

SURVEY CONTROL DATA

SEE SURVEY DATA SHEETS S001-S007

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

FEDERAL AID PROJECT NO. NHPP-209N(051)SS
BRIDGE AND APPROACH
US-81

CANADIAN COUNTY

STATE JOB NO. 27004(04)
CONTROL SECTION NO. 40B-09-04
BRIDGE 'A' - EXISTING NBI NO. 10566, NEW NBI NO. 32005
LOCATION NO. 0904 0690 X

CEC // TRANSPORTATION

DESCRIPTION	REVISIONS	DATE

FOR INDEX OF SHEETS , REFER TO SHEET NO.0002

DESIGN DATA

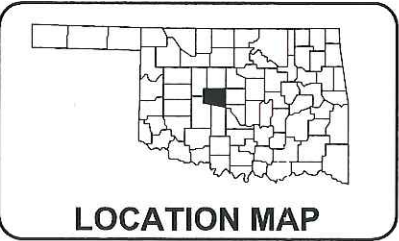
ADT 2019 - 11,900
ADT 2039 - 16,650
DHV (ONE WAY) - 1000
K (DHV/ADT) - 11%
D - 56%
T(% of DHV) - 10%
T(% of ADT) - 12%
T3(% of ADT) - 7%
V - 45 MPH
(20)FLEX ESAL'S - 7.52 M

SCALES

PLAN 1:50
PROFILE HOR. 1:50
VER. 1:10
LAYOUT MAP 1"=2640'

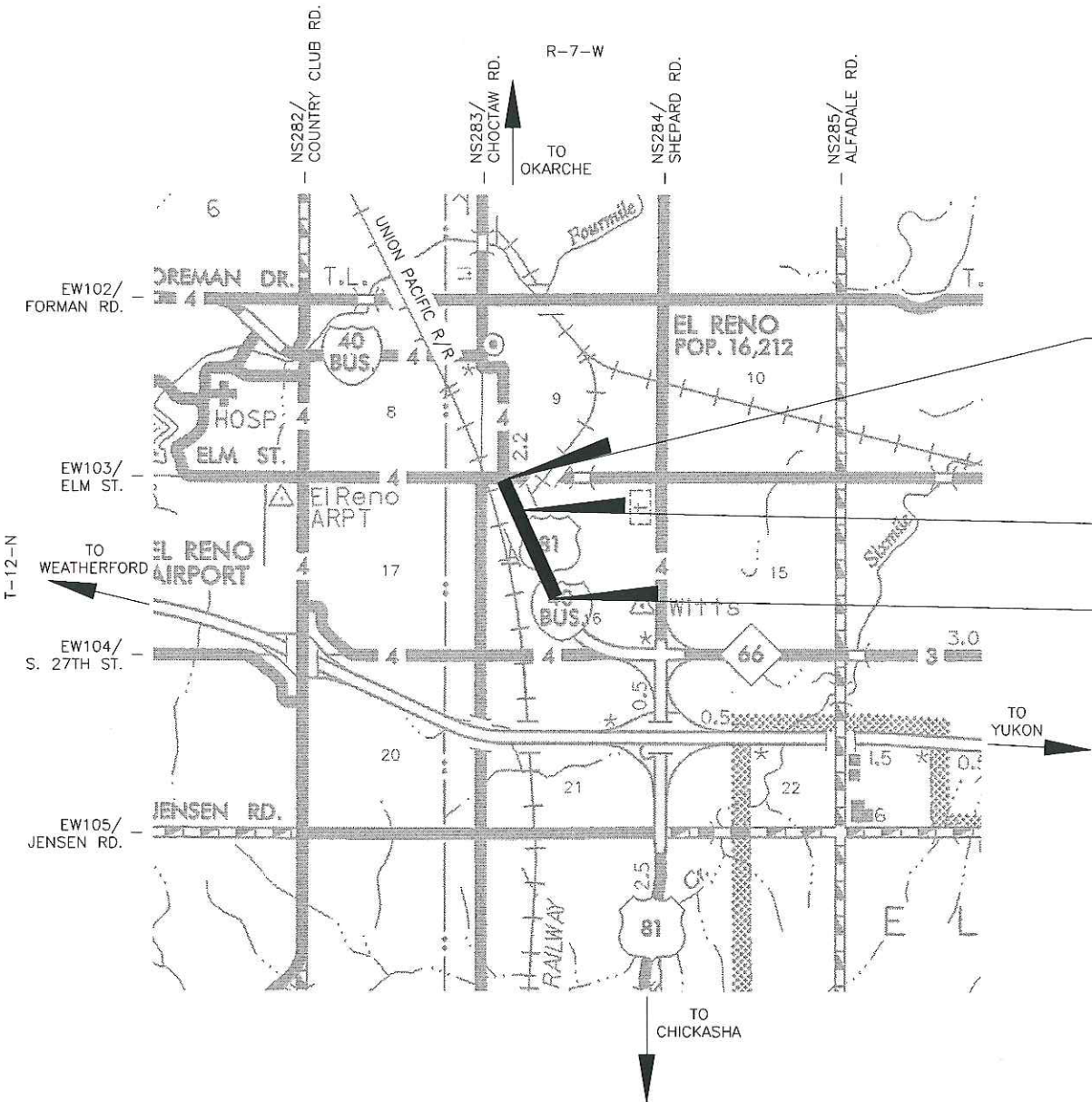
CONVENTIONAL SYMBOLS

PROPOSED ROADS
SECTION LINES
QUARTER SECTION LINES
FENCES
EXISTING GRADE
EXISTING ROADS
BASE LINE
PROPOSED GRADE
TUG COMMUNICATION LINES (EXISTING)
AA POWER LINES (EXISTING)
OHE OVERHEAD POWER LINES (EXISTING)
PUG POWER UNDER GROUND LINES (EXISTING)
G GAS LINE (EXISTING)
SS SANITARY SEWER LINES (EXISTING)
ST STORM SEWER LINES (EXISTING)
W WATER LINES (EXISTING)
TUG COMMUNICATION LINES (PROPOSED)
OHE POWER LINES (PROPOSED)
PUG POWER LINES (PROPOSED)
G GAS LINE (PROPOSED)
SS SANITARY SEWER LINES (PROPOSED)
ST STORM SEWER LINES (PROPOSED)
W WATER LINES (PROPOSED)
BUILDINGS
DRAINAGE STRUCTURES (EXISTING)
DRAINAGE STRUCTURES (PROPOSED)
RIGHT-OF-WAY LINES (EXISTING)
RIGHT-OF-WAY LINES (PROPOSED)
RIGHT-OF-WAY FENCE
FLOWLINE (EXISTING)
FLOWLINE (PROPOSED)
TOE OF SLOPE (EXISTING)
TOE OF SLOPE (PROPOSED)
CITY LIMITS
LANDSCAPE
RAILROAD



LOCATION MAP

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-ENGLIS-1 GOVERN.
APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY
ADMINISTRATION. JANUARY 04, 2010



STA.128+39.19
END CONSTRUCTION

BRIDGE 'A'

LOCATION NO. 0904 0690 X
NBI NO. 32005
BEGIN BRIDGE STA. 114+95.35
BRIDGE LENGTH = 382.50'
END BRIDGE STA. 118+77.85

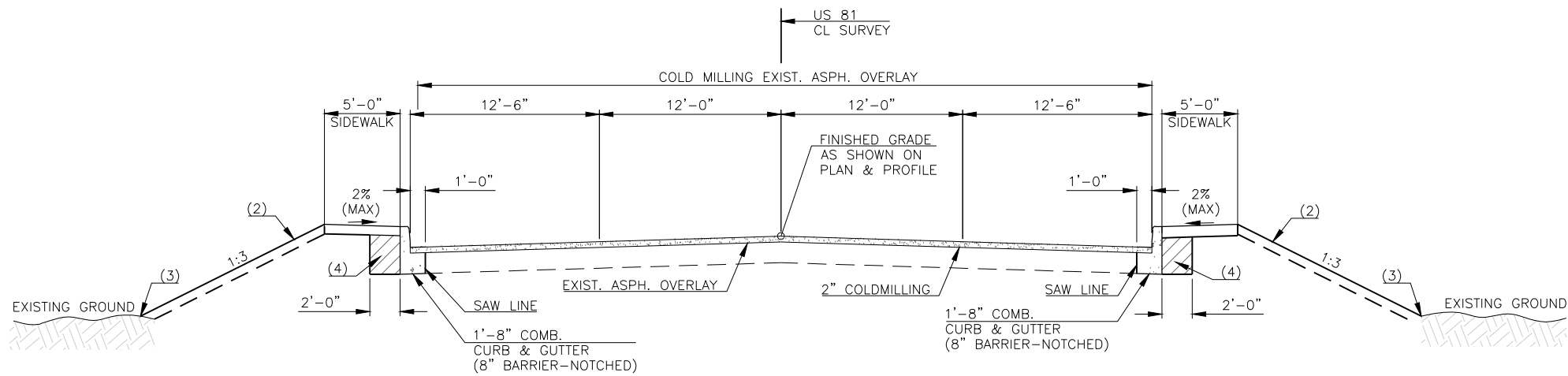
STA.104+49.79
BEGIN CONSTRUCTION

ROADWAY LENGTH 2,006.90 FT 0.380 MI
BRIDGE LENGTH 382.5 FT 0.072MI
TOTAL PROJECT LENGTH 2,389.40 FT 0.452MI
R.R. EXCEPTIONS CRL DETOUR STA. 117+96.34 TO STA.118+09.11
EQUATIONS NONE

	PREPARED BY: CEC CORPORATION CA32 6/30/20 OKLAHOMA CITY, OKLAHOMA	
	MICHAEL B. SIMMONS OKLA. REG. NO. 24576	
	PREPARED BY: CEC CORPORATION CA32 6/30/20 OKLAHOMA CITY, OKLAHOMA	
	J. TAYLOR BARNES OKLA. REG. NO. 21098	
OKLAHOMA DEPARTMENT OF TRANSPORTATION		DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED		DATE APPROVED
BY		BY
CHIEF ENGINEER		DIVISION ADMINISTRATOR
SWO NO. 4733(1)		PROJ. NO. NHPP-209N(051)SS SHEET NO. 0001

INDEX OF SHEETS		THE FOLLOWING ODOT STANDARDS ARE REQUIRED FOR THIS PROJECT:						
SHEET NO.	DESCRIPTION	ROADWAY	BRIDGE	TRAFFIC SIGNING	TRAFFIC LIGHTING	TRAFFIC SAFETY	TRAFFIC CONTROL	TRAFFIC SIGNAL
0001.	TITLE SHEET	SSS-1-1	EJ-DTL-02E	PM1-1-02	CCD1-1-00	SKT-1-00	TCS1-1-01	ID1-1-00
0002.	INDEX OF SHEETS & STANDARDS	TSC2-3-2	HP1-2-01E	PM6-1-00	CCD2-1-00	GHW1-1-00	TCS2-1-00	ID2-1-00
0003.-0004.	TYPICAL SECTIONS	TSD-2-0		PM8-1-00	PBD1-1-00	GHW2-1-00	TCS4-1-01	
AB01.	BRIDGE GENERAL NOTES	ASCD-5-2		RSD1-1-00	GMF1-2-01		TCS5-1-00	
AB02.	RAILROAD NOTES	CSCD-5-4		RSD2-1-00	HLBP1-1-01		TCS6-1-02	
<div>⚠</div> AB03.-AB04.	AESTHETIC TREATMENTS NOTES (DELETED SHEETS)	LECS-4-2		WSD1-1-00	HLGN1-1-01		TCS7-1-02	
AB05.	SUMMARY OF PAY ITEMS AND NOTES (BRIDGE)	PED-3-2		WSD2-1-00	HLPD1-1-00		TCS8-1-00	
AR01.	PAY ITEMS & NOTES ROADWAY	PSE-1-0		WSD3-1-00	HLPD2-1-01		TCS9-1-01	
AR02.	SUMMARY SHEETS ROADWAY	WCR-3-2		MSD1-1-00	PPD1-2-00		TCS10-1-00	
AT01.	PAY ITEMS & NOTES TRAFFIC	TWD-1-1		MSD2-1-00	HLD1-2-01		TCS11-1-01	
AT02.	PAY ITEMS & NOTES TRAFFIC LIGHTING	PCES-4-1		MSD3-1-01	HLD2-2-01		TCS13-1-00	
AT03.	SUMMARY SHEETS TRAFFIC	CI-1-2		MSD4-1-00	SPD1-1-00		TCS14-1-00	
AT04.	SUMMARY SHEETS LIGHTING	SSIF-4-0		MSD5-1-00	SCD1-1-00		TCS18-1-01	
B001.	GENERAL PLAN AND ELEVATION	CIG-3-0		SBS1-1-00	TEWD1-2-00		TCS19-1-01	
B002.	SUMMARY OF BRIDGE PAY QUANTITIES	SPI-4-1		SBS2-1-00			TCS20-1-00	
B003.	FOUNDATION REPORT	SPB-1-4		SBS3-1-00			TCS21-1-02	
B004.-B005.	SUBSTRUCTURE LAYOUT	FHTCP-3-1		SBS4-1-00				
B006.-B007.	SUBSTRUCTURE EXCAVATION	PUD-3-3		SBS5-1-00				
B008.	ABUTMENT NO. 1 DETAILS			GMS1-1-00				
B009.	ABUTMENT NO. 1 WING DETAILS			GMS2-1-00				
B010.	ABUTMENT NO. 2 DETAILS			SSP1-1-02				
B011.	ABUTMENT NO. 2 WING DETAILS			SSA1-1-00				
B012.	ABUTMENT SECTIONS AND DETAILS			SSA2-1-00				
B013.	ABUTMENT BAR LISTS			FGS1-1-00				
B014.	PIER NO. 1 DETAILS							
B015.	PIER NO. 2 DETAILS							
B016.	PIER SECTIONS AND BAR LISTS							
B017.	TYPICAL CROSS SECTION							
B018.	LONGITUDINAL SECTION							
B019.	STRUCTURAL STEEL FRAMING PLAN							
B020.-B022.	PLATE GIRDER DETAILS							
B023.	CROSS-FRAME DETAILS							
B024.	ABUTMENT BEARING DETAILS							
B025.	PIER BEARING DETAILS							
B026.	EXPANSION JOINT DETAILS							
B027.	SLAB REINFORCING PLAN							
B028.	ADDITIONAL SLAB REINFORCING DETAILS							
B029.	PARAPET DETAILS ON BRIDGE DECK							
B030.-B031.	PEDESTRIAN RAIL DETAILS ON BRIDGE DECK							
B032.	THROW FENCE DETAILS							
B033.	SLEEPER SLAB DETAILS AT APPROACH SLAB NO. 1							
B034.	APPROACH SLAB NO. 1 DETAILS							
B035.	APPROACH SLAB NO. 2 DETAILS							
B036.	APPROACH SLAB SECTIONS AND BAR LISTS							
B037.	PARAPET DETAILS ON APPROACH SLAB NO. 1							
B038.	PARAPET DETAILS ON APPROACH SLAB NO. 2							
B039.	PEDESTRIAN RAIL DETAILS ON APPROACH SLAB NO. 1							
B040.	PEDESTRIAN RAIL DETAILS ON APPROACH SLAB NO. 2							
B041.	ENTRY PILASTER EXCAVATION AND BACKFILL							
B042.-B043.	ENTRY PILASTER DETAILS							
B044.	BRIDGE AESTHETICS DETAILS							
E001.	SECTION 404 PERMIT COMPLIANCE							
R001.	STORM WATER MANAGEMENT PLAN							
R002.	DRAINAGE DESIGN RECORD							
R003.-R004.	EROSION CONTROL							
R005.	GRADING PLAN							
R006.-R008.	PLAN & PROFILE SHEETS - CL SURVEY US-81							
R009.-R011.	PLAN & PROFILE SHEETS - CRL DETOUR							
R012.	INTERSECTION DETAIL							
R013.	RAILROAD EXHIBIT							
R014.	RAILROAD PROFILE							
S001.-S007.	SURVEY DATA SHEETS							
T001.-T002.	SIGNING & STRIPING							
T003.	ROUTE ASSEMBLY DETAILS							
T004.-T005.	LIGHTING PLAN SHEETS							
T006.	LIGHT DETAIL							
T007.	GENERAL SEQUENCE OF CONSTRUCTION							
T008.	ADVANCED WARNING							
T009.	CONSTRUCTION SEQUENCE AND TRAFFIC CONTROL-PHASE 1							
T010.-T011.	CONSTRUCTION SEQUENCE AND TRAFFIC CONTROL-PHASE 2							
T012.-T013.	CONSTRUCTION SEQUENCE AND TRAFFIC CONTROL-PHASE 3							
X001-X014.	CROSS SECTIONS - CL SURVEY US-81							

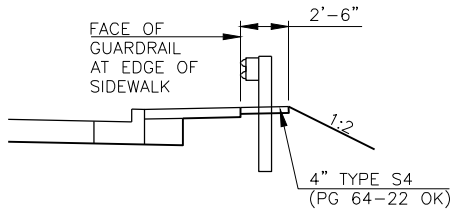
DESCRIPTION	REVISIONS	DATE



TYPICAL NO. 1

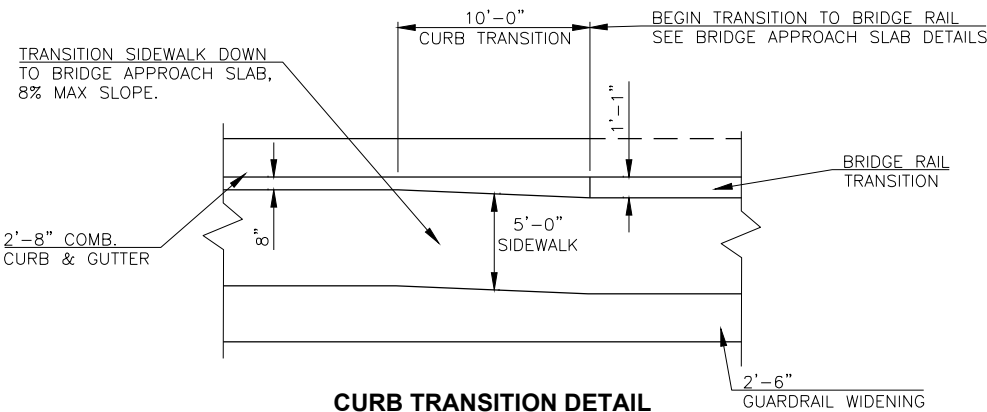
CL SURVEY STA. 104+49.79 TO STA. 111+53.73

PAVEMENT REQUIREMENT	
2" PAVT. STRUCTURE	12'-0" & 12'-6" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG76-28OK)



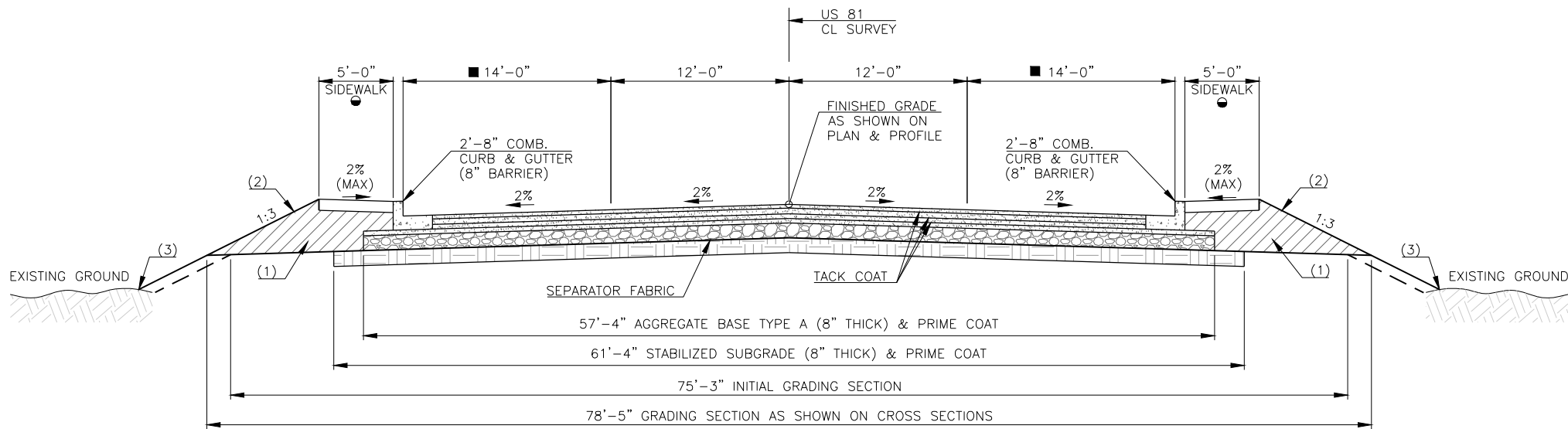
GUARDRAIL WIDENING

STA. 106+00 TO STA. 114+20 LT. & RT.
STA. 119+43 TO STA. 124+00 LT. & RT.



CURB TRANSITION DETAIL

- VARIES
CL SURVEY STA. 111+53.73 TO STA.112+21.23, 12'-6" TO 14'-0" RT.
CL SURVEY STA. 111+53.73 TO STA.112+21.23, 12'-6" TO 14'-0" LT.
- TRANSITION SIDEWALK TO BRIDGE APPROACH SLAB 8% MAX SLOPE. SEE BRIDGE APPROACH SLAB DETAILS AND CURB TRANSITION DETAIL THIS SHEET.



TYPICAL NO. 2

CL SURVEY STA. 111+53.73 TO STA. 114+23.77
CL SURVEY STA. 119+39.43 TO STA. 123+71.24

PAVEMENT REQUIREMENT	
10" PAVT. STRUCTURE	12'-0" & 14'-0" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG76-28OK) 3" SUPERPAVE TYPE S3 (PG76-28OK)
BASE COURSE	2.5" SUPERPAVE TYPE S3 (PG64-22OK) 2.5" SUPERPAVE TYPE S3 (PG64-22OK)

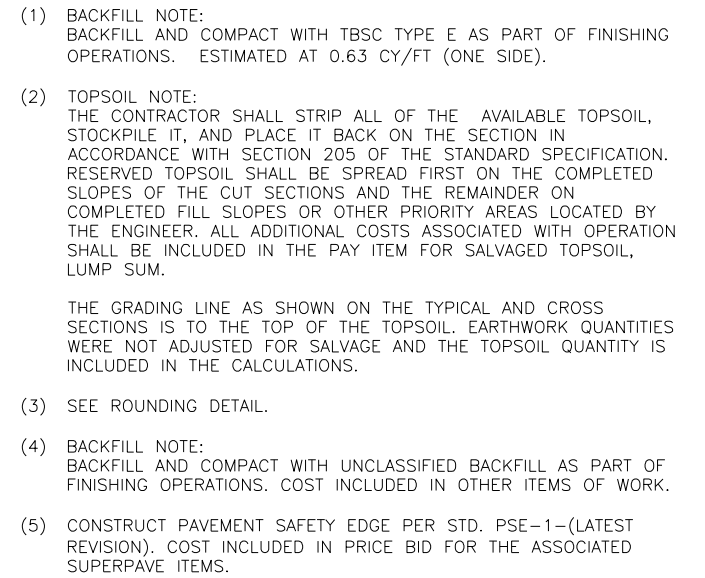
- (1) BACKFILL NOTE:
BACKFILL AND COMPACT WITH TBSC TYPE E AS PART OF FINISHING OPERATIONS. ESTIMATED AT 0.63 CY/FT (ONE SIDE)
- (2) TOPSOIL NOTE:
THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL, STOCKPILE IT, AND PLACE IT BACK ON THE SECTION IN ACCORDANCE WITH SECTION 205 OF THE STANDARD SPECIFICATION. RESERVED TOPSOIL SHALL BE SPREAD FIRST ON THE COMPLETED SLOPES OF THE CUT SECTIONS AND THE REMAINDER ON COMPLETED FILL SLOPES OR OTHER PRIORITY AREAS LOCATED BY THE ENGINEER. ALL ADDITIONAL COSTS ASSOCIATED WITH OPERATION SHALL BE INCLUDED IN THE PAY ITEM FOR SALVAGED TOPSOIL, LUMP SUM.

THE GRADING LINE AS SHOWN ON THE TYPICAL AND CROSS SECTIONS IS TO THE TOP OF THE TOPSOIL. EARTHWORK QUANTITIES WERE NOT ADJUSTED FOR SALVAGE AND THE TOPSOIL QUANTITY IS INCLUDED IN THE CALCULATIONS.
- (3) SEE ROUNDING DETAIL SHEET NO. 0004
- (4) BACKFILL NOTE:
BACKFILL AND COMPACT WITH UNCLASSIFIED BACKFILL AS PART OF FINISHING OPERATIONS. COST INCLUDED IN OTHER ITEMS OF WORK.

US-81 CANADIAN COUNTY

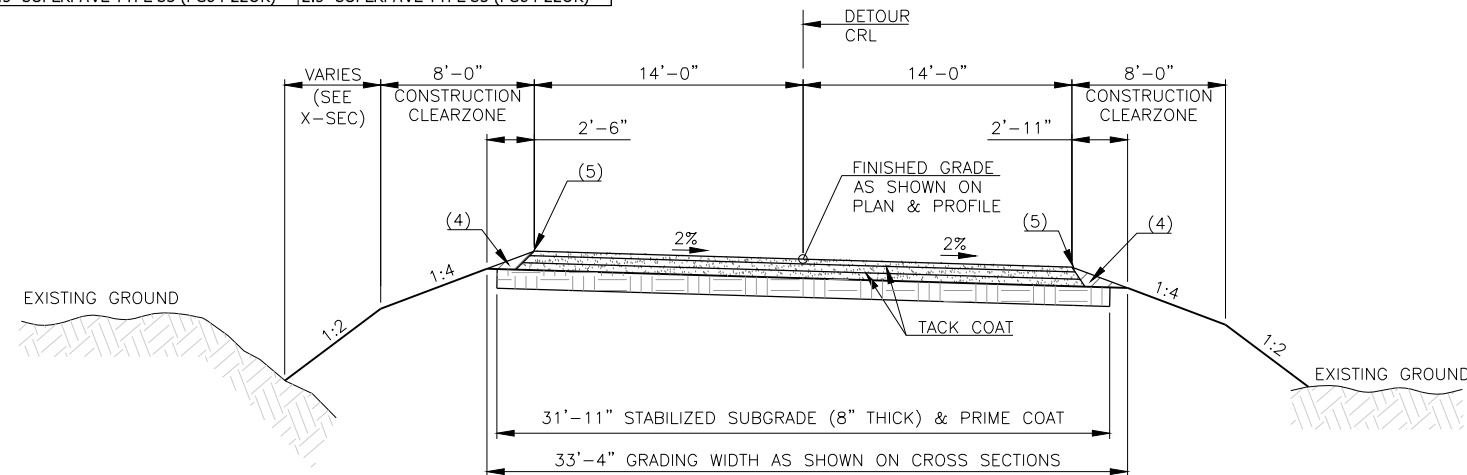
TYPICAL SECTIONS
SHEET 1 OF 2

JOB PIECE NO. 27004(04) SHEET NO. 0003



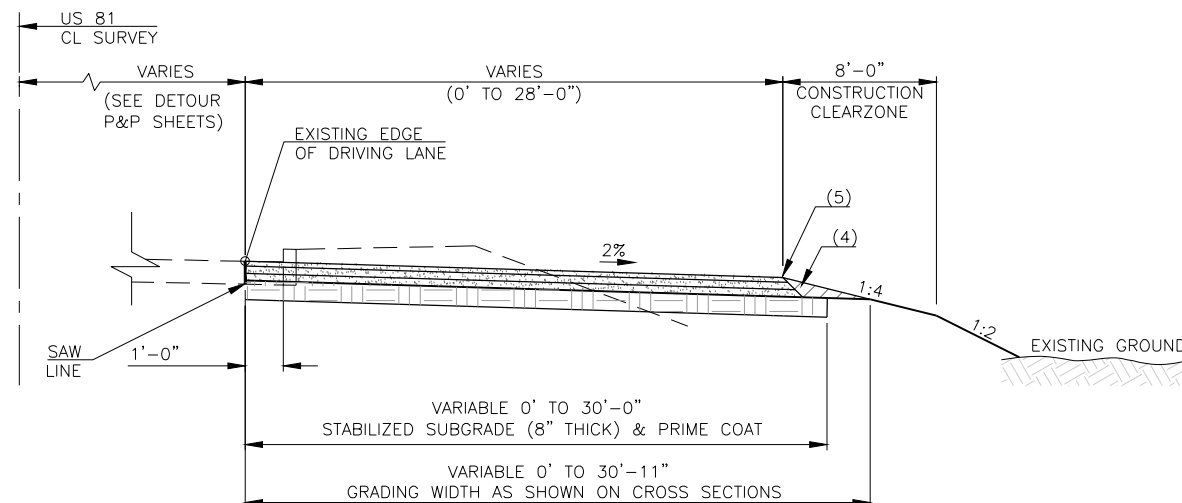
CL SURVEY STA. 123+71.24 TO STA. 128+39.19

PAVEMENT REQUIREMENT		
10" PAVT. STRUCTURE	12'-0" & 14'-0" DRIVING LANES	12'-0" LT. TURN LANE
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG76-280K)	2" SUPERPAVE TYPE S4 (PG76-280K)
	3" SUPERPAVE TYPE S3 (PG76-280K)	3" SUPERPAVE TYPE S3 (PG76-280K)
BASE COURSE	2.5" SUPERPAVE TYPE S3 (PG64-220K)	2.5" SUPERPAVE TYPE S3 (PG64-220K)
	2.5" SUPERPAVE TYPE S3 (PG64-220K)	2.5" SUPERPAVE TYPE S3 (PG64-220K)

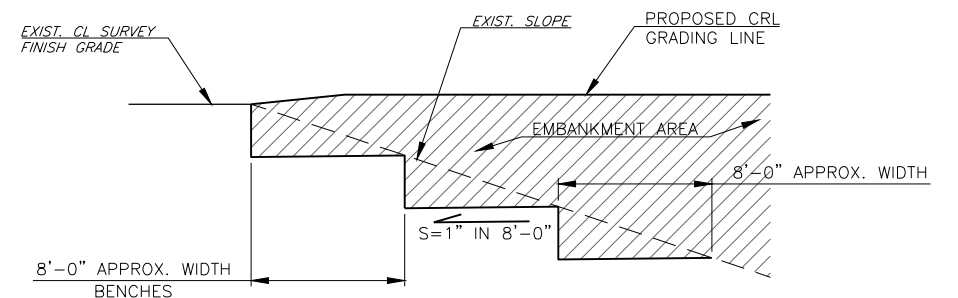
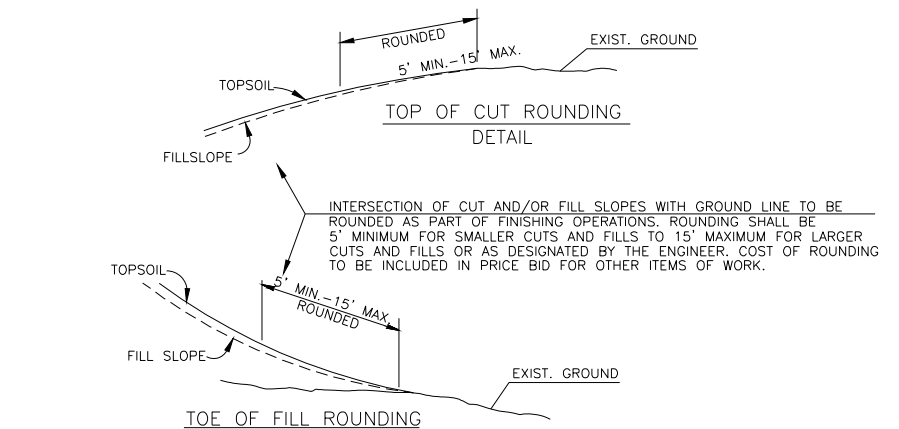


CRL DETOUR STA.108+40.13 TO STA.117+96.34
CRL DETOUR STA.118+09.11 TO STA.124+80.91

PAVEMENT REQUIREMENT	
8" PAVT. STRUCTURE	14'-0" DRIVING LANES
SURFACE COURSE	2" SUPERPAVE TYPE S4 (PG64-220K)
BASE COURSE	3" SUPERPAVE TYPE S3 (PG64-220K)
	3" SUPERPAVE TYPE S3 (PG64-220K)



CRL	DETOUR	STA.107+24.71	TO	STA.108+40.13
CRL	DETOUR	STA.124+80.91	TO	STA.127+21.19



EXISTING CL SURVEY SLOPE SHALL BE CONTINUOUSLY BENCHMARKED. BEGINNING AT THE LOWER LIMITS OF THE SLOPE, WIDTH OF BENCH SHALL BE APPROX. 8'-0". BENCHMARKING EXTENTS SHALL BE DETERMINED BY THE ENGINEER. SALVAGE TOPSOIL PRIOR TO BENCHMARKING.

BRIDGE GENERAL NOTES

SPECIFICATIONS:
COMPLY WITH THE REQUIREMENTS OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

VERIFICATION OF EXISTING CONDITIONS:
THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO COMPLETE THE WORK AS SHOWN AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF. BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITION UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE BRIDGE OR ATTACHMENTS. ANY DAMAGE TO THE BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR’S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR’S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

EXISTING PLANS:
THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF FEDERAL AID GRADE CROSSING PROJECT NO. S.N.–F.A.G.H. 163 "G" (I)(MODIFIED). PLANS OF THIS PROJECT ARE AVAILABLE FROM PRINTING SERVICES BRANCH OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT 200 N.E. 21ST STREET, OKLAHOMA CITY, OKLAHOMA, 73105.

DECK HAUNCHES:
PLAN QUANTITY FOR CLASS AA CONCRETE INCLUDES AN AMOUNT FOR THE HAUNCHES OVER THE BEAMS AND SHALL NOT BE ADJUSTED FOR PAYMENT BASED ON THE ACTUAL HAUNCHES USED. THE CONTRACTOR SHALL TAKE SURVEY SHOTS AND MEASUREMENTS AS NECESSARY TO CALCULATE THE ACTUAL HAUNCH THICKNESSES AT TENTH POINTS ALONG THE LENGTH OF THE HAUNCH AND SUBMIT THOSE RESULTS TO THE ENGINEER FOR APPROVAL.

PILE DRIVING AND CAPACITY:
THE FACTORED PILE REACTION FOR EACH HP12X53 PILE AT ABUTMENT NO. 1 IS 99.6 TONS. THE FACTORED PILE REACTION FOR EACH HP12X53 PILE AT ABUTMENT NO. 2 IS 92.0 TONS. THE FACTORED PILE REACTION FOR EACH HP12X74 PILE FOR THE SLEEPER SLAB AT APPROACH SLAB NO. 1 IS 125.6 TONS.

THE FOLLOWING FORMULA (GATES EQUATION) SHALL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES.

AXIAL LOAD RESISTANCE = $\phi[(0.875 \sqrt{e} \log_{10} (10N)) - 50]$ (TONS)

WHERE:
ϕ = RESISTANCE FACTOR OF 0.4
E = ENERGY PRODUCED BY THE HAMMER PER BLOW IN FOOT–POUNDS. FOR GRAVITY AND SINGLE ACTING DIESEL HAMMERS, THE VALUE IS BASED ON THE ACTUAL RAM STROKE OBSERVED IN THE FIELD AND MEASURED IN FEET MULTIPLIED BY THE RAM WEIGHT IN POUNDS.
N = AVERAGE NUMBER OF HAMMER BLOWS PER INCH OF PILE PENETRATION FOR THE LAST 10 TO 20 BLOWS DELIVERED TO THE PILE HEAD.

THE ABOVE FORMULA IS ONLY APPLICABLE WHEN:
– THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY AND SINGLE ACTING HAMMERS ONLY).
– THE HEAD OF THE PILE IS NOT BROOMED, CRUSHED OR OTHERWISE DAMAGED.
– THE PENETRATION IS QUICK AND UNIFORM.
– THERE IS NO APPRECIABLE REBOUND OF THE HAMMER AND A FOLLOWER IS NOT USED.

THE NUMBER OF BLOWS PER INCH OF PILE PENETRATION MAY BE MEASURED EITHER DURING INITIAL DRIVING OR BY RE–DRIVING WITH A WARM HAMMER OPERATED AT FULL ENERGY AFTER A PILE SET PERIOD, AS DETERMINED BY THE ENGINEER.

IF WATER JETS ARE USED IN CONNECTION WITH THE DRIVING, DETERMINE THE AXIAL LOAD RESISTANCE BY THE FORMULA ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

RIPRAP:
A 24" THICK LAYER OF TYPE I PLAIN RIPRAP SHALL BE PLACED AT THE ABUTMENTS AS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 601 AND OTHER APPLICABLE SECTIONS OF THE 2009 STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION. THE RIPRAP SHALL BE PLACED IN A MANNER APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT THE RIPRAP IS NOT PLACED OVER THE LOCATION OF ANY EXISTING UTILITY LINES OR BEYOND THE LIMITS OF THE RIGHT–OF–WAY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PRESERVING THE INTEGRITY OF EXISTING AND NEW UTILITIES AND RIGHT–OF–WAY.

CONCRETE:
ALL PEDESTAL CONCRETE EDGES SHALL HAVE A ¾" CHAMFER. ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE SHALL HAVE A 1½" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE SHALL HAVE A ¾" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. ALL CHAMFER STRIPS SHALL BE SIZED LUMBER.
EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.

CROSS–HOLE SONIC LOGGING (CSL) TUBES AND TESTING:
SEE SPECIAL PROVISION 516–3 FOR REQUIREMENTS FOR CROSS–HOLE SONIC LOGGING TUBES AND TESTING.

STRUCTURAL STEEL:
STRUCTURAL STEEL FOR PILING SHALL CONFORM TO AASHTO M270 (ASTM A572), GRADE 50.
PROVIDE STRUCTURAL STEEL FOR PLATE GIRDER AND ALL STIFFENER PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50WT2 (WEATHERING STEEL, NON FRACTURE CRITICAL CHARPY V–NOTCH TESTED FOR ZONE 2). USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS.
CAMBER PLATE GIRDERS TO ACCOUNT FOR VERTICAL CURVE AND DEAD LOAD DEFLECTION.
PROVIDE STRUCTURAL STEEL FOR CROSS–FRAME ANGLES, CHANNELS, AND PLATES IN CONFORMANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V–NOTCH TESTING NOT REQUIRED). USE BOLTS CONFORMING TO AASHTO M164 (ASTM A325). PROVIDE ALL BOLTS, NUTS, WASHERS AND WELDING WITH WEATHERING CHARACTERISTICS.
STRUCTURAL STEEL FOR ANCHOR PLATES AND BUILT–UP CONTACT ANGLES SHALL CONFORM TO ASTM A240 (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V–NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE B8M (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V–NOTCH TESTING NOT REQUIRED). USE AUSTENITIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE 8M AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.

DECK SLAB:
EPOXY COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS DECK FORM HANGERS, TY–BAR CLIPS, INSERT WELD ANCHORS, OR OTHER APPURTENANCES, THAT WILL REMAIN IN PLACE IN THE DECK SLAB. EPOXY–COAT IN ACCORDANCE WITH AASHTO M284 OR GALVANIZE IN ACCORDANCE WITH AASHTO M111.
THE DECK SLAB SHALL BE POURED IN ACCORDANCE WITH SLAB POURING SEQUENCE SHOWN IN PLANS. NO SPAN SHALL BE POURED UNTIL AT LEAST 48 HOURS AFTER ANY ADJACENT POUR HAS BEEN COMPLETED. IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC OR AS DIRECTED BY THE ENGINEER. DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5 FEET OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS IN PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT, AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.
SEAL ALL DECK SLAB CONSTRUCTION JOINTS WITH HIGH MOLECULAR WEIGHT METHACRYLATE IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COST OF THE EQUIPMENT AND LABOR FOR THE INSTALLATION OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION". INCLUDE ALL COST OF HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". THE DEPARTMENT WILL NOT MEASURE THE PREPARATION AND SEALER OF EMERGENCY CONSTRUCTION JOINTS FOR PAYMENT.

△ STAY–IN–PLACE DECK FORMS:
THE CONTRACTOR MAY USE STAY–IN–PLACE STEEL DECK FORMS IF THE MINIMUM DECK SLAB THICKNESS SHOWN IN THE PLANS IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. PREFORMED CORRUGATION FILLER, COMPOSED OF POLYSTYRENE OR OTHER MATERIAL, MAY BE USED IF BONDED TO THE DECK FORMS. NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. THE TOTAL ADDITIONAL WEIGHT OF THE DECK FORM AND FILLER SHALL NOT EXCEED 5 P.S.F. THE DEPARTMENT CONSIDERS THE COST OF STAY–IN–PLACE DECK FORMS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF CLASS AA CONCRETE.
THE CONTRACTOR MAY SUBSTITUTE STAY–IN–PLACE PRESTRESSED CONCRETE DECK FORMS, AT NO ADDITIONAL COST TO THE DEPARTMENT, IF THE FOLLOWING CONDITIONS ARE MET:

- (1) THE BRIDGE ENGINEER APPROVES SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR THE FORMS SUBMITTED BY THE CONTRACTOR.
- (2) THE BRIDGE ENGINEER APPROVES A NEW STRUCTURAL DESIGN, STRUCTURAL CALCULATIONS, AND A NEW REINFORCING SCHEDULE OF THE DECK SLAB SUBMITTED BY THE CONTRACTOR.
- (3) SHOP DRAWINGS, NEW DECK SLAB REINFORCING SCHEDULE, STRUCTURAL DESIGNS, AND CALCULATIONS ARE PREPARED BY AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA.

PLATE GIRDER BRACING FOR DECK SLAB PLACEMENT:
SUBMIT DRAWINGS OF THE BRACING SYSTEM TO THE BRIDGE ENGINEER FOR APPROVAL. BRACING SYSTEMS OTHER THAN SHOWN IN THE PLANS MAY BE USED IF WORKING DRAWINGS AND CALCULATIONS OF THE PROPOSED BRACING SYSTEM ARE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL. DRAWINGS AND CALCULATIONS OF THE PROPOSED BRACING SYSTEM SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. NO DECK SLAB CONCRETE SHALL BE PLACED UNTIL BRACING SYSTEM IS APPROVED. ALL COST FOR BRACING AND FORMWORK SHALL BE INCLUDED IN OTHER ITEMS OF WORK.
CANTILEVER FORMING BRACKETS SHALL BE USED AT EXTERIOR GIRDERS TO PREVENT GIRDER TWIST. ALL CANTILEVER FORMING BRACKETS SHALL BE ADJUSTABLE AND CAPABLE OF BEING ADJUSTED DURING THE PLACEMENT OF DECK SLAB CONCRETE IN ORDER TO MAINTAIN PROPER GRADES AT THE OVERHANG. PROVIDE A METHOD TO PREDICT THE CRUSH AND SETTLEMENT OF SHIMS, IF USED, FOR ADJUSTMENT OF THE FORMING BRACKETS TO THE BRIDGE ENGINEER. THE RESULTING FORCE OF THE LEG BRACE OF THE CANTILEVER BRACKETS SHALL BEAR ON THE WEB AND WITHIN 6 INCHES OF THE BOTTOM FLANGE OF THE GIRDERS.

WATER REPELLENT TREATMENT:
WATER REPELLENT TREATMENT SHALL BE APPLIED TO THE BRIDGE IN A MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

△ URETHANE COATING SURFACE TREATMENT:
THE CONCRETE FINISH SHALL BE A LIQUID APPLIED URETHANE COATING SUCH AS CIM 1000 AS MANUFACTURED BY CIM INDUSTRIES, INC., IM–129 AS MANUFACTURED BY CUSTOM LININGS, OR AN APPROVED EQUAL. PRODUCT INFORMATION FOR CIM 1000 CAN BE OBTAINED FROM LASTER CASTOR CORP. OF TULSA, OKLAHOMA, PHONE NUMBER (918) 234–7777. PRODUCT INFORMATION FOR IM–129 CAN BE OBTAINED FROM CUSTOM LININGS, PHONE NUMBER (719) 395–4414.
THE URETHANE COATING SURFACE TREATMENT SHALL BE APPLIED TO THE FOLLOWING CONCRETE SURFACES OF THE BRIDGE AND IN A MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS:

- (1) PIER CAP: TOP OF PIER CAP AND ALL SIDES OF PEDESTALS AND STEPS; 6" DOWN FROM TOP OF PIER CAP ON SIDES AND ENDS.
 - (2) ABUTMENT SEAT: TOP OF BRIDGE SEAT AND ALL SIDES OF PEDESTALS AND STEPS; 6" DOWN FROM TOP OF LOWER BRIDGE SEAT ON SIDES AND FRONT.
 - (3) ABUTMENT BACKWALL: ALONG THE FRONT FACE OF BACKWALL FROM TOP OF BACKWALL TO TOP OF BRIDGE SEAT.
- DO NOT APPLY URETHANE COATING UNDER THE ELASTOMERIC BEARING PADS.
THE EQUIPMENT AND METHODS OF APPLYING THE URETHANE COATING SHALL BE IN ACCORDANCE WITH THE PRODUCT COATING PROFILE AND INSTRUCTION GUIDES FOR APPLICATION TO CONCRETE. PRECAUTIONARY MEASURES SHALL BE IN ACCORDANCE WITH THE MATERIAL SAFETY DATA SHEETS AS PROVIDED BY THE MANUFACTURER.
THE COATING SHALL BE A MINIMUM OF 68 MILS WET THICKNESS AND 60 MILS DRY THICKNESS. IN ADDITION TO APPLYING THE COATING TO THE CONCRETE SUBSTRUCTURE UNITS, THE COATING SHALL TURN UP THE VERTICAL SURFACES OF THE PIER AND ABUTMENT PEDESTALS AND ABUTMENT BACKWALL AS TO PROVIDE A WATER TIGHT SEAL. SURFACE PREPARATIONS AND PRODUCT MIXING SHALL BE PER THE MANUFACTURER’S RECOMMENDATIONS. ALL CONCRETE WORK SHALL BE COMPLETE PRIOR TO THE APPLICATION OF THE CONCRETE FINISH AND ALL CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI AT THE TIME OF APPLICATION. MASK AREAS PRIOR TO APPLICATION TO PROVIDE A CLEAN STRAIGHT FINISH. PRIMER SHALL BE APPLIED TO THE CONCRETE SURFACES PRIOR TO APPLYING THE COATING. REMOVE COATING FROM ANY SURFACE OUTSIDE OF THE AREAS INDICATED IN THE PLANS TO THE SATISFACTION OF THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
WATER REPELLENT TREATMENT WILL NOT BE REQUIRED ON SURFACES THAT ARE COATED WITH URETHANE COATING.
PAYMENT WILL BE MADE AT THE CONTRACT PRICE BID FOR "SPECIAL CONCRETE FINISH", AND SHALL INCLUDE FULL COMPENSATION FOR ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.


ENVIRONMENTAL MITIGATION NOTES

WHOOPIING CRANE NOTE:
IF WHOOPIING CRANES ARE SEEN AT OR WITHIN ONE MILE OF THE PROPOSED WORK SITE, THE RESIDENT ENGINEER SHALL IMMEDIATELY CONTACT THE ODOT BIOLOGIST AT 405–210–3671. IF THERE IS A CONFIRMED SITING AND/OR WHOOPIING CRANES ARE OBSERVED WITHIN ONE MILE OF THE PROPOSED WORK SITE, ALL CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL IT IS DETERMINED THAT WHOOPIING CRANES HAVE LEFT THE PROJECT VICINITY WITHOUT BEING HARASSED.

BALD EAGLE NOTE:
SUITABLE NESTING, ROOSTING OR FORAGING HABITAT FOR THE BALD EAGLE OCCURS WITHIN THE PROJECT’S ACTION AREA. THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16, THROUGH MAY 31. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405–210–3671 TO SCHEDULE A NEST SURVEY. NEST SEARCH SURVEYS CAN ONLY BE CONDUCTED WHEN LEAVES ARE NOT ON THE TREES TYPICALLY BETWEEN DECEMBER 1ST AND FEBRUARY 28TH. NO WORK MAY OCCUR WITHIN SUITABLE BALD EAGLE HABITAT, LOCATED BETWEEN STA. 94+00 AND STA. 114+00, DURING THE NESTING SEASON (SEPTEMBER 16, THROUGH MAY 31) UNTIL THE COMPLETION OF THE SURVEY BY THE ODOT BIOLOGIST. IF NESTS ARE OBSERVED, A NO–WORK BUFFER UP TO A DISTANCE OF 1000 FEET SHALL BE PLACED AROUND THE NEST. THE EXACT DISTANCE OF THE BUFFER ZONE SHALL BE ESTABLISHED BY THE ODOT BIOLOGIST IN CONSULTATION WITH US FISH AND WILDLIFE SERVICES. IF THE BUFFER CANNOT BE MAINTAINED, ALL CLEARING, EXTERNAL CONSTRUCTION AND LANDSCAPING ACTIVITIES, WITHIN THE BUFFER, SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15 (OUTSIDE THE NESTING SEASON).

MIGRATORY BIRD NOTE:
MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM MARCH 1 TO AUGUST 31. MIGRATORY BIRD NESTING USE OF A RCB (NBI:10415) AND THE BRIDGE OVER THE UPAC RAILROAD (NBI:10566) WAS OBSERVED. PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGES AND CULVERTS SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND FEBRUARY 28, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND FEBRUARY 28, THE BRIDGES AND CULVERTS SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO MARCH 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER–RESISTANT POLYPROPYLENE NETTING WITH 0.25–INCH OR SMALLER OPENINGS, PRIOR TO MARCH 1. METHODS OTHER THAN NETTING MUST BE PRE–APPROVED BY THE ODOT BIOLOGIST.

LEAKING UNDERGROUND STORAGE TANK (LUST) SITE NOTE:
STATION OCC FAC./CASE NO. FACILITY
ABT. 127+60 TO 128+39 25FT LT 0904737 / 064–UU 66 MART
ABT. 127+25 TO 128+15 25FT RT NA / NA VACANT LOT
PETROLEUM CONTAMINATION MAY EXIST AT OR NEAR THE REFERENCED LEAKING UNDERGROUND STORAGE TANK (LUST) SITE. BASED ON THE AVAILABLE INFORMATION, CONTAMINATION IS NOT EXPECTED TO AFFECT CONSTRUCTION ACTIVITIES, BUT IS STILL POSSIBLE. IN THE EVENT CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED, THE CONTRACTOR SHALL ADHERE TO ODOT’S HAZARDOUS MATERIALS SPECIFICATION 107.15 AND NOTIFY THE RESIDENT ENGINEER, WHO MAY THEN CONTACT THE ENVIRONMENTAL PROGRAMS DIVISION AT (405)521–3050 FOR ASSISTANCE.

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	DESIGN		M.B.S.	
	DETAIL		M.B.S.	
	CHECK		M.B.S.	
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BRIDGE GENERAL NOTES				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
		JOB PIECE NO. 27004(04)		SHEET NO. AB01

RAILROAD NOTES

NOTIFICATION OF WORK:

THE CONTRACTOR IS REQUIRED TO GIVE THE UNION PACIFIC RAILROAD COMPANY AT LEAST 10 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE UNION PACIFIC RAILROAD COMPANY MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTION AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILROAD OPERATIONS DURING THE UPGRADE OF CROSSING ON I-40B/US-81 IN CANADIAN COUNTY AS IT RELATES TO THE UNION PACIFIC RAILROAD COMPANY'S PROPERTY. (AARDOT 596 830A MILEPOST 403.9)

THE CONTRACTOR SHALL NOTIFY:

HANS WAMMEL
MANAGER OF TRACK MAINTENANCE
UNION PACIFIC RAILROAD COMPANY
220 S. MILES
EL RENO, OK 73036
PHONE: 405-274-4426
EMAIL: HCWAMMEL@UP.COM

MR. CLAY A. MCMANAMAN
MANAGER OF INDUSTRY & PUBLIC PROJECTS
UNION PACIFIC RAILROAD COMPANY
P.O. BOX 1337
EL RENO, OKLAHOMA 73036
PHONE: 402-952-7059
CAMCMANA@UP.COM

FLAGGING AND INSURANCE:

FLAGGING AND INSURANCE SHALL BE PROVIDED AS SPECIFIED IN SECTION 107 OF THE STANDARD SPECIFICATIONS AND IN THE SPECIAL PROVISIONS FOR RAILROAD FLAGGING (SEE PROPOSAL FOR SPECIAL PROVISIONS) AND WHAT IS STATED IN THE UNION PACIFIC RAILROAD COMPANY'S RIGHT OF ENTRY AGREEMENT. UNION PACIFIC RAILROAD COMPANY, AT THEIR DISCRETION, SHALL PROVIDE FLAGGING FOR THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO REIMBURSE UNION PACIFIC RAILROAD COMPANY FOR FLAGGING SERVICES PROVIDED.

THE CONTRACTOR SHALL ALSO FURNISH SATISFACTORY EVIDENCE TO THE STATE OF OKLAHOMA THAT THEY HAVE PROVIDED INSURANCE OF THE KINDS AND AMOUNTS AS SPECIFIED IN THE SPECIAL PROVISIONS FOR RAILROAD INSURANCE AND IN THE UNION PACIFIC COMPANY'S RIGHT OF ENTRY AGREEMENT.

THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A RIGHT OF ENTRY AGREEMENT WITH THE UNION PACIFIC RAILROAD COMPANY BEFORE THEY WILL BE ALLOWED ON THE RAILROAD'S RIGHT-OF-WAY.

PRE-WORK MEETING:

PRIOR TO WORKING ON THE UNION PACIFIC RAILROAD COMPANY'S RIGHT-OF-WAY OR IN THE VICINITY OF THEIR TRACKS, YOU MUST CONTACT THE LOCAL MANAGER OF TRACK MAINTENANCE FOR THE UNION PACIFIC RAILROAD COMPANY TO COORDINATE YOUR WORK. IT IS VITAL THAT YOU HAVE CONTACT WITH THE UNION PACIFIC RAILROAD COMPANY MANAGER OF TRACK MAINTENANCE PRIOR TO GETTING ON THE RAILROAD'S PROPERTY.

COORDINATION WITH RAILROAD:

THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25 (TWENTY-FIVE) FEET OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE UNION PACIFIC RAILROAD COMPANY AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE UNION PACIFIC RAILROAD COMPANY MANAGER OF TRACK MAINTENANCE, A MINIMUM OF 30 (THIRTY) CALENDAR DAYS IN ADVANCE OF WHEN FLAGGING IS REQUIRED.

SPECIAL PERMISSION MUST BE OBTAINED FROM THE UNION PACIFIC RAILROAD COMPANY BEFORE MOVING ANY EQUIPMENT OR OTHER OBJECT WHICH COULD MAKE THE TRACK IMPASSABLE IF IT FELL WITHIN THE AREA SHOWN ON THE CONSTRUCTION CLEARANCE DIAGRAM.

RAILROAD FLAGGERS, PROTECTIVE SERVICES, AND PROTECTIVE DEVICES WILL BE REQUIRED, BUT NOT LIMITED TO, EVENTS WHEN:

- THE CONTRACTOR WORK ACTIVITIES ARE WITHIN 25 (TWENTY-FIVE) FEET OF THE TRACK, MEASURED FROM THE TRACK CENTERLINE.
- ACTIVITIES ARE OVER OR UNDER THE TRACK.
- CRANES OR SIMILAR EQUIPMENT WILL NOT BE POSITIONED WHERE THEY COULD FOUL THE TRACK IF THEY TIPPED OVER OR EXPERIENCED SOME OTHER CATASTROPHIC EVENT.
- IN THE OPINION OF THE UNION PACIFIC RAILROAD COMPANY REPRESENTATIVE:
 - IT IS NECESSARY TO SAFEGUARD THE UNION PACIFIC RAILROAD COMPANY PROPERTY, EMPLOYEES, TRAINS, ENGINES, AND FACILITIES.
 - WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF THE ELEVATIONS AND TRACK OR OTHER UNION PACIFIC RAILROAD COMPANY FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
 - WHEN WORK IN ANY WAY INTERFERES WITH SAFE OPERATION OF TRAINS AND TIMETABLE SPEEDS.
 - WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, SIGNALS, COMMUNICATIONS, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSON, MATERIAL, EQUIPMENT, OR BLASTING IN THE AREA.

PROTECTION OF RAILROAD UNDER BRIDGE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE RAILROAD TRACK BED DURING ALL CONSTRUCTION OPERATIONS. PRIOR TO ANY WORK BEING STARTED, A PROPOSED METHOD OF PREVENTING DEBRIS FROM FALLING ON THE RAILROAD TRACK BED SHALL BE SUBMITTED TO THE RAILROAD REPRESENTATIVE FOR HIS APPROVAL.

THE CONTRACTOR SHALL NOT BE PERMITTED TO LEAVE ANY WORKER SCAFFOLDING IN PLACE IN WORKING POSITION. AT THE END OF EACH WORKDAY, THE SCAFFOLDING SHALL BE REMOVED AND SET A SAFE DISTANCE FROM ANY OPERATING RAILROAD LINE. SCAFFOLDING SHALL AT ALL TIMES MAINTAIN THE MINIMUM CLEARANCE AS SHOWN ON THE "MINIMUM CONSTRUCTION CLEARANCE ENVELOPE" ON THE PLANS (THIS SHEET).

DEMOLITION OF STRUCTURES OVER RAILROAD:

ALL DEMOLITION PLANS FOR REMOVAL OF STRUCTURES OVER RAILROAD LINES SHALL BE REVIEWED AND APPROVED BY THE UNION PACIFIC RAILROAD COMPANY BEFORE ANY REMOVAL MAY BEGIN.

DEMOLITION OF STRUCTURES WILL BE PERFORMED IN ACCORDANCE WITH THE RAILROAD'S "INSTRUCTIONS FOR PREPARATION OF DEMOLITION PLANS FOR STRUCTURES OVER THE UNION PACIFIC RAILROAD."

- THE ELEVATION OF THE EXISTING TOP-OF -RAIL SHALL NOT BE VERIFIED BEFORE BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.
- ALL SHORTING SYSTEMS THAT IMPACT THE RAILROAD'S OPERATIONS AND/OR SUPPORTS THE RAILROAD'S EMBANKMENT SHALL BE DESIGNED AND CONSTRUCTED PER CURRENT RAILROAD GUIDELINES FOR TEMPORARY SHORING.
- ALL DEMOLITIONS WITHIN THE RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATIONS SHALL BE IN COMPLIANCE WITH THE RAILROAD'S DEMOLITION GUIDELINES.
- ERECTION OVER THE RAILROAD'S RIGHT-OF-WAY SHALL BE DESIGNED TO CAUSE NO INTERRUPTION TO THE RAILROAD'S OPERATION, ENABLING THE TRACK(S) TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS.
- RAILROAD REQUIREMENTS DO NOT ALLOW WORK WITHIN 50 FEET OF TRACK CENTERLINE WHEN A TRAIN PASSES THE WORK SITE AND ALL PERSONNEL MUST CLEAR THE AREA WITHIN 25 FEET OF THE TRACK CENTERLINE AND SECURE ALL EQUIPMENT.
- ALL PERMANENT CLEARANCES SHALL BE VERIFIED BEFORE PROJECT CLOSING.
- FALSEWORK CLEARANCES SHALL COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES.

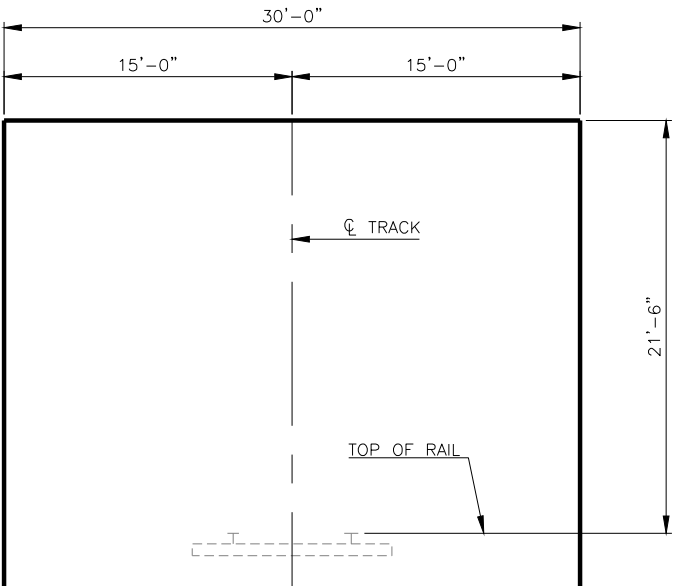
EROSION CONTROL AND DRAINAGE:

THE CONTRACTOR MUST SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL AND HAVE THE METHOD APPROVED BY THE RAILROAD. THE CONTRACTOR WILL INSTALL, MAINTAIN, AND REMOVE ALL EROSION CONTROL MEASURES DEEMED NECESSARY WITHIN THE RAILROAD RIGHT OF WAY.

THE PROPOSED GRADE SEPARATION PROJECT SHALL NOT INCREASE THE QUANTITY AND/OR CHARACTERISTICS OF THE FLOW IN THE RAILROAD'S DITCHES AND/OR DRAINAGE STRUCTURES. THE CONTRACTOR WILL MAINTAIN THE RAILROAD DRAINAGE AT ALL TIMES WHEN WORKING WITHIN THE RAILROAD RIGHT OF WAY.

RAIL TRAFFIC:

THE UNION PACIFIC RAILROAD COMPANY HAS 4 TRAINS PER DAY AT 49 MPH, ON THE 33 SUBDIVISION. RAIL TRAFFIC IS FOR INFORMATION PURPOSES ONLY. ACTUAL RAIL TRAFFIC MAY VARY.



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

NOTE:
NO CONSTRUCTION ACTIVITIES OR OTHER OBSTRUCTIONS SHALL BE PLACED WITHIN THE LIMITS SHOWN.

HORIZONTAL DIMENSIONS SHOWN ARE MEASURED AT RIGHT ANGLES TO THE CL OF R.R. TRACK.

VERTICAL DIMENSION SHOWN IS PERPENDICULAR TO PLANE OF TOP OF RAILS.

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY		DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
		CHECK	M.B.S.	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 27004(04)			SHEET NO. AB02	

BRIDGE PAY ITEM NOTES

- BR-1 PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITIES ONLY. SEE SECTION 109.01.B OF THE STANDARD SPECIFICATIONS.
- BR-2 CONCRETE MAY BE PLACED AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE SUBSTRUCTURE AND APPROVED BY THE ENGINEER. MEASUREMENT AND PAYMENT WILL BE AS SHOWN IN THE PLANS.
- BR-3 THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 416.5 C.Y. OF CLASS AA CONCRETE AND 76,980 LB. OF EPOXY COATED REINFORCING STEEL. INCLUDE ALL COSTS FOR CONSTRUCTING THE APPROACH SLABS, INCLUDING CONCRETE, REINFORCING STEEL (INCLUDING SLAB TO BRIDGE RAILING BARS), WELDED EXPANSION JOINT ASSEMBLIES, BACKER ROD, RAPID CURE JOINT SEALANT, POLYSTYRENE, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "APPROACH SLAB".
- BR-4 THE PARAPETS CONTAIN AN ESTIMATED TOTAL OF 139.2 C.Y. OF CLASS AA CONCRETE AND 22,850 LB. OF EPOXY COATED REINFORCING STEEL. INCLUDE ALL COSTS FOR CONSTRUCTING THE PARAPETS, INCLUDING CONCRETE, REINFORCING STEEL, PREFORMED EXPANSION MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "CONCRETE PARAPET".
- BR-5 THE PEDESTRIAN RAILS CONTAIN AN ESTIMATED TOTAL OF 29,820 LB OF STRUCTURAL STEEL, 40.6 C.Y. OF CLASS AA CONCRETE, 2,970 LB. OF EPOXY COATED REINFORCING STEEL. INCLUDE ALL COSTS FOR CONSTRUCTING THE TRAFFIC RAILS, INCLUDING CONCRETE, REINFORCING STEEL, STRUCTURAL STEEL, PREFORMED EXPANSION MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "(PL)CONCRETE PARAPET (HANDRAIL TYPE)".
- BR-6 PROVIDE AND INSTALL FIXED BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 3,040 LB. OF STAINLESS STEEL. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL FIXED BEARING ASSEMBLY".
- BR-7 PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE AND LOCATION AS DETAILED IN THE PLANS. THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 6,690 LB. OF STAINLESS STEEL. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE ELASTOMERIC PADS, ANCHOR PLATES, CONTACT ANGLES AND ANCHOR BOLTS, NUTS AND WASHERS, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".
- BR-8 APPLY CIM1000, OR APPROVED EQUAL, TO THE ABUTMENTS AND PIERS AS DIRECTED IN THE PLANS. INCLUDE ALL COSTS FOR MATERIAL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT PRICE BID PER S.Y. FOR "SPECIAL CONCRETE FINISH".
- BR-9 PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES UNLESS ADDITIONAL PILING LENGTH IS REQUIRED. ADDITIONAL PILES, FURNISHED, AS AUTHORIZED BY THE ENGINEER, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE.
- BR-10 PREPARE SURFACE AND INSTALL HIGH MOLECULAR WEIGHT METHACRYLATE SEALER FOR DECK SLAB CONSTRUCTION JOINTS AT LOCATIONS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE COSTS FOR LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION".
- BR-11 PROVIDE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER FOR DECK SLAB CONSTRUCTION JOINTS AT LOCATIONS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COSTS OF THE SEALER RESIN MATERIAL IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". SEALER RESIN QUANTITY ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.
- BR-12 ITEM "(PL)INSTALLATION OF BRIDGE ITEMS" CONSISTS OF CONSTRUCTING ENTRY PILASTERS AT THE FOUR CORNERS OF THE BRIDGE AS SHOWN IN THE PLANS. THE CONSTRUCTION OF EACH PILASTER REQUIRES AN ESTIMATED TOTAL OF 19 C.Y. OF SUBSTRUCTURE EXCAVATION COMMON, 16 C.Y. OF SELECT BACKFILL, 6 C.Y. OF CLASS AA CONCRETE AND 1,620 LB. OF EPOXY COATED REINFORCING STEEL. INCLUDE ALL COSTS FOR EXCAVATING, BACKFILLING, CONCRETE, REINFORCING STEEL, LIGHT ASSEMBLY, MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "(PL)INSTALLATION OF BRIDGE ITEMS ".
- BR-13 RIPRAP QUANTITY ESTIMATED AT 110 LBS. PER CUBIC FOOT.
- BR-14 INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE PERFORATED PIPE AND PIPE UNDERDRAIN COVER MATERIAL (BOTH FILTER SAND AND COARSE), INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "6" PERFORATED PIPE UNDERDRAIN ROUND". INSTALLATION SHALL BE AS SHOWN IN THE PLANS AND ON STD. PUD-3.

- BR-15 EXTENT, LOCATION AND DEPTH OF NON-PERFORATED PIPE UNDERDRAIN MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION. INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE NON-PERFORATED PIPE, AND STANDARD BEDDING MATERIAL, INCLUDING ALL TRENCH EXCAVATION, MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "6" NON-PERF. PIPE UNDERDRAIN RND". INSTALLATION SHALL BE AS SHOWN IN THE PLANS AND ON STD. PUD-3.
- BR-16 ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVAL AND DISPOSAL OF SUPERSTRUCTURE AND SUBSTRUCTURE OF 3-40', 59', 67', 2-50', 2-40', 30', 2-40' I-BM SPAN BRIDGE WITH 52' CLEAR ROADWAY WITH 2-3' SIDEWALKS, INCLUDING THE EXCAVATION AND REMOVAL OF EXISTING PIER FOOTINGS AND ABUTMENT PILES REQUIRED TO CONSTRUCT NEW SUBSTRUCTURE COMPONENTS, IN ACCORDANCE WITH SUBSECTION 619.04.B(2) OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. THE STRUCTURE AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. INCLUDE ALL COSTS FOR LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE CONTRACT UNIT PRICE OF "REMOVAL OF EXISTING BRIDGE STRUCTURE".
- BR-17 PROVIDE AND INSTALL CHAIN LINK THROW FENCING ON THE BRIDGE OF THE SIZE AND AT LOCATIONS SHOWN IN THE PLANS. THE THROW FENCE SHALL HAVE A CLIMB BARRIER AS SHOWN ON THE PLANS. THE CHAIN LINK FABRIC SHALL BE TYPE IV WITH A BLACK (FS 27038) VINYL OR PLASTIC COATING. ALL OTHER STEEL COMPONENTS SHALL BE GALVANIZED AND THEN POWDERCOATED BLACK (FS 27038). INCLUDE ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE THROW FENCING, INCLUDING ALL MATERIAL, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN THE CONTRACT UNIT PRICE OF "FENCE-STYLE CLF (7' HIGH, CLASS B)".
- BR-18 PROVIDE AND INSTALL BACKWALL PLATES AT THE ABUTMENTS AS SHOWN ON THE PLANS. ALL COSTS FOR FABRICATION AND INSTALLATION OF THE BACKWALL PLATES INCLUDING MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "STRUCTURAL STEEL A36."
- BR-19 PROVIDE AND APPLY AN ANTI-GRAFFITI COATING SYSTEM TO THE FOLLOWING CONCRETE SURFACES: 1) ALL EXPOSED SURFACES OF ABUTMENTS AND WINGS; 2) ALL EXPOSED SURFACES OF COLUMNS AND DRILLED SHAFTS AT PIERS; 3) ALL EXPOSED SURFACES OF ENTRY PILASTERS; 4) ALL EXPOSED SURFACES OF ALL PEDESTRIAN RAIL POSTS ON THE BRIDGE DECK AND APPROACH SLABS; AND 5) ALL EXPOSED SURFACES OF ALL CONCRETE PARAPETS ON BRIDGE DECK AND APPROACH SLABS. ALL COSTS FOR ANTI-GRAFFITI COATING SYSTEM INCLUDING MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "(SP) GRAFFITI TREATMENT."
- BR-20 PROVIDE AND APPLY ALL CONCRETE COLORING/STAINING FOR THE PROJECT AS SHOWN ON SHEET B044 IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS. THERE IS APPROXIMATELY 42 S.Y. OF COLOR/STAIN FOR ALL ENTRY PILASTERS, 462 S.Y. OF COLOR/STAIN FOR ALL PEDESTRIAN RAIL POSTS AND CURBS ON THE BRIDGE DECK AND APPROACH SLABS, AND 511 S.Y. OF COLOR/STAIN FOR ALL CONCRETE PARAPET ON THE BRIDGE DECK AND APPROACH SLABS. ALL COSTS FOR COLORING/STAINING CONCRETE AS SHOWN ON THE PLANS INCLUDING MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR "SPECIAL CONCRETE FINISH."
- BR-21 PROVIDE ONE (1) "EL RENO" TEXT FORM LINER AND TWO (2) ROUTE 66 SHIELD FORM LINERS FOR THE PROJECT AS DETAILED ON SHEET B044, AND IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS.


STAKING PAY ITEM NOTES

- S-1 IN ADDITION TO THE RESPONSIBILITIES SHOWN IN THE SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND/OR REESTABLISHING THE SURVEY CONTROL POINTS SHOWN ON THE PLANS, STAKING THE CENTERLINE OF CONSTRUCTION AND REESTABLISHING RIGH-OF-WAY STAKES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND VERIFYING BENCH MARKS SHOWN ON THE PLANS AND FOR ESTABLISHING NEW BENCH MARKS AS NEEDED TO CONSTRUCT THE PROJECT.

J.P. NO. 27004(04) 0200 BRIDGE 'A'			
US-81 BUS. OVER UP R.R. NBI NO. 32005 119' - 145' - 119' STEEL PLATE GIRDER SPANS, 52' CLR. RDWY. 45' SKEW, 42" PARAPET, C STA. 116+86.60			
ITEM NO.	ITEM	UNIT	TOTAL
501(B) 1307	SUBSTRUCTURE EXCAVATION COMMON	BR-1,BR-2	C.Y. 529
501(E) 6354	SELECT BACKFILL		C.Y. 99
501(G) 6309	CLSM BACKFILL	BR-1	C.Y. 660
504(A) 1304	APPROACH SLAB	BR-1,BR-3	S.Y. 1,011.5
504(B) 1305	SAW-CUT GROOVING	BR-1	S.Y. 3,005
504(C) 6250	SEALED EXPANSION JOINT	BR-1	L.F. 182.7
504(E) 1381	CONCRETE PARAPET	BR-1, BR-4	L.F. 1,039.5
504(E) 6182	(PL)CONCRETE PARAPET (HANDRAIL TYPE)	BR-1, BR-5	L.F. 1,039.5
506(A) 1322	STRUCTURAL STEEL	BR-1	LB. 1,242,640
506(A) 6005	STRUCTURAL STEEL A36	BR-18	LB. 180
507(A) 6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	BR-1,BR-6	EA. 7
507(B) 6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	BR-1,BR-7	EA. 21
509 6152	SPECIAL CONCRETE FINISH	BR-1,BR-8	S.Y. 418
509 6153	SPECIAL CONCRETE FINISH	BR-20	L.SUM 1
509(A) 1326	CLASS AA CONCRETE	BR-1	C.Y. 684.2
509(B) 1328	CLASS A CONCRETE	BR-1	C.Y. 680.2
510(D) 0350	(SP)GRAFFITI TREATMENT	BR-19	S.F. 13,978
511 6306	MECHANICAL SPLICES	BR-1	EA. 60
511(A) 1332	REINFORCING STEEL	BR-1	LB. 940
511(B) 6010	EPOXY COATED REINFORCING STEEL	BR-1	LB. 336,510
514(A) 6010	PILES, FURNISHED (HP 10X42)	BR-9	L.F. 343
514(A) 6011	PILES, FURNISHED (HP 12X53)	BR-9	L.F. 1,575
514(A) 6013	PILES, FURNISHED (HP 12X74)	BR-9	L.F. 488
514(B) 6292	PILES, DRIVEN (HP 10X42)		L.F. 343
514(B) 6294	PILES, DRIVEN (HP 12X53)		L.F. 1,575
514(B) 6295	PILES, DRIVEN (HP 12X74)		L.F. 488
514(L) 6220	PILE SPLICE, H-PILE (NON-BIDDABLE)		EA. 1
515(A) 6013	WATER REPELLENT (VISUALLY INSPECTED)	BR-1	S.Y. 1,658
516(A) 6098	DRILLED SHAFTS 72" DIAMETER		L.F. 237
516(C) 6200	CROSSHOLE SONIC LOGGING		EA. 2
523(A) 6550	SEALER CRACK PREPARATION	BR-1,BR-10	L.F. 376.0
523(B) 6560	SEALER RESIN	BR-1,BR-11	GAL. 4.2
535 6900	(SP)AESTHETIC FORM LINERS (NON-BIDDABLE)	BR-21	L.SUM 1
542 4605	(PL)INSTALLATION OF BRIDGE ITEMS	BR-12	EA. 4
601(A) 1351	TYPE I PLAIN RIPRAP	BR-13	TON 2,640
613(H) 6204	6" PERFORATED PIPE UNDERDRAIN ROUND	BR-1,BR-14	L.F. 186
613(I) 6207	6" NON-PERF. PIPE UNDERDRAIN RND.	BR-15	L.F. 60
619(D) 1397	REMOVAL OF EXISTING BRIDGE STRUCTURE	BR-16	L.SUM 1
624(E) 4298	FENCE-STYLE CLF (7' HIGH, CLASS B)	BR-1, BR-17	L.F. 760.3

J.P. NO. 27004(04) 0600 STAKING			
ITEM NO.	ITEM	UNIT	TOTAL
642(B) 0096	CONSTRUCTION STAKING LEVEL II	S-1	LSUM 1

J.P. NO. 27004(04) 0640 CONSTRUCTION			
ITEM NO.	ITEM	UNIT	TOTAL
220 2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1
641 1399	MOBILIZATION	LSUM	1

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY BRIDGE 'A'		DESIGN	M.B.S.	
		DETAIL	M.B.S.	
		CHECK	M.B.S.	
SUMMARY OF PAY ITEMS AND NOTES (BRIDGE)				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
		JOB PIECE NO. 27004(04)		SHEET NO. 805

GENERAL CONSTRUCTION NOTES:

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING SECTION LINE ROADS TO LOCAL AND THROUGH TRAFFIC. SEE STANDARD SPECIFICATIONS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

FOR PROJECTS THAT INCLUDE WIDENING AND/OR RESURFACING, THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR APPROVAL BEFORE OPERATIONS BEGIN. ANY PORTION OF THE CONSTRUCTION OPERATIONS, SUCH AS SUPERPAVE LAYING OPERATIONS, EXCAVATION FOR PAVEMENT WIDENING, OR EXTENSION OF ROADWAY STRUCTURES, SHALL BE LIMITED TO ONE SIDE AT A TIME, AND THE PROCEDURES OUTLINED IN THE PAVEMENT DROP-OFF TREATMENT STANDARD PDT-1 (LATEST REVISION) SHALL BE IMPLEMENTED. ONLY THAT AMOUNT OF OPEN TRENCH WILL BE ALLOWED THAT CAN BE SURFACED IN 1 (ONE) DAY’S TIME WITHOUT APPROVAL BY THE ENGINEER. LIGHTS, SIGNS AND BARRICADES SHALL BE MOVED AS WORK PROGRESSES.

ALL TREES, BRUSH, AND OTHER DEBRIS THAT MIGHT INTERFERE WITH THE FLOW OF WATER SHALL BE CLEANED OUT TO THE RIGHT-OF-WAY LINE, AT EACH STRUCTURE AND BRIDGE, IN A MANNER APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY RIGHT-OF-WAY FENCE AS REQUIRED. WHEN THE PORTION OF THE PROJECT THAT REQUIRED THIS FENCE IS COMPLETED, THE TEMPORARY FENCE SHALL BE REMOVED, AND PERMANENT RIGHT-OF-WAY FENCING SHALL BE RESTORED OR INSTALLED IN A MANNER APPROVED BY THE ENGINEER. ALL COST TEMPORARY FENCING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. ALL COST TO BE INCLUDED IN OTHER ITEMS OF WORK. THIS PROJECT IS LOCATED NEAR KNOWN SOURCES OF GYPSUM (SULFATE) DEPOSITS. SPECIAL ATTENTION SHOULD BE USED TO AVOID BORROW MATERIAL THAT COULD ADVERSELY INTERACT WITH THE CALCIUM BASED ADDITIVES (FLY ASH, PORTLAND CEMENT, CEMENT KILN DUST, AND LIME) USED IN THE STABILIZED SUBGRADE. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE SULFATE TESTING OF BORROW PIT SITES AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

PRIME COAT SHALL BE APPLIED TO THE SUBGRADE IMMEDIATELY AFTER FINAL COMPACTION AND SHAPING OR AT THE DIRECTION OF THE ENGINEER TO RETAIN MOISTURE FOR PROPER CHEMICAL REACTION OF THE SOIL ADDITIVE.

THE CONTRACTOR SHALL KEEP THE OPEN TRENCH DRAINED. COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE "MULCHING-TILLER METHOD", AS SPECIFIED IN 233.04B(2) OF THE STANDARD SPECIFICATIONS.

AT THE BEGINNING OF TURFING OPERATIONS, ANY AREAS INCLUDED IN PLANNED QUANTITIES THAT HAVE GROWN A SATISFACTORY VOLUNTEER TURF OF PERENNIAL GRASS, AS DETERMINED BY THE ENGINEER, SHALL BE FERTILIZED AND WATERED AS CALLED FOR ON THE PLANS, BUT SHALL NOT BE SEEDED, SODDED, OR SPRIGGED.

T.B.S.C. SURFACES SHALL BE SPRINKLED WITH WATER AND ROLLED WITH A PNEUMATIC ROLLER IN A MANNER APPROVED BY THE ENGINEER.

PRIOR TO FINAL ACCEPTANCE, ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

ONLY THE SILCONE SEALANT OPTIONS, FROM STANDARD LECS-4, WILL BE ALLOWED ON THIS PROJECTIN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

PLUGGING ABANDONED WATER WELLS WILL BE HANDLED IN ACCORDANCE WITH CURRENT REGULATIONS ESTABLISHED BY THE OKLAHOMA WATER RESOURCES BOARD BY A LICENSED WELL-DRILLER.

PAY QUANTITY NOTES:

- (R-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS.
- (R-3) INCLUDES 250 CU. YDS. FOR DRIVEWAYS, RETURNS, DIKES, AND MISCELLANEOUS EARTHWORK.
- (R-4) AN ESTIMATED 5,745 C.Y. QUANTITY OF TOPSOIL TO BE RESERVED FOR REPLACEMENT OF APPROXIMATELY 5" ON COMPLETED FORESLOPES, DITCHES, AND BACKSLOPES. THIS QUANTITY IS INCLUDED IN THE EARTHWORK BALANCE. ANY ADDITIONAL EXCAVATION REQUIRED IN CUT SECTIONS TO ALLOW FOR PLACEMENT OF TOPSOIL TO FINAL GRADE, SHALL BE INCLUDED IN THE PRICE BID.
- (R-6) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1000 SQUARE YARDS. FOR TYPE A SALVAGED TOPSOIL. PRICE BID TO INCLUDE COST OF 18-46-0 FERTILIZER ESTIMATED AT 150 POUNDS PER ACRE.
- (R-7) FOR SOLID SLAB SODDING PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQUARE YARD.
- (R-11) THE QUANTITIES ESTIMATED FOR TEMPORARY EROSION AND SEDIMENT CONTROL IS 13.3 ACRES.
- (R-15) QUANTITY BASED ON TWO APPLICATIONS
- (R-18) ESTIMATED AT 120 LBS. PER CU. FT.
- (R-21) PRIME COAT SHALL BE APPLIED AT AN ESTIMATED RATE OF 0.35 GAL. PER SQ. YD. WHEN APPLIED TO SUBGRADE, AND 0.25 GAL. PER SQ. YD. WHEN APPLIED TO AGGREGATE BASE. THE ACTUAL CUTBACK PRIME COAT REQUIRED FOR PLACEMENT OPERATIONS WILL BE DETERMINED BY THE CONTRACTOR, AND SHALL CONSIDER THE RESIDUE FROM DISTILLATION PERCENTAGE SHOWN IN SECTION 708.03 OF THE STANDARD SPECIFICATIONS.
- (R-24) ESTIMATED AT 112 LBS PER SQ YD PER 1" THICK.
- (R-31) PRICE BID TO INCLUDE COST OF 76 8" BARRIER CURB HOODS.
- (R-37) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- (R-38) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

PAY QUANTITY NOTES (CONT'D):

- (1) ESTIMATED QUANTITY FOR TEMPORARY EROSION CONTROL TO BE USED IN A MANNER AND LOCATION APPROVED BY THE ENGINEER. PRICE BID TO INCLUDE THE COST OF NECESSARY MAINTENANCE, MAINTAINING IN AN UPRIGHT POSITION, AND REMOVAL OF DEVICE, AND SEDIMENT REMOVAL.
- (2) PRICE BID SHALL INCLUDE THE COST OF TRENCH EXCAVATION AND STANDARD BEDDING MATERIAL ON STD. SPI-4 AND SPB-1 (LATEST REVISION).
- (3) INCLUDES COST OF ADDITIONAL INLET DEPTH.
- (4) INCLUDES LITTER PICK UP BEFORE AND AFTER MOWING.
- (5) PRICE BID INCLUDES SAW CUTTING AS NECESSARY TO REMOVE EXISTING PAVEMENT AND CURB AND GUTTER.
- (6) QUANTITY INCLUDES 200 TONS FOR TEMPORARY ACCESS TO DRIVEWAYS TO BE DETERMINED BY THE ENGINEER AND 2,785 TONS FOR ROADWAY BACKFILL AS SHOWN ON THE TYPICAL SECTIONS.
- (7) PRICE BID INCLUDES REMOVAL OF EXISTING VEGETATION TO THE RIGHT-OF-WAY THROUGH THE PROJECT EXTENTS.
- (8) INCLUDES 10 CY TO BE USED AT THE DISCRETION OF THE ENGINEER.
- (9) ITEM IS FOR REMOVAL OF DETOUR PAVING.
- (10) ESTIMATED QUANTITIES TO BE USED AT THE DISCRETION OF THE ENGINEER.
- (11) FOR REMOVAL OF EXISTING MATERIAL FROM STA. 113+40 TO STA. 116+30. SEE GRADING PLAN SHEET.
- (12) CONTRACTOR SHALL DELIVER ASPHALT MILLINGS TO THE DIVISION 4 MAINTENANCE YARD.
- (13) THE QUANTITY OF CURB INLET HOODS LISTED IN NOTE (R-31) IS THE TOTAL FOR ALL INLETS.
- (14) INCLUDES 200 TONS FOR DETOUR MAINTENANCE AS DIRECTED BY THE ENGINEER.
- (15) INCLUDES 100 TONS FOR DETOUR MAINTENANCE AS DIRECTED BY THE ENGINEER.
- (16) QUANTITY INCLUDES 14,080 CY TO REPLACE MATERIAL REMOVED AS MUCK EXCAVATION.

DESCRIPTION	REVISIONS	DATE

27004(04) 0100				
PAY QUANTITIES				
ROADWAY				
ITEM		DESCRIPTION	UNIT	QUANTITY
201(A)	0102	CLEARING AND GRUBBING (7)	L.SUM	1.0
202(A)	0183	UNCLASSIFIED EXCAVATION (R-1)	C.Y.	45,088.0
202(B)	0105	MUCK EXCAVATION (11)	C.Y.	14,080.0
202(D)	0184	UNCLASSIFIED BORROW (16)(R-1)(R-3)	C.Y.	149,213.0
205(A)	4229	TYPE A-SALVAGED TOPSOIL (R-4)(R-6)	L.SUM	1.0
221(C)	2801	TEMPORARY SILT FENCE (1)	L.F.	3,600.0
221(D)	2803	TEMPORARY SEDIMENT FILTER	EA.	8.0
221(F)	0100	TEMPORARY SILT DIKE (1)	L.F.	100.0
230(A)	2806	SOLID SLAB SODDING (R-6)(R-7)	S.Y.	51,711.0
233(A)	2817	VEGETATIVE MULCHING (R-11)	AC.	26.6
241	2832	MOWING (4)(R-15)	AC.	21.4
303(A)	2100	AGGREGATE BASE - TYPE A	C.Y.	1,808.0
307(K)	4300	STABILIZED SUBGRADE	S.Y.	14,962.0
325	5271	SEPARATOR FABRIC	S.Y.	8,704.0
402(E)	0225	TRAFFIC BOUND SURFACE COURSE TYPE E (6)(R-18)	TON	3,110.0
407(A)	4659	FOG SEAL	GAL.	77.0
407(B)	0250	TACK COAT	GAL.	2,838.0
408	5774	PRIME COAT (R-21)	GAL.	7,262.0
411(B)	5935	SUPERPAVE, TYPE S3 (PG 76-28 OK) (R-24)	TON	1,139.0
411(B)	5945	SUPERPAVE, TYPE S3 (PG 64-22 OK) (14)(R-24)	TON	4,470.0
411(C)	5950	SUPERPAVE, TYPE S4 (PG 76-28 OK) (R-24)	TON	1,214.0
411(C)	5960	SUPERPAVE, TYPE S4 (PG 64-22 OK) (15)(R-24)	TON	794.0
412	5267	COLD MILLING PAVEMENT (12)	S.Y.	3,804.0
509(D)	0325	CLASS C CONCRETE (8)	C.Y.	10.0
601(A)	0297	TYPE I PLAIN RIPRAP	TON	335.0
609(B)	0388	1'-8" COMB. CURB & GUTTER (8" BARRIER-NOTCHED))	L.F.	1,409.0
609(B)	1526	2'-8" COMB. CURB & GUTTER (8" BARRIER)	L.F.	3,372.0
610(A)	0602	4" CONCRETE SIDEWALK	S.Y.	2,120.0
610(I)	4610	TACTILE WARNING DEVICE-NEW	S.F.	64.0
611(G)	5119	INLET CI DES. 2 (2D) (3)(13)(R-31)	EA.	4.0
611(G)	5121	INLET CI DES. 3 (B) (3)(13)(R-31)	EA.	2.0
611(G)	5125	INLET CI DES. 3 (2D) (3)(13)(R-31)	EA.	2.0
613(A)	0491	18" R.C. PIPE CLASS III (2)	L.F.	298.0
613(B)	0690	24" CORR. GALV. STEEL PIPE	L.F.	106.0
613(B)	4527	21" X 15" CORR. GALV. STEEL PIPE ARCH	L.F.	56.0
613(J)	5915	EDGE DRAIN CONDUIT - PERFORATED (10)	L.F.	3,400.0
613(K)	5916	EDGE DRAIN LATERAL - NONPERFORATED (10)	L.F.	200.0
613(L)	5726	18" PREFAB. CULVERT END SECTION, ROUND	EA.	3.0
613(Q)	5946	OUTLET LATERAL HEADWALL (10)	EA.	6.0
619(B)	4726	REMOVAL OF CURB AND GUTTER (5)(R-37)(R-38)	L.F.	1,102.0
619(B)	4727	REMOVAL OF CONCRETE PAVEMENT (5)(R-37)(R-38)	S.Y.	3,312.0
619(B)	4728	REMOVAL OF ASPHALT PAVEMENT (9)(12)(R-37)(R-38)	S.Y.	5,440.0
619(B)	4741	REMOVAL OF DRAINAGE INLETS (5)(R-37)(R-38)	EA.	4.0
619(B)	4763	REMOVAL OF CONC. PAVEMENT W/ ASPH. OVERLAY (5)(12)(R-37)(R-38)	S.Y.	4,432.0
619(B)	4766	REMOVAL OF CONCRETE DRIVEWAY (R-37)(R-38)	S.Y.	193.0
619(B)	4780	REMOVAL OF GUARDRAIL (R-37)	L.F.	2,213.0
619(B)	4792	REMOVAL OF SIDEWALK (R-37)(R-38)	S.Y.	1,502.0
619(B)	5918	REMOVAL OF EXISTING PIPE (R-37)	L.F.	150.0
623(A)	0932	BEAM GUARDRAIL W-BEAM SINGLE	L.F.	2,219.3
623(G)	8571	GUARDRAIL END TREATMENT (GET)	EA.	4.0

SUMMARY OF SURFACING																
P&P SHEET NO.		STATION TO STATION	COLD MILLING PAVEMENT	FOG SEAL	SUPERPAVE, TYPE S4 (PG 76-28 OK)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	SUPERPAVE, TYPE S3 (PG 76-28 OK)	SUPERPAVE, TYPE S3 (PG 64-22 OK)	TACK COAT	PRIME COAT	8" AGGREGATE BASE	8" STABILIZED SUBGRADE	SEPARATOR FABRIC	1'-8" COMB. CURB AND GUTTER 8" BARRIER -NOTCHED	2'-8" COMB. CURB AND GUTTER 8" BARRIER	4" CONCRETE SIDEWALK (5' WIDE)
			412	407(A)	411(C)	411(C)	411(B)	411(B)	407	408	307(K)	307(K)	325	609(B)	609(B)	610(A)
			S.Y.	GAL	TONS	TONS	TONS	TONS	GAL.	GAL.	S.Y.	S.Y.	S.Y.	L.F.	L.F.	S.Y.
R007	CRL 1	STA. 104+49.79 TO STA. 110+00.00	2975.0	60.0	343.0				225.0					1101.0		612.0
R008	CRL 1	STA. 110+00.00 TO STA. 125+00.00	829.0	17.0	609.0		754.0	1389.0	1139.0	3399.0	1209.0	5844.0	5844.0	308.0	2693.0	1097.0
R009	CRL 1	STA. 125+00.00 TO STA. 128+39.19			262.0		385.0	699.0	544.0	1672.0	599.0	2860.0	2860.0		679.0	411.0
R010	DETOUR	STA. 106+00.00 TO STA. 110+00.00				76.0		228.0	101.0	264.0		754.0				
R011	DETOUR	STA. 110+00.00 TO STA. 125+00.00				532.0		1600.0	703.0	1853.0		5294.0				
R012	DETOUR	STA. 125+00.00 TO STA. 127+21.19				19.0		59.0	26.0	74.0		210.0				
TOTALS			3804.0	77.0	1214.0	627.0	1139.0	3975.0	2738.0	7262.0	1808.0	14962.0	8704.0	1409.0	3372.0	2120.0

DESCRIPTION	REVISIONS	DATE

SUMMARY OF DRIVEWAYS

SHT. NO.	ALIGNMENT	STATION	TYPE	RADIUS	LENGTH	GRADED WIDTH	SURFACE WIDTH	SUPERPAVE, TYPE S3 (PG 64-22 OK)	SUPERPAVE, TYPE S4 (PG 64-22 OK)	TACK COAT 407	6" TRAFFIC BOUND SURFACE COURSE TYPE "E" 403 (E)
				FT.	FT.	FT.	FT.	TONS	TONS	GAL.	TON
R008	CRL 1	124+45 RT	PRIVATE	45/35	217	30	24.0	78.0	40.0	26.0	125.0
R009	CRL 1	125+82 RT	COMM	15/15	15	42	36.0	16.0	8.0	6.0	
R009	CRL 1	126+57 RT	COMM	15/15	15	42	35.0	16.0	8.0	6.0	
R009	CRL 1	127+73 LT	COMM	15/15	23	41		23.0	11.0	8.0	
TOTAL								133.0	67.0	46.0	125.0

SUMMARY OF GUARDRAIL & WIDENING

SHT. NO.	ALIGNMENT	STATION TO STATION	LANE		TOTAL PANEL LENGTH INCLUDING ANCHOR UNITS*	BEAM GUARDRAIL W-BEAM SINGLE 623(A)	GUARDRAIL CONNECTIONS	SUPERPAVE, TYPE S3 (PG 64-22 OK) 411 (B)	TACK COAT 407(B)
			LT.	RT.			GET 623(G)		
							L.F.		
R007-R008	CRL	STA. 106+00 TO STA. 114+20	X		818.75	768.75	1.00	55.0	18.0
R007-R008	CRL	STA. 106+00 TO STA. 114+20		X	818.75	768.75	1.00	55.0	18.0
R008	CRL	STA. 119+43 TO STA. 123+70.95	X		425.00	375.00	1.00	28.0	10.0
R008	CRL	STA. 119+43 TO STA. 123+00.00		X	357.00	306.75	1.00	24.0	8.0
		TOTAL				2219.25	4.00	162.0	54.0

* NON PAY ITEM. QUANTITY INCLUDED FOR INFORMATIONAL PURPOSES ONLY.

SUMMARY OF TEMPORARY SEDIMENT CONTROLS

SHT. NO.	DESCRIPTION	TEMPORARY SILT FENCE	TEMPORARY SILT DIKE	VEGETATIVE MULCH	TEMPORARY SEDIMENT FILTER
		221 (C)	221 (F)	233 (A)	221 (D)
		L.F.	L.F.	AC.	EA.
R007-R008	STA. 104+74.49 TO STA. 117+00.00	1,800.00	100.00	7.20	4.00
R008-R009	STA. 117+00.00 TO STA. 128+37.19	1,800.00		6.10	4.00
TOTALS		3,600.00	100.00	13.30	8.00

SUMMARY OF PERMANENT EROSION CONTROL

SHEET No.	DESCRIPTION	SOLID SLAB SODDING 230(A)	RIP RAP 601(A)
		S.Y.	TON
R007-R008	STA. 104+74.49 TO STA. 117+00.00	31,111.00	200.00
R008-R009	STA. 117+00.00 TO STA. 128+39.19	20,600.00	135.00
TOTALS:		51,711.00	335.00

SCHEDULE OF EARTHWORK

SHEET NO.	STATION TO STATION	UNCLASSIFIED EXCAVATION	EMBANKMENT +15%	UNCLASSIFIED BORROW	EXCESS EXCAVATION (WASTE)	MUCK EXCAVATION
		202(A)		202(D)		
		C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
R007-R009	PHASE 1 STA. 104+49.79 TO STA. 128+39.19	4,959	60,480	55,521		
R007-R009	PHASE 2 STA. 104+49.79 TO STA. 128+39.19	7,920	65,200	57,280		
R008	PHASE 2 STA. 113+40.00 TO STA. 116+30.00					14,080
R007-R009	PHASE 3 STA. 104+49.79 TO STA. 128+39.19	32,209	9,453		22,756	
TOTALS		45,088	135,133	112,801	22,756	14,080

SUMMARY OF DRAINAGE STRUCTURES

SHT. NO.	STR.	ALIGNMENT	STATION	DESCRIPTION	DESIGN	AVERAGE FILL HEIGHT	TRENCH EXCAVATION	STD. BEDDING MATERIAL	ELEVATIONS			INLET CI			RCP	CGSP	CGSPA	PCES
						FT.	C.Y.	C.Y.	TOP OF GRATE	F.L. IN	F.L. OUT	611(G)			18" 613(B)	24" 613(B)	21"x15" 613 (B)	18" ROUND 613(L)
												DES. 2(2D)	DES. 3(B)	DES. 3 (2D)				
R007	1	CRL	104+74.54 20.5' LT.	CONST. INLET CI DES 3(B) w/ 45 L.F. 18" RCP TO STR 2	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3	3.00	28.00	12.60	1350.85		1348.18		1		45			
R007	2	CRL	104+74.54 20.5' RT	CONST. INLET CI DES 3(B) w/ 43 L.F. 18" RCP TO OUTLET w/ PCES	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3, PCES-4	3.00	28.00	12.60	1350.85	1347.72	1347.47		1		43			1
R008	3	CRL	112+00 25.5' LT	CONST. INLET CI DES 2(2D) w/ 24 L.F. 18" RCP TO OUTLET w/ PCES	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3, PCES-4	3.50	20.00	13.20	1378.38	1375.15	1373.38	1			24			1
R008	4	CRL	112+00 25.5' RT	CONST. INLET CI DES 2(2D) w/ 48 L.F. 18" RCP TO STR 3	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3	3.50	20.00	13.20	1378.38		1375.62	1			48			
R008	5	CRL	122+50 26' LT	CONST. INLET CI DES 2(2D) w/ 24 L.F. 18" RCP TO OUTLET w/ PCES	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3, PCES-4	3.50	25.00	13.20	1379.21	1376.06	1374.21	1			24			1
R008	6	CRL	122+50 26' RT	CONST. INLET CI DES 2(2D) w/ 48 L.F. 18" RCP TO STR 5	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3	3.50	20.00	13.20	1379.21		1376.54	1			48			
R009	7	CRL	128+20.85 32' LT	CONST. INLET CI DES 3(2D) w/ 66 L.F. 18" RCP TO STR 8	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3	3.50	27.00	18.00	1362.64		1359.94		1		66			
R009	8	CRL	127+95.07 33.3' RT	CONST. INLET CI DES 3(2D), STUB IN EXISTING RCP	FHTCP-3, SPI-3, CI-1, SSIF-4, CIG-3	3.50	27.00	18.00	1362.73	1359.63	1359.63			1				
R011	T1	DETOUR	111+12.25	CONST. 106 LF 24" CGSP	FHTMP					1359.08	1338.43					106	0	
R011	T2	DETOUR	119+00	CONST. 56 LF 22"x15" CGSPA	FHTMP												56	
TOTAL:												4	2	2	298	106	56	3

SUMMARY SHEETS
ROADWAY

TRAFFIC OPERATIONS GENERAL
CONSTRUCTION NOTES:

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS. CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS.

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES. SEE O.D.O.T. STANDARDS AND DETAIL DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

TRAFFIC SIGNING GENERAL CONSTRUCTION NOTES:

REMOVED MATERIAL TO BECOME PROPERTY OF CONTRACTOR AND IT SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

ALL REGULATORY SIGNS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION) FOR TYPE III SHEETING.

ALL WARNING SIGNS SHALL HAVE FLUORESCENT YELLOW SHEETING. THE FLUORESCENT YELLOW SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION) REQUIREMENTS FOR TYPE VIII SHEETING.

ALL GREEN AND BLUE SIGNS ON CONVENTIONAL HIGHWAYS SHALL HAVE HIGH INTENSITY SHEETING. THE HIGH INTENSITY SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956--(LATEST REVISION) FOR TYPE III SHEETING.

THE MANUFACTURER SHALL FURNISH A TYPE 'A' CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, LATEST EDITION, AND SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON THE MATERIAL SUBMITTED FOR APPROVAL.

ALL BROKEN CONCRETE INCLUDING OLD SIGN FOOTINGS WITH STUBS, WASTE MATERIAL AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THE DISPOSAL OF THIS MATERIAL. ANY PIPE POST OR WIDE FLANGE POST ABOVE THE OLD SIGN FOOTINGS SHALL BE CUT AND HANDLED AS PROPERTY OF THE STATE AND SHALL BE NEATLY STACKED ON THE JOB SITE, AS DESIGNATED BY THE ENGINEER UNTIL SUCH TIME AS DIVISION PERSONNEL CAN REMOVE THE MATERIAL FROM THE JOB SITE.

ALL ANCHOR BOLTS SHALL BE GRADE A-36 STEEL.

THE STATIONS AND LOCATIONS OF THE SIGN PLACEMENT, AS SHOWN ON THE PLAN SHEETS, ARE APPROXIMATE. EXACT STATIONS AND LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR SO THAT THE SIGN IS INSTALLED IN ACCORDANCE WITH DEPARTMENT STANDARDS AND THE MUTCD IN ORDER TO PROVIDE OPTIMUM VISIBILITY TO THE ONCOMING/APPROACHING MOTORIST. IF A PROPOSED LOCATION CONFLICTS WITH OTHER SIGNS, UTILITIES OR OTHER ROADWAY FEATURES, THE ENGINEER SHALL BE NOTIFIED.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE, EXACT LENGTH SHALL BE DETERMINED BY FIELD SURVEY BY THE CONTRACTOR. THE COST OF REPLACEMENT OF MISSING OR DAMAGED EDGE STRIP ON EXISTING SIGNS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

AFTER REMOVAL OF ANY SIGN FOOTINGS, THE HOLES SHALL BE FILLED WITH SOIL AND TAMPED AND SHAPED IN A MANNER APPROVED BY THE ENGINEER.

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES:

(TC-17) INCLUDES AN ESTIMATED 5,600 L.F. (PAINT) (4" WIDE) WHITE 5,600 L.F. (PAINT)(4" WIDE) YELLOW STRIPE.

(TC-19) THIS ITEM INCLUDES AN ESTIMATED 0 L.F. (4" WIDE) WHITE AND 2,365 L.F. (4" YELLOW STRIPE). THE CONTRACTOR SHALL PROVIDE AND INSTALL AN O.D.O.T. APPROVED REMOVABLE PAVEMENT MARKING TAPE. COST FOR REMOVAL OF THIS TAPE SHALL BE INCLUDED IN THE PRICE BID FOR THIS ITEM. NON-REMOVABLE MARKING TAPE (FOIL BACK) SHALL NOT BE CONSIDERED AN APPROVED EQUAL FOR THIS ITEM.

(TC-20) ALL STRIPING TO BE PLACED ON TEMPORARY SURFACES OR ON SURFACES SCHEDULED TO BE REMOVED SHALL BE DONE WITH PAINT UNLESS OTHERWISE NOTED ON THE PLANS OR STANDARD DRAWINGS. TEMPORARY PAVEMENT MARKINGS PLACED ON FINISHED PAVEMENT OR EXISTING PAVEMENT TO REMAIN IN PLACE SHALL USE ONE OF THE FOLLOWING METHODS:
* REMOVABLE PAVEMENT MARKING TAPE
* CLASS A PAVEMENT MARKERS

(TC-21) INCLUDED IN THE COST OF THIS ITEM SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.

(TC-22) AMOUNT SHOWN IS AN APPROXIMATION AND THE ACTUAL AMOUNT OF REMOVAL, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER. PRICE BID FOR PAVEMENT MARKING REMOVAL SHALL INCLUDE THE COST OF REMOVING STRIPE, ARROWS, WORDS AND SYMBOLS, AS SHOWN IN THE PLANS. THESE ITEMS MAY CONSIST OF PLASTIC, PAINT OR NON-REMOVABLE MARKING TAPE.

(TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT.

ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.

(TC-28) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 0.00 S.F. AND 6.25 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-29) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 6.26 S.F. AND 15.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.

(TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION)

THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.

(TC-52) ANY USED CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

(TC-61) ANY DAMAGE TO A FINISHED OR EXISTING SURFACE RESULTING FROM THE CONTRACTORS NEGLIGENCE IN THE REMOVAL OF CONSTRUCTION ZONE PAVEMENT MARKERS OR CHANNELIZING DEVICES AND THE BITUMINOUS ADHESIVE USED IN THEIR INSTALLATION, SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

(TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.

(TC-73) QUANTITY SHOWN INCLUDES 1000 EA. (WHITE) AND 1000 EA. (YELLOW) CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS). THESE CONSTRUCTION ZONE PAVEMENT MARKERS SHALL BE EITHER "DAVIDSON PLASTICS: MODEL TOM", OR AN APPROVED EQUAL. PRICE BID FOR THIS ITEM SHALL INCLUDE THE INITIAL PLACEMENT, SUBSEQUENT REPLACEMENT, AND REMOVAL. THE CONSTRUCTION ZONE PAVEMENT MARKERS (FLEX TABS) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS SHOWN ON STANDARD DRAWING TCS21-1--(LATEST REVISION).

(TC-75) TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE THE SAME DAY THAT EXISTING PAVEMENT MARKINGS ARE REMOVED FROM ANY ROADWAY OPEN TO TRAFFIC. ALSO, ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING.

(TC-84) 330 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS. IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

(TC-85) THESE SIGNS MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED CHANGEABLE MESSAGE SIGNS. FOR A LIST OF THE APPROVED SIGNS GO TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION WEBSITE AT: <http://www.okladot.state.ok.us/traffic/qpl/index.php>

TRAFFIC SIGNING PAY QUANTITY NOTES

(TS-20) QUANTITY SHOWN INCLUDES 6,300 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 5,220 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

(TS-22) QUANTITY SHOWN INCLUDES 0 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND 120 L.F. TRAFFIC STRIPE (PLASTIC)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWELVE INCH (12") WIDE TRAFFIC STRIPE.

(TS-23) QUANTITY SHOWN INCLUDED 40 L.F. TRAFFIC STRIPE (PLASTIC)(WHITE) AND WILL BE MEASURED BY THE LINEAR FOOT OF TWENTY-FOUR INCH (24") WIDE TRAFFIC STRIPE.

(TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1--(LATEST REVISION).

(TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.

(TS-41) "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. SEE GENERAL CONSTRUCTION NOTES FOR DISPOSAL OF OLD CONCRETE FOOTING MATERIAL.

DESCRIPTION	REVISIONS	DATE
REVISED	PAY ITEM	09/04/2019

27004(04) 0300			
PAY QUANTITIES			
TRAFFIC TEMPORARY			
ITEM		DESCRIPTION	UNIT QUANTITY
104	955	(SP) RAILROAD FLAGGING(NON-BIDDABLE)	DAY 200.0
823	8478	(SP) PORTABLE TRAFFIC SIGNAL SYSTEM (2)(TC-26)	S.D. 120.0
857(A)	8839	CONSTRUCTION TRAFFIC STRIPE (PAINT) (4" WIDE) (TC-17)(TC-20)	L.F. 11,200.0
857(C)	8851	REMOVABLE PAVEMENT MARKING TAPE (4" WIDE) (TC-19)(TC-70)	L.F. 2,365.0
857(E)	8887	(PL) CONST. ZONE PAV. MKRS. (FLEX TAB) TYPE 2-1 (TC-61)(TC-70)(TC-75)	EA. 2,000.0
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE) (TC-22)(TC-70)	L.F. 6,000.0
880(B)	8818	CONSTRUCTION SIGNS 0.00 TO 6.25 S.F. (TC-26)(TC-28)(TC-84)	S.D. 15,030.0
880(B)	8821	CONSTRUCTION SIGNS 6.26 TO 15.99 S.F. (TC-26)(TC-29)(TC-84)	S.D. 6,750.0
880(B)	8824	CONSTRUCTION SIGNS 16.00 TO 32.99 S.F. (TC-26)(TC-73)(TC-84)	S.D. 8,580.0
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III) (TC-21)(TC-26)(TC-84)	S.D. 2,550.0
880(C)	8848	WING BARRICADES (TC-21)(TC-26)(TC-84)	S.D. 1,980.0
880(E)	8860	WARNING LIGHTS (TYPE A) (TC-21)(TC-26)(TC-84)	S.D. 5,100.0
880(F)	8878	DRUMS (TC-21)(TC-26)(TC-84)	S.D. 14,100.0
880(G)	8890	CHANNELIZER CONES (TC-21)(TC-26)(TC-84)	S.D. 510.0
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (1)(TC-26)(TC-52)(TC-85)	S.D. 1,032.0

27004(04) 0301			
PAY QUANTITIES			
TRAFFIC PERMANENT			
ITEM		DESCRIPTION	UNIT QUANTITY
804(A)	2915	STRUCTURAL CONCRETE	C.Y. 0.92
804(B)	2916	REINFORCING STEEL	L.B. 128.0
805(A)	8724	(PL) REMOVAL OF EXISTING SIGNS (TS-34)(TS-41)	EA. 7.0
805(D)	8756	(PL)REMOVE & RESET EXISTING SIGNS (3)	EA. 1.0
850(A)	8110	SHEET ALUMINUM SIGNS (TS-33)	S.F. 52.75
851(B)	3218	3"@7.58 GALV. STEEL PIPE POST	L.F. 50.49
851(C)	8324	2" SQUARE TUBE POST	L.F. 56.16
855(A)	8813	TRAFFIC STRIPE (PLASTIC) (6" WIDE) (TS-20)	L.F. 11520.0
855(A)	8818	TRAFFIC STRIPE (PLASTIC) (12" WIDE) (TS-22)	L.F. 120.0
855(A)	8825	TRAFFIC STRIPE (PLASTIC) (24" WIDE) (TS-23)	L.F. 40.0
855(B)	8818	TRAFFIC STRIPE (PLASTIC) (ARROWS)	EA. 3.0

27004(04) 0302			
PAY QUANTITIES			
TRAFFIC SIGNAL			
ITEM		DESCRIPTION	UNIT QUANTITY
803(A)	8065	PULL BOX (SIZE 1)	EA. 2.0
828(B)	8136	LOOP DETECTOR WIRE	L.F. 1100.0

(1) QUANTITY INCLUDES TWO (3) PORTABLE MESSAGE SIGNS TO BE INITIALLY PLACED 7 DAYS PRIOR TO CONSTRUCTION ACTIVITIES FOR ADVANCE INFORMATION. SIGNS SHALL BE POSITIONED AT THE DISCRETION OF THE ENGINEER.

(2) THE PORTABLE TRAFFIC SIGNAL SYSTEM SHALL BE EQUIPPED WITH A WIRELESS INTERFACE SYSTEM TO BE OPERATED BY THE EXISTING SIGNAL CONTROLLER AT THE US 81 AND ELM ST. INTERSECTION

(3) ITEM IS FOR EXISTING CITY ORDINANCE SIGN NEAR STA 127+04.40, 40' RT.

DESCRIPTION	REVISIONS	DATE

TRAFFIC LIGHTING GENERAL CONSTRUCTION NOTES:

SYMBOLS AND LEGENDS ARE DIAGRAMMATIC ONLY AND LOCATIONS SHALL BE ADJUSTED FOR EXISTING FIELD CONDITIONS, BUT NO MAJOR ALTERATIONS OR RELOCATIONS WILL BE MADE WITHOUT FIRST CONSULTING WITH THE TRAFFIC ENGINEER DIVISION AT (405) 521-2861.

THE CONTRACTOR SHALL CONTACT THE BRIDGE DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION FOR QUESTIONS CONCERNING COMPLIANCE AND INTERPRETATIONS TO THE A.A.S.H.T.O. "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".

THE ITEMS THAT ARE TO BE REMOVED AND/OR RESET SHALL BE HANDLED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THESE OPERATIONS.

THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A BOLT CIRCLE TEMPLATE(S). THE TEMPLATE(S) SHALL BE 1/4" THICK STEEL PLATE(S), AND BE PERMANENTLY LABELED WITH THE CONTRACTOR'S COMPANY NAME, BOLT CIRCLE DIAMETER AND THE ANCHOR BOLT DIAMETER. THE COST OF THE TEMPLATE(S) SHALL BE PAID FOR IN OTHER ITEMS OF WORK.

PRIOR TO CONSTRUCTION OF FOOTINGS THE CONTRACTOR SHALL VISUALLY INSPECT THE PLAN LOCATION OF ALL HIGH MAST TOWERS AND CONVENTIONAL LIGHT POLES FOR PROPER OVERHEAD WIRE CLEARANCE. THESE CLEARANCES SHALL BE IN ACCORDANCE TO THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SECTION 1910. THERE SHALL BE A MINIMUM RADII OF 10 FOOT CLEARANCE OF ANY OVERHEAD LINES FROM THE CLOSEST POINT ON THE LIGHT POLE. ANY NEW FOOTINGS PUT IN CLOSER THAN THIS 10 FOOT MINIMUM SHALL BE RELOCATED AT THE EXPENSE OF THE CONTRACTOR, INCLUDING REMOVAL OF THE FOOTING AND ALL MATERIALS TO CONSTRUCT THE NEW FOOTING.

TRAFFIC LIGHTING PAY QUANTITY NOTES

(TL-9) QUANTITIES INCLUDE STRUCTURAL CONCRETE TO BE USED FOR THE FOLLOWING: GROUND MOUNTED FOOTINGS..... = 34.5 C.Y.

(TL-10) QUANTITIES INCLUDE REINFORCING STEEL TO BE USED FOR THE FOLLOWING: GROUND MOUNTED FOOTINGS..... = 5964.0 LBS.

(TL-35) SEE SERVICE POLE SCHEDULE; FOR ADDITIONAL INFORMATION CONCERNING THE SERVICE POLE, CONTACT THE FOLLOWING PRIOR TO INSTALLATION:
PERSON'S NAME CORKY TOMLIN
WITH THE COMPANY OKLAHOMA GAS & ELECTRIC.
COMPANY'S TELEPHONE NO. . . . (405) 314-3441.

(TL-43) ALL REMOVED SERVICE POLES, LIGHT POLES, MAST ARMS, LUMINAIRES, BREAKAWAY BASES AND PERTINENT EQUIPMENT SHALL BECOME THE PROPERTY OF THE CITY OF EL RENO. THE CONTRACTOR SHALL NEATLY STACK THE REMOVED ITEMS IN AN AREA DESIGNATED BY THE ENGINEER WITHIN THE PROJECT THE ITEMS THAT ARE TO BE REMOVED SHALL BE HANDLED WITH CARE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE OCCURRING DURING THESE OPERATIONS.

(TL-44) INCLUDED IN THE COST OF THIS ITEM, THE CONTRACTOR SHALL EITHER COMPLETELY REMOVE THE EXISTING CONCRETE LIGHT POLE FOOTING(S) OR CUT OFF THE TOP PORTION OF THE FOOTING(S) TO A MINIMUM OF ONE FOOT BELOW GRADE. THE RESULTING HOLE(S) SHALL BE BACKFILLED, COMPACTED AND ALL DEBRIS DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

(SP-1) PAY ITEM IS FOR THE INSTALLATION AND MAINTENANCE OF THE "ASSEMBLY TYPE 40" TEMPORARY LIGHTING SYSTEM DESCRIBED IN ODOT SPECIAL PROVISION "880-6(A-C)09 - OKLAHOMA DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION FOR TEMPORARY ROADWAY LIGHTING ASSEMBLY". CONTRACTOR SHALL BID THIS PAY ITEM AND INSTALL THIS TEMPORARY LIGHTING SYSTEM IN ACCORDANCE WITH THIS SPECIAL PROVISION.

TRAFFIC LIGHTING NOTES:

- (1) PULL BOXES SHALL BE PLASTIC (POLYMER CONCRETE) MEETING THE REQUIREMENTS OF THE WESTERN UNDERGROUND COMMITTEE AND ANSI/SCTE 77 2002, TIER 15, WITH A MINIMUM VERTICAL TEST LOAD OF 20K LBS.
- (2) BID PRICE FOR EACH POLE INCLUDES ONE (1) NEW SIMPLEX MOUNTED GALV. STEEL MAST ARM (6' LONG), DECORATIVE BASE (BOTH BREAKAWAY AND NON-BREAKAWAY), POLE CAP, GALV. COVER PLATE, AND ANY OTHER NECESSARY EQUIPMENT TO COMPLETE THE LIGHT POLE INSTALLATION. SEE LIGHTING DETAIL.
- (3) 25 ROADWAY LUMINAIRES TO BE HOLOPHANE TEAR DROP MEMPHIS LED MODEL: MPL2-P30S-30K-AH-BK-TG3 OR APPROVED EQUAL. LUMINAIRE SHALL MEET THE FOLLOWING: 3,000K COLOR TEMPERATURE, TEARDROP GLASS AND DOOR, TYPE 3 118 WATT LED LUMINAIRE.
- (4) SERVICE POLE SHALL BE TESCO SERVICE PEDESTALS, MODEL "27-000 LOW PROFILE" OR APPROVED EQUAL. PEDESTAL SHALL MEET THE REQUIREMENTS OF UL 508.
- (5) BID PRICE INCLUDES THE REMOVAL OF THE EXISTING LIGHT POLE, MAST ARM, LUMINAIRE, BREAKAWAY BASE, FOOTING, PULL BOX, POLE WIRING AND ANY INCIDENTAL REMOVAL TO REMOVE THE POLE IN ITS ENTIRETY.
- (6) BID PRICE INCLUDES REMOVAL OF SECURITY LIGHT ON WOOD POLE LOCATED AT STA. 120+65, 140' RT CL SURVEY. ITEMS TO BE REMOVED MAY OR MAY NOT BE PRESENT IN ANY SPECIFIED CONDITION.
- (7)4 LUMINAIRES SHALL BE PILASTER MOUNTED MODEL: GVD2-P20-40K-AH1-L-BK-5-R-S-BK OR APPROVED EQUAL. SEE LIGHTING PLAN SHEETS FOR LOCATIONS AT EACH END OF NEW BRIDGE.

30329(04) 0303			
PAY QUANTITIES			
TRAFFIC LIGHTING			
ITEM		DESCRIPTION	UNIT QUANTITY
802(A)	8302	1" GALV. STEEL ELECTRICAL CONDUIT EXPOSED	LF 1,250.0
802(B)	8332	1" PVC SCH. 40 PLASTIC CONDUIT BORED	LF 340.0
802(B)	8334	1" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	LF 3,360.0
802(E)	8372	JUNCTION BOX (8"x8"x6")	EA 6.0
803(A)	8065	PULL BOX (SIZE I)	(1) EA 28.0
804(A)	2915	STRUCTURAL CONCRETE	(TL-9) CY 34.5
804(B)	2916	REINFORCING STEEL	(TL-10) LBS 5,964.0
805(A)	8712	(PL) REMOVAL OF LIGHT POLE	(5)(6)(TL-43)(TL-44) EA 12.0
806(E)	0200	DECORATIVE POLE AND MAST ARM	(2) EA 25.0
807	8092	BREAKAWAY BASE (DES. B)	EA 6.0
809(A)	8090	ROADWAY LUMINAIRE	(3)(7) EA 29.0
810(A)	3118	SERVICE POLE	(4) (TL-35) EA 1.0
811	8042	1/C No. 8 ELEC. CONDUCTOR	LF 11,240.0
811	8052	2/C No. 12 ELECTRICAL CONDUCTOR	LF 875.0
880(M)	8340	(SP) TEMPORARY ROADWAY LIGHTING ASSEMBLY	(SP-1) LMDY 330.0

SUMMARY OF PAVEMENT MARKING						
SHT. NO.	DESCRIPTION	WHITE TRAFFIC STRIPE (PLASTIC) (6" WIDE) 855(A)	YELLOW TRAFFIC STRIPE (PLASTIC) (6" WIDE) 855(A)	WHITE TRAFFIC STRIPE (PLASTIC) (24" WIDE) 855(A)	YELLOW TRAFFIC STRIPE (PLASTIC) (12" WIDE) 855(A)	TRAFFIC STRIPE (PLASTIC) (ARROWS) 855(B)
		L.F.	L.F.	L.F.	L.F.	EA.
T001-T002	STA. 104+50 - 128+40	6300.0	5220.0	40.0	120.0	3.0
TOTAL		6300.0	5220.0	40.0	120.0	3.0

SUMMARY OF SIGNS-NEW														
SHEET NO.	SIGN NO.	APPROX STATION	DISTANCE (FT.)	RT. / LT.	TYPE OF SIGN	DESCRIPTION	SIGN AREA 850(A)	BASE LENGTHS			REMOVE EXISTING SIGNS 880(A)	BASE POST 2" SQ. TUBE 851(C)	FOOTING	
								POST 3" PIPE 851(B)		POST SPACE			CONC. 804(A)	STEEL 804(B)
								A	B					
							S.F.	FT.	FT.	FT.	EA.	FT.	C.Y.	L.B.
T001	1	STA. 105+00	33	RT.	W8-13	BRIDGE ICES	6.25				1	11.50		
T002	2	STA. 122+00	33	LT.	R2-1(45)	SPEED LIMIT	5.00				1	11.33		
T002	3	STA. 122+00	33	RT.	R2-1(35)	SPEED LIMIT	5.00				1	11.33		
T002	4	STA. 123+00	33	RT.	W1-2(R)	RIGHT TURN	6.25				1	11.50		
T002	5	STA. 126.00	42	LT.		ROUTE ASSEMBLY NO 1	12.00	12.58	12.75	1.92	1		0.46	64
T002	6	STA. 127.00	42	LT.	W8-13	BRIDGE ICES	6.25				1	10.50		
T002	7	STA. 127+50	42	RT.		ROUTE ASSEMBLY NO 1	12.00	12.58	12.58	1.92	1		0.46	64
TOTALS							52.75	25.16	25.33	3.84	7.00	56.16	0.92	128.00

CONSTRUCTION SIGN SUMMARY																
PHASE	CONSTRUCTION SIGN															
	0 - 6.25 S.F. 880(B)		6.26 - 15.99 S.F. 880(B)		16.00 - 32.99 S.F. 880(B)		WING BARRICADE 880(C)		CONSTRUCTION BARRICADES (TYPE III) 880(C)		DRUMS 880 (F)		WARNING LIGHTS (TYPE A) 880(E)		CHANNELIZER CONES 880(G)	
	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.	EA.	S.D.
PHASE 1																
	41.00	1230.00	15.00	450.00	26.00	780.00	6.00	180.00	3.00	90.00	20	600	6.00	180.00	17.00	510.00
PHASE 1 TOTAL		1230.00		450.00		780.00		180.00		90.00		600.00		180.00		510.00
PHASE 2																
	45.00	10800.00	22.00	5280.00	26.00	6240.00	6.00	1440.00	9.00	2160.00	40	9600.00	18	4,320		
PHASE 2 TOTAL		10800.00		5280.00		6240.00		1440.00		2160.00		9600.00		4320.00		0.00
PHASE 3																
	50.00	3000.00	17.00	1020.00	26.00	1560.00	6.00	360.00	5.00	300.00	65.00	3900.00	10.00	600.00		
PHASE 3 TOTAL		3000.00		1020.00		1560.00		360.00		300.00		3900.00		600.00		0.00
TOTAL		15030.00		6750.00		8580.00		1980.00		2550.00		14100.00		5100.00		510.00
PHASE 1: 30 DAYS PHASE 2: 240 DAYS PHASE 3: 60 DAYS																

ADA RAMP SUMMARY					
SHEET NO.	STATION	DISTANCE (FT.)	RT. / LF.	RAMP TYPE	TACTILE WARNING DEVICE - NEW 610(I) (SF)
R013	125+56.14	17	RT.	B	8
R013	126+07.04	29.17	RT.	B	8
R013	126+31.23	44.33	RT.	B	8
R013	126+82.13	44.33	RT.	B	8
R013	127+88.34	44.33	LT.	B	8
R013	127+98.25	44.33	LT.	B	8
R013	128+06.28	51.08	RT.	D	8
R013	128+44.12	41.65	LT.	D	8

*ADA RAMP CONSTRUCTION INCLUDED IN SIDEWALK QUANTITY

SUMMARY OF LIGHT POLE REMOVAL		
DESCRIPTION		(1) REMOVAL OF LIGHT POLE 805(A)
		EA.
STA. 106+01	32.7' LT.	1.00
STA. 107+92	32.8' LT.	1.00
STA. 109+78	33.0' LT.	1.00
STA. 111+69	33.0' LT.	1.00
STA. 113+47	33.4' LT.	1.00
STA. 115+31	31.3' LT.	1.00
STA. 117+01	31.4' LT.	1.00
STA. 119+13	33.1' LT.	1.00
STA. 121+05	32.7' LT.	1.00
STA. 122+99	32.6' LT.	1.00
STA. 124+84	37.2' LT.	1.00
STA. 126+62	40.0' LT.	1.00
TOTAL:		12.00

[illegible]

DESCRIPTION	REVISIONS	DATE

DESIGN DATA LOAD RESISTANCE FACTOR DESIGN

CONCRETE CLASS A $f'_c = 3$ K.S.I.
 CONCRETE CLASS AA $f'_c = 4$ K.S.I.
 REINFORCING STEEL (GRADE 60) $f_y = 60$ K.S.I.
 STRUCTURAL STEEL M 270 (GRADE 50W) $F_y = 50$ K.S.I.
 STAINLESS STEEL A240 (TYPE 316) $F_y = 30$ K.S.I.

LOADING:
 HL-93 OR OKLAHOMA OVERLOAD TRUCK
 20 P.S.F. FUTURE WEARING SURFACE
 5 P.S.F. STAY-IN-PLACE FORM ALLOWANCE

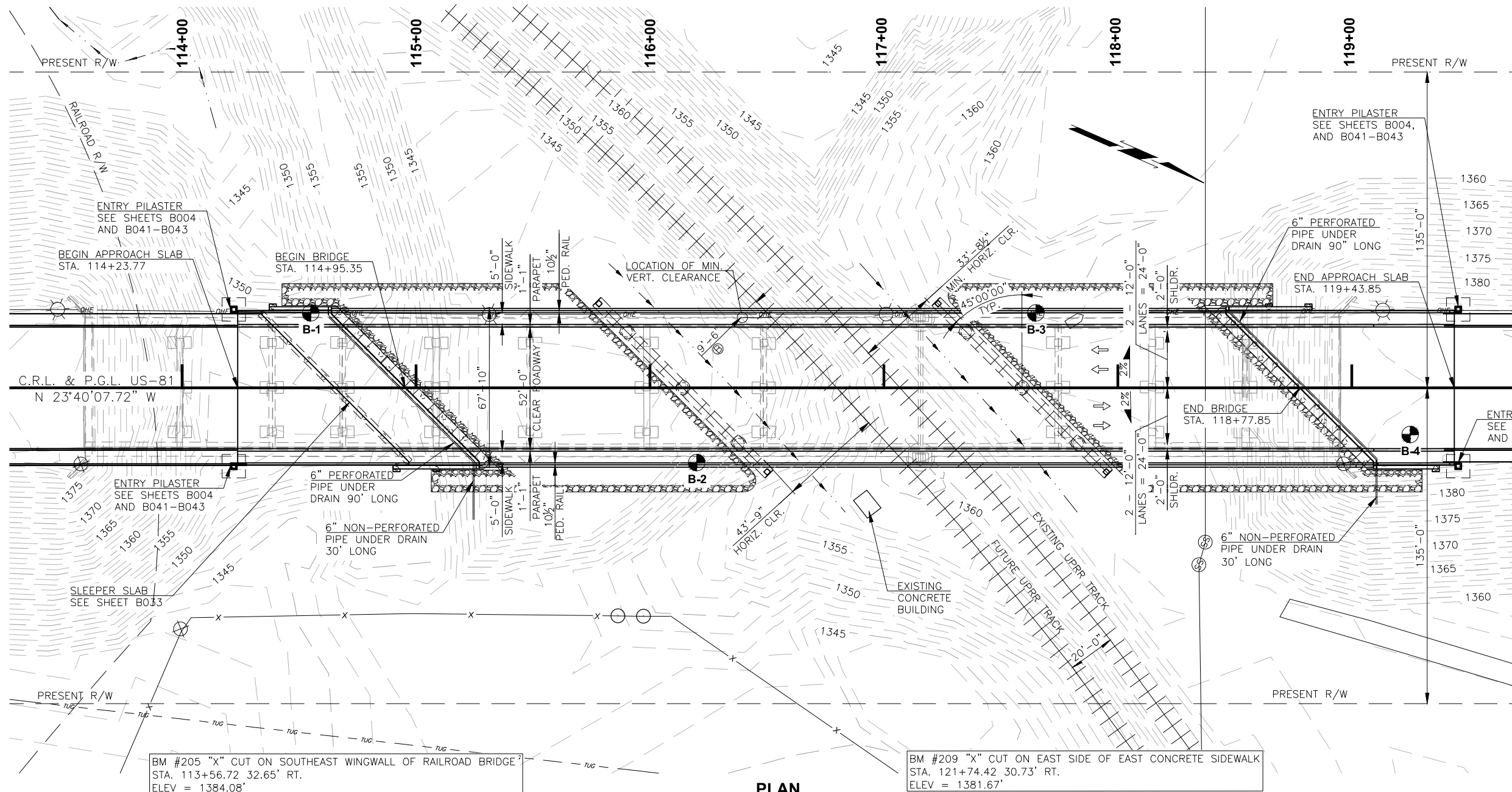
DESIGN:
 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION
 ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
 ANSI/AASHTO/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

L.F.D. OPERATING RATING: HS 50.6

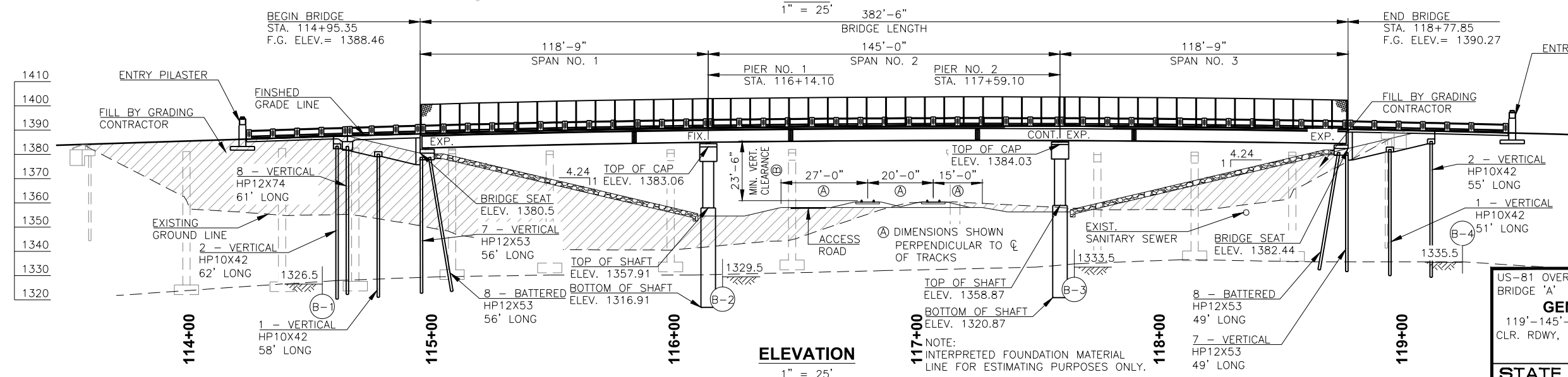
BRIDGE CONTRACTOR SHALL COORDINATE WITH GRADING CONTRACTOR DURING THE ADDITIONAL EXCAVATION, AS SHOWN IN ROADWAY PLANS, TO REMOVE EXISTING PIER FOOTINGS AND ABUTMENT PILES REQUIRED TO CONSTRUCT NEW SUBSTRUCTURE COMPONENTS.

NOTE:
 FOR SHEET INDEX, LIST OF STANDARDS, FOUNDATION DATA AND SUMMARY OF BRIDGE PAY QUANTITIES, SEE SHEET B002.

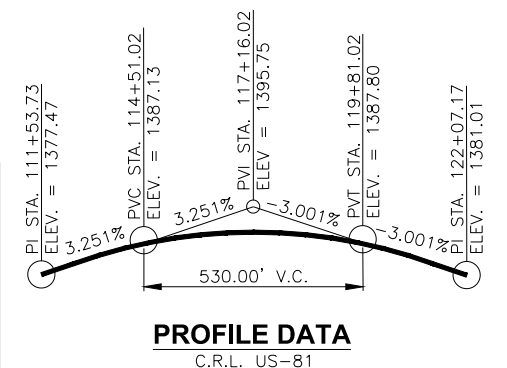
Ⓢ THE PERMANENT VERTICAL CLEARANCE SHOWN IS FROM THE TOP OF TRACK TO BOTTOM OF GIRDER. THE EXTENT OF THE PERMANENT VERTICAL CLEARANCE IS 9'-6", MEASURED PERPENDICULAR TO THE CENTERLINE OF THE TRACK, TO THE FIELD SIDE OF THE FUTURE UPRR TRACK.



PLAN
1" = 25'



ELEVATION
1" = 25'



PROFILE DATA
C.R.L. US-81

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	M.B.S.
BRIDGE 'A'		DETAIL	J.F.R.
119'-145'-119' CONT. STEEL PLATE GIRDER SPANS, 52' CLR. RDWY, (2) 5'-0" SIDEWALKS, 45' SKEW, 42" PARAPET, C STA 116+86.60		CHECK	M.B.S.
GENERAL PLAN AND ELEVATION			
STATE OF OKLAHOMA			
DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 27004(04)			
SHEET NO. B001			

FOUNDATION DATA

ABUTMENTS (HP12X53 PILING)

	ABUTMENT NO. 1	ABUTMENT NO. 2
FACTORED PILE REACTION (HP12X53)	= 99.6 TONS	= 92.0 TONS
PILE LENGTHS (HP12X53)	= 56'	= 49'

SLEEPER SLAB (HP12X74 PILING)

FACTORED PILE REACTION	= 125.6 TONS
PILE LENGTHS	= 62'

PIERS (72" DIAMETER DRILLED SHAFTS)

	PIER NO. 1	PIER NO. 2
MINIMUM DEPTH INTO ROCK	= 12.00'	= 12.00'
DEPTH OF ROCK NEG'D FOR FRICTION	= 5.00'	= 5.00'

UNIT BEARING RESISTANCE (TSF)	= 44.3	= 44.3
BEARING RESISTANCE FACTOR	= 0.7	= 0.7
FACTORED BEARING RESISTANCE (TONS)	= 876.5	= 876.5

UNIT FRICTION RESISTANCE (TSF)	= 8.1	= 8.1
FRICTION RESISTANCE FACTOR	= 0.45	= 0.45
FACTORED FRICTION RESISTANCE (TONS)	= 483.5	= 483.5

TOTAL FACTORED RESISTANCE (TONS)	= 1360	= 1360
TOTAL FACTORED REACTION (TONS)	= 1024	= 1024

STEEL PILING –
ALL PILING SHALL BE DRIVEN THROUGH THE COMPACTED FILL. PILING SHALL BE DRIVEN TO POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF THE REQUIRED AXIAL LOAD RESISTANCE IS NOT OBTAINED AT THIS ELEVATION, DRIVING SHALL CONTINUE UNTIL THE REQUIRED AXIAL LOAD RESISTANCE IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

SHEET INDEX

AB01	BRIDGE GENERAL NOTES
AB02	RAILROAD NOTES
AB03	AESTHETICS TREATMENTS NOTES (SHEET 1 OF 2) (DELETED SHEET)
AB04	AESTHETICS TREATMENTS NOTES (SHEET 2 OF 2) (DELETED SHEET)
AB05	SUMMARY OF PAY ITEMS AND NOTES (BRIDGE)
B001	GENERAL PLAN AND ELEVATION
B002	SUMMARY OF BRIDGE PAY QUANTITIES
B003	FOUNDATION REPORT
B004	SUBSTRUCTURE LAYOUT (SHEET 1 OF 2)
B005	SUBSTRUCTURE LAYOUT (SHEET 2 OF 2)
B006	SUBSTRUCTURE EXCAVATION (SHEET 1 OF 2)
B007	SUBSTRUCTURE EXCAVATION (SHEET 2 OF 2)
B008	ABUTMENT NO. 1 DETAILS
B009	ABUTMENT NO. 1 WING DETAILS
B010	ABUTMENT NO. 2 DETAILS
B011	ABUTMENT NO. 2 WING DETAILS
B012	ABUTMENT SECTIONS AND DETAILS
B013	ABUTMENT BAR LISTS
B014	PIER NO. 1 DETAILS
B015	PIER NO. 2 DETAILS
B016	PIER SECTIONS AND BAR LISTS
B017	TYPICAL CROSS SECTION
B018	LONGITUDINAL SECTION
B019	STRUCTURAL STEEL FRAMING PLAN
B020	PLATE GIRDER DETAILS (SHEET 1 OF 3)
B021	PLATE GIRDER DETAILS (SHEET 2 OF 3)
B022	PLATE GIRDER DETAILS (SHEET 3 OF 3)
B023	CROSS-FRAME DETAILS
B024	ABUTMENT BEARING DETAILS
B025	PIER BEARING DETAILS
B026	EXPANSION JOINT DETAILS
B027	SLAB REINFORCING PLAN
B028	ADDITIONAL SLAB REINFORCING DETAILS
B029	PARAPET DETAILS ON BRIDGE DECK
B030	PEDESTRIAN RAIL DETAILS ON BRIDGE DECK (SHEET 1 OF 2)
B031	PEDESTRIAN RAIL DETAILS ON BRIDGE DECK (SHEET 2 OF 2)
B032	THROW FENCE DETAILS
B033	SLEEPER SLAB DETAILS AT APPROACH SLAB NO. 1
B034	APPROACH SLAB NO. 1 DETAILS
B035	APPROACH SLAB NO. 2 DETAILS
B036	APPROACH SLAB SECTIONS AND BAR LISTS
B037	PARAPET DETAILS ON APPROACH SLAB NO. 1
B038	PARAPET DETAILS ON APPROACH SLAB NO. 2
B039	PEDESTRIAN RAIL DETAILS ON APPROACH SLAB NO. 1
B040	PEDESTRIAN RAIL DETAILS ON APPROACH SLAB NO. 2
B041	ENTRY PILASTER EXCAVATION AND BACKFILL
B042	ENTRY PILASTER DETAILS (SHEET 1 OF 2)
B043	ENTRY PILASTER DETAILS (SHEET 2 OF 2)
B044	BRIDGE AESTHETICS DETAILS

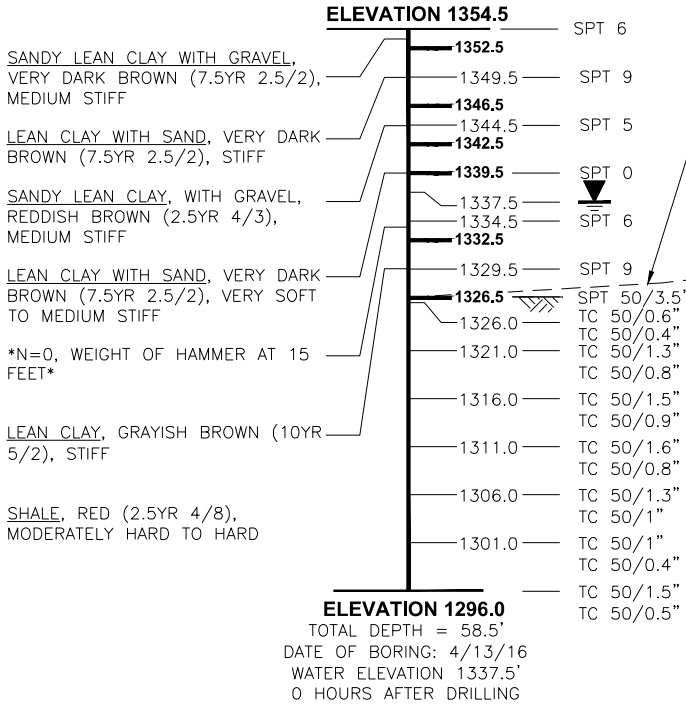
LIST OF STANDARDS:

EJ-DTL-02E
HP1-2-01E
PUD-3-3

SUMMARY OF BRIDGE PAY QUANTITIES									
	ITEM	UNIT	ABUTMENTS	PIERS	SUPER- STRUCTURE	SLEEPER SLAB	APPROACH SLAB	ENTRY PILASTERS	TOTAL
⚠	SUBSTRUCTURE EXCAVATION COMMON	C.Y.	395			134			529
⚠	SELECT BACKFILL	C.Y.				99			99
⚠	CLSM BACKFILL	C.Y.	660						660
	APPROACH SLAB	S.Y.					1,011.5		1,011.5
	SAW-CUT GROOVING	S.Y.			2,209		796		3,005
	SEALED EXPANSION JOINT	L.F.			182.7				182.7
	CONCRETE PARAPET	L.F.			764.3		275.2		1,039.5
	(PL)CONCRETE PARAPET (HANDRAIL TYPE)	L.F.			764.3		275.2		1,039.5
⚠	STRUCTURAL STEEL	LB.			1,242,640				1,242,640
	STRUCTURAL STEEL A36	LB.	180						180
	STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.			7				7
	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.			21				21
⚠	SPECIAL CONCRETE FINISH	S.Y.	239	179					418
	SPECIAL CONCRETE FINISH	L.SUM							1
	CLASS AA CONCRETE	C.Y.			684.2				684.2
⚠	CLASS A CONCRETE	C.Y.	253.6	391.6		35.0			680.2
⚠	(SP)GRAFFITI TREATMENT	S.F.	939	1,975	8,038		2,648	378	13,978
	MECHANICAL SPLICES	EA.		60					60
	REINFORCING STEEL	LB.		940					940
	EPOXY COATED REINFORCING STEEL	LB.	37,400	79,150	214,160	5,800			336,510
	PILES, FURNISHED (HP 10X42)	L.F.	343						343
	PILES, FURNISHED (HP 12X53)	L.F.	1,575						1,575
	PILES, FURNISHED (HP 12X74)	L.F.				488			488
	PILES, DRIVEN (HP 10X42)	L.F.	343						343
	PILES, DRIVEN (HP 12X53)	L.F.	1,575						1,575
	PILES, DRIVEN (HP 12X74)	L.F.				488			488
	PILE SPlice, H-PILE (NON-BIDDALBE)	EA.	1						1
⚠	WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	46	324	1,065		223		1,658
	DRILLED SHAFTS 72" DIAMETER	L.F.		237					237
	CROSSHOLE SONIC LOGGING	EA.		2					2
⚠	SEALER CRACK PREPARATION	L.F.			376.0				376.0
⚠	SEALER RESIN	GAL.			4.2				4.2
	(SP)AESTHETIC FORM LINERS (NON-BIDDABLE)	L.SUM							1
	(PL)INSTALLATION OF BRIDGE ITEMS	EA.						4	4
	TYPE I PLAIN RIPRAP	TON	2,640						2,640
⚠	6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	186						186
	6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	60						60
	REMOVAL OF EXISTING BRIDGE STRUCTURE	LSUM							1
	FENCE-STYLE CLF (7' HIGH, CLASS B)	L.F.			760.3				760.3

1390
1385
1380
1375
1370
1365
1360
1355
1350
1345
1340
1335
1330
1325
1320
1315
1310
1305
1300
1295
1290

BORING NO. B-1
STA. 114+55.00
32' LEFT
OF C.R.L. US-81



INTERPRETED
FOUNDATION
LINE

SANDY LEAN CLAY, WITH BROKEN ASPHALT PIECES, BROWN (7.5YR 5/2) AND DARK REDDISH BROWN (5YR 3/2), MEDIUM STIFF *POSSIBLE FILL MATERIAL*

SANDY LEAN CLAY, DARK BROWN (7.5YR 3/3), VERY SOFT

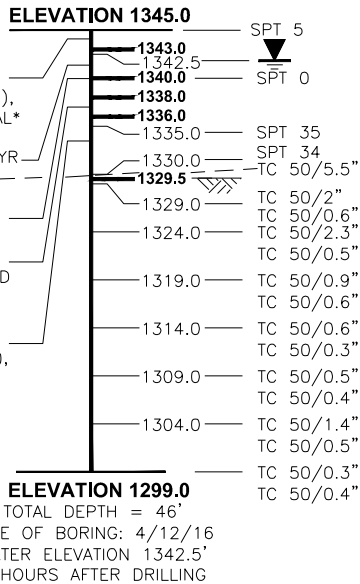
WEIGHT OF HAMMER AT 5 FEET

RIVER ROCK GRAVEL, REDDISH BROWN (2.5YR 4/3), BROWN (7.5YR 5/2) AND RED (2.5YR 4/8)

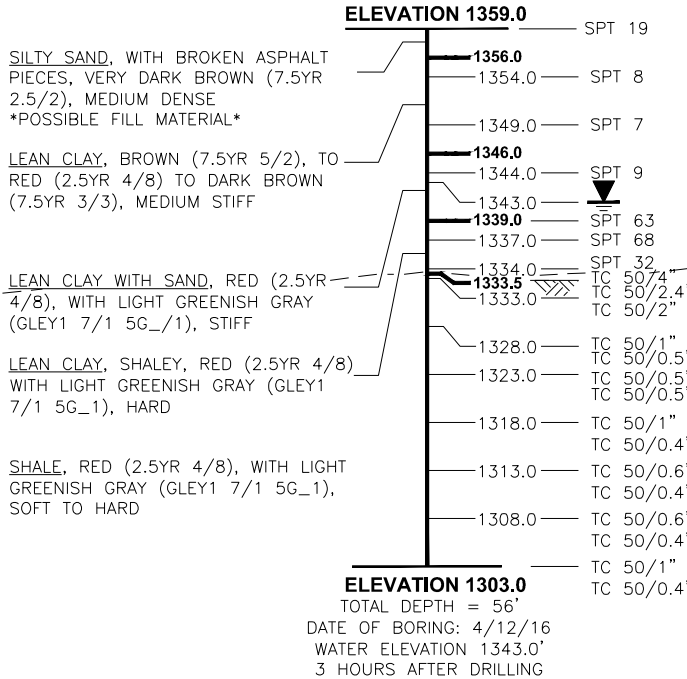
LEAN CLAY, WITH IRON SPOTS, RED (2.5YR 4/8), WITH BLACK (10YR 2/1), HARD

SILTY SHALE, RED (2.5YR 4/8) WITH LIGHT GREENISH GRAY (GLEY1 7/1 5G_1), MODERATELY HARD TO VERY HARD

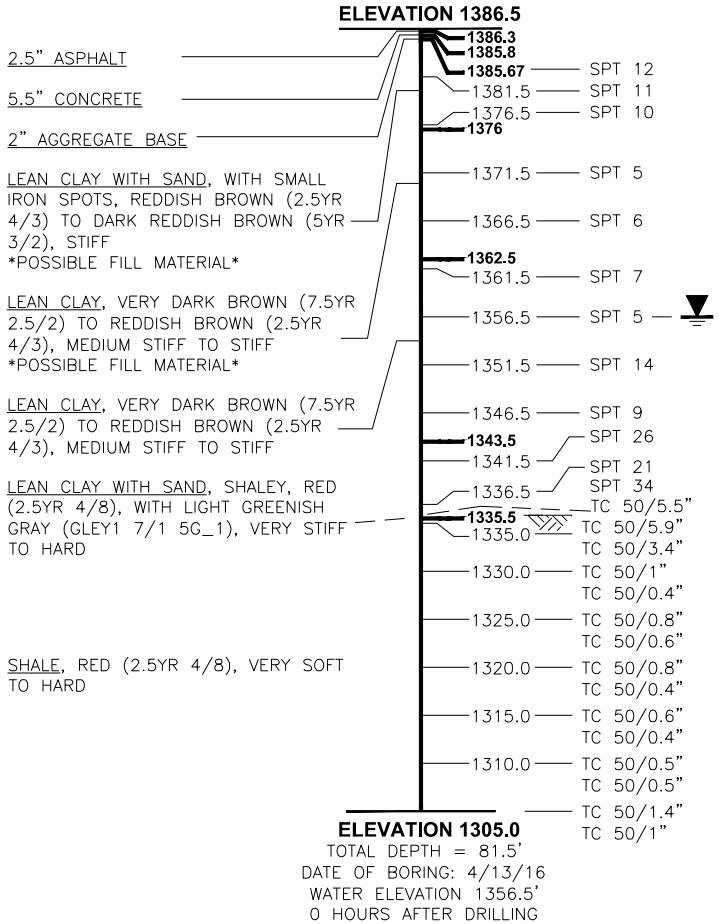
BORING NO. B-2
STA. 116+20.00
32' RIGHT
OF C.R.L. US-81



BORING NO. B-3
STA. 117+65.00
32' LEFT
OF C.R.L. US-81



BORING NO. B-4
STA. 119+25.00
20' RIGHT
OF C.R.L. US-81



NOTES:

SPT DENOTES STANDARD PENETRATION TESTS

TCP DENOTES TEXAS CONE PENETRATION TESTS

▽ DENOTES WATER ELEVATION DURING DRILLING

▽ DENOTES WATER ELEVATION AT NOTED TIME

▽ DENOTES CAVE IN DEPTH

/// DENOTES ROCK ELEVATION

GEOLOGICAL STATEMENT

DIVISION FIVE OF THE "ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) INDICATES THE PROJECT SITE IS LOCATED OVER ALLUVIUM (QAS) UNDERLAIN BY THE CLOUD CHIEF UNIT (PCC).

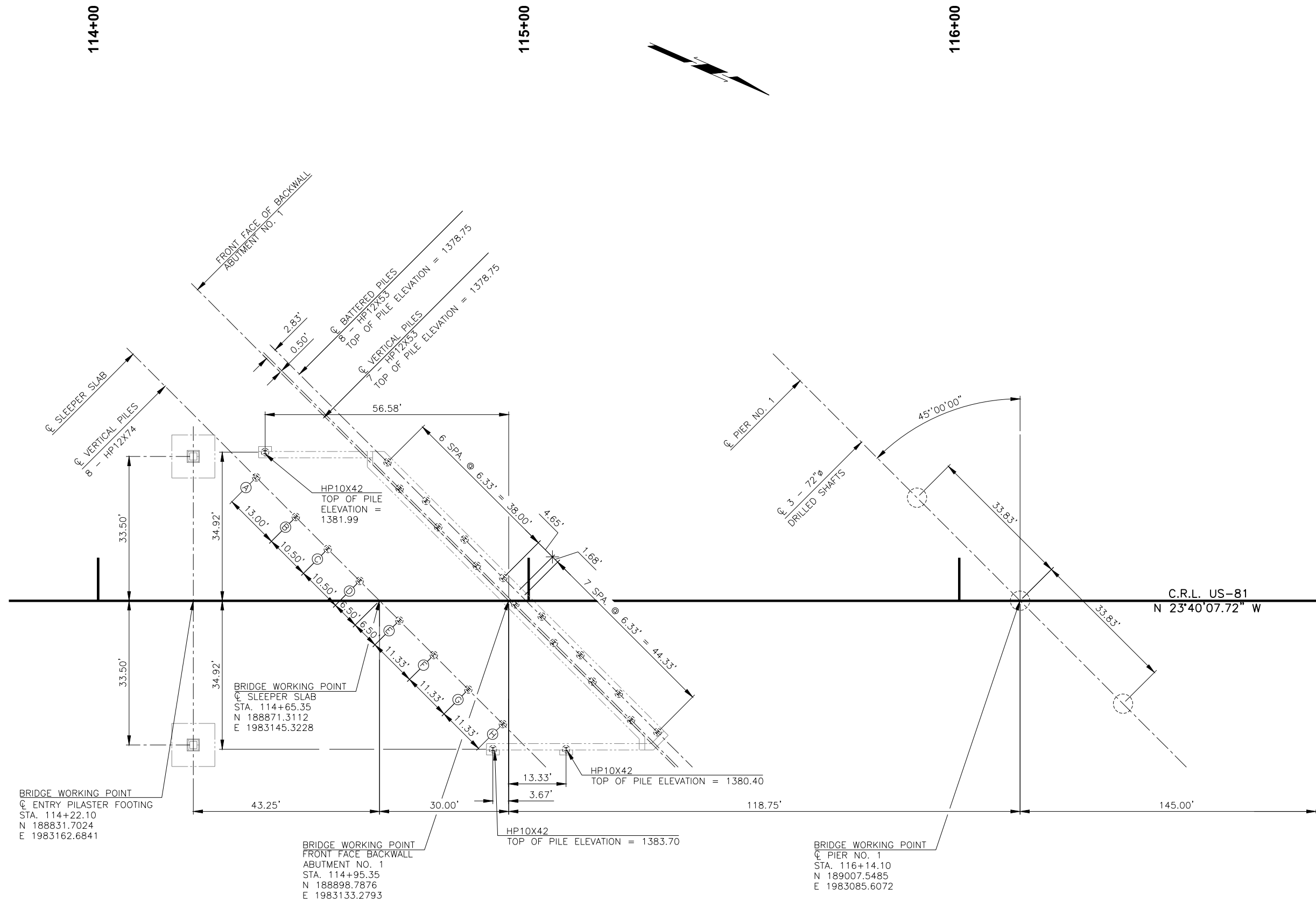
THE UNIT OVERLIES THE SANDSTONES OF THE RUSH SPRINGS UNIT AND UNDERLIES THE RED SHALES AND SILTSTONES OF THE DOXEY UNIT. A 1 TO 9 FEET THICK BED OF GYPSUM OR DOLOMITE, OF GREENISH-GRAY COLOR CALLED THE MOCCASIN CREEK BED MARKS THE BASE OF THE UNIT. GYPSUMS ARE PROMINENT NEAR THE BASE AND THIN RAPIDLY FROM A MAXIMUM THICKNESS OF 118 FEET IN CENTRAL WASHITA COUNTY TO LESS THAN 9 FEET IN CUSTER COUNTY, 7 FEET IN ROGER MILLES COUNTY, AND 6 FEET IN BECKHAM COUNTY. A DOLOMITE (DAY CREEK) BED OCCURS 25 TO 50 FEET ABOVE THE BASE OF THE UNIT IN PARTS OF DEWEY AND CUSTER COUNTIES.

NOTES:
INTERPRETED FOUNDATION LINE FOR ESTIMATING PURPOSES ONLY.

WATER ELEVATIONS SHOWN WERE OBTAINED AT THE TIME BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.

ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (405) 521-2625. THE CONTRACTOR SHOULD BE FULLY AWARE OF THE SITE CONDITIONS PRIOR TO BEGINNING WORK. ANY ADDITIONAL GEOTECHNICAL INFORMATION WHICH MAY BE DESIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.

DESCRIPTION	REVISIONS	DATE



SLEEPER SLAB TOP OF PILE ELEVATIONS

PILE	ELEVATION
A	1382.35
B	1382.63
C	1382.86
D	1383.09
E	1383.37
F	1383.62
G	1383.87
H	1384.11

SLEEPER SLAB PILES SHALL BE ORIENTED SUCH THAT THE FACE OF THE PILE WEB IS PERPENDICULAR TO THE FACE OF THE SLEEPER SLAB.

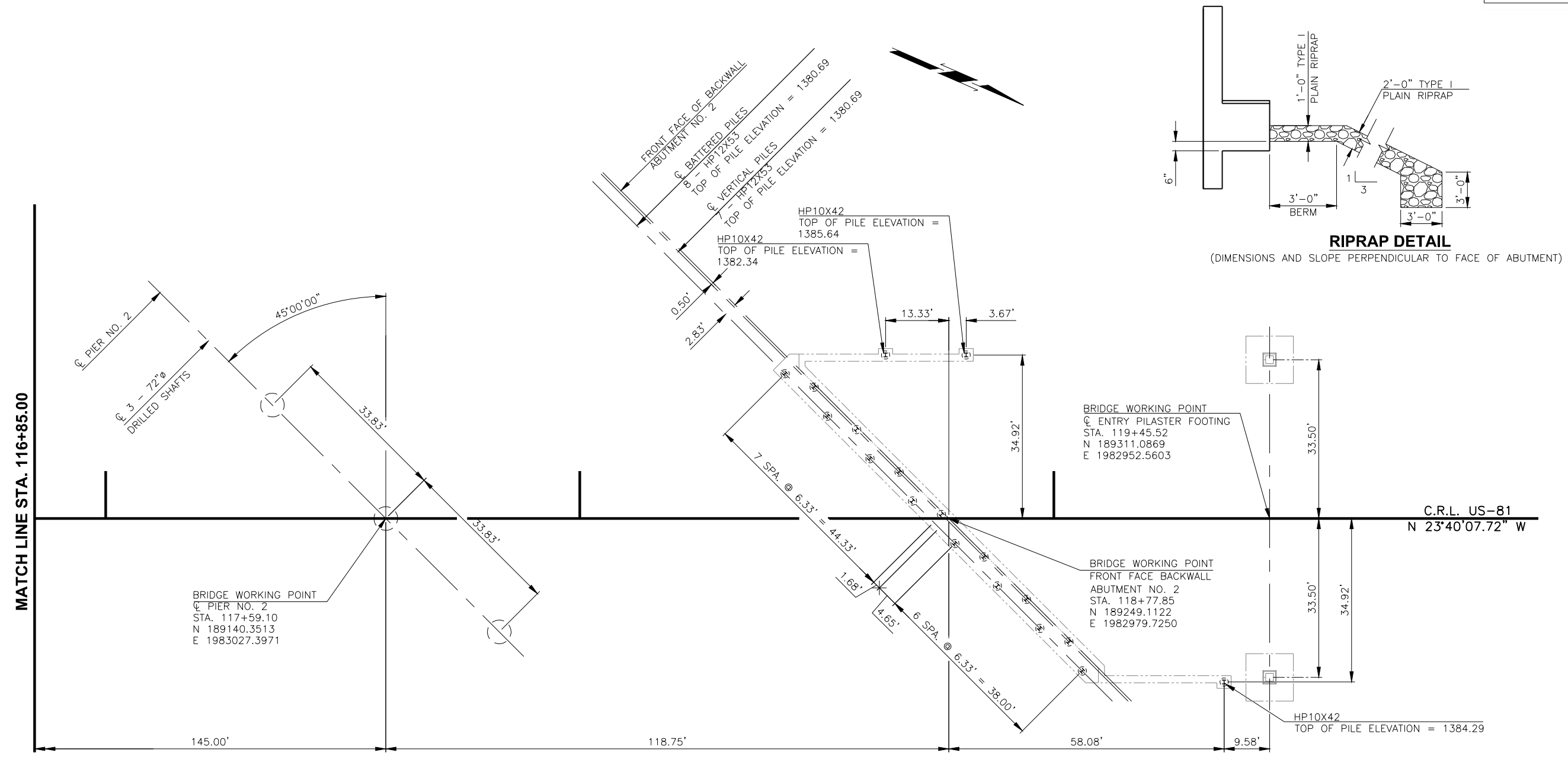
ABUTMENT SEAT PILES SHALL BE ORIENTED SUCH THAT THE FACE OF THE PILE WEB IS PERPENDICULAR TO THE FACE OF THE BRIDGE SEAT. WING PILES SHALL BE ORIENTED SUCH THAT THE FACE OF THE PILE WEB IS PERPENDICULAR TO THE WINGWALL.

SUBSTRUCTURE LAYOUT

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	CANADIAN COUNTY	DESIGN	M.B.S.	
		DETAIL	J.F.R.	
		CHECK	M.B.S.	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 27004(04)	SHEET NO. B004		

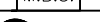
SUBSTRUCTURE LAYOUT (SHEET 1 OF 2)

DESCRIPTION	REVISIONS	DATE



SUBSTRUCTURE LAYOUT

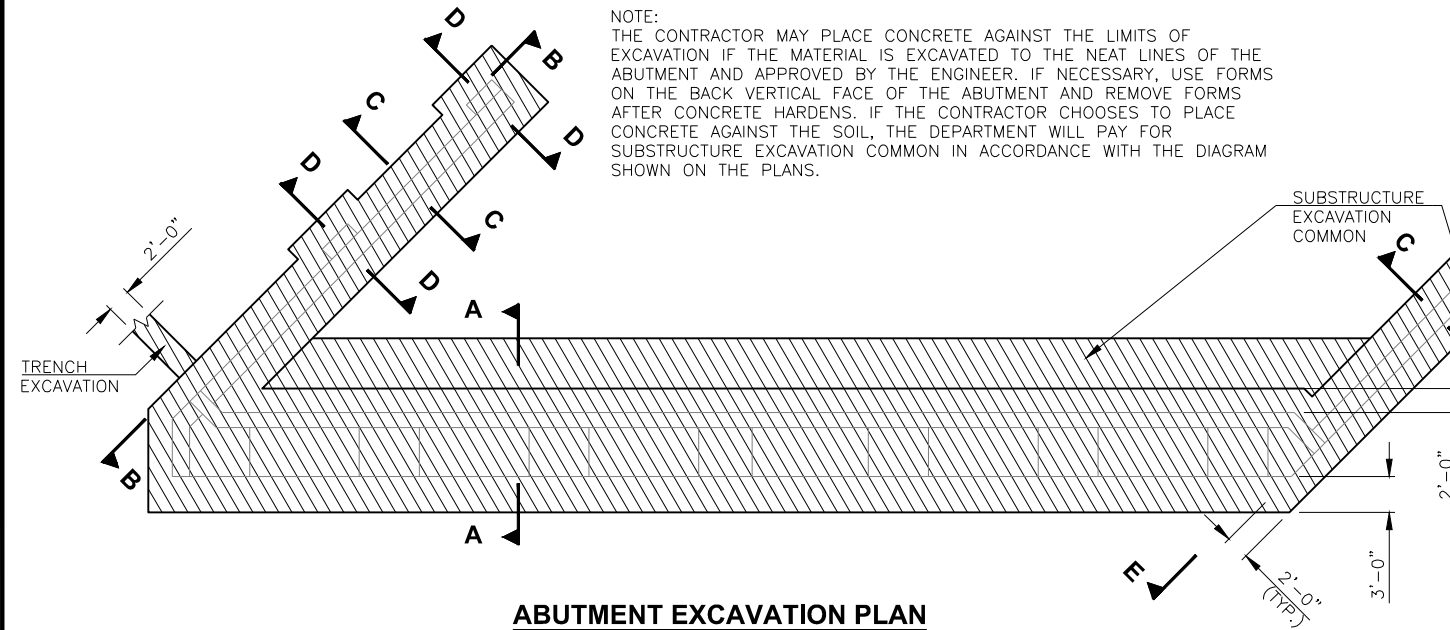
ABUTMENT SEAT PILES SHALL BE ORIENTATED SUCH THAT THE FACE OF THE PILE WEB IS PERPENDICULAR TO THE FACE OF THE BRIDGE SEAT. WING PILES SHALL BE ORIENTATED SUCH THAT THE FACE OF THE PILE WEB IS PERPENDICULAR TO THE WINGWALL.

US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.	
BRIDGE 'A'				DETAIL	J.F.R.	
SUBSTRUCTURE LAYOUT (SHEET 2 OF 2)				CHECK	M.B.S.	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 27004(04)				SHEET NO. B005

SUBSTRUCTURE LAYOUT (SHEET 2 OF 2)

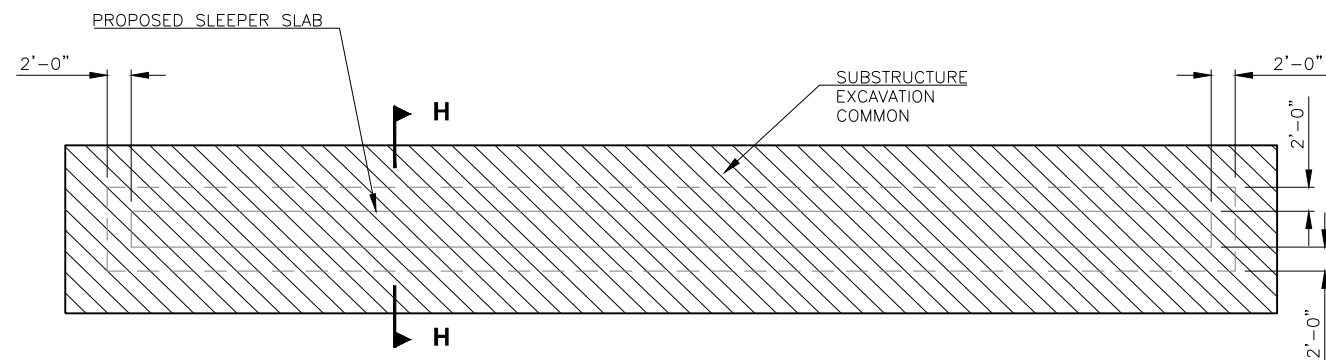
DESCRIPTION	REVISIONS	DATE

NOTE:
THE CONTRACTOR MAY PLACE CONCRETE AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE ABUTMENT AND APPROVED BY THE ENGINEER. IF NECESSARY, USE FORMS ON THE BACK VERTICAL FACE OF THE ABUTMENT AND REMOVE FORMS AFTER CONCRETE HARDENS. IF THE CONTRACTOR CHOOSES TO PLACE CONCRETE AGAINST THE SOIL, THE DEPARTMENT WILL PAY FOR SUBSTRUCTURE EXCAVATION COMMON IN ACCORDANCE WITH THE DIAGRAM SHOWN ON THE PLANS.

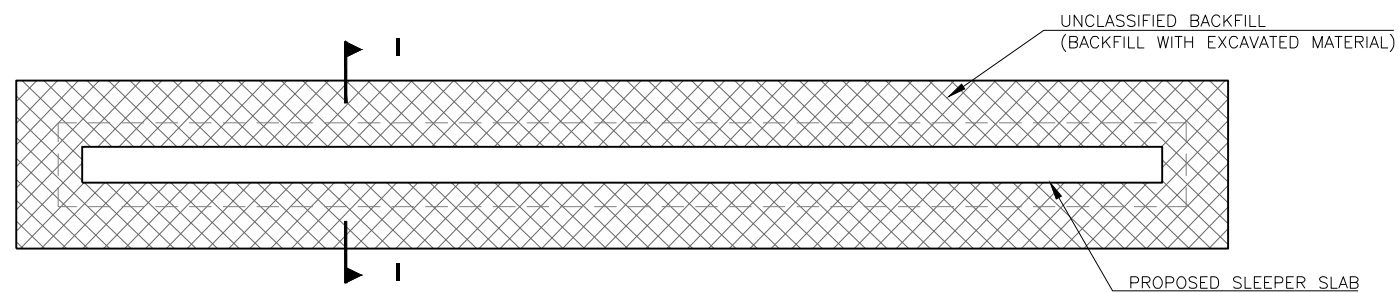


ABUTMENT EXCAVATION PLAN

ABUTMENT NO. 1 SHOWN
(ABUTMENT NO. 2 SIMILAR)

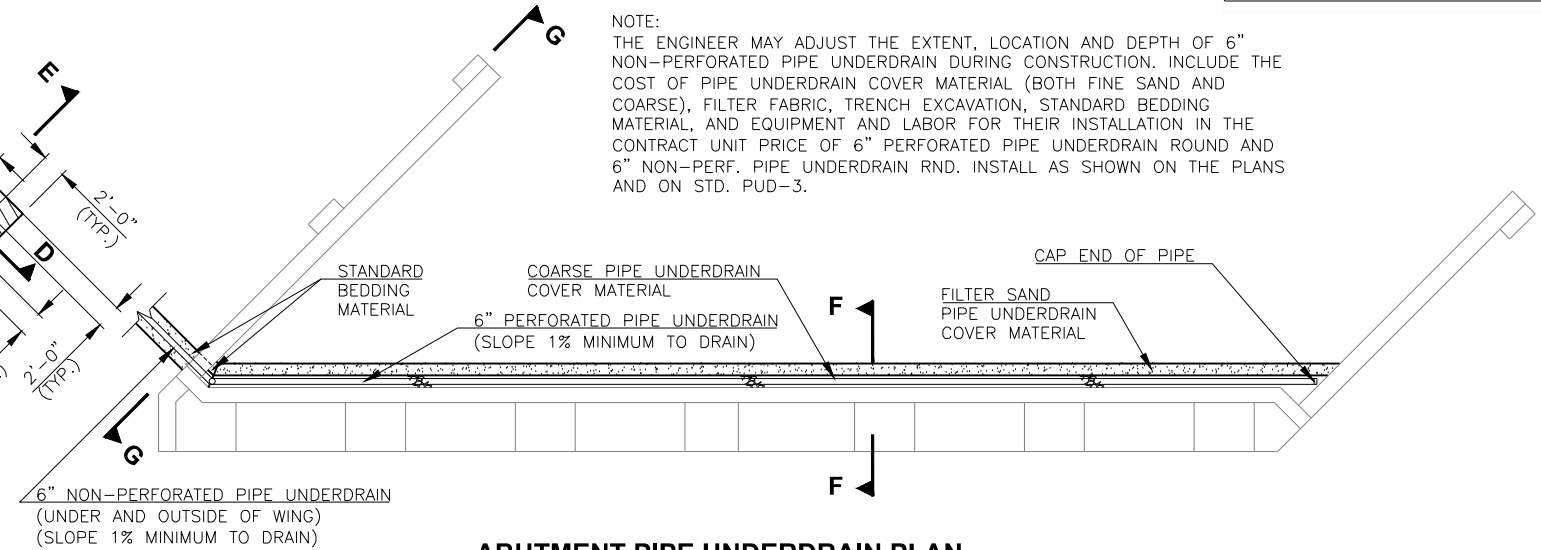


SLEEPER SLAB AT APPROACH SLAB NO. 1 EXCAVATION PLAN



SLEEPER SLAB AT APPROACH SLAB NO. 1 BACKFILL PLAN

NOTE:
THE ENGINEER MAY ADJUST THE EXTENT, LOCATION AND DEPTH OF 6" NON-PERFORATED PIPE UNDERDRAIN DURING CONSTRUCTION. INCLUDE THE COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FINE SAND AND COARSE), FILTER FABRIC, TRENCH EXCAVATION, STANDARD BEDDING MATERIAL, AND EQUIPMENT AND LABOR FOR THEIR INSTALLATION IN THE CONTRACT UNIT PRICE OF 6" PERFORATED PIPE UNDERDRAIN ROUND AND 6" NON-PERF. PIPE UNDERDRAIN RND. INSTALL AS SHOWN ON THE PLANS AND ON STD. PUD-3.



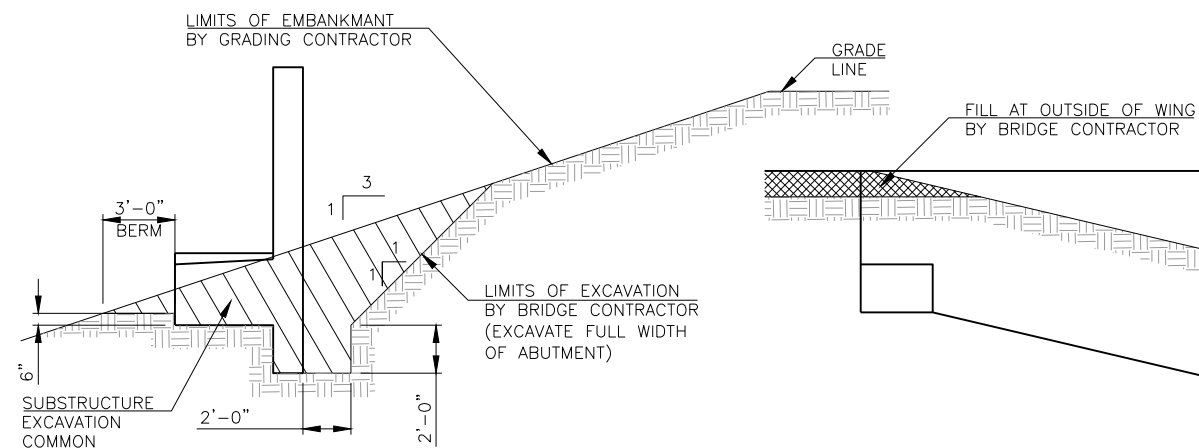
ABUTMENT PIPE UNDERDRAIN PLAN

ABUTMENT NO. 1 SHOWN
(ABUTMENT NO. 2 SIMILAR)

NOTE:
FOR SECTIONS,
SEE SHEET B007.

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	CANADIAN COUNTY	DESIGN	M.B.S.	
		DETAIL	J.F.R.	
		CHECK	M.B.S.	
				CEC
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 27004(04)			SHEET NO. B006

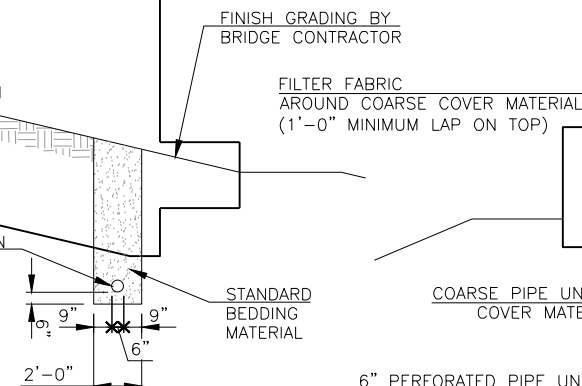
DESCRIPTION	REVISIONS	DATE



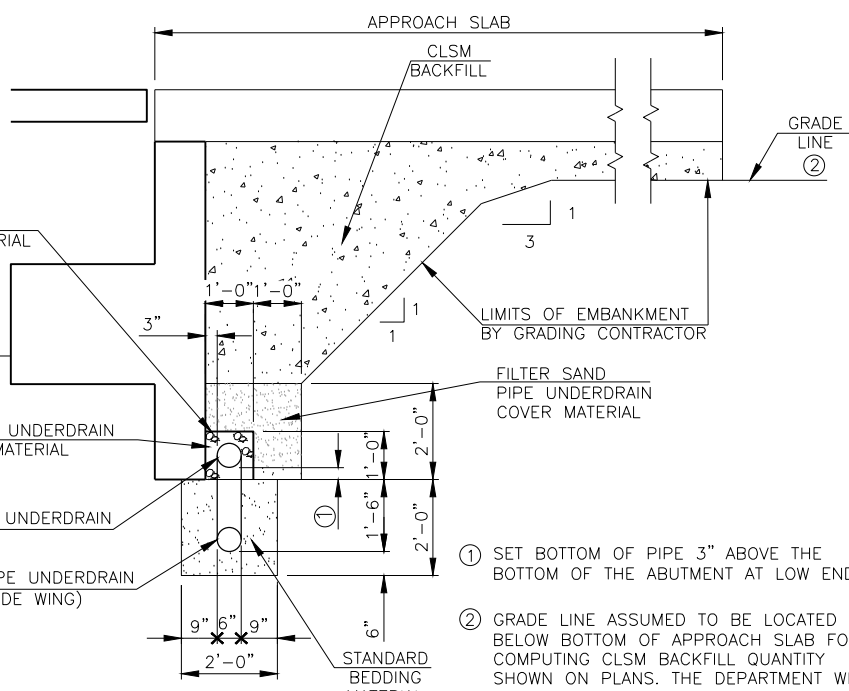
SECTION A-A

6" NON-PERFORATED PIPE UNDERDRAIN
(UNDER AND OUTSIDE OF WING)
(SLOPE 1% MINIMUM TO DRAIN)

SECTION G-G



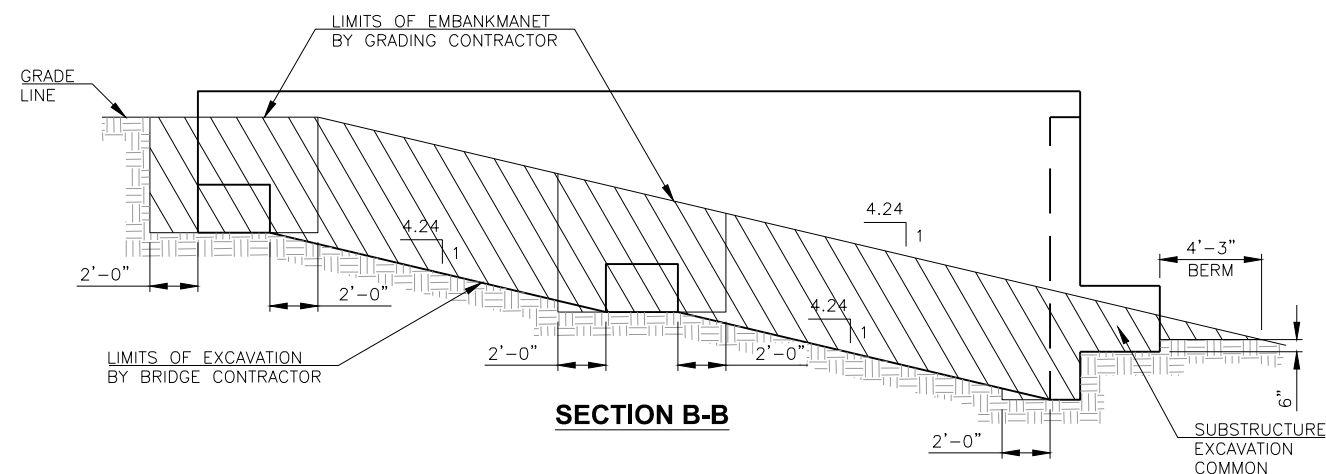
6" NON-PERFORATED PIPE UNDERDRAIN
(UNDER AND OUTSIDE WING)



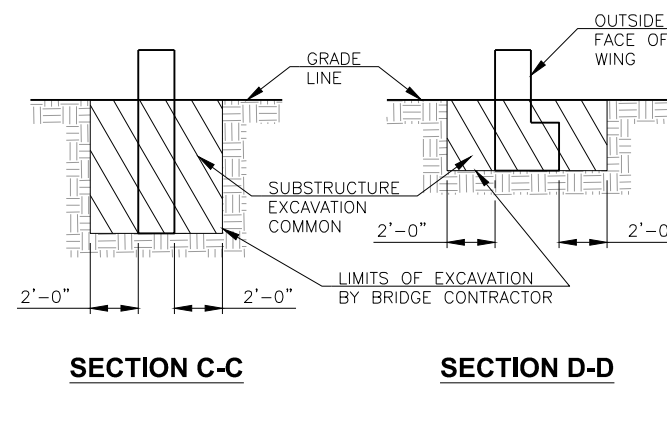
SECTION F-F

- ① SET BOTTOM OF PIPE 3" ABOVE THE BOTTOM OF THE ABUTMENT AT LOW END.
- ② GRADE LINE ASSUMED TO BE LOCATED 12" BELOW BOTTOM OF APPROACH SLAB FOR COMPUTING CLSM BACKFILL QUANTITY SHOWN ON PLANS. THE DEPARTMENT WILL PAY FOR CLSM BACKFILL IN ACCORDANCE WITH THE PLAN QUANTITY AND NO ADJUSTMENT WILL BE MADE FOR ACTUAL LOCATION OF GRADE LINE.

DO NOT PLACE CLSM BACKFILL UNTIL THE SUPERSTRUCTURE IS IN PLACE AND THE ABUTMENT WINGS HAVE ATTAINED A STRENGTH OF 3000 PSI.

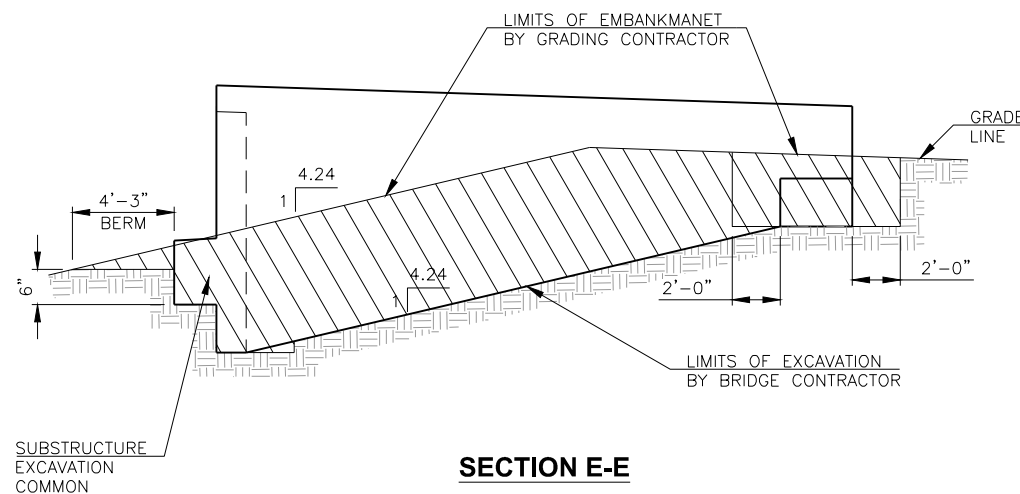


SECTION B-B

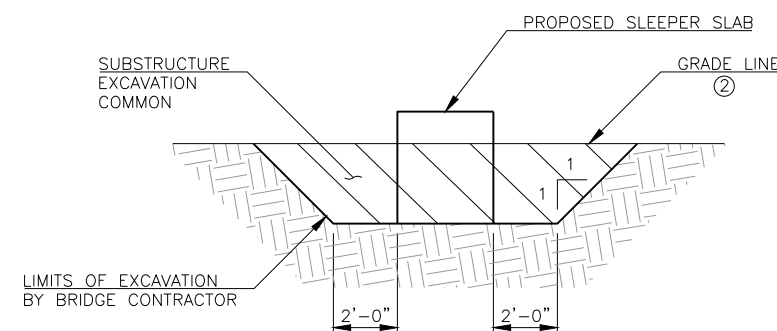


SECTION C-C

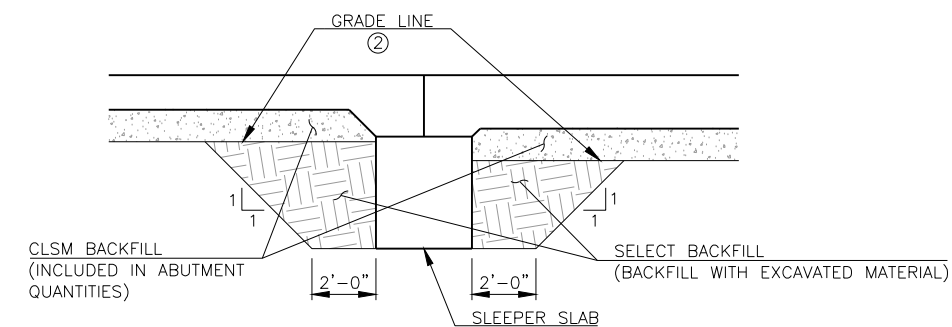
SECTION D-D



SECTION E-E



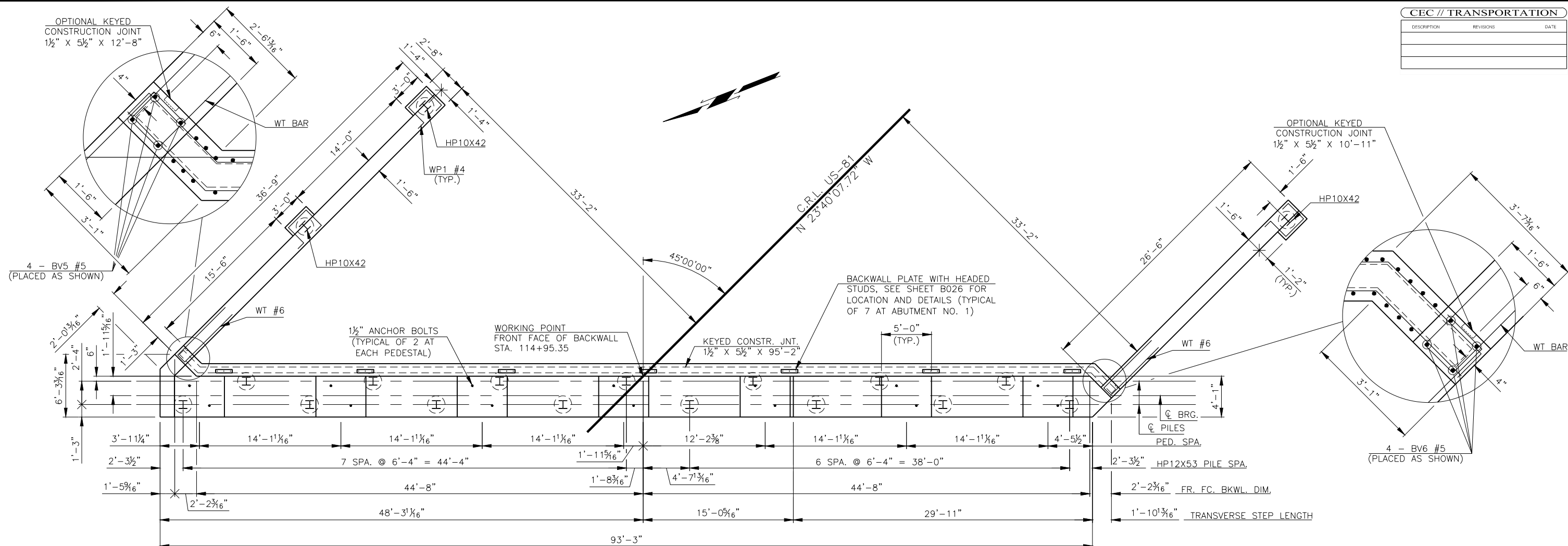
SECTION H-H



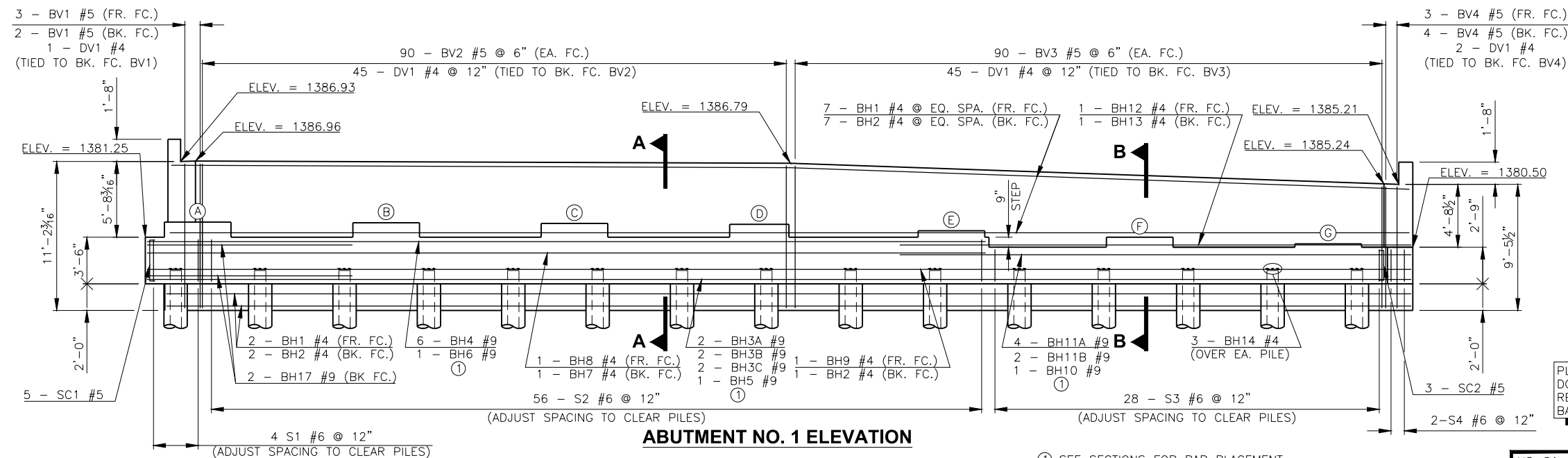
SECTION I-I

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	CANADIAN COUNTY	DESIGN	M.B.S.	
		DETAIL	J.F.R.	
		CHECK	M.B.S.	
SUBSTRUCTURE EXCAVATION (SHEET 2 OF 2)		CEC		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 27004(04)	SHEET NO. B007	

DESCRIPTION	REVISIONS	DATE



ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 ELEVATION

① SEE SECTIONS FOR BAR PLACEMENT.

PEDESTAL SCHEDULE

PEDESTAL	PED. HEIGHT	PED. ELEV.	# OF P3 BARS
A	1'-1 1/4"	1382.37	2
B	1'-0 1/8"	1382.33	2
C	1'-0 5/8"	1382.28	2
D	11 1/8"	1382.21	2
E	5 3/8"	1381.74	1
F	9"	1381.25	1
G	3"	1380.75	0

NOTE:
FOR PIPE UNDERDRAIN AND
EXCAVATION DETAILS, SEE SHEETS
B006-B007.

FOR WT BARS IN ABUTMENT
BACKWALL AND SEAT, AND ABUTMENT
WING DETAILS SEE SHEET B009.

FOR SECTIONS A AND B, PEDESTAL
PLANS, AND FOR LAYOUT OF
ABUTMENT END REINFORCING STEEL,
SEE SHEET B012.

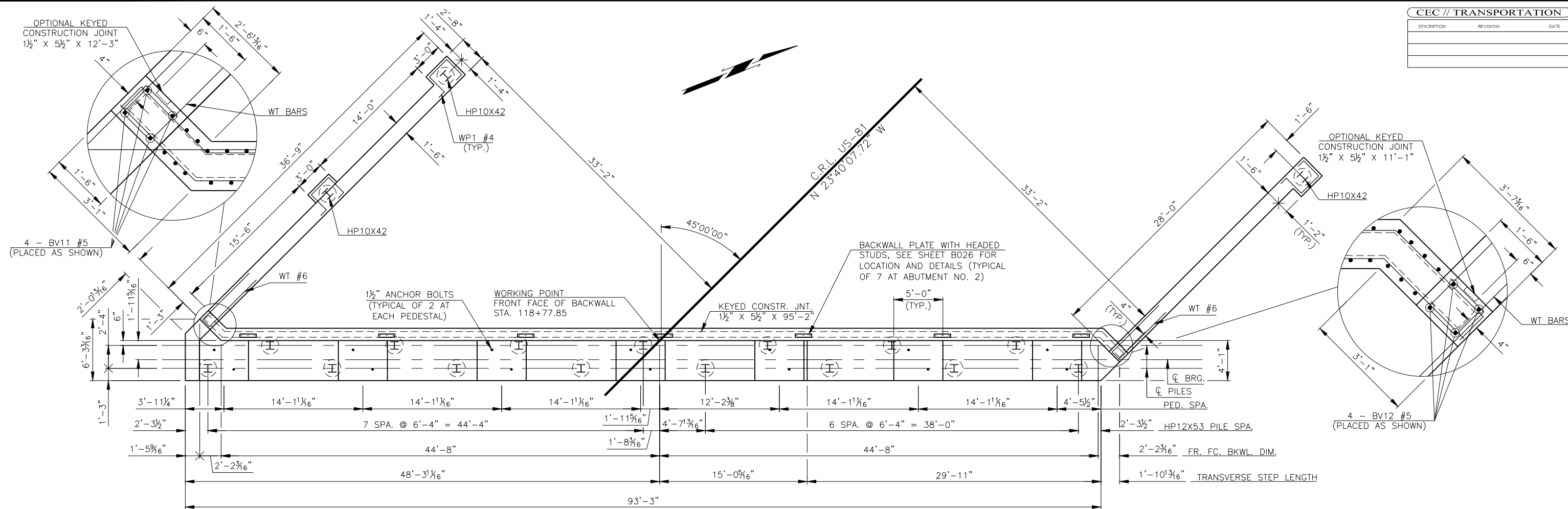
FOR BAR BENDS AND BAR LIST, SEE
SHEET B013.

PLACE ALL DV1 APPROACH SLAB
DOWELS TIED TO ABUTMENT
REINFORCING PRIOR TO PLACING
BACKWALL CONCRETE.

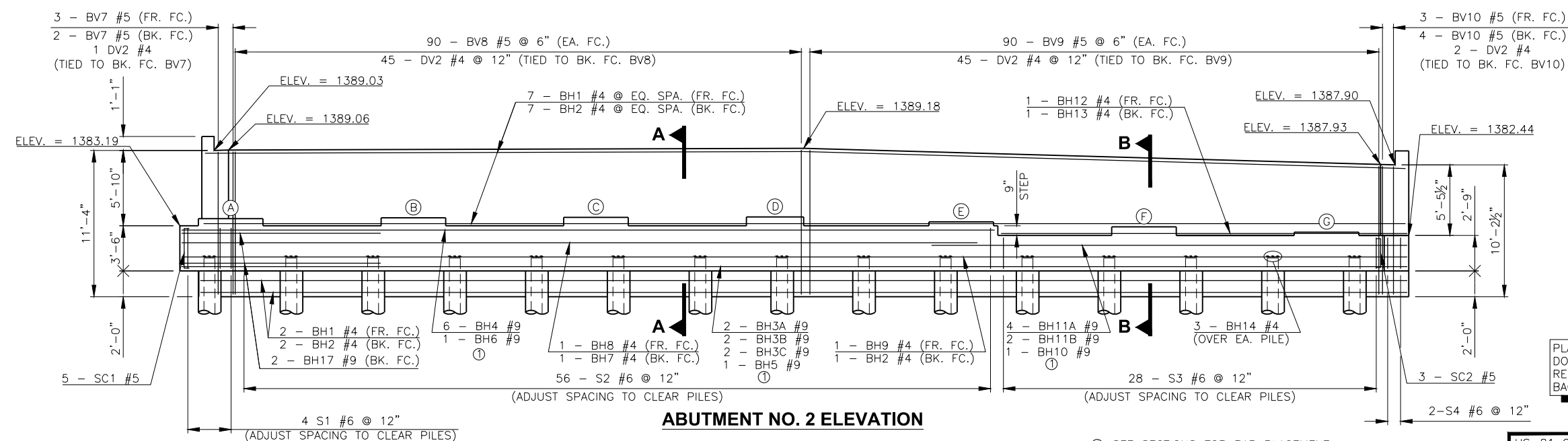
PLACE ALL WT WING REINFORCING
TIED TO ABUTMENT SEAT AND
BACKWALL REINFORCING PRIOR TO
PLACING ABUTMENT SEAT AND
BACKWALL CONCRETE.

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY	DESIGN	M.B.S.
ABUTMENT NO. 1 DETAILS		JOB PIECE NO. 27004(04)	DETAIL	J.F.R.
			CHECK	M.B.S.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. B008

DESCRIPTION	REVISIONS	DATE



ABUTMENT NO. 2 PLAN



ABUTMENT NO. 2 ELEVATION

① SEE SECTIONS FOR BAR PLACEMENT.

PEDESTAL SCHEDULE

PEDESTAL	PED. HEIGHT	PED. ELEV.	# OF P3 BARS
A	6 $\frac{5}{8}$ "	1383.74	1
B	7 $\frac{1}{4}$ "	1383.79	1
C	7 $\frac{3}{4}$ "	1383.84	1
D	8 $\frac{1}{8}$ "	1383.87	1
E	3 $\frac{9}{16}$ "	1383.49	0
F	7 $\frac{7}{8}$ "	1383.09	1
G	3"	1382.69	0

NOTE:

FOR PIPE UNDERDRAIN AND EXCAVATION DETAILS, SEE SHEETS B006-B007.

FOR WT BARS IN ABUTMENT BACKWALL AND SEAT, AND ABUTMENT WING DETAILS SEE SHEET B011.

FOR, SECTIONS A AND B, PEDESTAL PLANS, AND LAYOUT OF ABUTMENT END REINFORCING STEEL, SEE SHEET B012.

FOR BAR BENDS AND BAR LIST, SEE SHEET B013.

PLACE ALL DV2 APPROACH SLAB DOWELS TIED TO ABUTMENT REINFORCING PRIOR TO PLACING BACKWALL CONCRETE.

PLACE ALL WT WING REINFORCING TIED TO ABUTMENT SEAT AND BACKWALL REINFORCING PRIOR TO PLACING ABUTMENT SEAT AND BACKWALL CONCRETE.

US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.
BRIDGE 'A'				DETAIL	J.F.R.
				CHECK	M.B.S.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)		SHEET NO. B010	

ABUTMENT NO. 2 DETAILS



1'-6"

ROADWAY FACE

TOP CORNER OF ROADWAY FACE OF ABUTMENT WING SHALL NOT BE CHAMFERED

2 - WH11 #6
(LAP W/ WT3 FROM ABUTMENT BACKWALL)

2 - WH14 #6
(LAP W/ WT3 FROM ABUTMENT BACKWALL)

18 - WH11 #6
(LAP W/ WT3 FROM ABUTMENT BACKWALL)

WV #4 BARS

16 - WH12 #6
(LAP W/ WT3 FROM ABUTMENT BACKWALL AND SEAT)

2" CLR (TYP.)

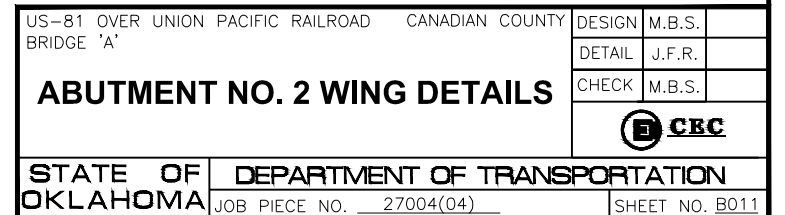
3" CLR.

3 - WT2 #6
(FROM CURTAIN WALL)

2 - WH13 #6
(LAP W/ WT1 FROM CURTAIN WALL)

NOTE:
FOR BAR BENDS
AND BAR LISTS,
SEE SHEET B013.

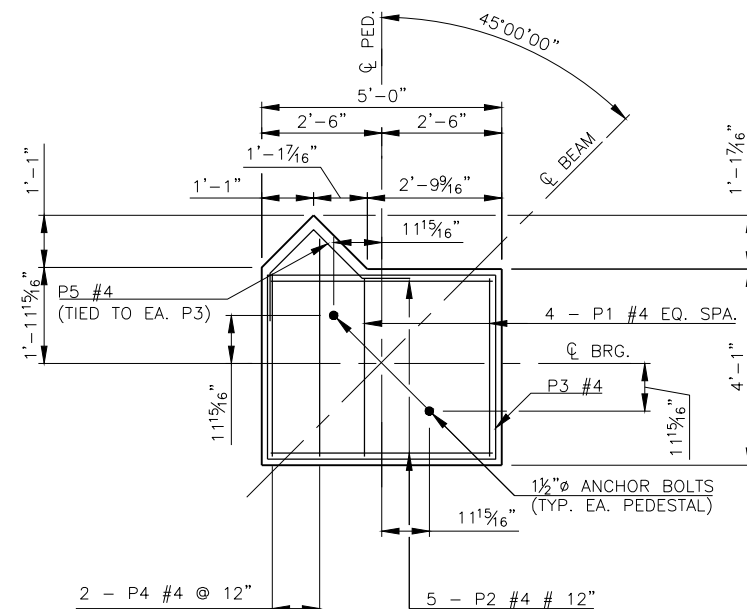
**SECTION THRU WING AT BACK
FACE OF ABUTMENT SEAT**



(REAR PILE BLOCK SHOWN,
CENTER PILE BLOCK SIM.)

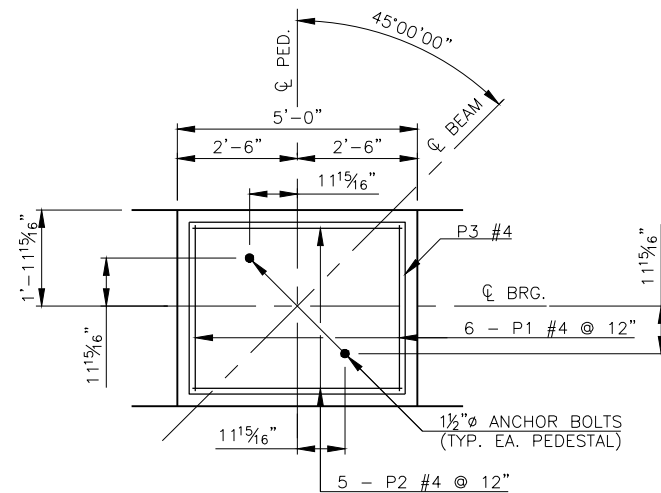
ABUTMENT NO. 2 EAST WING

DESCRIPTION	REVISIONS	DATE
REV. QUANT./DETAIL		9-3-19



PEDESTAL A PLAN

FOR PEDESTAL LOCATIONS, REFER TO SHEETS B008 AND B010.

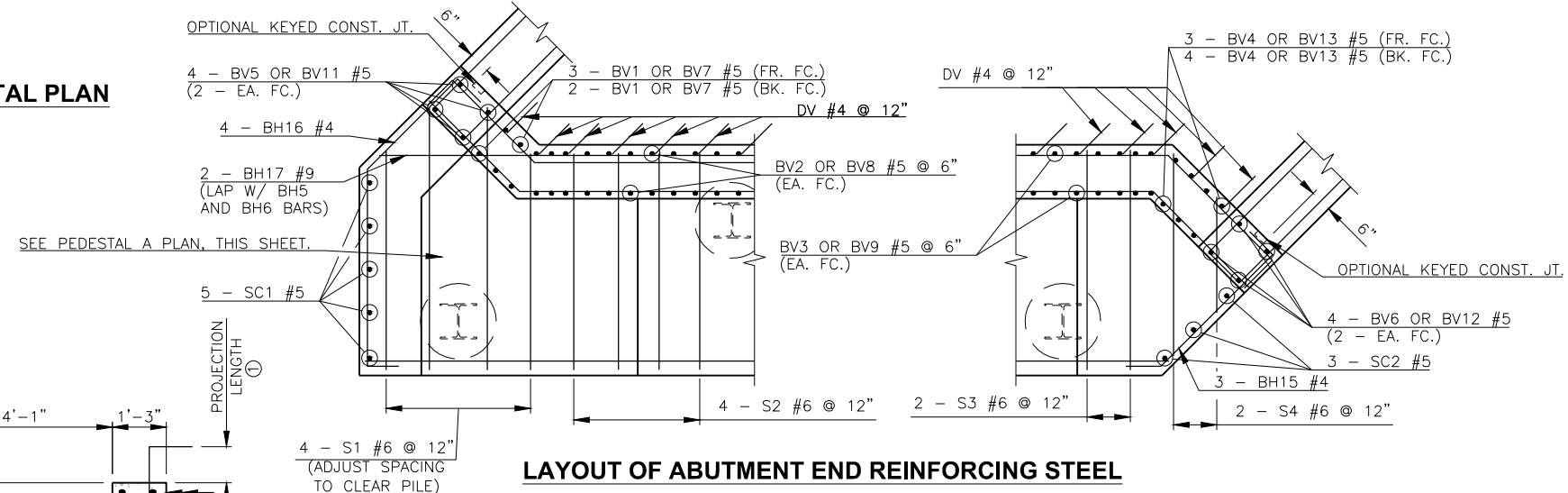


TYPICAL PEDESTAL PLAN

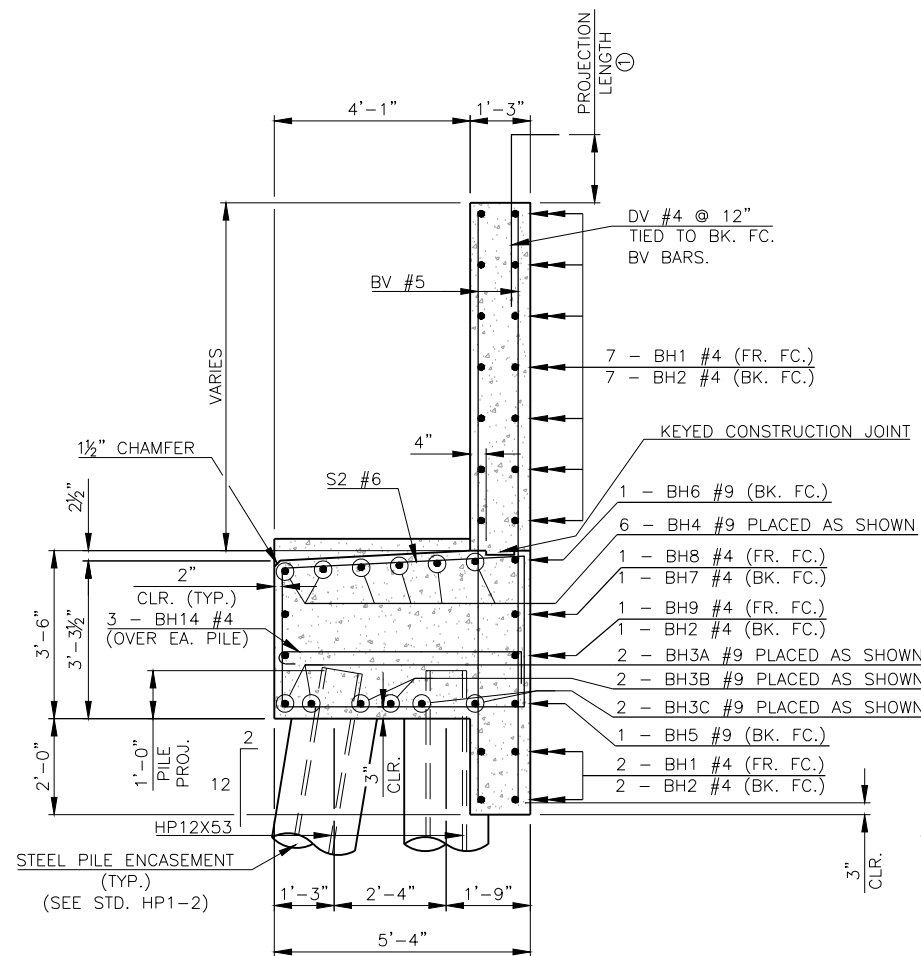
ABUTMENT QUANTITIES				
ITEM	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	195	200	395
CLSM BACKFILL	C.Y.	320	340	660
STRUCTURAL STEEL A36	LB.	90	90	180
SPECIAL CONCRETE FINISH	S.Y.	118	121	239
CLASS A CONCRETE	C.Y.	126.5	127.1	253.6
(SP) GRAFFITI TREATMENT	S.F.	468	471	939
EPOXY COATED REINFORCING STEEL	LB.	18,640	18,760	37,400
PILES, FURNISHED (HP 10X42)	L.F.	182	161	343
PILES, FURNISHED (HP 12X53)	L.F.	840	735	1,575
PILES, DRIVEN (HP 10X42)	L.F.	182	161	343
PILES, DRIVEN (HP 12X53)	L.F.	840	735	1,575
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	-	-	1
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	23	23	46
TYPE I PLAIN RIPRAP	TON	1,320	1,320	2,640
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	93	93	186
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	30	30	60

(A) QUANTITY PROVIDED FOR THE APPLICATION OF CIM 1000 OR APPROVED EQUAL.

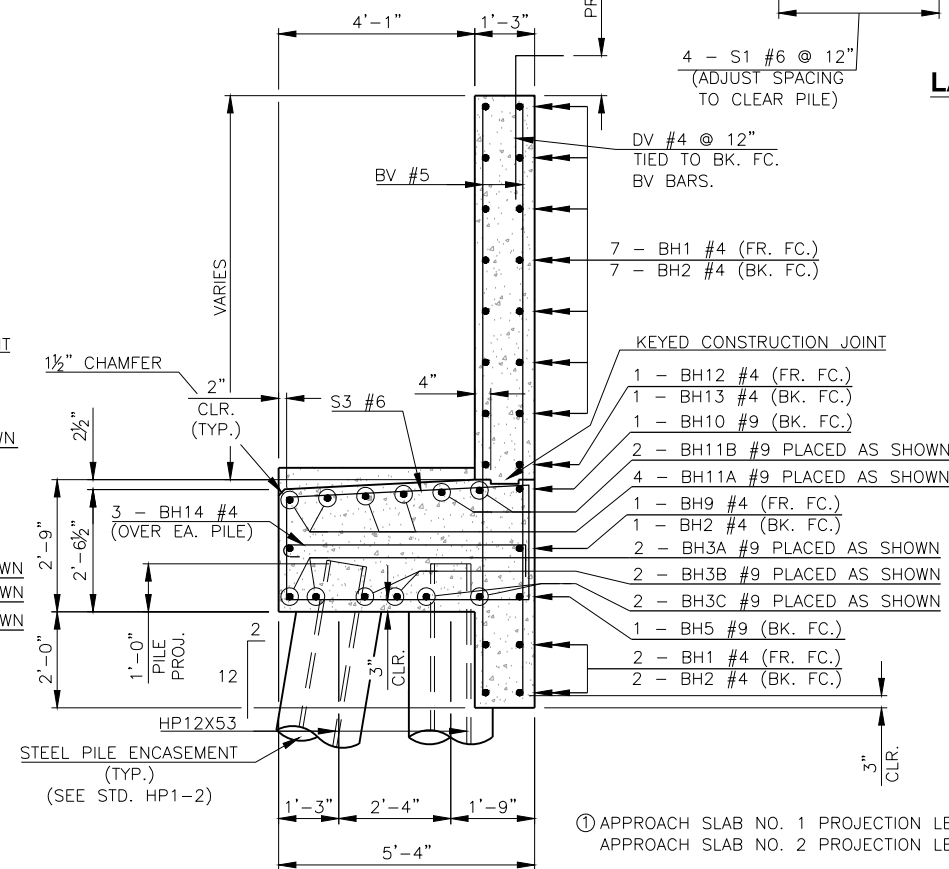
(B) APPLY GRAFFITI TREATMENT TO ALL EXPOSED CONCRETE SURFACES OF ABUTMENT AND WINGS EXCEPT WHERE CIM1000 (URETHANE COATING) IS APPLIED.



LAYOUT OF ABUTMENT END REINFORCING STEEL

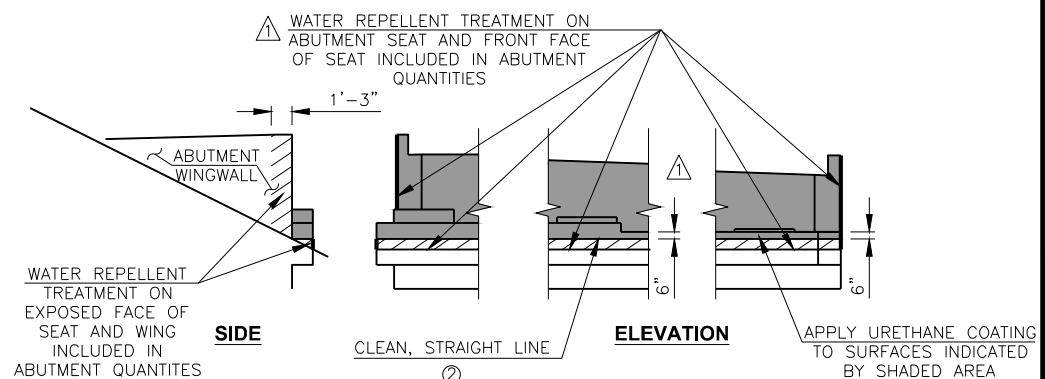


SECTION A



SECTION B

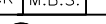
① APPROACH SLAB NO. 1 PROJECTION LENGTH = 1'-5"
APPROACH SLAB NO. 2 PROJECTION LENGTH = 10"



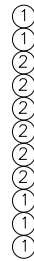
URETHANE COATING AND WATER REPELLENT DETAILS

NOTES FOR URETHANE COATING

1. MASK FACE AND ENDS OF BRIDGE SEAT AND BACKWALL TO PROVIDE A CLEAN STRAIGHT FINISH AT EDGES OF URETHANE COATING APPLICATION.
2. APPLY URETHANE COATING TO SURFACES INDICATED BY SHADED AREAS, INCLUDING TOP OF BRIDGE SEAT, ALL SURFACES OF PEDESTALS AND STEPS, THE ENTIRE FRONT FACE OF BACKWALL, AND TO AN ELEVATION 6" BELOW THE TOP OF LOWER SEAT AS SHOWN. REMOVE COATING FROM ANY SURFACE OUTSIDE OF THE AREAS INDICATED IN THE PLANS. DO NOT APPLY WATER REPELLENT OR PAINT ON SURFACES PRIOR TO APPLICATION.
3. TREAT THE REMAINING SURFACES OF THE ABUTMENT WITH PENETRATING WATER REPELLENT SURFACE TREATMENT, AS SHOWN. THE WATER REPELLENT WILL SLIGHTLY OVERLAP THE URETHANE COATING.


US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.	
BRIDGE 'A'				DETAIL	J.F.R.	
ABUTMENT SECTIONS AND DETAILS				CHECK	M.B.S.	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 27004(04)			SHEET NO. B012	

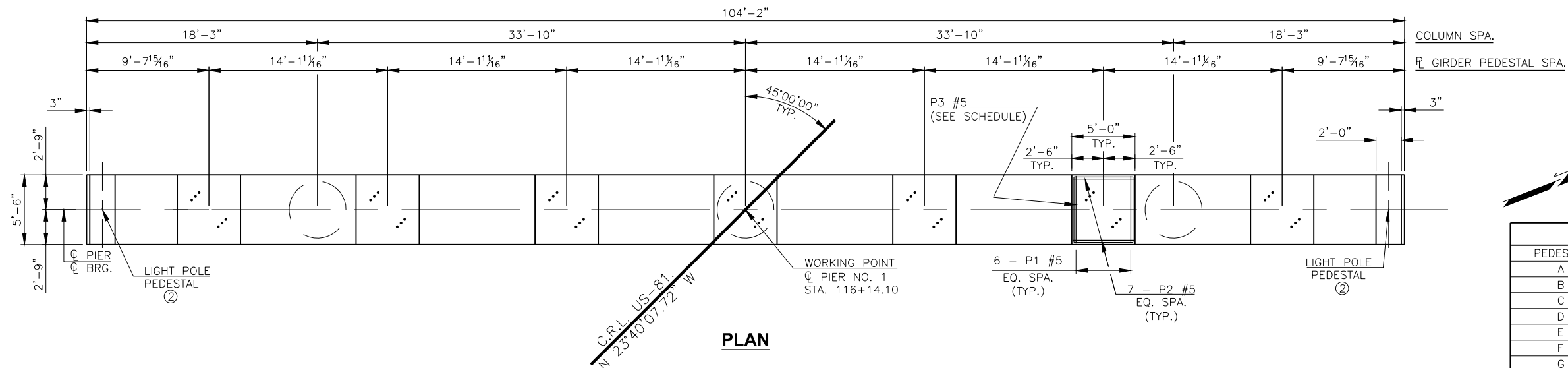
JOB PIECE NO. 27004(04)


$$\begin{pmatrix} 3 \\ 3 \end{pmatrix}$$

- 1
1
2
2
2
2
2
2
1
1
1

$$\begin{pmatrix} 3 \\ 3 \end{pmatrix}$$

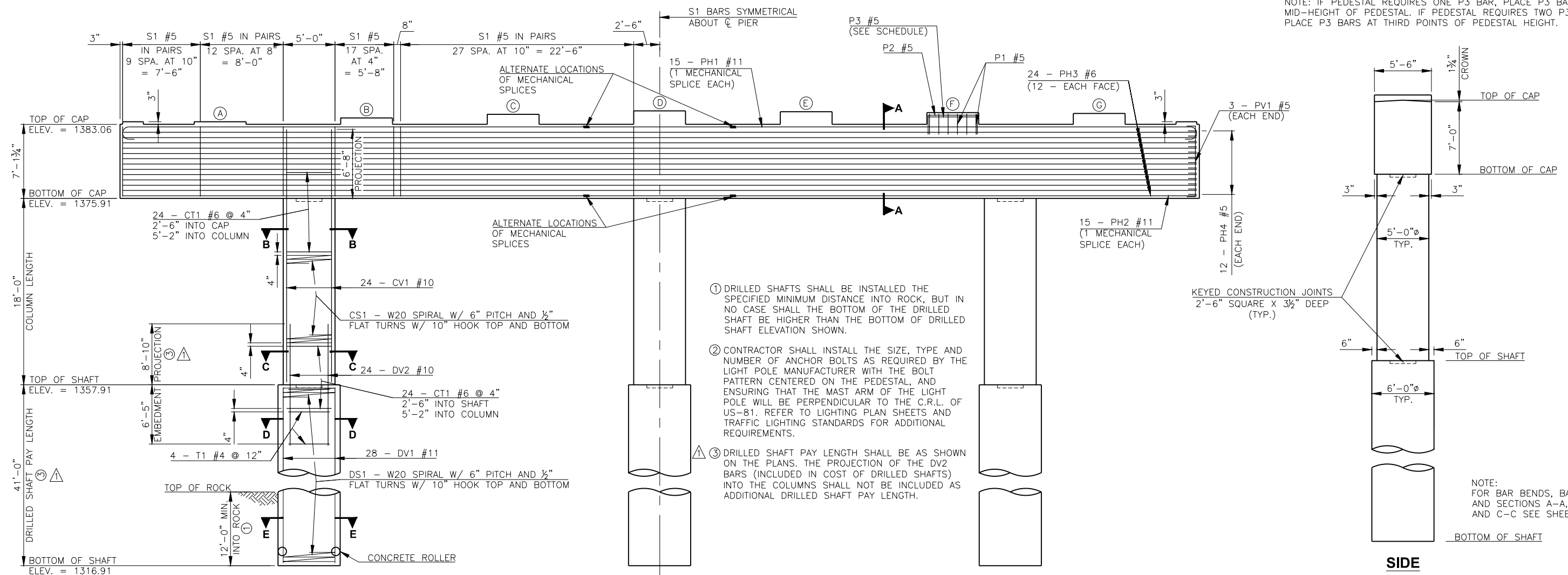

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY		DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
ABUTMENT BAR LISTS		CHECK	M.B.S.	
				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 27004(04)	SHEET NO. B013		



PLAN

PEDESTAL SCHEDULE			
PEDESTAL	PED. HEIGHT	PED. ELEV.	# OF P3 BARS
A	3"	1383.31	0
B	7 3/8"	1383.67	1
C	11 1/8"	1384.02	2
D	1'-3 3/8"	1384.36	2
E	1'-2 3/4"	1384.28	2
F	1'-1 1/8"	1384.20	2
G	1'-0 9/16"	1384.10	2

NOTE: IF PEDESTAL REQUIRES ONE P3 BAR, PLACE P3 BAR AT MID-HEIGHT OF PEDESTAL. IF PEDESTAL REQUIRES TWO P3 BARS, PLACE P3 BARS AT THIRD POINTS OF PEDESTAL HEIGHT.



ELEVATION

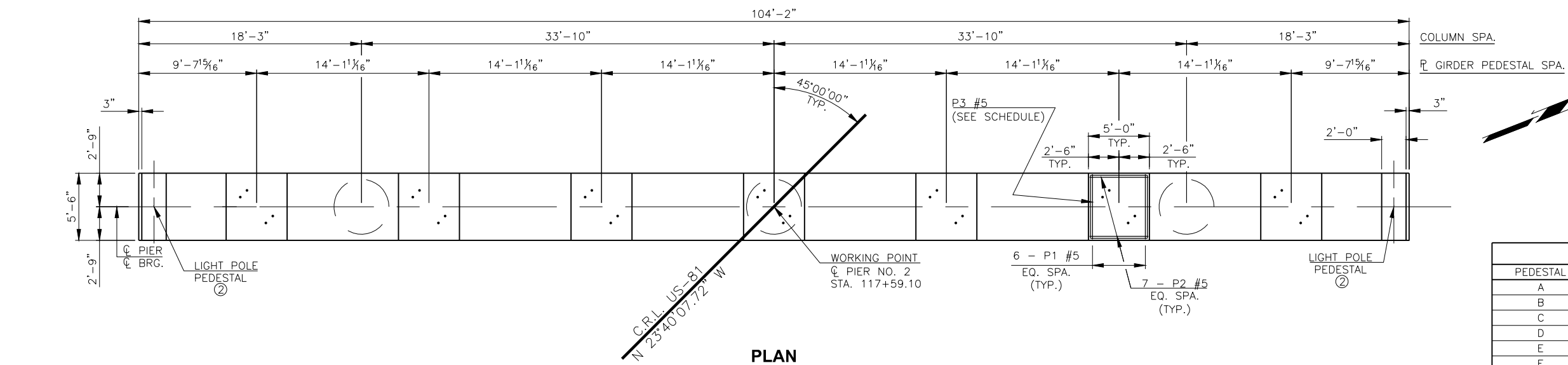
SIDE

TYPICAL COLUMN AND
DRILLED SHAFT REINFORCING

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY		DESIGN	M.B.S.
				DETAIL	J.F.R.
				CHECK	M.B.S.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)		SHEET NO. B014	

PIER NO. 1 DETAILS

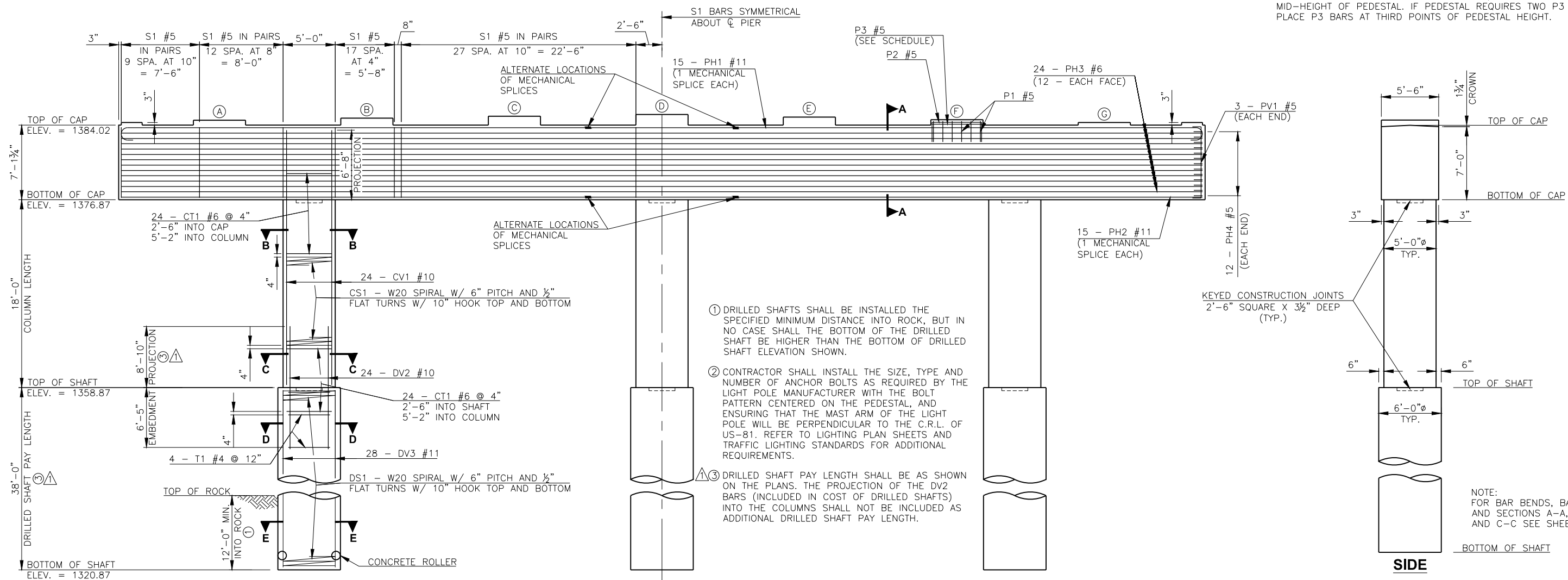
DESCRIPTION	REVISIONS	DATE
ADD. NOTE		9-3-19



PLAN

PEDESTAL SCHEDULE			
PEDESTAL	PED. HEIGHT	PED. ELEV.	# OF P3 BARS
A	5 3/4"	1384.50	1
B	8 1/6"	1384.70	1
C	10 3/6"	1384.88	1
D	1'-0 3/6"	1385.04	2
E	9 3/6"	1384.80	1
F	6 3/6"	1384.54	1
G	3"	1384.27	0

NOTE: IF PEDESTAL REQUIRES ONE P3 BAR, PLACE P3 BAR AT MID-HEIGHT OF PEDESTAL. IF PEDESTAL REQUIRES TWO P3 BARS, PLACE P3 BARS AT THIRD POINTS OF PEDESTAL HEIGHT.



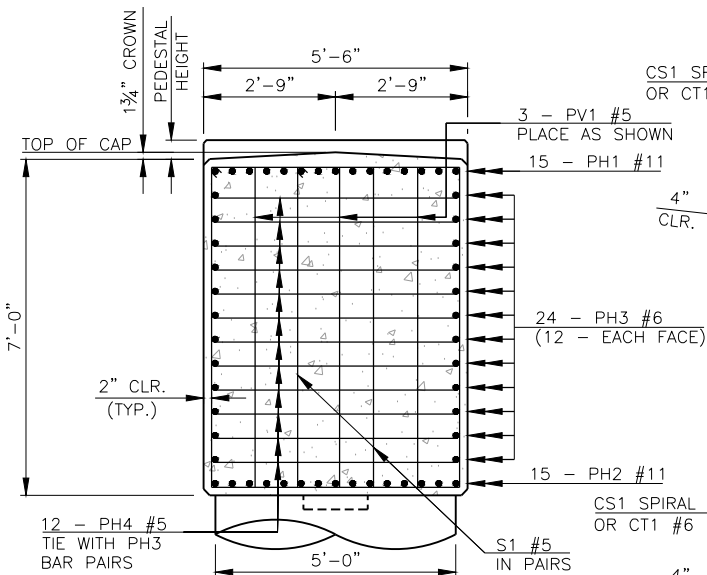
ELEVATION

SIDE

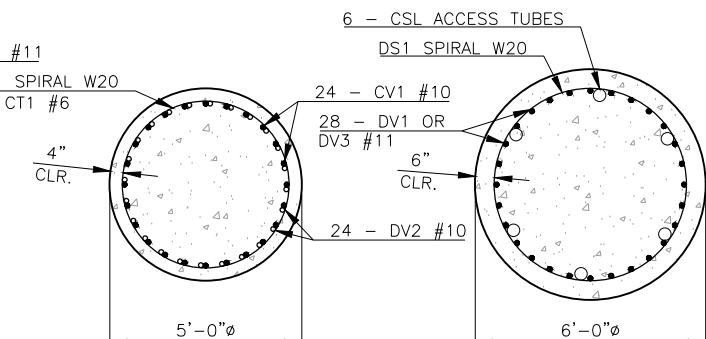
TYPICAL COLUMN AND
DRILLED SHAFT REINFORCING

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY		DESIGN	M.B.S.
				DETAIL	J.F.R.
				CHECK	M.B.S.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)		SHEET NO. B015	

PIER NO. 2 DETAILS



TYPICAL END SECTION



SECTION D-D

SECTION E-E

PIER NO. 2 BAR LIST				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
CT1	#6	144	BNT.	16'-8"
CV1	#10	72	STR.	24'-9"
P1	#5	42	BNT.	10'-11"
P2	#5	49	BNT.	11'-5"
P3	#5	7	BNT.	20'-7"
PH1	#11	15	BNT.	107'-0"
PH2	#11	15	BNT.	103'-10"
PH3	#6	24	STR.	108'-4"
PH4	#5	24	BNT.	6'-9"
PV1	#5	6	BNT.	8'-3"
S1	#5	272	BNT.	21'-1"
PLAIN REINFORCING				
CS1	W20	3	BNT.	231'-0"
DS2	W20	3	BNT.	1,217'-3"
DV2	#10	72	STR.	15'-3"
DV3	#11	84	STR.	37'-6"
T1	#4	12	BNT.	16'-8"

PIER QUANTITIES				
ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
SPECIAL CONCRETE FINISH	S.Y.	92	87	179
CLASS A CONCRETE	C.Y.	196.8	194.8	391.6
(SP)GRAFFITI TREATMENT	S.F.	987.5	987.5	1,975
MECHANICAL SPLICES	EA.	30	30	60
REINFORCING STEEL	LB.	470	470	940
EPOXY COATED REINFORCING STEEL	LB.	39,620	39,530	79,150
WATER REPELLANT (VISUALLY INSPECTED)	S.Y.	162	162	324
DRILLED SHAFTS 72" DIAMETER	L.F.	123	114	237
CROSSHOLE SONIC LOGGING	EA.	—	—	2

PIER QUANTITIES

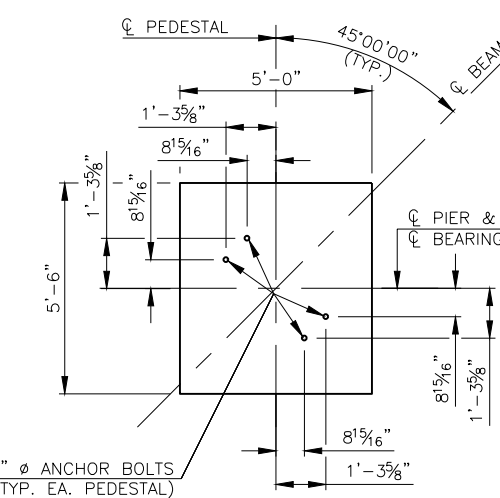
	ITEM	UNIT	PIER NO. 1	PIER NO. 2	TOTAL
A)	SPECIAL CONCRETE FINISH	S.Y.	92	87	179
	CLASS A CONCRETE	C.Y.	196.8	194.8	391.6
	(SP)GRAFFITI TREATMENT	S.F.	987.5	987.5	1,975
	MECHANICAL SPLICES	EA.	30	30	60
B)	REINFORCING STEEL	LB.	470	470	940
	EPOXY COATED REINFORCING STEEL	LB.	39,620	39,530	79,150
	WATER REPELLANT (VISUALLY INSPECTED)	S.Y.	162	162	324
	DRILLED SHAFTS 72" DIAMETER	L.F.	123	114	237
	CROSSHOLE SONIC LOGGING	EA.	—	—	2

① (A) APPLY GRAFFITI TREATMENT TO ALL EXPOSED SURFACES OF COLUMNS AND DRILLED SHAFTS.

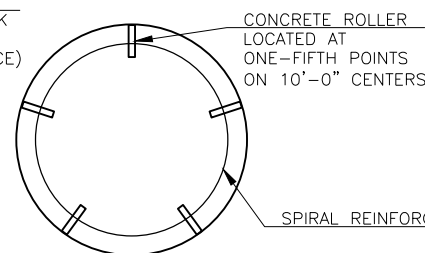


① NOTES FOR URETHANE COATING

1. MASK FACE AND ENDS OF PIER CAP TO PROVIDE A CLEAN STRAIGHT FINISH AT EDGES OF URETHANE COATING APPLICATION.
2. APPLY URETHANE COATING TO SURFACES INDICATED BY SHADED AREAS, INCLUDING TOP OF PIER CAP, ALL SURFACES OF PEDESTALS, AND TO AN ELEVATION 6" BELOW THE TOP OF CAP ON SIDES AND ENDS. REMOVE COATING FROM ANY SURFACE OUTSIDE OF THE AREAS INDICATED IN THE PLANS. DO NOT APPLY WATER REPELLENT OR PAINT ON SURFACES PRIOR TO APPLICATION.
3. TREAT THE REMAINING SURFACES OF THE PIER WITH PENETRATING WATER REPELLENT SURFACE TREATMENT, AS SHOWN. THE WATER REPELLENT WILL SLIGHTLY OVERLAP THE URETHANE COATING.



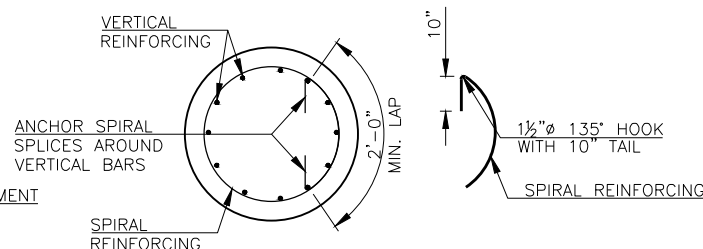
PIER NO. 2 ANCHOR BOLT LOCATIONS



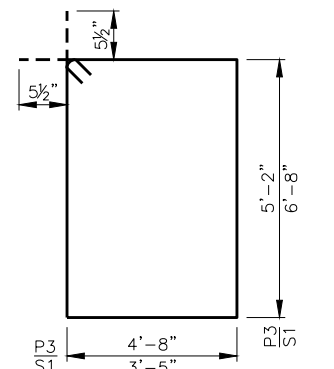
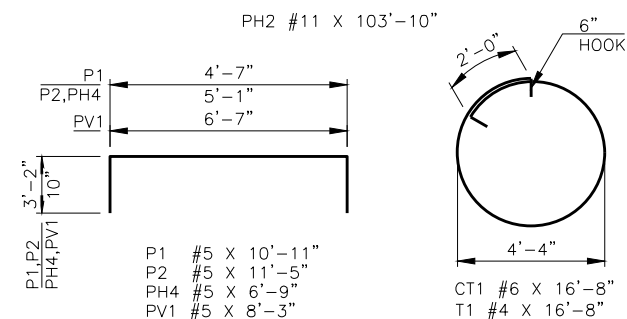
ROLLER PLACEMENT


DETAILS OF CONCRETE ROLLERS

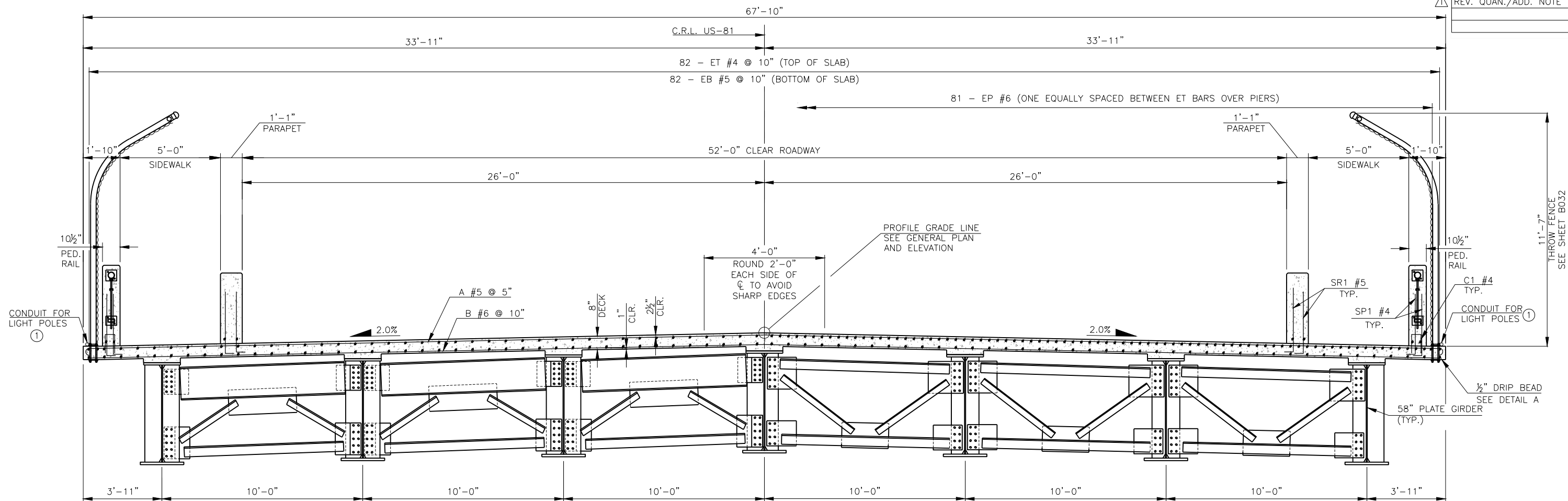
NOTE:
CONCRETE USED IN THE CONCRETE ROLLERS SHALL HAVE
A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000
P.S.I. SLAB BOLSTERS, HIGH CHAIRS AND PLASTIC ROLLERS
SHALL NOT BE SUBSTITUTED FOR THE CONCRETE ROLLERS.



SPIRAL REINFORCING SPLICE DETAIL



US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'			DETAIL	J.F.R.	
PIER SECTIONS AND BAR LISTS			CHECK	M.B.S.	
					
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION				
	JOB PIECE NO. 27004(04)			SHEET NO. B016	



① SEE LIGHTING PLANS AND STANDARDS FOR DETAILS.

HALF SECTION AT
ABUTMENT CROSS-FRAME

NOTES:
ROTATE A BARS TO MAINTAIN MINIMUM CLEARANCE.

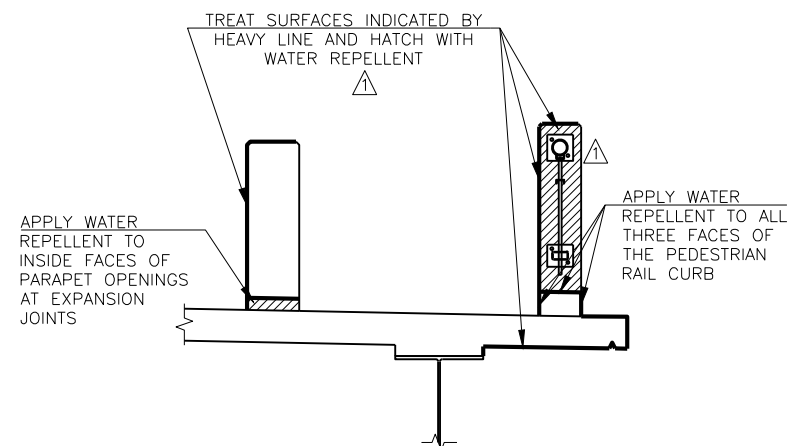
FOR BAR BENDS AND BAR LIST, SEE SHEET B027.

FOR ADDITIONAL DETAILS OF THE PARAPET, SEE SHEET B029.

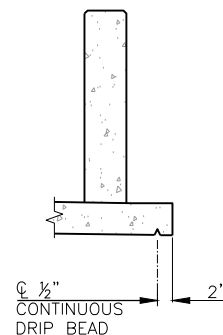
FOR ADDITIONAL DETAILS OF THE PEDESTRIAN RAIL, SEE SHEETS
B030-B031.

HALF SECTION AT PIER OR
INTERMEDIATE CROSS-FRAME

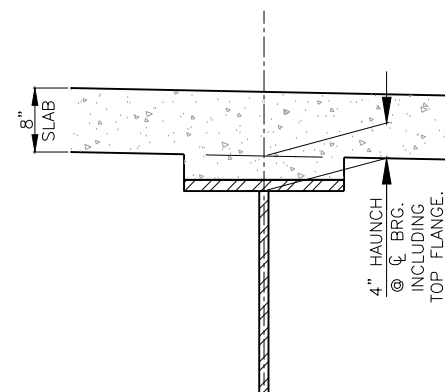
TYPICAL CROSS SECTION



WATER REPELLENT TREATMENT DETAILS



DETAIL A



I GIRDER HAUNCH DETAIL

NOTE:
PLAN QUANTITIES FOR CLASS AA CONCRETE INCLUDE 37.1 C.Y. FOR I GIRDER HAUNCHES. THE HAUNCH HEIGHT SHOWN IS THE THEORETICAL HAUNCH HEIGHT AT THE CENTERLINE BEARING ONLY, MEASURED FROM THE BOTTOM OF THE DECK SLAB TO THE BOTTOM OF THE TOP FLANGE, AND VARIES ACROSS THE SPAN. DETERMINE THE ACTUAL HAUNCH HEIGHT (ACCOUNTING FOR I GIRDER CAMBER, DEAD LOAD DEFLECTION AND ROADWAY GRADE) AFTER ERECTION OF THE BEAMS AND SUBMIT TO THE ENGINEER FOR APPROVAL. THE ENGINEER WILL NOT MEASURE DIFFERENCES BETWEEN THE THEORETICAL AND ACTUAL HAUNCH HEIGHTS FOR PAYMENT.

SUPERSTRUCTURE QUANTITIES

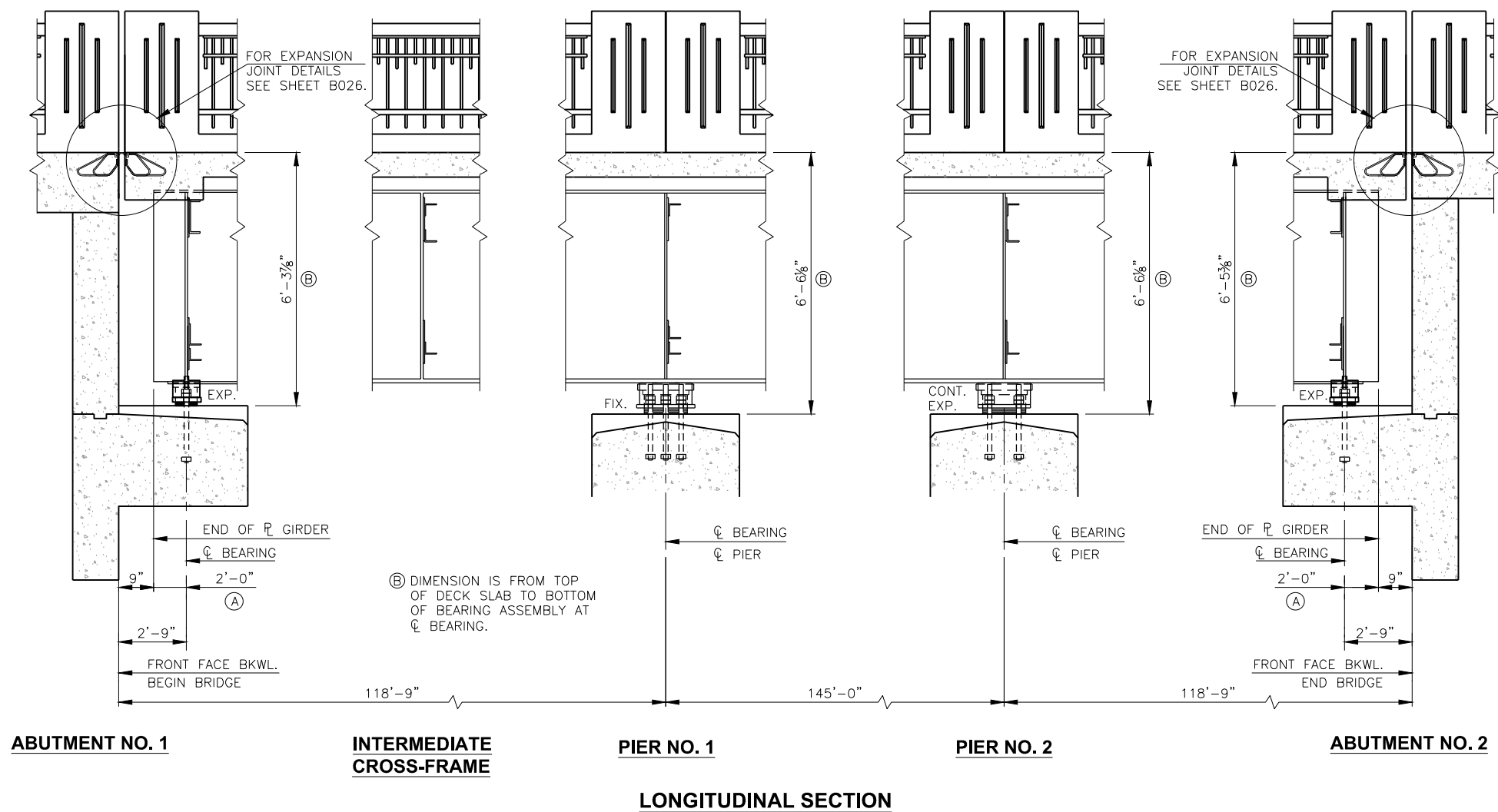
ITEM	UNIT	TOTAL
② SAW-CUT GROOVING	S.Y.	2,209
SEALED EXPANSION JOINT	L.F.	182.7
CONCRETE PARAPET	L.F.	764.3
(PL) CONCRETE PARAPET (HANDRAIL TYPE)	L.F.	764.3
① STRUCTURAL STEEL	LB.	1,242,640
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	7
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	21
CLASS AA CONCRETE	C.Y.	684.2
(SP) GRAFFITI TREATMENT	S.F.	8,038
③ EPOXY COATED REINFORCING STEEL	LB.	214,160
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	1,065
SEALER CRACK PREPARATION	L.F.	376.0
SEALER RESIN	GAL.	4.2
FENCE-STYLE CLF (7' HIGH, CLASS B)	L.F.	760.3

② SAW-CUT GROOVING SHALL BE REQUIRED ON THE 52'-0" CLEAR ROADWAY ONLY. SAW-CUT GROOVING IS NOT ALLOWED ON THE SIDEWALKS.

③ APPLY GRAFFITI TREATMENT TO ALL EXPOSED FACES OF PEDESTRIAN RAIL POSTS AND ALL EXPOSED FACES OF CONCRETE PARAPETS.

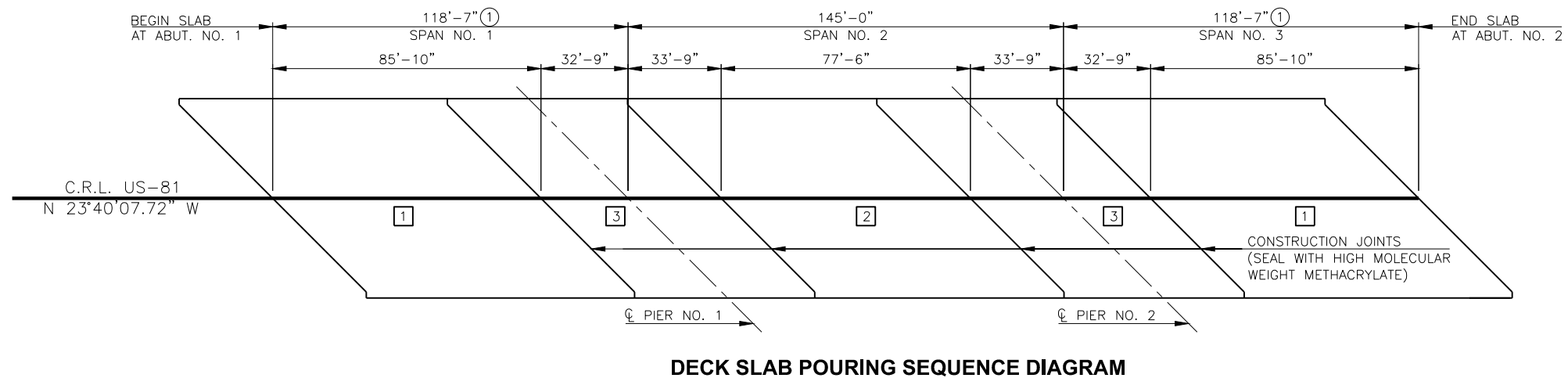
US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	CANADIAN COUNTY	DESIGN	M.B.S.	
		DETAIL	J.F.R.	
		CHECK	M.B.S.	
TYPICAL CROSS SECTION				
STATE OF OKLAHOMA				
DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 27004(04)				
SHEET NO. B017				

DESCRIPTION	REVISIONS	DATE



INSTALL ALL DIAPHRAGMS AND TIGHTEN ALL BOLTS BEFORE PLACING CONCRETE FOR THE DECK SLAB OR APPLYING OTHER MASSIVE LOADS TO THE BEAMS.

(A) BEAM END MEASURED FROM THE CENTERLINE OF THE BEAM AT THE CENTERLINE OF THE BEARING. BEAM ENDS ARE COPED TO ACCOMMODATE THE SKEW, SEE SHEET B022.



NOTE:
THE DECK SLAB IS DIVIDED INTO SECTIONS BETWEEN CONSTRUCTION JOINTS AS SHOWN. THE CONCRETE SHALL BE POURED IN EACH SECTION OF THE DECK SLAB IN THE NUMERICAL SEQUENCE INDICATED. SECTIONS OF THE DECK SLAB WITH THE SAME NUMBER MAY BE POURED IN ANY ORDER. UNDER NO CIRCUMSTANCES WILL SECTION IN SEQUENCE 3 BE POURED BEFORE THE ADJACENT SECTIONS HAVE BEEN IN PLACE FOR AT LEAST 48 HOURS.

(1) DECK SLAB DIMENSION ASSUMES A 2" NOMINAL EXPANSION JOINT. ACTUAL DIMENSION BASED ON EXPANSION JOINT SETTINGS, SEE SHEET B026.

DECK SLAB NOTES

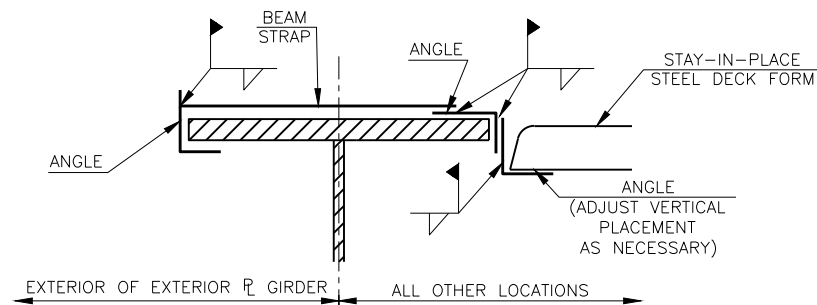
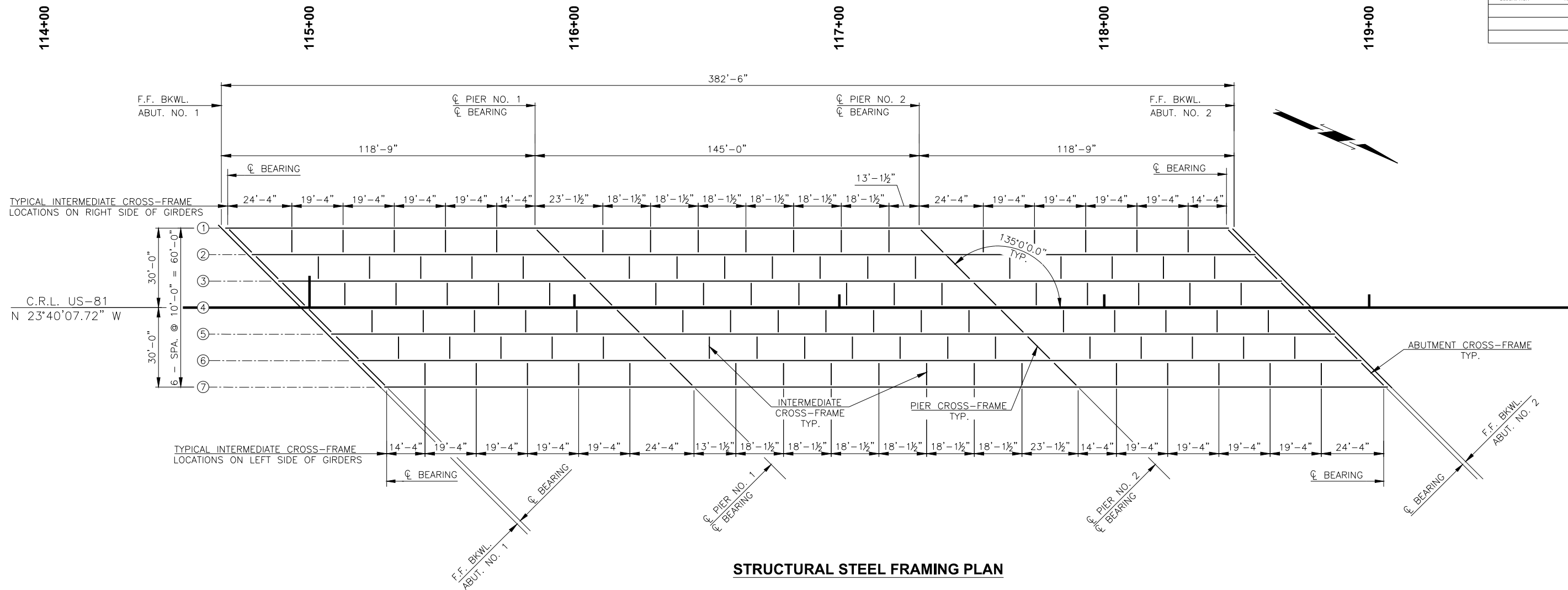
EPOXY-COAT OR GALVANIZE STEEL ITEMS USED TO FACILITATE CONSTRUCTION, SUCH AS DECK FORM HANGERS, TY-BAR CLIPS, INSERT WELD ANCHORS, OR OTHER APPURTENANCES, THAT WILL REMAIN IN PLACE IN THE DECK SLAB. EPOXY-COAT IN ACCORDANCE WITH AASHTO M284 OR GALVANIZE IN ACCORDANCE WITH AASHTO M111.

PLACE DECK SLAB CONCRETE ONE SECTION AT A TIME CONSISTENT WITH THE DECK SLAB POURING SEQUENCE DIAGRAM. IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT AS DIRECTED BY THE ENGINEER. DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5' OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS IN PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.

SEAL ALL DECK SLAB CONSTRUCTION JOINTS WITH HIGH MOLECULAR WEIGHT METHACRYLATE IN ACCORDANCE WITH SECTION 523 OF THE SPECIFICATIONS. INCLUDE ALL COST OF EQUIPMENT AND LABOR FOR THE INSTALLATION OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER CRACK PREPARATION". INCLUDE ALL COST OF THE HIGH MOLECULAR WEIGHT METHACRYLATE SEALER IN THE CONTRACT UNIT PRICE OF "SEALER RESIN". THE DEPARTMENT WILL NOT MEASURE THE PREPARATION AND SEALER OF EMERGENCY CONSTRUCTION JOINTS FOR PAYMENT.

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
LONGITUDINAL SECTION		CHECK	M.B.S.	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO.	27004(04)	SHEET NO. B018

DESCRIPTION	REVISIONS	DATE



STAY-IN-PLACE STEEL DECK FORM FLANGE CONNECTION DETAIL

NOTE:
DO NOT WELD TO TOP FLANGE OR STUDS. REPORT ANY ARC STRIKE, WELD SPLATTER OR WELDING ON TOP FLANGE TO BRIDGE ENGINEER IMMEDIATELY.

STAY-IN-PLACE DECK FORM NOTES

THE CONTRACTOR MAY USE STAY-IN-PLACE STEEL DECK FORMS IF THE MINIMUM DECK SLAB THICKNESS OF 8" IS OBTAINED BY MEASURING FROM THE TOP OF THE DECK SLAB TO THE TOP PORTION OF THE STEEL CORRUGATION. PREFORMED CORRUGATION FILLER, COMPOSED OF POLYSTYRENE OR OTHER MATERIAL, MAY BE USED IF BONDED TO THE DECK FORMS. NO ADDITIONAL CONCRETE WEIGHT OF THE DECK SLAB IS PERMITTED. THE TOTAL ADDITIONAL WEIGHT OF THE DECK FORM AND FILLER SHALL NOT EXCEED 5 P.S.F. THE DEPARTMENT CONSIDERS ALL COSTS OF STAY-IN-PLACE STEEL DECK FORMS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF CLASS AA CONCRETE.

THE CONTRACTOR MAY SUBSTITUTE STAY-IN-PLACE PRESTRESSED CONCRETE DECK FORMS, AT NO ADDITIONAL COST TO THE DEPARTMENT, IF THE FOLLOWING CONDITIONS ARE MET:

- (1) THE BRIDGE ENGINEER APPROVES SHOP DRAWINGS AND STRUCTURAL CALCULATIONS FOR THE FORMS SUBMITTED BY THE CONTRACTOR.
- (2) THE BRIDGE ENGINEER APPROVES NEW STRUCTURAL DESIGN, STRUCTURAL CALCULATIONS, AND A NEW REINFORCING SCHEDULE FOR THE DECK SLAB SUBMITTED BY THE CONTRACTOR.
- (3) SHOP DRAWINGS, NEW DECK SLAB REINFORCING SCHEDULE, STRUCTURAL DESIGNS, AND CALCULATIONS ARE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA.

INSTALL ALL DIAPHRAGMS AND TIGHTEN ALL BOLTS BEFORE PLACING CONCRETE FOR THE DECK SLAB OR APPLYING OTHER MASSIVE LOADS TO THE BEAMS.

NOTES:
FOR \bar{r} GIRDER DETAILS, SEE SHEETS B020-B022.

FOR CROSS-FRAME DETAILS, SEE SHEET B023.

US-81 OVER UNION PACIFIC RAILROAD			CANADIAN COUNTY			DESIGN	M.B.S.	
BRIDGE 'A'						DETAIL	J.F.R.	
STRUCTURAL STEEL FRAMING PLAN						CHECK	M.B.S.	
								
STATE OF OKLAHOMA			DEPARTMENT OF TRANSPORTATION					
			JOB PIECE NO. 27004(04)					

STRUCTURAL STEEL FRAMING PLAN

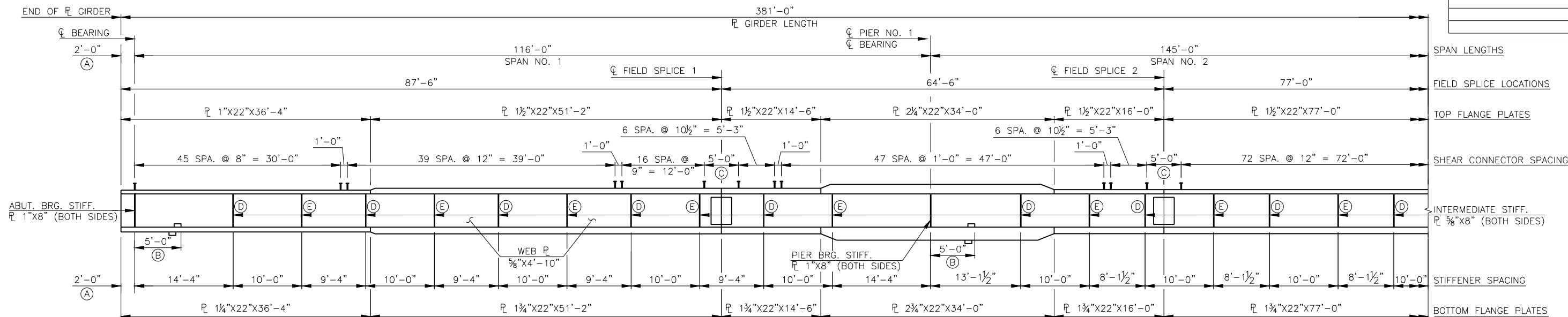


PLATE GIRDER ELEVATION

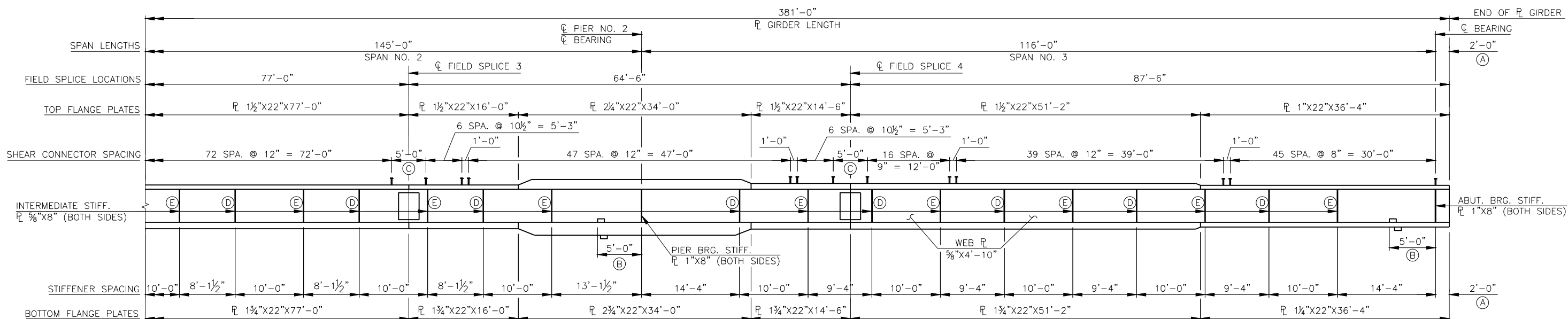
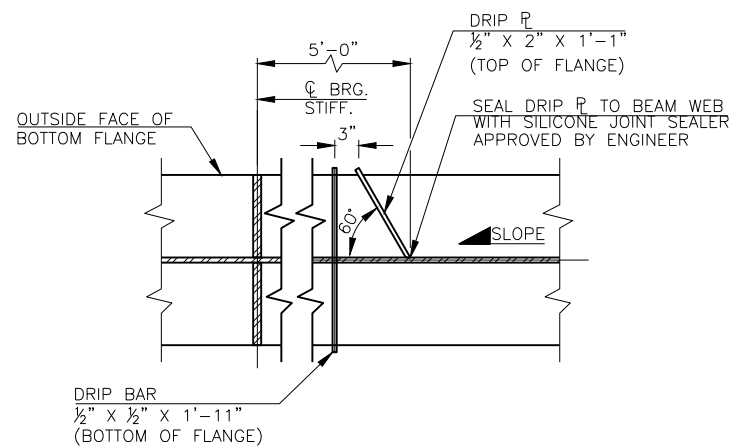
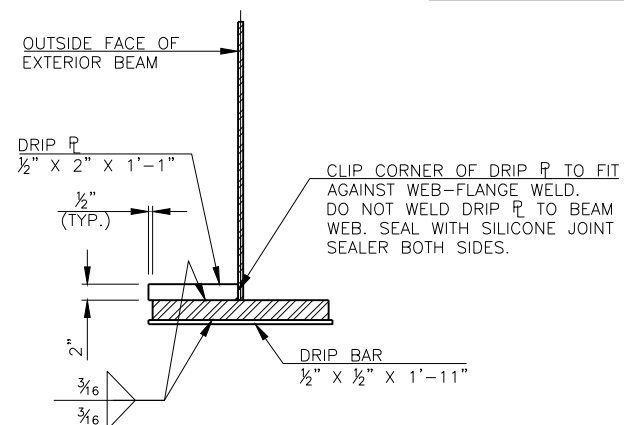


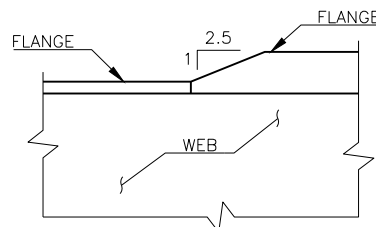
PLATE GIRDER ELEVATION (CONTINUED)



PLAN



ELEVATION



FLANGE THICKNESS TRANSITION DETAIL

NOTE:
INCLUDE ALL COSTS OF
SILICONE JOINT SEALER IN
OTHER ITEMS OF WORK.

DRIP PLATE DETAILS

(BOTTOM FLANGE OF EXTERIOR GIRDERS ONLY)

- (A) BEAM END MEASURED FROM THE CENTERLINE OF THE BEAM AT THE CENTERLINE OF THE BEARING. BEAM FLANGES ARE COPED TO ACCOMMODATE THE SKEW, SEE SHEET B021.
- (B) SEE DRIP PLATE DETAILS.
- (C) NO SHEAR CONNECTORS IN THE 5'-0" REGION SHOWN AT THE FIELD SPLICES.
- (D) FOR GIRDER LINES 2-7, INTERMEDIATE STIFFENERS BOTH SIDES OF WEB WITH CONNECTION BOLT HOLES ONLY IN STIFFENER ON LEFT/FAR SIDE. FOR GIRDER LINE 1, OMIT THESE INTERMEDIATE STIFFENERS.
- (E) FOR GIRDER LINES 1-6, INTERMEDIATE STIFFENERS BOTH SIDES OF WEB WITH CONNECTION BOLT HOLES ONLY IN STIFFENER ON RIGHT/NEAR SIDE. FOR GIRDER LINE 7, OMIT THESE INTERMEDIATE STIFFENERS.

PLATE GIRDER NOTES:

1. DETAILS ARE DRAWN, AND DIMENSIONS SHOWN, AS IF THE TOP FLANGE OF PLATE GIRDERS WERE IN A TRULY HORIZONTAL POSITION. NO ACCOUNTING HAS BEEN MADE IN THE DRAWING FOR GRADE OR CAMBER. SHOP DRAWINGS WILL INCLUDE SUCH ADJUSTMENTS AS ARE NECESSARY TO PROVIDE FOR VERTICAL CURVATURE AND DEAD LOAD DEFLECTION.
2. FABRICATE THE GIRDERS AND CROSS FRAMES SUCH THAT ALL GIRDER WEBS ARE PLUMB VERTICAL WHEN GIRDERS ARE IN THEIR FINAL POSITION (I.E. AFTER THE DECK AND PARAPET HAVE BEEN PLACED).
3. ALL PLATES SHALL CONFORM TO THE CHARPY V-NOTCH REQUIREMENTS.
4. BEARING STIFFENER PLATES: PLACE IN PAIRS, WELD TO TOP AND BOTTOM FLANGES. SEE SHEET B021 FOR DETAILS.
5. INTERMEDIATE STIFFENER PLATES: PLACE IN PAIRS, WELD TO TOP AND BOTTOM FLANGES. SEE SHEET B021 FOR DETAILS.
6. WEB TO FLANGE WELDING: 5/16" FILLET WELD BOTH SIDES OF WEB.

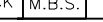
US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.
BRIDGE 'A'				DETAIL	J.F.R.
<div>PLATE GIRDER DETAILS</div> <div>(SHEET 1 OF 3)</div>				CHECK	M.B.S.
				<div></div>	
JOB PIECE NO. 27004(04)		SHEET NO. B020			

PLATE GIRDER DETAILS
(SHEET 1 OF 3)

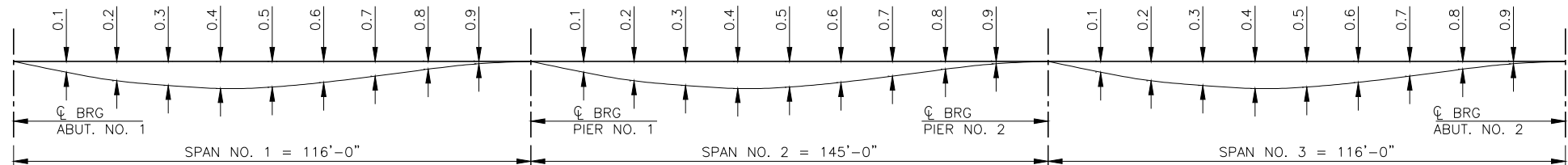
CEC // TRANSPORTATION		
DESCRIPTION	REVISIONS	DATE

DEAD LOAD DEFLECTION SCHEDULE AT TENTH POINTS																																
GIRDER LINES	LOAD	LOCATION																														
		ABUT. NO. 1	SPAN NO. 1									PIER NO. 1	SPAN NO. 2									PIER NO. 2	SPAN NO. 3									ABUT. NO. 2
			0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
1-7	1	0.00"	-0.12"	-0.21"	-0.27"	-0.28"	-0.27"	-0.22"	-0.15"	-0.07"	-0.02"	0.00"	-0.05"	-0.14"	-0.24"	-0.31"	-0.34"	-0.31"	-0.24"	-0.14"	-0.05"	0.00"	-0.02"	-0.08"	-0.15"	-0.22"	-0.27"	-0.29"	-0.27"	-0.22"	-0.12"	0.00"
	2	0.00"	-0.40"	-0.73"	-0.91"	-0.97"	-0.91"	-0.75"	-0.52"	-0.28"	-0.08"	0.00"	-0.12"	-0.38"	-0.67"	-0.90"	-0.98"	-0.90"	-0.68"	-0.38"	-0.12"	0.00"	-0.09"	-0.29"	-0.54"	-0.77"	-0.93"	-0.99"	-0.93"	-0.73"	-0.40"	0.00"

1 PLATE GIRDER, CROSS-FRAMES AND STIFFENERS.

2 DECK SLAB, HAUNCH, PARAPET, PEDESTRIAN RAIL, AND S.I.P. FORM ALLOWANCE. IT DOES NOT INCLUDE GIRDER WEIGHT, OR FUTURE WEARING SURFACE.

NOTE:
A DOWNWARD DEFLECTION IS INDICATED BY A NEGATIVE NUMBER.



DEAD LOAD DEFLECTION DIAGRAM

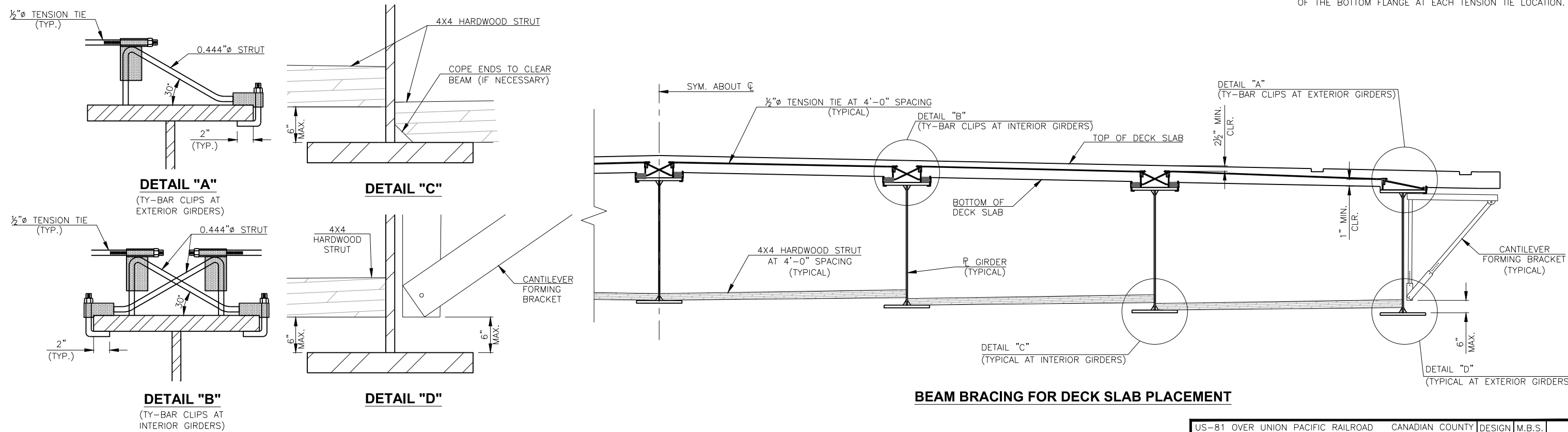
BRACING NOTES:

SUBMIT DRAWINGS OF THE BRACING SYSTEM TO THE BRIDGE ENGINEER FOR APPROVAL. BRACING SYSTEMS OTHER THAN THAT SHOWN MAY BE USED IF DESIGN CALCULATIONS AND DRAWINGS OF THE PROPOSED BRACING SYSTEM ARE SUBMITTED TO AND APPROVED BY THE BRIDGE ENGINEER. DRAWINGS AND CALCULATIONS OF THE PROPOSED SYSTEM SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA. DO NOT PLACE DECK SLAB CONCRETE UNTIL BRACING SYSTEM IS APPROVED. THE DEPARTMENT CONSIDERS ALL COSTS FOR BRACING TO BE INCLUDED IN OTHER ITEMS OF WORK.

USE ADJUSTABLE CANTILEVER FORMING BRACKETS AT EXTERIOR BEAMS CAPABLE OF BEING ADJUSTED DURING THE PLACEMENT OF DECK SLAB CONCRETE IN ORDER TO MAINTAIN PROPER GRADES AT THE DECK SLAB OVERHANG. IF SHIMS ARE TO BE USED TO ADJUST THE FORMING BRACKETS, PROVIDE THE BRIDGE ENGINEER A METHOD TO PREDICT CRUSH AND SETTLEMENT OF SHIMS. BEAR THE LEG BRACE OF THE BRACKETS ON THE BEAM WEB WITHIN 6 INCHES OF THE BOTTOM FLANGE.

USE #4 EPOXY COATED REINFORCING STEEL WITH THREADED ENDS OR GALVANIZED ALL THREAD FOR TENSION TIES. PLACE TENSION TIES PERPENDICULAR TO THE BEAMS. ATTACH TENSION TIES TO THE TOP FLANGE OF THE BEAMS WITH TY-BAR CLIPS AS SHOWN. DO NOT WELD TY-BAR CLIPS TO THE TOP FLANGE OF THE BEAMS.

WEDGE HARDWOOD STRUTS, OR ANOTHER MATERIAL OF AN EQUIVALENT STRENGTH, BETWEEN BEAM WEBS WITHIN 6" OF THE BOTTOM FLANGE AT EACH TENSION TIE LOCATION.



BEAM BRACING FOR DECK SLAB PLACEMENT


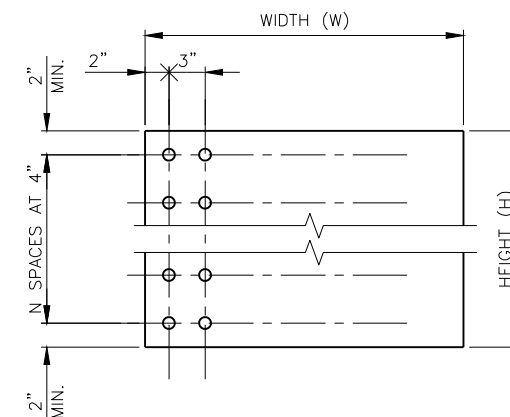
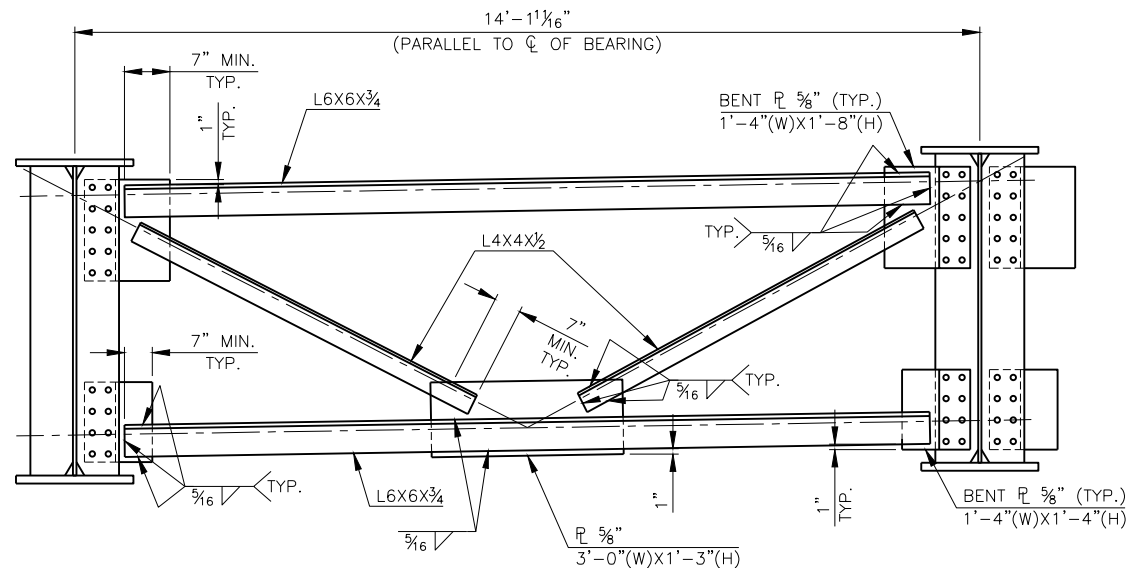
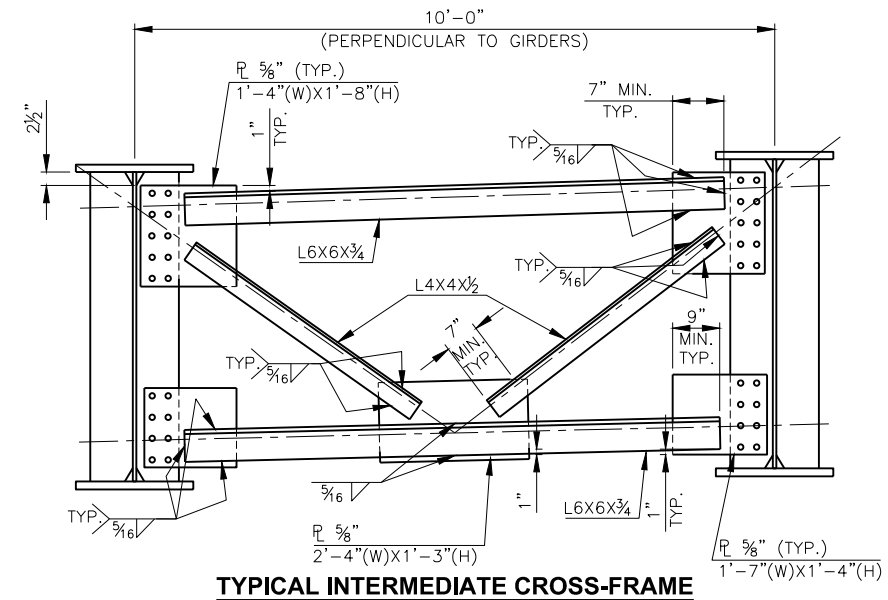
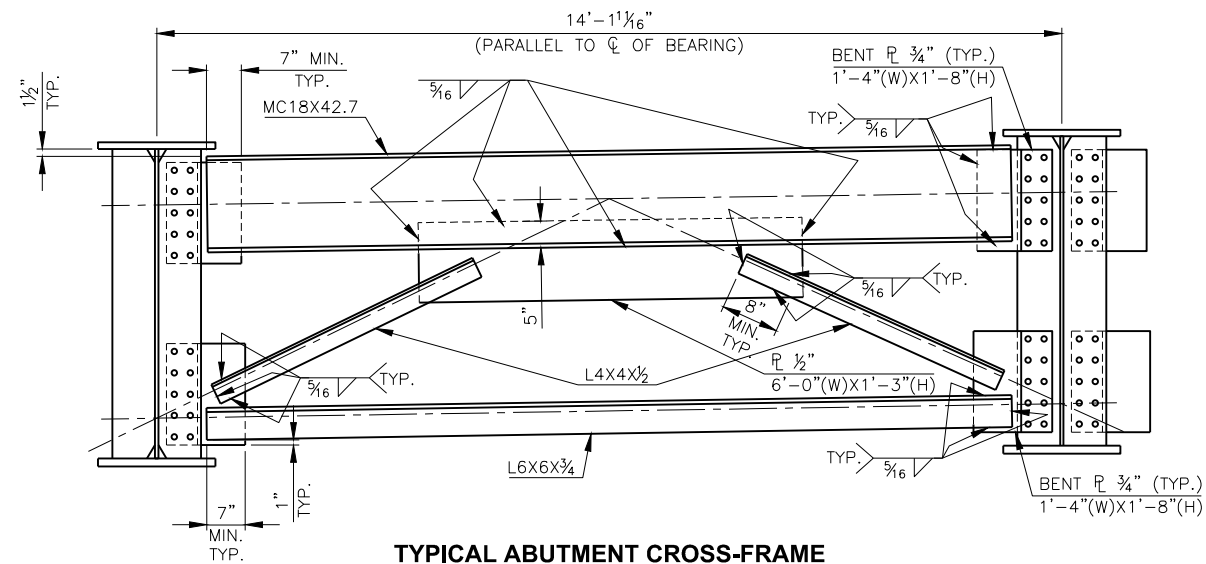
US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	PLATE GIRDER DETAILS (SHEET 2 OF 3)		DESIGN	M.B.S.	
			DETAIL	J.F.R.	
			CHECK	M.B.S.	
					
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION				
	JOB PIECE NO. 27004(04)			SHEET NO. B021	

PLATE GIRDER DETAILS
(SHEET 2 OF 3)

DESCRIPTION	REVISIONS	DATE

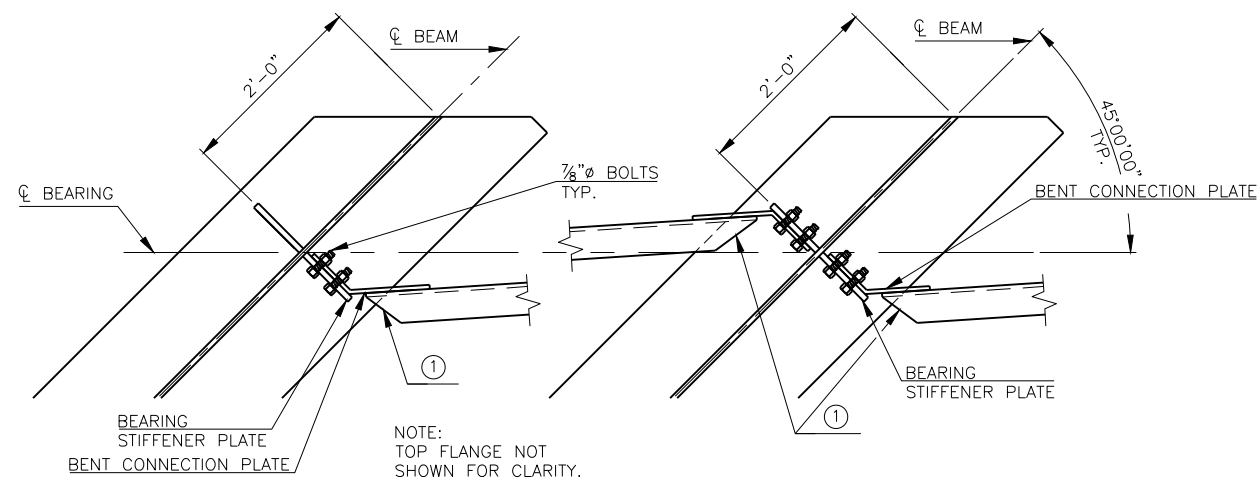


NOTES:
 PROVIDE STRUCTURAL STEEL FOR CHANNELS, ANGLES, AND CONNECTION PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). USE BOLTS CONFORMING TO AASHTO M164 (ASTM A325). PROVIDE ALL BOLTS, NUTS, WASHERS AND WELDING WITH WEATHERING CHARACTERISTICS.

FOR CROSS-FRAME LOCATIONS, SEE SHEET B020.

ALL BOLTS SHALL BE 7/8"Ø A325. ALL BOLT HOLES SHALL BE 15/16"Ø.

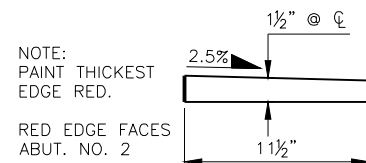
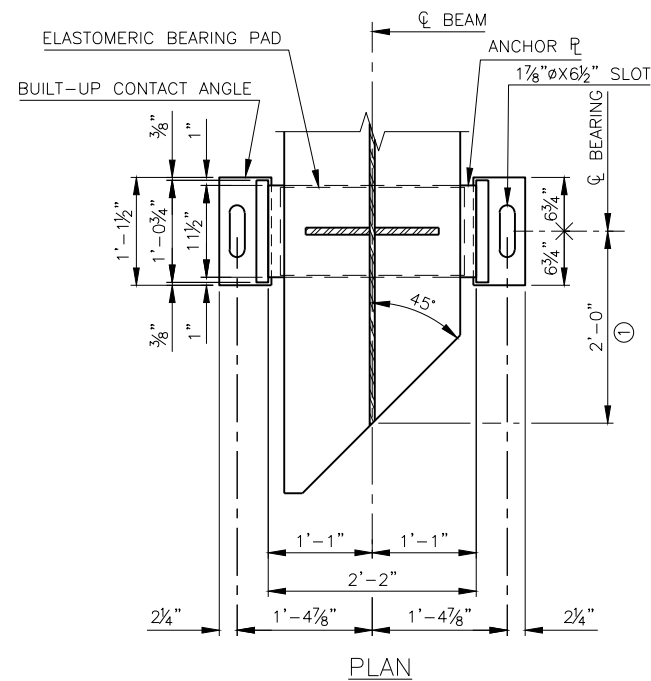
TERMINATE ALL CROSS-FRAME FILLET WELDS 1/4" FROM EDGE OF CONNECTED PART.



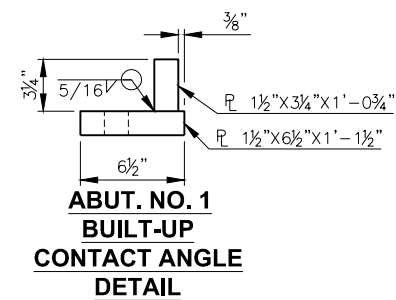
① CLIP CORNER(S) OF MC FLANGES AND ANGLE LEGS AT 1:1 TO PROVIDE CONSTRUCTION CLEARANCE AND BOLT ACCESS.

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	B.J.K.	
BRIDGE 'A'		DETAIL	J.F.R.	
		CHECK	B.J.K.	
CROSS-FRAME DETAILS				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO.	27004(04)	SHEET NO. B023

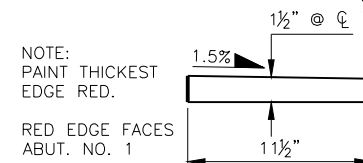
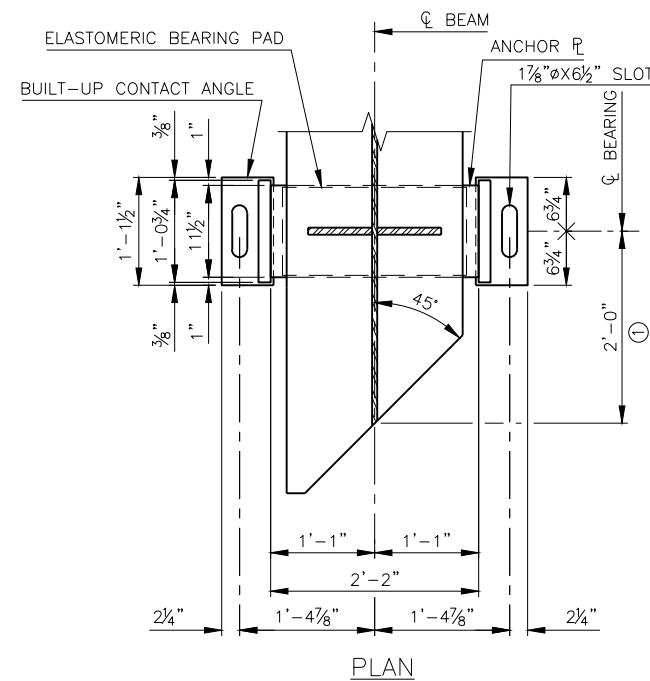
DESCRIPTION	REVISIONS	DATE



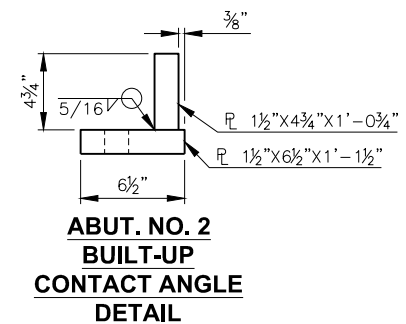
**ABUT. NO. 1
BEVELED ANCHOR
PLATE DETAIL**



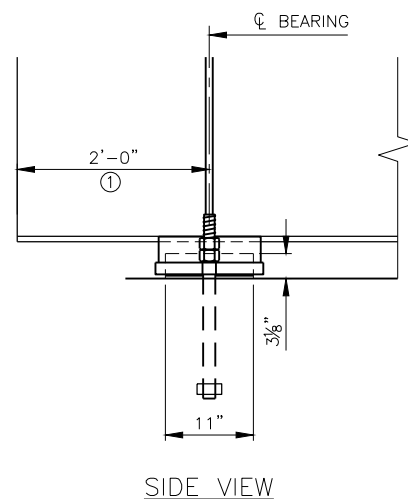
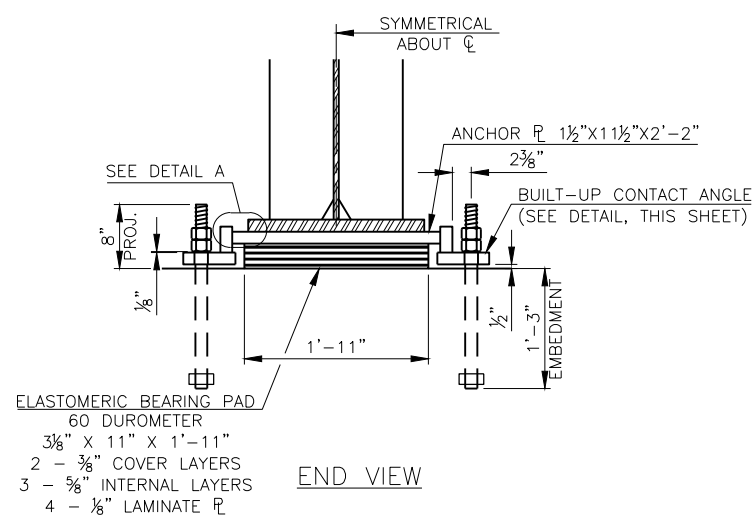
**ABUT. NO. 1
BUILT-UP
CONTACT ANGLE
DETAIL**



**ABUT. NO. 2
BEVELED ANCHOR
PLATE DETAIL**

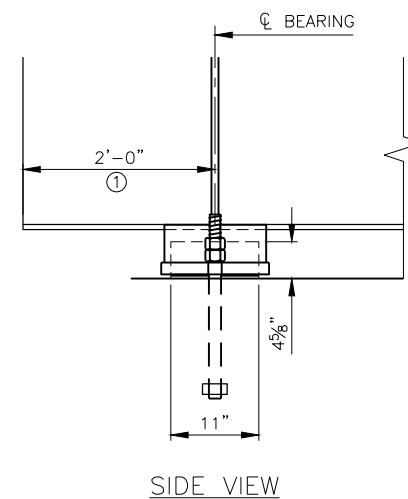
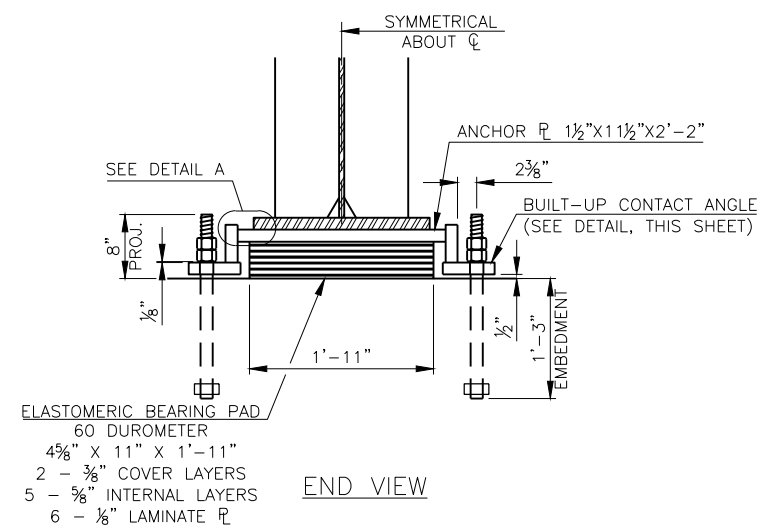


**ABUT. NO. 2
BUILT-UP
CONTACT ANGLE
DETAIL**



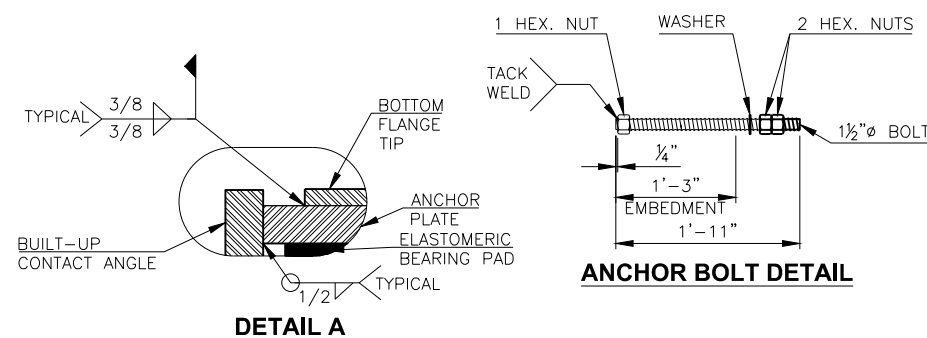
SIDE VIEW

ABUT. NO. 1 BEARING DETAILS



SIDE VIEW

ABUT. NO. 2 BEARING DETAILS



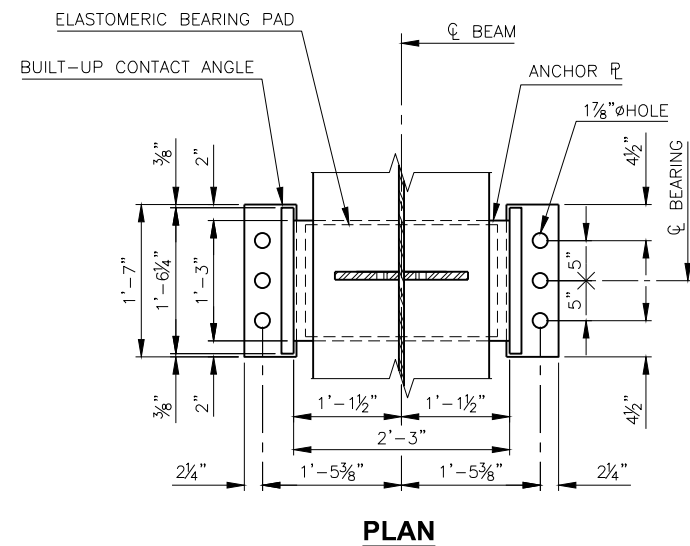
ANCHOR BOLT DETAIL

① CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF PL GIRDERS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF PL GIRDER SETTING.

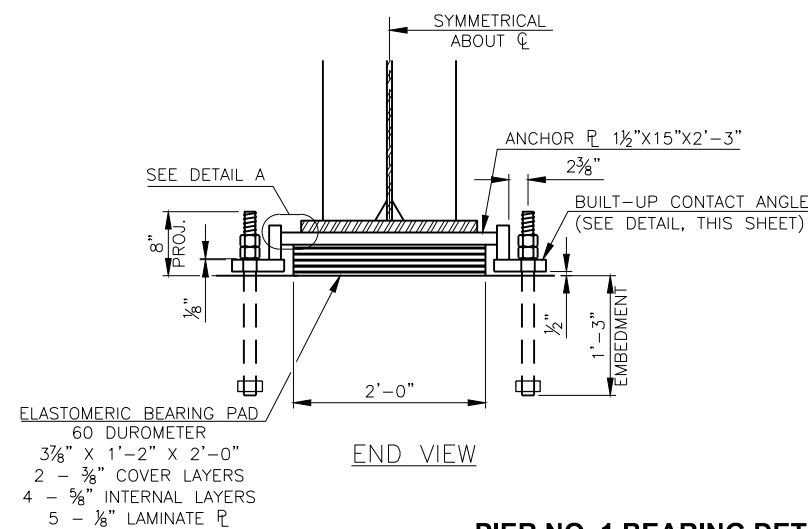
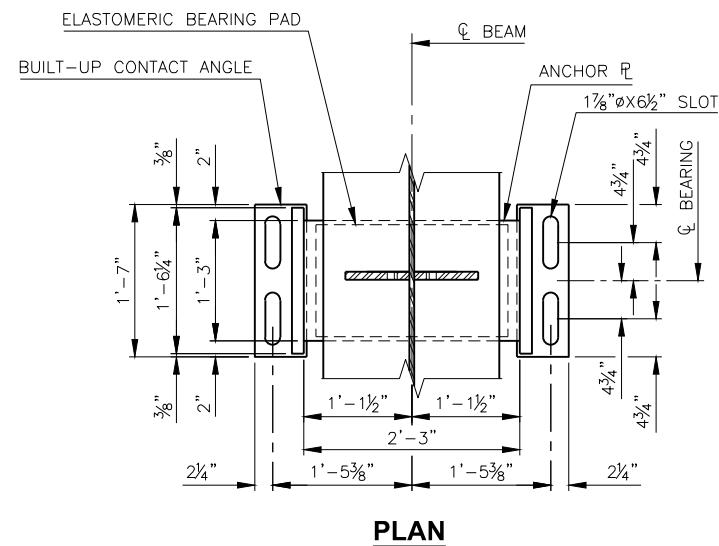
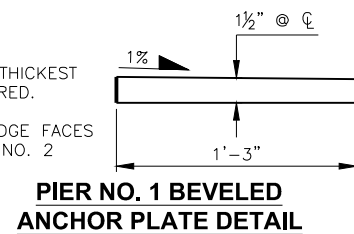
DO NOT BOND BEARING PAD TO THE ANCHOR PLATE.

US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.
BRIDGE 'A'				DETAIL	J.F.R.
				CHECK	M.B.S.
				CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)		SHEET NO. B024	

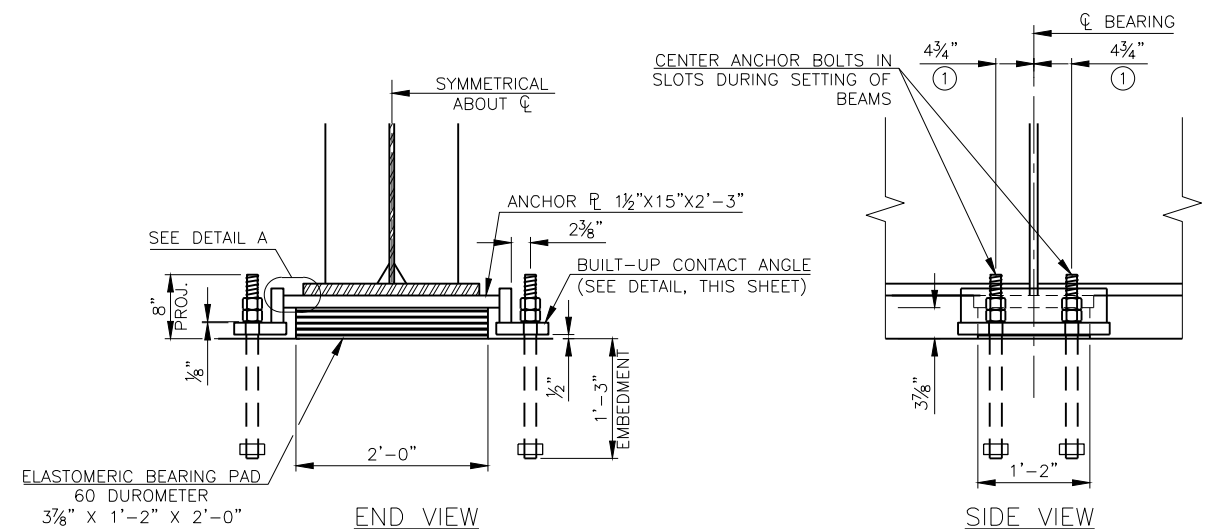
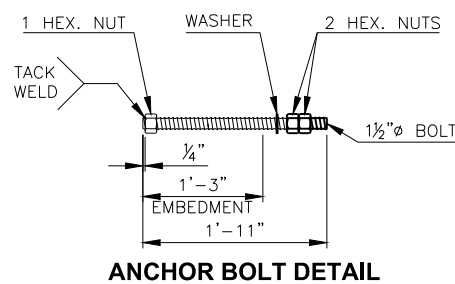
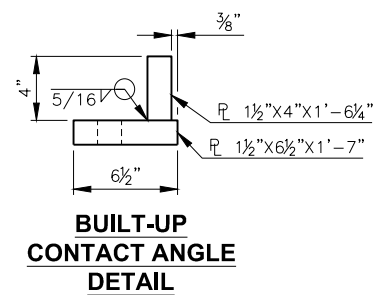
DESCRIPTION	REVISIONS	DATE



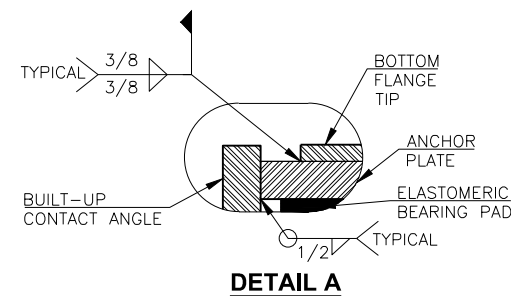
NOTE:
PAINT THICKEST
EDGE RED.
RED EDGE FACES
ABUT. NO. 2



PIER NO. 1 BEARING DETAILS



PIER NO. 2 BEARING DETAILS

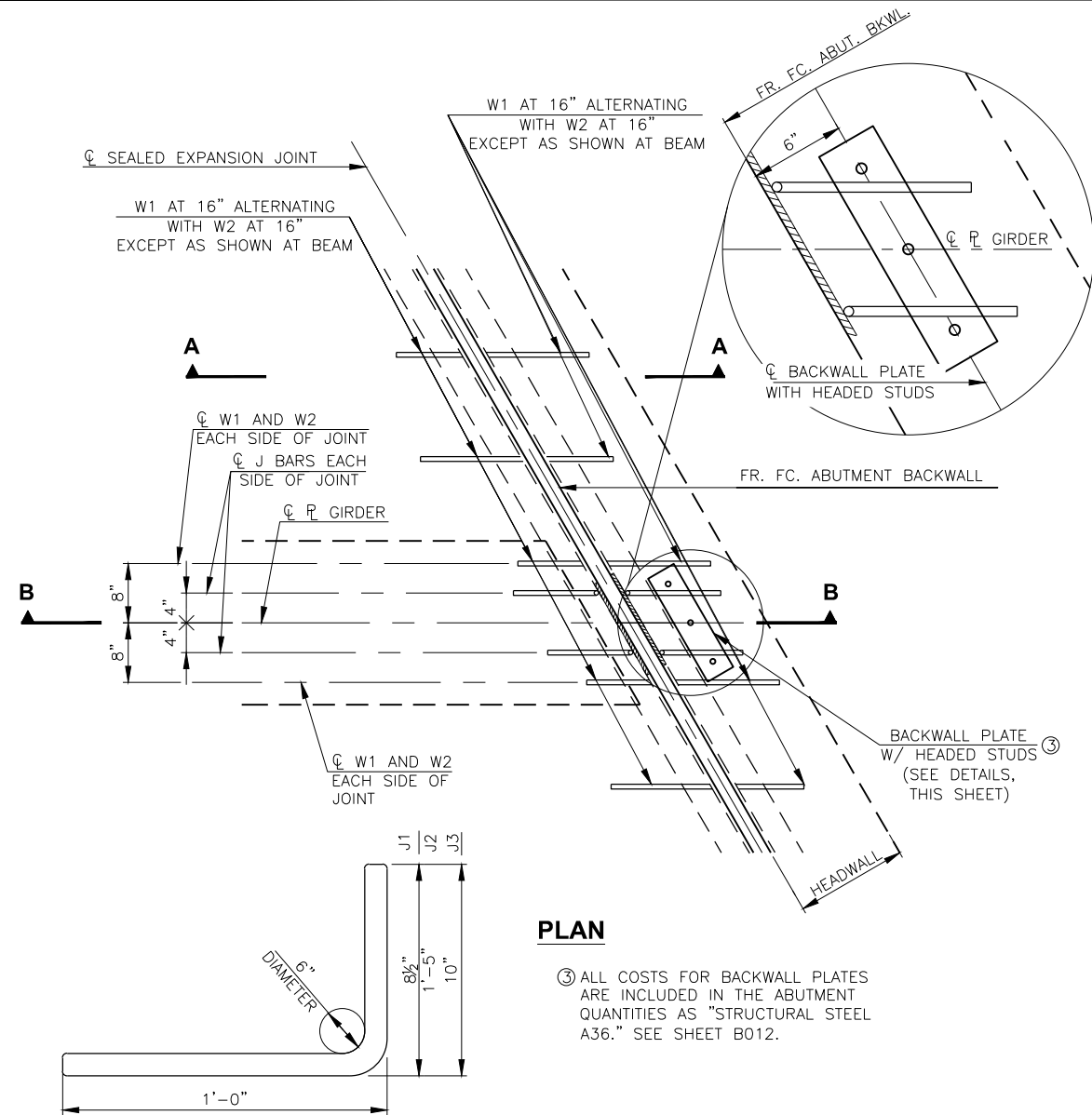


① CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF \bar{r} GIRDERS. DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF \bar{r} GIRDER SETTING.

DO NOT BOND BEARING PAD TO THE ANCHOR PLATE.

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	M.B.S.
BRIDGE 'A'		DETAIL	J.F.R.
		CHECK	M.B.S.
PIER BEARING DETAILS			
STATE OF OKLAHOMA			
DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 27004(04)			
SHEET NO. B025			

DESCRIPTION	REVISIONS	DATE

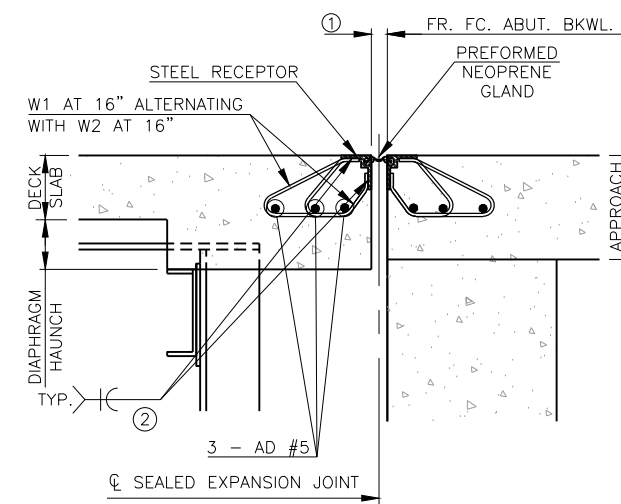
**PLAN**

③ ALL COSTS FOR BACKWALL PLATES ARE INCLUDED IN THE ABUTMENT QUANTITIES AS "STRUCTURAL STEEL A36." SEE SHEET B012.

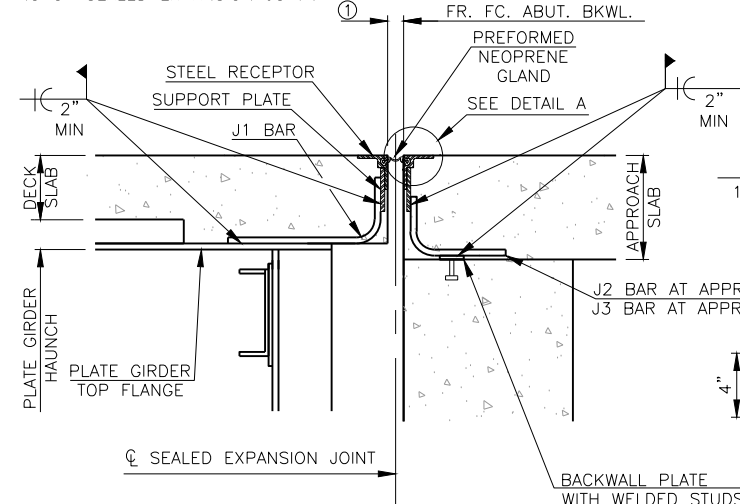
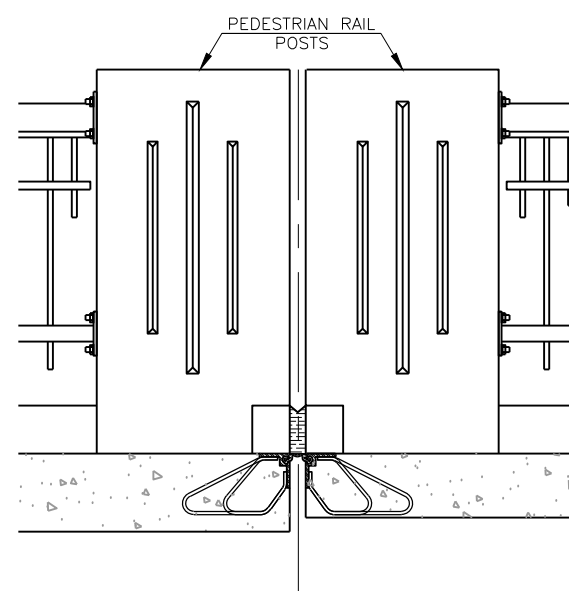
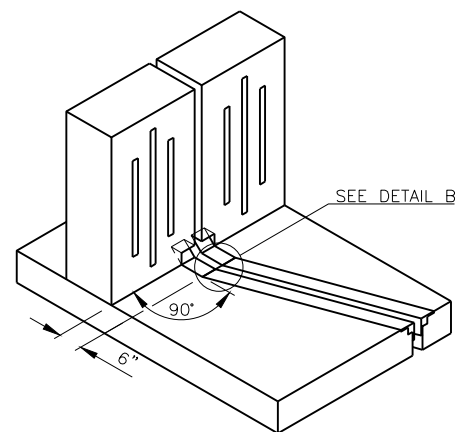
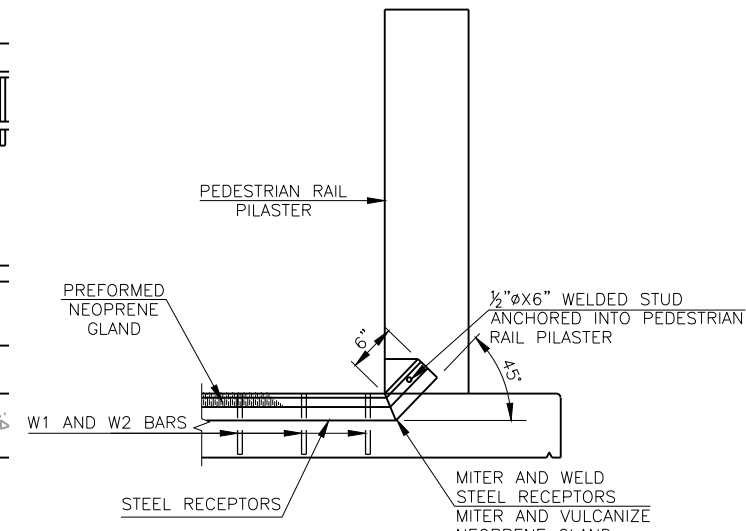
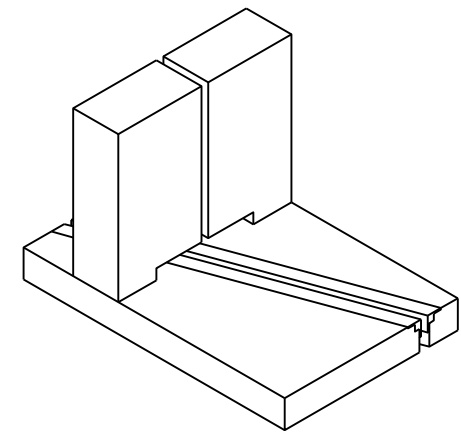
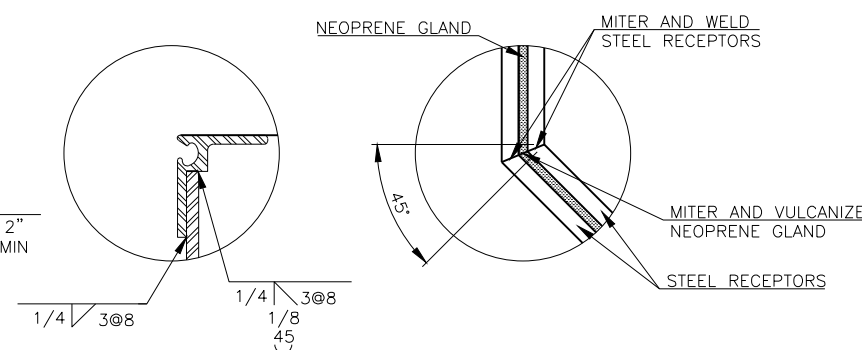
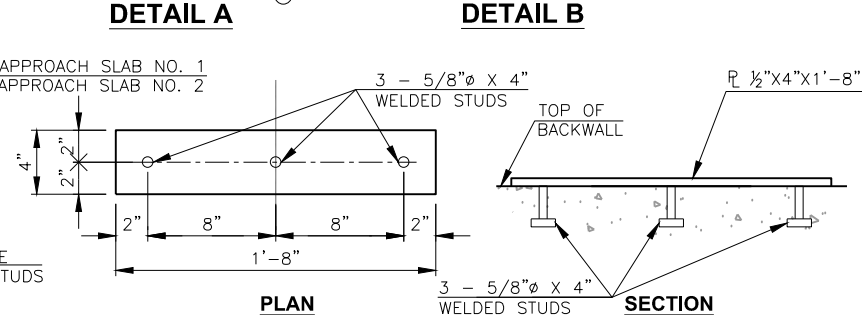
J SUPPORT BAR DETAILS

NOTE:
THE DIAMETER OF J BARS SHALL BE 2".

① SEE EXPANSION JOINT SETTING SCHEDULE, THIS SHEET, FOR ACTUAL JOINT OPENING BASED ON AMBIENT AIR TEMPERATURE AT TIME OF INITIAL SETTING OF SEALED EXPANSION JOINT.

**SECTION A-A**

② 1½" MIN. FOR TYPE Q RECEPTOR.
1" MIN. FOR TYPE SSCM-OK RECEPTOR.

**SECTION B-B****ELEVATION AT PEDESTRIAN RAIL****PICTORIAL VIEW AT PEDESTRIAN RAIL****SECTION AT PEDESTRIAN RAIL****PICTORIAL VIEW AT PARAPET****DETAIL A****DETAIL B****PLAN****SECTION****③ BACKWALL PLATE DETAILS****EXPANSION JOINT SETTING SCHEDULE**

EXP. JOINT OPENING	AMBIENT TEMPERATURE (°F)	
	ABUT. NO. 1	ABUT. NO. 2
2⅞"		0"
2¾"		8"
2⅝"		17"
2½"	0"	26"
2⅜"	3"	34"
2¼"	22"	43"
2⅝"	41"	51"
2"	60"	60"
1⅞"	79"	69"
1¾"	98"	77"
1⅝"	117"	86"
1½"	120"	94"
1⅜"		103"
1¼"		112"
1⅛"		120"

SEALED EXPANSION JOINT NOTES

SEE STD. EJ-DTL FOR W1 AND W2 ANCHOR BAR DETAILS, SUPPORT PLATE DETAILS, AND RECEPTOR DETAILS.

USE A SEALED EXPANSION JOINT WHICH HAS A TOTAL MOVEMENT RANGE OF 4" AND SEALS THE DECK TO PREVENT MOISTURE OR OTHER CONTAMINANTS FROM DESCENDING ONTO THE LOWER STRUCTURE COMPONENTS.

PROVIDE EITHER THE WATSON, BOWMAN AND ACME TYPE Q STEEL EXTRUSION RECEPTOR OR THE D.S. BROWN TYPE SSCM-OK STEEL EXTRUSION RECEPTOR AS SHOWN ON STD. EJ-DTL.

MATERIALS

PROVIDE STEEL RECEPTORS, SUPPORT PLATES, BACKWALL PLATES AND J SUPPORT BARS CONFORMING TO AASHTO M270 (ASTM A709), GRADE 36, 50 OR 50W (CHARPY V-NOTCH TESTING NOT REQUIRED).

PROVIDE W1 AND W2 ANCHOR BARS CONFORMING TO AASHTO M225 (ASTM A496). INCLUDE ALL BAR DIMENSIONS IN THE SHOP DRAWINGS.

USE PREFORMED NEOPRENE GLAND LUBRICANT AND ADHESIVE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED LITERATURE.

FABRICATION OF JOINT

PERFORM WELDING OF STEEL RECEPTORS, SUPPORT PLATES, J SUPPORT BARS AND W1 AND W2 ANCHOR BARS IN ACCORDANCE WITH SUBSECTION 724.03 OF THE SPECIFICATIONS.

APPLY TWO SHOP COATS - ONE AN INORGANIC ZINC RICH (IZ) PRIMER, THE OTHER AN INORGANIC ZINC RICH (IZ) INTERMEDIATE COAT - TO THE ENTIRE SURFACE OF THE STEEL RECEPTOR, SUPPORT PLATES, J SUPPORT BARS AND W1 AND W2 ANCHOR BARS. APPLY ONE FIELD APPLICATION OF URETHANE TOPCOAT TO ALL EXPOSED SURFACES AFTER INSTALLATION. PERFORM ALL PAINTING IN ACCORDANCE WITH SECTION 512 OF THE SPECIFICATIONS.

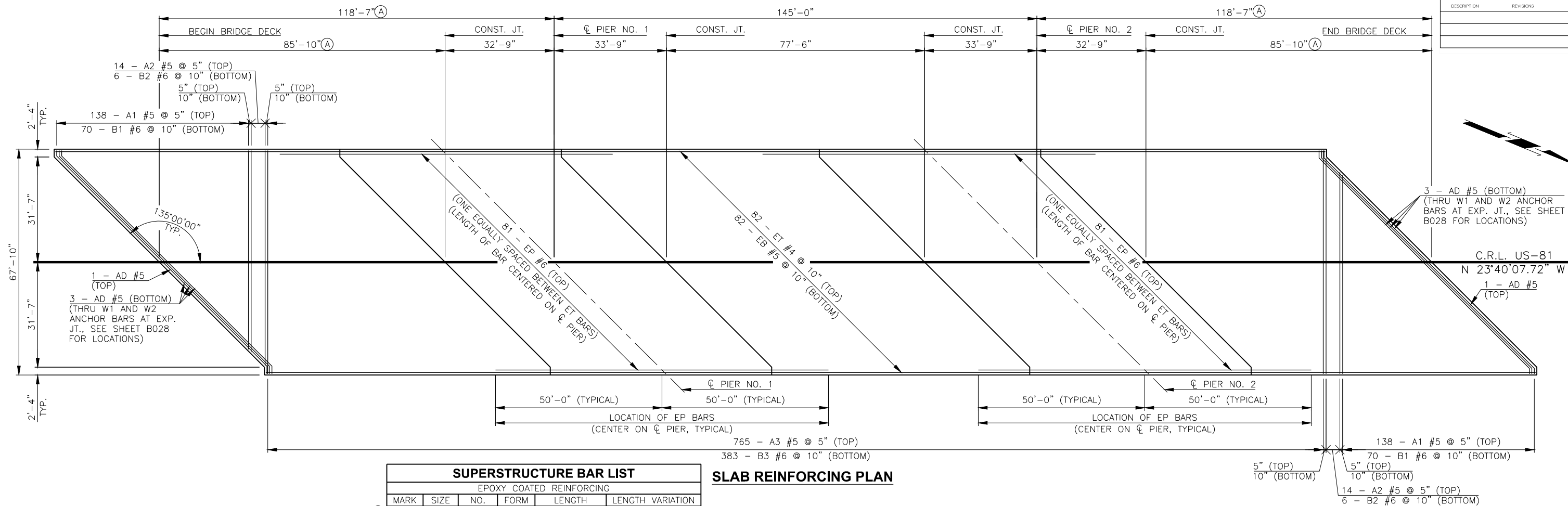
AT LOCATIONS WHERE JOINT IS SHOWN TO BE MITERED AT ANY ANGLE FOR TURN-UP AT PEDESTRIAN RAIL OR FOR SKEW, SHOP SPLICE NEOPRENE GLAND WITH HEAT VULCANIZING OR OTHER METHOD OF EQUAL EFFECTIVENESS AS RECOMMENDED BY THE LISTED JOINT MANUFACTURER, OR APPROVED EQUAL, AND APPROVED BY THE ENGINEER.

BASIS OF PAYMENT

THE DEPARTMENT WILL CONSIDER THE COST OF THE COMPLETE JOINT (EXCLUDING BACKWALL PLATES) INCLUDING NEOPRENE GLAND, SUPPORT PLATES, STEEL RECEPTORS, J SUPPORT BARS, W1 AND W2 ANCHOR BARS, WELDING, EQUIPMENT, LABOR AND ANY OTHER INCIDENTALS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF "SEALED EXPANSION JOINT".

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY	DESIGN	M.B.S.
			DETAIL	J.F.R.
			CHECK	M.B.S.
EXPANSION JOINT DETAILS				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
		JOB PIECE NO. 27004(04)		SHEET NO. B026

DESCRIPTION	REVISIONS	DATE



SUPERSTRUCTURE BAR LIST

EPOXY COATED REINFORCING

MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
①	A1	#5	276	BNT.	31'-2½" AVG.
②	A2	#5	28	BNT.	64'-10½" AVG.
③	A3	#5	765	BNT.	70'-8"
④	AD	#5	8	BNT.	96'-8"
⑤	AT1	#5	2	BNT.	96'-8"
⑥	AT2	#5	20	BNT.	5'-10"
⑦	AT3	#5	60	STR.	11'-0"
⑧	B1	#6	140	STR.	30'-10" AVG.
⑨	B2	#6	12	STR.	65'-6" AVG.
⑩	B3	#6	383	STR.	70'-6"
⑪	C1	#4	716	BNT.	1'-10"
⑫	EB	#5	82	STR.	396'-10"
⑬	EAH1	#5	148	BNT.	8'-4"
⑭	EAH2	#5	42	BNT.	3'-7"
⑮	EP	#6	162	STR.	106'-0"
⑯	ET	#4	82	STR.	393'-10"
⑰	L1	#4	8	BNT.	2'-0"
⑱	SP1	#5	468	BNT.	5'-3"
⑲	SR1	#5	2,298	BNT.	4'-5"

① TWO SETS OF 138 BARS.

② TWO SETS OF 14 BARS.

③ TWO SETS OF 70 BARS.

④ TWO SETS OF 6 BARS.

⑤ FOR PEDESTRIAN RAIL C1 AND SP1 BAR LOCATIONS AND BAR BENDS, SEE SHEETS B030-B031.

⑥ FOR PARAPET L AND SR1 BAR LOCATIONS AND BAR BENDS, SEE SHEET B029.

⑦ LAPS SHALL BE STAGGERED.

⑧ LENGTH INCLUDES ONE 2'-0" LAP.

⑨ LENGTH INCLUDES ONE 3'-0" LAP.

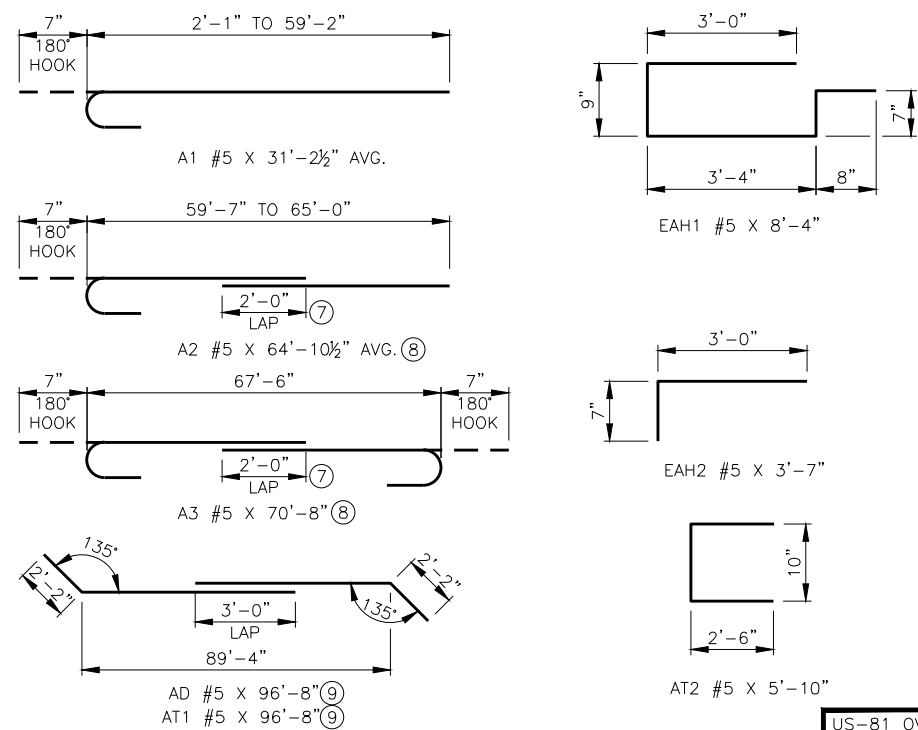
⑩ LENGTH INCLUDES TWO 3'-0" LAPS.

⑪ LAPS SHALL NOT BE PLACED WITHIN 10'-0" OF CENTERLINE OF PIERS OR CONSTRUCTION JOINTS.

⑫ LENGTH INCLUDES SIX 2'-0" LAPS.

⑬ LENGTH INCLUDES SIX 2'-6" LAPS.

SLAB REINFORCING PLAN



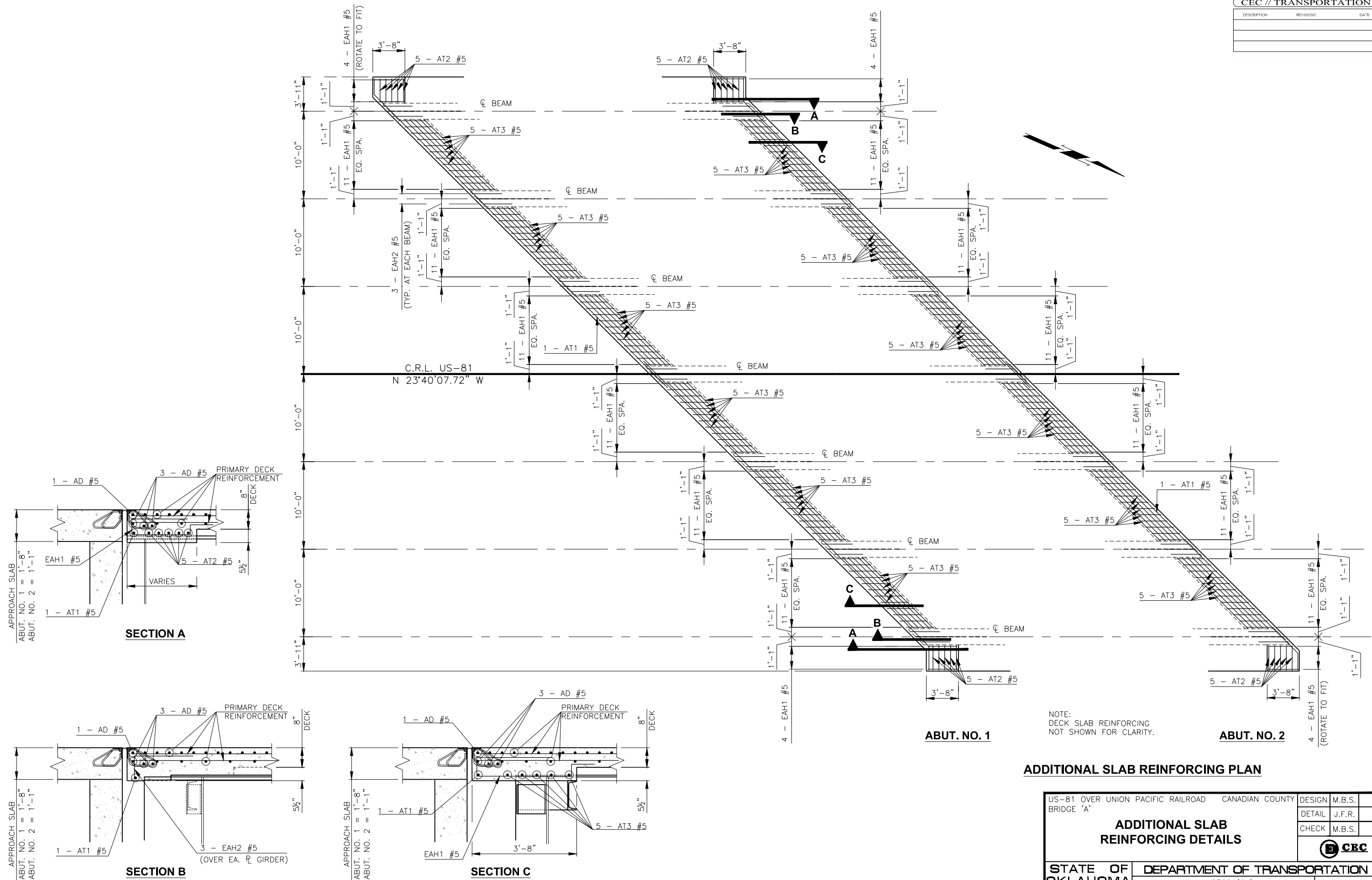
NOTES:

① DECK SLAB DIMENSION SHOWN ASSUMES A 2" NOMINAL EXPANSION JOINT. ACTUAL DIMENSION BASED ON EXPANSION JOINT SETTINGS, SEE SHEET B026.

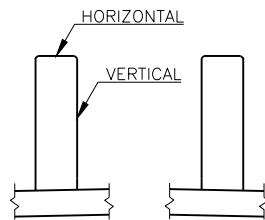
PLACE ALL C1, L1, SP1, AND SR1 BARS PRIOR TO PLACING BRIDGE DECK CONCRETE.

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
SLAB REINFORCING PLAN		CHECK	M.B.S.	
		CEC		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 27004(04)		SHEET NO. B027		

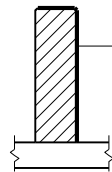
DESCRIPTION	REVISIONS	DATE



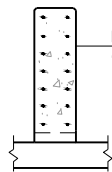
DESCRIPTION	REVISIONS	DATE



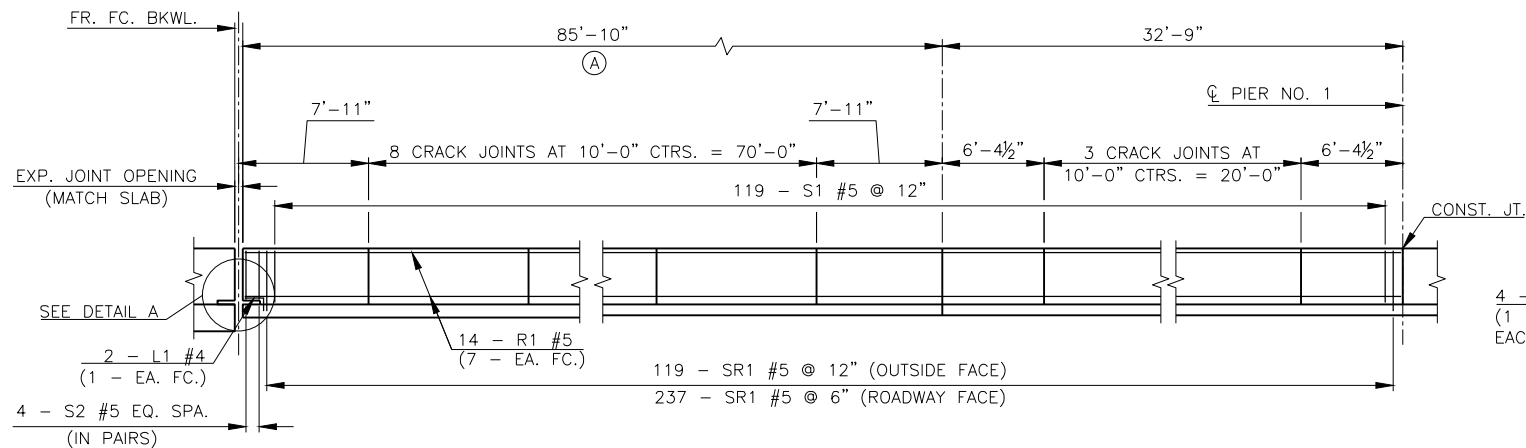
**TRAFFIC RAIL
ORIENTATION**



**CONSTRUCTION
JOINT**

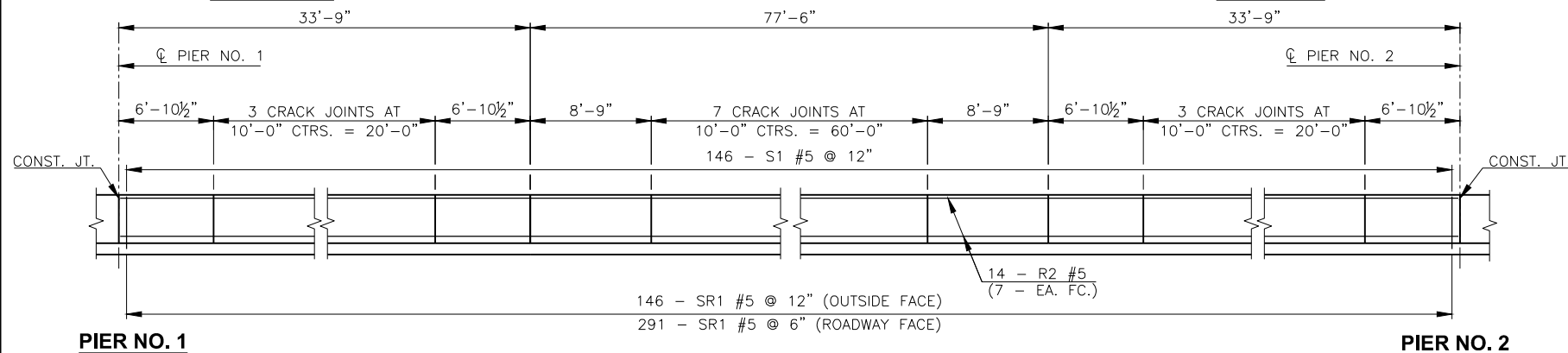


**CONTROL CRACK
JOINT**



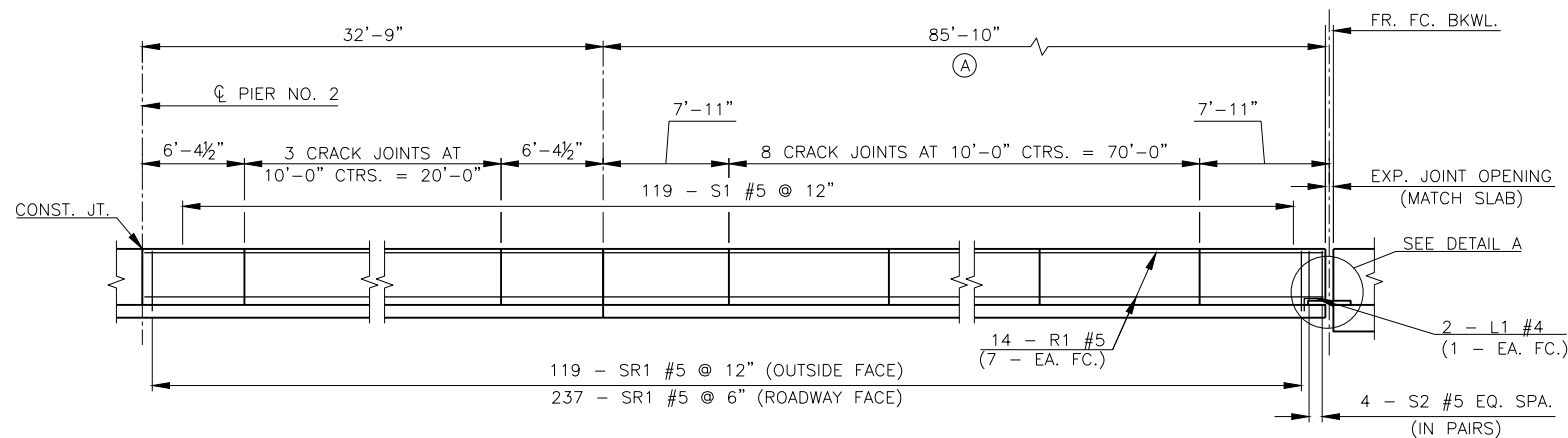
ABUT. NO. 1

PIER NO. 1



PIER NO. 1

PIER NO. 2

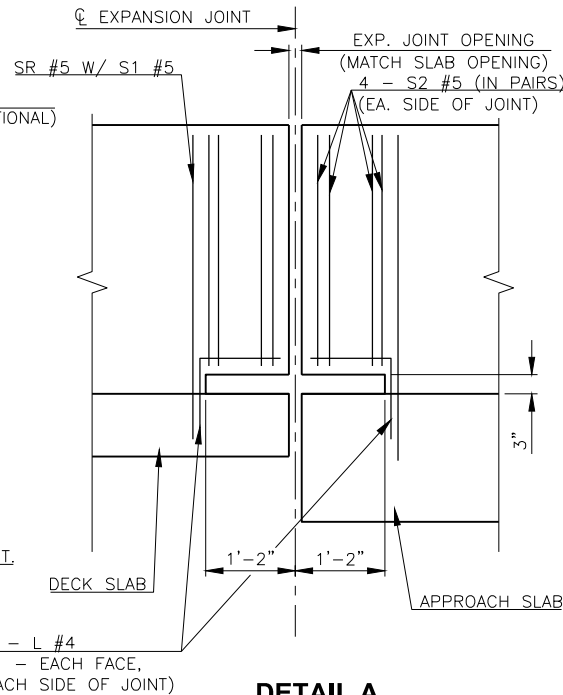


PIER NO. 2

ABUT. NO. 2

TRAFFIC RAIL ELEVATION

(A) PARAPET DIMENSION SHOWN ASSUMES A 2" NOMINAL EXPANSION JOINT. ACTUAL DIMENSION BASED ON EXPANSION JOINT SETTINGS, SEE SHEET B026.



DETAIL A

(LONGITUDINAL REINFORCEMENT NOT SHOWN FOR CLARITY)

PARAPET NOTES

CONSTRUCT THE CONCRETE PARAPET TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (ENGLISH), AS WELL AS THE FOLLOWING REQUIREMENTS.

CLASS AA CONCRETE:

CLASS AA CONCRETE SHALL BE USED IN THE CONCRETE PARAPET. ALL COSTS OF THE CONCRETE SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "CONCRETE PARAPET".

REINFORCING STEEL:

ALL REINFORCING STEEL USED IN THE CONCRETE PARAPET SHALL BE EPOXY COATED. PLACE AND TIE ALL SR AND L BARS BEFORE CONCRETE IS PLACED IN THE DECK SLAB OR APPROACH SLAB, AS APPLICABLE. THE WEIGHT OF THE SR AND L BARS CAST IN THE BRIDGE DECK WILL BE MEASURED AND PAID FOR AS "EPOXY COATED REINFORCING STEEL", AND ARE INCLUDED IN THE SUPERSTRUCTURE BAR LIST AND QUANTITIES. THE WEIGHT OF SR AND L BARS CAST IN THE APPROACH SLABS WILL NOT BE MEASURED, AND WILL BE INCIDENTAL TO THE PAY ITEM "APPROACH SLAB." ALL OTHER REINFORCING STEEL IN THE TRAFFIC RAIL SHALL BE INCLUDED IN THE UNIT PRICE BID PER LINEAR FOOT OF "CONCRETE PARAPET".

CONSTRUCTION JOINTS:

PLACE A CONSTRUCTION JOINT AT EACH PIER. PLACE 1/4" THICK PREFORMED EXPANSION MATERIAL IN THE CONSTRUCTION JOINT IN ACCORDANCE WITH THE DETAILS SHOWN. R BARS SHALL NOT BE CONTINUOUS THROUGH THE CONSTRUCTION JOINTS AT THE PIERS.

EXPANSION JOINTS:

AT EXPANSION JOINTS IN THE DECK SLAB OR APPROACH SLAB, MATCH THE WIDTH OF THE OPENING BETWEEN THE ENDS OF THE PARAPET WITH THE OPENING OF THE EXPANSION JOINT.

CONTROL CRACK JOINTS:

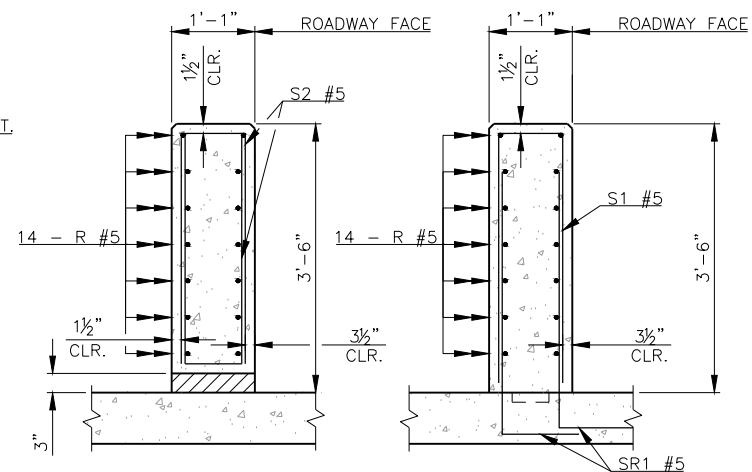
PROVIDE DOUBLE 3/4" CHAMFERS OR 3/4" DEEP SAWCUT IN ACCORDANCE WITH THE DETAILS SHOWN. PLACE THE CONTROL CRACK JOINTS AT 10'-0" SPACINGS. PLACE CONTROL CRACK JOINTS AT OTHER LOCATIONS AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

CONCRETE PARAPET CONSTRUCTION:

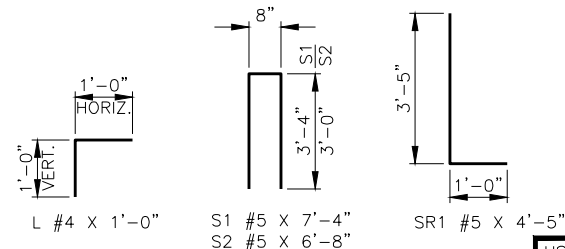
CONSTRUCT OPENINGS AT EXPANSION JOINTS AND CONSTRUCTION JOINTS SUCH THAT THE END FACES OF THE PARAPETS ARE PERPENDICULAR TO THE C.R.L. OF THE BRIDGE AND PERPENDICULAR TO THE PROFILE GRADE.

AESTHETIC TREATMENTS:

SEE SHEET B044 FOR REQUIRED AESTHETIC TREATMENTS FOR THE CONCRETE PARAPET.



SECTION THRU OPENING SECTION THRU POST
SECTION THRU RAIL AT BRIDGE DECK OR APPROACH SLAB



① PARAPET BAR LIST

ONE SHOWN, TWO REQUIRED

EPOXY COATED REINFORCING

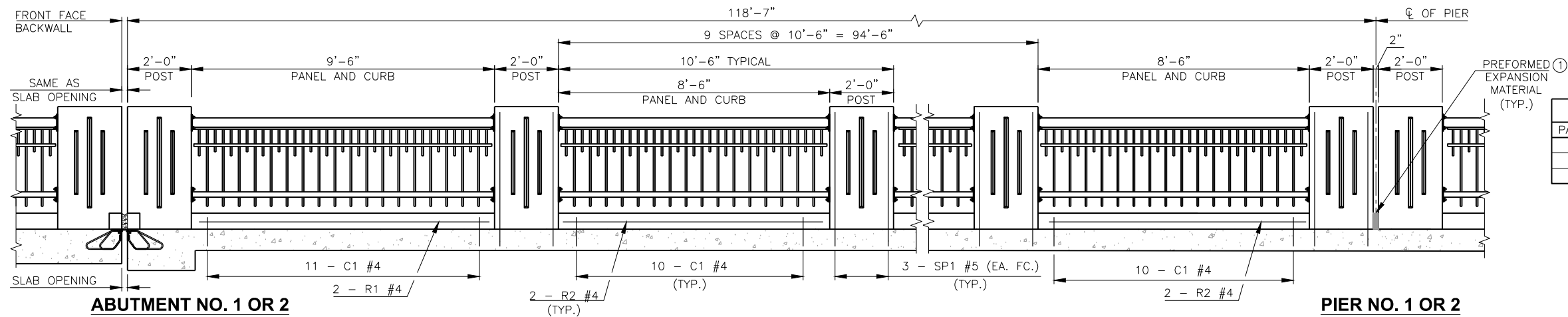
MARK	SIZE	NO.	FORM	LENGTH
R1	#5	28	STR.	123'-3"
R2	#5	14	STR.	149'-8"
S1	#5	384	BNT.	7'-4"
S2	#5	8	BNT.	6'-8"

- ① INCLUDED IN THE PRICE BID FOR THE PAY ITEM "CONCRETE PARAPET".
- ② INCLUDES TWO 2'-6" LAPS. STAGGER LAPS.

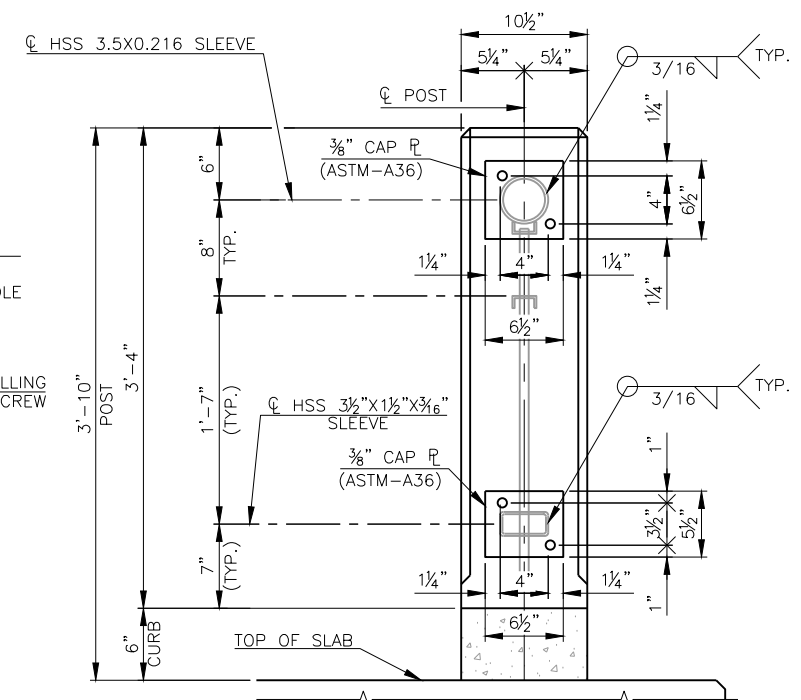
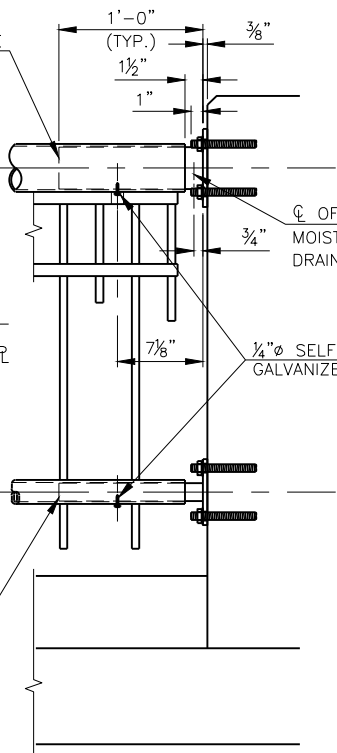
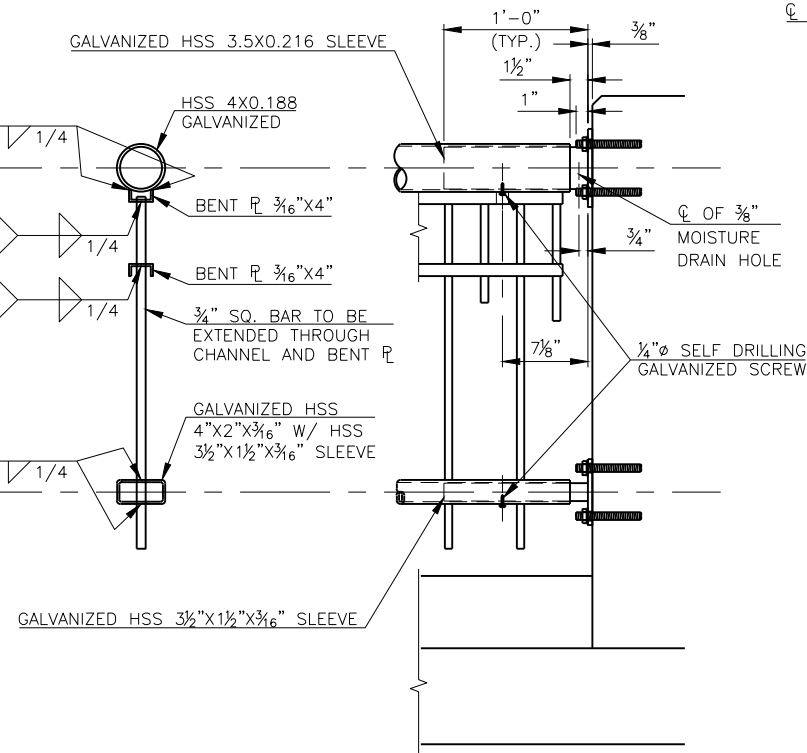
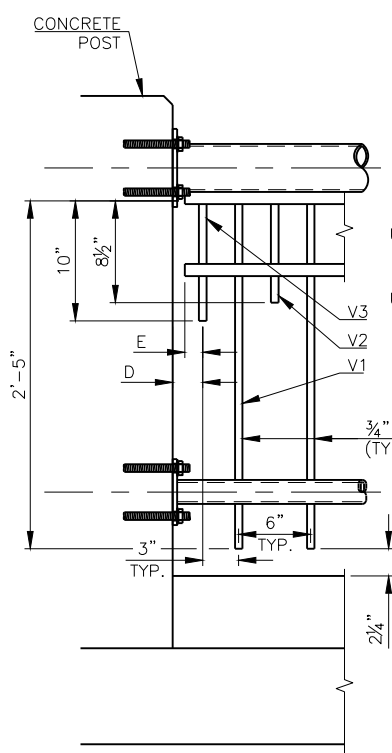
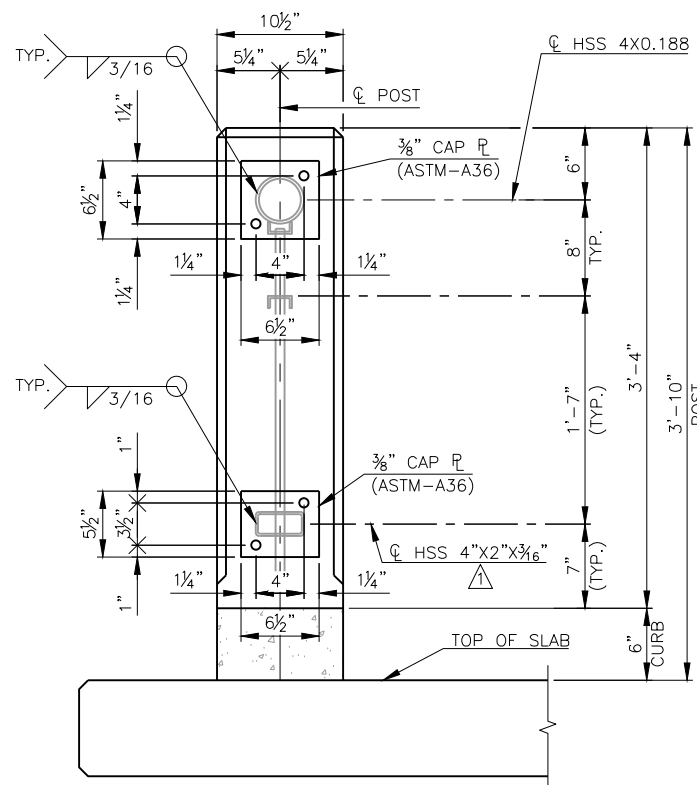
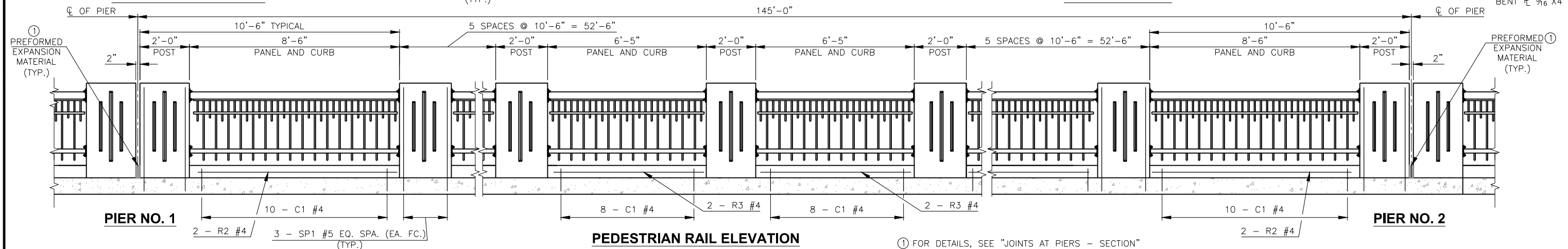
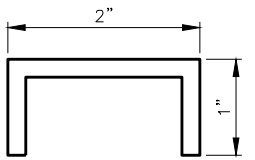
⑧ SUPERSTRUCTURE PARAPET QUANTITIES			
ITEM	UNIT	TOTAL	
CLASS AA CONCRETE	C.Y.	107.3	
EPOXY COATED REINFORCING STEEL	LB.	17,560	

⑧ QUANTITIES PROVIDED FOR ESTIMATING PURPOSES ONLY. INCLUDE ALL COSTS FOR CONSTRUCTING THE PARAPET, INCLUDING CONCRETE, REINFORCING STEEL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE PRICE BID FOR "CONCRETE PARAPET".

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY	DESIGN	M.B.S.	
			DETAIL	J.F.R.	
			CHECK	M.B.S.	
PARAPET DETAILS ON BRIDGE DECK					
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 27004(04)	
				SHEET NO. B029	



PANEL SCHEDULE					
PANEL LENGTH	D	E	NO. V1	NO. V2	NO. V3
6'-5"	2½"	1½"	12	6	7
8'-6"	3"	1½"	16	8	9
9'-6"	3"	1½"	18	9	10



NOTE:
ALL ANCHOR BOLTS SHALL BE ¾"Ø X 8" LONG, IN ACCORDANCE
WITH AASHTO M270 (ASTM A709) AND GALVANIZED.

US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.
BRIDGE 'A'				DETAIL	J.F.R.
				CHECK	M.B.S.
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. B030	
		JOB PIECE NO. 27004(04)			

**PEDESTRIAN RAIL DETAILS
ON BRIDGE DECK
(SHEET 1 OF 2)**

ONE SHOWN, TWO REQUIRED				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
PH	#4	195	BNT.	5'-0"
R1	#4	4	STR.	9'-2"
R2	#4	60	STR.	8'-2"
R3	#4	4	STR.	6'-1"
SP2	#5	8	BNT.	4'-0"

CONSTRUCT THE PEDESTRIAN RAIL TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION (ENGLISH) AS WELL AS THE FOLLOWING REQUIREMENTS.

USE CLASS AA CONCRETE IN THE PEDESTRIAN RAIL POSTS. ALL COSTS TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "(PL)CONCRETE PARAPET (HANDRAIL TYPE)".

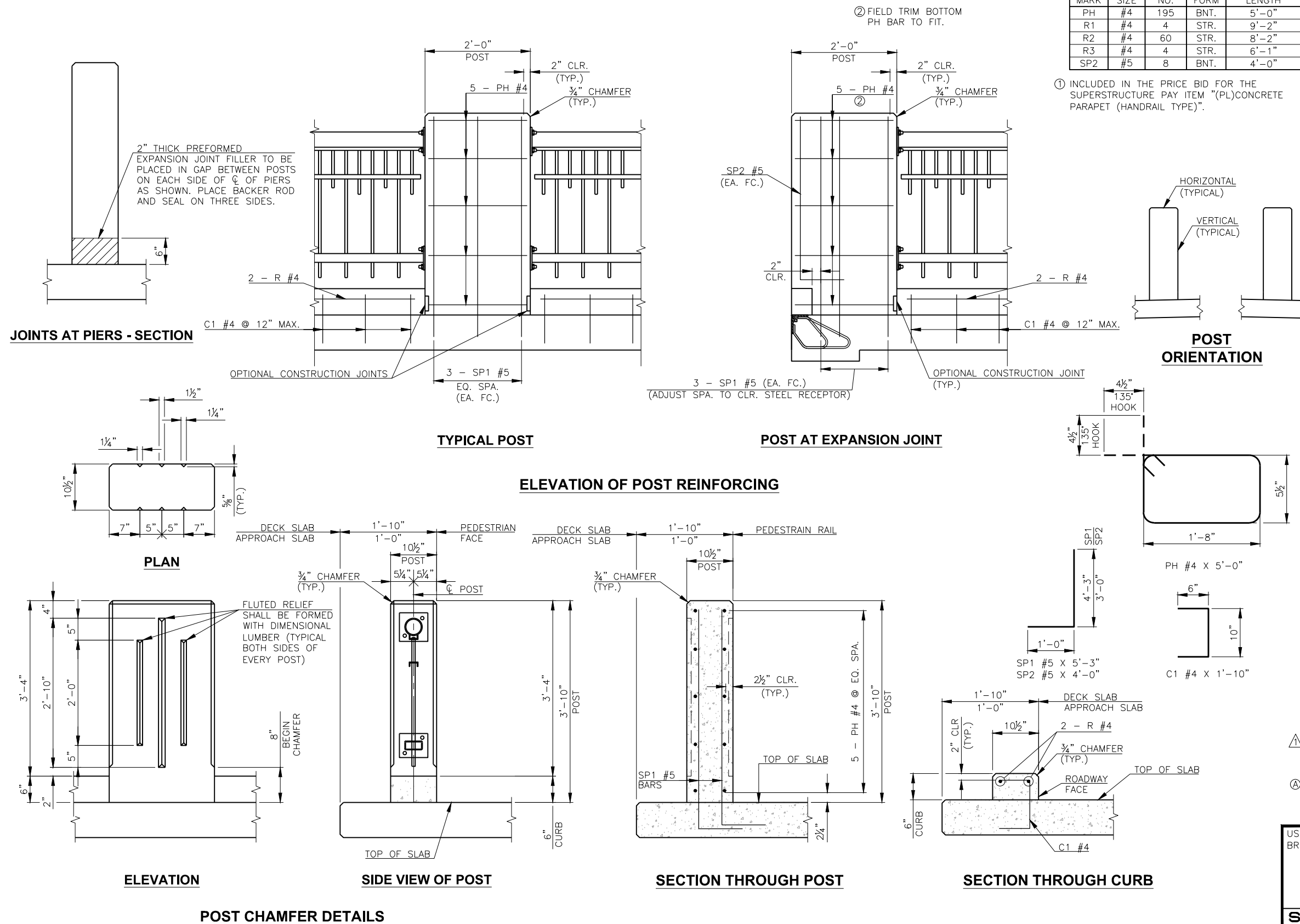
△ PAYMENT:
INCLUDE ALL COSTS FOR CONSTRUCTING THE PEDESTRIAN RAIL,
INCLUDING MATERIALS, LABOR, EQUIPMENT, AND INCIDENTALS
NECESSARY TO COMPLETE THE WORK IN THE PRICE BID FOR
"(PL) CONCRETE PARAPET (HANDRAIL TYPE)."

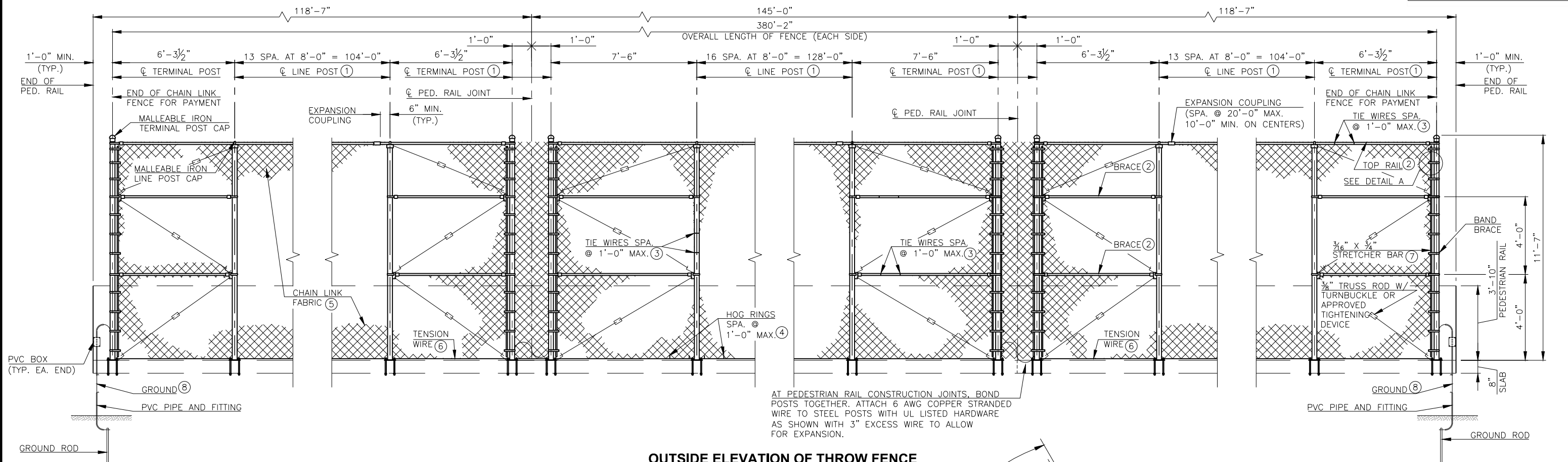
ITEM	UNIT	TOTAL
STRUCTURAL STEEL	LB.	22,110
CLASS AA CONCRETE	C.Y.	29.2
EPOXY COATED REINFORCING STEEL	LB.	2,120

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY BRIDGE 'A' PEDESTRIAN RAIL DETAILS CHLDRIDGE DECK	DESIGN	M.B.S.	
	DETAIL	J.F.R.	
	CHECK	M.B.S.	

CEC

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. 27004(04)	SHEET NO. B031





OUTSIDE ELEVATION OF THROW FENCE

APPLY FENCE TO EACH SIDE OF SPANS 1, 2 AND 3

CHAIN LINK FENCE NOTES:

STEEL:

ALL CHAIN LINK FENCE MATERIALS SHALL CONFORM TO SECTIONS 624 AND 732.07 OF THE STANDARD SPECIFICATIONS FOR FENCE-STYLE CLF, CLASS B, TYPE IV. THE VINYL OR PLASTIC COATING SHALL BE BLACK (FS 27038).

GALVANIZE ALL OTHER STEEL COMPONENTS AND APPLY A BLACK (FS 27038) POWDERCOATING.

PIPE 1 1/4 STD. STEEL PIPE MUST CONFORM TO ASTM A53 GR B OR A500 GR B. PIPE 3 STD. STEEL PIPE MUST CONFORM TO ASTM A500 GR B.

5/8" DIA. THREADED ANCHOR RODS MUST BE ASTM-F1554. ANCHOR PLATES MUST CONFORM TO ASTM A36.

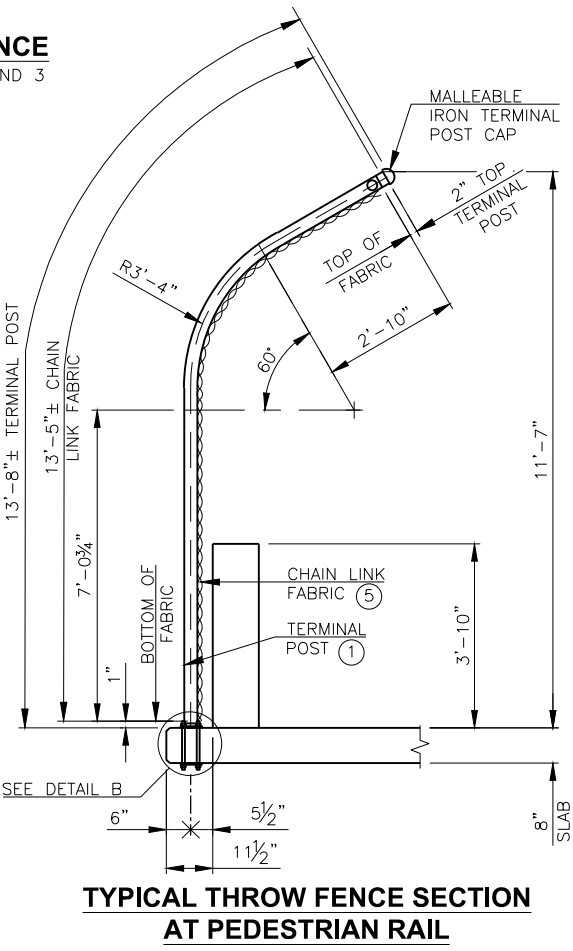
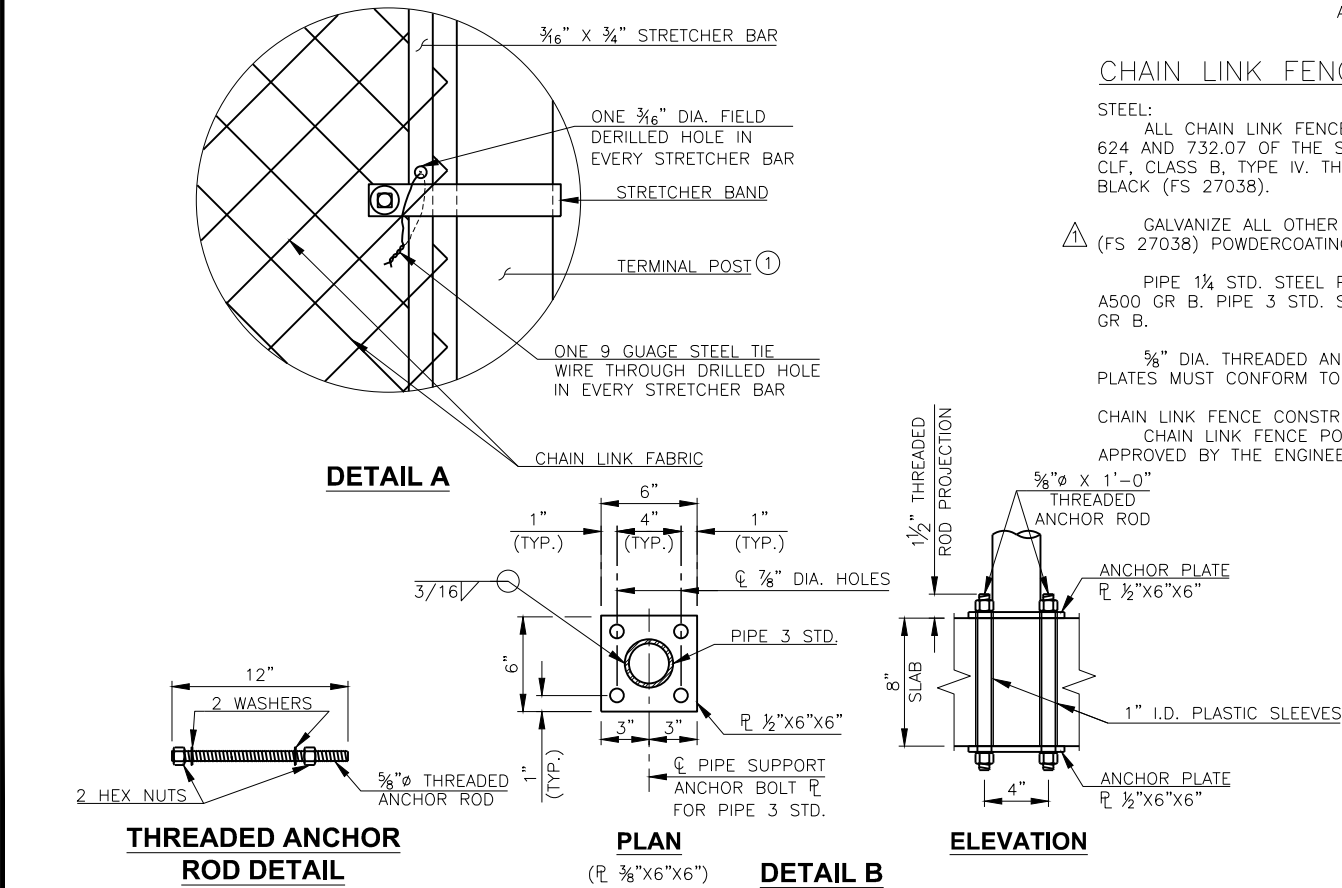
CHAIN LINK FENCE CONSTRUCTION:

CHAIN LINK FENCE POST MUST BE PLUMB UNLESS OTHERWISE APPROVED BY THE ENGINEER.

- PIPE 3 STD. (3.500" OD., 0.216" WALL THICKNESS) ASTM A500 GR B.
- PIPE 1 1/4 STD. (1.660" O.D., 0.140" WALL THICKNESS) ASTM A53 GR B OR A500 GR B.
- 9 GAUGE STEEL TIE WIRES ATTACH CHAIN LINK FENCE FABRIC TO STEEL PIPE.
- 9 GAUGE STEEL HOG RINGS ATTACH CHAIN LINK FENCE FABRIC TO TENSION WIRE.
- 9 GAUGE STEEL CHAIN LINK FABRIC, 2" MESH, KNUCKLE SELVAGE TOP AND BOTTOM.
- 7 GAUGE STEEL TENSION WIRE.
- CONTRACTOR MUST FIELD DRILL ONE 3/16" DIA. HOLE IN EVERY STRETCHER BAR AND USE A 9 GAUGE STEEL TIE WIRE TO TIE ONE STRETCHER BAND AND CHAIN LINK FABRIC TOGETHER. LOCATED DRILLED HOLE FOR TIE WIRE AT APPROXIMATE MID-HEIGHT OF FENCE.
- GROUND TERMINAL POST AT THE BEGINNING AND END OF FENCE. ATTACH 6 AWG COPPER STRANDED WIRE TO STEEL POST WITH UL LISTED HARDWARE AND RUN OTHER END OF COPPER STRANDED WIRE TO 5/8" DIA. MINIMUM COPPER-CLAD STEEL ROD 8 FT. IN LENGTH. INSTALL GROUND ROD AS SHOWN. THE 6 AWG COPPER STRANDED WIRE MUST RUN THROUGH 1/2" SCHEDULE 40 PVC PIPE, ATTACH FITTINGS AND PVC BOX TO THE BACK OF PARAPET OR RAIL.

NOTE:

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE THROW FENCE, INCLUDING ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID PER LINEAR FOOT OF "FENCE-STYLE CLF (7' HIGH, CLASS B)."



US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'		CANADIAN COUNTY	DESIGN	M.B.S.
			DETAIL	J.F.R.
			CHECK	M.B.S.
THROW FENCE DETAILS				
STATE OF OKLAHOMA				
DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 27004(04)	SHEET NO. B032	

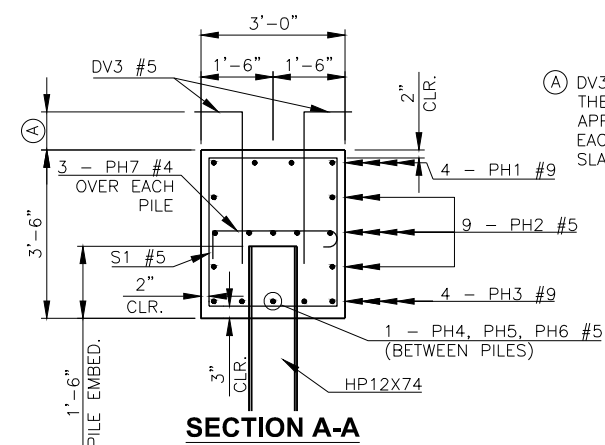
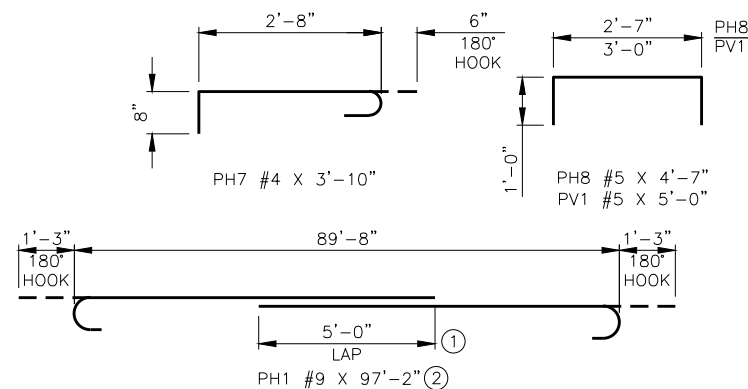


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Diagram illustrating the connection of a pile to a pile cap. The pile cap is shown with dimensions 3'-0" by 3'-6". The pile is shown with dimensions 1'-6" for the embedment length and 1'-6" for the length of the pile extending below the cap. The pile is labeled "PILE" and "EMBEDMENT".

NOTE:
FOR ADDITIONAL DETAILS OF APPROACH SLABS
AT SLEEPER SLAB, SEE SHEETS B036.

SLEEPER SLAB QUANTITIES		
ITEM	UNIT	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	134
SELECT BACKFILL	C.Y.	99
CLASS AA CONCRETE	C.Y.	35.0
EPOXY COATED REINFORCING STEEL	LB.	5,800
PILES, FURNISHED (HP12X74)	L.F.	488
PILES, DRIVEN (HP12X74)	L.F.	488

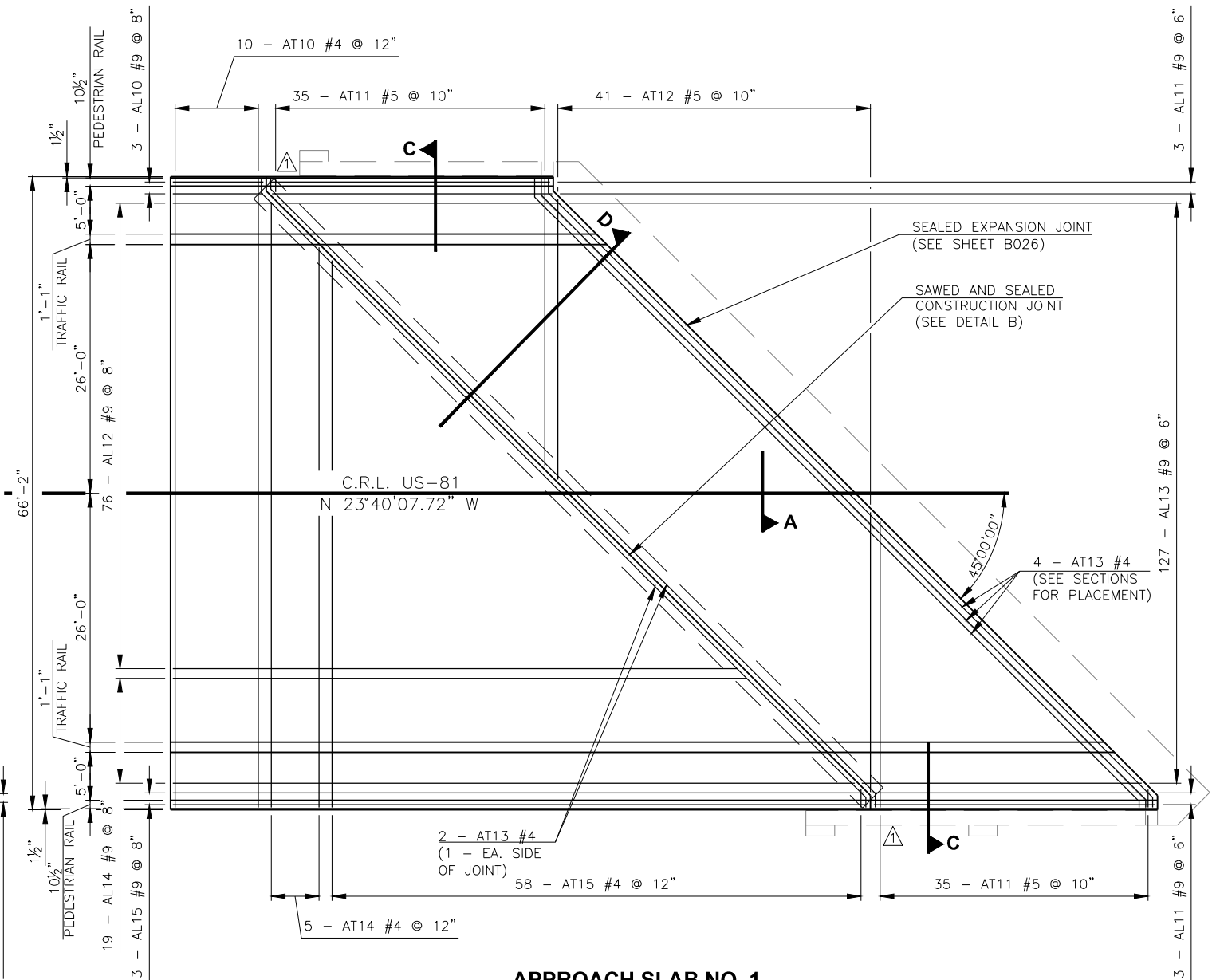


(A) DV3 BARS PLACED SUCH THAT THE HOOK IS CENTERED IN THE APPROACH SLAB SECTIONS ON EACH SIDE OF THE SLEEPER SLAB.

AT THE N

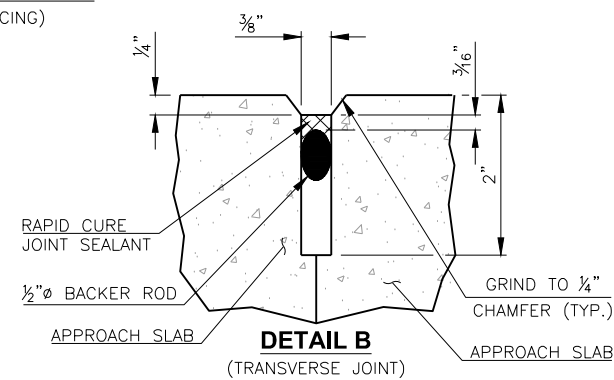
US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A' SLEEPER SLAB DETAILS AT	DESIGN	M.B.S.
	DETAIL	J.F.R.
	CHECK	M.B.S.

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. <u>27004(04)</u>	SHEET NO. <u>B033</u>




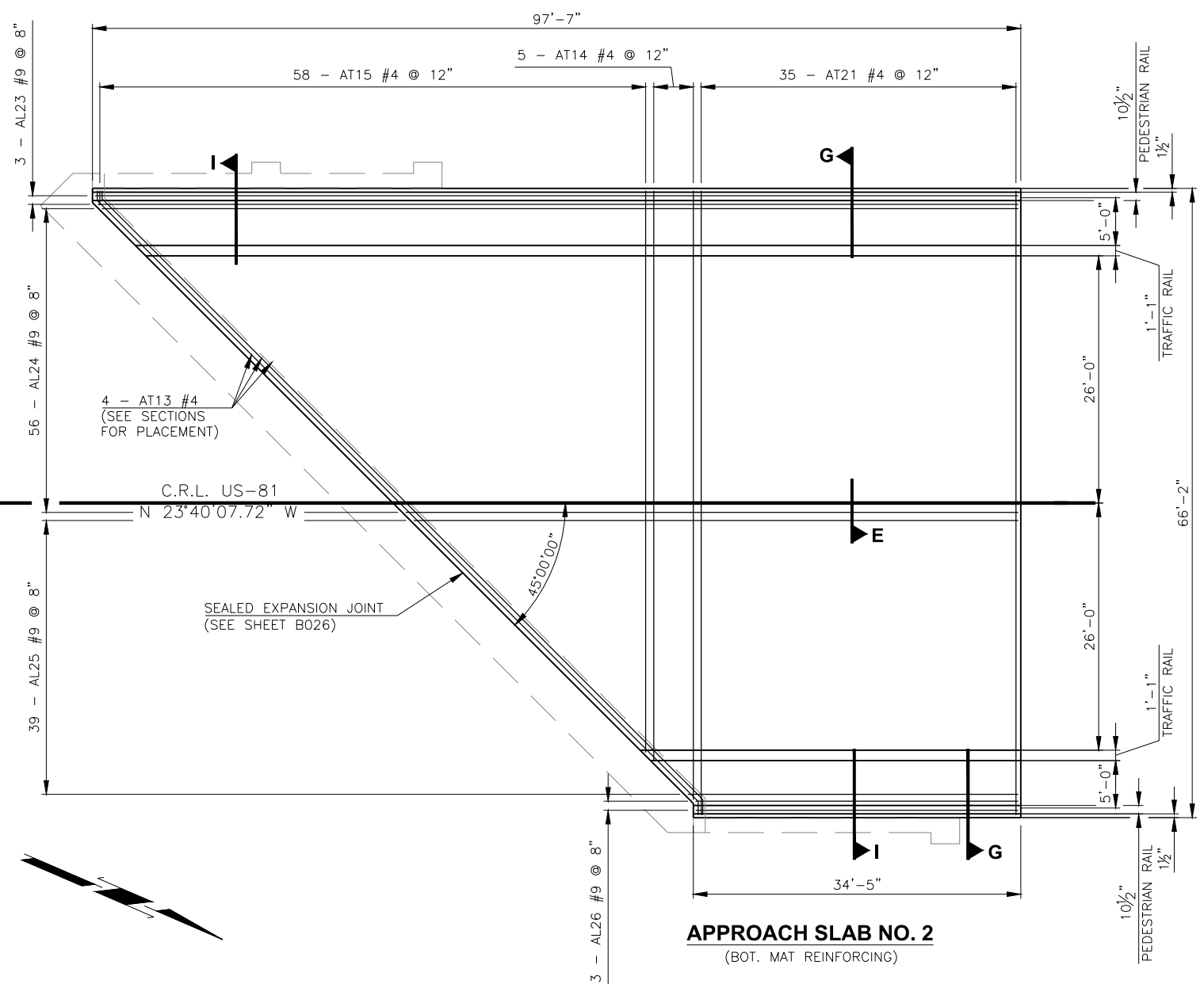
APPROACH SLAB NO. 1
(BOT. MAT REINFORCING)

FOR SECTIONS, SEE SHEET B036.

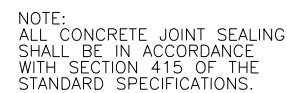


NOTE:
ALL CONCRETE JOINT SEALING
SHALL BE IN ACCORDANCE
WITH SECTION 415 OF THE
STANDARD SPECIFICATIONS.


US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'			DETAIL	J.F.R.	
APPROACH SLAB NO. 1 DETAILS			CHECK	M.B.S.	
					
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)			SHEET NO. B034

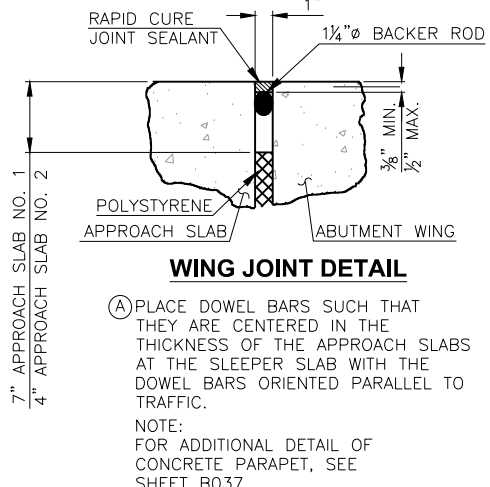
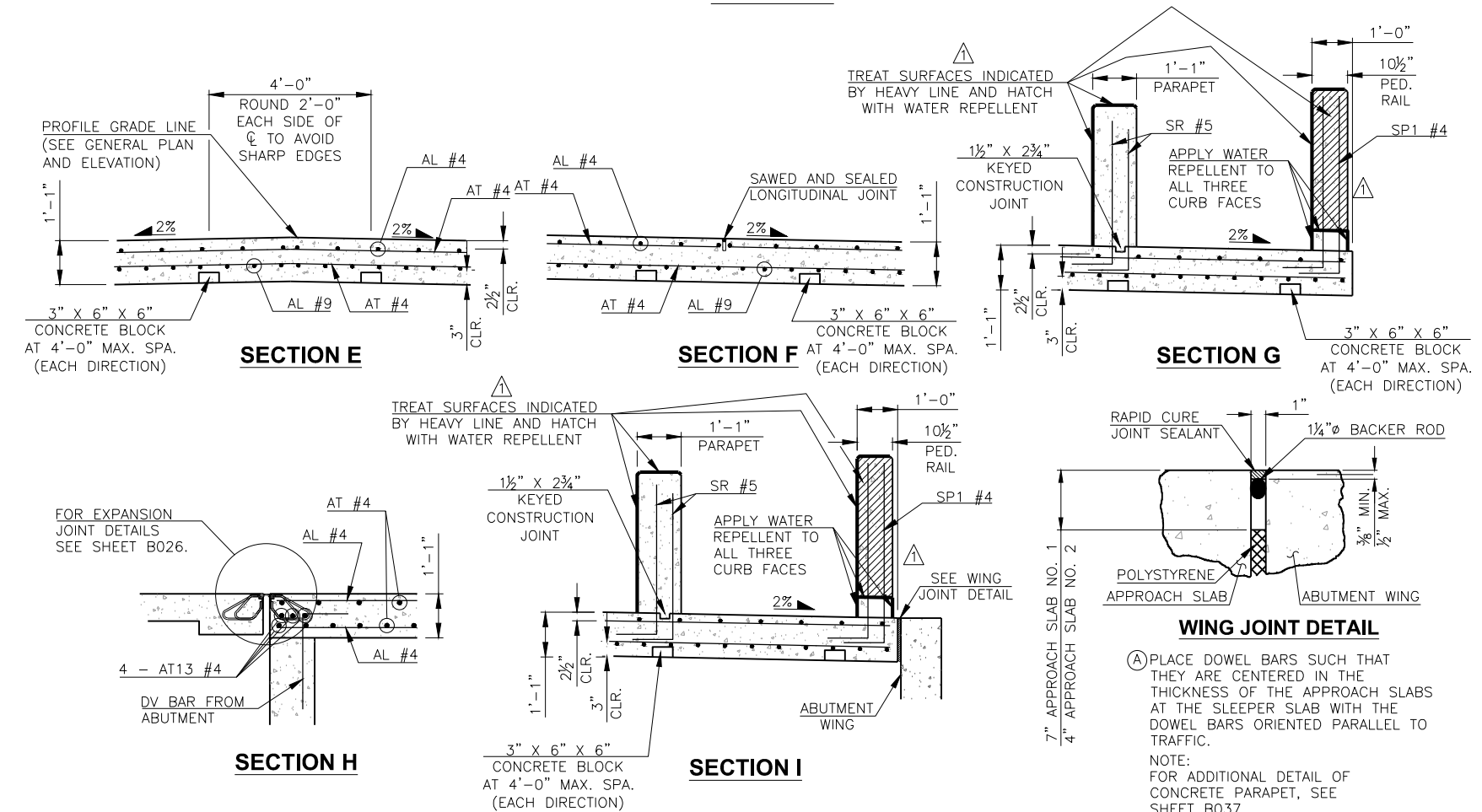
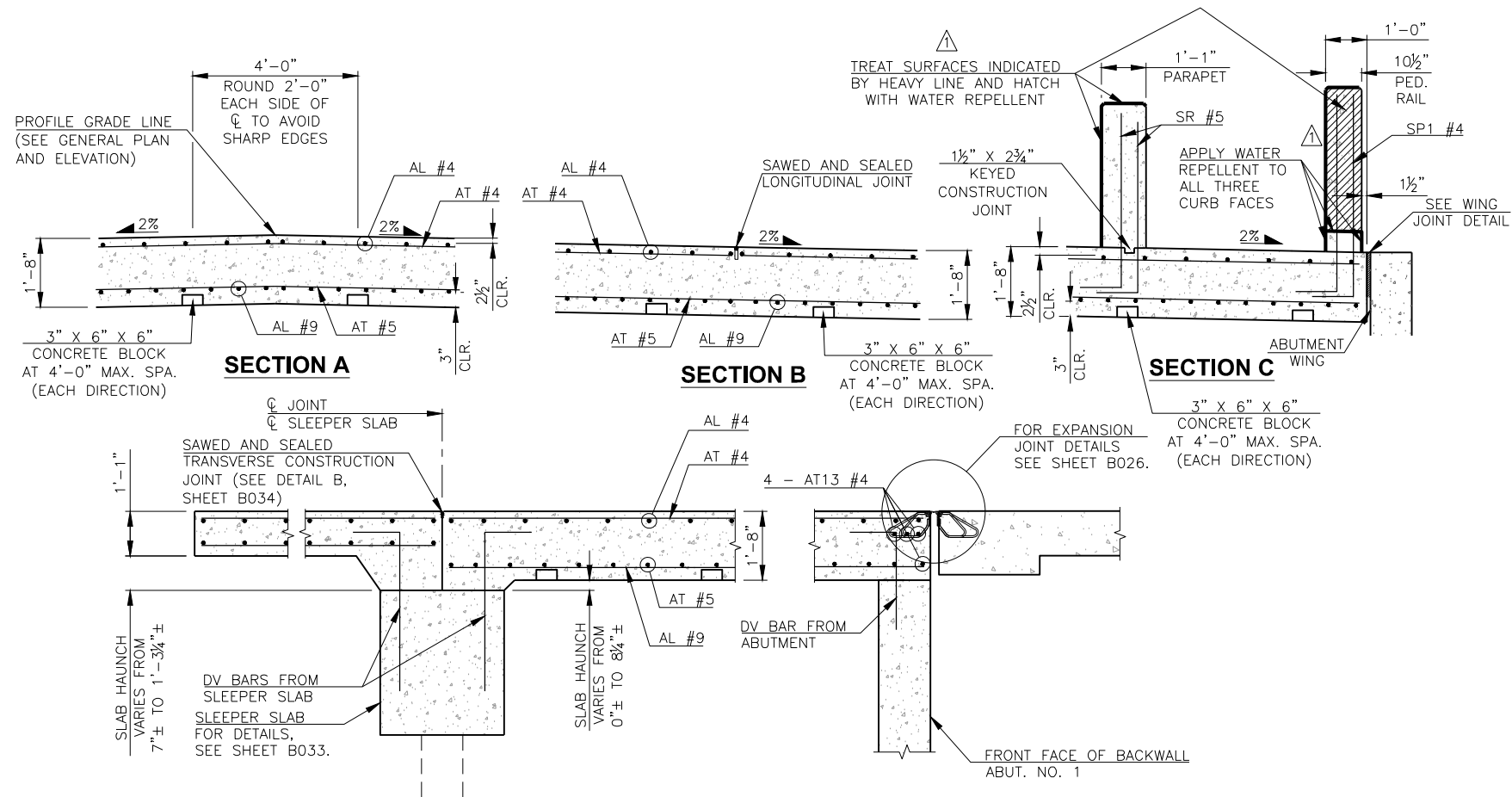


APPROACH SLAB NO. 2
(BOT. MAT REINFORCING)



FOR SECTIONS, SEE SHEET B036.

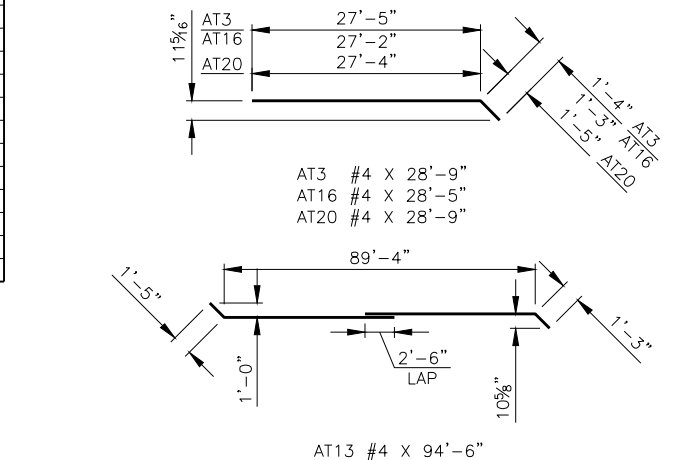
US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'			DETAIL	J.F.R.	
APPROACH SLAB NO. 2 DETAILS			CHECK	M.B.S.	
					
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 27004(04)			SHEET NO. B035		



APPROACH SLAB NO. 1 BAR LIST					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AL1	#4	2	STR.	9'-9"	
AL2	#4	4	STR.	29'-8"	
AL3	#4	20	STR.	19'-7" AVG.	10'-1" TO 29'-1"
AL4	#4	65	STR.	29'-6"	
AL5	#4	47	STR.	29'-4"	
AL6	#4	24	STR.	12'-2 1/2" AVG.	1'-0" TO 23'-5"
AL7	#4	22	STR.	23'-8"	
AL8	#4	19	STR.	10'-0" AVG.	1'-0" TO 19'-0"
AL9	#4	2	STR.	19'-3"	
AL10	#9	3	STR.	9'-9"	
AL11	#9	6	STR.	29'-8"	
AL12	#9	76	STR.	34'-11" AVG.	9'-11" TO 59'-11"
AL13	#9	127	STR.	29'-6"	
AL14	#9	19	STR.	72'-7" AVG.	66'-7" TO 78'-7"
AL15	#9	3	STR.	78'-11"	
AT1	#4	87	STR.	20'-9"	
AT2	#4	57	STR.	10'-0" AVG.	1'-0" TO 19'-0"
AT3	#4	6	BNT.	28'-9"	
AT4	#4	38	STR.	11'-3" AVG.	2'-3" TO 20'-3"
AT5	#4	46	STR.	12'-0" AVG.	1'-0" TO 23'-0"
AT6	#4	38	STR.	23'-8"	
AT7	#4	24	STR.	12'-2" AVG.	11" TO 23'-5"
AT8	#4	1	STR.	33'-1"	
AT9	#4	20	STR.	11'-3" AVG.	2'-0" TO 20'-6"
AT10	#4	10	STR.	68'-4"	
AT11	#5	70	STR.	16'-3" AVG.	2'-1" TO 30'-5"
AT12	#5	41	STR.	29'-6"	
AT13	#4	6	BNT.	94'-6"	
AT14	#4	5	STR.	64'-9" AVG.	62'-9" TO 66'-9"
AT15	#4	58	STR.	30'-9" AVG.	2'-3" TO 59'-3"
AT22	#4	2	STR.	33'-5"	
C1	#4	126	BNT.	1'-10"	
L1	#4	12	BNT.	2'-0"	
SP1	#4	108	BNT.	4'-11"	
SR1	#5	142	BNT.	5'-3"	
SR2	#5	10	BNT.	4'-9" AVG.	4'-4" TO 5'-2"
SR3	#5	19	BNT.	4'-9" AVG.	4'-4" TO 5'-2"
SR4	#5	9	BNT.	3'-2" AVG.	2'-9" TO 3'-7"
SR5	#5	17	BNT.	3'-2" AVG.	2'-9" TO 3'-7"
SR6	#5	12	BNT.	4'-10" AVG.	4'-4" TO 5'-4"
SR7	#5	128	BNT.	4'-8"	
SR8	#5	20	BNT.	3'-8" AVG.	2'-9" TO 4'-7"
SR9	#5	39	BNT.	3'-8" AVG.	2'-9" TO 4'-7"

- 1 INCLUDES ONE 6'-0" LAP
- 2 THREE SETS OF 19 BARS
- 3 TWO SETS OF 19 BARS
- 4 TWO SETS OF 23 BARS
- 5 INCLUDES ONE 2'-6" LAP
- 6 FOR PEDESTRIAN RAIL BARS CAST INTO APPROACH SLAB PLACEMENT AND BAR BENDS, SEE SHEETS B039 AND B040.
- 7 FOR PARAPET BARS CAST INTO APPROACH SLAB PLACEMENT AND BAR BENDS, SEE SHEETS B037 AND B038.
- 8 TWO SETS OF 35 BARS

APPROACH SLAB NO. 2 BAR LIST					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
AL16	#4	20	STR.	13'-11" AVG.	4'-5" TO 23'-5"
AL17	#4	24	STR.	12'-2" AVG.	11" TO 23'-5"
AL18	#4	19	STR.	10'-0" AVG.	1'-0" TO 19'-0"
AL19	#4	2	STR.	19'-3"	
AL20	#4	69	STR.	23'-8"	
AL21	#4	69	STR.	29'-9"	
AL22	#4	2	STR.	4'-1"	
AL23	#9	3	STR.	103'-4"	
AL24	#9	56	STR.	85'-0" AVG.	66'-8" TO 103'-4"
AL25	#9	39	STR.	47'-4" AVG.	34'-8" TO 60'-0"
AL26	#9	3	STR.	34'-2"	
AT2	#4	19	STR.	10'-0" AVG.	1'-0" TO 19'-0"
AT7	#4	24	STR.	12'-2" AVG.	11" TO 23'-5" AVG.
AT8	#4	1	STR.	33'-1"	
AT13	#4	4	BNT.	94'-6"	
AT14	#4	5	STR.	64'-9" AVG.	62'-9" TO 66'-9"
AT15	#4	58	STR.	30'-9" AVG.	2'-3" TO 59'-3"
AT16	#4	1	BNT.	28'-5"	
AT17	#4	117	STR.	20'-9"	
AT18	#4	20	STR.	11'-0" AVG.	1'-6" TO 20'-6"
AT19	#4	56	STR.	23'-8"	
AT20	#4	1	BNT.	28'-9"	
AT21	#4	35	STR.	68'-4"	
C1	#4	121	BNT.	1'-10"	
L1	#4	4	BNT.	2'-0"	
SP1	#4	84	BNT.	4'-11"	
SR6	#5	12	BNT.	4'-10" AVG.	4'-4" TO 5'-4"
SR7	#5	238	BNT.	4'-8"	
SR8	#5	40	BNT.	3'-8" AVG.	2'-9" TO 4'-7"
SR9	#5	78	BNT.	3'-8" AVG.	2'-9" TO 4'-7"



APPROACH SLAB QUANTITIES				
ITEM	UNIT	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
APPROACH SLAB	S.Y.	526.3	485.2	1,011.5
SAW-CUT GROOVING	S.Y.	414	382	796
CONCRETE PARAPET	L.F.	143.2	132	275.2
(PL)CONCRETE PARAPET (HANDRAIL TYPE)	L.F.	143.2	132	275.2
(SP)GRAFFITI TREATMENT	S.F.	1,417	1,231	2,648
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	118	105	223

Ⓐ 9 SAW-CUT GROOVING SHALL BE REQUIRED ON THE 52'-0" CLEAR ROADWAY ONLY. SAW-CUT GROOVING IS NOT ALLOWED ON THE SIDEWALK.
Ⓐ 10 APPLY GRAFFITI TREATMENT TO ALL EXPOSED FACES OF PEDESTRIAN RAIL POSTS AND ALL EXPOSED SURFACES OF CONCRETE PARAPETS.

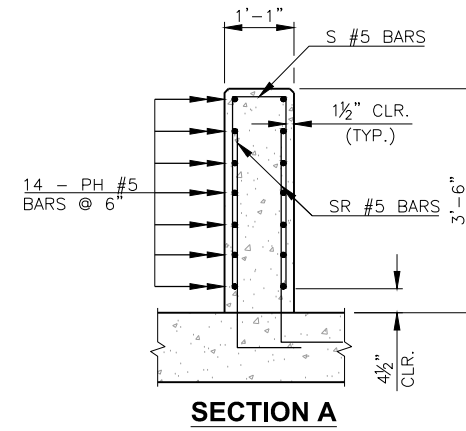


Diagram illustrating the reinforcement details for a column section. The column width is 1'-1". The reinforcement includes S #5 BARS at the top and SR #5 BARS at the bottom. The top reinforcement is placed 1 1/2" CLR. (TYP.) from the top edge. The bottom reinforcement is placed 4 1/2" CLR. from the bottom edge. PH #5 BARS are shown on the left side, and VARIES is indicated on the right side.

SECTION C

1'-1"

SR6 #5 BARS

PH #5 BARS

1½" CLR. (TYP.)


4½" CLR. VARIES

[illegible]

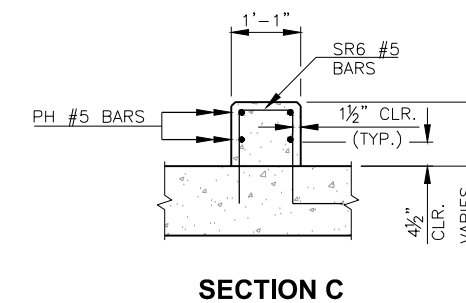
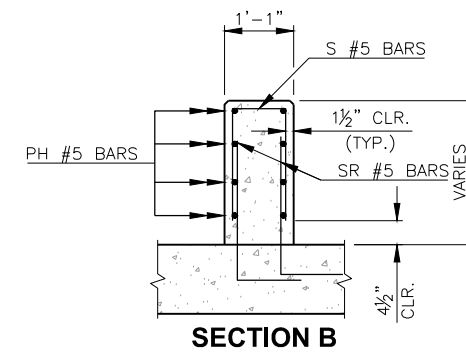
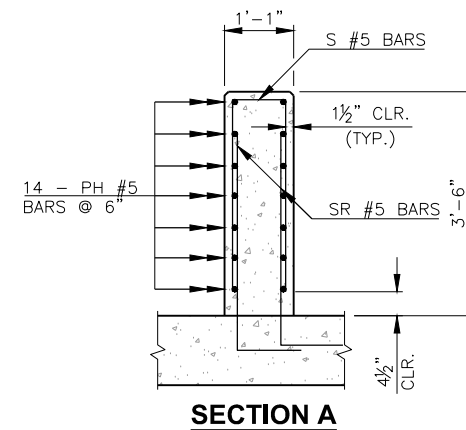
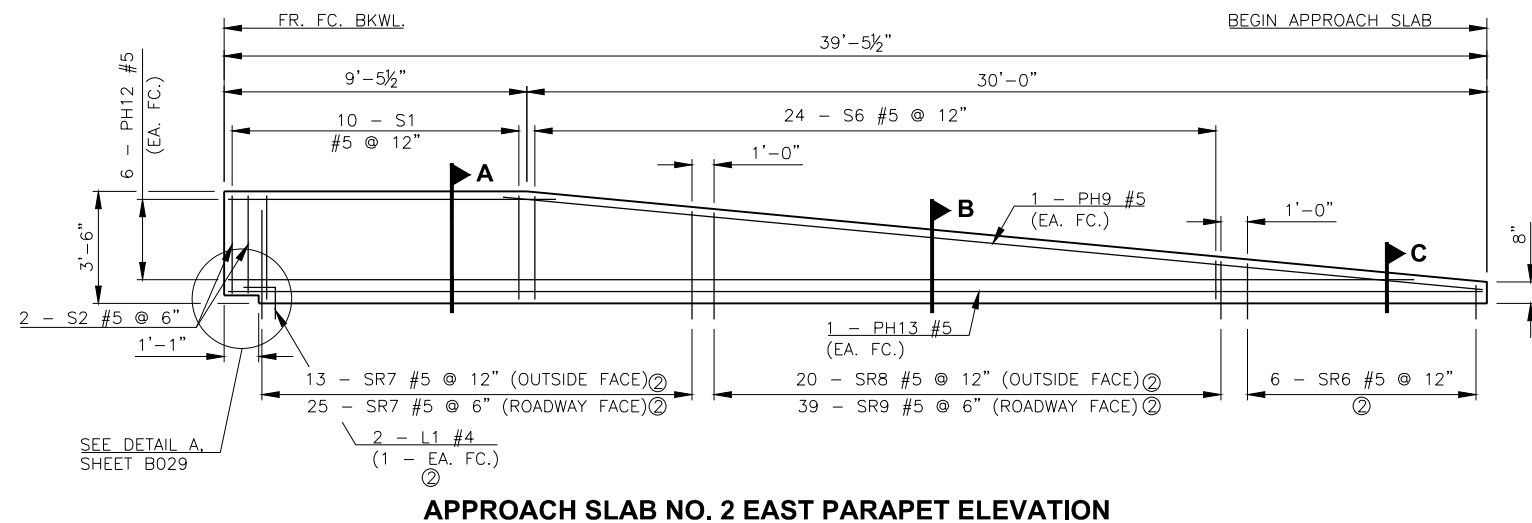
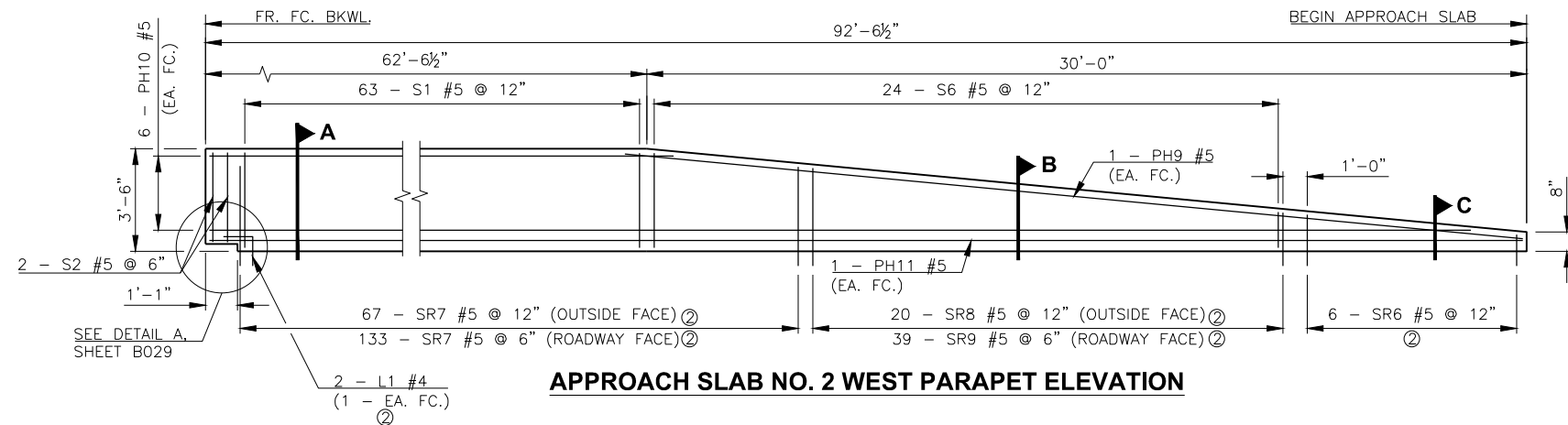
(A) SEE SECTION D ON SHEET B036 FOR ADDITIONAL DETAIL OF SAWED AND SEALED CONSTRUCTION JOINT.

① REINFORCING STEEL INCLUDED IN THE PRICE BID PER LINEAR FOOT OF
"CONCRETE PARAPET" UNLESS OTHERWISE NOTED.
③ TWO SETS OF 3 BARS
④ TWO SETS OF 2 BARS
⑤ TWO SETS OF 5 BARS
⑥ BAR LENGTH INCLUDES ONE 3'-4" LAP

PLACE AND TIE ALL SR AND L1 BARS BEFORE THE CONCRETE IS PLACED IN THE APPROACH SLABS. INCLUDE THE COST OF ALL SR AND L BARS CAST INTO THE APPROACH SLAB IN THE PRICE BID FOR "APPROACH SLAB".

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY BRIDGE 'A'		DESIGN	M.B.S.
PARAPET DETAILS ON APPROACH SLAB NO. 1		DETAIL	J.F.R.
		CHECK	M.B.S.
		 CBC	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 27004(04)		SHEET NO. B03Z	

DESCRIPTION	REVISIONS	DATE



① **APPROACH SLAB NO. 2 PARAPET BAR LIST**

SOUTHWEST PARAPET					
EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
PH9	#5	2	STR.	30'-0"	
PH10	#5	12	STR.	80'-9" AVG.	65'-10" TO 95'-8"
PH11	#5	2	STR.	95'-8"	
S1	#5	63	BNT.	7'-6"	
S2	#5	2	BNT.	6'-10"	
S6	#5	24	BNT.	5'-2" AVG.	3'-0" TO 7'-4"

④ **NORTHEAST PARAPET**

EPOXY COATED REINFORCING					
MARK	SIZE	NO.	FORM	LENGTH	LENGTH VARIATION
PH9	#5	2	STR.	30'-0"	
PH12	#5	12	STR.	22'-6" AVG.	9'-3" TO 35'-9"
PH13	#5	2	STR.	39'-2"	
S1	#5	10	BNT.	7'-6"	
S2	#5	2	BNT.	6'-10"	
S6	#5	24	BNT.	5'-2" AVG.	3'-0" TO 7'-4"

- ① REINFORCING STEEL INCLUDED IN THE PRICE BID PER LINEAR FOOT OF "CONCRETE PARAPET" UNLESS OTHERWISE NOTED.
 ③ TWO SETS OF 6 BARS
 ④ BAR LENGTH INCLUDES ONE 3'-4" LAP

② INCLUDED IN APPROACH SLAB BAR LIST, SEE SHEET B036.

⑤ **PARAPET INCIDENTAL QUANTITIES FOR BOTH APPROACH SLABS**

ITEM	UNIT	TOTAL
CLASS AA CONCRETE	C.Y.	31.9
EPOXY COATED REINFORCING STEEL	LB.	5,290

- ⑥ QUANTITIES PROVIDED FOR ESTIMATING PURPOSES ONLY. INCLUDE ALL COSTS FOR CONSTRUCTING THE PARAPET, INCLUDING CONCRETE, REINFORCING STEEL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE PRICE BID FOR "CONCRETE PARAPET".

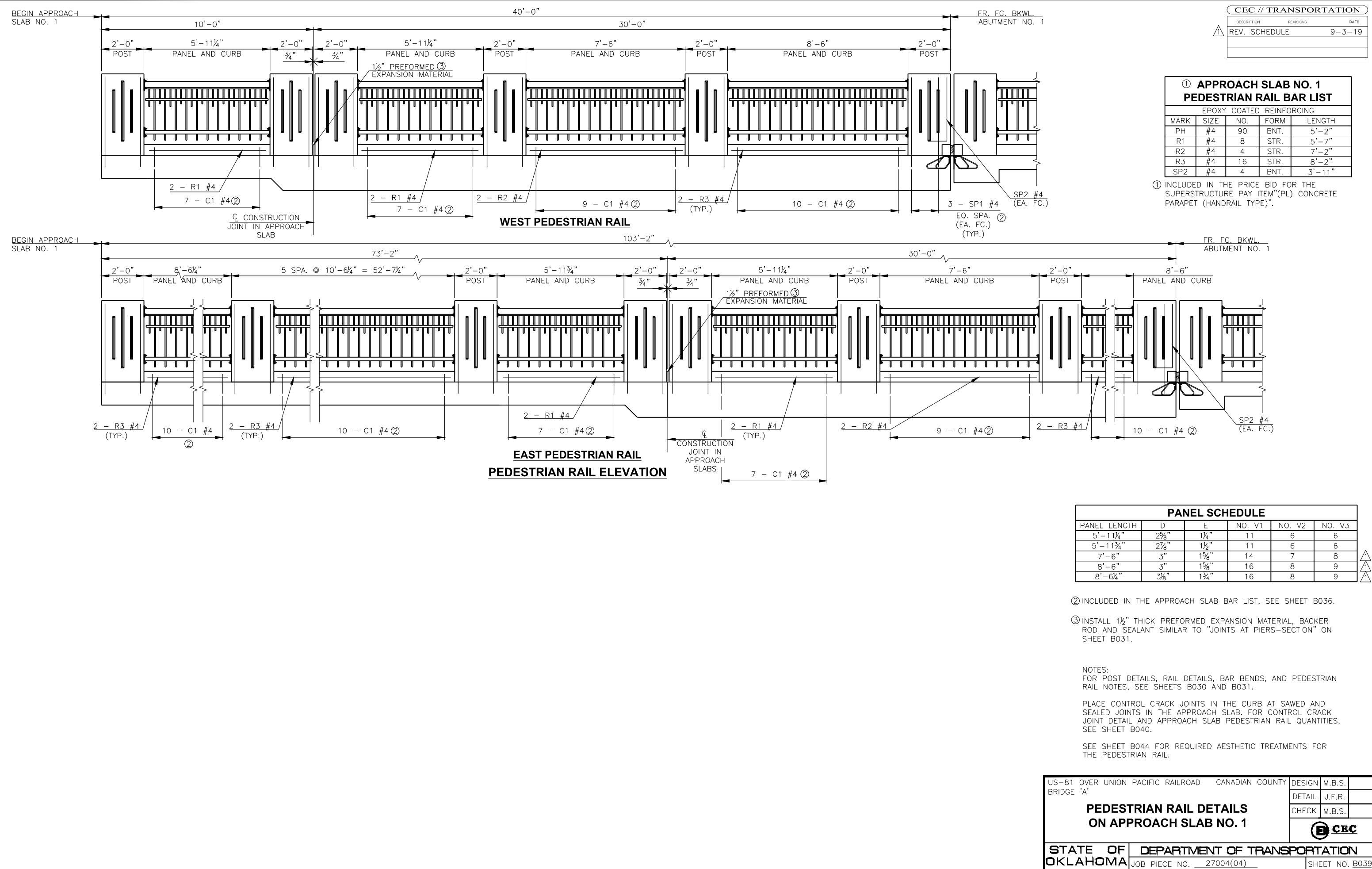
NOTES:
 FOR ADDITIONAL PARAPET DETAILS AND PARAPET NOTES, SEE SHEET B029.

FOR BAR BENDS, SEE SHEET B037.

SEE SHEET B044 FOR REQUIRED AESTHETIC TREATMENTS FOR THE CONCRETE PARAPET.

PLACE AND TIE ALL SR AND L1 BARS BEFORE THE CONCRETE IS PLACED IN THE APPROACH SLABS. INCLUDE THE COST OF ALL SR AND L BARS CAST INTO THE APPROACH SLAB IN THE PRICE BID FOR "APPROACH SLAB".

US-81 OVER UNION PACIFIC RAILROAD BRIDGE 'A'	CANADIAN COUNTY	DESIGN	M.B.S.	
		DETAIL	J.F.R.	
		CHECK	M.B.S.	
PARAPET DETAILS ON APPROACH SLAB NO. 2				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 27004(04)	SHEET NO. B038	



CEC // TRANSPORTATION		
DESCRIPTION	REVISIONS	DATE
REV. SCHEDULE		9-3-19

① APPROACH SLAB NO. 1 PEDESTRIAN RAIL BAR LIST				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
PH	#4	90	BNT.	5'-2"
R1	#4	8	STR.	5'-7"
R2	#4	4	STR.	7'-2"
R3	#4	16	STR.	8'-2"
SP2	#4	4	BNT.	3'-11"

① INCLUDED IN THE PRICE BID FOR THE SUPERSTRUCTURE PAY ITEM"(PL) CONCRETE PARAPET (HANDRAIL TYPE)".

PANEL SCHEDULE					
PANEL LENGTH	D	E	NO. V1	NO. V2	NO. V3
5'-11¼"	2⅝"	1¼"	11	6	6
5'-11¾"	2⅞"	1½"	11	6	6
7'-6"	3"	1⅝"	14	7	8
8'-6"	3"	1⅝"	16	8	9
8'-6¼"	3⅞"	1¾"	16	8	9

② INCLUDED IN THE APPROACH SLAB BAR LIST, SEE SHEET B036.

③ INSTALL 1½" THICK PREFORMED EXPANSION MATERIAL, BACKER ROD AND SEALANT SIMILAR TO "JOINTS AT PIERS-SECTION" ON SHEET B031.

NOTES:
FOR POST DETAILS, RAIL DETAILS, BAR BENDS, AND PEDESTRIAN RAIL NOTES, SEE SHEETS B030 AND B031.

PLACE CONTROL CRACK JOINTS IN THE CURB AT SAWED AND SEALED JOINTS IN THE APPROACH SLAB. FOR CONTROL CRACK JOINT DETAIL AND APPROACH SLAB PEDESTRIAN RAIL QUANTITIES, SEE SHEET B040.

SEE SHEET B044 FOR REQUIRED AESTHETIC TREATMENTS FOR THE PEDESTRIAN RAIL.

US-81 OVER UNION PACIFIC RAILROAD
BRIDGE 'A'

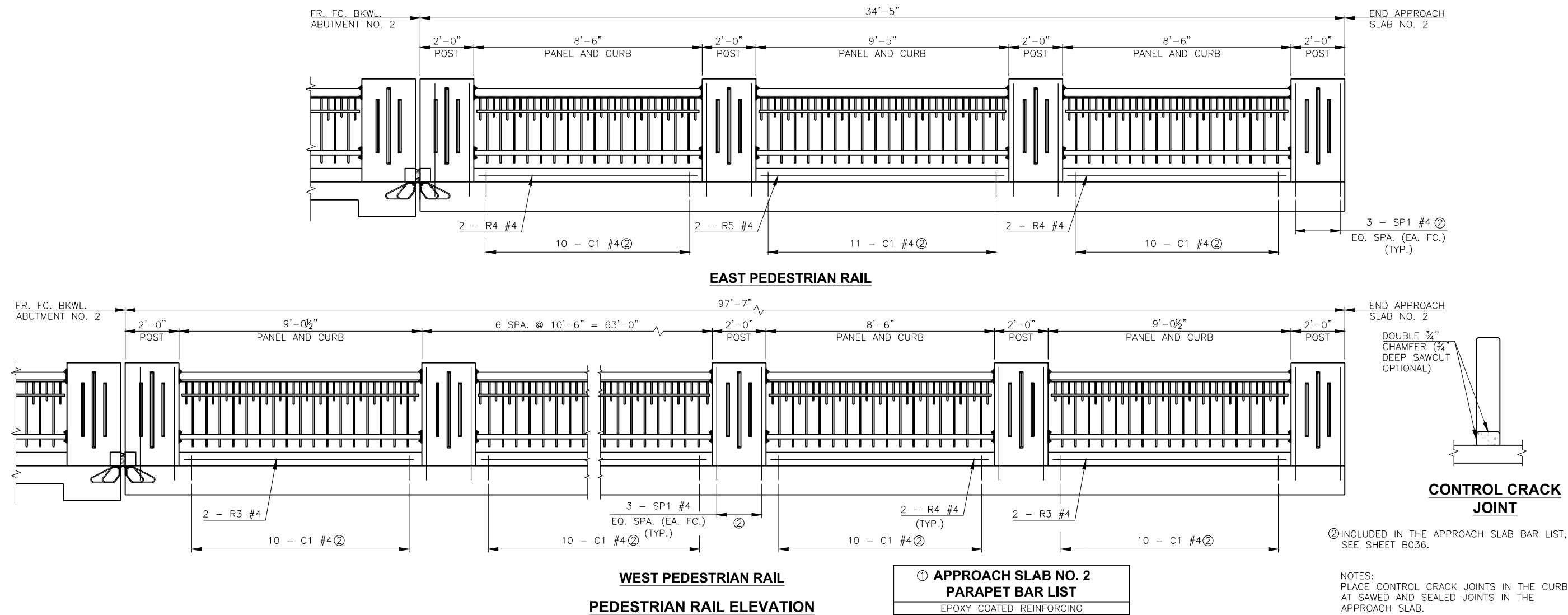
DESIGN M.B.S.
DETAIL J.F.R.
CHECK M.B.S.

PEDESTRIAN RAIL DETAILS
ON APPROACH SLAB NO. 1

STATE OF OKLAHOMA

DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 27004(04)

SHEET NO. B039



① APPROACH SLAB NO. 2 PARAPET BAR LIST				
EPOXY COATED REINFORCING				
MARK	SIZE	NO.	FORM	LENGTH
PH	#4	70	BNT.	5'-2"
R3	#4	4	STR.	8'-8"
R4	#4	18	STR.	8'-2"
R5	#4	2	STR.	9'-1"
SP2	#4	4	BNT.	3'-11"

① INCLUDED IN THE PRICE BID FOR THE SUPERSTRUCTURE PAY ITEM"(PL) CONCRETE PARAPET (HANDRAIL TYPE)".

NOTES:
PLACE CONTROL CRACK JOINTS IN THE CURB AT SAWED AND SEALED JOINTS IN THE APPROACH SLAB.

FOR POST DETAILS, RAIL DETAILS, BAR BENDS, AND PEDESTRIAN RAIL NOTES, SEE SHEETS B030 AND B031.

SEE SHEET B044 FOR REQUIRED AESTHETIC TREATMENTS FOR THE CONCRETE PARAPET.

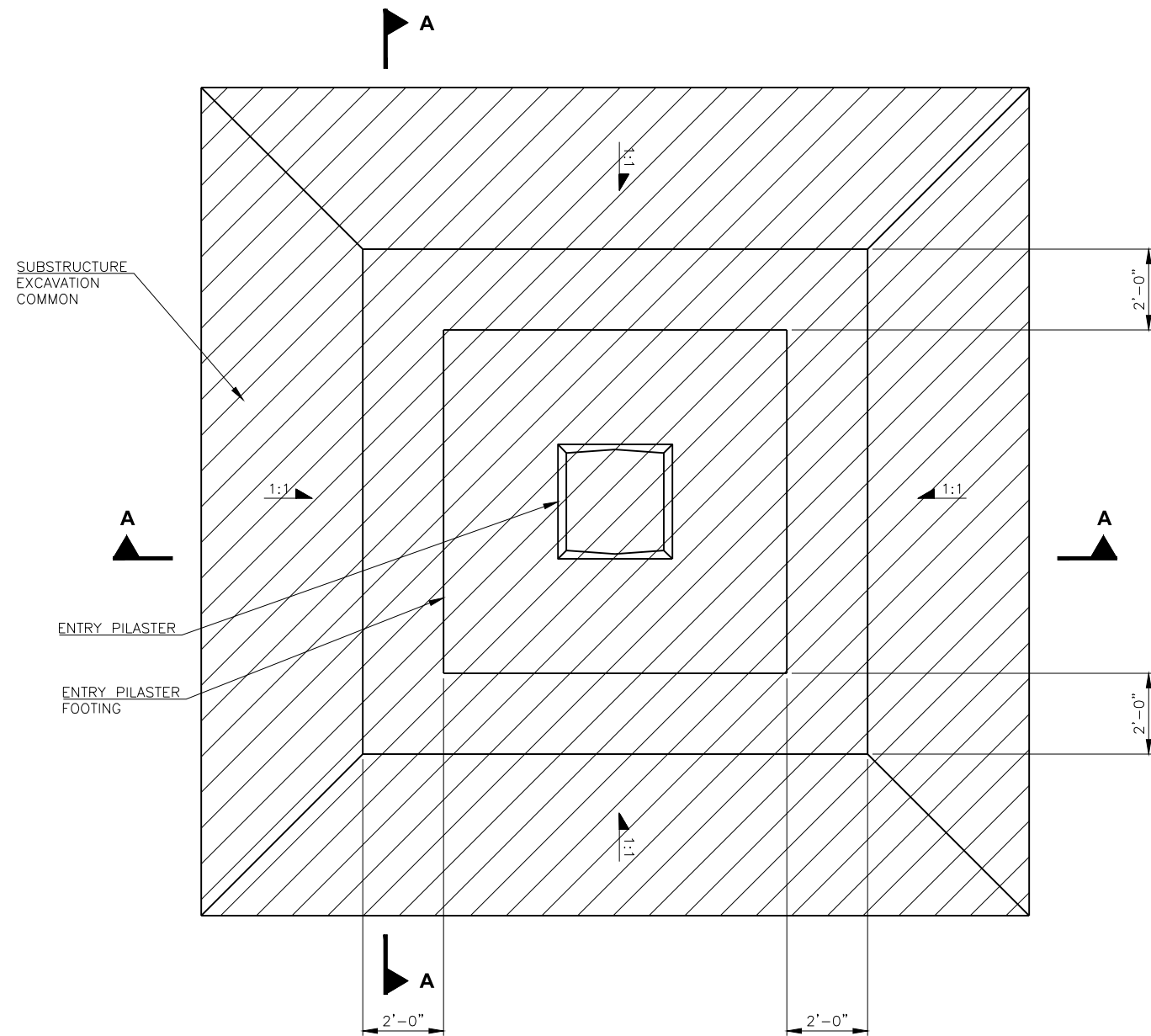
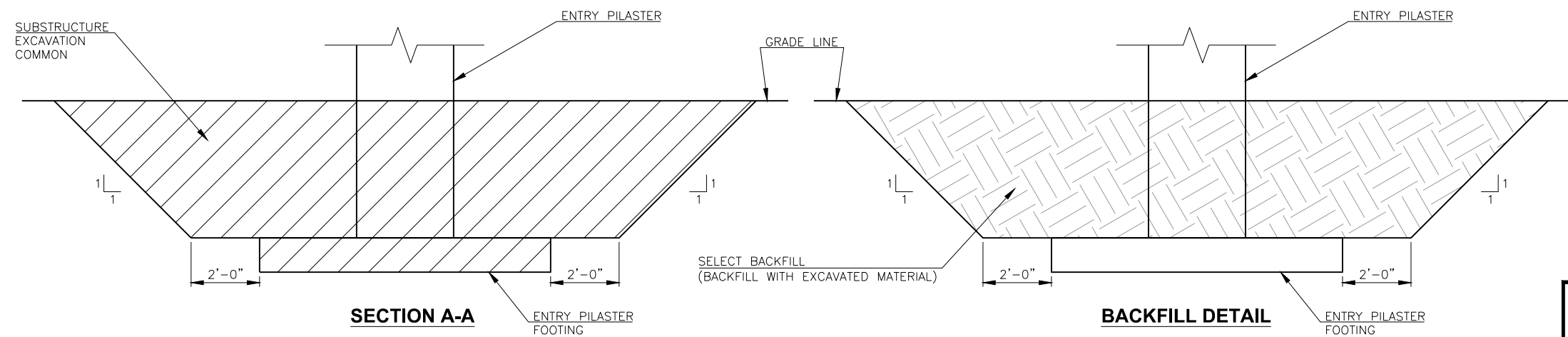
PANEL SCHEDULE					
PANEL LENGTH	D	E	NO. V1	NO. V2	NO. V3
8'-6"	3"	1 5/8"	16	8	9
9'-0 1/2"	3 3/4"	1 7/8"	17	9	9
9'-5"	2 1/2"	1 1/8"	18	9	10


① PEDESTRIAN RAIL INCIDENTAL QUANTITIES FOR BOTH APPROACH SLABS		
ITEM	UNIT	TOTAL
STRUCTURAL STEEL	LB.	7,710
CLASS AA CONCRETE	C.Y.	11.4
EPOXY COATED REINFORCING STEEL	LB.	850

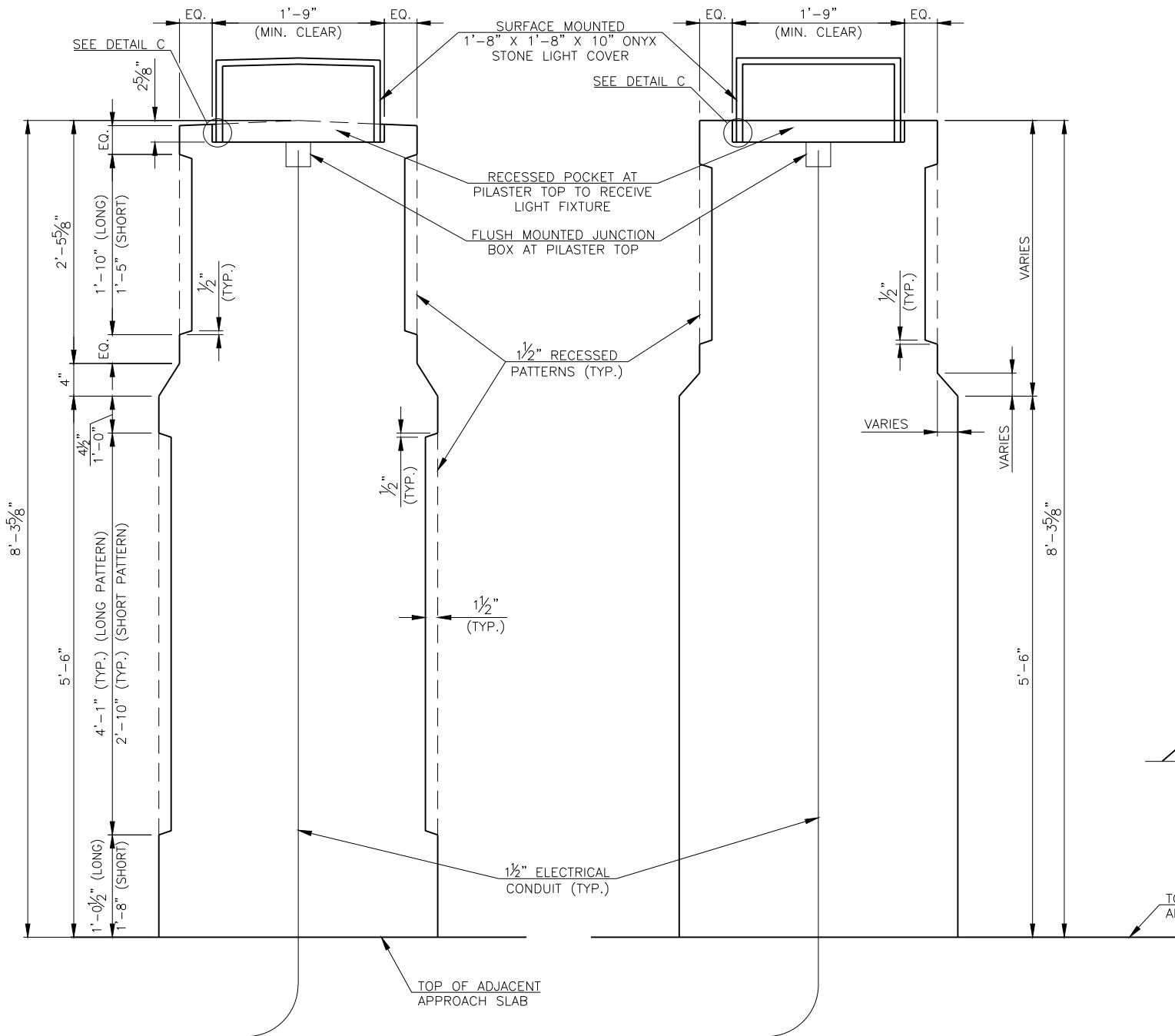
① QUANTITIES PROVIDED FOR ESTIMATING PURPOSES ONLY. INCLUDE ALL COSTS FOR CONSTRUCTING THE PEDESTRIAN RAIL, INCLUDING CONCRETE, REINFORCING STEEL, LABOR, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN THE PRICE BID FOR "(PL)CONCRETE PARAPET (HANDRAIL TYPE)".

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
PEDESTRIAN RAIL DETAILS ON APPROACH SLAB NO. 2		CHECK	M.B.S.	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 27004(04)		SHEET NO. B040		

DESCRIPTION	REVISIONS	DATE

**SUBSTRUCTURE EXCAVATION PLAN****SECTION A-A****BACKFILL DETAIL**

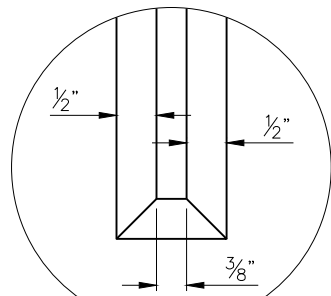
US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY			DESIGN	M.B.S.
BRIDGE 'A'			DETAIL	J.F.R.
ENTRY PILASTER EXCAVATION AND BACKFILL			CHECK	M.B.S.
				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
		JOB PIECE NO. 27004(04)		SHEET NO. B04



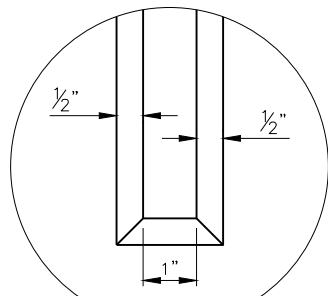
FRONT ELEVATION
(SECTION CUT THRU C)

SIDE ELEVATION
(SECTION CUT THRU C)

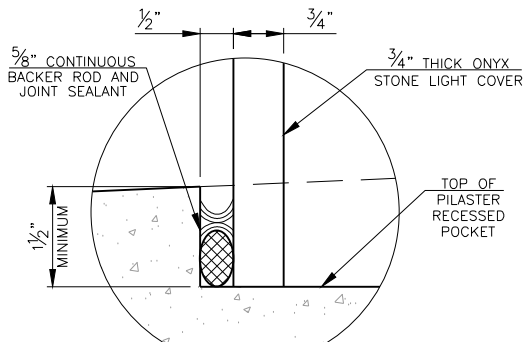
ENTRY PILASTER



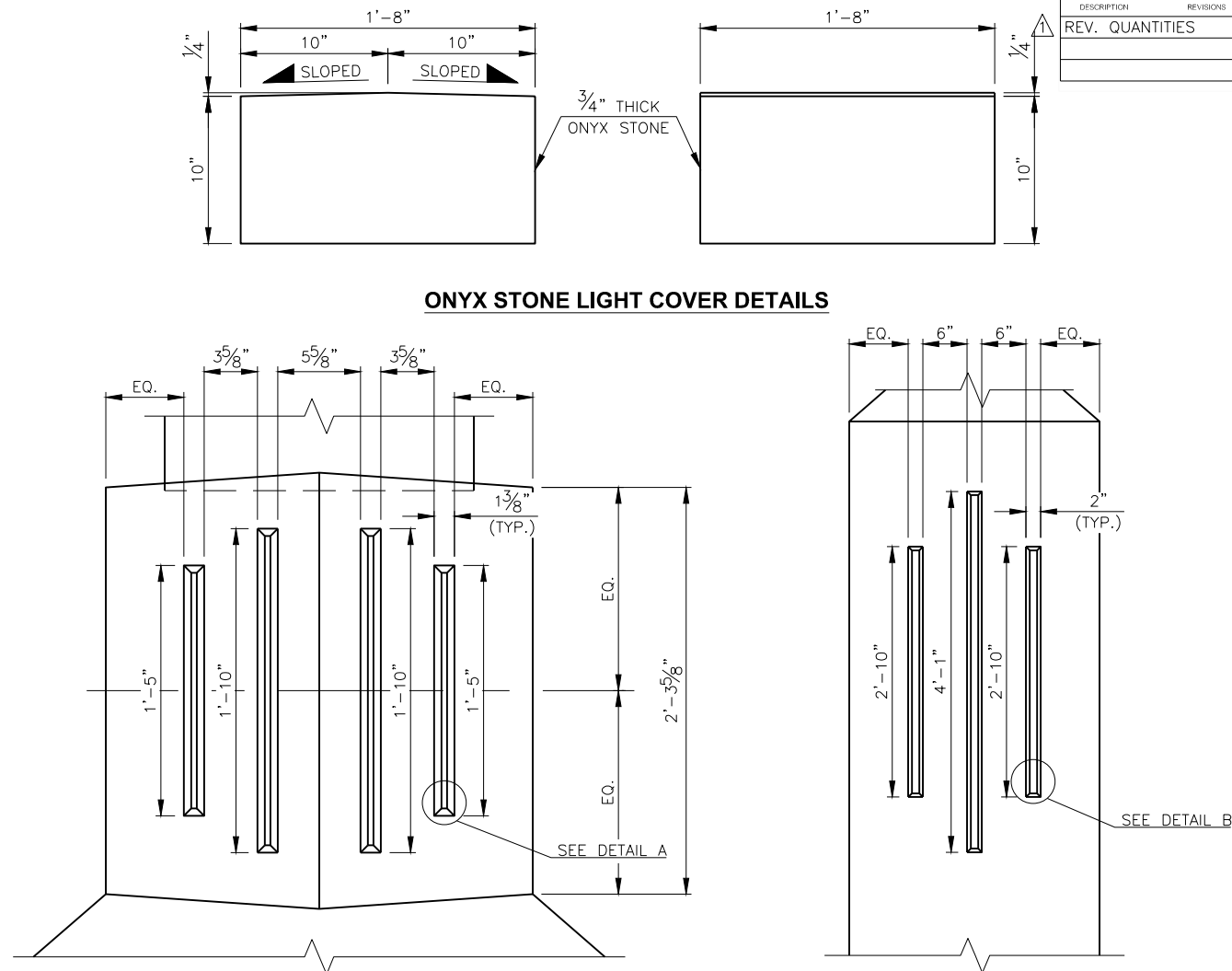
DETAIL A



DETAIL B



DETAIL C



ONYX STONE LIGHT COVER DETAILS

UPPER ENTRY PILASTER PATTERN

(FLUTED RELIEF PATTERN)
(TYPICAL PATTERN ON EAST AND WEST FACES OF ALL PILASTERS, NORTH FACE OF SOUTH PILASTERS, AND SOUTH FACE OF NORTH PILASTERS)

LOWER ENTRY PILASTER PATTERN

(FLUTED RELIEF PATTERN)
(TYPICAL PATTERN ON EAST AND WEST FACES OF ALL PILASTERS)

PATTERN DETAILS

ENTRY PILASTER PAY QUANTITIES		
ITEM	UNIT	TOTAL
(SP)GRAFFITI TREATMENT	S.F.	378
(PL)INSTALLATION OF BRIDGE ITEMS	EA.	4



APPLY GRAFFITI TREATMENT TO ALL EXPOSED CONCRETE SURFACES OF THE ENTRY PILASTERS.

NOTES:
PATTERNS SHALL NOT ENCROACH INTO MINIMUM AND/OR CLEAR DIMENSIONS DETERMINED BY STRUCTURAL DRAWING.

SEE SHEETS AB03 AND AB04 FOR NOTES PERTAINING TO AESTHETIC TREATMENTS FOR THE PILASTERS.

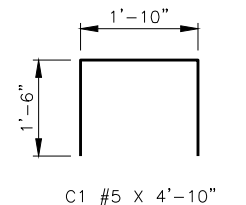
SEE SHEET B044 FOR ADDITIONAL DETAILS OF AESTHETIC TREATMENTS FOR PILASTERS INCLUDING "EL RENO" AND "ROUTE 66" FORM LINERS FOR THE NORTH FACE OF NORTH PILASTERS AND SOUTH FACE OF SOUTH PILASTERS.

DIMENSIONS SPECIFIED ARE TRUE DIMENSIONS. CONTRACTOR SHALL NOT MAKE ANY ADJUSTMENTS TO PATTERN, UNLESS OTHERWISE NOTED.

FLUTED RELIEF PATTERN SHALL BE FORMED WITH DIMENSIONAL LUMBER.

US-81 OVER UNION PACIFIC RAILROAD CANADIAN COUNTY		DESIGN	M.B.S.	
BRIDGE 'A'		DETAIL	J.F.R.	
		CHECK	M.B.S.	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
		JOB PIECE NO. 27004(04)		
		SHEET NO. B042		

ENTRY PILASTER DETAILS
(SHEET 1 OF 2)



(TYPICAL FLUTED RELIEF PATTERN FOR NORTH FACE OF
SOUTH PILASTERS AND SOUTH FACE OF NORTH PILASTERS)



(TYPICAL FLUTED RELIEF PATTERN FOR
EAST AND WEST FACES OF ALL PILASTERS)

ONE SHOWN, FOUR REQUIRED
EPOXY COATED REINFORCING

MARK	SIZE	NO.	FORM	LENGTH
BH1	#5	6	BNT.	3'-2"
BH2	#5	18	BNT.	3'-7"
BH3	#5	24	BNT.	9'-4"
BH4	#8	24	BNT.	9'-4"
BV1	#7	4	BNT.	13'-1"
BV2	#7	12	BNT.	13'-1"
BV3	#7	12	STR.	4'-6"
C1	#5	8	BNT.	4'-10"
S1	#5	3	BNT.	7'-11"
S2	#5	9	BNT.	9'-7"

NOTES:
FOR ENTRY PILASTER
NOTES, SEE SHEET B042.

ONE SHOWN, FOUR REQUIRED

ONE-STOP QUOTE REQUEST			
	ITEM	UNIT	TOTAL
⚠	SUBSTRUCTURE EXCAVATION COMMON	C.Y.	19
⚠	SELECT BACKFILL	C.Y.	16
	CLASS AA CONCRETE	C.Y.	6
⚠	EPOXY COATED REINFORCING STEEL	LB.	1,620

② INCLUDED IN THE PRICE BID FOR "(PL)INSTALLATION OF BRIDGE ITEMS"

US-81 OVER UNION PACIFIC RAILROAD	CANADIAN COUNTY	D
BRIDGE 'A'		

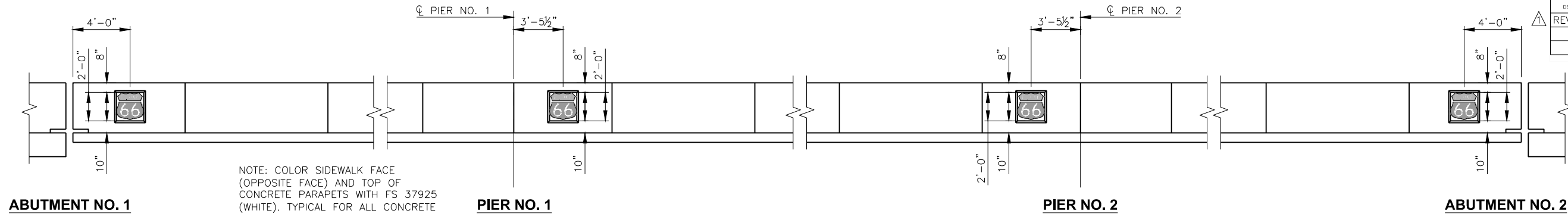
ENTRY PILASTER DETAILS (SHEET 2 OF 2)



STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. 27004(04)	SHEET NO. B04.

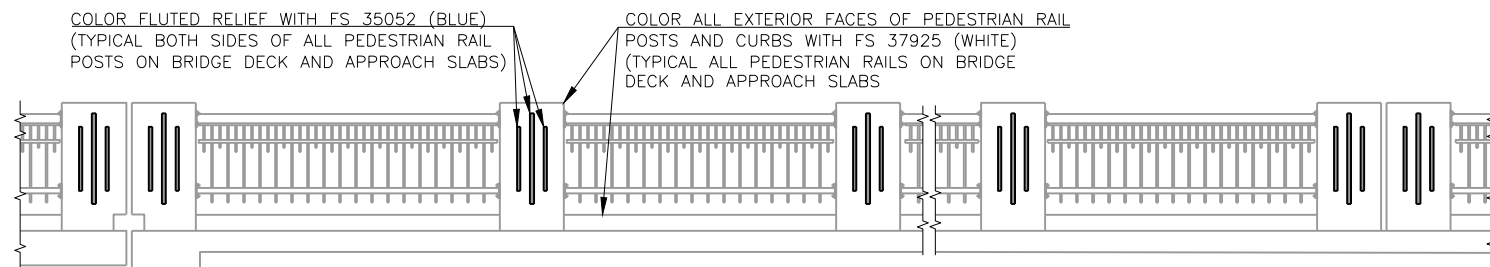
SHEET NO. B043

DESCRIPTION	REVISIONS	DATE
REV. NOTE		9-3-19



NOTE: COLOR SIDEWALK FACE (OPPOSITE FACE) AND TOP OF CONCRETE PARAPETS WITH FS 37925 (WHITE). TYPICAL FOR ALL CONCRETE PARAPETS ON THE BRIDGE DECK AND APPROACH SLABS.

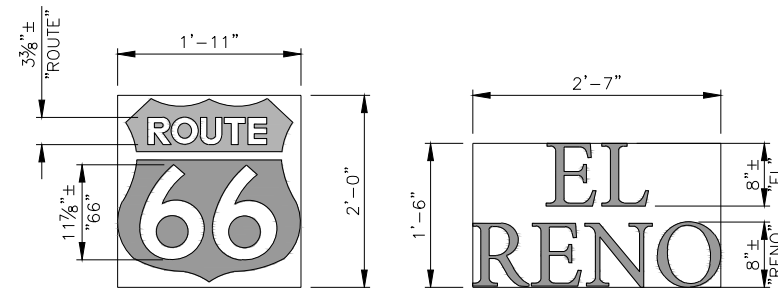
PARAPET ELEVATION
(ROADWAY FACE, TYPICAL BOTH SIDES OF BRIDGE)



COLOR FLUTED RELIEF WITH FS 35052 (BLUE)
(TYPICAL BOTH SIDES OF ALL PEDESTRIAN RAIL POSTS ON BRIDGE DECK AND APPROACH SLABS)

COLOR ALL EXTERIOR FACES OF PEDESTRIAN RAIL POSTS AND CURBS WITH FS 37925 (WHITE)
(TYPICAL ALL PEDESTRIAN RAILS ON BRIDGE DECK AND APPROACH SLABS)

PEDESTRIAN RAIL ELEVATION
(TYPICAL BOTH SIDES OF PEDESTRIAN RAIL POSTS)



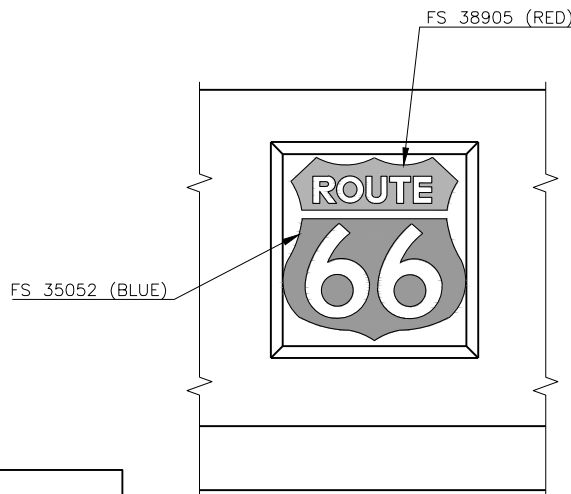
DETAILS OF TRAFFIC RAIL AND PILASTER FORM LINERS

NOTE: COLOR ALL EXPOSED EXTERIOR FACES OF THE PILASTERS WITH FS 37925 (WHITE), EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE FOR THE "ROUTE 66" AND "EL RENO" FORM LINERS. COLOR THE FLUTED RELIEF AREAS OF THE PILASTER WITH FS 35052 (BLUE). SEE SHEETS B042 AND B043 FOR FLUTED RELIEF AREAS.



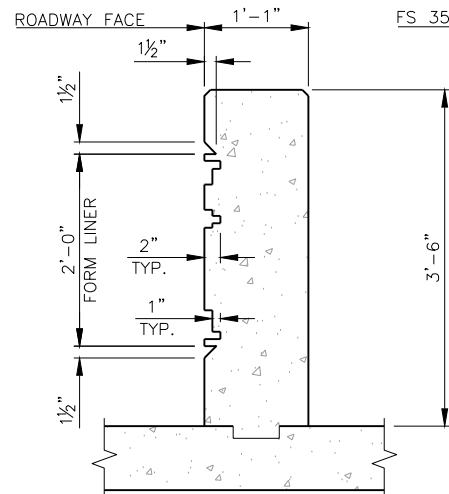
END PILASTER DETAIL

(SOUTH FACE OF SOUTHERN PILASTERS)
(NORTH FACE OF NORTHERN PILASTERS)

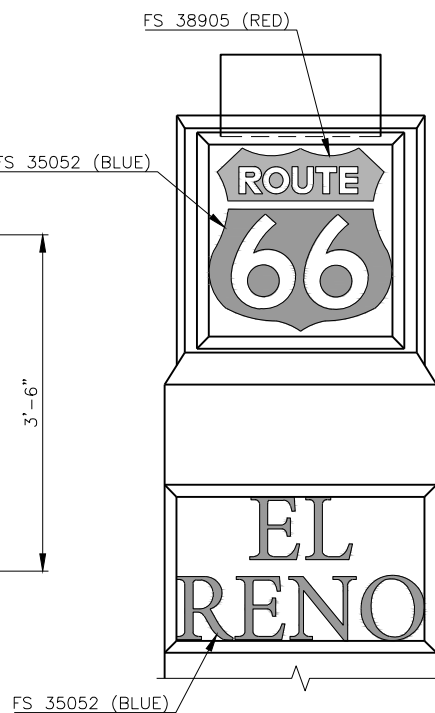


TYPICAL PARAPET ELEVATION

(ROADWAY FACE)

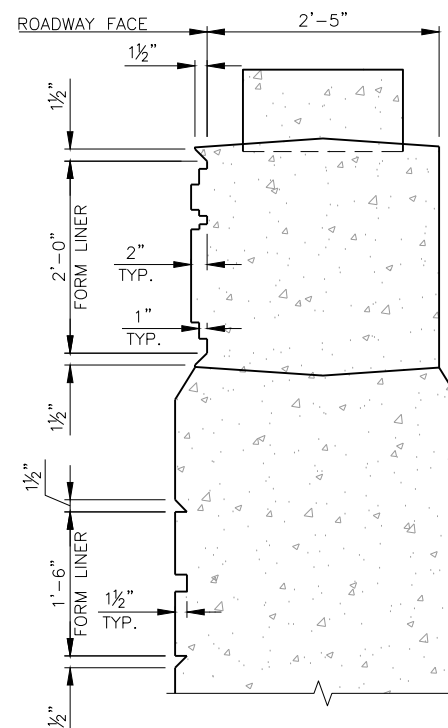


SECTION THRU PARAPET



TYPICAL PILASTER ELEVATION

(SOUTH FACE OF SOUTHERN PILASTERS)
(NORTH FACE OF NORTHERN PILASTERS)



SECTION THRU END PILASTER

NOTES:
DO NOT SCALE OFF FROM DRAWING.

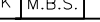
ALL PATTERNS SHALL NOT ENCROACH INTO MINIMUM AND/OR CLEAR DIMENSIONS DETERMINED BY STRUCTURAL DRAWING.

FOR FURTHER INFORMATION, SEE PROJECT SPECIFICATIONS AND SPECIAL PROVISIONS FOR AESTHETIC TREATMENTS.

PATTERN FORMED BY CUSTOM FORM LINER SHALL HAVE MAXIMUM RELIEF OF 2".

ALL FORM LINER PATTERN SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS WITH PATTERN LAYOUT FOR APPROVAL BY THE DEPARTMENT.

US-81 OVER UNION PACIFIC RAILROAD		CANADIAN COUNTY		DESIGN	M.B.S.
BRIDGE 'A'				DETAIL	J.F.R.
BRIDGE AESTHETICS DETAILS				CHECK	M.B.S.
					
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		JOB PIECE NO. 27004(04)			SHEET NO. B044

U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT CONDITIONS		<div>CEC // TRANSPORTATION</div> <table><tr><td>DESCRIPTION</td><td>REVISIONS</td><td>DATE</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table>	DESCRIPTION	REVISIONS	DATE									
DESCRIPTION	REVISIONS	DATE												
404 PERMIT INFORMATION	PERMIT GENERAL CONDITIONS	PERMIT GENERAL CONDITIONS												
<div><div>NATIONWIDE PERMIT NO. _____</div><div>TO BE PROVIDED AT A LATER DATE</div><div>SECTION 404 OF THE CLEAN WATER ACT REQUIRES PRIOR AUTHORIZATION FROM SECRETARY OF THE ARMY (CORPS) FOR THE DISCHARGE OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES.</div><div><div><input type="checkbox"/> NO PRE-CONSTRUCTION NOTIFICATION REQUIRED: PROJECT DOES NOT REQUIRE NOTIFICATION TO THE US ARMY CORPS OF ENGINEERS (USACE) IN ORDER TO COMMENCE.</div><div><input type="checkbox"/> PRE-CONSTRUCTION NOTIFICATION REQUIRED: RESIDENT ENGINEER MUST NOTIFY THE USACE WITHIN 30 DAYS OF THE START OF CONSTRUCTION AND 30 DAYS PRIOR TO COMPLETION OF CONSTRUCTION, FORMS LOCATED IN THE CONTRACT.</div><div><input type="checkbox"/> INDIVIDUAL PERMIT: WILL BE MONITORED CLOSELY BY THE USACE.</div><div><input type="checkbox"/> GENERAL PERMIT: PROJECT WITHIN A DESIGNATED CRITICAL RESOURCE WATER AND WILL REQUIRE PRE-CONSTRUCTION NOTIFICATION SEE ABOVE FOR EXPLANATION OF PRE-CONSTRUCTION NOTIFICATION.</div><div><input type="checkbox"/> NO PERMIT REQUIRED</div></div><div>SWT TRACKING NO. _____</div></div>	<div>THE CONTRACTOR SHALL BE RESPONSIBLE BUT NOT LIMITED TO THE FOLLOWING HIGHLIGHTS OF THE 404 PERMIT (SEE CONTRACT FOR COMPLETE LIST):</div> <div>TEMPORARY FILLS: APPROPRIATE MEASURES MUST BE TAKEN TO MAINTAIN NORMAL DOWNSTREAM FLOWS AND MINIMIZE FLOODING TO THE MAXIMUM EXTENT PRACTICABLE, WHEN TEMPORARY STRUCTURES (WORK ROADS, WORKPADS, ETC..) WORK, AND DISCHARGES, INCLUDING COFFERDAMS, ARE NECESSARY FOR CONSTRUCTION ACTIVITIES, ACCESS FILLS, OR DEWATERING OF CONSTRUCTION SITES. TEMPORARY FILLS MUST CONSIST OF MATERIALS, AND BE PLACED IN A MANNER, THAT WILL NOT BE ERODED BY EXPECTED HIGH FLOWS.TEMPORARY FILLS MUST BE REMOVED IN THEIR ENTIRETY AND THE AFFECTED AREAS RETURNED TO PRE-CONSTRUCTION ELEVATIONS. THE AREAS AFFECTED BY TEMPORARY FILLS MUST BE RE VEGETATED, AS APPROPRIATE.</div> <div>NAVIGATION: NO ACTIVITY MAY CAUSE MORE THAN A MINIMAL ADVERSE EFFECT ON NAVIGATION WITHIN A NAVIGABLE WATER OF THE U.S. IF THIS PROJECT IS LOCATED WITHIN A NAVIGABLE WATER OF THE U.S., IT WILL BE IDENTIFIED IN THE SPECIAL CONDITIONS.</div> <div>AQUATIC LIFE MOVEMENTS & ADVERSE EFFECTS FROM IMPOUNDMENTS: NO ACTIVITY MAY LARGELY DISRUPT THE NECESSARY LIFE CYCLE MOVEMENTS OF THOSE SPECIES INDIGENOUS TO THE BODY OF WATER, INCLUDING THOSE SPECIES THAT NORMALLY MIGRATE THROUGH THE AREA. CULVERTS WILL BE DESIGNED TO PROVIDE SUFFICIENT PASSAGE FOR AQUATIC LIFE AND INSTALLED TO MAINTAIN LOW FLOW. RATE OF FLOW CANNOT BE MADE HIGHER THAN WHAT WAS PRIOR TO THE START OF CONSTRUCTION. EROSION CONTROL MEASURES SHOULD BE UTILIZED AROUND THE PERIMETER OF NEW STRUCTURES TO AVOID SILT BUILD UP. CAUTION SHOULD BE TAKEN TO MINIMIZE HARM IF CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN A STREAM OR RIVER CHANNEL AND CREATE A CONFINED BODY OF WATER, CAUSE ADVERSE EFFECTS TO THE AQUATIC SYSTEM IN ANY WAY, AND/OR RESTRICTING ITS FLOW.</div> <div>MANAGEMENT OF WATER FLOWS: CONSTRUCTION ACTIVITIES MAY NOT IMPEDE THE PASSAGE OF NORMAL OR HIGH FLOWS. TO THE GREATEST EXTENT POSSIBLE, THE PRE- CONSTRUCTION COURSE, CONDITIONS, CAPACITY AND LOCATION OF OPEN WATERS MUST BE MAINTAINED. THIS INCLUDES STREAM CHANNELIZATION AND STORM WATER MANAGEMENT.</div> <div>SUITABLE MATERIAL: NO ACTIVITY MAY USE UNSUITABLE MATERIAL (E.G., TRASH, DEBRIS, CAR BODIES, ASPHALT, ETC.). MATERIALS USED FOR CONSTRUCTION OR DISCHARGED MUST BE FREE FROM TOXIC POLLUTANTS IN TOXIC AMOUNTS (SEE SECTION 307 OF CLEAN WATER ACT).</div> <div>PROPER MAINTENANCE ANY AUTHORIZED STRUCTURE OR FILL SHALL BE PROPERLY MAINTAINED, INCLUDING MAINTENANCE TO ENSURE PUBLIC SAFETY AND COMPLIANCE WITH APPLICABLE NATION WIDE PERMIT GENERAL CONDITIONS, AS WELL AS ANY ACTIVITY- SPECIFIC CONDITIONS ADDED BY THE DISTRICT ENGINEER TO AN NATIONWIDE PERMIT AUTHORIZATION</div> <div>HAZARDOUS MATERIALS: HAZARDOUS MATERIALS, CHEMICALS, FUELS, LUBRICATING OILS AND OTHER SUCH SUBSTANCES SHOULD BE STORED AWAY FROM ANY STREAM OR RIVER CHANNEL (SEE SECTION 307 OF CLEAN WATER ACT)</div> <div>EQUIPMENT: HEAVY EQUIPMENT WORKING IN WETLANDS OR MUDFLATS MUST BE PLACED ON MATS, OR OTHER MEASURES MUST BE TAKEN TO MINIMIZE SOIL DISTURBANCE; FOR EXAMPLE IF WETLANDS ARE PRESENT WITHIN THE CONSTRUCTION, THE FOOTPRINT WILL BE SHOWN ON THE PLANS. MEASURES SHOULD BE TAKEN TO PREVENT DISCHARGE INTO ANY WATERS OF THE STATE (e.g. CONCRETE WASHOUT).</div> <div>SOIL EROSION AND SEDIMENT CONTROLS: APPROPRIATE SOIL EROSION AND SEDIMENT CONTROLS MUST BE USED AND MAINTAINED IN EFFECTIVE OPERATING CONDITION DURING CONSTRUCTION, AND ALL EXPOSED SOILS AND OTHER FILLS, AS WELL AS ANY WORK WITHIN STREAM OR RIVER CHANNELS OR BANKS, MUST BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE.</div> <div>404 COMPLIANCE: IN ORDER TO REMAIN COMPLIANT WITH THE 404 PERMIT, THE PROJECT MUST COMPLY WITH ALL FEDERAL ENVIRONMENTAL PROTECTION LAWS ASSOCIATED AND, THE ENVIRONMENTAL COMMITMENTS AS SHOWN ON THE PLANS. THIS INCLUDES BUT IS NOT LIMITED TO COMPLIANCE WITH ALL ENVIRONMENTAL NOTES IN THE PLANS, INCLUDING CULTURAL RESOURCES, HAZARDOUS WASTE, BIOLOGICAL FOR PROTECTED SPECIES, AND DEQ STORM WATER REGULATIONS AS THEY PERTAIN TO THE SWMP SHEET WITHIN THE PLANS. ALL OF THE 404 PERMIT GENERAL AND SPECIFIC CONDITIONS MUST BE ADHERED TO. A COPY OF THESE CONDITIONS CAN BE FOUND IN THE CONTRACT WITH THE 404 PERMIT.</div> <div>SHEET NUMBERS: _____</div>	<div><div>FUELING: ALL FUELING AND SERVICING OF VEHICLES AND EQUIPMENT SHALL BE DONE ABOVE THE ORDINARY HIGH WATER MARK (OHWM).</div><div>MATERIAL STORAGE: STORE MATERIAL AND FUEL OUTSIDE OF THE ORDINARY HIGH WATER MARK OR ANY AREA LIKELY TO FLOOD.</div><div>DEBRIS STORAGE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY MATERIALS, DEBRIS, OR REFUSE WHICH HAS FALLEN INTO ANY STREAM OR RIVER CHANNELS RESULTING FROM THE EXECUTION OF THE PROJECT AS SOON AS POSSIBLE</div><div>SEE NATIONWIDE PERMIT 14 IN THE CONTRACT</div></div> <div>401 CERTIFICATION CONDITIONS</div> <div>THE CONTRACTOR SHALL BE RESPONSIBLE BUT NOT LIMITED TO THE FOLLOWING HIGHLIGHTS OF THE 401 CERTIFICATION (SEE CONTRACT FOR COMPLETE LIST):</div> <div><div><input type="checkbox"/> ALL SPILLS OF FUEL OR POLLUTANTS IN EXCESS OF FIVE GALLONS SHALL BE REPORTEDTO ODEQ WITHIN 24 HRS AND REPORTED TO POLLUTION PREVENTION HOTLINE (1-800-522-0206)</div><div><input type="checkbox"/> ALL FUELING AND SERVICING OF VEHICLES AND EQUIPMENT SHALL BE DONE OUTSIDE THE ORDINARY HIGH WATER MARK</div><div><input type="checkbox"/> THE PERMITTEE SHALL PROVIDE ACCESS TO THE PROPERTY TO ODEQ FOR INSPECTIONS.</div><div><input type="checkbox"/> ANY STOCKPILE SHALL BE ABOVE ORDINARY HIGH WATER MARK AND REMOVED FROM LIKELY FLOOD ZONE</div><div><input type="checkbox"/> BEST MANAGEMENT PRACTICES SHOULD BE USED TO CONTROL SOIL EROSION AND MAINTAIN COMPLIANCE WITH WATER QUALITY STANDARDS.</div><div><input type="checkbox"/> FOR ANY PROJECT THAT INVOLVES BANK STABILIZATION, THE PERMITTEE SHALL CONSIDER INSTALLING BIOENGINEERING PRACTICES IN PLACE OF STRUCTURAL PRACTICES (RIPRAP) TO MINIMIZE IMPACTS TO AQUATIC RESOURCES</div></div> <div><div>US-81CANADIAN COUNTY</div><div>SECTION 404 COMPLIANCE</div><div>JOB PIECE NO. 27004(04)SHEET NO. E001</div></div>												

STORM WATER MANAGEMENT PLAN

CEC // TRANSPORTATION

DESCRIPTION REVISIONS DATE

SITE DESCRIPTION

PROJECT LIMITS: US-81/I-40B N EL RENO OK FROM APPROXIMATELY 2400FT.
SOUTH OF W. ELM ST. NORTH TO W. ELM ST.

PROJECT DESCRIPTION: BRIDGE REPLACEMENT, GRADE, DRAIN, AND SURFACING.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: PRIOR TO INITIATING SOIL DISTURBING ACTIVITIES THE CONTRACTOR WILL INSTALL ALL PERIMETER TEMPORARY SEDIMENT CONTROLS SPECIFIED. STRIP, STOCKPILE, AND STABILIZE TOPSOIL. CLEAR AND GRUB TO THE RIGHT OF WAY LINES.
INSTALL, MAINTAIN, AND/OR MOVE TEMPORARY SEDIMENT ITEMS WITH CONSTRUCTION OPERATIONS AS PRACTICAL. REPLACE SALVAGED TOPSOIL AND DEVICES WHEN AN ACCEPTABLE VEGETATIVE COVER(AT LEAST 70%) HAS BEEN ATTAINED. AS SITE CONDITIONS WARRANT, THE CONTACTOR MAY CHOOSE TO MODIFY THE TYPE OR ARRANGEMENT OF SPECIFIED PRACTICES TO IMPROVE THIER EFFECTIVENESS AS APPROVED BY THE ENGINEER. THE CONTRACTOR WILL MAINTAIN A LOG OF THE DATES OF MAJOR SOIL DISTURBANCE ACTIVITIES, AND ALSO THE DATE OF INSTALLATION OF EROSION CONTROL MEASURES.

SOIL TYPE: SEE GEOTECHNICAL REPORT.

TOTAL AREA OF THE CONSTRUCTION SITE: 14.7 AC.

ESTIMATED AREA TO BE DISTURBED: 14.7 AC.

OFFSITE AREA TO BE DISTURBED: (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 3.0 AC.

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 3.7 AC.

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.53 AC.

LATITUDE & LONGITUDE OF CENTER OF PROJECT: N 35°31'10.03" W 97°57'04.13"

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: UNNAMED TRIBUTARY OF THE NORTH CANADIAN RIVER

SENSITIVE WATERS OR WATERSHEDS: YES ☐ NO ☒

303(d) IMPAIRED WATERS: YES ☐ NO ☒

IF YES, LIST IMPAIRMENT: _____

LOCATED IN A TMDL: YES ☐ NO ☒

LAKE THUNDERBIRD TMDL: YES ☐ NO ☒

MS4 ENTITY YES ☐ NO ☒

IF YES, LOCATION: _____

NOTE:
THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- ☐ TEMPORARY SEEDING
☒ PERMANENT SODDING, SPRIGGING OR SEEDING
☒ VEGETATIVE MULCHING
☐ SOIL RETENTION BLANKET
☒ PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- ☐ STABILIZED CONSTRUCTION EXIT
☒ TEMPORARY SILT FENCE
☒ TEMPORARY SILT DIKES
☐ TEMPORARY FIBER LOG
☐ DIVERSION, INTERCEPTOR OR PERIMETER DIKES
☐ DIVERSION, INTERCEPTOR OR PERIMETER SWALES
☐ ROCK FILTER DAMS
☐ TEMPORARY SLOPE DRAIN
☐ PAVED DITCH W/ DITCH LINER PROTECTION
☐ TEMPORARY DIVERSION CHANNELS
☐ TEMPORARY SEDIMENT BASINS
☐ TEMPORARY SEDIMENT TRAPS
☒ TEMPORARY SEDIMENT FILTERS
☒ TEMPORARY SEDIMENT REMOVAL
☒ RIP RAP
☒ INLET SEDIMENT FILTER
☐ TEMPORARY BRUSH SEDIMENT BARRIERS
☐ SANDBAG BERMS
☐ TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- ☒ HAUL ROADS DAMPENED FOR DUST CONTROL
☒ LOADED HAUL TRUCKS TO BE COVERED WITH TARPAILIN
☒ EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:

ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED TO COMPLY WITH THE OKLAHOMA POLLUTION DISCHARGE ELIMINATION SYSTEM (OPDES) REGULATIONS. THIS PLAN IS INITIATED DURING THE DESIGN PHASE, CONFIRMED IN THE PRE-WORK MEETINGS AND AVAILABLE ON THE JOB SITE ALONG WITH COPIES OF THE NOTICE OF INTENT (NOI) FORM AND PERMIT CERTIFICATE THAT HAVE BEEN FILED WITH THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY (ODEQ). THE PLAN MUST BE KEPT CURRENT WITH UP-TO-DATE AMENDMENTS DURING THE PROGRESSION OF THE PROJECT. ALL CONTRACTOR OFF-SITE OPERATIONS ASSOCIATED WITH THE PROJECT MUST BE DOCUMENTED IN THE SWPPP, I.E., BORROW PITS, WORK ROADS, DISPOSAL SITES, ASPHALT/CONCRETE PLANTS, ETC. THE BASIC GOAL OF STORM WATER MANAGEMENT IS TO IMPROVE WATER QUALITY BY REDUCING POLLUTANTS IN STORM WATER DISCHARGES. RUNOFF FROM CONSTRUCTION SITES HAS A POTENTIAL FOR POLLUTION DUE TO EXPOSED SOILS AND THE PRESENCE OF HAZARDOUS MATERIALS USED IN THE CONSTRUCTION PROCESS. THE PREVENTION OF SOIL EROSION, CONTAINMENT OF HAZARDOUS MATERIALS AND/OR THE INTERCEPTION OF THESE POLLUTANTS BEFORE LEAVING THE CONSTRUCTION SITE ARE THE BEST PRACTICES FOR CONTROLLING STORM WATER POLLUTION.

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
104.10 FINAL CLEANING UP
104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13 ENVIRONMENTAL PROTECTION
106.08 STORAGE AND HANDLING OF MATERIAL
107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20 STORM WATER MANAGEMENT
220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
221 TEMPORARY SEDIMENT CONTROL

IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2017.

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CANADIAN COUNTY

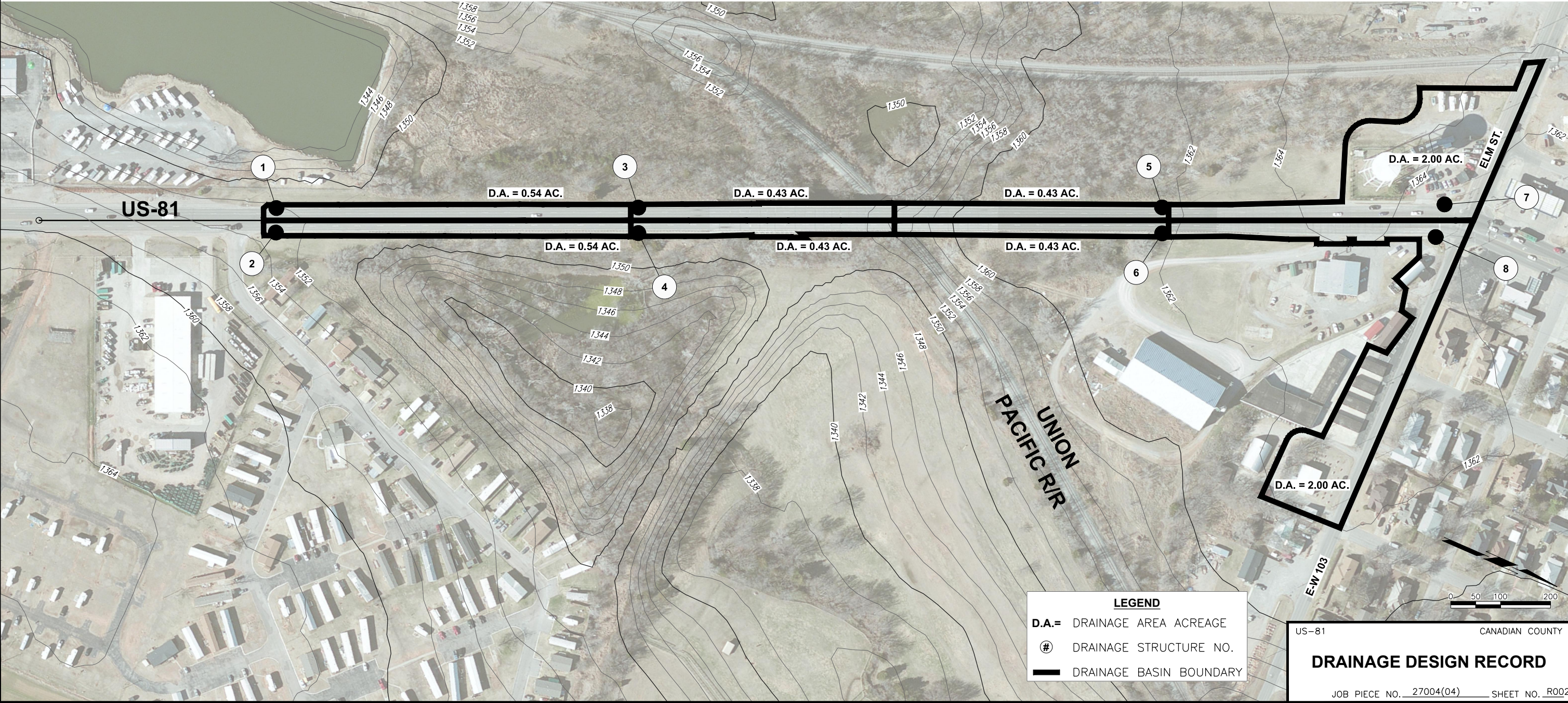
STORM WATER MANAGEMENT PLAN

JOB PIECE NO. 27004(04) SHEET NO. R001

DESCRIPTION	REVISIONS	DATE

DRAINAGE STRUCTURE DESIGN RECORD

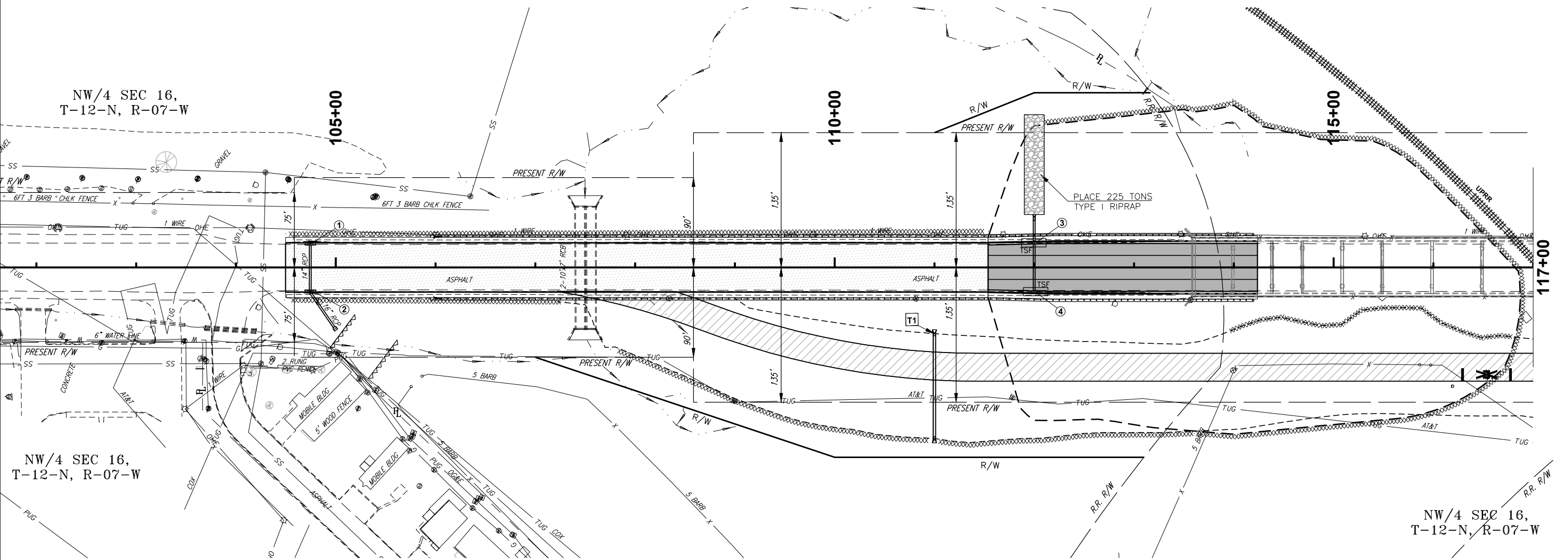
STR. NO.	STATION	OFFSET	STRUCTURE DESCRIPTION	DESIGN YEAR	AREA	ANTICIPATED LAND USE	Avg. Slope of Watershed	Weighted Runoff Coefficient	Length of Overland Flow	Slope of Overland Flow	Length of Channel Flow	Slope of Channel Flow	Time of Concentration	Intensity	Discharge	Discharge Intercepted	Discharge Bypass	Spread	Conduit Slope	Inlet Control Depth	Outlet Control Depth	Outlet Velocity	Tailwater Velocity	Grate Flow Line	Inlet Flow Line	Outlet Flow Line	REMARKS
					Ac.		%	C	FT.	%	FT.	%	MIN.	IN./HR.	CFS	CFS	CFS	FT.	%	FT.	FT.	F.P.S.	F.P.S.	ELEV.	ELEV.	ELEV.	
1	104+74.54	24.50' LT.	CONST. INLET CI DES. 3 (B) w/ 18"x44.9' LG RCPA TO STR. 2	50	0.54	PAVED		0.90			705	3.90	5.00	9.83	5.73	6.73	0.00	12.00	1.00			6.07		1350.85		1348.18	
2	104+74.54	24.50' RT.	CONST. INLET CI DES. 3 (B) w/ 18"x42.8' LG RCPA TO OUTLET	50	0.54	PAVED		0.90			705	3.90	5.00	9.83	5.73	6.73	0.00	12.00	1.10			7.08		1350.85	1347.72	1347.47	
3	112+00	25.50' LT.	CONST. INLET DES 2 (2D) w/ 18"x40' RCP TO OUTLET	25	0.43	PAVED		0.90			550	2.11	5.00	8.65	3.68	3.18	0.50	8.71	10.00			14.60		1378.38	1375.15	1373.38	
4	112+00	25.50' RT.	CONST. INLET DES 2 (2D) w/ 18"x46' RCP TO STR 3	25	0.43	PAVED		0.90			550	2.11	5.00	8.65	3.68	3.18	0.50	8.71	1.00			5.22		1378.38		1375.62	
5	122+50	26.00' LT.	CONST. INLET DES 2 (2D) w/ 18"x34' RCP TO OUTLET	25	0.43	PAVED		0.90			550	2.29	5.00	8.65	3.68	3.22	0.46	8.85	10.00			14.55		1379.69	1376.54	1374.69	
6	122+50	26.00' RT.	CONST. INLET DES 2 (2D) w/ 18"x48' RCP TO OUTLET	25	0.43	PAVED		0.90			550	2.29	5.00	8.65	3.68	3.22	0.46	8.80	1.00			5.23		1379.69		1372.02	
7	128+20.85	32.00' LT.	CONST. INLET CI DES. 3 (2D) 18"x65.5' LG RCPA TO STR. 8	50	2.00	PAVED / COMMERCIAL		0.72			800	2.00	23.89	5.77	9.14	9.14	0.00	12.00	0.50			6.74		1362.64		1359.94	
8	127+95.07	33.34' RT.	CONST. INLET CI DES. 3 (2D) ON EXIST. 18" RCP	50	2.00	PAVED / COMMERCIAL		0.72			800	2.00	26.12	5.77	9.54	9.54	0.00	12.00	0.31			6.74		1362.73	1359.63	1359.63	OUTLET EXIST. 18" RCP



NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM C OF SURVEY.

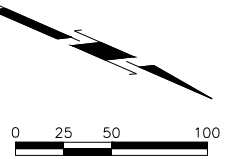
CEC // TRANSPORTATION

DESCRIPTION	REVISIONS	DATE



LEGEND

TEMPORARY SILT DIKE	XXXXXXX
TEMPORARY SILT FENCE	XXXXXXX
SEDIMENT FILTER	TSF
RIP RAP	XXXXXXX



US-81 CANADIAN COUNTY

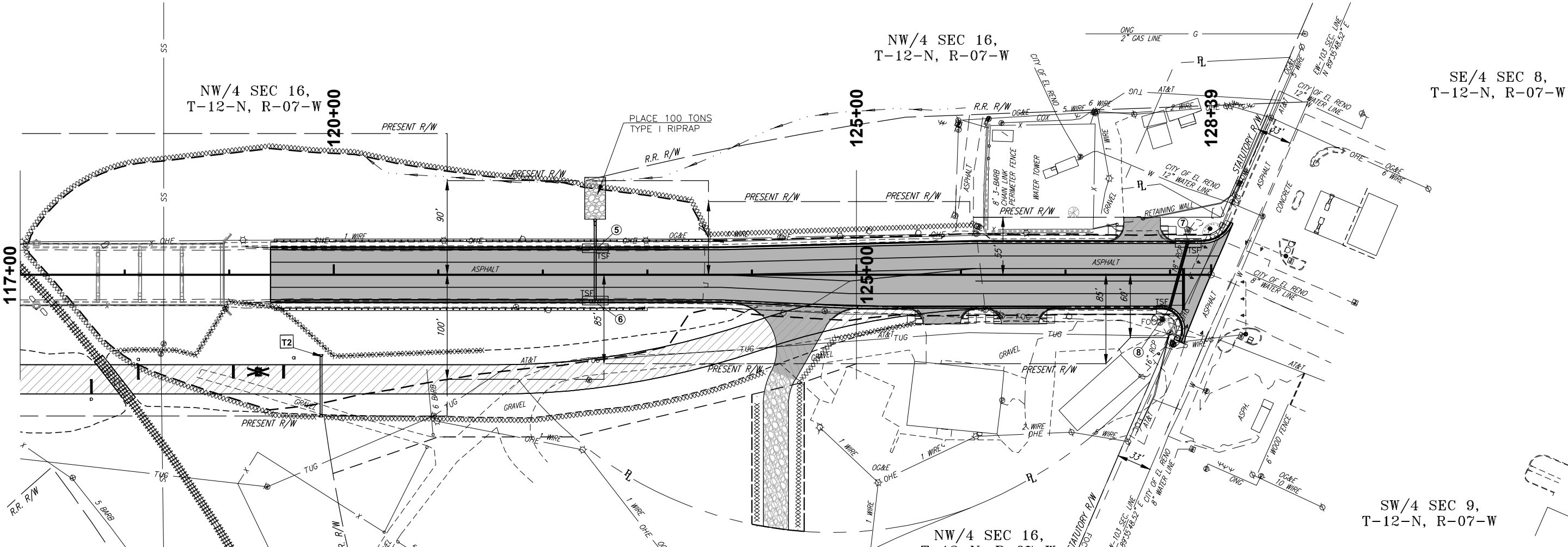
EROSION CONTROL
SHEET 1 OF 2

JOB PIECE NO. 27004(04) SHEET NO. R003

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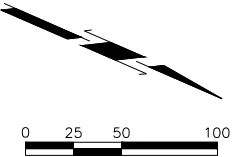
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DESCRIPTION	REVISIONS	DATE



LEGEND

TEMPORARY SILT DIKE	
TEMPORARY SILT FENCE	
SEDIMENT FILTER	
RIP RAP	



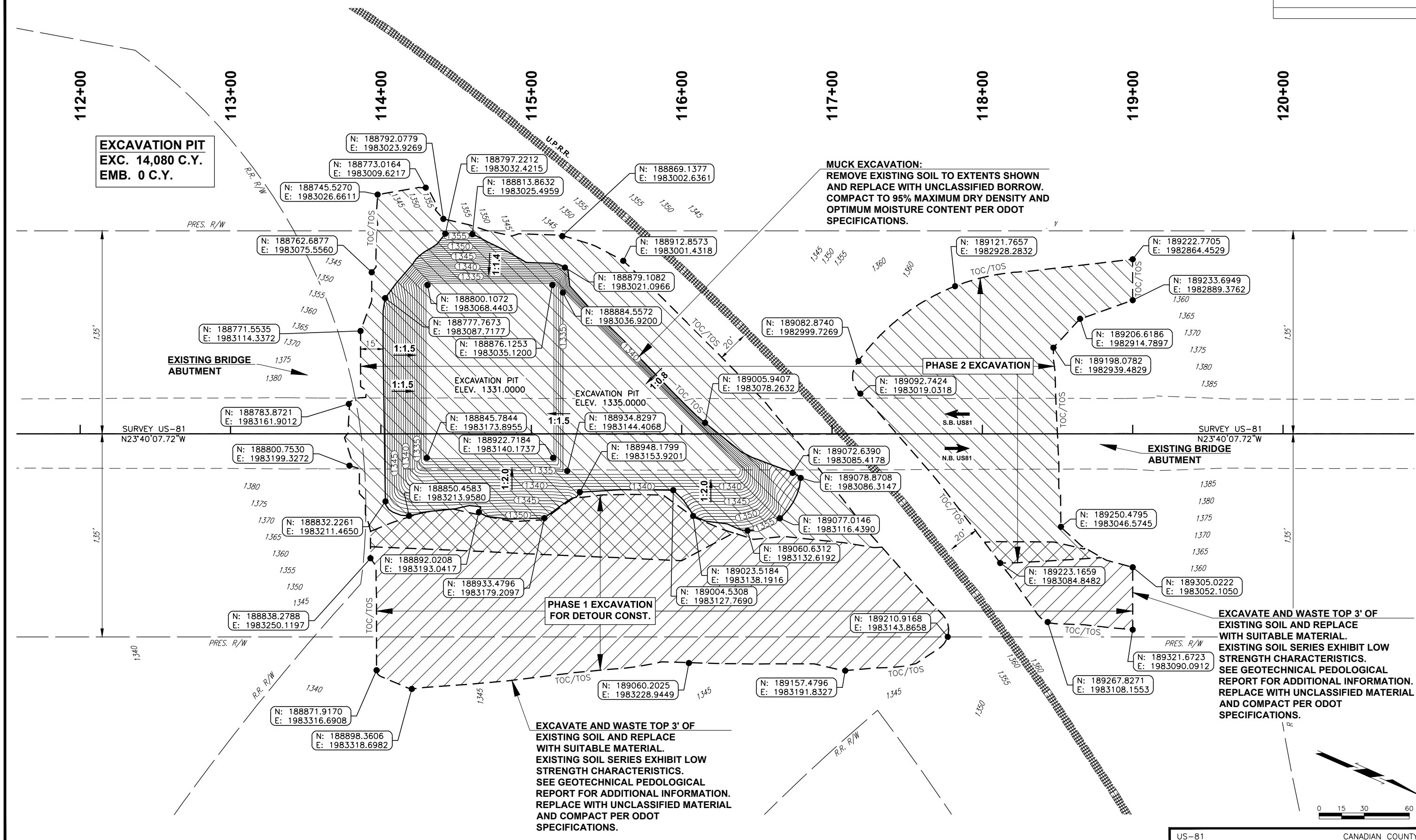
US-81

CANADIAN COUNTY

**EROSION CONTROL
SHEET 2 OF 2**

JOB PIECE NO. 27004(04) SHEET NO. R004

DESCRIPTION	REVISIONS	DATE

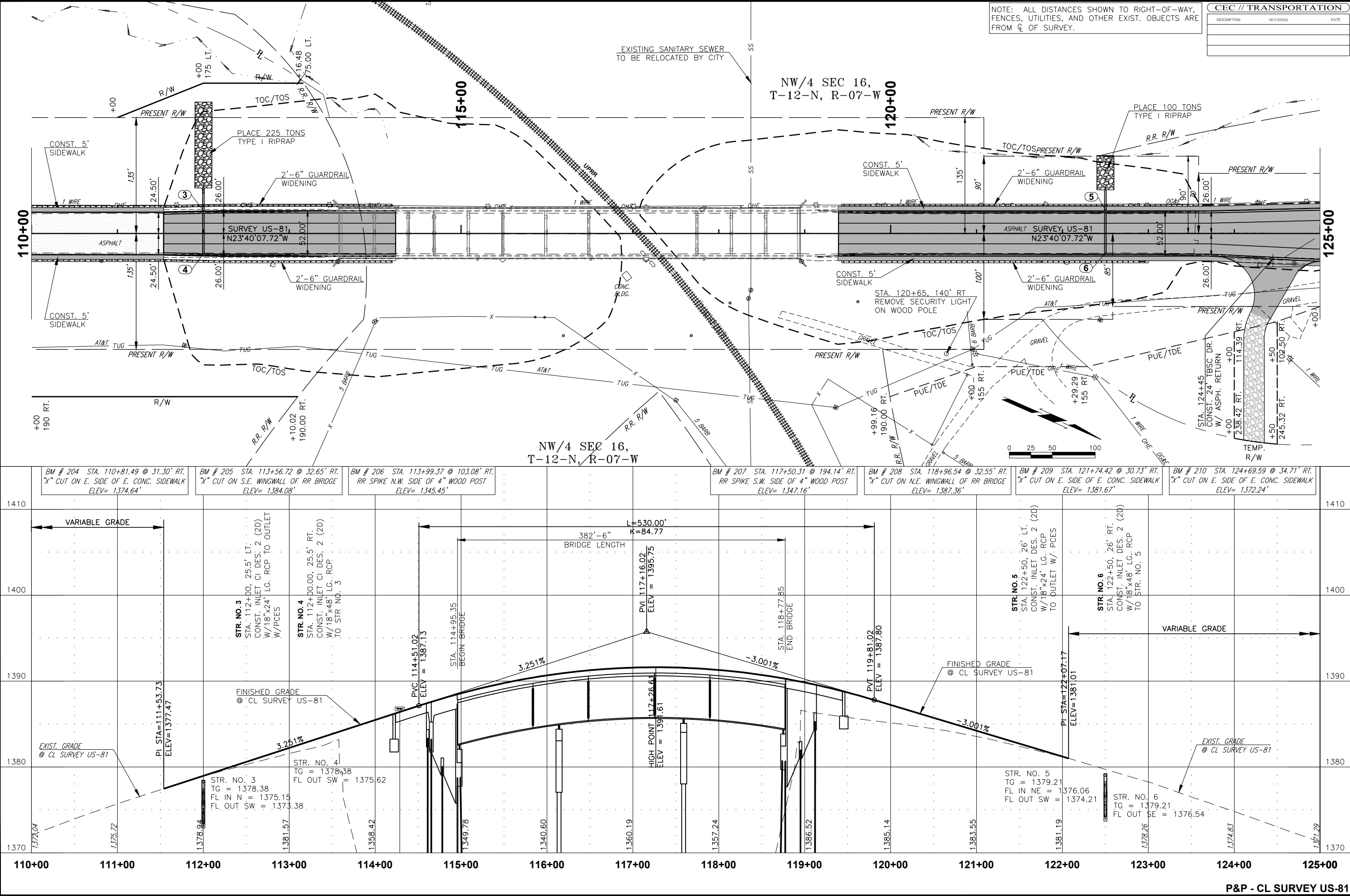


US-81 CANADIAN COUNTY

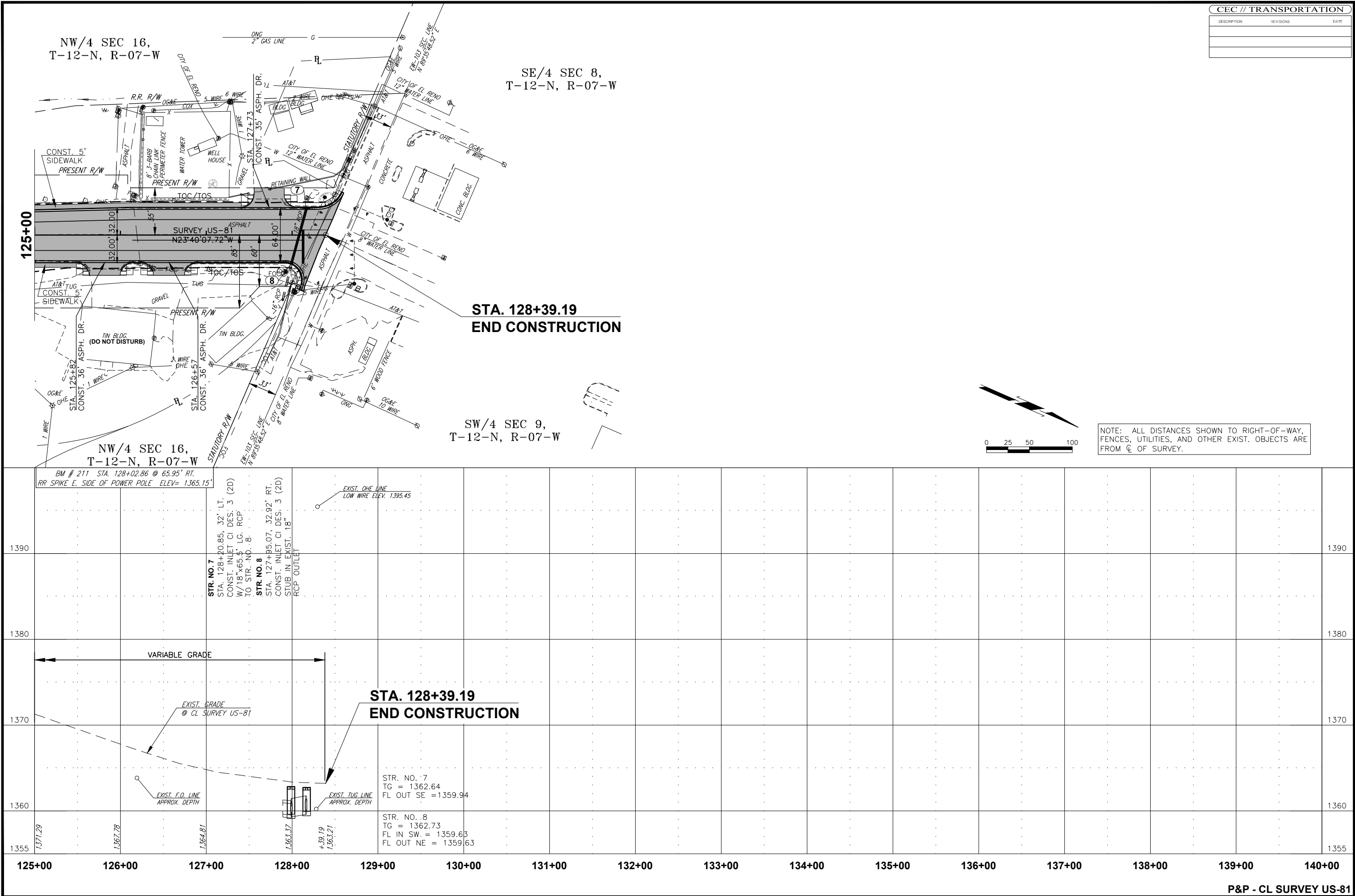
GRADING PLAN

JOB PIECE NO. 27004(04) SHEET NO. R005





DESCRIPTION	REVISIONS	DATE



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DESCRIPTION	REVISIONS	DATE

STA. 106+00.00
BEGIN CRL DETOUR

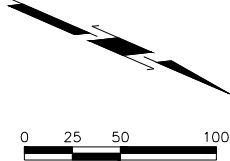
NW/4 SEC 16,
T-12-N, R-07-W

105+00

100+00

110+00

CURVE NO. 1
CRL DETOUR
P.I. STA. 107+40.61
R = 765.000'
T = 140.610'
Δ = 20°49'47"
L = 278.115'
C = 276.586'
D = 7°29'23"
eMAX = 2%
V = 40 MPH
S = 2%



BM # 201 STA. 99+68.76 @ 72.70' RT.
RR SPIKE W. SIDE OF POWER POLE ELEV= 1365.19'

BM # 202 STA. 104+36.70 @ 91.49' RT.
"X" CUT ON S.W. CORNER OF CONC. PAD ELEV= 1353.28'

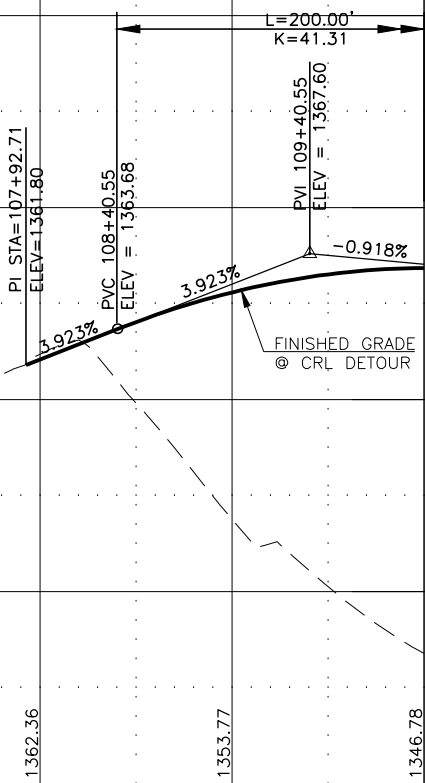
BM # 203 STA. 108+33.93 @ 31.04' RT.
"X" CUT ON E. SIDE OF E. CONC. SIDEWALK ELEV= 1364.06'

STA. 106+00.00
BEGIN CRL DETOUR

EXIST. GRADE
@ CRL DETOUR

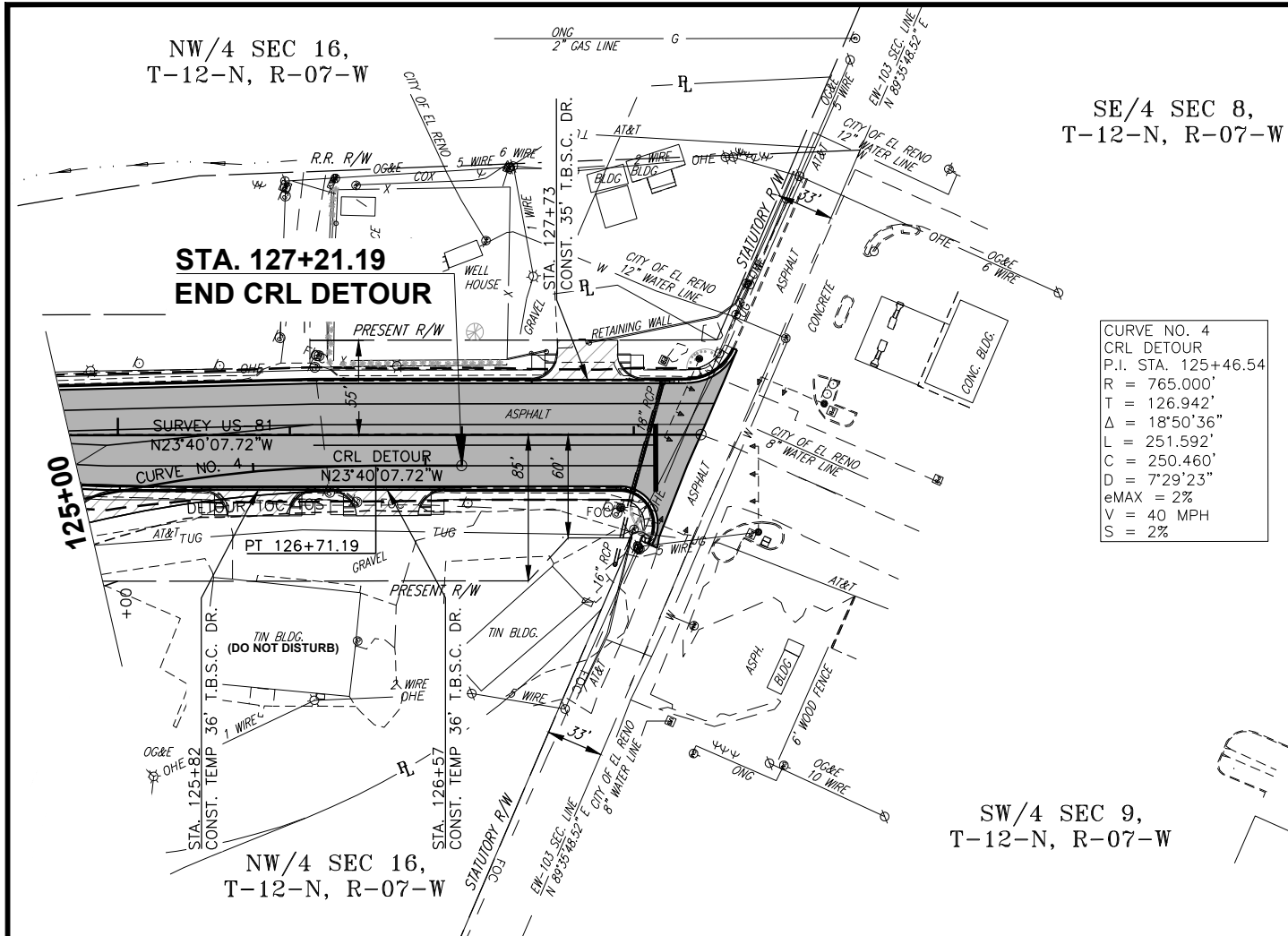
FINISHED GRADE
@ CRL DETOUR

2-10'X7' RCB
FL IN LT. = 1337.96
FL OUT RT. = 1337.19
FL IN LT. = 1337.90
FL OUT RT. = 1337.49

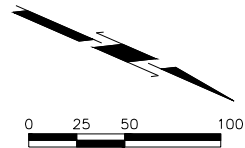


P&P CRL DETOUR

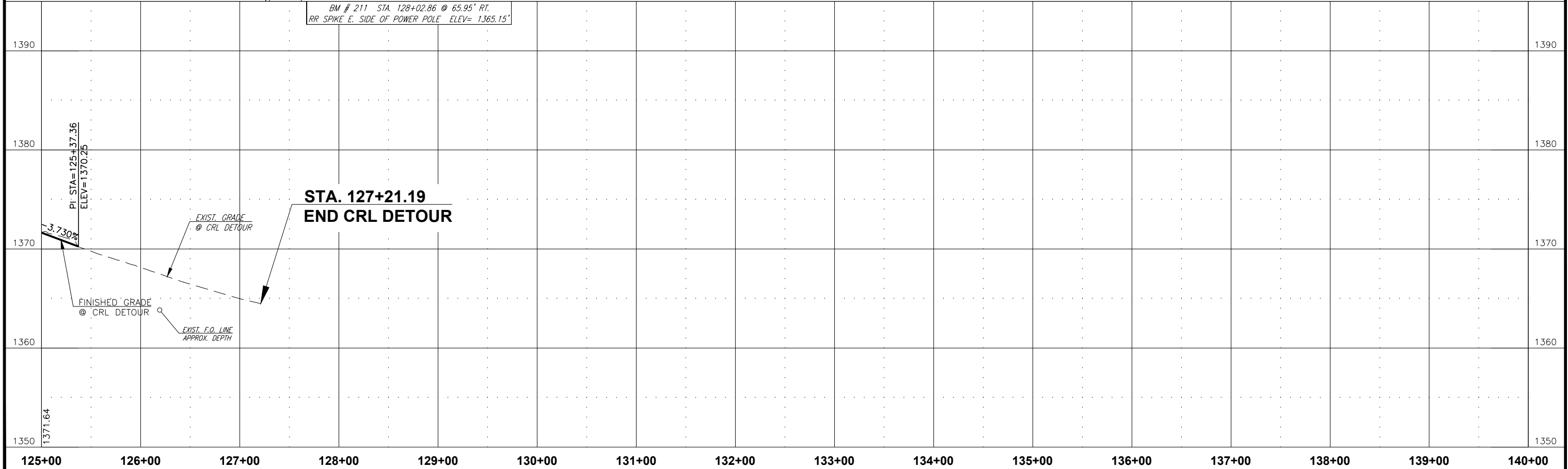
DESCRIPTION	REVISIONS	DATE



CURVE NO. 4
CRL DETOUR
P.I. STA. 125+46.54
R = 765.000'
T = 126.942'
Δ = 18°50'36"
L = 251.592'
C = 250.460'
D = 7°29'23"
eMAX = 2%
V = 40 MPH
S = 2%



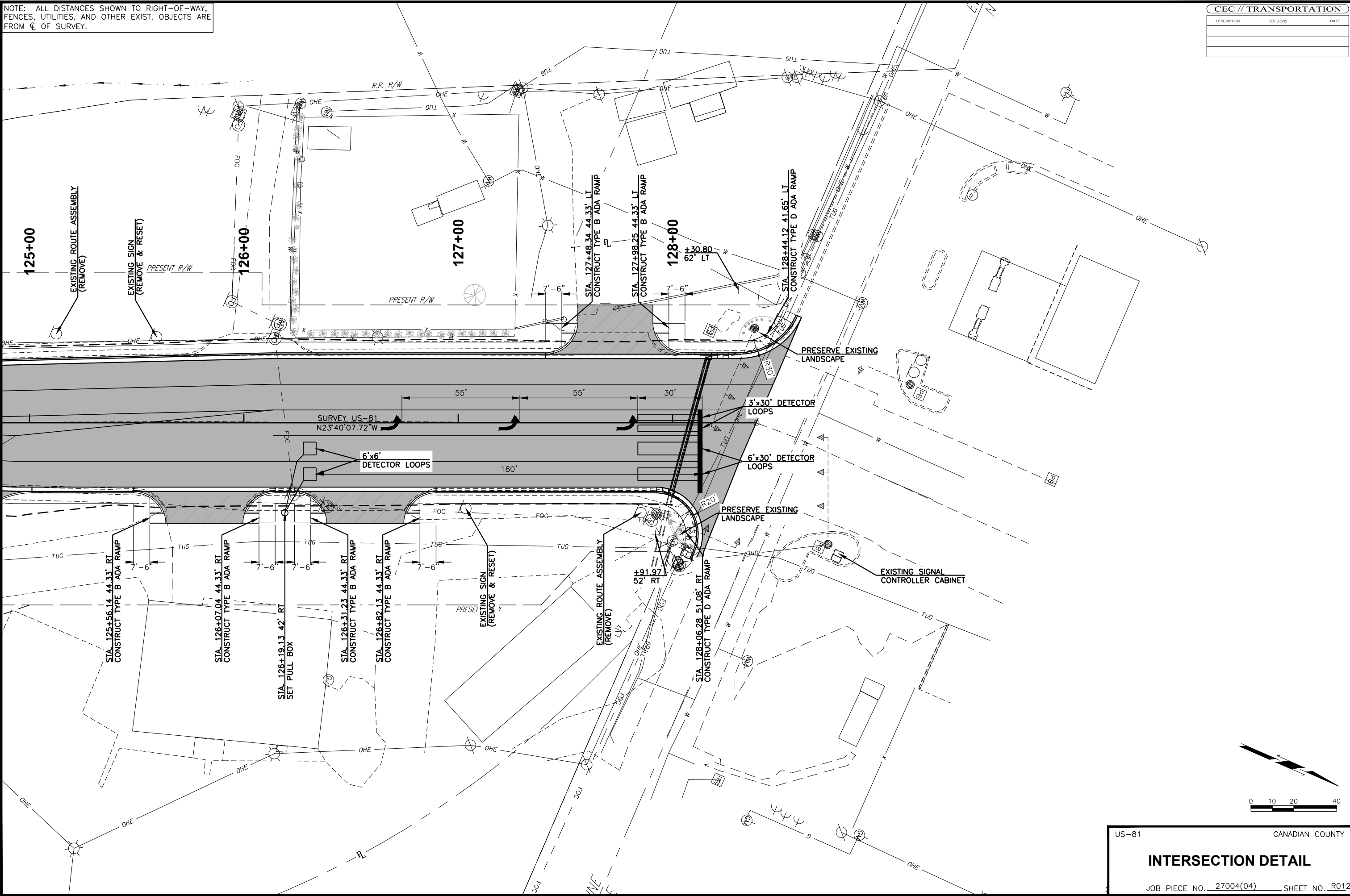
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DESCRIPTION REVISIONS DATE



0 10 20 40

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CANADIAN COUNTY

INTERSECTION DETAIL

JOB PIECE NO. 27004(04) SHEET NO. R012

BM # 206 STA. 113+99.37 @ 103.08' RT.
RR SPIKE N.W. SIDE OF 4" WOOD POST
ELEV= 1345.45'

BM # 207 STA. 117+50.31 @ 194.14' RT.
RR SPIKE S.W. SIDE OF 4" WOOD POST
ELEV= 1347.16'

BM # 208 STA. 118+96.54 @ 32.55' RT.
"X" CUT ON N.E. WINGWALL OF RR BRIDGE
ELEV= 1387.36'

CEC // TRANSPORTATION

DESCRIPTION	REVISIONS	DATE

W10-1 SIGN

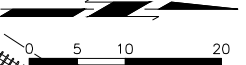
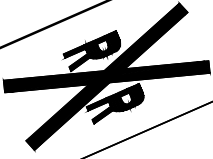
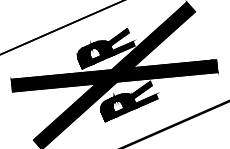
Union Pacific Railroad
US-81 in El Reno, Canadian County
AARDOT No. 596 830A, Mile Post 403.90

UPRR Forces to Install a Temporary
Cross Buck Sign (R15-1) with a
Yield Sign (R1-2) attached.

UPRR Forces to install a Temporary
48' Railroad Concrete Crossing Surface

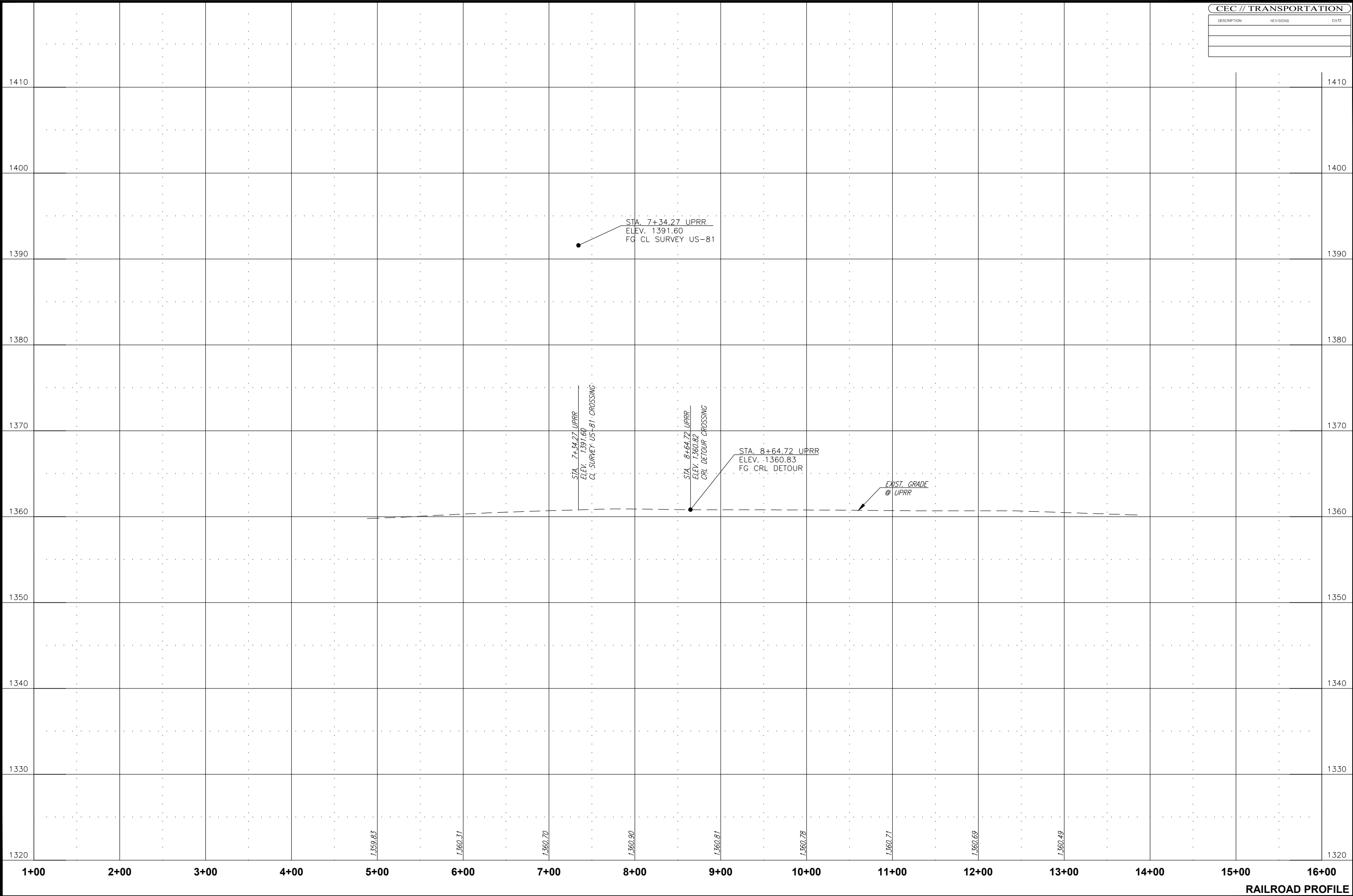
UPRR Forces to Install a Temporary
Cross Buck Sign (R15-1) with a
Yield Sign (R1-2) attached.

NW/4 SEC 16,
T-12-N, R-07-W



RAILROAD EXHIBIT

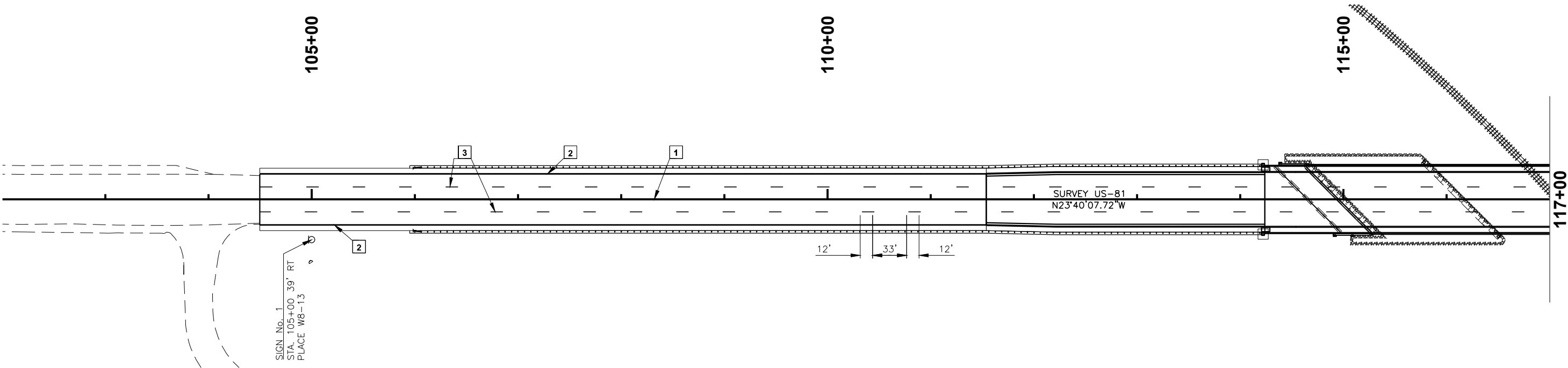
JOB PIECE NO. 27004(04) SHEET NO. R013



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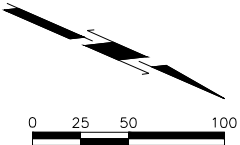
CEC // TRANSPORTATION

DESCRIPTION	REVISIONS	DATE



LEGEND

1	6" SOLID DOUBLE YELLOW LINE (PLASTIC)
2	6" SOLID WHITE LINE (PLASTIC)
3	6" DASHED WHITE LINE (PLASTIC)
4	12" SOLID YELLOW LINE (PLASTIC)



US-81

CANADIAN COUNTY

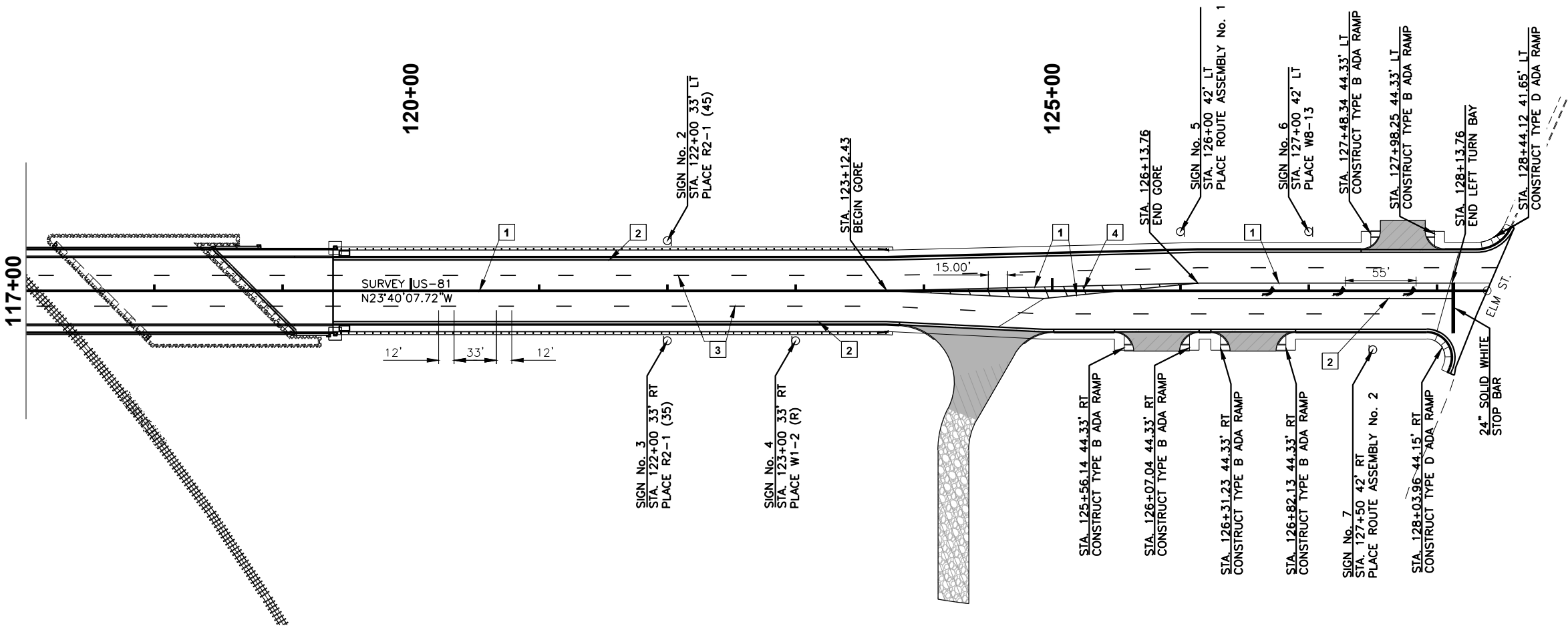
SIGNING & STRIPING

SHEET 1 OF 2

JOB PIECE NO. 27004(04) SHEET NO. T001

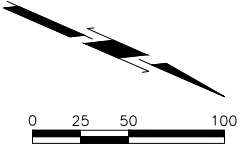
NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM ϕ OF SURVEY.

DESCRIPTION	REVISIONS	DATE



LEGEND

1	6" SOLID DOUBLE YELLOW LINE (PLASTIC)
2	6" SOLID WHITE LINE (PLASTIC)
3	6" DASHED WHITE LINE (PLASTIC)
4	12" SOLID YELLOW LINE (PLASTIC)



US-81

CANADIAN COUNTY

SIGNING & STRIPING

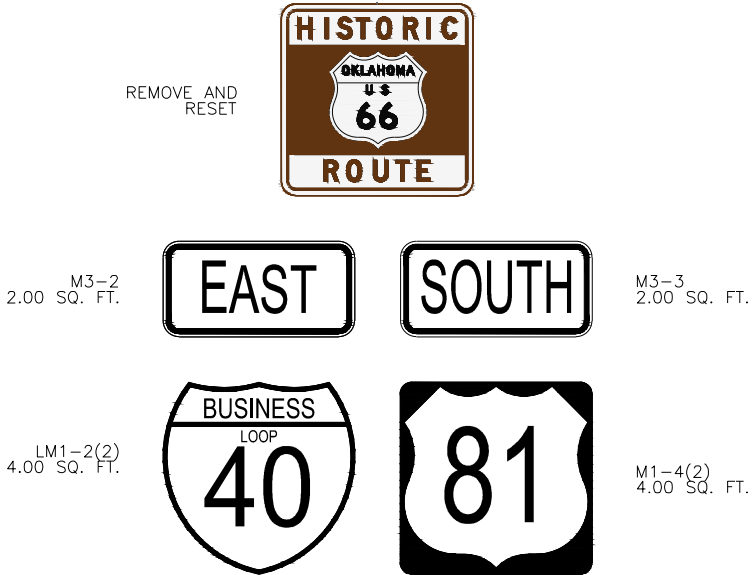
SHEET 2 OF 2

JOB PIECE NO. 27004(04) SHEET NO. T002

DESCRIPTION	REVISIONS	DATE

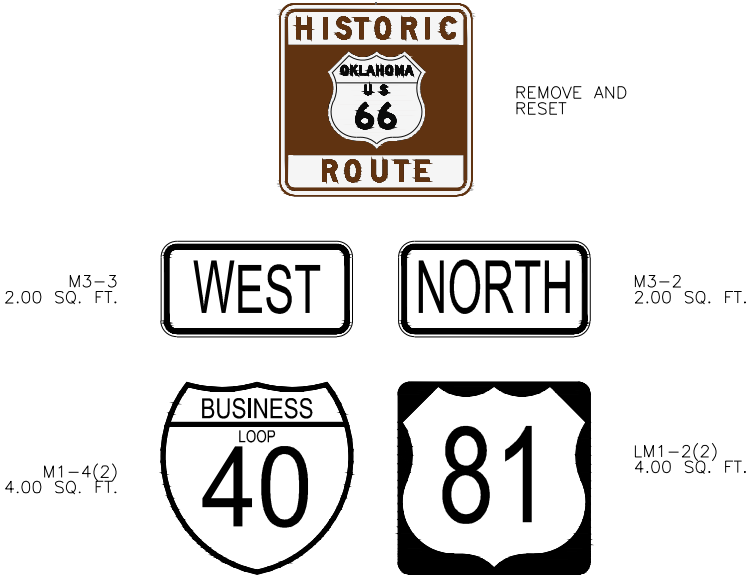
ROUTE ASSEMBLY NO. 1

TOTAL SIGN AREA = 14.00 SQ. FT.



ROUTE ASSEMBLY NO. 2

TOTAL SIGN AREA = 14.00 SQ. FT.



STA. 104+49.79
BEGIN CONSTRUCTION

1" PVC CONDUIT
WITH 4- 1/C #8 AWG CU WIRE
CIRCUITS A AND B

1" PVC CONDUIT
WITH 2 - 1/C #8 AWG CU
CIRCUIT A

1" PVC CONDUIT
WITH 2 - 1/C #8 AWG CU WIRE
CIRCUIT B

15 KVA
480 V
1-Ø

DRIVEWAY

NOTES:

- 1) USE 1" GALVANIZED STEEL CONDUIT ON BRIDGE
- 2) RECOMMENDED TRANSFORMER SIZE OF 15 KVA
- 3) MINIMUM DRIVER LED TOLERANCE OF 5% LINE VOLTAGE
- 4) OPERATING VOLTAGE = 480 V

KEY:

- 1" ELECT. GALVANIZED STEEL CONDUIT (EXPOSED)
- 1" ELECT. PVC SCHEDULE 40 CONDUIT (TRENCHED)
- 1" ELECT. CONDUIT (BORED) PVC SCHEDULE 40
- SIZE 1 PULL BOX
- JUNCTION BOX
- ELECTRIC SERVICE LOCATION
- CIRCUIT DESIGNATION
- LIGHT POLE
- EXISTING LIGHT POLE
- SERVICE POLE

0 25 50 100

110+00

125+00

1" GALVANIZED STEEL CONDUIT
WITH 2 - 1/C #8 AWG
CIRCUIT A
SEE HLPD2-1

PILASTER
MOUNTED LIGHT

LIGHT POLE 11
STA. 113+72

BRIDGE
PULL BOX 1

115+00

LIGHT POLE 13
STA. 115+78

LIGHT POLE 15
STA. 117+23

LIGHT POLE 17
STA. 118+75

PILASTER
MOUNTED LIGHT

BRIDGE
PULL BOX 3

120+00

LIGHT POLE 19
STA. 121+04

LIGHT POLE 21
STA. 123+34

LIGHT POLE 7
STA. 110+52

LIGHT POLE 9
STA. 112+12

LIGHT POLE 8
STA. 111+32

LIGHT POLE 10
STA. 112+92

BRIDGE
PULL BOX 2

LIGHT POLE 12
STA. 114+90

PILASTER
MOUNTED LIGHT

LIGHT POLE 14
STA. 116+50

LIGHT POLE 16
STA. 117+95

BRIDGE
PULL BOX 4

LIGHT POLE 18
STA. 119+89

PILASTER
MOUNTED LIGHT

LIGHT POLE 20
STA. 122+19

LIGHT POLE 22
STA. 123+96

1" GALVANIZED STEEL CONDUIT
WITH 2 - 1/C #8 AWG
CIRCUIT B
SEE HLPD2-1

US-81

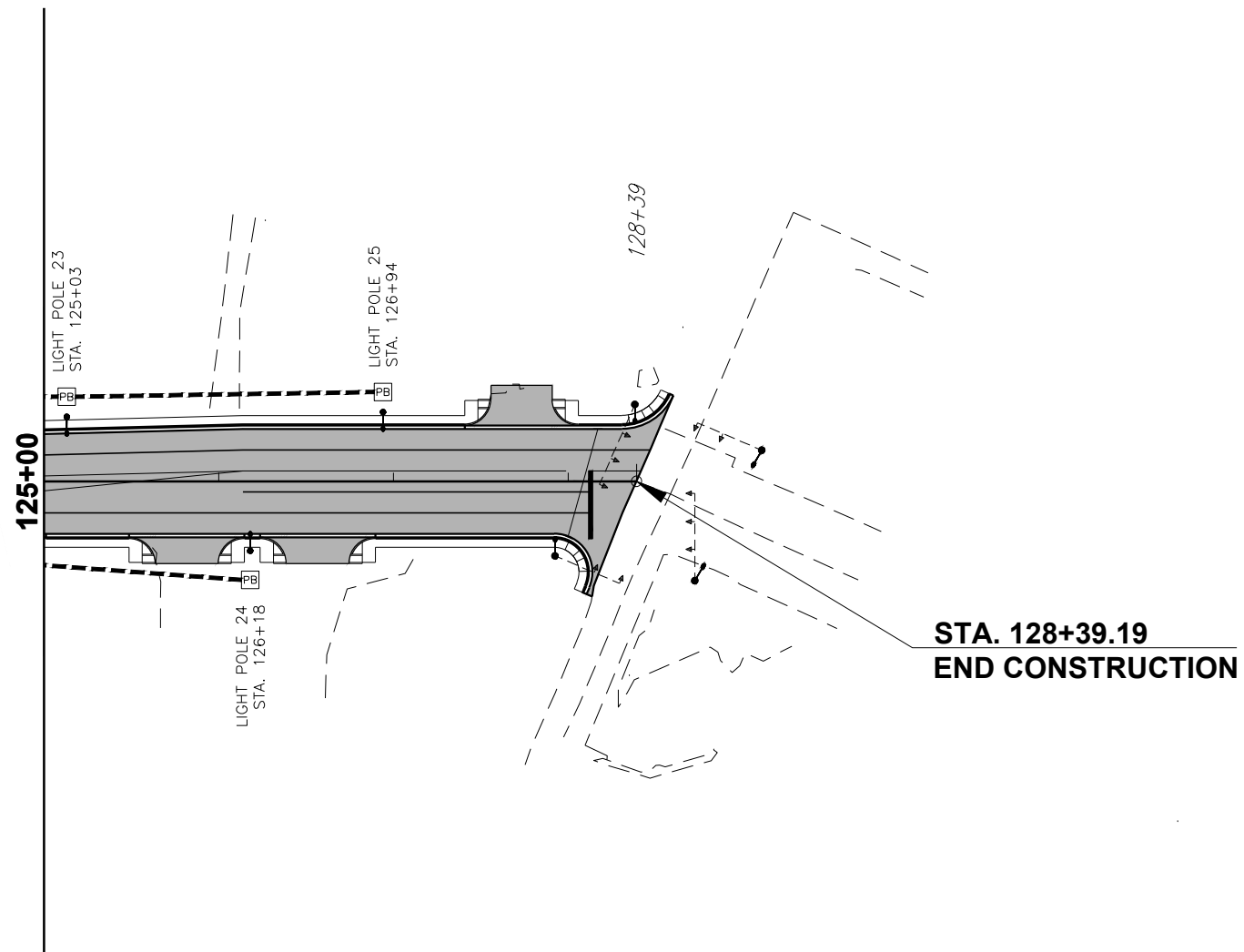
CANADIAN COUNTY

**LIGHTING PLAN SHEETS
SHEET 1 OF 2**

JOB PIECE NO. 27004(04) SHEET NO. T004

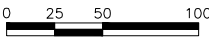
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DESCRIPTION	REVISIONS	DATE



KEY:

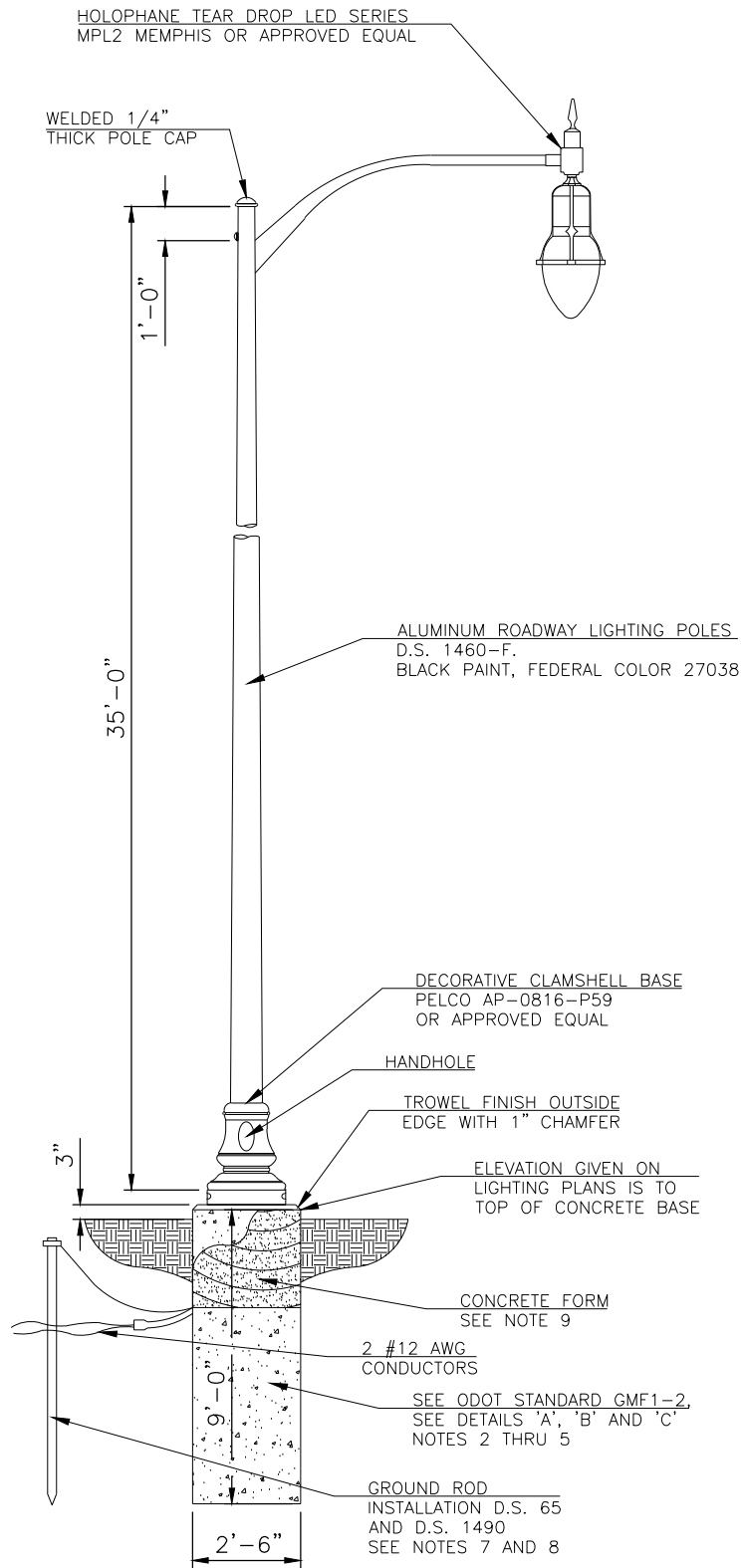
	1" ELECT. GALVANIZED STEEL CONDUIT (EXPOSED)
	1" ELECT. PVC SCHEDULE 40 CONDUIT (TRENCHED)
	1" ELECT. CONDUIT (BORED) PVC SCHEDULE 40
	SIZE 1 PULL BOX
	JUNCTION BOX
	ELECTRIC SERVICE LOCATION
	CIRCUIT DESIGNATION
	LIGHT POLE
	EXISTING LIGHT POLE
	SERVICE POLE



US-81 CANADIAN COUNTY

LIGHTING PLAN SHEETS
SHEET 2 OF 2

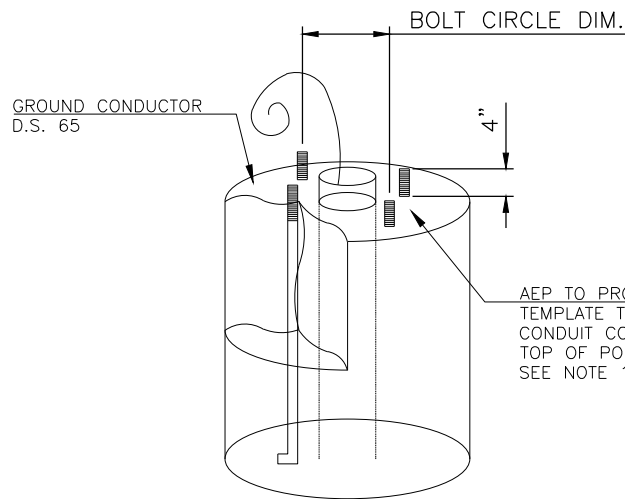
JOB PIECE NO. 27004(04) SHEET NO. T005



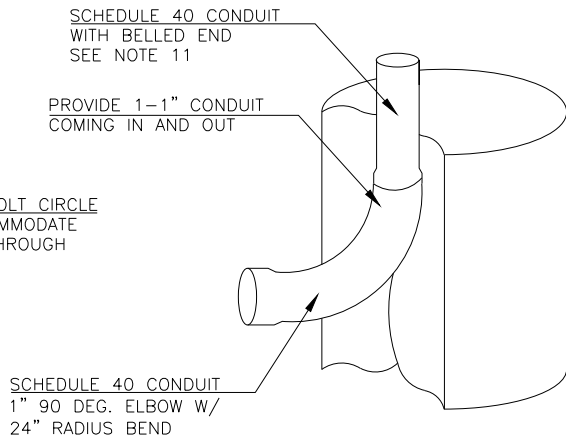
**SECTION - CONCRETE LIGHT POLE FOOTING
(TEARDROP FIXTURE)**

GENERAL NOTES

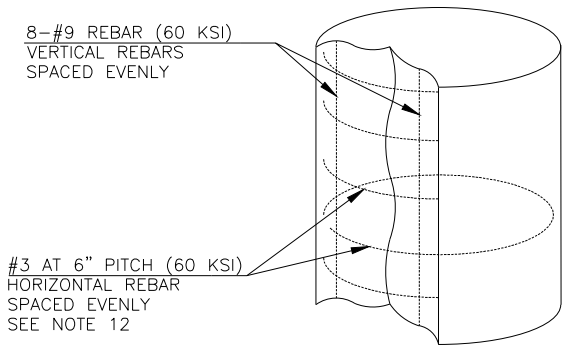
1. POLE SHALL NOT BE INSTALLED UNTIL CONCRETE HAS CURED FOR A MINIMUM OF THREE DAYS.
2. ALL WORK TO BE IN ACCORDANCE WITH THE LATEST REVISION OF ODOT STANDARD GMF1-2 AND PMBD1-1.
3. EACH FOUNDATION SHALL BE POURED IN A SINGLE CONTINUOUS POUR.
4. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE HOLE PRIOR TO CONCRETE PLACEMENT. THE SIDES OF THE EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE MATERIAL.
5. CONCRETE SHALL BE PLACED IN A MANNER THAT PREVENTS SEGREGATION OF THE CONCRETE AND/OR INFILTRATION OF WATER OR SOIL. FREE FALL CONCRETE IS ALLOWED PROVIDED THE CONCRETE DOES NOT HIT THE SIDES OF THE EXCAVATION OR THE REBAR. UNDER NO CIRCUMSTANCES SHALL CONCRETE FALL THROUGH WATER.
6. BURY UNDERGROUND CONDUCTORS 30" IF DIRECT BURIED AND 24" IF IN CONDUIT.
7. GROUND RODS ARE TO BE DRIVEN TO THE DEPTH SHOWN UNLESS ROCK OR OTHER OBSTRUCTIONS ARE ENCOUNTERED. RESISTANCE OF INDIVIDUAL GROUND LOCATIONS SHOULD BE LOWERED TO PRACTICAL VALUES. ADDITIONAL GROUND RODS MAY BE DRIVEN (NO MORE THAN THREE AT ANY SINGLE LOCATION.)
8. GROUNDING CONDUCTOR SHALL BE CONNECTED TO GROUNDING STUD OF METALLIC POLES IN VICINITY OF HANDHOLE AND TO FIXTURES GROUNDING LUG.
9. FORM FOR CONCRETE FOUNDATION SHALL BE MADE FROM SONOTUBE OR SIMILAR MATERIAL. FORM SHALL EXTEND MINIMUM OF 12" BELOW GRADE.
10. REFER TO POLE MANUFACTURER'S INSTRUCTIONS FOR PLACEMENT OF ANCHOR BOLTS AND TORQUE REQUIREMENTS. POLE MANUFACTURER TO SUPPLY TEMPLATE AND ANCHOR BOLTS.
11. SIZE CONDUIT FOR CONDUCTORS: TWO CONDUITS MAY BE INSTALLED IF CONDUCTOR LOOPS THROUGH FOUNDATION; FOUR WILL BE REQUIRED EXCEPT AT END OF RUN.
12. FORM HORIZONTAL REBAR IN RING OF 12" DIAMETER FOR 18" DIAMETER FOUNDATION AND 18" FOR 24" FOUNDATION.
13. HORIZONTAL TIES SHALL BE TIED TO VERTICAL REINFORCEMENT WITH STANDARD REINFORCEMENT TIE BAR.
14. ADJUST POLE LENGTH AND HANDHOLE LOCATION FOR POLES MOUNTED TO BRIDGE PIERS PER ODOT STD. HLPD2-1-(LATEST REVISION).



DETAIL 'A' - BOLT INSTALLATION



DETAIL 'B' - CONDUIT INSTALLATION



**DETAIL 'C' - REINFORCING BAR
INSTALLATION**

DESCRIPTION	REVISIONS	DATE

GENERAL SEQUENCE OF CONSTRUCTION US-81

PHASE I

STEP 1: CONSTRUCT DETOUR 1. UNION PACIFIC RAILROAD FORCES SHALL CONSTRUCT AT-GRADE CROSSING FROM  DETOUR STA. 117+96.34 TO STA. 118+09.11.

PHASE II

STEP 1: ROUTE N.B. AND S.B. US-81 TRAFFIC ONTO DETOUR 1.

STEP 2: REMOVE EXISTING BRIDGE. REMOVE THE SOUTH SIX SPANS AND FOUNDATIONS FIRST AND BEGIN EARTHWORK DUE TO ANTICIPATED SETTLEMENT.

STEP 3: REMOVE EXISTING FOUNDATION MATERIAL TO 3’ BELOW THE EXISTING GROUND LINE FROM APPROXIMATELY  SURVEY STA. 114+00 TO APPROXIMATELY STA. 116+50 (SEE GRADING PLAN FOR LIMITS).

STEP 4: CONSTRUCT:

- BRIDGE ‘A’.
- N.B. AND S.B. US-81 FROM  SURVEY STA. 111+53.73 TO STA. 124+00.
- S.B. US-81 FROM  SURVEY STA. 124+00 TO STA. 128+39.19.

NOTE:
EMBANKMENT MATERIAL PLACED FROM APPROXIMATELY  SURVEY STA. 114+00 TO APPROXIMATELY STA. 116+50 SHALL BE ALLOWED TO CONSOLIDATE FOR A MINIMUM OF 250 DAYS AFTER COMPLETION OF EMBANKMENT OPERATIONS AND BEFORE SURFACING MATERIAL IS TO BE CONSTRUCTED. SEE GEOTECHNICAL REPORTS FOR ANTICIPATED SETTLEMENT.

PHASE III

STEP 1: ROUTE N.B. US-81 TRAFFIC TO NEWLY CONSTRUCTED INSIDE S.B. LANE AND S.B. US-81 TRAFFIC TO NEWLY CONSTRUCTED OUTSIDE S.B. LANE.

STEP 2: REMOVE DETOUR AND COMPLETE N.B. US-81 FROM  SURVEY STA. 104+49.79 TO STA. 111+53.73 AND FROM STA. 124+00 TO STA. 128+39.19.

STEP 3: ADJUST TRAFFIC CONTROL TO COMPLETE MILL AND OVERLAY OF EXISTING SB LANES FROM  SURVEY STA. 104+49.79 TO STA. 111+53.73.

PHASE IV

STEP 1: ROUTE N.B. AND S.B. US-81 TRAFFIC TO COMPLETED FACILITY.

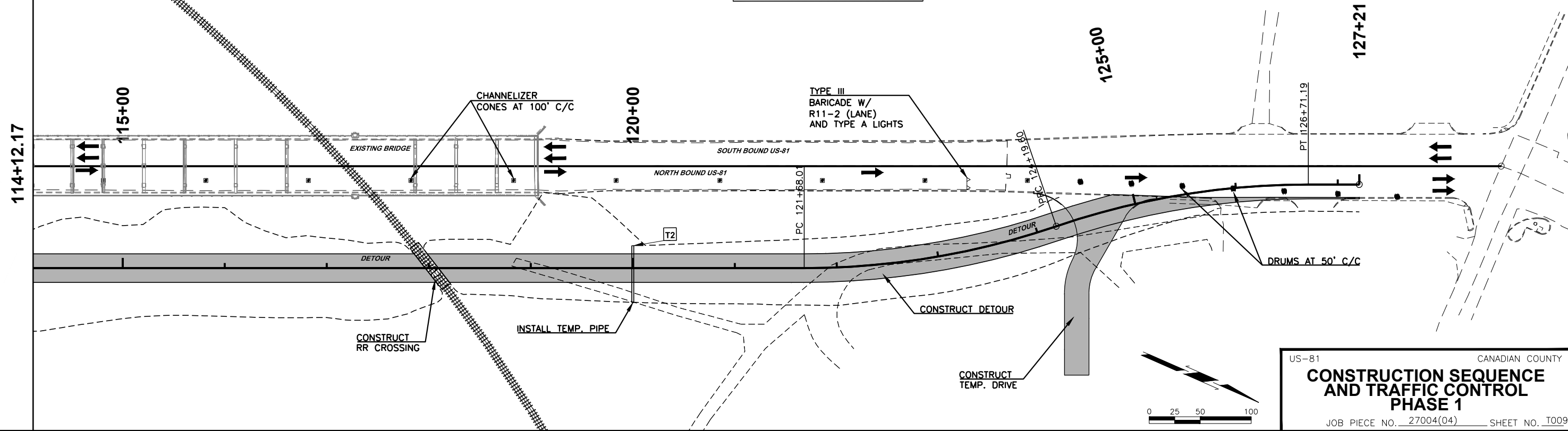
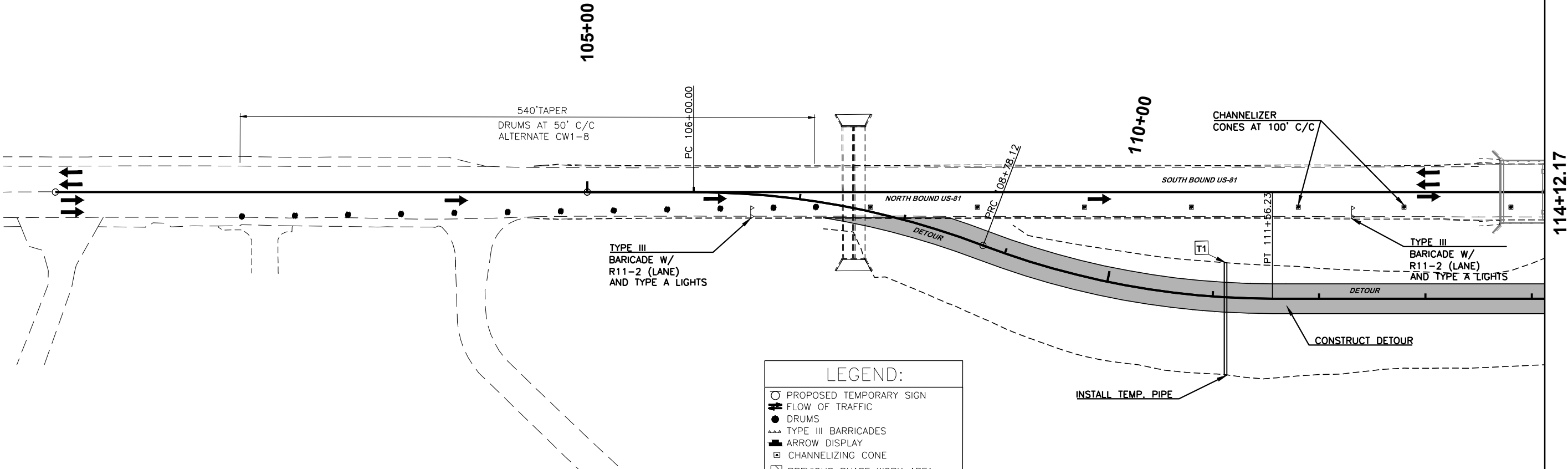
STEP 2: COMPLETE ANY MISCELLANEOUS CONSTRUCTION OPERATIONS.



NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM ϕ OF SURVEY.

CEC // TRANSPORTATION

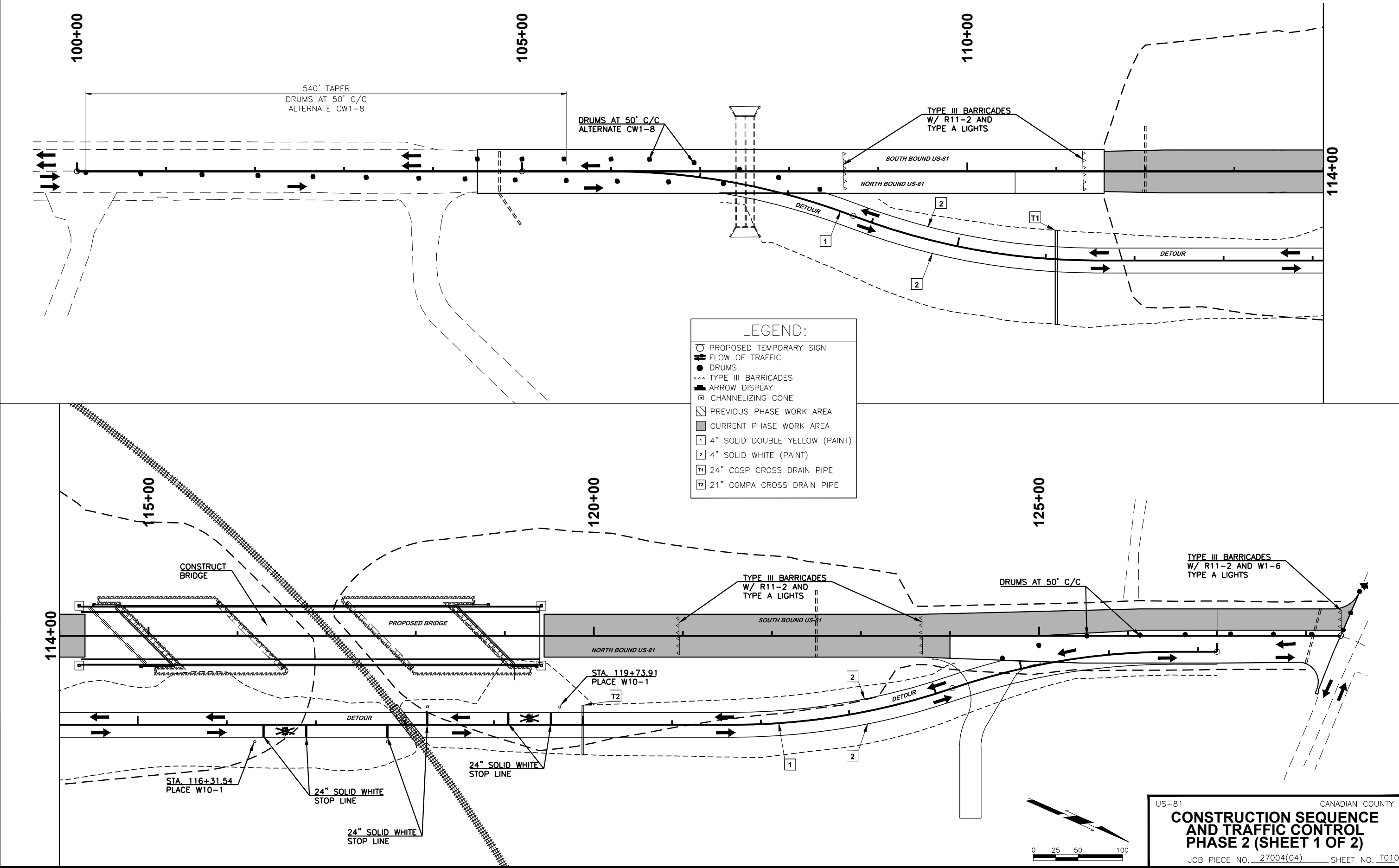
DESCRIPTION REVISIONS DATE



NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM C OF SURVEY.

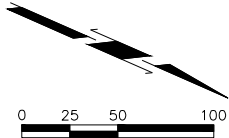
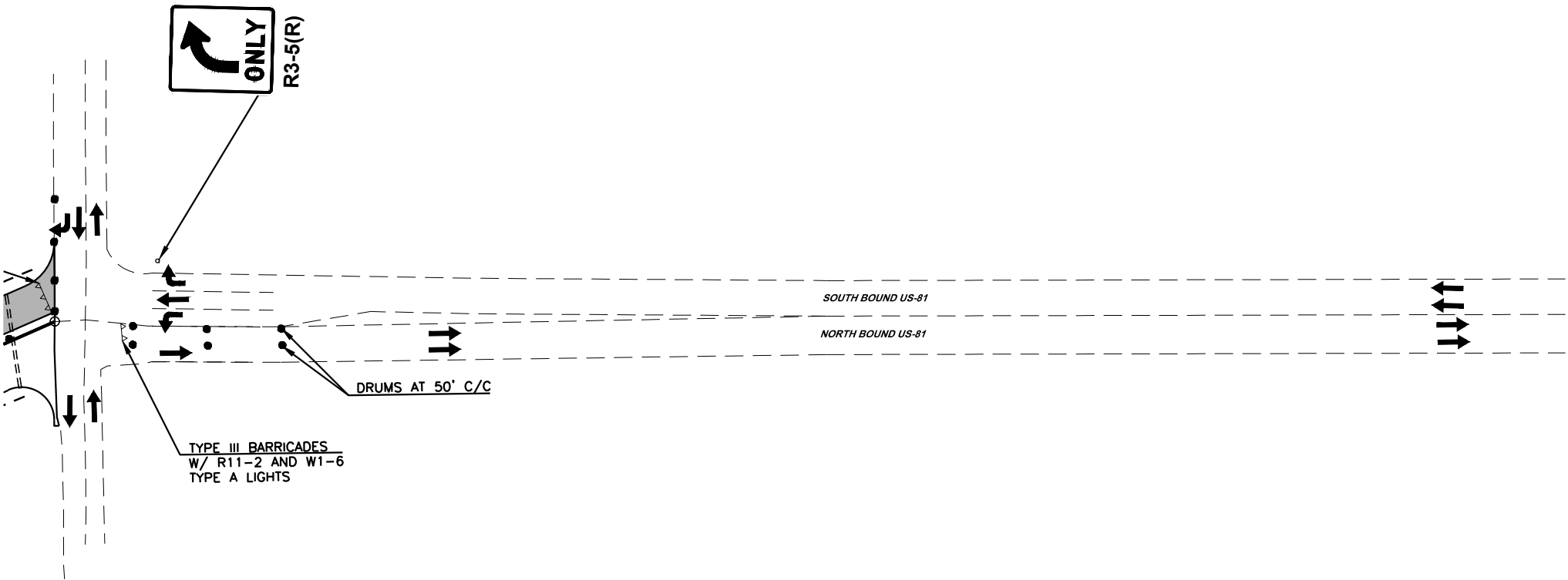
CEC // TRANSPORTATION

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DESCRIPTION	REVISIONS	DATE



LEGEND:

- PROPOSED TEMPORARY SIGN
- ➔ FLOW OF TRAFFIC
- DRUMS
- ▲▲ TYPE III BARRICADES
- ➔ ARROW DISPLAY
- ◻ CHANNELIZING CONE
- ◻ PREVIOUS PHASE WORK AREA
- CURRENT PHASE WORK AREA
- 1 4" SOLID DOUBLE YELLOW (PAINT)
- 2 4" SOLID WHITE (PAINT)
- T1 24" CGSP CROSS DRAIN PIPE
- T2 21" CGMPA CROSS DRAIN PIPE

US-81 CANADIAN COUNTY

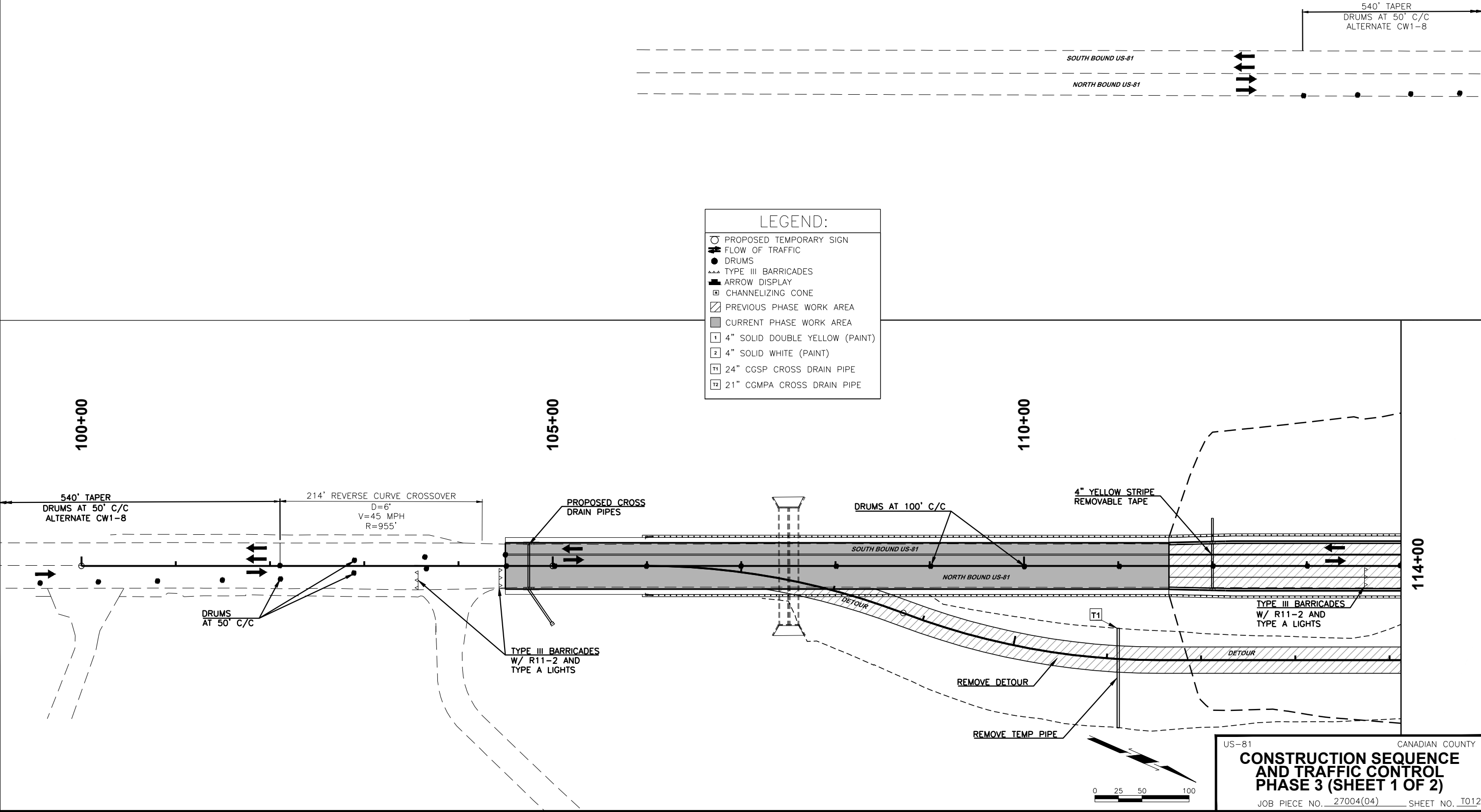
CONSTRUCTION SEQUENCE
AND TRAFFIC CONTROL
PHASE 2 (SHEET 2 OF 2)

JOB PIECE NO. 27004(04) SHEET NO. T011

NOTE: ALL DISTANCES SHOWN TO RIGHT-OF-WAY, FENCES, UTILITIES, AND OTHER EXIST. OBJECTS ARE FROM ϕ OF SURVEY.

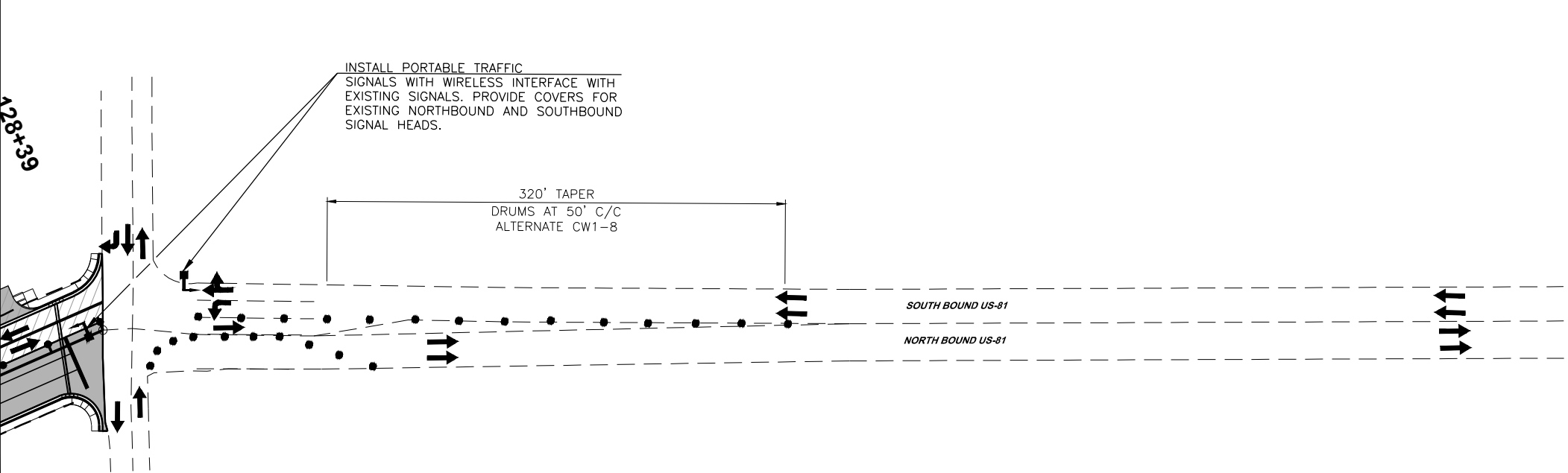
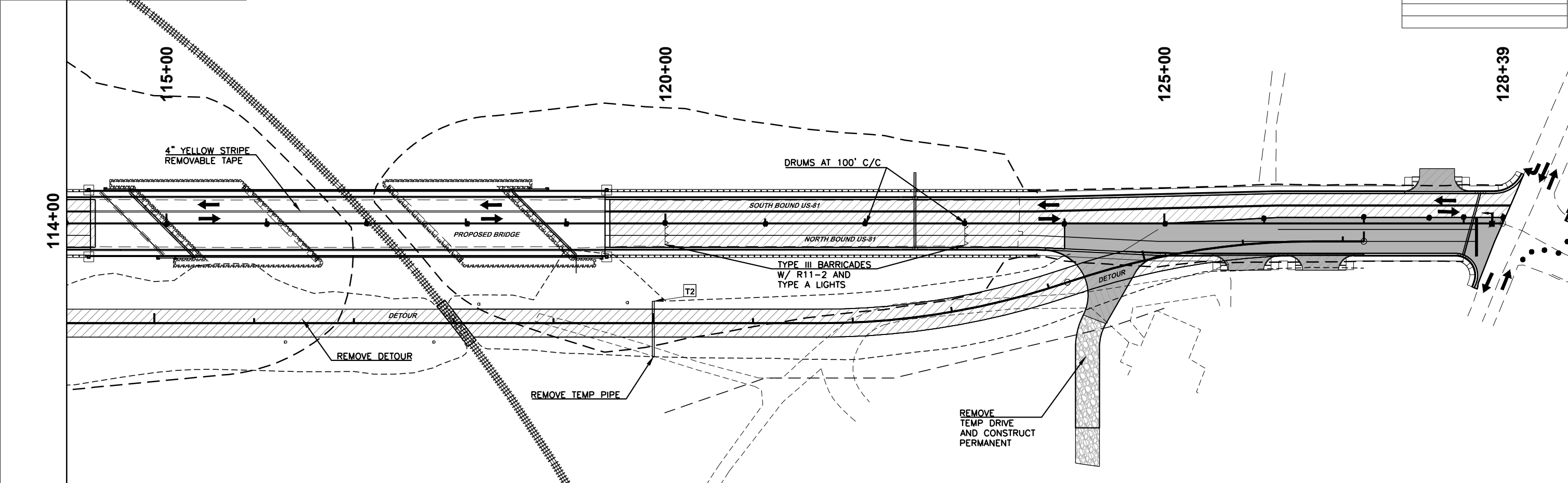
CEC // TRANSPORTATION

DESCRIPTION	REVISIONS	DATE



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DESCRIPTION	REVISIONS	DATE



LEGEND:

- PROPOSED TEMPORARY SIGN
- FLOW OF TRAFFIC
- DRUMS
- TYPE III BARRICADES
- ARROW DISPLAY
- ▣ CHANNELIZING CONE
- ▨ PREVIOUS PHASE WORK AREA
- CURRENT PHASE WORK AREA
- 1 4" SOLID DOUBLE YELLOW (PAINT)
- 2 4" SOLID WHITE (PAINT)
- 11 24" CGSP CROSS DRAIN PIPE
- 12 21" CGMPA CROSS DRAIN PIPE

