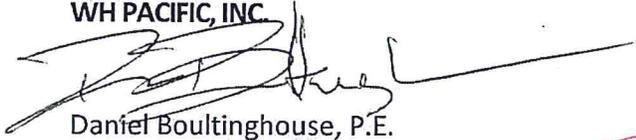


Memorandum

To: Laura Sauermann
From: Daniel Boultinghouse, PE
Date: April 6, 2012
Re: EXC11-0024 Erosion Control Plans

On March 24, 2012 I prepared updated Erosion Control Plans for NW Natural. These plans were submitted without the appropriate signature. The purpose of this Memorandum is to approve those plans (copy attached) for submittal.

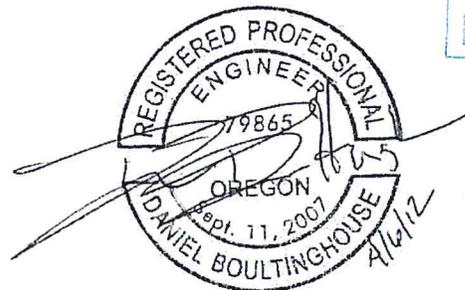
Sincerely,
WH PACIFIC, INC.



Daniel Boultinghouse, P.E.
Project Manager



FILE COPY



EXPIRES: 12/31/13

EXC11-0024

 NW Natural [®]	220 NW 2ND AVENUE PORTLAND, OR 97209
	TEL 503.226.4211 800.422.4012
	www.nwnatural.com

April 4, 2012

City of Corvallis
Development Services Division
P.O. Box 1083
Corvallis, OR 97339



NW Natural – Corvallis Loop Project
Corvallis, Oregon

To Whom It May Concern:,

With this letter I would like to provide notice to the City of Corvallis of NW Natural's application for Excavation and Grading/Erosion Prevention and Sediment Control Permit coverage of our Corvallis Loop Project. I have attached three paper copies of the Erosion and Sediment Control Plan for the portion of NW Natural's Corvallis Loop Project to be constructed with in the city limits. Also included is a completed Excavation and Grading/Erosion Prevention and Sediment Control Permit Application. NW Natural has already obtained 1200-C permit coverage from DEQ, for the portion of the project outside the Corvallis city limits (Permit No. 27731). That permit was issued by Kathy Jacobsen of DEQ, in their Eugene office, and can be contacted at 541-687-7326. If you have any questions or need additional information please feel free to contact me at 503-226-4211 ext. 3587 or at andrew.bauer@nwnatural.com.

22000-21213

Sincerely,

Andrew P. Bauer, RG
Environmental Specialist
NW Natural



Enclosure



Oregon

John A. Kitzhaber, MD, Governor

Department of Environmental Quality

Western Region Eugene Office

165 E. 7th Avenue, Suite 100

Eugene, OR 97401

(541) 686-7838

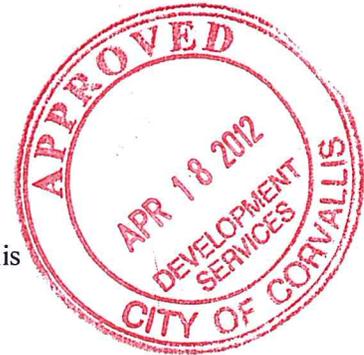
FAX (541) 686-7551

TTY (541) 687-5603

February 8, 2012

Andrew Bauer
Northwest Natural Gas Company
220 NW 2nd Ave
Portland, OR 97209-3943

Re: Construction Stormwater Control Permit – 1200-C Issuance
File No. 121563 / EPA No. ORR10-D119 / Permit No. 27731
Site Location: Corvallis Loop, Hwy 34 and SE Peoria Road, Corvallis
Linn County



Dear Mr. Bauer:

The Oregon Department of Environmental Quality (DEQ) has received your application and fees for registration for coverage under the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Discharge Permit 1200-C (permit). DEQ is approving your registration under the permit. Please be aware that in addition to the fees submitted with this application, you will be assessed an annual fee for each additional year your permit is active.

Important Permit Provisions

Please review your copy of the permit carefully. For all projects the permit:

- Prohibits visible or measurable quantities of sediments from leaving the construction site and entering directly into surface waters, or to conveyance systems that discharge to surface waters, and prohibits violations of the state's in-stream water quality standards. If discharge of sediment occurs, Permittees are required to take corrective actions to stop the discharge to surface waters and submit an Action Plan outlining the corrective actions taken.
- Requires the Permittee to implement a Sediment and Erosion Control Plan that meets best management practices.
- Requires daily inspections of erosion control measures when runoff is occurring.
- Requires the Permittee to document all monitoring and inspections and to keep all records on site and updated.
- Requires that all erosion control measures remain in place throughout the duration of construction project.

For construction projects involving 5 acres or more:

- Permit applications and the Erosion and Sediment Control Plans will be subject to a 14-day public review period.

For construction projects that discharge to 303(d) listed water bodies for turbidity (water clarity) or sedimentation or to water bodies covered under state Total Maximum Daily Load pollution limits:

- Permittees must meet one of the following requirements:
 - Conduct weekly stormwater runoff sampling for turbidity when runoff is occurring, or
 - Implement additional best management practices on the site to treat, control or prevent sediment discharges to "impaired" water bodies.

A map and table identifying the listed water bodies and affected river miles is available on DEQ's Web site at: <http://www.deq.state.or.us/wq/stormwater/construction.htm>.



For phased projects:

- Submit a Sediment and Erosion Control Plan for any phases not submitted with your original application to this regional DEQ office (Attention: Stormwater) at least 30 days prior to commencement of construction activities. The plan will be reviewed, and if acceptable, you will be notified of approval either in writing or by e-mail if your e-mail address is on file with DEQ.

Legal Owner Responsibilities

If during project development, legal responsibility shifts from the present permittee (you) to another party, this permit must be transferred to the new responsible party. There is a filing fee associated with permit transfer, as well as a one page application that must be submitted to DEQ. The permit transfer form is available at <http://www.deq.state.or.us/wq/wqpermit/docs/forms/pmttfrappl.pdf>

Permit Termination Process

When your construction activity is complete, submit a Permit Termination Request Form (*Notice of Termination Form*) to this regional DEQ office when your construction activity is completed. If a Termination Form is not received, **you will be billed** the annual fee for each additional year this permit remains in effect. This fee will not be prorated. The form has been enclosed and is available at:

www.deq.state.or.us/wq/wqpermit/docs/general/npdes1200c/forms/termination.pdf

Permit coverage may be terminated when the following conditions are met:

- The permittee has completed all of the construction activities authorized by this permit --
 - The site is stabilized, i.e. landscaped with vegetation growing, and no exposed soil is present,
 - No further grading or soil disturbances are occurring, and
 - Temporary erosion and/or sediment controls have been removed and properly disposed, or
- The permittee is selling individual home lots of less than one acre --
 - The utilities, roads, and initial grading are complete, and
 - Temporary seeding has occurred, vegetation is growing and no exposed soil is present, and
 - Temporary erosion and/or sediment controls have been removed and properly disposed.

Finally, this permit does not authorize excavation or fill in state waterways, including wetlands, and does not replace the requirement for receiving authorization to do this type of work under Section 404 of the Clean Water Act.

Please check the DEQ website at <http://www.deq.state.or.us/wq/wqpermit/stormwaterhome.htm> for forms or information. If you have any questions about this permit, please contact Kristy Sewell in our Eugene Office at 541-686-7858.

Sincerely,

Kathy Jacobsen
Water Quality Permit Coordinator
Western Region – Eugene Office
jacobsen.kathy.r@deq.state.or.us

Enclosures: Permit and Notice of Termination form

cc: Kristy Sewell, DEQ – Eugene
Source File – DEQ - Eugene



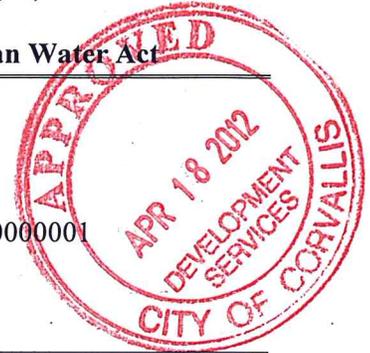
**GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORMWATER DISCHARGE PERMIT**

Oregon Department of Environmental Quality
811 SW Sixth Avenue, Portland OR 97204
Telephone: (503) 229-5279 or 1-800-452-4011 (toll free in Oregon)

Issued pursuant to ORS 468B.050 and Section 402 of the Federal Clean Water Act

REGISTERED TO: File No: 121563
Permit No: 27731
Northwest Natural Gas Company
220 NW 2nd Ave
Portland, OR 97209-3943

Date: 2/8/2012
Linn County
EPA: ORR10-D119
LLID: 1227618456580
River Mile: 131.43000000000001



Location: Corvallis Loop, Hwy 34 and SE Peoria Road, Corvallis

SOURCES COVERED BY THIS PERMIT:

- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb one or more acres and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb less than one acre that are part of a common plan of development or sale if the larger common plan of development or sale will ultimately disturb one acre or more and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- This permit also authorizes discharges from any other construction activity (including construction activity that disturbs less than one acre and is not part of a common plan of development or sale) designated by DEQ, where DEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the state.

This permit does not authorize the following:

- In-water or riparian work, which is regulated by other programs and agencies including the Federal Clean Water Act Section 404 permit program, the Oregon Department of State Lands, the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Army Corp of Engineers, the National Marine Fisheries Service, and the Department of Environmental Quality Section 401 certification program.
- Post-construction stormwater discharges that originate from the site after completion of construction activities and final stabilization.
- Discharges to underground injection control (UIC) systems.

Handwritten signature of Neil Mullane in black ink.

Neil Mullane, Administrator
Water Quality Division

Effective: December 1, 2010
Expiration Date: November 30, 2015

PERMITTED ACTIVITIES

Until this permit expires, is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate erosion and sediment control measures and stormwater treatment and control facilities, and to discharge stormwater and certain specified non-stormwater discharges to surface waters of the state or conveyance systems leading to surface waters of the state in conformance with all the requirements, limitations, and conditions set forth in the permit including attached schedules as follows:

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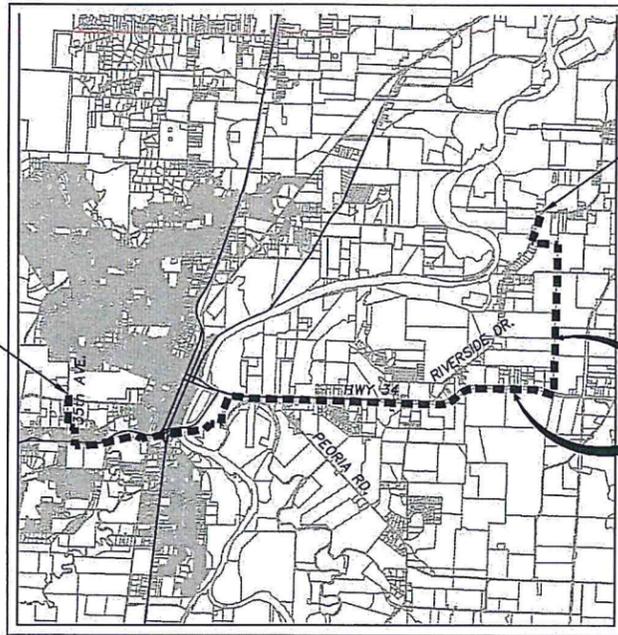
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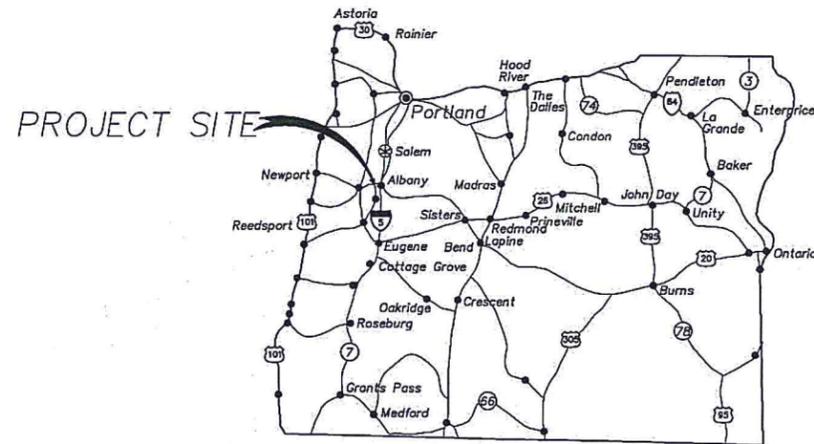
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EROSION AND SEDIMENT CONTROL PLANS



SITE MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

PROJECT LOCATION:

ALONG HIGHWAY 34/20 FROM RIVERSIDE ROAD TO SW 35TH AVENUE, BENTON & LINN COUNTY, OREGON
LATITUDE = 44.34, LONGITUDE = 123.10

PROPERTY DESCRIPTION:

ALONG HIGHWAY 34/20 FROM RIVERSIDE ROAD TO SW 35TH AVENUE, BENTON & LINN COUNTY, OREGON

ATTENTION EXCAVATORS:

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 THESE RULES FROM THE CENTER BY CALLING 503-232-1987. IF YOU HAVE ANY QUESTIONS ABOUT THE RULES, YOU MAY CONTACT THE CENTER. YOU MUST NOTIFY THE CENTER AT LEAST TWO BUSINESS DAYS, BEFORE COMMENCING AN EXCAVATION. CALL 503-246-6699.

OWNER

NORTHWEST NATURAL GAS COMPANY
CONTACT: MARK C. SCHAEFER
7100 SW MCEWAN RD
TUALATIN, OR 97035
PHONE: 503-228-4211 EXT. 4012
FAX: 503-721-2537

PLANNING / ENGINEERING / SURVEYING FIRM

WHPACIFIC
CONTACT: DAN BOULTINGHOUSE, PE
9755 SW BARNES ROAD, SUITE 300
PORTLAND, OR 97225
PHONE: 503-626-0455
FAX: 503-526-0775

NARRATIVE DESCRIPTIONS

EXISTING SITE CONDITIONS

* EXISTING HIGHWAY 34, CITY OF CORVALLIS, OREGON

DEVELOPED CONDITIONS

* OPEN TRENCH INSTALLATION OF APPROX. 23,020 LF OF GAS LINE
* DIRECT BORE INSTALLATION OF APPROX. 28,210 LF OF GAS LINE

NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

* CLEARING (JUNE 2011)
* UTILITY INSTALLATION (JUNE 2011 - OCTOBER 2012)

TOTAL SITE AREA = 29.72
TOTAL DISTURBED AREA = 740,260 SF = 16.994 ACRES

SITE SOIL CLASSIFICATION:

- BENTON COUNTY:**
8 - AMITY SILT LOAM, 0 TO 3 PERCENT
14 - BASHAW CLAY, FLOODED 0 TO 3 PERCENT SLOPES
16 - BASHAW SILTY CLAY LOAM, NONFLOODED, 0 TO 3 PERCENT SLOPES
40 - CHEHALIS SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES
50 - COBURG SILTY CLAY LOAM, RARELY FLOODED, 0 TO 3 PERCENT SLOPES
51 - CONCORD SILT LOAM, 0 TO 2 PERCENT SLOPES
53 - DAYTON SILT LOAM, 0 TO 2 PERCENT SLOPES
58 - DIXONVILLE-GELLATLY COMPLEX, 12 TO 30 PERCENT SLOPES
111 - MALABON SILTY CLAY LOAM, RARELY FLOODED, 0 TO 3 PERCENT SLOPES
127 - NEWBERG LOAM, 0 TO 3 PERCENT SLOPES
133 - PITS
155 - WALDO SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES
157 - WAPATO SILTY CLAY LOAM, 0 TO 3 PERCENT SLOPES
161 - WELLSDALE-WILLAKENZIE-DUPEE COMPLEX, 2 TO 12 PERCENT SLOPES
169 - WILLAMETTE SILT LOAM, 0 TO 3 PERCENT SLOPES
170 - WILLAMETTE SILT LOAM, 3 TO 12 PERCENT SLOPES
177 - WOODBURN SILT LOAM, 0 TO 3 PERCENT SLOPES

- LINN COUNTY:**
3 - AMITY SILT LOAM
7 - AWBRIG SILTY CLAY LOAM
8 - BASHAW SILTY CLAY
18 - CAMAS GRAVELLY SANDY LOAM
19 - CHAPMAN LOAM
21 - CHEHALIS SILT CLAY LOAM
25 - CLOQUATO SILT LOAM
26 - COBURG SILTY CLAY LOAM
27 - CONCORD SILT LOAM
28 - CONSER SILTY CLAY LOAM
33 - DAYTON SILT LOAM
39 - FLUVENTS-FLUVAQUENTS COMPLEX, NEARLY LEVEL
46 - HOLCOMB SILT LOAM
63 - MALABON SILTY CLAY LOAM
67 - MCREE SILTY CLAY LOAM
73 - NEWBERG FINE SANDY LOAM
74H - OCHREPTS, VERY STEEP
80 - PITS
99 - WAPATO SILTY CLAY LOAM
102 - WILLAMETTE SILT LOAM
106A - WOODBURN SILT LOAM, 0 TO 3 PERCENT SLOPES

RECEIVING WATER BODIES:

OWL CREEK, EAST CHANNEL, WILLAMETTE RIVER

PERMITTEE'S SITE INSPECTOR: JAY DAVIS, CHRIS FORNATARO

COMPANY/AGENCY: NW NATURAL
PHONE: (503) 819-1694 OR (503) 784-5122
FAX: (503) 721-2537
E-MAIL: jed@nwnatural.com, cif@nwnatural.com
DESCRIPTION OF EXPERIENCE: THE EROSION CONTROL INSPECTORS ARE NW NATURAL CONSTRUCTION CREW LEADERS. THEY HAVE OVER 30 YEARS OF COMBINED FIELD CONSTRUCTION EXPERIENCE AND ARE SCHEDULED TO ATTEND A 2-DAY CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESL) CLASS PRIOR TO CONSTRUCTION.

INSPECTION FREQUENCY:

SITE CONDITION	MINIMUM FREQUENCY
1. ACTIVE PERIOD	DAILY WHEN STORMWATER RUNOFF, INCLUDING RUNOFF FROM SNOWMELT, IS OCCURRING.
2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY.	ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESSARY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE.
3. INACTIVE PERIODS GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS.	ONCE EVERY TWO (2) WEEKS.
4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER.	IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION.

- * HOLD A PRE-CON MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EC INSPECTOR.
- * ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200 C PERMIT REQUIREMENTS.
- * INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200 C PERMIT REQUIREMENTS.
- * CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ IN THE FORM OF AN ACTION PLAN.

SHEET INDEX

EROSION AND SEDIMENT CONTROL PLANS

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- CS.1* EROSION CONTROL NOTES
- CO.01* EROSION CONTROL KEY MAP
- C1.01 EROSION CONTROL PLAN - STA. 10+00 TO STA. 31+50
- C1.02 EROSION CONTROL PLAN - STA. 31+50 TO STA. 59+00
- C1.02B EROSION CONTROL PLAN - LAY DOWN AREA
- C1.03 EROSION CONTROL PLAN - STA. 59+00 TO STA. 86+00
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- C1.09 EROSION CONTROL PLAN - STA. 210+00 TO STA. 232+00
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- C1.13 EROSION CONTROL PLAN - STA. 311+00 TO STA. 338+00
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- C1.21* EROSION CONTROL PLAN - STA. 515+50 TO STA. 529+00
- C1.22* EROSION CONTROL DETAILS
- C1.23* EROSION CONTROL DETAILS

SEE ATTACHED CONDITIONS OF APPROVAL

FILE COPY



ALL TO BE CANCELLED
22000-21023

DATE: 3/28/2012 3:54 PM [AUTHOR: dboultinghouse] [PLOTTER: \\pdx-print\ricoh\east] [STYLE: WHP-Standard.ctb] [PATH: P:\Northwest Natural Gas Company\035901\Design\Drawings\Civil\035901-C-CS.dwg] [LAYOUT: CS]

WHPacific
9755 SW Barnes Rd, Suite 300
Portland, OR 97225
503-626-0455 Fax 503-526-0775
www.whpacific.com

NW Natural
220 NW 2ND AVE
PORTLAND, OR 97209

SHEET INFO		REVISIONS			
DESIGNED	JTT	NO.	BY	DATE	REMARKS
DRAWN	JTT				
CHECKED	JTT				
APPROVED	DLB				
LAST EDIT	3/28/2012				
PLOT DATE	3/28/2012				
SUBMITTAL					



EROSION CONTROL COVER SHEET
NORTHWEST NATURAL GAS COMPANY
CORVALLIS LOOP

PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-CS	SCALE NONE
--------------------------	----------------------------------	---------------

SHEET NUMBER
CS

BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S.

	CLEARING	MASS GRADING	UTILITY INSTALLATION	TRENCH BACKFILL	FINAL STABILIZATION	WET WEATHER (OCT. 1 - MAY 31ST)
EROSION PREVENTION						
PRESERVE NATURAL VEGETATION	** X		X	X		X
GROUND COVER						X
HYDRAULIC APPLICATIONS						
PLASTIC SHEETING				X		X
MATTING				X		X
DUST CONTROL	X		X	X		X
TEMPORARY/ PERMANENT SEEDING				X		
BUFFER ZONE						
OTHER:						
SEDIMENT CONTROL						
SEDIMENT FENCE (PERIMETER)	** X		X	X		X
SEDIMENT FENCE (INTERIOR)						
STRAW WATTLES						
FILTER BERM						
INLET PROTECTION	** X		X	X		X
DEWATERING						
SEDIMENT TRAP	X		X	X		
OTHER:						
RUN OFF CONTROL						
CONSTRUCTION ENTRANCE	** X		X	X		
PIPE SLOPE DRAIN						
OUTLET PROTECTION	X		X	X		
SURFACE ROUGHENING						
CHECK DAMS			X	X		
OTHER:						
POLLUTION PREVENTION						
PROPER SIGNAGE	X		X	X		X
HAZ WASTE MGMT	X		X	X		X
SPILL KIT ON-SITE	X		X	X		X
CONCRETE WASHOUT AREA	X		X	X		X
OTHER:						

** SIGNIFIES BMP THAT WILL BE INSTALLED PRIOR TO ANY GROUND DISTURBING ACTIVITY.

RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS, ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

JB
INITIAL

LOCAL AGENCY-SPECIFIC EROSION CONTROL NOTES:

- OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- THE IMPLEMENTATION OF THESE EPSC PLANS AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE EPSC MEASURES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED BY THE LOCAL JURISDICTION, AND VEGETATION/LANDSCAPING IS ESTABLISHED.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE MARKINGS SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE EPSC MEASURES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICATION WATER STANDARDS.
- THE EPSC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE EPSC MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NOT LEAVE THE SITE.
- THE EPSC MEASURES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- AT NO TIME SHALL SEDIMENT BE ALLOWED TO ACCUMULATE MORE THAN 1/3 THE BARRIER HEIGHT. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATIONS SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED ROCK ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
- STORM DRAIN INLETS, BASINS, AND AREA DRAINS SHALL BE PROTECTED UNTIL PAVEMENT SURFACES ARE COMPLETED AND/OR VEGETATION IS RE-ESTABLISHED.
- PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
- SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
- IF THERE ARE EXPOSED SOILS OR SOILS NOT FULLY ESTABLISHED FROM OCTOBER 1 THROUGH APRIL 30, THE WET WEATHER EROSION PREVENTION MEASURES WILL BE IN EFFECT. SEE THE CITY OF CORVALLIS EROSION PREVENTION AND SEDIMENT CONTROL MANUAL (CHAPTER 3) FOR REQUIREMENTS.
- THE DEVELOPER SHALL REMOVE EPSC MEASURES ONLY AFTER VEGETATION IS FULLY ESTABLISHED.

THE PERMITEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

- APPLY TEMPORARY AND PERMANENT SOIL STABILIZATION MEASURES ON ALL DISTURBED AREAS AS GRADING PROGRESSES (SCH A.5.b.ii.6.)
- CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31 EACH YEAR. (SCH A.7.a.i.)
- DURING WET WEATHER PERIODS TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY IF RAINFALL IS FORECAST IN THE NEXT 24 HOURS. (SCH A.7.a.ii.)
- ALL EROSION AND SEDIMENT CONTROLS NOT IN THE DIRECT PATH OF WORK MUST BE INSTALLED PRIOR TO ANY LAND DISTURBANCE (SCH A.7.c.ii.)
- PRESERVE EXISTING VEGETATION AND RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION (SCH A.7.c.iii.1)
- ALL TEMPORARY SEDIMENT CONTROLS MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED. (SCH A.7.c.iii.3.)
- SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. (SCH A.7.d.i.(1))
- ALL ACTIVE CATCH BASINS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION (SCH A.7.d.i.(2))
- WATER-TIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON-SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMP'S; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE. (SCH A.7.d.iii.3)
- TEMPORARY STABILIZATION OR COVERING OF SOIL STOCKPILES MUST OCCUR AT THE END OF EACH WORK DAY OR OTHER BMP'S MUST BE IMPLEMENTED TO PREVENT TURBID DISCHARGES TO SURFACE WATERS. (SCH A.7.e.ii.2.)
- DEVELOP AND MAINTAIN ON-SITE A WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURE. (SCH A.7.e.iii.3)
- ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL (SCH A.7.e.ii.(2))
- THE PERMITEE MUST PROPERLY PREVENT AND MANAGE HAZARDOUS WASTE, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION (SCH A.7.e.i.1 AND SCH A.7.e.iii.4)
- SIGNIFICANT AMOUNTS OF SEDIMENT WHICH LEAVE THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A REOCCURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIME FRAME. (SCH A.7.f.i.1)
- SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATERBODIES. DRY SWEEPING MUST BE USED TO CLEAN UP RELEASED SEDIMENTS. (SCH A.7.f.i.2)
- THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE TAKEN IN THE APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE. (SCH A.7.f.i.3.)
- SEDIMENT MUST BE REMOVED FROM BEHIND SEDIMENT FENCE WHEN IT HAS REACHED A HEIGHT OF 1/3 THE HEIGHT OF THE FENCE ABOVE THE GROUND, AND BEFORE FENCE REMOVAL. (SCH A.7.f.ii.1.)
- SEDIMENT MUST BE REMOVED FROM BEHIND BIO BAGS AND OTHER BARRIERS WHEN IT HAS REACHED A HEIGHT OF TWO (2) INCHES AND BEFORE BMP REMOVAL. (SCH A.7.f.ii.2.)
- CLEANING OF TRAPPED CATCH BASINS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY (50) PERCENT, AND AT COMPLETION OF PROJECT. (SCH A.7.f.ii.3.)
- REMOVAL OF TRAPPED SEDIMENT IN A SEDIMENT BASIN OR SEDIMENT TRAP MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY (50) PERCENT, AND AT COMPLETION OF PROJECT. (SCH A.7.f.ii.3&4)
- DEQ MUST APPROVE OF ANY TREATMENT SYSTEM AND OPERATIONAL PLAN THAT MAY BE NECESSARY TO TREAT CONTAMINATED CONSTRUCTION DEWATERING OR SEDIMENT AND TURBIDITY IN STORMWATER RUNOFF. (SCH A.7.f.iii.)
- SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR THIRTY (30) DAYS OR MORE, THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD. (SCH A.8.a)
- SHOULD CONSTRUCTION ACTIVITIES CEASE FOR FIFTEEN (15) DAYS OR MORE ON ANY SIGNIFICANT PORTION OF A CONSTRUCTION SITE, TEMPORARY STABILIZATION IS REQUIRED FOR THAT PORTION OF THE SITE WITH STRAW, COMPOST, OR OTHER ACCEPTED COVERING THAT WILL PREVENT SOIL OR WIND EROSION UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCH A.8.b.)

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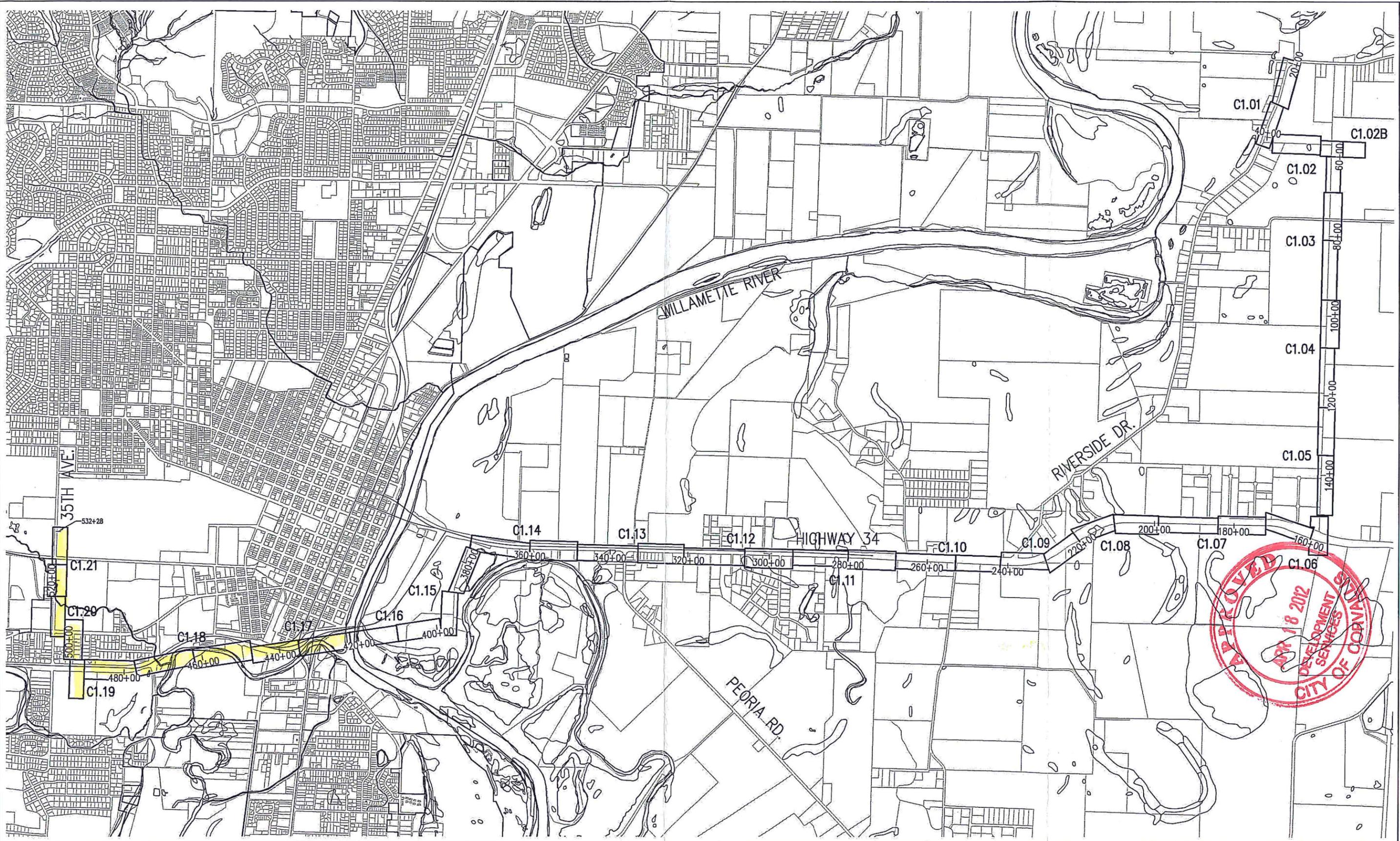
REVISIONS			
NO.	BY	DATE	REMARKS



EROSION CONTROL NOTES		
NORTHWEST NATURAL GAS COMPANY CORVALLIS LOOP		
PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-CS	SCALE

SHEET NUMBER
CS.1

DATE: 3/28/2012 4:10 PM [AUTHOR: dboultinghouse] [PLOTTER: \\pdk-print\RichEast] [STYLE: WHP-Standard.ctb] [LAYOUT: C0.01]
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PLOT DATE	3/28/2012
SUBMITTAL	

REVISIONS			
NO.	BY	DATE	REMARKS



EROSION CONTROL KEY MAP
 NORTHWEST NATURAL GAS COMPANY
 CORVALLIS LOOP

PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-CS	SCALE N.T.S.
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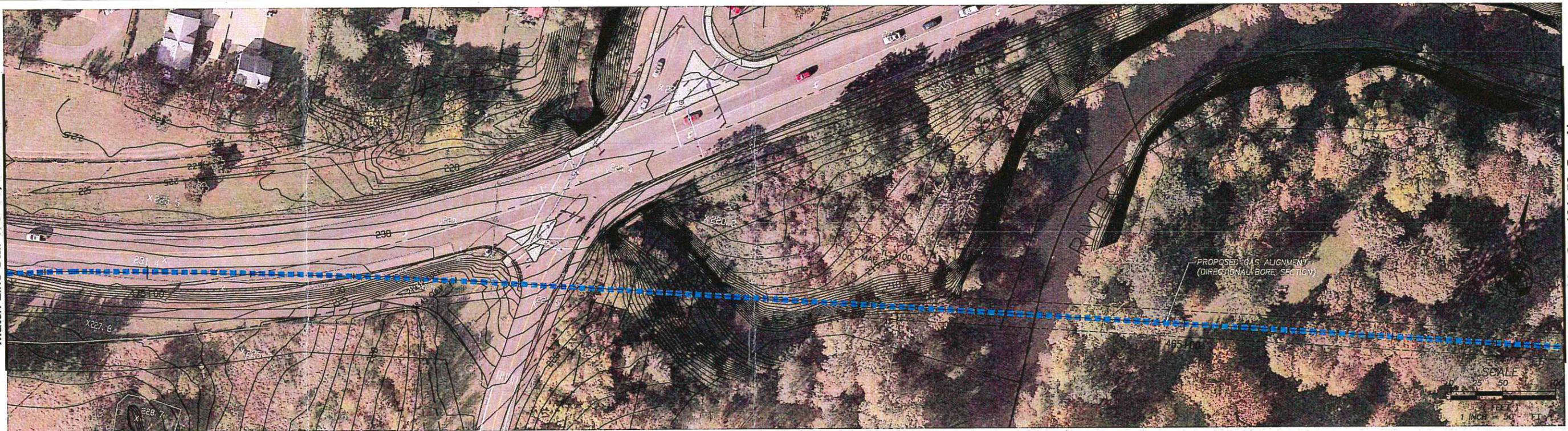
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Match Line Sta. 461+50, See Below



Match Line Sta. 446+50, See Sheet C1.17

Match Line Sta. 476+50, Sheet C1.19



Match Line Sta. 461+50, See Above

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LEGEND

- CHECK DAM
- SILT FENCE
- INLET PROTECTION
- CONSTRUCTION ENTRANCE
- STEEL PLATE(S)/TIMBER MATS
- OPEN TRENCH
- DIRECTIONAL BORE

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REVISIONS			
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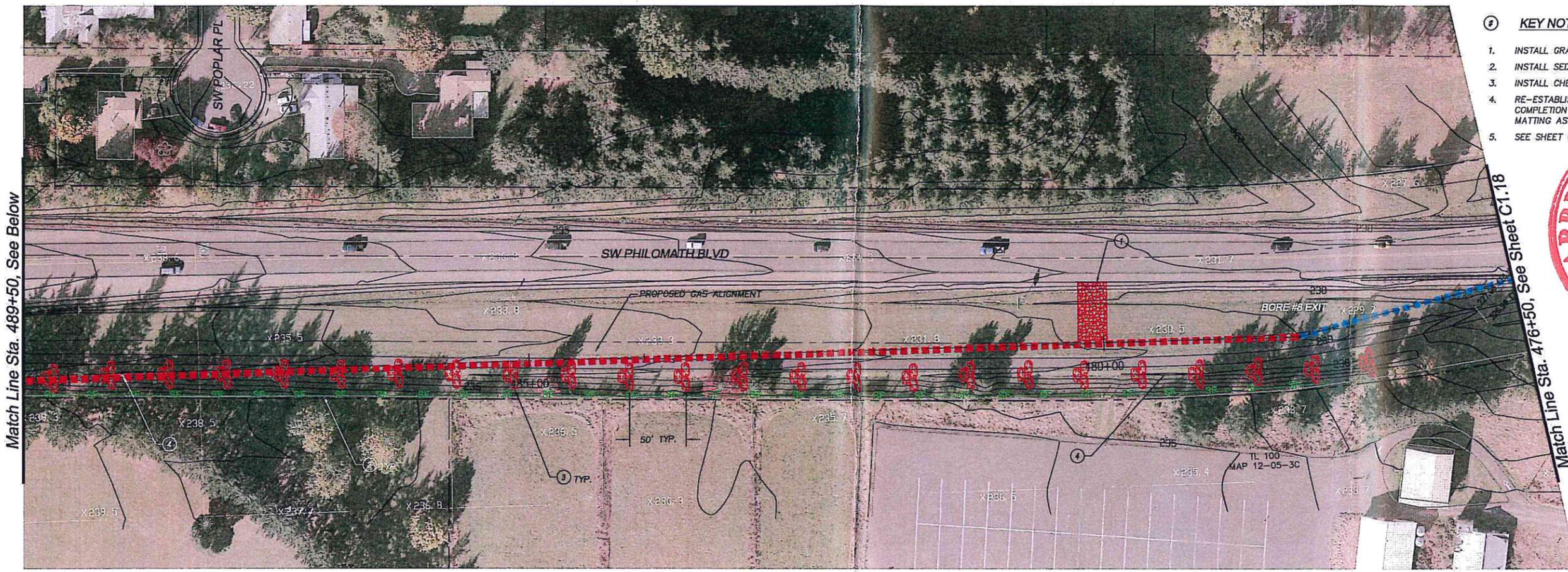
REGISTERED PROFESSIONAL ENGINEER
 7986SPE
 OREGON
 SEP 11, 2007
 DANIEL BOLLINGHOUSE
 EXPIRES: 12/31/2011

EROSION CONTROL PLAN
 STA. 446+50 TO STA. 476+50
 NORTHWEST NATURAL GAS COMPANY
 CORVALLIS LOOP

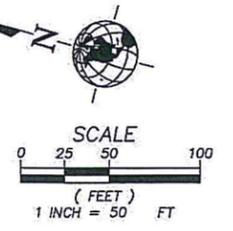
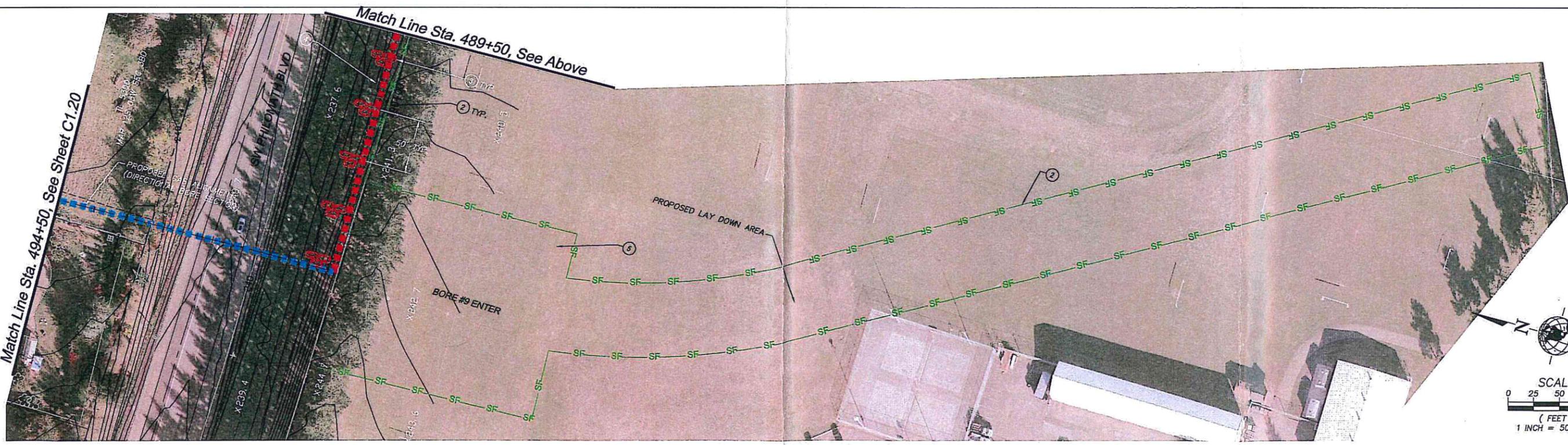
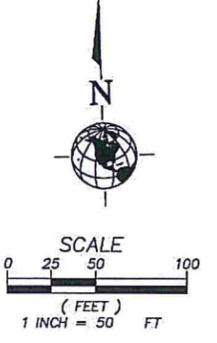
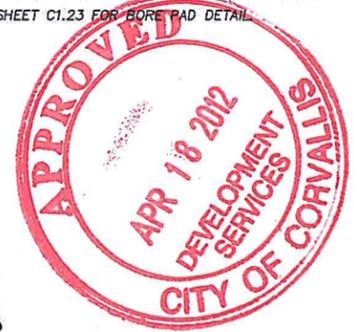
PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-EC-1.18-1.21	SCALE 1"=50'
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SHEET NUMBER
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- KEY NOTES:
1. INSTALL GRAVEL CONSTRUCTION ENTRANCE. SEE SHEET C1.22.
 2. INSTALL SEDIMENT FENCE. SEE SHEET C1.22.
 3. INSTALL CHECK DAM. SEE SHEET C1.22.
 4. RE-ESTABLISH ROADSIDE DITCH AND VEGETATION UPON COMPLETION OF PIPE INSTALLATION AND BACKFILL. INSTALL MATTING AS REQUIRED BY INSPECTOR. SEE SHEET C1.22.
 5. SEE SHEET C1.23 FOR BORE PAD DETAIL.



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LEGEND

CHECK DAM		STEEL PLATE(S)/TIMBER MATS	
SILT FENCE		OPEN TRENCH	
INLET PROTECTION		DIRECTIONAL BORE	
CONSTRUCTION ENTRANCE			

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REGISTERED PROFESSIONAL ENGINEER
 7985SPE
 OREGON
 SEP 11, 2007
 DANIEL BOUTINGHOUSE
 EXPIRES: 12/31/2011

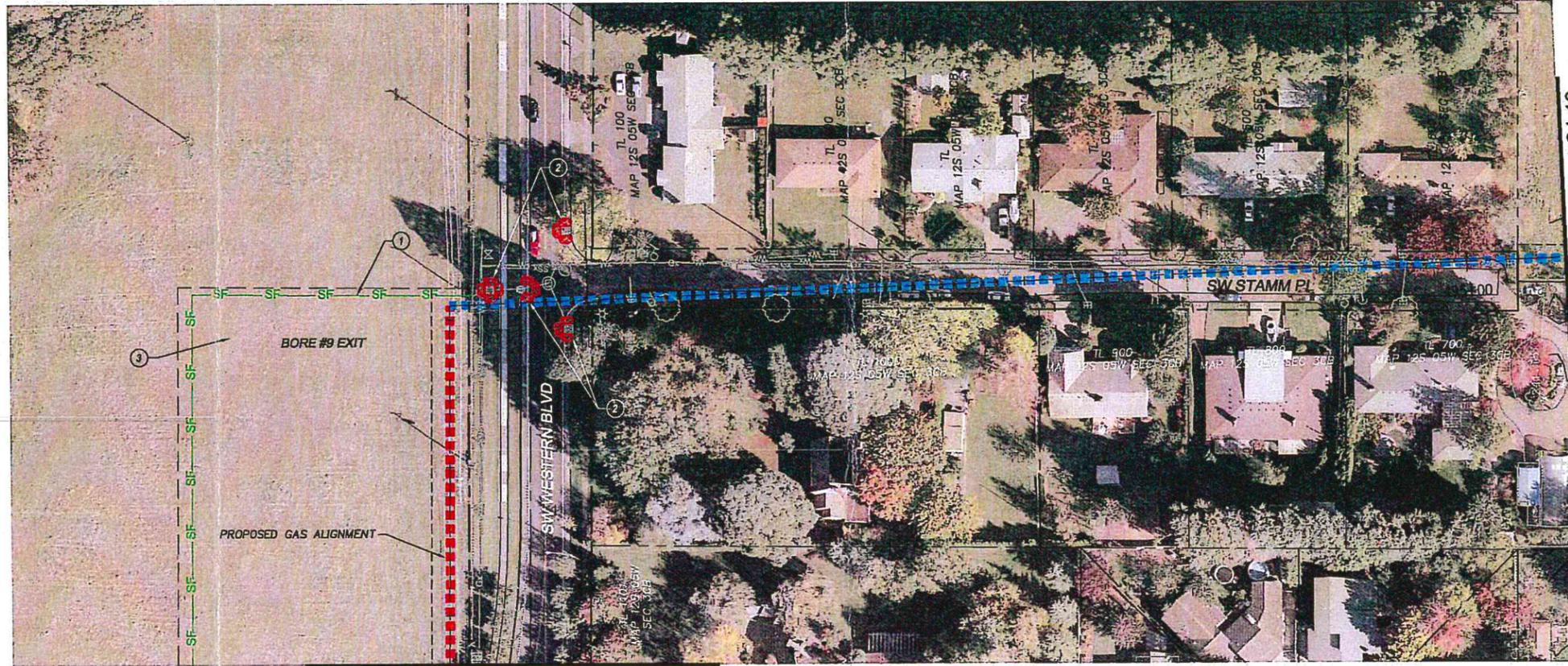
EROSION CONTROL PLAN
 STA. 476+50 TO STA. 494+50
 NORTHWEST NATURAL GAS COMPANY
 CORVALLIS LOOP

PROJECT NUMBER: 035901
 DRAWING FILE NAME: 035901-C-EC-1.18-1.21
 SCALE: 1"=50'

SHEET NUMBER
C1.19

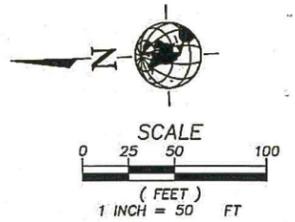
KEY NOTES:

1. INSTALL SEDIMENT FENCE. SEE SHEET C1.22.
2. INSTALL INLET PROTECTION. SEE SHEET C1.23.
3. SEE SHEET C1.23 FOR BORE PAD DETAIL.

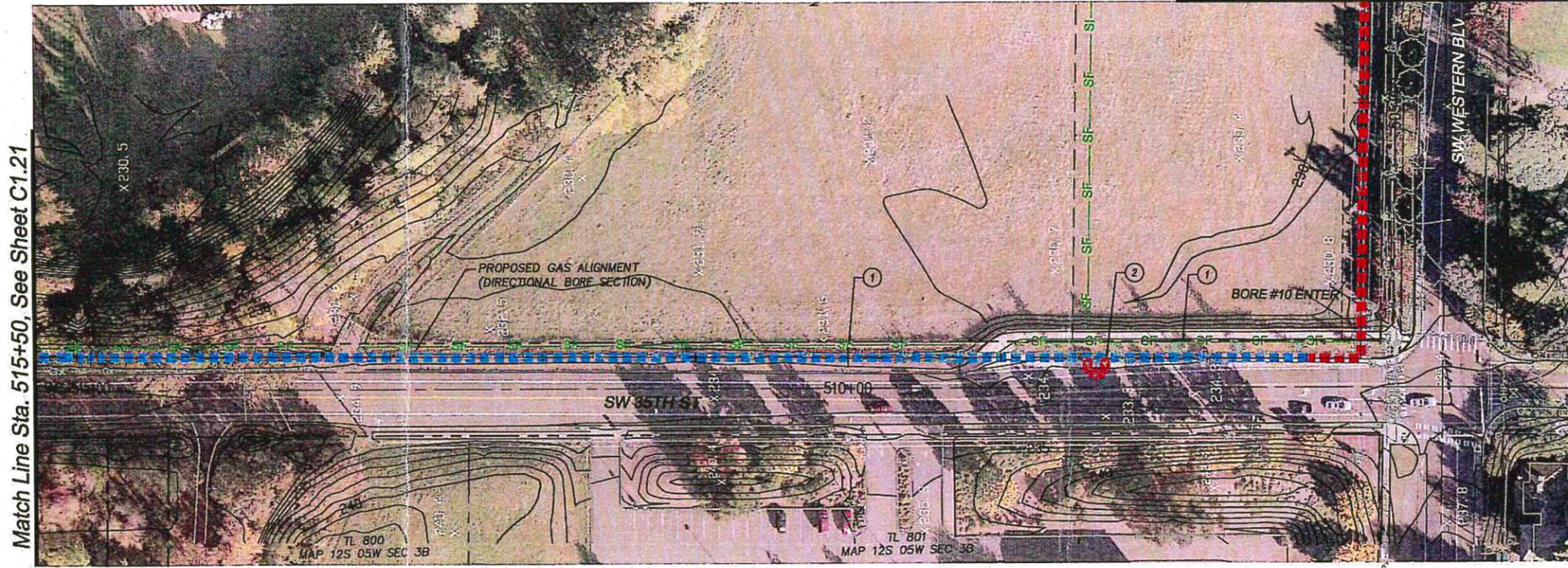


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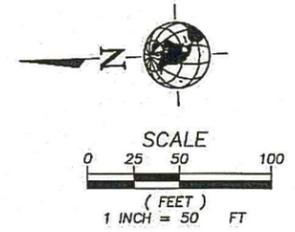
Match Line Sta. 494+50, See Sheet C1.19



Match Line Sta. 504+50, See Above



Match Line Sta. 515+50, See Sheet C1.21



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LEGEND

CHECK DAM		STEEL PLATE(S)/TIMBER MATS	
SILT FENCE	SF-SF	OPEN TRENCH	
INLET PROTECTION		DIRECTIONAL BORE	
CONSTRUCTION ENTRANCE			

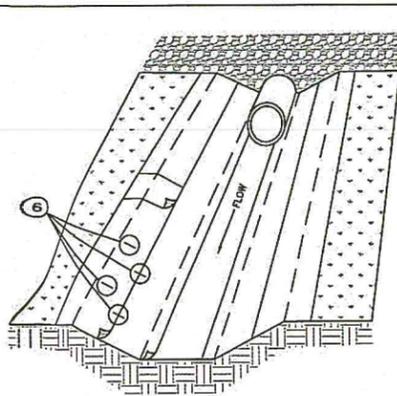
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LAST EDIT	3/28/2012				
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SUBMITTAL					

REGISTERED PROFESSIONAL ENGINEER
 79885PE
 OREGON
 SEP 11, 2001
 DANIEL BOULTINGHOUSE
 EXPIRES: 12/31/2011

EROSION CONTROL PLAN
 STA. 494+50 TO STA. 515+50
 NORTHWEST NATURAL GAS COMPANY
 CORVALLIS LOOP

PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-EC-1.18-1.21	SCALE 1"=50'
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SHEET NUMBER
C1.20

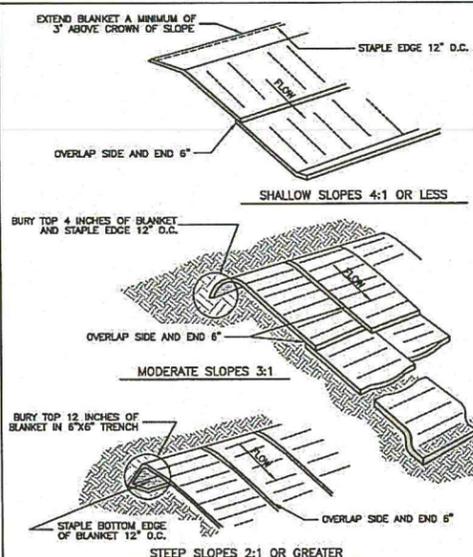


CHANNEL INSTALLATION

- NOTES:
1. INFORMATION PROVIDED IS MINIMUM REQUIREMENTS. MANUFACTURERS REQUIREMENTS WHICH ARE MORE STRINGENT SHALL BE USED.
 2. INSTALL MAT PARALLEL IN CENTER OF CHANNEL IN THE DIRECTION OF FLOW. FOR CULVERT OUTFALLS, PLACE MAT UNDER CULVERT OR RIP RAP A MINIMUM OF 12 INCHES.
 3. IN CHANNEL BOTTOM, OVERLAP LENGTH ENDS A MINIMUM OF 12 INCHES.
 4. REFER TO DETAIL DRAWING 3.1.7a FOR SHALLOW SLOPE APPLICATION.
 5. REFER TO DETAIL DRAWING 3.1.7b FOR STAPLE PATTERN.
 6. LENGTH OF STAPLES SHALL BE DETERMINED BY SOIL TYPE-COHESIVE SOIL USE 6 INCH, NON-COHESIVE SOILS 8-12 INCH.

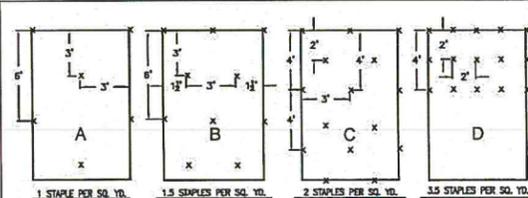
MATting CHANNEL INSTALLATION

Detail Drawing 3.1.7b



MATting SLOPE INSTALLATION

Detail Drawing 3.1.7a



STAPLE PATTERN

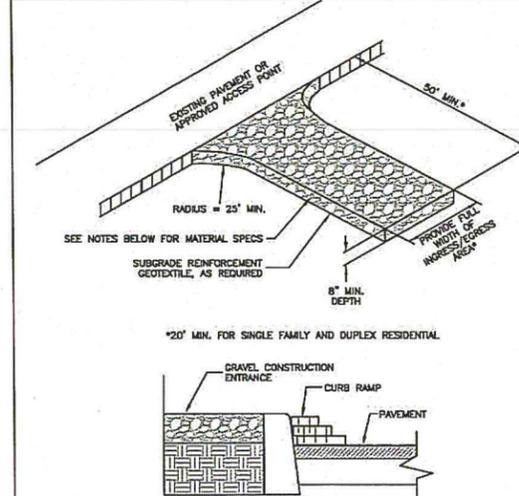
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275					
250		C	C	C	D
225					
200		B			
175	A				
150					
125		A	B	B	
100					
75					
50					
25					
0					

LENGTH AND SLOPE TABLE

- NOTE:
1. MINIMUM STAPLE PATTERN GUIDE AND RECOMMENDATION FOR SLOPE AND CHANNEL INSTALLATION.

MATting STAPLE PATTERN

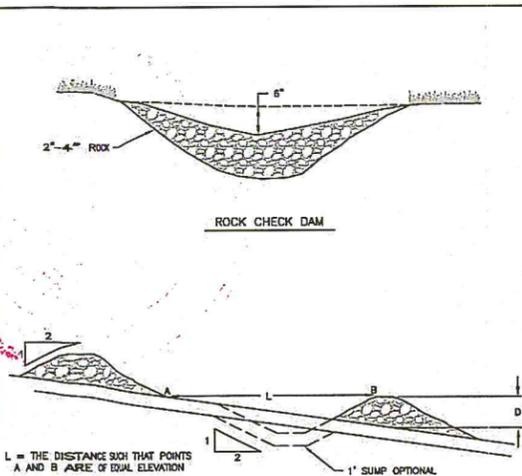
Detail Drawing 3.1.7c



- NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
 3. WHERE RUNOFF CONTAINING SEDIMENT-LOADED WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
 4. DIMENSIONS: SINGLE FAMILY AND DUPLEX 20' LONG BY 20' WIDE, 8" DEEP OF 3/4" MINUS CLEAN ROCK. COMMERCIAL 50' LONG BY 20' WIDE, 3-6" DEEP CLEAN ROCK. GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

CONSTRUCTION ENTRANCE

Detail Drawing 3.2.1

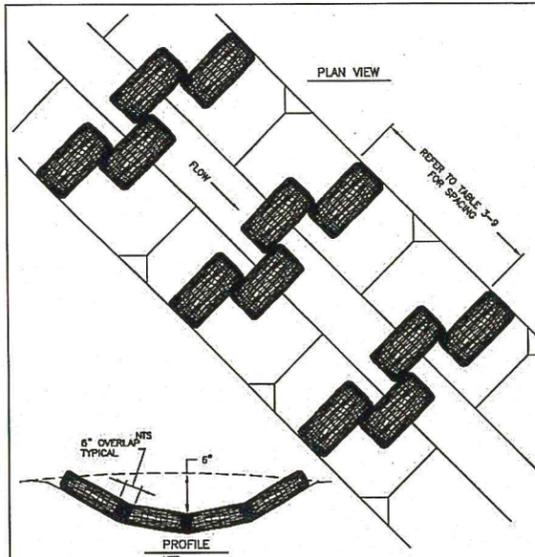


SPACING BETWEEN CHECK DAMS

DITCH GRADE	4 INCH	6 INCH	8 INCH
2%	15 FT O.C.	25 FT O.C.	35 FT O.C.
4%	20 FT	30 FT	40 FT
6%	25 FT	35 FT	45 FT
8%	30 FT	40 FT	50 FT
10%	35 FT	45 FT	55 FT
12%	40 FT	50 FT	60 FT

CHECK DAM ROCK

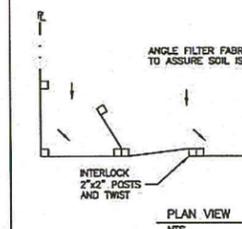
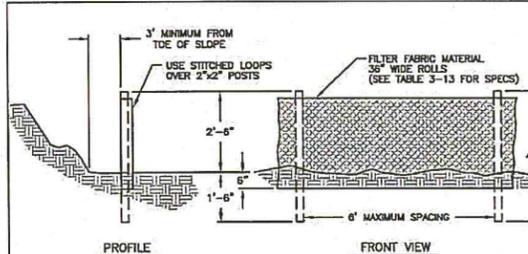
Detail Drawing 3.2.6a



DITCH GRADE	6 INCH	8 INCH	10 INCH
2%	15 FT O.C.	25 FT O.C.	35 FT O.C.
4%	20 FT	30 FT	40 FT
6%	25 FT	35 FT	45 FT
8%	30 FT	40 FT	50 FT
10%	35 FT	45 FT	55 FT
12%	40 FT	50 FT	60 FT

CHECK DAM BIOFILTER BAG

Detail Drawing 3.2.6b

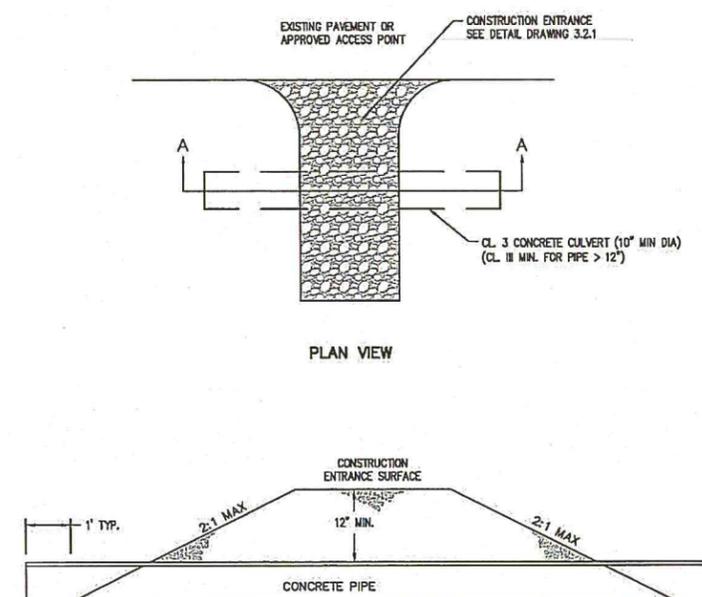


PROPERTY	TEST PROCEDURE	MINIMUM FABRIC VALUE
Crab Tensile Strength	ASTM D-4832	180 lbs
Crab Elongation	ASTM D-4832	15%
Topsoil Loss	ASTM D-4833	70 lbs
Wullen Burst	ASTM D-3785	300 psi
Permeability	ASTM D-4833	80 in
Permeability	ASTM D-4881	0.007 sec-1
Permeability	ASTM D-4881	0.005 cm/sec
Segment Opening Size (205)	ASTM D-2157	24 U.S. sieve
UV Resistance (500 hrs)	ASTM D-4355	90%

% SLOPE	SLOPE ON SLOPE	MAX SPACING
10-15%	10:1 to 15:1	300 ft
15-20%	7.5:1 to 10:1	150 ft
20-30%	5:1 to 7.5:1	100 ft
30-50%	3:1 to 5:1	75 ft

SEDIMENT FENCE

Detail Drawing 3.3.1



CONSTRUCTION ENTRANCE OVER EXISTING DITCH

EROSION CONTROL DETAILS

NORTHWEST NATURAL GAS COMPANY
CORVALLIS LOOP

PROJECT NUMBER: 035901
DRAWING FILE NAME: 035901-C-DT01
SCALE: NOT TO SCALE

SHEET NUMBER: C1.22

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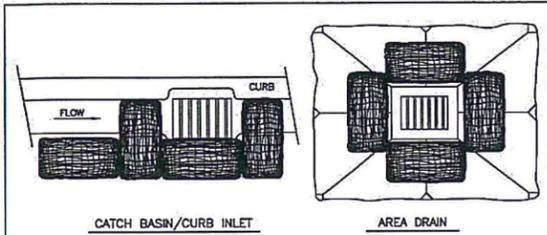
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PORTLAND, OR 97209

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CHECKED	DLB
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LAST EDIT	3/28/2012
PLOT DATE	3/28/2012
SUBMITTAL	

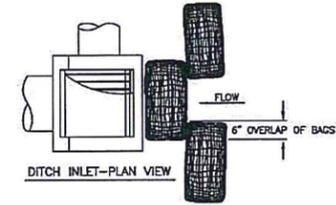
REVISIONS			
NO.	BY	DATE	REMARKS

REGISTERED PROFESSIONAL ENGINEER
79865PE
OREGON
SEP 11, 2007
DANIEL BOLTINGHOUSE
EXPIRES: 12/31/2011

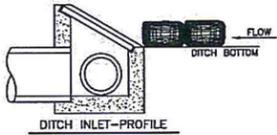


CATCH BASIN/CURB INLET

AREA DRAIN



DITCH INLET-PLAN VIEW

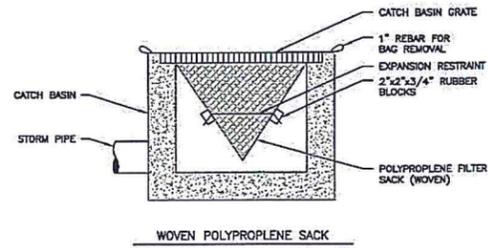


DITCH INLET-PROFILE

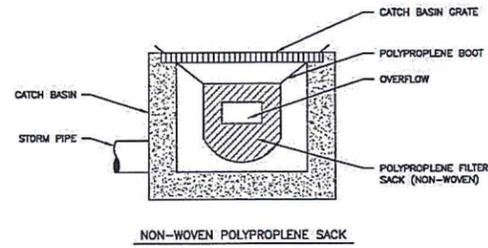
NOTES:
 1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
 2. BIOFILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.

INLET PROTECTION
 TYPE 4 - BIOFILTER BAGS

Detail Drawing 3.3.7d



WOVEN POLYPROPYLENE SACK

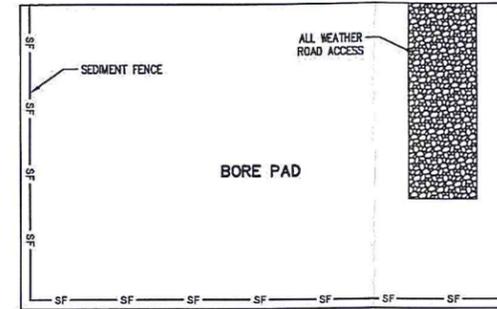


NON-WOVEN POLYPROPYLENE SACK

NOTE:
 1. RECESSED CURB INLET CATCH BASINS MUST BE BLOCKED WHEN USING FILTER FABRIC INLET SACKS. SIZE OF FILTER FABRIC INLET SACKS TO BE DETERMINED BY MANUFACTURER.

INLET PROTECTION
 TYPE 5 - CATCH BASIN INSERT

Detail Drawing 3.3.7e



TYPICAL BORE PAD DETAIL



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SHEET INFO		REVISIONS			
DESIGNED	JTT	NO.	BY	DATE	REMARKS
DRAWN	JTT				
CHECKED	DLB				
APPROVED	DLB				
LAST EDIT	3/28/2012				
PLOT DATE	3/28/2012				
SUBMITTAL					



EROSION CONTROL DETAILS

NORTHWEST NATURAL GAS COMPANY
 CORVALLIS LOOP

PROJECT NUMBER 035901	DRAWING FILE NAME 035901-C-DT01	SCALE NOT TO SCALE
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SHEET NUMBER
C1.23