 2

PHOTO SHEET OF GROUNDWATER SEEP SAMPLING

ATTACHMENT 3

FIELD DATA SHEETS

ATTACHMENT 4

LABORATORY ANALYTICAL REPORTS