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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Region Office
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

November 28, 2022

Tufan Yasar
PCC Aerostructures
1208 4th Avenue North
Kent, WA 98032-2940
(Tufan.Yasar@pccairframe.com)

Re: Further Action at the following Site:

- **Site Name:** Protective Coatings, Inc.
- **Site Address:** 1215 2nd Avenue N, Kent, WA
- **Facility/Site No.:** 85155236
- **Cleanup Site ID No.**: 12337
- **VCP Project No.:** NW2843

Dear Tufan Yasar:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your independent cleanup of the Protective Coatings Inc. facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW.

Issue Presented and Opinion

Is further remedial action necessary to clean up contamination at the Site?

YES. Ecology has determined that further remedial action is necessary to document the cleanup of contamination at the Site.

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70A.305 RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

Description of the Site

This opinion applies only to the Site described below. The Site is defined by the nature and extent of contamination associated with the following releases:

- Trichloroethene (TCE) and cadmium into the Soil.
- 1,1-dichloroethene (DCE); cis-1,2-DCE; 1,1-dichloroethane (DCA); vinyl chloride; arsenic: and chromium (VI) into the Groundwater.
- TCE into the Air.

Enclosure A includes a detailed description and diagram of the Site, as currently known to Ecology.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the parcel(s) associated with this Site are affected by other sites.

Basis for the Opinion

This opinion is based on the information contained in the documents listed in **Enclosure B**. A number of these documents are accessible in electronic form from the Site web page[1]. The complete records are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Visit our Public Records Request page[2] to submit a public records request or get more information about the process. If you require assistance with the process, you may contact the Public Records Officer at publicrecordsofficer@ecy.wa.gov or 360-407-6040.

This opinion is void if any of the information contained in those documents is materially false or misleading.

Analysis of the Cleanup

Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

1. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards and select a cleanup action. The Site is described above and in **Enclosure A.**

- **Soil Characterization.**
  Soils at the Site are contaminated with TCE sourced from the chemical storage bunker area.

[1] https://apps.ecology.wa.gov/cleanupsearch/site/12337
[2] https://ecology.wa.gov/publicrecords

Reported releases of TCE to the concrete surface of the bunker entered soil through cracks in the concrete surface and floor drains. Contaminated soil was encountered in this area from depths of approximately 1 to 10 feet below ground surface (bgs). Remedial excavation of soil in the bunker area, discussed in section 4 below and in **Enclosure A**, was successful in removing a significant amount of contaminated soil from the Site.

Soil containing TCE above the MTCA Method C cleanup level remains at 5 feet bgs in the northeast and southwest walls of the remedial excavation and at 3 to 5 feet bgs in SB-5 (**Enclosure A, Figure 5**). The extent of contaminated soil has been defined vertically and laterally to the north, south, and east. The extent of contaminated soil to the southwest of the remedial excavation beneath the west-adjacent building has not been defined. As discussed in section 1 below, Ecology recommends installing an additional monitoring well west of the chemical storage bunker in the west-adjacent Property. Soil samples collected from this boring will help constrain the western extent of contaminated soil at the Site.

Soil containing cadmium above the MTCA Method A cleanup level for industrial use remains in the vicinity of HA-1, SB-6, and MW-9 from depths of 0.5 to 5 feet bgs (**Enclosure A, Figure 2, Figure 3**). The extent of cadmium contamination has not been delineated to the north, south, or east of these locations. Based on the concentration of chromium VI in groundwater, discussed below, a release to soil is possible. Soil samples collected from borings HA-1, SB-6, and MW-9 contained concentrations of total chromium above the average of other soil samples collected from the Site. Ecology recommends additional soil investigation in this area to delineate the extent of cadmium and chromium VI concentrations in soil above the Method A cleanup level for industrial use.

Please include updated cross sections showing the extent of remedial excavation and confirmation sample locations.

- **Groundwater characterization.**
  Groundwater characterization at the Site is sufficient to establish cleanup standards. Groundwater is present at the Site at elevations of approximately 6.5 to 10 feet bgs. Historic releases of TCE in the vicinity of the chemical storage bunker resulted in the release of 1,1-DCE; cis-1,2-DCE; 1,1-DCA; vinyl chloride; arsenic; and chromium (VI) (collectively Site groundwater contaminants of concern [COCs]) to the groundwater at concentrations exceeding their respective Method B potable groundwater cleanup levels (discussed in detail in Section 2). Contaminated groundwater extends to the west and southwest of the bunker following the dominant groundwater flow direction. The extent of contaminated groundwater has been defined vertically and laterally to the north, south, and east. The western extent of the groundwater plume has not been defined.

  As a result of the remedial actions discussed in section 4 below and in **Enclosure A**, concentrations of Site groundwater COCs have decreased at the Site. Recorded detection limits

for dissolved arsenic for groundwater samples collected from June 2018 to March 2019 were listed as 20.0 micrograms per liter (µg/L), above the Site cleanup level of 5 µg/L. Detection limits for Chromium (VI) for groundwater samples from July 2014 to January 2015 range from 0.1 µg/L to 500 µg/L, above the Site cleanup level of 0.046 µg/L. Please clarify if the recorded reporting limits for these groundwater samples are practical quantitation limits (PQL) or method detection limits. Please work with the laboratory to lower the PQL to below the Site cleanup level.

Additional Site data is needed:

- Please include a Rose diagram along with future potentiometric surface diagrams to show historical magnitudes and directions of groundwater flow at the Site.

- Compile a summary table containing well construction details for all resource protection wells on the Site, including top-of-casing elevations surveyed relative to the North American Vertical Datum of 1988 (NAVD88), screen intervals, total depth, well diameter, recent and historic depth to water measurements, wells decommissioned per WAC 173-160, and wells destroyed or lost.

- Delineation of the western extent of contaminated groundwater is needed. If feasible, Ecology recommends installing a well in the west-adjacent property as close as possible to the chemical storage bunker. Please include an updated figure showing the western extent of the groundwater plume under the west-adjacent property.

- Additional analysis of dissolved arsenic and chromium (VI) are needed in all Site monitoring wells to determine the extent of current metals plume(s). Please include figures showing the extent of dissolved arsenic and chromium (VI) plumes based on newly collected data. Depending on the new data, additional monitoring wells may be needed to delineate the metals plume(s).

- Based on the current and former uses of the Property, Ecology recommends analyzing future groundwater samples for per- and polyfluoroalkyl substances (PFAS). If available, any records regarding use of PFAS on the Property should be detailed in future reports. Recommended cleanup levels for PFAS compounds have been established by Ecology and are available in *Focus on: PFAS Cleanup Levels*[3], published July 2022. Information regarding planned regulation of these compounds is detailed in Ecology and the Washington Department of Health's *Per- and Polyflouroalkyl Substances Chemical Action Plan*[4], revised September 2022.

[3] https://apps.ecology.wa.gov/publications/SummaryPages/2209075.html
[4] https://apps.ecology.wa.gov/publications/summarypages/2104048.html

- **Vapor intrusion evaluation.**
  Soil vapor samples collected in May and July 2012 contained TCE above the Method C screening level for industrial use in two soil vapor samples. Soil vapor samples were collected to the southwest of the chemical storage bunker (SG-2, SG-4; **Enclosure A**, **Figure 6**). Indoor air samples collected in August 2012 during non-operational hours from buildings on the Property contained TCE above the Method C cleanup level for industrial use. Indoor air samples collected in September 2012 during operational hours did not contain TCE above the Method C cleanup level when ambient background concentrations were subtracted from the results.

  Remedial actions discussed below and in **Enclosure A** have successfully reduced the concentration of TCE in soil and 1,1-DCE; cis-1,2-DCE; 1,1-DCA; and vinyl chloride in groundwater. Evaluation of the current concentrations of TCE; 1,1-DCE; cis-1,2-DCE; 1,1-DCA; and vinyl chloride in soil vapor is necessary to assess the vapor intrusion pathway. Samples from the west-adjacent property are also necessary since the western extent of contamination in groundwater has not been constrained. Please refer to Ecology's *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action*[5], revised March 2022, for further information on evaluating the vapor intrusion pathway.

- **Environmental Information Management (EIM) Database Submittal.**
  Site data has not been uploaded to the Ecology Environmental Information Management (EIM) database. Electronic submittal of all sampling data into EIM is a requirement in order to receive a No Further Action opinion for this Site. Gaylen Sinclair (email Gaylen.Sinclair@ecy.wa.gov, or via telephone at 360-480-9224) is Ecology's contact and resource on entering data into EIM.

2. Establishment of cleanup standards.

Ecology has determined the cleanup levels and points of compliance you established for the Site meet the substantive requirements of MTCA with the clarifications discussed below.

- **Soil.**
  The Property and surrounding properties are zoned for Mixed Industrial (I2) in Kent, and currently in use as industrial operations as defined in WAC 173-340-200. Therefore, the Site meets the requirement of industrial properties per WAC 173-340-745(1).

  In Ecology's letter *Re: Further Action at the following Site: Protective Coatings, Inc., 1215 2nd Avenue N, Kent, WA,* Dated December 12, 2017 (*December 2017 Letter*), Ecology concurred with the establishment of Method C cleanup levels for soil at the Site per WAC 173-340-745(5). Since soil COCs have historically reached and adversely impacted groundwater at the Site, soil cleanup

[5] https://apps.ecology.wa.gov/publications/SummaryPages/0909047.html

levels based on protection of groundwater are appropriate. MTCA Method A cleanup levels for industrial properties are protective of potable groundwater and may be used as the soil cleanup levels for the Site. For contaminants that are not on the Method A list, MTCA Method C cleanup levels that are protective of groundwater are appropriate. Please refer to Ecology's Cleanup Levels and Risk Calculation (CLARC)[6] data tables (revised July 2022) and MTCA (specifically WA 173-340-747) for further information on determining soil cleanup levels protective of groundwater.

The point of compliance for the Site is based on the protection of groundwater and extends Site-wide throughout the soil profile per WAC 173-340-740(6)(b).

- **Groundwater.**
  The highest beneficial use for groundwater is considered to be as a potable source, unless it can be demonstrated that groundwater is non-potable. Ecology's *December 2017 Letter* identifies the standard Method B potable groundwater cleanup levels as appropriate cleanup levels for Site groundwater COCs per WAC 173-340-720. The standard Method B potable groundwater cleanup levels are available in Ecology's CLARC data tables and are listed as follows:

  - 1,1-DCE: 7 µg/L
  - Cis-1,2-DCE: 16 µg/L
  - 1,1-DCA: 7.7 µg/L
  - Vinyl chloride: 0.29 µg/L
  - Arsenic: 5 µg/L
  - Chromium (VI): 0.046 µg/L

  The standard point of compliance is throughout the Site from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected (WAC 173-340-720(8)(b)).

- **Soil Vapor/Air.**
  Based on the qualification of the Property and surrounding properties as industrial as discussed above, Method C cleanup levels are appropriate for soil vapor and air at the Site per WAC 173-340-745(5)(c)(iv) and WAC 173-340-750(4)(b). The point of compliance for air is throughout the Site (WAC 173-340-750(6)).

- **Institutional Controls.**
  The use of cleanup levels for industrial land use at the Site requires institutional controls to limit the future use of the site to industrial applications (WAC 173-340-755(1)(a)(ii)). After the necessary characterization work described in section 1 has been completed, Ecology will work

[6] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC/Data-tables

with you to draft an environmental covenant to limit use of the property. Please refer to *Toxics Cleanup Program Procedure 440A: Establishing Environmental Covenants under the Model Toxics Control Act*[7], revised December 2016, for further information on the process of drafting and recording an environmental covenant.

3. Selection of cleanup action.

The insufficient Site characterization data does not allow Ecology to determine if the cleanup action you selected for the Site meets the substantive requirements of MTCA.

The cleanup actions conducted to date include the following:

- Excavation and removal of soils contaminated with TCE on the Property;
- Application of a reagent to enhance biodegredation and/or chemical oxidation of contaminants in soil and groundwater; and
- Soil sampling and groundwater monitoring to assess the efficacy of the remedial excavation.

These are considered interim remedial actions. The interim remedial actions were successful in removing the bulk of TCE contamination from soils on the Property and do not interfere with potential future remedial actions.

4. Cleanup.

Ecology has determined that Site data collected to date is not sufficient to confirm if the cleanup you performed meets cleanup standards at the Site. Ecology recommendations regarding additional Site data needs are discussed above in section 1 of this opinion letter.

The cleanup involved the following interim actions:

- Remedial excavation of soils contaminated with TCE from the chemical storage bunker area occurred from April to May 2018. As discussed in **Enclosure A**, soil samples collected from excavation limits indicated that soil with concentrations of TCE above the Method C cleanup level had been removed with the exception of the northeast and southwest corner of the excavation. Due to constraints of existing structures on the Site, further excavation in these areas was not feasible.

  A total of approximately 307 tons of known and potentially contaminated soil was

[7] https://apps.ecology.wa.gov/publications/SummaryPages/1509054.html

excavated from the Property and transported to an off-site permitted facility for disposal. Analytical results for samples collected from the bottom of the excavation show compliance with the Method C cleanup level for TCE.

- Groundwater performance monitoring was conducted for four consecutive quarters from 2018 to 2019. Concentrations of Site groundwater COCs have fallen below Site cleanup levels with the exception of vinyl chloride and arsenic. As discussed in section 1, PQLs for arsenic and chromium (VI) are above the Site cleanup levels and cannot be assessed for compliance.

5. Next Steps.

Ecology appreciates your efforts to date in conducting characterization and interim remedial action on the Property. Interim remedial actions conducted to date have reduced the contaminant mass in soil and groundwater. Focused additional Site characterization is necessary to demonstrate cleanup of the Property is successful.

Before further work is completed, Ecology encourages the development of a work plan to ensure that sufficient data to characterize potential remaining soil and groundwater contamination is collected. Ecology looks forward to working with you to bring the Site to closure.

Limitations of the Opinion

1. Opinion does not settle liability with the state.

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion **does not**:

- Resolve or alter a person's liability to the state.
- Protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW 70A.305.040(4).

2. Opinion does not constitute a determination of substantial equivalence.

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is

substantially equivalent. Courts make that determination. *See* RCW 70A.305.080 and WAC 173-340-545.

3. State is immune from liability.

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. *See* RCW 70A.305.170(6).

Contact Information

Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm. If you have any questions about this opinion, please contact me by phone at 206-459-6287 or e-mail at david.unruh@ecy.wa.gov.

Sincerely,

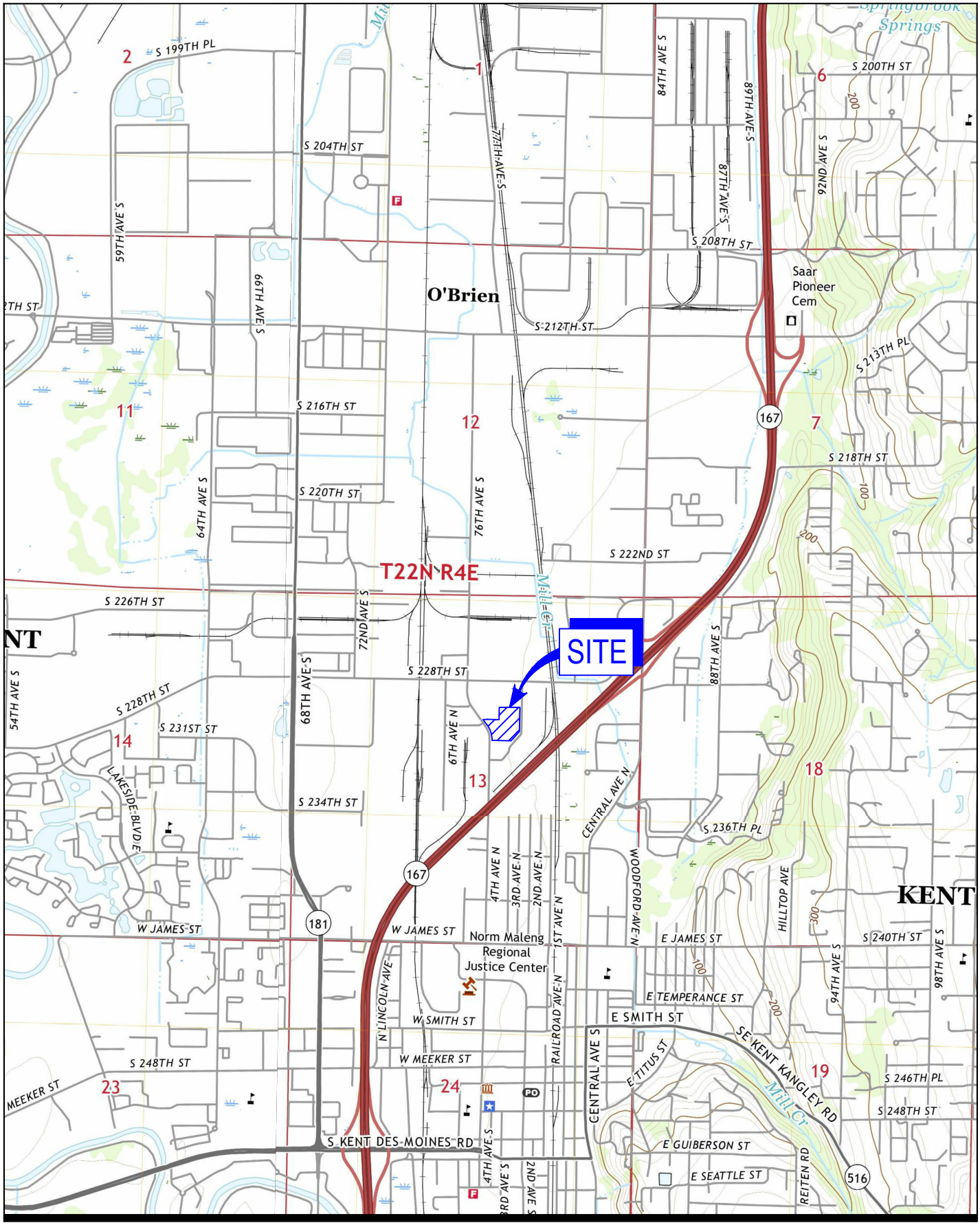
David Unruh, LG
Toxics Cleanup Program, NWRO

Enclosures (2): A – Description and Diagrams of the Site
B – Basis for the Opinion: List of Documents

cc: Corinne Dobbins, PCC Aerostructures (Corinne.Dobbins@pccairframe.com)
Brian Peters, GHD (brian.peters@ghd.com)
Sonia Fernández, VCP Coordinator (sonia.fernandez@ecy.wa.gov)

Enclosure A

Description and Diagrams of the Site



0 1000 2000 ft

1" = 2000 ft

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GHD

PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH
AND 1208 4TH AVENUE NORTH
KENT, WASHINGTON

VICINITY MAP

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 1

FIGURE 1

Filename: N:\US\Lynnwood\Projects\561\11218504\Digital_Design\ACAD\Figures\RPT011\11218504-GHD-0000-RPT-EN-0101_WA-011.DWG
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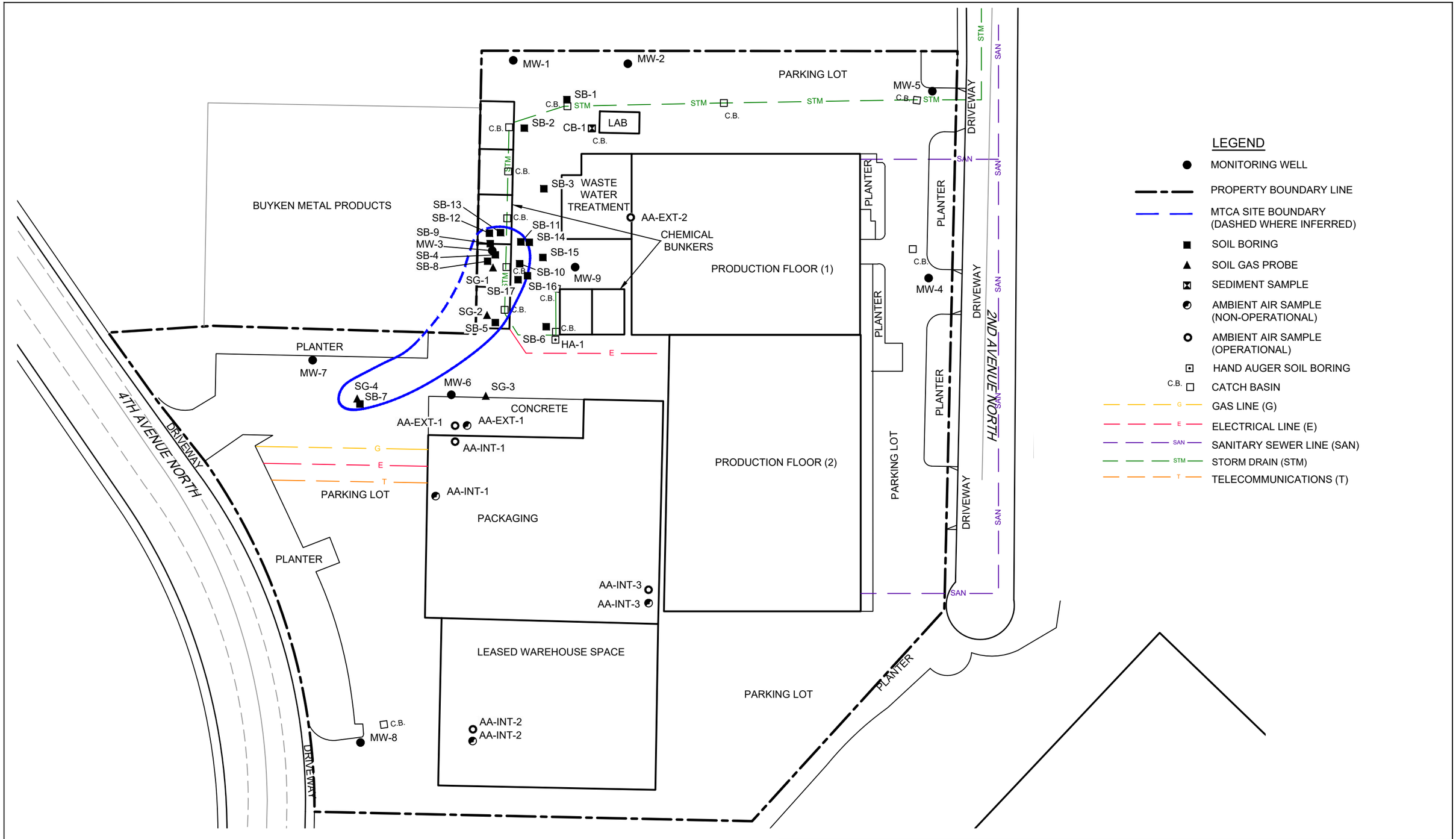
Data Source: USGS QUADRANGLE MAPS;
DES MOINES, WA, 2020
RENTON, WA, 2020



SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

0 30 60 ft

Coordinate System: <INSERT HERE>

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PROTECTIVE COATINGS FACILITY
1215 2nd AVENUE NORTH
AND 1208 4th AVENUE NORTH
KENT, WASHINGTON

SITE PLAN

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 2

FIGURE 2

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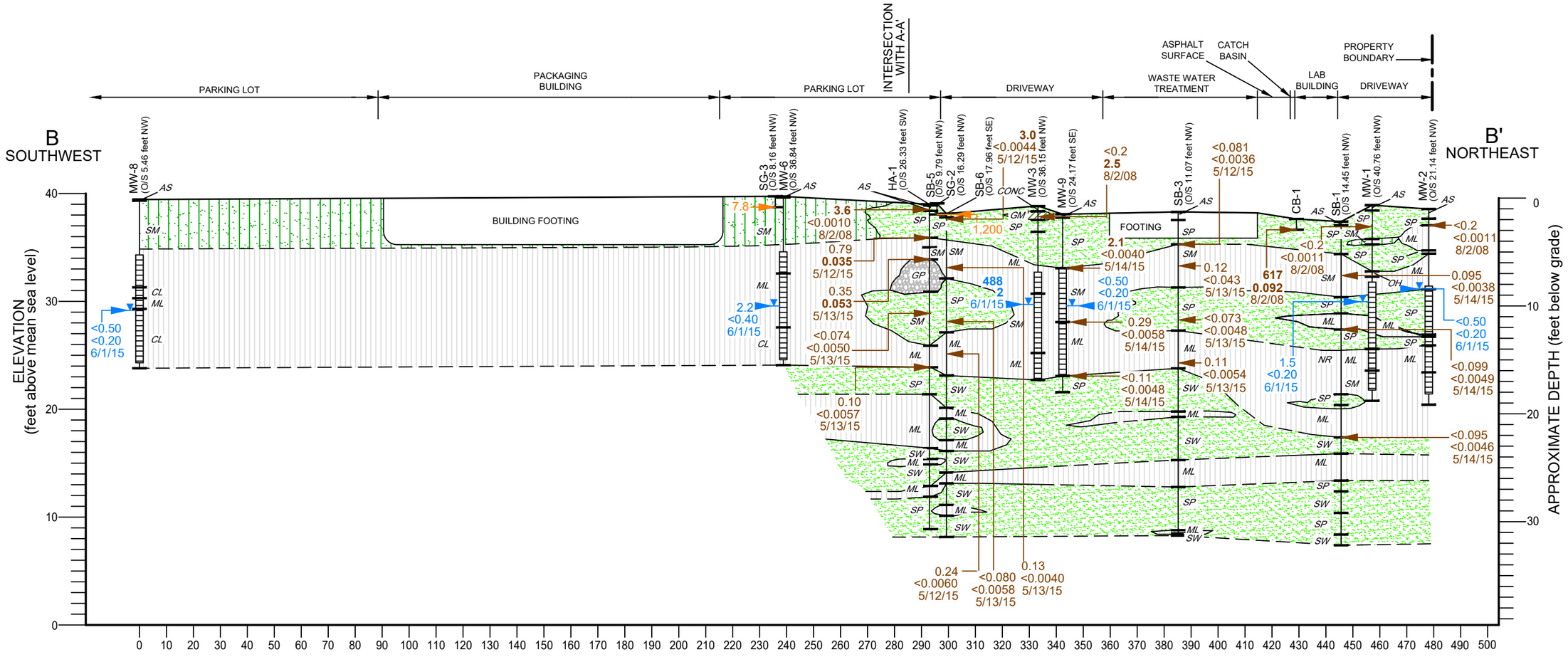

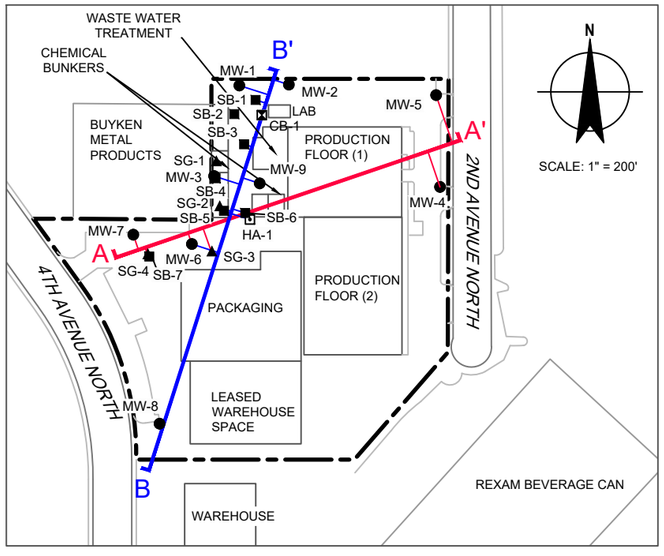

LEGEND

- MW-6 — WELL DESIGNATION
- GROUND SURFACE (OFFSET)
- GROUNDWATER MONITORING WELL
- STRATIGRAPHIC BOUNDARY
- sc — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- GROUNDWATER DEPTH (6/1/15)
- CONTACT DASHED WHERE INFERRED
- NA NOT APPLICABLE OR NOT PROVIDED
- <X NOT DETECTED AT REPORTING LIMIT X
- mg/kg MILLIGRAMS PER KILOGRAM
- µg/m3 MICROGRAMS PER CUBIC METER

- NR NO RECOVERY
- APPROXIMATE SOIL SAMPLE LOCATION
- CADMIUM / TRICHLOROETHENE / DATE — CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE SOIL GAS SAMPLE LOCATION
- TRICHLOROETHENE — CONCENTRATIONS IN SOIL GAS (µg/m3)
- APPROXIMATE GROUNDWATER SAMPLE LOCATION
- (CIS) 1,2-DCE / VINYL CHLORIDE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

NOTES:

*NO SOIL DESCRIPTION AVAILABLE FOR MW-4.

THE PREVIOUS CONSULTANT LOGGED SILT (ML) AT APPROXIMATELY 10 FEET BELOW GROUND SURFACE FOLLOWED BY CLAY (CL); HOWEVER, GHD LOGGED THE LITHOLOGY AT THESE DEPTHS AS FINE SAND (SP) FOLLOWED BY SILT (ML). THEREFORE, THE CROSS SECTIONS ARE BASED ON GHD'S INTERPRETATION.

- AS - ASPHALT
- CONC - CONCRETE
- GM - SILTY GRAVEL, GRAVEL-SAND-SILT MIXTURE
- SM - SILTY SAND, SAND-SILT MIXTURES
- ML/OH - INORGANIC AND ORGANIC SILT, VERY FINE SAND, SILTY OR CLAYEY FINE SAND, CLAYEY SILT WITH SLIGHT PLASTICITY
- CL - INORGANIC CLAY OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAY, SANDY CLAY, SILTY CLAY, LEAN CLAY
- SP - POORLY-GRADED SAND, GRAVELLY SAND, LITTLE OR NO FINES
- SW - WELL-GRADED SAND, GRAVELLY SAND
- GP - POORLY-GRADED GRAVEL

0 20 40 ft
1" = 40 ft

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GHD

PROTECTIVE COATINGS FACILITY
1215 2nd AVENUE NORTH
AND 1208 4th AVENUE NORTH
KENT, WASHINGTON

GENERALIZED GEOLOGIC CROSS-SECTION B-B'

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 3

FIGURE 4

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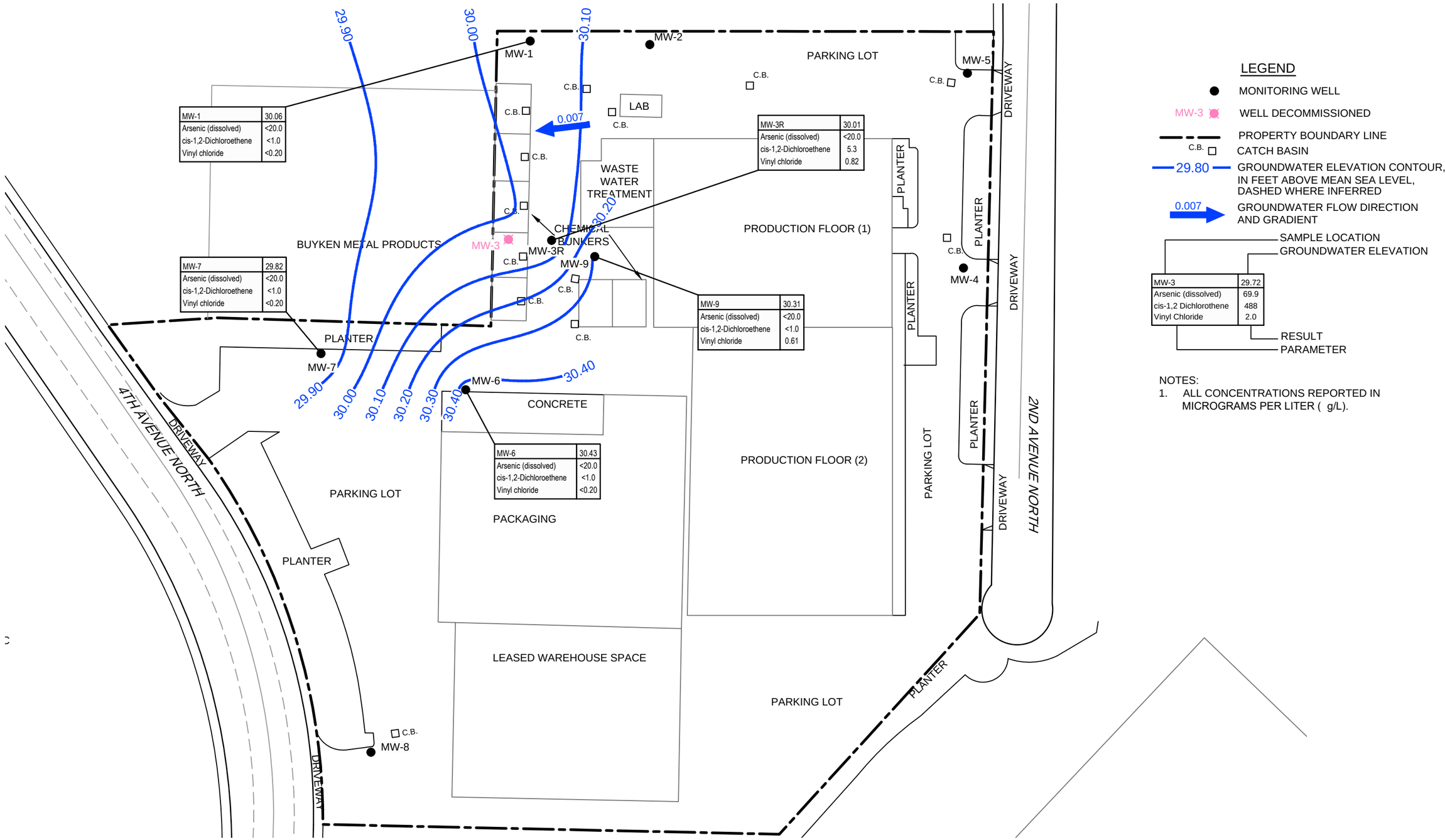

LEGEND

- MONITORING WELL
- MW-3 WELL DECOMMISSIONED
- PROPERTY BOUNDARY LINE
- C.B. CATCH BASIN
- 29.80 GROUNDWATER ELEVATION CONTOUR, IN FEET ABOVE MEAN SEA LEVEL, DASHED WHERE INFERRED
- 0.007 GROUNDWATER FLOW DIRECTION AND GRADIENT

MW-3	29.72
Arsenic (dissolved)	69.9
cis-1,2 Dichlorothene	488
Vinyl Chloride	2.0

SAMPLE LOCATION
GROUNDWATER ELEVATION
RESULT
PARAMETER

NOTES:
1. ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (g/L).

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

0 30 60 ft

Coordinate System: <INSERT HERE>

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PROTECTIVE COATINGS FACILITY
1215 2nd AVENUE AND 1208 4th AVENUE NORTH
KENT, WASHINGTON

GROUNDWATER CONTOUR AND CHEMICAL CONTOUR MAP
MARCH 13, 2019

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 4

FIGURE 5

Filename: N:\US\Lynnwood\Projects\561\11218504\Digital_Design\ACAD\Figures\RPT011\11218504-GHD-0000-RPT-EN-0105_DE-011.DWG
Plot Date: 22 December 2021 10:05 AM

LEGEND

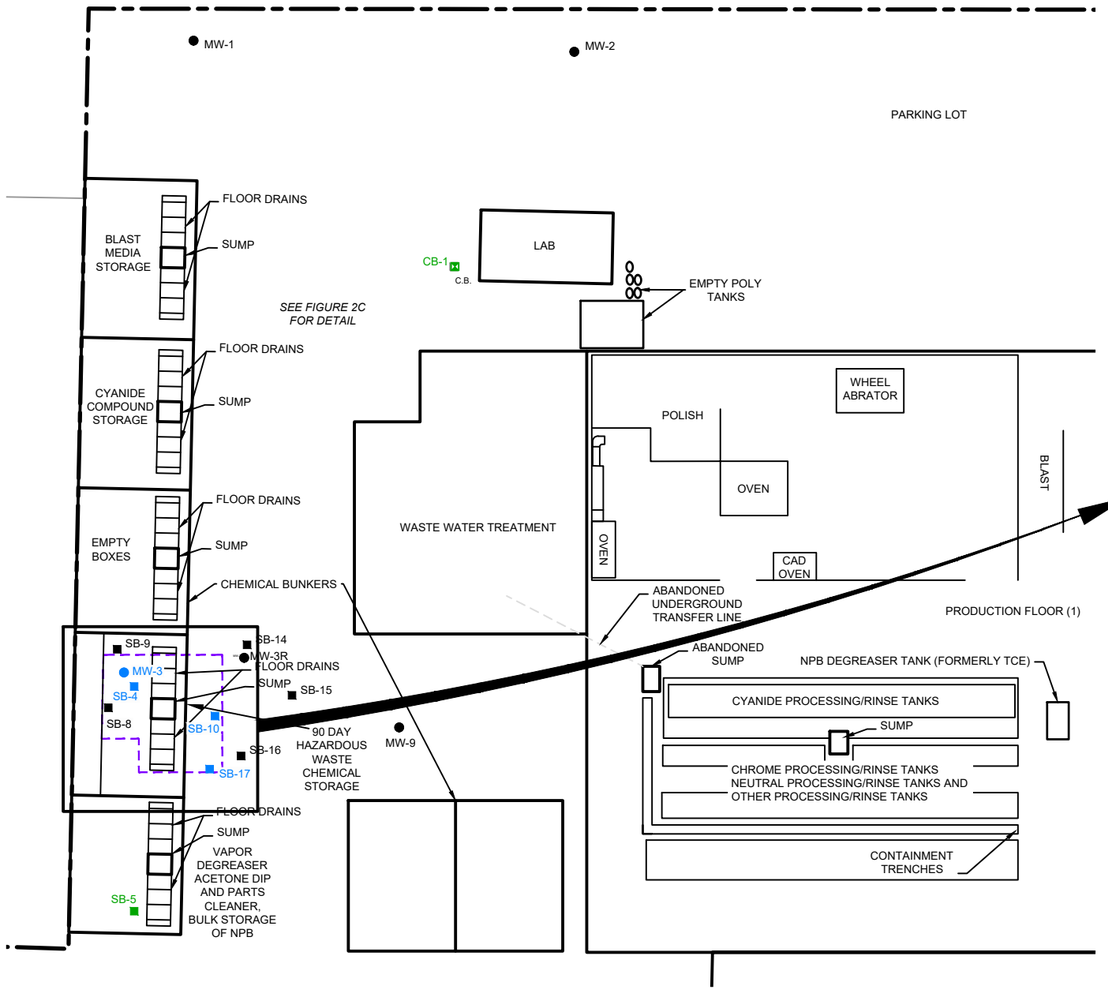
- MONITORING WELL
- PROPERTY BOUNDARY LINE
- C.B. CATCH BASIN
- LIMITS OF EXCAVATION
- NSW-1 SOIL SAMPLE LOCATION
- INDICATES AT LEAST ONE VOLATILE ORGANIC COMPOUND EXCEEDED THE CLEANUP LEVELS
- SOIL EXCEEDANCE WHICH WAS SUBSEQUENTLY REMOVED

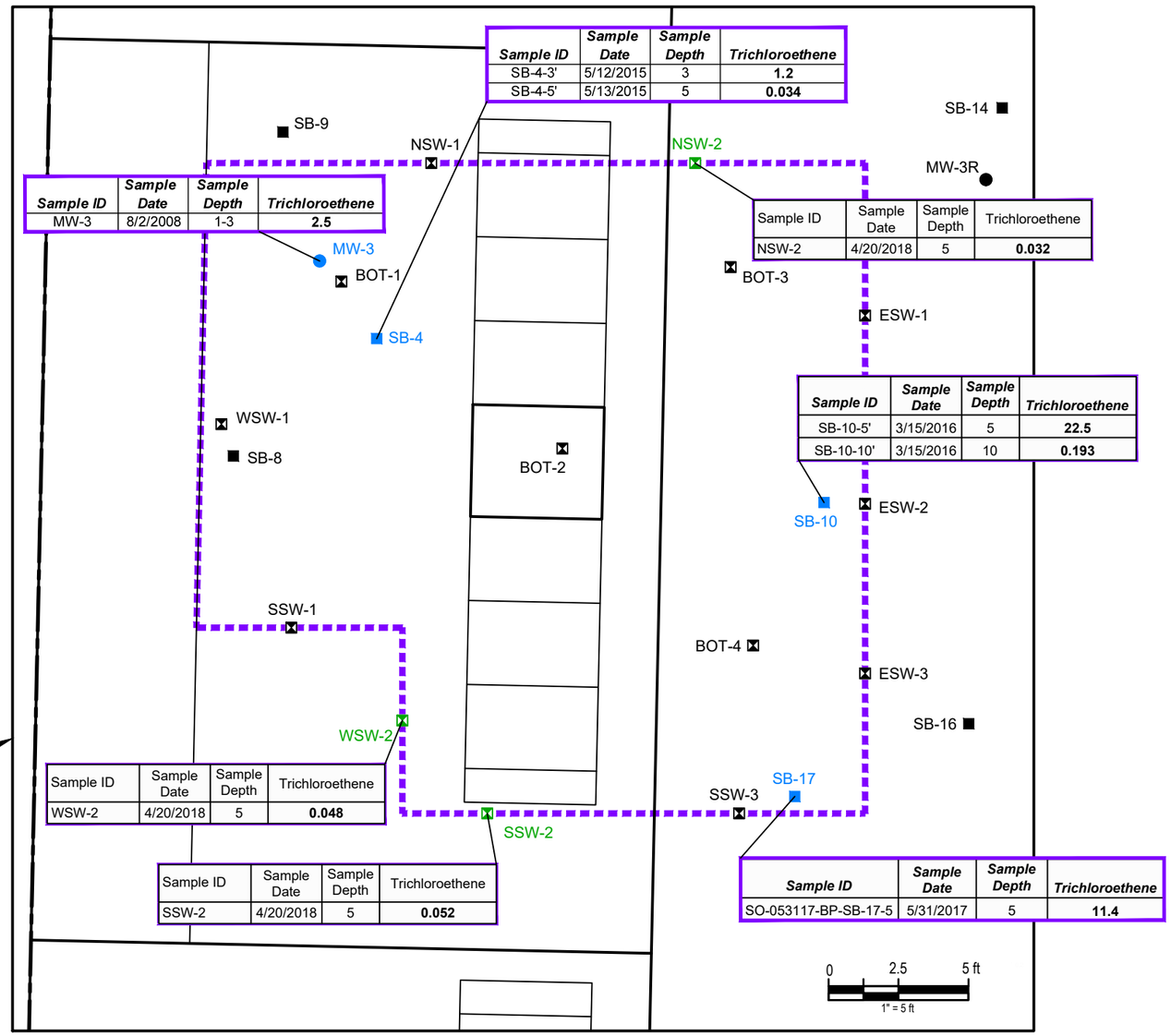
NOTES:
NPB = N-PROPYL BROMIDE
TCE = TRICHLOROETHENE
mg/kg = MILLIGRAMS PER KILOGRAM
FBGS = FEET BELOW GROUND SURFACE
TCE MTCA METHOD C CLEANUP LEVEL = 0.3 mg/kg

SOIL ANALYTICAL

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-10-5'	3/15/2016	5	**22.5**

PARAMETER
RESULT (mg/kg)
DEPTH IN FBGS





Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-4-3'	5/12/2015	3	**1.2**
SB-4-5'	5/13/2015	5	**0.034**

Sample ID	Sample Date	Sample Depth	Trichloroethene
MW-3	8/2/2008	1-3	**2.5**

Sample ID	Sample Date	Sample Depth	Trichloroethene
NSW-2	4/20/2018	5	**0.032**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-10-5'	3/15/2016	5	**22.5**
SB-10-10'	3/15/2016	10	**0.193**

Sample ID	Sample Date	Sample Depth	Trichloroethene
WSW-2	4/20/2018	5	**0.048**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SSW-2	4/20/2018	5	**0.052**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SO-053117-BP-SB-17-5	5/31/2017	5	**11.4**

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

0 15 30 ft
1" = 30 ft

N

GHD

PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH
AND 1208 4TH AVENUE NORTH
KENT, WASHINGTON

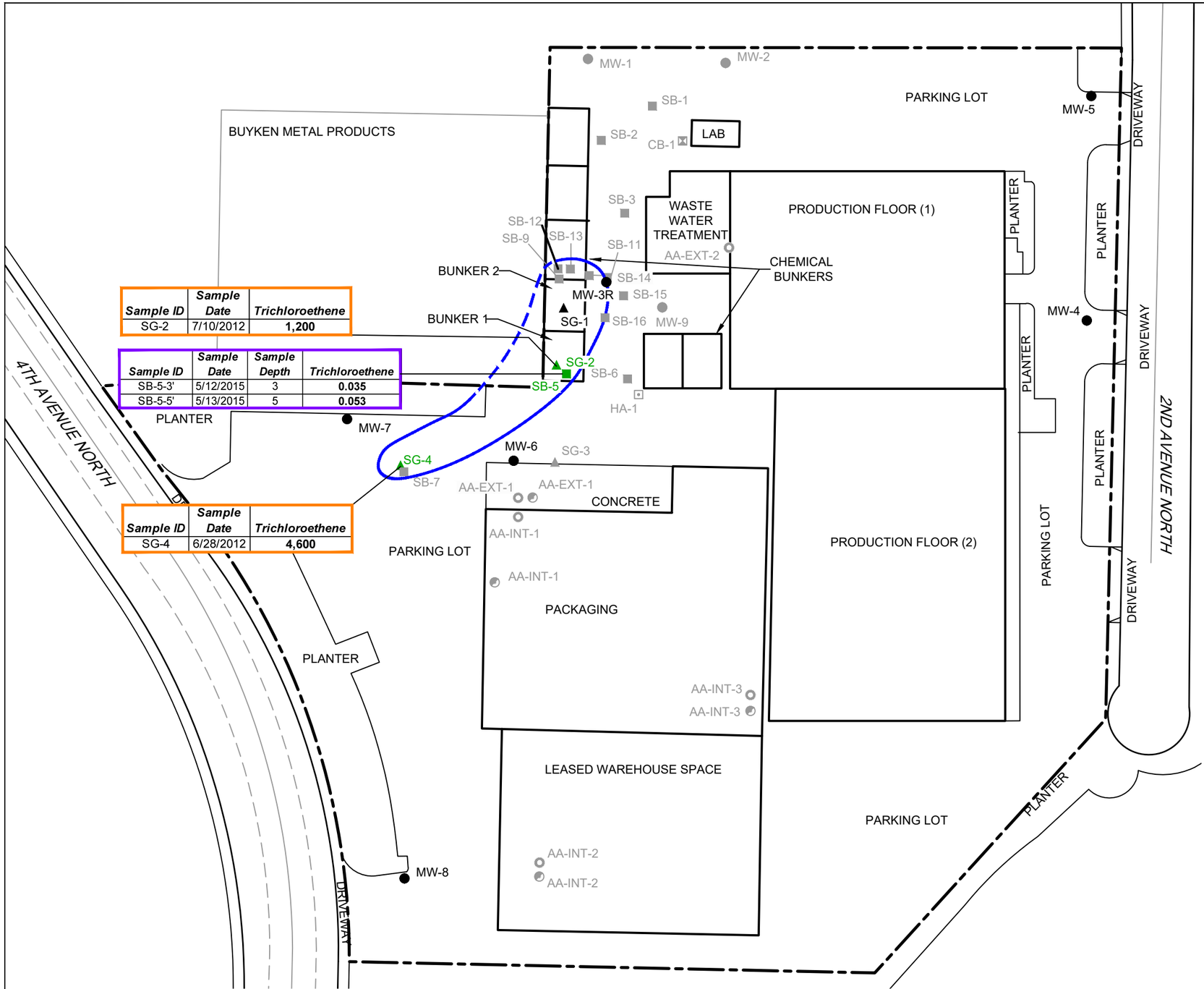
POST EXCAVATION
SOIL ANALYTICAL RESULTS

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 5

FIGURE 8

Filename: N:\US\Lynnwood\Projects\561\11218504\Digital_Design\ACAD\Figures\RPT011\11218504-GHD-0000-RPT-EN-0108_WA-011.DWG
Plot Date: 14 December 2021 10:57 AM



Sample ID	Sample Date	Trichloroethene
SG-2	7/10/2012	**1,200**

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-5-3'	5/12/2015	3	**0.035**
SB-5-5'	5/13/2015	5	**0.053**

Sample ID	Sample Date	Trichloroethene
SG-4	6/28/2012	**4,600**

LEGEND

- MONITORING WELL
- SOIL BORING
- HAND AUGER BORING
- SOIL GAS PROBE
- SEDIMENT SAMPLE
- AMBIENT AIR SAMPLE (NON-OPERATIONAL)
- AMBIENT AIR SAMPLE (OPERATIONAL)
- C.B. CATCH BASIN
- PROPERTY BOUNDARY LINE
- µg/m3 MICROGRAMS PER CUBIC METER
- mg/kg MILLIGRAMS PER KILOGRAM
- FBGS FEET BELOW GROUND SURFACE
- N/A NOT APPLICABLE OR NOT PROVIDED
- MTCA SITE BOUNDARY (DASHED WHERE INFERRED)

SOIL ANALYTICAL

Sample ID	Sample Date	Sample Depth	Trichloroethene
SB-5-3'	5/12/2015	3	**0.035**

PARAMETER
RESULT (mg/kg)
DEPTH IN FBGS

SOIL GAS ANALYTICAL

Sample ID	Sample Date	Trichloroethene
SG-2	7/10/2012	**1,200**

PARAMETER
RESULT (µg/m3)

INDICATES AT LEAST ONE CONCENTRATION WAS DETECTED ABOVE THE LABORATORY REPORTING LIMITS, BUT NO CONCENTRATION EXCEEDED THE CLEANUP LEVELS.

INDICATES AT LEAST ONE CONCENTRATION EXCEEDED THE CLEANUP LEVELS.

NOTES:

- BOLDED CONCENTRATIONS INDICATE THE CONCENTRATION VALUE EXCEEDED THE APPLICABLE CLEANUP LEVEL.
- NO SOIL GAS SAMPLES WERE COLLECTED FROM LOCATION SG-1.
- SAMPLE DEPTHS FOR SG-2 AND SG-4 WERE 12-INCHES AND 9-INCHES RESPECTIVELY.
- TCE MTCA METHOD C CLEANUP LEVEL FOR SUB-SLAB SOIL GAS NONCANCER = 67 µg/m3.
- SAMPLE LOCATIONS SB-4, SB-8, SB-10, SB-17, AND MW-3 WERE REMOVED DUE TO THE 2018 REMEDIAL EXCAVATION. SEE FIGURE 8.

SOURCE: USGS NATIONAL MAP VIEWER AERIAL IMAGERY. STATEWIDE LAND SURVEYING INC. REPORT DATED 7/17/15, WA STATE PLANE COORDINATED SYSTEMS NAD 83/2011 EPCOH 2010.000 NORTH ZONE 4601, IN U.S. SURVEY FEET.

0 30 60 ft
1" = 60 ft

N

GHD

PROTECTIVE COATINGS FACILITY
1215 2ND AVENUE NORTH
AND 1208 4TH AVENUE NORTH
KENT, WASHINGTON

SOIL AND SOIL VAPOR EXCEEDING CLEANUP LEVELS

Project No. **11218504**
Date **December 2021**

Enclosure A Figure 6

FIGURE 7

Filename: N:\US\Lynnwood\Projects\56\11218504\Digital_Design\ACAD\Figures\RPT011\11218504-GHD-0000-RPT-EN-0107_WA-011.DWG
Plot Date: 14 December 2021 10:41 AM

Site Description

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site: The Site is defined by releases of the following in Kent, King County, Washington:

- TCE to the Soil.
- 1,1-DCE; cis-1,2-DCE; 1,1-DCA; vinyl chloride; and arsenic into the Groundwater.
- TCE into the Air.

The Site is located at 1215 2nd Avenue North in Kent, King County, WA. It consists of two King County tax parcels with the numbers 383090-0320 (1208 4th Avenue North) and 383090-0380 (1215 2nd Avenue North) totaling 4.3 acres in area (Property; **Figure 1**; **Figure 2**).

According to MTCA, the Site is defined as all areas where contamination has come to be located. Based on currently available Site investigation data, the Site includes the Property. The Site boundary is not currently defined to the west of the Property.

Area and Property Description: The Site is located in an area zoned for industrial use in Kent. Surrounding property use includes the following:

- An industrial HVAC contractor is located to the north.
- Warehouses are located to the east.
- Metal fabrication operations are located to the south and west.

Property History and Current Use: The history of the Property is not well understood. Historical imagery from 1936 shows the Property was used for agriculture at that time. Documented property uses at 1208 4th Avenue North included aluminum plating and foil manufacturing from approximately 2000 to 2007. Protective Coatings purchased this parcel in 2012.

Hazardous waste records from 1980 to the present indicate that Protective Coatings was operating at 1215 2nd Avenue North by that time. Protective Coatings is an aerospace and medical instrument surface finishing operation. Activities at the Property include painting, anodizing, and electroplating.

Sources of Contamination: Documented chemical wastes generated during painting and plating operations at the Property include halogenated and nonhalogenated solvents, cadmium, chromium, and electroplating bath solutions. The source of TCE contamination detected in soil, groundwater, and ambient air is the result of a release from the chemical storage bunker in the immediate area of MW-3 (**Figure 2**). According to interviews with the

current operator, a former operator reportedly discharged waste TCE to the concrete surface of the chemical storage bunker to allow the TCE to evaporate. TCE entered the soil and groundwater through cracks in the concrete and floor drains in the bunker. The source of arsenic contamination in groundwater has not been defined.

Physiographic Setting: The site is located in the Puget Sound Lowland physiographic province of western Washington, which is bounded on the west by the Olympic Mountains and on the east by the Cascade Mountain foothills. The Site is located in the Green River Valley, a floodplain approximately 2 miles wide. The Site is situated on relatively flat ground surface at an elevation of approximately 40 feet above mean sea level (amsl).

Surface/Storm Water System: Stormwater runoff on and in the vicinity of the Property disperses via sheet flow to catch basins connected to the City of Kent stormwater system. The nearest surface water body is Mill Creek, located approximately 850 feet northeast of the Property.

Ecological Setting: The Property is zoned for industrial use. Adjoining properties to the north, south, east, and west are also zoned for industrial use. Land surfaces on the Property and adjacent properties are primarily covered by buildings, and asphalt and concrete pavement with some small landscaped areas.

Geology: The geologic map of the area[8] indicates that the Site is underlain by quaternary alluvium, an unconsolidated succession of sand, silt, and clay deposited by the Green and White Rivers. The Property is underlain by fill materials to a maximum depth of 8 feet below ground surface (bgs). Fill materials are underlain by dense sands and silts to the maximum explored depth of 30 feet bgs. Silts and sands occur in apparently discontinuous layers from 6 inches to 10 feet in thickness, interpreted to be quaternary alluvium (**Figure 3**).

Ground Water: From 2008 to 2018, 10 monitoring wells (MW-1 to MW-10, MW-3R; **Figure 2**, **Figure 4**) were installed on the Property. Monitoring well MW-3 was decommissioned in 2018 during remedial excavation activities since it was within the excavation limits. These monitoring wells were installed with 10-foot screens from 5 to 17 feet bgs. Monitoring well locations are shown on **Figure 2 and Figure 4**.

Shallow groundwater is present at the Site at depths ranging from approximately 6.5 to 10 feet bgs (33.5 to 30 feet amsl). Groundwater flow is oriented roughly to the west with an average hydraulic gradient of 0.004 feet per foot (**Figure 4**).

Water Supply: Drinking water is supplied to the Property by water mains operated by the City of Kent. Water for the City is sourced primarily from wells located in the southeastern portion of the city. Water is also sourced from the Green River in partnership with Tacoma Water,

[8] https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=2515

Covington Water district, and Lakehaven Water District. The Site is located approximately 2,500 feet west of the closest 10-year wellhead protection zone for a municipal supply well.

Release and Extent of Contamination:

Site conditions prior to interim remedial actions.
Soil: Subsurface investigations from 2004 to 2017 identified the nature and extent of soil contamination prior to interim remedial activities in 2018, discussed below. Concentrations of TCE in soil exceeding the Method C cleanup level were identified in soil samples collected from the area around the chemical storage bunker on the west side of the Site (CB-1, SB-4, SB-5, SB-10, SB-17, MW-3; **Figure 2**, **Figure 3**, **Figure 5**). Soil contaminated with TCE ranged in depth from 1 to 10 feet bgs (39 to 30 feet amsl). The extent of contaminated soil has not been delineated to the southwest of the chemical bunker, beneath the west-adjacent property. Soil contamination has been delineated vertically and laterally to the north, south, and east of the bunker.

Soil samples collected from 0.5 feet bgs in borings HA-1 and SB-6, located south of the chemical storage bunkers contained cadmium above the Method A cleanup level for industrial use (**Figure 2, Figure 3**). A soil sample collected from MW-9 at 5 feet bgs also contained cadmium above the Method A cleanup level for industrial use (**Figure 2, Figure 3**). The extent of soil contaminated with cadmium above Method A cleanup levels for industrial use has not been defined to the north, east, or south of this area.

Groundwater: Subsurface investigations from 2008 to 2017 partially identified the nature and extent of groundwater contamination prior to interim remedial activities in 2018. Groundwater containing Site groundwater COCs above Site cleanup levels was present beneath the chemical storage bunker and extended southwest (**Figure 2**). Prior to remedial actions concentrations of Site groundwater COCs were measured:

- 1,1 DCE ranged from below detection limits to 120 µg/L;
- cis-1,2 DCE ranged from below detection limits to 5,600 µg/L;
- 1,1 DCA ranged from below detection limits to 320 µg/L;
- vinyl chloride ranged from below detection limits to 5.8 µg/L;
- dissolved arsenic ranged from 8.9 to 185 µg/L; and
- chromium (VI) ranged from below detection limits to 19 µg/L.

The western edge of the contaminant plume has not been defined under the adjacent property. The reported laboratory detection limits for dissolved arsenic and chromium VI have exceeded

the Site cleanup level. Based on the current results for dissolved arsenic and chromium VI, the extent of groundwater contaminated with these constituents has not been defined.

Soil vapor: Investigations conducted in 2012 identified TCE above the Method C screening level for soil vapor and cleanup level for indoor air. Soil vapor samples collected from SG-2 and SG-4 in the chemical storage bunker contained 1,200 and 4,600 micrograms per cubic meter ($\mu g/m^3$) respectively (**Figure 6**). In August and September 2012, indoor air samples were collected from the packaging and warehouse buildings located on the Property to the south of the chemical storage bunker (**Figure 6**). Samples collected during non-operational hours contained TCE at concentrations above the Method C cleanup level for indoor air, ranging from 22 to 42 $\mu g/m^3$. After corrections were applied for background air samples, indoor air samples collected during operational hours in September 2012 did not contain TCE above the Method C cleanup level.

Interim remedial actions.
Soil: Mass excavation of soil contaminated with TCE occurred from April to May 2018. A total of approximately 307 tons of contaminated soil was excavated from the chemical storage bunker and transported off site for disposal at a permitted facility. The excavation was irregularly shaped, approximately 23 feet wide, and was completed to a depth of 9 to 13 feet bgs (**Figure 5**). Groundwater that infiltrated into the excavation was pumped into a temporary holding tank before disposal at a permitted facility off site. Confirmation samples collected from the sidewalls and bottom of the excavation did not contain TCE above the Method C cleanup level with the exception of sidewall samples NSW-2, SSW-2, and WSW-2 (**Figure 5**). Sidewall samples NSW-2, SSW-2, and WSW-2 contained TCE at concentrations of 0.032 mg/kg, 0.048 mg/kg, and 0.052 mg/kg, respectively, and were collected from a depth of approximately 5 feet bgs.

Following the completion of the remedial excavation, approximately 800 pounds of a hydrogen-releasing compound to enhance anaerobic degredation of TCE in soil and groundwater in the excavation footprint. The compound was mixed in with soil at the bottom limits of the excavation. The excavation was backfilled with certified clean fill, and the surface was restored with concrete in the chemical storage bunker and asphalt in the lot.

Groundwater: Four consecutive quarters of groundwater monitoring were conducted at the Site from May 2018 to March 2019. Site groundwater COCs were not detected above their respective cleanup levels with the exception of arsenic. Reporting limits for Arsenic were above the established Federal MCL used as a Site cleanup level.

Enclosure B

Basis for the Opinion:
List of Documents

1. GHD, *Cleanup Action Report, 1215 2nd Avenue North, Kent, Washington, PCC Aerostructures,* January 26, 2022.

2. GHD, *Excavation Summary Report, 1215 Second Avenue North and 1208 Fourth Avenue North, Kent, Protective Coatings Facility*, *Washington*, November 20, 2018.

3. Ecology, *Re: Further Action at the following Site: Protective Coatings, Inc., 1215 2nd Avenue N, Kent, WA,* December 12, 2017.

4. GHD, *Cleanup Action Work Plan*, *Protective Coatings Facility, 1215 Second Avenue North and 1208 Fourth Avenue North, Kent, Washington*, August 2017.

5. GHD, *Feasibility Study, Protective Coatings Facility, 1215 2nd Avenue North & 1208 4th Avenue North, Kent, Washington*, July 25, 2016.

6. Ecology, *Re: Opinion Pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the Following Hazardous Waste Site: Protective Coatings, Inc., 1215 2nd Avenue N, Kent, WA,* October 5, 2015.

7. GHD, *Remedial Investigation Report, Protective Coatings Facility, 1215 2nd Avenue North and 1208 4th Avenue North, Kent, Washington*, August 20, 2015.

8. Conestoga-Rovers & Associates (CRA), *Groundwater Monitoring Report – Fourth Quarter 2014, Protective Coatings Facility, 1215 2nd Avenue North & 1208 4th Avenue North, Kent, Washington*, December, 2014.

9. CRA, *Groundwater Monitoring Report – Third Quarter 2014, Protective Coatings Facility, 1215 2nd Avenue North & 1208 4th Avenue North, Kent, Washington*, September 2014.

10. Ecology, *Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site: Protective Coatings, Inc., 1215 2nd Avenue N, Kent, WA*, May 30, 2014.

11. CRA, *Proposal for Environmental Services, Protective Coatings Facility, 1215 2nd Avenue North & 1208 4th Avenue North, Kent, Washington*, January 6, 2014.

12. Golder Associates, Inc., *Phase II Environmental Site Assessment, Protective Coatings, Inc., 1215 2nd Avenue North and 1208 4th Avenue North, Kent, Washington*, October 1, 2012.