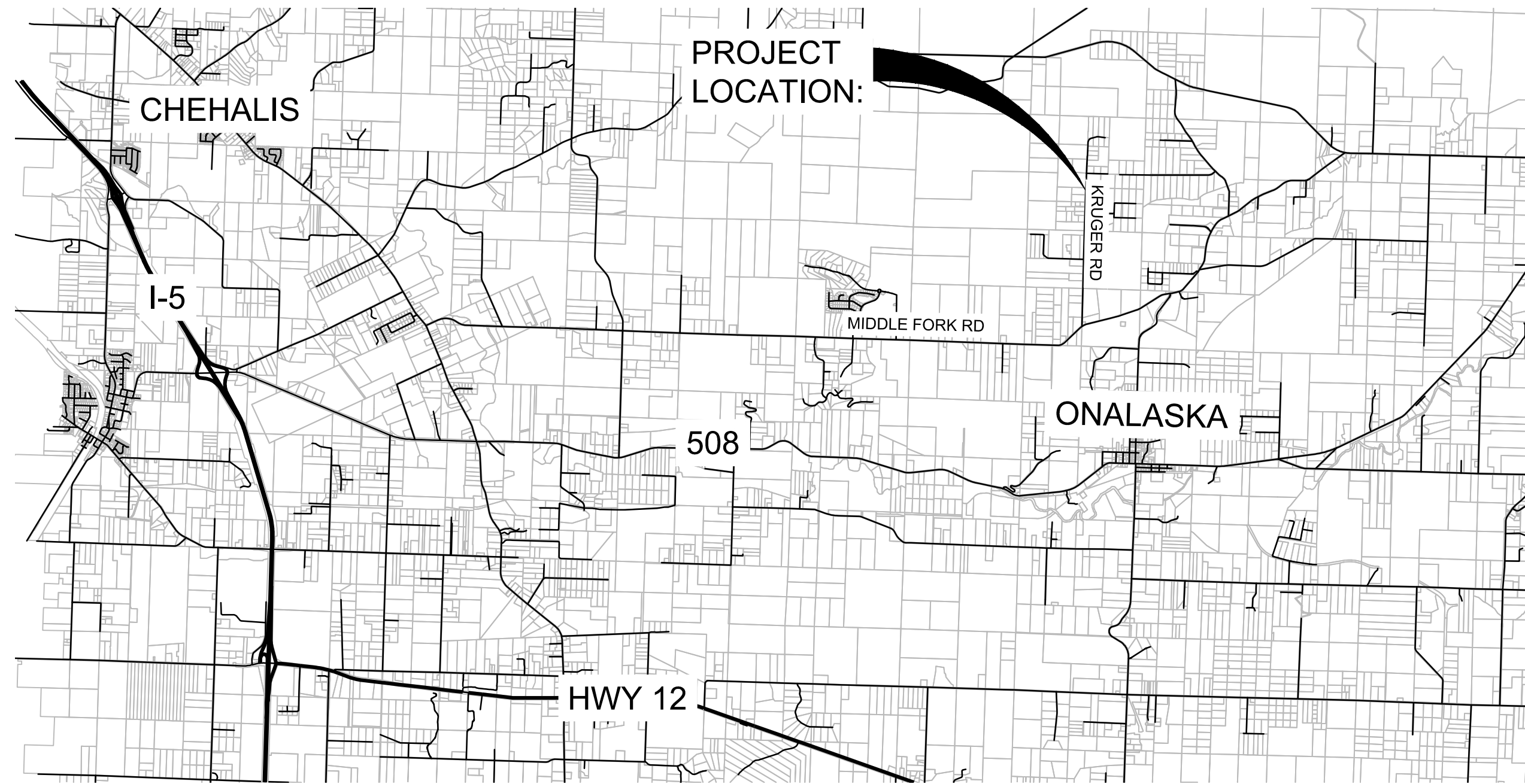


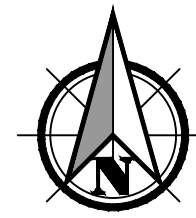
SEC. 18, T13N, R01E

# KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT, CMP 1904

## LEWIS COUNTY PUBLIC WORKS



**SITE VICINITY MAP**  
SCALE: 1" = 1 Mile (@ 22X34)



**CONTACT INFORMATION:**

**OWNER:**  
LEWIS COUNTY PUBLIC WORKS  
2025 NE KRESKY AVE  
CHEHALIS, WA 98532  
PHONE: (360) 740-1123  
WWW.LEWISCOUNTYWA.GOV

**CONTACT:**  
RODNEY LAKEY  
SENIOR DESIGN ENGINEER  
E-MAIL: RODNEY.LAKEY@LEWISCOUNTYWA.GOV

**CIVIL ENGINEER:**  
PBS ENGINEERING + ENVIRONMENTAL  
1180 NW MAPLE STREET, SUITE 160 ISSAQUAH, WA 98027  
PHONE: (425) 654-8775  
FAX: (866) 727-0140

**DAVE SEGAL, PE**  
PROJECT MANAGER  
E-MAIL: DAVE.SEGAL@PBSUSA.COM

**COMMISSIONERS:**

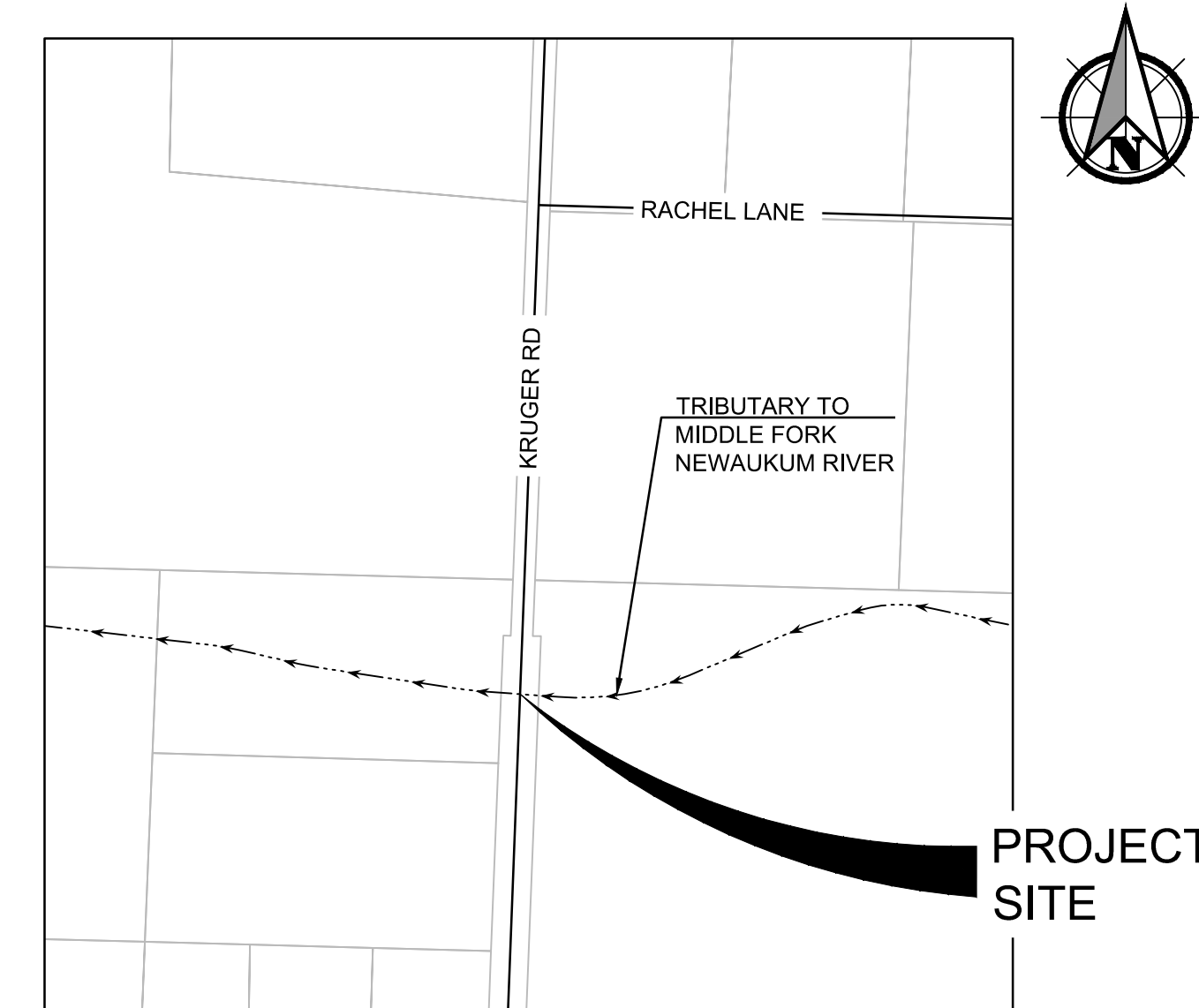
EDNA FUND, DISTRICT 1  
ROBERT C. JACKSON, DISTRICT 2  
GARY STAMPER, DISTRICT 3

**SURVEY CONTROL:**

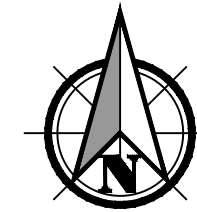
HORIZONTAL DATUM: WASHINGTON STATE PLANE COORDINATE SYSTEM - SOUTH ZONE, NAD 1983/91, RTK METHOD

VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88)

BASIS OF BEARING: WASHINGTON STATE PLANE COORDINATE SYSTEM - SOUTH ZONE, NAD 1983/91



**SITE LOCATION MAP**  
SCALE: 1" = 300' (@ 22X34)



Sheet List Table		
SHEET #	SHEET ID	SHEET TITLE
1	C-001	COVER SHEET
2	C-002	LEGEND
3	C-101	SITE PREP AND TESC PLAN 1
4	C-102	SITE PREP AND TESC PLAN 2
5	C-103	BYPASS ROAD PLAN AND PROFILE
6	C-104	SITE PREP AND TESC DETAILS
7	C-201	STREAM PLAN AND PROFILE
8	C-202	CULVERT DETAILS
9	C-203	STREAM DETAILS
10	C-301	ROADWAY PLAN AND PROFILE 1
11	C-302	ROADWAY PLAN AND PROFILE 2
12	C-303	ROADWAY SECTIONS
13	C-304	PROJECT CROSS SECTIONS
14	C-401	PLANTING PLAN 1
15	C-402	PLANTING PLAN 2
16	C-403	PLANTING NOTES AND DETAILS

LEWIS COUNTY  
DEPARTMENT OF PUBLIC WORKS  
APPROVED FOR CONSTRUCTION:

\_\_\_\_\_  
Assistant County Engineer

\_\_\_\_\_  
Date

**100% SUBMITTAL**

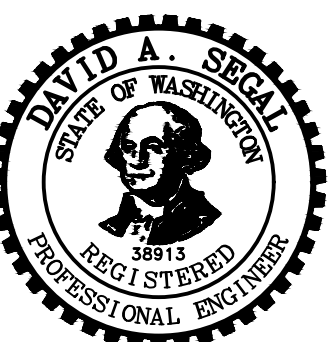
PBS Engineering and Environmental Inc.  
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COVER SHEET FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
LEWIS COUNTY, WASHINGTON



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SHEET ID

**C-001**

SHEET 1 OF 16

SEC. 18, T13N, R01E

Existing Linetype Legend

Proposed/Future Linetype Legend

Symbol Legend

Abbreviation Legend

Hatching Legend

Existing Right-of-way		Proposed Coated Chain Link Fence	
Existing Edge of Pavement		Proposed Edge Of Pavement	
Existing Centerline		Proposed Centerline	
Existing Lot Line		Proposed Guardrail	
Existing Contour		Proposed Contour	
Existing Flow Line		Proposed Flow Line	
Existing Culvert		Proposed Sawcut Line	
Existing Edge of Shoulder		Proposed Edge of Shoulder	
Existing Telephone Line		Proposed Paint Stripe	
Existing Overhead Power		Proposed Lath with Rag Tape	
Existing Water Line		Proposed Cut Limit	
Existing Fence		Proposed Fill Limit	
Existing Building		Proposed Clear and Grub Limit	
Existing Ordinary High Water		Proposed Straw Wattles	
Existing Wetland Boundary		Proposed High Visibility Silt Fence	
Area Of Potential Effect			

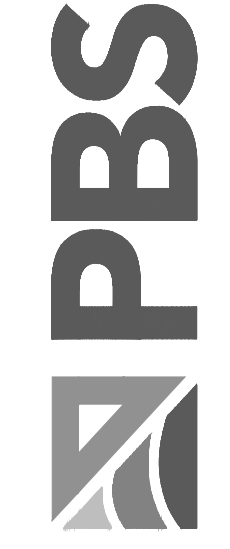
Proposed Flow Arrow	
Existing Flow Arrow	
Existing Sign	
Existing Deciduous Tree	
Existing Coniferous Tree	
Existing Fence Post	
Existing Power Pole	
Bypass Culvert Pipe	
Removed Deciduous Tree	
Removed Coniferous Tree	

Acres	AC	Maximum	MAX
Bottom of Foundation	BOF	Minimum	MIN
Catch Basin	CB	Number	No. or #
Cubic Feet	CF	On Center	O.C.
Centerline	CL	Ordinary High Water	OHW
Compaction	COMP	Overhead Power	OHP
Concrete	CONC	Point Of Curve	PC
Construction	CONST	Point Of Tangent	PT
Corrugated Metal Pipe	CMP	Point Of Vertical Intersection	PVI
Cubic Yard	CY	Right Of Way	ROW
Diameter	DIA	Sheet	SHT
Edge Of Pavement	EOP	Station	STA
Elevation	EL	Standard	STD
Existing	EXIST	Storm	STM
Finished Grade	FG	Telephone	TEL
Invert Elevation	IE	Temporary	TEMP
Large Woody Debris	LWD	Top Of Wall	TOW
		Typical	TYP
		Washington Department Of Fish And Wildlife	WDFW

	Existing Wetland
	Existing Ground
	Existing Hot Mixed Asphalt
	Proposed Shoulder
	Proposed Crushed Surfacing Top Course
	Proposed Crushed Surfacing Base Course
	Proposed Hot Mixed Asphalt
	Proposed Streambed Mix
	Proposed Construction Entrance
	Proposed Concrete
	Proposed Select Borrow
	Proposed Common Borrow
	Proposed Gravel Backfill
	Proposed Bypass Road
	Proposed Soil Section
	Proposed Plastic For Cofferdam

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LEGEND FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
 LEWIS COUNTY, WASHINGTON



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 JUNE 2020  
 45013.006

SHEET ID  
**C-002**

SHEET 2 OF 16

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Full Size Sheet Format Is 22x34; If Printed Size Is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.



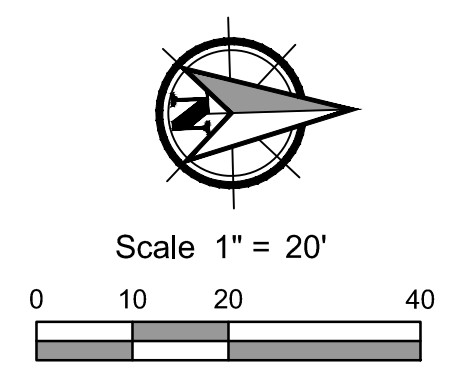
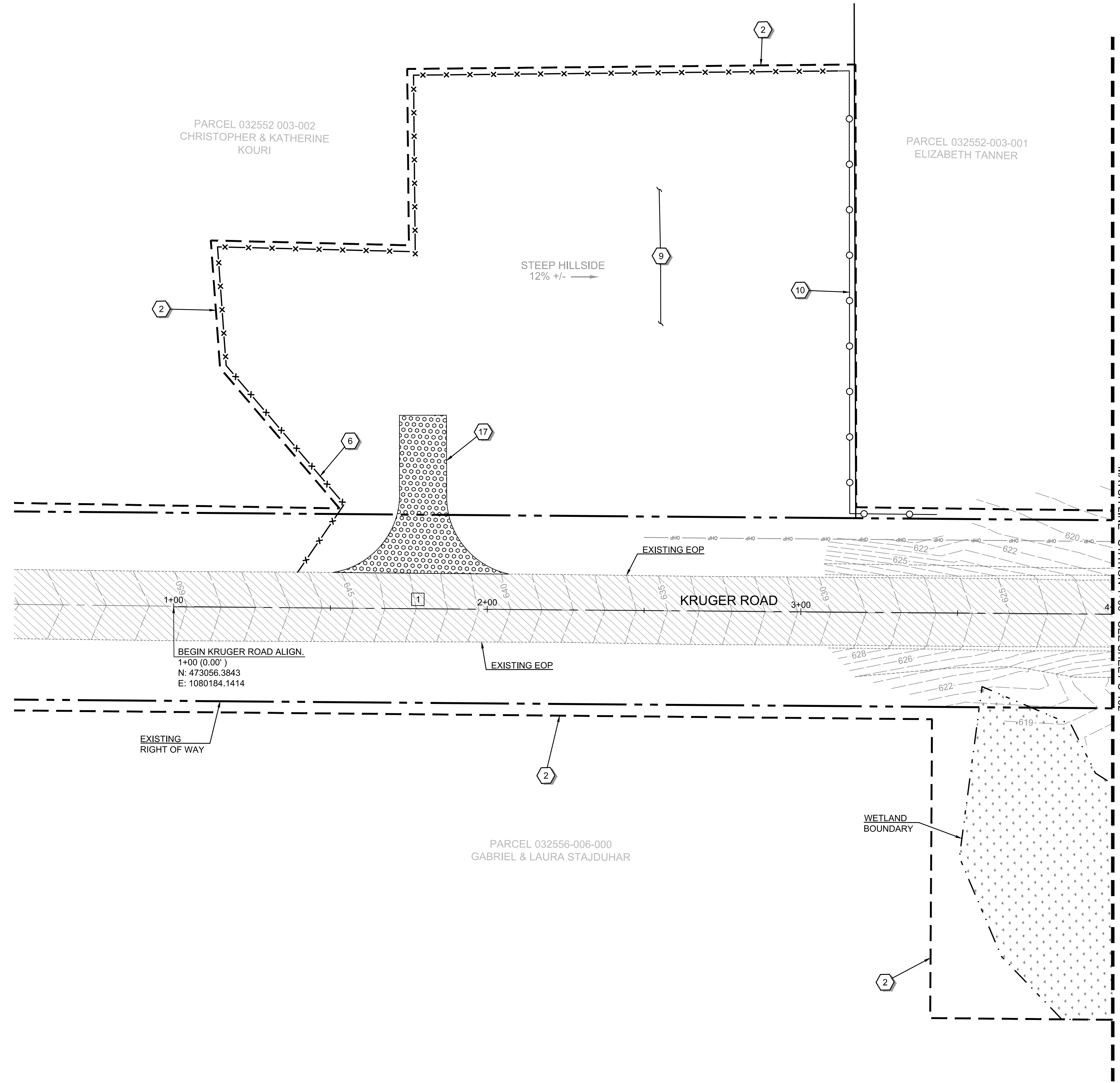
SEC. 18, T13N, R01E

**CONSTRUCTION PLAN NOTES:**

- ② AREA OF POTENTIAL EFFECT
- ⑥ INSTALL 4' x 1-1/2" x 1/2" LATH WITH RAG TAPE, 10' O.C. (BY LEWIS COUNTY)
- ⑨ STAGING AND STOCKPILING AREA
- ⑩ HIGH VISIBILITY SILT FENCE. J-HOOK AT ENDS FOR EROSION CONTROL
- ⑰ STABILIZED CONSTRUCTION ENTRANCE (AS NEEDED)

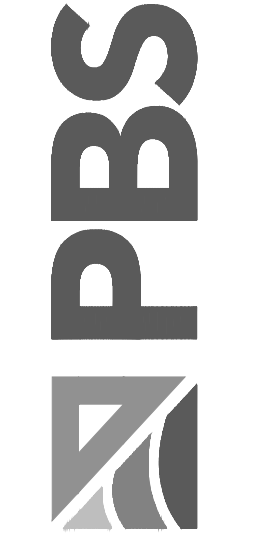
**KRUGER ROAD CENTERLINE ALIGNMENT DATA**

CENTERLINE LINE DATA		
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1	365.00	N02° 10' 17"E

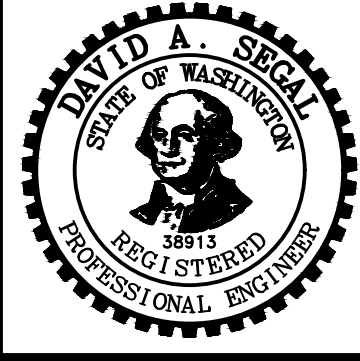


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**SITE PREP AND TESC PLAN 1 FOR:**  
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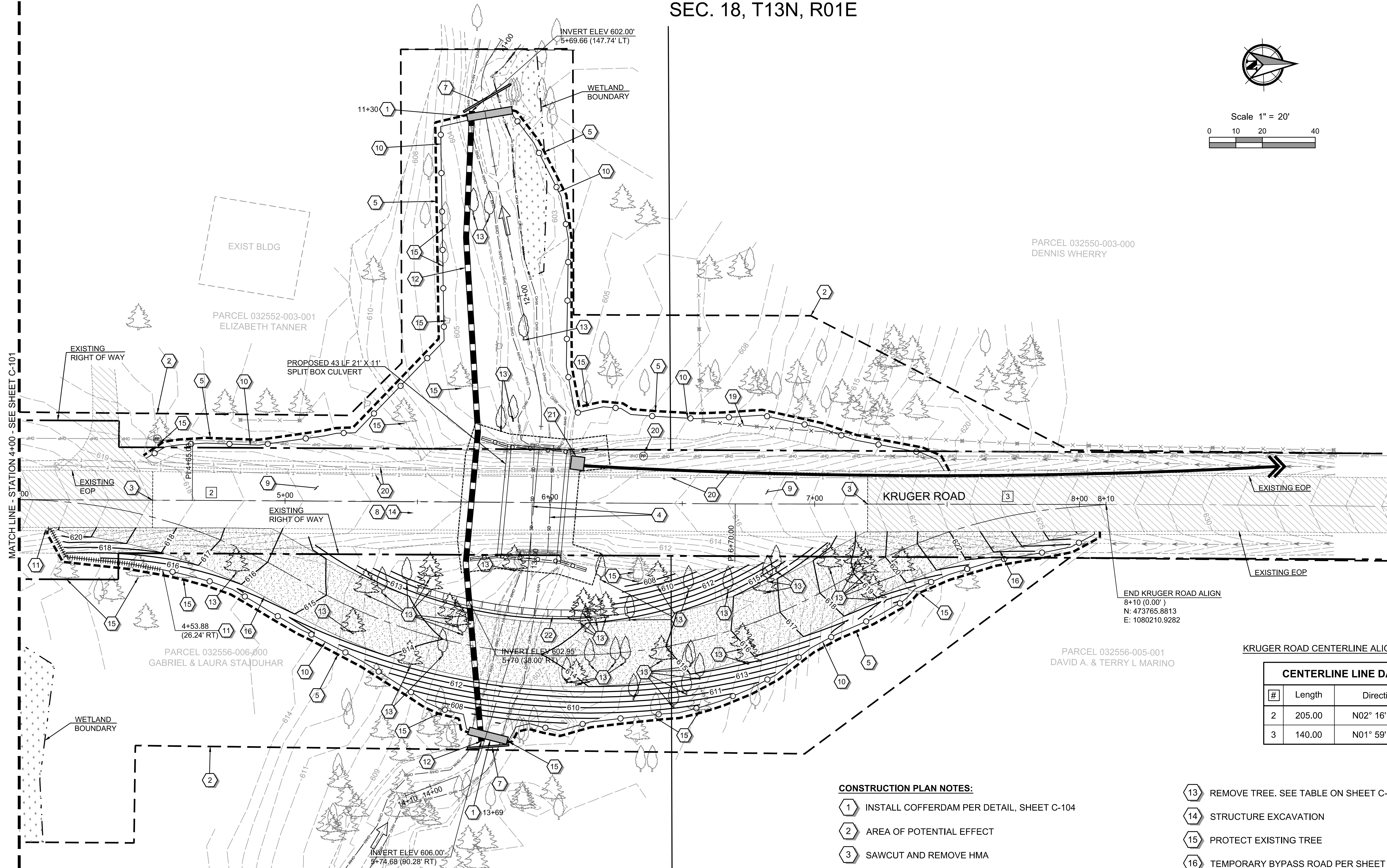
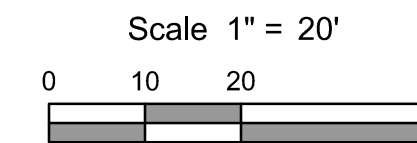
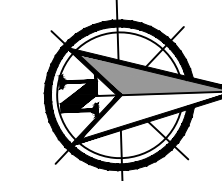
SHEET ID  
**C-101**

SHEET 3 OF 16

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SEC. 18, T13N, R01E



KRUGER ROAD CENTERLINE ALIGNMENT DATA

CENTERLINE LINE DATA		
#	Length	Direction
2	205.00	N02° 16' 01"E
3	140.00	N01° 59' 05"E

**GENERAL NOTES**

- CONTRACTOR TO ENSURE THAT GRAVITY FED BYPASS GOES UNDER THE ECOLOGY BLOCK WALL. SEE SHEET C-104 FOR DETAILS

**CONSTRUCTION PLAN NOTES:**

- 1 INSTALL COFFERDAM PER DETAIL, SHEET C-104
- 2 AREA OF POTENTIAL EFFECT
- 3 SAWCUT AND REMOVE HMA
- 4 REMOVE EXISTING 41 LF 3.5' X 5' SQUASH CMP CULVERTS
- 5 CLEAR AND GRUB LIMIT. CLEARING ONLY 2-FT BEYOND SILT FENCE
- 7 INSTALL WDFW APPROVED FISH EXCLUSION SCREEN AT 45° ANGLE TO CHANNEL
- 8 EXCAVATE TO SUBGRADE FOR PROPOSED BOX CULVERT AND WINGWALL FOUNDATIONS
- 9 STAGING AND STOCKPILING AREA
- 10 HIGH VISIBILITY SILT FENCE. J-HOOK AT ENDS FOR EROSION CONTROL
- 11 INSTALL WATTLES
- 12 24" GRAVITY FED BYPASS (APPROXIMATE LOCATION SHOWN - ADJUST TO SUIT CONSTRUCTION SEQUENCING)

- 13 REMOVE TREE. SEE TABLE ON SHEET C-104
- 14 STRUCTURE EXCAVATION
- 15 PROTECT EXISTING TREE
- 16 TEMPORARY BYPASS ROAD PER SHEET C-103
- 18 PROTECT EXISTING POWER POLE
- 19 REMOVE AND REPLACE EXISTING FENCE
- 20 SEE UTILITIES SPECIAL PROVISIONS
- 21 CONSTRUCTION DEWATERING PUMP AND LINE (DISCHARGE 200' MIN FROM PROJECTS LIMITS WITHIN GRASS LINED DITCH IN RIGHT OF WAY)
- 22 ECOLOGY BLOCK WALL PER DETAIL, SHEET C-104

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SITE PREP AND TESC PLAN 2 FOR:  
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**C-102**

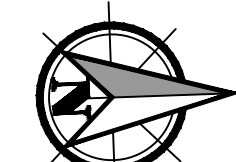
SHEET 4 OF 16

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PARCEL 032550-003-000  
DENNIS WHERRY



Scale 1" = 20'  
0 10 20 40

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BYPASS ROAD PLAN AND PROFILE FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
LEWIS COUNTY, WASHINGTON



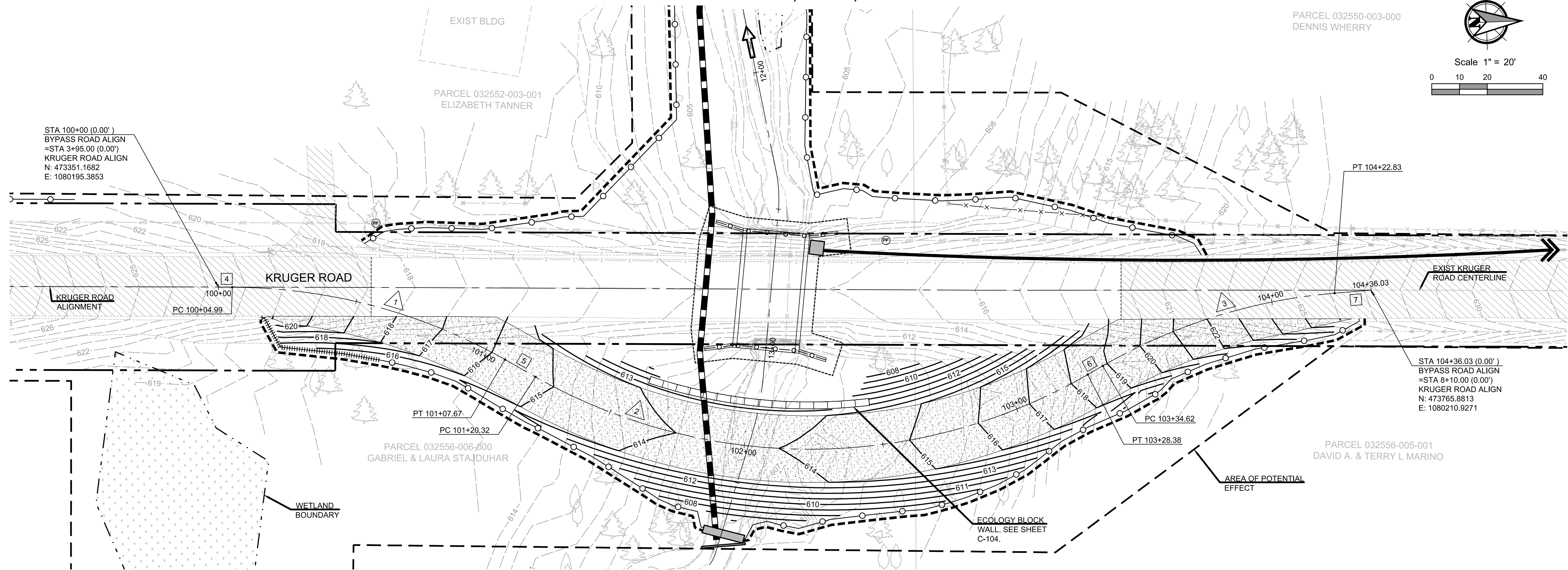
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**C-103**

SHEET 5 OF 16



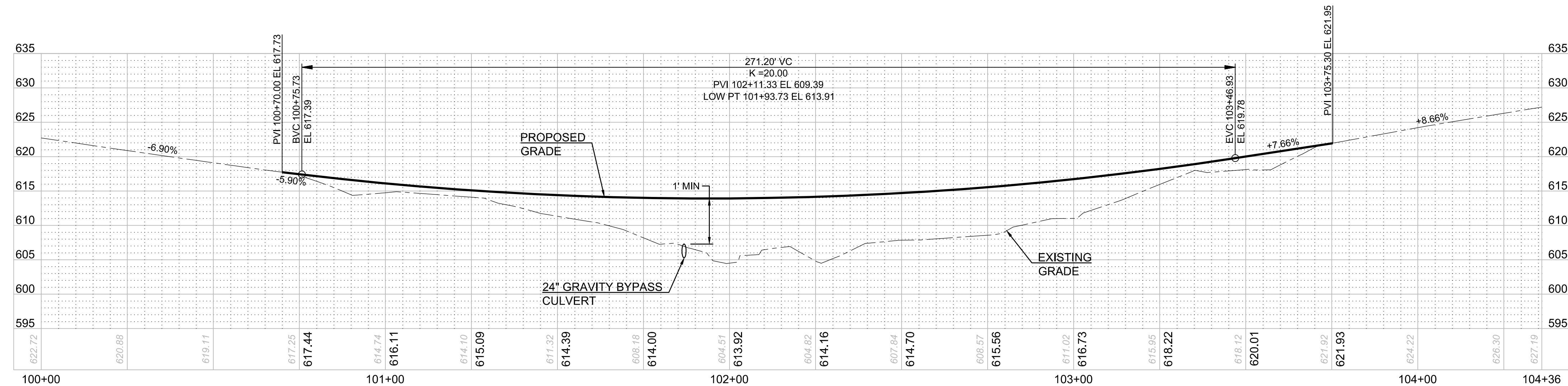
BYPASS ROAD CENTERLINE ALIGNMENT DATA

**CENTERLINE LINE DATA**

#	Length	Direction
4	4.99	N02° 08' 52"E
5	12.65	N31° 33' 45"E
6	6.24	N28° 02' 31"W
7	13.20	N02° 46' 21"W

**CENTERLINE CURVE DATA**

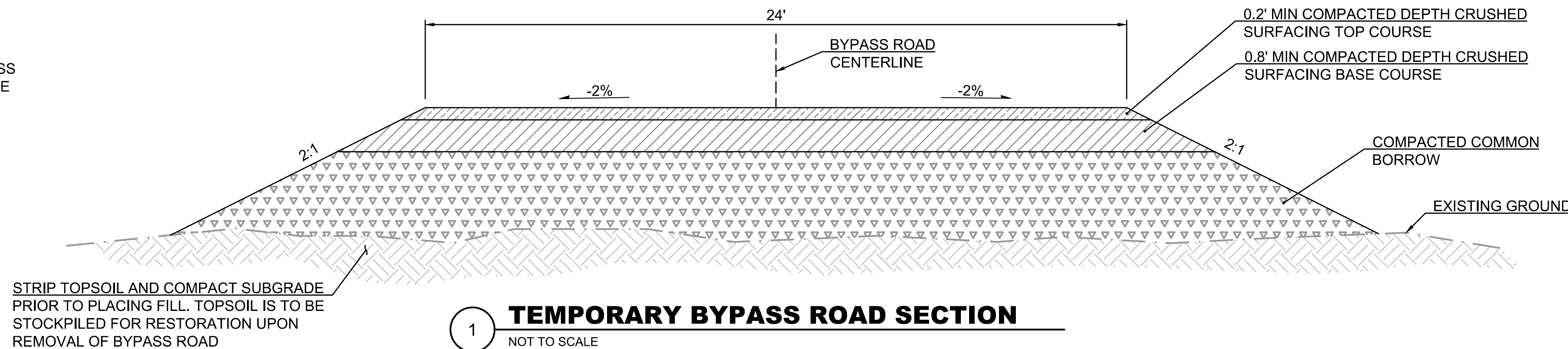
Δ	R	L	T
1	29°24'53"	200	102.68 52.50
2	59°36'15"	200	208.06 114.55
3	25°16'09"	200	88.21 44.83



PROFILE SCALE:  
HORIZ: 1" = 20'  
VERT: 1" = 10'

**GENERAL NOTES:**

- THE DESIGN SPEED FOR THE TEMPORARY BYPASS ROAD IS 20 MPH. WITH TEMPORARY LIGHTING THE BYPASS ROAD DESIGN SPEED IS 25 MPH.



**TEMPORARY BYPASS ROAD NOTES:**

- CONSTRUCT EMBANKMENT WITH COMMON BORROW IN AREAS WHERE FILL DEPTHS ARE GREATER THAN 1.0'

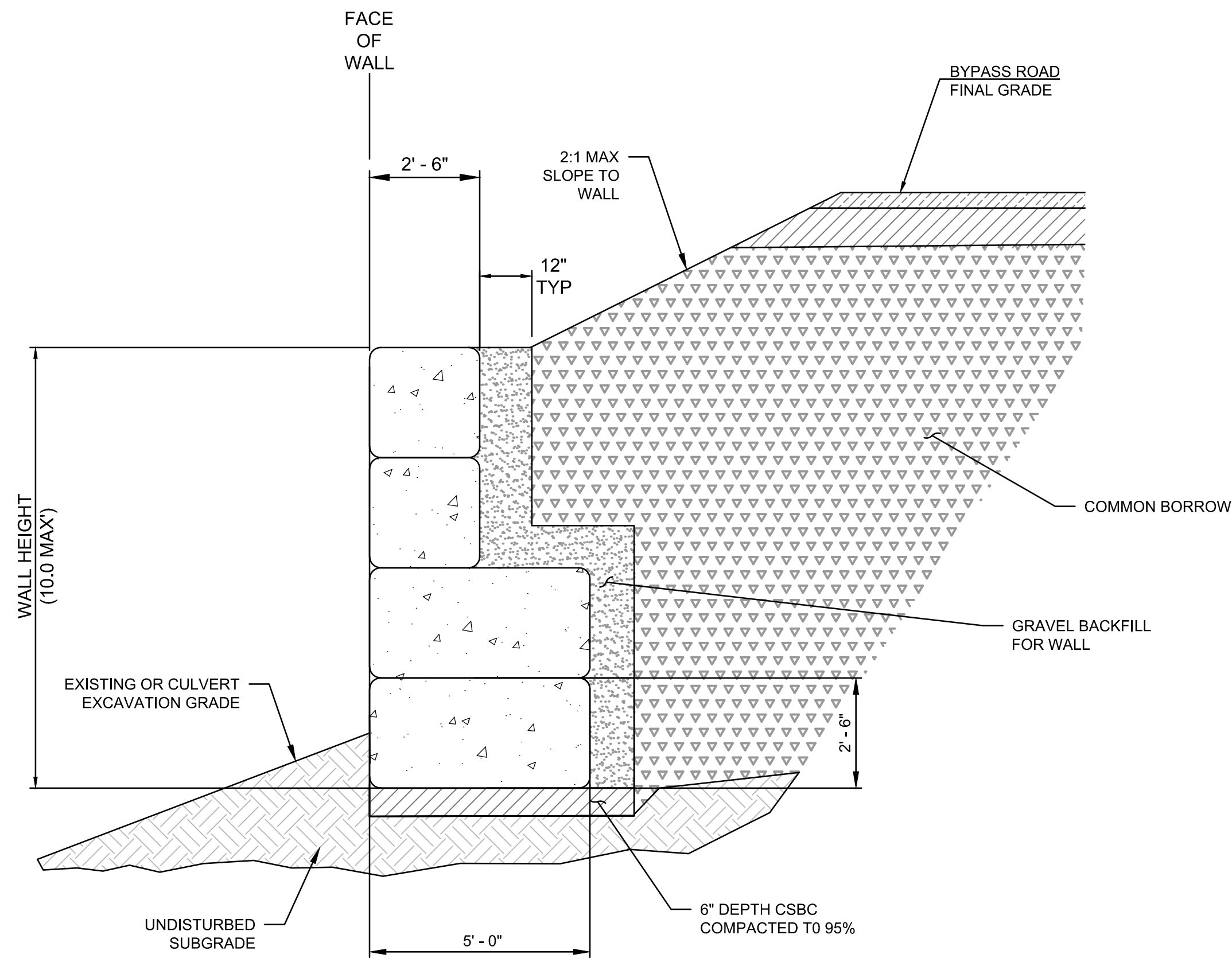
STRIP TOPSOIL AND COMPACT SUBGRADE PRIOR TO PLACING FILL. TOPSOIL IS TO BE STOCKPILED FOR RESTORATION UPON REMOVAL OF BYPASS ROAD

**1 TEMPORARY BYPASS ROAD SECTION**  
NOT TO SCALE

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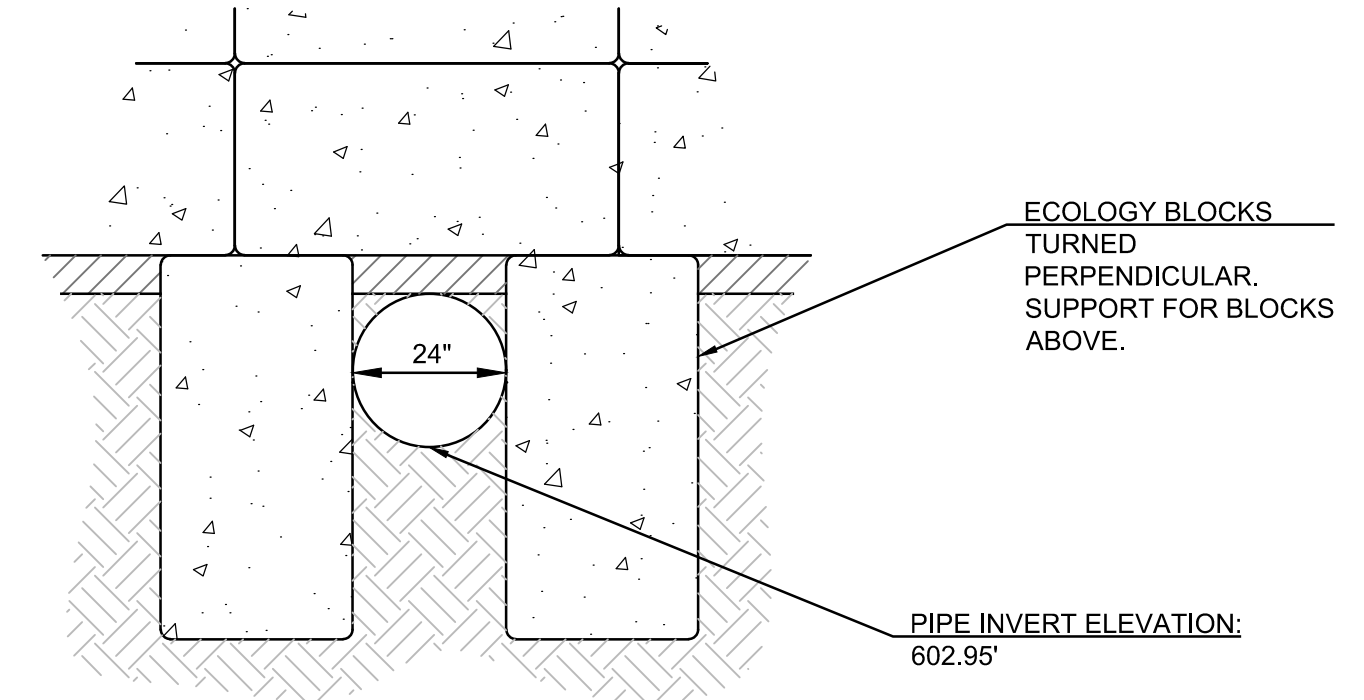
SEC. 18, T13N, R01E



1 ECOLOGY BLOCK WALL DETAIL  
NTS

GENERAL ECOLOGY BLOCK WALL DETAIL NOTES

1. BASIS OF DESIGN FOR BLOCK WALL IS ECOLOGY BLOCK. BLOCKS ARE ASSUMED TO BE H=2.5' X W=2.5' X L=5'
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & VERIFY SITE CONDITIONS MATCH DEPICTED DESIGN. FOR REVIEW AND APPROVAL BY THE ENGINEER SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.
3. WALL CONFIGURATION AS FOLLOWS:
  - 3.1. 1-2 BLOCKS STACKED: PLACE BLOCKS PERPENDICULAR TO TEMPORARY BYPASS ROAD.
  - 3.2. 3 BLOCKS STACKED: TOP TWO PLACED PARALLEL TO TEMPORARY BYPASS ROAD ALIGNMENT. BOTTOM BLOCK PLACED PERPENDICULAR TO ALIGNMENT.
  - 3.3. 4 BLOCKS STACKED: AS SHOWN ABOVE. TOP 2 BLOCKS PLACED PARALLEL TO TEMPORARY BYPASS ROAD ALIGNMENT. BOTTOM BLOCKS PLACED PERPENDICULAR TO ALIGNMENT.

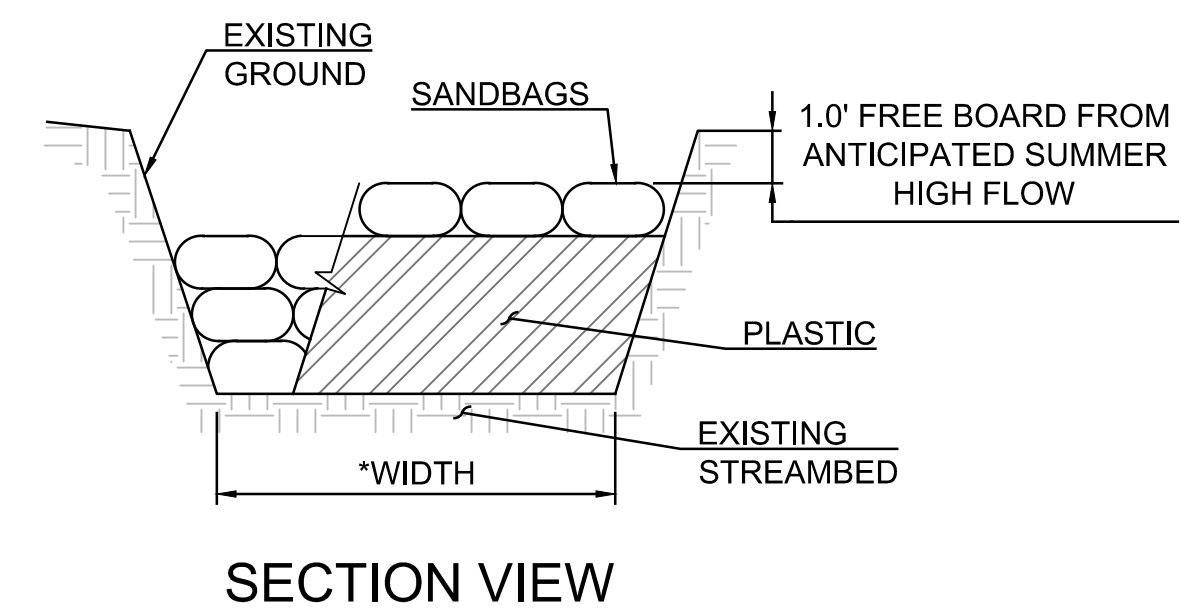
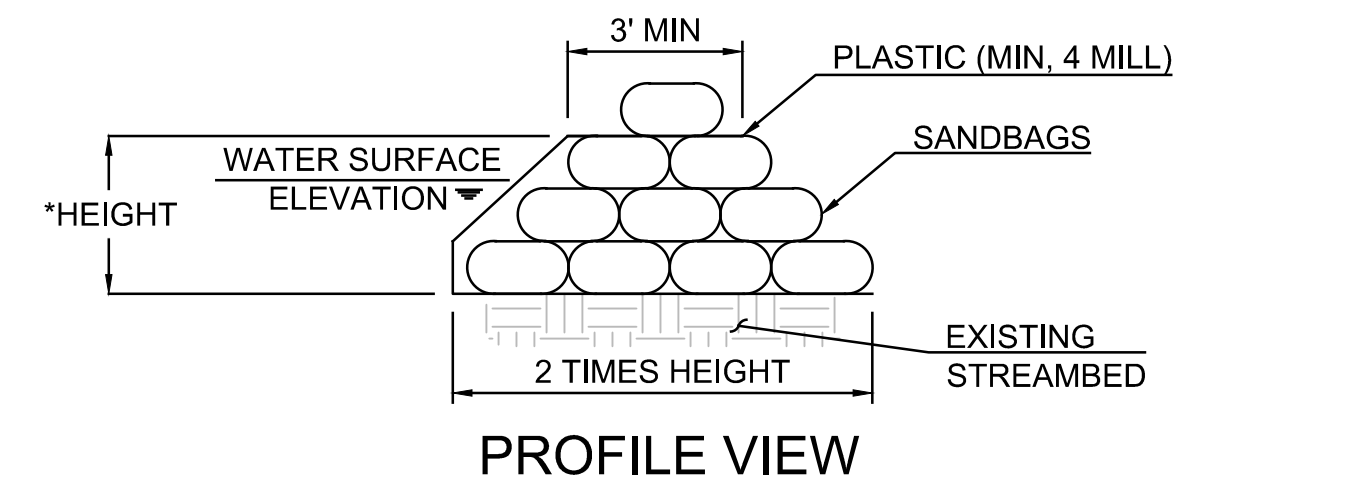


1 PIPE & BLOCK WALL DETAIL  
NTS

Point Table				
Point #	Raw Description	Elevation	Northing	Easting
5975	TD 12 ALDER	606.78	473530.69	1080093.47
5583	TC 8 CEDAR	619.00	473671.11	1080238.43
5398	TC 30CEDAR	607.08	473541.76	1080228.68
5974	TD 12 ALDER	607.14	473536.71	1080094.80
5483	TD 24 COTTEN	605.64	473560.07	1080271.68
5803	TC 12 DBL CEDAR	621.73	473436.70	1080225.99
5578	TC 18 CEDAR	616.32	473660.62	1080231.89
5770	TD 14 ALDER	608.97	473548.11	1080141.57
5769	TD 10 MAPLE	605.11	473543.14	1080172.16
5513	TD 24ASH	608.68	473584.61	1080248.80
5584	TC 20 CEDAR	620.34	473676.84	1080244.20
5520	TD 8 ALDER	612.56	473640.47	1080232.10
5768	TD 16 MAPLE	606.59	473538.41	1080175.86
5576	TD 20 ALDER	608.15	473513.62	1080259.51
5589	TC 6 FIR	618.29	473688.04	1080234.21
5580	TC 20 CEDAR	618.57	473674.12	1080234.47
5516	TD 16COTTEN	608.12	473585.10	1080278.82
5579	TC 8 CEDAR	617.66	473670.66	1080231.20
5515	TD 6MAPLE	608.58	473582.51	1080264.49
5575	TD 20 DBL ALDER	607.72	473521.29	1080252.27

Point Table				
Point #	Raw Description	Elevation	Northing	Easting
5511	TC 18 CEDAR	608.30	473596.09	1080264.73
5574	TC 9 CEDAR	608.04	473519.59	1080249.15
5510	TD 8 COTTEN	608.32	473607.03	1080266.82
5573	TC 6 DBL CEDAR	607.97	473516.78	1080246.00
5509	TD 18 COTTEN	608.84	473605.83	1080268.33
5571	TC 18 CEDAR	609.44	473509.56	1080235.30
5570	TC 40 CEDAR	610.82	473509.88	1080230.40
5568	TD 16 ALDER	609.73	473501.00	1080232.03
5504	TD 14 DBLALDER	609.89	473622.08	1080239.47
5567	TD 16 ALDER	611.04	473491.54	1080235.36
5503	TD 18ALDER	608.28	473607.18	1080238.71
5564	TC 24 CEDAR	611.81	473485.45	1080235.83
5562	TC 16 CEDAR	612.78	473480.02	1080250.37
5560	TC 24 CEDAR	610.16	473501.11	1080263.37
5496	TD 24 ASH	607.49	473574.19	1080233.13
5538	TD 8 COTTEN	608.70	473600.12	1080282.29
5536	TD 8 COTTEN	608.44	473605.16	1080277.48
5530	TC 16CEDAR	612.07	473626.88	1080261.00
5529	TC 24 MAPLE	612.07	473628.76	1080266.80
5523	TC 10 CEDAR	611.84	473636.05	1080240.30

Point Table				
Point #	Raw Description	Elevation	Northing	Easting
5521	TD 8 ALDER	611.54	473637.16	1080235.79
5508	TD 18 COTTEN	609.05	473610.32	1080271.84
5501	TC 12 CEDAR	607.88	473595.73	1080236.48
5495	TC 24CEDAR	607.33	473575.64	1080247.46
5494	TC 14CEDAR	607.18	473571.82	1080248.28
5492	TC 16 CEDAR	607.34	473567.28	1080245.69
5491	TC 6 CEDAR	607.03	473565.79	1080249.12
5490	TD 18MAPLE	607.57	473567.78	1080252.52
5488	TD 8ASH	607.78	473578.67	1080264.62
5486	TD 6 ASH CLP	608.07	473568.88	1080264.99
5484	TC 16 CEDAR	605.07	473563.70	1080272.60



COFFERDAM NOTES:

1. SANDBAGS SHALL BE USED IN ACCORDANCE WITH APPLICABLE PERMITS.
2. INSTALL COFFER DAM AND DEWATERING SITE PRIOR TO CONSTRUCTION.
3. WATER BLADDERS, SUPER SACKS, OR APPROVED EQUAL CAN BE USED AS ALTERNATIVES TO COFFERDAMS.
4. PROVIDE 1.0' FREEBOARD.

DIMENSIONS SHOWN ARE MINIMUMS. CONTRACTOR TO SEE SPECIAL PROVISIONS.

3 COFFERDAM  
NOT TO SCALE

2 TREE REMOVAL TABLE  
NTS

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SITE PREP AND TESS DETAILS FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
LEWIS COUNTY, WASHINGTON



DESIGNED: DKE  
CHECKED: DAS  
JUNE 2020  
45013.006

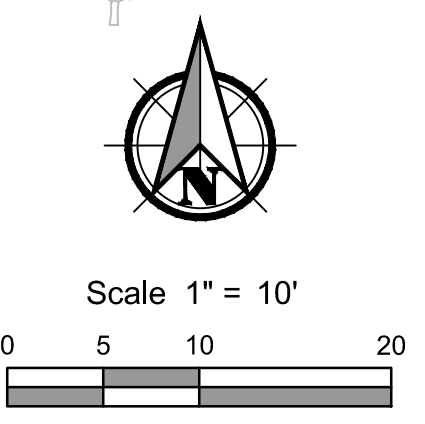
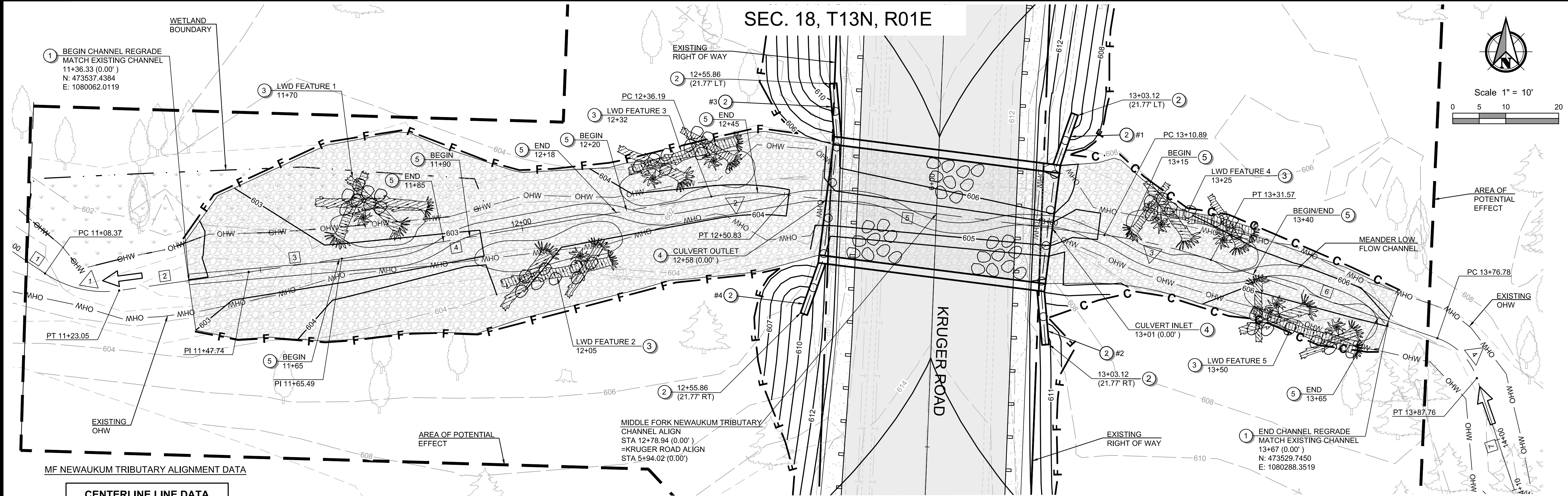
SHEET ID  
**C-104**

SHEET 6 OF 16

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SEC. 18, T13N, R01E



MF NEWAUKUM TRIBUTARY ALIGNMENT DATA

#	Length	Direction
1	8.37	S56° 03' 34"E
2	24.69	N81° 52' 32"E
3	17.75	N81° 52' 32"E
4	70.70	N80° 27' 02"E
5	60.06	S82° 46' 08"E
6	45.21	S70° 55' 16"E
7	22.25	N18° 31' 41"W

MF NEWAUKUM TRIBUTARY ALIGNMENT DATA

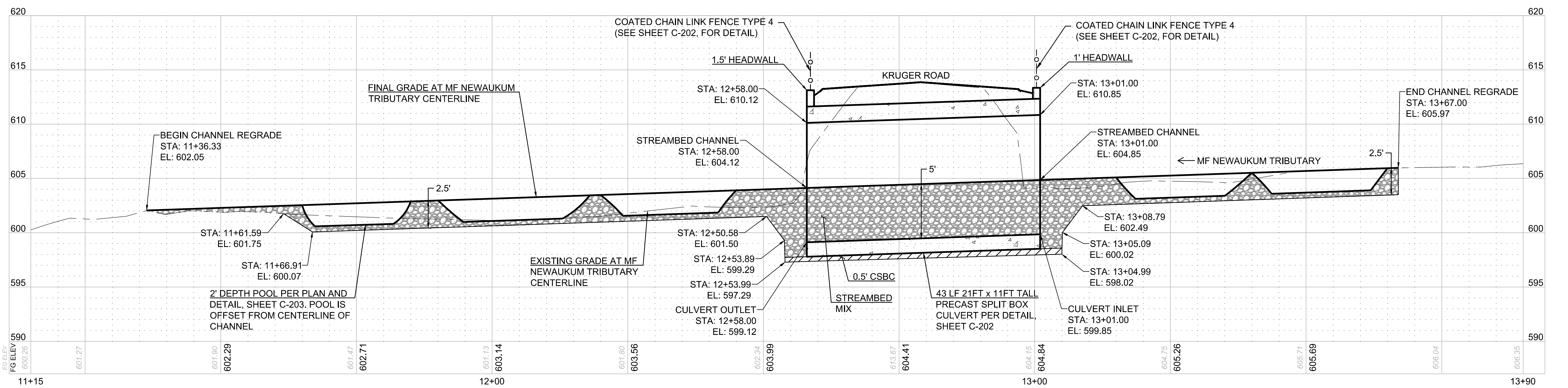
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1	42°03'55"	20	14.68	7.69
2	16°46'51"	50	14.64	7.37
3	11°50'51"	100	20.68	10.38
4	52°23'35"	12	10.97	5.90

CONSTRUCTION PLAN NOTES:

- RECONSTRUCT STREAM CHANNEL PER DETAIL, SHEET C-203 AND CROSS SECTIONS PER SHEET C-303
- INSTALL PRECAST CONCRETE WINGWALL PER DETAIL, SEE SHEET C-202
- INSTALL LARGE WOODY DEBRIS FEATURE PER DETAIL, SEE SHEET C-203
- INSTALL 43 LF 21-FT x 11-FT SPLIT BOX CULVERT. PER SECTION, SEE SHEET C-202
- VARY TYP. CHANNEL SECTION PER SHEET C-203 TO CONSTRUCT 2-FT DEEP POOL BELOW CHANNEL FINAL GRADE LINE

GENERAL NOTES:

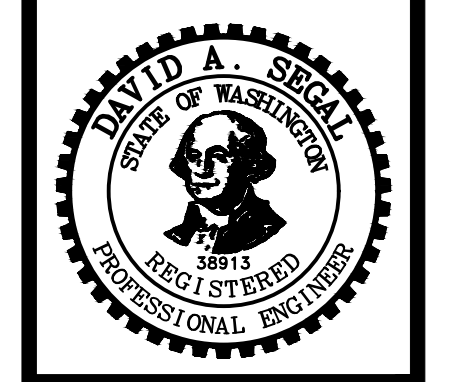
- LARGE WOODY DEBRIS FEATURES, TWO-MAN BOULDERS, AND THALWEG LOCATIONS ARE TO BE PLACED AS SHOWN ON PLANS. MINOR CHANGES TO THE WOOD FEATURES CAN BE MADE IN THE FIELD BY THE ENGINEER.
- SEE PLANTING PLANS ON SHEET C-401 THRU C-403 FOR FINAL STABILIZATION REQUIREMENTS.



PROFILE SCALE:  
HORIZ: 1" = 10'  
VERT: 1" = 5'

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STREAM PLAN AND PROFILE FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
LEWIS COUNTY, WASHINGTON



DESIGNED: DKE  
CHECKED: DAS  
JUNE 2020  
45013.006

SHEET ID  
**C-201**  
SHEET 7 OF 16

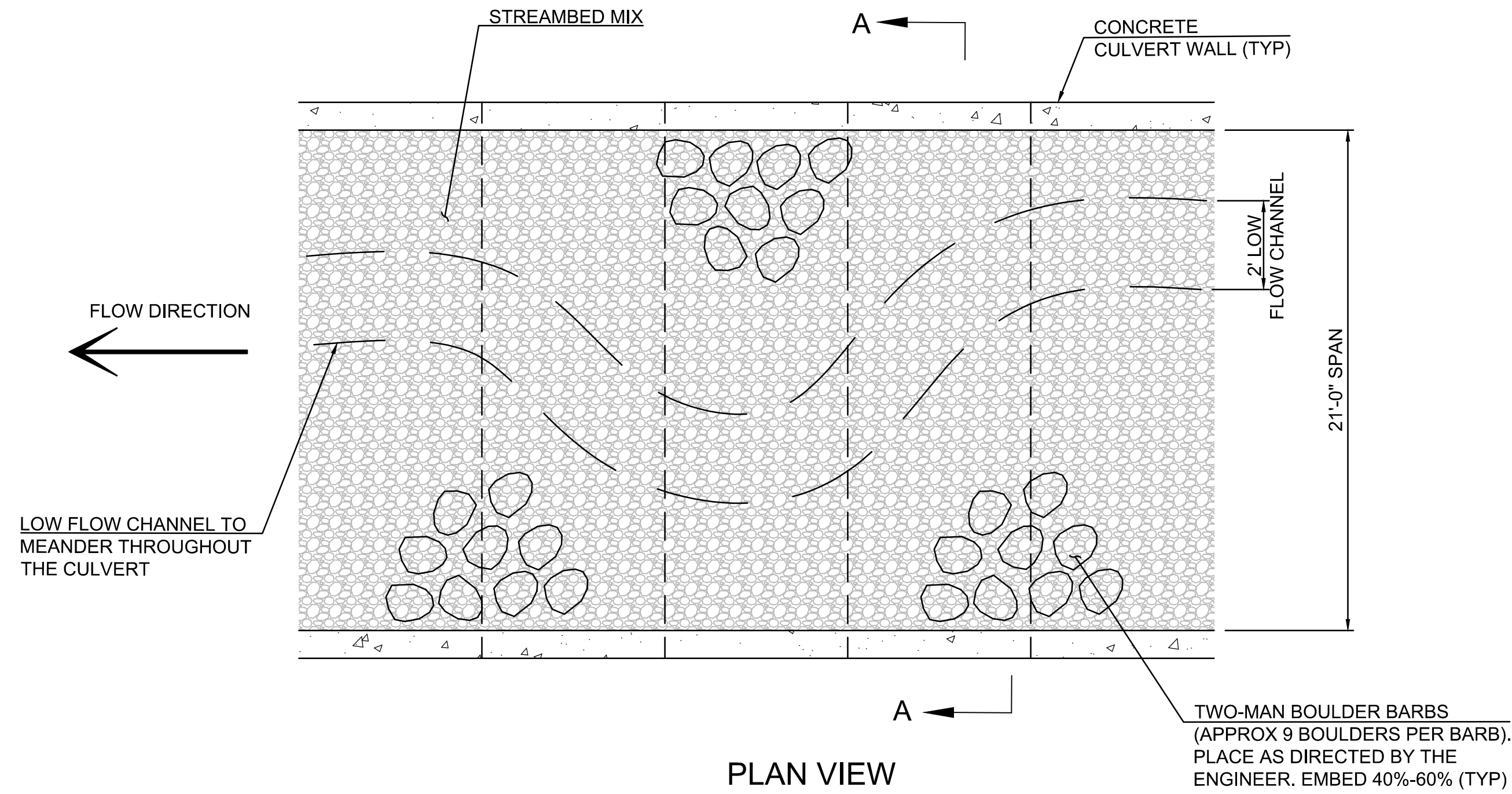
**100% SUBMITTAL**

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 Layout: Tab: C-201 STREAM PLAN AND PROFILE User: Doug Ehrbrecht  
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SEC. 18, T13N, R01E

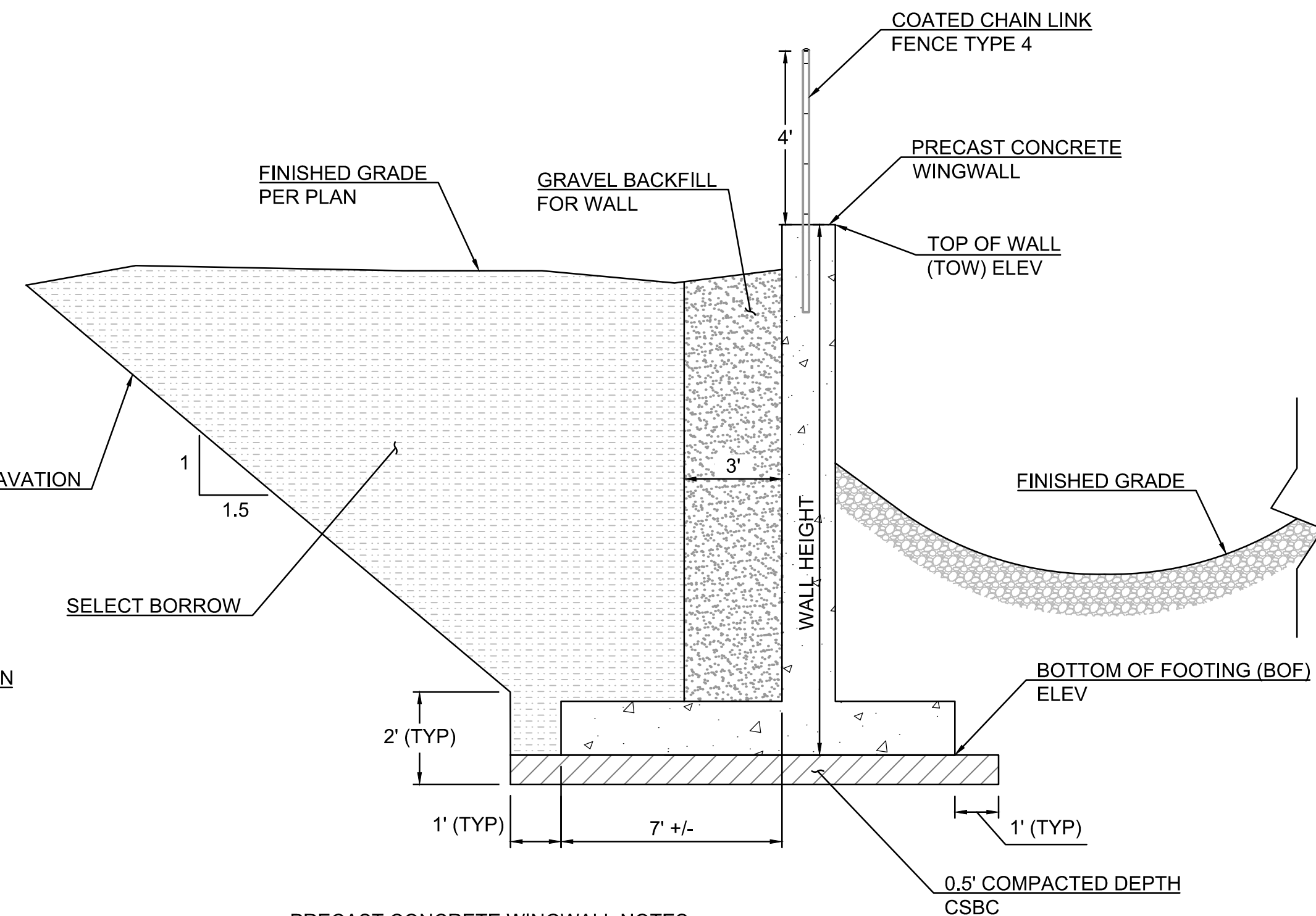
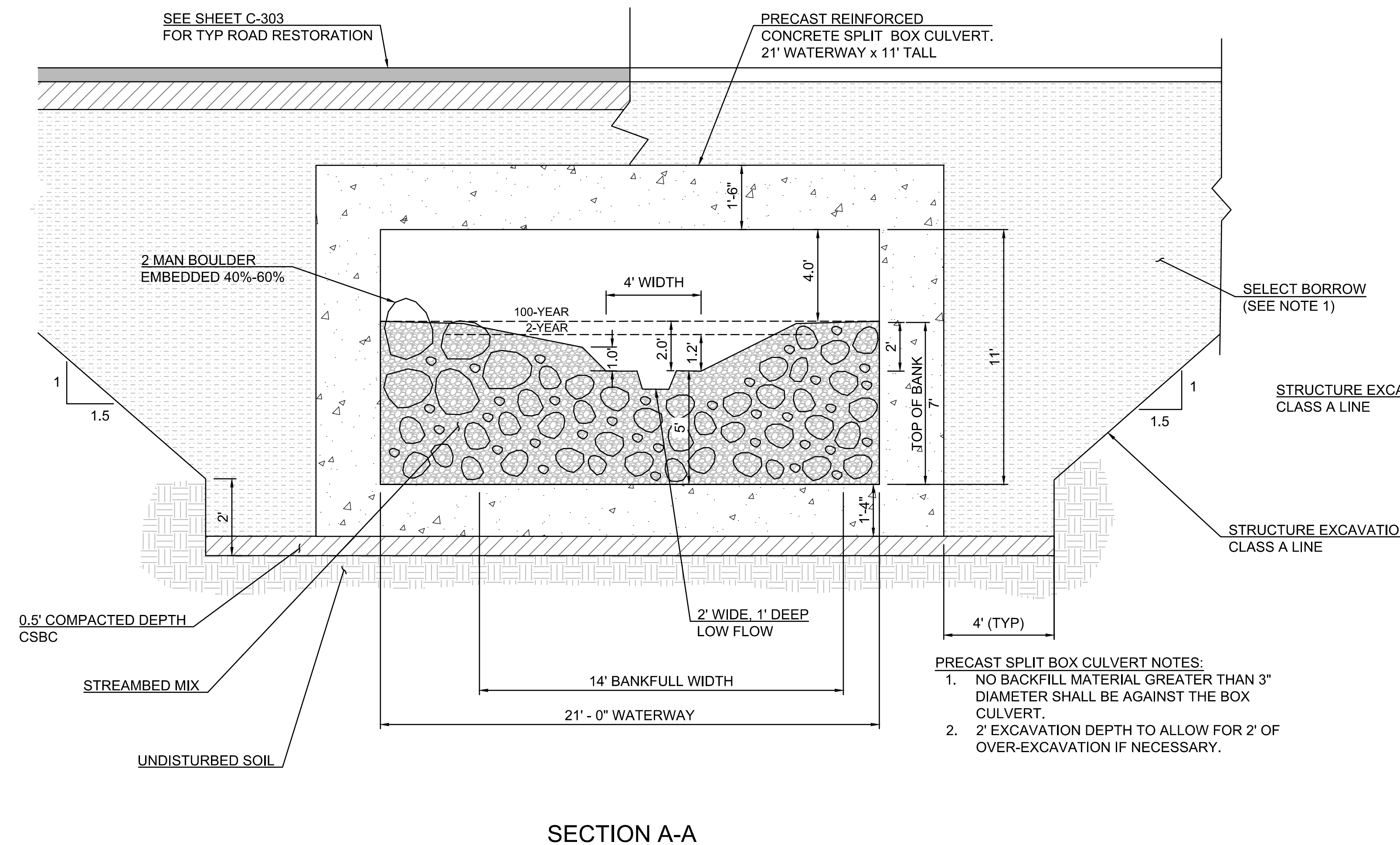


GENERAL NOTES:

1. LARGE WOODY DEBRIS FEATURES, TWO-MAN BOULDERS, AND THALWEG LOCATIONS ARE TO BE PLACED AS SHOWN ON PLANS. MINOR CHANGES TO THE WOOD FEATURES CAN BE MADE IN THE FIELD BY THE ENGINEER.
2. STREAMBED MIX: THREE PARTS 12" STREAMBED COBBLES SHALL BE MIXED THOROUGHLY WITH TWO PARTS STREAMBED SEDIMENT.
3. STREAMBED SEDIMENT IS TO PROVIDE STABILITY TO THE STREAMBED MIX AND BOULDER BARBS AND BE PLACED IN AREA OF VOIDS TO CREATE A UNIFORM, NON-POROUS BED.
4. SEE SHEET C-203 FOR STREAMBED GRADATIONS.
5. SEE PLANTING PLANS ON SHEETS C-401 THRU C-403 FOR FINAL STABILIZATION REQUIREMENTS.

WINGWALL TABLE					
WINGWALL NO.	LENGTH (FT)	ANGLE TO CULVERT OPENING (DEGREES)	BEGIN HEIGHT (FT)	END HEIGHT (FT)	BOF ELEV
1 (NE)	10	168	14.83	12	598.52
2 (SE)	10	168	14.83	13.75	598.52
3 (NW)	10	168	15.33	14.83	597.79
4 (SW)	10	168	15.33	13	597.79

\* HEIGHT OF WALL INCLUDES ASSUMED 16" THICK FOOTING. MATCH BOTTOM OF FOOTING WITH CULVERT BOTTOM.



1 PRECAST SPLIT BOX CULVERT NOT TO SCALE

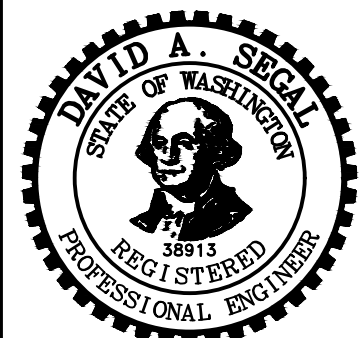
2 PRECAST CONCRETE WINGWALL NOT TO SCALE

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CULVERT DETAILS FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
 LEWIS COUNTY, WASHINGTON



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SHEET ID  
**C-202**

SHEET 8 OF 16





SEC. 18, T13N, R01E

GENERAL NOTES:

1. LARGE WOODY DEBRIS FEATURES, TWO-MAN BOULDERS, AND THALWEG LOCATIONS ARE TO BE PLACED AS SHOWN ON PLANS. MINOR CHANGES TO THE WOOD FEATURES CAN BE MADE IN THE FIELD BY THE ENGINEER.
2. STREAMBED MIX: THREE PARTS 12" COBBLES SHALL BE MIXED THOROUGHLY WITH TWO PARTS STREAMBED SEDIMENT.
3. STREAMBED SEDIMENT IS TO PROVIDE STABILITY TO THE STREAMBED MIX AND BE PLACED IN AREA OF VOIDS TO CREATE A UNIFORM, NON-POROUS BED.
4. SEE PLANTING PLANS ON SHEET C-401 THRU C-403 FOR FINAL STABILIZATION REQUIREMENTS.

ROCK QUANTITY		
ROCK	MEASUREMENT	TOTAL
STREAMBED BOULDER TWO MAN	EACH	134

LARGE WOODY DEBRIS CONTROL TABLE			
LWD FEATURE STATION	LOGS*	VOLUME (FT <sup>3</sup> )	
11+70	1,2,2,3	149.6	
12+05	1,2,2,3	149.6	
12+32	1,2,2,3	149.6	
13+25	1,2,2,2,3,3	192.9	
13+50	1,2,2,2,3,3	192.9	

\* SEE LOG SCHEDULE BELOW

LOG SCHEDULE					
LOG #	LOG LENGTH (FT)	LOG DIAMETER (FT)	ROOTWAD LENGTH (FT)	ROOTWAD DIAMETER (FT)	VOLUME (FT <sup>3</sup> )
1*	20	2	2	3	71.3
2*	15	1.5	2	3	35.0
3	5	1	1.5	2.5	8.3

\* KEY LOG (VOLUME > 35 FT<sup>3</sup>)

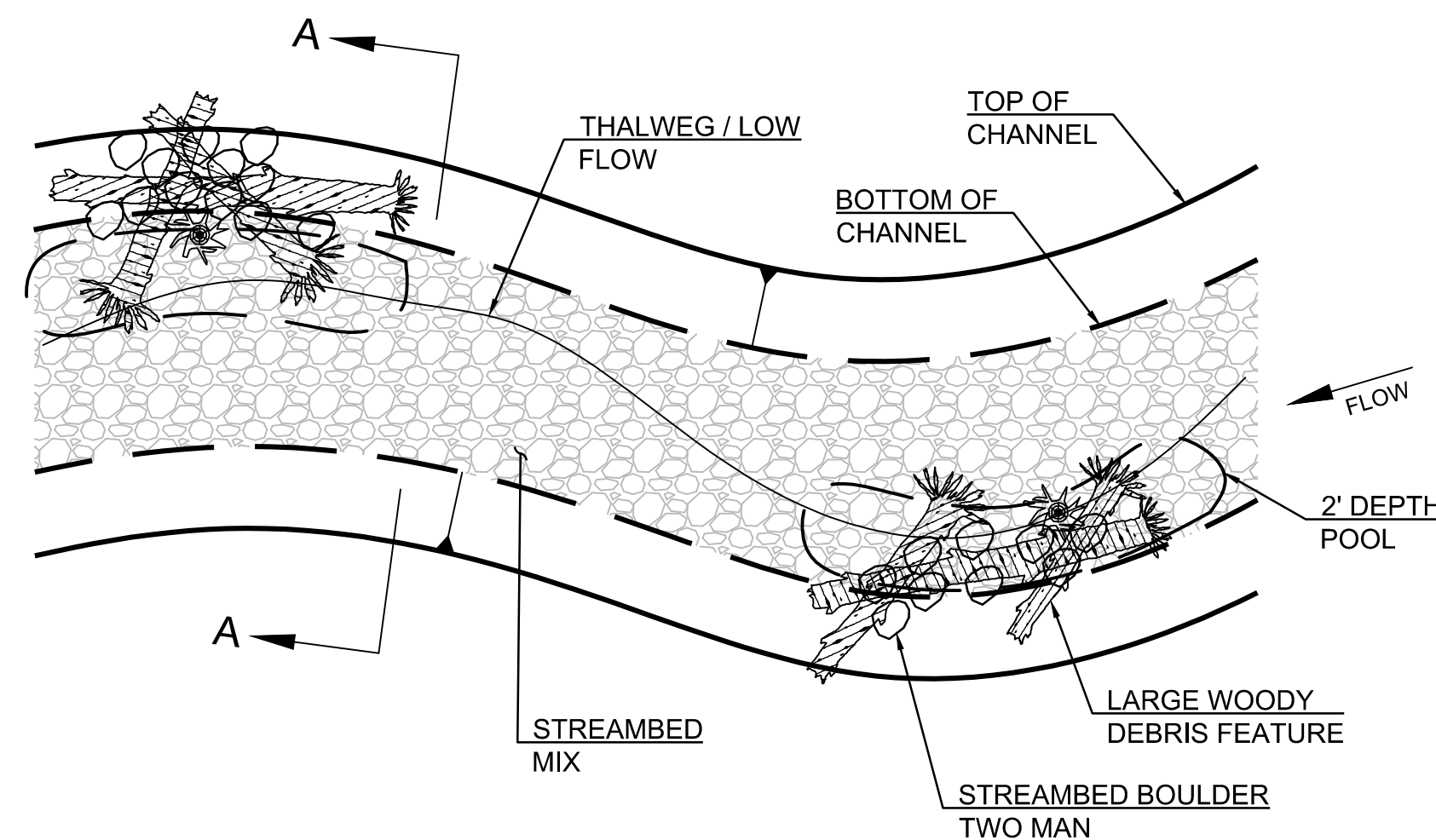
12" STREAMBED COBBLES GRADATION	
APPROXIMATE SIZE	% PASSING
12"	99 - 100
10"	70 - 90
5"	30 - 60
3/4"	10 MAX

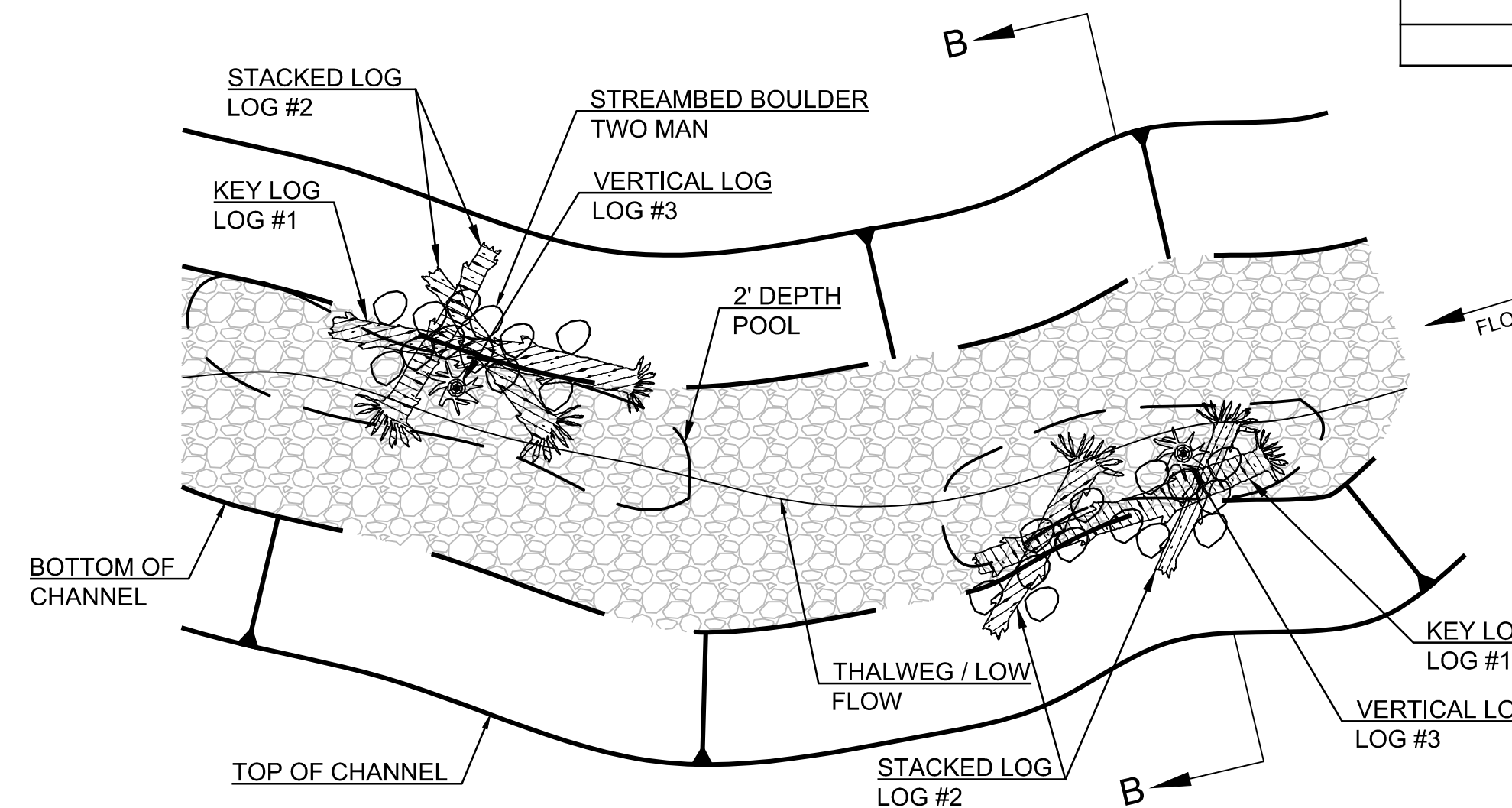
STREAMBED SEDIMENT GRADATION	
SIEVE SIZE	% PASSING
2.5"	99 - 100
2"	65 - 95
1"	50 - 85
U.S. NO. 4	26 - 44
U.S. NO. 40	16 MAX
U.S. NO. 200	5.0 - 9.0

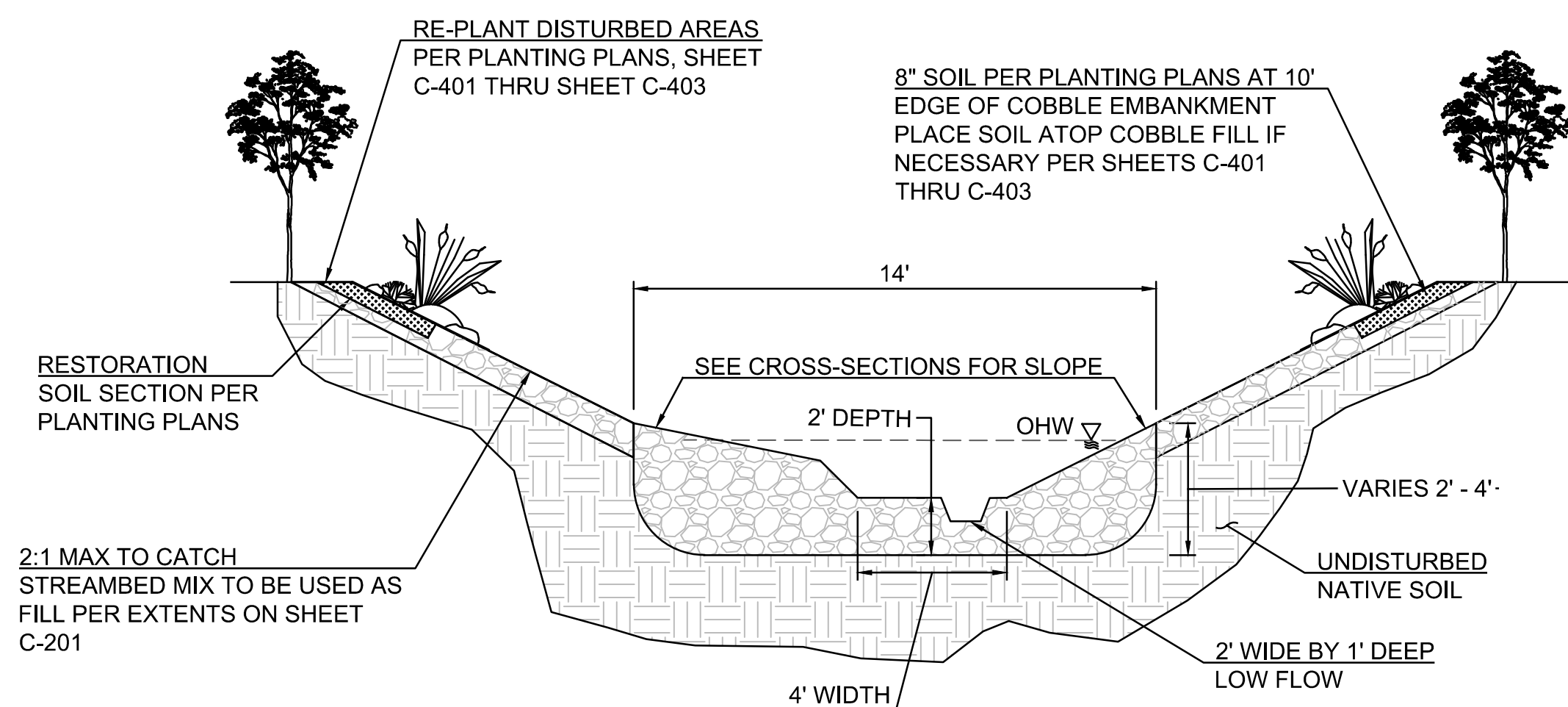
STREAMBED BOULDER SIZING	
ROCK SIZE	APPROXIMATE SIZE
TWO-MAN	18" - 28"



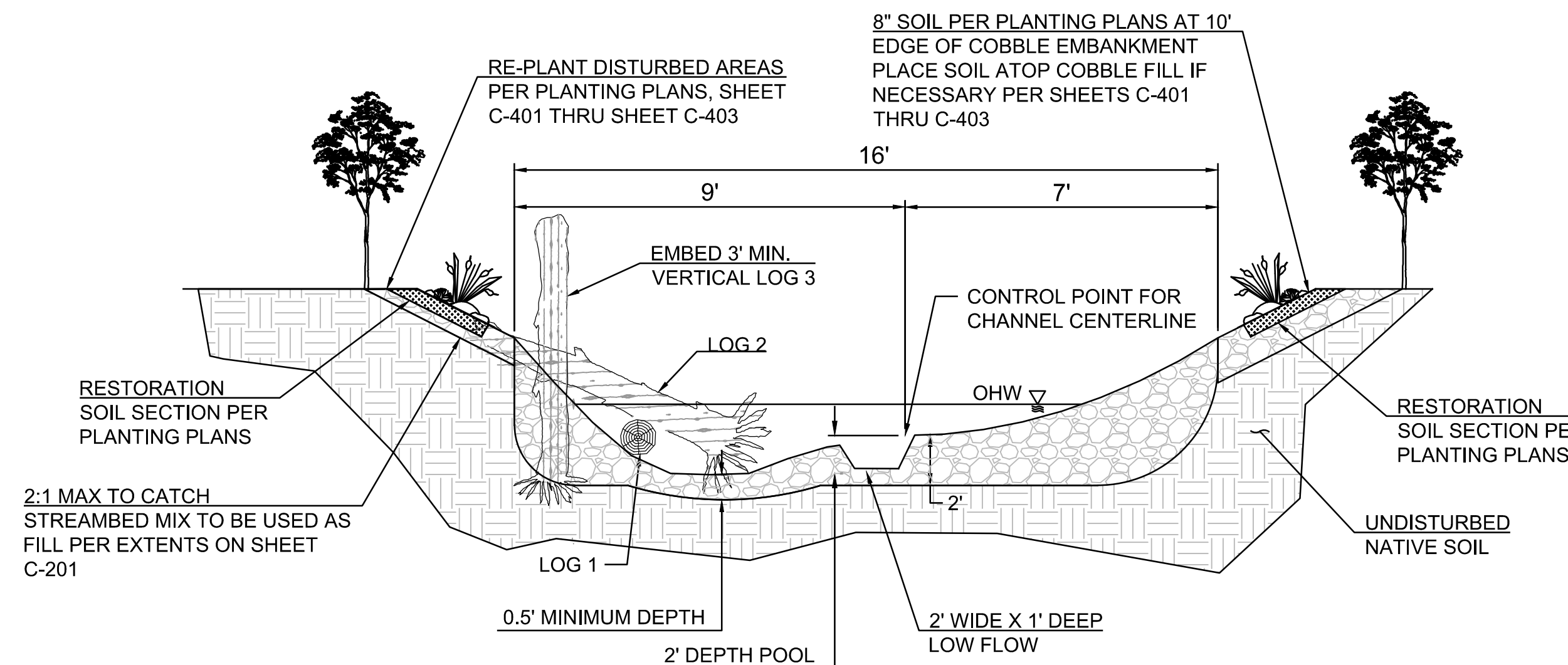
CHANNEL PLAN



LARGE WOODY DEBRIS PLAN



CHANNEL SECTION A-A



LARGE WOODY DEBRIS SECTION B-B

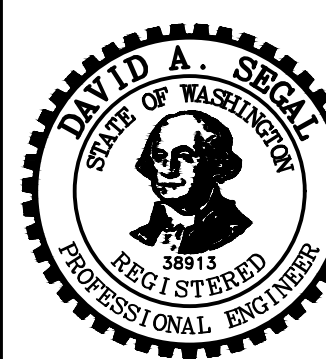
1 MF NEWAUKUM TRIBUTARY CHANNEL  
NOT TO SCALE

2 LARGE WOODY DEBRIS FEATURE  
NOT TO SCALE

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 User: Dong Eilbraecht  
 CAD Plot Date/Time: 6/26/2020 3:27:35 PM  
 Layout Tab: C-203 STREAM DETAILS

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 LEWIS COUNTY, WASHINGTON



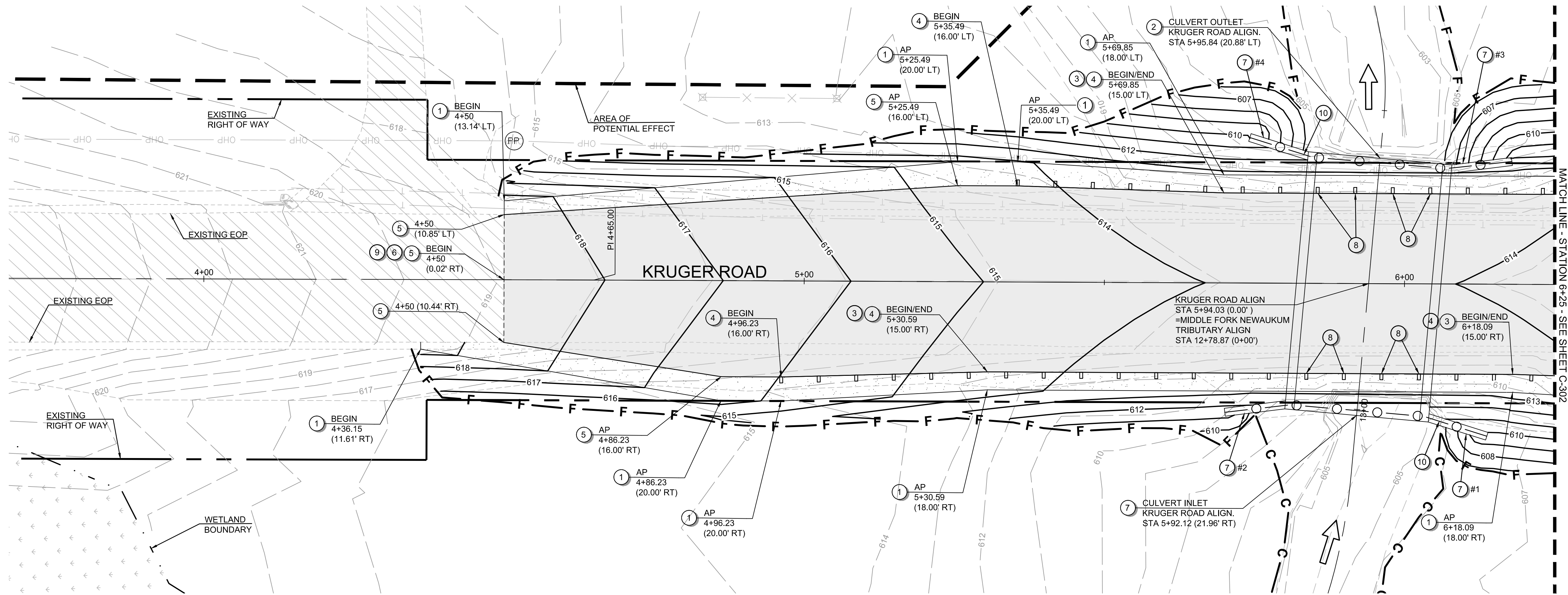
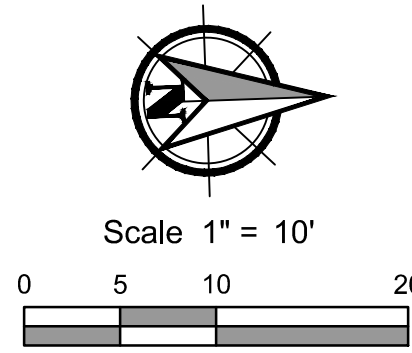
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SHEET ID  
**C-203**  
 SHEET 9 OF 16

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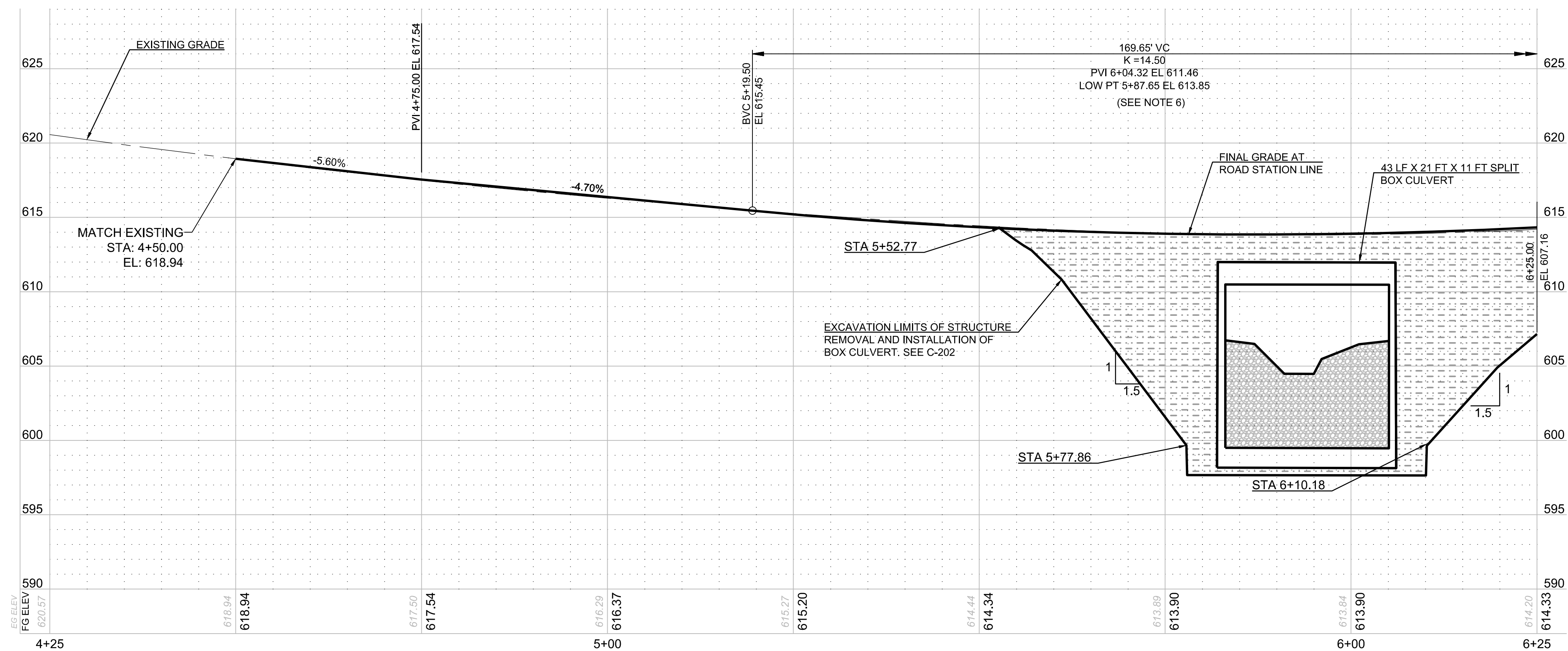


**CONSTRUCTION PLAN NOTES:**

- ① SHOULDER WIDENING
- ② 43-LF PRECAST BOX CULVERT PER SECTION, SHEET C-202
- ③ BEAM GUARDRAIL TYPE 31, PER WSDOT STD PLAN C-20.10-05
- ④ BEAM GUARDRAIL TYPE 31 MSKT-SP-MGS (TL-2) NON- FLARED TERMINAL PER WSDOT STD PLAN C-22.45-04.
- ⑤ HMA PAVEMENT (SEE SECTION DETAIL, SHEET C-303)
- ⑥ SAWCUT
- ⑦ PRECAST CONCRETE WINGWALL PER DETAIL, SHEET C-202
- ⑧ BEAM GUARDRAIL TYPE 31, PER WSDOT STD PLAN C-20.41-02
- ⑨ DOUBLE CENTER YELLOW PAINT LINE (BY OTHERS)
- ⑩ COATED CHAIN LINK FENCE TYPE 4

**GENERAL NOTES:**

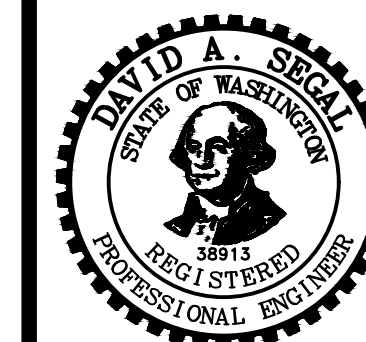
1. GUARDRAIL STATION OFFSET LOCATIONS ARE TO FACE OF GUARDRAIL W-BEAM.
2. GUARDRAIL POSTS ARE STEEL UNLESS OTHERWISE NOTED OR REQUIRED IN THE STANDARD PLANS.
3. USE BOX CULVERT GUARDRAIL STEEL POSTS ABOVE CULVERT PER WSDOT STD PLAN C-20.41-02. DO NOT AFFECT STEEL REINFORCING WHEN DRILLING FOR ANCHORS.
4. SEE SHEET C-303 FOR TYPICAL ROAD SECTION.
5. SPEED LIMIT FOR KRUGER ROAD IS 35 MPH.



PROFILE SCALE:  
HORIZ: 1" = 10'  
VERT: 1" = 5'

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ROADWAY PLAN AND PROFILE 1 FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
 LEWIS COUNTY, WASHINGTON



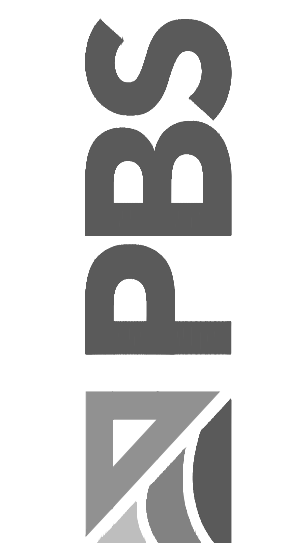
DESIGNED: DKE  
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SHEET ID  
**C-301**

SHEET 10 OF 16

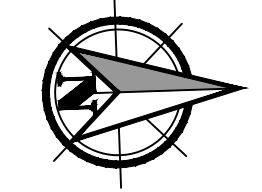
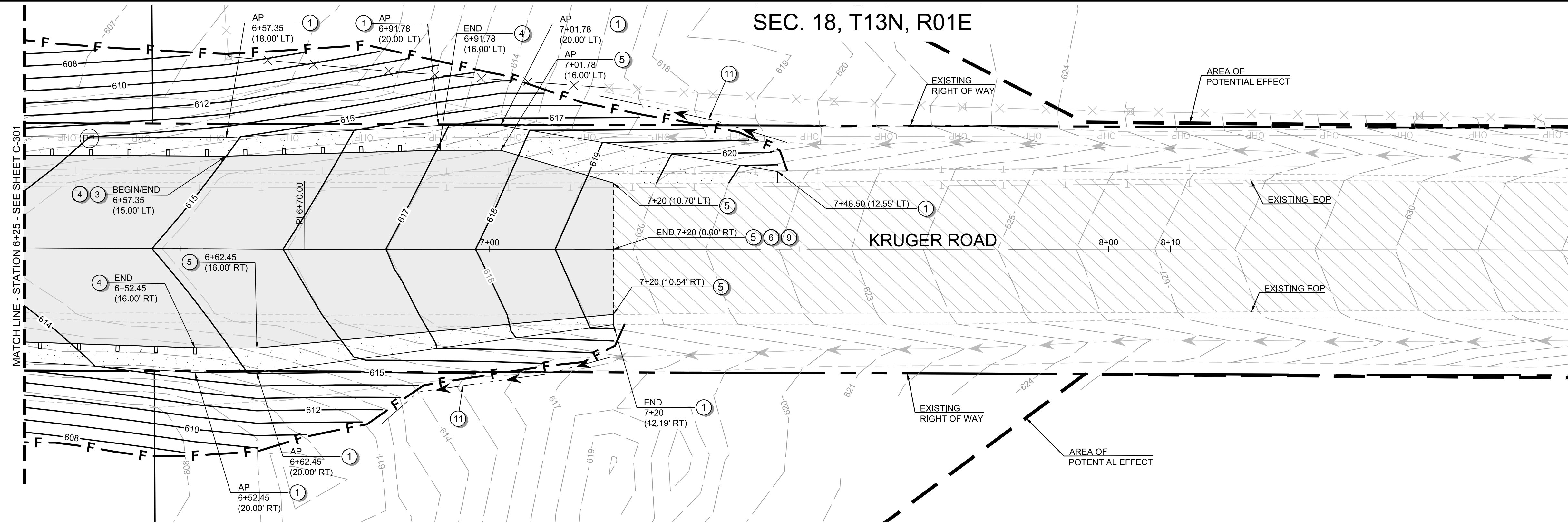
**100% SUBMITTAL**

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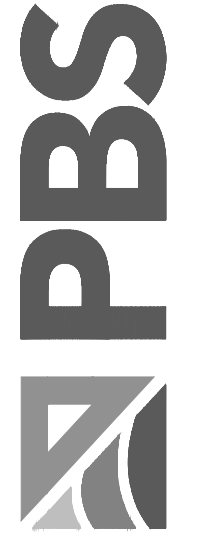


SEC. 18, T13N, R01E



Scale 1" = 10'  
0 5 10 20

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ROADWAY PLAN AND PROFILE 2 FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
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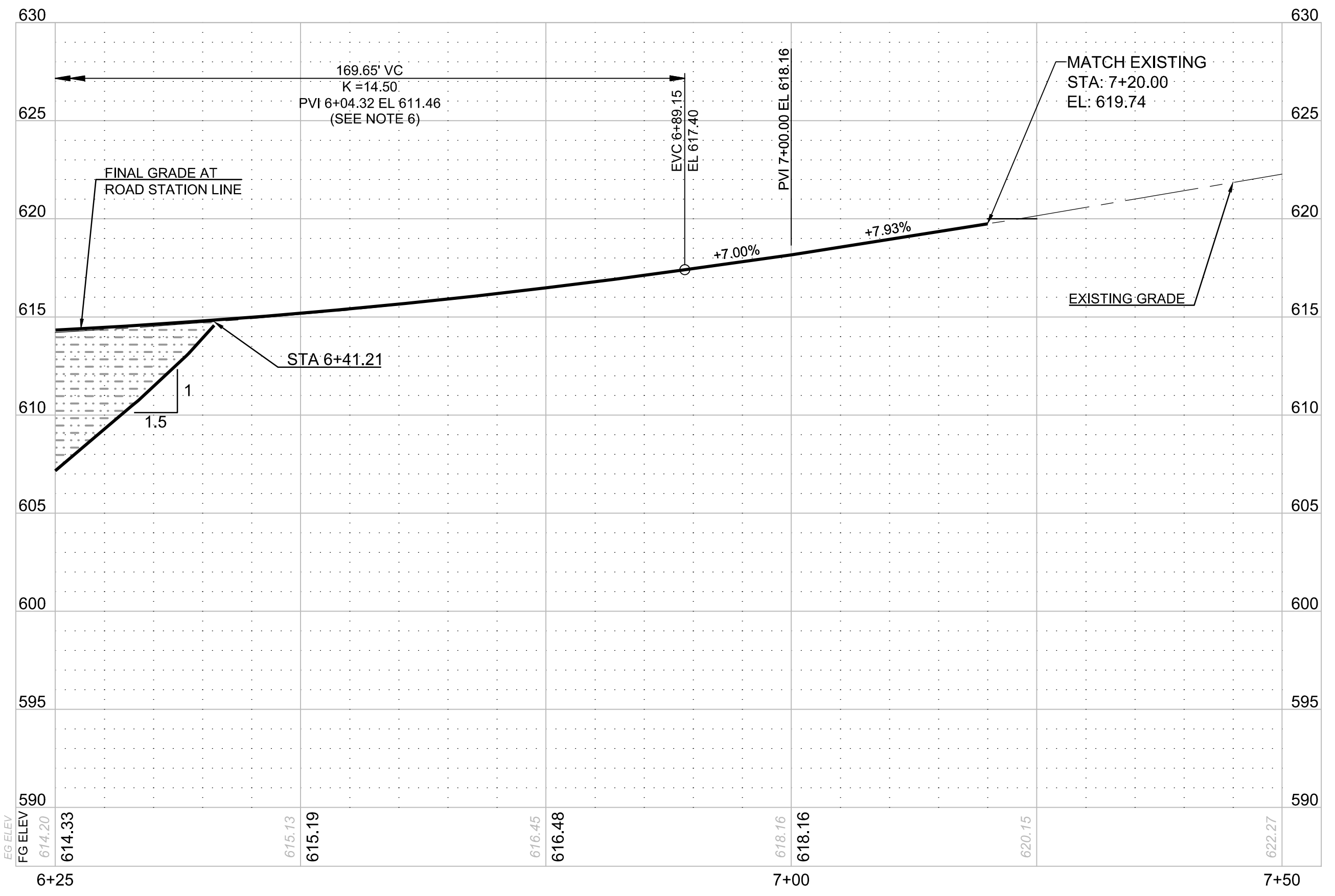
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SHEET ID  
**C-302**

SHEET 11 OF 16



PROFILE SCALE:  
HORIZ: 1" = 10'  
VERT: 1" = 5'

**CONSTRUCTION PLAN NOTES:**

- ① SHOULDER WIDENING
- ③ BEAM GUARDRAIL TYPE 31, PER WSDOT STD PLAN C-20.10-05
- ④ BEAM GUARDRAIL TYPE 31 MSKT-SP-MGS (TL-2) NON- FLARED TERMINAL PER WSDOT STD PLAN C-22.45-04.
- ⑤ HMA PAVEMENT (SEE SECTION DETAIL, SHEET C-303)
- ⑥ SAWCUT
- ⑧ BEAM GUARDRAIL TYPE 31, PER WSDOT STD PLAN C-20.41-02
- ⑨ DOUBLE CENTER YELLOW PAINT LINE (BY OTHERS)
- ⑪ REDIRECT EXISTING DITCH AT TOE OF EMBANKMENT

**GENERAL NOTES:**

1. GUARDRAIL STATION OFFSET LOCATIONS ARE TO FACE OF GUARDRAIL W-BEAM.
2. GUARDRAIL POSTS ARE STEEL UNLESS OTHERWISE NOTED OR REQUIRED IN THE STANDARD PLANS.
3. USE BOX CULVERT GUARDRAIL STEEL POSTS ABOVE CULVERT PER WSDOT STD PLAN C-20.41-02. DO NOT AFFECT STEEL REINFORCING WHEN DRILLING FOR ANCHORS.
4. SEE SHEET C-303 FOR TYPICAL ROAD SECTION.
5. SPEED LIMIT FOR KRUGER ROAD IS 35 MPH.

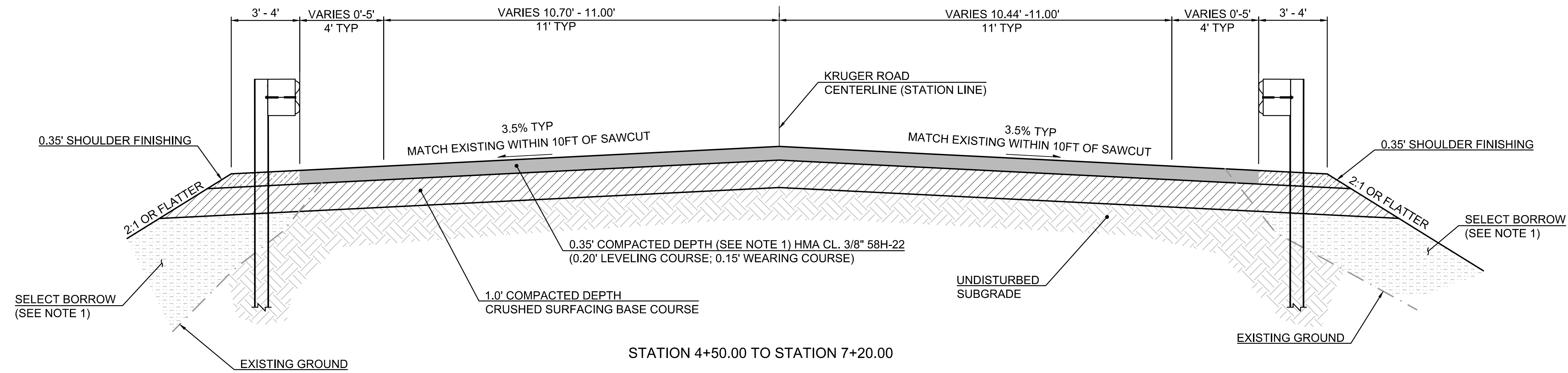
**100% SUBMITTAL**

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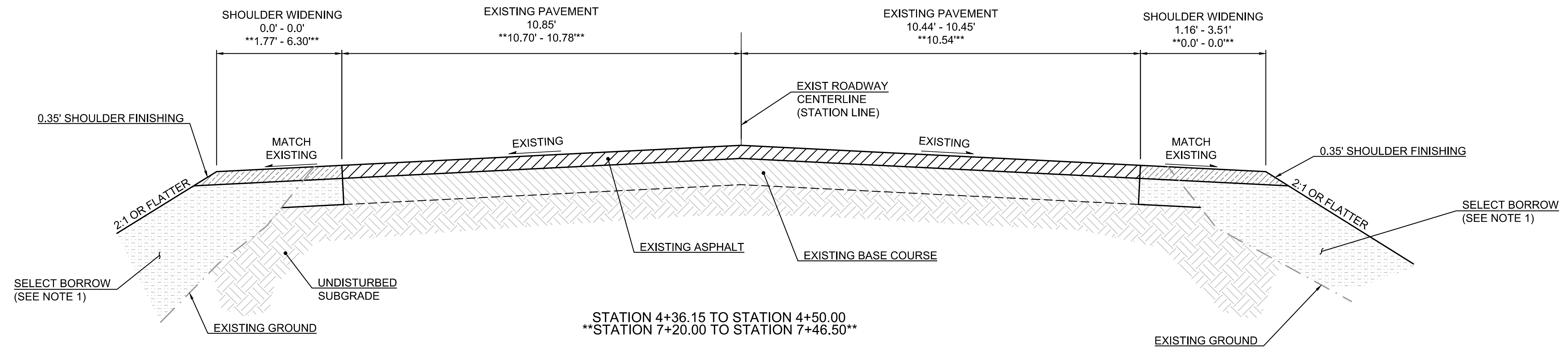


SEC. 18, T13N, R01E



SECTION NOTES:

1. BENCH INTO EXISTING SIDE SLOPE PER WSDOT STANDARD SPECIFICATION 2-03.3(14).



**1 TYPICAL ROAD RESTORATION SECTION**  
NOT TO SCALE

File name: L:\Projects\4500045013\45013-006\Civil\CAD\WorkingSheets\45013\_006\_C301.dwg  
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ROADWAY SECTIONS FOR:  
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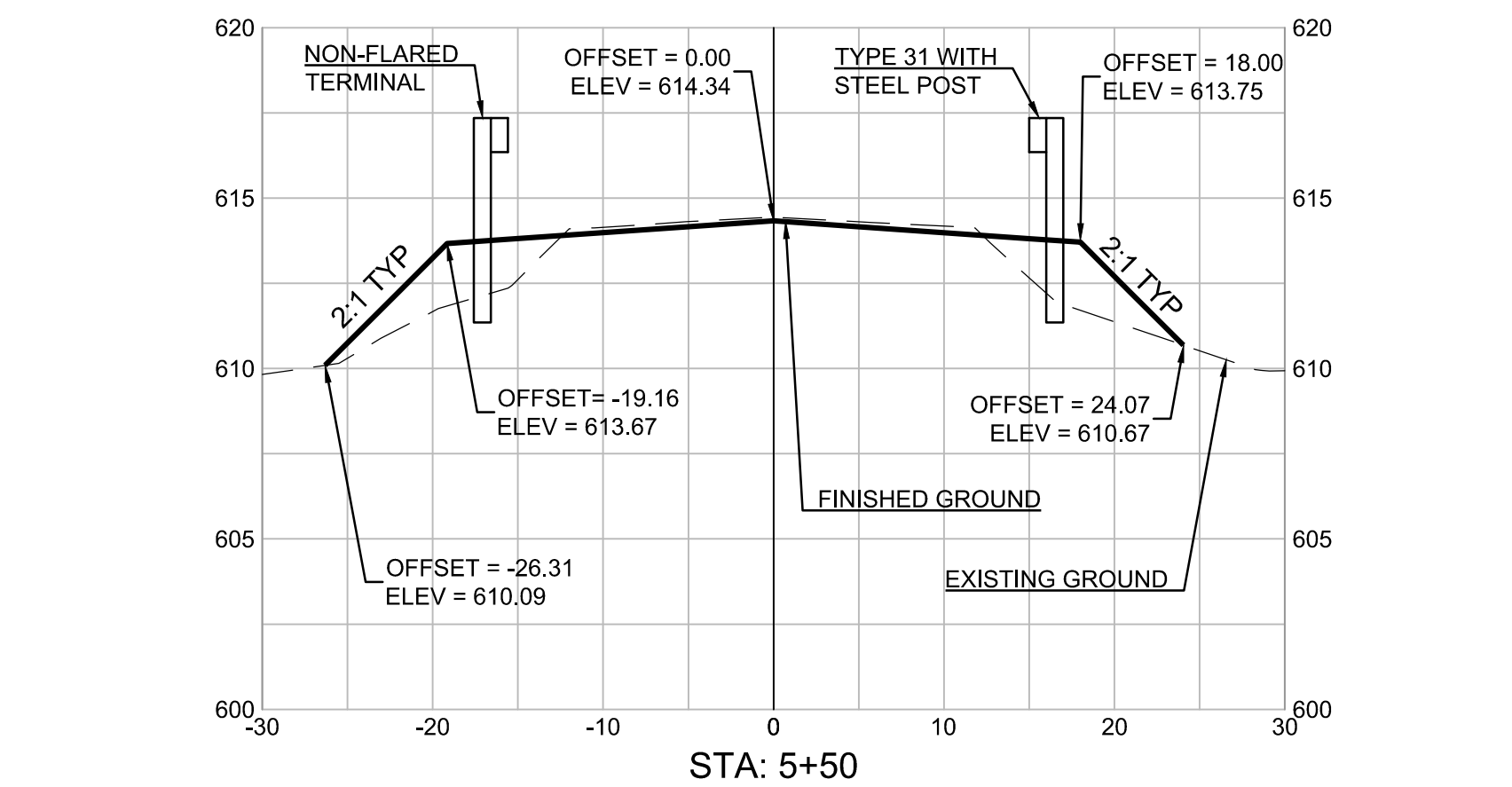
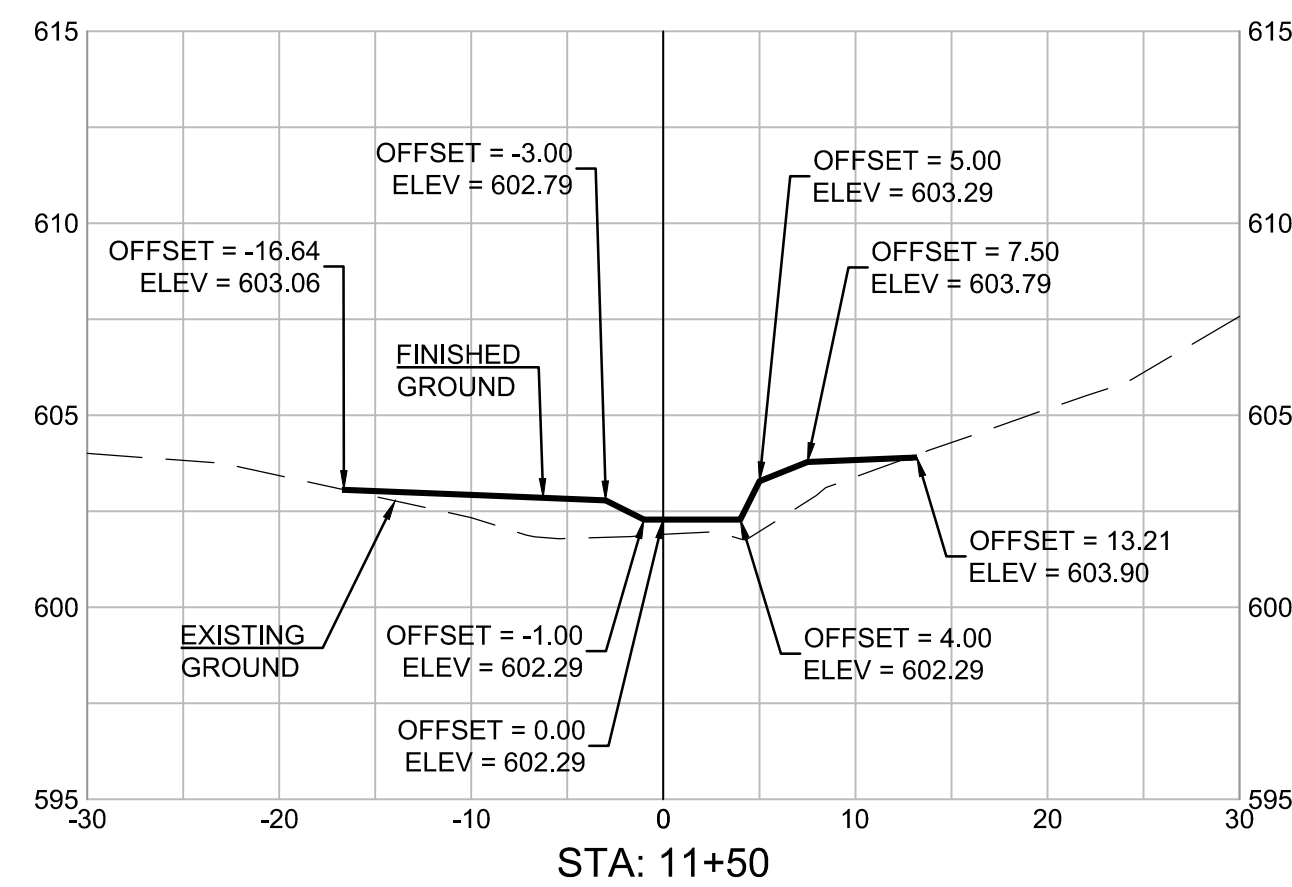
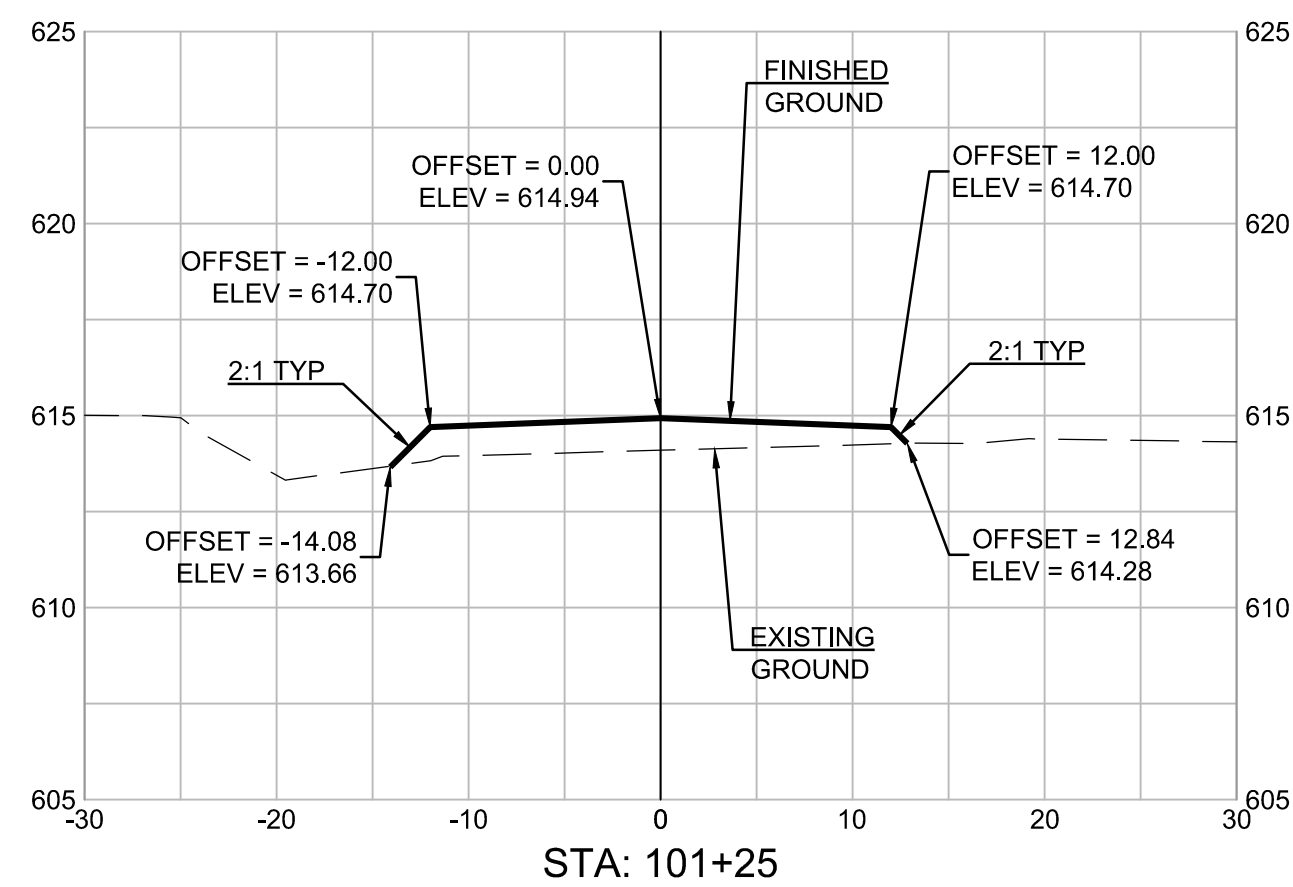
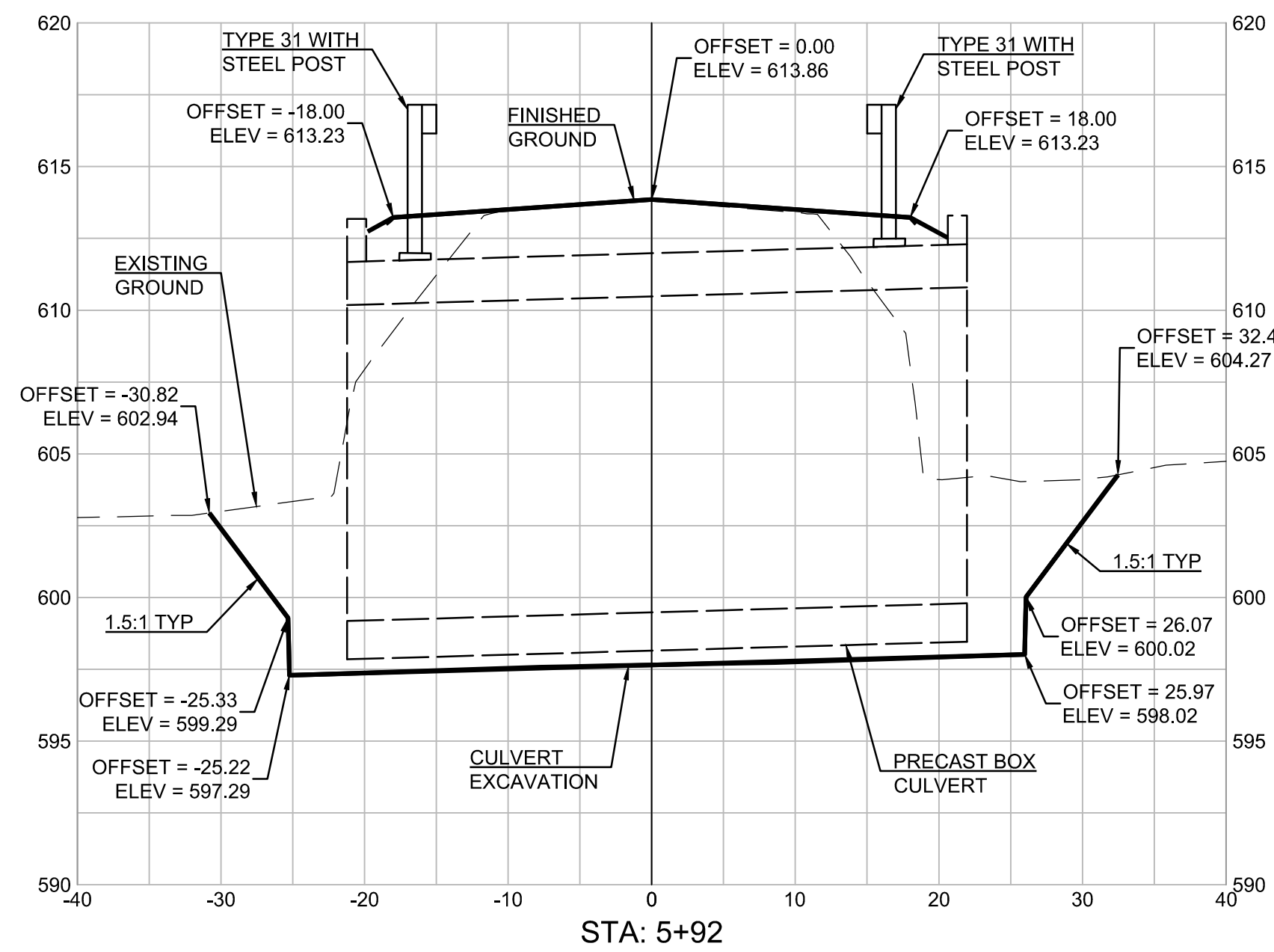
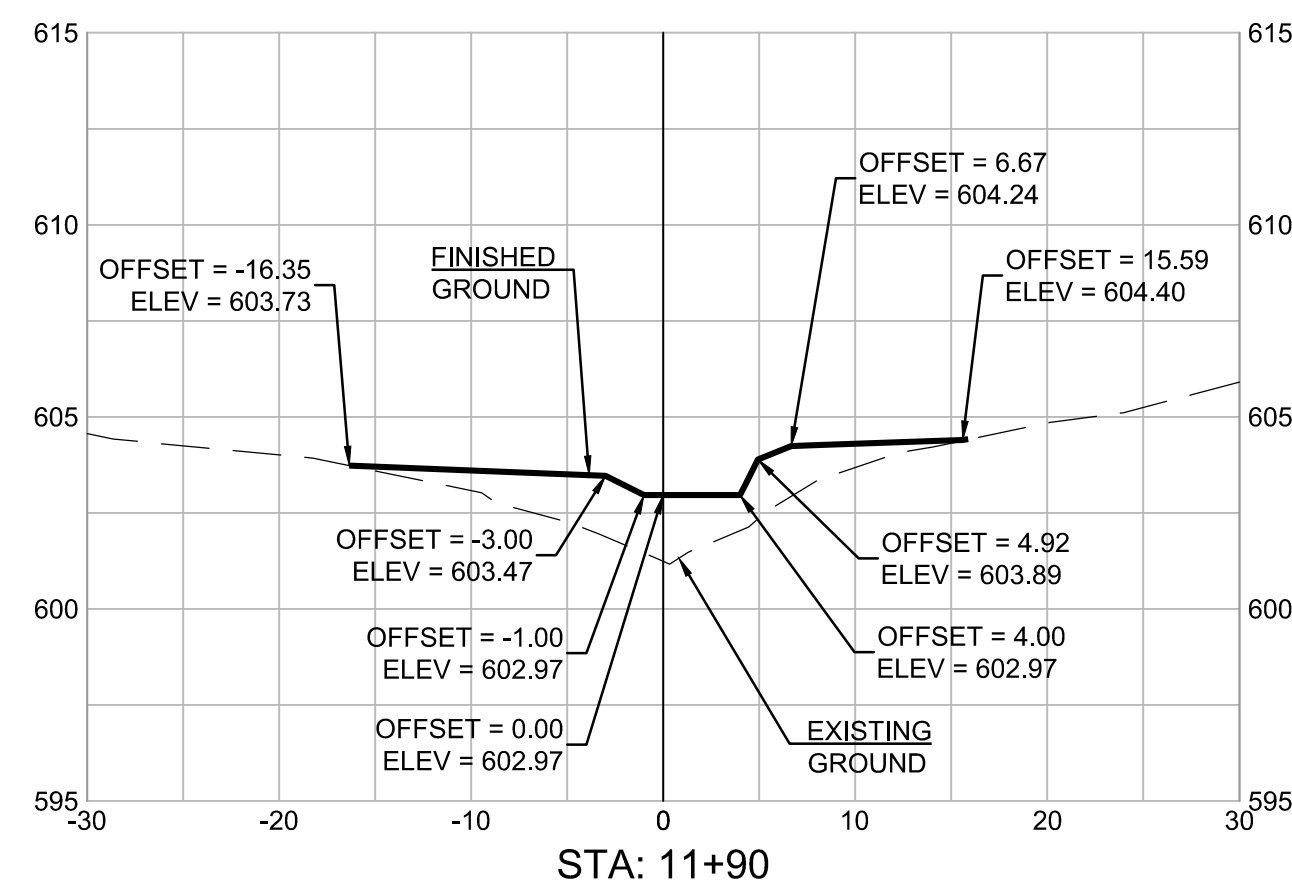
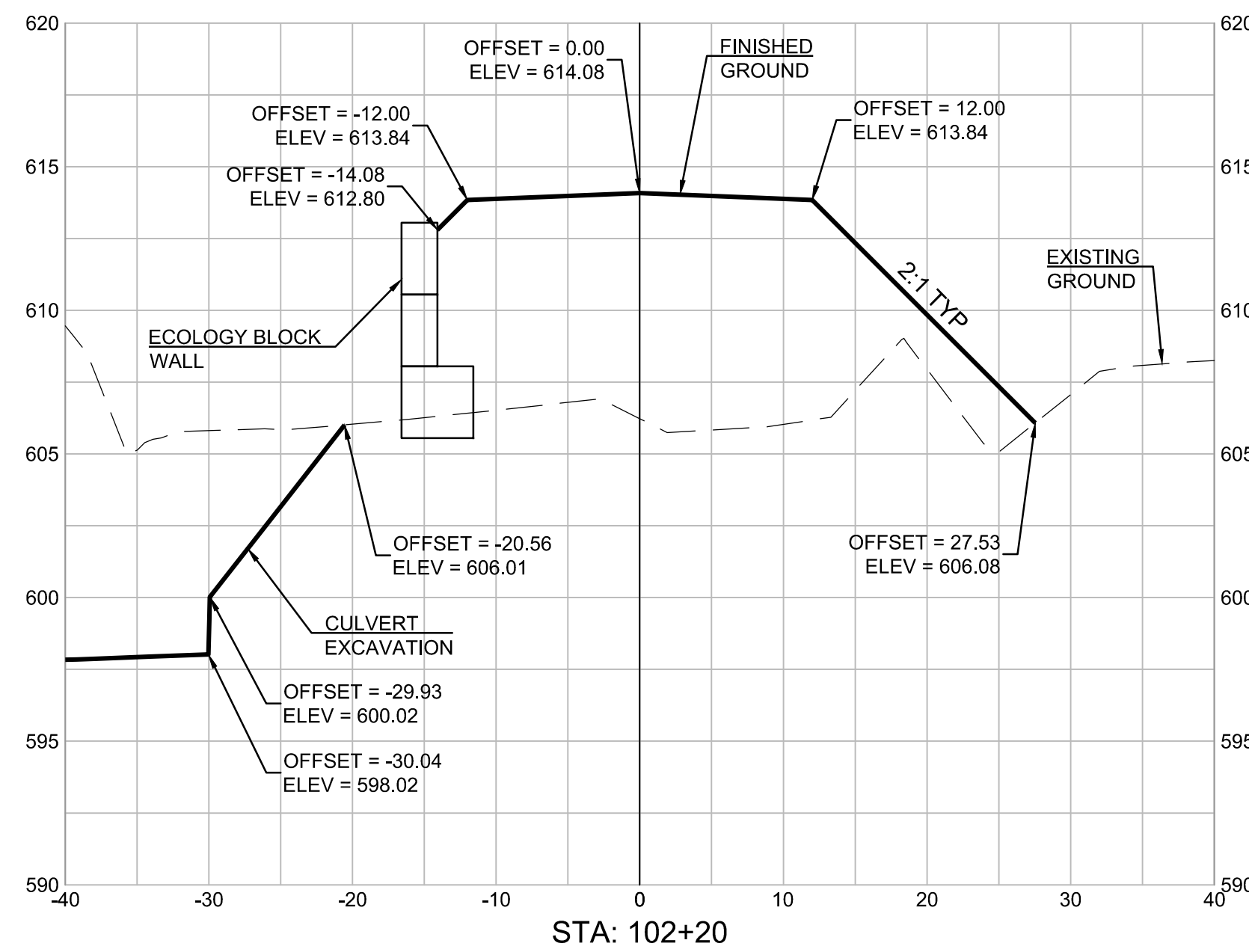
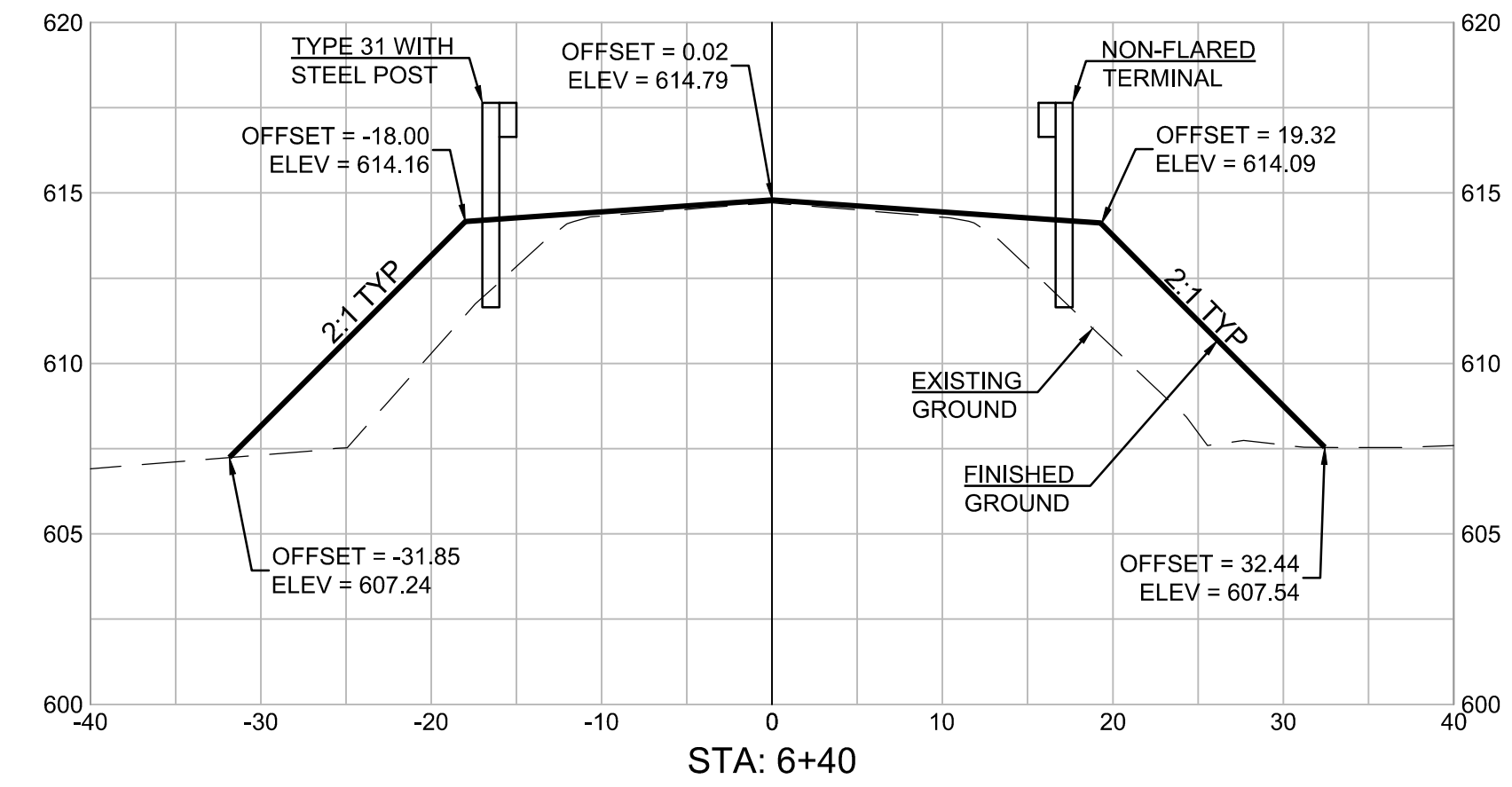
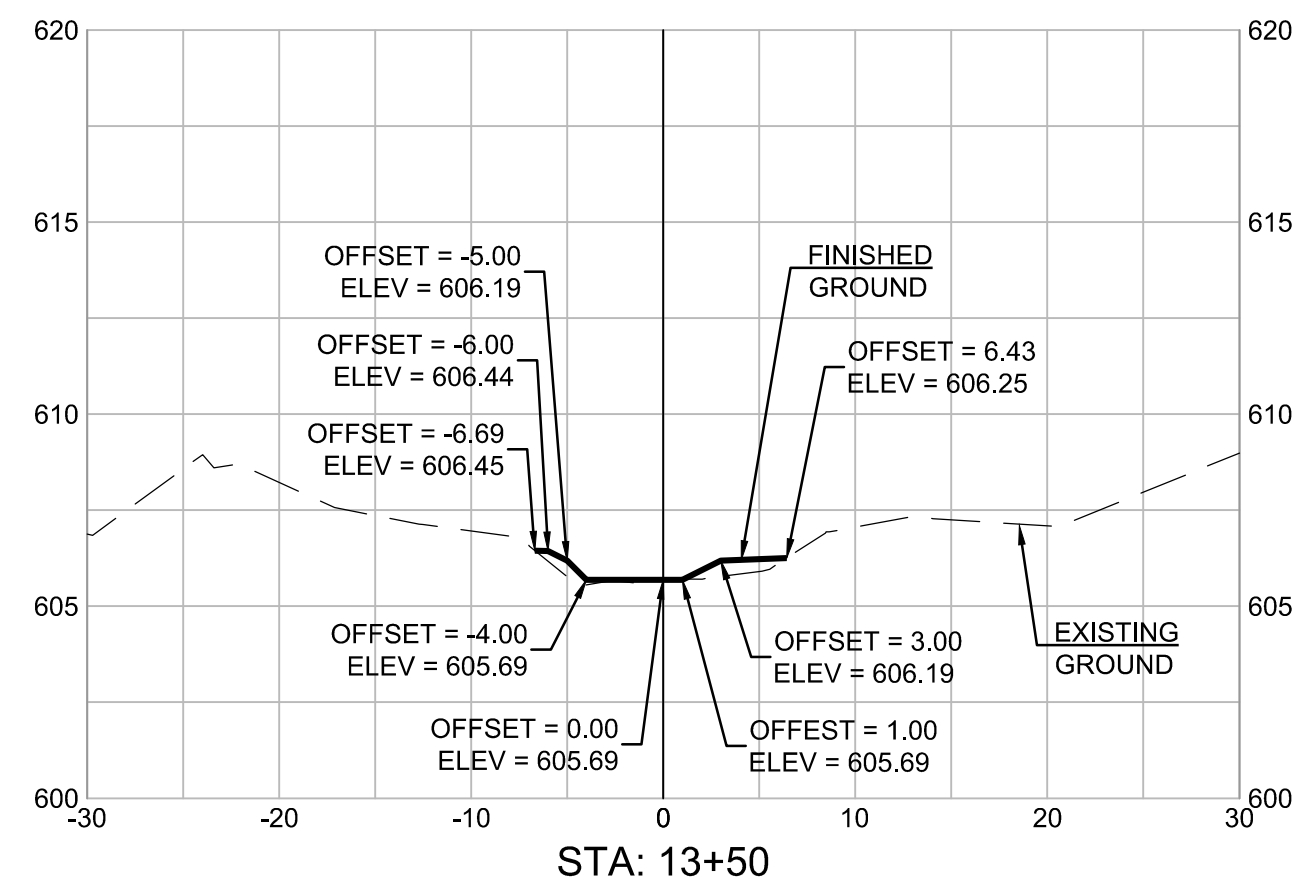
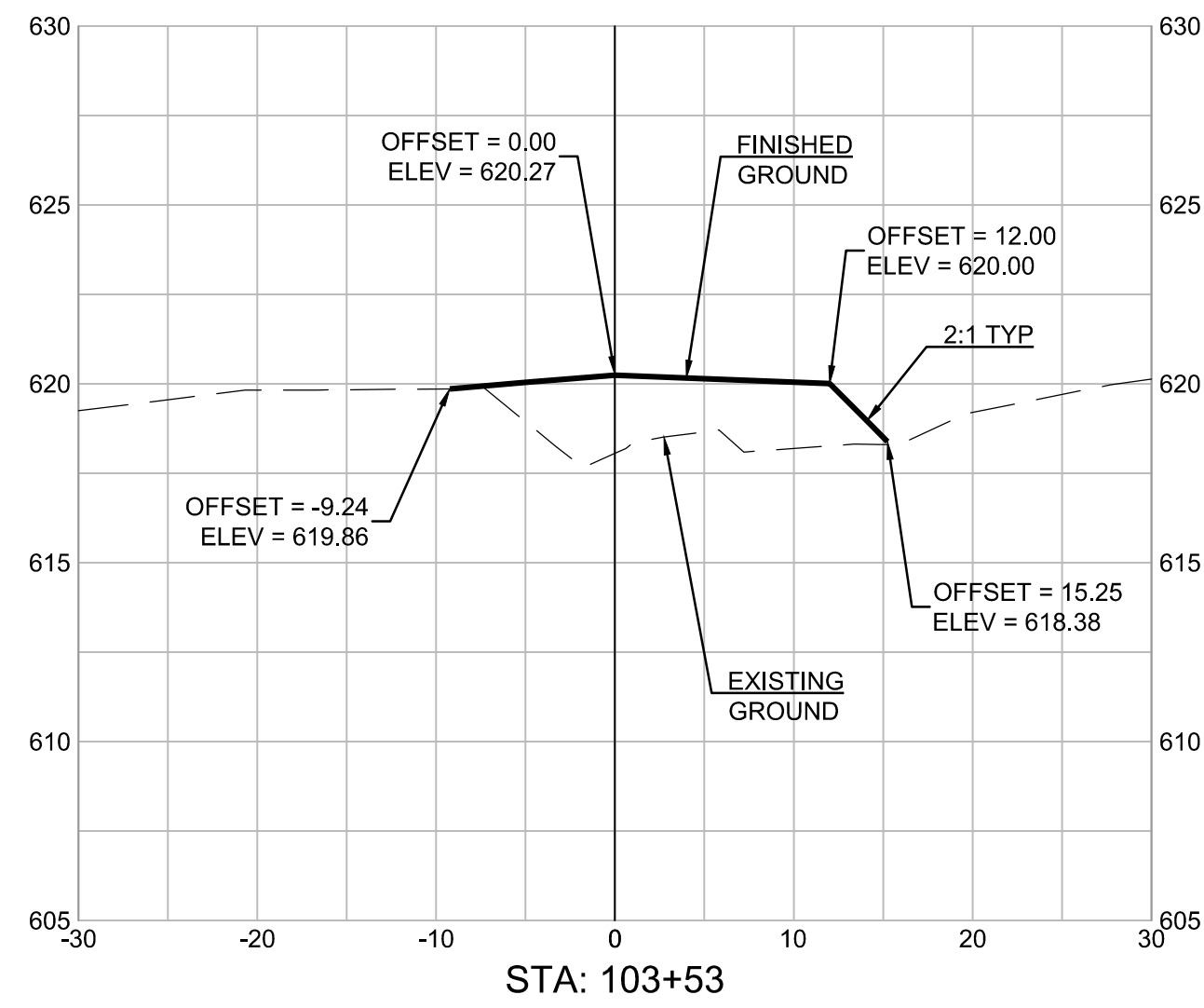
SHEET ID  
**C-303**

SHEET 12 OF 16

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SEC. 18, T13N, R01E



1 **BYPASS ROAD CROSS SECTIONS**  
 HORIZ: 1" = 10'  
 VERT: 1" = 5'

2 **MF NEWAUKUM TRIBUTARY CROSS SECTIONS**  
 HORIZ: 1" = 10'  
 VERT: 1" = 5'

3 **KRUGER ROAD CROSS SECTIONS**  
 HORIZ: 1" = 10'  
 VERT: 1" = 5'

100% SUBMITTAL

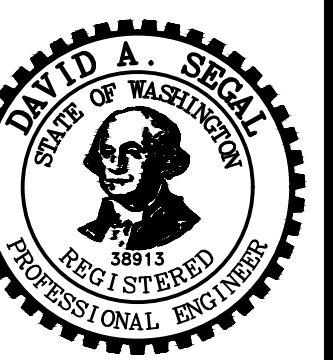
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 425.656.8173  
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PROJECT CROSS SECTIONS FOR:  
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SHEET ID  
**C-304**

SHEET 13 OF 16

File name: L:\Projects\45000\45013\45013-006\Civil\CAD\Working\Sheets\45013\_006\_C301.dwg  
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SEC. 18, T13N, R01E

**CONSTRUCTION NOTES:**

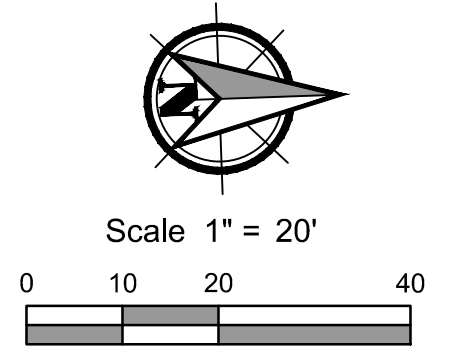
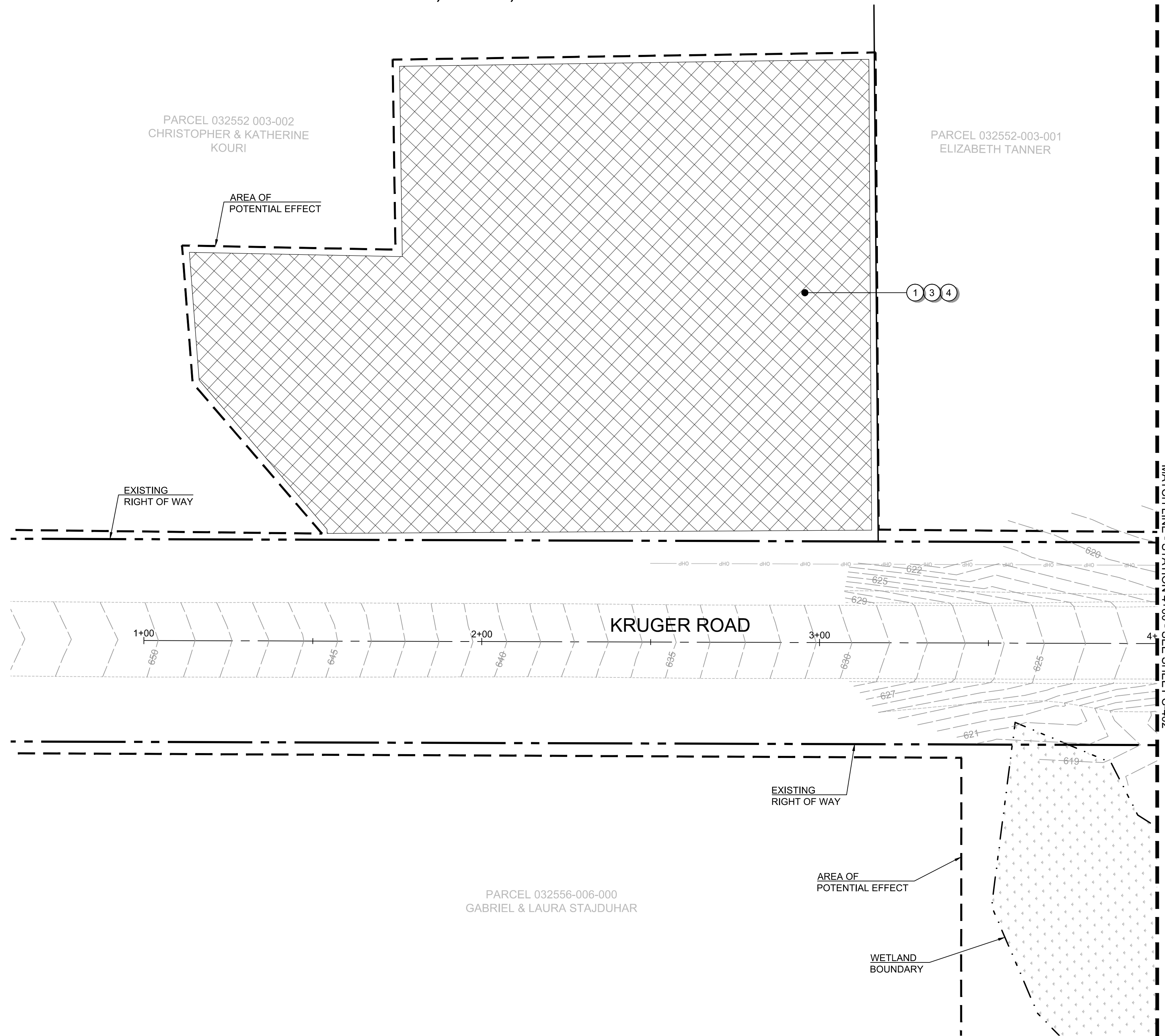
- ① IN AREAS OF DISTURBED SOILS ONLY, CULTIVATE OR SCARIFY SUBGRADE TO 4" DEPTH TO ALLOW FREE DRAINAGE. REMOVE ALL CONSTRUCTION DEBRIS, AND ROCKS OVER 2" Ø.
- ③ IN AREAS OF DISTURBED SOILS ONLY, PREPARE AREA FOR APPLICATION OF SEEDING PER STANDARD SPECIFICATION 8-01.3(2)A.
- ④ APPLY SEED MIX AT RATE SHOWN ON THE PLANS USING LONG TERM MULCH PER STANDARD SPECIFICATION 8-01.3(2)D.

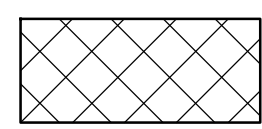
**PLANTING MITIGATION NOTES:**

1. FOR SEEDING LIST, SEE THIS SHEET. FOR PLANTING LIST, SEE SHEET C-402.
2. FOR PLANTING DETAILS, SEE SHEET C-403.
3. EXISTING PLANT MATERIAL IS TO BE PROTECTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. ANY TREES DAMAGED THAT ARE NOT IDENTIFIED IN THE TREE REMOVAL TABLE ON SHEET C-104 DUE TO CONSTRUCTION ACTIVITIES ARE TO BE REPLACED.
4. NO PLANTS SHALL BE INSTALLED WITHIN 10' OF PAVEMENT OR ROAD.
5. HYDROSEEDING TO BE APPLIED TO BARE GROUND ONLY.

**PLANTING AREA & SEEDING LEGEND:**

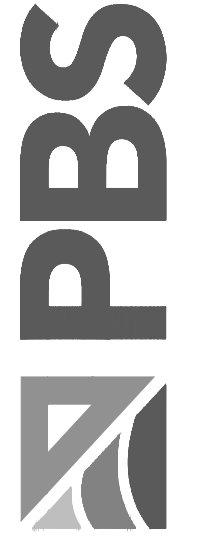
 RESTORATION SEED MIX



SEEDING LIST					
SYM	QTY	BOTANICAL NAME	COMMON NAME	% BY WEIGHT	PLS LBS NEEDED
RESTORATION SEED MIX					
	40,000 sf (74 LBS)	<i>Elymus glaucus</i>	Blue Wildrye	43%	31.8
		<i>Hordeum brachyantherum</i>	Meadow Barley	37%	27.4
		<i>Lolium multiflorum</i>	Sterile Annual Ryegrass	11%	8.1
		<i>Festuca idahoensis</i>	Idaho Fescue	7%	5.2
		<i>Festuca ovina</i>	Sheep Fescue	1%	0.75
		<i>Deschampsia elongata</i>	Slender Hairgrass	0.6%	0.45
		<i>Koeleria macrantha</i>	Prairie Junegrass	0.4%	0.3

Apply at 80lbs/acre with Long Term Mulch

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PLANTING PLAN 1 FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
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SHEET ID  
**C-401**

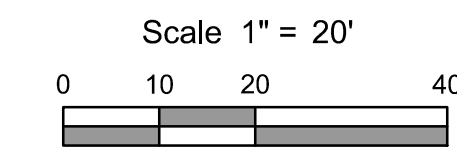
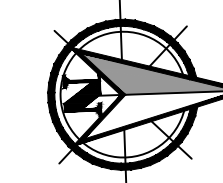
SHEET 14 OF 16

**100% SUBMITTAL**

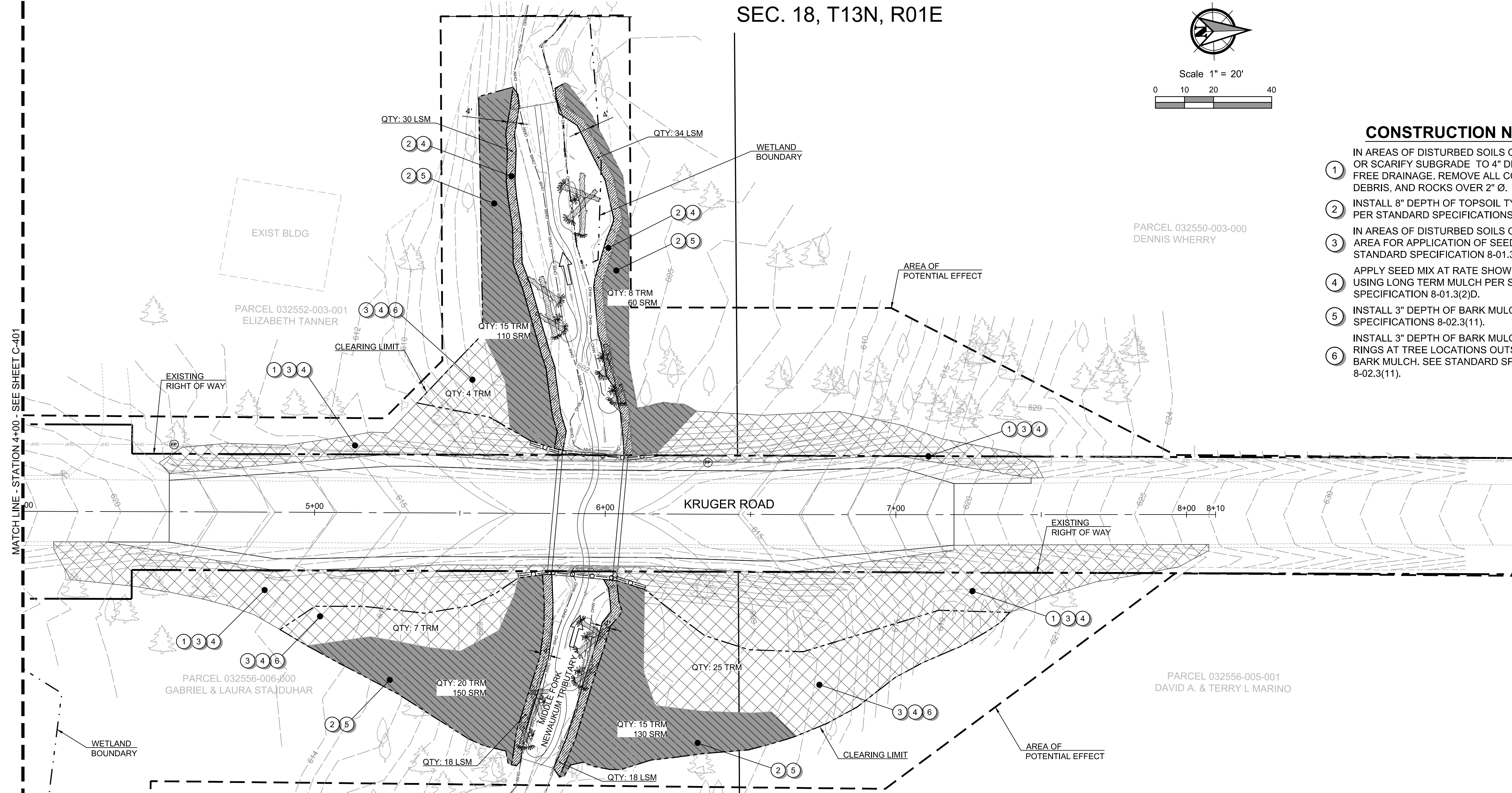
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SEC. 18, T13N, R01E



MATCH LINE - STATION 4+00 - SEE SHEET C-401



**CONSTRUCTION NOTES:**

- 1 IN AREAS OF DISTURBED SOILS ONLY, CULTIVATE OR SCARIFY SUBGRADE TO 4" DEPTH TO ALLOW FREE DRAINAGE. REMOVE ALL CONSTRUCTION DEBRIS, AND ROCKS OVER 2" Ø.
- 2 INSTALL 8" DEPTH OF TOPSOIL TYPE 'C' TOPSOIL PER STANDARD SPECIFICATIONS 8-02.3(4)C.
- 3 IN AREAS OF DISTURBED SOILS ONLY, PREPARE AREA FOR APPLICATION OF SEEDING PER STANDARD SPECIFICATION 8-01.3(2)A,
- 4 APPLY SEED MIX AT RATE SHOWN ON THE PLANS USING LONG TERM MULCH PER STANDARD SPECIFICATION 8-01.3(2)D.
- 5 INSTALL 3" DEPTH OF BARK MULCH PER STANDARD SPECIFICATIONS 8-02.3(11).
- 6 INSTALL 3" DEPTH OF BARK MULCH IN 3' DIAMETER RINGS AT TREE LOCATIONS OUTSIDE AREA OF BARK MULCH. SEE STANDARD SPECIFICATION 8-02.3(11).

**PLANTING MITIGATION NOTES:**

1. FOR SEEDING LIST, SEE SHEET C-401. FOR PLANT LIST, SEE THIS SHEET.
2. FOR PLANTING DETAILS, SEE SHEET C-403.
3. EXISTING PLANT MATERIAL IS TO BE PROTECTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. ANY TREES DAMAGED THAT ARE NOT IDENTIFIED IN THE TREE REMOVAL TABLE ON SHEET C-104 DUE TO CONSTRUCTION ACTIVITIES ARE TO BE REPLACED.
4. NO PLANTS SHALL BE INSTALLED WITHIN 10' OF SHOULDER OR ROAD.
5. NO TREES SHALL BE INSTALLED WITHIN 10' OF WING WALL.
6. HYDROSEEDING TO BE APPLIED TO BARE GROUND ONLY.

**PLANT LIST**

SYM	PERCENT OF MIX	QTY	NAME	SIZE	CONTAINER CONDITION	SPACING
<b>TREE RIPARIAN MIX - TRM</b>						
[Symbol: Dashed box]	15%	15	<i>Acer macrophyllum</i> Big Leaf Maple	4'-0" Min. Height	2 Gallon Min.	12' o.c. (furthest from creek edge)
	15%	15	<i>Fraxinus latifolia</i> Oregon Ash	4'-0" Min. Height	2 Gallon Min.	12' o.c. (nearest to creek edge)
	40%	35	<i>Pseudotsuga menziesii</i> Douglas Fir	4'-0" Min. Height	2 Gallon Min.	12' o.c. (intermixed between other trees)
	30%	25	<i>Thuja plicata</i> Western Red Cedar	4'-0" Min. Height	2 Gallon Min.	12' o.c. (intermixed between other trees)
<b>SHRUB RIPARIAN MIX - SRM</b>						
[Symbol: Diagonal lines]	30%	135	<i>Cornus sericea</i> Redosier Dogwood	1'-0" Min. Height	1 Gallon Min.	4' o.c. (nearest to creek edge)
	10%	45	<i>Physocarpus capitatus</i> Pacific Ninebark	1'-0" Min. Height	1 Gallon Min.	4' o.c. (nearest to creek edge)
	10%	45	<i>Polystichum munitum</i> Western Sword Fern	1'-0" Min. Height	1 Gallon Min.	4' o.c. (furthest from creek edge)
	20%	90	<i>Rubus spectabilis</i> Salmonberry	1'-0" Min. Height	1 Gallon Min.	4' o.c. (nearest to creek edge)
	20%	90	<i>Symphoricarpos albus</i> Common Snowberry	1'-0" Min. Height	1 Gallon Min.	4' o.c. (intermixed as intermediate areas)
	10%	45	<i>Vaccinium ovatum</i> Evergreen Huckleberry	1'-0" Min. Height	1 Gallon Min.	4' o.c. (furthest from creek edge)
<b>LIVE STAKES - LSM</b>						
[Symbol: Horizontal lines]	60%	60	<i>Cornus sericea</i> Redosier Dogwood	36" Min. Height, 1"-2" Min. Diameter	Live stake	4' o.c. (randomly mixed)
	40%	40	<i>Salix stichensis</i> Sitka Willow	36" Min. Height, 1"-2" Min. Diameter	Live Stake	4' o.c. (randomly mixed)

**PLANTING AREA & SEEDING LEGEND:**

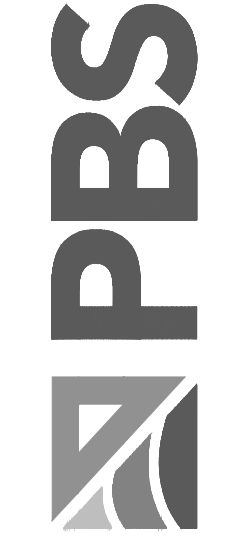
- [Symbol: Cross-hatch] RESTORATION SEED MIX
- [Symbol: Solid grey] BARK MULCH AREAS (BARK MULCH RINGS NOT SHOWN)

**PLANT MIX LEGEND:**

- [Symbol: Dashed box] TREE RIPARIAN MIX (TRM)
- [Symbol: Diagonal lines] SHRUB RIPARIAN MIX (SRM)
- [Symbol: Horizontal lines] LIVE STAKE MIX (LSM)

**100% SUBMITTAL**

PBS Engineering and Environmental Inc.  
 1180 NW Maple St. Ste 160  
 Issaquah, WA 98027  
 425.656.6173  
 pbsusa.com



PLANTING PLAN 2 FOR:  
**KRUGER RD MP 1.20 (MF NEWAUKUM TRIBUTARY) CULVERT REPLACEMENT**  
 LEWIS COUNTY, WASHINGTON



DESIGNED: RWP  
 CHECKED: RWP  
 JUNE 2020  
 45013.006

SHEET ID  
**C-402**  
 SHEET 15 OF 16

File name: L:\Projects\4500045013\45013-006\Civil\CAD\Working\Sheets\45013\_006\_C-401.dwg  
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Full Size Sheet Format Is 22x34; If Printed Size Is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.



# SEC. 18, T13N, R01E

## GENERAL NOTES:

- REFER TO COUNTY STANDARD SPECIFICATIONS WHERE APPLICABLE.
- CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCE EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE COUNTY'S AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.

## PLANTING NOTES:

### INSTALLATION:

- THE CONTRACTOR SHALL INSTALL PLANTINGS ACCORDING TO THESE PLANS, DETAILS, AND THE SPECIFICATIONS.
- VERIFY LOCATIONS OF ALL PERTINENT SITE IMPROVEMENTS UNDER OTHER SECTIONS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT THE COUNTY'S AUTHORIZED REPRESENTATIVE FOR INSTRUCTION PRIOR TO COMMENCING WORK.
- EXACT LOCATIONS OF PLANT MATERIALS SHALL BE REVIEWED BY THE COUNTY'S AUTHORIZED REPRESENTATIVE IN THE FIELD PRIOR TO INSTALLATION. COUNTY'S AUTHORIZED REPRESENTATIVE RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN THE FIELD.
- ALL PLANTS SHALL BE GROWN FOR THIS REGION OR SHALL BE ADEQUATELY CLIMATIZED.
- DO NOT MAKE SUBSTITUTIONS. IF SPECIFIED PLANTING MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON-AVAILABILITY FROM AT LEAST FIVE (5) SOURCES TO THE COUNTY LANDSCAPE ARCHITECT, TOGETHER WITH THE PROPOSAL FOR USE OF EQUIVALENT MATERIAL FOR FINAL APPROVAL.
- CONTRACTOR SHALL CONTACT THE COUNTY'S REPRESENTATIVE FOR PLANT MATERIAL INSPECTION PRIOR TO INSTALLATION.
- CONTRACTOR SHALL REPAIR OR REPLACE ANY EXISTING LANDSCAPE AFFECTED BY CONSTRUCTION TO IT'S ORIGINAL CONDITION. CONTACT LANDSCAPE ARCHITECT IF ANY AREAS NOT ORIGINALLY LANDSCAPED, BECOME LANDSCAPE.
- ALL PLANTS SHALL CONFORM PER WSDOT STANDARD PLAN H-10.10-00, CURRENT AMERICAN STANDARD NURSERY STOCK (ASNS) AND THESE PLANS.

## TREE PROTECTION STANDARDS:

### PLACING MATERIAL NEAR TREES:

NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE PROTECTED AREA OF ANY TREE DESIGNATED TO REMAIN, INCLUDING, BUT NOT LIMITED TO, PARKING EQUIPMENT, PLACING SOLVENTS, STORING BUILDING MATERIAL AND SOIL DEPOSITS, DUMPING CONCRETE WASHOUT AND LOCATING BURN HOLES. DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY OBJECT TO ANY TREE DESIGNATED FOR PROTECTION.

### PROTECTIVE BARRIER:

BEFORE DEVELOPMENT, LAND CLEARING, FILLING OR ANY LAND ALTERATION FOR WHICH A TREE REMOVAL PERMIT IS REQUIRED, THE APPLICANT SHALL:

ERECT AND MAINTAIN A READILY VISIBLE PROTECTIVE FENCE ALONG THE OUTER EDGE AND COMPLETELY SURROUNDING THE PROTECTED AREA OF ALL PROTECTED TREES OR GROUPS OF TREES. SEE EROSION CONTROL PLANS FOR APPROPRIATE BMPs.

PROHIBIT EXCAVATION OR COMPACTION OF EARTH OR OTHER POTENTIALLY DAMAGING ACTIVITIES WITHIN THE BARRIERS.

MAINTAIN THE PROTECTIVE BARRIERS IN PLACE UNTIL THE ENGINEER AUTHORIZES THEIR REMOVAL.

ENSURE THAT ANY LANDSCAPE WORK DONE IN THE PROTECTED ZONE SUBSEQUENT TO THE REMOVAL OF THE BARRIERS SHALL BE ACCOMPLISHED WITH LIGHT MACHINERY OR HAND LABOR.

IN ADDITION TO THE ABOVE, THE ENGINEER MAY REQUIRE THE FOLLOWING:

COVER WITH MULCH TO A DEPTH OF AT LEAST 12 INCHES OR WITH PLYWOOD OR SIMILAR MATERIAL THE AREAS ADJOINING THE CRITICAL ROOT ZONE OF A TREE IN ORDER TO PROTECT ROOTS FROM DAMAGE CAUSED BY HEAVY EQUIPMENT.

MINIMIZE ROOT DAMAGE BY EXCAVATING A 2 FOOT DEEP TRENCH, AT EDGE OF CRITICAL ROOT ZONE, TO CLEANLY SEVERE THE ROOTS OF TREES TO BE RETAINED.

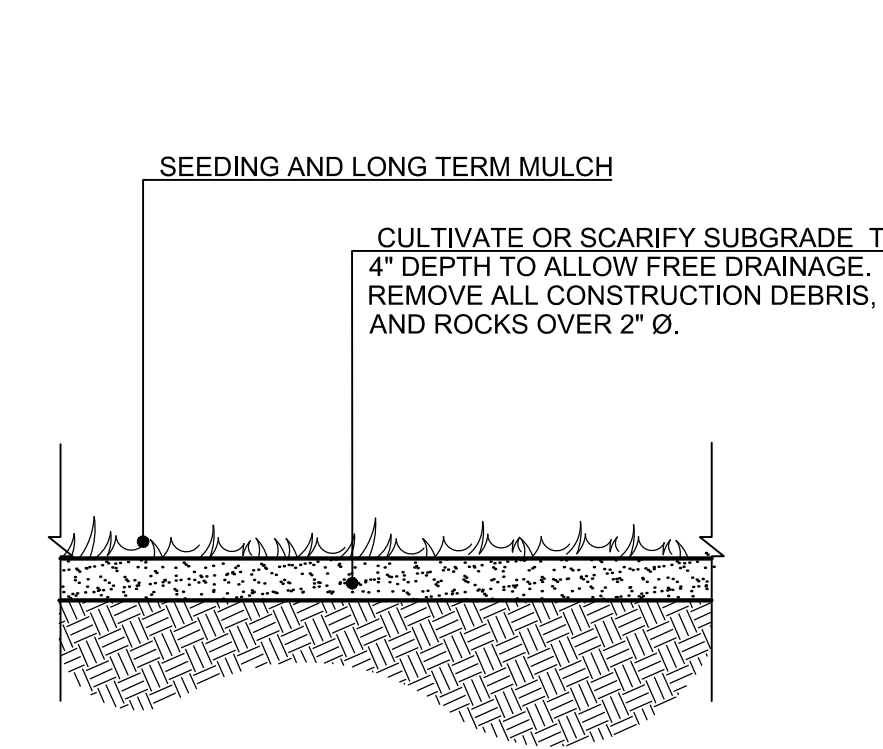
HAVE CORRECTIVE PRUNING PERFORMED ON PROTECTED TREES IN ORDER TO AVOID DAMAGE FROM MACHINERY OR BUILDING ACTIVITY.

### GRADE:

THE GRADE SHALL NOT BE ELEVATED OR REDUCED WITHIN THE CRITICAL ROOT ZONE OF TREES TO BE PRESERVED WITHOUT THE ENGINEER'S AUTHORIZATION. THE ENGINEER MAY ALLOW COVERAGE OF UP TO ONE HALF OF THE AREA OF THE TREE'S CRITICAL ROOT ZONE WITH LIGHT SOILS (NO CLAY) TO THE MINIMUM DEPTH NECESSARY TO CARRY OUT GRADING OR PLANTING PLANS, IF IT WILL NOT IMPERIL THE SURVIVAL OF THE TREE. AERATION DEVICES MAY BE REQUIRED TO ENSURE THE TREE'S SURVIVAL.

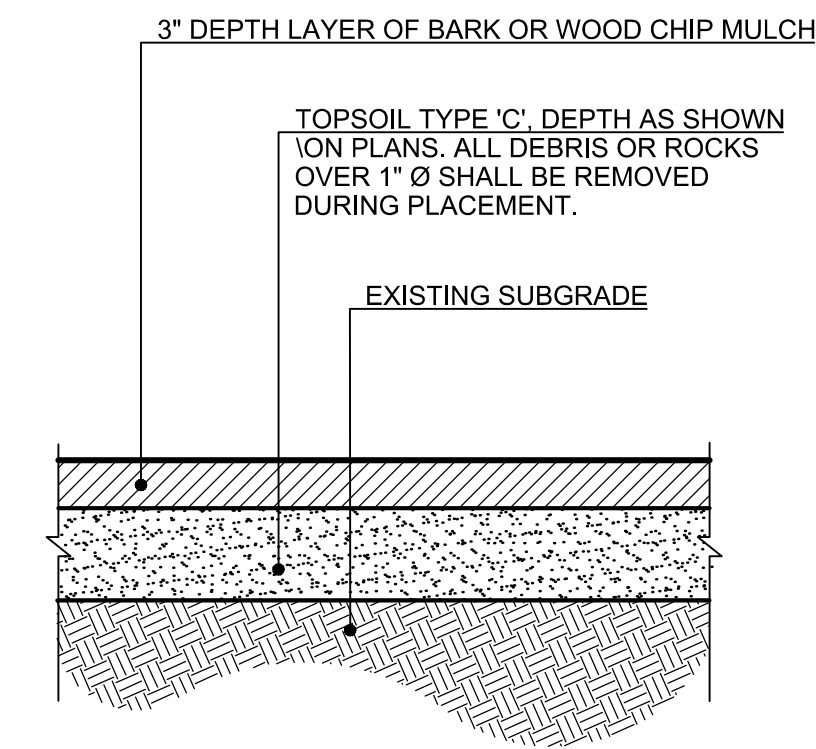
IF THE GRADE ADJACENT TO A PRESERVED TREE IS RAISED SUCH THAT IT COULD SLOUGH OR ERODE INTO THE TREE'S CRITICAL ROOT ZONE, IT SHALL BE PERMANENTLY STABILIZED TO PREVENT SUFFOCATION OF THE ROOTS.

TREES AND OTHER VEGETATION TO BE RETAINED SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. CLEARING OPERATION SHALL BE CONDUCTED SO AS TO EXPOSE THE SMALLEST PRACTICAL AREA OF SOIL TO EROSION FOR THE LEAST POSSIBLE TIME. TO CONTROL EROSION, SHRUBS, GROUNDCOVERS AND STUMPS SHALL BE MAINTAINED ON THE INDIVIDUAL LOTS, WHERE FEASIBLE.



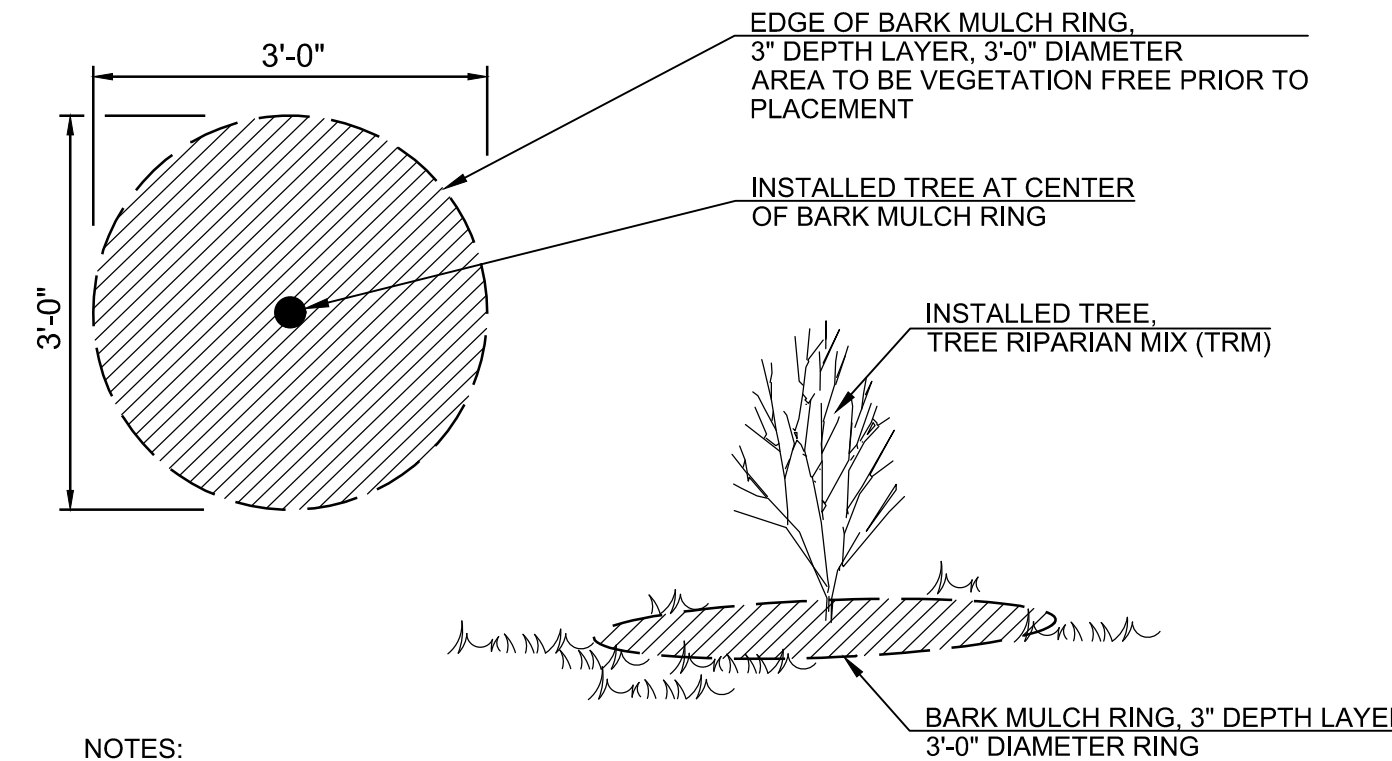
### Restoration Seed Soil Cross Section

NOT TO SCALE



### Bark Mulch Soil Cross Section

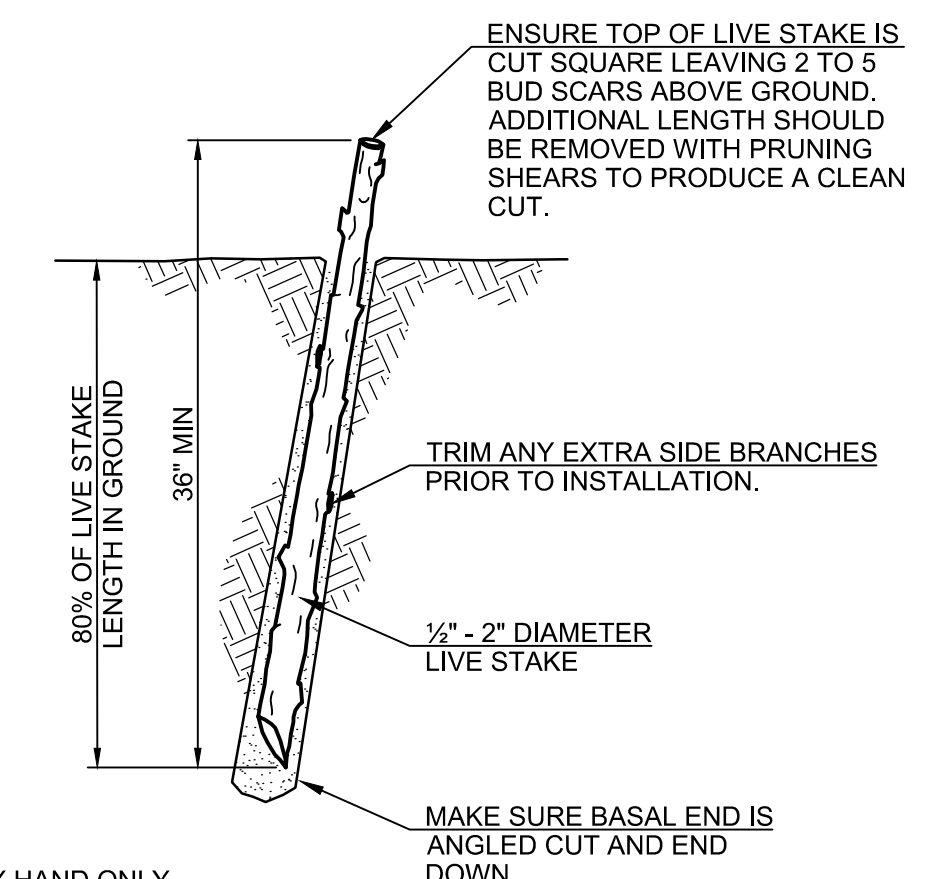
NOT TO SCALE



- NOTES:
- THOROUGHLY WATER REGARDLESS OF SEASON.
  - ALL PLANTINGS SHALL BE INSTALLED WITH PLANT PROTECTORS. SEE SPECIAL PROVISIONS.

### Bark Mulch Ring Detail

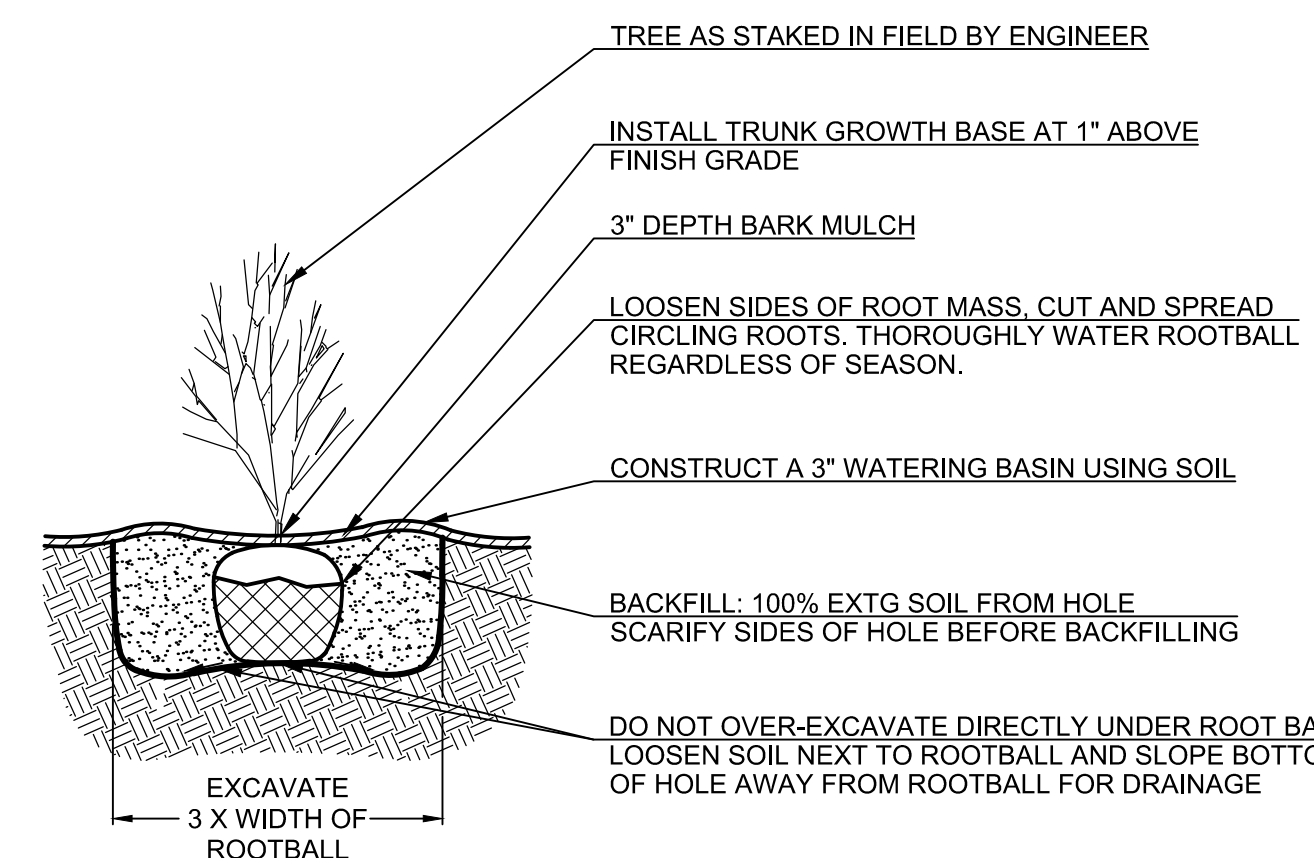
NOT TO SCALE



- NOTE:
- INSTALL LIVE STAKES BY HAND ONLY.
  - USE REBAR AND SLEDGE HAMMER TO MAKE HOLES PRIOR TO LIVE STAKE INSTALLATION. DO NOT HAMMER DIRECTLY ON STAKE.

### Live Stake Planting Detail

NOT TO SCALE



- NOTES:
- THOROUGHLY WATER REGARDLESS OF SEASON.
  - ALL PLANTINGS SHALL BE INSTALLED WITH PLANT PROTECTORS. SEE SPECIAL PROVISIONS.

### Container Planting Detail

NOT TO SCALE



Know what's below.  
Call before you dig.

DIGITALLY SIGNED



DESIGNED:  
RWP

CHECKED:  
RWP

JUNE 2020  
45013.006

SHEET ID

**C-403**

SHEET **16** OF **16**

**100% SUBMITTAL**