

Zidell Waterfront Remediation Project and the South Waterfront Greenway Development Plan

The South Waterfront Greenway Development Plan (December 2004) was produced by the City of Portland as a Master Plan for greenway development as South Waterfront properties are redeveloped. The ZRZ Realty Company (Zidell) Waterfront Remediation Project design team referred to the Greenway Development Plan (the Plan) during the remedial design process in order to incorporate the goals and visions of the Plan into the remedial design to the extent practicable. This summary presents relevant elements of the Plan (Plan page numbers are in parentheses) and how the Zidell remedial design responds to these elements.

Excerpts (some paraphrased) relating to ZRZ Realty Company (Zidell) Waterfront Remediation Project

The Greenway Development Plan (GDP) is an integrated and balanced design that combines the goals of creating new high-density urban community with the public desire to create habitat in the Willamette River. (p6)¹

The South Waterfront Greenway is a critical element in implementing the City's River Renaissance (RR) Vision. The RR Vision includes five themes, including: ensure a clean and healthy river system for fish and wildlife. (p10)²

Restoring the river bank – protecting the river (p15)

- A goal of the Plan is to plant the bank with native riparian plants, in natural plant communities.³
- Where there are opportunities, in-water work to improve fish habitat will be created and integrated into the overall design.⁴
- Riverbank grading and shallow water habitat have been proposed to maximize low-gradient slopes and shallow water habitat, especially in the north and south thirds of the greenway.⁵
- The area around the old Sheridan outfall cove has been envisioned as a cove, slough and offshore island to further enhance the extant in-water habitat for salmonids.⁶

Figure: Riverbank Habitat Opportunities. Zidell slipway to Marquam Bridge – regrade overly steep bank⁷

1 The ZRZ project remediates contaminated in-water habitat, and adds a substantial amount of native vegetation in the riparian zone.

2 The ZRZ remediation project ensures a “clean and healthy” system for fish and wildlife by remediating contaminants that are potentially harmful to fish and wildlife.

3 The ZRZ plan adds thousands of native plants in specific plant communities identified in the GDP.

4 The ZRZ plan will add clean in-water substrates to improve habitat conditions. In addition, there may be opportunities to add habitat elements such as boulder clusters or large wood.

5 The ZRZ design reduces steepness of the riverbank throughout the project and adds shallow water habitat area.

6 The slough and offshore islands concept has been demonstrated to probably not be feasible due to a net rise in the river flood elevation with a similar design concept.

7 Overly steep banks will be either regraded to a lower angle, or filled over (downstream reach) to provide

Figure: Section 1. includes offshore island, retained old pilings, shallow-slope riverbank with native plantings (ZRZ Downstream Reach)⁸

Figure: Section 2. includes re-graded bank, woody plants, overlook at top of bank (ZRZ Downstream Reach)⁹

Figure: Section 3. slipway looking north, includes concrete steps/terraces, overlook with seawall (?), native plantings (ZRZ Slipway Reach)¹⁰

Figure: Section 4. slipway looking south, includes public hardscaped plaza, ship's bow, some native plantings¹¹

APPENDICES

Appendix A. GDP Goals (met by the ZRZ Remediation Design)

Ensure a clean and healthy river for fish, wildlife and people.

“...revitalize the Willamette River as a healthy natural system....”

Essential themes of goals:

6. sustainability and environmental enhancement¹²

7. response to opportunities¹³

Appendix F. Executive Summary, Natural Resource Enhancement Strategy Memorandum Greenway Renaturalization Goals

“Within the context of existing conditions and the constraints imposed by the highly altered state of the lower Willamette River, the design principle of increasing biological diversity and ecological function has been adopted by the consulting team to guide design development.”¹⁴

Renaturalization goals:¹⁵

- increase diversity of habitat types along the Greenway;
- increase structural and vegetative diversity within Greenway habitats;
- create and enhance habitats that support native species while minimizing non-native species;

lower angle slopes.

8 The downstream reach, where this section is located, will have a lower gradient bank and extensive native plantings to the lowest elevation where woody vegetation will survive. Agencies prefer removal of treated wood pilings; this will be done. The off-shore island concept has been determined not to be feasible.

9 The ZRZ design allows for an overlook if desired as part of future greenway development; banks will be lower gradient with native woody plants.

10 This concept is not precluded by the remedial design.

11 This concept is not precluded by the remedial design.

12 The ZRZ design team has identified sustainability goals for project implementation and habitat enhancements for riparian and aquatic areas.

13 The design has identified opportunities for habitat enhancement and included those that are practicable.

14 The ZRZ remedial design team has incorporated similar design principles.

15 The ZRZ remedial design achieves all of these goals with the exception of off-channel habitat, which is not feasible at this site.

- provide, where feasible, off-channel habitat, such as coves and tributary mouths;
- protect and improve water quality within the Willamette River;
- provide stable riverbanks where needed to protect existing and future urban development and infrastructure, significant natural resources, and public safety;
- provide safe public access to the river where appropriate; and
- enhance the aesthetic qualities of the river's edge.

Opportunities to create or enhance habitat (the following are achievable at ZRZ)

- Shallow water and fringing wetland
- floodplain marsh
- floodplain shrub
- ash/willow lowland
- mixed coniferous/deciduous forest
- upland shrub

Proposed Habitat Elements

- enhance shallow water habitat – add gravel substrate with slopes of 5H:1V and flatter, develop topographic variations¹⁶
- add gravel bars at the channel margin¹⁷
- preserve and enhance beaches (7H:1V slopes)¹⁸
- develop wave attenuation features (gravel bars, pilings, anchored root wads, others)¹⁹
- enhance coves to provide off-channel micro environments²⁰
- preserve and enhance woody debris traps (existing pilings)²¹
- stabilize existing over-steep slopes to 3H:1V to reduce threat of erosion and release of contaminants and to provide a condition sufficiently stable to allow bioengineering structures to work effectively²²
- enhance riparian edges to include tree and shrub plantings²³
- develop upland tree groves²⁴
- excavate lowlands to create willow/ash groves²⁵

16 Incorporated into Downstream Reach design

17 Proposed as optional component in Downstream Reach; City/FEMA flood elevation issue, and Portland BES has concluded this concept does not work

18 There are very limited beach areas of this type in the ZRZ project area; however, clean substrate at a slope of 5H:1V is proposed for the downstream reach below elevation +10 feet CoP.

19 Some of this can potentially be added to the Downstream Reach design

20 The existing topographic depression at the abandoned City and ODOT outfalls location is designed for a specific plant community, and will provide small refugium during high flows

21 Resource agencies prefer that old treated pilings be removed; removal of approximately 2,160 pilings is planned

22 Slopes in the Slipway and Bridge Reaches will be reduced to 2H:1V or 3H:1V and biotechnical engineering techniques will be used above armor (+15 ft and higher); slopes in the Downstream Reach will be filled to achieve 3H:1V above +10 feet and 5H:1V below +10 feet

23 Approximately 212 native trees and 15,110 native shrubs will be planted to replace the existing 59 trees and 117 shrubs; plantings in the approximately 1,500 feet long Downstream Reach will extend down to about +10 feet elevation

24 Groves of trees are shown in the ZRZ landscaping plan

25 This is being discussed with Portland BES as a separate habitat project; however, very high costs and environmental risks are a major factor to consider

- retain some of the existing conifers to provide various functions²⁶
- encourage groundwater recharge in area where contamination is not a major factor²⁷
- employ myco-remediation techniques for certain types of soil contamination²⁸
- treat rainwater to enhance water quality and provide water needed for habitat areas²⁹
- develop river access in clearly identified but limited locations³⁰
- construct elevated overlooks³¹
- align pedestrian and bicycle trails in a curvilinear manner³²

Appendix I. Proposed Plant List and Soils Development Concept (the ZRZ design team used this list for development of the project landscaping plan)

[prepared for ZRZ Realty Company by NorthWest Ecosystem Services, Inc. February 2010]

26 None exist on the ZRZ site; however, conifers are included in the landscaping plan

27 Will be included in future site redevelopment planning

28 Is not part of the remedial action design

29 Will be included in future site redevelopment planning

30 Will be included in future site redevelopment planning

31 Will be included in future site redevelopment planning

32 Will be included in future site redevelopment planning