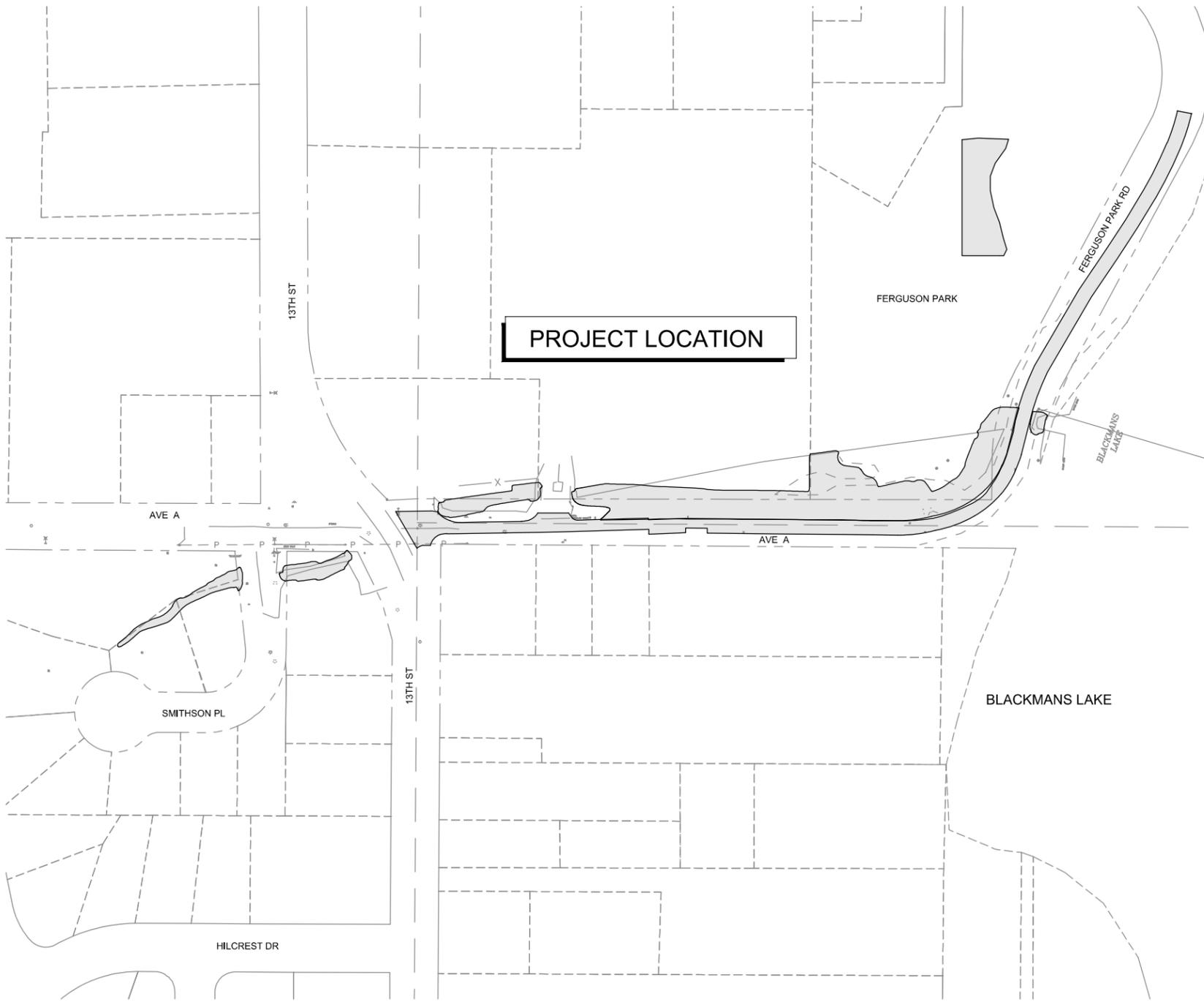


City of Snohomish, Washington

Blackmans Lake Outlet Improvements



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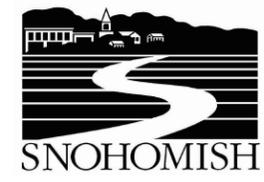
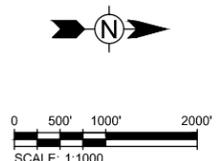
DEPUTY CITY MANAGER/PUBLIC WORKS DIRECTOR
STEVE SCHULLER, PE

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APPROVED FOR CONSTRUCTION

BY: _____ DATE: _____
Yoshihiro Monzaki, P.E.,
CITY ENGINEER



Drawing No.
COV

Sheet No.
1

18
of Total

LEGEND

- ⊙ MONUMENT
- ⊕ MONUMENT IN CASE
- ⊙ REBAR & CAP
- △ SCRIBED "X"
- ✕ PK NAIL
- CALCULATED POINT
- METAL SIGN POST
- ⊠ WOOD SIGN POST
- SANITARY SEWER MANHOLE
- ⊕ STORM DRAIN MANHOLE
- CATCH BASIN
- ⊕ WATER MANHOLE
- ⊗ WATER VALVE
- FIRE HYDRANT
- ⊕ WATER METER
- SH ○ SPRINKLER HEAD
- IRBX □ WATER IRRIGATION BOX
- ⊕ GAS VALVE
- TR ⊗ TRAFFIC JUNCTION BOX
- EL ⊗ ELECTRICAL JUNCTION BOX
- PM □ POWER METER
- TC ⊗ TELECOMMUNICATION JUNCTION BOX
- CT ⊗ CABLE TV JUNCTION BOX
- ⊗ JUNCTION BOX
- TEL R □ TELECOMMUNICATION RISER
- UTILITY POLE
- UG ○ UTILITY POLE W/ CONDUITS TO UNDERGROUND
- ← GUY ANCHOR
- GP ○ GUY POLE
- ⊕ PEDESTRIAN SIGNAL HEAD
- ⊕ PEDESTRIAN SIGNAL BUTTON
- ☀ TRAFFIC SIGNAL POLE W/ LUMINAIRE
- ☀ LUMINAIRE (SINGLE FIXTURE)
- ☀ UG LUMINAIRE (SINGLE FIXTURE) W/ CONDUITS TO UNDERGROUND
- GTP ○ GATE POST
- ★ CONIFEROUS TREE
- DECIDUOUS TREE
- ⊕ TEST HOLE (WITH FIELD IDENTIFIER)
- ⊗ YARD LIGHT OR LUMINAIRE W/ NO MAST
- ⊕ GRATE INLET
- ⊗ MONITORING WELL

- CPEP CORRUGATED POLYETHYLENE PIPE
- RCP REINFORCED CONCRETE PIPE
- CIP CAST IRON PIPE
- CMP CORRUGATED METAL PIPE
- DIP DUCTILE IRON PIPE
- TCI THRU CURB INLET
- WETLAND FLAG

ABBREVIATIONS

#	NUMBER, POUND	F/C	FACE OF CURB	R	RADIUS, RIGHT
@	AT	FH	FIRE HYDRANT	R/W	RIGHT-OF-WAY
		FL	FLANGE	RCP	REINFORCE CONCRETE PIPE
AC	ACRE	FLEX	FLEXIBLE	RED	REDUCER
ACOMP	ASPHALT COATED CORRUGATED METAL PIPE	FM	FORCE MAIN	REF	REFERENCE
ACP	ASPHALT CONCRETE PAVEMENT	FDN	FOUNDATION	RIM	MANHOLE RIM
AHD	AHEAD	FO	FIBER OPTIC	RJ	RESTRAINED JOINT
AL	ALUMINUM	FRP	FIBERGLASS REINFORCED PLASTIC	ROW	RIGHT-OF-WAY
ALT	ALTERNATE	'	FOOT, FEET	RPBP	REDUCED PRESSURE BACKFLOW PREVENTOR
APPROX	APPROXIMATELY	FTG	FOOTING	RR	RAILROAD
ASPH	ASPHALT	G	GAS	RT	RIGHT
AT	AERIAL TELEPHONE	GAL	GALLON	S	SOUTH
ATB	ASPHALT TREATED BASE	GALV	GALVANIZED	SB	SOIL BORING
AV	AIR VALVE	GB	GRADE BREAK	SD	STORM DRAIN
AVE	AVENUE	GM	GAS METER	SDCB	STORM DRAIN CATCH BASIN
		GP	GUARD POST	SDMH	STORM DRAIN MANHOLE
		GV	GATE VALVE	SEC	SECTION
		GWT	GROUND WATER TABLE	SF	SQUARE FEET
B/C	BACK OF CURB	HDPE	HIGH DENSITY POLYETHYLENE	SHT	SHEET
BC	BOTTOM OF CURB	HGL	HYDRAULIC GRADE LINE	SIM	SIMILAR
BFV	BUTTERFLY VALVE	HMA	HOT MIX ASPHALT	SL	SLOPE
BK	BACK	HORIZ	HORIZONTAL	SPEC	SPECIFICATIONS
BLDG	BUILDING	HP	HIGH POINT	SO	SQUARE
BLVD	BOULEVARD	HR	HOUR	SS	SANITARY SEWER
BM	BENCH MARK	HT	HEIGHT	SSFM	SANITARY SEWER FORCE MAIN
BO	BLOW-OFF	HW	HIGH WATER	SSMH	SANITARY SEWER MANHOLE
BOT	BOTTOM	HYD	HYDRANT	SST	STAINLESS STEEL
BRK	BRICK			ST	STREET
BW	BOTTOM OF WALL			STA	STATION
				STD	STANDARD
C	CHANNEL			STL	STEEL
CB	CATCH BASIN	ID	INSIDE DIAMETER	STRUCT	STRUCTURAL
CCP	CONCRETE CYLINDER PIPE	IE	INVERT ELEVATION	SW	SOUTHWEST, SERVICE WATER (NON POTABLE)
CDF	CONTROLLED DENSITY FILL	INF	INFLUENT		
CF	CUBIC FEET	"	INCH		
CFS	CUBIC FEET PER SECOND	INT	INTERSECTION		
CIP	CAST IN PLACE	INV	INVERT		
CI	CAST IRON			T	TELEPHONE
CL	CENTERLINE	JT	JOINT	T&B	TOP AND BOTTOM
CLR	CLEAR			TAN	TANGENT
CMP	CORRUGATED METAL PIPE			TBD	TO BE DETERMINED
CO	CLEAN OUT	L	LENGTH, LEFT	TC	TOP OF CURB
CONC	CONCRETE	LBS	POUNDS	TD	TANK DRAIN
CONST	CONSTRUCTION	LF	LINEAR FEET	TE	TELEPHONE
CONT	CONTINUOUS	LH	LEFT HAND	TEMP	TEMPORARY
COORD	COORDINATE	LIN	LINEAR	TOC	TOP OF CONCRETE
CPLG	COUPLING	LP	LOW POINT	TOG	TOP OF GRATE
CPP	CORRUGATED POLYETHYLENE PIPE	LPG	LOW PRESSURE GAS	TOW	TOP OF WALL
CSBC	CRUSHED SURFACING BASE COURSE	LT	LEFT	TP	TELEPHONE POLE
CSTC	CRUSHED SURFACING TOP COURSE	LT STD	LIGHT STANDARD	TYP	TYPICAL
		M	METER	UD	UNDERDRAIN
CTR	CENTER	MAINT	MAINTENANCE	UG	UNDERGROUND
CULV	CULVERT	MATL	MATERIAL	UGP	UNDERGROUND POWER
CY	CUBIC YARD	MAX	MAXIMUM	UGT	UNDERGROUND TELEPHONE
		MB	MAIL BOX	UON	UNLESS OTHERWISE NOTED
		MECH	MECHANICAL	UTIL	UTILITIES
D/W	DRIVEWAY	MFR	MANUFACTURER		
DEC	DECIDUOUS	MH	MANHOLE	V	VALVE, VENT
DEG	DEGREE	MHW	MEAN HIGH WATER	VAR	VARIES
DEMO	DEMOLITION, DEMOLISH	MIC	MONUMENT IN CASE	VC	VERTICAL CURVE
DEP	DEPRESS	MIN	MINIMUM	VERT	VERTICAL
DEPT	DEPARTMENT	MISC	MISCELLANEOUS	VIF	VERIFY IN FIELD
DET	DETAIL	MJ	MECHANICAL JOINT	VLT	VAULT
DI	DUCTILE IRON	MON	MONUMENT	VOL	VOLUME
DIA	DIAMETER	MTD	MOUNTED	VPC	VERTICAL POINT OF CURVATURE
DIM	DIMENSION	MAX	MAXIMUM	VPI	VERTICAL POINT OF INTERSECTION
DISCH	DISCHARGE			VPT	VERTICAL POINT OF TANGENCY
DIV	DIVERSION, DIVIDE, DIVISION	N	NORTH, NORTHING	VTR	VENT THROUGH ROOF
DN	DOWN	N/A	NOT APPLICABLE		
DR	DRIVE	NE	NORTHEAST		
		NIC	NOT IN CONTRACT		
		NO.	NUMBER		
E	EAST, ELECTRICAL	NPT	NATIONAL PIPE THREAD	W	WEST, WATER, WIDTH
EFF	EFFLUENT	NTS	NOT TO SCALE	W/	WITH
EL	ELEVATION	NW	NORTHWEST	W/O	WITHOUT
ELEC	ELECTRICAL			WL	WATER LINE
EOP	EDGE OF PAVEMENT			WM	WATER METER, WATER MAIN
EQ	EQUATION			WP	WORK POINT
EQUIP	EQUIPMENT	OC	ON CENTER		
ESMT	EASEMENT	OD	OUTSIDE DIAMETER		
ETC	ET CETERA	OH	OVERHEAD	XFMR	TRANSFORMER
EXST	EXISTING	OP	ORDINARY HIGH WATER		
		OPNG	OPENING		
		OPP	OPPOSITE		

- ORDINARY HIGH WATER BOUNDARY
- REGULATORY BOUNDARY
- RIGHT OF WAY (APPROX.)
- LOT LINE

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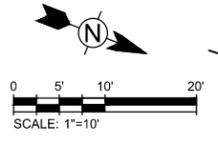
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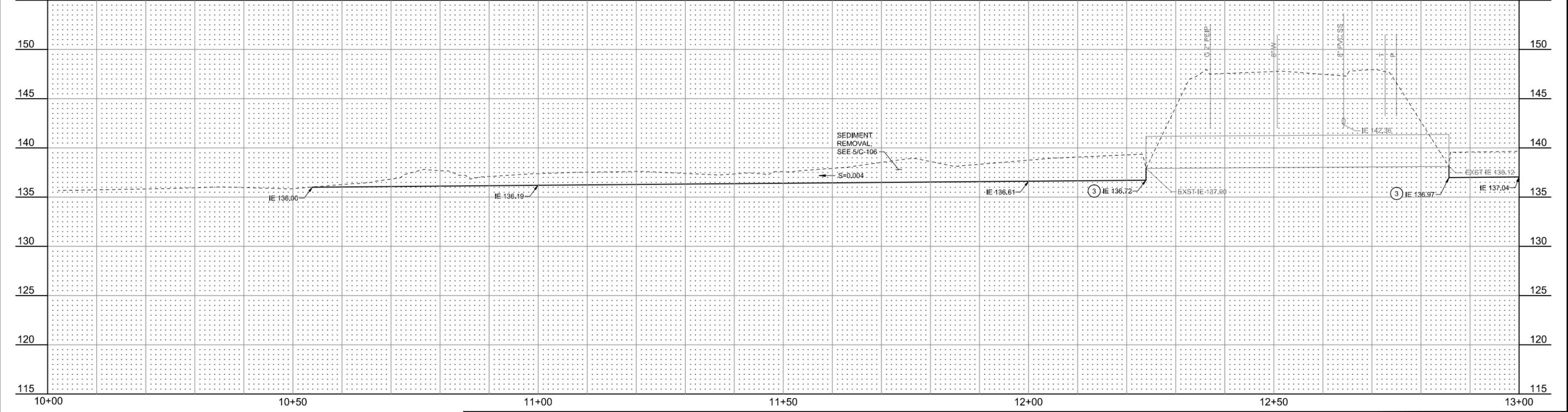
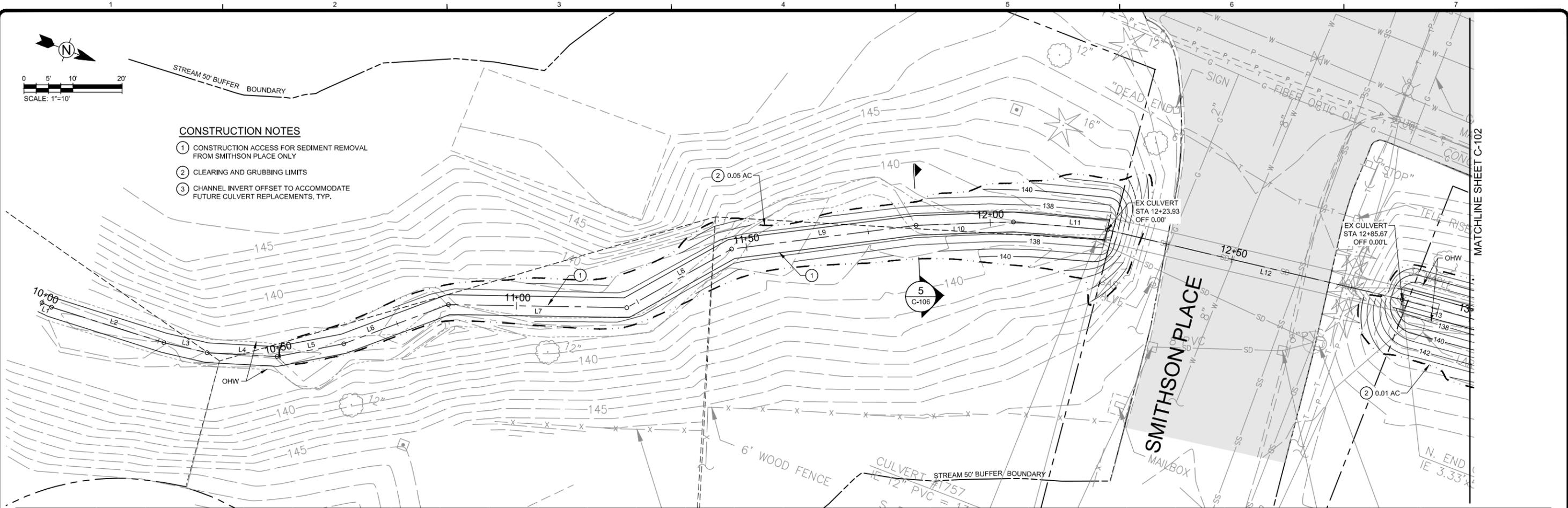
CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS
LEGEND AND ABBREVIATIONS

Project No.:
Designed By: GLG
Drawn By: CAD
Checked By:
G-001



CONSTRUCTION NOTES

- ① CONSTRUCTION ACCESS FOR SEDIMENT REMOVAL FROM SMITHSON PLACE ONLY
- ② CLEARING AND GRUBBING LIMITS
- ③ CHANNEL INVERT OFFSET TO ACCOMMODATE FUTURE CULVERT REPLACEMENTS, TYP.



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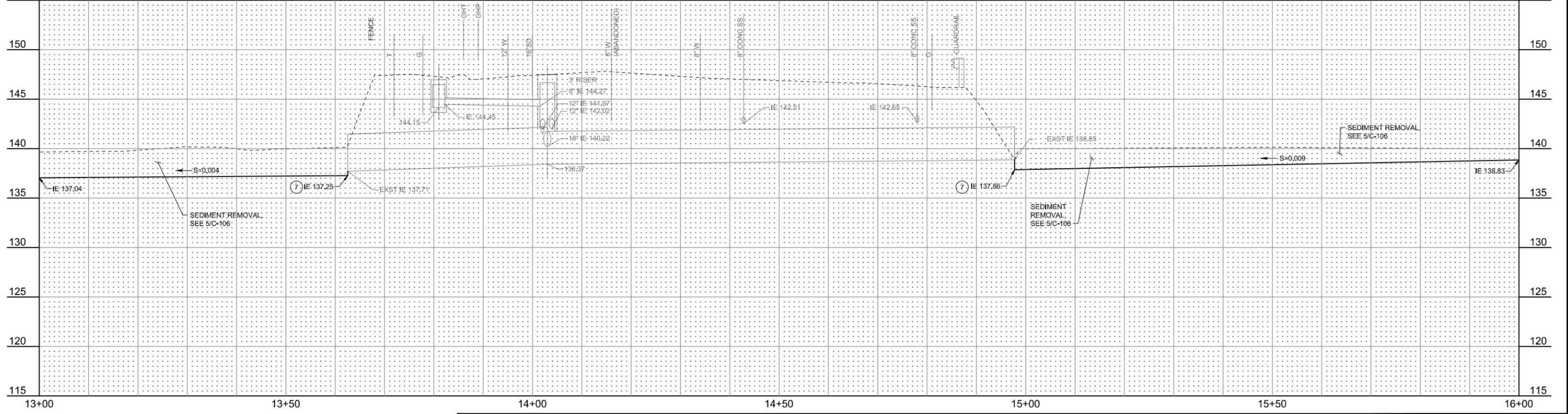
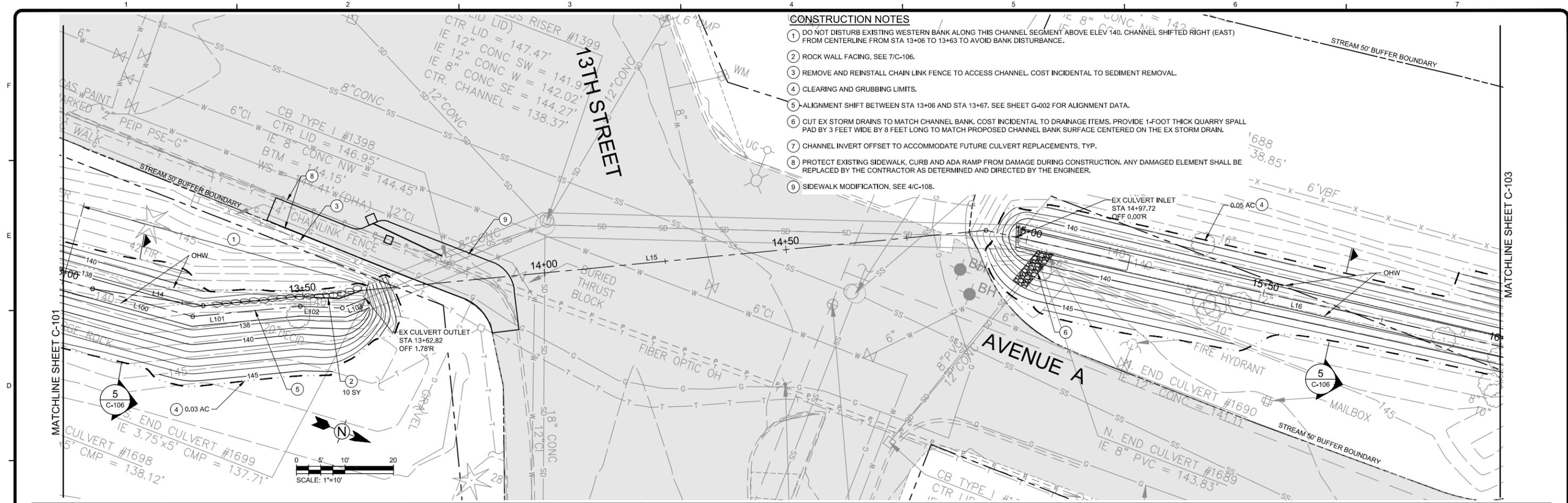
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CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS
**OUTLET CHANNEL
PLAN AND PROFILE
STA 10+00 TO 13+00**

Project No.:
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Drawn By: CAD
Checked By:
C-101

Bar Measures 1 inch

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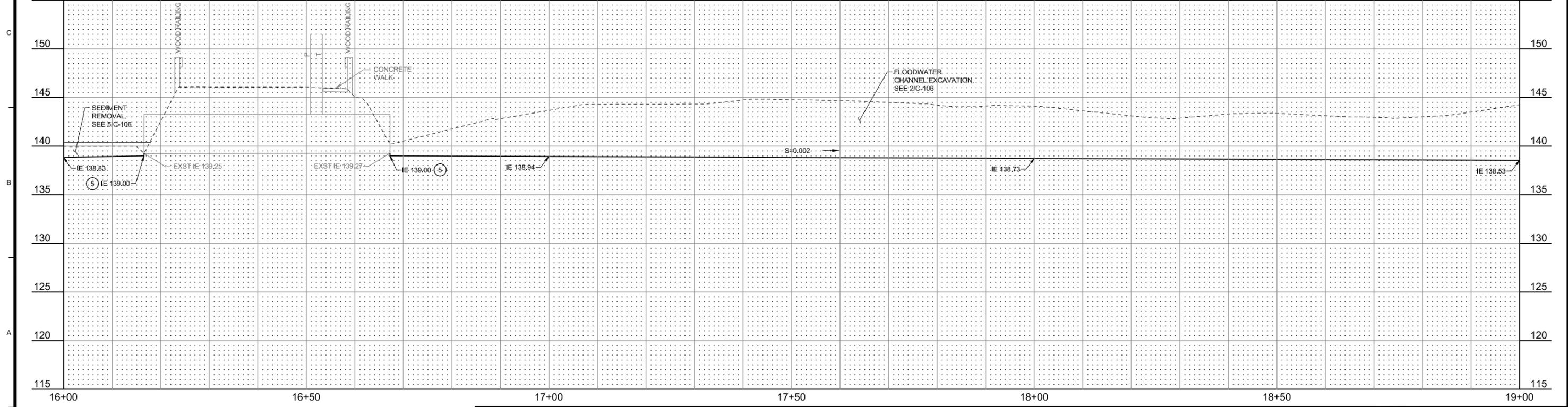
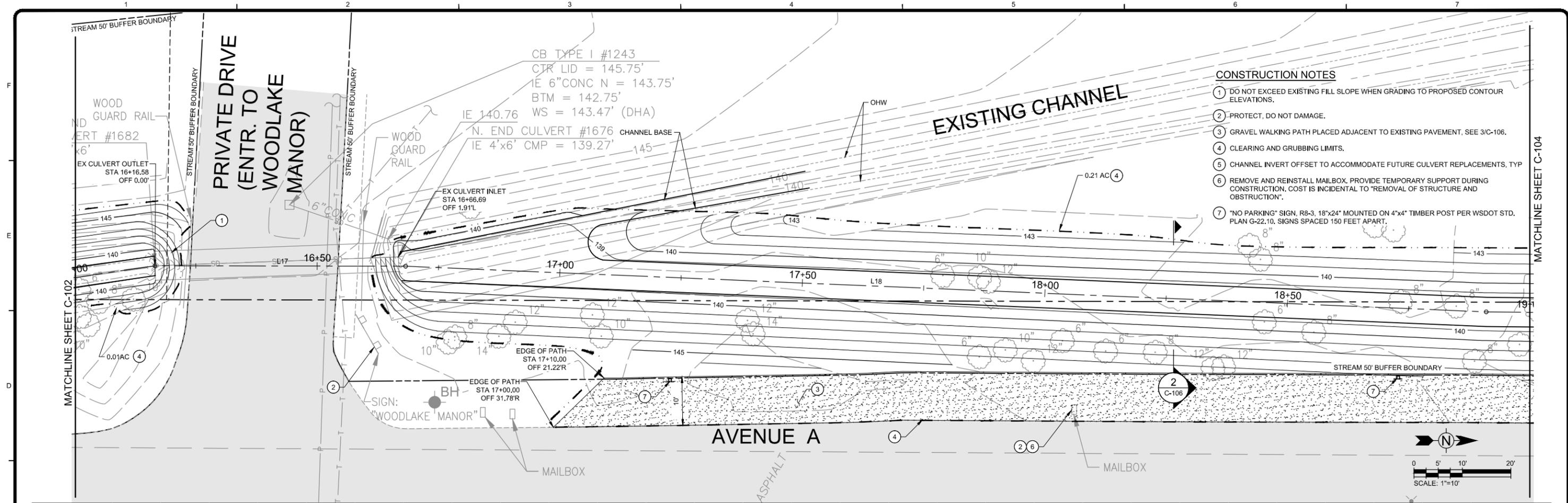


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**OUTLET CHANNEL
PLAN AND PROFILE
STA 13+00 TO 16+00**

Project No.:
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Checked By:
C-102

Bar Measures 1 inch



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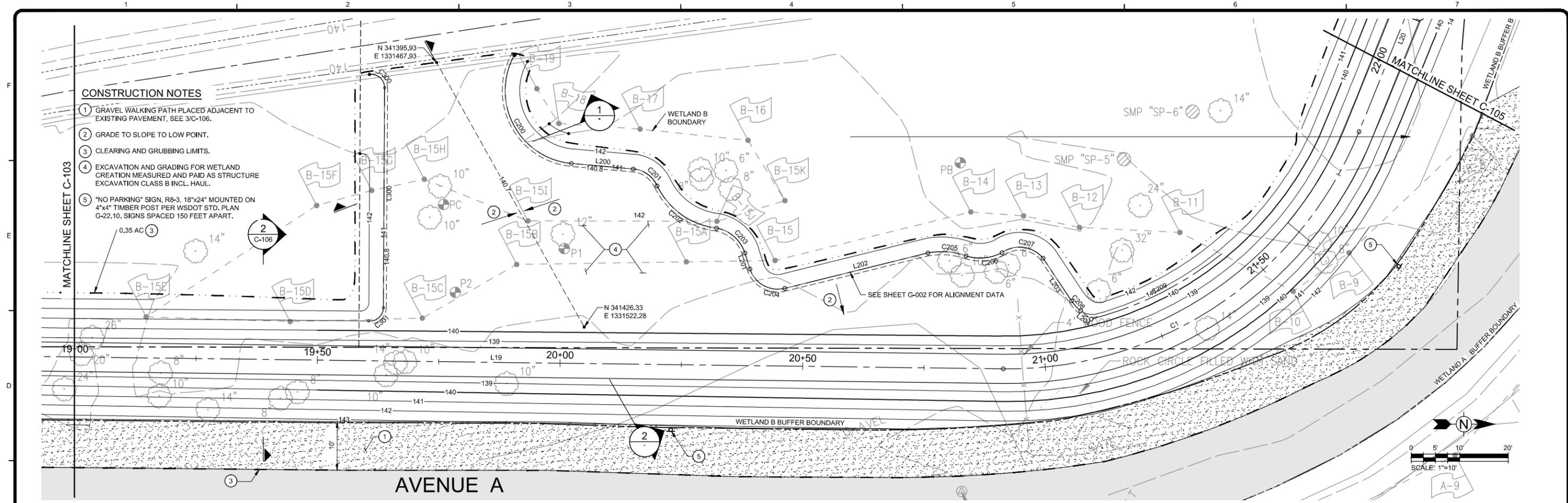


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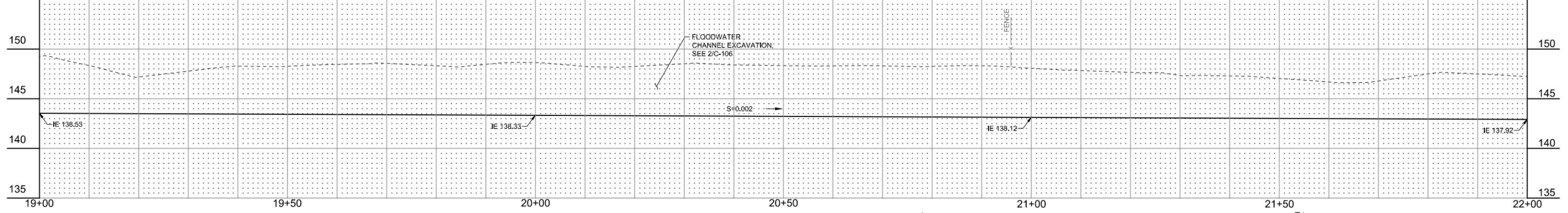
CITY OF SNOHOMISH
 BLACKMANS LAKE OUTLET IMPROVEMENTS
**OUTLET CHANNEL
 PLAN AND PROFILE
 STA 16+00 TO 19+00**

Project No. _____
 Designed By: GLG
 Drawn By: CAD
 Checked By: _____
C-103

Bar Measures 1 inch



- CONSTRUCTION NOTES**
- GRAVEL WALKING PATH PLACED ADJACENT TO EXISTING PAVEMENT, SEE 3/C-106.
 - GRADE TO SLOPE TO LOW POINT.
 - CLEARING AND GRUBBING LIMITS.
 - EXCAVATION AND GRADING FOR WETLAND CREATION MEASURED AND PAID AS STRUCTURE EXCAVATION CLASS B INCL. HAUL.
 - "NO PARKING" SIGN, R8-3, 18"x24" MOUNTED ON 4"x4" TIMBER POST PER WSDOT STD. PLAN G-22.10. SIGNS SPACED 150 FEET APART.



1 WETLAND SECTION
SCALE: 1"=5'

2 FLOODWATER CHANNEL AND WETLAND SECTION
SCALE: 1"=5'

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**OUTLET CHANNEL
PLAN AND PROFILE
STA 19+00 TO 22+00**

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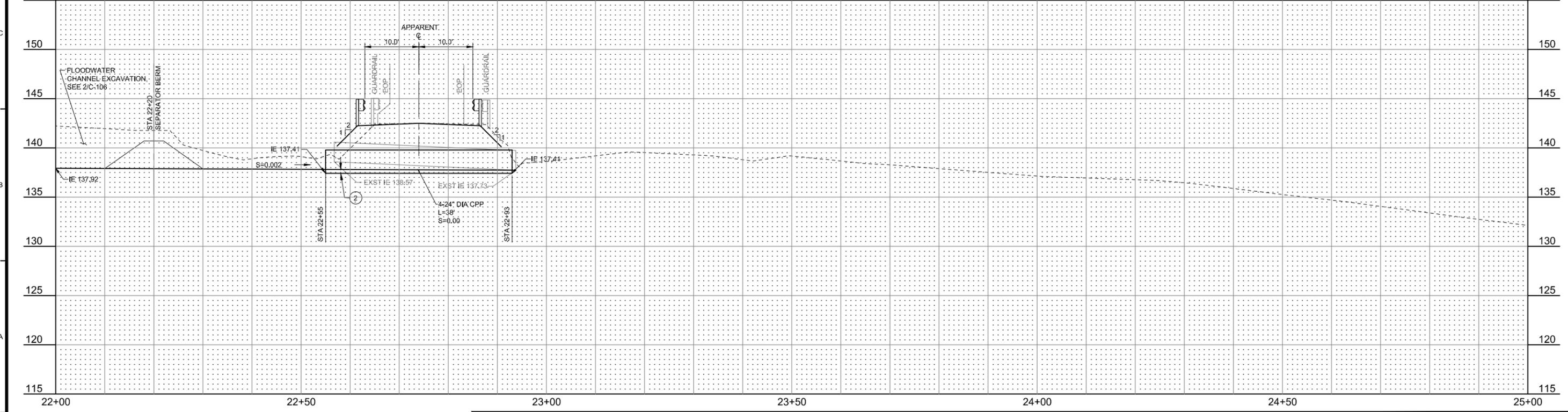
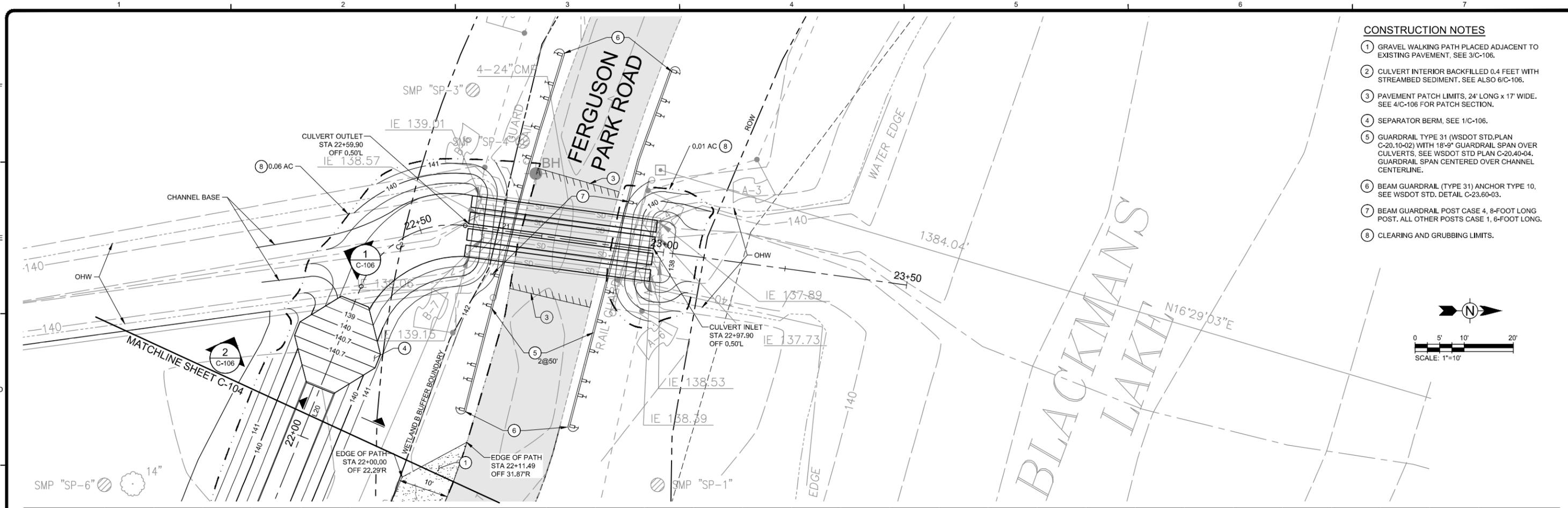
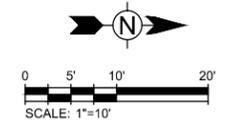
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Bar Measures 1 inch

- CONSTRUCTION NOTES**
- ① GRAVEL WALKING PATH PLACED ADJACENT TO EXISTING PAVEMENT. SEE 3/C-106.
 - ② CULVERT INTERIOR BACKFILLED 0.4 FEET WITH STREAMBED SEDIMENT. SEE ALSO 6/C-106.
 - ③ PAVEMENT PATCH LIMITS, 24' LONG x 17' WIDE. SEE 4/C-106 FOR PATCH SECTION.
 - ④ SEPARATOR BERM. SEE 1/C-106.
 - ⑤ GUARDRAIL TYPE 31 (WSDOT STD. PLAN C-20.10-02) WITH 18" GUARDRAIL SPAN OVER CULVERTS. SEE WSDOT STD. PLAN C-20.40-04. GUARDRAIL SPAN CENTERED OVER CHANNEL CENTERLINE.
 - ⑥ BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 10, SEE WSDOT STD. DETAIL C-23.60-03.
 - ⑦ BEAM GUARDRAIL POST CASE 4, 8-FOOT LONG POST. ALL OTHER POSTS CASE 1, 6-FOOT LONG.
 - ⑧ CLEARING AND GRUBBING LIMITS.



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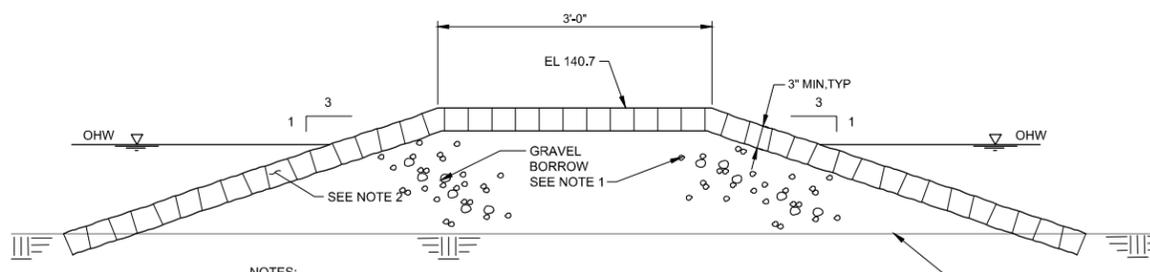
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CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS
**OUTLET CHANNEL
PLAN AND PROFILE
STA 22+00 TO 25+00**

Project No.:
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Bar Measures 1 inch

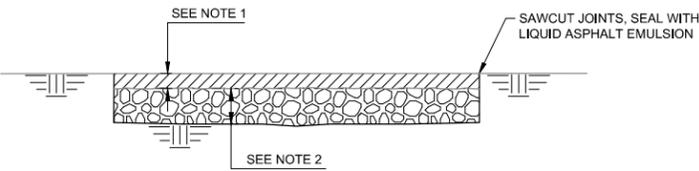
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NOTES:

- GRAVEL BORROW PLACED IN 8-INCH LIFTS COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE ASTM 1557 TESTING PROCEDURE.
- CELLULAR CONFINEMENT SYSTEM (CCS), 3" HIGH, FILLED WITH GRAVEL BORROW. CUT, SHAPE, STAKE AS REQUIRED PER MANUFACTURERS' INSTALLATION INSTRUCTIONS. CCS PROVIDED BY WEBTEC, INC (TERRACELL), PRESTO PRODUCTS (GEOWEB) OR APPROVED EQUAL. COST OF CCS IS INCIDENTAL TO GRAVEL BORROW.

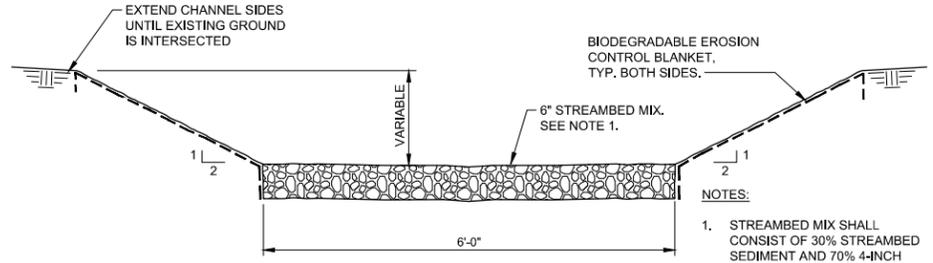
1 SEPARATOR BERM
C-105 SCALE: 1"=4'



NOTES:

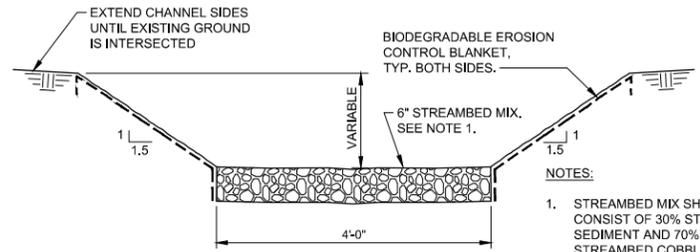
- PAVEMENT RESTORATION SHALL CONSIST OF 2" COMPACTED LIFTS WITH TOTAL THICKNESS TO EQUAL OR EXCEED PAVEMENT THICKNESS. 4" MINIMUM THICKNESS. ASPHALT SHALL BE HMA CLASS CL 1/2 IN PG 64-22. PAVEMENT SHALL BE SAWCUT FOR A SMOOTH JOINT PRIOR TO PAVING. PAVEMENT PATCH SHALL BE PAID FOR BY "HMA CLASS CL 1/2 IN PG 64-22."
- 4-INCH CSTC, WSDOT STD. SPEC. 9-03.9(3).

4 PAVEMENT PATCH
C-105 SCALE: NTS



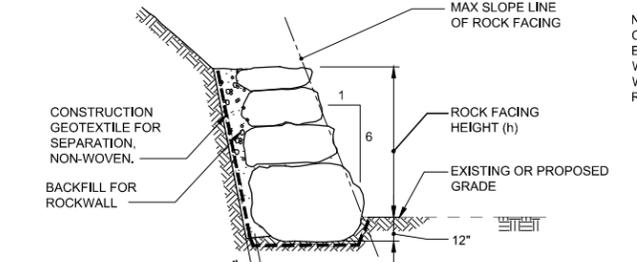
2 TYPICAL FLOODWATER CHANNEL SECTION
STA 16+69.69 TO STA 22+59.90

C-104 C-103 SCALE: 3/4"=1'-0"



5 TYPICAL RESTORED CHANNEL SECTION
STA 10+53.98 TO STA 16+16.58

C-102 C-101 SCALE: 3/4"=1'-0"

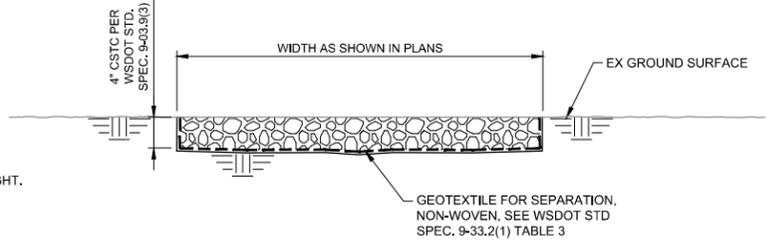


NOTE:
CONSTRUCT ROCK FACING IN LIFTS NOT TO EXCEED 3 FEET PER LIFT SIMULTANEOUSLY WITH COMPACTED FILL IN AREAS OF LIMITED WORKING SPACE. OTHERWISE, CONSTRUCT ROCK FACING IN CUT OF THE COMPACTED FILL.

(h)	(v)	SIZE(BASE)	SIZE(TOP)
2 FEET	3 INCHES	2-MAN	1-MAN
4 FEET	6 INCHES	3-MAN	2-MAN
6 FEET	6 INCHES	4-MAN	2-MAN
8 FEET	6 INCHES	5-MAN	2-MAN

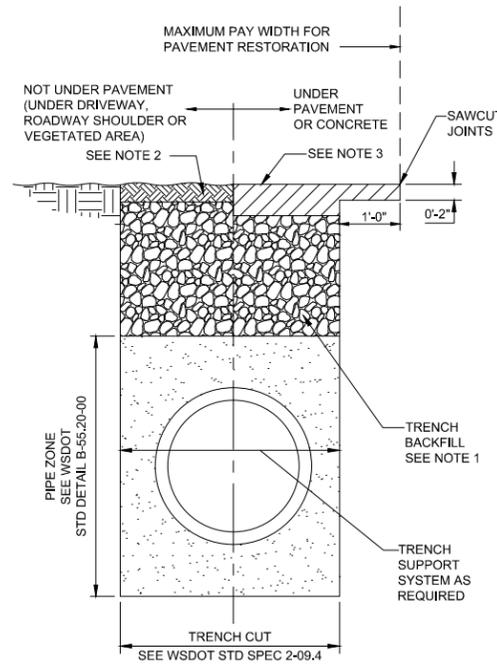
(h) ROCK FACING HEIGHT, MEASURED FROM TOP OF FINISHED GRADE.
(v) MAXIMUM VOID BETWEEN ROCKS.

7 ROCK WALL FACING
C-102 NTS



3 GRAVEL WALKING PATH

C-104 C-103 SCALE: NTS



TYPICAL PIPE TRENCH NOTES:

- BACKFILL MATERIAL SHALL BE GRAVEL BORROW, WSDOT STD. SPEC. 9-03.14(1), UNLESS DIRECTED OTHERWISE BY THE ENGINEER. PLACEMENT SHALL COMPLY WITH WSDOT STD. SPEC. 7-08.3(3).
- TRENCHES UNDER GRASS OR DRIVEWAYS SHALL BE RESTORED IN KIND. FOR GRAVEL DRIVEWAY RESTORATION, MINIMUM DEPTH OF GRAVEL SHALL BE 4" CSTC, PAID FOR BY "CRUSHED SURFACING TOP COURSE". CONCRETE DRIVEWAY RESTORATION IS PAID FOR BY "CONCRETE DRIVEWAY RESTORATION". GRASS SHOULDER RESTORATION SHALL HAVE THE TOP 3 INCHES FINISHED WITH TOPSOIL TYPE C.
- PAVEMENT RESTORATION CONSIST OF 2" COMPACTED LIFTS WITH TOTAL THICKNESS TO EQUAL OR EXCEED PAVEMENT THICKNESS. 4" MINIMUM THICKNESS. ASPHALT SHALL BE HMA CLASS CL 1/2 IN PG 64-22. PAID FOR BY "HMA CLASS CL 1/2 IN PG 64-22". PAVEMENT SHALL BE SAWCUT FOR A SMOOTH JOINT PRIOR TO PAVING.
- ASPHALT DISTURBED OUTSIDE LIMITS OF TRENCH SHALL BE RESTORED AND SHALL BE INCIDENTAL TO PIPE INSTALLATION.

6 TRENCH DETAIL FOR PAVED AND UNPAVED AREAS
C-105 NTS

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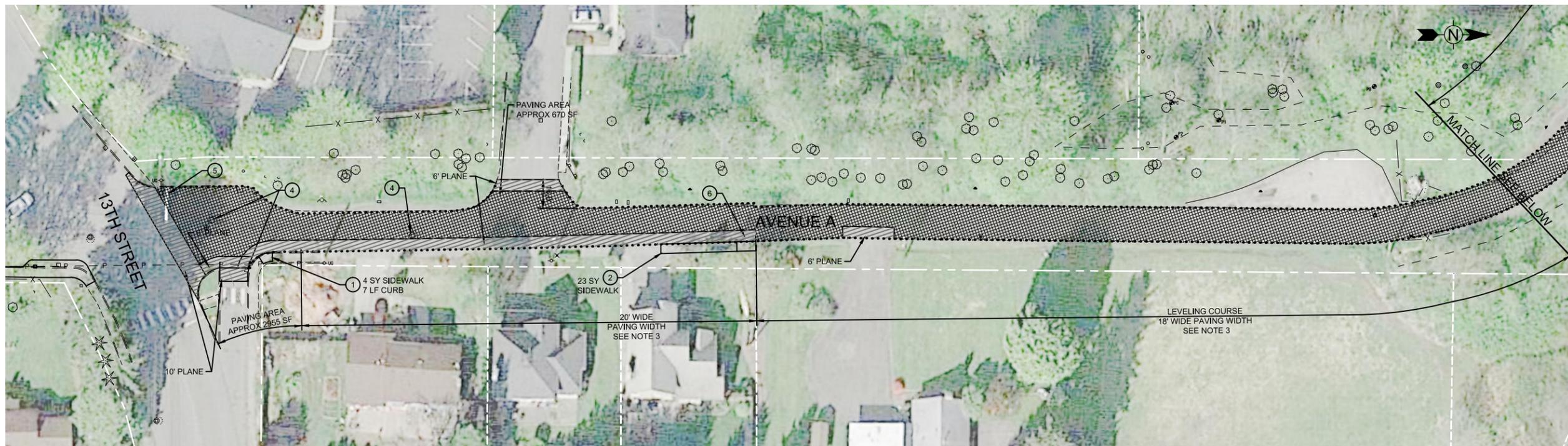
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CITY OF SNOHOMISH
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MISCELLANEOUS
DETAILS

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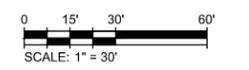
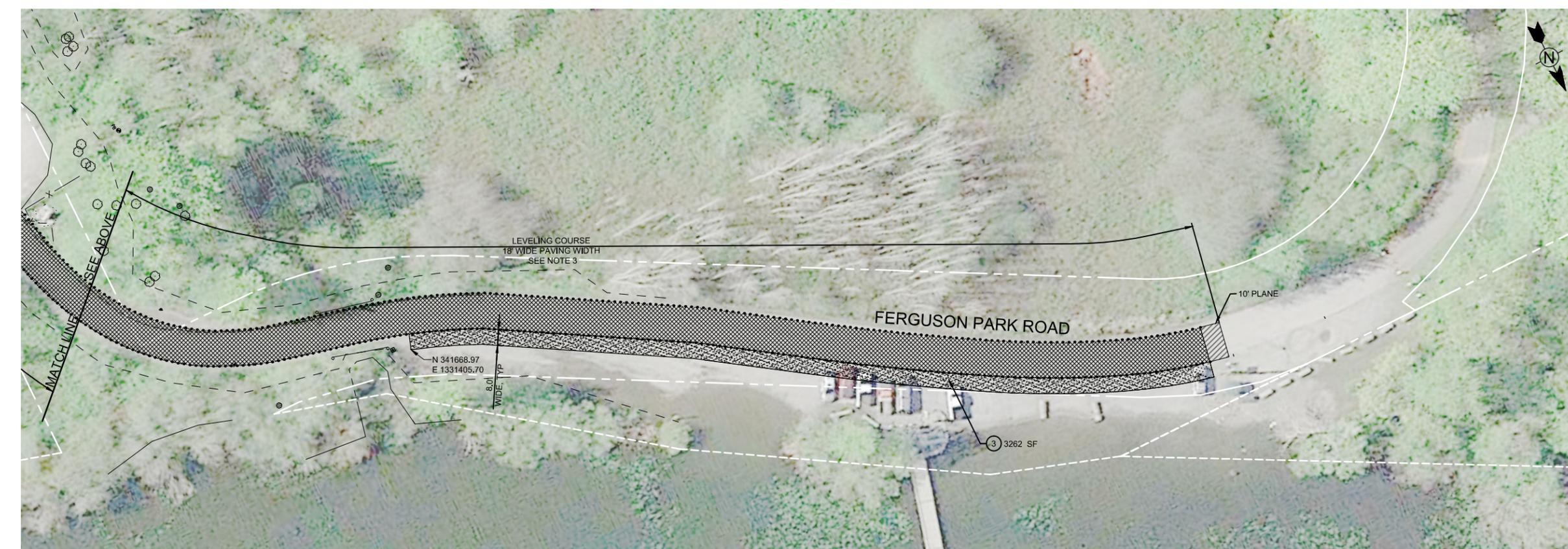
Bar Measures 1 inch



- CONSTRUCTION NOTES**
- 1 REMOVE EXISTING ADA RAMP AND INSTALL CEMENT CONCRETE SIDEWALK PER WSDOT F-30.10 AND CEMENT CONCRETE TRAFFIC CURB AND GUTTER PER WSDOT F-10.12. SAW CUT SIDEWALK AND CURB AND GUTTER TO NEAREST SIDEWALK JOINT. SAW CUTTING IS INCIDENTAL TO SIDEWALK.
 - 2 REMOVE AND REPLACE APPROXIMATELY 40 FEET OF SIDEWALK AND ASPHALT RAMP. CONSTRUCT SIDEWALK PER WSDOT F-30.10 AND CURB RAMP TYPE PARALLEL B PER WSDOT DETAIL F-40.12. PRESERVE EXISTING CONCRETE CURB AND GUTTER OUTSIDE OF RAMP CONSTRUCTION. SEE NOTE 6.
 - 3 GRAVEL SHOULDER RESTORATION, SEE 2/C-108.
 - 4 ADJUST MANHOLES, CATCH BASINS, INLETS, WATER VALVES COVERS/GRATES TO GRADE FOLLOWING OVERLAY. COST INCIDENTAL TO HMA.
 - 5 REPLACE EXISTING STOP LINE FOLLOWING OVERLAY PLACEMENT WITH PLASTIC STOP LINE, 15 FEET LONG.
 - 6 SAWCUT AND REMOVE 5 FEET OF EXISTING CONCRETE CURB AND GUTTER FROM END OF EXISTING SIDEWALK TO ACCOMMODATE ADA RAMP. SEE NOTE 2. SAW CUTTING IS INCIDENTAL TO SIDEWALK.

- GENERAL NOTES**
1. LEVELING COURSE AND OVERFLOW CHANNEL CONSTRUCTION SHALL OCCUR PRIOR TO PLACEMENT OF THE OVERLAY.
 2. A LEVELING COURSE OF HMA CL 1/2 PG 64-22 SHALL INITIALLY BE PLACED WITHIN THE PAVING LIMITS FOLLOWING THE ASPHALT PLANING. THE LEVELING COURSE SHALL BE SET AS 1-INCH MAXIMUM DEPTH MEASURED AT THE EXISTING ROAD CENTERLINE AND ON BOTH EDGES. THE HMA SHALL BE SCREEDED MAINTAINING THESE DEPTHS AND COMPACTED. THE LEVELING COURSE SHALL BE FOLLOWED BY THE FULL DEPTH OVERLAY.
 3. 2" COMPACTED LAYER OF HMA CL 1/2 PG 64-22 SHALL BE PLACED WITHIN THE OVERLAY LIMITS SHOWN.
 4. PAVING WIDTHS TYPICALLY 18' OR 20' WIDTH. ADDITIONAL AREA SHOWN NEAR INTERSECTION AND LARGE DRIVEWAY.

- LEGEND**
- OVERLAY BOUNDARY
 - [Hatched Pattern] ASPHALT PLANING. PLANE 6' WIDE BY 3" DEEP SWATH ADJACENT TO EXISTING CURB AND GUTTER. PLANE 10' WIDE BY 3" DEEP SWATH ADJACENT TO EXISTING ROADWAY. PLANE TAPERS TO 0" DEPTH ON ROAD PORTION TO RECEIVE OVERLAY.
 - [Cross-hatched Pattern] HMA OVERLAY LIMITS, SEE 1/C-108.
 - [Dotted Pattern] GRAVEL SHOULDER RESTORATION, SEE 2/C-108.



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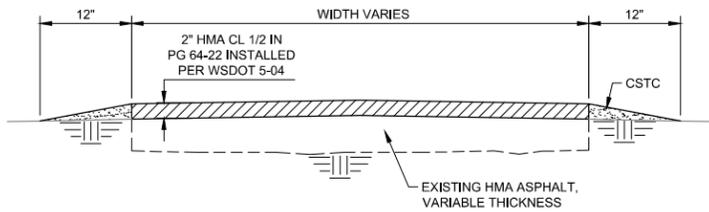


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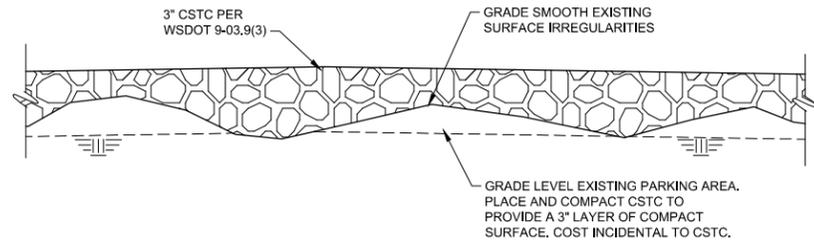
CITY OF SNOHOMISH
 BLACKMANS LAKE OUTLET IMPROVEMENTS
 PAVEMENT OVERLAY

Project No.:
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 Drawn By: RM
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C-107

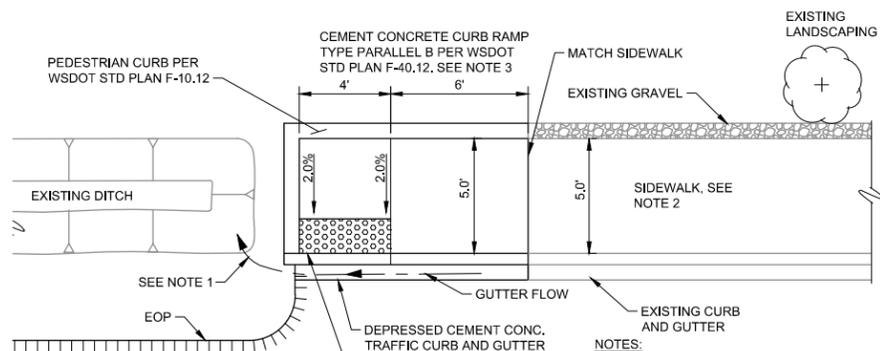
Bar Measures 1 inch



1 HMA OVERLAY
C-107 SCALE: NTS

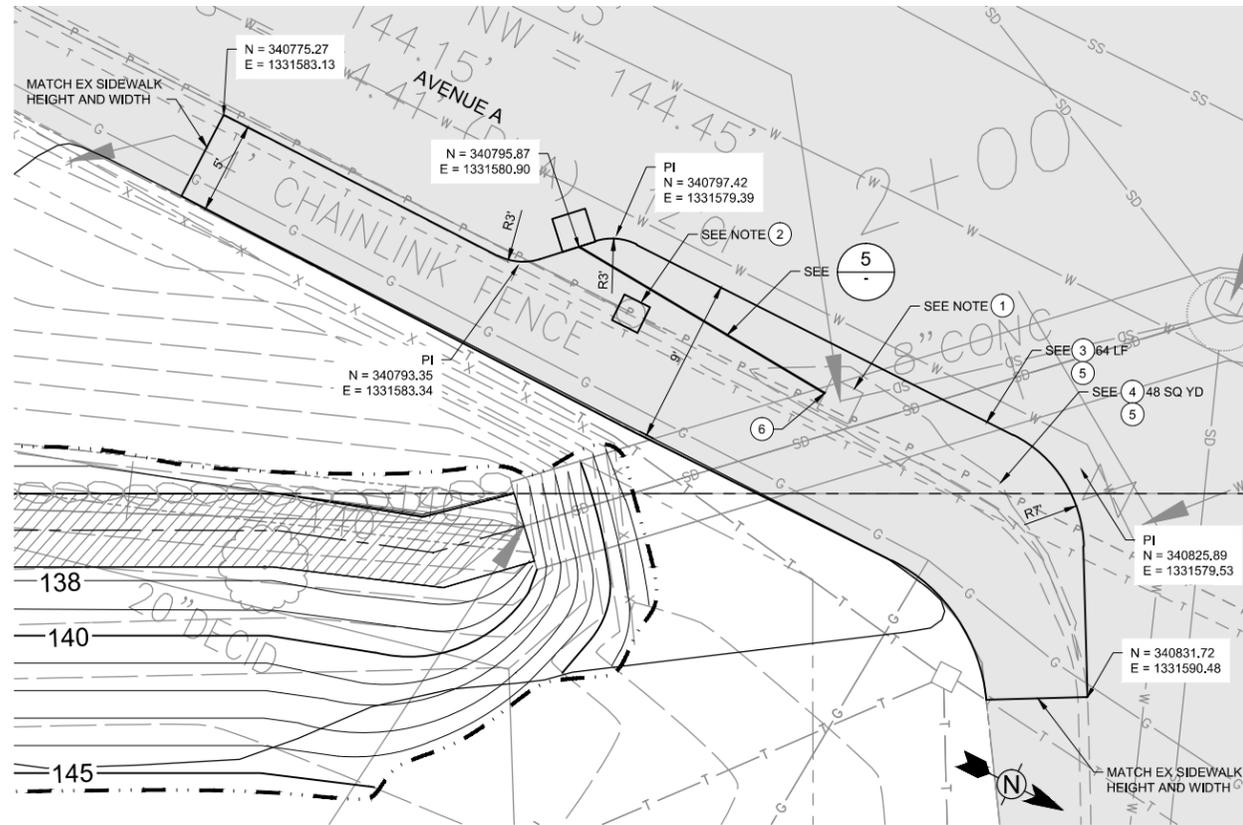


2 GRAVEL SHOULDER REPAIR
C-107 SCALE: NTS

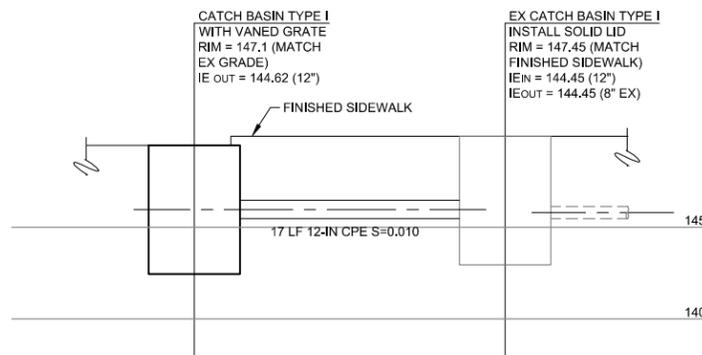


- NOTES:**
1. PROVIDE DRAINAGE PATHWAY FROM GUTTERLINE TO DITCH, 1-FOOT WIDE BASE WIDTH
 2. EXISTING DAMAGED SIDEWALK REPLACED, SEE C-107 FOR EXTENT. PRESERVE EXISTING CURB AND GUTTER.
 3. EXISTING SIDEWALK AND CURB AND GUTTER REMOVED TO PROVIDE FOR ADA RAMP.
 4. PROTECT EXISTING DRAINAGE PIPE BACK OF SIDEWALK.

3 ADA RAMP
C-107 SCALE: NTS



4 SIDEWALK WIDENING DETAIL
C-102 SCALE: 1" = 5'



5 STORM DRAIN PROFILE
SCALE: 1" = 5'

CONSTRUCTION NOTES

1. ADJUST TO FINISHED GRADE AND INSTALL A SOLID LID PER WSDOT STD PLAN B-30.20.
2. BLOCK-OUT 2'x2' SQUARE AROUND EX UTILITY POLE. FILL BLOCK-OUT VOID WITH CSTC LEVEL WITH FINISHED SIDEWALK.
3. INSTALL TRAFFIC CURB AND GUTTER PER WSDOT F-10.12.
4. INSTALL CEMENT CONCRETE SIDEWALK PER WSDOT F-30.10.
5. SAW CUT AND REMOVE EXISTING ASPHALT, CONCRETE CURB AND GUTTER, AND CONCRETE SIDEWALK IN CONFLICT WITH NEW CONSTRUCTION.
6. CONNECT TO DRAINAGE STRUCTURE.

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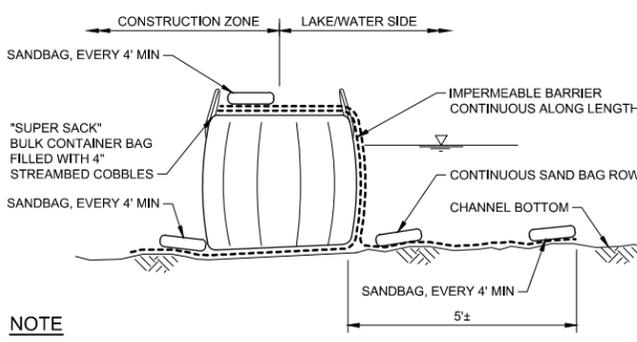
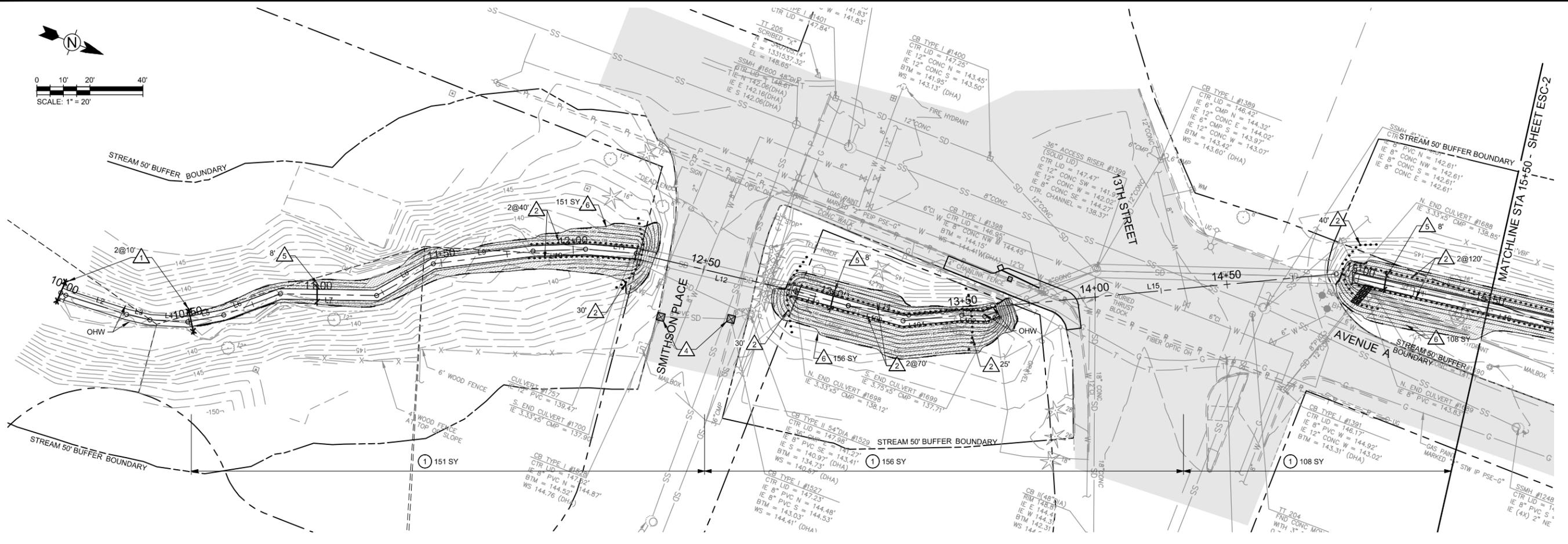
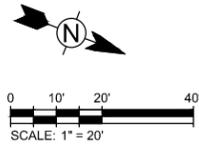
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CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

MISCELLANEOUS
DETAILS

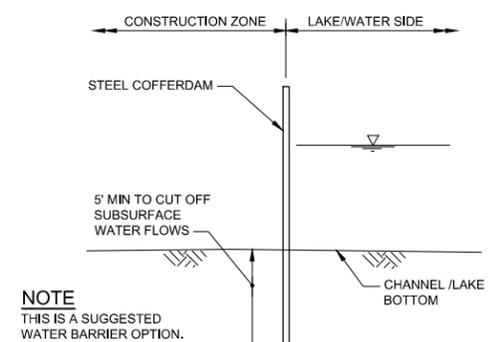
Project No.:
Designed By: GLG
Drawn By: CAD
Checked By:
C-108

Bar Measures 1 inch



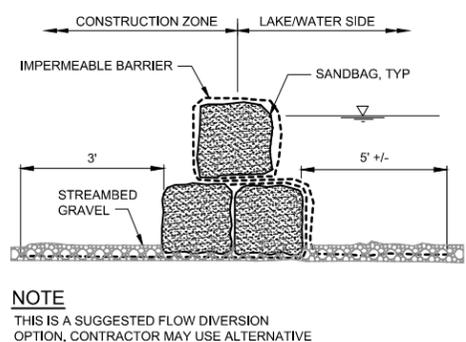
NOTE
THIS IS A SUGGESTED WATER BARRIER OPTION. CONTRACTOR MAY USE ALTERNATIVE AS APPROVED BY ENGINEER.

1 BULK CONTAINER BAG DAM
ESC-3 ESC-2



NOTE
THIS IS A SUGGESTED WATER BARRIER OPTION. CONTRACTOR MAY USE ALTERNATIVE AS APPROVED BY ENGINEER.

2 COFFERDAM
ESC-3 ESC-2



NOTE
THIS IS A SUGGESTED FLOW DIVERSION OPTION. CONTRACTOR MAY USE ALTERNATIVE AS APPROVED BY ENGINEER.

3 SANDBAG DAM
ESC-3 ESC-2

LEGEND

- ① SILT FENCE PER WSDOT STD PLAN I-30.15-02.
- ② WATTLE INSTALLATION ON SLOPE, SEE WSDOT STD PLAN I-30.30-01.
- ③ NOT USED
- ④ STORM DRAIN INLET PROTECTION, SEE WSDOT STD PLAN I-40.20-00.
- ⑤ BIODEGRADABLE CHECK DAM, SEE WSDOT STD PLAN I-50.20-01.
- ⑥ BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT ON SLOPE, SEE WSDOT STD PLAN I-60.10-01.
- GRAVEL WALKWAY
- EXISTING ASPHALT PAVEMENT

NOTE
SEE ESC-3 FOR EROSION AND SEDIMENT CONTROL AND GENERAL NOTES

CONSTRUCTION NOTES

- ① SEEDING, FERTILIZING AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO ALL DISTURBED EARTH EXCEPT THE RESTORED CHANNEL BASE AND SELECT WETLAND AREAS. SEE HYDROSEEDING NOTES AND LANDSCAPING PLANS. SCARIFY SLOPES TO A DEPTH OF 3-INCHES PARALLEL TO THE SLOPE PRIOR TO SEEDING. COST IS INCIDENTAL TO SEEDING.

HYDROSEEDING NOTES

1. SEEDING, FERTILIZING, AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO DISTURBED AREAS, EXCEPT THE RESTORED CHANNEL BASE, AS SHOWN BELOW. SEE "L" SERIES DRAWINGS FOR PLANTING AREAS. ALL SEEDED AREAS SHALL RECEIVE A TACKIFIER.
2. PLANTING AREAS A, B, AND C TO RECEIVE "SEEDING, FERTILIZING AND MULCHING - DRY AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX
3. PLANTING AREA D, WETLAND AREA 1, 2, 3, AND PLANTING AREA D (TYPE 1, 2, AND 3) SHALL RECEIVE "SEEDING AND MULCHING - WET AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
4. NO SEEDING IN WETLAND AREA 4 AND AREA 5.

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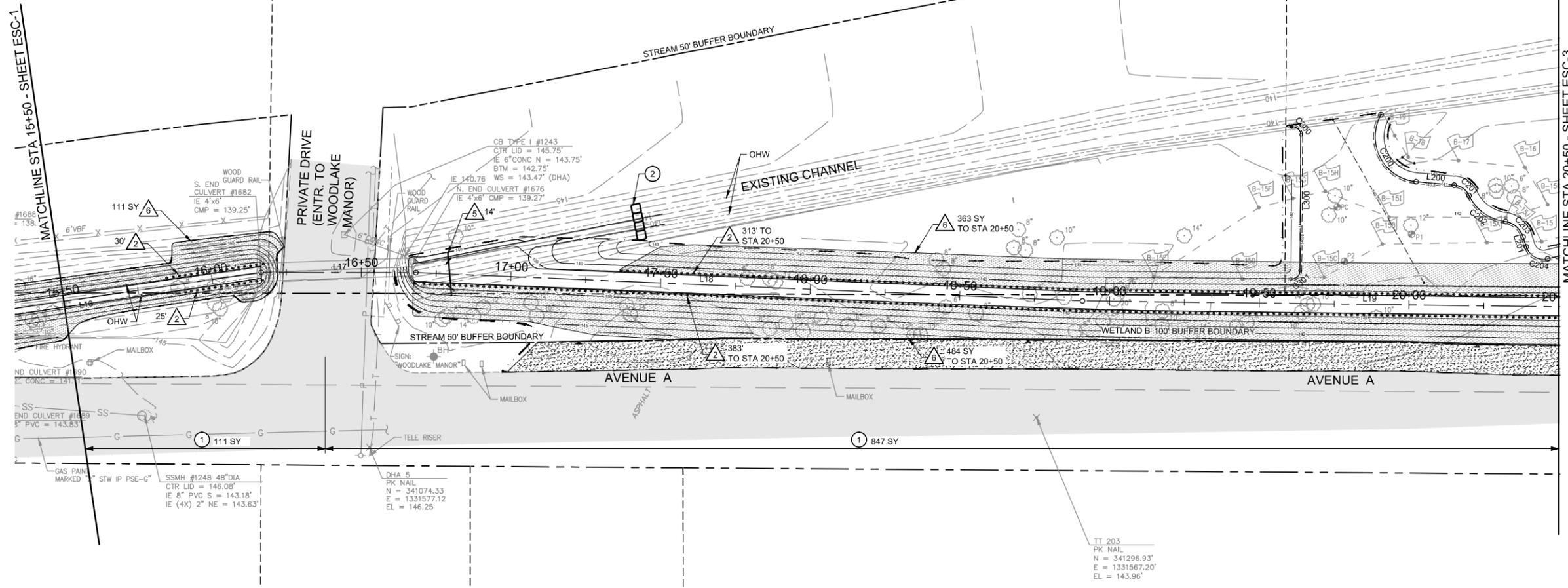
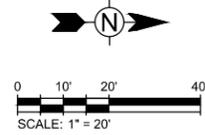
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CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

EROSION AND SEDIMENT CONTROL PLAN
STA 10+00 TO 15+50

Project No.:
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Drawn By: JLF
Checked By:

ESC-1



LEGEND

- ① SILT FENCE PER WSDOT STD PLAN I-30.15-02.
- ② WATTLE INSTALLATION ON SLOPE, SEE WSDOT STD PLAN I-30.30-01.
- ③ NOT USED
- ④ STORM DRAIN INLET PROTECTION, SEE WSDOT STD PLAN I-40.20-00.
- ⑤ BIODEGRADABLE CHECK DAM, SEE WSDOT STD PLAN I-50.20-01.
- ⑥ BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT ON SLOPE, SEE WSDOT STD PLAN I-60.10-01.
- GRAVEL WALKWAY
- EXISTING ASPHALT PAVEMENT

CONSTRUCTION NOTES

- ① SEEDING, FERTILIZING AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO ALL DISTURBED EARTH EXCEPT THE RESTORED CHANNEL BASE AND SELECT WETLAND AREAS. SEE HYDROSEEDING NOTES AND LANDSCAPE PLANS. SCARIFY SLOPES TO A DEPTH OF 3-INCHES PARALLEL TO THE SLOPE PRIOR TO SEEDING. COST IS INCIDENTAL TO SEEDING.
- ② WATER BARRIER. SEE 1, 2, 3/ESC-1 FOR OPTIONS. CONTRACTOR MAY PROPOSE ALTERNATIVES. ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

NOTE

SEE ESC-3 FOR EROSION AND SEDIMENT CONTROL AND GENERAL NOTES

HYDROSEEDING NOTES

- 1. SEEDING, FERTILIZING, AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO DISTURBED AREAS. EXCEPT THE RESTORED CHANNEL BASE, AS NOTED BELOW, SEE "L" SERIES DRAWINGS FOR PLANTING AREAS. ALL SEEDED AREAS SHALL RECEIVE A TACKIFIER.
- 2. PLANTING AREAS A, B AND C TO RECEIVE "SEEDING, FERTILIZING, AND MULCHING - DRY AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
- 3. PLANTING AREA D, WETLAND AREA 1, 2, 3, AND PLANTING AREA D (TYPE 1, 2 AND 3) SHALL RECEIVE "SEEDING AND MULCHING - WET AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
- 4. NO SEEDING IN WETLAND AREA 4 AND AREA 5.

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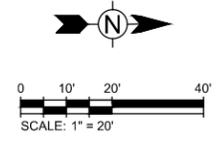
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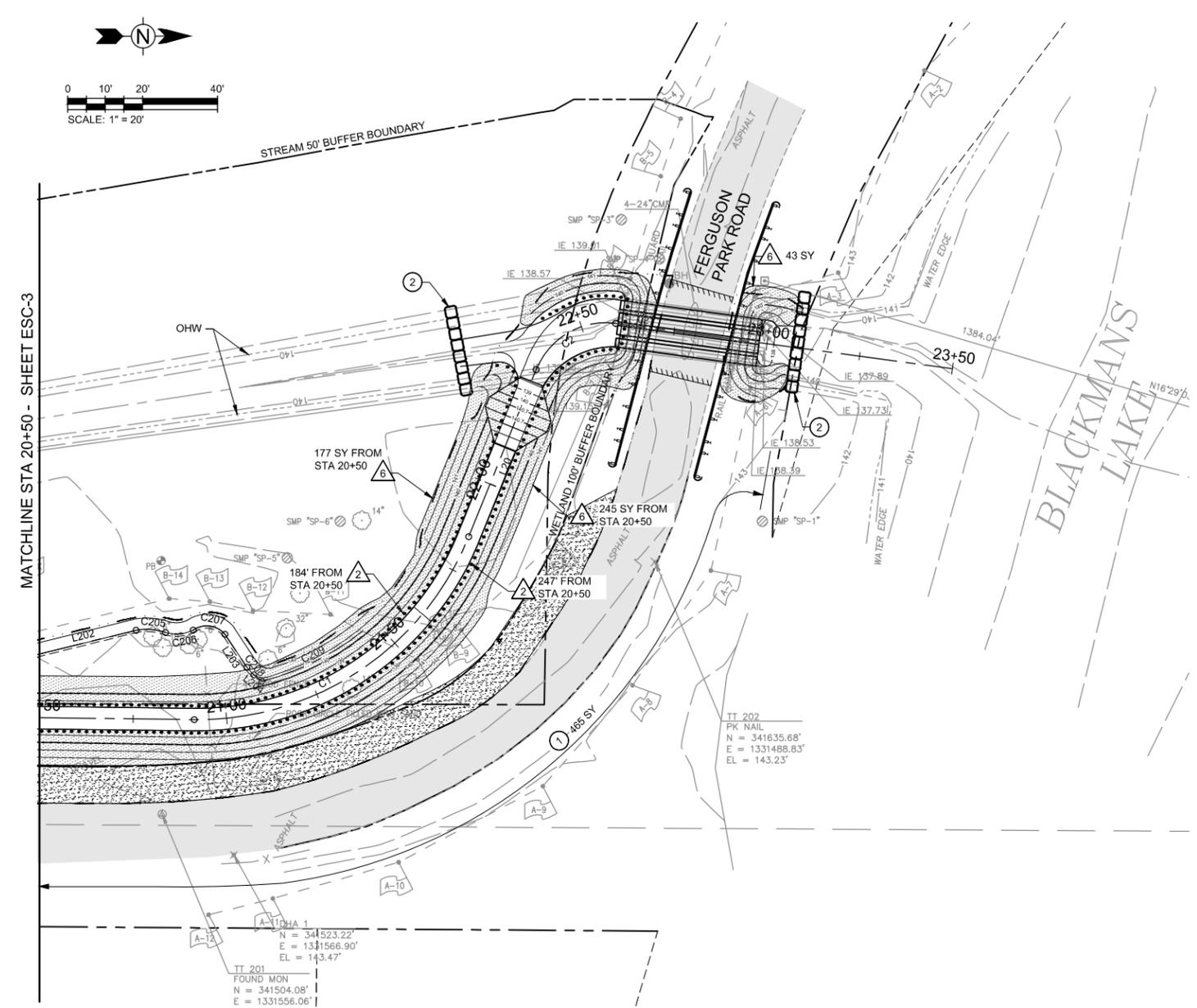
**EROSION AND SEDIMENT
CONTROL PLAN
STA 15+50 TO 20+50**

Project No.:
Designed By: GLG
Drawn By: JLF
Checked By:

ESC-2



MATCHLINE STA 20+50 - SHEET ESC-3



LEGEND

- ① SILT FENCE PER WSDOT STD PLAN I-30.15-02.
- ② WATTLE INSTALLATION ON SLOPE, SEE WSDOT STD PLAN I-30.30-01.
- ③ NOT USED
- ④ STORM DRAIN INLET PROTECTION, SEE WSDOT STD PLAN I-40.20-00.
- ⑤ BIODEGRADABLE CHECK DAM, SEE WSDOT STD PLAN I-50.20-01.
- ⑥ BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT ON SLOPE, SEE WSDOT STD PLAN I-60.10-01.
- GRAVEL WALKWAY
- EXISTING ASPHALT PAVEMENT

CONSTRUCTION NOTES

- ① SEEDING, FERTILIZING AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO ALL DISTURBED EARTH EXCEPT THE RESTORED CHANNEL BASE AND SELECT WETLAND AREAS, SEE HYDROSEEDING NOTES AND LANDSCAPING PLANS. SCARIFY SLOPES TO A DEPTH OF 3-INCHES PARALLEL TO THE SLOPE PRIOR TO SEEDING. COST IS INCIDENTAL TO SEEDING.
- ② WATER BARRIER, SEE 1, 2, 3/ESC-1 FOR OPTIONS. CONTRACTOR MAY PROPOSE ALTERNATIVES. ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION.

HYDROSEEDING NOTES

- 1. SEEDING, FERTILIZING, AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO ALL DISTURBED AREAS, EXCEPT THE RESTORED CHANNEL BASE, AS NOTED BELOW, SEE "L" SERIES DRAWINGS FOR PLANTING AREAS, ALL SEEDED AREAS SHALL RECEIVE A TACKIFIER.
- 2. PLANTING AREAS A,B AND C TO RECEIVE, "SEEDING, FERTILIZING, AND MULCHING - DRY AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
- 3. PLANTING AREA D, WETLAND AREA 1, 2, 3, AND PLANTING AREA D (TYPE 1, 2 AND 3) SHALL RECEIVE "SEEDING AND MULCHING - WET AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
- 4. NO SEEDING IN WETLAND AREA 4 AND AREA 5.

GENERAL NOTES

1. CONTRACTOR SHALL ISOLATE AND PREVENT THE LAKE WATER FROM ENTERING THE OUTLET CULVERT AND CHANNEL. THE METHOD OF ISOLATION SHALL BE SELECTED BY THE CONTRACTOR TO BE COFFERDAMS, "SUPER-SACK" BARRIER, OR SANDBAG DAM BARRIER, OR A COMBINATION THEREOF.

DEWATERING PUMPING WILL BE REQUIRED. CLEAN, SILT-FREE WATER MAY BE RETURNED TO THE LAKE. SILT-LADEN WATER SHALL BE TREATED TO REMOVE PARTICULATES PRIOR TO DISCHARGE. TREATMENT OF SILT-LADEN WATER SHALL BE BY "BAKER TANKS" OR SEDIMENT PONDS SIZED AND CONSTRUCTED BY THE CONTRACTOR. DISCHARGE SHALL MEET WATER QUALITY STANDARDS AND CRITERIA PER THE ECOLOGY STORM WATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, LATEST EDITION. COST FOR SEDIMENT REMOVAL SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN DEWATERING.

CONSTRUCTION IS SCHEDULED WHEN LITTLE OR NO FLOW OCCURS IN THE CREEK. HOWEVER, THERE WILL BE STANDING WATER IN PORTIONS OF THE OUTLET SYSTEM REFLECTING THE LAKE LEVEL THAT MUST BE DEWATERED WHEN WATER OCCURS IN A WORK ZONE.
2. ALL CONTAMINATED WATER SHALL BE TREATED BY A SEDIMENT TRAP OR OTHER APPROVED METHOD. THE LOCATION AND METHOD SHALL BE APPROVED BY THE ENGINEER.
3. TOPSOIL AND OTHER SALVAGED MATERIAL STOCKPILES THAT ARE LOCATED WITHIN PROJECT LIMITS SHALL BE IN NON TRAFFIC AREAS. THE SIDE SLOPES SHALL NOT BE PILED STEEPER THAN 2:1. THE STOCKPILE AREAS SHALL BE SURROUNDED BY A FILTER FABRIC FENCE AND INTERCEPTOR DIKE. THE STOCKPILE SHALL BE COVERED WITH 6 MIL PLASTIC PER WSDOT 9-14.5(3).
4. MAINTENANCE: EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE INSPECTED, MAINTAINED, AND SEDIMENT REMOVED BY THE CONTRACTOR ON A WEEKLY BASIS AS A MINIMUM AND ON A DAILY BASIS DURING PERIODS OF RAINFALL AS IT BECOMES NECESSARY. THE CONTRACTOR SHALL RELOCATE, REBUILD, AND MAKE ADJUSTMENTS TO THESE FACILITIES AS NECESSARY DURING CONSTRUCTION.
5. DUST CONTROL: MINIMIZE THE PERIOD OF SOIL EXPOSURE THROUGH THE USE OF TEMPORARY GROUND COVER AND STABILIZATION PRACTICES. EXPOSED DUST PRODUCING SURFACES SHALL BE SPRINKLED DAILY UNTIL WET WHILE AVOIDING PRODUCING RUNOFF. REPEAT AS NEEDED, PAVED STREETS SHALL BE SWEEPED FOLLOWING CONSTRUCTION ACTIVITIES AS DIRECTED BY THE ENGINEER. IF THE CONTRACTOR'S CONSTRUCTION METHODOLOGY RESULTS IN TRACKING MATERIAL ONTO PAVED STREETS, THE ENGINEER SHALL DIRECT THE CONTRACTOR TO SWEEP THE STREETS WHERE MATERIAL HAS BEEN TRACKED. COSTS FOR THIS STREET SWEEPING SHALL BE CONSIDERED INCIDENTAL TO EROSION CONTROL ITEMS.
6. REMOVAL OF ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DONE AFTER THE WORKING AREA IS STABILIZED OR AS DIRECTED BY THE ENGINEER.
7. EQUIPMENT USED FOR INSTREAM WORK SHALL BE CLEANED PRIOR TO WORK BELOW BANKFULL ELEVATION.
8. ALL VEHICLES WITHIN 150 FEET OF EDGE OF WETLAND SHALL BE INSPECTED FOR FLUID LEAKS BEFORE LEAVING STAGING AREA.
9. CONTRACTOR SHALL HAVE ON SITE SPILL PREVENTION KIT PER EACH EQUIPMENT THAT INCLUDES OIL ABSORBENT PADS DURING EQUIPMENT OPERATIONS.
10. ELECTROSHOCKING WILL NOT BE PERMITTED EXCEPT BY WDFW APPROVAL.
11. CONTRACTOR TO COORDINATE WITH ENGINEER FOR FISH RELOCATION.
12. FISH REMOVAL AND FISH SCREENS SHALL BE USED TO ISOLATE FISH FROM WORK AREA.

EROSION CONTROL NOTES

- THE FOLLOWING EROSION AND SEDIMENTATION CONTROL NOTES APPLY TO ALL CONSTRUCTION SITE ACTIVITIES AT ALL TIMES, UNLESS OTHERWISE SPECIFIED ON THESE PLANS:
1. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR PREVENTING SILT LADEN RUNOFF FROM DISCHARGING FROM THE PROJECT SITE. FAILURE BY THE CONTRACTOR CAN RESULT IN A FINE. CONTRACTOR MUST BE AVAILABLE FOR CONTACT BY TELEPHONE ON A 24 HOUR BASIS THROUGHOUT CONSTRUCTION AND UNTIL THE PROJECT HAS BEEN COMPLETED AND ACCEPTED BY THE OWNER.
 2. PRIOR TO BEGINNING ANY WORK ON THE PROJECT SITE, A PRE CONSTRUCTION CONFERENCE MUST BE HELD, AND SHALL BE ATTENDED BY THE GENERAL CONTRACTOR, THE PROJECT ENGINEER, REPRESENTATIVES FROM AFFECTED UTILITIES, AND A REPRESENTATIVE OF THE OWNER.
 3. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED BY THE CONTRACTOR ON A FREQUENT BASIS AND IMMEDIATELY AFTER EACH RAINFALL, AND MAINTAINED AS NECESSARY TO INSURE THEIR CONTINUED FUNCTIONING. ALL SEDIMENT MUST BE REMOVED FROM SILT FENCES, STRAW BALES, SEDIMENT PONDS, ETC. PRIOR TO THE SEDIMENT REACHING 1/2 ITS MAXIMUM POTENTIAL DEPTH.
 4. AT NO TIME SHALL CONCRETE, CONCRETE BYPRODUCTS, VEHICLE FLUIDS, PAINT, CHEMICALS, OR OTHER POLLUTING MATTER BE PERMITTED TO DISCHARGE TO THE TEMPORARY OR PERMANENT DRAINAGE SYSTEM, OR TO DISCHARGE FROM THE PROJECT SITE.
 5. ADJACENT PROPERTIES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION BY APPROPRIATE USE OF VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES OR MULCHING, OR BY A COMBINATION OF THESE MEASURES AND OTHER APPROPRIATE BMP'S.
 6. SEDIMENT BARRIERS AND OTHER BMP'S INTENDED TO TRAP SEDIMENT ON SITE SHALL BE CONSTRUCTED AS A FIRST STEP IN GRADING. THESE BMP'S SHALL BE FUNCTIONAL BEFORE LAND DISTURBING ACTIVITIES TAKE PLACE.
 7. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.
 8. IF SEDIMENT IS TRANSPORTED ONTO A ROAD SURFACE, THE ROADS SHALL BE CLEANED THOROUGHLY, AS A MINIMUM, AT THE END OF EACH DAY, SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. THIS ROAD CLEANING WILL BE CONSIDERED INCIDENTAL TO EROSION CONTROL ITEMS.
 9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED AND STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM THE REMOVAL OF TEMPORARY BMP'S SHALL BE PERMANENTLY STABILIZED.
 10. DEWATERING DEVICES SHALL DISCHARGE TO AN APPROPRIATE SEDIMENT TRAP OR POND (INCLUDING "BAKER TANKS") DESIGNED TO ACCEPT SUCH DISCHARGE. PRECEDED BY ADEQUATE ENERGY DISSIPATION, PRIOR TO RUNOFF LEAVING THE SITE.
 11. ALL POLLUTANTS OTHER THAN SEDIMENT THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND LEGALLY DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM OR SURFACE WATERS. POLLUTANTS OF CONCERN INCLUDE, BUT ARE NOT LIMITED TO: FUELS, LUBRICANTS, SOLVENTS, CONCRETE, AND CONSTRUCTION MATERIALS.
 12. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE ECOLOGY STORM WATER MANUAL FOR WESTERN WASHINGTON LATEST EDITION, OR AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING THAT ANY SUCH FACILITIES DAMAGED DURING FLOODS, STORMS, OR OTHER ADVERSE WEATHER CONDITIONS ARE IMMEDIATELY RETURNED TO NORMAL OPERATING CONDITIONS.
 13. DISTURBED AREAS SHALL BE SEEDED AND COVERED WITH BIODEGRADABLE EROSION CONTROL BLANKET ON SLOPES STEEPER THAN 3:1 AS SOON AS POSSIBLE AFTER GRADING IN CONFORMANCE WITH THE LANDSCAPE DRAWINGS.
 14. CONTRACTOR SHALL HAVE ON-SITE STRAW BALES FOR USE

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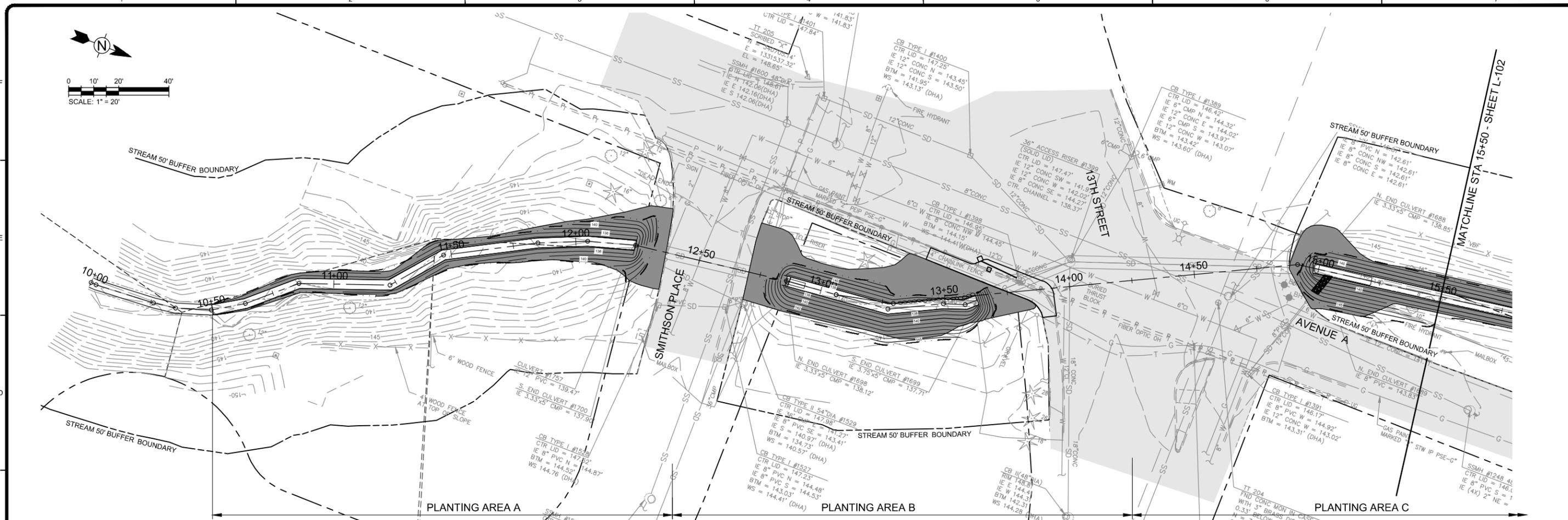
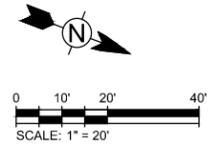
CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

EROSION AND SEDIMENT
CONTROL PLAN
STA 20+50 TO 25+00

Project No.:
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Drawn By: JLF
Checked By:
ESC-3

Bar Measures 1 inch

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STREAM BUFFER PLANTING SCHEDULE

SPECIES COMMON NAME	SCIENTIFIC NAME	TYPE*	SPACING	MINIMUM HEIGHT	QUANTITY BY AREA PLANTING AREA				TOTAL
					A	B	C	D TYPE 3	
TREES									
PAPER BIRCH	Betula papyrifera	-	9'	18"	5	6	7	-	18
WESTERN CRAB APPLE	Pyrus fusca	-	9'	18"	5	7	7	-	19
WESTERN RED CEDAR	Thuja plicata	-	9'	18"	5	6	7	-	18
SHORE PINE	Pinus contorta	-	9'	18"	5	10	8	-	23
SHRUBS									
SCOULEERS WILLOW	Salix scouleriana	LIVE STAKE	3'	36"	45	70	64	170	349
SITKA WILLOW	Salix sitchensis	LIVE STAKE	3'	36"	45	70	64	170	349
SNOWBERRY	Symphoricarpos albus	-	3'	12"	22	32	35	-	89
SALMONBERRY	Rubus spectabilis	-	3'	12"	22	31	32	-	85
BLACK TWINBERRY	Lonicera involucrata	-	3'	12"	25	30	32	-	87
RED OSIER DOGWOOD	Cornus stolonifera	-	3'	12"	25	30	32	-	87
TOTAL TREES					20	29	29	0	78
TOTAL SHRUBS					184	263	259	340	1046

* CAN BE CONTAINERIZED OR BARE ROOT UNLESS SPECIFIED.

PLANTING AREA SCHEDULE

AREA	LOCATION	SQ FEET	SHEET
A	SOUTH OF SMITHSON	1654	L-101
B	SMITHSON - 13TH	2370	L-101
C	13TH TO WOODLAKE MANOR	2322	L-101 TO L-102
D	WOODLAKE MANOR TO BLACKMANS LAKE	13184	L-102 TO L-103

WET AREA SEED MIX

SEEDING IN PLANTING AREA D TYPE 1, 2 AND TYPE 3 AND WETLAND AREA 1, 2 AND 3 SHEETS L-102 AND L-103

SPECIES COMMON NAME	SCIENTIFIC NAME	% WEIGHT	% PURITY	% GERMINATION
TALL FESCUE	Festuca arundinacea	60-70	98	90
CREeping BENTGRASS	Agrostis palustris	10-15	98	85
MEADOW FOXTAIL	Alepcurus pratensis	10-15	90	80
ALSIKE CLOVER	Trifolium hybridum	1-6	98	90
REDTOP BENTGRASS	Agrostis alba	1-6	92	85

RATE 60 POUNDS SEED PER ACRE

AREA D PLANTINGS

COMMON NAME	SCIENTIFIC NAME	TYPE*	SPACING**	MINIMUM HEIGHT	TYPE 1	TYPE 2
TREES						
WESTERN RED CEDAR	Thuja plicata	-	15'	4'	-	19
SITKA SPRUCE	Picea sitchensis	-	15'	4'	-	19
SHRUBS						
BLACK TWINBERRY	Lonicera Involucrata	-	5'	12"	-	50
RED OSIER DOGWOOD	Cornus stolonifera	-	3'	12"	198	-
SWORD FERN	Polystichum munitum	CONTAINER	5'	12"	-	55
SNOWBERRY	Symphoricarpos albus	-	5'	12"	-	50
SCOULEERS WILLOW	Salix Scouleriana	LIVE STAKE	3'	36"	198	-
SITKA WILLOW	Salix sitchensis	LIVE STAKE	3'	36"	198	-
TOTAL TREES					-	38
TOTAL SHRUBS					594	193

* CAN BE CONTAINERIZED OR BARE ROOT UNLESS SPECIFIED.
** TREES ARE SPACED 15 FEET IN DESIGNATED AREAS EXCEPT FOR THE EAST BANK OF THE CHANNEL WHERE THE DESIGNATED 35' BREAKS ARE SHOWN.

LEGEND

- STREAM BUFFER PLANTING AREA
- EXISTING ASPHALT PAVEMENT
- GRAVEL WALKWAY

PLANTING CONSTRUCTION SEQUENCING

- SEE L-104 FOR CONSTRUCTION SEQUENCING IN PLANTING AREAS.

DRY AREA SEED MIX

HYDROSEED MIX FOR PLANTING AREA A, B AND C			
KIND AND VARIETY OF SEED IN MIXTURE	% WEIGHT	MIN. % PURE SEED	MIN. % GERMINATION
PROTOCOL PERENNIAL RYE	34.4	95.0	85.0
PARADIGM PERENNIAL RYE	34.0	95.0	85.0
BOREAL CREEPING RED FESCUE	29.0	95.0	85.0
WEED SEED	0.1 (MAX)	-	-
INERT AND OTHER CROP	2.5 (MAX)	-	-
TOTAL	100	-	-

RATE 120 POUNDS SEED PER ACRE

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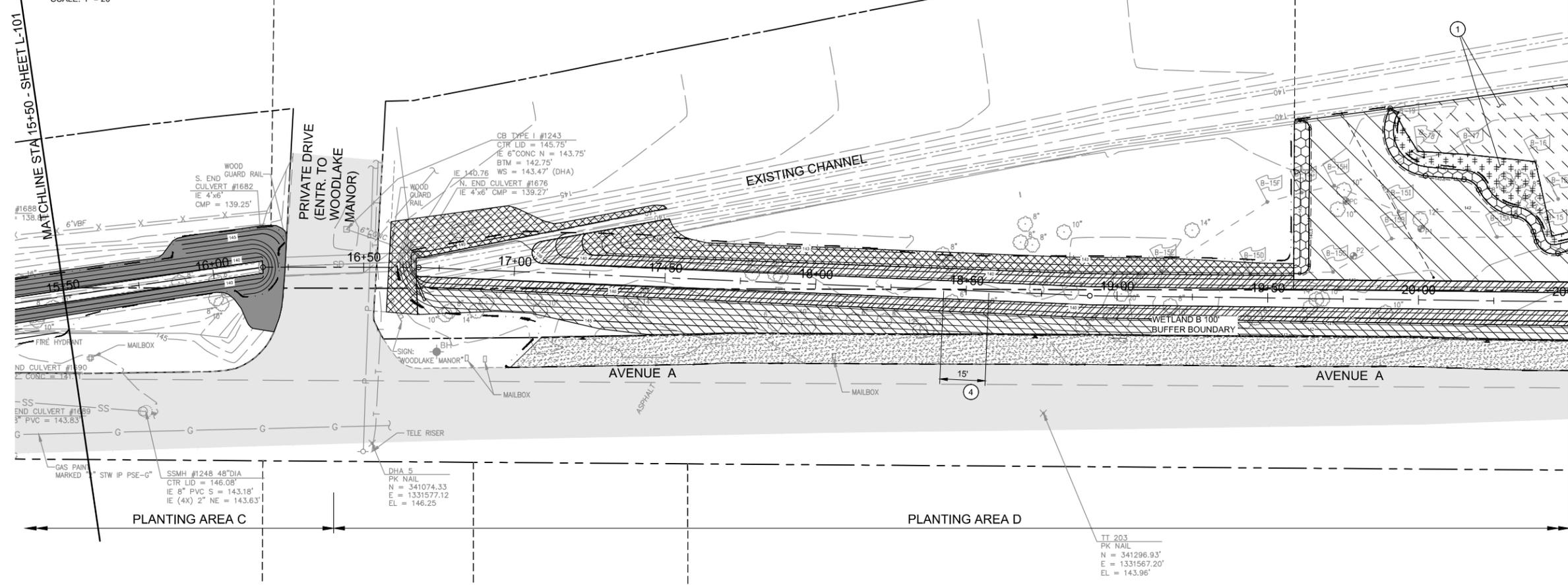
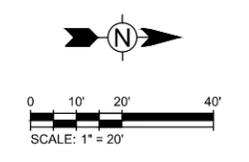
MARK	DATE	DESCRIPTION	BY

CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

LANDSCAPING PLAN
STA 10+00 TO 15+50

Project No.:
Designed By:
Drawn By: JLF
Checked By:

L-101



- CONSTRUCTION NOTES**
- NOXIOUS WEED AND INVASIVE SPECIES REMOVAL. HAND REMOVE HIMALAYAN BLACK BERRY, REED CANARY GRASS, AND YELLOW IRIS FROM WETLAND AREA 1 AND 4. SEE SPECS FOR COMPLETE PLANT LIST.
 - A LICENSED HERBICIDE APPLICATOR WILL APPLY ANY HERBICIDES AND WILL FOLLOW THE MANUFACTURERS RECOMMENDATIONS FOR USE IN OR AROUND AQUATIC AREAS.
 - ALL JAPANESE KNOTWEED AND PURPLE AND GARDEN LOOSESTRIFE WILL BE REMOVED FROM ALL PROJECT AREAS BY PERSONNEL TRAINED IN PROPER HANDLING AND DISPOSAL OF THESE WEEDS.
 - DESIGNATED ACCESS POINT. NO TREES TO BE PLANTED. SHRUBS AND WILLOWS OKAY. CENTERED ON CHANNEL STATION 18+50. TREES TO BE SPACED 35' APART ADJACENT TO ACCESS POINT.

- HYDROSEEDING NOTES**
- SEEDING, FERTILIZING, AND MULCHING OR SEEDING AND MULCHING SHALL BE APPLIED TO DISTURBED AREAS, EXCEPT THE RESTORED CHANNEL BASE, AS NOTED BELOW. SEE "L" SERIES DRAWINGS FOR PLANTING AREAS. ALL SEEDING AREAS SHALL RECEIVE A TACKIFIER.
 - PLANTING AREAS A, B, AND C TO RECEIVE "SEEDING, FERTILIZING, AND MULCHING - DRY AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
 - PLANTING AREA D, WETLAND AREA 1, 2, 3, AND PLANTING AREA D (TYPE 1, 2, AND 3) SHALL RECEIVE "SEEDING AND MULCHING - WET AREA SEED MIX." SEE SHEET L-101 FOR SEED MIX.
 - NO SEEDING IN WETLAND AREA 4 AND AREA 5.

PLANTING CONSTRUCTION SEQUENCING

- SEE L-104 FOR CONSTRUCTION SEQUENCING IN PLANTING AREAS.

LEGEND

	PLANTING AREA D, TYPE 1 TOTAL OF 5344 SF
	PLANTING AREA D, TYPE 2 TOTAL OF 4776 SF
	PLANTING AREA D, TYPE 3 TOTAL OF 3064 SF
	PLANTING AREAS A, B, C
	GRAVEL WALKWAY
	EXISTING ASPHALT PAVEMENT
	WETLAND AREA 1 TOTAL OF 1025 SF
	WETLAND AREA 2 TOTAL OF 791 SF
	WETLAND AREA 3 TOTAL OF 3877 SF
	WETLAND AREA 4 TOTAL OF 6309 SF
	WETLAND AREA 5 TOTAL OF 7700 SF

WETLAND MITIGATION PLANTING SCHEDULE SHEETS L-102, L-103, L-104

SPECIES COMMON NAME	SCIENTIFIC NAME	TYPE***	SPACING	MINIMUM HEIGHT	QUANTITY BY AREA					TOTAL	
					WETLAND PLANTING AREA						
					1	2	3	4	5		
TREES											
SHORE PINE	Pinus contorta		5'	18"	6	-	-	10*	-	16	
SITKA SPRUCE	Picea sitchensis		5'	18"	6	-	-	55*	10**	71	
PAPER BIRCH	Betula papyrifera		5'	18"	-	5	-	-	-	5	
WESTERN CRAB APPLE	Malus fusca		5'	18"	6	5	-	-	10**	21	
SHRUBS											
HARDHACK	Spiraea douglasii		5'	12"	-	10	25	-	-	35	
BLACK TWIBERRY	Lonicera involucrata		5'	12"	10	-	-	-	-	10	
SALMONBERRY	Rubus spectabilis		5'	12"	10	-	-	-	-	10	
PACIFIC NINEBARK	Physocarpus capitatus		5'	12"	5	-	-	-	-	5	
NOOTKA ROSE	Rosa nutkana		5'	12"	5	-	-	-	-	5	
REDOSIER DOGWOOD	Cornus sericea		5'	12"	-	10	39	-	10**	59	
HOOKE'S WILLOW	Salix hookeriana	LIVE STAKE	5'	36"	-	-	25	-	75	100	
SCOULERS WILLOW	Salix scouleriana	LIVE STAKE	5'	36"	-	-	25	-	75	100	
PACIFIC WILLOW	Salix lucida	LIVE STAKE	5'	36"	-	7	35	-	75	117	
SITKA WILLOW	Salix sitchensis	LIVE STAKE	5'	36"	-	-	30	-	75	105	
* PLANT ON 10-FOOT SPACING					TOTAL TREES	18	10	0	65	20	113
** PLANT ON 4-FOOT SPACING					TOTAL SHRUBS	30	27	179	0	310	546
*** CAN BE CONTAINERIZED OR BARE ROOT UNLESS SPECIFIED											

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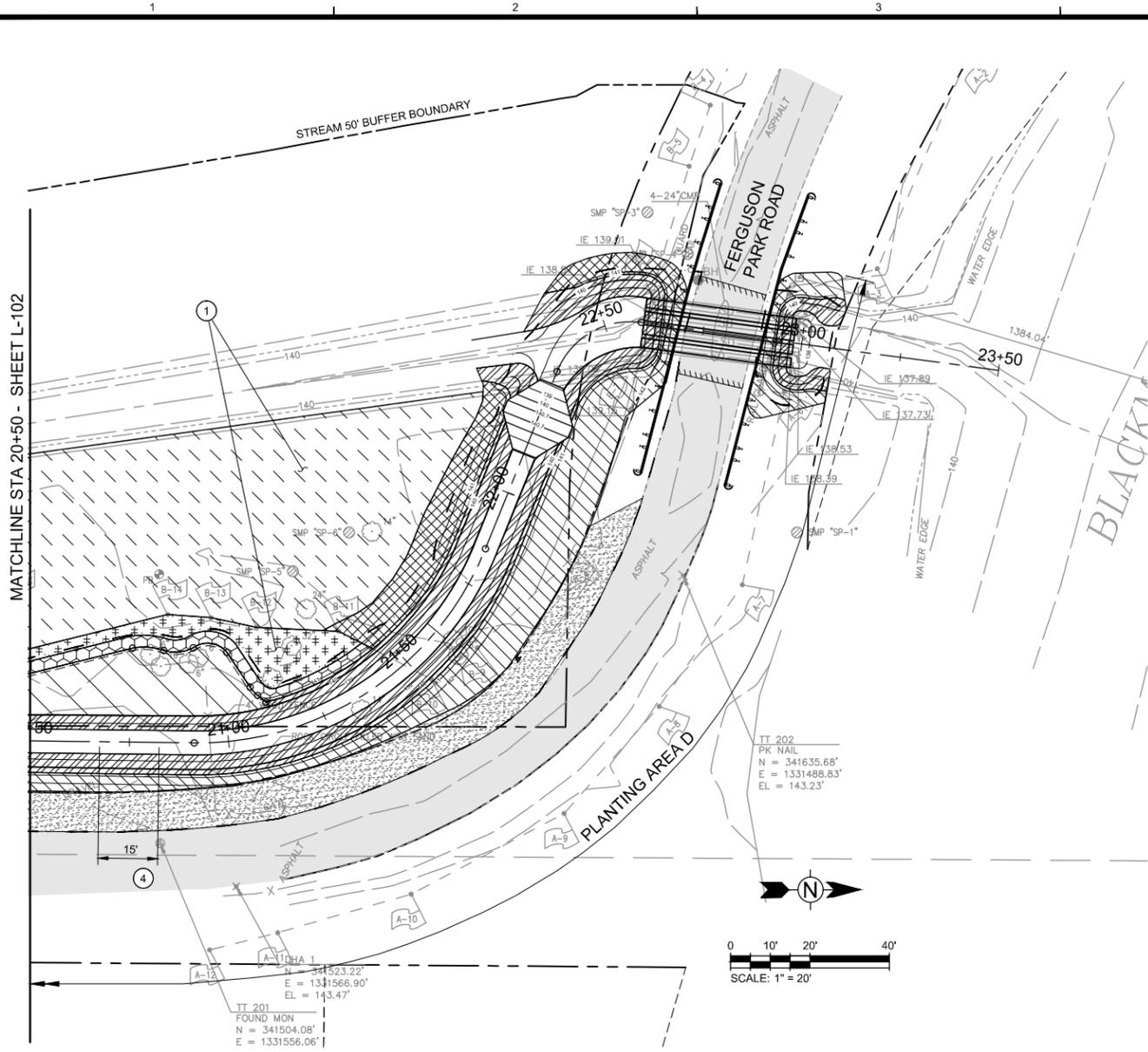


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CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

LANDSCAPE PLAN
STA 15+50 TO 20+50

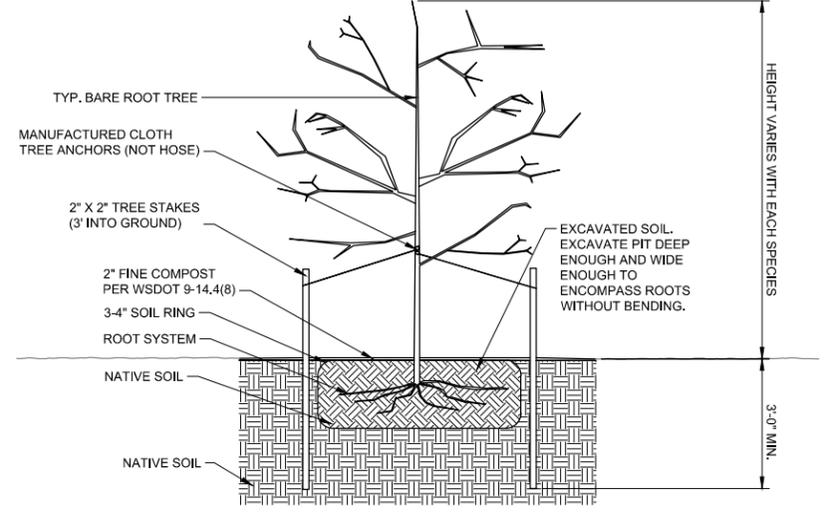
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L-102



MATCHLINE STA 20+50 - SHEET L-102

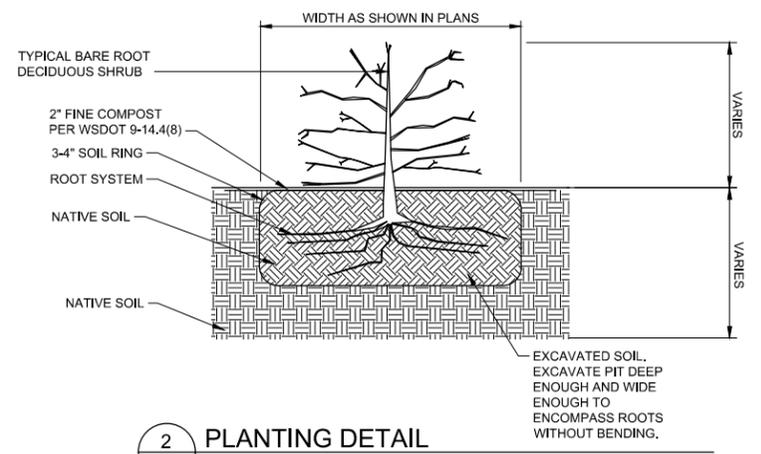
- LEGEND**
- PLANTING AREA D TYPE 1
 - PLANTING AREA D TYPE 2
 - PLANTING AREA D TYPE 3
 - GRAVEL WALKWAY
 - EXISTING ASPHALT PAVEMENT
 - WETLAND AREA 1
 - WETLAND AREA 2
 - WETLAND AREA 3
 - WETLAND AREA 4
 - WETLAND AREA 5

- NOTES:**
- ALL TREES OVER 1-1/4" DIAMETER ARE TO BE STAKED (2 PER TREE).



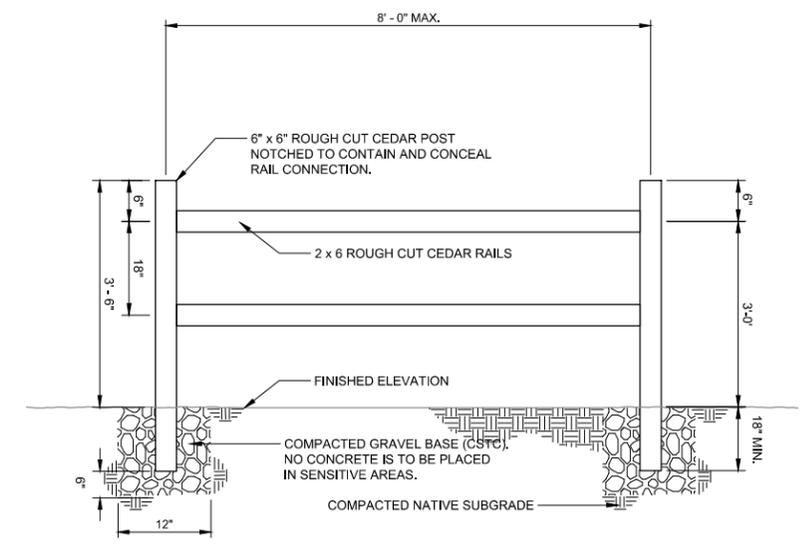
1 DECIDUOUS TREE PLANTING DETAIL
SCALE: NTS

L-102
L-103
L-104



2 PLANTING DETAIL
SCALE: NTS

L-102
L-103
L-104



3 SPLIT RAIL FENCE
SCALE: NTS

L-104

LANDSCAPING NOTES

- SEE L-101 FOR STREAM BUFFER PLANTING SCHEDULE.
- SEE L-102 FOR WETLAND MITIGATION PLANTING SCHEDULE.

CONSTRUCTION NOTES

- NOXIOUS WEED AND INVASIVE SPECIES REMOVAL. HAND REMOVE HIMALAYAN BLACK BERRY, REED CANARY GRASS, AND YELLOW IRIS FROM WETLAND AREA 1 AND 4. SEE SPECS FOR COMPLETE PLANT LIST.
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PLANTING CONSTRUCTION SEQUENCING

- SEE L-104 FOR CONSTRUCTION SEQUENCING IN PLANTING AREAS.

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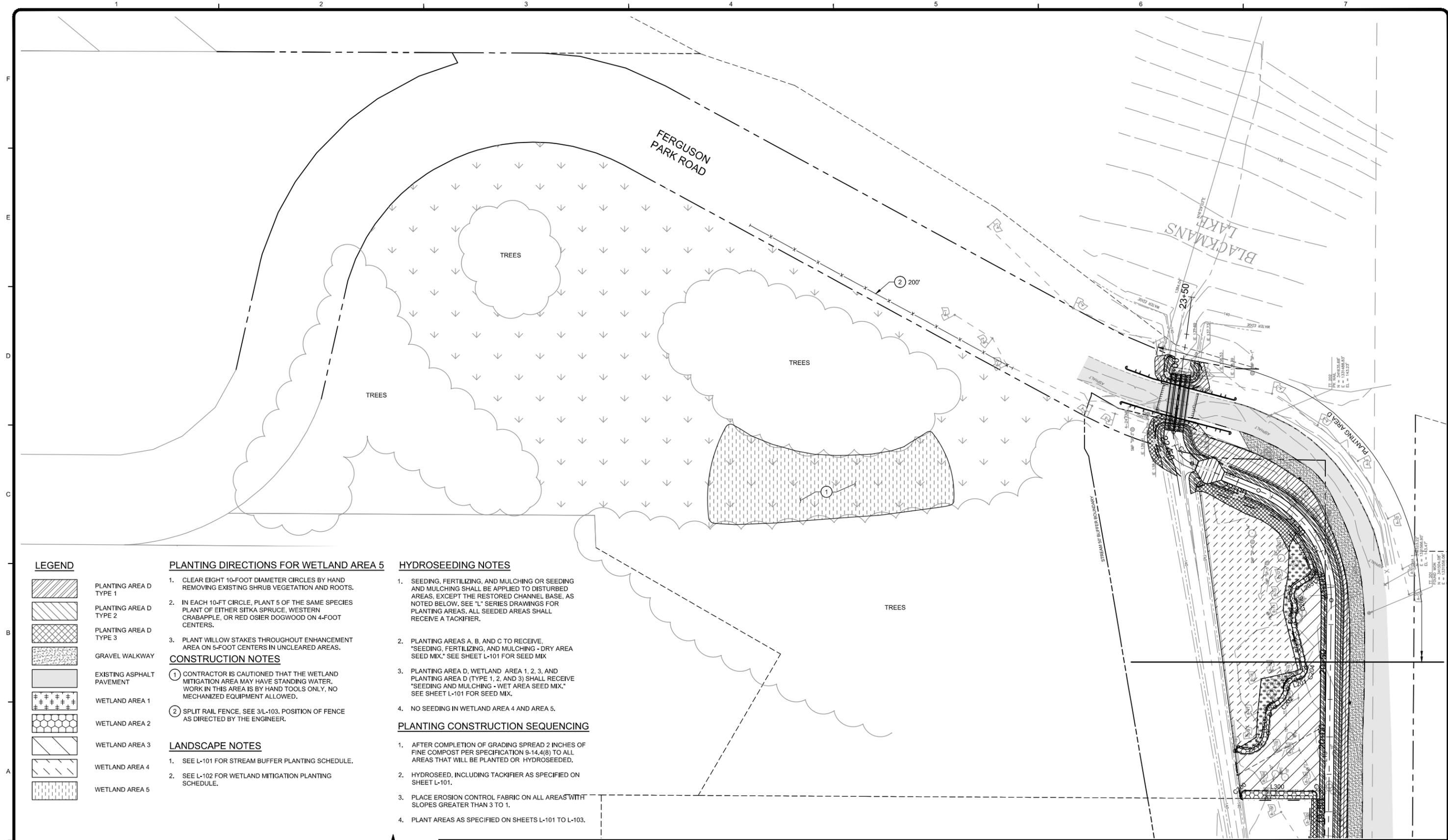
CITY OF SNOHOMISH
BLACKMANS LAKE OUTLET IMPROVEMENTS

LANDSCAPE PLAN
STA 20+50 TO 25+00

Project No.:
Designed By:
Drawn By: JLF
Checked By:
L-103

Bar Measures 1 inch

5/26/2016 8:11:40 AM - P:\12468\135-12468-12001\CAD\SHIFTS\FILESL-104-WETLANDMITIGATION.DWG - MORRIS, RICHARD



LEGEND

-  PLANTING AREA D TYPE 1
-  PLANTING AREA D TYPE 2
-  PLANTING AREA D TYPE 3
-  GRAVEL WALKWAY
-  EXISTING ASPHALT PAVEMENT
-  WETLAND AREA 1
-  WETLAND AREA 2
-  WETLAND AREA 3
-  WETLAND AREA 4
-  WETLAND AREA 5

PLANTING DIRECTIONS FOR WETLAND AREA 5

1. CLEAR EIGHT 10-FOOT DIAMETER CIRCLES BY HAND REMOVING EXISTING SHRUB VEGETATION AND ROOTS.
2. IN EACH 10-FT CIRCLE, PLANT 5 OF THE SAME SPECIES PLANT OF EITHER SITKA SPRUCE, WESTERN CRABAPPLE, OR RED OSIER DOGWOOD ON 4-FOOT CENTERS.
3. PLANT WILLOW STAKES THROUGHOUT ENHANCEMENT AREA ON 5-FOOT CENTERS IN UNCLEARED AREAS.

CONSTRUCTION NOTES

- ① CONTRACTOR IS CAUTIONED THAT THE WETLAND MITIGATION AREA MAY HAVE STANDING WATER. WORK IN THIS AREA IS BY HAND TOOLS ONLY, NO MECHANIZED EQUIPMENT ALLOWED.
- ② SPLIT RAIL FENCE, SEE 3/L-103, POSITION OF FENCE AS DIRECTED BY THE ENGINEER.

LANDSCAPE NOTES

1. SEE L-101 FOR STREAM BUFFER PLANTING SCHEDULE.
2. SEE L-102 FOR WETLAND MITIGATION PLANTING SCHEDULE.

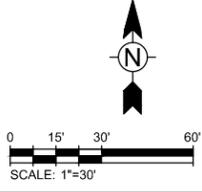
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4. NO SEEDING IN WETLAND AREA 4 AND AREA 5.

PLANTING CONSTRUCTION SEQUENCING

1. AFTER COMPLETION OF GRADING SPREAD 2 INCHES OF FINE COMPOST PER SPECIFICATION 9-14.4(8) TO ALL AREAS THAT WILL BE PLANTED OR HYDROSEEDED.
2. HYDROSEED, INCLUDING TACKIFIER AS SPECIFIED ON SHEET L-101.
3. PLACE EROSION CONTROL FABRIC ON ALL AREAS WITH SLOPES GREATER THAN 3 TO 1.
4. PLANT AREAS AS SPECIFIED ON SHEETS L-101 TO L-103.

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**LANDSCAPE
MITIGATION PLAN**

Project No.:
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