OPERATION & MAINTENANCE MANUAL

Detention Pond

Manual prepared: May, 2019

DFI No. D00788

Figure 1: DFI No. D00788, looking [south]

1. Identification

Drainage Facility ID (DFI):	D00788
Facility Type:	Detention Pond
Construction Drawings:	(V-File Numbers) 45V-31
Location:	District: 5
	Highway No.: 1
	Mile Post: 198.61 to 198.71, [right]

2. Manual Purpose

The purpose of this manual is to outline inspection needs and summarize maintenance actions for stormwater ponds.

3. Facility Location

The location map below details the facility location. The highway, mile posts, side streets, access location, and stormwater flow directions are noted on the map.

Facility location type: Roadway shoulder

Flow direction: [north]

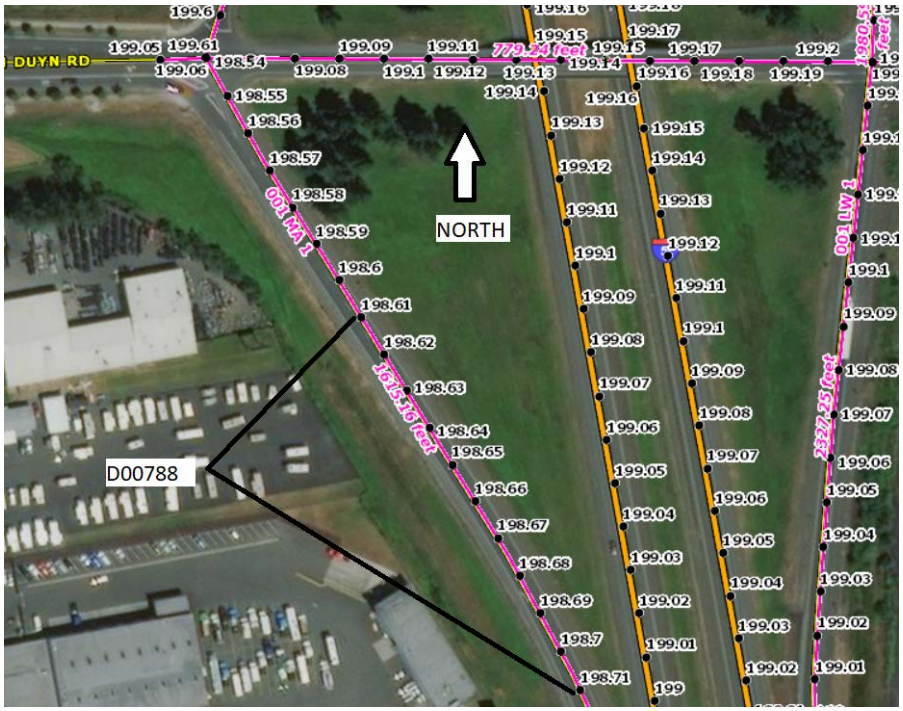


Figure 2: Facility location map

4. Facility Summary

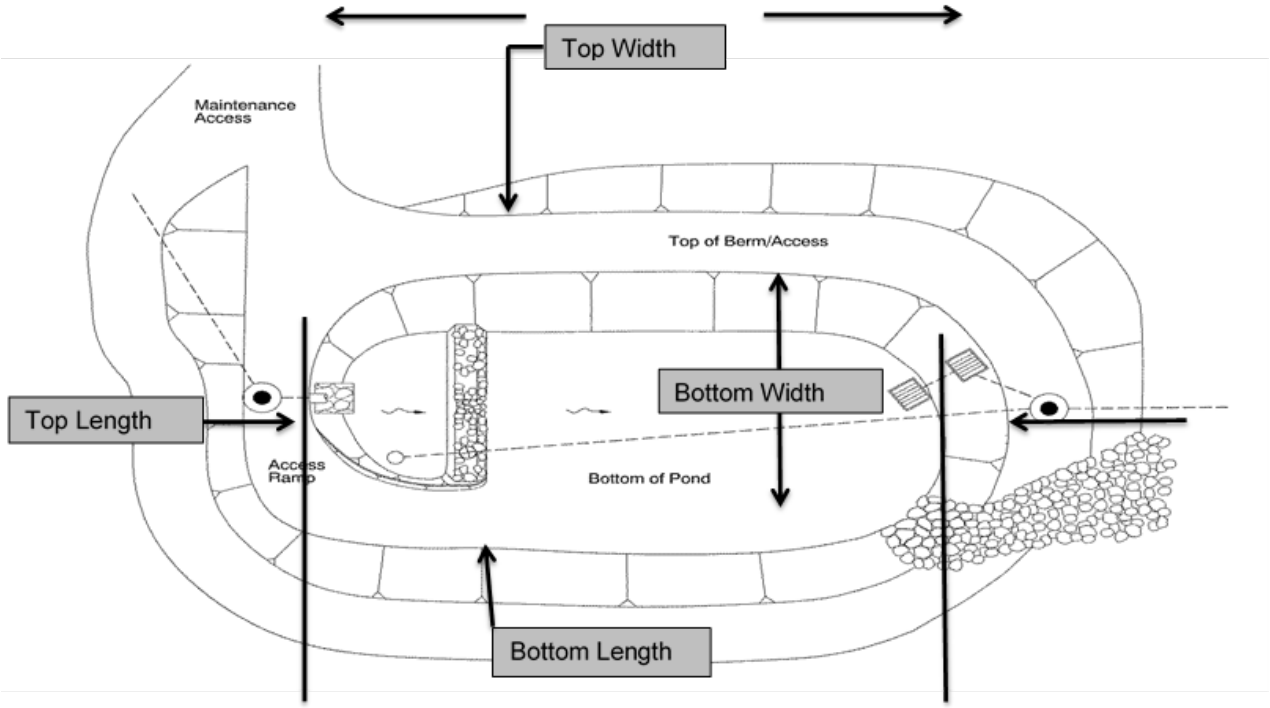
The pond size is based on storage volume, the bottom and top surface areas and the depth are used for this measurement.

The bottom area and top area of the pond is:

Bottom Area (sq. ft.)	Top Area (sq. ft.)
5,850	15,210

The slope of the pond sides is presented by a vertical distance (rise) followed by the horizontal distance (run).

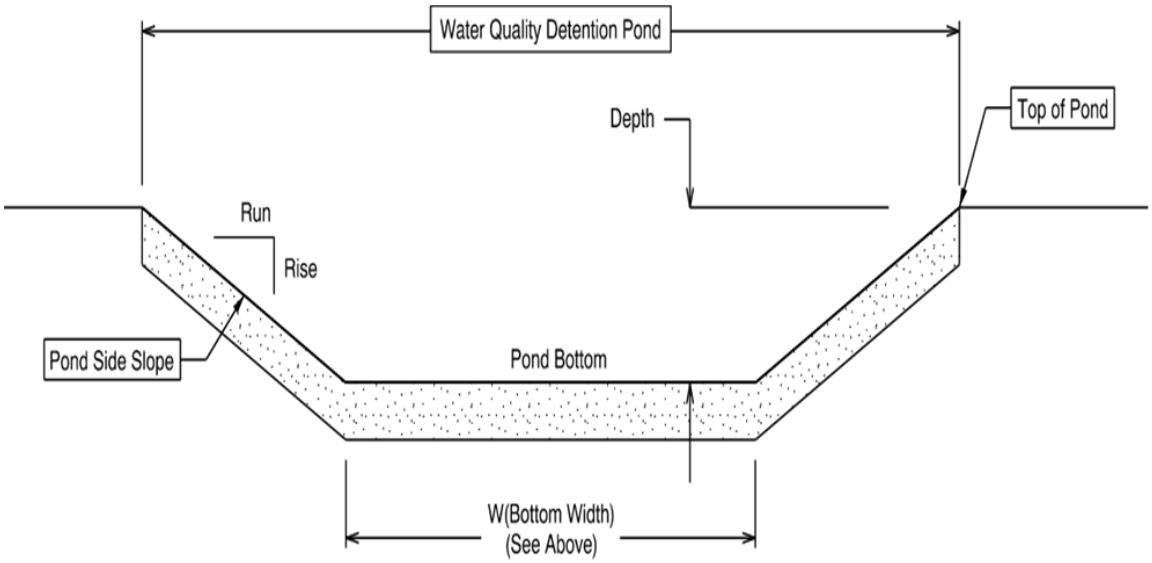
Depth and side slopes:



Depth (feet)
2

Side Slope	
Rise (feet)	1
Run (feet)	4

Site Specific Information: Water in pond restricted from leaving by steel plate and 4" diameter orifice.



5. Facility Access

Maintenance access to the facility:

☐Roadside pad	☒Roadside shoulder
☐Access road with Gate	☐Access road without Gate

Figure 2: [shoulder access]

6. Operational Components / Maintenance Items

Classification and Standard Operational (Op) Plan:

This facility is classified as a:

☒ Detention Pond (Op Plan A)	☐ WQ Bioretention Pond (Op Plan B)	☐ WQ Extended Detention Dry Pond (Op Plan C)	☐ WQ Detention Pond/Biofiltration Swale Combo (Op Plan D)
A standard operational plan illustrates the general facility footprint configuration and explains the purpose of each facility component. Operational plans (A,B,C,D) are provided in the Standard Operation Manual.			

See Appendix A for the site specific operational plan.

Key Features/Items:

This facility is classified as a:

☒ Dry Pond	☐ Wet Pond
The pond is wet during storm events and dries during periods of no precipitation.	**The pond has constant presence of water year round. A portion of the pond dries during periods of no precipitation.**

This facility includes a **high flow bypass component**:

☒ No	☐ Yes
There is no bypass component. High flows drains into and through the facility	**There is a bypass component. Only low/small flows drain into the pond. High flows are diverted around the pond using a bypass component**

This facility includes a **proprietary structure(s)**:

☒ No	☐ Yes (DXXXXX)
There are no proprietary structures associated with this facility.	**A proprietary structure is used in the operation of this facility. The proprietary structure is a/an:** describe

Operational Components

The facility components table (**Table 1**) has been provided to highlight the applicable components for this facility. The component is in use when the box contains an "x" (e.g. ☒).

The Standard Operation Manual for Ponds (implemented March, 2017) outlines facility operation, typical footprint configuration, and component definitions and details. A link to the manual is attached to the feature marker in TransGIS.
https://gis.odot.state.or.us/TransGIS/

Maintenance Items

Operational components marked in **Table 1** should be inspected and maintained according to Section 7. Each facility component is defined and detailed in the Standard Operation Manual using the associated ID number indicated in the table below.

Table 1: Stormwater Pond Components		ID #
Upstream Manholes/Structures		
Pre-treatment Manhole Type: N/A	☐	**P1**
Water Quality Manhole Type: N/A	☐	**P2**
Flow Splitter Manhole N/A	☐	**P3**
Standard Manhole	☐	**P4**
Sediment Basin/Forebay	☐	**P5**
Forebay Dewatering Riser Pipe (outlet)	☐	**P6**
Facility Inlet		
Pavement Sheet Flow	☒	**P7**
Inlet Pipe(s)	☐	**P8**
Open Channel Inlet	☒	**P9**
Riprap Pad (Energy Dissipater)	☐	**P10**
Ground Cover		
Grass Bottom	☒	**P11**
Grass Side Slopes	☒	**P12**
Granular Drain Rock	☐	**P13**
Plantings	☐	**P14**
Underground Components		
Geotextile Fabric: N/A	☐	**P15**
Impermeable Liner	☐	**P16**
Water Quality Mix	☐	**P17**
Perforated Pipe	☐	**P18**
Bottom Marker (ex. Porous Pavers)	☐	**P19**

Flow Spreader		
Anchored Board (midpoint of pond or every 50 feet along pond bottom)	☐	**P20**
Other: N/A	☐	**P21**
Facility Outlet		
Catch Basin with Grate	☐	**P22**
Outlet Pipe(s)	☐	**P23**
Outlet/Flow Control Structure	☒	**P24**
Auxiliary Outlet	☐	**P25**
Hazmat Control Valve: N/A	☐	**P26**
Outfall Type		
Waterbody (**C**reek/**L**ake/**O**cean)	☐ **C** ☐ **L** ☐ **O**	**P27**
Ditch	☐	**P28**
Storm Drain System	☐	**P29**
Outfall Components		
Riprap Pad	☐	**P30**
Riprap Bank Protection	☐	**P31**

7. Maintenance

Maintenance Frequency/Maintain Records

a. Inspect annually. Preferably prior to the rainy season.
b. Clean and maintain as necessary. Refer to Activity 125 in the Maintenance Guide for conditions when maintenance is needed.
c. Keep a record of inspections, maintenance, and repairs.

Maintenance Guide/Maintenance Actions

The Maintenance Guide outlines the standard maintenance actions for water quality facilities under Activity 125.

There are standard maintenance tables for standard ODOT designs. The maintenance tables describe the maintenance component, the defect or problem, the condition when maintenance is needed, and the recommended maintenance to correct the problem. Use the following tables to maintain ODOT Ponds:

- Table 1 (General Maintenance): Contains general maintenance and inspection guidelines that are applicable to all ODOT water quality facilities
- Table 2 (Maintenance of Stormwater Ponds): Contains maintenance information for ponds

The ODOT Maintenance Guide can be viewed at the following website:
http://www.oregon.gov/ODOT/HWY/OOM/pages/mguide.aspx

The Blue Book can be viewed at the following website:
http://www.oregon.gov/ODOT/Maintenance/Documents/blue_book.pdf

8. Limitations

There are access limitations for this facility:

☒ No	☐ Yes
There are no duty porous pavers installed in this pond.	

Ponds are designed to allow equipment access along the bottom if an access grid is installed. If an access grid is NOT installed, vehicles entering the pond can create depressions (tire ruts), damage vegetation, or damage structural components (e.g. flow spreaders). These conditions may result in poor treatment and drainage performance.

If no access grid then: Equipment wheels should be kept on the tops and side slopes. Mower arms may be run along the pond bottom.

9. Waste Material Handling

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

http://www.oregon.gov/ODOT/HWY/OOM/pages/ems.aspx

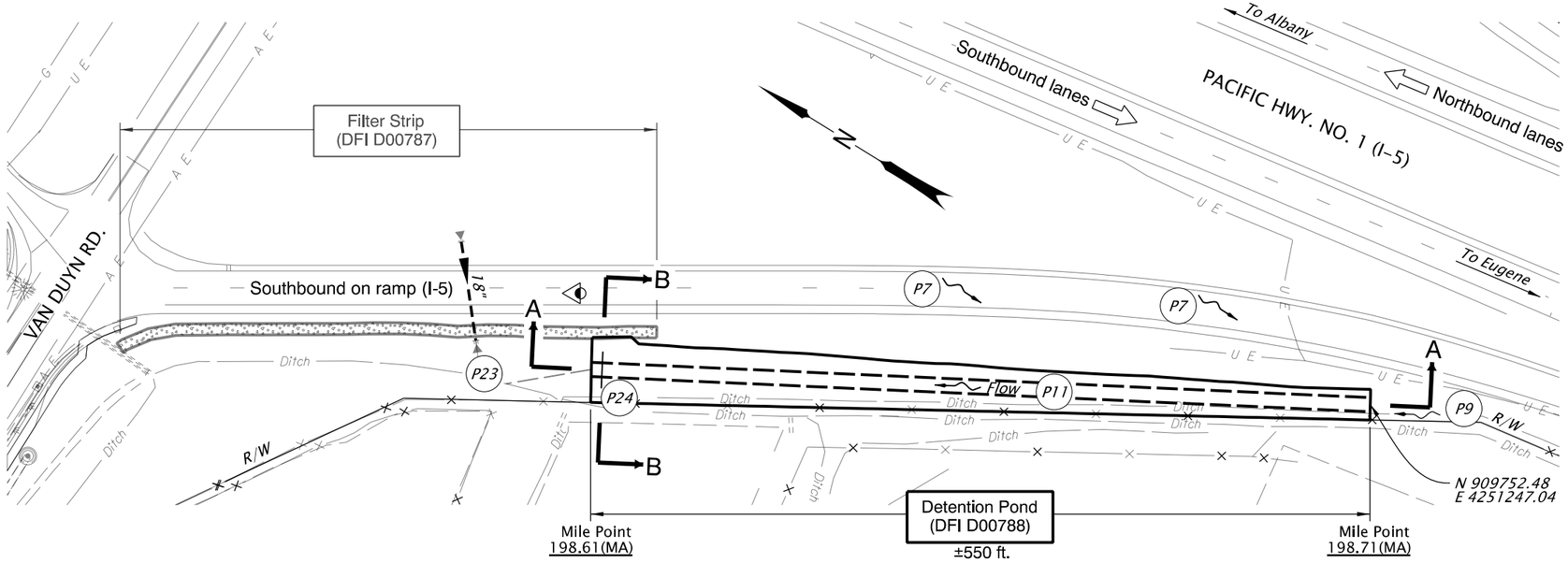
Contact any of the following for more detailed information about management of waste materials found on site:

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

A Appendix A – Site Specific Operational Plan

Contents:

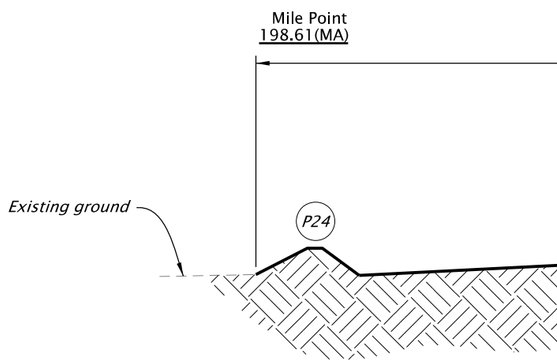
Operational Plan: DFI D00788



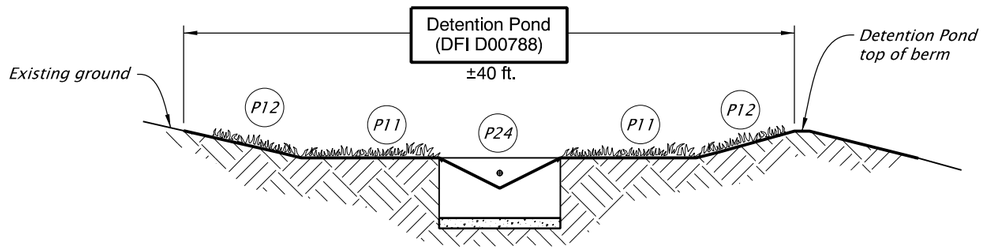
PLAN
N.T.S.

LEGEND:

- *X#* — *Facility Component (see table 1 in O&M Manual)*
- *and / or* — *Manhole*
- *and / or* — *Inlet*
- *Storm Pipe (Facility)*
- *Storm Pipe*
- *Ditch Line*
- *Detention Pond Boundary*
- *Filter Strip Boundary*
- *Conveyance Direction*
- *Pavement / Facility Flow Path*
- *Traffic Flow Direction*
- *Photo Location / Direction*



SECTION A–A
N.T.S.



SECTION B–B
N.T.S.

OREGON DEPARTMENT OF TRANSPORTATION

Sht. 2 of 2

Prepared By: Christopher Carman

Drafted By: Jeff Coon

DFI D00788
MAINT. DIST. 5 I-5 @ COBURG INTCHG. SEC.
DETENTION POND
PACIFIC HIGHWAY MP 198.61(MA)
LANE COUNTY

DFI_00788.dgn :: Default 5/28/2019 9:18:22 AM hwyr64u

Rotation: 301.7088° Scale: 1"=100'

B Appendix B – Project Contract Plans

Contents:

Site Specific Subset of Project Contract Plan 45V-31

45V-31

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont'd.
1A-2	Std. Drg. Nos.

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

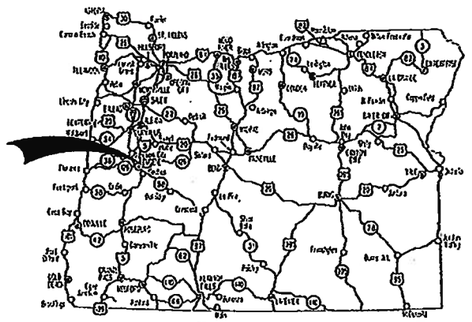
GRADING, DRAINAGE, STRUCTURE, PAVING, SIGNING, ILLUMINATION, SIGNAL & ROADSIDE DEVELOPMENT

I-5 @ COBURG INTERCHANGE SEC.

PACIFIC HIGHWAY

LANE COUNTY

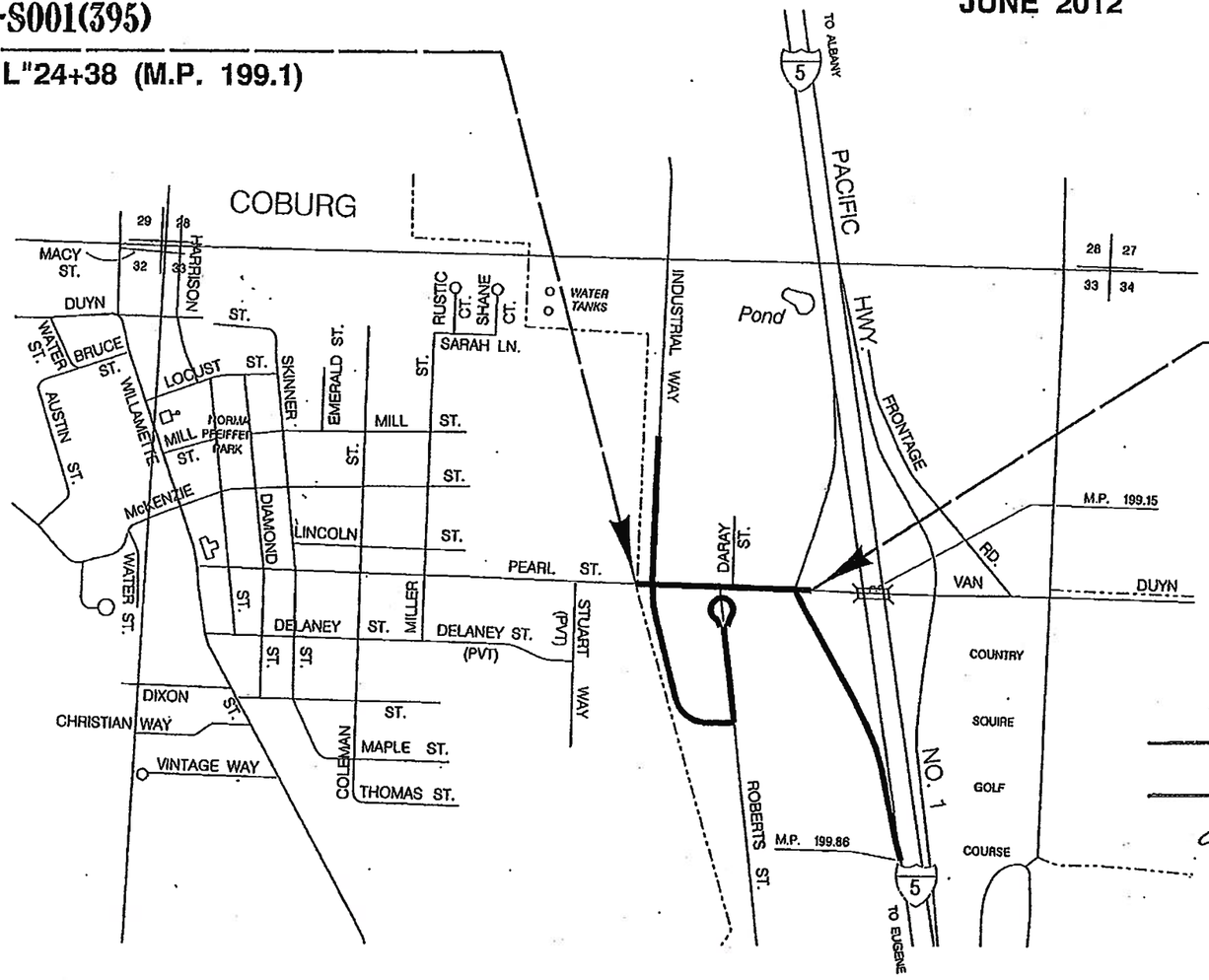
JUNE 2012



Overall Length Of Project - 0.3 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.)

BEGINNING OF PROJECT
HPP-S001(395)
STA. "L"24+38 (M.P. 199.1)



END OF PROJECT
HPP-S001(395)
STA. "L"34+15 (M.P. 199.4)

REVISED AS CONSTRUCTED
5/29/13
DATE
PROJECT MANAGER
Chuck Lemos

N

T. 16 S., R. 3 W., W.M.

OREGON TRANSPORTATION COMMISSION

Pat Egan	CHAIR
David Lohman	COMMISSIONER
Mary F. Olson	COMMISSIONER
Mark Frohnmayer	COMMISSIONER
Tammy Boney	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.

By: Carol A. Cartwright 4/23/12
Signature & date

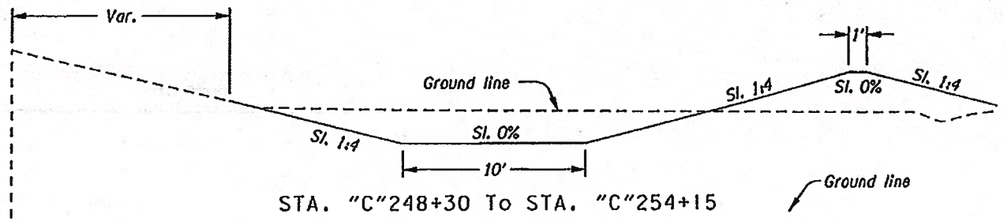
Carol A. Cartwright - R2 Tech Center Manager
Printname and title

Concurrence by ODOT Chief Engineer

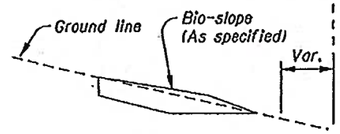
I-5 @ COBURG INTERCHANGE SEC.
PACIFIC HIGHWAY
LANE COUNTY

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	HPP-S001(395)	1

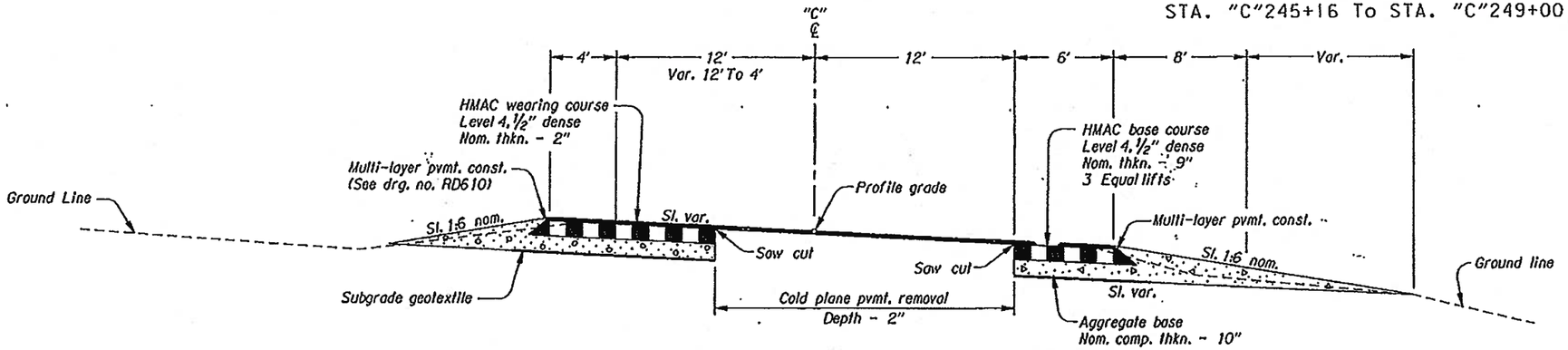
PE001244



STA. "C"248+30 To STA. "C"254+15



STA. "C"245+16 To STA. "C"249+00



STA. "C"244+16 To STA. "C"254+00
"C"254+00 To "C"255+20 (Taper section)

NOTE:
1. Side-slopes are shown as vert. to horiz.
2. For standard superelevation, see drg. no. RD140.
3. For slope rounding, see drg. no. RD150.

REVISED AS CONSTRUCTED
5/29/13
DATE
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
9905
OREGON
JUL 11, 2000
CHRISTOPHER G. BAILEY
RENEWS: 12-31-2013

OREGON DEPARTMENT OF TRANSPORTATION

REGION 2 TECH CENTER

I-5 @ COBURG INTERCHANGE SEC.
PACIFIC HIGHWAY
LANE COUNTY

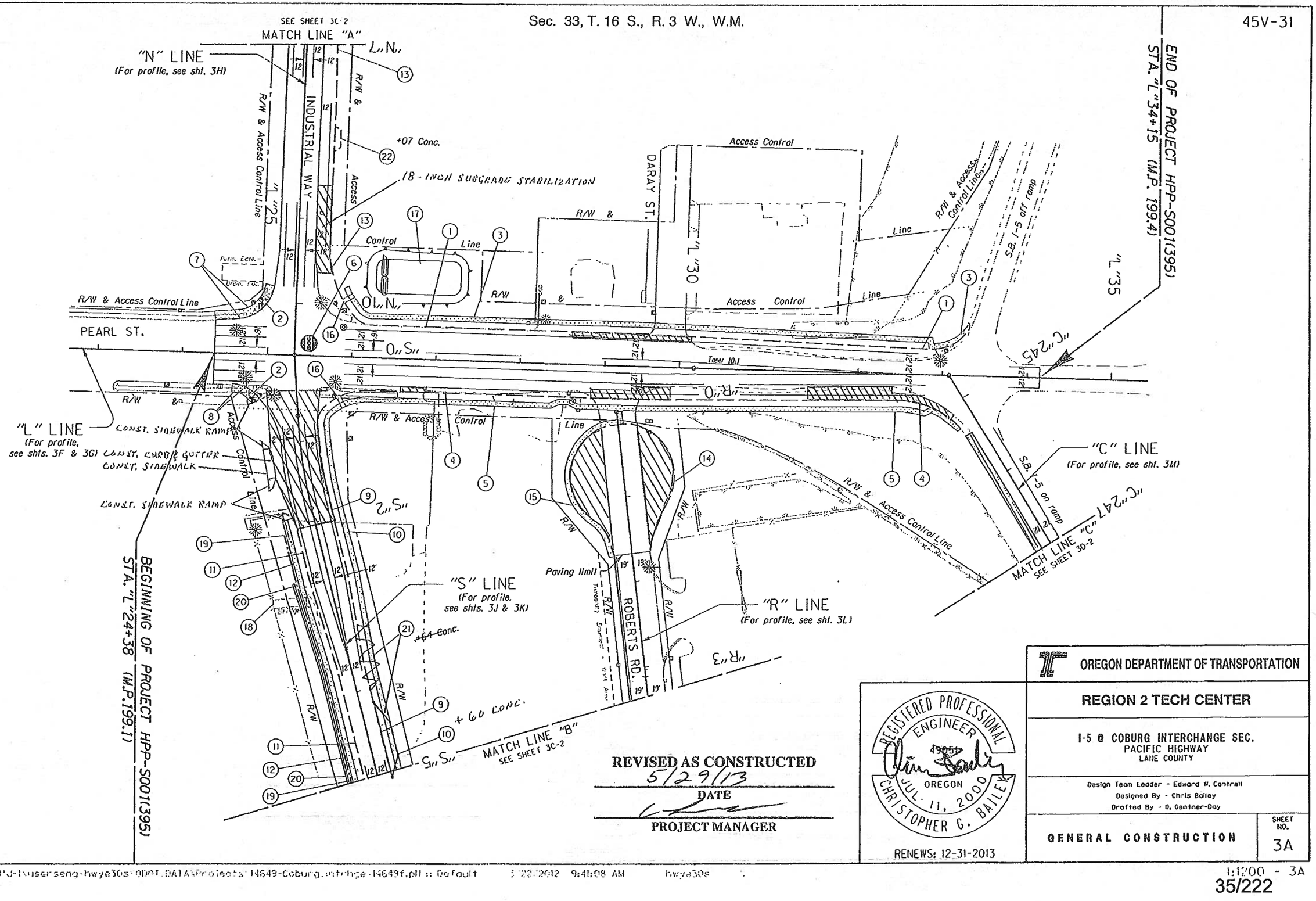
Design Team Leader - Edward H. Cantrell
Designed By - Chris Bailey
Drafted By - D. Gentner-Day

TYPICAL SECTIONS

SHEET NO. 2A-7

Sec. 33, T. 16 S., R. 3 W., W.M.

45V-31



REVISED AS CONSTRUCTED
5/29/13
DATE
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
OREGON
JUL. 11, 2000
CHRISTOPHER C. BAILEY
RENEWS: 12-31-2013

OREGON DEPARTMENT OF TRANSPORTATION

REGION 2 TECH CENTER

I-5 @ COBURG INTERCHANGE SEC.
PACIFIC HIGHWAY
LANE COUNTY

Design Team Leader - Edward W. Cottrell
Designed By - Chris Bailey
Drafted By - D. Gentner-Day

GENERAL CONSTRUCTION

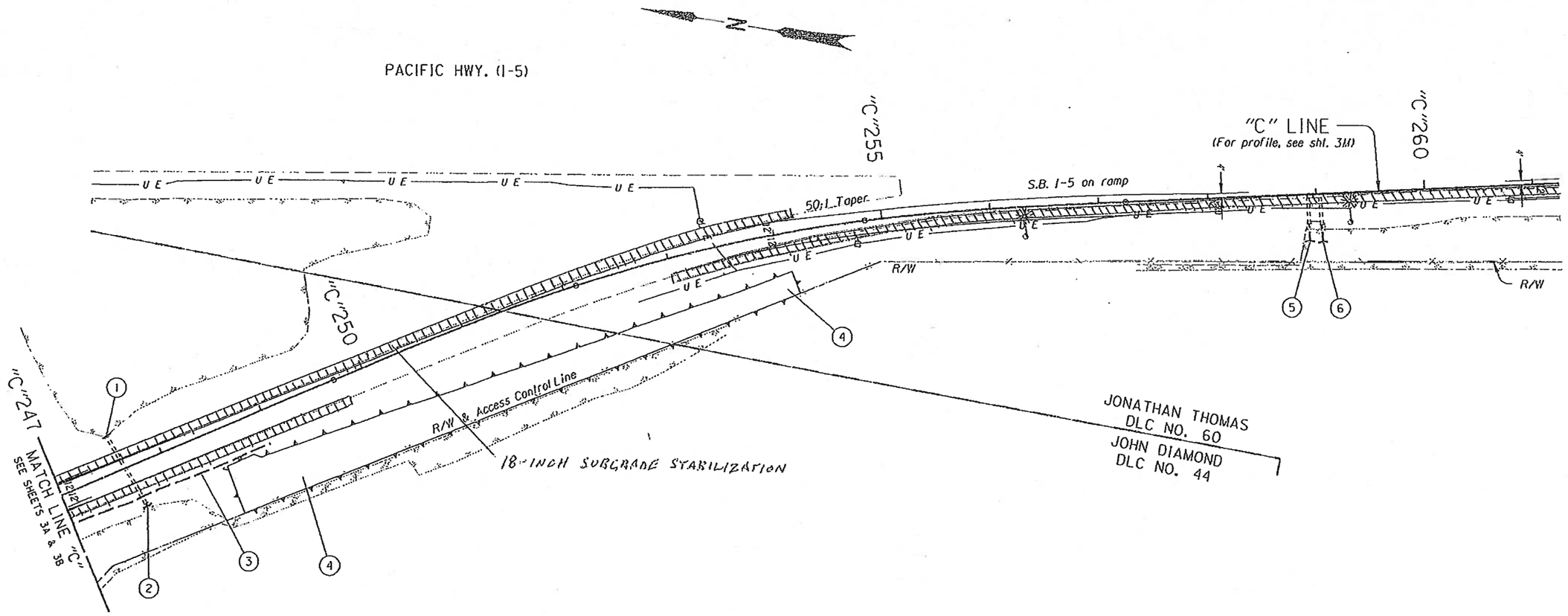
SHEET NO. 3A

s:\straight\d-t\users\eng-hwye30s\DOT_DATA\Projects\14649-Coburg_Interchange-14649f.pll :: Default 5/29/2012 9:41:08 AM hwye30s

1:1200 - 3A

Sec. 33, T. 16 S., R. 3 W., W.M.

45V-31



REVISED AS CONSTRUCTED

5/29/13
DATE

PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
41051
OREGON
JUL 11, 2000
CHRISTOPHER G. BAILEY

RENEWS: 12-31-2013

OREGON DEPARTMENT OF TRANSPORTATION

REGION 2 TECH CENTER

I-5 @ COBURG INTERCHANGE SEC.
PACIFIC HIGHWAY
LANE COUNTY

Design Team Leader - Edward W. Cantrell
Designed By - Chris Bolley
Drafted By - D. Gentner-Day

GENERAL CONSTRUCTION

SHEET NO. 3D-2

\\s-springfld-f\users\eng\hwye30s\DOT_DATA\Projects\14649-Coburg Interchange\Hwy49Tr.plt2 :: Default 3/22/2002 9:47:25 AM hwye30s

1:1206

(1) Sta. "C" 247+59.10, Lt.
Extg. 18" conc. pipe - 70.4' (In pl.)
Extend - ~~4.5'~~, 5' Depth 15'
(See drg. no. RD318)

(2) Sta. "C" 247+69.31, Rt.
Extg. 18" conc. pipe - 70.4' (In pl.)
Extend - ~~2.5'~~, 5' Depth
22.5'

(3) See sht. 3B-2, note 24
Const. bio-slope

(4) Sta. "C" 248+30 To Sta. "C" 254+15, Rt.
Const. 10' wide detention pond
(For drg. nos., see sht. 1A)

(5) Sta. "C" 258+92.98, Rt.
Extg. 24" conc. pipe - 232' (In pl.)
Extend - ~~16'~~, 5' Depth
15'

(6) Sta. "C" 259+04.81, Rt.
Extg. 24" conc. pipe - 232' (In pl.)
Extend - ~~16'~~, 5' Depth
15'

REVISED AS CONSTRUCTED
5/29/13
DATE
PROJECT MANAGER

REGISTERED PROFESSIONAL ENGINEER
49051
OREGON
JUL 11, 2000
CHRISTOPHER G. BAILEY
RENEWS: 12-31-2013

OREGON DEPARTMENT OF TRANSPORTATION

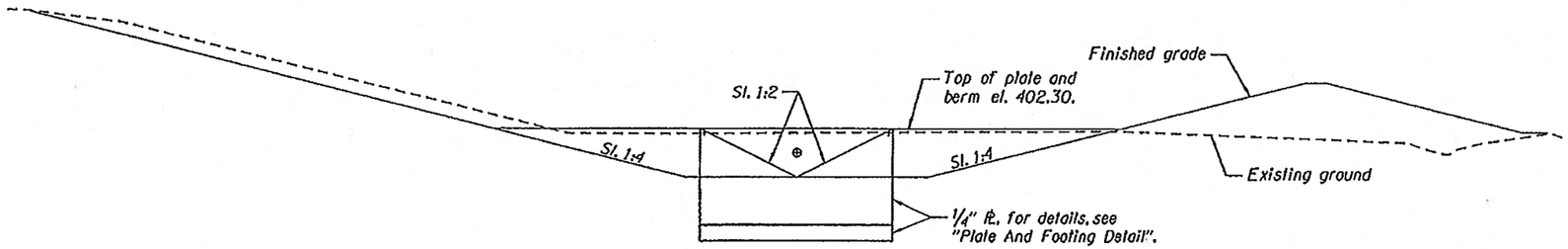
REGION 2 TECH CENTER

I-5 @ COBURG INTERCHANGE SEC.
PACIFIC HIGHWAY
LANE COUNTY

Design Team Leader - Edward W. Cantrell
Designed By - Chris Bailey
Drafted By - D. Gentner-Day

CONSTRUCTION NOTES

SHEET NO. 3D-3



DETENTION POND SECTION AT STA. "C"248+58.41, 50.0' RT.

Note:
For detention pond details, see roadway sht. 3D-2 and 2A-7.

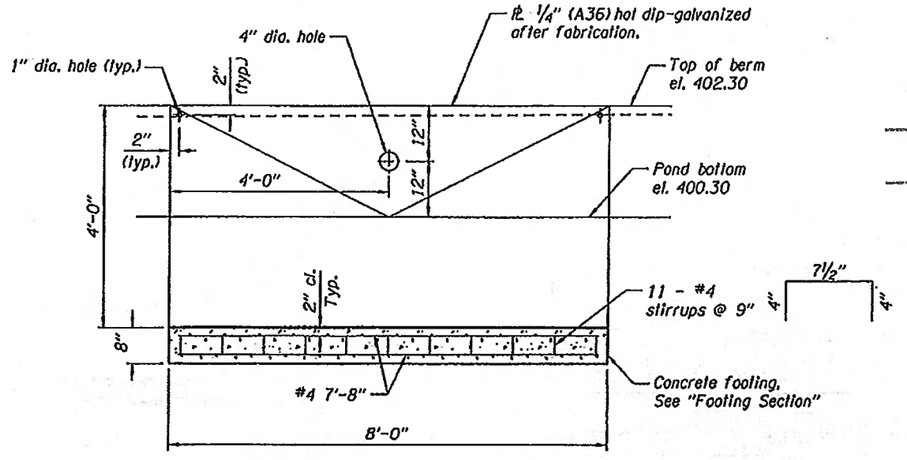
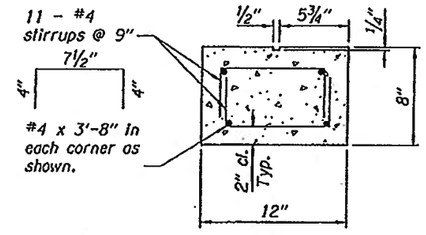


PLATE AND FOOTING DETAIL



FOOTING SECTION

REVISED AS CONSTRUCTED
5/29/13
DATE
PROJECT MANAGER

OREGON DEPARTMENT OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER
17807
OREGON
JULY 25, 1995
CHRIS CARMAN
RENEWS: 12-31-2013

REGION 2 TECH CENTER

I-5 @ COBURG INTERCHANGE
PACIFIC HIGHWAY
LANE COUNTY

Reviewed By - Bo Miller, P.E.
Designed By - Chris Carman P.E.
Drafted By - Michael Skelton

STORMWATER DETAILS

SHEET NO. GJ-3