

# Skamania County Community Development Department

Skamania County Courthouse Annex  
Post Office Box 790  
Stevenson, Washington 98648  
509 427-3900 FAX 866-266-1534

## NOTICE OF INTENT DETERMINATION OF NON-SIGNIFICANCE

**DESCRIPTION OF PROPOSAL:** Lower Rock Creek Channel Conveyance Maintenance and Mitigation Project: Streambed material was removed to increase streambed conveyance caused by catastrophic event from the Piper Road Landslide and flooding event in February 2007 and in September 2007. Future maintenance dredging of the channel near the Rock Creek Bridge to manage flood risk to critical public infrastructure will continue as required (2011-2015). Work will include construction of compensatory mitigation associated with past and future dredge work along the Stevenson waterfront.

**PROPONENT:** Skamania County  
Public Works Department  
PO Box 790  
Stevenson, WA 98648

**FILE NO.** SEP-10-09

**LOCATION OF PROPOSAL:** All lands that are within Rock Creek from the SW ¼ of the SW ¼ of Section 36 of Township 3, Range 7, W.M., to the outlet into Rock Cove, and Port of Skamania County lands on the Stevenson Waterfront located in Section 1 of Township 2 North, Range 7 East, W.M.

Skamania County is the lead agency.

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency, a copy of which is enclosed.

This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal for 14 days from the publication date below. All comments must be submitted to the Planning Department within 14 days from the publication date listed below, by 5:00 p.m. This DNS may be withdrawn, modified, reconsidered or replaced with a Mitigated Determination of Non-Significance (M-DNS) or a Determination of Significance (DS) if the responsible official determines that mitigation or significant adverse impacts are likely.

Publication date: September 15, 2010

Karen A. Witherspoon, AICP, Director

## **APPEALS**

There shall be no administrative appeals of environmental threshold determinations. Failure to comment on this Notice of Intent shall be determined to deny a party standing to appeal the final determination with the underlying government action to a court of competent jurisdiction.

**WAC 197-11-960 Environmental checklist.**

ENVIRONMENTAL CHECKLIST

*Purpose of checklist:*

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

*Instructions for applicants:*

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

*Use of checklist for nonproject proposals:*

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

**Lower Rock Creek Channel Conveyance Maintenance and Mitigation Project** ✓

2. Name of applicant:

3. Address and phone number of applicant and contact person:

**Skamania County Public Works , Attn: Larry Douglass  
PO Box 790  
Stevenson, WA. 98648**

*Port of Skamania* ✓

4. Date checklist prepared:

**May 10, 2010**

*City of Stevenson* ✓

5. Agency requesting checklist: **Ecology**

6. Proposed timing or schedule (including phasing, if applicable):

**2006-2010 Maintenance, 2011 Maintenance and Mitigation Work, 2011-2015 Maintenance work as flood events require** ✓

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

**Yes, work will include future maintenance dredging of the channel near the Rock Creek Bridge to manage flood risk to critical public infrastructure. Work will also include construction of compensatory mitigation associated with the past and future dredge work.**

*through 2015* ✓

RECEIVED  
SKAMANIA COUNTY

SEP 07 2010

COMMUNITY DEVELOPMENT  
DEPARTMENT

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

**A biological assessment was completed for the project and resulted in a Biological Opinion being issued by National Marine Fisheries.** ✓

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

**The project has received a State HPA, and approval by the COE pending issuance of Water Quality Certification from Ecology.** ✓

10. List any government approvals or permits that will be needed for your proposal, if known.

**Hydraulic Project Approval, COE Section 404 Authorization, SEPA Approval, Shoreline Exemption.**

**City of Stevenson ✓  
Critical area permit  
maybe required at future  
time.  
Check  
w/city.**

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

**Streambed material was removed to increase streambed conveyance caused by a catastrophic event from the Piper Road Landslide and flooding event in February 2007. Within one month of the conveyance work, it was at or nearly at the pre-existing levels within the creek. A second excavation in September 2007 created temporary storage for the materials flowing downstream. The channel bed has continued to fill in with sediment, eventually the creek will not be able to pass under the Rock Creek Bridge. It is anticipated annual maintenance will be required to keep the flows going under the Rock Creek Bridge. Project includes offsite mitigation to compensate for past and future dredge action.** ✓

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

**From Vancouver – drive east on SR-14. Project is located just inside Stevenson, Washington. SR-14 passes over the creek. Work area is on the left. Mitigation area is along Stevenson waterfront on property owned by the Port of Skamania.** ✓

TO BE COMPLETED BY APPLICANT

EVALUATION FOR  
AGENCY USE ONLY

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous,  
other . . . . .

b. What is the steepest slope on the site (approximate percent slope)?  
100%



  
Variable

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.



*Gravels and Sand, transported from Piper Slide via Rock Creek flows*

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.



*The entire work area is composed of unstable soil, transported by creek flows*

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

*Work consists of dredging and relocating creek bed materials. Some of it will be replaced along the shoreline in the Columbia River. Volume includes up to 70,000 cy annually.*



f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

*Work is located within the river channel, which depending on location is either in deposition or erosion. The material was deposited during a rapid shoaling event caused by high flow.*

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

*None*



h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

*Excavators will not actively operate in the water, however may transit across it to work areas or to build work pads. To minimize impacts we are proposing to leave a sediment berm between the moving water and the excavated materials to minimize siltation downstream of the work areas the berm will be naturally removed during the next high water event. We are proposing to over excavate and create additional storage capacity in the excavated areas thus reducing the maintenance dredge frequency. This method was cleared with the WDFW biologist prior to the second dredging and proved very effective at minimizing water quality impact.*



a. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

*Equipment exhaust emissions during construction. Dust may be generated during summer handling of materials; however material is generally wet and free of dust during dredge operation.*



b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

*No*



c. Proposed measures to reduce or control emissions or other impacts to air, if any:

*Haul roads will be cleaned with sweeper trucks. Work area will be watered during dry work periods. Rock construction entrance may be required at haul site, depending on staging configuration and equipment used.*



3. Water

a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

*Yes, work is in Rock Creek. Flows directly into the Columbia River just down stream of work area*

✓  
*Kanaka Creek  
adjacent to mitigation  
area in Columbia  
River*

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

*Yes, work is in the water, and along the shoreline. Work area is shown in the HPA and JARPA*

✓  
*Plans  
attached or  
available upon  
request*

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

*Up to 70,000 cy annually, 4.5 acres of dredge impact, 4.5 acres of fill at mitigation area*

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

*No*

✓

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

*Yes*

✓

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

*no*

✓

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

*No*

✓

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

*None*

✓

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

**None**



- 2) Could waste materials enter ground or surface waters? If so, generally describe.

**No, project work area is submerged. Mitigation area is located in riparian zone**



d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

**None**



4. Plants

a. Check or circle types of vegetation found on the site:

- XXX deciduous tree: alder, maple, aspen, other
- XXX evergreen tree: fir, cedar, pine, other
- XXX shrubs
- XXX grass
- \_\_\_\_\_ pasture
- \_\_\_\_\_ crop or grain
- \_\_\_\_\_ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- \_\_\_\_\_ water plants: water lily, eelgrass, milfoil, other
- \_\_\_\_\_ other types of vegetation



b. What kind and amount of vegetation will be removed or altered?

**Work area is previously disturbed, no vegetation will be impacted. Mitigation will include extensive replanting, some large trees may be disturbed during the fill process.**



c. List threatened or endangered species known to be on or near the site.

**Snake River (SR) steelhead (*Oncorhynchus mykiss*), Upper Columbia River (UCR) steelhead, Middle Columbia River (MCR) steelhead, Lower Columbia River (LCR) steelhead, SR spring/summer-run Chinook salmon (*O. tshawytscha*), SR fall-run Chinook salmon, UCR spring-run Chinook salmon, LCR Chinook salmon, Columbia River (CR) chum salmon (*O. keta*), SR sockeye salmon (*O. nerka*), and LCR coho salmon (*O. kisutch*)**



d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Native planting will be installed at the mitigation area. These plants will include various willow species, including Columbia, Scoulers and Sitka. Other plantings will include Red-osier dogwood, Ninebark, Nootka rose, red alder Red Cedar, Oceanspray, Red Elderberry, among others.,



5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened or endangered species known to be on or near the site.

Unknown

winter waterfowl area ✓

canadagose nesting areas & waterfowl areas in vicinity listed in AHS database. ✓

c. Is the site part of a migration route? If so, explain.

*Yes for upriver salmonids and the Pacific Flyway*



d. Proposed measures to preserve or enhance wildlife, if any:

*Work will use isolation berm to separate work area from fish impact. Mitigation area will use floating sediment curtain to separate work area from fish impacts.*



**6. Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

**None**



b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

**No**



c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

**None**



**7. Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

*Yes, minor hydraulic spill or diesel spill from excavators and equipment.*



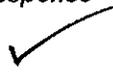
1) Describe special emergency services that might be required.

**None**



2) Proposed measures to reduce or control environmental health hazards, if any:

*Equipment used in riparian area will use vegetable oil, rather than petroleum based fluids. A spill response kit will be kept onsite by the contractor. They will be trained in its use.*



**b. Noise**

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

*SR-14 and Railroad*



2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

*Construction equipment, digging, loading and unloading. This noise is equivalent to background noise of rail and highway.*



TO BE COMPLETED BY APPLICANT

EVALUATION FOR AGENCY USE ONLY

3) Proposed measures to reduce or control noise impacts, if any:

None

✓

8. Land and shoreline use

a. What is the current use of the site and adjacent properties?

Commercial, Residential and Recreational

✓

b. Has the site been used for agriculture? If so, describe.

No

✓

c. Describe any structures on the site.

Sewer Treatment Plant, County shops, fairground building, commercial buildings, wood frame home

✓

d. Will any structures be demolished? If so, what?

No

✓

e. What is the current zoning classification of the site?

???

Rock Creek Cove is Public Use & Recreation/Port lands are commercial & light industrial / Multi-family & Suburban Upper Rock creek area ✓

f. What is the current comprehensive plan designation of the site?

???

Urban, Conservancy & Natural ✓

g. If applicable, what is the current shoreline master program designation of the site?

???

Yes critical areas/shorelines ✓

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

???

i. Approximately how many people would reside or work in the completed project?

None

✓

j. Approximately how many people would the completed project displace?

None

✓

k. Proposed measures to avoid or reduce displacement impacts, if any:

Mitigation element of project was designed and offset impacts of dredge work. Mitigation was located so future dredging would not impact it.

BA completed ✓

TO BE COMPLETED BY APPLICANT

EVALUATION FOR  
AGENCY USE ONLY

1. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

*None*



9. **Housing**

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

*None*



- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

*None*



- c. Proposed measures to reduce or control housing impacts, if any:

*None*



10. **Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

*None*



- b. What views in the immediate vicinity would be altered or obstructed?

*None*



- c. Proposed measures to reduce or control aesthetic impacts, if any:

*None*



11. **Light and glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

*None*



- b. Could light or glare from the finished project be a safety hazard or interfere with views?

*None*



- c. What existing off-site sources of light or glare may affect your proposal?

*None*



- d. Proposed measures to reduce or control light and glare impacts, if any:

*None*



12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

*Fishing and Wind sports occur nearby.*

*Adjacent to high Rec. use sites ✓*

b. Would the proposed project displace any existing recreational uses? If so, describe.

*Project would enhance access opportunities on the Columbia. Dredging would not have impact, but may provide fishing holes.*

✓

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

*Mitigation portion of the project will include public access trail and water access point.*

✓

13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

*No*

*None known ✓*

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

*Project is in urban area, and is highly disturbed. The existing bridge, while not historic, may be a landmark for some.*

✓

c. Proposed measures to reduce or control impacts, if any:

*none*

✓

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

*SR-14, Rock Creek Drive*

*mitigation plan includes staging/access areas for equip. ✓*

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

*No*

✓

c. How many parking spaces would the completed project have? How many would the project eliminate?

*None*

✓

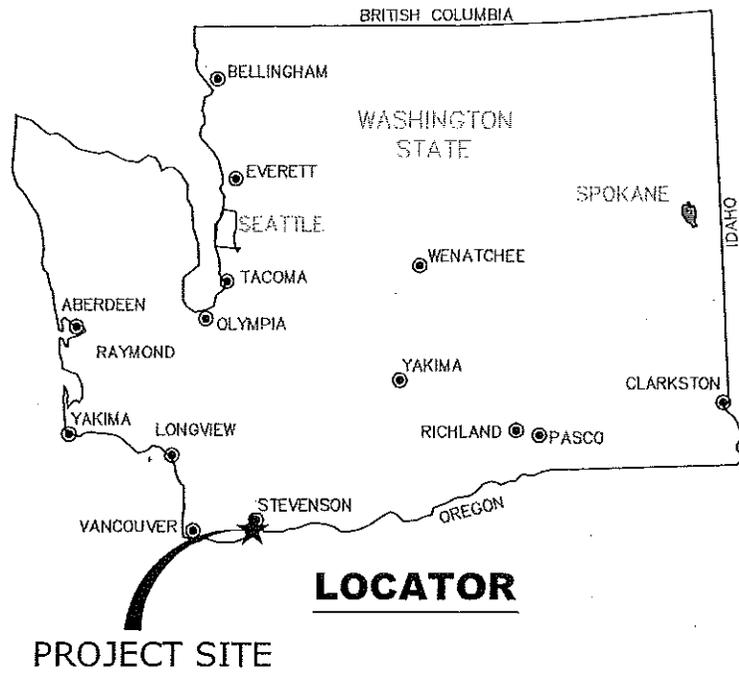
d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

*No*

✓



d:\fs\projects\rockcreekdredge\as-dredged\rockcreekdredge2009-coepermit.dwg



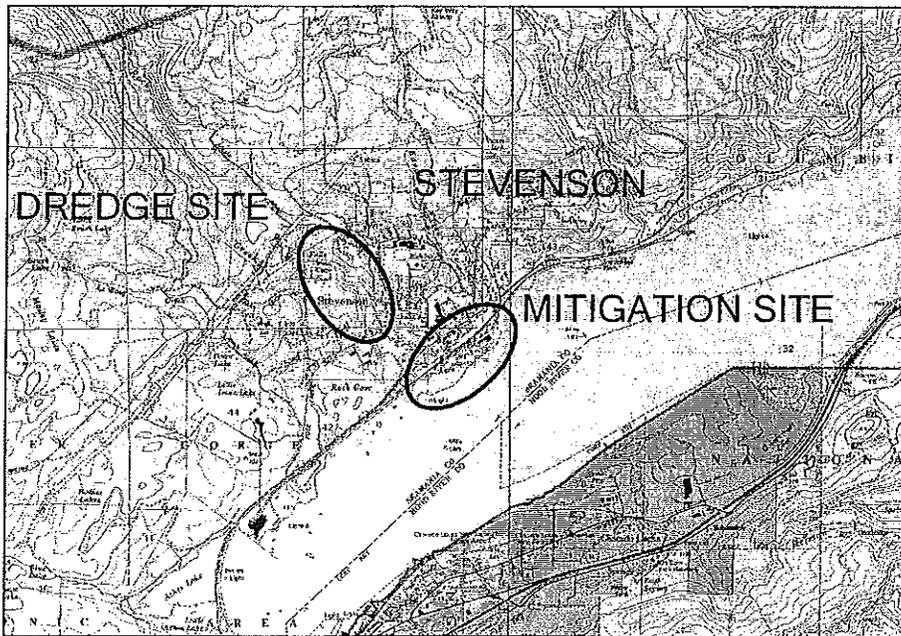
**LOCATOR**

PROJECT SITE

RECEIVED  
SKAMANIA COUNTY

SEP 07 2010

COMMUNITY DEVELOPMENT  
DEPARTMENT

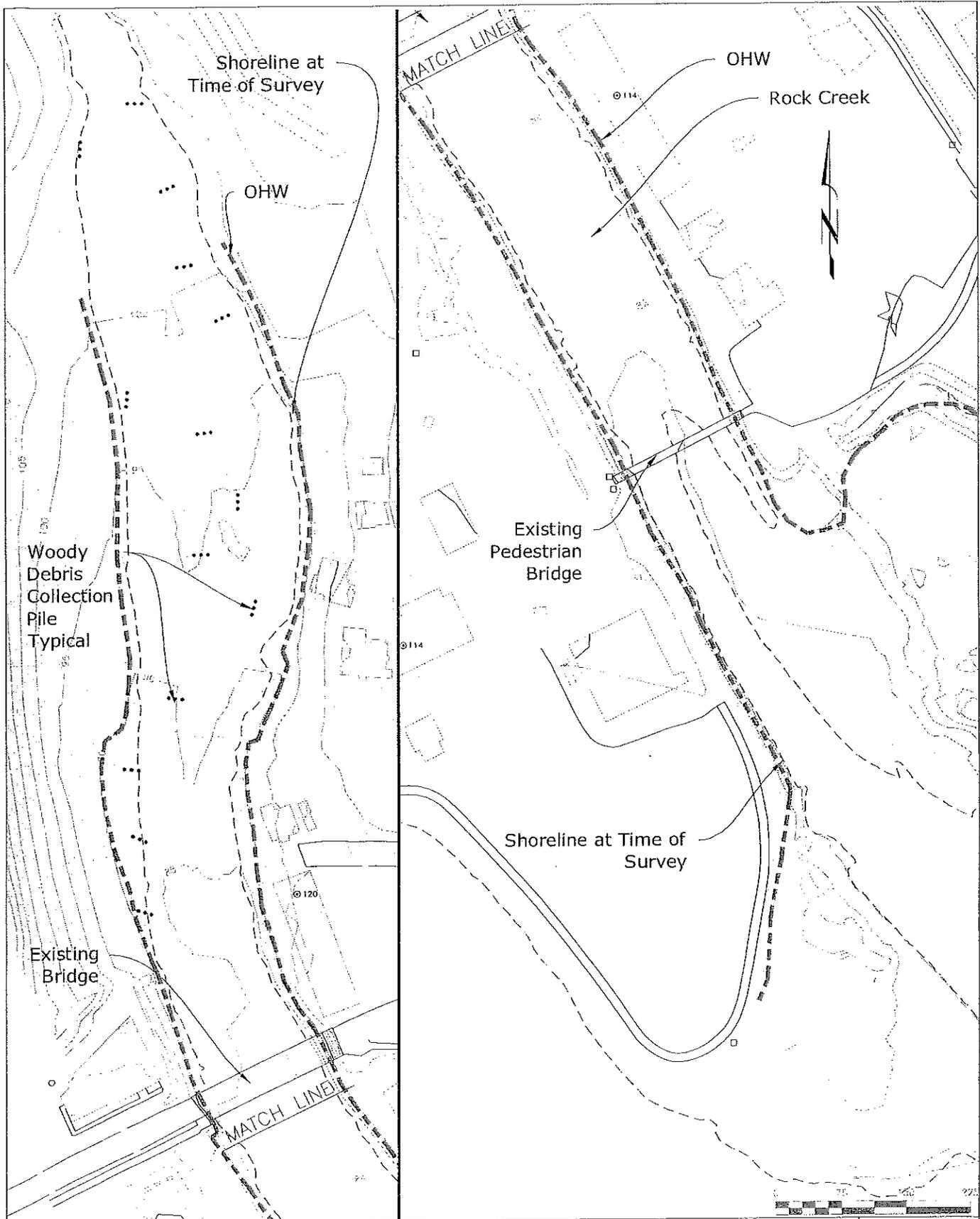


**VICINITY**

SE 1/4 Section 36, Township 03 North, Range 07 East, WM  
NE 1/4 and NW 1/4 Section 01, Township 02 North, Range 07 East, WM  
Latitude: 45.69362 Longitude: -121.89219  
Skamania County

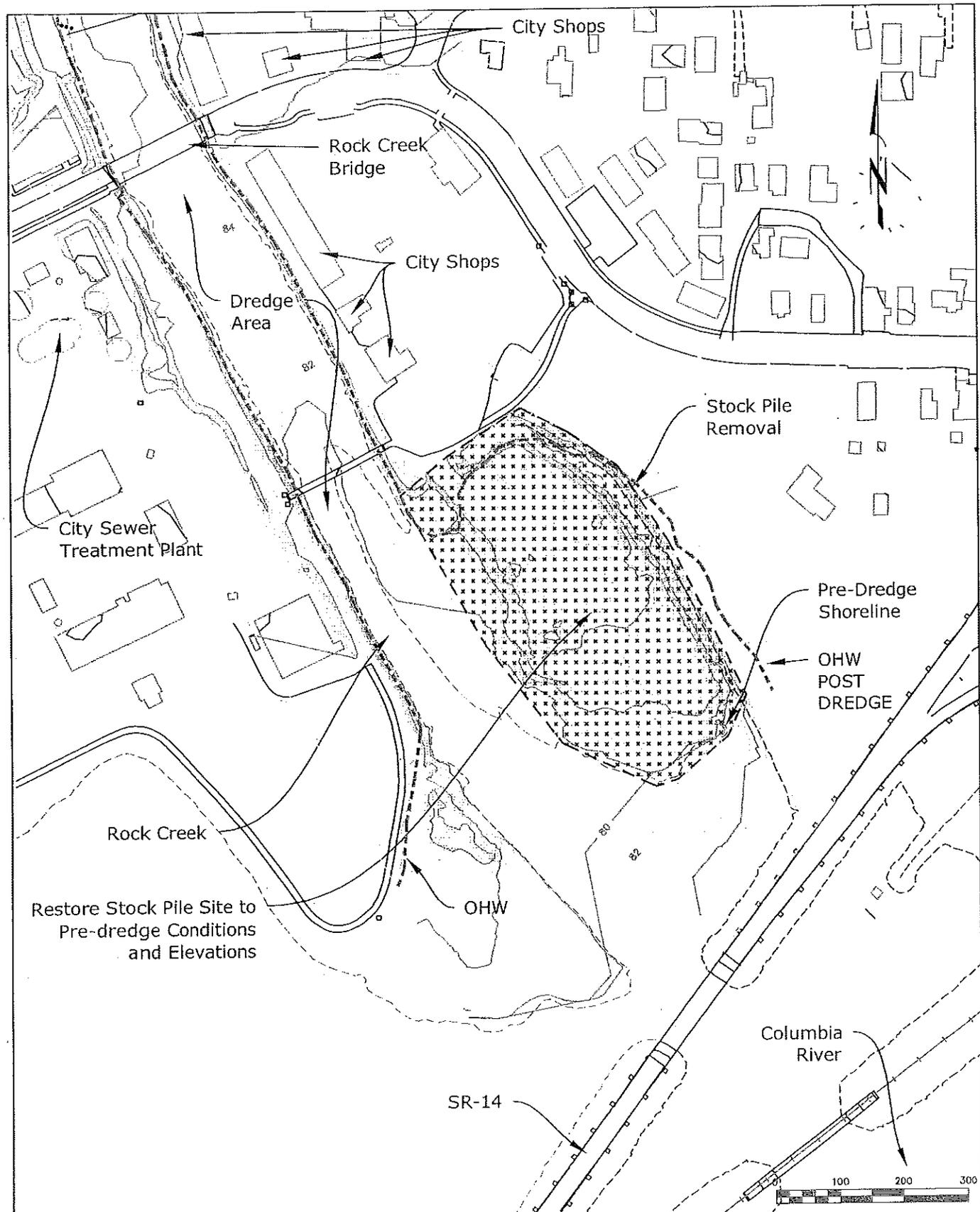
COE REF# NWS-2007-192		SHEET: LOCATOR MAP		DATE: 4/1/10	
 <p>Flowing solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6311 Fax (503) 297-6053</p>	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648			SHEET NO. 1/12	
	RIVER/MILE: Rock Creek, RM 1-2		DATUM: NGVD		

d:\fs\projects\rockcreekdredge\as-dredged\rockcreekdredge2009-coepermit.dwg



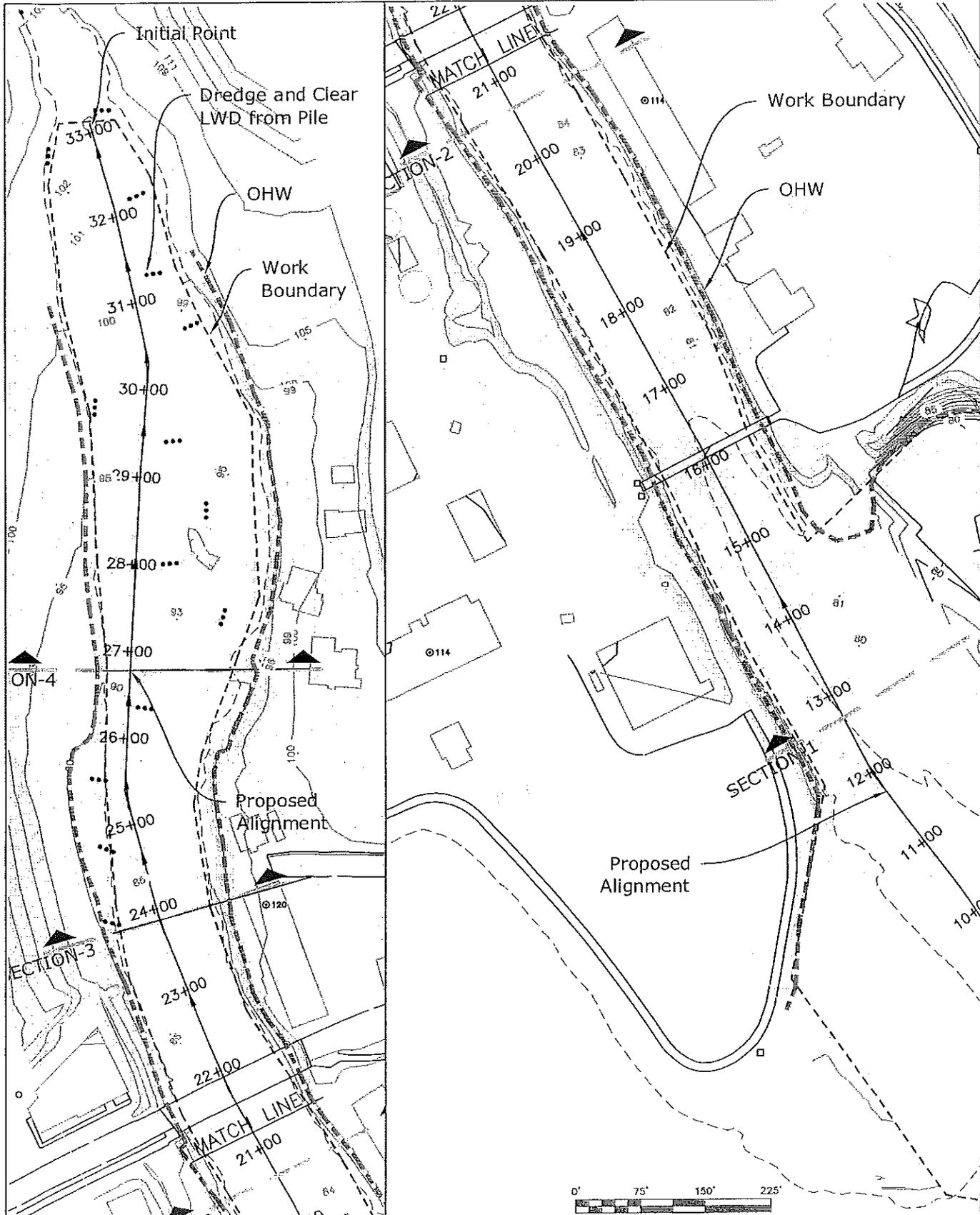
COE REF# NWS-2007-192	SHEET: EXISTING SURVEY -2007	DATE: 4/1/10
 Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6311 Fax (503) 297-6053	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648	SHEET NO. 2/12
	RIVER/MILE: Rock Creek, RM 1-2	DATUM: NGVD

ci: \\fs\projects\rockcreek\dredge\as-dredged\rockcreekdredge2009-coepermit.dwg



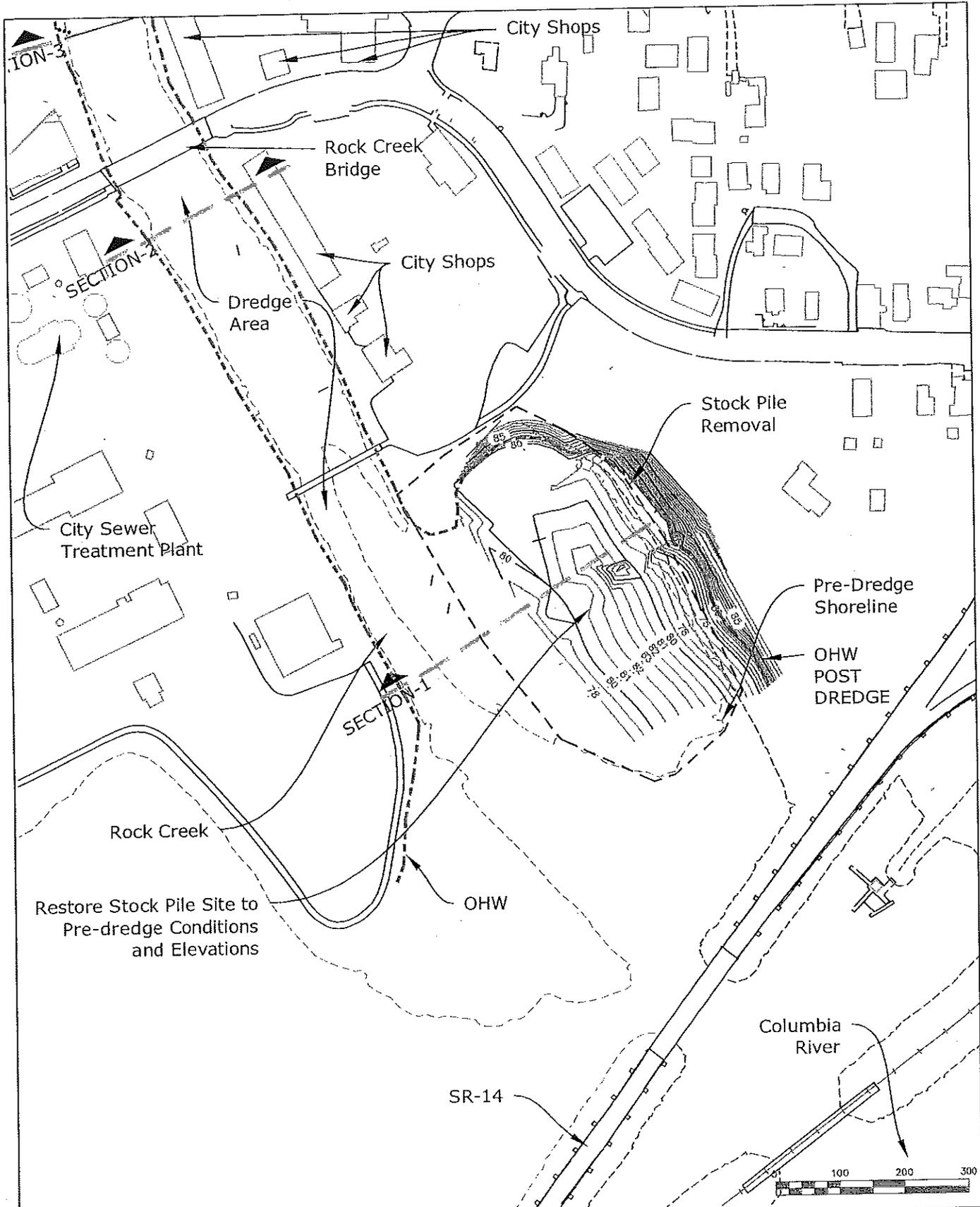
COE REF# NWS-2007-192	SHEET: STOCK PILE - 2007	DATE: 4/1/10
 <p>Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6311 Fax (503) 297-0053</p>	<p>PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648</p> <p>RIVER/MILE: Rock Creek, RM 1-2</p>	<p>SHEET NO. 3/12</p>
DATUM: NGVD		

d:\fs\projects\rockcreekdredge\as--dredged\rockcreekdredge2009--coepermit.dwg

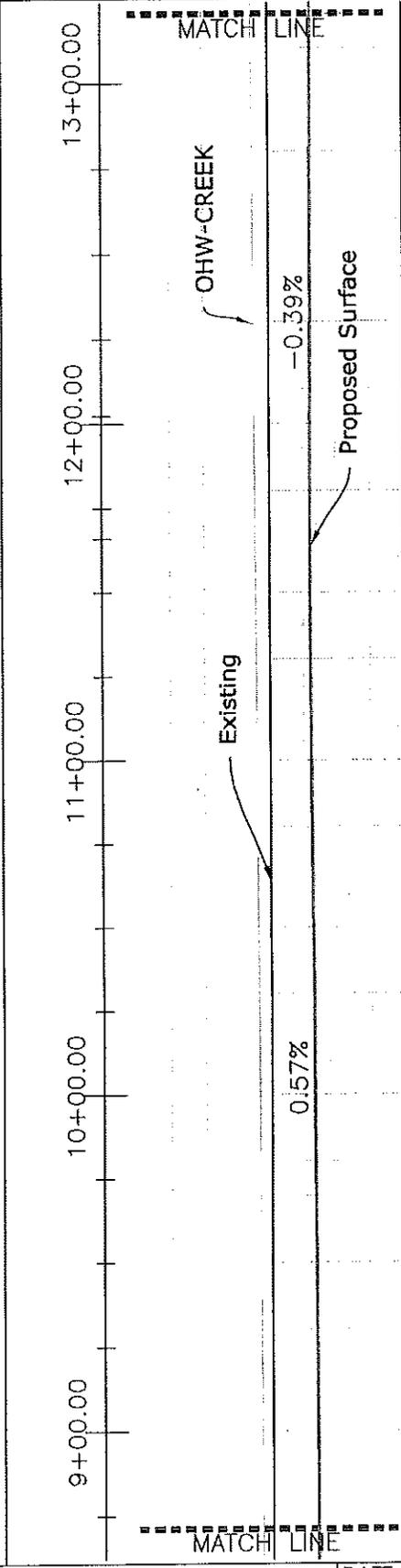
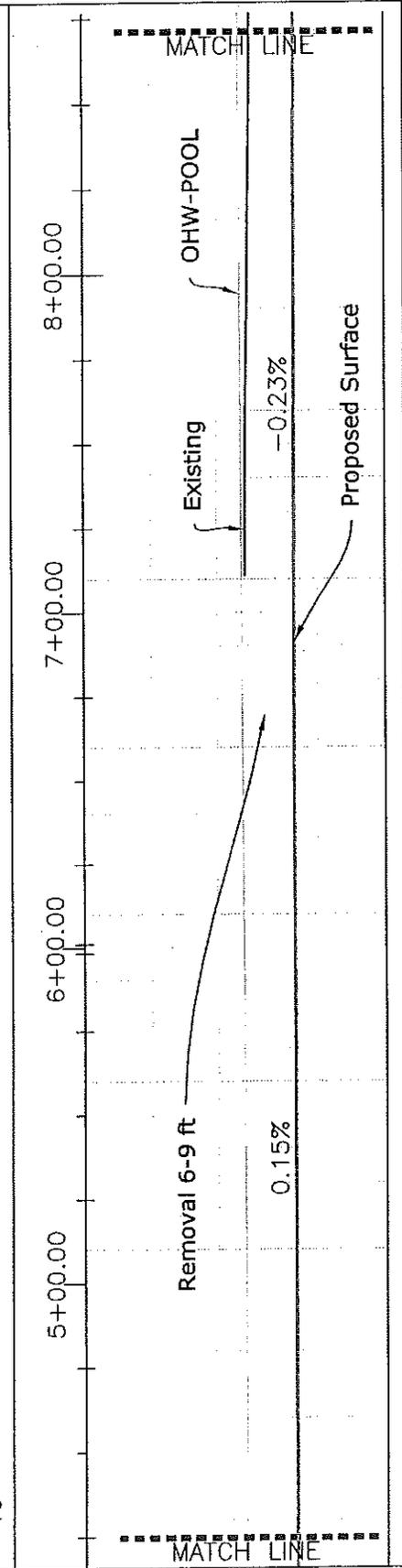
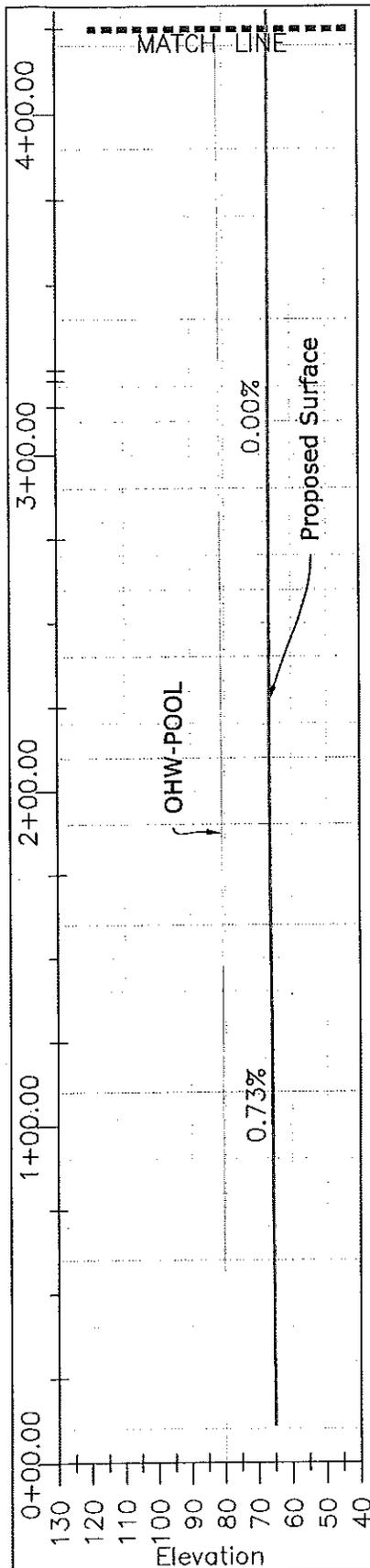


COE REF# NWS-2007-192  Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-8311 Fax (503) 297-8053	SHEET: PROPOSED DREDGE ALIGNMENT-WORK AREA		DATE: 4/1/10
	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648		SHEET NO. 4/12
RIVER/MILE: Rock Creek, RM 1-2		DATUM: NGVD	

d:\fs\projects\rockcreekdredge\as-dredged\rockcreekdredge2009-coepermit.dwg



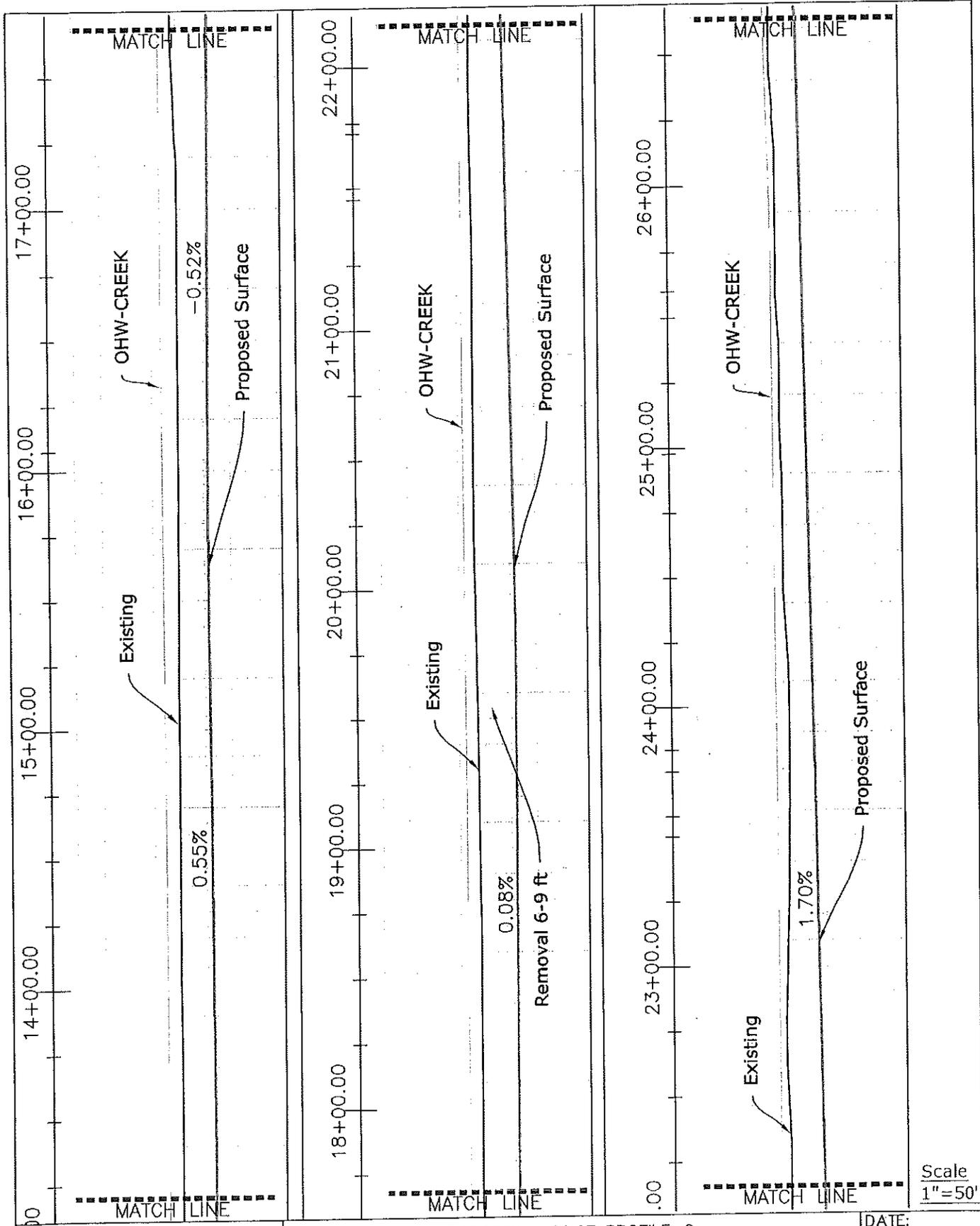
COE REF# NWS-2007-192 <b>Flowing solutions</b>  Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone: (503) 297-6311 Fax: (503) 297-6053	SHEET: STOCK PILE - PROPOSED REMOVAL		DATE: 4/1/10
	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648		SHEET NO. 5/12
RIVER/MILE: Rock Creek, RM 1-2		DATUM: NGVD	



Scale  
1" = 50'

<p>Flowing solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-8311 Fax (503) 297-8053</p>	COE REF# NWS-2007-192	SHEET: PROPOSED DREDGE PROFILE-1	DATE: 4/1/10
	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648		SHEET NO. 6/12
RIVER/MILE: Rock Creek, RM 1-2		DATUM: NGVD	

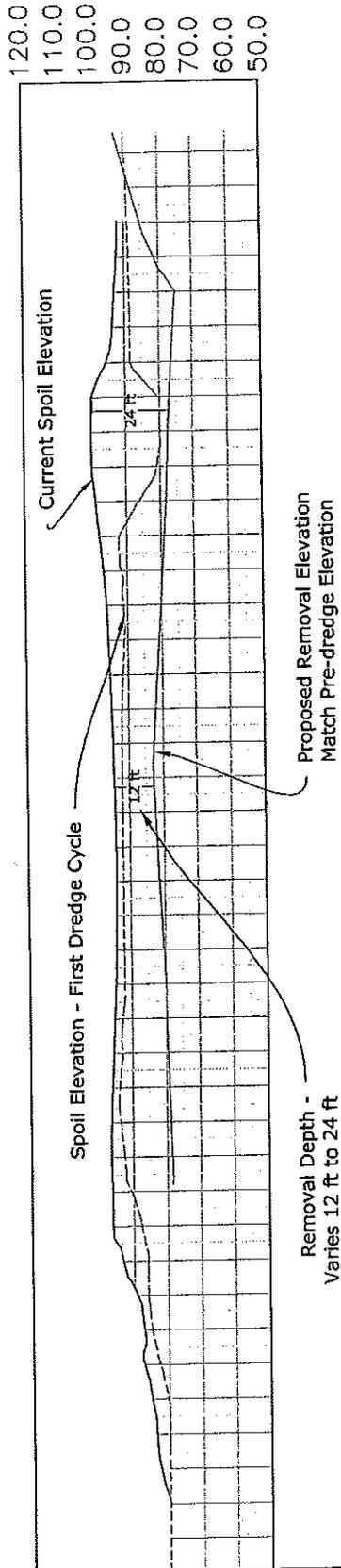
d:\fs\projects\rockcreekdredge\as-dredged\rockcreekdredge2009-coepermit.dwg



Scale  
1"=50'

 <p><b>Flowing solutions</b> Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-8311 Fax (503) 297-8053</p>	COE REF# NWS-2007-192		SHEET: PROPOSED DREDGE PROFILE-2		DATE: 4/1/10
	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648				SHEET NO. 7/12
	RIVER/MILE: Rock Creek, RM 1-2		DATUM: NGVD		

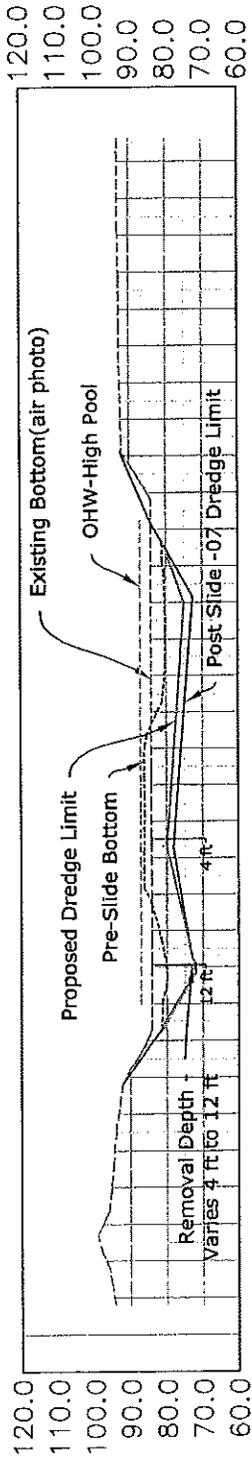
d:\fs\projects\rockcreekdredge\as-dredged\rockcreekdredge2009-coepermit.dwg



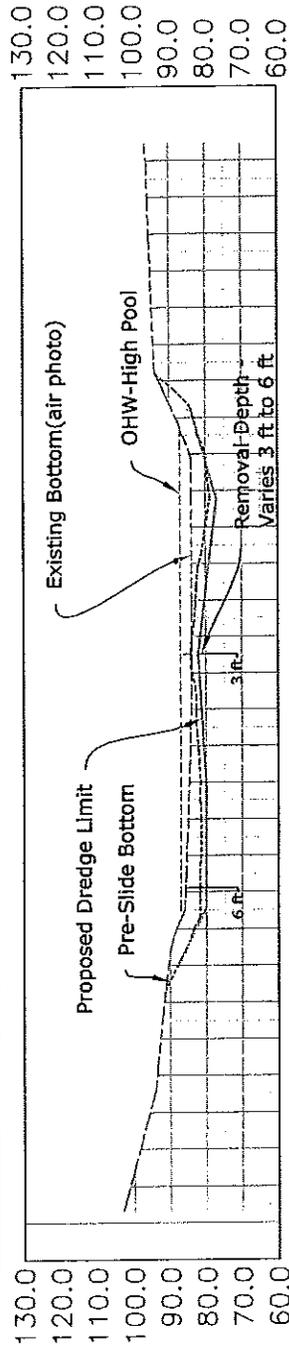
Scale  
1"=50'

COE REF# NWS-2007-192	SHEET: SPOIL REMOVAL SECTION		DATE: 4/1/10
 <p>Flowing Solutions 3305 SW 87th Avenue Portland, OR 97225 Phone (503) 297-6311 Fax (503) 297-8053</p>	PROJECT: Rock Creek Dredge 2009 Skamania County Public Works P.O. Box 790, Stevenson, WA 98648		SHEET NO. 8/12
	RIVER/MILE: Rock Creek, RM 1-2	DATUM: NGVD	

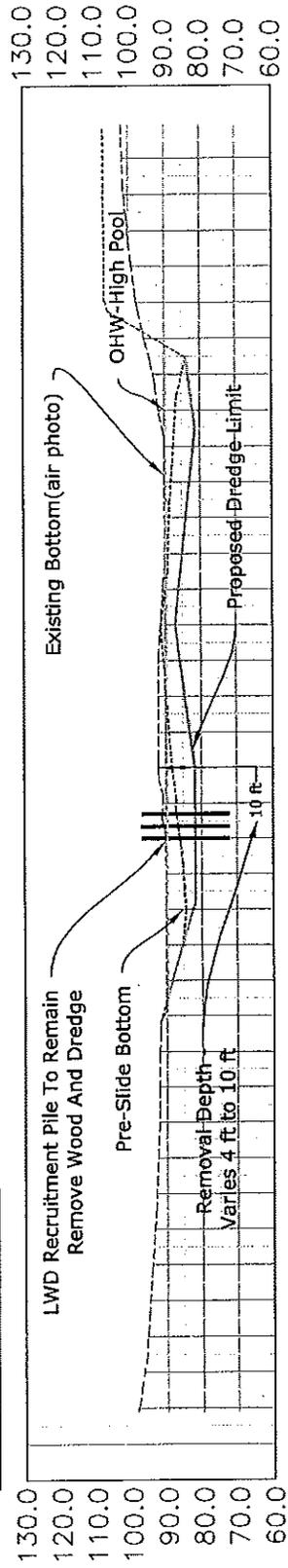
**Section-2 - 20+53.85**



**Section-3 - 23+76.34**



**Section-4 - 26+67.84**



Scale  
1" = 50'

COE REF# NWS-2007-192

**Flowing solutions**



Flowing Solutions  
3305 SW 97th Avenue  
Portland, OR 97225  
Phone (503) 287-8311  
Fax (503) 287-6053

SHEET: PROPOSED DREDGE SECTIONS

PROJECT: Rock Creek Dredge 2009  
Skamania County Public Works  
P.O. Box 790, Stevenson, WA 98648

RIVER/MILE: Rock Creek, RM 1-2

DATUM: NGVD

DATE:

4/1/10

SHEET NO.

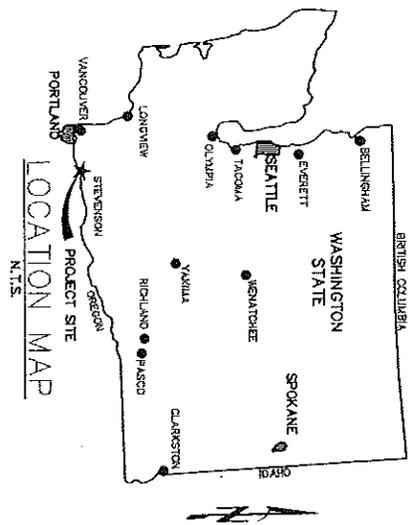
9/12

# ROCK CREEK DREDGE MITIGATION

## STEVENSON SHORELINE ENHANCEMENT

### PORT OF SKAMANIA

JUNE 20, 2008



### GENERAL NOTES

1. ALL WORK IS TO CONFORM WITH PROJECT CONTRACT SPECIFICATIONS.
2. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES AND REGULATIONS INCLUDING NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES. THE TERMS OF THE STATE OF WASHINGTON HYDRAULIC PROJECT APPROVAL (HPA) AND THE CORP OF ENGINEERS PERMIT SHALL BE OBSERVED. ALL IN WATER WORK SHALL BE COMPLETED WITHIN GUIDELINES ESTABLISHED IN THE PERMIT DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL SCHEDULING AND ALL WORK WITH THE OWNER.
4. THE ENGINEER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING NECESSARY DUST CONTROL WHERE REQUIRED.
6. WATER LEVELS ARE FOR REFERENCE ONLY. WATER LEVELS AT THE TIME OF CONSTRUCTION ARE NOT GUARANTEED. CONSTRUCTION MEANS, METHODS, AND MATERIALS TO FACILITATE COMPLETION OF PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

**PROJECT DESCRIPTION**  
 PLACE OWNER PROVIDED ROUND RIVER ROCK/GRAVEL ALONG SHORELINE TO COVER EXISTING RIP-RAP, EXISTING SHEET PILE WALL, AND ERODING BANK. INSTALL ROOT-WAD HABITAT ELEMENTS, AND RIPARIAN PLANTINGS.

**OWNER:**  
 PORT OF SKAMANIA COUNTY  
 PO BOX 1099  
 70 SE CASCADE AVENUE  
 STEVENSON, WASHINGTON 98648  
 PHONE: (509) 427-5484  
 FAX: (509) 427-7984

**ENGINEER:**  
 FLOWING SOLUTIONS  
 3305 SW 87TH  
 PORTLAND, OR 97225  
 PHONE: (503) 297-6311  
 FAX: (503) 297-6053

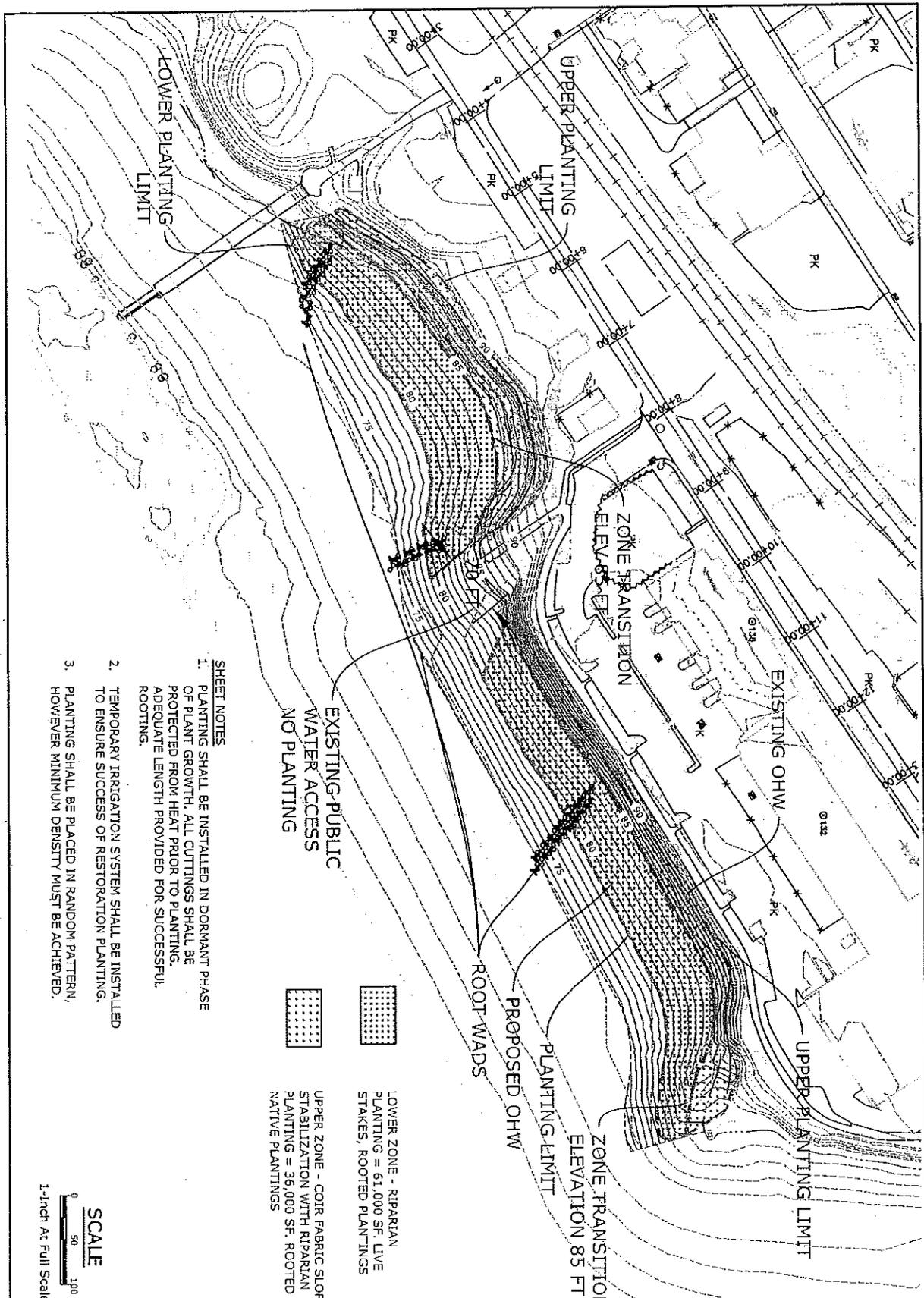
- SHEET INDEX**
1. COVER
  2. SITE
  3. PLAN WEST
  4. PLAN EAST
  5. PLAN EAST
  6. PLANTING
  7. BANK DETAIL
  8. EROSION CONTROL PLAN
  9. SECTIONS 4,5
  10. SECTIONS 6,7
  11. SECTIONS 8,9
  12. SECTIONS 10,11
  13. SECTIONS 12,13
  14. SECTIONS 14,15

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

OUTLINE, REVISION, DATE, SHEET NO. 10 OF 12

Flowing solutions		COVER		SHEET	
		Skamania Shoreline Enhancement, Port of Skamania P.O. Box 1099 Stevenson, Washington 98648		10	
DATE: 4/7/2008		PROJECT: Skamania		12	



- SHEET NOTES**
1. PLANTING SHALL BE INSTALLED IN DORMANT PHASE OF PLANT GROWTH. ALL CUTTINGS SHALL BE PROTECTED FROM HEAT PRIOR TO PLANTING. ADEQUATE LENGTH PROVIDED FOR SUCCESSFUL ROOTING.
  2. TEMPORARY IRRIGATION SYSTEM SHALL BE INSTALLED TO ENSURE SUCCESS OF RESTORATION PLANTING.
  3. PLANTING SHALL BE PLACED IN RANDOM PATTERN, HOWEVER MINIMUM DENSITY MUST BE ACHIEVED.

LOWER ZONE - RIPARIAN PLANTING = 61,000 SF. LIVE STAKES, ROOTED PLANTINGS

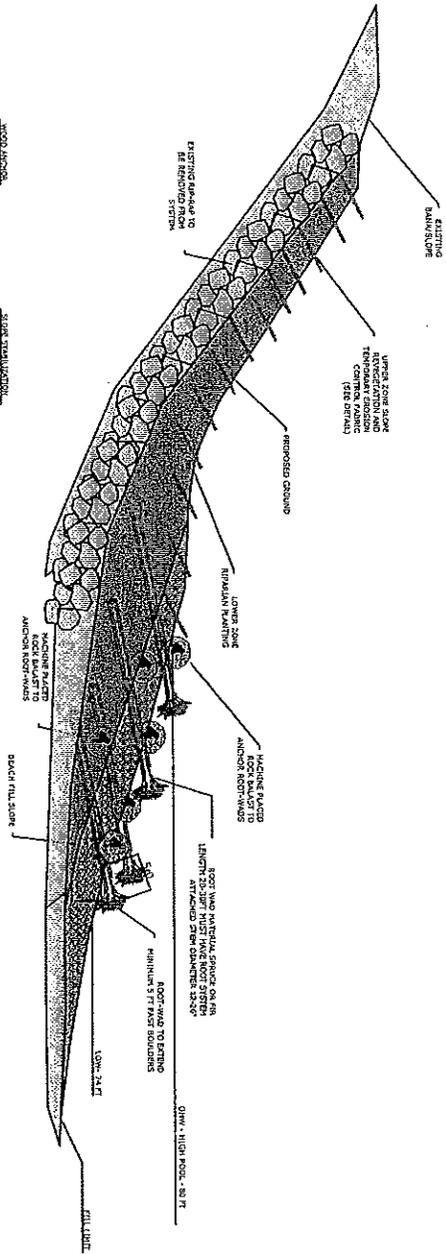
UPPER ZONE - COIR FABRIC SLOPE STABILIZATION WITH RIPARIAN PLANTING = 36,000 SF. ROOTED NATIVE PLANTINGS

**SCALE**  
 0 50 100  
 1-Inch At Full Scale

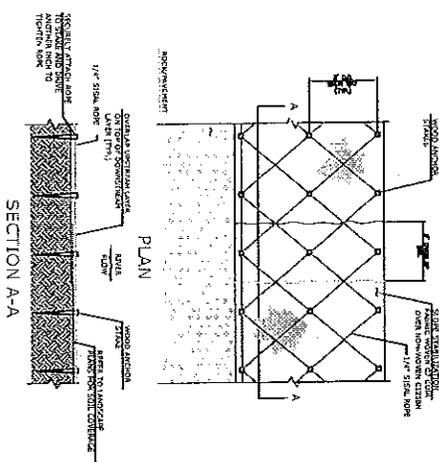
Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

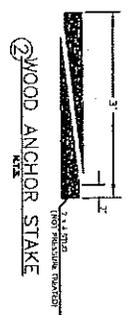
		<b>PLANTING</b> Skamania County Department, Part of Skamania P.O. Box 1288 Skamania, Washington 98640		SHEET <b>11</b> OF <b>12</b>
DATE: 4/1/2008		PROJECT: Skamania		



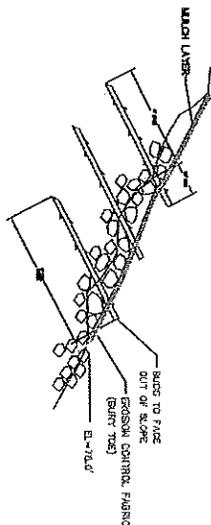
BANK AND ROOT WAD DETAIL



SLOPE STABILIZATION FABRIC  
PLAN AND SECTION



WOOD ANCHOR STAKE



NOTE: PLANT STAKES ON A 1' GRID

SPICES	SIZE	QUANTITY	UNIT	DIAMETER
1/2\"/>				

REVEGETATION DETAIL

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

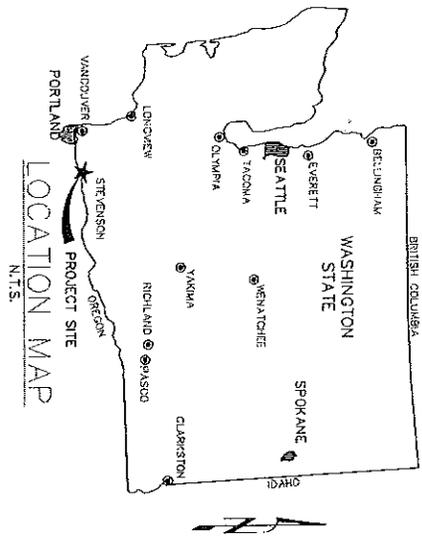
	Flowing solutions 1000 1st Avenue Everett, WA 98201 Tel: (425) 272-4222 Fax: (425) 272-4222	<b>BANK DETAIL</b> Skamania County Enhancement, Port of Skamania P.O. Box 1008 Skamania, Washington 98648	SHEET <b>12</b> OF <b>12</b>
			DATE: 4/1/2006 PROJECT: Skamania

# ROCK CREEK DREDGE MITIGATION

## STEVENSON SHORELINE ENHANCEMENT

### PORT OF SKAMANIA

JUNE 20, 2008



#### GENERAL NOTES

1. ALL WORK IS TO CONFORM WITH PROJECT CONTRACT SPECIFICATIONS.
2. THE COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATIONS INCLUDING NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES. THE TERMS OF THE STATE OF WASHINGTON HYDRAULIC PROJECT APPROVAL (HPA) AND THE CORP OF ENGINEERS PERMIT SHALL BE OBSERVED. ALL IN WATER WORK SHALL BE COMPLETED WITHIN GUIDELINES ESTABLISHED IN THE PERMIT DOCUMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL SCHEDULING AND ALL WORK WITH THE OWNER.
4. THE ENGINEER OR OWNER IS NOT RESPONSIBLE FOR THE SAFETY OF THE CONTRACTOR OR HIS CREW. ALL O.S.H.A. REGULATIONS SHALL BE STRICTLY ADHERED TO IN THE PERFORMANCE OF THE WORK.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ROADWAYS KEEPING THEM CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, AND PROVIDING NECESSARY DUST CONTROL WHERE REQUIRED.
6. WATER LEVELS ARE FOR REFERENCE ONLY. WATER LEVELS AT THE TIME OF CONSTRUCTION ARE NOT GUARANTEED. CONSTRUCTION MEANS, METHODS, AND MATERIALS TO FACILITATE COMPLETION OF PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

**PROJECT DESCRIPTION**  
 PLACE OWNER PROVIDED ROUND RIVER ROCK/GRAVEL ALONG SHORELINE TO COVER EXISTING RIP-RAP. EXISTING SHEET PILE WALL AND ERODING BANK, INSTALL ROOT-WAD HABITAT ELEMENTS, AND RIPARIAN PLANTINGS.

#### OWNER

PORT OF SKAMANIA COUNTY  
 PO BOX 1099  
 70 SE CASCADE AVENUE  
 STEVENSON, WASHINGTON 98648  
 PHONE: (509) 427-5484  
 FAX: (509) 427-7984

#### ENGINEER

FLOWING SOLUTIONS  
 5305 SW 87TH  
 PORTLAND, OR 97225  
 PHONE: (503) 297-6311  
 FAX: (503) 297-6053

#### SHEET INDEX

1. COVER
2. SITE
3. PLAN WEST
4. PLAN EAST
5. PLANTING
6. BANK DETAIL
7. EROSION CONTROL PLAN
8. SECTIONS 4,5
9. SECTIONS 6,7
10. SECTIONS 8,9
11. SECTIONS 10,11
12. SECTIONS 12,13
13. SECTIONS 14,15

Corps Ref# 2007-192 Skamania County

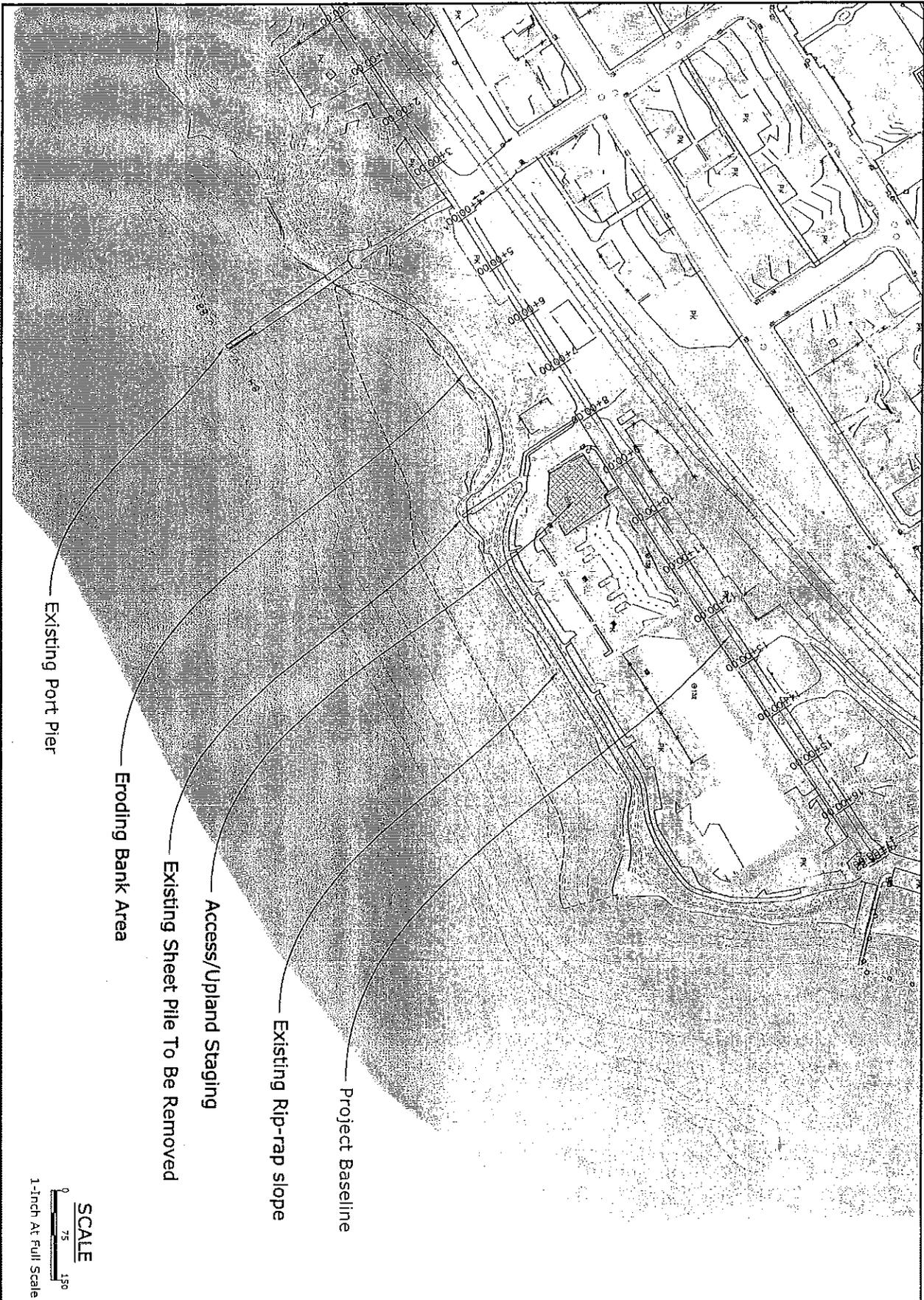
NOTE: 11x17 AT FULL SCALE

STEVENSON SHEET INDEX  
 DATE: JUN 20 2008  
 1 OF 14

NO.	DATE	REVISION	BY	APPROV.	SCALE	PROJECT	DATE	PROJECT

<p>Flowing solutions</p> <p>Roche Skilton                  220 SE 8th Avenue                  Portland, OR 97214                  Phone: (503) 297-6311                  Fax: (503) 297-6053</p>	<p><b>COVER</b></p> <p>Stevenson Shoreline Enhancement, Port of Skamania                  P.O. Box 1099                  Stevenson, Washington 98648</p> <p>DATE: JUN 20, 2008 PROJECT: Skamania</p>	<p>SHEET</p> <p>1 OF 14</p>
--	--	-----------------------------

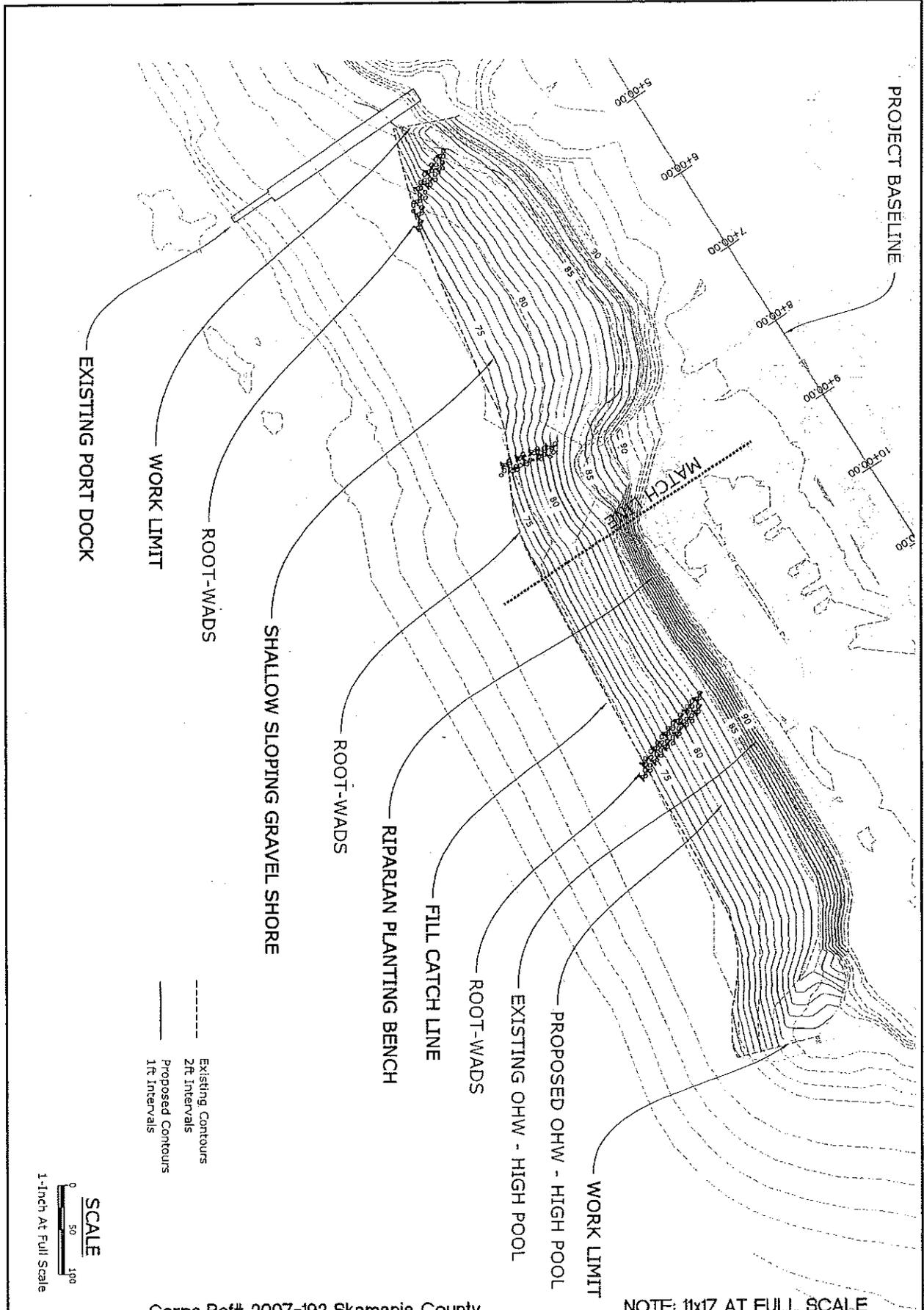


SCALE  
 0 75 150  
 1-Inch At Full Scale

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

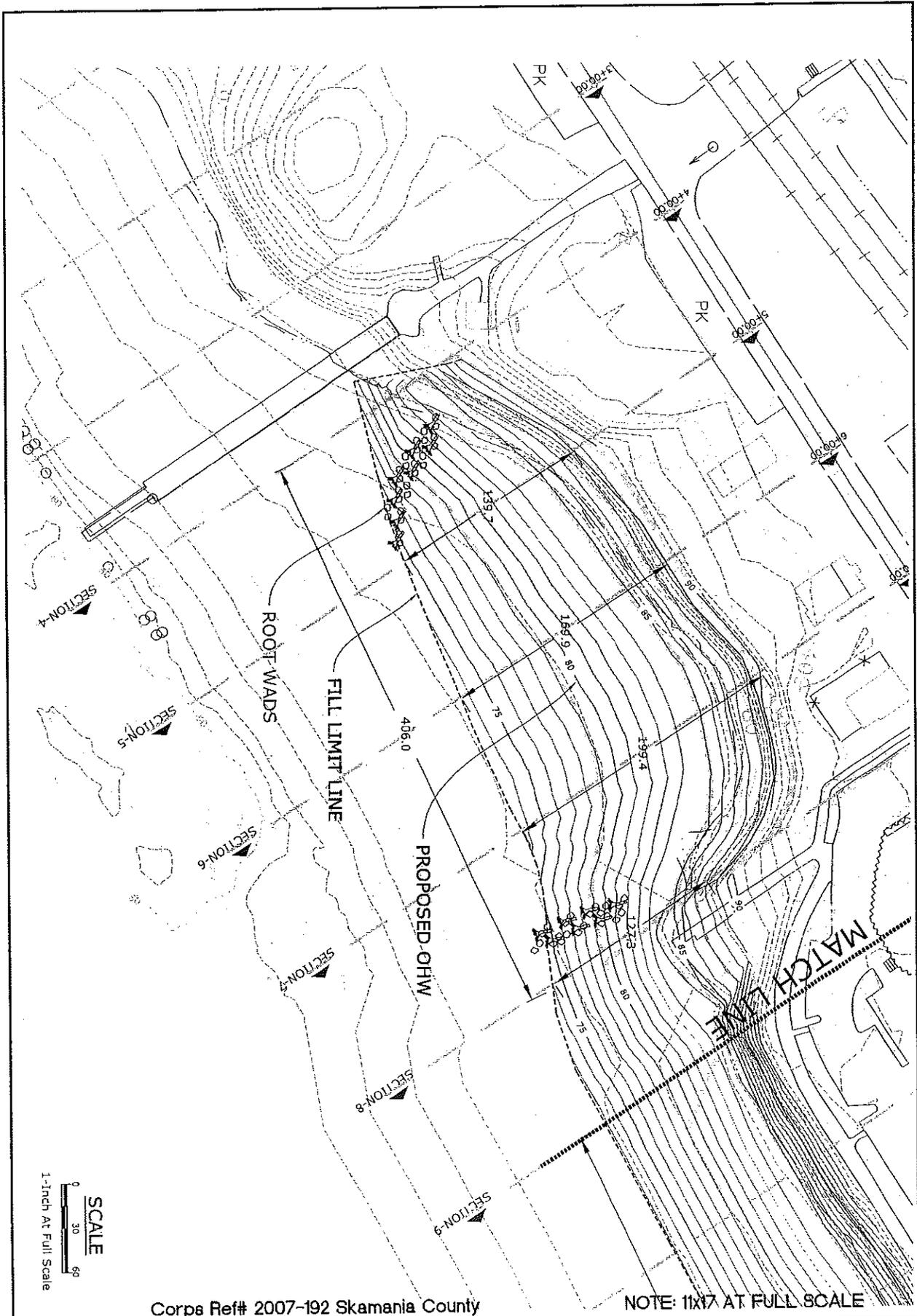
NO.	DATE	REVISION	BY	APPROV.	SCALE	 Flowing solutions <small>Flowing Solutions          1300 SE 90th Avenue          Portland, OR 97235          Phone: (503) 287-4331          Fax: (503) 287-4333</small>	<b>SITE</b> Stevenson Shoreline Enhancement, Port of Skamania P.O. Box 1000 Stevenson, Washington 98648	SHEET <b>2</b> OF <b>14</b>
				PLAN				
				PROFILE				
				VERT.				
					(1/2" = 100')			
						DATE: June 20, 2008	PROJECT: Stevenson	



Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APP'D	SCALE	<p>Flowing solutions          Flowing Solutions          1202 3rd Street          Portland, OR 97203          Phone: (503) 287-8313          Fax: (503) 287-8663</p>	<p>Stevenson Shoreline Enhancement, Port of Skamania          P.O. Box 1000          Stevenson, Washington 98540</p>	<p>DATE: JUN 20, 2008 PROJECT SHEET#</p>	SHEET
					PLAN				3
					PROFILE				14
					(1/2" MAX (NOT))				



Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE	
					PLAN	PROFILE

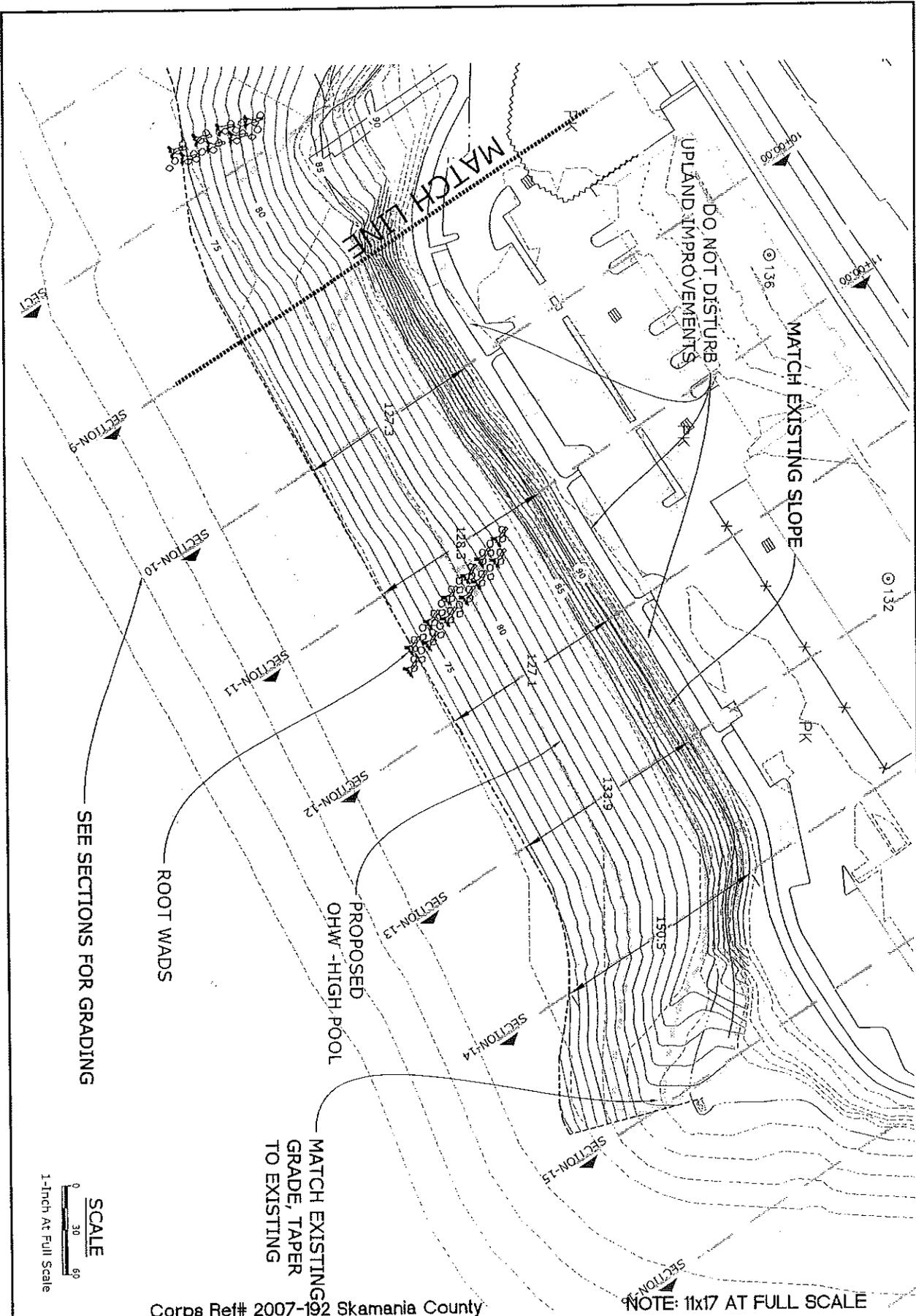
Flowing solutions



David Sullivan  
 3300 SW 87th Avenue  
 Portland, OR 97225  
 Phone: (503) 297-3311  
 Fax: (503) 297-6803

**PLAN-WEST**  
 Stevenson Shoreline Enhancement, Port of Skamania  
 P.O. Box 1000  
 Stevenson, Washington 98648  
 DATE: June 20, 2008      PROJECT: Shoreline

SHEET  
 4  
 OF  
 14



NO.	DATE	REVISION	BY	APPROV.	SCALE
					PLAN
					HORIZ.
					PROFILE
					VERT.
					1/2" HORIZ (NOT)

Flowing solutions

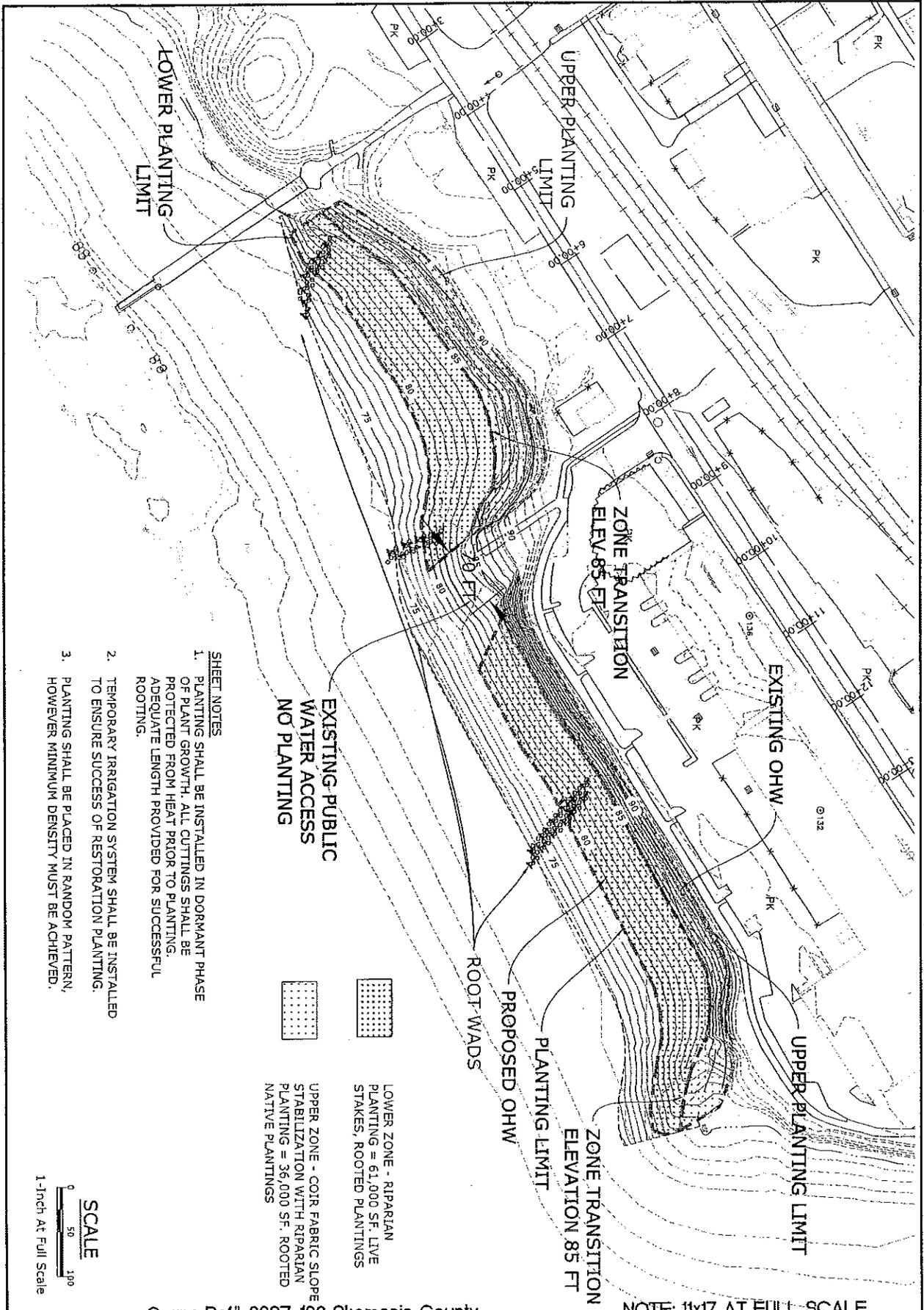
Design Services  
305 3rd Ave  
Port Angeles, WA 99155  
Phone: (360) 321-1234  
Fax: (360) 321-4567

PLAN-EAST

Olevention Shoreline Enhancement, Port of Skamania  
P.O. Box 1000  
Olevention, Washington 98548

DATE: June 20, 2008 PROJECT: Shoreline

SHEET	5
OF	14



- SHEET NOTES**
1. PLANTING SHALL BE INSTALLED IN DORMANT PHASE OF PLANT GROWTH. ALL CUTTINGS SHALL BE PROTECTED FROM HEAT PRIOR TO PLANTING. ADEQUATE LENGTH PROVIDED FOR SUCCESSFUL ROOTING.
  2. TEMPORARY IRRIGATION SYSTEM SHALL BE INSTALLED TO ENSURE SUCCESS OF RESTORATION PLANTING.
  3. PLANTING SHALL BE PLACED IN RANDOM PATTERN, HOWEVER MINIMUM DENSITY MUST BE ACHIEVED.

 LOWER ZONE - RIPARIAN PLANTING = 61,000 SF. LIVE STAKES, ROOTED PLANTINGS  
 UPPER ZONE - CORR. FABRIC SLOPE STABILIZATION WITH RIPARIAN PLANTING = 36,000 SF. ROOTED NATIVE PLANTINGS

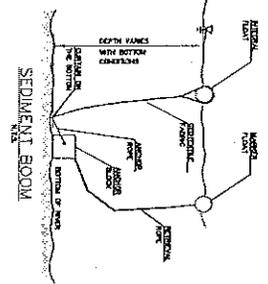
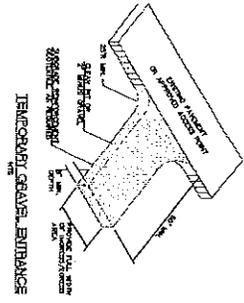
**SCALE**  
 0 50 100  
 1-Inch At Full Scale

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE	 Flowing Solutions Terry Skelton 1005 W. 67th Avenue Portland, OR 97225 Phone: (503) 287-4370 Fax: (503) 287-4083	<b>PLANTING</b> Stevenson Shoreline Enhancement, Part of Skamania P.O. Box 1360 Stevenson, Washington 98548 DATE: June 20, 2008 PRO.ECI Skelton	SHEET <b>6</b> OF <b>14</b>
				PLAN				
				PROF.				





**SEDIMENT BOOM NOTES**

1. FLOWING SEDIMENT SHALL BE PREVENTED FROM ENTERING THE BOOM BY THE USE OF DEPTH FRAMES WITH BOTTOM CENTERLINE.
2. SEDIMENT ACCUMULATION SHALL BE PREVENTED BY THE USE OF DEPTH FRAMES WITH BOTTOM CENTERLINE.
3. DEPTH FRAMES SHALL BE SPACED AT 10' INTERVALS.
4. CONSTRUCTION OF SEDIMENT BOOM SHALL BE COMPLETED PRIOR TO THE START OF CONSTRUCTION OF THE MAIN CHANNEL.
5. BOOM SHALL BE REMOVED AFTER 14-DAY CONSTRUCTION IS COMPLETED.

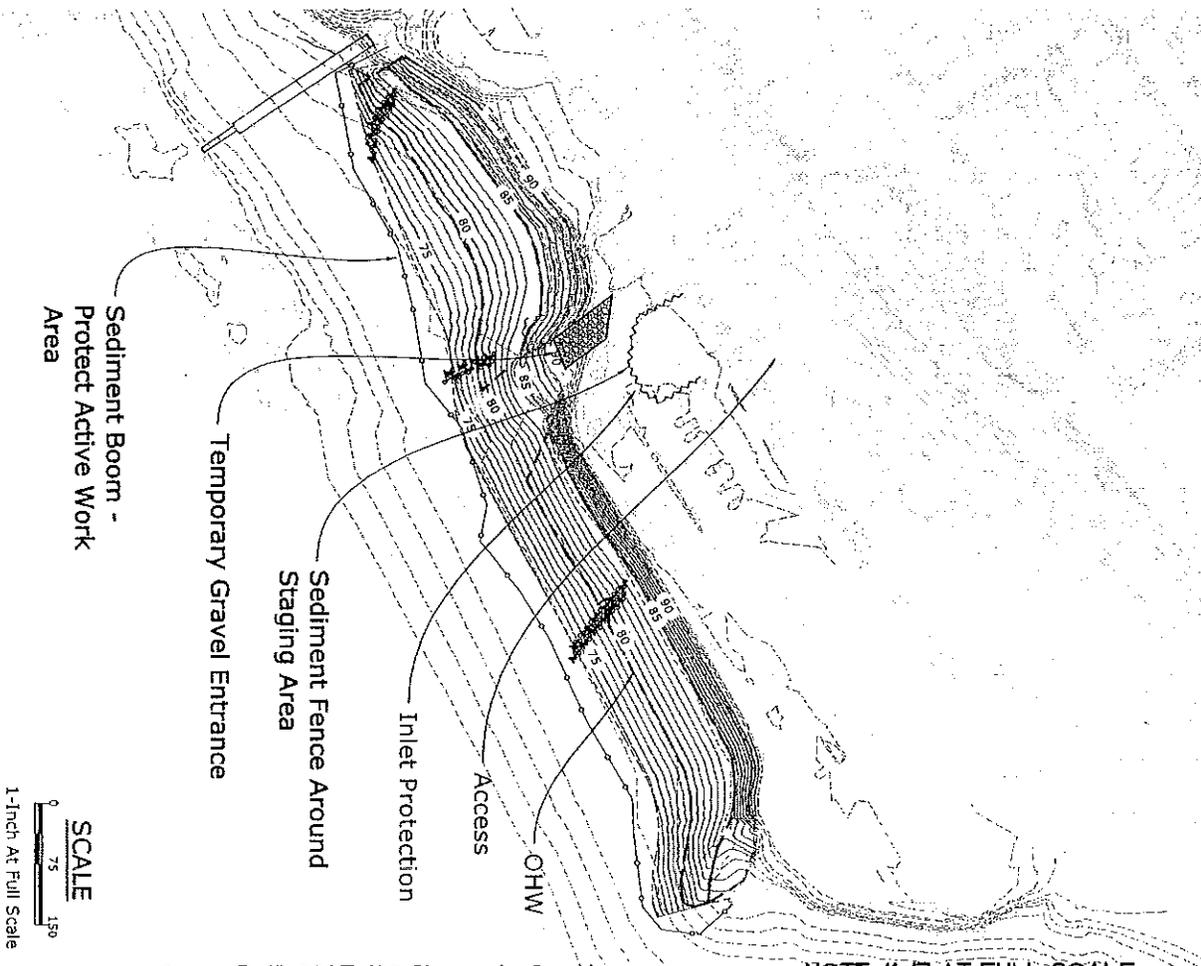
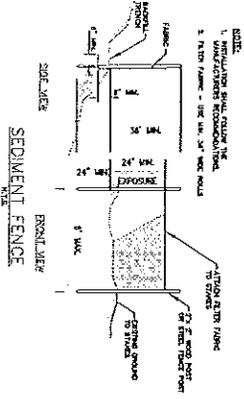
**INLET PROTECTION**



USE OF THIS SYMBOL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY

**SEDIMENT FENCE NOTES**

1. THE FENCE SHALL BE CONSTRUCTED AS A CONTINUOUS WALL OF 2" X 4" LAMINATED TIMBER FRAMING WITH 1/2" X 4" LAMINATED TIMBER FRAMING ON TOP AND 1/2" X 4" LAMINATED TIMBER FRAMING ON BOTTOM.
2. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
3. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
4. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
5. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
6. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
7. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
8. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
9. THE FENCE SHALL BE SPACED AT 10' INTERVALS.
10. THE FENCE SHALL BE SPACED AT 10' INTERVALS.

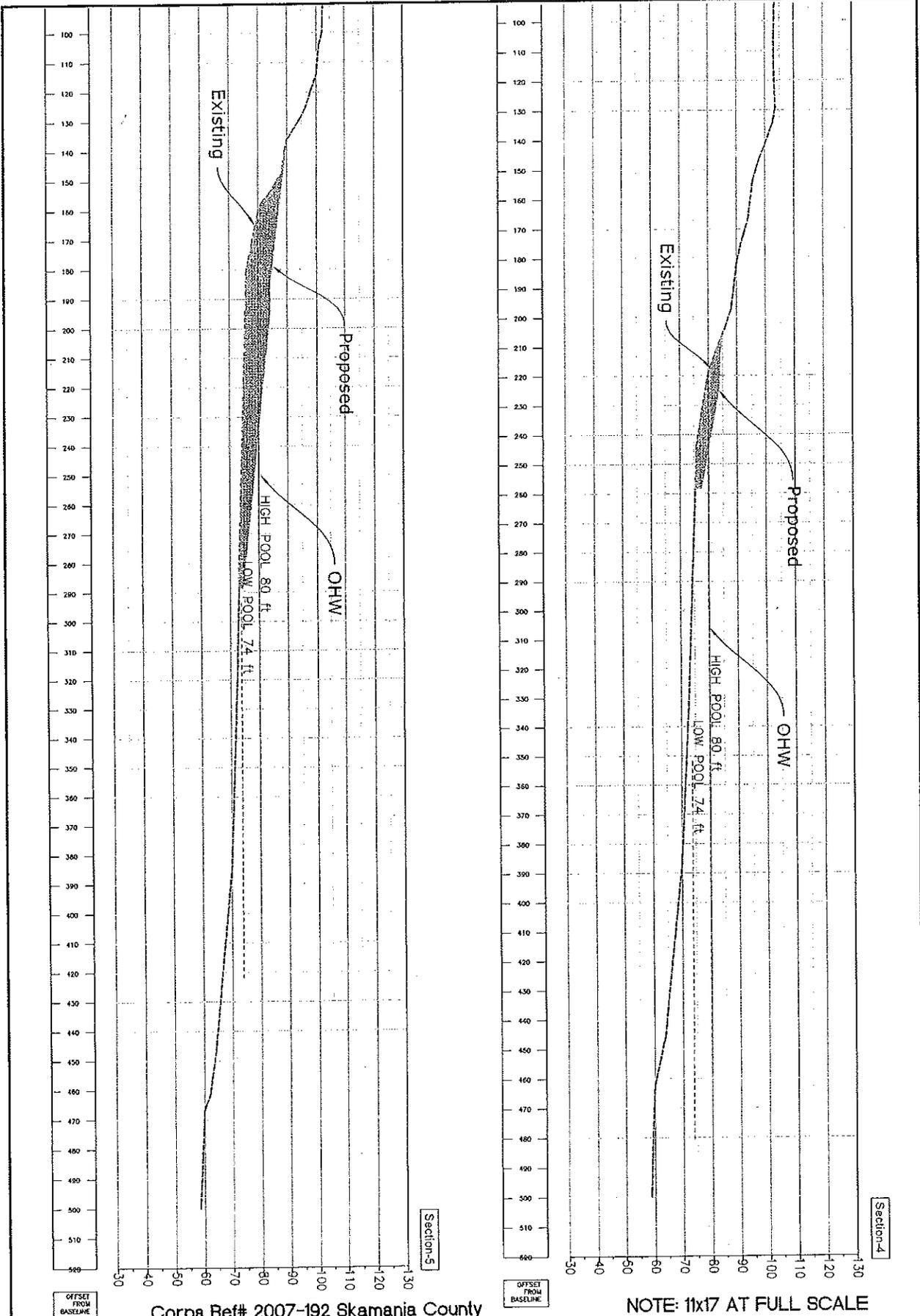


SCALE  
0 75 150  
1-Inch At Full Scale

Corpa Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE		FLOWING SOLUTIONS	EROSION CONTROL PLAN	SHEET
					PLAN	PROFILE			
							 Flowing Solutions 3509 SW 27th Avenue Portland, OR 97219 Phone: 503-297-4311 Fax: 503-297-4303	Stevenson Shoreline Enhancement, Port of Skamania P.O. Box 1099 Stevenson, Washington 98648	8
									OF
									14
								DATE: JUN 20, 2008	PROJECT: Shoreline



Corps Ref# 2007-192 Skamania County

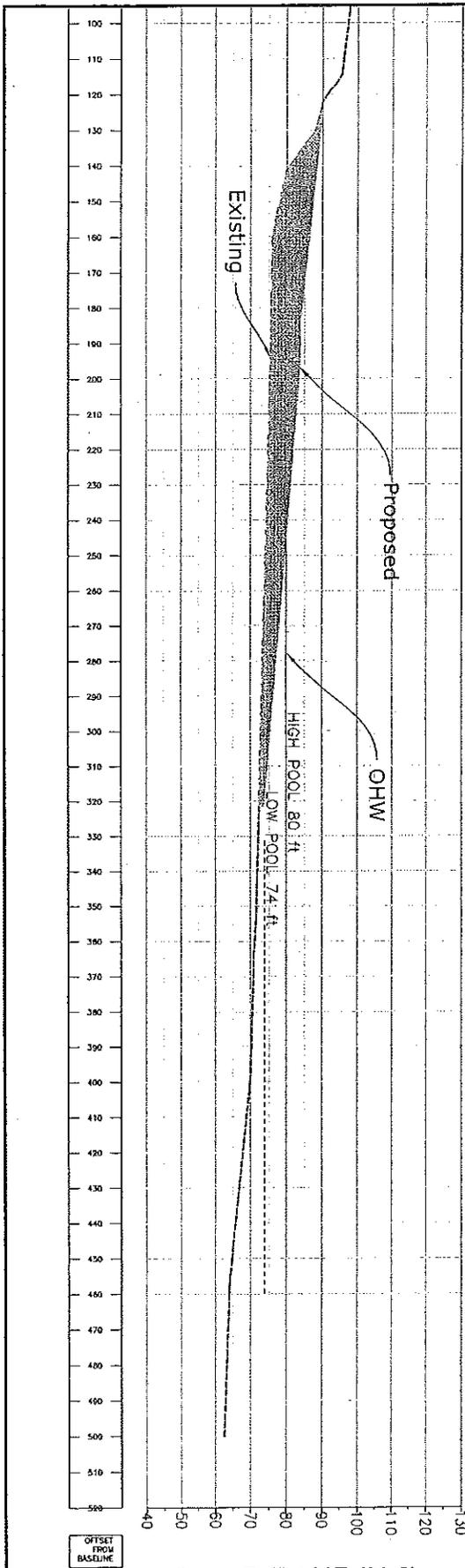
NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE
					PLAN 1"=30'
					ELEV. 1"=30'
					VERT. 1"=30'
					1/2"=10' (REV.)

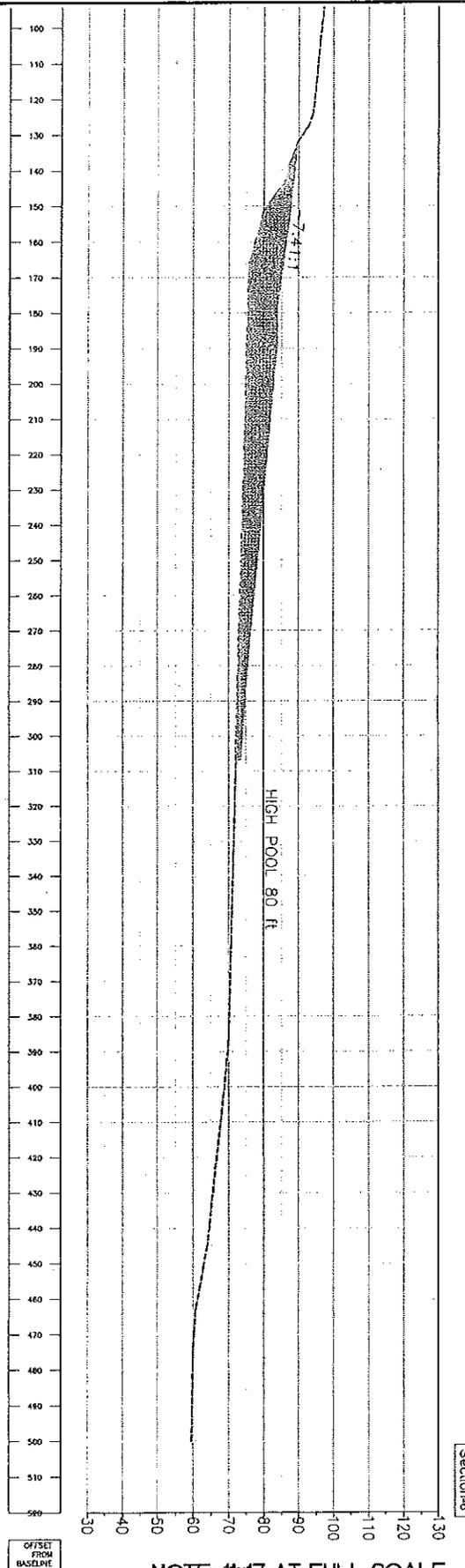
Flowing solutions

Darryl Sahlberg  
 3209 34<sup>th</sup> Street  
 Parkland, WA 97133  
 Phone: (503) 297-4311  
 Fax: (503) 297-4283

SECTION 4, 5  
 Stevenson Shoreline Enhancement, Part of Skamania  
 P.O. Box 1009  
 Stevenson, Washington 98648  
 DATE: June 20, 2008 PROJECT Shoreline



Section-7



Section-6

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE

Flowing solutions

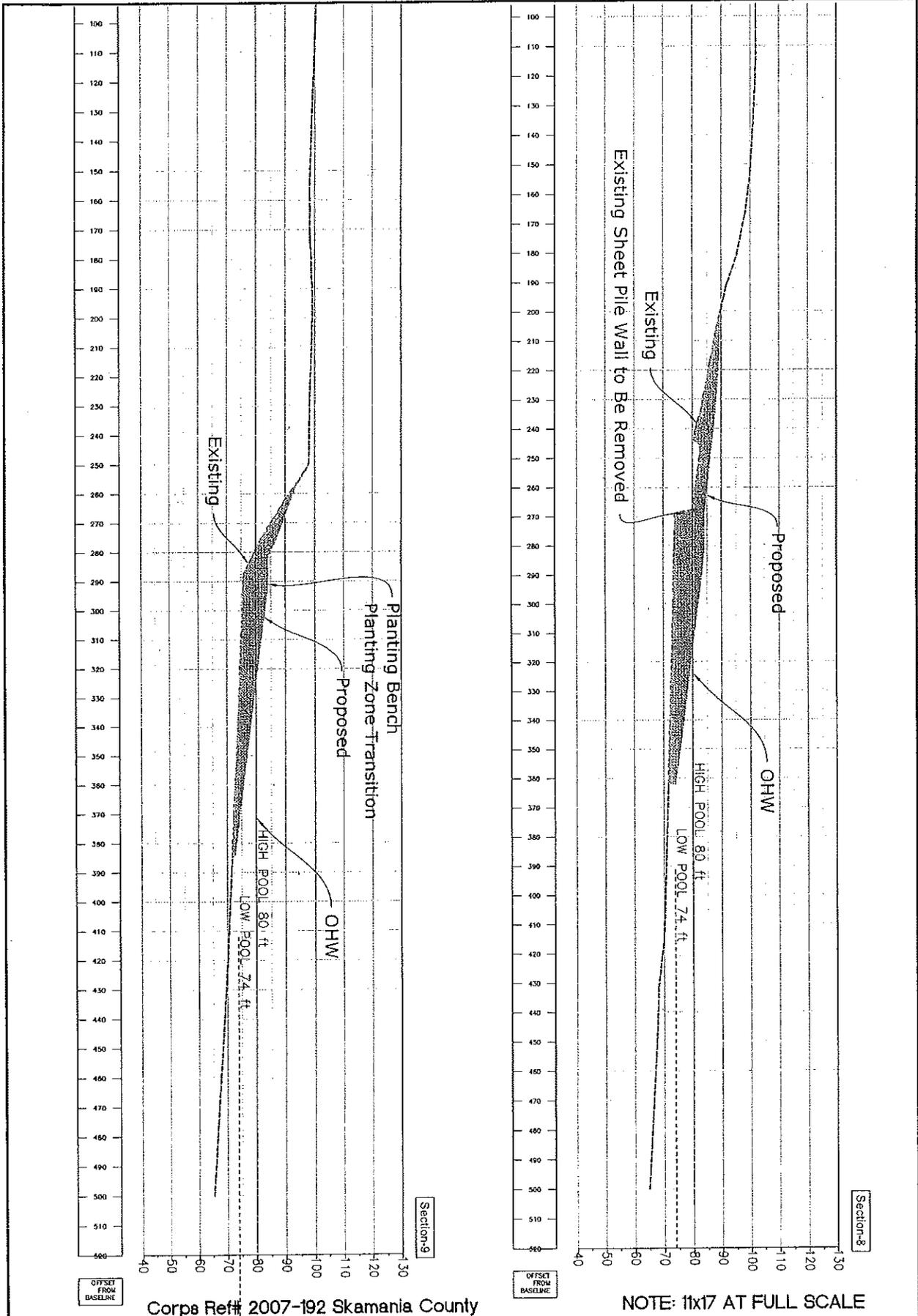
Drafting Solutions  
 1800 W. 27th Avenue  
 Portland, OR 97229  
 Phone: (503) 297-6221  
 Fax: (503) 297-6063

SECTION 6, 7

Stevenson Shoreline Enhancement, Part of Skamania  
 P.O. Box 1090  
 Stevenson, Washington 98648

DATE: June 20, 2008 PROJECT: Shoreline

SHEET  
10  
OF  
14



Corps Ref# 2007-192 Skamania County

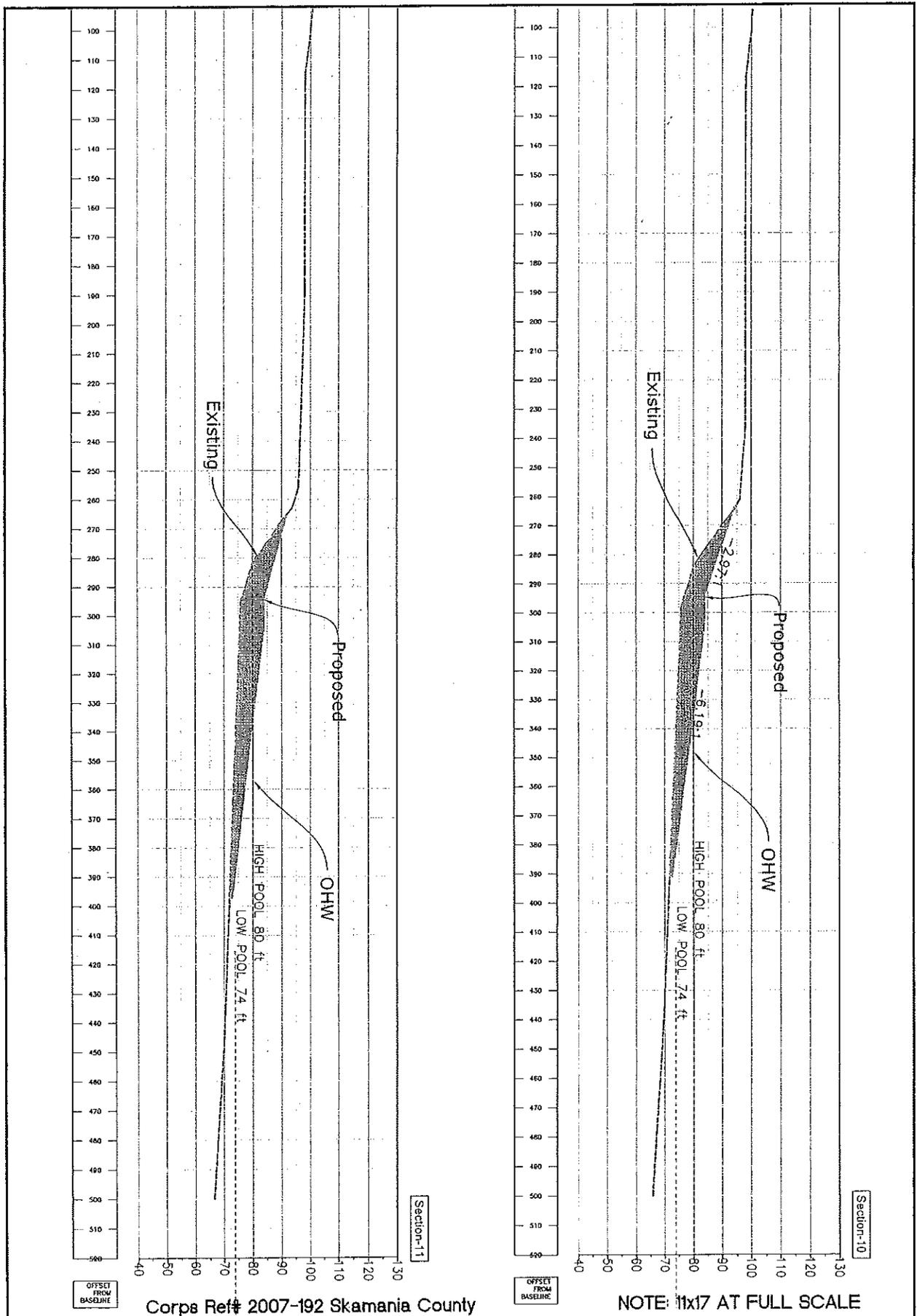
NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE
					PLAN HORIZ 1"=30'
					PROFIZ VERT 1"=30'
					1/2" HIGH (NOT TO SCALE)

Flowing solutions

Flowing Solutions  
3303 1st 81st Avenue  
Portland, OR 97218  
Phone: (503) 297-4371  
Fax: (503) 297-4063

SECTION 8, 9  
Steverson Shoreline Enhancement, Part of Skamania  
P.O. Box 1000  
Steverson, Washington 98648  
DATE: June 20, 2008 PROJECT: Shoreline



Corps Ref# 2007-192 Skamania County

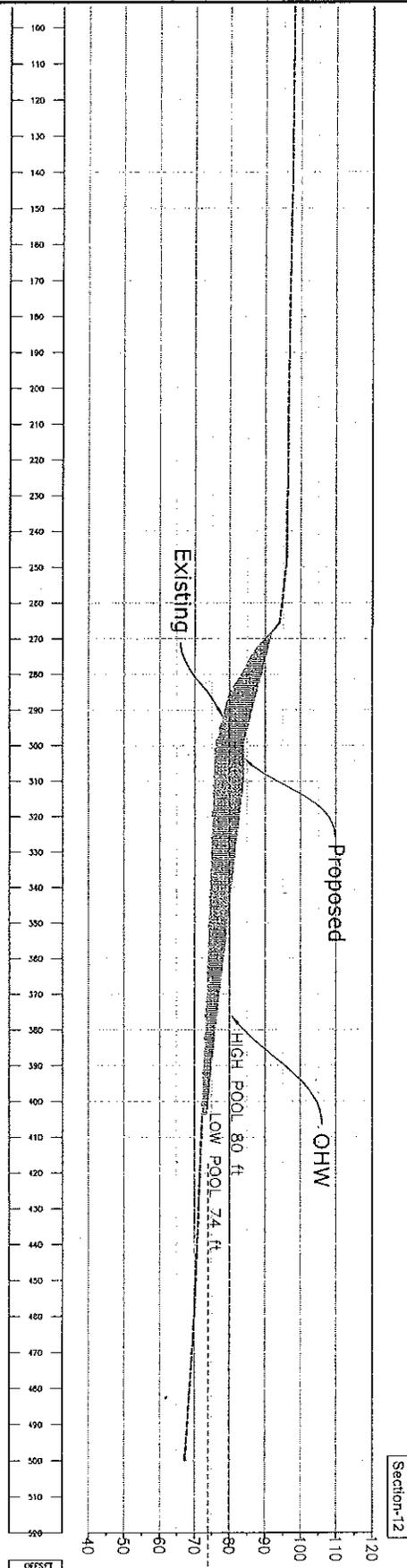
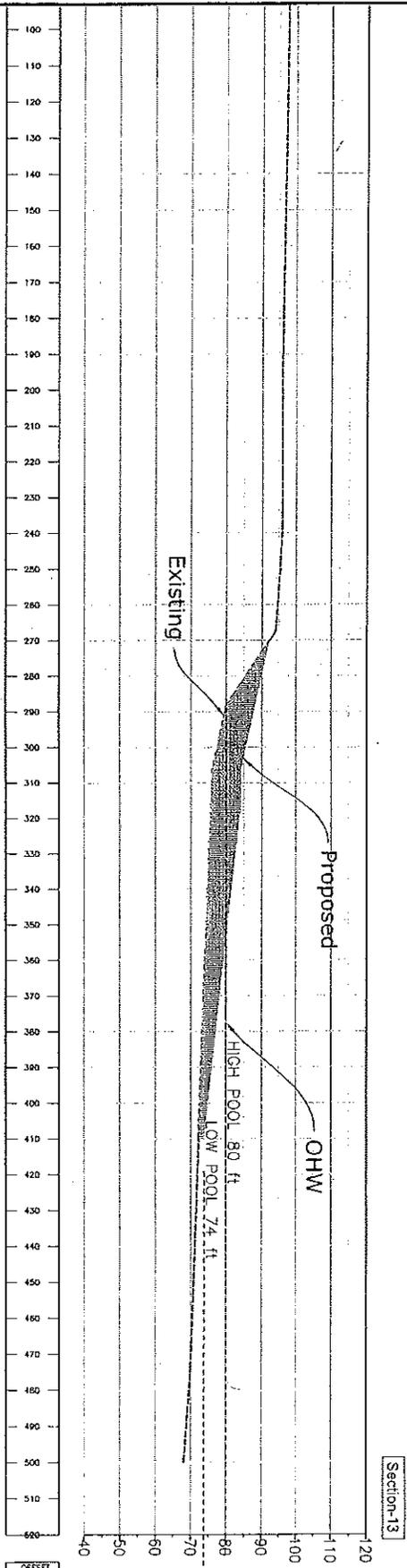
NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE
					PLAN
					VERT. 1"=30'
					PROFILE 1"=30'
					1/2" HIGH (NOT TO SCALE)

Flowing solutions

Flowing Solutions  
2000 3rd Street, Suite 200  
Portland, OR 97204  
Phone: (503) 237-8319  
Fax: (503) 237-4003

SECTION 10, 11  
Stevenson Shoreline Enhancement, Port of Skamania  
P.O. Box 1000  
Stevenson, Washington 98648  
DATE: June 20, 2008 PROJECT Shortline



Corps Ref# 2007-192 Skamania County

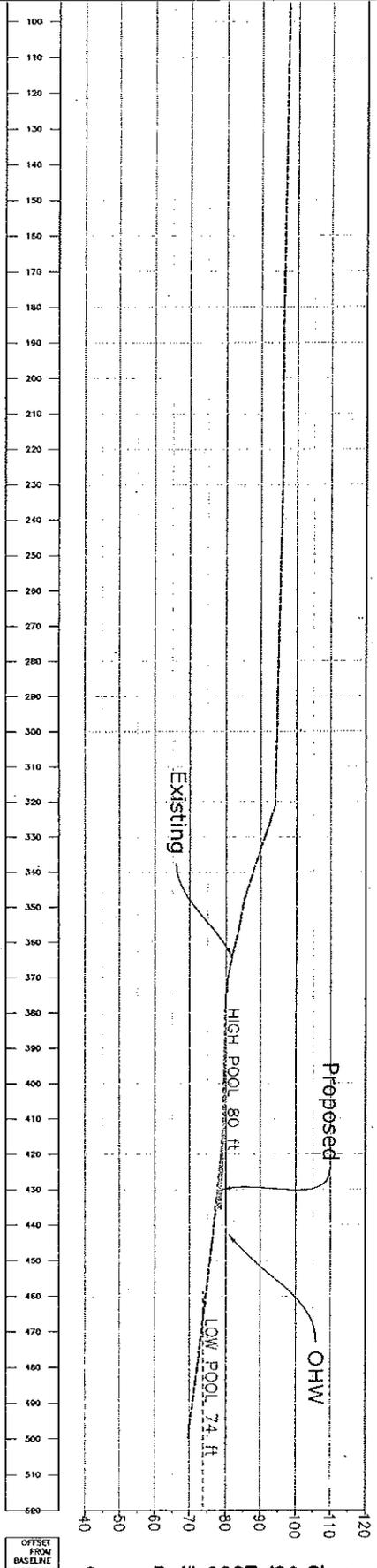
NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV.	SCALE
					PLAN
					VERT. 1"=30'
					HYD. 1"=30'
					1/2" HON (NOT)

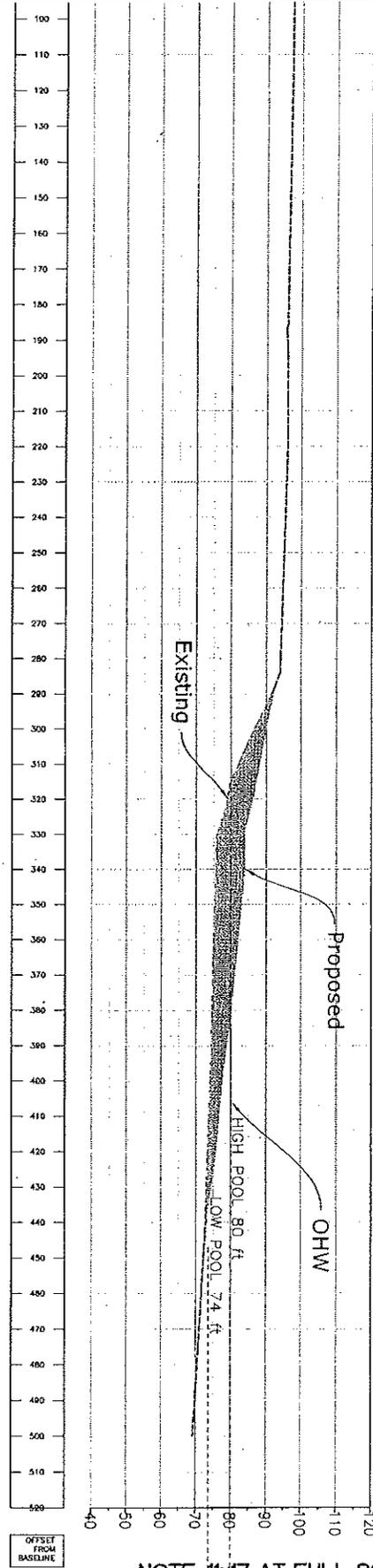
Flowing solutions

Flowing Solutions  
 2004 3rd 87th Avenue  
 Portland, OR 97231  
 Phone: (503) 287-8271  
 Fax: (503) 287-4053

SECTION 12, 13  
 Stevenson Shoreline Enhancement, Port of Skamania  
 P.O. Box 8000  
 Stevenson, Washington 98648  
 DATE: June 20, 2008 PROJECT: Shoreline



Section-15



Section-14

Corps Ref# 2007-192 Skamania County

NOTE: 11x17 AT FULL SCALE

NO.	DATE	REVISION	BY	APPROV	SCALE
					PLAN 1"=30'
					PROFILE 1"=30'
					1/2" INCH (NOT)

Flowing solutions

Design Solutions  
300 5th Avenue  
Portland, OR 97202  
Phone: (503) 297-6311  
Fax: (503) 297-6363

SECTION 14, 15  
Steverson Shoreline Enhancement, Port of Skamania  
P.O. Box 8000  
Steverson, Washington 98548

SHEET  
14  
OF  
14

DATE: June 20, 2008 PROJECT Shoreline