ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES – SOIL HOT SPOTS & ASBESTOS ABATEMENT
United States Postal Service Processing & Distribution Center

715 NW Hoyt Street
Portland, Oregon 97209
(ECSI #2183)

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Sign-off Sheet

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Abbreviations

ABCA	Analysis of Brownfield Cleanup Alternatives
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CMMP	Contaminated Media Management Plan
COC	Contaminant of Concern
cPAH	Carcinogenic Polynuclear Aromatic Hydrocarbon
DEQ	Oregon Department of Environmental Quality
ECSI	Environmental Cleanup Site Information
EES	Easement and Equitable Servitude
EPA	United States Environmental Protection Agency
EWEB	Eugene Water & Electric Board
µg/L	Microgram Per Liter
mg/kg	Milligram Per Kilogram
mg/L	Milligram Per Liter
MGP	Pintsch Manufactured Gas Plant
NFA	No Further Action
OAR	Oregon Administrative Rules
PAH	Polynuclear Aromatic Hydrocarbon
P&DC	Processing and Distribution Center
Prosper	Prosper Portland
Property	715 NW Hoyt Street, Portland, Oregon
RBC	Risk-based Concentration
ROD	Record of Decision
ROM	Rough Order of Magnitude
Stantec	Stantec Consulting Services Inc.
TGA	Troutdale Gravel Aquifer
TPH	Total Petroleum Hydrocarbons
USPS	United States Postal Service
UST	Underground Storage Tank
VMF	Vehicle Maintenance Facility
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This Analysis of Brownfield Cleanup Alternatives (ABCA) has been prepared by Stantec Consulting Services Inc. (Stantec) for the United States Postal Service (USPS) Processing & Distribution Center (P&DC) property (Property). The Property is an approximately 13.4-acre site located at 715 NW Hoyt Street, Portland, Multnomah County, Oregon, in Section 34, Township 1 North, Range 1 East, of the Willamette Baseline and Meridian, as depicted on **Figure 1**.

The anticipated transition from current USPS use to a future condition of redevelopment will involve several phases. The current phase ("Lease-Back") includes Prosper Portland (Prosper) acquisition of title to the Property (occurred on September 8, 2016), followed by lease-back of the Property to the USPS while a replacement P&DC facility is constructed. The second phase is "Pre-Construction", which will include activities intended to prepare the Property for redevelopment. The third phase is "Redevelopment" of the Property.

The second phase of the Property transition to Redevelopment is Pre-Construction. Pre-Construction activity is intended to make the Property more attractive to prospective developers. One activity planned for execution during Pre-Construction is removal of highly concentrated soil contamination (aka "hot spots"). The purpose of this ABCA is to outline soil hot spot cleanup alternatives and to inform selection by DEQ of a hot spot remedy based on a systematic evaluation of the alternatives. Each alternative is evaluated using the following factors: 1) effectiveness, 2) long-term reliability, 3) implementability, 4) implementation risk, and 5) cost. This ABCA was completed in general accordance with United States Environmental Protection Agency (EPA) guidelines for conducting removal actions (National Contingency Plan 300.415[a][4][i]) and Oregon Department of Environmental Quality (DEQ) removal authority (Oregon Administrative Rules [OAR] 340-122-0040). The recommended remedy will be implemented upon: 1) EPA and DEQ approval of the ABCA, and 2) DEQ approval of a detailed work plan describing implementation of the chosen hot spot remedial alternative. At a minimum, the hot spot removal action work plan, will include a description of:

- Soil excavation, management (including storage as necessary), transport, and disposal methods that will be utilized;
- The approximate area and volume of hot spot soils anticipated to be removed;
- Cleanup levels for each hazardous substance present in soil above hot spot levels to be removed; and
- Confirmation soil sample collection and laboratory testing methods.

INTRODUCTION
January 11, 2019

1.1 PROPERTY LOCATION

The Property is an approximately 13.4-acre, roughly rectangular-shaped parcel located within the Pearl District in downtown Portland, Oregon. The Property is comprised of tax lots 100 and 200 on Multnomah County tax map 1N 1E 34BC. The Property is bounded by the Lovejoy Street Ramp to the Broadway Bridge to the north, by the NW Broadway Ramp to the Broadway Bridge to the east, NW Hoyt Street to the south, and NW 9th Avenue to the west.

The USPS P&DC processes all outgoing mail for the state of Oregon, and includes a 398,000-square-foot P&DC Building, a 10,025-square-foot Vehicle Maintenance Facility (VMF), a 157,400-square-foot multi-story parking structure, and surface parking and maneuvering areas for postal vehicles (**Figure 2**). The entire Property is covered by either structures or paving, with the exception of a few small landscaped areas along the southern Property boundary adjacent to NW Hoyt Street and NW 9th Avenue. Public access is restricted to all portions of the Property except the post office situated at the south end of the P&DC building along NW Hoyt Street.

The Property is zoned EXd (Central Employment), as is property to the immediate north and west. Property to the immediate east and south is zoned CXd (Commercial). Both the EXd and CXd zoning designations allow residential development. The nearest surface water body is the Willamette River, located at its closest approximately 700 feet to the northeast of the Property (**Figure 1**).

1.2 PROPERTY HISTORY

The eastern area of the Property (9.0-acre tax lot 100) was owned by the Northern Pacific Terminal Company (pre-1882), later becoming Portland Terminal Railroad Company (1882 to 1959). The same entity (Portland Terminal Railroad Company) owned the western portion of the Property (4.4-acre tax lot 200) from 1882 to 1974. The railroad used the entire Property for railyard operations. Rail operations included numerous track lines and, for a brief period of time, a railroad turntable. Rail car repair and cleaning were performed along the west side of the Property in the 1890s and early 1900s (Coach Cleaning Area), while freight depots operated in the eastern portion of the Property from the 1890s to later 1950s. A Pintsch Manufactured Gas Plant (MGP) operated in the northwest corner of the Property from approximately 1893 to the 1930s, producing compressed gas from naphtha-grade oil for the lighting of railroad cars. MGP process equipment included retorts, an above-ground gas holder, high-pressure tanks, a tar well, and oil tanks. No definitive information has been found regarding operations and waste disposal practices at the former MGP.

USPS purchased the eastern half of the Property in 1959, and subsequently sold it to? in 1960. The USPS then leased and began operation of the mail processing center (P&DC) on the eastern

portion of the Property in 1962. In 1974, USPS purchased the eastern and western halves of the Property, forming the Property as it is configured today (**Figure 2**). The P&DC and Vehicle Maintenance Facility (VMF) buildings were constructed in 1962, and the parking structure in 1987.

1.3 PRIOR ENVIRONMENTAL INVESTIGATIONS

A number of phases of environmental investigation and cleanup have been performed to date at the Property, largely focused on the following areas associated with hazardous substances from historical (railroad) operations:

- Former MGP;
- Former Coach Cleaning;
- Electrical Utility Vault; and
- Storm Sewers.

USPS also has conducted underground storage tank (UST) investigations related to its operations at the Property in the vicinity of the VMF, and supplemental assessment activities in the Northeast Corner Area. Investigation work completed under DEQ UST and Voluntary Cleanup Programs is discussed in subsection 1.3.1, investigation work performed independently of DEQ is discussed in subsection 1.3.2, and work performed under an Intergovernmental Agreement between USPS and DEQ in subsection 1.3.3.

1.3.1 Investigation Under DEQ UST (LUST #26-92-0068) and Voluntary Cleanup (ECSI #2183) Programs

VMF and South Side of P&DC Building. Six USTs used by the USPS to store diesel, gasoline, waste oil, and heating oil were decommissioned by removal in 1992 and 1993. Five USTs were located at the USPS VMF, and one was located on the south side of the P&DC Building. Contamination was detected in both areas, and soil remediation was completed. DEQ's Northwest Region UST program issued a no further action (NFA) determination for the UST decommissioning activities on June 13, 1997, but noted that some pockets of elevated petroleum contamination were left in both areas because of inaccessibility. Elements of these UST activities are discussed below.

1993 UST Decommissioning Report Review & Soil Investigation. This report, prepared by Dames & Moore, presents the results of soil boring and test pit work that was completed at the VMF in the course of decommissioning five USTs: a 300-gallon waste oil UST; a 1,000-gallon and two 5,000-gallon diesel USTs; and a 10,000-gallon gasoline UST. Hand auger borings (B1 through B18, and EX-1) were advanced to a maximum of 4 feet below ground surface (bgs), with one to two soil samples from each analyzed for total petroleum hydrocarbons (TPH). Three deeper test pits were

dug south of the VMF, and selected soil samples were analyzed for TPH. In the hand auger samples, TPH (diesel and/or heavy oil) was detected at a number of locations to a maximum concentration of 71,000 milligrams per kilogram (mg/kg)). Deeper test pit samples were generally non-detect.

1994 UST Decommissioning & Soil Investigation Report. A 25,000-gallon Bunker C UST located immediately south of the existing P&DC Building was decommissioned in 1993. In the course of removal, contamination was observed in the area of the product line, which had been hit during shoring activities. Soil was not observed to be visibly contaminated in the UST excavation. Numerous soil samples were collected during decommissioning of the UST. Results from investigation and confirmatory sampling are documented in *Geotechnical Investigation, 25,000 Gallon UST Removal* (June 8, 1993) and *UST Decommissioning & Soil Investigation Report* (February 10, 1994) prepared by Dames & Moore. Impacted soil was removed from this location, and transported offsite for disposal. A pocket of residual contamination (up to 770 mg/kg diesel) was left in place next to the P&DC Building foundation as noted in DEQ's June 13, 1997 NFA letter for the UST removal. A monitoring well was installed in 1993 by Dames & Moore near the southeast corner of the garage associated with the UST decommissioning at this location. Groundwater was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). No BTEX was detected in groundwater.

2001 Preliminary Assessment Report. Alisto Engineering Group completed a Preliminary Site Assessment for the Property dated March 8, 2001. Work included the advancement of borings to a maximum of 32 feet bgs at nine locations in the northwest corner of the Property (MGP Area), and the collection of deeper soil samples (8 to 32 feet bgs) and shallow groundwater samples from the same areas. Soil samples were analyzed for TPH, BTEX, polynuclear aromatic hydrocarbons (PAHs), and metals, while grab groundwater samples from boreholes were analyzed for TPH and BTEX. Three monitoring wells (MW-1 to MW-3) were subsequently installed and sampled in August 2000. Sample results are discussed below in subsection 1.3.3.

2006 Northeast Corner Area. Arcadis conducted a supplemental investigation in the Northeast Corner Area of the Property in September 2006. Low levels of diesel-range and heavy oil-range petroleum hydrocarbons (270 mg/kg and 2,000 mg/kg, respectively) were detected at one location in the surface sample collected from EH-6. Petroleum was not detected in the other three samples in the Northeast Corner Area. The concentrations detected at EH-6 were significantly below DEQ's risk-based levels of concern. Lack of field evidence of contamination, discussions with the laboratory, and a review of the gas chromatogram for Sample EH-6 indicates that the low petroleum hydrocarbon detections are likely due to a mixture of heavy oil and asphalt or coal particles being present in the soil sample. Soil borings completed for this investigation show that appreciable petroleum hydrocarbon impacts do not extend south and/or west of boreholes EH-3, EH-4, and EH-5 completed for the Remedial Investigation.

1.3.2 Independent Investigations Reported to DEQ

1987 Parking Garage Geotechnical Investigation. Geotechnical borings (B-1 and B-2 and CC-1 to CC-4) were completed in 1986 and 1987 in association with construction of the Parking Garage. It appears from DEQ records that the 1986 work was completed by Cornforth Consultants and the 1987 work by Geotechnical Resources. Borings were advanced to 45 feet bgs. No visual evidence of contamination was noted. No samples were submitted for laboratory analysis.

1993 Geotechnical Investigation. In association with decommissioning of the 25,000-gallon Bunker C UST located south of the P&DC Building, one soil and one groundwater sample were collected near the UST. No petroleum hydrocarbons were detected in the samples.

1996/1997 Limited Subsurface Environmental Assessment, Proposed Utility Construction. In preparation for utility construction west of the P&DC Building, shallow soil samples were collected from three of four soil borings (B-1 through B-4). In addition, a groundwater sample was collected in late1996 from monitoring well MW-A. Soil samples were analyzed for TPH, PAHs, and total metals. The groundwater sample was analyzed for TPH, PAHs, and BTEX. The well was resampled in November 1997. There were no analyte detections in either groundwater sample with the exception of fluoranthene at a concentration of <1 microgram per liter (µg/L) in the 1996 groundwater sample, and dissolved lead at a concentration of 1.5 µg/L in the 1997 groundwater sample.

1997 Work Plan, Excavation Monitoring and Oversight. Data collected during excavation of the utility trench discussed above were included in the GeoEngineers *Work Plan, Excavation Monitoring and Oversight* (May 16, 1997). A composite sample (SS-1/SS-2) collected from stockpiled soil from the utility trench contained diesel and heavy oil concentrations up to 5,170 mg/kg and 3,880 mg/kg, respectively. Individual PAH concentrations up to 292 mg/kg also were detected in the composite sample. A soil sample collected from the utility trench following excavation (TS-1) had reduced levels of hazardous substances. Soil Sample USPS-1 contained elevated levels of hazardous substances.

1997 Report of Excavation Observation and Monitoring. The GeoEngineers report contained confirmatory sampling data from five shallow utility trenches that were excavated to facilitate utility construction. Confirmatory samples were collected from depths varying from 1.5 to 13 feet bgs, and analyzed for TPH, metals, volatile organic compounds (VOCs), and PAHs. Elevated TPH, metals (arsenic and lead), and PAHs were detected. At location USPS-T#5-2 (3.5 feet bgs), diesel and heavy oil were detected at175,000 mg/kg and 128,000 mg/kg respectively. Benzo(a)pyrene and naphthalene were detected at 73.1 mg/kg and 246 mg/kg, respectively.

2000/2001 Natural Gas Line. Soil sampling was completed in 2000 and 2001 in conjunction with rerouting of a natural gas line situated along the east side of the Property and in NW Broadway Street. TPH, PAHs, and metals were detected in the soil samples collected.

1.3.3 Investigations Governed by DEQ/USPS Intergovernmental Agreement

MGP Area. Investigation of the former MGP Area located in the northwest Property corner was initiated in 2000. Initial work focused on soil sampling, and VOCs, PAHs, and TPH were detected. Three shallow groundwater wells (MW-1 to MW-3) were subsequently installed by Alisto and monitored between 2000 and 2003. Contaminants detected in soil and groundwater included primarily petroleum hydrocarbons, VOCs, and PAHs that are likely attributable to MGP operations and historical railyard activities in the area. Impacts to groundwater were primarily located in the vicinity of MW-3.

Petroleum hydrocarbons and VOCs were not detected in MW-1 or MW-2, located south (upgradient) and east (side-gradient) of the MGP footprint. PAHs were detected in both wells at concentrations of less than 1 µg/L. At MW-3, located within the footprint of the MGP, maximum detections of diesel, heavy oil, naphthalene, and benzene were 13,000 µg/L, 3,920 µg/L, 3,900 µg/L, and 1,020 µg/L, respectively. Monitoring of MW-1 and MW-2 was discontinued in 2003 based on a lack of significant detections. Monitoring of MW-3 was discontinued in 2005 when DEQ determined that groundwater impacts had been adequately delineated.

In 2004, 12 borings (P-3, P-6, and P-9; PP-1 through PP-7, and SS-2 and SS-3) were advanced in the MGP Area. Samples were collected at depths ranging from 3 to 90 feet bgs. Most borings were advanced for collection of shallow soil samples to assess near-surface impacts in the MGP Area to augment the deeper investigation completed in 2001. Boring PP-6 was advanced to the top of the Troutdale Gravel Aquifer (TGA) to determine the depth (elevation) of the TGA on the Property. Borings SS-2 and -3 were advanced to 32 feet bgs to evaluate contaminant conditions in the vicinity of the former (abandoned) Tanner Creek Sewer located west of the Property below NW 9th Avenue. Analysis included BTEX, VOCs, PAHs, and petroleum hydrocarbons.

Petroleum hydrocarbons, particularly PAHs, were commonly detected, with the highest concentrations found in deeper unsaturated soil and extending into the top of the water table (7 to 16 feet bgs). The presence of elevated contamination at depth was surmised to be from fill placed on the Property following MGP and railroad activities.

At the presumed location of the former MGP "tar well', a boring was advanced to the top of the TGA at approximately 90 feet bgs, and samples collected from multiple intervals for analysis. Hazardous substances typical of historical MGP and railyard activities were observed in soil and groundwater, but attenuated with depth. Non-aqueous phase liquid was not observed in the TGA. A monitoring well (TGA-1) was subsequently installed near this location, and groundwater

samples collected from December 2004 through September 2005. Petroleum hydrocarbons, benzene, and naphthalene were detected up to 0.78 milligrams per liter (mg/L), 1.72 µg/L, and 2.27 µg/L, respectively. Based on a lack of significant impacts, USPS requested and received DEQ approval to discontinue sampling of TGA-1.

1.3.4 Investigations Performed with DEQ Oversight

Storm Sewer. Investigation at the Union Station-Horse Barn site and within NW Lovejoy Street during construction of the new ramp in 2003 identified petroleum hydrocarbon, VOC, and PAH contamination in soil and shallow groundwater along the eastern margin of NW 9th Avenue. MGP wastes are considered the likely source of this contamination. Subsequent video survey of the sewer and sampling of stormwater within a 27-inch sewer beneath NW Lovejoy in the mid-2000s identified MGP waste (benzene, naphthalene, and other PAHs) within the sewer, but at low levels that did not exceed risk-based screening values at sample collection points (manholes) downstream of the Station Place site. Water quality samples were collected during both low and high stormwater flow conditions.

To evaluate conditions in the northwestern area of the Property and in the vicinity of the former (abandoned) Tanner Creek Sewer, two borings (SS-2 and SS-3) were advanced as close to the sewer line as possible at DEQ's request in 2004. Soil samples were collected from depths between 16 and 32 feet bgs and analyzed for BTEX, VOCs, PAHs, petroleum hydrocarbons, and metals. Petroleum hydrocarbons (up to 1,380 mg/kg), PAHs, and VOCs (excluding benzene and others) were detected, indicating that MGP contamination extends off of the Property and beneath NW Lovejoy Street. Groundwater adjacent to the sewer was similarly impacted.

During construction of the new Lovejoy Ramp in the early 2000s, an unknown petroleum product was observed by DEQ seeping from shallow soil in an excavation sidewall. DEQ recalls that the seepage was observed near the northwest corner of the VMF. In contrast, the City indicated that seeps were observed near the northwest corner of the Property and not near the VMF (City of Portland, 2004 as cited in ARCADIS, 2006). The City of Portland noted that the seep was encountered during installation of a light pole adjacent to the Station Place property on the north side of vacated NW Lovejoy Street. According to DEQ staff, the area of seepage was subsequently covered and the source of the contamination not identified.

Contamination from past releases from the Property historically migrated to adjacent properties, generally to the north and west of the northwest corner of the Property. Contamination associated with past MGP releases has been identified within the abandoned Tanner Creek Sewer located below NW 9th Avenue (north of NW Irving Street and extending north towards the Willamette River). DEQ determined in the Record of Decision (ROD) that additional off-site investigation of MGP-related releases was not warranted by the owner of the Property,

anticipating completion of this work by former Property owner Portland Terminal Railroad (which was the Property owner during MGP operations). A 2015 *Abandoned Tanner Creek Sewer and 9th and Lovejoy Street Investigation Summary Report* prepared on the behalf of Portland Terminal Railroad was reviewed by DEQ. DEQ noted that impacts from the former MGP operations may extend north to the Centennial Mills property located adjacent to the Willamette River. DEQ will work with Portland Terminal Railroad to evaluate the need for remedial action.

Electrical Utility Vault. Subsurface petroleum contamination was encountered in 1996 during geotechnical drilling associated with an electrical utility vault expansion west of the P&DC Building. Near-surface soil was visually impacted, and subsequent laboratory analysis identified petroleum hydrocarbons, VOCs, PAHs, and lead in the soil. Impacted soil was excavated and transported offsite for disposal at the Hillsboro Subtitle D Landfill. A monitoring well (MW-A) was installed in the impacted area in 1996 by GeoEngineers and groundwater samples were collected during low and high water conditions; the well was again sampled in October 2004. Significant groundwater impacts were not detected.

During subsequent investigations completed by Arcadis in 2004, additional borings (UV-1 through UV-8) were advanced, generally to15 feet bgs, to further delineate contamination in the area. One boring (UV-8) was advanced to 30 feet bgs and a temporary shallow groundwater monitoring point was constructed. Soil and groundwater samples from the boring and well (UV-8 and MW-A) were analyzed for BTEX, PAHs, and petroleum hydrocarbons. Elevated contaminants including PAHs were detected in soil. Two PAHs were detected in groundwater in the UV-8 boring; none were detected in monitoring well MW-A.

Coach Cleaning Area. According to Sanborn Fire Insurance Maps and other sources, the cleaning of railroad passenger (coach) cars historically was performed in the west-central portion of the Property. To evaluate environmental conditions in this area, seven borings (CC-1 to CC-7) were advanced to 15 feet bgs in this area in 2004, and two samples (surface and subsurface) at each location were collected and analyzed for VOCs, petroleum hydrocarbons, PAHs, and metals. Organic contaminants generally were detected at low concentrations, or were absent above their respective laboratory reporting limits. Arsenic and lead concentrations in soil were notably elevated. Detected arsenic ranged from 22 mg/kg to 48 mg/kg, and lead from 244 mg/kg to 1,080 mg/kg. In 2006, three additional borings (CC-8 to CC-10) were advanced in the area. Elevated lead and arsenic were detected up to 3,020 mg/kg and 50.9 mg/kg, respectively.

Parking Garage. As part of the 2004 remedial investigation conducted on behalf of the USPS by ARCADIS, shallow and deeper soil samples were collected from a boring located immediately south of the Parking Garage on the Property (EH-1) in 2004 and analyzed for petroleum

hydrocarbons, VOCs and PAHs. Soil samples were not analyzed for metals. Low levels of a few PAHs were detected.

Northeast Corner. Sampling was completed in the northeast corner of the Property in 2004. Soil samples were collected (surface and at depth) at three locations (EH-3 through EH-5), with notable detections of petroleum hydrocarbons at EH-3. Soil samples were not analyzed for metals. Soil samples were later collected at two additional locations (EH-6 and EH-7). Petroleum hydrocarbons were detected at 2,000 mg/kg at one location (EH-6), and arsenic at both (to 17.2 mg/kg).

1.3.5 2018 Pre-Demolition Hazardous Building Materials Survey Report

PBS Engineering + Environmental (PBS) performed a pre-demolition hazardous materials survey of accessible building areas in July 2018. The purpose of the survey was to locate, identify, and quantify accessible friable and non-friable hazardous building materials for removal prior to demolition. PBS previously surveyed this site in 1995/1996 and 2008 and presented the survey results in Asbestos Survey Reports dated January 1996 and April 2008. PBS utilized the 2008 report to verify the asbestos-containing materials already identified on site and to update the asbestos-containing materials list with any new materials observed during this survey. PBS' focus was on asbestos containing building materials (ACM), lead-containing paint (LCP or lead-based paint [LBP]), mercury-containing light tubes and polychlorinated biphenyls (PCB) light ballasts.

The following hazardous materials and quantities were identified:

ACM
- 12" X 12" Floor Tile and Mastic – 11,272 square feet
- 9" X 9" Floor Tile and Mastic – 243,508 square feet
- Black Wall Tar – 5,000 square feet
- Duct Felt Tape – 155,588 linear feet
- Gasket Material - 2
- Insulating Wrap – 2 linear feet
- Pipe Joint Insulation – 2,300 hard fittings
- Sealant – 10,000 linear feet
- Fire Doors – 150
- Window Glazing – 20 windows

LCP
- Both exterior and interior painted surfaces were determined to the lead-based paint.

Mercury Light Tubes
- 10,868 fluorescent light tubes were observed

1.4 PROSPECTIVE PURCHASER AGREEMENT (PPA)

On September 8, 2016, a Consent Judgement was recorded (Document No. 2016-112772) in Multnomah County, Oregon between the Oregon Department of Environmental Quality (DEQ) and the Portland Development Commission (now Prosper). The mutual objectives of the Consent Judgement were to: (a) to protect public health, safety, and welfare and the environment in accordance with ORS 465.200 through 465.410, and regulations promulgated thereto; (b) to facilitate productive reuse of property; and, (c) to provide PDC with protection from potential liabilities in accordance with applicable law.

The Consent Judgement included Exhibit C, Scope of Work (SOW) for activities to be performed during the different phases of Property use (e.g., Lease-Back, Pre-Construction and Redevelopment); and, Attachment A1 to Scope of Work, the Master Remedial Action Work Plan (MRAP). The MRAP forms the basis for all remedial actions including those proposed as part of this ABCA evaluation.

1.5 REQUIRED REMEDIAL ACTION

A ROD was issued for the Property on July 14, 2010. In the ROD, remedial actions were selected by DEQ under two different remedial action scenarios: "Existing Site Use" scenario under which USPS operations continue unchanged, and a "Hypothetical Future Site Use" scenario under which the Property will be redeveloped.

1.5.1 Existing Site Use

The selected remedial actions for soil and groundwater contaminants under the Existing Site Use scenario include:

1. Maintenance of the cap (paving and buildings over the entire Property).

2. Minimizing occupational worker exposure to impacted soil by maintaining existing limited use in the Former Pintsch Manufactured Gas Plant (MGP) and Electrical Utility Vault areas of the Property.

3. Use of Engineering Controls and Institutional Controls (personal protective equipment as necessary and limitations on Property access) to prevent exposure of excavation workers to contaminated soils and groundwater.

4. Recording of an easement and equitable servitude (EES) with the Property deed summarizing information on Property contamination, worker notification and protection requirements, cap inspection and maintenance requirements, acknowledging the requirements set forth in the CMMP, and prohibiting use of groundwater for drinking or any other purposes.

These Existing Site Use remedial actions have been, and will continue to be, implemented at the Property while the USPS leases the Property from Prosper, and continues to operate the P&DC facility.

1.5.2 Hypothetical Future Site Use

To redevelop the Property, the components of the Hypothetical Future Site Use scenario remedial action stipulated in the ROD and PPA? and listed below must be implemented:

1. Maintenance of the existing Property cover (paving and buildings) until future redevelopment occurs, and temporary capping and access restrictions if cover is compromised or removed.

2. Concurrent with redevelopment, capping of areas where soil exceeds acceptable risk levels with a demarcation layer and a minimum of two feet of clean fill (landscape areas) or hardscape (buildings and paved areas). Cap specifications for paved/building areas to be determined in a remedial design document and subject to DEQ approval.

3. Excavation of soil exceeding hot spot concentrations (concentration more than 100 times the applicable risk-based concentration [RBC] for individual carcinogenic compounds, or 10 times higher for non-carcinogens including petroleum hydrocarbons) in the Electrical Utility Vault and MGP areas. Excavated soil requires offsite disposal at a Subtitle D landfill or other DEQ-approved facility. This action will require confirmatory sampling to ensure that all hot spot soils are removed.

4. Installation of a vapor mitigation system beneath future buildings constructed in the MGP and Electrical Utility Vault areas to prevent potential exposure of future users to contamination via vapor intrusion, or additional investigation to demonstrate that a vapor mitigation system is not needed to protect human health.

5. Removal of two pockets of petroleum contamination beneath existing Property buildings, as discussed in DEQ's June 13, 1997 approval letter for decommissioning of Property USTs. Alternatively, completion of a risk analysis confirming that the residual contamination does not pose a risk to human health or the environment under the appropriate Property use scenarios also will be acceptable.

6. Implementation of Engineering Controls for soil following hot spot removal and any other soil removal related to Property development to prevent excavation worker exposure to contaminated soils. Implementation of Engineering Controls for groundwater to prevent excavation worker exposure to contaminated groundwater in an excavation in the former MGP Area. Controls are to be outlined in a Contaminated Media Management Plan (CMMP), including protocols for worker notification and requirements for personal protective equipment, dust suppression, soil management protocols, site access restrictions, etc.

7. Recording of an EES with the Property deed (unless the 2011 EES recorded by USPS is determined to be adequate) for the entire Property, or any Property sub-areas should the Property be subdivided for any reason. The EES(s) must outline hazards, describe cap inspection and maintenance requirements, include a prohibition of groundwater use for any purpose, and acknowledge the requirements set forth in the CMMP prepared for the Property.

This Hypothetical Future Site Use remedial action must be implemented across the entire Property, or on subdivided portions of the Property, when USPS operations cease, and redevelopment is initiated.

1.6 REDEVELOPMENT PLAN

Prosper has a conceptual development framework for the Property. **Figure 3** illustrates this development framework, which includes:

- street development (encompassing approximately 17% of the Property);
- park and open space development (encompassing approximately 11% of the Property); and,
- commercial and urban residential (25% of the housing will be affordable) over ground floor commercial development (encompassing approximately 72% of the Property).

While this conceptual development framework reflects Prosper goals for the project and preliminary public input, including the inclusion of parks and affordable housing, the actual composition and layout of the development and placement of infrastructure (i.e., roads, sidewalks, public spaces, etc.) may vary significantly from this framework. However, Prosper does not foresee any development of future single-family residences at the Property.

2.0 REMEDIAL ACTION TEAM ORGANIZATION AND RESPONSIBILITIES

The remedial action team for the project will include Prosper (led by Colin Polk, Prosper's environmental coordinator), an environmental consultant (Prosper maintains a list of approved environmental consultants selected through a competitive request for qualifications process), an environmental contractor (to be selected in advance of the project through a competitive request for proposal process), and DEQ (led by Dan Hafley, the project manager who has provided oversight of prior environmental assessment and cleanup activities completed at the Property during the last 9 years). DEQ oversight will be facilitated through DEQ's Voluntary Cleanup Program, and Prosper will pay all oversight fees associated with receipt of DEQ oversight.

3.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

3.1 POTENTIALLY APPLICABLE CLEANUP STANDARDS

This ABCA addresses soil hot spot soil at the Property. Hot spots areas are considered to represent levels corresponding to an estimated lifetime excess cancer risk of 1 x 10^{-4} (one in ten-thousand) and a hazard quotient of 10 for non-carcinogens. Hot spots are 100X the applicable DEQ direct contact RBC for carcinogens and 10X the RBC established for non-carcinogens. The following hot spots were identified at the Property (Arcadis, 2008).

- For a hypothetical future construction worker, the hot spot consists of both surface and subsurface soils to a depth of 15 feet bgs.
- For hypothetical occupational workers and urban residents, the hot spot consists of surface soils (0 to 3 feet bgs).

Contaminants of concern (COCs) detected at concentrations exceeding potentially applicable hot spot levels (DEQ Generic Hot Spots Concentrations, revised November 2015) consist of the following carcinogenic PAHs (cPAHs):

- benzo(a)anthracene;
- benzo(a)pyrene;
- benzo(b)fluoranthene;
- dibenzo(a,h)anthracene; and
- indeno(1,2,3-cd)pyrene.

In Table 1 below, 100X various RBCs are summarized as potential cleanup standards for soil hot spot cleanup. In addition to standard DEQ exposure scenarios (urban residential, occupational, and construction worker), a dense urban residential standard is provided. This cleanup standard was approved for use by the DEQ at the Eugene Water & Electric Board (EWEB) Headquarters Property in Eugene, Oregon. The basis for approval of this exposure scenario was that anticipated land use did not include yards, and included very little landscaping on a per residential unit basis. As a result, the exposure duration of 175 days per year or 11.5 hours per day used in calculating the standard urban residential RBC was deemed overly conservative, and more appropriate for use in a suburban apartment or condominium setting. For the dense urban residential RBC, an exposure duration of 60 days per year or 4 hours per day was utilized. Based upon similar anticipated future land use on and in the vicinity of the Property, as discussed in the *Broadway Corridor Framework Plan* (Prosper, 2015), those exposure assumptions appear to be consistent with possible Property use.

Table 1 Potentially Applicable COC Hot Spot Cleanup Standards

COC	Urban Residential Hot Spot Cleanup Value	Dense Urban Residential Hot Spot Cleanup Value	Occupational Hot Spot Cleanup Value	Const. Worker Hot Spot Cleanup Value
Benzo(a)anthracene	34 mg/kg	100 mg/kg	290 mg/kg	2,400 mg/kg
Benzo(a)pyrene	3.4 mg/kg	10 mg/kg	29 mg/kg	240 mg/kg
Benzo(b)fluoranthene	34 mg/kg	100 mg/kg	290 mg/kg	2,400 mg/kg
Dibenzo(a,h)anthracene	3.4 mg/kg	10 mg/kg	29 mg/kg	240 mg/kg
Indeno(1,2,3-cd)pyrene	34 mg/kg	100 mg/kg	290 mg/kg	2,400 mg/kg

Note: Based on DEQ RBCs, November 1, 2015.

3.2 LAWS AND REGULATIONS APPLICABLE TO THE HOT SPOT CLEANUP

The following laws and regulations are applicable to soil hot spot cleanup at the Property.

Title 10 of the Portland City Code known as the Erosion and Sediment Control Regulations which are intended to control the creation of sediment and to prevent the occurrence of erosion at the source during construction and development. The Erosion and Sediment Control Regulations seek to: 1) Reduce the sediment and pollutants contained in erosion caused by construction and development; 2) Reduce the amount of sediment and pollutants entering storm drainage systems and surface waters from all ground disturbing activity; 3) Reduce the amount of erosion placing dirt and mud on the public right-of-way and surrounding properties during construction and development; and, 4) Reduce the amount of soil and dust placed into

the air during ground disturbing activity. All ground disturbance activities whether or not a permit is required shall conform to the City of Portland Bureau of Development Services Erosion and Sediment Control Manual (March 2008 or later version).

In OAR 340-122-0040 (2) it states that "*In the event of a release of a hazardous substance, remedial actions shall be implemented to achieve (a) Acceptable risk levels as defined in OAR 340-122-0115.*"

In OAR 340-122-0085 (7) it states that "*For hot spots of contamination in media other than groundwater or surface water that have been identified under OAR 340-122-0080(7) or section (6) of this rule, the feasibility study shall evaluate the feasibility of treatment, and the feasibility of excavation and offsite disposal at an authorized disposal facility, to a point where the concentration or condition making the hazardous substance a hot spot would no longer occur at the facility, based upon a balancing of the remedy selection factors set forth in OAR 340-122-0090 and an application of the higher threshold for evaluating the reasonableness of the cost of treatment and of the cost of excavation and offsite disposal of hot spots of contamination.*" This regulation establishes a threshold for the degree of hot spot cleanup and application of a higher threshold for evaluating cost reasonableness.

In OAR 340-122-0090(4)(b) it states that "*For hot spots of contamination in media other than water, the Director shall select or approve treatment or excavation and offsite disposal at an authorized disposal facility or the combination of treatment or excavation*."

OAR 340-122-0115 (2) defines acceptable risk level as "*(a) For deterministic risk assessments, a lifetime excess cancer risk of less than or equal to one per one million for an individual at an upper-bound exposure.*" This is the basis for the calculation of RBCs. Therefore, cleanup to RBC concentrations is considered to adequately protect human health in the absence of hot spot concentrations.

OAR 340-122-0115 (32) defines hot spots of contamination as "*(b) For media other than groundwater or surface water, (e.g., contaminated soil, debris, sediments, and sludges; drummed wastes; "pools" of dense, non-aqueous phase liquids submerged beneath groundwater or in fractured bedrock; and non-aqueous phase liquids floating on groundwater), if hazardous substances present a risk to human health or the environment exceeding the acceptable risk level, the extent to which the hazardous substances: (A) Are present in concentrations exceeding risk-based concentrations corresponding to: (i) 100 times the acceptable risk level for human exposure to each individual carcinogen; (ii) 10 times the acceptable risk level for human exposure to each individual noncarcinogen*" must be evaluated. Cleanup to levels below these concentrations would, consistent with OAR 340-122-0085(7) eliminate the hot spot. Additional mitigation of remaining soil may still be required, but without a preference for treatment.

Under OAR 340-122-090, the Director shall select a remedy that is a) protective; b) considers/applies the balancing factors; and c) treats hot spots to the extent feasible.

Though not a regulation, in April 1998, the DEQ issued *Guidance for the Identification of Hot Spots,* (Oregon DEQ, Land Quality Division, April 23, 1998) which sets forth procedures for identifying hot spots in soil and/or water.

4.0 EVALUATION OF REMEDIAL ACTION ALTERNATIVES

4.1 REMEDIAL ACTIONALTERNATIVES CONSIDERED

Each of the following remedial action alternatives considered, are briefly described below.

4.1.1 Alternative 1 - No Action

No action (e.g. not removing highly concentrated soil hot spots or any hazardous building materials) is the baseline against which all other alternatives will be measured.

4.1.2 Alternative 2 - Removal Action using 100X Urban Residential (0-15 feet bgs) RBCs for Carcinogens as Cleanup Standards

This hot spot remedial alternative includes excavation, transport, and off-site disposal at the Waste Management Hillsboro Landfill of all soil containing cPAHs at concentrations exceeding 100X the DEQ's urban residential direct contact RBC. Although application of the urban residential RBC is applied to soil extending to 3-feet in depth, this Alternative is included in the event that deeper soil may be brought to the surface and remain there, or the grade of the property is changed allowing direct contact to deeper soils by future residents.

This alternative also includes the abatement of all hazardous building materials.

4.1.3 Alternative 3 - Removal Action using 100X Urban Residential RBC for Carcinogens (0-3 feet bgs) and Construction Worker (3-15 feet bgs) RBCs for Carcinogens as Cleanup Standards

This hot spot remedial alternative includes excavation, transport, and off-site disposal at the Waste Management Hillsboro Landfill of all soil containing cPAHs at concentrations exceeding 100X the DEQ's urban residential direct contact RBC in the depth interval 0-3 feet bgs, and exceeding 100X the DEQ's construction worker direct contact RBC for cPAHs in the depth interval 3-15 feet bgs.

This alternative also includes the abatement of all hazardous building materials.

4.1.4 Alternative 4 - Removal Action using 100X Dense Urban Residential (0-3 feet bgs) and Construction Worker (3-15 feet bgs) RBCs for Carcinogens as Cleanup Standards

This hot spot remedial alternative includes excavation, transport, and off-site disposal at the Waste Management Hillsboro Landfill of all soil containing cPAHs at concentrations exceeding 100X the dense urban residential direct contact RBC calculated by Stantec and approved by the DEQ for use at the EWEB Headquarters Property in Eugene, Oregon in the depth interval 0-3 feet bgs, and exceeding 100X the DEQ's construction worker direct contact RBC in the depth interval 3-15 feet bgs.

This alternative also includes the abatement of all hazardous building materials.

4.2 REMEDIAL ACTION ALTERNATIVE EVALUATION

To assist DEQ in the selection and approval of the a proposed remedial action, the following criteria (OAR 340-122-0090(4)[b-f) were used in selecting the recommended hot spot cleanup alternative:

- Effectiveness;
- Long-term reliability;
- Implementability;
- Implementation risk; and
- Cost.

For each criterion, numerical scoring has been completed, and is summarized in **Table 2** (attached). Justification for the scoring is provided in the subsections that follow. As all alternatives include hazardous building materials abatement, this was not included in the alternative evaluation.

4.2.1 Effectiveness

The primary effectiveness variable for the four remedial action alternatives being evaluated is the risk associated with residual contaminant concentrations following alternative implementation (e.g. the cleanup standard applied). Since the cleanup methodologies used for Alternatives 2-4 are the same (excavation, removal, and off-Property disposal of soil); the adequacy of treatment technologies in meeting treatment objectives; and, the time until the remedial action objectives would be achieved, are generally the same, discussion of the

effectiveness of each remedial alternative in the following subsections includes only the degree of cleanup provided.

4.2.1.1 Alternative 1

No action is not effective in meeting OAR requirements, and is inconsistent with the ROD issued for the Property.

4.2.1.2 Alternative 2

This alternative would could result in removing the greatest quantity of contaminated soil, and accordingly, the most contaminant mass of the four alternatives being considered. Therefore, this alternative is considered to have the highest degree of effectiveness.

DEQ risk assessment guidelines indicate that risk to occupational and residential receptors need only consider contaminant concentrations in the subsurface depth interval 0-3 feet bgs. However, this alternative includes cleanup to urban residential hot spot cleanup standards to a much greater depth: 15 feet bgs. This alternative would ensure the protection of urban residential receptors even if 1) the surface elevation grade at the Property is lowered, or 2) soil containing contaminant concentrations exceeding urban residential hot spot levels is inadvertently moved from below 3 feet bgs to above 3 feet bgs during the Redevelopment phase of the project.

4.2.1.3 Alternative 3

Although this alternative could result in removal of a smaller volume of contaminated soil than Alternative 2 based on consideration of the construction receptor, it would still result in the removal of the soil hot spots in accordance with DEQ requirements.

4.2.1.4 Alternative 4

The degree of effectiveness of Alternative 4 is similar to Alternative 3, and also would result in the complete removal of the soil hot spots in accordance with DEQ requirements. Implementation of this alternative will require DEQ approval of the application at the Property of the dense urban residential exposure scenario and associated RBCs.

4.2.2 Long-Term Reliability

4.2.2.1 Alternative #1

The no action alternative has no long-term reliability as highly concentrated soil hot spots would remain at the Property.

4.2.2.2 Alternative 2

The removal and off-site disposal of soil is considered to have a high degree of long-term reliability. Alternative 2 is considered to have the highest degree of long-term reliability. This is the result of more contaminant mass reduction through the application of the urban residential RBC to the total depth of the remedial excavation (15 feet).

4.2.2.3 Alternative 3

Alternative 3 is also considered to have a high degree of long-term reliability. It would ensure that occupational and residential receptors would not be exposed to soil hot spots if soils are properly managed in accordance with the ROD in the future, and the Property surface grade does not change.

4.2.2.4 Alternative 4

Alternative 4 would involve the least amount of soil removal and off-site disposal of Alternatives 2-4. Nevertheless, it affords a degree of long-term reliability comparable to Alternative 3, with the same caveats.

4.2.3 Implementability

4.2.3.1 Alternative 1

No action is the most implementable alternative since in involves no activities.

4.2.3.2 Alternatives 2-4

Alternatives 2-4 all are considered equally implementable. Implementation actions would include: 1) the selection of a contractor and oversight consultant, 2) excavating, loading, transporting and disposing of contaminated soils, 3) restoring the excavation area (backfill and pavement restoration) by the contractor, and 4) working with the DEQ to ensure that the alternatives are completed in accordance with applicable regulations.

4.2.4 Implementation Risk

4.2.4.1 Alternative 1

The is no implementation risk associated with Alternative 1.

4.2.4.2 Alternative 2

There are inherent risks associated with any excavation and off-site disposal project. There are risks to the community at large from exposure to: 1) contaminated soil that could be spilled from a truck transporting soil to the disposal facility, 2) contaminated soil tracked into a roadway adjoining the Property, or 3) soil blown from the remediation site to adjacent property during the project. There are risks to the workers performing the work. The greatest risks are physical hazards such as working around heavy equipment, but workers also could be exposed to contaminated soils as they are excavated and loaded at the Property. Risks to the environment include migration of contaminated soil to the nearby Willamette River via the stormwater management system, or exposure of terrestrial or aquatic receptors to contaminated soil spilled during transit to the disposal site. The more soil excavated, the longer the duration of the project, and the greater these and other risks to the community, workers, and the environment would be.

Alternative 2 likely would include the most soil excavation, transport and disposal, has the greatest implementation risk amongst Alternatives 2-4.

4.2.4.3 Alternatives 3 and 4

Alternatives 3 and 4 have the same types of implementation risks as Alternative 2. However, since less soil is excavated and transported in implementing these alternatives, the implementation risk for these alternatives would be lower than for Alternative 2. The difference in implementation risk between Alternatives 3 and 4 is negligible.

4.2.5 Cost

Rough order of magnitude (ROM) cost estimates for Alternatives 2-4 are provided in **Table 3**. Estimates of soil volumes for each remedial alternative are sourced from *Final Focused Feasibility Study, USPS Portland P&DC, 715 NW Hoyt Street, Portland, Oregon 97208* prepared by Arcadis, and dated June 30, 2008.

4.2.5.1 Alternative 1

There is no cost associated with this alternative.

4.2.5.2 Alternative 2

The ROM cost estimate for soil cleanup for Alternative 2 is $965,500, approximately double that of Alternatives 3 and 4. The ROM cost estimate for hazardous materials abatement is $2.2 million, which includes $100,000 in design/consulting/air monitoring fees.

4.2.5.3 Alternative 3

The ROM cost estimate for soil cleanup for Alternative 3 is $462,500. The ROM cost estimate for hazardous materials abatement is $2.2 million, which includes $100,000 in design/consulting/air monitoring fees.

4.2.5.4 Alternative #4

The ROM cost estimate for soil cleanup for Alternative 4 is $397,300. The ROM cost estimate for hazardous materials abatement is $2.2 million, which includes $100,000 in design/consulting/air monitoring fees.

4.3 RECOMMENDED REMEDIAL ACTION ALTERNATIVE

Based on the scoring in Table 2, the recommended cleanup alternative is Alternative #3. Although Alternative 3 soil cleanup costs are roughly 14 percent higher than Alternative 4, it does not depend on DEQ approval of a site-specific dense urban receptor RBC. Alternative 3 is effective, reliable over the long-term, and has a lower implementation risk than Alternative 2.

5.0 REFERENCES

Alisto Engineering Group, 2001. Preliminary Site Assessment, Portland Processing and Distribution Center. March 8, 2001.

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Tables

TABLE 2
Soil Hot Spot Remedial Alternative Screening
715 NW Hoyt Street, Portland, OR

Hot Spot Cleanup Altnerative	Achieves Regulatory Requirements (OAR 340-122-0085 [7])	Balancing Factors					Total Score
		Effectiveness	Long-Term Reliability	Implementability	Implementation Risk	Cost	
Altnerative 1 No Action	No	0	0	6	6	6	18
Alternative 2 Removal Action using 100X Urban Residential RBC (0-15 feet bgs)	Yes	6	6	5	4	2	23
Alternative 3 Removal Action using 100X Urban Residential RBC (0-3 feet bgs) and 100X Construction Worker RBC (3-15 feet bgs)	Yes	5	5	5	5	4	24
Alternative 4 Removal Action using 100X Dense Urban Residential RBC (0-3 feet bgs) and 100X Construction Worker RBC (3-15 feet bgs)	Yes	5	5	5	5	5	25

Remedial Alternative Ratings/Scores:

Good	6
Good/Fair	5
Fair	4
Fair/Poor	3
Poor	2
Unacceptable	0

TABLE 3
ROM Cost Estimates - Soil Hot Spot Cleanup Alternatives - MGP Area
715 NW Hoyt Street, Portland, OR

Units	Unit Costs	Alternatives					
		2		3		4	
		# of Units	Cost	# of Units	Cost	# of Units	Cost
Work Plan & Specifications	$25,000	1	$25,000	1	$25,000	1	$25,000
Contractor Pre-Work Submittals & Mobilization	$60,000	1	$60,000	1	$60,000	1	$60,000
Cut & Removal Asphalt (square yards)	$50	900	$45,000	900	$45,000	675	$45,000
Excavation (tons)	$20	5000	$100,000	1800	$36,000	1400	$28,000
Transport (to Hillsboro Landfill)	$37.00	5000	$185,000	1800	$66,600	1400	$51,800
Disposal (tons)	$38.00	5000	$190,000	1800	$68,400	1400	$53,200
Confirmation Soil Testing (1 sample per 100 tons removed)	$200	50	$10,000	25	$5,000	14	$2,800
Backfill (Purchase/Place/Compact) (tons)	$55	5000	$275,000	1800	$99,000	1400	$77,000
Contractor Oversight (250 tons per day)	$1,500	20	$30,000	8	$12,000	6	$9,000
Closure Reporting	$18,000	1	$18,000	1	$18,000	1	$18,000
DEQ Oversight	$27,500	1	$27,500	1	$27,500	1	$27,500
TOTAL			**$965,500**		**$462,500**		**$397,300**

Assumptions:

All costs are rough order of magnitude (ROM) and shown in net present value (2018 dollars).

All soil volumes use in estimating costs sourced from *Final Focused Feasibility Study* (Arcadis, 2008)

The level of accuracy of these estimated costs is ROM, as defined by the American Association of Cost Engineers. The accuracy is approximately plus 50% and minus 30%. Cost estimates at this level may be used to compare alternatives, but should not be used to plan, finance, or develop projects.

Non-hazardous waste disposal at Hillsboro Landfill in Hillsboro, Oregon.

Cost estimates were developed to support ROM estimates and are based on comparisons with similar projects and engineering judgment.

Actual subcontractor estimates were not requested/used to develop estimates.

Costs assume that no groundwater will be encountered in excavations.

1.5 tons loose, excavated soil per cubic yard of in-situ soil.

Figures

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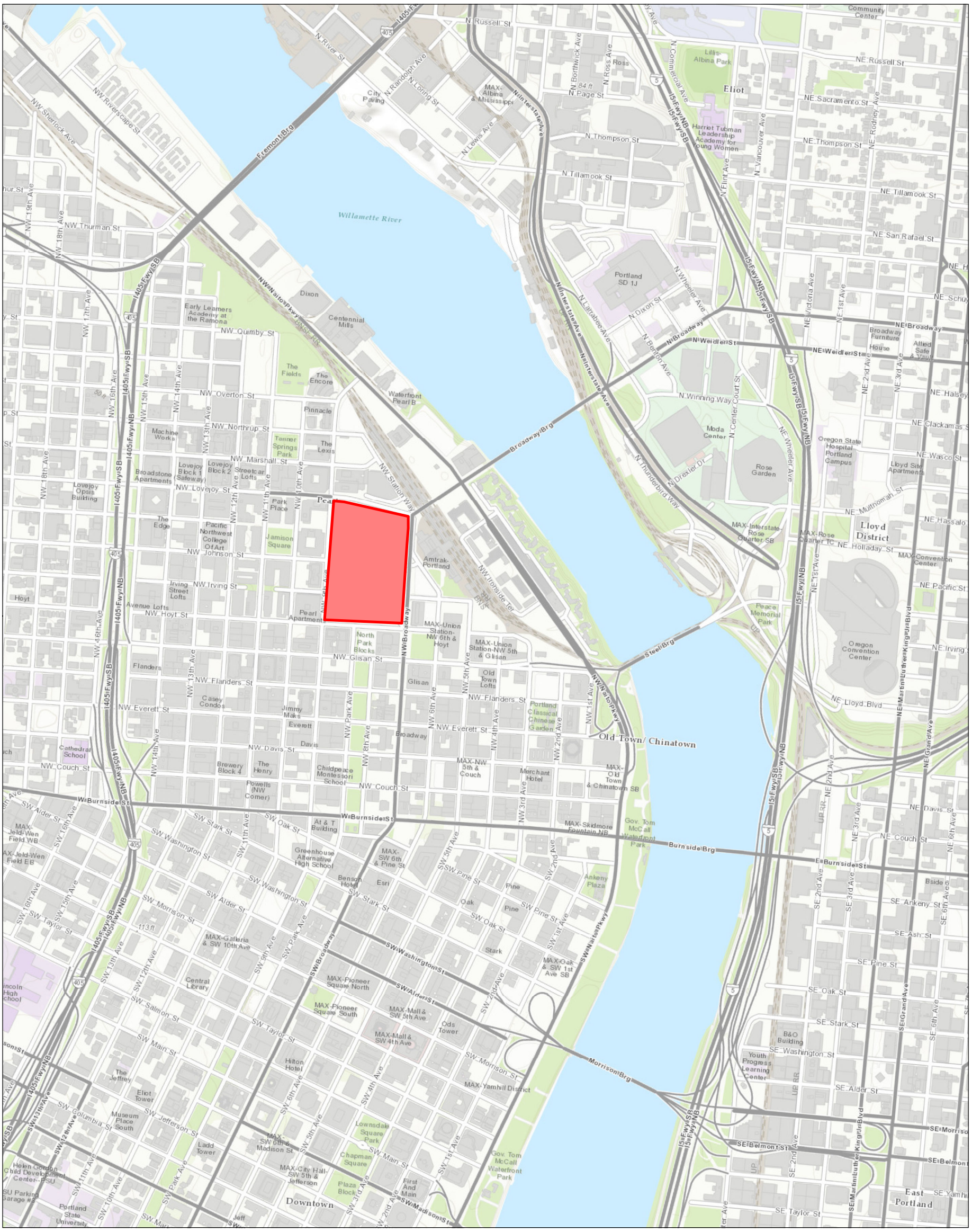

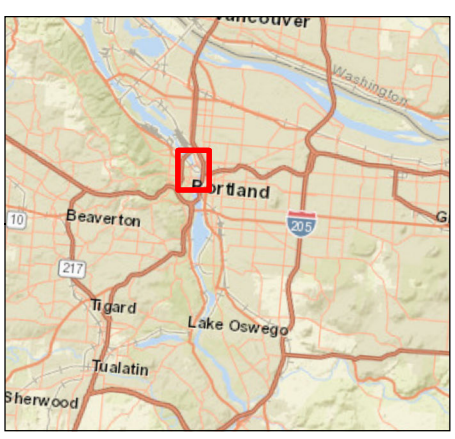

Legend

Approximate Property Area

0 0.1 0.2 miles

1:10,000 (At Original document size of 11x17)

N

Stantec

Project Location

715 NW Hoyt Street
Portland, Oregon 97208

185750980
Prepared by JB on 2017-10-03
Technical Review by LF on 2017-10-03
Independent Review by CR on 2017-10-03

Client/Project

Prosper Portland
USPS ABCA

Figure No.

1

Title

Property Location Map

Notes

1. Coordinate System: NAD 1983 2011 StatePlane Nevada East FIPS 2701 Ft US
2. Data Sources Include: ESRI, Open Street Maps, Google Street Maps, GIS User Community
3. Orthophotography: None.

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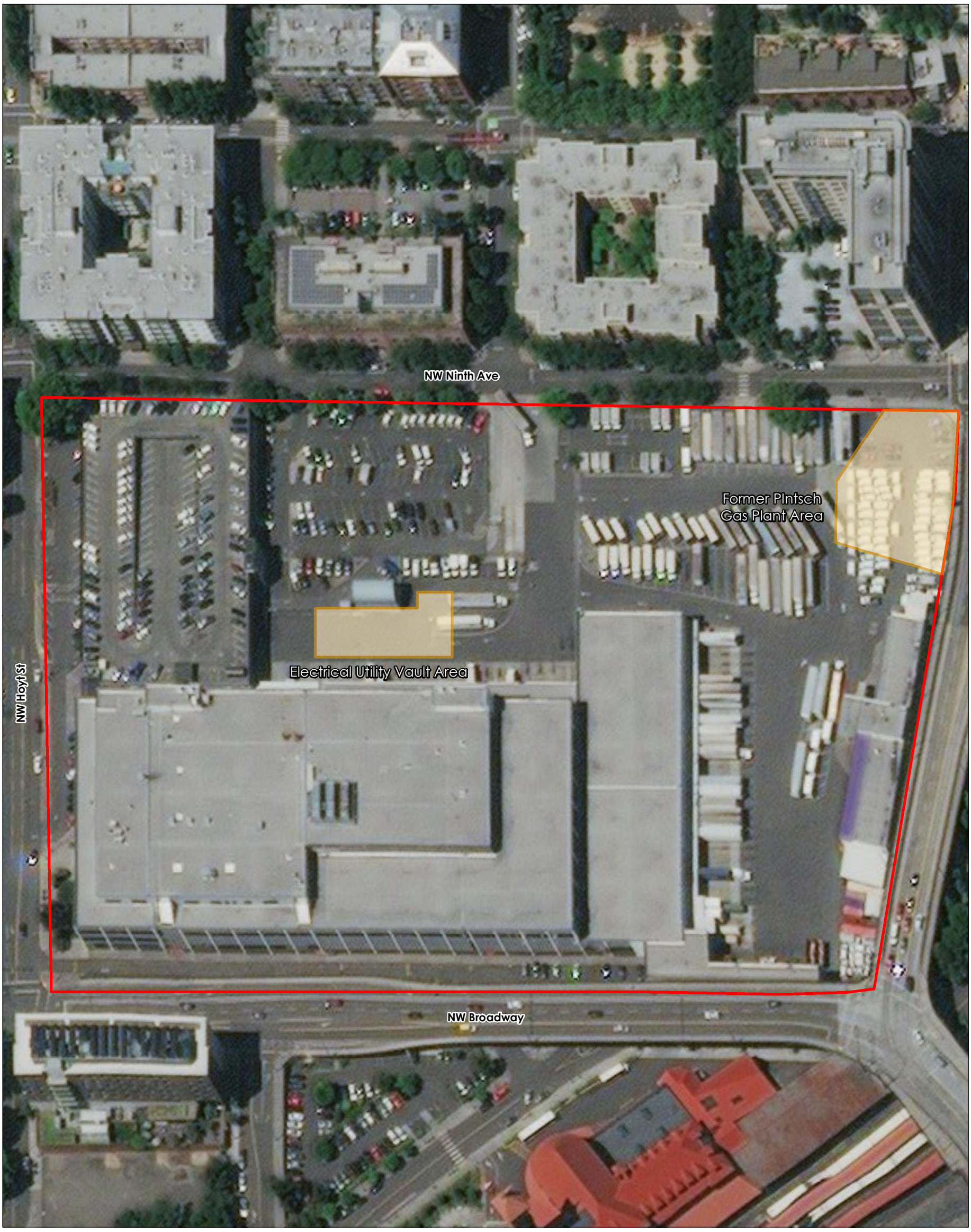

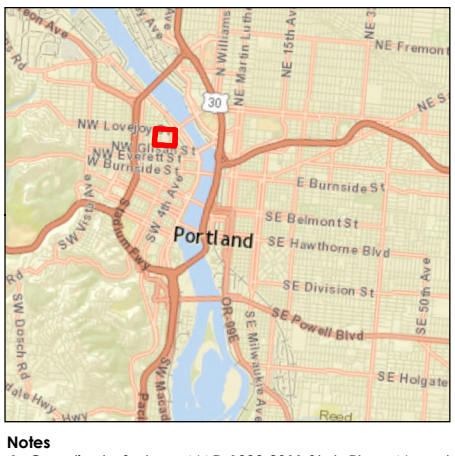

Legend

Hypothetical Risk Level Exceedance Area

Approximate Property Area

0 100 200 Feet

1:1,300 (At Original document size of 11x17)

Stantec

N

Project Location

715 NW Hoyt Street
Portland, Oregon 97208

185750980
Prepared by JB on 2017-10-03
Technical Review by LF on 2017-10-03
Independent Review by CR on 2017-10-03

Client/Project

Prosper Portland
USPS ABCA

Figure No.

2

Title

Property Map

Notes

1. Coordinate System: NAD 1983 2011 StatePlane Nevada East FIPS 2701 Ft US
2. Data Sources Include: ESRI, Open Street Maps, Google Street Maps, GIS User Community
3. Orthophotography: ESRI

FIGURE 3 - Preferred Property Layout from Broadway Corridor Framework Plan