OPERATION & MAINTENANCE MANUAL

DFI No. D00076
Facility Type: Dispersion Trench Facility

June 2011

INDEX

1. Identification

Drainage Facility ID (DFI):	**D00076**
Facility Type:	Dispersion Trench Facility
Construction Drawings:	(V-File Number) 37V-006
Location:	District: 2B (Old 2A)
	Highway No.: 001
	Mile Post: 289.45 (beg./end)
	Description: This facility is located at the southeast corner of the interchange of Nyberg Road & Interstate 5 (Hwy 001) at the northbound 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 – CH2M Hill, Inc., William Soliwoda, P.E., (503) 224-6040
Facility construction	2005
Contractor:	Wildish Paving

4. Storm Drain System and Facility Overview

A dispersion trench is a subsurface gravel-lined trench or drain field that is built to infiltrate stormwater into the ground. They have a large, perforated

pipe in a bed of sorted gravel. These facilities are designed to infiltrate treated stormwater into the underlying soils.

This dispersion trench facility is located within the southeast cloverleaf of the Nyberg Road and Interstate 5 interchange. The drainage area for this facility includes approximately 400 lineal feet (to the drainage break on the Nyberg Road Bridge) of Nyberg Road. The drainage is collected by a series of inlets that discharge into a 12-inch storm pipe and is then treated through a water quality biofiltration swale (D00077). The treated water from this swale is directed toward a junction inlet. The flow from this inlet is split equally and distributed to two dispersion trenches each approximately 50 feet long and spaced about 50 feet from one another. The dispersion trenches consist of a 6-inch perforated pipe within a rock trench. The pipe is accessible through either the junction inlet structures or through the inspection ports located at each end. The inspection ports are 6-inch diameter cleanouts (See Photo 2 and Photo 3). Stormwater is ultimately discharged through these dispersion trenches.

Photo 1: Junction Inlet (Point B) in the foreground. Swale outlet ditch inlet of D00077 in the background.

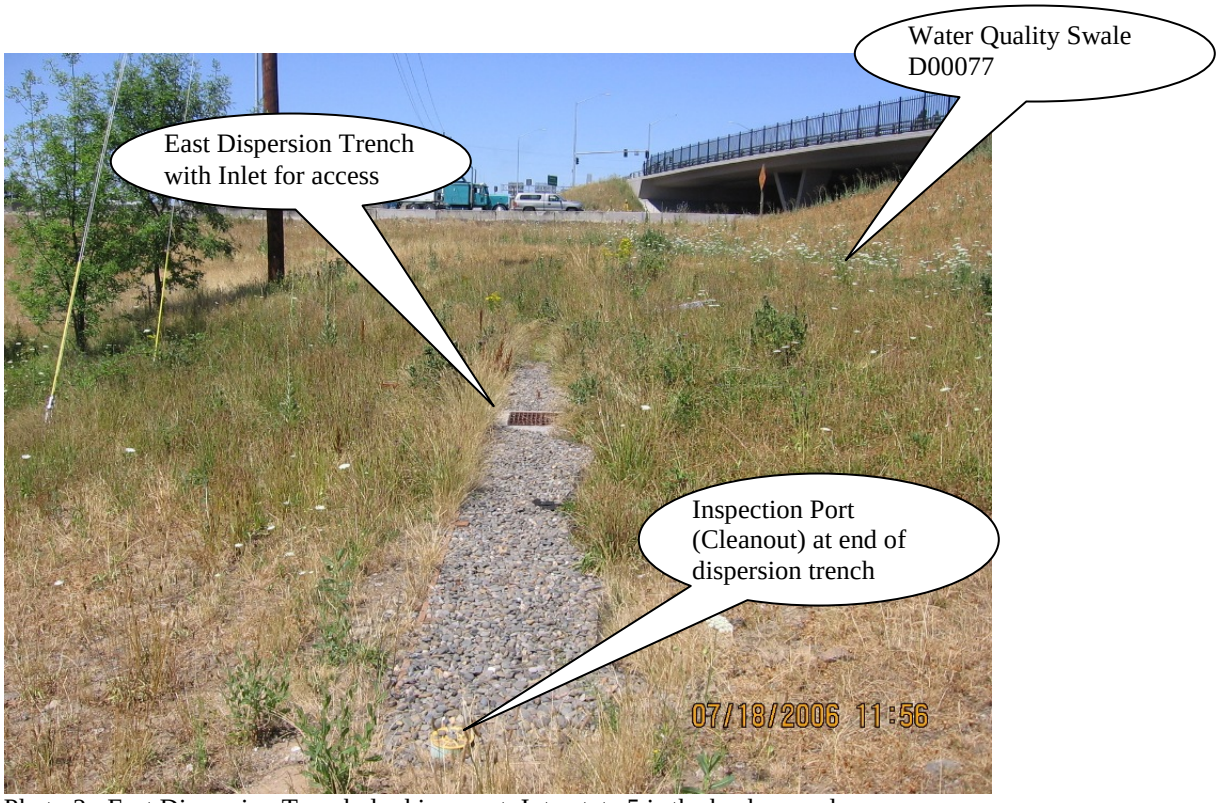


Photo 2: East Dispersion Trench, looking west. Interstate 5 is the background.

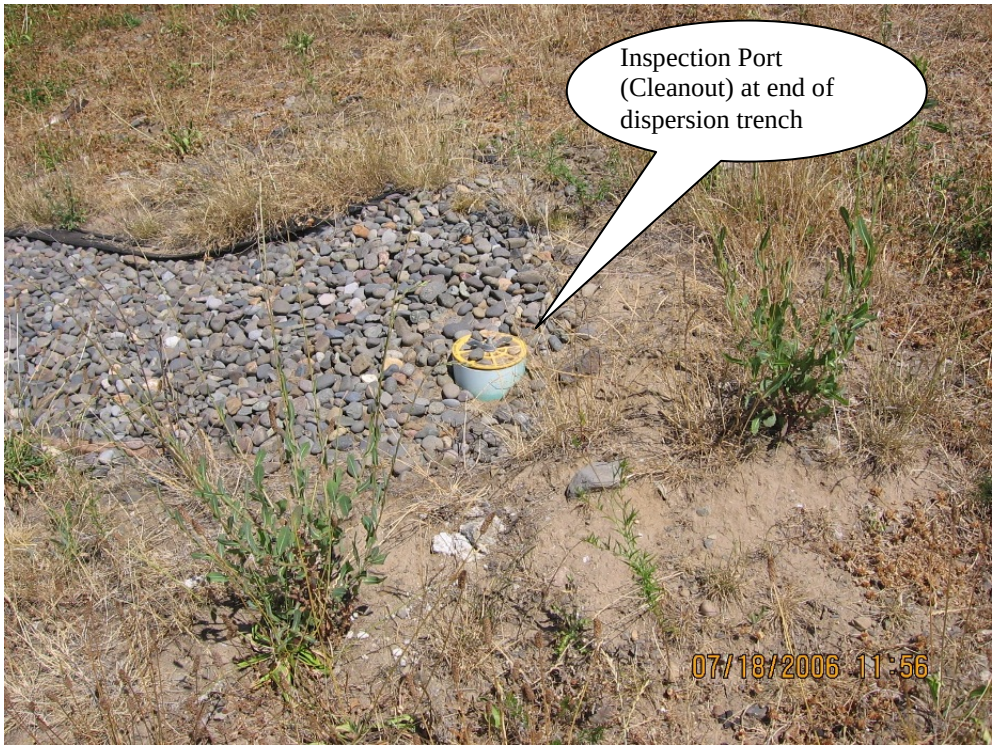


Photo 3: Typical inspection port (cleanout) for dispersion trench.

A. Maintenance equipment access:
The facility is located within the southeastern cloverleaf of the I-5 (Hwy 001) and SW Nyberg Street Interchange. The facility can be accessed for inspection and maintenance along the northbound onramp to I-5 (Hwy 001). A continuous concrete barrier or guard rail surrounds this area. The area does not permit vehicular access or heavy equipment access due to the continuous concrete barrier.

B. Heavy equipment access into facility:

☐ Allowed (no limitations)
☒ Allowed (with limitations)--See Maintenance Equipment Access.
☐ Not allowed – Maintenance Equipment Access into this Facility is a Problem.

C. Special Features:

☐ Amended Soils
☐ Porous Pavers
☐ Liners
☒Underdrains – Stormwater disposal is directed into two dispersion trenches which allow the water to infiltrate into the ground. The perforated pipe, located within each trench, may be accessed through either the cleanout structures or junction inlets.

5. Facility Haz Mat Spill Feature(s)

The adjacent water quality biofiltration swale (D00077) is considered an online system (no flow is bypassed) and can be used to store a volume of liquid by blocking the grate and/or the 12-inch diameter outlet pipe located at the outlet of the water quality Biofiltration swale. This pipe is noted as Point C in the Operation Plan`.

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, as noted below
In the event the dispersion trench can not accommodate the flows, the flow will overtop the junction inlets and drain down the grassy slope toward the wetlands.

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 or 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.

These facilities need to be monitored to prevent potential sediment buildup which would cause plugging or failure. Additionally, these facilities require a treatment system prior to discharge as to prevent pollutants from potentially migrating into the groundwater. See Table Below:

Maintenance Component	Defect or Problem	Conditions When Maintenance Is Needed	Recommended Maintenance to Correct Problem
Inspection Port (Junction Inlet or cleanout)	Cover/lid not in place	Cover/lid is missing or partially in place	Place or replace cover/lid.
Infiltration Trench	Flooding or poor draining	Water is not draining facility, inspection ports are plugged with sediment or high water level	Determine infiltration rate of facility and reevaluate with design rate. Clean the perforated drainpipe.
	Plugged	Water not percolating from trench	Replace or redesign system
	Sediment accumulation in gravel trench	Gravel trench plugged with sediments	Replace gravel section plugged with sediment. Install erosion control BMP to prevent additional sediment accumulation.

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

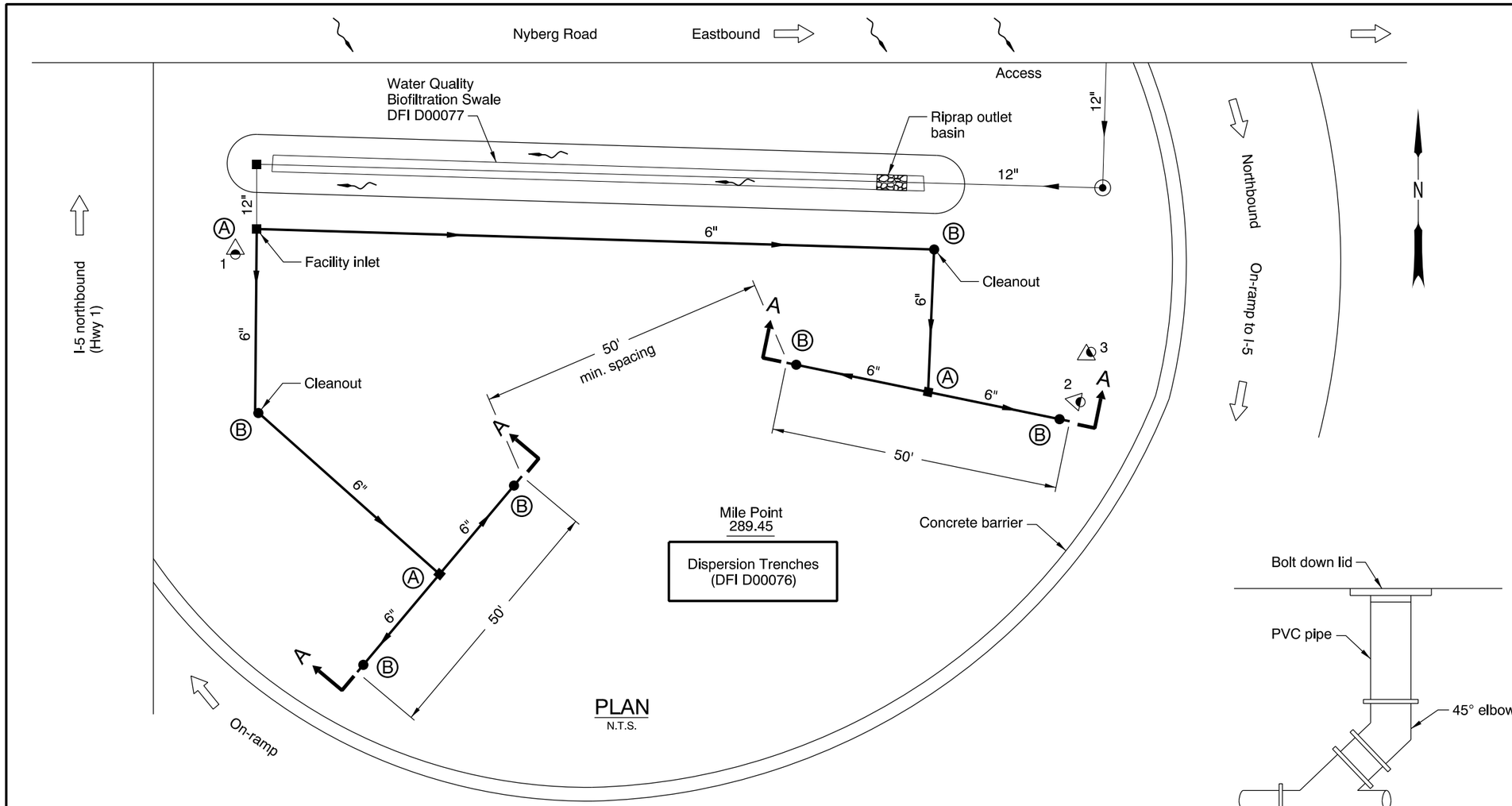
Contact any of the following for more detailed information about management of waste materials found on site:

ODOT Clean Water Unit	(503) 986-3008
ODOT Statewide Hazmat Coordinator	(503) 229-5129
ODOT Region Hazmat Coordinator	(503) 986-2647
ODEQ Northwest Region Office	(503) 229-5263

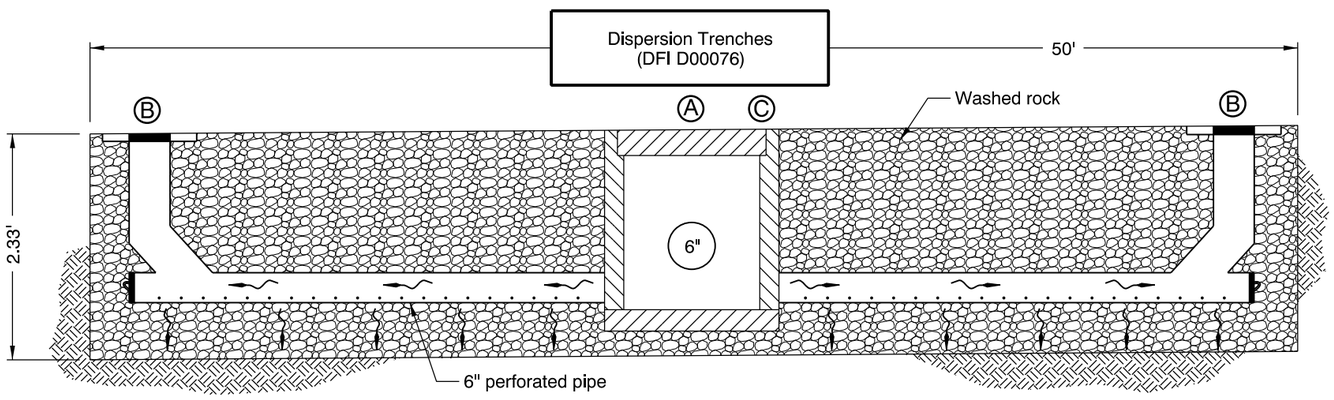
Appendix A

Content:

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



PLAN
N.T.S.



SECTION A-A
N.T.S.

CLEANOUT DETAIL AT POINT Ⓑ
N.T.S.

LEGEND:

- Photograph location / direction
- Ⓐ Type-B Junction Inlets
- Ⓑ Cleanout Wye
- Ⓒ High flows overtop out of Points Ⓐ, see Dispersion Trench Detail
- Manhole
- Inlet
- Cleanout
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement / Facility Flow Path
- Washed rock

Sht. 1 of 2

OREGON DEPARTMENT OF TRANSPORTATION

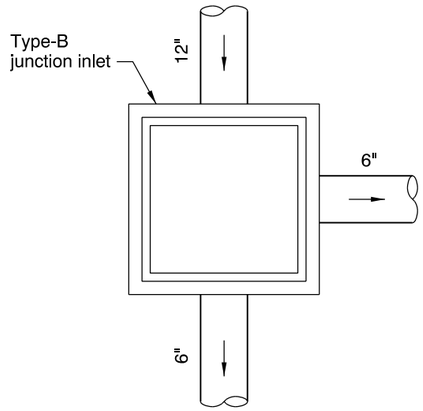
Prepared By: Bob Knorr

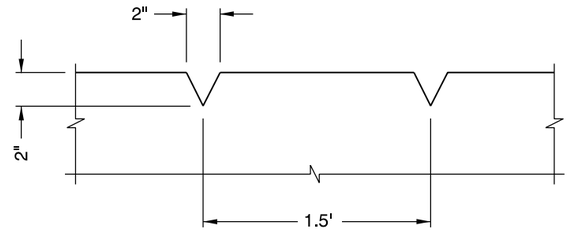
Drafted By: Y. Garzenelli

DFI D00076
MAINTENANCE DISTRICT 2B HWY 1
DISPERSION TRENCHES
PACIFIC HWY MP 289.45
WASHINGTON COUNTY

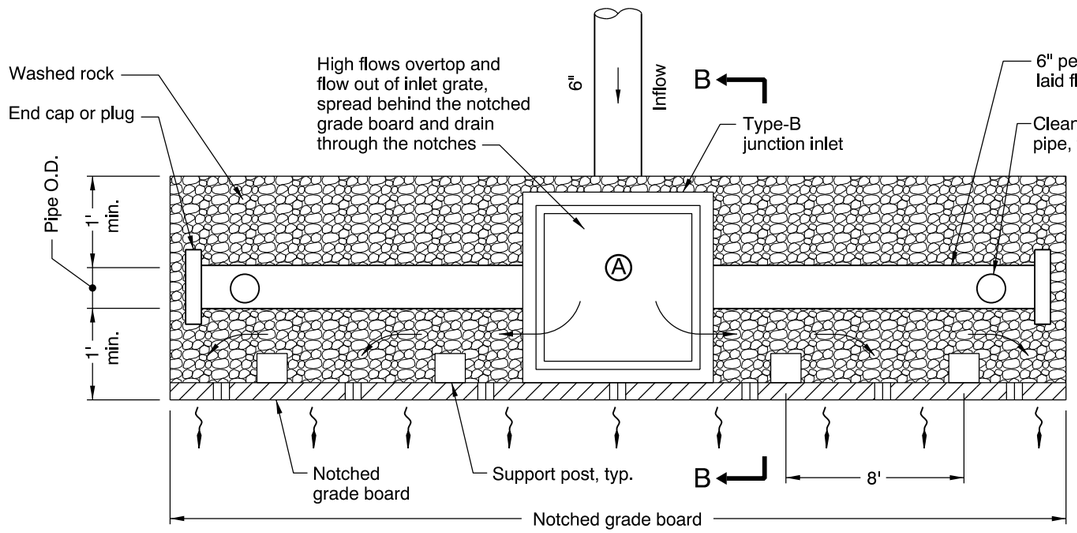
Z:\Hydraulics\Hydraulics OM\Completed_Facility_Files\Dist_2B\Hwy_001\2B_001_D00076\Operational Plan\DFI_D00076.dgn :: Sheet 1/14/2014 11:45:00 AM hwyr33e

DFI_D00076.dgn

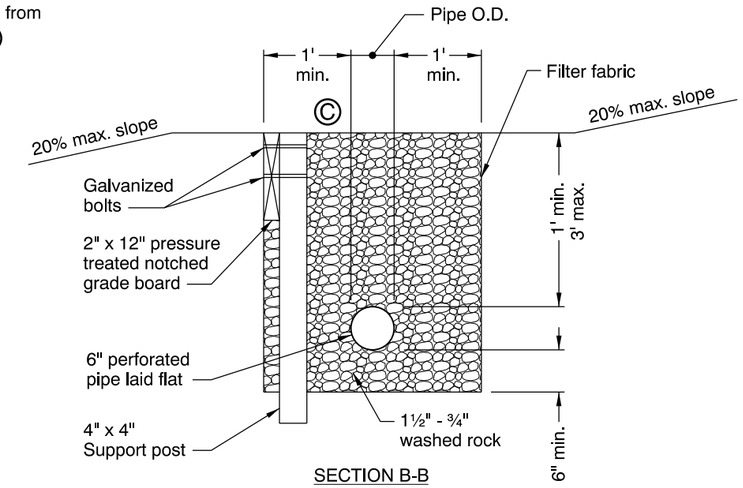




NOTCHED GRADE BOARD DETAIL



PLAN



SECTION B-B

LEGEND:

- Photograph location / direction
- Ⓐ Type-B Junction Inlets
- Ⓑ Cleanout Wye
- Ⓒ High flows overtop out of Points Ⓐ, see Dispersion Trench Detail
- Manhole and/or
- Inlet and/or
- Cleanout
- Storm Pipe (Facility)
- Storm Pipe
- Conveyance Direction
- Pavement / Facility Flow Path
- Washed rock

DISPERSION TRENCH DETAILS AT POINTS Ⓐ & Ⓑ

N.T.S.

Sht. 2 of 2

OREGON DEPARTMENT OF TRANSPORTATION

Prepared By: Bob Knorr

Drafted By: Y. Garzenelli

DFI D00076
MAINTENANCE DISTRICT 2B HWY 1
DISPERSION TRENCHES
PACIFIC HWY MP 289.45
WASHINGTON 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	Index Of Sheets Cont'd. & Std. Drg. Nos.
1B	Std. Drg. Nos. Cont'd.

STATE OF OREGON

DEPARTMENT OF TRANSPORTATION

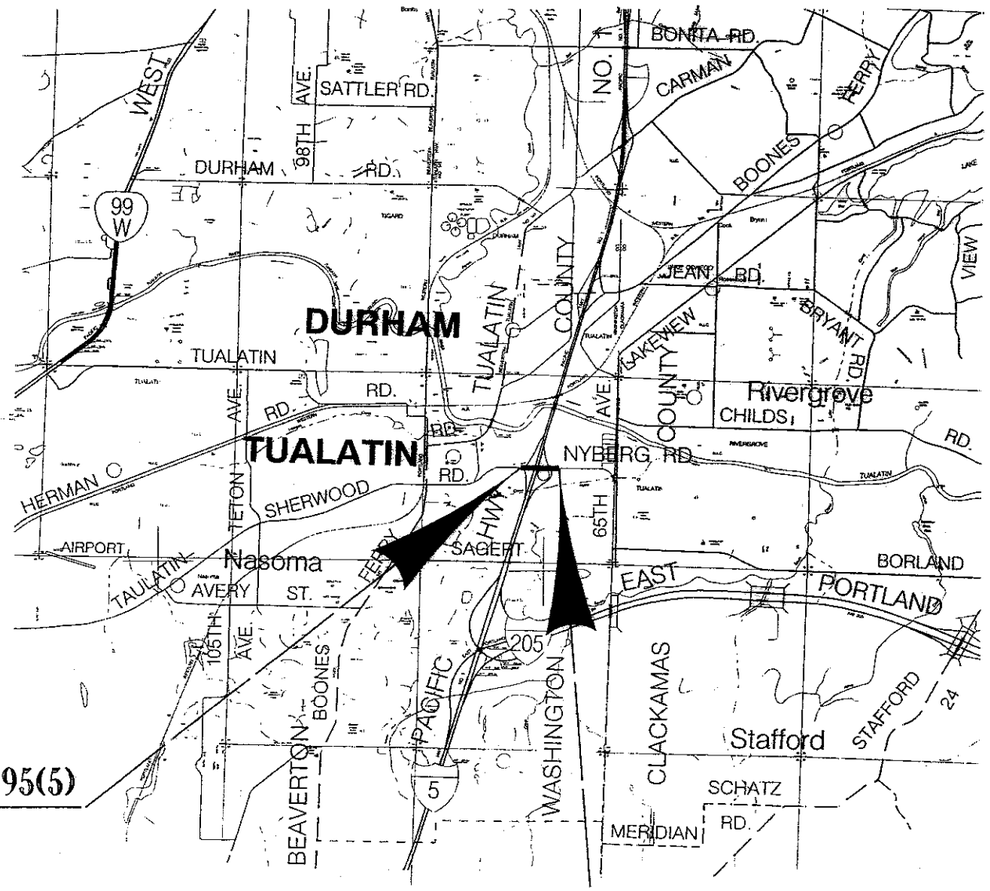
PLANS FOR PROPOSED PROJECT

GRADING, STRUCTURE, PAVING, STRIPING, SIGNING & SIGNALS

S.W. NYBERG ROAD AT I-5 SEC.

NYBERG ROAD

WASHINGTON COUNTY
DECEMBER 2003

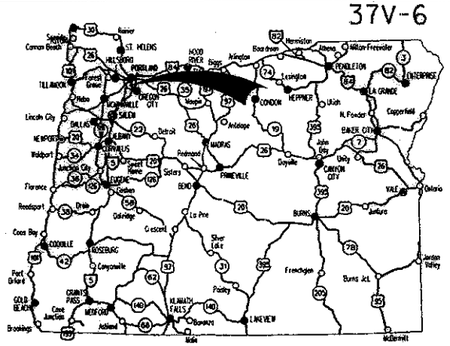


T. 1 S., R. 1 W., W.M.

BEGINNING OF PROJECT X-STP-7495(5)
STA. 2+790

END OF PROJECT X-STP-7495(5)
STA. 3+275

37V-6



Overall Length Of Project - 0.485 km (0.30 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

Stuart Foster	CHAIRMAN
Gail L. Achterman	COMMISSIONER
Mike Nelson	COMMISSIONER
Randall Pape	COMMISSIONER
John Russell	COMMISSIONER
Bruce A. Warner	DIRECTOR OF TRANSPORTATION

PLANS PREPARED FOR
CITY OF TUALATIN
BY:
CH2MHILL

REGISTERED PROFESSIONAL ENGINEER
64,429
OREGON
JAN. 23, 2001
STEVEN N. KATKO
Expires June 30, 2005

OREGON DEPARTMENT OF TRANSPORTATION
CONCURRENCE

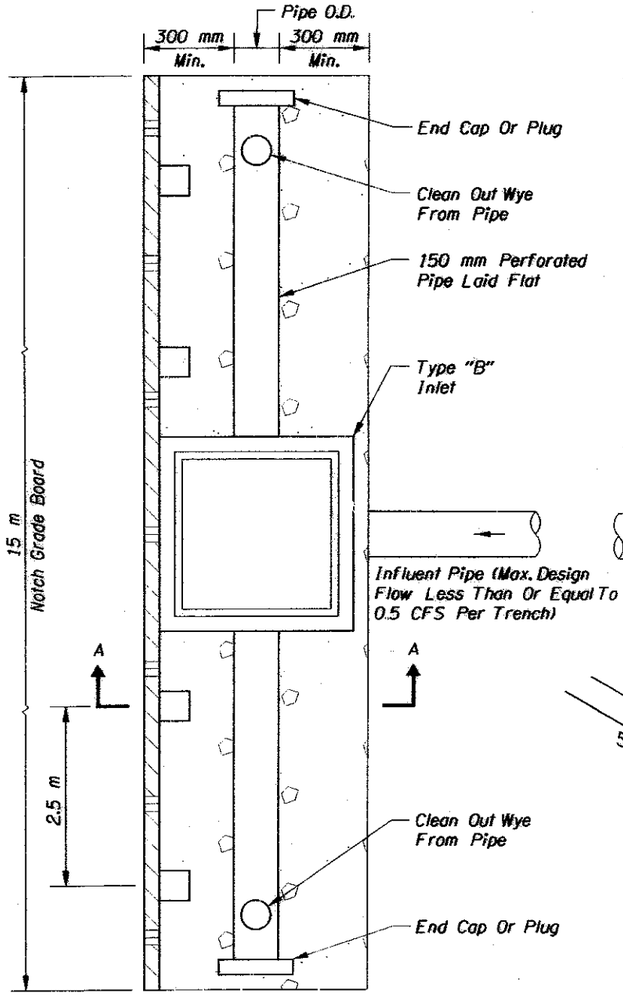
TECHNICAL SERVICES MANAGING ENGINEER — DATE 11/10/03

S.W. NYBERG ROAD AT I-5
NYBERG ROAD
WASHINGTON COUNTY

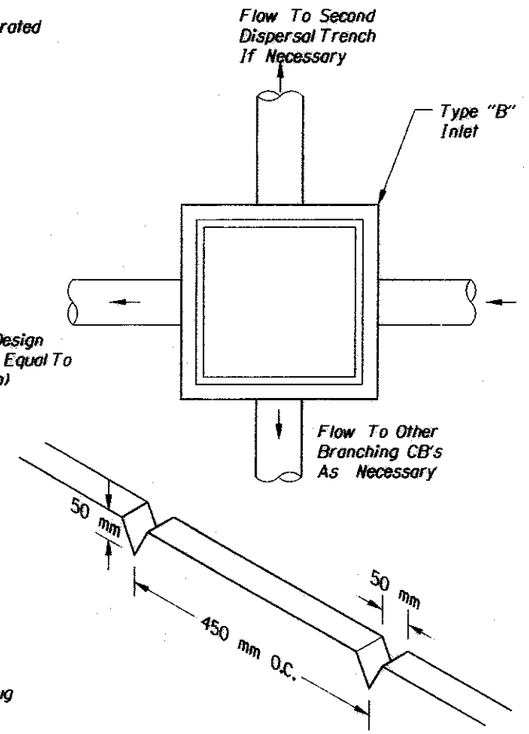
FEDERAL HIGHWAY ADMINISTRATION	PROJECT NUMBER	SHEET NO.
OREGON DIVISION	X-STP-7495(5)	1

METRIC

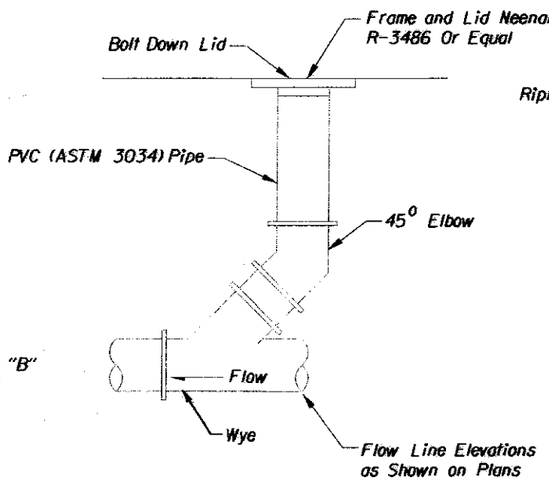
PE000497



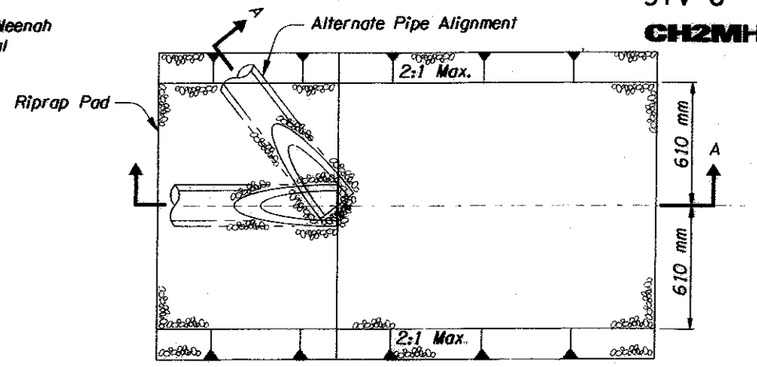
PLAN



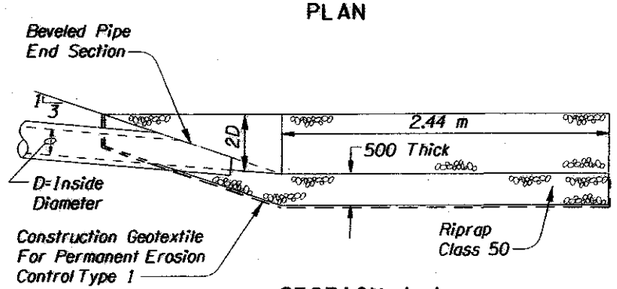
NOTCHED GRADE BOARD



CLEANOUT

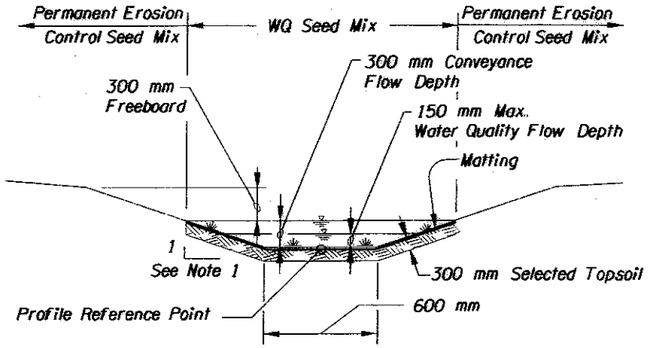


PLAN



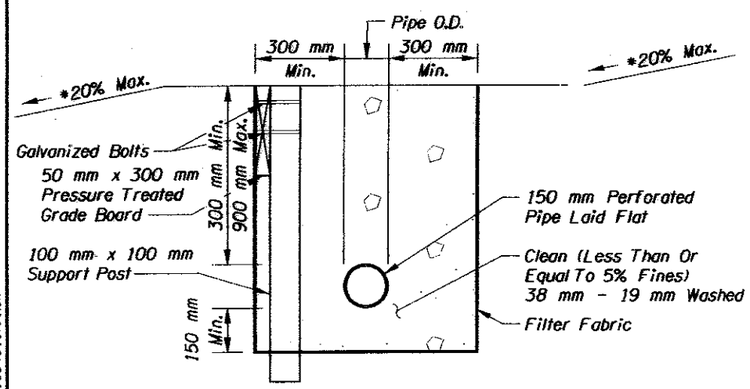
SECTION A-A

RIPRAP OUTLET BASIN



NOTE:
1. Sideslopes In The Water Quality Section Of The Swale Shall Be 4H:1V Maximum. Sideslopes Above The Water Quality Flow Depth Shall Match Roadway Embankment Slopes; 2H:1V Max.

TYPICAL BIOSWALE SECTION



SECTION A-A

NOTES:
1. This Trench Shall Be Constructed So As To Prevent Point Discharges And/Or Erosion.
2. Trenches May Be Placed No Closer Than 15 m To One Another. (30 m Along Flowline)
3. Trench And Grade Board Must Be Level. Align To Follow Contours Of Site.
4. Support Post Spacing As Required By Soil Conditions To Ensure Grade Board Remains Level.

* 15% Max. For Flow Control / Water Quality Treatment In Rural Areas.

STANDARD DISPERSION TRENCH
WITH NOTCHED GRADE BOARD

REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
July 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

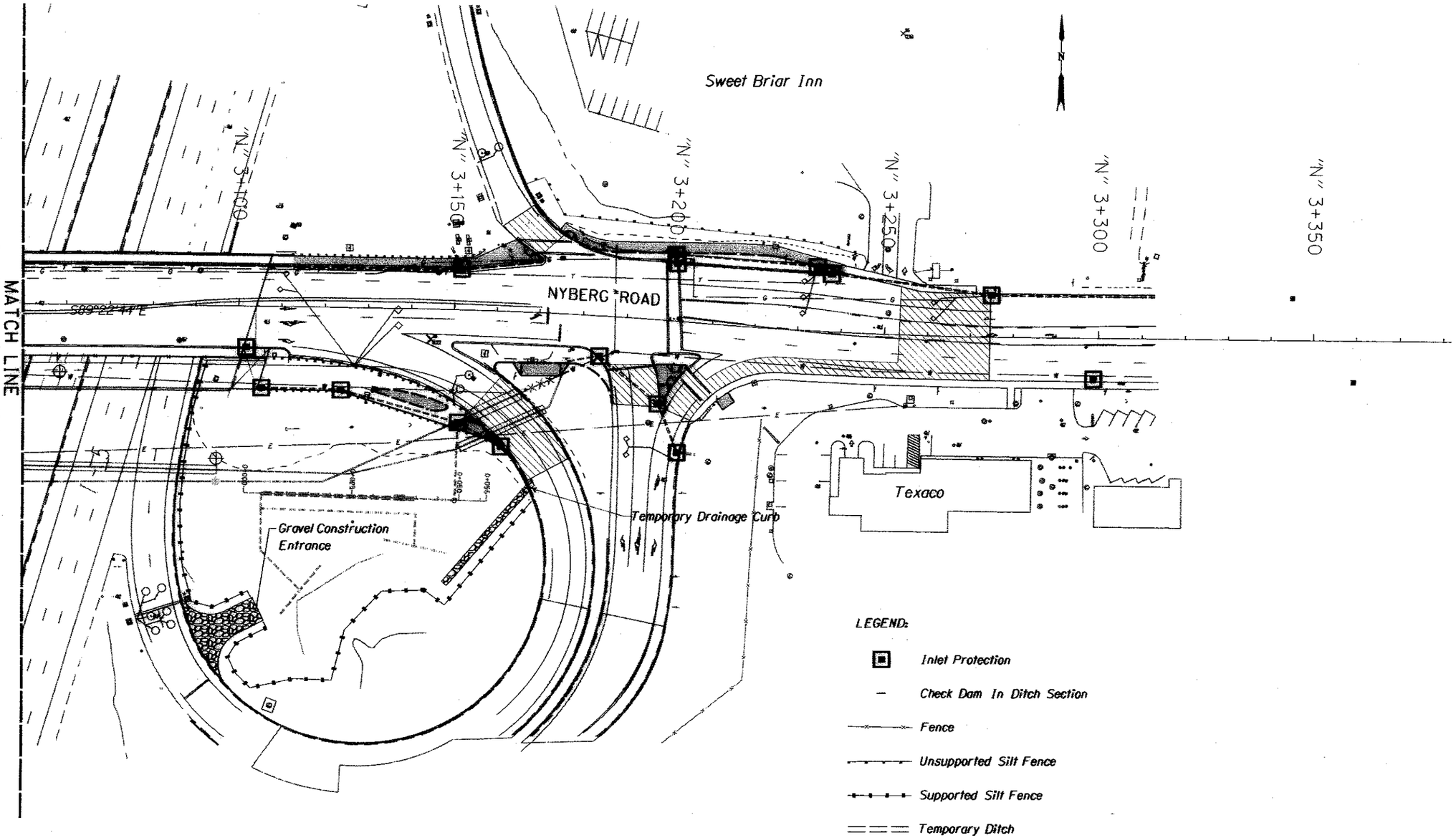
SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Dave Simmons
Designed by - Steve Katko
Drafted by - Gary Gray

DRAINAGE DETAILS

SHEET NO. 2B

CH2MHILL



LEGEND:

- Inlet Protection
- Check Dam In Ditch Section
- Fence
- Unsupported Silt Fence
- Supported Silt Fence
- Temporary Ditch
- Permitted In-Water Work Zone
- No Work Area
- Staging Area
- Riprap/Gravel

REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
JULY 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

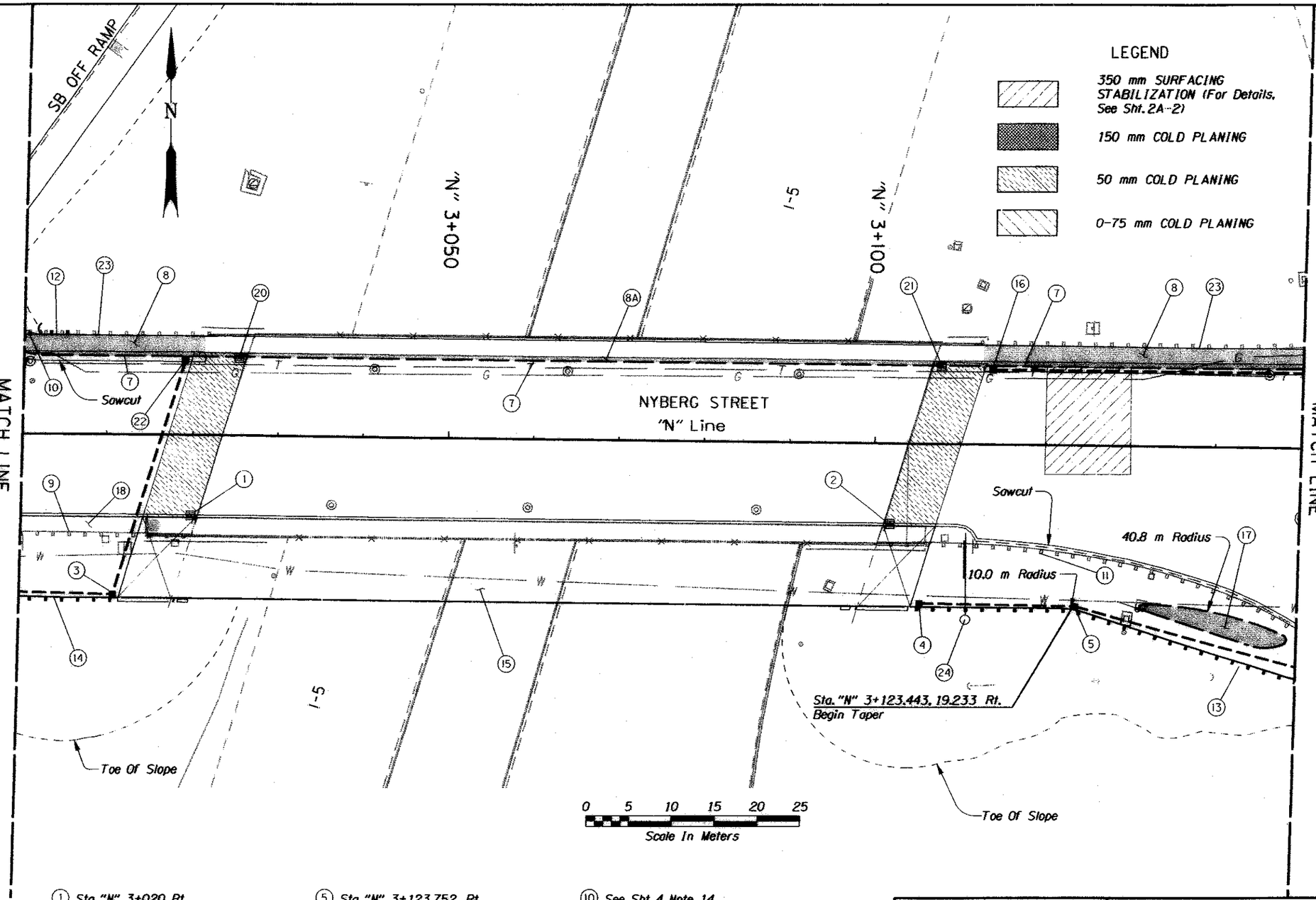
SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Tim Yamada
Designed by - Michael Soliwoda
Drafted by - Gary Gray

EROSION CONTROL PLAN
STA. "N" 3+050 TO 3+350
STA. "CN2" 0+340 TO 0+000

SHEET NO. 2D-3

CH2MHILL



(1) Sta. "N" 3+020, Rt.
Remove Inlet

(2) Sta. "N" 3+102, Rt.
Remove Inlet

(3) Sta. "N" 3+010.904, Rt.
Const. Type "G-2" Inlet
Inst. 300 mm Sew. Pipe - 28.9 m

(4) Sta. "N" 3+105.577, Rt.
Const. Type "G-2" Inlet

(5) Sta. "N" 3+123.752, Rt.
Const. Type "G-2" Inlet
Inst. 300 Sew. Pipe - 18.2 m

(7) Const. Standard Curb

(8) Const. P.C. Conc. Walk

(8A) Const. Sidewalk Widening
(For Details, See Drg. No. 63686)

(9) See Sht. 4, Note 13
Remove Extg. Guardrail

(10) See Sht. 4, Note 14
Remove Extg. Guardrail

(11) Sta. "N" 3+100.470 To
Sta. "N" 3+154.706, Rt.
Remove Extg. Guardrail - 76 m

(12) Sta. "N" 2+998.579 To
Sta. "N" 3+006.199
Remove Extg. Guardrail - 7.62 m
Reinstall Extg. End Piece
And Guardrail - 3.81 m

(13) Sta. "N" 3+104.516, 19.233 Rt. To
Sta. "N" 3+165.811, 34.963 Rt.
Const. Guardrail - 45.46 m (Type 2A)
Const. Guardrail - 7.62 m (Type 3)
Const. Guardrail To Bridge Transition
Sta. "N" 3+104.516 To
Sta. "N" 3+148.897
Const. Drainage Curb - 45.28 m
(See Drg. No. RD470)

(14) See Sht. 4, Note 16
Const. Guardrail
Const. Guardrail To Bridge Transition
Const. Drainage Curb
(See Drg. Nos. RD410, BR209)

(15) Br. No. 07582A
Sta. "N" 3+023.362 To Sta. "N" 3+104.094
Const. Bridge Widening
(For Details, See Shts. 63680 To 63697)

(16) Sta "N" 3+113.724
Const. Type "G-2" Inlet

(17) Const. Type "C" Conc. Island (Mountable)

(18) Remove Extg. Walk

(19) Note Not Used

(20) Sta. "N" 3+025, Lt.
Remove Inlet

(21) Sta. "N" 3+108, Lt.
Remove Inlet

(22) Sta. "N" 3+019.075, Lt.
Const. Type "G-2" Inlet

(23) Protect And Maintain Guardrail

(24) Const. Cantilever Sign Support
(See Drg. Nos. BR943 Thru BR948 Incl.
And Drg. No. 63861)

REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
July 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

REGISTERED PROFESSIONAL ENGINEER
64429PE
OREGON
JAN. 23, 2001
STEVEN N. KATKO
EXPIRES: 6/30/2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Dave Simmons
Designed by - Steve Katko
Drafted by - Gary Gray

ROADWAY PLAN
STA. "N" 3+000 TO 3+150

SHEET NO. 5

37V-6

METRIC

CH2MHILL

50 49 48 47 46 45 44 43 42 41

P.V.I. 3+046.506
Elev. 50.396
256.032 m V.C.

"N" 3+113.724, Inlet Lt.
F.L. 45.136 E

Profile Grade At ℄

300 mm - 18.2 m
2.64%

300 mm - 38.0 m
2.16%

300 mm - 28.3 m
6.90%

"N" 3+105.577, Inlet Rt.
F.L. 44.930 E

"N" 3+133.918, Inlet Rt.
F.L. 43.450 E
F.L. 43.450 SW

"N" 3+010.904, Inlet Rt.
F.L. = 44.750 S
F.L. = 44.750 W

300 mm - 28.9 m
1.11%

"N" 3+019.075, Inlet Lt.
F.L. = 45.071 S

Ground Line At ℄

Emb. 700 m³

Emb. 1706 m³

3+000 3+050 3+100 3+150

0 5 10 15 20 25
Horizontal Scale In Meters

0.0 0.5 1.0 1.5 2.0 2.5
Vertical Scale In Meters

REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
July 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

REGISTERED PROFESSIONAL ENGINEER
64429PE
OREGON
JAN. 23, 2001
STEVEN N. KATKO
EXPIRES: 6/30/2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

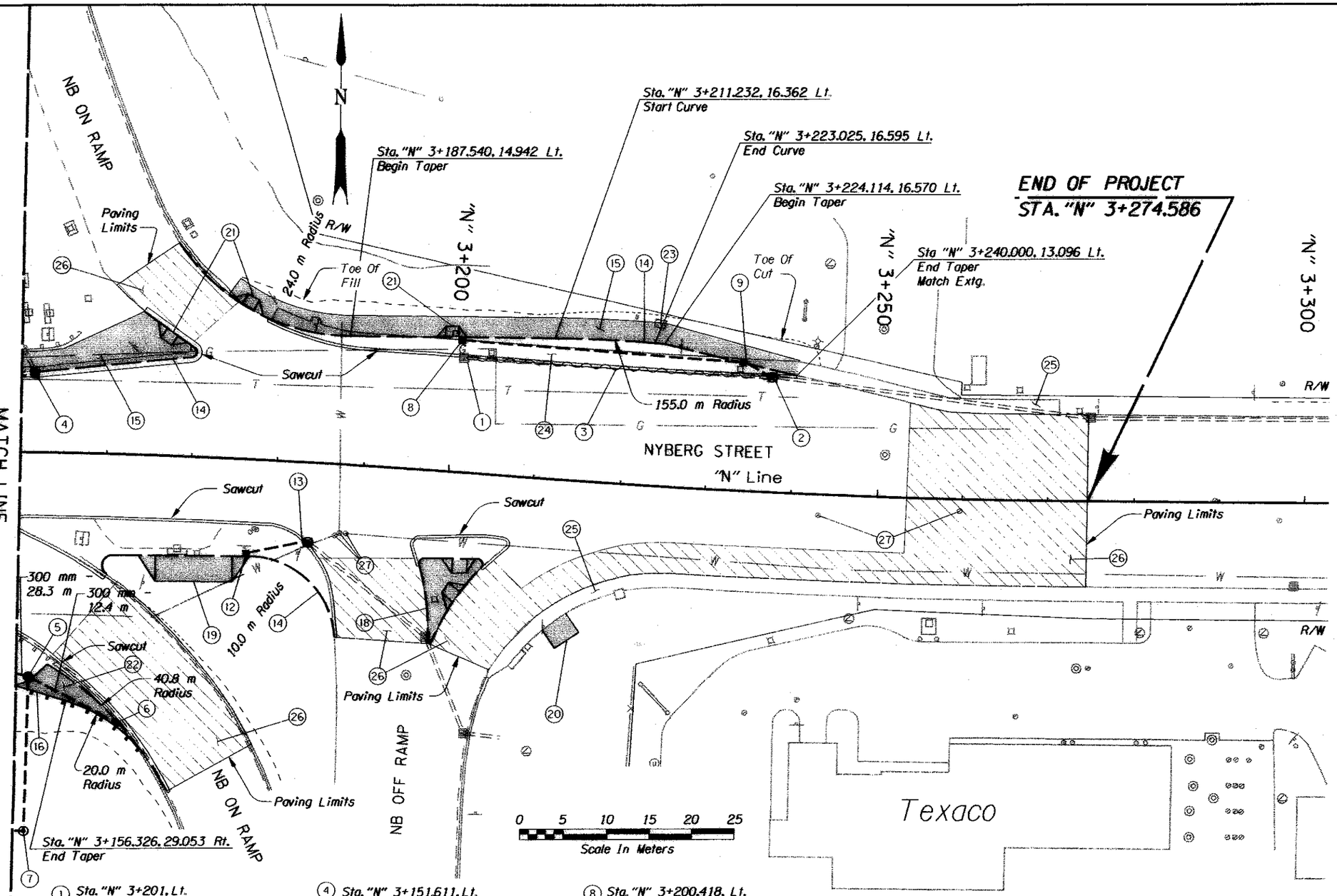
SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Dave Simmons
Designed by - Steve Katko
Drafted by - Gary Gray

ROADWAY PROFILE
STA. "N" 3+000 TO 3+150

SHEET NO. 5A

13-JUN-2003 08:57:32
N:\DM\16843\1.1\pr05.dw
VIEW



MATCH LINE
Sta. "N" 3+150 See Sht. 5

(1) Sta. "N" 3+201, Lt.
Remove Inlet

(2) Sta. "N" 3+237.150, 13.37 Lt.
Remove Inlet
Const. Conc. Manhole
Rim El 41.092
Inst. 300mm Sew. Pipe - 3.5 m
Connect to Extg. Sew. Pipe

(3) Abandon Pipe - 35.9 m

(4) Sta. "N" 3+151.611, Lt.
Remove Inlet
Const. Type "G-2" Inlet, Lt.
Inst. 300 mm Sew. Pipe - 1.0 m
Conn. to Extg. Sew. Pipe

(5) Sta. "N" 3+153.758, 27.381 Rt.
Const. Conc. Manhole (Sumped)
Inst. 300 mm Sew. Pipe - 40.7 m
(See Drg. Nos. RD336, RD344, RD356)

(6) Sta. "N" 3+166.815, Rt.
Const. Type "G-2" Inlet

(7) See Note 1, Sht. 6B

(8) Sta. "N" 3+200.418, Lt.
Const. Type "G-2" Inlet

(9) Sta. "N" 3+233.718, Lt.
Const. Type "G-2" Inlet
Inst. 300 mm Sew. Pipe - 32.9 m

(10) Note Not Used

(11) Note Not Used

(12) Sta. "N" 3+176.906, Rt.
Const. Type "G-2" Inlet

(13) Sta. "N" 3+183.400, 9.332 Rt.
Const. Conc. Manhole
Rim El 43.349
Inst. 300 mm Sew. Pipe - 6.1 m
Conn. to Extg. Sew. Pipe

(14) Const. Standard Curb

(15) Const. P.C. Conc. Walk

(16) See Sht. 5, Note 13
Const. Guardrail
Const. Guardrail To Conc. Barrier Transition
Const. Drainage Curb
(See Drg. No. RD530)

(17) Note Not Used

(18) Const. Type "C" Conc. Island (Mountable)
(See Drg. Nos. RD710)

(19) Sta. "N" 3+170.744, 11.549 Rt.
Const. Conc. Maint. Pad

(20) Sta. "N" 3+213.612, 16.551 Rt.
Const. Conc. Controller Maint. Pad

(21) Const. Sidewalk Ramp, Option "C"

(22) Const. Type "C" Conc. Island (Mountable)

(23) Relocate Elec. Vault (By Others)

(24) Remove Extg. Walk

(25) Protect And Maintain Extg. Walk

(26) AC Pavement Match
(See Drg. No. RD610)

(27) Adjust Box

LEGEND

- 350 mm SURFACING STABILIZATION (For Details, See Sht. 2A-2)
- 150 mm COLD PLANING
- 50 mm COLD PLANING
- 0-75 mm COLD PLANING

REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
July 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

REGISTERED PROFESSIONAL ENGINEER
64429PE
OREGON
JAN. 23, 2001
STEVEN N. KATKO
EXPIRES: 6/30/2005

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Dave Simmons
Designed by - Steve Katko
Drafted by - Gary Gray

ROADWAY PLAN
STA. "N" 3+150 TO 3+275

SHEET NO. 6

CH2MHILL

46
45
44
43
42
41
40
39
38
37

"N" 3+151.611.
Inlet Lt.
F.L. = 44.314 N
F.L. = 44.314 W

300 mm -
12.4 m
1.38%

"N" 3+166.815, Inlet Rt.
F.L. 42.369 NW

"N" 3+153.758, 27.381 Rt.
Manhole
F.L. 42.198 S
F.L. 42.198 SE
F.L. 42.498 W

P.V.T. 3+174.522
Elev. 43.995

P.V.C. 3+190.000
Elev. 43.221

-5.00%

"N" 3+176.906, Inlet Rt.
F.L. = 42.740 E

"N" 3+183.400.
9.332 Rt.
Manhole
F.L. = 42.263 S
F.L. = 42.263 W

300 mm -7.2 m
6.63%

Profile Grade At ℄

Ground Line At ℄

"N" 3+200.418, Inlet Lt.
F.L. 41.198 E

300 mm - 32.9 m
3.00%

P.V.I. 3+225.000
Elev. 41.471
70.000 m V.C.

"N" 3+233.718, Inlet Lt.
F.L. = 40.211 E
F.L. = 40.211 W

"N" 3+237.150, 13.374 Lt.
Manhole
F.L. = 40.178 E
F.L. = 40.178 W

300 mm -3.5 m
0.94%

P.V.T. 3+260.000
Elev. 40.813

-1.88%

P.V.I. 3+312.919
Elev. 39.819

Exc. 148 m³

Emb. 13 m³

3+150
3+200
3+250
3+300

0 5 10 15 20 25
Horizontal Scale In Meters

0.0 0.5 1.0 1.5 2.0 2.5
Vertical Scale In Meters

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SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

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ROADWAY PROFILE
STA. "N" 3+150 TO 3+275

SHEET NO. 6A

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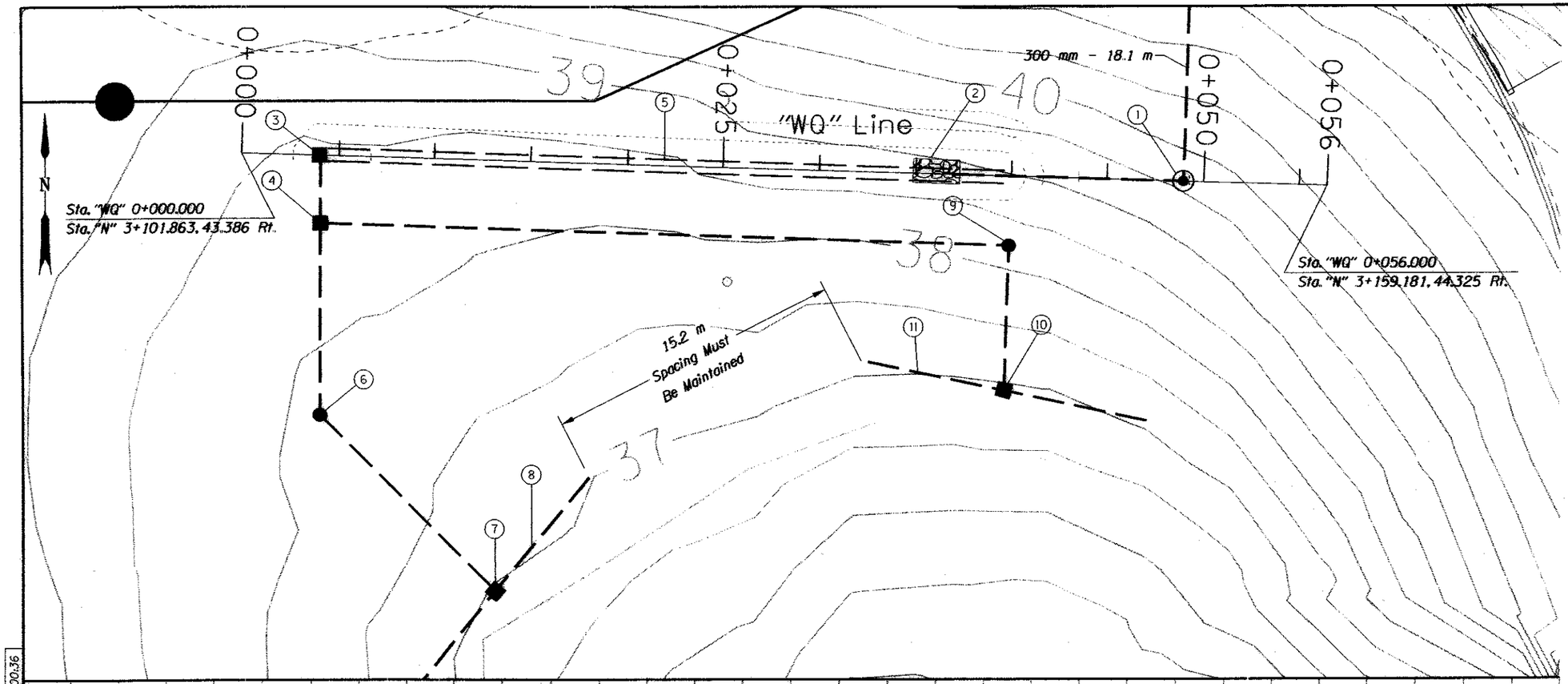
IEW

CH2MHILL



(1) Sta. "WQ" 0+048.941
Const. Conc. Manhole
Rim El. 39.611
Inst. 300 mm Sew. Pipe - 18.1 m
(See Std. Drg. Nos. RD336, RD344, RD356)

(2) Sta. "WQ" 0+036.910
Const. Riprap Outlet Basin
Inst. 300 mm Sew. Pipe - 12.0 m
(For Details, See Sht. 2B)

(3) Sta. " WQ" 0+007.23
Const. Type "D" Inlet
F.L. 37.701
(See Std. Drg. No. RD364)

(4) Sta. "WQ" 0+004.432, 13.449 Rt
Const. Type "B" Inlet
Grate El 38.214
Inst. 300 mm Sew. Pipe - 3.5 m
(See Std. Drg. No. RD368)

(5) Sta. "WQ" 0+001.782 To
Sta. "WQ" 0+036.910
Const. Bio-Swale
(For Details, See Sht. 2B)

(6) Sta. 0+004.432, 13.449 Rt.
Inst. Cleanout
F.L. 36.873
Inst. 150 mm Sew. Pipe - 9.9 m
(For Detail, See Sht. 2B)

(7) Sta. "WQ" 0+013.921, 22.371 Rt.
Const. Type "B" Inlet
Grate El 37.000
Inst. 150 mm Sew. Pipe - 13.0 m

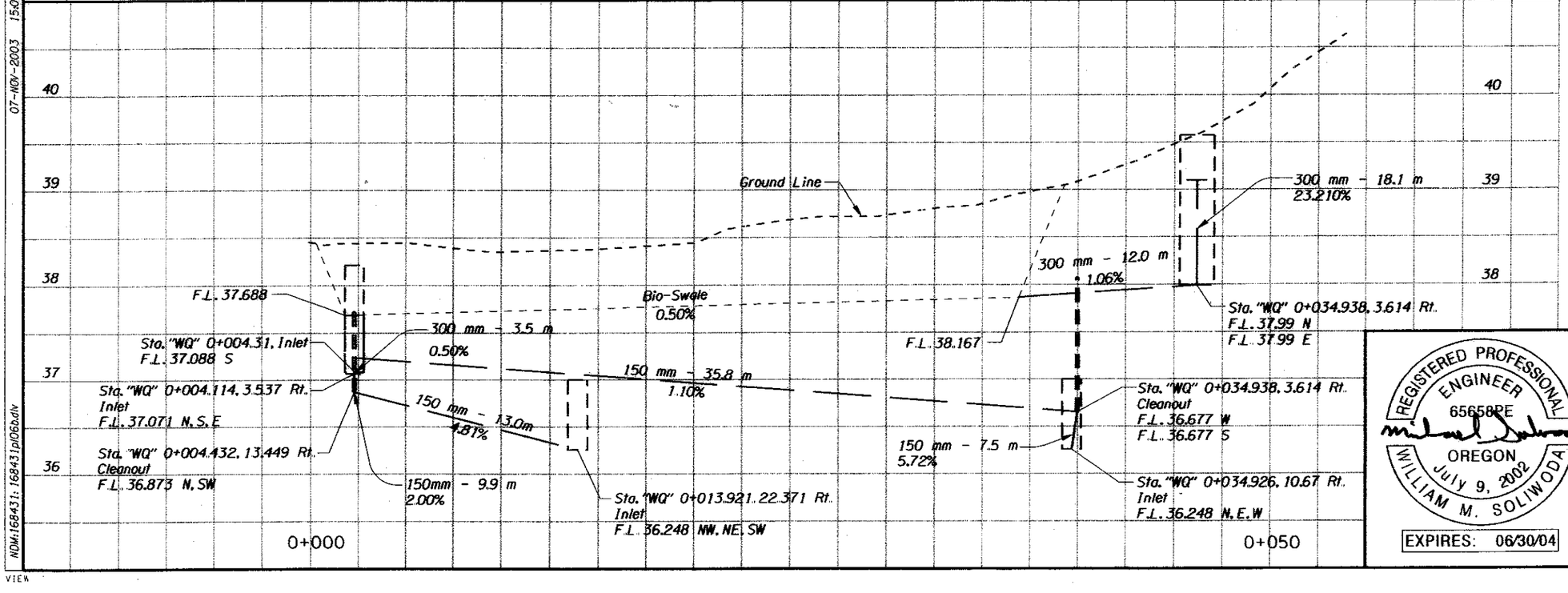
(8) Sta. "WQ" 0+009.316, 28.442 Rt. To
Sta. "WQ" 0+018.527, 16.301 Rt.
Const. Dispersion Trench
(For Details, See Sht. 2B)

(9) Sta. "WQ" 0+039.985, 3.626 Rt.
Inst. Cleanout
F.L. 36.732
Inst. 150 mm Sew. Pipe - 35.8 m

(10) Sta. "WQ" 0+039.962, 11.11 Rt.
Const. Type "B" Inlet
Grate El 37.000
Inst. 150mm Sew. Pipe - 7.5 m

(11) Sta. "WQ" 0+032.459, 9.785 Rt. To
Sta. "WQ"0+047.463, 12.459 Rt.
Const. Dispersion Trench

0 2.5 5 7.5 10 12.5
Scale In Meters



REGISTERED PROFESSIONAL ENGINEER
65658PE
OREGON
July 9, 2002
WILLIAM M. SOLIWODA
EXPIRES: 06/30/04

OREGON DEPARTMENT OF TRANSPORTATION
ROADWAY ENGINEERING SECTION

SW NYBERG ROAD AT I-5
PACIFIC HWY (I-5)
WASHINGTON COUNTY

Reviewed By - Dave Simmons
Designed by - Steve Katko
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DRAINAGE DETAILS
SWALE PLAN

SHEET NO. 6B

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VIEW