OKLAHOMA DEPARTMENT OF TRANSPORTATION						
FED. ROAD DIST. NO.	STATE	STATE JOB NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
REVISIONS						
DESCRIPTION						DATE

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

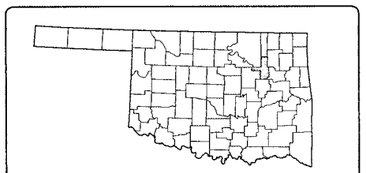
PLAN OF PROPOSED

STATE HIGHWAY

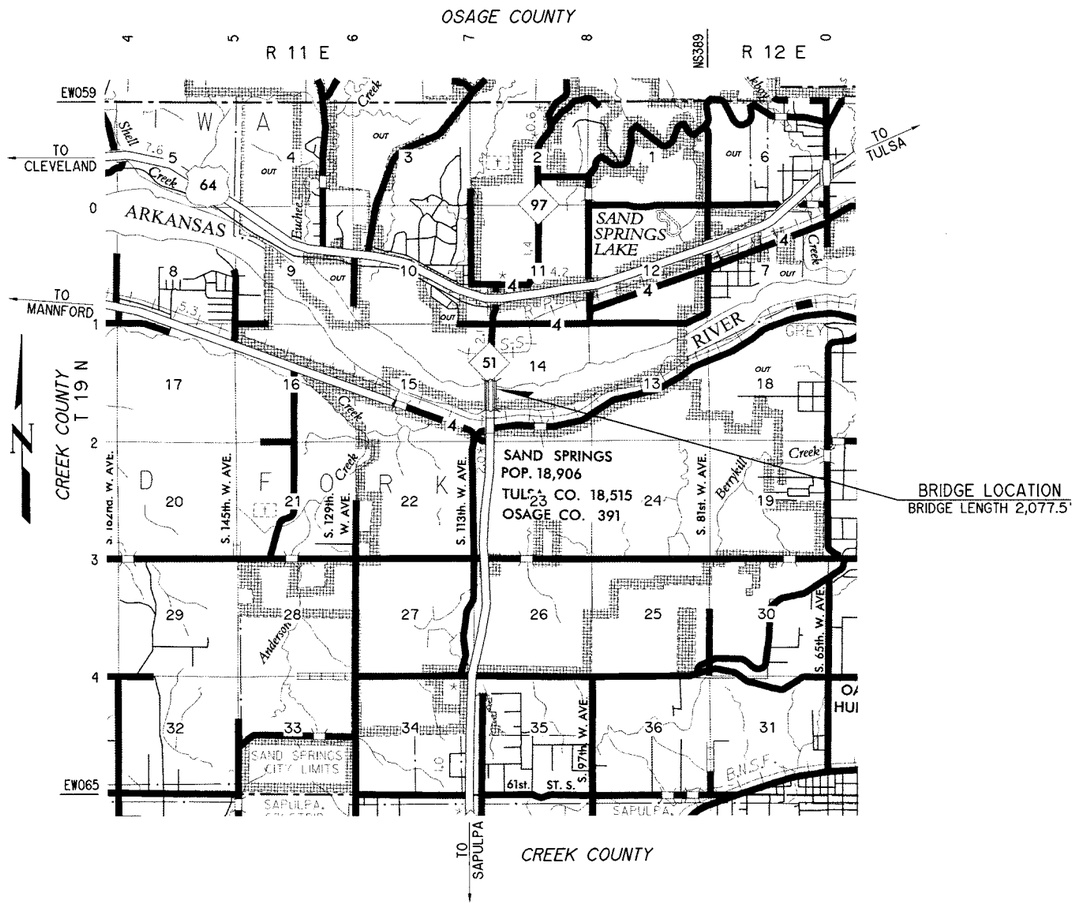
PROJECT NO. SBR-272N(230)SB
BRIDGE REHABILITATION PROJECT
S.H. 51 NORTHBOUND OVER ARKANSAS RIVER

TULSA COUNTY

CONTROL SECTION NO. 51-72-20
JOB NO. 31358(04)
NBI NO. 19511 STR. NO. 7220 0031EX



LOCATION MAP



INDEX OF SHEETS

STANDARDS

BRIDGE	TCS4-1-01	TCS24-1-02
EJ-SQ-04E	TCS5-1-00	TCS25-1-00
EJ-DTL-02E	TCS6-1-02	PM1-1-02
	TCS7-1-02	PM3-1-02
ROADWAY	TCS8-1-00	DU1-1-00
SSS-1-1	TCS9-1-01	DU2-1-00
TSC2-3-2	TCS10-1-00	GA31-1-00
TSD-2-0	TCS11-1-01	GHW1-1-00
LECS-4-1	TCS14-1-00	GHW2-1-00
	TCS19-1-01	DBF2-1-00
TRAFFIC	TCS20-1-00	
TCS1-1-01	TCS21-1-02	
TCS2-1-00	TCS22-1-00	
TCS3-1-01	TCS23-1-00	

DESIGN DATA
(INCLUDES N.B. & S.B. FACILITIES)

ADT (2017)	=	35,100 VPD
ADT (2037)	=	49,100 VPD
D	=	53%
T3 (ADT)	=	3%
V (POSTED)	=	45 MPH
FLEX ESALS	=	8.1 MIL

1"

SCALES
PLAN 1" = 100'
PROFILE HOR. 1" = 100'
VER. 1" = 10'
LAYOUT MAP 1" = 4000'

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
- OILWELL
- DRAINAGE STRUCTURES - IN PLACE
- DRAINAGE STRUCTURES - NEW
- RIGHT-OF-WAY LINES - EXISTING
- RIGHT-OF-WAY LINES - NEW
- CONTROLLED ACCESS
- RIGHT-OF-WAY FENCE

2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ENGLISH GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:
WHITE ENGINEERING ASSOCIATES, INC.

6/12/17 Ronald R. White
DATE RONALD R WHITE
OKLA. REG. NO. 8070

LICENSED PROFESSIONAL ENGINEER
RONALD R. WHITE
8070
OKLAHOMA
CA 1832
6-30-19

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED	DATE APPROVED
BY CHIEF ENGINEER	BY DIVISION ADMINISTRATOR

J/P 31358(04) SBR-272N(230)SB SHEET NO. 1

I:\Active\1626\Drawings\1 Title.dwg, 6/12/2017 10:52:50 AM, Fred

REVISIONS		
REV. NO.	DESCRIPTION	DATE

GENERAL NOTES

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

VERIFICATION OF EXISTING CONDITIONS -
THE CONTRACTOR IS RESPONSIBLE FOR FULLY UNDERSTANDING THE NATURE OF THE WORK AND CONDITIONS UNDER WHICH THE WORK WILL BE PERFORMED.
ALL DIMENSIONS OF THE EXISTING BRIDGE COMPONENTS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS NECESSARY TO CONNECT THE NEW MATERIAL AND SHALL BE SOLELY RESPONSIBLE FOR THE ACCURACY THEREOF.
USE METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE AND ATTACHMENTS. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED, AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

EXISTING PLANS -
THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF F.A. PROJ. NO. US-7229(123) AND F.A. PROJ. NO. US-7229(125). PLANS OF THIS PROJECT ARE AVAILABLE FROM THE OKLAHOMA DEPARTMENT OF TRANSPORTATION TECHNOLOGY SERVICES PLANS SECTION, 200 N.E. 21ST STREET, OKLAHOMA CITY, OKLAHOMA, 73105.

DEBRIS REMOVAL -
REMOVE ALL DEBRIS FROM THE PIER CAPS. INCLUDE ALL COSTS TO REMOVE AND DISPOSE OF THE DEBRIS IN OTHER ITEMS OF WORK.

PNEUMATICALLY PLACED MORTAR -
THE CONTRACTOR MAY SUBSTITUTE CAST-IN-PLACE CONCRETE OR FORMED AND PUMPED CONCRETE AND MORTAR FOR THE PATCHING MATERIAL AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT A PROPOSED WORK PLAN FOR THE CHOSEN REPAIR METHOD WHICH INCLUDES SURFACE PREPARATION METHODS, PATCHING MATERIAL, BONDING AGENTS, MATERIAL PLACING METHODS, AND FINISHING METHODS. REPAIR A TEST AREA TO VERIFY THE EFFECTIVENESS OF THE PROPOSED REPAIR METHOD PRIOR TO COMMENCING WORK.

REMOVAL OF CONCRETE FOR REPAIRS -
DO NOT USE POWER TOOLS FOR REMOVING LOOSE CONCRETE UNLESS HAND TOOLS PROVE INCAPABLE OF EXCAVATING DETERIORATED CONCRETE TO SOUND CONCRETE AS DETERMINED BY THE ENGINEER. IF POWER TOOLS ARE DEEMED NECESSARY, USE TOOLS OF A SIZE THAT DOES NOT DAMAGE SOUND CONCRETE.

REPAIR OF EXISTING REINFORCING STEEL -
REPORT ANY DETERIORATED REINFORCING EXPOSED DURING OPERATIONS WITH A SECTION LOSS GREATER THAN 50% AS DETERMINED BY THE ENGINEER TO THE BRIDGE ENGINEER FOR REMEDIAL ACTION. REPLACE FAULTY REPAIRS AT NO ADDITIONAL COST TO THE DEPARTMENT.

STRUCTURAL STEEL -
PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES AND ANCHOR BOLTS IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BARS, PROVIDE A REINFORCING BAR IN ACCORDANCE WITH AASHTO M31, GRADE 60. USE HEX NUTS CONFORMING TO AASHTO M291 (ASTM A563). PROVIDE ALL NUTS, WASHERS AND WELDING WITH WEATHERING CHARACTERISTICS.

DECK SLAB -
SEAL ALL DECK SLAB LONGITUDINAL 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 -
STAY-IN-PLACE STEEL DECK FORMS WILL NOT BE ALLOWED.

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

CAST-IN-PLACE CONCRETE DECK AND APPROACH SLABS CURING AND TRAFFIC LOAD -
THE NEXT PARAGRAPH WILL REPLACE ARTICLE 504.04H(3) OF STANDARD SPECIFICATIONS:
THE DEPARTMENT WILL NOT ALLOW TRAFFIC LOADS ON CONCRETE DECKS OR APPROACH SLABS UNTIL 10 DAYS AFTER THE COMPLETION OF CONCRETE PLACEMENT AND AFTER THE CONCRETE ATTAINS 100% OF CONTRACT REQUIRED COMPRESSIVE STRENGTH.
THIS IS A REDUCTION FROM THE 14 DAY MINIMUM REQUIREMENT OF STANDARD SPECIFICATIONS AND IS BASED ON A 7-DAY WET CURE AND A 3-DAY CURING PERIOD AFTER APPLICATION OF CURING COMPOUND.

UTILITIES -
UTILITIES ARE TO REMAIN IN SERVICE DURING CONSTRUCTION. HANGERS AND CLAMPS MAY BE REMOVED AND REPLACED TO FACILITATE CONSTRUCTION. ALL COSTS ARE TO BE INCLUDED IN OTHER ITEMS OF WORK.
LIGHT POLES IF NECESSARY SHALL BE REMOVED, STORED IN A LOCATION APPROVED BY THE ENGINEER AND REINSTALLED AS SOON AS WORK IS COMPLETED IN THAT AREA. ALL COSTS OF REMOVING, STORING AND REINSTALLING LIGHT POLES TO BE INCLUDED IN OTHER ITEMS OF WORK. ANY DAMAGE DURING REMOVAL, STORAGE OR INSTALLATION SHALL BE AT THE CONTRACTORS EXPENSE.

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. ELASTOMERIC BEARING PAD DESIGN (VERSION 3.00, 12-30-09)

DESCRIPTION OF WORK

THE WORK TO BE PERFORMED CONSISTS OF:

BRIDGE:
SUPERSTRUCTURE -
REPLACING EXISTING ARMORED JOINTS AND BEARINGS, CONSTRUCTING APPROACH SLABS AND REPAIRING EXISTING P.C. BEAMS WITH CARBON-FIBER REINFORCED POLYMER AND END DIAPHRAGMS IN 2 PHASES; APPLYING FLOODCOATS AND WATER REPELLENT.
SUBSTRUCTURE -
REPAIRING THE ABUTMENTS, PIERS AND APPLYING SPECIAL CONCRETE FINISH.

ROADWAY:
TRANSITION SECTIONS BETWEEN THE NEW BRIDGE APPROACH SLABS AND THE EXISTING ROADWAY WHICH WILL INCLUDE ROADWAY, SHOULDER AND GUARDRAIL MODIFICATIONS AS SHOWN. THE BRIDGE WILL BE OPEN TO AT LEAST ONE LANE OF TRAFFIC DURING THE COURSE OF THIS PROJECT AS DETAILED ON THE BRIDGE CONSTRUCTION SEQUENCE, ROADWAY TRANSITION AND TRAFFIC CONTROL SHEETS.

ENVIRONMENTAL NOTES

SWALLOW NOTE -
"CLIFF SWALLOWS AND BARN SWALLOWS ARE SMALL COLONIAL NESTING BIRDS PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE SPECIES COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE SWALLOWS RUNS FROM APRIL 1 TO AUGUST 31. SWALLOW USE OF THE NORTHBOUND S.H. 51 BRIDGE (NBI NO. 19511) OVER THE ARKANSAS RIVER HAS BEEN OBSERVED DURING THE INITIAL SURVEYS CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2015. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT.
THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD HARM THE NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM THE NESTING BIRDS, THE BRIDGE MAY BE NETTED PRIOR TO APRIL 1 OR THE WORK DELAYED UNTIL THE NESTING SEASON IS COMPLETE. METHODS OTHER THAN NETTING MUST BE PREAPPROVED BY THE ODOT BIOLOGIST."

DEQ PERMIT REQUIREMENT FOR WORK ROADS -
IF THE CONTRACTOR ELECTS TO BUILD A ROAD(S) WITHIN THE LIMITS OF THE CHANNEL IN ORDER TO PERFORM WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE CORPS OF ENGINEERS 404 PERMIT WHICH IS INCLUDED IN THE CONTRACT.
IF THE AREA OF DISTURBANCE IS ONE (1) OR MORE ACRES AND IS NOT ALREADY COVERED BY A DEQ PERMIT, THE CONTRACTOR WILL BE REQUIRED TO OBTAIN A DEQ STORM WATER CONSTRUCTION PERMIT WHICH WILL INCLUDE AN APPLICATION (NOTICE OF INTENT) TO DEQ PRIOR TO EARTH DISTURBING ACTIVITIES, A STORM WATER POLLUTION PREVENTION PLAN AND THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS.
ALL TEMPORARY WORK ROADS MUST BE REMOVED IN THEIR ENTIRETY AND THE AFFECTED AREAS RETURNED TO PRECONSTRUCTION CONDITIONS. IN ADDITION, THE CONTRACTOR WILL BE RESPONSIBLE FOR PERMANENT STABILIZATION MEASURES AFTER REMOVAL OF THE WORK ROAD(S). ALL COSTS ASSOCIATED WITH THE CONTRACTORS' WORK ROAD INCLUDING A DEQ PERMIT, EROSION AND SEDIMENT CONTROLS AND PERMANENT STABILIZATION, ETC. WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

TRAFFIC OPERATIONS AND GENERAL CONSTRUCTION NOTES

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.

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET OKLAHOMA DEPARTMENT OF TRANSPORTATION'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES."

EXISTING ROADWAY SHALL REMAIN OPEN DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER BARRICADES, LIGHTS, AND SIGNING WITHIN THE LIMITS OF CONSTRUCTION. ALL CONSTRUCTION SIGNING WILL BE 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, SLOPES, AND SIGNS SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

(G-3) THE CONTRACTOR IS RESPONSIBLE FOR THE PROMPT REPLACEMENT AND/OR REPAIR OF ALL TRAFFIC CONTROL DEVICES AND APPURTENANCES DAMAGED OR DISTURBED DUE TO CONSTRUCTION.

(G-48) IN ACCORDANCE WITH THE OKLAHOMA UNDERGROUND FACILITIES DAMAGE PREVENTION ACT THE CONTRACTOR SHALL NOTIFY THE OKLAHOMA ONE-CALL SYSTEM, INC. 48 HOURS PRIOR TO BEGINNING EXCAVATION. OKLAHOMA ONE-CALL SYSTEM, INC. "CALL OKIE" 1-800-522-6543 OR 811.

UTILITY OWNER CONTACT INFORMATION

OWNER	UTILITY TYPE	ADDRESS	PHONE
OKLAHOMA NATURAL GAS CO.	8" GAS LINE	5848 EAST 15TH ST. TULSA, OK 74112	918-881-8215
COX COMMUNICATIONS	4.5"ø TV WIRE CONDUIT	11811 EAST 51ST ST. TULSA, OK 74146	918-286-4666
AT&T	4"ø FIBER OPTICS CONDUIT	5303 EAST 71ST ST. TULSA, OK 74136	918-596-4237
AT&T	6"ø FIBER OPTICS FIBERGLASS	5303 EAST 71ST ST. TULSA, OK 74136	918-596-4237

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

GENERAL NOTES

Design	ADT	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 2

PAY ITEM NOTES

(BR-1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.

(BR-2) ITEM "(PL) FALSEWORK JACKING" CONSISTS OF SUPPORTING THE BRIDGE THROUGHOUT CONSTRUCTION ACTIVITIES ASSOCIATED WITH BEARING REPLACEMENT IN ACCORDANCE WITH SECTION 502 OF THE SPECIFICATIONS. SUBMIT A WORK PLAN SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF OKLAHOMA TO THE ENGINEER FOR APPROVAL. DO NOT BEGIN JACKING OPERATIONS UNTIL APPROVAL OF THE PLAN BY THE ENGINEER IS RECEIVED. INCLUDE ALL COSTS ASSOCIATED WITH JACKING OPERATIONS, INCLUDING PROFESSIONAL SERVICES, IN THE CONTRACT UNIT PRICE OF "(PL) FALSEWORK JACKING".

(BR-3) THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 31.0 C.Y. OF CLASS AA CONCRETE IN PHASE I AND 31.0 C.Y. IN PHASE II AND 5,840 LB. OF EPOXY COATED REINFORCING STEEL IN PHASE I AND 5,840 LB. IN PHASE II.

(BR-4) PROVIDE CLSM BACKFILL AS REQUIRED 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-5) THE FIXED BEARING ASSEMBLIES CONTAIN WEATHERING STEEL ESTIMATED AT 82.3 LB. FOR EACH ASSEMBLY ON ABUTMENTS AND 109.1 LB. FOR EACH ASSEMBLY ON PIERS.

(BR-6) THE EXPANSION BEARING ASSEMBLIES CONTAIN WEATHERING STEEL ESTIMATED AT 124.4 LB. FOR EACH ASSEMBLY.

(BR-7) SPECIAL CONCRETE FINISH SHALL BE CIM 1000, OR APPROVED EQUAL. THIS ITEM SHALL BE APPLIED TO PIERS AS DIRECTED IN THE PLANS. EDGES OF THE SPECIAL CONCRETE FINISH SHALL BE MASKED WITH TAPE PRIOR TO APPLICATION TO ENSURE CLEAN STRAIGHT LINES ARE OBTAINED. ANY AREAS CONTAINING SPECIAL CONCRETE FINISH OUTSIDE OF THE AREAS AS INDICATED IN THE PLANS SHALL BE CLEANED TO THE SATISFACTION OF THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

(BR-8) REPAIR AREAS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER. QUANTITY SHOWN IS APPROXIMATE AND SUBJECT TO THE ACTUAL LOCATIONS AND EXTENTS OF REPAIRS DETERMINED IN THE FIELD BY THE ENGINEER. ALL REMOVED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

(BR-9) QUANTITY SHOWN FOR EPOXY RESIN ESTIMATED AT 0.080 GALLONS PER FOOT OF CRACK REPAIR.

(BR-10) QUANTITY SHOWN FOR SEALER RESIN ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.

(BR-11) ITEM "PNEUMATIC MORTAR REPAIR" IS BEING USED FOR THE REPAIR OF THE EXISTING PARAPETS AND EXISTING DIAPHRAGM ENDS AS SHOWN ON THE PLANS.

(BR-12) ITEM "CLASS B BRIDGE DECK REPAIR" CONSISTS OF REPAIRING THE ENDS OF EXISTING BRIDGE DECK AT ABUTMENT 1 AND 2 BEFORE CONSTRUCTING NEW APPROACH SLABS.

(BR-13) ITEM "CLASS C BRIDGE DECK REPAIR" CONSISTS OF REMOVING AND DISPOSING OF 2'-0" OF THE EXISTING BRIDGE DECK EACH SIDE OF CENTERLINE PIERS IN PHASE I AND PHASE II DECK REPAIR FOR THE REPLACEMENT OF THE EXPANSION AND CONSTRUCTION JOINTS. CLASS C DECK REPAIR INCLUDES APPROXIMATELY 58.4 C.Y. FOR PHASE I AND 58.4 C.Y. FOR PHASE II OF CLASS AA CONCRETE AND 11,590 LBS. FOR PHASE I AND 11,440 LBS. FOR PHASE II OF PLAIN REINFORCING.

(BR-14) ITEM "REPAIR BRIDGE ITEMS" CONSISTS OF REPAIRING UNSOUND CONCRETE IN THE PIERS AND ABUTMENTS OF THE EXISTING BRIDGE AS DESCRIBED HERE. PRIOR TO REPAIRING AN AREA, ENSURE THAT ALL UNSOUND CONCRETE HAS BEEN REMOVED FROM THE AREA AND THE NEWLY EXPOSED SURFACE HAS BEEN PREPARED AS DESCRIBED IN THE GENERAL NOTE "REMOVAL OF CONCRETE FOR REPAIRS". REPAIR ANY DETERIORATED REINFORCING STEEL BARS AS DESCRIBED IN THE GENERAL NOTE "REPAIR EXISTING REINFORCING STEEL" AND APPLY CORROSION INHIBITOR TO THE REPAIR AREAS AS SHOWN ON THE PLANS.

THE REMOVED CONCRETE SHALL BE REPLACED WITH ONE OF THE MATERIALS SPECIFIED IN SECTION 701 OF THE STANDARD SPECIFICATIONS.

ALTERNATELY, THE REMOVED CONCRETE MAY BE REPLACED WITH ONE OF THE FOLLOWING COMMERCIALLY AVAILABLE SHOTCRETE PRODUCTS USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND AS APPROVED BY THE ENGINEER:

1. QUIKRETE SHOTCRETE MS WITH POLYPROPYLENE FIBERS
2. SIKACEM 103F
3. SIKACEM 133
4. SIKACRETE 211 SCC PLUS
5. BASF MASTEREMACO S 210SP
6. BASF MASTEREMACO S 211SP
7. PROSPEC SHOTCRETE 300V
8. EUCOSHOT F

(BR-15) ITEM "(SP) CARBON FIBER-REINFORCED POLYMER" CONSISTS OF WRAPPING PRECAST BEAMS AT THE LOCATIONS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. REMOVE UNSOUND CONCRETE AND REFORM PRECAST BEAM SURFACES BEFORE APPLICATION OF THE CARBON FIBER-REINFORCED POLYMER WRAP. APPLY CARBON FIBER-REINFORCED POLYMER IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "FIBER REINFORCED POLYMER MATERIAL". ALL COSTS FOR COMPLETING THE WORK AS SPECIFIED, INCLUDING LABOR, MATERIALS AND INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE OF "(SP) CARBON FIBER-REINFORCED POLYMER". THE QUANTITY SHOWN IS FOR THE BEAM SURFACE COVERED BY THREE LAYERS.

(BR-16) ITEM "(SP) CORROSION INHIBITOR (SURFACE APPLIED)" CONSISTS OF APPLYING A CORROSION INHIBITOR TO PRECAST BEAMS AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. APPLY CORROSION INHIBITOR IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "CORROSION INHIBITOR (SURFACE APPLIED)".

(BR-17) ITEM "REMOVAL OF EXISTING PARAPET" CONSISTS OF REMOVING AND DISPOSING OF 2'-0" OF THE EXISTING SLOPED FACE PARAPET EACH SIDE OF CENTERLINE PIERS FOR EXPANSION AND CONSTRUCTION JOINT REPLACEMENT 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.

(BR-18) ITEM "REMOVAL OF BRIDGE ITEM (TYPE A)" CONSISTS OF REMOVING AND DISPOSING OF EXISTING FIXED AND EXPANSION BEARINGS AT EACH PIER AND ABUTMENT 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 O.D.O.T. AND STORED ON SITE.

(BR-19) ITEM "RAPID CURE JOINT SEALANT" IS BEING USED TO REPAIR SIDEWALK EXPANSION JOINTS AT EACH EXPANSION PIER.

(BR-20) ITEM "SEALER CRACK PREPARATION" IS BEING USED FOR SEALING THE LONGITUDINAL CONSTRUCTION JOINT BETWEEN PHASES I AND II DECK REPAIR AT EACH PIER, LONGITUDINAL CONSTRUCTION JOINT BETWEEN NEW DECK AND SIDEWALK AT EACH PIER, THE TRANSVERSE JOINTS EITHER SIDE OF EACH PIER BETWEEN NEW AND EXISTING CONCRETE, AND AT CONSTRUCTION JOINT AT ℄ OF EACH FIXED PIER.

(BR-21) QUANTITY SHOWN FOR STRUCTURAL STEEL INCLUDES EXPANSION JOINT ANCHOR PLATES AND WEDGE ANCHORS.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

J.P. NO. 31358(04)
0200 BRIDGE

PAY QUANTITIES

NBI NO. 19511

ITEM NO.		ITEM		UNIT	TOTAL
501(G)	6309	CLSM BACKFILL	(BR-1)	C.Y.	115
502	6116	(PL) FALSEWORK JACKING	(BR-2)	L.SUM	1
504(A)	1304	APPROACH SLAB	(BR-3,BR-4)	S.Y.	171.2
504(C)	6250	SEALED EXPANSION JOINT	(BR-1)	L.F.	542.8
504(E)	1381	CONCRETE PARAPET	(BR-1)	L.F.	192
504(G)	6390	RAPID CURE JOINT SEALANT	(BR-1,BR-19)	L.F.	186.5
506(A)	1322	STRUCTURAL STEEL	(BR-1,BR-21)	LB.	1,600
507(A)	6172	WEATHERING STEEL FIXED BEARING ASSEMBLY	(BR-1,BR-5)	EA.	150
507(B)	6176	WEATHERING STEEL EXPANSION BEARING ASSEMBLY	(BR-1,BR-6)	EA.	150
509	6152	SPECIAL CONCRETE FINISH	(BR-1,BR-7)	S.Y.	792
511	6306	MECHANICAL SPLICES	(BR-1)	EA.	520
513(B)	6019	CLASS B BRIDGE DECK REPAIR	(BR-12)	S.Y.	18.2
513(C)	6020	CLASS C BRIDGE DECK REPAIR	(BR-13)	S.Y.	466.6
515(A)	6013	WATER REPELLENT (VISUALLY INSPECTED)	(BR-1)	S.Y.	8,975
520(A)	6058	PREPARATION OF CRACKS, ABOVE WATER	(BR-8)	L.F.	49
520(C)	6060	EPOXY RESIN, ABOVE WATER	(BR-9)	GAL.	4
521(A)	6210	PNEUMATICALLY PLACED MORTAR	(BR-8,BR-11)	S.Y.	55.8
523(A)	6550	SEALER CRACK PREPARATION	(BR-1,BR-20)	L.F.	2,384.1
523(B)	6560	SEALER RESIN	(BR-1,BR-10)	GAL.	27
523(C)	6570	DECK AREA SEALED (FLOOD COATS)	(BR-1)	S.Y.	11,028
524(A)	6610	(SP) CARBON FIBER-REINFORCED POLYMER	(BR-15)	S.F.	5,131
535	6130	(SP) CORROSION INHIBITOR (SURFACE APPLIED)	(BR-16)	S.Y.	570
540	4501	(PL) REPAIR BRIDGE ITEMS	(BR-14)	S.Y.	321.9
619(B)	2510	REMOVAL OF BRIDGE ITEM (TYPE A)	(BR-18)	L.SUM	1
619(B)	6252	REMOVAL OF EXISTING PARAPET	(BR-17)	L.F.	192

J.P. NO. 31358(04)
0640 CONSTRUCTION

PAY QUANTITIES

ITEM NO.		ITEM	UNIT	TOTAL
641	1399	MOBILIZATION	L.SUM	1

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

SUMMARY OF PAY QUANTITIES
BRIDGE

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 3

REVISIONS		
REV NO	DESCRIPTION	DATE
1	REVISED PAY ITEM NUMBER	08-31-17

PAY ITEM NOTES

(1) COST TO INCLUDE 50.0 C.Y. EXCAVATION FOR CONSTRUCTION OF GUARDRAIL WIDENING.

(2) CLEARING AND GRUBBING INCLUDES AREA UNDER THE BRIDGE BEGINNING 10' BEYOND OUTSIDE BEAM ON EAST SIDE OF BRIDGE AND CONTINUING WEST TO EXISTING SOUTHBOUND BRIDGE. TRIM TO WITHIN 2" OF THE GROUND AND APPLY STUMP KILLER WITH A BRUSH.

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

(4) THE CONTRACTOR SHALL STRIPE THE ROADWAY AND BRIDGE FOR TRAFFIC TO MATCH THE ORIGINAL STRIPE LOCATIONS. ADD MULTI-POLYMER BLACK STRIPING TO FINAL STRIPING ON CONCRETE BRIDGE DECK ONLY.

(5) EXISTING PAVEMENT MARKINGS SHALL BE REMOVED WHEN IN CONFLICT WITH TEMPORARY PAVEMENT MARKINGS AND ALL TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO THE INSTALLATION OF FINAL STRIPING. ALL COSTS FOR REMOVAL OF EXISTING PAVEMENT MARKINGS, INSTALLATION AND REMOVAL OF TEMPORARY PAVEMENT MARKINGS INCLUDED IN CONTRACT UNIT PRICE OF "CONSTRUCTION TRAFFIC CONTROL."

(6) CHANGEABLE MESSAGE SIGN SHOULD BE IN PLACE 7 DAYS IN ADVANCE OF BEGIN OF WORK.

(7) TRANSITION TO STANDARD 31" W-BEAM.

ROADWAY NOTES

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

(R-8) FOR SOLID SLAB SODDING, PRICE BID TO INCLUDE COST OF WATERING, ESTIMATED AT 80 GALLONS PER SQ. YD.

(R-30) PRICE BID TO INCLUDE COST OF 165 GALLONS OF TACK COAT AND 20 GALLONS OF PRIME COAT, MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.

(R-32) ESTIMATED AT 112 LBS. PER SQ. YD. PER 1" THICK.

(R-34) PRICE BID TO INCLUDE COST OF FOG SEAL, MEETING THE REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.

(R-49) TO BECOME THE PROPERTY OF AND BE DISPOSED OF BY THE CONTRACTOR IN A MANNER APPROVED BY THE ENGINEER.

TRAFFIC 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-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF PORTABLE LONGITUDINAL BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.

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

(TC-25) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES AND PAVEMENT MARKINGS 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-52) ANY USED TRUCK MOUNTED ATTENUATOR, CHANGEABLE MESSAGE SIGN, CONSTRUCTION ZONE IMPACT ATTENUATOR TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL, BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.

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

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

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

(TC-76) ANY TRUCK MOUNTED ATTENUATOR USED ON THIS PROJECT SHALL HAVE PASSED ALL MANDATORY AND OPTIONAL TESTS LISTED IN NCHRP 350, TL-3 CRITERIA. THIS ITEM IS TO BE USED WHERE SHOWN IN THE STANDARD DRAWINGS OR AT THE DISCRETION OF THE ENGINEER ON SHADOW VEHICLES PROTECTING THE WORK AREAS AND TEMPORARY ROADSIDE HAZARDS.

(TC-80) INCLUDED IN THIS ITEM SHALL BE ONE (1) ADDITIONAL UNIT TO BE USED AS A STAND-BY OR REPLACEMENT. THIS STAND-BY UNIT SHALL BE IMMEDIATELY ACCESSIBLE TO REPLACE A DAMAGED, STOLEN OR MALFUNCTIONING UNIT. THE AMOUNT OF TIME BETWEEN THE REMOVAL OF THE DAMAGED UNIT AND THE INSTALLATION OF THE STAND-BY UNIT SHALL BE NO MORE THAN TWENTY-FOUR (24) HOURS.

(TC-84) 120 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECT'S CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.

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

(TS-25) QUANTITY SHOWN INCLUDES 5,902 L.F. TRAFFIC STRIPE (MULTI-POLYMER) (WHITE), 564 L.F. TRAFFIC STRIPE (MULTI-POLYMER) (BLACK) AND 4,545 L.F. TRAFFIC STRIPE (MULTI-POLYMER) (YELLOW) WILL BE MEASURED BY THE LINEAR FOOT OF SIX INCH (6") WIDE TRAFFIC STRIPE.

(TP-20) PRICE BID FOR THIS ITEM SHALL INCLUDE THE FILLING AND TAMPING OF HOLES LEFT AFTER THE REMOVAL OF THE POSTS DURING THE GUARDRAIL REMOVAL OPERATION. THIS WORK SHALL BE PERFORMED IN AN MANNER APPROVED BY THE ENGINEER.

(TP-25) NO RAW GUARDRAIL ENDS SHALL BE LEFT EXPOSED TO TRAFFIC DURING NONWORKING HOURS.

J.P. NO. 31358(04)
0100 ROADWAY

PAY QUANTITIES

ITEM NO.		ITEM		UNIT	TOTAL
201(A)	0102	CLEARING AND GRUBBING	(1,2)(R-49)	L.SUM	1
221(C)	2801	TEMPORARY SILT FENCE	(3)	L.F.	300
221(F)	0100	TEMPORARY SILT DIKE	(3)	L.F.	20
230(A)	2806	SOLID SLAB SODDING	(3)(R-7,R-8)	S.Y.	720
411(C)	5955	SUPERPAVE, TYPE S4 (PG 70-28 OK)	(R-30,R-32)	TON	202.4
412	5267	COLD MILLING PAVEMENT	(R-34,R-49)	S.Y.	1,105
619(B)	4780	REMOVAL OF GUARDRAIL	(R-49)(TP-20,TP-25)	L.F.	645
623(A)	0932	BEAM GUARDRAIL W-BEAM SINGLE		L.F.	555
623(F)	8300	GUARDRAIL TRAIL END TURNDOWN (31")		EA.	1
623(F)	5686	GUARDRAIL ANCHOR UNIT (TYPE D-BF)	(7)	EA.	3

J.P. NO. 31358(04)
0300 TRAFFIC

PAY QUANTITIES

ITEM NO.		ITEM		UNIT	TOTAL
856(A)	8535	TRAFFIC STRIPE (MULTI-POLY.)(6" WIDE)	(4)(TS-25)	L.F.	11,011
857(F)	8006	PAVEMENT MARKING REMOVAL (TRAFFIC STRIPE)	(TC-22,61,70,75)	L.F.	11,011
871(B)	8705	(SP) CONST. ZONE IMPACT ATTEN.	(TC-52,TC-80,TC-84)	S.D.	60
876(A)	8482	(PL) TRUCK MOUNTED ATTENUATOR	(TC-52,TC-76,TC-84)	S.D.	60
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER	(TC-1,TC-2)	L.F.	2,587.5
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER	(TC-1)	L.F.	2,325.0
880(J)	8905	CONSTRUCTION TRAFFIC CONTROL	(5)(TC-25,TC-75)	L.SUM	1
1 882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN	(6)(TC-52,TC-84,TC-85)	S.D.	127

SH 51 NB OVER ARKANSAS RIVER TULSA COUNTY

SUMMARY OF PAY QUANTITIES
ROADWAY AND TRAFFIC

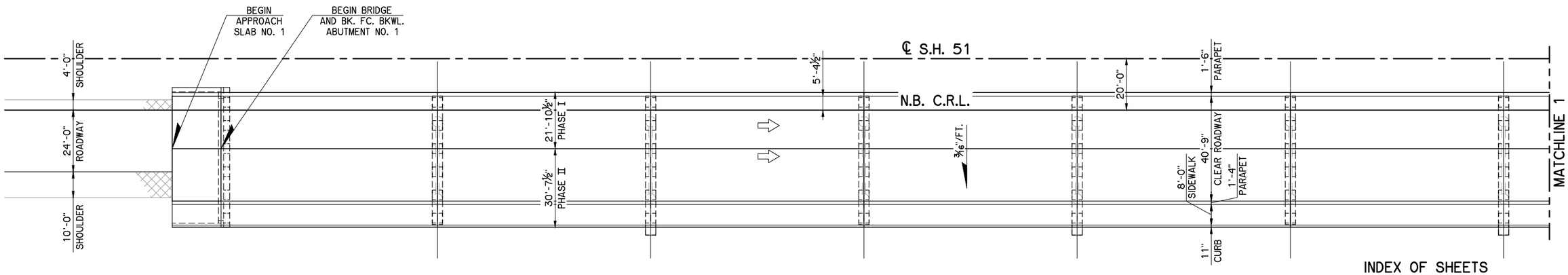
Design	DMH	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) SHEET NO. 4

REVISIONS		
REV. NO.	DESCRIPTION	DATE

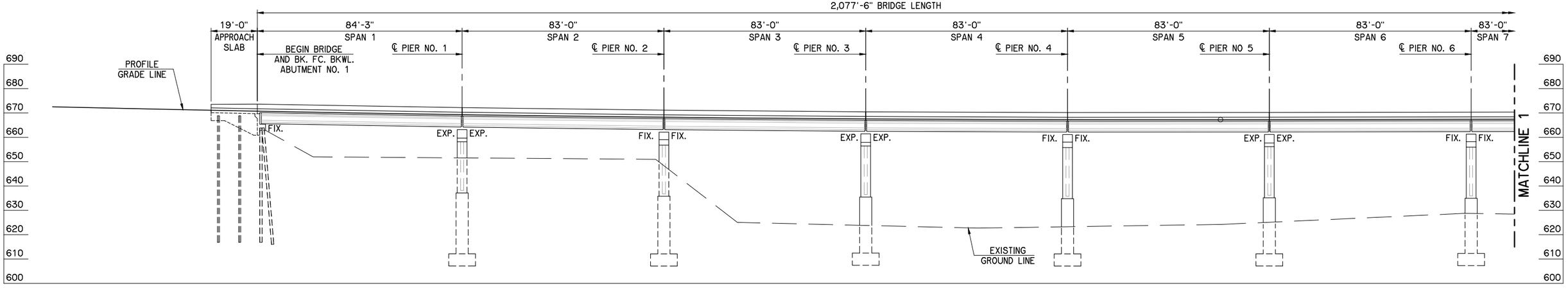


PLAN
SCALE: 1" = 20'-0"

INDEX OF SHEETS

STANDARDS

EJ-SQ-04E
EJ-DTL-02E
LECS-4-1



ELEVATION
SCALE: 1" = 20'-0"

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
GENERAL PLAN AND ELEVATION		Detail	FEZ
25 - 83' P.C. BEAM SPANS 40.75' CLEAR ROADWAY WITH SLOPED FACE PARAPETS SHEET 1 OF 4		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)		SHEET NO. 5	

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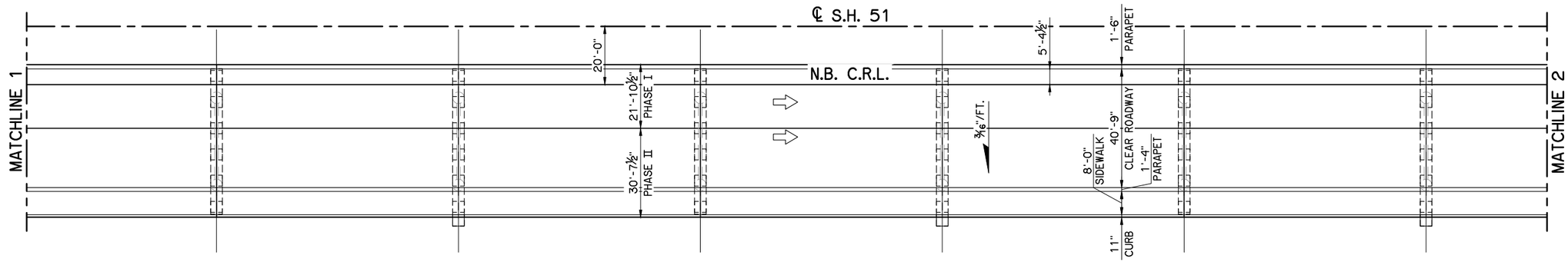
REVISIONS		
REV. NO.	DESCRIPTION	DATE



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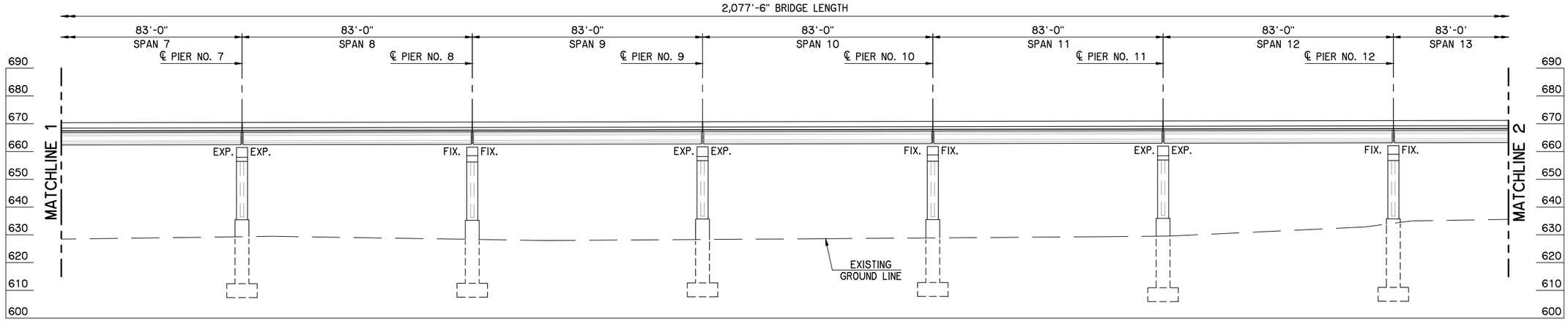
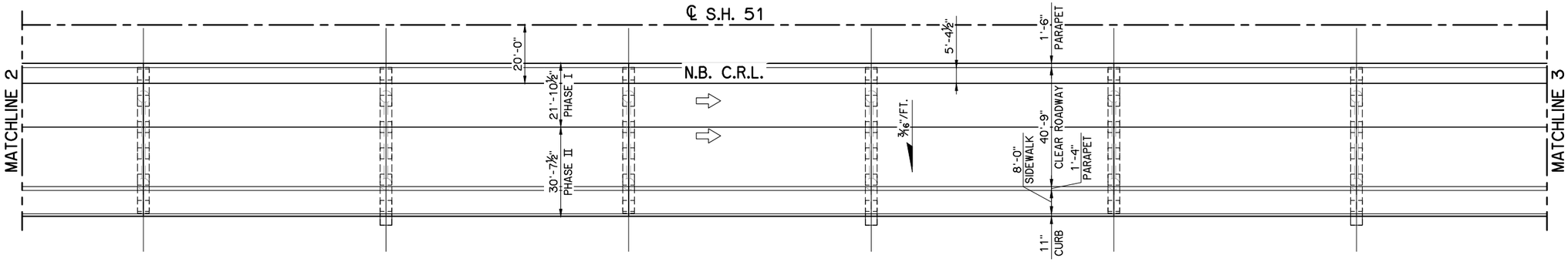


ELEVATION
SCALE: 1" = 20'-0"

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
GENERAL PLAN AND ELEVATION		Detail	FEZ
25 - 83' P.C. BEAM SPANS 40.75' CLEAR ROADWAY WITH SLOPED FACE PARAPETS SHEET 2 OF 4		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)		SHEET NO. 6	

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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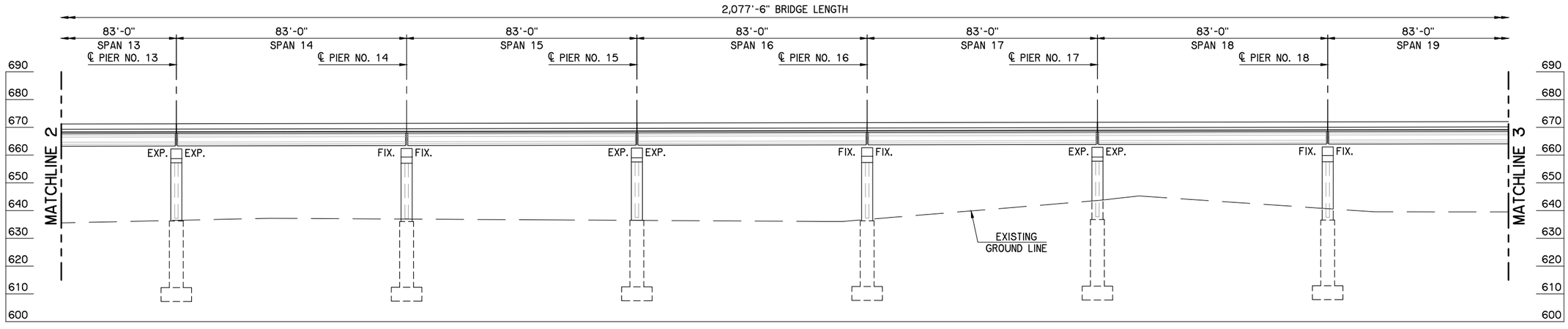


ELEVATION
SCALE: 1" = 20'-0"

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

GENERAL PLAN AND ELEVATION

25 - 83' P.C. BEAM SPANS
40.75' CLEAR ROADWAY WITH SLOPED FACE PARAPETS
SHEET 3 OF 4

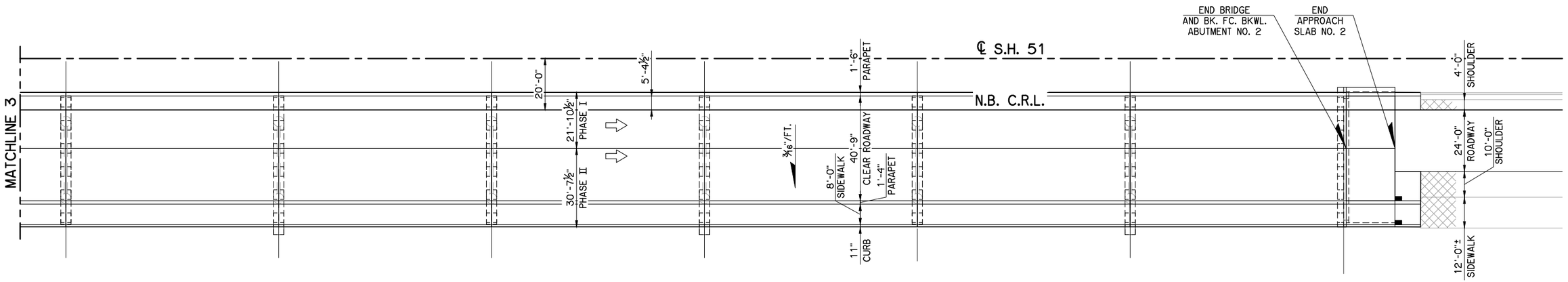
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 7

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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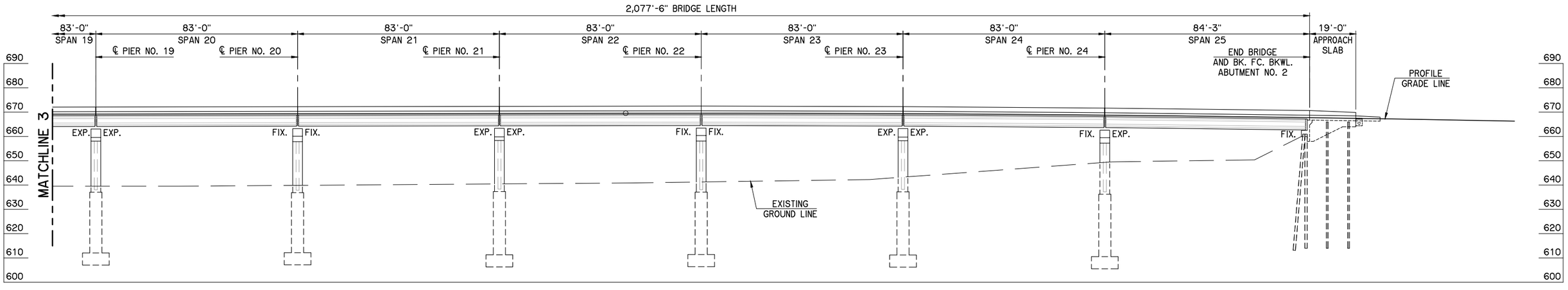

ELEVATION
SCALE: 1" = 20'-0"

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
GENERAL PLAN AND ELEVATION		Detail	FEZ
25 - 83' P.C. BEAM SPANS 40.75' CLEAR ROADWAY WITH SLOPED FACE PARAPETS SHEET 4 OF 4		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)	SHEET NO. 8		

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REVISIONS		
REV. NO.	DESCRIPTION	DATE

SUMMARY OF BRIDGE QUANTITIES

ITEM	UNIT	NOT PHASED				PHASE I			PHASE II			TOTAL
		ABUTMENTS	PIERS	SUPERSTR.	SUBTOTAL	SUPERSTR.	APPROACH SLABS	SUBTOTAL	SUPERSTR.	APPROACH SLABS	SUBTOTAL	
CLSM BACKFILL	C.Y.	3			3		56	56		56	56	115
(PL)FALSEWORK JACKING	L.SUM			1								1
APPROACH SLAB	S.Y.						85.6	85.6		85.6	85.6	171.2
SEALED EXPANSION JOINT	L.F.					271.4		271.4	271.4		271.4	542.8
CONCRETE PARAPET	L.F.					96		96	96			192
RAPID CURE JOINT SEALANT	L.F.						38.0	38.0	110.5	38.0	148.5	186.5
STRUCTURAL STEEL	LB.					800		800	800		800	1,600
WEATHERING STEEL FIXED BEARING ASSEMBLY	EA.			150	150							150
WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA.			150	150							150
SPECIAL CONCRETE FINISH	S.Y.		792		792							792
MECHANICAL SPLICES	EA.					480	40	520				520
CLASS B BRIDGE DECK REPAIR	S.Y.					9.1		9.1	9.1		9.1	18.2
CLASS C BRIDGE DECK REPAIR	S.Y.					233.3		233.3	233.3		233.3	466.6
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	74			74	3,195	14	3,209	5,619	73	5,692	8,975
PREPARATION OF CRACKS, ABOVE WATER	L.F.	24	25		49							49
EPOXY RESIN, ABOVE WATER	GAL.	2	2		4							4
PNEUMATICALLY PLACED MORTAR	S.Y.			37.9	37.9	8.0		8.0	9.9		9.9	55.8
SEALER CRACK PREPARATION	L.F.					978.0		978.0	1,406.1		1,406.1	2,384.1
SEALER RESIN	GAL.					11		11	16		16	27
DECK AREA SEALED (FLOOD COATS)	S.Y.					5,514		5,514	5,514		5,514	11,028
(SP) CARBON FIBER-REINFORCED POLYMER	S.F.			5,131	5,131							5,131
(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.			570	570							570
REPAIR BRIDGE ITEMS	S.Y.	6.0	315.9		321.9							321.9
REMOVAL OF BRIDGE ITEM (TYPE A)	L.SUM			1								1
REMOVAL OF EXISTING PARAPET	L.F.					96		96	96		96	192

SH 51 NB OVER ARKANSAS RIVER TULSA COUNTY

SUMMARY OF BRIDGE QUANTITIES

Design	ADT	
Detail	FEZ	
Check	ADT	

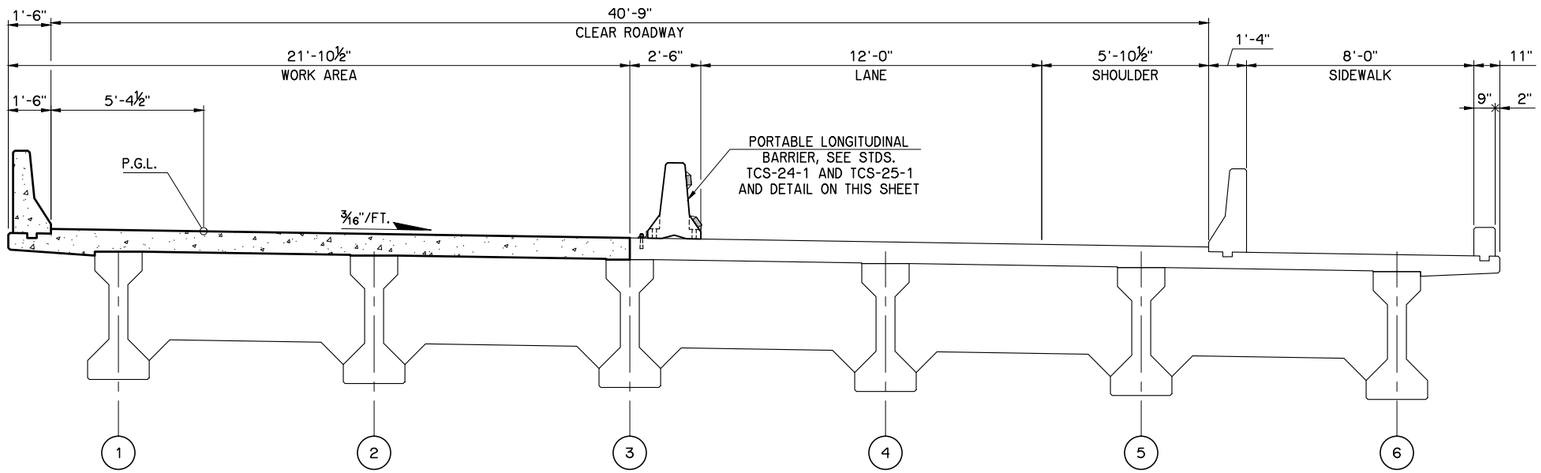
WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA

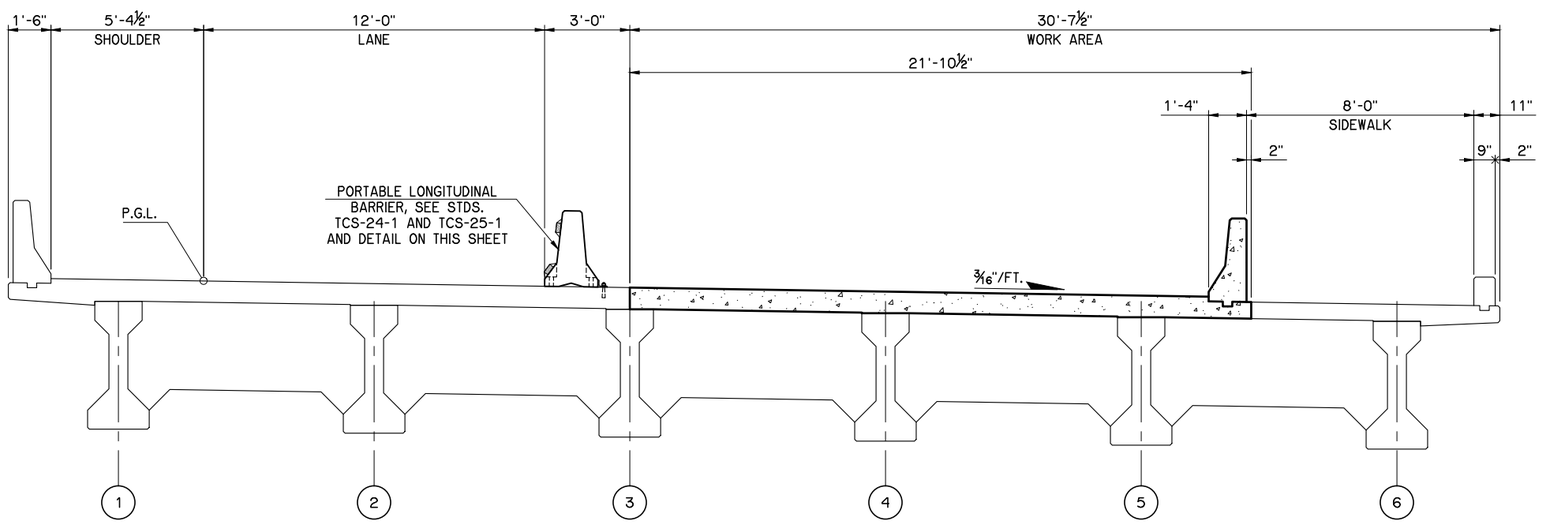
DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04)

SHEET NO. 9



PHASE I DECK REPAIR



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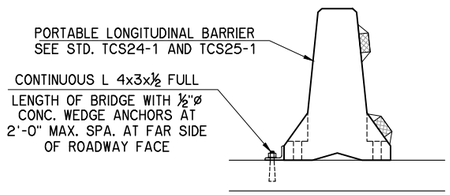


PORTABLE LONGITUDINAL BARRIER DETAIL

NOTE
PROVIDE CONCRETE WEDGE ANCHORS HAVING A MINIMUM ULTIMATE PULLOUT CAPACITY OF 10,000 POUNDS AND A MINIMUM ULTIMATE SHEAR CAPACITY OF 13,000 POUNDS. SUBMIT THE TYPE OF CONCRETE WEDGE ANCHOR TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

INSTALL ANGLE AND ANCHORS ON WORK AREA SIDE OF BARRIER. AFTER REMOVING ANCHORS, FILL HOLES IN THE DECK IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS FOR THE ANGLES, CONCRETE WEDGE ANCHORS, HOLE REPAIR, LABOR, AND INCIDENTALS NECESSARY IN THE CONTRACT UNIT PRICE FOR "DELIVER PORTABLE LONGITUDINAL BARRIER" AND "RELOCATION OF PORTABLE LONGITUDINAL BARRIER". REFER TO TRAFFIC CONTROL PLANS FOR LOCATIONS.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

CONSTRUCTION SEQUENCE

A. DECK REPAIRS

PHASE I

1. INSTALL PORTABLE LONGITUDINAL BARRIERS AND TEMPORARY TRAFFIC CONTROL AS INDICATED ON THIS SHEET AND TRAFFIC CONTROL PLANS TO RESTRICT TRAFFIC TO ONE LANE ON THE EAST SIDE OF THE EXISTING BRIDGE. WHEN TEMPORARY TRAFFIC CONTROL IS IN PLACE, DIVERT TRAFFIC.
2. REMOVE EXPANSION JOINT EXTRUSIONS AND ASSOCIATED 2'-0" PORTIONS OF EXISTING BRIDGE DECK AND WEST SIDE PARAPET AT EACH PIER, AS INDICATED ON THE PLANS AS CLASS C DECK REPAIR.
3. INSTALL NEW EXPANSION JOINT EXTRUSIONS. CONSTRUCT ASSOCIATED PORTIONS OF BRIDGE DECK AND WEST SIDE PARAPET.
4. CONSTRUCT CLASS B BRIDGE DECK REPAIR AT ABUTMENTS AND PNEUMATIC MORTAR REPAIR ON WEST SIDE PARAPET AS SHOWN ON THE PLANS.
5. INSTALL NEOPRENE GLAND FOR EXPANSION JOINTS INTO EXTRUSIONS. PROVIDE A CONTINUOUS NEOPRENE GLAND THRU WIDTH OF BRIDGE, DO NOT CUT NEOPRENE GLAND BETWEEN PHASES. ROLL UP UNUSED PORTION OF GLAND FOR INSTALLATION IN PHASE II.
6. CONSTRUCT PORTIONS OF NEW APPROACH SLABS.
7. APPLY FLOODCOAT TO THE DECK AND PARAPET AS INDICATED ON THE PLANS.

PHASE II

1. RELOCATE PORTABLE LONGITUDINAL BARRIERS AND TEMPORARY TRAFFIC CONTROL AS INDICATED ON THIS SHEET AND TRAFFIC CONTROL PLANS.
2. GROUT ANCHOR HOLES USED TO ANCHOR PORTABLE LONGITUDINAL BARRIER.
3. DIVERT TRAFFIC TO WEST SIDE OF BRIDGE.
4. REMOVE REMAINING PORTIONS OF EXPANSION JOINT EXTRUSIONS AND ASSOCIATED PORTIONS OF EXISTING BRIDGE DECK ALONG WITH EAST SIDE PARAPET AT EACH PIER. REMOVE NEOPRENE GLAND AND CLEAN EXISTING ARMORED JOINTS AT SIDEWALK.
5. INSTALL NEW EXPANSION JOINT EXTRUSIONS AND CONSTRUCT ASSOCIATED PORTIONS OF BRIDGE DECK AND EAST SIDE PARAPET.
6. CONSTRUCT CLASS B BRIDGE DECK REPAIR AT ABUTMENTS AND PNEUMATIC MORTAR REPAIR ON EAST SIDE PARAPET AS SHOWN ON THE PLANS.
7. INSTALL REMAINDER OF NEOPRENE GLAND FOR EXPANSION JOINTS INTO EXTRUSIONS. RESEAL JOINTS AT SIDEWALK WITH SILICONE SEALANT.
8. CONSTRUCT REMAINDER OF NEW APPROACH SLABS.
9. APPLY FLOODCOAT TO REMAINING PORTIONS OF THE DECK AND PARAPET AS INDICATED ON THE PLANS.
10. REMOVE PORTABLE LONGITUDINAL BARRIERS AND GROUT THE ANCHOR HOLES.

PHASE III

1. MILL AND OVERLAY ROADWAY TRANSITIONS AND INSTALL POSTS, GUARDRAIL AND CONNECTIONS AS SHOWN ON THE PLANS, USING SHORT DURATION TRAFFIC CONTROL METHODS AS DETERMINED BY THE CONTRACTOR AND APPROVED BY THE FIELD ENGINEER.

B. BEAM REPAIR AND BEARING REPLACEMENT

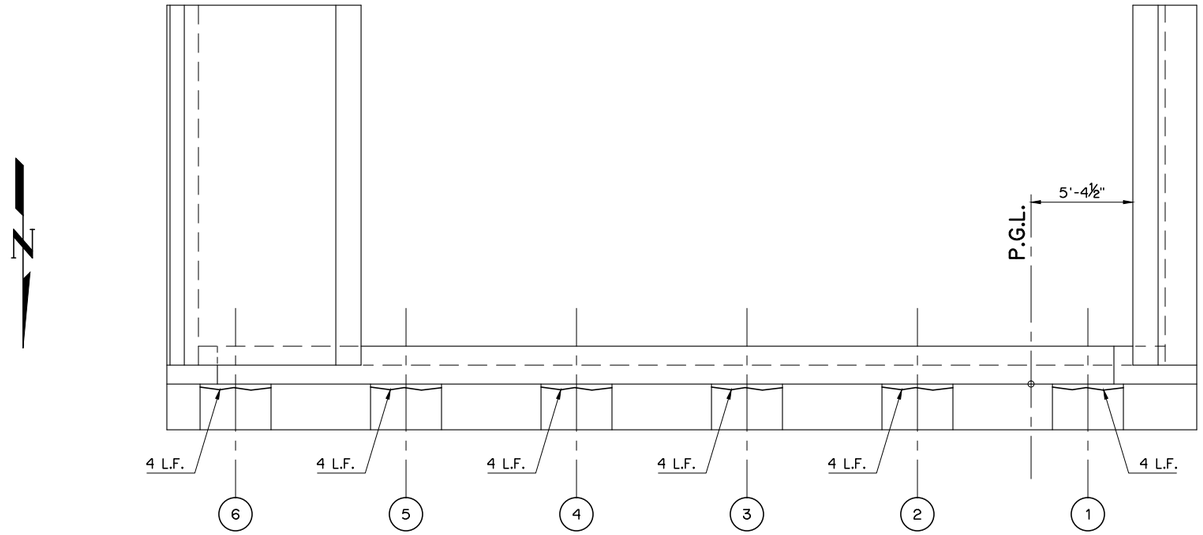
1. REPAIR BEAM ENDS AND DIAPHRAGM ENDS ON LOCATIONS SHOWN ON THE PLANS.
2. REPAIR THE TOP OF PIER CAPS ON ALL LOCATIONS SHOWN.
3. REPLACE BEARINGS AT ALL PIERS AND ABUTMENTS.

C. SUBSTRUCTURE REPAIRS

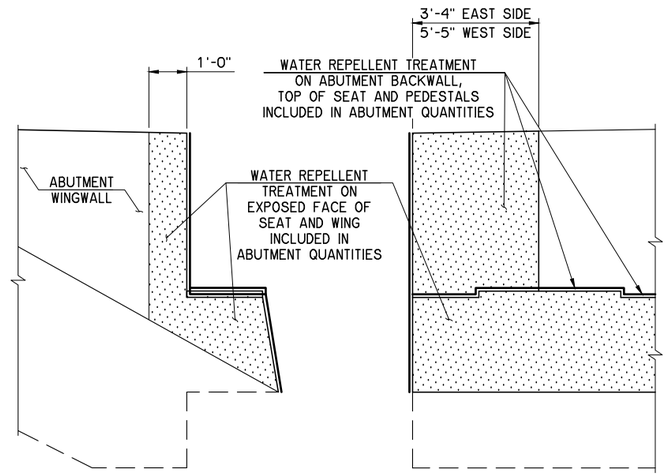
1. REPAIR PIERS BELOW PIER CAPS AT ALL LOCATIONS SHOWN ON THE PLANS.
2. REPAIR ABUTMENTS.

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
		Detail	FEZ
CONSTRUCTION SEQUENCE		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)		SHEET NO. 10	

REVISIONS		
REV. NO.	DESCRIPTION	DATE

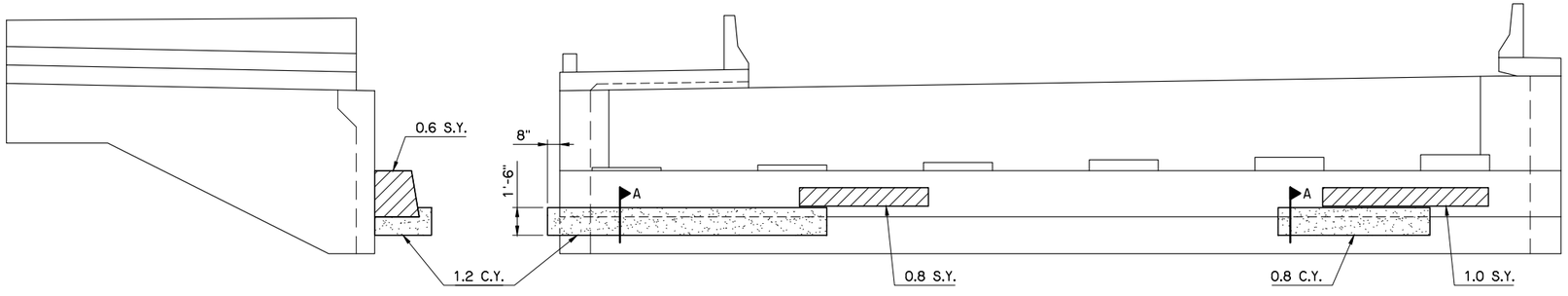


PLAN



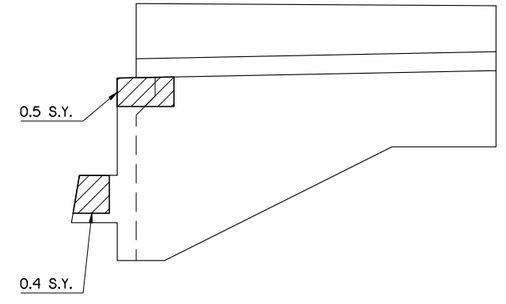
SIDE ELEVATION

WATER REPELLENT TREATMENT DETAILS



EAST WING

ELEVATION
ABUTMENT NO. 1



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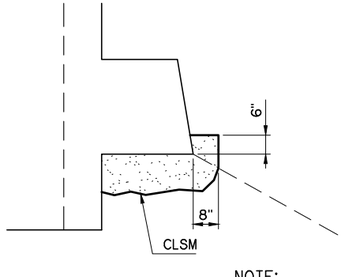


SECTION A

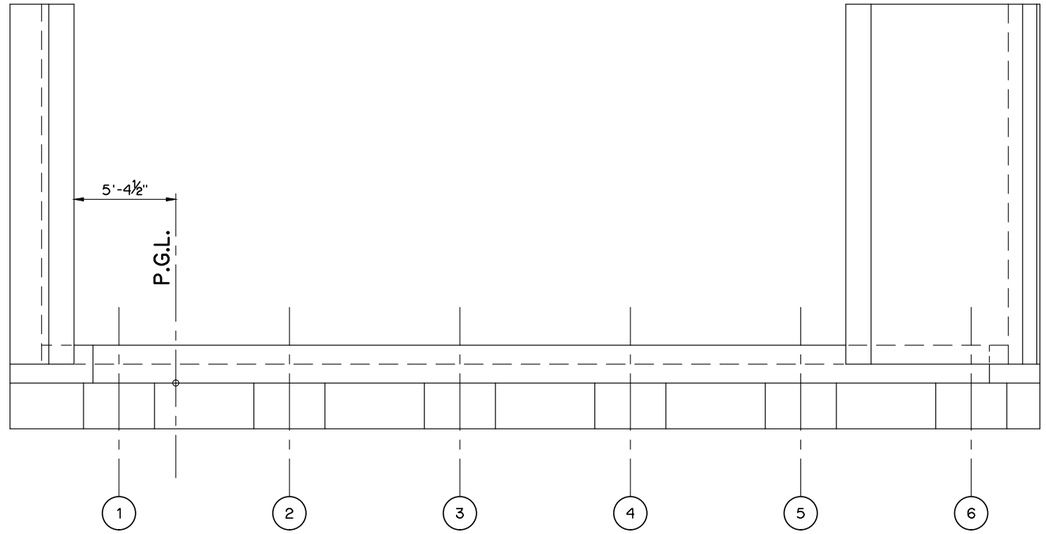
NOTE:
CLSM BACKFILL TO BE USED FOR FILLING VOIDS UNDER ABUTMENT SEATS.

LEGEND

- CLSM BACKFILL
- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
ABUTMENT REPAIR DETAILS		Detail	FEZ
SHEET 1 OF 2		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)		SHEET NO. 11	

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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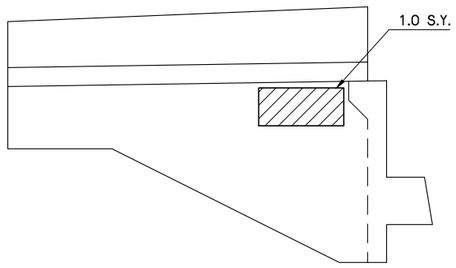

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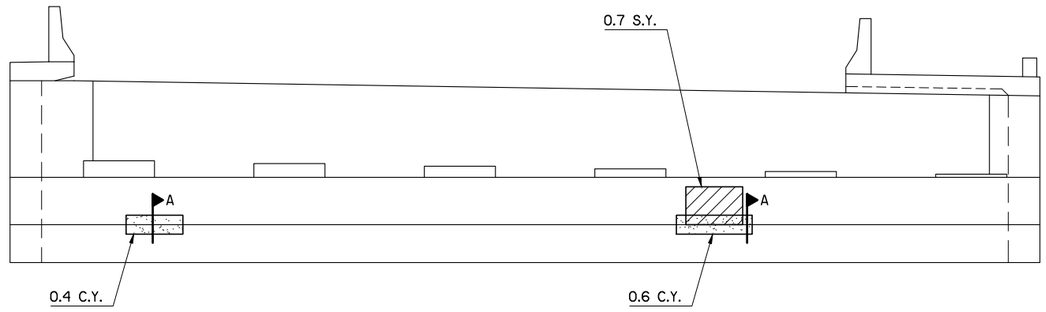
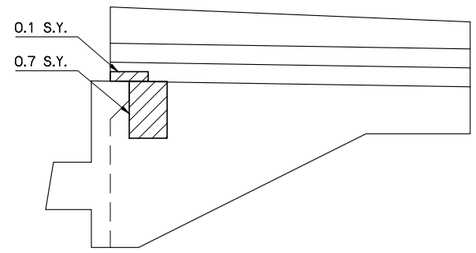


ELEVATION

ABUTMENT NO. 2



EAST WING

LEGEND

- CLSM BACKFILL
- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

NOTE:
FOR SECTION A,
SEE SHEET NO. 11.

ABUTMENT REPAIR QUANTITIES (NOT PHASED)				
ITEM	UNIT	ABUTMENT NO. 1	ABUTMENT NO. 2	TOTAL
CLSM BACKFILL	C.Y.	2	1	3
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	37	37	74
PREPARATION OF CRACKS (ABOVE WATER)	L.F.	24		24
EPOXY RESIN (ABOVE WATER)	GAL.	2		2
REPAIR BRIDGE ITEMS	S.Y.	3.5	2.5	6.0

SH 51 NB OVER ARKANSAS RIVER TULSA COUNTY

ABUTMENT REPAIR DETAILS
SHEET 2 OF 2

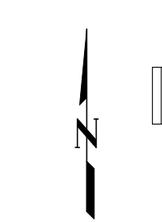
Design	ADT	
Detail	FEZ	
Check	ADT	

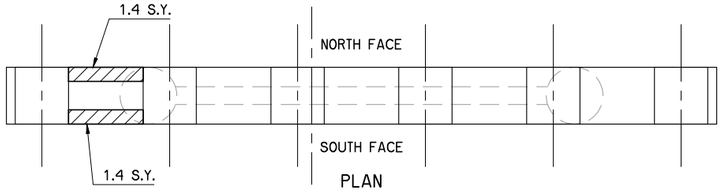
WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) SHEET NO. 12

REVISIONS		
REV. NO.	DESCRIPTION	DATE





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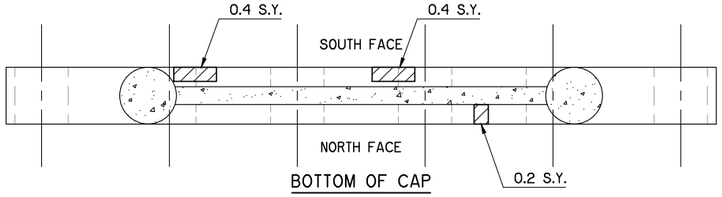

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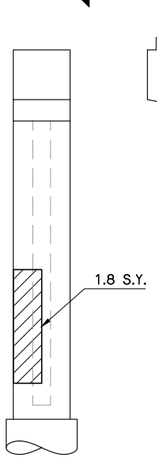

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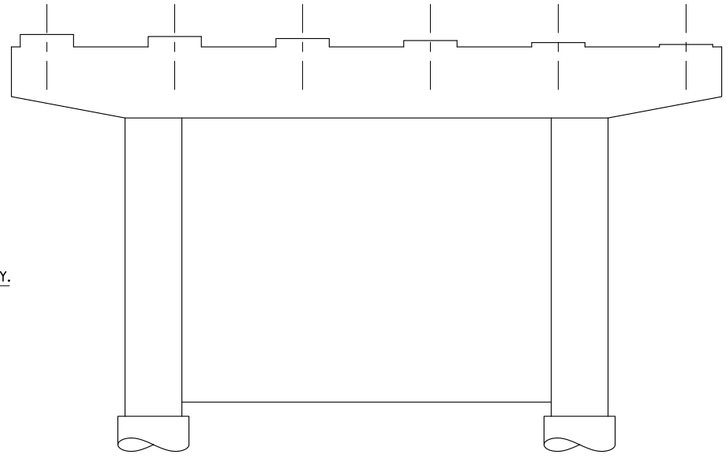
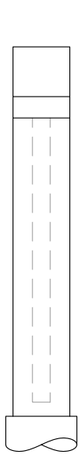


ELEVATION
SOUTH FACE



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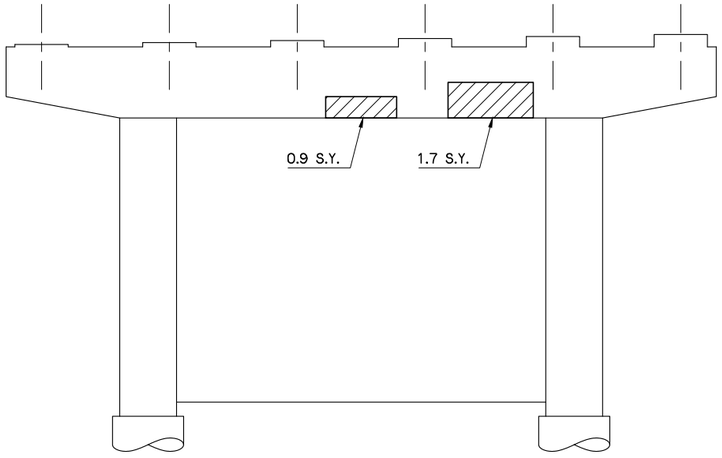
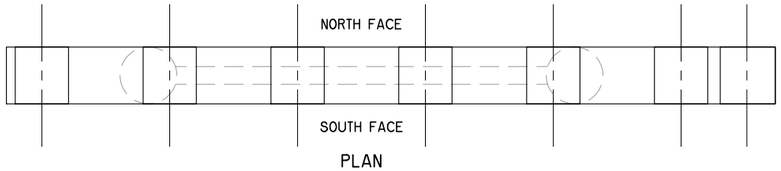


ELEVATION
NORTH FACE

PIER NO. 1



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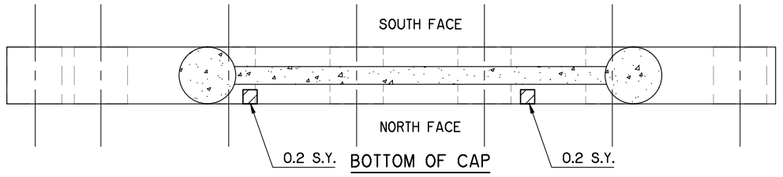

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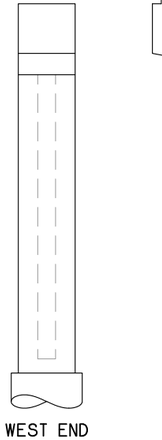

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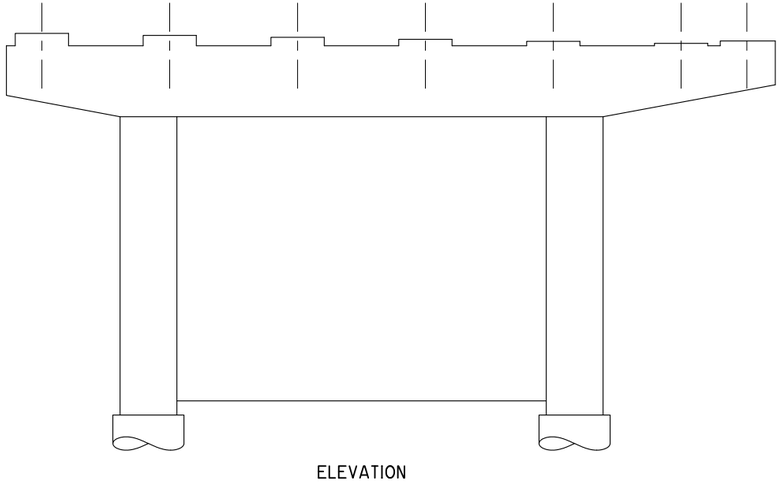
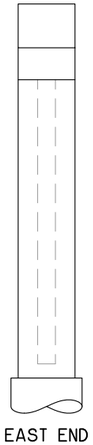


ELEVATION
SOUTH FACE



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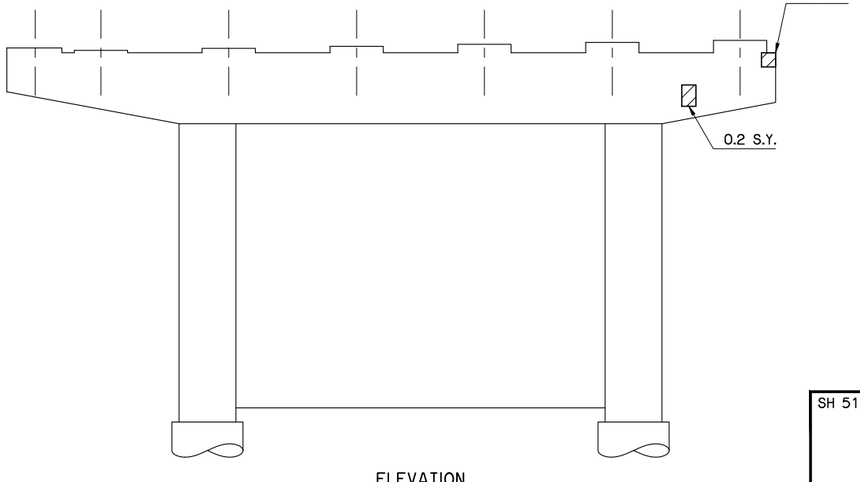

ELEVATION
NORTH FACE

PIER NO. 2

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 1 AND NO. 2

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 13

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REVISIONS		
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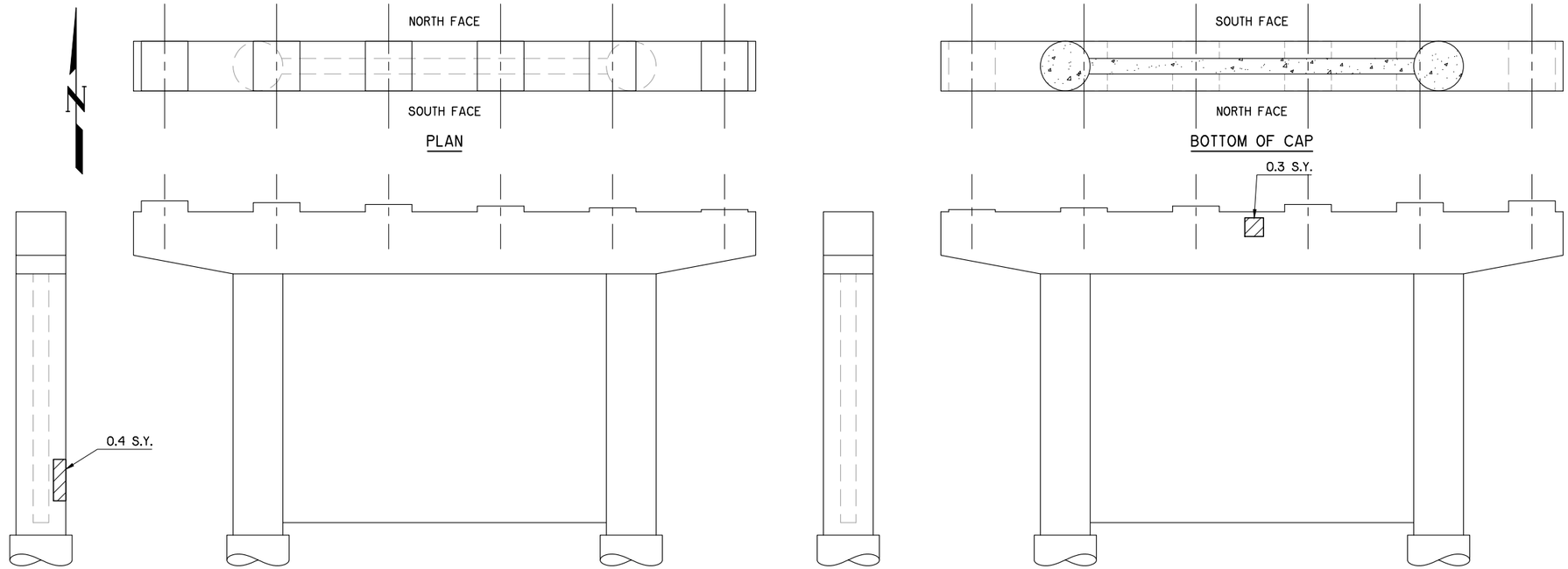

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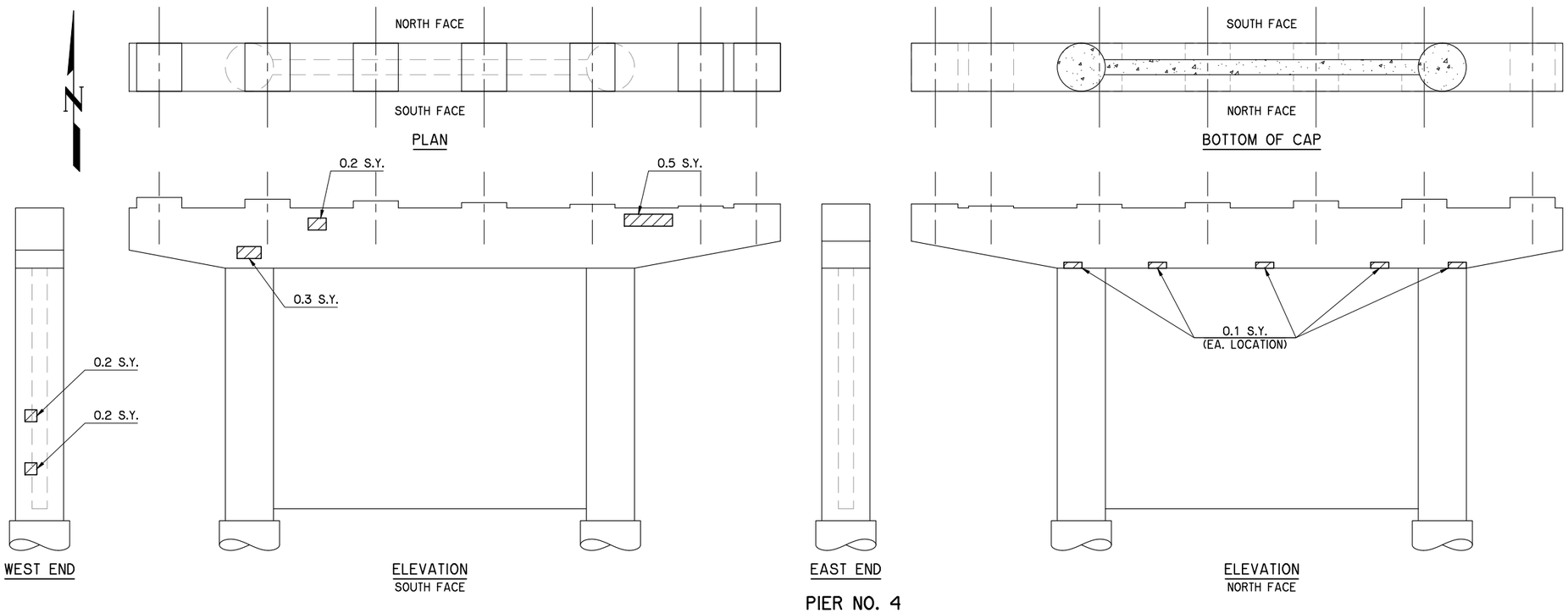

PIER NO. 4

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 3 AND NO. 4

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 14

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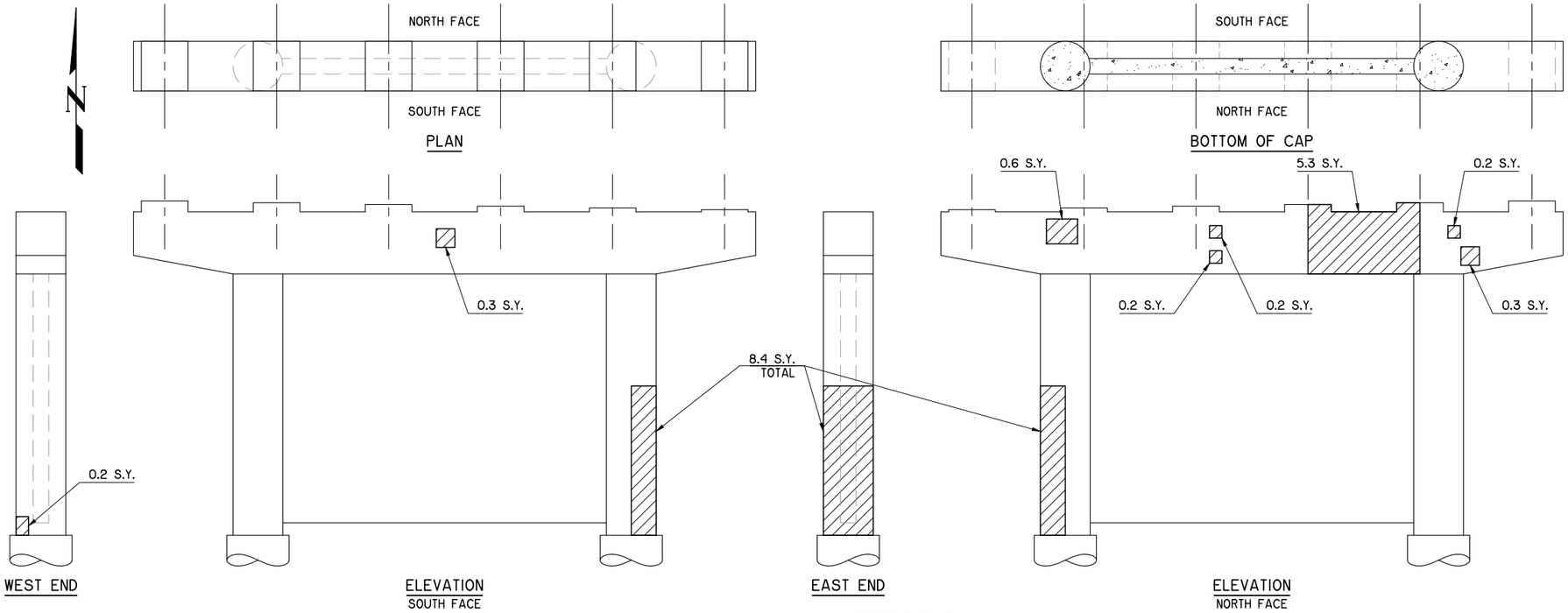

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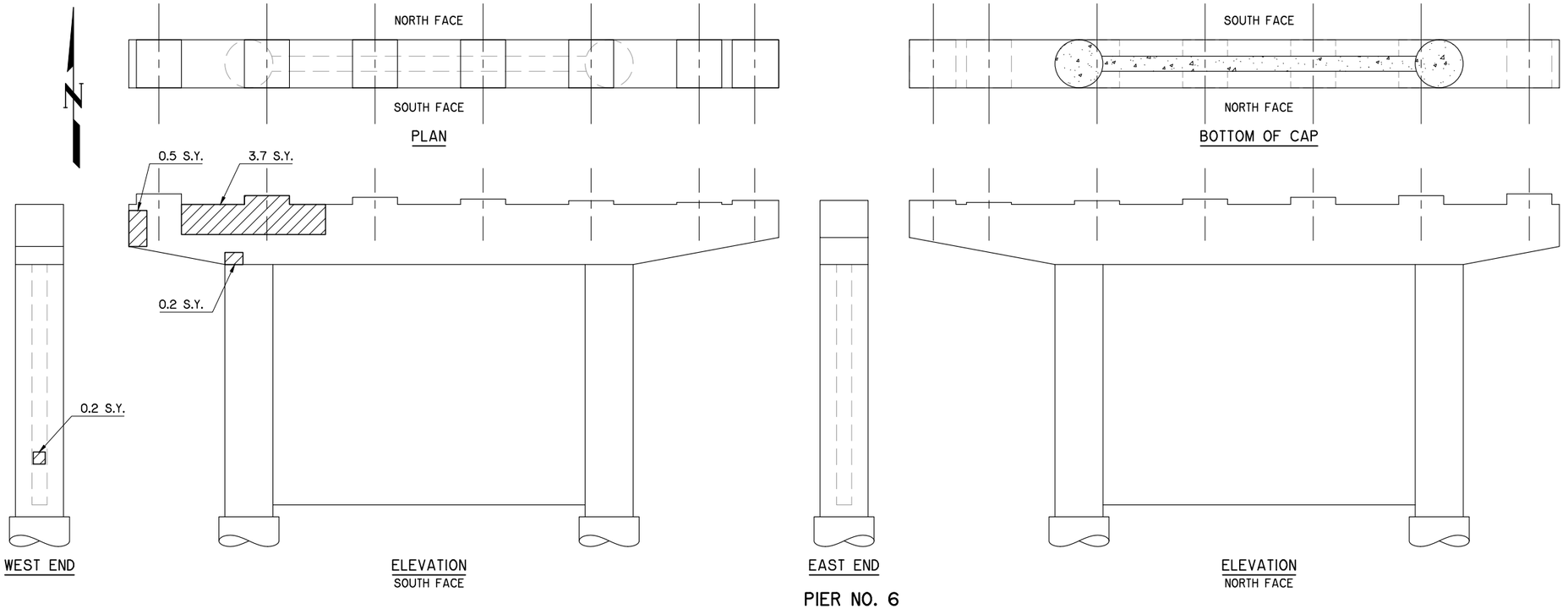


PIER NO. 6

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 5 AND NO. 6

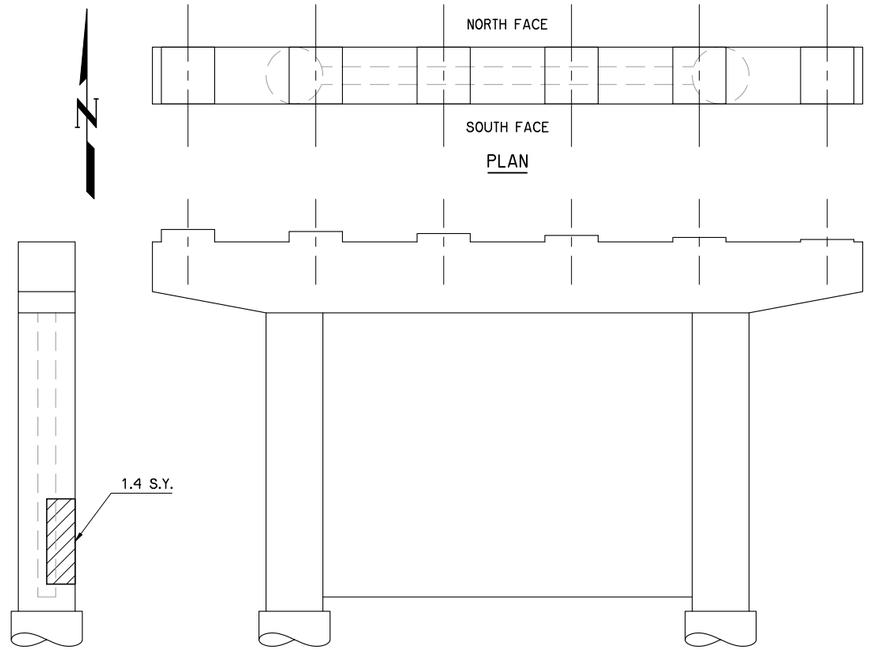
Design	ADT	
Detail	FEZ	
Check	ADT	

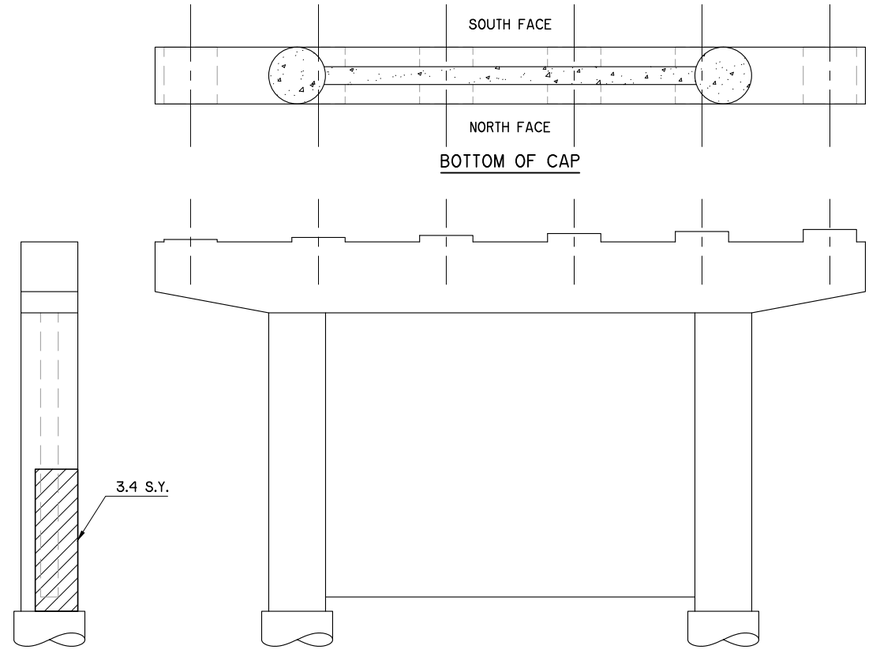
WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 15

REVISIONS		
REV. NO.	DESCRIPTION	DATE





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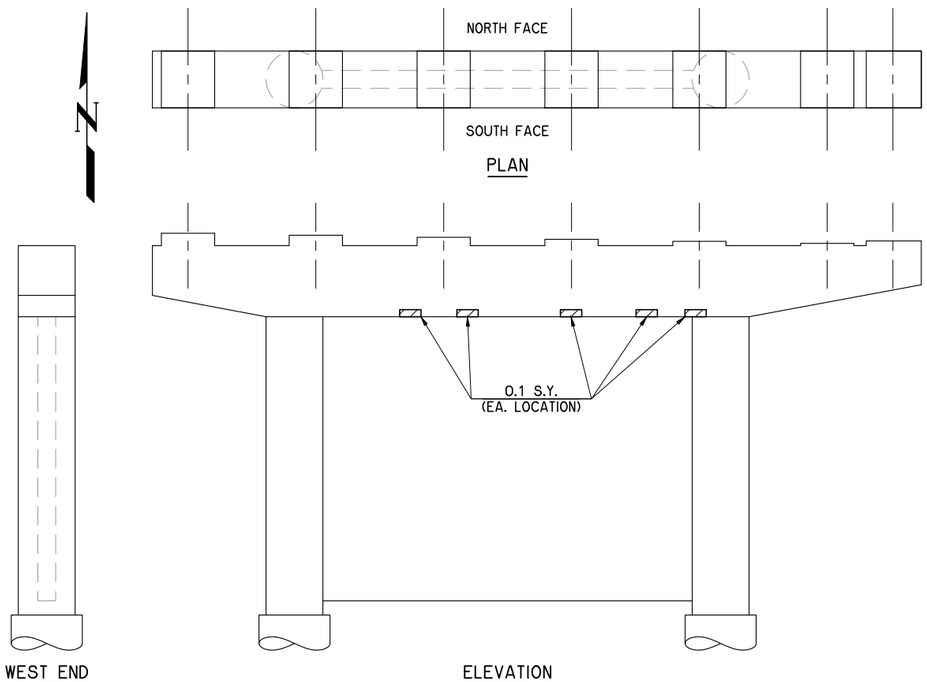

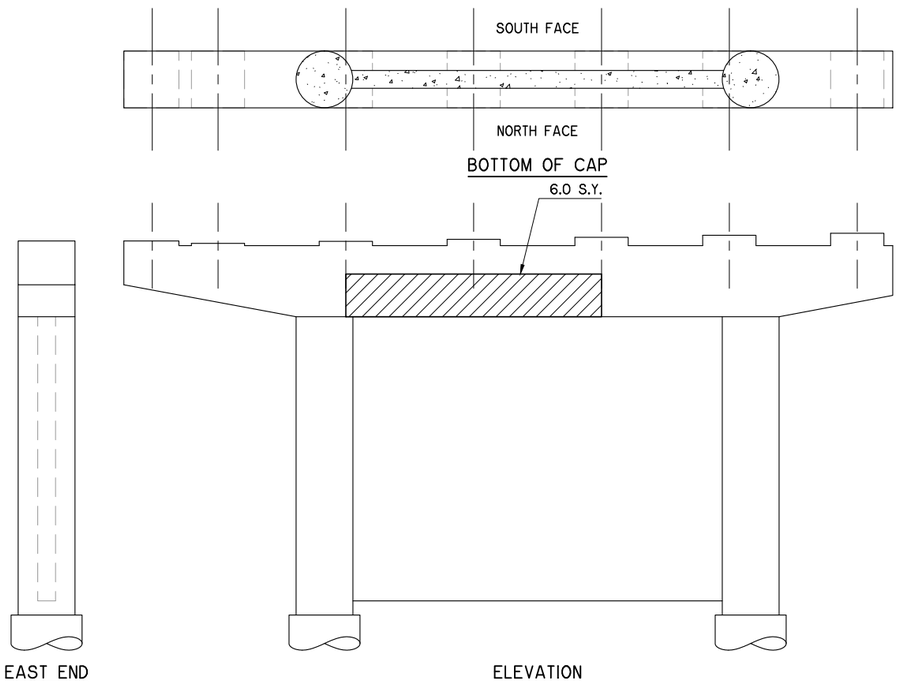

PIER NO. 8

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 7 AND NO. 8

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 16

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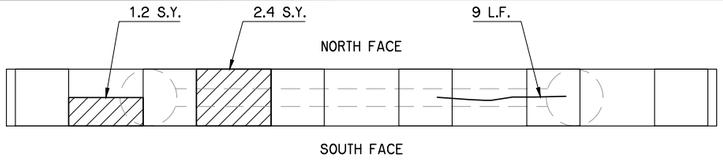
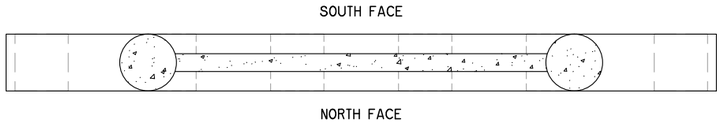
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PLAN



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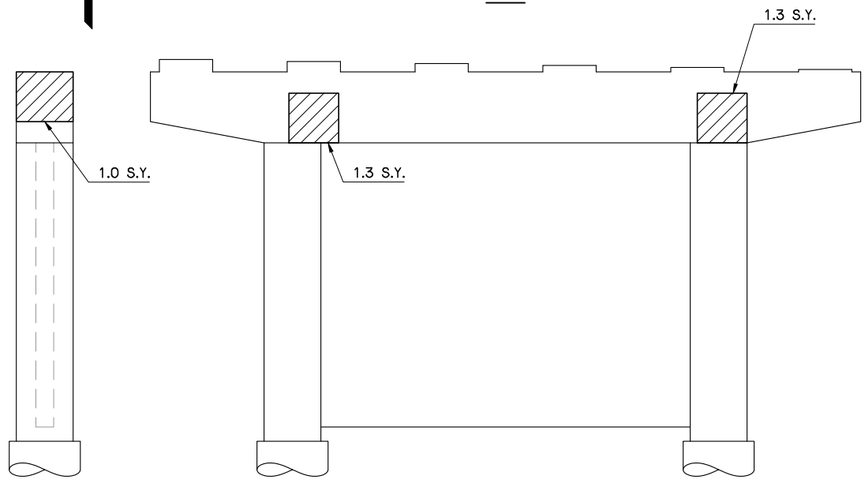
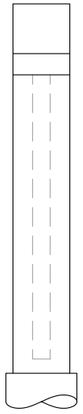


WEST END

ELEVATION
SOUTH FACE



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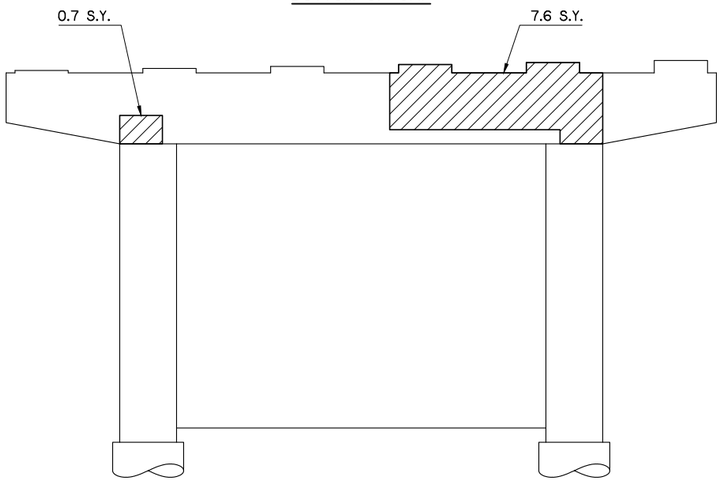
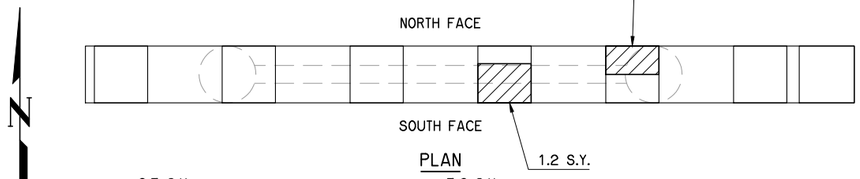
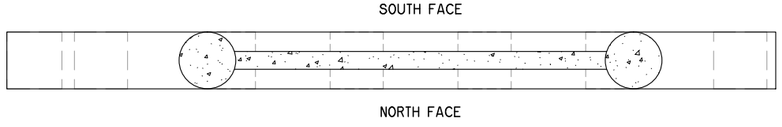


ELEVATION
NORTH FACE

PIER NO. 9



PLAN



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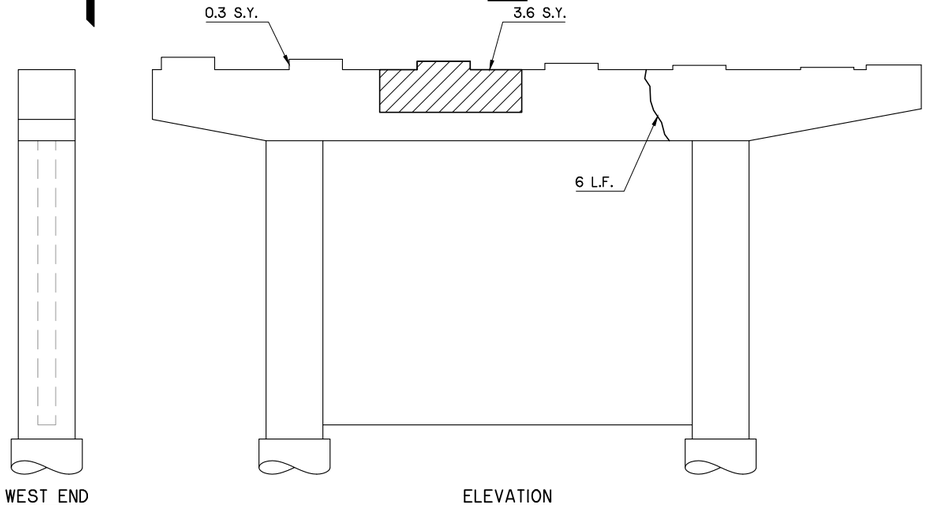
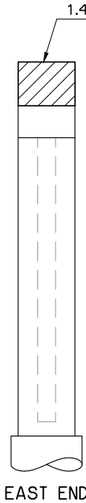


WEST END

ELEVATION
SOUTH FACE



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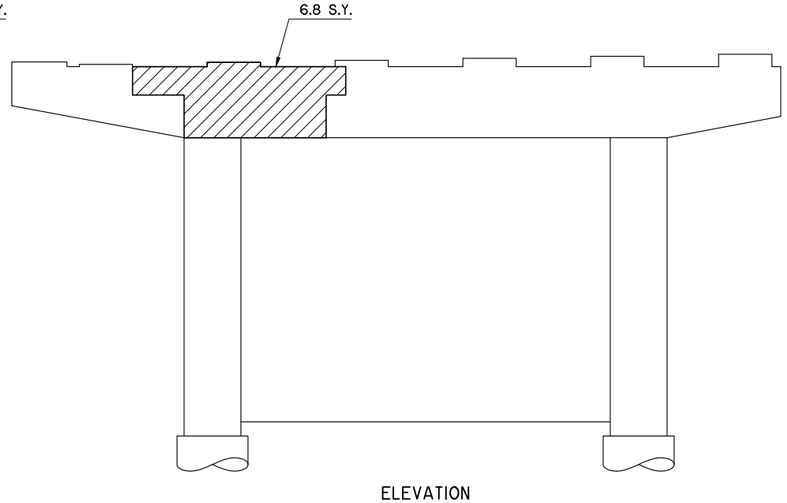


ELEVATION
NORTH FACE

PIER NO. 10

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 9 AND NO. 10

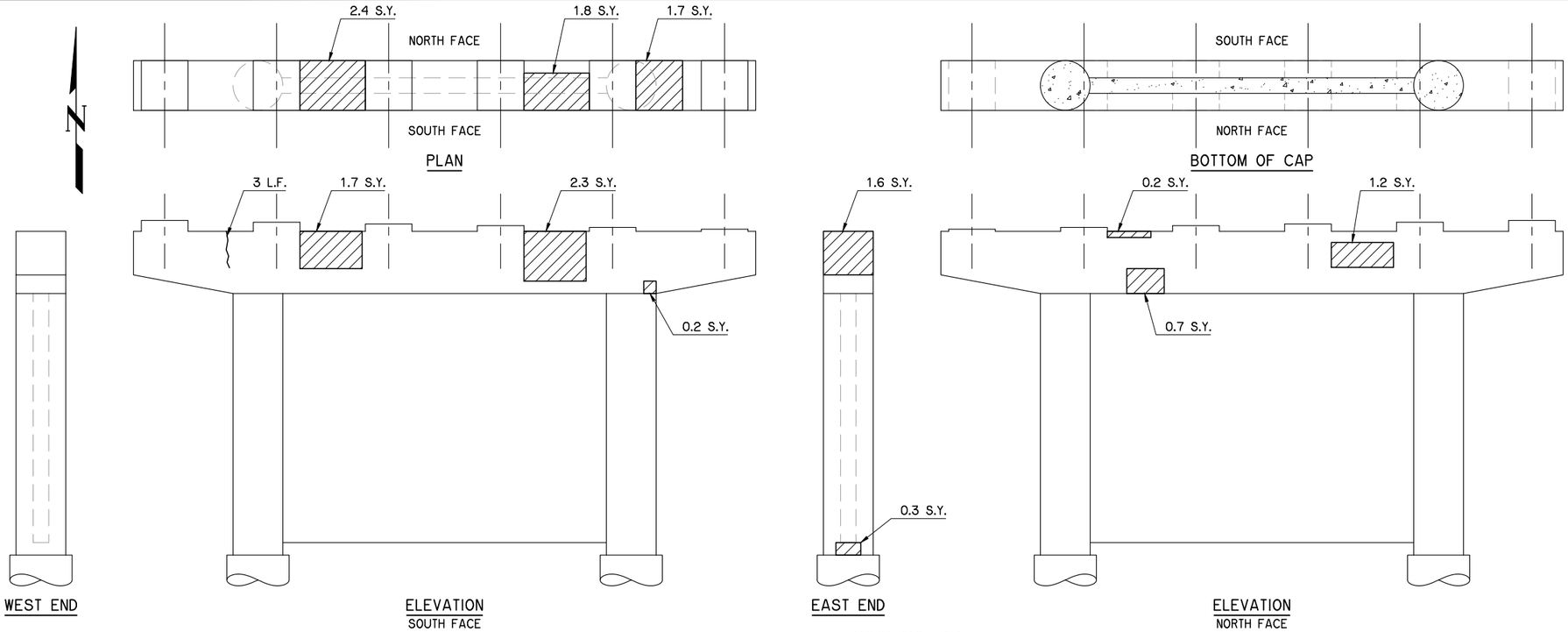
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 17

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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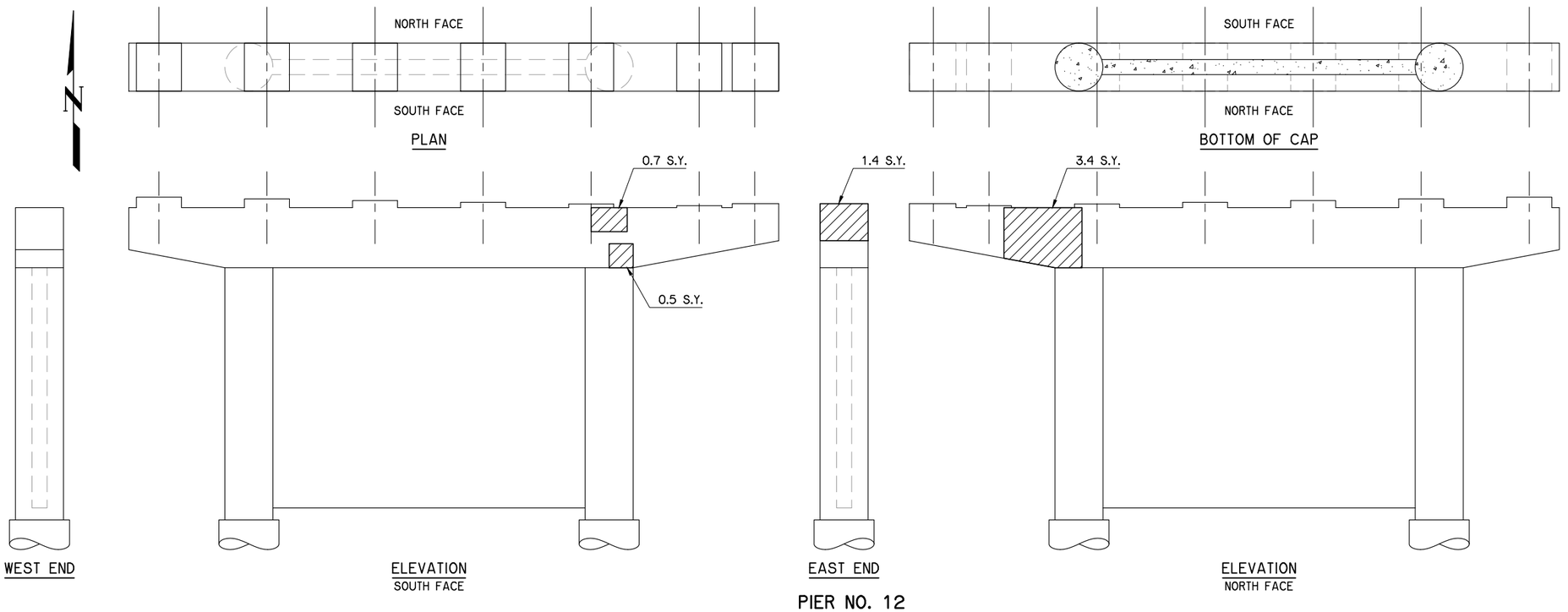


PIER NO. 12

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 11 AND NO. 12

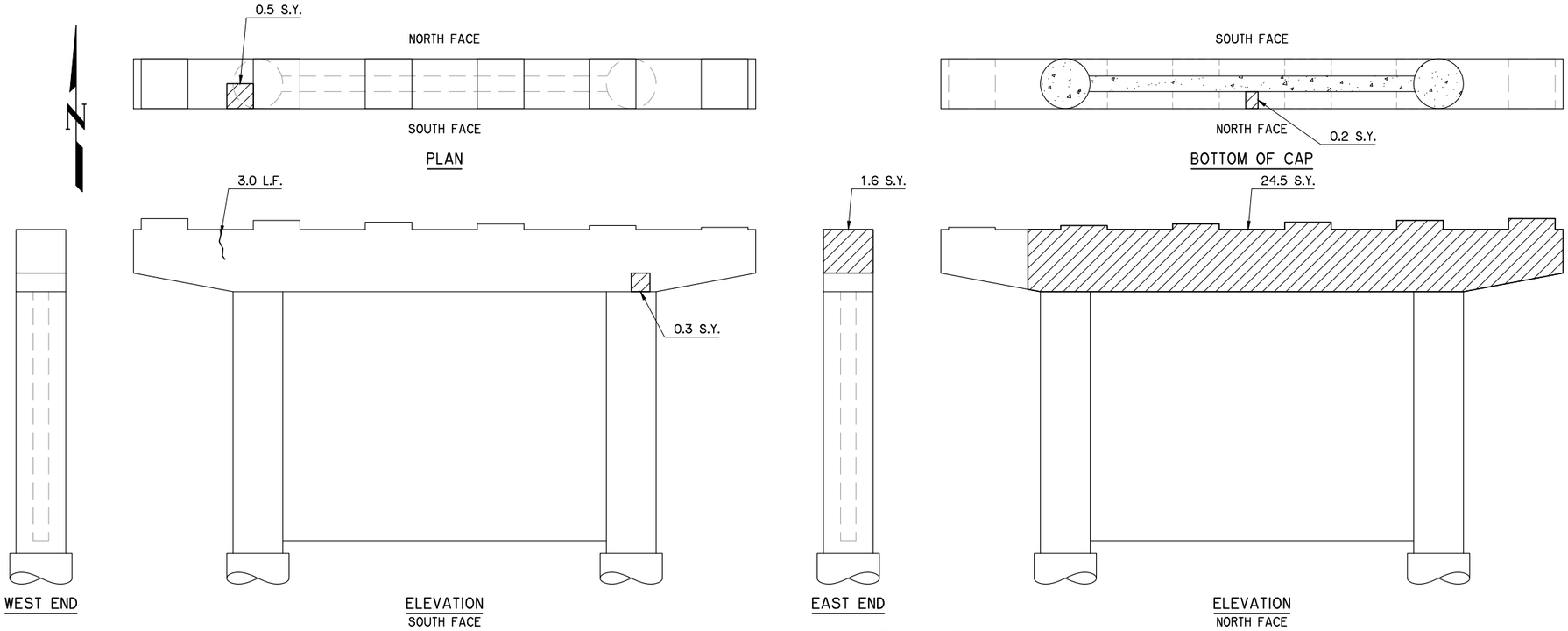
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 18

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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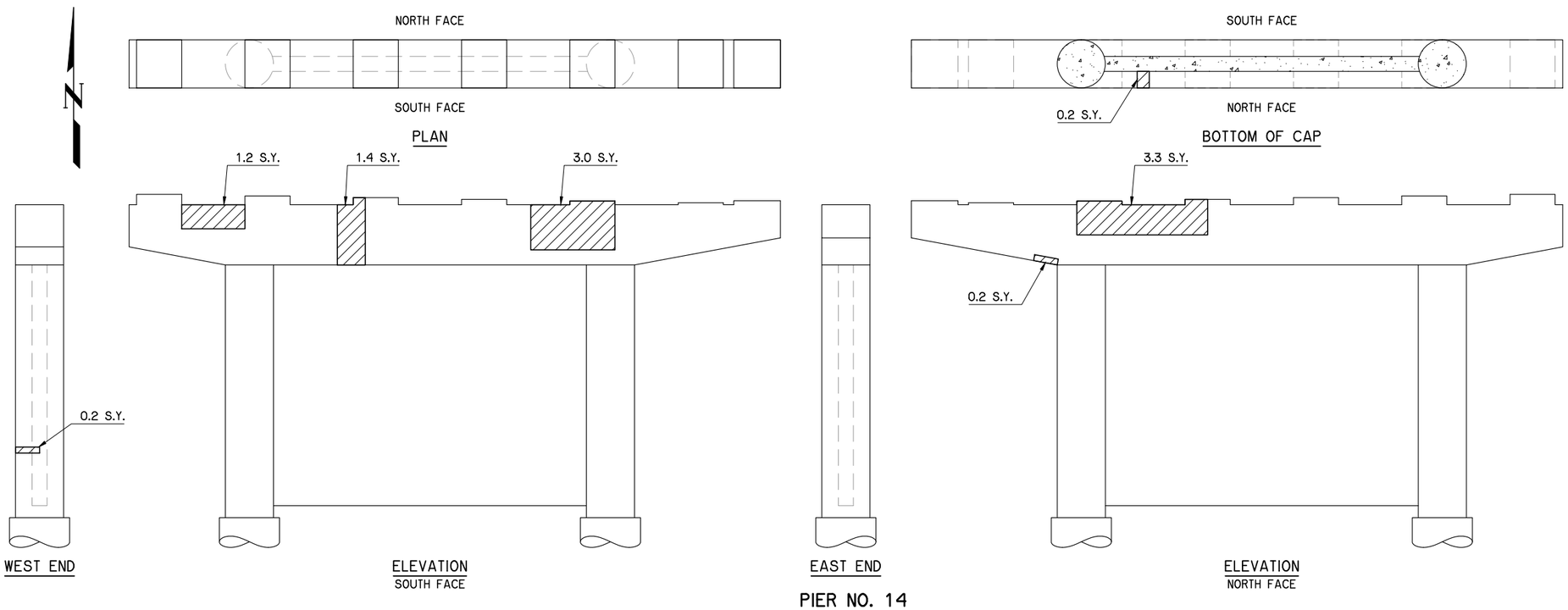

PIER NO. 14

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 13 AND NO. 14

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 19

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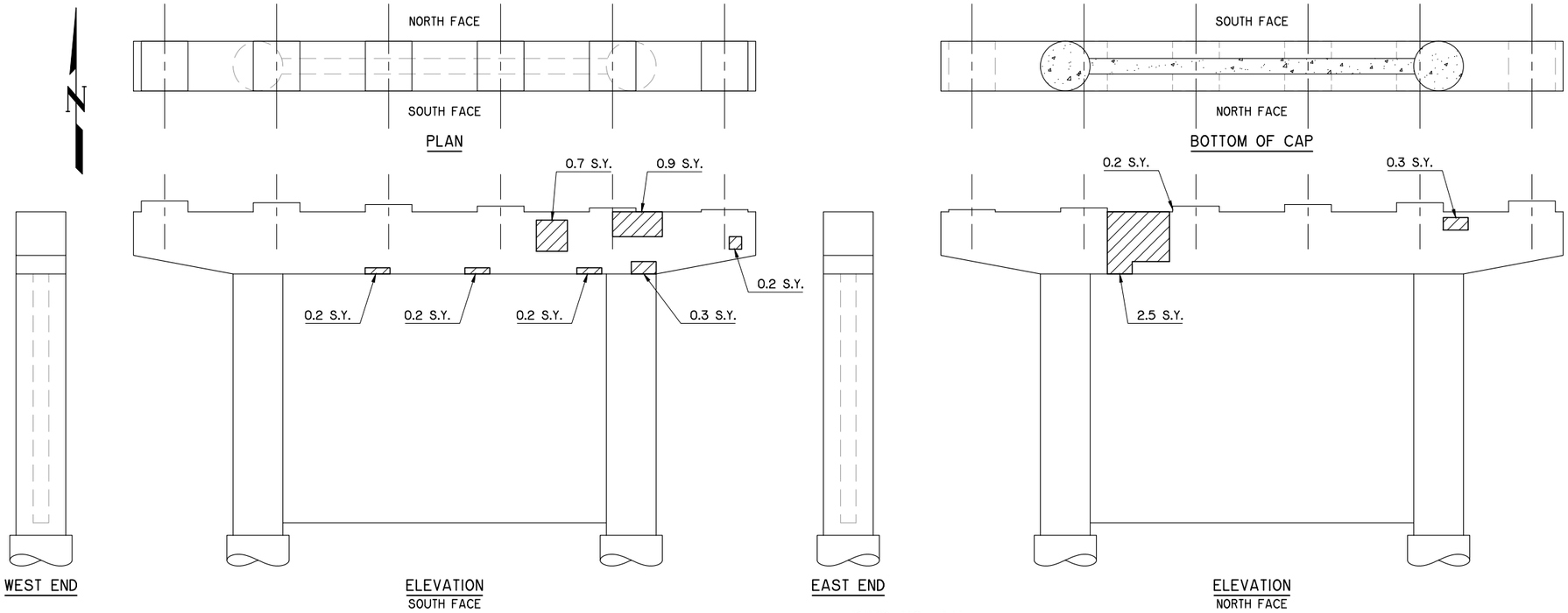
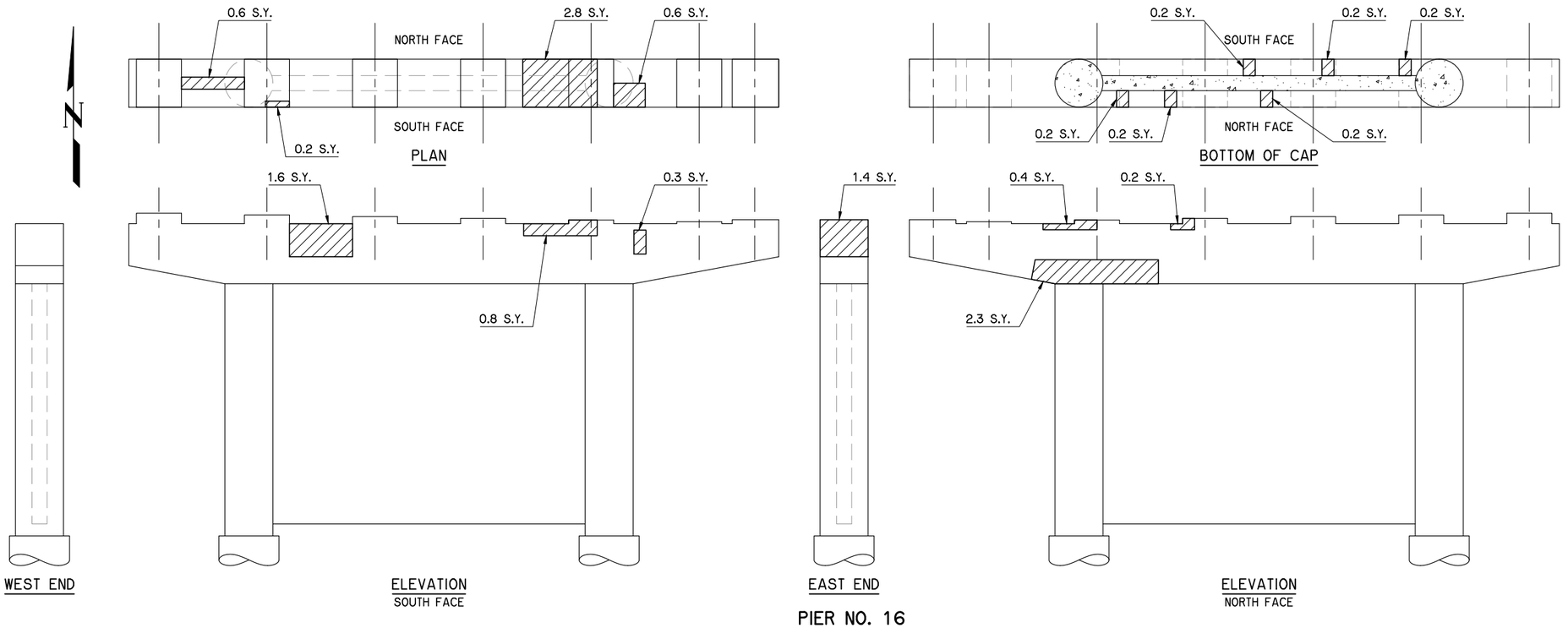
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PIER NO. 15



PIER NO. 16

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 15 AND NO. 16

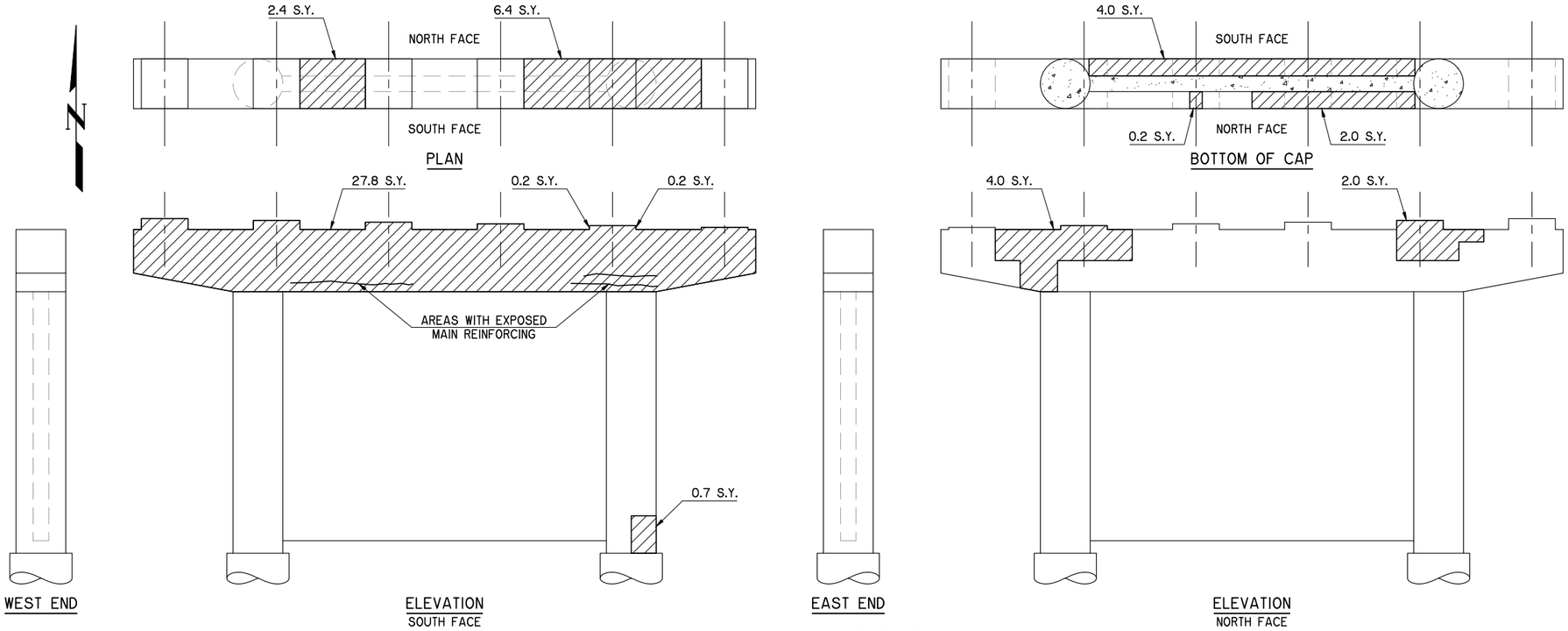
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 20

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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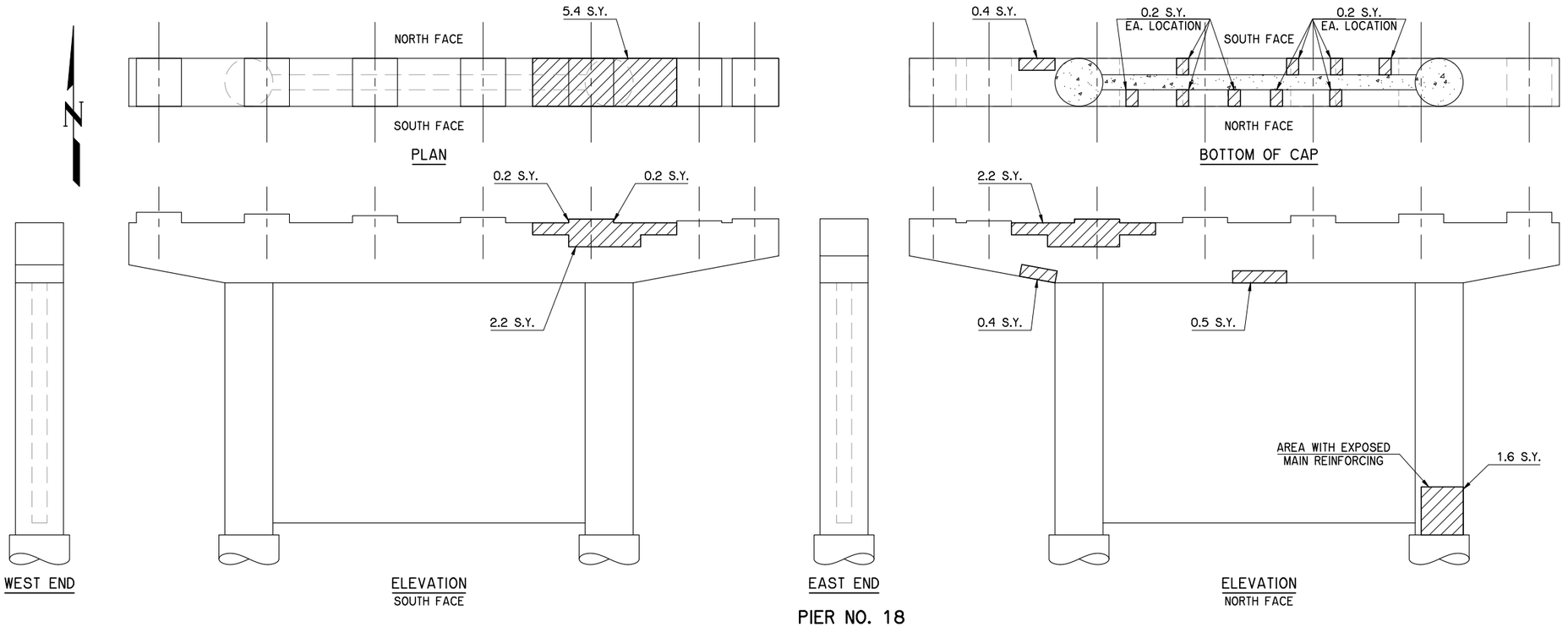


PIER NO. 18

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 17 AND NO. 18

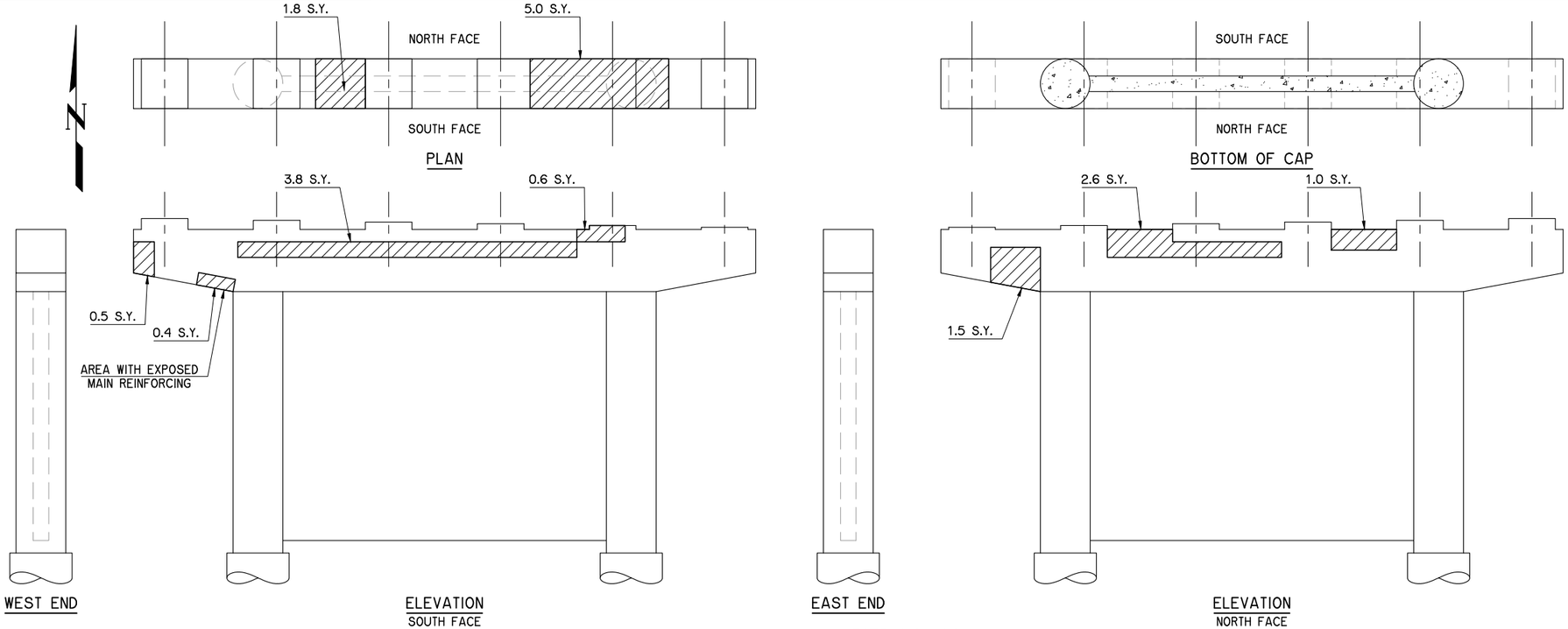
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 21

REVISIONS		
REV. NO.	DESCRIPTION	DATE



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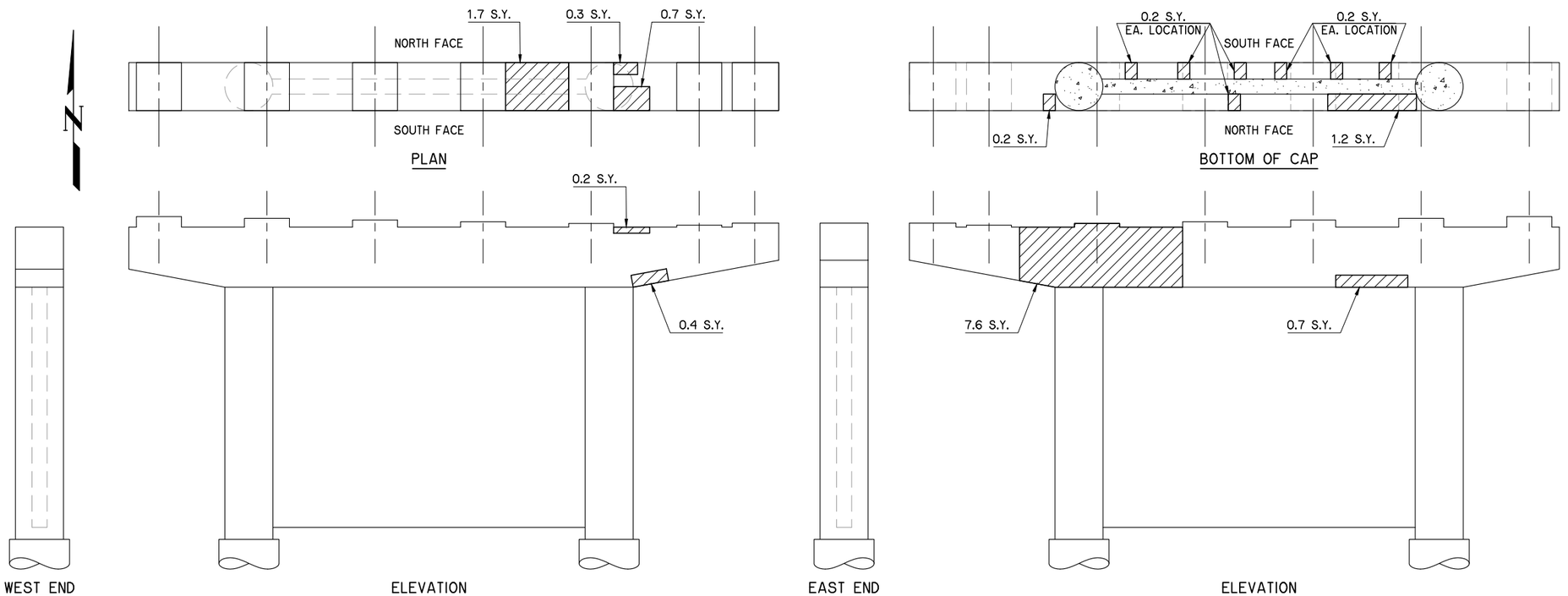

PIER NO. 20

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 19 AND NO. 20

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 22

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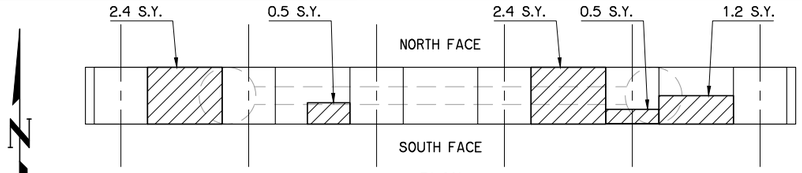
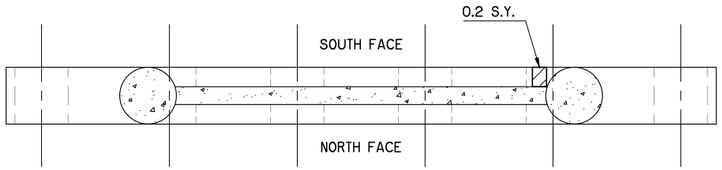
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PLAN



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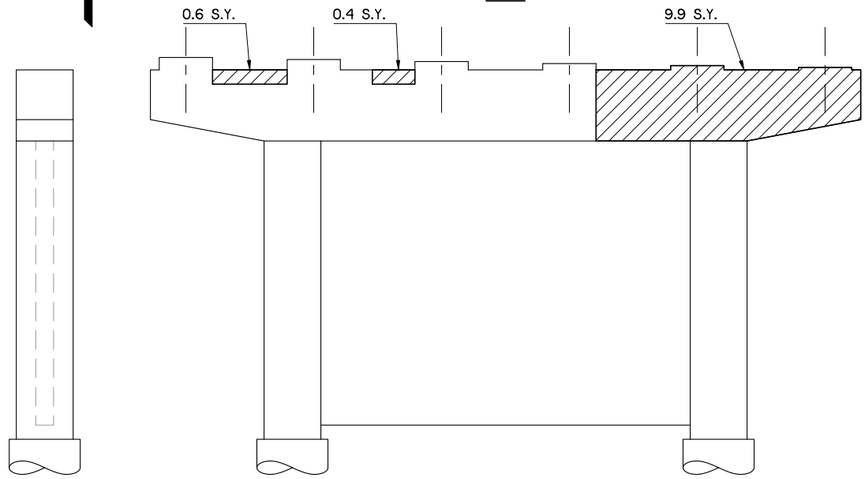
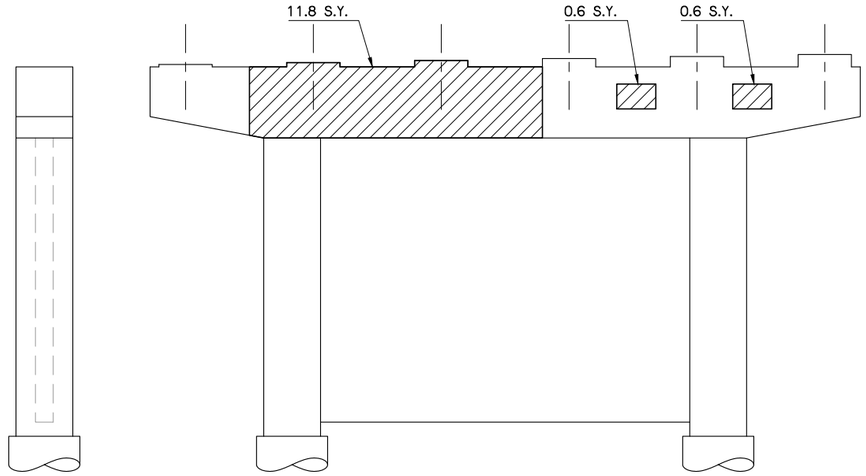


WEST END

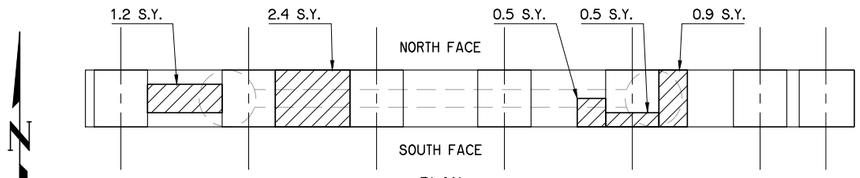
ELEVATION
SOUTH FACE



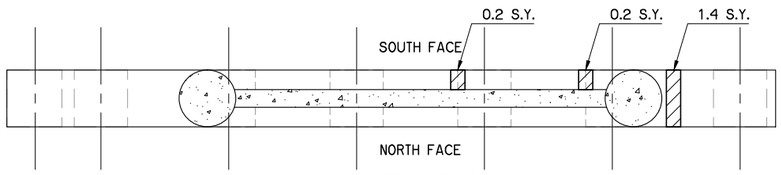
EAST END

ELEVATION
NORTH FACE

PIER NO. 21



PLAN



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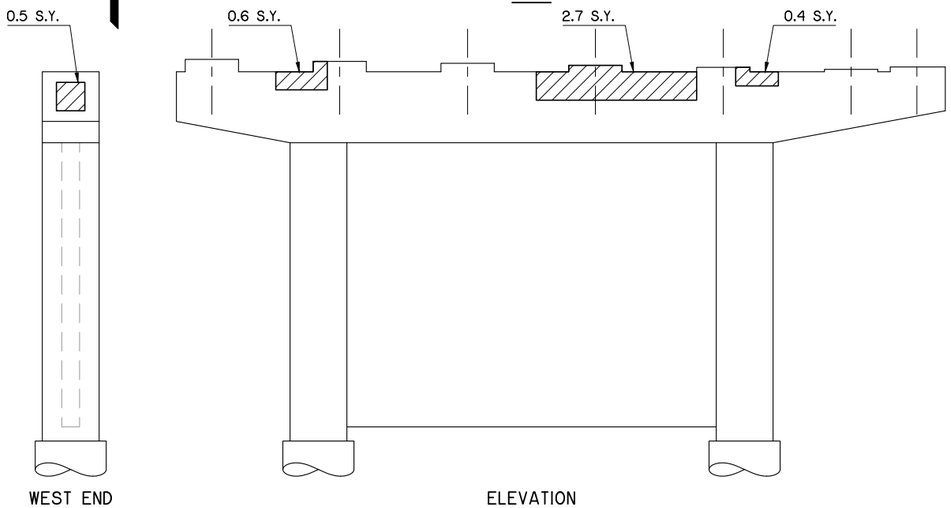
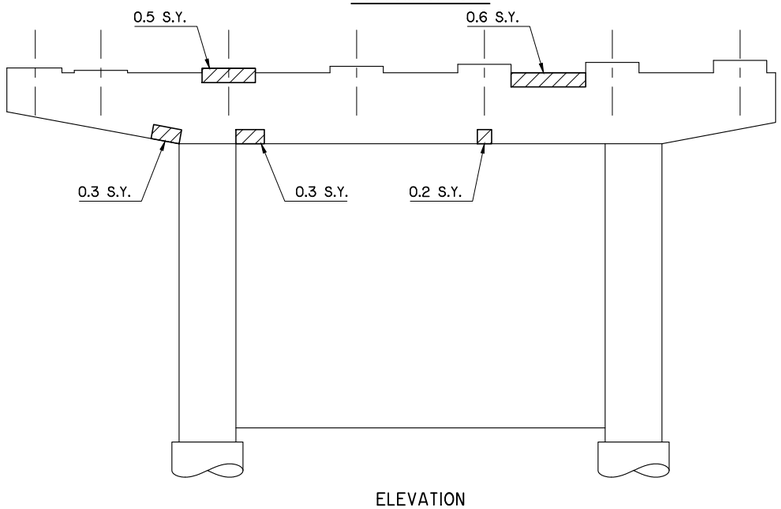


WEST END

ELEVATION
SOUTH FACE



EAST END

ELEVATION
NORTH FACE

PIER NO. 22

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 21 AND NO. 22

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 23

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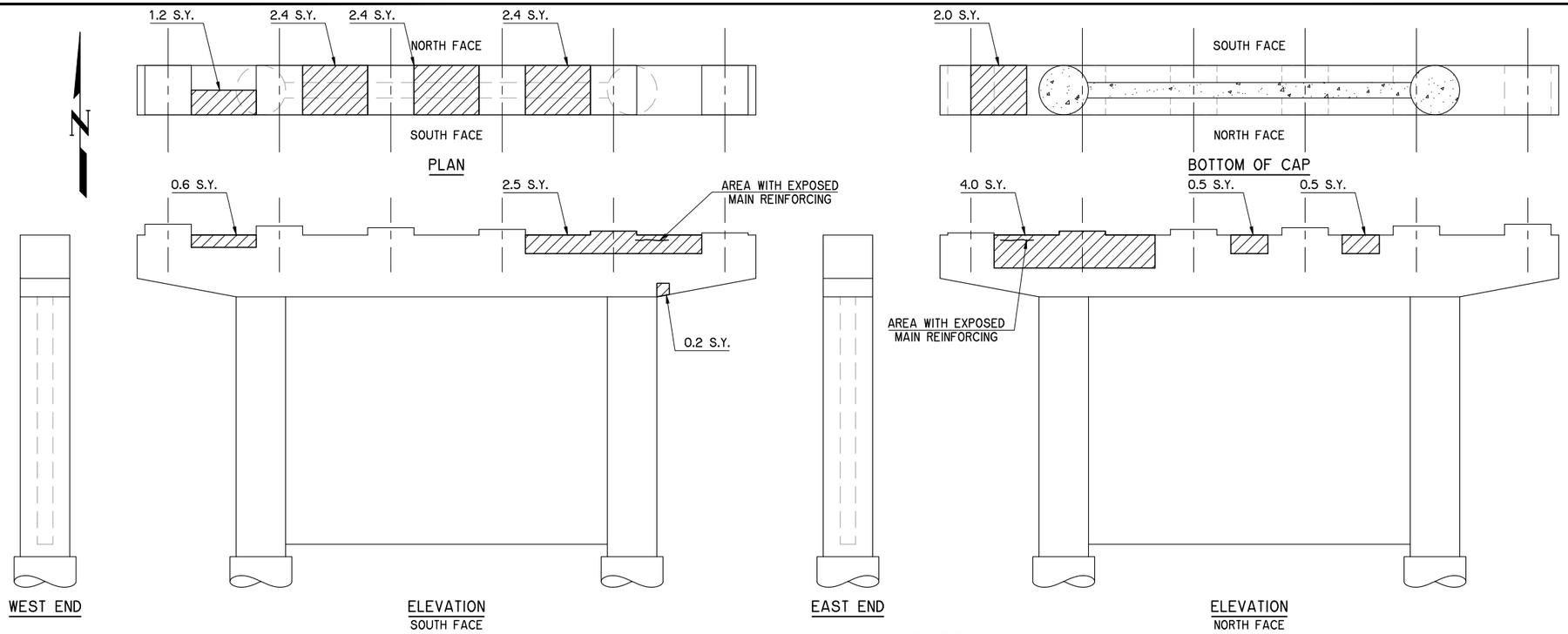
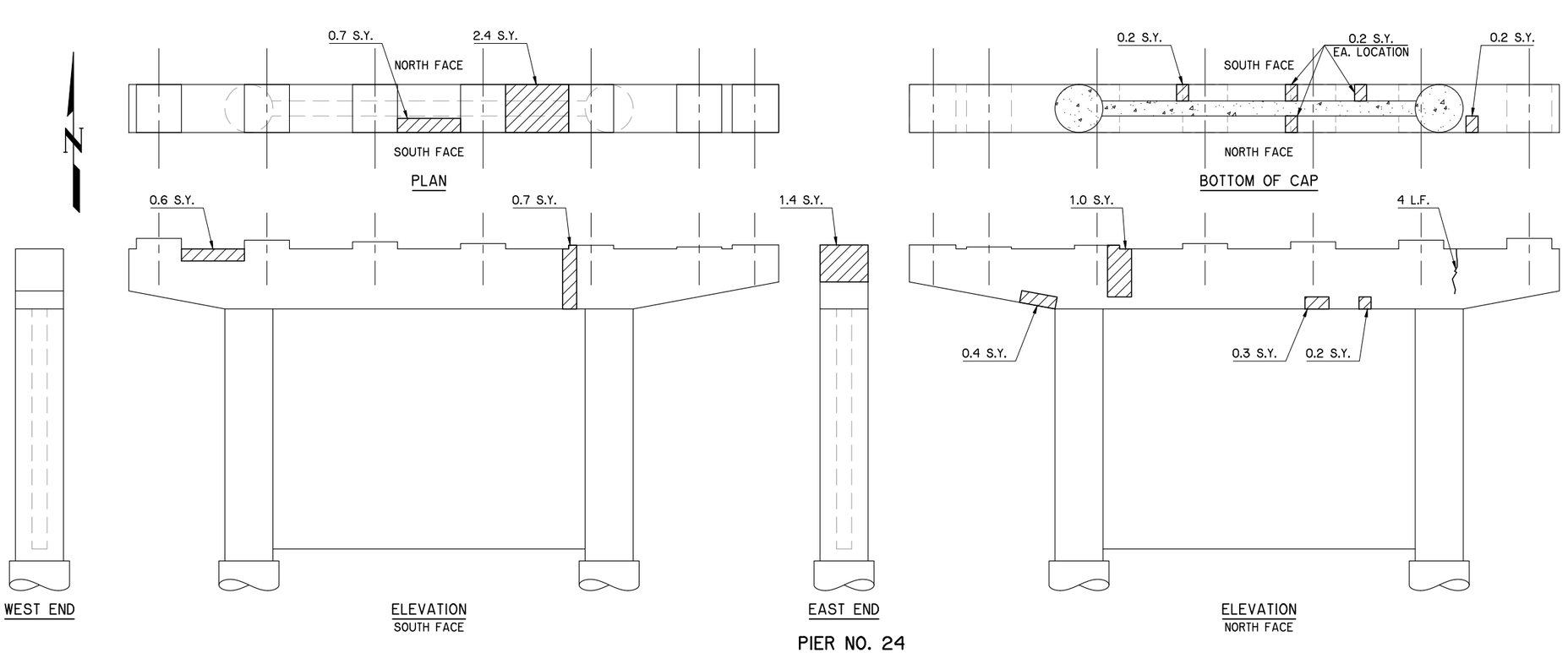
REVISIONS		
REV. NO.	DESCRIPTION	DATE



PIER NO. 23



PIER NO. 24

LEGEND

- PREPARATION OF CRACKS (ABOVE WATER)
- REPAIR BRIDGE ITEMS

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

PIER REPAIR DETAILS
PIER NO. 23 AND NO. 24

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 24

REVISIONS		
REV. NO.	DESCRIPTION	DATE

PIER REPAIR QUANTITIES (NOT PHASED)

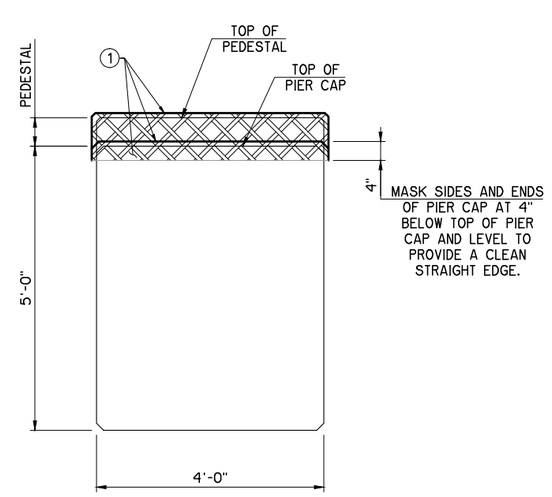
ITEM	UNIT	PIER NO. 1		PIER NO. 2		PIER NO. 3		PIER NO. 4		PIER NO. 5		PIER NO. 6		PIER NO. 7		PIER NO. 8		PIER NO. 9		PIER NO. 10	
		PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP
SPECIAL CONCRETE FINISH	S.Y.	32		34		32		34		32		34		32		34		32		34	
PREPARATION OF CRACKS, ABOVE WATER	L.F.																	9		6	
EPOXY RESIN, ABOVE WATER	GAL.																	0.8		0.5	
REPAIR BRIDGE ITEMS	S.Y.	6.4	1.8	0.8		0.3	0.4	1.5	0.4	7.1	8.6	4.4	0.2		4.8	6.5		15.5		14.1	

PIER REPAIR QUANTITIES (NOT PHASED)

ITEM	UNIT	PIER NO. 11		PIER NO. 12		PIER NO. 13		PIER NO. 14		PIER NO. 15		PIER NO. 16		PIER NO. 17		PIER NO. 18		PIER NO. 19		PIER NO. 20	
		PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP
SPECIAL CONCRETE FINISH	S.Y.	32		34		32		34		32		34		32		34		32		34	
PREPARATION OF CRACKS, ABOVE WATER	L.F.	3				3															
EPOXY RESIN, ABOVE WATER	GAL.	0.3				0.3															
REPAIR BRIDGE ITEMS	S.Y.	13.8	0.3	6.0		27.1		9.3	0.2	5.7		12.4		49.2	0.7	13.3	1.6	17.2		14.4	

PIER REPAIR QUANTITIES (NOT PHASED)

ITEM	UNIT	PIER NO. 21		PIER NO. 22		PIER NO. 23		PIER NO. 24		TOTAL PIER CAP	TOTAL BELOW PIER CAP
		PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP	PIER CAP	BELOW PIER CAP		
SPECIAL CONCRETE FINISH	S.Y.	32		34		32		34		792	
PREPARATION OF CRACKS, ABOVE WATER	L.F.							4		25	
EPOXY RESIN, ABOVE WATER	GAL.							0.3		2.0	
REPAIR BRIDGE ITEMS	S.Y.	31.1		13.4		18.7		8.7		296.9	19.0



SPECIAL CONCRETE FINISH DETAIL

(1) APPLY CIM 1000, SPECIAL CONCRETE FINISH, TO ALL SURFACES SHOWN WITH HEAVY LINES AND HATCH (INCLUDING PEDESTALS AND ENDS OF CAP).

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

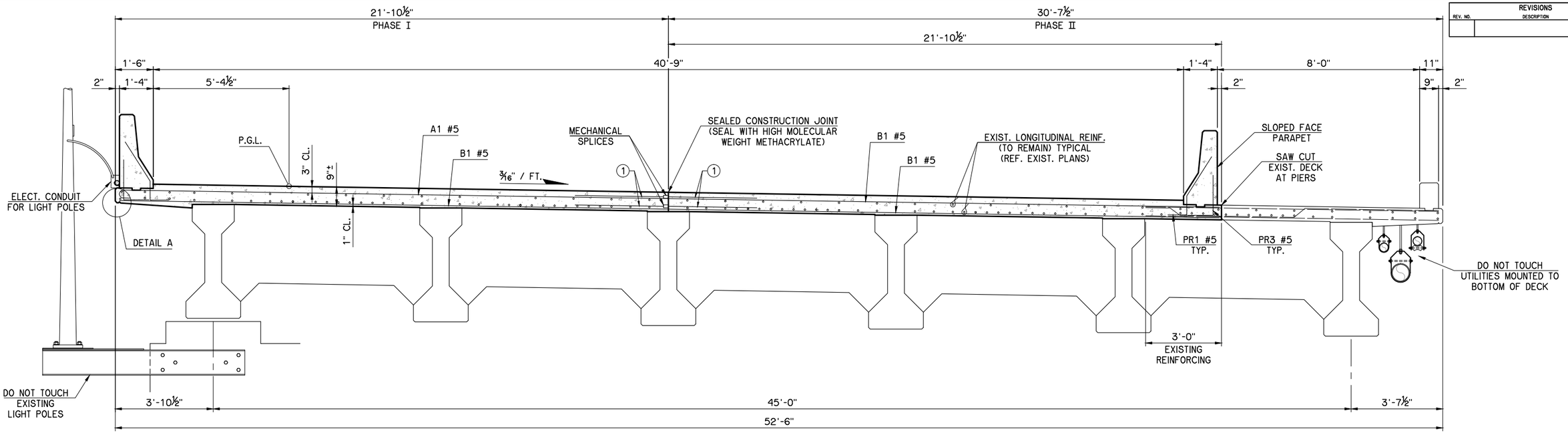
PIER REPAIR DETAILS
PIER QUANTITIES

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 25



TYPICAL CROSS SECTION AT PIERS

① PROVIDE A 3'-6" #5 PLAIN REBAR TO PROVIDE A LAP WITH A AND B BARS FOR EACH PHASE AT EACH MECHANICAL SPLICE. INCLUDE ALL COST FOR THE PLAIN REBAR, LABOR AND INCIDENTALS IN THE CONTRACT UNIT PRICE OF "MECHANICAL SPLICES".

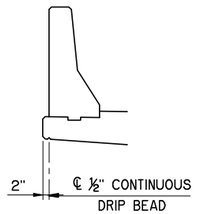
NOTES

FOR ADDITIONAL INFO. FOR SLOPED FACE PARAPET, REF. EXISTING PLANS.

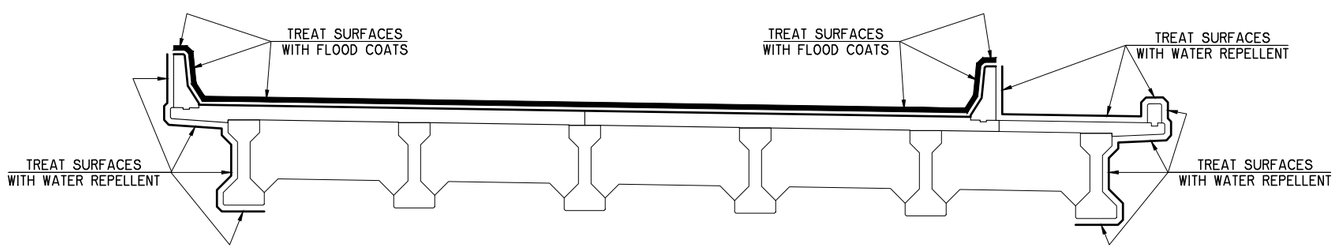
ROTATE HOOKS ON A BARS TO MAINTAIN MINIMUM CLEARANCE.

EPOXY COAT OR GALVANIZE MECHANICAL SPLICES.

LIGHT POLES ARE LOCATED ON EXPANSION PIERS.



DETAIL A



WATER REPELLENT AND FLOOD COATS TREATMENT DETAIL

SUPERSTRUCTURE QUANTITIES

ITEM	UNIT	NOT PHASED	PHASE I	PHASE II
(PL) FALSEWORK JACKING	L.SUM	1		
SEALED EXPANSION JOINT	L.F.		271.4	271.4
CONCRETE PARAPET	L.F.		96	96
RAPID CURE JOINT SEALANT	L.F.			110.5
STRUCTURAL STEEL	LB.		800	800
WEATHERING STEEL FIXED BEARING ASSEMBLY	EA.	150		
WEATHERING STEEL EXPANSION BEARING ASSEMBLY	EA.	150		
MECHANICAL SPLICES	EA.		480	
CLASS B DECK REPAIR	S.Y.		9.1	9.1
CLASS C DECK REPAIR	S.Y.		233.3	233.3
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.		3,195	5,619
PNEUMATICALLY PLACED MORTAR	S.Y.	37.9	8.0	9.9
SEALER CRACK PREPARATION	L.F.		978.0	1,406.1
SEALER RESIN	GAL.		11	16
DECK AREA SEALED (FLOOD COATS)	S.Y.		5,514	5,514
(SP) CARBON FIBER-REINFORCED POLYMER	S.F.	5,131		
(SP) CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	570		
REMOVAL OF BRIDGE ITEM (TYPE A)	L.SUM	1		
REMOVAL OF EXISTING PARAPET	L.F.		96	96

REVISIONS

REV. NO.	DESCRIPTION	DATE

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

TYPICAL CROSS SECTION

Design	ADT	
Detail	FEZ	
Check	ADT	

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STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 26

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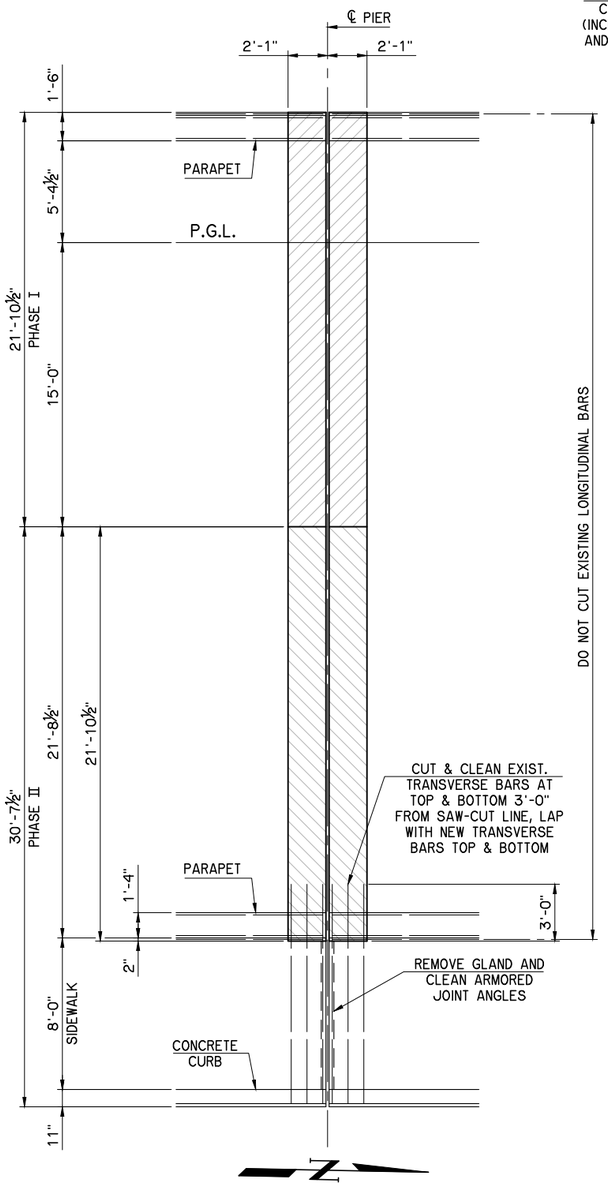
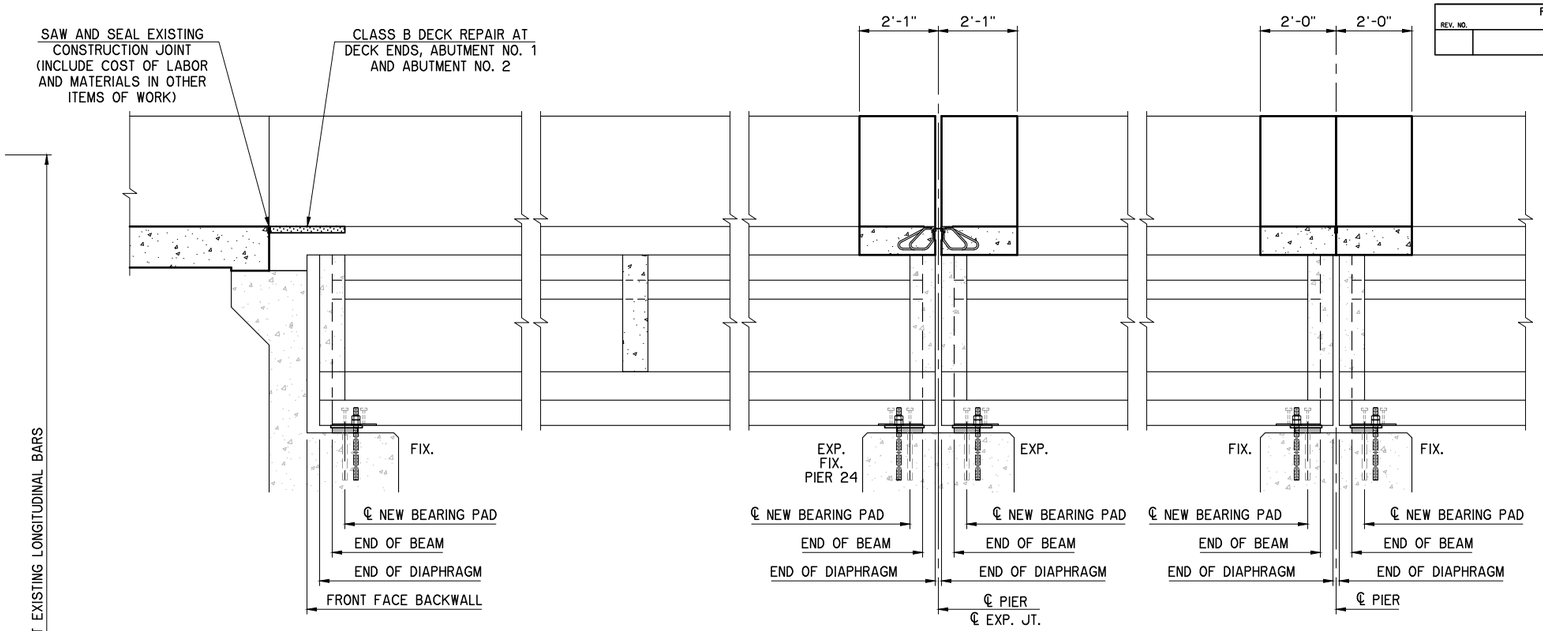


DECK REMOVAL PLAN

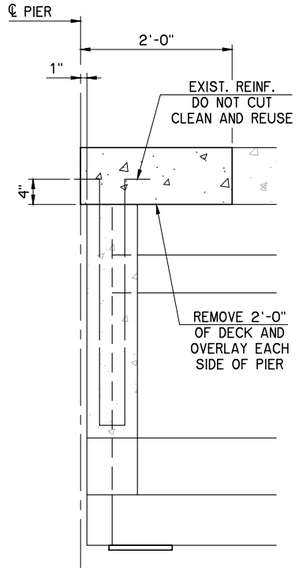
EXPANSION PIER SHOWN,
FIXED PIER SIMILAR

REMOVAL IN PHASE I
REMOVE 2'-0" FROM DECK AND WEST SIDE PARAPET EACH SIDE OF ℄ PIERS FOR INSTALLATION OF NEW EXPANSION JOINTS OR CONSTRUCTION JOINTS. DO NOT CUT LONGITUDINAL DECK AND PARAPET REINFORCING.

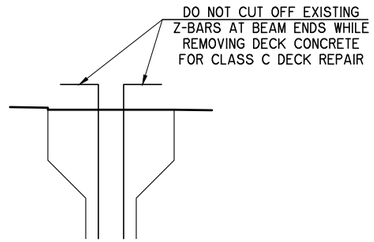
REMOVAL IN PHASE II
REMOVE 2'-0" FROM DECK AND EAST SIDE PARAPET. LEAVE THE SIDEWALK PORTION OF THE DECK. CLEAN AND RE-SEAL THE EXPANSION OR CONSTRUCTION JOINT AS SHOWN ON SHEET 31. CUT OFF TOP AND BOTTOM TRANSVERSE BARS 3'-0" FROM SAW LINE. CLEAN THE EXISTING TRANSVERSE REINFORCING AND LAP WITH NEW TRANSVERSE REINFORCING.



LONGITUDINAL SECTION

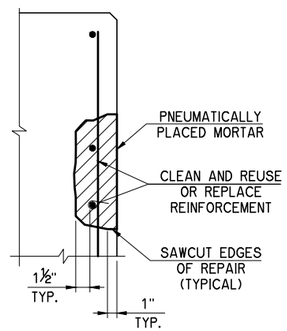


END DIAPHRAGM



NOTE:
REPAIR ANY DAMAGE TO THE SHEAR REINFORCEMENT AT NO ADDITIONAL COST TO THE DEPARTMENT.

EXISTING REINFORCING AT END OF BEAMS



PNEUMATICALLY PLACED MORTAR DETAIL FOR PARAPETS

REVISIONS		
REV. NO.	DESCRIPTION	DATE

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

LONGITUDINAL SECTION AND REMOVAL DETAILS

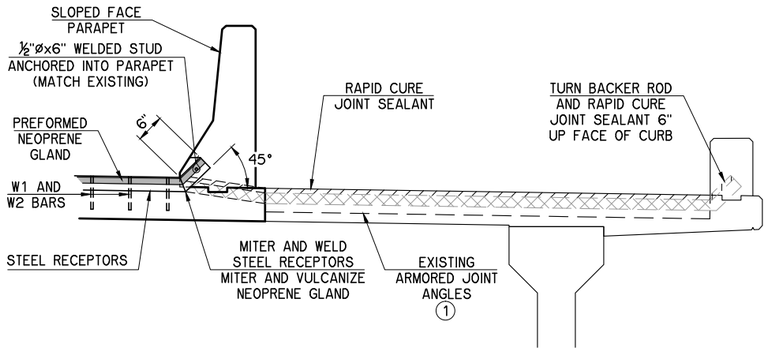
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 27

REVISIONS		
REV. NO.	DESCRIPTION	DATE

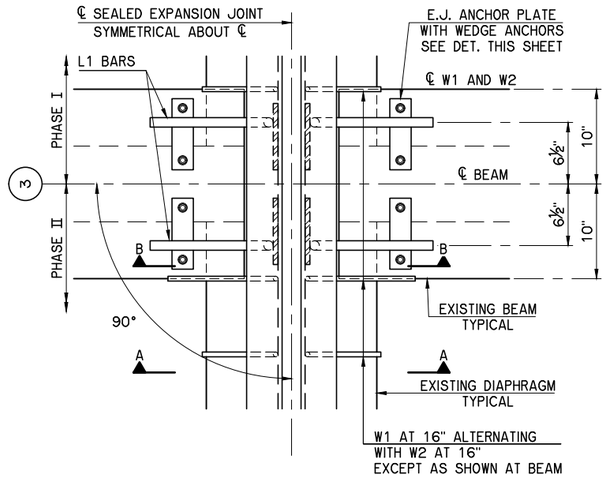


EXPANSION JOINT SECTION AT PARAPET AND SIDEWALK

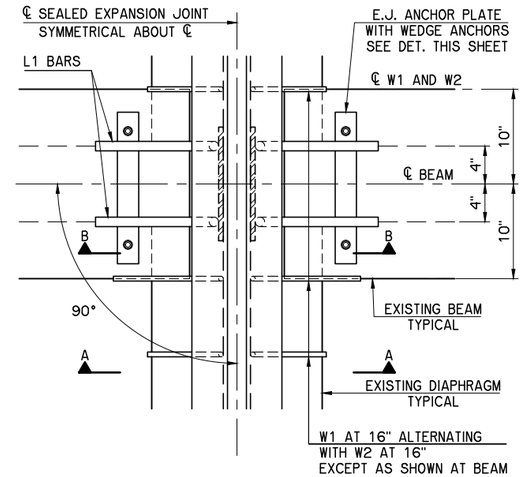
(1) CLEAN EXISTING ARMORED JOINT ANGLES BEFORE INSTALLING RAPID CURE JOINT SEALER DOW CORNING 6888 OR SIMILAR. IN ACCORDANCE WITH SECTION 701.08.6 OF THE SPECIFICATIONS. INCLUDE ALL COST ASSOCIATED WITH THE REPAIR OF THE SIDEWALK ARMORED JOINTS AS WELL AS ALL MATERIALS, LABOR AND EQUIPMENT IN THE PRICE BID PER LINEAR FOOT OF "RAPID CURE JOINT SEALANT".

EXPANSION JOINT SETTING SCHEDULE

EXPANSION JOINT OPENING	TEMPERATURE F° PIER NO. 1 - 23	EXPANSION JOINT OPENING	TEMPERATURE F° PIER NO. 24
2½"	0°	2¼"	0°
2⅜"	11°	2⅛"	22°
2¼"	22°	2"	43°
2⅛"	32°	1⅞"	64°
2"	43°	1¾"	86°
1⅞"	54°	1⅝"	107°
1¾"	64°		
1⅝"	75°		
1½"	86°		
1⅜"	96°		
1¼"	107°		
1⅛"	118°		



EXPANSION JOINT PLAN BEAM 3



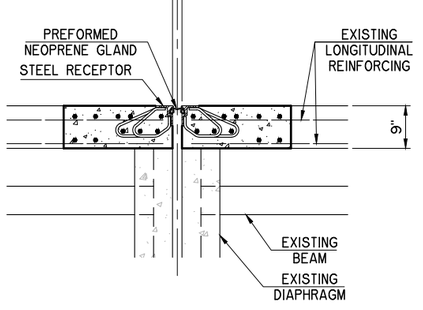
EXPANSION JOINT PLAN

ELEVATION

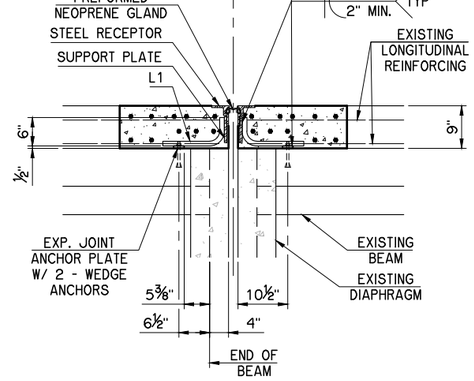
TYPICAL TOP VIEW

BEAM 3 TOP VIEW

EXPANSION JOINT ANCHOR PLATE DETAILS

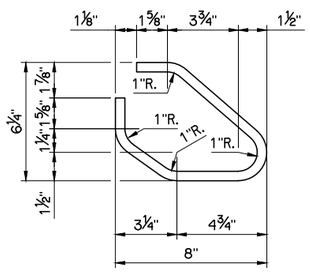


SECTION A-A

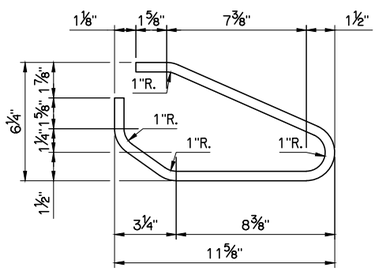


SECTION B-B

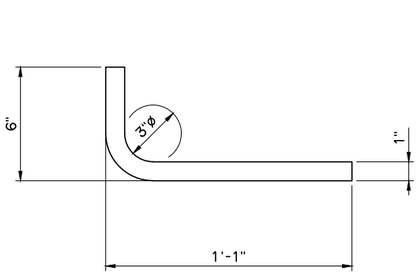
NOTE:
FOR ADDITIONAL EXPANSION JOINT DETAIL, SEE STD. EJ-SQ AND STD. EJ-DTL.



W1 ANCHOR BAR DETAIL



W2 ANCHOR BAR DETAIL



L1 SUPPORT BAR DETAIL

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
EXPANSION JOINT DETAILS		Detail	FEZ
		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
JOB PIECE NO. 31358(04)		SHEET NO. 28	

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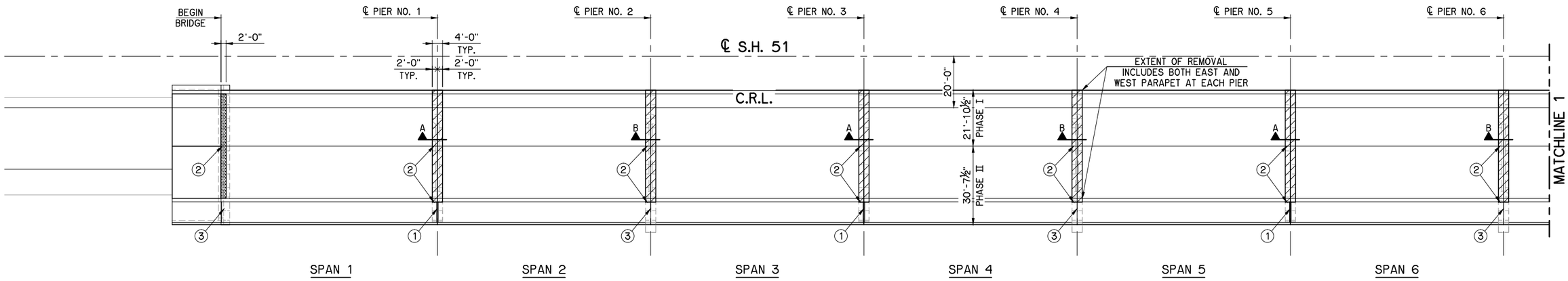
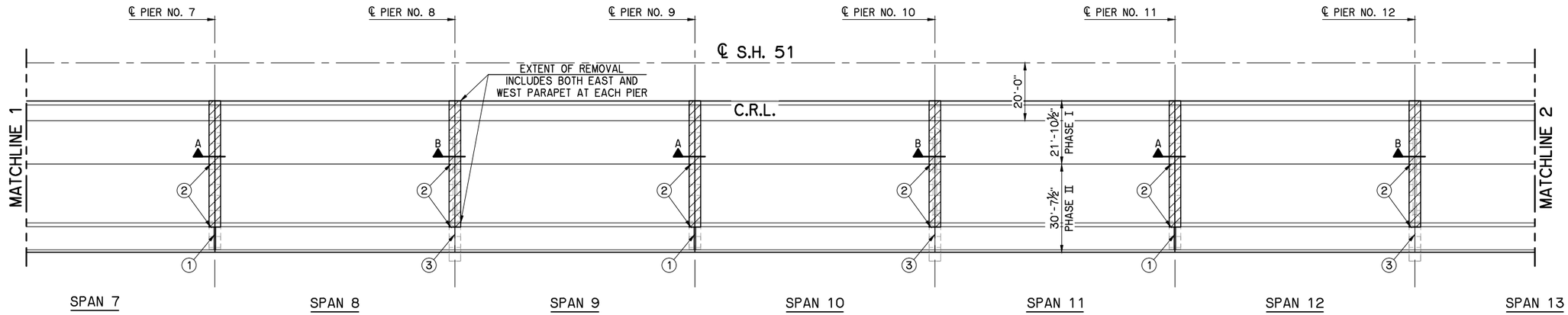
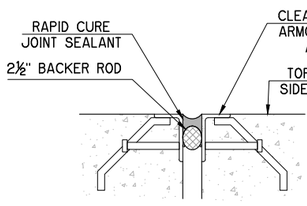
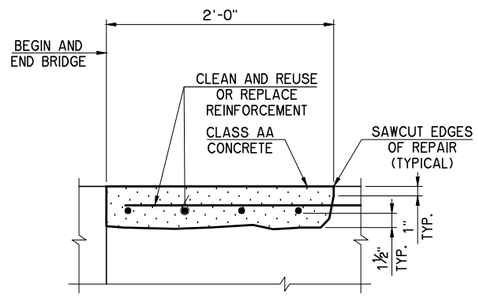




DECK REPAIR PLAN



SIDEWALK EXPANSION JOINT DETAIL



CLASS B BRIDGE DECK REPAIR

NOTES:
FOR SECTIONS A AND B, SEE SHEET 31.

(1) REPLACE JOINT SEALER IN ARMORED JOINTS IN SIDEWALK WITH RAPID CURE JOINT SEALANT. SEE SIDEWALK EXPANSION JOINT DETAIL ON THIS SHEET.

(2) SEAL CONSTRUCTION JOINT BETWEEN PHASES AT EACH PIER AND ABUTMENT, TRANSVERSE JOINTS BETWEEN NEW AND EXISTING CONCRETE EITHER SIDE OF EACH PIER AND BETWEEN THE SIDEWALK AND THE NEW DECK AT EACH PIER WITH HIGH MOLECULAR WEIGHT METHACRYLATE.

(3) SAW AND SEAL EXISTING CONSTRUCTION JOINTS IN SIDEWALK. INCLUDE COST OF LABOR AND MATERIALS IN OTHER ITEMS OF WORK.

LEGEND

CLASS B BRIDGE DECK REPAIR

CLASS C BRIDGE DECK REPAIR

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

DECK REPAIR PLAN
SHEET 1 OF 2

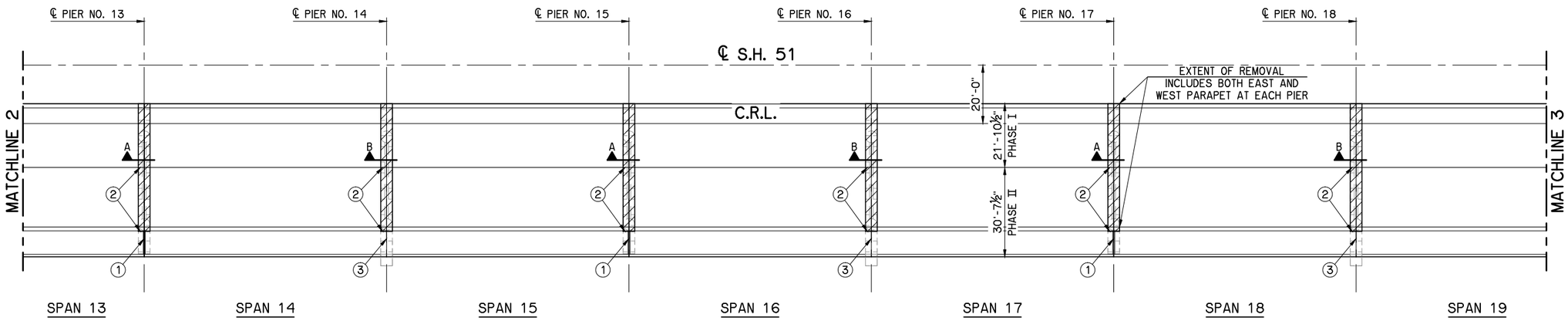
Design	ADT	
Detail	FEZ	
Check	ADT	

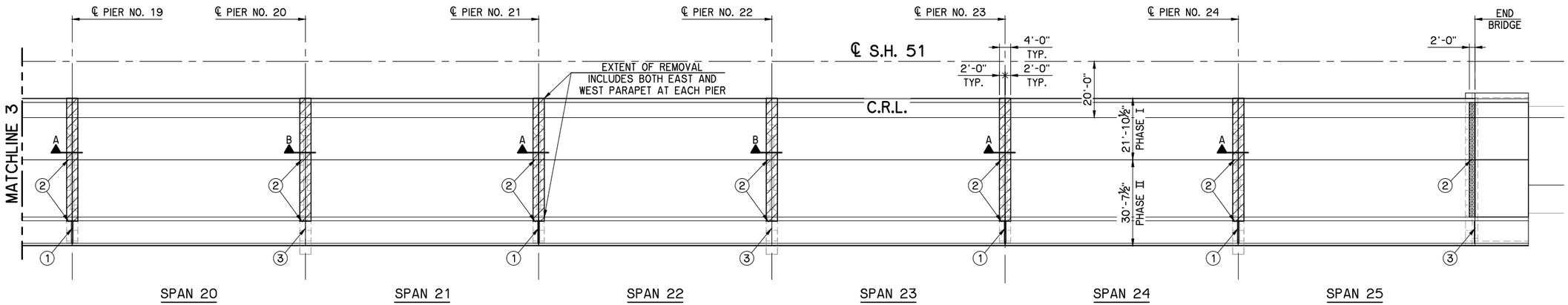
WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 29

REVISIONS		
REV. NO.	DESCRIPTION	DATE





DECK REPAIR PLAN

PARAPET REPAIR QUANTITIES

(PNEUMATIC MORTAR REPAIR)

SPAN	UNIT	PHASE I	PHASE II
1	S.Y.	0.66	0.17
2	S.Y.	0.72	0.17
3	S.Y.	0.11	0.11
4	S.Y.	0.22	0.39
5	S.Y.	0.39	0.06
6	S.Y.	0.39	
7	S.Y.	0.77	0.06
8	S.Y.	0.33	0.06
9	S.Y.	0.11	0.11
10	S.Y.		0.61
11	S.Y.		0.11
12	S.Y.	0.33	0.61
13	S.Y.	0.72	
14	S.Y.	0.55	
15	S.Y.	0.83	0.11
16	S.Y.	0.50	0.06
17	S.Y.		0.12
18	S.Y.		0.50
19	S.Y.		1.93
20	S.Y.	0.28	1.93
21	S.Y.		2.20
22	S.Y.	0.55	0.50
23	S.Y.	0.50	
24	S.Y.	0.06	0.06
25	S.Y.		
TOTAL		8.02	9.87

LEGEND

CLASS B BRIDGE DECK REPAIR

CLASS C BRIDGE DECK REPAIR

NOTES:
FOR SECTIONS A AND B, SEE SHEET 31.

(1) REPLACE JOINT SEALER IN ARMORED JOINTS IN SIDEWALK WITH RAPID CURE JOINT SEALANT. SEE SIDEWALK EXPANSION JOINT DETAIL ON SHEET 29.

(2) SEAL CONSTRUCTION JOINT BETWEEN PHASES AT EACH PIER AND ABUTMENT, TRANSVERSE JOINTS BETWEEN NEW AND EXISTING CONCRETE EITHER SIDE OF EACH PIER AND BETWEEN THE SIDEWALK AND THE NEW DECK AT EACH PIER WITH HIGH MOLECULAR WEIGHT METHACRYLATE.

(3) SAW AND SEAL EXISTING CONSTRUCTION JOINTS IN SIDEWALK. INCLUDE COST OF LABOR AND MATERIALS IN OTHER ITEMS OF WORK.

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

DECK REPAIR PLAN
SHEET 2 OF 2

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 30

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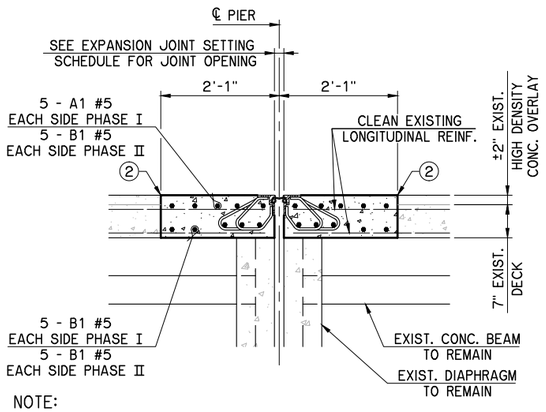
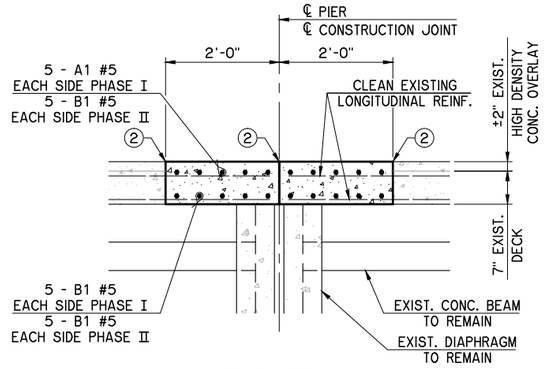
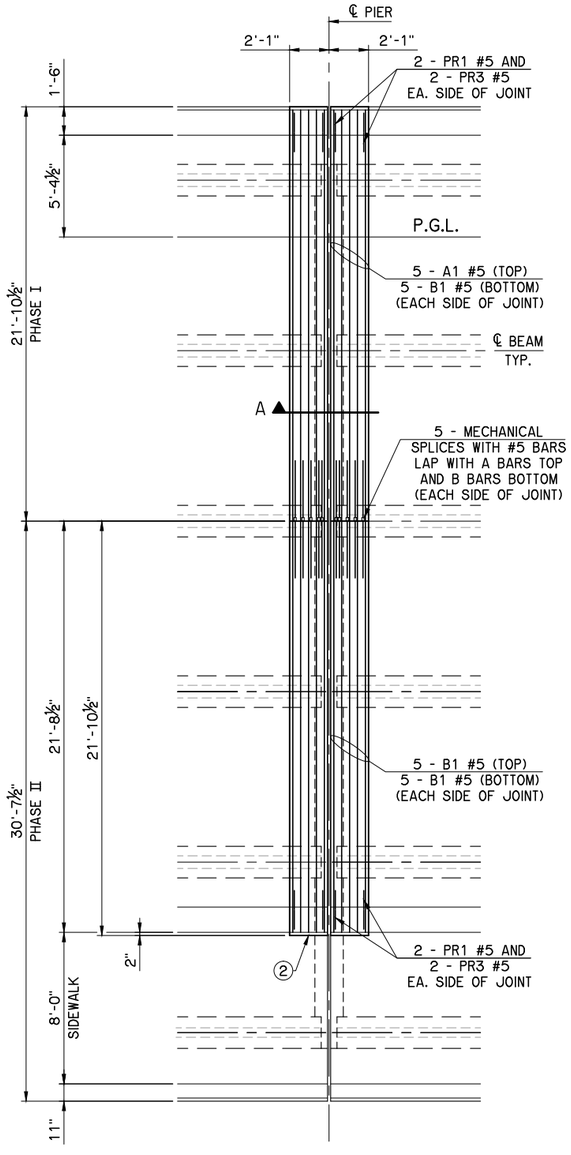


NOTE:
FOR EXPANSION JOINT DETAILS, SEE SHEET 28.

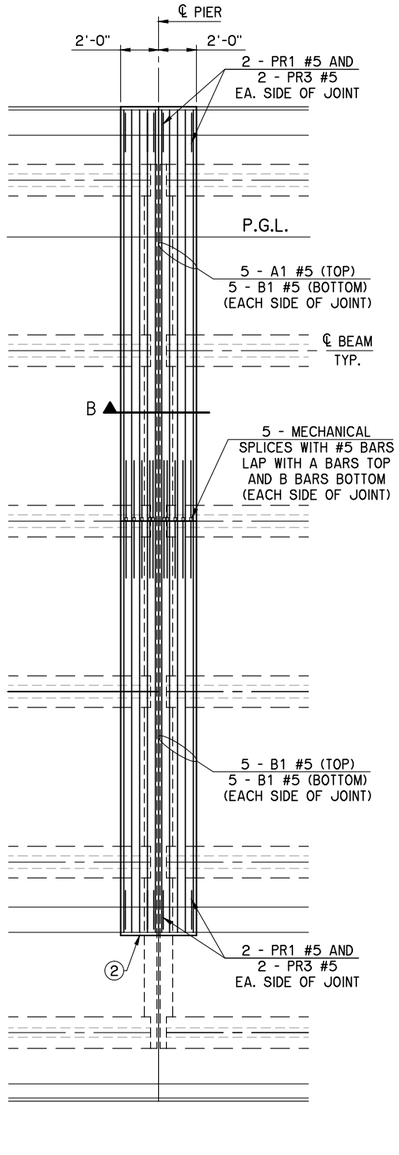
SECTION A



SECTION B



EXPANSION PIER



FIXED PIER

DECK REINFORCING PLAN AT PIERS FOR CLASS C DECK REPAIR

② SEAL WITH HIGH MOLECULAR WEIGHT METHACRYLATE.

REVISIONS		
REV. NO.	DESCRIPTION	DATE

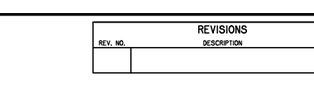
CLASS C DECK REPAIR BAR LIST
PHASE I

	MARK	SIZE	NO.	FORM	LENGTH
	PLAIN REINFORCING				
①	A1	#5	240	BNT.	22'-3"
	B1	#5	240	STR.	21'-8"
	PR1	#5	96	BNT.	3'-4"
	PR3	#5	96	BNT.	2'-7"

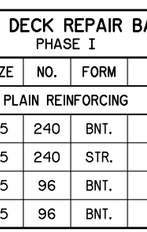
CLASS C DECK REPAIR BAR LIST
PHASE II

MARK	SIZE	NO.	FORM	LENGTH
PLAIN REINFORCING				
B1	#5	480	STR.	21'-8"
PR1	#5	96	BNT.	3'-4"
PR3	#5	96	BNT.	2'-7"

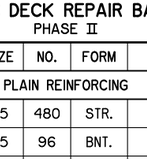
① ROTATE BARS TO MAINTAIN CLEARANCE.



A1 #5 x 22'-3"



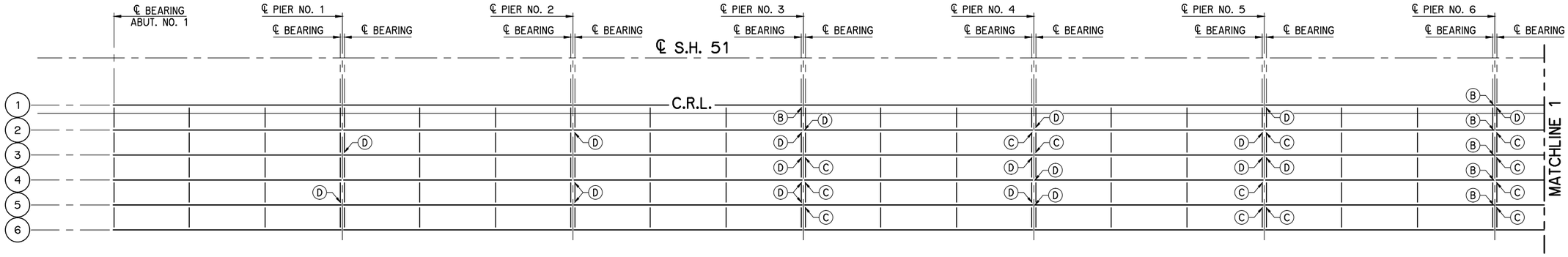
PR1 #5 x 3'-4"

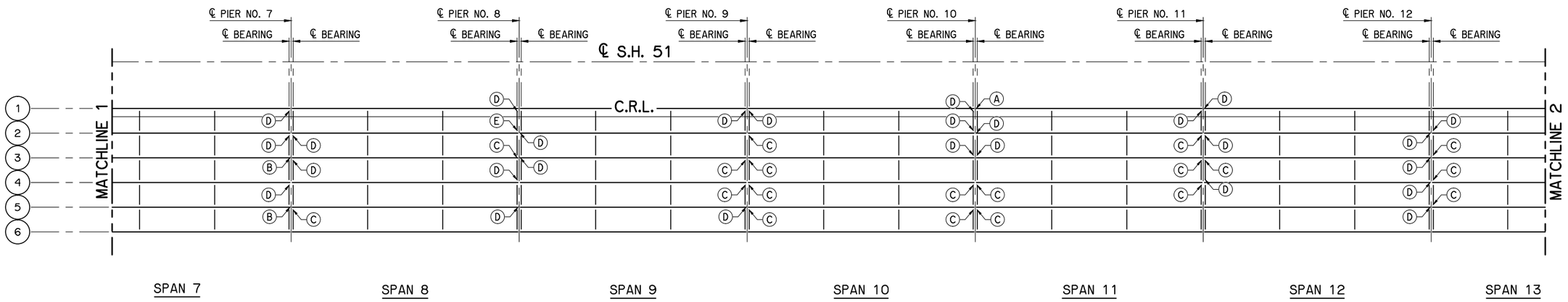


PR3 #5 x 2'-7"

SH 51 NB OVER ARKANSAS RIVER	TULSA COUNTY	Design	ADT
		Detail	FEZ
DECK REPAIR DETAILS		Check	ADT
		WHITE ENGINEERING ASSOCIATES	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
	JOB PIECE NO. 31358(04)	SHEET NO. 31	

REVISIONS		
REV. NO.	DESCRIPTION	DATE





BEAM REPAIR PLAN

PLAN LEGEND

(A) 4'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.2 S.Y. DIAPHRAGM END REPAIR WITH PNEUMATICALLY PLACED MORTAR.

(B) 3'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.2 S.Y. DIAPHRAGM END REPAIR WITH PNEUMATICALLY PLACED MORTAR.

(C) 3'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.2 S.Y. DIAPHRAGM END REPAIR ON EACH SIDE OF BEAM WITH PNEUMATICALLY PLACED MORTAR.

(D) 2'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.1 S.Y. DIAPHRAGM END REPAIR WITH PNEUMATICALLY PLACED MORTAR.

(E) 2'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.1 S.Y. DIAPHRAGM END REPAIR ON EACH SIDE OF BEAM WITH PNEUMATICALLY PLACED MORTAR.

NOTES:
FOR PNEUMATICALLY PLACED MORTAR DETAIL, SEE SHEET 27.

FOR CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR, SEE PRECAST BEAM DETAIL ON SHEET 33.

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

BEAM REPAIR PLAN
SHEET 1 OF 2

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 32

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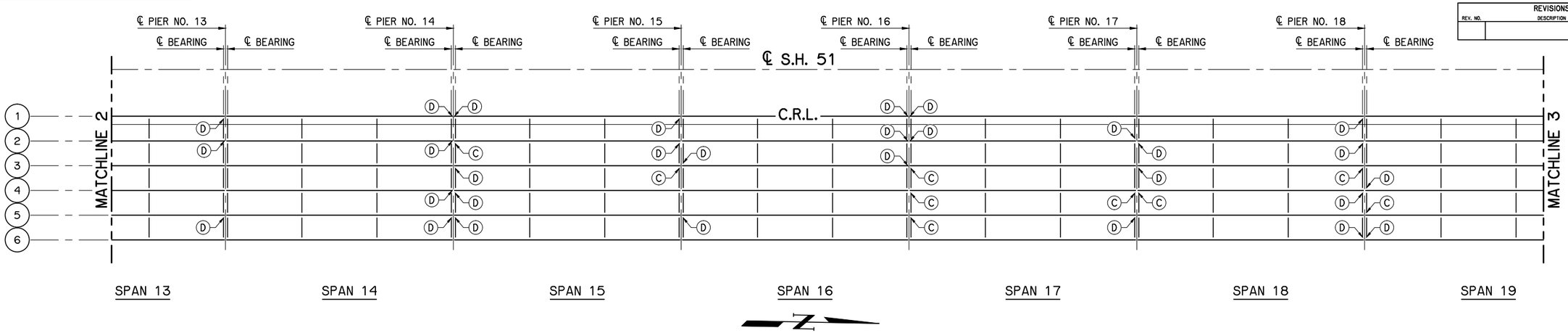
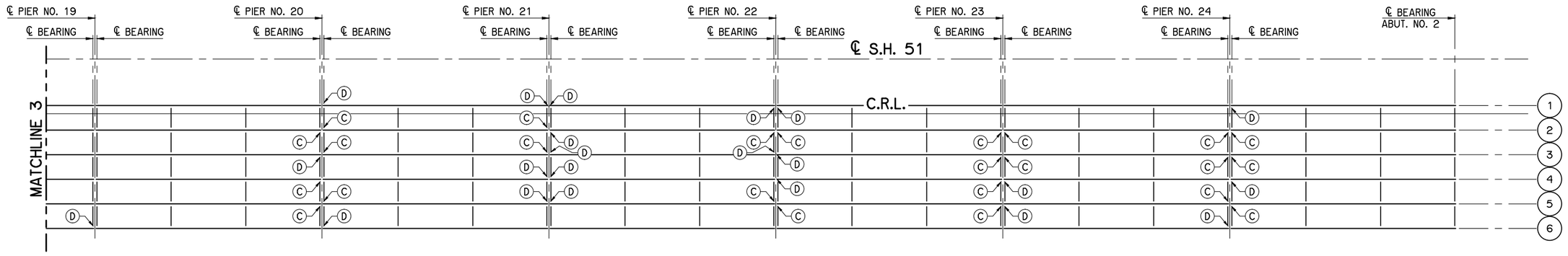
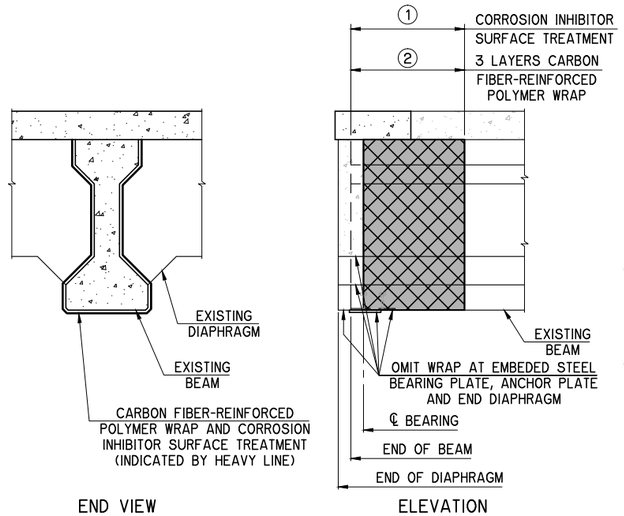
REVISIONS		
REV. NO.	DESCRIPTION	DATE





BEAM REPAIR PLAN



PRECAST BEAM REPAIR DETAIL

CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR (SURFACE APPLIED) TREATMENT

(1) FOR PRECAST BEAM ENDS REQUIRING REPAIR, APPLY CORROSION INHIBITOR TO THE EXPOSED ENDS OF BEAMS, SIDES, AND BOTTOM, AS SHOWN, PRIOR TO APPLICATION OF CARBON FIBER-REINFORCED POLYMER WRAP. SEE SHEET 32 AND THIS SHEET, FOR LOCATIONS AND LENGTHS OF REPAIRS.

(2) APPLY CARBON FIBER-REINFORCED POLYMER WRAP IN THREE (3) LAYERS. APPLY FIRST AND THIRD LAYERS IN A HORIZONTAL PATTERN, THE SECOND LAYER IN A VERTICAL PATTERN.

DETAIL LEGEND

CORROSION INHIBITOR SURFACE TREATMENT

CARBON FIBER-REINFORCED POLYMER WRAP

NOTES:
FOR PNEUMATICALLY PLACED MORTAR DETAIL, SEE SHEET 27.

FOR CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR, SEE PRECAST BEAM REPAIR DETAIL.

PLAN LEGEND

(B) 3'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.2 S.Y. DIAPHRAGM END REPAIR WITH PNEUMATICALLY PLACED MORTAR.

(C) 3'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.2 S.Y. DIAPHRAGM END REPAIR ON EACH SIDE OF BEAM WITH PNEUMATICALLY PLACED MORTAR.

(D) 2'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.1 S.Y. DIAPHRAGM END REPAIR WITH PNEUMATICALLY PLACED MORTAR.

(E) 2'-0" BEAM END REPAIR WITH CARBON FIBER-REINFORCED POLYMER WRAP AND CORROSION INHIBITOR AND 0.1 S.Y. DIAPHRAGM END REPAIR ON EACH SIDE OF BEAM WITH PNEUMATICALLY PLACED MORTAR.

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

BEAM REPAIR PLAN
SHEET 2 OF 2

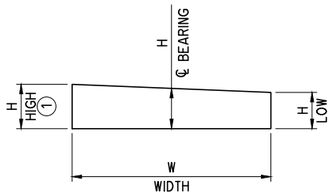
Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 33

REVISIONS		
REV. NO.	DESCRIPTION	DATE



BEVEL ANCHOR PLATE DETAIL

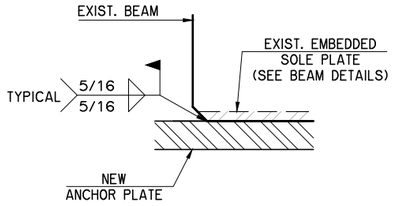
(BEVELED ANCHOR PLATES NEEDED FOR BEARINGS IN SPANS SHOWN ON SCHEDULE ONLY)

BEVEL ANCHOR PLATE SCHEDULE					
	LOCATION	W (WIDTH)	H (HIGH)(1)	H (℄ BEARING)	H (LOW)
(2)	ABUTMENT 1, SPAN 1	10½"	5/8"	½"	7/16"
(2)	PIER 1, SPAN 1	12½"	7/8"	¾"	5/8"
(2)	PIER 1, SPAN 2	12½"	13/16"	¾"	1/16"
(2)	PIER 2, SPAN 2	12½"	13/16"	¾"	1/16"
(3)	PIER 24, SPAN 25	12½"	13/16"	¾"	1/16"
(3)	ABUTMENT 2, SPAN 25	10½"	9/16"	½"	7/16"

(1) PAINT THICKER EDGE RED.

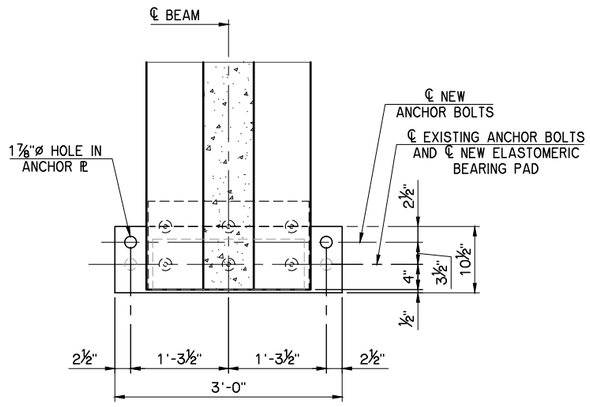
(2) PLACE THICKER EDGE TOWARD BEGINNING OF BRIDGE.

(3) PLACE THICKER EDGE TOWARD END OF BRIDGE.



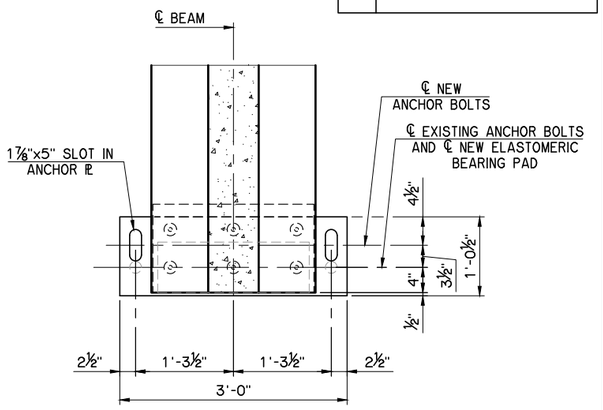
DETAIL A

NOTE:
WELD NEW ANCHOR PLATES TO THE EXISTING SOLE PLATES BEFORE RELEASING THE BEAMS ONTO THE NEW BEARING PADS IN ORDER TO AVOID OVERHEATING OF THE ELASTOMER IN THE BEARING PADS.



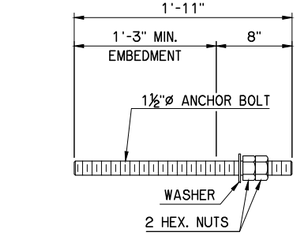
FIXED BEARING PLAN

ABUTMENT NO. 1 & 2
PIER NO. 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 & 22
PIER NO. 24 SPAN 24



EXPANSION BEARING PLAN

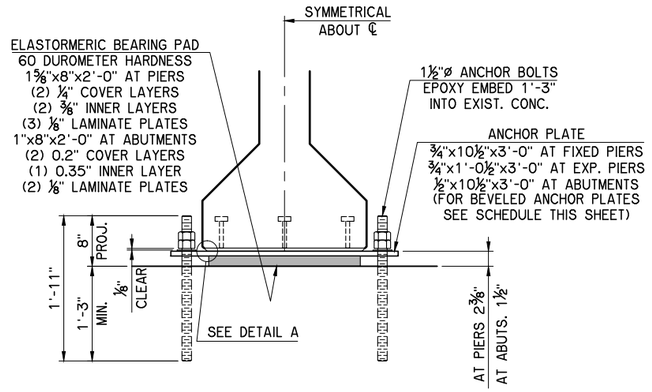
PIER NO. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21 & 23
PIER NO. 24 SPAN 25



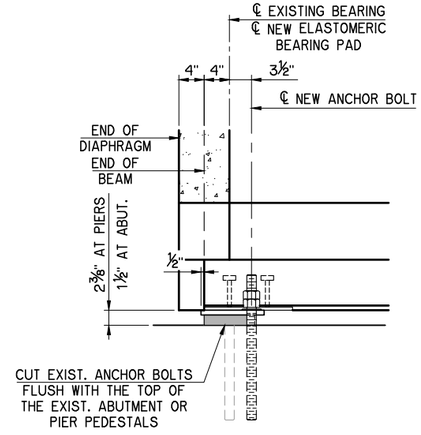
ANCHOR BOLT DETAIL

NOTES:
ATTACH ANCHOR BOLTS TO THE ABUTMENT SEAT USING ODOT APPROVED EPOXY.

ACTUAL EMBEDMENT LENGTH FOR THE DRILLED AND EPOXY EMBEDDED ANCHORS IS DETERMINED BY THE MANUFACTURER AND APPROVED BY THE ENGINEER.



END VIEW



SIDE VIEW

BEARING DETAILS

NOTE:
STRUCTURAL STEEL FOR ANCHOR PLATES AND ANCHOR BOLTS HAS TO CONFORM TO AASHTO M270 (ASTM A708), GRADE 50W (WEATHERING STEEL, CHARPY V-NOTCH TESTING NOT REQUIRED).

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

BEARING DETAILS

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 34

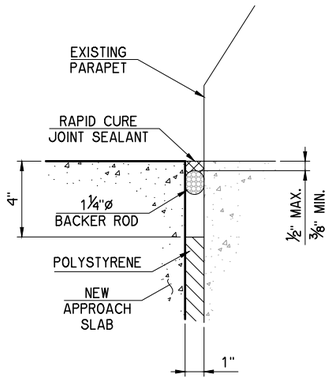
APPROACH SLAB QUANTITIES

ITEM	UNIT	PHASE I			PHASE II		
		APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL	APPROACH SLAB NO. 1	APPROACH SLAB NO. 2	TOTAL
CLSM BACKFILL	C.Y.	28	28	56	28	28	56
APPROACH SLAB	S.Y.	42.8	42.8	85.6	42.8	42.8	85.6
(1) MECHANICAL SPLICES	EA.	20	20	40			
RAPID CURE JOINT SEALANT	L.F.	19.0	19.0	38.0	19.0	19.0	38.0
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	7	7	14	37	36	73

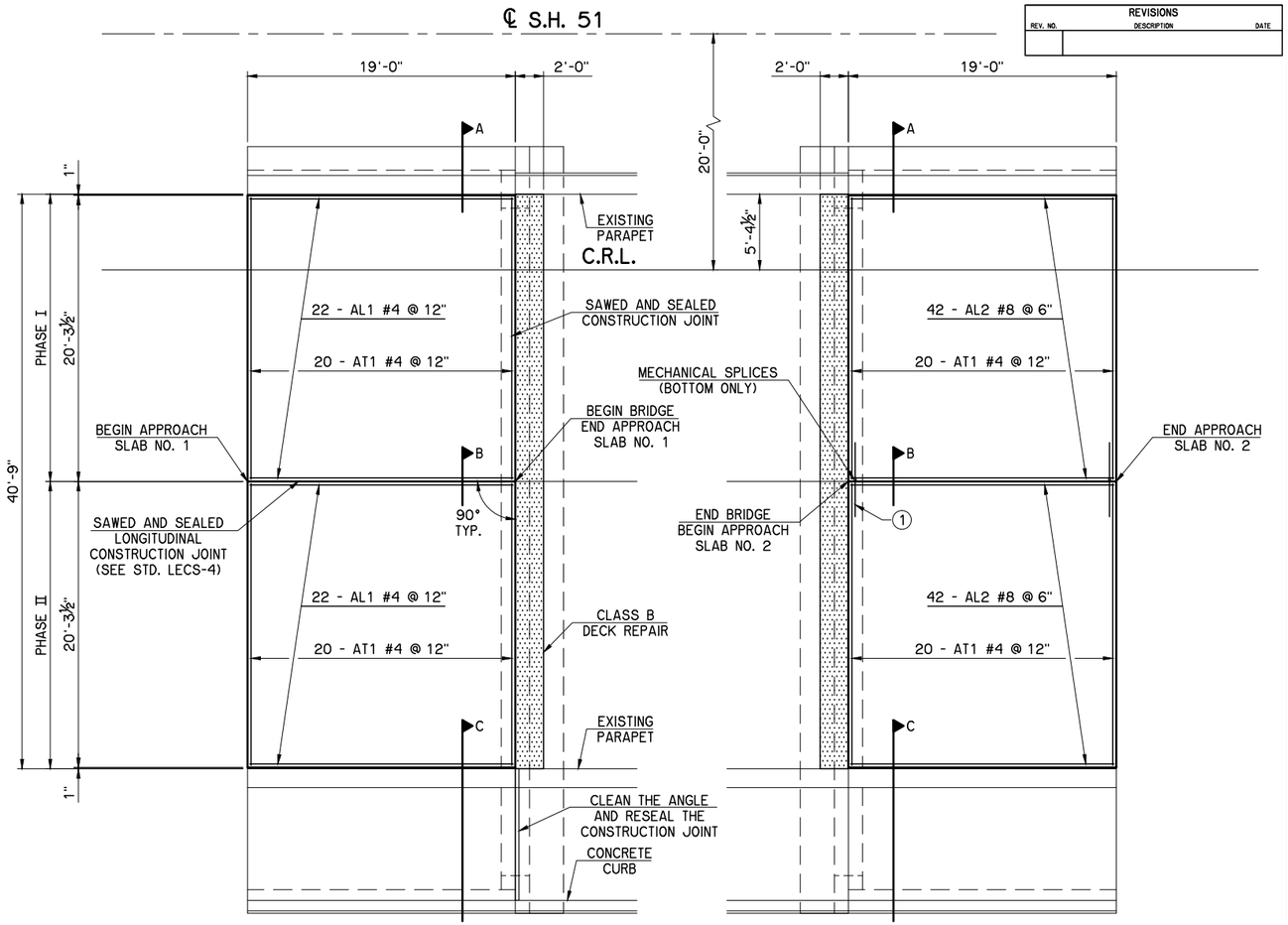
(1) EPOXY COAT OR GALVANIZE MECHANICAL SPLICES SHOWN. PROVIDE #4 EPOXY COATED REBAR WITH A MINIMUM LAP LENGTH OF 2'-0" FOR EACH MECHANICAL SPLICE AND LAP THEM WITH AT BARS (BOTTOM). INCLUDE ALL COST FOR THE EPOXY COATED REBAR, LABOR AND INCIDENTALS IN THE CONTRACT UNIT PRICE OF "MECHANICAL SPLICES".

APPROACH SLAB BAR LIST
ONE SHOWN, FOUR REQUIRED

MARK	SIZE	NO.	FORM	LENGTH
EPOXY COATED REINFORCING				
AL1	#4	22	STR.	18'-10"
AL2	#8	42	STR.	18'-10"
AT1	#4	40	STR.	19'-11"



APPROACH SLAB AND EXISTING PARAPET JOINT DETAIL

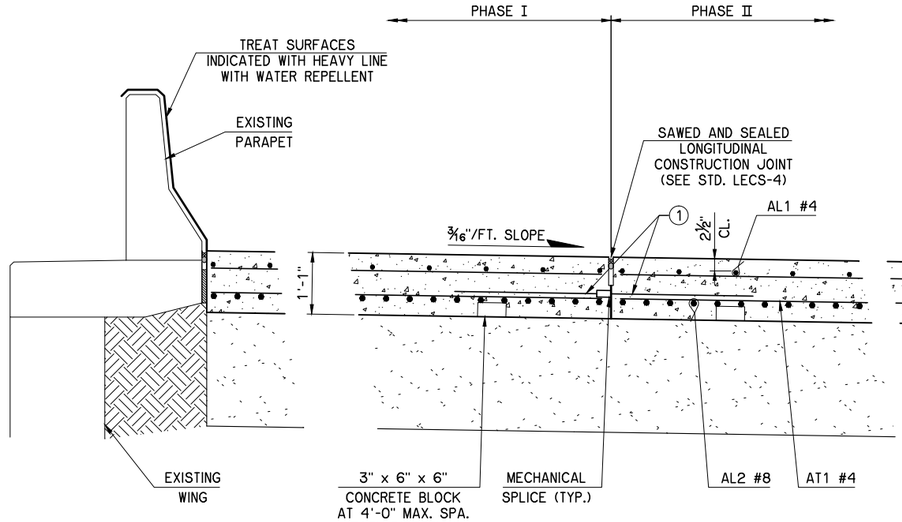


TOP REINFORCING MAT DETAIL
(TYPICAL EACH APPROACH SLAB)

APPROACH SLAB NO. 1

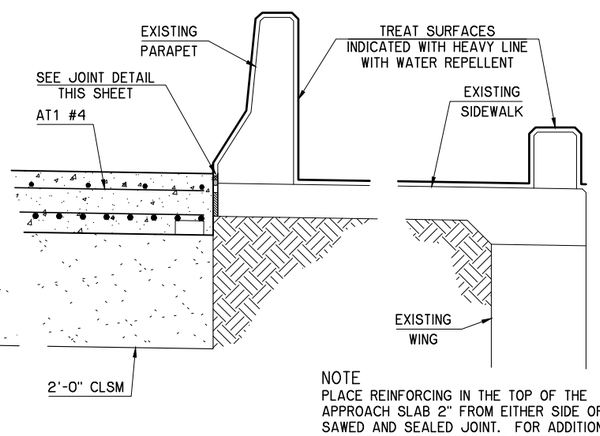
BOTTOM REINFORCING MAT DETAIL
(TYPICAL EACH APPROACH SLAB)

APPROACH SLAB NO. 2



SECTION A

SECTION B



SECTION C

NOTE
PLACE REINFORCING IN THE TOP OF THE APPROACH SLAB 2" FROM EITHER SIDE OF THE SAWED AND SEALED JOINT. FOR ADDITIONAL DETAILS OF JOINT, SEE STD. LECS-4.

NOTE:
FOR ADDITIONAL DETAIL OF APPROACH SLAB AT ABUTMENT SEE LONGITUDINAL SECTION ON SHEET 27.

REVISIONS

REV. NO.	DESCRIPTION	DATE

SH 51 NB OVER ARKANSAS RIVER TULSA COUNTY

APPROACH SLAB DETAILS

Design	ADT	
Detail	FEZ	
Check	ADT	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA

DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04)

SHEET NO. 35

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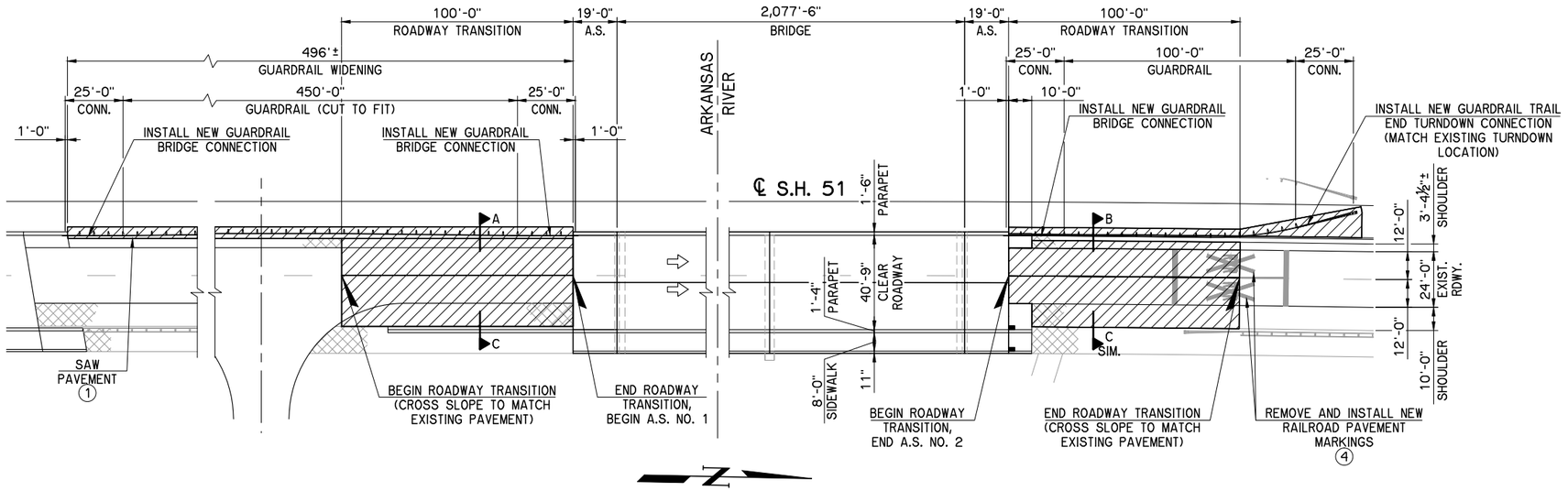
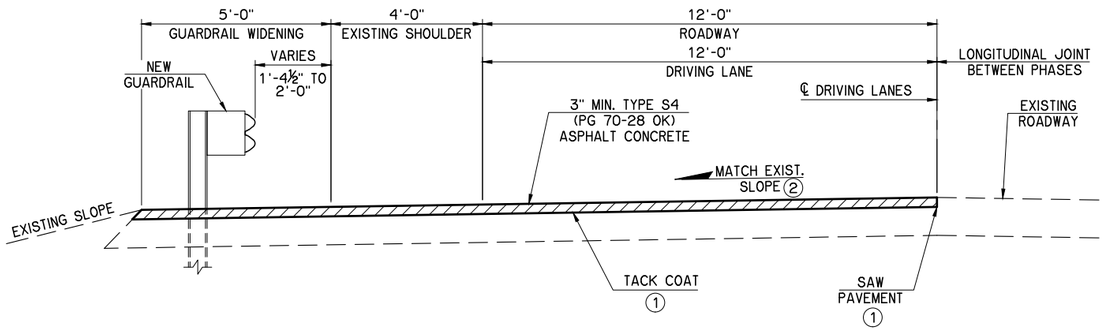
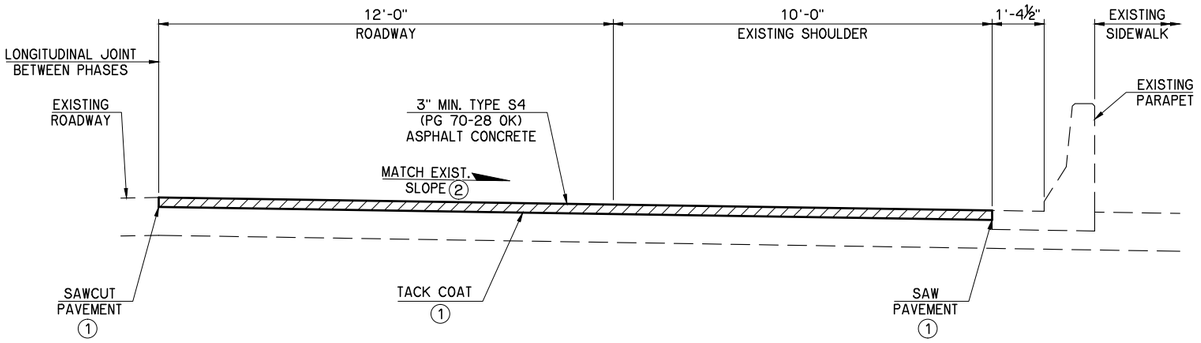
REVISIONS		
REV. NO.	DESCRIPTION	DATE



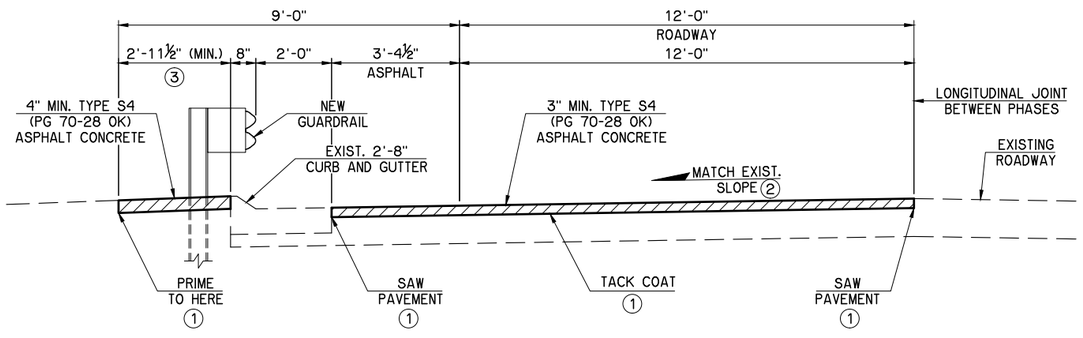
PLAN



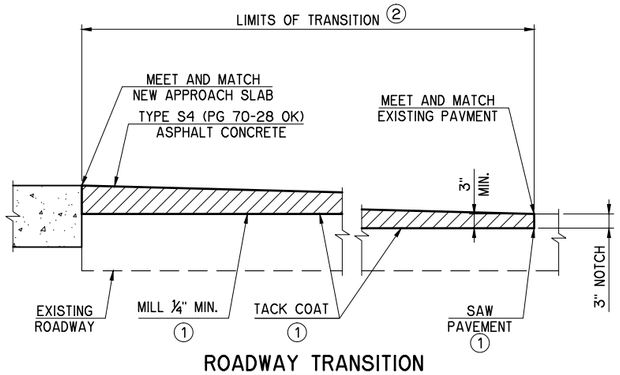
SECTION A



SECTION C



SECTION B



ROADWAY TRANSITION

NOTES:

1. DEPTH OF MILLING SHALL BE SUFFICIENT TO PROVIDE A 3" MINIMUM DEPTH AS SHOWN. COST OF SAWING PAVEMENT, PRIME COAT AND TACK COAT INCLUDED IN OTHER ITEMS OF WORK.
2. PROFILE GRADE LINE OUTSIDE THE LIMITS OF THE BRIDGE AND APPROACH SLABS TO BE ESTABLISHED PER ENGINEERS APPROVAL.
3. MAINTAIN 2'-0" MIN. BEHIND GUARDRAIL POSTS.
4. FIELD VERIFY LOCATION OF EXISTING RAILROAD PAVEMENT MARKINGS. ADDITIONAL MILLING AND OVERLAY MAYBE REQUIRED FOR REMOVAL AND INSTALLATION OF RAILROAD MARKINGS, COST TO BE INCLUDED IN OTHER ITEMS OF WORK.

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

ROADWAY TRANSITION DETAILS

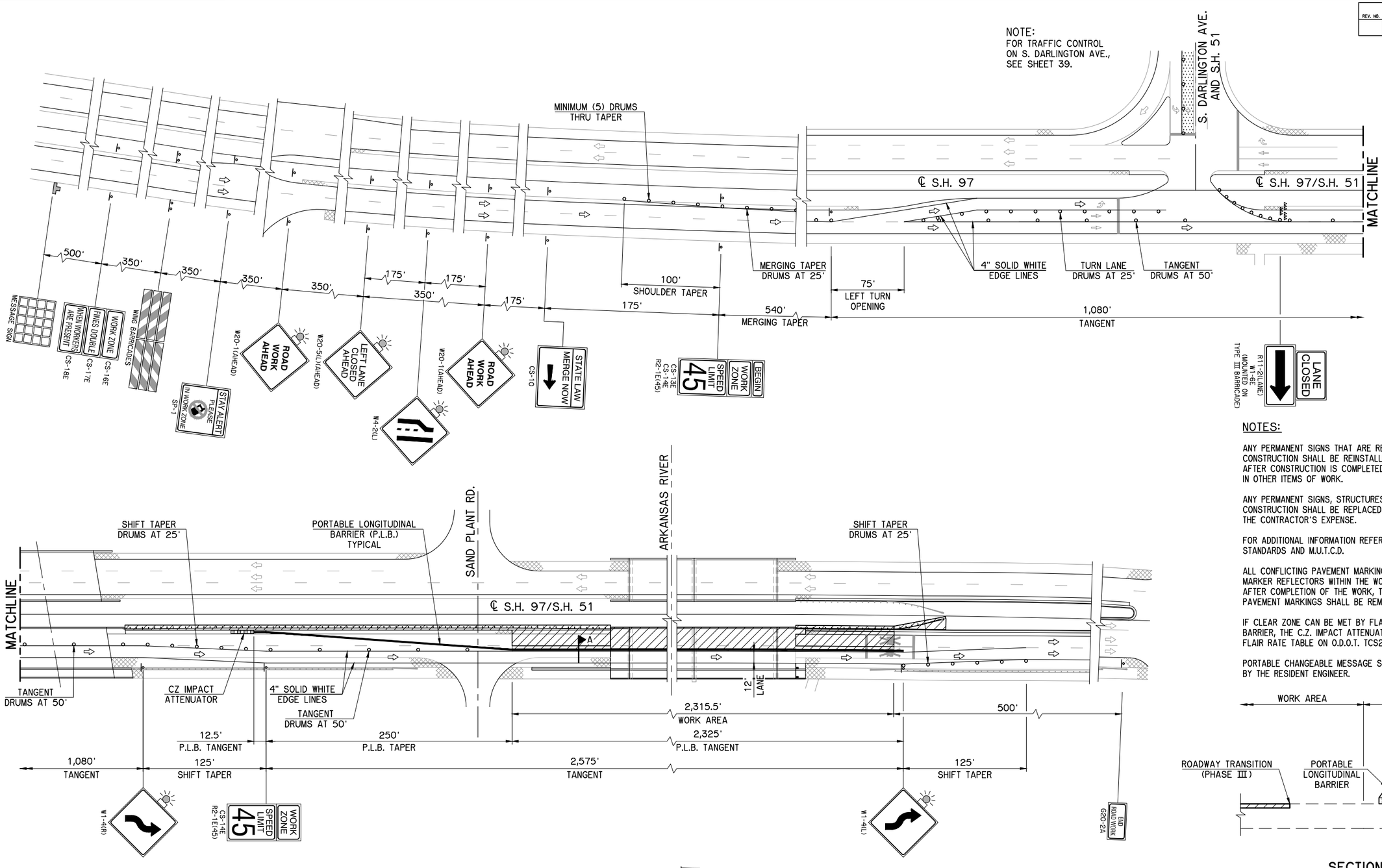
Design	DMH	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 36

REVISIONS		
REV. NO.	DESCRIPTION	DATE



TRAFFIC CONTROL PLAN - PHASE I

NOTES:

ANY PERMANENT SIGNS THAT ARE REQUIRED TO BE REMOVED DURING CONSTRUCTION SHALL BE REINSTALLED TO THEIR ORIGINAL LOCATIONS AFTER CONSTRUCTION IS COMPLETED. ALL COST SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

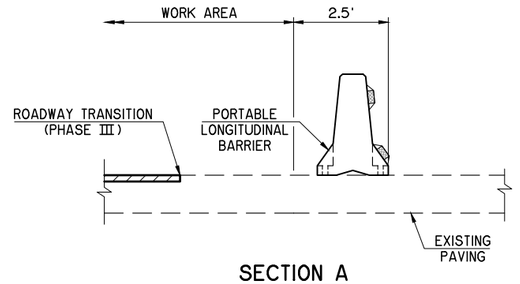
ANY PERMANENT SIGNS, STRUCTURES OR CURBS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

FOR ADDITIONAL INFORMATION REFER TO CURRENT O.D.O.T. TRAFFIC STANDARDS AND M.U.T.C.D.

ALL CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS WITHIN THE WORK ZONE SHALL BE REMOVED. AFTER COMPLETION OF THE WORK, TEMPORARY INAPPLICABLE PAVEMENT MARKINGS SHALL BE REMOVED.

IF CLEAR ZONE CAN BE MET BY FLARING PORTABLE LONGITUDINAL BARRIER, THE C.Z. IMPACT ATTENUATORS MAY BE OMITTED. SEE FLAIR RATE TABLE ON O.D.O.T. TCS2-1.

PORTABLE CHANGEABLE MESSAGE SIGNS TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER.



SECTION A

LEGEND

- PORTABLE LONGITUDINAL BARRIER
- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- C.Z. IMPACT ATTENUATOR
- PORTABLE CHANGEABLE MESSAGE SIGN
- EXISTING SHOULDER
- LIMITS OF WORK AREA

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

TRAFFIC CONTROL PLAN PHASE I

Design	DMH	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 37

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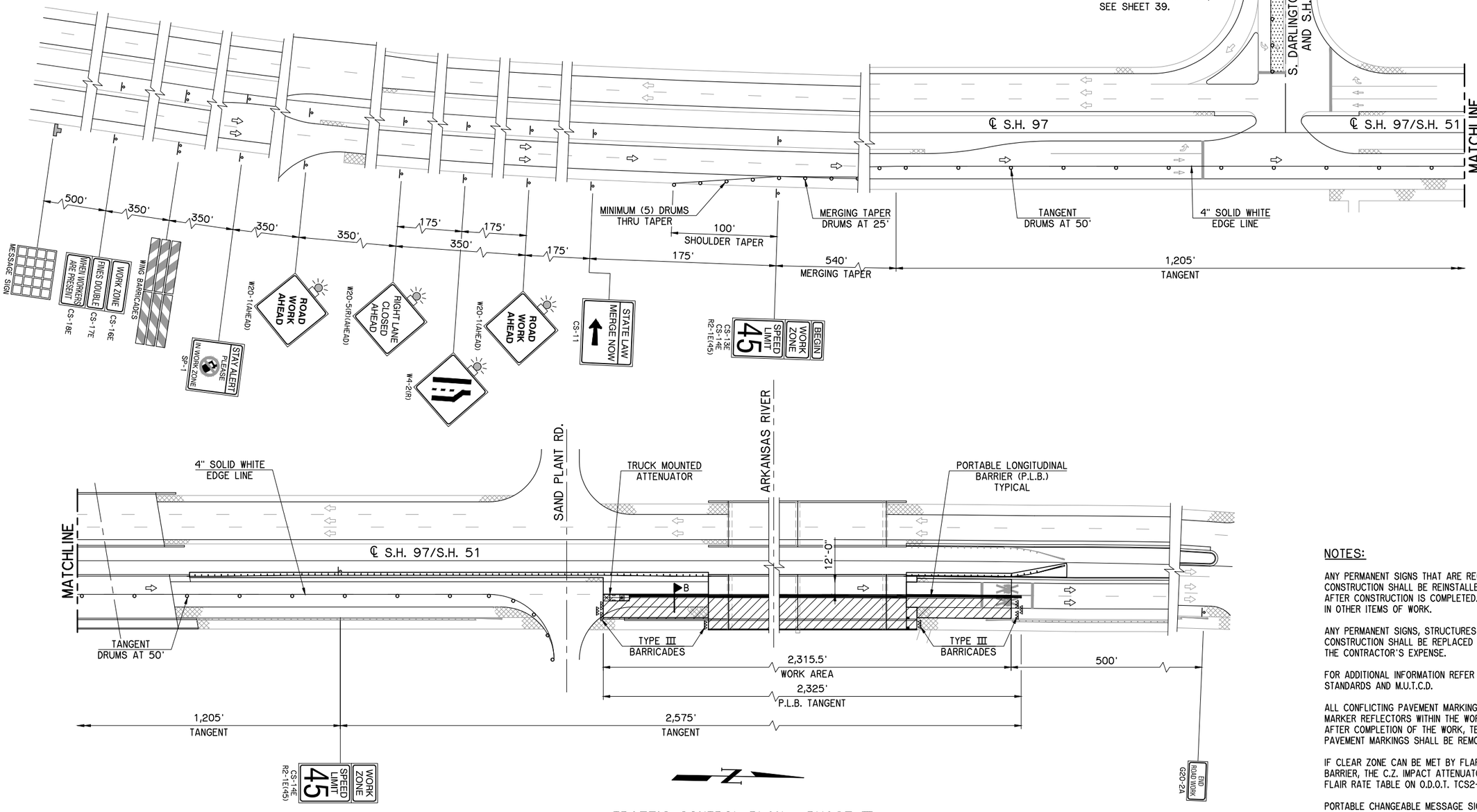
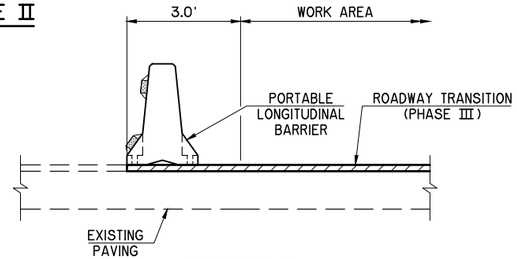
REVISIONS		
REV. NO.	DESCRIPTION	DATE



TRAFFIC CONTROL PLAN - PHASE II

LEGEND

- PORTABLE LONGITUDINAL BARRIER
- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- C.Z. IMPACT ATTENUATOR
- PORTABLE CHANGEABLE MESSAGE SIGN
- EXISTING SHOULDER
- LIMITS OF WORK AREA
- COMBINATION SHADOW VEHICLE & ATTENUATOR



SECTION B

NOTES:

ANY PERMANENT SIGNS THAT ARE REQUIRED TO BE REMOVED DURING CONSTRUCTION SHALL BE REINSTALLED TO THEIR ORIGINAL LOCATIONS AFTER CONSTRUCTION IS COMPLETED. ALL COST SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

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IF CLEAR ZONE CAN BE MET BY FLARING PORTABLE LONGITUDINAL BARRIER, THE C.Z. IMPACT ATTENUATORS MAY BE OMITTED. SEE FLAIR RATE TABLE ON O.D.O.T. TCS2-1.

PORTABLE CHANGEABLE MESSAGE SIGNS TO BE USED AS DIRECTED BY THE RESIDENT ENGINEER.

SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

TRAFFIC CONTROL PLAN PHASE II

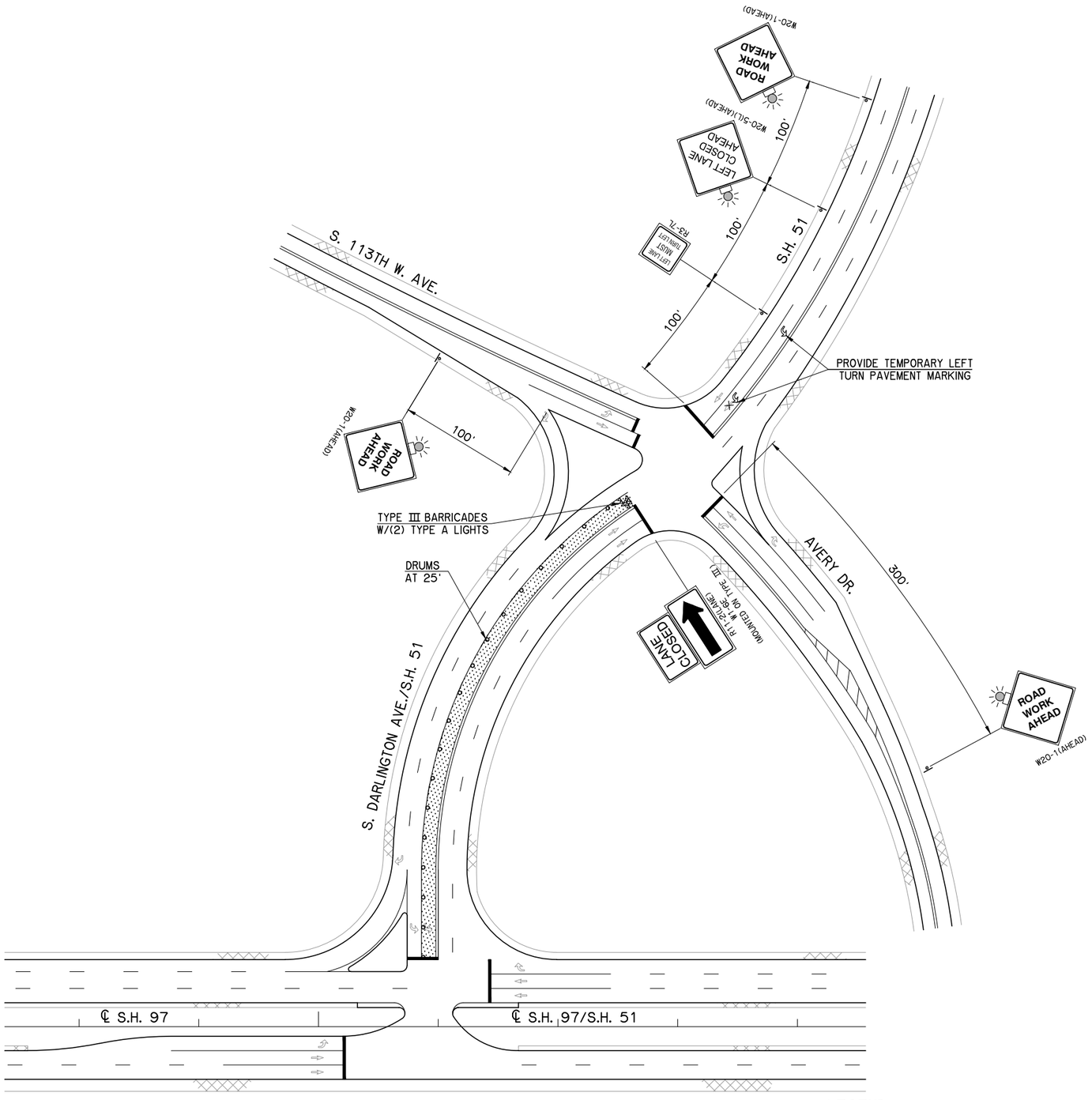
Design	DMH	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 38

REVISIONS		
REV. NO.	DESCRIPTION	DATE



TRAFFIC CONTROL PLAN - PHASE I AND II

LEGEND

- TYPE III BARRICADES
- POST MOUNTED SIGN
- DRUM
- EXISTING SHOULDER
- LANE CLOSURE

NOTES:

ANY PERMANENT SIGNS THAT ARE REQUIRED TO BE REMOVED DURING CONSTRUCTION SHALL BE REINSTALLED TO THEIR ORIGINAL LOCATIONS AFTER CONSTRUCTION IS COMPLETED. ALL COST SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

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SH 51 NB OVER ARKANSAS RIVER — TULSA COUNTY

TRAFFIC CONTROL PLAN
S. DARLINGTON AVE.

Design	DMH	
Detail	FEZ	
Check	JLC	

WHITE ENGINEERING ASSOCIATES

STATE OF OKLAHOMA — DEPARTMENT OF TRANSPORTATION

JOB PIECE NO. 31358(04) — SHEET NO. 39