Long-Term Operations & Maintenance Plan

East Bay Redevelopment Site
Olympia, WA

Agreed Order No. DE14072
Facility/Site No. 5785176

Prepared for:

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List of Acronyms

Acronym	Explanation
BMP	Best Management Practice
CAP	Cleanup Action Plan
City	City of Olympia
CL	Cleanup Level
COC	Constituent of Concern
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
Dioxins/Furans	Chlorinated Dibenzo-p-dioxins and Chlorinated Dibenzofurans
EC	Engineering Control
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
IC	Institutional Control
LOTT	Lacey, Olympia, Tumwater, and Thurston County Clean Water Alliance
MTCA	Model Toxics Control Act
O&M	Operations and Maintenance
PIONEER	PIONEER Technologies Corporation
Port	Port of Olympia
RL	Remediation Level
SAP	Sampling and Analysis Plan
Site	East Bay Redevelopment Site
TCP	Toxics Cleanup Program
TPH-D	Total Petroleum Hydrocarbons in the Diesel Range
TPH-G	Total Petroleum Hydrocarbons in the Gasoline Range
TPH-HO	Total Petroleum Hydrocarbons in the Heavy Oil Range
WAC	Washington Administrative Code

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SECTION 1: INTRODUCTION

1.1 Operations & Maintenance Plan Objectives

The purpose of the Operations and Maintenance (O&M) Plan is to ensure that the cleanup implemented at the East Bay Redevelopment Site (site) per the Cleanup Action Plan (CAP; Washington State Department of Ecology [Ecology] 2017) and Engineering Design Report for Cleanup Implementation (EDR; PIONEER Technologies Corporation [PIONEER] 2017) remains protective of human health and the environment. The cleanup was performed in accordance with Washington Administrative Code (WAC) 173-340-410 and WAC 173-340-820. This O&M Plan was prepared in accordance with WAC 173-340-400(4)(c) and Agreed Order DE14072.

This plan must be kept up-to-date with any changes in cover or land use at the site. Any changes at the site must be clearly identified and recorded in the O&M Plan and associated site maps and figures. New versions of the O&M Plan must be submitted to Ecology for their records. An amendment to the CAP will be required if there are major changes in cover, changes in land use, and when future development occurs at the site.

1.2 Roles and Responsibilities

Below is a brief overview of the parties and responsibilities involved in operating and maintaining the site:

Primary Organizations, Roles, and Responsibilities at the Site

Organization(s)	Role	Responsibilities
Port of Olympia (Port)	Property Owner	Manage and Document Activities at the Site
City of Olympia (City)	Property Owner	Manage and Document Activities at the Site
Lacey, Olympia, Tumwater, and Thurston County Clean Water Alliance (LOTT)	Property Owner	Manage and Document Activities at the Site
Port, City, LOTT or Subcontractor	Inspector	Perform Annual Site Inspections and Record Inspection Findings[1]
Ecology	Regulator	Review Documented Land Use Changes at the Site and Perform the 5-year Model Toxics Control Act (MTCA) Review

1.3 Site Description

The site is located in Olympia, Washington, on the southwest corner of the East Bay of Budd Inlet (see Figure 1). Specifically, the site is west of East Bay Drive and Marine Drive, east of Franklin Street, and

[1] Site inspections should be performed once per year at a minimum.

North of State Avenue. In 2017, the East Bay Redevelopment Site consists of seven parcels and a small area north of the seven parcels (designated as Lot 1).[2] The Port currently owns five of the seven parcels (Parcels 2, 3, 6, 7, and 9) within the East Bay Redevelopment Site boundary. LOTT and the City purchased Parcel 4 and Parcel 5, respectively, from the Port in June 2010.

[2] Parcel names and configurations are subject to change over time. The parcel names referenced in this O&M Plan are consistent with those used in the EDR (PIONEER 2017).

SECTION 2: OVERVIEW OF REMEDIAL ACTIONS

2.1 Cleanup Activities Performed at the Site

Multiple cleanup activities have taken place at the site over the years. The most recent (and final) cleanup activities included the removal of soil with constituent of concern (COC) concentrations that exceeded remediation levels (RLs) and the installation of a soil cover. The soil RL exceedances were due to concentrations of arsenic, total petroleum hydrocarbons in the gasoline range (TPH-G), total naphthalenes, and total chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans (dioxins/furans) at three locations within the site. The soil with RL exceedances was excavated, sampled, and hauled to an appropriate disposal facility. A permeable geotextile and 12-inch (minimum depth) gravel soil cover was installed over areas not containing clean fill from the 1982 fill event (see Figure 2). Any future development at the site which may disturb the soil cover will require Ecology approval prior to development, amendments to the CAP, and updates to the O&M Plan and associated site figures.

2.2 Soil Left in Place

At some of the areas within the site, non-excavated soil left in place beneath the installed soil cover may contain COC concentrations that exceed cleanup levels (CLs), but are below RLs. However, the soil cover functions as a barrier to mitigate risks to humans. The COCs that will remain with CL exceedances are total petroleum hydrocarbons in the diesel range (TPH-D), total petroleum hydrocarbons in the heavy oil range (TPH-HO), total carcinogenic polycyclic aromatic hydrocarbons (cPAHs), and total dioxins/furans. The locations of the remaining CL exceedances for TPH-D and TPH-HO combined, total cPAHs, and total dioxins/furans are presented in the EDR (PIONEER 2017). These remaining CL exceedances do not pose a threat to human health and the environment since (1) the CLs are based on an unrestricted land use scenario that is significantly more conservative than the reasonable maximum exposure assumptions for the complete exposure pathways, (2) all soil concentrations that pose a concern for the complete exposure pathways will have been removed, (3) the three remaining COCs bind strongly to soil and have limited mobility, and (4) the soil cover, engineering control (EC), and institutional control (IC) components of the cleanup action will limit potential exposures.

2.3 Institutional Controls in Place at the Site

ICs are critical components of the implemented cleanup activities in order to ensure the effectiveness and protectiveness of the cleanup activities over time. The Port, City, and LOTT will implement and maintain the ICs using an environmental covenant developed in accordance with WAC 173-340-440 and Ecology's Toxics Cleanup Program (TCP) Procedure 440A. Specifically, the environmental covenant will regulate land use at the site through the following ICs:

- Prevent unplanned and unmitigated excavation of soil within the site boundary.
- Require intrusive sub-surface soil work within the site boundary be implemented by hazardous waste operations and emergency response (HAZWOPER) trained workers in accordance with a health and safety plan (HASP).

- Prohibit installation of a well for water supply purposes within the site boundary.
- Restrict extraction of groundwater within the site boundary for any purpose other than temporary construction dewatering, investigation, monitoring or remediation.
- Require that any groundwater extracted for any purpose within the site boundary be considered potentially contaminated and any discharge of this water be done in accordance with state and federal law.
- Restrict construction of stormwater infiltration facilities or ponds within the contaminant delineation areas.
- Require that all stormwater catch basins, conveyance systems, and other appurtenances be of water-tight construction within the contaminant delineation areas.

2.4 Compliance Monitoring

In accordance with WAC 173-340-410, compliance monitoring (which includes protection monitoring, performance monitoring, and confirmational monitoring) has been and will be performed at the site. As outlined in the EDR, protection monitoring and performance monitoring were accomplished during the construction activities at the site, while confirmational monitoring will be performed every year as part of this O&M Plan (PIONEER 2017).

2.4.1 Protection Monitoring

Protection monitoring performed at the site during construction activities included measuring dust concentrations to ensure soil potentially containing COCs was not present above an airborne dust action level near workers or traveling off-site during construction activities. An overview of the dust monitoring program will be documented in the Cleanup Action Completion Report, which is in progress and will be submitted to Ecology within 90 days of completing field activities.

2.4.2 Performance Monitoring

Performance monitoring completed at the site during construction activities included collecting soil samples from excavation sidewalls, excavation bottoms, and stockpiles for possible reuse at the site during construction. This monitoring helped ensure COC exceedance-area excavations were expansive enough to remove COCs above RLs and that any overburden soil concentrations were below RLs. Soil excavations and sample results will be documented in the Cleanup Action Completion Report, which is in progress and will be submitted to Ecology within 90 days of completing field activities.

2.4.3 Confirmational Monitoring

Confirmational monitoring will be performed at the site in the future and will include the inspections discussed in Section 4 of this O&M Plan to certify that the selected, approved, constructed remedy (i.e., the 12-inch soil cover over parts of the site not already containing clean fill material) remains in good condition. A sampling and analysis plan (SAP), typically required as per WAC 173-340-820, will not be required for this site because the collection and analysis of samples will not be needed to examine the effectiveness of the constructed remedy. The soil cover and on-site hardscape areas will be monitored

via visual observations, with written and photographic documentation of any changes. See Section 4 for further details.

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SECTION 3: PHYSICAL SITE COMPONENTS REQUIRING LONG-TERM O&M

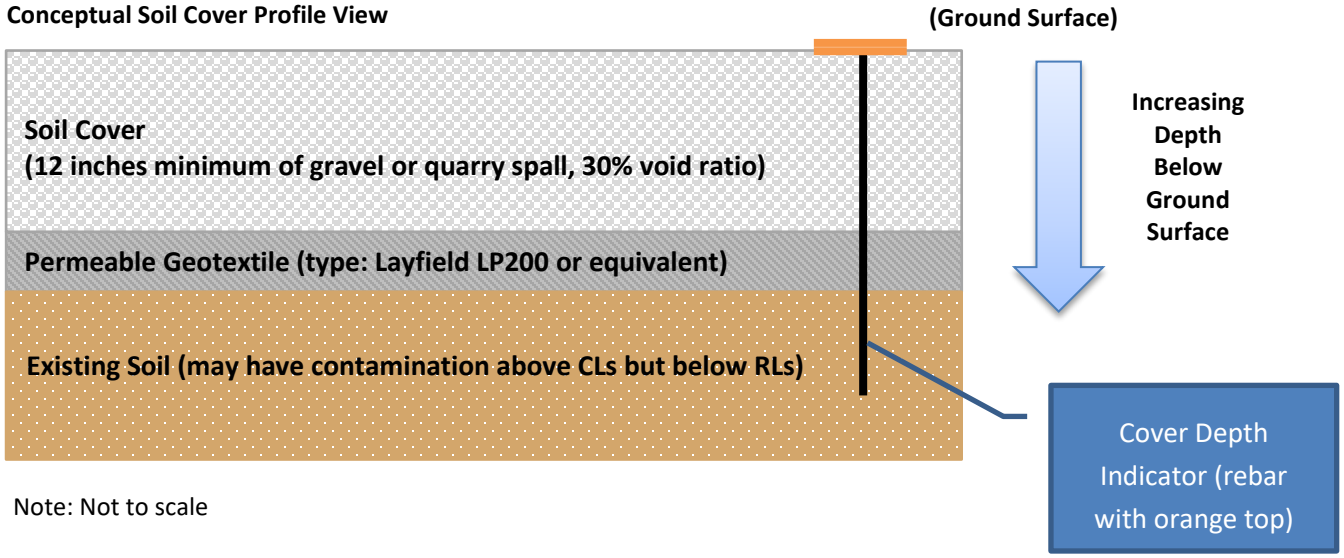
3.1 Soil Cover Areas

To limit potential soil exposure at the site, a soil cover was installed on the portions of Parcels 2, 3, 6, 7, and 9, and Lot 1 not comprised of clean 1982 fill (see Figure 2).[3] The purpose of the soil cover is to minimize potential exposures in the portions of the site with previously uncovered pre-1982 fill.

The soil cover consists of a permeable geotextile fabric (Layfield LP200 or equivalent) overlaid by at least 12 inches of washed gravel/quarry spalls with a 30% void ratio. The geotextile (1) serves as an indicator of the extent of clean soil during any potential future intrusive activities, (2) acts as a supplemental exposure barrier to complement the soil cover, and (3) prevents mixing of the soil cover with existing soil. In the case that the soil cover system requires repairs or partial replacement, details and specifications for the soil and geotextile fabric can be found in the EDR (PIONEER 2017).

During the installation of the soil cover, vertical rebar pieces were installed as markers. The orange safety-capped rebar pieces were inserted throughout the soil cover areas so that the top of each piece was flush with the final grade of the soil cover (see Figure 3). Inspectors will use the markers to determine whether or not the 12 inches of soil cover is in place or if soil cover needs to be replenished (see Section 4 for further information on inspections).

Below is a conceptual profile view of the soil cover layer components. See Figure 2 for a plan view of the soil cover locations at the site.



[3] Parcel names and configurations are subject to change over time. The parcel names referenced in this O&M Plan are consistent with those used in the 2017 EDR (PIONEER 2017).

3.2 Stormwater Control Structures

New stormwater infrastructure (i.e., catch basins and associated piping) was added as part of the site cleanup activities and existing stormwater structures were preserved in place along the site perimeter (see Figure 2). Other structures may be added to the site depending on future development. Effective, fully-functioning stormwater infrastructure helps precipitation at the site drain properly, and maintains the integrity of the implemented soil cover and nearby hardscape areas by avoiding excessive pooling of water.

SECTION 4: INSPECTIONS

Inspections must be performed over the long term to ensure the constructed soil cover areas remain intact and in good condition. In accordance with WAC 173-340-400(1)(c) and WAC 173-340-410, these yearly (at minimum) inspections will constitute the confirmational monitoring to certify the constructed remedy continues to be protective of human health and the environment.

4.1 Personnel

Port personnel, City personnel, LOTT personnel or other designees contracted by the property owners will perform the site inspections. Personal protective equipment for soil contamination will not be required since the protective soil cover is in place and personnel will not be performing intrusive soil work. The inspection procedure is designed to be straightforward, and specialized training is not required.

4.2 Schedule/Frequency

Site inspections should be performed once per year at a minimum. The inspection frequency may increase over time if conditions change such that more monitoring is appropriate or necessary to ensure that the cover remains adequate (e.g., in the case of severe weather events potentially impacting the site, after pre-approved construction activities in/adjacent to soil cover areas, after site vandalism).

4.3 Inspection Areas

The site is divided into five inspection areas (see Figure 2). These inspection areas are different from the land parcels assigned by Thurston County and multiple parcels may be part of an inspection area. Inspection areas are intended to be more easily defined by intersections and landmarks than parcels, which don't always have boundaries visible to inspectors walking the site. All of the inspection areas, with the exception of Inspection Area 1, contain road and sidewalk segments. All roads and sidewalks located within inspection areas must be inspected.

4.4 Inspecting Soil Covers, On-Site Hardscape Areas, and Institutional Controls

4.4.1 Equipment Needed

The equipment needed to perform an inspection at the site is relatively minimal. Site inspectors should wear sturdy, closed-toe shoes and layers appropriate for weather conditions. Site inspectors should perform the inspection with the following items: clipboard and writing instruments, inspection forms, site map(s)/inspection area map (Figures 2 and 3), tape measure, and a camera. A handheld global positioning system (GPS) device may be desired to locate soil cover control points using coordinates found in Table 1 (for use with Figures 4 and 5).

4.4.2 Methodology

The inspection methodology will require a systematic approach of the inspector's walking pattern around and across each inspection area. Any observations, feature changes, or concerns regarding the

quality of physical features at the site must be documented by the inspector. In order to perform a thorough inspection, the specific recommended steps for each inspection area are presented in Appendix A and include the following:

- Walk the perimeter of the inspection area.
- Walk the inspection area in a grid-like manner, ensuring transects include passing over the soil cover control points (i.e. staked rebar with orange caps, see photo below) located throughout the soil cover areas. Control point locations are shown on Figures 3, 4, and 5 and the associated coordinates can be found in Table 1.
- Walk the sidewalks in order to look at both the sidewalks and streets within the inspection area (for cases where sidewalks and streets are included in an inspection area).
- Complete Inspection Form Table A1 and Table A2 (in Appendix A). Document features of concern in photos and approximate point locations on the inspection area map (see Figure 2).

Below is a photo featuring the top of a soil cover control point (the orange cap portion of the rebar stake).

For Area 3 (HOCM and Port Plaza), contaminated soil in soft-scaped area was excavated to 6 feet bgs and a geotextile membrane was installed prior to backfilling with clean soil. Contaminated soil in hard scape areas is assumed to be located immediately below the concrete/asphalt surface – even though in some places clean fill could have been placed as bedding/footing material for the hardscape.

The annual O&M inspection in Area 3 will proceed similar to other areas of the site:

- Walk the perimeter of the inspection area

- Walk the soft-scape area in a grid-like manner, on approximately 100 foot transects and document features of concern as indicated in Appendix A. Including photographs and approximate locations of features noted during the inspection).
  - The purpose of the soft-scape inspection is to ensure that there are no holes/openings/excavations that are greater than 6 ft bgs (Note: Clean soil extends to 6 ft bgs beneath soft-scaped areas in Inspection Area 3) which may allow exposure to contaminated soil located greater than 6 ft bgs in these areas.
- Walk the hardscape areas (e.g., sidewalks, streets, driveways, and parking areas) and document features of concern as indicated in Appendix A. Including photographs and approximate locations of features noted during the inspection).
  - The purpose of the hardscape inspection is to identify cracks or other openings in the hardscape which may allow exposure to the contaminated soil located beneath the hardscape surface.

4.4.3 Key Observations

The site inspector should observe any changes in conditions around the site since the previous inspection, evidence of activities that are in violation of ICs (ICs are outlined in Section 2), and indications of quality concerns in the physical site components described in Section 3. Specific features to observe regarding the soil cover, hardscape areas, and IC compliance are presented in the Inspection Form Table A1 in Appendix A.

4.5 Forms and Documentation

The Inspection Form and Annual Inspection Log are presented in Appendices A and B, respectively. The Inspection Form should be completed by the inspector as the inspection is actively occurring to accurately record details and observations for each inspection area. Immediately following inspection, the inspector should document (in the Annual Inspection Log) the inspection date and any recommended follow-up maintenance or actions required before the next annual inspection.

Completed forms must be kept as records by the Port, City, and LOTT, and the results of the annual inspection must be submitted to Ecology for their site records as well.

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SECTION 5: UTILITY, EXCAVATION, AND CONSTRUCTION ACTIVITY PROTOCOL

Utility, excavation, or construction activities (routine or non-routine) must be pre-approved and documented by the Port, City, and LOTT, as appropriate. Intrusive soil activities that occur beneath the 12-inch soil cover and geomembrane (i.e., within the depth zone containing soil contamination greater than CLs but less than RLs) must be pre-approved and documented by Ecology. Any future development at the site that may change the protectiveness of the soil cover and geomembrane will require Ecology written approval prior to development. Ecology shall review the proposed development and make a fact-specific determination on whether the proposal is for a substantial change that requires an amendment to the CAP or if it is a minor change that can just be documented in writing by amending this O&M Plan. For example, a change from soil cover to an asphalt cap would likely be a minor change. However, the addition of a building may be considered a substantial change, particularly if it involves the excavation and removal of soils from the site. Primary contacts to coordinate and receive potential approval with the Port, City, LOTT and Ecology are listed in Section 7.

In the case of intrusive soil work, a soil management plan will be required and will be kept on record by the Port, City, and LOTT (as appropriate) and submitted to Ecology. A soil management plan must detail the locations and depths of soil activities, the soil amount to be excavated and/or backfilled, source(s) of imported soil (if applicable), testing and disposal procedures for potentially contaminated soil, soil handling techniques and best management practices (BMPs) to be utilized, and the proper permits and standards to be implemented.

As mentioned in Section 1, changes made at the site must be presented in updated site maps and figures to ensure inspections and maintenance can be performed using accurate visuals that represent the site.

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SECTION 6: CONTACT INFORMATION

Tabulated contact information and examples of when specific people/organizations should be contacted can be found below. This contact information must be updated and supplemented as necessary, to ensure clear and accurate lines of communication. Emergency contact information is presented in the site-specific HASP.

Key Contact Information for the East Bay Site

Contact Person	Organization	Phone and Email	Examples of When to Contact
Rachael Jamison, Port Director of Environmental Programs	Port of Olympia	360-528-8020 Rachaelj@portolympia.com	Coordinating inspections/maintenance, reporting inspection findings or concerns, verifying permitted activities at the site (e.g., intrusive soil activities, utility work)
Jay Burney, Assistant City Manager	City of Olympia	360-753-8740 Jburney@ci.olympia.wa.us	Coordinating inspections/maintenance, reporting inspection findings or concerns, verifying permitted activities at the site (e.g., intrusive soil activities, utility work)
Lisa Dennis-Perez, Environmental Planning & Communications Director	LOTT Clean Water Alliance	360-528-5719 LisaDennis-Perez@lottonline.org	Coordinating inspections/maintenance, reporting inspection findings or concerns, verifying permitted activities at the site (e.g., intrusive soil activities, utility work)
Mohsen Kourehdar, PE, Ecology Site Manager	Department of Ecology	360-407-6256 mkou461@ECY.WA.GOV	Submitting documentation of inspections, identifying any CAP amendment requirements for changes and/or development at the site

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SECTION 7: REFERENCES

Ecology 2017. Draft Cleanup Action Plan - East Bay Redevelopment Site. March.

PIONEER 2017. Engineering Design Report for Cleanup Implementation - East Bay Redevelopment Site. June.

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Figures

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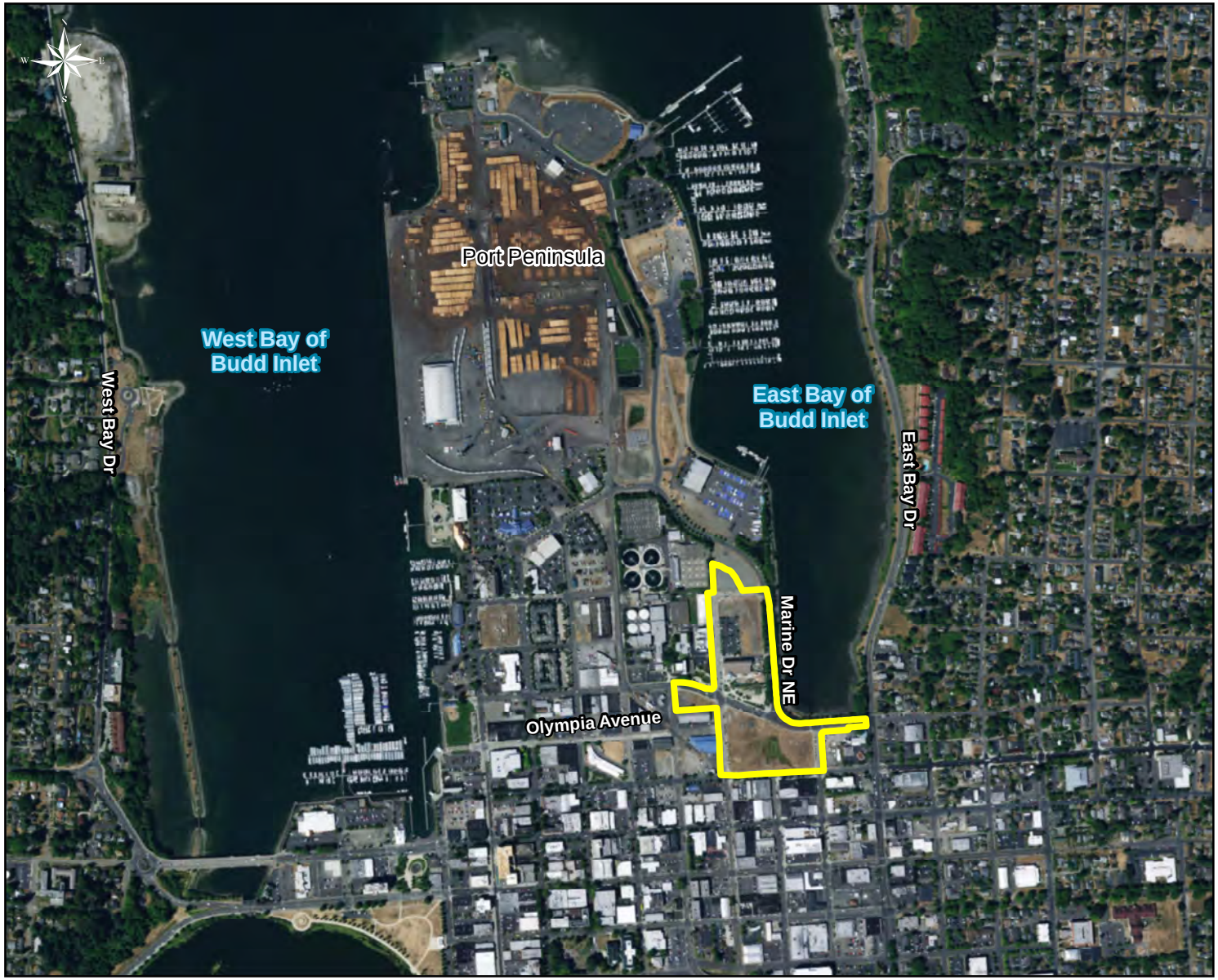

Legend

Site Boundary

0 500 1,000 1,500 Feet

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Vicinity Map
Long-term O&M Plan
East Bay Redevelopment Site

Figure 1

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Legend

- Inspection Area Boundaries
- Soil Cover
- 1982 Fill
- Stormwater Catch Basins

Notes:
- Inspection area boundaries are approximate.
- All roads and sidewalks located within the inspection area boundaries must be inspected.

0 100 200 300 Feet

PIONEER TECHNOLOGIES CORPORATION

Inspection Areas
Long-term O&M Plan
East Bay Redevelopment Site

Figure 2

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Legend

- Soil Cover Control Point
- Inspection Area Boundaries

0 125 250 375 Feet

PIONEER TECHNOLOGIES CORPORATION

Soil Cover Control Point Locations
Long-term O&M Plan
East Bay Redevelopment Site

Figure 3

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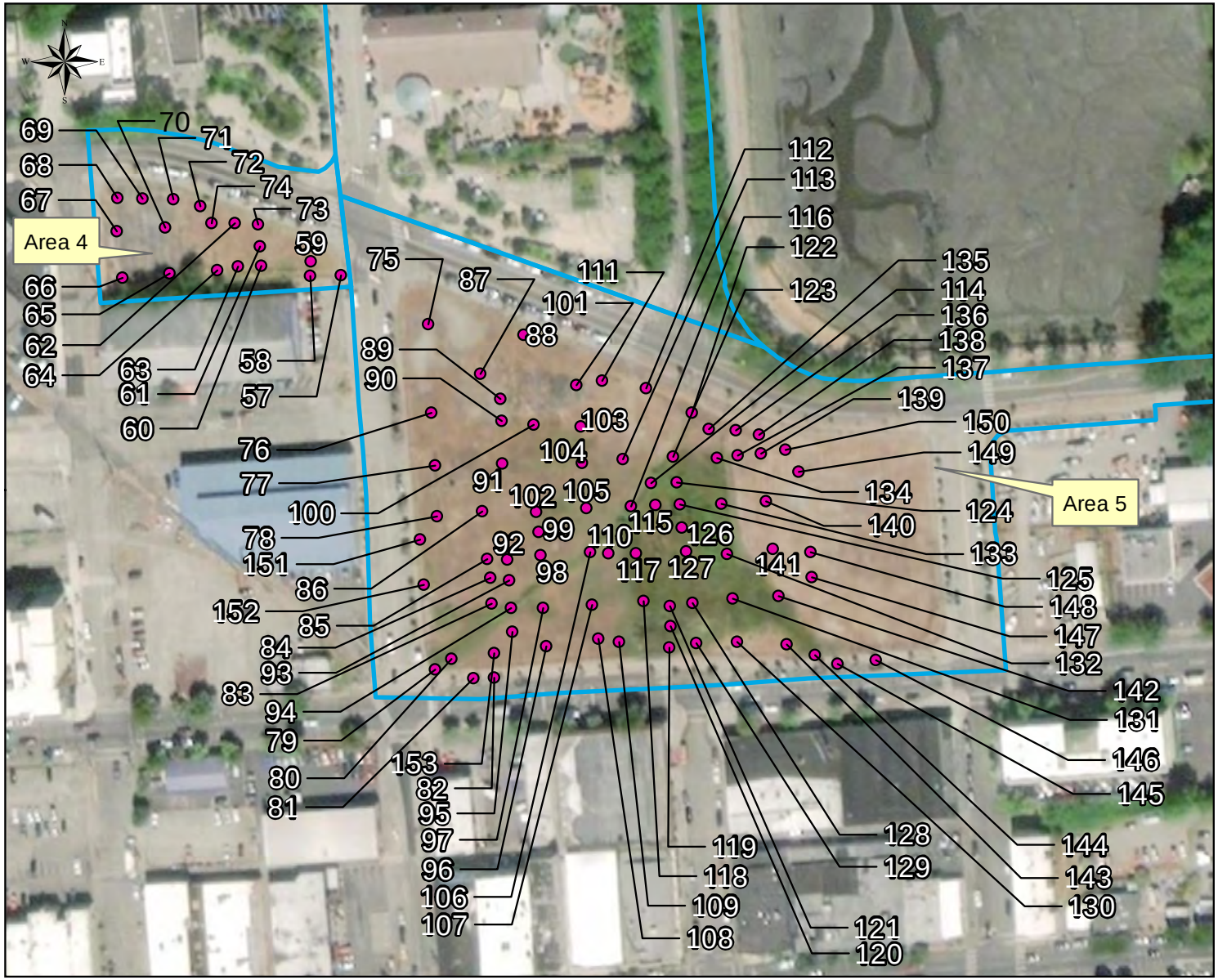

Legend

- Soil Cover Control Point
- Inspection Area Boundaries

Notes:
See point coordinates in Table 1 to find locations with GPS

0 75 150 225 Feet

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Numbered Control Point Locations for Inspection Areas 4 and 5
Long-term O&M Plan
East Bay Redevelopment Site

Figure 5

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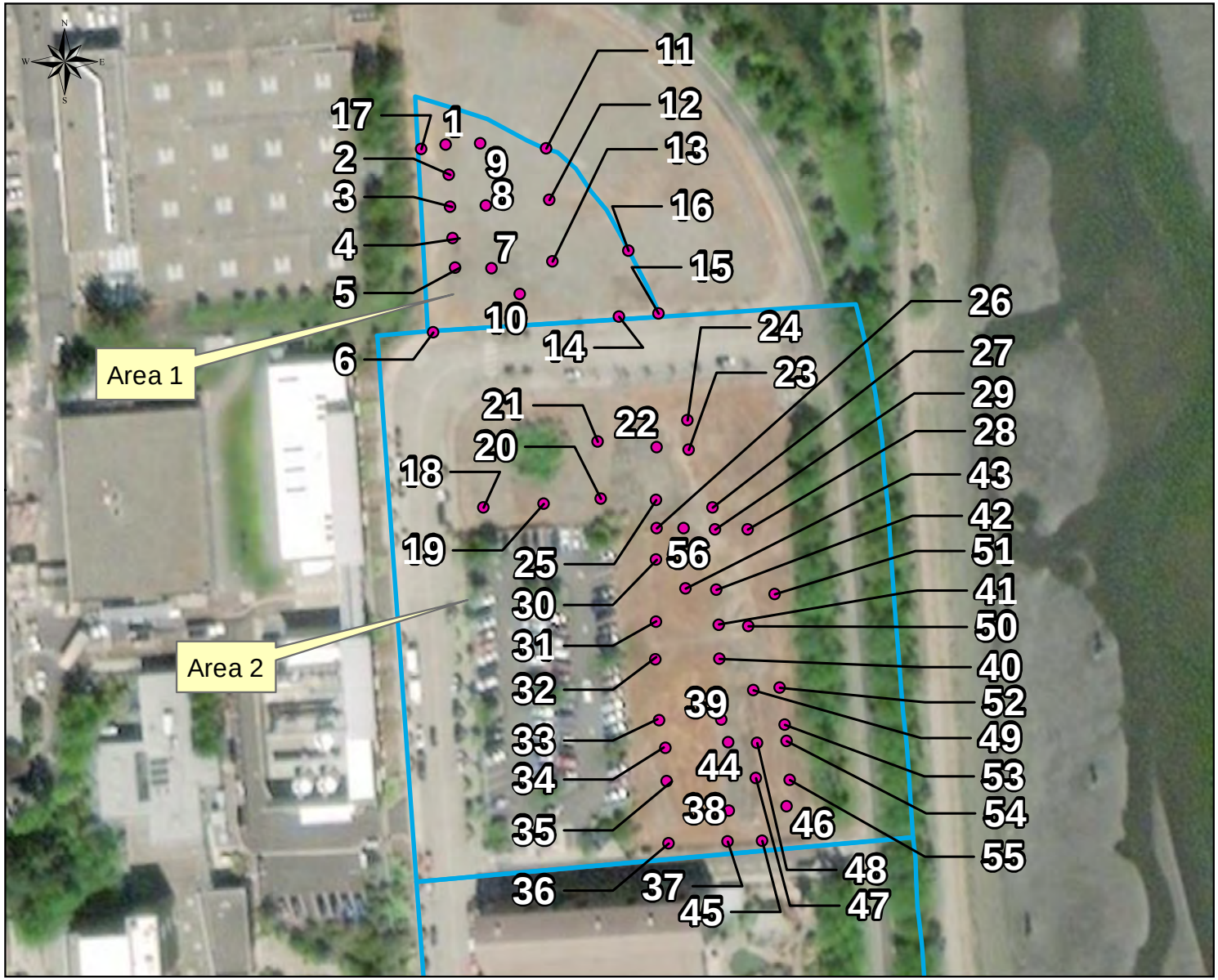

Legend

- Soil Cover Control Point
- Inspection Area Boundaries

Notes:
See point coordinates in Table 1 to find locations with GPS

0 50 100 150
Feet

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Numbered Control Point Locations for Inspection Areas 1 and 2
Long-term O&M Plan
East Bay Redevelopment Site

Figure 4

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Tables

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Table 1: Soil Cover Control Point Coordinates

Point Number[1]	Northing[2] (ft)	Easting[2] (ft)
Inspection Area 1		
1	635030.863062	1042914.82365
2	635006.819214	1042917.50839
3	634981.367477	1042918.54901
4	634955.962952	1042920.34243
5	634932.454293	1042922.34117
6	634881.196181	1042904.81284
7	634932.320938	1042951.49659
8	634982.167892	1042947.11037
9	635031.408449	1042942.54311
10	634911.855459	1042973.77169
11	635027.746831	1042994.94210
12	634986.626241	1042997.48756
13	634937.416971	1042999.91040
14	634893.743068	1043052.90745
15	634896.072781	1043084.21633
16	634946.086332	1043060.40987
17	635026.954625	1042895.19645
Inspection Area 2		
18	634741.444928	1042944.73207
19	634744.684546	1042992.69176
20	634748.873020	1043038.17182
21	634794.250163	1043035.70580
22	634789.552564	1043082.91960
23	634787.705216	1043108.33421
24	634811.307685	1043107.41593
25	634747.868103	1043082.21795
26	634725.281349	1043083.08949
27	634741.869622	1043127.60143
28	634723.932165	1043155.43745
29	634724.171798	1043129.31380
30	634699.957121	1043082.38590
31	634650.601993	1043082.61876
32	634620.521068	1043081.74813
33	634571.963424	1043085.11938
34	634550.341886	1043089.93463
35	634523.411121	1043090.69003
36	634474.058025	1043092.14890
37	634475.804291	1043139.23003
38	634500.048072	1043140.62257
39	634572.428083	1043134.39870
40	634621.093200	1043132.88902
41	634648.363227	1043132.17488
42	634676.341598	1043130.49820
43	634676.910706	1043105.80723
44	634554.773322	1043140.09296
45	634476.171679	1043166.81173
46	634503.627456	1043186.28676
47	634525.983501	1043161.66107
48	634554.241131	1043162.88605
49	634595.995064	1043160.09126
50	634647.026253	1043155.65122
51	634672.532576	1043176.98417
52	634597.895354	1043181.08635
53	634568.522499	1043184.94421

Table 1: Soil Cover Control Point Coordinates

Point Number[1]	Northing[2] (ft)	Easting[2] (ft)
54	634555.831152	1043186.36923
55	634524.432839	1043188.74258
56	634724.967272	1043104.58497
Inspection Area 4		
57	634143.791447	1042909.89838
58	634143.290768	1042876.96823
59	634158.839391	1042877.77791
60	634153.886580	1042825.07496
61	634174.463003	1042823.88371
62	634199.512433	1042796.81163
63	634153.094686	1042800.13847
64	634149.249498	1042778.12263
65	634146.160362	1042727.80655
66	634141.469533	1042677.87689
67	634190.786637	1042671.35688
68	634226.235486	1042672.05305
69	634225.360648	1042699.23266
70	634194.413579	1042723.08948
71	634224.518336	1042731.95443
72	634217.358058	1042760.10178
73	634197.662777	1042821.71560
74	634199.027566	1042772.27040
Inspection Area 5		
75	634091.660949	1043002.50003
76	633997.856922	1043005.90762
77	633941.780187	1043009.69305
78	633888.070446	1043011.46651
79	633725.086860	1043009.50016
80	633736.598492	1043027.13659
81	633716.023989	1043050.45246
82	633716.519234	1043072.24509
83	633795.254083	1043069.73114
84	633822.331643	1043068.42101
85	633842.834704	1043065.08668
86	633893.187730	1043059.45794
87	634039.514196	1043057.83089
88	634080.845215	1043103.73318
89	634012.312629	1043078.78260
90	633989.518291	1043079.99843
91	633943.997706	1043080.88239
92	633842.189065	1043086.05310
93	633819.734191	1043088.21095
94	633790.511453	1043090.20147
95	633765.285664	1043091.66684
96	633750.060973	1043127.95329
97	633790.872979	1043124.32962
98	633846.309008	1043121.44888
99	633871.403297	1043119.64326
100	633985.063234	1043114.64137
101	634027.247874	1043159.91367
102	633892.336904	1043116.89297
103	633983.248781	1043164.00099
104	633944.829567	1043165.89116
105	633896.836576	1043170.29734
106	633849.636976	1043174.41508

Table 1: Soil Cover Control Point Coordinates

Point Number[1]	Northing[2] (ft)	Easting[2] (ft)
107	633793.880192	1043176.62116
108	633758.132635	1043182.73593
109	633754.655776	1043205.23855
110	633848.406753	1043193.84028
111	634032.090375	1043187.04406
112	634023.766228	1043233.85798
113	633948.562955	1043208.88859
114	633923.570426	1043239.28251
115	633899.627625	1043243.38173
116	633898.485883	1043217.97041
117	633848.328702	1043223.04237
118	633797.689210	1043231.03006
119	633748.891054	1043258.63769
120	633770.969249	1043259.94173
121	633792.844553	1043258.81032
122	633997.695194	1043282.30728
123	633951.552640	1043262.30314
124	633924.058769	1043266.41559
125	633900.502870	1043269.63578
126	633875.837243	1043271.90913
127	633850.609794	1043276.45200
128	633796.221651	1043283.29232
129	633753.461559	1043286.94925
130	633754.551169	1043330.20701
131	633800.512962	1043325.74132
132	633847.657053	1043319.43594
133	633901.341752	1043313.31650
134	633950.221870	1043308.85750
135	633980.502422	1043300.29702
136	633979.399694	1043329.04044
137	633952.786201	1043331.09758
138	633974.387837	1043353.42064
139	633954.499553	1043355.75412
140	633904.067722	1043360.82502
141	633853.342418	1043368.23633
142	633803.477138	1043374.03357
143	633752.202520	1043382.77474
144	633740.711229	1043412.71613
145	633731.222803	1043436.83480
146	633735.204751	1043477.84381
147	633823.345722	1043409.69197
148	633849.743051	1043408.46851
149	633935.167192	1043395.79562
150	633958.390077	1043381.79887
151	633863.186775	1042993.85552
152	633815.525006	1042997.89620
153	633742.531042	1043072.31846

Notes:

1. See corresponding Figures 4 and 5
2. Washington State Plane South coordinate sytem

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Appendix A

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East Bay O&M Inspection Checklist and Form

Inspection Area: _____

Inspector (Name, Company/Organization): _____

Date: _____

Current Weather: _____

Any Recent Severe or Uncharacteristic Weather Events: _____

Inspection Guidance Checklist:

☐ Walk the perimeter of the inspection area.

☐ Walk the inspection area in a grid-like manner, ensuring transects include passing over the soil cover control points (i.e. staked rebar with orange caps) located throughout the soil cover areas.

☐ Walk the sidewalks to observe both the sidewalks and streets (for cases where sidewalks and streets are included in inspection areas).

☐ Complete Table A1 and Table A2 (as needed) of this inspection form, while documenting changes or features of concern in photos and as points on a map (see Form Instructions below).

Form Instructions: Complete Table A1 while traversing the specific inspection area. Complete Table A2 to record specific changes or features of concern. Document specific features with photographs and mark the approximate locations with numbered points (correlating with Table A2 numbering) on a copy of the site map to be submitted with Tables A1 and A2.

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Table A1: Checklist of Potential Observations of Concern in Inspection Areas

Potential Feature/Observation within Inspection Areas	Observed in the Following Areas?[1]									
	Inspection Area 1		Inspection Area 2		Inspection Area 3		Inspection Area 4		Inspection Area 5	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Soil Cover (Softscape) Areas										
Soil Cover Depleting or Sinking at Control Points (soil cover no longer flush with top of rebar/colored cap)[2]										
Geotextile Fabric Visible										
Erosion at Edges of Soil Cover										
Evidence of Animal Activity (digging, burrowing, etc.)										
Evidence of Large Plant Growth with Potential to Damage Geotextile with Root System										
Evidence of Poor Water Drainage (pooling, channel formation, etc.)										
Holes or Cracks (1 inch or greater in diameter or width)										
Missing or Dying Vegetation (if area previously vegetated)										
Other (please describe in notes)										
Hardscape Areas										
Crumbling Edges of Hardscape Material										
Holes or Cracks (1 inch or greater in diameter or width)										
Indentations or Warping										
Evidence of Poor Water Drainage (pooling)										
Other (please describe in notes)										
Institutional Controls										
Evidence of Unplanned/Undocumented Excavation or Construction Activity										
Evidence of Supply Wells or other Groundwater Use										
Evidence of Groundwater Discharge										
Evidence of Changes/Damage to Stormwater Control Structures										

Notes:

1. Document specific details regarding findings or concerns in Inspection Areas in Table A2.
2. Measure and record the difference in inches between the top of the rebar and the surface of the soil cover at a specific control point location if soil cover depletion/sinking is noted.

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Table A2: Documentation of Specific Findings or Concerns in Inspection Areas

Number (Assigned to Map)	Detailed Description of Finding/Concern	Is Action Recommended? (repair, replacement, monitoring, measurement, more frequent inspections, etc.)	Photo Numbers or Descriptors
1			
2			
3			
4			
5			

Number (Assigned to Map)	Detailed Description of Finding/Concern	Is Action Recommended? (repair, replacement, monitoring, measurement, more frequent inspections, etc.)	Photo Numbers or Descriptors
6			
7			
8			
9			
10			

Additional Notes/Observations:

Appendix B

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East Bay O&M Annual Inspection Log

Date of Inspection	Inspector (Name, Company/Organization)	Any Follow-up Maintenance or Action Recommended (before next Annual Inspection)?	Notes

Notes:

1. Ensure that the East Bay O&M Inspection Checklist and Form is completed for each inspection area during each annual inspection.
2. Retain this form for recordkeeping purposes.

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