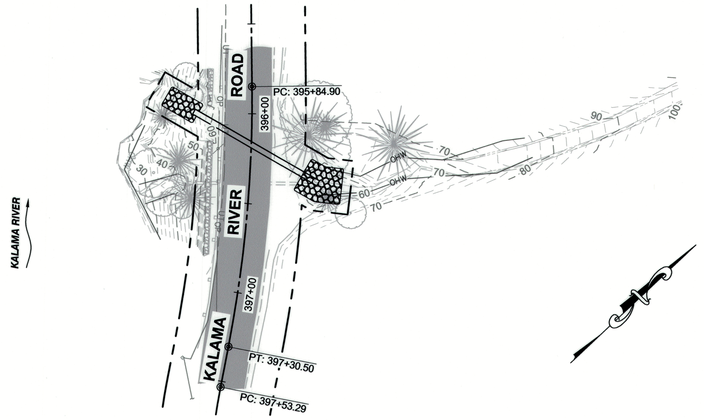
KALAMA RIVER ROAD - CULVERT REPLACEMENT

M.P. 2.04

Section 33, Township 7N, Range 1W

March 2024



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
OHW	ORDINARY HIGH WATER
	EXISTING FENCE
OTV	CABLE TV OVERHEAD LINE
UTV	CABLE TV UNDERGROUND LINE
GAS	NATURAL GAS LINE
PET	PETROLEUM LINE
OP	ELECTRICAL POWER OVERHEAD LINE
UP	ELECTRICAL POWER UNDERGROUND LINE
SS	EXISTING SANITARY SEWER LINE
OT	TELEPHONE OVERHEAD LINE
UT	TELEPHONE UNDERGROUND LINE
WTR	EXISTING WATER LINE
WET	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
CUT	DESIGN DAYLIGHT - CUT
FILL	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

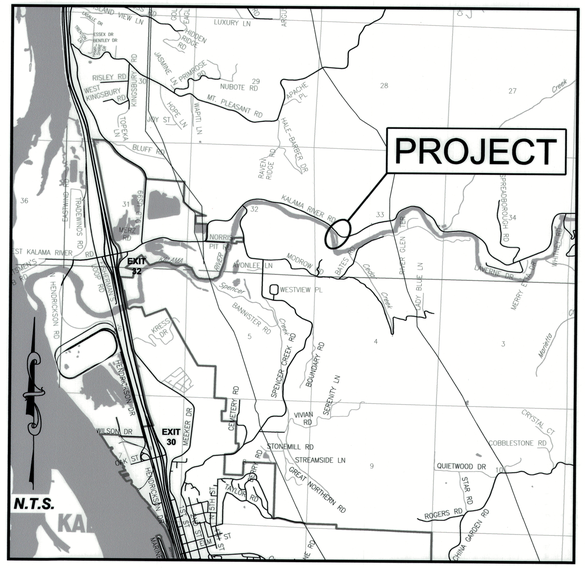
BASIS OF BEARINGS:

WASHINGTON STATE PLANE, SOUTH ZONE (SPC 4602 WA S), UTILIZING GROUND DISTANCES, SO STATE PLANE COORDINATES ARE APPROXIMATE (APPROXIMATELY ±0.3').

BASIS OF ELEVATIONS:

ELEVATION DATUM: NAVD 88
BENCHMARK: ADJUSTED OPUS POSITION ON CONTROL POINT #101
ELEV: 57.14'

ONSITE TEMPORARY BENCHMARK: CP108
LOCATION: AS SHOWN ON RECORD OF SURVEY, PROJECT 1317 WITH COWLITZ COUNTY PUBLIC WORKS, WA.
ELEVATION: 60.81'



VICINITY MAP

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
R/W	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
W/	WITH

INDEX OF DRAWINGS

R.E.M. PROJECT MANAGER — 3/27/2024 DATE
D.J.B. DRAWN BY — 3/27/2024 DATE
S.E.E. CHECKED BY — 3/27/2024 DATE

HORIZ. SCALE: AS NOTE
VERT. SCALE: -
PROJECT ID: 1317
ROAD NO. : 40000
COMPUTER FILE: 1317 Cover.dwg

COWLITZ COUNTY WASHINGTON

DEPARTMENT OF PUBLIC WORKS
1600-13th AVENUE SOUTH
KELSO, WASHINGTON 98626

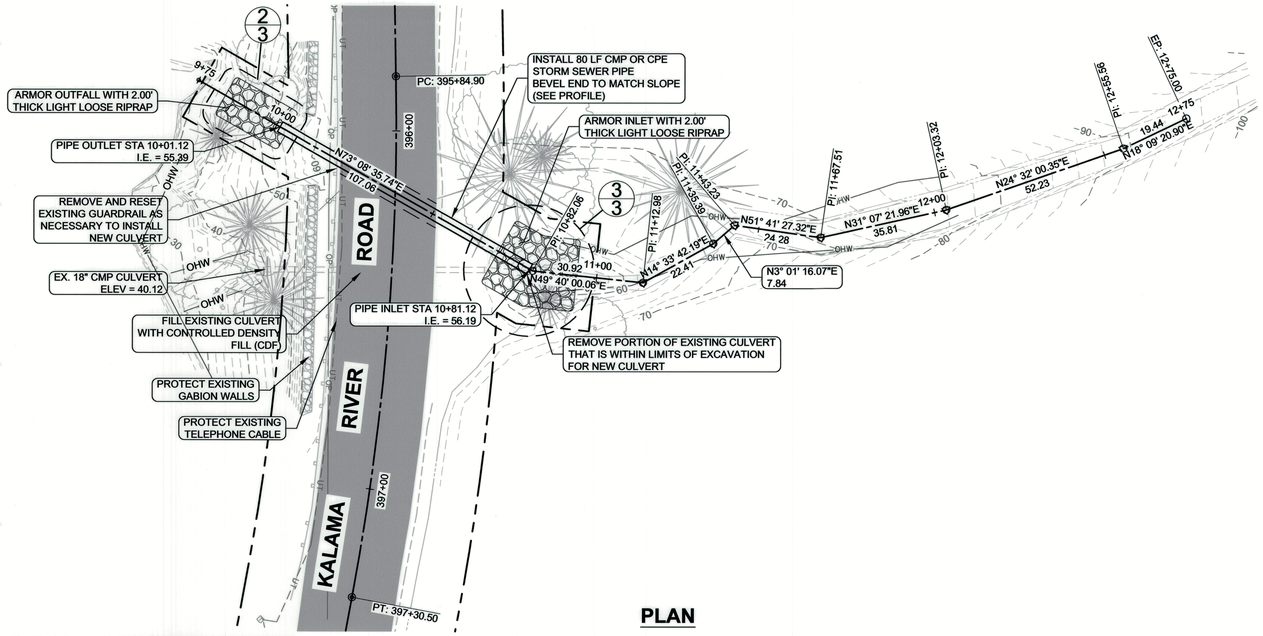
APPROVED BY: Susan Ferguson
COUNTY ENGINEER
DATE: 3/28/24

ROGER EVAN MAURER — STATE OF WASHINGTON — 34939 — REGISTERED PROFESSIONAL ENGINEER
3/28/24

CRP NO. 757

KALAMA RIVER ROAD
CULVERT REPLACEMENT
COVER SHEET

SHEET 1 OF 3



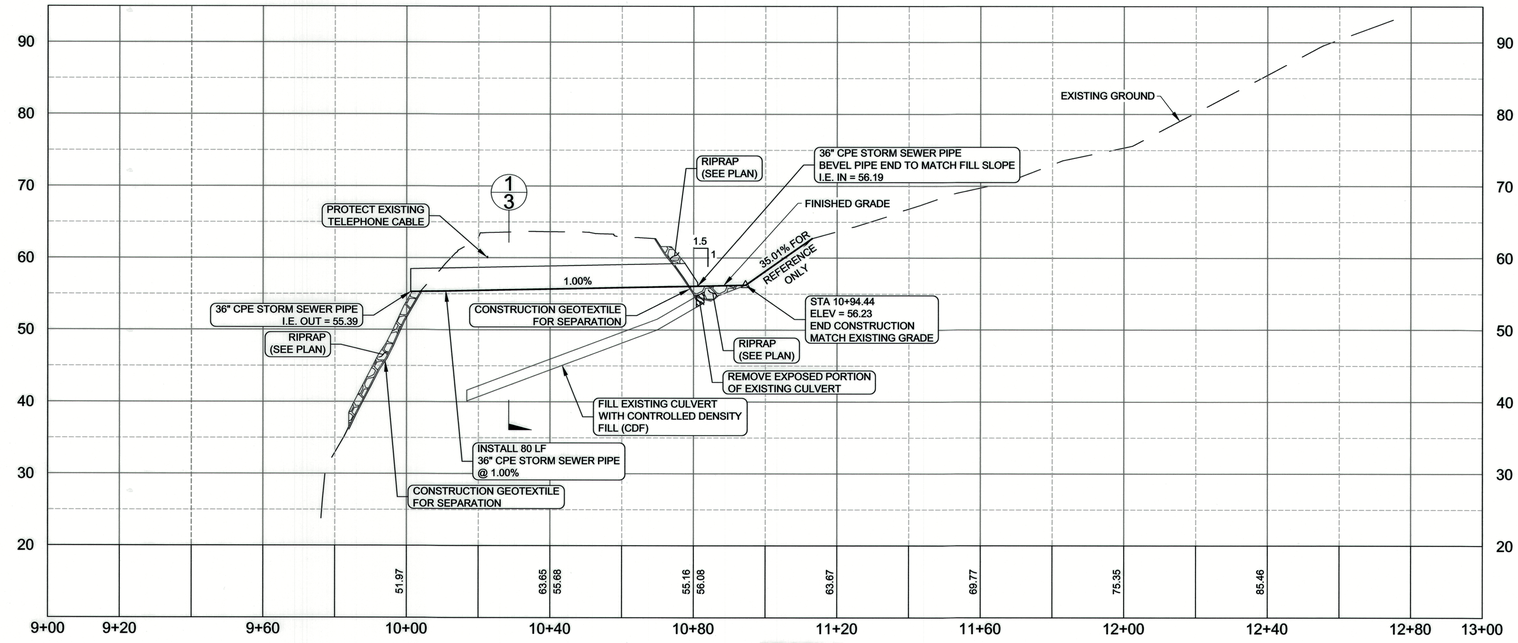
PLAN

GRAPHIC SCALE

20 0 10 20 40

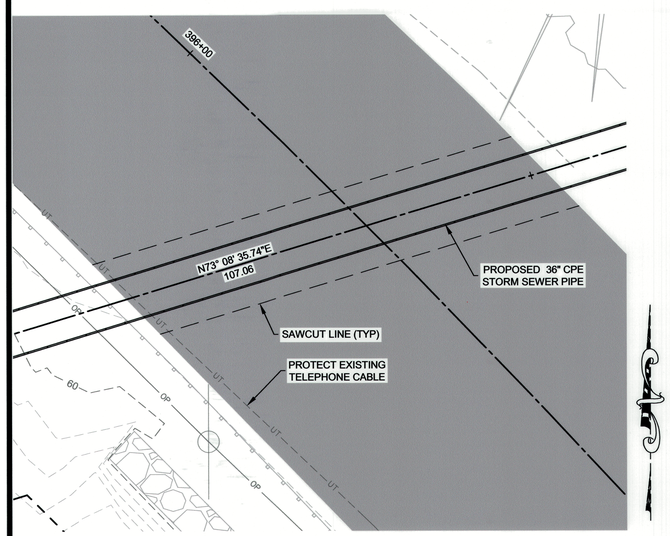
(IN FEET)

1 inch = 20 ft.

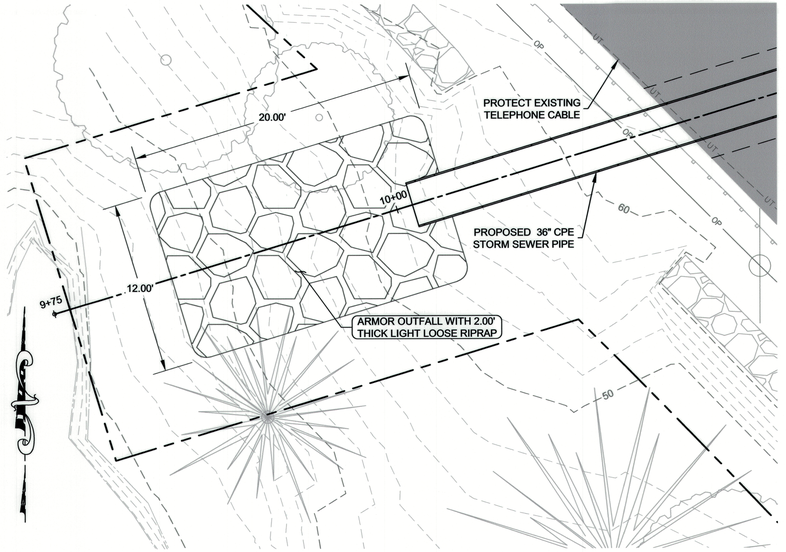


PROFILE 3/28/24

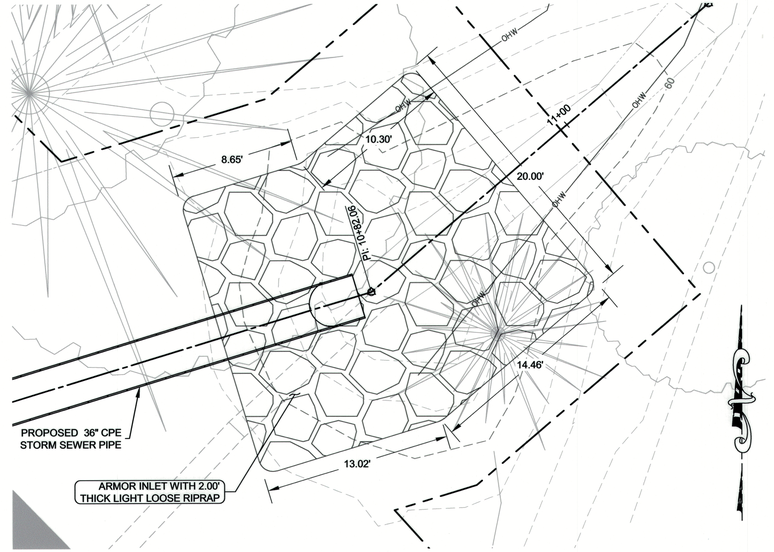
R.E.M. PROJECT MANAGER 3/27/2024 DATE D.J.B. DRAWN BY 3/27/2024 DATE S.E.E. CHECKED BY 3/27/2024 DATE	HORIZ. SCALE: 1" = 20' VERT. SCALE: 1" = 10' PROJECT ID: 1317 ROAD NO. : 40000 COMPUTER FILE: 1317 Design.dwg	COWLITZ COUNTY WASHINGTON DEPARTMENT OF PUBLIC WORKS 1600 13TH AVENUE SOUTH KELSO, WASHINGTON 98626	NOTE: SCALES SHOWN ARE FOR FULL SIZE (24"x36") PLAN SHEETS ONLY. SCALES FOR HALF SIZE PLAN SHEETS ARE APPROXIMATELY ONE HALF SCALE.	ROGER EVAN MADDEN STATE OF WASHINGTON 54959 REGISTERED PROFESSIONAL ENGINEER Roger Evan Madden	Sec. 33, T 7N, R 1W	**KALAMA RIVER ROAD** **CULVERT REPLACEMENT** **PLAN AND PROFILE** SHEET 2 OF 3



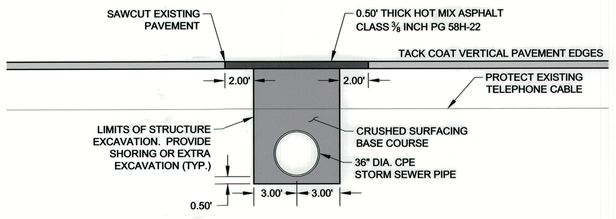
PLAN



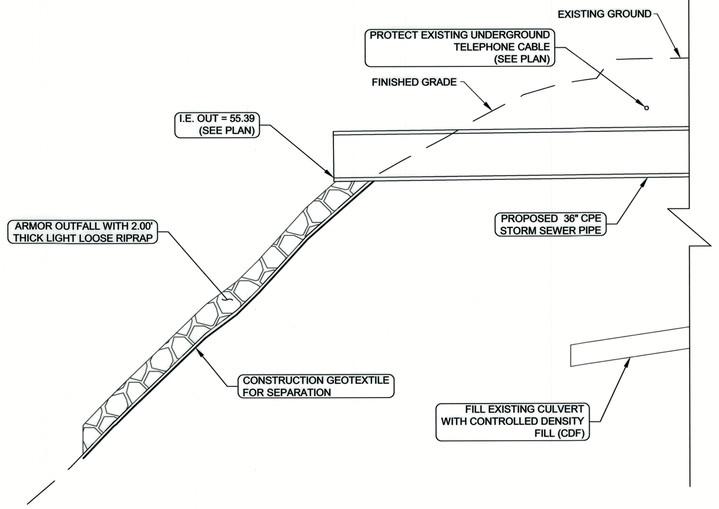
PLAN



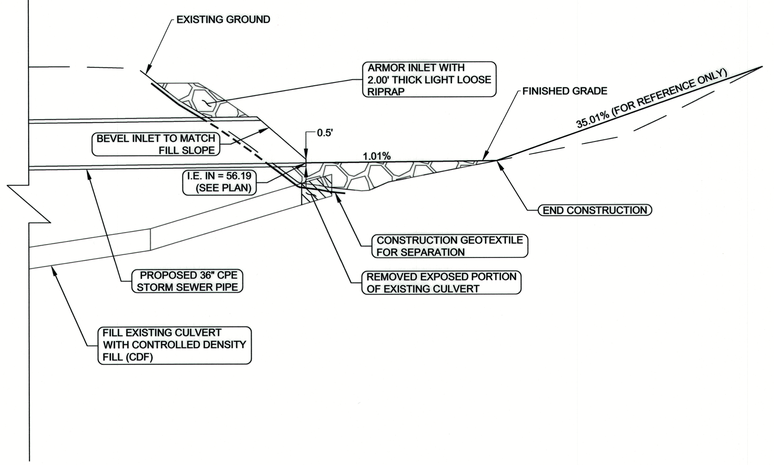
PLAN



TYPICAL CULVERT SECTION 1/3



OUTLET SECTION 2/3



INLET SECTION 3/3

R.E.M. PROJECT MANAGER 3/27/2024 DATE D.J.B. DRAWN BY 3/27/2024 DATE S.E.E. CHECKED BY 3/27/2024 DATE	HORIZ. SCALE: 1" = 5' VERT. SCALE: - PROJECT ID: 1317 ROAD NO. : 40000 COMPUTER FILE: 1317 Design.dwg	COWLITZ COUNTY WASHINGTON	DEPARTMENT OF PUBLIC WORKS 1600 13TH AVENUE SOUTH 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.	ROGER EVAN MAIRE STATE OF WASHINGTON 34939 REGISTERED PROFESSIONAL ENGINEER 3/20/24	Sec. 33, T 7N, R 1W	**KALAMA RIVER ROAD** **CULVERT REPLACEMENT** **TYPICAL CULVERT SECTION & DETAILS**	SHEET 3 OF 3