OPERATION & MAINTENANCE MANUAL

DFI No.: D00914

Facility Type: Water Quality Biofiltration Swale

JULY 2016

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00914**
Facility Type:	Water Quality Biofiltration Swale
Construction Drawings:	(V-File Number) 47V-177
Location:	District: 7
	Highway No.: 001
	Mile Post: 161.99/162.02 (beg./end)
	Description: This facility is located on the western side of I-5 (Hwy 001, Pacific Highway). Access can be obtained from the highway shoulder.

2. Facility Contact Information

Contact the Engineer of Record, Region Technical Center, or Geo-Environmental's Senior Hydraulics Engineer for:

- Operational clarification
- Maintenance clarification
- Repair or restoration assistance

Engineering Contacts:

Region Technical Center Hydraulics Engineer (541) 957-3570

Or

Geo-Environmental Senior Hydraulics Engineer (503) 986-3365.

3. Construction

Engineer of Record:	Wade R. Holaday
ODOT Designers:	Region 3 Tech. Center, Phone no. 541-957-3570
Facility construction:	2016
Contractor:	K&A Construction, Inc.

4. Storm Drain System and Facility Overview

A water quality swale is a flat-bottomed open channel designed to treat stormwater runoff from highway pavement areas. This type of facility is

lined with grass. Treatment by trapping sedimentation occurs when stormwater runoff flows through the grass.

Stormwater for the facility is collected by the roadside ditch (Point A) in addition to sheet flow from the adjacent lanes of I-5. Refer to the Operational Plan in Appendix A for the point locations. Water conveyed into the swale undergoes treatment as it flows through the length of the channel. The treated water flows out of the swale through the existing roadside ditch down to Buck Creek Road. (Point B) This storm system directs the flow into Buck Creek.

A. Maintenance equipment access:

Maintenance crew can access the facility from the South Umpqua Weigh Scale that is located on the western side of I-5.

B. Heavy equipment access into facility:

☐ Allowed (no limitations)
☒ Allowed (with limitations)
☐ Not allowed

C. Special Features:

☒ Amended Soils
☒ Porous Pavers
☐ Liners
☐ Underdrains

5. Facility Haz Mat Spill Feature(s)

The swale can be used to store a volume of liquid by blocking the end of the swale with sand bags. (Point B).

6. Auxiliary Outlet (High Flow Bypass)

No auxiliary outlets are provided.

The auxiliary outlet feature for this facility is:

☐ Designed into facility

☒ Other, as noted below
There is no auxiliary outlet for this facility.

7. Maintenance Requirements

Routine maintenance table for non-proprietary stormwater treatment and storage/detention facilities have been incorporated into ODOT's Maintenance Guide. These tables summarize the maintenance requirements for ponds, swales, filter strips, bioslopes, and detention tanks and vaults. Special maintenance requirements in addition to the routine requirements are noted below when applicable.

The ODOT Maintenance Guide can be viewed at the following website:

http://www.oregon.gov/ODOT/HWY/OOM/MGuide.shtml

Maintenance requirements for proprietary structures, such as underground water quality manholes and/or vaults with filter media are noted in Appendix C when applicable.

The following stormwater facility maintenance table (See ODOT Maintenance Guide) should be used to maintain the facility outlined in this Operation and Maintenance Manual or follow the Maintenance requirements outlined in Appendix C when proprietary structure is selected below:

☒ Table 1 (general maintenance)
☐ Table 2 (stormwater ponds)
☒ Table 3 (water quality biofiltration swales)
☐ Table 4 (water quality filter strips)
☐ Table 5 (water quality bioslopes)
☐ Table 6 (detention tank)
☐ Table 7 (detention vault)
☐ Appendix C (proprietary structure)

☐ Special Maintenance requirements:N/A

8. Waste Material Handling

Material removed from the facility is defined as waste by DEQ. Refer to the roadwaste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options: http://egov.oregon.gov/ODOT/HWY/OOM/EMS.shtml

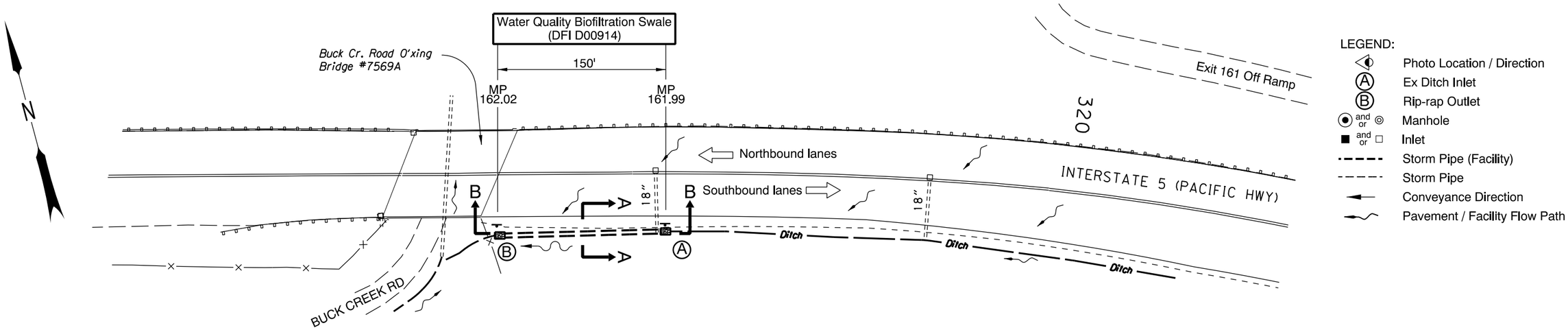
Contact any of the following for more detailed information about management of waste materials found on site:

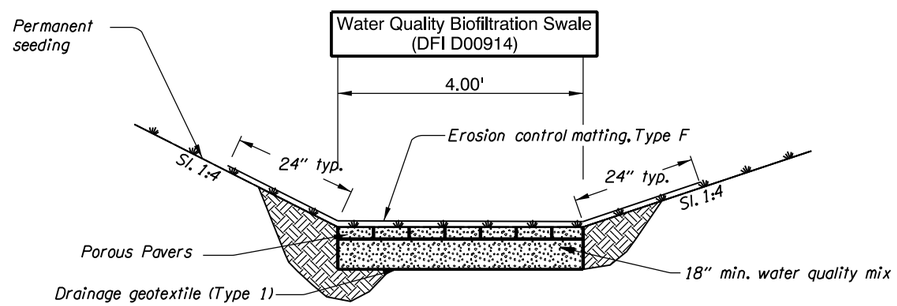
ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(541) 957-3594
ODEQ Northwest Region Office	(503) 229-5263

Appendix A

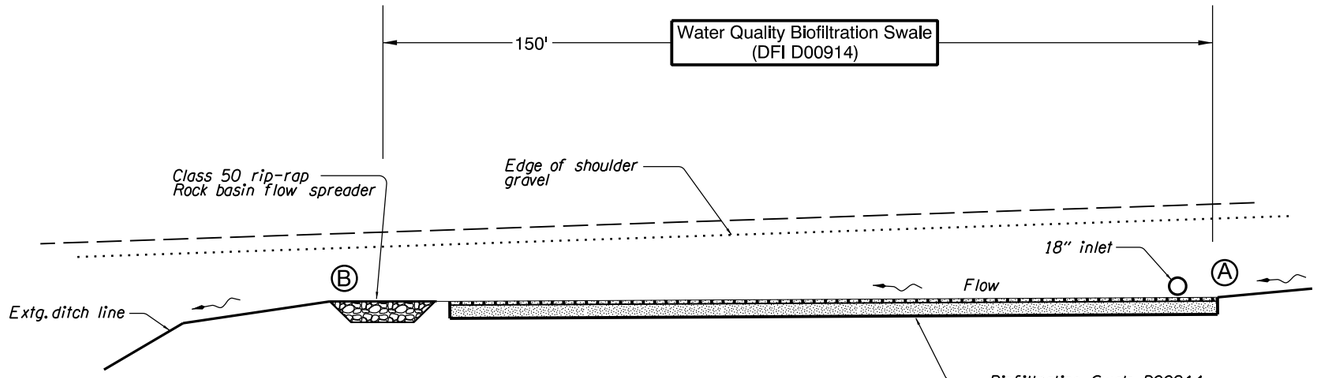
Content:

- **Operational Plan and Profile Drawing(s)**





SECTION A-A
SECTION VIEW
Not to scale



SECTION B-B
SECTION VIEW
Not to scale

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wade Holaday

Drafted By: Wade Holaday

DFI D00914
MAINTENANCE DISTRICT 7 HWY 001
BIOFILTRATION SWALE
HIGHWAY MP 162.02
DOUGLAS COUNTY

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Rotation: 0°14.7625 Scale: 1"=100'

Appendix B

Content:

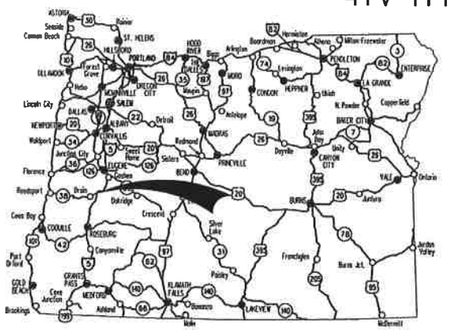
- **ODOT Project Plan Sheets**
  - ***Cover/Title Sheet***
  - ***Water Quality/Detention Plan Sheets***
  - ***Other Details***

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont. & Std. Drg. Nos.
1A-2	Layout Sheet

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED PROJECT

PAVING

47V-177



Overall Length Of Project - 7.66 Miles

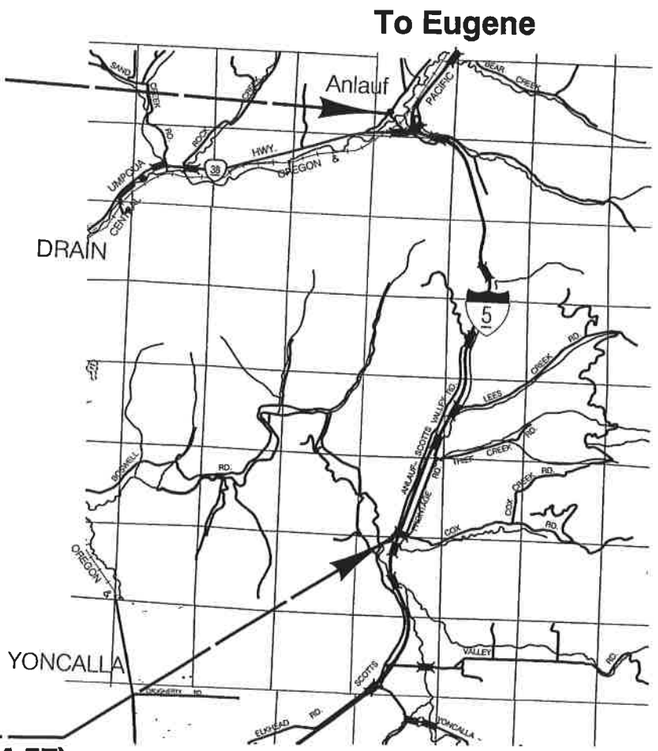
I-5: ANLAUF - ELKHEAD RD PAVING

PACIFIC HIGHWAY
DOUGLAS COUNTY
FEBRUARY, 2015

ATTENTION:
Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through OAR 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

BEGINNING OF PROJECT
NHPP-S001(457)
STA. "LC" 303+37.46 (M.P. 162.23)



END OF PROJECT
NHPP-S001(457)
STA. "LN" 710+00.77 (M.P. 154.57)

N

T. 21 S., R. 4 W., W.M.
T. 22 S., R. 4 W., W.M.

OREGON TRANSPORTATION COMMISSION

Catherine Mater	CHAIR
Tammy Baney	COMMISSIONER
David Lohman	COMMISSIONER
Susan Morgan	COMMISSIONER
Alando Simpson	COMMISSIONER
Matthew L. Garrett	DIRECTOR OF TRANSPORTATION

These plans were developed using ODOT design standards. Exceptions to these standards, if any, have been submitted and approved by the ODOT Chief Engineer or their delegated authority.

Approving Authority: M. Thom 12-9-2014
Signature & date

Mark Thompson Reg. 3 Tech Ctr. Mgr.
Print name and title

Concurrence by ODOT Chief Engineer

I-5: ANLAUF - ELKHEAD RD PAVING
PACIFIC HIGHWAY
DOUGLAS COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	NHPP-S001(457)	1

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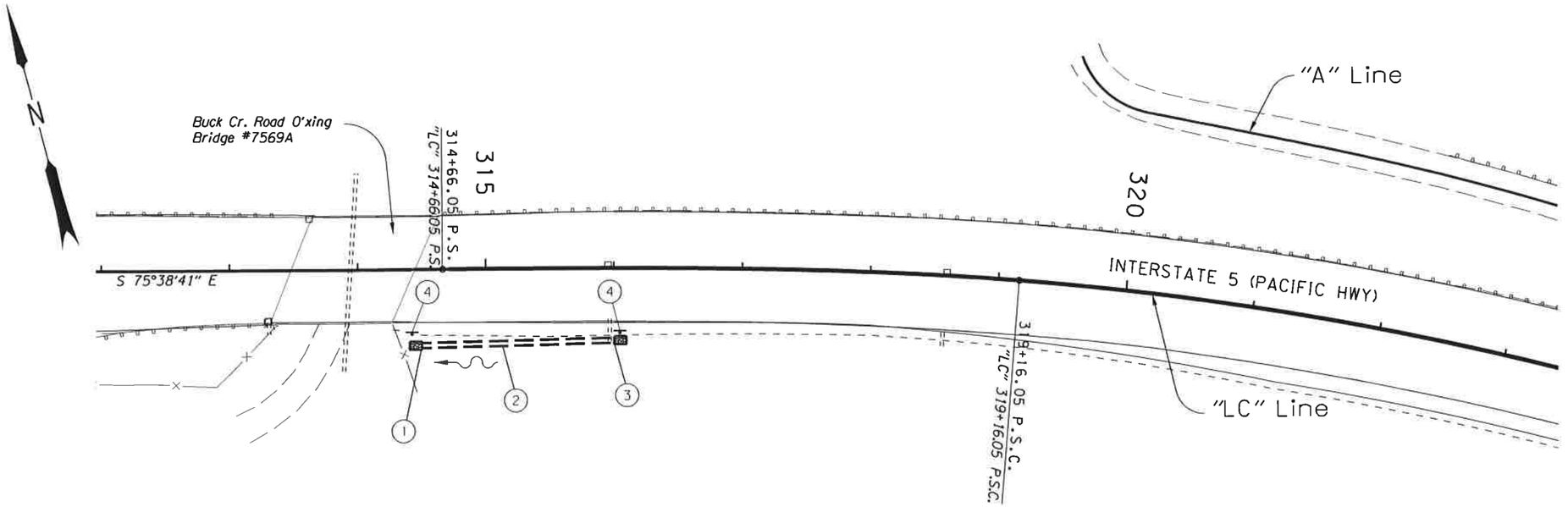
Sec. 31 & 32, T. 21 S, R. 4 W, W.M.

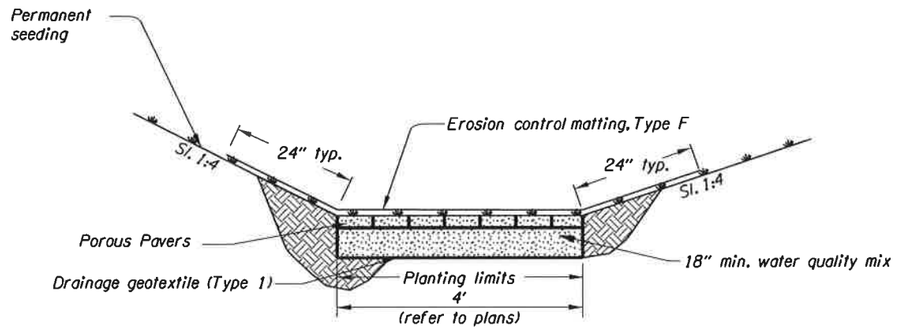


(1) Sta. "LC" 314+49.68 59.7' Rt.
Gen exc. - 1.5 cy
Const loose rip-rap, Class 50 - 1.5 cy
(refer to detail, this sht.)

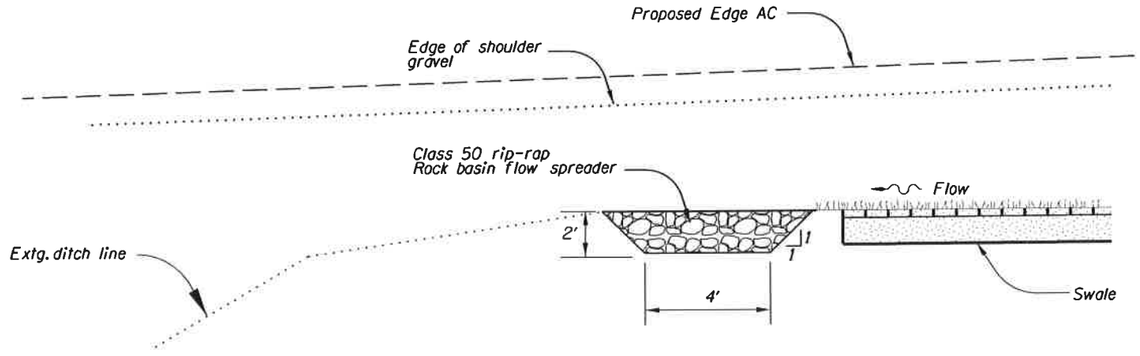
(2) Sta. "LC" 314+49.68, Rt. to "LC" 316+00.10, Rt.
Const. water quality swale D00914
(refer to detail, this sht.)

(3) Sta. "LC" 316+00.10
Gen. exc. - 1.5 cy
Const. loose rip-rap, Class 50 - 1.5 cy

(4) Install field facility marker, Type S2 - 2 ea
(for details, see sht. GJ-6)



WATER QUALITY SWALE
SECTION VIEW
Not to scale



SWALE END DETAIL
Swale D00914

PLANTING TABLE

Common Name	Type	Density
Dense Sedge	plug	2 per sq.ft.
Creeping Spikebrush	plug	
Poverty Rush	plug	
Seep Monkeyflower	plug	

NOTES:
Plant an equal mix of all listed plant species, as shown, at a density of 2 plants per square foot.

REGISTERED PROFESSIONAL ENGINEER
19202
OREGON
JULY 15, 1997
WADE RYDER HOLADAY
EXPIRES: JUNE 30, 2017

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

I-5: ANLAUF - ELKHEAD RD PAVING
PACIFIC HIGHWAY
DOUGLAS COUNTY

Designed by - Wade Holaday
Reviewed by - DeLanie Cutsforth
Drafted by - Wade Holaday

STORMWATER PLANS

SHEET NO. GJ