CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

with

EVREN NORTHWEST INC.
environmental & natural resource consultants

SOURCE CONTROL EVALUATION

Peninsula Iron Works Facility
BUILDING 2

6618 N. Alta Avenue
Portland, Oregon

ODEQ ECSI#: 5686

Prepared for:

Peninsula Iron Works
Attn: Dave Johnson
PO BOX 83067
Portland, Oregon 97283-0067

Issued on:

May 19, 2020

Project No. 351-12023-04

CREEKSIDE ENVIRONMENTAL CONSULTING LLC
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This

Source Control Evaluation

For the:

Peninsula Iron Works Facility – BUILDING 2

6618 N. Alta Avenue
Portland, Oregon

Has been prepared for the sole benefit and use of our Client:

Peninsula Iron Works

Attn: Dave Johnson
PO BOX 83067
Portland, Oregon 97283-0067

and its assignees

Issued May 19, 2020 *by:*

EXP. 2/1/2021

Brent Jorgensen

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Principal Engineering Geologist
EVREN Northwest, Inc.

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List of Acronyms and Abbreviations

ASPP	Accidental Spill Prevention Plan
BES	Bureau of Environmental Services
bgs	below ground surface
Client	Peninsula Iron Works
CoC	constituent of concern
COI	constituent of interest
Creekside	Creekside Environmental Consulting LLC
ECSI	Environmental Cleanup Site Information
ENW	EVREN Northwest, Inc.
EPA	US Environmental Protection Agency
JSCS	Joint Source Control Strategy
mg/Kg	milligrams per Kilogram
NEC	No Exposure Certification
NPDES	National Pollutant Discharge Elimination System
ODEQ	Oregon Department of Environmental Quality
PAHs	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PIW	Peninsula Iron Works
ROD	Record of Decision
ROW	right-of-way
SCE	Source Control Evaluation
SF	square foot
SLV	screening level value
UST	underground storage tank

1.0 Introduction

At the request of Peninsula Iron Works (PIW; Client) Creekside Environmental Consulting LLC (Creekside) has prepared this **Source Control Evaluation** (SCE) report for PIW's Building 2 facility located at 6618 N. Alta Avenue in Portland, Oregon (project site; see Figures 1 and 2). Creekside requested EVREN Northwest, Inc. (ENW) to collaborate on this project.

1.1 Purpose

This report presents the results of the SCE conducted to identify, evaluate, and control any sources of contamination on the project site with the potential to discharge to the Willamette River.

1.2 Source Control Objectives

The objective of this stormwater SCE is to demonstrate that existing and potential sources of contamination at the site have been addressed and no additional characterization or source control measures are needed at the site.

1.3 Regulatory Framework

The SCE components described herein were completed in general accordance with the Oregon Department of Environmental Quality (ODEQ) guidance[1] and relied upon the following references:

- ODEQ's *Guidance for Evaluating the Stormwater Pathway at Upland Sites*, dated January 2009 (updated October 2010).
- ODEQ/EPA's *Portland Harbor Joint Source Control Strategy* (JSCS), dated December 2005.
- EPA *Record of Decision*, *Portland Harbor Superfund Site*, dated January 2017.

The SCE is intended to provide supporting documentation to assist ODEQ in completing an uplands source control decision for the project site to satisfy the JSCS SCE requirements.

1.4 Report Organization

This report is organized to be generally consistent with ODEQ's *Template for a Stormwater Source Control Evaluation Report.*[2] Specifically, this report includes: an introduction, a discussion of the site background, an examination of potential sources and contaminants of interest, an evaluation of discharge pathways, presentation of ongoing stormwater management measures, the results of the source control evaluation, and findings and conclusions.

[1] https://www.oregon.gov/deq/Hazards-and-Cleanup/env-cleanup/Pages/Stormwater-Guidance.aspx

[2] https://www.oregon.gov/deq/FilterDocs/cu-stormwaterSitesAppC.pdf

2.0 Site Background

2.1 Site Description

The 0.46-acre [20,000-square foot (SF)] subject site consists of one rectangular tax lot (1N1W12BB 5800), with the following areas:

- **Building Roof** – more than 96% of the property is covered by building roof. All roofs are sheet metal and have been coated with enamel paint.
- **SW Storage Area** – a small 500 SF rectangular-shaped area of partially covered storage is located at the property's southwest corner.
- **Landscaped Infiltration Strip** – a 5-foot-wide by 55-foot-long (275 SF) landscaped strip which adjoins the northeast side of the building and is developed as an infiltration trench designed to intercept runoff and shallow subsurface flow from adjacent properties to the north.

The site lies on the southeast intersection of N. Alta Avenue and N. Bradford Street, just north of the St. John's Bridge. The project site is shown relative to surrounding physical features on Figure 1. The project site layout and adjacent properties are shown on Figure 2. Utilities are shown on Figures 3 and 4.

The project site is bound on the northeast by N. Crawford Street with residential property located further north, to the northwest by N. Alta Avenue with Moonstruck Chocolate located across the street, to the southeast by a parking lot owned by the City of Portland, and to the southwest by a railroad right-of-way (ROW). The project site is located over 500 feet from the Willamette River.

The topography at the project site and surrounding vicinity is generally flat, with an approximate elevation of 35 feet (WGS84 Datum). Ground water at the project site is reportedly present at over 10 feet below ground surface (bgs),[3] and likely flows in a west-southwesterly direction, based on surface topography.

2.2 Description of Stormwater Conveyance System

Please refer to Figure 3 – Storm System.

Over 96% of all storm water at the project site is discharged from the building roof. The building roof is pitched to the northwest and southwest, and as of January 2020, all roof water discharge at the project site is captured by downspouts and discharges to subsurface laterals to the City's stormwater system. There is no discharge of roof water directly to the ground surface.

Stormwater discharges from the subject site as follows:

- **Building Roof** – currently four roof downspouts (see Figure 3) direct roof discharge underground at three locations:
    - Northeast side of building: roof drains RD02 and RD03 discharge is to conveyance pipes within the infiltration trench that route stormwater to the City's storm system under N. Alta Ave.
    - Northwest side of building: roof drain RD01 discharges is to the City's storm system under N. Alta Ave.

[3] https://or.water.usgs.gov/proj/puz/

  - Southeast side of building: roof drain RD04 discharges is to the City's storm system south of the site (connecting at City catch basin CB ANE912).

- **SW Storage Area** – precipitation falling on this small (500 SF) area of partially covered storage leaves the site as overland flow and infiltrates in adjacent pervious areas.
- **Landscaped Infiltration Strip** – precipitation falling on this small (275 SF) area vegetation infiltrates along with runoff and shallow subsurface flow from adjacent properties to the north and discharges to a surface-grated concrete trench drain (see TD01 on Figure 3) located along the northwest side of the manufacturing building before being conveyed to City's storm system under N. Alta Ave.

Trench drain TD01, while located adjacent to the site's building, primarily receives surface runoff from areas (roads) north and west of the subject site. Trench drain TD01 discharges to City's storm system under N. Alta Ave.

When considering stormwater discharge from the subject site, the following is important and relevant to the SCE:

- ✓ Over 96% of stormwater discharged is from the Building Roof.
- ✓ Most of the time stormwater discharge from the SW Storage Area will infiltrate and not enter the City's storm system.
- ✓ The Landscaped Infiltration Strip is not exposed to onsite industrial activities and is primarily designed to capture offsite runoff and shallow subsurface flow.

Offsite Stormwater Conveyance System. Of particular note, PIW's property does not include paved parking surfaces, and there are no onsite catch basins. Stormwater captured in areas north of PIW's property, including stormwater runoff that washes down N. Alta Avenue, drain to City catch basin CB ANE911 located near the west corner of the shop. Catch basin CB ANE911 drains to City manhole MH AAE513/ST2, which also receives stormwater from upstream facilities in the north branch of Outfall Basin 52. During heavy rain events, debris upstream of the subject site is washed down to CB ANE911. According to PIW, this catch basin frequently plugs or puddles during large storm events.

Historical Discharge. Previously, the roof area on the southern portion of the PIW building discharged to the ground surface and would have infiltrated either onsite or in adjacent Cathedral Park landscaping. In later 2019/early 2020 additional roof gutter was installed such that all roof water from the southern portion of the PIW building is captured by City catch basin CB ANE921, which also received drainage from the City's parking lot located immediately south of the subject property. Stormwater from this catch basin flows eastward to City manhole MH AAE516/ST4, which receives stormwater from upstream facilities in the central branch of Outfall Basin 52. City manhole MH AAE516/ST4 drains westward and northward to City manhole MH AAE519. PIW has observed that catch basin CB ANE921 often plugs with tree litter and overflows into the south part of the City parking lot, the southwest corner of the shop, and the eastern part of the railroad easement west of PIW's shop.

2.3 Site Ownership and Operating History

The site history was previously documented in a letter response to ODEQ[4] (see Attachment 1).

Currently the subject property is owned by Peninsula Iron Works. Regionally PIW services the Portland job shop market through contract work, product design, manufacturing, and repair. At the subject site, PIW's current operations include a machine shop and a metal fabrication shop. Machining operations are accomplished using eight (8) metal lathes, five (5) planar mills, four (4) horizontal boring mills, two (2) radial drills, two (2) vertical mills, and one (1) key seater. PIW's fabrication shop includes two (2) hydraulic presses, three (3) saws, six (6) welding stations, two (2) torch (cutting) stations, and three (3) positioners.

2.4 Environmental Regulatory Review

2.4.1 City of Portland Bureau of Environmental Services

PIW applied for and was granted a No Exposure Certification (NEC) in March 2009, and therefore was not required to apply for coverage under the State's National Pollution Discharge Elimination System for an industrial storm water permit. PIW was required to complete an Accidental Spill Prevention Plan (ASPP) which also detailed maintaining outdoor stormwater structures such as catch basins in order to be permitted to have the ASPP. This plan was approved in August 2009 and updated in 2019. Since that time PIW has been operation under this NEC and was not required to complete any stormwater monitoring.

2.4.2 Underground Storage Tank Decommissioning

In 2012, PIW decommissioned an abandoned heating oil tank located in the southwest corner of the property and completed a removal action associated with impacted soils associated with that tank. After cleaning the interior of the tank, it was removed and recycled, and underlying soils assessed. Soils associated with the tank were impacted at up to 22,300 milligrams per Kilogram (mg/Kg) with diesel-range organics. This sample was also analyzed for polychlorinated biphenyls (PCBs) and none were detected. The tank release to soils was reported to the Leaking Underground Storage Tank program and assigned file number 26-12-1175.[5]

On October 4 and 9, 2012, a total of 37.08 tons of impacted soils were excavated and removed to Hillsboro Landfill. The final excavation was completed at 13.5 feet (maximum) depth, with all final confirmation soil samples reported by the laboratory to be below the analytical method detection limits for diesel-range organics. Ground water was not encountered during the soil removal activities. The tank and other waste materials have been appropriately recycled. The tank excavation was backfilled with clean, inert materials, and the site restored. The cleanup was contractor certified, in accordance with the State's Heating Oil Tank rules.

[4] Creekside, September 24, 2012 (revised November 28, 2012). Letter Response, Summary of Findings. Portland Harbor Source Control Evaluation.

[5] Creekside/ENW, October 22, 2012. *Heating Oil Tank Decommissioning and Soil Matrix Cleanup Report.*

2.5 Previous Stormwater Investigations

2.5.1 City Catch Basin Sediment Sampling

The City of Portland conducted source investigations in stormwater Outfall Basin 52 between June 2008 and January 2011.[6] Catch basin ANE911 is located at the western end of N. Alta Avenue, adjacent to the PIW facility, and has no piped connections from adjacent properties (see Figure 3). The estimated drainage area to this inlet includes a parking area associated with Moonstruck Chocolate, improved N. Alta Ave. and N. Crawford St. (as well as improved portions of N. Crawford Street adjacent to Independent Marine Propeller), and the railroad corridor along unimproved N. Bradford St. There is currently no discharge from PIW's property that discharges to catch basin ANE911.

Samples from catch basin ANE911 had total PCB concentrations exceeding the JSCS screening level value (SLV; see Table 1). The total PCB concentrations detected at this location in the 2008 sample were 8.16 mg/Kg (as Aroclor 1260) and in the 2010 sample were 2.86 mg/Kg (as Aroclor 1260). These concentrations exceed both the JSCS screening level as well as the EPA's cleanup objective listed in the 2017 Record of Decision (ROD) for the Portland Harbor.

Several metals were also detected in the two sediment samples (2008 and 2010), of which total arsenic, cadmium, chromium, copper, lead, and nickel exceeded JSCS SLVs (see Table 2). However, none of these detections exceeded both ODEQ screening levels for surface soil and typical background concentrations for soil in the Portland Basin[7], with the exception of total lead. It should be noted that the 2010 total lead result was below the ROD cleanup levels.

2.5.2 BES Surface (Erodible) Soils Sampling

Based on the source investigation results for catch basin ANE911, the City conducted additional investigation of surface soils in the vicinity of this catch basin to evaluate whether possible erodible surface soil that could be carried by overland flow into catch basin ANE911.[6] Nine surface soil composite samples (and one duplicate composite sample) were collected on January 6, 2011. The samples were collected within the N. Alta Avenue right-of-way, near the intersection with N. Bradford Street and in the N. Bradford Street right-of-way along the railroad corridor and adjacent to the PIW facility. For each surface soil sample, individual subsamples were collected from approximately the upper two inches of soil and homogenized into a final composite sample. The locations of the area represented by each composite surface soil sample are shown on Figure 4. The samples were analyzed for PCB Aroclors, and selected metals (chromium, copper, lead, nickel, and zinc). Results suggested the presence of total PCBs at concentrations up to 11.9 mg/Kg (as Aroclor 1260) in composite surface soil samples collected from areas that currently drain to this catch basin, and at concentrations up to 21.7 mg/Kg (as Aroclor 1260) in composite surface soil samples collected in the N. Bradford Street right-of-way.

As described in Section 2.5.1, there is currently no discharge from PIW's property that discharges to catch basin ANE911.

[6] City of Portland, May 2012. Outfall 52, Source Investigation Report.

[7] ODEQ. March 20, 2013, Fact Sheet: Background Levels of Metals in Soils for Cleanups.

3.0 Potential Sources of Constituents of Concern

The subject site is located within the City of Portland's Outfall Basin 52. Outfall 52 discharges into an area of Portland Harbor identified by the EPA as an area of potential concern, based on elevated concentrations of metals, tributyltin, polycyclic aromatic hydrocarbons (PAHs), benzyl alcohol, total PCBs, and pesticides in river sediment.[8] As part of its Portland Harbor stormwater screening effort, the City evaluated Outfall 52 and determined that the following Constituents of Concern (CoCs) warranted further source tracing within the basin:[9]

- PCBs
- Metals (specifically, copper, nickel, chromium and lead)

The rest of this section exams potential sources of these CoCs.

3.1 Potential On-Site Sources of Constituents of Concern

No on-site source or sources of CoCs have been identified at the subject site. A Creekside/ENW study investigated potential onsite sources of constituents of interest (COIs) at the PIW facility and considered both historical and current use (see Attachment 1). This investigative work concluded:

- ✓ There are no known historical (or current) operations conducted by PIW that involved the use of PCBs.
    - o Oil was not used in the patterning process; the former foundry operations do not appear to be a source of PCBs detected in soils or sediments in the vicinity of the site.
    - o Based on information for PIW's vendors and the results of wipe sampling, machine oils currently and historically used at the facility are not the source of PCBs detected in soil and sediment in the vicinity of the site.
- ✓ PCBs as Aroclors were not detected in six (6) 3-inch square wipe samples collected by PIW on February 21, 2012 in oil-stained areas throughout the shop (see Table 3 and Figure 4). This sampling effort targeted older concrete flooring within PIW's facility that exhibited oil-staining.
    - o Based on wipe sampling results, oil from the old air compressor formerly at the site does not appear to be the source of PCBs detected in soils or sediments in the vicinity of the site.
- ✓ Transformers containing dielectric fluids do not appear to have been used at the site. Transformers and other electrical equipment do not appear to be the source of PCBs detected in soils and sediments in the vicinity of the site, based on the results of wipe sampling sited beneath transformer platforms.
- ✓ Soil data from the in the worst-case soil sample collected during the decommissioning of an onsite heating oil tank (Section 2.4.2) suggests that the product formerly stored in the UST was not a source of PCBs detected in sediments or soils adjacent to the western boundary of the site.

[8] EPA. November 23, 2010. Portland Harbor Superfund Site; Administrative Order of Consent for Remedial Investigation and Feasibility Study.

[9] City of Portland. February 2010. Stormwater Evaluation Report, City of Portland Outfall Project, ECSI No. 2425.

- ✓ Several metals were detected in the two sediment samples (2008 and 2010), of which total arsenic, cadmium, chromium, copper, lead, and nickel exceeded JSCS SLVs (see Table 1). However, none of these detections exceeded both ODEQ screening levels for surface soil and typical background concentrations for soil in the Portland Basin, with the exception of total lead. It should be noted that the 2010 total lead result was below the ROD cleanup objective.

Based on the above, there is clear demonstration that current and historical operations at the subject property are not a contributing source of CoCs in the Portland Harbor.

3.2 Potential Off-Site Sources of Constituents of Concern

Creekside/ENW previously provide detailed information suggesting that there may be offsite sources of CoCs in the area of the PIW facility.[4]

4.0 Evaluation of Stormwater Pathways

This section considers potential stormwater pathways from the subject property to the Willamette River. The following three routes were identified:

- Stormwater discharge to the City of Portland storm system.
- Stormwater infiltration and preferential migration along utility corridors.
- Stormwater infiltration to groundwater, followed by groundwater discharge to the Willamette River.

These potential stormwater pathways are discussed in more detail below.

4.1 Stormwater Discharges to City Conveyance Lines

This stormwater pathway is complete but does not contribute CoCs to the Portland Harbor. As described in Section 2.2, currently over 96% of storm water discharge originates from the Building Roof and is conveyed offsite to the City's storm system. Discharge from the Landscaped Infiltration Strip area also leaves the site following this pathway.

The stormwater from the subject site that enters the City storm system is not associated with facility activities (which are almost entirely conducted inside the building). Additionally, no current or historic sources of CoCs have been identified at the subject site (see Section 3.1). All roofs are sheet metal and have been coated with enamel paint.

There is low potential for contaminated ground-water transport around utility lines, since there are no known impacts to ground water at the PIW property, and shallow ground water is present at depths deeper than the adjoining utility lines.

5.0 Ongoing Stormwater Management Measures

In March 2009, PIW applied for and was granted a No Exposure Certification (NEC). The City of Portland required PIW to complete an ASPP, which also detailed maintaining outdoor stormwater structures in order to be permitted to have the ASPP, which was approved in August 2009. Since that time PIW has

been in operation under this NEC and was not required to have an industrial stormwater discharge permit. PIW recently updated their ASPP and expanded it to further define the operations framework for ongoing prevention of spills or exposing stormwater to pollutants, and support the ongoing effective operation of the stormwater system at the subject site designed to minimize exposure of stormwater to potential pollutants (see Attachment).[10]

In late 2019/early 2020, measures were taken to ensure all stormwater discharging from the Building Roof was conveyed to the City's stormwater sewer. Previously a portion of the Building Roof on the south side of the building discharged to the ground surface adjacent to Cathedral Park (see Section 2.5.2).

6.0 Source Control Evaluation

This section summarizes the evidence used to support our opinion that the stormwater source control at the project site is adequate and that the site does not represent a significant past, current, or future source of contamination to the Willamette River. Based on the lack of significant industrial exposure to stormwater on the subject site, both currently and historically, as well as other lines of evidence, no further data related to the SCE is warranted. A summary of our data evaluation and lines of evidence supporting our opinion is presented in the following sections.

6.1 No Significant Stormwater Exposure

Stormwater discharging from the subject site has no significant exposure to the CoCs identified for City of Portland Outfall Basin 52:

- No potential historical or current on-site sources of CoCs have been identified (see Section 3.1).
- Over 96% of stormwater discharging from the site comes from the building's roof.
- Since 2009, PIW has operated under a No Exposure Certification for Exclusion from NPDES Stormwater Permitting granted by the City of Portland.

6.2 Other Lines of Evidence

The following additional lines of evidence support our opinion that the stormwater source control at the project site is adequate and that the site does not represent a significant past, current, or future source of contamination to the Willamette River.

- ✓ **Identification and Characterization of Potential Sources of Contaminants.** PCBs as Aroclors were not detected in six (6) 3-inch square wipe samples collected by PIW on February 21, 2012 in oil-stained areas throughout the shop (see Table 3 and Figure 4). This sampling effort targeted older concrete flooring within PIW's facility that exhibited oil-staining, including an area formerly occupied by an older air compressor and onsite transformers.
- ✓ **Magnitude of Stormwater and Stormwater Solids Exceedances.** Over 96% of the stormwater discharge from the subject property is from discharge from the roof drains with the remaining areas consisting of infiltrated stormwater. All stormwater discharge is to the City's conveyance

[10] Creekside/ENW, July 22, 2019 (most recent version). *Accidental Spill Prevention and Storm Water Management Plan.*

system. Currently, there is no stormwater discharge that is not generated from the existing painted roof area, or that consists of infiltrated stormwater discharge. Since there is no significant exposure to stormwater at the facility, and therefore no requirement for permitting industrial stormwater discharge, stormwater monitoring has not been required at this facility.

- ✓ **Regional Background Soil Concentrations of Naturally Occurring Chemicals for Evaluating Stormwater Solids.** Several metals were detected in two sediment sampling events (2008 and 2010), of which total arsenic, cadmium, chromium, copper, lead, and nickel exceeded JSCS SLVs (see Table 1). However, none of these detections exceeded both ODEQ screening levels for surface soil and typical background concentrations for soil in the Portland Basin, with the exception of total lead. It should be noted that the 2010 total lead result was below the ROD cleanup objective.
- ✓ **Presence of Bioaccumulative Chemicals.** PCBs as Aroclors were not detected in the aforementioned wipe samples. Additionally, transformers containing dielectric fluids do not appear to have been used at the site. Soil data from the worst-case soil sample collected during the decommissioning of an onsite heating oil tank (Section 2.4.2) suggests that the product formerly stored in the UST was not a source of PCBs detected in sediments or soils adjacent to the western boundary of the site. Additionally, oil was not used in the patterning process, and based on information for PIW's vendors, machine oils currently and historically used at the facility do not contain PCBs. Therefore, current and historical foundry operations do not appear to be a source of PCBs detected in soils or sediments in the vicinity of the site.
- ✓ **Site Hydrology including Site Conditions, Size of Drainage and Location and Estimated Size of Discharge.** Over 96% of the stormwater discharge from the subject property is from discharges from the roof drains, which currently discharge to the City's stormwater conveyance lines. An additional small area of infiltrated stormwater on the north side of the building also discharges to the City's conveyance system, along with offsite stormwater that collects in a trench drain near the northwest corner of the building.
- ✓ **Stormwater System Design and Management.** The majority of the subject site consists of the Building Roof (over 96%) with only the 275 SF Landscaped Infiltration Strip and the 500 SF SW Storage Area. All of the stormwater runoff from PIW that is not infiltrated onsite is discharged directly into the City's conveyance system (Figure 3).

  PIW obtained a No Exposure Certification for Exclusion from NPDES Stormwater Permitting in 2009. Irrespective of this, the current owner/tenant will continue to use Best Management Practices, and routine maintenance of stormwater conveyance features (see Section 5).
- ✓ **Estimate of Potential Contaminant Loading to the River.** There are no known CoC sources on the subject site. As of late 2019/early 2020, over 96% of the stormwater discharged from the PIW facility is roof drainage. Modifications recently completed at the facility ensure all roof water now discharges directly to the City's stormwater sewer, so contact with known areas of CoC-impacted erodible soils (see Section 2.5.2) has been eliminated. Therefore, it is anticipated that the PIW facility will contribute negligible, if at all, to contaminate loading to the river.

7.0 Findings and Conclusions

Creekside/ENW have conducted SCE activities (including reviews of site stormwater source control measures) at the project site located at 6618 N. Alta Avenue in Portland, Oregon. These activities were performed in accordance with ODEQ's *Guidance for Evaluating the Stormwater Pathway at Upland Sites,* dated January 2009 (updated October 2010); ODEQ/EPA's *Portland Harbor Joint Source Control Strategy*, dated December 2005; and the *EPA Record of Decision, Portland Harbor Superfund Site*, dated January 2017. The results of the SCE activities indicate the following:

1. **No existing potential facility-related contaminant sources have been identified.**
2. **Potential stormwater contaminant sources are being controlled to the extent feasible.**
3. **Adequate measures are in place to ensure source control and good stormwater management measures occur in the future.**

This SCE demonstrates that there is adequate control of potential sources on the project site that have the potential to impact stormwater discharging to the Willamette River. Based on the information provided herein, we request that ODEQ issue a Source Control Decision finding that (1) potential sources and pathways for mobilization of contaminants have been addressed and no longer exist at the subject site; and (2) the site is eligible for a determination that it is not a past, current or reasonably likely future source of contamination to the Willamette River and that additional source control measures are not required.

8.0 Limitations

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the work does not extend to the presence of the following conditions:

1. Naturally occurring toxic or hazardous substances in the subsurface soils, geology and water,
2. Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
3. Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
4. Unpredictable events that may occur after Creekside/ENW's site work, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. Creekside/ENW's investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, Creekside/ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. Creekside/ENW has endeavored to collect representative analytical samples

for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

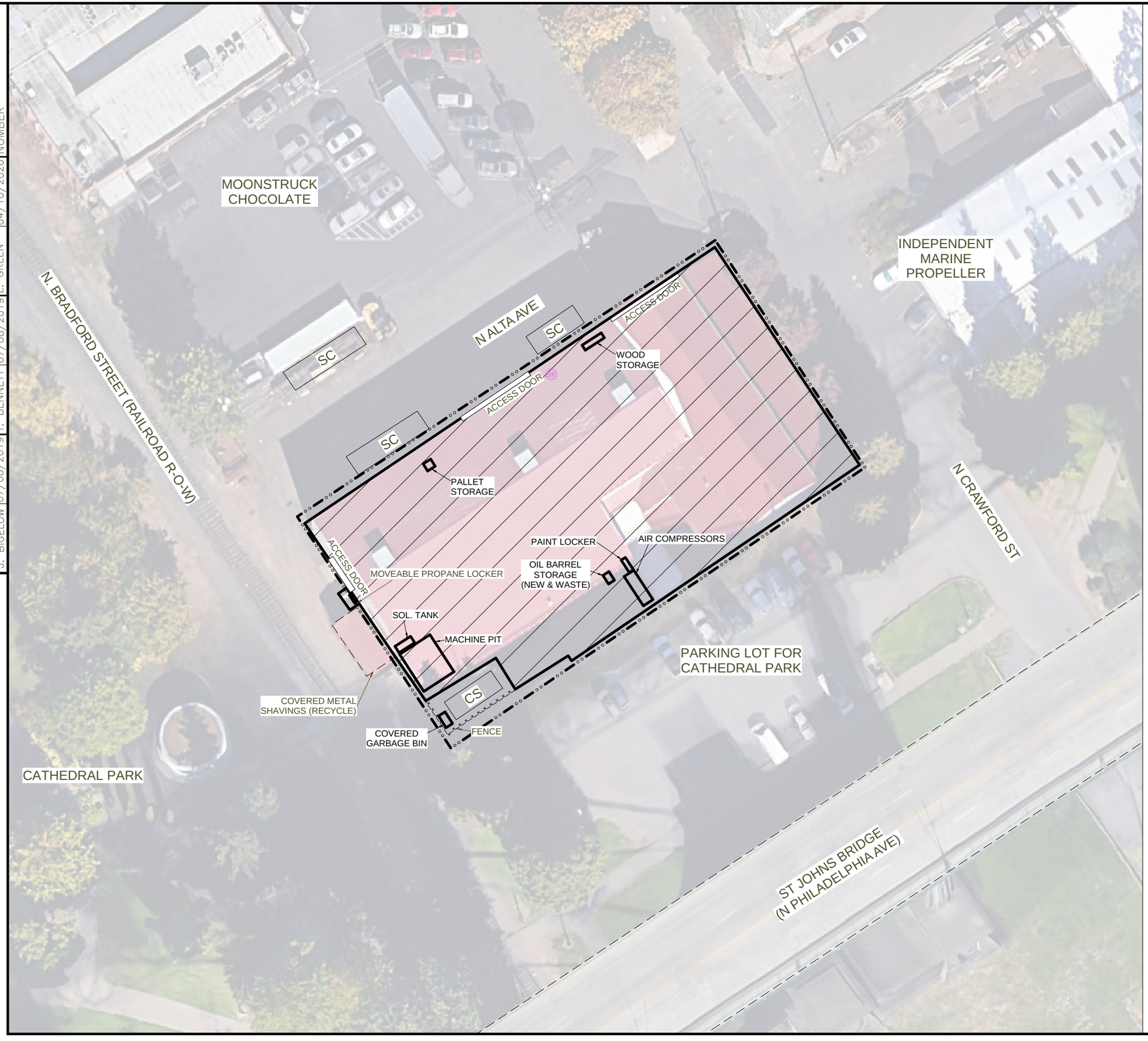
We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

Creekside/ENW performed this study under a limited scope of services per our agreement. Creekside/ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

Figures

	Date Drawn: 7/10/2019 CAD File Name: 351-12023-fig1sv_map(v02) Drawn By: JOB Approved By: LDG	Peninsula Iron Works – Building 2 6618 N Alta Avenue Portland, Oregon	**Site Vicinity Map**	Project No. 351-12023 Figure No. **1**

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
J. BIGELOW 07/08/2019	T. BENNETT 07/08/2019	L. GREEN 04/10/2020	351-12023(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
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FIGURE 2

SITE PLAN

PENISULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
C. ROSEBROOK 03/25/2020	T. BENNETT 01/23/2020	L. GREEN 05/19/2020	351-12023(v01)

MOONSTRUCK CHOCOLATE

INDEPENDENT MARINE PROPELLER

N. BRADFORD STREET (RAILROAD R-O-W)

N ALTA AVE

N CRAWFORD ST

LANDSCAPED IRRIGATION STRIP

TD01

RD01

RD02

RD03

RD04

CB- ANE911

CB- APA114

CB- ANE921

MH- AAE516/ST

MH-AAE513/ST2

MH-AAE513

MH

SC

ACCESS DOOR

SK

PLUG

WOOD STORAGE

PALLET STORAGE

PAINT LOCKER

AIR COMPRESSORS

OIL BARREL STORAGE (NEW & WASTE)

MOVEABLE PROPANE LOCKER

SOL. TANK

MACHINE PIT

CS

FENCE

COVERED METAL SHAVINGS (RECYCLE)

COVERED GARBAGE BIN

PARKING LOT FOR CATHEDRAL PARK

CATHEDRAL PARK

AAE631 ST. JOHNS PUMP STATION

ST JOHNS BRIDGE (N PHILADELPHIA AVE)

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING
- DRAINAGE BASIN FOR CITY OUTFALL 52
- STORM SYSTEM PIPE
- STORM SYSTEM PERFORATED PIPE
- RD ROOF DOWNSPOUT
- TRENCH DRAIN
- CATCH BASIN
- STORM SYSTEM FLOW DIRECTION
- SK SPILL KIT
- SANITARY SEWER CLEANOUT/ FLOOR DRAIN
- CITY STORM SYSTEM
- STORM SEWER PLUG (PER CITY OF PORTLAN PERMITS)
- SANITARY SEWER
- PRESSURIZED SANITARY SEWER
- CITY COMBINED STORM/SANITARY SYSTEM
- SC SHIPPING CONTAINER USED FOR STORAGE OF STEEL PARTS
- CS COVERED STORAGE AREA FOR MACHINING FIXTURES, RAW STEEL, AND TRASH BINS
- SURFACE FLOW DIRECTION

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

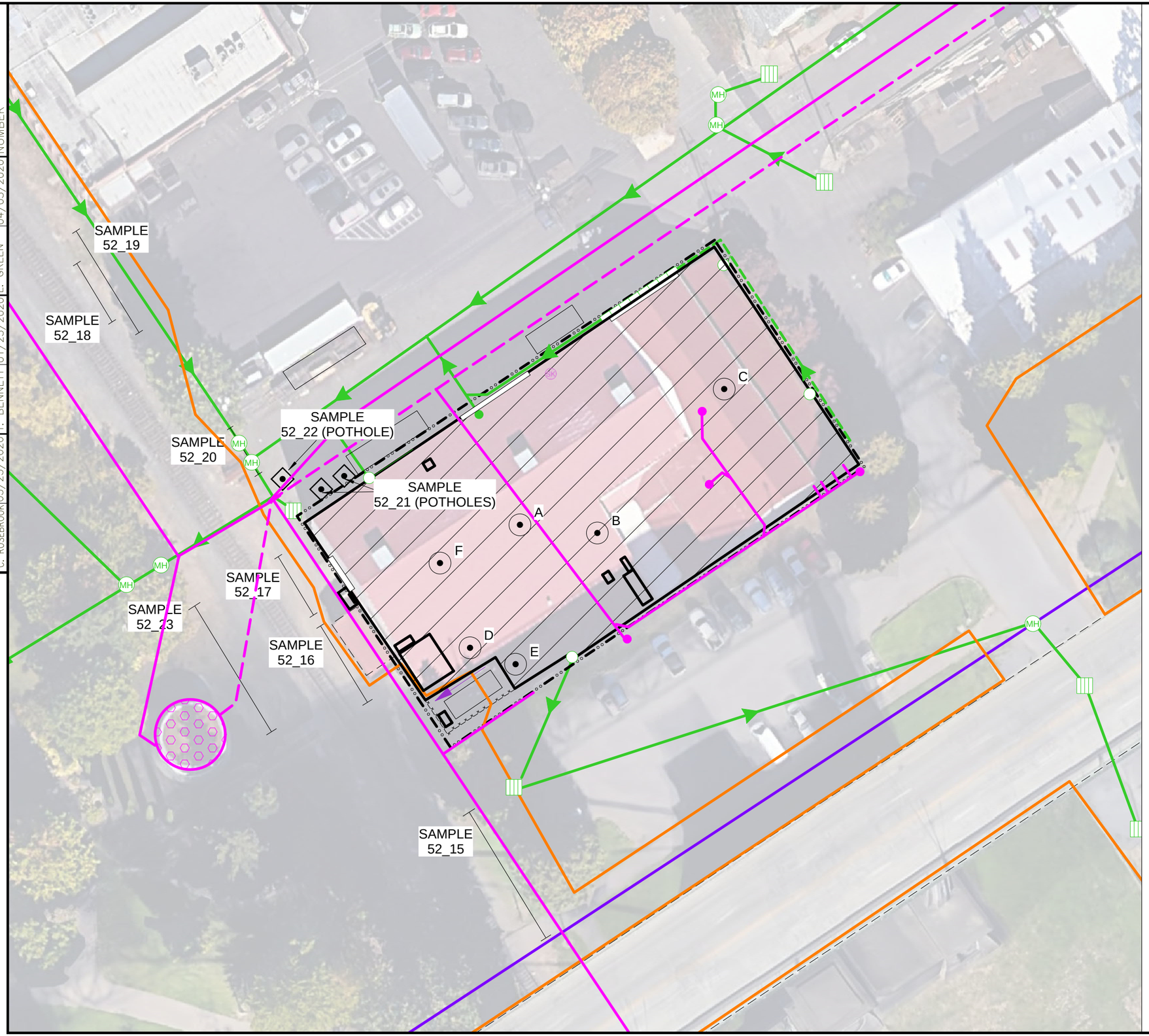
CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 3

STORM SYSTEM

PENISULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON

DRAWING NUMBER	APPROVED BY		CHECKED BY		DRAWN BY	
351-12023(v01)	L. GREEN	04/03/2020	T. BENNETT	01/23/2020	C. ROSEBROOK	03/25/2020



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING
- DRAINAGE BASIN FOR CITY OUTFALL 52
- STORM SEWER
- STORM SEWER (PERFORATED)
- ROOF DOWNSPOUT
- TRENCH DRAIN
- SANITARY SEWER
- PRESSURIZED SANITARY SEWER
- CITY COMBINED STORM/SANITARY SYSTEM
- STORM SYSTEM FLOW DIRECTION
- SANITARY SEWER CLEANOUT/ FLOOR DRAIN
- STORM SEWER PLUG (PER CITY OF PORTLAN PERMITS)
- CATCH BASIN
- SK SPILL KIT
- PUMP STATION
- PIW FLOOR WIPE SAMPLE LOCATION
- CITY OF PORTLAND GRAB SAMPLE LOCATION
- CITY OF PORTLAND SURFACE SOIL COMPOSITE AREA

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 4

SAMPLE LOCATION DIAGRAM

PENISULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON

Tables

Table 1 - Summary of Analytical Data, Sediment (City of Portland)

Location ID	Catch Basin ANE911		Maximum Detected Sediment Concentration (ANE911)	Lowest JSCS Screening Level (Bioaccumulation Screening Level)	ODEQ Screening Level Risk-Based Concentration (soil)	EPA ROD (2017)	Background Concentrations (Soil)
Feature Location	In N Alta Ave., near NW corner of PIWs building						
Date Sampled	9/9/2008	9/7/2010					
Sample By	City of Portland	City of Portland					
Location	Inline Solids -	Inline Solids -					
Constituent of Interest			mg/Kg (ppm)				
Semi-Volatile Organic Constituents (SVOCs)			**Semi-Volatile Organic Constituents (SVOCs)**				
Polychlorinated Biphenyls (PCBs)			**Polychlorinated Biphenyls (PCBs)**				
Aroclor 1016	<1 (ND)	<0.2 (ND)	<1 (ND)	0.53	---	---	---
Aroclor 1221	<2 (ND)	<0.4 (ND)	<2 (ND)	NE	---	---	---
Aroclor 1232	<1 (ND)	<0.2 (ND)	<1 (ND)	NE	---	---	---
Aroclor 1242	<1 (ND)	<0.2 (ND)	<1 (ND)	NE	---	---	---
Aroclor 1248	<1 (ND)	<0.2 (ND)	<1 (ND)	1.5	---	---	---
Aroclor 1254	<1 (ND)	<0.2 (ND)	<1 (ND)	0.3	---	---	---
Aroclor 1260	**8.16**	**2.86**	8.16	0.2	---	---	---
Aroclor 1262	<1 (ND)	<0.2 (ND)	<1 (ND)	NE	---	---	---
Aroclor 1268	<1 (ND)	<0.2 (ND)	<1 (ND)	NE	---	---	---
Total PCBs (total as Aroclors)	**8.16**	**2.86**	8.16	0.0039	0.23	0.009	---
Metals			**Metals**				
Arsenic	**7.42**	4.61	7.42	7	0.43	3	8.8
Cadmium	0.59	0.464	0.59	1	78	0.51	0.63
Chromium (total)	**563**	**659**	659	111	120000	---	76
Copper	**5000**	**873**	5000	149	3100	359	34
Lead	**272**	**105**	272	17	30	196	79
Mercury	0.036	0.0173	0.036	0.07	23	0.085	0.23
Nickel	**321**	**431**	431	48.6	1500	---	47
Silver	0.84	0.235	0.84	5	390	---	0.82
Zinc	437	316	437	459	---	459	86

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.

NE = not established.

mk/Kg = milligrams per kilogram

JSCS = Portland Harbor Joint Source Control Strategy, ODEQ and EPA, December 2005

Bolded concentrations exceed JSCS screening levels

Shaded concentrations exceed EPA ROD Remedial Objectives

Table 2 - Summary of Analytical Data, Surface Soil (City of Portland)

Location ID		52_15	52_16	52_17	52_18	52_19	52_20	52_21	52_22	52_23	Maximum Detected Soil Concentration	ODEQ Screening Level Risk-Based Concentration (Soil, Residential Dermal Contact)	ODEQ Screening Level Risk-Based Concentration (Soil, Occupational Dermal Contact)	ODEQ Screening Level Risk-Based Concentration (Soil, Construction Worker Dermal Contact)	ODEQ Screening Level Risk-Based Concentration (soil, Excavation Worker Dermal Contact)	Background Concentrations (Soil)
Sample ID		Sample Location 52_15	Sample Location 52_16	Sample Location 52_17	Sample Location 52_18	Sample Location 52_19	Sample Location 52_20	Sample Location 52_21	Sample Location 52_22	Sample Location 52_23						
Date Sampled		1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011						
Depth Sampled (feet)		Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface	Surface						
Sample By		City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland	City of Portland						
Location		Five-point composite between RR track and cathedral park parking lot	Five-point composite between RR track and PIW	Five-point composite between RR track and PIW	Five-point composite between RR track and 6600 N Baltimore Ave	Five-point composite between RR track and 6600 N Baltimore Ave	Five-point composite between RR track and N Alta Ave	Two-point composite from potholes Northeast of CB ANE911	Discrete sample from pothole north-northwest of CB ANE911	Five-point composite between RR track and Cathedral Park						
Constituent of Interest	Note	mg/Kg (ppm)									mg/Kg (ppm)					
Semi-Volatile Organic Constituents (SVOCs)											**Semi-Volatile Organic Constituents (SVOCs)**					
Polychlorinated Biphenyls (PCBs)											**Polychlorinated Biphenyls (PCBs)**					
Aroclor 1016	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---
Aroclor 1221	c, nv	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	<0.02 (ND)	---	---	---	---	---
Aroclor 1232	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---
Aroclor 1242	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---
Aroclor 1248	c, nv	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	<0.01 (ND)	---	---	---	---	---
Aroclor 1254	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	<1 (ND)	---	---	---	---	---
Aroclor 1260	c, nv	21.7	11.9	10.7	0.606	1.17	0.846	1.94	1.24	7.12	21.7	---	---	---	---	---
Aroclor 1262	nc, nv	<1 (ND)	<0.01 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	<1 (ND)	---	---	---	---	---
Aroclor 1268	nc, nv	<1 (ND)	<0.01 (ND)	<1 (ND)	<0.05 (ND)	<0.05 (ND)	<0.05 (ND)	<0.1 (ND)	<0.1 (ND)	<1 (ND)	<1 (ND)	---	---	---	---	---
Total PCBs (total as Aroclors)	c, nv	**21.7**	**11.9**	**10.7**	**0.606**	**1.17**	**0.846**	**1.94**	**1.24**	**7.12**	21.7	0.23	0.59	4.9	140	---
Metals											**Metals**					
Chromium (total)	nc, nv	131 J	296	549	31.1	57.1	136	216	304	40	549	120000	1700000	530000	14700340	76
Copper	nc, nv	169	415	444	57	161	422	224	541	69.8	541	3100	47000	14000	390000	34
Lead	NA, nv	181	84.2	56.3	172	149	113	75.9	47.1	101	181	400	800	800	800	79
Nickel	nc, nv	49.3 J	113	302	32.7	57.5	99.7	144	144	25.6	302	1500	2200	7000	190000	47

Notes:

ND = not detected at or above laboratory method reporting limits

— = not analyzed or not applicable.
NE = not established.
mk/Kg = milligrams per kilogram
Bolded concentrations exceed ODEQ screening levels

Table 3 - Summary of Analytical Data, Wipe Samples (PIW)

Location ID		A	B	C	D	E	F
Date Sampled		2/21/2012	1/6/2011	1/6/2011	1/6/2011	1/6/2011	1/6/2011
Depth Sampled (feet)		Surface	Surface	Surface	Surface	Surface	Surface
Sample By		PIW	PIW	PIW	PIW	PIW	PIW
Location		Wall of planer pit, center portion of building	Near air compressors and below current transformers, center portion of building	Wall of CNC pit, eastern portion of building	Building floor, southwestern portion of the building	Building floor, southwestern portion of the building	Building floor (former location of old transformers), western portion of the building
Constituent of Interest	Note	µg, Total (total micrograms)					
Semi-Volatile Organic Constituents (SVOCs)							
Polychlorinated Biphenyls (PCBs)							
Aroclor 1016	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1221	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1232	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1242	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1248	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1254	nc, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1260	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1262	nc, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Aroclor 1268	nc, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)
Total PCBs (total as Aroclors)	c, nv	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)	<0.500 (ND)

Notes:

ND = not detected at or above laboratory method reporting limits

Summary of Findings
Revision 1.0

Subject Site:
Peninsula Iron Works
6618 N Alta Street
Portland, Oregon

Prepared for:
Oregon Dept. of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

Prepared by:
Creekside Environmental Consulting, LLC
21790 SW Chehalis Court
Tualatin, Oregon 97062
(503) 692-8118

Creeside Project No. PIW-2012.01

November 2012

Creekside Environmental Consulting, LLC ----------

September 24, 2012 (revised November 28, 2012)

L. Alexandra Liverman, Portland Harbor Stormwater Coordinator
Northwest Region Cleanup Program
Oregon Department of Environmental Quality
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

Subject: Letter Response (revised) – Summary of Findings
Portland Harbor Source Control Evaluation
Site: Peninsula Iron Works, 6618 N Alta Street, Portland, OR
CEC Project No. PIW - 2012.1 / 351-12023-01

Dear Ms. Liverman:

Creekside Environmental Consulting, LLC (Creekside) has prepared this letter on behalf of Peninsula Iron Works, Inc. (PIWs) in response to the Oregon Department of Environmental Quality's (DEQ's) December 30, 2011 letter request[1] for a Portland Harbor Source Control Evaluation at their facility located at 6618 N Alta Street in Portland, Oregon (Subject Site, see Figures 1 and 2).

Your letter stated that DEQ recently reviewed sediment data collected in the vicinity of PIW's facility, and due to the presence of elevated concentrations of Portland Harbor contaminants of concern (COCs)[2], determined that source control evaluations are needed at several upland facilities and City stormwater outfalls discharging into this area (City of Portland, 2012)[3]. You specifically requested that PIW enter into a Voluntary Cleanup Program (VCP) agreement to undertake a remedial investigation, and if necessary, to implement source control measures to ensure any discharges from

[1] Letter from Mr. Jim Anderson of Oregon Department of Environmental Quality, Northwest Region Portland Office to Mr. David Johnson, Peninsula Iron Works, December 30, 2011, RE: Portland Harbor Source Control Evaluation at Peninsula Iron Works property at 6618 N. Alta Avenue.
[2] Specifically, polychlorinated biphenyls (PCBs).
[3] The principal data source is: City of Portland Bureau of Environmental Services, 2012, Outfall Basin 52 Source Investigation Report, City of Portland Outfall Project, ECSI No. 2425: Prepared through an Intergovernmental Agreement for Remedial Investigation and Source Control Measures, DEQ No. LQVC-NWR-03-10, 524 p, including tables, figures, and appendices.

PIW to the Willamette River are managed to reduce the amount of contaminants being transported to and entering the river. PIW entered into the VCP in August 2012.

Creekside has reviewed PIW's facility records, available historical information, and data from City of Portland's Bureau of Environmental Services which is discussed below. Based on our review, we have concluded that the elevated concentrations of Portland Harbor COCs, specifically PCBs, detected in sediment and surface soil on and adjacent to PIW's property are the consequence of off-site sources that have deposited PCBs within outfall basin 52 and onto PIW's site which is positioned at the low-point of storm water convergence in the basin. There is abundant evidence to indicate that PIW is not the source of PCBs in Outfall Basin 52.

1.0 BACKGROUND

Site Development History / Chronological Aerial Photo Review

The site history was documented through research of aerial photographs, Sanborn Maps, topographic maps, facility ledgers, and institutional knowledge provided by the current property owners[4].

1905 - In 1905, the northeast portion of the subject property was developed with a horse stable and a small structure slightly south of the stable. The remainder of the site was vacant. The Oregon Railroad (St. John's Branch) runs adjacent to the property on the western side. Beyond the tracks to the west are open land, ponds, and the Willamette River. A few dwellings are located on nearby properties including Portland Woolen Mills, which has a large fuel house, is located two blocks north of the site.

1911 - By 1911, the horse stable was removed from the site; however, the smaller building is still present. The western portion of the subject property was developed with PIW's first building. Labels on the structures include; Foundry, Machine Shop and BLSM (blacksmith). Our research indicates that PIW's facility was powered with electricity, gas, and coal. Peninsula Iron Works serviced the wood products industry along the Columbia Willamette Peninsula with parts for their machinery. A railroad switch is located to the northwest along the railroad right-of-way (ROW). A large shipbuilding industry is located to the northwest and west. The land between the railroad tracks to the west and the Willamette River is clearly under water at times. The St. John's City dock is located on the river to the west.

"During the "Lend Lease" years of WWI, Peninsula Iron Works produced tail shafts, rudders, stern tubes and steering gears for the wooden cargo ships built to assist Great Britain.[5]" These cargo ship parts were likely supplied to Grant Smith Porter shipyard, the most prolific supplier of "Hough" type wooden hall ships, located adjacent to the north and west boundaries of the Peninsula Iron Works' property.

[4] Dave and James Johnson, whose grandfather became the owner of the property and business in the late 1960s. The property has been owned by the Johnson family ever since.

[5] http://peniron.com/intro.html

1920s - By 1924, Peninsula Iron Works (aka Peninsular Foundry & Machine Works and Peninsula Pattern Works) facility was powered primarily by electricity and coal. There were several machine shops, a pattern loft, a foundry, a chipping room and a tool room. Equipment labeled on the site includes a core oven, an ore oven and an air compressor. Wooden floors were also installed. During this post WWI era, PIW returned to supporting the timber industry with sawmill carriages, lumber handling equipment, and a popular portable drag saw. PIW even manufactured the first chainsaw.[5] Industrial activity in the vicinity included the remaining vestiges of the Grant Smith Porter shipbuilding company to the north and a wood working company to the south of the site. A railroad switch/spur, which is still present, was constructed to the southwest, towards the Willamette River.

1940s - "During WWII, PIW joined other local industries that worked around the clock to supply goods and services for the war effort.[5]" Examples of items cast at the foundry included over 1.5 million hand grenade castings and anchors for Liberty ships and PT boats. Following WWII, "Peninsula Iron Works refocused on the timber industry manufacturing Peninsula Veneer Hogs, dual belt and wide belt sanders, and Peninsula Scissor Lifts.[5]"

In 1946, George C. Johnson, entered into stock ownership at PIW. Mr. Johnson had been working as a machinist at the facility since 1925. Eventually, the Johnson family became the sole owners of PIW.[6]

1950s - By 1950, PIW consisted of a machine shop, tool room, pattern shop, pattern loft, chipping room, foundry, and office.. Wood cutting, boat building, and woolen milling industries are found in the proximity of the Peninsula Iron Works Site. A city sanitary sewage pumping station is located across the railroad tracks to the west. The Grant Smith Porter ship company and the wood working company are no longer present, and the railroad spur to the southwest appears to have been removed.

By 1969, PIW operated a machine shop under Johnson family ownership and management[6]. The machine shop occupied the west half of the facility and the east side was used for storing machinery. There is a concrete floor in the machine shop. A small shed labeled as paint and oil storage was also located on the south side of the subject property. The Johnson family reportedly never owned or occupied the property south of the machine shop[6].

The Johnson family remodeled the machine shop in phases. Prior to the first remodeling phase, the western portion of the shop was separated from the east side. These two sections were connected with a drive-in bay in 1975. The north bay of the shop was extensively remodeled in 1991. During this remodel, the drive-in bay between the west and east shop was covered, and a 20-foot deep concrete-lined pit was

[6] When George C. Johnson passed away in 1967, his son Stuart B. Johnson assumed responsibility of the business. In 1994, Janet Johnson accepted the role of President, and Stuart Johnson relinquished control of his shares to his two sons James J. Johnson and David M. Johnson in 1994. In 1996, James and David Johnson purchase Peninsula Iron Works. James Johnson was named the company's President, David the Vice President, and Janet the Secretary-Treasurer. From Peninsula Iron Works' web page, http://peniron.com/intro.html.

constructed to house a large vertical boring mill, and the storm drain system disrupted by the construction of the pit was modified. In 1999, the outdoor storage area located in the south-central part of the facility was covered.

The subject property has had industrial operations on the site since around the 1910s. Over the years, the nature of the industry on this site has varied; however, it appears to have always had machine shop operations in connection with other metal finishing operations. Surrounding areas to the north and west have also been industrial in nature from the 1930s into the 1970s. Since that time, much of the surrounding industries have ceased operations. Peninsular Park was completed around 1980 on the land to the west, south and east.

General PCB History Pertinent to Subject Site

Monsanto was the primary manufacturer of PCBs in North America under the trade names Aroclor from 1929 into the 1970s when it was banned. Aroclor 1260 is the only PCB detected in the vicinty of the subject site; this congener is indicated to have been primarily used before 1950.[7] Reported uses included[8]:

- Polyvinyl chloride (secondary plasticizer to improve flame retardance and chemical resistance)
- Polyester resins (strengthen fiberglass; reifnforce resins and render fire-retardants economiocal)
- Varnish (improve water and alkali resistance)

DEQ literature additionally indicates Aroclor 1260 use in transformers, hydraulic fluids and dedusting agents.

CURRENT SITE OPERATIONS

PIW services the Portland job shop market through contract work, product design, manufacturing, and repair. PIW's current operations[5] include a machine shop and a metal fabrication shop. Machining operations are accomplished using eight (8) metal lathes, five (5) planar mills, four (4) horizontal boring mills, two (2) radial drills, two (2) vertical mills, and one (1) key seater. Peninsula's fabrication shop includes two (2) hydraulic presses, three (3) saws, six (6) welding stations, two (2) torch (cutting) stations, and three (3) positioners.

Potential On-Site Sources of PCBs

Potential sources of PCBs associated with Peninsula Iron Works' historic and current operations include: foundry oils used in sand molds, machine oils, transformer dielectric oil, air compressor oil, an underground storage tank, and oil shed. These sources are addressed below:

---

[7] http://en.wikipedia.org/wiki/Polychlorinated_biphenyl

[8] Sited source: Monsanto Technical Bulletin O/PL 306. As shown in Table 5.8 of Chlorinated Organic Compounds in the Environment by Ramamoorthy, Sub, Ramamoorthy, Sita, 1997.

Former Foundry Operations

Peninsula Iron Works operated a coal and coke fired foundry at the site from approximately 1910 through the mid 1950s. George Johnson was familiar with foundry operations, and he shared historic details with his son Stuart, who in turn shared this knowledge with his sons. Note that Mr. Johnson began working at PIW in 1925, prior to the introduction of PCBs in 1929[9].

The foundry was located in the eastern portion of the shop. An elevator raised the coal/coke fuel to the cupola of the building, the coal/coke was dumped into carts, and the loaded carts moved the coal/coke along a rail to the mouth of the furnace where it was dumped. A wood-fire was built in a box which was lowered down into the furnace to ignite the coal/coke. Then the fans were started.

Molasses was used in lieu of oil to form the sand molds used in the casting process. Workers determined that molasses produced less bubbles (resulting in fewer voids) when the molten metal was poured in the mold. The result was a better quality casting. Big barrels of molasses were stored at the site when the foundry was active.

- ✓ **Because oil was not used in the patterning process, the former foundry operations do not appear to be a source of PCBs detected in soils or sediments in the vicinity of the site.**

Machine Oils Use History

While under Johnson family management (mid 1960s – present), PIW has exclusively used four types of oils/coolants in its machine shop operations. A list of these petroleum products is provided below:

- Water soluble coolant – circulated through lathes and milling machines to cool and lubricate cutting tools and machined parts;
- International Standards Organization (ISO) 100 machine oil – circulated through industrial equipment such as gear boxes to clean and lubricate bearings;
- ISO 68 Way oil – lubrication of slides and ways of machine tools to reduce wear and eliminate stick-slip or jerky motion of sliding parts; and
- ISO 46 hydraulic oil – used in gear, vane, and piston hydraulic systems found in machinery at the site.

According to its general ledger (GL), Peninsula Iron Works acquired its oil from Merit Oil from 2002 to the present and from Tarr/Priestly prior to 2002. According to statements from both vendors, the oil that they sold to Peninsula Iron Works did not contain PCBs.

- A letter from Robert Mitchoff of Merit Oil to Peninsula Iron Works, dated August 7, 2012, stated: “Merit Oil and Refining Company has never sold, delivered, or distributed any oil, lubricant, or product containing poly chlorinated biphenols [sp] in the last 10 years of doing business with peninsula Iron Works.”

[9] DEQ Fact Sheet: Sources of Polychlorinated Biphenyls.

- A similar statement was received from Greg Allen of Tarr LLC, who stated in a letter to PIW dated October 1, 2012, that PCBs have never been used in any lubrication products manufactured by Chevron, including machine oils).

PCBs as Aroclors were not detected in six 3" square wipe samples collected by Dave Johnson on February 21, 2012 in oil-stained areas throughout the shop (see attached lab data). This data corroborates the oil vendor's statements that PCB-containing machine oils/coolants have not been sold, delivered, or distributed to Peninsula Iron Works.

- ✓ **Creekside concludes that machine oils currently and historically used in metal machining operations at the site are not the source of PCBs detected in soil and sediment in the vicinity of the site. Additionally, as previously stated, Monsanto reported Arochlor 1260 was not used in machine oils.**

Site Electrical Transformers

While under Johnson family management, only dry sump electrical transformers have been used at the machine shop. These transformers are located on an elevated platform located near the center of the shop and have not changed locations during the period that the Johnson family owned the facility. These transformers do not contain dielectric oil and are non-PCB containing.

PCBs as Aroclors were not detected in a wipe sample collected on February 21, 2012, from an oil-stained area next to the wall beneath the transformer platform.

- ✓ **Therefore, transformers containing dielectric fluids do not appear to have been used at the site. Transformers and other electrical equipment do not appear to be the source of PCBs detected in soils and sediments in the vicinity of the site.**

Site Air Compressor

An air compressor has been at the shop since at least 1924. A number of years ago, the facility's old air compressor was replaced with a newer unit. On February 21, 2012, a wipe sample was collected from the oil-stained concrete floor beneath the old air compressor's footprint, and the sample was analyzed for PCBs as Aroclors. PCBs were not detected in the sample.

- ✓ **The oil leaked from the old air compressor formerly at the site does not appear to be the source of PCBs detected in soils or sediments in the vicinity of the site.**

Underground Storage Tank

On September 12, 2012, an approximate 630-gallon steel underground storage tank (UST) was decommissioned by removal. The UST had not been used recently and presumably was used for storing heating oil. The UST was located under asphalt pavement at a position along the south side of the shop and 50 feet east of the southwest corner of the building. An oil storage shed was formerly located above the UST. No product was observed in the tank after it was cut open. Upon its removal, corrosion holes were observed in the bottom and ends of the tank. Petroleum stained

soil was sampled at three locations on the floor of the UST excavation. Diesel-range organics were detected at a maximum concentration of 22,300 milligrams per Kilogram (mg/Kg) in sample GS03-N-5.5-120912 (north sample), and oil-range organic were detected at a concentration of 1,250 mg/Kg, in sample GS01-S-6-120912. The sample with the greatest total petroleum hydrocarbon concentration was submitted for analysis of PCBs. PCBs were not detected in the sample.

- **This data indicates that the product formerly stored in the UST was not a source of PCBs detected in sediments or soils adjacent to the western boundary of the site.**

South-Side Oil Shed

An oil shed was located adjacent to the southwest corner of PIW's machine shop. The machine oils/coolants Peninsula Iron Works used in its machining operations were stored in this shed. As mentioned, Peninsula Iron Works' suppliers certified by letter that their machine oil products did not contain PCBs. These statements are corroborated by soil sampling conducted during decommissioning of the UST formerly located beneath the oil shed. PCBs were not detected in the worst-case soil sample[10] collected at 5.5 feet below ground surface on the floor at the north end of the UST excavation.

Storm Water

Storm Water Conveyance System

PIW's property boundary includes its manufacturing building, a 5 foot wide land strip which adjoins the north side of the building, and a rectangular-shaped partially covered area located on the southeast corner. PIWs property does not include paved parking surfaces, and there are no onsite catch basins (refer to Storm Water System map, Figure 3). Accordingly, with the exception of a 5' wide by 55' long land strip at the north end of the site, all of the storm water runoff from PIW is discharged from their roof. All roofs are sheet metal and have been coated with enamel paint. Additionally, the above-referenced land strip is developed as an infiltration trench; intercepting runoff and shallow subsurface flow from adjacent properties to the north and discharging to a surface-grated concrete trench drain located along the northwest side of the manufacturing building (refer to Figure 3). This trench drain also receives surface runoff from areas north and west of the subject site, discharging to the storm sewer in North Alta Avenue. Based on these facts, the only storm water discharge from the subject property that is not representative of offsite sources are discharges from the roof drains. However, this discharge will contain impacts from offsite sources as result of dry deposition (site is under the St. Johns Bridge which is carries vehicular load on Highway 30). **Therefore, with regard to storm water monitoring, there are no available onsite locations that could be monitored that would reflect only onsite PIW sources of impacts to storm water other than their building's roof drains.**

[10] Sample GS03-N-5.5-120912 with diesel-range organics detected at a concentration of 22,300 mg/Kg.

The southwest side of PIW's property adjacent to the railroad tracks is the low spot in the north and central branches of outfall Basin 52, both in terms of captured storm water and surface storm water runoff. As such, the unpaved strip between PIW's southwest property line and the railroad tracks is the settlement area for surface storm water runoff from numerous upstream industrial facilities and roads for over 100 years.

Peninsula Iron Works Storm Water Controls

Storm water captured on the north side of Peninsula Iron Works drains to City catch basin CB ANE911 located near the northwest corner of the shop. Storm water runoff that washes down North Alta Avenue is captured by this catch basin. Catch basin CB ANE911 drains to City manhole MH AAE513/ST2, which also receives storm water from upstream facilities in the north branch of Basin 52. During heavy rain events, debris upstream of the subject site is washed down to CB ANE911. For example, Dave Johnson observed a lot of bark dust/landscaping mulch being washed into CB ANE911 during a heavy rain event earlier this spring[8]. This catch basin frequently plugs or puddles according to Dave Johnson.

Storm water from Peninsula Iron Work's roof drains and the City's parking lot to the south is captured by City catch basin CB ANE921. Storm water from this catch basin flows eastward to City manhole MH AAE516/ST4, which receives storm water from upstream facilities in the central branch of Outfall Basin 52. City manhole MH AAE516/ST4 drains westward and northward to City manhole MH AAE519. Dave Johnson and James Johnson both observed that catch basin CB ANE921 often plugs with tree litter and overflows into the south part of the City parking lot, the southwest corner of the shop, and the eastern part of the railroad easement west of Peninsula Iron Works' shop[8,12].

Storm Water Ponding

On January 19, 2012 the City of Portland sent an Industrial Source Control Memo to Peninsula Iron Works regarding ponding of water around the southwest portion of the site. This document clearly documents ponding of storm water between the subject site and the railroad easement/ballast located west of the subject site. It should be noted that ponding of storm water in this area of the site has occurred during heavy rain events since development of the property, as can be inferred in the 1956 aerial photograph, and based on conversation with Peninsula Iron Works owners[8,12].

1956 Aerial photograph showing residual flood waters surrounding the south and north sided of the subject site (University of Oregon, Knight Library).

Storm Water Compliance

Creekside spoke to the Laura Johnson at the City of Portland, Bureau of Environmental Services about previous NPDES permit files. She confirmed that Peninsula Iron Works applied for and was granted a No Exposure Certification (NEC) in March 2009 based on a letter received in 2008. Peninsula Iron Works was required to complete an Accidental Spill Prevention Plan (ASPP) which also detailed maintaining outdoor storm water structures such as catch basins in order to be permitted to have the ASPP. This plan was approved in August 2009. Since that time Peninsula Iron Works has been operation under this NEC and was not required to complete any storm water sampling in 2008 or 2009.

POTENTIAL OFFSITE SOURCES OF PCBS

There are several potential sources of PCBs other than Peninsula Iron Works in Outfall Basin 52, and there is a very plausible transport mechanism for concentrating PCBs in sediment and soil adjacent to the subject site. These "off-site" sources of PCBs and corresponding transport mechanism include the Oregon Railroad right-of-way (ROW), up-gradient industrial facilities, and contaminated Willamette River flood sediments. These potential source areas and associated migration pathways are described below.

Oregon Railroad ROW - As described above, two railroad switches leading to two rail spurs that serviced the former shipyard were formerly located in the railroad ROW. One switch was located northwest of the site in line with the north side of N. Alta Avenue, and the second switch was located southwest of the site and centered on the south portion of the block that is not occupied by Peninsula Iron Works. These railroad switches were frequently lubricated with oil to maintain smooth operation of the switch mechanism. Mr. Dave Johnson recalls that during the late 1960s and early 1970s, railroad personnel would pour lube oil from a black bucket with a pour spout on the rail switch plates associated with the northwest rail spur on a frequent basis[11]. Petroleum-

[11] Personal communications with Dave Johnson, September 12, 2012.

based lube oils would have been used prior to the mid 1970s in lieu of less toxic modern graphite-based synthetic lubricants used today. Application of lube oil poured from an oiling bucket would likely have resulted in excess that would impact the ballast and underlying soil. **The former rail spur switch location almost exactly coincides with the PCB hot spot where total PCBs were detected in BES' sample 52_15, collected on January 6, 2011, at a concentration of 21,700 µg/Kg[3].**

Additionally, a literature search showed historical association of PCBs and railroads. Railroad switching yards are the subject of a number of investigations and remediation projects. In addition to potentially being applied to switches on a regular maintenance program, PCBs may have leaked from on-board transformers in electric locomotives and may be associated with railroad ties (also known as railway sleepers identified as an "open" source of PCBs banned in 1973[7]) as part of the creosote or pentachlorophenol wood treatment.

Up-gradient Industrial Facilities

The southwest side of PIW's property adjacent to the railroad tracks is the low spot in the north and central branches of outfall Basin 52, both in terms of captured storm water and surface storm water runoff. As such, the unpaved strip between PIW's southwest property line and the railroad tracks is the settlement area for surface storm water runoff from numerous upstream industrial facilities and roads for over 100 years. The industrial operations outlined below are potential sources of PCBs and metals, and they are upstream in the storm water drainage basin.

Roadway Dust Control

Dave Johnson recalls that when N. Alta Avenue was still a dirt road, the City would spray the road with oil to control dust[7]. The oil used for dust control (also known as dedusting agent) is a potential source of PCBs[9].

South Portion of Block 10003

The contiguous south half of block 10003 was used as an industrial storage and construction staging area since the early 1900s. Paint, oil, metal ingots, casting patterns, clay, sandblast grit, and construction equipment were among the items stored on the south portion of the block[12]. During WWI and WWII, materials used in support of the war effort were stored on the property. Some of these materials, such as metal ingots, were used by the foundry when casting parts and machinery used in the war effort. This property likely was used for staging equipment and materials when the St. Johns Bridge was constructed during 1929-1931. James Johnson observed that the block was an undeveloped field during the mid 1970s, and he said the property was paved after the City acquired it. Construction equipment, materials, and large totes of spent sandblast grit were staged on the south half of the block when the northeast portion of the St. Johns Bridge was repainted in the 1980's, and again seven years ago

[12] Personal communications with James Johnson, September 12, 2012.

when the entire bridge was repainted. Stored oils, paint, and paint waste are potential sources of PCBs detected in soil and sediment in the vicinity of the subject site.

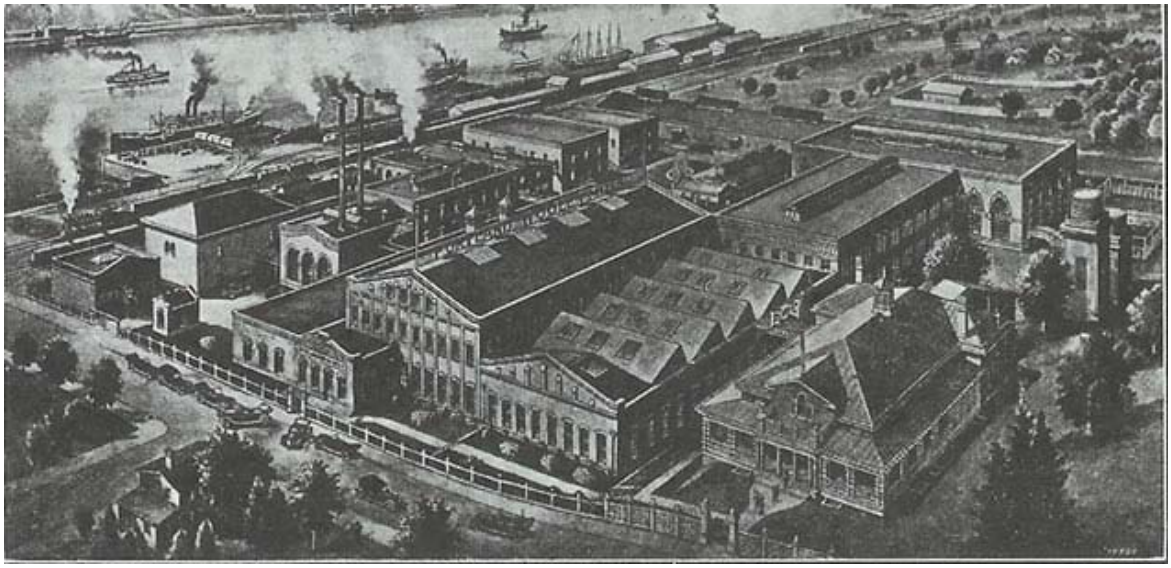
Portland Woolen Mills

During the period 1905 through approximately 1960, Portland Woolen Mills was located one block north of the site and occupied an area of over two square blocks. It was touted as one of the largest woolen mills west of Cleveland, Ohio at the time. The mill operation included the following processes: sorting and mixing; scouring (washing) and carbonizing to remove wool grease and organic matter; drying; picking and oiling; dyeing; carding and burling; and washing to remove the spinning oil. Originally, sawdust was used to fire the large boiler that heated the water and steam used in the scouring, carbonizing, and drying processes and to heat the buildings. The sawdust-fired boiler may have been replaced by an oil-fired boiler in later years. A large electrical transformer was located outside the main structure near the southwest corner of the facility.

It is unknown at this time if they were produced at this location, but navy vessels (including submarines) used PCB-impregnated wool:

> *In 1989, the Navy identified the potential for viscous PCBs at levels of concern in wool felt used as acoustical damping material (on submarines) and as gasket material (on all vessels).*[13]

As the largest woolen mill in an area known for historic ship production, it seems that the mill could have been a source of PCBs from historic use.



Portland Woolen Mills – Largest Mills West of Cleveland. Drawing circa 1920[14]

[13] https://www.federalregister.gov/articles/2012/07/18/2012-17381/polychlorinated-biphenyls-pcbs-disposition-of-request-submitted-under-tsca-section-21

[14] http://www.positivespin.us/NL2.htm

Portland Woolen Mills, Circa 1935

Grant Smith Porter Ship Co.

From about 1918 through the mid 1920s, the Grant Smith Porter Ship Co. was located on the opposite side of Alta Street north of the site as well as several blocks northwest of the site adjacent to the Willamette River. A large black smith shop with two furnaces occupied the south side of the block, and a crane and shipbuilding yard were located on the north side of the block. Grant Smith Porter's shipbuilding yard included piers/docks, cranes, and scaffolds.

Grant Smith Porter shipyards, Portland, Oregon, June 20, 1918[15]

Contaminated Willamette River flood sediments;

Periodically, Willamette River flood waters have lapped onto the western part of the subject site and deposited potentially contaminated river sediments in the flood's wake. Dave Johnson observed that the flood waters of 1996 inundated Cathedral Park and extended up and over the railroad tracks and into the west bay door of the machine shop[7]. A 1956 aerial photograph captures an image of residual flood waters

[15] http://journeysofthepast.blogspot.com/

surrounding the west and north sides of the subject site. The floods of 1861, 1890, 1943, 1945, and 1964 would have produced a similar effect[16].

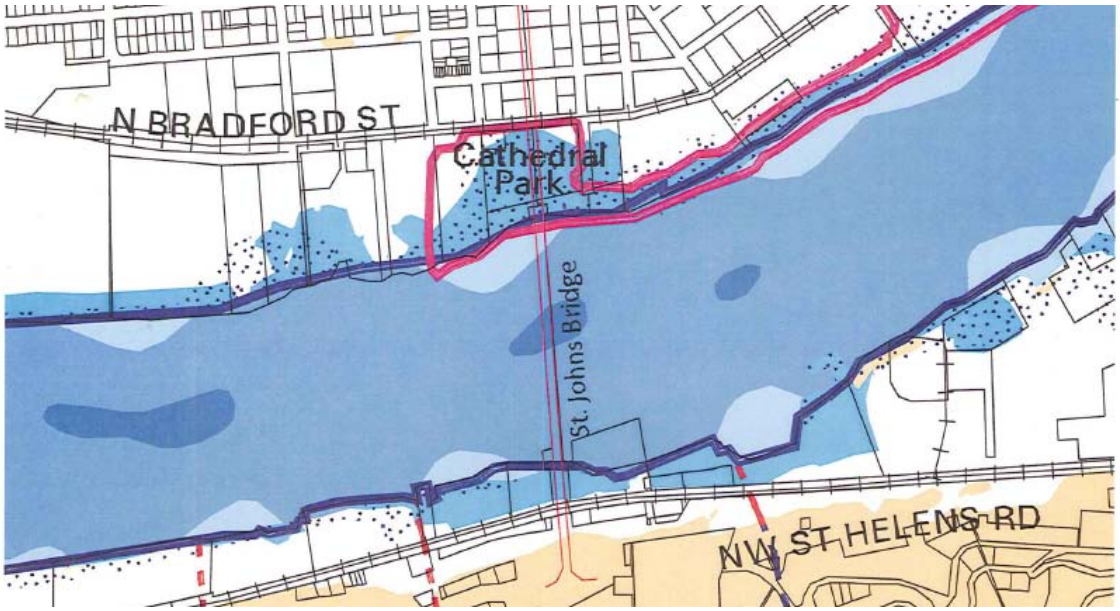


Diagram showing the extent of 1996 flood waters (Source, City of Portland[17])

The contaminated sediments deposited along the western margins of the subject site are a potential PCB source.

Feel free to call me at (503) 692-8118 if you have any questions or comments about this letter report.

Respectfully,

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

Brent Jorgensen

Brent Jorgensen, CHMM / Principal

Attachments - Figures 1 through 3

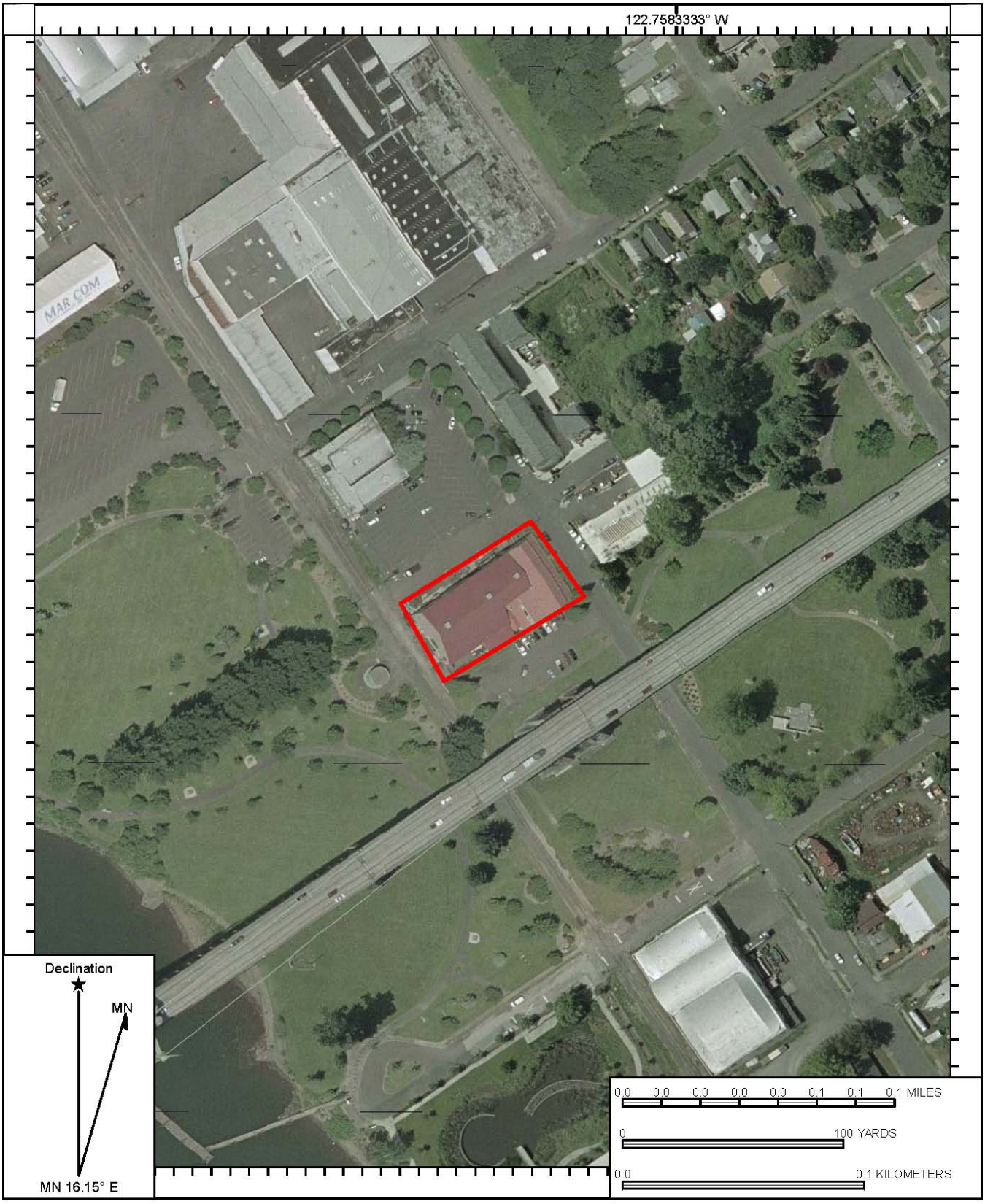
[16] Ashkenas, S. G. and Wildman, J.R., 2002, Flood Inundations/FEMA Floodplains. In D. Hulse, S. Gregory, and J. Baker (Eds.), Willamette River Basin Planning Atlas, 2nd Edition, (p. 28), Corvallis, Oregon State University Press.

[17] http://www.portlandoregon.gov/bps/article/59022

FIGURES

Source: USGS Portland, OR Quadrangle, 1990

	Date Drawn: 10/2/2012 CAD File Name: 351-12023svmap(Fig1) Drawn By: LDG Approved By: NMW	Peninsula Iron Work, Inc. 6618 N Alta Avenue Portland, Oregon	**Site Vicinity Map**	Project No. 351-11023-01 Figure No. **1**



Source: USGS Orthophotograph, Portland, OR Quadrangle, NE SE Portion, 2002

	Date Drawn: 10/2/2012 CAD File Name: 351-12023aerial(Fig2) Drawn By: LDG Approved By: NMW	Peninsula Iron Work, Inc. 6618 N Alta Avenue Portland, Oregon	**2002 Aerial Photograph**	Project No. 351-12023-01 Figure **2**

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
N.MORRIS 08/05/2012	L.GREEN 10/22/2012	B. JORGENSEN 10/22/2012	351-12023(v01)

ONSTRUCK COLATE

N CRAWFORD ST

N ALTA AVE

N BRADFORD ST

LEGEND:

- APPROXIMATE BUILDING LOCATIONS
- APPROXIMATE PROPERTY BOUNDARIES
- APPROXIMATE SUBJECT PROPERTY BOUNDARIES
- APPROXIMATE SUBJECT BUILDINGS
- BASIN 52
- CATCH BASIN
- SANITARY SEWER
- SANITARY SEWER CLEANOUT/FLOOR DRAIN
- STORM SEWER
- FORMER ROOF DOWNSPOUT LOCATION (REMOVED)
- ROOF DOWNSPOUT LOCATION
- STORM SEWER PLUG (PER CITY OF PORLAND PERMITS)
- FORMER CATCH BASIN (ABANDONED WHEN BUILDING ROOF EXPANDED AND FILLED)

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2009, CITY OF PORTLAND PERMITS, ENW FIELD NOTES AND SUPPILED SURVEY MAPS.

APPROXIMATE SCALE

0 35 70 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
21790 SW CHEHALIS COURT
TUALATIN, OREGON 97062
(503)692-8118

FIGURE 3

STORM WATER SYSTEM

PENINSULA IRON WORKS
6618 NORTH ALTA STREET
ST. JOHNS, OREGON

EVREN NORTHWEST INC.
environmental & natural resource consultants

with

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC

ACCIDENTAL SPILL PREVENTION
AND STORM WATER MANAGEMENT PLAN

Peninsula Iron Works
BUILDING #2

6618 N Alta Avenue
Portland, Oregon

Prepared for:

Peninsula Iron Works
Attn: Dave Johnson
8613 N Crawford Street
Portland, Oregon 97203

Jointly issued on:

July 22, 2019

Project No. 351-12023-04

EVREN NORTHWEST, INC.
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Table of Contents

Tables

IN TEXT *(labeled by Section – Number)*

List of Attachments

Figures

Appendices

1.0 Introduction and Responsibility

This Accidental Spill Prevention and Storm Water Management Plan (Plan) was prepared to meet City of Portland requirements, create an operations framework for ongoing prevention of spills or exposing storm water to pollutants, and support the ongoing effective operation of the storm water system at the subject site (6618 N Alta Avenue, Portland, Oregon; see Figures 1 and 2).

This Plan was prepared at the request of Peninsula Iron Works (PIW; Client) jointly by EVREN Northwest, Inc. with Creekside Environmental Consulting, LLC.

Background. National Pollutant Discharge Elimination System (NPDES) regulations state that certain industries require a storm water permit if there is exposure of industrial activities to rainfall and discharge to surface waters. Peninsula Iron Works has submitted No Exposure Certification exempting the site from the requirements of the General NPDES Stormwater Permit.[1] Peninsula Iron Works subsequently received a letter from the City[2] with actions to bring the site into compliance with NPDES and City regulations. This Plan addresses the City requirement to update and re-submit a Storm Water Pollution Control Plan.

Responsibility and Review. PIW is responsible for ensuring all aspects of this Plan are implemented (directly or working with a contractor or consultant). Should operations or conditions at the site change, this plan should be reviewed and updated.

A copy of this Plan should be maintained at or near the site and readily available.

2.0 Facility Description

PIW is a manufacturing company for parts and equipment for all types of industries (e.g., rock processing, steel mills, wood mills, aerospace, pumping). The 0.46-acre (20,000-square foot) subject site is primarily covered by the footprint of Building #2. Operations inside the building are a machine shop (fabrication). Figure 3 depicts primary interior operational areas.

Table 2-1. Facility Hours of Operation

Day	Open	Close
Monday – Thursday		
Day Shift	7:00 AM	1:00 PM
Night Shift	3:30 PM	1:00 AM
Friday		
Day Shift	7:00 AM	3:30 PM
Night Shift	None	None
Saturday & Sunday	Closed	Closed

[1] No Exposure Certifications were submitted in June 2019.

[22] City of Portland, February 22, 2019. Letter to David Johnson, *Stormwater Inspection – Peninsula Iron Works, 6618 N Alta*, issued by Laura Johnson, Industrial Stormwater Program.

Exterior areas immediately adjacent to the building are:

- *North-northwest*: N Alta Avenue. This space is used for access into the building and storage of materials against the building (under cover and elevated in modified shipping containers). Stored materials include products ready to ship and raw steel.
- *East-northeast*: A narrow landscaped strip and N Crawford Street.
- *South-southeast*: City of Portland parking lot (for adjacent park) – paved with surrounding landscaped islands. In the southern corner of the site is a fenced area for storing covered waste bins.
- *West-southwest*: Graveled area used for access into the building and storage of metal shavings to be recycled (in a covered drop box under a carport-type cover). Beyond this is a railroad track and Cathedral City Park.

Potential Pollutants. This Plan considers both materials with the potential to spill and materials with the potential to impact storm water.

Table 2-2. Potential Spill and/or Pollutant Sources

Area	Potential Sources
Inside Building #2	**All industrial activities occur inside the building.** The following materials have the potential for spill but are unlikely to impact storm water. *Possible pollutants include:* • Engine oil (in forklifts and trucks) • Fuel in forklifts and trucks – forklifts are refueled onsite about every two months using 3 each, 5-gallon fuel containers which are brought to the site at the time of fueling (not stored) • Used oil (stored in a sealed 55-gallon barrel) • Hydraulic oil in equipment • Hydraulic oil and coolant (four types; each up to 55 gallons stored in sealed 55-gallon barrel) • Acetone used for fine parts cleaning (up to 5 gallons stored in 5-gallon sealed pail inside paint locker) • Machine oil on steel chips
All Exterior Areas of the Site: Parking Lot and Drives	**No fabrication or assembly activities occur outside.** Covered storage of products awaiting shipment and raw steel; potential pollutants are from typical parking lot and drive use. *Possible pollutants include:* • Petroleum-related constituents, including oil and grease • Bacteria • Heavy metals • Suspended solids
Building Roofs	No chemical impacts from building roofs are anticipated

3.0 Storm Water System Description

Figure 3 provides a visual reference for the storm system. Precipitation and/or surface water is directed and conveyed at the site as follows:

- The concrete-surfaced access to the bay door on the north side of the building is sloped to drain to trench drain TD01, just north of the building.
- Building roof drains all discharge to conveyance lines in the subsurface that eventually discharge the City storm sewer.
- There is a small area at the southwest corner of the site that is not covered by the building. In this area surface water sheet flows and infiltrates (into landscaping or graveled areas).

City of Portland requirements and guidance documents for site storm system features operation and maintenance are included in Appendix A.

4.0 Minimization of Exposure

Facility operations have been designed to minimize exposure of storm water to potential pollutants:

- Employees are trained on good housekeeping practices and basic spill response (as described in this Plan).
- Any leaks or spills are promptly cleaned up.
- All fabrication and assembly activities occur under cover inside the building. All potential spill sources inside the building (listed in Table 2-2) are:
    - Stored in sealed containers in designated and protected locations when not in use.
    - Are handled in a manner to prevent spills when in use.
- Used chemicals are properly recycled or disposed of by an offsite vendor, including used oil.
- Maintenance and repair of forklifts and trucks are conducted offsite:
    - Forklifts are serviced two times a year off-site at Forklift Services. Service includes fluid change or top off, lube points and leak detections and repair, as needed.
    - Trucks are serviced every 7,000 miles, or as needed for repair off-site. Service includes: Fluid change or top off, Tire inspections, lube points and any miscellaneous repairs, as needed at time of service.
- Steel chip handling and transfer to exterior covered storage bin:
    - Fill small portable chip bins in shop only to or below side rails.
    - Cover small bin with transfer tarp. Transfer tarps are located by Spill Kit at East side of north roll-up door.
    - Move the small bin out to the storage bin using a forklift.

  - Open lid on exterior storage bin, remove tarp from portable bin and dump chips into the exterior storage bin
  - Put transfer tarp over empty portable bin and close lid on exterior storage bin.
  - Any chip spills outside are to be swept up and disposed of immediately.
- In exterior areas:
  - All wood/plastic transfer pallets used at PIW are stored undercover regardless of pallet condition or lack of space.
  - All steel parts stored in exterior areas are stored in an outside storage container.
  - All unused 4x4 stickers (for truck loading or plate storage) are to be put into the storage rack and covered. Any oil stained stickers are to be cut up and properly disposed.
  - Onsite vehicle or equipment maintenance and washing is prohibited.
  - Signs, stencils or equivalent *No Dumping – All Surfaces Drain to River* (or similar) are in place to prohibit dumping.
- Liter and debris are picked up regularly (e.g., weekly).
- All waste containers are rigorously maintained to keep disposed materials inside the container and covered (materials must not be exposed to precipitation).
- Any surface applications (e.g., pesticides, herbicides, fertilizers or asphalt treatments) are conducted following manufacturer's instructions and in a manner to minimize impacts to storm water.

5.0 Spill Prevention and Response

The following spill prevention and cleanup protocol will be implemented at the site:

1. Install one or more spill prevention kits at clearly labeled, easily accessible locations. Spill prevention kit contents are listed in Appendix B.
2. Stop, contain, and clean up all spills immediately upon discovery.
3. Do not flush or otherwise direct absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
4. If the spill has reached or may reach a sanitary or a storm sewer, ground water, or surface water notify the City of Portland sewer authority, or other appropriate agency, immediately. Notification must comply with federal spill reporting requirements.

A Spill Response Plan is included in Appendix B. The Spill Response Plan has been developed to be used by anyone at the site and is considered easy to read and implement. Permanent, laminated copies of this plan will be maintained with the spill kit(s) in easily accessible locations. The spill kit(s) will consist of, at a minimum, a laminated copy of the Spill Response Plan (Appendix B), catch basin and trench drain plugs,

and absorbent booms suitable for preventing drainage to the catch basin(s) of concern. The spill kit(s) should be stored in clearly-labeled impervious containers.

A Spill Report Form is included in Appendix C. This form should be completed by after every spill. The Spill Response Plan includes directions for when spills should be reported to a local authority or regulatory agency. Reports on spills of oil or hazardous substances in greater than reportable quantities (Code of Federal Regulations Title 40 Parts 302.4 and 117) must be retained for five years.

6.0 Inspection and Maintenance Schedule

The site and storm system must be inspected and maintained according to the schedule below (or more frequently). The facility owner shall keep a log recording all inspection dates, observations, and maintenance activities. Receipts shall be saved when maintenance is performed and there is record of expense. Monthly and Annual Inspection Forms are included in Appendix D (make copies as needed).

- **End of Every Shift:** Foremen are to walk outside loading and unloading areas and check for oil spills at the end of every shift. All spills are to be cleaned up and reported to Foremen even if the source of the spill cannot be attributed to activity at PIW.
- **Twice a week.** Outside loading and unloading areas are to be swept clean every Tuesday and Friday. When sweeping near the trench drain, cover it with rubber mats located near Spill Kit. Do not sweep any materials into the trench drain.
- **Monthly (Spill Prevention).** A comprehensive site inspection will occur a minimum of monthly to ensure all spill prevention procedures are being met.
- **Routine Seasonal Maintenance (Storm Water System).** A City of Portland standard operation and maintenance (O&M) plan for site storm water system features (trench drain) is included as an attachment. This standard O&M plan should be reviewed seasonally (spring, summer, fall and winter) to identify and implement any necessary seasonal maintenance.
- **Annual.** The following items should be completed once a year.
    - **Storm Water System Inspection.** A comprehensive site inspection will occur a minimum of once a year to identify the need for any storm water system maintenance. Any indicated need for maintenance will be performed promptly.
    - **Plan Review.** Review this Plan for the need to update due to changes in the site or applicable regulations. At the same time, review operational plan requirements:
        - Review work completed for the prior year to ensure this Plan is being implemented in its entirety and to identify any needed modifications.
        - Verify employee training has been completed.
        - Inspect the spill kit to ensure all supplies are available and have not deteriorated or expired. Inspect the drain blockers/covers to ensure they are in the proper location and are in good working order (check for cracks, other).

Recommendation: To ensure the storm water system is operating as designed, we recommend inspecting visible features (trench drain) for ponding within 48 hours after at least one major storm event each year. Ponding may indicate that flow is being impeded in the feature or downstream storm system. Any maintenance needs should be performed promptly. *For this Plan, a major storm event is defined as 1.0 inches of rain in 24 hours or more.*

7.0 Record Keeping

The following information should be recorded and maintained at the facility for at least three (3) years and made available to City of Portland or other government agencies upon request.

- A copy of this Plan.
- Employee education materials and records of training.
- All inspection reports.
- Documentation of maintenance and repairs of the storm water system.
- Copies of any reports or correspondence submitted to City of Portland.
- Spills or leaks of significant materials that impacted or had the potential to impact storm water or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

Reports on spills of oil or hazardous substances in greater than reportable quantities (Code of Federal Regulations Title 40 Parts 302.4 and 117) must be retained for five years.

8.0 Limitations

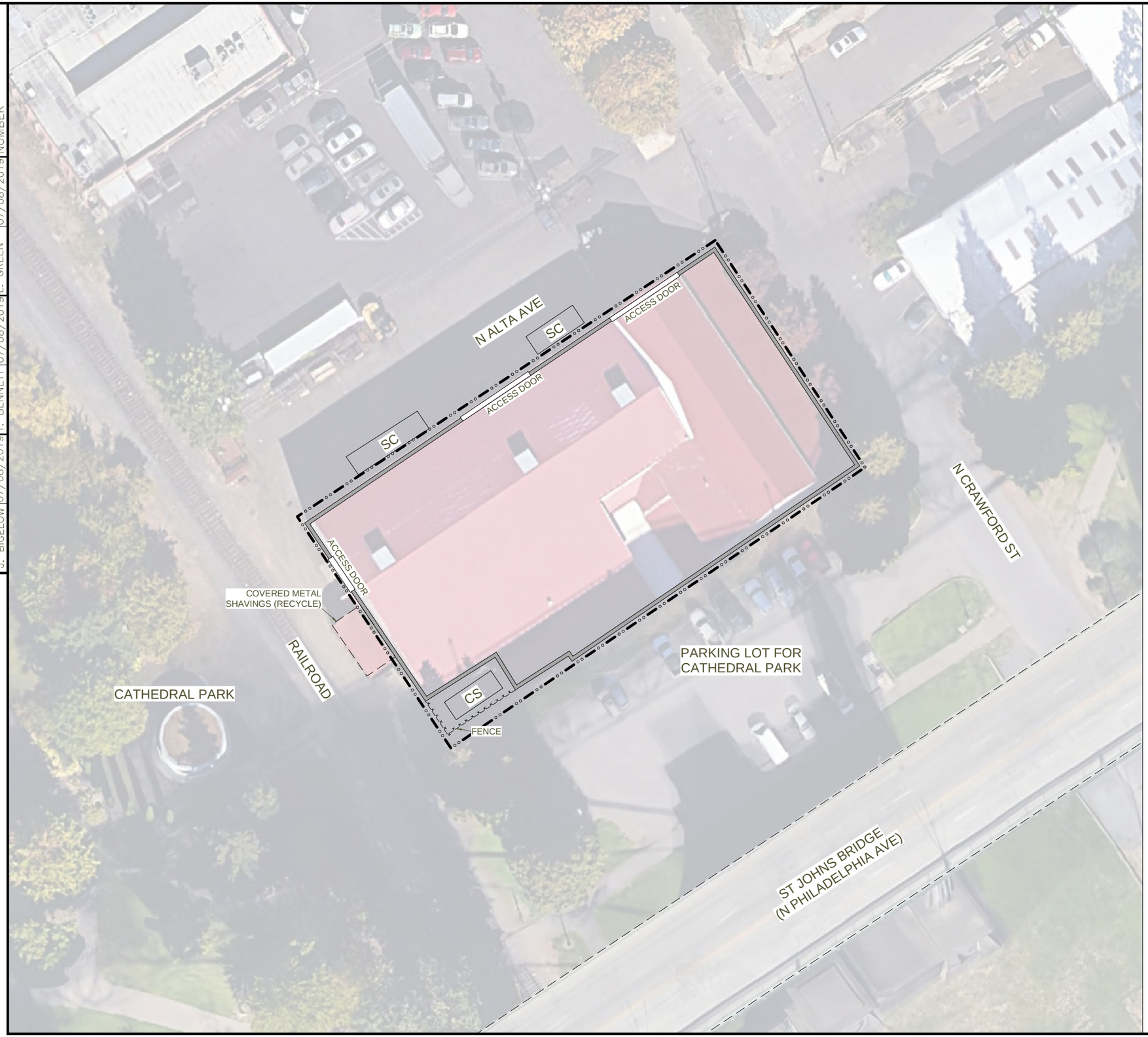
This Storm Water Management Plan (Plan) is reflective of site conditions discovered through site visits, engineering drawings by others, and information provided by the Client for the subject property as of the date published. Actions described in this plan are only those recommended by EVREN Northwest, Inc. and Creekside Environmental Consulting, LLC. The Client is advised that all other environmental agency requirements and regulations are still applicable to the property.

No warranties are expressed or implied concerning potential contaminants or environmental media not addressed through sampling and analysis. EVREN Northwest, Inc. and Creekside Environmental Consulting, LLC are not responsible for conditions or consequences arising from relevant information that is concealed or not fully disclosed at the time of Plan preparation. This Plan was prepared in accordance with generally accepted professional practice in the area at this time for the exclusive use of our client and their agents or authorized third parties. No other warranty, either expressed or implied, is made.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

	Date Drawn: 7/10/2019 CAD File Name: 351-12023-fig1sv_map(v02) Drawn By: JOB Approved By: LDG	Peninsula Iron Works – Building 2 6618 N Alta Avenue Portland, Oregon	**Site Vicinity Map**	Project No. 351-12023 Figure No. **1**

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
J. BIGELOW 07/08/2019	T. BENNETT 07/08/2019	L. GREEN 07/08/2019	351-12023(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

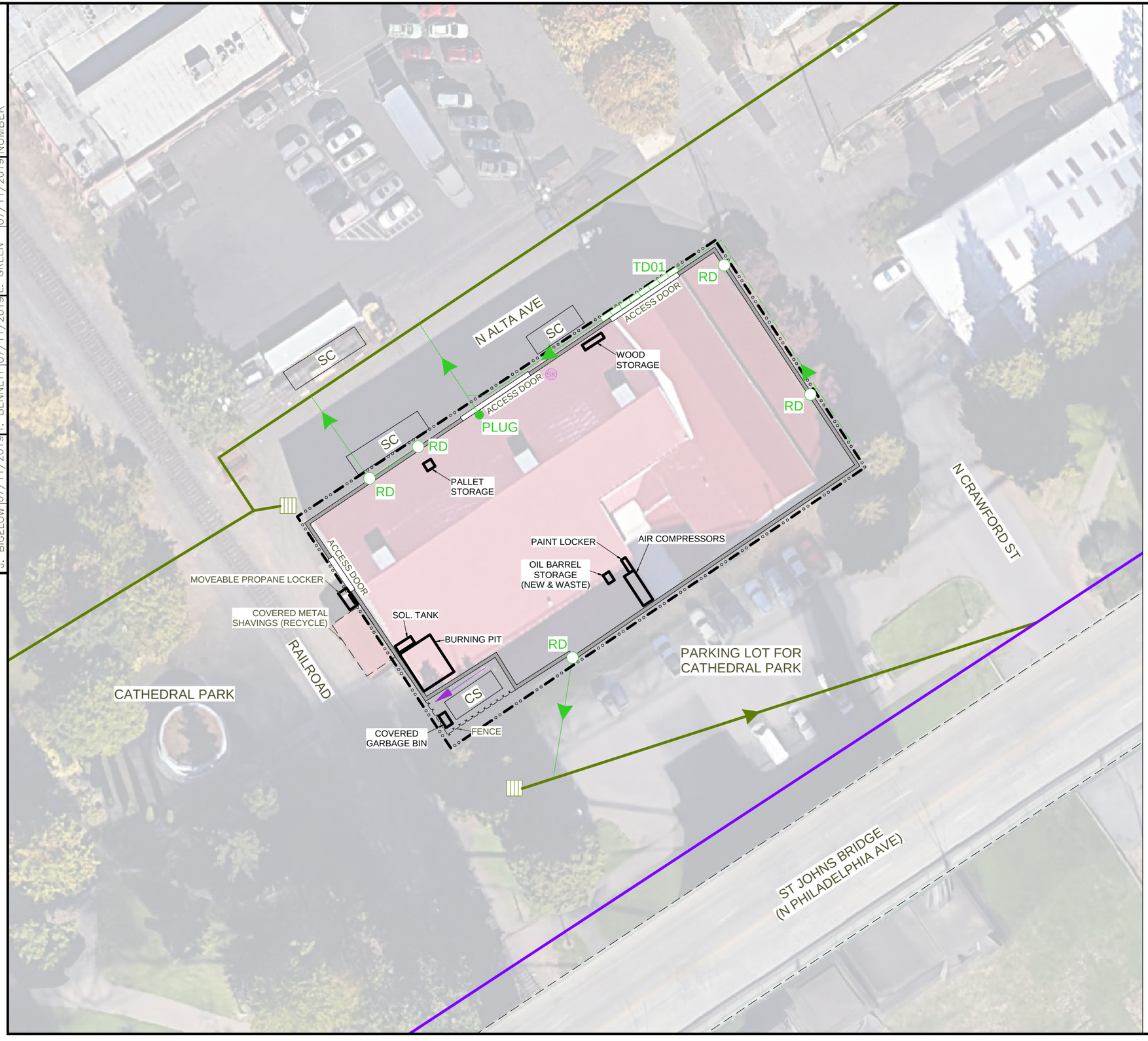
CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 2

SITE PLAN

PENISULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
J. BIGELOW 07/11/2019	T. BENNETT 07/11/2019	L. GREEN 07/11/2019	351-12023(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARY
- SUBJECT BUILDING
- STORM SYSTEM PIPE
- STORM SYSTEM PERFORATED PIPE
- RD — ROOF DOWNSPOUT
- TRENCH DRAIN
- STORM SYSTEM FLOW DIRECTION
- CATCH BASIN
- CITY STORM SYSTEM
- CITY COMBINED STORM/SANITARY SYSTEM
- SC — SHIPPING CONTAINER USED FOR STORAGE OF STEEL PARTS
- CS — COVERED STORAGE AREA FOR MACHINING FIXTURES, RAW STEEL, AND TRASH BINS
- SURFACE FLOW DIRECTION
- SK — SPILL KIT

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

CREEKSIDE ENVIRONMENTAL CONSULTING, LLC
40 SE 24TH AVENUE, SUITE A
PORTLAND, OREGON 97214
(503) 692-8118

FIGURE 3

STORM SYSTEM

PENISULA IRON WORKS - BUILDING 2
6618 N ALTA AVENUE
PORTLAND, OREGON

Appendix A

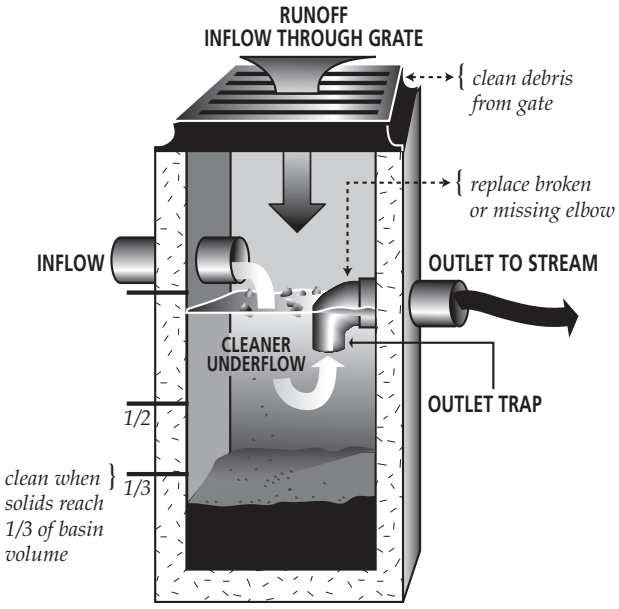
City of Portland Requirements and Guidance for Site Storm System Features

Environmentally Responsible Best Management Practices

17 Maintaining Catch Basins

A catch basin is an inlet to a storm drain system that typically includes a grate where stormwater enters the catch basin, and a basin to capture sediment, debris, and associated pollutants. The purpose of the basin is to help prevent the downstream pipes from becoming clogged and to reduce the amount of sediment and debris being discharged into our rivers and streams. Many catch basins are installed with a downturned elbow or tee to trap floatable material. Storm drain inlets that do not contain basins or outlet traps are not effective in reducing pollutants in stormwater.

Catch basins must be cleaned periodically to maintain their ability to trap sediment and provide drainage for stormwater. The removal of sediment, decaying debris, and associated pollutants from catch basins has aesthetic and water quality benefits. The benefits include reducing foul odors, solids, and other pollutants that reach receiving waters.



Grates:

- Remove leaves and trash so the grate doesn't clog.
- Consider marking the message "Dump No Waste, Drains to Stream" next to your grates in areas that may be at risk. Vendors can be found in the telephone directories or on the web.

Catch Basin:

- The more frequently a catch basin is cleaned, the more pollutants it removes. The U.S. Environmental Protection Agency (EPA) recommends cleaning if the depth of solids reaches one-third the depth from the basin bottom to the invert of the lowest pipe into or out of the basin.
- To clean the catch basin you can hire a contractor by looking in a telephone directory or you can do it yourself by lifting the grate and using a bucket (to remove water) and a shovel to remove the sediment.
- Dispose of the water in a sanitary sewer through a shop drain or sink. Otherwise, use a toilet or other appropriate drain. Let the removed solids dry out, then properly dispose of them. When deciding how to dispose of the sediment, you need to consider the types of activities and pollutants on site. Catch basins in areas used for chemical or hazardous waste storage, material handling or equipment maintenance may collect the chemicals used in these activities from spills or via stormwater runoff. Solids removed from catch basins at commercial or industrial sites are usually not considered hazardous waste and may be disposed of as solid waste.
However, as the "generator" of this waste, you are responsible for making that decision and deciding how to properly manage the solids. If you need assistance deciding whether the solids should be managed as a hazardous waste, contact the Oregon Department of Environmental Quality at 503-229-5263. Make sure the removed solids don't wash back into your catch basin, and don't dispose of them on your or someone else's property.

continued on back

Be sure to follow safety precautions:

- Use caution in removing the grate as it may be heavy.
- Don't leave an open catch basin unattended.
- Never enter a catch basin or other drainage structure unless you are properly trained.
- Ensure proper traffic safety is in place.

Tips:

- Sweep your lot regularly to reduce the need for catch basin cleaning.
- Consider installing and maintaining catch basin inserts or an oil-absorbent pillow.
- Repair or replace damaged outlet traps.
- Install an outlet trap if there isn't one already. They're inexpensive and make it easier and cheaper to remove any floatable pollutants that spill into your catch basin.
- Make sure your chemical and waste storage practices aren't exposed to rainfall and stormwater runoff.
- Don't wash vehicles or equipment to the storm sewer system.

For additional Best Management Practices to minimize pollution from other site activities, call 503-823-5320.

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Appendix B

Spill Response Procedures

WHAT TO DO IN CASE OF A SPILL

1. Assess the nature of the spill. **If it is life-threatening immediately clear the area and dial 911. T**hen notify the Foreman and Site Contact listed below.
2. <u>If the spill is safe to approach</u>, locate the nearest spill kit which will include a copy of these directions. Spill kits will be available at clearly marked, designated locations.
3. Place a drain plug (and verify that the cover has full contact with the rim of the inlet) to prevent the spill from reaching the storm water system.
4. Use the absorbent boom and absorbent material to further contain the spill.

   Do NOT use water or other liquids to wash spilled materials from pavement.
5. Report Spill to Foreman. Foreman is to fill out Spill Response Sheet and file.
6. If Foreman is not available or if the spill is not easily contained, notify the following personnel immediately and report the location and nature of the spill.

Peninsula Iron Works **SITE CONTACTS** *Multiple contacts may be listed, but first contact should work primarily on site and be a member of the Pollution Prevention Team.* **David** Cell: 503-309-0811 **James** Cell: 503-309-0281	**EVREN Northwest, Inc.** Lynn Green (Consultant) 503 452.5561 (office)

7. If Spill enters Storm System call Wastexpress at 503-224-3206 during business hours or at 503-833-9694 after hours and notify City of Portland (see below).

Additional Spill Responsibilities

- ✓ After a spill is contained, disposal of the spill control materials and spilled substances shall be as directed by the Foreman, Site Contact, Environmental Consultant, or other Environmental Professional (e.g., Hazmat team supervisor or Fire Department officer). In all cases, the spill control materials and spilled substances shall be placed in appropriate containers (e.g., steel drums) that are inert to the released substances, sealed, and appropriately disposed according to federal, state, and local regulations.
- ✓ The Foreman or Site Contact will restore the Spill Kit after a spill and as necessary.
- ✓ Spill reporting will be conducted as described on the next page.

Spill Reporting

The Foreman or Site Contact is responsible for ensuring appropriate reporting of spills.

- **If the spill is life threatening, immediately dial 911.**
- For petroleum spills in excess of 25 gallons and all petroleum spills that cannot be completely controlled and cleaned up within 24 hours, notify the Oregon Department of Environmental Quality (503-229-5263) of the petroleum release.
- The Oregon Emergency Response System (OERS; 1-800-452-0311) should be notified of any non-petroleum release of hazardous substances that may present a potential threat to human health, ground water, surface water quality, or present other potential significant hazard (e.g., explosion or flammability).
- If the spill has reached or may reach a sanitary or a storm sewer, ground water, or surface water notify the local jurisdiction, Oregon Department of Environmental Quality, and the local sewer authority (City of Portland) immediately. Notification must comply with federal spill reporting requirements.

  Call the City of Portland at 503-823-7180, with the following information:

  - A description of the material discharged
  - The estimated amount of the material discharged
  - The point of discharge into the city sewer
  - Steps being taken to immediately cease and control the spill as well as a plan of how to prevent a reoccurrence of the discharge
- Document spill response and reporting on the **Spill Report Form**.

Spill Kit

Spill kits will be stored in impervious containers at locations selected by the Pollution Prevention Team to be accessible to anticipated spill locations.

Each spill kit will contain, at a minimum:

- Two (2) catch basin or drain plugs (block),
- Two (2) absorbent booms
- Five (5) gallons of absorbent material, and;
- A laminated copy of the **Spill Response Plan**.

Additionally, the following must be readily available to anyone needing to use the spill kit:

- Polyethylene or equivalent disposal bags
- Safety gloves/clothes/equipment
- Shovels or other material removal equipment

PIW is responsible for ensuring the spill kits and associated equipment are maintained and ready for use in an emergency.

Appendix C

Spill Report Form

SPILL REPORT FORM

Date of Incident:	Responder:
INCIDENT DESCRIPTION	**What, where, when and who reported** Location (also attach a site map showing location): Time: Reported by: Responsible party:
SPILL DESCRIPTION	Material spilled: Volume: Cause of release:
CORRECTIVE ACTIONS TAKEN	**Include PPE and spill response equipment used**
NOTIFICATIONS ***To be made by Management**	**Reportable Spill? Yes ___ No ___** ☐ Oregon Emergency Response System ☐ City of Portland ☐ Oregon Department of Environmental Quality ☐ Oregon State Fire Marshal ☐ Other
DISPOSAL INFORMATION	Storage location: Transporter: Disposal location:
Additional Information (Comment on Corrective Action to Repair or Eliminate Source of Spill)	
Signature:	Date:

Appendix D

Inspection Forms

MONTHLY SITE INSPECTION FORM

YEAR _____

MONTH _____

Building _____

Day: **Time:**

Weather:

Inspect ALL areas of the site where activities have the potential to impact storm water and inspect storm water control measures and the storm water system **a minimum of once a year.**

Make copies of this form and use to document compliance. Completed forms must be kept onsite and maintained for a minimum of 5 years.

NAME SIGNATURE

Inspector has received employee training and is familiar with all aspects of the Plan. **(initial)** _____

INSIDE	**YES**	**NO**
Are there any spills of material that need to be cleaned up?		
Are any materials being used or stored in a manner that may lead to a spill?		
Check the spill response kit(s). Are they accessible and all materials present?		
Have all new employees been trained on the Accidental Spill Prevention and Storm Water Management Plan?		
Use this space to note any items needing correction.		

OUTSIDE	**YES**	**NO**
Any evidence of leaks or spills from vehicles, equipment, or other sources?		
Any evidence of pollutants (or potential pollutants) entering the storm system?		
Is any automobile maintenance (strictly prohibited) occurring on the property?		
Are site personnel keeping litter and debris picked up on a regular basis?		
Are all waste dumpsters and recycling bins covered?		
Is there any debris accumulated in the loading/unloading area?		
Is there any uncovered pallets or wood?		
Have all plates being stored outside been descaled and cleaned of oil?		
Are all plates stored outside properly stored under cover?		
Do any of the storm water features need maintenance or repairs? *Inspect for the presence of oil/grease, floating debris, sediment buildup, structural damage (e.g., grates) or unusual ponding at trench drains.*		
Use this space to note any items needing correction.		

ANNUAL SITE INSPECTION FORM

YEAR _____

Complete this form **in addition** to the Monthly Inspection Form a minimum of once a year.

MONTH & DAY _____

Make copies of this form and use to document compliance. Completed forms must be kept onsite and maintained for a minimum of 5 years.

NAME SIGNATURE

Inspector has received employee training and is familiar with all aspects of the SWMP. **(initial)** _____

1) Review *Accidental Spill Prevention and Storm Water Management Plan* and current regulations:
   - *Have there been any changes to the facility operations or storm systems?* **Y / N**
   - *Any new activities occurring on site in areas exposed to precipitation?* **Y / N**
   - *Have there been any updates to applicable regulations or guidance documents?* **Y / N**
   - *Does the Plan need to be updated?* **Y / N**
2) Review work conducted as required by the Plan since the last Annual Inspection. This should include a review of the past year's monthly inspection forms and response to any spills.
   - *Are all aspects of the Plan being implemented on time and correctly?* **Y / N**
   - *Have any observations requiring action during the routine inspections not been addressed?* **Y / N**
3) Employee Training:
   - *Are all applicable employees trained/refreshed in spill response and Plan requirements?* **Y / N**
4) Record Keeping:
   - *Are all required records being maintained?* **Y / N**
5) Please conduct a thorough site inspection using the Routine Inspection Form AND use the following to document storm system conditions including depth of sediment and % capacity filled.

CATCH BASIN, TRENCH DRAINS & PLANTERS *(complete each box without shading)*

	TD01	Notes
Presence/thickness of oil or sheen (NP, trace or inches)		
Floating material/debris present? (Y/N)		
Total depth (inches)		
Depth of bottom of inlet (inches)		
Depth to top of sediment (inches)		
Total depth of sediment (inches)		
Cleaning, Repair or Replanting Required? (Y/N)		