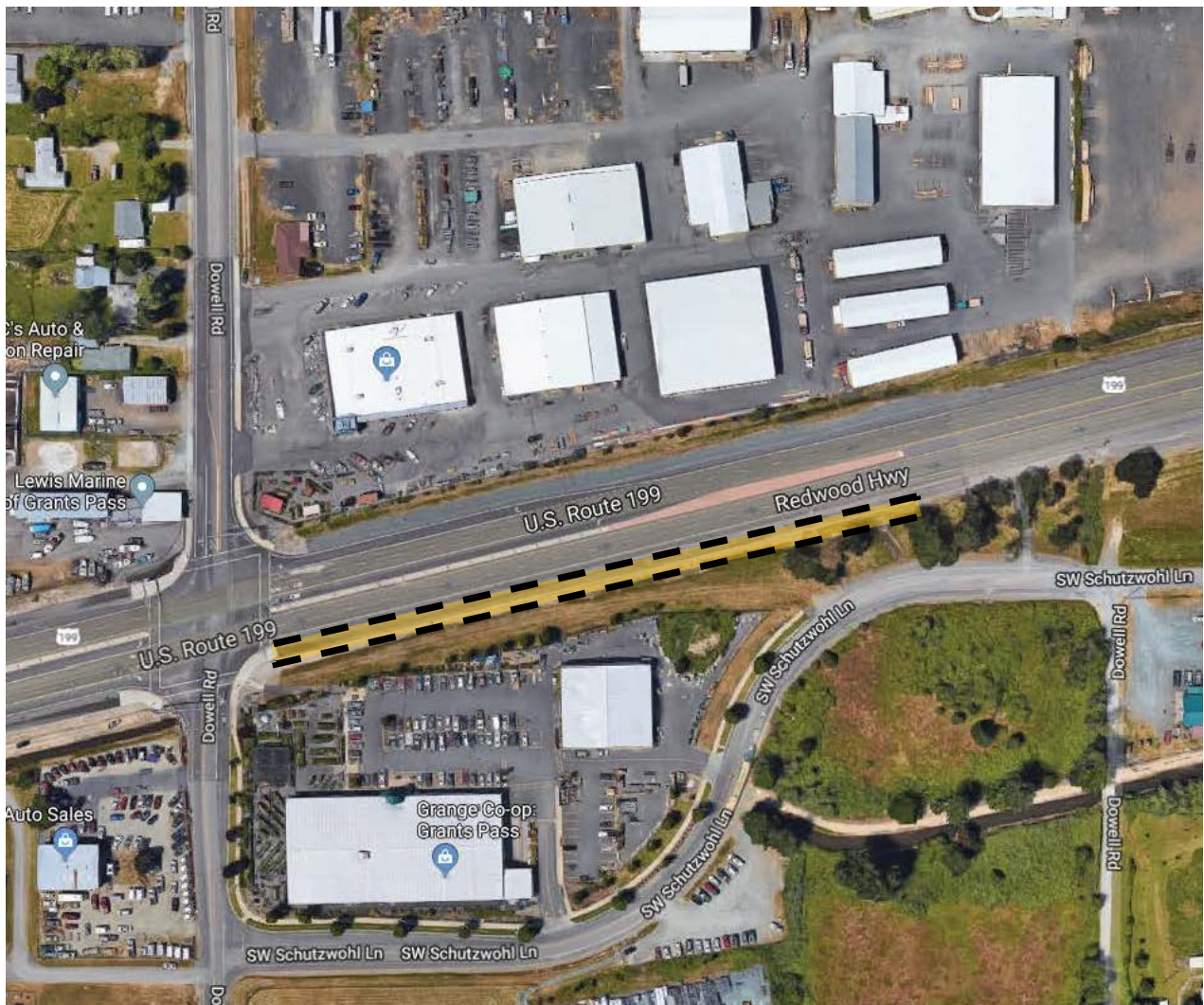


OPERATION & MAINTENANCE MANUAL

DFI No. : D00647

Facility Type: Water Quality Porous
Pavement



December, 2018

INDEX

1. IDENTIFICATION..... 1

2. FACILITY CONTACT INFORMATION 1

3. CONSTRUCTION..... 1

4. STORM DRAIN SYSTEM AND FACILITY OVERVIEW 2

5. FACILITY HAZ MAT SPILL FEATURE(S)..... 2

6. AUXILIARY OUTLET (HIGH FLOW BYPASS)..... 2

7. MAINTENANCE REQUIREMENTS..... 3

8. WASTE MATERIAL HANDLING..... 4

APPENDIX A: Operational Plan and Profile Drawing(s)

APPENDIX B: ODOT Project Plan Sheets

1. Identification

Drainage Facility ID (DFI): **D00647**
Facility Type: Water Quality Porous Pavement
Construction Drawings: 43V-178
Location: District: 08
Highway No.: 025
Mile Post: 1.89; 2.04 (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

Engineers of Record: Jason Sheadel – Region 3 Tech Center
Ronald Horres – Parsons Brinkerhoff

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 south shoulder of eastbound 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

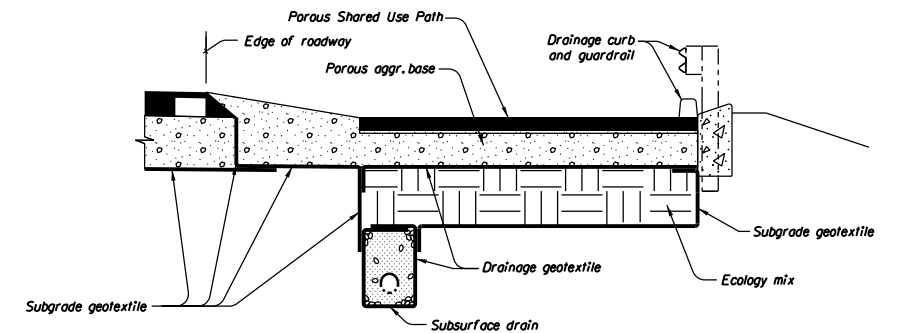
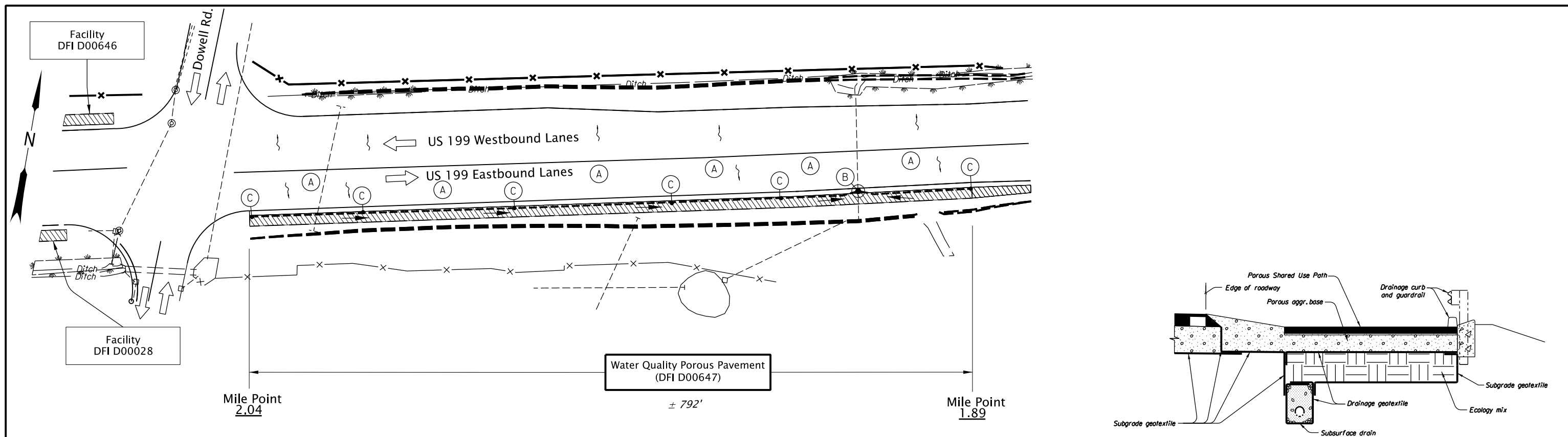
Contact any of the following for more detailed information about management of waste materials found on site:

| | |
|-----------------------------------|----------------|
| 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:

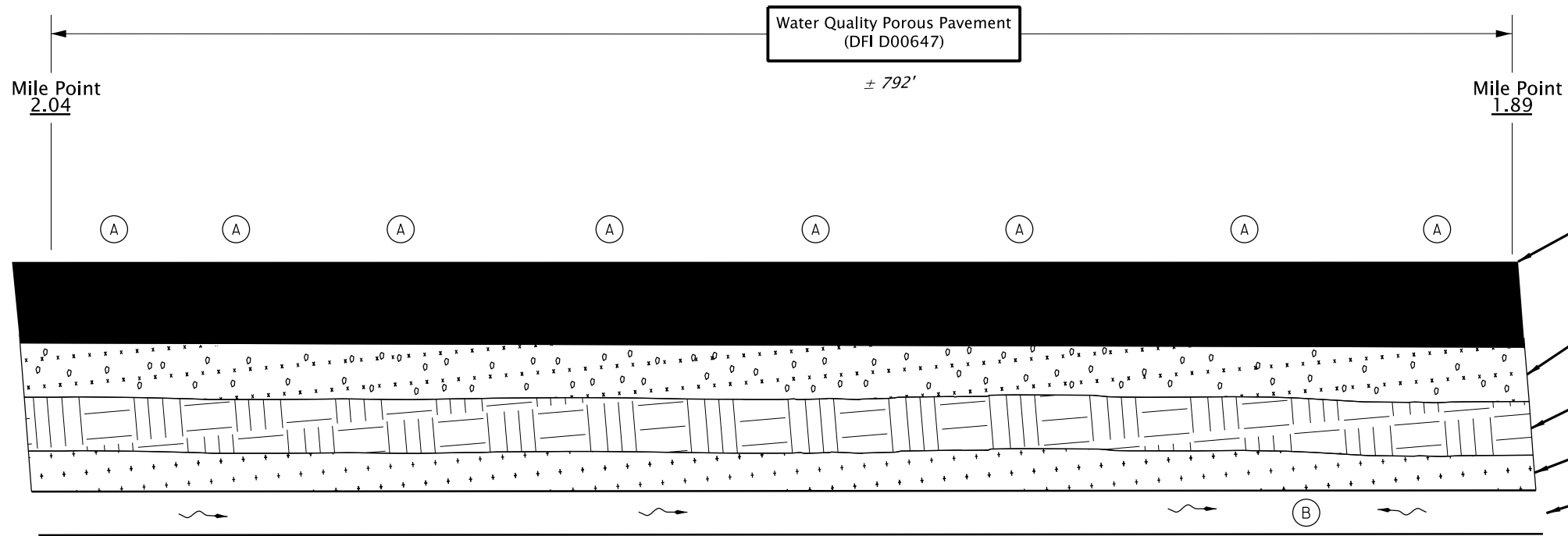
- **Operational Plan and Profile Drawing(s)**



SECTION A-A
N.T.S.

LEGEND:

- === Ditch
- (A) Porous Pavement Inlet
- (B) Subsurface Drain Outlet
- (C) Subsurface drain cleanout
- and ○ Manhole
- and □ Inlet
- - - Storm Pipe (Facility)
- - - Storm Pipe
- ← Conveyance Direction
- ↔ Pavement / Facility Flow Path
- ↔ Traffic Flow Direction



PROFILE
N.T.S.



OREGON DEPARTMENT OF TRANSPORTATION

Prepared By:
T.BURRIER

Drafted By:
T.BURRIER

DFI D00647
MAINTENANCE DISTRICT 8 HWY 025
Water Quality Porous Pavement
HIGHWAY MP 1.89 - 2.04
JOSEPHINE COUNTY

Appendix B

Content:

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

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT
GRADING, PAVING, DRAINAGE,
SIGNALS AND STRUCTURE

US 199: DOWELL RD TO ROGUE
COMMUNITY COLLEGE

REDWOOD HIGHWAY

JOSEPHINE COUNTY
DECEMBER 2010

END OF PROJECT
STP-OTIA-S025(044)

BEGINNING OF PROJECT
STP-OTIA-S025(044)

STA. "RW" 679+89.72 (M.P. 3.25) =
STA. "RH" 679+89.72 (M.P. 3.25). OFFSET 0

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.

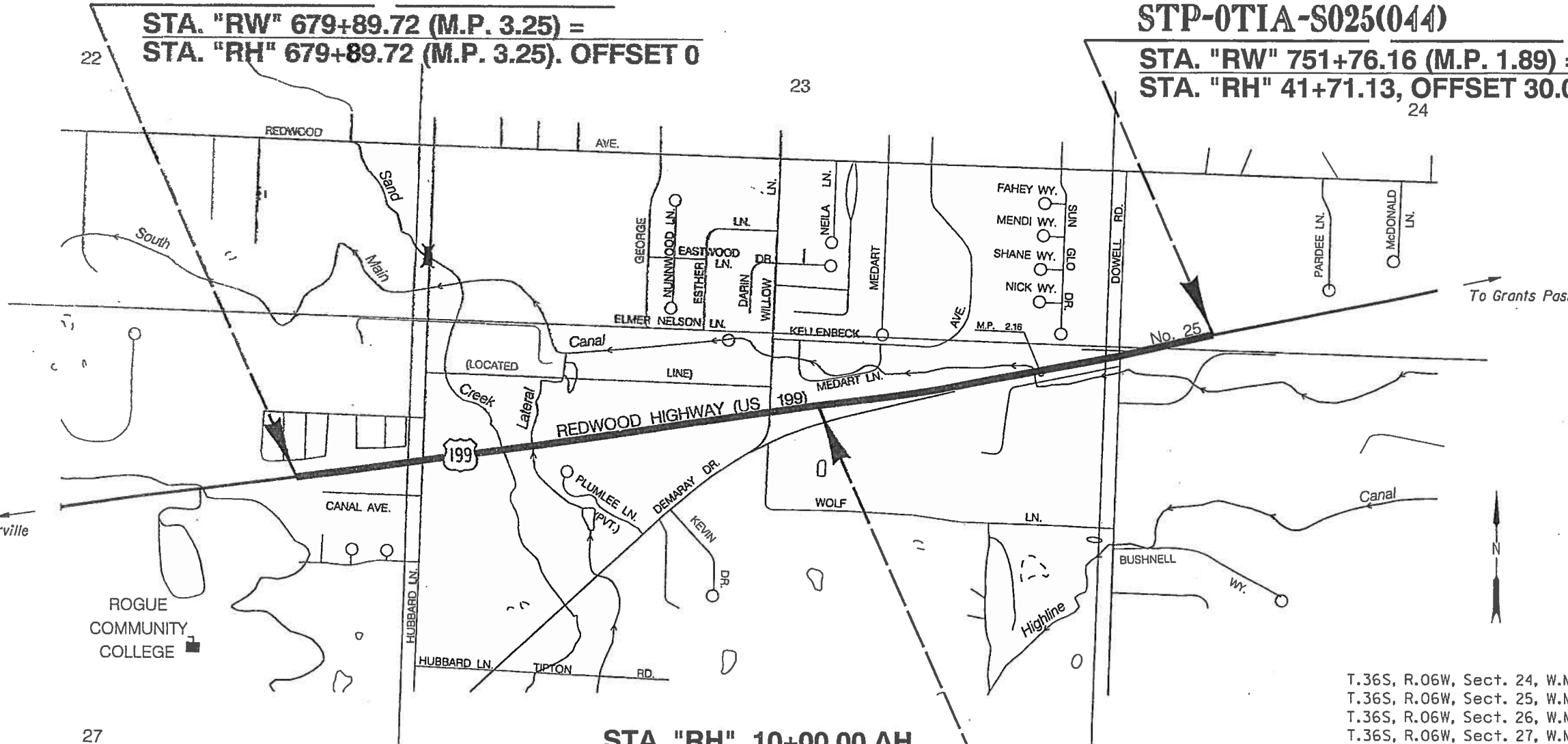
T.36S, R.06W, Sect. 24, W.M.
T.36S, R.06W, Sect. 25, W.M.
T.36S, R.06W, Sect. 26, W.M.
T.36S, R.06W, Sect. 27, W.M.

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

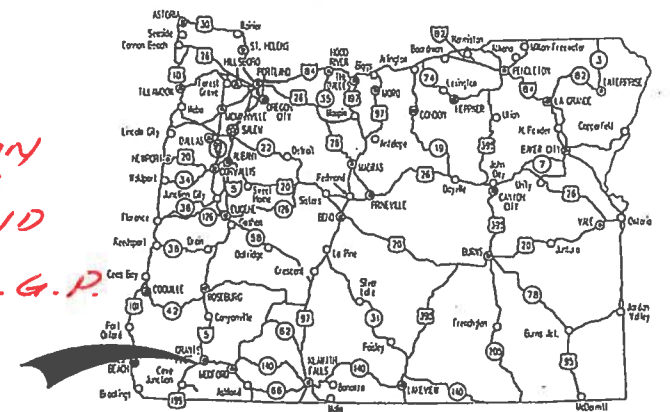
AS CONSTRUCTED

Shywood 07/20/12
PROJECT INSPECTOR DATE

Don S. Don 7/20/02 #41759
890-7015



CC!
Distribution
7/23/12 - GRID
7/28/12 - C.O.G.P.



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

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

Tom Trudell
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-OTIA-S025(044) | 1 |

| INDEX OF SHEETS, CONT'D. | |
|------------------------------------|------------------------------------------------|
| SHEET NO. | DESCRIPTION |
| 3RW thru 7RW | Right of Way |
| 2 thru 2A-16 | Typical Sections |
| 2B thru 2B-6 | Details |
| 2C | Traffic Control Plan |
| 2D, 2D-1 | Pipe Data Sheet |
| 3 thru 10D | Alignment & General Const., Profiles, Drainage |
| GEO/HYDRO | |
| GA thru GA-8 | Erosion Control |
| GC-1, GC-2 | Retaining Wall Plan & Elevation |
| GE thru GE-4 | Sand Creek Box Culvert Extension |
| GG | Temporary Water Management |
| GJ thru GJ-9 | Detention Pond & Drainage Details |
| GN-1 thru GN-6 | Roadside Development |
| PERMANENT PAVEMENT MARKINGS | |
| ST1 thru ST8 | Striping Plan |
| PERMANENT SIGNING | |
| S-12160 thru S-12169 | Signing Plans |
| TRAFFIC SIGNALS | |
| 15673 thru 15684 | Signal Plans |

Standard Dwg. Nos.

- RD100
- RD101
- RD230
- RD300
- RD302
- RD312
- RD314
- RD317
- RD318
- RD336, RD340, RD344, RD346
- RD348
- RD356
- RD360
- RD364, RD370, RD372
- RD374
- RD376
- RD386, RD388, RD390
- RD400, RD405, RD410, RD415, RD420, RD450, RD470
- RD500
- RD510
- RD515
- RD516
- RD530

RD
 342 Shallow manholes
 362 Sawtooth
 Clearout

- RD610
- RD700, RD701
- RD705
- RD706
- RD715
- RD720
- RD750
- RD755
- RD757
- RD759
- RD810
- RD815
- RD1000
- RD1005
- RD1010, RD1015
- RD1025
- RD1040
- RD1055
- BR720
- BR800
- BR805
- BR840, BR841
- TM200
- TM201
- TM204
- TM206
- TM211
- TM221, TM222
- TM223, TM224
- TM230, TM231, TM233
- TM450
- TM457
- TM458
- TM460
- TM462
- TM465
- TM467
- TM470
- TM472
- TM482
- TM485
- TM488

- Asphalt Pavement Details
- Curbs
- Islands
- Traffic Separators And Transitions
- Approaches And Non-Sidewalk Driveways
- Sidewalks
- Curb Line Sidewalk Driveways - Local Jurisdictions
- Sidewalk Ramp Details
- Sidewalk Ramp Placement
- Truncated Dome Detectable Warning Surface Details And Locations
- Barbed and Woven Wire Fences
- Chain Link Fence
- Construction Entrances
- Check Dams
- Inlet Protection
- Sediment Barrier (Type 1)
- Sediment Fence
- Matting
- Standard Gravity Retaining Wall Details
- Box Culvert Wingwalls Details
- Box Culvert Extensions Details
- Standard Double Box Culvert Details
- Sign Installation Details
- Miscellaneous Sign Placement Details
- Flag Board Mounting Details
- Sign Bracing Detail
- Signing Details
- Milepost Marker Details
- Directional Sign Layout
- Mounting Details For Removable Legend
- Mast Arm Pole Details
- Vehicle, Ped. Signal & Push Button Mounting Details
- Pedestrian Ramp Placement Details
- Vehicle Signal Details
- Adjustable Signal Head Mounting Details
- Overhead Sign, Fire Preemption & Photoelectronic Details
- Ped. Signal And Ped. Push Button Details
- Color Code Charts
- Traffic Signal Junction Boxes
- Controller Cabinet And Foundation Details
- Service Cabinets And Service Cabinet Wiring Details
- Terminal Cabinet Detail

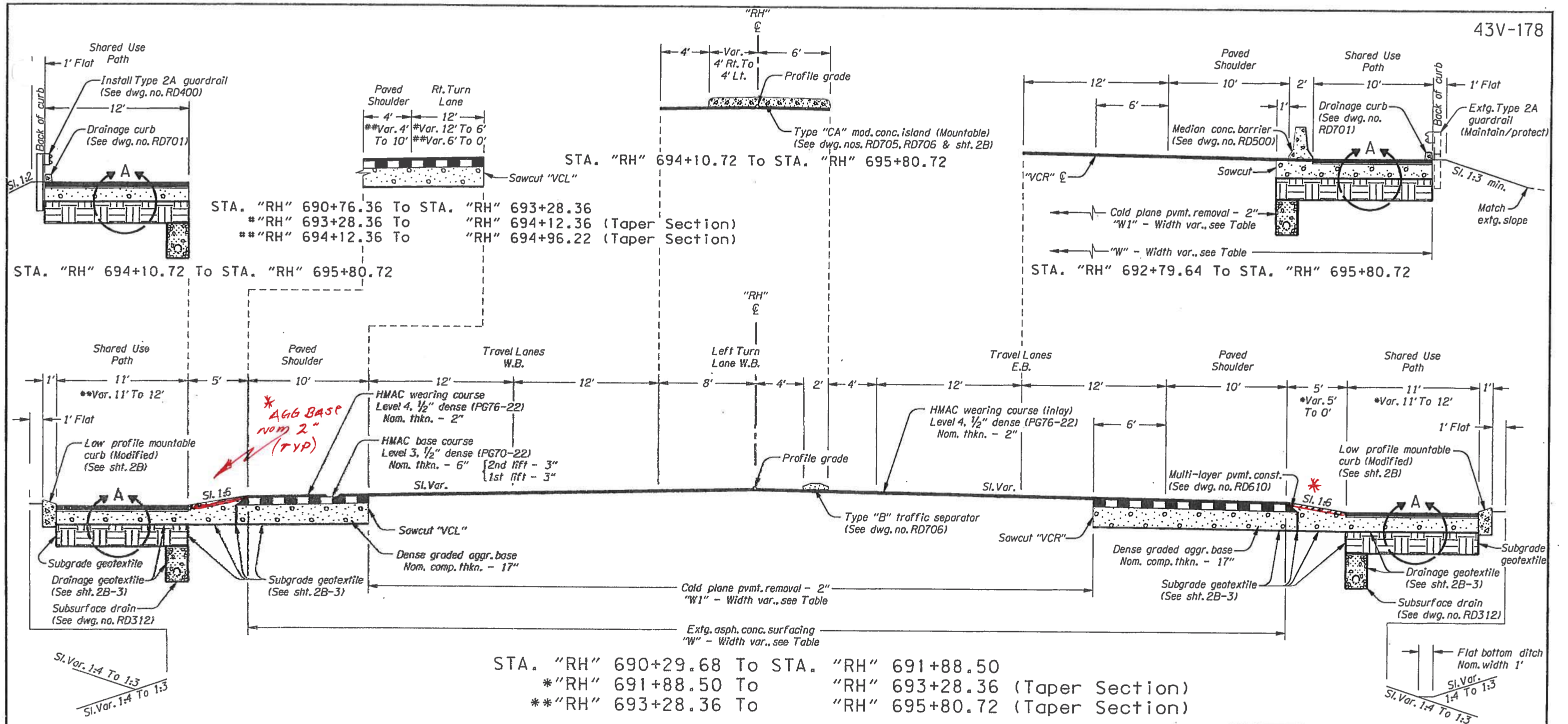
- TM500, TM501, TM502, TM503
- TM515
- TM517
- TM521
- TM525
- TM530
- TM539
- TM570
- TM571
- TM576
- TM602
- TM629, TM630
- TM635
- TM650, TM651, TM652, TM653
- TM670
- TM671
- TM675
- TM676
- TM677
- TM678
- TM679
- TM680
- TM681, TM687, TM688
- TM800
- TM820
- TM821
- TM830
- TM831
- TM841
- TM842
- TM843
- TM850
- TM851, TM852

- Pavement Marking Standard Details
- Raised Pavement Markers
- Recessed Pavement Markers
- Durable Pavement Markings Method "B" Extruded & Method "F" Spray
- Turn Arrow Marking Details
- Intersection Pavement Markings
- Median And Left Turn Channelization Details
- Traffic Delineators
- Traffic Delineators Steel Post Details
- Traffic Delineator Installation
- Triangular Base Breakaway Multi-Direction Slip Base
- Slip Base & Fixed Base Luminaire Supports
- Breakaway Sign & Luminaire Supports
- Traffic Signal Supports
- Perm. Signing Wood Post Supports Sizing Charts
- 3 Second Gust Wind Speed Isotach
- Extruded Aluminum Panels
- Sign Attachments
- Sign Mounts
- Secondary Sign Mounting Details
- Signal Mast Arm Street Name Sign Mounts
- Signal Pole Mounts
- Square Tube Sign Supports
- Tables, Abrupt Edge And PCMS Details
- Temporary Barricades
- Temporary Sign Supports
- Temporary Concrete Barrier And Rumble Strips
- Temporary Impact Attenuators
- Intersection Work Zone Details
- Signalized Intersection Details
- Multi-Lane Signalized Intersection Details
- 2-Lane, 2 Way Roadways
- Non-Freeway Multi-Lane Sections

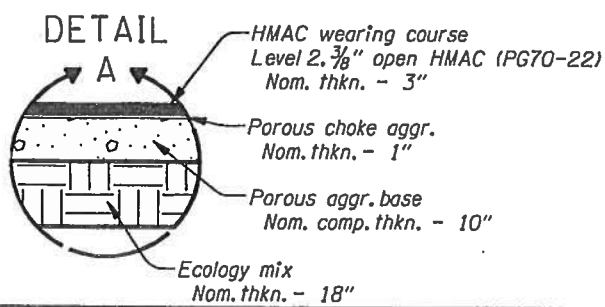
R/W Map No. 11B-04-04

| | | |
|---------------------------------------------------------------------------------------|--------------------|-----------|
| 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) | 1A |

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



| 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' |



OREGON DEPARTMENT OF TRANSPORTATION

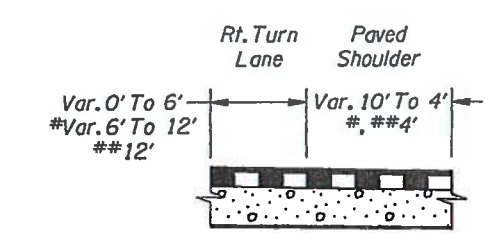
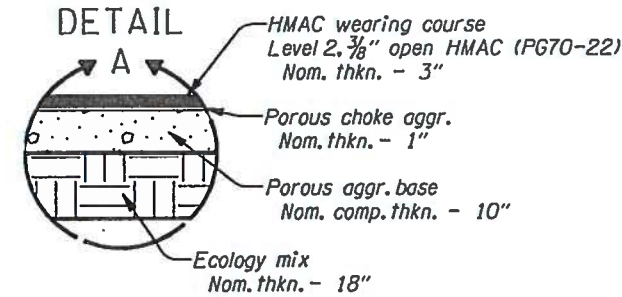
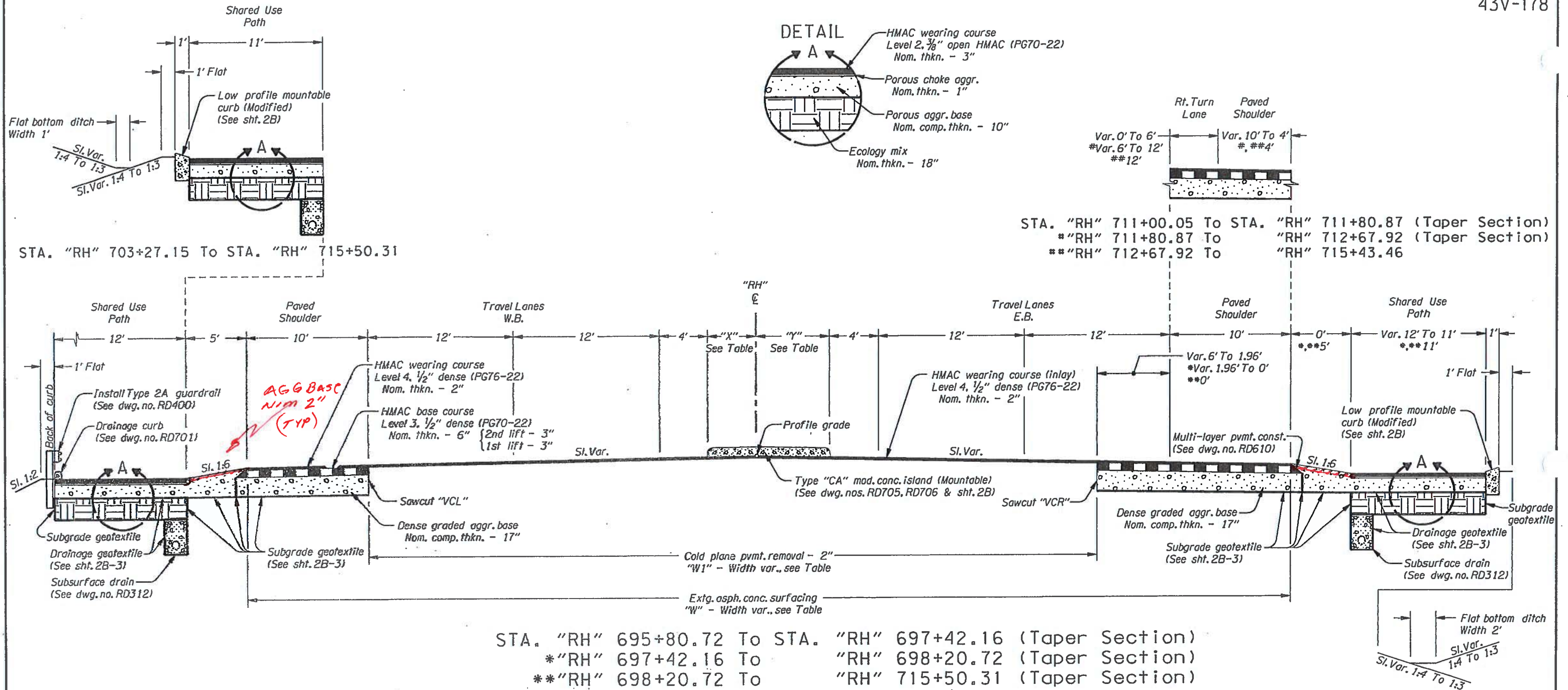
REGION 3 - TECHNICAL CENTER

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

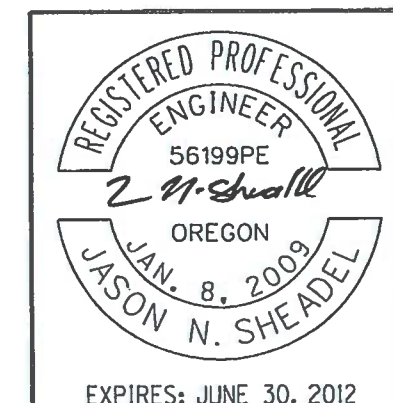
SHEET NO. 2A



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' |



OREGON DEPARTMENT OF TRANSPORTATION

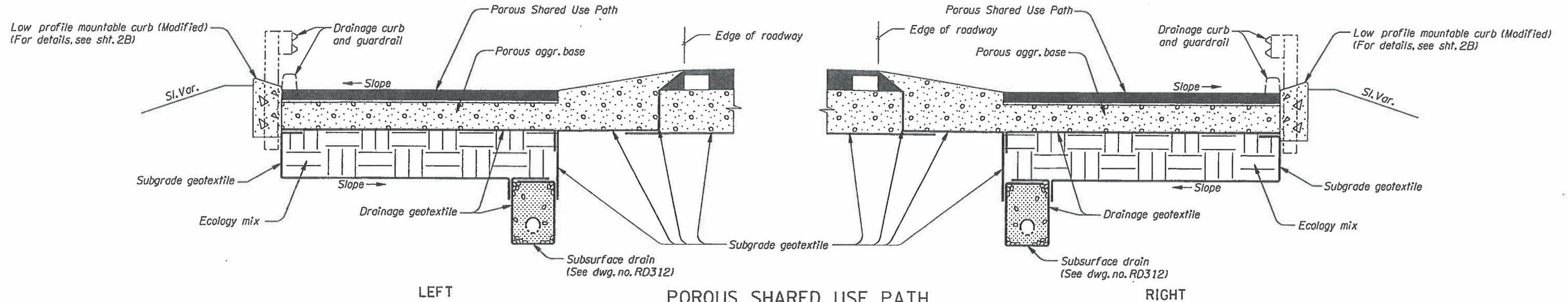
REGION 3 - TECHNICAL CENTER

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

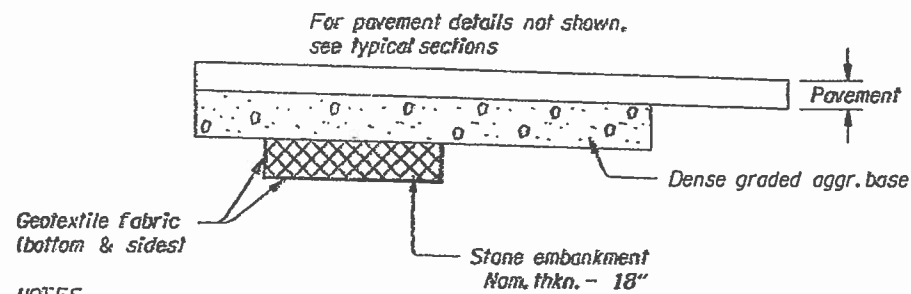
TYPICAL SECTIONS

SHEET NO. 2A-2



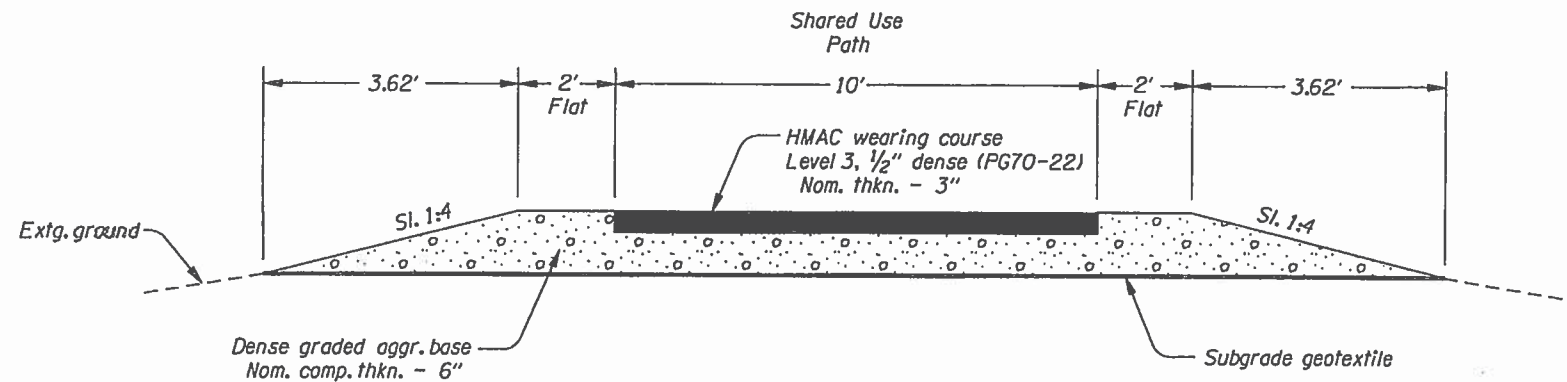
**POROUS SHARED USE PATH
(GEOTEXTILE OVERLAP DETAIL)**

For additional details, see typical sections
Provide geotextile overlap per 00350.41 (a)(2)
(Not to scale)

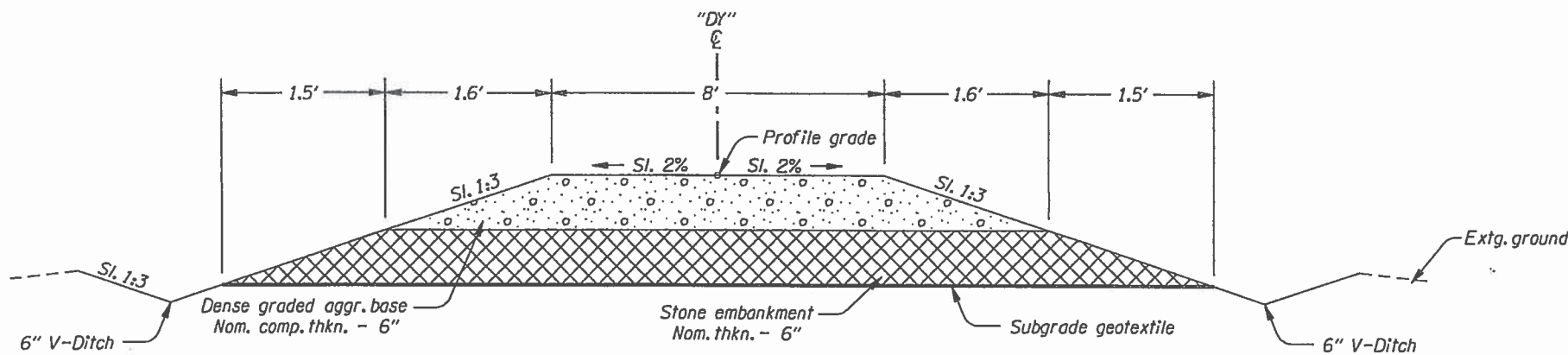


- NOTES:**
1. Excavate to a depth of 18" below subgrade
 2. Replace with 18" of stone embankment prior to placement of aggr. base.

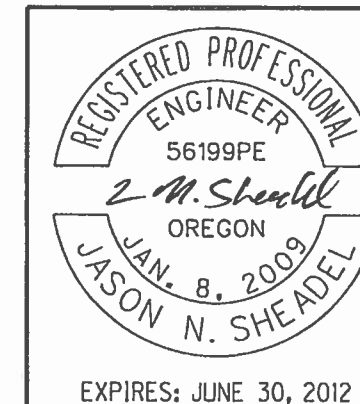
**18" SUBGRADE STABILIZATION
(Location As Directed)**



**STA. "WS" 30+95.87 To STA. "WS" 31+80.12 Lt.
NONPOROUS SHARED USE PATH**

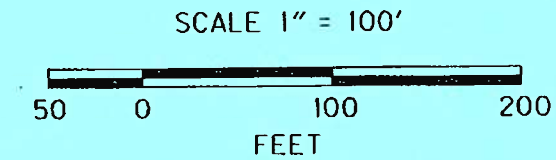
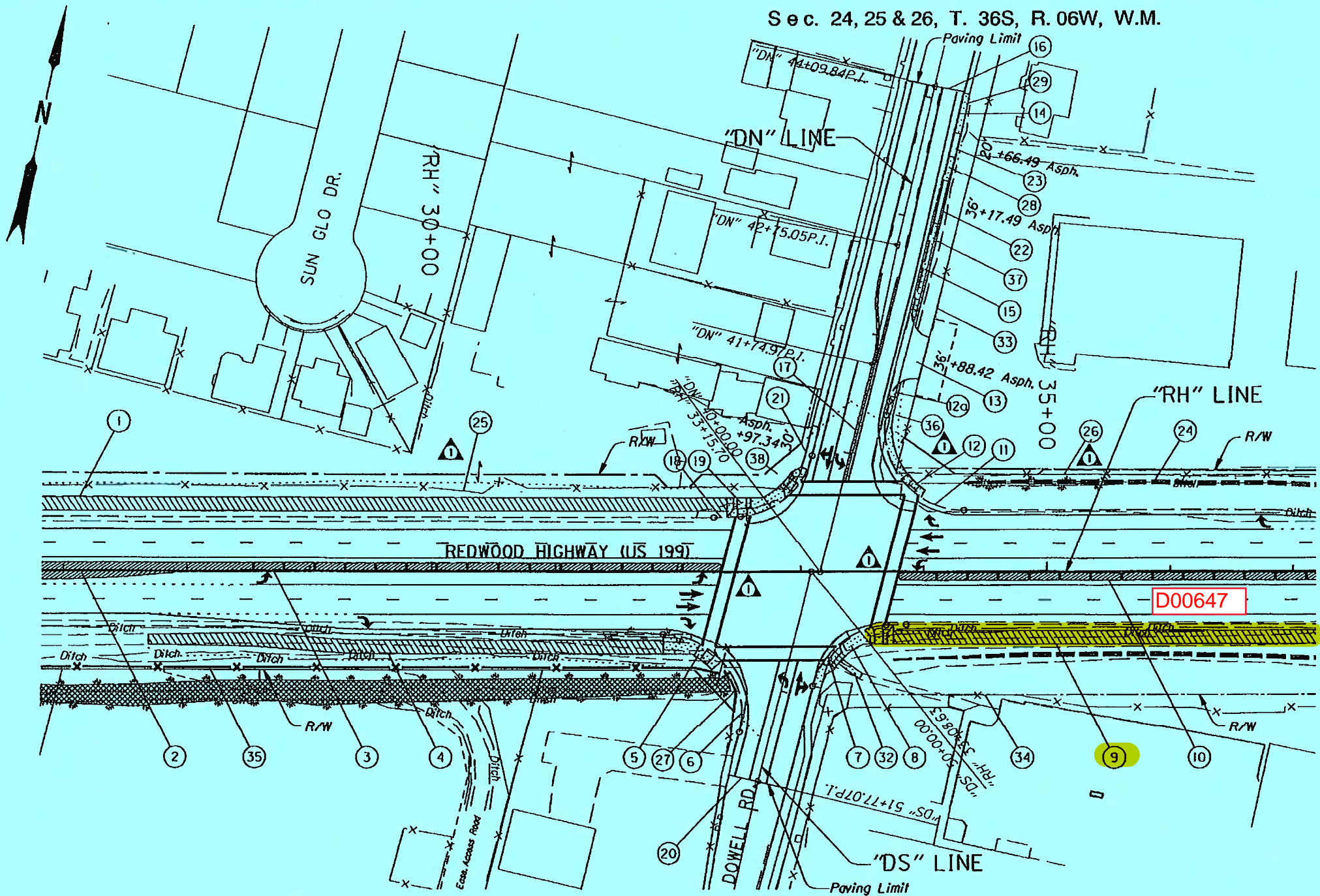


**STA. "DY" 0+00.00 To STA. "DY" 1+07.48
GRAVEL DRIVEWAY
For Profile, see sht. 4B-2**



| | |
|--------------------------------------------------------------------------------------------------------|---------------------------|
| <p>OREGON DEPARTMENT OF TRANSPORTATION</p> | |
| <p>REGION 3 - TECHNICAL CENTER</p> | |
| <p>US 199 DOWELL RD TO ROGUE COMMUNITY COLLEGE REDWOOD HIGHWAY JOSEPHINE COUNTY</p> | |
| <p>Design Team Leader - James Burford Designed By - Jason Sheadel Drafted By - Judy Hardin</p> | |
| <p>DETAILS</p> | <p>SHEET NO. 2B-3</p> |

(Notes: see shf. 9A)

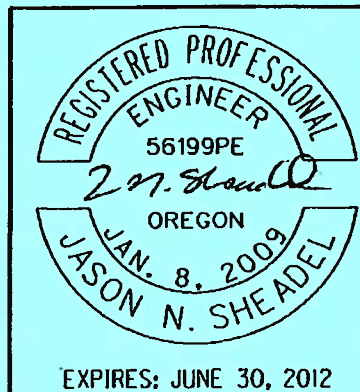


| No. | DATE | REVISIONS | BY |
|-----|------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1 | 04-05-2011 | Note 25 & 26: Removed inst. of Type 2 fence Note 27: Removed bubble to incorrect location Note 30 & 31: Removed accessible route islands | J.A.H. |
| | | | |

Porous Shared Use Path
Shown Thus:

Concrete island/Traffic separator
Shown Thus:

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



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

**ALIGNMENT & GENERAL
CONSTRUCTION**

SHEET NO. **9**

① See sht. 6A, note 22
Const. low profile mountable curb, modified

② See sht. 8, note 12
Const. type "CA" mountable conc. island, modified
Const. mountable curb, modified

③ Sta. "RH" 28+53.59 To Sta. "RH" 32+35.82
Const. type "B" traffic separator - 2,350 sq.ft.
Const. 3' radius bullnose - east end

④ Sta. "RH" 27+68.47 To Sta. "RH" 31+88.58, Rt.
Const. low profile mountable curb, modified - 421'

⑤ Sta. "RH" 31+88.58 To Sta. "RH" 32+36.80, Rt.
Const. P.C. conc. sidewalk - 595 sq.ft.
Const. sidewalk ramp
(Parallel Ramp)

⑥ Sta. "RH" 31+88.58, Rt. To Sta. "DS" 51+41.05, Rt.
Const. conc. curb & gutter (E=7", 16" gutter) - 118'

⑦ Sta. "DS" 50+90.00, Lt. To Sta. "RH" 33+85.74, Rt.
Const. conc. curb & gutter (E=7", 16" gutter) - 99'

⑧ Sta. "DS" 50+90.00, Lt. To Sta. "RH" 33+75.13, Rt.
Const. P.C. conc. sidewalk - 841 sq.ft.
Const. sidewalk ramp
(Option L Diagonal-Combination Ramp) - 2

⑨ Sta. "RH" 33+75.13 To Sta. "RH" 41+11.17, Rt.
Const. low profile mountable curb, modified - 736'

⑩ Sta. "RH" 33+79.40 To Sta. "RH" 37+61.13
Const. type "B" traffic separator - 2,349 sq.ft.
Const. 3' radius bullnose - west end

⑪ Sta. "RH" 34+32.70, Lt. To Sta. "DN" 41+66.40, Rt.
Const. conc. curb & gutter (E=7", 16" gutter) - 145'

⑫ Sta. "RH" 33+99.23, Lt. To Sta. "DN" 41+66.40, Rt.
Const. P.C. conc. sidewalk - 547 sq.ft.
Const. sidewalk ramp
(Parallel Ramp) @ Int.

⑬ (Mod. ramp for sidewalks that do not
continue around radius at dwy. 20' curb radius)
(For details, see sht. 2B-2)

⑭ Sta. "DN" 41+88.42, Rt.
Const. asph. conc. road approach

⑮ Sta. "DN" 42+12.58 To Sta. "DN" 44+09.84, Rt.
Const. conc. curb & gutter (E=7", 16" gutter) - 198'

⑯ Sta. "DN" 42+12.58 To Sta. "DN" 42+99.48, Rt.
Const. P.C. conc. sidewalk - 407 sq.ft.
Const. sidewalk ramp
(Mod. ramp for sidewalks that do not
continue around radius. 20' radius.)

⑰ Sta. "DN" 44+09.84
Const. asph. conc. pvmf. match

⑱ Sta. "DN" 40+77.70 To Sta. "DN" 41+74.97
Const. type "B" traffic separator - 227 sq.ft.

⑲ Sta. "DN" 41+15.05, Lt. To "RH" 32+29.98, Lt.
Const. conc. curb & gutter (E=7", 16" gutter) - 127'

⑳ Sta. "DN" 40+79.61, Lt. To Sta. "RH" 32+40.41, Lt.
Const. P.C. conc. sidewalk - 821 sq.ft.
Const. sidewalk ramp
(Option L Diagonal-Combination Ramp) - 2

㉑ Sta. "DS" 51+77.07
Const. asph. conc. pvmf. match

㉒ Sta. "DN" 40+97.34, Lt.
Const. P.C. conc. dwy., option N - 175 sq.ft.
(See dwg. no. RD750)

㉓ Sta. "DN" 43+17.49, Rt.
Const. P.C. conc. dwy., option N - 180 sq.ft.

㉔ Sta. "DN" 43+66.49, Rt.
Const. P.C. conc. dwy., option N - 100 sq.ft.

㉕ Sta. "RH" 34+32.70 To Sta. "RH" 41+71.02, Lt.
Const. biofiltration swale #3
Biofiltration mix - 98 cu. yd.
Matting, jute - 855 sq. yd.
Inst. Type S2 marker post - 2
(For details, see shts. 2B-6 & GJ-7)

㉖ See sht. 8, note 9
Remove extg. fence

㉗ Sta. "RH" 33+84 To Sta. "RH" 41+55, Lt.
Remove extg. fence - 800'

㉘ Sta. "RH" 32+15, Rt. To Sta. "DS" 51+25, Rt.
Inst. Type CL-6 (black vinyl coated) chain link fence - 59'
Connect to extg. cross fence
(See dwg. no. RD815)

㉙ Sta. "DN" 43+35.48 To Sta. "DN" 43+56.48, Rt.
Const. P.C. conc. sidewalk - 106 sq.ft.

㉚ Sta. "DN" 43+76.48 To Sta. "DN" 44+09.84, Rt.
Const. P.C. conc. sidewalk - 161 sq.ft.

㉛ (Removed)

㉜ (Removed)

㉝ Sta. "RH" 33+32.54 To Sta. "RH" 33+48.82, Rt.
Const. P.C. conc. sidewalk (5' wide) - 102 sq.ft.

㉞ Sta. "DN" 41+23 To Sta. "DN" 44+09, Rt.
Maintain/protect extg. fence/gates

㉟ Sta. "RH" 33+16 To Sta. "RH" 39+29, Rt.
Maintain/protect extg. fence

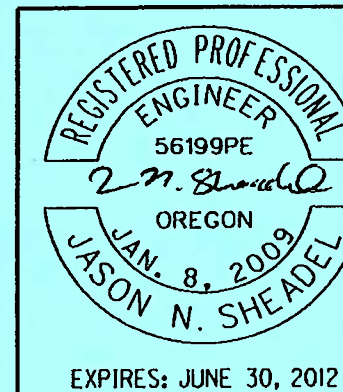
㊱ See sht. 8, note 12
Inst. type 2 fence, modified

㊲ Sta. "DN" 40+99 To Sta. "DN" 41+67, Rt.
Const. asphalt slope paving - 300 sq.ft.

㊳ Sta. "DN" 42+10 To Sta. "DN" 44+10, Rt.
Const. asphalt slope paving - 600 sq.ft.

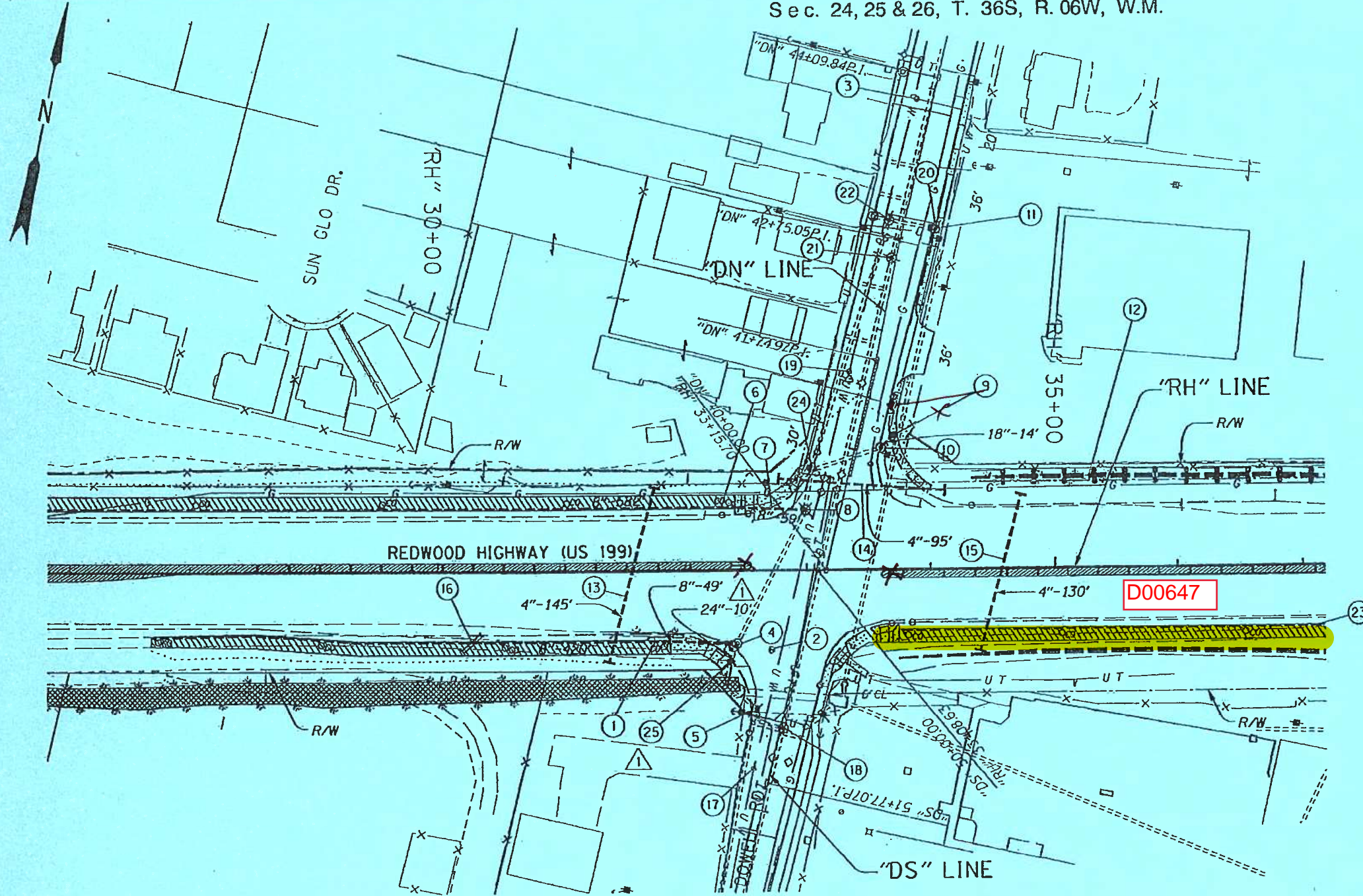
㊴ Sta. "DN" 40+60 To Sta. "DN" 41+15, Lt.
Const. asphalt slope paving - 200 sq.ft.

| No. | DATE | REVISIONS | BY |
|-----|------------|-----------------------------------------------|--------|
| ① | 04-05-2011 | Revised quantities and limits, added details. | J.A.H. |
| | | | |
| | | | |



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|-----------------------------------------------------------------------------------------------|---------------------------|
| 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 | |
| ALIGNMENT & GENERAL CONSTRUCTION | SHEET NO. 9A |

(Notes: see sht. 9D)



| REVISIONS | |
|-----------|-------------------------------------------------------|
| 1 | Revised 10-24-2011 Added inlet and storm sew. pipe |

Ditches Shown Thus:

Biofiltration Swales Shown Thus:

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



| | |
|-----------------------------------------------------------------------------------------------------|------------------------|
| 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. 9C |

- ① Sta. "RH" 27+68.49, 52.49' Rt. To Sta. 31+88.57, 56.83' Rt.
Inst. 8" drain pipe - 420'
Const. 4 cleanouts
Sta. "RH" 27+68.49, 52.49' Rt.
Sta. 29+00.00, 54.24' Rt.
Sta. 30+50.00, 56.83' Rt.
Sta. 31+88.57, 56.83' Rt.
Connect to 8" storm sew. pipe (E)
- ② Sta. "DS" 50.71.23, 21.47" Lt.
Adjust box - survey monument
- ③ Sta. "DN" 43+89.42, 12.70' Lt.
Adjust box - water valve
- ④ Sta. "RH" 32+38.84, 61.32' Rt.
Remove extg. manhole
Remove extg. 12" storm sew. pipe - 26' W
Const. 96" storm sew. manhole
Rim - 943.85
F.L. (W) - 939.65, CL offset 2.50' N
F.L. (NE) - 939.19, CL offset 1.75' E
F.L. (S) - 940.03, CL offset 1.50' W
Inst. 8" storm sew. pipe - 49' W
5' depth
Connect to 8" drain pipe (W)
Connect to extg. 24" storm sew. pipe (NE)
Connect to 24" storm sew. pipe (S)
- ⚠ ⑤ Sta. "DS" 51+21.95, 25.20' Rt.
Remove extg. inlet
Const. type "G-2" inlet
Rim - 945.58
F.L. (NW) - 942.44
F.L. (S) - 942.44
Connect to 24" extg. storm sew. pipe (NW)
Connect to 24" extg. storm sew. pipe (S)
- ⑥ Sta. "RH" 26+56.23, 50.35' Lt. To Sta. 32+40.41, 50.81' Lt.
Inst. 8" drain pipe - 582'
Const. 5 cleanouts
Sta. "RH" 26+56.23, 50.35' Lt.
Sta. 28+00.00, 50.83' Lt.
Sta. 29+50.00, 50.83' Lt.
Sta. 31+00.00, 50.83' Lt.
Sta. 32+40.41, 50.81' Lt.
Connect to 8" storm sew. pipe
- ⑦ Sta. "RH" 32+40.41, 50.81' Lt. To Sta. "RH" 32+99.19, 48.69' Lt.
Inst. 8" storm sew. pipe - 59' 43'
5' depth
Connect to 8" drain pipe (W)
Connect to extg. storm sew. manhole (E)
F.L. (E) - 939.87.
- ⑧ Sta. "RH" 32+99.19, 48.69' Lt.
Adjust storm sew. manhole - minor
Method B Circular Cut
- ⑨ Sta. "DN" ⁴¹⁺³³ ~~41+18.53~~ 27.98' Rt.
Const. type "CG-3" inlet
Rim - 940.42
F.L. (SW) - 936.61
(See Dwg. No. RD371 And RD372)
Connect to ~~18"~~ ^{12" INSTALL 28'} storm sew. pipe (SW)
- ⑩ Sta. "DN" 41+06.34, 20.41' Rt.
Remove extg. inlet
Const. storm sew. manhole
Rim - 941.25
F.L. (SW) - 936.47
F.L. (NE) - 936.50
Connect to extg. 18" storm sew. pipe (SW)
Inst. 18" storm sew. pipe - ~~14'~~ ^{28'} NE
12" 5' depth
- ⑪ Sta. "DN" 42+90.06, 22.14' Rt.
Remove extg. inlet
Const. type "G-2" inlet
Rim - 937.50
F.L. (W) - 934.13
Connect to extg. 12" storm sew. pipe (W)
- ⑫ See sht. 10B, note 3
- ⑬ Sta. "RH" 31+75.66, 67.20' Lt. To Sta. 31+39.84, 73.31' Rt.
Inst. 4" irrigation sleeve - 145'
5' depth
F.L. (N) - 938.00
F.L. (S) - 938.50
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)
- ⑭ Sta. "RH" 32+76.68, 73.88' Lt. To Sta. 34+11.28, 63.43' Lt.
Inst. 4" irrigation sleeve - 95'
5' depth
F.L. (W) - 939.00
F.L. (E) - 939.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)
- ⑮ Sta. "RH" 34+71.92, 59.78' Lt. To Sta. 34+39.81, 66.19' Rt.
Inst. 4" irrigation sleeve - 130'
5' depth
F.L. (N) - 938.00
F.L. (S) - 937.00
Inst. irrigation sleeve end - 2
(For details, see sht. GN-1)
- ⑯ Sta. "RH" 30+20.56, 64.20' Rt. To Sta. 30+35.65, 50.64' Rt.
Remove ext. 12" culv. pipe - 20'
- ⑰ Sta. "DS" 51+68.15, 13.97' Rt.
Adjust box - water valve
- ⑱ Sta. "DS" 51+30.69, 2.42' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut
- ⑲ Sta. "DN" 41+60.71, 19.25' Lt.
Adjust box - water valve
- ⑳ Sta. "DN" 42+93.98, 24.25' Rt.
Adjust box - water meter
- ㉑ Sta. "DN" 42+59.35, 3.77' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut
- ㉒ Sta. "DS" 42+93.68, 15.26' Lt.
Adjust san. sew. manhole - minor
Method B Circular Cut
- ㉓ See Sht. 10B, Note 1
- ㉔ Sta. "DN" 40+77.38, 30.43' Lt.
Remove extg. inlet
Const. type ~~"CG-3"~~ ^{G2} inlet
F.L. (S) - 937.06
F.L. (N) - 937.02
F.L. (E) - 936.45
Connect to extg. 18" storm sew. pipe (S)
Connect to extg. 18" storm sew. pipe (N)
Connect to extg. 18" storm sew. pipe (E)
- ⚠ ㉕ Sta. "DS" 50+88.36, 52.74' Rt.
Remove extg. 24" storm sew. pipe - 12' N
Const. type "CG-3" inlet
Rim - 944.27
F.L. (N) - 940.60
F.L. (S) - 940.60
Connect to extg. 24" storm sew. pipe (S)
Inst. 24" storm sew. pipe (N) - 10'.

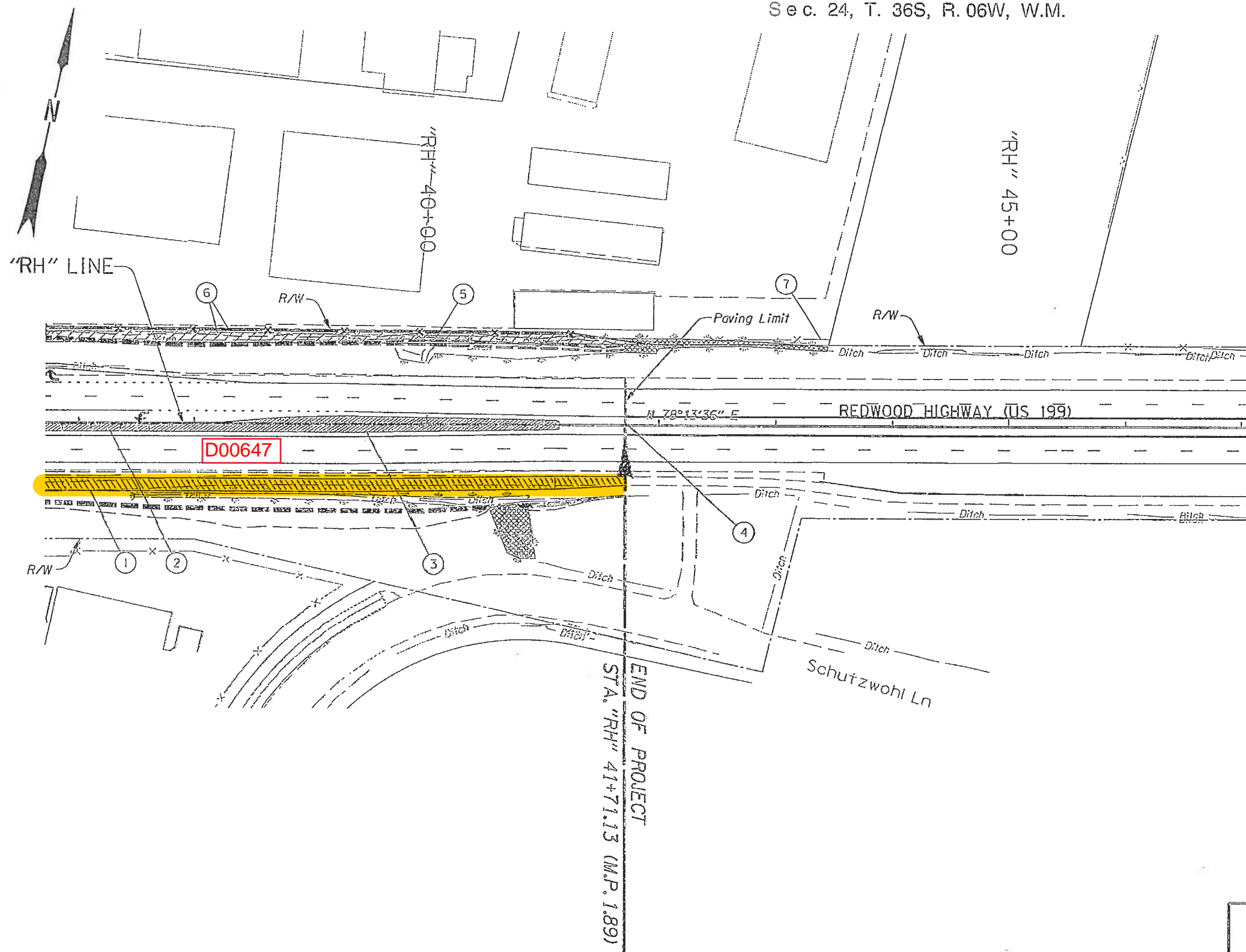
| REVISIONS | |
|-----------|------------------------------------------------------------------------------------------------|
| ⚠ | Revised 10-24-2011 Added inlet, revised manhole and inlet location/inverts and pipe length. |



RENEWS: 06-30-2013

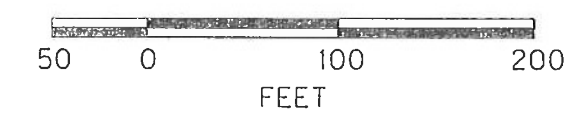
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|-----------------------------------------------------------------------------------------------------|------------------------|
| OREGON DEPARTMENT OF TRANSPORTATION | |
| PARSONS BRINCKERHOFF <small>400 S.W. Sixth Ave., Portland, OR 97204</small> | |
| 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. 9D |

Sec. 24, T. 36S, R. 06W, W.M.



- ① See sht. 9A, note 9
Const. low profile mountable curb, modified
- ② See sht. 9A, note 10
Const. type "B" traffic separator
- ③ Sta. "RH" 37+61.13 To Sta. "RH" 41+15.13
Const. type "CA" mountable, conc. island, modified - 3,226 sq. ft.
Const. mountable curb, modified - 719'
- ④ Sta. "RH" 41+71.13
Const. asph. conc. pvmt. match
- ⑤ See sht. 9A, note 24
Const. biofiltration swale
- ⑥ See sht. 9A, note 26
Remove extg. fence
Inst. type 2 fence, modified
- ⑦ Sta. "RH" 41+55 To Sta. "RH" 43+55, Lt.
Maintain/protect extg. fence

SCALE 1" = 100'



Contractor may not occupy area shown thus, prior to Jan. 25th, 2011 unless approved by Engineer

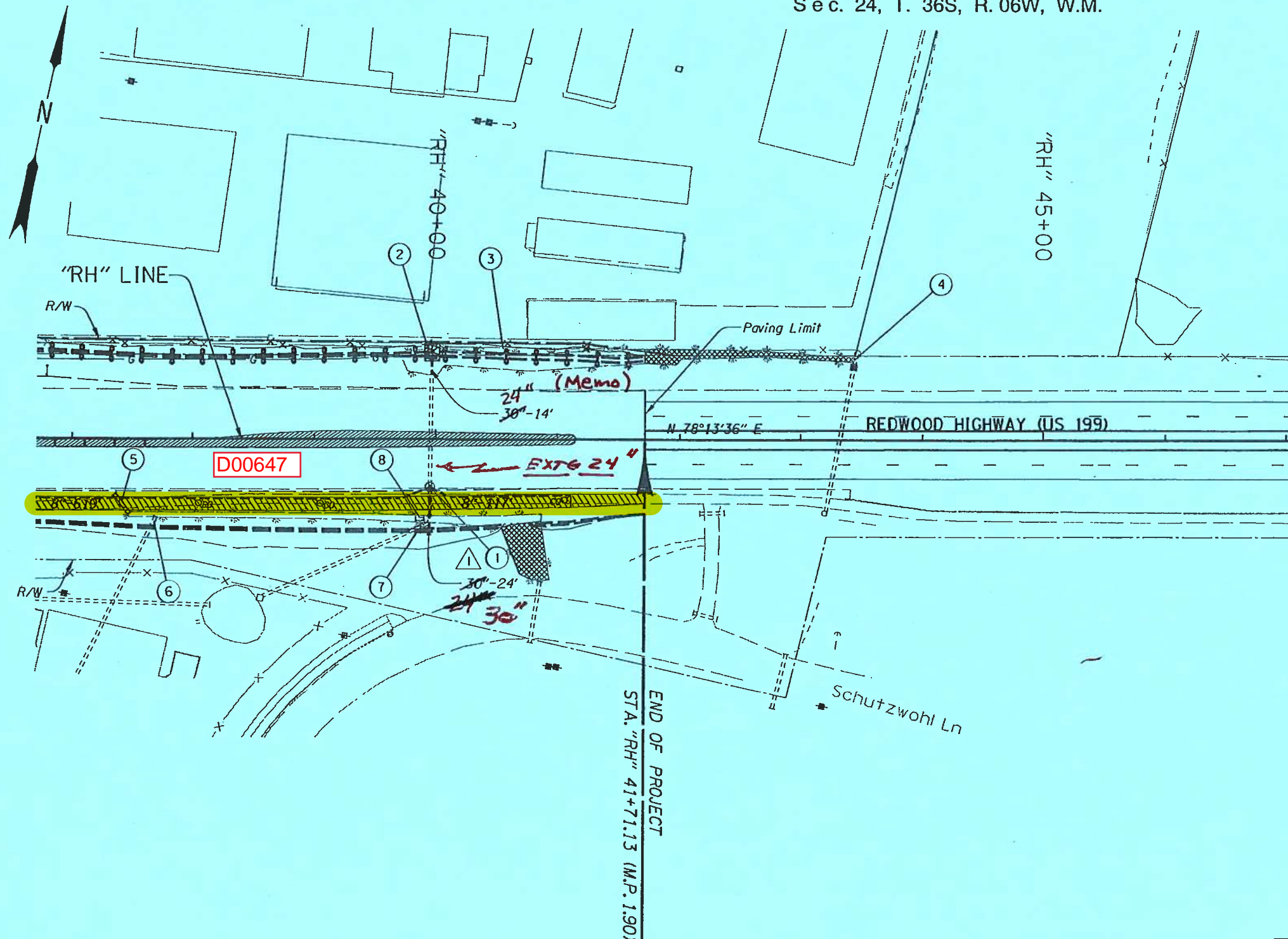
Porous Shared Use Path
Shown Thus: [diagonal hatching]

Concrete island/Traffic separator
Shown Thus: [cross-hatching]

No Work Area (except for perm. fence installation)
Delineate per Section 00290.41(b) Shown Thus: [stippled pattern]

REGISTERED PROFESSIONAL ENGINEER
56199PE
Jason N. Sheadel
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 | |
| ALIGNMENT & GENERAL CONSTRUCTION | SHEET NO. 10 |



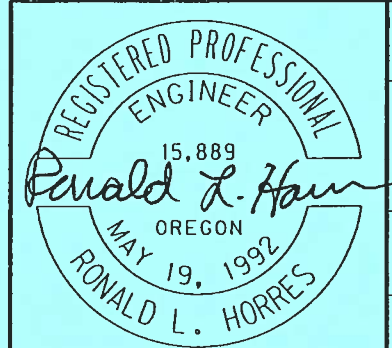
- ① Sta. "RH" 39+95.26, 39.32' Rt.
Const. 60" storm sew. manhole
Rim - 940.24
F.L. (S) - 935.32
F.L. (N) - 935.32
F.L. (W) - 936.19
F.L. (E) - 935.37
Inst. 30" storm sew. pipe - 34' S **37'-0'**
5' depth
F.L. (S) - 935.46
CONSTRUCT 24" SLOPE 30' END
- ② Sta. "RH" 39+95.70, 53.4' Lt.
24" Extend extg. 30" storm sew. pipe - **14' Lt. 15'**
5' depth
F.L. (N) - 934.88
24" Const. 30" sloped end
Const. loose riprap (Class 50) - 11.1 cu. yd.
Riprap Geotextile Type 2 - 23.4 sq. yd.
(For detail, see sht. GJ-6)
- ③ Const. Biofiltration Swale No. 3
(For details, see sht. GJ-7)
Const. Biofiltration Check Dams - 29
- ④ Sta. "RH" 43+43.52, 60.57' Rt.
Adjust extg. irrigation box
Match extg. ground
(For details, see sht. GJ-6 - Siphon Box F)
- ⑤ Sta. "RH" 37+35.71, 45.59' Rt.
To Sta. 37+48.08, 61.77' Rt.
Remove extg. 12" culv. pipe - 20'
- ⑥ Sta. "RH" 37+67.60, 69.80' Rt.
To Sta. 37+70.29, 64.36' Rt.
Remove extg. 12" culv. pipe to edge of ditch - 6'
CONSTRUCT 12" SLOPE END SECTION
- ⑦ Sta. "RH" 39+79.49, 75.38' Rt.
To Sta. 39+94.67, 69.11' Rt.
Remove extg. 12" culv. pipe to edge of ditch - 16'
- ⑧ Sta. "RH" 39+83.89, 65.98' Rt.
To Sta. 39+90.66, 65.70' Rt.
Remove extg. 18" culv. pipe - **7' 40'**
- ⑨ **CONSTRUCT BAVED SLOPE END**

| REVISIONS | |
|-----------|-------------------------------------------------------------------------|
| ① | Revised 01-31-2011 Revised manhole location/inverts and pipe length. |

Ditches Shown Thus:

Biofiltration Swales Shown Thus:

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



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. **10B**