

FOR SURVEY CONTROL DATA,
SEE SURVEY DATA SHEETS S001-S007

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY

PROJECT NO. J3-2100(004)PM
BRIDGE & APPROACHES

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE COUNTY
SEQUOYAH COUNTY

CONTROL SECTION NO. 100-51-59
STATE JOB NO. 32100(04)
BRIDGE LOCATION NO. 5159 0300 X
EXISTING NBI NO. 17611, NEW NBI NO. 33084

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STANDARDS TO BE INCLUDED

TRAFFIC (2009)	BRIDGE (2009)	ROADWAY (2019)
TCS1-1-01	FSHP-42-2	BMPR-0
TCS2-1-00	EJ-SQ-04E	TESCA-0
TCS3-1-01	EJ-DTL-02E	RSF-0
TCS4-1-01	HP1-2-01E	TSD-0
TCS5-1-00		SSS-2-1
TCS6-1-02		CSCD-6-2
TCS7-1-02		LECS-5-2
TCS9-1-01		LTU-5-1
TCS10-1-00		PUD-4-1
TCS14-1-00		DC-4-1
THRI-1-02		
SKT-1-00		
GHW1-1-00		
GHW2-1-00		
GMS1-1-00		
NCD1-1-00		

DESIGN DATA

AADT (2022)	= 3,900 VPD
AADT (2042)	= 4,700 VPD
V (POSTED)	= 55 MPH
K	= 10%
D	= 56%
T (AADT)	= 10%
T (DHW)	= 9%
T3	= 7%
20 YR. FLEX ESALS	= 2.9 M

SCALES
PLAN 1" = 50'

PROFILE HOR. 1" = 50'

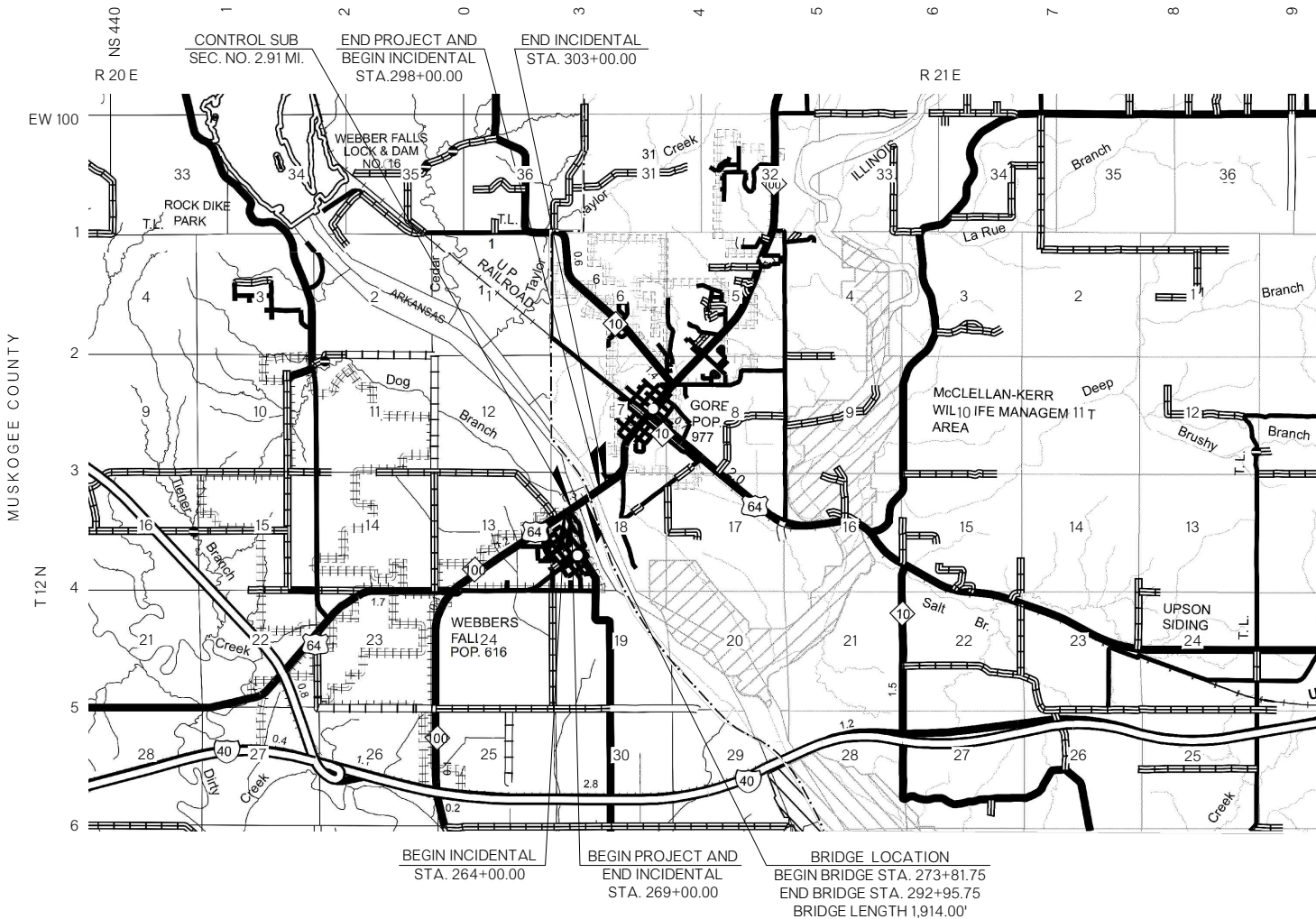
VER. 1" = 10'

LAYOUT MAP 1" = 4,000'

CONVENTIONAL SYMBOLS

	PROPOSED ROAD
	RAILROADS
	RANGE & TOWNSHIP
	SECTION LINES
	QUARTER SECTION LINES
	FENCES
	GROUND LINE
	EXISTING ROADS
	BASE LINE
	GRADE LINES
	TELEPHONE & TELEGRAPH
	POWER LINES
	BUILDINGS
	OIL WELL
	DRAINAGE STRUCTURES - IN PLACE
	DRAINAGE STRUCTURES - NEW
	RIGHT-OF-WAY LINES - EXISTING
	RIGHT-OF-WAY LINES - NEW
	CONTROLLED ACCESS
	RIGHT-OF-WAY FENCE

2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN, APPROVED BY
THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, DECEMBER 18, 2019.



ROADWAY LENGTH	986.00 FT.	0.186 MI.
BRIDGE LENGTH	1,914.00 FT.	0.362 MI.
PROJECT LENGTH		0.548 MI.
EQUATIONS	NONE	
EXCEPTIONS	NONE	

PREPARED BY:
CEC CORPORATION
OKLAHOMA NO. 32 (EXP. 6/30/24)
THIS SEAL APPLY TO SHEET NOS:
0001, AB01-AB02, B001-B064, BA01

DATE C. EDWARD GRINSTEINER
OKLAHOMA LICENSE NO. 19993

THIS DOCUMENT
IS PRELIMINARY
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SIGNED AND
SEALED
DOCUMENT

PREPARED BY:
HOLLOWAY, UPDIKE, & BELLEN, INC.
OKLAHOMA C.A. NO. 219 (EXP. 6/30/23)
THIS SEAL APPLIES TO SHEET NOS: 0002, AR01, AT01, AT02, AX01,
R001-R009, T001, T002, X001-X004

DATE WESLEY M. STEWART
OKLAHOMA LICENSE NO. 24031

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OKLAHOMA
DEPARTMENT OF TRANSPORTATION

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

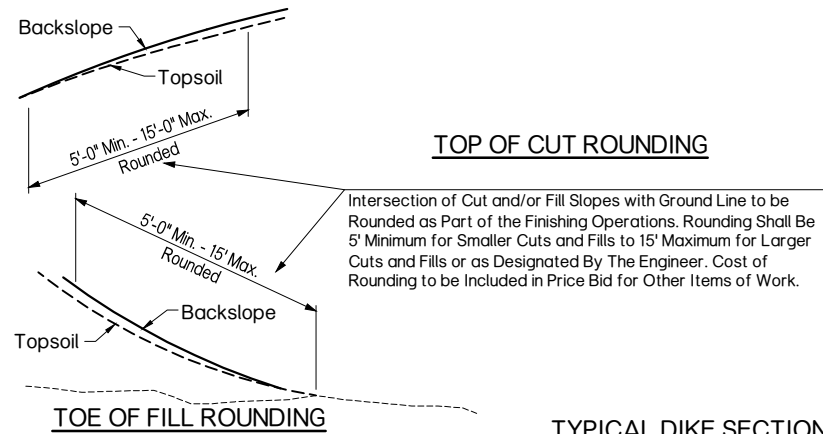
DATE APPROVED

DATE APPROVED

BY CHIEF ENGINEER

BY DIVISION ADMINISTRATOR

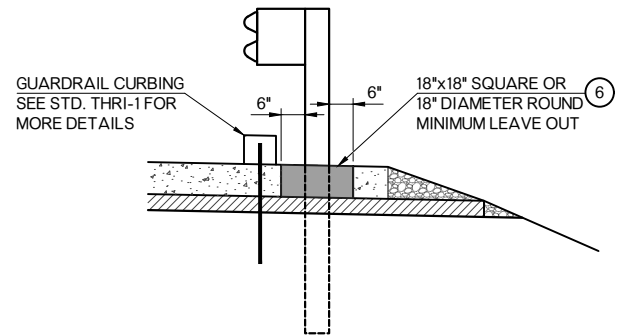
SWO 5375(1) PROJECT NO. J3-2100(004)PM
COUNTY MUSKOGEE-SEQUOYAH HIGHWAY SH100 SHEET NO. 0001



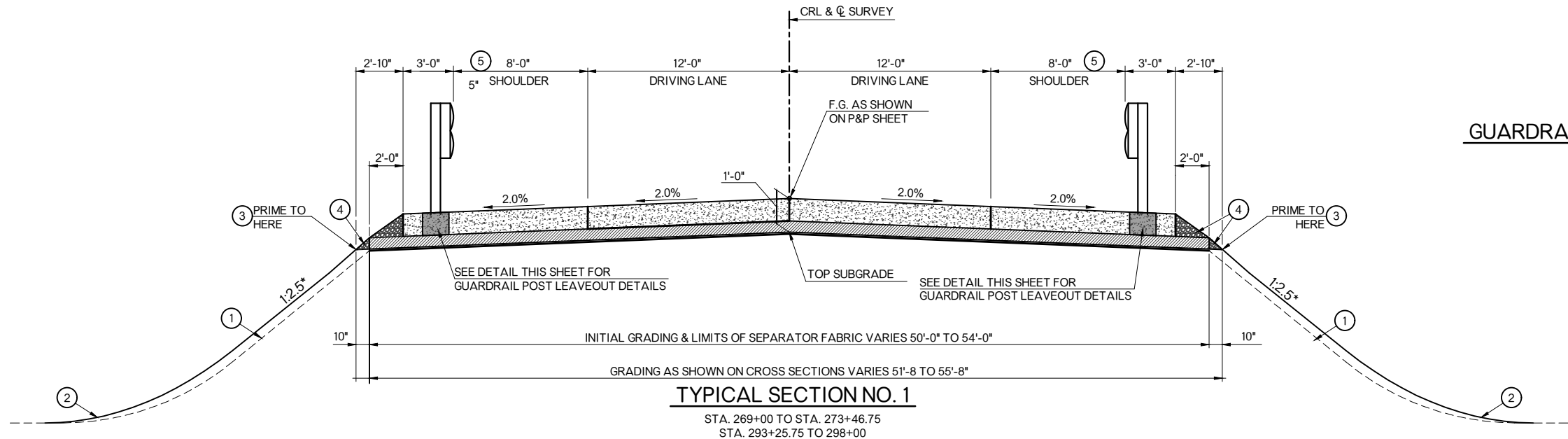
TYPICAL DIKE SECTION
AND
ROUNDING DETAILS

NOTES:

- UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.
- ① THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL WITHIN THE LIMITS OF CONSTRUCTION, APPROXIMATELY 5" DEEP, STOCKPILE THE MATERIAL AND REPLACE THE TOPSOIL ON THE FINISHED SLOPES OF THE GRADING SECTION. ALL ADDITIONAL COSTS NOT COVERED IN OTHER ITEMS SHALL BE INCLUDED IN THE LUMP SUM TOPSOIL ITEM AS FOLLOWS:
- ② 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 MASSLINE BALANCE. SEE ROUNDING DETAIL.
- ③ ESTIMATED AT 0.25 GALLONS PER SQ. YD. TOP OF BASE COURSE AND 0.35 GALLONS PER SQ. YD. TOP OF SUBGRADE.
- ④ AREA TO BE BACKFILLED AND COMPACTED WITH TBSC TYPE "E" AS PART OF FINISHING OPERATIONS.
- ⑤ SHOULDER WIDTH VARIES FROM 8'-0" TO 10'-0".
- ⑥ THE LEAVE OUTS SHALL BE FILLED WITH GROUT. PAYMENT FOR THE FURNISHING AND PLACEMENT OF THE GROUTING MIXTURE WILL BE INCLUDED IN THE COST OF W-BEAM GUARDRAIL.



GUARDRAIL POST LEAVE OUT



PAVEMENT REQUIREMENTS

8" PAVT. STRUCTURE	12' DRIVING LANES	8' PAVED SHOULDERS & GUARDRAIL WIDEN
SURFACE COURSE	8" P.C. CONCRETE PAVEMENT	8" P.C. CONCRETE PAVEMENT
BASE COURSE	4" CEMENT TREATED BASE	4" CEMENT TREATED BASE

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	RR	10/19	
CHECKED	WS	10/19	
APPROVED			
SQUAD	ENGINEERS		TYPICAL SECTION
COUNTY	MUSK./SEQ.	HIGHWAY	
		SH-100	STATE JOB NO
		32100(04)	SHEET NO 0002

GENERAL NOTES

SPECIFICATIONS -
COMPLY WITH THE REQUIREMENTS OF THE 2019 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS.

EXISTING PLANS -
THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF STATE AID PROJECT NO. S.A.P. 920 A & B. CONSTRUCTION PLANS FOR THE EXISTING STRUCTURE(S) MAY BE OBTAINED FROM THE OFFICE SERVICES DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

PHYSICAL ADDRESS: OKLAHOMA DEPARTMENT OF TRANSPORTATION
200 NE 21ST STREET
OKLAHOMA CITY, OKLAHOMA 73105
405-521-2586

FOR QUESTIONS AND CONCERNS REGARDING AS-BUILT PLANS, PLEASE EMAIL: ODOT-PlansLibrary@odot.org

WORK OVER WATERWAY -
PERFORM ALL WORK IN ACCORDANCE WITH THE APPROPRIATE GOVERNMENTAL AGENCIES HAVING REGULATORY AUTHORITY OVER THE WATERWAY, INCLUDING THE U.S. COAST GUARD AND THE U.S. ARMY CORPS OF ENGINEERS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY AND ALL FINES OR PENALTIES IMPOSED BY ANY GOVERNMENTAL AGENCY AS A RESULT OF THE CONTRACTOR'S ACTIVITIES IN OR ON THE WATERWAY.
TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE TRAVELING PUBLIC FROM CONSTRUCTION ACTIVITIES. RESTRICT BOAT ACCESS TO AREAS BELOW BRIDGE SECTIONS UNDER CONSTRUCTION. MAINTAIN A SAFE BOATING ROUTE UNDER THE BRIDGE(S) AT ALL TIMES. MARK RESTRICTED AREAS AND THE SAFE BOATING ROUTE WITH SIGN BUOYS AND MARKERS PLACED IN THE WATER IN ACCORDANCE WITH STANDARD NCD1-1. INCLUDE ALL COST OF SIGN BUOYS AND MARKERS IN OTHER ITEMS OF WORK.

DISTURBED AREAS DURING CONSTRUCTION -
THE CONTRACTOR IS RESPONSIBLE FOR RETUNING ANY DISTURBED AREAS BETWEEN THE BRIDGE ABUTMENTS AND THE CHANNEL, AND AT THE DISCRETION OF THE ENGINEER, THAT IS NOT DETAILED IN THE PLANS BACK TO ITS ORIGINAL STATE. THE CONTRACTOR IS TO PLACE EROSION PROTECTION TO THESE AREAS AT NO ADDITIONAL COST TO THE DEPARTMENT.

PILE DRIVING -
USE A PILE DRIVING HAMMER OF THE SIZE AND TYPE CAPABLE OF CONSISTENTLY DELIVERING THE EFFECTIVE DYNAMIC ENERGY TO DRIVE THE PILES TO THE REQUIRED TIP ELEVATION AND TO ACHIEVE AN AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION WITHOUT EXCEEDING THE LIMITATIONS SET ON THE ALLOWABLE DRIVING STRESSES IN ACCORDANCE WITH SUBSECTION 514.03.A.(2) OF THE SPECIFICATIONS.

PILE CAPACITY -
THE REQUIRED PILE SIZE AND THE FACTORED PILE REACTION ARE SHOWN IN THE PLANS WITH THE FOUNDATION DATA. THE FOLLOWING FORMULA (GATES EQUATION) WILL BE USED TO DETERMINE THE AXIAL LOAD RESISTANCE OF THE DRIVEN FOUNDATION PILES:
AXIAL LOAD RESISTANCE = PHI * [SQRT (E) * 0.875 * LG (10 * N) - 50] (TONS)
WHERE: PHI = 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.
SQRT = SQUARE ROOT
LG = LOGARITHM TO THE BASE 10
THE ABOVE FORMULA IS ONLY APPLICABLE WHEN CERTAIN CONDITIONS APPLY: THE PILE DRIVING HAMMER HAS A FREE FALL (GRAVITY & 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 SHOWN ONLY AFTER THE JETS HAVE BEEN WITHDRAWN.

HARD ROCK DRILLING -
IT IS ANTICIPATED THAT DRILLING INTO THE FOUNDATION ROCK WILL BE DIFFICULT AND MAY REQUIRE SPECIALIZED EQUIPMENT. THE BIDDERS AND/OR CONTRACTOR SHALL FULLY INFORM THEMSELVES OF THE PROPERTIES OF THE FOUNDATION ROCK TO BE DRILLED. THE BIDDERS AND/OR CONTRACTOR SHOULD REFER TO THE FOUNDATION BORING LOGS SHOWN IN THE PLANS AND MAY NEED TO MAKE THEIR OWN GEOTECHNICAL INVESTIGATION TO BECOME FULLY INFORMED OF THE PROPERTIES OF THE FOUNDATION ROCK. ANY GEOTECHNICAL INVESTIGATION OR OTHER STUDIES REQUIRED BY THE BIDDERS OR CONTRACTOR SHALL BE PERFORMED AT THEIR OWN EXPENSE. ALL COST ASSOCIATED WITH ROCK DRILLING, INCLUDING MATERIALS, LABOR, EQUIPMENT, SPECIALIZED EQUIPMENT AND INCIDENTALS, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "DRILLED SHAFTS 108" DIAMETER".

DRILLED SHAFTS -
USE A MIX DESIGN FOR ALL DRILLED SHAFTS THAT WILL LIMIT CURING TEMPERATURES TO LOWER THAN 150 DEGREES FAHRENHEIT, WHILE RESULTING IN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 56 DAYS. USE TYPE I, II OR V CEMENT WITH UP TO 35% CLASS F FLY ASH REPLACEMENT. ALTERNATIVELY, A TYPE IP(XX) CEMENT MAY BE USED PROVIDED CLASS F FLY ASH IS UTILIZED FOR THE POZZOLAN AND AN ADDITIONAL REPLACEMENT OF CLASS F FLY ASH DURING BATCHING UP TO 35-(XX)% IS MADE. USE A MINIMUM OF 25% CLASS F FLY ASH REPLACEMENT. CLASS C FLY ASH AND ADDITIONAL PORTLAND CEMENT WILL NOT BE ALLOWED. OTHER TEMPERATURE CONTROL CONCRETE MIXES MAY BE ALLOWED WITH THE APPROVAL OF THE ENGINEER.
PROVIDE A METHOD FOR MONITORING CONCRETE TEMPERATURE IN DRILLED SHAFTS DURING CURING. SUBMIT A TEMPERATURE MONITORING PLAN TO THE ENGINEER FOR APPROVAL. BEGIN MONITORING WHEN THE CONCRETE IS PLACED AND MONITOR CONTINUOUSLY FOR SEVEN DAYS. MONITOR TEMPERATURES AT MIDHEIGHT OF THE SHAFT, WITHIN FIVE FEET OF THE TOP OF SHAFT, AND AS DIRECTED BY ENGINEER. IF THE TEMPERATURE EXCEEDS 145 DEGREES FAHRENHEIT, MAKE ADJUSTMENTS TO THE MIX DESIGN PRIOR TO PLACING CONCRETE IN THE NEXT SHAFT.
PERFORM THERMAL INTEGRITY PROFILER (TIP) TESTING ON EACH DRILLED SHAFT. PERFORM CROSSHOLE SONIC LOGGING TESTING ON THE FIRST DRILLED SHAFT AND AT THE DISCRETION OF THE ENGINEER.

CONCRETE -
PROVIDE ALL PEDESTAL CONCRETE EDGES WITH A 3/4" CHAMFER. PROVIDE ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE WITH A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE WITH A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. USE SIZED LUMBER FOR ALL CHAMFER STRIPS.
EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.
PROVIDE FORM LINERS AS DETAILED IN THE PLANS. SUBMIT A 12" X 18" SAMPLE PANEL TO THE BRIDGE ENGINEER FOR APPROVAL. FURNISH SAMPLE PANELS WITH THE APPROPRIATE CONCRETE SURFACE FINISH. PROVIDE FORM LINING MATERIAL OF FULL SIZED COMMERCIAL PANELS AND LINE UP JOINTS AS CLOSE AS PRACTICAL. NO SCRAP OR ODD SIZED PIECES WILL BE ALLOWED. MAKE PROVISIONS IN THE ADJUSTMENT OF FORMS TO CORRECT ANY DEFORMATIONS. SEAL FORM LINERS AT ALL ENDS, EDGE JOINTS, AND TIE HOLES TO PREVENT DISCOLORATION, SAND STREAKING AND FINS ON CONCRETE SURFACES. DRESS ANY DISCONTINUITY OF RELIEF PATTERN, PARTICULARLY AT PANEL BUTT JOINTS, IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COST OF FORM LINERS, LABOR, MATERIALS, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED IN OTHER ITEMS OF WORK.

STRUCTURAL STEEL -
PROVIDE STRUCTURAL STEEL FOR PLATE GIRDERS 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) OR ASHTO M270 (ASTM A709), GRADE HPS70W (WEATHERING STEEL, NON FRACTURE CRITICAL CHARPY V-NOTCH TESTED FOR ZONE 2) AS SHOWN IN THE PLANS. USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS. CAMBER GIRDERS TO ACCOUNT FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE. NON-DESTRUCTIVE TESTING WILL BE REQUIRED AS APPROPRIATE.
PROVIDE STRUCTURAL STEEL FOR LATERAL BRACING MEMBERS, CROSS FRAME SHAPES, AND 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.
PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES, RESTRAINT PLATES, MASONRY PLATES, AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH 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.
PROVIDE STRUCTURAL STEEL FOR PARAPET CLOSURE PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 36 (CHARPY V-NOTCH TESTING NOT REQUIRED). GALVANIZE PARAPET CLOSURE PLATES IN ACCORDANCE TO AASHTO M111. USE WELDED STUDS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. USE CAP SCREWS CONFORMING TO ASTM F879 AND NUTS CONFORMING TO ASTM F594. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL. PAINT THE PARAPET CLOSURE PLATES AFTER FABRICATION WITH A CATEGORY "N" PAINT SYSTEM IN ACCORDANCE WITH SECTION 512 OF THE SPECIFICATIONS. PROVIDE A TOPCOAT COLOR MATCHING THE SURFACE FINISH COLOR OF THE PARAPET CONCRETE.
FABRICATE PLATE GIRDERS AND CROSS-FRAMES FOR A STEEL DEAD LOAD FIT (ALSO KNOWN AS ERECTED FIT) CONDITION WHERE GIRDERS ARE APPROXIMATELY PLUMB IMMEDIATELY FOLLOWING GIRDER ERECTION AND BEFORE DECK CONCRETE PLACEMENT. SUBMIT A WORK PLAN DETAILING SEQUENCE OF GIRDER ERECTION TO THE BRIDGE ENGINEER. INCLUDE ANTICIPATED TYPES AND LOCATIONS OF CRANES TO BE USED AND METHODS TO SECURE AND BRACE ERECTED GIRDERS BETWEEN SUBSEQUENT LIFT OPERATIONS. DO NOT BEGIN GIRDER ERECTION OPERATIONS UNTIL APPROVAL OF WORK PLAN BY THE BRIDGE ENGINEER IS RECEIVED.

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.
PLACE THE DECK SLAB CONCRETE ONE SECTION AT A TIME CONSISTENT WITH THE DECK SLAB POURING SEQUENCE DIAGRAM SHOWN IN THE PLANS. 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 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.

STAY-IN-PLACE DECK FORMS -
THE CONTRACTOR MAY USE STAY-IN-PLACE STEEL DECK FORMS IN ALTERNATE A 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 ALL COSTS OF STAY-IN-PLACE STEEL DECK FORMS TO BE INCLUDED IN THE CONTRACT UNIT PRICE OF CLASS AA CONCRETE.

URETHANE COATING SYSTEM -
PROVIDE A COATING SYSTEM SUCH AS CIM 1000 (MANUFACTURED BY CIM INDUSTRIES), POLYCOAT-PC-IM 129 SYSTEM (MANUFACTURED BY POLYCOAT PRODUCTS) OR AN APPROVED EQUAL. COATING SYSTEM MUST INCLUDE AN EPOXY SURFACE PRIMER AND HAVE A MINIMUM TOTAL DRY THICKNESS OF 58 MILS. PREPARE SURFACE AND APPLY COATINGS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AT LOCATIONS SHOWN IN THE PLANS.
STORE AND HANDLE PRODUCT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. BEFORE SHIPPING, OBTAIN A MATERIAL SAFETY DATA SHEET (MSDS) FOR EACH COMPONENT AND PROVIDE A COPY TO THE ENGINEER. POST SAFETY AND HANDLING INFORMATION AT STORAGE AREAS AND AT THE JOB SITE.
SUBMIT A WORK PLAN TO THE ENGINEER INCLUDING SURFACE PREPARATION TECHNIQUES, MATERIALS, AND APPLICATION PROCEDURES. DO NOT APPLY COATING UNTIL SUBSTRUCTURE CONCRETE HAS OBTAINED THE MINIMUM 28-DAY COMPRESSIVE STRENGTH IN ACCORDANCE WITH SUBSECTION 701.01 OF THE SPECIFICATIONS. APPLY URETHANE COATING BEFORE ANY OTHER SURFACE TREATMENTS AND MASK EDGES TO PROVIDE A CLEAN, STRAIGHT FINISH.

FINAL REVIEW
PLANS

DECEMBER 2022

STEEL GIRDER BRACING FOR DECK SLAB PLACEMENT -
SUBMIT DRAWINGS OF THE BRACING SYSTEM TO THE BRIDGE ENGINEER FOR APPROVAL. BRACING SYSTEMS OTHER THAN THAT SHOWN IN THE PLANS 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 THE BRACING SYSTEM IS APPROVED. THE DEPARTMENT CONSIDERS ALL COST 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 AND WITHIN 6 INCHES OF THE BOTTOM FLANGE.
USE #4 EPOXY COATED REINFORCING STEEL WITH THREADED ENDS OR GALVANIZED ALL THREAD FOR TENSIONS TIES. PLACE TENSION TIES PERPENDICULAR TO THE BEAMS. ATTACH TENSION TIES TO THE TOP FLANGE OF THE BEAMS WITH TY-BAR CLIPS AS SHOWN IN THE PLANS. DO NOT WELD TY-BAR CLIPS TO THE TOP FLANGE OF THE BEAMS.
WEDGE HARDWOOD STRUTS, OR ANOTHER MATERIAL OF AN EQUIVALENT STRENGTH, BETWEEN THE BEAM WEBS WITHIN 6" OF THE BOTTOM FLANGE AT EACH TENSION TIE LOCATION.

DECK DRAIN -
PROVIDE STEEL FOR DRAINAGE GRATE AND FRAME IN ACCORDANCE WITH AASHTO M270 GR. 36. WELD IN ACCORDANCE WITH SECTION 724 OF THE ODOT STANDARD SPECIFICATIONS.
PROVIDE PIPE OUTLET IN ACCORDANCE WITH ASTM A53, IN STANDARD MASS, UNTHREADED MILL FINISH. GALVANIZE DRAINAGE GRATE AND FRAME ASSEMBLIES IN ACCORDANCE WITH AASHTO M111.
PROVIDE GALVANIZED 7/8" DIA. HEX BOLTS WITH ONE HEX NUT, ONE PLAIN WASHER AND ONE LOCK WASHER IN ACCORDANCE WITH AASHTO M164.
ALTERNATE BRIDGE DRAINS MAY BE SUBSTITUTED FOR THE BRIDGE DRAIN SHOWN IN THE PLANS PROVIDED AND THEY ARE APPROVED BY THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION. PROVIDE ALTERNATE DRAINS WITH AN APPROXIMATELY EQUAL GRATE OPENING AREA (336 SQ IN) AND AN 8" DIAMETER OUTFALL.
BEND SLAB REINFORCING BARS TO CLEAR DRAIN BY 1". WHEN BENDING IS NOT POSSIBLE, STOP OR CUT REINFORCING BARS WITHIN 1" OF THE OBSTRUCTION TO CLEAR DRAIN AS SHOWN. FINAL POSITION OF DECK DRAIN MAY BE ALTERED BY ±6" TO MINIMIZE CUTTING OF "AC BARS" IN TOP MAT OF BRIDGE DECK REINFORCING. TAKE CARE WHEN PLACING CONCRETE TO PREVENT HONEYCOMBING OR AIR POCKETS AROUND OR BENEATH THE DRAIN.
PROVIDE SCHEDULE 40 DMV PVC PIPE CONFORMING TO ASTM D 2665. MINIMUM WALL THICKNESS: 0.280"-6" DIA., 0.332"-8" DIA. FITTINGS TO BE USED AS DIRECTED BY THE ENGINEER. SUPPORT ALL PIPE SECURELY BY THE SUPERSTRUCTURE. GALVANIZE ALL METALLIC PIPE SUPPORT HARDWARE AND FASTENERS IN ACCORDANCE WITH THE ODOT STANDARD SPECIFICATION. INCLUDE ALL COSTS OF ATTACHMENT DEVICES AND PVC PIPE IN CONTRACT UNIT PRICE OF "STRUCTURAL STEEL."
ROUND OR CHAMFER EXPOSED EDGES OF GRATE AND FRAME TO APPROXIMATE 7/8".
INCLUDE ALL COSTS ASSOCIATED WITH DECK DRAINS IN THE CONTRACT UNIT PRICE OF "STRUCTURAL STEEL".

WATER REPELLENT TREATMENT -
APPLY WATER REPELLENT TREATMENT TO THE BRIDGE IN MANNER CONSISTENT WITH THE DETAILS SHOWN IN THE PLANS.

SOFTWARE -
THE FOLLOWING COMPUTER SOFTWARE WAS USED IN THE ANALYSIS AND DESIGN OF THE STRUCTURE(S) DETAILED IN THE PLANS:
(1) WHITE ENGINEERING ASSOCIATES, INC. DECK SLAB DESIGN (VERSION 2.08, 04-15-19)
(2) MDX CURVED & STRAIGHT STEEL BRIDGE (VERSION 6.5.4720, 12-30-21)
(3) MDX STEEL LINE GIRDER DESIGN AND RATING (VERSION 6.5.4720, 6-1-22)
(4) WHITE ENGINEERING ASSOCIATES, INC. ELASTOMERIC BEARING PAD DESIGN (VERSION 3.03, 04-18-19)
(5) WHITE ENGINEERING ASSOCIATES, INC. PIER DESIGN (VERSION 2.02, 09-24-07)
(6) STRUCTUREPOINT, L.L.C. SPCOLUMN (VERSION 7.00, 12-1-19)
(7) WHITE ENGINEERING ASSOCIATES, INC. ABUTMENT/RETAINING WALL DESIGN (VERSION 2.00, 10-19-07)
(8) IES VISUALANALYSIS (VERSION 4.01.013, 02-01-02)

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	CEG	
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)		SHEET 1 OF 2		Detail	DRB	
				Check	DLW	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		CEC		
JOB PIECE NO. 32100(O4)				SHEET NO. ABO1		

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J.P. NO. 32100(04) 0200 BRIDGE "A" NBI NO. 33084		PAY QUANTITIES		
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY 240'-320'-410'-320'-(3) 208' R GIRDER SPANS 40'-0" CL. RDWY. WITH F-SHAPED PARAPETS C STA. 283+38.75, 0° SKEW				
ITEM NO.		ITEM DESCRIPTION	UNIT	TOTAL
501(B)	1300	SUBSTRUCTURE EXCAVATION COMMON (BR-1, 2)	C.Y.	300
501(G)	1800	CLSM BACKFILL (BR-1)	C.Y.	479.2
504(A)	5200	APPROACH SLAB (BR-1, 3)	S.Y.	310.7
504(B)	5300	SAW-CUT GROOVING (BR-1)	S.Y.	8,795.7
504(E)	5520	42" F-SHAPED PARAPET (BR-1, 4)	L.F.	3,958.0
506(A)	7210	STRUCTURAL STEEL M270 GR. HPS 70W (BR-1)	LB.	476,230
506(A)	7225	STRUCTURAL STEEL M270 GRADE 50W (BR-1)	LB.	4,880,900
507(A)	8200	STAINLESS STEEL FIXED BEARING ASSEMBLY (BR-1, 5)	EA.	20
507(B)	8300	STAINLESS STEEL EXP. BEARING ASSEMBLY (BR-1, 6)	EA.	20
509	0120	ELASTOMERIC COATING (BR-1, 7)	S.F.	2,795
509(A)	0210	CLASS AA CONCRETE (BR-1, 8)	C.Y.	2,200.1
509(B)	0320	CLASS A CONCRETE (BR-1)	C.Y.	1,734.0
511(A)	2210	REINFORCING STEEL (BR-1)	LB.	6,310
511(B)	2310	EPOXY COATED REINFORCING STEEL (BR-1)	LB.	995,320
514(A)	5220	PILES, FURNISHED (HP 12x53) (BR-9)	L.F.	1,010
514(A)	5240	PILES, FURNISHED (HP 14x73) (BR-9)	L.F.	701
514(B)	5320	PILES, DRIVEN (HP 12x53)	L.F.	1,010
514(B)	5340	PILES, DRIVEN (HP 14x73)	L.F.	701
514(L)	6300	PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1
515(A)	7200	WATER REPELLENT (VISUALLY INSPECTED) (BR-1)	S.Y.	3,923
516(A)	8265	DRILLED SHAFTS 108" DIAMETER	L.F.	502
516(C)	8400	CROSSHOLE SONIC LOGGING (BR-10)	EA.	1
516(G)	8800	THERMAL INTEGRITY PROFILER (BR-11)	EA.	12
518(B)	0300	SEALED EXPANSION JOINTS (BR-1)	L.F.	41.00
518(I)	0700	MODULAR EXPANSION JOINT (BR-1)	L.F.	82.00
523(A)	3200	SEALER CRACK PREPARATION (BR-1)	L.F.	320
523(B)	3300	SEALER RESIN (BR-1, 12)	GAL.	3.6
613(H)	6205	6" PERFORATED PIPE UNDERDRAIN ROUND (BR-1, 13)	L.F.	86
613(I)	6310	6" NON-PERF. PIPE UNDERDRAIN RND. (BR-14)	L.F.	54
619(D)	6700	REMOVAL OF EXISTING BRIDGE STRUCTURE (BR-15)	L.SUM	1
809(G)	7800	(SP) BRIDGE NAVIGATION LIGHTING (BR-16)	L.SUM	1


J.P. NO. 32100(04) 0600 STAKING				PAY QUANTITIES			
ITEM NO.		ITEM DESCRIPTION			UNIT	TOTAL	
642(B)	3300	CONSTRUCTION STAKING LEVEL II			L.SUM	1	

J.P. NO. 32100(04) 0640 CONSTRUCTION				PAY QUANTITIES			
ITEM NO.		ITEM DESCRIPTION			UNIT	TOTAL	
220	1100	SWPPP DOCUMENTATION AND MANAGEMENT			L.SUM	1	
640(A)	1200	FIELD OFFICE			EA.	1	
641	2100	MOBILIZATION			L.SUM	1	

PAY ITEM NOTES

- (BR-1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.
- (BR-2) THE CONTRACTOR MAY PLACE CONCRETE AGAINST THE LIMITS OF EXCAVATION IF THE MATERIAL IS EXCAVATED TO THE NEAT LINES OF THE SUBSTRUCTURE AND APPROVED BY THE ENGINEER. IF NECESSARY, USE FORMS AT VERTICAL FACES AND REMOVE THE 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 DIAGRAMS SHOWN IN THE PLANS.
- (BR-3) THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 112.2 C.Y. OF CLASS AA CONCRETE AND 22,060 LB. OF EPOXY COATED REINFORCING STEEL. PROVIDE FILL AS REQUIRED ON EMBANKMENTS AND UNDER APPROACH SLABS TO ENSURE CONTINUOUS SUPPORT. COMPACT FILL IN ACCORDANCE WITH SECTION 202 OF THE SPECIFICATIONS. ADJUST EXISTING DRAINS TO NEW FINISHED GRADE AS NECESSARY. INCLUDE THE COST OF FILL MATERIAL, COMPACTION, AND DRAIN ADJUSTMENTS IN THE CONTRACT UNIT PRICE OF "APPROACH SLABS".
- (BR-4) F-SHAPED PARAPETS CONTAIN AN ESTIMATED TOTAL OF 4,040 LB. OF STRUCTURAL STEEL FOR THE PARAPET CLOSURE PLATES.
- (BR-5) THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 28,650 LB. OF STAINLESS STEEL.
- (BR-6) THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 15,990 LB. OF STAINLESS STEEL.
- (BR-7) PROVIDE THE CIM1000 URETHANE COATING SYSTEM AS MANUFACTURED BY C.I.M. INDUSTRIES, INC., POLYCOAT-PC-IM129 BY POLYCOAT PRODUCTS, OR APPROVED EQUAL, WITH THE MATERIALS, DIMENSIONS, DETAILS, AND INSTALLATION MEETING THE REQUIREMENTS AS SHOWN IN THE PLANS AND THE GENERAL NOTES. SANDBLAST AND PRIME THE SURFACES AS RECOMMENDED BY THE MANUFACTURER BEFORE APPLICATION.
- (BR-8) THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES AN ESTIMATED 148.1 C.Y. FOR BEAM HAUNCHES.
- (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) QUANTITY SHOWN FOR CROSSHOLE SONIC LOGGING INCLUDES TESTING THE FIRST DRILLED SHAFT ONLY. ACTUAL NUMBER OF TESTS PERFORMED WILL BE AT THE DISCRETION OF THE ENGINEER AND PAYMENT WILL BE BASED ON ACTUAL NUMBER OF DRILLED SHAFTS TESTED.
- (BR-11) QUANTITY SHOWN INCLUDES TESTING EACH DRILLED SHAFT.
- (BR-12) QUANTITY SHOWN FOR SEALER RESIN ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.
- (BR-13) INCLUDE THE COST OF PIPE UNDERDRAIN COVER MATERIAL (BOTH FILTER SAND AND COARSE) AND FILTER FABRIC IN THE CONTRACT UNIT PRICE OF "6" PERFORATED PIPE UNDERDRAIN ROUND". INSTALL AS SHOWN IN THE ON PLANS AND ON STD. PUD-4.
- (BR-14) THE ENGINEER MAY ADJUST THE EXTENT, LOCATION AND DEPTH OF NON-PERFORATED PIPE UNDERDRAIN DURING CONSTRUCTION. INCLUDE THE COST OF TRENCH EXCAVATION AND STANDARD BEDDING MATERIAL IN THE CONTRACT UNIT PRICE OF "6" NON-PERF. PIPE UNDERDRAIN RND". INSTALL AS SHOWN IN THE PLANS AND ON STD. PUD-4.
- (BR-15) ITEM "REMOVAL OF EXISTING BRIDGE STRUCTURE" CONSISTS OF REMOVING AND DISPOSING OF THE SUPERSTRUCTURE AND SUBSTRUCTURE OF THE EXISTING BRIDGE IN ACCORDANCE WITH SUBSECTION 619.04.B OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING BRIDGE IS DESCRIBED AS 4(100' CONT., (207'-334'-207' CONT.) 3(100' CONT.) 4(100' CONT.) 75' R GIRDER SPANS WITH 28' CLEAR ROADWAY.
- (BR-16) PROVIDE AND INSTALL THE NAVIGATION LIGHTING SYSTEM AS SHOWN IN THE PLANS IN ACCORDANCE WITH THE SPECIAL PROVISION "BRIDGE NAVIGATION LIGHTING". THE REQUIRED SYSTEM INCLUDES FOUR (4) 180-DEGREE RED LIGHTS AND TWO (2) 360-DEGREE GREEN LIGHTS WITH SWING ARM ASSEMBLIES COMPLETE WITH PANEL MOUNTS.

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	CEG	
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) SHEET 2 OF 2				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(04)		SHEET NO. ABO2				

ENVIRONMENTAL MITIGATION NOTES

EARTHWORK NOTE:
THE CONTRACTOR MUST ENSURE THAT ANY MATERIAL INCORPORATED INTO THE PROJECT IS FREE OF ANY HAZARDOUS, INDUSTRIAL OR CONTAMINATED WASTE, REFER TO SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

IMPORTED MATERIAL (EG. BORROW) - IF MATERIAL IS IMPORTED TO THE PROJECT AND AT ANY POINT THE MATERIAL IS DETERMINED BY THE ENGINEER TO INCLUDE ANY TYPE OF UNACCEPTABLE CONTAMINATION, THE MATERIAL MAY REQUIRE REMOVAL, IN WHOLE, OR IN PART. IF REMOVAL IS REQUIRED, THEN THE INITIAL PLACEMENT, REMOVAL AND PROPER DISPOSAL OF THIS MATERIAL SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE DISPOSAL OF THE UNACCEPTABLE MATERIAL SHALL BE APPROVED BY THE ENGINEER, REFER TO SUB-SECTION 107.15 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

TO ASSIST THE CONTRACTOR, THE "OFF PROJECT FACILITY/BORROW SITE HAZARDOUS MATERIALS QUESTIONNAIRE" IS PROVIDED ON THE DEPARTMENT'S WEB SITE:

https://oklahoma.gov/content/dam/ok/en/odot/documents/ok-gov-docs/programs-and-projects/environmental/hazard-questionnaire-2016.pdf

THIS QUESTIONNAIRE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR SO THAT A CLEARER UNDERSTANDING OF THE CHARACTERISTICS OF THE PROPOSED SITE/ MATERIAL IS ACHIEVED. COMPLETION AND SUBMITTAL OF THIS FORM TO THE ENGINEER DOES NOT EXCUSE THE CONTRACTOR FROM PROVIDING MATERIALS THAT ARE FREE OF HAZARDOUS AND INDUSTRIAL COMPOSITION IN ACCORDANCE WITH SUB-SECTIONS 106.01 AND 202.02 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NON-COMPLIANCE NOTE:
FAILURE TO IMPLEMENT THE COMMITMENTS SPECIFIED IN THE PLAN NOTES CAN RESULT IN NON-COMPLIANCE ISSUES ON THE PROJECT. WORK ACTIVITIES MAY BE SUSPENDED ON THE PROJECT, FOR AN UNDETERMINED DURATION, WHILE WORKING WITH REGULATORS TO BRING THE PROJECT BACK INTO COMPLIANCE. THE CONTRACTOR WILL NOT BE COMPENSATED FOR TIME LOST.

WATER QUALITY CONSVERVATION NOTE:
APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE IMPACTS FROM STORM WATER DISCHARGES AND SEDIMENTATION IN STREAMS, AS ESTABLISHED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY, SHALL BE CONSCIENTIOUSLY IMPLEMENTED THROUGHOUT THE PROPOSED CONSTRUCTION PERIODS, IN ORDER TO MINIMIZE ANY POTENTIAL IMPACTS TO ANY LISTED SPECIES. THE EFFECTIVENESS OF EROSION CONTROLS SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES. HAZARDOUS MATERIALS, CHEMICALS, FUELS, LUBRICATING OILS, AND OTHER SUCH SUBSTANCES SHALL BE STORED AT LEAST 100 FEET FROM THE ORDINARY HIGH WATER MARK (OHWM). REFUELING OF CONSTRUCTION EQUIPMENT SHALL ALSO BE CONDUCTED AT LEAST 100 FEET FROM THE OHWMS. SEDIMENT AND EROSION CONTROLS SHALL BE INSTALLED AROUND STAGING AREAS TO PROHIBIT DISCHARGE OF MATERIALS FROM THESE SITES. CONSTRUCTION WASTE MATERIALS AND DEBRIS SHALL BE STOCKPILED AT LEAST 25 FEET OUTSIDE OF THE OHWMS, AND THESE MATERIALS SHALL BE REMOVED AND DISPOSED OF PROPERLY FOLLOWING COMPLETION OF THE PROJECT. PREVENTATIVE MEASURES MUST BE TAKEN TO PROHIBIT THE DISCHARGE OF CONTAMINANTS INTO ANY SURFACE WATERS.

AMERICAN BURYING BEETLE NOTE:
THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT OCCURS WITHIN THE PROJECT LIMITS. ARTIFICIAL LIGHTING MAY BE USED DURING CONSTRUCTION FOR NIGHT ACTIVITIES IF THE EQUIPMENT SPECIFICATIONS OUTLINED IN SPECIAL PROVISION 656-5(A-B)19 FOR ABB ARE ADHERED TO AND MEASURES TO MINIMIZE USE OF ARTIFICIAL LIGHTING HAVE BEEN IMPLEMENTED. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY RIGHT-OF-WAY THROUGHOUT THE DURATION OF PROJECT ACTIVITIES. POLLUTION PREVENTION REQUIREMENTS AS SPECIFIED BY THE OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY GENERAL PERMIT OKRL0 FOR STORM WATER DISCHARGES SHALL BE IMPLEMENTED WHEN APPROPRIATE. ADDITIONALLY, ALL EQUIPMENT WILL BE FUELED, AND ALL FUEL AND MOTOR VEHICLE OIL WILL NOT BE STORED WITHIN AREAS OF NATIVE VEGETATION (IE. OUTSIDE OF ABB HABITAT).

BAT BRIDGE SEASONAL RESTRICTION NOTE:
THE GRAY BAT, INDIANA BAT, OZARK BIG-EARED BAT AND THE NORTHERN LONG-EARED BAT ARE LISTED BAT SPECIES THAT OCCUR WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID AND MINIMIZE ADVERSE IMPACTS TO LISTED BAT SPECIES, BRIDGE REPAIR, RETROFIT, MAINTENANCE, REHABILITATION OR DEMOLITION SHALL BE PERMITTED ONLY BETWEEN NOVEMBER 16, AND MARCH 31 (WHEN BATS ARE HIBERNATING IN CAVES). IF BRIDGE REPAIR, RETROFIT, MAINTENANCE, REHABILITATION OR DEMOLITION DURING THE ACTIVE SEASON (BETWEEN APRIL 1, AND NOVEMBER 15) CANNOT BE AVOIDED, THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST TO SCHEDULE A VISUAL BAT BRIDGE INSPECTION, PRIOR TO ANY BRIDGE WORK. INSPECTION SURVEYS CAN ONLY BE CONDUCTED BETWEEN MAY 15, AND AUGUST 15. IF THE INSPECTION FINDS THAT BATS ARE USING THE STRUCTURES, ALL BRIDGE REPAIR, RETROFIT, MAINTENANCE, REHABILITATION OR DEMOLITION SHALL ONLY BE PERMITTED BETWEEN NOVEMBER 16, AND MARCH 31 (WHEN BATS ARE HIBERNATING IN CAVES).

BAT TREE REMOVAL SEASONAL RESTRICTION NOTE:
THE GRAY BAT, INDIANA BAT, OZARK BIG-EARED BAT AND NORTHERN LONG-EARED BAT ARE LISTED BAT SPECIES THAT OCCUR WITHIN THE PROJECT'S ACTION AREA. IN ORDER TO AVOID ADVERSE IMPACTS TO THESE SPECIES, ODOT ENVIRONMENTAL PROGRAMS DIVISION WILL CONDUCT AN ACOUSTIC SURVEY TO DETECT THE PRESENCE OF ANY LISTED BATS, WITHIN FIVE YEARS PRIOR TO CONSTRUCTION. ALL PRESENCE/ABSENCE SURVEYS MUST BE SCHEDULED BETWEEN MAY 15 – AUGUST 15. THE RESIDENT ENGINEER MUST SCHEDULE THE ACOUSTIC SURVEY AT LEAST ONE YEAR PRIOR TO ANY TREE CLEARING, INCLUDING CLEARING PRIOR TO UTILITY RELOCATION. IF THE SURVEY IS POSITIVE, ALL REMOVAL OF TREES WILL BE PERMITTED ONLY BETWEEN AUGUST 1 AND APRIL 30, OUTSIDE THE PUPPING SEASON. IN ADDITION, ODOT ENVIRONMENTAL PROGRAMS DIVISION WILL RECONSULT WITH USFWS TO MITIGATE ADVERSE IMPACTS PRIOR TO ANY TREE CLEARING (INCLUDING UTILITIES).

BAT LIGHTING NOTE:
ALL TEMPORARY LIGHTING, IF USED, WILL BE DIRECTED AWAY FROM SUITABLE BAT HABITAT DURING THE ACTIVE SEASON FOR BATS (APRIL 1- NOVEMBER 15). IF ANY PERMANENT LIGHTING IS INSTALLED OR REPLACED, DOWNWARD-FACING FULL CUT-OFF LENS LIGHTS SHALL BE INSTALLED AND DIRECTED AWAY FROM WOODED AREAS AND STREAMS.

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

ENVIRONMENTAL MITIGATION NOTES

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 THE SH-100 ARKANSAS RIVER BRIDGE (NBI:17611) WAS OBSERVED. PAINTING, REPAIR, RETROFIT, REHABILITATION OR DEMOLITION OF THE EXISTING BRIDGE 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 BRIDGE 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.

INTERIOR LEAST TERN NOTE:
INTERIOR LEAST TERNS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. INTERIOR LEAST TERNS NESTING HABITAT IS PRESENT WITHIN AND DOWNSTREAM OF THE ARKANSAS RIVER WITHIN THE PROJECT AREA. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST TO SCHEDULE A PRECONSTRUCTION NESTING SURVEY DURING THE MONTH OF JUNE; SURVEYS ARE VALID FOR THAT NESTING SEASON ONLY. IF CONSTRUCTION ACTIVITIES WILL OCCUR DURING THE ACTIVE NESTING SEASON FOR THIS SPECIES (MAY 1 THROUGH AUGUST 31), A 0.25 MILE NO-WORK-ZONE BUFFER FROM THE ORDINARY HIGH WATER MARK OF THE ARKANSAS RIVER WILL BE ESTABLISHED UNTIL THE NESTING SURVEY CAN BE COMPLETED. IF THE SURVEY FINDS INTERIOR LEAST TERNS NESTING IN THE AREA, ALL WORK WITHIN 0.25 MILES OF ANY NESTING COLONIES WILL BE POSTPONED UNTIL AFTER SEPTEMBER 1 (THE END OF NESTING SEASON) AND BE COMPLETED BY APRIL 30, THE FOLLOWING YEAR.

CULTURAL RESOURCES AVOIDANCE NOTE:
LOCATIONS OUTSIDE THE PROJECT AREA IN THE FOLLOWING AREAS MUST NOT BE UTILIZED FOR BORROW, EQUIPMENT STAGING, HAUL ROADS, SPOIL DUMPS, OR ANY OFF-SITE PROJECT-RELATED ACTIVITY.

T12N R21E	SECTION 7:	SE ¼
	SECTION 18:	NE ¼ SW ¼ NE ¼ SE ¼ SW ¼ NW ¼ N ½ NW ¼ NE ¼
T12N R20E	SECTION 13:	ALL

ENVIRONMENTAL NOTES		DETAIL		
		REVIEW		
		APPROVED		
		ENVIRONMENTAL DIVISION		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO. 32100(04)	SHEET NO. AE01

FINAL FIELD MEETING

DECEMBER 2022

ROADWAY GENERAL CONSTRUCTION NOTES:

THIS PROJECT SHALL BE CONSTRUCTED BY CLOSING THE EXISTING ROAD TO LOCAL AND THROUGH TRAFFIC. TRAFFIC WILL BE DETOURED USING PORTIONS OF SH-100, I-40 & US-64. SEE SHEET T001 FOR DETOUR PLAN.

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 LYING 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.

THE CONTRACTOR SHALL GIVE NOTICE TO MUSKOGEE & SEQUOYAH COUNTIES AND THE OKLAHOMA DEPARTMENT OF TRANSPORTATION DIVISION 1 ENGINEER, IN WRITING FOURTEEN (14) CALENDAR DAYS BEFORE WORK BEGINS ON THE PROJECT.

BENCHING OF EXISTING SIDE SLOPES STEEPER THAN 1:4 WILL BE REQUIRED.

IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

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.

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.

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.

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

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.

ROADWAY 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-8

PRICE BID TO INCLUDE COST OF ALL NECESSARY MAINTENANCE, MAINTAINING DEVICE IN PROPER UPRIGHT POSITION, REMOVAL OF DEVICE, AND REMOVAL OF SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE DEVICE.
- R-6

FOR 230(A) SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF 10-20-10 FERTILIZER, ESTIMATED AT 200 POUNDS PER 1000 SY.
- R-7

PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 40 GALLONS PER SQUARE YARD.
- R-20

ESTIMATED AT 165 POUNDS PER CU. FT.
- R-23

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-33

QUANTITY INCLUDES AN ESTIMATED 15 CY. TO BE USED AS DIRECTED BY THE ENGINEER.
- R-39

INCLUDES REMOVAL OF ALL EXISTING ROADWAY DRAINAGE STRUCTURES, HEADWALLS (UNLESS OTHERWISE SPECIFIED), INLETS, FENCES, AND OTHER STRUCTURES WITHIN THE RIGHT OF WAY.
- R-40

TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.
- R-41

MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SECTION 202.06 UNCLASSIFIED EXCAVATION.

1.

THE LIMITS OF CLEARING AND GRUBBING SHALL BE THE MINIMUM AMOUNT REQUIRED FOR GRADING AND CONCRETE SLOPE DRAINS.
2.

INCLUDES 20 TONS TO BE USED AS DIRECTED BY THE ENGINEER.
3.

THE REMOVAL OF EXISTING PAVEMENT SHALL BE PERFORMED IN A MANNER THAT WOULD MINIMIZE DAMAGE TO THE ADJACENT PAVEMENT. NO COMPENSATION WILL BE MADE TO THE CONTRACTOR FOR REPAIRING DAMAGE SUSTAINED DURING THE REMOVAL PROCESS. PAYMENT OF THIS ITEM SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND INCIDENTALS TO COMPLETE THE WORK AS SPECIFIED, INCLUDING ANY BASE REPAIR, LEVELING OR BACKFILL.
4.

PRICE BID FOR THIS ITEM TO INCLUDE COST OF GUARDRAIL DELINEATORS.

0100 ROADWAY		PAY QUANTITIES (ROADWAY)			
		J/P NO. 32100(04)			
SPEC. NO.	BAMS NO.	DESCRIPTION	PAY ITEM NOTES	UNIT	QUANTITY
201(A)	1200	CLEARING AND GRUBBING	1	L.SUM	1.00
202(A)	2200	UNCLASSIFIED EXCAVATION	R-3	C.Y.	813.00
221(B)	2300	TEMPORARY SILT FENCE	R-8	L.F.	2140.00
221(E)	2600	TEMPORARY SILT DIKE	R-8	L.F.	28.00
230(A)	7200	SOLID SLAB SODDING	R-6, R-7	S.Y.	1330.00
317	7100	CEMENT TREATED BASE		S.Y.	5399.00
325	0100	SEPARATOR FABRIC		S.Y.	5399.00
402(E)	2600	TRAFFIC BOUND SURFACE COURSE TYPE E	2,R-20	TON	156.00
408	8100	PRIME COAT	R-23	GAL.	1950.00
414(A)	5200	P.C. CONCRETE PAVEMENT (PLACEMENT)		S.Y	4990.00
414(G)	5800	P.C. CONCRETE FOR PAVEMENT		C.Y.	1110.00
509(D)	0500	CLASS C CONCRETE	R-33	C.Y.	21.00
619(A)	6200	REMOVAL OF STRUCTURES & OBSTRUCTIONS	R-39,R-41	L.SUM	1.00
619(B)	6360	REMOVAL OF CONCRETE PAVEMENT	R-40, R-41, 3	S.Y.	2528.00
619(B)	6364	REMOVAL OF ASPHALT PAVEMENT	3-40, R-41, 4	S.Y.	2776.00
619(B)	6396	REMOVAL OF GUARDRAIL	R-40, R-41	L.F.	1947.00
619(C)	6600	SAWING PAVEMENT	3	L.F.	103.00
623(A)	1200	BEAM GUARDRAIL W-BEAM SINGLE	4	L.F.	1775.00
623(G)	1820	GUARDRAIL END TREATMENT (31")		EA.	2.00
623(I)	2050	GUARDRAIL BRIDGE CONN-THRIE BEAM (31")		EA.	4.00



HUB Engineering
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TRAFFIC GENERAL CONSTRUCTION NOTES

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES." CHANNELIZING DEVICES SHALL HAVE A MINIMUM HEIGHT OF 36 INCHES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE TEMPORARY TRAFFIC CONTROL DEVICES, AND SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY DEVICE DURING CONSTRUCTION.

ANY SIGNS AND/OR DELINEATORS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA DESIGNATED BY THE RESIDENT ENGINEER UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, SIGNING, AND DEVICES WITHIN THE LIMITS OF CONSTRUCTION AND DETOUR ROUTE(S). ALL CONSTRUCTION SIGNING WILL BE DONE ACCORDING TO STANDARDS SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION", AND AS SHOWN ON TCS STANDARD DRAWINGS.

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

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

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE AREAS UNDER THE BRIDGES FROM FALLING DEBRIS AND BE SOLELY RESPONSIBLE FOR SAFEGUARDING THESE AREAS.

THE CONTRACTOR MUST NOTIFY THE RESIDENT ENGINEER 7 DAYS PRIOR TO ANY LANE CLOSURE.

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

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.

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

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

ALL GREEN AND BLUE SIGNS ON CONVENTIONAL HIGHWAYS SHALL HAVE TYPE IV HIGH INTENSITY BACKGROUND WITH TYPE XI LEGENDS AND BORDERS. THE TYPE IV BACKGROUND AND THE TYPE VIII LEGENDS AND BORDERS SHALL MEET THE REQUIREMENTS OF ASTM D4956-(LATEST REVISION).

PAY ITEM NOTES

TC-1 THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PORTABLE LONGITUDINAL BARRIER.

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

TC-23 QUANTITY SHOWN FOR THIS ITEM INCLUDES THOSE SIGNS WHICH COMPRISE THE ROUTE MARKER ASSEMBLIES USED TO INDICATE THE DETOUR ROUTE.

TC-24 QUANTITIES SHOWN FOR CONSTRUCTION SIGNING AND STRIPING HAVE BEEN INCREASED TO ALLOW FOR TRAFFIC CONTROL ON CROSS STREETS NOT SHOWN ON THE PLANS.

TC-25 ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO 8/2018 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 AND PAVEMENT MARKING 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-25a THE CONTRACTOR SHALL PROVIDE A PROPOSED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO BEGINNING WORK.

TC-26 CONSTRUCTION TRAFFIC CONTROL WILL BE INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL OF TRAFFIC ON UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION, AND APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR ITEM SHALL BE PAY PAYMENT IN FULL FOR 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 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-39 THE CONTRACTOR SHALL PROVIDE A PERSON, 24 HOURS A DAY, SEVEN DAYS A WEEK, AT THE CONSTRUCTION SITE TO MAINTAIN AND KEEP ALL TRAFFIC CONTROL DEVICES IN POSITION ANYTIME TRAFFIC IS DIRECTED AWAY FROM THE NORMAL TRAFFIC LANES OR ANYTIME THE ENGINEER DEEMS IT NECESSARY. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SURFACES ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OTEA) AS A TRAFFIC CONTROL TECHNICIAN TRAFFIC CONTROL SUPERVISOR.

TC-84 720 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPARE 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.

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: <https://oklahoma.gov/odot/business-center/traffic-qualified-products-list.html>

SP-1 QUANTITIES OF PAY ITEMS ARE BASED ON CONTRACTOR CONSTRUCTION THE PROJECT FROM BEGINNING OF PROJECT TO END OF PROJECT FOR EACH CONSTRUCTION PHASE.

SP-2 PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE LOCATED ON WHERE DEEMED NECESSARY BY THE ENGINEER. CHANGEABLE MESSAGE SIGN SHALL BE PLACED ON THE PROJECT 14 DAYS IN ADVANCE OF THE START OF CONSTRUCTION.

0300 TRAFFIC CONTROL PAY QUANTITIES (TRAFFIC) J/P NO 32100(04)					
SPEC. NO.	BAMS NO.	DESCRIPTION	PAY ITEM NOTES	BID UNIT	QUANTITY
880(B)	6300	CONSTRUCTION SIGNS 0 TO 6.25 SF	TC-1,21,23,24,25,25a,26,28,33,39,58,84	SD	91125
880(B)	6310	CONSTRUCTION SIGNS 6.26 TO 15.99 SF	TC-1,21,23,24,25,25a,26,29,33,39,58,84	SD	4050
880(B)	6320	CONSTRUCTION SIGNS 16.00 TO 32.99 SF	TC-1,21,23,24,25,25a,26,30,33,39,58,84	SD	4050
880(C)	6410	CONSTRUCTIN BARRICADES (TYPE III)	TC-9,TC-26,TC-84	SD	10125
880(E)	6600	WARNING LIGHTS (TYPE A)	TC-1,21,25,25a,26,39,84	SD	10125
882(A)	8210	PORTABLE CHANGEABLE MESSAGE SIGN	(SP-1,2) TC-1,21,25,25a,39,84,85	SD	2700

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION		
DRAWN	RR	10/19	SUMMARY OF PAY QUANTITIES & NOTES (TRAFFIC)		
CHECKED	WS	10/19			
APPROVED					
SQUAD		ENGINEERS			
COUNTY	MUSK/SEQ	HIGHWAY	SH-100	STATE JOB NO	32100(04) SHEET NO. AT01

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Time of Plot: 11/13/2022 10:25 PM Plot Size: MONOCHROME.STB
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SIGNING & STRIPING GENERAL CONSTRUCTION NOTES:

REMOVED MATERIAL TO BECOME PROPERTY OF CONSTRUCTOR 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.

ALL PANEL AND OVERHEAD SIGNS SHALL HAVE TYPE III HIGH INTENSITY BACKGROUND WITH TYPE VIII LEGENDS AND BORDERS. THE TYPE III BACKGROUND AND THE TYPE VIII LEGENDS AND BORDERS SHALL MEET THE REQUIREMENTS OF ASTM D4956-(LATEST REVISION).

THE MANUFACTURER SHALL FURNISH A TYPE 'A' CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, LATEST EDITION, 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 FOOTING 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.

NO SPLICES SHALL BE PERMITTED IN ANY PIPE OR WIDE FLANGE SIGN POST.

ALL ANCHOR BOLTS SHALL BE GRADE A-36 STEEL.

POST LENGTHS SHOWN ON SIGN SUMMARY ARE APPROXIMATE, EXACT LENGTH SHALL BE DETERMINED BY FIELD SURVEY BY THE CONTRACTOR.

ALL EXISTING AND NEW BREAKAWAY SIGN POSTS, PIPES AND WIDE FLANGE BEAMS SHALL HAVE SHEET METAL BOLT RETAINER PLATES AS SPECIFIED IN O.D.O.T. STD. FGS1-1-(LATEST REVISION). REPLACEMENT COST OF MISSING OR DAMAGED BOLT RETAINER PLATES AND ALL ASSOCIATED HARDWARE AND LABOR SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

ALL SIGNS SHALL BE REMOVED FROM THE POSTS IN A SALVAGEABLE MANNER FOR REUSE. CARE SHALL BE TAKEN DURING REMOVAL AND TRANSPORTING TO ALLEVIATE DAMAGE OF MATERIALS. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED DURING REMOVAL OF SIGNS AND SIGN POSTS.

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

FOR NEW OR EXISTING GROUND MOUNTED SIGNS, MAXIMUM STUB POST PROJECTION ABOVE FOOTING/GROUND LINE SHALL BE 1-3/4" +/- 1/4". MAXIMUM FOOTING PROJECTION ABOVE GROUND LINE SHALL BE NO MORE THAN 2". SHOULD ADDITIONAL SOIL BE REQUIRED, THE ENGINEER WILL DESIGNATE AN AREA TO OBTAIN ADDITIONAL SOIL. ALL ASSOCIATED COSTS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

WHERE EXISTING SIGNS NEED RE-ADJUSTMENT TO KEEP THE SIGN 1" ABOVE THE FUSE PLATE TO COMPLY WITH STD. FGS1-1 AND FGS2-1-(LATEST REVISION), THE CONTRACTOR SHALL CUT ANY WIDE FLANGE SIGN POSTS THAT EXTEND ABOVE THE SIGN. THE CUT SURFACE SHALL BE GROUND SMOOTH AND GIVEN A HEAVY AND THOROUGH COAT OF ZINC-RICH PAINT IN A MANNER APPROVED BY THE ENGINEER.

SIGNING & STRIPING PAY QUANTITY NOTES:


(SP-1) ANY SIGNS WHICH ARE TO BE REMOVED DURING THIS PROJECT WILL BE STORED IN A PROTECTED AREA AS DESIGNATED BY THE RESIDENT ENGINEER. UNTIL SUCH A TIME THAT THEY ARE TO BE RESET BY THE CONTRACTOR. COST OF THIS WORK TO BE INCLUDED IN OTHER ITEMS OF WORK.

(TS-1) "REMOVAL OF SIGN FOOTINGS" SHALL MEAN THE REMOVAL OF AN EXISTING FOOTING WITH OR WITHOUT STUBS AND SHALL BE DISPOSED OF AS NOTED IN GENERAL CONSTRUCTION NOTES.

(TS-24) QUANTITY SHOWN INCLUDES 5800 L.F. TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 5800 TRAFFIC STRIPE(MULTI-POLYMER)(YELLOW) AND WILL BE MEASURED BY THE LINEAR FOOT OF FOUR INCH (4") WIDE TRAFFIC STRIPE.

0301 TRAFFIC PAY QUANTITIES J/P NO 32100(04)					
	BAMS NO.	DESCRIPTION	PAY ITEM NOTES	BID UNIT	QUANTITY
805(D)	3528	(PL) REMOVE & RESET EXISTING SIGNS	(SP-1)(TS-1)	EA	9.00
856(A)	8200	TRAFFIC STRIPE (MULTI-POLY.)(4" WIDE)	(TS-24)	LF	11600.00

SUMMARY OF SIGN QUANTITIES			
SIGN NO.	APPROXIMATE LOCATION STA.	SIGN TYPE	REMARKS
001	STA. 271+60 RT	NO PARKING	REMOVE & RESET
002	STA. 271+60 LT	NO PARKING	REMOVE & RESET
003	STA. 272+90 LT	MUSKOGEE COUNTY	REMOVE & RESET
004	STA. 272+90 RT	MARINE HWY M40	REMOVE & RESET
005	STA. 273+43 RT	RAY FINE BRIDGE PLACARD	REMOVE & RESET
006	STA. 293+25 LT	RAY FINE BRIDGE PLACARD	REMOVE & RESET
007	STA. 293+44 LT	MARINE HWY M40	REMOVE & RESET
008	STA. 293+81 RT	SEQUOYAH COUNTY	REMOVE & RESET
009	STA. 295+00 RT	CURVE LEFT	REMOVE & RESET
		TOTALS	

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION	
DRAWN	RR	10/19		
CHECKED	WS	10/19	SUMMARY OF PAY QUANTITIES & NOTES (SIGNING & STRIPING)	
APPROVED				
SQUAD		ENGINEERS		
COUNTY	MUSK/SEQ	HIGHWAY	SH-100	STATE JOB NO 32100(04) SHEET NO. AT02

SUMMARY OF GUARDRAIL										
LOCATION			TOTAL PANEL LENGTH INCLUDING ANCHOR UNITS	REMOVAL OF GAURDRAIL	BEAM GUARDRAIL W-BEAM SINGLE	GUARDRAIL END TREATMENT (GET)	BRIDGE GUARDRAIL CONNECTION- THRIE BEAM (31")	GUARDRAIL DELINEATORS (TYPE 1, CODE 1)		
STATION TO STATION	SIDE									
	LEFT	RIGHT								
			LF	LF	LF	EA	EA	EA		
268+91.10 TO 273+47.35			X		456.25	462.8	437.5		1	9
268+91.10 TO 273+47.35				X	456.25	463.2	437.5		1	9
293+25.15 TO 297+93.90			X		468.75	498.0	450.0	1	1	10
293+25.15 TO 297+93.90				X	468.75	523.0	450.0	1	1	10
TOTALS					1850.0	1947.00	1775.00	2	4	38

SUMMARY OF SURFACING										
STATION TO STATION	LENGTH	CEMENT TREATED BASE	SEPARATOR FABRIC	TRAFFIC BOUND SURFACE COURSE TYPE E	PRIME COAT	P.C. CONCRETE PAVEMENT (PLACEMENT)	P.C. CONCRETE FOR PAVEMENT	REMOVAL OF ASPHALT PAVEMENT	REMOVAL OF CONCRETE PAVEMENT	SAWING PAVEMENT
		317	325	402(E)	408	414(A)	414(G)	619(B)	619(B)	619(C)
	LF	SY	SY	TON	GAL	SY	CY	SY	SY	LF
269+00.00 TO 273+46.75	446.75	2621	2621	66	947	2423	539	1315	1256	52
293+25.75 TO 298+00.00	474.25	2778	2778	70	1003	2567	571	1461	1272	51
TOTALS	921	5399	5399	136	1950	4990	1110	2776	2528	103

SUMMARY OF EROSION CONTROL					
			SOLID SLAB SODDING 230(A)		
STATION TO STATION	LT.	RT.	WORK AREA		
				SY	
269+00.00 TO 273+46.75	X		1	325	
269+00.00 TO 273+46.75		X	1	325	
293+25.75 TO 298+00.00	X		1	340	
293+25.75 TO 298+00.00		X	1	340	
TOTALS				1330	

SUMMARY OF TEMPORARY SEDIMENT CONTROLS					
LOCATION				TEMPORARY SILT FENCE 221(C)	TEMPORARY SILT DIKE 221(F)
STATION TO STATION	LT.	RT.	DESCRIPTION		
269+00.00 TO 273+46.75	X		LT. ALONG TOE OF SLOPE	520	
269+00.00 TO 273+46.75		X	RT. ALONG TOE OF SLOPE	520	
293+25.75 TO 298+00.00	X		LT. ALONG TOE OF SLOPE	550	
293+25.75 TO 298+00.00		X	RT. ALONG TOE OF SLOPE	550	
273+33		X	RT. ACROSS CONC. DRAIN		7
233+40	X		LT. ACROSS CONC. DRAIN		7
293+37		X	RT. ACROSS CONC. DRAIN		7
293+37	X		LT. ACROSS CONC. DRAIN		7
TOTALS				2140	28



PERMANENT EROSION CONTROL TYPICAL SECTION

1 - SOLID SLAB SODDING

DECEMBER 2022



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S.H.100/U.S.64 OVER McCLELLAN-KERR MUSKOGEE CO.
ARKANSAS RIVER NAVIGATION WATERWAY SEQUOYAH CO.

GENERAL PLAN AND ELEVATION (SHEET 1 OF 5)

240'-320'-410'-320'-(3) 208' @ GIRDER SPANS
40'-0" CL. RDWY. WITH F-SHAPED PARAPETS
C STA. 283+38.75, 0° SKEW

MUSKOGEE CO.	
SEQUOYAH CO.	

Design	CEG	
	CEG	

Detail	DRB	
Check	DLW	


CEC®

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. 32100(04)	SHEET NO. BOC



NOTE:
FOR DESIGN DATA, INDEX OF SHEETS, VERTICAL PROFILE
DATA, FOUNDATION DATA, HYDRAULIC SUMMARY AND
SUMMARY OF BRIDGE QUANTITIES, SEE SHEET BOO5.

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283

S.H.100/U.S.64 OVER McCLELLAN-KERR	MUSKOGEE CO.
ARKANSAS RIVER NAVIGATION WATERWAY	SEQUOYAH CO.

GENERAL PLAN AND ELEVATION (SHEET 2 OF 5)

240'-320'-410'-320'-(3) 208' R GIRDER SPANS
40'-0" CL. RDWY. WITH F-SHAPED PARAPETS
CL STA. 283+38.75, 0° SKEW

Design	CEG	
Detail	DRB	
Check	DLW	

CEC

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. 32100(04)	SHEET NO. BO

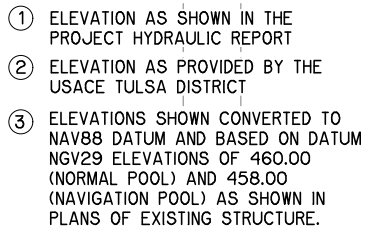
DECEMBER 2022



320'-0"

208'-0"

208'-0"



USE INTERPRETED FOUNDATION LINE
FOR ESTIMATING PURPOSES ONLY.

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DATA, FOUNDATION DATA, HYDRAULIC SUMMARY AND
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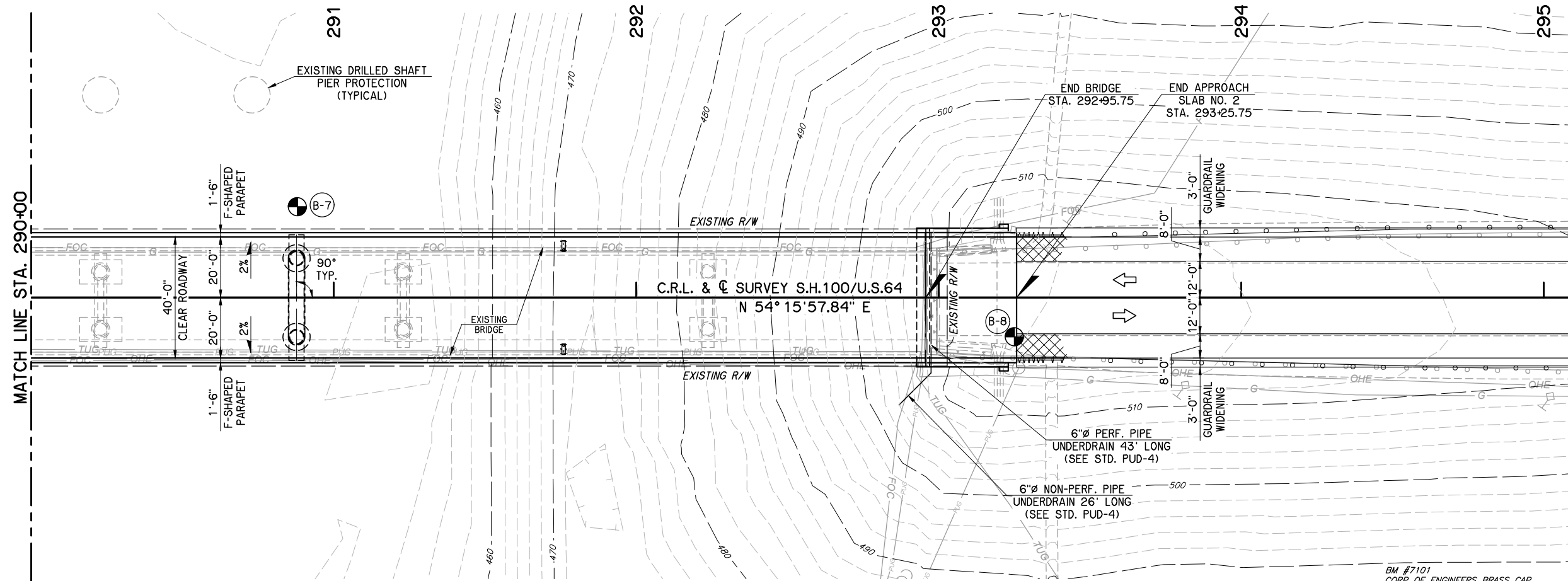
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S.H.100/U.S.64 OVER McCLELLAN-KERR MUSKOGEE CO.
ARKANSAS RIVER NAVIGATION WATERWAY SEQUOYAH CO.

GENERAL PLAN AND ELEVATION (SHEET 3 OF 5)

240'-320'-410'-320'-(3) 208' @ GIRDER SPANS
40'-0" CL. RDWY. WITH F-SHAPED PARAPETS
@ STA. 283+38.75 0° SKEW

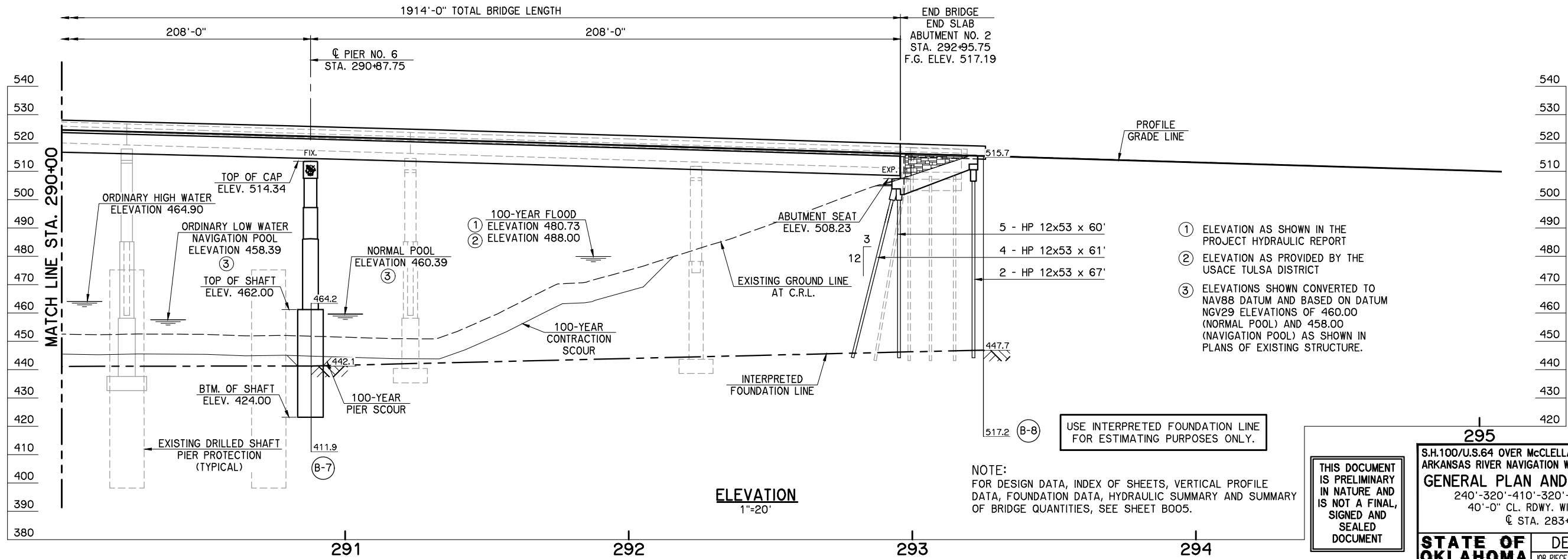
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
	JOB PIECE NO. 32100(04)	SHEET NO. 000



PLAN
1"=20'

BM #7101
CORP OF ENGINEERS BRASS CAP
STA. 297+51 87' LT. ELEV.=488.94

BM #201
CHISELED SQUARE ON HEADWALL
STA. 302+05 54' LT. ELEV.=489.55



ELEVATION
1"=20'

- 1 ELEVATION AS SHOWN IN THE PROJECT HYDRAULIC REPORT
- 2 ELEVATION AS PROVIDED BY THE USACE TULSA DISTRICT
- 3 ELEVATIONS SHOWN CONVERTED TO NAV88 DATUM AND BASED ON DATUM NGV29 ELEVATIONS OF 460.00 (NORMAL POOL) AND 458.00 (NAVIGATION POOL) AS SHOWN IN PLANS OF EXISTING STRUCTURE.

NOTE:
FOR DESIGN DATA, INDEX OF SHEETS, VERTICAL PROFILE DATA, FOUNDATION DATA, HYDRAULIC SUMMARY AND SUMMARY OF BRIDGE QUANTITIES, SEE SHEET B005.

USE INTERPRETED FOUNDATION LINE FOR ESTIMATING PURPOSES ONLY.

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
GENERAL PLAN AND ELEVATION (SHEET 4 OF 5)		Design	CEG
240'-320'-410'-320'-(3) 208' R GIRDER SPANS		Detail	DRB
40'-0" CL. RDWY. WITH F-SHAPED PARAPETS		Check	DLW
C STA. 283+38.75, 0° SKEW		CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(O4)		SHEET NO. B004	

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FINAL REVIEW
PLANS

DECEMBER 2022

DESIGN DATA

LOAD AND RESISTANCE FACTOR DESIGN

CONCRETE CLASS AA
CONCRETE CLASS A
REINFORCING STEEL (GRADE 60)
STRUCTURAL STEEL M270 (GRADE 50W)
STRUCTURAL STEEL M270 (GRADE HPS 70W)
STAINLESS STEEL A240 (TYPE 316)

f'c = 4 K.S.I.
f'c = 3 K.S.I.
fy = 60 K.S.I.
Fy = 50 K.S.I.
Fy = 70 K.S.I.
Fy = 30 K.S.I.

LOADING:
HL-93 OR OKLAHOMA OVERLOAD TRUCK OR TYPE 315 OVERLOAD TRUCK
20 PSF FUTURE WEARING SURFACE
5 PSF STAY-IN-PLACE FORMS

DESIGN:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8th EDITION
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE
ANSI/AWS D1.6 STRUCTURAL WELDING CODE - STAINLESS STEEL

HL93 INVENTORY RATING FACTOR: 1.08
HL93 OPERATING RATING FACTOR: 1.40

INDEX OF SHEETS

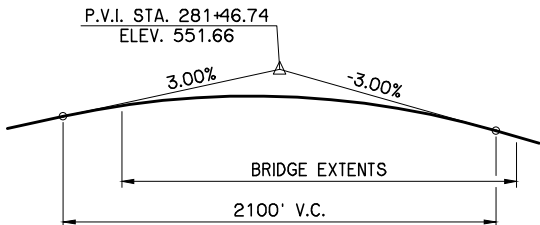
AB01 - AB02 GENERAL NOTES & SUMMARY OF PAY QUANTITIES (BRIDGE)
BO01 - BO05 GENERAL PLAN AND ELEVATION
BO06 - BO10 SUBSURFACE PROFILE
BO11 SUGGESTED BRIDGE CONSTRUCTION SEQUENCE
BO12 SUBSTRUCTURE LAYOUT
BO13 - BO18 ABUTMENT DETAILS
BO19 - BO25 PIER DETAILS
BO26 - BO60 SUPERSTRUCTURE DETAILS
BO61 - BO62 APPROACH SLAB DETAILS
BO63 - BO64 NAVIGATION LIGHTING DETAILS
BA01 BRIDGE AESTHETIC DETAILS

STANDARDS

FSHP-42-2-00E
EJ-SQ-04E
EJ-DTL-04E
HP1-2-01E

LECS-5-2
LTU-5-1
PUD-4-1
THRI-1-02

NCD1-1-00



VERTICAL PROFILE DATA

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S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY
GENERAL PLAN AND ELEVATION (SHEET 5 OF 5)
245'-322.5'-400'-322.5'-(3) 212' R GIRDER SPANS
40'-0" CL. RDWY. WITH F-SHAPED PARAPETS
C STA. 283+36.38, 0° SKEW

MUSKOGEE CO.
SEQUOYAH CO.

Design	CEG
Detail	DRB
Check	DLW



SUMMARY OF BRIDGE QUANTITIES

ITEM DESCRIPTION	UNIT	ABUTMENTS	PIERS	SUPERSTR.	APPR. SLABS	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	300				300
CLSM BACKFILL	C.Y.	479.2				479.2
APPROACH SLAB	S.Y.				310.7	310.7
SAW-CUT GROOVING	S.Y.			8,506.7	289.0	8,795.7
42" F-SHAPED PARAPET	L.F.			3,828.0	130.0	3,958.0
STRUCTURAL STEEL M270 GR. HPS 70W	LB.			476,230		476,230
STRUCTURAL STEEL M270 GRADE 50W	LB.	60		4,880,840		4,880,900
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.			20		20
STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.			20		20
ELASTOMERIC COATING	S.F.	425	2,370			2,795
CLASS AA CONCRETE	C.Y.			2,200.1		2,200.1
CLASS A CONCRETE	C.Y.	161.5	1,572.5			1,734.0
REINFORCING STEEL	LB.		6,310			6,310
EPOXY COATED REINFORCING STEEL	LB.	24,780	240,720	729,820		995,320
PILES, FURNISHED (HP12x53)	L.F.	1,010				1,010
PILES, FURNISHED (HP14x73)	L.F.	701				701
PILES, DRIVEN (HP12x53)	L.F.	1,010				1,010
PILES, DRIVEN (HP14x73)	L.F.	701				701
PILE SPLICE, H-PILE (NON-BIDDABLE)	EA.	1				1
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	107	348	3,445	23	3,923
DRILLED SHAFTS 108" DIAMETER	L.F.		502			502
CROSSHOLE SONIC LOGGING	EA.		1			1
THERMAL INTEGRITY PROFILER	EA.		12			12
SEALED EXPANSION JOINTS	L.F.			41.00		41.00
MODULAR EXPANSION JOINT	L.F.			82.00		82.00
SEALER CRACK PREPARATION	L.F.			320		320
SEALER RESIN	GAL.			3.6		3.6
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	86				86
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	54				54
REMOVAL OF EXISTING BRIDGE STRUCTURE	L.SUM					1
(SP) BRIDGE NAVIGATION LIGHTING	L.SUM					1

FOUNDATION DATA

STEEL PILING						
DESIGN CRITERIA				ABUTMENT NO. 1 (HP 14x73)	ABUTMENT NO. 2 (HP 12x53)	
FACTORED PILE REACTION				128.0 TONS	103.2 TONS	
108"Ø DRILLED SHAFTS						
DESIGN CRITERIA	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6
MINIMUM DEPTH INTO ROCK	18.0 FT	23.0 FT	23.0 FT	18.0 FT	18.0 FT	18.0 FT
DEPTH OF ROCK NEGLECTED FOR FRICTION	5.0 FT	5.0 FT	5.0 FT	5.0 FT	5.0 FT	5.0 FT
UNIT BEARING RESISTANCE	21.3 TSF	21.3 TSF	21.3 TSF	21.3 TSF	21.3 TSF	21.3 TSF
BEARING RESISTANCE FACTOR	0.7	0.7	0.7	0.7	0.7	0.7
FACTORED BEARING RESISTANCE	948.5 TONS	948.5 TONS	948.5 TONS	948.5 TONS	948.5 TONS	948.5 TONS
UNIT FRICTION RESISTANCE	9.0 TSF	9.0 TSF	9.0 TSF	9.0 TSF	9.0 TSF	9.0 TSF
FRICTION RESISTANCE FACTOR	0.45	0.45	0.45	0.45	0.45	0.45
FACTORED FRICTION RESISTANCE	1,488.6 TONS	2,061.2 TONS	2,061.2 TONS	1,488.6 TONS	1488.6 TONS	1488.6 TONS
TOTAL FACTORED RESISTANCE	2,437.1 TONS	3,009.7 TONS	3,009.7 TONS	2,437.1 TONS	2,437.1 TONS	2,437.1 TONS
TOTAL FACTORED REACTION	1,676.0 TONS	2,550.0 TONS	2,573.8 TONS	1,517.0 TONS	1,552.7 TONS	1,546.7 TONS

FACTORED PILE RESISTANCE:
DRIVE PILING THROUGH THE COMPACTED FILL AND TO A POINT BEARING ON SOLID FOUNDATION MATERIAL AT THE APPROXIMATE ELEVATION SHOWN ON THE PLANS. IF A FACTORED AXIAL LOAD RESISTANCE EQUAL TO OR GREATER THAN THE FACTORED PILE REACTION IS NOT OBTAINED AT THIS ELEVATION, CONTINUE DRIVING UNTIL SUCH IS OBTAINED. THE LENGTH OF STEEL PILING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY.

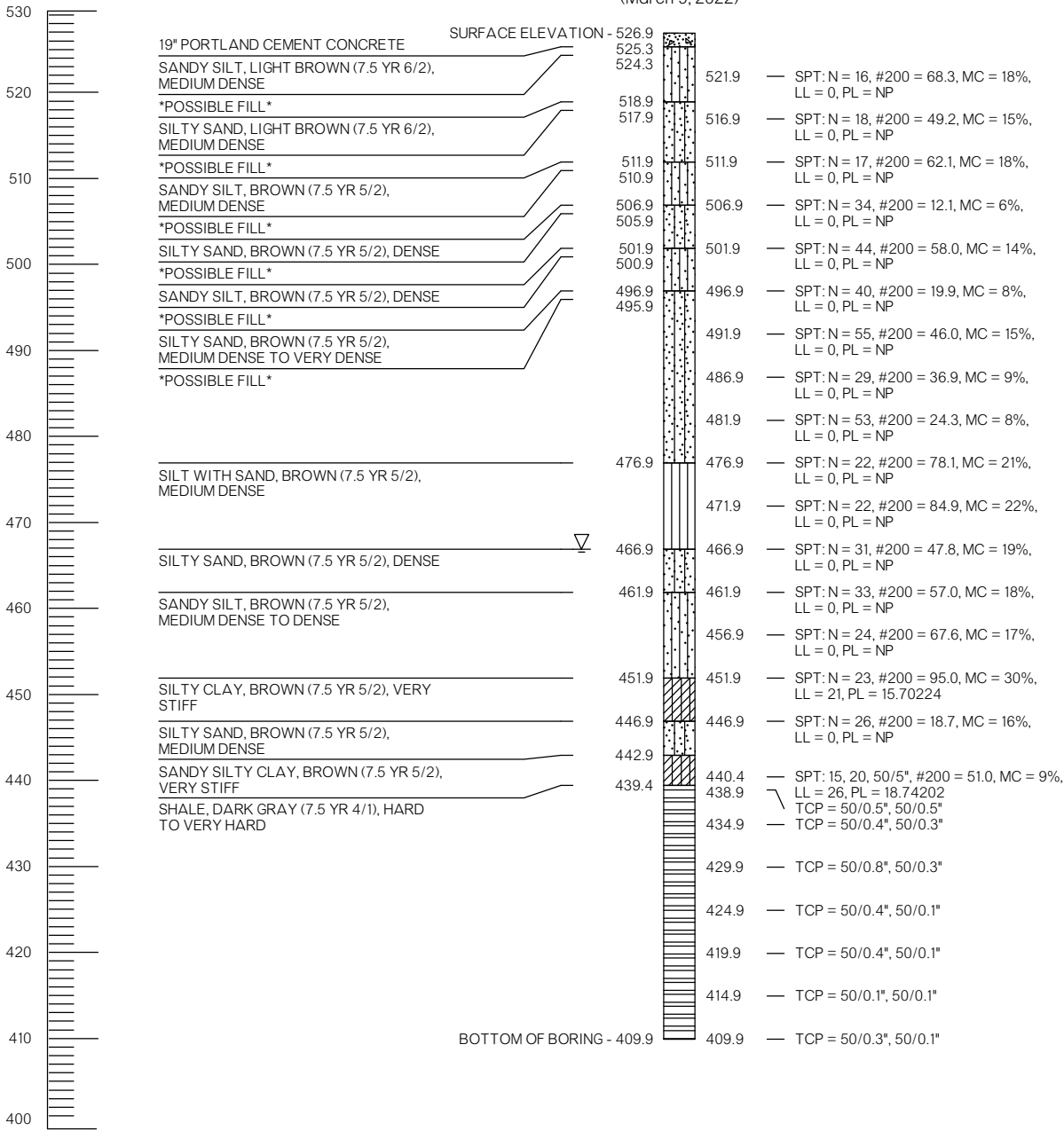
HYDRAULIC SUMMARY

TOTAL DRAINAGE AREA = 104,603.00 SQ. MILES						
CONTROLLED DRAINAGE AREA = 19,785.00 SQ. MILES						
EFFECTIVE DRAINAGE AREA = 84,818.00 SQ MILES						
FREQUENCY (YEARS)	DISCHARGE (CFS)	WATER SURFACE ELEVATION (FT)	VELOCITY (FPS)	CONTR. SCOUR (FT)	PIER SCOUR (FT)	TOTAL SCOUR (FT)
2	168000	461.05	8.19			
5	265000	467.31	9.27			
10	317000	470.42	9.69			
25	394000	474.62	10.27			
50	452000	478.56	10.18			
100	509000	480.73	10.66	7.04	26.71	33.75
500	645000	484.98	11.86			
172 (OT)	533582	481.49	10.91	7.79	26.91	34.69
LOW BEAM ELEVATION = 509.06						

NOTE:
SCOUR DEPTHS SHOWN ARE THEORETICAL AND AS PROVIDED IN PROJECT HYDRAULIC REPORT. SEE SHEETS BO01 THRU BO04 FOR ESTIMATED SCOUR TO NON-ERODIBLE ROCK.

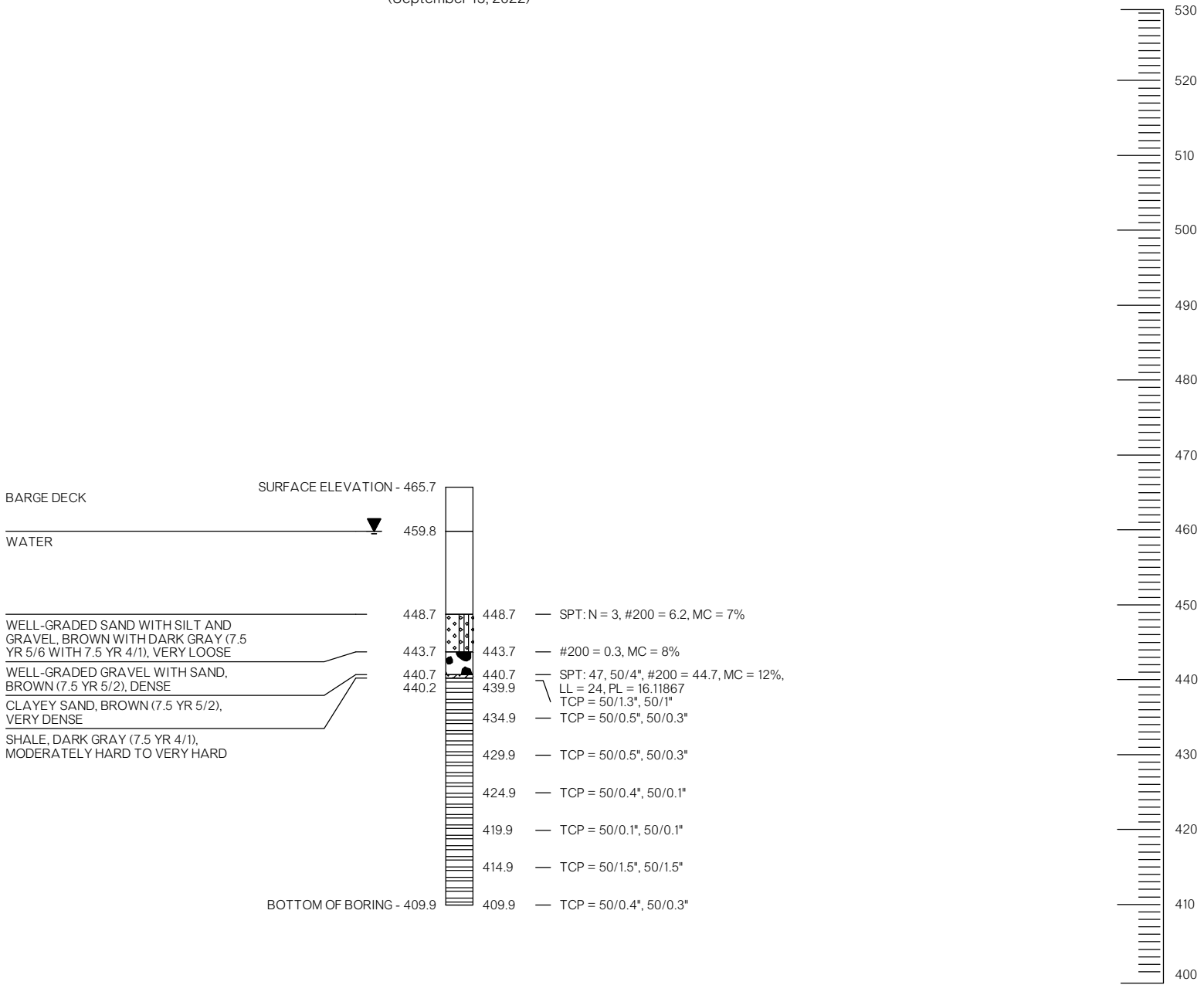
BORING NO. B-01

STATION 273+15, 15' left of C SURVEY
(March 9, 2022)



BORING NO. B-02

STATION 276+22, 40' right of C SURVEY
(September 13, 2022)



SITE GEOLOGY

THE GEOLOGY OF THE PROJECT SITE WAS RESEARCHED USING THE "DIVISION ONE ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) AND THE GEOLOGIC MAP OF THE "HYDROLOGIC ATLAS 1 OF OKLAHOMA, RECONNAISSANCE OF THE WATER RESOURCES OF THE FORT SMITH QUADRANGLE, EAST-CENTRAL OKLAHOMA," BY MELVIN V. MARCHER, U.S. GEOLOGICAL SURVEY, 1969.

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ALLUVIUM CONSISTS OF RECENT DEPOSITS OF SANDS, SILTS, CLAYS, GRAVELS, OR MIXTURES OF THESE. THESE DEPOSITS ARE PRESENT ALONG STREAM BEDS AND FLOOD PLAINS.

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THE ATOKA UNIT RANGES IN THICKNESS FROM ONLY A FEW FEET IN THE NORTHERN PORTION OF DIVISION ONE TO AS MUCH AS 9,000 FEET IN PITTSBURG COUNTY.

THE ATOKA UNIT OUTCROPS IN ALL COUNTIES OF DIVISION ONE EXCEPT OKMULGEE. THE TOPOGRAPHY OF THIS UNIT IS GENERALLY HILLS CAPPED WITH SANDSTONES AND THE SLOPES AND VALLEYS FORMED IN THE SHALES. WHERE THE UNIT IS MOSTLY SHALE, PRAIRIES ARE PRESENT.

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LEGEND

V. = VERY
FL. = FAIRLY
SL. = SLIGHTLY
LT. = LIGHT
MED. = MEDIUM
BRN. = BROWN
TR. = TRACE
DRK. = DARK
BLK. = BLACK

DCD = DIAMOND CORE DRILLING, ASTM D2113-83
SPT = STANDARD PENETRATION TEST, ASTM D1586
SS = SPLIT SPOON SAMPLER
N = NUMBER OF BLOWS PER 12 INCHES
MC = MOISTURE CONTENT
LL = LIQUID LIMIT
PL = PLASTIC LIMIT (NP=NO PLASTICITY)
#200 = PERCENT PASSING #200 SIEVE
UCS = UNCONFINED COMPRESSIVE STRENGTH
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▽ = WATER LEVEL WHILE DRILLING OR SAMPLING
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▼ = WATER LEVEL 24 HOURS AFTER DRILLING
≡ = TOP OF ROCK

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

NOTE: "SS" DENOTES STANDARD PENETRATION TEST, AASHTO D1586-84. "TCP" DENOTES TEXAS CONE PENETRATION TEST.

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GEOTECHNICAL REPORT

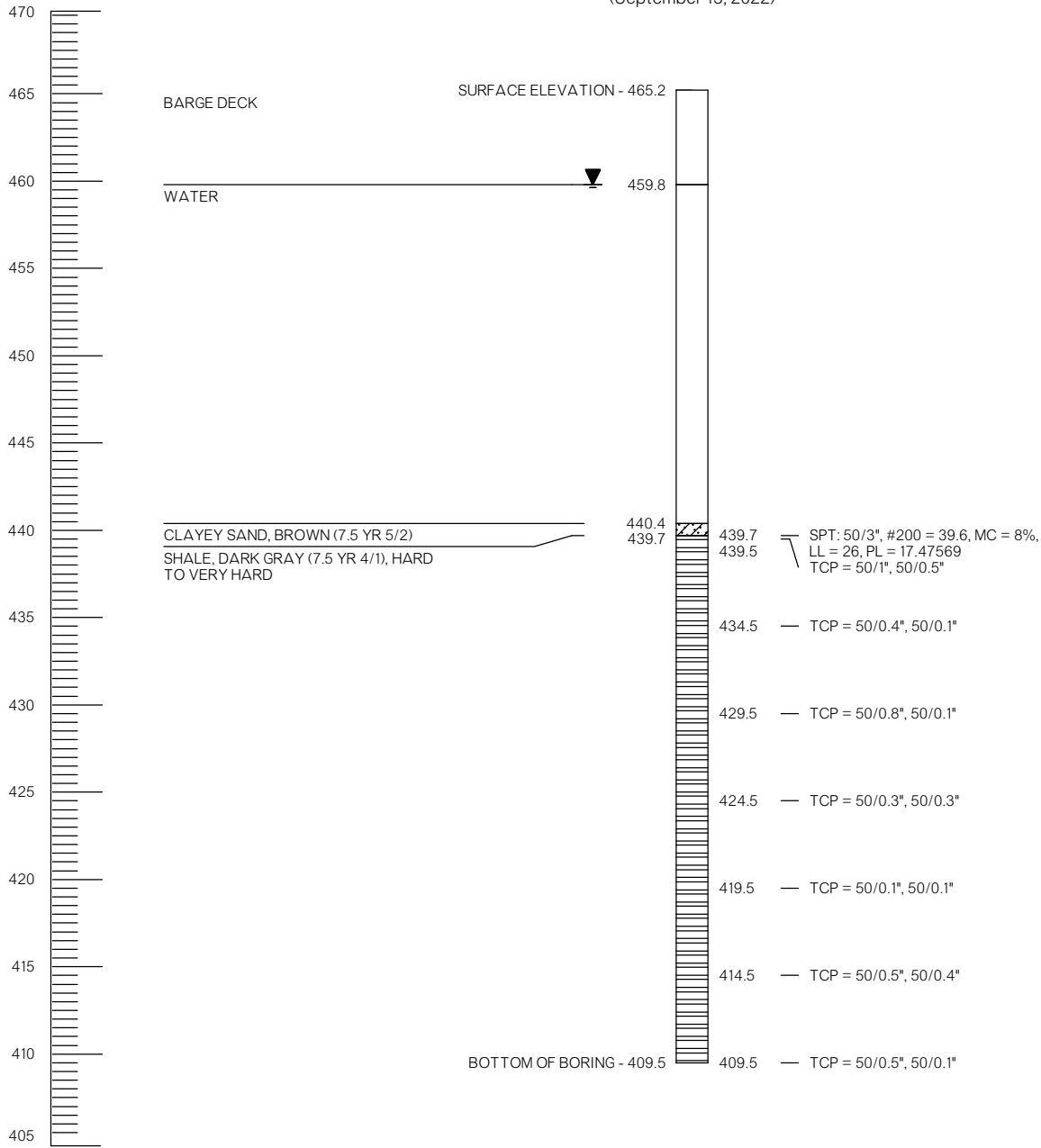
ALL GEOTECHNICAL INFORMATION CONTAINED ON THIS SHEET IS COVERED BY THE ENGINEERING SEAL AFFIXED TO AN ORIGINAL GEOTECHNICAL ENGINEERING REPORT THAT HAS BEEN STAMPED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN OKLAHOMA. TO OBTAIN A COPY OF THE COMPLETE REPORT, CONTACT THE ODOT OFFICE ENGINEER AT (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.

RED ROCK
CONSULTING

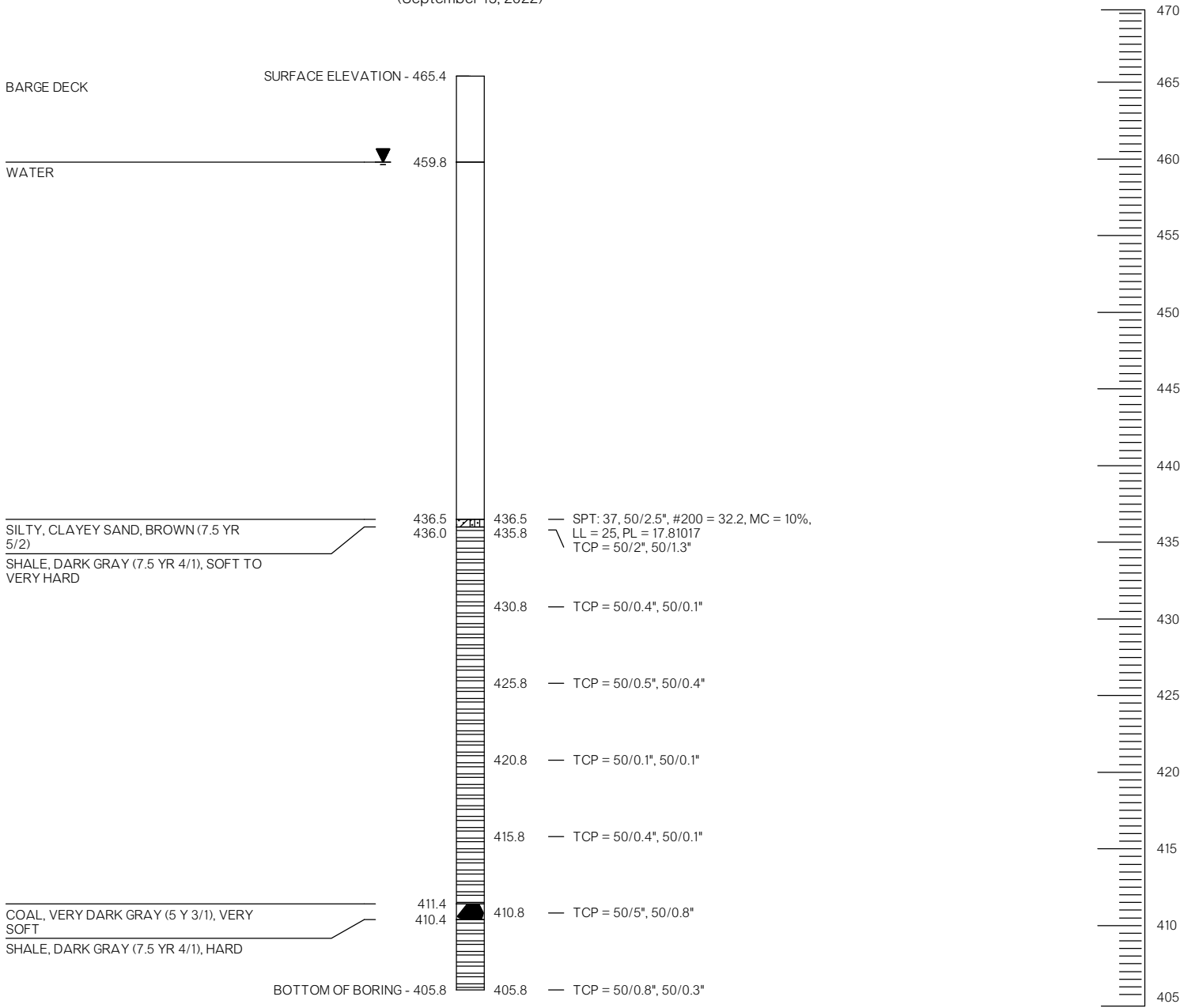
SH 100 BRIDGE OVER ARKANSAS RIVER	MUSKOGEE AND SEQUOYAH COUNTIES, OKLAHOMA	Design	EDC	10/22
		Detail	EDC	10/22
		Check	JWB	10/22
		Squad:		
		Engr.:		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 32100(04)	SHEET NO. B006	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

BORING NO. B-03
STATION 279+41, 30' left of \varnothing SURVEY
(September 13, 2022)



BORING NO. B-04
STATION 283+52, 40' right of \varnothing SURVEY
(September 13, 2022)



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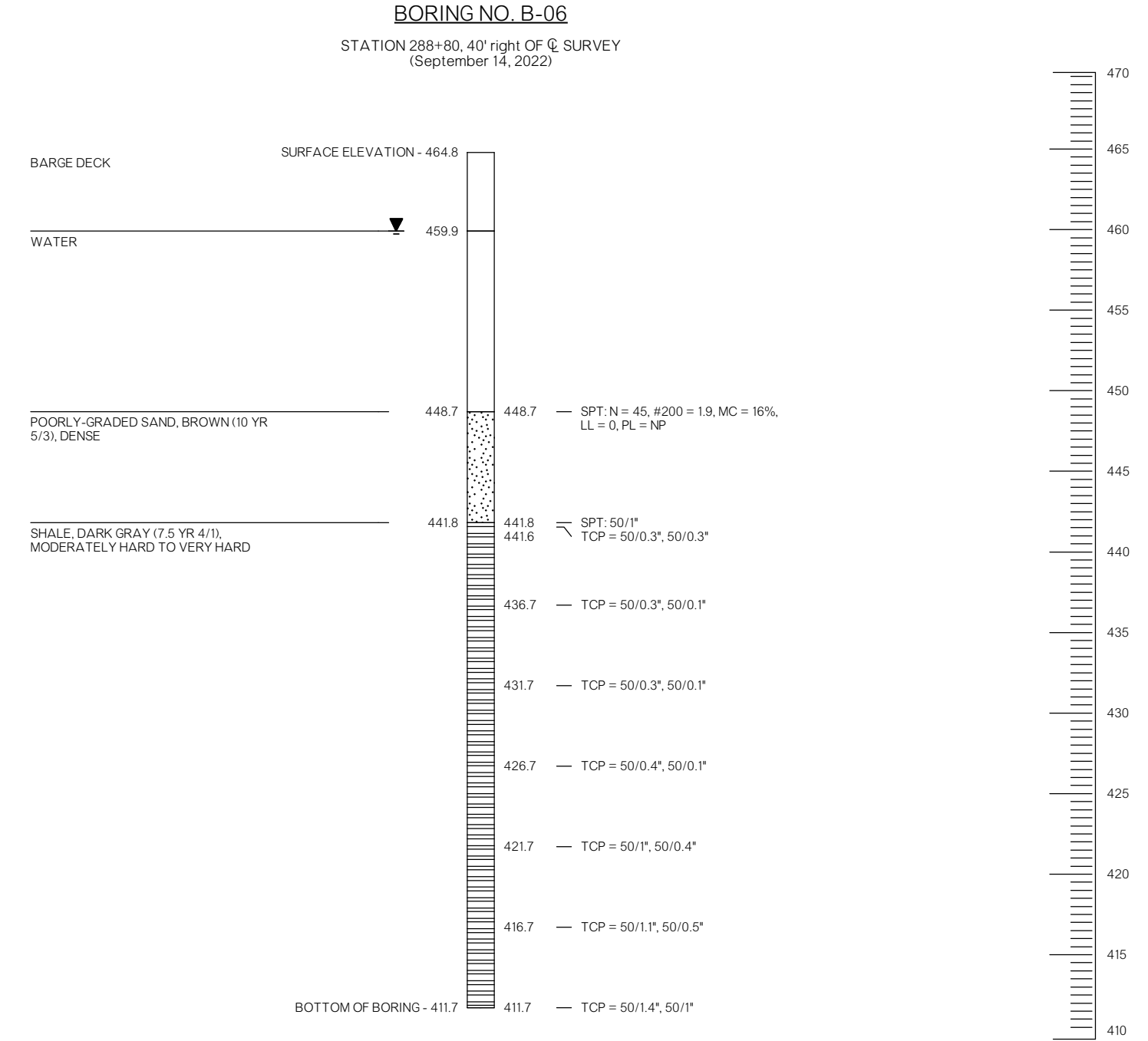
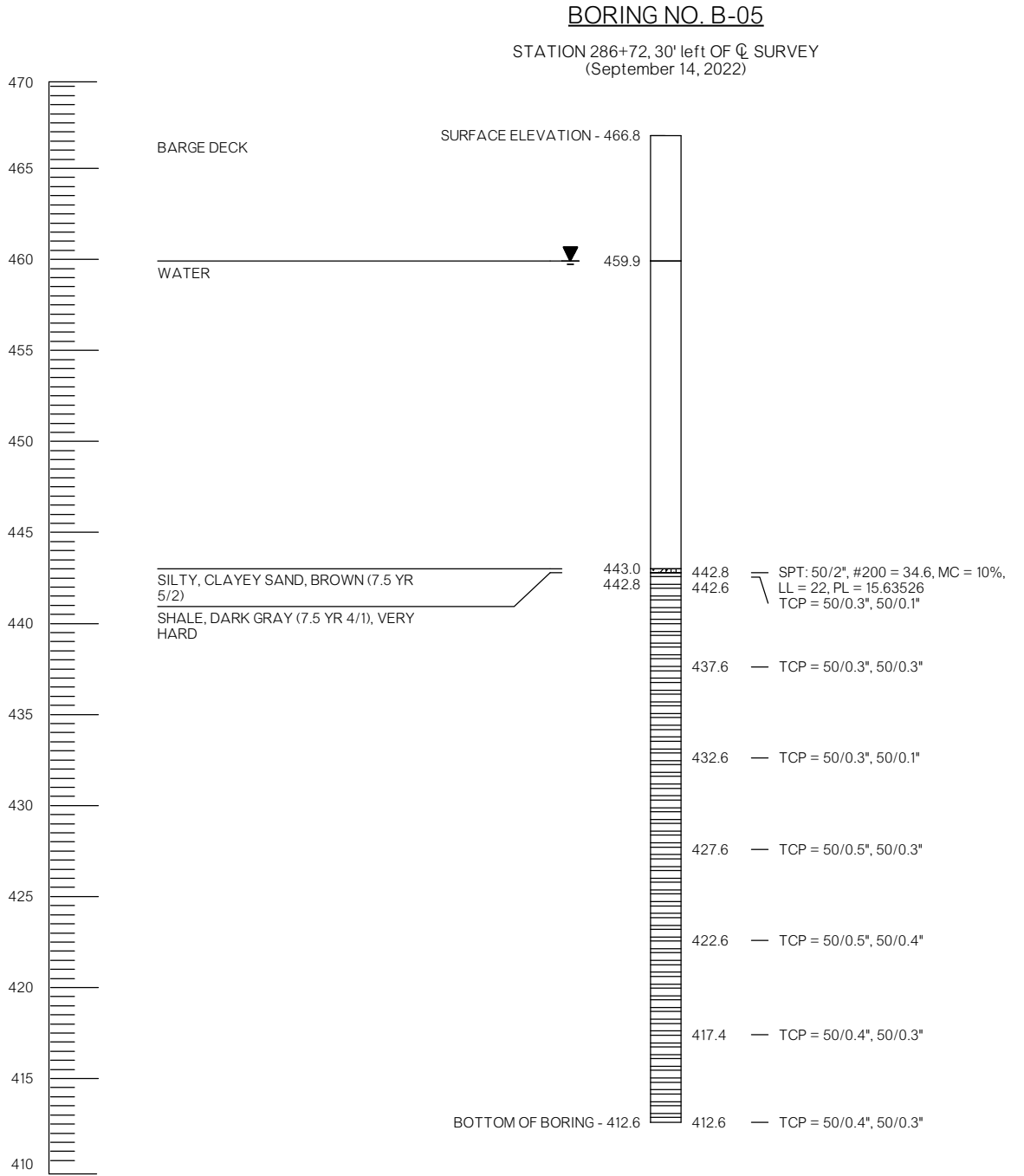
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RED ROCK
CONSULTING

SH 100 BRIDGE OVER ARKANSAS RIVER		MUSKOGEE AND SEQUOYAH COUNTIES, OKLAHOMA		Design	EDC	10/22
SUBSURFACE PROFILE (SHEET 2 OF 5)				Detail	EDC	10/22
				Check	JWB	10/22
				Squad:		
				Engr.:		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(04)				SHEET NO. B007

REVISIONS		
REV. NO.	DESCRIPTION	DATE



SITE GEOLOGY

THE GEOLOGY OF THE PROJECT SITE WAS RESEARCHED USING THE "DIVISION ONE ENGINEERING CLASSIFICATION OF GEOLOGICAL MATERIALS", PUBLISHED BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION (ODOT) AND THE GEOLOGIC MAP OF THE "HYDROLOGIC ATLAS 1 OF OKLAHOMA, RECONNAISSANCE OF THE WATER RESOURCES OF THE FORT SMITH QUADRANGLE, EAST-CENTRAL OKLAHOMA," BY MELVIN V. MARCHER, U.S. GEOLOGICAL SURVEY, 1969.

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THE ATOKA FORMATION CONSISTS OF SHALE AND SANDSTONE. YIELDS LIMITED AMOUNTS OF WATER OF POOR QUALITY.

LEGEND

V.	= VERY	DCD	= DIAMOND CORE DRILLING, ASTM D2113-83	NOTE: WATER LEVEL ELEVATIONS SHOWN WERE OBTAINED AT THE TIME THE BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.
FL.	= FAIRLY	SPT	= STANDARD PENETRATION TEST, ASTM D1586	
SL.	= SLIGHTLY	SS	= SPLIT SPOON SAMPLER	NOTE: "SS" DENOTES STANDARD PENETRATION TEST, AASHTO D1586-84. "TCP" DENOTES TEXAS CONE PENETRATION TEST.
LT.	= LIGHT	N	= NUMBER OF BLOWS PER 12 INCHES	
MED.	= MEDIUM	MC	= MOISTURE CONTENT	* NOTE: TOP OF ROCK LINE SHOWN FOR ESTIMATING PURPOSES ONLY.
BRN.	= BROWN	LL	= LIQUID LIMIT	** NOTE: WATER LEVEL ELEVATION SHOWN WERE OBTAINED AT THE TIME THE BORINGS WERE DRILLED AND MAY FLUCTUATE THROUGHOUT THE YEAR.
TR.	= TRACE	PL	= PLASTIC LIMIT (NP=NO PLASTICITY)	*** NOTE: ROCK CLASSIFICATION IS BASED ON DRILLING CHARACTERISTICS AND VISUAL OBSERVATION OF ROCK CORE SAMPLES. PETROGRAPHIC ANALYSIS OF THIN SECTIONS OF THE ROCK CORE SAMPLES MAY REVEAL OTHER TYPES.
DRK.	= DARK	#200	= PERCENT PASSING #200 SIEVE	
BLK.	= BLACK	UCS	= UNCONFINED COMPRESSIVE STRENGTH	
		TCP	= TEXAS CONE PENETROMETER	
		WCI	= WET CAVE IN	
		∇	= WATER LEVEL WHILE DRILLING OR SAMPLING	
		∇	= WATER LEVEL AFTER DRILLING	
		∇	= WATER LEVEL 24 HOURS AFTER DRILLING	
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RED ROCK
CONSULTING

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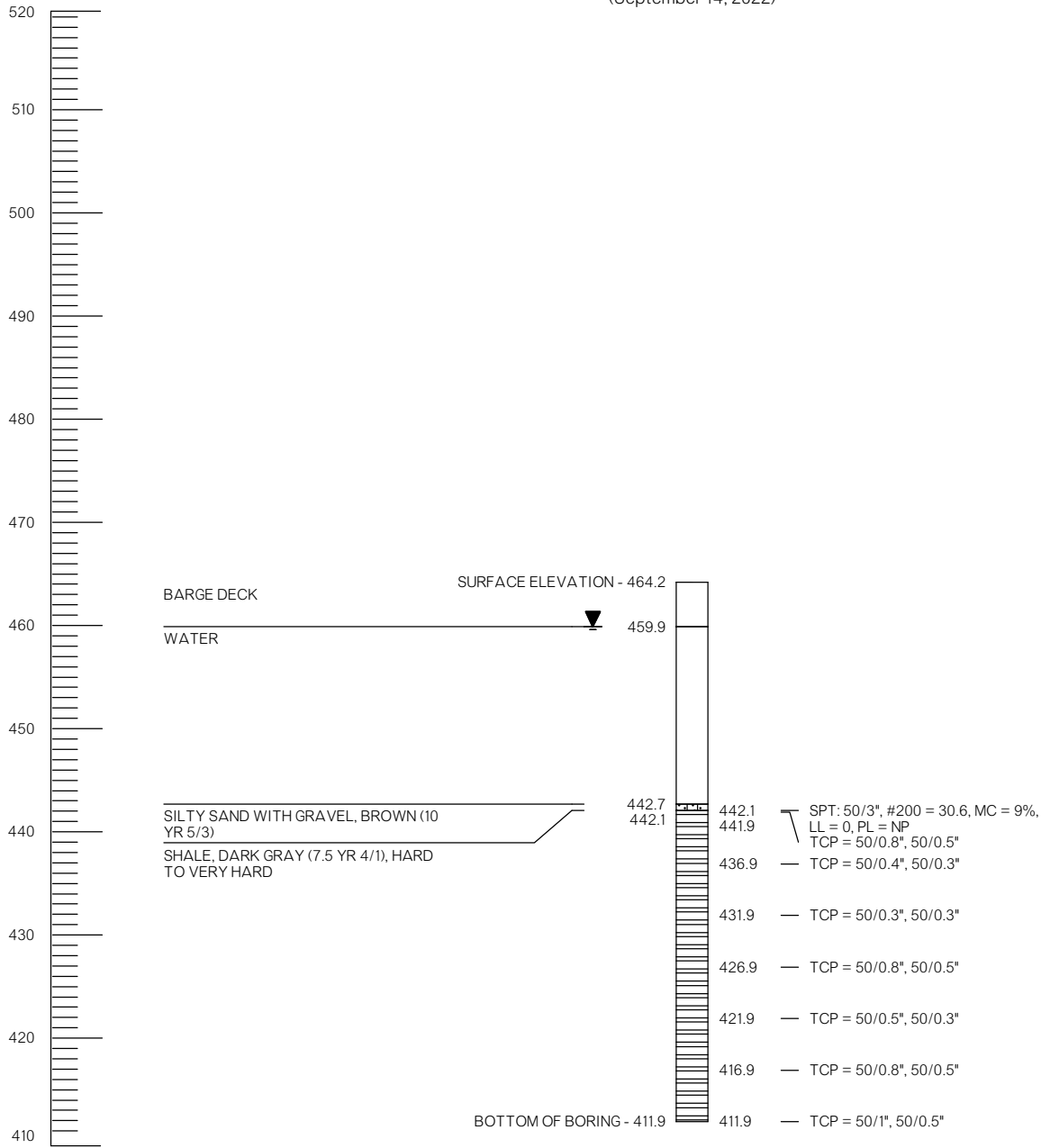
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Design	EDC	10/22
Detail	EDC	10/22
Check	JWB	10/22
Squad:		
Engr.:		

STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 32100(04)	SHEET NO. B008

BORING NO. B-07

STATION 290+88, 30' left of C SURVEY
(September 14, 2022)



SITE GEOLOGY

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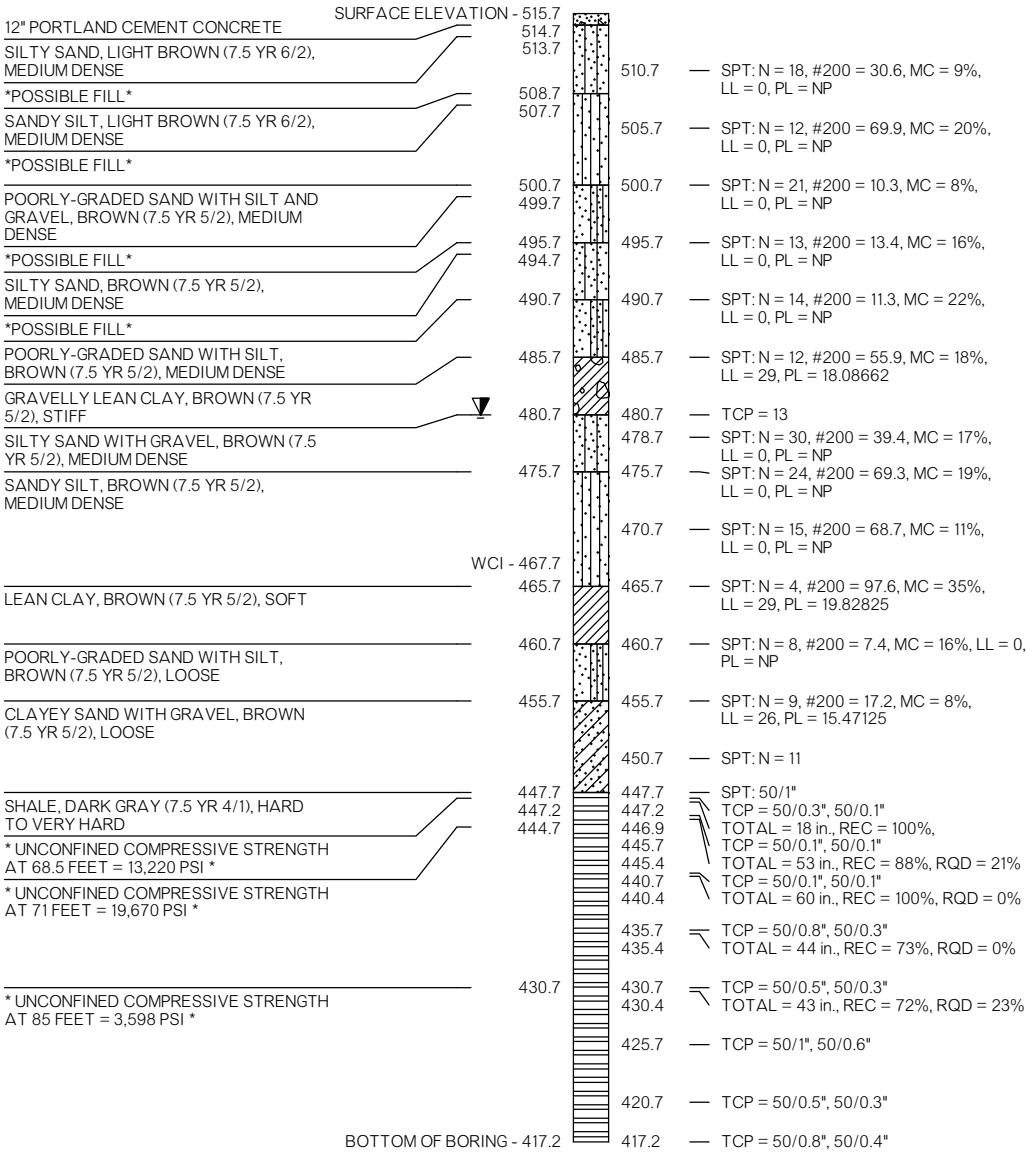
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BORING NO. B-08

STATION 293+25, 13' left of C SURVEY
(March 8 - 9, 2022)



LEGEND

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RED ROCK
CONSULTING

SH 100 BRIDGE OVER
ARKANSAS RIVER

MUSKOGEE AND SEQUOYAH
COUNTIES, OKLAHOMA

SUBSURFACE PROFILE
(SHEET 4 OF 5)

STATE OF
OKLAHOMA

DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32100(04)

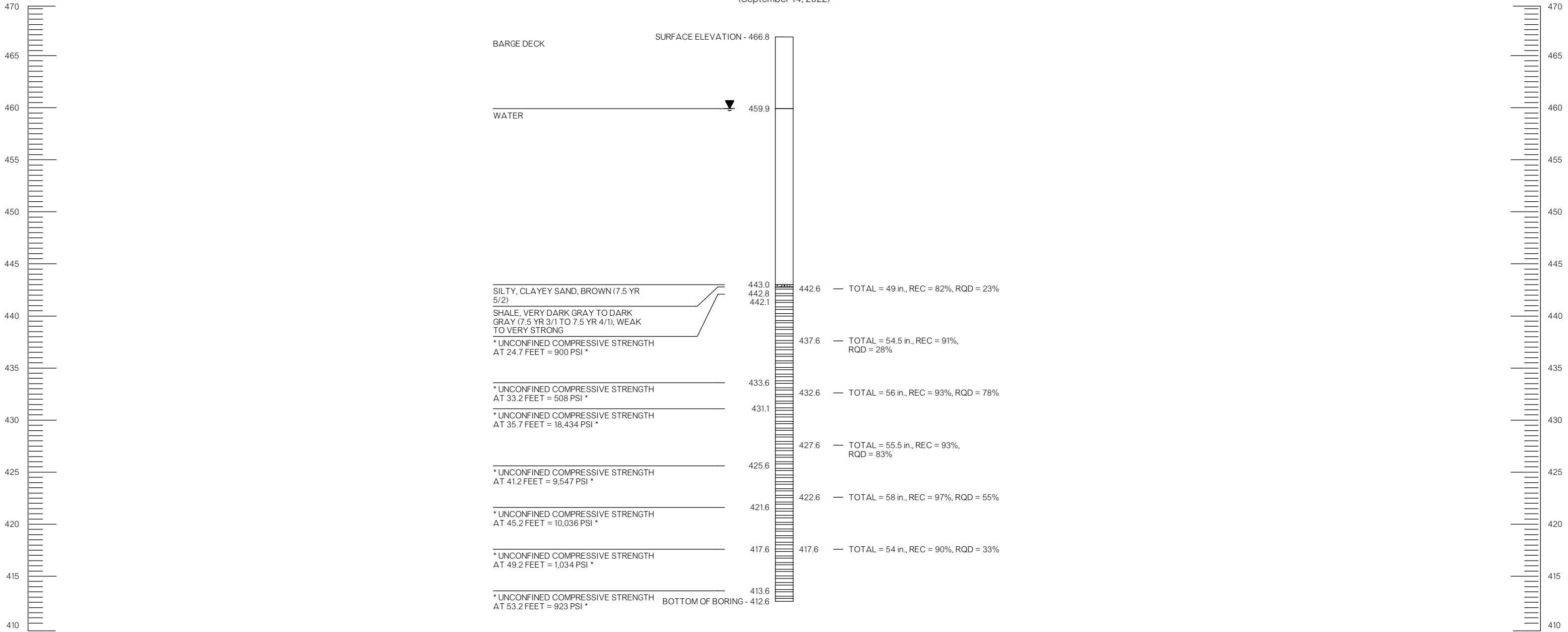
SHEET NO. B009

Design	EDC	10/22
Detail	EDC	10/22
Check	JWB	10/22
Squad		
Engr.		

REVISIONS		
REV. NO.	DESCRIPTION	DATE

BORING NO. B-05A

STATION 286+72, 30' left of \overline{C} SURVEY
(September 14, 2022)



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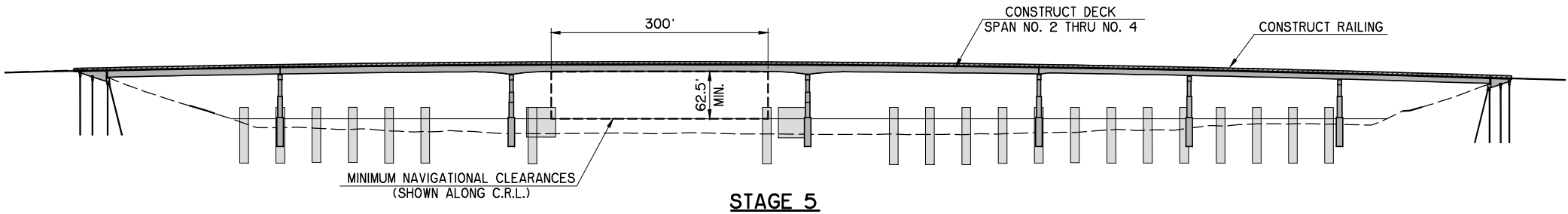
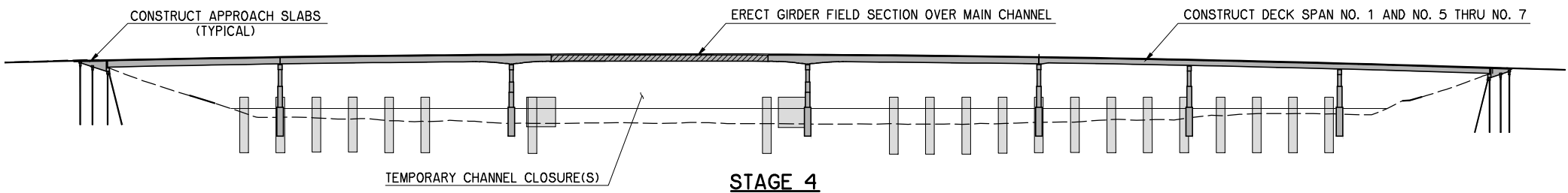
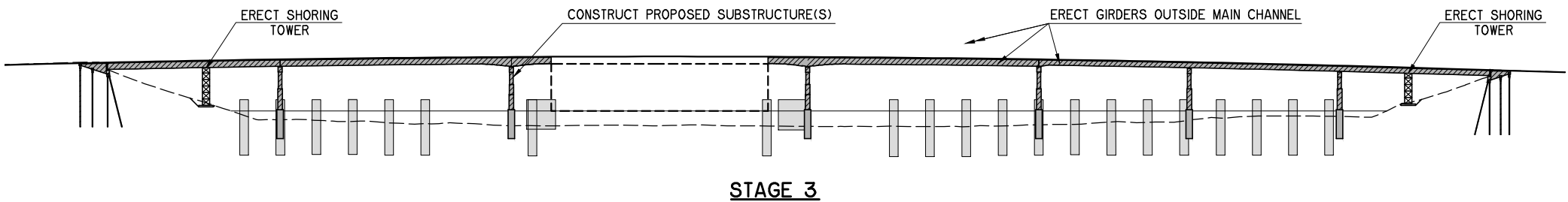
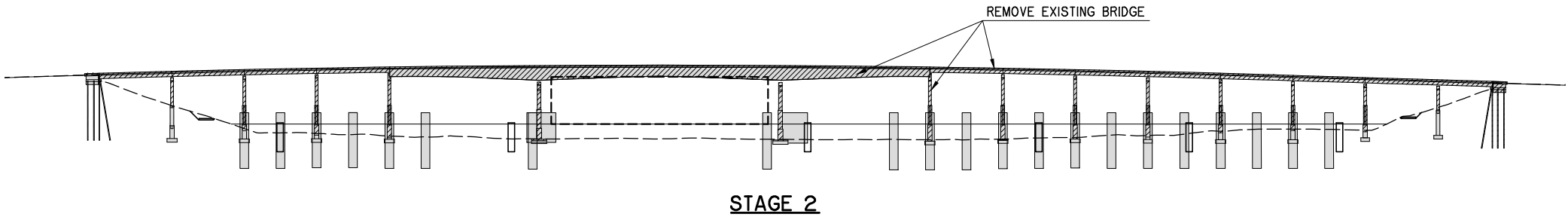
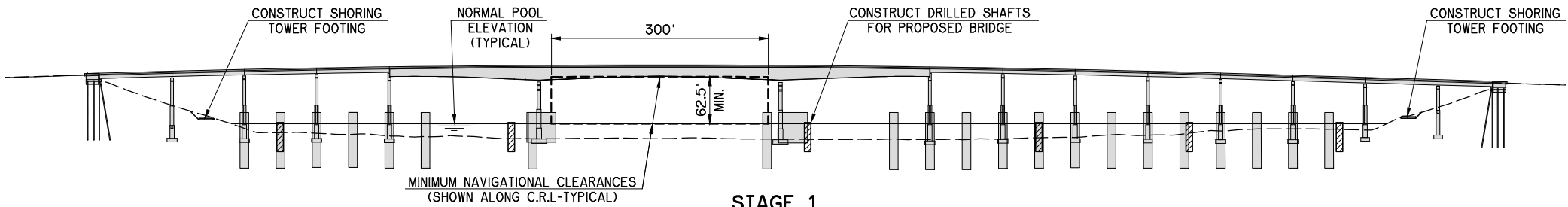
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SH 100 BRIDGE OVER ARKANSAS RIVER		MUSKOGEE AND SEQUOYAH COUNTIES, OKLAHOMA		Design	EDC	10/22
SUBSURFACE PROFILE (SHEET 5 OF 5)				Detail	EDC	10/22
				Check	JWB	10/22
				Squad:		
				Engr.:		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(04)				SHEET NO. B010




BRIDGE CONSTRUCTION SEQUENCE NOTES

- STAGE 1:
1. CONSTRUCT NEW DRILLED SHAFTS AND TEMPORARY SHORING FOOTINGS
- STAGE 2:
1. REMOVE EXISTING BRIDGE
- STAGE 3:
1. CONSTRUCT NEW PIERS AND ABUTMENTS
2. ERECT GIRDERS FOR SPAN NO. 1 AND SPAN NO. 5 THRU NO. 7
3. ERECT GIRDERS FOR SPAN NO. 2 AND NO. 4 AS SHOWN
- STAGE 4:
1. ERECT FINAL GIRDER FIELD SECTION FOR SPAN NO. 3 OVER THE NAVIGATION CHANNEL
2. CONSTRUCT NEW DECK ON SPAN NO. 1 AND SPAN NO. 5 THRU NO. 7
3. CONSTRUCT APPROACH SLABS
- STAGE 5:
1. CONSTRUCT NEW DECK ON SPAN NO. 2 THRU NO. 4
2. CONSTRUCT RAILING ON ALL SPANS

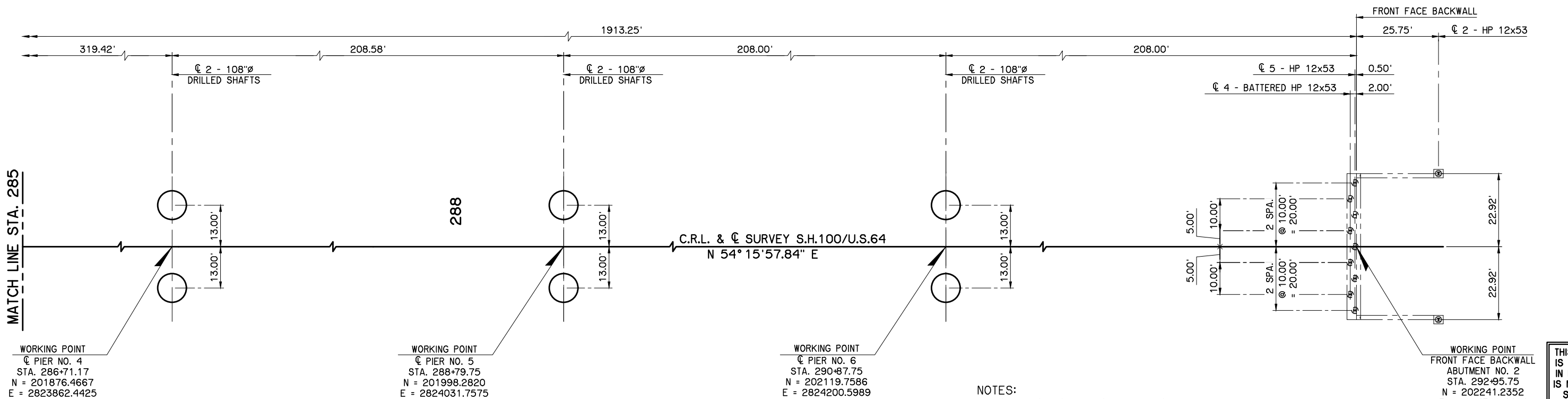
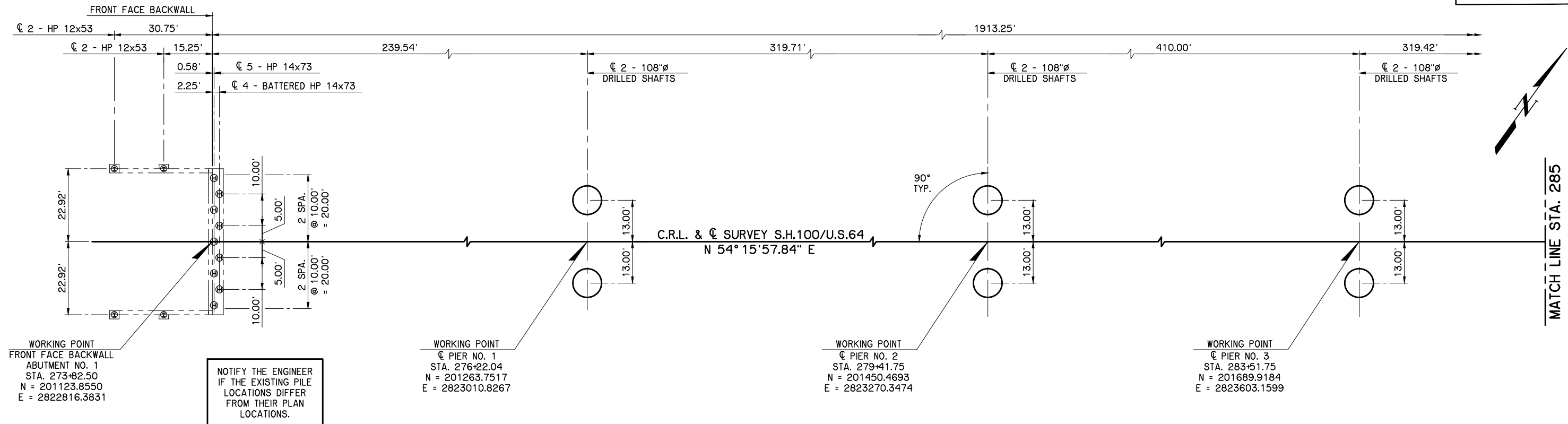
LEGEND

 CONSTRUCTION ACTIVITY

THIS DOCUMENT
IS PRELIMINARY
IN NATURE, AND
IS NOT A FINAL,
SIGNED AND
SEALED
DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	Design	CEG
SUGGESTED BRIDGE CONSTRUCTION SEQUENCE		 CEC	Detail	DRB
			Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 32100(O4)		SHEET NO. B011		

L:\Active\20013\Drawings\Production Plans\B012 Substr layout revised.dwg, 11/28/2022 9:09:25 AM, DWG To PDF.pc3



SUBSTRUCTURE LAYOUT

- NOTES:
- ALL PILES ARE DRIVEN VERTICAL EXCEPT AS NOTED.
 - SEE STD. HP1-2 FOR PILE ENCASEMENTS.
 - ORIENT WEB FACE OF SEAT PILES PERPENDICULAR TO THE FACE OF THE SEAT.
 - ORIENT WEB FACE OF WING PILES PERPENDICULAR TO THE FACE OF THE WING.

S.H.100/U.S.64 OVER MCCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

DesignDLW
DetailDRB
CheckDLW

CEC

SUBSTRUCTURE LAYOUT

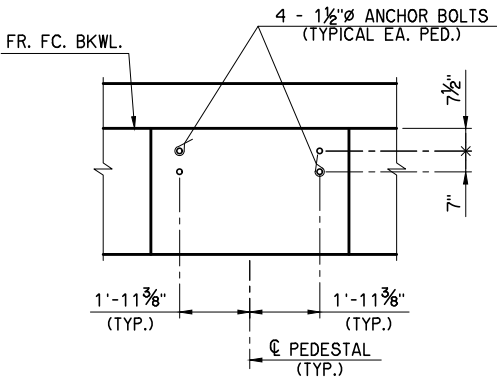
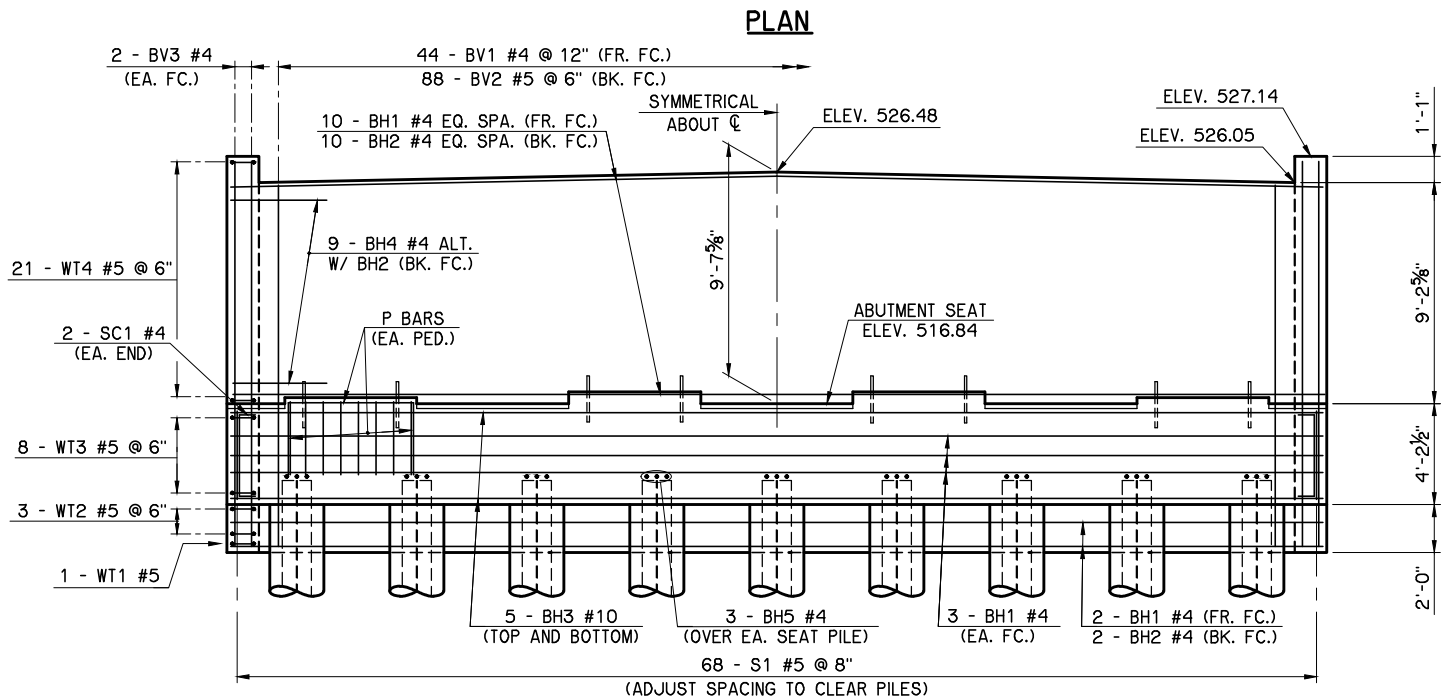
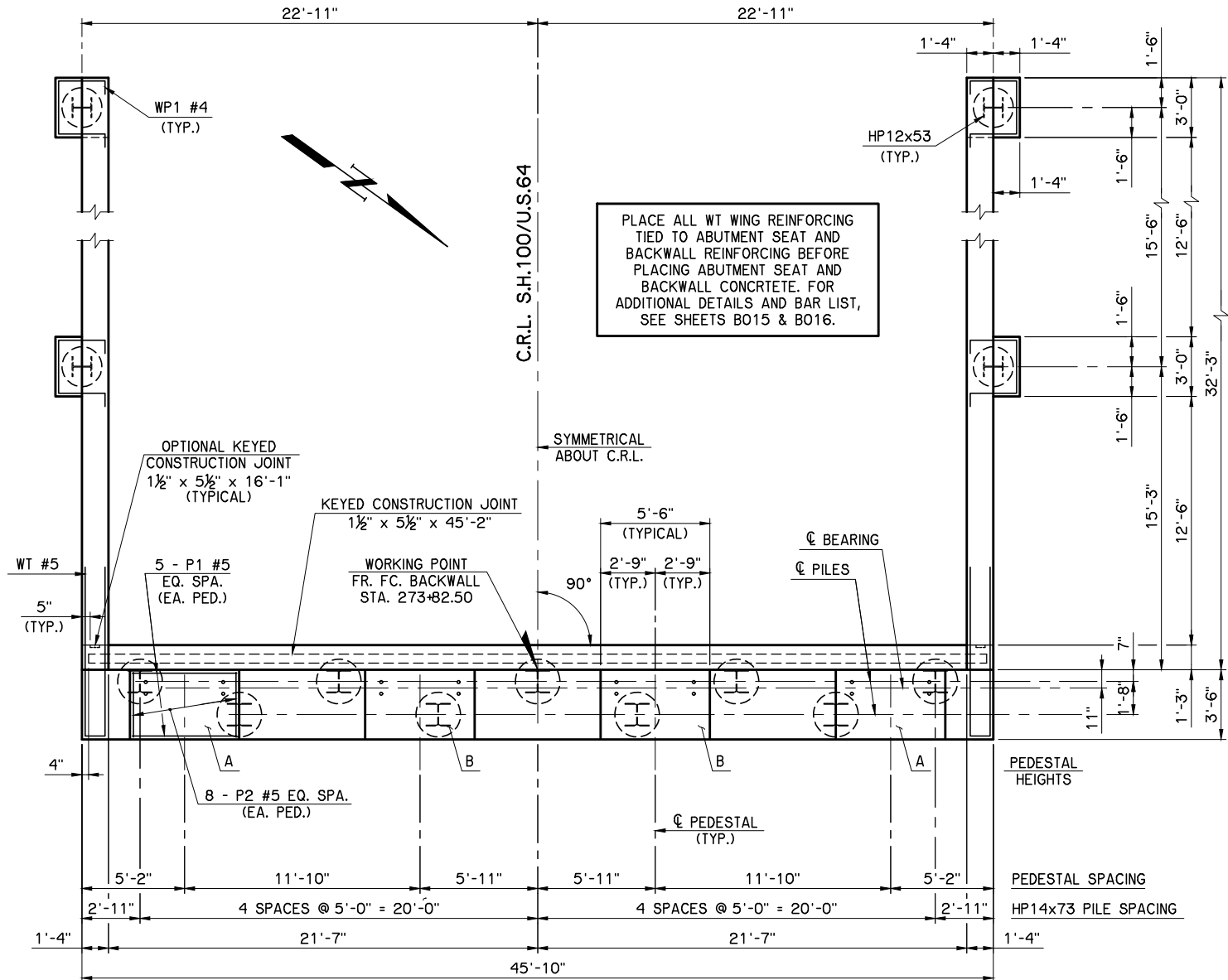
STATE OF OKLAHOMA
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SHEET NO. B012

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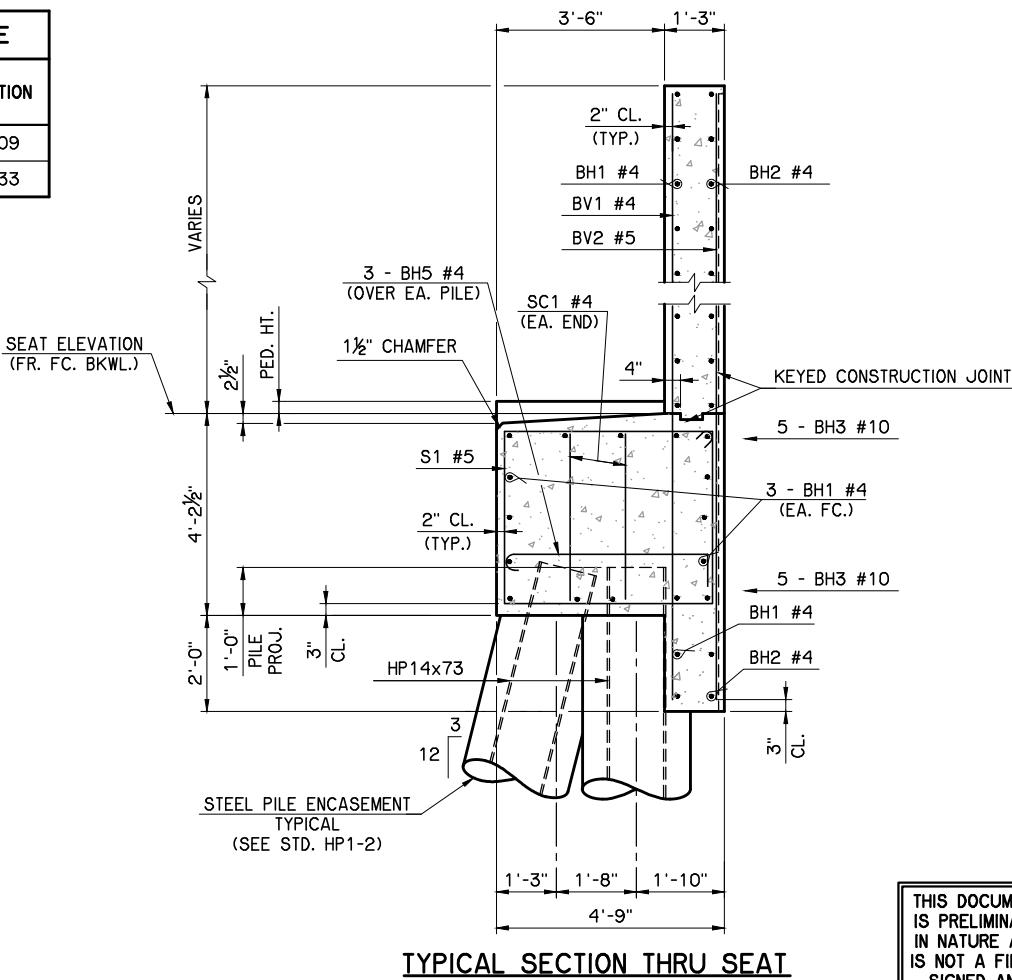
ABUTMENT QUANTITIES				
ITEM DESCRIPTION	UNIT	ABUT. NO. 1	ABUT. NO. 2	TOTAL
SUBSTRUCTURE EXCAVATION COMMON	C.Y.	170	130	300
CLSM BACKFILL	C.Y.	273.9	205.3	479.2
STRUCTURAL STEEL	C.Y.		60	60
ELASTOMERIC COATING	S.F.	225	200	425
CLASS A CONCRETE	C.Y.	90.7	70.8	161.5
EPOXY COATED REINFORCING STEEL	LB.	12,070	12,710	24,780
PILES, FURNISHED (HP12x53)	L.F.	332	678	1,010
PILES, FURNISHED (HP14x73)	L.F.	701		701
PILES, DRIVEN (HP12x53)	L.F.	332	678	1,010
PILES, DRIVEN (HP14x73)	L.F.	701		701
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	59	48	107
6" PERFORATED PIPE UNDERDRAIN ROUND	L.F.	43	43	86
6" NON-PERF. PIPE UNDERDRAIN RND.	L.F.	28	26	54

PEDESTAL SCHEDULE		
LOCATION	PED. HEIGHT	ELEVATION
A	3"	517.09
B	5 7/8"	517.33



ANCHOR BOLT LAYOUT PLAN
FOR ANCHOR BOLT DETAILS, SEE SHEET B047

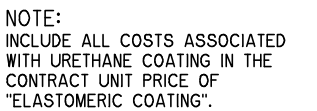
NOTES:
SEE SHEET B014 FOR SURFACE TREATMENT DETAILS.
SEE SHEET B015 FOR FOR WING DETAILS.
SEE SHEET B016 FOR BAR LISTS & BAR BENDS.



TYPICAL SECTION THRU SEAT

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
ABUTMENT DETAILS		Design	DLW
SHEET 1 OF 6		Detail	DRB
ABUTMENT NO. 1 DETAILS		Check	AFW
STATE OF OKLAHOMA		CEC	
DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 32100(O4)	
		SHEET NO. B013	



E

ATION

48

72

SEAT ELEVATION
(FR. FC. BKWL.)

VARIES

10'-0"
PROJ.

3'-0"

1'-3"

2" CL.
(TYP.)

BH1 #4

BV4 #4

BV5 #5

BH2 #4

3 - BH6 #4
(OVER EA. PILE)

SC2 #4
(EA. END)

1½" CHAMFER

KEYED CONSTRUCTION JOINT

5 - BH3 #10

S2 #5

2" CL.
(TYP.)

3 - BH1 #4
(EA. FC.)

5 - BH3 #10

BH1 #4

BH2 #4

HP12x53

STEEL PILE ENCASEMENT
TYPICAL
(SEE STD. HP1-2)

1'-0"

PILE PROJ.

3"-CL.

3'-8"

2'-0"

1'-0"

1'-6"

1'-9"

4'-3"

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TYPICAL SECTION THRU SEAT
(ABUTMENT NO. 2)

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DOCUMENT

Design	DLW	
Detail	DRB	
Check	AFW	

MUSKOGEE CO.	De
SEQUOYAH CO.	

SHEET 2 OF 6

ABUTMENT NO. 2 DETAILS

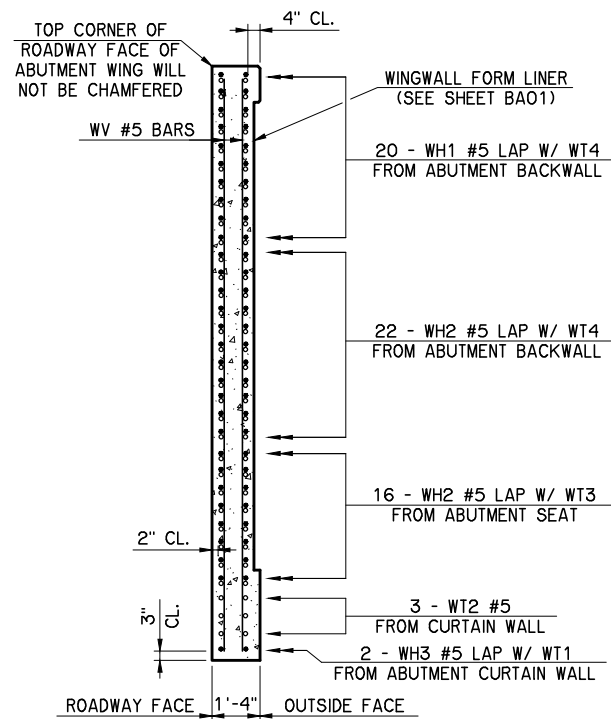
DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32100(04)

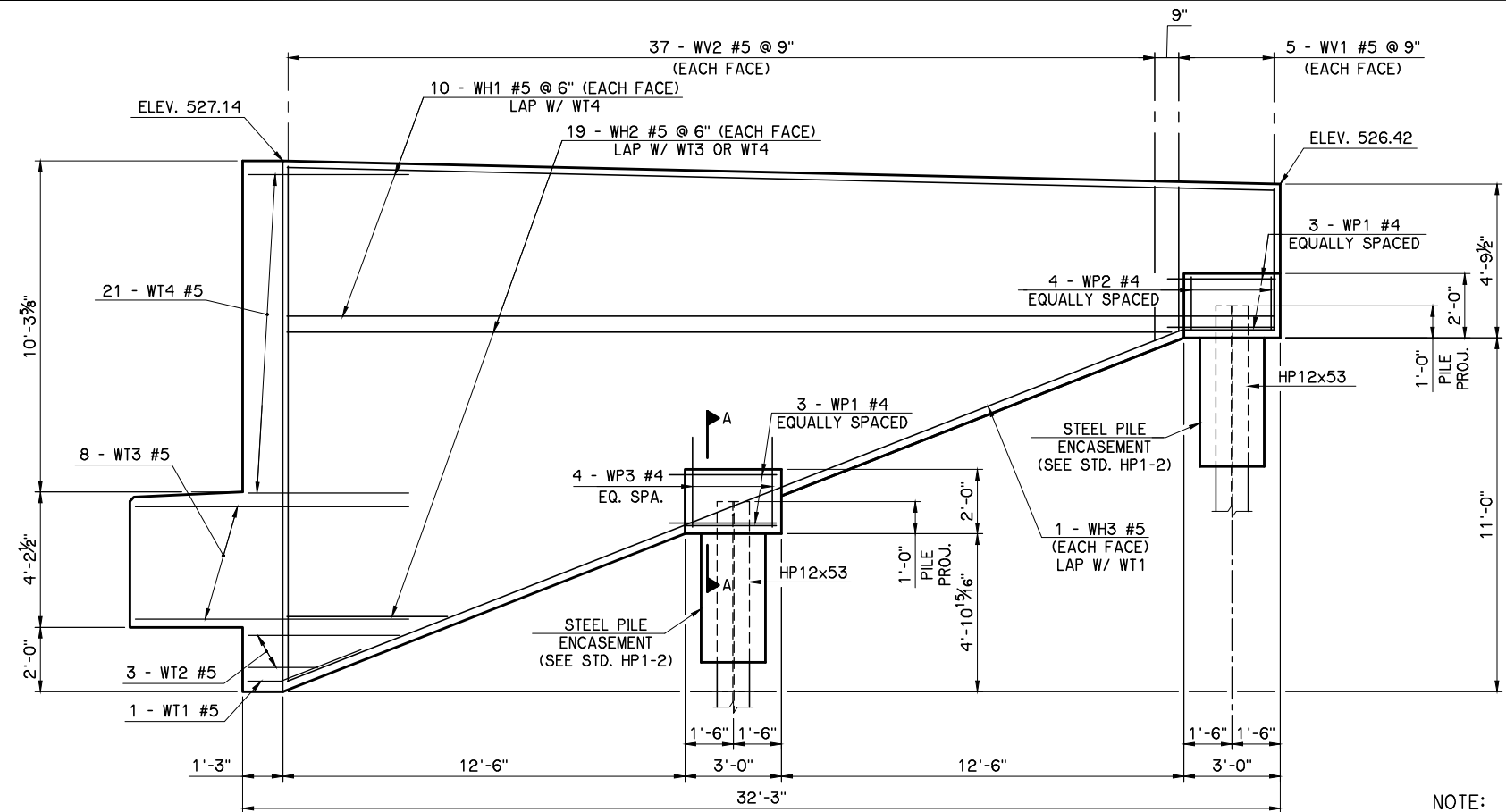
SHEET NO. BO14



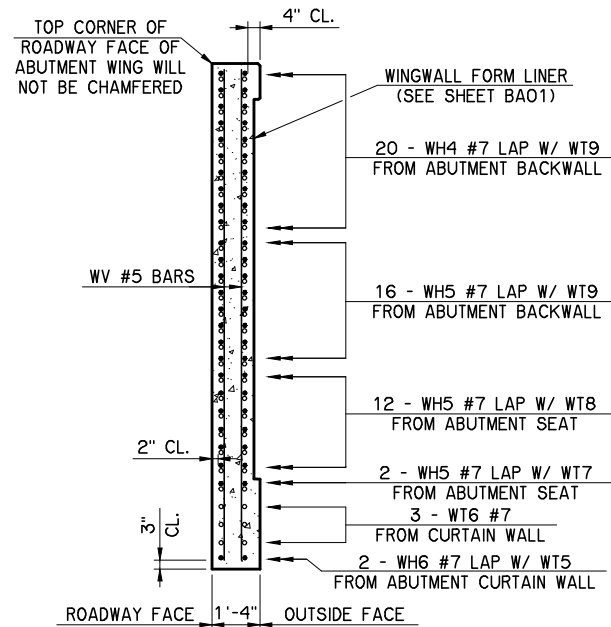
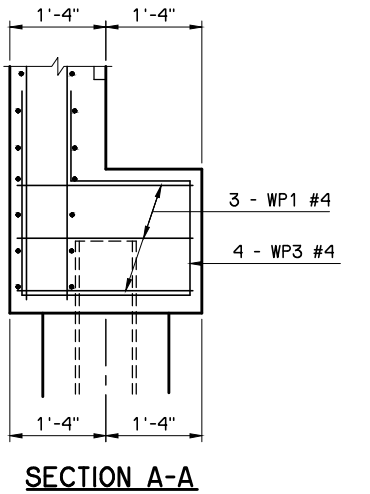
SEE SHEET B016 FOR BAR LISTS & BAR
BENDS AND EMBEDDED PLATE DETAIL.



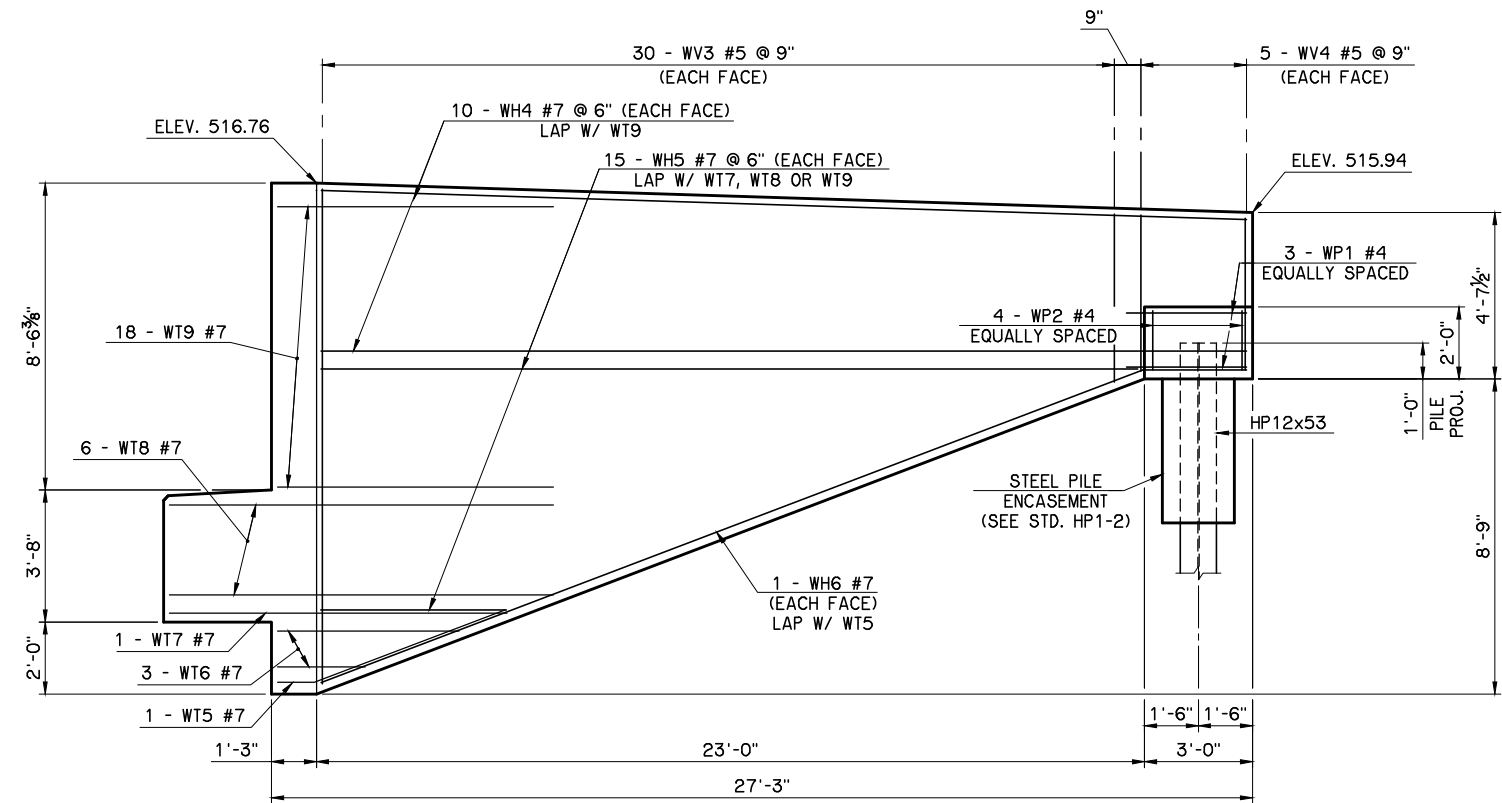
SECTION THRU WING AT BACK
FACE OF ABUTMENT SEAT
(ABUTMENT NO. 1)



NOTE:
FOR BAR BENDS AND BAR
LISTS, SEE SHEET B016.




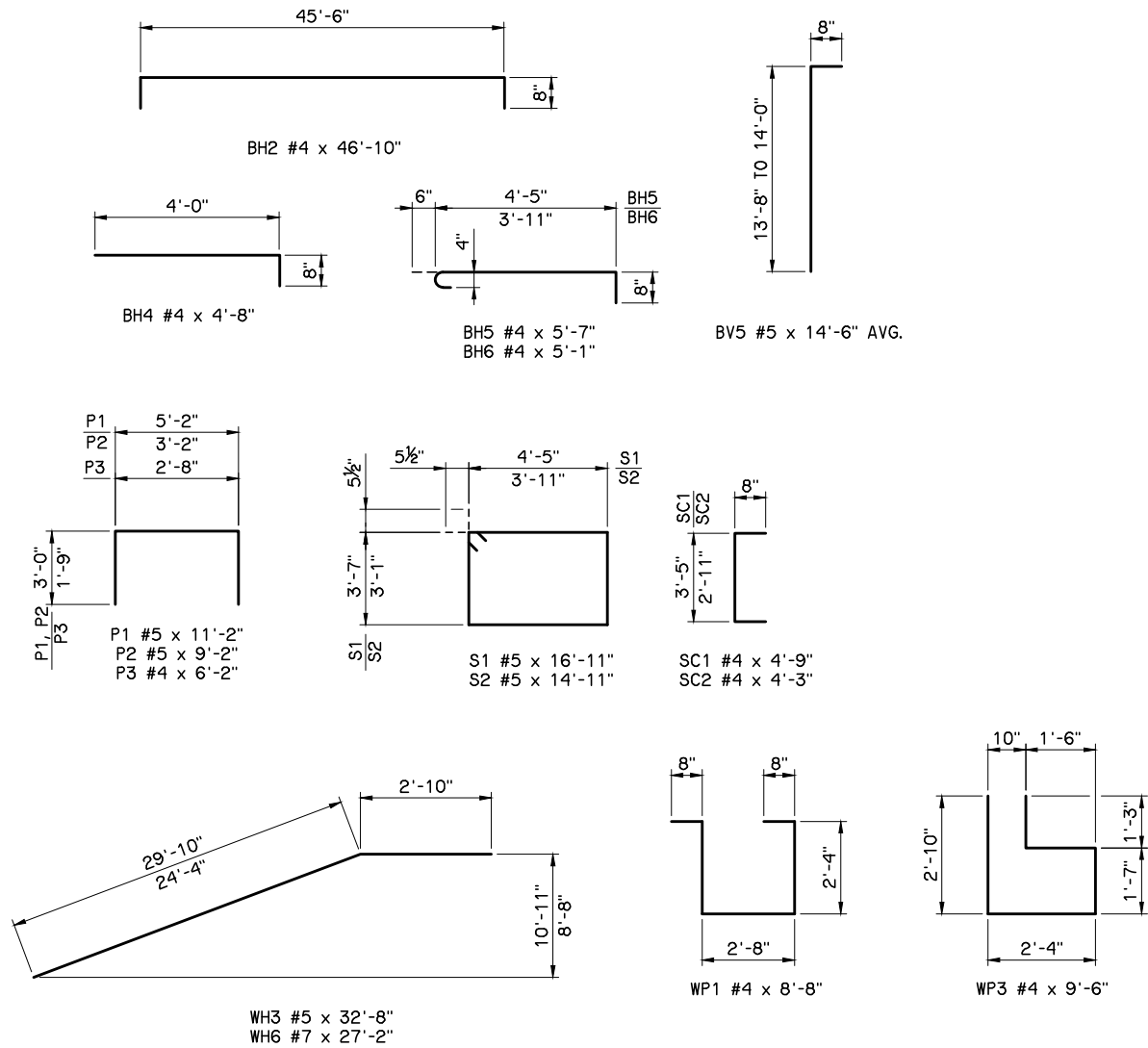
SECTION THRU WING AT BACK
FACE OF ABUTMENT SEAT
(ABUTMENT NO. 2)



FOR FORM LINER DETAILS,
SEE SHEET BAO1

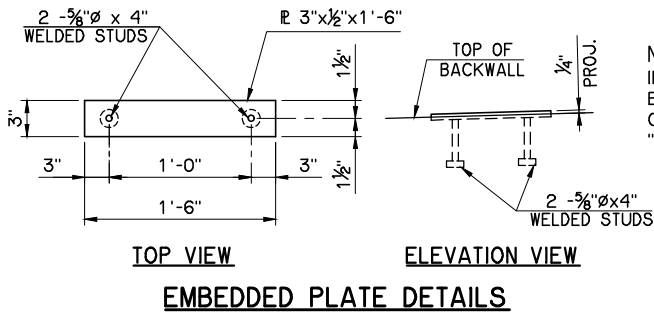
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DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY	MUSKOGEE CO. SEQUOYAH CO.	Design	DLW	
		Detail	DRB	
		Check	AFW	
ABUTMENT DETAILS SHEET 3 OF 6 ABUTMENT WING DETAILS				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 32100(O4)		SHEET NO. B015		



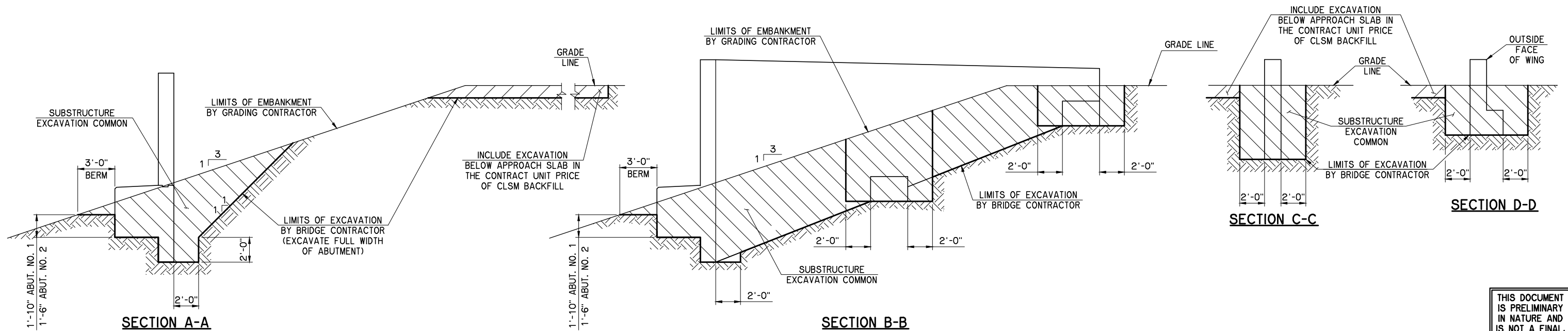
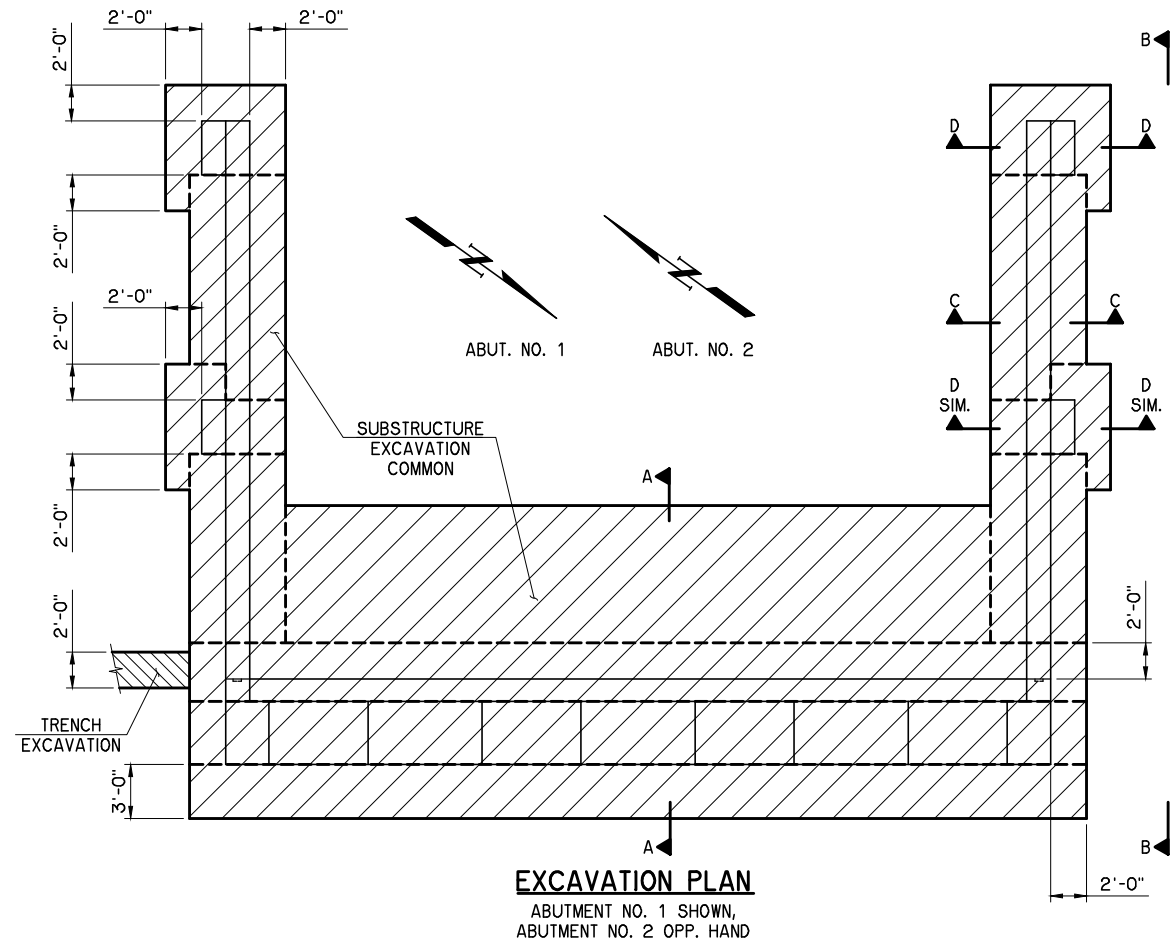
- ① 2 SETS OF 22
② 2 SETS OF 44
③ 4 SETS OF 19
④ 2 SETS OF 3
⑤ 4 SETS OF 37

- ⑥ 4 SETS OF 15
⑦ 4 SETS OF 30



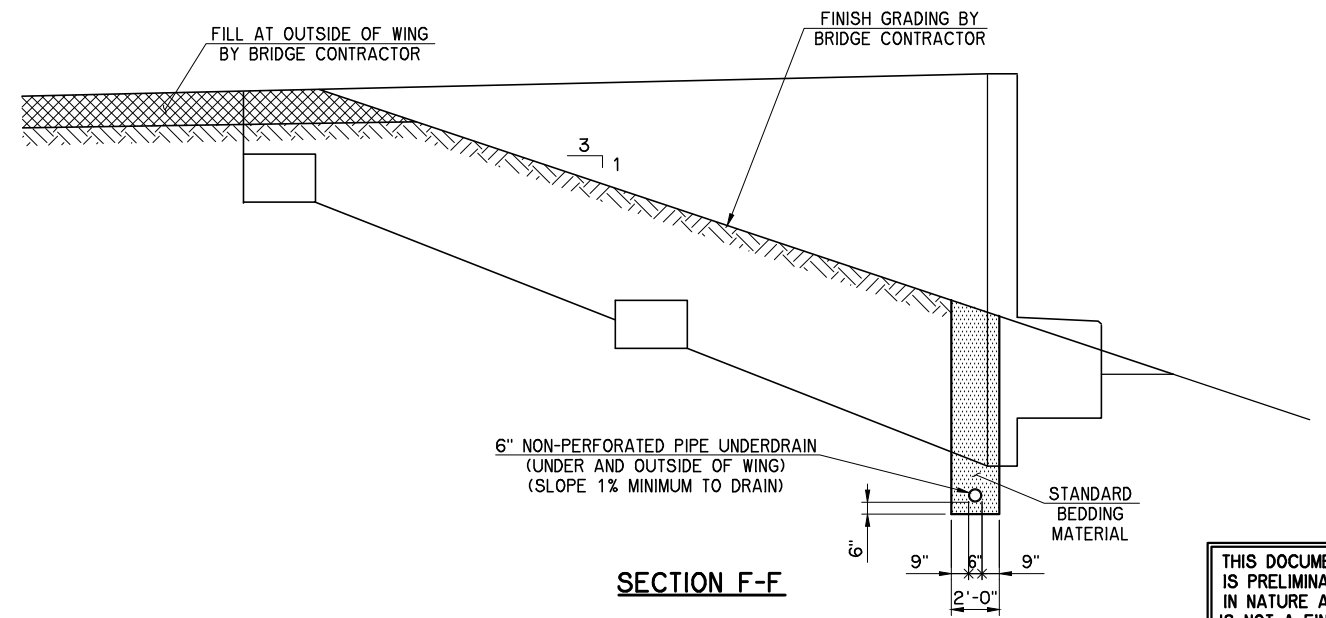
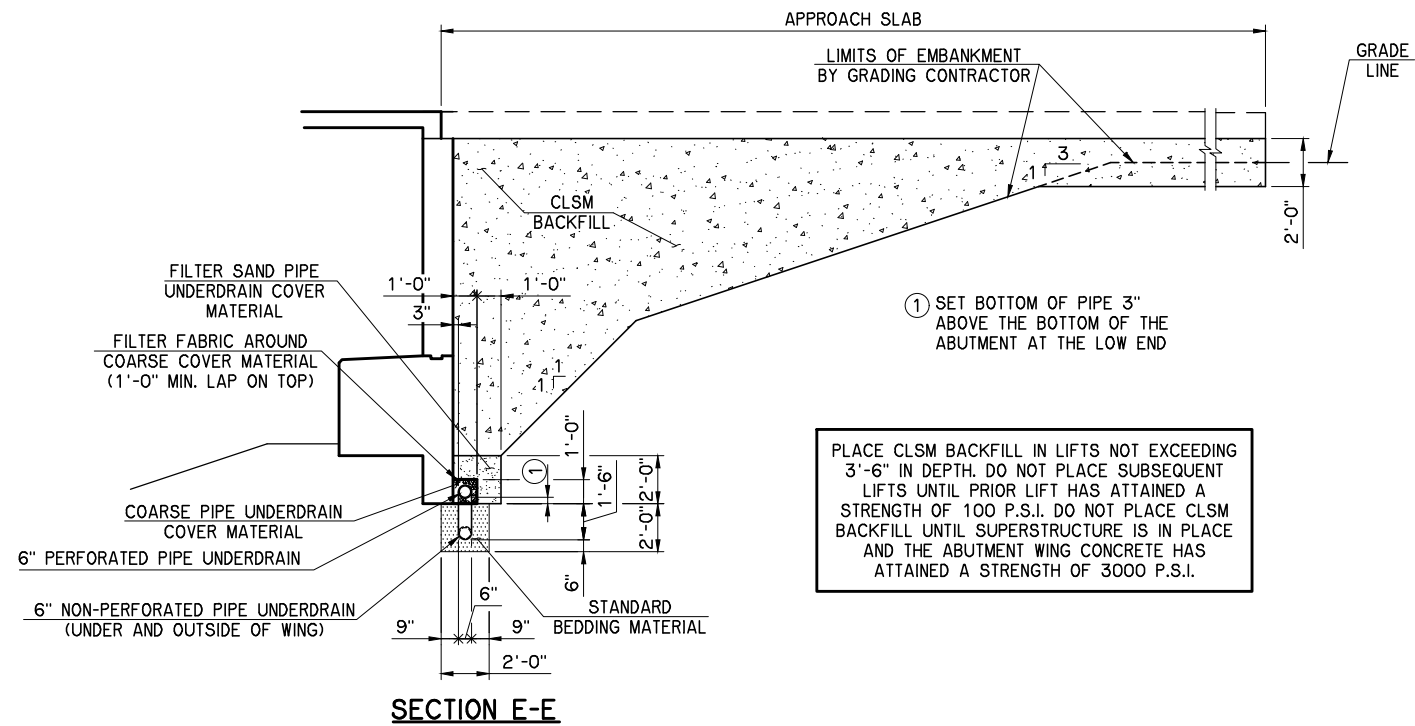
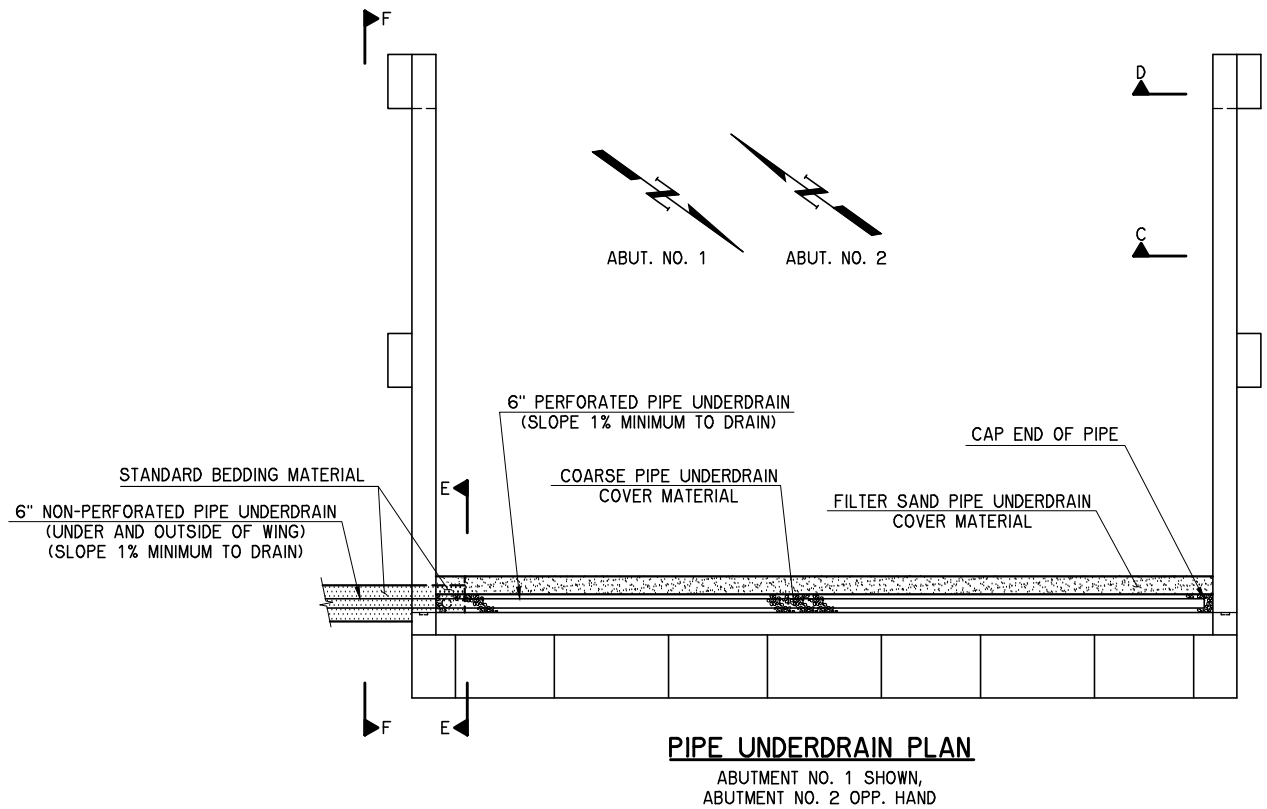
NOTE:
INCLUDE ALL COSTS OF
EMBEDDED PLATES IN THE
CONTRACT UNIT PRICE OF
"STRUCTURAL STEEL".

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
ABUTMENT DETAILS SHEET 5 OF 6 EXCAVATION DETAILS		Design	DLW
		Detail	DRB
		Check	AFW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(O4)		SHEET NO. B017	



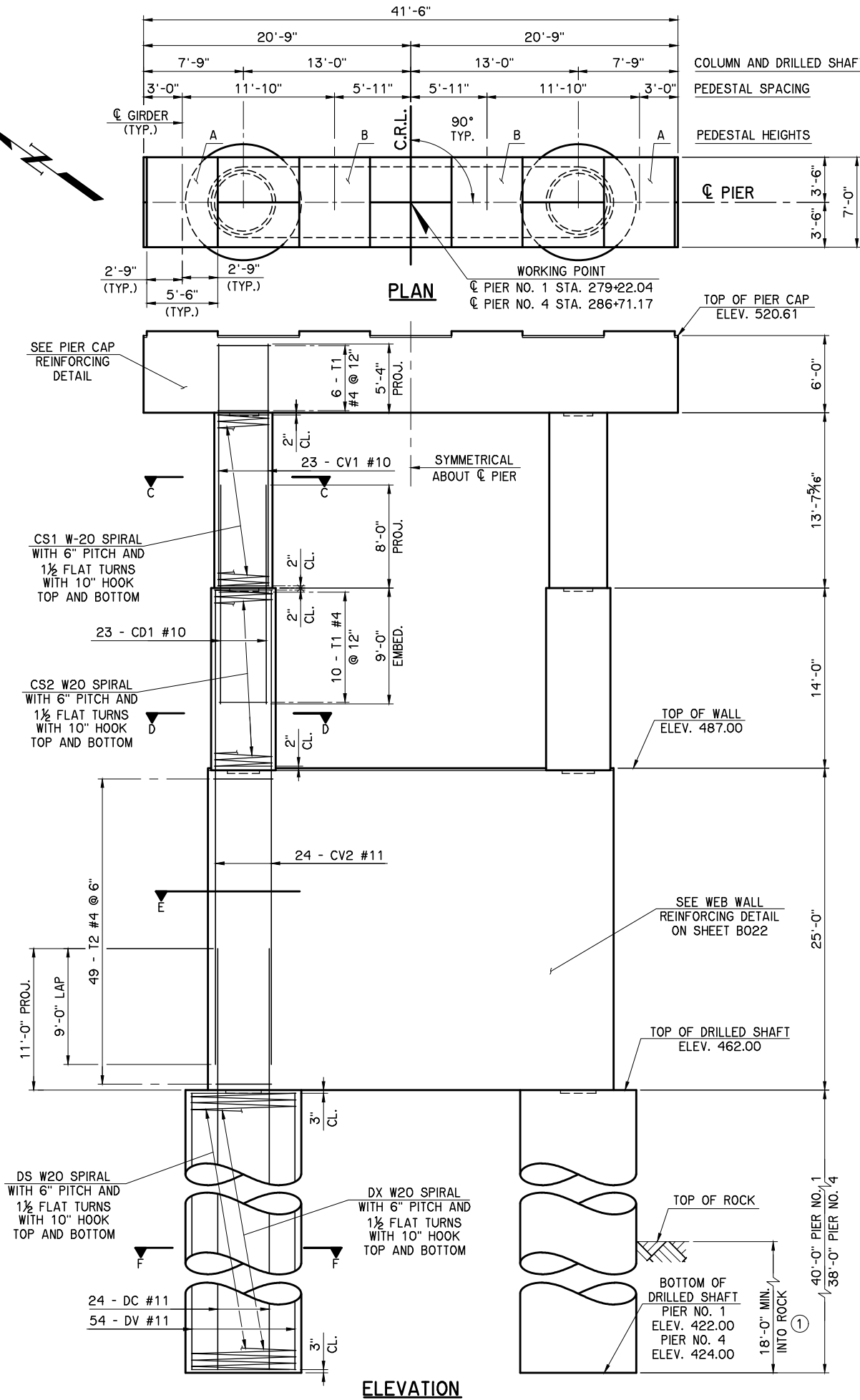
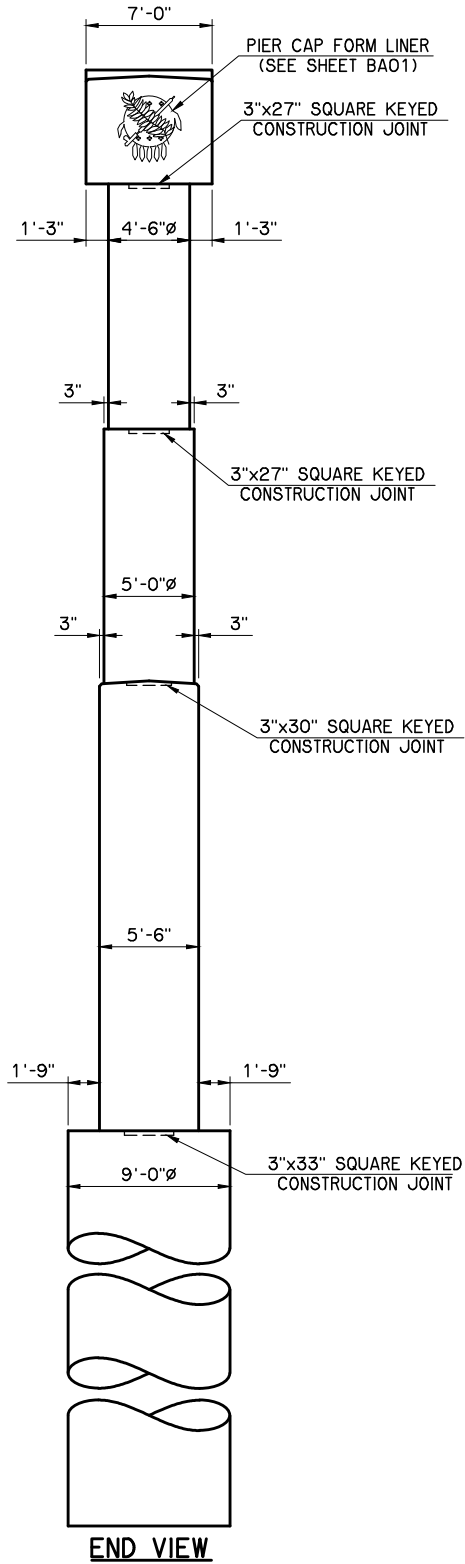
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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
Design	DLW	Detail	DRB
Check	AFW	CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B018	

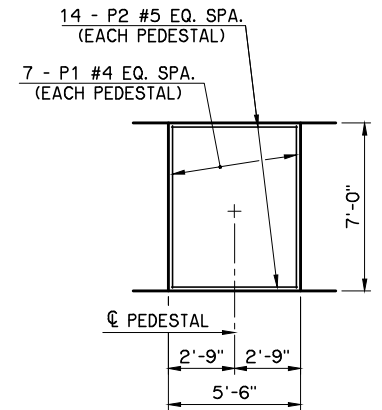
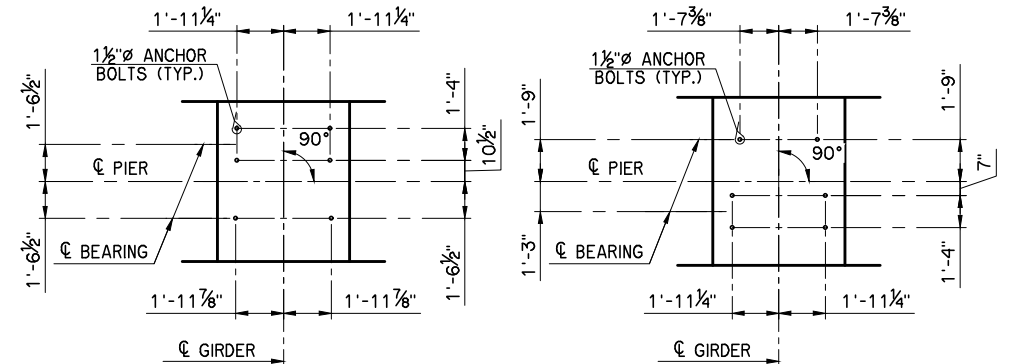
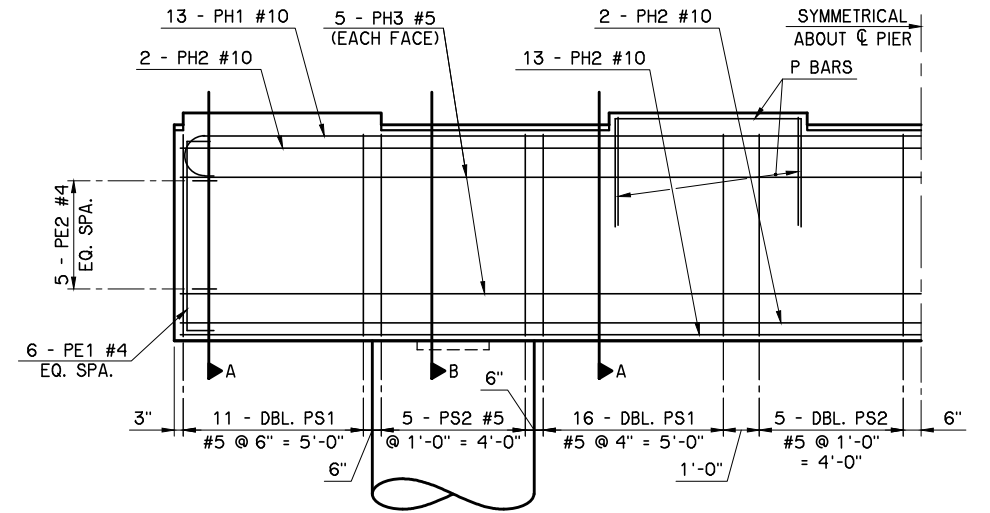
ABUTMENT DETAILS
SHEET 6 OF 6
PIPE UNDERDRAIN DETAILS

L:\Active\20013\Drawings\Production Plans\B019 Redesign Pier1.dwg, 12/1/2022 2:20:00 PM, DWG To PDF.pc3

PEDESTAL SCHEDULE		
LOCATION	PED. HEIGHT	PEDESTAL ELEVATION
A	3"	520.86
B	57/8"	521.10



FINAL REVIEW
PLANS
DECEMBER 2022



NOTES:

SEE SHEET B023 FOR SECTIONS A THRU F AND SURFACE TREATMENT DETAIL.

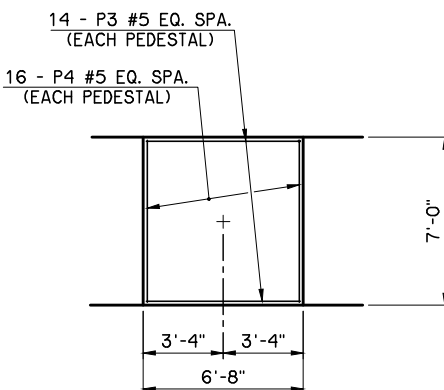
SEE SHEET B024 FOR PIER QUANTITIES.

SEE SHEET B025 FOR BAR BENDS AND BAR LISTS.


① INSTALL DRILLED SHAFTS THE SPECIFIED MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
PIER DETAILS SHEET 1 OF 7 PIER NO. 1 AND NO. 4		STATE OF OKLAHOMA		Detail	DRB
				Check	DLW
JOB PIECE NO. 32100(O4)		DEPARTMENT OF TRANSPORTATION		CEC	
				SHEET NO. B019	

[illegible]

① INSTALL DRILLED SHAFTS THE SPECIFIED MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

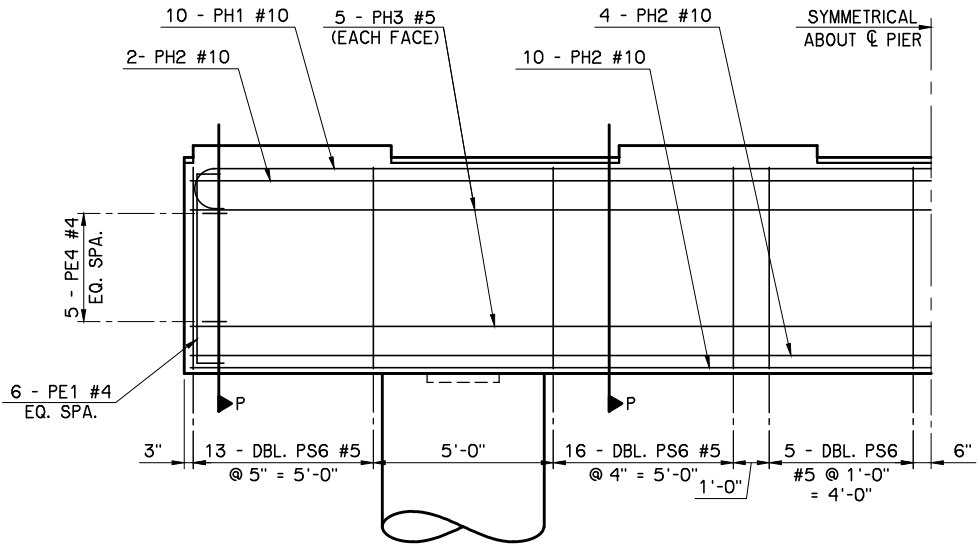
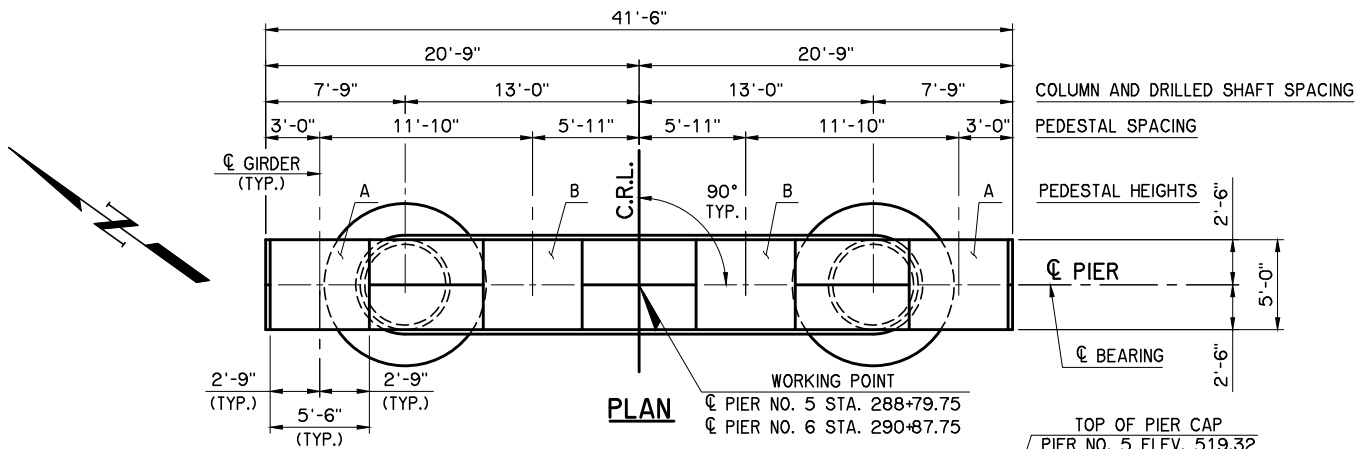
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	Design	DLW	
PIER DETAILS SHEET 2 OF 7 PIER NO. 2 AND NO. 3			Detail	DRB	
			Check	DLW	
			 CEC		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(04)			SHEET NO. B020		

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FINAL REVIEW
PLANS

DECEMBER 2022

PEDESTAL SCHEDULE			
LOCATION	PED. HEIGHT	PIER NO. 5 ELEVATION	PIER NO. 6 ELEVATION
A	3"	519.57	514.59
B	5 7/8"	519.81	514.83

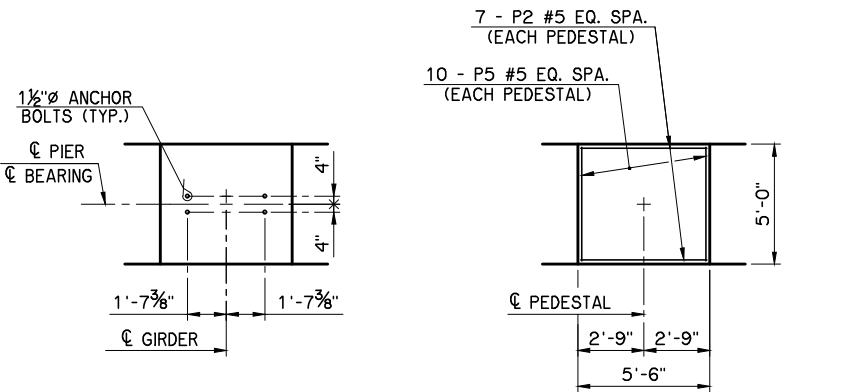


NOTES:
SEE SHEET B023 FOR SECTIONS C THRU F AND SURFACE TREATMENT DETAIL

SEE SHEET B024 FOR SECTION P AND PIER QUANTITIES.

SEE SHEET B025 FOR BAR BENDS AND BAR LISTS.

PIER CAP REINFORCING DETAIL



ANCHOR BOLT LAYOUT PLAN PEDESTAL REINFORCING PLAN

① INSTALL DRILLED SHAFTS THE SPECIFIED MINIMUM DISTANCE INTO ROCK, BUT IN NO CASE HIGHER THAN THE BOTTOM OF DRILLED SHAFT ELEVATION SHOWN ON PLANS.

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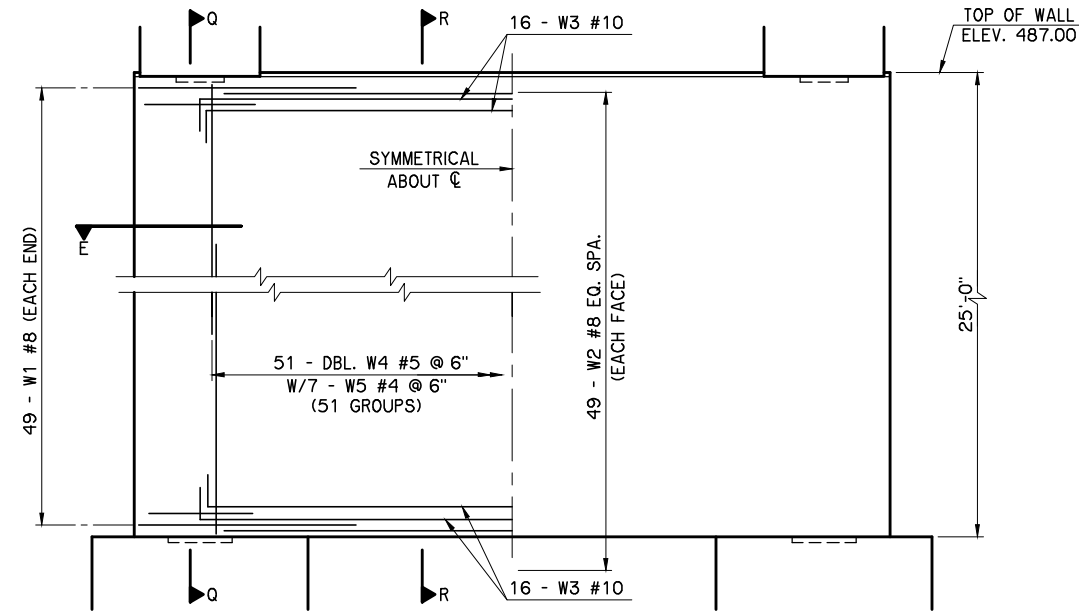
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO. SEQUOYAH CO.

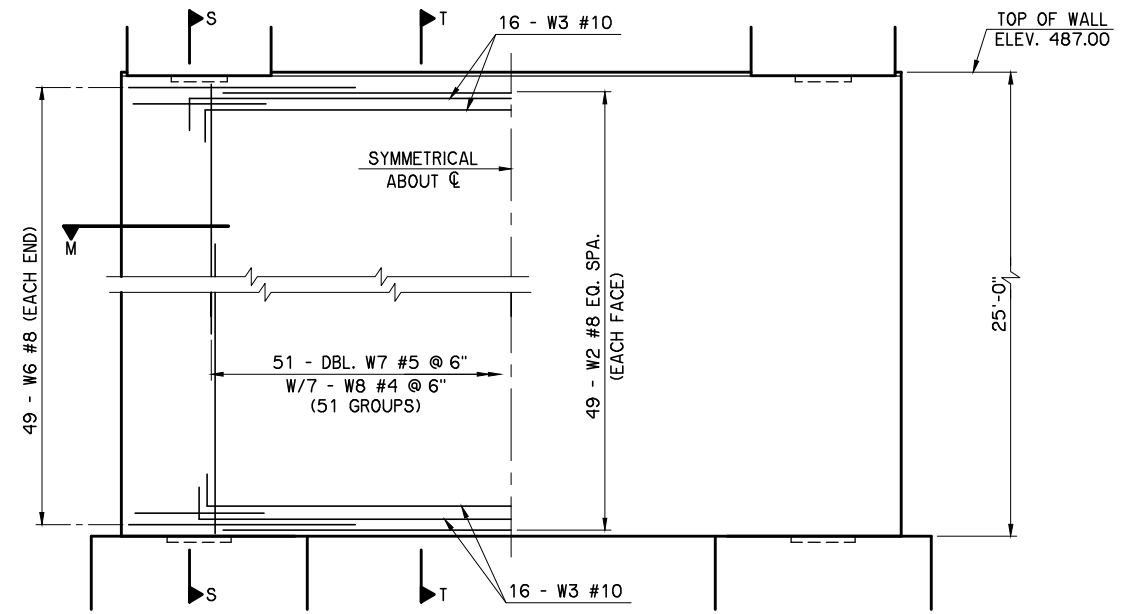
PIER DETAILS
SHEET 3 OF 7
PIER NO. 5 AND NO. 6

STATE OF OKLAHOMA DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 32100(O4) SHEET NO. B021

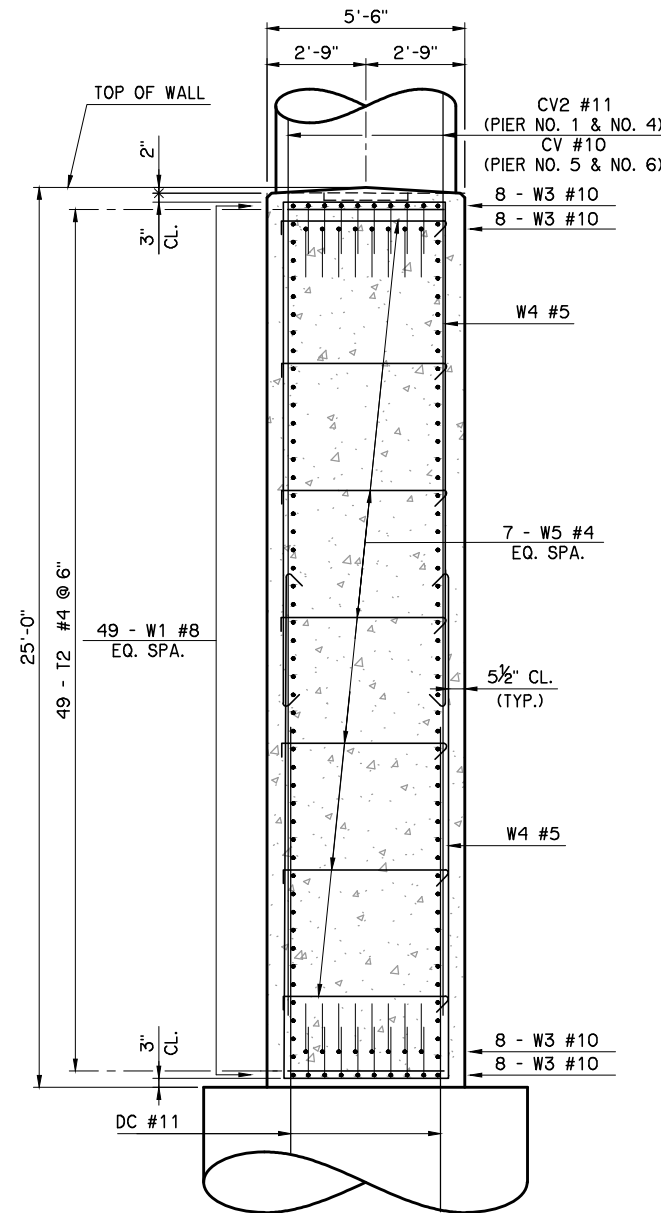
NOTE:
SEE SHEETS B023
AND B024 FOR
SECTIONS E AND M.



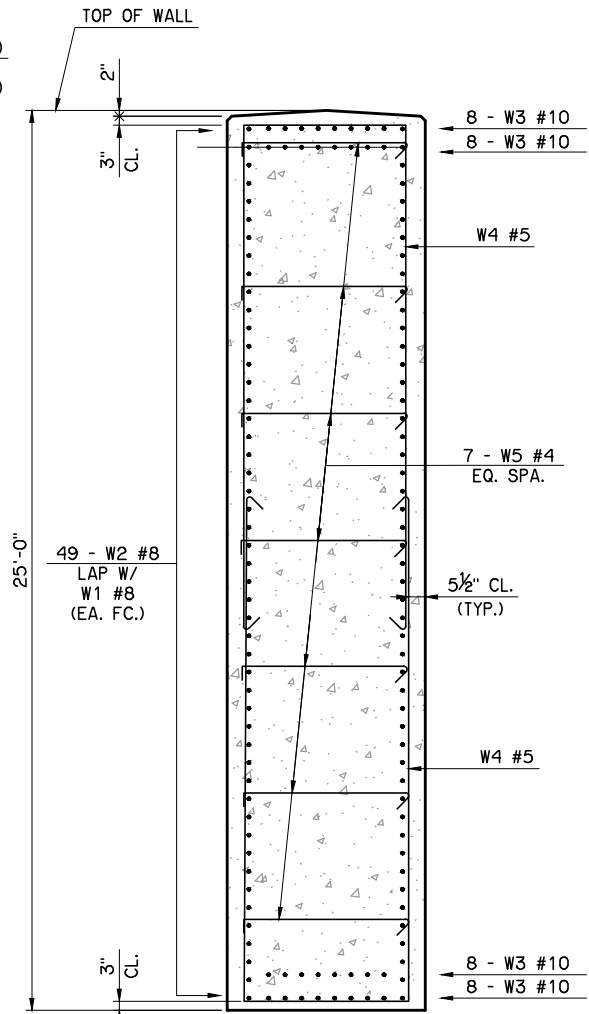
PIER NO. 1 AND NO. 4 THRU NO. 6 ELEVATION



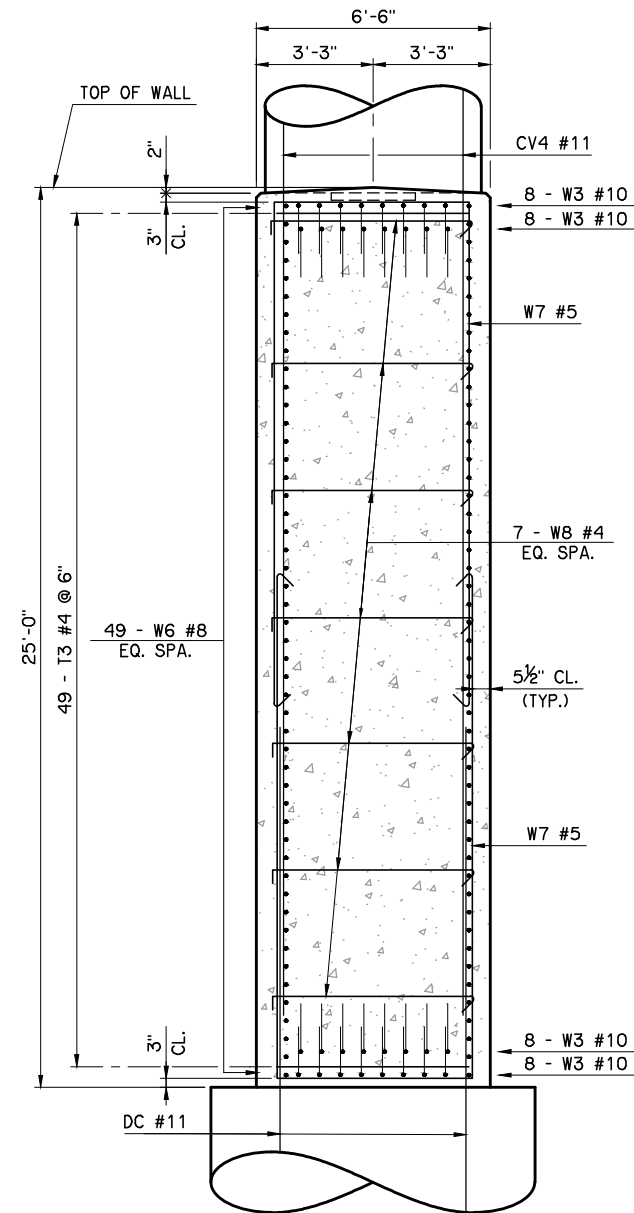
PIER NO. 2 AND NO. 3 ELEVATION



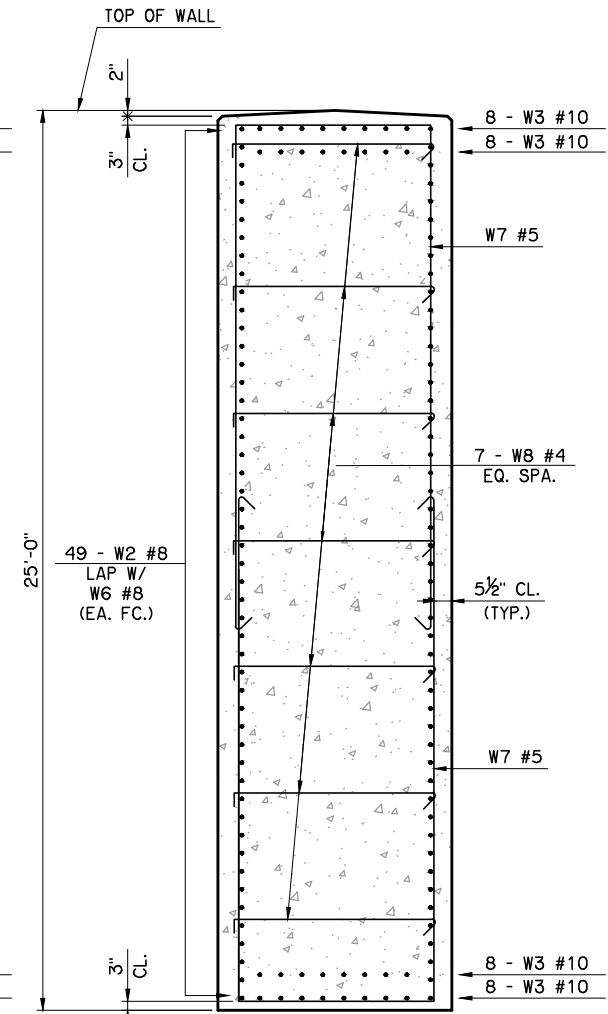
SECTION Q-Q



SECTION R-R



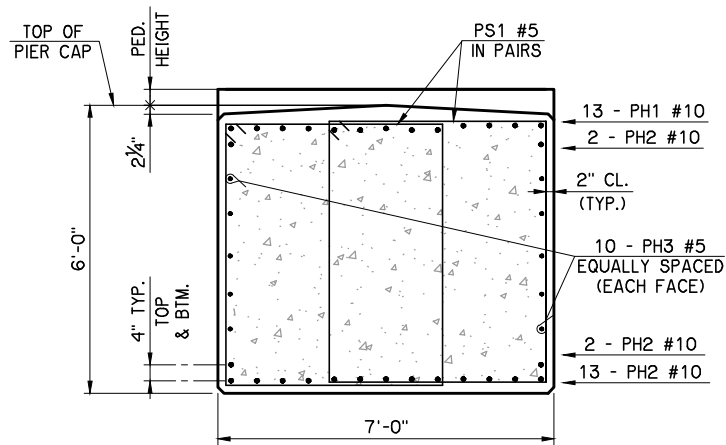
SECTION S-S



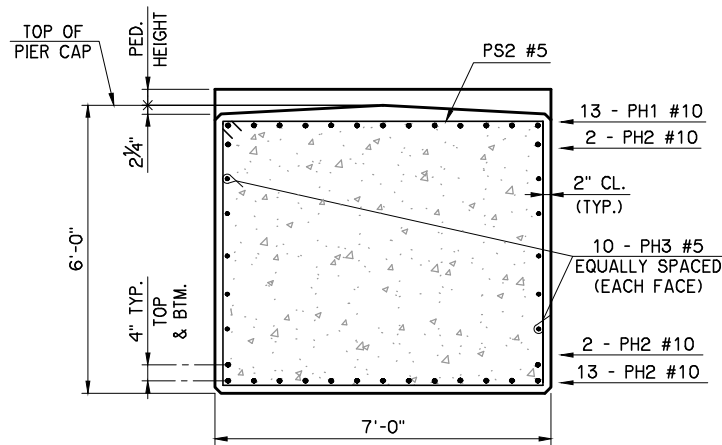
SECTION T-T

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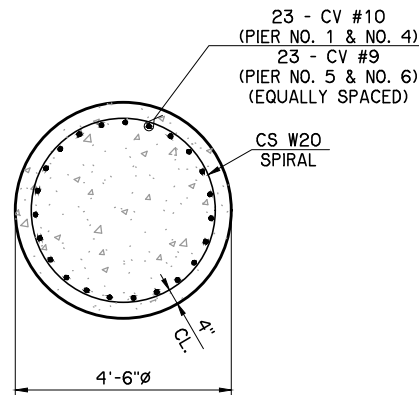
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
PIER DETAILS		Design	DLW
SHEET 4 OF 7		Detail	DRB
WEB WALL REINFORCING DETAILS		Check	DLW
STATE OF OKLAHOMA		CEC	
DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 32100(O4)	
		SHEET NO. B022	



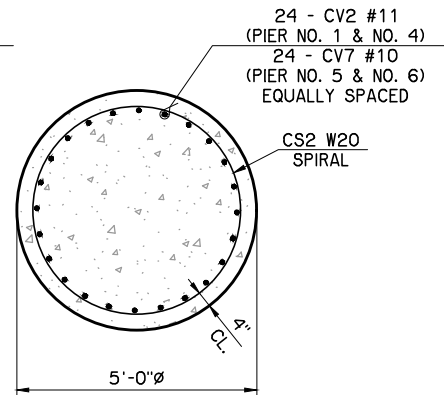
SECTION A



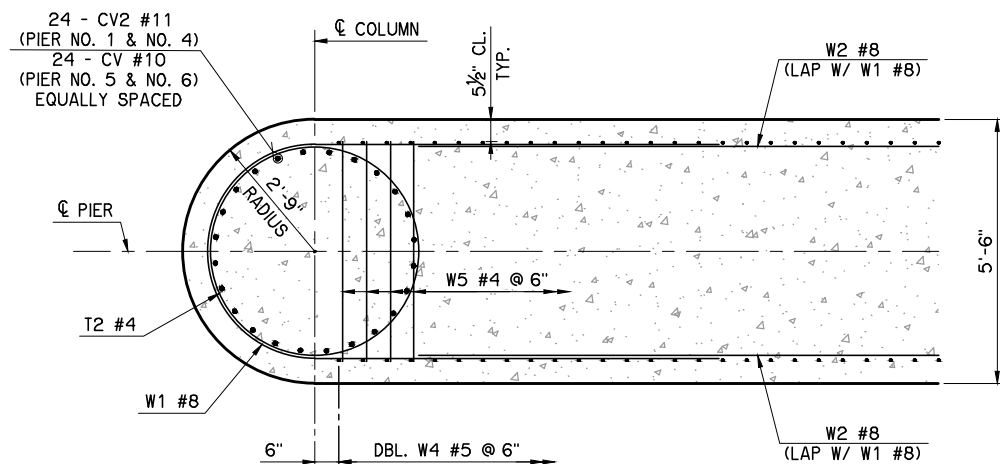
SECTION B



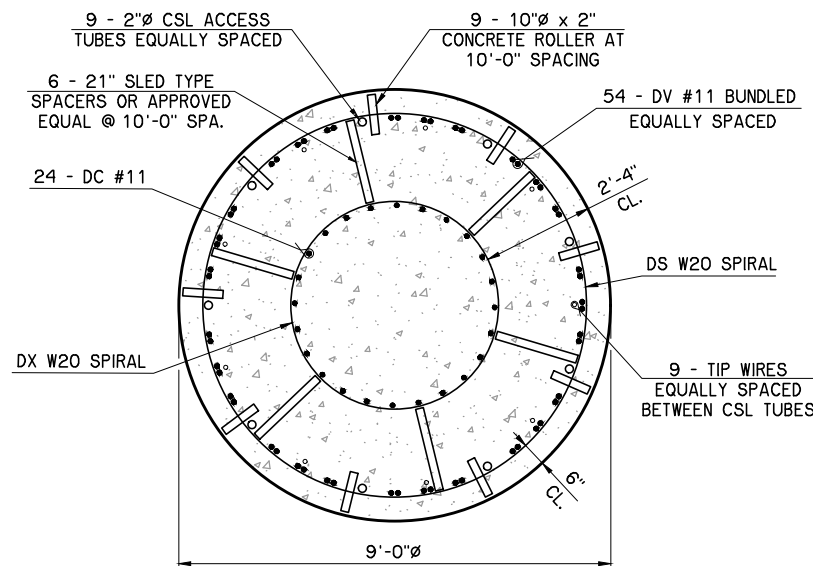
SECTION C-C



SECTION D-D



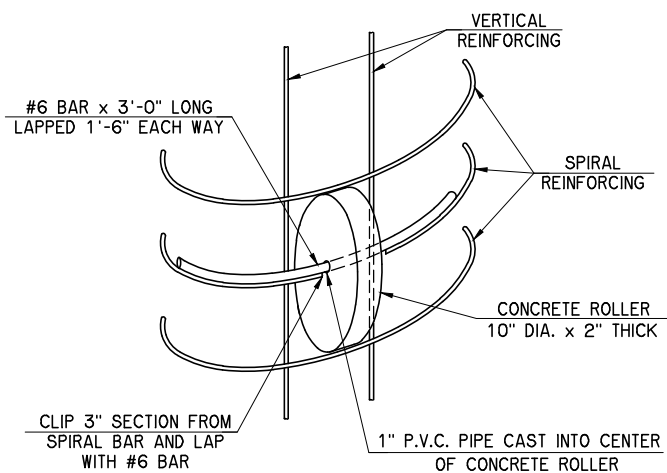
SECTION E



SECTION F-F

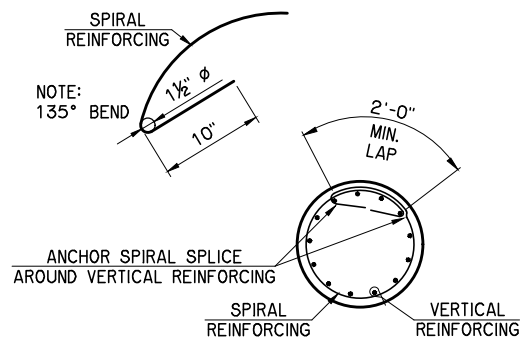
CAUTION
POSITION SPACERS AND ROLLERS
TO AVOID DAMAGE TO TIP WIRES

NOTE:
INCLUDE ALL COSTS FOR ROLLERS,
SPACERS AND CSL ACCESS TUBES
IN THE CONTRACT UNIT PRICE OF
DRILLED SHAFTS.



DRILLED SHAFT ROLLER DETAIL

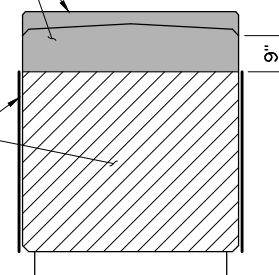
NOTE:
USE CONCRETE IN THE ROLLER WITH A MINIMUM 28 DAY
COMPRESSION STRENGTH OF 4,000 PSI. DO NOT SUBSTITUTE
SLAB BOLSTERS OR HIGH CHAIRS FOR THE CONCRETE ROLLERS.



SPIRAL REINFORCING SPLICE DETAIL

APPLY URETHANE COATING TO
TOP OF CAP AND PEDESTALS,
AND TOP FACES OF CAP.

TREAT SURFACES
INDICATED BY HEAVY
LINE AND HATCH WITH
WATER REPELLENT



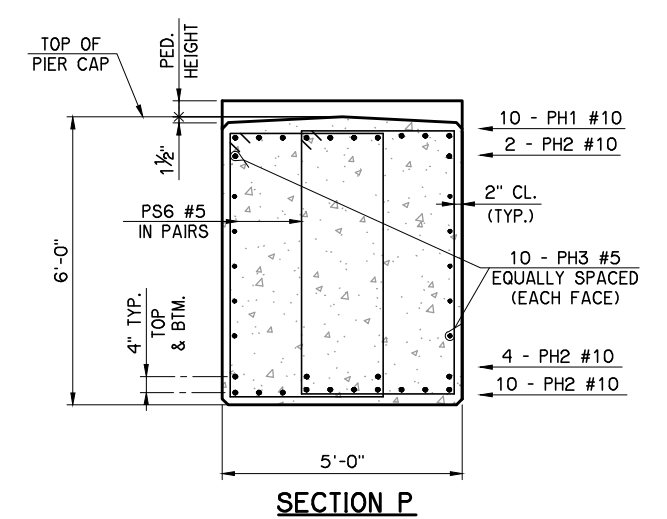
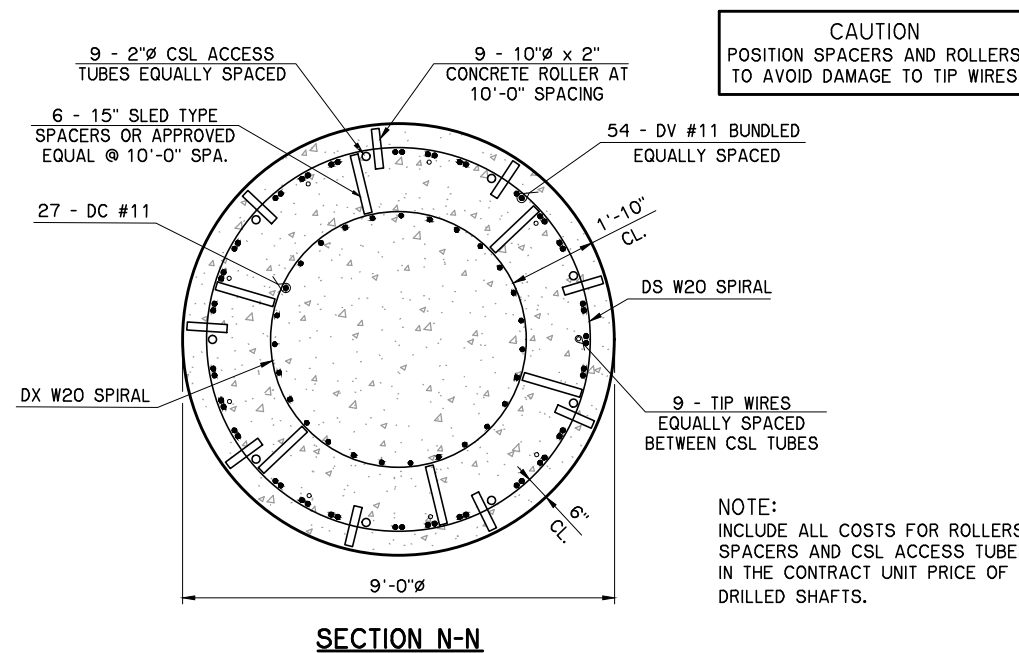
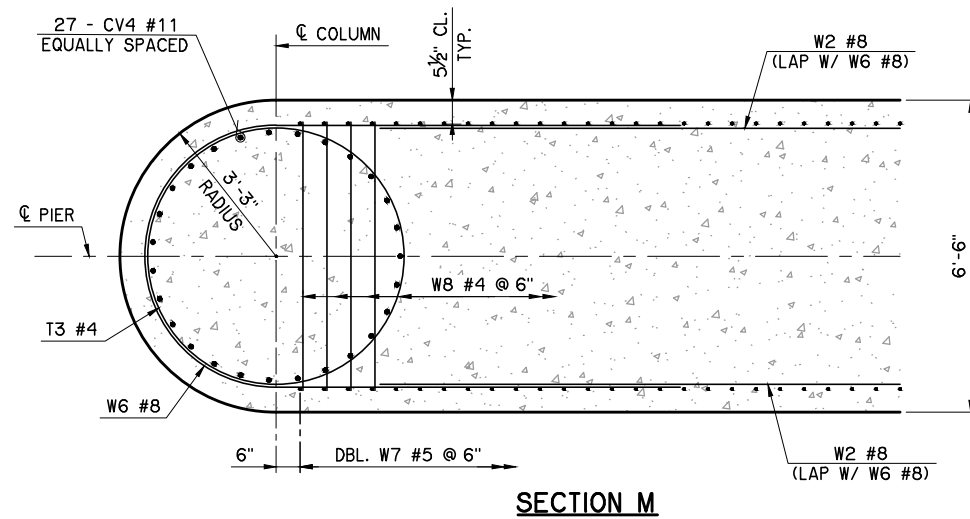
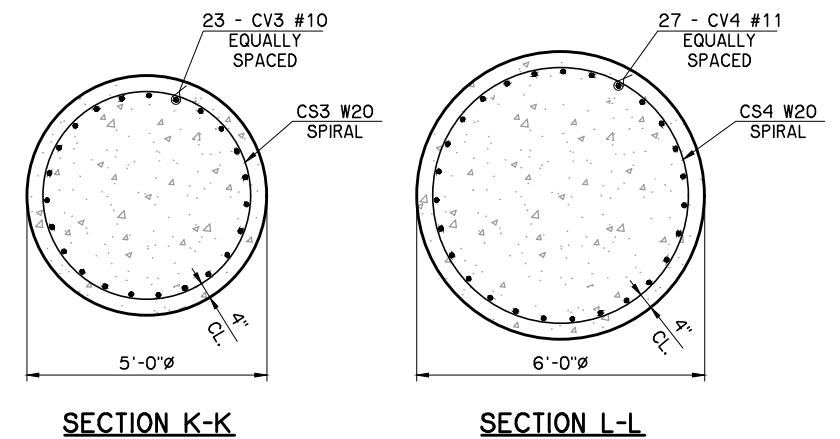
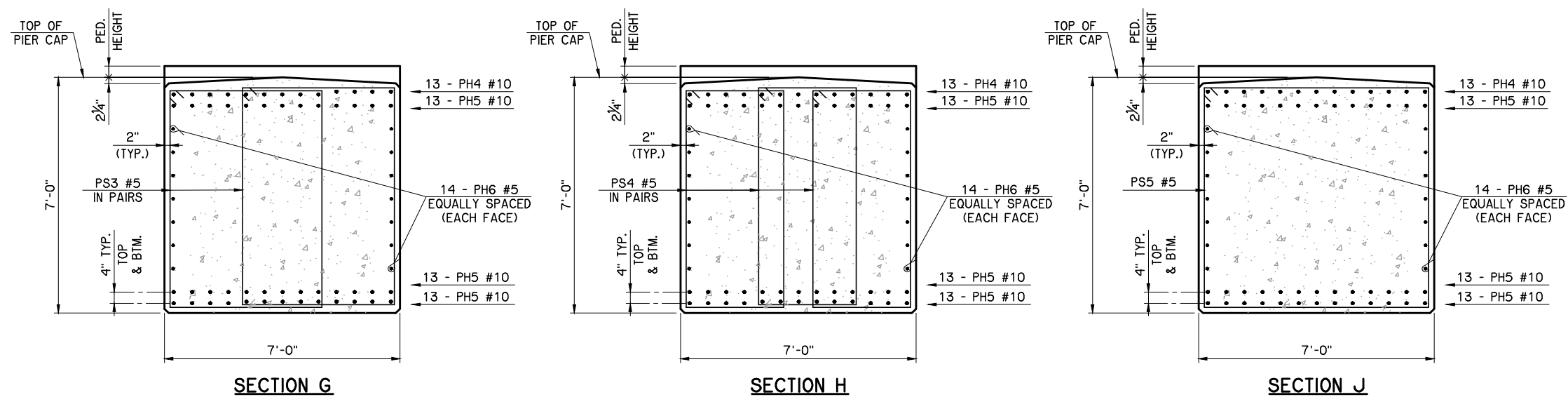
SURFACE TREATMENT DETAIL

MASK OFF ELASTOMERIC BEARING AND
LEVELING PADS LOCATIONS TO PREVENT
URETHANE COATING FROM BEING APPLIED
UNDER BEARINGS. APPLY URETHANE COATING
BEFORE OTHER SURFACE TREATMENTS.

NOTE:
INCLUDE ALL COSTS ASSOCIATED WITH
URETHANE COATING IN THE CONTRACT
UNIT PRICE OF "ELASTOMERIC COATING".

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DOCUMENT


S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
				Detail	DRB
				Check	DLW
				CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 32100(O4)				SHEET NO. B023	



NOTE:
SEE SHEET B023 FOR SPIRAL
REINFORCING SPLICE DETAIL AND
DRILLED SHAFT ROLLER DETAIL.

PIER QUANTITIES								
ITEM DESCRIPTION	UNIT	PIER NO. 1	PIER NO. 2	PIER NO. 3	PIER NO. 4	PIER NO. 5	PIER NO. 6	TOTAL
ELASTOMERIC COATING	S.F.	416	431	431	416	338	338	2,370
CLASS A CONCRETE	C.Y.	256.6	296.7	296.7	256.6	236.3	229.6	1,572.
REINFORCING STEEL	LB.	1,050	1,190	1,190	1,050	1,000	830	6,310
EPOXY COATED REINFORCING STEEL	LB.	47,610	55,980	55,980	47,610	42,240	41,300	290,720
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	54	67	67	54	53	53	348
DRILLED SHAFTS 108" DIAMETER	L.F.	80	92	100	76	78	76	502
CROSSHOLE SONIC LOGGING	EA.							1
THERMAL INTEGRITY PROFILER	EA.	2	2	2	2	2	2	12

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
PIER DETAILS SHEET 6 OF 7 PIER DETAILS				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(04)		SHEET NO. B024				

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PIER NO. 1 & NO. 4 BAR LIST				
ONE SHOWN, TWO REQUIRED				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
CD1	#10	46	STR.	17'-0"
CV1	#10	46	STR.	18'-10"
CV2	#11	48	STR.	36'-10"
P1	#4	28	BNT.	12'-8"
P2	#5	56	BNT.	11'-2"
PE1	#4	12	BNT.	6'-8"
PE2	#4	10	BNT.	7'-10"
PH1	#10	13	BNT.	44'-0"
PH2	#10	17	STR.	41'-2"
PH3	#5	10	STR.	41'-2"
PS1	#5	128	BNT.	20'-11"
PS2	#5	10	BNT.	25'-2"
T1	#4	32	BNT.	15'-0"
T2	#4	98	BNT.	16'-8"
W1	#8	98	BNT.	23'-10"
W2	#8	98	STR.	20'-0"
W3	#10	32	BNT.	25'-1"
W4	#5	102	BNT.	33'-7"
W5	#4	357	BNT.	5'-4"
PLAIN REINFORCING				
CS1	W20	2	BNT.	354'-4"
CS2	W20	2	BNT.	411'-3"

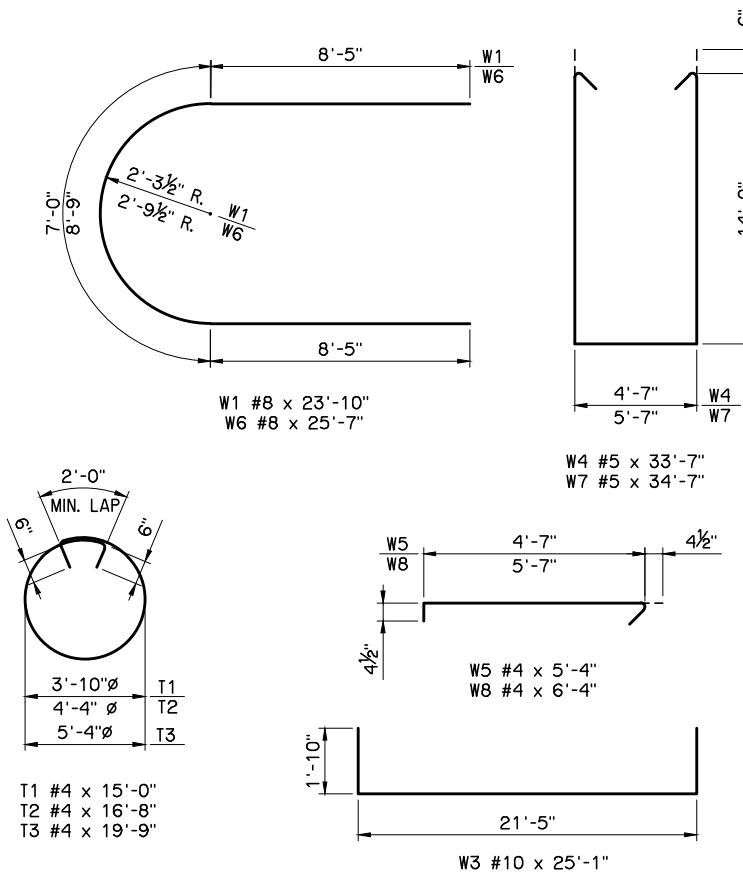
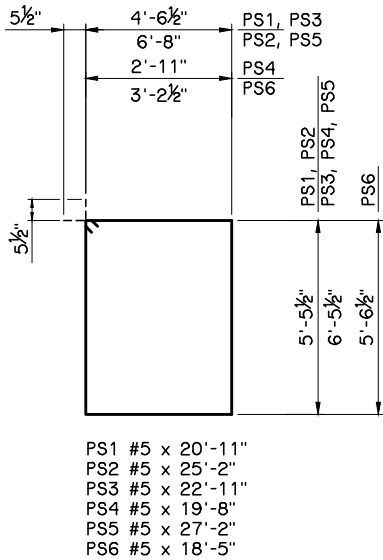
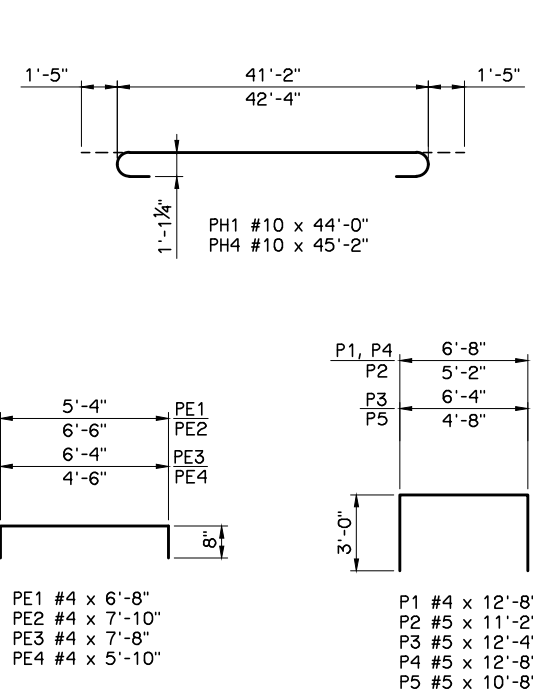
PIER NO. 2 & NO. 3 BAR LIST				
ONE SHOWN, TWO REQUIRED				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
CD1	#10	46	STR.	17'-0"
CV3	#10	46	STR.	18'-3"
CV4	#11	54	STR.	36'-10"
P3	#5	56	BNT.	12'-4"
P4	#5	64	BNT.	12'-8"
PE2	#4	14	BNT.	7'-10"
PE3	#4	12	BNT.	7'-8"
PH4	#10	13	BNT.	45'-2"
PH5	#10	39	STR.	42'-4"
PH6	#5	14	STR.	42'-4"
PS3	#5	40	BNT.	22'-11"
PS4	#5	150	BNT.	19'-8"
PS5	#5	8	BNT.	27'-2"
T2	#4	34	BNT.	16'-8"
T3	#4	98	BNT.	19'-9"
W2	#8	98	STR.	20'-0"
W3	#10	32	BNT.	25'-1"
W6	#8	98	BNT.	25'-7"
W7	#5	102	BNT.	34'-7"
W8	#4	357	BNT.	6'-4"
PLAIN REINFORCING				
CS3	W20	2	BNT.	367'-6"
CS4	W20	2	BNT.	500'-10"

PIER NO. 5 BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
CD2	#9	46	STR.	13'-6"
CV5	#9	46	STR.	17'-7"
CV7	#10	48	STR.	36'-10"
P2	#5	28	BNT.	11'-2"
P5	#5	40	BNT.	10'-8"
PE1	#4	12	BNT.	6'-8"
PE4	#4	10	BNT.	5'-10"
PH1	#10	10	BNT.	44'-0"
PH2	#10	16	STR.	41'-2"
PH3	#5	10	STR.	41'-2"
PS6	#5	136	BNT.	18'-5"
T1	#4	28	BNT.	15'-0"
T2	#4	98	BNT.	16'-8"
W1	#8	98	BNT.	23'-10"
W2	#8	98	STR.	20'-0"
W3	#10	32	BNT.	25'-1"
W4	#5	102	BNT.	33'-7"
W5	#4	357	BNT.	5'-4"
PLAIN REINFORCING				
CS2	W20	2	BNT.	411'-3"
CS5	W20	2	BNT.	323'-6"

PIER NO. 6 BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
CD2	#9	46	STR.	13'-6"
CV6	#9	46	STR.	15'-7"
CV8	#10	48	STR.	33'-10"
P2	#5	28	BNT.	11'-2"
P5	#5	40	BNT.	10'-8"
PE1	#4	12	BNT.	6'-8"
PE4	#4	10	BNT.	5'-10"
PH1	#10	10	BNT.	44'-0"
PH2	#10	16	STR.	41'-2"
PH3	#5	10	STR.	41'-2"
PS6	#5	136	BNT.	18'-5"
T1	#4	28	BNT.	15'-0"
T2	#4	98	BNT.	16'-8"
W1	#8	98	BNT.	23'-10"
W2	#8	98	STR.	20'-0"
W3	#10	32	BNT.	25'-1"
W4	#5	102	BNT.	33'-7"
W5	#4	357	BNT.	5'-4"
PLAIN REINFORCING				
CS6	W20	2	BNT.	276'-3"
CS7	W20	2	BNT.	330'-3"

FINAL REVIEW
PLANS
DECEMBER 2022

DRILLED SHAFT BAR LIST				
PIER NO. 1				
MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
DC1	#11	48	STR.	50'-9"
DS1	W20	2	BNT.	2052'-9"
DV1	#11	108	STR.	39'-6"
DX1	W20	2	BNT.	1109'-0"
DRILLED SHAFT BAR LIST				
PIER NO. 2				
MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
DC2	#11	54	STR.	56'-9"
DS2	W20	2	BNT.	2352'-11"
DV2	#11	108	STR.	45'-6"
DX2	W20	2	BNT.	1566'-0"
DRILLED SHAFT BAR LIST				
PIER NO. 3				
MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
DC3	#11	54	STR.	60'-9"
DS3	W20	2	BNT.	2553'-0"
DV3	#11	108	STR.	49'-6"
DX3	W20	2	BNT.	1699'-1"
DRILLED SHAFT BAR LIST				
PIER NO. 4 AND NO. 6				
ONE SHOWN, TWO REQUIRED				
MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
DC4	#11	48	STR.	48'-9"
DS4	W20	2	BNT.	1952'-8"
DV4	#11	108	STR.	37'-6"
DX4	W20	2	BNT.	1055'-0"
DRILLED SHAFT BAR LIST				
PIER NO. 5				
MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
DC5	#11	48	STR.	49'-9"
DS5	W20	2	BNT.	2002'-9"
DV5	#11	108	STR.	38'-6"
DX5	W20	2	BNT.	1082'-0"

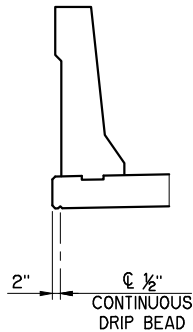


- ① LENGTH SHOWN DOES NOT ACCOUNT FOR SPLICES. CONTRACTOR MAY ADD SPLICES AS NECESSARY, BUT PAYMENT WILL NOT BE MADE FOR EXTRA LENGTH REQUIRED FOR SPLICES. SEE SPLICE DETAIL THIS SHEET.
- ② INCLUDED IN CONTRACT UNIT PRICE OF "DRILLED SHAFTS 108" DIAMETER".

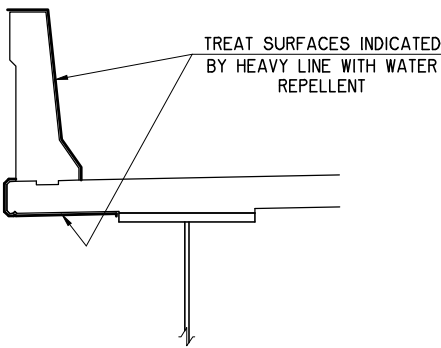
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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
PIER DETAILS SHEET 7 OF 7 PIER BAR LISTS AND DETAILS		CEC		Detail	DRB	
				Check	DLW	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 32100(O4)		
				SHEET NO. B025		

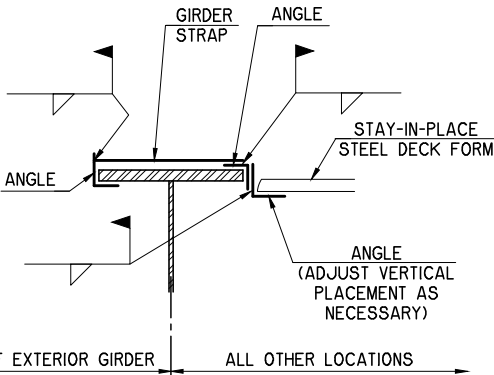
SUPERSTRUCTURE QUANTITIES		
ITEM	UNIT	TOTAL
SAW-CUT GROOVING	S.Y.	8,506.7
42" F-SHAPED PARAPET	L.F.	3,828.0
STRUCTURAL STEEL M270 GR. HPS 70W	LB.	476,230
STRUCTURAL STEEL M270 GRADE 50W	LB.	4,880,840
STAINLESS STEEL FIXED BEARING ASSEMBLY	EA.	20
STAINLESS STEEL EXP. BEARING ASSEMBLY	EA.	20
CLASS AA CONCRETE	C.Y.	2,200.1
EPOXY COATED REINFORCING STEEL	LB.	729,820
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	3,445
SEALED EXPANSION JOINTS	L.F.	41.00
MODULAR EXPANSION JOINT	L.F.	82.00
SEALER CRACK PREPARATION	L.F.	320
SEALER RESIN	GAL.	3.6



DETAIL A

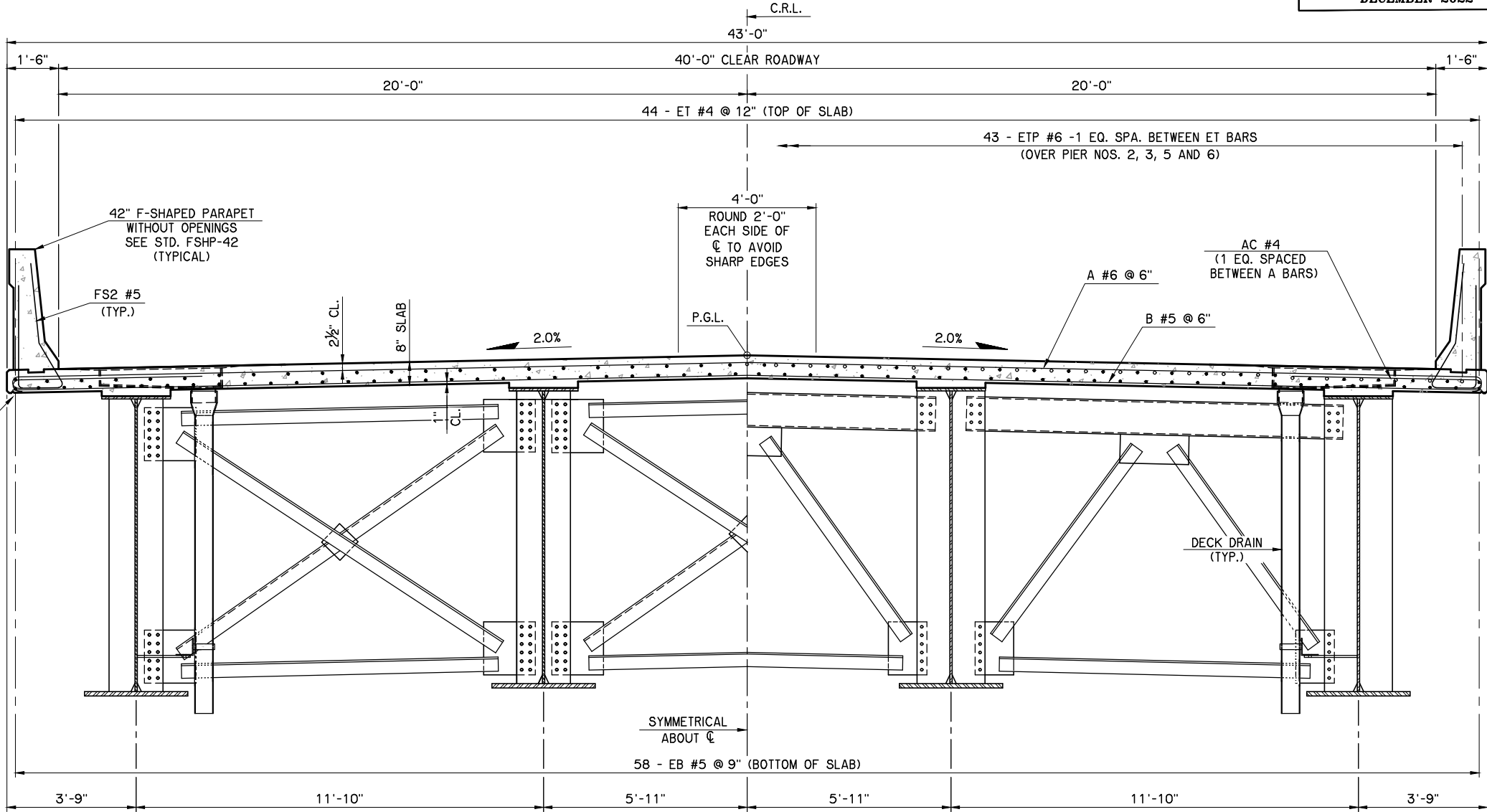


WATER REPELLENT TREATMENT DETAIL



STAY-IN-PLACE STEEL DECK FORM
FLANGE CONNECTION DETAIL

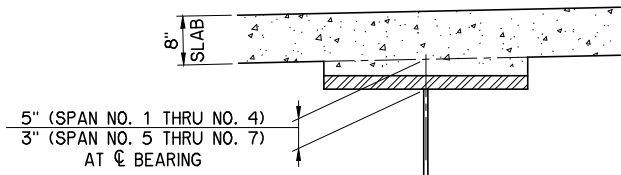
NOTE:
DO NOT WELD TO THE TOP FLANGE OR STUDS. REPORT ANY ARC STRIKE, WELD SPLATTER OR WELDING ON TOP FLANGE TO BRIDGE ENGINEER IMMEDIATELY.



HALF SECTION AT INTERMEDIATE CROSS FRAME

TYPICAL CROSS SECTION
(SPAN NO. 1 SHOWN, OTHER SPANS ARE SIMILAR)

HALF SECTION AT END CROSS FRAME

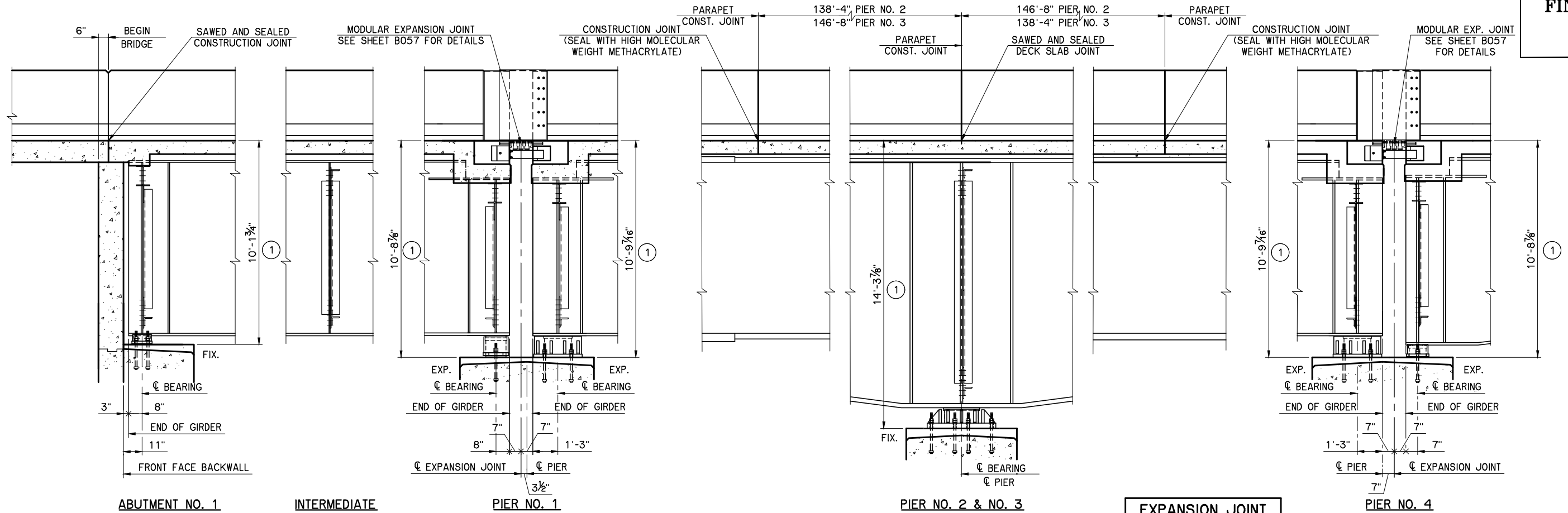


GIRDER HAUNCH DETAIL

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

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SUPERSTRUCTURE DETAILS SHEET 1 OF 35 TYPICAL CROSS SECTION		CEC	Detail	DRB
			Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 32100(O4)		SHEET NO. B026		



ABUTMENT NO. 1

INTERMEDIATE
CROSS FRAMES

PIER NO. 1

PIER NO. 2 & NO. 3

PIER NO. 4

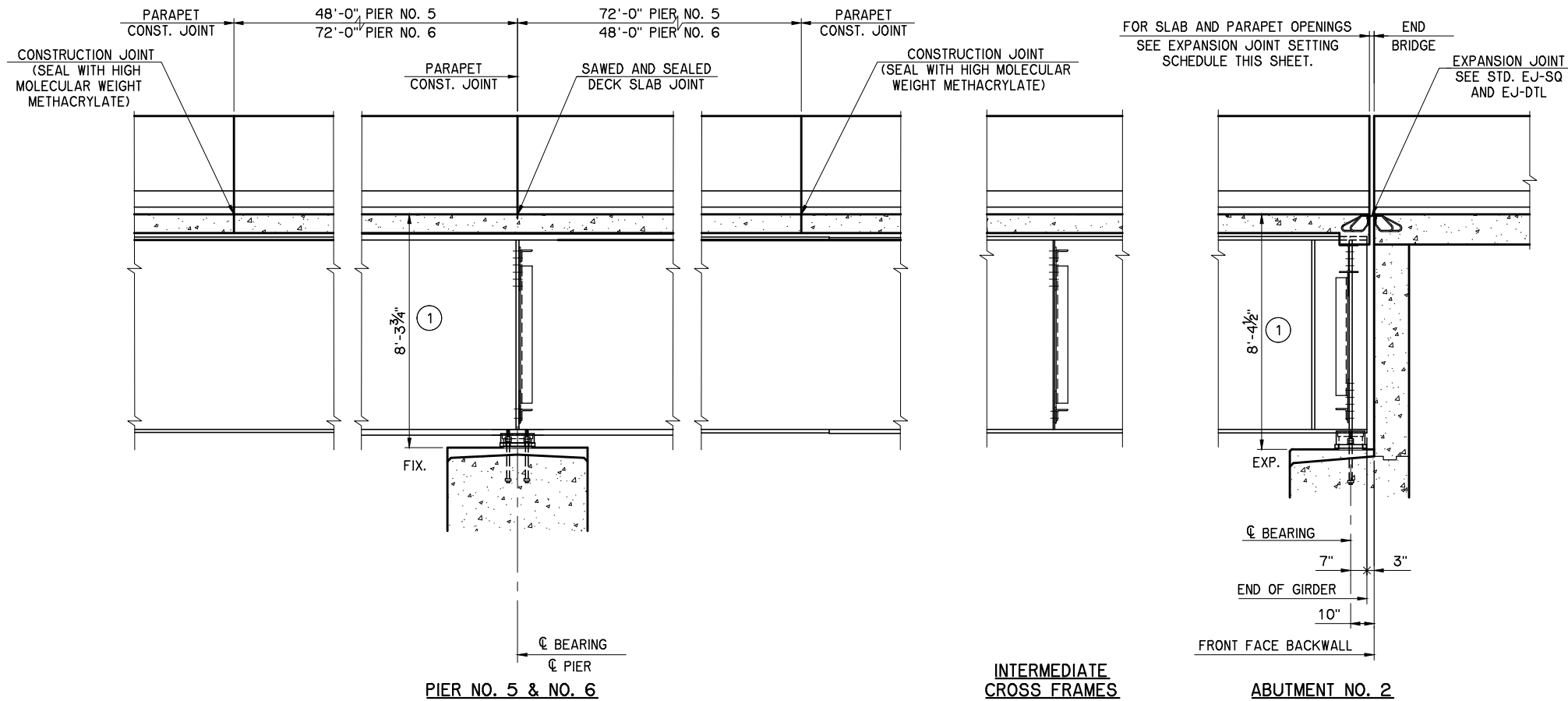
EXPANSION JOINT
SETTING SCHEDULE

EXP. JOINT OPENING	TEMPERATURE F°
	ABUTMENT NO. 2
3 1/2"	-2
3 3/8"	3
3 1/4"	9
3 1/8"	14
3"	19
2 7/8"	24
2 3/4"	29
2 5/8"	34
2 1/2"	39
2 3/8"	45
2 1/4"	50
2 1/8"	55
2"	60
1 7/8"	65
1 3/4"	70
1 5/8"	75
1 1/2"	81
1 3/8"	86
1 1/4"	91
1 1/8"	96
1"	101
7/8"	106
3/4"	111
5/8"	117
1/2"	122

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

① DIMENSION IS FROM TOP OF DECK SLAB TO BOTTOM OF BEARING ASSEMBLY AT C BEARING.

FOR EXPANSION JOINT SETTING TABLE FOR MODULAR EXPANSION JOINTS, SEE SHEET B057.



PIER NO. 5 & NO. 6

INTERMEDIATE
CROSS FRAMES

ABUTMENT NO. 2

LONGITUDINAL SECTION
DIMENSIONS ALONG C OF GIRDER
(LATERAL BRACING NOT SHOWN FOR CLARITY)

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SUPERSTRUCTURE DETAILS			
SHEET 2 OF 35 LONGITUDINAL SECTION			
Design	DLW	Detail	DRB
Check	DLW		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B027	



OPTION 1




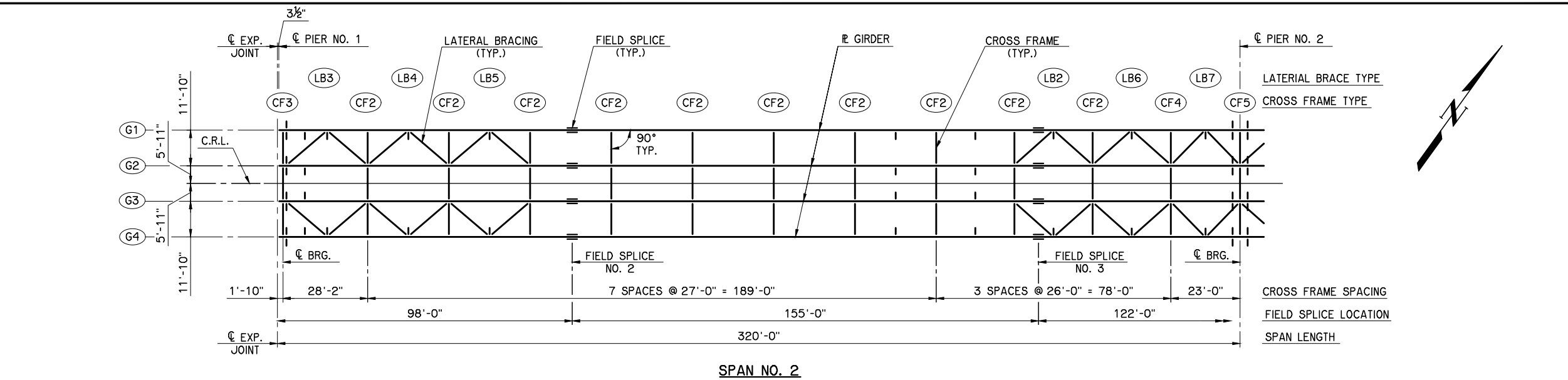
OPTION 2



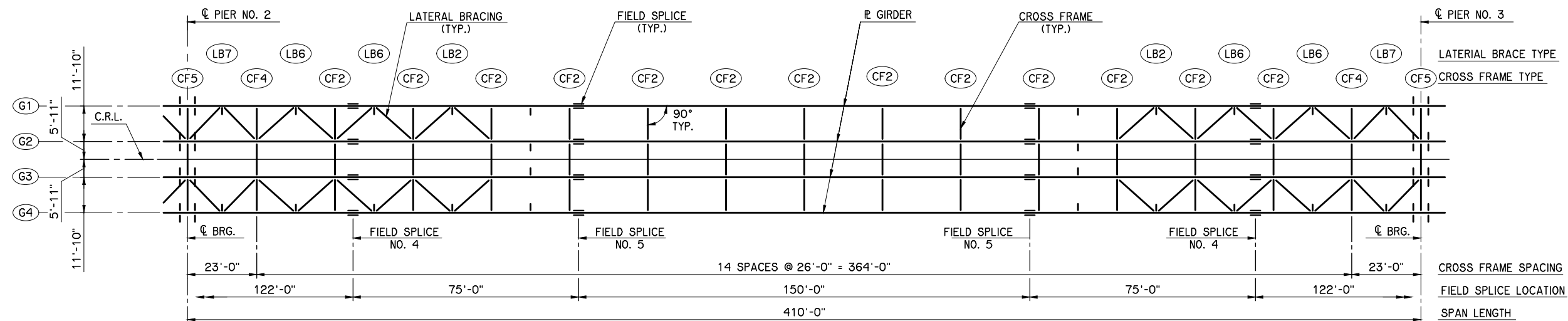
OPTION 3

SPAN NO. 1
FRAMING PLAN

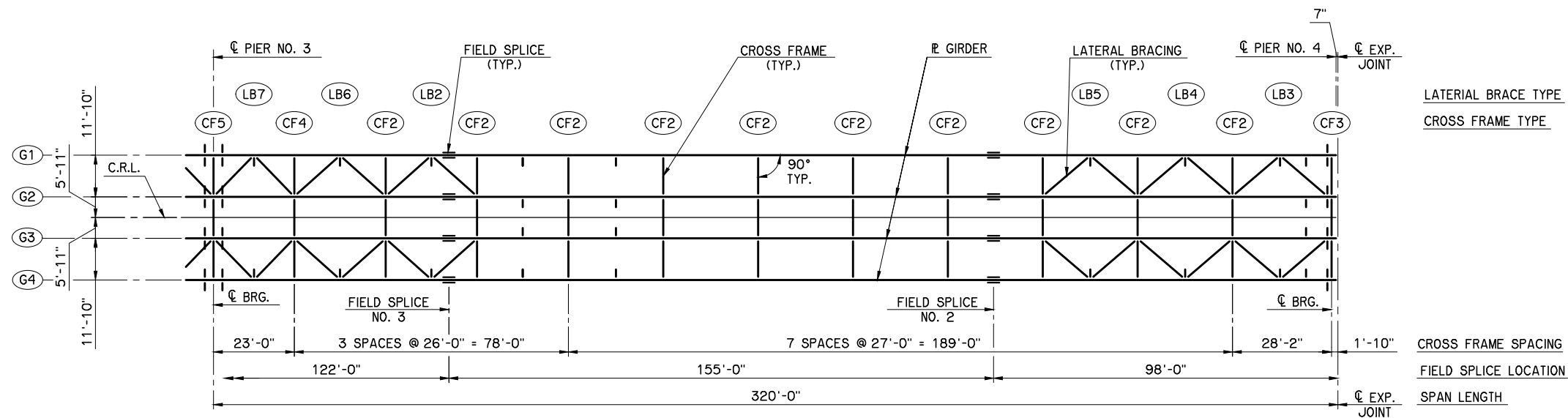
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 3 OF 35 FRAMING PLAN - SPAN NO. 1				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO.		32100(04)				SHEET NO. B028



SPAN NO. 2



SPAN NO. 3




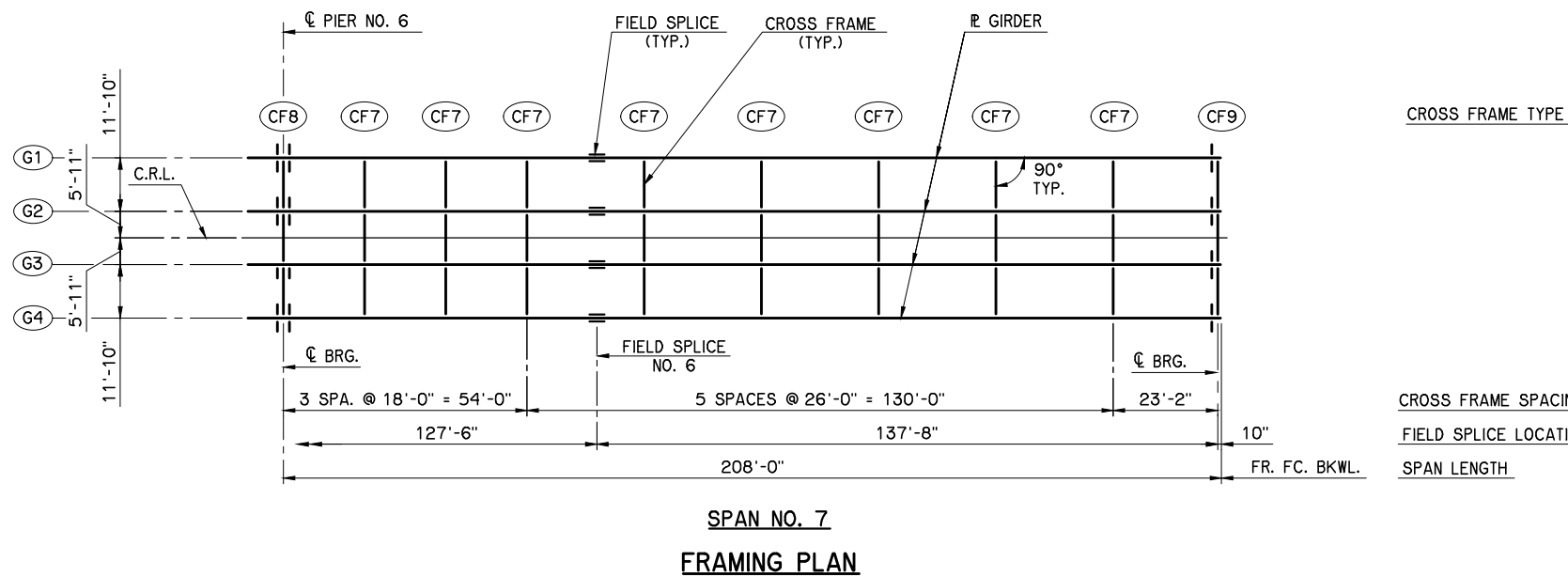
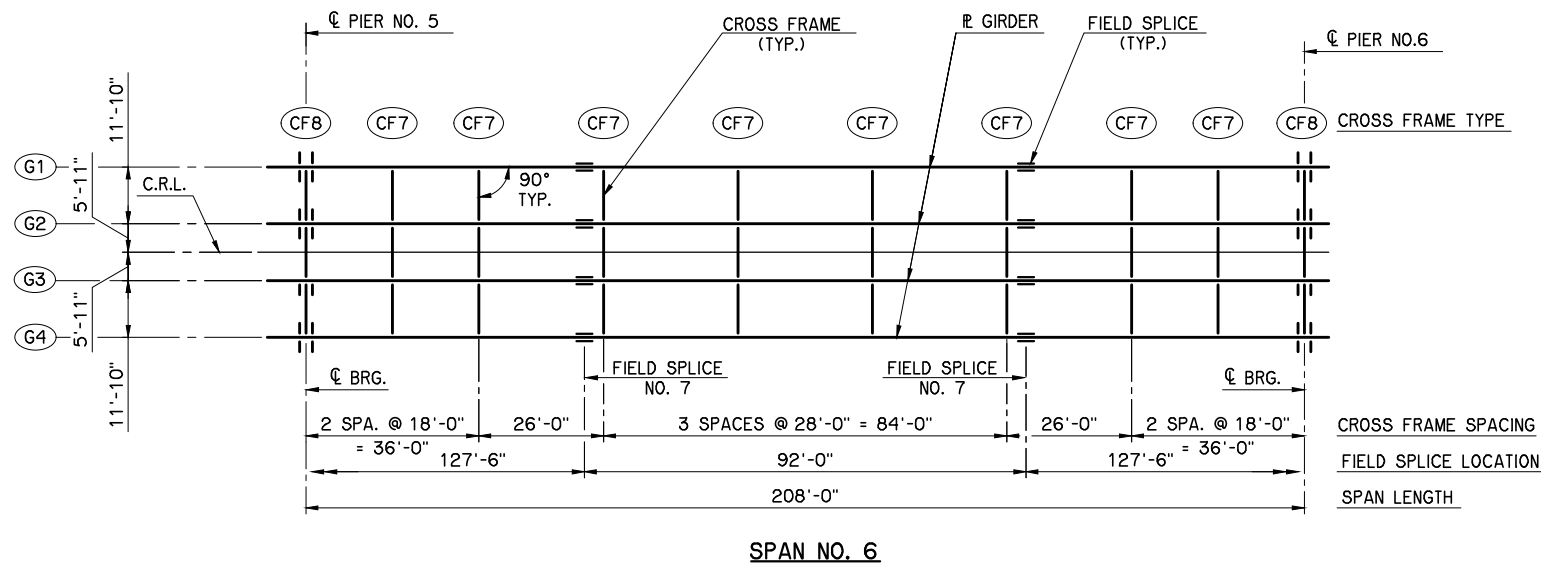
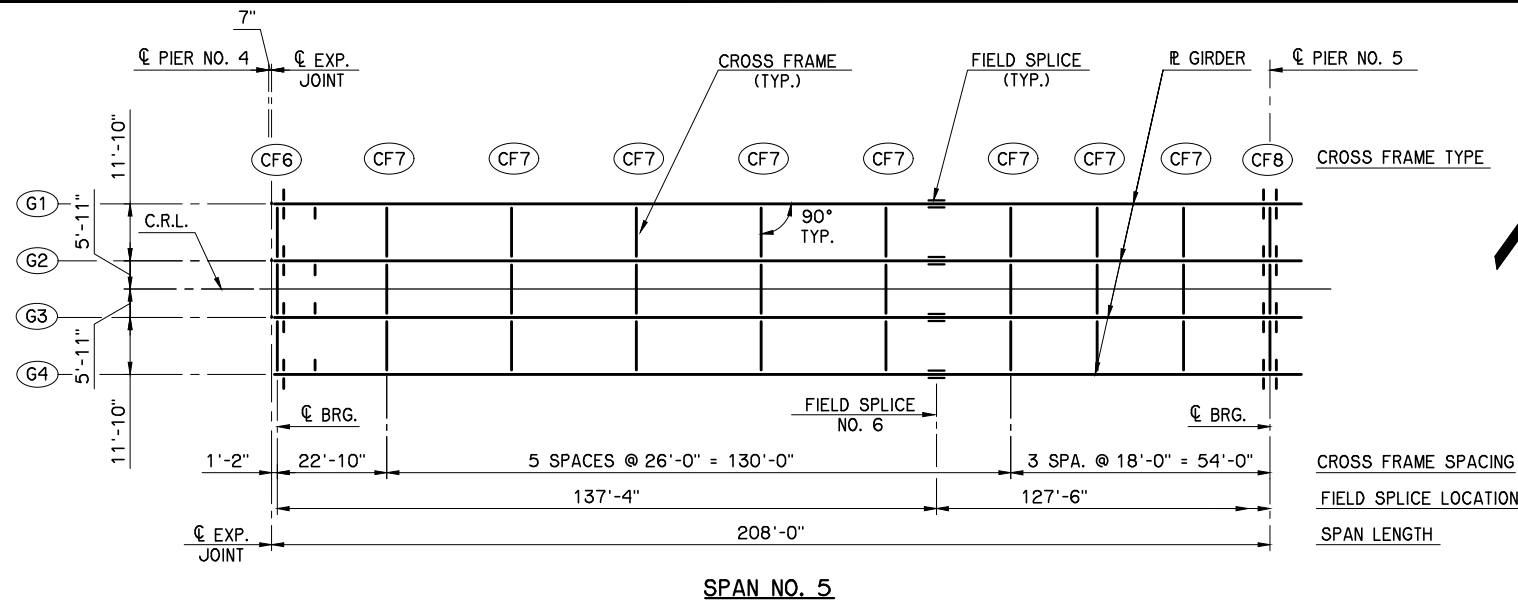
SPAN NO. 4

FRAMING PLAN

SUBMIT A WORK PLAN DETAILING GIRDER ERECTION TO THE BRIDGE ENGINEER FOR APPROVAL.


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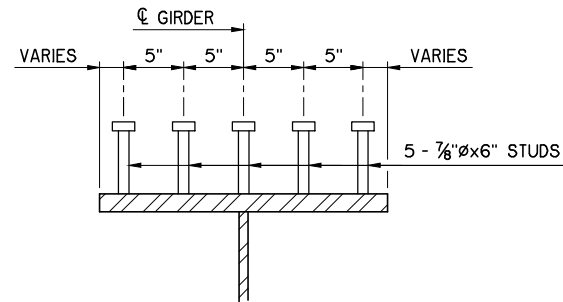
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY	MUSKOGEE CO. SEQUOYAH CO.						
<h2 style="margin: 0;">SUPERSTRUCTURE DETAILS</h2> <p style="margin: 5px 0;">SHEET 4 OF 35</p> <p style="margin: 0;">FRAMING PLAN - SPAN NO. 2 THRU NO. 4</p>							
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Design</td> <td style="padding: 5px;">DLW</td> </tr> <tr> <td style="padding: 5px;">Detail</td> <td style="padding: 5px;">DRB</td> </tr> <tr> <td style="padding: 5px;">Check</td> <td style="padding: 5px;">DLW</td> </tr> </table> </div> <div style="width: 35%; text-align: center;">  <p style="margin: 0;">CEC</p> </div> </div>		Design	DLW	Detail	DRB	Check	DLW
Design	DLW						
Detail	DRB						
Check	DLW						
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION <hr/> JOB PIECE NO. 32100(04)						
SHEET NO. B029							



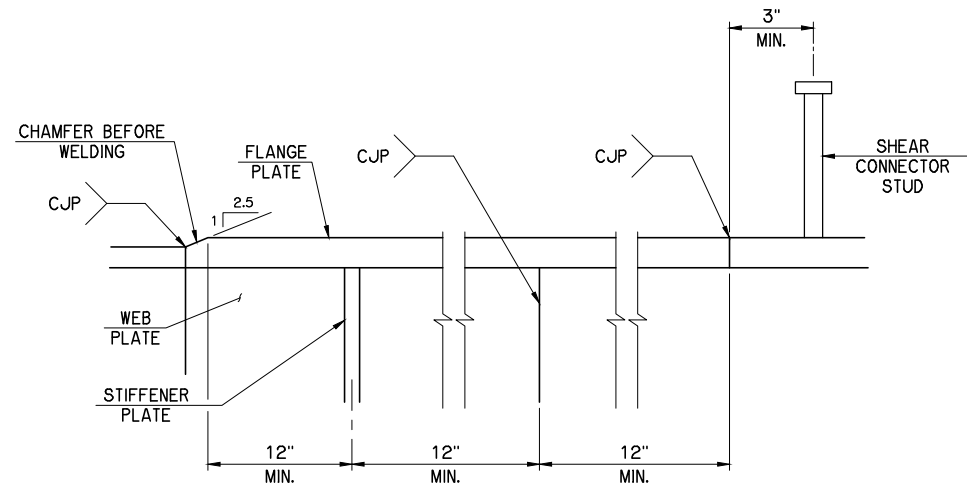
SUBMIT A WORK PLAN DETAILING
GIRDER ERECTION TO THE BRIDGE
ENGINEER FOR APPROVAL.

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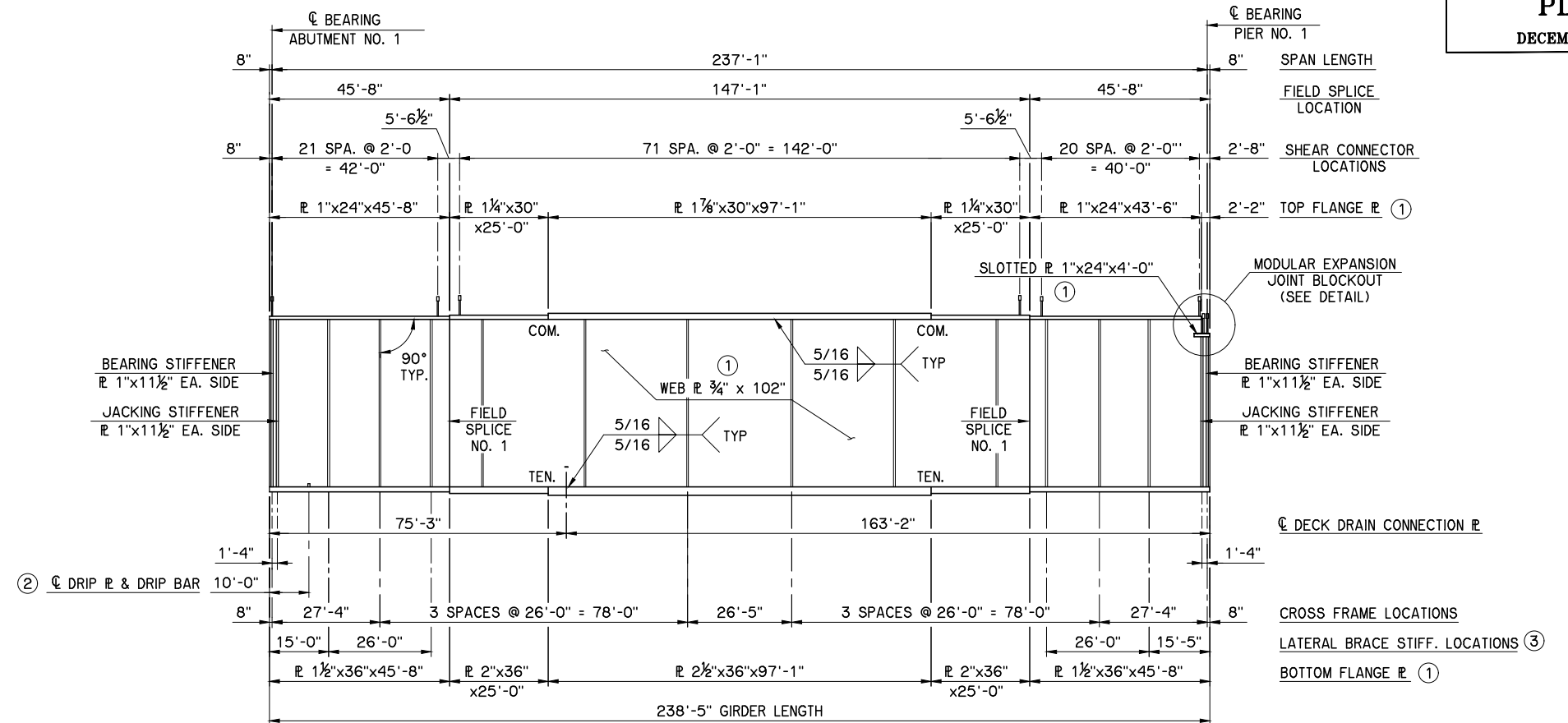
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY	MUSKOGEE CO. SEQUOYAH CO.	Design	DLW	
		Detail	DRB	
		Check	DLW	
SUPERSTRUCTURE DETAILS				
SHEET 5 OF 35				
FRAMING PLAN - SPAN NO. 5 THRU NO. 7				
				
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION			
	JOB PIECE NO. 32100(04)			SHEET NO. B030



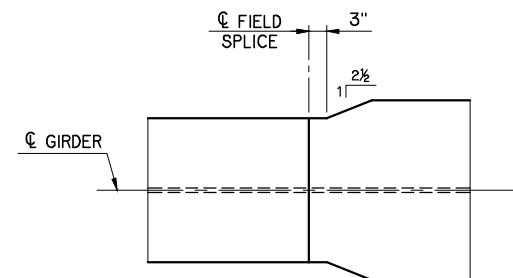
SHEAR CONNECTOR DETAIL



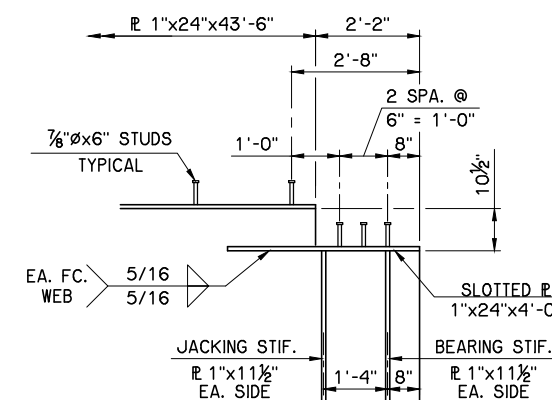
SHOP SPLICE DETAIL



GIRDER ELEVATION



FLANGE WIDTH TRANSITION DETAIL



BLOCKOUT DETAIL
MODULAR EXPANSION JOINT

- NOTES:
- ① PROVIDE STRUCTURAL STEEL TESTED FOR NON-FRACTURE CRITICAL CHARPY V-NOTCH REQUIREMENTS FOR ZONE 2.
 - ② PROVIDE DRIP BAR AND DRIP \mathbb{R} ON EXTERIOR GIRDERS ONLY.
 - ③ PROVIDE LATERAL BRACE STIFFENERS ON ALL GIRDERS, REGARDLESS OF THE SELECTED LATERAL BRACE LAYOUT.

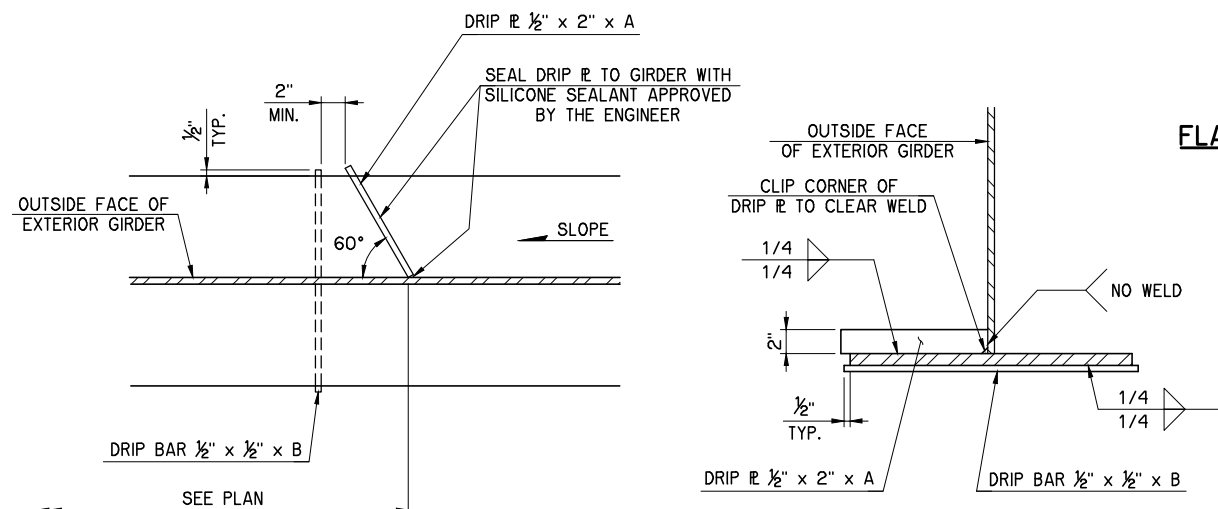
ALL STRUCTURAL STEEL IS AASHTO M270 GR. 50W UNLESS NOTED.

PROVIDE \mathbb{R} $\frac{5}{8}$ " x 9" FOR ALL LATERAL BRACE STIFFENERS.

CONTRACTOR MAY ELECT TO OMIT ANY FIELD SPLICE. PLAN QUANTITY FOR STRUCTURAL STEEL INCLUDES TWO FIELD SPLICES PER GIRDER. REPLACE OMITTED FIELD SPLICE WITH THREE ADDITIONAL ROWS OF SHEAR CONNECTORS WITH 2'-0" SPACING AT NO ADDITIONAL COST TO THE DEPARTMENT. SEE SHEET B036 FOR FIELD SPLICE DETAILS.

SEE SHEET B034 FOR FINISH GRADE ELEVATION SCHEDULE AND DEAD LOAD DEFLECTION SCHEDULE.

SEE SHEET B060 FOR DECK DRAIN CONNECTION PLATE DETAILS.



PLAN

ELEVATION

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

DRIP PLATE AND DRIP BAR DETAILS

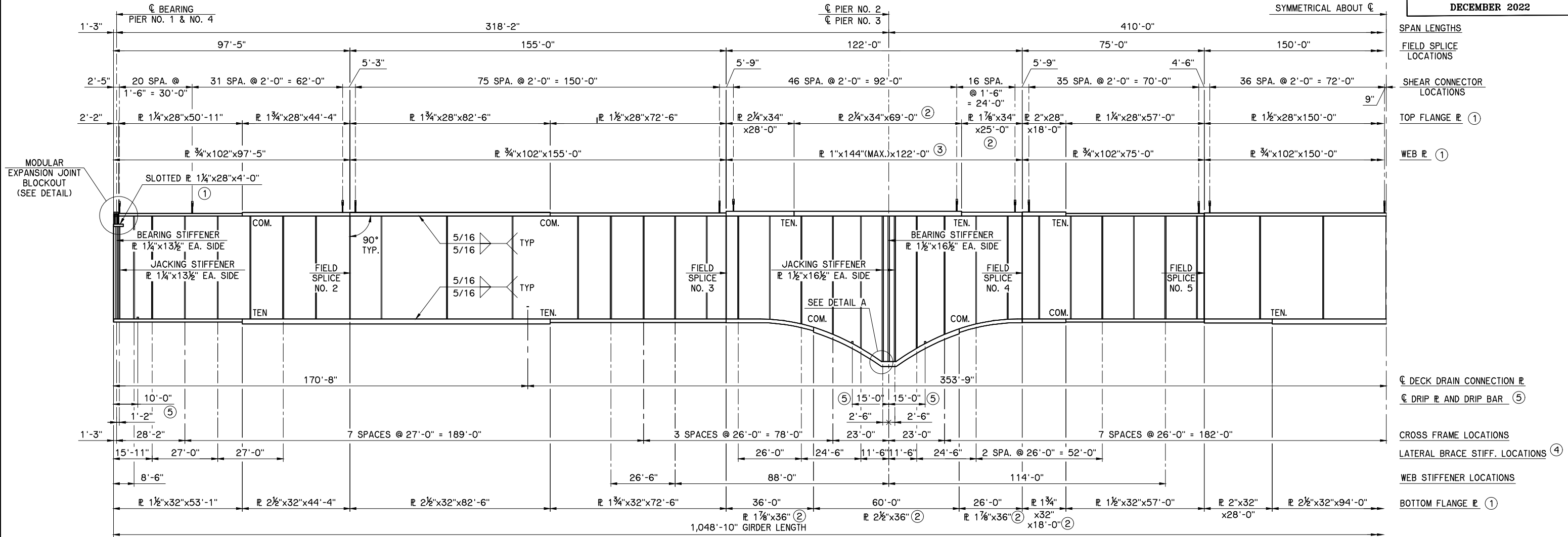
DRIP \mathbb{R} AND DRIP BAR DIMENSIONS		
BOTTOM FLANGE WIDTH	A	B
36"	1'-9"	3'-1"
32"	1'-6 $\frac{3}{4}$ "	2'-9"
28"	1'-4 $\frac{1}{2}$ "	2'-5"

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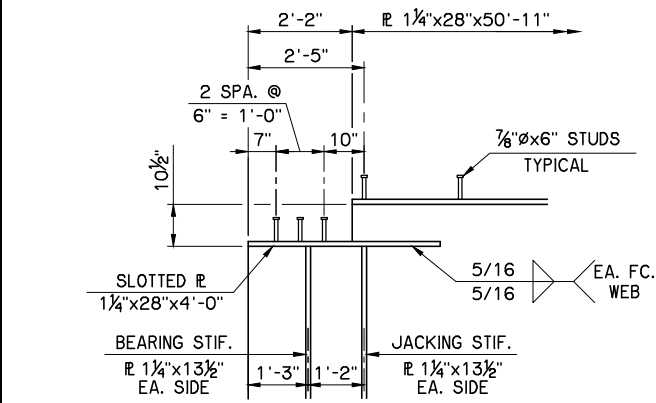
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
SUPERSTRUCTURE DETAILS		Design	DLW
SHEET 6 OF 35		Detail	DRB
GIRDER ELEVATION - SPAN NO. 1		Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B031	

FINAL REVIEW
PLANS

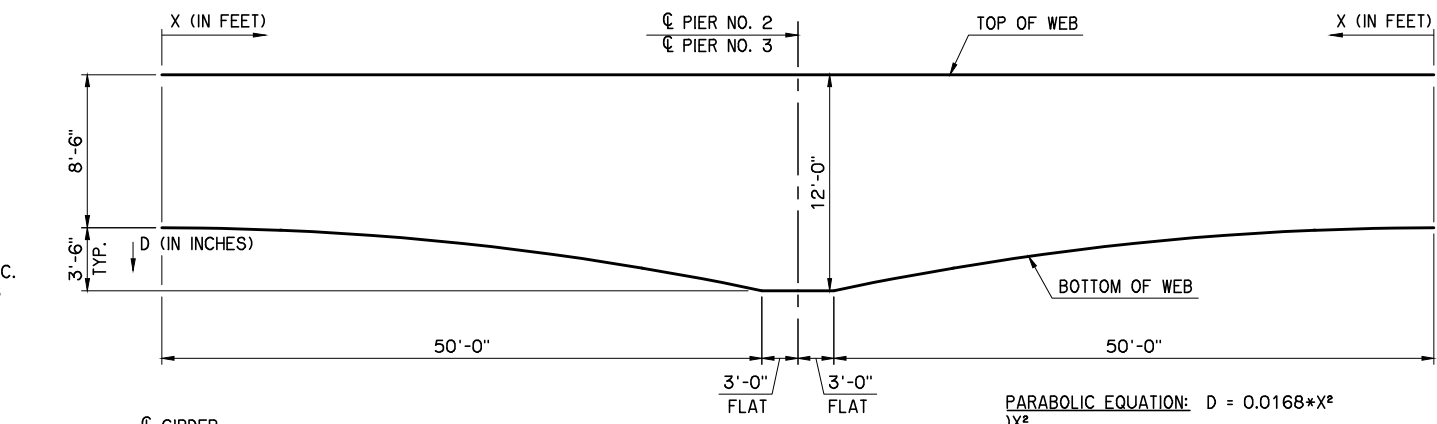
DECEMBER 2022



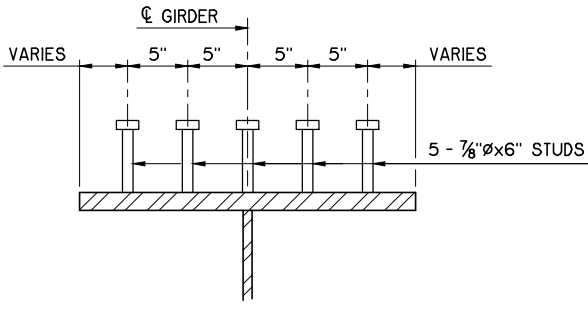
GIRDER ELEVATION



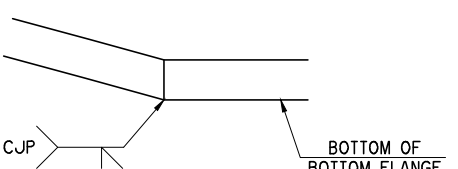
BLOCKOUT DETAIL
MODULAR EXPANSION JOINT



VARIABLE WEB DEPTH DETAIL



SHEAR CONNECTOR DETAIL



DETAIL A

- NOTES:
- PROVIDE STRUCTURAL STEEL TESTED FOR NON-FRACTURE CRITICAL CHARTY V-NOTCH REQUIREMENTS FOR ZONE 2.
 - PROVIDE AASHTO M270 GR. HPS 70W STRUCTURAL STEEL PLATE.
 - SEE VARIABLE WEB DEPTH DETAIL.
 - PROVIDE LATERAL BRACE STIFFENERS ON ALL GIRDERS. LOCATE LATERAL BRACE STIFFENERS FOR EXTERIOR GIRDERS ON INSIDE FACE OF WEB.
 - PROVIDE DRIP BAR AND DRIP PLATE ON EXTERIOR GIRDERS ONLY.
- ALL STRUCTURAL STEEL IS AASHTO M270 GR. 50W UNLESS NOTED.
- SEE SHEET B031 FOR FLANGE WIDTH TRANSITION DETAIL, SHOP SPLICE DETAIL, AND DRIP PLATE AND DRIP BAR DETAILS.
- SEE SHEET B034 FOR FINISH GRADE ELEVATION SCHEDULE AND DEAD LOAD DEFLECTION SCHEDULE.
- CONTRACTOR MAY ELECT TO OMIT ANY FIELD SPLICE. PLAN QUANTITY FOR STRUCTURAL STEEL INCLUDES EIGHT FIELD SPLICES PER GIRDER. REPLACE OMITTED FIELD SPLICE WITH THREE ADDITIONAL ROWS OF SHEAR CONNECTORS WITH 2'-0" SPACING AT NO ADDITIONAL COST TO THE DEPARTMENT. SEE SHEETS B036 & B037 FOR FIELD SPLICE DETAILS.
- SEE CONNECTION PLATES AND STIFFENER DETAILS ON SHEET B040 FOR PLATE SIZES.
- SEE SHEET B060 FOR DECK DRAIN CONNECTION PLATE DETAILS.


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SUPERSTRUCTURE DETAILS SHEET 7 OF 35 GIRDER ELEVATION - SPAN NO. 2 THRU 4		CEC		Detail	DRB
				Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 32100(04)	
				SHEET NO. B032	



- SEE SHEET B060 FOR DECK DRAIN CONNECTION PLATE DETAILS.

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SUPERSTRUCTURE DETAILS SHEET 8 OF 35 GIRDER ELEVATION - SPAN NO. 5 THRU 7				Detail	DRB
				Check	DLW
				 CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION JOB PIECE NO. 32100(04)			
				SHEET NO. B033	

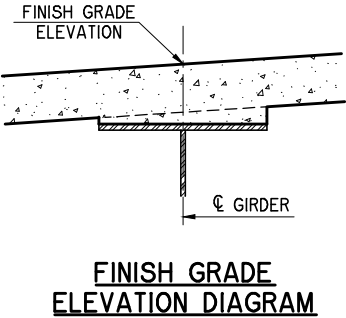
FINISH GRADE ELEVATION SCHEDULE – SPAN NO. 1											
LOCATION	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
GIRDERS 1 & 4	527.23	527.74	528.23	528.71	529.17	529.62	530.04	530.46	530.85	531.23	531.60
GIRDERS 2 & 3	527.47	527.98	528.47	528.95	529.41	529.85	530.28	530.69	531.09	531.47	531.84

FINISH GRADE ELEVATION SCHEDULE – SPAN NO. 2 THRU NO. 4																															
LOCATION	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
GIRDERS 1 & 4	531.65	532.11	532.54	532.94	533.32	533.66	533.98	534.27	534.52	534.75	534.95	546.17	535.34	535.46	535.53	535.56	535.53	535.46	535.34	535.17	534.95	534.75	534.52	534.27	533.98	533.66	533.32	532.94	532.54	532.11	531.64
GIRDERS 2 & 3	531.88	532.34	532.78	533.18	533.55	533.90	534.21	534.50	534.76	534.99	535.19	535.41	535.58	535.70	535.77	535.79	535.77	535.70	535.58	535.41	535.19	534.99	534.76	534.50	534.21	533.90	533.55	533.18	532.77	532.34	531.88

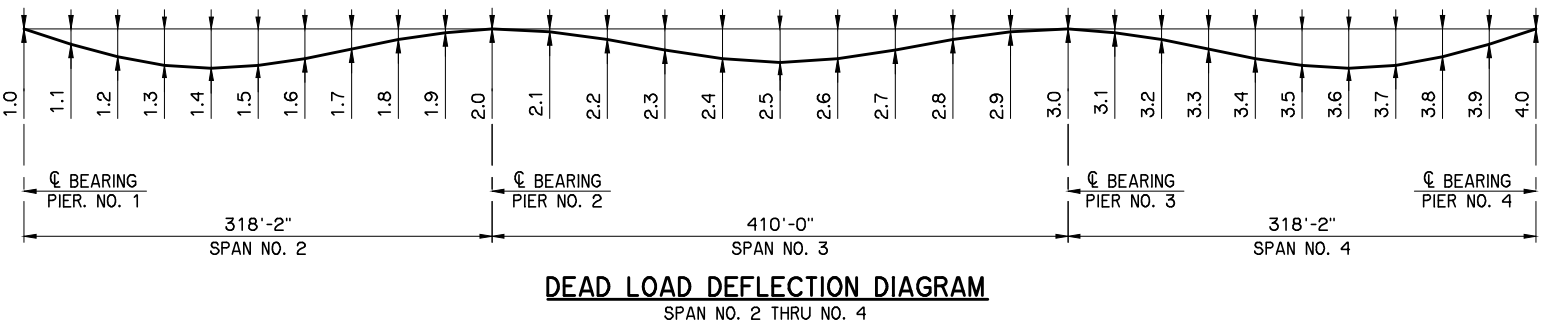
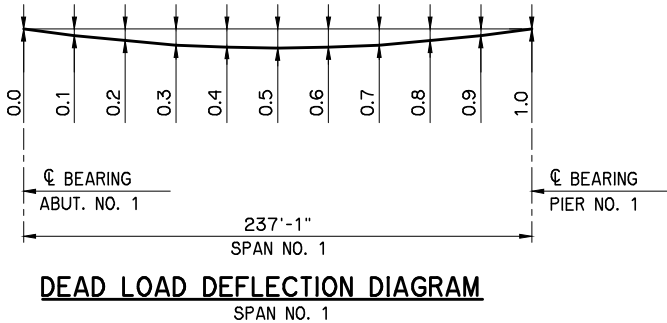
DEAD LOAD DEFLECTION SCHEDULE - SPAN NO. 1											
LOCATION	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
EXTERIOR GIRDERS											
STEEL	0.00"	1.63"	3.02"	4.01"	4.61"	4.80"	4.61"	4.01"	3.02"	1.63"	0.00"
CONCRETE	0.00"	2.44"	4.51"	6.04"	7.01"	7.34"	7.01"	6.04"	4.51"	2.44"	0.00"
INTERIOR GIRDERS											
STEEL	0.00"	1.60"	2.96"	3.94"	4.54"	4.74"	4.54"	3.94"	2.96"	1.60"	0.00"
CONCRETE	0.00"	2.89"	5.33"	7.14"	8.28"	8.67"	8.28"	7.14"	5.33"	2.89"	0.00"

NOTES:
THE STEEL DEFLECTIONS SHOWN AT THE TENTH POINTS ARE DUE TO THE STEEL WEIGHT OF THE GIRDER, CROSS FRAMES AND LATERAL BRACING.

THE CONCRETE DEFLECTIONS SHOWN AT THE TENTH POINTS ARE DEFLECTIONS DUE TO DECK SLAB + HAUNCH + 5 P.S.F. SIP DECK FORM ALLOWANCE + CONCRETE PARAPET. IT DOES NOT INCLUDE THE GIRDER WEIGHT, CROSS FRAMES, LATERAL BRACING OR FUTURE WEARING SURFACE.



DEAD LOAD DEFLECTION SCHEDULE – SPAN NO. 2 THRU NO. 4																															
LOCATION	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0
EXTERIOR GIRDERS																															
STEEL	0.00"	2.14"	3.85"	4.94"	5.35"	5.08"	4.19"	2.89"	1.53"	0.49"	0.00"	0.20"	1.48"	3.23"	4.59"	5.10"	4.60"	3.25"	1.50"	0.21"	0.00"	0.48"	1.51"	2.88"	4.19"	5.07"	5.35"	4.94"	3.85"	2.15"	0.00"
DECK POUR 1	0.00"	4.13"	7.49"	9.76"	10.86"	10.76"	9.54"	7.47"	4.93"	2.35"	0.00"	-2.57"	-4.29"	-5.03"	-4.97"	-4.43"	-3.58"	-2.57"	-1.58"	-0.73"	0.00"	0.52"	0.97"	1.29"	1.44"	1.44"	1.31"	1.08"	0.79"	0.42"	0.00"
DECK POUR 2	0.00"	0.40"	0.77"	1.09"	1.35"	1.51"	1.55"	1.42"	1.11"	0.62"	0.00"	-0.92"	-2.03"	-3.24"	-4.37"	-5.27"	-5.78"	-5.72"	-4.78"	-2.80"	0.00"	2.46"	5.08"	7.65"	9.73"	10.91"	10.99"	9.86"	7.55"	4.17"	0.00"
DECK POUR 3	0.00"	-1.47"	-2.83"	-4.00"	-4.92"	-5.50	-5.64"	-5.19"	-4.04"	-2.26"	0.00"	3.35"	7.18"	10.85"	13.43"	14.37"	13.45"	10.87"	7.21"	3.36"	0.00"	-2.25"	-4.03"	-5.19"	-5.65"	-5.51"	-4.92"	-4.00"	-2.83"	-1.47"	0.00"
DECK POUR 4	0.00"	-0.28"	-0.55	-0.77"	-0.95"	-1.06"	-1.09"	-1.00"	-0.78"	-0.44"	0.00"	0.65	1.41"	2.20"	2.87"	3.30"	3.35"	2.89"	1.82"	0.61"	0.00"	0.01"	0.41"	0.97"	1.41"	1.58"	1.53"	1.31"	0.95"	0.51"	0.00"
DECK POUR 5	0.00"	0.50"	0.95"	1.30"	1.53"	1.58	1.41"	0.99"	0.43"	0.02"	0.00"	0.60"	1.80"	2.89"	3.36"	3.30"	2.87"	2.21"	1.42"	0.65"	0.00"	-0.43"	-0.78"	-1.00"	-1.09"	-1.06"	-0.95"	-0.77"	-0.55"	-0.28"	0.00"
PARAPETS	0.00"	0.49"	0.88"	1.12"	1.20"	1.13"	0.91"	0.60"	0.29"	0.06"	0.00"	0.16"	0.59"	1.10"	1.48"	1.62"	1.48"	1.11"	0.60"	0.16"	0.00"	0.06"	0.28"	0.60"	0.91"	1.13"	1.20"	1.12"	0.88"	0.49"	0.00"
TOTAL DECK AND PARAPETS	0.00"	3.78"	6.72"	8.51"	9.08"	8.41"	6.68"	4.29"	1.93"	0.36"	0.00"	1.27"	4.66"	8.78"	11.80"	12.88"	11.80"	8.78"	4.68"	1.25"	0.00"	0.37"	1.93"	4.32"	6.76"	8.49"	9.16"	8.60"	6.79"	3.82"	0.00"
INTERIOR GIRDERS																															
STEEL	0.00"	2.15"	3.86"	4.95"	5.37"	5.09"	4.20"	2.90"	1.54"	0.49"	0.00"	0.21"	1.49"	3.25"	4.60"	5.11"	4.61"	3.26"	1.51"	0.21"	0.00"	0.48"	1.51"	2.89"	4.20"	5.09"	5.37"	4.96"	3.86"	2.15"	0.00"
DECK POUR 1	0.00"	4.14"	7.49"	9.75"	10.84"	10.72"	9.50"	7.43"	4.90"	2.34"	0.00"	-2.55"	-4.27"	-5.00"	-4.94"	-4.40"	-3.55"	-2.56"	-1.57"	-0.72"	0.00"	0.52"	0.96"	1.28"	1.44"	1.43"	1.30"	1.08"	0.78"	0.42"	0.00"
DECK POUR 2	0.00"	0.40"	0.77"	1.09"	1.34"	1.50"	1.54"	1.41"	1.10"	0.61"	0.00"	-0.92"	-2.02"	-3.23"	-4.35"	-5.25"	-5.75"	-5.69"	-4.75"	-2.78"	0.00"	2.44"	5.06"	7.61"	9.69"	10.89"	10.98"	9.86"	7.55"	4.17"	0.00"
DECK POUR 3	0.00"	-1.51"	-2.90"	-4.10"	-5.04"	-5.64"	-5.78"	-5.32"	-4.14"	-2.31"	0.00"	3.44"	7.36"	11.13"	13.78"	14.74"	13.79"	11.15"	7.39"	3.44"	0.00"	-2.30"	-4.13"	-5.32"	-5.79"	-5.64"	-5.04"	-4.10"	-2.90"	-1.51"	0.00"
DECK POUR 4	0.00"	-0.27"	-0.51"	-0.73"	-0.89"	-1.00"	-1.03"	-0.94"	-0.73"	-0.41"	0.00"	0.61"	1.33"	2.07"	2.70"	3.10"	3.15"	2.73"	1.71"	0.55"	0.00"	0.06"	0.51"	1.11"	1.56"	1.72"	1.65"	1.40"	1.02"	0.54"	0.00"
DECK POUR 5	0.00"	0.54"	1.02"	1.40"	1.65"	1.72"	1.56"	1.12"	0.53"	0.07"	0.00"	0.55"	1.69"	2.72"	3.16"	3.10"	2.70"	2.08"	1.33"	0.61"	0.00"	-0.41"	-0.73"	-0.94"	-1.03"	-1.00"	-0.89"	-0.73"	-0.51"	-0.27"	0.00"
PARAPETS	0.00"	0.49"	0.88"	1.12"	1.20"	1.13"	0.91"	0.60"	0.29"	0.06"	0.00"	0.16"	0.59"	1.10"	1.48"	1.62"	1.48"	1.11"	0.60"	0.16"	0.00"	0.06"	0.28"	0.60"	0.91"	1.13"	1.20"	1.12"	0.88"	0.49"	0.00"
TOTAL DECK AND PARAPETS	0.00"	3.80"	6.75"	8.54"	9.10"	8.43"	6.71"	4.31"	1.95"	0.37"	0.00"	1.28"	4.69"	8.81"	11.83"	12.91"	11.83"	8.81"	4.70"	1.26"	0.00"	0.38"	1.95"	4.35"	6.79"	8.52"	9.19"	8.63"	6.82"	3.84"	0.00"



THIS DOCUMENT
IS PRELIMINARY
IN NATURE AND
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SIGNED AND
SEALED
DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

DesignDLW
DetailDRB
CheckDLW

CEC

SUPERSTRUCTURE DETAILS

SHEET 9 OF 35

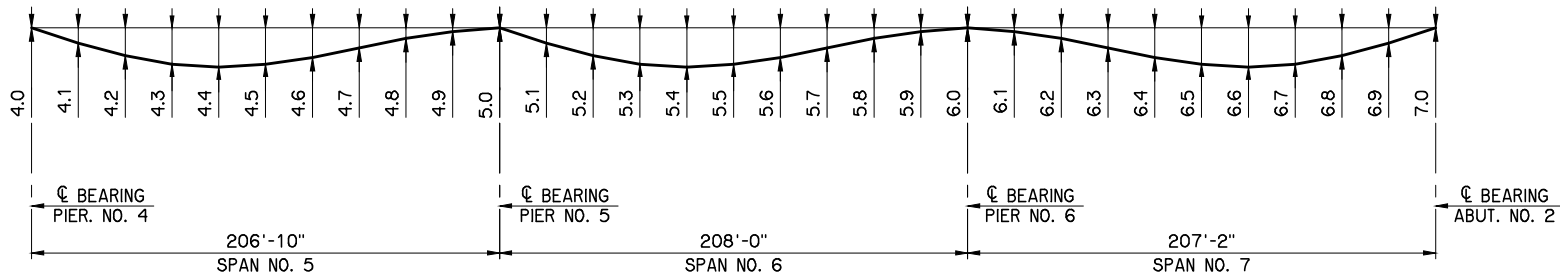
DEFLECTION AND GRADE SCHEDULES
SPAN NO. 1 THRU NO. 4

STATE OF
OKLAHOMA

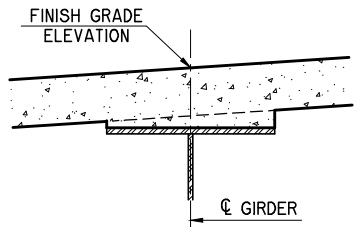
DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32100(O4)

SHEET NO. B034



DEAD LOAD DEFLECTION DIAGRAM
SPAN NO. 5 THRU NO. 7



FINISH GRADE
ELEVATION DIAGRAM

FINISH GRADE ELEVATION SCHEDULE – SPAN NO. 5 THRU NO. 7

LOCATION	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0
GIRDERS 1 & 4	531.59	531.28	530.95	530.61	530.26	529.89	529.51	529.12	528.72	528.31	527.88	527.44	526.98	526.52	526.04	525.55	525.04	524.53	524.00	523.46	522.91	522.34	521.77	521.18	520.58	519.97	519.35	518.72	518.10	517.48	516.86
GIRDERS 2 & 3	531.84	531.52	531.19	530.85	530.49	530.13	529.75	529.36	528.96	528.54	528.12	527.67	527.22	526.75	526.27	525.78	525.28	524.76	524.24	523.69	523.14	522.58	522.00	521.42	520.82	520.20	519.58	518.96	518.34	517.72	517.10

DEAD LOAD DEFLECTION SCHEDULE – SPAN NO. 5 THRU NO. 7

LOCATION	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	7.0	
EXTERIOR GIRDERS																																
STEEL	0.00"	0.81"	1.50"	1.99"	2.24"	2.24"	2.00"	1.57"	0.99"	0.41"	0.00"	-0.22"	-0.27"	-0.22"	-0.15"	-0.13"	-0.16"	-0.23"	-0.29"	-0.23"	0.00"	0.42"	0.97"	1.53"	1.96"	2.20"	2.20"	1.96"	1.48"	0.80"	0.00"	
DECK POUR 1	0.00"	1.90"	3.55"	4.77"	5.48"	5.64"	5.25"	4.37"	3.06"	1.54"	0.00"	-1.41"	-2.56"	-3.40"	-3.91"	-4.08"	-3.90"	-3.39"	-2.55"	-1.40"	0.00"	1.53"	3.08"	4.41"	5.30"	5.70"	5.53"	4.82"	3.60"	1.93"	0.00"	
DECK POUR 2	0.00"	-0.27"	-0.52"	-0.74"	-0.92"	-1.03"	-1.08"	-1.03"	-0.85"	-0.51"	0.00"	0.62"	1.29"	1.91"	2.36"	2.53"	2.36"	1.91"	1.28"	0.62"	0.00"	-0.51"	-0.85"	-1.03"	-1.08"	-1.03"	-0.92"	-0.74"	-0.52"	-0.27"	0.00"	
DECK POUR 3	0.00"	-0.14"	-0.28"	-0.40"	-0.50"	-0.56"	-0.59"	-0.58"	-0.49"	-0.32	0.00"	0.47"	0.98"	1.41"	1.68"	1.78"	1.69"	1.42"	0.99"	0.47"	0.00"	-0.33"	-0.50"	-0.59"	-0.60"	-0.57"	-0.50"	-0.41"	-0.29"	-0.15"	0.00"	
PARAPETS	0.00"	0.24"	0.44"	0.58"	0.65"	0.65"	0.57"	0.45"	0.28"	0.12"	0.00"	-0.05"	-0.04"	0.01"	0.05"	0.06"	0.05"	0.01"	-0.04"	-0.05"	0.00"	0.12"	0.28"	0.45"	0.58"	0.65"	0.65"	0.58"	0.44"	0.24"	0.00"	
TOTAL DECK AND PARAPETS	0.00"	1.73"	3.19"	4.21"	4.71"	4.70"	4.15"	3.21"	2.00"	0.83"	0.00"	-0.37	-0.33	-0.07"	0.18"	0.29"	0.20"	-0.05"	-0.32"	-0.36"	0.00"	0.81"	2.01"	3.24"	4.20"	4.75"	4.76"	4.25"	3.23"	1.75"	0.00"	
INTERIOR GIRDERS																																
STEEL	0.00"	0.84"	1.55"	2.06"	2.32"	2.32"	2.07"	1.62"	1.03"	0.43"	0.00"	-0.22"	-0.27"	-0.21"	-0.14"	-0.12"	-0.15"	-0.23"	-0.29"	-0.24"	0.00"	0.43"	1.01"	1.59"	2.03"	2.28"	2.28"	2.03"	1.53"	0.83"	0.00"	
DECK POUR 1	0.00"	2.35"	4.40"	5.91"	6.79"	6.98"	6.50"	5.41"	3.79"	1.90"	0.00"	-1.74"	-3.17"	-4.20"	-4.83"	-5.04"	-4.82"	-4.19"	-3.15"	-1.73"	0.00"	1.90"	3.81"	5.46"	6.56"	7.04"	6.85"	5.96"	4.44"	2.39"	0.00"	
DECK POUR 2	0.00"	-0.33"	-0.65"	-0.92"	-1.13"	-1.28"	-1.33"	-1.27"	-1.05"	-0.63"	0.00"	0.77"	1.59	2.36"	2.92"	3.12"	2.92"	2.36"	1.59"	0.77"	0.00"	-0.63"	-1.05"	-1.27"	-1.33"	-1.28"	-1.13"	-0.92"	-0.65"	-0.33"	0.00"	
DECK POUR 3	0.00"	-0.18"	-0.35"	-0.49"	-0.61"	-0.70"	-0.73"	-0.72"	-0.61"	-0.40"	0.00"	0.58"	1.22"	1.75"	2.09"	2.20"	2.09"	1.76"	1.22"	0.59"	0.00"	-0.40"	-0.62"	-0.73"	-0.75"	-0.71"	-0.62"	-0.50"	-0.35"	-0.18"	0.00"	
PARAPETS	0.00"	0.23"	0.42"	0.55"	0.62"	0.61"	0.54"	0.42"	0.26"	0.11"	0.00"	-0.04"	-0.03"	0.01"	0.05"	0.06"	0.05"	0.01"	-0.03"	-0.04"	0.00"	0.11"	0.26"	0.42"	0.55"	0.61"	0.62"	0.55"	0.42"	0.23"	0.00"	
TOTAL DECK AND PARAPETS	0.00"	2.07"	3.82"	5.05"	5.67"	5.61"	4.98"	3.84"	2.39"	0.98"	0.00"	-0.43"	-0.39"	-0.08"	0.23"	0.36"	0.24"	-0.06"	-0.37"	-0.41"	0.00"	0.98"	2.40"	3.88"	5.03"	5.66"	5.72"	5.09"	3.86"	2.11"	0.00"	

NOTES:
THE STEEL DEFLECTIONS SHOWN AT THE TENTH POINTS ARE DUE TO THE STEEL WEIGHT OF THE GIRDER AND CROSS FRAMES.

THE CONCRETE DEFLECTIONS SHOWN AT THE TENTH POINTS ARE DEFLECTIONS DUE TO DECK SLAB + HAUNCH + 5 P.S.F. SIP DECK FORM ALLOWANCE + CONCRETE PARAPET. IT DOES NOT INCLUDE THE GIRDER WEIGHT, CROSS FRAMES OR FUTURE WEARING SURFACE.

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SEALED
DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

DesignDLW

DetailDRB

CheckDLW

CEC

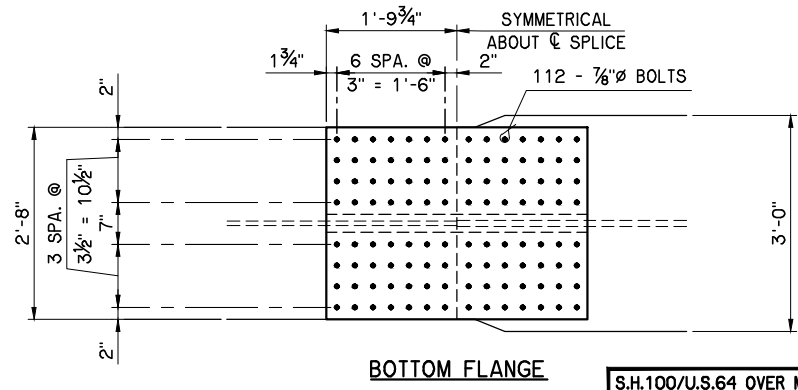
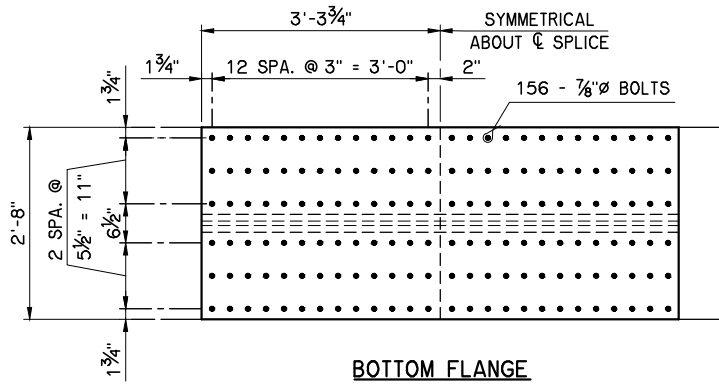
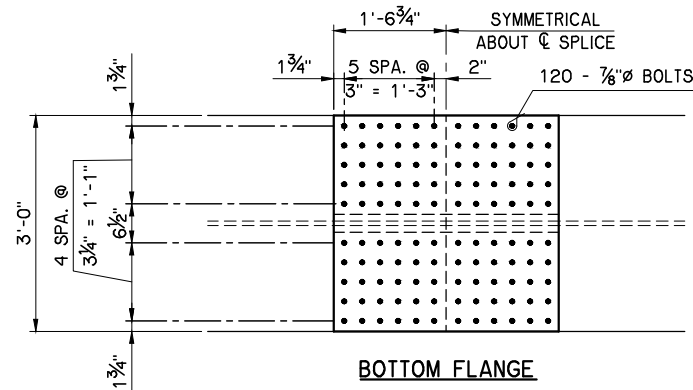
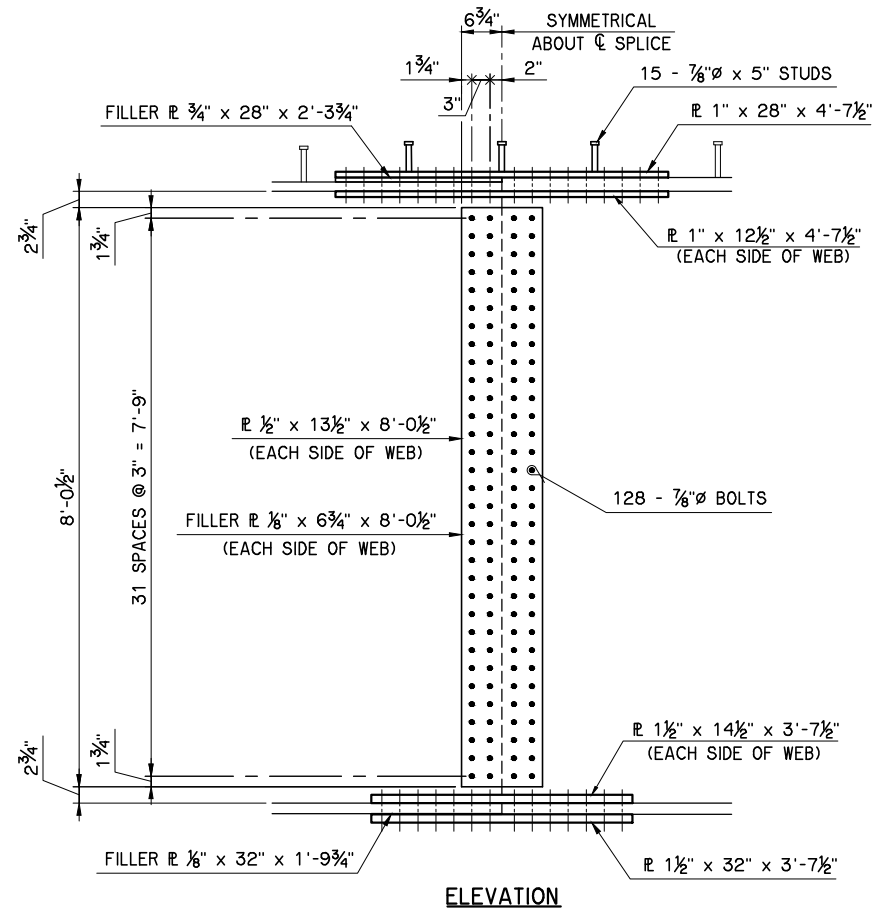
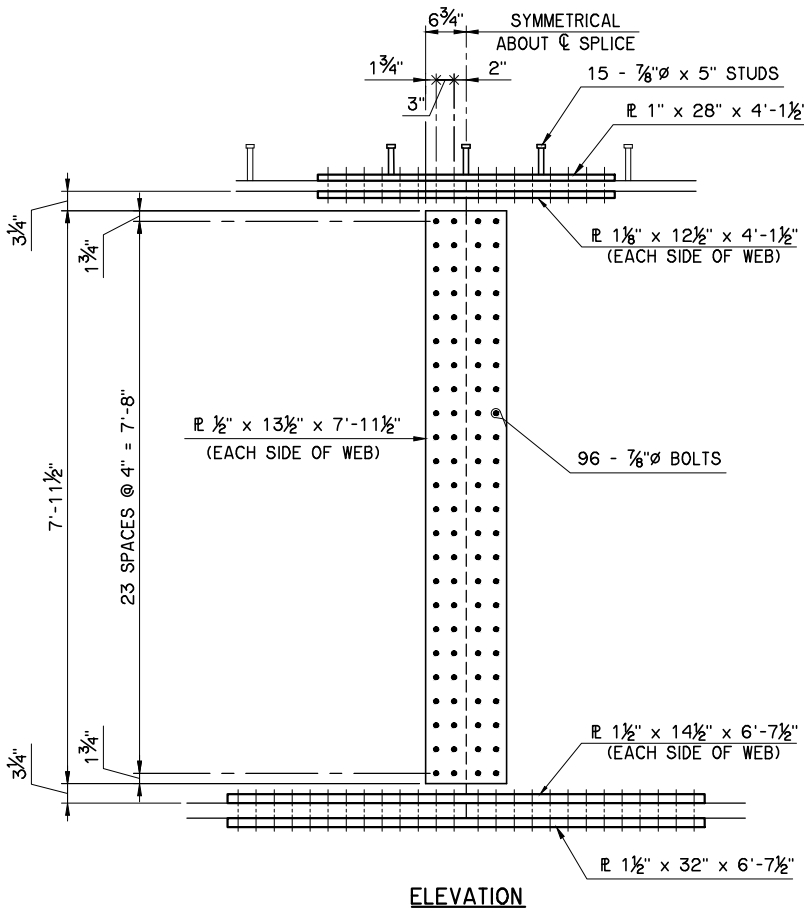
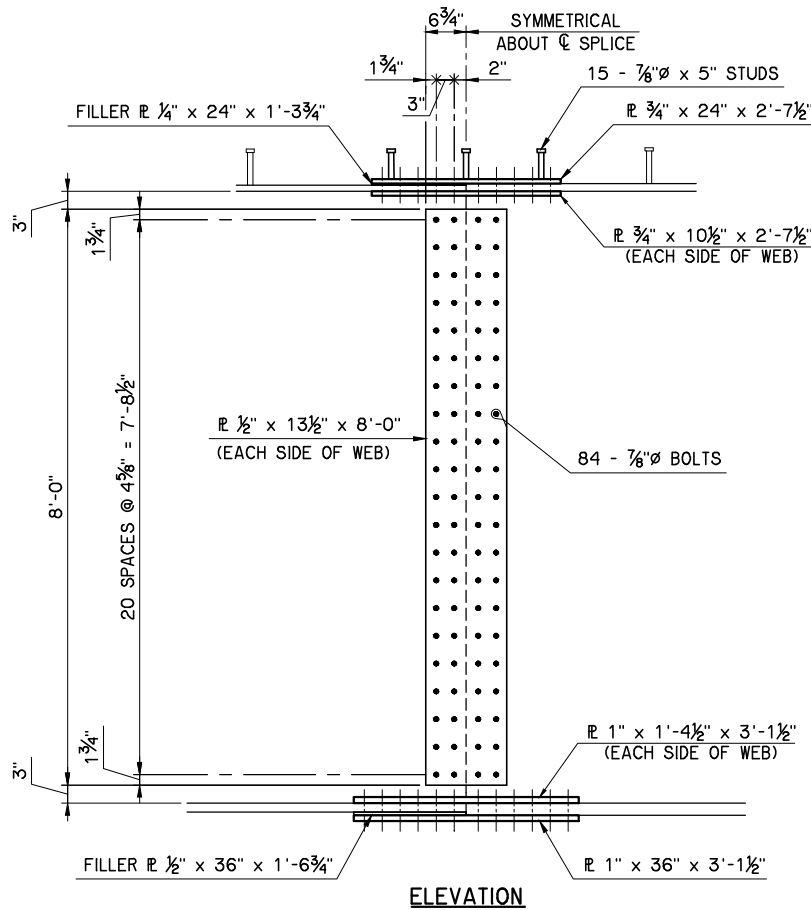
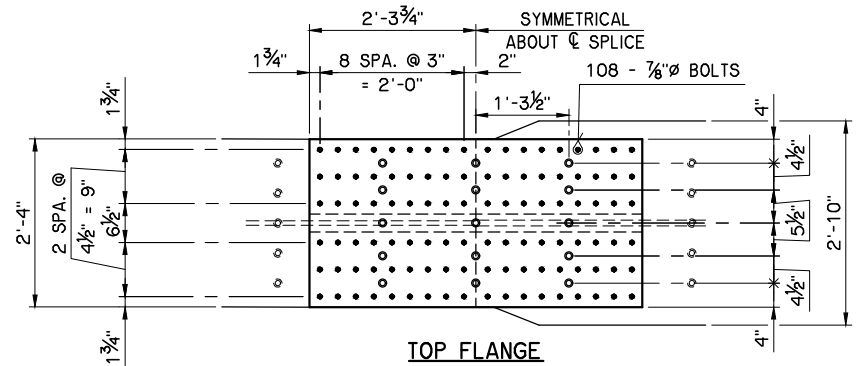
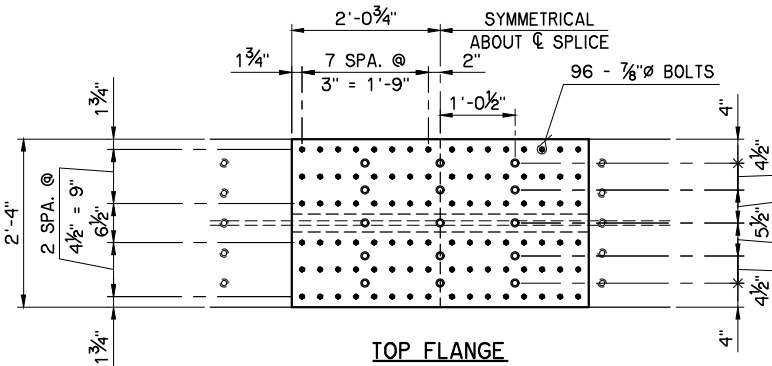
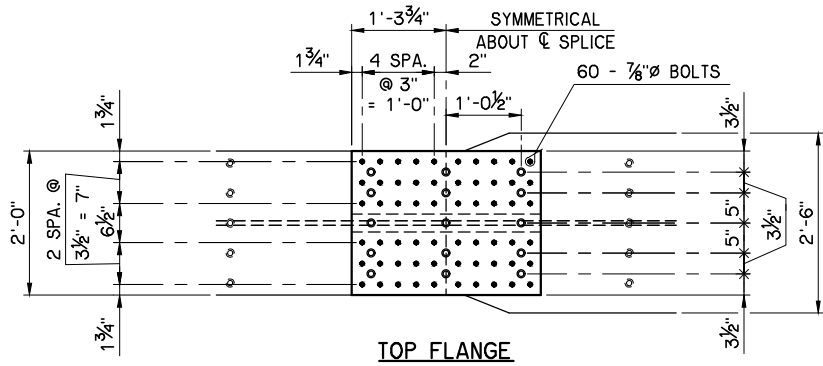
**STATE OF
OKLAHOMA**

DEPARTMENT OF TRANSPORTATION

SHEET 10 OF 35
DEFLECTION AND GRADE SCHEDULES
SPAN NO. 5 THRU 7

JOB PIECE NO. 32100(O4)

SHEET NO. B035




FIELD SPICE NO. 1
(264 - 7/8" BOLTS AND 15 - 7/8" x 5" STUDS REQUIRED AT EACH FIELD SPICE)

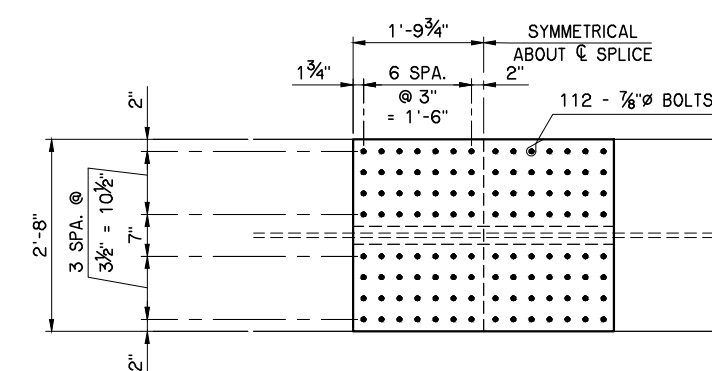
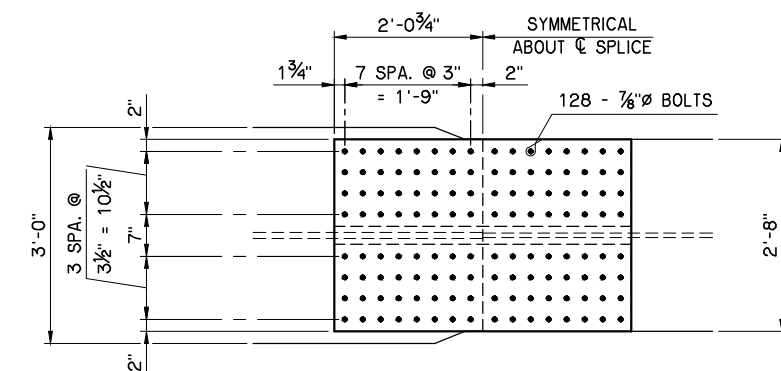
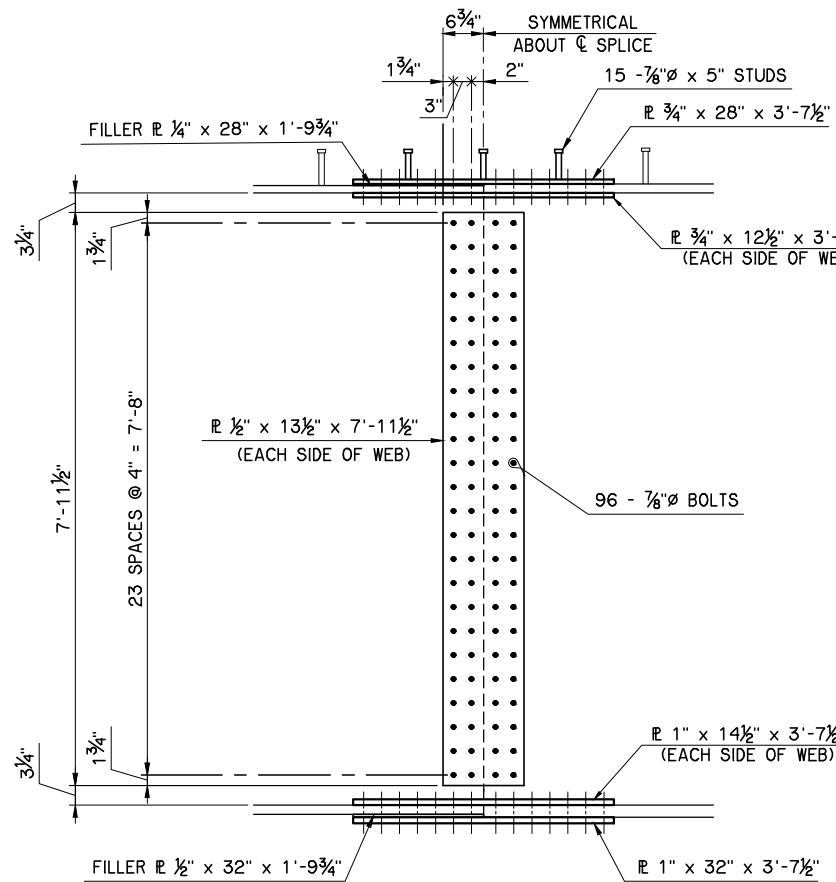
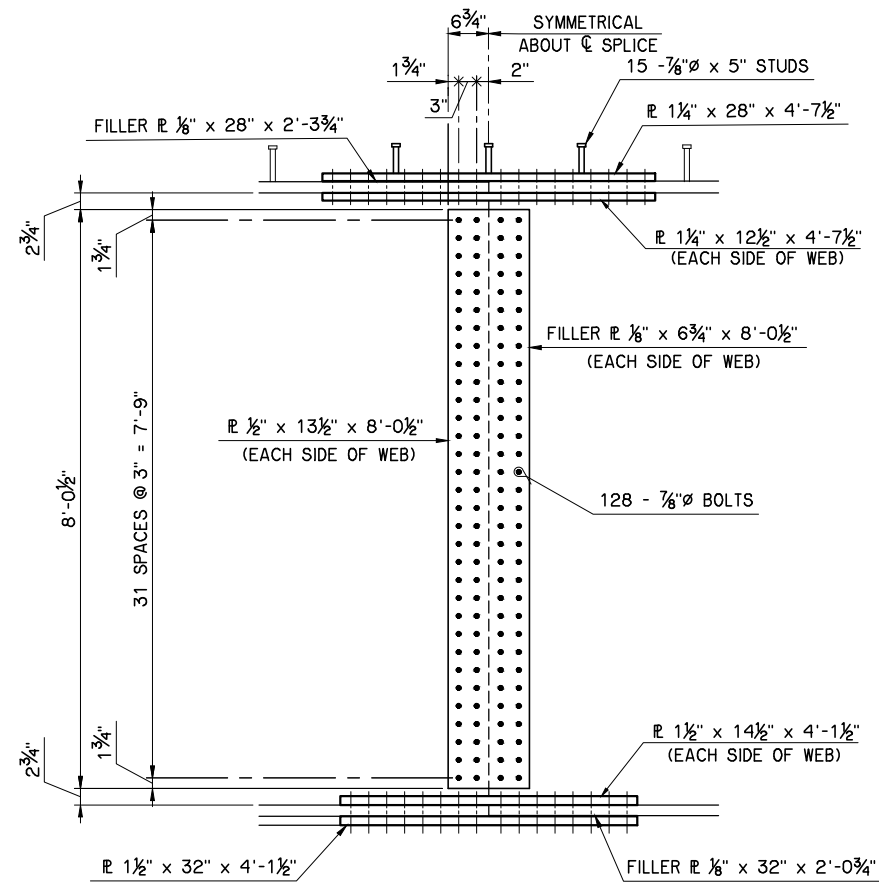
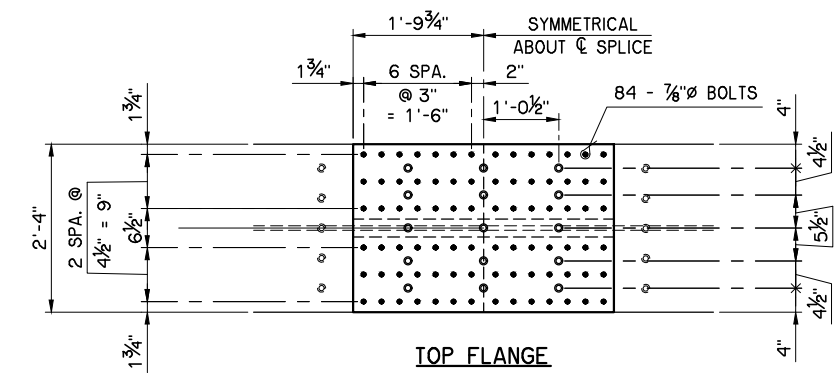
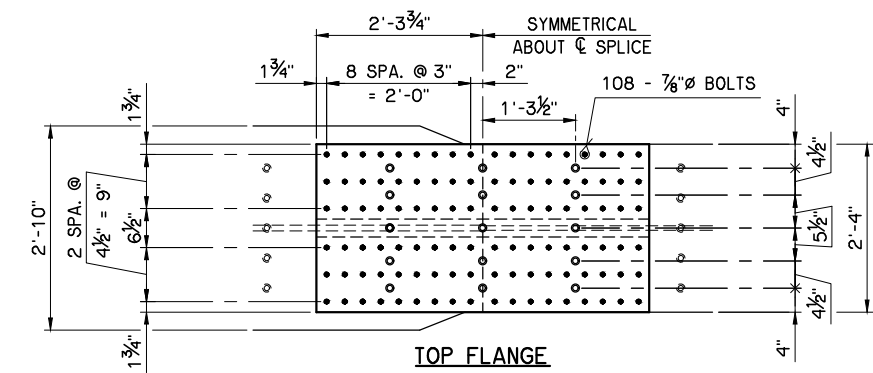
FIELD SPICE NO. 2
(348 - 7/8" BOLTS AND 15 - 7/8" x 5" STUDS REQUIRED AT EACH FIELD SPICE)

FIELD SPICE NO. 3
(348 - 7/8" BOLTS AND 15 - 7/8" x 5" STUDS REQUIRED AT EACH FIELD SPICE)

BOLTED FIELD SPICE DETAILS

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 11 OF 35 FIELD SPLICE DETAILS				Detail	DRB	
				Check	DLW	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(O4)				SHEET NO. B036



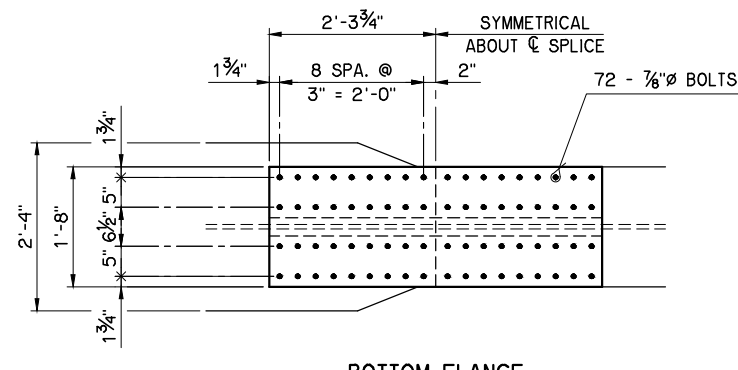
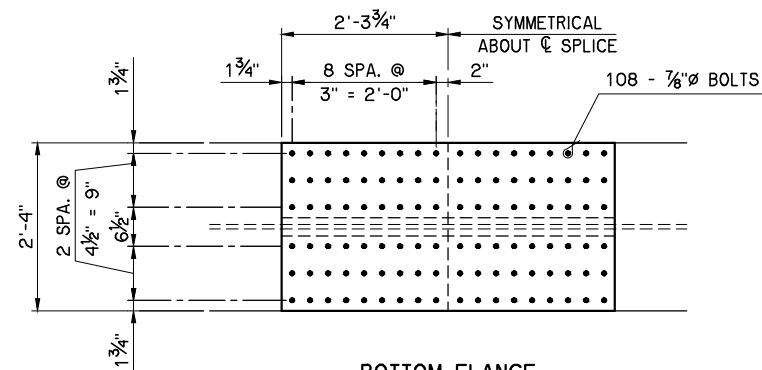
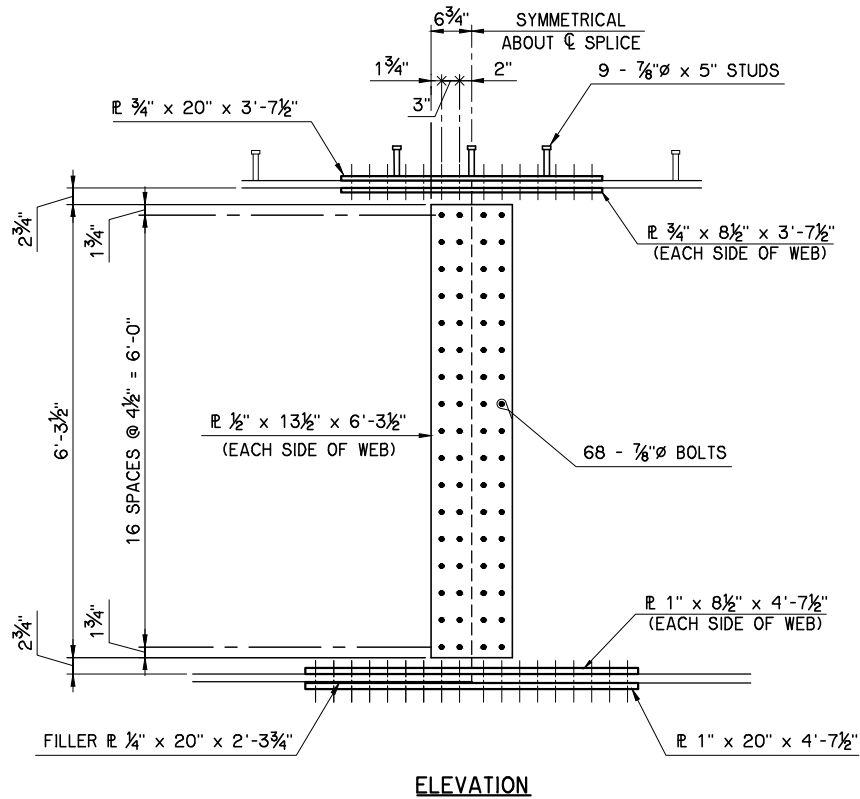
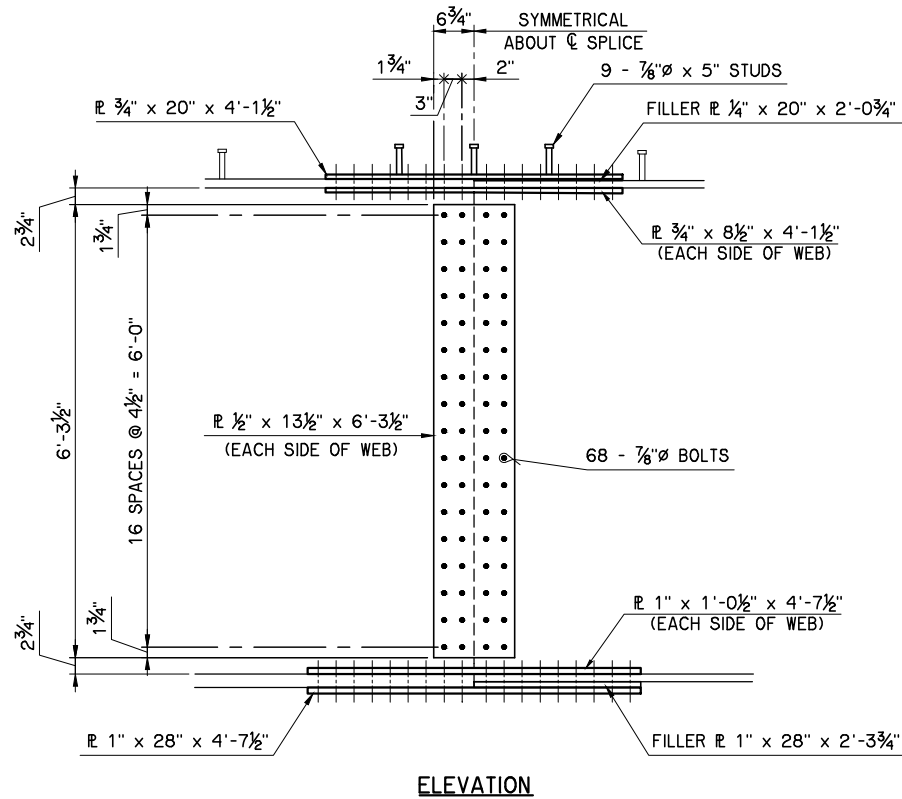
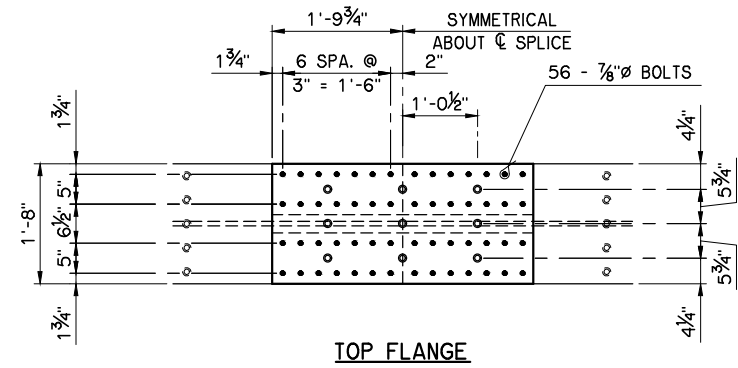
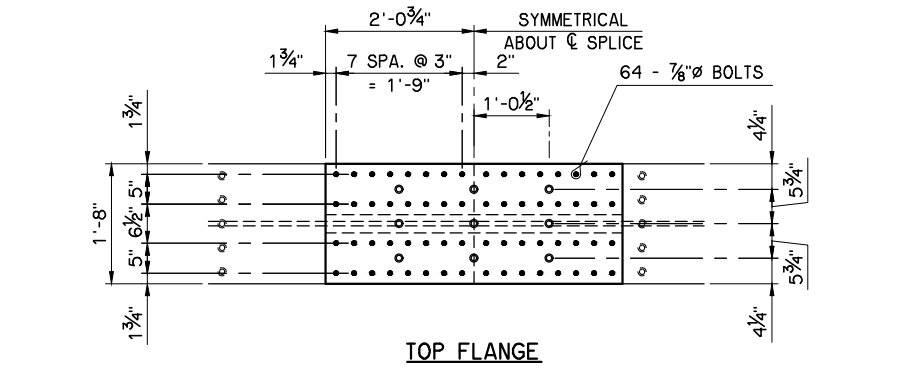
FIELD SPLICE NO. 4
(364 - 7/8" BOLTS AND 15 - 7/8" x 5"
STUDS REQUIRED AT EACH FIELD SPLICE)

FIELD SPLICE NO. 5
(292 - 7/8" BOLTS AND 15 - 7/8" x 5"
STUDS REQUIRED AT EACH FIELD SPLICE)

BOLTED FIELD SPLICE DETAILS

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY	MUSKOGEE CO. SEQUOYAH CO.	Design	DLW
SUPERSTRUCTURE DETAILS SHEET 12 OF 35 FIELD SPLICE DETAILS		Detail	DRB
		Check	DLW
		CEC	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 32100(O4)	
		SHEET NO. B037	



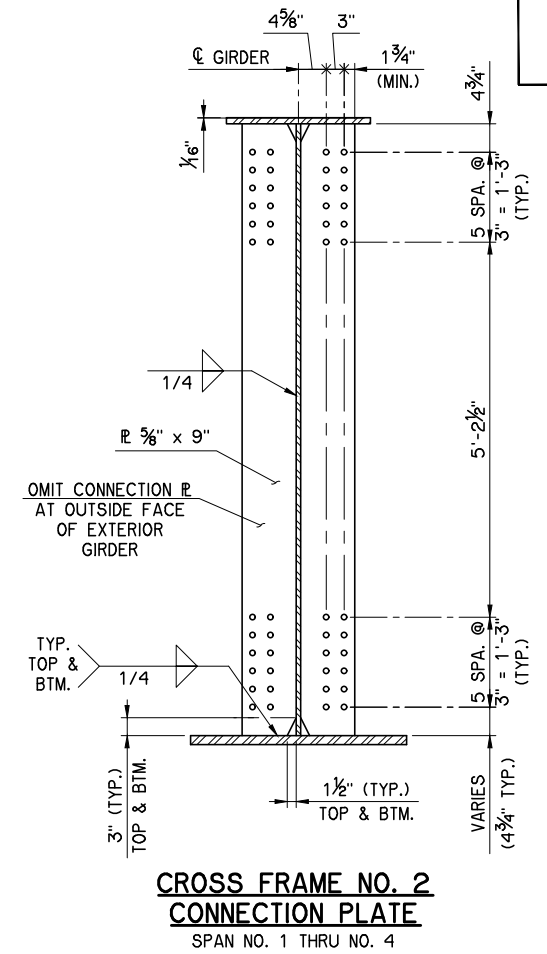
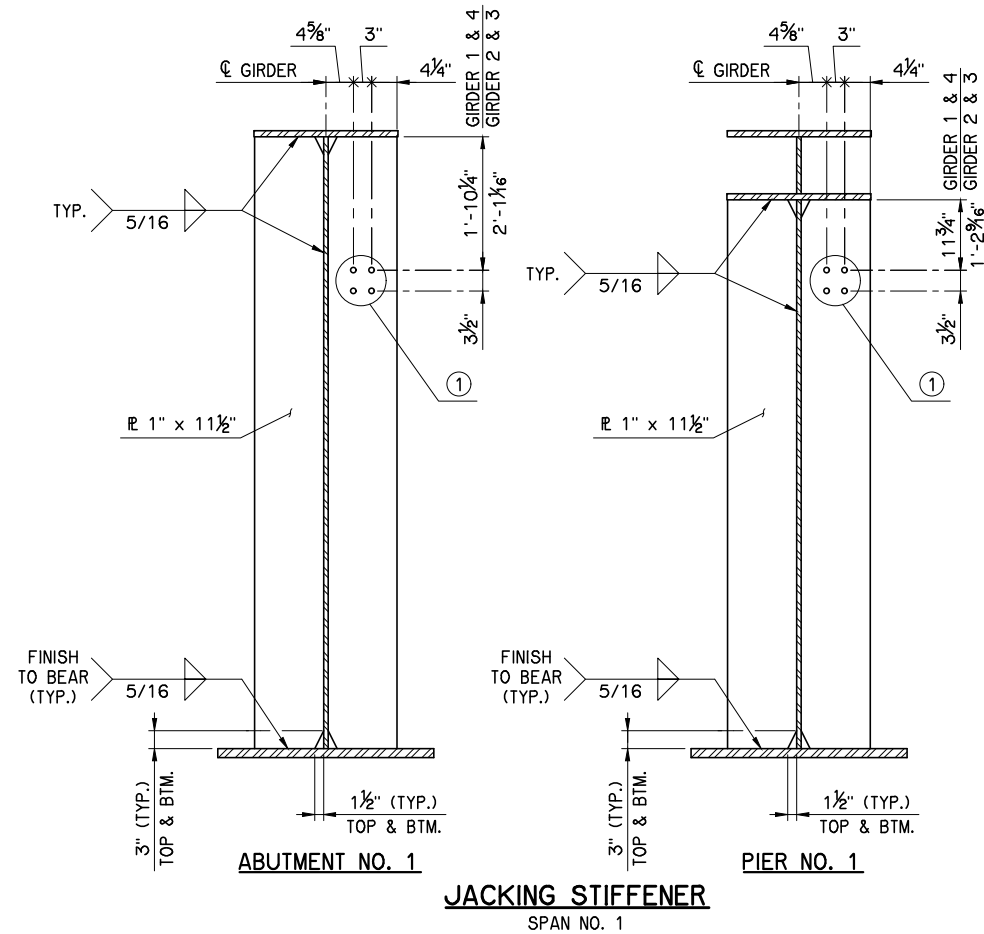
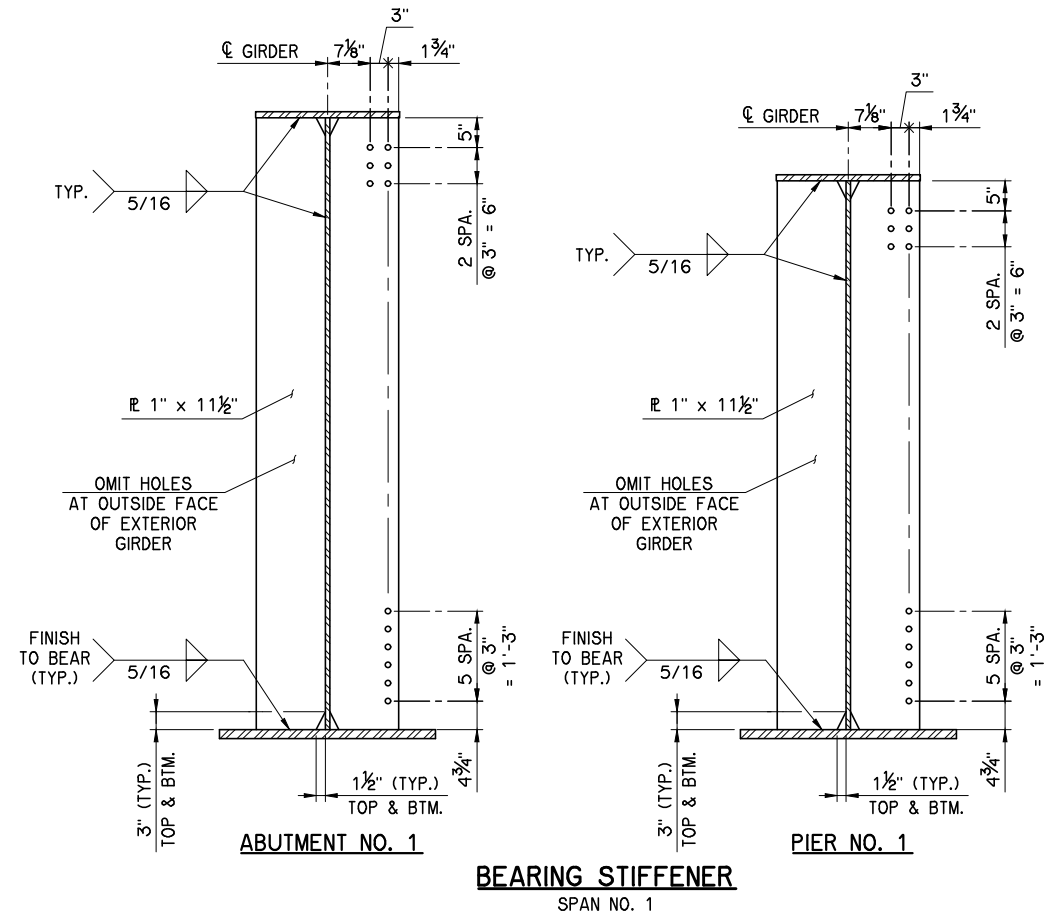
FIELD SPICE NO. 6
(240 - 7/8"Ø BOLTS AND 9 - 7/8"Ø x 5"
STUDS REQUIRED AT EACH FIELD SPICE)

FIELD SPICE NO. 7
(196 - 7/8"Ø BOLTS AND 9 - 7/8"Ø x 5"
STUDS REQUIRED AT EACH FIELD SPICE)

BOLTED FIELD SPICE DETAILS

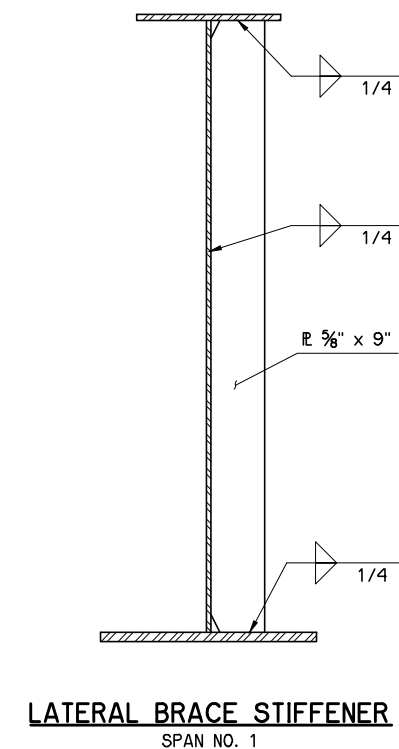
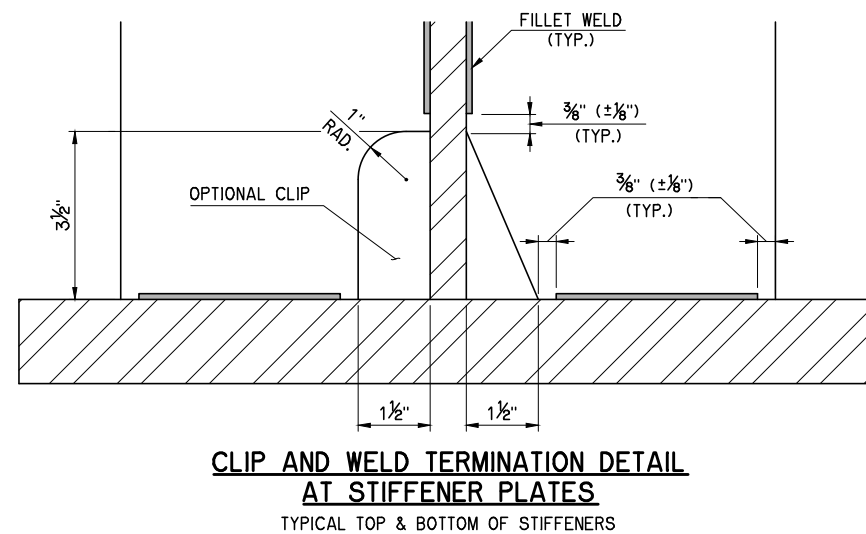
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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	Design	DLW
SUPERSTRUCTURE DETAILS SHEET 13 OF 35 FIELD SPICE DETAILS		CEC	Detail	DRB
			Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	JOB PIECE NO. 32100(O4)	
			SHEET NO. B038	




① LATERAL BRACING GUSSET HOLES ARE DEPENDENT ON SELECTED LATERAL BRACING LAYOUT. OMIT HOLES WHERE A LATERAL BRACE DOES NOT FRAME INTO STIFFENER.

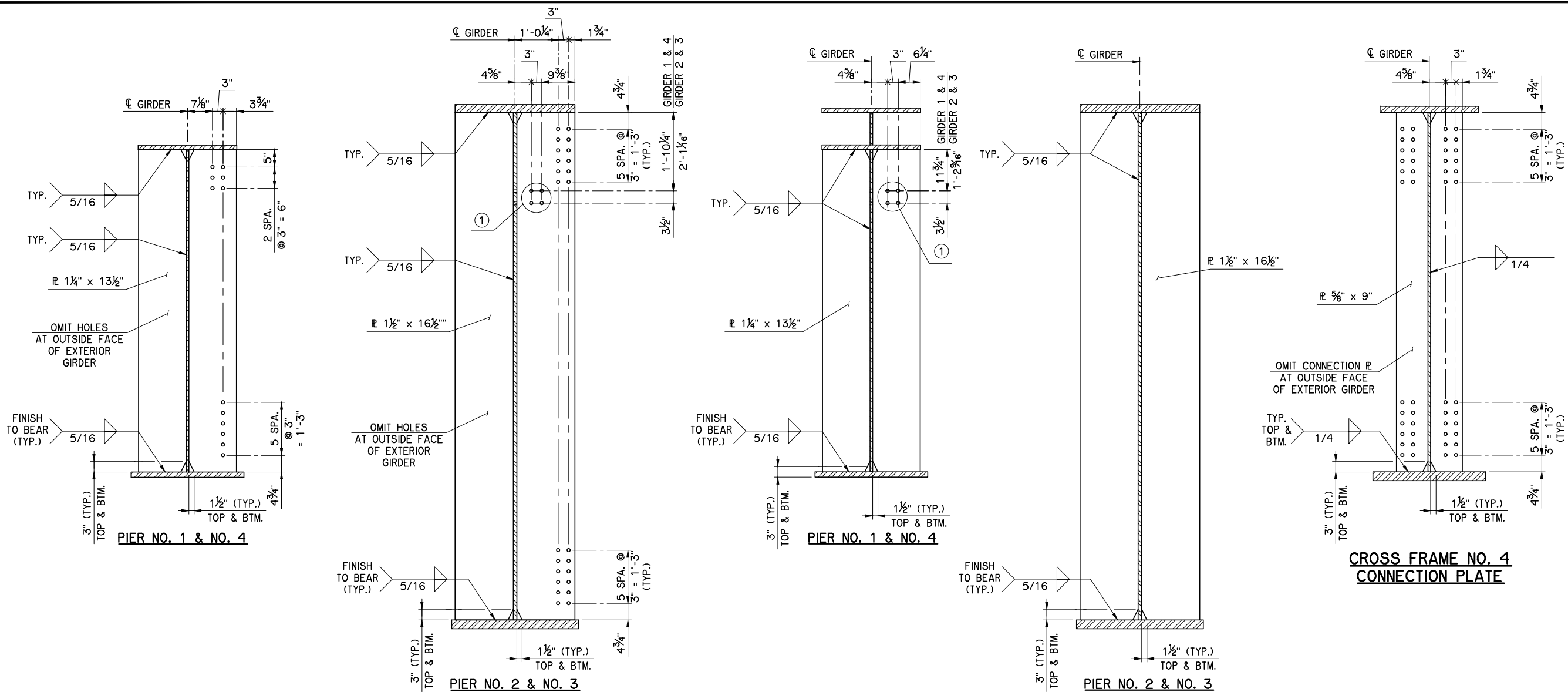
NOTE:
USE $1\frac{5}{16}$ "Ø HOLES



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DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 14 OF 35 CONNECTION PLATES AND STIFFENERS - SPAN NO. 1				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(04)				SHEET NO. B039

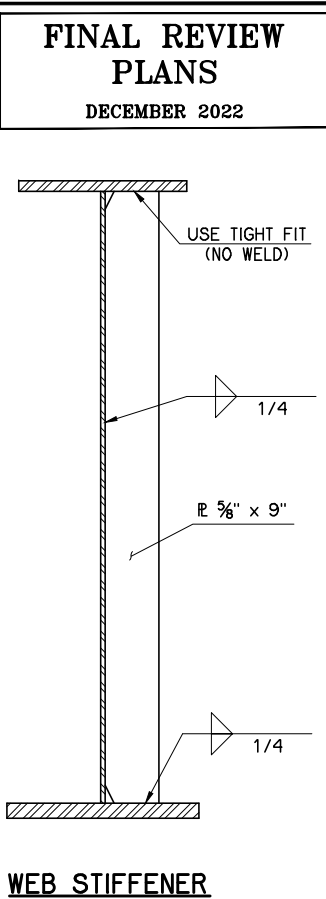
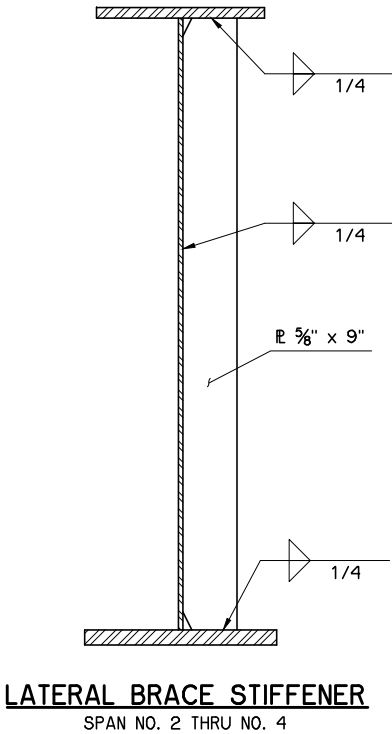
L:\Active\20013\Drawings\Production Plans\B040 SS15 Connection plates2.dwg, 11/17/2022 10:21:59 AM, DWG To PDF.pc3



BEARING STIFFENER
SPAN NO. 2 THRU NO. 4

JACKING STIFFENER
SPAN NO. 2 THRU NO. 4

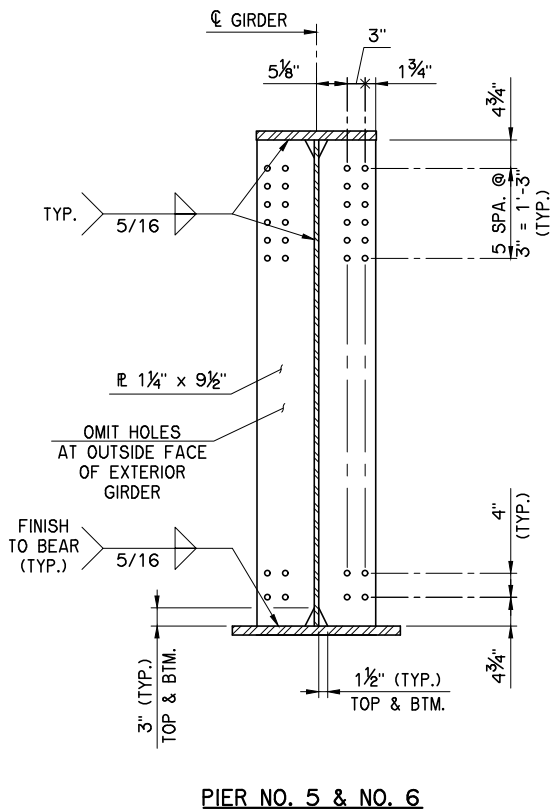
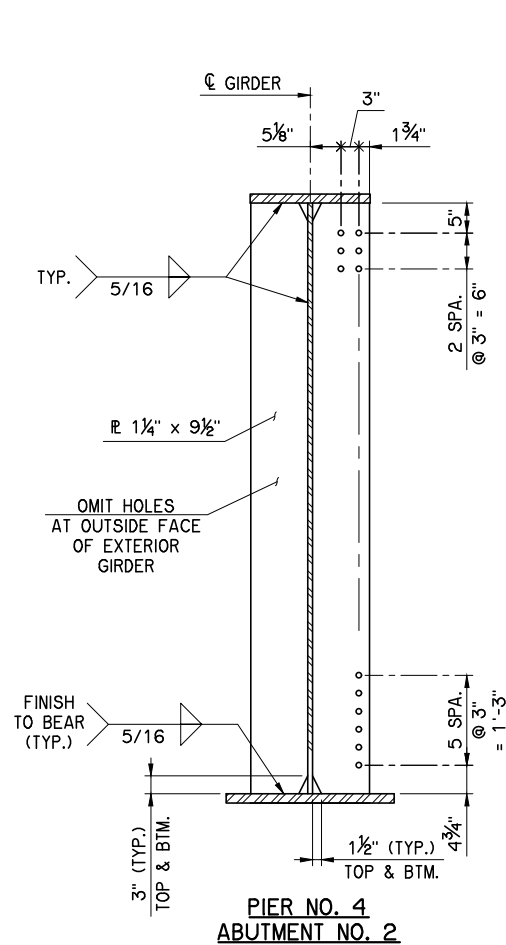
**CROSS FRAME NO. 4
CONNECTION PLATE**



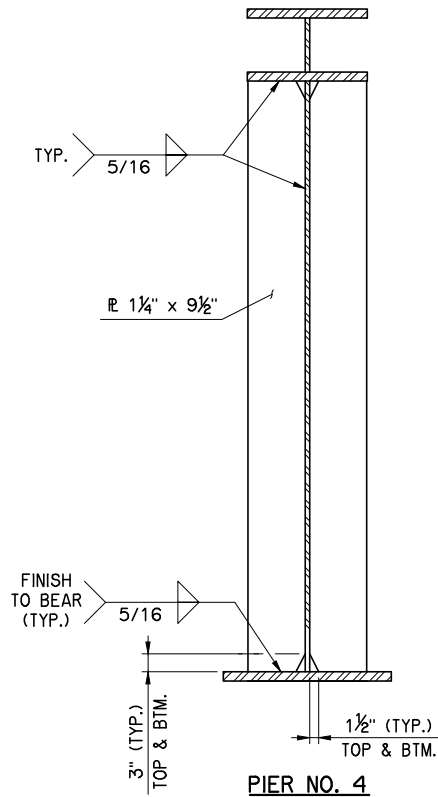
① LATERAL BRACING GUSSET HOLES AT INTERIOR FACE OF GIRDERS 1 AND 4. EXTERIOR FACE OF GIRDERS 2 AND 3. SEE FRAMING PLAN FOR MORE INFORMATION.

NOTES:
USE 1/16" Ø HOLES
SEE SHEET B039 FOR CROSS FRAME NO. 2 CONNECTION PLATE DETAIL.
SEE SHEET B039 FOR CLIP AND WELD TERMINATION DETAIL AT STIFFENER PLATES.

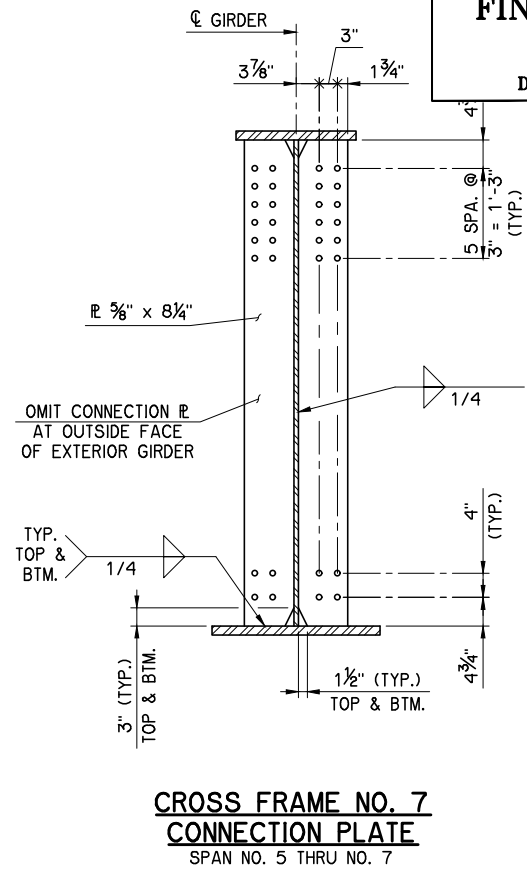
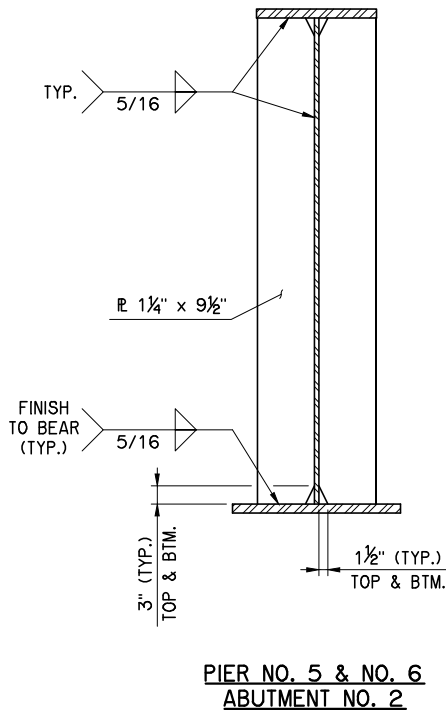
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
Design		DLW	
Detail		DRB	
Check		DLW	
SUPERSTRUCTURE DETAILS		SHEET 15 OF 35	
CONN. PLATES AND STIFFENERS - SPAN NO. 2 THRU NO. 4		CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B040	



BEARING STIFFENER
SPAN NO. 5 THRU NO. 7



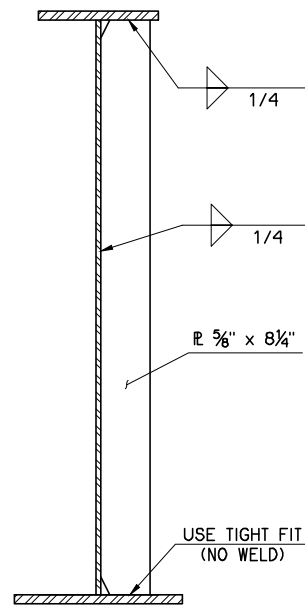
JACKING STIFFENER
SPAN NO. 5 THRU NO. 7



CROSS FRAME NO. 7
CONNECTION PLATE
SPAN NO. 5 THRU NO. 7

NOTES:
USE 1 5/16\"/>

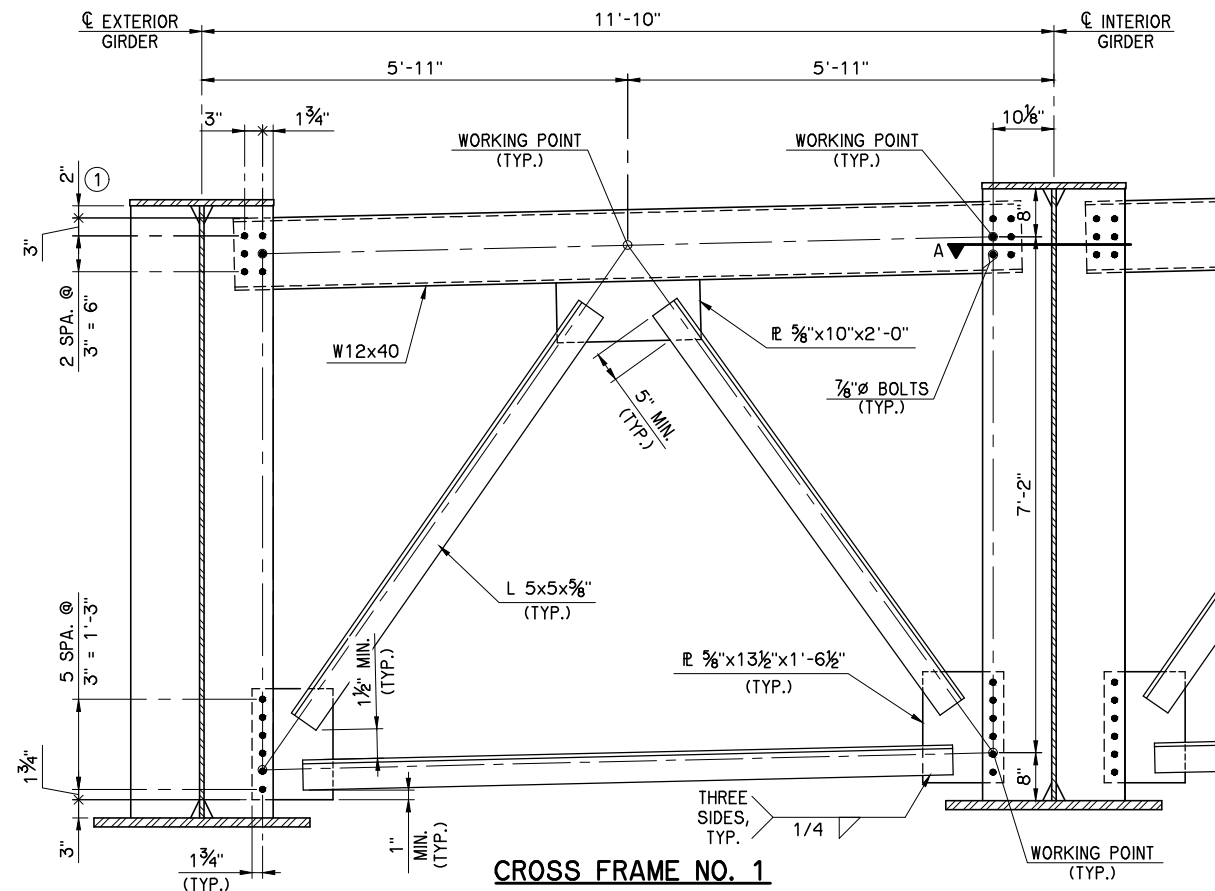
SEE SHEET B039 FOR CLIP AND WELD
TERMINATION DETAIL AT STIFFENER
PLATES.



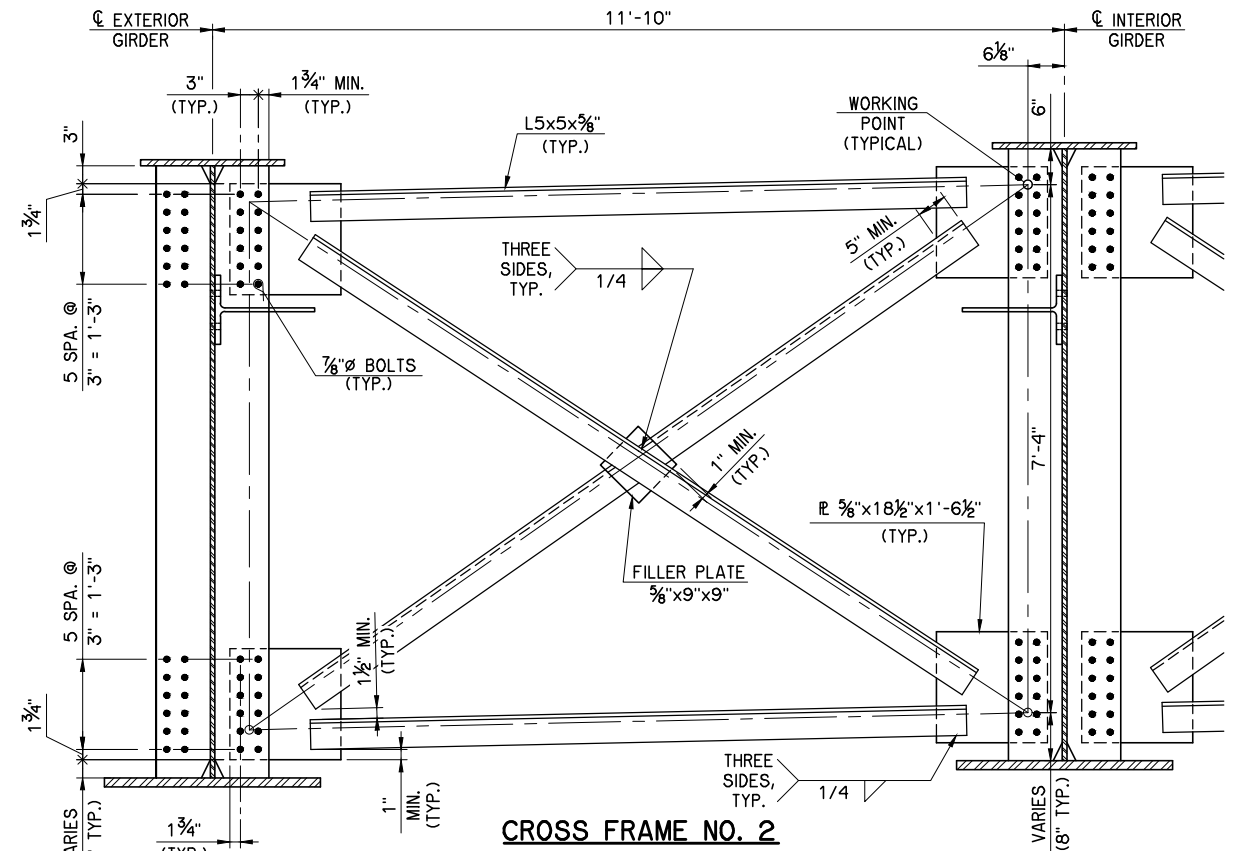
WEB STIFFENER

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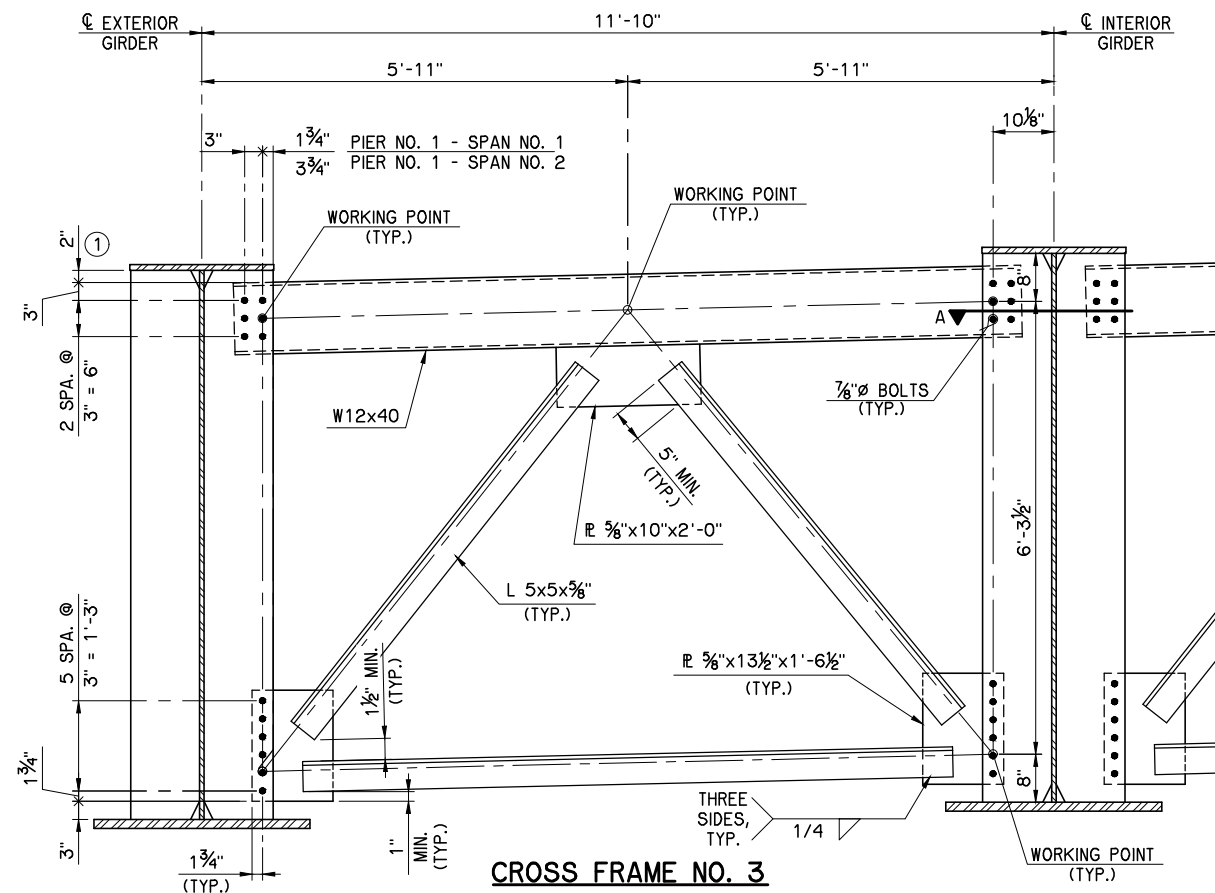
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
Design	DLW	Detail	DRB
SUPERSTRUCTURE DETAILS		Check	DLW
SHEET 16 OF 35		CONN. PLATES AND STIFFENERS - SPAN NO. 5 THRU NO. 7	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B041	



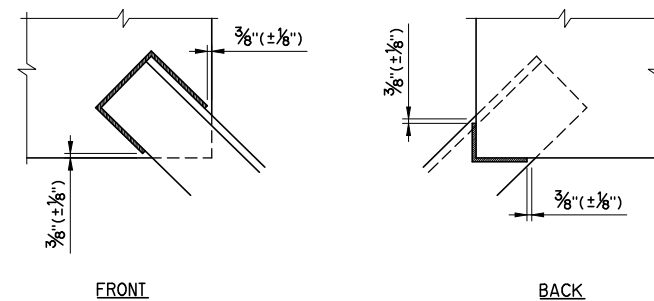
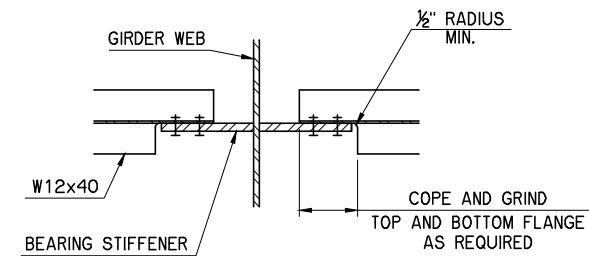
END SECTION



END SECTION



END SECTION

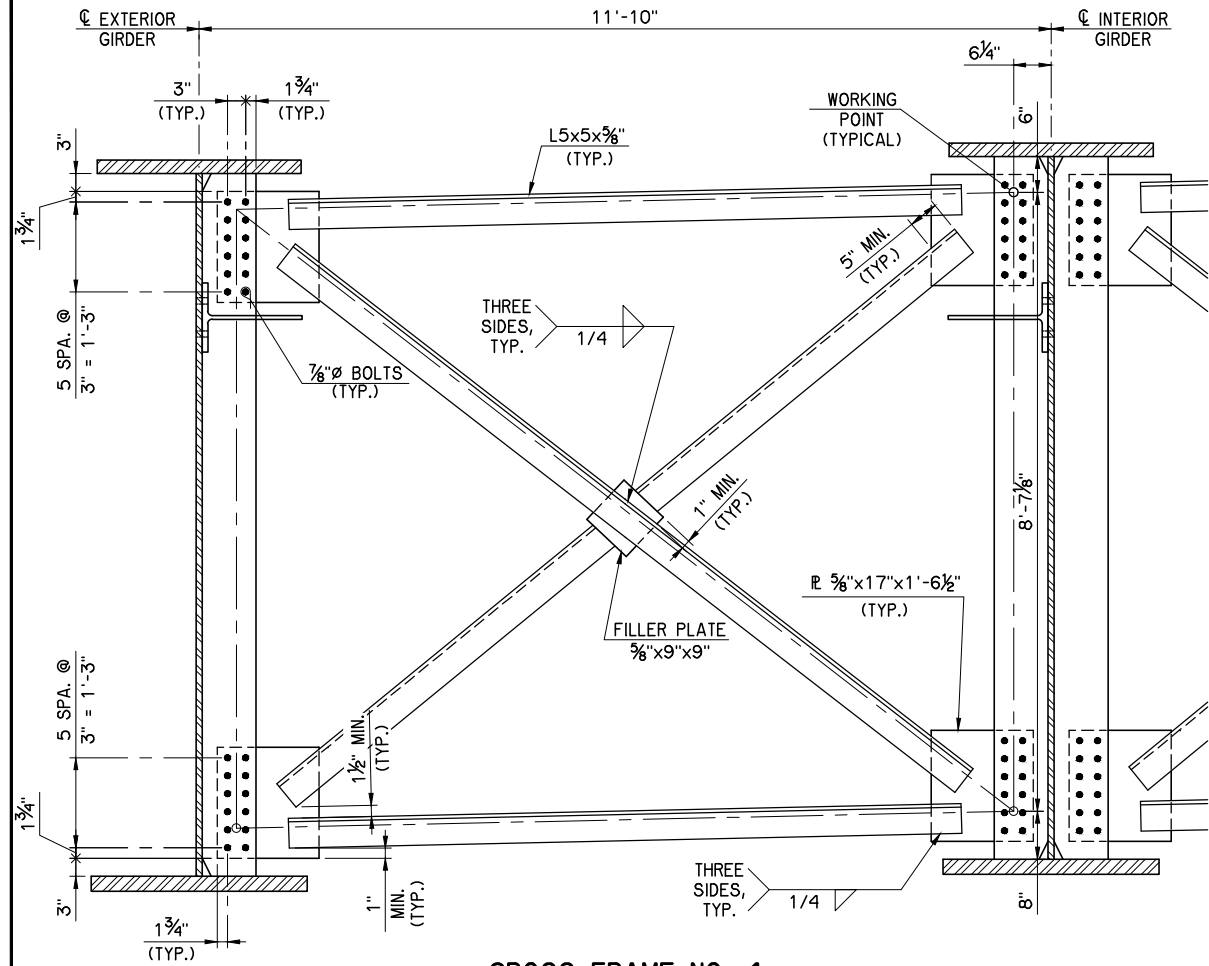


NOTE:
LATERAL BRACING GUSSETS
SHOWN FOR ILLUSTRATIVE
PURPOSE ONLY. SEE
LATERAL BRACING DETAILS
FOR ADDITIONAL INFORMATION

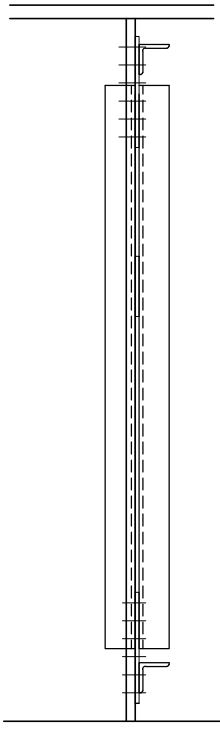
① TOP OF W-SHAPE
@ C WORKING POINT

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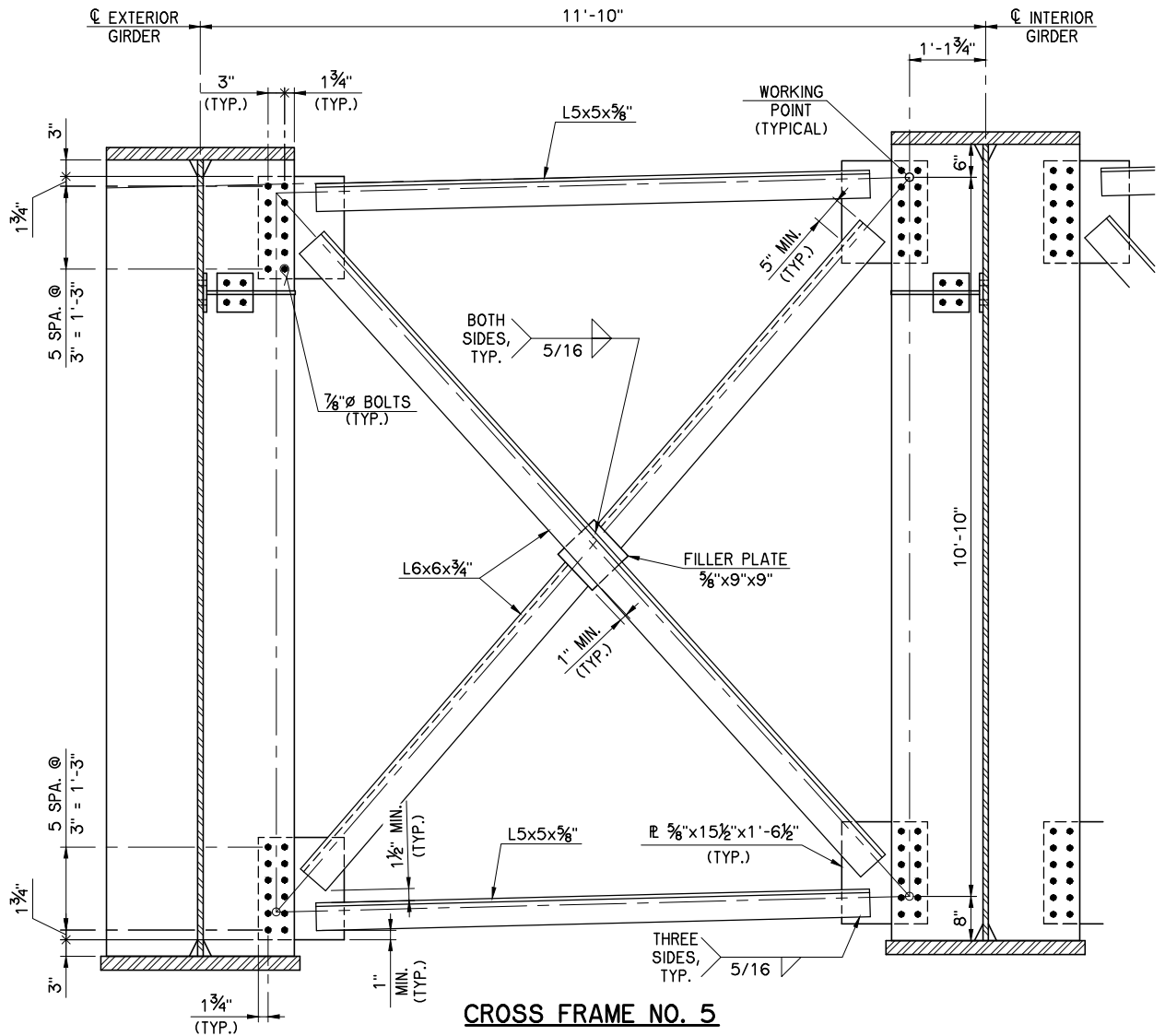
S.H.100/U.S.64 OVER MCCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
Design	RMF	Detail	DRB
Check	DLW	CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(O4)		SHEET NO. B042	



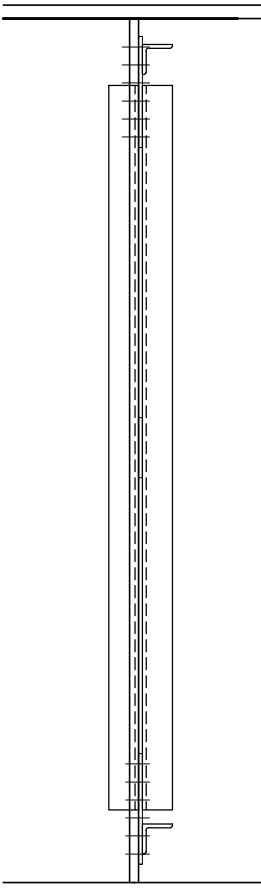
CROSS FRAME NO. 4



END SECTION



CROSS FRAME NO. 5

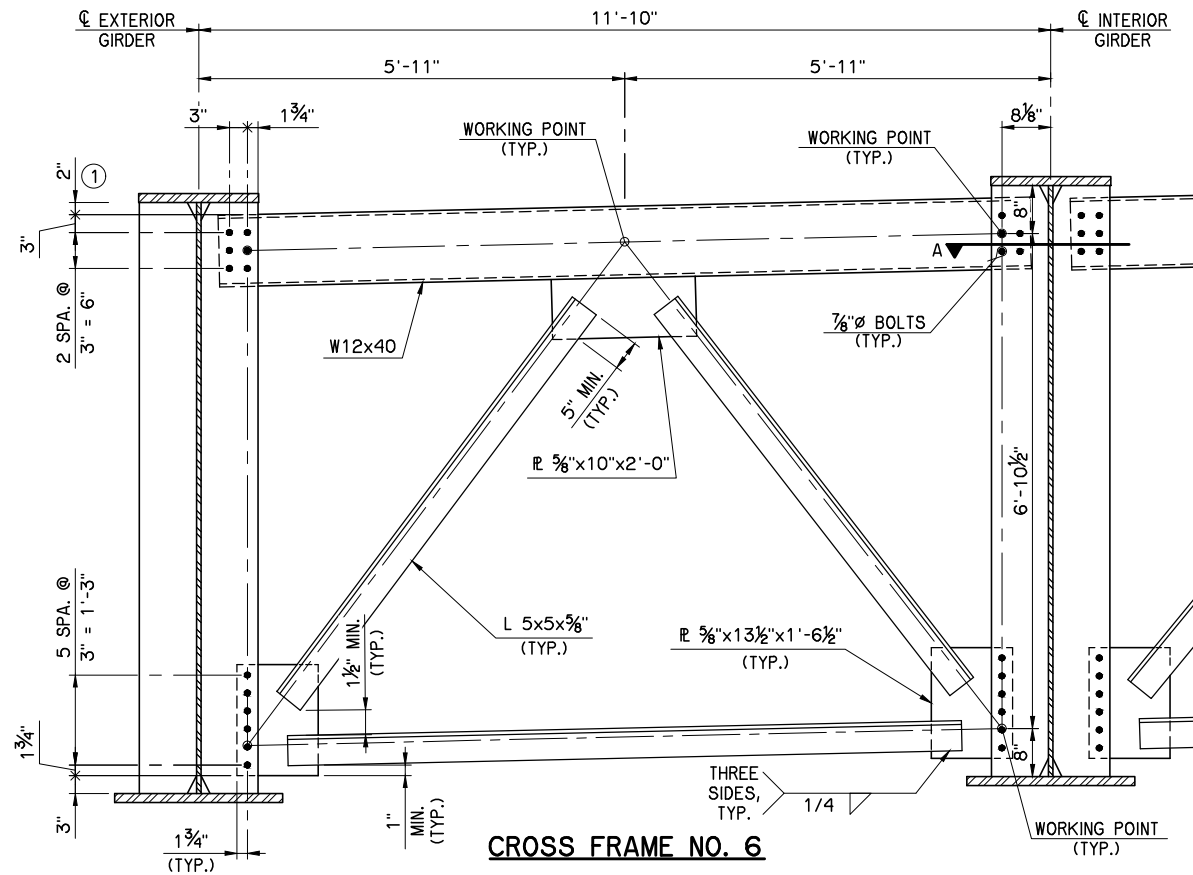


END SECTION

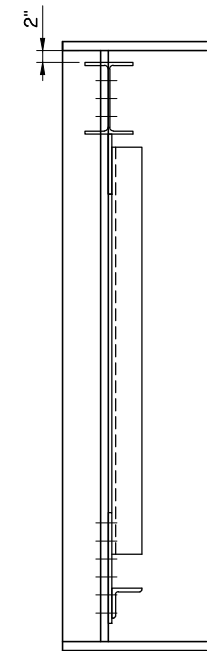
NOTE:
LATERAL BRACING GUSSETS
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FOR ADDITIONAL INFORMATION

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
SUPERSTRUCTURE DETAILS		Design	RMF
SHEET 18 OF 35 CROSS FRAME DETAILS		Detail	DRB
		Check	DLW
		CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(O4)		SHEET NO. B043	

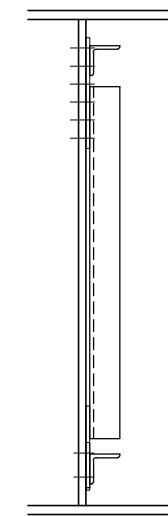
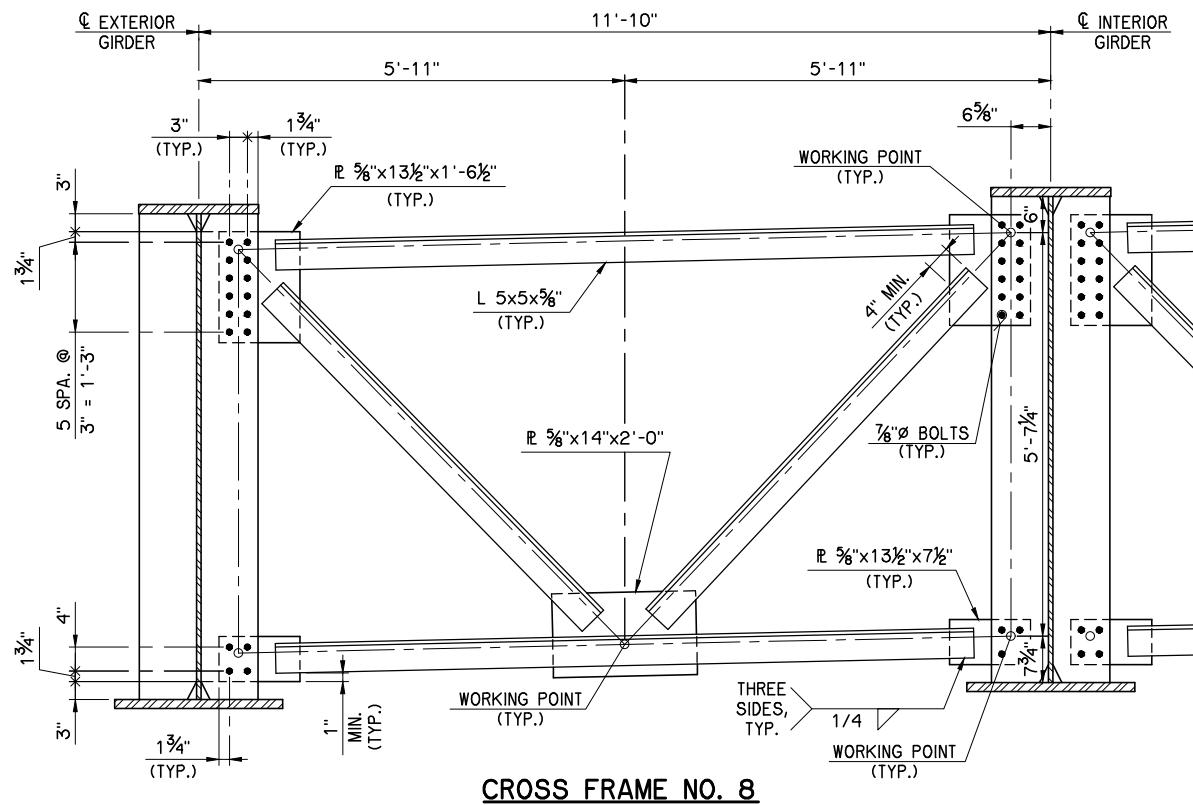


NOTE:
SEE SHEET
B042 FOR
SECTION A.

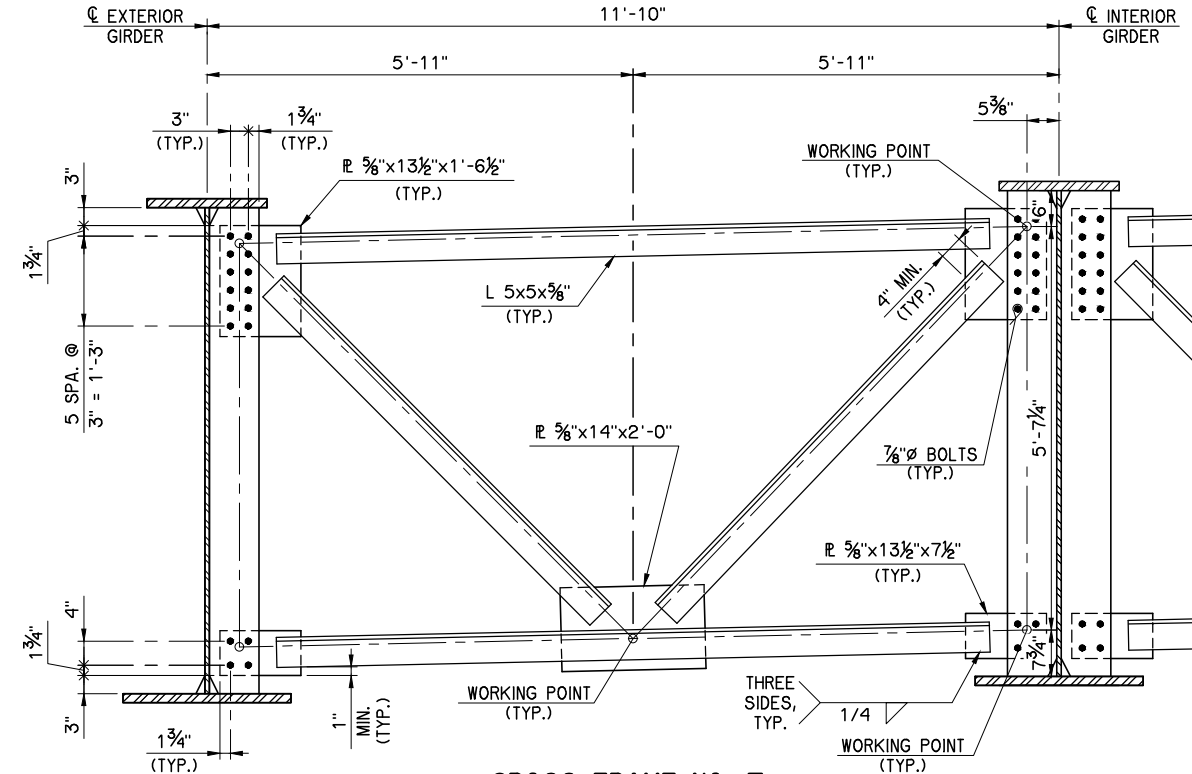


END SECTION

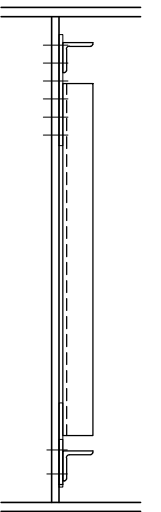
① TOP OF W-SHAPE
@ WORKING POINT



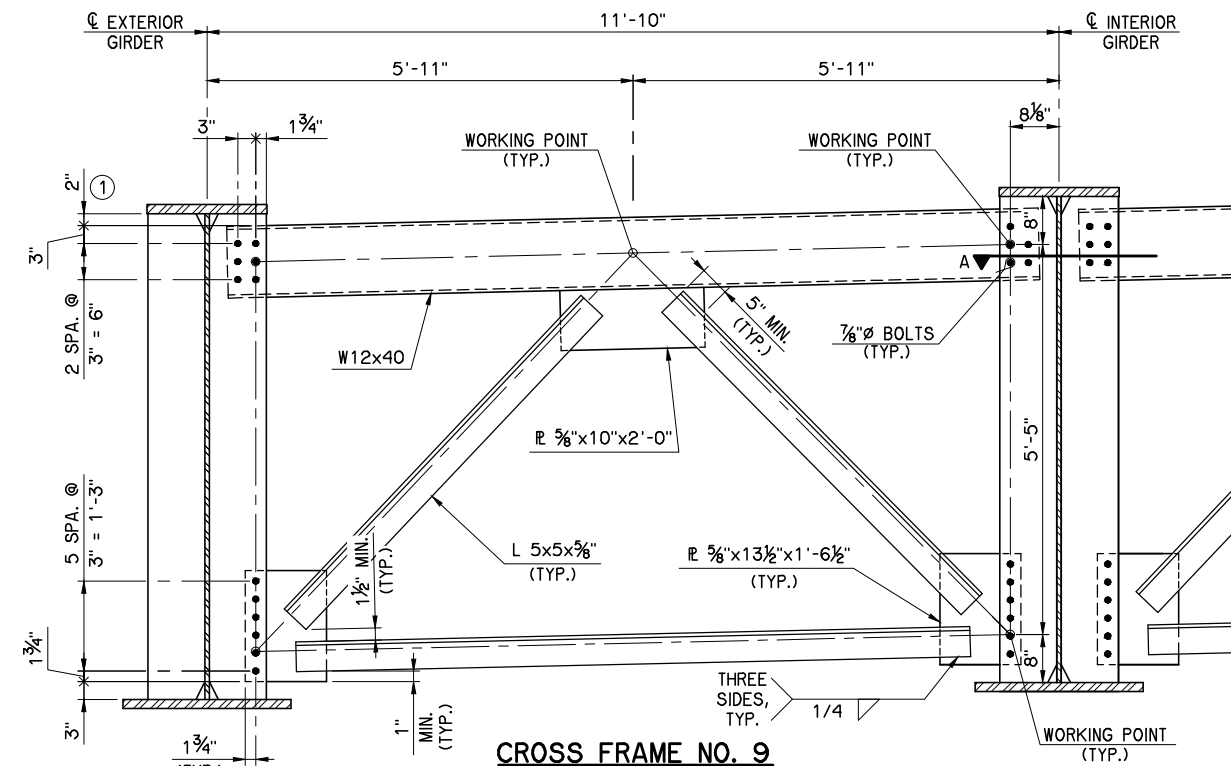
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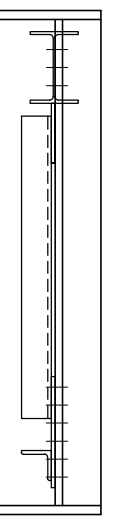
CROSS FRAME NO. 7



END SECTION




CROSS FRAME NO. 9



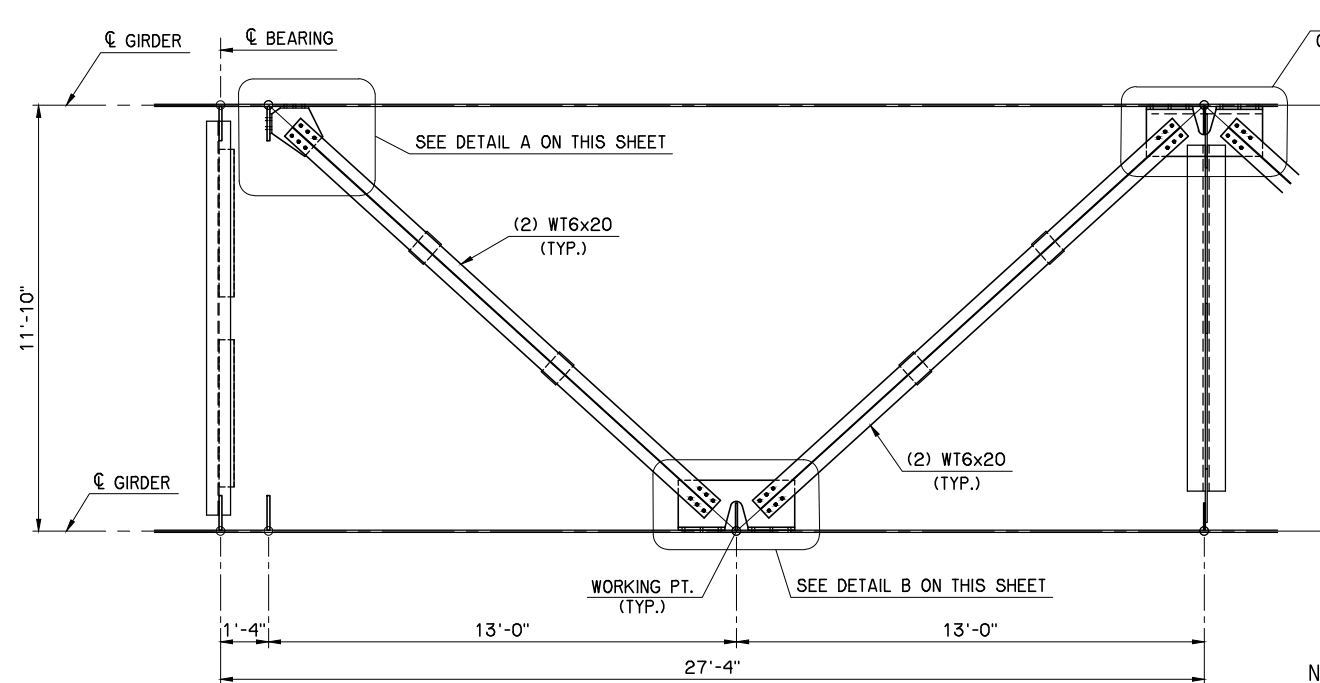
END SECTION

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	AFW	
SUPERSTRUCTURE DETAILS SHEET 19 OF 35 CROSS FRAMES DETAILS				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(O4)				SHEET NO. B044

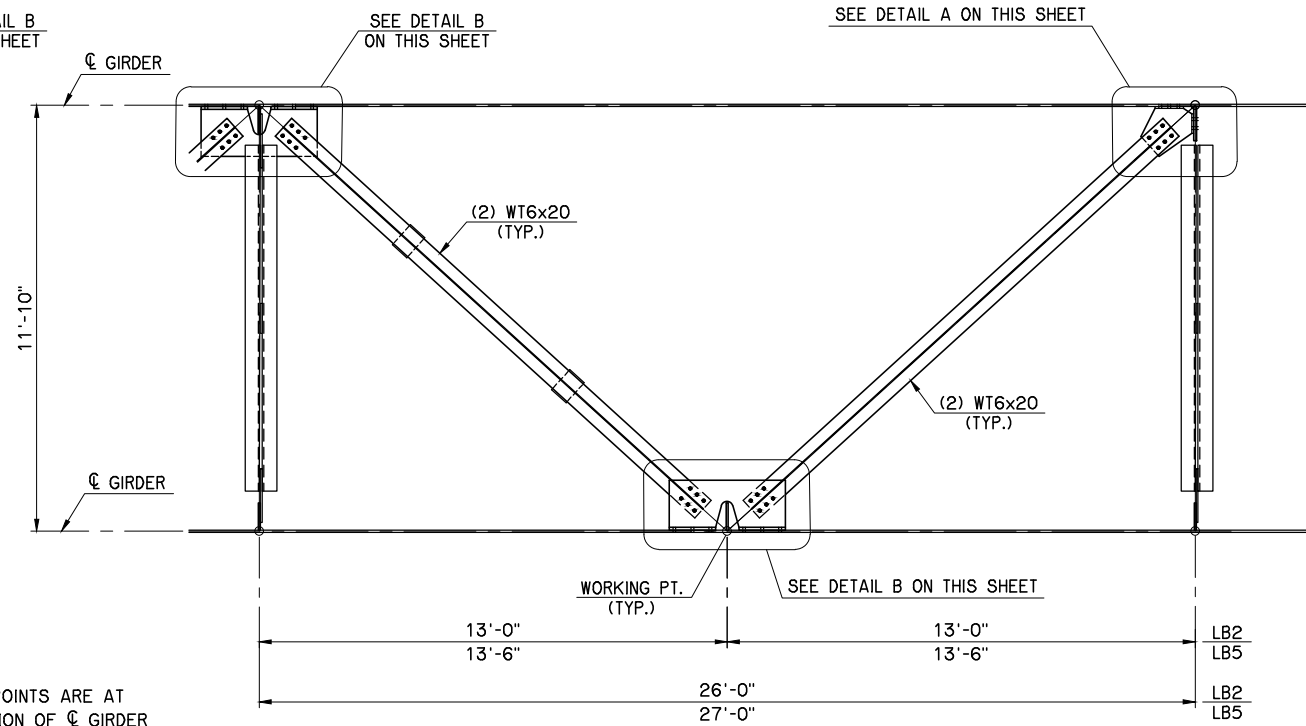
FINAL REVIEW
PLANS

DECEMBER 2022



LATERAL BRACE NO. 1 PLAN

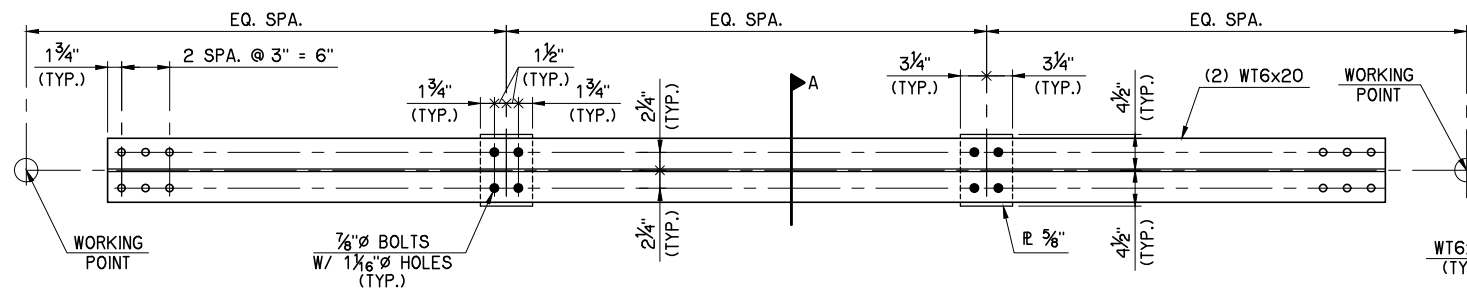
NOTE:
WORKING POINTS ARE AT
INTERSECTION OF G GIRDER
WEB AND G BRACE.



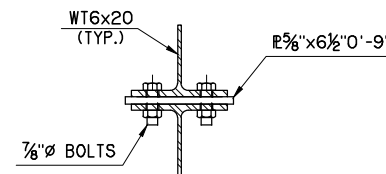
LATERAL BRACE NO. 2 AND NO. 5 PLAN

NOTES:
GIRDER FLANGES NOT SHOWN FOR
CLARITY.

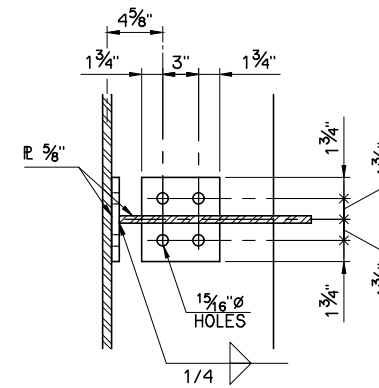
GIRDER LINE SHOWN MAY VARY FOR
SPAN NO. 1 BASED ON SELECTED
LATERAL BRACING LAYOUT.



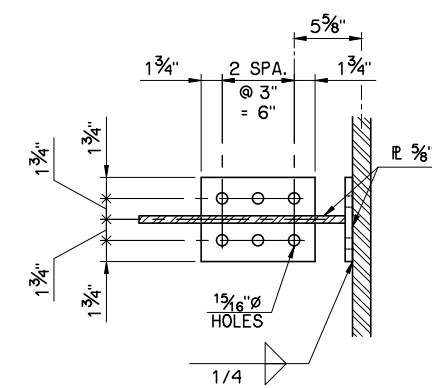
BRACE PLAN



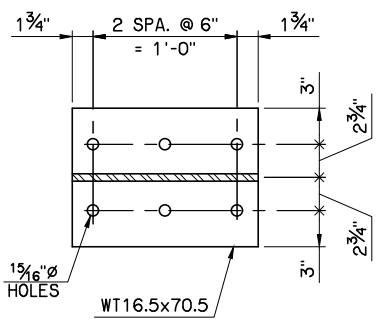
SECTION A



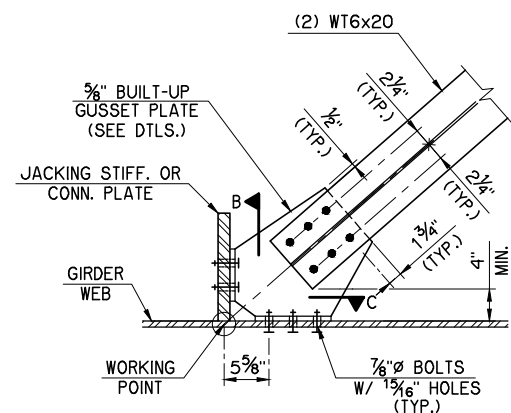
SECTION B



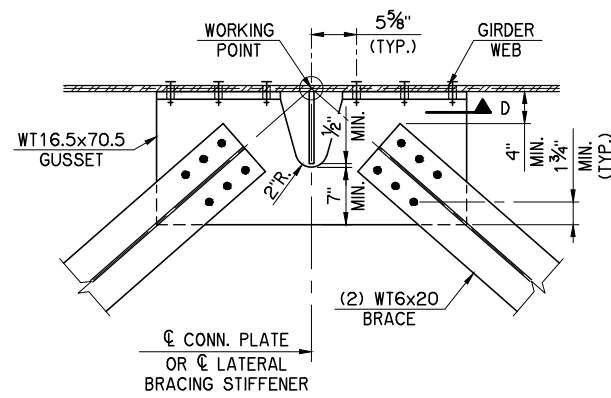
SECTION C



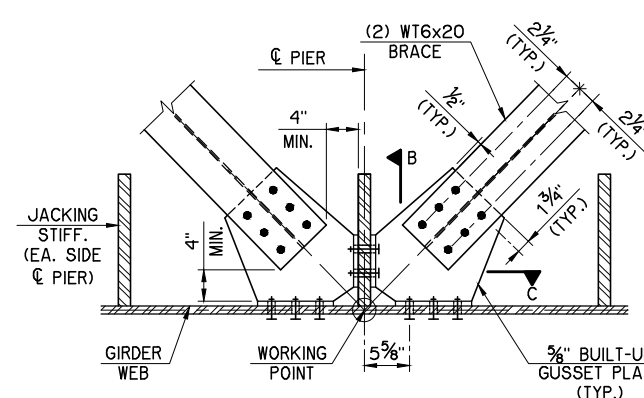
SECTION D



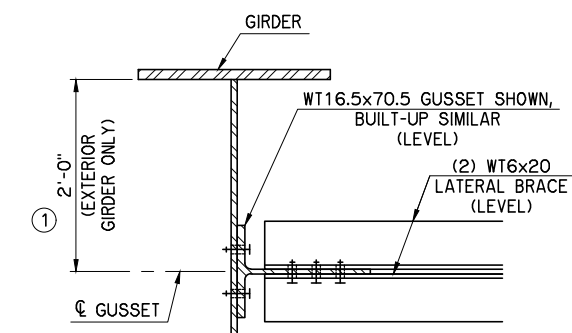
DETAIL A
(AT ABUT. NO. 1, PIER NO. 1,
PIER NO. 4 & TERMINATION)



DETAIL B
(TYPICAL)



DETAIL C
(PIER NO. 2 AND NO. 3)



SECTION AT LATERAL BRACING

① DIMENSION MAY VARY
BASED ON SELECTED
LATERAL BRACING
LAYOUT FOR SPAN NO. 1

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S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

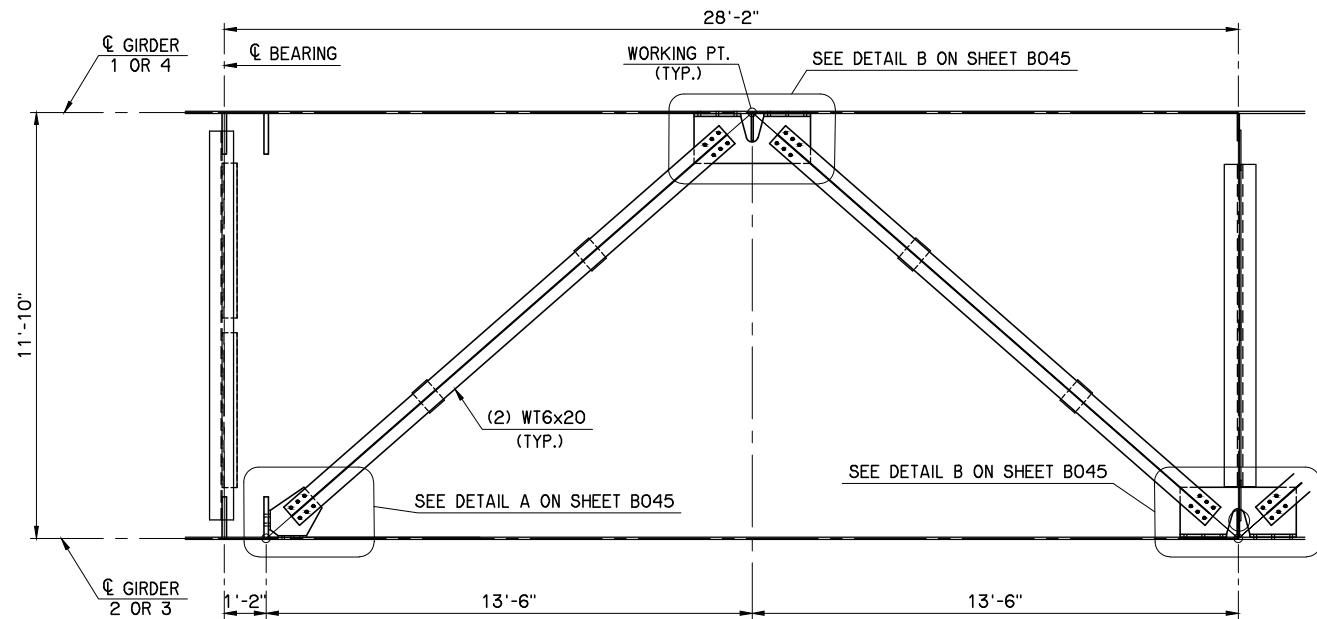
SUPERSTRUCTURE DETAILS

SHEET 20 OF 35
LATERAL BRACING DETAILS

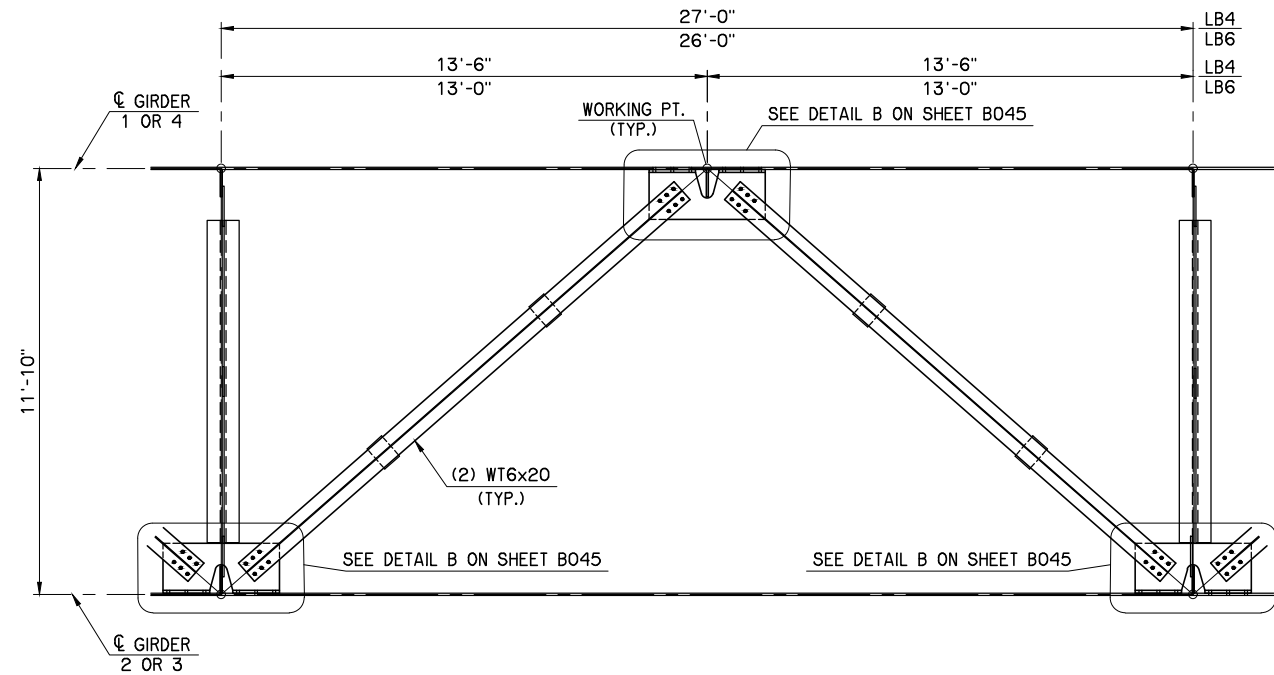
STATE OF
OKLAHOMA

DEPARTMENT OF TRANSPORTATION
JOB PIECE NO. 32100(04)

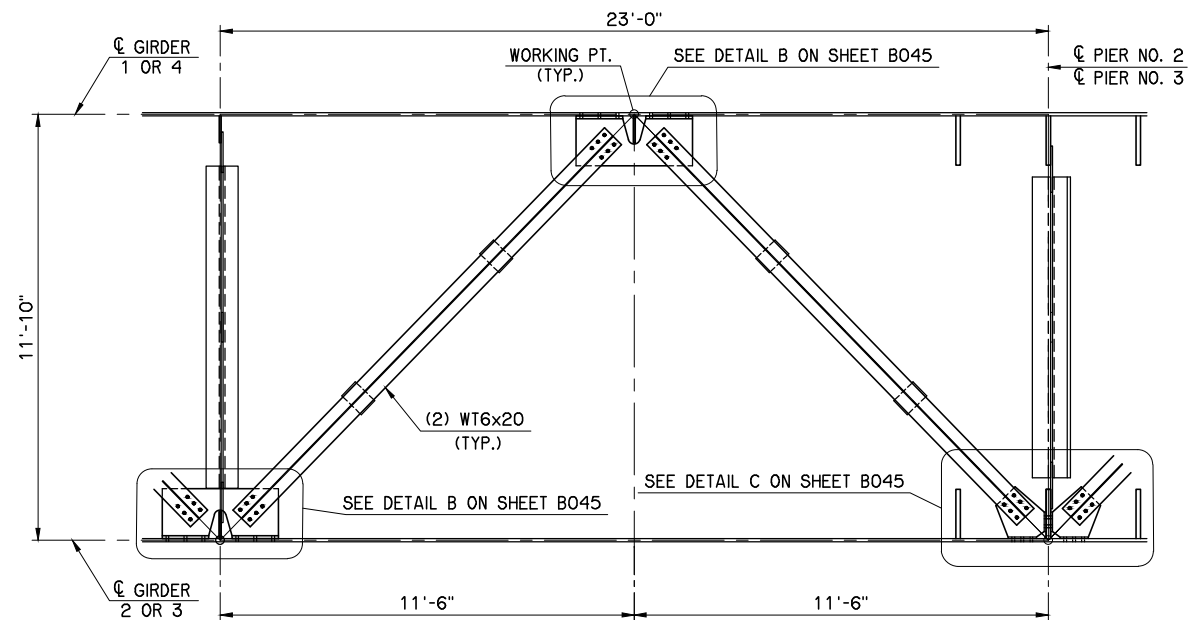
SHEET NO. B045



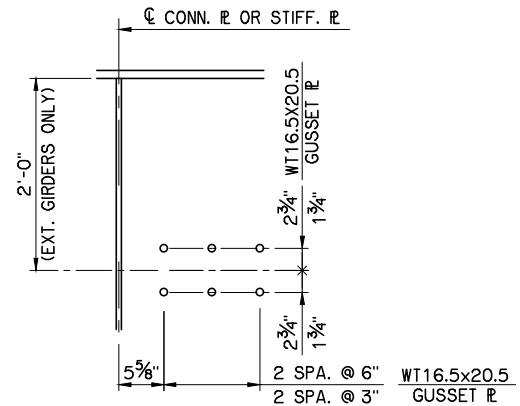
LATERAL BRACE NO. 3 PLAN



LATERAL BRACE NO. 4 & NO. 6 PLAN



LATERAL BRACE NO. 7 PLAN



WEB BOLT DETAIL
FOR LATERAL BRACING

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S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

SUPERSTRUCTURE DETAILS

SHEET 21 OF 35
LATERAL BRACING DETAILS

Design	DLW
Detail	DRB
Check	DLW



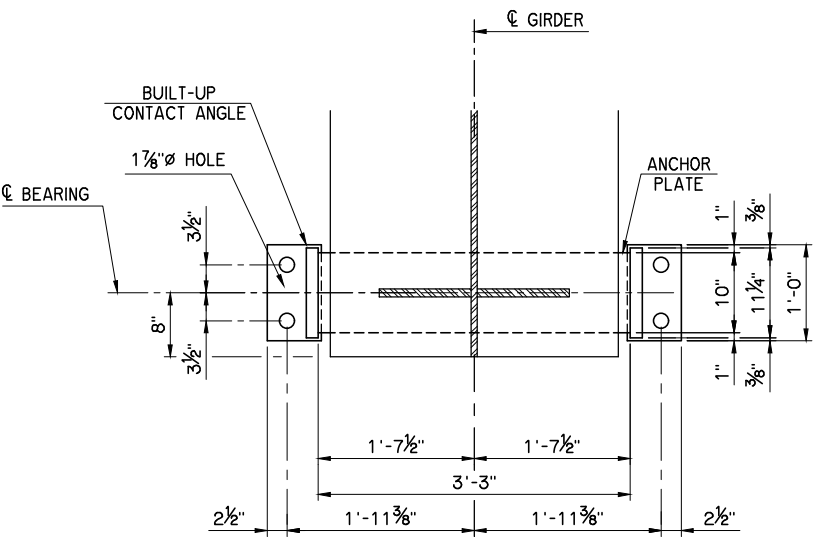
STATE OF
OKLAHOMA

DEPARTMENT OF TRANSPORTATION

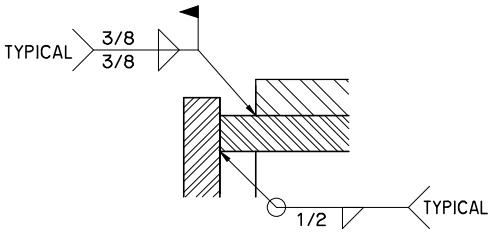
JOB PIECE NO. 32100(04)

SHEET NO. B046

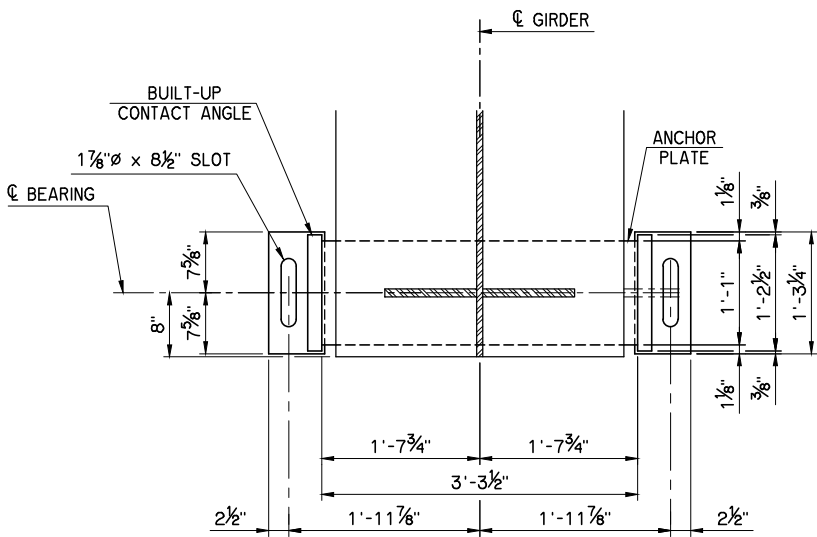
L:\Active\201013\Drawings\Production Plans\B047 SS22 Bearings1.dwg, 12/1/2022 2:51:06 PM, DWG To PDF.pc3



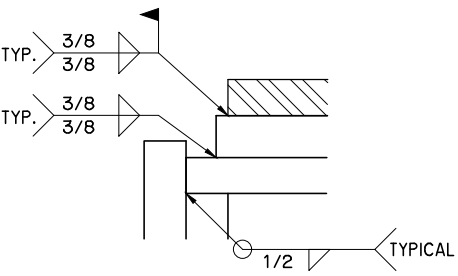
FIXED BEARING PLAN
ABUTMENT NO. 1



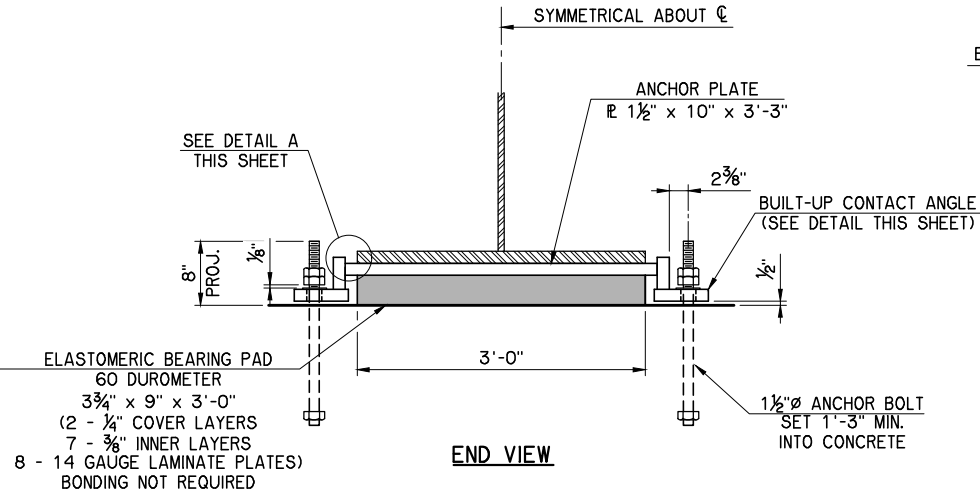
DETAIL A



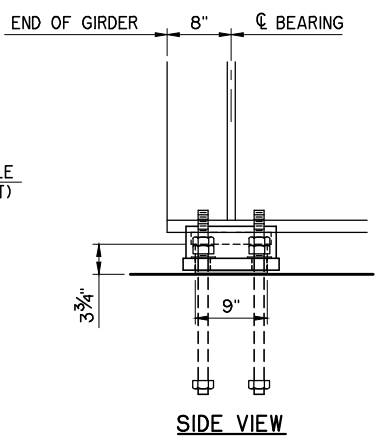
EXPANSION BEARING PLAN
PIER NO. 1



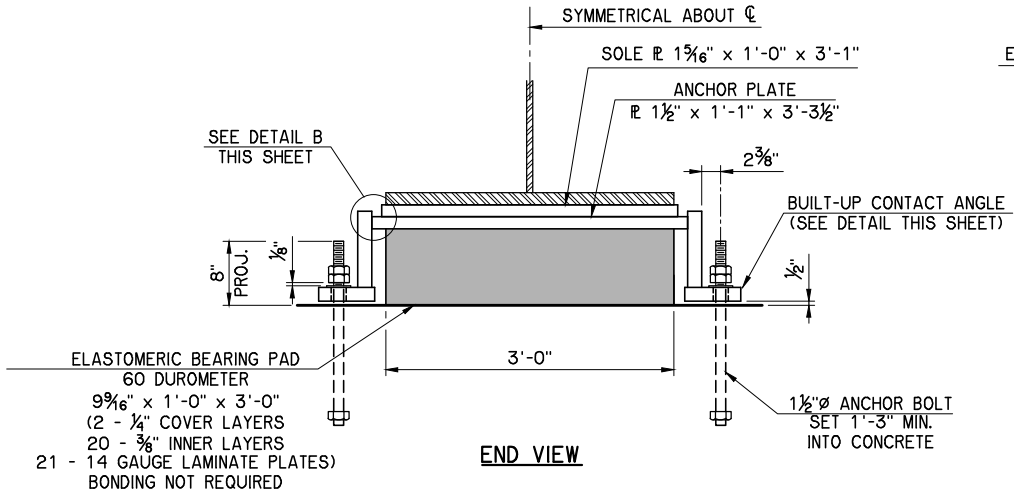
DETAIL B



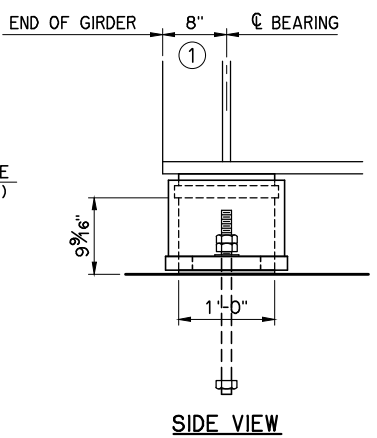
END VIEW



SIDE VIEW

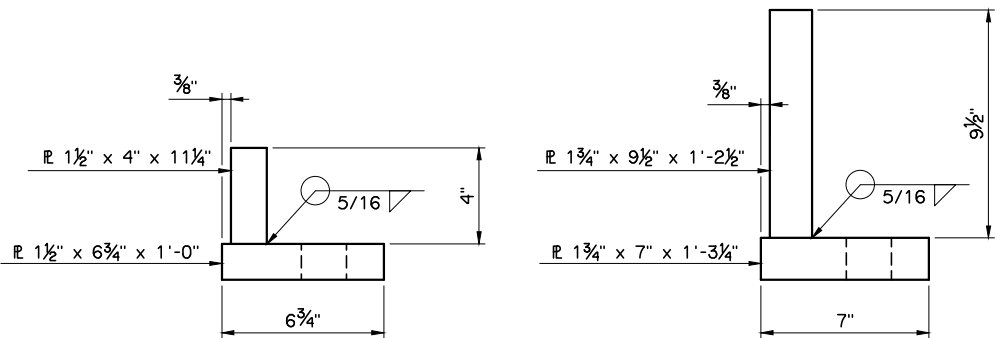


END VIEW



SIDE VIEW

BEARING DETAILS
SPAN NO. 1

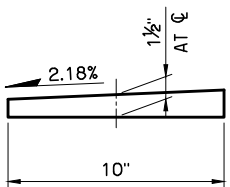


ABUT. NO. 1

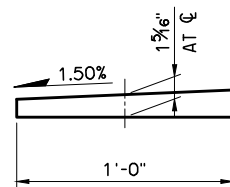
PIER NO. 1

BUILT-UP CONTACT ANGLE DETAIL

NOTE:
PAINT THICKEST EDGE RED.
PLACE PAINTED EDGE
TOWARD SPAN NO. 3.

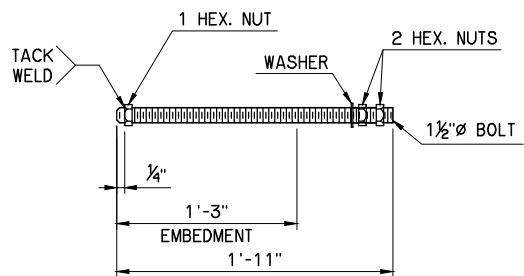


BEVELED ANCHOR PLATE DETAIL
(ABUTMENT NO. 1 ONLY)




BEVELED SOLE PLATE DETAIL
(PIER NO. 1 ONLY)

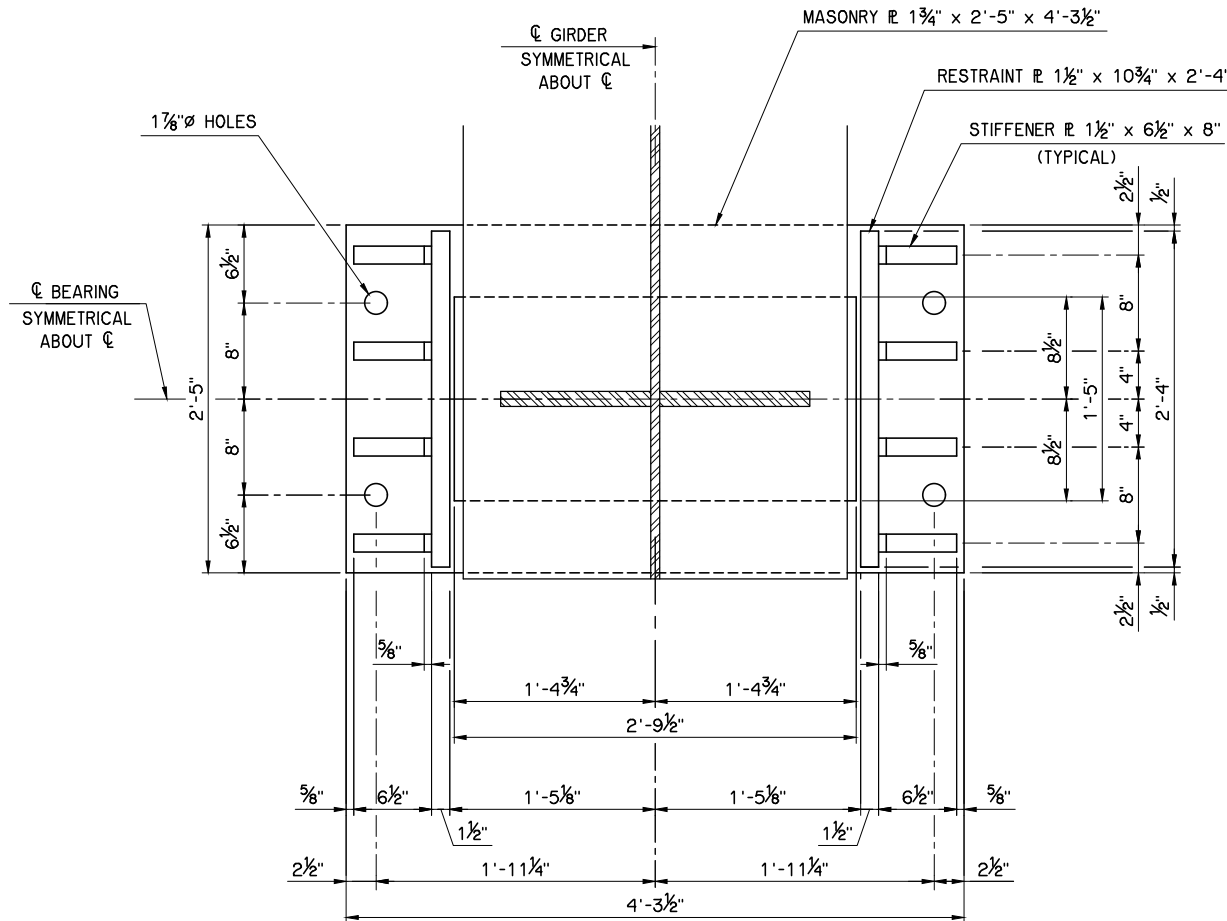
NOTES:
① CENTER ANCHOR BOLTS IN SLOTS
DURING SETTING OF BEAMS.
DIMENSIONS MAY VARY DEPENDING
ON TEMPERATURE AT THE TIME OF
BEAM SETTING.



ANCHOR BOLT DETAIL

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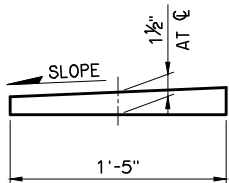
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 22 OF 35 BEARING DETAILS - SPAN NO. 1				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(O4)		SHEET NO. B047				



EXPANSION BEARING PLAN
PIER NO. 1 & NO. 4

BEVELED ANCHOR PLATE SCHEDULE	
LOCATION	BEVEL SLOPE
PIER NO. 1 - SPAN NO. 2	1.50%
PIER NO. 4 - SPAN NO. 4	1.50%

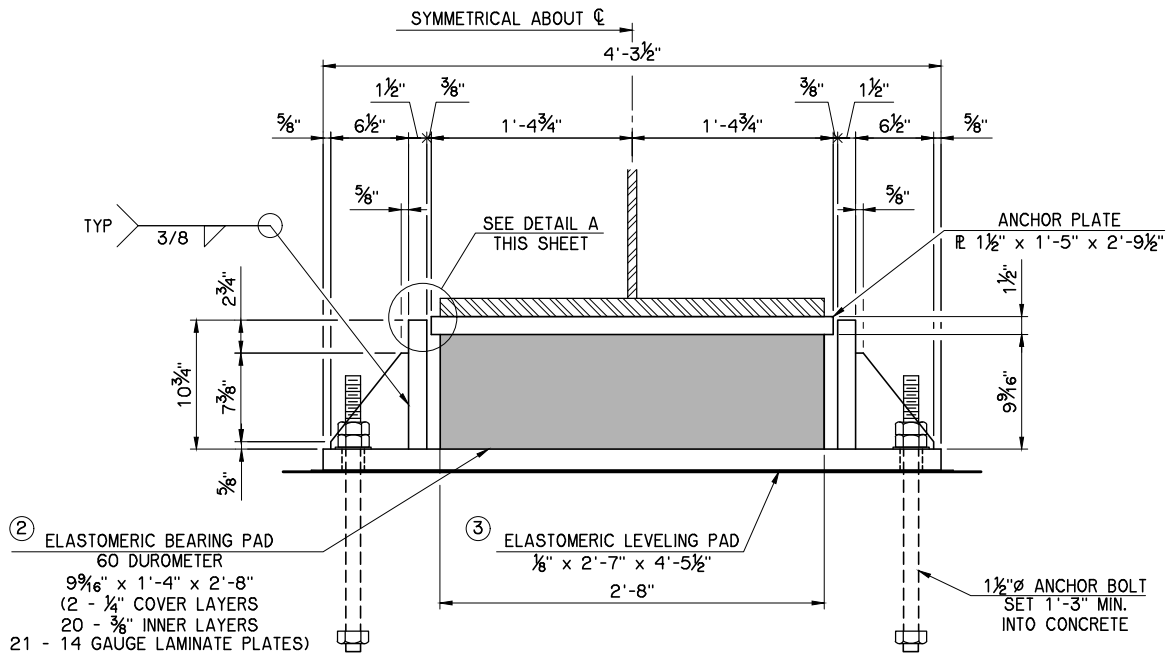
NOTE:
PAINT THICKEST EDGE RED.
PLACE PAINTED EDGE
TOWARD SPAN NO. 3.



BEVELED ANCHOR PLATE DETAIL
PIER NO. 1 SHOWN, PIER NO. 4 OPP. HAND

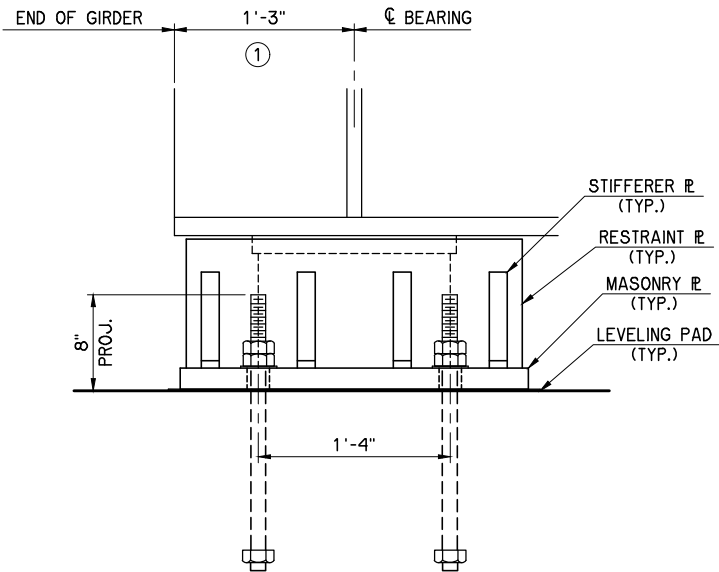
- NOTES:
- DIMENSION MAY VARY DEPENDING ON TEMPERATURE AT TIME OF GIRDER ERECTION.
 - BOND ELASTOMER TO THE ANCHOR PLATE AND THE MASONRY PLATE IN ACCORDANCE WITH SUBSECTION 733.06B OF THE SPECIFICATIONS.
 - PROVIDE A MINIMUM OF A 50 DUROMETER ELASTOMER MATERIAL IN ACCORDANCE TO SUBSECTION 733.06B OF THE SPECIFICATIONS. POSITION PAD TO PROJECT 1" FROM EACH EDGE OF THE MASONRY PLATE.

SEE SHEET B047 FOR ANCHOR BOLT DETAIL.

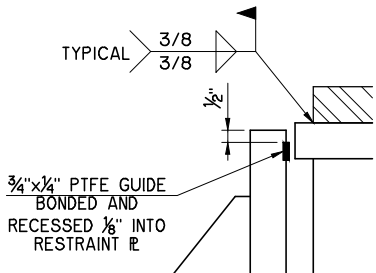


END VIEW

BEARING DETAILS
SPAN NO. 2 THRU NO. 4



SIDE VIEW



DETAIL A

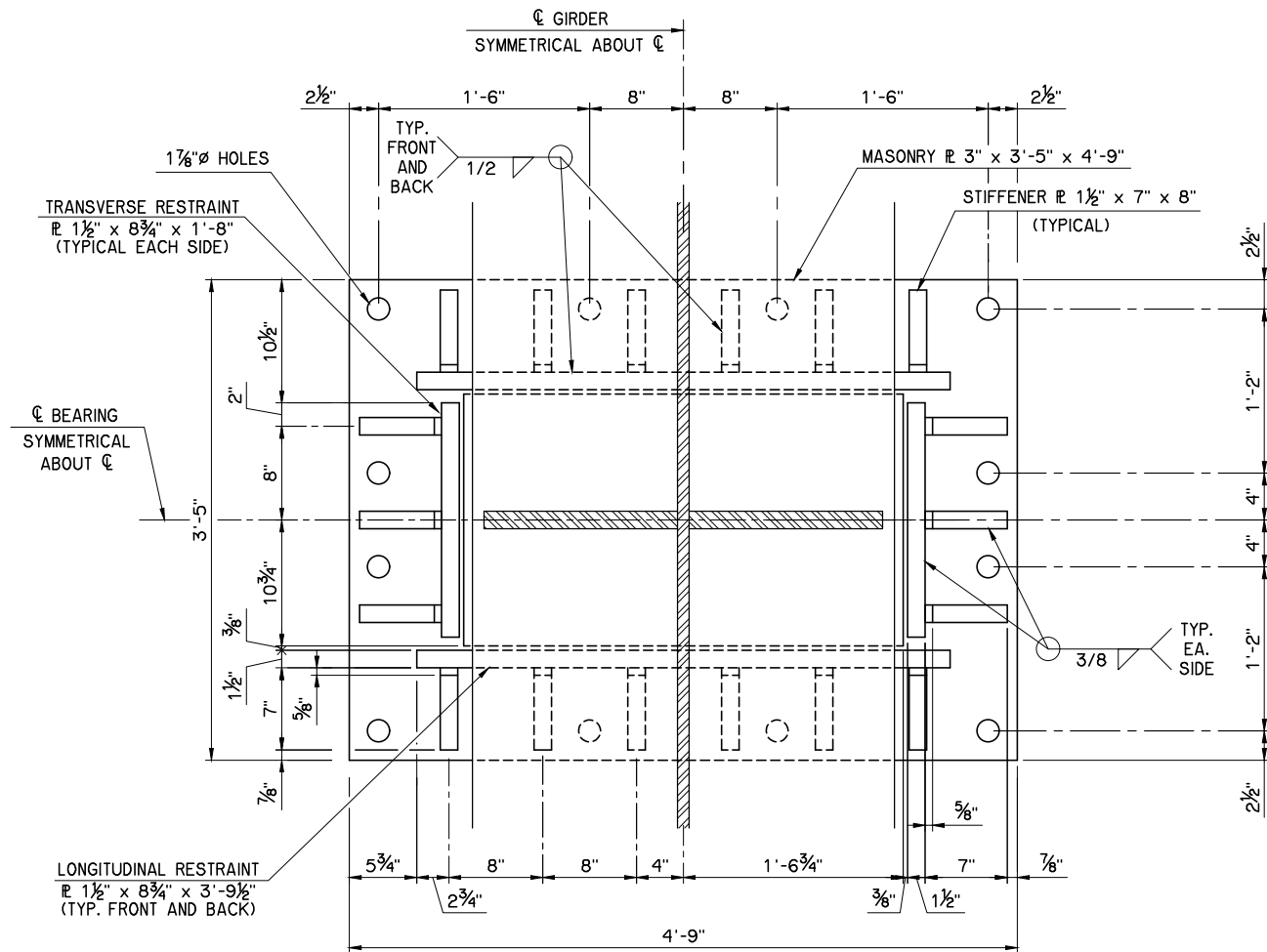
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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.	
Design	DLW	Detail	DRB
Check	DLW		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(04)		SHEET NO. B048	

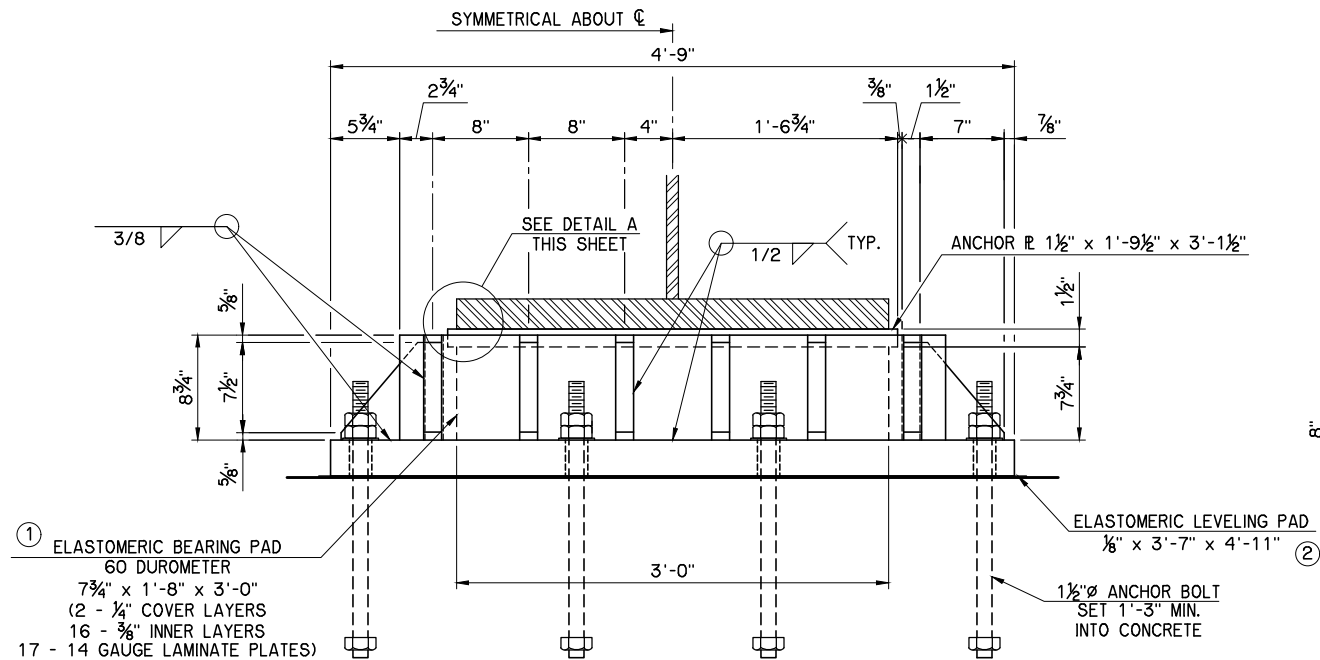
SUPERSTRUCTURE DETAILS

SHEET 23 OF 35
BEARING DETAILS - SPAN NO. 2 THRU NO. 4



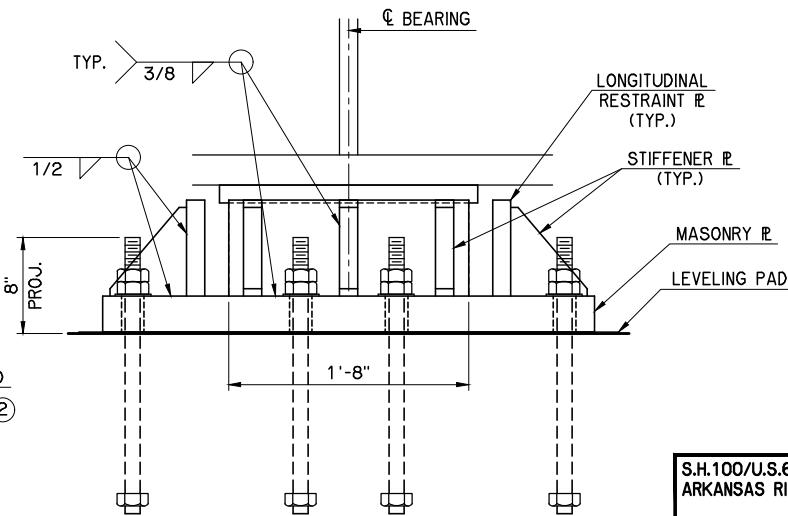


FIXED BEARING PLAN
PIER NO. 2 & NO. 3



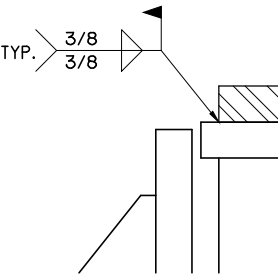
END VIEW

BEARING DETAILS
SPAN NO. 2 THRU NO. 4



SIDE VIEW

- NOTES:
- ① BOND ELASTOMER TO THE ANCHOR PLATE AND THE MASONRY PLATE IN ACCORDANCE WITH SUBSECTION 733.06B OF THE SPECIFICATIONS.
 - ② PROVIDE A MINIMUM OF A 50 DUROMETER ELASTOMER MATERIAL IN ACCORDANCE TO SUBSECTION 733.06B OF THE SPECIFICATIONS. POSITION PAD TO PROJECT 1" FROM EACH EDGE OF THE MASONRY PLATE.
- SEE SHEET B047 FOR ANCHOR BOLT DETAIL.



DETAIL A

- ① ELASTOMERIC BEARING PAD
60 DUROMETER
7 3/4" x 1'-8" x 3'-0"
(2 - 1/4" COVER LAYERS
16 - 3/8" INNER LAYERS
17 - 14 GAUGE LAMINATE PLATES)

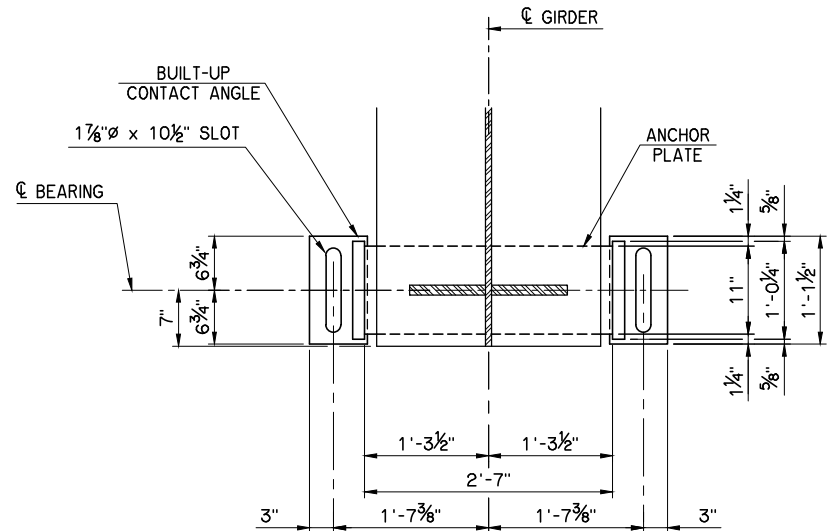
- ②

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
				Detail	DRB
				Check	DLW
SUPERSTRUCTURE DETAILS		SHEET 24 OF 35		CEC	
BEARING DETAILS - SPAN NO. 2 THRU NO. 4					
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 32100(04)				SHEET NO. B049	

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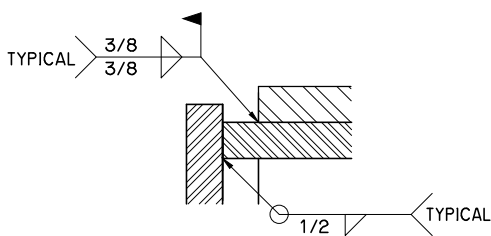
- NOTES:
- 1 CENTER ANCHOR BOLTS IN SLOTS DURING SETTING OF BEAMS. DIMENSIONS MAY VARY DEPENDING ON TEMPERATURE AT THE TIME OF BEAM SETTING.
 - 2 BOND ELASTOMER TO THE ANCHOR PLATE AND THE MASONRY PLATE IN ACCORDANCE WITH SUBSECTION 733.06B OF THE SPECIFICATIONS.

SEE SHEET B047 FOR ANCHOR BOLT DETAIL.

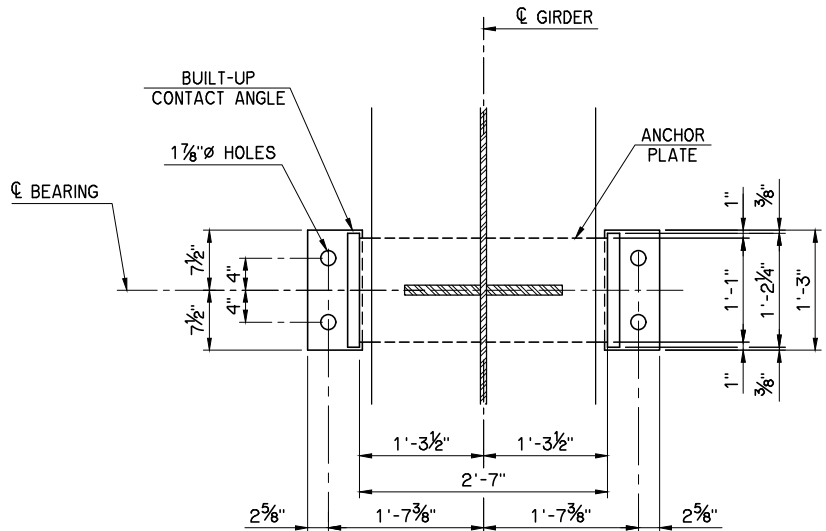


EXPANSION BEARING PLAN

PIER NO. 4
ABUTMENT NO. 2

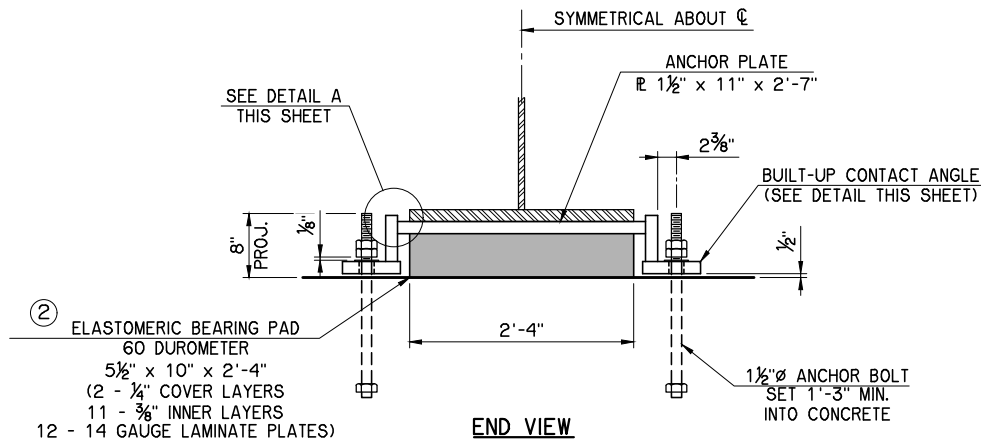


DETAIL A

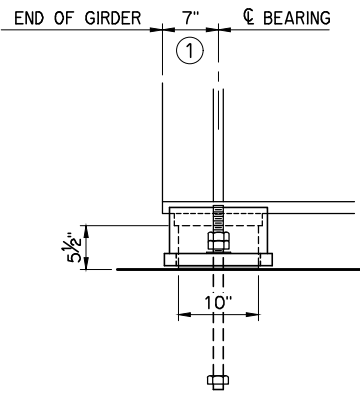


FIXED BEARING PLAN

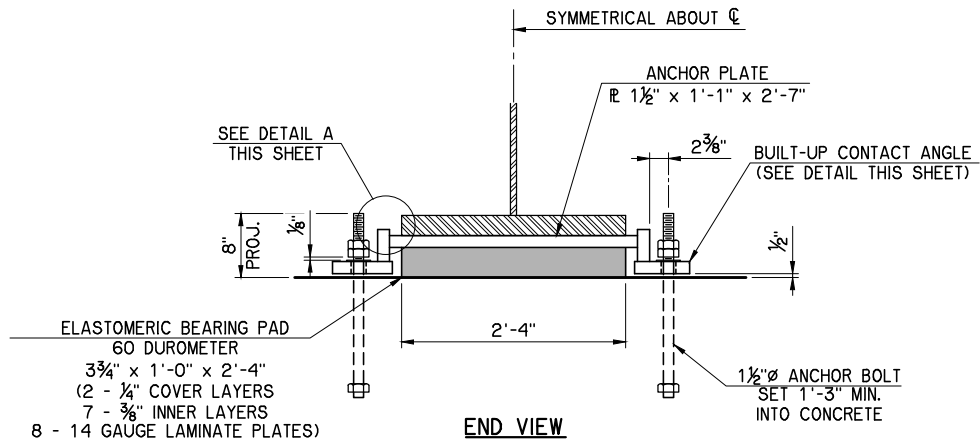
PIER NO. 5 & NO. 6



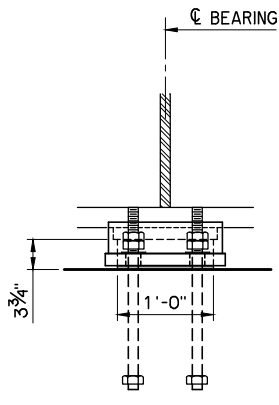
END VIEW



SIDE VIEW



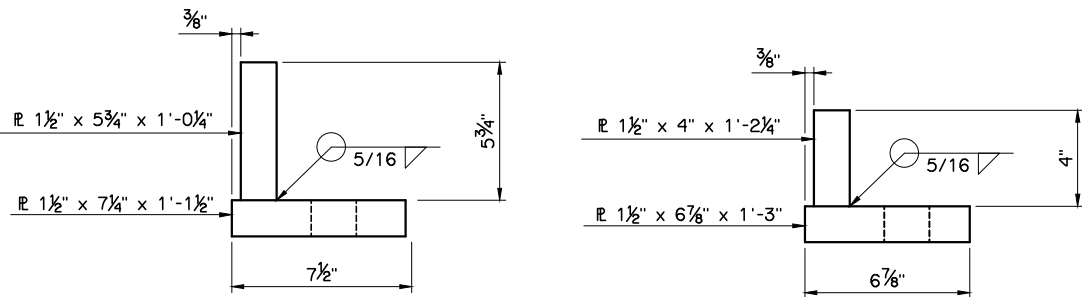
END VIEW



SIDE VIEW

BEARING DETAILS

SPAN NO. 5 & NO. 6

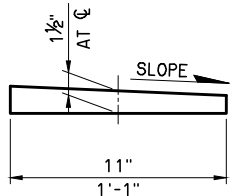


PIER NO. 4
ABUTMENT NO. 2

PIER NO. 5
PIER NO. 6

BUILT-UP CONTACT ANGLE DETAIL

NOTE:
PAINT THICKEST EDGE RED.
PLACE PAINTED EDGE
TOWARD SPAN NO. 3.



BEVELED ANCHOR PLATE DETAIL

BEVELED ANCHOR R SCHEDULE	
LOCATION	BEVEL SLOPE
PIER NO. 4 - SPAN NO.5	1.50%
PIER NO. 5	2.09%
PIER NO. 6	2.69%
ABUTMENT NO. 2	3.00%

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S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

SUPERSTRUCTURE DETAILS

SHEET 25 OF 35
BEARING DETAILS - SPAN NO. 5 THRU NO. 7

STATE OF
OKLAHOMA

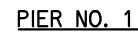
DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32100(04)

SHEET NO. B050

Design DLW
Detail DRB
Check DLW

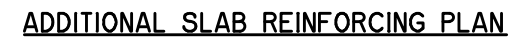
CEC



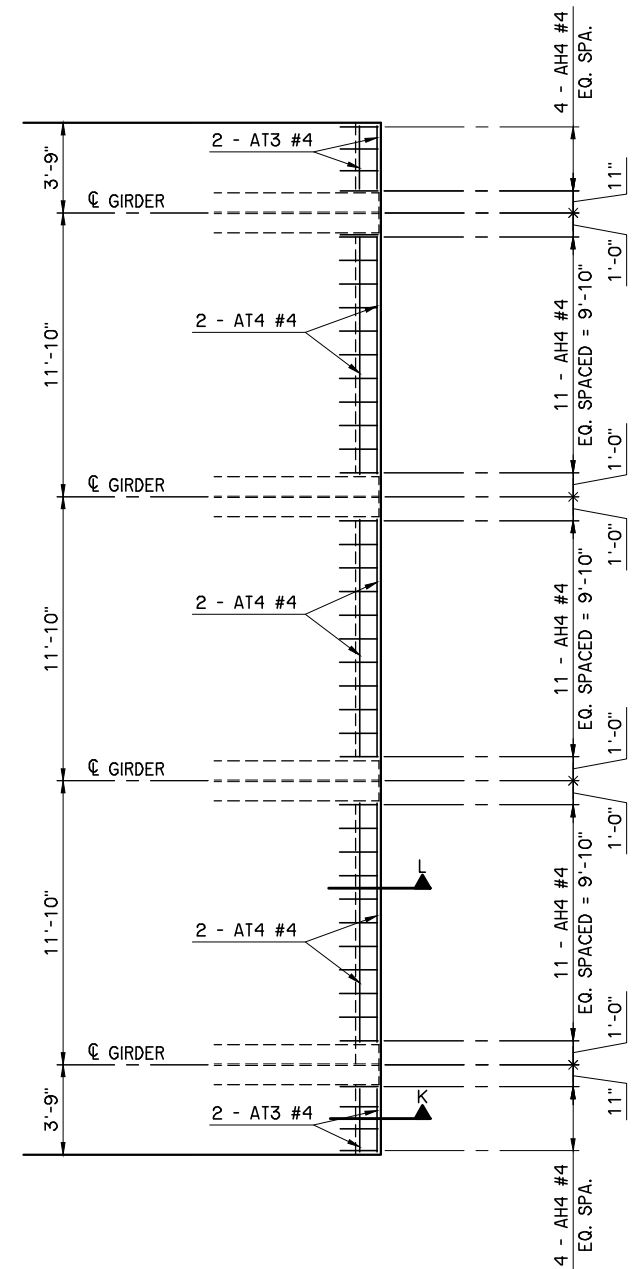
NOTE:
SEE SHEET B053 FOR
SECTIONS A THRU F


SHEET NO. B051

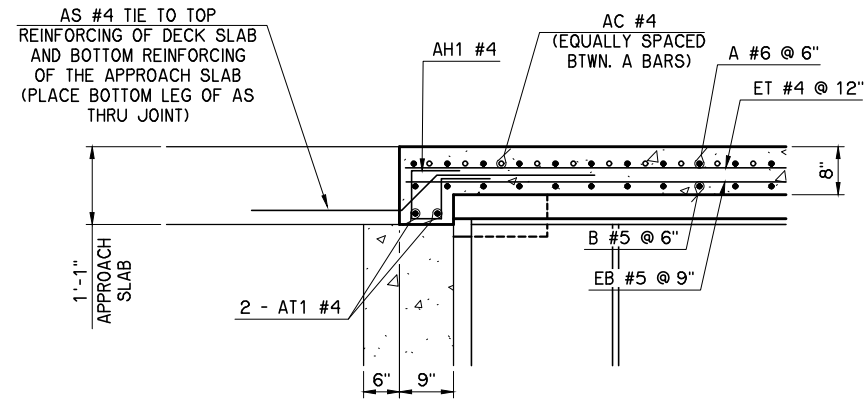




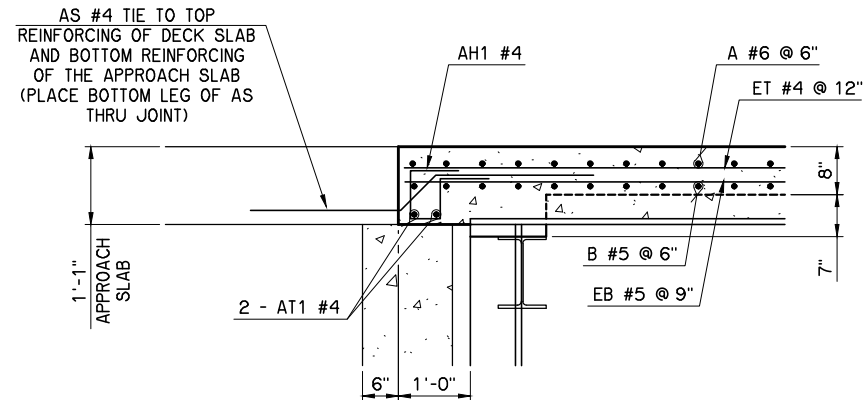
ABUTMENT NO. 2



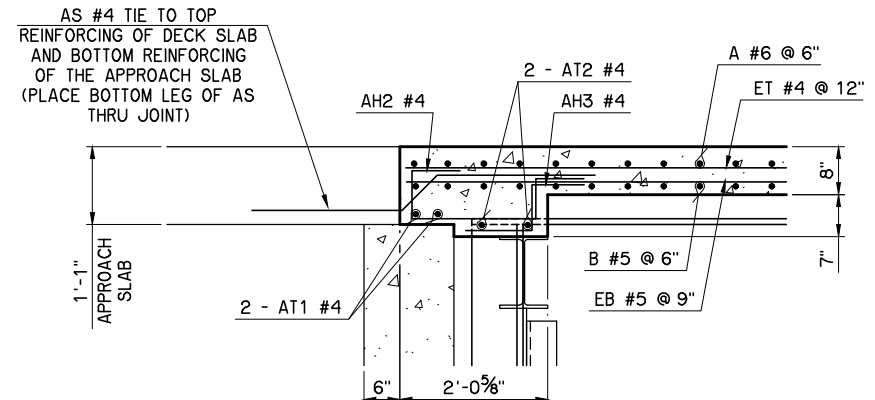
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 27 OF 35 SLAB REINFORCING DETAILS				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(04)				SHEET NO. 8052



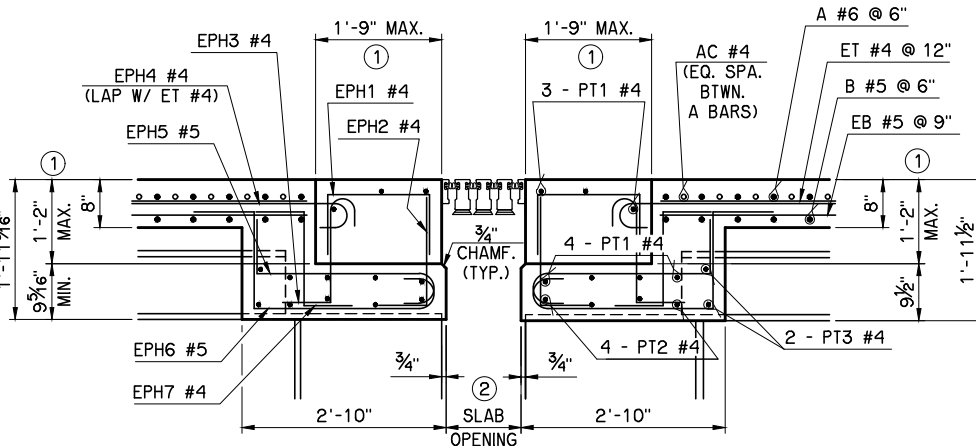
SECTION A



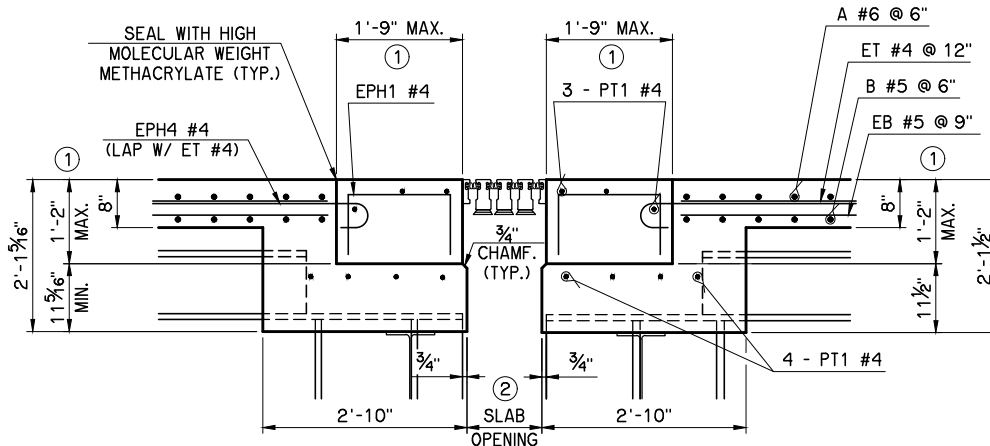
SECTION B



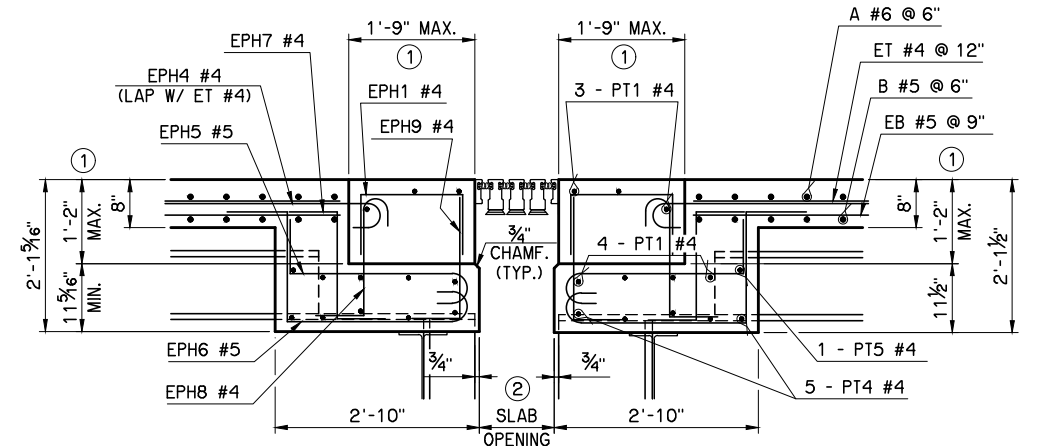
SECTION C



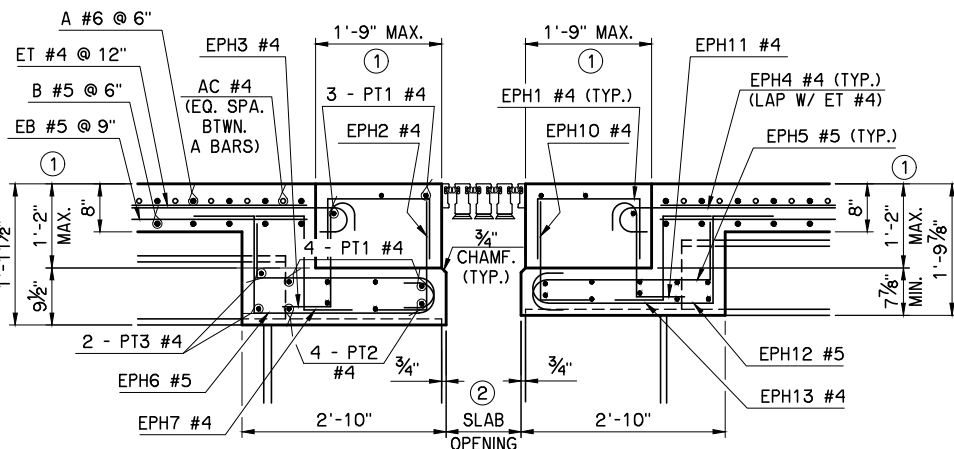
SECTION D



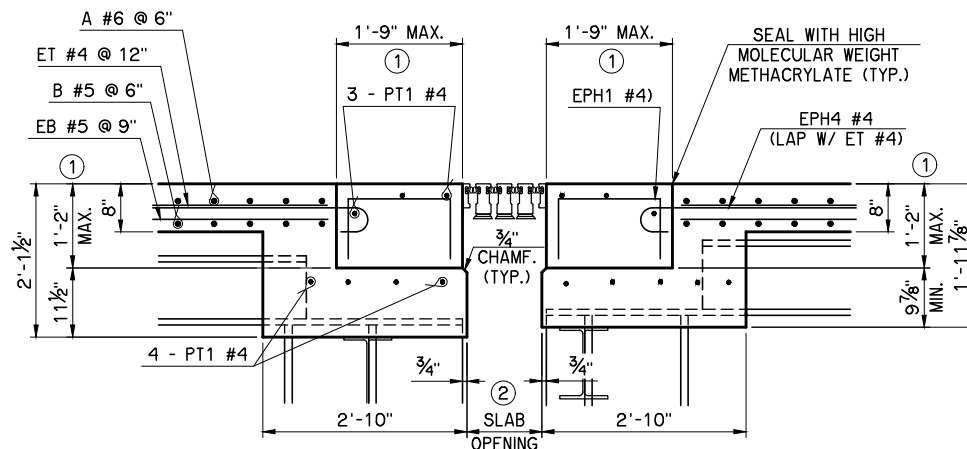
SECTION E



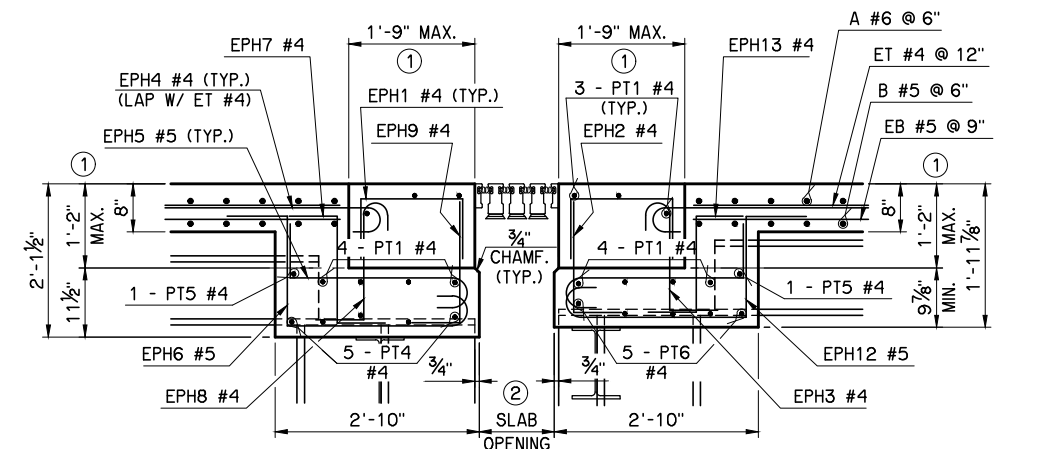
SECTION F



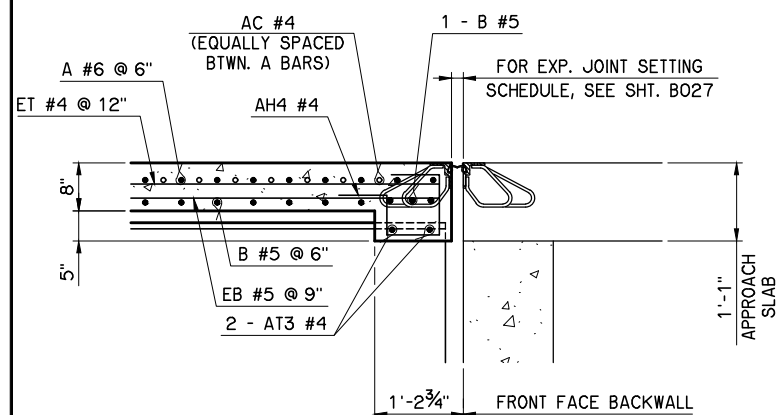
SECTION G



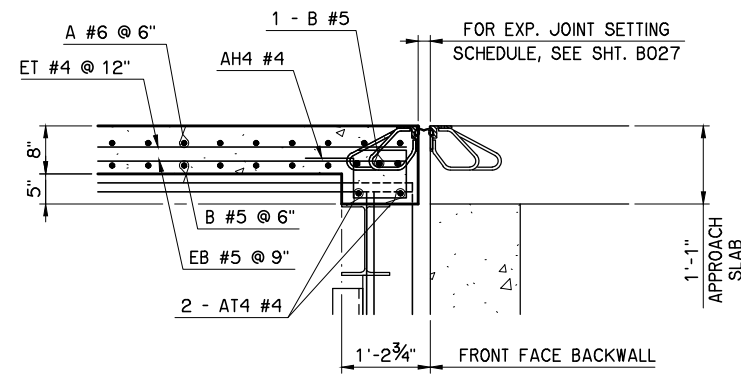
SECTION H



SECTION J




SECTION K

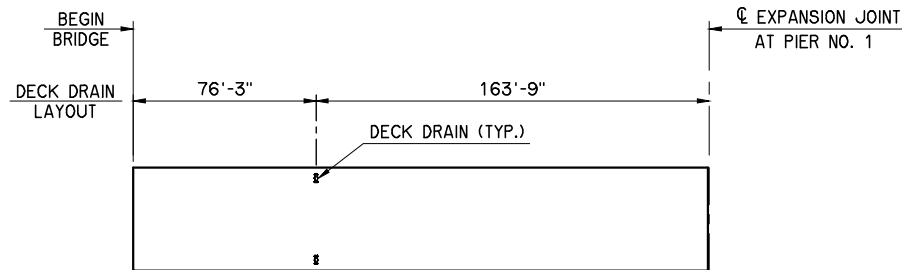


SECTION L

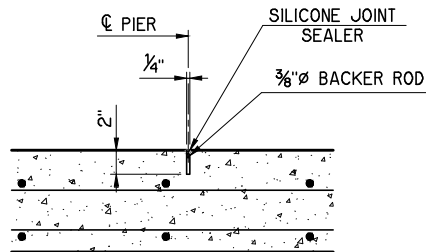
- NOTES:
- SECTIONS AT PIERS ARE SYMMETRICAL
ABOUT THE C OF JOINT UNLESS OTHER
SHOWN.
- ① ADJUST AS NECESSARY TO ACCOMMODATE
CHOSEN MODULAR EXPANSION JOINT SYSTEM.
- ② SEE EXPANSION JOINT SETTING TABLE ON
SHEET B057 FOR SLAB OPENINGS

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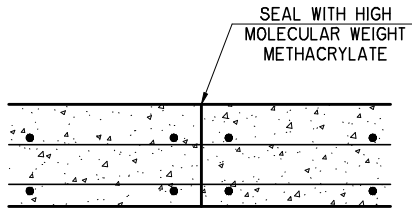
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 28 OF 35 SLAB REINFORCING DETAILS				Detail	DRB	
				Check	DLW	
				 CEC		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(O4)				SHEET NO. B053



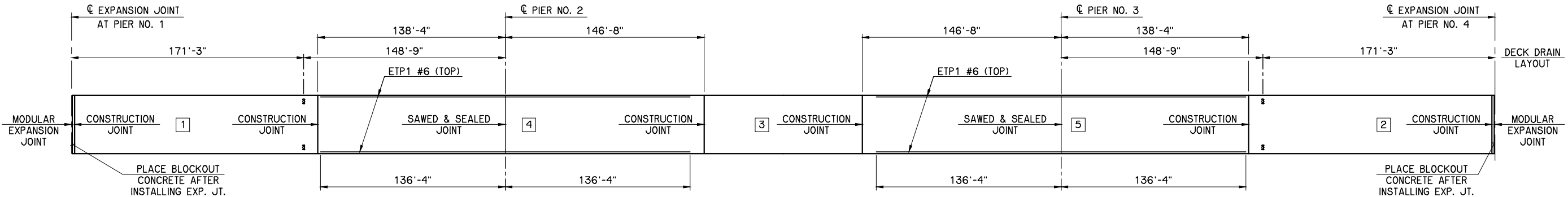
SPAN NO. 1



SAWED AND SEALED JOINT DETAIL



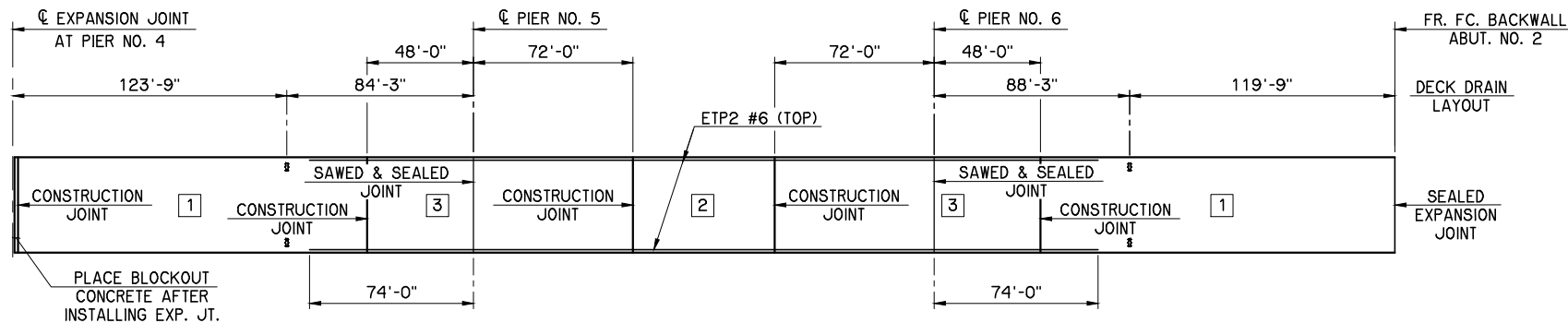
CONSTRUCTION JOINT DETAIL
(SCHEDULED SHOWN, UNSCHEDULED SIMILAR)



SPAN NO. 2

SPAN NO. 3

SPAN NO. 4



SPAN NO. 5

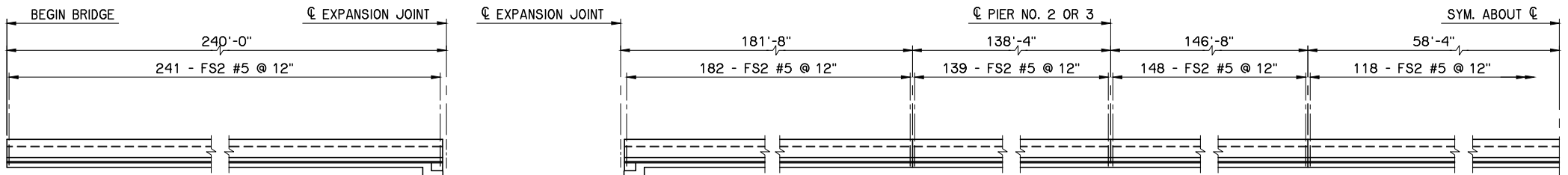
SPAN NO. 6

SPAN NO. 7

DECK SLAB LAYOUT AND POURING SEQUENCE
(ONLY ADDITIONAL LONGITUDINAL DECK REINFORCING SHOWN)

NOTES:
FOR TYPICAL SECTION, SEE SHEET B026.

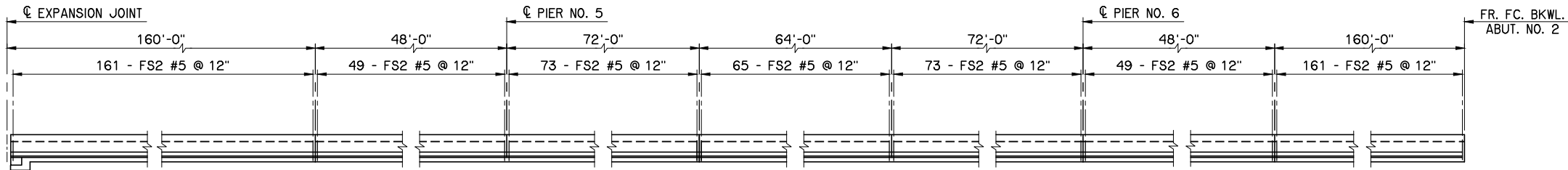
THE DECK SLAB IS DIVIDED INTO SECTIONS BETWEEN CONSTRUCTION JOINTS AS SHOWN. PLACE THE DECK SLAB CONCRETE OF EACH SECTION IN THE NUMERICAL SEQUENCE INDICATED. SECTIONS OF THE DECK SLAB WITH THE SAME NUMBER MAY BE PLACED IN ANY ORDER. DO NOT PLACE CONCRETE FOR HIGHER NUMBERED SECTIONS UNTIL ALL LOWER NUMBERED SECTIONS HAVE BEEN PLACED.



SPAN NO. 1

SPAN NO. 2 OR SPAN NO. 4

SPAN NO. 3



SPAN NO. 5

SPAN NO. 6

SPAN NO. 7

PARAPET ELEVATION

NOTE:
FOR ADDITIONAL REINFORCING
DETAILS, SEE STD. FSHP-42.

ALIGN CRACK CONTROL JOINTS IN THE PARAPET
WITH THE CONSTRUCTION JOINTS AND SAWED
AND SEALED JOINTS IN THE BRIDGE DECK.

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S.H.100/U.S.64 OVER McCLELLAN-KERR
ARKANSAS RIVER NAVIGATION WATERWAY

MUSKOGEE CO.
SEQUOYAH CO.

SUPERSTRUCTURE DETAILS

SHEET 29 OF 35

DECK SLAB AND PARAPET LAYOUT

STATE OF
OKLAHOMA

DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 32100(O4)

SHEET NO. B054

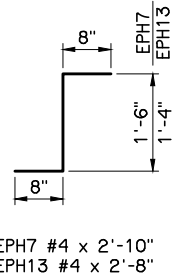
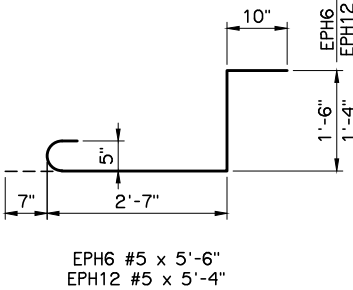
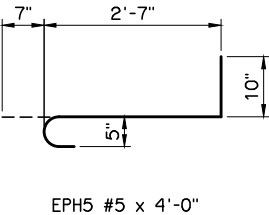
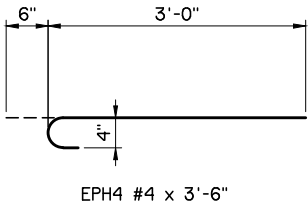
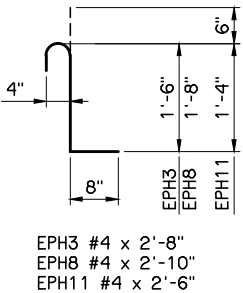
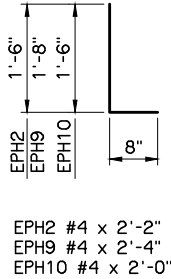
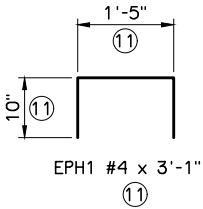
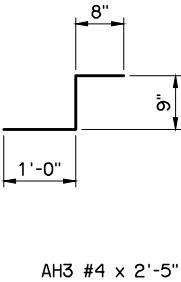
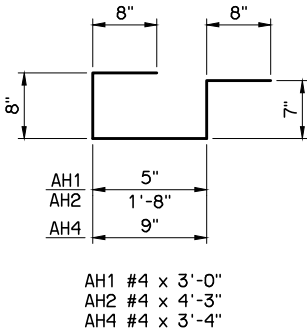
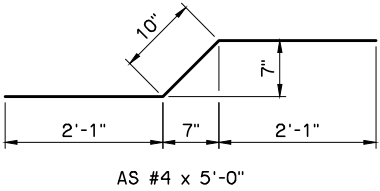
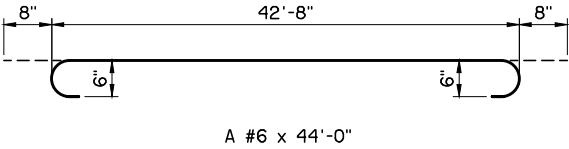
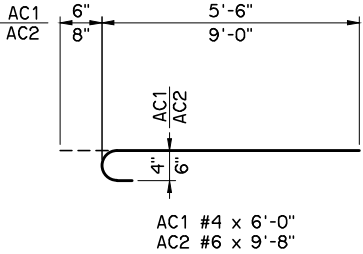
Design	DLW
Detail	DRB
Check	DLW




L:\Active\2001.3\Drawings\Production Plans\B055 SS30 slab4.dwg, 12/2/2022 8:39:26 AM, DWG To PDF.pc3

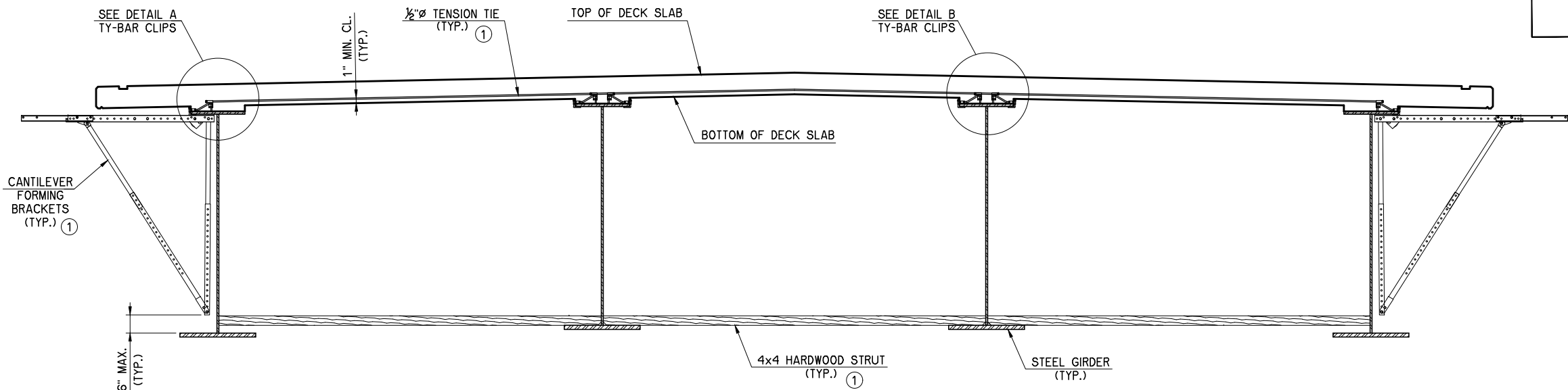
SUPERSTRUCTURE BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING BARS				
A	#6	3819	BNT.	44'-0"
AC1	#4	7620	BNT.	6'-0"
AC2	#6	20	BNT.	9'-8"
AH1	#4	18	BNT.	3'-0"
AH2	#4	27	BNT.	4'-3"
AH3	#4	30	BNT.	2'-5"
AH4	#4	41	BNT.	3'-4"
AS	#4	44	BNT.	5'-0"
AT1	#4	2	STR.	42'-8"
AT2	#4	6	STR.	9'-6"
AT3	#4	4	STR.	2'-6"
AT4	#4	6	STR.	9'-10"
B	#5	3820	STR.	42'-8"
BD	#6	20	STR.	9'-0"
EB1	#5	58	STR.	249'-3"
EB2	#5	58	STR.	1099'-0"
EB3	#5	58	STR.	651'-2"
ED	#6	40	STR.	6'-3"
ET1	#4	44	STR.	248'-0"
ET2	#4	44	STR.	1093'-0"
ET3	#4	44	STR.	647'-10"
EPH1	#4	176	BNT.	3'-1"
EPH2	#4	57	BNT.	2'-2"
EPH3	#4	57	BNT.	2'-8"
EPH4	#4	176	BNT.	3'-6"
EPH5	#5	164	BNT.	4'-0"
EPH6	#5	123	BNT.	5'-6"
EPH7	#4	123	BNT.	2'-10"
EPH8	#4	99	BNT.	2'-10"
EPH9	#4	99	BNT.	2'-4"
EPH10	#4	8	BNT.	2'-0"
EPH11	#4	8	BNT.	2'-6"
EPH12	#5	41	BNT.	5'-4"
EPH13	#4	41	BNT.	2'-8"
ETP1	#6	86	STR.	288'-8"
ETP2	#6	43	STR.	380'-0"
FS2	#5	3856	BNT.	7'-4"
PT1	#4	28	STR.	42'-8"
PT2	#4	32	STR.	6'-0"
PT3	#4	16	STR.	3'-4"
PT4	#4	45	STR.	9'-4"
PT5	#4	12	STR.	11'-6"
PT6	#4	15	STR.	9'-10"

- ① FOR SPAN NO. 1 INCLUDES 4 - 3'-0" LAPS
- ② FOR SPAN NO. 2 THRU NO. 4 INCLUDES 18 - 3'-0" LAPS
- ③ FOR SPAN NO. 5 THRU NO. 7 INCLUDES 10 - 3'-0" LAPS
- ④ FOR SPAN NO. 1 INCLUDES 4 - 2'-8" LAPS
- ⑤ FOR SPAN NO. 2 THRU NO. 4 INCLUDES 18 - 2'-8" LAPS
- ⑥ FOR SPAN NO. 5 THRU NO. 7 INCLUDES 10 - 2'-8" LAPS
- ⑦ DO NOT LAP WITHIN 10' OF CENTERLINE OF PIER
- ⑧ INCLUDES 4 - 4'-0" LAPS
- ⑨ INCLUDES 6 - 4'-0" LAPS
- ⑩ SEE TO STD. FSHP-42-2 FOR BAR BENDS
- ⑪ ADJUST AS NECESSARY TO ACCOMMODATE CHOSEN MODULAR EXPANSION JOINT SYSTEM.



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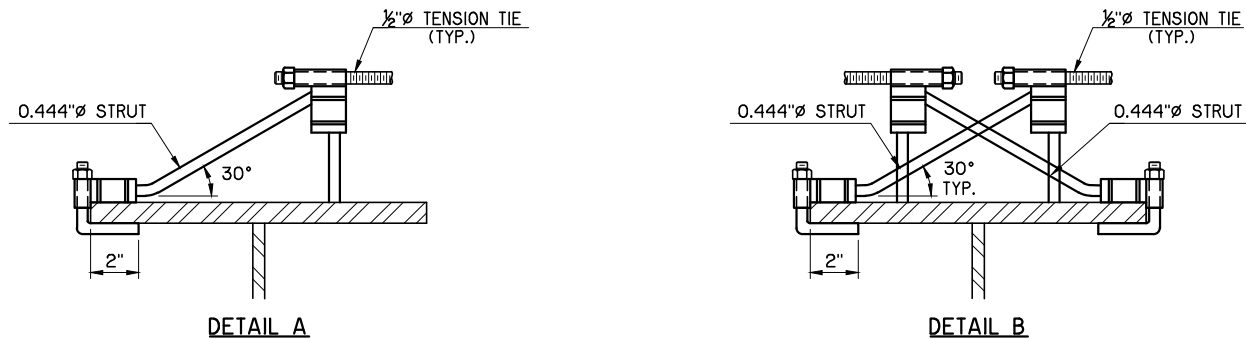
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 30 OF 35 BAR LIST AND BAR BENDS				Detail	DRB	
				Check	DLW	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(O4)					SHEET NO. B055	



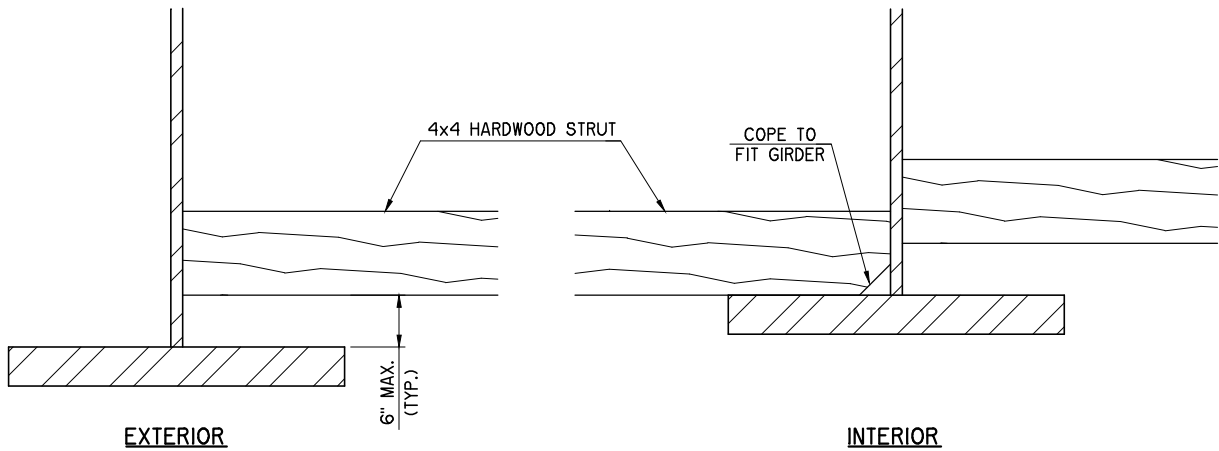
GIRDER BRACING FOR DECK SLAB PLACEMENT

BRACING SYSTEM SHOWN FOR ILLUSTRATION PURPOSES ONLY. ALTERNATIVE SYSTEMS MAY BE CONSIDERED. SEE GENERAL NOTES FOR DESIGN REQUIREMENTS AND LIMITATIONS.

① SPACING OF FORMING BRACKETS, TENSION TIES, AND HARDWOOD STRUTS TO BE DETERMINED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA FOR THE LOADS ANTICIPATED DURING CONSTRUCTION. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.




TY-BAR CLIP DETAILS



HARDWOOD STRUT DETAIL

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
				Detail	DRB	
				Check	DLW	
SUPERSTRUCTURE DETAILS						
SHEET 31 OF 35						
GIRDER BRACING DETAILS						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				SHEET NO. B056
		JOB PIECE NO. 32100(04)				

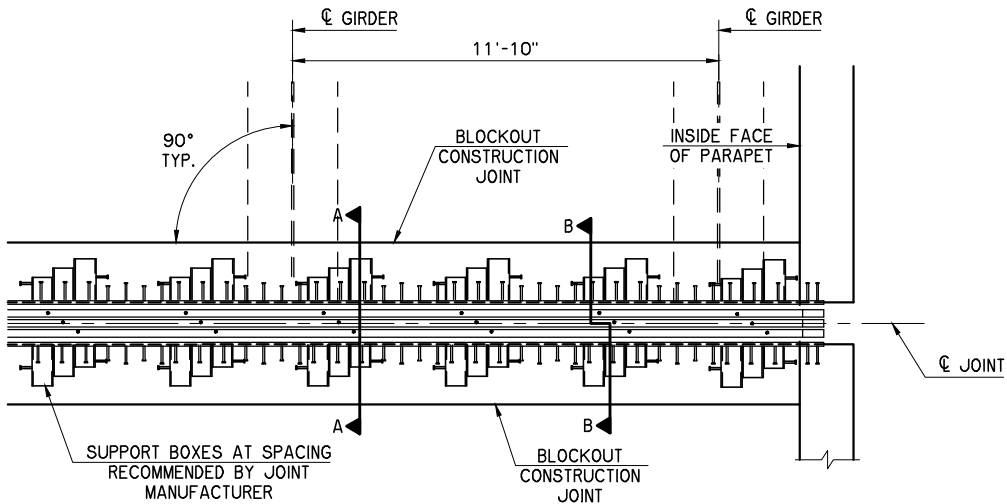
MODULAR EXPANSION JOINT NOTES

USE MODULAR EXPANSION JOINTS WHICH HAVE A TOTAL MOVEMENT RANGE OF AT LEAST 12" AND SEALS THE DECK TO PREVENT MOISTURE OR OTHER CONTAMINANTS FROM DESCENDING ONTO THE LOWER STRUCTURE COMPONENTS.

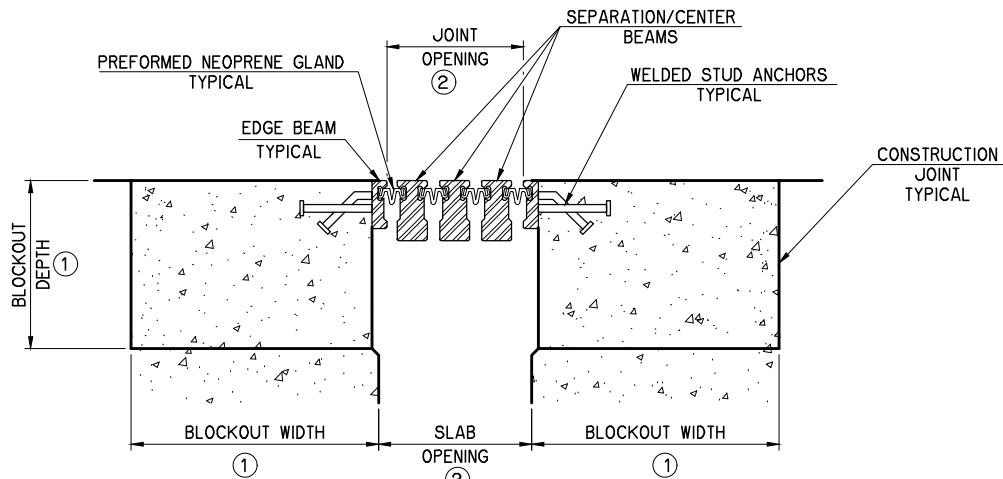
PROVIDE EITHER THE WATSON, BOWMAN AND ACME WABOMODULAR STM-1200 OR THE D.S. BROWN STEELFLEX D-320 MODULAR EXPANSION JOINT ASSEMBLIES, OR APPROVED EQUAL, IN ACCORDANCE WITH SECTION 518 OF THE SPECIFICATIONS.

THE DETAILS SHOWN FOR THE MODULAR EXPANSION JOINT ASSUME THAT THE JOINT ASSEMBLY WILL BE TEMPORARILY SUPPORTED FROM ABOVE BY A METHOD APPROVED BY THE ENGINEER UNTIL THE JOINT BLOCKOUT IS POURED. IF THE CONTRACTOR CHOOSES TO POUR THE JOINT MONOLITHIC WITH THE DECK SLAB, PROVIDE A SUPPORT SYSTEM COMPATIBLE WITH, AND CONNECTED DIRECTLY TO, THE PLATE GIRDERS CROSS FRAMES. SUBMIT THE PROPOSED JOINT ASSEMBLY SUPPORT SYSTEM TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WORK.

EXPANSION JOINT SETTING SCHEDULE			
EXP. JOINT OPENING	SLAB OPENING	TEMPERATURE °F	
		PIER NO. 1	PIER NO. 4
18"	16½"		-1
17½"	16"	1	6
17"	15½"	10	14
16½"	15"	18	22
16"	14½"	26	29
15½"	14"	35	37
15"	13½"	43	45
14½"	13"	52	52
14"	12½"	60	60
13½"	12"	68	68
13"	11½"	77	75
12½"	11"	85	83
12"	10½"	94	91
11½"	10"	102	98
11"	9½"	110	106
10½"	9"	119	114
10"	8"		121



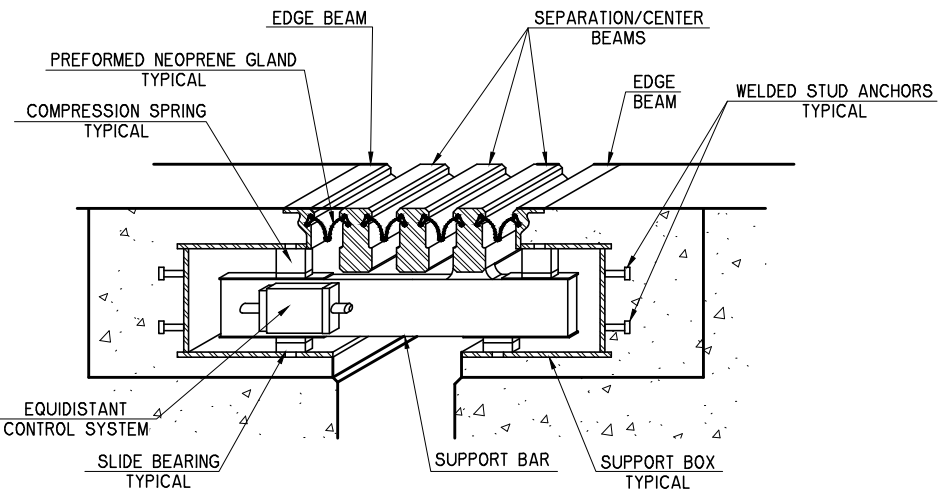
PLAN



SECTION A-A

(STEEFLEX SHOWN,
WABOMODULAR SHOWN)

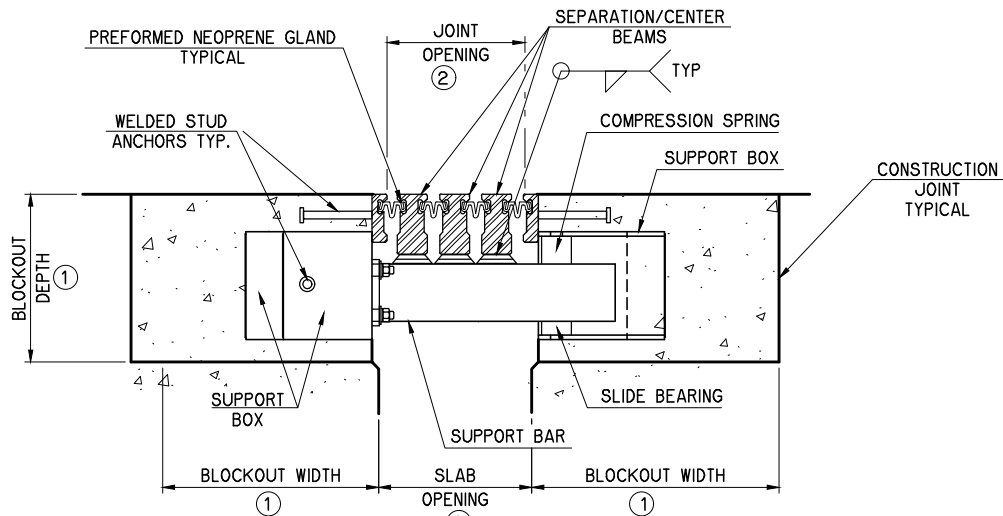
- ① DIMENSION AS REQUIRED FOR SELECTED JOINT SYSTEM.
② DIMENSION VARIES. SEE EXPANSION JOINT SETTING SCHEDULE



ISOMETRIC VIEW

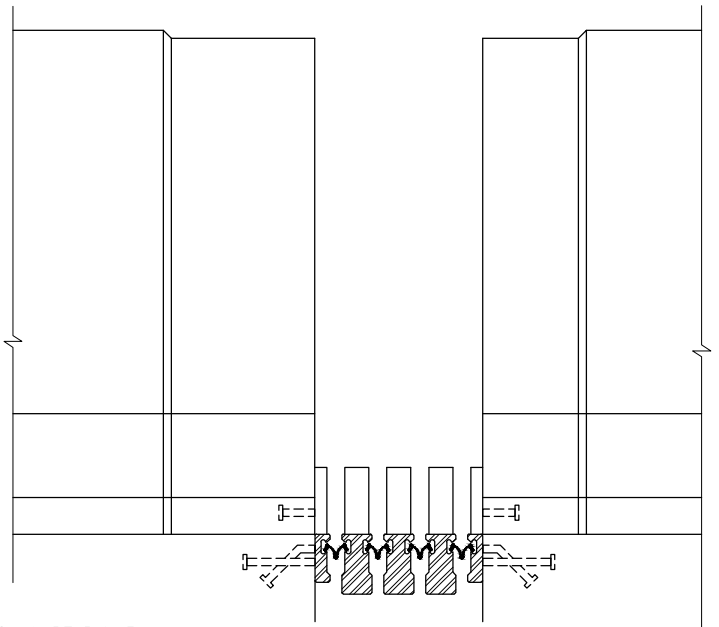
(WABOMODULAR SHOWN,
STEEFLEX SIMILAR)

NOTE:
SECTIONS THRU MODULAR JOINT PROVIDED FOR ILLUSTRATION ONLY. DETAIL MAY DIFFER FROM THAT SHOWN DEPENDENT ON SELECTED JOINT SYSTEM.



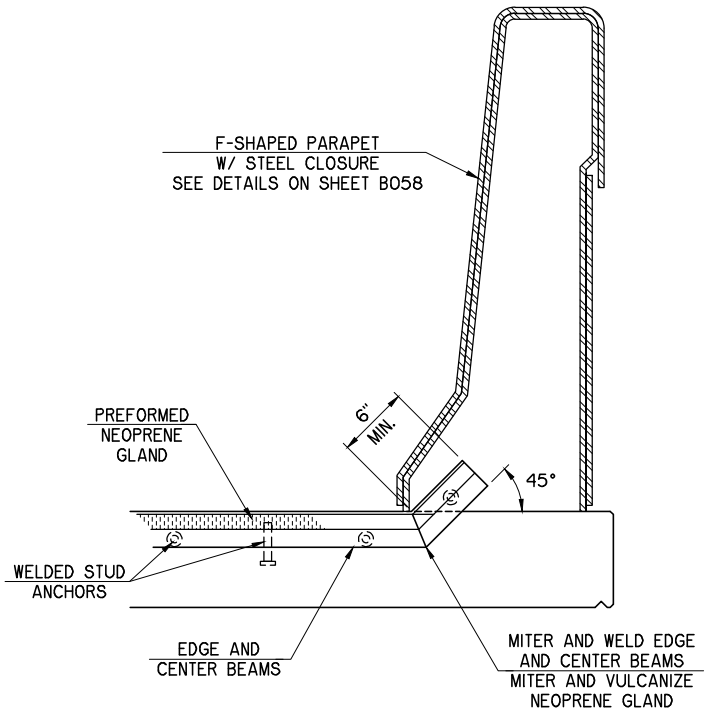
SECTION B-B

(STEEFLEX SHOWN,
WABOMODULAR SIMILAR)



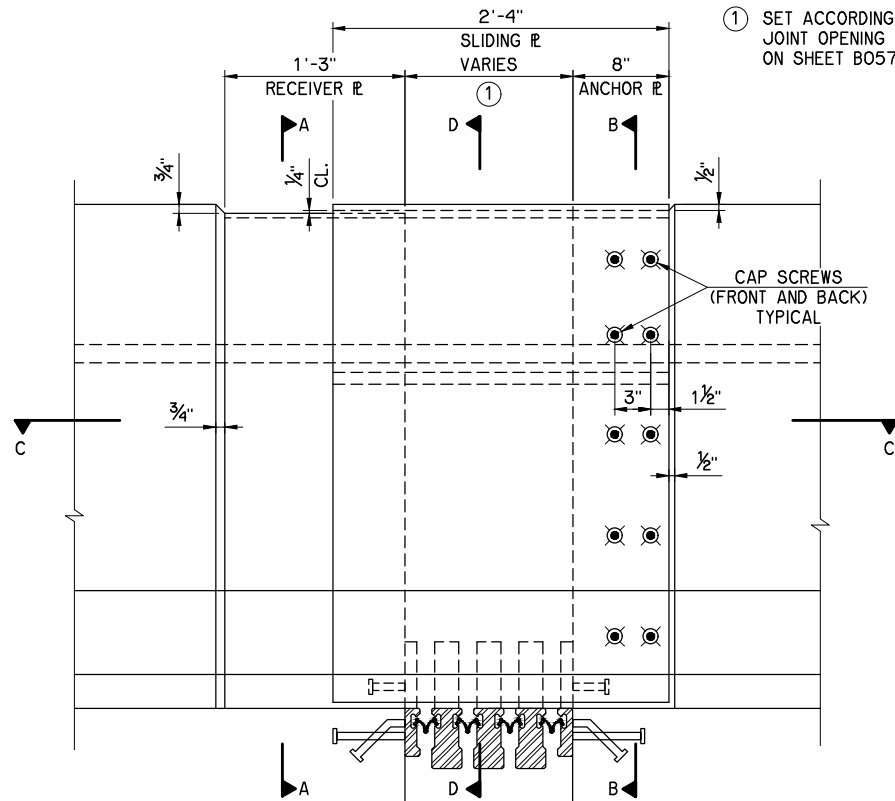
ELEVATION AT F-SHAPED PARAPET

NOTE:
PARAPET CLOSURE IS NOT SHOWN FOR CLARITY.

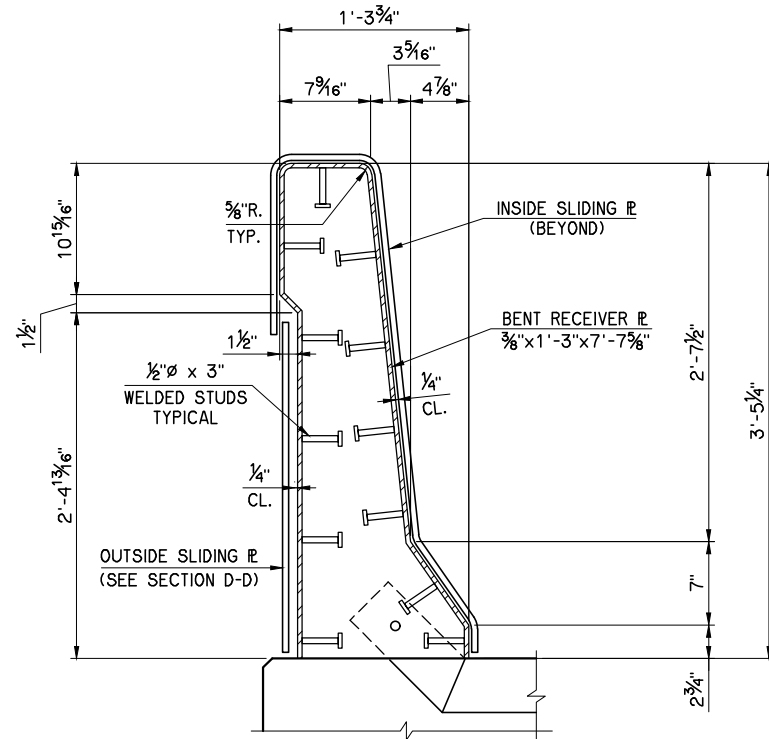


SECTION AT F-SHAPED PARAPET

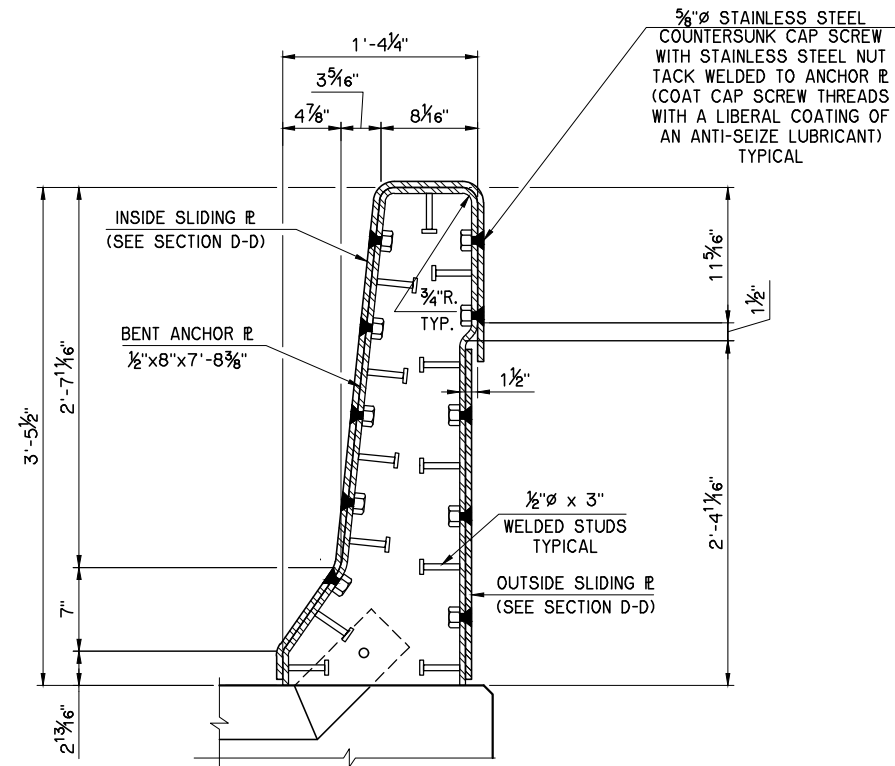
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
SUPERSTRUCTURE DETAILS		SHEET 32 OF 35 MODULAR EXPANSION JOINT DETAILS		Detail	DRB
				Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		CEC	
JOB PIECE NO. 32100(04)				SHEET NO. B057	



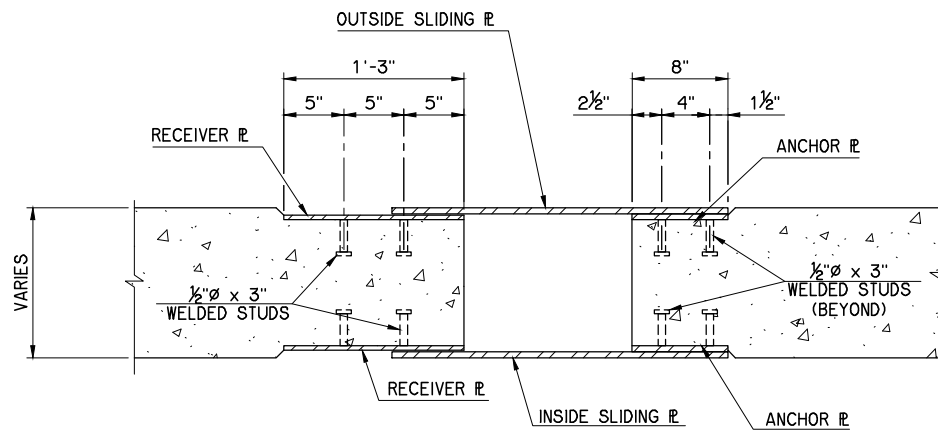
PARAPET ELEVATION
AT INSIDE FACE



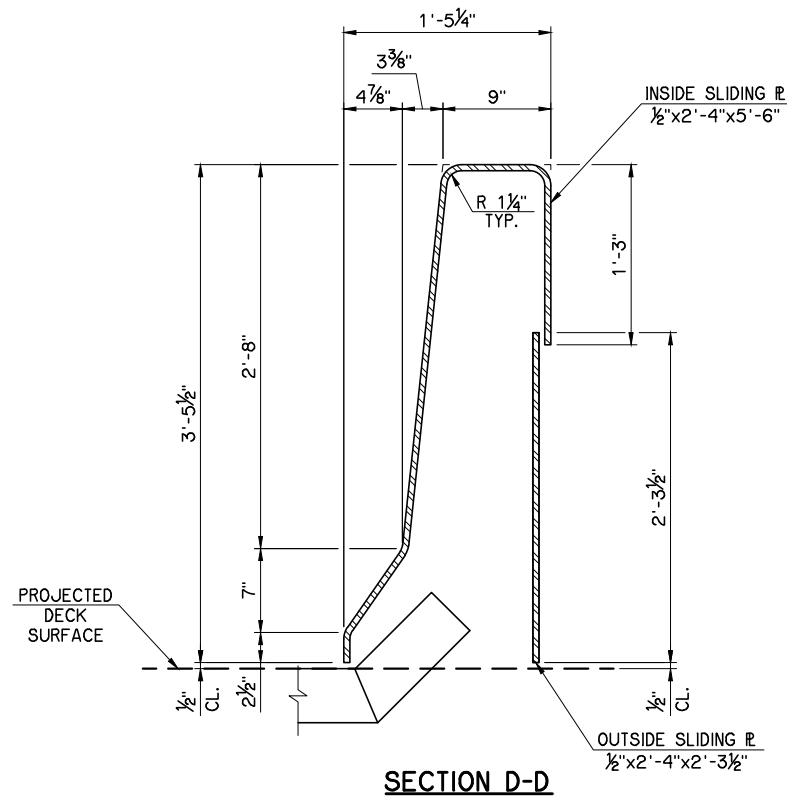
SECTION A-A



SECTION B-B



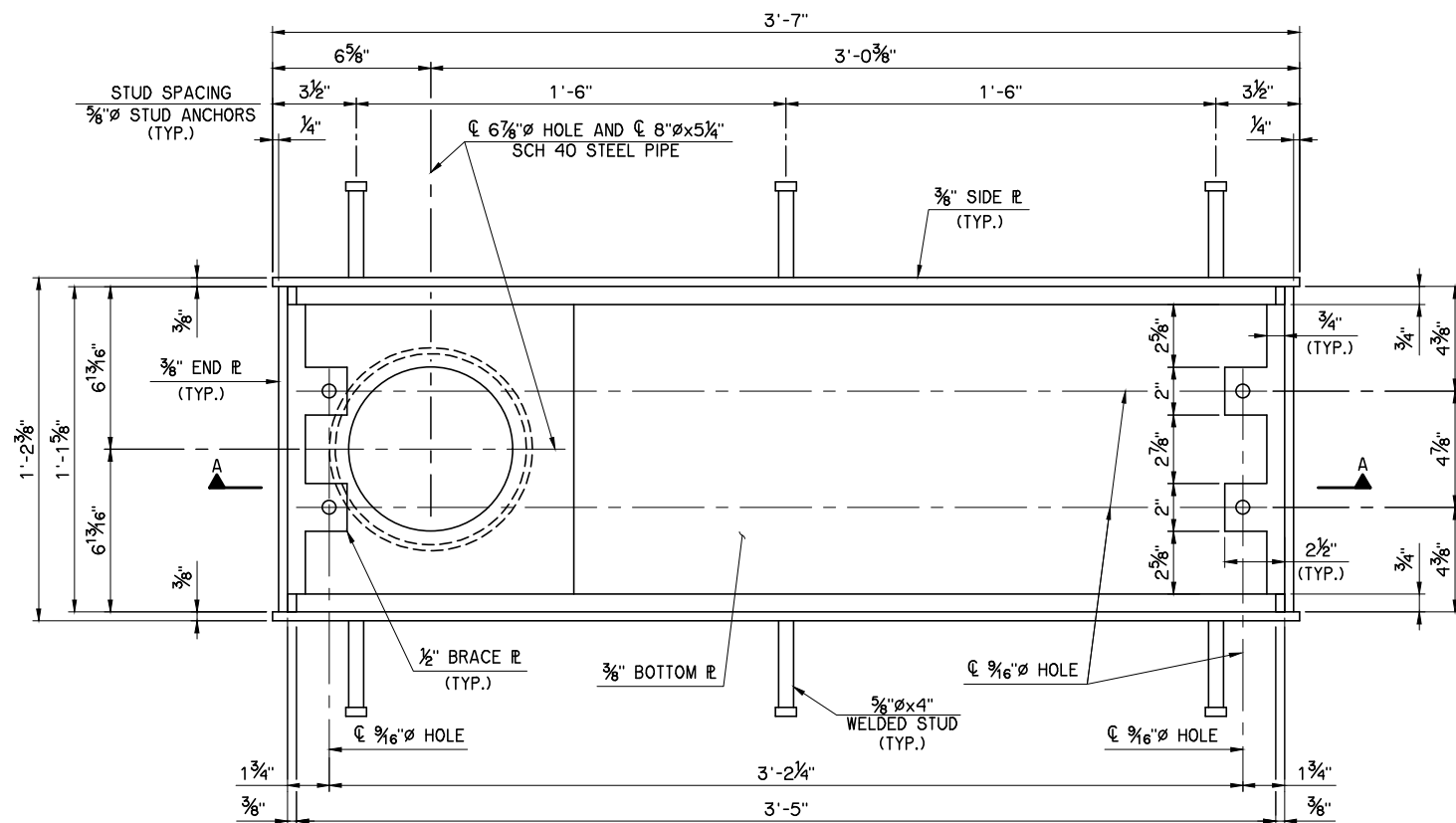
SECTION C-C



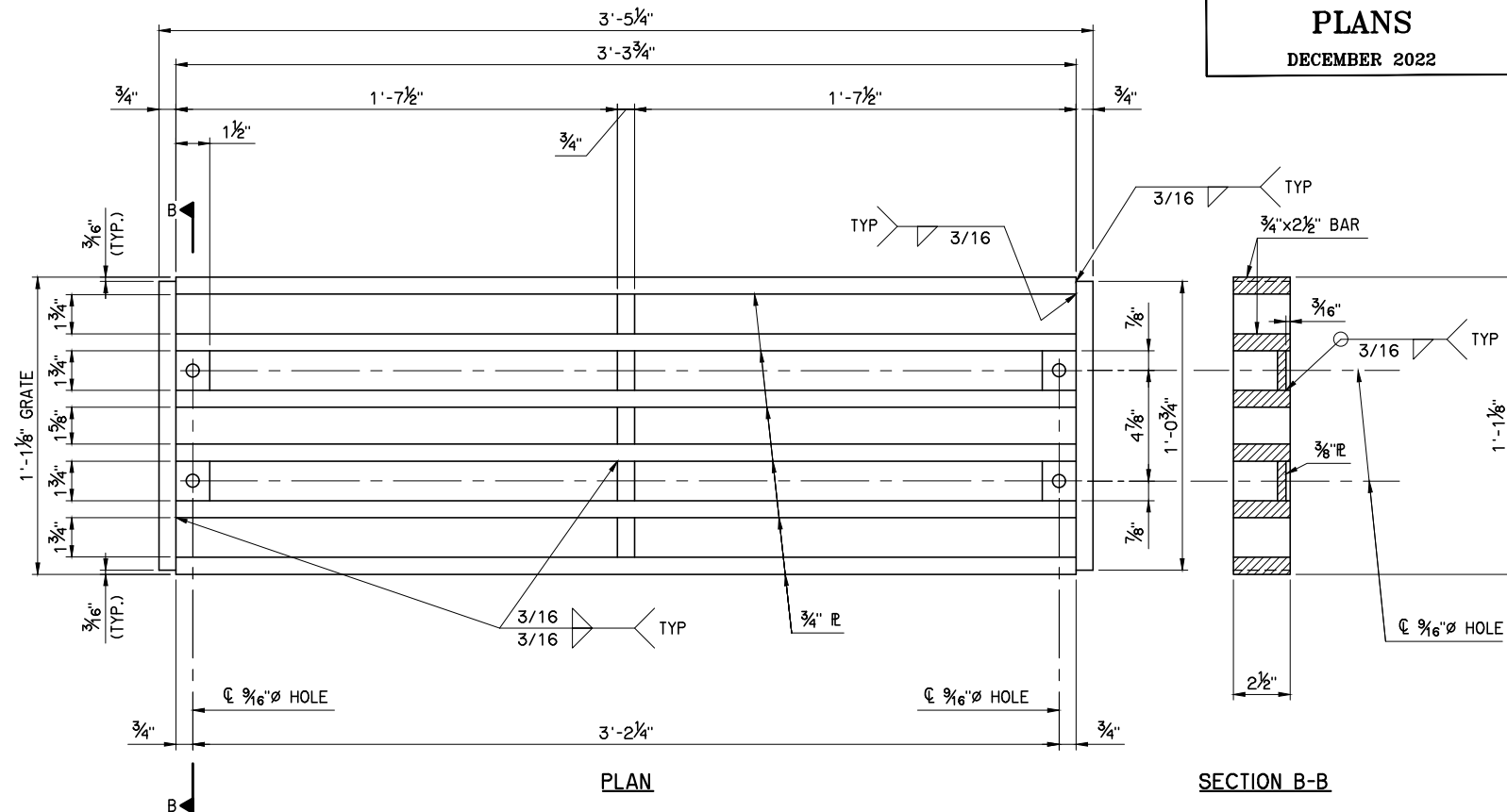
SECTION D-D

NOTE:
INCLUDE ALL COSTS FOR PARAPET CLOSURE,
INCLUDING MATERIAL, LABOR, EQUIPMENT AND
INCIDENTALS NECESSARY FOR INSTALLATION IN
THE CONTRACT UNIT PRICE OF 42" F-SHAPED
PARAPET.

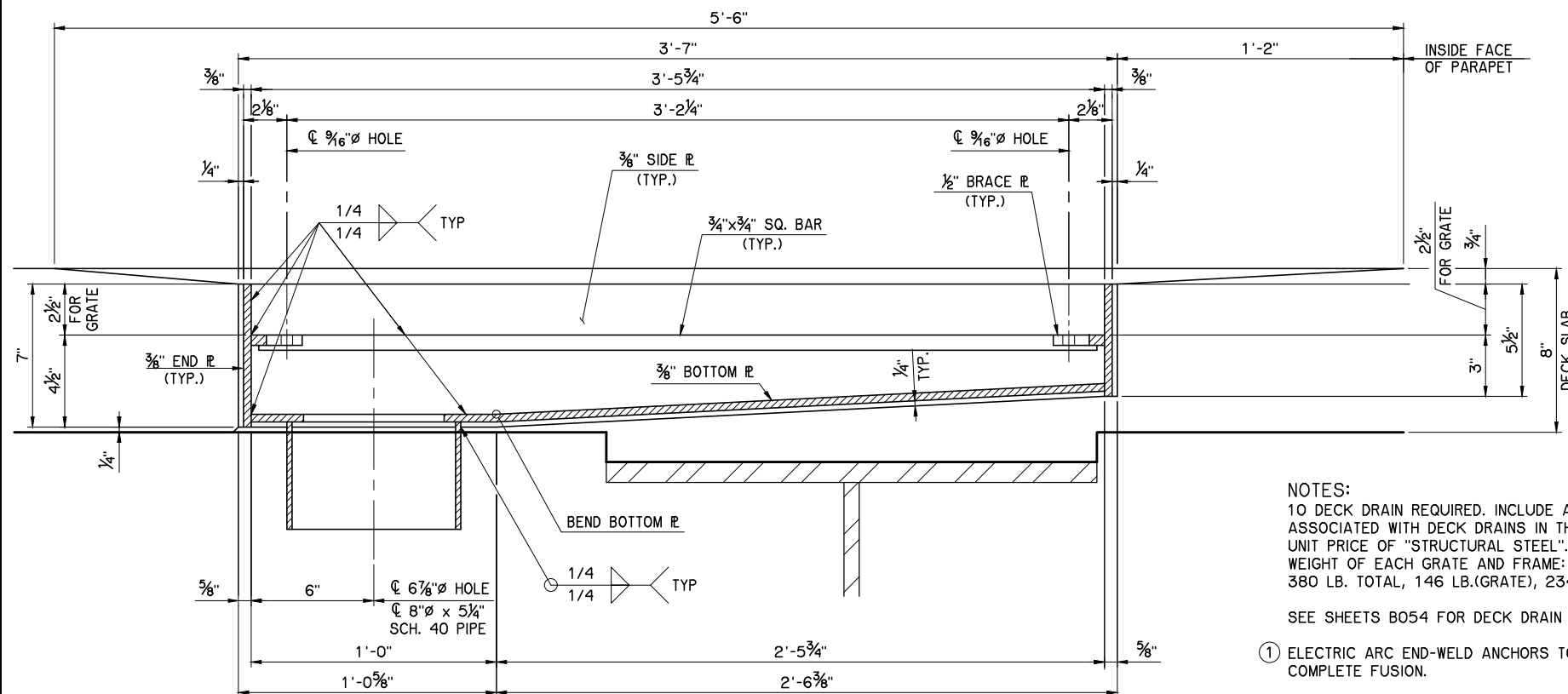
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
SUPERSTRUCTURE DETAILS SHEET 33 OF 35 PARAPET CLOSURE DETAILS		CEC		Detail	DRB
				Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. B058	



PLAN
GRATE NOT SHOWN FOR CLARITY



GRATE DETAILS

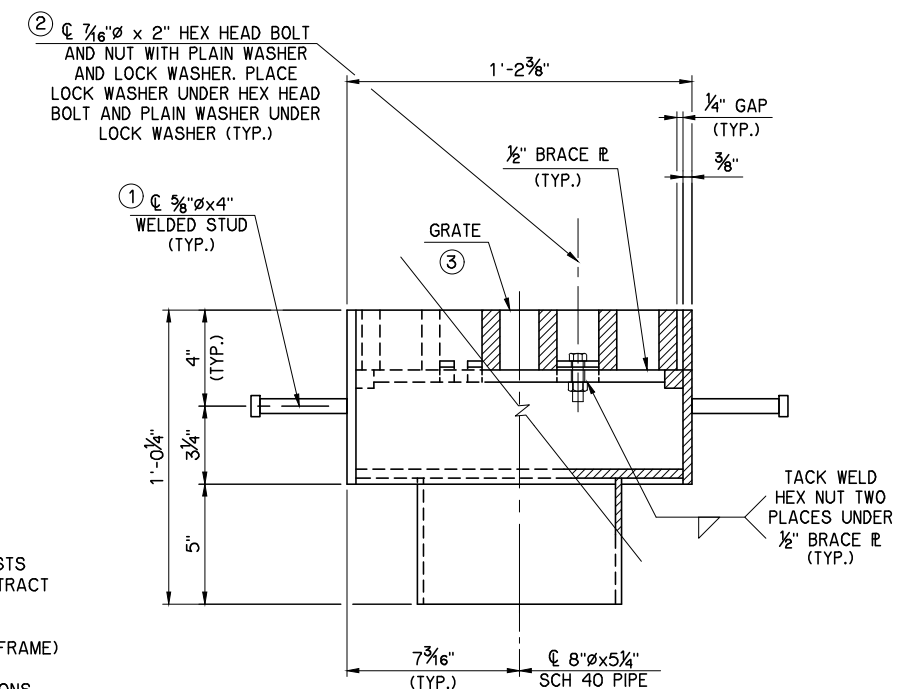


SECTION A-A
GRATE NOT SHOWN FOR CLARITY


NOTES:
10 DECK DRAIN REQUIRED. INCLUDE ALL COSTS
ASSOCIATED WITH DECK DRAINS IN THE CONTRACT
UNIT PRICE OF "STRUCTURAL STEEL".
WEIGHT OF EACH GRATE AND FRAME:
380 LB. TOTAL, 146 LB.(GRATE), 234 LB. (FRAME)

SEE SHEETS B054 FOR DECK DRAIN LOCATIONS.

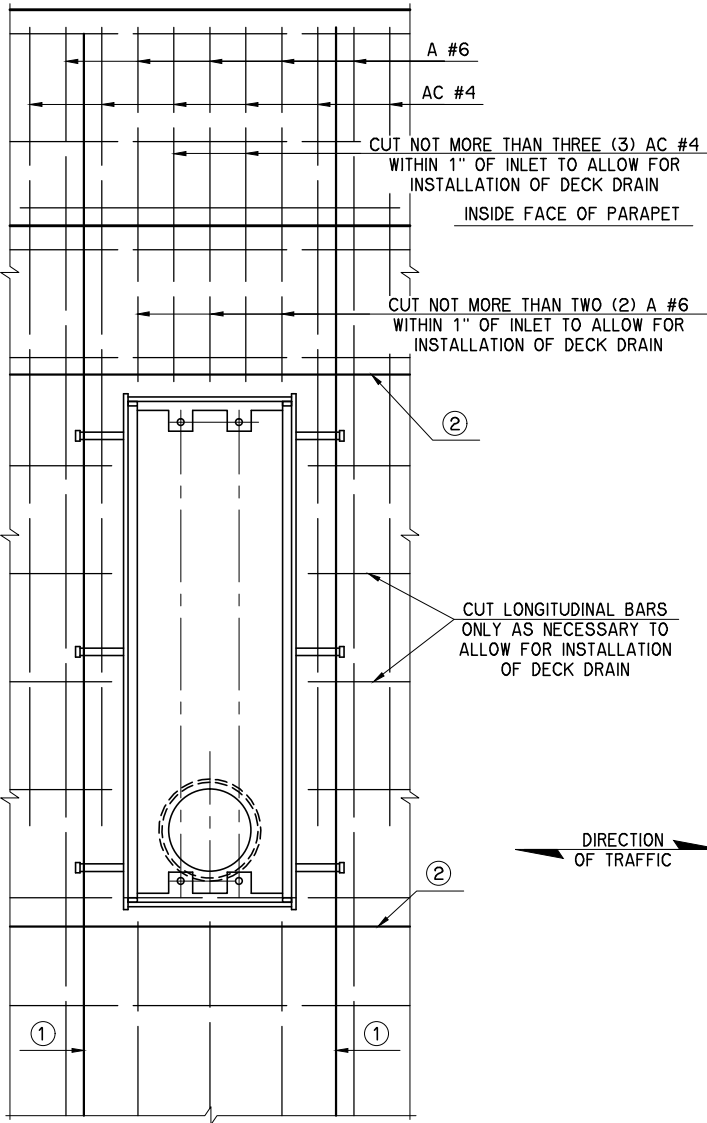
- ① ELECTRIC ARC END-WELD ANCHORS TO PLATES WITH COMPLETE FUSION.
- ② TEST FIT FRAME AND GRATE WITH HEX BOLT ASSEMBLY PRIOR TO INSTALLATION.
- ③ TEST FIT GRATE TO ENSURE IT CAN BE ROTATED 180° TO ACCOMMODATE ASSEMBLY IN THE FIELD.



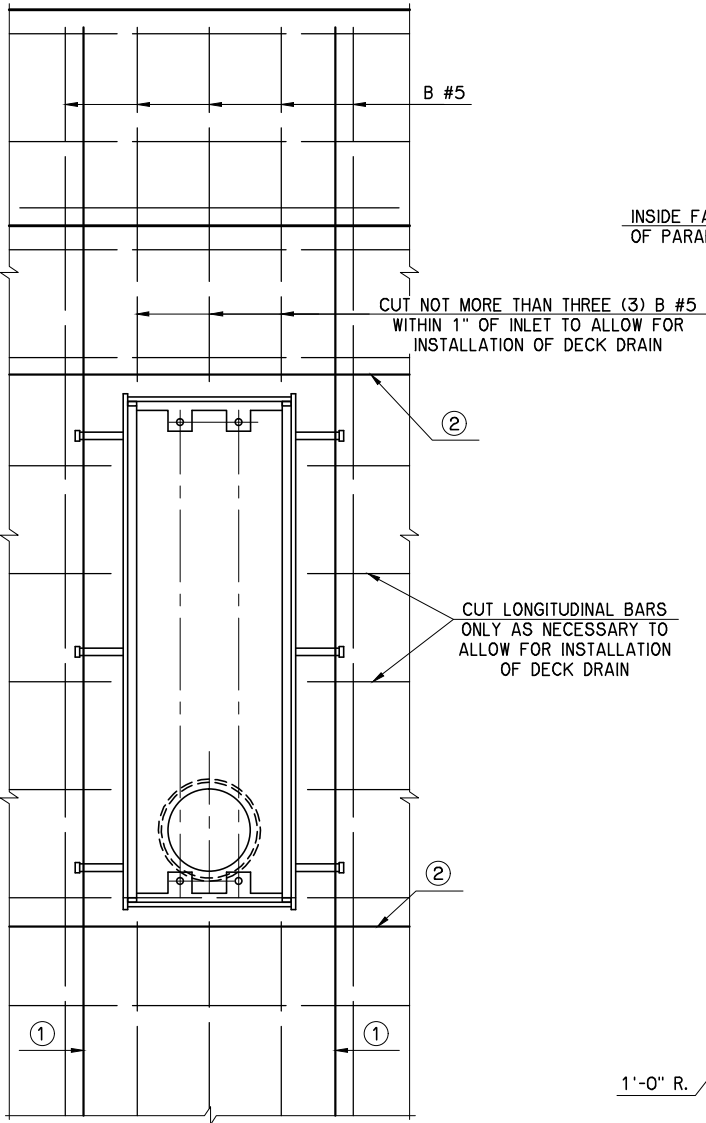
END VIEW WITH GRATE

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW	
SUPERSTRUCTURE DETAILS SHEET 34 OF 35 DECK DRAIN DETAILS				Detail	DRB	
				Check	DLW	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PRICE NO. 32100(04)		SHEET NO. B059				

NOTE:
CHAMFER BOTTOM OF DECK
SLAB TO INLET AT 45°

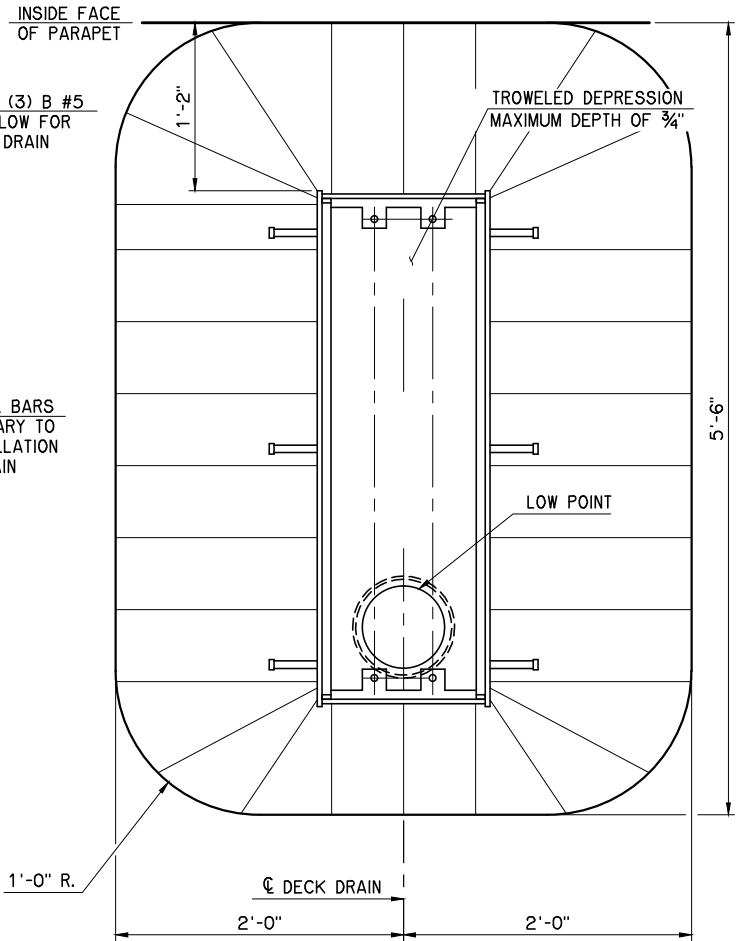


TOP MAT

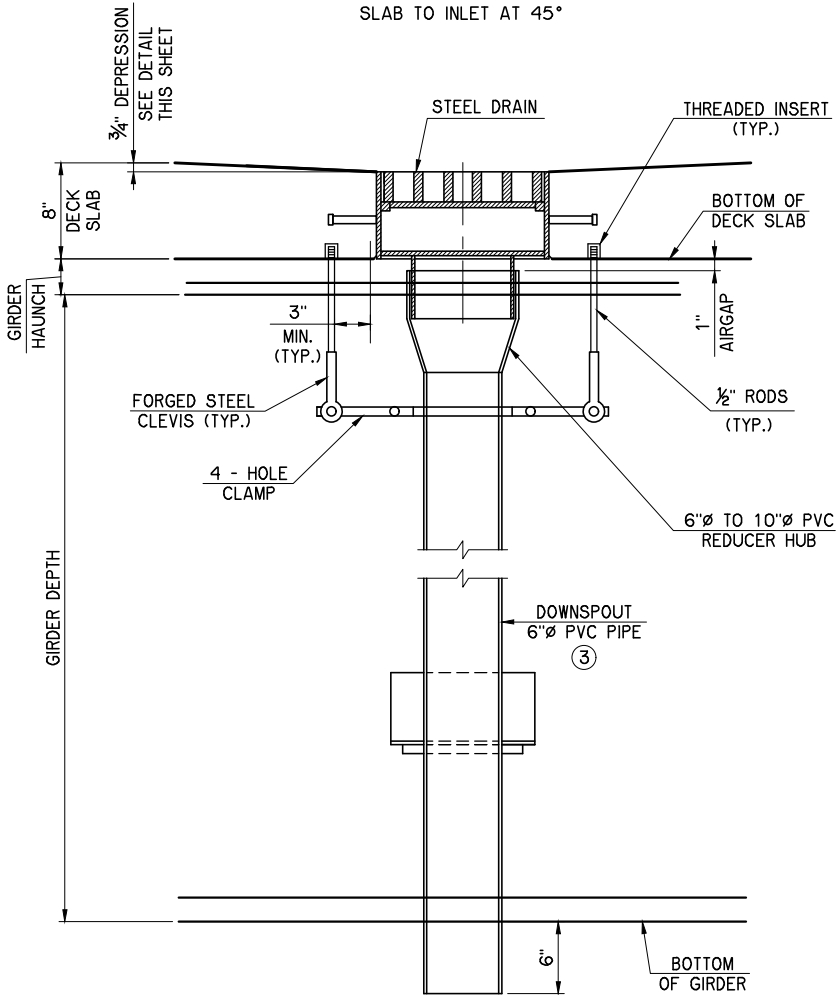


BOTTOM MAT

INLET BRIDGE DECK REINFORCING PLAN
GRATE NOT SHOWN FOR CLARITY



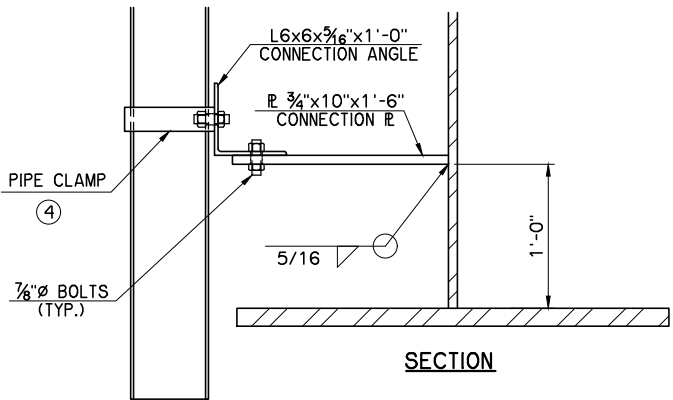
TROWELED DEPRESSION DETAIL



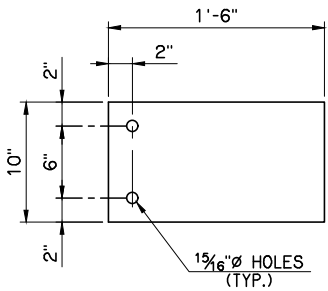
OUTLET DETAIL

NOTES:

- PROVIDE 2 - AC2 #6 (TOP) AND 2 - BD #6 (BOTTOM) ALONG DECK DRAIN.
- PROVIDE 2 - ED #6 ON TOP AND BOTTOM. CENTER BARS ON DECK DRAIN.
- LENGTH OF PVC PIPE VARIES BASED ON DECK DRAIN LOCATION. PROVIDE A LENGTH OF PVC PIPE TO ACHIEVE A 6" CLEARANCE TO THE BOTTOM OF THE PLATE GIRDER.
- SUBMIT PIPE CLAMP TO THE ENGINEER FOR APPROVAL AND MODIFY CONNECTION ANGLE AS NECESSARY. INCLUDE COST OF PIPE CLAMP IN OTHER ITEMS OF WORK. CHANGES TO CONNECTION WILL NOT BE MEASURED BY THE DEPARTMENT FOR PAYMENT.

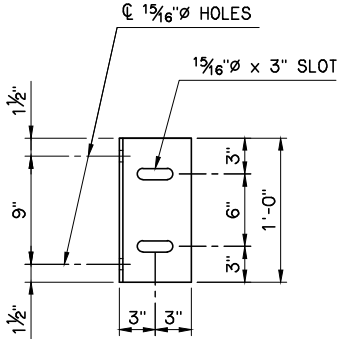


SECTION



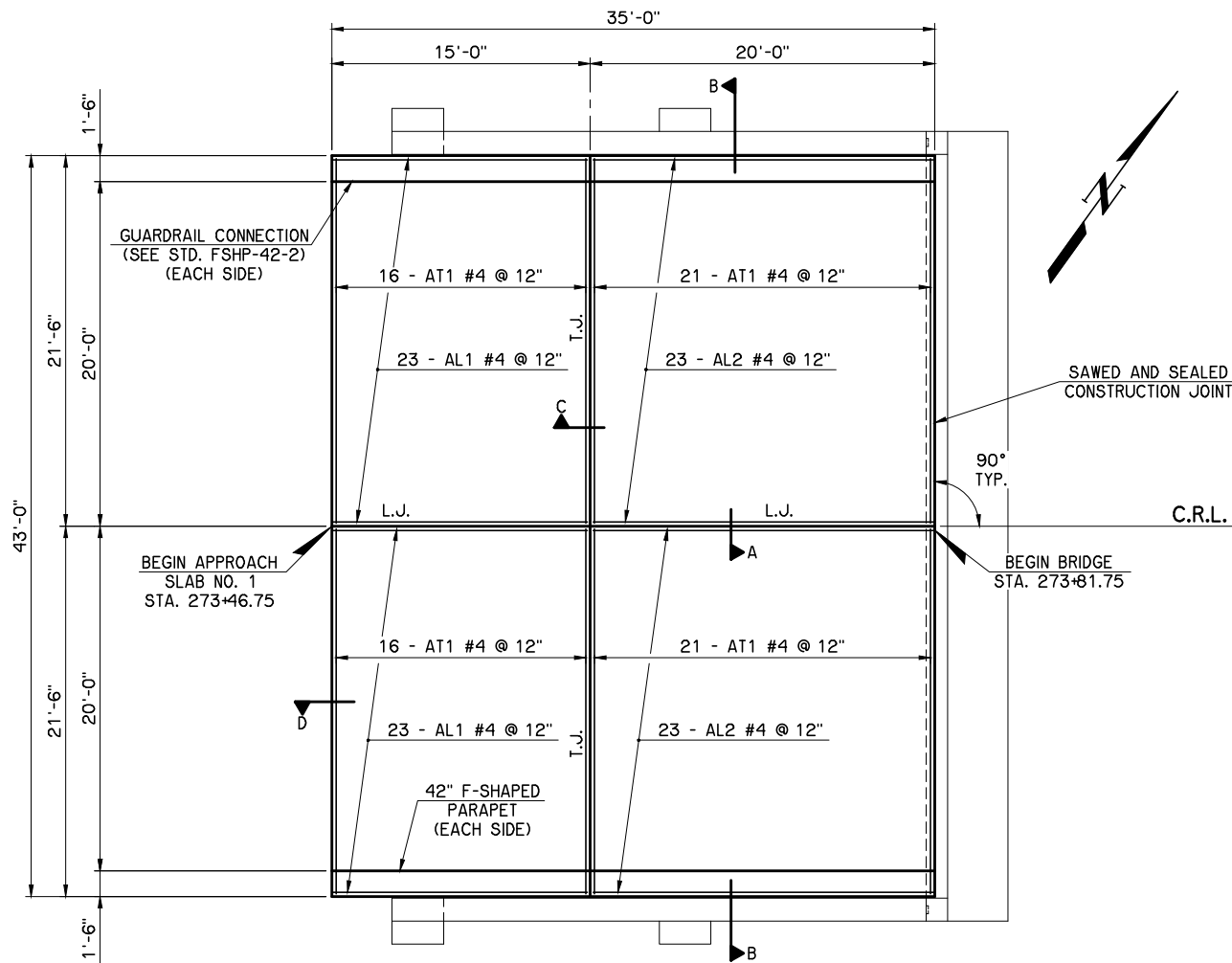
CONNECTION PLATE DETAIL

GIRDER CONNECTION DETAIL

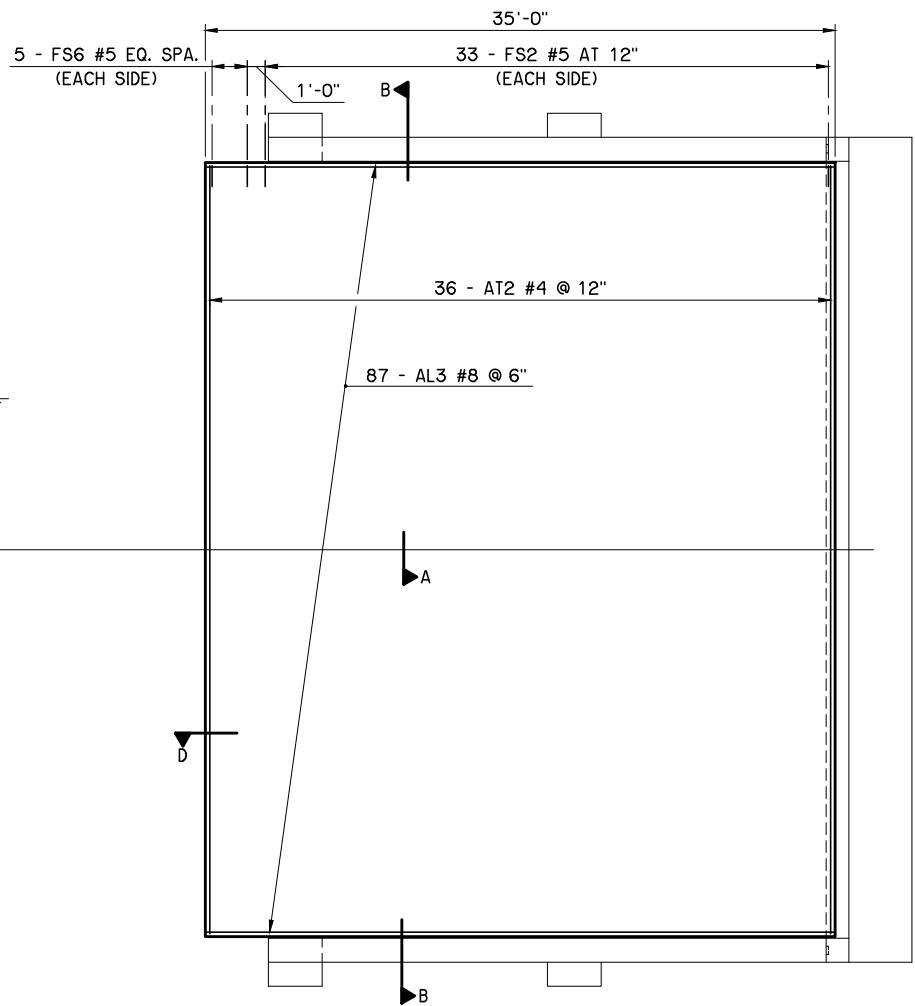


CONNECTION ANGLE DETAIL

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
SUPERSTRUCTURE DETAILS SHEET 35 OF 35 DECK DRAIN DETAILS		CEC		Detail	DRB
				Check	DLW
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. B060	
JOB PIECE NO. 32100(04)					



TOP REINFORCING MAT DETAIL
APPROACH SLAB NO. 1



BOTTOM REINFORCING MAT DETAIL
APPROACH SLAB NO. 1

APPROACH SLAB NO. 1 BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
AL1	#4	46	STR.	14'-9"
AL2	#4	46	STR.	19'-9"
AL3	#8	87	STR.	34'-10"
AT1	#4	74	STR.	21'-2"
AT2	#4	36	STR.	42'-8"
FS2	#5	66	BNT.	7'-4"
FS6	#5	10	BNT.	7'-6½"

① FOR BAR BEND, SEE STD. FSHP-42-2

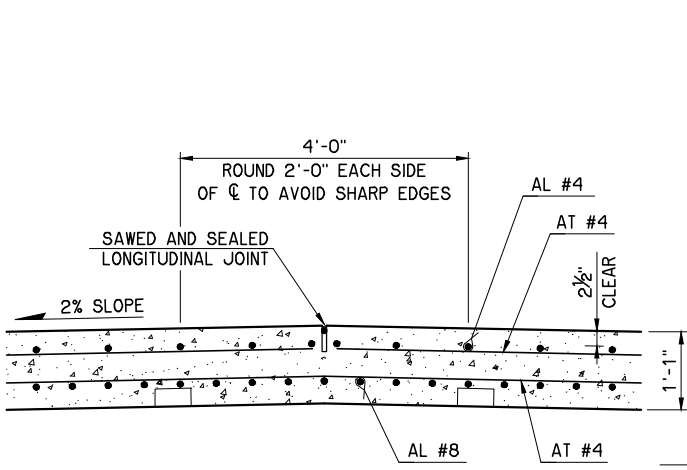
NOTES:
L.J. = LONGITUDINAL JOINT SAWED AND SEALED (SEE STD. LECS-5)
T.J. = TRANSVERSE JOINT SAWED AND SEALED (SEE STD. LECS-5)

PLACE REINFORCING IN TOP OF THE APPROACH SLAB 2" FROM EITHER SIDE OF THE SAWED AND SEALED LONGITUDINAL JOINT. FOR ADDITIONAL DETAILS OF LONGITUDINAL JOINT, SEE STD. LECS-5.

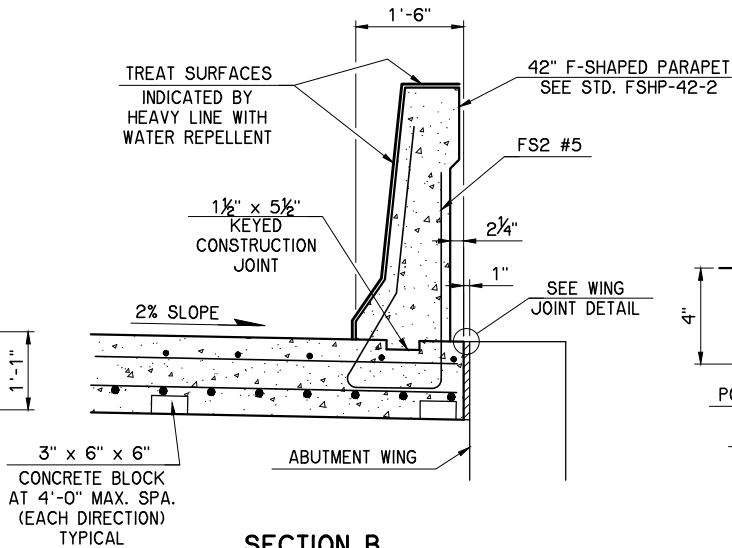
SEE SHEET B062 FOR APPROACH SLAB QUANTITIES.

FOR ADDITIONAL DETAIL OF CONCRETE PARAPET, SEE STD. FSHP-42.

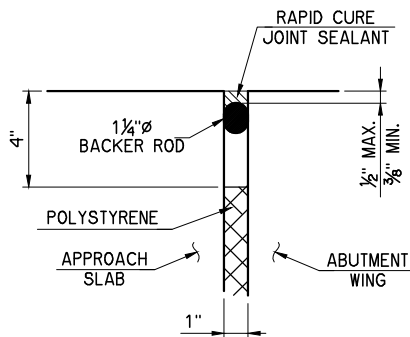
FOR ADDITIONAL DETAIL OF APPROACH SLAB AT ABUTMENT, SEE SHEETS B027 AND B053.



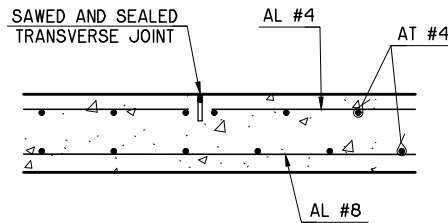
SECTION A



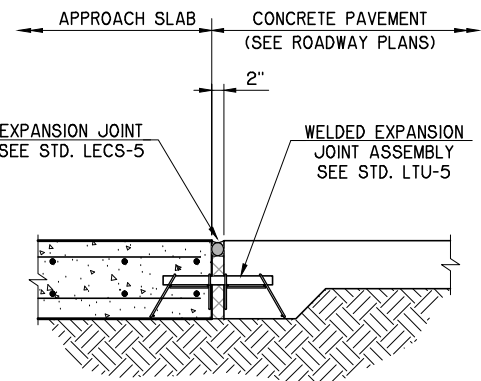
SECTION B



WING JOINT DETAIL



SECTION C

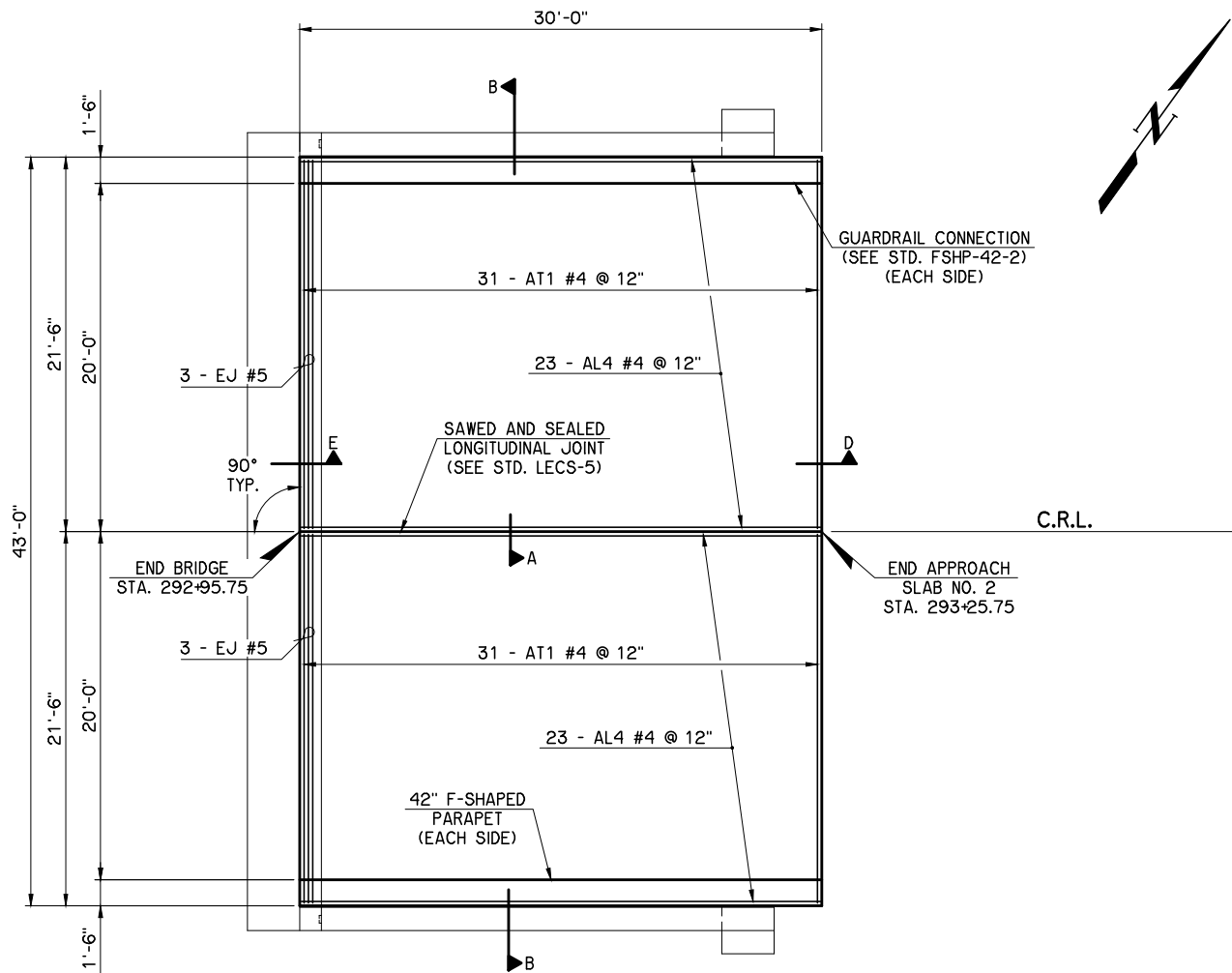


SECTION D

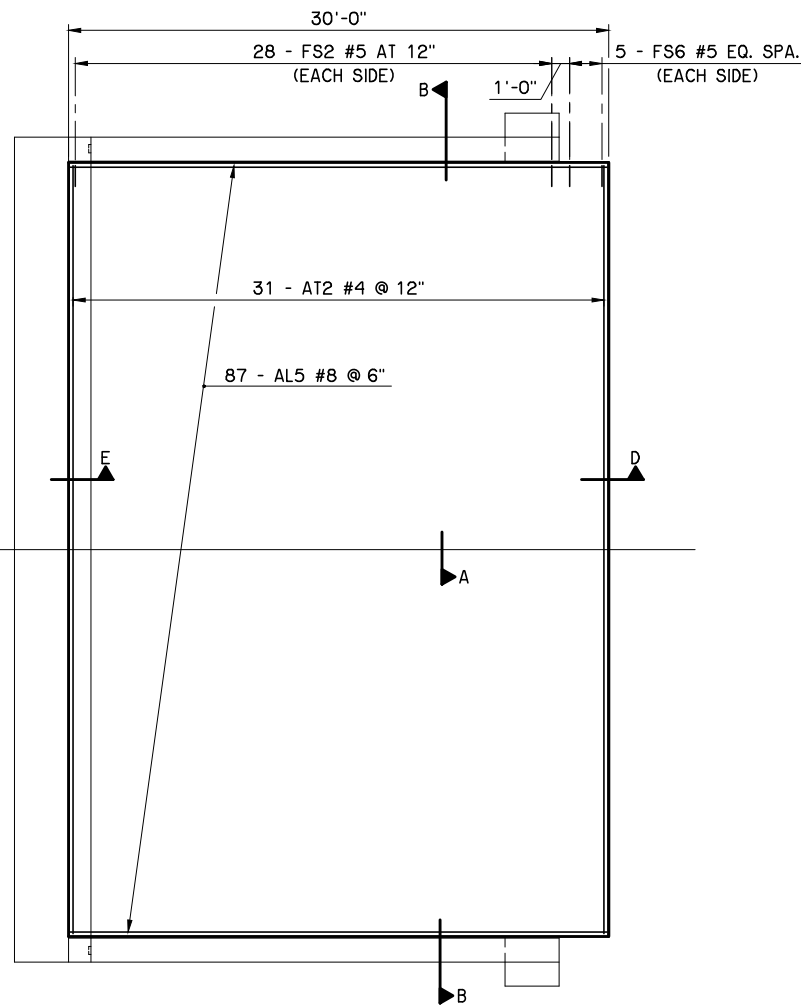
NOTE:
INCLUDE ALL COSTS OF WELDED EXPANSION JOINT ASSEMBLIES IN OTHER ITEMS OF WORK.

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S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
				Detail	DRB
				Check	AFW
				CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 32100(O4)				SHEET NO. B061	



TOP REINFORCING MAT DETAIL
APPROACH SLAB NO. 2

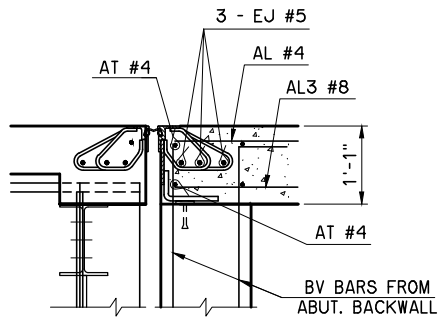


BOTTOM REINFORCING MAT DETAIL
APPROACH SLAB NO. 2

APPROACH SLAB NO. 2 BAR LIST				
MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
AL4	#4	46	STR.	29'-10"
AL5	#8	87	STR.	29'-10"
AT1	#4	62	STR.	21'-2"
AT2	#4	31	STR.	42'-8"
EJ	#5	6	STR.	21'-2"
FS2	#5	56	BNT.	7'-4"
FS6	#5	10	BNT.	7'-6½"

① FOR BAR BEND, SEE STD. FSHP-42-2


NOTE:
SEE SHEET BO61 FOR SECTION A, B, AND D.

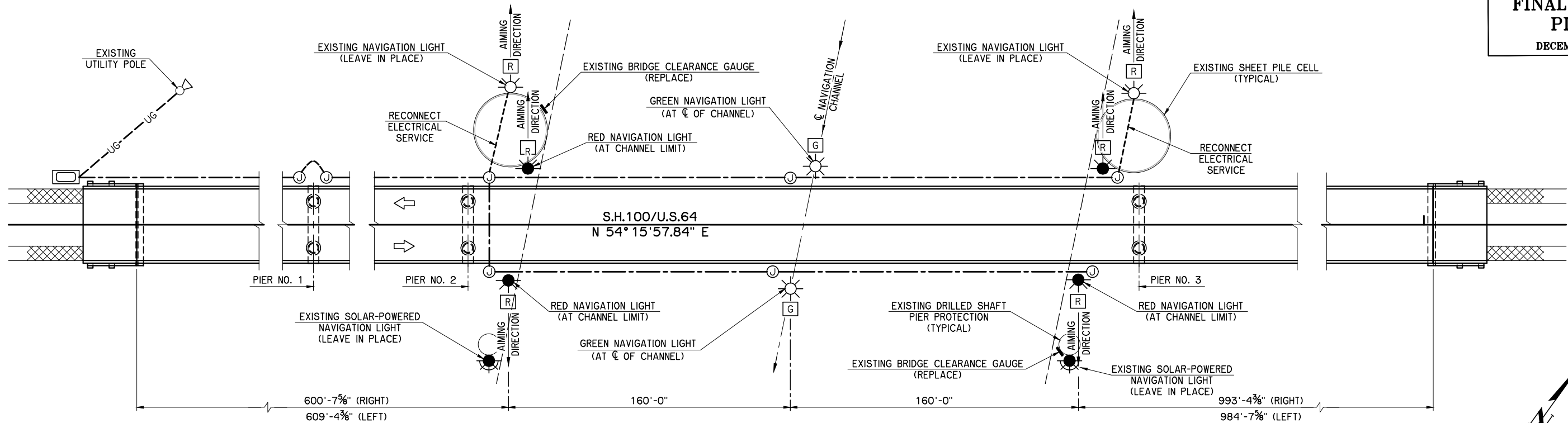


SECTION E

APPROACH SLAB QUANTITIES				
ITEM DESCRIPTION	UNIT	APP. SLAB NO. 1	APP. SLAB NO. 2	TOTAL
APPROACH SLAB	S.Y.	167.3	143.4	310.7
SAW-CUT GROOVING	S.Y.	155.6	133.4	289.0
42" F-SHAPED PARAPET	L.F.	70.0	60.0	130.0
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	8	15	23

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DOCUMENT

S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	DLW
APPROACH SLAB DETAILS SHEET 2 OF 2 APPROACH SLAB DETAILS				Detail	DRB
				Check	AFW
				 CEC	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
JOB PIECE NO. 32100(O4)		SHEET NO. BO62			



NAVIGATION LIGHTING PLAN

NAVIGATION LIGHTING AND MARKING NOTES

PERFORM ALL ELECTRICAL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE AND THE SPECIAL PROVISION "BRIDGE NAVIGATION LIGHTING". COOPERATE WITH THE ENGINEER AND THE LOCAL ELECTRIC UTILITY COMPANY TO KEEP THE EXISTING NAVIGATION LIGHTING SYSTEM AT PIER PROTECTION IN SERVICE WHILE PERFORMING THE WORK SPECIFIED IN THIS CONTRACT UNTIL NAVIGATION LIGHTS ON NEW BRIDGE ARE FULLY OPERATIONAL. FOR TYPICAL ELECTRICAL DETAILS, REFERENCE STANDARDS: CCD1-1, CCD2-1, PBD1-1, SCD1-1, SPD1-1

FURNISH NAVIGATION LIGHTS, RETROREFLECTIVE PANELS, AND CLEARANCE GAUGES COMPLYING WITH THE U.S. DEPARTMENT OF TRANSPORTATION, U.S. COAST GUARD, BRIDGE ADMINISTRATION DIVISION REQUIREMENTS AS SPECIFIED IN 33 CFR 118 - BRIDGE LIGHTING AND OTHER SIGNALS, LATEST EDITION.

PROVIDE 120 VOLT AC INPUT "TIDELAND SIGNAL" MODEL MLED-140 SIGNAL LANTERNS, OR APPROVED EQUAL, WITH EITHER A GREEN 360° OR RED 180° ACRYLIC FRESNEL LENS FOR INVERTED USE.

FURNISH THE NAVIGATION LIGHT ASSEMBLY WITH THE PROPER NAVIGATION LIGHT AND SWING ARM ASSEMBLY OF THE PROPER LENGTH AND WITH REQUIRED SPECIAL MOUNTING BRACKETS AND HARDWARE INCLUDED AT NO ADDITIONAL COST TO THE DEPARTMENT. FABRICATE THE SWING ARM ASSEMBLY AS SHOWN IN THE PLANS. THE SUPPLIER OF THE SWING ARM ASSEMBLY SHALL FURNISH THE ANCHOR PLATE COMPLETE WITH THE SWING ARM OR PROVIDE CONNECTION DESIGN AND/OR DETAILS. INCLUDE ALL COSTS OF INSTALLATION SUPERVISION BY THE NAVIGATION LIGHT ASSEMBLY SUPPLIER(S) IN OTHER ITEMS OF WORK, IF UTILIZED. A POSSIBLE SUPPLIER OF THIS ASSEMBLY IS:

HALLSTEN CORPORATION OF SACRAMENTO, CA 95841
TELEPHONE: (916)331-7211
FAX: (916)331-7223

MATERIAL REQUIREMENTS FOR THE NAVIGATION LIGHT ASSEMBLY ARE AS FOLLOWS:

- (1) PROVIDE SWING ARM ANCHOR PLATE CONFORMING TO AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). GALVANIZE ANCHOR PLATE AFTER FABRICATION.
- (2) PROVIDE CONCRETE ANCHORS HAVING A MINIMUM TENSILE CAPACITY OF 5,000 LBS. AND A MINIMUM SHEAR CAPACITY OF 10,000 LBS.
- (3) PROVIDE RETROREFLECTIVE PANELS AND CLEARANCE GAUGE PANELS COMPOSED OF 0.063" THICK ALUMINUM ALLOY FLAT SHEET CONFORMING TO ASTM B209, ALLOY 6061-T6 OR 5052-H38.
- (4) PROVIDE RETROREFLECTIVE PANEL MOUNT PLATE CONFORMING TO ASTM B209, ALLOY 6061 OR 6063-T6, OR AASHTO M270 (ASTM A709), GRADE 36 (GALVANIZED).
- (5) PROVIDE BOLTS CONFORMING TO ASTM A193, GRADE B8M, CLASS 2 (TYPE 316 STAINLESS STEEL).
- (6) PROVIDE LOCK NUTS CONFORMING TO ASTM A194, GRADE 8M (TYPE 316 STAINLESS STEEL).
- (7) PROVIDE WASHERS COMPOSED OF TYPE 316 STAINLESS STEEL.
- (8) FURNISH MISCELLANEOUS HARDWARE COMPOSED OF NON-CORROSIVE MATERIALS ISOLATE ALUMINUM COMPONENTS FROM DISSIMILAR MATERIALS THROUGH THE USE OF NEOPRENE OR BITUMINOUS COATINGS.

PROVIDE ALL JUNCTION AND PULL BOXES SUITABLE FOR DAMP LOCATION TO PREVENT MOISTURE ENTERING OR ACCUMULATING WITHIN THE BOX. PROVIDE CONTINUOUS SUPPORT FOR ALL GALVANIZED STEEL CONDUIT USING GALVANIZED STRAPS CLAMPED TO BRIDGE SURFACES.

PROVIDE CLEARANCE GAUGES AT LOCATIONS SHOWN USING 36 SERIES E NUMERALS. ATTACH GAUGE PANELS TO CONCRETE COLUMN SURFACES WITH STAINLESS STEEL EXPANSION ANCHORS.


ALL REMOVED NAVIGATION LIGHTS AND BRACKETS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

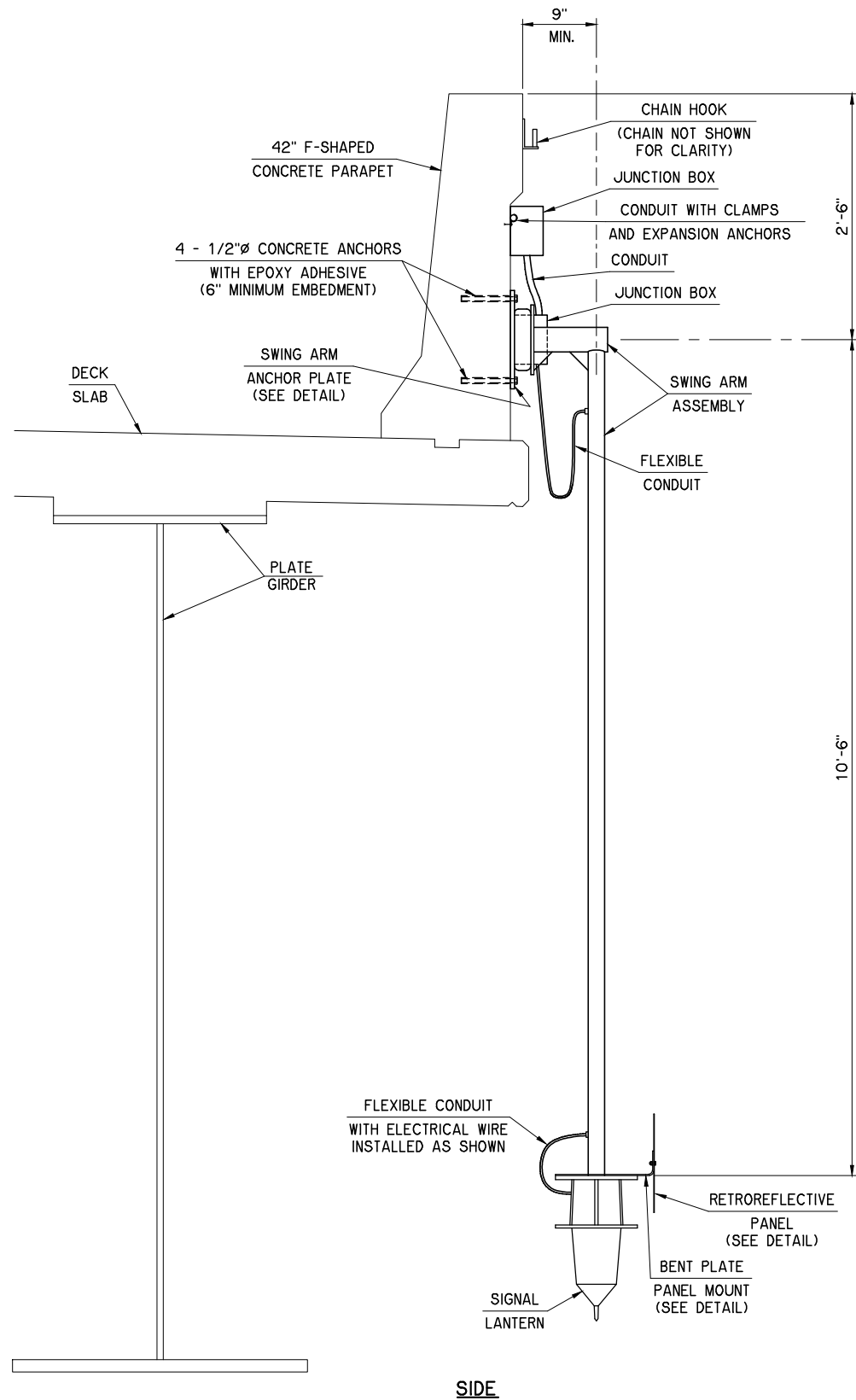
NOTE:
SEE SHEET B064, FOR TYPICAL
NAVIGATION LIGHT ASSEMBLY DETAILS.

LEGEND

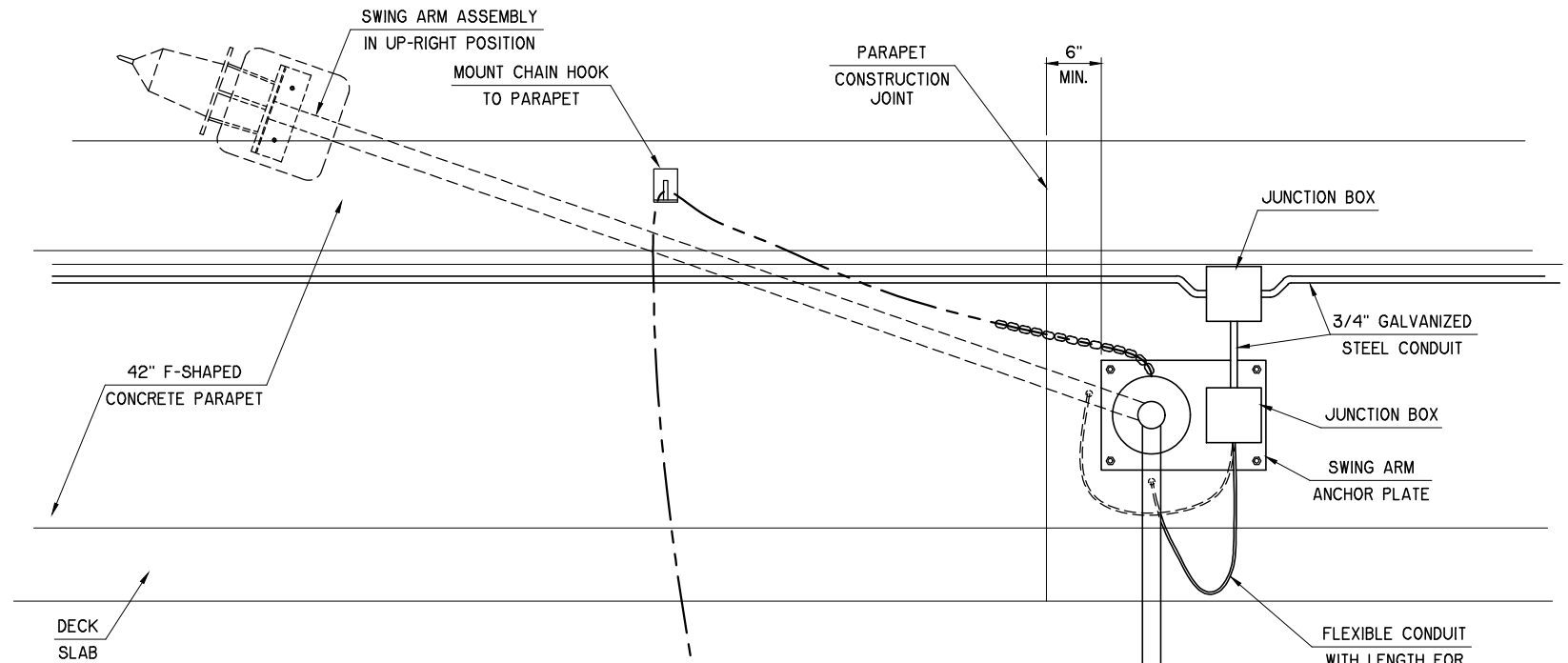
- UG--- 1" SCH. 80 PVC CONDUIT (UNDERGROUND)
- 3/4" GALVANIZED STEEL CONDUIT (EXPOSED) WITH TWO NO. 10 AWG CONDUCTORS
- 3/4" FLEXIBLE CONDUIT (EXPOSED) WITH CONDUCTORS AT BRIDGE EXPANSION JOINT
- WEATHER PROOF JUNCTION BOX (6"x6"x4" GALV.) SPACED 200' MAX. FOR EASY PULL
- PULL BOX (SEE STD. PBD1)
- GREEN NAVIGATION LIGHT (360 DEGREE HORIZONTAL ARC)
- RED NAVIGATION LIGHT (180 DEGREE HORIZONTAL ARC)
- RED SOLAR POWERED NAVIGATION LIGHT
- EXISTING RED NAVIGATION LIGHT
- RED SQUARE RETROREFLECTIVE PANEL
- GREEN SQUARE RETROREFLECTIVE PANEL
- CLEARANCE GAUGE

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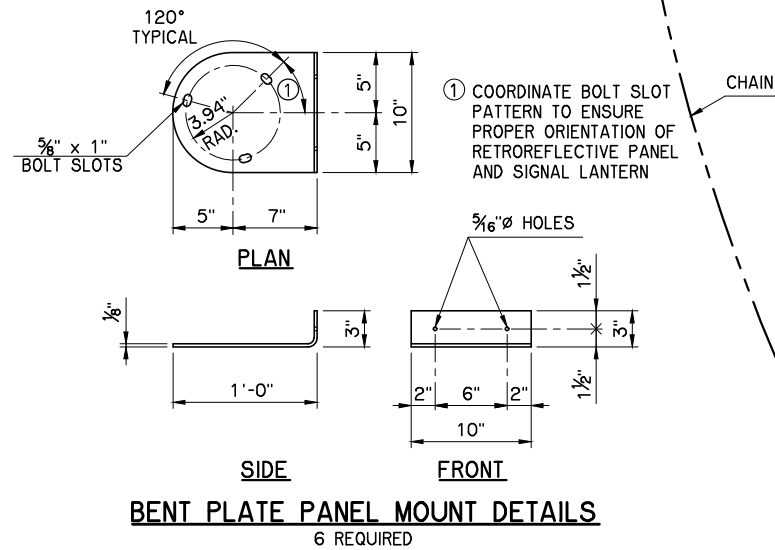
S.H.100/U.S.64 OVER McCLELLAN-KERR ARKANSAS RIVER NAVIGATION WATERWAY		MUSKOGEE CO. SEQUOYAH CO.		Design	CEG	
NAVIGATION LIGHTING DETAILS SHEET 1 OF 2				Detail	DRB	
				Check	DLW	
						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 32100(O4)		SHEET NO. B063				



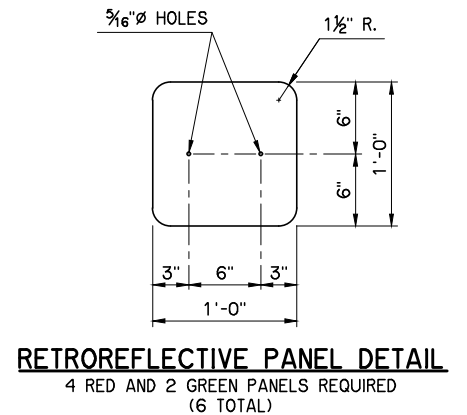
SIDE



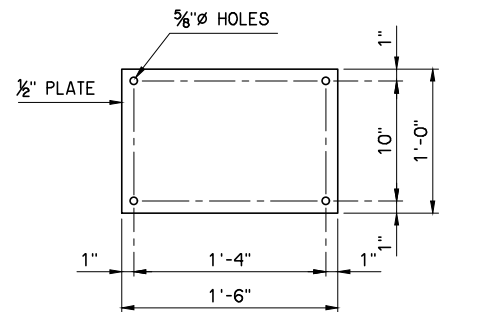
ELEVATION



NAVIGATION LIGHT AND SWING ARM ASSEMBLY DETAILS
6 REQUIRED



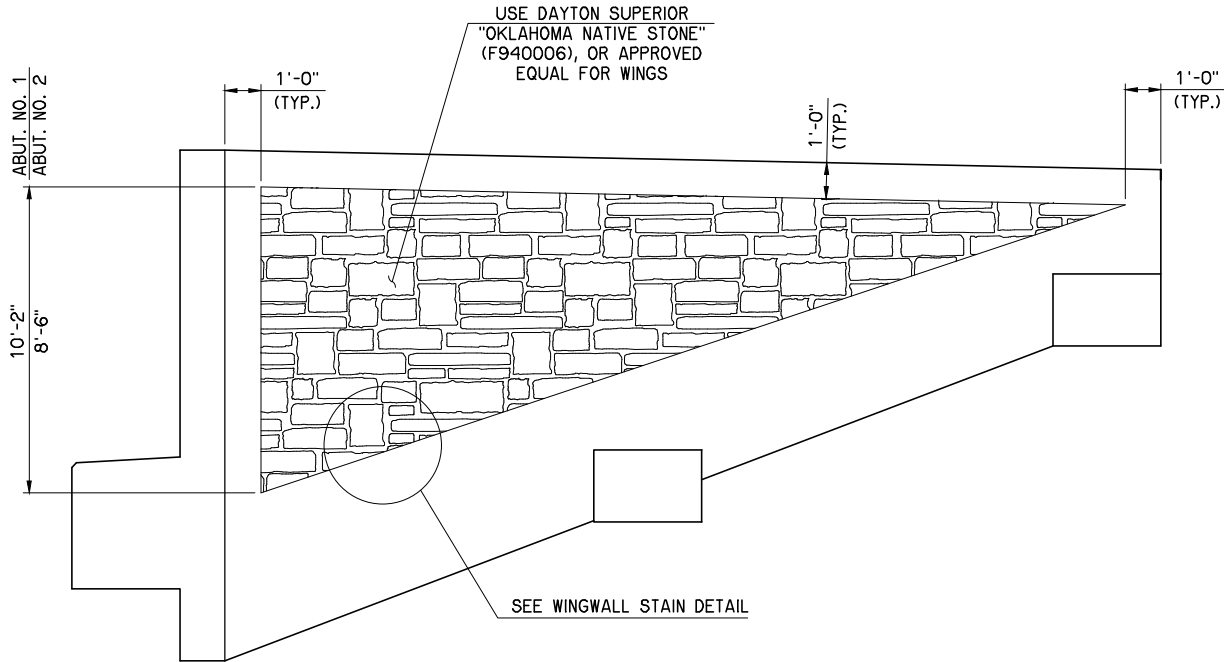
RETROREFLECTIVE PANEL DETAIL
4 RED AND 2 GREEN PANELS REQUIRED
(6 TOTAL)



SWING ARM ANCHOR PLATE DETAIL
6 REQUIRED

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Design		CEG	
Detail		DRB	
Check		DLW	
NAVIGATION LIGHTING DETAILS		SHEET 2 OF 2	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 32100(O4)		SHEET NO. B064	



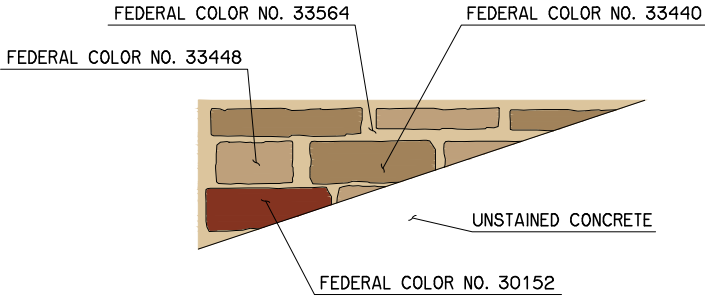
WINGWALL FORM LINER ELEVATION

ABUTMENT NO. 1 SHOWN,
ABUTMENT NO. 2 SIMILAR

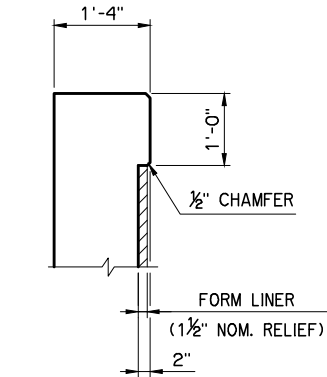
WINGWALL FORM LINER NOTES

INCLUDE ALL COSTS ASSOCIATED WITH WINGWALL FORM LINERS (LEDGE STONE PATTERN) FOR CLASS "A" CONCRETE. SEE SHEET NO. B015 IN THE PLANS FOR ADDITIONAL WINGWALL DETAILS.

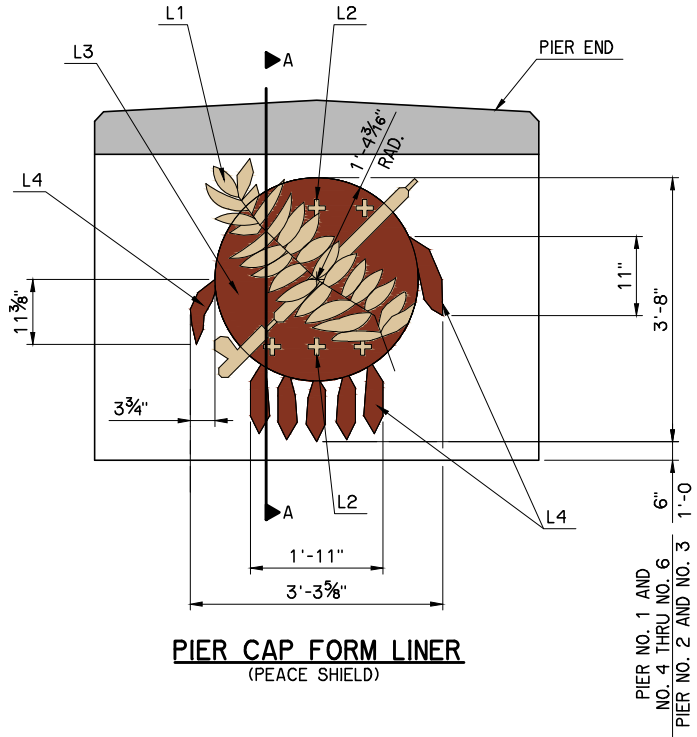
STAIN WINGWALL SURFACES WITH THE OKLAHOMA NATIVE STONE PATTERN. APPLY FEDERAL COLOR NO. 33564 AS A BASE. HAND PAINT THE PATTERN ON THE WINGWALL WITH ACCENT COLORS 33448 (50%), 33440 (40%), AND 30152 (10%).



WINGWALL STAIN DETAIL



FORM LINER DETAIL



PIER CAP FORM LINER
(PEACE SHIELD)

SECTION A-A

- L1 - LEVEL ONE - OUTSET 4" FROM PANEL FACE - FEDERAL COLOR #33564
- L2 - LEVEL TWO - OUTSET 3" FROM PANEL FACE - FEDERAL COLOR #33564
- L3 - LEVEL THREE - OUTSET 2" FROM PANEL FACE - FEDERAL COLOR #30152
- L4 - LEVEL FOUR - OUTSET 1" FROM PANEL FACE - FEDERAL COLOR #30152

END PIER CAP FORM LINER NOTES


INSTALL PEACE SHIELD FORM LINER ON BOTH ENDS OF THE PIER CAPS. CENTER PEACH SHIELD ON THE CENTERLINE OF PIER. INCLUDE ALL COSTS ASSOCIATED WITH END PIER CAP FORM LINERS (PEACE SHIELD) FOR CLASS "A" CONCRETE. END PIER CAP FORM LINERS (PEACE SHIELD) ARE THE PROPERTY OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AND WILL BE PROVIDED TO THE CONTRACTOR. SEE SHEET NOS. B019-B025 IN THE PLANS FOR ADDITIONAL PIER CAP DETAILS.

DELIVER ALL FORM LINERS, TO THE OKLAHOMA DEPARTMENT OF TRANSPORTATION AT A LOCATION DETERMINED BY THE ENGINEER IN ACCEPTABLE CONDITION AT THE COMPLETION OF THE PROJECT.

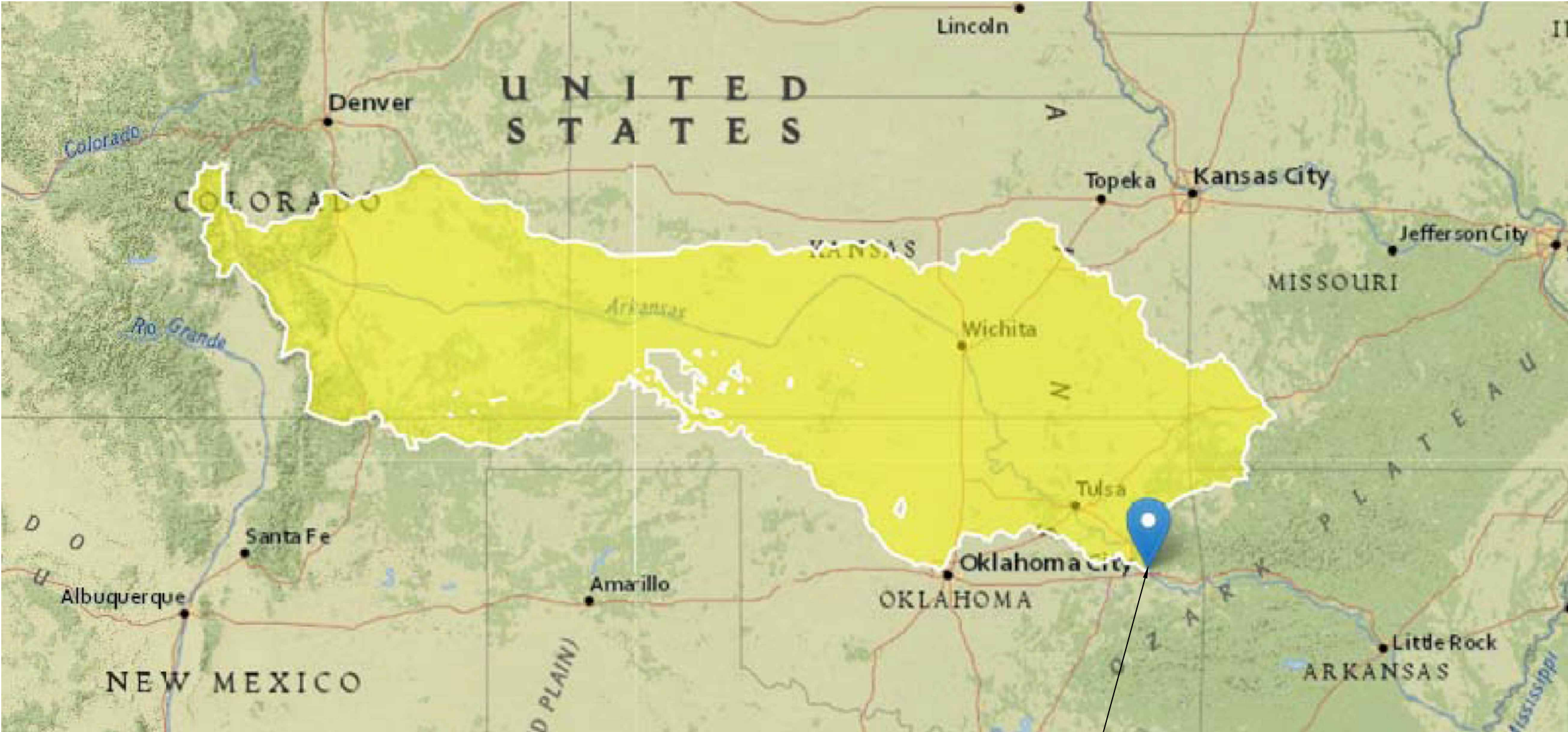
THE RECOMMENDED STAIN COLORS MAY BE CHANGED AT THE DIRECTION OF THE ENGINEER.

APPLY WATER REPELLANT AFTER STAINING OPERATIONS.

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				Detail	DRB	
				Check	DLW	
				 CEC		
BRIDGE AESTHETICS DETAILS						
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PIECE NO. 32100(O4)				SHEET NO. BAO1

<div>REVIEWS</div> <table><tr><td>REV. NO.</td><td>DESCRIPTION</td><td>DATE</td></tr><tr><td></td><td></td><td></td></tr></table>			REV. NO.	DESCRIPTION	DATE															
REV. NO.	DESCRIPTION	DATE																		
U.S. ARMY CORPS OF ENGINEERS SECTION 404 PERMIT CONDITIONS																				
404 PERMIT INFORMATION	PERMIT GENERAL CONDITIONS	PERMIT GENERAL CONDITIONS																		
<div>NATIONWIDE PERMIT NO. 14</div> <div><input type="checkbox"/> 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"/></div><div>NO PRE-CONSTRUCTION NOTIFICATION REQUIRED: PROJECT DOES NOT REQUIRE NOTIFICATION TO THE US ARMY CORPS OF ENGINEERS (USACE) IN ORDER TO COMMENCE.</div></div> <div><div><input checked="" type="checkbox"/></div><div>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> <div><div><input type="checkbox"/></div><div>INDIVIDUAL PERMIT: WILL BE MONITORED CLOSELY BY THE USACE.</div></div> <div><div><input type="checkbox"/></div><div>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> <div><div><input type="checkbox"/></div><div>NO PERMIT REQUIRED</div></div> <div>SWT TRACKING NO. 2022-624</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, WORK PADS, ETC.) WORK, AND DISCHARGES, INCLUDING COFFERDAMS, ARE NECESSARY FOR CONSTRUCTION ACTIVITIES, ACCESS FILLS, OR DE WATERING 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 CANALIZATION 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 RIVERCHANNEL (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>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>																		
		401 CERTIFICATION CONDITIONS																		
		<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 checked="" type="checkbox"/></div><div>ALL SPILLS OF FUEL OR POLLUTANTS IN EXCESS OF FIVE GALLONS SHALL BE REPORTED TO ODEQ WITHIN 24 HRS AND REPORTED TO POLLUTION PREVENTION HOTLINE (1-800-522-0206)</div></div> <div><div><input checked="" type="checkbox"/></div><div>ALL FUELING AND SERVICING OF VEHICLES AND EQUIPMENT SHALL BE DONE OUTSIDE THE ORDINARY HIGH WATER MARK</div></div> <div><div><input checked="" type="checkbox"/></div><div>THE PERMITTEE SHALL PROVIDE ACCESS TO THE PROPERTY TO ODEQ FOR INSPECTIONS.</div></div> <div><div><input checked="" type="checkbox"/></div><div>ANY STOCKPILE SHALL BE ABOVE ORDINARY HIGH WATER MARK AND REMOVED FROM LIKELY FLOOD ZONE</div></div> <div><div><input checked="" type="checkbox"/></div><div>BEST MANAGEMENT PRACTICES SHOULD BE USED TO CONTROL SOIL EROSION AND MAINTAIN COMPLIANCE WITH WATER QUALITY STANDARDS.</div></div> <div><div><input checked="" type="checkbox"/></div><div>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>SECTION 404 PERMIT COMPLIANCE</div><table><tr><td>DETAIL</td><td></td><td></td></tr><tr><td>REVIEW</td><td></td><td></td></tr><tr><td>APPROVED</td><td></td><td></td></tr><tr><td colspan="3">ENVIRONMENTAL DIVISION</td></tr></table><table><tr><td>STATE OF OKLAHOMA</td><td>DEPARTMENT OF TRANSPORTATION</td></tr><tr><td colspan="2">JOB/PROJECT NO. 32100(04)</td></tr><tr><td colspan="2">SHEET NO. E001</td></tr></table></div>	DETAIL			REVIEW			APPROVED			ENVIRONMENTAL DIVISION			STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB/PROJECT NO. 32100(04)		SHEET NO. E001	
DETAIL																				
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JOB/PROJECT NO. 32100(04)																				
SHEET NO. E001																				



PROJECT LOCATION
DA = 104,603 SQ. MI.

RECEIVING WATERS =
McCLELLAN KERR ARKANSAS
RIVER NAVIGATION SYSTEM

HUB, E. N. G. I. N. G. S.
Time of Plot: 11/12/2022 6:47 PM Plot Style: -HUB-HALF.CTB
G:\2019\19000TUS64\DESIGN\Production Plans\R001-32100(04)-DRN MAP.dwg

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	RR	10/19	
CHECKED	WS	10/19	DRAINAGE MAP
APPROVED			
SQUAD	ENGINEERS		
COUNTY	MUSK/SEQ.	HIGHWAY	SH-100
STATE JOB NO.	32100(04)	SHEET NO.	R001

Hub Engineering
Time of Plot: 11/14/2022 3:03 PM Plot Style: MONOCHROME.STB
(C:\2019\19000TUS64\DESIGN\Production Plans R002-321004-STORM WATER MANAGEMENT PLAN.dwg)



STORM WATER MANAGEMENT PLAN

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FINAL FIELD MEETING
DECEMBER 2022

SITE DESCRIPTION

PROJECT LIMITS: SH-100 OVER McCLELLAN KERR ARKANSAS RIVER NAVIGATION SYSTEM
APPROXIMATELY 2900 FEET.

PROJECT DESCRIPTION: BRIDGE AND APPROACHES

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES: _____
1. PLACE TEMPORARY EROSION CONTROL DEVICES PRIOR TO ALL CONSTRUCTION ACTIVITY.
2. PERFORM CLEARING AND GRUBBING, PRESERVING ANY VEGETATION NOT IMPEDING
CONSTRUCTION.
3. REMOVE AND STOCKPILE TOPSOIL. PROVIDE EROSION CONTROL DEVICES AS NEEDED TO
PROTECT STOCKPILE.
4. AS GRADING IS COMPLETED, PLACE TEMPORARY MULCHING AND/OR SEEDING.
5. AS PERMANENT VEGETATION IS ESTABLISHED (70% COVER), TEMPORARY SEDIMENT
6. AS CONDITIONS WARRANT, THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, MAY
MODIFY THE TYPE OR ARRANGEMENT OF THE SPECIFIC PRACTICE OR CONTROLS TO
IMPROVE THEIR EFFECTIVENESS.

SOIL TYPE: OKLARED FINE SANDY LOAM KIOMATIA LOAMY FINE

TOTAL AREA OF THE
CONSTRUCTION SITE: 47.5 ACRES

ESTIMATED AREA TO BE DISTURBED: 1.4 ACRES

OFFSITE AREA TO BE DISTURBED:
(FOR CONTRACTOR USE) _____

TOTAL IMPERVIOUS AREA
PRE-CONSTRUCTION: 1.1 ACRES

TOTAL IMPERVIOUS AREA
POST-CONSTRUCTION: 1.1 ACRES

POST-CONSTRUCTION RUNOFF
COEFFICIENT OF THE SITE: 0.25

LATITUDE & LONGITUDE
OF CENTER OF PROJECT: 35°31'09"N, 95°07'34"W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: ARKANSAS RIVER-ROBERT S. KERR LAKE

SENSITIVE WATERS OR WATERSHEDS: YES ☒ NO ☐

303(d) IMPAIRED WATERS: YES ☒ NO ☐

IF YES, LIST IMPAIRMENT: TURBIDITY

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 TARPAULIN
☒ 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.

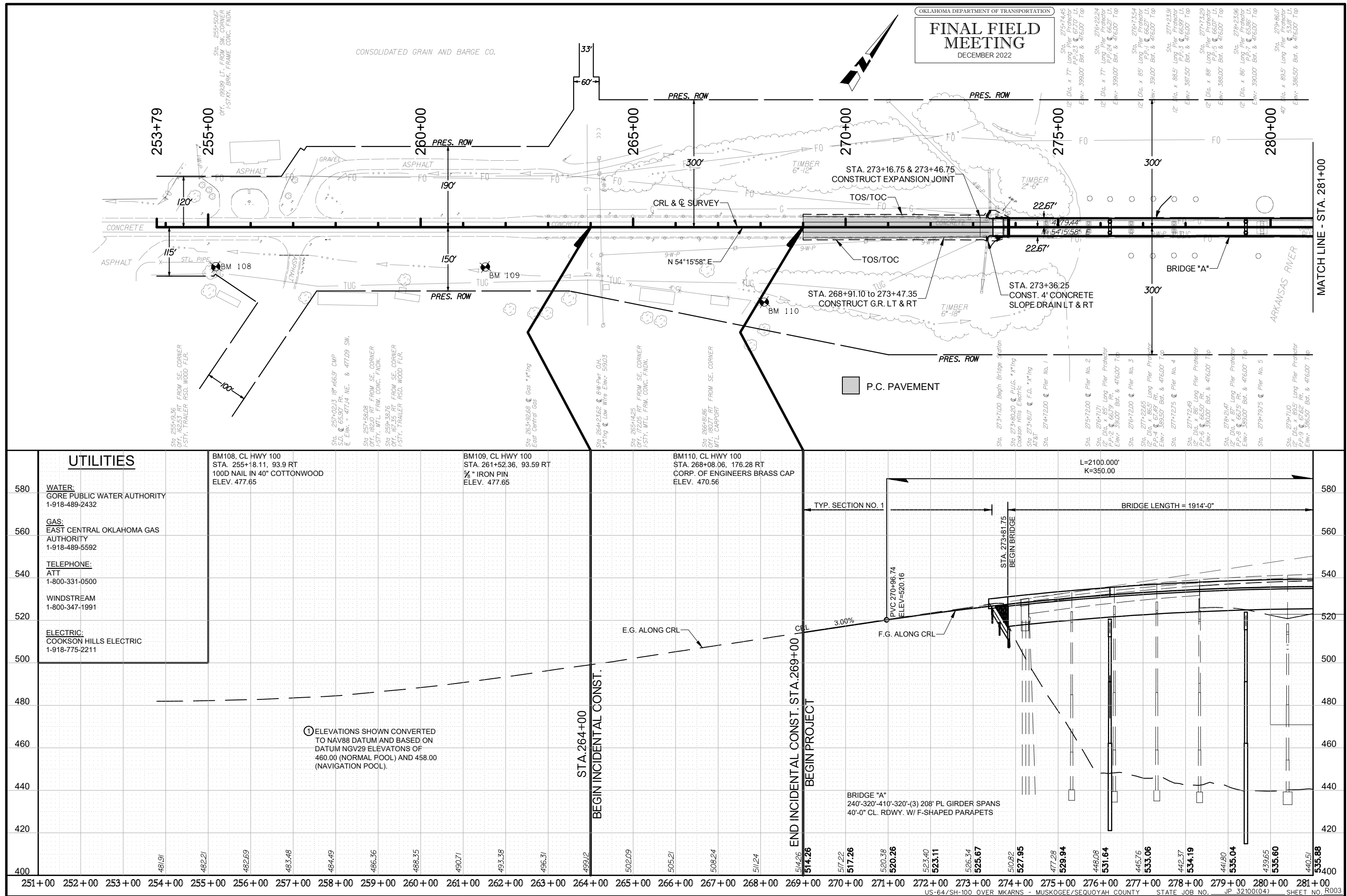
THE FOLLOWING SECTIONS OF THE 2019 ODOT STANDARD SPECIFICATIONS SHOULD
BE NOTED:

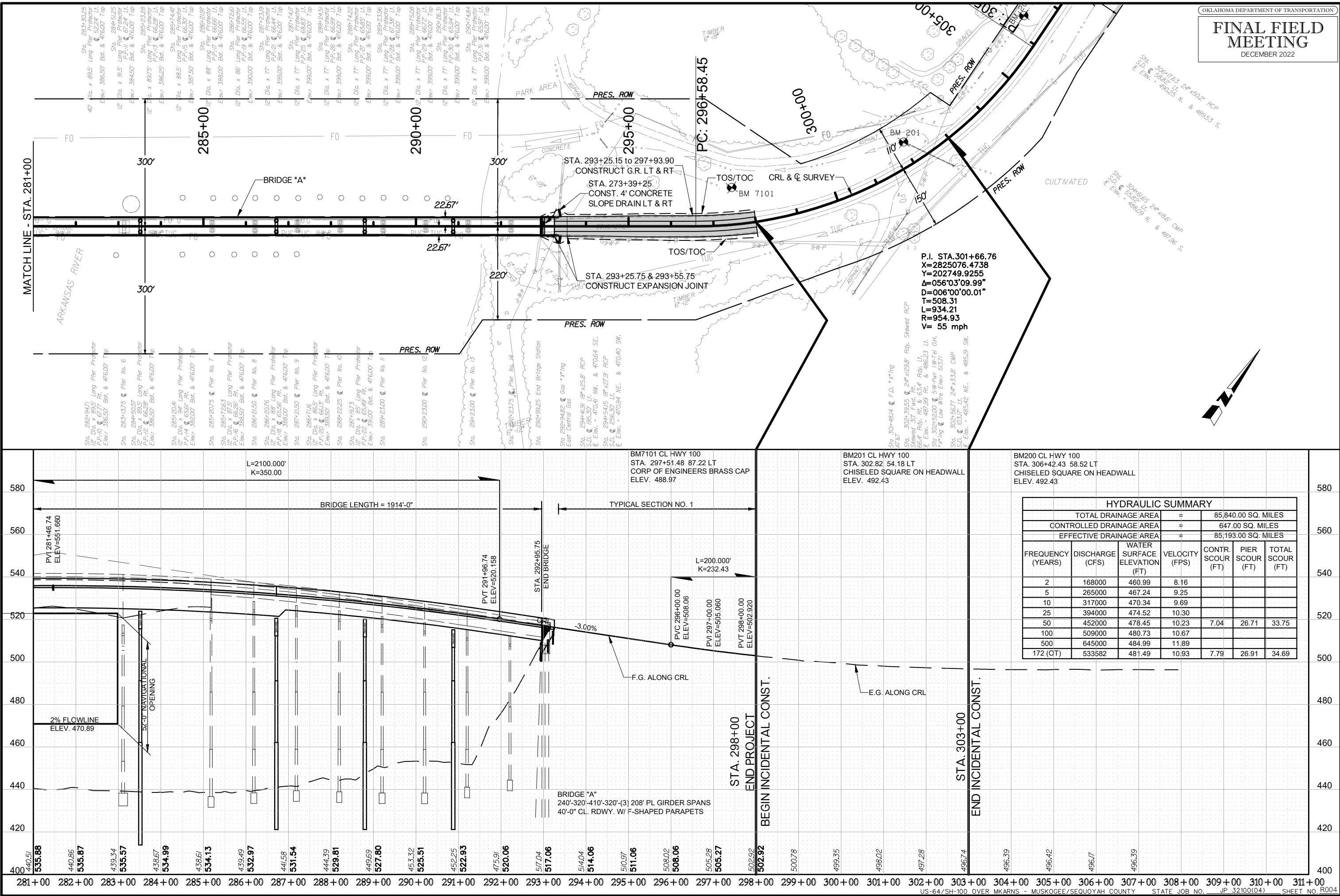
- 103.05 BONDING REQUIREMENTS
104.10 FINAL CLEANING UP
104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
104.13 ENVIRONMENTAL PROTECTION
106.08 STORAGE AND HANDLING OF MATERIAL
107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
107.20 STORM WATER MANAGEMENT
220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM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

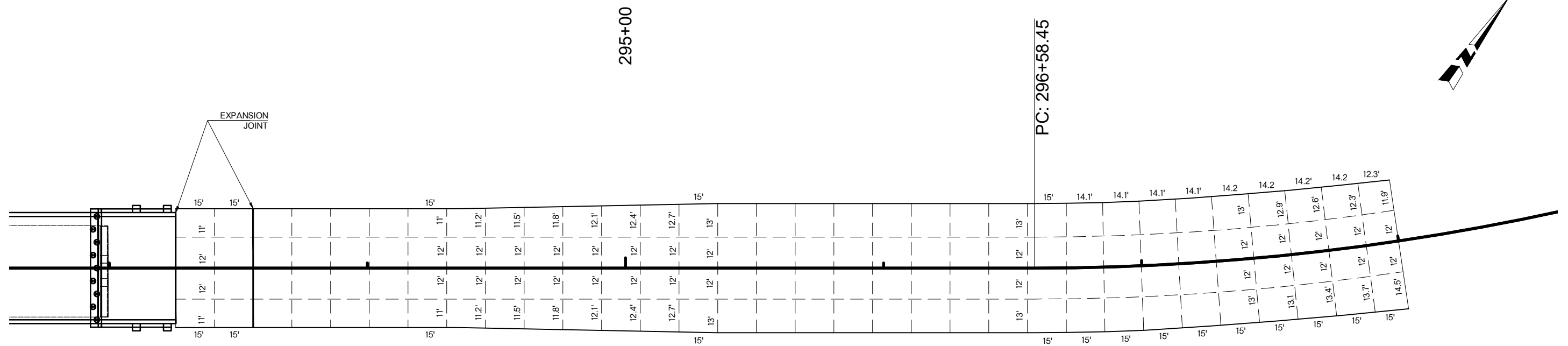
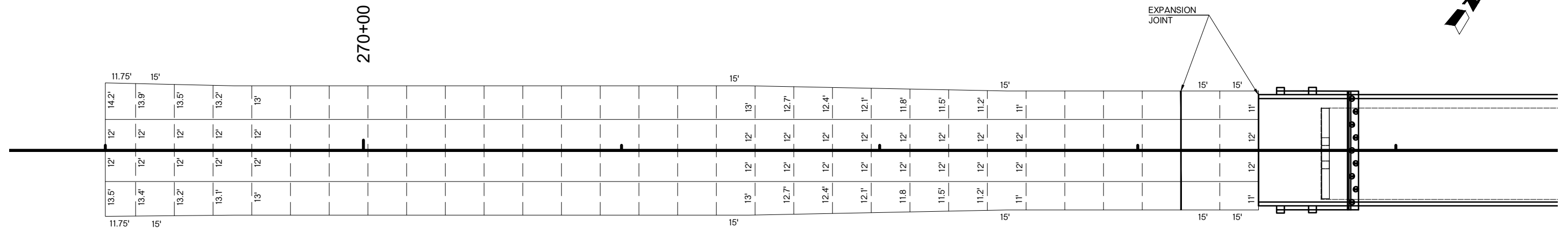
IN ADDITION:


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

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION		
DRAWN	RR	10/19	STORM WATER MANAGEMENT PLAN		
CHECKED	WS	10/19			
APPROVED					
SQUAD		ENGINEERS			
COUNTY	MUSK/SEQ	HIGHWAY	SH-100	STATE JOB NO	32100(04)
			SHEET NO. R002		







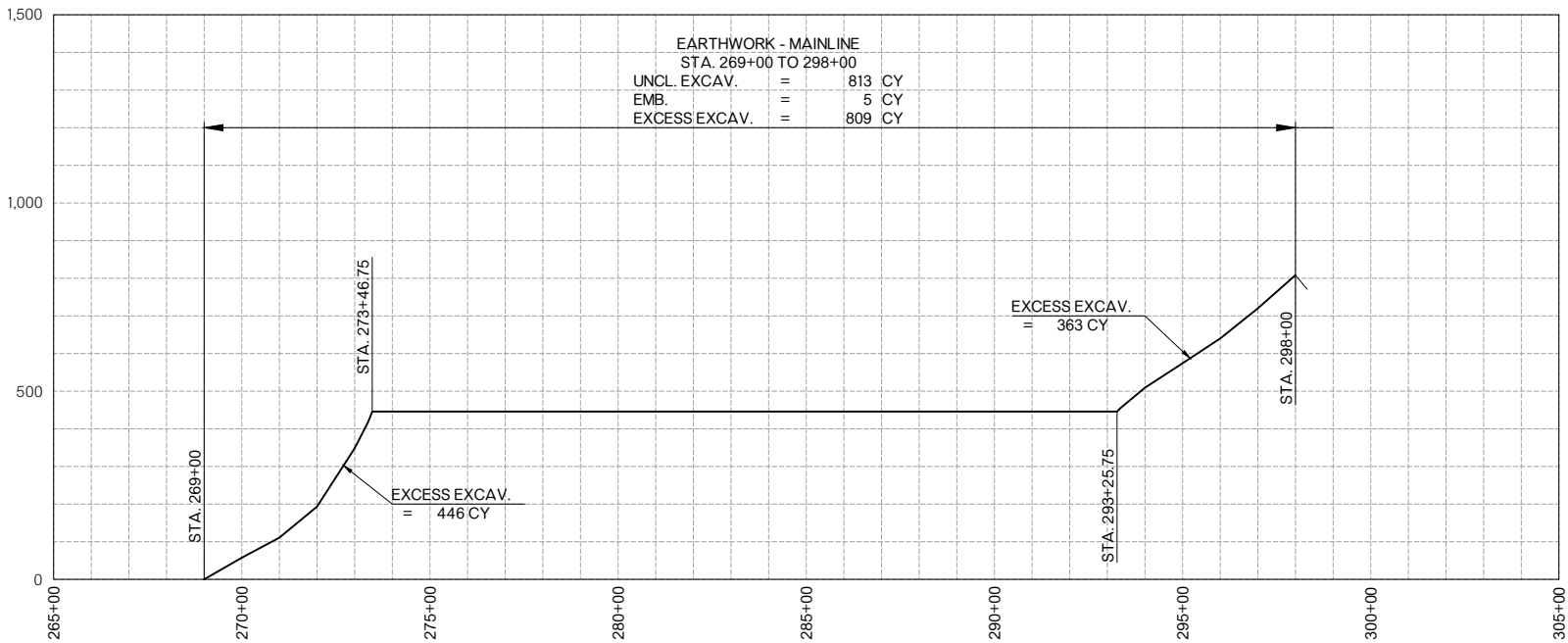
DESIGN	WS	10/19
DRAWN	AJ	10/19
CHECKED	WS	10/19
APPROVED		
SQUAD		ENGINEERS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION

JOINT LAYOUT

COUNTY MUSK/SEQ HIGHWAY SH-100 STATE JOB NO. 32100(04) SHEET NO. R005

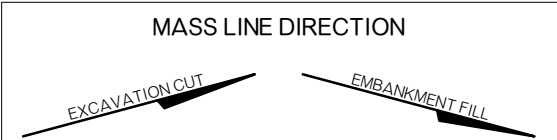
SUMMARY OF EARTHWORK QUANTITIES				
STATION TO STATION ± SURVEY	UNCLASSIFIED EXCAVATION	EMBANKMENT	EXCESS EXCAVATION	WASTE
	202(A) CY	CY	CY	CY
STATION 269+00 TO 273+46.75	447	1	446	
STATION 293+25.75 TO 298+00	366	3	363	
TOTAL	813	4	0	809



A001 - MAINLINE

MASS HAUL DIAGRAM PROVIDES FOR BIDDING PURPOSES ONLY. ACTUAL BALANCE POINTS TO BE DETERMINED BY CHARACTER OF MATERIAL ENCOUNTERED DURING CONSTRUCTION. WHENEVER POSSIBLE, THE CONTRACTOR SHALL SEQUENCE EARTHWORK OPERATIONS IN ORDER TO OBTAIN THE MATERIAL FROM THE CUT SECTION FOR USE AS FILL RATHER THAN OBTAINING UNCLASSIFIED BORROW. MATERIAL DEPICTED AS WASTE SHALL ONLY BE CONSIDERED WASTE ONCE ALL EARTHWORK OPERATIONS HAVE BEEN COMPLETED. THIS MATERIAL SHALL BE USED TO REDUCE THE NEED FOR UNCLASSIFIED BORROW AT ANY LOCATION AND TIME THROUGH THE DURATION OF THE PROJECT.

THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS ARE COMPLETED. IF CONTRACTOR OPERATIONS REQUIRE HIM TO STOCKPILE THE EXCESS EXCAVATION, THE COST OF THE SECOND HAULING SHALL BE INCLUDED IN OTHER ITEMS OF WORK.



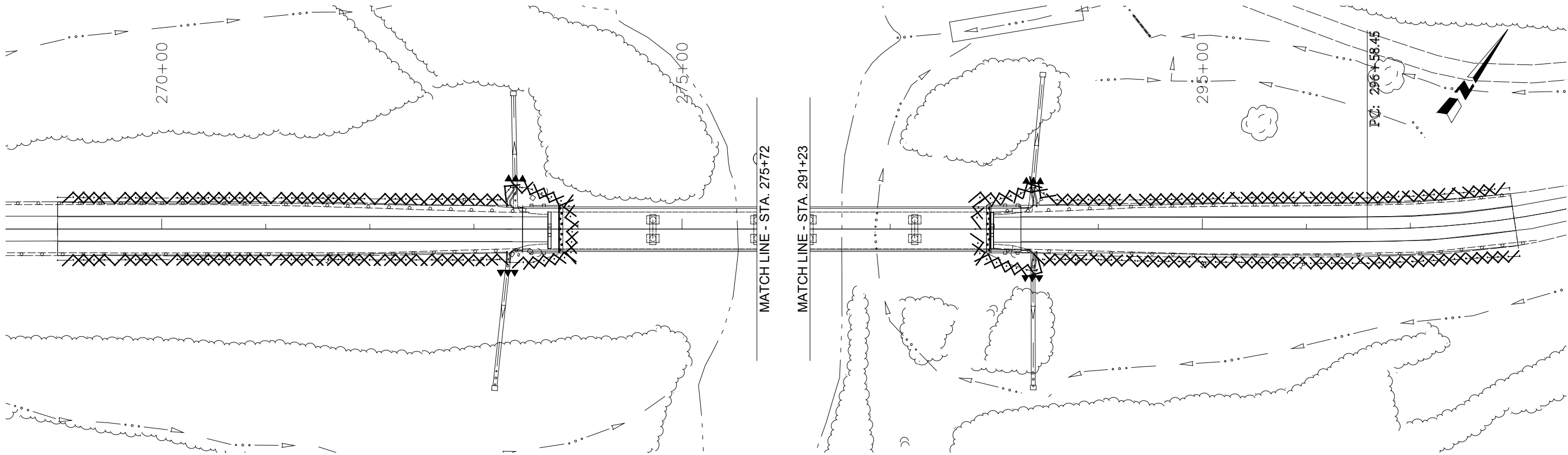
DESIGN	WS	10/19
DRAWN	AJ	10/19
CHECKED	WS	10/19
APPROVED		
SQUAD		ENGINEERS

OKLAHOMA DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN DIVISION

MASS HAUL DIAGRAM



FINAL FIELD MEETING
DECEMBER 2022



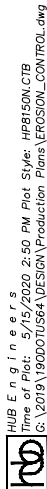
KEY

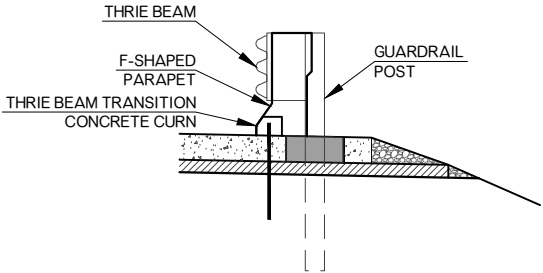
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKE

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION
DRAWN	AJ	11/22	
CHECKED	WS	10/19	
APPROVED			
SQUAD	ENGINEERS		
COUNTY			CHEROKEE
HIGHWAY			SH-10
STATE JOB NO.			28969(04)
SHEET NO.			R007

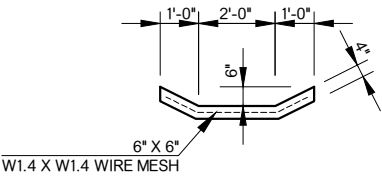
EROSION CONTROL



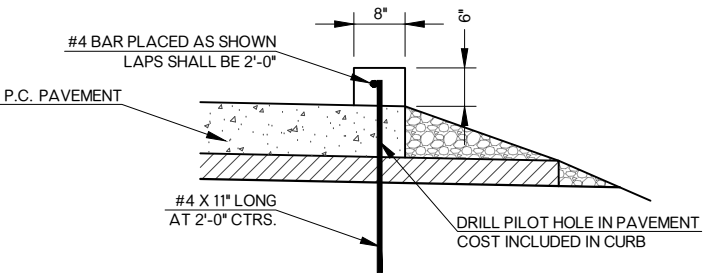




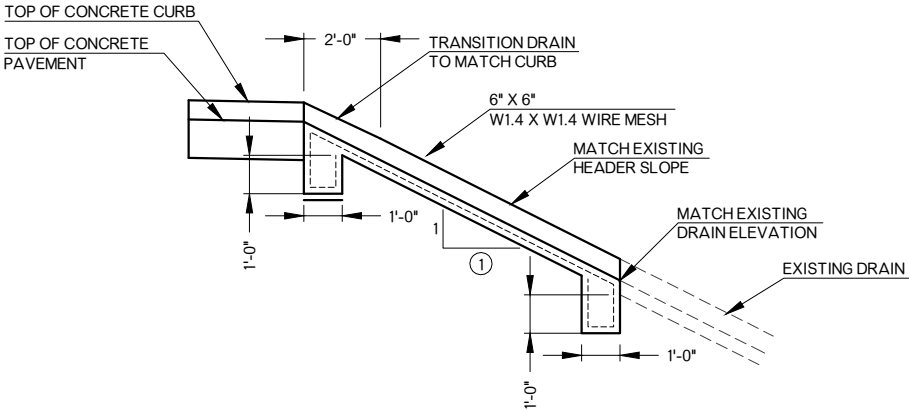
SECTION A-A



SECTION C-C




DETAIL OF CONCRETE CURB



SECTION B-B

① MATCH HEADER SLOPE

NOTE: SLOPE DRAINS AND CURBS SHALL BE CONSTRUCTED USING CLASS 'C' CONCRETE AS SHOWN ON THIS SHEET. COST OF WIRE MESH INCLUDED IN THE PRICE BID FOR CLASS 'C' CONCRETE.

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION	
DRAWN	AJ	11/22		
CHECKED	WS	10/19	BRIDGE END DRAIN DETAILS (2 of 2)	
APPROVED				
SQUAD		ENGINEERS		
COUNTY	MUSK/SEQ	HIGHWAY	SH-100	STATE JOB NO 32100(04) SHEET NO R009

SURVEY CONTROL DATA

1. POSITIONAL CONTROL:

- A. POSITIONAL CONTROL FOR THIS SURVEY IS THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM, NAD83 (1993), LAMBERT PROJECTION (NORTH ZONE).
- B. ACCURACY - THE POSITIONAL CONTROLS FOR THIS SURVEY MEETS OR EXCEEDS THE FOLLOWING ACCURACY CRITERIA:
1. NETWORK ACCURACY: 0.10 FOOT
 2. LOCAL ACCURACY: 0.05 FOOT

2. BEARINGS:

THE BEARINGS SHOWN HEREIN OR HEREON ARE GRID BEARINGS DERIVED FROM THE NGS OKLAHOMA STATE PLANE COORDINATE SYSTEM AND ARE NOT ASTRONOMICAL. THE ANGLE OF VARIANCE BETWEEN GRID NORTH (GN) AND THE ASTRONOMICAL TRUE NORTH (TN) IS DEPICTED DIAGRAMMATICALLY.

3. VERTICAL CONTROLS:

- A. LEVEL DATUM IS NAVD 88 FROM STATIC GPS.
- B. ACCURACY - VERTICAL CONTROL FOR THIS SURVEY MEETS OR EXCEEDS THE FOLLOWING ACCURACY CRITERIA:
1. NETWORK ACCURACY (FROM GPS OR LEVELING): 0.10 FOOT
 2. LOCAL ACCURACY (CONFIRMED BY LEVELING): 0.02 FOOT

SURVEY BEGAN: October 15, 2018
SURVEY COMPLETED: January 11, 2019

SURVEY CREW MEMBERS:

Tony Robison, Professional Land Surveyor
Edward Seaton, Professional Land Surveyor
Ryan Thompson, Party Chief
Dakota Robison, Draftsman/Survey Technician
Lucas Standridge, Survey Technician
Cody Sherman, Survey Technician

EQUIPMENT:

- 5 TRIMBLE R8-3 GPS RECIEVER
- 1 TRIMBLE R8-2 GPS RECIEVER
- 3 TRIMBLE TSC3 DATA COLLECTOR
- 1 TRIMBLE TSC2 DATA COLLECTOR
- 1 TOPCON GPT-2003 TOTAL STATION
- 1 TRIMBLE M3 TOTAL STATION
- 1 TRIMBLE D1N1 DIGITAL LEVEL

SCALES 1" = 50' TOWN
1" = 100'
1" = 500'

THIS SURVEY MEETS THE OKLAHOMA MINIMUM STANDARDS FOR THE PRACTICE OF LAND SURVEYING AS ADOPTED BY THE OKLAHOMA STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, JULY 25, 2013.

SPECIFICATIONS FOR SURVEYS FOR PRIMARY AND SECONDARY HIGHWAYS DATED JANUARY, 2017 GOVERN.



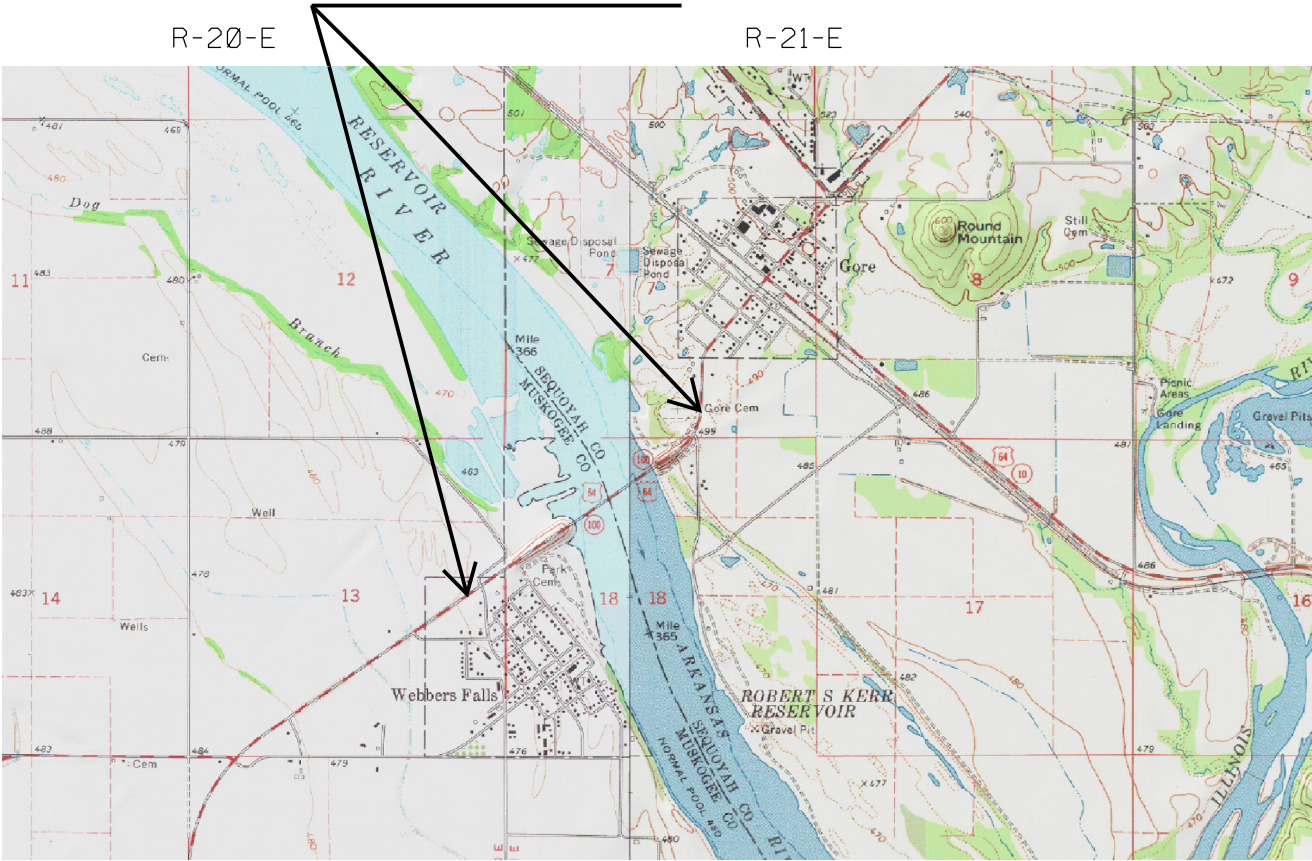
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SURVEY DATA SHEETS
MUSKOGEE & SEQUOYAH COUNTY
S.H. 100
SWO 5375(1)
STATE JOB NO. 32100(04)

PROJECT LOCATION

SURVEY EXTENTS



MUSKOGEE CO/SEQUOYAH CO

PROJECT LENGTH 5,413 Ft. 1.0 MI.

BEGINNING STATION : 253+79.01
ENDING STATION : 307+92.44

INDEX OF SURVEY SHEETS

S001. TITLE SHEET
S002-S005. SURVEY REPORTS
S006-S007. SURVEY DATA SHEETS

UTILITY COMPANY OWNER'S LIST

E.C.O.G.A.	918-489-5592
GORE P.W.A.	918-489-2432
COOKSON HILLS ELECTRIC	918-775-2211
OG&E	405-272-9741
AT&T	800-331-0500
WINDSTREAM COMMUNICATIONS	800-347-1991
CROSS TELEPHONE	918-473-0196

"CALL BEFORE YOU DIG"
THE NEW NATIONAL LOCATE NUMBER
••811••

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

SWO 5375(1) Job/Piece 32100(04) Engr. Contract No. 1872-B

LAND SURVEYOR'S CERTIFICATION

I hereby certify that all land and property sub-division distances, angles, corners, and monumentation made or used in conjunction with this survey and depicted or recorded herein or hereon were recovered, established or re-established in substantial conformity with:

- Applicable instructions contained in the U.S. Government Bureau of Land Management publication "Manual of Survey Instruction",
- Its supplement, "Restoration of Lost or Obliterated Corners and Sub-division of Sections",
- "Oklahoma Minimum Standards for the Practice of Land Surveying" as adopted by the State Board of Licensure for Professional Engineers and Land Surveyors; and
- Sound land surveying practices;

including a thorough search, study, analysis and consideration of all existing records and field evidence.

I further certify that all survey monuments depicted exist and that all land survey work was done by me or under my direct supervision.

Dated this 11 day of January, 2019.

Land Surveyor Tony Robison (Seal)

Tony Robison
Printed Name

Oklahoma Licensed Land Surveyor No. 1686

Certificate of Authorization No. 4849

PLS	TR		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION					
DRAWN	DR		SURVEY DATA SHEET SWO <u>5375(1)</u>					
CHECKED	TR							
APPROVED	TR							
CREW	HL							
COUNTY	MUSKOGEE		HIGHWAY	SH 100	STATE JOB NO.	32100(04)	SHEET NO	S001

SWO5375(1) – I/P No. 32100(04)
U.S. 169 Muskogee and Sequoyah County
Beginning 2,000 feet West of the Bridge over the Arkansas River,
East 1 Mile along S.H. 100.

Historical Letter & Written Report

1. GENERAL:

Survey Began: October 15, 2018
Survey Completed: January 11, 2019

Personnel on this survey:

Tony Robison	Licensed Land Surveyor
Edward R. Seaton	Licensed Land Surveyor
Ryan Thomson	Party Chief
Dakota Robison	Survey Technician / Draftsman
Lucas Standridge	Survey Technician
Cody Sherman	Survey Technician

2. ASSIGNMENT:

This Survey was assigned to me by Mr. Darin Stratton of ODOT Survey Department, via email dated 10/15/2018. Heartland Surveying and Mapping, PLLC, under the direct supervision of Mr. Tony Robison, began work on the project on 10/19/2018.

3. PURPOSE:

The purpose of this survey was to furnish sufficient data to develop Preliminary Engineering and Preparation of Construction plans. The survey included the Alignment, Right of Way, Topographic data, Utilities and Drainage structures.

4. LIMITS:

The Survey began 2,000 feet West of the Bridge over the Arkansas River, crossing the Muskogee/Sequoyah county line along State Highway 100. The Survey ended 1 Mile East along S.H. 100. The survey width is 150 feet left and right of the Centerline.

5. ALIGNMENT:

U.S. HWY 100: The Centerline of Survey for this project is from Plans SAP No. 51(9) Part 1 & Part 2, Grading and Bridge Plans "Revised as Built" (6-18-70), U.S Highway 64.

The Alignment and Right-of-Way were reconstructed using these Plans, and SWO2638 provided by Darin Stratton.

6. STATIONING:

A001: The stationing for this survey was given a value of 253+79.01 approximately 2,000 feet West of the Bridge over the Arkansas River, and ends at station 307+92.44 approximately 1,500 feet East of the Bridge over the Arkansas River.

7. HORIZONTAL CONTROL:

Horizontal control for this survey is Oklahoma State Plane Coordinate System, NAD83(2011), North Zone (3501) and was derived by utilizing Monument "M-51-951" previously established by ODOT personnel.

The Control Network and Primary Control Points were completed by the ODOT Survey Department.

Primary control points established by ODOT:

7400	1/2"X12" Rebar with orange plastic cap.
7401	1/2"X12" Rebar with orange plastic cap.
7405	Brass Monument set in concrete. (ODOT No. S-68-192)
7501	Brass Monument set in concrete. (ODOT No. S-68-192)
7502	Brass Monument set in concrete. (ODOT No. M-51-457)

Heartland Surveying and Mapping, PLLC, checked the control utilizing RTK methods with base receiver on NGS "M-51-951".

8. VERTICAL CONTROL:

- a.) Vertical Control for this survey is NAVD88, derived from monument M-51-951.
- b.) All leveling was conducted by the Heartland Surveying and Mapping, PLLC and double loop levels were run to all existing benchmarks which were set by Heartland Personnel.

A Benchmark list depicting all established benchmarks, as well as results of the control leveling has been placed in the archived Microstation Design File. (See SUBMITTED DATA below).

9. MEASUREMENT UNITS:

The distances, coordinates, and elevations shown on this survey are in US SURVEY FEET. All angles and bearings shown are in degrees, minutes, and seconds.

10. PHOTO CONTROLS:

No Photo Controls were utilized in this Survey.

PLS	TR		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION	
DRAWN	DR		SURVEY DATA SHEET SWO 5375(1)	
CHECKED	TR			
APPROVED	TR			
CREW	HL			
COUNTY	MUSKOGEE	HIGHWAY	SH 100	STATE JOB NO. 32100(04) SHEET NO. S002

11. TOPOGRAPHY:

Topography information was obtained during this survey by field conventional and RTK GPS methods along the present Right of Way of State Highway 100.

Mapping limits are as follows:

150 feet right and left of Centerline of Survey from the Beginning of Survey to the End of Survey.

12. CROSS SECTION/DTM:

All surface feature information was obtained during this survey by field conventional, and RTK GPS methods. The riverbed surface was obtained by utilizing a Trimble Sonar Mite echo sounder. A DTM file was created and archived. (See: SUBMITTED DATA below).

13. ENVIRONMENTAL CONCERNS:

No evidence was found of Hazardous waste sites during this survey.
One Cemetery is found on this survey. Beginning approximately 60 feet left at station 303+52.95 and ending approximately 85 feet left at station 307+15.20.

14. UTILITIES:

All utility companies servicing the project extents were contacted, after first contacting OKIE. Underground utilities were marked and tied to the survey. USIC provided plans via Email for Windstream Communications, Cross Telephone, and OG&E. Windstream Communication, and Cross Telephone lines were placed in survey using these plans, and utility markers found in survey limits. SDT Solutions provided plans via Email for AT&T. AT&T lines were placed in survey using these plans, and utility markers found in survey limits. East Central Oklahoma Gas Authority provided plans via Email of their gas lines located West of the Bridge. ECOGA lines were placed in survey using these plans, and utility markers found in survey limits.

15. LAND TIES:

No Section Corner or Quarter Section Corners were tied on this Survey.

16. PROPERTY OWNERS:

No information on property owners are shown on this survey.

17. DRAINAGE:

No Information on Drainage Areas are shown on this survey.

18. DATA SUBMITTED:

REPORTS

1. ODOT form SD-20, Survey Control.
2. ODOT form SD-41, Surveyor's Certification.
3. ODOT form SD-7, Public & Privately-owned Utilities List
4. Benchmark and Check Level List.
5. Alignment Report.
6. COGO List.

DGN

7. Perimeter File.
8. Surface Feature File.
9. Triangle File.
10. TOPO File.
11. V1 File.

CIVIL

12. DTM File.
13. ALG File.

POINT	EASTING	NORTHING	ELEVATION	POINT	EASTING	NORTHING	ELEVATION
300	2821190.075	199953.7727		7643	2824991.223	202566.7514	
301	2825076.474	202749.9255		7644	2824998.588	202576.7227	
302	2825054.396	203457.6696		7645	2825090.235	202725.7541	
311	2824663.86	202453.0618		7646	2824927.759	203031.0319	
312	2824106.161	203228.2138		7647	2824982.608	203032.7434	
313	2825060.625	203257.9874		7648	2825203.378	203097.8986	
321	2821850.653	200429.0399		7649	2825180.338	203269.0614	
322	2822345.796	200785.281		7650	2824969.435	203455.016	
323	2824377.338	202246.9172		7651	2825174.338	203461.411	
324	2824544.645	202367.2896		8000	2820902.685	199894.8349	
325	2824915.05	202720.6829		8001	2820901.619	199931.1106	
7300	2817260.552	197175.292	486.14	8002	2820955.296	199932.6873	
7400	2823075.663	200805.065	464.1338	8003	2820910.147	199981.3826	
7401	2824152.511	202499.091	472.9743	8004	2821027.781	199984.8381	
7405	2824113.403	202513.835	474.65	8005	2820901.1	200289.3698	
7501	2824580.173	201865.055	470.72	8006	2821170.983	200297.2975	
7502	2822848.093	200619.197	467.5482	8007	2821220.962	200298.7655	
7600	2821119.992	200051.1812		8008	2820911.013	199611.3243	
7601	2821257.237	199860.4228		8009	2821185.336	199808.692	
7602	2821177.008	200092.2026		8010	2820919.53	199321.3736	
7603	2821225.994	200127.4468		8011	2821199.409	199329.5949	
7604	2821366.585	199939.0956		8012	2821234.322	199843.9362	
7605	2821366.419	199944.7638		8013	2821238.964	199685.9099	
7606	2821376.414	199945.0574		8014	2821373.906	199689.8737	
7607	2821358.257	200222.6062		8015	2821383.902	199690.1673	
7608	2821486.367	199948.2872		8016	2821819.294	201470.5844	
7609	2821355.904	200302.7294		8017	2822453.367	200645.2641	
7610	2821365.899	200303.023		8018	2822423.382	200644.3157	
7611	2821365.574	200314.1051		8019	2822443.705	200002.2068	
7612	2821493.854	199693.3971		8020	2825010.618	202179.7179	
7613	2821593.811	199696.3333		8021	2825032.576	201455.0974	
7614	2821583.365	200051.9452		8022	2825061.911	201400.2547	
7615	2821856.099	200248.1691		8023	2825099.622	200076.8953	
7616	2821827.598	200646.518		9001	2821784.559	202624.2929	
7617	2822066.396	200399.4718		9002	2824364.145	202704.7357	
7618	2821824.432	200751.658		9003	2827003.19	202781.1291	
7619	2821779.785	200813.714		9004	2827079.344	200132.5681	
7620	2821790.743	200821.5983		9005	2827155.486	197484.4025	
7621	2821744.81	200885.4415		9006	2824516.691	197411.1838	
7622	2821771.597	200904.7142		9007	2821941.886	197339.7406	
7623	2821817.53	200840.8711		9008	2821863.995	199985.9045	
7624	2821828.489	200848.7554		9009	2824440.406	200058.3571	
7625	2821838.432	200834.9349					
7626	2821859.818	200805.2111					
7627	2822425.964	200562.7607					
7628	2822162.935	201023.2955					
7629	2822762.802	200715.7277					
7630	2822793.811	201135.5427					
7631	2822820.29	201098.7385					
7632	2824387.772	201884.8467					
7633	2824384.989	201981.3988					
7634	2824361.918	202263.7506					
7635	2824388.397	202226.9464					
7636	2824366.904	202608.9878					
7637	2824649.328	202171.5828					
7638	2824401.894	202634.1624					
7639	2824673.193	202188.7531					
7640	2824505.679	202708.8327					
7641	2824792.345	202274.4795					
7642	2824778.69	202716.7357					

Project Name: SWO5375_1_V1			
Description:			
Horizontal Alignment Name: A001			
Description: S.H. 100			
Style: Centerline			
	STATION	EASTING	NORTHING
Element: Linear			
POB (300)	253+79.01	2821190.0745366	199953.7726538
PC (311)	296+58.45	2824663.8601762	202453.0617967
Tangent Direction:	N 54°15'57.84" E		
Tangent Length:	4279.44		
Element: Circular			
PC (311)	296+58.45	2824663.8601762	202453.0617967
PI (301)	301+66.76	2825076.4738246	202749.9254333
CC (312)		2824106.1605762	203228.2137503
PT (313)	305+92.67	2825060.6253088	203257.9873488
Radius:	954.93		
Delta:	56°03'09.99" Left		
Degree of Curvature (Arc):	6°00'00.01"		
Length:	934.21		
Tangent:	508.31		
Chord:	897.40		
Middle Ordinate:	111.98		
External:	126.86		
Tangent Direction:	N 54°15'57.84" E		
Radial Direction:	S 35°44'02.16" E		
Chord Direction:	N 26°14'22.84" E		
Radial Direction:	N 88°12'47.85" E		
Tangent Direction:	N 1°47'12.15" W		
Element: Linear			
PT (313)	305+92.67	2825060.6253088	203257.9873488
POE (302)	307+92.44	2825054.3964097	203457.6695730
Tangent Direction:	N 1°47'12.15" W		
Tangent Length:	199.78		

S.H. 100, APPROXIMATELY 2,000 FEET WEST OF THE BRIDGE OVER THE ARKANSAS RIVER
EAST 1 MILE ALONG S.H. 100.
SWO 5375(1) J/P 32100(04)
MUSKOGEE/SEQUOYAH COUNTY

BENCH MARK AND CHECK LEVEL LIST

STATION	DIFF. EL. 1ST RUN	DIFF. EL. 2ND RUN	MEAN DIFF. ELEVATION	UNADJUSTED ELEVATION	ADJUSTED ELEVATION	STATION	OFFSET	DESCRIPTION
7300					486.1400			1/2" IRON PIN
	-.8673	.8700	-.8687					
BM101	2.7276	-2.7293	2.7285	485.2714	485.2714			RAILROAD SPIKE IN POWER POLE
BM102				487.9998	487.9998			RAILROAD SPIKE IN 36" ELM
	-9.4313	9.4343	-9.4328					
BM103				478.5670	478.5670			CHISELED "X" ON SOUTH END OF HEADWALL
	.9929	-.9918	.9924					
BM104				479.5594	479.5594			RAILROAD SPIKE IN POWER POLE
	.0157	-.0177	.0167					
BM105				479.5761	479.5761			CHISELED "X" ON SOUTH END OF HEADWALL
	-1.8586	1.8512	-1.8549					
BM106				477.7212	477.7212			CHISELED "X" ON SOUTH END OF HEADWALL
	.8202	-.8260	.8231					
BM107				478.5443	478.5443			RAILROAD SPIKE IN 36" COTTONWOOD
	2.3263	-2.3299	2.3291					
BM108				480.8734	480.8734	255+18	93 R	100D NAIL IN 40" COTTONWOOD
	-3.2182	3.2215	-3.2199					
BM109				477.6535	477.6535	261+52	93 R	5/8" IRON PIN
	-7.0936	7.0895	-7.0916					
BM110				470.5620	470.5620	268+08	176 R	CORP OF ENGINEERS BRASS CAP
	-3.0166	3.0109	-3.0138					
7502				467.5482	467.5482	271+13	428 R	ODOT BRASS CAP
	-3.4137	3.4151	-3.4144					
7400				464.1338	464.1338	274+06	410 R	1/2" IRON PIN

STATION	DIFF. EL. 1ST RUN	DIFF. EL. 2ND RUN	MEAN DIFF. ELEVATION	UNADJUSTED ELEVATION	ADJUSTED ELEVATION	STATION	OFFSET	DESCRIPTION
7405	-1.6753	1.6761	-1.6757		474.8500	292+47	371 L	ODOT BRASS CAP
7401	15.9636	-15.9609	15.9623	472.9743	472.9743	292+70	336 L	1/2" IRON PIN
BM 7101				488.9366	488.9366	297+51	87 L	CORP OF ENGINEERS BRASS CAP
	.6111	-.6128	.6120					
BM 201				489.5485	489.5485	302+05	54 L	CHISELED SQUARE ON HEADWALL
	2.8872	-2.8853	2.8863					
BM 200				492.4348	492.4348	306+42	58 L	CHISELED SQUARE ON HEADWALL

PLS	TR		OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION		
DRAWN	DR		SURVEY DATA SHEET SWO 5375(1)		
CHECKED	TR				
APPROVED	TR				
CREW	HL				
COUNTY MUSKOGEE			HIGHWAY SH 100	STATE JOB NO. 32100(04)	SHEET NO. S005

MUSKOGEE COUNTY
ROBERT S. KERR RESERVOIR

SECTION 18
T-12-N, R-21-E

SECTION 13
T-12-N, R-20-E



R		OKLAHOMA DEPARTMENT OF TRANSPORTATION
		SURVEY DIVISION

SWO **5375(1)**

COUNTY **MUSKOGEE** HIGHWAY **SH 100** STATE JOB NO **32100(04)** SHEET NO **S006**

ROBERT S. KERR RESERVOIR
SEQUOYAH COUNTY

SECTION 18
T-12-N, R-21-E

SECTION 7
T-12-N, R-21-E

SECTION 7
T-12-N, R-21-E

SECTION 18
T-12-N, R-21-E

281+00

285+00

290+00

295+00

300+00

305+00

CURVE DATA C-1
P.I. Sta. 301+66.76
X: 2825076.47
Y: 2027499.93
D: 56°03'00.00"
T: 508.31'
L: 934.21'
R: 954.93'
E: 126.86'

P.O.E. Sta. 307+92.44
End SW05375(1) Survey
Set Mag Nail on 1

PT Sta. 305+92.67
Set Mag Nail on 1

PI Sta. 301+66.76
Set 1/2" Rebar

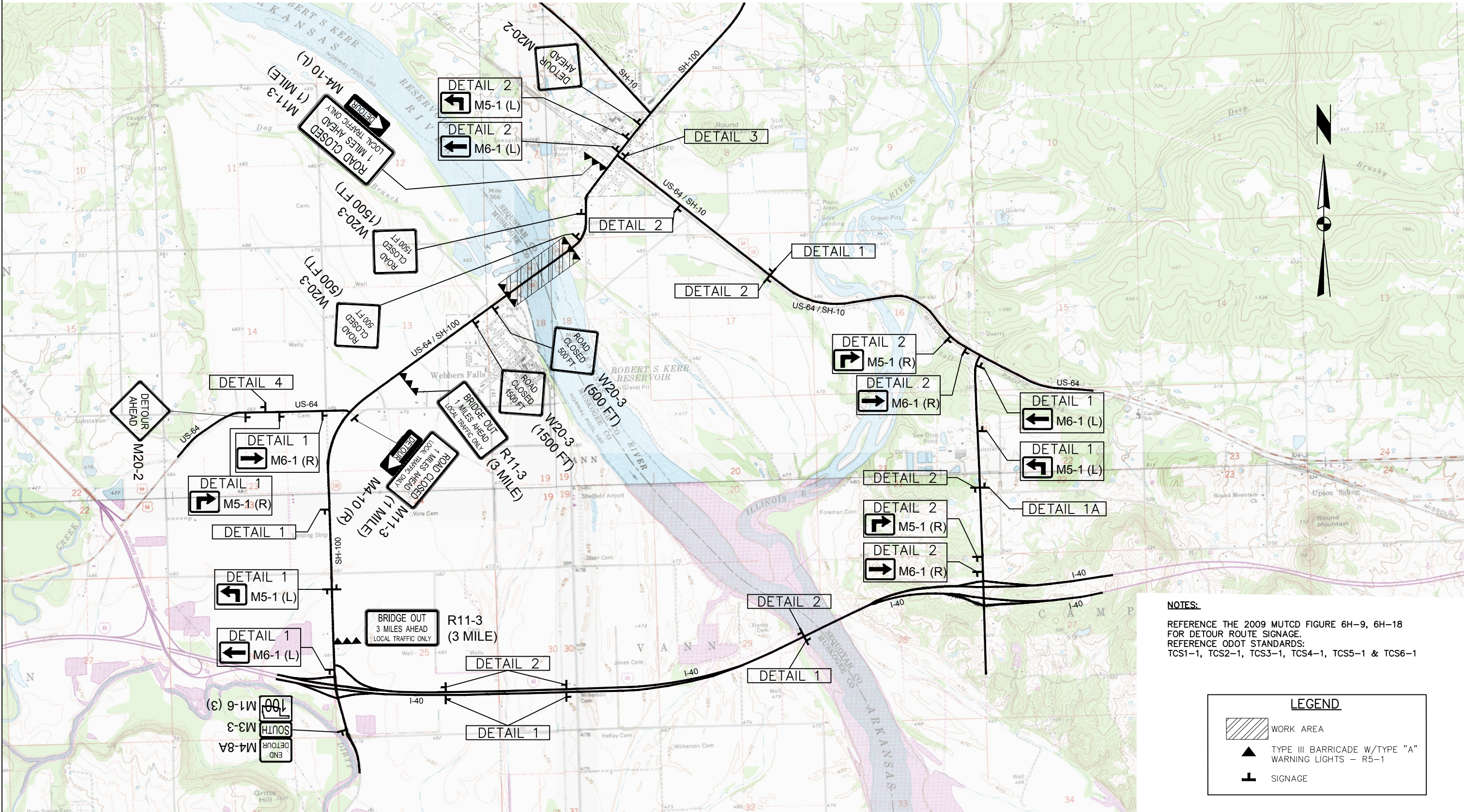
PC Sta. 296+58.45
Set Mag Nail on 1

Sta. 282+00.00
Sequoyah County
Muskogee County
Divide Line

ROBERT S. KERR RESERVOIR
SEQUOYAH COUNTY

0 100 200 300 400 500 Feet

PLS	TR	
DRAWN	DR	
CHECKED	TR	
APPROVED	TR	
CREW	HL	
OKLAHOMA DEPARTMENT OF TRANSPORTATION SURVEY DIVISION		
SURVEY DATA SHEET		
SWO 5375(1)		
COUNTY	MUSKOGEE	HIGHWAY SH 100 STATE JOB NO. 32100(04) SHEET NO. 5007



NOTES:
REFERENCE THE 2009 MUTCD FIGURE 6H-9, 6H-18
FOR DETOUR ROUTE SIGNAGE.
REFERENCE ODOT STANDARDS:
TCS1-1, TCS2-1, TCS3-1, TCS4-1, TCS5-1 & TCS6-1

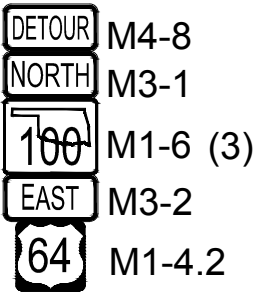
LEGEND

- WORK AREA
- TYPE III BARRICADE W/TYPE "A" WARNING LIGHTS - R5-1
- SIGNAGE

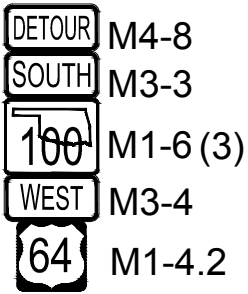
DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION	
DRAWN	RES	06/20		
CHECKED	WS	10/19	DETOUR PLAN	
APPROVED				
SQUAD	ENGINEERS			
COUNTY	MUSK/SEQ.	HIGHWAY	SH-100	STATE JOB NO. 32100(04) SHEET NO. T001

ROUTE MARKER DETAIL

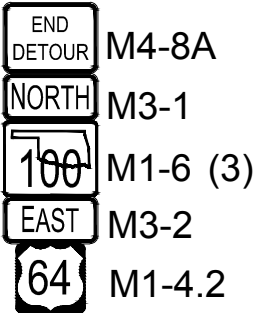
DETAIL 1



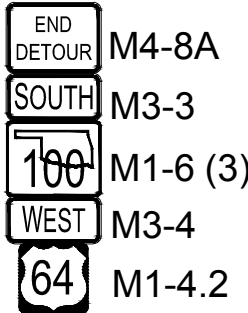
DETAIL 2



DETAIL 3



DETAIL 4



- STAGE 1:
1. CONSTRUCT NEW DRILLED SHAFTS AND TEMPORARY SHORING FOOTINGS

- STAGE 2:
1. REMOVE EXISTING BRIDGE

- STAGE 3:
1. CONSTRUCT NEW PIERS AND ABUTMENTS
 2. ERECT GIRDERS FOR SPAN NO. 1 AND SPAN NO. 5 THRU NO. 7
 3. ERECT GIRDERS FOR SPAN NO. 2 AND NO. 4 AS SHOWN

- STAGE 4:
1. CONSTRUCT NEW DECK ON SPAN NO. 1 AND SPAN NO. 5 THRU NO. 7

- STAGE 5:
1. ERECT FINAL GIRDER FIELD SECTION FOR SPAN NO. 3 OVER THE NAVIGATION CHANNEL
 2. CONSTRUCT THE APPROACH SLABS
 3. CONSTRUCT ROADWAY GRADING

- STAGE 6:
1. CONSTRUCT NEW DECK ON SPAN NO. 2 THRU 4
 2. CONSTRUCT ALL RAILING ON ALL SPANS
 3. CONSTRUCT ROADWAY PAVING

TRAFFIC CONTROL						
PHASE	CONST. SIGN 0 TO 6.25 SF 880(B)	CONST. SIGN 6.25 TO 15.99 SF 880(B)	CONST. SIGN 16.00 TO 32.99 SF 880(B)	CONSTRUCTION BARRICADES (TYPE III) 880(C)	WARNING LIGHTS (TYPE A) 880(E)	PORT. CHANGEABLE MESSAGE SIGN 882(A)
	SD	SD	SD	SD	SD	SD
STAGE 1	-	-	-	-	-	540
STAGE 2-6	72900	3240	3240	8100	8100	1620
MISCELLANEOUS	18225	810	810	2025	2025	540
TOTAL	91125	4050	4050	10125	10125	2700

TOTAL SIGN DAYS = 720
STAGE 1 : 180 DAYS
STAGE 2-6 : 540 DAYS

DESIGN	WS	10/19	OKLAHOMA DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION			
DRAWN	RES	06/20				
CHECKED	WS	10/19	DETOUR SIGNING DETAILS			
APPROVED						
SQUAD	ENGINEERS					
COUNTY	MUSK./SEQ.	HIGHWAY	SH-100	STATE JOB NO	32100(04)	SHEET NO. T002

