STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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December 29, 2017

COPY

Mr. Bill Johnston
Johnston-Peach LLC
401 Central Avenue
Bellingham, WA 98225

Re: Opinion pursuant to WAC 173-340-515(5) on Remedial Actions for the following Hazardous Waste Site:

- **Name:** Johnston & Peach Property
- **Address:** 401 Central Avenue, Bellingham, WA
- **Facility/Site No.:** 10851
- **VCP No.:** NW2987
- **Cleanup Site ID No.:** 12378

Dear Mr. Johnston:

Thank you for submitting documents regarding your remedial actions for the Johnston & Peach Property facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing the following known release at the Site:

- Gasoline-range petroleum hydrocarbons (TPH-G), and benzene, toluene ethylbenzene, and xylenes (BTEX) in the Soil.

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your remedial actions:

1. Whatcom Environmental Services, Independent Remedial Action Report, March 31, 2017.

2. Ecology, Opinion Letter, May 24, 2016.

3. Whatcom Environmental Services, Underground Storage Tank Site Assessment and Petroleum Contaminated Soil Removal Action, September 30, 2013.

The documents listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649-7235 or by e-mail to nwro_public_request@ecy.wa.gov.

The Site as currently known is more particularly described in Enclosure A to this letter, which includes detailed Site diagrams. The description is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the release (described above) at the Site, Ecology has determined:**

Additional information and data were acquired at the Site during November and December 2016, and January 2017 in response to Ecology's recommendations stated in the Opinion Letter dated May 24, 2016 (Opinion Letter). Work previously accomplished at the Site is reported in Document #3 listed above. A No-Further-Action (NFA) determination for the Site was requested based on the additional work completed. The following are Ecology's comments regarding the additional work:

1. Ecology stated in the Opinion Letter that information was needed regarding the prior utilization of the Property (in particular by the "City Sanitary Services Company") to determine why the former gasoline underground storage tank (UST) systems were present and if other hazardous chemical compounds could have been released on the Property.

Lists of historical Property owners and historical tenants of the building were presented and also historical Sanborn Fire Insurance maps. There was no enlightenment provided however regarding the presence of the gasoline USTs and other possible sources of contamination on the Property. Historical aerial photographs are routinely used to ascertain former land uses and are available covering the land proximate to the Property for the years: 1950, 1963, 1975, 1988, 1997, and 2008.

The aerial photographs and other available historic information were not presented and apparently not evaluated to gain insight into historical usage of the Property.

Available historical information reviewed by Ecology indicates this Property and a property located to the west across Central Avenue were likely utilized for many years as an operating base for the City Sanitary Service Company, which ostensibly included fueling, repairing, and maintaining a fleet of garbage trucks. The Razore family was the long- term owner of this Property and the property to the west. Agostino Razore co-founded City Sanitary Service Company (Bellingham's first garbage collection company) in 1929, which is listed as a long-term tenant of the building. Furthermore, a Sanborn map dated 1963 shows the building was used for truck repair during that time. The current Site conceptual model is therefore incomplete (i.e. gasoline released from inexplicable former USTs), and should describe the most significant former uses of the Property along with associated sources of contamination including the USTs and also potentially the truck repair and maintenance activities. The requirements of a Site conceptual model are described in Chapter 173-340 WAC.

2. Ecology stated in the Opinion Letter that the 2013 remedial investigation of the Site was not complete. Soil sampling was needed beneath the building and also a determination made if ground water was impacted. The data acquired previously indicated benzene was the primary contaminant of concern (COC) in soil from the release of gasoline, and that the horizontal and vertical limits of the benzene in soil had not been determined. The Method A soil cleanup level for benzene at that time was exceeded in the excavated area to the north, west, east, and at the maximum depth of exploration (15.5 feet below ground surface (bgs)). Ground water had not been located.

Five new borings (one completed as monitoring well MW-1) were advanced during 2016 to further characterize the Site. The borings all extended to a depth of approximately 28 feet bgs, where refusal was encountered at the bedrock (Chuckanut sandstone) surface. Based on lithology and field screening (photoionic detector and sheen tests), two soil samples were acquired from each boring at depths ranging from 12.5 to 25 feet bgs. Two soil samples were also acquired inside the building near the west wall at 6 feet bgs in two sub-slab soil gas sampling locations. Most of the soil samples were analyzed for TPH-G, diesel-range hydrocarbons (TPH-D), oil-range hydrocarbons (TPH-O), BTEX, methyl tertiary-butyl ether (MTBE), dichloroethane,1-2 (EDC), dibromoethane, 1-2 (EDB), naphthalenes, and MTCA 5 metals (lead, arsenic, cadmium, chromium, and mercury). Analyses for EDC, EDB, naphthalenes, and MTCA 5 metals were omitted in 5 soil samples. The two soil samples from boring B5 and one soil sample from boring B4 were also analyzed for extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) to further establish a Method B TPH (total petroleum hydrocarbons) soil cleanup level specific to the Site. Metals (excepting cadmium) were commonly detected in all soil samples at concentrations significantly less than their respective Method A soil cleanup level.

Petroleum chemical compounds were at non-detectable levels in all soil samples except the four samples acquired at the 20 and 25 foot depths in two borings (B4 and B5) nearest the former leaking UST location. TPH-G, BTEX, and naphthalenes were detected in these soil samples, with elevated concentrations of benzene up to 3.4 parts per million (ppm) (the Method A soil cleanup level for benzene is 0.03 ppm).

A monitoring well (MW-1) screened across the soil-bedrock interface was installed in one boring located about 35 feet west of the former leaking UST location (source area). It was rightly considered that perched ground water could be present at the surface of the bedrock, and a small isolated water-bearing zone was found at that location. A ground water sample from the well was analyzed for TPH-G, TPH-D, TPH-O, BTEX, MTBE, EDC, EDB, naphthalenes, and MTCA 5 metals with no detections.

3. The additional work further confirmed that benzene is the primary COC, and that the horizontal and vertical extents of the soil contamination were defined outside the building (the bedrock surface defined the presumed vertical extent of soil contamination at depth). A zone of perched ground water of limited yield was found situated at the surface of the bedrock and sampled once from monitoring well MW-1 located outside the area of contamination in an assumed downgradient direction. No ground water contamination was found in the sample collected from the well. The remedial investigation of the Site remains incomplete however because:

(i) As related above, the Property was likely utilized for truck fueling, maintenance and repair for many years. Typically these operations are associated with contamination from petroleum hydrocarbons, waste oils, solvents, metals, and other vehicle maintenance-related substances. An abundant amount of waste oil could have been generated, which suggests the possible presence of a waste-oil UST somewhere on the Property. Furthermore vehicle repair (radiator and transmission) activities have historically occurred on the adjacent property to the north.

There is ample indication that contamination exists beneath the building, both from the former adjacent leaking UST and from vehicle maintenance and repair activities, and the area beneath the building warrants investigation as part of the Site. The two soil samples acquired at 6 feet bgs in two sub-slab soil gas sampling locations just inside the west end of the building do not comprise an adequate investigation beneath the building.

(ii) A sample of ground water from a single monitoring well installed 35 feet outside the source area of soil contamination in an assumed downgradient direction does not comprise an adequate characterization of Site ground water, particularly since the data indicate that the perched zone of ground water is likely contaminated below the source area. The soil data from borings B-4 and B-5 (located near the former leaking UST) both show benzene concentrations of 3.4 ppm at 25 feet bgs in soil near the surface of the bedrock at 28 feet bgs (three feet above the bottom of the perched zone).

This area of soil with benzene concentrations at more than 100 times the Method A soil cleanup level is most likely in contact with ground water in the perched zone. The ground water flow direction in the perched zone is not known, and likely follows the slope of the bedrock surface, which may not be in the direction of the monitoring well. More sampling is needed to determine if ground water is contaminated starting in the area of borings B-4 and B-5.

4. A model remedy for petroleum cleanups proposing Method B cleanup levels for direct contact in soil at the Site and based on the condition that ground water is not a concern was presented as justification that the cleanup was concluded at the Site. The use of a model remedy is not appropriate however because the Site has not been fully characterized, and also because it has not been established that the contamination consists entirely of petroleum compounds.

Furthermore the rationale presented that ground water was not a concern at the Site were not acceptable for the following reasons:

(i) Rationale was presented that a clean ground water sample from a single monitoring well located outside the area of soil contamination in an assumed downgradient direction comprised an empirical demonstration that ground water was not a concern at the Site. As related above, this was not an adequate demonstration. An adequate empirical demonstration that the perched zone of ground water is not impacted would entail acquiring and testing a ground water sample at the location at borings B-4 and B-5. Petroleum hydrocarbon contaminant levels in that sample would have to comply with the specific Method B TPH ground water cleanup level established for the Site (25.36 parts per billion given the calculations presented in the worksheets). Compliance with the Method A cleanup level for benzene in ground water would be acceptable.

(ii) Rationale was presented that the perched ground water at the Site would not be classified as potable per the definition in Chapter 173-340-720(2) WAC because it is not used as a current source of drinking water and is not a potential future source of drinking water because of insufficient yield. This rationale is likely applicable at the Site, but the information needs to be provided for Ecology to consider the Site-specific factors as outlined in Chapter 173-340-720(2)(c) WAC. Furthermore, if the perched ground water zone was not classified as potable under Chapter 173-340-720(2) WAC, then the appropriate cleanup levels for non-potable ground water would have to be established as per the requirements of Chapter 173-340-720(6) WAC.

5. Ecology stated in the Opinion Letter that an evaluation of vapor intrusion (VI) into the building was needed. Prior work indicated levels of benzene in soil above Method A adjacent to the building exterior, and there was also the possibility that gasoline/benzene-contaminated soil extends beneath the building. Furthermore this was required as per Chapter 173-340-740(3)(b)(iii)(C)(III) WAC.

Two sub-slab soil gas samples were acquired inside the building near the west wall and proximate to the location of the former leaking UST outside the building. The slab was three feet bgs (the floor of a former boiler room). The samples were acquired using one-liter Summa canisters and analyzed for TPH-G, air petroleum hydrocarbons (C5-C8, C9-C12 aliphatics and C9-C10 aromatics), and volatile organic compounds (VOCs) by Method TO-15.

All compounds were either non-detectable or far below their respective sub-slab screening levels with the exception of benzene. Benzene concentrations in the two soil gas samples were below the sub-slab screening level for benzene (10.7 micrograms per cubic meter (ug/m^3)) at 2.0 ug/m^3 and 4.7 ug/m^3 (= ug/m^3). As per Ecology's *Draft Guidance for Evaluating Vapor Intrusion in Washington State* (revision dated February 2016), Ecology expects soil gas sampling for vapor intrusion assessment to be documented in a work plan. There was no work plan submitted outlining the details of the sub-slab soil gas sampling process for Ecology to revue prior to the event, which would have been helpful. However, the results appear to be adequate to demonstrate there is not a significant VI issue from the former leaking UST source into the building.

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7251, or by e-mail at roger.nye@ecy.wa.gov.

Sincerely,

Roger K. Nye

Roger K. Nye
NWRO Toxics Cleanup Program

Enclosure: (1) A- Site Description and Diagrams

cc: Harold Cashman, Whatcom Environmental Services, Inc.
Sonia Fernandez, VCP Coordinator, NWRO Ecology

Enclosure A

Site / Property Description and Diagrams

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

Site: There is not sufficient information available at this time to define the Site. The extent of gasoline contaminated soil with benzene as the primary contaminant of concern has been established on the western edge of the Property outside the building. The extent of possible contamination beneath the building is unknown, and it is unknown whether or not ground water on the Site is impacted.

Property and Area Description: The Property is located at 401 Central Avenue in the Central Business District of Bellingham, Washington. The Property is Whatcom County Tax Parcel# 380330114260 and is zoned Commercial. Commercial development surrounds the Property to the north, east, and south and the land is covered by buildings and pavement in these areas. The east boundary of Bellingham Maritime Heritage Park (the former Holly Street Landfill) is located 200 feet to the west of the Property. The Property is 0.13 acre in size.

Property History and Current Use: The Property was apparently utilized from approximately the 1940s into the 1980s to fuel and repair trucks used for garbage collection. Earlier use of the Property was not reported except that the building covering most of the Property was constructed. Various small businesses have occupied the building over the years, but none with apparent sources of contamination. The building was remodeled in 2000 and is currently used for business offices.

Sources of Contamination: The known contamination was caused by the release of gasoline from one or two USTs formerly utilized at the Property. Historical vehicle repair and maintenance activities on the Property may have also caused contamination.

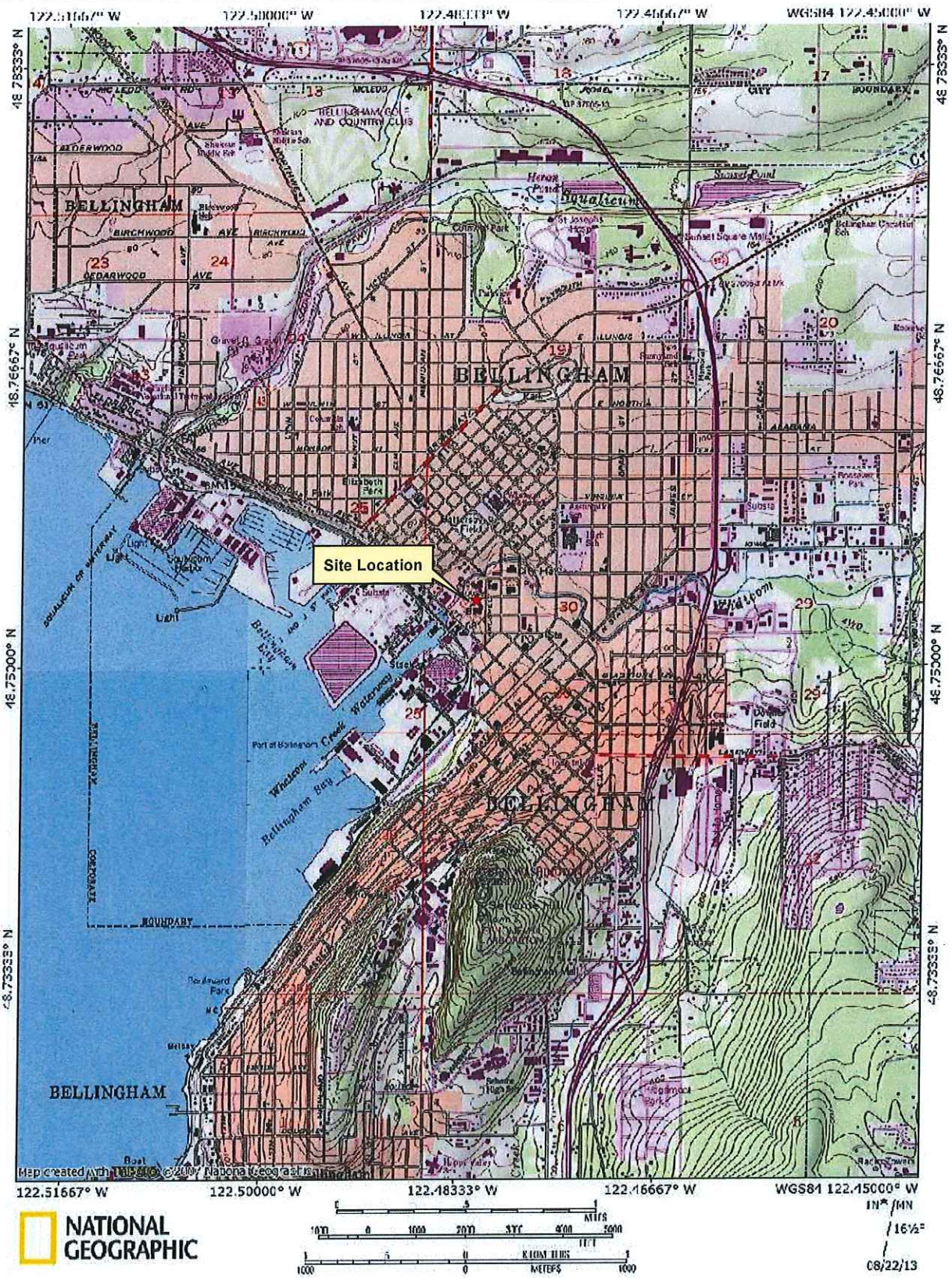
Physiographic Setting: Land in the immediate area of the Site is generally flat. The Site is situated at an elevation of about 65 feet above mean sea level, approximately 1,200 feet east of the mouth of Whatcom Creek and Bellingham Bay.

Ecological Setting: The Maritime Heritage Park west of the Site is primarily a large grassy area covering the former Holly Street landfill with some native vegetation. The park is heavily frequented by people and likely does not provide significant habitat that would be attractive to wildlife receptors. All other land areas surrounding the Site are covered by buildings and pavement.

Geology: The Property is underlain by fill material up to 8 feet thick consisting of clay, silt, sand, and gravel. The Bellingham glaciomarine drift (consisting of silts, clays, and fine sand lenses) extends beneath the fill to 28 feet bgs. The formation is of low permeability and was essentially dry in borings on the Property. The weathered surface of the Chuckanut sandstone was encountered at 28 feet bgs, the maximum depth of exploration.

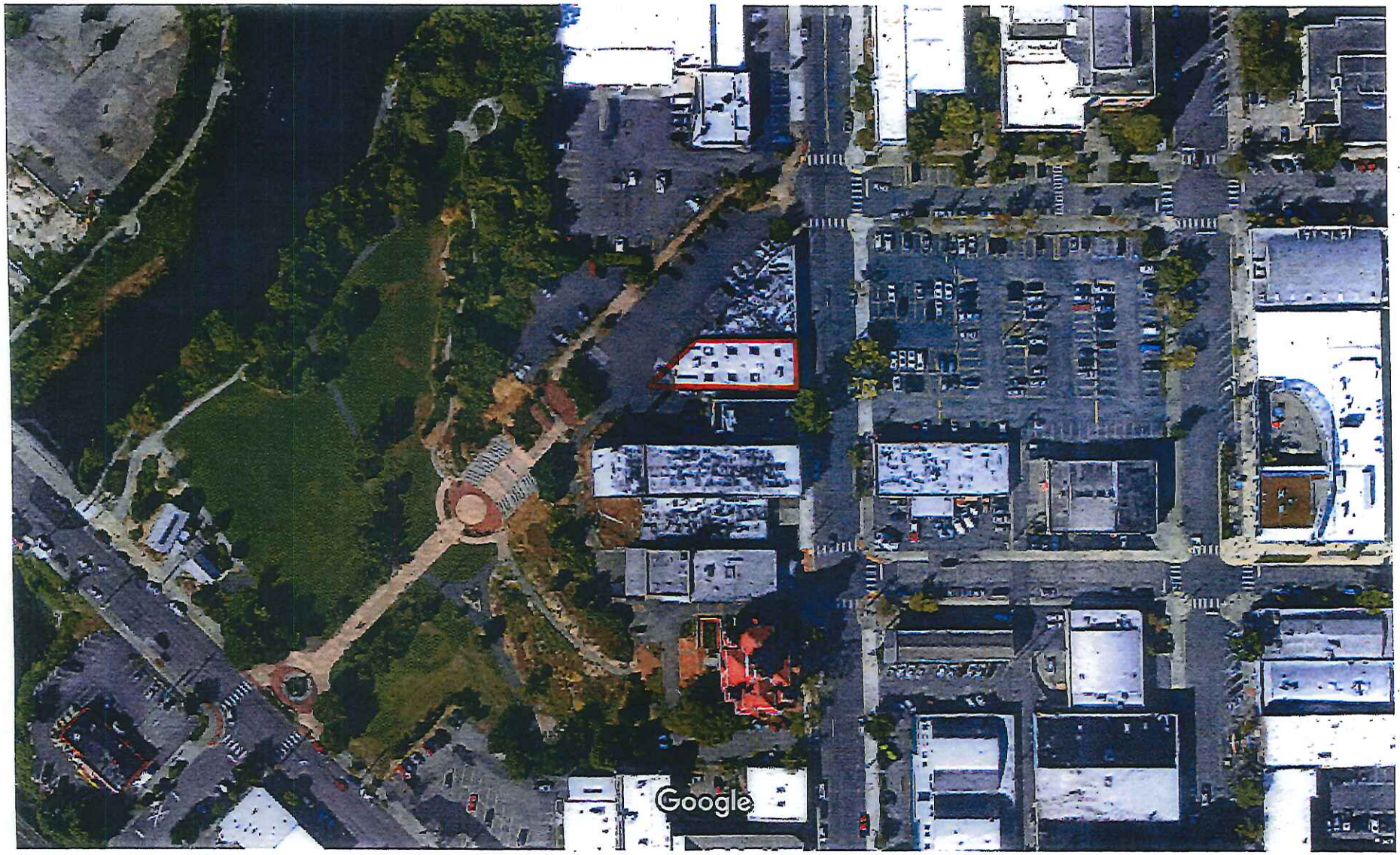
Ground Water: A perched zone of ground water of limited yield was encountered at the surface of the bedrock at 28 feet bgs. The ground water possibly occupies the weathered surface of the sandstone; the lateral extent of the zone is unknown. The flow direction of the perched ground water is also unknown, but could follow the slope of the bedrock surface rather than topography. The nature and occurrence of deeper ground water beneath the Property are not known.

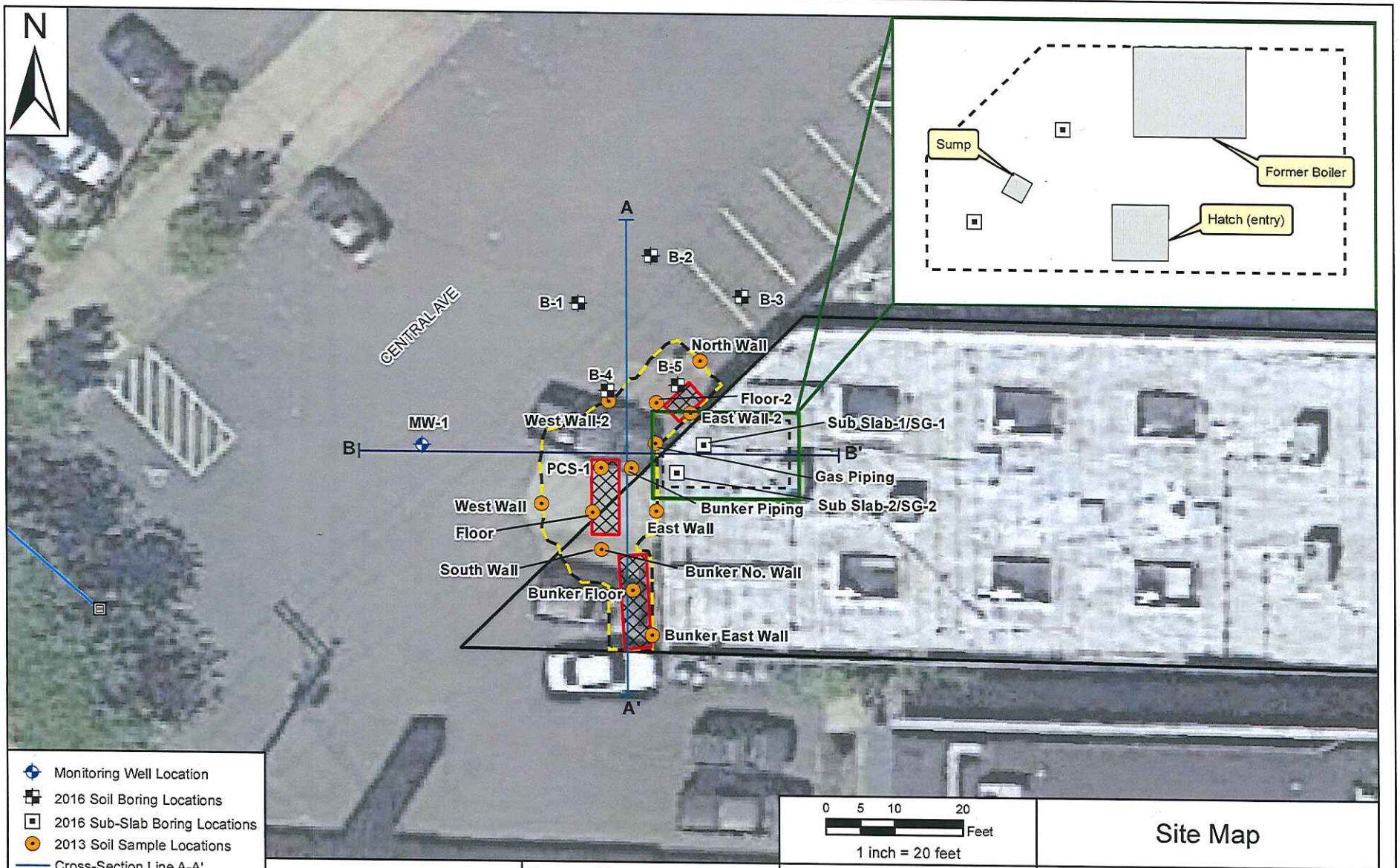
Extent of Soil and Ground Water Contamination: The extents of soil and ground water contamination are currently unknown.



Prepared for:	Prepared by:	Site Location Map	
Johnston-Peach LLC	whatcom ENVIRONMENTAL	Central Ave 03/02/17	Figure 1

Google Maps Property Location and Surrounding Area





All data are approximate and should be used for relative location reference only.
2016 aerial photograph (GoogleEarth).

Prepared for:

Johnston-Peach LLC

Prepared by:

whatcom ENVIRONMENTAL

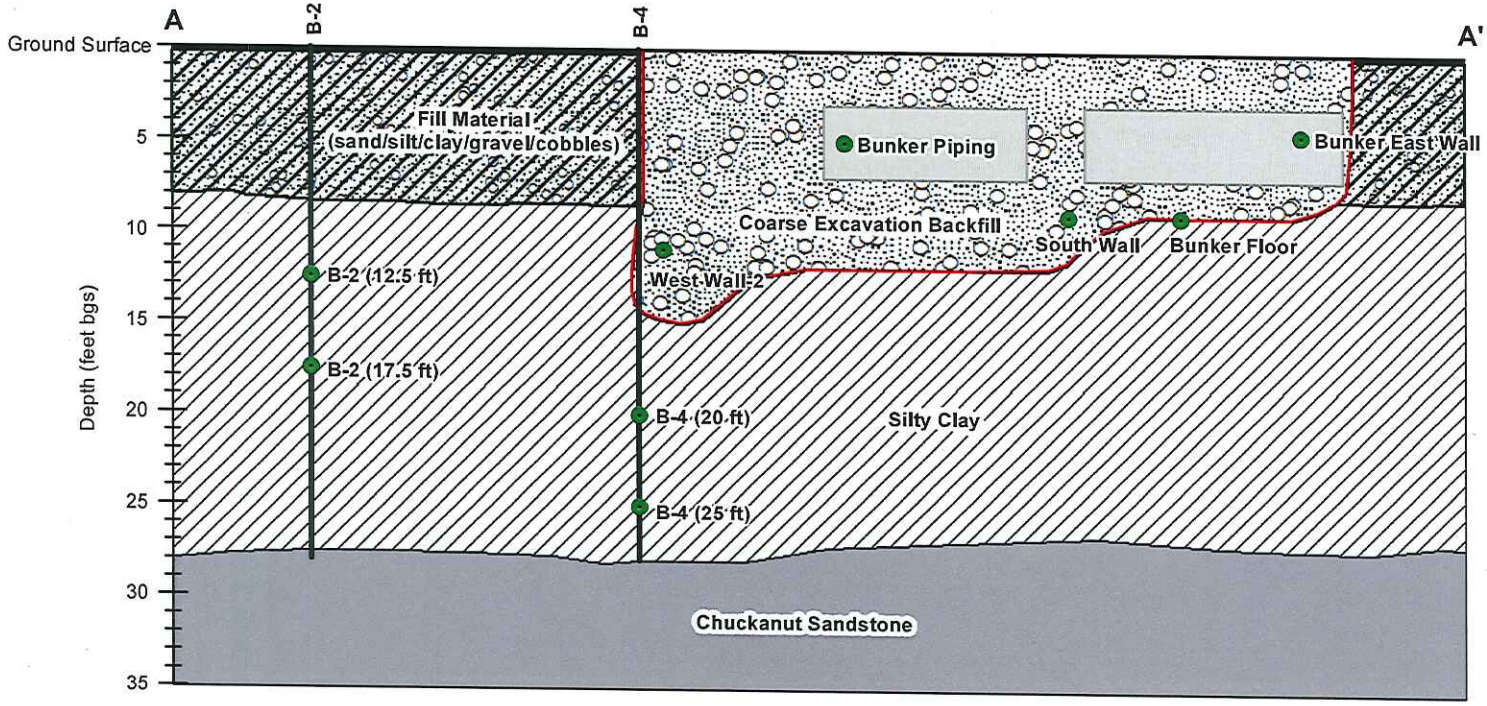
Site Map

401 Central Avenue
Bellingham, WA 98225

Central Ave

03/02/17

Figure 2



Soil Sample Locations

- Met MTCA Method B
- Soil Borings
- 2013 Excavation Extent
- Historic UST
- Asphalt
- Coarse Excavation Backfill
- Fill Material
- Silty Clay
- Chuckanut Sandstone

All data are approximate and should be used for relative location reference only.

0 2.5 5 10 Feet

1 inch = 10 feet

Prepared for:

Johnston-Peach LLC

Prepared by:

whatcom ENVIRONMENTAL

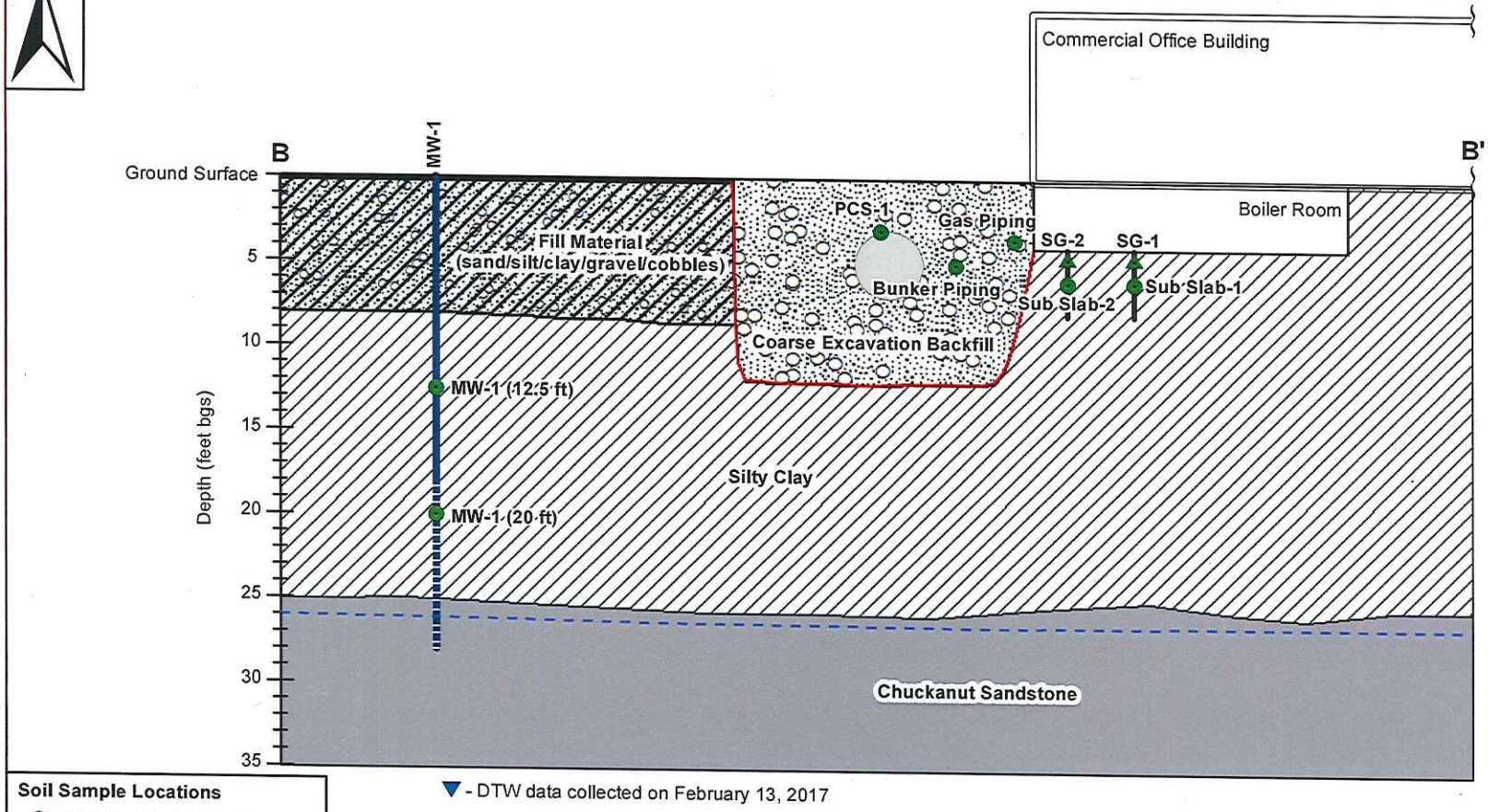
Cross-Section A-A'

401 Central Avenue
Bellingham, WA 98225

Central Ave

03/02/17

Figure 3


N
Commercial Office Building
B
B'
MW-1
Ground Surface
Boiler Room
PCS-1
Gas Piping
SG-2
SG-1
Fill Material
(sand/silt/clay/gravel/cobbles)
Bunker Piping
Sub Slab-2
Sub Slab-1
Coarse Excavation Backfill
MW-1 (12.5 ft)
Depth (feet bgs)
5
10
15
20
25
30
35
Silty Clay
MW-1 (20 ft)
Chuckanut Sandstone
▼ - DTW data collected on February 13, 2017
Soil Sample Locations
Met MTCA Method B
Vapor Sample Locations
Met Screening Level
Soil Borings
Monitoring Wells
2013 Excavation Extent
Historic UST
Asphalt
Coarse Excavation Backfill
Fill Material
Silty Clay
Chuckanut Sandstone
0 2.5 5 10
Feet
1 inch = 10 feet
All data are approximate and should be used for relative location reference only.
Prepared for:
Johnston-Peach LLC
Prepared by:
nwhatcom ENVIRONMENTAL
Cross-Section B-B'
401 Central Avenue
Bellingham, WA 98225
Central Ave
03/02/17
Figure 4