OPERATION & MAINTENANCE MANUAL

DFI No. : D00648
Facility Type: Water Quality Porous Pavement

December, 2018

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00648**
Facility Type:	Water Quality Porous Pavement
Construction Drawings:	43V-178
Location:	District: 08
	Highway No.: 025
	Mile Post: 2.58; 3.05 (beg./end)
	Description: This facility is located along the south side of eastbound US 199. It can be identified as the multi-use path adjacent to the highway.

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: Ronald Horres - Parsons Brinkerhoff
Jason Sheadel– Region 3 Tech Center

Facility construction: 2013
Contractor: N/A

4. Storm Drain System and Facility Overview

Water quality treatment will be accomplished through the underlying water quality amended soils. A perforated drainpipe, installed in a subsurface drain below the water quality amended soils, will convey the treated stormwater from the water quality amended soils. The entire cross-section will be lined in an impermeable geotextile fabric. A permeable geotextile fabric will be installed between the subbase and amended soils as well as between the water quality amended soils and the subsurface drain to promote flow of water through the system without transporting materials between layers.

A. Maintenance equipment access:
   This facility can be accessed from the north shoulder of westbound US 199.

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)

There are no Haz Mat spill featured designed into this facility.

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 flow down the multi-use path surface and/or overtop the mountable curb and flow into the area behind the path.

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: See following table.

Maintenance Component	Defect or Problem	Condition When Maintenance is Needed	Results Expected When Maintenance is Performed
General	Sediment accumulation	Collection of sediment is too coarse to pass through pavement.	Remove sediment deposits with high-pressure vacuum sweeper.
	Accumulation of leaves, needles, and other foliage	Accumulation on top of pavement is observed.	Remove with a leaf blower or high-pressure vacuum sweeper.
	Trash and debris	Trash and debris have accumulated on the pavement.	Remove by hand or with a high-pressure vacuum sweeper.
	Oil accumulation	Oil collection is observed on top of pavement.	Immediately remove with a vacuum sweeper and follow up by a pressure wash or other appropriate rinse procedure.
Visual Facility Identification	Not aware of permeable pavement location	Facility markers are missing or not readable.	Replace facility identification where needed.
Annual Minimum Maintenance			Remove potential void-clogging debris with a biannual or annual high-pressure vacuum sweeping.

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

8. Waste Material Handling

9. Material removed from the facility is defined as waste by the Department of Environment 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

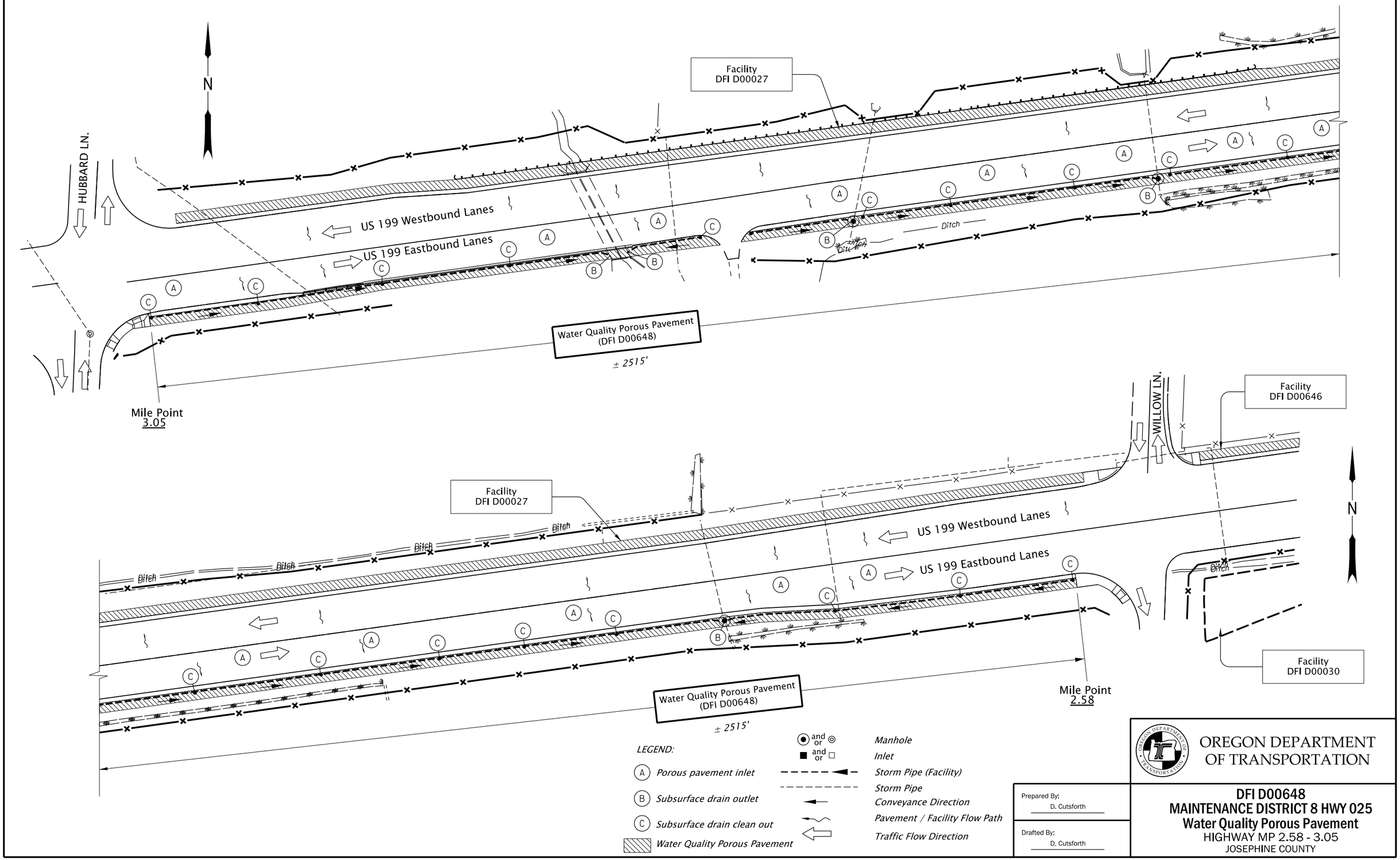
Contact any of the following for more detailed information about management of waste materials found on site:

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 and Profile Drawing(s)**



OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: D. Cutsforth

Drafted By: D. Cutsforth

DFI D00648
MAINTENANCE DISTRICT 8 HWY 025
Water Quality Porous Pavement
HIGHWAY MP 2.58 - 3.05
JOSEPHINE COUNTY

D00648_OpPlan.dgn :: Default 6/28/2019 2:15:23 PM hwye30p

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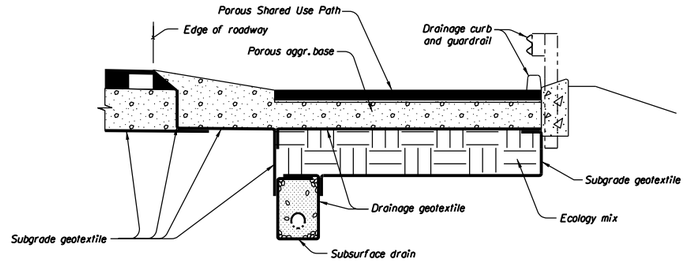
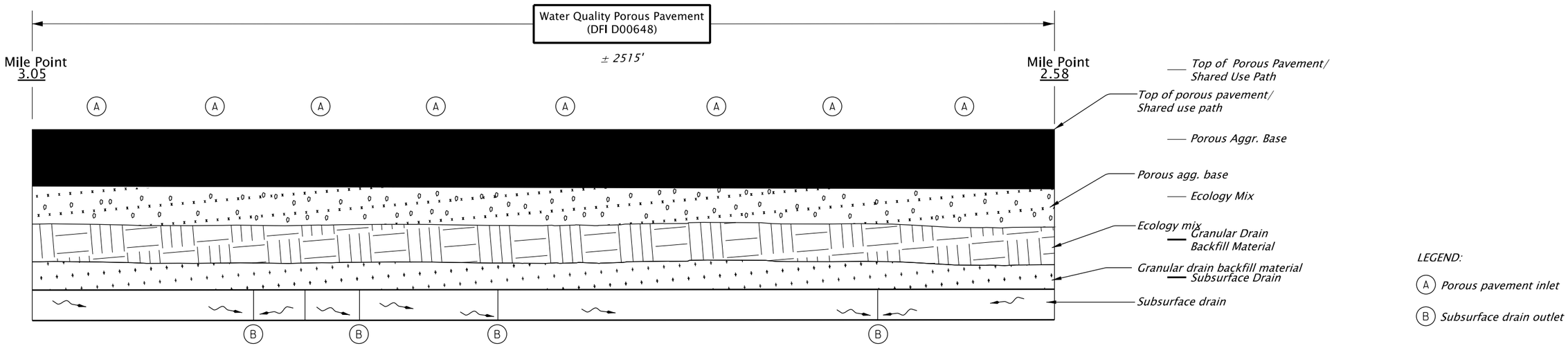


SECTION A-A
N.T.S.



PROFILE
N.T.S.

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: D. Cutsforth

Drafted By: D. Cutsforth

DFI D00648
MAINTENANCE DISTRICT 8 HWY 025
Water Quality Porous Pavement
HIGHWAY MP 2.58 - 3.05
JOSEPHINE COUNTY

Appendix B

Content:

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

43V-178

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

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

GRADING, PAVING, DRAINAGE, SIGNALS AND STRUCTURE

CC: DISTRIBUTION
WSH 7/23/12 - GPID
WSH 7/23/12 - C.O.G.P.

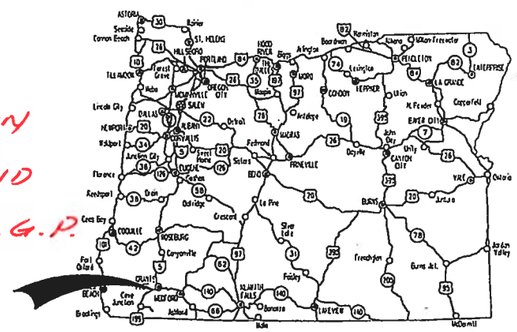
AS CONSTRUCTED
Shellwood 07/20/12
PROJECT INSPECTOR DATE

James S. Dow 7/20/02 #41759
890-7015

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE

REDWOOD HIGHWAY

JOSEPHINE COUNTY
DECEMBER 2010



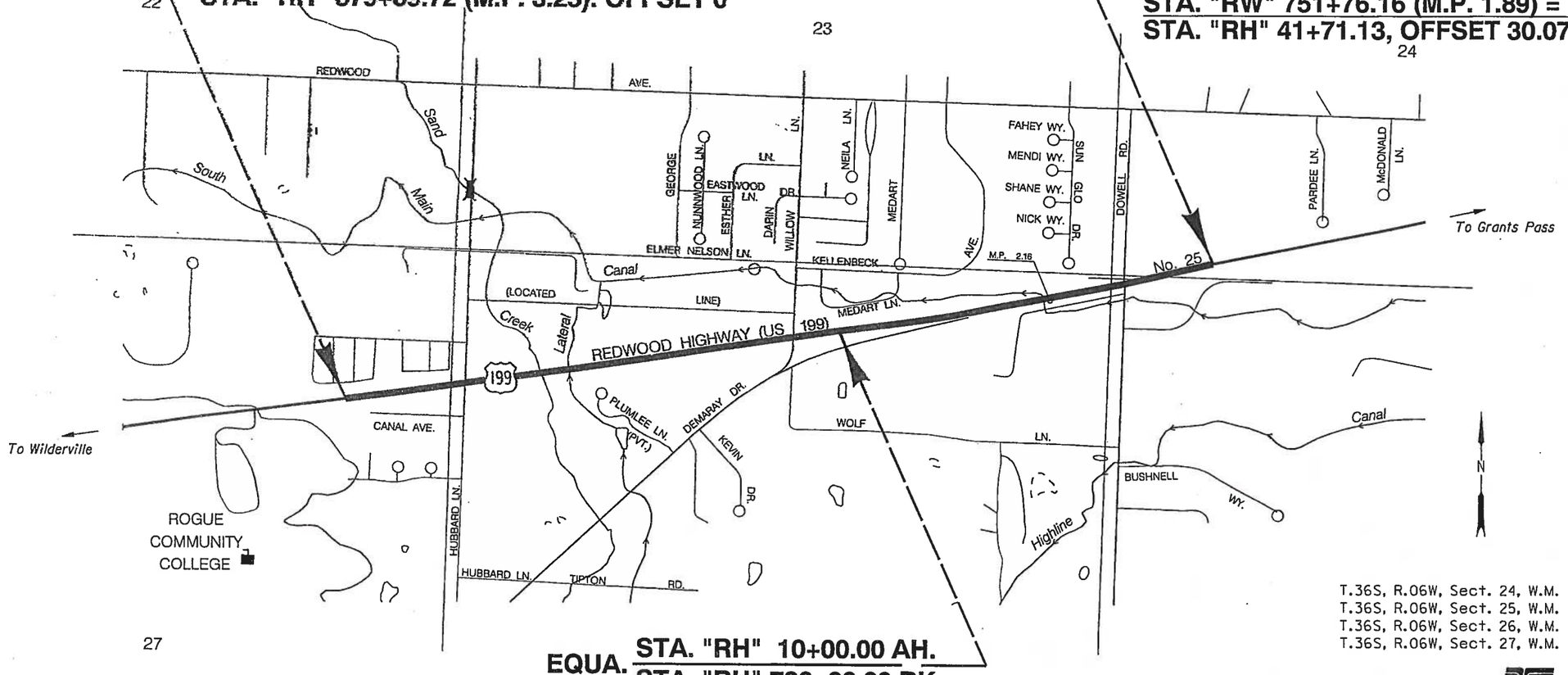
Overall Length Of Project - 1.36 Miles

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

BEGINNING OF PROJECT
STP-0TIA-S025(044)
STA. "RW" 679+89.72 (M.P. 3.25) =
STA. "RH" 679+89.72 (M.P. 3.25). OFFSET 0

END OF PROJECT
STP-0TIA-S025(044)
STA. "RW" 751+76.16 (M.P. 1.89) =
STA. "RH" 41+71.13, OFFSET 30.07' Lt.



EQUA. STA. "RH" 10+00.00 AH. = STA. "RH" 720+00.00 BK.

T.36S, R.06W, Sect. 24, W.M.
T.36S, R.06W, Sect. 25, W.M.
T.36S, R.06W, Sect. 26, W.M.
T.36S, R.06W, Sect. 27, W.M.

OREGON TRANSPORTATION COMMISSION

Gail Achterman	CHAIR
Michael Nelson	VICE-CHAIR
Mary F. Olson	COMMISSIONER
Alan Brown	COMMISSIONER
David Lohman	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. Thompson
Signature & date 9-14-10

MARK THOMPSON, TECH CENTER MGR
Print name and title

Concurrence by ODOT Chief Engineer

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	STP-0TIA-S025(044)	1

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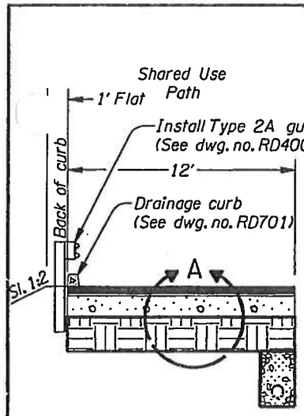
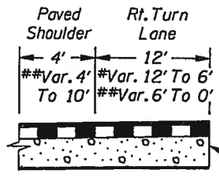
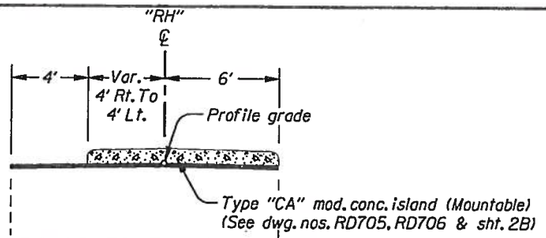
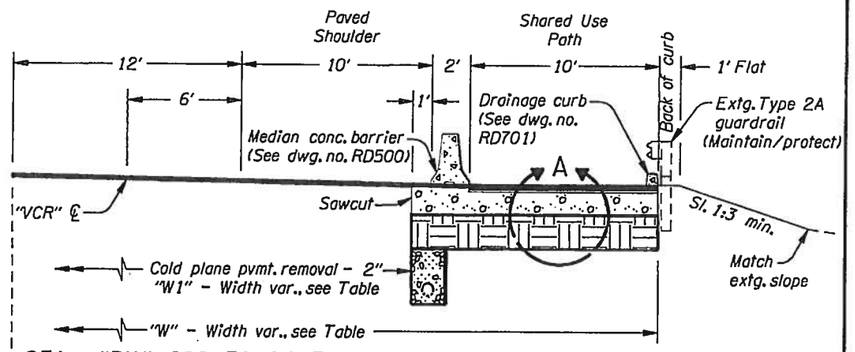




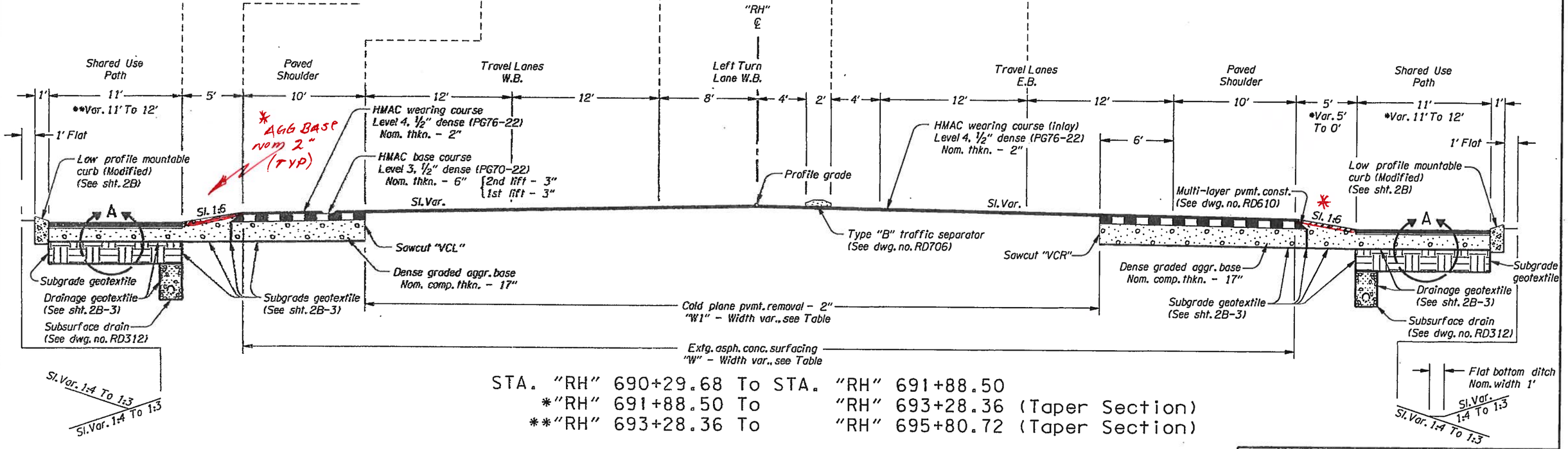




STA. "RH" 690+76.36 To STA. "RH" 693+28.36
*"RH" 693+28.36 To "RH" 694+12.36 (Taper Section)
**"RH" 694+12.36 To "RH" 694+96.22 (Taper Section)

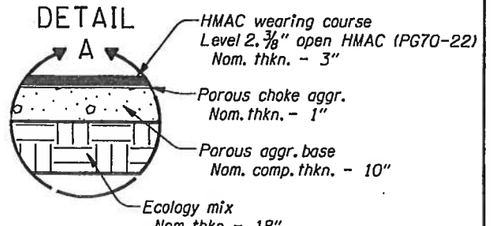
STA. "RH" 694+10.72 To STA. "RH" 695+80.72

STA. "RH" 692+79.64 To STA. "RH" 695+80.72



STA. "RH" 690+29.68 To STA. "RH" 691+88.50
*"RH" 691+88.50 To "RH" 693+28.36 (Taper Section)
**"RH" 693+28.36 To "RH" 695+80.72 (Taper Section)

STA.	To STA.	"W"	"W1"
690+29.68	691+88.50	96.31' To 85.13'	60'
691+88.50	692+79.64	85.13' To 81.7'	60'
692+79.64	693+28.36	97.4' To 96.0'	75'
693+28.36	694+10.72	96.0' To 96.5'	75'
694+10.72	695+80.72	96.0' To 98.0'	75'



REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

TYPICAL SECTIONS

SHEET NO. 2A

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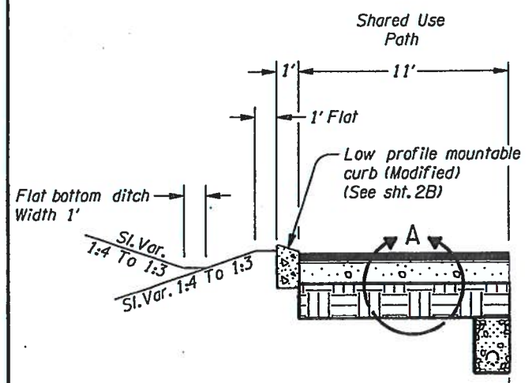
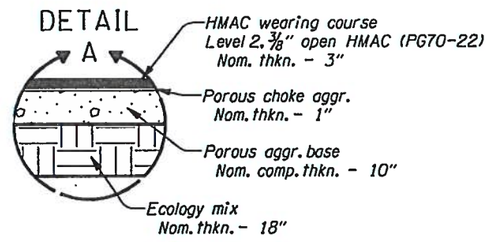
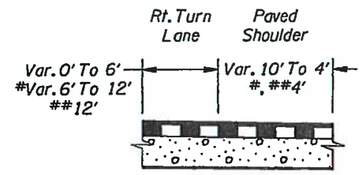
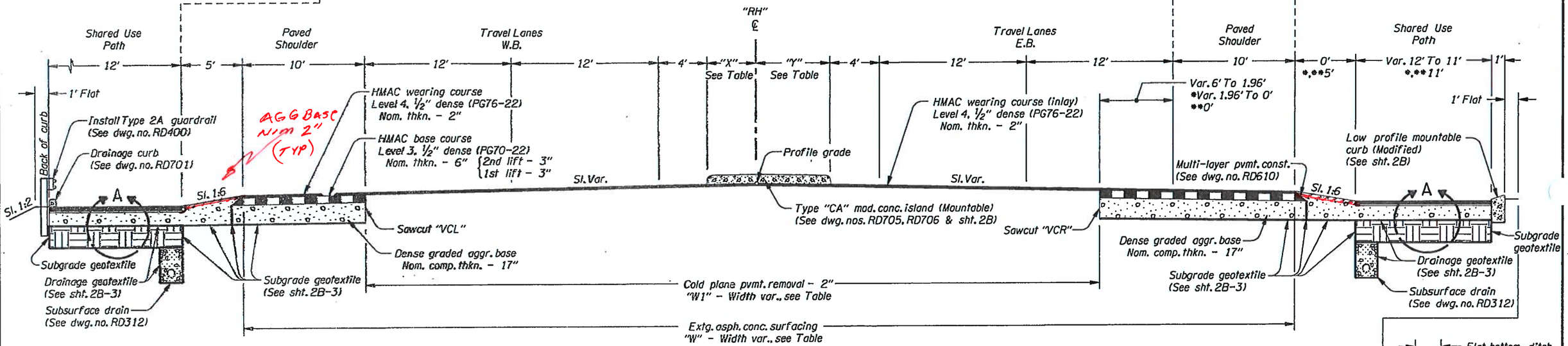


STA. "RH" 703+27.15 To STA. "RH" 715+50.31

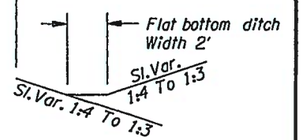




STA. "RH" 711+00.05 To STA. "RH" 711+80.87 (Taper Section)
*"RH" 711+80.87 To "RH" 712+67.92 (Taper Section)
**"RH" 712+67.92 To "RH" 715+43.46



STA. "RH" 695+80.72 To STA. "RH" 697+42.16 (Taper Section)
*"RH" 697+42.16 To "RH" 698+20.72 (Taper Section)
**"RH" 698+20.72 To "RH" 715+50.31 (Taper Section)



STA. To STA.		"W"	"W1"	"X"	"Y"
695+80.72	697+42.16	98.0' To 97.6'	60.0' To 61.6'	4' To 3.61'	6' To 3.98'
697+42.16	698+20.72	81.3' To 80.9'	61.6' To 62.4'	3.61' To 3.43'	3.98' To 3'
698+20.72	700+00.72	80.9' To 80.1'	62.4' To 62.0'	3.43" To 3'	3'
700+00.72	703+27.15	80.1' To 80.6'	62'	3'	3'
703+27.15	711+25.21	80.6' To 80.4'	62'	3'	3'
711+25.21	714+25.21	80.4' To 92.3'	62.0' To 72.0'	3' To 8'	3' To 8'
714+25.21	715+50.31	92.3' To 94.0'	72'	8'	8'

REGISTERED PROFESSIONAL ENGINEER
56199PE
OREGON
JAN. 8, 2009
JASON N. SHEADEL
EXPIRES: JUNE 30, 2012

OREGON DEPARTMENT OF TRANSPORTATION

REGION 3 - TECHNICAL CENTER

US 199:DOWELL RD TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Jason Sheadel
Drafted By - Judy Hardin

TYPICAL SECTIONS

SHEET NO. 2A-2

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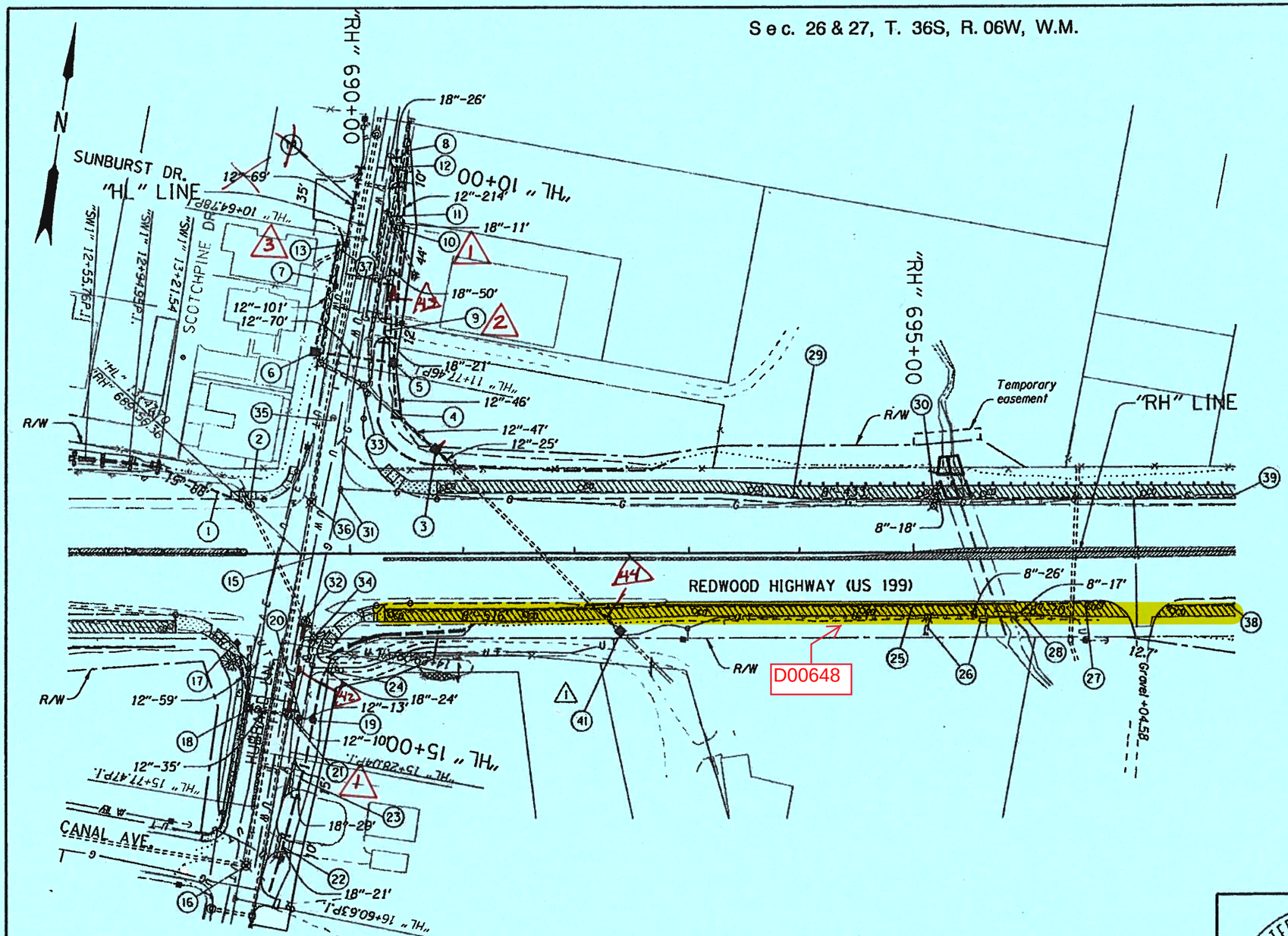
Sec. 26 & 27, T. 36S, R. 06W, W.M.

43V-178

(Notes: see sht. 4D for notes 1-40)



(41) Sta. "RH" 692+40.67' Rt.
Const. Siphon box and cover
(see sheet GJ-6 for details for
siphon box G)
F.L. (N) 951.68
F.L. (S) 953.83
Install 12" irrigation pipe ~~33'~~
21' NW 5' depth
F.L. (NW) 951.68
Connect to 12" irrigation pipe (SE)

42 INST 12" CONC PIPE FROM -90'
HL 14+91 to RH 689.60
(21) (32)

43 INSTALL D INLET (ADDED)
HL 11+00 LT
INSTALL 18" STORM PIPE
HL 11+40 LT - 15'
HL 10+70 RT - 5'

44 REMOVE + REPLACE 12" 33'
IRRIGATION PIPE
CONNECT TO EXT. STRUCTURE.
(AS DIRECTED)

Ditches Shown Thus: ===

Biofiltration Swales Shown Thus: ≠=≠

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus:

REGISTERED PROFESSIONAL ENGINEER
15,889
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

OREGON DEPARTMENT OF TRANSPORTATION

PB PARSONS BRINCKERHOFF
400 S.W. Sixth Ave. Portland, OR 97204

US199: DOWELL RD
TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

SHEET NO. 4C

REVISIONS					
1	Revised 6-27-2011 added irrigation syphon box G	2	9/14/11 REVISED QUANTITIES KCT	3	9/14/11 REVISED NOTE K.C.T.

K:\80345WO3 Dowell\Project Execution\CADD\Microstation\140198.pli - Default 6/30/2011 10:28:03 AM bradford 1:1200 - 04

(1) Sta. "RH" 689+10.99, 42.58' Lt. To Sta. "RH" 688+29.29, 76.02' Lt.
Inst. 15" storm sew. pipe - ~~88'~~ 90'
10' depth
F.L. (E) - 952.65
F.L. (W) - 951.90
Const. 15" sloped end
Const. loose riprap (Class 50) - 2.9 cu. yd.
Riprap Geotextile Type 2 - 7.4 sq. yd.
(For detail, see sht. GJ-6)

(2) Sta. "RH" 689+10.99, 42.58' Lt.
Const. storm sew. manhole
(See Dwg. No. RD336)
Rim - 958.16
F.L. (SE) - 952.65
F.L. (NW) - 952.65
Connect to extg. 15" storm sew. pipe (SE)
Connect to 15" storm sew. pipe (NW)
Abandon 15" storm sew. pipe - Lt. side 1

(3) Sta. "HL" 12+37.38, 99.48' ~~Lt.~~ RT
Const. siphon box and cover
(See Sht. GJ-4 for details for Siphon Box A)
F.L. (SE) - 953.50
F.L. (N) - 957.00
F.L. (NE) - 957.00
Remove extg. siphon box
Inst. 12" irrigation pipe - ~~25'~~ SE
5' ~~10'~~ depth 45'
F.L. (SE) - 953.50
Connect to 12" irrigation pipe (N)

(4) Sta. "HL" 12+13.09, 58.73' Lt.
Const. siphon box and cover
F.L. (SE) - 956.00
F.L. (N) - 956.00
(See Sht. GJ-4 for details for Siphon Box B)
Inst. 12" irrigation pipe - ~~47'~~ SE
5' depth 43'
Connect to 12" irrigation pipe (N)

(5) Sta. "HL" 11+67.75, 47.79' Lt.
Const. siphon box and cover
(See Sht. GJ-4 for details - Siphon Box C)
F.L. (S) - 954.25 ADDED 8" WM GATE
F.L. (N) - 954.25 VALVE IN BOX C (5FO-GPD)
F.L. (W) - 952.50
Inst. 12" irrigation pipe - ~~46'~~ S
5' depth 45'
Connect to 12" irrigation pipe (N)
Connect to 12" irrigation pipe (W)

(6) Sta. "HL" 11+71.09, 22.04' Rt.
Remove extg. siphon box
Remove extg. 10" irrigation pipe - 108' N
Const. siphon box and ~~cover~~ TRAFFIC RATED LID
(See Sht. GJ-4 for details - Siphon Box D)
F.L. (E) - 951.75
F.L. (N) - 954.50
Inst. 12" irrigation pipe - ~~70'~~ E
10' depth 68'
Connect to 12" irrigation pipe (N)

(7) Sta. "HL" 11+80.11, 22.26' Rt. To Sta. "HL" 10+71.11, 21.13' Rt.
Inst. 12" Irrigation Pipe - 101'.
5' depth
F.L. (S) - 954.50
F.L. (N) - 948.20+/-
Connect to Siphon Box D (S)
Connect to extg. 12" irrigation pipe (N)

(8) Sta. "HL" 11+67.75, 47.79' Lt. To Sta. "HL" 9+53.83, 20.76 ~~Lt.~~ RT
Inst. ~~12"~~ irrigation pipe - ~~214'~~ N 217' 8" 3034 CEO 17
5' depth CLSM
F.L. (N) - 947.07
Connect to extg. irrigation box (N)
Remove extg. 8" irrigation pipe - 178' S

(9) Sta. "HL" 11+51.79, 5.73' Lt. To Sta. "HL" 11+30.58, 33.09' Lt.
Remove extg. 8" culv. pipe - 19'
(2) Inst. 18" culv. pipe - ~~21'~~ ~~28.5'~~ 23'
5' depth
F.L. (S) - 953.51
F.L. (N) - 952.46
Const. 18" sloped end - 2
(See Dwg. No. RD318)

(10) Sta. "HL" 10+49.80, 29.50 Lt.
Remove extg. 12" culv. pipe - 58'
Remove extg. 6" storm sew. pipe - 18' NW
(1) Const. shallow manhole
Rim - 951.00
F.L. (SE) - 948.87
F.L. (N) - 948.28
F.L. (S) - 948.28
(See Dwg. No. RD342)
Connect to extg. 6" storm sew. pipe (SE) offset connection to fit
Connect to 18" storm sew. pipe (N)
Inst. 18" storm sew. pipe - 50' S.
5' depth
F.L. (S) - 950.63

(11) Sta. "HL" 10+49.80, 29.50 Lt. To Sta. 10+40.00, 24.90' Lt.
Inst. 18" storm sew. pipe - 11'.
5' depth
F.L. (S) - 948.28
F.L. (N) - 948.23
Const. 18" sloped end

(12) Sta. "HL" 10+14.46, 21.16' Lt. To Sta. 9+88.78, 15.14' Lt.
Remove extg. 12" culv. pipe - 20'
Inst. 18" culv. pipe - ~~26'~~ 27'
5' depth
F.L. (S) - 947.35
F.L. (N) - 947.00
Const. 18" sloped end

(13) Sta. "HL" 10+72.48, 14.63' Rt. - CUT EXTG 18" CMP AS DIRECTED
Const. type "G-2" Inlet INST 18" CMP, 12' AS DIRECTED
(3) Rim - 951.50
F.L. (N) - ~~948.19~~ → AS DIRECTED
(See Dwg. No. RD364)
~~Connect To 12" storm sew. pipe (N)~~ CONNECT NEW 18" CMP TO EXTG 18" CMP AND INLET

(14) Sta. "HL" 10+72.48, 14.63' Rt. To Sta. "HL" 10+02.81, 14.29' ~~Rt.~~ LT
~~Inst. 12" storm sewer pipe - 69'~~ EXISTING PIPE TO REMAIN IN PLACE.
5' depth
F.L. (S) - 948.19
F.L. (N) - 947.50

(15) Approx. location of new water line to be installed by City of Grants Pass
Adjust Valve Box - Estimate 4
Field Verify Location

(16) Sta. "HL" 16+30.13, 3.37' Lt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut
(See Dwg. No. RD360)

(17) Sta. "RH" 688+99.79, 78.80' Rt.
Const. type "G-2" inlet
Rim - 957.00
F.L. (S) - 954.37
Connect to 12" storm sew. pipe (S)

(18) Sta. "HL" 14+92.83, 18.49' Rt.
Remove extg. inlet
Remove extg. 12" storm sew. pipe - 54' N
Const type "G-2" inlet
Rim - 956.07
F.L. (N) - 954.07
F.L. (E) - 954.07
Inst. 12" storm sew. pipe - 59' N.
5' depth
Connect to 12" storm sew. pipe (E)

(19) Sta. "HL" 14+92.33, 39.18' Lt.
Const. type "D" Inlet Mod.
Rim - 954.00
F.L. (W) - 954.00
Const. 45° Grate Angle
Connect To 12" storm sew. pipe (W)

(20) Sta. "HL" 14+92.00, 26.20' Lt.
Const. type "G-2" inlet
Rim - 955.92
F.L. (E) - 953.94
F.L. (W) - 953.94
Inst. 12" storm sew. pipe - 13' E.
5' depth
Connect to 12" storm sew. pipe (W)

(21) Sta. "HL" 14+91.42, 16.17' Lt.
Remove extg. inlet
Remove extg. 12" storm sew. pipe - 36' W
(1) Const. shallow manhole
Rim - 956.18
F.L. (N) - 953.90
F.L. (S) - 953.88
F.L. (W) - 953.90
F.L. (E) - 953.90
Connect to extg. 12" storm sew. pipe (N)
Connect to extg. 12" storm sew. pipe (S)
Inst. 12" storm sew. pipe - 35' W.
5' depth
Inst. 12" storm sew. pipe - ~~10'~~ E.
5' depth 13'

(22) Sta. "HL" 16+17.13, 31.11' Lt. To Sta. 15+96.46, 32.59' Lt.
Remove extg. 12" culv. pipe - 21'
Inst. 18" culv. pipe - ~~21'~~ 27' EOR ADDED 6'
5' depth
F.L. (S) - 957.37
F.L. (N) - 956.52
Const. 18" sloped end

(23) Sta. "HL" 15+63.92, 35.35' Lt. To Sta. 15+34.64, 38.42' Lt.
Remove extg. 12" culv. pipe - 28'
Inst. 18" culv. pipe - ~~29'~~ 35' EOR ADDED 6'
5' depth
F.L. (S) - 954.73
F.L. (N) - 954.48
Const. 18" sloped end

(24) Sta. "HL" 14+58.36, 39.22' Lt. To Sta. 14+35.29, 43.96' Lt.
Inst. 18" culv. pipe - 24'.
5' depth
F.L. (S) - 954.09
F.L. (N) - 954.67
Const. 18" sloped end

(25) Sta. "RH" 690+30.35, 49.83' Rt. To 695+45.94, 46.83' Rt.
Inst. 8" drain pipe - 516'
Const. 4 cleanouts
Sta "RH" ~~690+30.35, 49.83'~~ Rt. 69/125
691+50.00, 49.83' Rt.
693+00.00, 46.83' Rt.
694+50.00, 46.83' Rt.
F.L. (W) - 953.52
F.L. (E) - 950.14
Connect to 8" storm sew. pipe

(26) Sta. "RH" 695+45.94, 46.83' Rt. To Sta 695+65.58, 61.68' Rt.
Remove extg. inlet
Remove extg. 12" storm sew. pipe - 15' S
Inst. 8" storm sew. pipe - 26'
5' depth
F.L. (W) - 950.14
F.L. (E) - 945.77
Connect to extg. box culvert wingwall
(For details, see sht. GE-4)

(27) Sta. "RH" 696+71.59, 43.77' Rt.
To 696+2.08, 46.42' Rt.
Inst. 8" Drain Pipe - 70'
Const. cleanout
Sta. "RH" 696+71.59, 43.77'
F.L. (E) - 949.84
F.L. (W) - 949.55
Connect to 8" storm sew. pipe

(28) Sta. "RH" 696+02.08, 46.42' Rt. To
Sta 695+91.08, 59.28' Rt.
Inst. 8" storm sew. pipe - 17'
5' depth
F.L. (NE) - 949.55
F.L. (SW) - 945.73
Connect to extg. box culvert wingwall
(For details, see sht. GE-4)

(29) Sta. "RH" 690+76.36, 53.83' Lt. To Sta. 695+09.32, 47.83' Lt.
Inst. 8" Drain Pipe - 433'
Const. 4 cleanouts
Sta. "RH" ~~690+76.36, 53.83'~~ Lt. 69/125
Sta. 692+00.00, 53.83' Lt.
Sta. 693+50.00, 52.27' Lt.
Sta. 695+00.00, 47.83' Lt.
F.L. (W) - 953.43
F.L. (E) - 949.89
Connect to 8" storm sew. pipe

(30) Sta. "RH" 695+09.32, 48.73' Lt. To 695+26.15, 53.58' Lt.
Remove extg. inlet
Remove extg. 12" storm sew. pipe - 18' N
Inst. 8" storm sew. pipe - ~~18'~~ 24'
5' depth
F.L. (W) - 949.89
F.L. (E) - 945.25
Connect to box culvert wall
(For details, see sht. GE-4)

(31) Sta. "HL" 12+87.64, 23.11' Lt.
Adjust natural gas valves (By Others)

(32) Sta. "RH" 689+60.78, 59.00' Rt.
Adjust storm sew. manhole - minor
Method B Circular Cut

(33) Sta. "HL" 11+92.89, 25.90' Lt.
Remove extg. siphon box
Remove extg. 8" irrigation pipe - 42' W
Remove extg. 6" irrigation pipe - 40' N

(34) Sta. "HL" 14+20.15, 25.33' Lt.
Remove extg. inlet
Remove extg. 12" storm sew. pipe - 21' S
Remove extg. 12" storm sew. pipe - 10' NE
Abandon 15" storm sew. pipe - Rt. side 1

(35) Sta. "HL" 12+26.31, 5.55' Lt.
Adjust box - survey monument

(36) Sta. "RH" 689+65.65, 45.45' Lt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut

(37) Sta. "HL" 10+79.05, 17.00' Rt.
Tie extg. roof drain into curb
(See Dwg. No. RD700)

(38) See Sht. 5B, Note 1

(39) See Sht. 5B, Note 3

(3)	REVISED NOTE	9-14-11 K.C.T.
(2)	REVISED QTY	9-14-11 K.C.T.
	REVISIONS	
(1)	Revised 01-31-2011 Changed to shallow manhole	

OREGON DEPARTMENT OF TRANSPORTATION

PB PARSONS BRINCKERHOFF 400 S.W. Sixth Ave. Portland, OR 97204

REGISTERED PROFESSIONAL ENGINEER
15,889
Ronald L. Horres
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

US199: DOWELL RD
TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

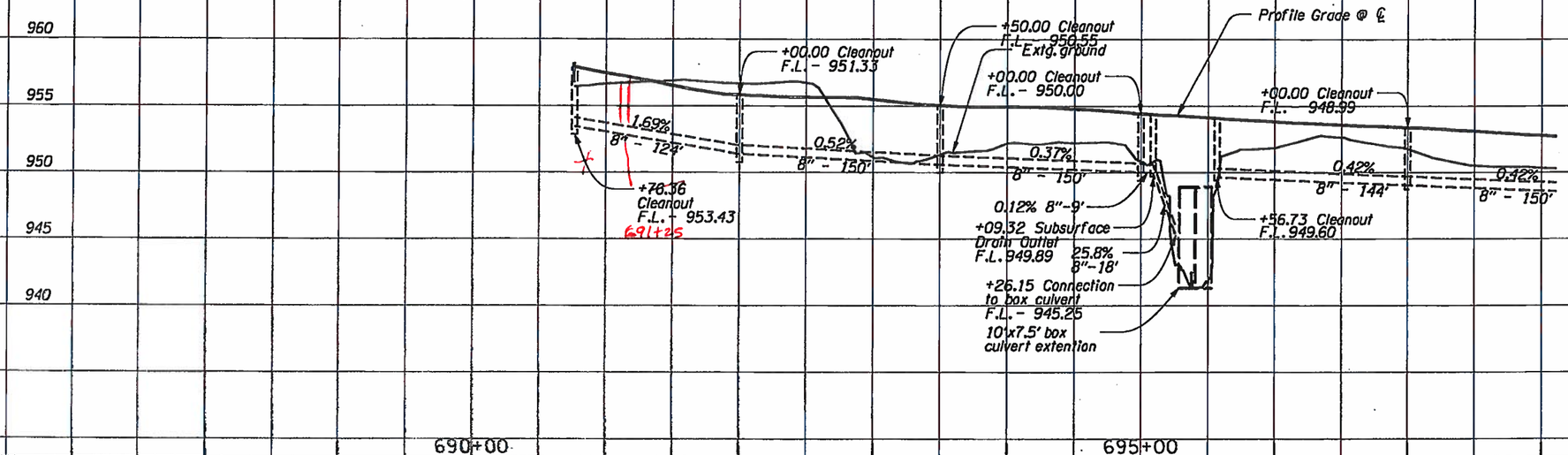
Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

SHEET NO. 4D

43V-178

℄ OF LEFT SHARED USE PATH APPROX. 61.5' LEFT OF "RH" LINE



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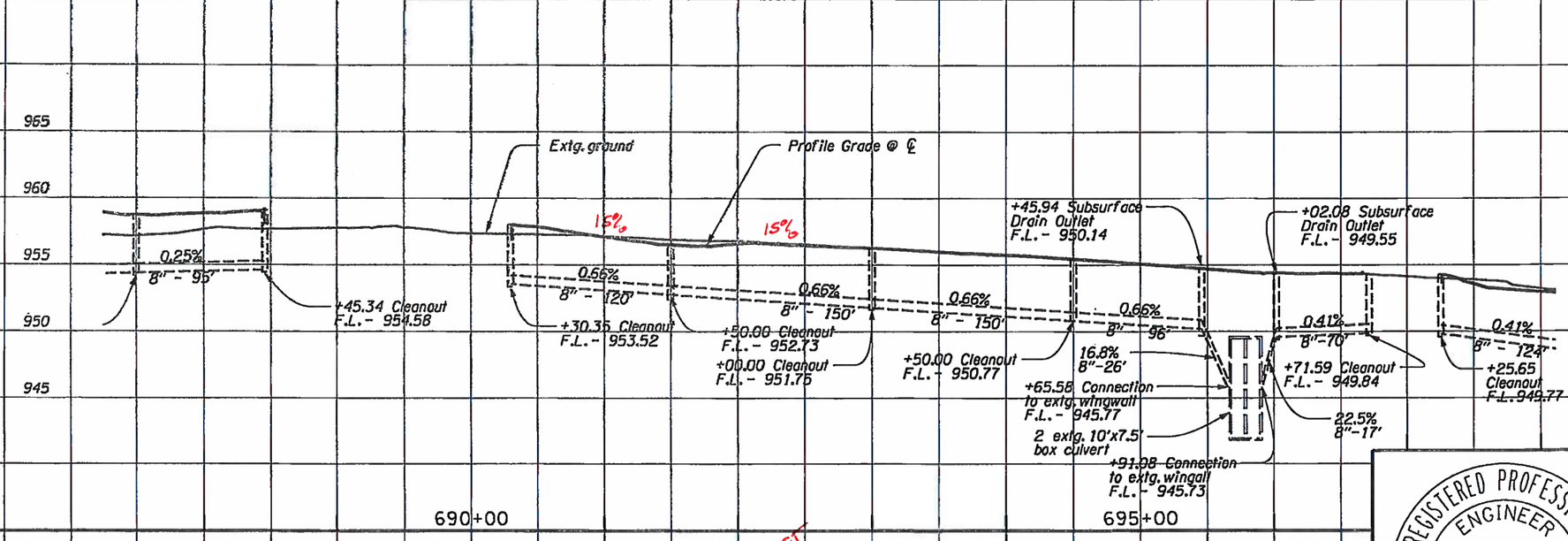

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121 400 S.W. Sixth Ave. Portland, OR 97204

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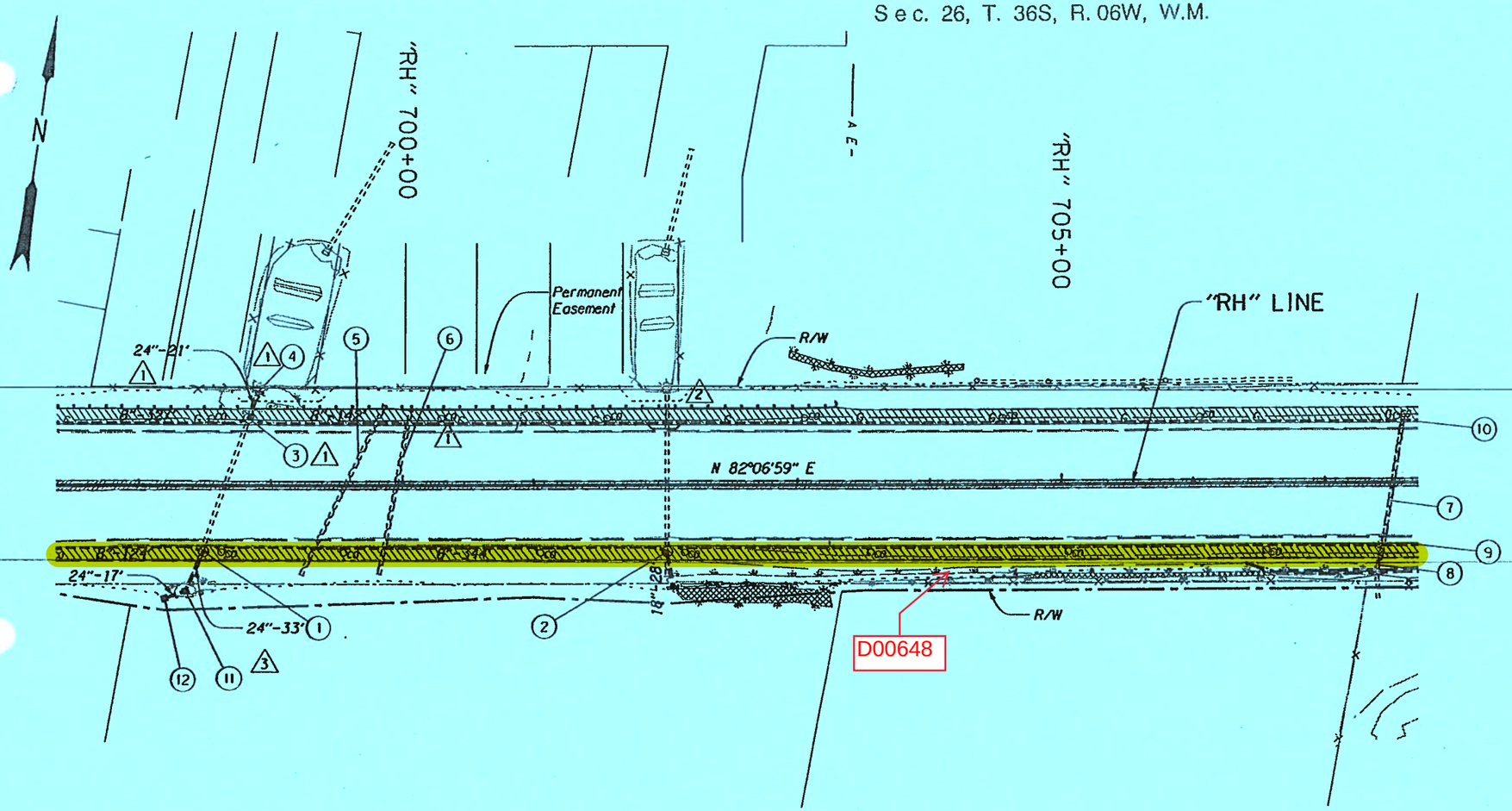
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

PROFILE

SHEET NO. 4F

Sec. 26, T. 36S, R. 06W, W.M.



(1) Sta. "RH" 698+48.89, 50.54' Rt.
Const. storm sew. manhole
Rim - 952.56
F.L.(N) - 941.20
F.L.(S) - 941.20
F.L.(W) - 948.11
Connect to exlg. 24" storm sew. pipe (N)
Remove exlg. 24" storm sew. pipe - 27' S
Inst. 24" storm sew. pipe - ~~33'~~ 36' S (3)
20' depth
F.L.(S) - 944.75
Inst. 8" drain pipe - 124' W
Const. cleanout
Sta "RH" 697+25.65, 48.02' Rt.

(2) Sta. "RH" 702+00.78, 50.54' Rt.
Const. storm sew. manhole
Rim - 951.15
F.L.(N) - 943.52
F.L.(S) - 943.62
F.L.(W) - 946.70
Connect to exlg. 18" storm sew. pipe (N)
Remove exlg. 18" storm sew. pipe - 19' S
Inst. 18" storm sew. pipe - ~~28'~~ 26' S
10' depth
F.L.(S) - 945.00
Inst. 8" drain pipe - 344' W
Const. 3 cleanouts
Sta. "RH" 698+57.33, 56.86' Rt.
Sta. 699+50.00, 46.92' Rt.
Sta. 701+00.00, 47.02' Rt.

(3) Sta. "RH" 698+83.01, 51.32' Lt.
Const. storm sew. manhole (1) (2)
Rim - 952.44
F.L.(S) - 940.73
F.L.(N) - 940.73
F.L.(E) - 947.89
F.L.(W) - 948.27
Connect to exlg. 24" storm sew. pipe (S)
Connect to 24" storm sew. pipe (N)
Remove exlg. 24" storm sew. pipe - 21' N
Inst. 8" drain pipe - 327' W
Const. 3 cleanouts
Sta "RH" 695+56.73, 47.83' Lt.
Sta. 697+00.00, 47.55' Lt.
Sta. 698+50.00, 47.19' Lt.
Inst. 8" drain pipe - 142' E
Const. 1 cleanout
Sta. "RH" 700+25.00, 46.83' Lt.

(4) Sta. "RH" 698+83.01, 51.32' Lt.
To Sta. 698+89.90, 71.35' Lt.
(1) Inst. 24" storm sew. pipe - ~~21'~~ 28'
~~20'~~ 10' depth
F.L.(S) - 940.73
F.L.(N) - 940.64

(5) Sta. "RH" 699+22.91, 68.09' Rt. To Sta. "RH" 699+86.34, 60.90' Lt.
Abandon 18" culv. pipe - Rt. side - 1

(6) Sta. "RH" 699+82.05, 67.53' Rt. To Sta. "RH" 700+06.28, 56.62' Lt.
Abandon 18" culv. pipe - Rt. side - 1

(7) Sta. "RH" 707+45.05, 46.03' Rt. To Sta. "RH" 707+60.51, 51.26' Lt.
Abandon 18" culv. pipe - Rt. side - 1

(8) Sta. "RH" 707+40.46, 65.61' Rt. To Sta. "RH" 707+45.05, 46.03' Rt.
Remove exlg. 12" culv. pipe - 17'

(9) See Sht. 6D, Note 1

(10) See Sht. 6D, Note 2

(11) Sta. "RH" 698+35.67, 80.42' Rt.
Install Type G2-MA inlet
Rim - 945.50
F.L.(N) - 942.47
F.L.(SW) - 942.47
Connect to 24" storm sew. pipe (N)
(3) Inst. 18" storm sew. pipe - 17' SW.
5' depth
F.L.(SW) - 942.80

(12) Sta. "RH" 698+20.03, 85.90' Rt.
Install Type G2-MA inlet
Rim - 946.00
F.L.(N) - 942.80

REVISIONS	
(1)	Revised 11-19-2010 Added Manhole, revised pipe lengths, cleanouts, and notes
(2)	Revised 11-19-2010 Removed proposed manhole and outlet pipe. Revised underdrain.
(3)	Revised 07-20-2011 Add two G2-MA inlets

Ditches Shown Thus: ═══

Biofiltration Swales Shown Thus: ═╪═

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus: ▨

REGISTERED PROFESSIONAL ENGINEER
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JOSEPHINE COUNTY

Design Team Leader - James Burford
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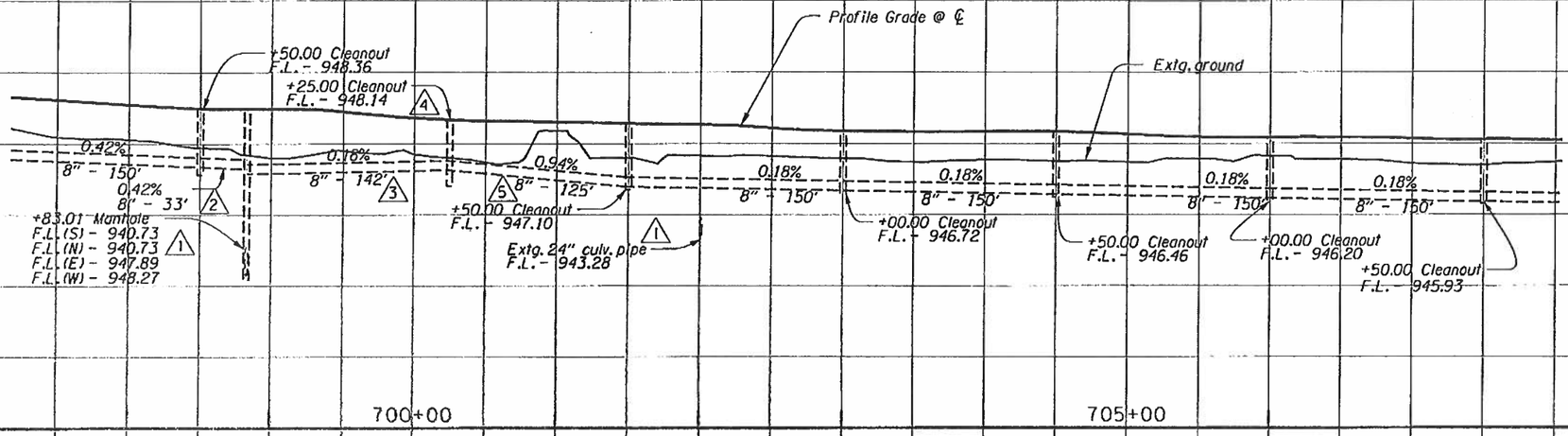
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

SHEET NO. 5B

43V-178

℄ OF LEFT SHARED USE PATH APPROX. 61.5' LEFT OF "RH" LINE



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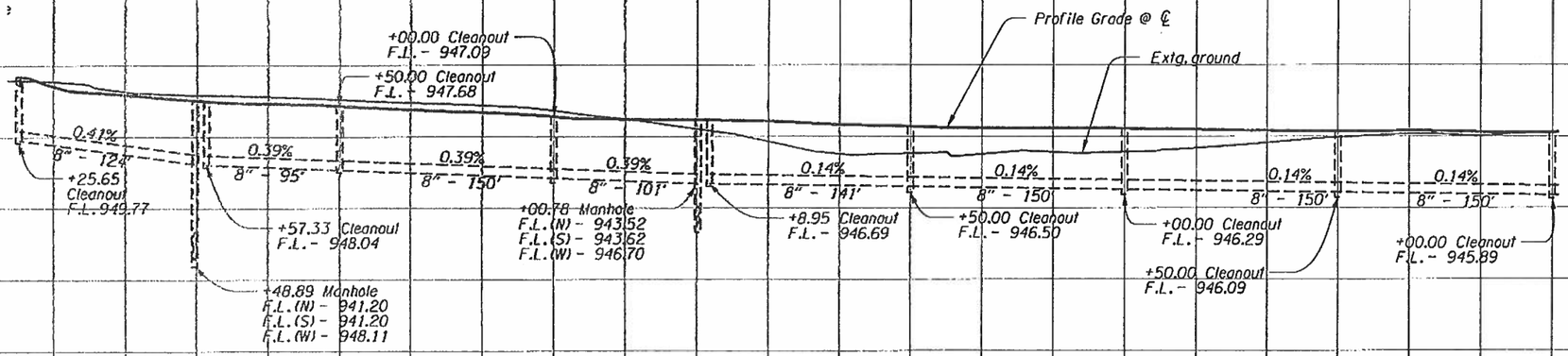

REVISIONS	
1	Revised 11-19-2010 Revised manhole location
2	Revised 11-19-2010 Revised underdrain length
3	Revised 11-19-2010 Revised underdrain length and slope
4	Revised 11-19-2010 Revised cleanout location
5	Revised 11-19-2010 Revised underdrain length and slope

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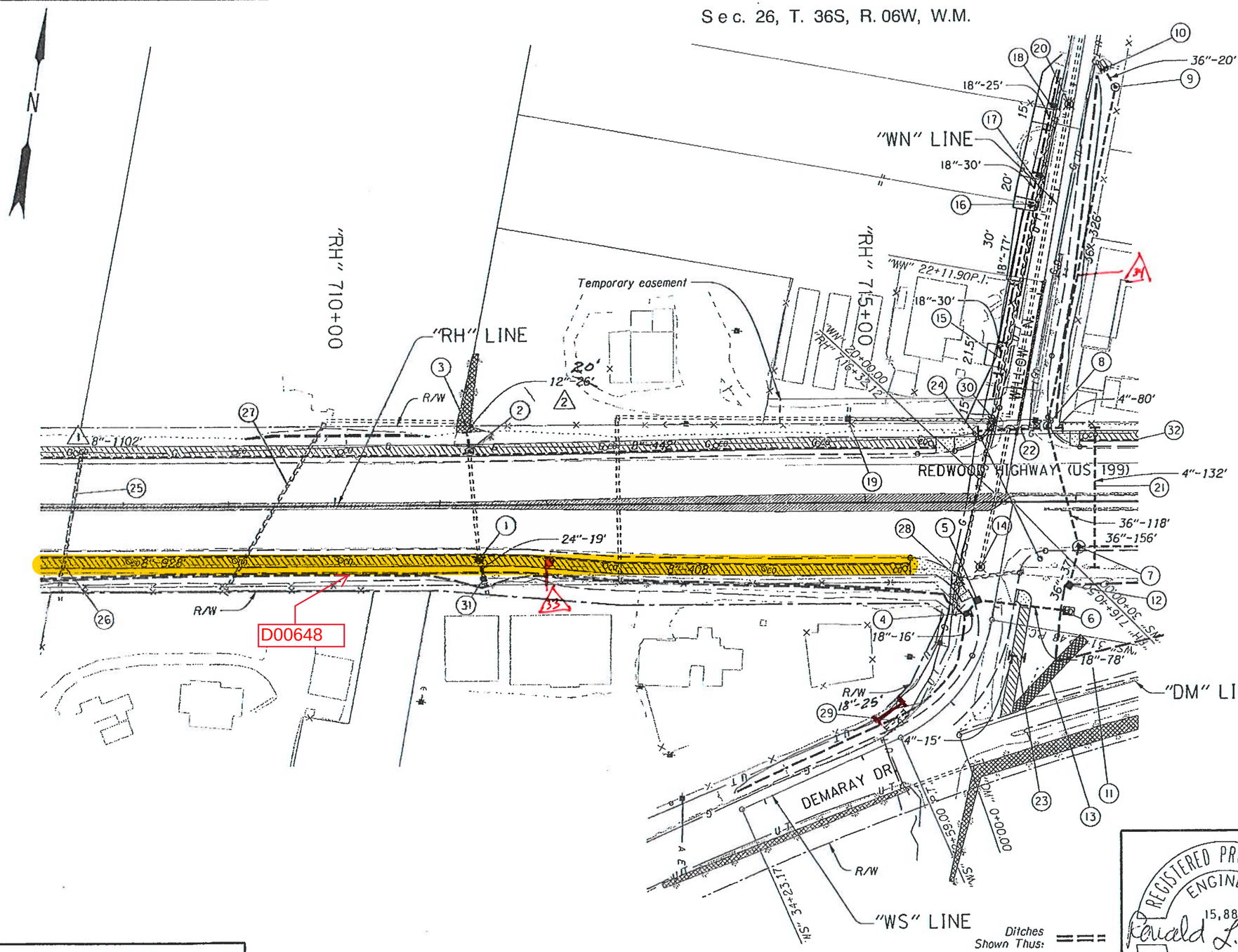
PROFILE

SHEET NO. 5D

Sec. 26, T. 36S, R. 06W, W.M.

43V-178

(Notes: see sht. 6D)



REVISIONS	
1	Revised 11-19-2010 Revised underdrain length
2	Revised 11-19-2010 Revised pipe size

Ditches Shown Thus: ═══

Biofiltration Swales Shown Thus: ═╪═

No Work Area (except for perm. fence installation) Delineate Per Section 00290.41(b) Shown Thus:

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DRAINAGE & UTILITIES

NO. 6C

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1:1200 - 06

(1) Sta. "RH" 711+36.00, 50.73' Rt.
Remove extg. inlet
Remove extg. culv. pipe - 18'
Const. storm sew. manhole
Rim - 949.64
F.L.(S) - 945.43
F.L.(N) - 945.43
F.L.(W) - 945.43
F.L.(E)- 945.43
Connect to extg. 24" culv. pipe (N)
Inst. 24" storm sew. pipe - 19' S.
5' depth
F.L.(S) - 946.30
Inst. 8" drain pipe - 928' W
Const. 7 cleanouts
Sta. "RH" 702+08.95, 47.10' Rt.
Sta. 703+50.00, 47.06' Rt.
Sta. 705+00.00, 47.01' Rt.
Sta. 706+50.00, 46.95' Rt.
Sta. 708+00.00, 46.93' Rt.
Sta. 709+00.00, 46.90' Rt.
Sta. 710+00.00, 46.87' Rt.
Inst. 8" drain pipe - 408' E
Const. 3 cleanouts
Sta. "RH" 715+43.46, 57.83' Rt.
Sta. 714+00.00, 57.42' Rt.
Sta. 712+50.00, 53.71' Rt

(2) Sta. "RH" 711+26.77, 50.57' Lt.
Const. 60" storm sew. manhole
(See Dwg. No. RD346)
Rim - 949.71
F.L.(N) - ~~945.11~~ 944.95
F.L.(S) - 944.95
F.L.(W) - 945.25
F.L.(E) - 945.11 (INSTALL 24" STORM SEWER + CONC. COLLAR
Remove extg. 24" storm sew. pipe - 7' N
Connect to 24" storm sew. pipe (N)
Connect to extg. 24" storm sew. pipe (S)
Inst. 8" drain pipe - 1102' W
Const. 8 cleanouts (1)
Sta. "RH" 700+25.00, 46.83' Lt.
Sta. 701+50.00, 46.83' Lt.
Sta. 703+00.00, 46.83' Lt.
Sta. 704+50.00, 46.83' Lt.
Sta. 706+00.00, 46.83' Lt.
Sta. 707+50.00, 46.83' Lt.
Sta. 709+00.00, 46.83' Lt.
Sta. 710+00.00, 46.83' Lt.
Inst. 8" drain pipe - 442' E
Const. 4 cleanouts
Sta. "RH" 715+67.98, 51.83' Lt.
Sta. 714+50.00, 51.83' Lt.
Sta. 713+50.00, 50.65' Lt.
Sta. 712+50.00, 48.92' Lt.

(3) Sta. "RH" 711+26.77, 50.57' Lt.
To Sta. 711+24.67, 69.00' Lt.
(2) Inst. 12" storm sew. pipe - ~~26'~~ 20'
5' depth
F.L.(N) - 944.82
F.L.(S) - 944.95

(4) Sta. "WS" 31+10.51, 24.28' Rt.
Const. type "D" inlet
Rim - 946.80
F.L.(E) - 945.00

(5) Sta. "WS" 30+96.53, 16.63' Rt.
Const. type "G-2" inlet
Rim - 948.50
F.L.(E) - 944.87
F.L.(W) - 944.87
Inst. 18" storm sew. pipe - ~~16'~~ W
5' depth
14'

(6) Sta. "WS" 30+96.53, 16.63' Rt. To Sta. 30+92.26, 61.40' Lt.
Inst. 18" storm sew. pipe - ~~78~~ 74'
5' depth
F.L.(W) - 944.87
F.L.(E) - 944.50
Const. 18" Paved Culvert End Slope - 35 sq.ft.
(See Dwg. No. RD320)
Const. loose riprap (Class 50) - 4.1 cu. yd.
Riprap Geotextile Type 2 - 10.0 sq. yd.
(For detail, see sht. GJ-6)

(7) Sta. "RH" 717+03.10, 42.23' Rt.
Const. 72" storm sew. manhole
Rim - 949.62
F.L.(N) - 939.93
F.L.(S) - 939.93
F.L.(E) - 942.23
Connect to 36" storm sew. pipe (N)
Inst. 36" storm sew. pipe - ~~37'~~ S 40'
10' depth
Inst. 36" storm sew. pipe - 156' E.
10' depth

(8) Sta. "WN" 20+78.14, 27.64 Rt.
Remove extg. siphon box
Const. 60" storm sew. manhole w/ inlet
Rim - 948.90
F.L.(S) - 939.56
F.L.(N) - 939.56
Inst. 36" storm sew. pipe - 118' S.
10' depth
Connect to 36" storm sew. pipe (N)

(9) Sta. "WN" 24+03.84, 35.55' Rt.
Const. 72" storm sew. manhole
Rim - 944.25
F.L.(S) - 938.56
F.L.(N) - 938.56 327'
Inst. 36" storm sew. pipe - ~~326'~~ S ADD 7.5' PIPE AND SLOPE END SECTION - 2EA
10' depth
Connect to 36" storm sew. pipe (N)

(10) Sta. "WN" 24+03.84, 35.55' Rt. To Sta. 24+18.94, 22.40' Rt.
Inst. 36" storm sew. pipe - 20'.
F.L.(S) - 938.56
F.L.(N) - 938.50
10' depth
Outfall to irrigation canal
Const. loose riprap (Class 100) - 27 cu.yd.
Riprap Geotextile Type 2 - 46.0 sq. yd.
(For detail, see sht. GJ-6)

(11) Detention Facility
(For details, see sht. GJ)

(12) See Sht. GJ, Note 4

(13) See Sht. GJ, Note 7

(14) Sta. "WS" 30+65.23, 19.49', Rt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut

(15) Sta. "WN" 21+18.69, 27.90' Lt. To
Sta. 21+48.69, 27.90' Lt.
Inst. 18" culv. pipe - 30' 45'
5' depth
F.L.(S) - 946.01
F.L.(N) - 945.46
Const. 18" sloped end - 2

(16) Sta. "WN" 22+82.82, 24.68' Lt.
Const. type "~~Field~~" inlet G2-MA
Rim - 944.50
F.L.(S) - 943.07
F.L.(N) - 943.07
(See Dwg. No. RD374)
Inst. ~~12~~" storm sew. pipe - 77' S. ADD 13'.
18" 5' depth
F.L.(S) - 944.50
Connect to 12" storm sew. pipe (N)

(17) Sta. "WN" 23+12.51, 26.04' Lt. To
Sta. 22+82.82, 27.13' Lt.
Inst. ~~12~~" storm sew. pipe - ~~30'~~ 35'
18" 5' depth
F.L.(S) - 943.07
F.L.(N) - 942.95
Const. 12" sloped end

(18) Sta. "WN" 23+54.00, 23.46' Lt. To
Sta. 23+78.97, 20.29' Lt.
Inst. 18" culv. pipe - ~~25'~~ 30'
5' depth
F.L.(S) - ~~942.66~~ .95 PER EOR
F.L.(N) - 942.04
(2) Const. 18" sloped end - 2 EA

(19) Sta. "RH" 714+83.95, 79.38' Lt.
Const. siphon box and ~~cover~~ TRAFFIC RATED LID
(See Sht. GJ-6 for details - Siphon Box E)
F.L. (W) - 945.0±
~~Connect to extg. irrigation pipe~~ (N)
RELOCATE 4' OF 10" PIPE FROM E. TO N.

(20) Sta. "WN" 23+81.34, 23.46' Lt.
Adjust sanitary sew. manhole - minor
Method B Circular Cut

(21) Sta. "RH" 717+17.72, 70.06' Lt. To
Sta. 717+17.72, 61.94' Rt.
Inst. 4" irrigation sleeve - 132'
5' depth
F.L.(N) - 945.00
F.L.(S) - 945.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(22) Sta. "RH" 716+07.55, 67.46' Lt. To
Sta. 716+87.50, 70.19' Lt.
Inst. 4" irrigation sleeve - 80'
5' depth
F.L.(W) - 946.00
F.L.(E) - 945.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(23) Sta. "WS" 31+38.44, 24.38' Lt. To
Sta. 31+36.39, 39.18' Lt.
Inst. 4" irrigation sleeve - 15'
5' depth
F.L.(W) - 947.75
F.L.(E) - 947.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)

(24) Sta. "RH" 716+04.02, 65.35' Lt.
Adjust natural gas valves
(By Others)

WSP
(4) - SALVAGE & REINSTALL CULVERT PIPE
- MAINTAIN UTILITY ACCESS
DRIVEWAY

(25) See sht. 5B, note 7

(26) See sht. 5B, note 8

(27) Sta. "RH" 708+97.11, 78.24' Rt. To Sta. 709+88.92, 75.69' Lt.
Abandon 12" irrigation pipe - Rt. side - 1

(28) Sta. "RH" 715+88.93, 72.56' Rt.
Remove extg. inlet
Abandon 12" storm sew. pipe - Rt. side - 1
Abandon 18" storm sew. pipe - Lt. side - 1
~~Remove~~ extg. 18" storm sew. pipe - ~~33'~~ S 25'
REPLACED (ADS)

(29) Sta. "WS" 32+42.60, 20.86' Rt. To Sta. 32+68.77, 13.74' Rt.
~~Remove extg. 18" culv. pipe - 25'~~
REINSTALL 18" CULV PIPE 25'

(30) Sta. "WN" 20+73.77, 25.27' Lt.
Remove extg. siphon boxes - 2
Abandon 12" irrigation pipe - Rt. side - 1
Abandon 8" irrigation pipe - Rt. side - 1
Abandon 10" irrigation pipe - Lt. side - 1
RELOCATE 4' OF 10" PIPE TO NEW SIPHON BOX E (N) SEE (19)

(31) Sta. "RH" 711+40.22, 50.73' ~~Lt.~~ RT
Const. type "~~Field~~" inlet G2-MA
Rim - 948.40
F.L.(S) - 945.90
F.L.(N) - 945.90
Connect to extg. 24" storm sew. pipe (S)
Connect to 24" storm sew. pipe (N)

(32) See Sht. 7B, Note 4

(33) ADJUST EXT. SIPHON BOX & INSTALL LID (G)
RH 712+75 RT

(34) INSTALL SUBSURFACE DRAINS - 8EA
WN 21+40 TO 23+85 RT

REVISIONS
(3) Adjusted Sloped End Qty 9-14-11 KCT
(4) Revised Note 9-14-11 KCT

REVISIONS	
(1)	Revised 11-19-2010 Revised underdrain length and cleanouts
(2)	Revised 11-19-2010 Revised pipe size

REGISTERED PROFESSIONAL ENGINEER
15,889
OREGON
MAY 19, 1992
RONALD L. HORRES
RENEWS: 06-30-2011

OREGON DEPARTMENT OF TRANSPORTATION

PARSONS BRINCKERHOFF
400 S.W. Sixth Ave. Portland, OR 97204

US199:DOWELL RD
TO ROGUE COMMUNITY COLLEGE
REDWOOD HIGHWAY
JOSEPHINE COUNTY

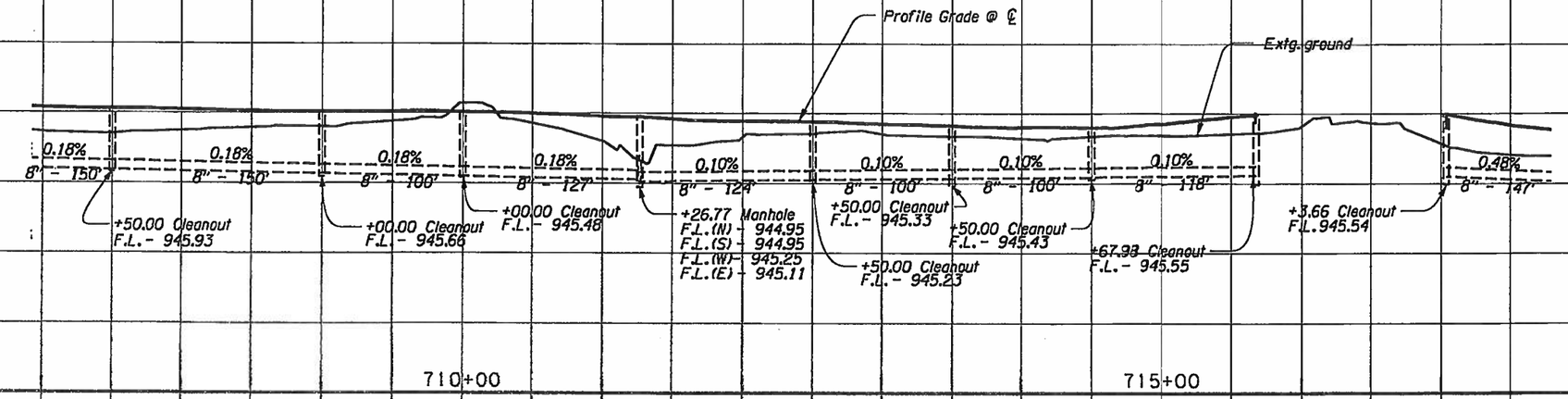
Design Team Leader - James Burford
Designed By - Ronald Horres
Drafted By - Anthony O'Donnell

DRAINAGE & UTILITIES

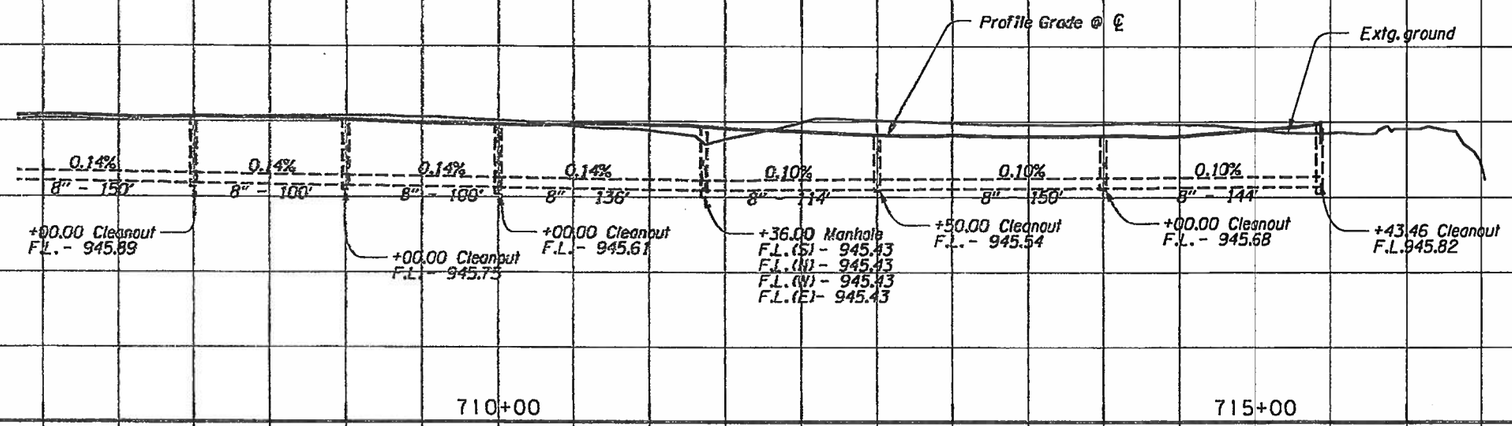
SHEET NO. 6D

43V-178

℄ OF LEFT SHARED USE PATH APPROX. 61.5' LEFT OF "RH" LINE



℄ OF RIGHT SHARED USE PATH APPROX. 61.5' RIGHT OF "RH" LINE



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PROFILE

SHEET NO. 6F

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