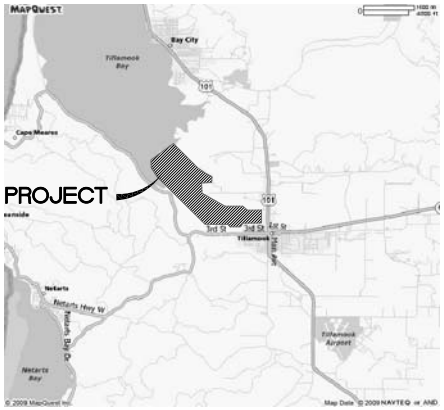
SOUTHERN FLOW CORRIDOR PRELIMINARY DESIGN

JULY 14, 2015

OREGON SOLUTIONS

PORT OF TILLAMOOK BAY

TILLAMOOK COUNTY



VICINITY MAP

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ON BEHALF OF:

PORT OF TILLAMOOK BAY
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LEGEND

- FILL REMOVAL LIMITS
- TREE PROTECTION AREA
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING GROUND SURFACE (PROFILES AND CROSS SECTIONS)
- PROPOSED GROUND SURFACE (PROFILES AND CROSS SECTIONS)
- EXISTING SPRUCE TREE (SHOWN ONLY NEAR/ON EXISTING BERM. ALDER TREES NOT SHOWN)
- EXISTING MURRELET POTENTIAL NEST TREE
- FLOATING SILT CURTAIN
- WOOD CHIP FILTER BERM

ABBREVIATIONS

@	AT	N	NORTH
AC	ASPHALT	NE	NORTH EAST
CB	CATCH BASIN	NTS	NOT TO SCALE
C/L	CENTERLINE	NW	NORTH WEST
CMP	CORRUGATED METAL PIPE	OHP	OVER HEAD POWER
CO	CLEAN OUT	P/L	PROPERTY LINE
COTG	CLEAN OUT TO GRADE	PVC	POLYVINYL CHLORIDE
CY	CUBIC YARDS	ROW	RIGHT OF WAY
DR	DRIVE	RT	RIGHT
DIP	DUCTILE IRON PIPE	S	SOUTH
E	EAST	SE	SOUTH EAST
ELEV	ELEVATION	SW	SOUTH WEST
EP	EDGE OF PAVEMENT	STM	STORM DRAIN
EX	EXISTING	SF	SQUARE FEET
FCS	FLOOD CONTROL STRUCTURE	SAN	SANITARY SEWER
GUT	GUTTER	ST	STREET
HDPE	HIGH DENSITY POLYETHYLENE	STA	STATION
HOR	HORIZONTAL	S=	SLOPE EQUALS
HOT	HIGHEST OBSERVED TIDE	S/W	SIDEWALK
HP	HIGH POINT	TB	THRUST BLOCK
IE	INVERT ELEVATION	TYP	TYPICAL
LF	LINEAR FEET	VER	VERTICAL
LN	LINE	W	WEST
LP	LOW POINT	W/	WITH
LT	LEFT	WTR	WATER
MH	MANHOLE		

TAX LOT INFORMATION

THIS PROJECT IS LOCATED IN A PORTION OF SECTION 22 AND 23 OF TOWNSHIP 1 SOUTH, RANGE 10 WEST OF THE WILLAMETTE MERIDIAN. COUNTY OF TILLAMOOK, STATE OF OREGON.

VERTICAL DATUM

THE ELEVATIONS SHOWN HEREON ARE BASED UPON NAVD 88 DATUM.

LOCATE

(48 HOUR NOTICE PRIOR TO EXCAVATION)

OREGON LAW REQUIRES YOU TO FOLLOW THE RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952–001–0010 THROUGH 952–001–0090 & ORS 757.542 THROUGH 757.562 & ORS 757.993. YOU MAY OBTAIN COPIES OF THE RULES FROM THE CENTER BY CALLING (503) 246–1987.
ONE CALL SYSTEM NUMBER 1–800–332–2344.

REGISTERED PROFESSIONAL ENGINEER 70347PE ANDREY R. CHERNISHOV
PRELIMINARY
EXPIRES 12/31/2015

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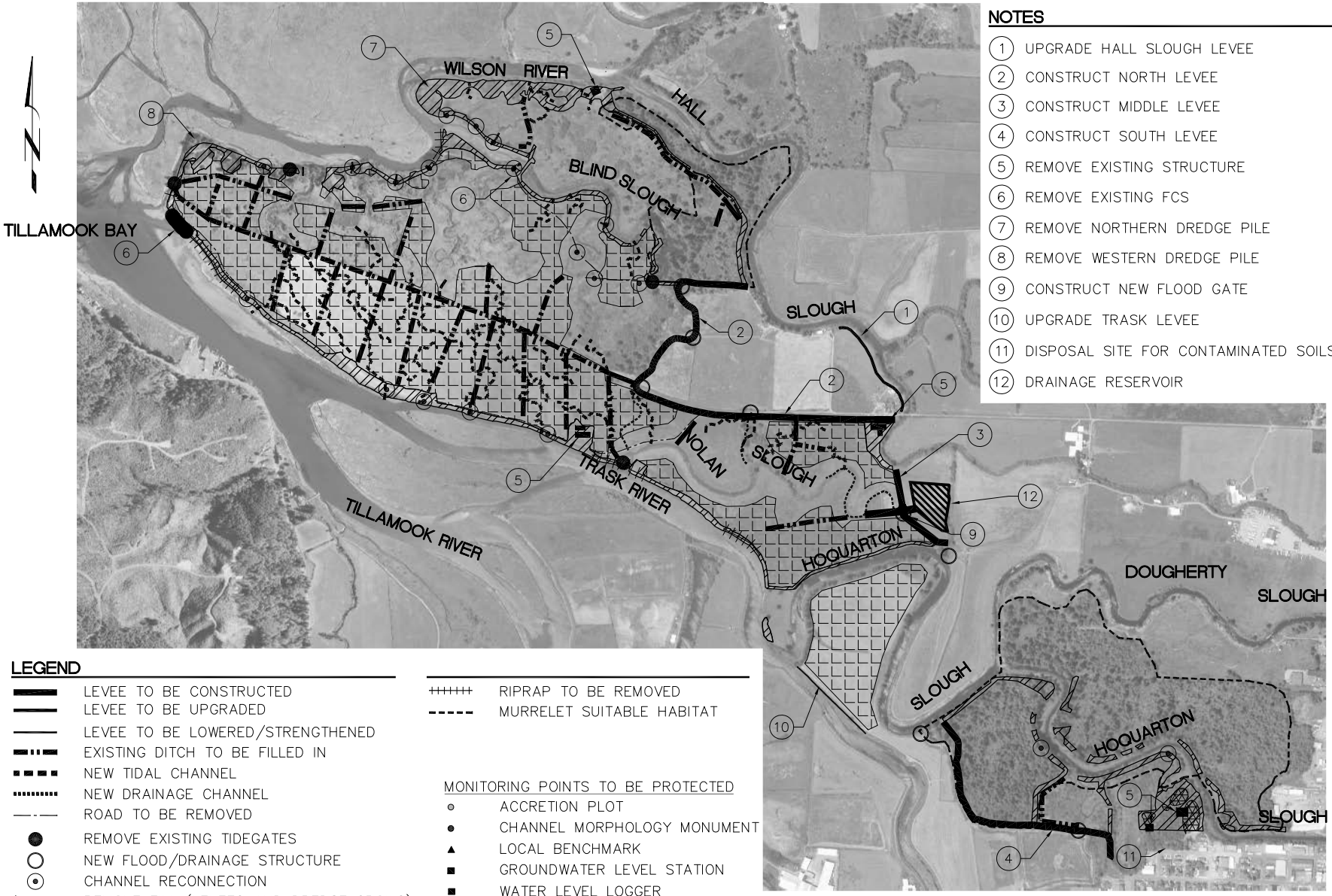
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
COVER SHEET

Date: 07-14-15 | Sheet No.: 1 of 29
2009-003-03



NOTES

1. UPGRADE HALL SLOUGH LEVEE
2. CONSTRUCT NORTH LEVEE
3. CONSTRUCT MIDDLE LEVEE
4. CONSTRUCT SOUTH LEVEE
5. REMOVE EXISTING STRUCTURE
6. REMOVE EXISTING FCS
7. REMOVE NORTHERN DREDGE PILE
8. REMOVE WESTERN DREDGE PILE
9. CONSTRUCT NEW FLOOD GATE
10. UPGRADE TRASK LEVEE
11. DISPOSAL SITE FOR CONTAMINATED SOILS
12. DRAINAGE RESERVOIR

LEGEND

- LEVEE TO BE CONSTRUCTED
- LEVEE TO BE UPGRADED
- LEVEE TO BE LOWERED/STRENGTHENED
- EXISTING DITCH TO BE FILLED IN
- NEW TIDAL CHANNEL
- NEW DRAINAGE CHANNEL
- ROAD TO BE REMOVED
- REMOVE EXISTING TIDEGATES
- NEW FLOOD/DRAINAGE STRUCTURE
- CHANNEL RECONNECTION
- REMOVE FILL (LEVEES AND DREDGE SPOILS)
- REMOVE EXISTING STRUCTURE
- RIPRAP TO BE REMOVED
- MURRELET SUITABLE HABITAT

MONITORING POINTS TO BE PROTECTED

- ACCRETION PLOT
- CHANNEL MORPHOLOGY MONUMENT
- LOCAL BENCHMARK
- GROUNDWATER LEVEL STATION
- WATER LEVEL LOGGER

- TOPSOIL DISPOSAL AREA
- CONTAMINATED SOIL

PROJECT OVERVIEW

SCALE: 1" = 1000'

GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

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PRELIMINARY
ANDREY R. CHERNISHOV
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TILLAMOOK, OREGON
PROJECT OVERVIEW

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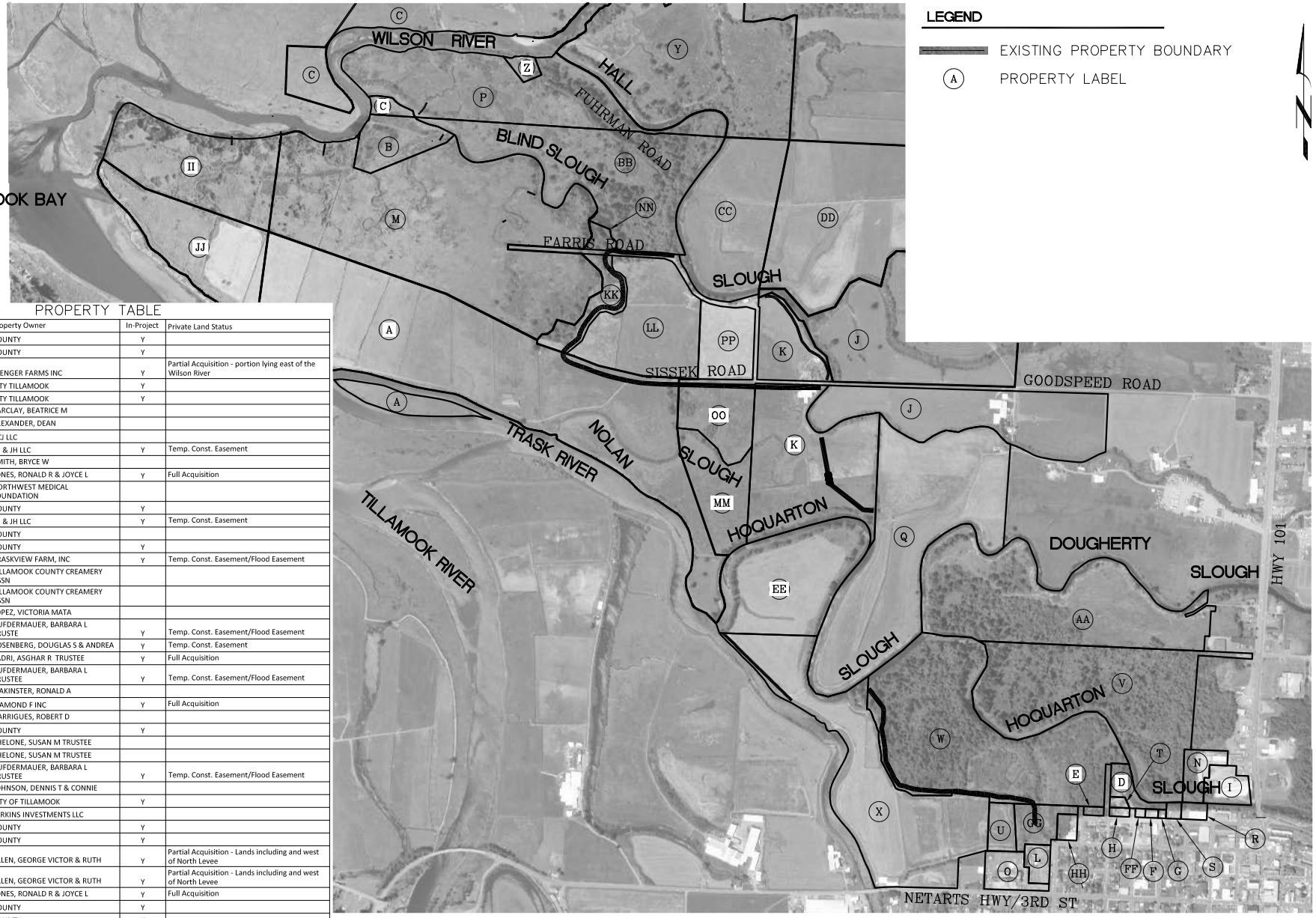
Sheet No. 2 of 29
2009-003-03



PROPERTY TABLE

Label	Taxlot #	Property Owner	In-Project	Private Land Status
A	900	COUNTY	Y	
B	800	COUNTY	Y	
C	100	GIENGER FARMS INC	Y	Partial Acquisition - portion lying east of the Wilson River
D	190	CITY TILLAMOOK	Y	
E	400	CITY TILLAMOOK	Y	
F	700	BARCLAY, BEATRICE M		
G	600	ALEXANDER, DEAN		
H	300	DCJ LLC		
I	1300	LH & JH LLC	Y	Temp. Const. Easement
J	700	SMITH, BRYCE W		
K	600	JONES, RONALD R & JOYCE L	Y	Full Acquisition
L	4400	NORTHWEST MEDICAL FOUNDATION		
M	801	COUNTY	Y	
N	1400	LH & JH LLC	Y	Temp. Const. Easement
O	4700	COUNTY		
P	400	COUNTY	Y	
Q	900	TRASKVIEW FARM, INC	Y	Temp. Const. Easement/Flood Easement
R	501	TILLAMOOK COUNTY CREAMERY ASSN		
S	502	TILLAMOOK COUNTY CREAMERY ASSN		
T	200	LOPEZ, VICTORIA MATA		
U	4600	AUFDERMAUER, BARBARA L TRUSTE	Y	Temp. Const. Easement/Flood Easement
V	100	ROSENBERG, DOUGLAS S & ANDREA	Y	Temp. Const. Easement
W	200	SADRI, ASGHAR R TRUSTEE	Y	Full Acquisition
X	400	AUFDERMAUER, BARBARA L TRUSTEE	Y	Temp. Const. Easement/Flood Easement
Y	700	MAKINSTER, RONALD A		
Z	401	DIAMOND F INC	Y	Full Acquisition
AA	2200	GARRIGUES, ROBERT D		
BB	200	COUNTY	Y	
CC	100	CHELONE, SUSAN M TRUSTEE		
DD	500	CHELONE, SUSAN M TRUSTEE		
EE	1000	AUFDERMAUER, BARBARA L TRUSTEE	Y	Temp. Const. Easement/Flood Easement
FF	701	JOHNSON, DENNIS T & CONNIE		
GG	4500	CITY OF TILLAMOOK	Y	
HH	4501	PERKINS INVESTMENTS LLC		
II	100	COUNTY	Y	
JJ	200	COUNTY	Y	
KK	700	ALLEN, GEORGE VICTOR & RUTH	Y	Partial Acquisition - Lands including and west of North Levee
LL	600	ALLEN, GEORGE VICTOR & RUTH	Y	Partial Acquisition - Lands including and west of North Levee
MM	1500	JONES, RONALD R & JOYCE L	Y	Full Acquisition
NN	300	COUNTY	Y	
OO	1400	COUNTY	Y	
PP	500	JONES, RONALD R & JOYCE L	Y	Full Acquisition
Right-of -Way		COUNTY	Y	Portions of Goodspeed, Sissek & Farris Rd.
Right-of -Way		CITY	Y	Douglas Ave Extension

PROPERTY BOUNDARIES AND MONUMENTS

SCALE: 1" = 1000'

GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

REGISTERED PROFESSIONAL ENGINEER 78040PE OREGON JUNE 09, 2010 JERRY R. CHERWINSKY EXPIRES 12/31/2010

PRELIMINARY

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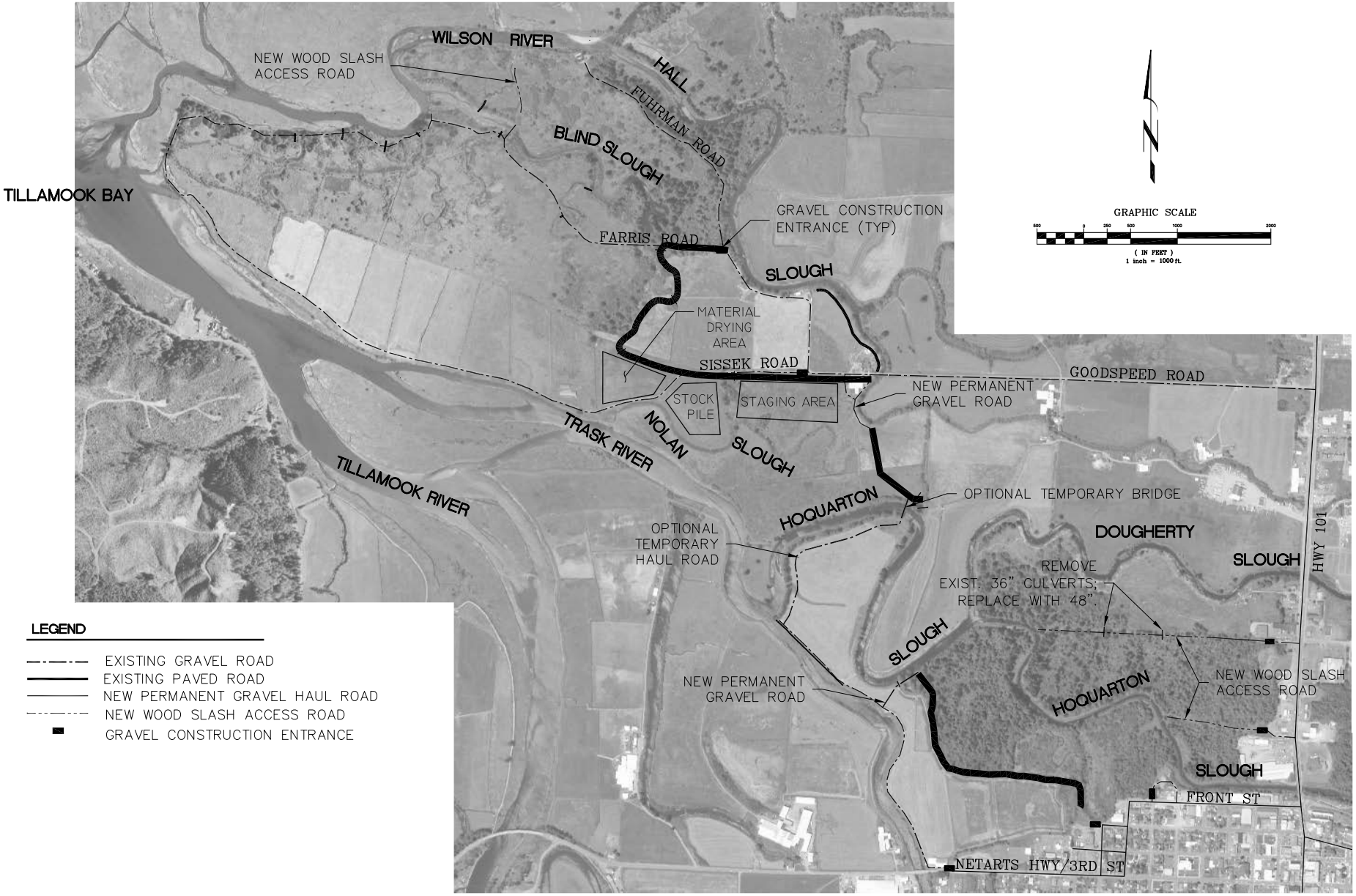
506 SW MILL STREET, PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
PROPERTY BOUNDARIES AND MONUMENTS

Date: 06-04-15 | Sheet No. 3 of 29

2009-003-03



ACCESS PLAN AND HAUL ROADS

SCALE: 1" = 1000'

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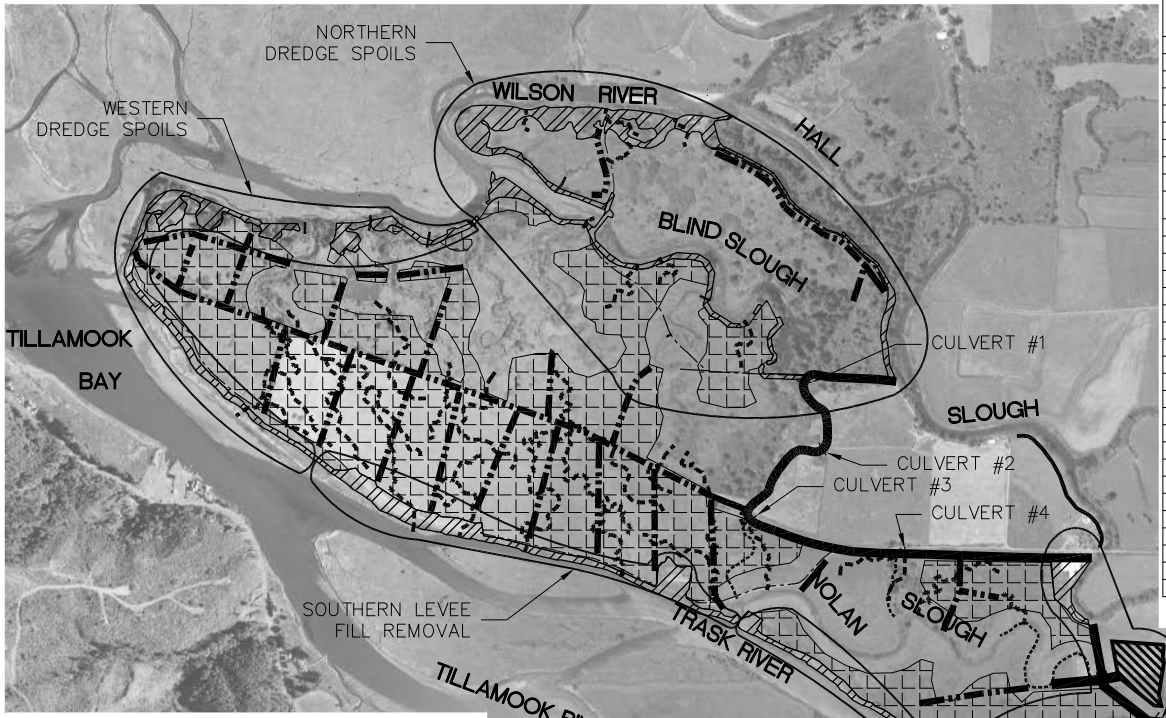
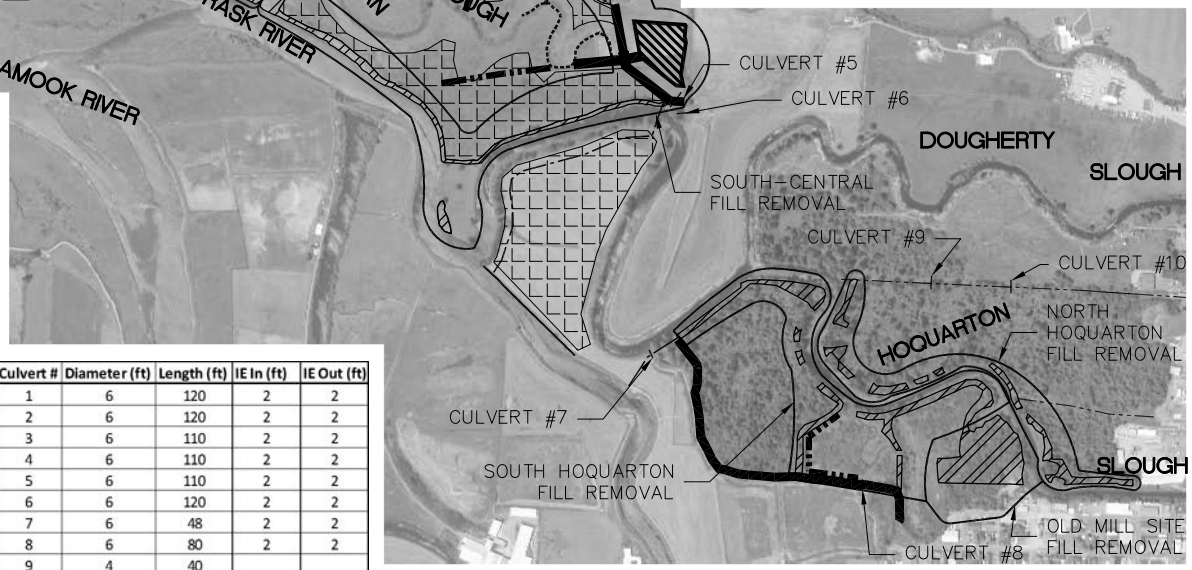
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
ACCESS PLAN AND HAUL ROADS

Sheet No. 4 | 4 of 29
Date 07-14-15
2009-003-03





Project Element	Total Volume (cy)*	Total Area (ac)	Total Length (ft)	Levee Road Aggregate (cy)	Stripping/Topsoil Volume (cy)**	Contaminated Volume (cy)	3' Summer Levee Volume (cy)	Clean Fill Volume (cy)
CUT								
North Levee	20	-	-	-	13,300	-	-	-
Middle Levee	0	-	-	-	2,200	-	-	-
South Levee	100	-	-	-	4,200	-	-	-
Trask Levee	10	-	-	-	700	-	-	-
Hall Slough Levee	50	-	-	-	1,200	-	-	-
Northern Dredge Piles	36,000	14.9	-	-	24,000	-	2,400	9,600
Western Dredge Piles	26,000	8.3	-	-	13,000	-	2,400	10,600
Southern Levee Fill Removal	22,000	7.4	-	-	12,000	-	2,700	7,300
South-Central Levee Fill Removal	14,500	5.6	-	-	9,000	-	800	4,700
Hoquarton South Fill Removal	23,000	5.4	-	-	9,000	-	1,700	12,300
Hoquarton North Fill Removal	21,000	3.3	-	-	5,000	-	1,700	14,300
Old Mill Site Fill Removal	43,000	7.8	-	-	13,000	21,000	300	8,700
Tidal Channels	35,000	5.4	29,200	-	9,000	-	-	26,000
Drainage Channels	11,000	5.6	3,500	-	4,000	-	-	7,000
Rip-Rap	3,000	1.0	2,800	-	-	-	-	-
TOTAL	**234,680**	**65**	**-**	**-**	**119,600**	**21,000**	**12,000**	**100,500**
FILL								
North Levee	79,000	8.3	4,991	2,800	3,900	-	-	72,300
Middle Levee	10,000	1.4	1,044	600	500	-	-	8,900
South Levee	19,000	2.6	2,764	1,500	600	-	-	16,900
Trask Levee	2,000	0.4	1,001	600	0	-	-	1,400
Hall Slough Levee	2,000	0.8	1,179	700	300	-	-	1,000
Old Mill Site Contaminated Soil	21,000	0.6	-	-	900	21,000	-	?
Ditch Fill	27,000	6.8	250,000	-	27,000	-	-	0
Topsoil Disposal Area	98,400	192.0	-	-	98,400	-	-	0
Rip Rap	3,000	-	1,044	-	-	-	-	-
TOTAL	**261,400**	**213**	**-**	**6,200**	**131,600**	**21,000**	**-**	**100,500**
Wood Slash Access Roads	3,000	0.9		-	-	-	-	-

**Volumes are based on Lidar surface data, which may be off as much as +-20%.*

***Assuming 12" stripping (cut) depth and 6" topsoil (fill) depth*

LEGEND

- LEVEE TO BE CONSTRUCTED
- LEVEE TO BE UPGRADED
- LEVEE TO BE LOWERED/STRENGTHENED
- ROAD TO BE REMOVED
- EXISTING DITCH TO BE FILLED IN
- NEW TIDAL CHANNEL
- NEW DRAINAGE CHANNEL
- REMOVE FILL (LEVEES AND DREDGE SPOILS)
- TOPSOIL DISPOSAL AREA

NOTES

1. ALL LEVEES CONSTRUCTED OR DISTURBED SHALL BE MATTED AND SEEDED.

Culvert #	Diameter (ft)	Length (ft)	IE In (ft)	IE Out (ft)
1	6	120	2	2
2	6	120	2	2
3	6	110	2	2
4	6	110	2	2
5	6	110	2	2
6	6	120	2	2
7	6	48	2	2
8	6	80	2	2
9	4	40		
10	4	40		

GRADING OVERVIEW

SCALE: 1" = 1000'

GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

REGISTERED PROFESSIONAL ENGINEER 78040PE OREGON JULY 28, 2010 ROY R. CHERWINSKY EXPIRES 12/31/2010

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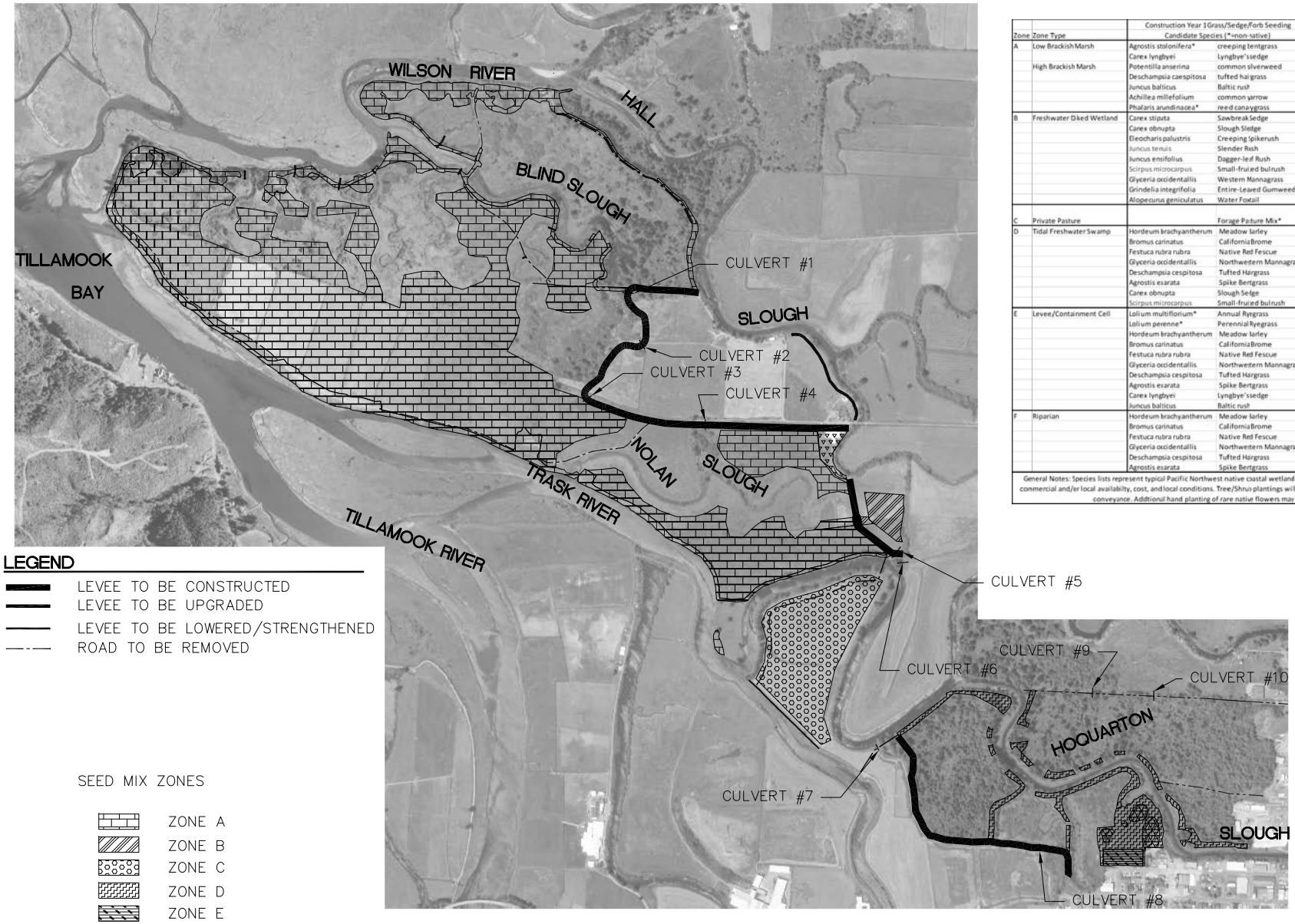
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
GRADING OVERVIEW

Date: 07-14-15
Sheet No.: 5 of 29
2009-003-03



Zone	Zone Type	Construction Year 1 Grass/Sedge/Forb Seeding Candidate Species (*=non-native)		Year 2 Planting	Notes
A	Low Brackish Marsh	Agrostis stolonifera*	creeping bentgrass		No seeding to occur. Species list reflects expected natural recolonization based on reference site surveys by Institute for Applied Ecology
		Carex lyngbyei	Lyngbye's sedge		
	High Brackish Marsh	Potentilla anserina	common silverweed		
		Deschampsia caespitosa	tufted hairgrass		
		Juncus balticus	Baltic rush		
		Achillea millefolium	common yarrow		
		Phalaris arundinacea*	reed canarygrass	None	
B	Freshwater Diked Wetland	Carex stipata	Sawbreak Sedge		
		Carex obnupta	Slough Sledge		
		Eleocharis palustris	Creeping Spikerush		
		Juncus tenuis	Slender Rush		
		Juncus ensifolius	Dagger-leaf Rush		
		Scirpus microcarpus	Small-fruited bulrush		
		Glyceria occidentallis	Western Mannagrass		
		Grindelia integrifolia	Entire-Leaved Gumweed		
		Alopecurus geniculatus	Water Foxtail	None	
C	Private Pasture			None	Remains in Private Ownership
D	Tidal Freshwater Swamp	Hordeum brachyantherum	Meadow barley		
		Bromus carinatus	California Brome		
		Festuca rubra rubra	Native Red Fescue	Sitka Spruce Swamp Tree /Shrub community	
		Glyceria occidentallis	Northwestern Mannagrass		
		Deschampsia cespitosa	Tufted Hairgrass		
		Agrostis exarata	Spike Bentgrass		
		Carex obnupta	Slough Sedge		
		Scirpus microcarpus	Small-fruited bulrush		
E	Levee/Containment Cell	Lolium multiflorium*	Annual Ryegrass		
		Lolium perenne*	Perennial Ryegrass		
		Hordeum brachyantherum	Meadow barley		
		Bromus carinatus	California Brome		
		Festuca rubra rubra	Native Red Fescue	Misc. reseeding for minor erosion control and re-grading area repair	
		Glyceria occidentallis	Northwestern Mannagrass		
		Deschampsia cespitosa	Tufted Hairgrass		
		Agrostis exarata	Spike Bentgrass		
		Carex lyngbyei	Lyngbye's sedge		
		Juncus balticus	Baltic rush		
F	Riparian	Hordeum brachyantherum	Meadow barley	Sitka Spruce Swamp Tree /Shrub community	Planting adjusted for higher and drier conditions than Tidal Freshwater Swamp Zone
		Bromus carinatus	California Brome		
		Festuca rubra rubra	Native Red Fescue		
		Glyceria occidentallis	Northwestern Mannagrass		
		Deschampsia cespitosa	Tufted Hairgrass		
		Agrostis exarata	Spike Bentgrass		

General Notes: Species lists represent typical Pacific Northwest native coastal wetland plants, and will be modifed based on commercial and/or local availability, cost, and local conditions. Tree/Shrub plantings will be designed to minimize loss of flood conveyance. Addtional hand planting of rare native flowers may occur in year 2.

REVEGETATION OVERVIEW

SCALE: 1" = 1000'

GRAPHIC SCALE

500 0 250 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

REGISTERED PROFESSIONAL ENGINEER 78040PE
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R. CHERWINSKY
EXPIRES 12/31/2013

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TILLAMOOK, OREGON
REVEGETATION OVERVIEW

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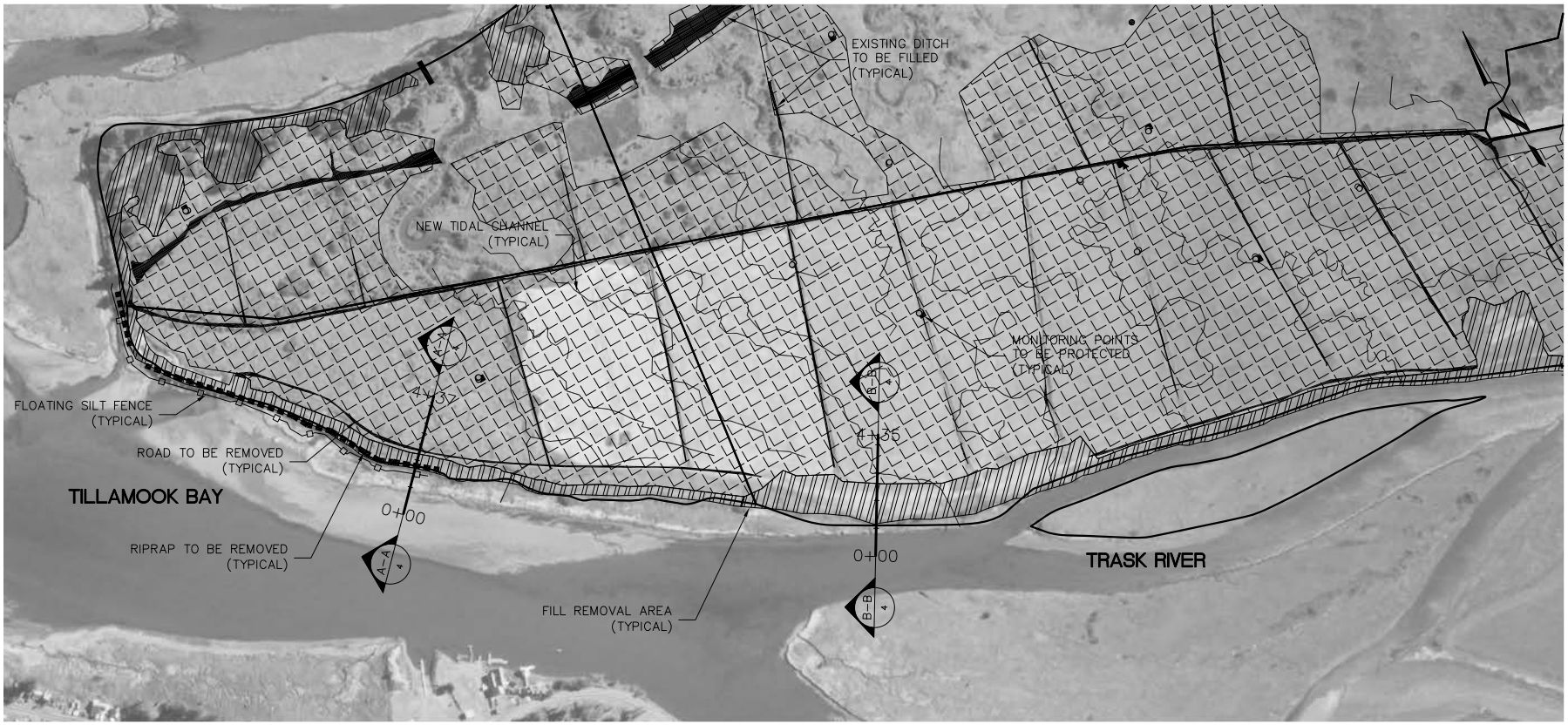
Date: 07-14-15
2009-003-03



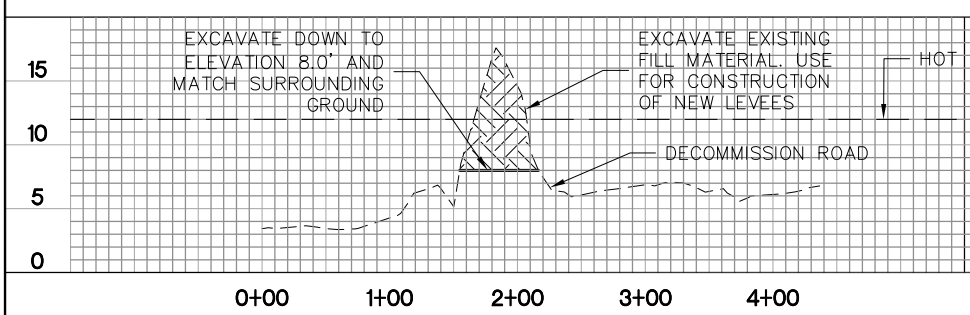
SECTIONS A-A AND B-B

SCALE: 1" = 400'

GRAPHIC SCALE

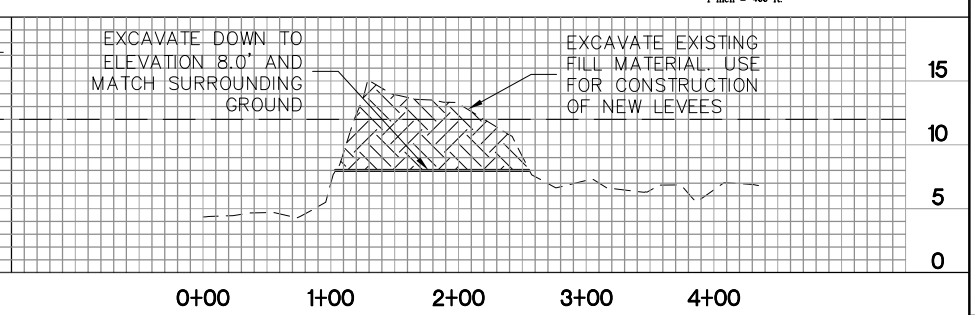
200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION A-A PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'



SECTION B-B PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
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AUGUST R. CHERNISHOV
EXPIRES 12/31/2015

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Designed By: ARC | Drawn By: ARC | Checked By: MDH | Submittal No: PRELIMINARY
File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: A-A & B-B

REV.	DATE	DESCRIPTION	BY

0" 0.5"
IF THIS LINE IS NOT 0.5 INCH SCALE IS NOT AS SHOWN

OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
GRADING/ESC PLAN
SECTIONS A-A AND B-B

Sheet No. 7 | 7 of 29
Date 06-04-15
2009-003-03

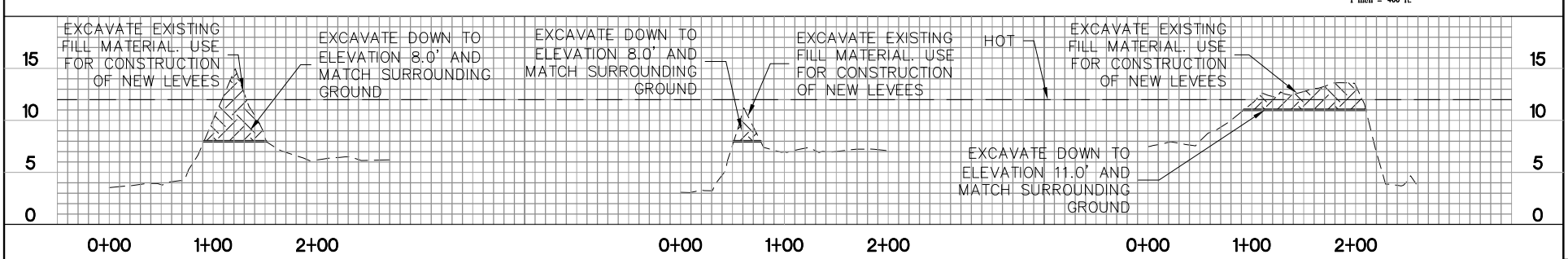
SECTIONS C-C, D-D, AND G-G

SCALE: 1" = 400'

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION C-C PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION D-D PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION G-G PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ALBERT R. CHERNISHOV
EXPIRES 12/30/2010

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File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: C-C D-D & G-G

REV.	DATE	DESCRIPTION	BY

0" 0.5"
IF THIS LINE IS NOT 0.5 INCH SCALE IS NOT AS SHOWN

OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
GRADING/ESC PLAN
SECTIONS C-C, D-D AND G-G

Sheet No. 8 of 29
Date 06-04-15
2009-003-03

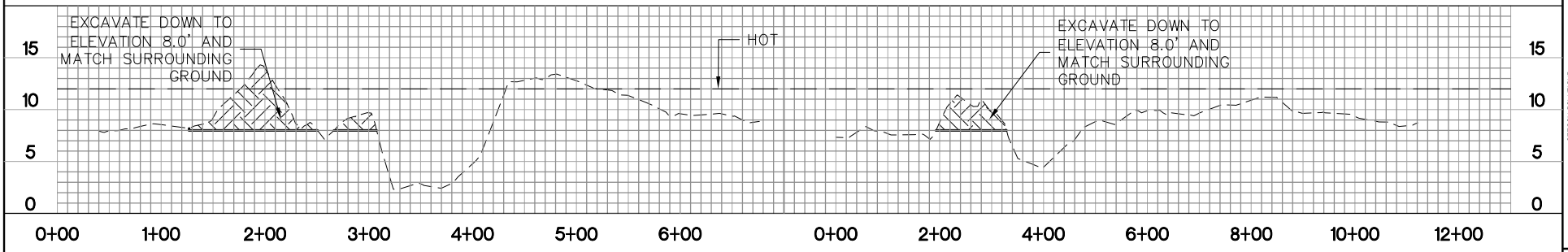
SECTIONS E-E AND F-F

SCALE: 1" = 400'

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION E-E PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION F-F PROFILE

SCALE: HOR: 1" = 200'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERNISHOV
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File: L:\2009-003-03\dwg\Permit Set\SECTIONS | Layout: E-E & F-F

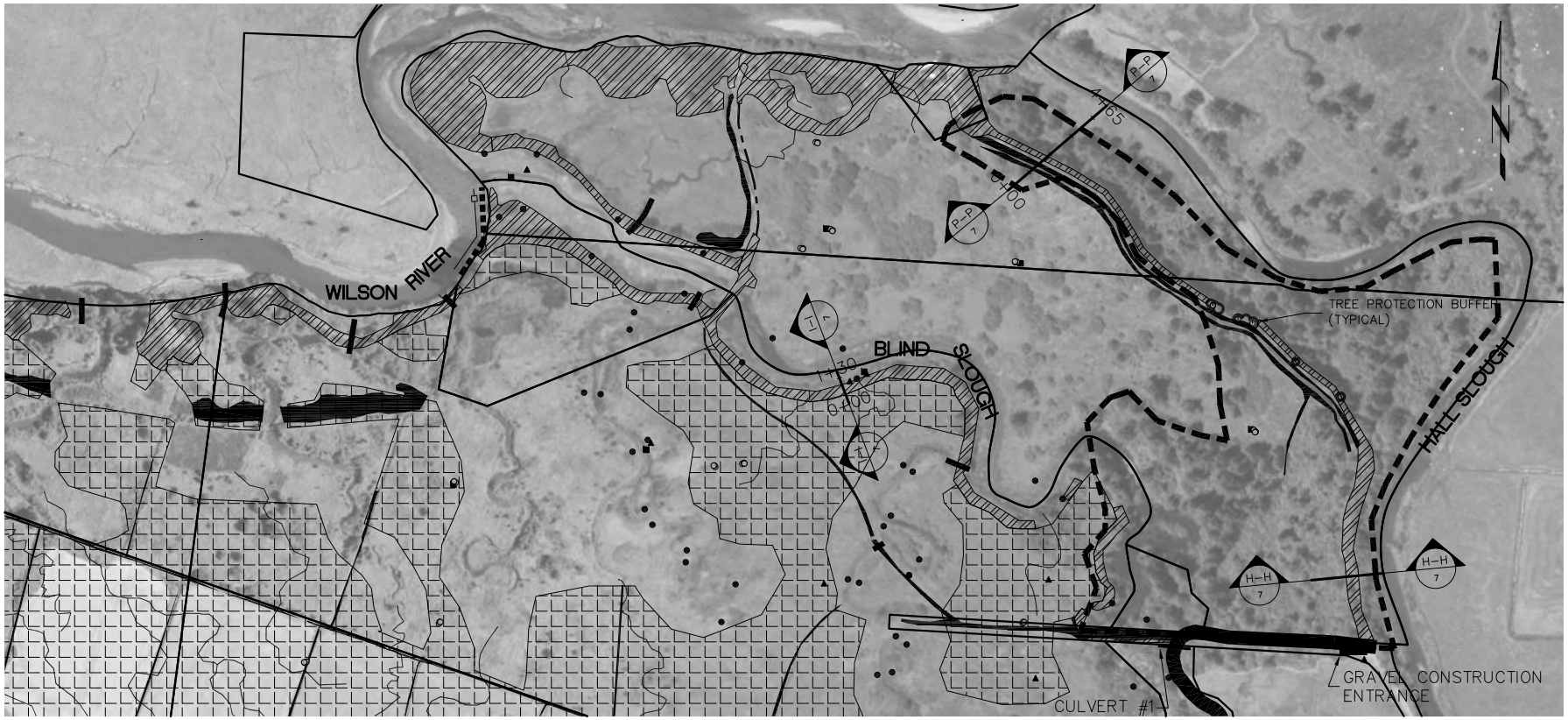
REV.	DATE	DESCRIPTION	BY

0" 0.5"
IF THIS LINE IS NOT 0.5 INCH SCALE IS NOT AS SHOWN

OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
GRADING/ESC PLAN
SECTIONS E-E AND F-F

Date: 06-04-15
Sheet No. 9 of 29
2009-003-03



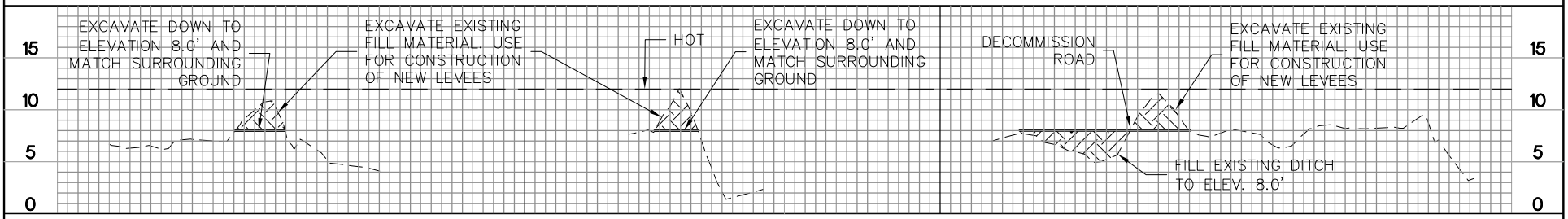
SECTIONS H-H, I-I AND P-P

SCALE: 1" = 400'

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION H-H PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION I-I PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION P-P PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
OREGON
ROBERT N. CHERRINGTON
EXPIRES 12/31/2015
PRELIMINARY

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File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: H-H I-I & J-J

REV.	DATE	DESCRIPTION	BY

0" 0.5"
IF THIS LINE IS NOT 0.5 INCH SCALE IS NOT AS SHOWN

OREGON SOLUTIONS
506 SW HILL STREET, PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

GRADING/ESC PLAN
SECTIONS H-H, I-I AND P-P

Sheet No. 10 of 29
Date 06-04-15
2009-003-03

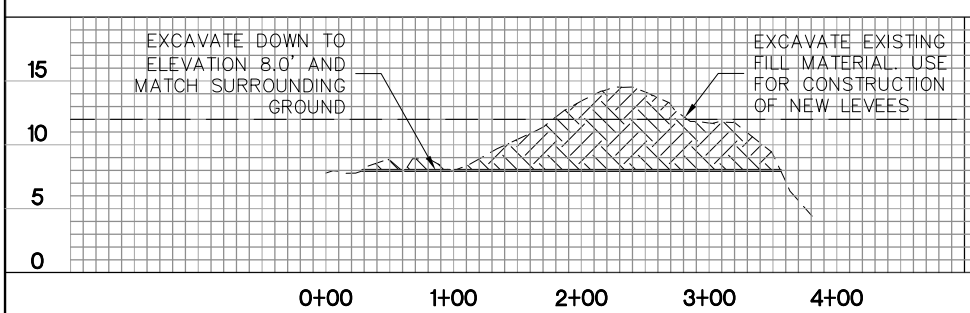
SECTIONS J-J AND K-K

SCALE: 1" = 400'

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION J-J PROFILE

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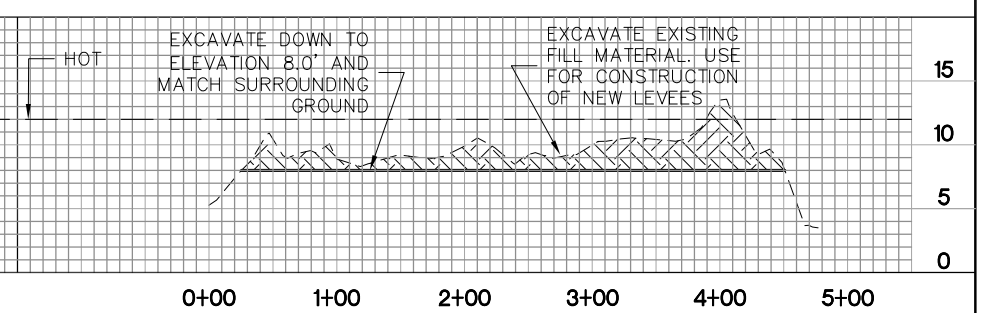
VER: 1" = 10'



SECTION K-K PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERWISHOV
EXPIRES 12/31/2015

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File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: J-J & K-K

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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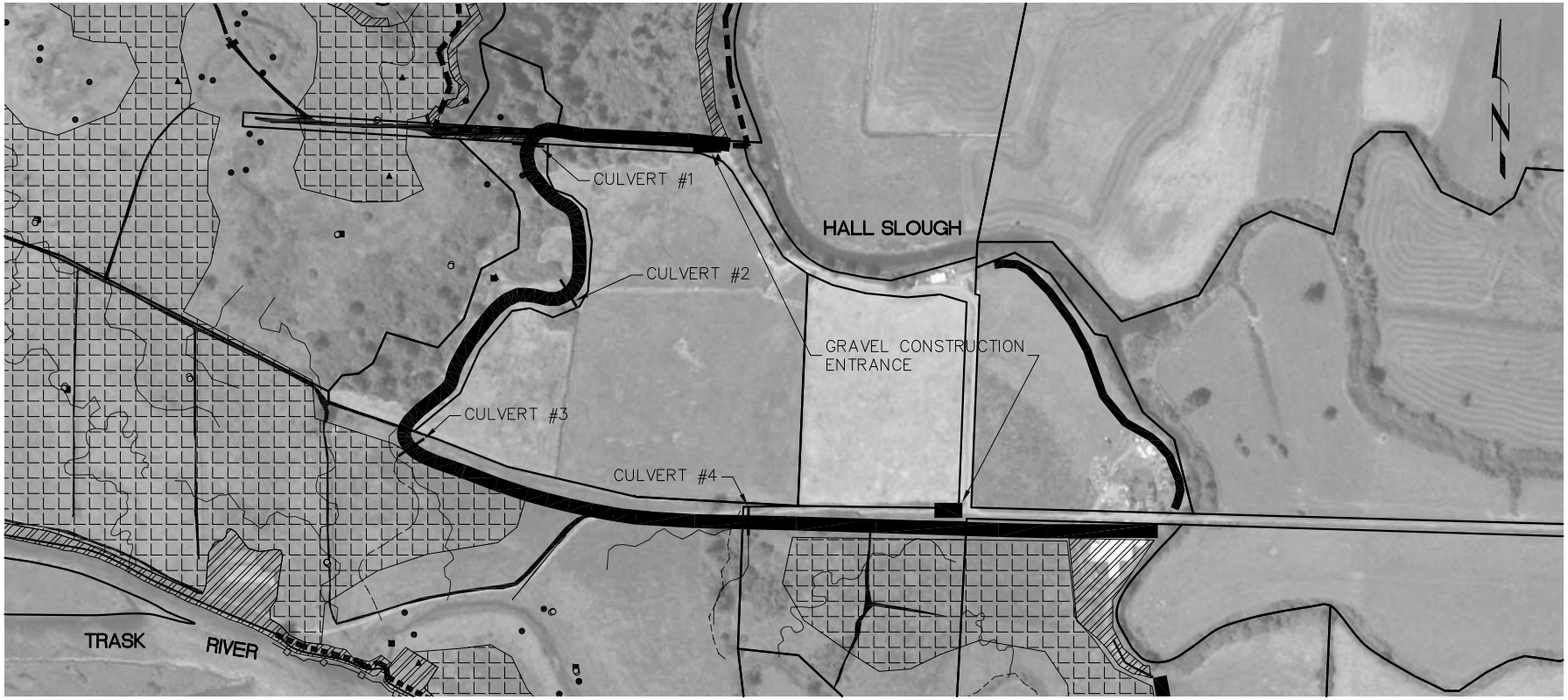
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

GRADING/ESC PLAN
SECTIONS J-J AND K-K

Sheet No. 11 | 11 of 29
Date 06-04-15
2009-003-03



NORTH LEVEE AREA

SCALE: 1" = 400'

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
AUGUST R. CHERNISHOV
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File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: SHEET 10A

REV.	DATE	DESCRIPTION	BY

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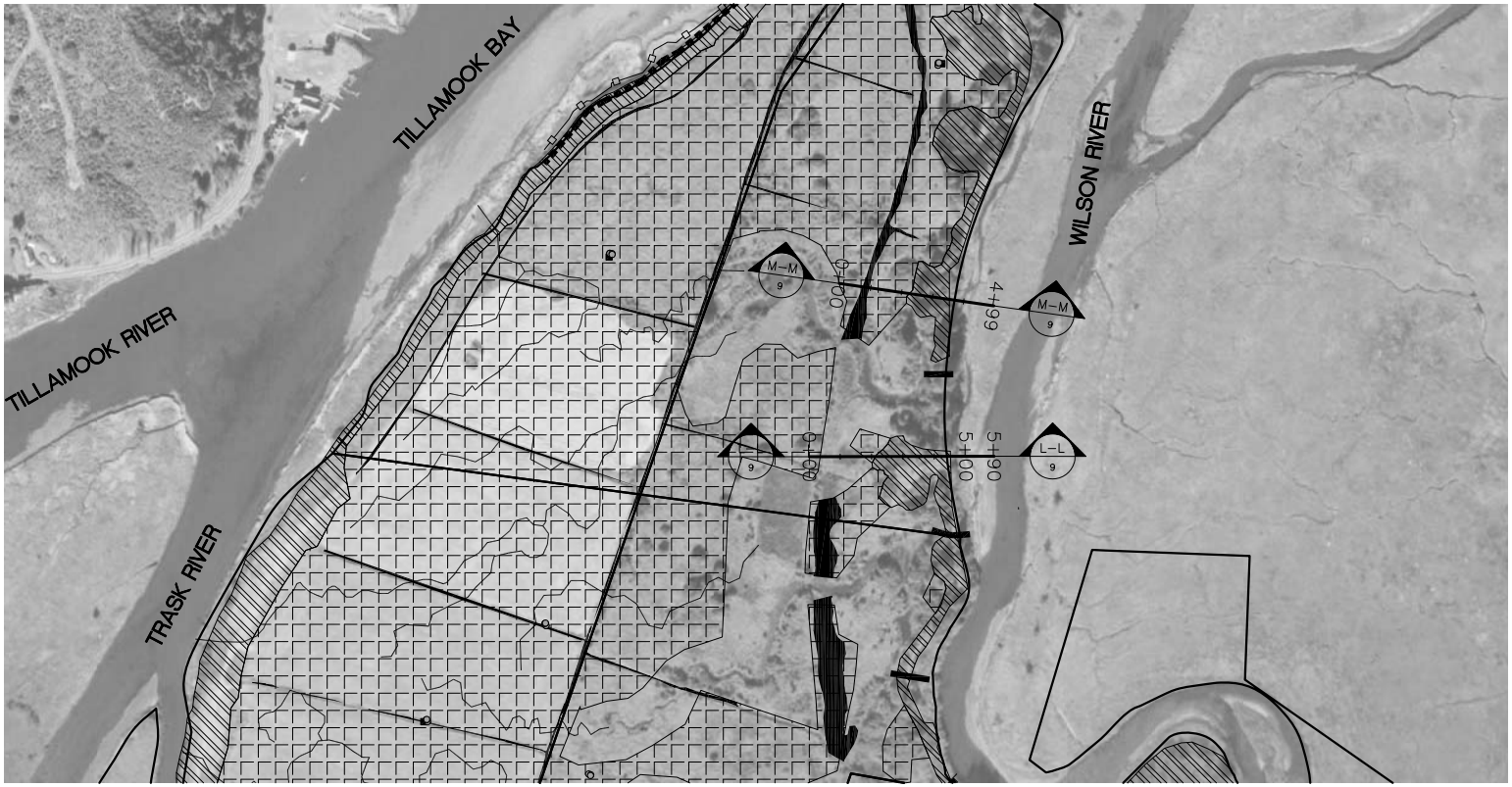
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

GRADING/ESC PLAN
NORTH LEVEE AREA

Date: 06-04-15
Sheet No. 12 of 29
2009-003-03



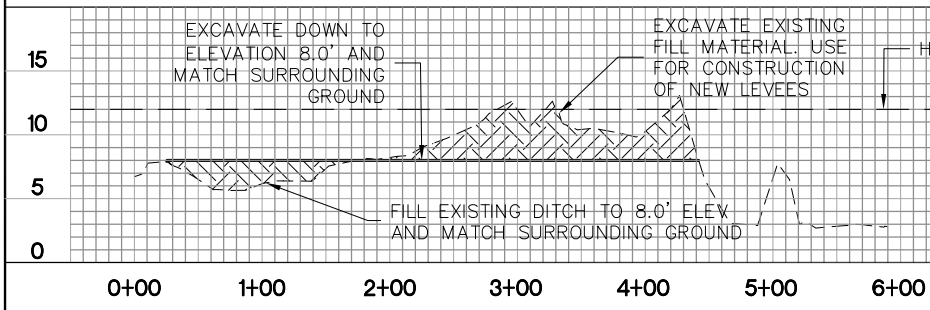
SECTIONS L-L AND M-M

SCALE: 1" = 400'

GRAPHIC SCALE

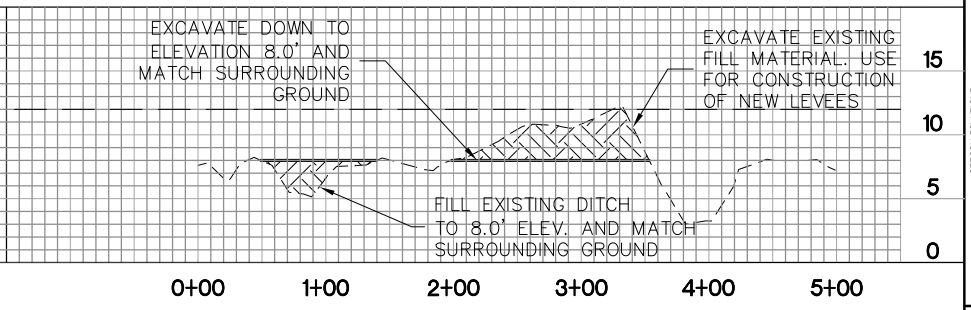
200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION L-L PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'



SECTION M-M PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ALBERT R. CHERNISHOV
EXPIRES 12/31/2015

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File: L:\2009-003-03\dwg\Permit Set\SECTIONS | Layout: L-L & M-M

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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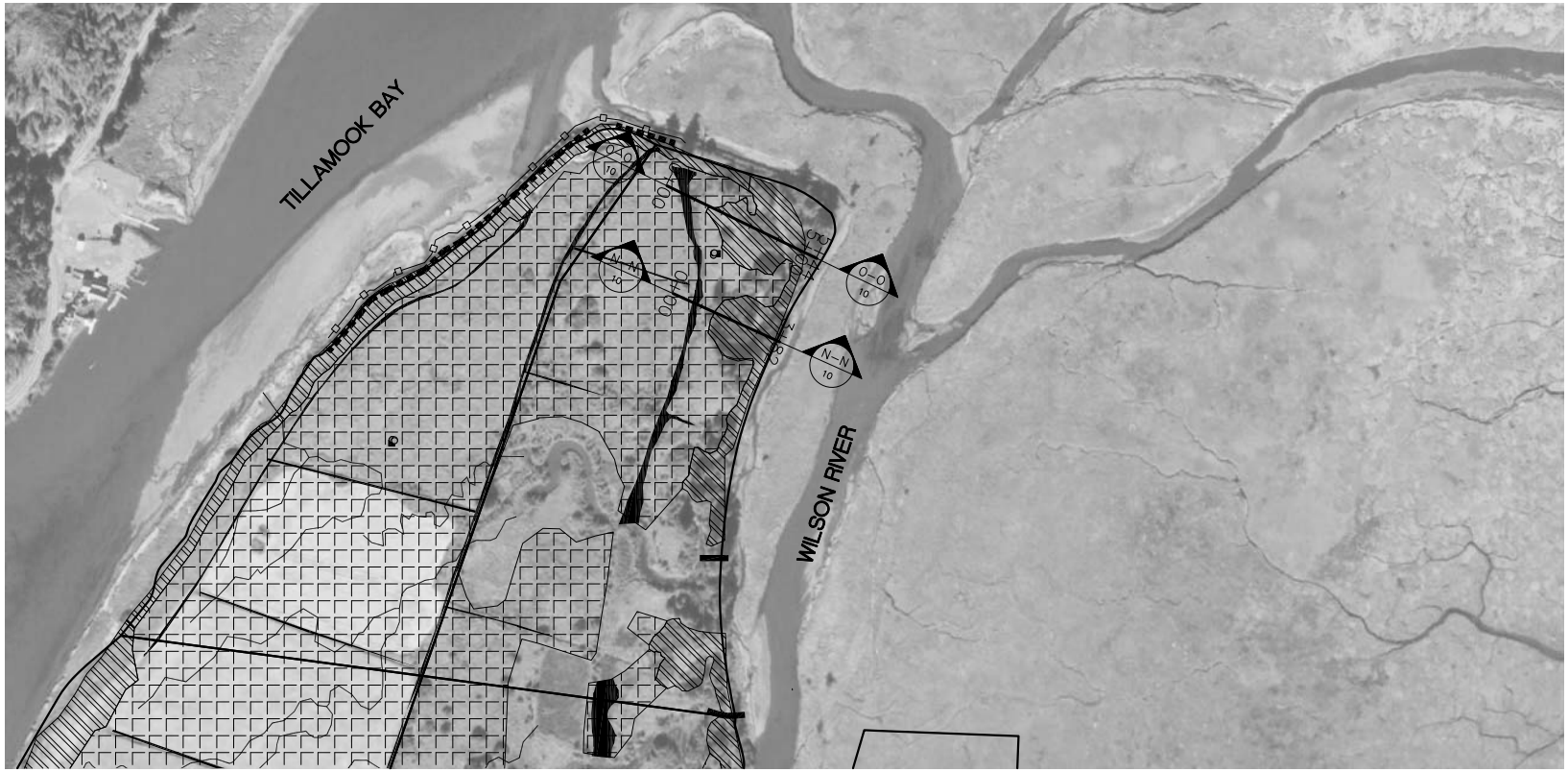
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

GRADING/ESC PLAN
SECTIONS L-L AND M-M

Sheet No. 13 | 13 of 29
Date 06-04-15
2009-003-03



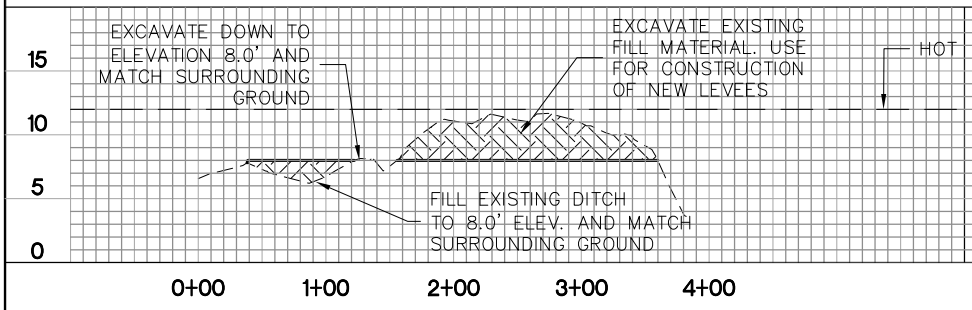
SECTIONS N-N AND O-O

SCALE: 1" = 400'

GRAPHIC SCALE

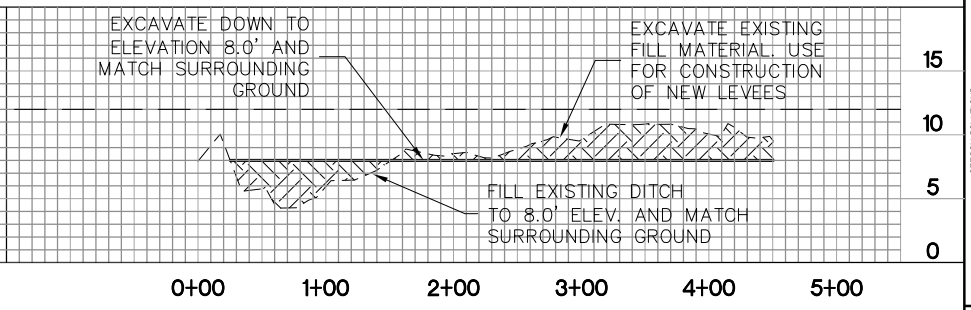
200 0 100 200 400 800

(IN FEET)
1 inch = 400 ft.



SECTION N-N PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'



SECTION O-O PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERWISHOV
EXPIRES 12/31/2015

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File: L:/2009-003-03/dwg/Permit Set/SECTIONS | Layout: N-N & O-O

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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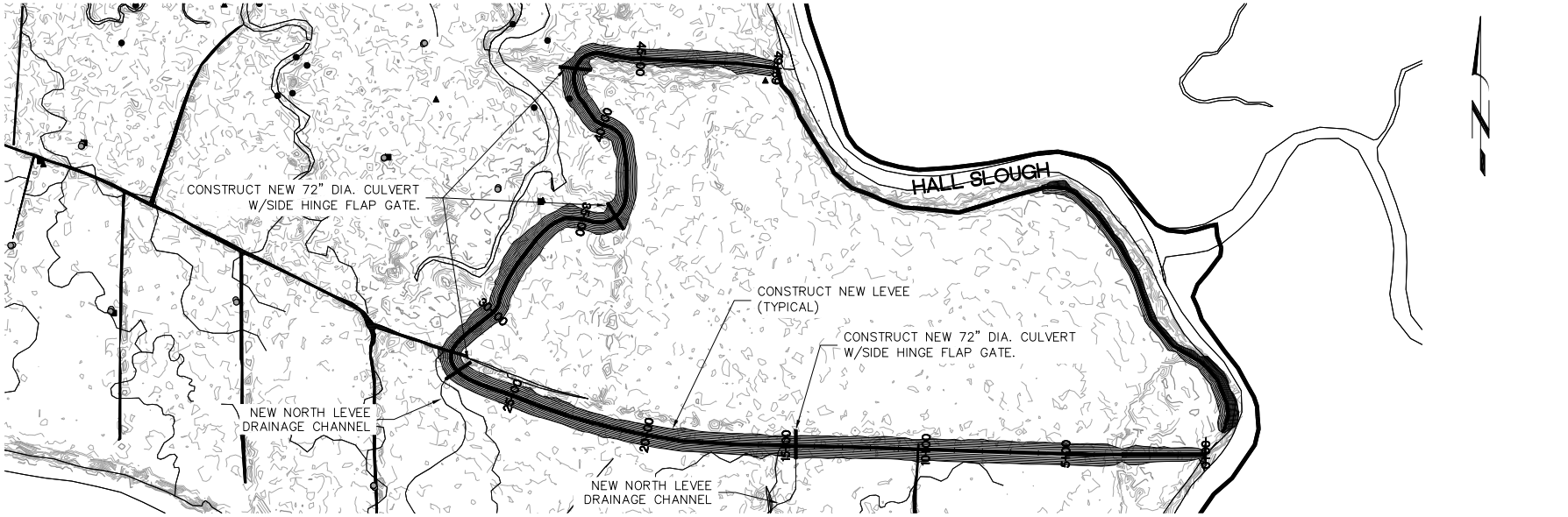
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
FILL REMOVAL
SECTIONS N-N AND O-O

Sheet No. 14 | 14 of 29
Date 06-04-15
2009-003-03

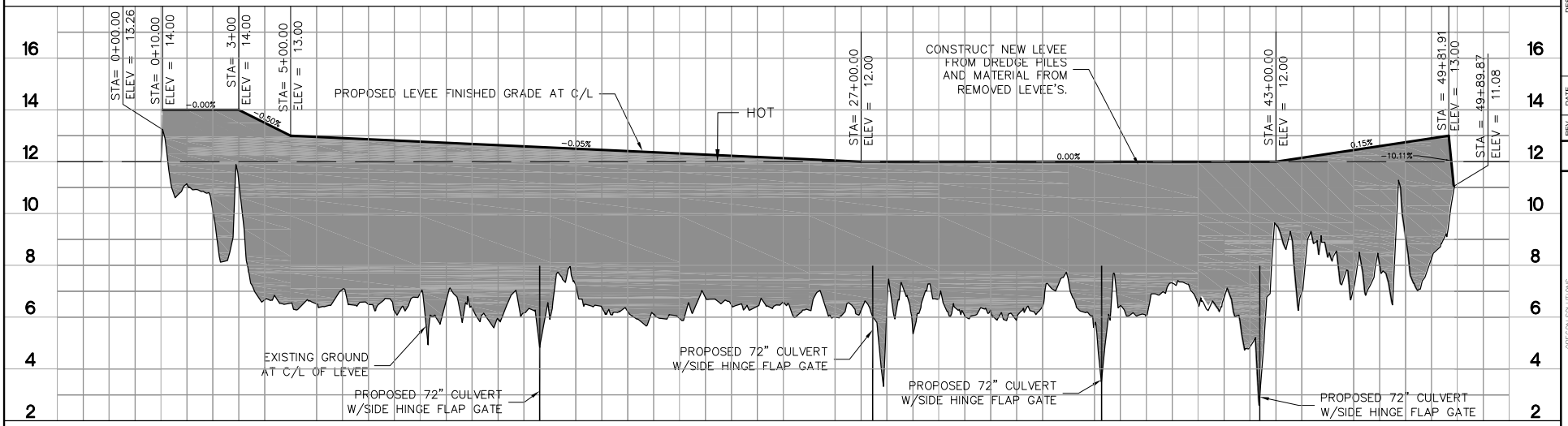


NORTH LEVEE PLAN

SCALE: 1" = 400'

GRAPHIC SCALE

(IN FEET)
1 inch = 400 ft.



NORTH LEVEE PROFILE

SCALE: HOR: 1" = 400'
VER: 1" = 4'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERNISHOV
EXPIRES 12/31/2015

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File: L:/2009-003-03/dwg/Permit Set/LEVEE NEW | Layout: NORTH LEVEE

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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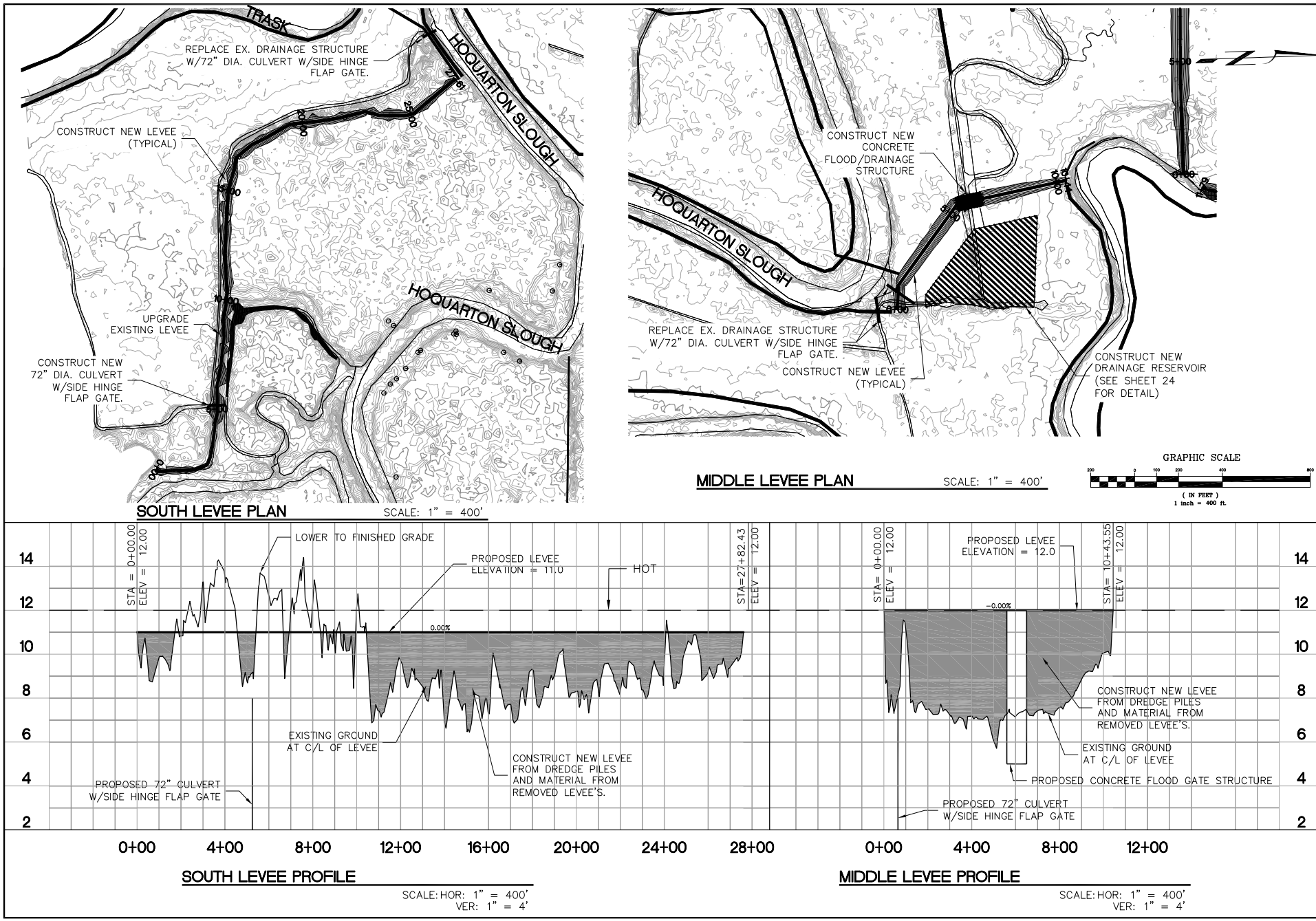
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
NORTH LEVEE
PLAN + PROFILE

Sheet No. 15 | 15 of 29
Date 06-04-15
2009-003-03



REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
JEFFREY R. CHERNISHOV

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File: L:/2009-003-03/dwg/Permit Set/LEVEE NEW | Layout: MIDDLE LEVEE

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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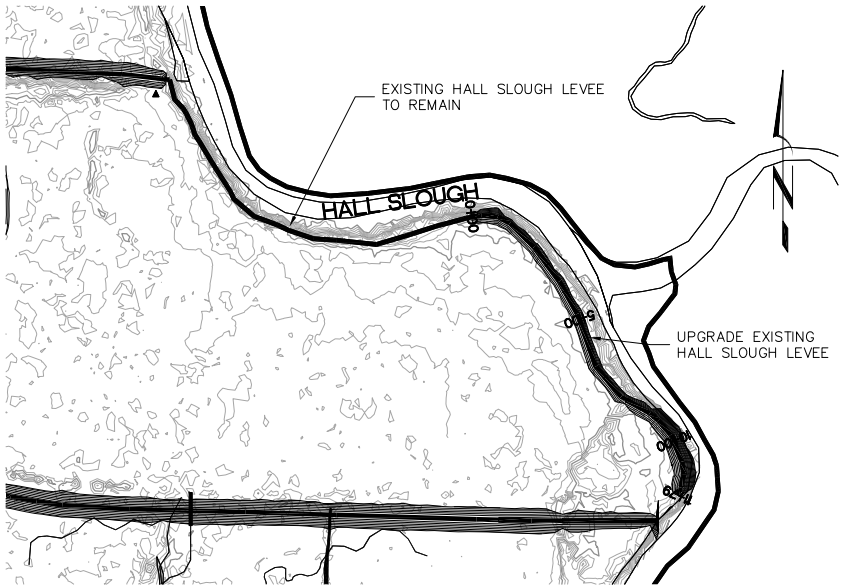
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

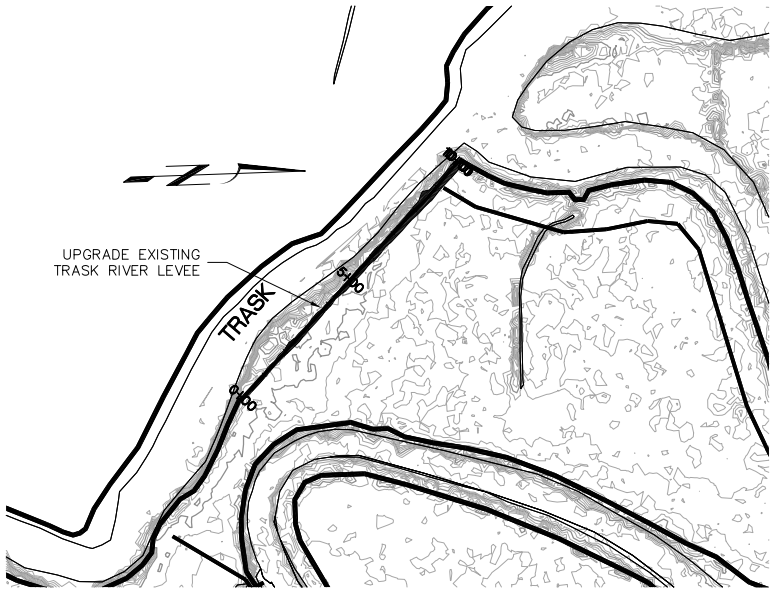
MIDDLE AND SOUTH LEVEE PLAN + PROFILE

Sheet No. 16 | 16 of 29
Date 06-04-15
2009-003-03



HALL SLOUGH LEVEE UPGRADE PLAN

SCALE: 1" = 400'

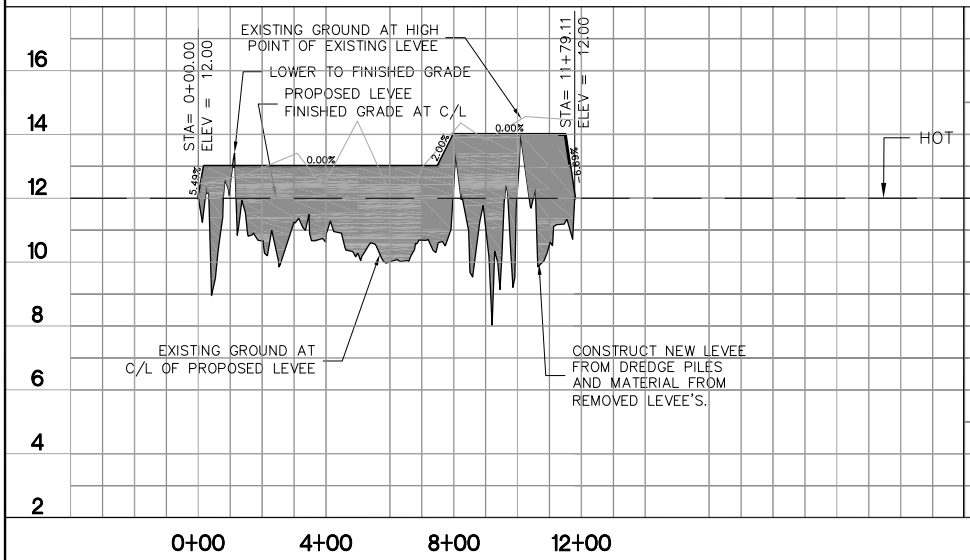


TRASK RIVER LEVEE UPGRADE PLAN

SCALE: 1" = 400'

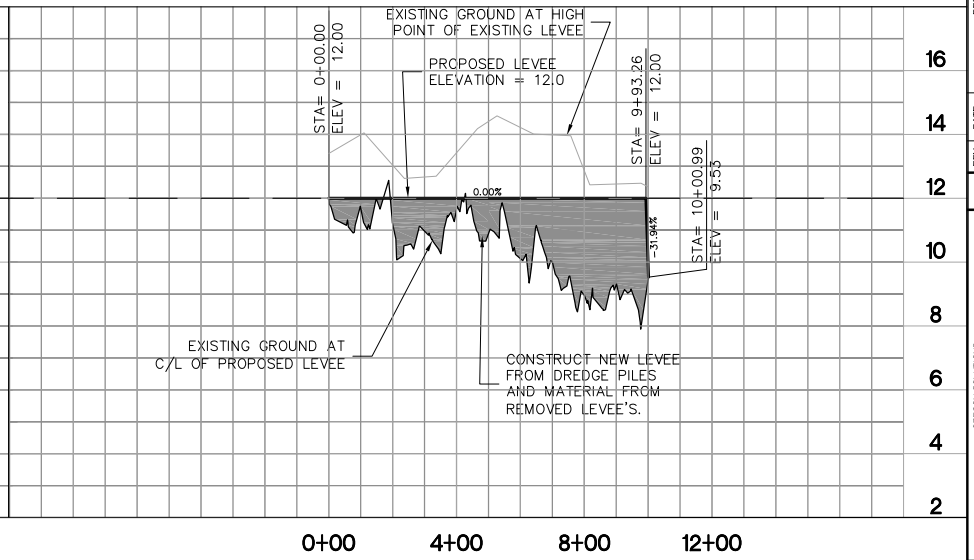
GRAPHIC SCALE

(IN FEET)
1 inch = 400 ft.



HALL SLOUGH LEVEE UPGRADE PROFILE

SCALE: HOR: 1" = 400'
VER: 1" = 4'



TRASK RIVER LEVEE UPGRADE PROFILE

SCALE: HOR: 1" = 400'
VER: 1" = 4'

PRELIMINARY

REGISTERED PROFESSIONAL ENGINEER
PROFESSION
ANTHONY R. CHERWINSKY
EXPIRES 10/31/2015

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File: L:/2009-003-03/dwg/Permit Set/LEVEE NEW | Layout: HALL & TRASK LEVEE

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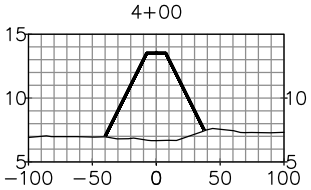
IF THIS LINE IS NOT 0.5 INCH
SCALE IS NOT AS SHOWN

OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

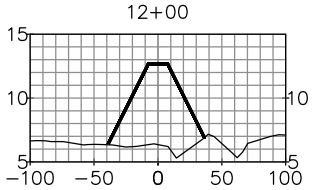
HALL + TRASK LEVEE
PLAN + PROFILE

Sheet No. 17 | 17 of 29
Date 06-04-15
2009-003-03



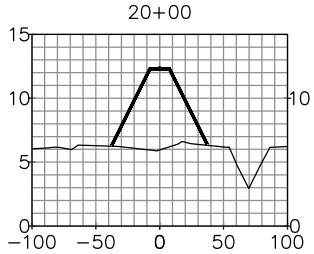
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



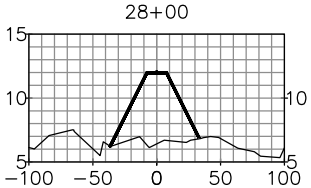
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



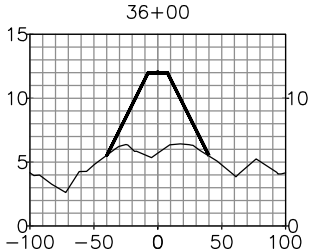
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



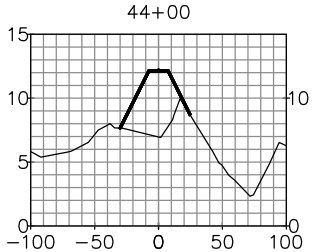
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



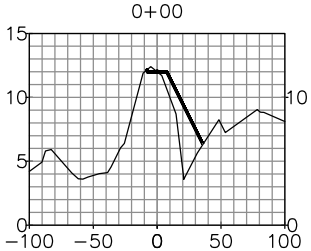
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



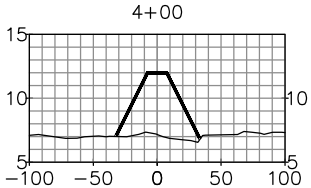
NORTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



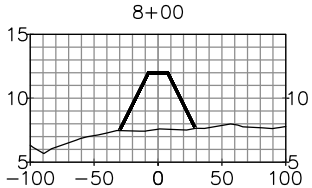
MIDDLE LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



MIDDLE LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



MIDDLE LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ANDREY R. CHERNISHOV
EXPIRES 10/31/2015

nhc northwest hydraulic consultants

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Designed By: ARC | Drawn By: ARC | Checked By: MDH | Submittal No: PRELIMINARY
File: L:/2009-003-03/dwg/Permit Set/LEVEE NEW | Layout: NORTH SECTIONS

REV.	DATE	DESCRIPTION	BY

0" 0.5"
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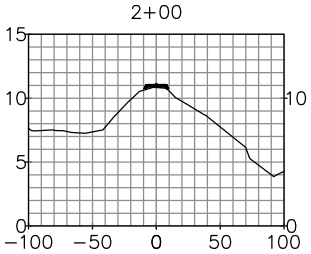
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

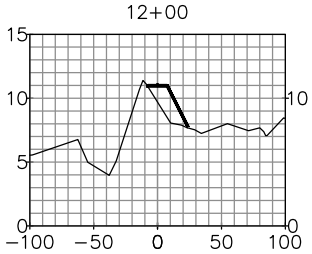
NORTH + MIDDLE LEVEE
TYPICAL SECTIONS

Sheet No. 18 | 18 of 29
Date 06-04-15
2009-003-03



SOUTH LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'



SOUTH LEVEE SECTION

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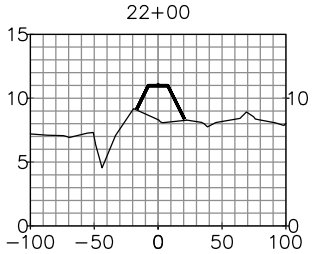
VER: 1" = 10'



SOUTH LEVEE SECTION

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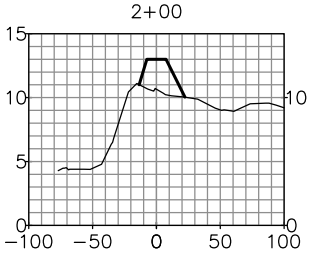
VER: 1" = 10'



HALL SLOUGH LEVEE SECTION

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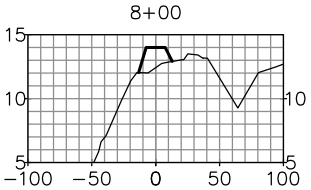
VER: 1" = 10'



HALL SLOUGH LEVEE SECTION

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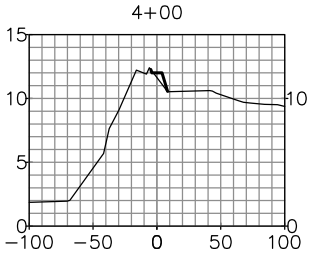
VER: 1" = 10'



TRASK LEVEE SECTION

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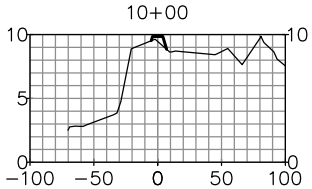
VER: 1" = 10'



TRASK LEVEE SECTION

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
JEFFREY R. CHERNISHOV
EXPIRES 10/31/2015

nhc northwest hydraulic consultants

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File: L:\2009-003-03\dwg\Permit Set\LEVEE NEW | Layout: SOUTH SECTIONS

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OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

SOUTH, HALL, + TRASK LEVEE
TYPICAL SECTIONS

Sheet No. 19 | 19 of 29
Date 06-04-15
2009-003-03

SITE PLAN

SCALE: 1" = 100'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ARNEY R. CHERNISHOV
EXPIRES 12/30/2016

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REV.	DATE	DESCRIPTION	BY

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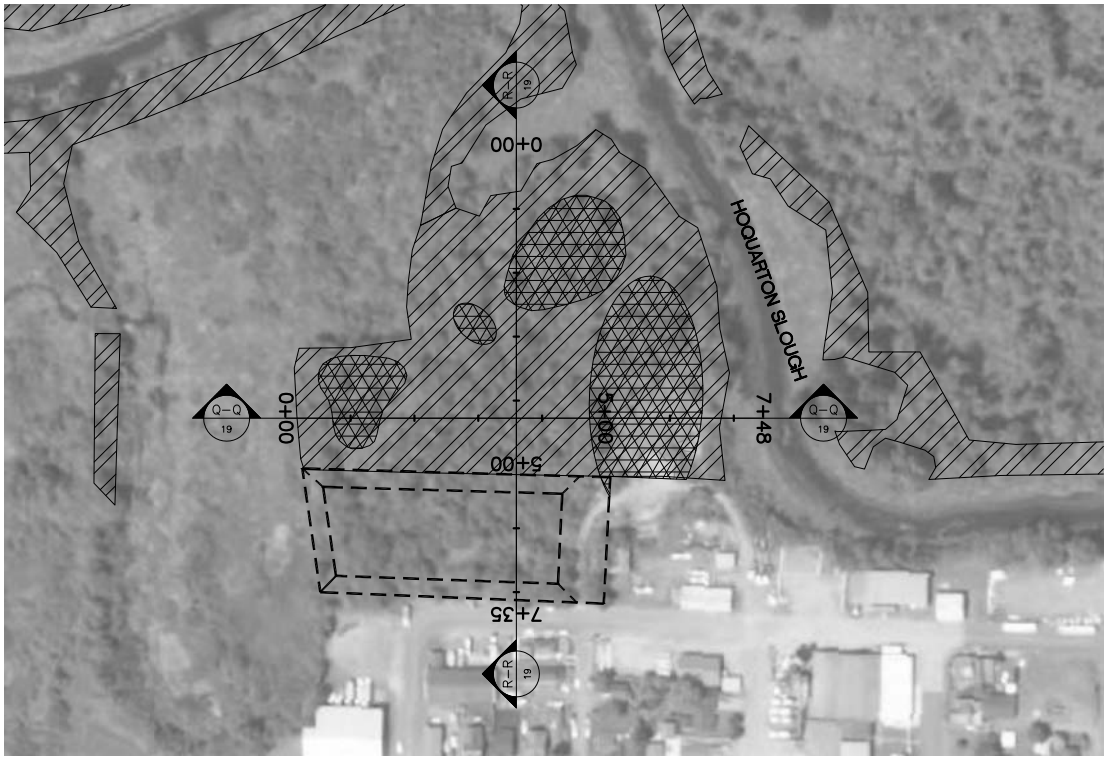
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

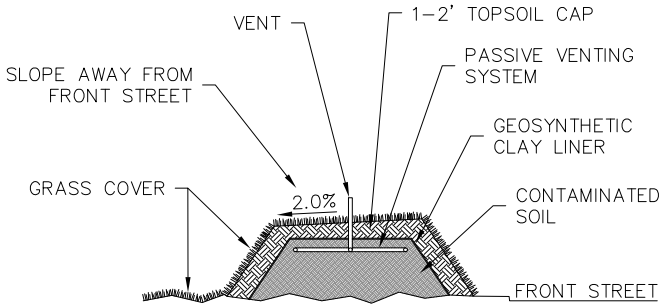
SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
PRELIMINARY SITE PLAN
OLD MILL SITE

Date: 06-04-15
Sheet No. 20 of 29
2009-003-03



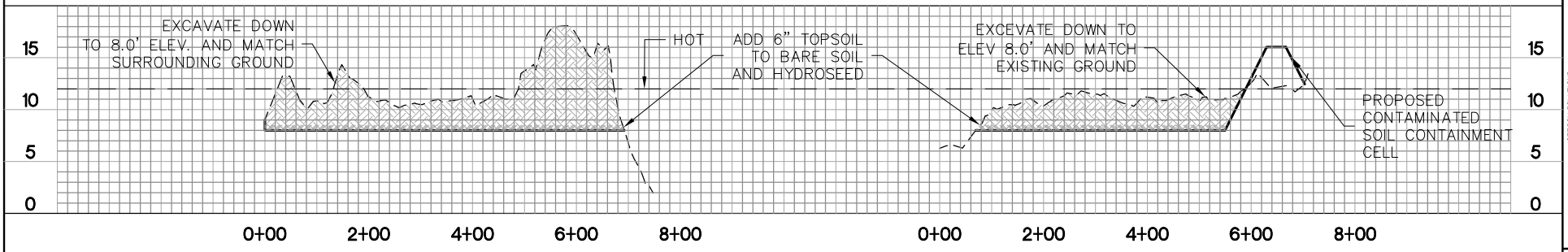
OLD MILL SITE PLAN VIEW

SCALE: 1" = 100'



CONTAINMENT CELL DETAIL

N.T.S.



SECTION Q-Q PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

SECTION R-R PROFILE

SCALE: HOR: 1" = 100'
VER: 1" = 10'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERWISHOV
EXPIRES 12/31/2015

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File: L:/2009-003-03/dwg/Permit Set/PARKS SITE PLAN | Layout: SITE SECTIONS

REV.	DATE	DESCRIPTION	BY

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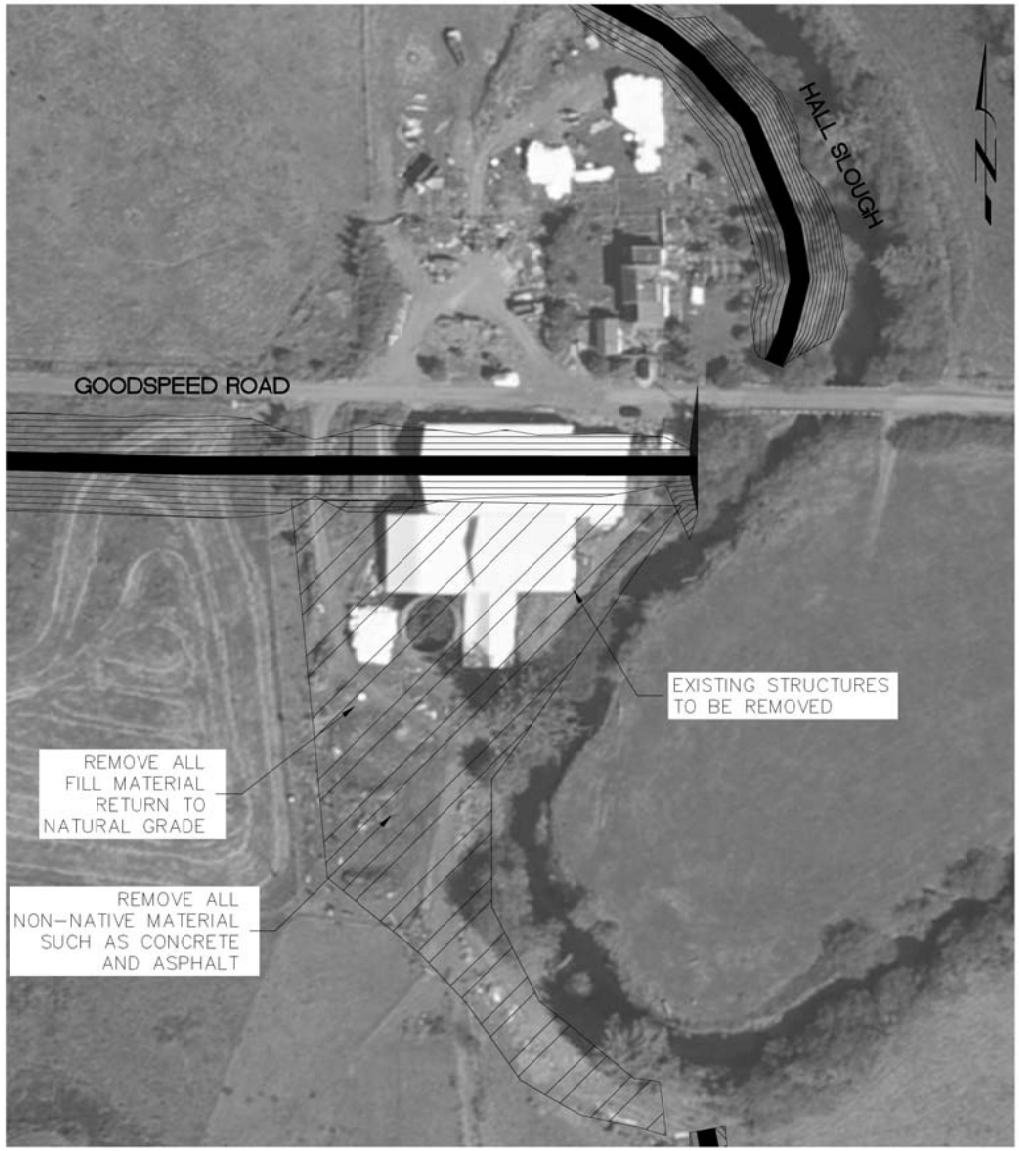
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

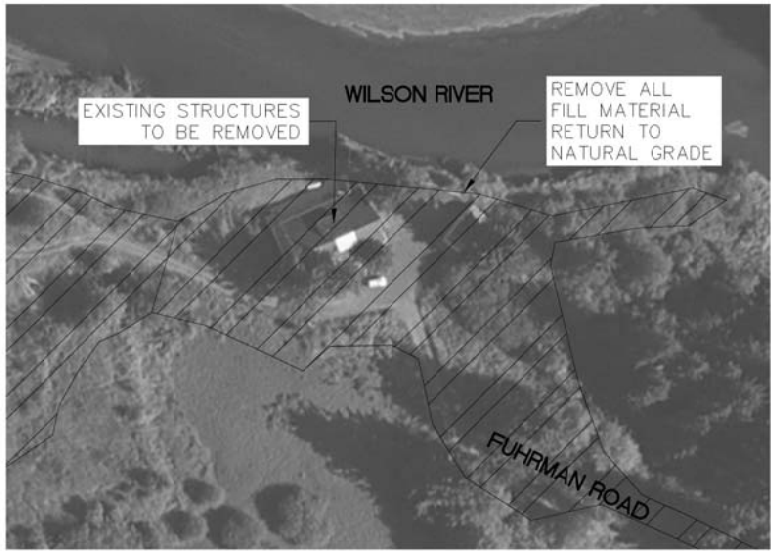
SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
SECTIONS Q-Q + R-R
OLD MILL SITE

Sheet No. 21 of 29
Date 06-04-15
2009-003-03



JONES STRUCTURE REMOVAL

SCALE: 1" = 100'



FUHRMAN STRUCTURE REMOVAL

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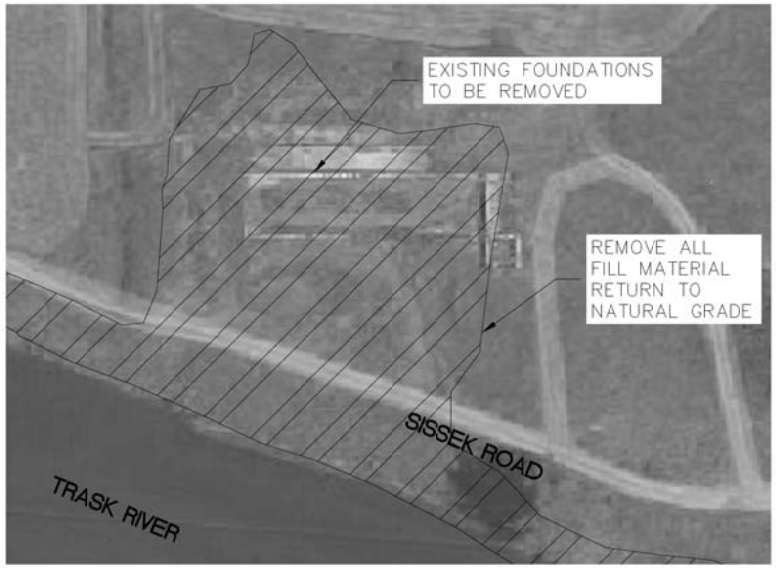

BARN REMOVAL

SCALE: 1" = 100'

GRAPHIC SCALE

(IN FEET)
1 inch = 100 ft.

PRELIMINARY

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OREGON SOLUTIONS
506 SW MILL STREET, PORTLAND, OREGON 97201

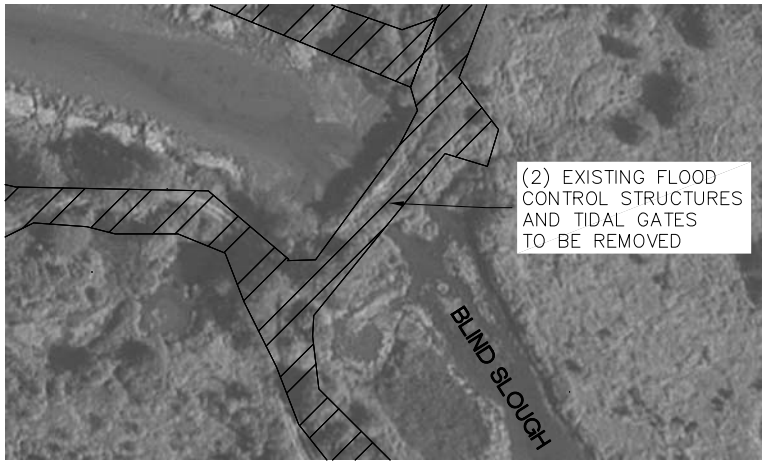
SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

STRUCTURE AND FILL REMOVAL

Sheet No. 22 | 22 of 29
Date 06-04-15
2009-003-03

TILLAMOOK BAY TIDAL GATES

SCALE: 1" = 100'



BLIND SLOUGH TIDAL GATES

SCALE: 1" = 100'

FORMER MILL AREA

SCALE: 1" = 100'

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 100 ft.

REGISTERED PROFESSIONAL ENGINEER 70806PE OREGON JUL 28, 2015 JEFFREY R. CHERNICHOV

EXPIRES 12/31/2015

PRELIMINARY

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File: L:/2009-003-03/dwg/Permit Set/STRUCTURES | Layout: LAYOUT2

REV.	DATE	DESCRIPTION	BY

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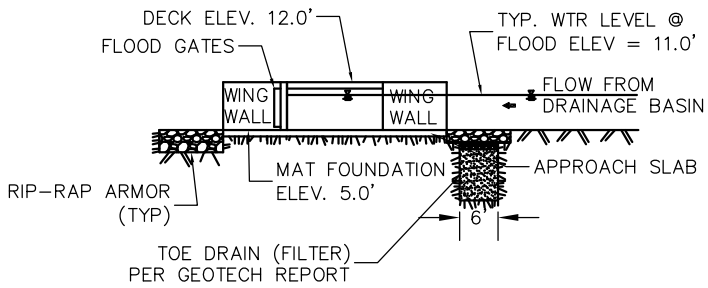
506 SW MILL STREET; PORTLAND, OREGON 97201
OREGON SOLUTIONS

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

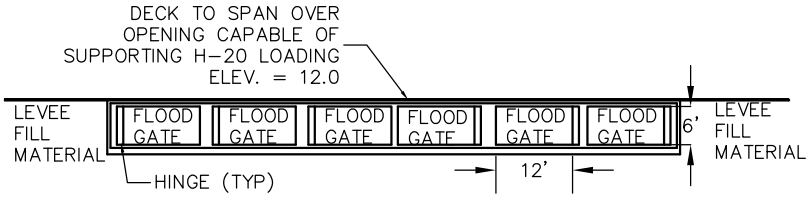
STRUCTURE AND FILL REMOVAL

Date: 06-04-15
Sheet No. 23 of 29
2009-003-03



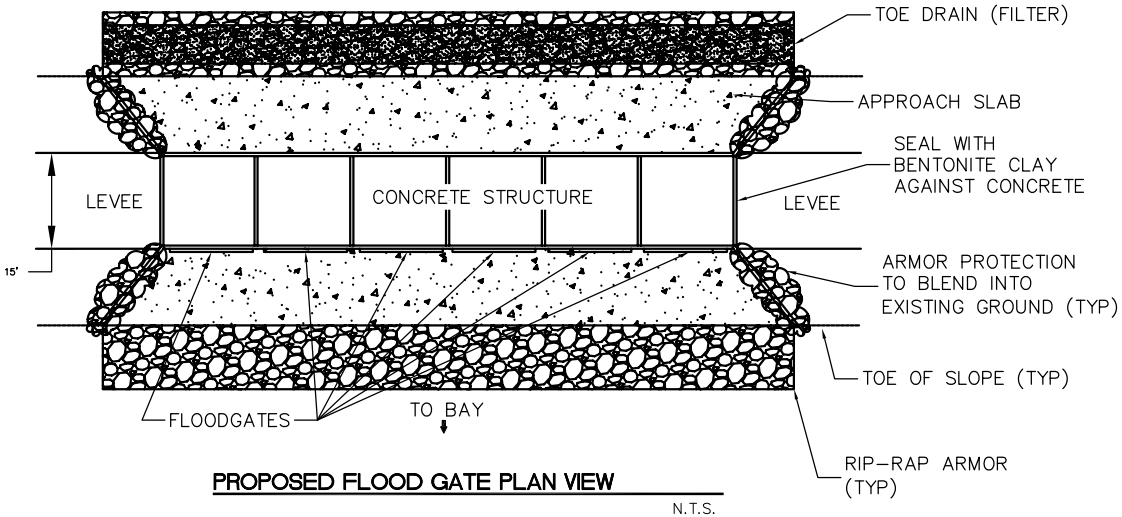
PROPOSED FLOOD GATE SECTION VIEW

N.T.S.



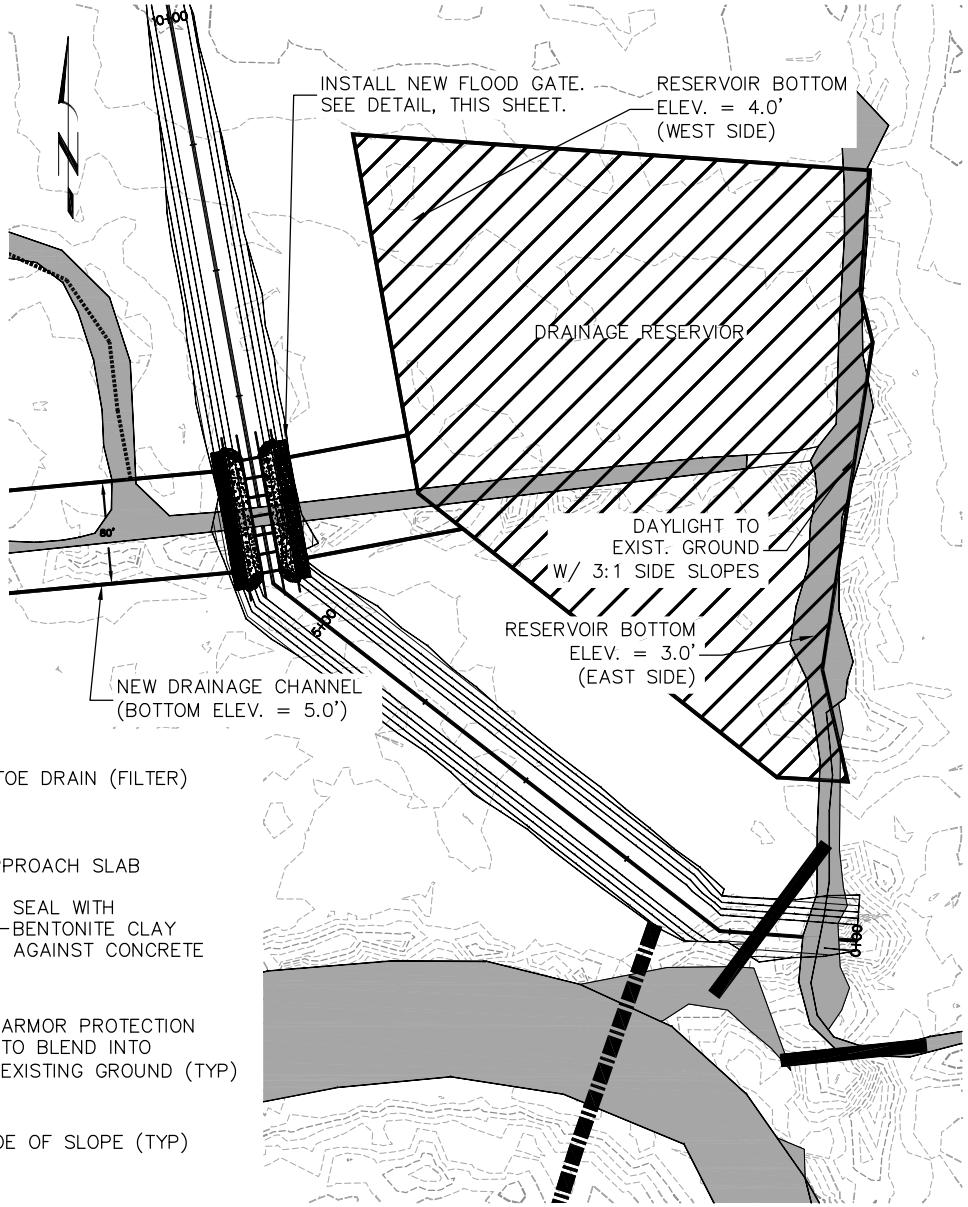
PROPOSED FLOOD GATE ELEVATION VIEW

N.T.S.



PROPOSED FLOOD GATE PLAN VIEW

N.T.S.



PROPOSED FLOOD GATE LOCATION

SCALE: 1" = 50'

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
ROBERT R. CHERNISHOV

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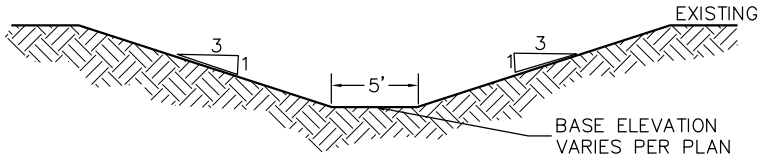
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

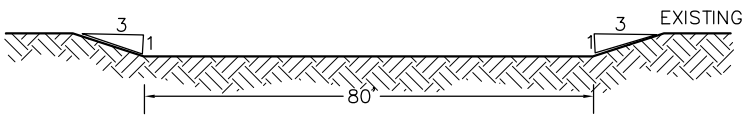
SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
TYPICAL DETAILS

Sheet No. 24 | 24 of 29
Date 06-02-15
2009-003-03



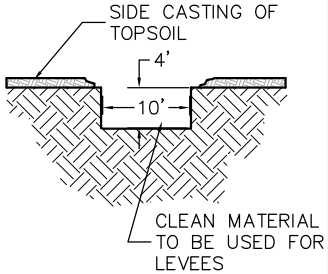
NORTH LEVEE DRAINAGE CHANNEL

N.T.S.



MIDDLE LEVEE DRAINAGE CHANNEL

N.T.S.



TIDAL CHANNEL

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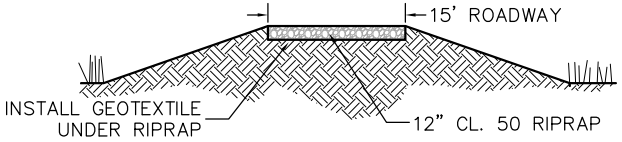
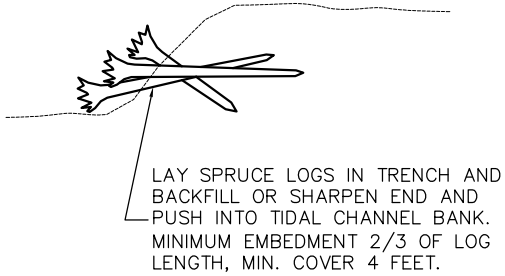


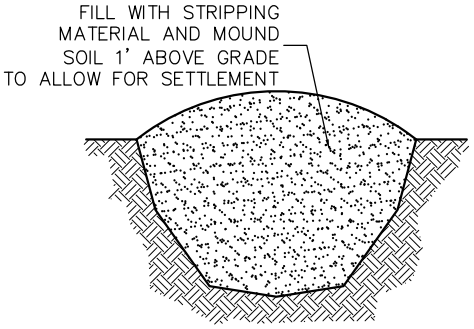
TYPICAL ROAD SECTION TOP OF LEVEE
AND NEW GRAVEL ROAD

N.T.S.



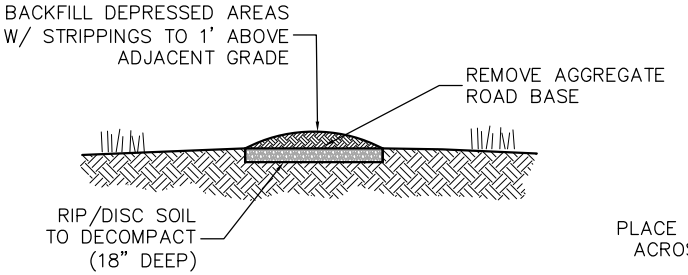
LARGE WOODY DEBRIS PLACEMENT DETAIL

N.T.S.



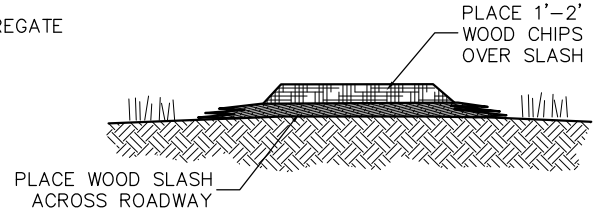
DRAINAGE DITCH FILL DETAIL

N.T.S.



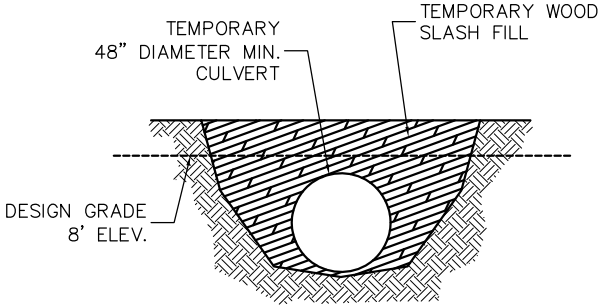
ROAD DE-COMMISSIONING DETAIL

N.T.S.



WOOD SLASH ACCESS ROAD DETAIL

N.T.S.



TYPICAL TEMP. LEVEE BREACH CROSSING DETAIL

N.T.S.

REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
EXPIRES 12/31/2013

mhc northwest hydraulic consultants

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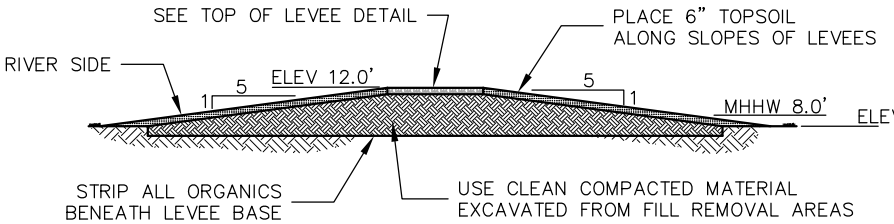
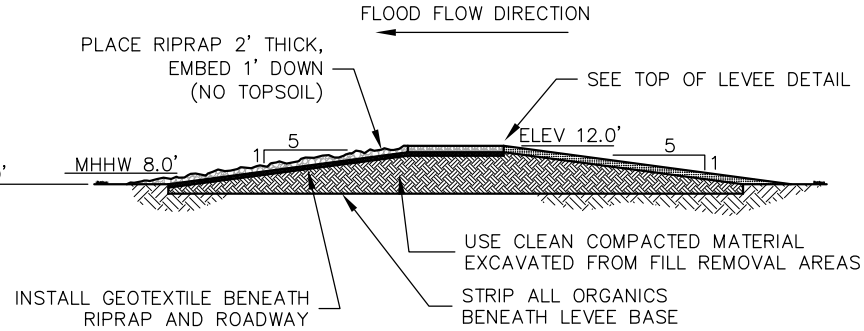
OREGON SOLUTIONS
506 SW HILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
TYPICAL DETAILS

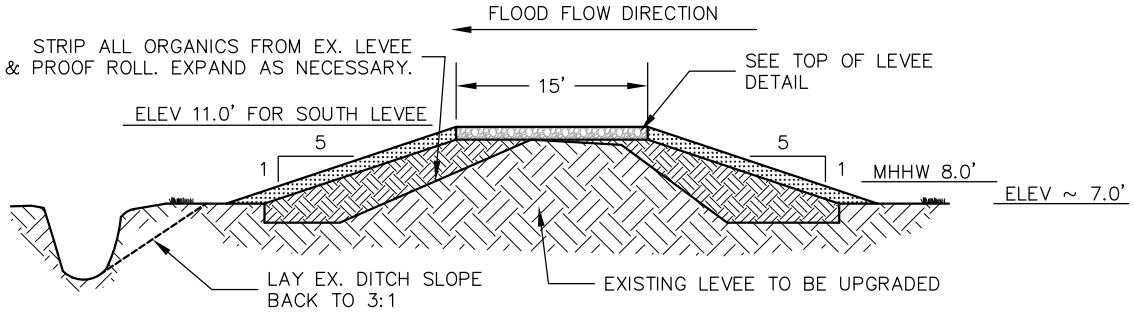
Date: 06-04-15
Sheet No. 25 of 29
2009-003-03



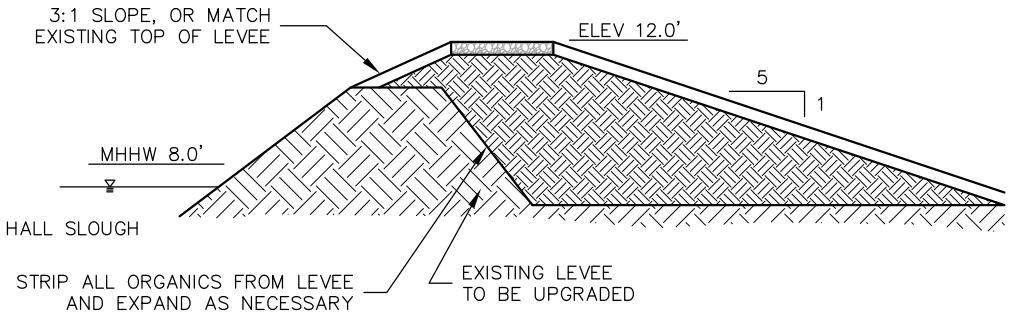
TYPICAL NEW LEVEE SECTION
(NORTH LEVEE)
N.T.S.



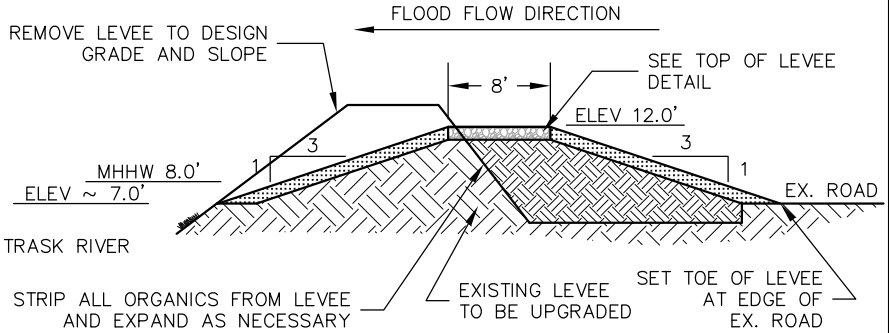
TYPICAL NEW LEVEE SECTION
(MIDDLE LEVEE)
N.T.S.



TYPICAL UPGRADED LEVEE SECTION
(SOUTH LEVEE)
N.T.S.



TYPICAL RAISE LEVEE SECTION
(HALL SLOUGH)
N.T.S.



TYPICAL LOWER LEVEE SECTION
(TRASK LEVEE)
N.T.S.

REGISTERED PROFESSIONAL ENGINEER 75347PE
PRELIMINARY
OCT 09, 2013
ROBERT R. CHERNICHOV
EXPIRES 12/31/2013

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mail@hbh-consulting.com

northwest hydraulic consultants

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ARC	ARC	MDH	PRELIMINARY	DETAIL 3

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1			

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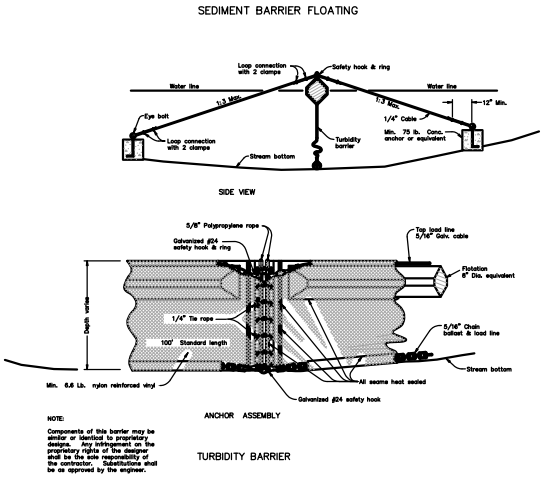
OREGON SOLUTIONS
506 SW MILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
TYPICAL LEVEE SECTIONS

Sheet No. 26 of 29
Date 06-04-15
2009-003-03



ODOT DETAIL 6006 - TURBIDITY BARRIER

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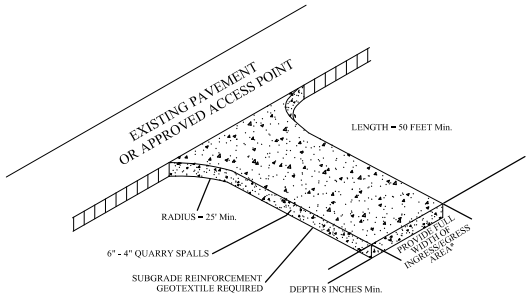

GRAVEL CONSTRUCTION ENTRANCE

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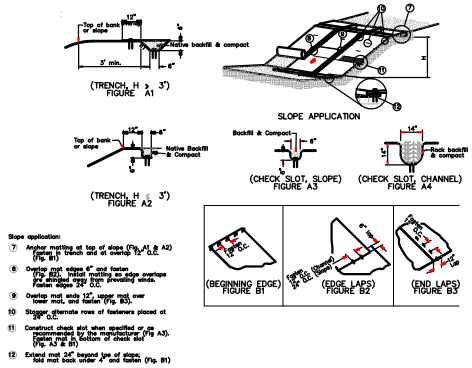

ODOT DETAIL 1055 - MATTING

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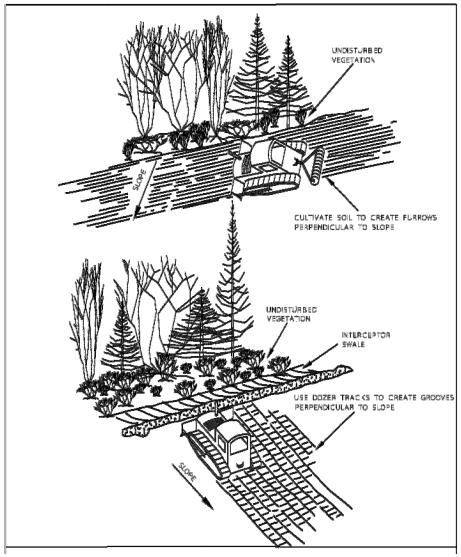

SURFACE ROUGHENING DETAIL

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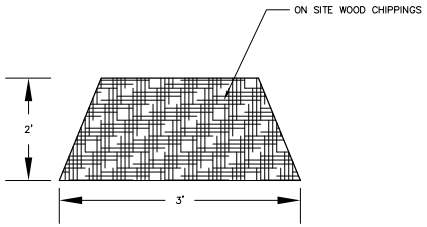

WOOD CHIP BERM DETAIL

N.T.S.

N.T.S.

REGISTERED PROFESSIONAL ENGINEER 75347PE
PRELIMINARY
OREGON
ROBERT R. CHERNICHOFF
EXPIRES 12/31/2015

nhc northwest hydraulic consultants

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Designed By:	Drawn By:	Checked By:	Submittal No:	Layout:
ARC	ARC	MDH	PRELIMINARY	DETAIL-4

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REV.	DATE	DESCRIPTION	BY

0" 0.5"
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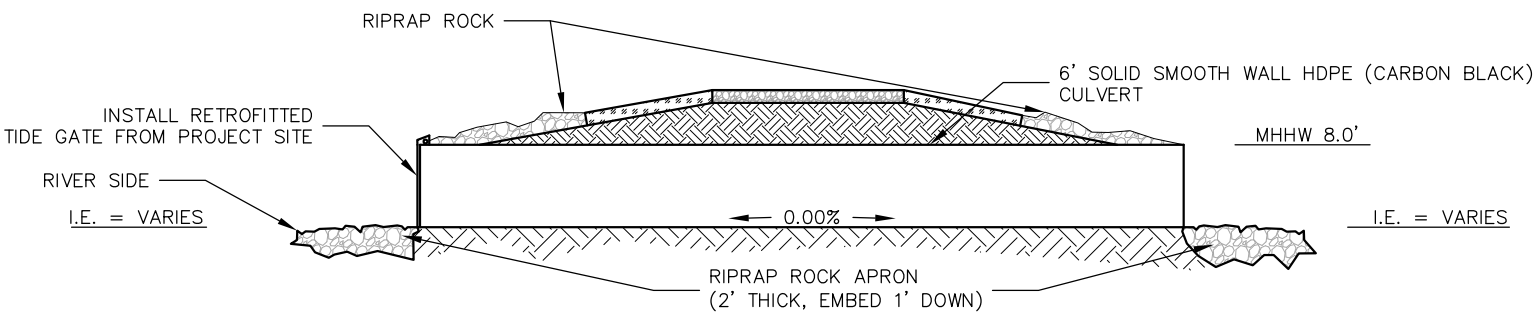
506 SW HILL STREET; PORTLAND, OREGON 97201

SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
EROSION CONTROL DETAILS

Date: 06-04-15
Sheet No. 27 of 29
2009-003-03

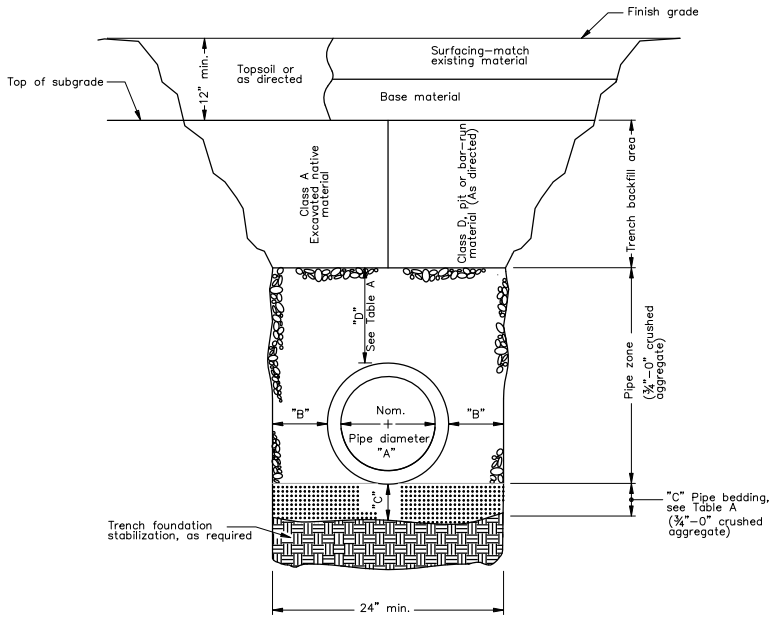


TYPICAL NEW FLOOD/DRAINAGE CULVERT SECTION

N.T.S.

TABLE A

"A" (in)	"B" (in)	"C" (in)	"D" (in)
36	24	6	14
42	24	6	14
48	24	6	14
54	24	6	14
60	24	6	14
66	24	6	14
72	24	6	14



TYPICAL CULVERT TRENCH BACKFILL DETAIL

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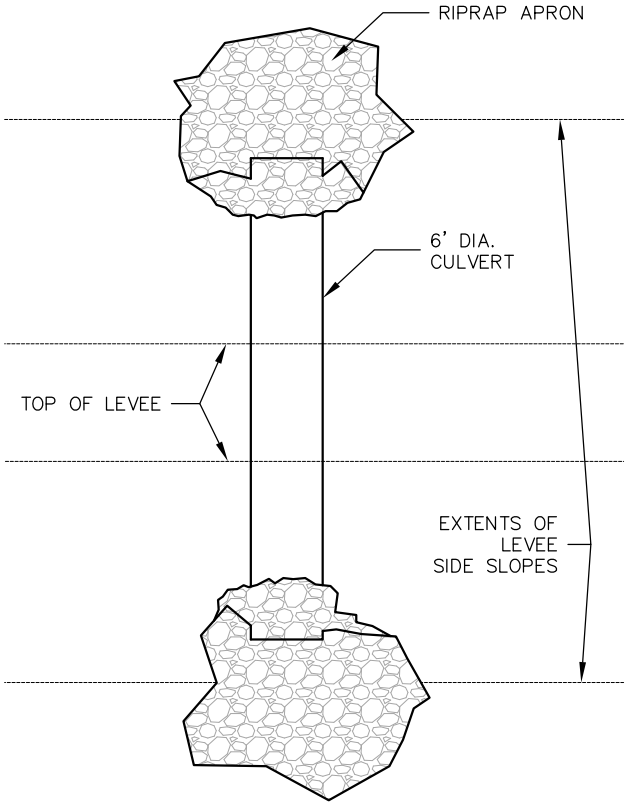

NEW FLOOD/DRAINAGE CULVERT PLAN VIEW

N.T.S.

REGISTERED PROFESSIONAL ENGINEER 76347PE
PRELIMINARY
EXPIRES 12/31/2013

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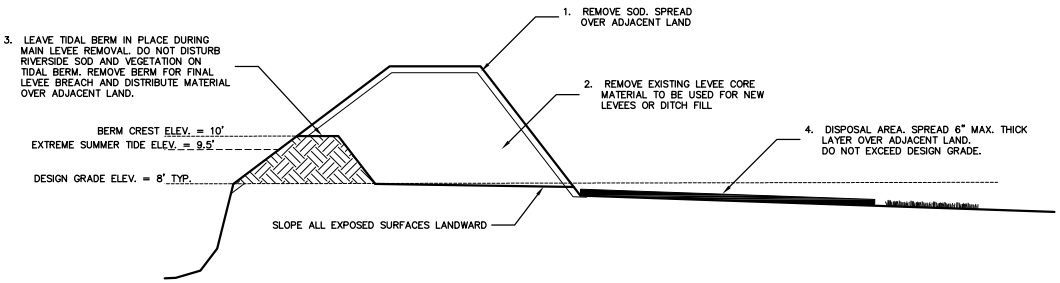
SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON
TYPICAL CULVERT DEATILS

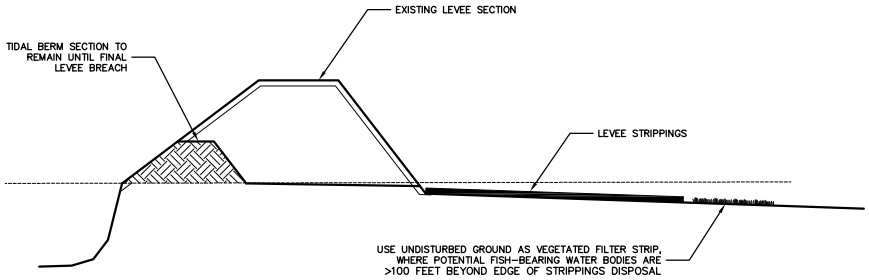
Date: 06-04-15
Sheet No. 28 of 29
2009-003-03



EXISTING LEVEE REMOVAL EXCAVATION SEQUENCING DETAIL

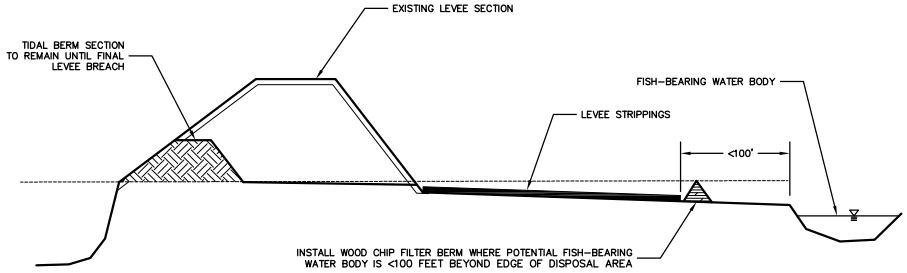
N.T.S.

EXISTING LEVEE REMOVAL LANDWARD EROSION CONTROL DETAILS



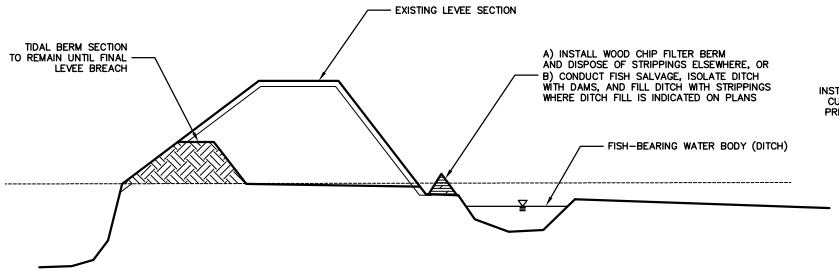
VEGETATED FILTER STRIP SECTION

N.T.S.



WOOD CHIP FILTER BERM SECTION

N.T.S.



WOOD CHIP FILTER BERM/DITCH FILL SECTION

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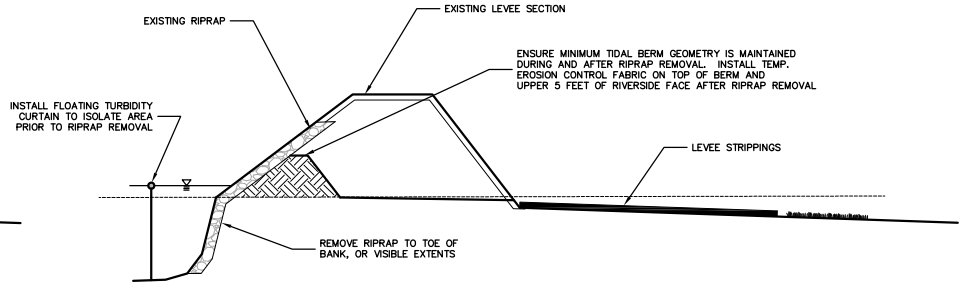

RIPRAP REMOVAL SECTION

N.T.S.

REGISTERED PROFESSIONAL ENGINEER 78347E
PRELIMINARY
EXPIRES 12/31/2010

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SOUTHERN FLOW CORRIDOR
TILLAMOOK, OREGON

EROSION CONTROL OPTIONS
DETAILS

Date | Sheet No. 29 | 29 of 29
06-04-15
2009-003-03