

OPERATION & MAINTENANCE MANUAL

DFI No. : D00748

Facility Type: Water Quality Filter Strip



Location:
Latitude: 44deg. 00' 58.29" N
Longitude: 121deg. 19' 11.03" W

January, 2018

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APPENDIX A: Operational Plan and Profile Drawing(s)

APPENDIX B: ODOT Project Plan Sheets

1. Identification

Drainage Facility ID (DFI): **D00748**
Facility Type: Water Quality Filter Strip
Construction Drawings: (V-File Number) 46V-040
Location: District: 10
Highway No.: 04
Mile Post: M.P. 140.88-141.06, RT
Description: This facility is located on the SB Onramp Rt. side.

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: Mike Ogden ODOT Region 4 Tech. Center
(541) 388 - 6288
Facility construction: 2014
Contractor: Knife River

4. Storm Drain System and Facility Overview

The water quality filter slopes are flow-through stormwater treatment facilities incorporated into roadside embankments and placed between pavement and a downstream conveyance system; in this case just a ditch. These facilities utilize physical straining or filtration, and vegetative uptake, to provide stormwater treatment. Bioslopes are designed to treat sheet flow from an adjacent impervious surface.

No bypass systems are appropriate.

The Filter Strip is comprised of a Flow Spreader of sorts consisting of ¾"-minus shoulder aggregate which drains in a 2% slope to 8" depth water quality mix which was changed to crushed aggregate as well in the filter strip. The flow spreader is 12 ft. in width along the S. Bd. Onramp. The length of the strip is 1295 ft. along the S. Bd. Onramp. The filter strip itself is 5.5 ft. wide.

The drainage basin is essentially the roadway surfacing upon which it is adjacent.

A. Maintenance equipment access:

Maintenance access to the facility is obtained from 3rd St. or the S. Bd. Onramp. Adequate space is available on the shoulder.

B. Heavy equipment access into facility:

- Allowed (no limitations)
- Allowed (with limitations)
- Not allowed

C. Special Features:

- Amended Soils
- Porous Pavers
- Sedimentation Manholes
- Shutoff valves

5. Facility Haz Mat Spill Feature(s)

This Drywell **cannot** be used to store a volume of hazardous liquid. All hazardous material must be blocked prior to entering the drywell. The hazardous material can be blocked by covering the inlet.

6. Auxiliary Outlet (High Flow Bypass)

Auxiliary Outlets were not constructed for this facility as they are not appropriate for this design. The overall concept for stormwater design was the bio infiltration through the filter strip which then drains downslope from the facility.

The auxiliary outlet feature for this facility is:

- Designed into facility
- Other, as noted above.

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/GEOENVIRONMENTAL/pages/omm.aspx>

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:

8. Waste Material Handling

Material removed from the facility is defined as waste by DEQ. Refer to the roadwaste section of the ODOT Maintenance Yard Environmental Management System (EMS) Policy and Procedures Manual for disposal options: <http://egov.oregon.gov/ODOT/HWY/OOM/EMS.shtml>

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

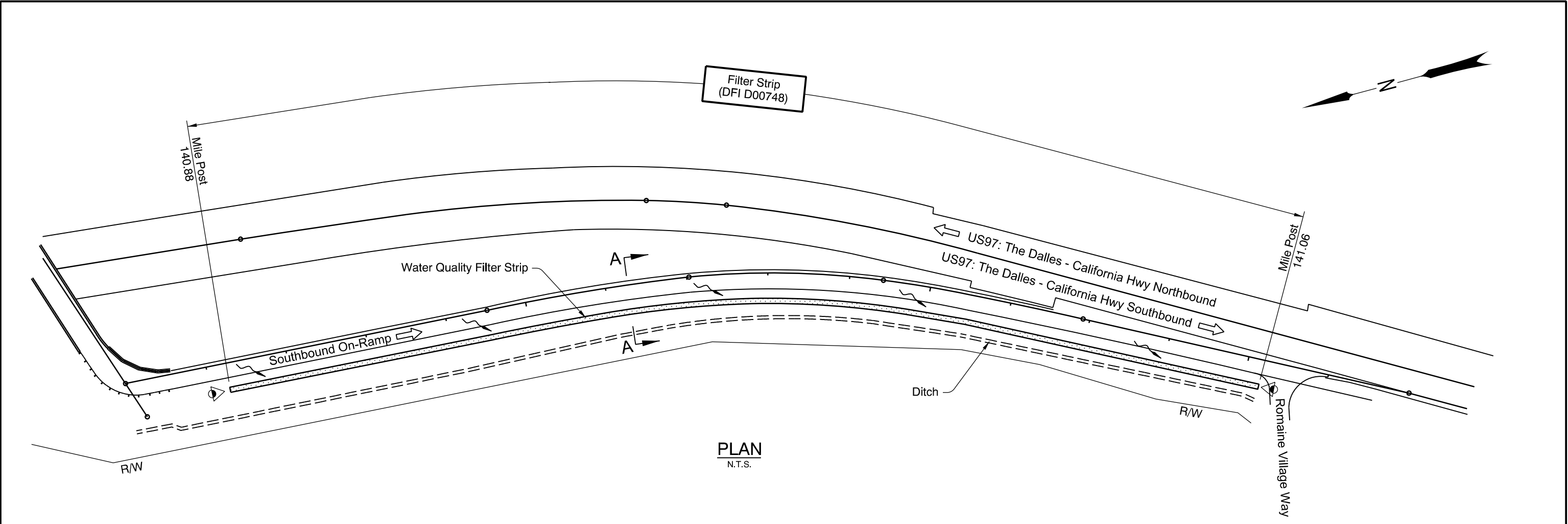
ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(541) 388-6088 or (541) 410-0706
ODEQ Northwest Region Office	(503) 229-5263



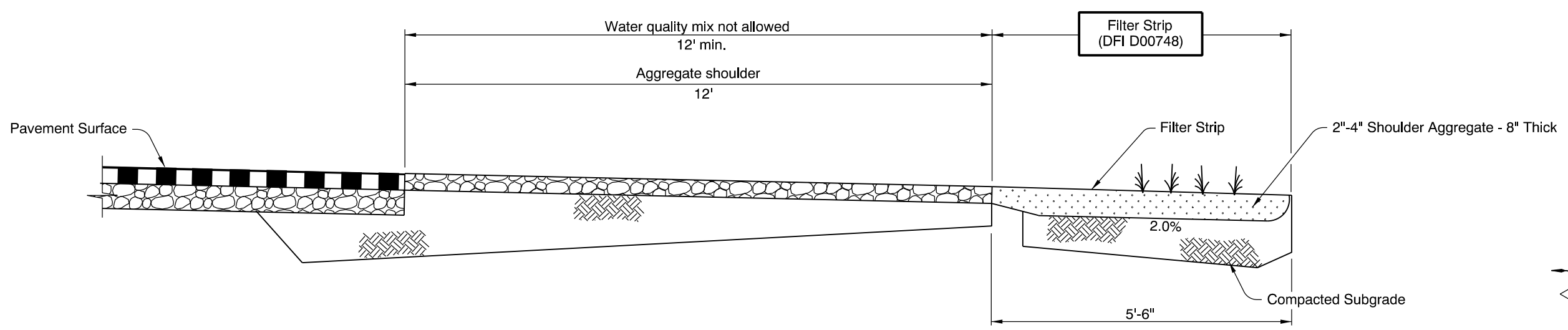
Appendix A

Content:

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



PLAN
N.T.S.



SECTION A-A
N.T.S.

LEGEND

- Pavement / Facility Flow Path
- Photo Location/Direction

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By:
Michael W. Ogden

Drafted By:
Michael L. Graves

DFI D00748
MAINTENANCE DISTRICT 10 HWY 004
WATER QUALITY FILTER STRIP
THE DALLES-CALIFORNIA HIGHWAY
DESCHUTES COUNTY

Appendix B

Content:

- **ODOT Project Plan Sheets**
 - *Cover/Title Sheet*
 - *Detail Sheets*
 - *Drainage and profile sheets*

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A Thru 1A-2	Index Of Sheets Cont'd.
1A-3	Standard Drg. Nos.
1B	Keymap
1C	Control Data Sheet

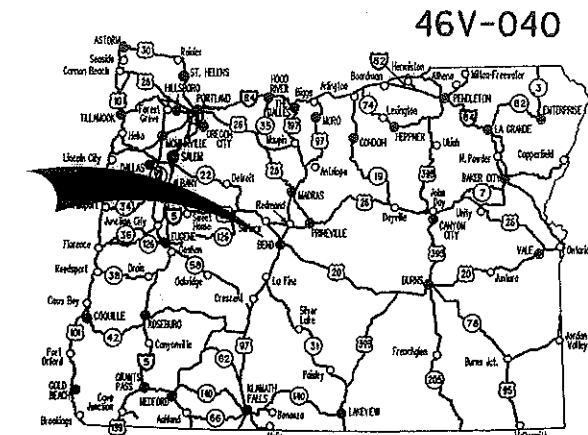
STATE OF OREGON
 DEPARTMENT OF TRANSPORTATION
 PLANS FOR PROPOSED PROJECT

GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNING, ILLUMINATION,
 SIGNALS & ROADSIDE DEVELOPMENT

**US97/MURPHY RD:
 BROOKSWOOD-PARRELL (BEND) PHASE 1**

**THE DALLES-CALIFORNIA HIGHWAY
 DESCHUTES COUNTY**

MAY 2013



46V-040

Overall Length Of Project - 2.50 Miles

NOT REVISAS AS CONSTRUCTED
[Signature]
 Project Manager
 1/16/15
 Date

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. (Notes The Telephone Number For The Oregon Utility Center Is (503) 232-1987.)

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

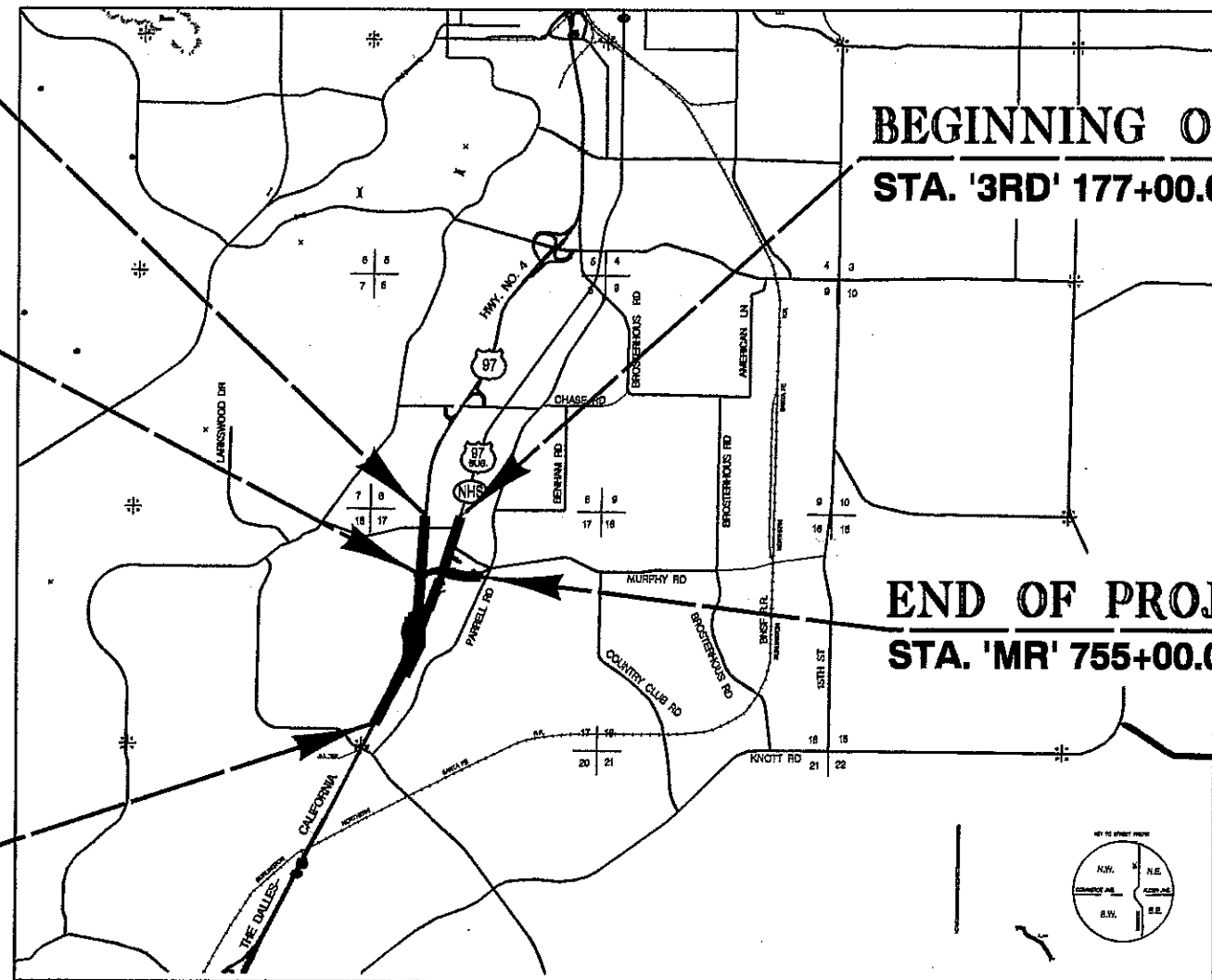
**BEGINNING OF PROJECT
 STA. 'US97' 408+00.00 (M.P. 140.44)**

**BEGINNING OF PROJECT
 STA. '3RD' 177+00.00**

**BEGINNING OF PROJECT
 STA. 'MR' 733+00.00**

**END OF PROJECT
 STA. 'MR' 755+00.00**

**END OF PROJECT
 STA. 'US97' 454+00.00 (M.P. 142.03)**



- 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

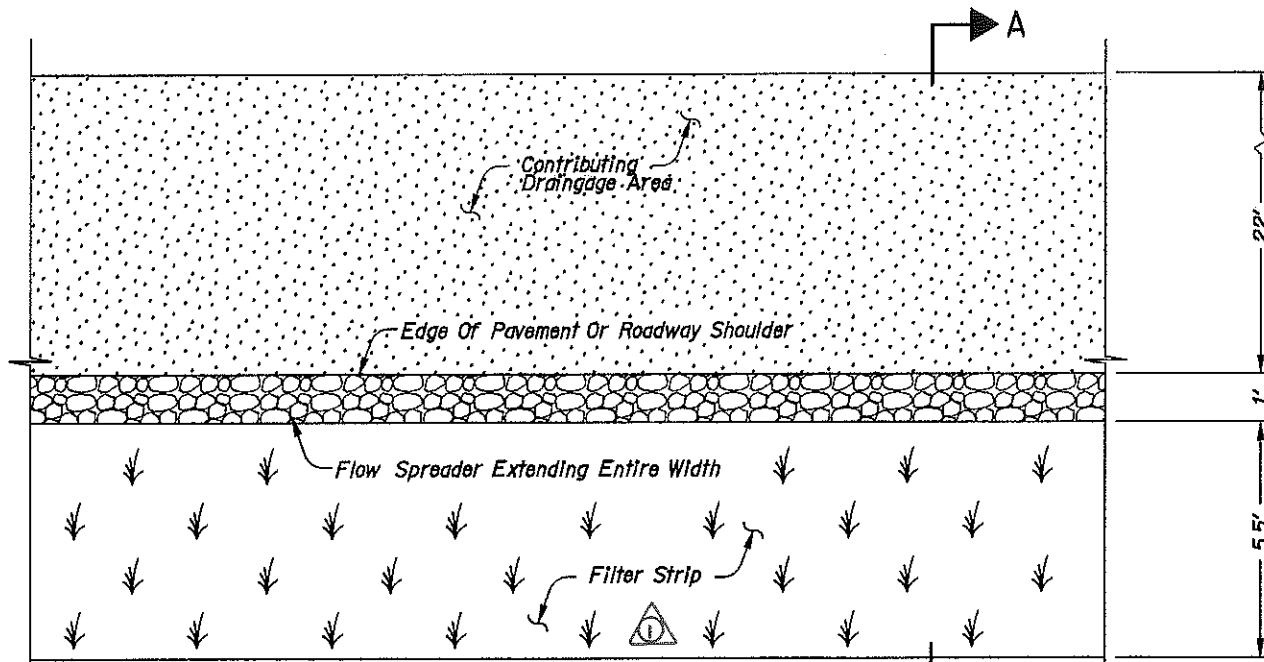
These plans were developed using ODOT design standards. Exceptions to these standards, if any, have been submitted and approved by the ODOT Chief Engineer or their delegated authority.

Approving Authority *[Signature]* 3-19-13
 Signature & date
 William Adams III - DM
 Print name and title
[Signature]
 Concurrence By ODOT Chief Engineer

**US97/MURPHY RD:
 BROOKSWOOD-PARRELL (BEND) PHASE 1
 THE DALLES-CALIFORNIA HIGHWAY
 DESCHUTES COUNTY**

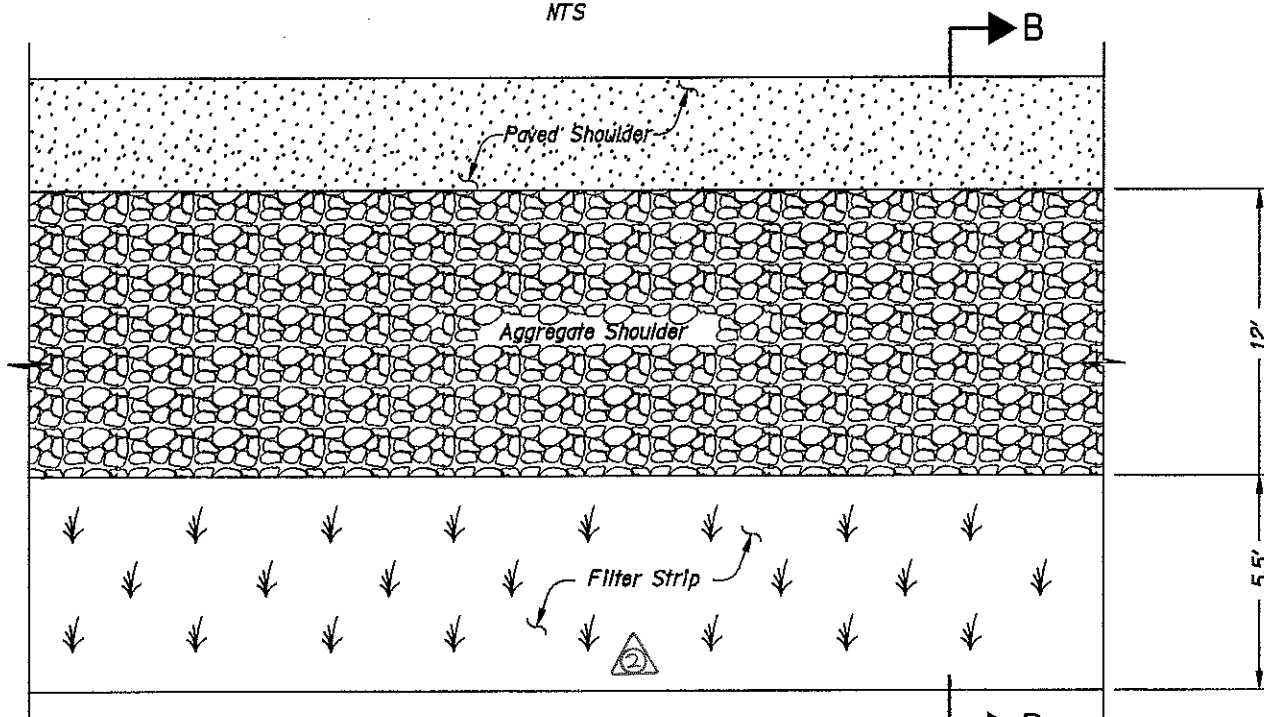
FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	SO-S004(169)	1

T. 18 S., R. 12 E., W.M.



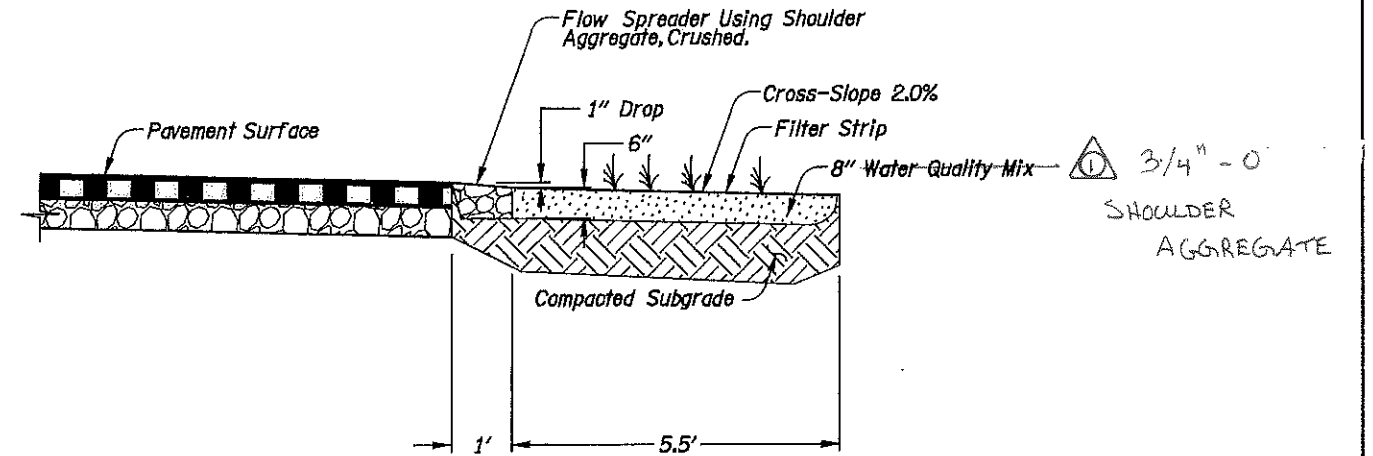
STA. '3RD' 195+42.09 To STA. '3RD' 197+30.00

PLAN
NTS

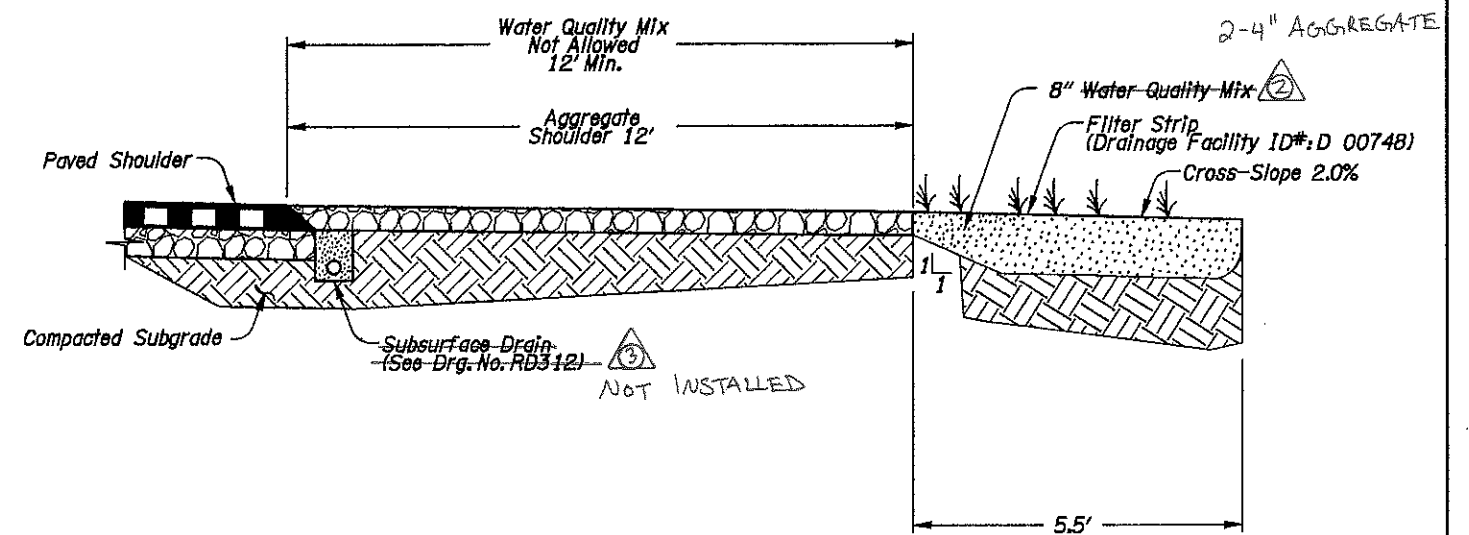


STA. 'A' 301+25.00 To STA. 'A' 309+00.00

PLAN
NTS



SECTION A-A
NTS



SECTION B-B
NTS

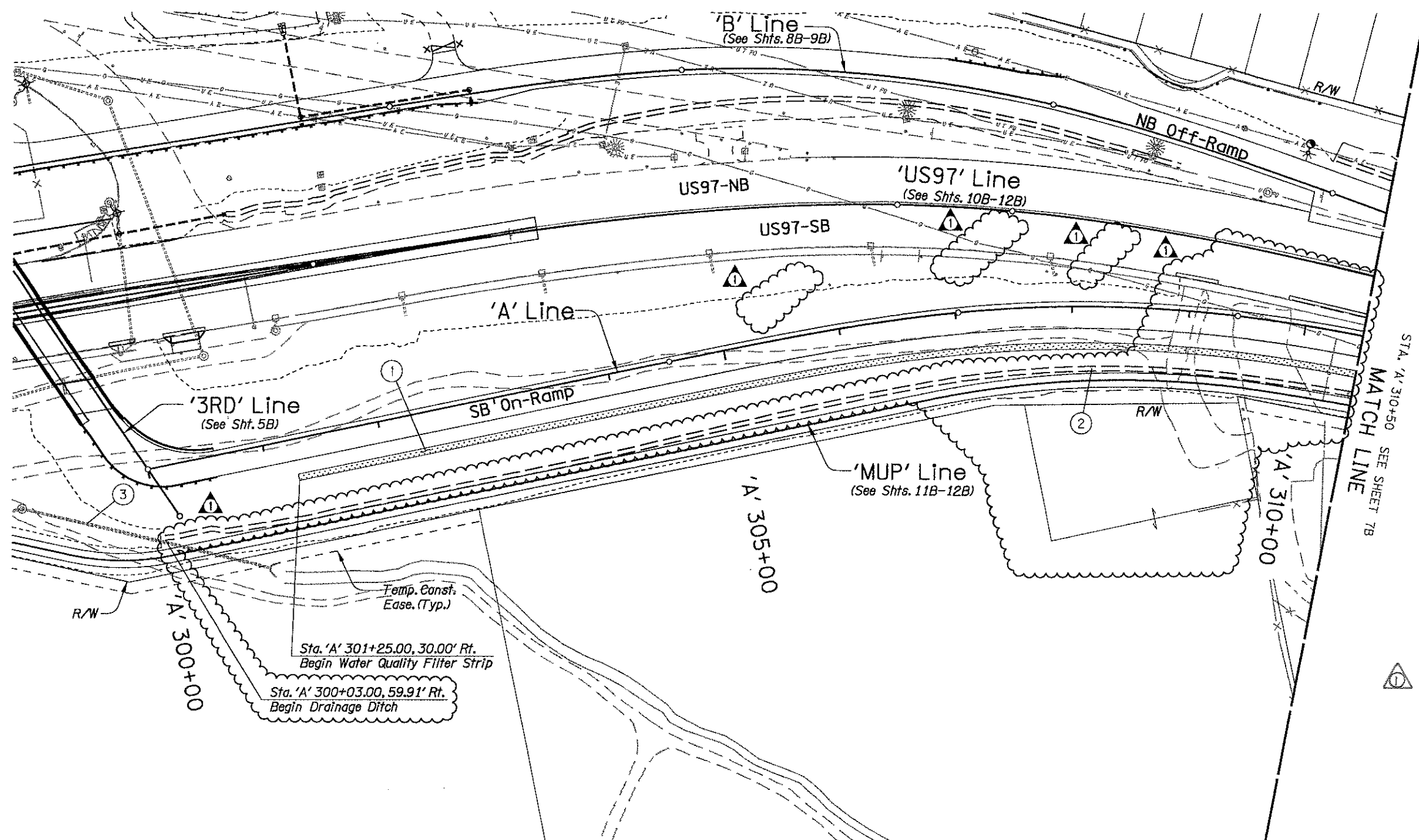
REVISED AS CONSTRUCTED
[Signature]
Project Manager Date



OREGON DEPARTMENT OF TRANSPORTATION	
CH2MHILL 2020 SW 4TH AVE. - 3RD FLOOR PORTLAND, OR 97201-4953 TEL. 503.235.5000	
US97/MURPHY RD: BROOKWOOD-PARRELL (BEND) PHASE 1 THE DALLES-CALIFORNIA HIGHWAY DESCHUTES COUNTY	
Reviewed By - R. Attanasio Designed By - J. Stallard Drafted By - S. Atwood	
DETAILS	SHEET NO. 2B-9

Rev. No.	Date	Revision

WATER QUALITY FILTER STRIP



- ① Const. Water Quality Filter Strip (Drainage Facility ID # D 00748) - 925' (For Details, See Sht. 2B-9)
- ② Const. Ditch
- ③ Protect Extg. Irrigation Pipe

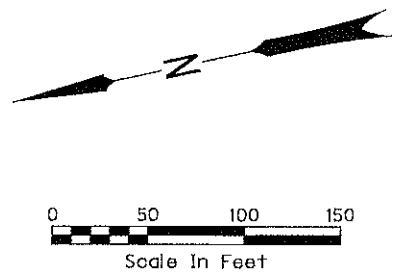
Sta. 'A' 301+25.00, 30.00' Rt. Begin Water Quality Filter Strip
 Sta. 'A' 300+03.00, 59.91' Rt. Begin Drainage Ditch

① 2-4" AGGREGATE WAS USED INSTEAD OF A MULCH + SOIL BLEND.

Rev. No.	Date	Revision
①	6-06-14	SB On-Ramp Change Order

REVISED AS CONSTRUCTED

 Project Manager _____ Date _____



REGISTERED PROFESSIONAL ENGINEER
 82930PE

 JEFFERY SHAWN STALLARD
 EXPIRES: 6/30/2014
 7/10/14

OREGON DEPARTMENT OF TRANSPORTATION

CH2MHILL 2020 SW 4TH AVE. - 3RD FLOOR
 PORTLAND, OR 97201-4953
 TEL. 503.235.5000

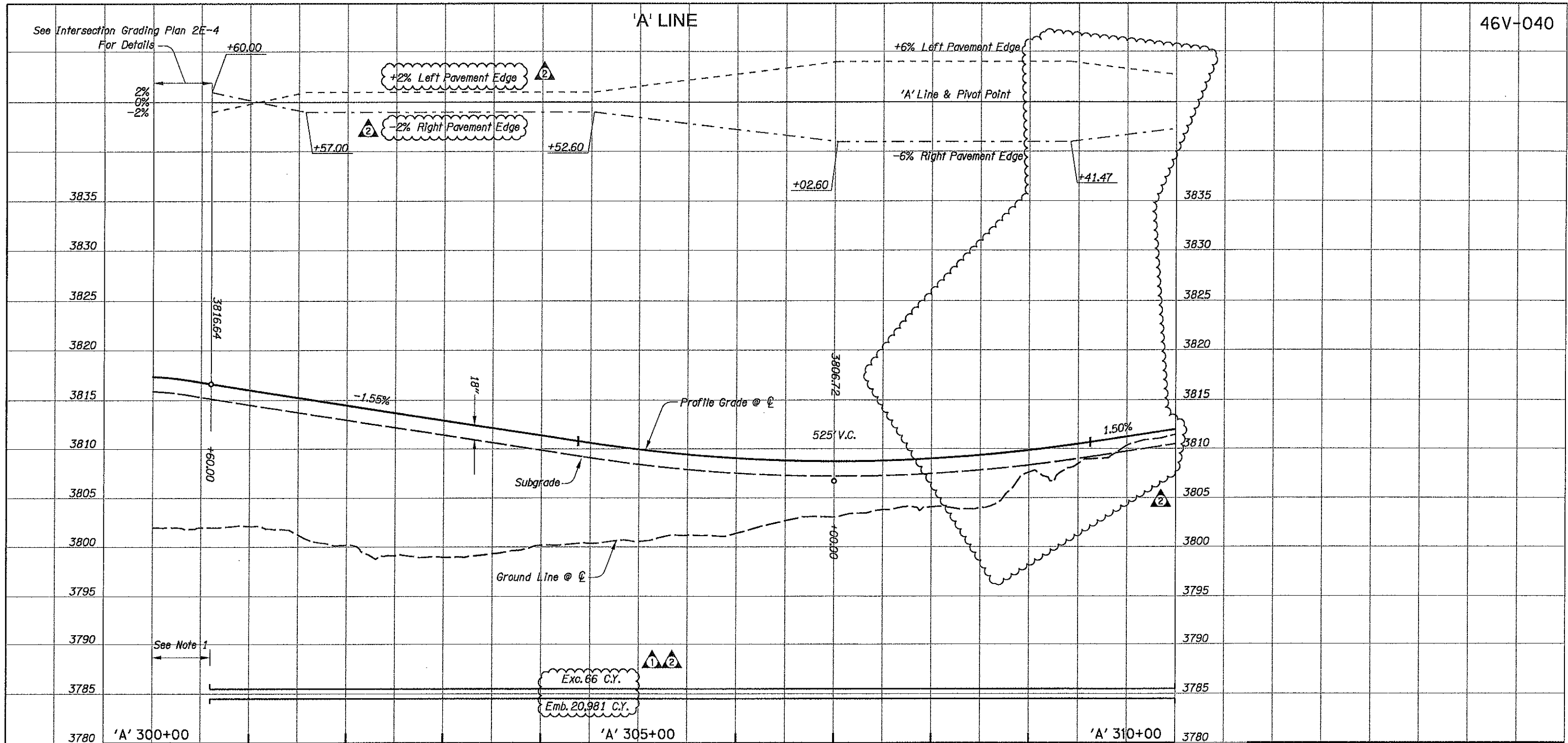
**US97/MURPHY RD:
 BROOKWOOD-PARRELL (BEND) PHASE 1
 THE DALLES-CALIFORNIA HIGHWAY
 DESCHUTES COUNTY**

Reviewed By - R. Attanasio
 Designed By - J. Stallard
 Drafted By - S. Atwood

DRAINAGE & UTILITIES

SHEET NO. **6B**

Bid Package 1

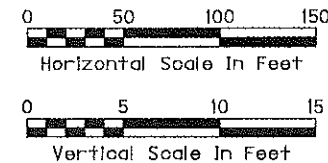


Note:
1. Volumes Shown On Sht. 5C.

REVISED AS CONSTRUCTED

[Signature]
Project Manager

Date



DRAINAGE

REGISTERED PROFESSIONAL ENGINEER
82920PE
JEFFERY SHAWN STALLARD
MAY 12, 2009
OREGON
EXPIRES: 6/30/2014
6/10/14

ROADWAY

REGISTERED PROFESSIONAL ENGINEER
76605PE
WILLIAM RAY ADAMS III
JUNE 2, 2010
OREGON
EXPIRES: 12/31/2015
6-10-14

OREGON DEPARTMENT OF TRANSPORTATION

CH2MHILL 2020 SW 4TH AVE. - 3RD FLOOR
PORTLAND, OR 97201-4953
TEL. 503.235.5000

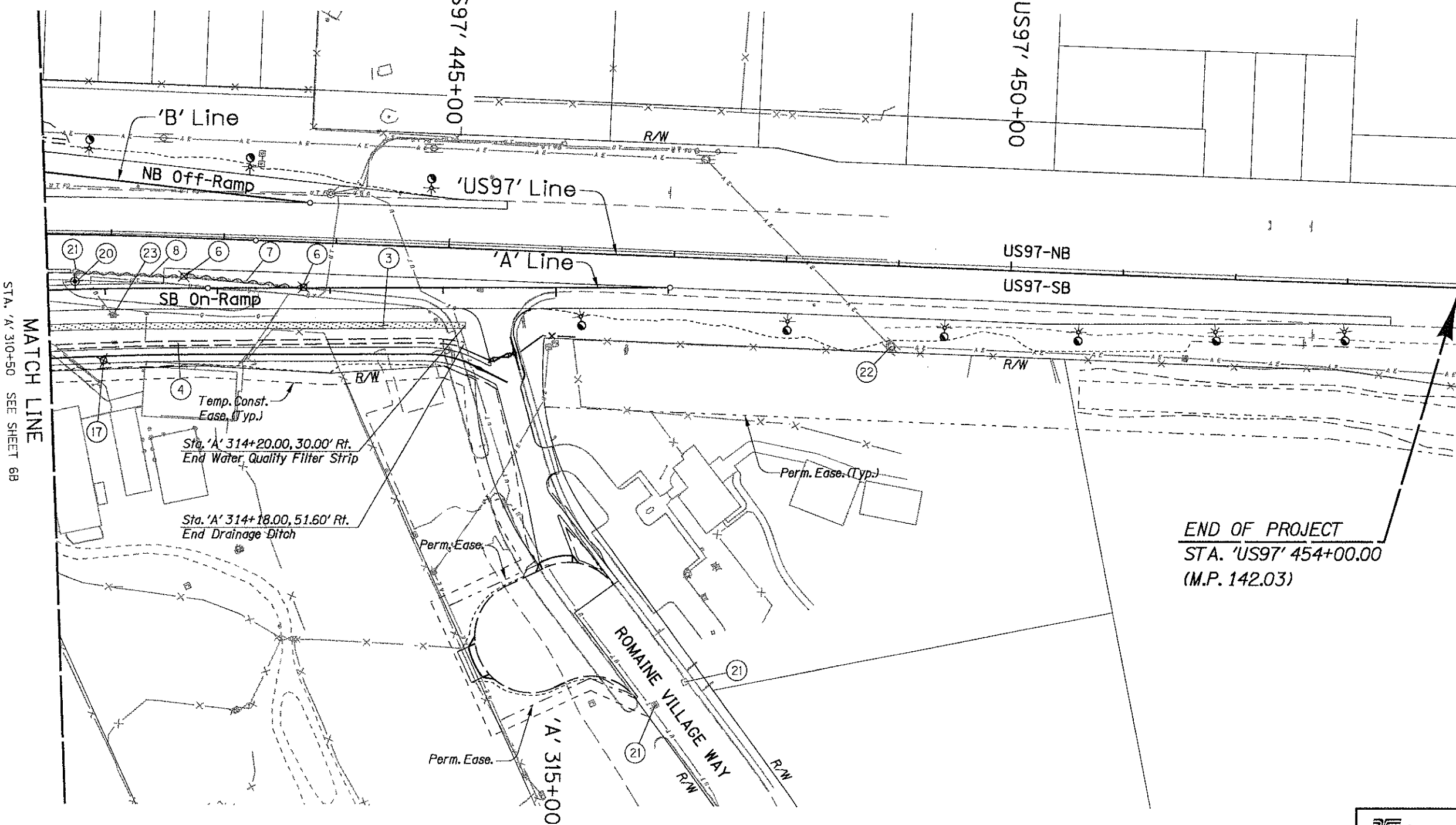
**US97/MURPHY RD:
BROOKWOOD-PARRELL (BEND) PHASE 1**
THE DALLES-CALIFORNIA HIGHWAY
DESCHUTES COUNTY

Reviewed By - S. Daleo
Designed By - R. Brown/J. Stallard
Drafted By - J. Tyler

PROFILE

SHEET NO. **6C**

Rev. No.	Date	Revision
1	1-10-14	Updated Earthwork
2	6-06-14	SB On-Ramp Change Order



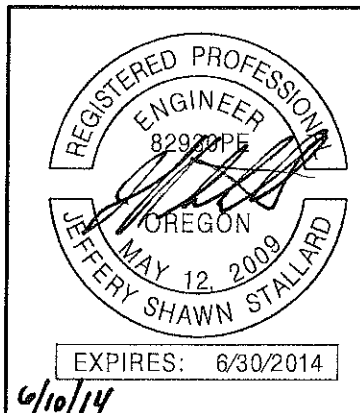
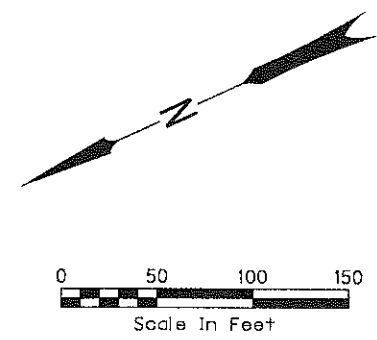
STA. 'A' 310+50 SEE SHEET 6B

- ③ Const. Water Quality Filter Strip (Drainage Facility ID# D 00748) - 370' (For Details, See Sht. 2B-9)
- ④ Const. Ditch
- ⑥ Remove Extg. Inlet - 2
- ⑦ Remove Pipe - 107'
- ⑧ Abandon Extg. Pipe - 96'
- ⑰ Decommission Extg. Drywell - 1
- ⑳ Sta. 'A' 310+73.32, 7.11' Lt. Minor Adjust Manhole
- ㉑ Protect Extg. Inlet
- ㉒ Protect Extg. Power Pole
- ㉓ Relocate Power Pole (By Others)

END OF PROJECT
STA. 'US97' 454+00.00
(M.P. 142.03)

REVISED AS CONSTRUCTED

[Signature]
Project Manager _____ Date _____



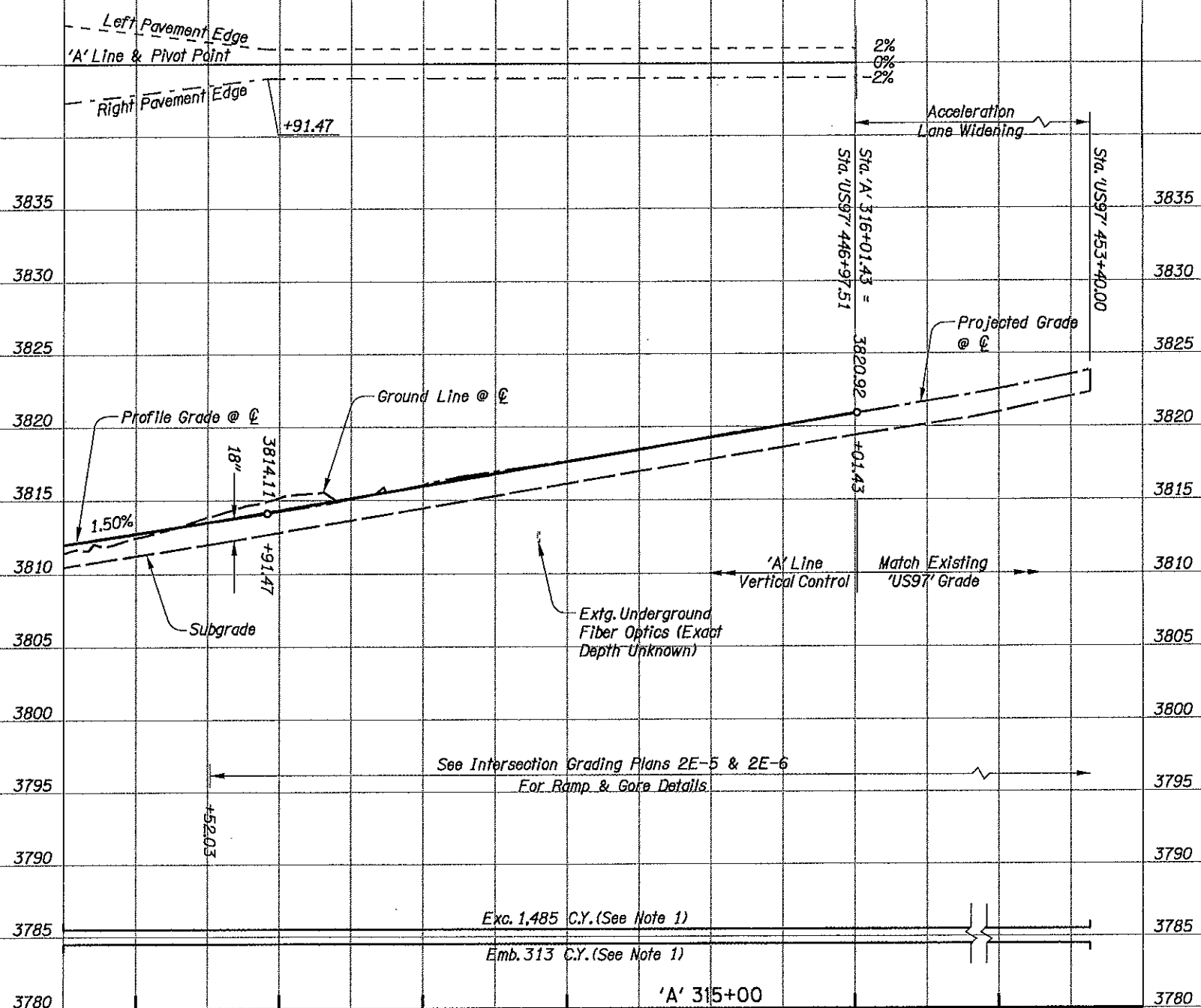
OREGON DEPARTMENT OF TRANSPORTATION	
CH2MHILL	
2020 SW 4TH AVE. - 3RD FLOOR PORTLAND, OR 97201-4953 TEL. 503.235.5000	
US97/MURPHY RD: BROOKSWOOD-PARRELL (BEND) PHASE 1	
THE DALLES-CALIFORNIA HIGHWAY DESCHUTES COUNTY	
Reviewed By - R. Attanasio Designed By - J. Stallard Drafted By - S. Atwood	
DRAINAGE & UTILITIES	SHEET NO. 7B

Rev. No.	Date	Revision
1	6-06-14	SB On-Ramp Change Order - Sht. Re-Issued

Bid Package 1

'A' LINE

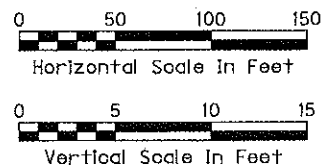
46V-040



Note:
1. Volumes Shown This Sheet Include All Earthwork Within The Limits Of The Southbound On-Ramp ('A' Line). Limits Defined Per Ramp Grading Plan On Shts. 2E-5 & 2E-6.

REVISED AS CONSTRUCTED

Project Manager _____ Date _____



DRAINAGE

ROADWAY



EXPIRES: 6/30/2014

EXPIRES: 12/31/2015

OREGON DEPARTMENT OF TRANSPORTATION

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PORTLAND, OR 97201-4953
TEL. 503.235.5000

**US97/MURPHY RD:
BROOKWOOD-PARRELL (BEND) PHASE 1**
THE DALLES-CALIFORNIA HIGHWAY
DESCHUTES COUNTY

Reviewed By - J. Bland
Designed By - W. Adams/J. Stallard
Drafted By - S. Atwood

PROFILE

SHEET NO.
7C

Rev. No.	Date	Revision
6-06-14		SB On-Ramp Change Order - Sht. Re-Issued