OPERATION & MAINTENANCE MANUAL

DFI No. : D01122
Facility Type: Bioretention Pond/Swale Combo

October, 2017

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1. Identification

Drainage Facility ID (DFI):	**D01122**
Facility Type:	Pond/Swale Combo
Construction Drawings:	51V-006
Location:	District: 9
	Highway No.: 005
	Mile Post: 57.60
	Description: This facility is located East of the highway on an ODOT owned road (1st Street) that leads into Fossil.

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 Hydro Unit Manager

Or

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

3. Construction

Engineer of Record: Wade Coatney – Region 4 Tech. Center, Ph: 541-388-6234

Facility construction: 2018

Contractor:

4. Storm Drain System and Facility Overview

A detention pond/water quality biofiltration swale combo (referred to from this point forward as a pond/swale combo) combines the forms and

functions of a water quality swale and a detention pond. In a pond/swale combo, the biofiltration swale is situated within the bottom confines of the detention facility. The facility retains the storm events up to the two year design storm. Storms larger than this flow through the system, allowing it to functioning as a swale.

The facility is located on the shoulder of 1st Street (approx. 230 feet east of OR19) just east of Butte Creek, at the toe road. The drainage basin for this facility is the southern half of 1st Street from the western edge of the drainage curb to the east, approximately 120 feet east of the Butte Creek culvert.

The facility is split into two sections to allow for enough infiltration capacity. The facility is separated by an earthen berm, approximately centered on the facility. The berm is critical to the functionality of the system.

A roadway sag exists adjacent to the Butte Creek culvert. This area has inlets and storm pipe that collect and convey stormwater to the east. The storm pipe outfalls into the eastern section of this facility. Stormwater east of the drainage curb sheets flows into the facility. When the facility overflows, it will flow along the road embankment, down to Butte Creek.

A. Maintenance equipment access:
   Access will be obtained by parking on 1st Street adjacent to the facility. Access is only allowed on foot.

B. Heavy equipment access into facility:

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

C. Special Features:

   ☐ Amended Soils
   ☐ Porous Pavers
   ☐ Liners
   ☒ Drain Rock Surface

Photo 1: DFI01122 looking south, Google street view August 2023.

5. Facility Haz Mat Spill Feature(s)

This facility can be used to store approximately 115 cubic feet of liquid prior to overflowing. No special measures need to be taken to allow the facility to retain haz mat in the facility.

6. Auxiliary Outlet (High Flow Bypass)

Auxiliary Outlets are provided if the primary outlet control structure cannot safely pass the projected high flows. Broad-crested spillway weirs and over flow risers are the two most common auxiliary outlets used in stormwater treatment facility design. The auxiliary outlet feature is either a part of the facility or an additional storm drain feature/structure.

The auxiliary outlet feature for this facility is:

☒ Designed into facility
The facility is designed to infiltrate the 2-year storm. Flow above what the facility can infiltrated will inundate the facility and flow through, acting as a swale. The facility itself is design to convey stormwater on larger flows. The natural drainage slope is towards Butte Creek.

☐ Other, as noted below

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:

This facility has been designed with a drain rock surface to allow for a larger storage capacity. Upon regular inspections, the drain rock should be inspected to evaluated sedimentation. If the facility becomes clogged with sediment, the drain rock should be dug out, sifted and returned with little to no fines. The drain rock can also be removed and replaced with new drain rock.

The berm separating the facility in half needs to be visually inspected on a semi-annual basis to assure it is still intact. If the berm becomes eroded or damaged, it should be re-built to what is shown in the original plans.

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) 388-6088
ODEQ Northwest Region Office	(503) 229-5263

Appendix A

Content:

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

N

Butte Creek

First Street

(To Fossil)

Mile Point 57.6

John Day Hwy OR19
(Hwy 005)

Ⓐ

Ⓑ

Facility
(DFI D01121)

Facility
(DFI D01122)

LEGEND:

- Photo Location / Direction
- Ⓐ Inlet
- Ⓑ Outlet
- Berm
- Inlet
- Storm Pipe (Facility)
- Existing Culvert
- Conveyance Direction
- Pavement / Facility Flow Path

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Wade Coatney

Drafted By: Wade Coatney

DFI D01122
MAINTENANCE DISTRICT 9 HWY 005
FACILITY TYPE
HIGHWAY MP 57.6
WHEELER COUNTY

DFI_D01122.dgn :: Default 10/6/2017 2:37:43 PM hwye40p

Rotation: 0° Scale: 1"=30'

Appendix B

Content:

- **ODOT Project Plan Sheets**
  - ***Title Sheet***
  - ***Typical Sections***
  - ***Details***
  - ***General Construction Sheets***

51V-006

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont'd. & Std. Drg. Nos.
1A-2	Layout Sheet
1B Thru 1B-5 Incl.	Control Data Sheet

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

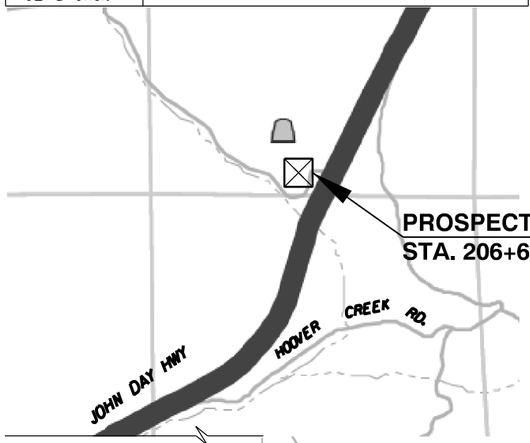
PLANS FOR PROPOSED PROJECT

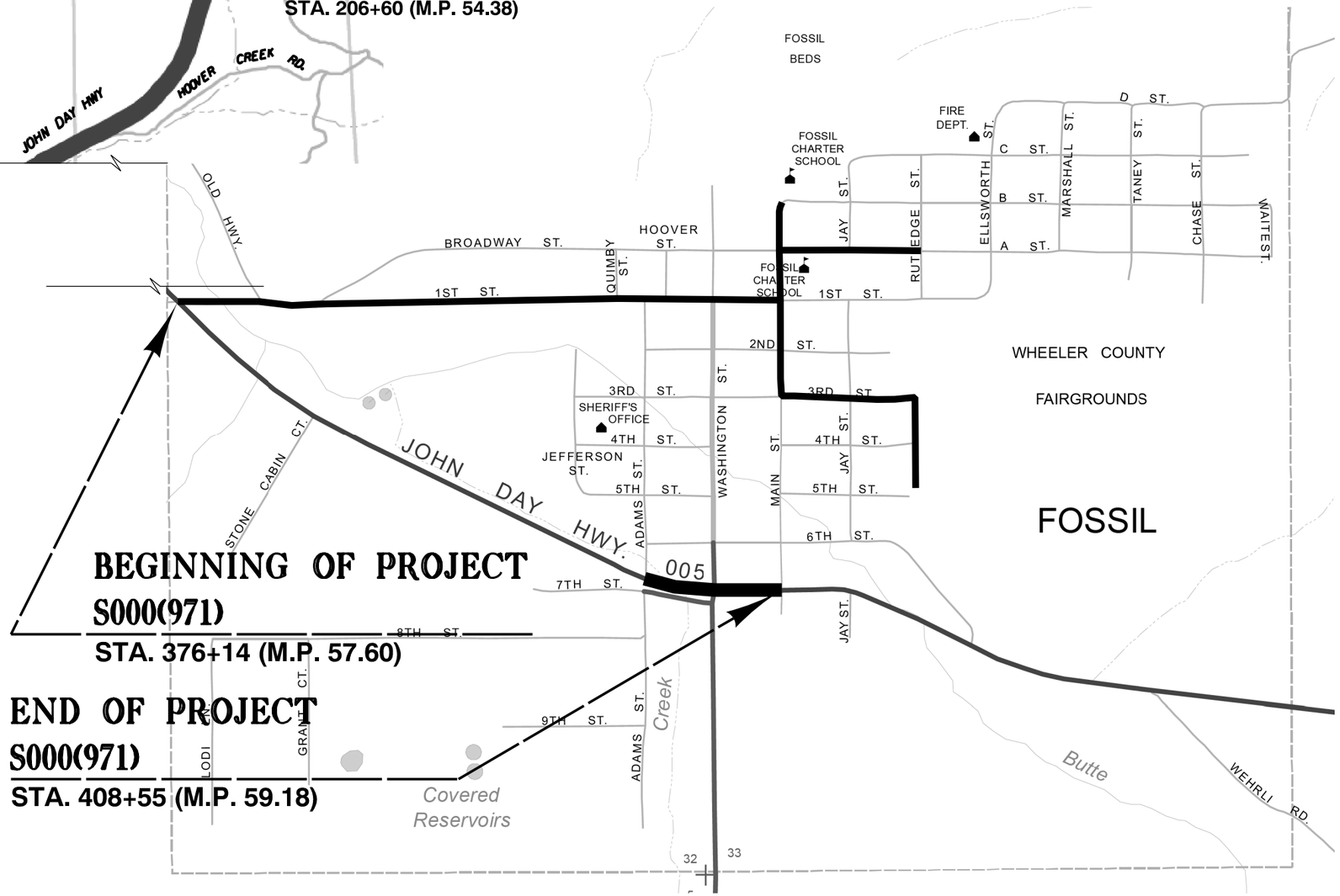
GRADING, DRAINAGE, STRUCTURE, PAVING & SIGNING

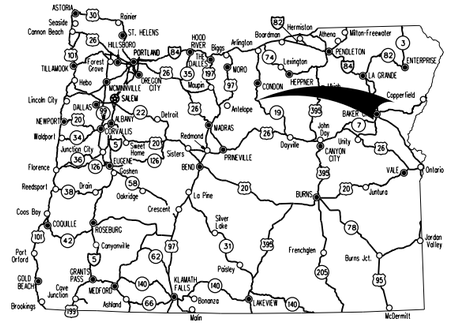
FOSSIL HERITAGE TRAIL (FOSSIL) PROJECT

JOHN DAY HIGHWAY

WHEELER COUNTY
NOVEMBER 2017







Overall Length Of Project - 3.1 Miles

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

OREGON TRANSPORTATION COMMISSION

Tammy Baney	CHAIR
David Lohman	COMMISSIONER
Alando Simpson	COMMISSIONER
Sean O'Hollaren	COMMISSIONER
Paula Brown	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: _____
Signature & date

Jon Heacock, Region 4 TCM
Print name and title

_____
Concurrence by ODOT Chief Engineer

T. 6 S., R. 21 E., W.M.

FOSSIL HERITAGE TRAIL (FOSSIL) PROJECT
JOHN DAY HIGHWAY
WHEELER COUNTY

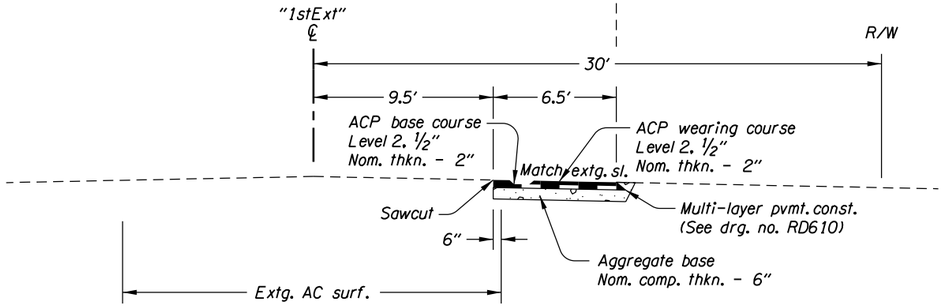
FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	S000(971)	1

PE002504 000 J13

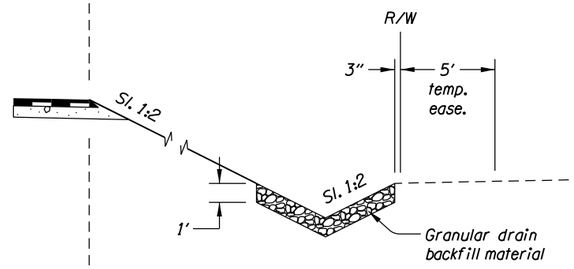
01_18730ts.dgn :: Default 9/27/2017 4:24:23 PM hwye431

FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

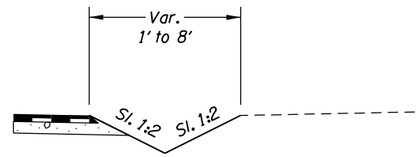
1:1200 - 001



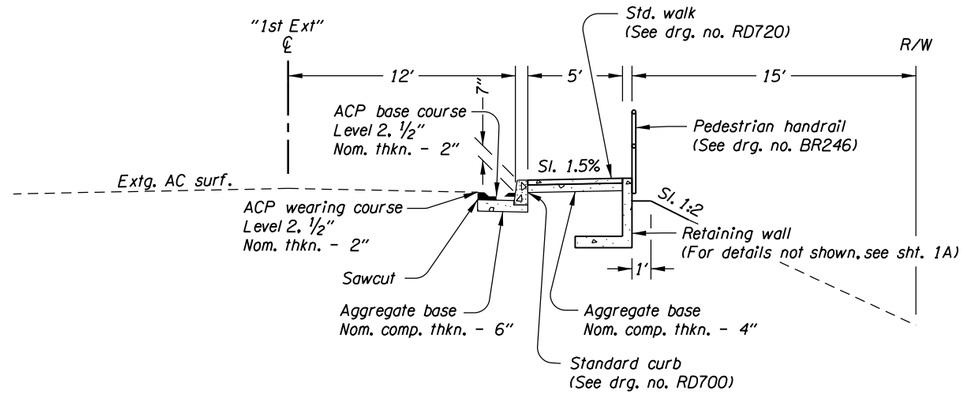
STA. "1stExt" 1+36 To STA. "1stExt" 2+25
"1stExt" 2+75 To "1stExt" 6+15



Sta. "1stExt" 2+62 to Sta. "1stExt" 3+45



Sta. "1stExt" 1+50 to Sta. "1stExt" 2+05



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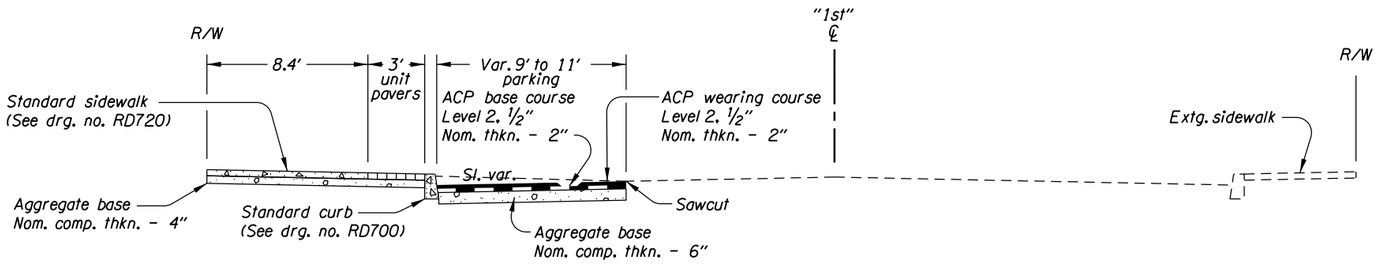


STA. "1st" 3+55 To STA. "1st" 6+28

NOTE:
1. *Side-slopes are shown as vert. to horiz.*
2. *Curb exposure to be 6", unless shown otherwise.*
3. *Delineate 6′ shoulder with 4" white striping from Sta. "1st Ext" 1+36 to Sta. "1st" 19+50*

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

REGISTERED PROFESSIONAL ENGINEER
49581
OREGON
JULY 12, 2005
BRIAN D. PASLAY
RENEWS: 12-31-2018

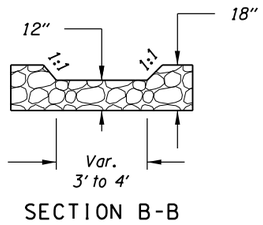
FOSSIL HERITAGE TRAIL (FOSSIL) PROJECT
JOHN DAY HIGHWAY
WHEELER COUNTY

Reviewed By - Martin R. Matejsek
Designed By - Brian D. Paslay
Drafted By - Joseph J. Rodriguez

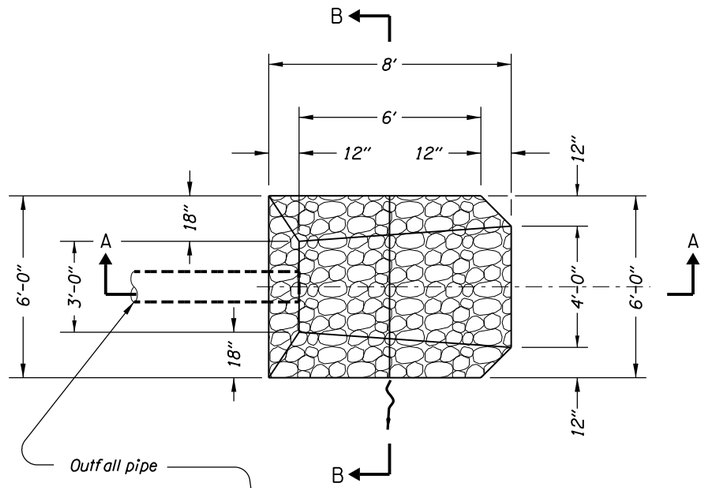
TYPICAL SECTIONS

SHEET NO. 2

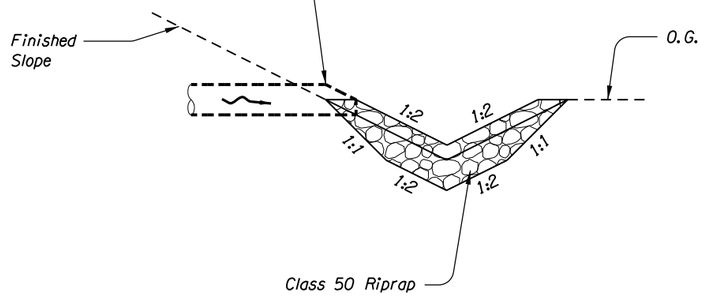
FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST



SECTION B-B

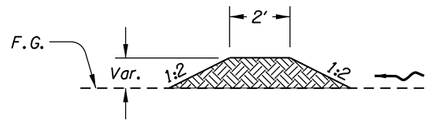


PLAN

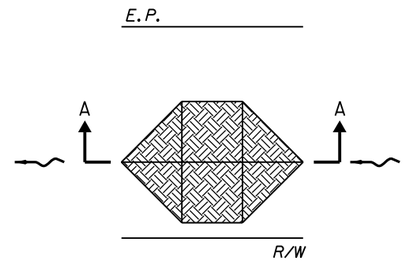


SECTION A-A

RIPRAP ENERGY DISSIPATOR



SECTION A-A



PLAN

EARTHEN BERM

OREGON DEPARTMENT OF TRANSPORTATION

REGION 4 TECHNICAL CENTER

REGISTERED PROFESSIONAL ENGINEER
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JULY 12, 2005
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DETAILS

SHEET NO. 2B-26

Sec. 32, T. 6 S., R. 21 E., W.M.

(9) Install temporary type 1 fencing
(See drg. no. RD810)

(10) Install type 1 fencing - 172'
includes 16' gateway
(See drg. no. RD810)

(11) Inst. Type "S2" Marker
DFI no. D01121
(See drg. no. RD399)

(12) Inst. Type "S2" Marker
DFI no. D01122

(13) Inst. Type "S1" marker, green - 2
(See drg. no. RD399)

(14) Inst. Type "S1" marker, red - 2

(15) Const. earthen berm
(For details, see sht. 2B-26)

(1) Const. std. sidewalk
(See drg. no. RD720)

(2) Const. standard curb
(See drg. no. RD700)

(3) Const. pedestrian handrail
(See drg. no. BR246)

(4) Const. shoulder widening

(5) Const. retaining wall
(For details, see shts. GT & GT-2)

(6) Sta. "1st Ext" 2+59, Rt.
Inst. 12" storm sewer pipe - 10'
5' Depth
Const. type "G-1" inlet with sump
(See drg. nos. RD300, RD302, RD339, RD364 & RD365)

(7) Sta. "1st Ext" 2+69, Rt.
Inst. 12" storm sewer pipe - 76'
5' Depth
Const. type "G-1" inlet with sump

(8) Sta. "1st Ext" 3+45, Rt.
Inst. 12" storm sewer pipe - 13'
5' Depth
Const. sloped end
Const. type "G-1" inlet with sump
Const. riprap energy dissipator
(For details, see sht. 2B-26)
(See drg. no. RD316)

N

"1st_Ext" 0+00.00

"1st_Ext" 1

"1st_Ext" 2

"1st_Ext" 3

"1st_Ext" 4

"1st_Ext" 5

"1st_Ext" 6

"1st" 25+72.05
"1st_Ext" 6+15.00

"1st" 25

OLD HWY.

FIRST ST.

JOHN DAY HWY.

R/W

Temp ease

N 89°12'09" E

S 88°30'19" W

377

378

379

380

U T

U W

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GENERAL CONSTRUCTION

SHEET NO. 3