

ITALIAN CREEK ROAD CULVERT REPLACEMENT

M.P. 1.85 TO M.P. 1.95
Section 31, Township 7N, Range 1E

March 2025

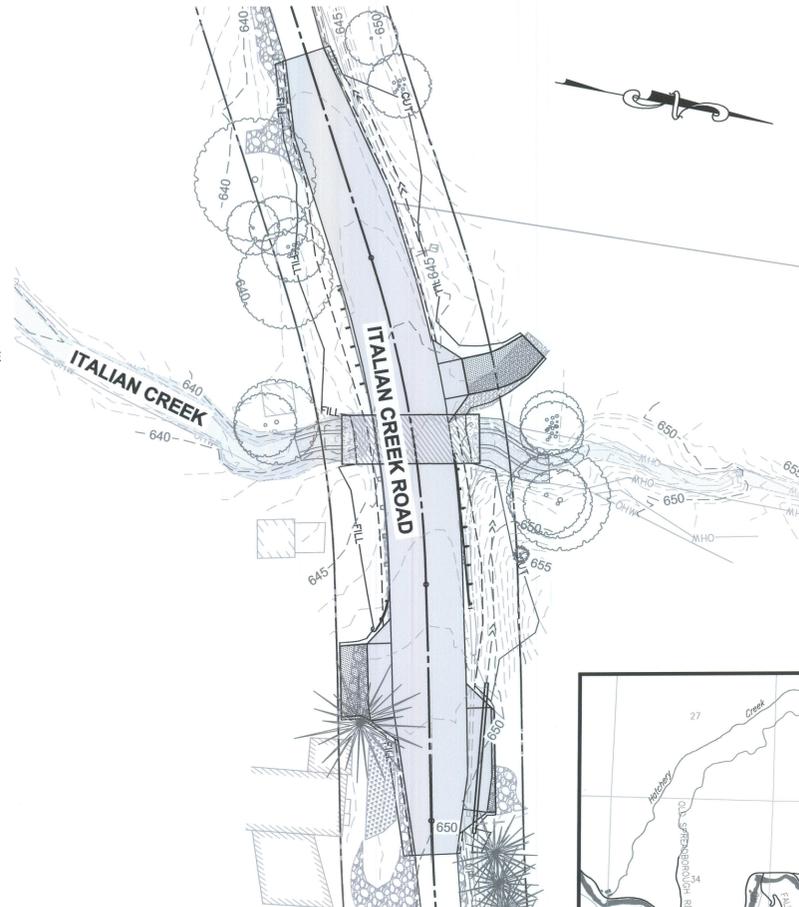


BASIS OF BEARINGS:

HORIZONTAL COORDINATES AND BASIS OF BEARINGS ARE WASHINGTON STATE PLANE (SOUTH ZONE) - REFERENCE FRAME: NAD83 (2011) (EPOCH:2010.0000), US SURVEY FEET. ALL DISTANCES/COORDINATES ARE GRID, AND WERE DETERMINED FROM NGS OPUS SOLUTIONS, WHICH WERE DERIVED FROM 2 HOUR MINIMUM GPS OBSERVATIONS ON CONTROL POINTS 1 AND 7 (AS SHOWN ON TOPOGRAPHIC SURVEY FOR THE ITALIAN CREEK ROAD CULVERT REPLACEMENT PROJECT, MILEPOST 1.90).

BASIS OF ELEVATIONS:

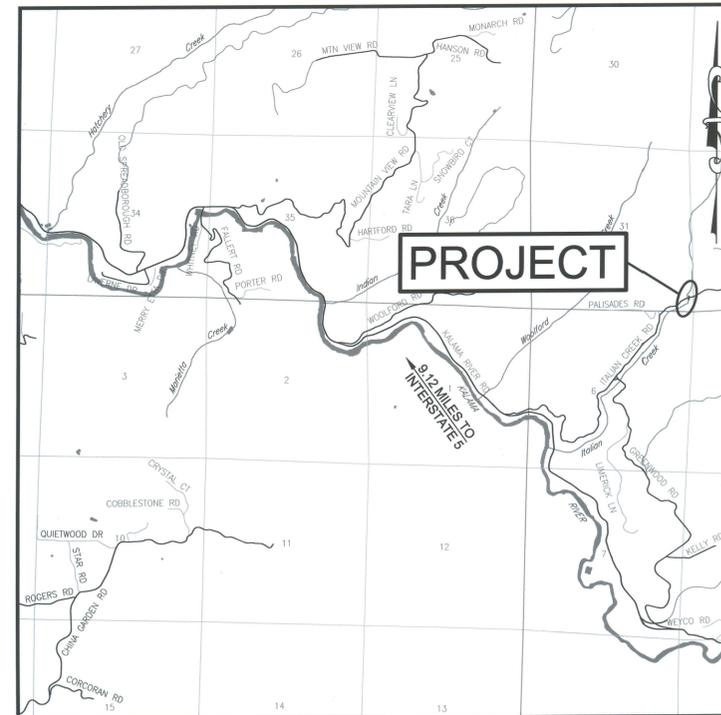
ELEVATION DATUM: NAVD88
BENCHMARK: CP#5
LOCATION: AS SHOWN ON TOPOGRAPHIC SURVEY FOR THE ITALIAN CREEK ROAD CULVERT REPLACEMENT PROJECT, MILEPOST 1.90
ELEVATION: 646.03'



SYMBOL LEGEND	
SYMBOL	DESCRIPTION
○	MANHOLE - EXISTING
○	MANHOLE - NEW
○	SANITARY SEWER CLEANOUT - EXISTING
○	SANITARY SEWER CLEANOUT - NEW
○	GRATE INLET - TYPE 1L - NEW
○	CURB INLET - TYPE 1L - NEW
○	CURB INLET - TYPE 2 - NEW
○	FENCE GATE POST - EXISTING
○	FENCE GATE POST - NEW
○	MAIL BOX
○	SHRUB
○	CONIFER TREE
○	DECIDUOUS TREE
○	WATER WELL
○	ROAD SIGN
○	BORE HOLE
○	INCLINOMETER
○	MONITOR WELL
○	PIEZOMETER
○	MARKER
○	CABLE TV PEDESTAL
○	NATURAL GAS METER
○	NATURAL GAS VENT
○	NATURAL GAS VALVE
○	PETROLEUM VENT
○	GUY ANCHOR
○	GUY POLE
○	LIGHT STANDARD
○	LIGHT POLE
○	ELECTRICAL POWER METER
○	UTILITY / POWER / TELEPHONE POLE
○	SERVICE POLE
○	TELEPHONE PEDESTAL
○	FIRE HYDRANT
○	WATER METER
○	WATER VALVE

LINETYPE LEGEND	
LINETYPE	DESCRIPTION
---	EXISTING DRAINAGE CULVERT
---	EXISTING DRAINAGE / ROAD DITCH
---	EXISTING DRAINAGE BANK
---	ORDINARY HIGH WATER
---	EXISTING FENCE
---	CABLE TV OVERHEAD LINE
---	CABLE TV UNDERGROUND LINE
---	NATURAL GAS LINE
---	PETROLEUM LINE
---	ELECTRICAL POWER OVERHEAD LINE
---	ELECTRICAL POWER UNDERGROUND LINE
---	EXISTING SANITARY SEWER LINE
---	TELEPHONE OVERHEAD LINE
---	TELEPHONE UNDERGROUND LINE
---	EXISTING WATER LINE
---	WETLANDS DELINEATION
---	EXISTING ROAD / DRIVEWAY GRAVEL
---	EXISTING ROAD / DRIVEWAY PAVEMENT
---	EXISTING GUARD RAIL
---	DESIGN ALIGNMENT CENTERLINE
---	DESIGN EDGE OF PAVEMENT
---	DESIGN SHOULDER
---	DESIGN ROAD / DRAINAGE DITCH
---	DESIGN FENCE
---	SILT FENCE
---	DESIGN GUARD RAIL
---	DESIGN STORM SEWER / ROAD CULVERT PIPE
---	DESIGN PERF / UNDERDRAIN LINE
---	DESIGN DAYLIGHT - CUT
---	DESIGN DAYLIGHT - FILL
---	EXISTING GROUND CENTERLINE PROFILE
---	DESIGN CENTERLINE PROFILE
---	RIGHT OF WAY LINE
---	CONTOUR - EXISTING - INDEX
---	CONTOUR - EXISTING - NORMAL
---	CONTOUR - DESIGN - INDEX
---	CONTOUR - DESIGN - NORMAL

STANDARD DRAWINGS	
DRAWING	DESCRIPTION
WSDOT:	
C-20.10	BEAM GUARDRAIL TYPE 31
C-20.40	BEAM GUARDRAIL TYPE 31 PLACEMENT
C-22.45	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL
C-23.70	BEAM GUARDRAIL (TYPE 31) ANCHOR TYPE 11
M-70.20	MAILBOX SUPPORT TYPE 2
COUNTY:	
CC-1317	ASPHALT OR CONCRETE APRON
CC-1318	STANDARD DRIVEWAY



VICINITY MAP
SCALE: 1" = 3000'

ABBREVIATIONS	
ABBREV	DESCRIPTION
Δ	DELTA
BK	BOOK
BOC	BACK OF CURB
BVCS	POINT OF VERTICAL CURVATURE - STATION
BVCE	POINT OF VERTICAL CURVATURE - ELEVATION
CDF	CONTROLLED DENSITY FILL
CONC	CONCRETE
CPE	CORRUGATED POLYETHYLENE PIPE
CRP	COUNTY ROAD PROJECT
CTRS	CENTERS
DIA	DIAMETER
E	EAST
EG	EXISTING GROUND
EL	ELEVATION
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EVCS	POINT OF VERTICAL TANGENCY - STATION
EVCE	POINT OF VERTICAL TANGENCY - ELEVATION
EW	EACH WAY
EXIST	EXISTING
FD	FOUND
FG	FINISH GRADE
FL	FLOW LINE
FTG	FOOTING
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HMA	ASPHALT CONCRETE
HORIZ	HORIZONTAL
HP	HIGH POINT
I.E.	INVERT ELEVATION
INV	INVERT
IP	IRON PIPE
IR	IRON ROD
JT	JOINT
L	LENGTH
LF	LINEAR FEET
LT	LEFT
M.P.	MILE POST
MAX	MAXIMUM
MIN	MINIMUM
N	NORTH
NTS	NOT TO SCALE
PC	POINT OF HORIZONTAL CURVATURE
PG	PERFORMANCE GRADE
PI	POINT OF HORIZONTAL INTERSECTION
PSI	POUNDS PER SQUARE INCH
PT	POINT OF HORIZONTAL TANGENCY
PVI	POINT OF VERTICAL INTERSECTION
R	RANGE, RADIUS
RW	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REINF	REINFORCING
RT	RIGHT
S	SOUTH
SEC	SECTION
SHT	SHEET
SPEC	SPECIFICATION
SR	STATE ROUTE
STA	STATION
STD	STANDARD
T	TOWNSHIP, TANGENT
TYP	TYPICAL
VC	VERTICAL CURVE
VERT	VERTICAL
W	WEST
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WI	WITH

INDEX OF DRAWINGS	
SHEET	DESCRIPTION
1	COVER SHEET
2	CREEK BYPASS PLAN, PROFILE AND DETAILS
3	PHASE 1 ACCESS PLAN, PROFILE AND TYPICAL SECTION
4	PHASE 2 ACCESS PLAN, PROFILE AND TYPICAL SECTIONS
5	FINAL ROADWAY PLAN, PROFILE AND TYPICAL ROADWAY SECTION
6	FIELD ACCESS & DRIVEWAY PLANS AND PROFILES
7	CREEK PLAN, PROFILE AND TYPICAL CREEK SECTIONS

R.E.M. 3/5/2025
PROJECT MANAGER DATE

D.J.B. 3/4/2025
DRAWN BY DATE

S.E.E. 3/4/2025
CHECKED BY DATE

HORIZ. SCALE: 1" = 30'
VERT. SCALE: -

PROJECT ID: 1323
ROAD NO. : 40900

COMPUTER FILE: 1323 Cover.dwg

DEPARTMENT OF PUBLIC WORKS

1600-13th AVENUE SOUTH
KELSO, WASHINGTON 98626

APPROVED BY:

Luzan Tuganis
COUNTY ENGINEER

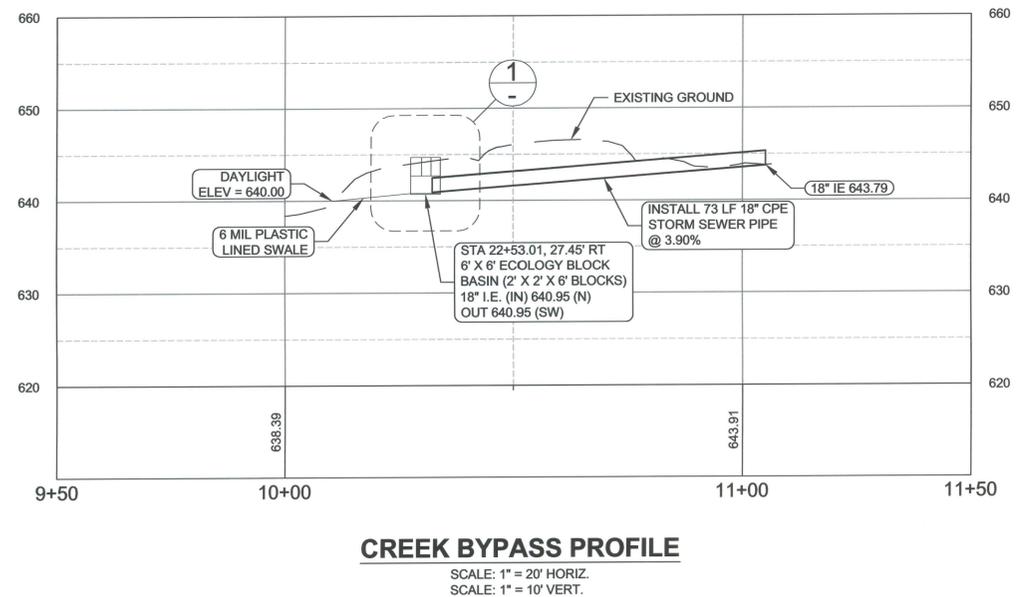
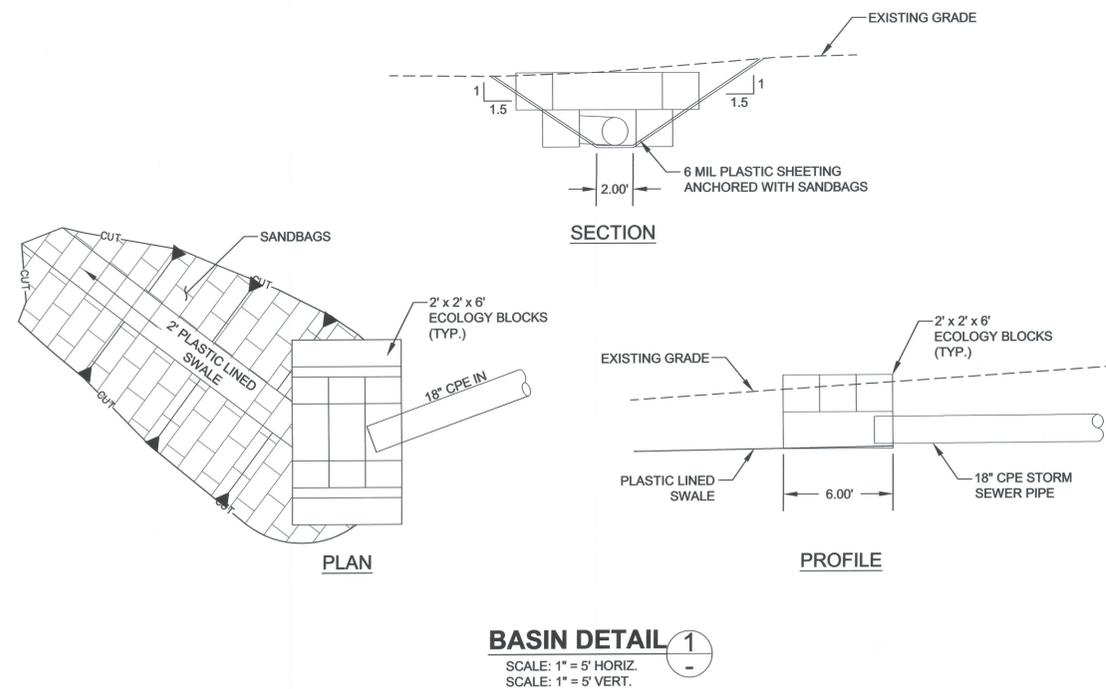
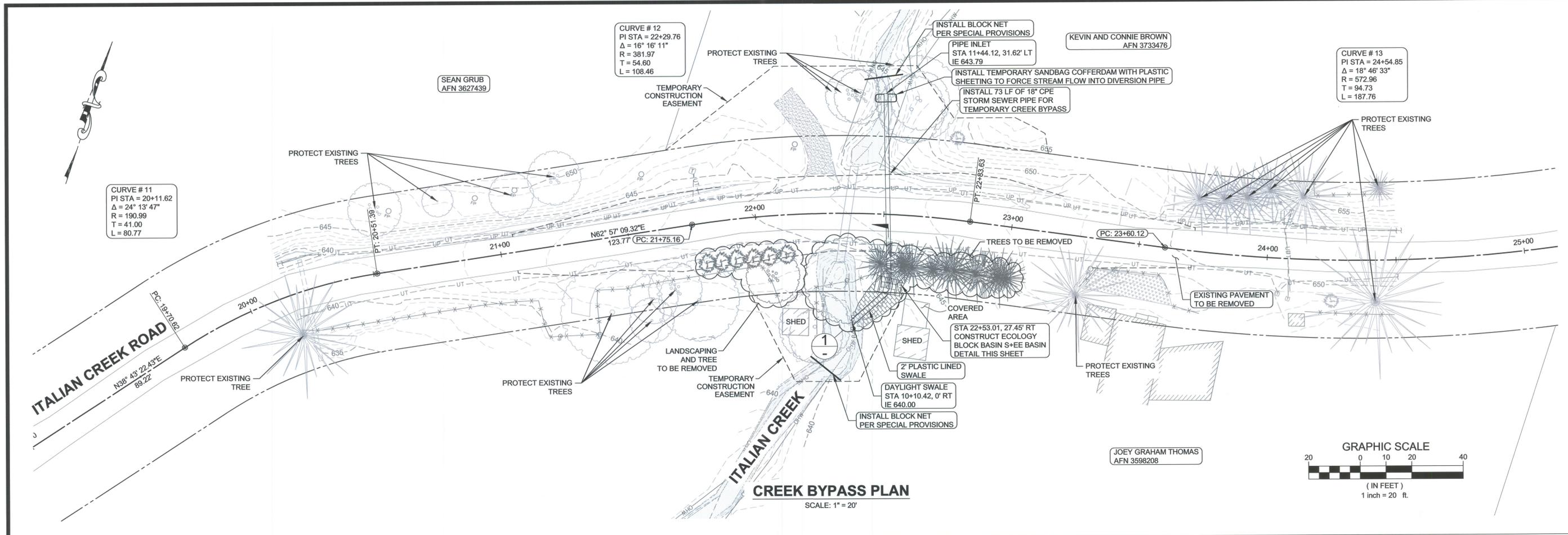
DATE: March 11, 2025



CRP Number 790

ITALIAN CREEK ROAD
CULVERT REPLACEMENT
COVER SHEET

SHEET 1 OF 7



3/11/25

R.E.M.
PROJECT MANAGER
DATE 3/5/2025

D.J.B.
DRAWN BY
DATE 3/4/2025

S.E.E.
CHECKED BY
DATE 3/4/2025

HORIZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED

PROJECT ID: 1323
ROAD NO. : 40900

COMPUTER FILE: 1323 Phase 1 Temp Const.dwg

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WASHINGTON

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KELSO, WASHINGTON 98626

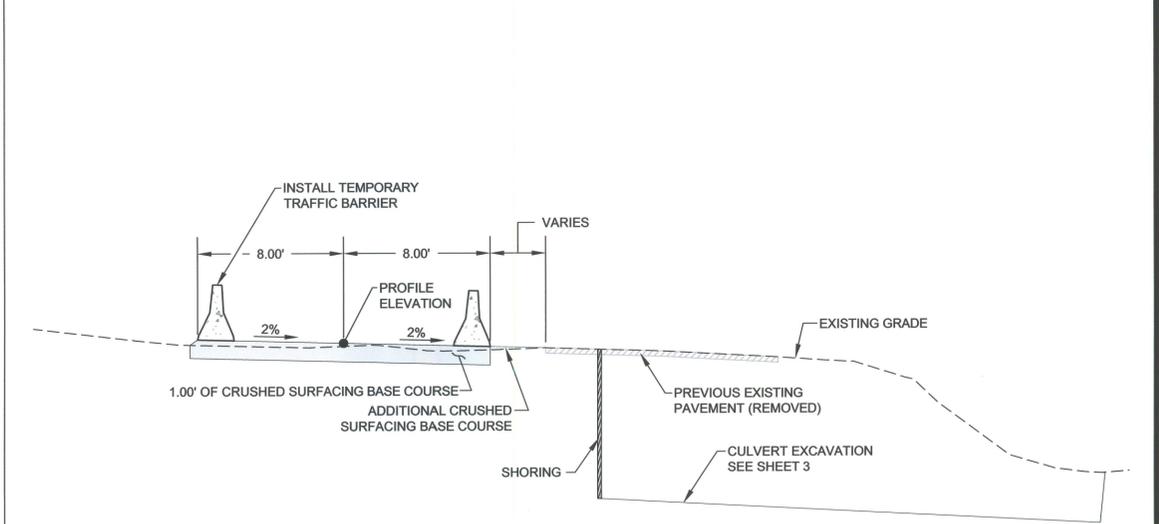
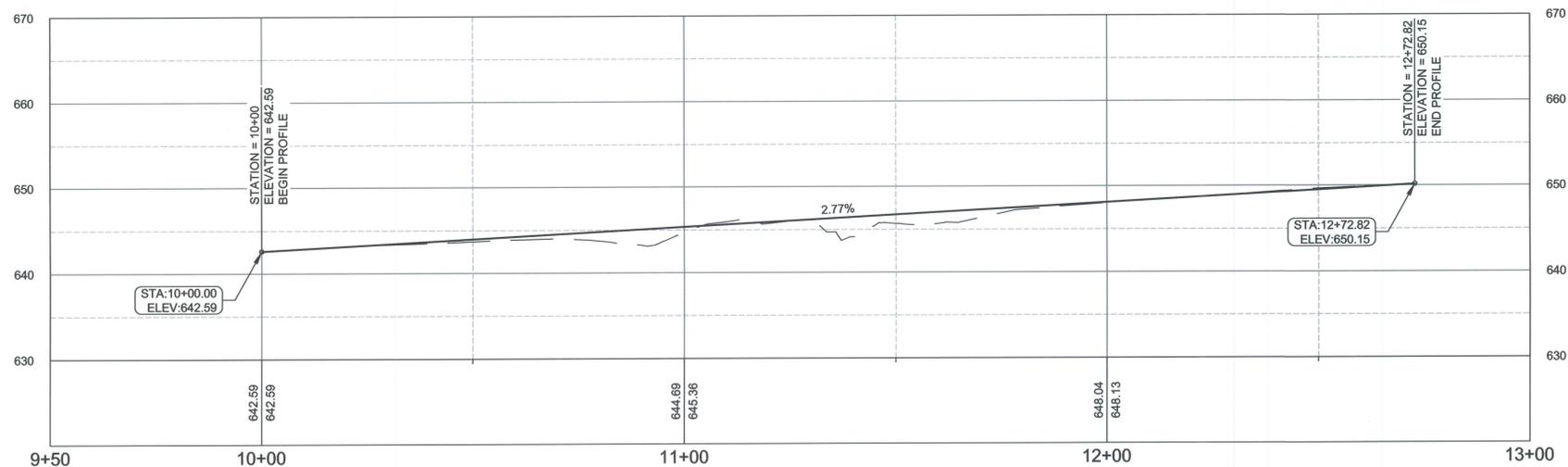
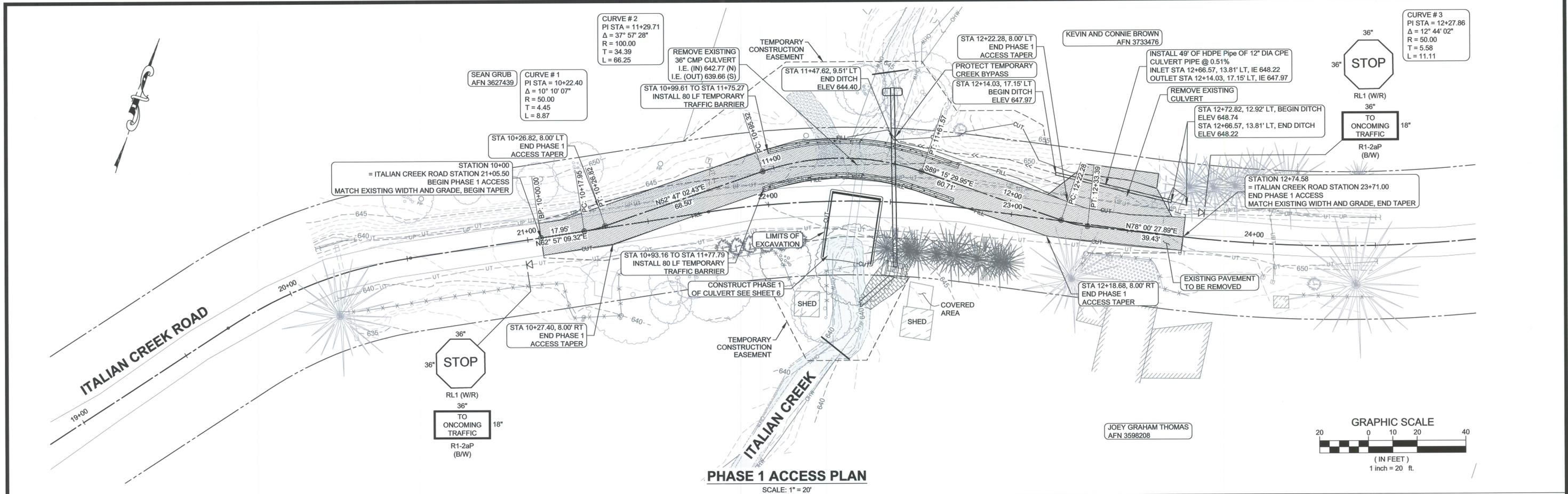
NOTE: SCALES SHOWN ARE FOR FULL SIZE (24"x36") PLAN SHEETS ONLY. SCALES FOR HALF SIZE PLAN SHEETS ARE APPROXIMATELY ONE HALF SCALE.



SEC. 31, T 7N, R 1E

ITALIAN CREEK ROAD
CULVERT REPLACEMENT
CREEK BYPASS PLAN, PROFILE
AND DETAILS

SHEET
2
OF
7



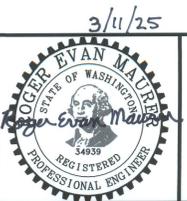
R.E.M. 3/5/2025
PROJECT MANAGER DATE
D.J.B. 3/4/2025
DRAWN BY DATE
S.E.E. 3/4/2025
CHECKED BY DATE

HORIZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED
PROJECT ID: 1323
ROAD NO. : 40900
COMPUTER FILE: 1323 Phase 1 Temp Const.dwg

COWLITZ COUNTY
WASHINGTON

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KELSO, WASHINGTON 98626

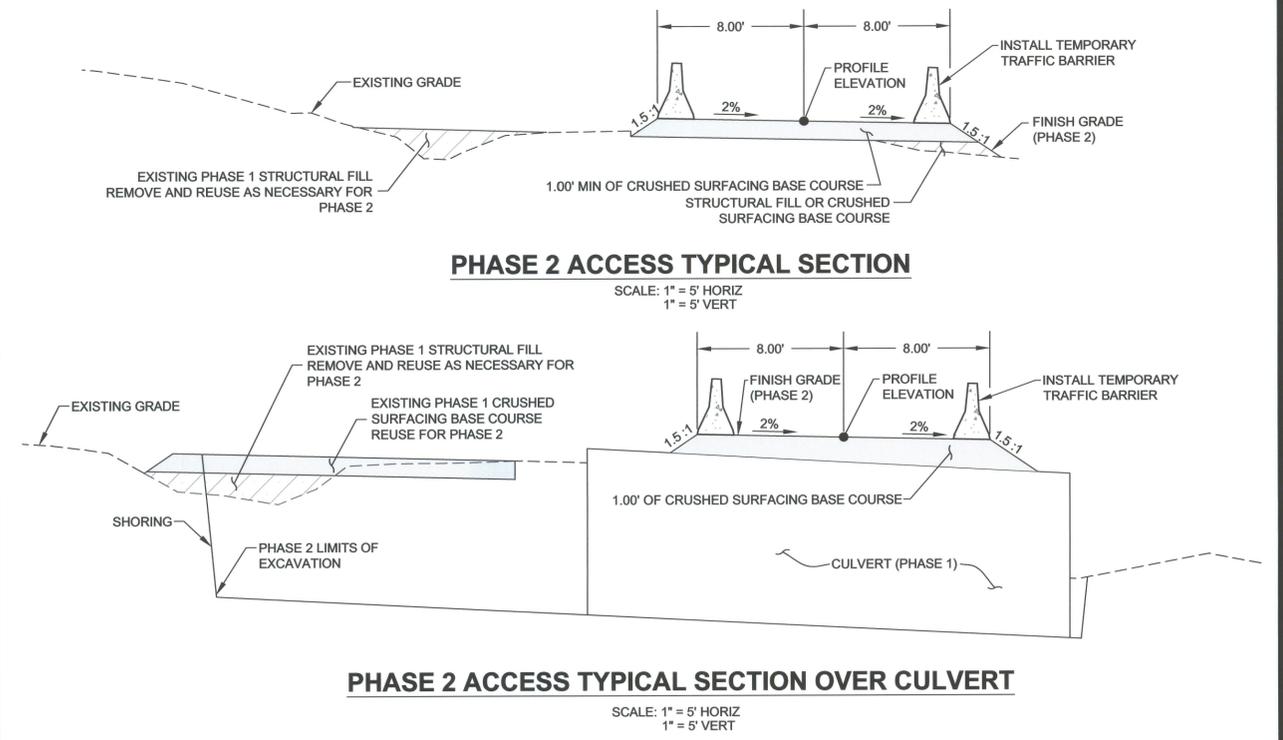
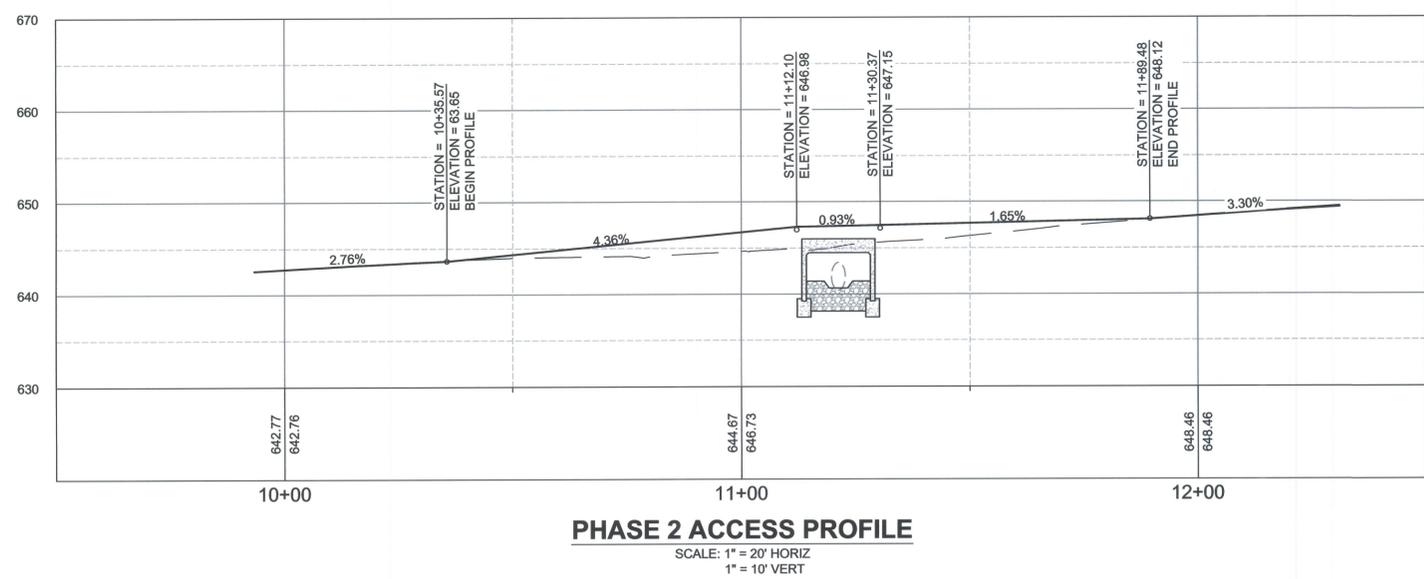
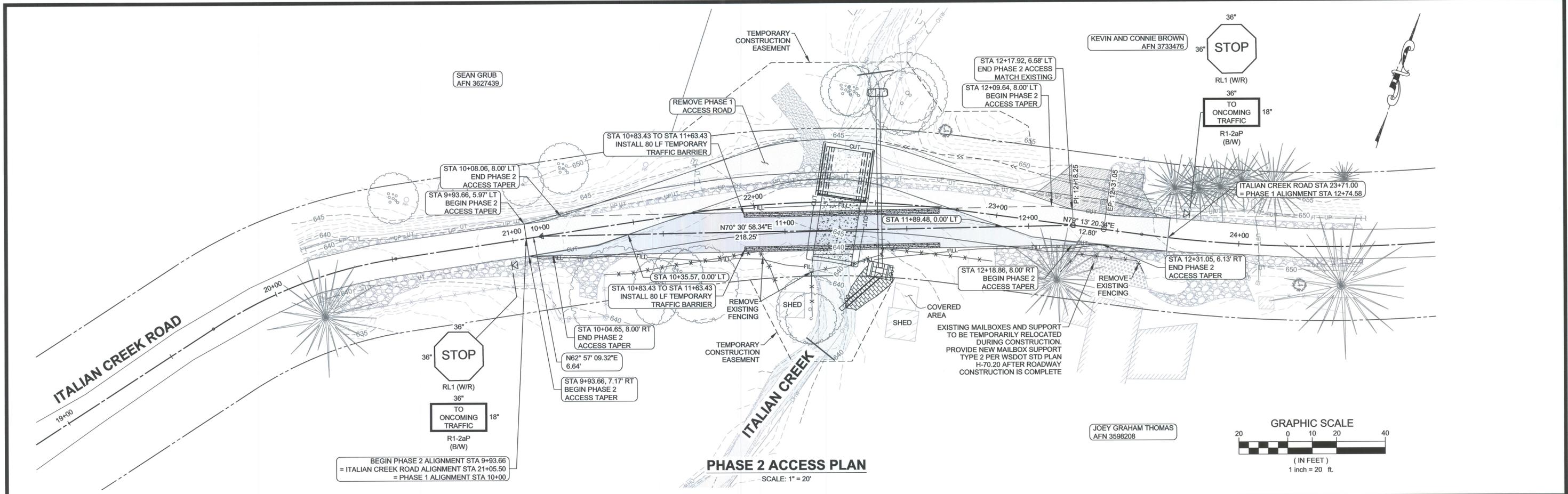
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3/4/25
SEC. 31, T 7N, R 1E

ITALIAN CREEK ROAD
CULVERT REPLACEMENT
PHASE 1 ACCESS PLAN, PROFILE
AND TYPICAL SECTION

SHEET
3
OF
7

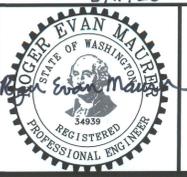


R.E.M. 3/5/2025
PROJECT MANAGER DATE
D.J.B. 3/4/2025
DRAWN BY DATE
S.E.E. 3/4/2025
CHECKED BY DATE

HORIZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED
PROJECT ID: 1323
ROAD NO. : 40900
COMPUTER FILE: 1323 Phase 2 Temp Const.dwg

COWLITZ COUNTY
WASHINGTON
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KELSO, WASHINGTON 98626

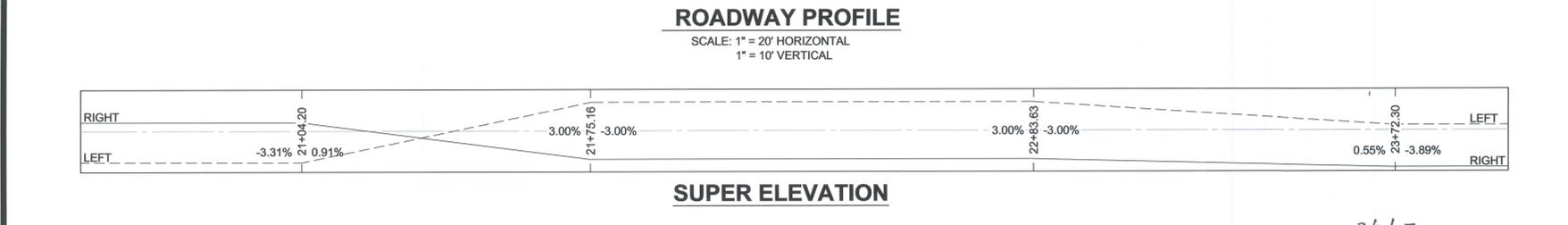
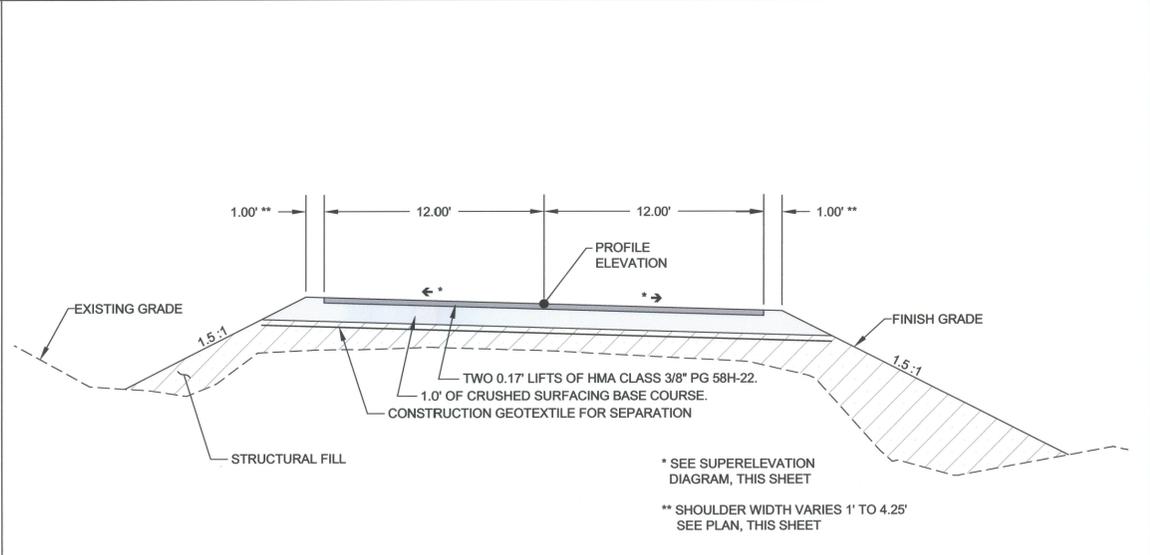
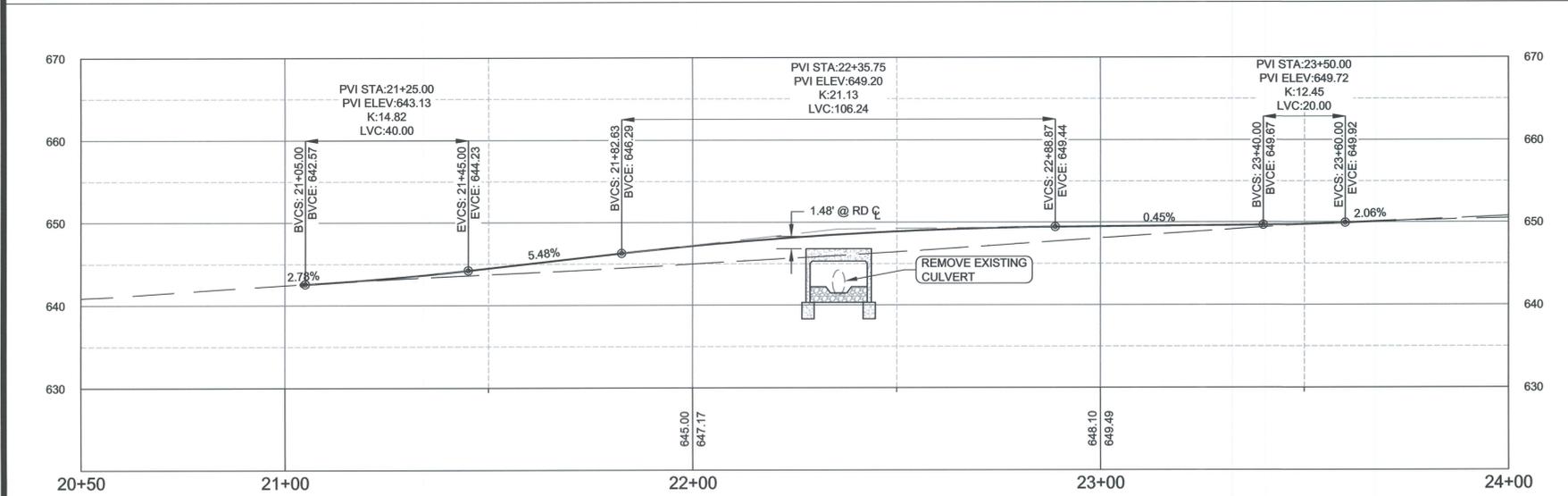
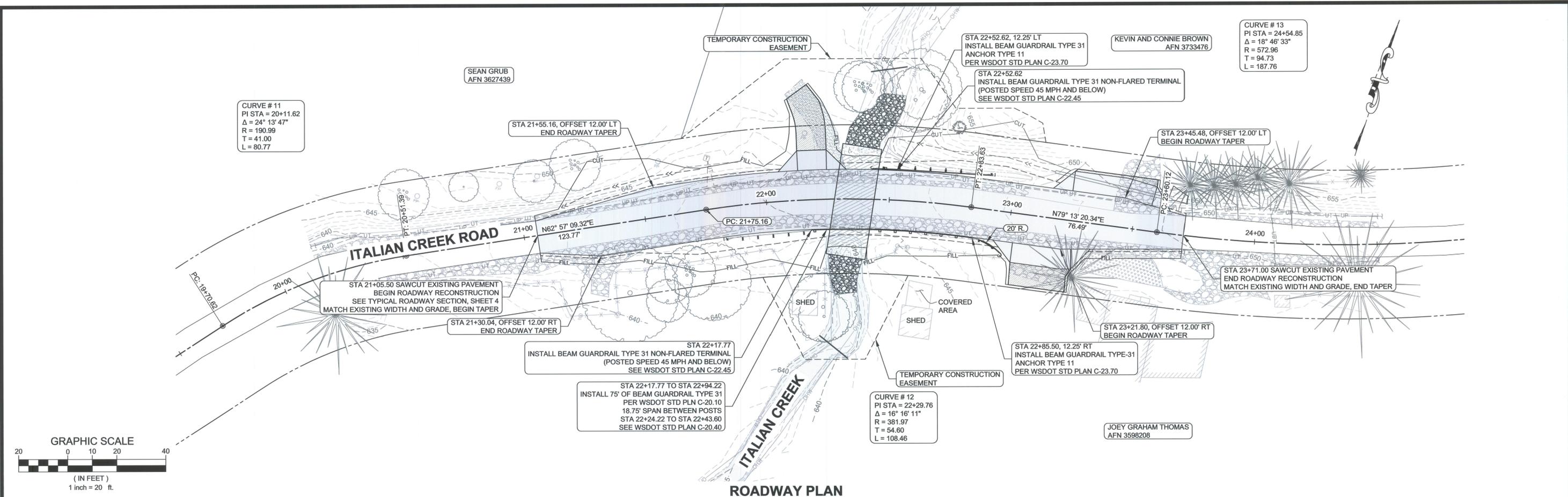
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3/11/25
SEC. 31, T 7N, R 1E

ITALIAN CREEK ROAD
CULVERT REPLACEMENT
PHASE 2 ACCESS PLAN, PROFILE
AND TYPICAL SECTIONS

SHEET
4
OF
7



R.E.M. PROJECT MANAGER 3/5/2025 DATE
D.J.B. DRAWN BY 3/4/2025 DATE
S.E.E. CHECKED BY 3/4/2025 DATE

HORIZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED
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WASHINGTON

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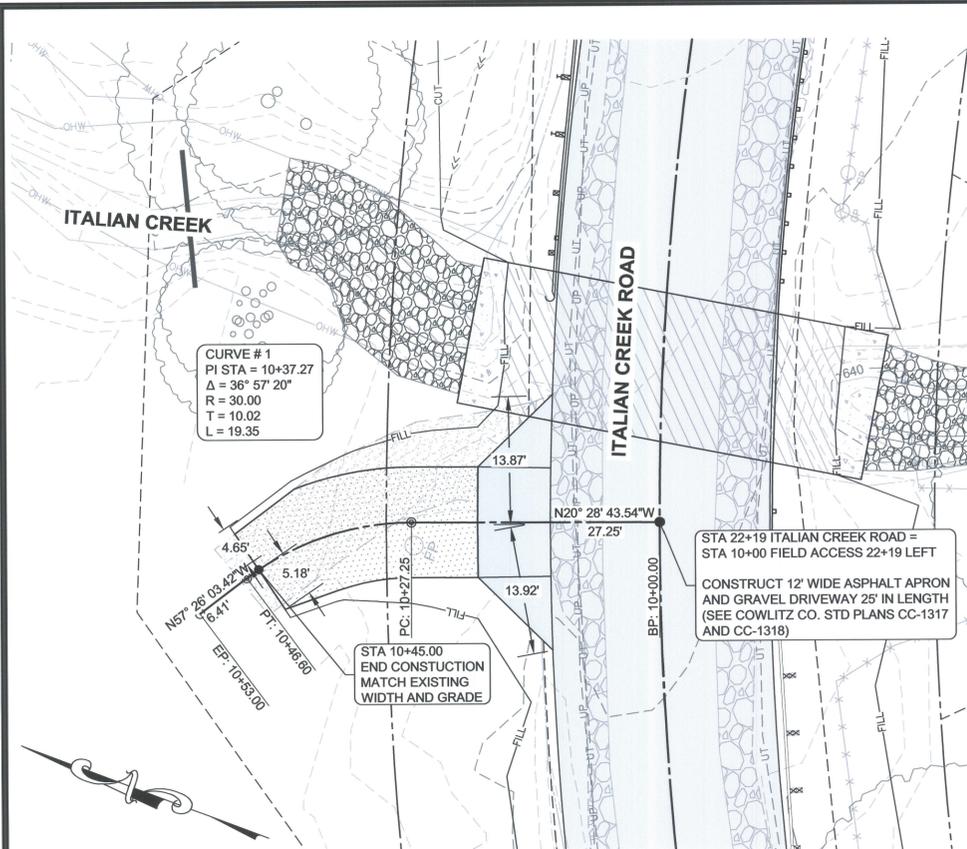


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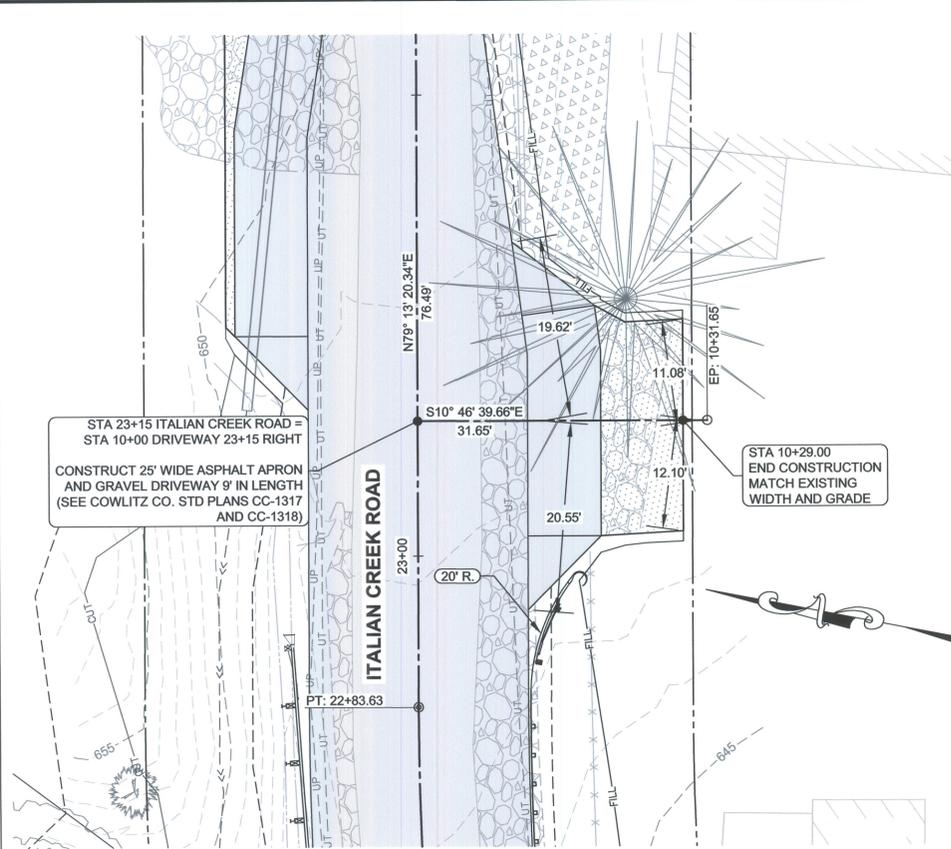
SEC. 31, T 7N, R 1E

**ITALIAN CREEK ROAD
CULVERT REPLACEMENT
FINAL ROADWAY PLAN, PROFILE
AND TYPICAL ROADWAY SECTION**

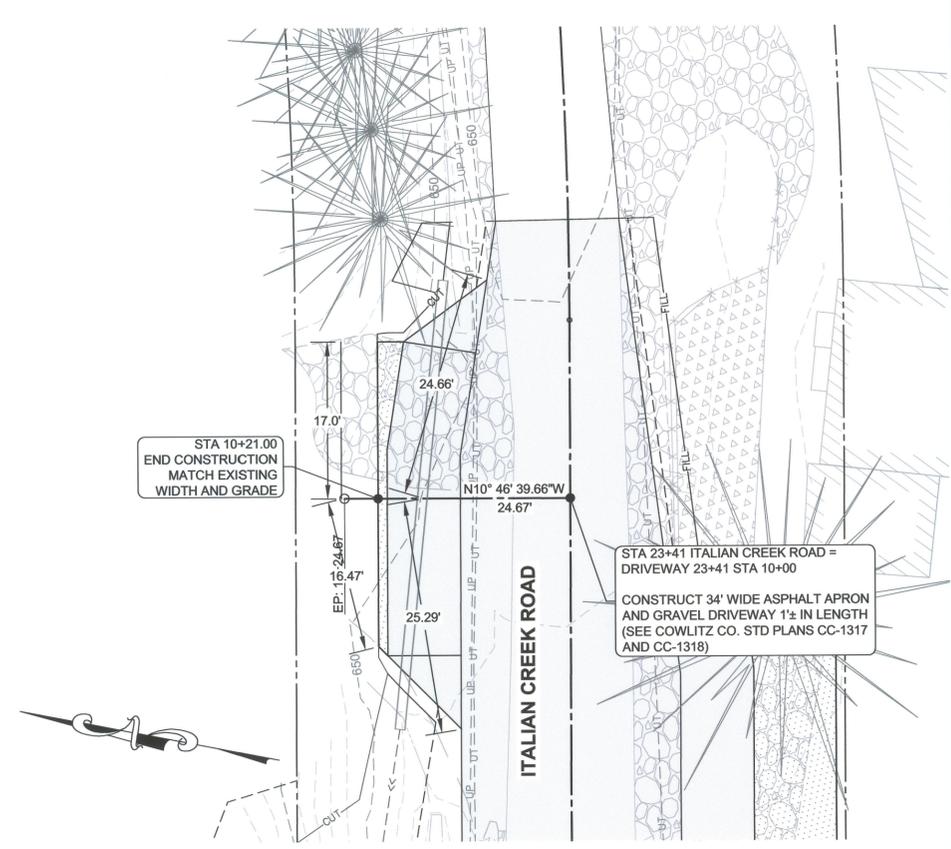
SHEET 5 OF 7



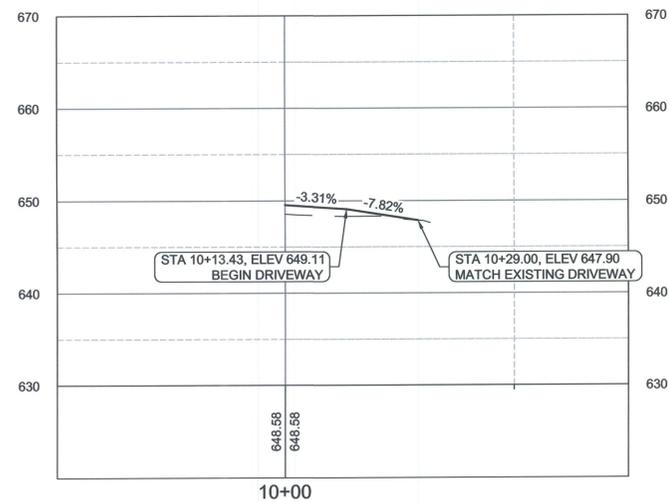
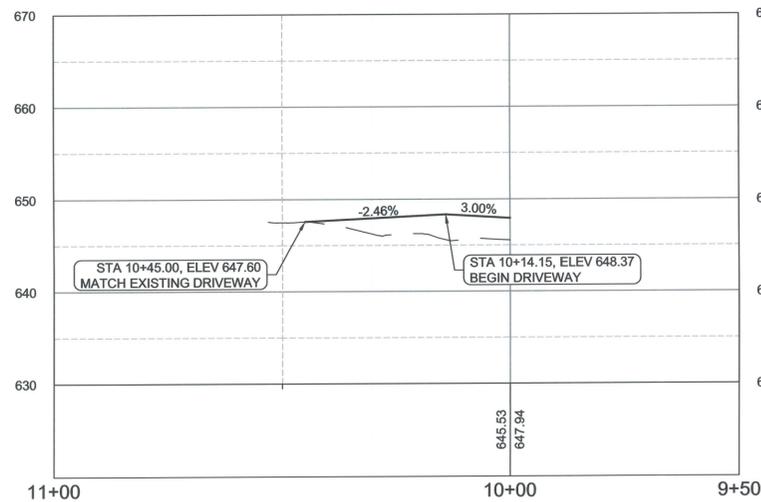
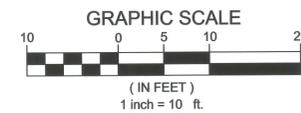
PLAN
 SCALE: 1" = 10'



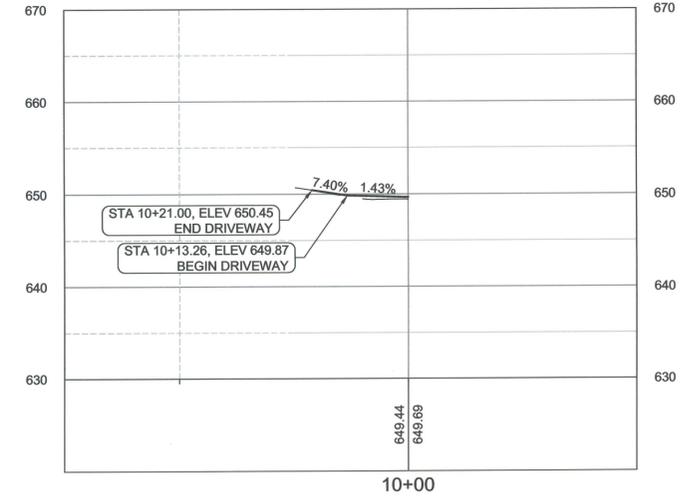
PLAN
 SCALE: 1" = 10'



PLAN
 SCALE: 1" = 10'



PROFILE
DRIVEWAY 23+15, RIGHT



PROFILE
DRIVEWAY 23+41, LEFT

R.E.M. 3/5/2025
 PROJECT MANAGER DATE

D.J.B. 3/4/2025
 DRAWN BY DATE

S.E.E. 3/4/2025
 CHECKED BY DATE

HORIZ. SCALE: AS NOTED
 VERT. SCALE: AS NOTED

PROJECT ID: 1323
 ROAD NO. : 40900

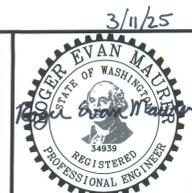
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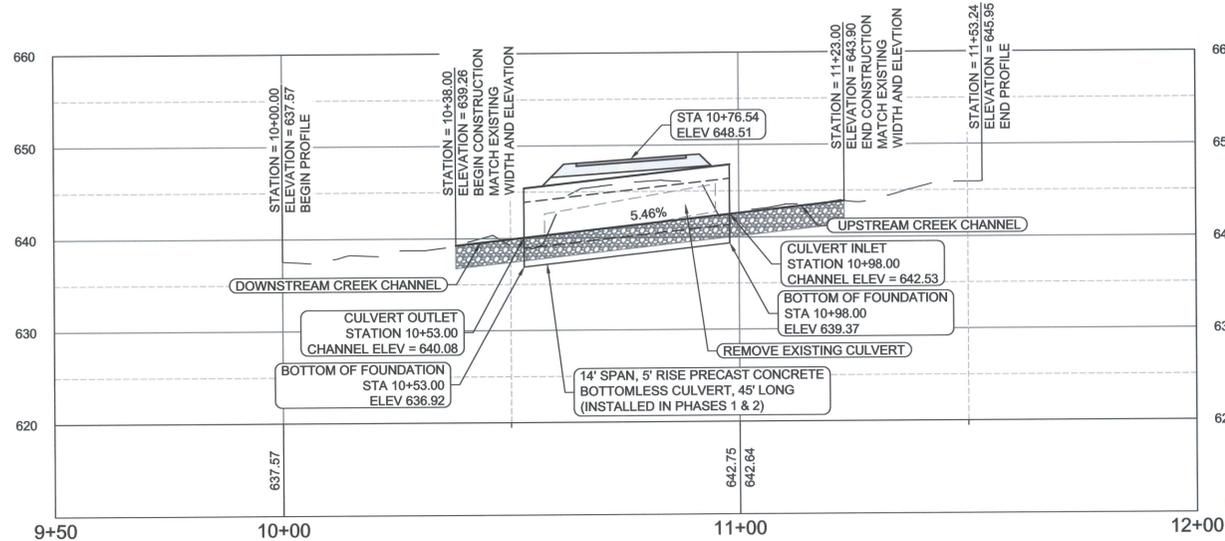
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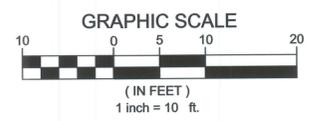
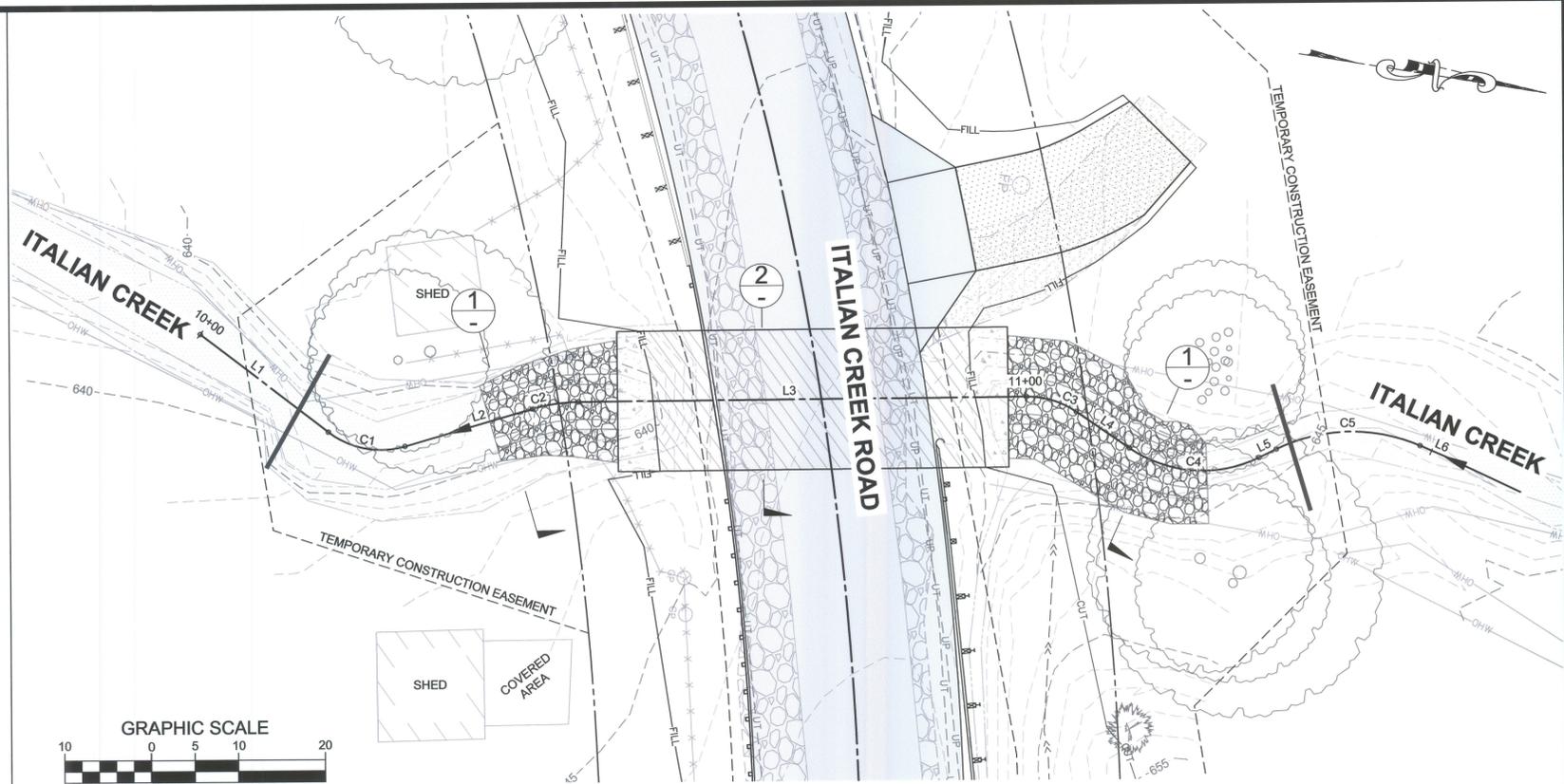
SEC. 31, T 7N, R 1E

ITALIAN CREEK ROAD
CULVERT REPLACEMENT
FIELD ACCESS & DRIVEWAY
PLANS AND PROFILES

SHEET
6
 OF
7



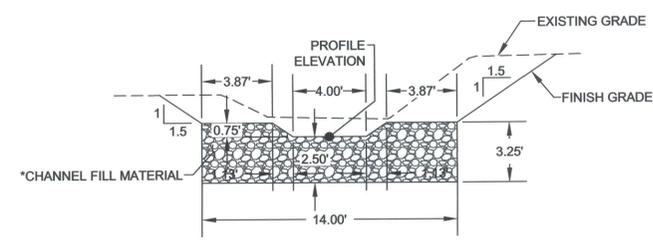
CREEK PROFILE
SCALE: 1" = 20' HORIZ
1" = 10' VERT



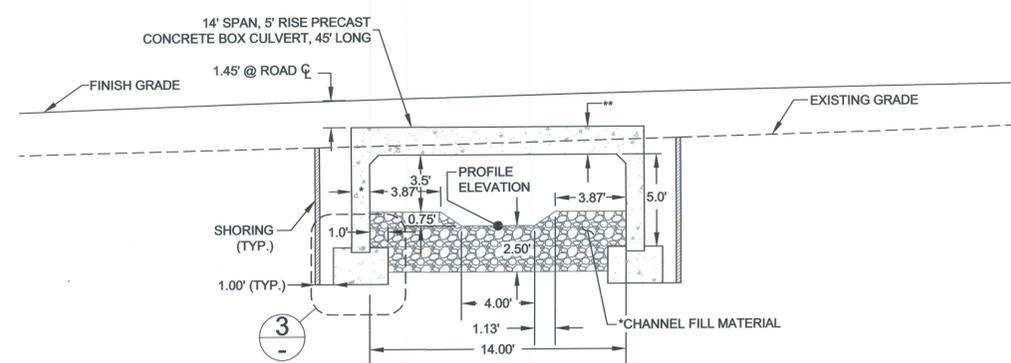
CREEK PLAN
SCALE: 1" = 10'

CURVE TABLE: ITALIAN CREEK CENTERLINE ALIGNMENT						
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT	PI
C1	10.00	9.30	N1° 25' 49.45"E	(1076346.06,265898.65)	(1076346.29,265907.61)	10+23.51
C2	20.00	5.43	N17° 26' 48.28"W	(1076339.77,265921.45)	(1076338.15,265926.61)	10+45.82
C3	10.00	6.07	N7° 42' 27.20"E	(1076329.48,265977.46)	(1076330.28,265983.38)	11+03.23
C4	15.00	15.68	N4° 51' 48.75"W	(1076333.41,265990.07)	(1076332.14,266005.00)	11+22.20
C5	20.00	17.10	N10° 19' 35.38"W	(1076330.89,266006.80)	(1076327.92,266023.11)	11+40.55

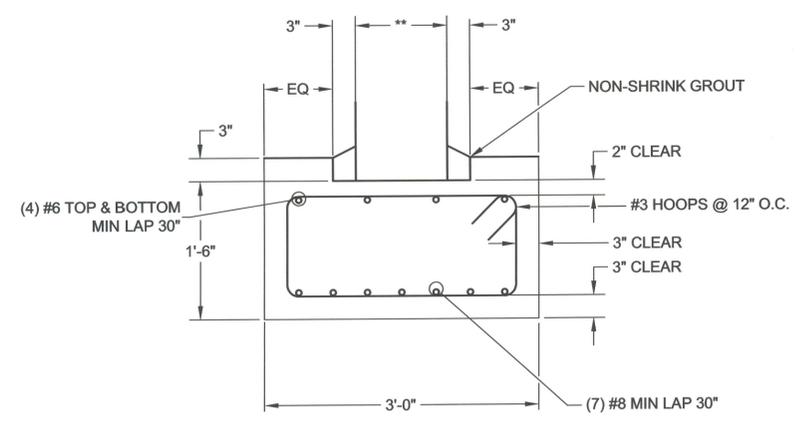
LINE TABLE: ITALIAN CREEK CENTERLINE		
LINE #	BEARING	DISTANCE
L1	N28°04'54"E	18.50'
L2	N25°13'16"W	15.29'
L3	N9°40'21"W	51.59'
L4	N25°05'15"E	7.39'
L5	N34°48'53"W	2.20'
L6	N14°09'42"E	4.71'



1 TYPICAL CREEK SECTION
SCALE: 1" = 5' HORIZ
1" = 5' VERT



2 TYPICAL CULVERT SECTION
SCALE: 1" = 5' HORIZ
1" = 5' VERT



3 FOOTING
SCALE: 1" = 1' HORIZ
1" = 1' VERT
**DIMENSIONS PER MANUFACTURER'S SHOP DRAWINGS

*CHANNEL FILL MATERIAL:
STREAM BED SEDIMENT PER SEC 9-03.11(1) 35%-45%
10" STREAMBED COBBLES PER SEC 9-03.11(2) 45%-55%
TYPE 1 STREAMBED BOULDERS PER SEC 9-03.11(5) 4%-6%
TYPE 2 STREAMBED BOULDERS PER SEC 9-03.11(5) 4%-6%

*CHANNEL FILL MATERIAL:
STREAM BED SEDIMENT PER SEC 9-03.11(1) 35%-45%
10" STREAMBED COBBLES PER SEC 9-03.11(2) 45%-55%
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R.E.M. 3/5/2025
PROJECT MANAGER DATE

D.J.B. 3/4/2025
DRAWN BY DATE

S.E.E. 3/4/2025
CHECKED BY DATE

HORIZ. SCALE: AS NOTED
VERT. SCALE: AS NOTED
PROJECT ID: 1323
ROAD NO.: 40900
COMPUTER FILE: 1323 Design.dwg

COWLITZ COUNTY
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1600 13TH AVENUE SOUTH
KELSO, WASHINGTON 98626

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SEC. 31, T 7N, R 1E

**ITALIAN CREEK ROAD
CULVERT REPLACEMENT
CREEK PLAN, PROFILE AND
TYPICAL CREEK SECTIONS**

SHEET
7
OF
7