OPERATION & MAINTENANCE MANUAL

INDEX

1. Identification

Drainage Facility ID (DFI): **00523**

Facility Name: **Bridge Creek Bridge Water Quality Bioretention Pond**

Project Name: US 26: Bridge Creek (Mitchell Access) Bridge #07492 Project

Facility Type: Bioretention Pond

Drawings: See Plan Drawings GJ

Location: District 10; Highway 41; M.P. 66.18 adjacent to Hwy. US 26

2. Facility Contact Information, Engineer of Record

Michael Ogden, PE, ODOT Region 4 Hydraulics Engineer (541) 388-6288

3. Construction

Construction was completed in the year 2012.
The contractor was 2KG Contractors, Inc.

4. Storm Drain System and Facility Overview

The facility consists of a bioretention pond in which the impervious surface of the roadway, of .86 acres, runoff is directed towards the pond by means of a drainage curb and a system of inlets and stormwater pipe. The drainage area extends from the contributory area up to the crest of the hill to the east on Main St. and from Hwy 26 to the northwest. The roadway impervious area drains to a collecting drainage curb and conveyed to the bioretention pond, which then drains to the outfall on the side of the Bridge Creek canyon.

All flows run from the project to this pond from Sta. 2+61.78 to 3+48.38. It is not separated by a flow splitter manhole.

A. Maintenance equipment access:

Maintenance access to the facility is obtained from Main St. which is right off of Hwy 26.

B. Heavy equipment access into facility:

Allowed (no limitations)

C. Special features:

Amended Soils

5. Haz Mat Spill Operation

The pond can be used to collect hazardous material liquid by blocking the 12 inch diameter outlet pipe.

6. Auxiliary Outlet (High Flow Bypass)

Elevation And Type

The outlet system for the pond utilizes a ditch inlet with the base of the grate above the design water surface level of the pond, so that the water quality design volume is dissipated entirely by infiltration, and flows above that volume are passed through the pond by way of the auxiliary inlet. No orifice controls outflow, the diameter of the outflow pipe is 12 inches which is more than adequate to carry the 100 Year conveyance storm.

Direction and Flowpath

The pipe leaving the pond was designed to carry the 100 Year conveyance storm. The flow goes to the side of the canyon of Bridge Creek. If water nears the top of the berm, check for blockage of the pipe.

7. Maintenance Requirements

Routine maintenance tables 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 as selected below:

Table 1 (general maintenance)
Table 2 (stormwater ponds)

8. Waste Material Handling

Material cleaned from the facility is defined as waste by DEQ. This means the material must be disposed at a permitted waste management facility (landfill, incinerator, etc.) or managed, reused, or recycled according to DEQ waste rules.

Management of road waste and the rules that surround it are extremely complicated. Refer to the roadwaste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options:

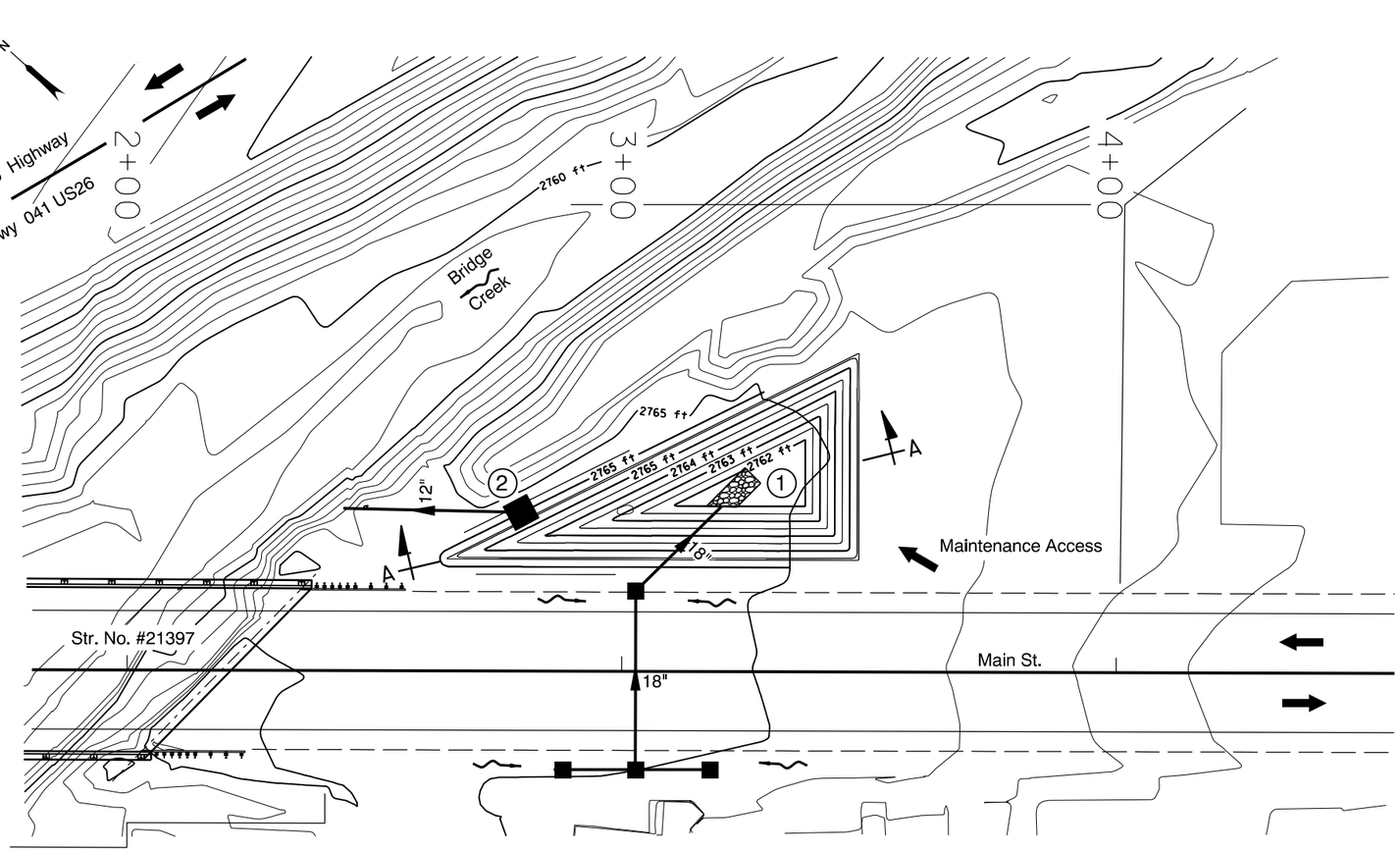
http://egov.oregon.gov/ODOT/HWY/OOM/EMS.shtml

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

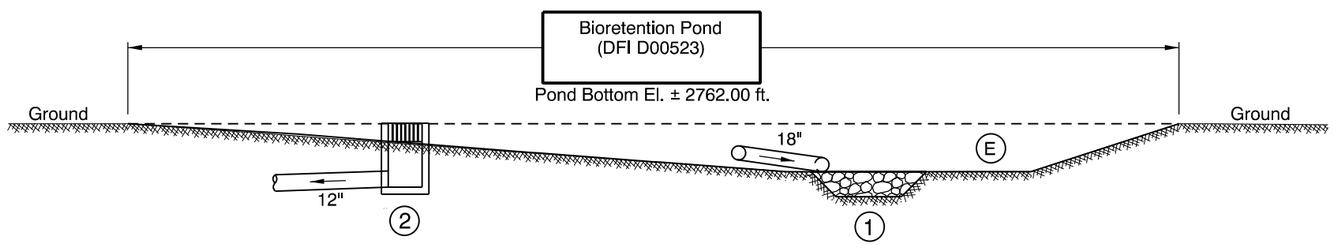
ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region 4 Hazmat Coordinator	(541) 388-6088
ODEQ Region Office	(541) 388-6146

APPENDIX A

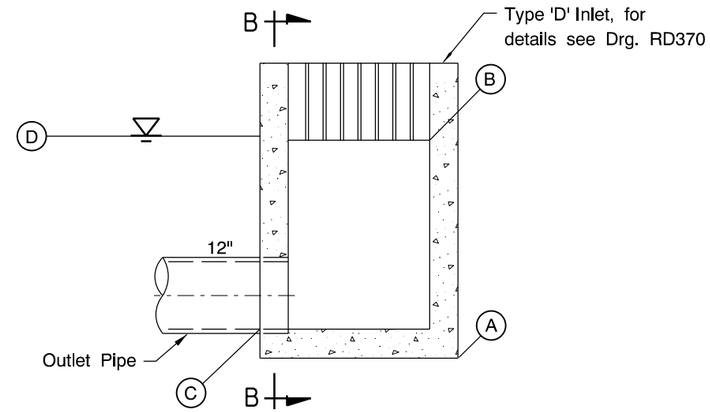
Sec. 36., T. 11 S., R. 21 E., W.M.



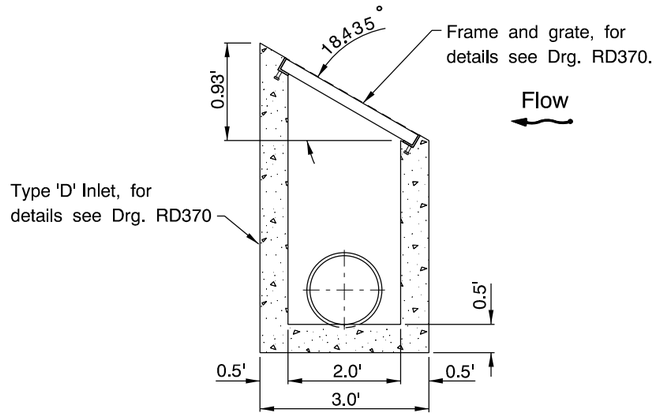
PLAN
N.T.S.



SECTION A-A
N.T.S.



TYPE 'D' INLET
N.T.S.



SECTION B-B
N.T.S.

ITEM	VALUE	DESCRIPTION
A	2761.56 ft.	Elevation of Pond Bottom
B	2764.76 ft.	Elevation of Inlet Lip
C	2762.76 ft.	Flow Elevation of 12" dia. Outlet Pipe
D	2764.90 ft.	Elevation of Check Storm Water Surface

LEGEND:

① Flow Spreader/Energy Dissipator	■ Inlet
② Type 'D' Inlet	Flow Path
Storm Pipe (Facility)	Conveyance Direction

Sht. 1 of 1

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Michael W. Ogden

Drafted By: Michael L. Graves

DFI D00523
MAINTENANCE DISTRICT 10 HWY 041
BIORETENTION POND
OCHOCO HIGHWAY MP 66.18 - 66.19
WHEELER COUNTY

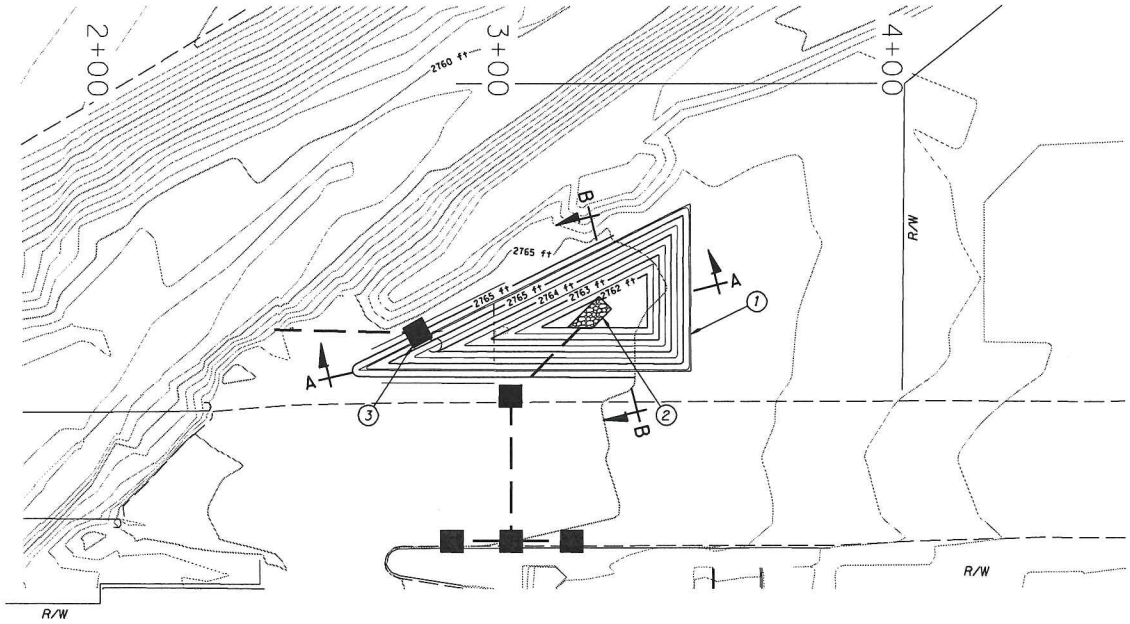
DFI_D00523.dgn :: Default 4/17/2018 11:20:21 AM Hwyr33e

Rotation: 0° Scale: 1"=30'

APPENDIX B

Sec. 36., T. 11 S., R. 21 E., W.M.

44V-077



PLAN
1" = 30'

N

(1) Sta. 2+61.78 to Sta. 3+48.38 Construct Water Quality Detention Pond

(2) Sta. 3+21.63 Lt. Construct loose rip-rap basin (Class 50) 2.8 cu. yds. Install 18" dia. sewer pipe 26.4 ft. length at 5 ft. depth. For details, see sheet GJ-3.

(3) Sta. 2+79.58 Lt. Construct Type 'D' inlet. Install 12" dia. sewer pipe 36 ft. length at 5 ft. depth. For details, see sheet GJ-3.

Note:
For "Section A-A" and "Section B-B", see sheet GJ-2.

SCALE WARNING
If scale bar doesn't measure one inch then drawing is not to scale

Elevations shown are based on North American Vertical Datum (1988)

REGISTERED PROFESSIONAL ENGINEER
56156
OREGON
OCTOBER 9, 2003
MICHAEL W. OGDEN
FOR REVIEW ONLY
FOR REVIEW ONLY
RENEWAL DATE: DEC. 31, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

US26: BRIDGE CREEK
(MITCHELL ACCESS) BRIDGE #07492 PROJECT
OCHOCO HIGHWAY
WHEELER COUNTY

Reviewed by - Michael L. Morris
Designed by - Michael W. Ogden
Drafted by - Michael L. Graves

WATER QUALITY POND

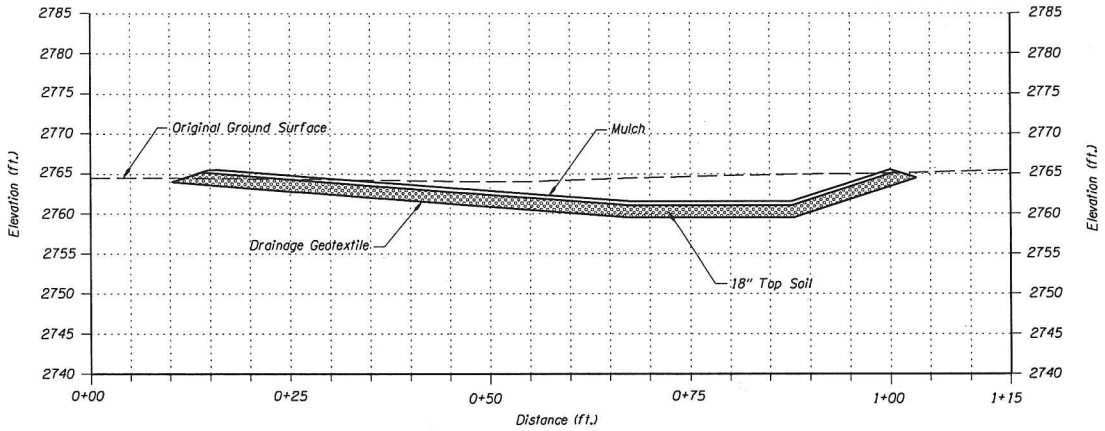
SHEET NO. GJ

Z:\Wheeler\15965_US26BridgeCreekBridge\HydroPlans_21397\15965_GJ01.dgn :: Default 3/14/2011 12:14:08 PM hwye78x

1:360 GJ01

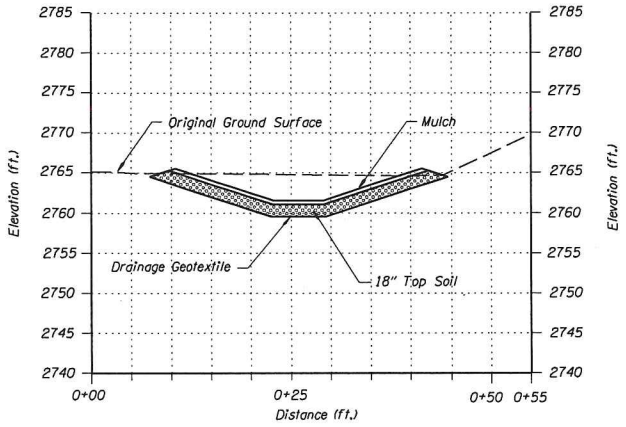
T. 11 S., R. 21 E., Sec. 36., W.M.

44V-077



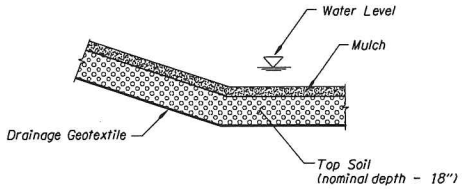
SECTION A-A

1" = 15'



SECTION B-B

1" = 15'



FILTER LAYER DETAIL

Not to Scale

Note:
For location of "Section A-A" and "Section B-B", see sheet GJ.

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

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WATER QUALITY POND

SHEET NO. GJ-2

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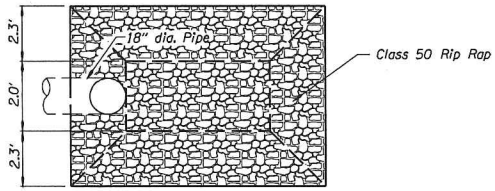
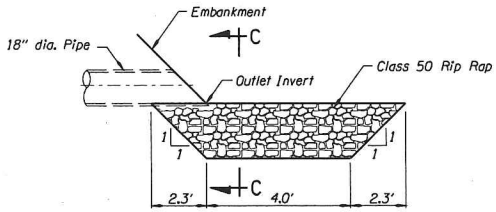
1:180 GJ02

T. 11 S., R. 21 E., Sec. 36., W.M.

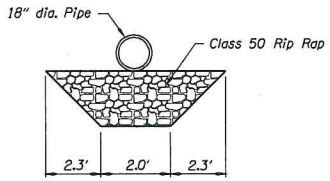
44V-077



PLAN



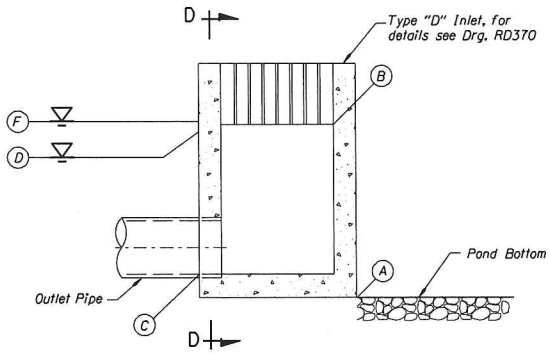
ELEVATION



SECTION C-C

RIP RAP PAD DETAIL

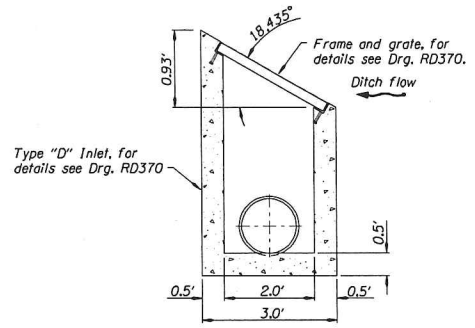
Not to Scale



AUXILIARY INLET

Not to Scale

ITEM	VALUE	DESCRIPTION
A	2761.56'	Elevation of Pond Bottom
B	2764.76'	Elevation of Inlet Lip
C	2762.76'	Flow Elevation of 12" dia. Outlet Pipe
D	2764.66'	Elevation of W.Q. Water Surface
E	928 ft.^{3}	Pond Design W.Q. Volume at "E"
F	2764.90'	Elevation of Check Storm Water Surface



SECTION D-D

Not to Scale

SCALE WARNING

If scale bar doesn't measure one inch then drawing is not to scale

Elevations shown are based on North American Vertical Datum (1988)

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OCTOBER 9, 2003
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REGION 4 TECHNICAL CENTER

US26: BRIDGE CREEK (MITCHELL ACCESS) BRIDGE *07492 PROJECT

OCHOCO HIGHWAY

WHEELER COUNTY

Reviewed by - Michael L. Morris
Designed by - Michael W. Ogden
Drafted by - Michael L. Graves

STORM WATER DETAILS

SHEET NO. GJ-3

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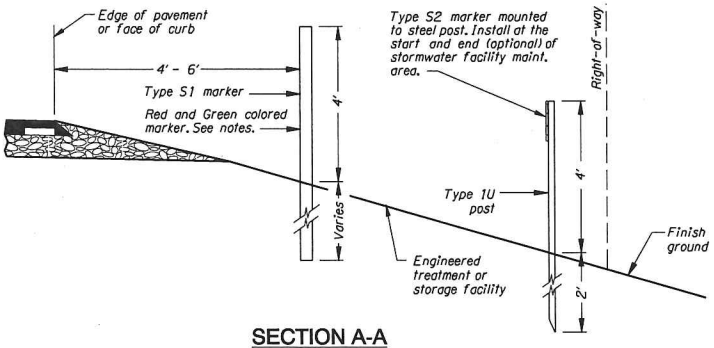
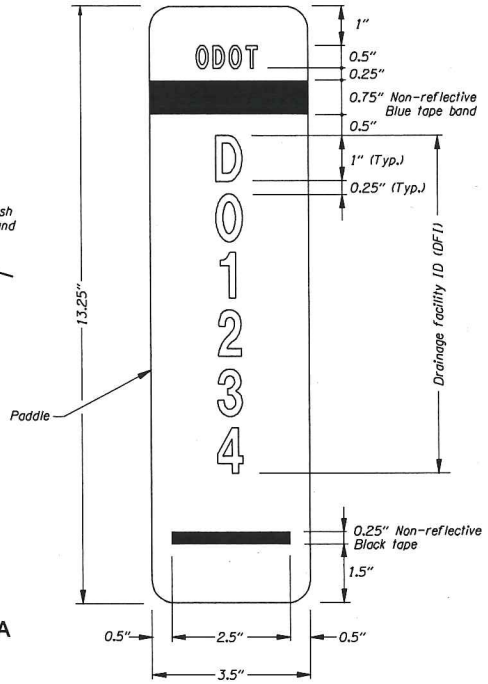
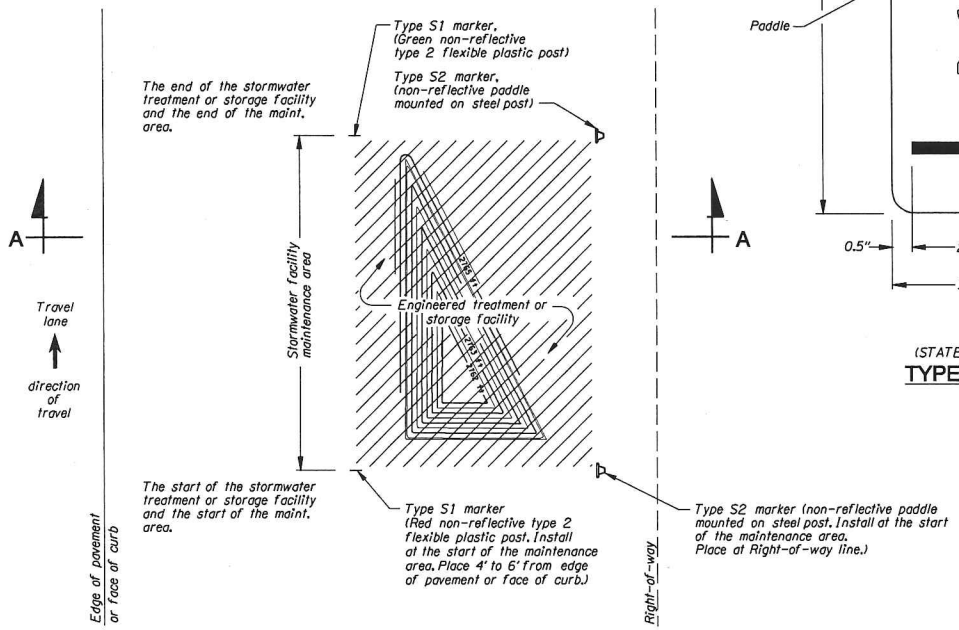
1:180 GJ03



SECTION A-A
Not to Scale



(STATE SUPPLIED ITEM)
TYPE S2 MARKER
Not to Scale



TYPE S1 & S2 MARKERS INSTALLATION DETAIL
Not to Scale

MARKER TABLE

FACILITY LOCATION		DFI #	TYPE S2 MARKER LOCATION		TYPE S1 MARKER	
STATION	MP		BEGIN	END	RED	GREEN
2+61.78	66.18	D00523	✓		✓	
3+48.38	66.19	D00523		✓		✓

NOTES:

Stormwater Facility Field Marker Type S1:

1. See Standard Drawing TM570 for Type 2 flexible plastic post dimensions. Do not mount reflective sheeting to flexible plastic post.
2. A red Type S1 marker is used to mark the start of a stormwater facility maintenance area. A green Type S1 marker is used to mark the end of a stormwater facility maintenance area.
3. Place 4 to 6 feet from edge of pavement or face of curb.
4. See marker table for installation locations.

Stormwater Facility Field Marker Type S2:

1. Paddle:
   - Aluminum sheet, nominal thickness 0.050".
   - White non-reflective background.
   - Mount paddle to one (1) Type 1U steel post using $\frac{3}{16}$" diameter aluminum blind rivets and washers. See Standard Drawing TM 570 detail labeled "Steel Posts" for mounting a traffic target. Install paddle onto Type 1U steel post using the same hole pattern.
   - Text and numbers are Type C font in non-reflectorized black.
   - Band is non-reflective blue tape.
   - Do not mount paddle to other highway signing posts.
   - Install paddle parallel to travel lane.
   - Prepare paddle for each "DFI" noted in the marker table.
2. Steel Posts:
   - See Standard Drawing TM571 for Type 1U steel post dimensions.

REGISTERED PROFESSIONAL ENGINEER 56156 OREGON OCTOBER 9, 2003 MICHAEL W. OGDEN
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OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

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OCHOCO HIGHWAY
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STORMWATER TREATMENT AND STORAGE FACILITY FIELD MARKERS

SHEET NO. GJ-4