



February 11, 2022
Project No. 8014.01.76

Dan Hafley
Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Annual Site Activity Summary Report—2021
Zidell Waterfront Property, 3121 SW Moody Avenue, Portland, OR
ECSE No. 689

Dear Dan Hafley:

On behalf of ZRZ Realty Company, Zidell Marine Corporation, and Tube Forgings of America, Inc. (collectively referred to in this document as Zidell), Maul Foster & Alongi, Inc. (MFA) has completed an assessment of the overall condition of the Zidell Waterfront Property (site) upland, bank, and in-water remedy. Remedy monitoring and reporting requirements are referred to from the Environmental Management Documents letter (MFA, 2018a) including the site Operations, Monitoring, and Maintenance Plan and the Upland Site Management Plan (MFA, 2013; 2018b). The assessment included a compilation of information pulled from multiple inspection reports provided by various inspection parties. The reporting period for this submittal is the 2021 calendar year, for which required monitoring included upland cap visual inspection and visual inspection of the bank and shore.

SITE CONSTRUCTION

Zidell has prepared plans and is permitting for work in 2022 to extend the bank repair work that was constructed on the site in 2018. The bank repair work is planned to take place between elevation 10 and 18 feet (City of Portland vertical datum) to create a continuous section of fortified bank in the downstream reach. The repair work is described in a DEQ-approved work plan and the permit application is under consideration by the U.S. Army Corps of Engineers. MFA will provide full-time oversight, construction quality assurance, and documentation of the work. The contractor will place rock materials by hand, which will be delivered to the work area using haul trucks. A temporary access road will be constructed beneath the Tilikum Crossing to provide access for equipment. A construction completion report will be submitted to DEQ to document work.

INSPECTIONS AND MONITORING

Site inspections and monitoring were completed to record conditions of the bank, sediment, and upland caps and to comply with regulatory requirements. The following tasks were completed in the calendar year:

- The landscape contractor inspected riverbank vegetation to prepare for growing-season landscape-management planning.
- A bathymetric survey of the sediment cap was planned for the ten-year cap monitoring event in 2021. Water elevations in the Willamette River were unusually low for the calendar year and did not reach adequate depth to perform a bathymetric survey. During the low water season in July, an aerial survey was conducted of the exposed cap areas. A hydrographic survey will be collected to supplement the aerial survey once water elevations are sufficient to collect at least 25 feet of horizontal overlap. The bathymetric survey will include all cap and river bottom topography below an approximate elevation of 6 feet (City of Portland Vertical Datum),¹ extending approximately 50 to 200 feet beyond the as-built cap boundary to the east. The bathymetric survey is anticipated to occur during higher water conditions in early 2022.
- Natural recovery monitoring was planned for May 2021; however, low water levels throughout spring and summer prevented access to several of the sampling locations. Samples were collected in November 2021 when water conditions improved. Reporting will be submitted in early 2022.
- MFA completed the annual site inspection during the third quarter, consistent with previous years. Conditions encountered during the annual inspection were compared to the previous monitoring report conditions to identify changes and progress at the site. Inspections and reporting were completed consistent with the requirements of the site Operations, Monitoring, and Maintenance Plan and the Upland Site Management Plan. The inspection noted the following:
 - Bank vegetation above elevation of 16 feet is very dense along the slipway reach. A gap in the vegetation immediately above the top of the rock armor was noted, but there was no significant erosion of the soil cap. A vegetation gap immediately above the top of the rock armor was observed in the south bridge reach (at the transition to the slipway). Vegetation in the middle bridge reach and north bridge reach was generally dense in all areas above the rock armor. Vegetation coverage in the downstream reach is dense except as noted in erosional areas between elevation 10 and 18 feet (see below). Vegetation coverage on the bank area underneath the Tilikum Crossing bridge envelope has decreased compared to the previous inspection and has areas of minor erosion where water drips from the overhead bridge structure. Moderate vegetative wear and tear is present along human-made paths in certain areas under the Tilikum Crossing. The 2018 repair areas are well established and

¹ City of Portland Vertical Datum equal to National Geodetic Vertical Datum 29 +1.375 feet, and U.S. Geological Survey Morrison Bridge river gauge +2.1 feet.

stable. Additional live stakes installed in 2018 on lower portions of the bank have become established. Some stressing was noted due to persistent hot and dry conditions in 2021. Overall, vegetative coverage is good.

- New or increased bank cap thinning and/or erosion was noted in the downstream reach at several locations north of the Tilikum Crossing. Erosion was identified between elevations of 10 to 15 feet, with a majority of the erosion occurring from STA 24+00 to 26+00. Existing dense vegetation (willows, shrubs) is maintaining some stability, though exposed rooting is visible at several erosion locations in the downstream areas of the bank where additional repair is planned in 2022. Rock armor over the sediment cap appears to be in good shape and stable. Rock armor that was placed in 2018 repair areas appears to be in good condition and is stable. Habitat gravel on the sediment cap and repair areas has remained stable. Vegetation in the 2018 repair area has become dense and covers most areas of rock armor.
- The greenway cap south of the slipway is smooth, with no visible erosion. The greenway cap to the north of the slipway is generally smooth with no visible erosion. Grass vegetation is generally well established, with areas of thinner coverage to the north of the Ross Island Bridge. Site activity resulted in some spots of bare soil, but there was no visible erosion. Grass coverage north of the Tilikum Crossing to STA 21+50 is dense then slightly thinner with minor bare spots again further north. The grass coverage in this area appears to have improved since the previous inspection.
- The sediment cap is in good condition. Sediment accumulation was observed in the slipway, in the shallow areas of the cap beneath the Tilikum Crossing, and over flat portions of the downstream reach cap. Habitat gravel continues to remain generally in place with minor shoaling from tidal influence and waves. No additional areas of exposed rock armor are visible compared to the 2020 site inspection.
- The upland cap west of the greenway is in good condition. No changes to the asphalt or gravel caps were observed. The barge building interior is secured and was not accessible during the inspection.
- The stormwater infiltration facility has dense growth along its slopes and bottom.

The full inspection report including a photographic log of site conditions is attached.

SITE MAINTENANCE

Maintenance activities on the Zidell consisted of invasive vegetation management and weeding by a landscape contractor. Zidell treated and/or removed butterfly bush, thorn apple, and Himalayan blackberry.

SAMPLING

Sediment samples were collected in November for the ten-year natural recovery monitoring event. Sample results will be summarized in a report to be submitted to DEQ in the first quarter of 2022.

No work related to institutional controls was performed at the site in 2021.

OTHER SITE ACTIVITY

Zidell continues to monitor the establishment of camps (by homeless persons or transients) on the site and has cleaned up several camp areas in coordination with the City of Portland police department, neighboring property owner Oregon Health & Science University's security department, and the Oregon Department of State Lands (DSL). The DSL 2018 notice of camping ban on the state's property has been an effective enforcement tool, allowing Zidell to post trespassing notices and have campers removed from the site.

2022 PLANNED ACTIVITIES

The following activities are planned for 2022:

- Weeding and vegetation maintenance
- Perform habitat monitoring and submit report
- Submit physical cap monitoring (bathymetric survey) report
- Implement additional downstream reach bank repair
- Monitoring of downstream reach bank repair
- Submit natural recovery monitoring report
- Perform annual site inspection
- Prepare annual summary report

SUMMARY

The bank, sediment, and upland caps are in good condition with the exception of erosion areas on the lower bank in the downstream reach, which will be addressed in 2022. Repair work completed in 2018 is stable and well vegetated.

Dan Hafley, Oregon DEQ
February 11, 2022
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Project No. 8014.01.76

Sincerely,

Maul Foster & Alongi, Inc.



Jacob Faust, PE
Senior Engineer



Erik Bakkom, PE
Principal Engineer

Attachments: Limitations
2021 Annual Site Inspection Summary

cc: Kathryn Silva, Zidell Companies
Alan Park, Zidell Companies

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

MFA. 2013. Bank and sediment remedy Operations, Maintenance, and Monitoring Plan. Zidell waterfront property, Portland, Oregon. Maul Foster & Alongi, Inc., Portland, Oregon. June 12.

MFA. 2018a. Letter (re: environmental management documents, Zidell waterfront property [ECSI No. 689]) to M. Novak, Oregon Department of Environmental Quality, from E. Bakkom, Maul Foster & Alongi, Inc., Portland, Oregon. April 24.

MFA. 2018b. Zidell Upland Site Management Plan. 3121 SW Moody Avenue, ECSI 689. Maul Foster & Alongi, Inc., Portland, Oregon. February 27.

ATTACHMENT

2020 ANNUAL SITE INSPECTION SUMMARY





MEMORANDUM

To: Kathryn Silva, ZRZ Realty
Alan Park, ZRZ Realty

Date: February 11, 2022
Project: 8014.01.76

From: Jacob Faust, PE

RE: 2021 Annual Site Inspection Summary

Maul Foster & Alongi, Inc., has prepared this monitoring event memorandum to provide the project team with a summary of observations for the October 15, 2021 inspection of the 3121 SW Moody Avenue property. This report was prepared according to the parameters summarized in the site Operations, Monitoring, and Maintenance Plan¹ and the Site Management Plan.²

SUMMARY OF FIELD ACTIVITIES

Visual monitoring was completed for the bank cap, visible (i.e., above water) near-shore sediment cap, and upland caps. The performance criteria described in the Operations, Monitoring, and Maintenance Plan and the Site Management Plan were used as a basis for observation and recording. Bank and sediment cap observations are referenced spatially to the bank and sediment cap baseline alignment, and upland cap observations are logged with descriptions of existing site features (see the attached figure). All elevations described in this document refer to the City of Portland vertical datum. Photographs taken to catalog observations and general views of the site are attached to this memorandum.

¹ MFA. 2013. Operations, Monitoring, and Maintenance Plan. Maul Foster & Alongi, Inc., Portland, Oregon, June 12.

² MFA. 2018. Site management plan. Maul Foster & Alongi, Inc., Portland, Oregon, January 31.

OBSERVATION SUMMARY

Details, including site conditions, of this monitoring event are as follows:

Inspectors	Jacob Faust, PE; Garrick Kalmeta, EIT
Quarter and Inspection	Annual Site Inspection
Date	Tuesday, October 15, 2021
Time	10:00 a.m.–2:00 p.m.
River Elevation (beginning–end)	2.9'–6.2' (City of Portland Vertical Datum)
Weather	Rain showers until 12:00 pm then partly sunny, 58° Fahrenheit, wind SW 4–8 mph
NOTES: ' = feet. mph = miles per hour. SE = southeast.	

A photographic log of this inspection event is attached.

Slipway Reach (STA: 0+00 to 3+00)

Greenway Cap

The Greenway Cap in the south slipway is smooth with no visible erosion exceeding performance criteria. Most of the grass is dense, providing approximately 100 percent coverage³.

Slipway Ramp

The ramp area is in generally good condition. Gravel cover is consistent, with some minor shifting occurring in the lower elevations above the Type C rock armor (elevation above 5 feet). Ground cover vegetation is established in upper elevations, and woody debris is scattered throughout. Sedimentation is visible over the in-water portions of the ramp.

A small area of reactive core mat was noted as visible in the 2020 inspection, the area was no longer visible and covered with gravel during the 2021 inspection.

Bank Vegetation

Bank vegetation above elevation of 16 feet as well as beneath the barge building is very dense. A small vegetation gap remains at the north entrance to the Slipway (STA 2+75) immediately above the rock armor; however, there is no notable erosion. Overall, vegetative coverage is good.

³ The inspector uses visual observation to qualitatively estimate coverage percentages. No quantitative measurements were taken during this inspection.

Bank Condition

No significant erosion was observed, and the bank appears stable.

Sediment Cap Condition

The sediment cap is in generally good condition. Sediment buildup was observed in the slipway.

South/Middle Bridge Reach (STA: 3+00 to 7+00)

Greenway Cap

The Greenway Cap vegetation is in good condition and providing approximately 90 percent coverage. Recent site activity had resulted in some spots of bare soil. There was no notable erosion.

Bank Vegetation

Bank vegetation above 16 feet in elevation is very dense and providing good coverage.

Bank Condition

Bank armor is in good condition, with no observed changes. Minor areas of bank erosion were observed between elevations of 15 and 18 feet (consistent with the 2020 inspection) in areas corresponding to the edge of the Ross Island Bridge.

Sediment Cap Condition

Sediment cap condition is generally good, with no erosion or other visible changes observed.

North Bridge Reach (STA: 7+00 to 11+50)

Greenway Cap

The greenway cap vegetation is in generally good condition and providing approximately 85 percent coverage. Recent site activity (public events) resulted in some spots of bare soil, but there was no visible erosion.

Bank Vegetation

Bank vegetation above elevation of 15 feet is very dense.

Bank Condition

No new bank erosion was observed above the top of the rock armor. Rock armor, including 2018 repair areas, appears to be in good shape and stable, with little movement or change compared to the 2019 site inspection.

Sediment Cap Condition

The sediment cap condition is generally good, with no erosion or elevation changes observed. Sedimentation was observed at the toe of bank slope.

Downstream Reach (STA: 11+50 to 27+00)

Greenway Cap

Grass growth is good over most of the greenway cap. The overall condition has improved compared to the 2020 inspection.

Bank Vegetation

Vegetation coverage is dense above elevation of 10 feet in most areas. On the bank area underneath the Tilikum Crossing bridge envelope, vegetation coverage has decreased compared to the previous inspection and has localized spots of minor erosion where water drips from the overhead bridge structure. The 2018 repair areas are revegetating vigorously through the newly placed rock armor, and live stakes installed on lower portions of the bank have become established. Some vegetative stressing was noted due to persistent hot and dry conditions in 2021.

On the lower bank (11- to 18-foot elevation) outside of 2018 repair areas, bank vegetation's condition and density appears to be similar to the 2020 inspection. However, more soil loss has occurred, which may during wet weather and high-water conditions through the wet season. Shrubs and willows on the edge of the erosional areas have exposed roots. Overall, vegetative coverage is good.

Bank Condition

The bank appears to be in good shape above an elevation of 10 feet up to STA: 19+50. Lower bank erosion has been noted from STA: 19+50 to 26+00 at various locations (consistent with the 2020 inspection) from 11- to 18-foot elevation, as shown in the photo log. New or increased bank cap thinning and/or erosion was observed in the downstream reach at several locations downstream of the Tilikum Crossing. Most areas experiencing increased erosion compared to the 2020 inspection are from STA 24+00 to 26+00. Existing dense vegetation is maintaining some stability, though exposed rooting is visible at several locations.

The 2018 repair areas appear to be stable, with vegetation well established. Habitat gravel on the repair areas appear to have remained on top of the rock armor.

Sediment Cap Condition

The sediment cap condition appears consistent with the previous inspection, with no notable changes. Significant sedimentation continues to be present over the shallow portions of the cap beneath the Tilikum Crossing.

Upland Cap Observations

The gravel cap appears in good condition. No changes to the asphalt cap were observed. Equipment and materials were removed from the operational areas following closure of barge building operations. The building's interior is secured and was not accessible during the inspection.

Other Observations

Live stakes planted in fall 2018 on the lower bank in the Downstream Reach appear to be growing well at most locations. The stormwater infiltration facility has dense growth along its slopes and bottom.

Debris (trash, clothing, etc.) from vagrant activity was observed at various locations on the bank; however, as a result of increased monitoring and security measures, the site is cleaner than during the 2019 and 2020 inspections.

RECOMMENDATIONS

MFA recommends the following for cap maintenance and monitoring:

- Complete planned bank repair below elevation 18 feet in areas of erosion downstream of the Tilikum Crossing. The 2018 bank repair continues to be effective, and each inspection conducted since implementation has found successive increases in vegetative establishment.
- Monitor erosion areas above the rock armor beneath the Ross Island Bridge. The bank appears stable compared to the 2020 inspection; however, changes could occur from severe weather events.
- Continue to monitor vegetation on the lower bank areas of the Downstream Reach for additional effects following the excessive heat and drought conditions endured in 2021.

Attachments: Limitations
Figure
Photographic Log

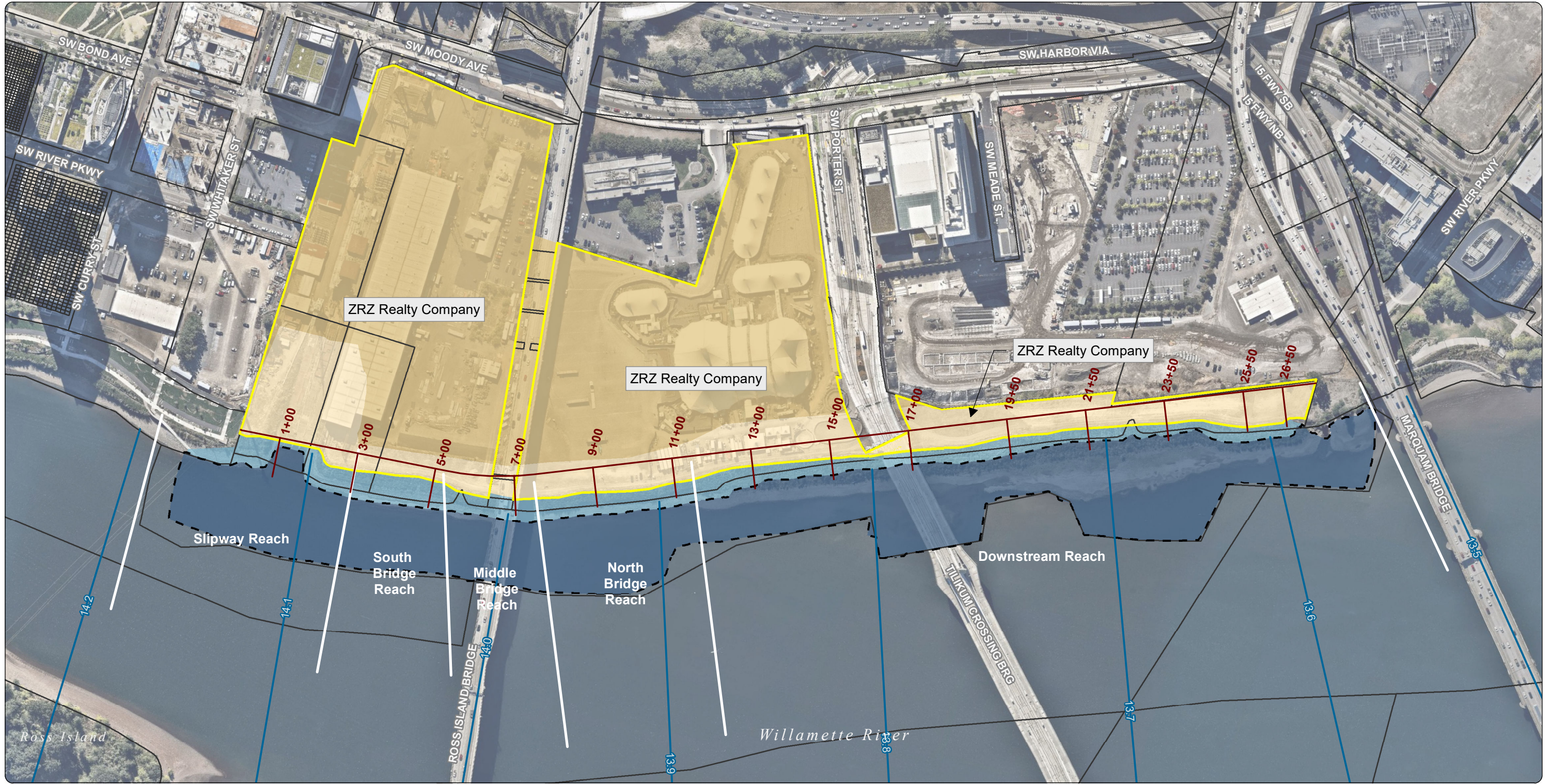
LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

FIGURE





Source: Aerial photograph obtained from Mapbox;
property boundary obtained from
survey (2011) conducted by Olson Engineering;
river miles are based on the FEMA Current
Effective Model.

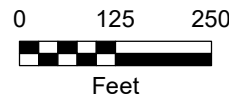


This product is for informational purposes and may not have been prepared for, or be suitable
for legal, engineering, or surveying purposes. Users of this information should review or
consult the primary data and information sources to ascertain the usability of the information.

Legend

- Sediment Cap Area
- Greenway Bank Area
- Greenway Upland Area
- Non-Greenway Upland Area
- Cap Boundary
- Monitoring Station
- River Mile
- Tax Lot Boundary
- ZRZ Realty Company Property Boundary

Figure
Site Features
ZRZ Realty Company
Portland, Oregon



PHOTOGRAPHIC LOG

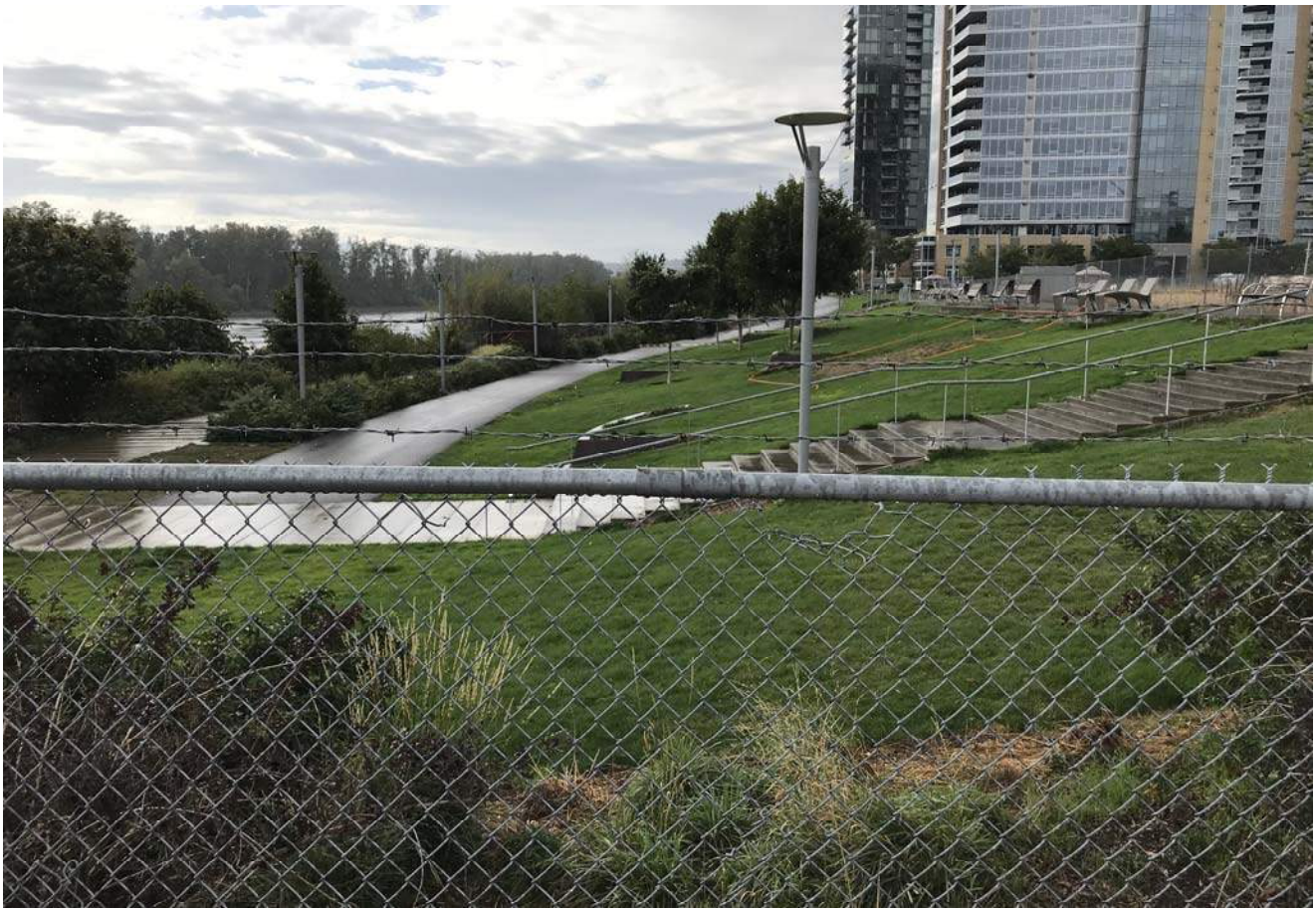




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Slipway ramp, looking east



Slipway ramp, looking east



Middle slipway ramp, looking east



Slipway ramp, looking west



Slipway ramp, looking northwest



Lower slipway ramp, looking east



Lower slipway ramp, looking upstream



Lower slipway ramp, looking downstream



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Area beneath Tilikum Crossing, looking east



Area beneath Tilikum Crossing, looking upstream



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City of Portland stormwater outfall 07b, looking northwest



City of Portland stormwater outfall 07b flow path



North sediment cap area, looking northwest



STA: 25+50 - Lower bank erosion and fire pit



STA: 25+00 - Lower bank erosion



STA: 24+00 - Lower bank erosion to approximate elevation 17'



Lower bank repair area (2018), vegetation stress



Sediment cap under Tilikum Crossing, looking southeast



Upland cap, northeast corner looking south



Upland cap, northeast corner looking southwest



Upland cap, northeast corner looking west



Upland cap, north edge looking east



Upland cap, north edge looking southeast



Upland cap, north edge looking south



Upland cap, north edge looking west



Upland cap, northwest corner looking east



Upland cap, northwest corner looking southeast



Upland cap, northwest corner looking south



Upland cap, west edge looking north



Upland cap, west edge looking northeast



Upland cap, west edge looking east



Upland cap, central corner looking west



Upland cap, central corner looking north



Upland cap, central corner looking northeast



Upland cap, central corner looking east



Upland cap, central corner looking southeast



Upland cap, Ross Island Bridge northwest corner looking north



Upland cap, Ross Island Bridge northwest corner looking northeast



Upland cap, Ross Island Bridge northwest corner looking east



Upland cap beneath Ross Island Bridge, looking west



Upland cap beneath Ross Island Bridge, looking east



Infiltration facility, north edge looking south



Infiltration facility, north edge looking southeast



Infiltration facility bottom, looking east



Infiltration facility bottom, looking northeast



Operational area, looking east



Operational area and office building, looking northwest



Operational area and office building, looking north



Operational area between barge building and office building, looking west



Operational area west of barge building, looking west



Operational area, looking west



Upland area, southeast corner of site looking west



Upland cap, southeast area looking west



Upland cap, southeast corner looking southeast



Upland, southeast corner looking southwest



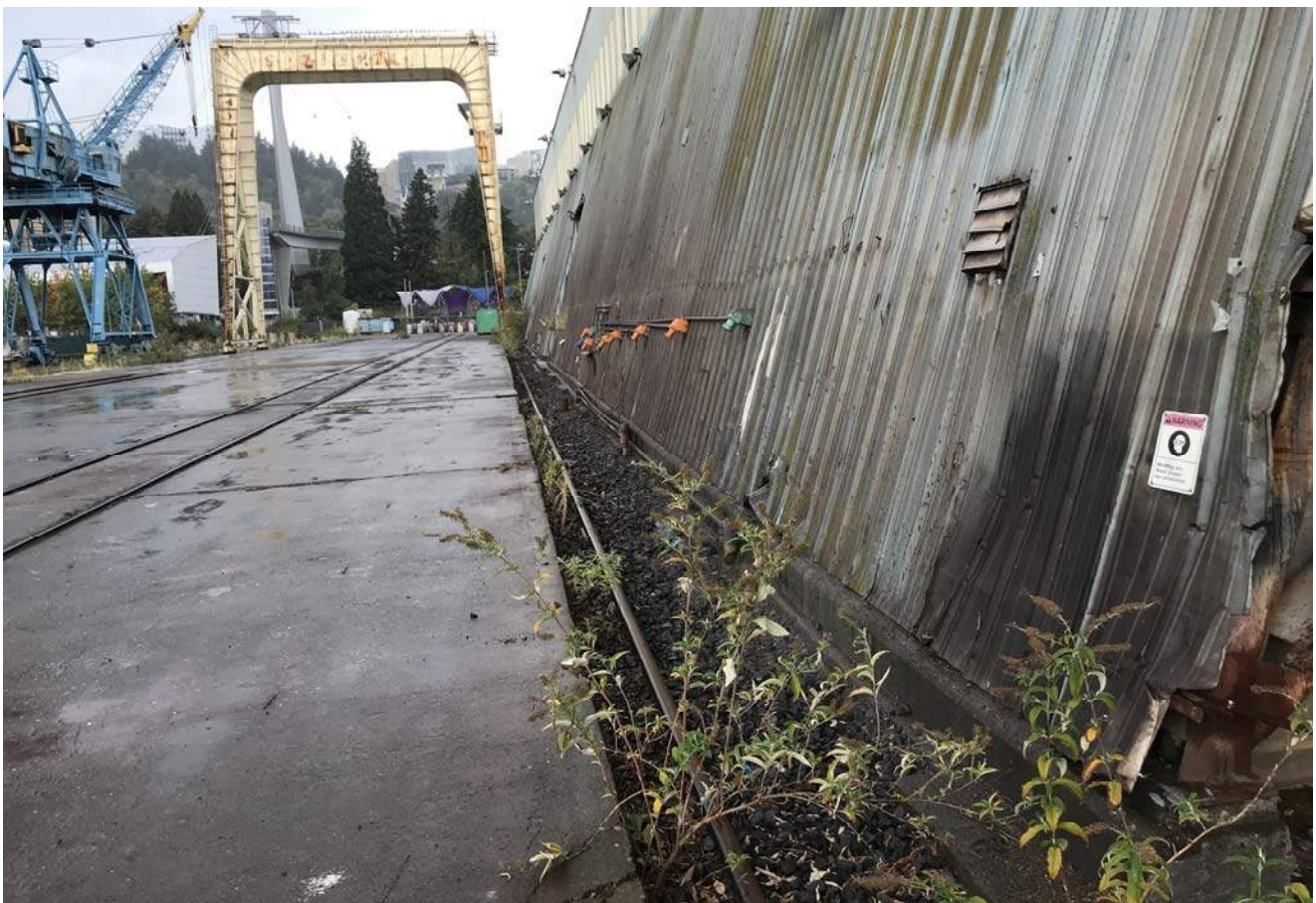
Upland, crane rails looking west



Upland cap, middle barge building looking north



Upland, barge construction area looking west



Upland, south face of barge building looking west



Upland, south face of barge building looking east