

OPERATION & MAINTENANCE MANUAL

DFI No. : D00136

Facility Type: Detention Tank/Pipe



JUNE, 2011

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)..... 5

6. AUXILIARY OUTLET (HIGH FLOW BYPASS)..... 5

7. MAINTENANCE REQUIREMENTS..... 5

8. WASTE MATERIAL HANDLING..... 6

APPENDIX A: Operational Plan and Profile Drawing(s)

APPENDIX B: ODOT Project Plan Sheets

1. Identification

Drainage Facility ID (DFI): **D00136**

Facility Type: Detention Tank/Pipe

Construction Drawings: (V-File Number) 39V-058

Location: District: 2B (Old 2A)

Highway No.: 064

Mile Post: 3.10; 3.14 (beg./end)

Description: This facility is located on the northwest quadrant of the I-205 (Hwy 64) and SW Stafford Road Interchange, between the southbound lane and the southbound on-ramp.

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:

Consultant Designer - OBEC Consulting Engineers,
Jerome D. Lane, P.E., (503)-589-4100

Facility construction: 2006

Contractor: Oregon Mainline Paving, LLC

4. Storm Drain System and Facility Overview

A detention facility is designed to control the quantity of runoff, by reducing the peak discharge and only detaining runoff for some short period of time. These facilities are designed to store and gradually release or attenuate stormwater runoff via a control structure or release mechanism, and completely drain after the design storm has passed. The most common detention facilities include:

- Dry ponds - these are depressed storage areas that store runoff during wet weather and are dry the rest of the time. Usually they are earthen depressions.
- Tanks - these are underground storage facilities that are typically constructed from large diameter pipe.
- Vaults - these are enclosed underground storage facilities. They are typically constructed from reinforced concrete.

This facility is located north of the water quality manhole DFI D00135. Access can be obtained from outlet and inlet vaults located at points C and E, respectively, as seen on the Operational Plans, Appendix A, and Photos 2 and 3. Flow is received from the water quality manhole (DFI D00135) and detained before being conveyed by an 18-inch pipe to an outfall and a nearby ditch.

A. Maintenance equipment access:

Access can be obtained from either the on-ramp or the right shoulder of southbound I-205.

B. Heavy equipment access into facility:

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

C. Special Features:

- Amended Soils
- Porous Pavers
- Liners
- Underdrains

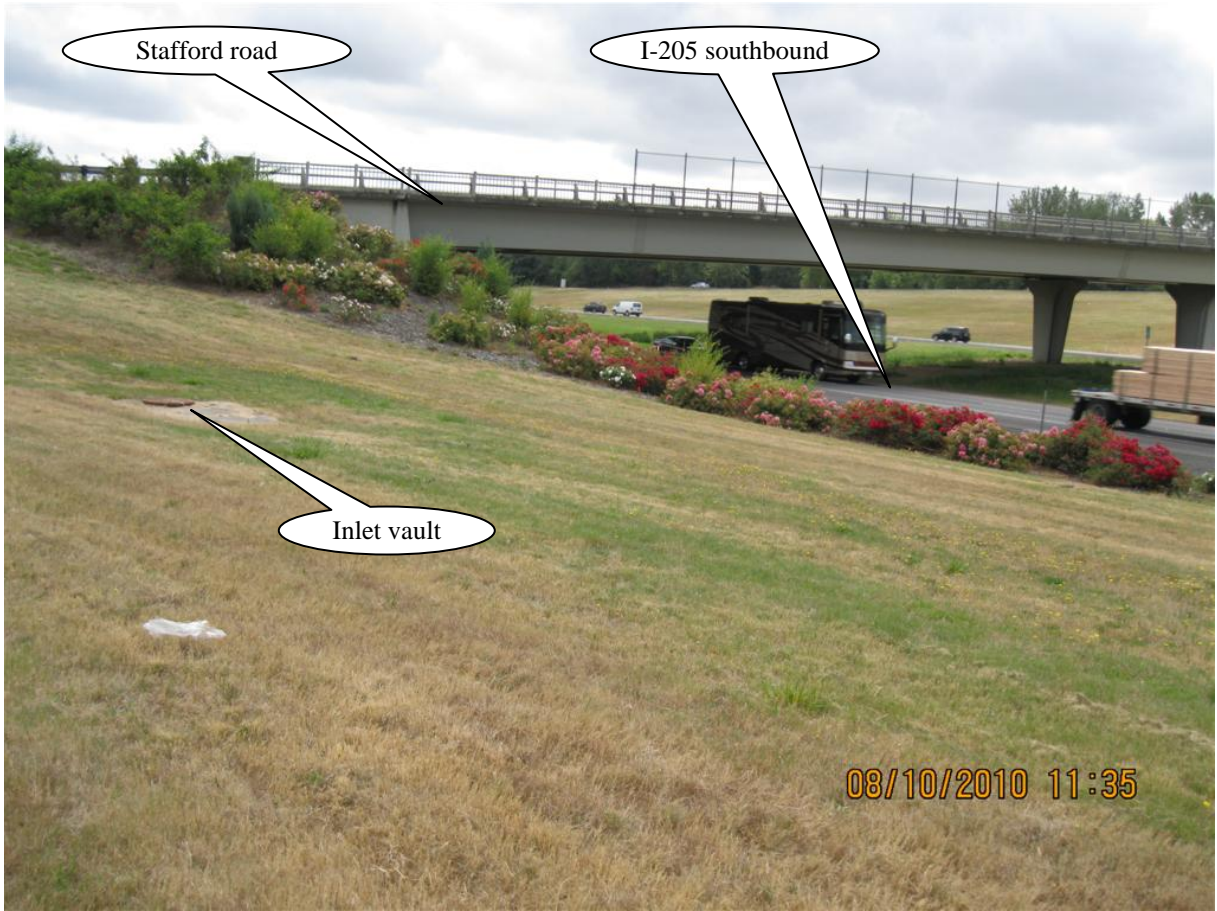


Photo 1: Looking south



Photo 2: Looking west

5. Facility Haz Mat Spill Feature(s)

The detention tank/pipe can be used to store a volume of liquid by blocking the 18-inch diameter outlet pipe that releases water into a nearby ditch north of the I-205 (Hwy 64) on-ramp.

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 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, as noted below

There is no auxiliary outlet designed into this facility

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:

Mark as Required and always include Table 1:

- Table 1 (general maintenance)
- Table 2 (stormwater ponds)
- Table 3 (water quality biofiltration swales)
- Table 4 (water quality filter strips)
- Table 5 (water quality bioslopes)
- Table 6 (detention tank)
- Table 7 (detention vault)
- Appendix C (proprietary structure)
- Special Maintenance requirements:

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

8. Waste Material Handling

Material removed from the facility is defined as waste by 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>

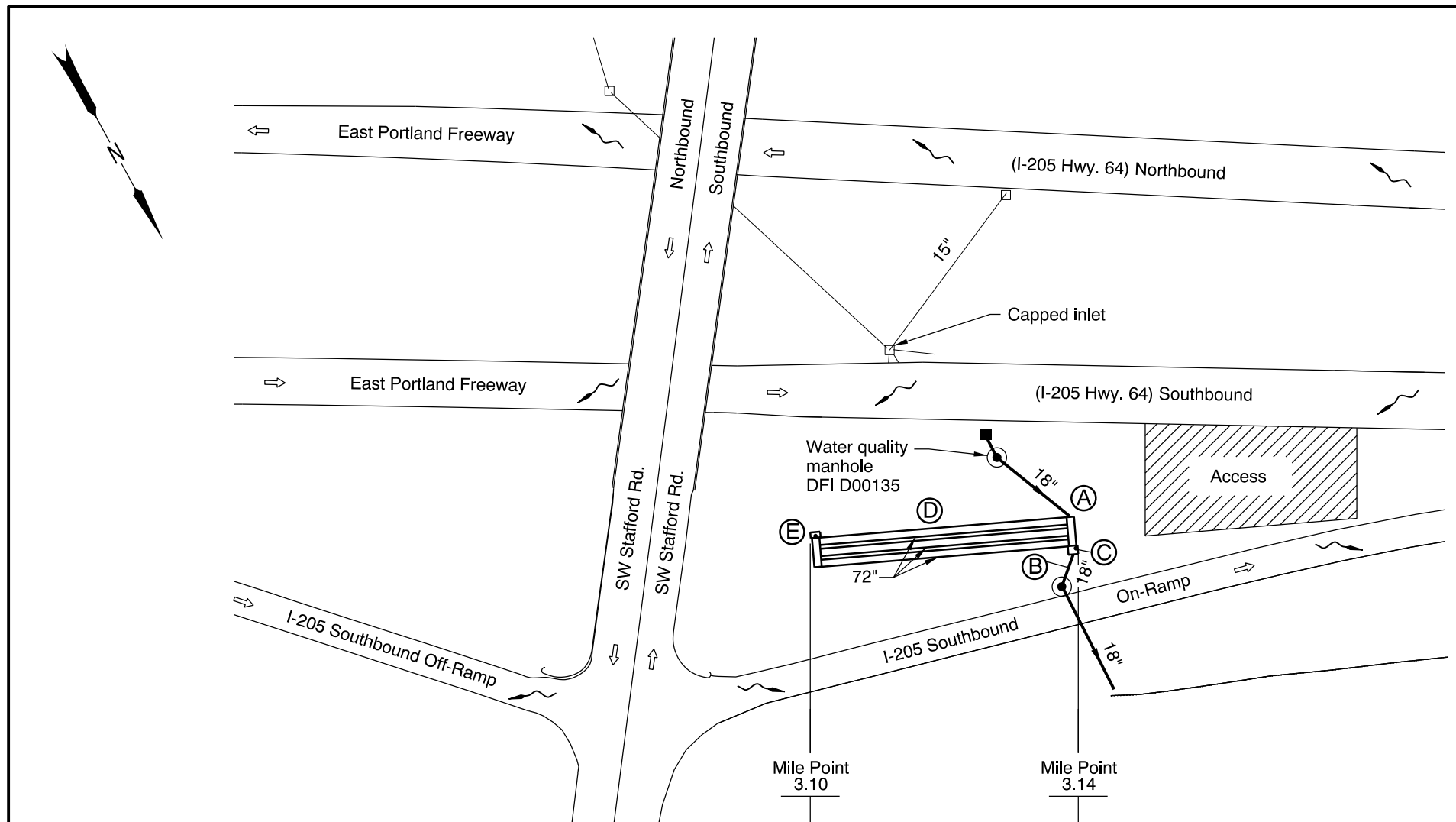
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(503) 731-8304
ODEQ Northwest Region Office	(503) 229-5263

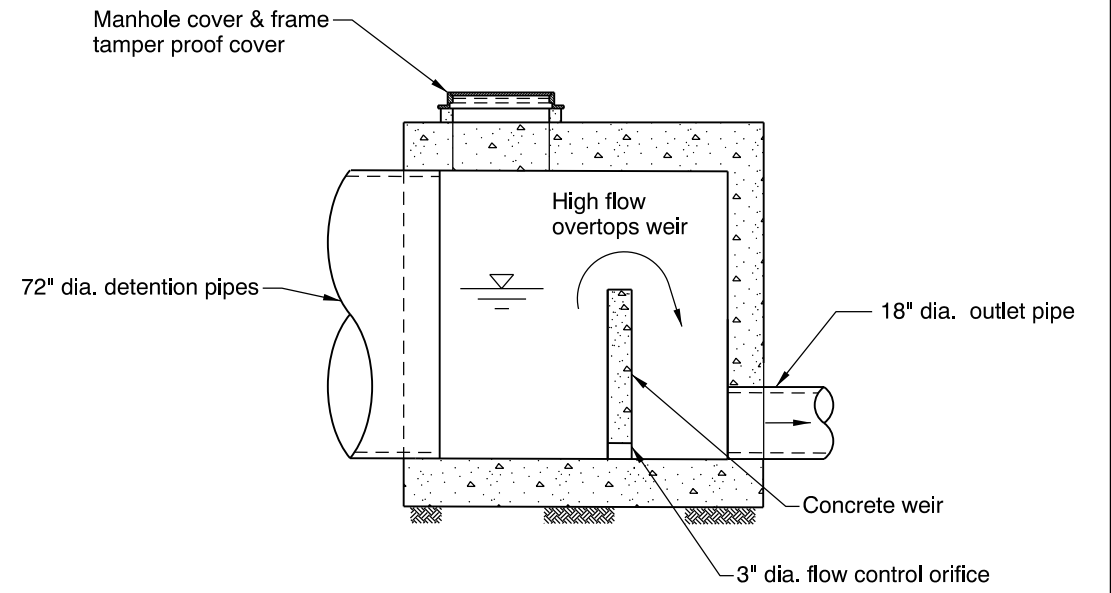
Appendix A

Content:

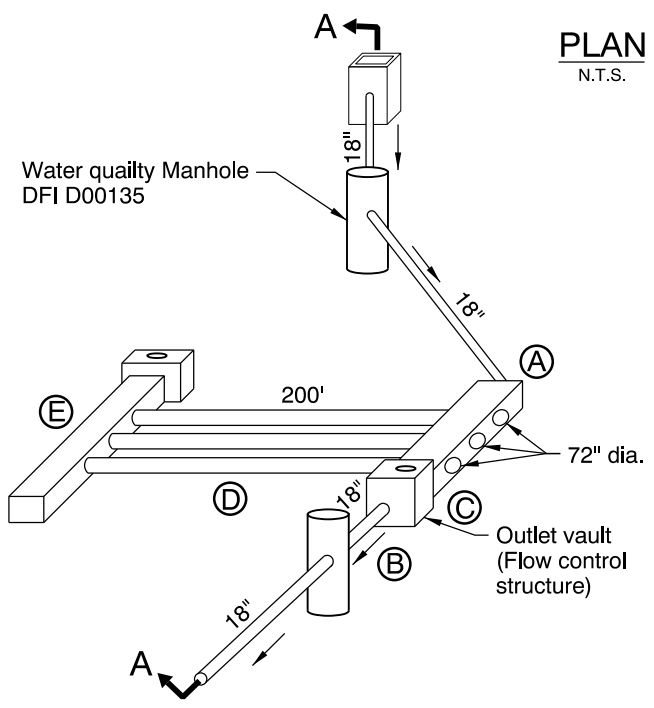
- **Operational Plan and Profile Drawing(s)**



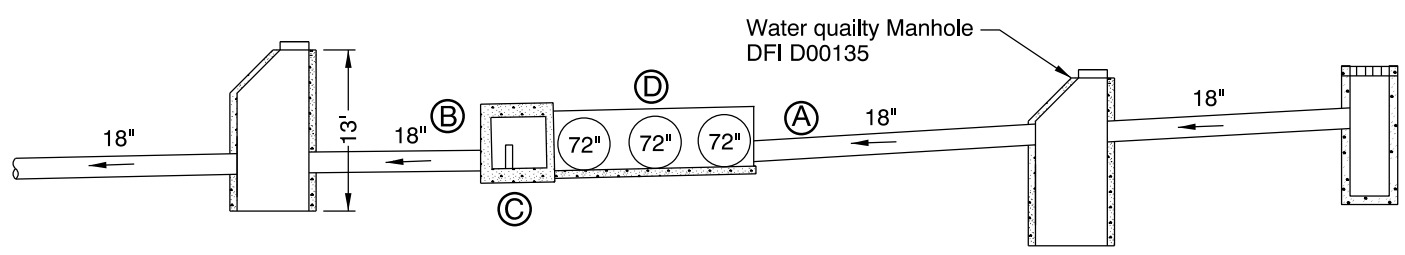
PLAN
N.T.S.



OUTLET VAULT
(FLOW CONTROL STRUCTURE AT POINT ©)
N.T.S.



SCHEMATIC OF PIPE DRAINAGE SYSTEM
N.T.S.



SECTION A-A
N.T.S.

- LEGEND:**
- Photo Location / Direction
 - Detention Inlet
 - Detention Outlet
 - Outlet Vault (Flow Control Structure)
 - Detention Pipes
 - Inlet Vault
 - Manhole
 - Inlet
 - Traffic Flow/Direction
 - Storm Pipe (Facility)
 - Storm Pipe
 - Conveyance Direction
 - Pavement / Facility Flow Path
 - Maintenance Access

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Craig Fox
Drafted By: Mathew Bunde

DFI D00136
MAINTENANCE DISTRICT 2B HWY 64
DETENTION TANK/PIPE
EAST PORTLAND FREEWAY MP 3.10-3.14
CLACKAMAS COUNTY

Appendix B

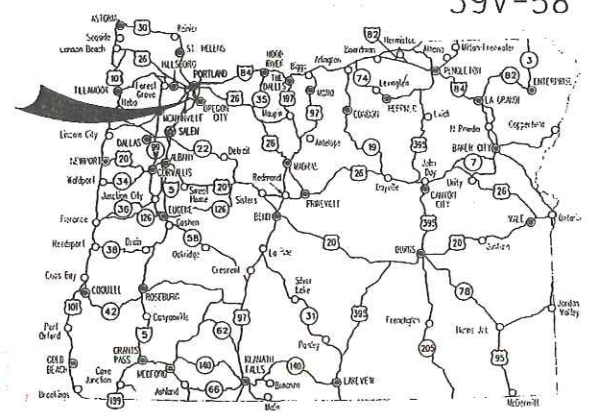
Content:

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

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

STATE OF OREGON
 DEPARTMENT OF TRANSPORTATION
 PLANS FOR PROPOSED PROJECT
GRADING, DRAINAGE, STRUCTURES, PAVING, SIGNING & ILLUMINATION

**I-205: WILLAMETTE RIVER BR. -
 PACIFIC HWY. (UNIT 3) SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS & WASHINGTON COUNTIES
 APRIL 2006**

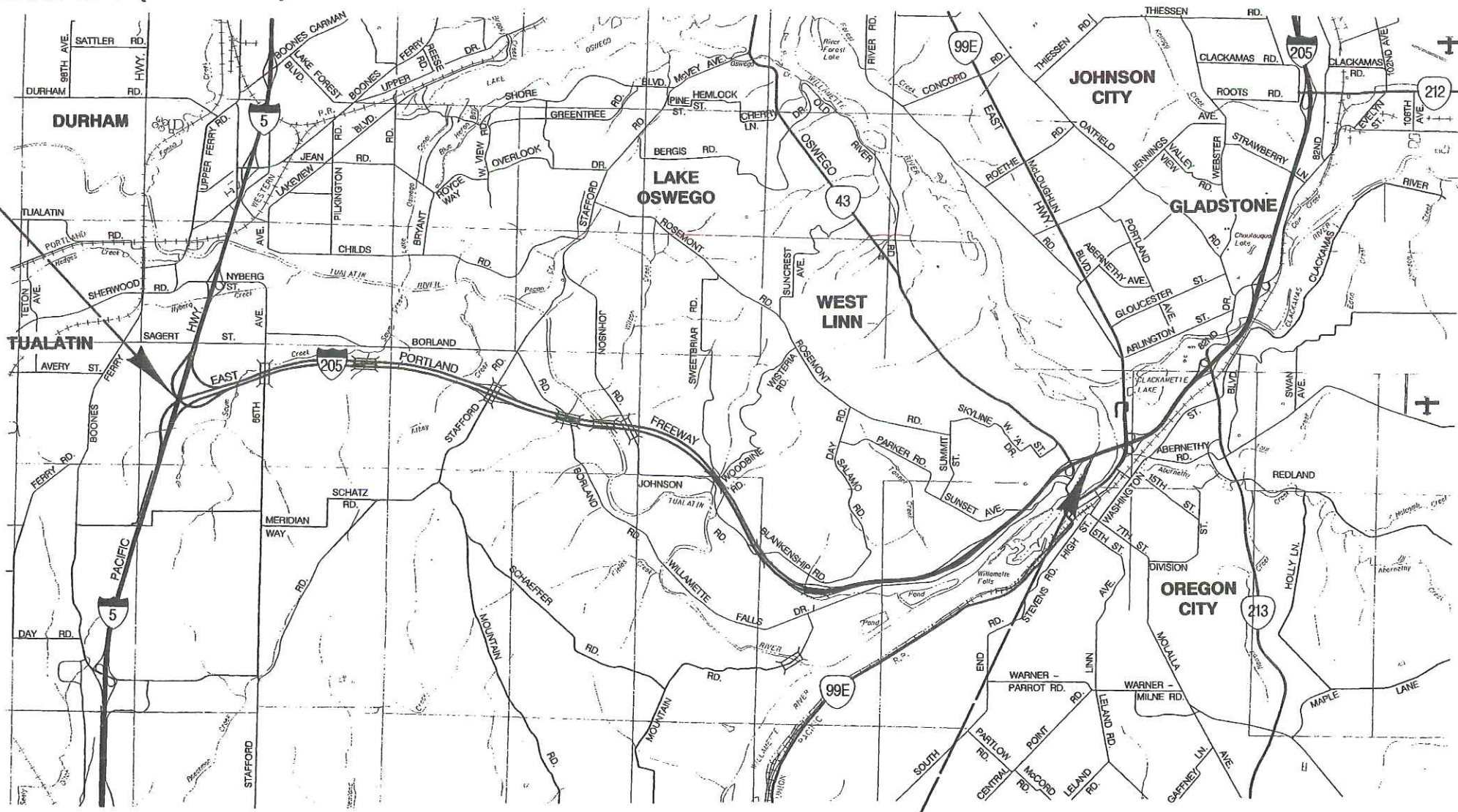


Overall Length Of Project - 8.90 Miles

"AS CONSTRUCTED"
Matthew Nelson
 Date 6/26/09 Project Mgr

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.)

**END OF PROJECT IM-OTIA-S064(032)
 STA. "LS2" 1231+71.15 (M.P. -0.10)**



LET'S ALL
 WORK TOGETHER
 TO MAKE THIS
 JOB SAFE

- OREGON TRANSPORTATION COMMISSION**
- | | |
|-------------------|----------------------------|
| Stuart Foster | CHAIRMAN |
| Gail L. Achterman | COMMISSIONER |
| Mike Nelson | COMMISSIONER |
| Randall Papé | COMMISSIONER |
| Janice J. Wilson | COMMISSIONER |
| Matthew Garrett | DIRECTOR OF TRANSPORTATION |



EXPIRES: 12/31/07

LAWRENCE H. FOX
 OBEC CONSULTING ENGINEERS - PROJECT MANAGER

OREGON DEPARTMENT OF TRANSPORTATION
 CONCURRENCE
Harold E. Sealey 2/23/06
 TECHNICAL SERVICES MANAGING ENGINEER DATE

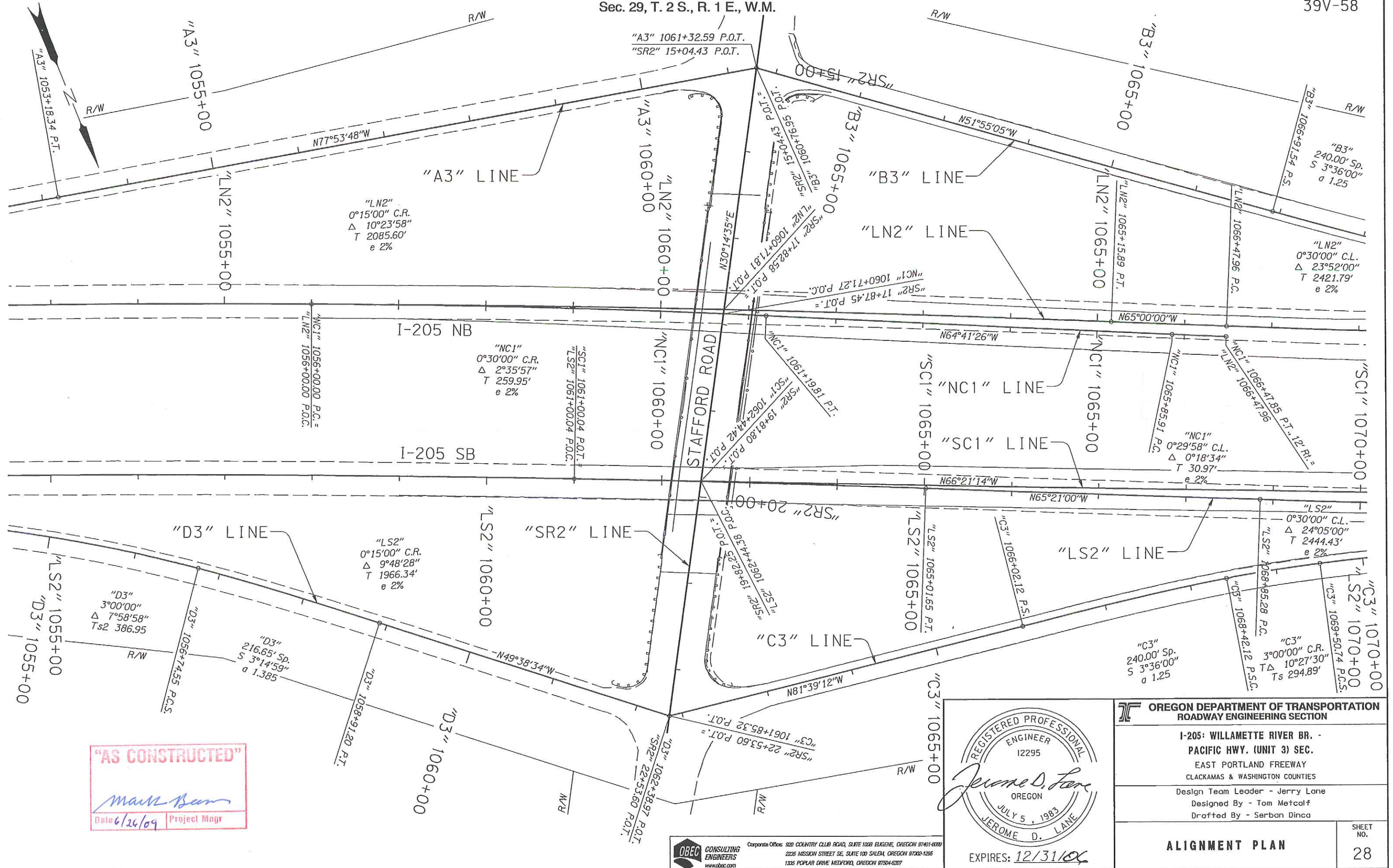
**I-205: WILLAMETTE RIVER BR. -
 PACIFIC HWY. (UNIT 3) SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS & WASHINGTON COUNTIES**

FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	IM-OTIA-S064(032)	1



T. 2 S., R. 1 W.,
 R. 1 E. & R. 2 E., W.M.

**BEGINNING OF PROJECT IM-OTIA-S064(032)
 STA. "L" 735+41.85 (M.P. 8.80)**



"AS CONSTRUCTED"

Mark Bean
 Date 6/26/09 Project Mgr

REGISTERED PROFESSIONAL
 ENGINEER
 12295
Jerome D. Lane
 OREGON
 JULY 5, 1983
 JEROME D. LANE
 EXPIRES: 12/31/09

OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

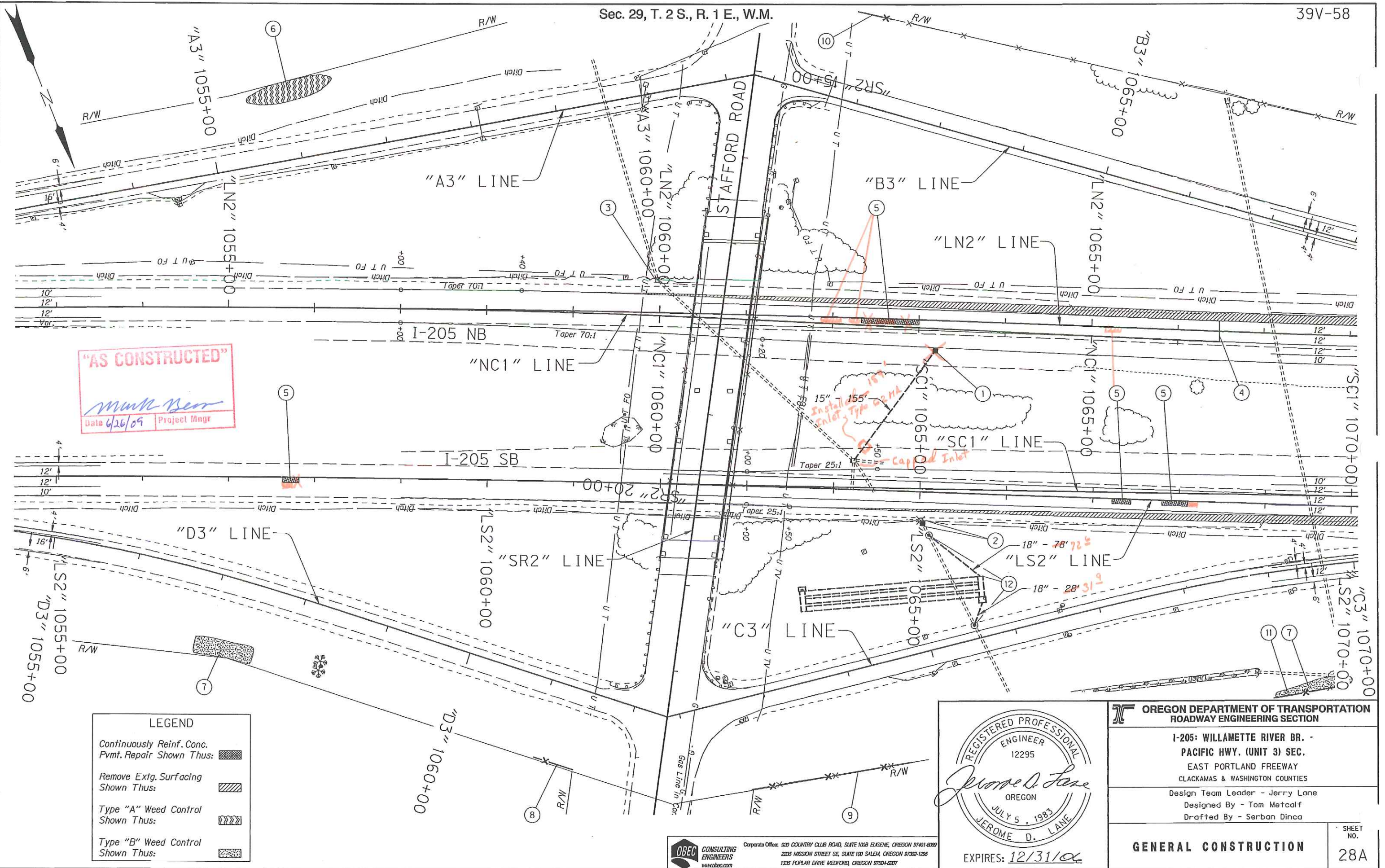
I-205: WILLAMETTE RIVER BR. -
 PACIFIC HWY. (UNIT 3) SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS & WASHINGTON COUNTIES

Design Team Leader - Jerry Lane
 Designed By - Tom Metcalf
 Drafted By - Serban Dinca

ALIGNMENT PLAN

SHEET NO. 28

OBEC CONSULTING ENGINEERS
 Corporate Office: 820 COUNTRY CLUB ROAD, SUITE 1009 EUGENE, OREGON 97401-8888
 2225 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1285
 1335 POPLAR DRIVE MEDFORD, OREGON 97504-6207



"AS CONSTRUCTED"

Munk Bear
Date 6/26/09 Project Mngr

LEGEND

- Continuously Reinf. Conc. Pymt. Repair Shown Thus: [Pattern]
- Remove Extg. Surfacing Shown Thus: [Pattern]
- Type "A" Weed Control Shown Thus: [Pattern]
- Type "B" Weed Control Shown Thus: [Pattern]

REGISTERED PROFESSIONAL ENGINEER
12295
Jerome D. Lane
OREGON
JULY 5, 1983
JEROME D. LANE
EXPIRES: 12/31/09

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION



I-205: WILLAMETTE RIVER BR. -
PACIFIC HWY. (UNIT 3) SEC.
EAST PORTLAND FREEWAY
CLACKAMAS & WASHINGTON COUNTIES

Design Team Leader - Jerry Lane
Designed By - Tom Metcalf
Drafted By - Serban Dinca

GENERAL CONSTRUCTION

SHEET NO. 28A

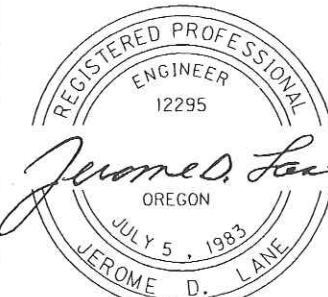
OPEC CONSULTING ENGINEERS
Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-8289
2235 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1295
1335 POPLAR DRIVE MEDFORD, OREGON 97504-5207


- ① Sta. "LN2" 1063+20, 35' Rt.
Const. Type "G-2MA" Inlet
Inst. 15" Sew. Pipe - 155'
5' Depth
Inlet not installed
Pipe installed but not connected
- ② Sta. "LS2" 1065+04.5, 36.4' Rt.
Remove Extg. Inlet
Const. Type "G-2MA" Inlet
Over Extg. Sew. Pipe
- ③ Adjust Inlet
- ④ Sta. "LN2" 1066+47.96
Const. Terminal Expansion Joint - 24'
(For Details, See Sht. 2B-25)
(See Drg. No. RD605)
- ⑤ Continuously Reinf. Conc.
Pvmt. Repair - 93 Sq.Yd. 
(For Details, See Shts. 2B-18, 2B-19 & 2B-20)
- ⑥ Type "A" Weed Control
- ⑦ Type "B" Weed Control
- ⑧ Sta. "LS2" 1060+60 To Sta. "LS2" 1061+05, Rt.
Remove Type 2 Fence - 50'
Const. Type 2 Fence - 50'
(See Drg. No. RD810)
- ⑨ Sta. "LS2" 1063+16 To Sta. "LS2" 1065+01, Rt.
Remove Type 2 Fence - 190'
Const. Type 2 Fence - 190'
- ⑩ Sta. "LN2" 1062+19 To Sta. "LN2" 1062+57, Lt.
Remove Type 2 Fence - 40'
Const. Type 2 Fence - 40'
- ⑪ Sta. "LS2" 1066+22 To Sta. "LS2" 1072+98, Rt.
Remove Type 2 Fence - 700'
Const. Type 2 Fence - 700'
- ⑫ Sta. "LS2" 1065+12.19, 50.5' Rt.
Const. Water Quality Manhole
Inst. 18" Sew. Pipe - 78'
 5' Depth 10'
Const. Conc. Manhole
Inst. 18" Sew. Pipe - 28'
5' Depth 10'
Const. Underground Detention Facility #8
(For Details, See Sht. GJ-12)

"AS CONSTRUCTED"

 Date 4/26/09 Project Mngr

REVISIONS	
①	Revised 03-23-2006 Revised Note
②	Revised 04-10-2006 Revised Note


 REGISTERED PROFESSIONAL ENGINEER
 12295
 JEROME D. LANE
 JULY 5, 1983
 OREGON
 EXPIRES: 12/31/06



OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION

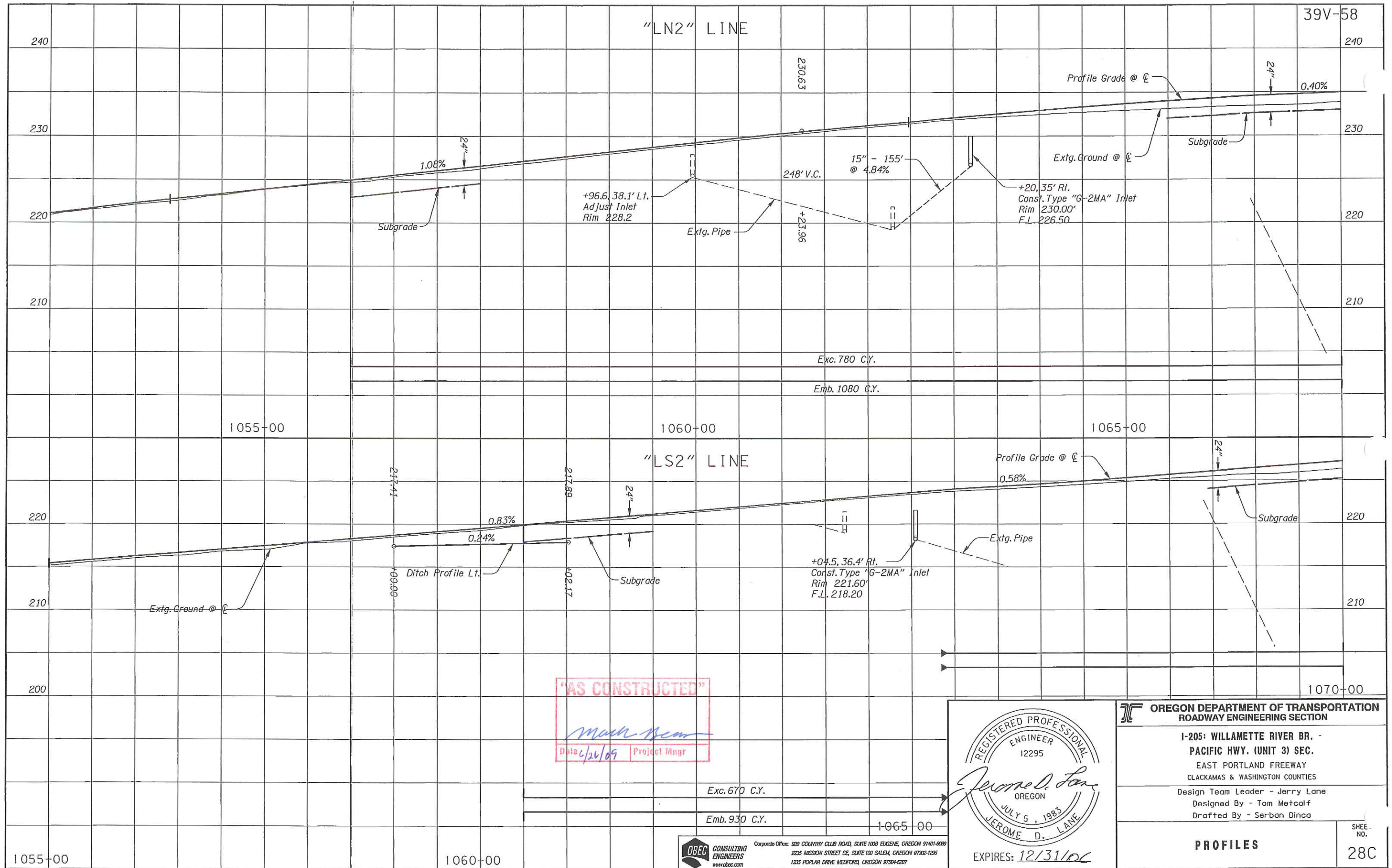
**I-205: WILLAMETTE RIVER BR. -
 PACIFIC HWY. (UNIT 3) SEC.**
 EAST PORTLAND FREEWAY
 CLACKAMAS & WASHINGTON COUNTIES

Design Team Leader - Jerry Lane
 Designed By - Tom Metcalf
 Drafted By - Serban Dinca

CONSTRUCTION NOTES

SHEET NO.
28B


OBEC CONSULTING ENGINEERS
 Corporate Office: 820 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-9008
 2235 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1285
 1335 POPLAR DRIVE MEDFORD, OREGON 97504-8207



"AS CONSTRUCTED"

Mack Beam

Date: 6/26/09 Project Mngr

REGISTERED PROFESSIONAL ENGINEER 12295

Jerome D. Lane

OREGON

JULY 5, 1983

JEROME D. LANE

EXPIRES: 12/31/06

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

I-205: WILLAMETTE RIVER BR. -
PACIFIC HWY. (UNIT 3) SEC.
EAST PORTLAND FREEWAY
CLACKAMAS & WASHINGTON COUNTIES

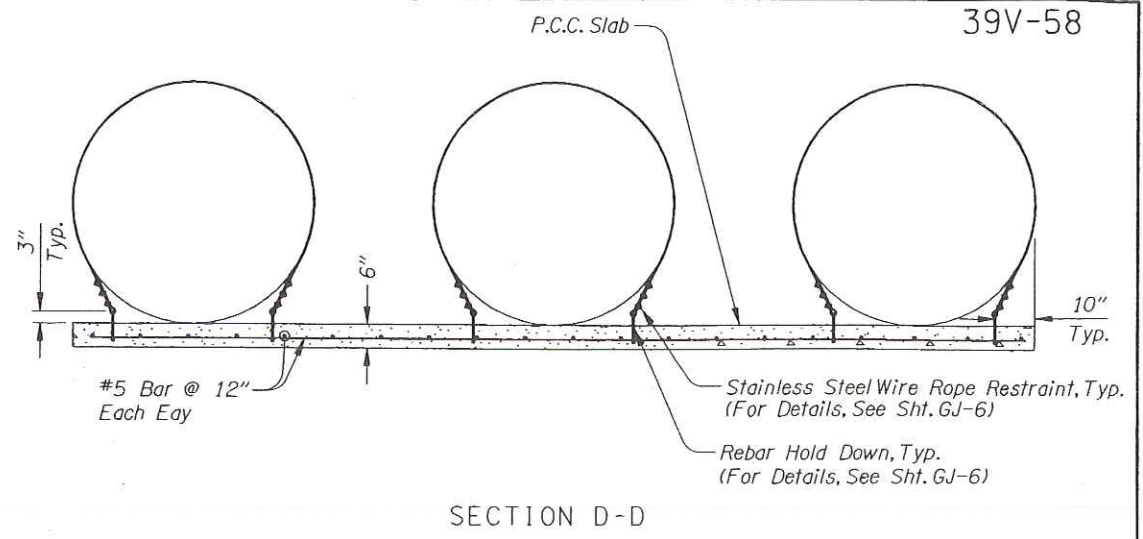
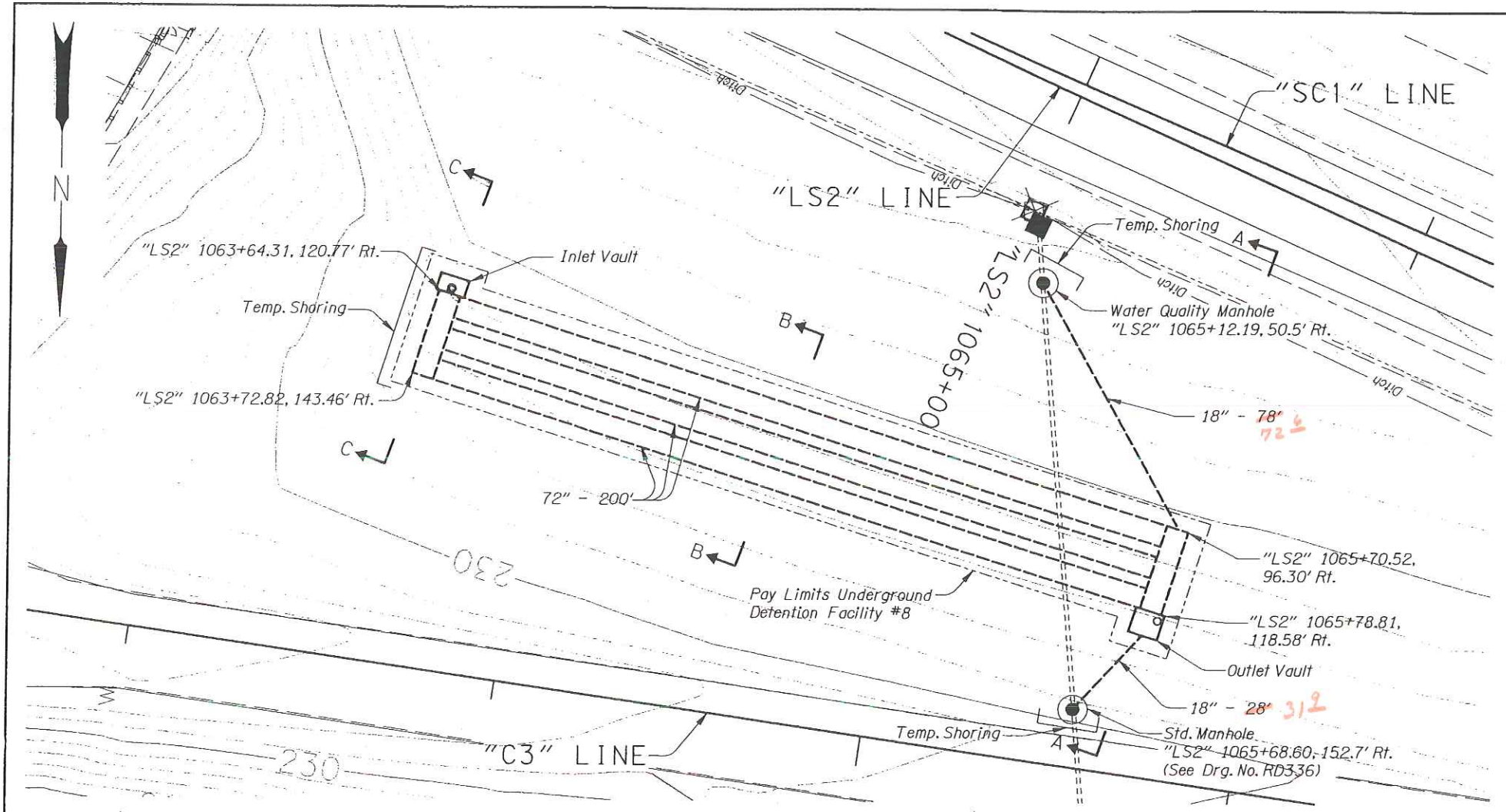
Design Team Leader - Jerry Lane
Designed By - Tom Metcalf
Drafted By - Serban Dinca

OBEC CONSULTING ENGINEERS

Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 1000 EUGENE, OREGON 97401-8099
2235 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1295
1335 POPLAR DRIVE MEDFORD, OREGON 97504-6207

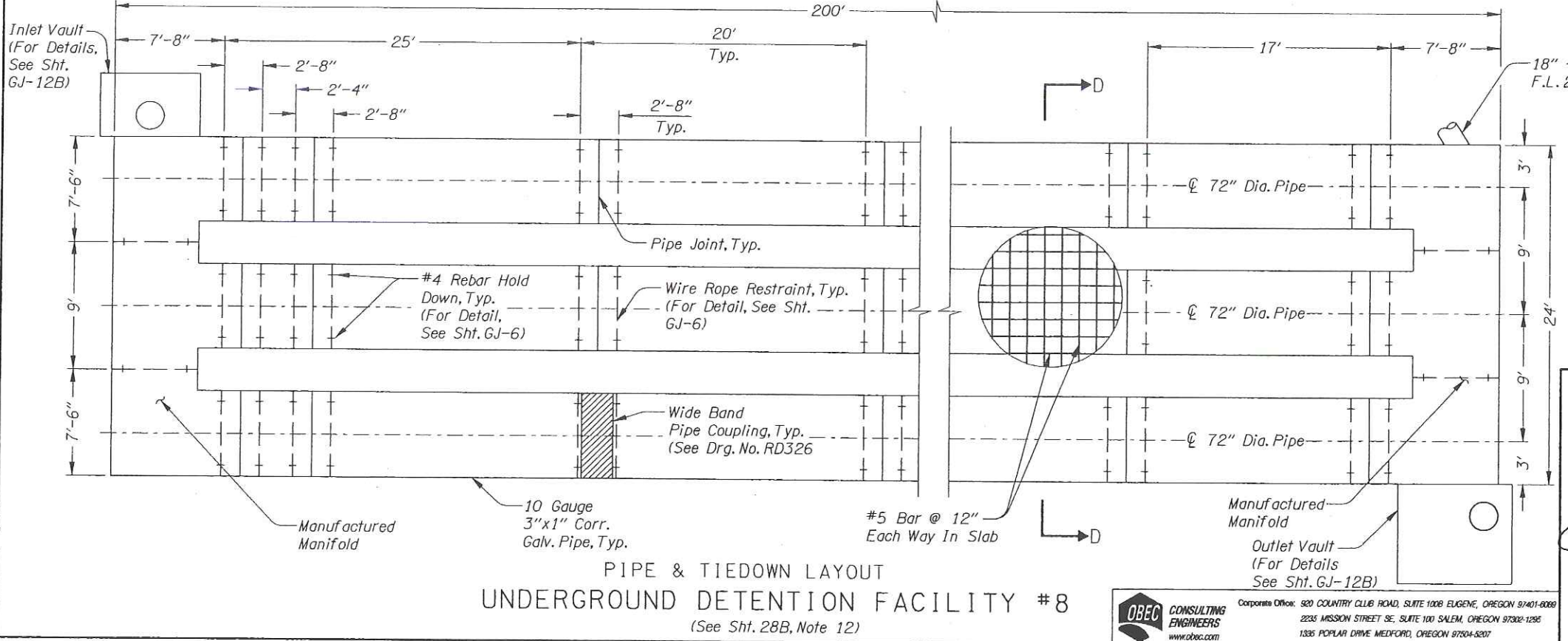
PROFILES

SHEET NO. 28C



"AS CONSTRUCTED"

Mark New
Date 6/26/09 Project Mngr



REVISIONS	
△	Revised 03-23-2006 Added Pay Limits

REGISTERED PROFESSIONAL ENGINEER
12295
Jerome D. Lane
OREGON
JULY 5, 1983
JEROME D. LANE
EXPIRES: 12/31/06

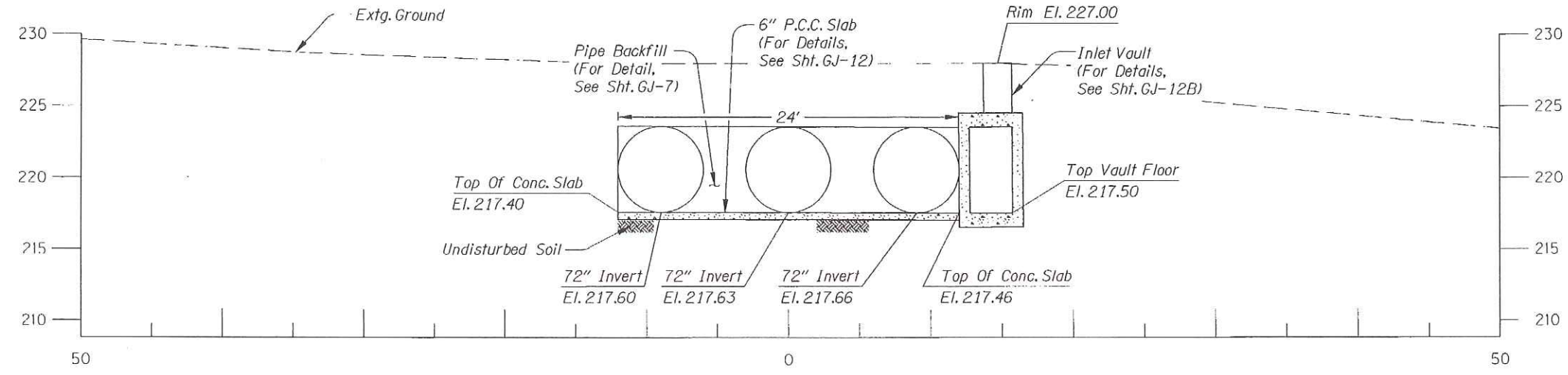
**OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION**

**I-205: WILLAMETTE RIVER BR. -
PACIFIC HWY. (UNIT 3) SEC.
EAST PORTLAND FREEWAY
CLACKAMAS & WASHINGTON COUNTIES**

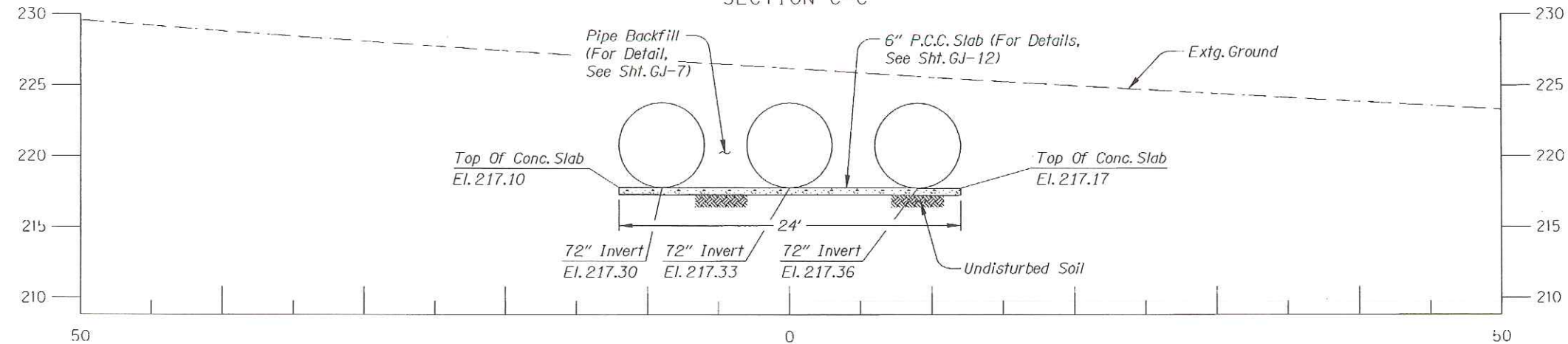
Design Team Leader - Jerry Lane
Designed By - Michael Gamble
Drafted By - Mathew Bunde

**UNDERGROUND DETENTION
FACILITY #8**

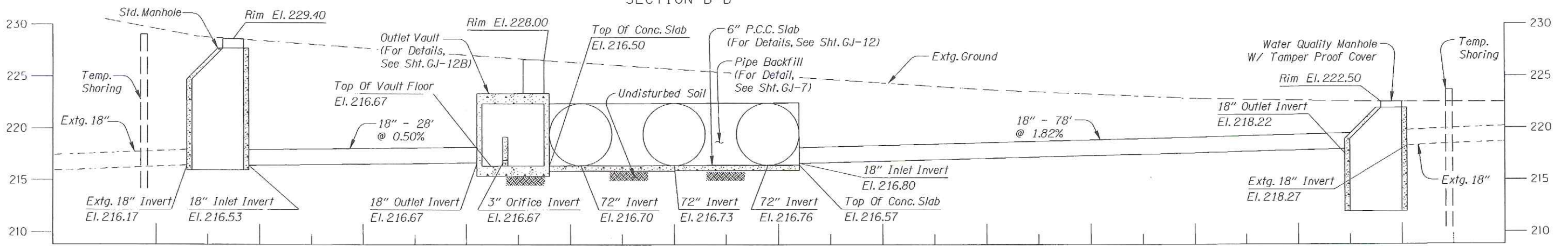
SHEET NO. GJ-12



SECTION C-C



SECTION B-B



SECTION A-A

"AS CONSTRUCTED"
Mathew Bunde
 Date 6/26/09 Project Mngr

REGISTERED PROFESSIONAL
 ENGINEER
 12295
Jerome D. Lane
 OREGON
 JULY 5, 1983
 JEROME D. LANE
 EXPIRES: 12/31/06

OREGON DEPARTMENT OF TRANSPORTATION
 ROADWAY ENGINEERING SECTION
 I-205: WILLAMETTE RIVER BR. -
 PACIFIC HWY. (UNIT 3) SEC.
 EAST PORTLAND FREEWAY
 CLACKAMAS & WASHINGTON COUNTIES
 Design Team Leader - Jerry Lane
 Designed By - Michael Gamble
 Drafted By - Mathew Bunde
UNDERGROUND DETENTION
FACILITY #8
CROSS SECTIONS
 SHEET NO. GJ-12A

OSEC CONSULTING ENGINEERS
 Corporate Office: 920 COUNTRY CLUB ROAD, SUITE 100B EUGENE, OREGON 97401-6089
 2235 MISSION STREET SE, SUITE 100 SALEM, OREGON 97302-1295
 1335 POPLAR DRIVE MEDFORD, OREGON 97504-5207

GENERAL NOTES:

All Material And Workmanship Shall Conform To The 2002 Oregon Standard Specifications For Construction.

Entry & Outlet Vaults Designed For HL-93 Live Load.

Concrete Members Designed By Load Factor Design Method.

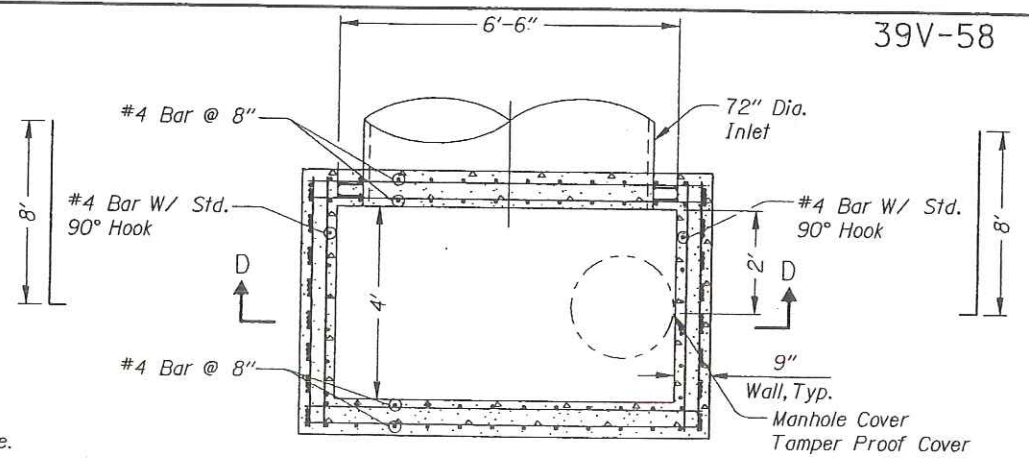
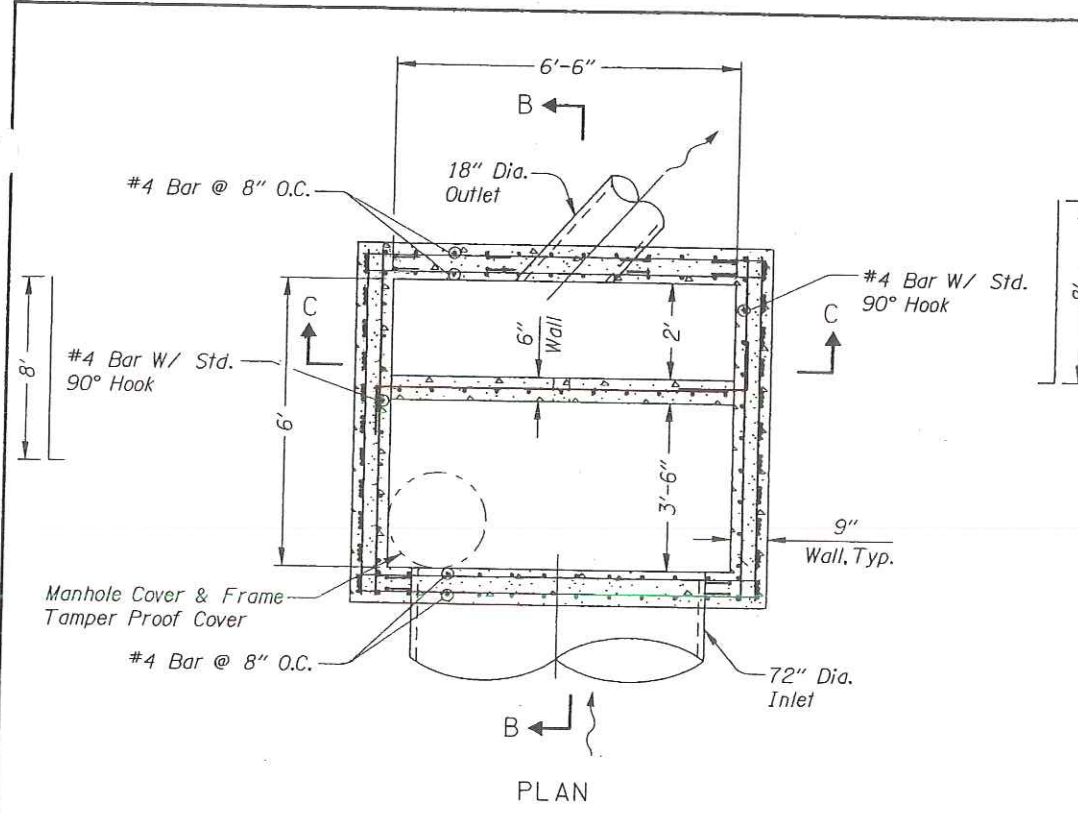
All Reinforcement Steel Shall Conform To Astm Specification A615, Grade 60 Or A706.

The Following Splice Lengths Shall Be Used,

Bar Size	3	4	5	6	7	8	9	10	11	
Splice Length	Uncoated	1'-0"	1'-4"	1'-8"	2'-0"	2'-8"	3'-6"	4'-4"	5'-7"	6'-9"
	Epoxy Coated	1'-5"	1'-10"	2'-4"	2'-10"	3'-9"	4'-11"	6'-1"	7'-10"	9'-6"

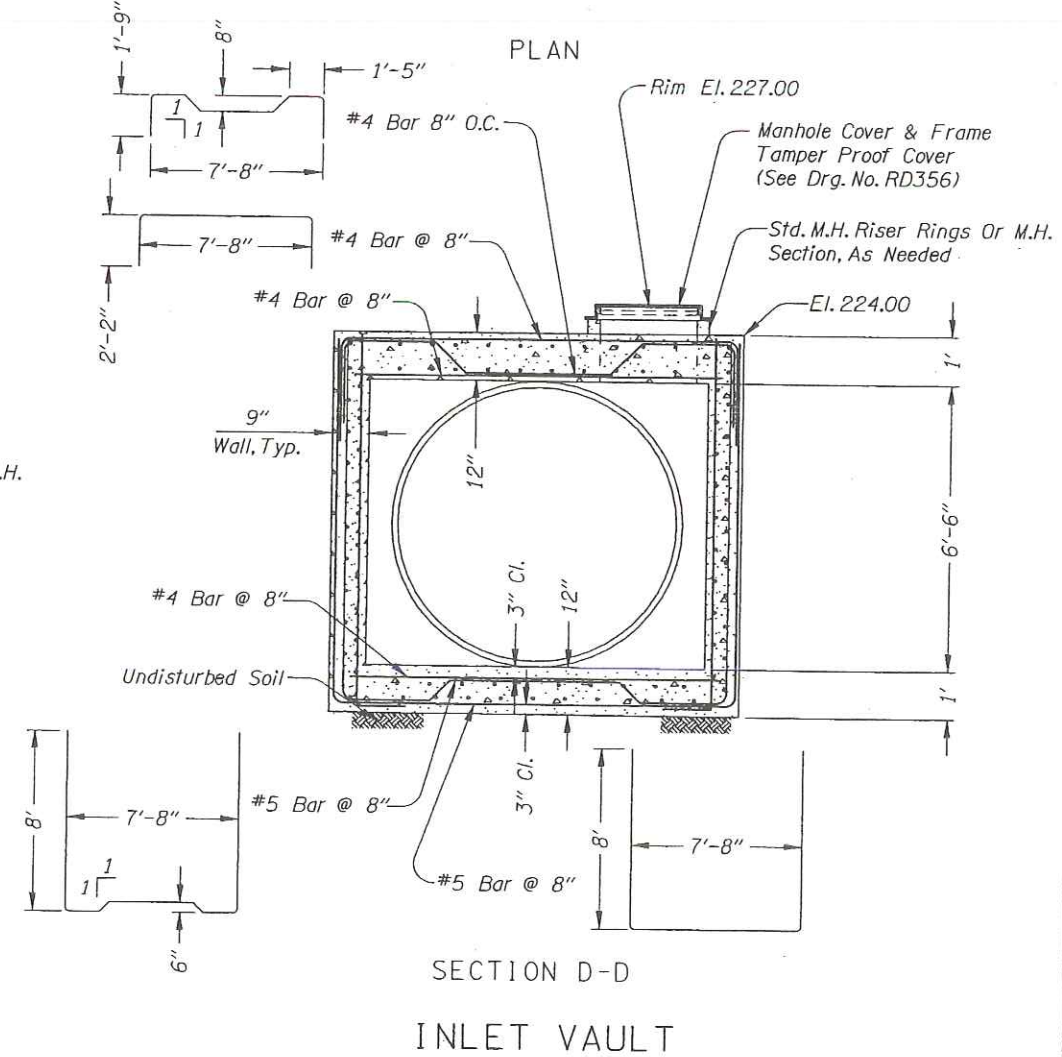
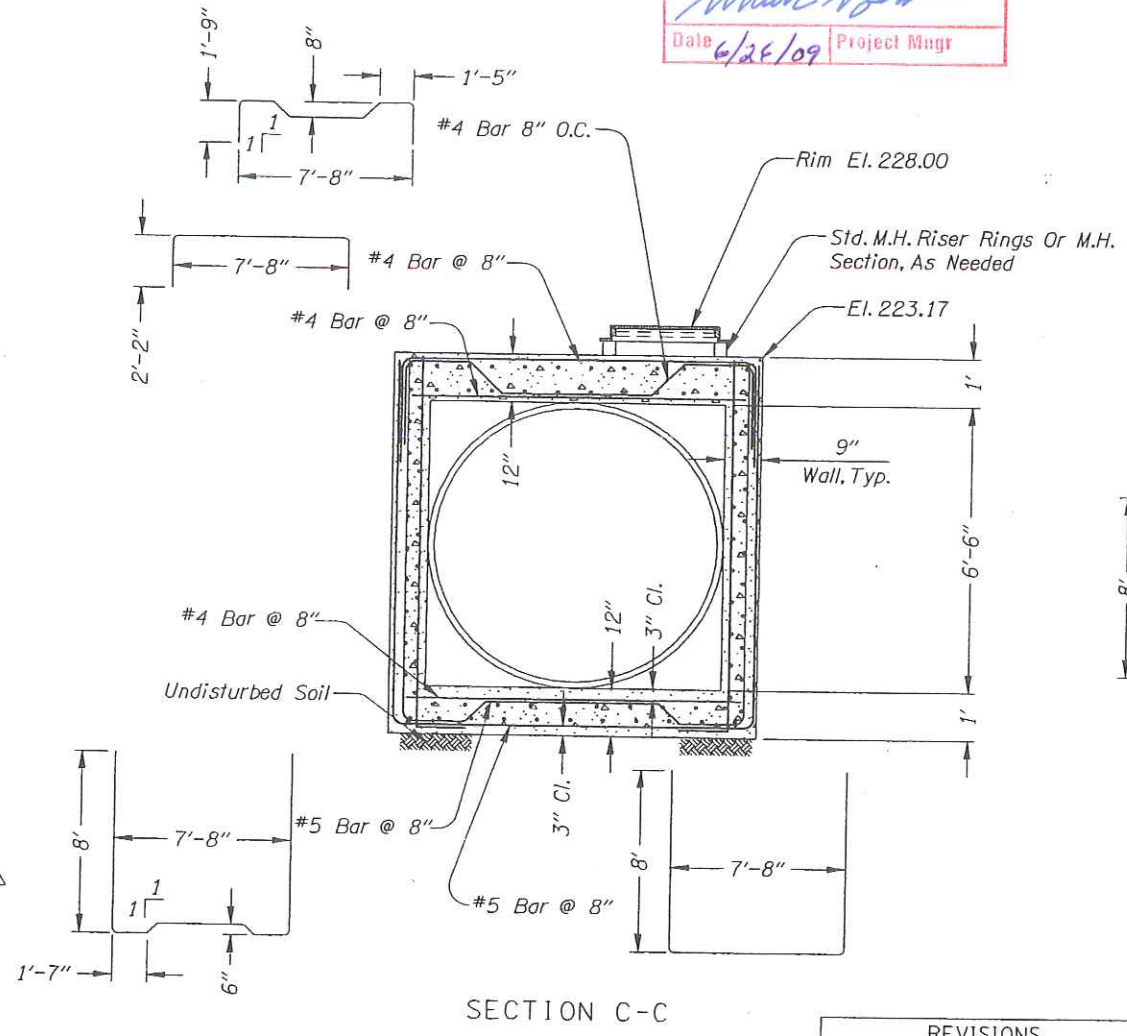
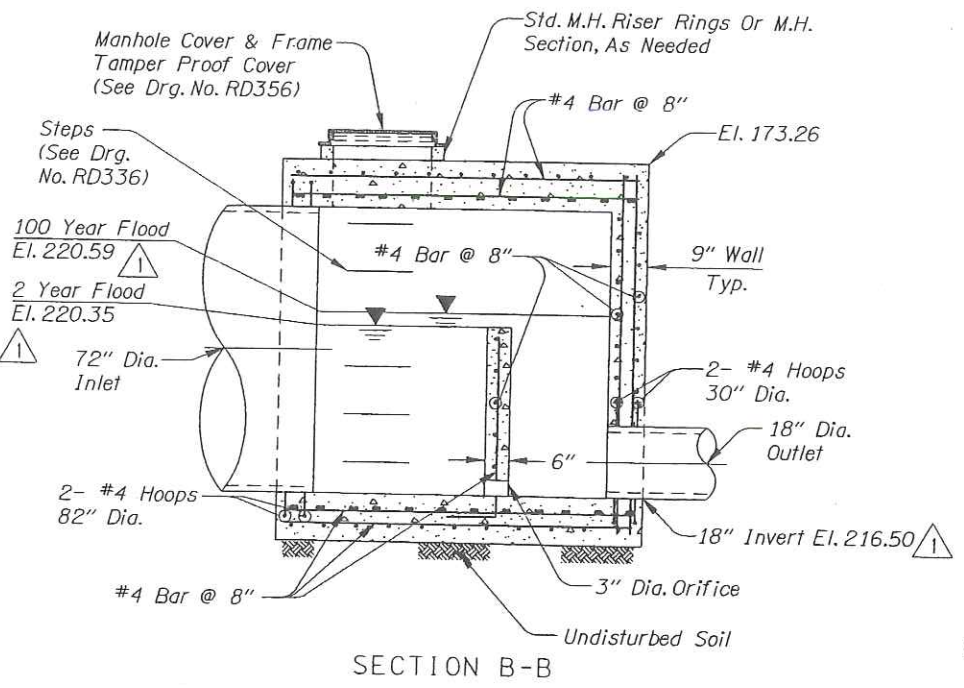
All Bars Shall Be Placed 2" Clear Of The Nearest Face Of Concrete Unless Shown Otherwise.

Concrete In Box Culverts Shall Be Class 3600-1 1/2" Or 3/4"



"AS CONSTRUCTED"

Michael Gamble
Date 6/26/09 Project Mgr

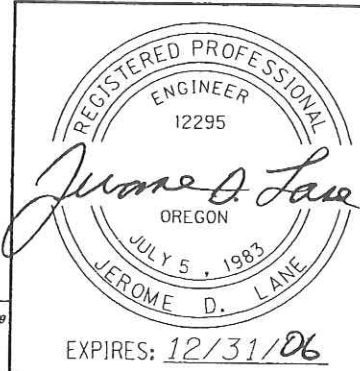


OUTLET VAULT

SECTION C-C

SECTION D-D
INLET VAULT

REVISIONS	
1	Revised 03-23-2006 Revised Elevations



OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

1-205; WILLAMETTE RIVER BR. -
PACIFIC HWY. (UNIT 3) SEC.
EAST PORTLAND FREEWAY
CLACKAMAS & WASHINGTON COUNTIES

Design Team Leader - Jerry Lane
Designed By - Michael Gamble
Drafted By - Mathew Bunde

UNDERGROUND DETENTION
FACILITY #8
DETAILS

SHEET NO. GJ-12B