BRIDGE GENERAL NOTES

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.

THE EXISTING STRUCTURE WAS ORIGINALLY CONSTRUCTED AS PART OF PROJECT NO. 1-244-2(115)096.
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.

PROVIDE ALL PEDESTAL CONCRETE EDGES WITH A 3/4" CHAMFER. PROVIDE ALL OTHER EXPOSED CONCRETE EDGES OF THE SUBSTRUCTURE WITH A 1 1/2" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED. PROVIDE ALL EXPOSED CONCRETE EDGES OF THE SUPERSTRUCTURE WITH A 3/4" CHAMFER UNLESS OTHERWISE SHOWN OR NOTED LISE SIZED LUMBER FOR ALL CHAMFER STRIPS.

EQUIP CONCRETE VIBRATORS WITH A SHEATH DESIGNED TO PREVENT DAMAGE TO EPOXY COATINGS WHEN VIBRATING CONCRETE CONTAINING EPOXY COATED REINFORCING STEEL.

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.

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. 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 ROLLED BEAMS AND ALL STIFFENER PLATES IN ACCORDANCE WITH AASHTO M270 (ASTM A709), GRADE 50WT2 (WEATHERING STEEL, NON FRACTURE CRITICAL CHARPY V-NOTCH TESTED FOR ZONE 2). USE SHEAR CONNECTORS CONFORMING TO AASHTO M169 (ASTM A108), GRADE 1015, 1018 OR 1020. PROVIDE WELDING WITH WEATHERING CHARACTERISTICS. CAMBER BEAMS TO ACCOUNT FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE

THE CONTRACTOR MAY SUBSTITUTE PLATE GIRDERS USING EQUIVALENT PLATE SIZES IN LIEU OF THE ROLLED BEAM SHAPES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 5/16" MINIMUM FILLET WELDS BETWEEN WEB AND FLANGES. NON-DESTRUCTIVE TESTING WILL BE REQUIRED AS APPROPRIATE.

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

THE CONTRACTOR MAY SUBSTITUTE A BENT PLATE DIAPHRAGM IN LIEU OF THE CHANNEL AND GUSSET PLATES SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE DEPARTMENT. PROVIDE 1/2" MINIMUM PLATE THICKNESS FORMED IN THE SHAPE OF THE CHANNEL WITH 4" MINIMUM FLANGES. FABRICATE BENT PLATE DIAPHRAGM TO A DEPTH EQUAL TO OR GREATER THAN SHOWN FOR THE COMBINED CHANNEL AND GUSSET PLATE.

PROVIDE STRUCTURAL STEEL FOR ANCHOR PLATES, CONTACT PLATES, AND BUILT-UP CONTACT ANGLES IN ACCORDANCE WITH ASTM A240 (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). FOR ANCHOR BOLTS, PROVIDE CONTINUOUSLY THREADED BARS IN ACCORDANCE WITH ASTM A320, CLASS 2, GRADE BBM (AUSTENITIC STAINLESS STEEL, TYPE 316, CHARPY V-NOTCH TESTING NOT REQUIRED). USE AUSTENITIC STAINLESS STEEL NUTS AND WASHERS CONFORMING TO ASTM A194, GRADE BM AND ASTM A320, RESPECTIVELY. PERFORM ALL WELDING CONSISTENT WITH PROCEDURES FOR STAINLESS STEEL.

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

PLACE DECK SLAB CONCRETE AS SHOWN IN THE PLANS IN ACCORDANCE WITH SECTION 504.04.B OF THE SPECIFICATIONS. IN THE EVENT OF AN EMERGENCY, HALT THE PLACEMENT OF CONCRETE BY FORMING A CONSTRUCTION JOINT MADE PERPENDICULAR TO THE DIRECTION OF TRAFFIC OR AS DIRECTED BY THE ENGINEER DO NOT PLACE ANY HEAVY EQUIPMENT ON THE FINISHED DECK SLAB WITHIN 5 FEET OF ANY CONSTRUCTION JOINT UNTIL CONCRETE IS IN PLACE ON BOTH SIDES OF THE RESPECTIVE JOINT AND AT LEAST 48 HOURS HAS ELAPSED SINCE CONCRETE PLACEMENT.

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

STAY-IN-PLACE DECK FORMS -

THE CONTRACTOR MAY NOT USE STAY-IN-PLACE STEEL DECK FORMS.

STEEL BEAM BRACING FOR DECK SLAB PLACEMENT

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

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

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

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

WATER REPELLENT TREATMENT -

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

1 DEQ PERMIT NOTE FOR BRIDGE PROJECTS OVER HIGHWAYS OR RAILROADS IF THE CONTRACTOR ELECTS TO BUILD A WORK ROAD(S) TO PERFORM WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR EFFECTIVE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE DEQ OKR10 GENERAL CONSTRUCTION REGULATIONS. 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. 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.

THE FOLLOWING COMPUTER SOFTWARE WAS USED IN THE ANALYSIS AND DESIGN OF THE STRUCTURE(S) DETAILED IN THE PLANS:

- (1) MDX STEEL GIRDER SYSTEM DESIGN AND RATING (VERSION 6.5.2963, 2-11-16)
- (2) WHITE ENGINEERING ASSOCIATES, INC. ELASTOMERIC BEARING PAD DESIGN (VERSION 3.01 5-26-10)

DESCRIPTION OF WORK

THE WORK TO BE PERFORMED ON THE BRIDGE CONSISTS OF REMOVING EXISTING VARYING CLEAR ROADWAY BRIDGE DECK, APPROACH SLABS, (2) 6" CURBS AND PARAPET WITH RAIL AND REPLACING WITH A NEW VARYING CLEAR ROADWAY BRIDGE DECK WITH A SLOPED FACE PARAPET. ADDITIONAL SUPERSTRUCTURE MODIFICATIONS INCLUDE REPLACING THE EXISTING PLATE GIRDERS WITH W30X173 ROLLED BEAMS AND REPLACING THE BEARING ASSEMBLIES AT ALL BEARING LOCATIONS. COMMON SUBSTRUCTURE REPAIRS INCLUDE PNEUMATIC MORTAR AND CRACK REPAIR AT EACH ABUTMENT.

OTHER WORK TO BE PERFORMED INCLUDES SPECIAL CONCRETE FINISH ON THE EXPOSED SUBSTRUCTURE.

OTHER WORK TO BE PERFORMED INCLUDES PNEUMATIC MORTAR REPAIR AND SPECIAL CONCRETE FINISH ON THE WESTERN ABUTMENT OF THE ADJACENT EAST-1ST RAMP BRIDGE.

THE BRIDGE WILL BE CLOSED TO TRAFFIC DURING THE CONSTRUCTION ACTIVITIES.

ENVIRONMENTAL MITIGATION NOTE

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. THESE BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR THE BIRDS RUNS FROM APRIL 1 TO AUGUST 31. ANY ACTIVITIES WHICH WOULD DESTROY ACTIVE NESTS OR HARM EGGS OR BIRDS WOULD VIOLATE THE MIGRATORY BIRD TREATY ACT. MIGRATORY BIRD USE OF BRIDGE NBI NO. 18033 WAS NOT OBSERVED DURING THE INITIAL SURVEY CONDUCTED AS PART OF THE BIOLOGICAL STUDIES IN 2016. MIGRATORY BIRDS MAY OCCUPY THESE STRUCTURES IN THE FUTURE NESTING SEASONS. THE RESIDENT ENGINEER WILL EVALUATE THE CONTRACTOR'S PROPOSED WORK METHODS AND CONCLUDE WHETHER THE PROPOSED WORK WOULD POSE DISRUPTION TO ANY NESTING BIRDS BEFORE WORK NEAR THE STRUCTURE IS AUTHORIZED. IF THE PROPOSED WORK WILL HARM ANY 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 PRE-APPROVED BY THE ODOT BIOLOGIST.

PAY ITEM NOTES

- (1) PAYMENT TO THE CONTRACTOR WILL BE BASED ON PLAN QUANTITIES.
- (2) THE APPROACH SLABS CONTAIN AN ESTIMATED TOTAL OF 44.4 C.Y. OF CLASS AA CONCRETE AND 8,160 LB. OF EPOXY COATED REINFORCING STEEL. PROVIDE FILL AS REQUIRED ON EMBANKMENTS AND UNDER APPROACH SLABS TO ENSURE CONTINUOUS SUPPORT. COMPACT FILL IN ACCORDANCE WITH SECTION 202 OF THE SPECIFICATIONS. INCLUDE THE COST OF FILL MATERIAL AND COMPACTION IN THE CONTRACT UNIT PRICE OF "APPROACH SLABS"
- ITEM "STRUCTURAL STEEL" ALSO INCLUDES THE PAINTING OF THE BOTTOM AND EXTERIOR OF EACH EXTERIOR GIRDER. USE SHERWIN WILLIAMS HC 110 "TILE RED" OR APPROVED EQUAL
- (4) THE FIXED BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 190 LB. OF STAINLESS STEEL.
- (5) THE EXPANSION BEARING ASSEMBLIES CONTAIN AN ESTIMATED TOTAL OF 3,350 LB. OF STAINLESS STEEL.
- ITEM "(PL) SPECIAL CONCRETE FINISH" CONSISTS OF CLEANING AND FINISHING FRONT FACE OF SEAT OF ADJACENT ABUTMENT AND ALL EXPOSED SUBSTRUCTURE CONCRETE SURFACES TO GIVE A UNIFORM APPEARANCE AFTER ALL REPAIRS. CLEAN SURFACES BY SANDBLASTING FOLLOWED WITH A FILTERED AIR BLAST. FINISH TO COMPLY WITH SECTION 737 OF THE SPECIFICATIONS AND IN A MANNER APPROVED BY THE ENGINEER. INCLUDE ALL COSTS ASSOCIATED WITH CLEANING AND FINISHING CONCRETE SURFACES IN THE CONTRACT UNIT PRICE OF "SPECIAL CONCRETE FINISH".

REVISIONS						
REV. NO.	DESCRIPTION	DATE				
Λ	added plan notes	8/3/16				

		N-1ST RAMP OVER U.S. 75 68.4'-34.0' CONT. ROLLED BEAM SPANS, VARYIN ROADWAY W∕ F-SHAPED PARAPETS, VARYING S € STA. 522+42.33, NBI NO. 18033			
ITEM NO.		ITEM		UNIT	TOTAL
501(G)	6309	CLSM BACKFILL	(1)	C.Y.	82.0
504(A)	1304	APPROACH SLAB	(1, 2)	S.Y.	123.0
504(B)	1305	SAW-CUT GROOVING	(1)	S.Y.	194.3
504(C)	6250	SEALED EXPANSION JOINT	(1)	L.F.	20.0
504(E)	6190	42" F-SHAPED PARAPET	(1)	L.F.	289.0
506(A)	1322	STRUCTURAL STEEL	(1, 3)	LB.	63,810
507(A)	6170	STAINLESS STEEL FIXED BEARING ASSEMBLY	(1, 4)	EA.	3
507(B)	6174	STAINLESS STEEL EXPANSION BEARING ASSEMBLY	(1, 5)	EA.	6
509	6152	SPECIAL CONCRETE FINISH	(6)	S.Y.	230
509(A)	1326	CLASS AA CONCRETE	(7)	C.Y.	52.0
509(D)	1331	CLASS C CONCRETE		C.Y.	1.1
511(B)	6010	EPOXY COATED REINFORCING STEEL	(1)	LB.	19,890
515(A)	6013	WATER REPELLENT (VISUALLY INSPECTED)	(1)	S.Y.	265
520(A)	6058	PREPARATION OF CRACKS, ABOVE WATER	(8)	L.F.	17.8
520(C)	6060	EPOXY RESIN, ABOVE WATER	(8, 9)	GAL.	2
521(A)	6210	PNEUMATICALLY PLACED MORTAR	(8, 10)	S.Y.	66.7
523(A)	6550	SEALER CRACK PREPARATION		L.F.	20.4
523(B)	6560	SEALER RESIN	(11)	GAL.	1
610(A)	0604	5" CONCRETE SIDEWALK	(1)	S.Y.	17
619(B)	2500	REMOVAL OF BRIDGE ITEMS	(12)	L.SUM	1
802(A)	8310	2" GALV. STEEL ELECTRICAL CONDUIT EXPOSED	***************************************	L.F.	110
(A)E08	8060	PULL BOX		EA.	1
805(D)	8744	(PL) REMOVE & RESET LIGHT POLE	(13)	EA.	1

PAY QUANTITIES

J.P. NO. 28879(04)

0200 BRIDGE

- (7) THE QUANTITY SHOWN FOR CLASS AA CONCRETE INCLUDES AN ESTIMATED 1.2 C.Y. FOR BEAM HAUNCHES.
- (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. SEE PLANS FOR ESTIMATED QUANTITIES AND LOCATIONS.
- (9) QUANTITY SHOWN FOR EPOXY RESIN ESTIMATED AT 0.080 GALLONS PER FOOT OF CRACK REPAIR.
- (10) REPAIR BRIDGE SUBSTRUCTURE COMPONENTS WITH PNEUMATICALLY PLACED MORTAR IN ACCORDANCE WITH SECTION 521 OF THE STANDARD SPECIFICATIONS.
- (11) QUANTITY SHOWN FOR SEALER RESIN ESTIMATED AT 0.011 GALLONS PER FOOT OF CONSTRUCTION JOINT.
- (12) ITEM "REMOVAL OF BRIDGE ITEMS" CONSISTS OF REMOVAL AND DISPOSAL OF EXISTING BRIDGE DECK WITH VARYING CLEAR ROADWAY, APPROACH SLABS, 6" CURB, AND PARAPET RAIL 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.
- (13) ITEM "(PL) REMOVE & RESET LIGHT POLE" CONSISTS OF REMOVAL OF LIGHT POLE AND ASSOCIATED ELECTRICAL CONDUIT BEFORE THE EXISTING PARAPET IS REMOVED AND RE-INSTALLATION OF LIGHT POLE AFTER THE NEW PARAPET HAS BEEN CONSTRUCTED. STORE LIGHT POLE BETWEEN REMOVAL AND RE-INSTALLTION. INCLUDE ALL COSTS ASSOCIATED WITH REMOVAL OF LIGHT POLE AND INSTALLATION OF LIGHT POLE AND LIGHT POLE ANCHOR BOLTS IN THE CONTRACT PRICE OF "(PL) REMOVE & RESET LIGHT

TULSA COUNTY Design UNS N-1ST RAMP OVER U.S. 75 Detail HEJ BRIDGE GENERAL NOTES AND Check JNS SUMMARY OF BRIDGE PAY QUANTITIES WHITE ENGINEERING ASSOCIATES

STATE OF DEPARTMENT OF TRANSPORTATION OKLAHOMA JOB PIECE NO. 28879(04)