OPERATION & MAINTENANCE MANUAL

DFI No. : D00576
Facility Type: Water Quality
Biofiltration Swale

JULY, 2018

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00576**
Facility Type:	Water Quality Biofiltration Swale
Construction Drawings:	45V-101
Location:	District: 08
	Highway No.: 025
	Mile Post: 0.65; 0.75 (beg./end)
	Description: This facility is located in the median of US 199. Access to the facility can be obtained along the shoulder of US 199.

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: Jason Sheadel – Region 3 Tech Center

Facility construction: 2013
Contractor: N/A

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.

This facility is located along the median of US 199 (No. 025). Access for this facility is available from the median shoulder of US 199. Stormwater enters the facility via roadway runoff and a drainage ditch. As the water flows west it is treated as it slows and spreads out within the swale before outfalling into a storm drainage pipe.

A. Maintenance equipment access:
This facility can be accessed from the median of US 199 (Hwy 025) shoulder.

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 water quality biofiltration swale can be used to store a volume of liquid by blocking the facility outlet through use of sandbags.

6. Auxiliary Outlet (High Flow Bypass)

Auxiliary Outlets are provided if the primary outlet control structure can not 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

☒ Other
There are no auxiliary outlets built into this facility. In the event that flows exceed design flows the water will overtop the swale.

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:

Note: Special maintenance Requirements Require Concurrence from ODOT SR Hydraulics Engineer.

8. Waste Material Handling

Material removed from the facility is defined as waste by the Department of Environmental Quality (DEQ). Refer to the roadwaste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options:

http://www.oregon.gov/ODOT/Maintenance/Documents/ems_manual.pdf

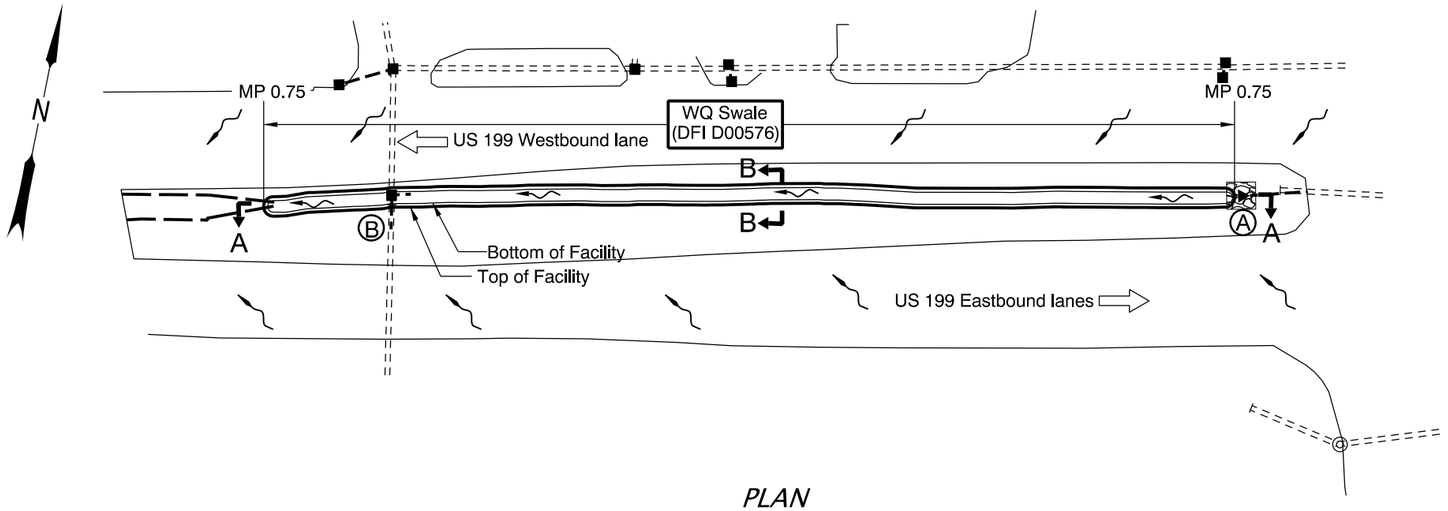
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 667-7442
ODOT Region 1 Hazmat Coordinator	(503) 731-8290
ODOT Region 2 Hazmat Coordinator	(503) 986-2647
ODOT Region 3 Hazmat Coordinator	(541) 957-3594
ODOT Region 4 Hazmat Coordinator	(541) 388-6186
ODOT Region 5 Hazmat Coordinator	(541) 963-1590
ODEQ Northwest Region Office	(503) 229-5263

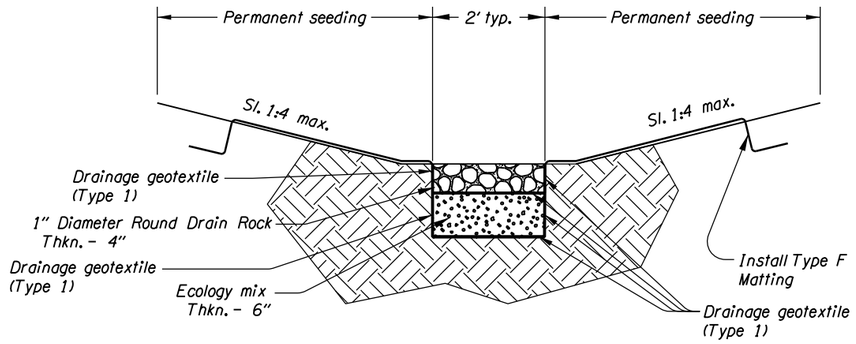
Appendix A

Content:

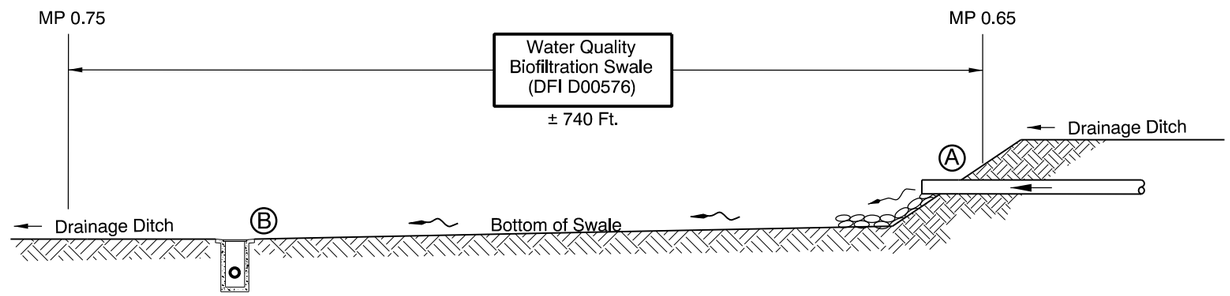
- **Operational Plan and Profile Drawing(s)**



PLAN
N.T.S.



SECTION B-B
N.T.S.



SECTION A-A
N.T.S.

LEGEND:

- Ⓐ Swale Inlet w/Flow Spreader
- Ⓑ Swale Outlet
- ■ and or □ Inlet
- ◉ and or ◎ Manhole
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement / Facility Flow Path

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: T. BURRIER

Drafted By: T. BURRIER

DFI D00576
MAINTENANCE DISTRICT 8 HWY 025
WATER QUALITY BIOFILTRATION SWALE
HIGHWAY MP 0.65 TO MP 0.75
JOSEPHINE COUNTY

Appendix B

Content:

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

45V-101

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont. & Std. Dwg. Nos.

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

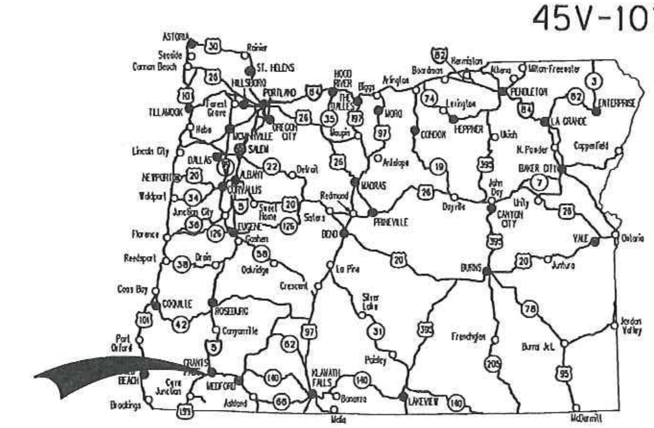
PLANS FOR PROPOSED PROJECT

SIGNAL REMOVAL, PAVING & SIGNING

US 199 @ JOSEPHINE COUNTY FAIRGROUNDS

REDWOOD HIGHWAY

JOSEPHINE COUNTY
AUGUST 2012



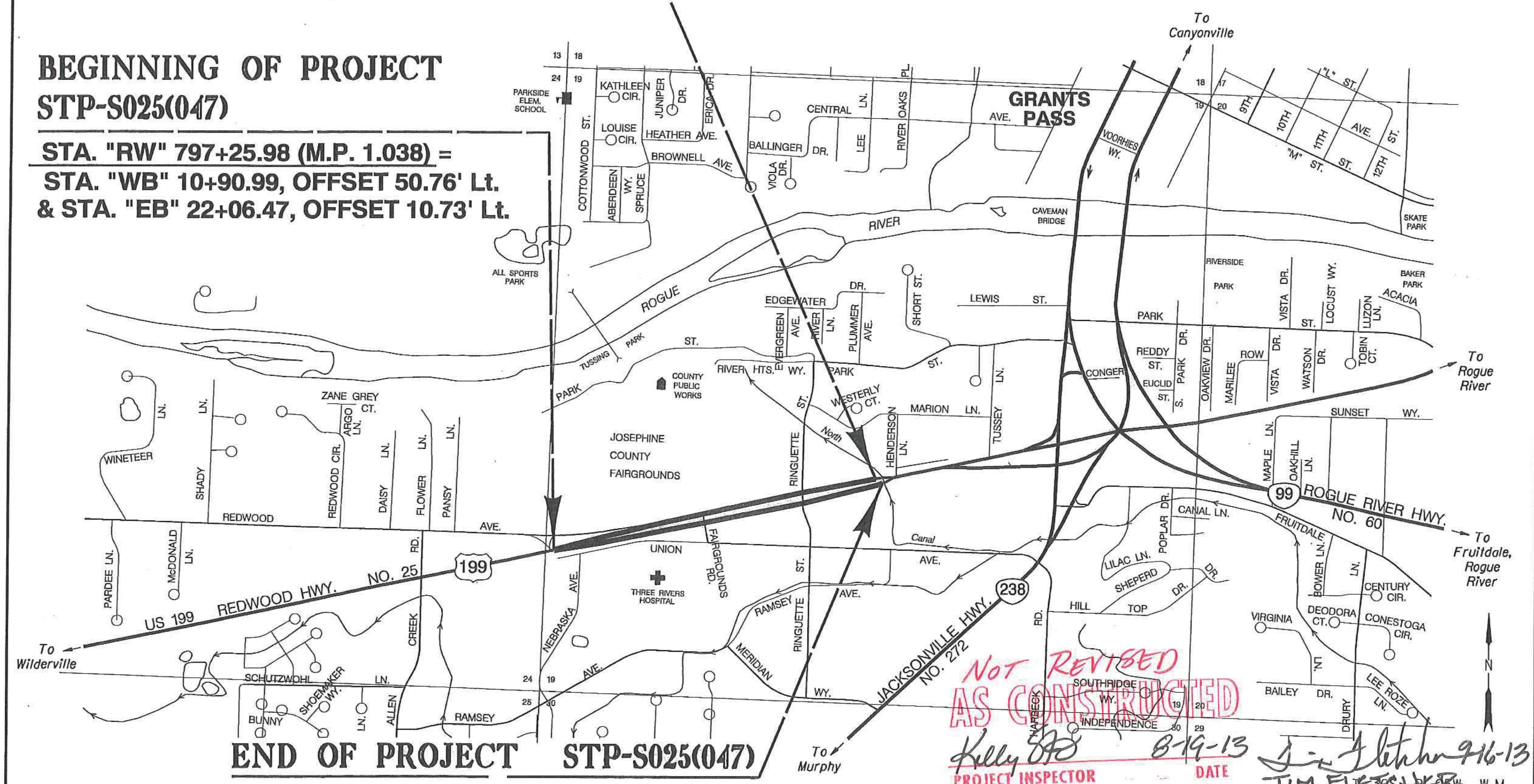
Overall Length Of Project - 0.54 Miles

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

END OF PROJECT STP-S025(047)
STA. "RW" 824+60.86 (M.P. 0.520) =
STA. "WB" 38+26.66, OFFSET 90.53' Lt.

BEGINNING OF PROJECT STP-S025(047)
STA. "RW" 797+25.98 (M.P. 1.038) =
STA. "WB" 10+90.99, OFFSET 50.76' Lt.
& STA. "EB" 22+06.47, OFFSET 10.73' Lt.



END OF PROJECT STP-S025(047)
STA. "RW" 825+73.19 (M.P. 0.499) =
STA. "EB" 50+54.15, OFFSET 31.25' Lt.

NOT REVISED AS CONSTRUCTED
Kelly [signature] 8-19-13
PROJECT INSPECTOR DATE
[signature] 9-16-13
TIM FLETCHER, W.M.
#41759
[signature] 8/20/13

OREGON TRANSPORTATION COMMISSION

Pat Egan	CHAIR
David Lohman	COMMISSIONER
Mary F. Olson	COMMISSIONER
Mark Frohnmayer	COMMISSIONER
Tammy Baney	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]
Signature & date 7-10-2012
MARK THOMPSON, TECH CENTER MGR
Print name and title
[signature]
Concurrence by ODOT Chief Engineer

US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-S025(047)	1

INDEX OF SHEETS, CONT'D.

SHEET NO.	DESCRIPTION
2 & 2A	Typical Sections
2B Thru 2B-7 incl.	Details
2C	Pipe Data Sheet
3, 4 & 5	General Construction
3A, 4A & 5A	Drainage & Utilities
3B & 4B	Profile
PERMANENT PAVEMENT MARKINGS	
ST Thru ST-3 incl.	Striping Plan
PERMANENT SIGNING	
S-13105 & S-13106	Signing Plan
S-13107 & S-13108	Signing Details
S-13109 Thru S-13112 incl.	Sign & Post Data Table
SIGNALS	
16456	Detector Plan
16457	Signal Removal Plan
16458	Temporary Detection Plan
16459	Signal Plan
16460	Detector Plan
16461	Existing Utilities
16462	Interconnect Plan

Standard Dwg. Nos.

RD100 - Mailbox Support
RD101 - Mailbox Installation

RD300 - Trench Backfill, Bedding, Pipe Zone And Multiple Installations
RD302 - Street Cut
RD312 - Subsurface Drain
RD318 - Sloped Ends For Concrete Pipe
RD320 - Paved End Slope For Culverts 60" Maximum Pipe Size
RD336 - Manholes
RD364 - Concrete Inlets Type G-1, G-2, G-2M & G-2MA
RD366 - Concrete Inlets Type CG-1, CG-2 And Curb Inlet Channel
RD370 - Ditch Inlet Type D
RD371 - Concrete Inlet Base Type CG-3
RD372 - Concrete Inlet Top, Option 1 Type CG-3
RD376 - Miscellaneous Drainage Structures Siphon Box, Inlet Cap & Inlet Adjustment
RD378 - Type "3" Catch Basin, Frame and Grate
RD386 - Fill Height Table For Circular Concrete Pipe

RD610 - Asphalt Pavement Details

RD700 - Curbs
RD705 - Islands
RD706 - Traffic Separators And Transitions
RD720 - Sidewalks
RD735 - Curb Line Sidewalk Driveways Or Alleys (Options F & G) ODOT Highways
RD755 - Sidewalk Ramp Details
RD757 - Sidewalk Ramp Placement Options Curb Radii ≤ 15'
RD759 - Truncated Dome Detectable Warning Surface Details & Locations

RD1005 - Check Dams
RD1010 - Inlet Protection (Type 1, 2 & 3)
RD1040 - Sediment Fence
RD1055 - Matting

TM200 - Sign Installation Details
TM201 - Miscellaneous Sign Placement Details
TM211 - Signing Details US & Interstate Route Shields
TM221 - Signing Details Milepost Markers
TM222 - Installation Details Milepost Marker Posts
TM223 - Conventional Roads Directional Sign Layout Street Name Signs
TM230 - Mounting Details For Removable Legend 4" Through 8" Letters & Numbers
TM233 - Mounting Details For Removable Legend Various Arrow Sizes

TM450 - Mast Arm Pole Details
TM457 - Vehicle, Pedestrian Signal And Pushbutton Mounting Option Details
TM458 - Pedestrian Ramp Placement Details
TM462 - Adjustable Signal Head Mounting Details
TM465 - Overhead Sign, Fire Preemption And Photoelectric Control Details
TM467 - Pedestrian Signal And Pedestrian Push Button Details
TM470 - Color Code Charts
TM472 - Traffic Signal Junction Boxes
TM475 - Loop Details
TM480 - Loop Entrance Details

Standard Dwg. Nos. Contd.

TM500, TM501, TM502, TM503 - Pavement Marking Standard Detail Blocks
TM517 - Recessed Pavement Markers
TM521 - Durable Pavement Markings Method 'B' Extruded &, Method 'F' Spray
TM530 - Intersection Pavement Markings (Crosswalk, Stop Bar, & Bike Lane Stencil)
TM531 - Turn Arrow Marking Details
TM551 - Freeway Exit Ramp Pavement markings
TM560 - Alignment Layout: General
TM570 - Traffic Delineators
TM571 - Traffic Delineators Steel Post Details
TM576 - Traffic Delineator Installation

TM635 - Breakaway Sign & Luminaire Supports - Support Location Guidelines
TM670 - Wood Post Sign Supports
TM671 - 3 Second Gust Wind Speed Map
TM675 - Extruded Aluminum Panels
TM676 - Sign Attachments
TM677 - Sign Mounts
TM678 - Secondary Sign Mounting Details
TM680 - Signal Pole Mounts
TM681 - Perforated Steel Square Tube (PSST) Sign Support Installation
TM687 - Perforated Steel Square Tube (PSST) Anchor Foundation
TM688 - Perforated Steel Square Tube (PSST) Slip Base Foundation

TM800 - Tables, Abrupt Edge And PCMS Details
TM820 - Temporary Barricades
TM821 - Temporary Sign Supports
TM841 - Intersection Work Zone Details
TM843 - Multi-Lane Signalized Intersection Details
TM851 - Non-Freeway Multi-Lane Sections

R/W Map No. 8B-10-9

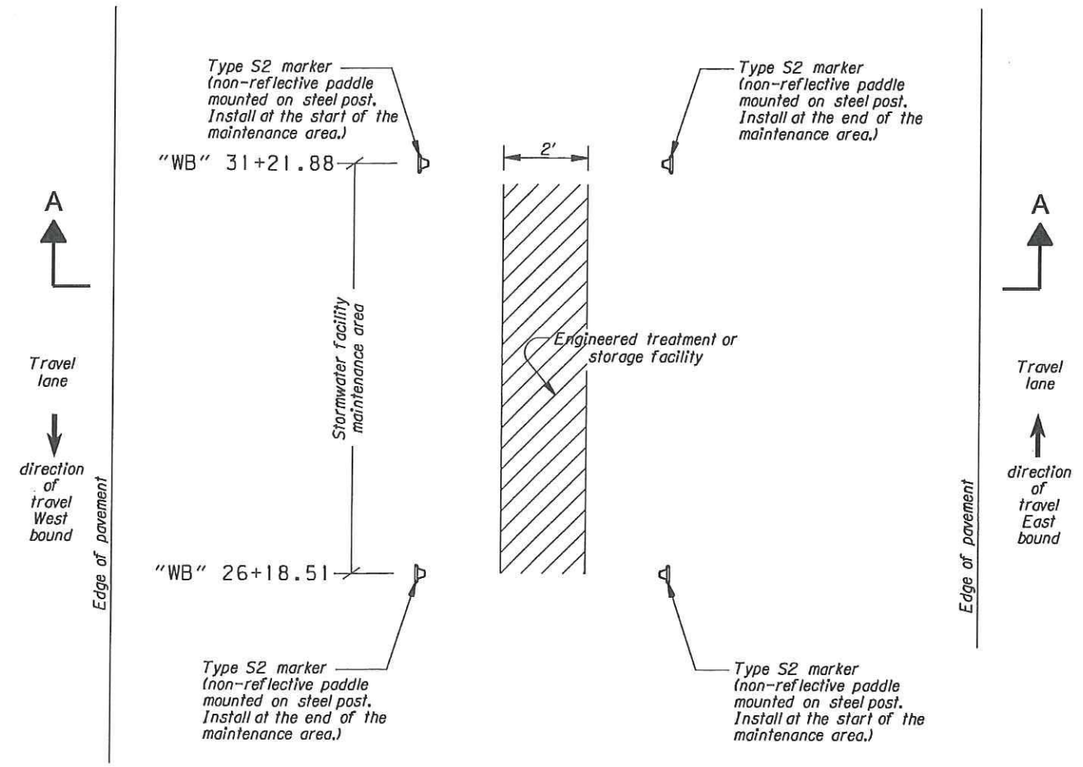
NOT REVISED
AS CONSTRUCTED
Kelly Sp 8-19-13
PROJECT INSPECTOR DATE

Standard Drawings located on the web at:
http://www.oregon.gov/ODOT/HWY/ENGSERVICES/standard_drawings_home.shtml

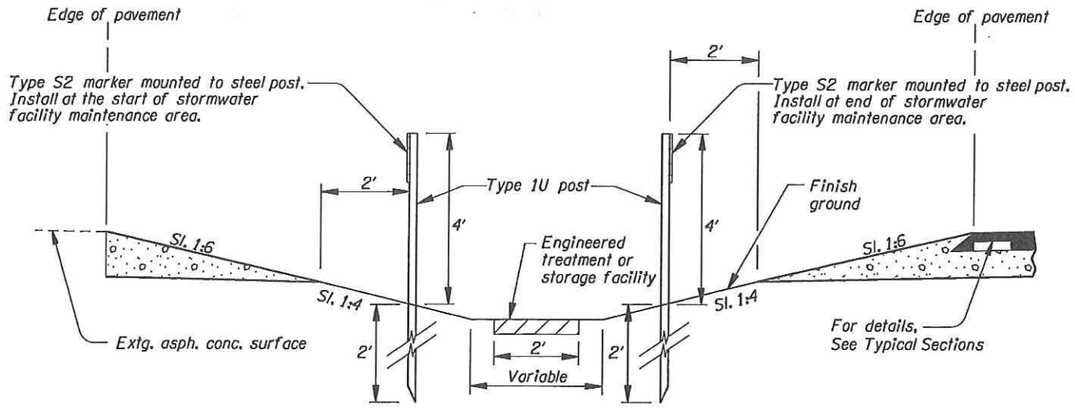
US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-S025(047)	1A

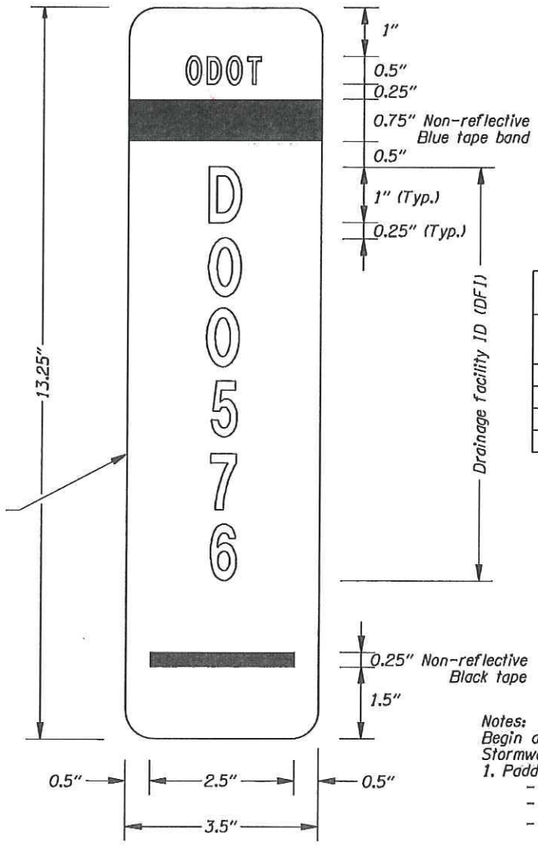
45V-101



TYPE S2 MARKERS INSTALLATION DETAIL



SECTION A-A



TYPE S2 MARKER

MARKER TABLE

FACILITY LOCATION		DFI #	TYPE S2 MARKER LOCATION	
STATION	MP		BEGIN	END
"WB" 26+18.51, 53.53' Rt.	0.749	D00576	✓	
"WB" 31+21.88, 45.12' Rt.	0.654	D00576		✓
"WB" 31+21.88, 26.80' Rt.	0.654	D00576	✓	
"WB" 26+18.51, 26.16' Rt.	0.749	D00576		✓

✓ Check where appropriate

Notes:
Begin and End Locations of type S2 markers correspond to the direction of travel.
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 3/16" diameter aluminum blind rivets and washers. See Standard Drawing TM570 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

NOT REVISED
AS CONSTRUCTED
Kelly [signature] 8-19-13
PROJECT INSPECTOR DATE

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

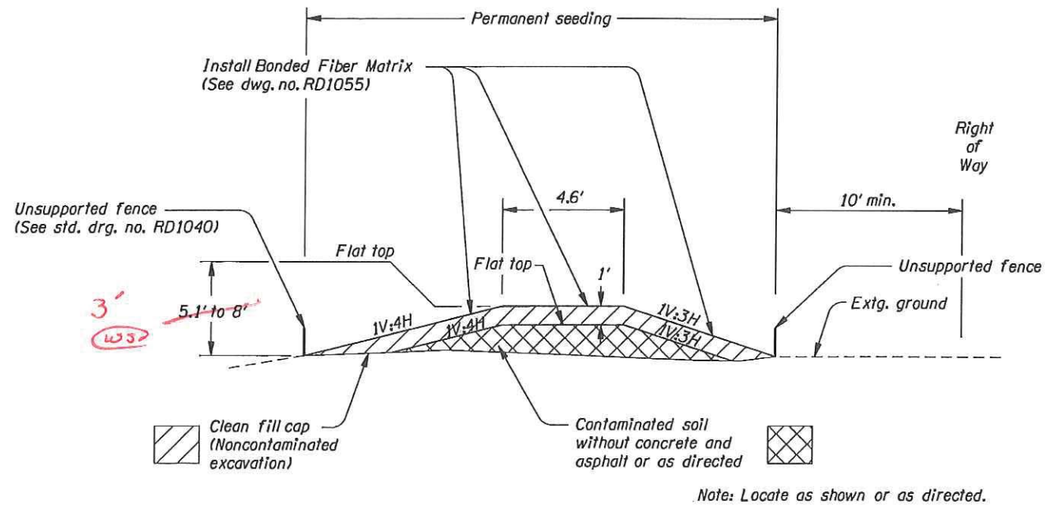
US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Designed By - Nelly Salazar Lazara
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

DETAILS

SHEET NO. 2B-3

CONTAMINATED SOIL BERM

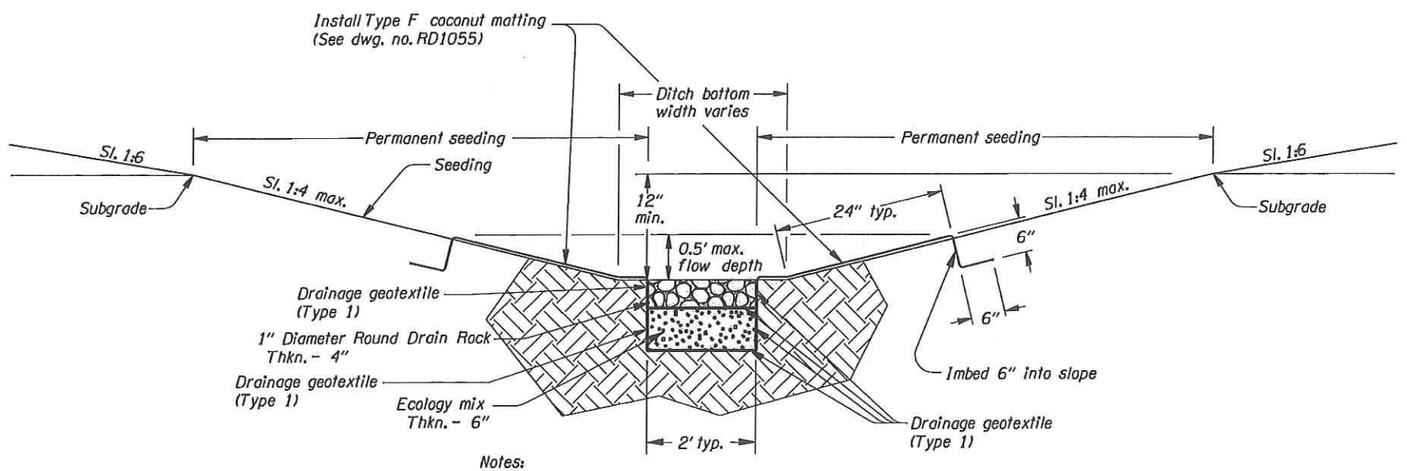


Note: Locate as shown or as directed.

WATER QUALITY SWALE

(Not to Scale)

STA. "WB" 26+18.57 to STA. "WB" 31+18.93 Rt.



Notes:

1. Amended soils as specified in Section 1092.
2. Apply permanent seeding to sideslopes in accordance with Section 1030 of the Specifications.
3. See sheets 4 and 3B for Water Quality Swale Plan and Profile Views.
4. Apply coconut matting to side slopes according to Specifications Subsection 280.44(e).

NOT REVISED
AS CONSTRUCTED
Kelly SR 8-19-13
PROJECT INSPECTOR DATE

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

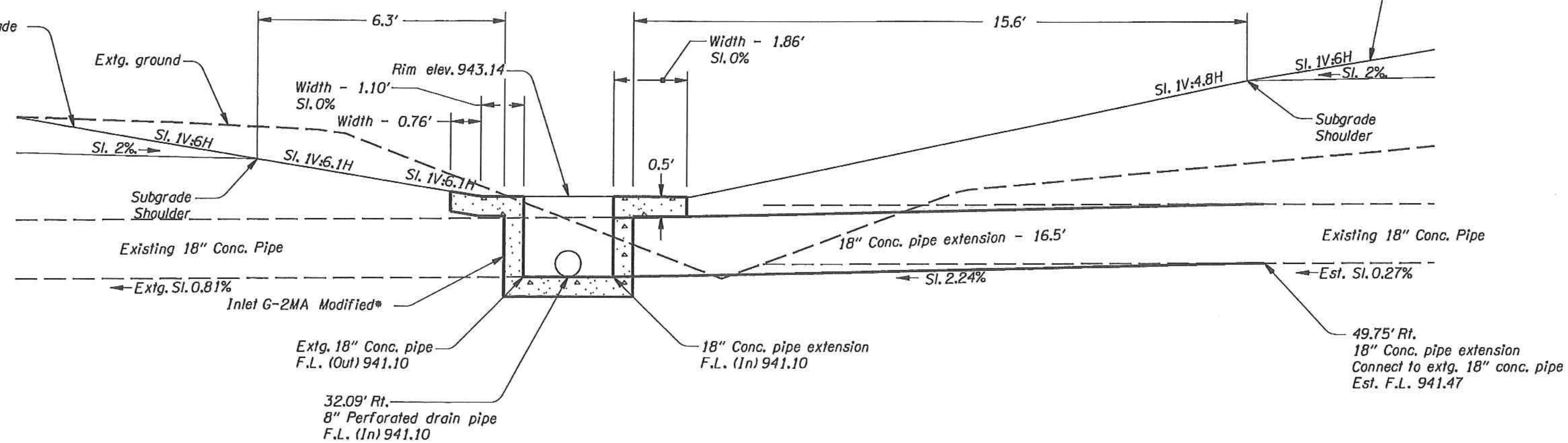
Designed By - Nelly Salazar Lazaro
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

DETAILS

SHEET NO. 2B-4

45V-101

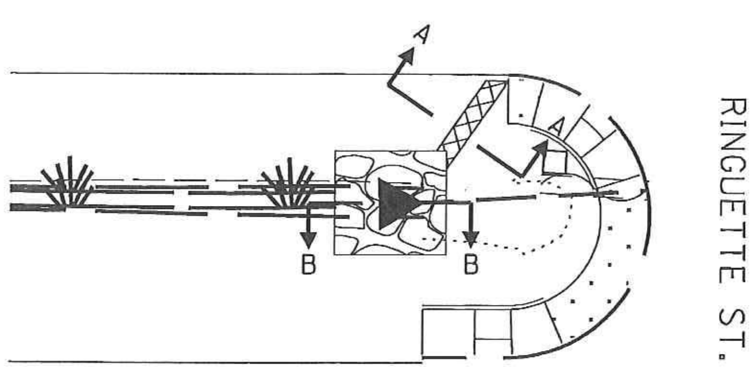
INLET G-2MA, MODIFIED
STA. "WB" 26+79.27, 32.09' Rt.



* For details not shown, see std. drg. no. RD364 and sheets 4A & 4B.

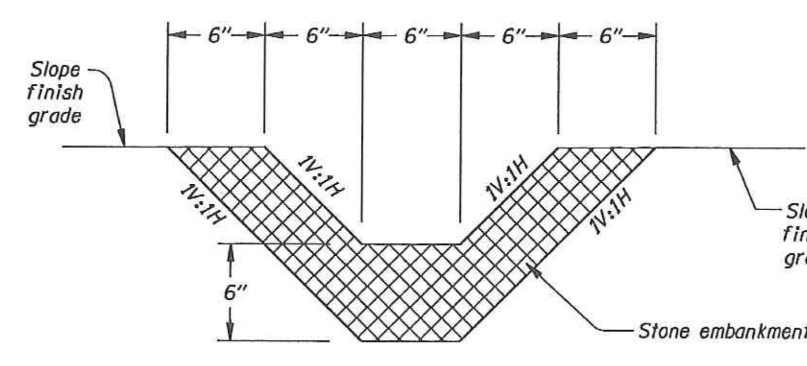
STONE EMBANKMENT ARMORED DITCH AND RIPRAP PAD

WESTBOUND US 199 REDWOOD HIGHWAY

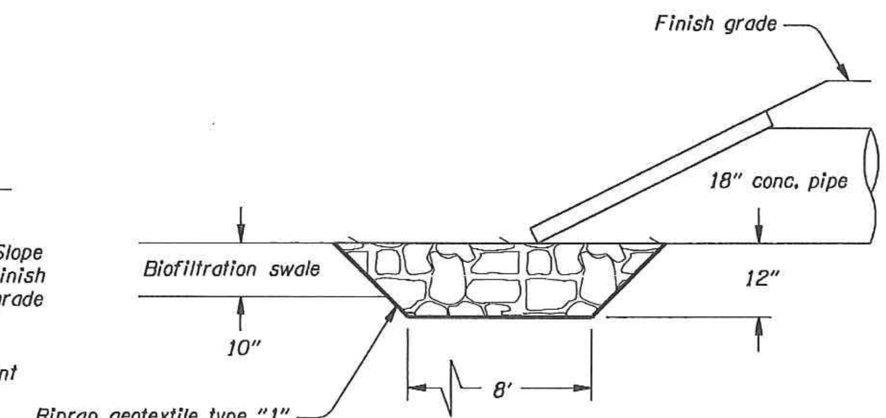


EASTBOUND US 199 REDWOOD HIGHWAY

PLAN VIEW



SECTION A-A



SECTION B-B

NOT REVISED
AS CONSTRUCTED
Kelly [signature] 8-19-13
PROJECT INSPECTOR DATE

Remove extg. pipe shown thus:
Stone embankment shown thus:
Class 50 Riprap shown thus:

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION
REGION 3 - TECHNICAL CENTER

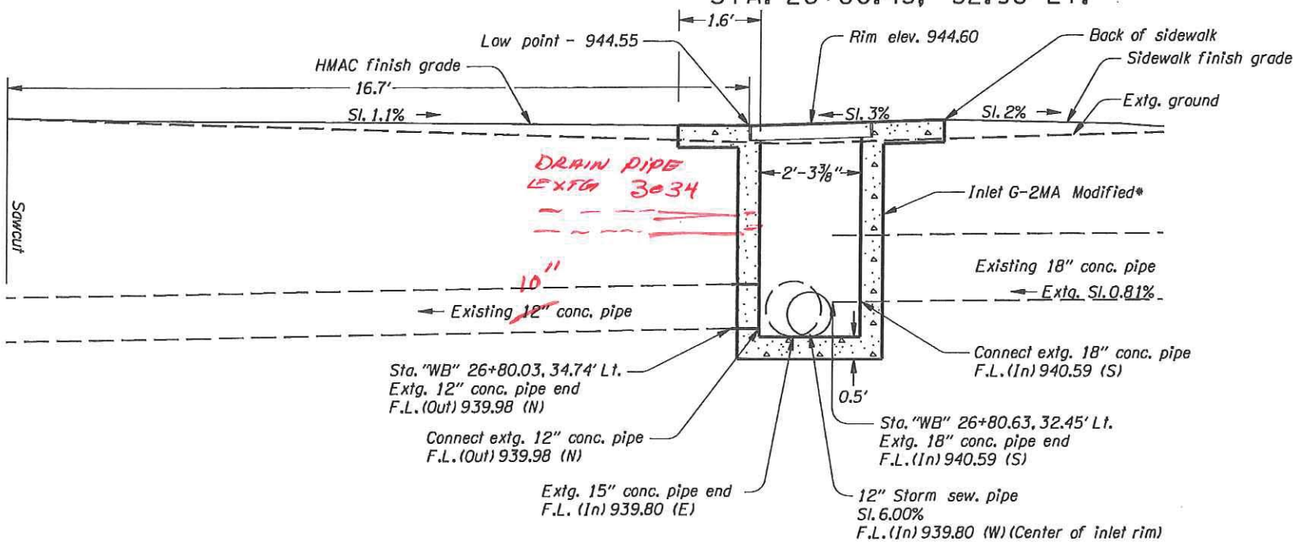
US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Designed By - Nelly Salazar Lazaro
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

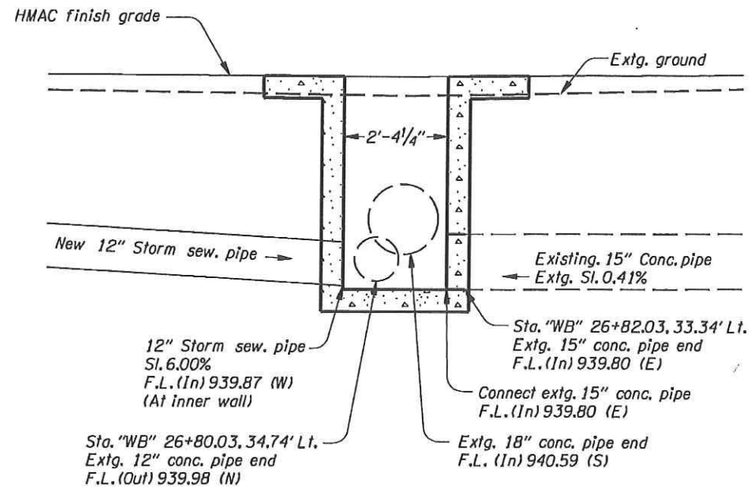
DETAILS

SHEET NO. 2B-5

G-2MA MODIFIED INLET
STA. 26+80.45, 32.98' Lt.



SECTION A-A

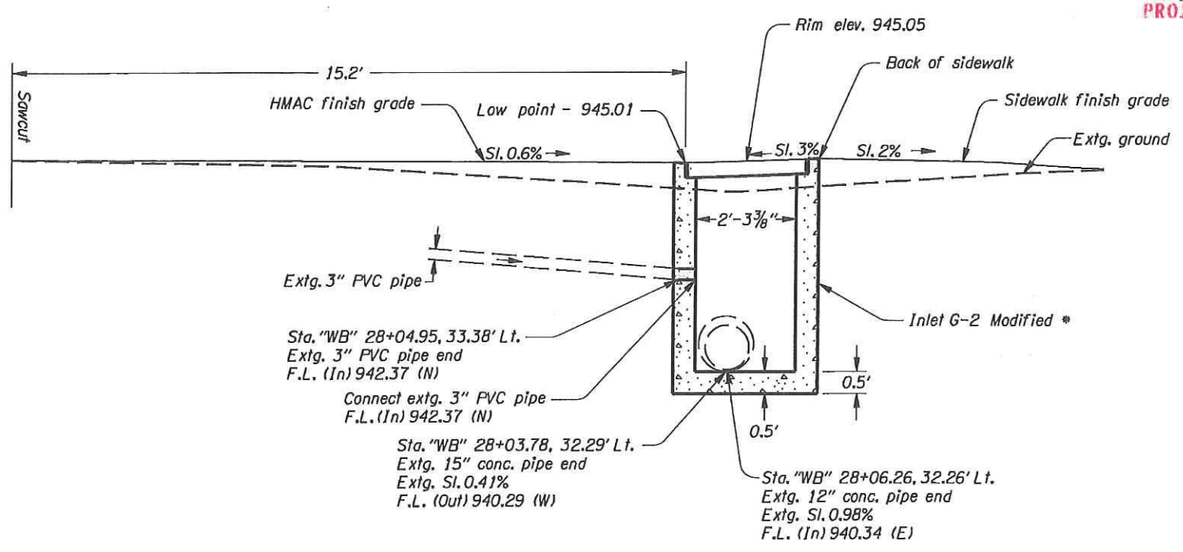


SECTION B-B

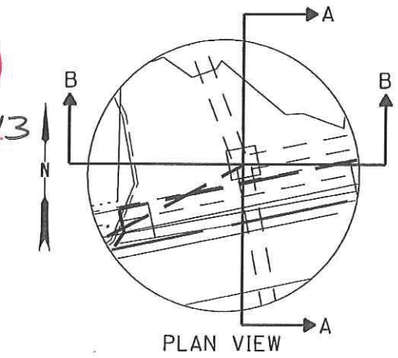
* For details not shown, see std. drg. no. RD364 and sheets 4A & 4B

Not Revised
AS CONSTRUCTED
Kelly Sto 8-19-13
PROJECT INSPECTOR DATE

G-2 MODIFIED INLET
STA. 28+05.24, 31.85' Lt.



* For details not shown, see std. drg. no. RD364 and sheets 4A & 4B



PLAN VIEW

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL

EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

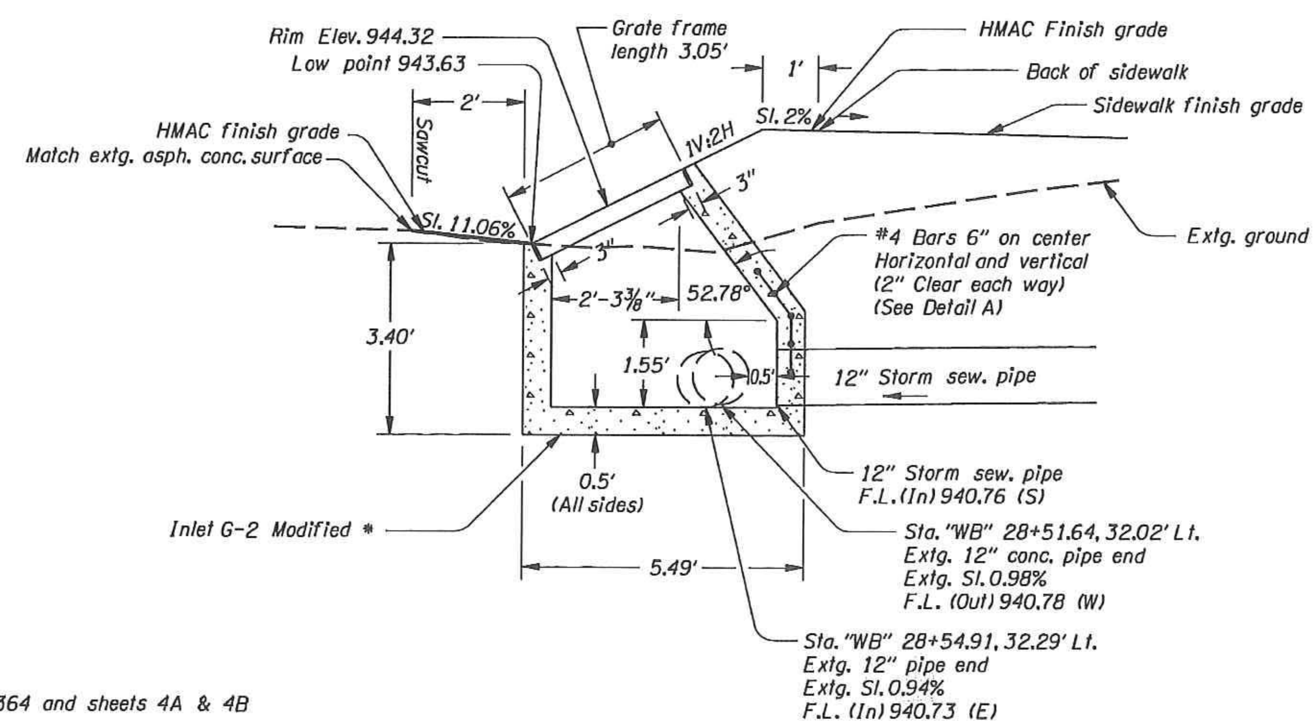
US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Designed By - Nelly Salazar Lazara
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

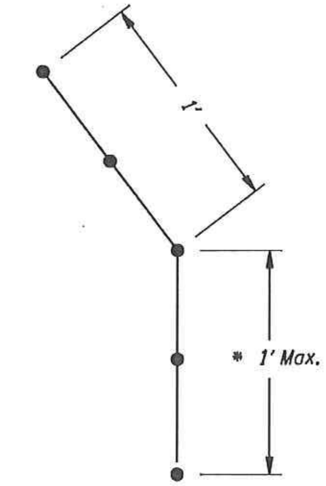
DETAILS

SHEET NO. 2B-6

G-2 MODIFIED INLET
STA. "WB" 28+53.49, 34.06' Lt.
N.T.S.



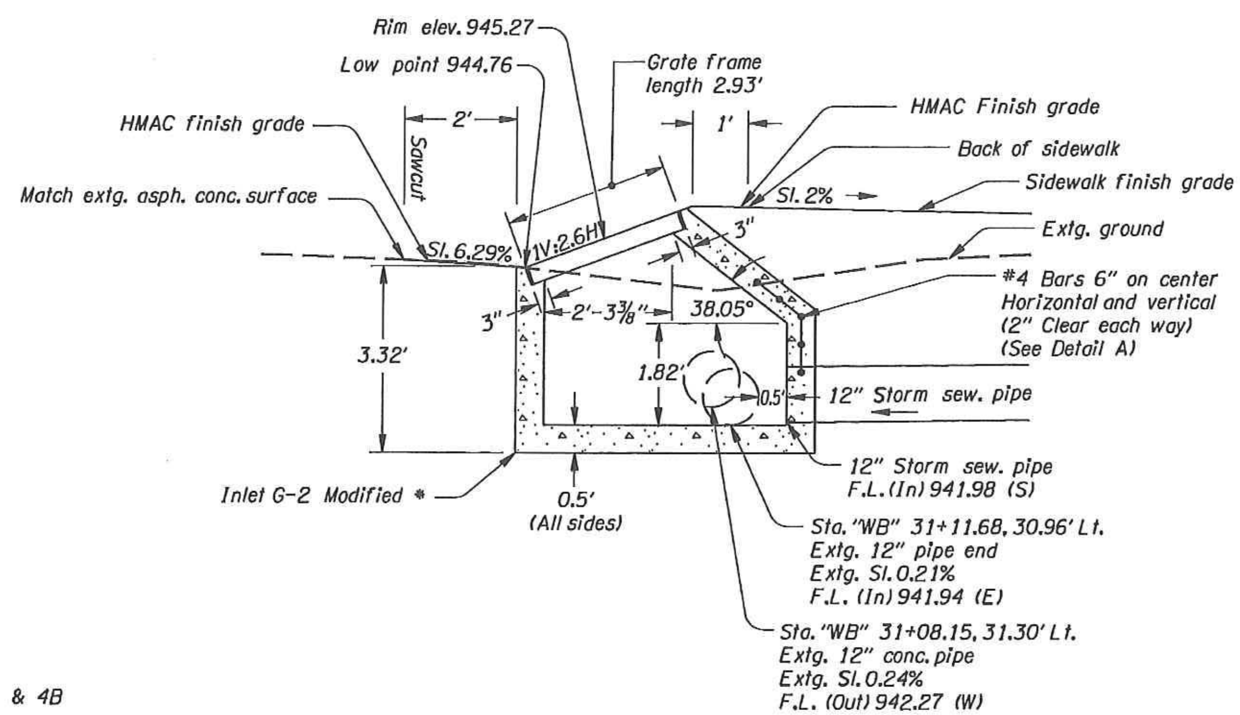
* For detail, not shown, see std. drg. no. RD364 and sheets 4A & 4B



DETAIL A

* Adjust length of bar to stay 2" clear of incoming storm drain pipe

G-2 MODIFIED INLET
STA. "WB" 31+09.85, 33.28' Lt.
N.T.S.



* For detail, not shown, see std. drg. no. RD364 and sheets 4A & 4B

Not Revised
AS CONSTRUCTED
Kelly S. 8-19-13
PROJECT INSPECTOR DATE

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

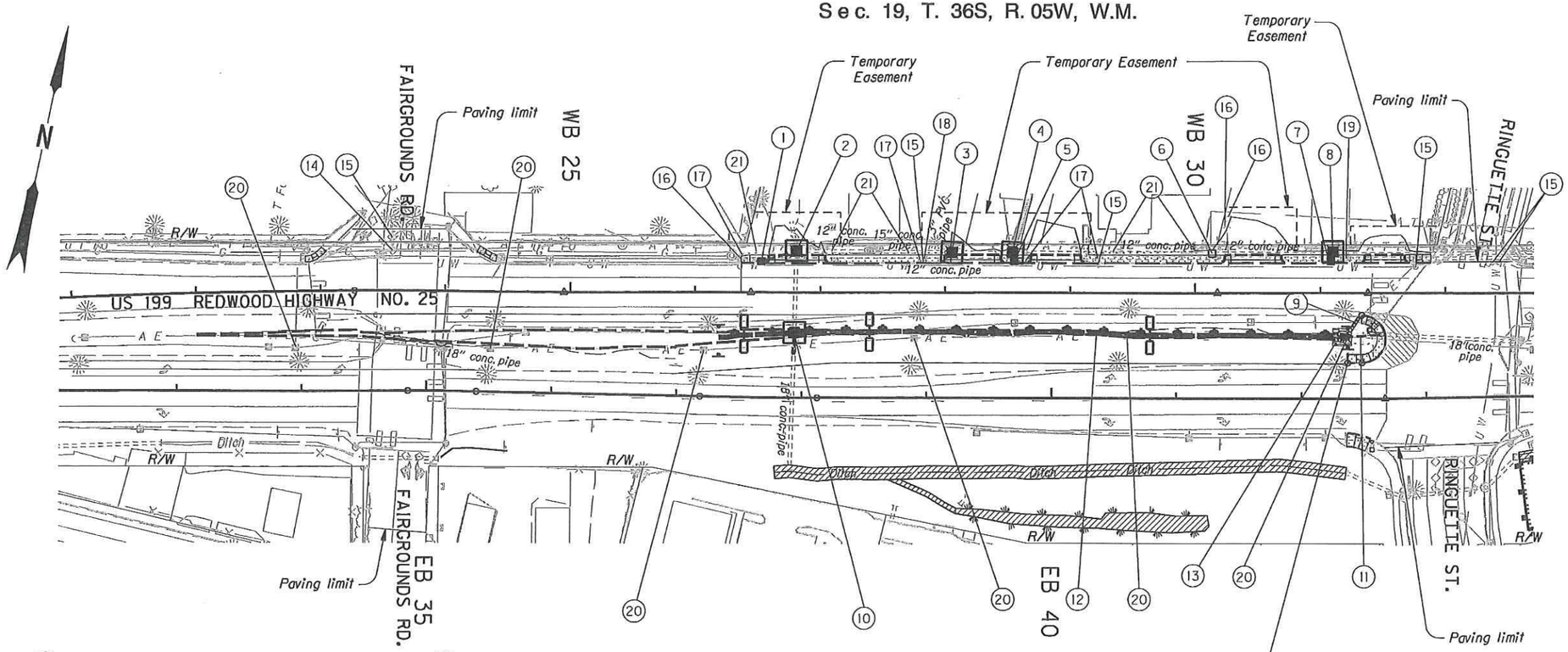
Designed By - Nelly Salazar Lazaro
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

DETAILS

SHEET NO. 2B-7

45V-101

Sec. 19, T. 36S, R. 05W, W.M.



(1) Sta. "WB" 26+52.56, 24.92' Lt.
Const. type "CG-3" inlet (Option 1)
Rim - 945.39
(See std. dwg. nos. RD371 & RD372)
INSTALL 18" CONC. PIPE - 4'

(2) Sta. "WB" 26+80.45, 32.98' Lt.
Remove extg. inlet
Const. type "G-2MA Modified" conc. inlet
Rim - 944.60
Inst. 12" storm sew. pipe - ~~29'~~ 30'
5' depth
S=0.0600'/ft.
I.E.(12" In)=941.54
I.E.(12" Out)=939.80
Connect to extg. 12" conc. pipe (N)
Connect to extg. 18" conc. pipe (S)
Connect to extg. 15" conc. pipe (E)
(For details, see sht. 2B-6)
(See std. drg. no. RD364)

(3) Sta. "WB" 28+05.24, 31.85' Lt.
Remove extg. inlet
Const. type "G-2 Modified" conc. inlet
Rim - 945.05
Connect to extg. 15" conc. pipe (W)
Connect to extg. 12" conc. pipe (E)
Connect to extg. 3" PVC pipe (N)
(For details, see sht. 2B-6)
(See dwg. no. RD364)

(4) Sta. "WB" 28+53.49, 34.06' Lt.
Remove extg. inlet
Const. type "G-2 Modified" conc. inlet
Rim - 944.32
Inst. 12" storm sew. pipe - 9'
5' depth
S=0.0100'/ft.
I.E.(12" In)=940.82
I.E.(12" Out)=940.73
Connect to extg. 12" conc. pipe (W)
Connect to extg. 12" pipe (E)
(For details, see sht. 2B-7)
(See dwg. no. RD364)

(5) Sta. "WB" 28+55.00, 25.31' Lt.
Const. type "CG-3" inlet (Option 1)
Rim - ~~945.88~~
945.58 KS

For temporary easement Sta./Offset, See sheet 4
For drainage profiles, See sheet 4B

(6) Sta. "WB" 30+13.54, 32.62' Lt.
Cap extg. inlet
~~(See drg. no. RD376)~~
CAPPED WITH CONCRETE AND PIPE SEE DETAIL, ATTACHED, "A4", NEXT PAGE

(7) Sta. "WB" 31+08.28, 25.67' Lt.
Const. type "CG-3" inlet (Option 1)
Rim- ~~946.17~~ 945.74 KS

(8) Sta. "WB" 31+09.85, 33.28' Lt.
Remove extg. inlet
Const. type "G-2 Modified" conc. inlet
Rim - 945.27
Inst. 12" storm sew. pipe - 8'
5' depth
S=0.0150'/ft.
I.E.(12" In)=942.06
I.E.(12" Out)=941.94
Connect to extg. 12" conc. pipe (W)
Connect to extg. 12" pipe (E)
(For details, see sht. 2B-7)

(9) Sta. "WB" 31+23.84, 27.79' Rt. to
Sta. "WB" 31+33.05, 18.83' Rt.
Const. stone embankment armored ditch - 0.5 cu. yd.
(For details, see sht. 2B-5)

(10) Sta. "WB" 26+79.27, 32.09' Rt.
Const. type "G-2MA Modified" inlet
Rim - 943.14
Extend - 18" culvert pipe, 5' depth ~~17'~~ 18' (Lt.)
S=0.0224'/ft.
I.E.(18" In)=941.47
I.E.(18" Out)=941.10
Connect to extg. 18" conc. pipe(s)
Inst. 8" perforated drain pipe - 10'
5' depth
S=0.0030'/ft.
I.E.(8" In)=941.13
I.E.(8" Out)=941.10
Connect to extg. 18" conc. pipe (N)
(See dwg. nos. RD312 & RD364)
(For details, see sht. 2B-5)

(11) Sta. "WB" 31+51.97, 33.40' Rt. to
Sta. "WB" 31+22.06, 34.79' Rt.
Extend - 18" culvert pipe, 5' depth ~~30'~~ 13.75' (Lt.)
S=0.0000'/ft.
Const. sloped end section, 18"
Connect to extg. 18" conc. pipe (E)
I.E.(18" In)=942.71
I.E.(18" Out)=942.71
Const. ~~1V:8.1H~~ paved end slope 1V:4H (18" conc. pipe) - 76 sq. ft.

(12) Sta. "WB" 26+18.57 to
Sta. "WB" 31+18.93, Rt.
Const. water quality swale, D00576
Inst. field facility markers (Type S2) - 4
(See std. drg. nos. TM570 & TM571)
(For details, see shts. 2B-3 & 2B-4)

(13) Sta. "WB" 31+10.05, 27.80' Rt. to
Sta. "WB" 31+25.05, 27.79' Rt.
Const. loose riprap (Class 50) - 8 cu. yd.
Riprap geotextile type "1" - 24 sq. yd.
(For details, see sht. 2B-5)

(14) Adjust box (gas valve) (By others)

(15) Adjust box - (water valve) - 6

(16) Maintain and protect extg. water meter - 3

(17) Adjust box - (water meter) - 4

(18) Relocate fire hydrant (by others)

(19) Minor adjust sewer manhole

(20) Maintain and protect power pole

(21) Remove and cap extg. Irrigation sprinklers & lines in conflict with conc. sidewalk and driveway construction - Est. 15 ea.

REVISED AS CONSTRUCTED
Kelly Stø 8-19-13
PROJECT INSPECTOR DATE

Eq. "MSW" 10+00.00=
"WB" 31+21.88, 56.16' Rt.

Unsupported sediment fence
Check Dam shown thus:
Remove extg. inlet shown thus:
NO WORK AREA shown thus:
Compost Filter Berm shown thus:
Riprap (Class 50) shown thus:
Berm shown thus:
Remove extg. pipes shown thus:
Biofiltration swale shown thus:
WETLAND surfacing shown thus:
Construct ditch flat bottom shown thus:
Inlet protection shown thus:

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2014

OREGON DEPARTMENT OF TRANSPORTATION
REGION 3 - TECHNICAL CENTER

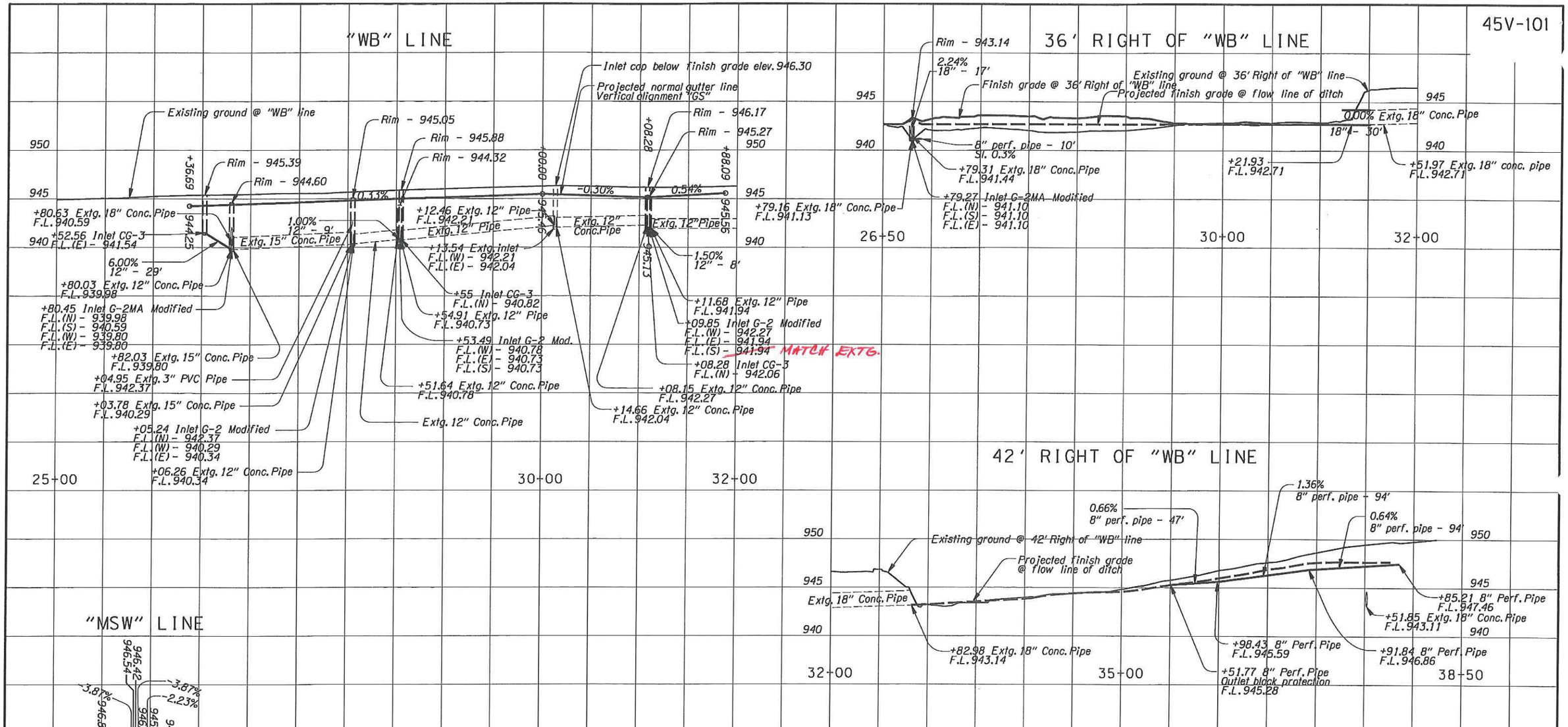
US 199 @ JOSEPHINE COUNTY FAIRGROUNDS
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Designed By - Nelly Salazar Lazaro
Reviewed By - Chris Zelmer
Drafted By - Judy Hardin

DRAINAGE & UTILITIES

SHEET NO. 4A

45V-101



REVISED
AS CONSTRUCTED
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PROFILE

SHEET NO. 4B