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Engineering & Environmental Services

AN **NIVIS** COMPANY

A Report Prepared for:

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c/o Alliance Residential Company
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Attention: Mr. Garrett Hodgins

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
PROSE FIRCREST APARTMENTS PROPERTY
2119 MILDRED STREET W
FIRCREST, WASHINGTON**

MAY 31, 2022

By:

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1325.023.01.001

EXECUTIVE SUMMARY

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by PES Environmental, Inc. (PES) for the Prose Fircrest Apartments Property located at 2119 Mildred Street W in Fircrest, Washington. The subject property is comprised of one tax lot parcel (0220112005) totaling 9.94 acres of land. The subject property is occupied by a single vacant industrial structure (23,728 square feet [sq. ft.]) constructed in 1959.

Historically The subject property appeared to be undeveloped land from at least 1941 until at least 1957. The subject property was owned by the Freeman family from 1953 until 2011. The Freeman's developed the subject property in 1959 and operated Metal Marine Pilot, Inc. for designing and manufacturing marine automatic pilots and other marine navigational aids (e.g., compasses). Metal Marine Pilot ceased operations in 2000 and the subject property was sold to the Eaton Family LLC in 2012. Since Metal Marine Pilot ceased operations in 2000, the main building has been used for storage of personal items belonging the current owner, the Eaton family, as well as the Freeman family, as it is currently used today. Expansions to the main building included additional sheds located east of the main building were constructed for spray painting, paint storage, materials cleaning, and cardboard storage, and a loading dock. The sheds were demolished in 2001, however, the concrete foundations still remain. Two underground storage tanks (USTs) (diesel and kerosene) were removed in 1994 and two USTs used for kerosene storage were removed in 2002. Three septic tanks still in place are located at the northeast and south ends of the building and reportedly, no hazardous materials were ever discharged into these tanks.

Hazardous materials used at the subject property included reportable quantities of an assortment of chemicals including chlorinated and non-chlorinated solvents and hydraulic oil. Hazardous wastes generated at the subject property included spent solvents and sludge mixtures derived from washing and cleaning marine automatic pilot parts. During Metal Marine Pilot's 40 years of operation at the subject property, several instances of hazardous materials being discharged or buried along the central and eastern portions of the subject property were reported.

Tetrachloroethylene- (PCE)-impacted soil located in the central portion of the site had been remediated in 2000 and 2012. A buried asbestos-containing transite water pipe traverses the subject property from southeast to north and is currently inactive. Between the years 1972 and 2000, a large quantity of soil fill was deposited throughout the central and eastern portions of the site to cover areas prone to seasonal flooding. Analytical testing of the fill material was not conducted. Reportedly there was no visible evidence indicating that the fill material originated from contaminated sources. .

Adjacent properties included a municipal airport was located west of the subject property. The airport stopped operations in 1980 and was replaced by the Narrows Plaza shopping center. The property to the east was developed as residential complexes by at least the late 1960s. The adjacent property to the south of the subject property was a gasoline station as early as 1957 and was replaced by a bank in 2002. The adjacent property to the north was occupied by Pace Industries (Pace) operating as an aluminum die-casting manufacturing facility from 1959 until July 1995. The facility stored, handled, and disposed of certain hazardous and/or regulated materials such as oil and lubricants

Numerous previous environmental investigations have occurred at the subject property, all focused on assessing potential impacts associated with practices and operations related to the former Metals Marine Pilot facility on the subject property and the facility to the north, former Pace. The previous investigations primarily focused on eight areas of concern on the subject property: (1) Diesel/Kerosene UST Area (2) Paraffin Area; (3) Kerosene UST Area; (4) the Main Building (5) PCE Area; (6) Lime Pit Area, (7) Drain Field Area, and (8) the Fill Area. These areas are shown on Figure 3. This section summarizes the investigations in each of these areas.

Diesel/Kerosene UST Area

Two USTs (one 1,000-gallon diesel and one 1,000 gallon kerosene) were located adjacent to the south side of the cardboard storage shed. The USTs were used during past facility operations. The USTs were removed in 1994. No signs of contamination were observed during the UST removal. Confirmation soil sample collected from the extents of the UST excavation did not contain any contamination.

Paraffin Oil Release Area

A paraffin oil release occurred at the Pace property located adjacent to and north of the subject property in 1999. The release from Pace migrated onto subject property. Soil samples were collected from the area along the path of the release along the north subject property boundary and eastern drainage ditch after approximately 80 “cubic tons” of soil were excavated from those areas. Contaminants were reported in some of the samples at concentrations exceeding the cleanup levels (CULs) for heavy oil range organics (ORO). Subsequent investigations of the area in 2000 showed that contamination is present in soil along the north property boundary at concentrations exceeding the CUL. ORO-contaminated soil is to at least 12.5 feet bgs.

Kerosene UST Area

Two USTs used for kerosene storage were located adjacent to the west side of the main building (two 80-gallon). These tanks were used during past facility operations. The USTs were removed 2002. Contaminants were not detected in the confirmation soil samples collected from the extent of the UST excavation.

Main Facility Building

The soil beneath the main facility building was assessed in 2005 during a Phase 2 investigation. Contaminants were not detected in any of the samples collected from the borings.

PCE Area

Waste solvents were reportedly dumped off the east side of the former loading dock onto a gravel road surface. Investigations of the PCE Area were conducted in 2000, 2005 and 2011. Soil samples collected from borings drilled in the PCE Area in 2000 were used to delineate an area of PCE contaminated soil with concentrations exceeding the CUL. This PCE contaminated soil was removed in 2000. Although confirmation samples collected from the extents of the

remedial excavation and stockpile samples collected from the stockpile returned to the excavation as backfill were either below the CUL and MRLs for PCE at that time, those CULs and MRLs exceed the current CUL for PCE (0.05 mg/kg). The Washington Department of Ecology (Ecology) issued a no further action (NFA) determination for the 2000 PCE remedial excavation on March 6, 2001. Although Ecology issued the NFA, based on the previous confirmation and stockpile testing, there is the potential that soil containing PCE exceeding the current CUL may be present in the 2000 PCE excavation and surrounding area.

Additional investigations of the PCE Area were conducted in 2005 and 2011 to further delineate PCE contaminated soil that was found to be located south of the 2000 PCE excavation. This area of PCE contaminated soil was excavated in 2012. None of the confirmation samples contained PCE above the current CUL. The results of the confirmation sampling and the characterization sampling indicates that soil with PCE below the CUL remains in this area.

Lime Pit Area

Three to four lime pits were reportedly used from 1960 to 1992 for acid waste disposal. The specific location of the lime pits was not known and only a general area was identified during previous interviews with the prior owners. Acids and metal residues derived from circuit board etching activities at the facility were periodically discharged into three or four lime-lined pits located east of the main facility building. The Lime Pit Area was assessed in 2000 during a Phase 2 investigation of the subject property. No visible evidence of the lime pits was observed during drilling and contamination was not detected in the soil samples at concentrations above the CULs. The Lime Pit Area is reportedly buried beneath approximately 15 feet of fill.

Drain Field Area

Wastewater contaminated with machine oil, kerosene residues, degreasers, and solvents from parts washing activities was discharged from the materials shed from 1960 to 1992. The drain outlet from the materials shed discharged wastewater to the gravel road east of the building. The practice was stopped in 1992 when the wastewater was transferred into an evaporator. The Drain Field Area was assessed in 2000 during a Phase 2 investigation of the subject property. SVOCs were not detected in any sample and detected metals concentrations were below CULs. This area was reportedly buried during the filling and grading of the subject property.

Fill Area

The eastern portions of the subject property were filled between 1972 and 2000. The fill was reportedly placed to bury a low-lying flooded area that formerly existed along the east end of the site. Although the source is unknown, the fill is believed to have originated from several nearby commercial development and roadway construction projects. The fill beneath the subject property is approximately 2 to 19 feet thick on the western portion of the property and approximately 20 to 36 feet thick along the easternmost side of the property. The subject property is located within the footprint of the Tacoma Smelter Plume Area.

Subsurface investigations in Fill Area were conducted in 2001, 2005, 2011, and 2012. Arsenic exceeding the CUL has been found predominantly at depths of 15 feet or greater and the

occurrence of arsenic in soil is generally widespread across the Fill Area of the subject property. Arsenic exceeding the CUL has also been detected in two groundwater monitoring wells. ORO exceeding the CUL has also been detected in soil intermittently in the Fill Area; however, none of the soil samples collected during the most recent investigation in the Fill Area (2012) contained ORO at concentrations exceeding the CUL. ORO has not been detected in groundwater. Surface samples collected in the bioswale area of the Fill Area in 2001 contained arsenic and cadmium exceeding the CULs. Petroleum hydrocarbons were not detected in the surface samples.

The subject property listed as Metal Marine Pilot included entries on several state and federal agency databases. There are no environmental liens or activity and use limitation at the subject property. The subject property was enrolled in Ecology's Voluntary Cleanup Program in 2019, and Ecology has requested additional information in order to provide an opinion. Based on information provided in Ecology's cleanup sites webpage, it is not known whether the requested information has been provided to Ecology to date. Ecology issued a NFA determination during 2001, for the cleanup of PCE-contaminated soil in 2000 (PCE Area). However, during 2015, Ecology rescinded the NFA determination for the subject property due to the presence of arsenic in soil and groundwater. It was Ecology's opinion that the site meets the cleanup standards for PCE, ORO, gasoline range organics (GRO), and benzene, ethylbenzene, toluene, and xylenes (BTEX) in soil, but Ecology stated that further remedial action is necessary to meet the cleanup standards for metals (arsenic) in soil and groundwater.

The subject property is located in the Tacoma Smelter Plume (Asarco Area Wide Contamination Plume), an area approximately 1,000 square miles of the Puget Sound Basin containing surface soils contaminated with arsenic, lead, and other heavy metals. The subject property is located in the area mapped by Ecology to contain 40.1 to 100 parts per million (ppm) arsenic in soil.

An inspection of the subject property was conducted on December 17, 2021 to assess the potential for any observable adverse environmental conditions. The eastern portions of the subject property are currently undeveloped and covered with grass and weeds, drainage ditches and stormwater containment ponds. Developments at the site consist of a large industrial building and two smaller detached structures (livestock loafing sheds) located east of the building used for housing goats and cattle grazing on the subject property for weed control. The concrete foundations associated with former sheds were observed on the southeast side of the main building. PES did not observe any evidence of the previous excavation and soil removal activities.

Mr. J. Dorman, the subject property caretaker, lives in a travel trailer located on the east side of the main building. PES observed a sanitary waste discharge pipe connected to the trailer and terminates in one of the nearby concrete vaults used for collecting spills from the former painting shed. PES noted the subject property boundaries. Using maps from previous site investigations, PES attempted to find documented monitoring wells that were installed in the central area of the subject property. However, due to the length of time since the wells were installed, as well as the grasses and other vegetation observed growing throughout this area, PES was unable to locate any of these wells.

The northern half of the interior of the building was being used for storage by the subject property owner. Items observed included an assortment of equipment, tarps, electrical wire spools, electronic equipment, scaffolding, several use appliances, wood boxes, drums storing scrap metal, tools, machinery, a car, and miscellaneous automotive parts, and supplies that were formerly used in conjunction with the manufacturing when the site was occupied by Metal Marine Pilot, Inc. Hazardous materials observed inside the building included various containers of chemicals that included partially full and empty 5-gallon containers of oils, solvent, lacquers, heat transfer fluids, thinners, paints, and other unknown chemicals in the northern half of the building. Three 55-gallon drums, two of which are labeled as lacquer thinner, were also noted in the north end of the building. The drums and containers appeared to be in good conditions and PES did not observe any spills or stains on the concrete floor. The overall condition of the concrete floor throughout the building appeared to be generally in good condition with noticeable old stains from years of use as a manufacturing facility. Notable cracks observed in the concrete floor appeared to be tight, hairline cracks with no large holes, or wide gaps in any of the cracks.

An oily stain (approximately 3-feet by 8-feet) was observed on the concrete floor at the south end of the building. The oil appeared to be viscous and had oil absorbent material mixed in with the oil. Metal parts in the stained area looked as if automobile repairs may have been the reason for the stain. Smaller oily stains (less than 6-inches in diameter) were noted in a few locations of this same area of the building. The rest of the rooms and large workspaces in the building were empty and no environmental concerns were noted. However, water intrusion from the leaking roof was noted in some areas, mostly at the south end of the building where puddles were observed.

Recognized Environmental Conditions

PES has performed a Phase I ESA in conformance with the scope and limitations of ATSM Practice E 1527-13 of the Prose Fircrest Apartments property located at 2119 Mildred Street W, Fircrest, Washington. This assessment has revealed no evidence of Recognized Environmental Conditions (RECs), Controlled RECs (CRECs), and/or Historical RECs (HRECs) in connection with the subject property with the following exceptions:

- Arsenic in soil and perched groundwater and ORO in soil above CULs were identified in the fill area at the subject property is identified as a REC for the subject property;
- The Pace paraffin spill area in the vicinity of two soil samples (S1 through S3) collected at the north end of the subject property is identified as a REC for the subject property;
- The area of removed PCE contaminated soil performed in 2000, was conducted when the CUL was less stringent; the potential for residual PCE above the current CUL is identified as a REC for the subject property;
- Limited information about the soil conditions in the area of the two concrete spill collection USTs east of the main building is identified as a REC for the subject property;
- The area of removed PCE contaminated soil performed during 2012 to concentrations below CULs is identified as an HREC for the subject property; and

- The removal of the kerosene and diesel USTs and subsequent contaminated soil removal to below CULs is identified as an HREC for the subject property.

The following Business Environmental Risks were identified for the subject property:

- The buried asbestos-containing transite water pipe traversing the subject property remains in place;
- Asbestos containing materials have been identified in the main building; and
- Septic tanks located at the northeast corner and south end of the main building remain in place.

Additionally, the following potential environmental issues not identified as a REC, but are considered *de minimis* conditions are noted here for consideration:

- The storage of the various chemicals inside the building does not appear to present a current risk to the subject property. PES recommends that these containers be removed from the subject property to prevent any potential for future releases to the subsurface soils beneath the building;
- Gray water discharging from the subject property travel trailer was observed to drain directly to the unpaved surface through a damaged drainpipe; and
- An area of oily residue from automotive repair work was observed in the south end of the main building.

Data Gaps

PES did not identify any significant data gaps associated with the subject property and nearby properties.

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1.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by PES Environmental, Inc. (PES) for the Prose Fircrest Apartments Property located at 2119 Mildred Street W in Fircrest, Washington (subject property). The subject property location is shown on Figure 1. PES understands that Alliance Realty Partners, LLC (Alliance) is considering purchasing the subject property.

1.1 Purpose and Scope of Work

The Phase I ESA was performed pursuant to PES's proposal for environmental consulting services dated October 29, 2021, and in general accordance with ASTM guidelines for Phase I Environmental Site Assessments (ASTM E 1527-13). The Phase I ESA also incorporates the recently released procedures set forth in ASTM E1527-21.¹ These guidelines comply with the U.S. Environmental Protection Agency's All Appropriate Inquiries (AAI) rule, adopted in November 2013.

The goal of the Phase I ESA is to identify recognized environmental conditions (RECs) associated with the subject property (i.e., those conditions with the potential to materially impact a property due to the release of hazardous materials or petroleum products). The following tasks were conducted during this ESA:

- Federal, State, and local agency databases were reviewed to identify nearby sites that have reported the use, storage, or release of hazardous materials;
- Regulatory agency records regarding the subject property and adjacent properties were reviewed;
- Historical aerial photographs, Sanborn Fire Insurance maps, and historical topographic maps of the subject property and surrounding area were evaluated, as available, to assess prior land uses;
- Individuals with knowledge of the subject property were interviewed;
- A review of previous environmental site assessments was conducted;
- An inspection of the subject property and a reconnaissance of surrounding properties was performed to assess the potential for contamination of the subject property from onsite or offsite sources. The site inspection was conducted by an environmental professional with qualifying experience under AAI; and,
- This report was prepared presenting the results of the Phase I assessment.

A Recognized Environmental Condition, or REC, is defined in the ASTM International guidelines (ASTM E1527-21) as: (1) the presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely

¹ The ASTM E1527-21 standard is currently under review by the U.S. Environmental Protection Agency, which is expected to publish its determination of compliance with All Appropriate Inquiries (AAI) by late 2022.

presence of hazardous substances or petroleum products in, on, or at the subject property due to a release, or likely release, to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property, under conditions that pose a material threat of a future release to the environment. “Likely” is that which is neither certain nor proved but can be expected or believed based on the logic and/or experience of the environmental professional, and/or available evidence as stated herein. An historical REC (HREC) is a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority and meeting unrestricted use criteria under the current regulatory framework, without subjecting the subject property to any controls (e.g., property use limitations [PUL]). A controlled REC (CREC) is a REC affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls (e.g., PUL, engineering controls, etc.). A PUL is defined as limitation or restriction on current or future use of a property in connection with a response to a release, in accordance with the applicable regulatory authority, or authorities, that allows hazardous substances or petroleum products to remain in place at concentrations exceeding unrestricted use criteria.

A *de minimis* condition is related to a release that generally does not present a threat to human health or the environment, and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. A *de minimis* condition is not a REC nor a CREC.

1.2 Special Terms and Conditions

A Chain-of-Title search was not conducted for the ESA. In addition, analytical testing for asbestos containing materials (ACM), lead-based paint, mold, and wetlands issues at the subject property was not conducted. There are no other special terms or conditions for this project.

1.3 Limitations and Reliance

The ESA activities were conducted in accordance with current practices and procedures generally accepted in the consulting environmental engineering field. Our professional judgment to assess the potential for contamination is based on limited data; no warranty is given or implied by this report.

This Phase I ESA was prepared at the request of Alliance and may be relied on only by Alliance, including its successors and assigns. No other party may rely on this report without the express written permission of Alliance and PES.

1.4 Environmental Professional Qualifications

Mr. Russell Stolsen of PES conducted the ESA activities and prepared this report. Mr. Stolsen has over 30 years of experience managing and conducting environmental site assessments, hazardous material site investigations and remediation, and hazardous and solid waste management planning. Mr. Daniel Balbiani of PES assisted Mr. Stolsen with the Phase I ESA activities and the preparation of the report.

The above personnel declare that, to the best of their knowledge and belief, they meet the definition of an environmental professional as defined in §312.10 of 40 CFR Part 312. They have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. They have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

2.0 SITE DESCRIPTION

This section discusses the location, physical characteristics, and operations of the subject property.

2.1 Location

The rectangular-shaped subject property is located at 2119 Mildred Street W in Fircrest in Fircrest, Washington (Figure 1). The subject property, is within the limits of the City of Fircrest and is located approximately 680 feet north of the intersection of Mildred Street W and Regents Boulevard W. It is bounded on the north by commercial retail properties, on the east by a residential apartment complex, on the south by a bank and office building, and on the west by Mildred Street W. Businesses located further west include restaurants, an automotive service shop, a bar, and a bowling alley. The tax parcel is zoned as Commercial Mixed Use (CMU). The subject property is within the Northwest quarter (NW ¼) of the Northwest quarter (NW ¼) of Section 11 (S11) of Township 20 North (T20N), Range 2 East (R2E), Willamette Base Meridian.

The subject property is identified by the Pierce County Assessor Parcel Number (APN) 0220112005 and totals 9.94 acres of land. The subject property is occupied by a single vacant industrial structure (23,728 square feet [sq. ft.]) constructed in 1959 which is located in the northwest of the corner of the subject property.

2.2 Subject Property and Vicinity Characteristics

The subject property is situated in an area predominately characterized by a mix of commercial business and residential neighborhoods.

2.2.1 Topography and Surface Water Drainage

According to the United States Geological Survey (USGS) *Steilacoom* 7.5-Minute series topographic map dated 2020, the topography is fairly level along the western half of the subject property, becoming varied, with hillocks and depressions eastward and dramatically sloping downward to the eastern boundary of the subject property. The elevation along Mildred Street W is approximately 345 feet and drops to approximately 315 feet along the eastern property boundary relative to the National Geodetic Vertical Datum of 1929 (NGVD 29). The general topography slopes downward to the east approximately 280 feet from the building. At that point, the first of three stormwater drainage ditches is located where the topography drops dramatically to the eastern property boundary (Figure 2). This north-south trending stormwater ditch drains to two small containment ponds at the south end of the stormwater ditch. The approximately 580 ft. long stormwater ditch begins at the northeast corner of the subject property and ends at the containment pond. There is a 10-inch plastic corrugated pipe at the south end of the containment pond which, according to the ALTA survey map dated 2005, conveys stormwater runoff into the nearby municipal stormwater system. PES confirmed in the field that the survey map also depicts a 10-inch storm drain-pipe connected from the containment pond to a second stormwater drainage ditch that varies from approximately 65 to 100 feet east of the first drainage ditch. This second ditch is also north-south trending and is located within approximately 10 ft. off the

eastern property boundary. This ditch is approximately 500 ft. in length. A third stormwater ditch is located along fence line at the southern boundary of the subject property. This third ditch begins approximately 150 ft. from the southwest corner of the subject property and ends at the southeast corner, approximately 430 ft. in length (Figure 2). During the site inspection, only the eastern-most ditch had several inches of ponded water, the other two stormwater ditches were dry. PES observed a catch basin located near the northern end of the subject property, east of the building. This catch basin collects stormwater and conveys water via a below-grade pipe to the southeast (Figure 2). Located southeast of the catch basin is a vertical pipe with a long steel bar that controls a valve that appears to be approximately 10 feet bgs. PES was able to move the steel bar slightly up and down which apparently allows the stormwater to be contained in this area when the valve is shut. Mr. Eaton, the subject property owner, did not know what the purpose of the valve is.

Rainwater from the roof of the building is directed to the gutters and to the unpaved and/or concrete surfaces around the building. The nearest water bodies are Tacoma Narrows, located approximately 1.3 miles northwest of the subject property (Figure 1).

2.2.2 Geology and Hydrogeology

The following is a summary of the regional hydrogeological setting for the Fircrest, Washington area, and the site geology and hydrogeology. The following sources were reviewed to evaluate the geologic and hydrogeologic conditions for the site and site vicinity.

- USGS topographic map, *Steilacoom*, Washington Quadrangle;
- Environmental Data Resources, Inc. (EDR) Report, GeoCheck Addendum. The EDR report is included as Appendix B;
- Previous investigations at the subject property and nearby properties;
- Washington Water Resources Department Well Logs; and
- Site observations by PES.

The Puget Sound region is underlain by Quaternary sediments deposited during a number of glacial episodes. Deposition occurred during glacial advances and retreats, which created the existing subsurface conditions. The regional sediments consist primarily of interlayered and/or sequential deposits of alluvial clays, silts, and sands that typically are situated over deposits of glacial till that consist of silty sand to sandy silt with gravel. Outwash sediments consisting of sands, silts, clays, and gravels were deposited by rivers, streams, and post-glacial lakes during the glacial retreats. With the exception of the most-recent recessional deposits, the outwash sediments have been over-consolidated by the overriding ice sheets (Galster and Laprade 1991).

According to geotechnical reports for the subject property (Kleinfelder, 2005c and Terracon, 2008a) subsurface soil beneath the subject property consists of fill material underlain by glacial till. The fill was described as gray to brown, very loose to dense, medium to coarse silty sand with varying amounts of organics and construction debris. According to prior reports, large quantity of fill was deposited throughout the eastern half of the subject property in a number of

events between 1972 and 2000. The fill was reportedly used to fill in the low lying area along the east side of the subject property and the reportedly originated from nearby commercial development and roadway construction projects. The fill in the eastern portion of the subject property was described as loosely compacted where the thickest fill was encountered. The fill on the western half of the subject property was generally 1 to 17 feet while the thickness on the eastern half of the subject property was generally 22 to 36 feet, with the thickest fill located along the area of the upslope ditch. The fill located east of the upslope ditch along the eastern boundary of the subject property was less than 15 feet. The glacial till underlying the fill was described as gray to brown, dense to very dense, fine to medium, silty sand with gravel with occasional sandy seams, and was encountered beneath the fill material to the maximum explored depth of approximately 46 feet bgs.

Discontinuous perched groundwater was encountered beneath the subject property at approximately 15 to 20 feet bgs. The source of the perched groundwater was reported to be from the sandier portions of the fill and sand lenses present in the glacial till. The static groundwater table was not encountered beneath the subject property up to 46 feet bgs (Kleinfelder, 2005c) and is reportedly around 50 feet bgs (Terracon, 2008a). The estimated shallow groundwater flow direction has been reported to be to the east-southeast (Kleinfelder, 2005a) and south-southeast (Terracon, 2008b) based on topography.

Over 550 wells were found within one mile of the subject property in the federal and state water well databases. None these wells were identified as public water supply wells. The locations of all 550 wells are shown in the EDR report included in Appendix B. Seventy nine (79) well logs were found in Ecology's well database for the subject property address that include both soil borings only, as well as completed monitoring well locations. The listed well owner names and well completion dates were Metal Pilot Marine (1/31/2000 and 2/1/2000), Mike Freeman (8/17/2005 and 8/18/2005), Robert Freeman (5/19/2008), Eaton Properties (9/30/2011), Eaton Family LLC (8/7/2012). These well logs are associated with the previous environmental investigations performed at the subject property. The well logs for these completion dates are presented in previous environmental investigations reports provided in Appendix H of this report.

Soil exposure at the subject property is predominately east and south of the building the remaining surface area to the west of the building is capped by i.e., asphalt driveways and a parking lot.

2.3 Description of Facility Operations, Structures, Improvements and Features

The following is a description of improvements and usage of the subject property (Figure 2).

2.3.1 Subject Property Structures and Improvements

The subject property is developed with one single-story building historically used for industrial purposes. The subject property is accessed from the west via two driveways from Mildred Street W. Access to the main building is from the parking lot on the west side of the subject property. With the exception of a gravel road and asphalt paved areas along the west and east sides of the building, the surface condition for the remainder of the subject property is unpaved with grasses

and low lying vegetation. Chain-link fencing surrounds the site along the north, east, and south property boundaries. The fencing terminates and is attached to the north and south ends of the building. The west side of the building and parking lot are not fenced. A stormwater conveyance system that includes two small sedimentation ponds is located along the eastern boundary of the site.

The steel framed main structure is constructed on a slab-on-grade concrete foundation. Interior finishes include vinyl floor tiles, sheet vinyl flooring material, acoustic ceiling tiles, sheetrock, and carpeting. The building's roof and most of the building's exterior walls are covered with corrugated metal panels. The building provides approximately 20,000 sq. ft. of usable space and was constructed in 1959. The foundations of detached small sheds are located immediately east of the main building. These former one-story buildings were used for spray painting, paint storage, cardboard storage, and a materials shed used for cleaning parts and equipment. Additional structures included a travel trailer occupied by Mr. J. Dorman who lives in the trailer on the east side of the subject property building. Mr. Dorman informed PES that he does routine maintenance and provides security at the subject property. Located south of the main building are two mobile stages used by Metal Marine Pilot for trade show presentations. Two livestock loafing sheds are located in the northeastern end of the subject property for the numerous goats and two cows used for vegetation management of the subject property.

2.3.2 Other Improvements

Electric and natural gas service are supplied and/or available to the building by Puget Sound Energy (PSE). Public water supply and sanitary sewer services serving the facility are managed by the City of Fircrest Public Works Department. Solid waste and recycling services for the subject property is provided by West Side Disposal.

2.4 Current Uses of Adjoining Properties

PES conducted a reconnaissance of the surrounding area on December 17, 2021, to assess whether neighboring properties pose potential environmental concerns to the subject property. Adjacent properties are used predominantly for commercial retail and residential purposes. Figure 2 identifies these adjacent properties and their uses. The results of the surrounding area reconnaissance are presented below.

Property to the North

The adjacent property to the north is the Sunrise Center strip mall. Tenants include restaurants, gift store, nail salon, fitness center, a community center, and a skating rink.

Property to the South

The adjacent properties to the south are occupied by a Columbia Bank and a vacant office building. Further south is the Fircrest Golf Club.

Property to the West

The properties to the west across Mildred Street W is Narrows Plaza, a strip mall with commercial businesses including fast food restaurants, a bar, a bowling alley, and a now vacant movie theater and a Jiffy Lube.

Property to the East

The adjacent properties to the east are occupied by a pharmacy and a multi-family housing complex.

2.5 Interviews

PES interviewed Mr. J. Dorman, at the subject property during the December 17, 2021 site inspection. Mr. Dorman lives in a mobile trailer on the east side of the subject property building and informed PES that he does routine maintenance and provides security at the subject property. Mr. Dorman also informed PES that the building is no longer used for manufacturing and is only used as storage of personal items belonging to him, the current owner (Eaton family), and some items allowed to be stored by the previous owner, the Freeman family. Mr. Donnie Eaton, owner of the subject property, returned a completed Pre-Survey Questionnaire that was forwarded to PES by Mr. Garrett Hodgins of Alliance, on January 13, 2022. Mr. Hodgins also provided PES with documentation regarding previous environmental site investigation activities conducted at the subject property. The information provided by these individuals is summarized in appropriate section throughout this report. Copies of the completed questionnaires are provided in Appendix A.

PES submitted a public records request (#E001761-111221) to Pierce County Public Records on November 24, 2021. Ms. Brandie Warren, Pierce County Records Specialist, responded by email on November 30, 2021. Responsive files were related to Metal Marine Pilot building permits for modifications to the existing main building and sheds. In addition, a permit, dated February 16, 1977, was related to two 1,000-gallon fuel tanks. The permit did not indicate any other information about the tanks.

PES submitted a public records request to City of Fircrest Public Records on November 24, 2021. Ms. Jayne Westman, Administrative Service Director, responded by email on December 1, 2021 that responsive files were available for viewing at the Fircrest city hall. Mr. Stolsen reviewed the files after the site visit of the subject property was conducted on December 17, 2021. Information in the files included the May 2002 decommissioning of two 80-gallon kerosene underground storage tanks (USTs) at the western side of the subject property building. The removal of these USTs is discussed in Section 3.3 of this report. Additional file information included a December 2000 application for an erosion/sediment control plan for the subject property, as well as tax and zoning information for the subject property.

PES submitted a public records request (#P008447-112421) to Ecology on November 24, 2021. Ms. DeAnn DeRosier, from Ecology's Records and Public Disclosure Office provided responsive files for the subject property via download from Ecology's Public Portal on December 10, 2021. The responsive records included information for the subject property. The information provided by Ecology is presented in Sections 3.0 and 4.0 of this report.

PES submitted a public records request to the Puget Sound Regional Archives (PSRA) on November 24, 2021. The PSRA provides historical tax information for land parcels in the Puget Sound region, specifically related to the historical use of fuel oil as a heating source, if applicable. Ms. Sydney Peterson, PSRA Archivist, responded by email on February 24, 2022, with historical tax files for PES' review. Information from the tax files is presented in Section 2.6.2 of this report.

Other than conditions discussed above or elsewhere in this report, none of the interviewees were aware of any additional current or past environmental conditions at the subject property or adjoining properties that might impact the property.

As part of this Phase I ESA, a copy of a User Questionnaire, as recommended in ASTM E 1527-21, was submitted to Mr. Hodgins of Alliance. This questionnaire, completed by the party who will rely on the ESA, facilitates the transfer of known site information to the environmental professional and promotes qualification of the relying party for one of the *Landowner Liability Protections (LLPs)*² offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"). A copy of the User Questionnaire is provided in Appendix A.

In the User Questionnaire, Alliance provided the following information for the subject property:

- Alliance did not have any knowledge of environmental liens recorded against the subject property;
- Alliance did not have any knowledge of any environmental use restrictions on the subject property;
- Alliance did not have specialized knowledge or experience related to the subject property gained from owning, occupying, and maintaining the subject property;
- Alliance did not have any commonly known or reasonable ascertainable information about the subject property that would assist in the preparation of this report other than information disclosed by Alliance for this report and publicly available documents;
- Alliance was not aware of any obvious indicators that point to the presence or likely presence of environmental contamination within the subject property, other than those indicators identified in this report; and,
- Alliance stated that the purchase price of the property reflected fair market value for a property without environmental contamination.

² Landowner Liability Protections, or LLPs, is the term used to describe the three types of potential defenses to Superfund Liability in US EPA's Interim Guidance Regarding Criteria Landowners Must Meet in Order to Qualify for Bona Fide Prospective Purchaser, Contiguous Property Owner, or Innocent Landowner Limitations on CERCLA Liability ("Common Elements" Guide) issued on March 6, 2003.

2.6 Historical Use of the Subject Property and Adjoining Properties

Historical property use information was obtained from review of historical topographic maps, aerial photographs, city directories, and interviews with persons familiar with historical uses. Additional historical information was obtained from previous Phase I ESAs the contained interviews with Mr. Robert Freeman, the previous owner and operator of Metal Marine Pilot.

2.6.1 Historical Sources

Subject property use information was obtained through a review of the following list of historical sources. The results of the review of these sources are summarized in the following section.

- **Topographic Maps:** Various topographic maps of the subject property vicinity were compiled by EDR. The following maps were included in the compilation: USGS *Anderson Island* from 1944 (photo-revised 1938) 15-minute quadrangle topographic map, *Steilacoom* 7.5-minute quadrangle topographic maps from 1947 and 1959 (photo-revised 1947), 1968 (photo-revised 1968), 1973 (photo-revised 1973), 1981 (photo-revised 1978), 1994 (photo-revised 1990), 1997, 2014, and 2017. PES's summary of the topographic map review and a copy of the EDR topographic map report are presented in Appendix C.
- **Aerial Photographs:** Aerial photographs obtained from EDR were reviewed for the following years: 1941, 1943, 1951, 1957, 1968, 1971, 1980, 1990, 2006, 2009, 2013, and 2017. These photographs were supplemented with Google Earth[®] aerial photographs (2021). PES's summary of the aerial photograph review and a copy of the EDR aerial photograph report are presented in Appendix D.
- **City Directories:** A search of city directories for the subject property and nearby properties was performed by EDR for the years 1921 through 2017, ranging from 2- to 6-year intervals. PES's summary of the city directories review and a copy of the EDR city directory report are presented in Appendix E.
- **Sanborn Fire Insurance Maps:** A search for available historical Sanborn Fire Insurance Maps was performed by EDR. EDR did not identify any Sanborn Maps for the site. A copy of the EDR "No Coverage" report is provided in in Appendix F.
- **Puget Sound Regional Archives:** PSRA provided requested historical information for the subject property parcel, with information from 1976 through 2002. Information provided by PSRA is presented in Section 2.6.2. Copies of the PSRA tax files are presented in Appendix G.

2.6.2 Historical Review Summary

Historical aerial photography, topographic maps, and city directories indicate that the subject property appeared to be undeveloped land from at least 1941 until at least 1957. The subject property was owned by Robert and Ethel Freeman from 1953 until 2011 when the subject property was sold to the Eaton Family LLC. The Freeman's developed the subject property in 1959 with the construction of the main industrial building and operated Metal Marine Pilot, Inc.

for designing and manufacturing marine automatic pilots and other marine navigational aids (e.g., compasses). Metal Marine Pilot operated until sometime during 2000 and was listed in city directories as early as 1963 until 1999. Historical tax files dating from 1976 through 2002, did not indicate a heating source other than electric wall and baseboard heaters, forced air, and heat pump. No indication of fuel oil as a source of heat was found in the PSRA tax files. Since Metal Marine Pilot ceased operations, the main building has been used for storage of personal items belonging the Eaton family, as well as some items left by the Freeman family, as it is currently used today.

Hazardous materials used by Metal Marine Pilot included reportable quantities of an assortment of chemicals including chlorinated solvents (trichloroethylene [TCE] and perchloroethylene [PCE]), methyl ethyl ketone, kerosene, paints, thinners, varnishes, stains, acids, glues, alcohols, aluminum coatings, and hydraulic oil. Hazardous wastes generated at the subject property included spent solvents and sludge mixtures derived from washing and cleaning marine automatic pilot parts.

During Metal Marine Pilot's 40 years of operation at the subject property, several instances of hazardous materials being discharged or buried along the central and eastern portions of the subject property were reported. PCE -impacted soil located in the central portion of the site (adjacent to the former loading dock on the eastern side of the main building) had been remediated during the late 1990s.

Expansions to the main building occurred in 1961 and 1965 and additional sheds located east of the main building were constructed for spray painting and paint storage. These two sheds were located west of the area of PCE-impacted soil (Figure 3). A loading dock was located in the area of the former paint sheds. Additional sheds were used for materials and parts cleaning and cardboard storage. These outbuildings were demolished in 2001, however, the concrete foundations still remain. Additional structures included two sets of two manholes located east of the main building that accessed two 5,000 gallon concrete vaults. The vaults (also referred to as "sealed recovery USTs") are located along the central portion of the subject property. These concrete vaults were installed by Metal Marine Pilot to recover spilled liquids within the painting and materials sheds. Spilled liquids were conveyed to the concrete vaults from underground pipes originating from the floor drains in the buildings. The vaults were connected to drains in the painting and materials sheds to collect liquids from the sheds that were pumped as need for offsite disposal. A former kerosene UST (removed in 2002) was located on the west side of the main building and a former diesel storage (removed in 1994) was located south of the cardboard storage shed, southeast of the main building (Figure 3).

Additional information regarding the historical operations at the subject property was obtained from Kleinfelder's 2005 Phase I ESA (Kleinfelder, 2005). The report included an interview with Mr. Michael Freeman, the owner of Metal Marine Pilot, and is summarized below.

Mr. Freeman informed Kleinfelder that a buried asbestos-containing transite water pipe traverses the site from southeast to north (Figure 3). The transite pipe is currently inactive and sections of this pipe may have been crushed during the time fill was being spread over the central and eastern portions of the site.

Mr. Freeman stated that on several occasions between 1972 and 2000, a large quantity of soil fill containing vegetation debris, concrete rubble, and other construction debris was deposited throughout the central and eastern portions of the site to cover a flooded area. Mr. Freeman stated that the east end of the site formerly contained a large, recessed area that was almost always flooded with stormwater. Mr. Freeman also stated that the flooded area was not considered to be a designated wetland area.

Mr. Freeman stated that the imported fill was reportedly obtained from several commercial development and roadway construction projects, as well as from the former airport property located west of the site. Chemical testing of the fill material before it was delivered to the site was not conducted. According to Mr. Michael Freeman, there was no visible evidence indicating that the fill material originated from contaminated sources.

Mr. Freeman informed Kleinfelder that excluding the environmental issues identified in the previous environmental investigation and remediation reports completed for the site, he was unaware of any other environmental issues associated with the site. Mr. Freeman stated that (to his knowledge) no hazardous materials were ever discharged into the subject property septic tanks.

Adjacent properties around the subject property were undeveloped until at least 1941. By 1951, a municipal airport was located less than 0.25 mile west of the subject property. Immediately across Mildred Street W was small plane storage and two buildings that appeared to be part of the airport. By 1980, the airport was no longer operating and a shopping center with fast food restaurants located directly across Mildred Street W had replaced the airport buildings. By the late 1960s to early 1980s, the vacant property to the east was developed as residential complexes as it remains today. The adjacent property to the south of the subject property has been a Columbia Bank since at least 2002. Prior to that time, a structure was located on that site since at least 1957 until it was replaced by the bank building. The previous occupant and activities on the property was a gasoline station and a restaurant (discussed in Section 4.0 of this report).

The adjacent property to the north was occupied by Pace Industries Puget Division, Inc. (Pace), located at 2101 and 2011 Mildred Street W. Historically, Pace operated as an aluminum die-casting manufacturing facility from 1959 until July 1995, when the operation was transferred to Pace Industries. The facility stored, handled, and disposed of hazardous and/or regulated materials including oil and lubricants. Environmental investigations indicated that Pace's operations had impacted the soils at the site as well as portions of the subject property that were impacted by a release of paraffin oil from Pace in 1999. The release flowed south onto the subject property and migrated southwest (downslope) to the north-south-running drainage ditch along the eastern portion of the subject property. Pace sold the property to Bodine Enterprises in 2003 for a planned redevelopment of the site which included the demolition of the western and southern portions of existing facility and construction of a retail building and parking lot. The eastern portions of the Pace building were preserved and remodeled for commercial use and exist today. Information about Pace's property and impacts to the subject property is presented in Section 3.0 of this report.

3.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Numerous previous environmental investigations have occurred at the subject property, all focused on assessing potential impacts associated with practices and operations related to the former Metals Marine Pilot facility on the subject property and the facility to the north, former Pace. PES reviewed available documents provided by Alliance and Ecology. The volume of documents is extensive; therefore, the entire list is presented in chronological order in the References (Section 7.0) of this report. Copies of those reports are provided in Appendix H.

The previous investigations primarily focused on eight areas of concern on the subject property: (1) the former diesel and kerosene UST area (Diesel/Kerosene UST Area) located south of the former cardboard storage shed (2) the paraffin oil release area located on the north property boundary adjacent to Pace (Paraffin Area); (3) the former kerosene UST area (Kerosene UST Area); (4) the main facility building (Main Building) (5) the PCE dumping area (PCE Area); (6) the area east of the former painting shed where lime and other waste were reportedly buried (Lime Pit Area), (7) the rinse run-off area east of the former materials shed that may contain waste solvents, and (8) the arsenic and petroleum contaminated fill area located on the east half of the subject property (Fill Area). These areas are shown on Figure 3. This section summarizes the investigations in each of these areas. This section also provides a summary of Ecology's involvement with the subject property and the opinions it has issued regarding the reported environmental conditions.

3.1 Summary of Previous Phase I Environmental Assessments

A Level I Environmental Site Assessment (Level I) and two Phase I Environmental Site Assessments (Phase I) have been conducted on the Property. Creative Environmental Technologies, Inc. (CETI) conducted a Level I ESA in 1999 (CETI, 1999b), Kleinfelder conducted a Phase I ESA in 2005 (Kleinfelder, 2005a), and Terracon conducted a Phase I ESA in 2008 (Terracon, 2008b).

3.1.1 CETI Level I

CETI conducted a Level I of the subject property in 1991 (CETI, 2000a). There were several buildings occupying the subject property at that time, the largest being the main facility (2119 Mildred Street West) which was originally built in 1959 and had additions built in 1961, 1965, and 1979. At that time, the facility was used for the design and construction of marine automatic pilots and included assembly, painting, testing, service, and repair activities. Four outbuildings were located east of the main facility and included the painting shed, the materials shed, a paint storage shed, and a cardboard storage shed. The paint storage and cardboard storage sheds were used for storage. The activities in the painting and materials sheds are described below.

The painting shed was used to paint and dry parts and housings. The concrete floor in the painting shed graded to a drain leading to a sealed recovery UST located on the east side of the building. CETI mentioned two other USTs located in the undeveloped area of the subject property east of the main facility building which were designed to catch any hazardous materials spilled in the painting shed or materials shed. These two USTs have manholes and have also

been referred to as “concrete vaults” and “sealed recovery USTs” by Kleinfelder (Kleinfelder, 2005a; Section 3.1.2). The location of these USTs is shown on Figure 2.

The materials shed was used for the cleaning and preparation of parts for painting and varnishing. Contaminated rinse water from a sink used for cleaning parts was pumped to a 300 gallon plastic “ground” storage tank. The water was then pumped into an evaporator. Hazardous materials were also stored in the materials shed including PCE, varnish, detergents, and welding supplies. A “lean to” was built adjacent to the east wall of the materials shed to house the contaminated water tank, the kerosene pump and tank, and various drums storing hazardous chemicals including trichloroethylene (TCE). The kerosene tank was associated with the operation in the compass room of the main facility building, as explained below. Prior to 1991, the wash water from the materials shed was piped out into the area east of the building and ran down concrete tiles. This area was buried during the filling and grading of the subject property.

During their site visit, CETI observed the storage and use of hazardous materials including lubricating oils, kerosene, stove oil, paints, and solvents. Empty drums were noted east of the materials shed and north of the cardboard storage shed. These drums were used for the storage of petroleum products. CETI reported that kerosene used in the compass room located in the main facility building was pumped from a tank located in a shed near the materials shed. A UST located adjacent to the north side of the compass room was used to catch and store any excess kerosene. The UST was described as a glass-lined hot water heater tank buried in a round cement vault. A subsequent UST removal report documented the UST to be 80 gallons (SES, 2002; Section 3.2.3). Two buried septic tanks were noted by CETI. One was located near the southwest corner of the main facility building and one was located midway along the east side of the facility building (as shown on a figure in the CETI report).

Based on information provided by a representative of Metal Marine Pilot, Inc., CETI identified several areas east of the materials shed where chemical wastes were historically buried (Figure 3). One area was the Lime Pit Area where pits were excavated, lined with lime, and used for acid disposal. The waste acid was used in metals etching. The Lime Pit Area was located in the gravel road east of the painting shed. Another area was the Drain Field Area where a drain outlet was observed east of the materials shed. CETI stated that the drain was from the main facility building where wastewater containing metals and semi-volatiles (SVOCs) were discharged. CETI also stated that this area was used as a rinse area where wastewater may have contained solvents. The PCE Area was also identified where waste solvents were historically dumped off the loading dock onto a former gravel road surface. CETI showed the former loading dock area east of the materials shed and paint storage shed.

CETI identified the Diesel/Kerosene UST Area that was located south of the cardboard storage shed (USTs removed in 1994) and the paraffin oil spill that occurred on the Pace property located north of the subject property in April 1991 (Paraffin Area). The removal of the USTs in the Diesel/Kerosene UST Area is described in Section 3.2. The Paraffin Area release and subsequent excavation and sampling is discussed in more detail in Section 3.3. The Lime Pit Area and Drain Field Area are discussed in Section 3.4 along with the investigation and soil removal in the PCE Area.

3.1.2 Kleinfelder Phase I

Kleinfelder conducted a Phase I on the subject property in 2005 (Kleinfelder, 2005a). The Kleinfelder Phase I was consistent with the findings from CETI in 1999 (CETI, 1999b). Additional information or findings from Kleinfelder are summarized in this section. At the time of the Phase I, the main facility building, the painting shed, and paint storage shed were present. Kleinfelder noted the remaining concrete pads for the materials and cardboard storage sheds; the buildings were removed around 2001. The existing buildings were unoccupied and used to store the owner's personal property and equipment, tools, machinery, and supplies used in the former operations. Upon inspection, Kleinfelder noted the storage of hazardous materials including several 55-gallon drums containing motor and hydraulic oils, and smaller containers containing alcohol, paint thinner, kerosene and solvents. Hazardous materials were also found to be stored outside the east wall of the main facility building. The two septic tanks reported by CETI were present during Kleinfelder's Phase I.

Hydraulic oil residue and staining was noted on the concrete floor inside the hydraulic room in the southeast end of the main facility building. Two 5,000-gallon concrete vaults (also referred to as "sealed recovery USTs") were located along the central portion of the subject property, east of the main facility building (Figure 3). These concrete vaults were installed by Metal Marine Pilot to recover spilled liquids within the painting and materials sheds. Spilled liquids were transferred to the concrete vaults from underground pipes originating from the floor drains in the buildings. The owner's representative stated that in 1996, an unknown quantity of paint was spilled inside the paint building and was washed into one of the concrete vaults; however, the liquid was immediately cleaned out of the vault. During the Phase I by Kleinfelder, the two concrete vaults were observed to contain stormwater.

Between 1963 and 1972, an unknown quantity of mercury vapor fluorescent light bulbs that were removed from the main facility building were reportedly disposed east of the building. The exact location of the disposal area is unknown, but was likely east of the former loading dock. Kleinfelder noted that the central and eastern portions of the subject property was filled in 1972 and 2000. The fill was placed to bury a low-lying flooded area that formerly existed along the east end of the site. According to the site owner's representative, the fill originated from several nearby commercial development and roadway construction projects including the former airport property located west of the subject property. Kleinfelder reported the presence of a buried asbestos-containing transite water pipe beneath the subject property. The transite pipe traverses across the center of the subject property from southeast then to north (Figure 3) and was inactive during Kleinfelder's Phase I. Sections of the transite pipe were believed to have been crushed during the time fill was being placed on the subject property.

Kleinfelder noted that prior to the cease of operations at the facility in 2000, there had been several reported releases or environmental concerns on the subject property including the removal of USTs and the PCE dumping area (PCE Area). The Phase I report documented the discharge of wastewater contaminated with machine oil, kerosene residues and degreasers from parts washing activities in the former materials shed from 1960 to 1992 (Drain Field Area initially reported by CETI). The practice was stopped in 1992 when the wastewater was transferred into an evaporator. The Lime Pit Area identified by CETI was also mentioned by

Kleinfelder. Kleinfelder reported that waste acids and metal residues derived from circuit board etching activities at the facility were periodically discharged into three or four lime-lined pits located east of the main facility building. The lime pits were approximately 3 feet by 3 feet square and excavated to approximately 3 feet deep. The lime pits were used from 1960 to 1992 and were buried underneath approximately 15 feet of fill at the time of the Phase I. Kleinfelder reported that these lime pits were not located in previous investigations on the subject property.

Kleinfelder recommended further investigation of the following areas: the north property boundary (Paraffin Oil Area) where heavy oil-impacted soil remain, the Lime Pit Area, the Drain Field Area, the mercury vapor fluorescent light bulb disposal area, the concrete vault area (also referred to as “sealed recovery UST” (CETI, 2000a; Section 3.1.1), and the areas inside the main facility building where hazardous chemical were stored and staining was observed on the floor. The UST removals and further investigations of the PCE Area, which includes investigation in the Drain Field Area and Lime Pit Area, are discussed in the sections below.

3.1.3 Terracon Phase I

Terracon conducted a Phase I on the subject property in 2008 (Terracon, 2008b). The same structures identified in the Kleinfelder Phase I (Kleinfelder, 2005a) were reported by Terracon. Terracon’s Phase I findings were consistent with the previous Level 1 by CETI and the Phase I by Kleinfelder. In addition to observations of the previous reports, Terracon reported that deep cycle batteries were stored in the shed located between the main facility building and the former painting shed. The batteries were stored in fiberglass boxes within the shed which was located directly on the gravel surface.

Terracon identified the two concrete vaults (referred to as USTs by Terracon) as a REC. The following RECs were identified based on historical information: the PCE Area, Lime Pit Area, Drain Field Area, Paraffin Area, the Fill Area, the fluorescent light bulb disposal area, the former drum storage area between the former materials shed and painting shed, the buried inactive asbestos transite pipe, and the areas of the septic tanks. These RECs have also been identified in the previous reports by CETI and Kleinfelder. Investigations associated with the Paraffin Area, PCE Area, Lime Pit Area, Drain Field Area, and the Fill Area are discussed below, along with the UST removals in the Diesel/Kerosene UST and Kerosene UST Areas.

3.2 Subsurface Investigations

This section summarizes the subsurface investigations that were conducted on the subject property. The investigations occurred in seven areas: Diesel/Kerosene UST Area, Paraffin Oil Release Area, Kerosene UST Area, Lime Pit Area, Drain Field Area, PCE Area, and the Fill Area. The investigations in each area are summarized below.

3.2.1 Diesel/Kerosene USTs Area

Two USTs (one 1,000-gallon diesel and one 1,000 gallon kerosene) were located adjacent to the south side of the cardboard storage shed (Don Golden, 1994). The USTs were removed in one excavation in 1994 (10 feet wide by 26 feet long by 8 feet deep). The associated pumps had been previously removed. Don Golden reported that there were no signs of spills and the site

appeared clean. Upon removal, the UST pit was found to be dry. Soil removed from the excavation was placed in two stockpiles on plastic. Six confirmation soil samples were collected on the sidewalls and floor of the excavation and a total of three composite samples were collected from the stockpiles. Samples were analyzed for gasoline, diesel, and heavy oil (method WTPH-HCID), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds. One stockpile sample was also analyzed for SVOCs. Results for all of the confirmation samples were below the method reporting limits (MRLs) at that time. One SVOC (di-n-butylphthalate at 420 µg/kg) was detected in the stockpile sample. No other SVOCs were detected above the MRLs. The USTs were disposed offsite by Waste Disposal Inc. It is unknown what material was used as backfill for the excavation and if the excavated soil stockpiles were removed from the subject property. Don Golden submitted the UST removal report along with UST closure documentation to Ecology.

CETI collected a soil sample from a geoprobe boring BH25 on February 1, 2000 (Figure 3). Boring BH25 was drilled to assess the soil near the former diesel and kerosene USTs as part of a Phase 2 investigation being conducted on the subject property (CETI, 2000a). One sample was collected from BH25 below the “bedding material” that was encountered at approximately 9 feet bgs. The bedding material was described as pea gravel that was believed to be associated with the USTs. No odor or staining was observed during drilling activities. The sample was not analyzed.

3.2.2 Paraffin Oil Release Area

According to a report prepared by CETI, an unknown quantity of lubricating paraffin oil was released from Pace located adjacent and north of the subject property (CETI, 1999a). The release was caused by an equipment failure that was discovered on April 26, 1999. Upon discovery of the release, Pace pumped noticeable standing fluid and water into 55-gallons drums; however, some of the paraffin oil release flowed south onto the subject property and migrated southeast (downslope) to the north-south-running drainage ditch along the eastern portion of the subject property. CETI identified “oil range hydrocarbon” contamination in the surface and subsurface soil at the site during a site inspection approximately 24-hours after the release and reported that soil samples were collected prior to remedial activity. CETI reported that the sample results indicated remedial action would be required. The samples and sample data for this first sampling event were not included in their report. The soil was initially removed by hand on August 27, but when it appeared that more soil would need to be excavated, a contractor was hired on August 28 to excavate the remaining soil. The report indicated approximately 80 “cubic tons” of contaminated soil were excavated and removed from the subject property, the report is not clear whether this is cubic yards or tons.

CETI collected 38 soil samples following excavation activities (S1 through S38) in the area of the release up to 3 feet below the ground surface (bgs) near the release point (sample S29), and along the flow path to the drainage ditch up to 1.5-feet bgs. Samples were analyzed for diesel and heavy oils (method TPH-D Extended). The results table in the report show that heavy oils between 1,000 mg/kg and 81,000 mg/kg were detected in samples S1 through S7, S14, and S29. Diesel was only detected in one sample (74 mg/kg in sample S3). CETI reported that results for confirmation samples collected from the excavation did not exceed the Model Toxics Control

Act (MTCA) Method A CULs for heavy oil. CETI's report did not specify which samples were confirmation soil sample and which were performance samples. CETI screened the soil during excavation and reported that soil containing "hydrocarbons exceeding MTCA limits" were excavated and transported offsite to the TPS disposal facility. The report did not indicate what was used to backfill the excavations.

Subsequent to the 1999 excavation, CETI collected a soil sample from a geoprobe boring BH24 on February 1, 2000 (Figure 3). Boring BH24 was drilled to assess the soil near the north property boundary west of the paraffin release area as part of a Phase 2 investigation being conducted on the subject property (CETI, 2000a). Sample S6-2100 was collected from BH24 at 2 to 4 feet bgs and analyzed for SVOCs and metals, including arsenic. The sample results showed arsenic was detected at 12 mg/kg and six other metals up to 250 mg/kg zinc. None of the metals detections were above the CULs. SVOCs were not detected above the MRLs.

CETI collected additional surface soil samples S1-21500, S2-21500, and S3-21500 from the "top three inches" along/on the north subject property boundary east of the 1999 paraffin oil release area on February 15 (Figure 3). The samples were collected as part of the Phase 2 investigation in 2000 and was reported as an addendum to the Phase 2 report (CETI, 2000b). Samples S1-21500 and S2-21500 had an "oily appearance" and sample S3-21500 contained "black, sooty material". Sample S1-21500 was analyzed for diesel range organics (DRO) and heavy oil range organics (ORO) (method NWTPH-Dx) and S3-21500 was analyzed for metals, including arsenic. S1-21500 contained ORO at 35,000 mg/kg, which exceeds the MTCA Method A CUL of 2,000 mg/kg. DRO was not detected above the MRL in the sample. Three metals were detected in sample S3-21500 up to 1,500 mg/kg zinc; however, none of the detections exceeded the CULs. Arsenic was not detected above the MRL in the same sample. The available information reviewed by PES did not indicate that further investigation and/or cleanup was performed in the area of surface samples S1-21500 to S3-21500. The results indicate that the extent of impacts discovered in S1-21500 have not been delineated based on the "oily appearance" observed at sample locations S2-21500, and S3-21500 that were not analyzed. .

Kleinfelder collected soil samples from two borings (B-58 and B-77) located along the north property boundary during a Phase 2 investigation that was conducted on the subject property in 2005 (Kleinfelder, 2005b). Two soil samples were collected from B-58 at 10 and 12.5 feet bgs, and one sample was collected from B-77 at 5 feet bgs. The soil samples were analyzed for gasoline ranged organics (GRO), DRO, ORO, VOCs (EPA method 8260), and metals. ORO was detected in both samples from B-58 (850 mg/kg at 10 feet bgs and 740 mg/kg at 12.5 feet bgs). Both of these concentrations are below the CUL. GRO and DRO were not detected above the MRL in the samples from B-58. The soil sample from B-77 did not contain any detections of GRO, DRO, and ORO above the MRLs.

3.2.3 Kerosene UST Area

Two USTs were located adjacent to the west side of the main building (two 80-gallon kerosene) (SES, 2002). The USTs were removed in one excavation in 2002 which extended to approximately 3 feet bgs. Soil samples (S1 through S9, S1A, S3A, S5A, and S8A) were collected from the excavation and analyzed for DRO and ORO. Selected samples were analyzed

for VOCs and GRO. The results showed that three samples exceeded the CUL for DRO or GRO (reported as intermediate range hydrocarbons). The locations of these samples were further excavated to approximately 4 feet bgs and resampled. The results of the over-excavation confirmation samples showed that DRO was not detected above the MRL; GRO was not analyzed. VOCs and ORO were not detected above the MRLs in any sample. Sound Environmental Strategies (SES, formerly CETI) reported that the excavation was backfilled with imported clean fill from Port Orchard Sand & Gravel.

3.3 Lime Pit Area, Drain Field Area and PCE Area

CETI conducted a Level I of the subject property in 1999 (CETI, 1999b). The Level I, discussed in more detail in Section 3.1.1, reported that the undeveloped area east of the former loading dock was used to dump spent solvents (PCE Area). The Level 1 also identified other areas where hazardous materials may have been disposed or released including the Lime Pit Area and the Drain Field Area. Based on the findings from the Level I, CETI conducted a subsurface investigation of the subject property to investigate these areas in January and February 2000 (CETI, 2000a) by drilling and sampling 25 geoprobe borings (BH1 through BH25) from 8 to 24 feet bgs on the subject property. Twelve of these borings (BH4 through BH9 and BH18 through BH23) were located in the suspected solvent dumping area (PCE Area), five borings (BH1, BH2, BH3, BH16 and BH17) were located in the Lime Pit Area, six borings (BH10 through BH15) were located in the Drain Field Area, one boring (BH24) was located near the north property boundary, west of the Paraffin Area (Section 3.3), and one boring (BH25) was located in the former Diesel/Kerosene UST Area (Section 3.2). These areas are described in more detail in Level 1 summary section (Section 3.1). The results of the samples from BH24 and BH25 are discussed in Section 3.3 and Section 3.2, respectively.

3.3.1 Lime Pit Area

The Lime Pit Area was an area identified in the CETI Level 1 report where pits had been excavated and lined with lime for the neutralization and disposal of acid (acid used in etching metal). Five borings were located in the Lime Pit Area (BH1, BH2, BH3, BH16 and BH17), but only two soil samples were submitted for analysis. Sample S24-13100 collected at 9-10 feet bgs from boring BH16 was analyzed for metals and SVOCs, and sample S25-13100 collected at 11-12 feet bgs from BH16 was analyzed for metals only. Sample S24-13100 was noted to have a slight asphalt odor and was described as being sampled from “a black layer” encountered at 10 feet bgs. No SVOCs were detected above the MRLs. Metals were detected in both samples; but at concentrations below the CULs at that time and below the current CULs. The highest was chromium (62 mg/kg in S24-13100). Arsenic was not detected above the MRL in either sample.

3.3.2 Drain Field Area

The Drain Field Area was an area identified in the CETI Level 1 report where wastewater from the parts cleaning operations was reportedly discharged. The wastewater may have been contaminated with machine oil, kerosene residues and degreasers, and solvents. Six borings (BH10 through BH15) were located in the Drain Field Area. Suspected contaminants were metals and SVOCs. No visible signs of contamination were observed during drilling. One

sample from BH12 had a slight hydrocarbon odor (S17-13100 collected at 17 feet bgs) and was submitted for analysis. SVOCs were not detected above the MRLs. Metals were detected, but at concentrations below the CULs. The highest concentration was zinc at 65 mg/kg. Arsenic was not detected above the MRL. No other soil samples were analyzed from the drain field area.

3.3.3 PCE Area

The investigation of the solvent dumping area included drilling twelve borings (BH4 through BH9 and BH18 through BH23) in the area around the paint storage area and to the north around the former painting shed. Odors were noted in soil from BH4 at 2 to 4 feet bgs (sample S1-13100) and from BH5 at 3 to 4 feet bgs (sample not analyzed). Odors and other signs of contamination were not observed in any other boring. One soil sample was collected from each of the twelve borings from depths ranging from 2 to 8 feet bgs and were analyzed for VOCs. The sample from BH6 (S4-13100 collected at 4 to 8 feet bgs) was also analyzed for metals. PCE was detected in three borings (BH4, BH5, and BH6) located near the solvent dumping area east of the former loading dock. PCE was detected at 1.26 mg/kg at 2 to 4 feet bgs (sample S1-13100 from BH4), 0.64 mg/kg at 4 to 8 feet bgs (S4-13100 from BH5) and at 2.22 mg/kg at 0 to 4 feet bgs (S6-13100 from BH6). All of these detections were above the CUL at the time (0.5 mg/kg). PCE was not detected above the MRL of 0.25 mg/kg in any other sample. It should be noted that the current CUL for PCE is more stringent, at 0.05 mg/kg. Metals were also analyzed in sample S6-13100 from BH6. Metals were detected in this sample up to 26 mg/kg nickel. Arsenic was not detected above the MRL.

Samples collected from borings located around the former painting shed (BH21 through BH22) did not contain any detections of VOCs above the MRLs. Samples collected from borings located on the west, east and south of impacted borings BH4, BH5, and BH6 also did not contain any detections of VOCs above the MRLs. CETI recommended that PCE contaminated soil be excavated and removed from the site.

The PCE-contaminated soil identified by CETI was removed in September 2000 in an excavation located east of the loading dock area (CETI, 2000c, Figure 3). Prior to excavation activities, CETI excavated two test pits (TP1 and TP2) in August 2000 for soil characterization purposes. One sample (S1-80400) was collected from TP1 at approximately 4 feet bgs, and two samples were collected from TP2 (S2-80400 and S3-80400) at depths of approximately 4 and 5 feet bgs, respectively. All three test pit samples were analyzed for toxicity characteristic leaching procedure (TCLP) for PCE. Sample S3-80400 was also analyzed for PCE. PCE was detected in at a concentration of 13.9 mg/kg in sample S3-80400 from TP2 which was located on the southern end of the PCE excavation area. The TCLP results for the samples ranged from 0.025 to 0.27 mg/L below the criteria for designating the soil as a toxicity characteristic hazardous waste.

The PCE Area excavation measured approximately 25 feet wide by 40 feet long and 6 to 11 feet deep, with the shallowest depth on the north end and the deepest depth on the south end. The excavated soil was segregated based on field observations in “clean” (soil from the ground surface to 4 feet bgs) and “PCE-contaminated” (soil from 4 to 11 feet bgs) stockpiles. CETI reported that the PCE-contaminated stockpile was placed on plastic. Nine confirmation soil

samples (CS1 through CS9) were collected from the limits of the excavation (ranging from 6 to 11 feet bgs) and analyzed for PCE. One confirmation soil sample (CS3) collected at 6 feet bgs contained PCE at 0.39 mg/kg, which was below the MTCA Method A CUL at the time (0.5 mg/kg) but exceeds the current CUL of 0.05 mg/kg. The remaining confirmation samples did not contain PCE at or above the MRL of 0.25 mg/kg; however, it should be noted that the MRL exceeded the current CUL for PCE.

Six samples were collected from the “clean” stockpile (SP1 through SP6); however, only three were analyzed for PCE. One of these stockpile samples contained PCE (0.34 mg/kg) which was below the CUL at that time, but exceeds the current CUL for PCE of 0.05 mg/kg. PCE was not detected above the MRL of 0.25 mg/kg in the other two stockpile samples; however, the MRL exceeded the current CUL for PCE. The soil from the “clean” stockpile was used as backfill for the excavation. CETI reported that the remainder of the excavation was backfilled with material “scraped from the surface fill material from a high area to the southeast of the excavation.” The samples collected from the PCE-contaminated stockpile ranged from 0.16 to 2.15 mg/kg. The approximately 150 tons of PCE-contaminated soil (PCE concentrations up to 13.9 mg/kg from the test pit sample) were transported from the subject property to the Waste Management Olympic View Sanitary Landfill in Port Orchard, Washington. After reviewing the reports (CETI, 1999b, 2000a, and 2000c), Ecology issued a no further action (NFA) determination on March 6, 2001 (Ecology, 2001), for the release of PCE into the soil (PCE Area). It should be noted that groundwater was not sampled as part of CETI’s work.

In May 2005, Kleinfelder conducted a subsurface investigation in the PCE Area as part of a Phase 2 environmental site assessment for the subject property to assess potential presence of shallow soil and groundwater contamination (Kleinfelder, 2005b). The purpose of the Phase 2 was to assess the areas of concern identified in the Phase I by Kleinfelder (Kleinfelder, 2005a). A summary of the findings from Kleinfelder’s Phase I are discussed in Section 3.1.2. Twenty soil borings were drilled and sampled (B-58 through B-77) as part of the Phase 2 investigation. Seven borings (B-59 through B-65 drilled between 6 and 19 feet bgs) were located in and around the PCE Area, six (B-71 drilled to 8 feet bgs, and B-72 through B-77 drilled between 1.5 and 5 feet bgs) were located around and beneath the main facility building, two (B-58 and B-77 drilled to 24 and 11 feet bgs, respectively) were located in the Paraffin Area (results are discussed in Section 3.3), and five (B-66 through B-70 drilled between 20 and 24 feet bgs and completed as monitoring wells MW-66 through MW-70) were located in the Fill Area on the eastern portion of the subject property (results discussed in Section 3.6).

Kleinfelder also drilled and sampled seven additional borings (B-79 through B-85) during Phase 2 supplemental investigation activities in August 2005 (Kleinfelder, 2005e). All of the borings were drilled to 21.5 feet bgs and were used to help delineate the extent of PCE contamination in the PCE Area. Soil samples were analyzed for PCE, DRO, ORO, and metals. The samples from B-59 and B-65 were also analyzed for kerosene. Soil samples collected from B-61 and B-62 at 5 feet bgs contained PCE (0.2 and 0.1 mg/kg, respectively) exceeding the current CUL of 0.05 mg/kg. PCE concentrations detected in B-60 at 5 feet bgs, in B-80 at 10 feet bgs (0.04 mg/kg) and 17.5 feet bgs (0.02 mg/kg), and in B-85 at 5 feet bgs (0.04 mg/kg) were either at or below the CUL. PCE was not detected above the MRL of 0.02 mg/kg in any boring. The sample collected from B-81 at 12.5 feet bgs contained ORO (3,700 mg/kg) and DRO (410 mg/kg). The

concentration of ORO exceeded the CUL of 2,000 mg/kg. Kerosene was not detected above the MRL. Kleinfelder also drilled and installed one groundwater monitoring well (MW-78) in the Fill Area during the supplemental investigation. The results are discussed in Section 3.6.

EcoCon Inc. (ECI) conducted further investigations of the subject property in September and October 2011 which included the PCE Area (ECI, 2012a). The purpose of the investigation was to further characterize subsurface soil conditions previously identified during the Phase 2 investigations by Kleinfelder (Kleinfelder, 2005b and 20053). Twenty soil borings were drilled up to 20 feet bgs (B1 through B20). Five of these borings (B1, B2, B13, B14, and B15) were drilled and sampled to further delineate the PCE Area previously investigated by Kleinfelder (Kleinfelder, 2005b and 2005e). Samples collected from these borings were the only ones analyzed for VOCs (including PCE). The other borings were drilled to assess the surrounding area including the Fill Area. These samples were analyzed for metals, GRO, DRO, and ORO and are discussed in Section 3.6. Soil samples collected from three borings in the PCE Area (B1, B13 and B14) contained PCE exceeding the CUL. The soil sample collected from B1 at 5 feet bgs contained PCE at 0.23 mg/kg. The sample collected at 10 feet bgs from the same boring did not contain PCE above the MRL; however, benzene (0.032 mg/kg) was detected at a concentration exceeding the CUL. Other VOCs including toluene, ethylbenzene, and xylenes were also detected; however, the concentrations were below the CULs. VOCs were not detected above the MRLs in any other sample. Only one sample was collected from B13 (at 7 feet bgs) and PCE in that sample was 0.14 mg/kg. Both samples collected from B14 (5 and 9 feet bgs) contained PCE at 0.19 mg/kg and 0.087 mg/kg, respectively. PCE was not detected above the MRLs in samples collected from B2 and B15.

Based on the results from the investigations in the PCE Area, ECI delineated the lateral extent of the PCE contamination and determined the vertical extent to be approximately 9 to 10 feet bgs. The PCE contaminated area excavated by ECI was located south and adjacent to the PCE contaminated area previously excavated in 2000 by CETI (CETI, 2000c; Figure 3). ECI conducted remedial soil excavation activities in August 2012 (ECI, 2012d). The area of the soil excavation was reported to be an area approximately 45 feet by 15 feet and to a depth of 8 to 14 feet bgs. Fifteen confirmation soil samples (S1 through S15) were collected from the excavation at depths ranging from 7 feet bgs to 13 feet bgs. Soil samples were analyzed for PCE and the daughter-products (vinyl chloride [VC], 1,1-dichloroethene [1,1-DCE], trans-1,2-dichloroethene [trans-1,2-DCE], cis-1,2-dichloroethene [cis-1,2-DCE], and trichloroethene [TCE]). The only detections above the MRL were in sample S8 collected from 8 to 9 feet bgs (PCE at 0.021 mg/kg) and in sample S10 collected from 8 to 9 feet bgs (PCE at 0.027 mg/kg); both of these concentrations are below the CUL of 0.05 mg/kg. Sample S8 was located on the northeast sidewall of the excavation and S10 was located on the southwest sidewall of the excavation. None of the other samples contained detections above the MRLs. ECI did not report what the excavation was backfilled with or whether groundwater was encountered during excavation activities.

Approximately 250 cubic yards of soil was excavated and stockpile. The stockpile was sampled and transported offsite following the soil excavation activities (ECI, 2012b). Ten stockpile samples (CSP-1 through CSP-10) were collected and analyzed for PCE and daughter-products VC, 1,1-DCE, trans-1,2-DCE, cis-1,2-DCE, and TCE. PCE was detected between 0.021 mg/kg

and 0.360 mg/kg in seven stockpile samples. Cis-1,2-DCE was detected in two stockpile samples at 0.035 mg/kg and 0.095 mg/kg. ECI indicated that a contained-in determination would need to be acquired from Ecology prior to offsite disposal. The final disposition of the PCE-contaminated stockpile and the material used to backfill the excavation were not reported. It is unknown what was used as backfill for the excavation.

Nineteen borings were drilled in the vicinity of the PCE Area by Kleinfelder and ECI. Fourteen of those borings did not contain any soil samples with detections above the MRLs. None of the soil samples collected from the borings located in and outside the main facility building contained PCE above the MRLs. Of the eighty-three soil samples collected on the subject property and analyzed for PCE, sixty-seven samples did not contain detections of PCE above the MRL. The remaining sixteen samples that contained detections of PCE above the MRLs were all located in the PCE Area. No groundwater samples were collected.

On July 28, 2015, Ecology rescinded the NFA determination for the subject property that was issued on March 6, 2001. It was Ecology's opinion that the site meets the cleanup standards for PCE, ORO, GRO, and BTEX in soil, but Ecology stated that further remedial action is necessary to meet the cleanup standards for metals (arsenic) in soil and groundwater (Ecology, 2015). Interactions with Ecology are included in Section 3.7.

3.4 Fill Area

Investigations in the Fill Area included surface soil sampling in the bioswale area, and soil and groundwater sampling associated with subsurface investigations. The investigations are summarized below.

3.4.1 Sound Environmental Strategies Swale Surface Soil Sampling

Sound Environmental Strategies (SES) conducted surface soil sampling in the bioswale area near the eastern subject property boundary. The report, *Testing of Surface Soils Near the Eastern Swale of the Property*, dated October 8, 2001, was included in the Kleinfelder Phase I report (Kleinfelder, 2005a). SES collected an initial surface soil sample (S1-82900) on August 29, 2000, along western slope of the swale (approximately 3 feet above the floor of the swale), and approximately 350 south of the northern property boundary, where "red colored soil staining" was observed. The SES report did not show the location of S1-82900 in their report. The sample was collected from 0 to 2 inches bgs where the red-stained soil was observed. The soil sample was analyzed for PCE and metals. The results showed arsenic at 160 mg/kg and cadmium at 30 mg/kg. Both of these concentrations exceeded the CULs at the time (20 mg/kg for arsenic and 2 mg/kg for cadmium). Concentrations of other metals (barium, chromium, and lead) were reported to be below their respective CULs. PCE was not detected at the MRL of 0.25 mg/kg.

SES collected seven more shallow soil samples to further assess the arsenic contamination (S1-91500 through S7-92500 collected between 0 to 6 inches bgs) on September 15, 2000. Soil samples were located along the west of the swale along the east-facing bank (Figure 3). The soil samples were analyzed for arsenic. One sample (S5-91500) was analyzed for 12 metals. The results showed that two samples (S4-91500 and S5-91500) each contained arsenic at 29 mg/kg,

which exceeded the CUL. Arsenic was not detected above the MRL of 5 mg/kg in all of the other samples. Other metals (beryllium, cadmium, chromium, copper, lead, nickel, and zinc) were detected up to 17 mg/kg nickel, but the concentrations were below the CULs. One soil sample (CS-NESW2-7) was collected and analyzed for PCE only. PCE was not detected above the MRL of 0.25 mg/kg in that sample. The location of CS-NEWW2-7 was not shown on the figure nor was it discussed in the report.

SES collected one soil sample (S1-112700) on November 27, 2000, from the swale slope after a sheen was noted following a heavy rain event. The sample was analyzed for arsenic, cadmium, lead, and gasoline, diesel, and oil hydrocarbon identification (HCID). The sample result showed that lead (8 mg/kg) was the only analyte detected. All other analytes were not detected above their MRLs. SES concluded that there did not seem to be correlations between the red staining and arsenic and cadmium concentrations. SES believed the red staining and sheen observed in November 2000 may be the result of naturally occurring bacteria (“iron bacteria”) and that the occurrence of metals did not represent a large area of contaminated soil and do not appear to represent a release.

3.4.2 Subsurface Investigations

The eastern portions of the subject property were filled between 1972 and 2000. The fill was placed to bury a low-lying flooded area that formerly existed along the east end of the site. Although the source is unknown, the fill is believed to have originated from several nearby commercial development and roadway construction projects. A geotechnical study conducted by Kleinfelder (Kleinfelder, 2005c) showed that the fill beneath the subject property is approximately 2 to 19 feet thick on the western portion of the property and approximately 20 to 36 feet thick along the easternmost side of the property. This is based on the boring logs from the fifty-seven borings (B-1 through B-57) drilled during the geotechnical study.

Investigations conducted by Kleinfelder and ECI for the subject property included soil sampling borings drilled in the Fill Area. Based on the previous investigations, arsenic and petroleum hydrocarbons appear to be the primary contaminants in the Fill Area. The following summarizes the previous investigations that included sampling in the Fill Area.

In May 2005, Kleinfelder conducted a Phase 2 investigation (Kleinfelder, 2005b) on the subject property that included drilling and sampling borings in the Fill Area. Twenty soil borings were drilled and sampled (B-58 through B-77) as part of the Phase 2 investigation; however, five of these borings (B-66 through B-70) were located on the eastern portion of the subject property in the Fill Area. These borings were drilled to depths between 20 and 24 feet bgs and all were completed as monitoring wells MW-66 through MW-70 (Figure 3). The other Phase 2 borings were drilled in the PCE Area (discussed in Section 3.5.3) and the Paraffin Area (discussed in Section 3.3). One additional monitoring well (MW-78) was installed by Kleinfelder during the supplemental Phase 2 investigation in August 2005 (Kleinfelder, 2005e).

Soil and groundwater samples were analyzed for PCE, GRO, DRO, ORO, kerosene, and metals. Groundwater samples were also analyzed for BTEX. Soil results indicated that ORO was detected at 6,600 mg/kg in the sample collected from B-67 at 15 feet bgs. This concentration

exceeds the CUL. The sample collected above this sample at 12 feet bgs did not contain ORO above the MRL. ORO (940 mg/kg) was also detected in the sample collected from B-69 at 11.5 feet bgs. The sample collected at 22.5 feet bgs in the same boring did not contain ORO above the MRL. Kleinfelder's soil sampling results indicated that soil containing ORO was not contiguous throughout the area investigated and appeared to be located within isolated layers within the deeper fill material. No obvious source of the ORO was identified in the investigation. PCE, GRO, DRO, and kerosene were not detected above the MRLs in any sample.

Arsenic was only detected (15 mg/kg) in the soil sample collected from B-69 at 22.5 feet bgs. The sample collected from the same boring at 11.5 feet bgs did not contain arsenic above the MRL. Arsenic was not detected in any other sample. Other detected metals includes lead and chromium (up to 60 mg/kg lead in B-70) at concentrations below CULs.

During the investigation dissolved arsenic exceeding the MTCA Method A CUL was discovered in a groundwater sample collected from MW-70 (9.47 µg/L) and a temporary well installed in B-63 (17.9 µg/L). Dissolved arsenic was also detected in the groundwater from MW-68 and MW-69, but concentrations were below the CUL. The depth-to-water during groundwater sampling was between 16.55 feet bgs (MW-68) and 19.60 feet bgs (MW-69); MW-67 was dry. Kleinfelder drilled and installed monitoring well MW-78 during supplemental investigation activities in August 2005 (Kleinfelder, 2005e). A soil sample was not collected and analyzed from MW-78; however, the groundwater sample collected from MW-78 contained total arsenic at 14.6 µg/L which exceeds the CUL (5 µg/L).

Kleinfelder contacted Ecology on September 12, 2005 regarding the detected dissolved arsenic concentrations (9.47 to 17.9 ug/L) in groundwater sampled from monitoring and temporary wells. It was Ecology's opinion that the arsenic detected in groundwater may be naturally occurring. Ecology stated that the site is located within the footprint of the Tacoma Smelter Plume; however, soil data indicates that surficial lead and arsenic concentrations resulting from the Tacoma Smelter Plume generally tend to drop off significantly within the first 0 to 24 inches. Ecology did not think there were any correlations between concentrations of arsenic in surficial soil that may be present from the Smelter plume and arsenic in the shallow perched groundwater at a depth 15 to 20 feet bgs at the subject property.

ECI conducted further investigations of the subject property in September and October 2011 which included the Fill Area (ECI, 2012a). Twenty soil borings were drilled up to 20 feet bgs (B1 through B20). Fifteen of these borings (B3 through B12, and B16 through B20) were located in the Fill Area. A number of the borings were located in the vicinity of the Kleinfelder borings to assess the distribution of ORO exceeding CULs found by Kleinfelder. Samples collected from these borings were analyzed for metals, GRO, DRO, and ORO. ORO was detected in samples from B-4, B-5, B-6, B-7, B-9, B-10, B-11, and B-12 at concentrations ranging from 50 mg/kg (B-7 at 15 feet bgs) to 592 mg/kg (B-4 at 15 feet bgs). All of the detections of ORO occur in soil samples collected from fill between 10 and 15 feet bgs, except ORO (109 mg/kg) that was detected in B-11 at 4 feet bgs. DRO was not detected in any soil sample. ECI boring B-5 was located within 15 feet of Kleinfelder boring B-81 and ECI boring B-8 was located within 10 feet of Kleinfelder boring B-63. ECI's ORO results for B-5 and B-8 (373 mg/kg and non-detect, respectively) did not confirm the Kleinfelder's ORO results for B-81

and B-63 (3,700 and 6,200 mg/kg, respectively) indicating the ORO exceedances appear to be limited. ECI's sampling results also indicated ORO within the investigated area that appear to have widespread ORO at concentrations below the CUL.

Arsenic was detected in one or more samples from all the borings except B-12. Detections exceeding the CUL were found in samples collected at 15 feet bgs in B-4 (29 mg/kg), B-8 (47 mg/kg), B-10 (45 mg/kg), B-18 (47 mg/kg), and B-19 (43 mg/kg). Arsenic exceeding the CUL was also detected in the sample from B-7 at 10 feet bgs (41 mg/kg) and from B-16 at 20 feet bgs (29 mg/kg).

ECI conducted a subsurface investigation on the eastern portion of the Property to investigate arsenic in soil and groundwater (ECI, 2013). ECI drilled ten borings (AB1 through AB10) in August 2012. Arsenic exceeding the CUL was detected in soil samples from AB2 (34 mg/kg at 16-17 feet bgs), AB3 (37 mg/kg at 15-26 mg/kg), and AB5 (49 mg/kg and 35 mg/kg at 11 to 12 feet bgs and 19 to 20 feet bgs, respectively). Soil samples collected above these depths in these borings contained arsenic at concentration below the CUL, or arsenic was not detected above the MRL. Arsenic was also detected at concentrations below the CUL in soil samples from borings AB4, AB6, AB7, AB8 and AB9 (concentrations ranging from 5.1 to 9.9 mg/kg). Arsenic was not detected in any sample collected from boring AB1 and AB10. ECI reported that arsenic was found in both fill and native soil. ECI did not report whether groundwater was encountered during drilling.

3.5 Agency Interaction

ECI prepared a feasibility study/disproportionate cost analysis in May 2015 (ECI, 2015a). ECI identified the contaminant of concern for the site as arsenic. The selected remedy was a combination of engineering and institutional controls and included capping the subject property with asphalt and implementing an environmental covenant. The report was submitted to Ecology. It should be noted that ECI indicated that the concentrations of ORO exceeding the CUL in soil samples from a number of Kleinfelder borings in the Fill Area were the results of organic material present in fill and therefore did not include ORO as a chemical of concern. PES' review of the documentation provided in the reports did not find sufficient information supportive of this assessment. The results indicated that ORO exceeding the CULs did not appear to be contiguous across the area investigated and found in isolated vertical intervals.

On July 28, 2015, Ecology rescinded the NFA letter previously issued on March 6, 2001 (VCP SW1442), and made a "partial sufficiency and further action" determination (Ecology, 2015). Ecology stated that the site meets the cleanup standards for PCE, ORO, GRO and BTEX in soil; however, further action is required for arsenic in soil and groundwater. Ecology based their opinion on reviewed documents dated up to the ECI report in September 2012 (ECI, 2012d). Ecology stated that arsenic in soil appears to be fairly widespread through the site and does not appear to be associated with any specific point of release. Ecology also stated that the source of the arsenic is likely attributed to the former operation of the Tacoma Asarco Smelter Plant and the fill material that was imported to the subject property as part of historical grading activities. Upon their review of the limited feasibility study/disproportionate cost analysis by ECI (ECI, 2015a), Ecology concurred with the selection of leaving contamination in place with institutional

controls. Ecology requested that an Environmental Covenant be submitted to Ecology for review.

On February 26, 2018, Ecology requested further information for the site (VCP project SW1442), specifically, a cleanup status report, previous reports documenting cleanup, a cleanup plan, and uploading data to the Environmental Information Management (EIM) database (Ecology, 2018b). On April 16, 2018, Ecology terminated the VCP agreement for SW1442 due to inactivity in cleanup and non-response to requests for further information (Ecology, 2018b).

ECI prepared a closure plan for the property in July 2019 (ECI, 2019a). The purpose of the plan was to summarize previous investigations and address the issues in Ecology's July 28, 2015 letter. Based on Ecology's letter, ECI focused the closure plan on the issue of arsenic in soil and groundwater. ECI's closure plan included the installation of three additional groundwater monitoring wells to further investigate arsenic in groundwater in the Fill Area, and to draft an Environmental Covenant for the subject property. The closure plan was submitted with a new VCP application and agreement dated June 27, 2019.

On July 17, 2019, Ecology accepted the VCP application for the subject property (Ecology, 2019a) and issued a new VCP number (SW1682) upon receiving the submittal of previous investigations, including the ECI's closure plan (ECI, 2019a). On November 22, 2019, Ecology required ECI to upload data to the EIM database for the subject property before an opinion could be issued (Ecology, 2019c). On May 28, 2021, Ecology put the project on a wait list due to the lack of staffing to manage the project. PES reviewed Ecology's EIM and noted that no data submissions appeared to have been uploaded to the EIM website as of the date of this report.

4.0 ENVIRONMENTAL RECORDS REVIEW

PES subcontracted with EDR, a national file research firm, to provide a standard computerized search of Federal and State environmental databases for the subject property, and properties within the ASTM search radii. The EDR report, dated November 29, 2021, is included as Appendix B. PES also reviewed pertinent records and files for this task, as well as available Ecology files for the subject property.

4.1 Environmental Liens and Activity and Use Limitations (AULs)

Based on review of the environmental database search conducted by EDR, there are no Federal Superfund (National Priority List) liens associated with the subject property. During the interviews, historical information reviews, and regulatory records reviews for this assessment, no information was revealed regarding environmental liens or activity and use limitation (AULs) at the subject property. EDR's Environmental Lien and AUL Search report, dated November 29, 2021 is included as Appendix I.

4.2 Local Building Permits and Plans

Based on review of the building permit database search conducted by EDR, no environmentally related permits were presented in the database. Permits from 2001 through 2021 were mostly related to tenant improvements, signage, electrical, mechanical, and plumbing modifications, or upgrades. EDR's Building Permit report, dated November 24, 2021, is included as Appendix J. The City of Fircrest provided documentation of previous permits for building modifications. One permit, dated February 16, 1977 was for two 1,000 gallon fuel USTs. The permit did not indicate the reason for the permit, whether it was for installing new tanks or removing existing tanks. No additional information was provided in the two page permit document. Section provides information regarding the removal of two fuel USTs at the subject property.

4.3 Environmental Record Sources Review

The following list of databases were researched (where available) by EDR and PES during the review of agency databases and included the applicable minimum search distances required by ASTM E 1527-21.

- U.S. Environmental Protection Agency (USEPA) – Comprehensive Environmental Response Compensation, and Liability Information System (CERCLIS) (0.5 mile);
- USEPA – CERCLA National Priority List (NPL) (1.0 mile);
- USEPA – CERCLA NPL Deletions (0.5 mile);
- USEPA – CERCLA Proposed NPL;
- USEPA – CERCLA No Further Remedial Action Planned sites (CERCLIS-NFRAP) (0.5 mile);
- USEPA – Resource Conservation and Recovery Information System (RCRA) Corrective Action Report (CORRACTS) (1.0 mile);

- USEPA – (RCRA Info), Non-CORRACTS) Treatment, Storage, or Disposal (TSD) facilities (0.5 mile),
- USEPA – RCRA Generators of hazardous waste: Very Small Quantity, Small Quantity, and Large Quantity Generators (VSQG, SQG, and LQG), and Non-Generator/No Longer Reporting (NonGen/NLR) (subject property and adjoining properties);
- USEPA – Emergency Response Notification System (ERNS) (subject property only);
- USEPA – Superfund (CERCLA) Consent Decrees (CONSENT);
- USEPA – CERCLA Records of Decision (ROD);
- USEPA – Superfund Environmental Management System Archive sites (SEMS-ARCHIVE);
- USEPA Facility Index System (FINDS);
- USEPA– Hazardous Materials Information Reporting System (HMIRS);
- USEPA – Material Licensing Tracking System (MLTS);
- USEPA – Mines Master Tracking Index File (MINES);
- USEPA – Federal Superfund Liens (NPL Liens);
- USEPA – Brownfields Sites;
- USEPA – RCRA Administrative Action Tracking System (RAATS);
- USEPA – Section 7 Tracking Systems (SSTS);
- USEPA – Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)/Toxic Substance Control Act (TSCA) Tracking System (FTTS);
- USEPA – Toxic Substances Control Act (TSCA);
- USEPA – Toxic Chemical Release Inventory System (TRIS);
- USEPA – Enforcement and Compliance History Online (ECHO);
- Ecology – Environmental Information Management (EIM);
- Ecology – Environmental Reports Tracking System (ERTS);
- Ecology – Solid Waste Facilities/Landfill List (SWF/LF);
- Ecology – Solid Waste Tire Facilities (SWTIRE);
- Ecology – Confirmed & Suspected Contaminated Sites List (CSCSL) (1.0 mile);
- Ecology – Hazardous Sites List (HSL) (1.0 mile);
- Ecology – Leaking Underground Storage Tanks Site List (LUST) (0.5 mile);
- Ecology – Underground Storage Tank (UST) Database (subject property and adjoining properties);
- Ecology – Aboveground Storage Tank (AST) Locations;

- Ecology – ALLSITES;
- Ecology – Hazardous Waste Manifest Data (MANIFEST);
- Ecology – Reported Spills (SPILLS);
- Ecology – Institutional Control Site List (INST CONTROL) (subject property only);
- Ecology – Voluntary Cleanup Program Sites (VCP); and,
- Ecology – Independent Cleanup Reports (ICR).

PES also searched the following agency websites for environmental records related to the subject property:

- EPA’s ECHO website located at <https://echo.epa.gov/>;
- Ecology’s What’s in My Neighborhood website located at <https://fortress.wa.gov/ecy/neighborhood/>;
- Ecology’s Environmental Information Management System (EIM) database located at <https://fortress.wa.gov/ecy/eimreporting/>; and
- Ecology’s Well Log Viewer database <https://fortress.wa.gov/ecy/wellconstruction/map/WCLSWebMap/default.aspx>.
- National Wetlands Inventory website located at <https://www.fws.gov/wetlands/Data/Mapper.html>.

Eighty (80) ASTM and ASTM non-scope database entries were identified by EDR within the standard ASTM search radii. The subject property listed as Metal Marine Pilot included entries on the VCP, CSCS, UST, ALLSITES, RCRA NonGen/NLR, FINDS, and ECHO databases. The subject property’s listings are related to the previous environmental investigations and cleanup actions that are discussed in detail in Section 3.0 of this report.

Nearby properties listed on environmental databases may have entries in multiple databases. Most of those sites in the surrounding area listed on hazardous materials release databases are not expected to represent an environmental concern with respect to the subject property for one or more of the following reasons: (1) the site is listed as a soil-only affected case; (2) the listed site has received case closure by the appropriate regulatory agency; (3) the listed site is either cross-gradient or down-gradient relative to the subject property, with respect to inferred groundwater flow directions; and/or (4) the listed site is located at too great a distance to affect the subject property.

The search results for nearby sites are summarized below, and additional information can be found in the EDR report (Appendix B). The subject property is referred to as the *target property* in the EDR report.

4.3.1 Federal Databases

Ten (10) properties within the specified search radii of the subject property vicinity are listed on federal hazardous material storage databases, with listings on the following federal databases: RCRA-VSQG and RCRA NonGen/NLR. The most notable site listed on the RCRA NonGen/NLR is the Pace property located adjacent to and north of the subject property. This site is discussed in Section 3.0 of this report.

4.3.2 State and Local Databases

Ninety-eight (98) nearby facilities within the specified search radii in the subject property vicinity are listed on state and/or local hazardous material release and/or storage databases. As previously discussed, the most notable site of concern is Pace listed on state databases: INST CONTRL, ALLSITES, CSCSL NFA, UST, LUST, FINDS, and ECHO databases. The subject property's listings are related to the previous environmental investigations and cleanup actions that are discussed in detail in Section 3.0 of this report.

Tacoma Smelter Plume

The subject property is located in the Tacoma Smelter Plume (Asarco Area Wide Contamination Plume), an area approximately 1,000 square miles of the Puget Sound Basin containing surface soils contaminated with arsenic, lead, and other heavy metals. The subject property is located in the area mapped by Ecology to contain 40.1 to 100 parts per million (ppm) arsenic in soil.

4.3.3 EDR Proprietary Database Records

EDR Historical Cleaners

EDR searched selected national collections of business directories and has collected listings of potential dry cleaner sites within 0.25 miles of the subject property that were available to EDR researchers. Three (3) historical dry cleaners are located within EDR's search radius. The following two sites are considered for discussion:

- **Y Pay Mor Cleaners** (Narrows Plaza - South), 2310 Mildred Street W, located approximately 380 feet southwest of the subject property. The former dry cleaner was located in the southern portion of the Narrows Plaza, a retail business area. Ecology listed this property as FSID 34894155 and CSID 14796. Investigations reported PCE and/or TCE in soil and soil gas beneath the building at concentrations exceeding the applicable soil CULs and soil gas screening levels in 2018 (Terracon, 2021). Indoor air sample results showed detections of TCE; however, the concentrations did not exceed the CULs. A sub-slab depressurization system was installed in 2018. An environmental covenant was recorded for the property on July 12, 2021, and Ecology issued a NFA for the property on August 31, 2021. Based on the location and proximity of this property, the risk of the property impacting the subject property is low.
- **Tacoma Drapery Towne Cleaner (Towne Cleaners)**, 1921 and 1923 Mildred Street W, is located north of the Pace property, approximately 330 feet north of the subject

property. The site originally operated as a gasoline station, until it operated as a dry cleaner from 1986 until the early 2000s. A leaking underground storage tank (LUST) notification was recorded in April 1993 when three diesel USTs that were removed. Documented contamination included confirmed halogenated solvents and petroleum in soil and suspected halogenated solvents in groundwater. Although contaminated soil and odors were noted around the one of USTs, there were no releases reported in association with the dry cleaner operations; however, water mixed with PCE was noted to have been discharged into the drain during an inspection by the Tacoma Pierce County Health Department (TPCHD). No contaminants were detected above the CULs. Ecology issued a NFA on September 29, 2011 (Ecology, 2011). Based on the NFA determination, proximity, and location (based on east-southeast groundwater flow direction) of this property and the environmental information available, the risk of this property affecting the subject property is low.

EDR Historical Auto Stations

EDR searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers within 0.25 miles of the subject property that were available to EDR researchers. Seven (7) historical auto stations are located within EDR's search radius. Based on the proximity location in relation to groundwater flow beneath the subject property, the following two sites are presented for discussion:

- **Jiffy Lube Store 2076/Q Lube/Quaker State, Minut Lube Inc.**, 2218 Mildred Street W, is located across Mildred Street W, approximately 100 feet west from the southwest corner of the subject property. This property is listed with Ecology as FSID 75845594 and CSID 10424. Ecology records show that there were three USTs (two 2,000-gallon motor oil tanks and one 1,000-gallon used oil tank) which were installed in 1982 and documented to have been removed in April 1995. Ecology listed the property as a LUST site in April 1995. The site status was changed to NFA by Ecology on August 29, 2012; however, there were no investigation reports available for review. Ecology documented the site as having petroleum contaminated soil which was remediated to below the CULs. Based on the NFA status and cross-gradient location, the Jiffy Lube site does not represent an environmental concern for the subject property.
- **Leland M McArthur Property (Columbia Bank)**, 2305 Mildred Street W, is located immediately adjacent to and south of the subject property. This property is listed by Ecology as FSID 61187916 and historically had three leaded gasoline USTs on the property. All three USTs were installed in 1964 and removed in 1996. The historical presence of gasoline USTs on the property suggests the site may have operated as a fueling station. There was no other information in the Ecology files regarding this property or the capacities of the former USTs. The location of this site in a downgradient location and the lack of information indicating a release has occurred, indicates this site has a low potential to cause environmental impacts at the subject property.

4.3.4 Orphans Summary

The EDR report includes an Orphans Summary section that lists sites and database entries with insufficient information to locate the sites with any accuracy. None of the 8 listed orphan sites are associated with the subject property, however, one listed site, Pace is adjacent to and north of the subject property at 2101 Mildred Street W. The Pace site is discussed in Section 3.0 of this report.

4.4 ASTM Non-Scope Considerations

The following environmental issues or conditions at the subject property are considered outside the scope (non-scope considerations) of the ASTM E 1527-21 Standard.

4.4.1 Asbestos and Lead-in-Paint

PES did not perform an assessment of asbestos-containing materials (ACM) or lead-in-paint, consistent with the terms of the contract. However, previous Phase I ESAs indicated the presence of ACM in the main building as well as the transite pipe that crosses the subject property as depicted on Figure 3 (Kleinfelder, 2002).

4.4.2 Lead in Drinking Water

PES did not perform an assessment of the drinking water quality at the subject property, consistent with the terms of the contract, and no onsite sampling data for lead in drinking water was identified in the Phase I ESA research. Potable water services are provided by the City of Fircrest. PES reviewed the most recent available (2020) water quality report from the City of Fircrest. In 2019 (most recent testing data), concentration was 0.0065 parts per billion (ppb) which is below the action level of 0.015 ppm. The report did not state how many homes were tested.

4.4.3 Mold

PES did not perform a mold assessment, consistent with the terms of the contract. However, water intrusion was noted in some areas due to leaks in the roof, therefore, mold could be considered an issue in some building materials.

4.4.4 Radon

PES did not perform a radon assessment at the subject property, consistent with the terms of the contract. However, according to the EDR report (Appendix B), the subject property is in USEPA Radon Zone 3 for Pierce County, Washington, in the 98466 zip code area, which describes areas where average indoor radon levels are less than 2 pico curies per liter (pCi/L). Additionally, data from 100% of 4 sites tested within the subject property 98155 zip code indicated an average of 0.600 pCi/L in basement areas and 0.150 pCi/L in first floor living areas. These levels are below the U.S. EPA's recommended action level of 4 pCi/L.

4.4.5 Wetlands Evaluation

PES did not perform a wetlands evaluation, consistent with the terms of the contract. The National Wetland Inventory (NWI) maps are maintained by the U. S. Fish & Wildlife Service. PES reviewed NWI's online database, which did not indicate wetlands are present on the subject property.

5.0 SITE AND SURROUNDING AREA RECONNAISSANCE

An inspection of the subject property was conducted on December 17, 2021 by Mr. Stolsen of PES to assess the potential for any observable adverse environmental conditions. A site plan of the subject property is presented as Figure 2. Photographs (Photos 1 through 38) of the subject property are included in Figures 4 through 22.

After the initial meeting with Mr. Dorman, who provided access to the building and a brief summary of the contents and current use of the building and subject property, Mr. Dorman left the subject property and Mr. Stolsen was allowed to inspect the subject property unescorted. Where applicable, site inspection observations are summarized on Figure 2, and as follows.

Exterior Observations

The eastern portions of the subject property are currently undeveloped and covered with grass and weeds (Photos 6 – 8, 12, 13, and 16). Developments at the site consist of a large industrial building and two smaller detached structures (livestock loafing sheds) located east of the building (Photo 16, Figure 2). Currently goats and cattle are grazing the subject property for weed control. Concrete foundations associated with former sheds were observed on the southeast side of the main building (Photos 9, Figure 3). These sheds were located in the area of documented contaminated soil removal as discussed in Section 3.0. Previous reports identified floor drains in the painting and materials sheds, however, due to the presence of vehicles, trailers, equipment, vegetation, and copious amount of livestock droppings throughout this area, PES was not able to locate these drains. PES did not observe any evidence of the previous excavation and soil removal activities.

PES noted that the trailer has a sanitary waste discharge pipe connected to the trailer and terminates in one of the nearby concrete vaults used for collecting spills from the former painting shed (Photo 10, Figure 2). PES did not observe any evidence (e.g., access lids) of the existing septic tanks located at the northeast and south ends of the subject property. As discussed in Section 2.2 of this report, PES noted the subject property boundaries, drainage ditches and stormwater containment ponds at the east end of the subject property (Photos 1 through 15). A large semi-truck trailer is located near the northeast corner of the building. Two mobile stages used for marketing presentations during Metal Marine Pilot's tenure at the subject property were observed at the south end of the building. PES also noted the two areas where kerosene and fuel oil UST were removed from the subject property during 1994 and 2002 (Photos 18 and 19). No evidence of any releases of chemicals or petroleum products in the exterior areas of the subject property were observed during the site visit. Using maps from previous site investigations, PES attempted to find documented monitoring wells that were installed in the central area of the subject property. However, due to the length of time since the wells were installed, as well as the grasses and other vegetation observed growing throughout this area, PES was unable to locate any of these wells.

Interior Observations

The northern half of the interior of the building was being used for storage by the building's owner. Items included an assortment of equipment, tarps, electrical wire spools, electronic equipment, scaffolding, several use appliances, wood boxes, drums storing scrap metal, tools, machinery, a car, and miscellaneous automotive parts, and supplies that were formerly used in conjunction with the manufacturing of marine automatic pilots when the site was occupied by Metal Marine Pilot, Inc. (Photos 20 - 28) Hazardous materials observed inside the building included various containers of chemicals. None of the containers were observed to be damaged or leaking (Photos 35 and 36). Mr. Dorman informed PES that some of the items in the building belonged to him. The chemicals, stored in partially full and empty 5-gallon containers of oils, solvent, lacquers, heat transfer fluids, thinners, paints, and other unknown chemicals were observed in the northern half of the building (Photo 34 - 37). Three 55-gallon drums, two of which are labeled as lacquer thinner, were also noted in the north end of the building (Photo 34). The containers appeared to be in good conditions and PES did not observe any spills or stains on the concrete floor around any of the containers. The chemicals inside the building area discussed in Section 5.1. The overall condition of the concrete floor throughout the building appeared to be generally in good condition with noticeable old stains from years of use as a manufacturing facility (Photos 23, 25, 27, 28, 30, 32 – 36). Notable cracks observed in the concrete floor appeared to be tight, hairline cracks with no large holes, or wide gaps in any of the cracks.

A oily stain (approximately 3-feet by 8-feet) was observed on the concrete floor at the south end of the building, formerly known as the "Machine Shop" (Photo 38). The oil appeared to be viscous and had oil absorbent material mixed in with the oil. Metal parts in the stained area looked as if automobile repairs may have been the reason for the stain. Smaller oily stains (less than 6-inches in diameter) were noted in a few locations of this same area of the building (Photo 37). The rest of the rooms and large workspaces in the building were empty and no environmental concerns were noted. However, water intrusion from the leaking roof was noted in some areas, mostly at the south end of the building where puddles were observed.

5.1 Chemical, Fuel, and Waste Management and Disposal

Chemicals observed in the subject property building included five-gallon containers of paint, lacquer thinner, Solvent 390, petroleum naphtha, and some 5-gallon containers that were unlabeled. In addition, three 55-gallon drums were located inside the building were labeled as lacquer thinner. None of the containers were observed to be damaged or leaking, and other than the oil stain noted in the south end of the building, no additional significant spills or stains were noted on the concrete floor in those areas. However, old discoloration from stains were noted throughout the building, but other than the oily stains noted in the former machine shop, no free-liquids or significantly large stains were observed.

5.1.1 Vapor Intrusion Assessment

PES did not conduct a formal vapor intrusion assessment of the subject property. However, an EDR Vapor Encroachment Screen report, dated December 13, 2021, is presented in Appendix K. No adjacent properties appear to present the potential for vapor intrusion to the subject property.

As described in Section 3.0, PCE contaminated soil was excavated and removed from the subject property in 2000 and 2012 in the vicinity of the former loading dock and paint storage shed (Figure 3). Confirmation samples collected from the 2000 excavation area were below the PCE cleanup level in effect at that time (0.5 mg/kg). One of the confirmation samples had a PCE concentration of 0.39 mg/kg that exceeds the current CUL of 0.05 mg/kg. Additionally, the method reporting limit for the confirmation samples was 0.25 mg/kg which is greater than the current CUL. There is the potential that soil in the vicinity of the 2000 PCE excavation contains PCE at concentrations exceeding the current CUL that could act as a source for vapor intrusion into future buildings.

5.2 USTs and ASTs

No above ground storage tanks (ASTs) currently exist on the subject property. However, USTs used for the storage of petroleum products and kerosene have been formerly on the subject property; however, as discussed throughout this report, these USTs were decommissioned and removed in 1994 (diesel UST) and 2002 (kerosene UST). Additional USTs that currently exist on the subject property include the spill recovery vaults used to collect spills from the paint and materials sheds and the three septic tanks located at the east and south sides of the main building. A detailed discussion about these former USTs is presented in Section 3.0 of this report.

5.3 Hydraulic Equipment

No hydraulically-powered equipment is present at the subject property.

5.4 Generators

No generators are present at the subject property.

5.5 PCBs

One electrical transformer was observed mounted near the top of one utility pole located on the adjacent property along the northern boundary of the subject property (Figure 2). A second, pad-mounted transformer is located east of the pole-mounted transformer and is also on the adjacent property just north subject property's northern property boundary. Neither transformer had markings/labels indicating that the PCB content. Both transformers appeared intact and there were no signs of dielectric fluid leakage on the units or the ground surface or concrete pad beneath the units.

5.6 Surrounding Areas

PES conducted a driving and walking reconnaissance of the adjacent and nearby areas and observed adjacent areas from the subject property. The surrounding land use north of the subject property consists of a building occupied by an assortment of retail tenants, as well as two light-industrial and commercial office buildings. The current use of the northern adjoining property does not appear to represent an environmental concern to the subject property. However, according to historical records, a neighboring property located immediately north of the subject

site (formerly occupied by Pace) had impacted the subject property with an unknown quantity of paraffin-based lubricating oil See Sections 3.2 for details.

The surrounding land use south and west of the subject property is currently developed with commercial office and retail establishments. There were no available records on-file with the reviewed public agencies indicating that the neighboring properties south and west of the subject property had impacted soil and/or groundwater with hazardous materials.

The surrounding land use east of the subject property consists of a multi-family apartment complex. There were no available records on-file with the reviewed public agencies indicating that the neighboring apartment complex property had impacted soil and/or groundwater with hazardous materials.

6.0 SUMMARY OF FINDINGS AND CONCLUSIONS

This report presents the results of a Phase I ESA conducted by PES for the Prose Fircrest Apartments Property located at 2119 Mildred Street W in Fircrest, Washington. The subject property is comprised of one tax lot parcel (0220112005) totaling 9.94 acres of land. The subject property is occupied by a single vacant industrial structure (23,728 square feet [sq. ft.]) constructed in 1959.

6.1 Historical Use of the Subject Property and Adjoining Properties

The subject property appeared to be undeveloped land from at least 1941 until at least 1957. The subject property was owned by the Freeman family from 1953 until 2011 when the subject property was sold to the Eaton Family LLC. The Freeman's developed the subject property in 1959 with the construction of the main industrial building and operated Metal Marine Pilot, Inc. for designing and manufacturing marine automatic pilots and other marine navigational aids (e.g., compasses). Metal Marine Pilot ceased operations in 2000 and the subject property has been used for storage by the owners since that time. Since Metal Marine Pilot ceased operations in 2000, the main building has been used for storage of personal items belonging to the current owner, the Eaton family, as well as some items left by the former owners, the Freeman family, as it is currently used today.

Expansions to the main building occurred in 1961 and 1965 and additional sheds located east of the main building were constructed for spray painting and paint storage. A loading dock was located in the area of the former paint sheds. Additional sheds were used for materials and parts cleaning and cardboard storage were demolished in 2001, however, the concrete foundations still remain. Two USTs for fuel and two USTs for kerosene storage were operated by Metal Marine Pilot, which were removed in 1994 and 2002. Additional structures included two sets of two manholes located east of the main building that accessed two 5,000 gallon concrete vaults used to recover spilled liquids within the painting and materials sheds. Spilled liquids were transferred to the concrete vaults from underground pipes originating from the floor drains in the buildings and were routinely pumped as needed for offsite disposal. Reportedly no hazardous materials were ever discharged into the subject property's three septic tanks still in place today.

Hazardous materials used by Metal Marine Pilot included reportable quantities of an assortment of chemicals including chlorinated solvents TCE and PCE, methyl ethyl ketone, kerosene, paints, thinners, varnishes, stains, acids, glues, alcohols, aluminum coatings, and hydraulic oil. Hazardous wastes generated at the subject property included spent solvents and sludge mixtures derived from washing and cleaning marine automatic pilot parts.

During Metal Marine Pilot's 40 years of operation at the subject property, several instances of hazardous materials being discharged or buried along the central and eastern portions of the subject property were reported. PCE-impacted soil located in the central portion of the site (adjacent to the former loading dock on the eastern side of the main building) had been remediated in 2000 and 2012. Ecology issued opinion letters indicated that the PCE cleanup actions performed in 2000 and 2021 met the cleanup levels and that no further actions to address PCE in soil were required (Ecology 2001 and Ecology, 2015).

A buried asbestos-containing transite water pipe traverses the subject property from southeast to north. The pipe is currently inactive, and sections of this pipe may have been crushed during the time fill was being spread over the central and eastern portions of the site. Between the years 1972 and 2000, a large quantity of soil fill containing vegetation debris, concrete rubble, and other construction debris was deposited throughout the central and eastern portions of the site to cover areas prone to seasonal flooding. The imported fill was reportedly obtained from several commercial development and roadway construction projects, as well as from the former airport property located west of the site. Analytical testing of the fill material was not conducted. Reportedly there was no visible evidence indicating that the fill material originated from contaminated sources.

Adjacent properties included a municipal airport was located west of the subject property. The airport stopped operations in 1980 and the western adjacent property was replaced by the Narrows Plaza shopping center. The property to the east was developed as residential complexes by at least the late 1960s. The adjacent property to the south of the subject property was a gasoline station as early as 1957 and was replaced by a bank in 2002. The adjacent property to the north was occupied by Pace Industries operating as an aluminum die-casting manufacturing facility from 1959 until July 1995. The facility stored, handled, and disposed of certain hazardous and/or regulated materials such as oil and lubricants

6.2 Previous Environmental Investigations

Numerous previous environmental investigations have occurred at the subject property, all focused on assessing potential impacts associated with practices and operations related to the former Metals Marine Pilot facility on the subject property and the facility to the north, former Pace. The previous investigations primarily focused on eight areas of concern on the subject property: (1) Diesel/Kerosene UST Area (2) Paraffin Area; (3) Kerosene UST Area; (4) the Main Building (5) PCE Area; (6) Lime Pit Area, (7) Drain Field Area, and (8) the Fill Area. These areas are shown on Figure 3. This section summarizes the investigations in each of these areas.

6.2.1 Diesel/Kerosene UST Area

Two USTs (one 1,000-gallon diesel and one 1,000 gallon kerosene) were located adjacent to the south side of the cardboard storage shed. The USTs were used during past facility operations. The USTs were removed in 1994. No signs of contamination were observed during the UST removal. Confirmation soil samples collected from the extents of the UST excavation did not contain any contamination. The Diesel/Kerosene UST area has been identified as a HREC>

6.2.2 Paraffin Oil Release Area

Soil samples were collected from the area along the north subject property boundary in 1999 following the notification of a release of paraffin oil from the adjacent property to the north. Samples were collected along the path of the release along the north subject property boundary and the drainage ditch to the east after approximately 80 “cubic tons” of soil were excavated from those areas. Contaminants were reported in some of the samples at concentrations exceeding the CULs. Subsequent investigations of the area in 2000 showed that contamination