

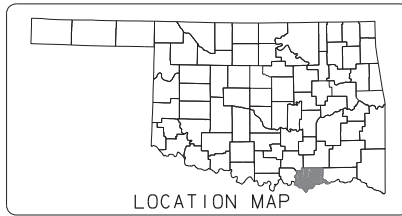
TRAFFIC DESIGN

PROJECT ENGINEER : T. MAAROUF  
SQUAD SUPERVISOR : B. ABRAHAM

BRIDGE DESIGN

SQUAD SUPERVISOR : R. HENSLEY  
SQUAD MEMBERS : T. ELDRIDGE, P. GAFFORD, B. JONES, D. NASH, M. WANZER

ENGINEERING MANAGER : P. DEFRANCO, PE  
ENGINEER : C. OSBORNE, PE  
ENGINEER : A. LEBACK, EIT



STATE OF OKLAHOMA  
DEPARTMENT OF TRANSPORTATION

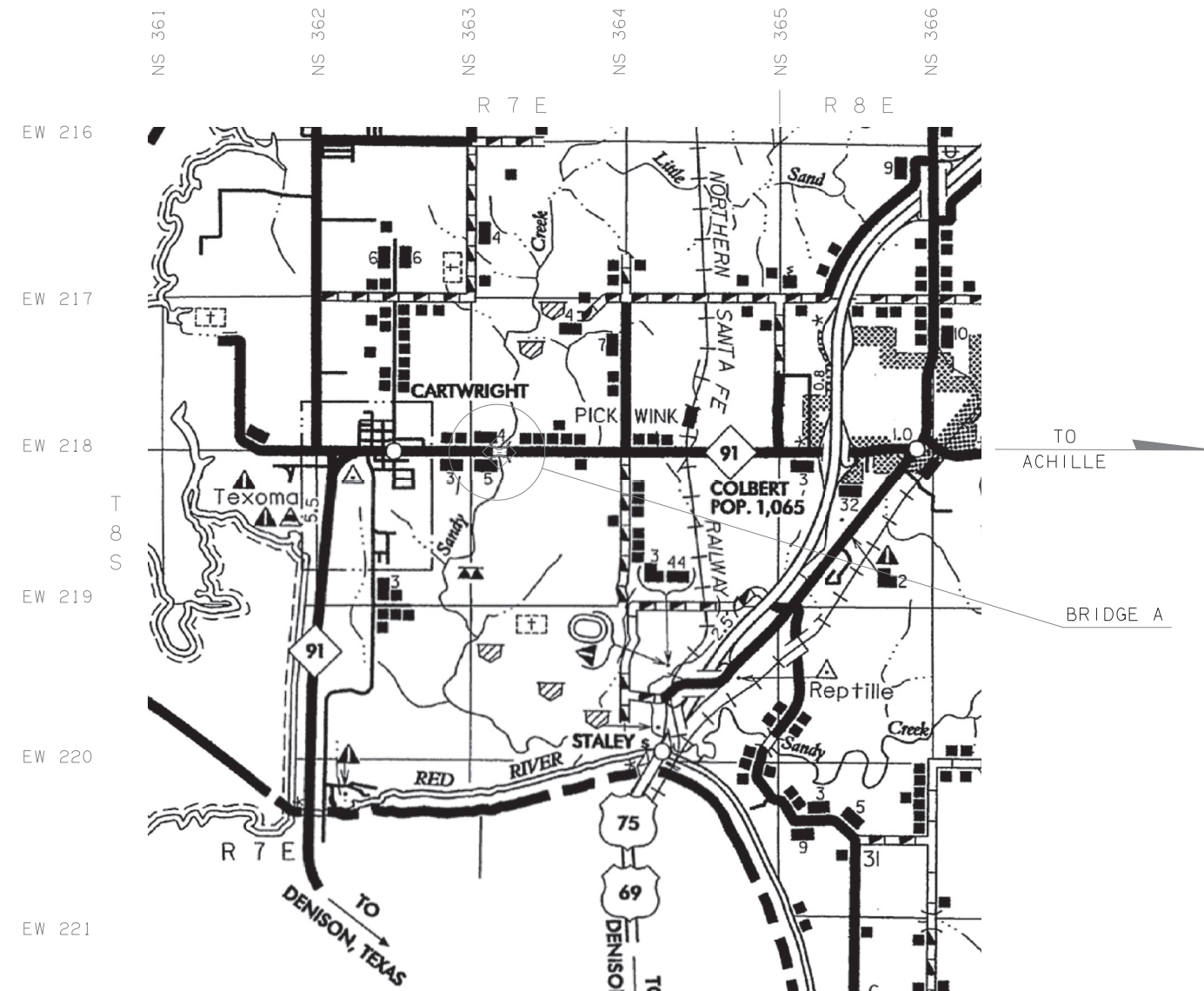
PLAN OF PROPOSED  
**STATE HIGHWAY**  
PROJECT NO. SBR-207C(073)SB  
BRIDGE REHABILITATION  
SH-91 OVER SAND CREEK  
**BRYAN COUNTY**

CONTROL SECTION NO. 91-07-16  
JOB PIECE NO. 32756(04)  
BRIDGE A LOCATION NO. 0716 0340 X  
EXISTING NBI NO. 09424

INDEX OF SHEETS

SHEET NUMBER	SHEET DESCRIPTION
0001	TITLE SHEET
AB01	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)
AT01	SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC CONTROL)
AT02	SUMMARY OF PAY QUANTITIES AND NOTES (GUARDRAIL)
B001	GENERAL PLAN & TYPICAL SECTION (BRIDGE 'A')
B002	COLUMN REPAIR DETAILS
B003	COLUMN REPAIR REINFORCING
B004	PILE ENCASEMENT DETAILS
T001	TRAFFIC CONTROL DETAIL
T002	SIGNING AND REMOVAL
T003	GUARDRAIL LAYOUT

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



STANDARDS TO BE INCLUDED

TRAFFIC

TCS1-1-01	THRI-1-02
TCS2-1-00	SKT-1-00
TCS3-1-01	GA31-1-00
TCS4-1-01	GHW1-1-00
TCS5-1-00	GHW2-1-00
TCS6-1-02	SSS-1-1
TCS7-1-02	TSC2-3-2
TCS9-1-01	TSD-2-0
TCS11-1-01	GMS1-1-00
TCS14-1-00	SSP1-1-02
TCS20-1-00	SSA1-1-00
TCS21-1-02	
TCS24-1-02	

SCALES 1" = 100'  
 PLAN 1" = 100'  
 PROFILE HOR. 1" = 100'  
 VER. 1" = 10'  
 LAYOUT MAP 1" = 5,280'

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 GOVERN, APPROVED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, JANUARY 4, 2010.

PREPARED BY:  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
BRIDGE DESIGN DIVISION  
*Patty F. DeFranco*  
PATTY F. DEFRANCO, P.E.  
OKLA. REG. NO. 20916  
DATE 8/11/17

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____ CHIEF ENGINEER	BY _____ DIVISION ADMINISTRATOR
SWO _____	PROJECT NO. SBR-207C(073)SB
COUNTY BRYAN	HIGHWAY SH-91 SHEET NO. 0001

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**GENERAL NOTES**

**SPECIFICATIONS:**

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

**VERIFICATION OF EXISTING CONDITIONS:**

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 THERE OF.

BIDDERS SHALL FULLY INFORM THEMSELVES OF THE NATURE OF THE WORK AND CONDITION UNDER WHICH IT WILL BE PERFORMED. THE CONTRACTOR SHALL ADOPT METHODS CONSISTENT WITH GOOD CONSTRUCTION PRACTICE AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE EXISTING BRIDGE STRUCTURE, ATTACHMENTS OR ROADWAY. ANY DAMAGE TO THE EXISTING BRIDGE STRUCTURE, ATTACHMENTS OR ROADWAY DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER.

**PLANS:**

CONSTRUCTION PLANS FOR THE EXISTING STRUCTURES MAY BE OBTAINED FROM OFFICE SERVICES DIVISION OF THE OKLAHOMA DEPARTMENT OF TRANSPORTATION.

OFFICE SERVICES DIVISION  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
200 NE 21ST STREET  
OKLAHOMA CITY, OKLAHOMA 73105

ASK FOR:  
STATE AID PROJECT NO. 7(72) AND SAP-7(341), SH-91 IN BRYAN COUNTY.

**DESCRIPTION OF WORK:**

THE WORK TO BE PERFORMED UNDER THIS CONTRACT CONSISTS OF THE REBUILDING OF A PORTION OF DETERIORATING COLUMNS AT THE PIERS, THE ENCASEMENT OF ABUTMENT PILES AND THE REPLACEMENT OF GUARD RAILS ON BRIDGE 'A' ON STATE HIGHWAY 91 OVER SAND CREEK. THIS WORK IS TO BE ACCOMPLISHED BY THE REMOVAL OF DELAMINATED REINFORCING AND UNSOUND CONCRETE AT THE DAMAGED PIER COLUMNS FROM A HEIGHT AS SHOWN IN THE PLANS TO THE TOP OF EACH COLUMN. NEW REINFORCING SHALL BE PLACED AND CONCRETE FORMED TO REPLACE THE SECTION OF COLUMN ALONG WITH A NEW CONNECTION OF THE REPAIRED COLUMNS TO THE ORIGINAL PIER CAPS.

**REMOVED MATERIAL:**

ALL MATERIAL REMOVED DURING THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.

**CLEANING BRIDGE SEATS AND PIER CAPS:**

ONCE ALL REPAIR ACTIVITIES ARE COMPLETE, THE BRIDGE SEATS AND PIER CAPS SHALL BE SWEEPED CLEAN OF ALL DEBRIS. ALL COSTS OF CLEANING THE BRIDGE SEATS AND PIER CAPS SHALL BE PAID FOR IN OTHER ITEMS OF WORK.

**LANE CLOSURE:**

THE ENGINEER RESERVES THE RIGHT TO PROHIBIT LANE CLOSURES DURING HOLIDAYS OR SPECIAL EVENTS. ALL WORK REQUIRING THE CLOSING OR NARROWING OF ONE LANE OF TRAFFIC ON THE BRIDGES SHALL BE PERFORMED DURING DAYLIGHT HOURS ONLY. TRAFFIC ON THE BRIDGE SHALL BE RETURNED TO NORMAL DURING NIGHT TIME HOURS. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO REOPEN THESE LANE CLOSURES AS SOON AS POSSIBLE.

**WORK SITE OBSTRUCTIONS:**

ALL OBSTRUCTIONS, INCLUDING VEGETATION AND DEBRIS, INTERFERING WITH THE PREPARATION FOR REPAIR OR OTHER ACTIVITIES ASSOCIATED WITH THE WORK AS DESCRIBED HEREIN SHALL BE REMOVED BY THE CONTRACTOR PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL ADHERE TO ALL SAFETY AND ENVIRONMENTAL RESTRICTIONS AS MAY BE OUTLINED AND THE COSTS OF THE REMOVALS SHALL BE INCLUDED IN OTHER ITEMS OF WORK.

**TEMPORARY WORK ROAD:**

WORK ROADS SHALL BE CONSTRUCTED TO THE SIZE AND SPECIFICATION AS SHOWN IN THE "TYPICAL SECTION THRU WORK ROAD" ON THIS SHEET. TEMPORARY WORK ROAD TO BE REMOVED AT THE END OF REPAIR WORK. CHANNEL AND STREAM BANKS TO BE RETURNED TO NORMAL FLOW AND CONDITION AFTER THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES.

**ANCHORAGE ASSEMBLIES (REINFORCING STEEL):**

THE CONTRACTOR SHALL HAVE THE OPTION OF THE METHOD BY WHICH TO ANCHOR NEW REINFORCING STEEL TO THE EXISTING STRUCTURE AS SHOWN IN THE PLANS. ANCHORAGE'S INTO THE EXISTING CONCRETE SHALL BE THE SIZE SHOWN IN THE PLANS AND SHALL BE CONNECTED IN ACCORDANCE WITH SECTION 509.04D(3) AND SUBSECTION 701.13 OF THE STANDARD SPECIFICATIONS, AND IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR THE SYSTEM USED.

ALL COSTS TO CONNECT THE NEW REINFORCING AS SHOWN IN THE PLANS INCLUDING, LABOR, EQUIPMENT, MATERIAL, AND INCIDENTALS SHALL BE PAID FOR IN OTHER ITEMS OF WORK.

**PAY ITEM NOTES**

**(1) FALSEWORK JACKING:**

THE CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS AND CALCULATIONS OF FALSEWORK DESIGN TO THE BRIDGE ENGINEER FOR APPROVAL. THE FALSEWORK SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER WHO IS CURRENTLY REGISTERED WITH THE OKLAHOMA STATE BOARD OF REGISTRATIONS FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS, IN ACCORDANCE WITH SECTION 502 OF THE 2009 OKLAHOMA STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE ADEQUACY OF ANY FALSEWORK USED DURING THIS WORK. DAMAGE TO THE STRUCTURE DUE TO ANY SETTLEMENT OR FAILURE OF THE FALSEWORK SHALL BE REPAIRED TO SERVICEABLE CONDITION BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

ALL COSTS FOR FALSEWORK AND JACKING INCLUDING LABOR, EQUIPMENT, MATERIALS, PROFESSIONAL SERVICES AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED, SHALL BE INCLUDED IN THE UNIT PRICE BID PER LUMP SUM OF "FALSEWORK JACKING".

**(2) STAINLESS STEEL EXPANSION BEARING ASSEMBLY:**

PROVIDE AND INSTALL EXPANSION BEARING ASSEMBLIES OF THE SIZE, SHAPE, AND LOCATION AS SHOWN IN THE PLANS AND AS DETAILED IN THE REFERENCED AS-BUILT PROJECTS.

ALL COSTS ASSOCIATED WITH PROVIDING AND INSTALLING THE EXPANSION BEARING ASSEMBLIES AS SHOWN INCLUDING ANCHOR PLATES, ANCHOR BOLTS, NUTS, WASHERS, LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS SHALL BE INCLUDED IN THE PRICE BID PER UNIT EACH OF "STAINLESS STEEL EXPANSION BEARING ASSEMBLY".

**(3) PENETRATING WATER REPELLENT SURFACE TREATMENT (VISUALLY INSPECTED):**

A PENETRATING WATER REPELLENT SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND SIDES OF THE NEW SECTION OF PIER CAP AND PEDESTAL EXTENSIONS AND TO ALL SIDES OF THE NEW COLUMN REBUILDS AS WELL AS THE REMAINING EXISTING COLUMNS DOWN TO THE TOP OF THE EXISTING SPREAD FOOTING OR AS DIRECTED BY THE ENGINEER. WATER REPELLENT SHALL ALSO BE APPLIED TO THE NEW PILE ENCASEMENTS. THIS WORK SHALL BE DONE ONLY AFTER THE PIER CAP AND BRIDGE SEATS HAVE BEEN SWEEPED CLEAN OF ANY DEBRIS AND AFTER ALL REPAIR ACTIVITIES ARE COMPLETE.

ALL COST OF DOING THE WORK AS DESCRIBED ABOVE INCLUDING LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "WATER REPELLENT (VISUALLY INSPECTED)".

**(4) CORROSION INHIBITOR (SURFACE APPLIED):**

ITEM "CORROSION INHIBITOR (SURFACE APPLIED)" CONSISTS OF DEMOLITION OF THE EXISTING COLUMNS AS SHOWN AND APPLYING A CORROSION INHIBITOR TO THE REINFORCING OF THE EXISTING PIER COLUMNS TO BE REBUILT AND TO THE ABUTMENT PILES TO BE ENCASED AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. CORROSION INHIBITOR SHALL ONLY BE APPLIED AFTER ALL UNSOUND CONCRETE IS REMOVED AND THE SURFACE IS CLEANED AND FREE OF DIRT, DUST AND LOOSE MATERIAL.

THE REMOVAL OF UNSOUND CONCRETE AND THE CLEANING OF ANY EXPOSED REINFORCING STEEL, AND THE APPLICATION OF CORROSION INHIBITOR SHALL BE AS SPECIFIED IN SPECIAL PROVISION 535-1 FOR "CORROSION INHIBITOR (SURFACE APPLIED)".

ALL COST FOR THE APPLICATION OF THE CORROSION INHIBITOR INCLUDING LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER SQUARE YARD OF "CORROSION INHIBITOR (SURFACE APPLIED)".

**ENVIRONMENTAL MITIGATION NOTES**

**BALD EAGLE:**

SUITABLE NESTING, ROOSTING OR FORAGING HABITAT FOR THE BALD EAGLE OCCURS WITHIN THE PROJECT'S ACTION AREA. THE BALD EAGLE NESTING SEASON IN OKLAHOMA EXTENDS FROM SEPTEMBER 16, THROUGH MAY 31. THE RESIDENT ENGINEER SHALL CONTACT THE ODOT BIOLOGIST AT 405-521-5215 TO SCHEDULE A NEST SURVEY.

NEST SEARCH SURVEYS CAN ONLY BE CONDUCTED WHEN LEAVES ARE NOT ON THE TREES TYPICALLY BETWEEN DECEMBER 1ST AND FEBRUARY 28TH. NO WORK MAY OCCUR WITHIN SUITABLE BALD EAGLE HABITAT LOCATED BETWEEN STA. 142+00 AND STA 146+00, DURING THE NESTING SEASON (SEPTEMBER 16, THROUGH MAY 31) UNTIL THE COMPLETION OF THE SURVEY.

IF NESTS ARE OBSERVED, A 1,000 FOOT NO-WORK BUFFER SHALL BE PLACED AROUND THE NEST. IF THE BUFFER CANNOT BE MAINTAINED, ALL CLEARING, EXTERNAL CONSTRUCTION AND LANDSCAPING ACTIVITIES, WITHIN 1,000 FEET OF THE NEST, SHALL BE CONDUCTED BETWEEN JUNE 1 AND SEPTEMBER 15, OUTSIDE THE NESTING SEASON.

**AMERICAN BURYING BEETLE:**

THE AMERICAN BURYING BEETLE IS A LARGE CARRION BURYING BEETLE THAT OCCURS WITHIN THE ACTION AREA. NO ARTIFICIAL LIGHTING SHALL BE USED DURING CONSTRUCTION. CARCASSES AND ALL FOOD TRASH SHALL BE REMOVED FROM THE PERMANENT AND TEMPORARY ROW THROUGHOUT THE DURATION OF PROJECT ACTIVITIES. FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE PLACED ON TOP OF ALL AREAS OF GROUND DISTURBANCE, PRIOR TO RE-VEGETATION.

**MIGRATORY BIRD NOTES:**

MIGRATORY BIRDS ARE PROTECTED BY THE FEDERAL MIGRATORY BIRD TREATY ACT. MANY BIRDS COMMONLY USE BRIDGES AND CULVERTS FOR NESTING. THE NESTING SEASON FOR MOST MIGRATORY BIRD SPECIES EXTENDS FROM APRIL 1 TO AUGUST 31.

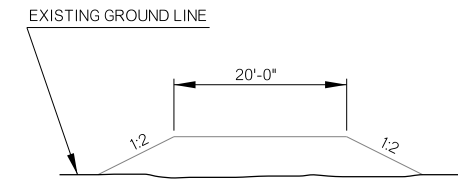
MIGRATORY BIRD NESTING USE OF THE SH-91 SAND CREEK BRIDGE (NBI09424) WAS OBSERVED. REHABILITATION OF THE EXISTING BRIDGE SHALL BE CONDUCTED BETWEEN SEPTEMBER 1, AND MARCH 31, WHEN MIGRATORY BIRD NESTS ARE NOT OCCUPIED. IF REHABILITATION CANNOT BE COMPLETED BETWEEN SEPTEMBER 1 AND MARCH 31, THE BRIDGE SHALL BE PROTECTED FROM NEW NEST ESTABLISHMENT PRIOR TO APRIL 1, BY MEANS THAT DO NOT RESULT IN BIRD DEATH OR INJURY. OPTIONS INCLUDE THE EXCLUSION OF ADULT BIRDS FROM SUITABLE NEST SITES ON OR WITHIN A STRUCTURE BY THE PLACEMENT OF WEATHER-RESISTANT POLYPROPYLENE NETTING WITH 0.25-INCH OR SMALLER OPENINGS, PRIOR TO APRIL 1. METHODS OTHER THAN NETTING MUST BE PREAPPROVED BY THE ODOT BIOLOGIST.

**GOOD-HOUSEKEEPING REQUIREMENT:**

MATERIAL STORAGE, CHEMICAL STORAGE, TRASH, SANITARY FACILITIES, ETC. SHOULD BE LOCATED NO CLOSER THAN 50 FEET FROM THE BANK OF ANY WATERS IN ORDER TO PROTECT WATER QUALITY.

DEBRIS SHALL NOT BE BURIED WITHIN LIMITS OF RIGHT-OF-WAY.

**IMPORTANT!**  
ALL DIMENSIONS SHOWN ARE FROM EXISTING AS-BUILT PLANS OR PROVIDED BY ODOT FIELD DIVISION. THE CONTRACTOR SHOULD VERIFY DIMENSION AND ELEVATIONS AS NECESSARY TO CONNECT THE NEW CAP EXTENSION AND COLUMN REBUILD TO THE EXISTING STRUCTURE AS SHOWN IN THE PLANS.  
IT IS THE INTENT OF THIS PROJECT TO RETURN THE BRIDGE FINISHED GRADE TO EXISTING AT THE CONCLUSION OF ALL CONSTRUCTION ACTIVITY AND WITH THE REMOVAL OF THE FALSEWORK. THE CONTRACTOR SHALL VERIFY THE ELEVATIONS AT TOP OF PIERS AND COLUMNS DURING CONSTRUCTION TO INSURE THE GRADE IS KEPT.  
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPORT ANY POSSIBLE DISCREPANCY IN THE PLANS OR DURING CONSTRUCTION WHICH MAY AFFECT THE EXISTING GRADE BEFORE PROCEEDING WITH CONSTRUCTION ACTIVITY. ADJUSTMENTS TO THE CAP AND OR COLUMN MAY BE NEEDED AND SHOULD BE APPROVED BY THE ENGINEER IF REQUIRED.



TYPICAL SECTION THRU WORK ROAD

PAY QUANTITIES					
BRIDGE 'A' - NBI 09424 - SH-91 OVER SAND CREEK					
ITEM	DESCRIPTION		UNIT	QUANTITY	
502 6116	(PL)	FALSEWORK JACKING	(1) (BR-1)	LSUM	1.00
507(B) 6174		STAINLESS STEEL EXPANSION BEARING ASSEMBLY	(2) (BR-1)	EA.	8.00
509(B) 1328		CLASS 'A' CONCRETE	(BR-1)	C.Y.	17.30
511(A) 1332		REINFORCING STEEL	(BR-1)	LB.	320.00
511(B) 6010		EPOXY COATED REINFORCING STEEL	(BR-1)	LBS.	2,290.00
515(A) 6013		WATER REPELLENT (VISUALLY INSPECTED)	(3) (BR-1)	S.Y.	121.00
535 6130	(SP)	CORROSION INHIBITOR (SURFACE-APPLIED)	(4) (BR-1)	S.Y.	16.00

(BR-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITIES, ONLY. SEE SECTION 109.01(B) OF THE STANDARD SPECIFICATION.

PAY QUANTITIES					
0640 CONSTRUCTION					
ITEM	DESCRIPTION		UNIT	QUANTITY	
641 1399		MOBILIZATION		L.SUM	1.00

BRIDGE "A"		BRYAN COUNTY		Design	N/A	N/A
SH-91 OVER SAND CREEK				Detail	RAH	7/17
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE)				Check	TEE	8/17
				Squad Engr.	HENSFLEY DEFRANCO	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB/PIECE NO. 32756(04)				SHEET NO. AB01		

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**TRAFFIC GENERAL CONSTRUCTION NOTES**

THE CONTRACTOR SHALL PROVIDE A PERSON TO BE ON 24 HOUR CALL AS NEEDED AS DETERMINED BY THE ENGINEER. THIS PERSON SHALL HOLD A CURRENT CERTIFICATION FROM THE AMERICAN TRAFFIC SAFETY SERVICE ASSOCIATION (ATSSA) OR THE OKLAHOMA TRAFFIC ENGINEERING ASSOCIATION (OETA) AS A TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

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

**TRAFFIC PAY QUANTITY 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-21) INCLUDED IN THE COST OF THIS ITEM SHALL BE INSTALLATION, MAINTENANCE, AND REMOVAL. THIS ITEM SHALL BE BID ACCORDINGLY.
- (TC-26) ALL CONSTRUCTION TRAFFIC CONTROL WILL BE IMPLEMENTED ACCORDING TO CONSTRUCTION PLANS, AND INSTALLED IN A MANNER APPROVED BY THE ENGINEER, IN ACCORDANCE WITH CHAPTER VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (CURRENT EDITION), AND COMPLIANT WITH APPLICABLE O.D.O.T. STANDARD DRAWINGS. PRICE BID FOR THIS ITEM SHALL BE PAYMENT IN FULL FOR THE INSTALLATION, MAINTENANCE AND SUBSEQUENT REMOVAL OF ALL NECESSARY CONSTRUCTION TRAFFIC CONTROL DEVICES REQUIRED FOR COMPLETION OF THE PROJECT. ALL SIGNS AND BARRICADES WHICH ARE SHOWN WITH TYPE 'A' LIGHTS IN THE STANDARD DRAWINGS SHALL HAVE THE CORRESPONDING LIGHT ATTACHED DURING NON-DAYLIGHT HOURS.
- (TC-30) INCLUDED IN THIS ITEM ARE ALL S.C.S. (SPECIAL CONSTRUCTION SIGNING) SIGNS WHICH ARE BETWEEN 16.0 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET THE REQUIREMENTS OF ASTM D4956 (LATEST REVISION) THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH O.D.O.T. STANDARD SPECIFICATIONS (CURRENT EDITION) SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY USED CONSTRUCTION ZONE IMPACT ATTENUATOR AND CHANGEABLE MESSAGE SIGN TO BE PLACED ON THIS PROJECT SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OKLAHOMA DEPARTMENT OF TRANSPORTATION, TO ASSURE THAT THEY ARE IN GOOD WORKING CONDITION, PRIOR TO PLACEMENT ON THE PROJECT.
- (TC-70) THIS ITEM IS AN ESTIMATED QUANTITY TO BE USED AS DEEMED NECESSARY BY THE ENGINEER.
- (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) 45 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/apl/index.php>

**TRAFFIC SIGNING PAY QUANTITY NOTES**

- (TS-33) INCLUDED IN THIS PAY ITEM IS ALL HARDWARE ASSOCIATED WITH PROPERLY ANCHORING AND MOUNTING THE HIGHWAY SIGN IN ACCORDANCE WITH O.D.O.T. PLANS AND STANDARD DRAWINGS SSA1-1 AND SSP1-1-(LATEST REVISION).
  - (TS-34) INCLUDED IN THIS PAY ITEM IS THE REMOVAL OF ANY EXISTING SIGNS TO BE REPLACED BY NEW ASSEMBLIES AND THE REMOVAL OF ANY EXISTING SIGNS THAT WILL BE IN CONFLICT WITH THE NEW ROADWAY OR NEW SIGNAGE.
  - (TS-41) "REMOVAL OF EXISTING SIGNS" SHALL INCLUDE THE REMOVAL OF A COMPLETE SIGN ASSEMBLY WHICH MAY INCLUDE MULTIPLE SIGNS, POSTS, FOOTINGS, AND ANY FOOTINGS ADJACENT TO THE SIGN ASSEMBLY. WHEN APPROVED BY THE ENGINEER, FOOTINGS MAY BE OBLITERATED TO A POINT BELOW GROUND LEVEL IN LIEU OF BEING COMPLETELY REMOVED. SEE GENERAL CONSTRUCTION NOTES FOR DISPOSAL OF OLD CONCRETE FOOTING MATERIAL.
- SPECIAL NOTES**
- (SP-1) PORTABLE CHANGEABLE MESSAGE SIGNS TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.
  - (SP-2) PORTABLE CHANGEABLE MESSAGE SIGN(S) SHALL BE PLACED 14 DAYS PRIOR TO CONSTRUCTION.
  - (SP-3) TYPE "C" WARNING LIGHTS ARE NOT REQUIRED.

**PAY QUANTITY SCHEDULE**

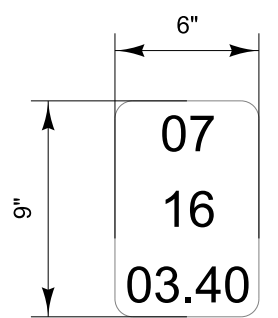
0300 TRAFFIC CONTROL				
PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
823	8478	(SP) PORTABLE TRAFFIC SIGNAL SYSTEM (TC-80,84)	SD	45.00
857(C)	8857	REMOVABLE PAVEMENT MARKING TAPE(8" WIDE) (TC-21,70)	LF	72.00
871(B)	8705	(SP) CONST. ZONE IMPACT ATTN. (TC-52,70,80)	SD	90.00
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER (TC-1,2)	LF	600.00
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER (TC-1)	LF	600.00
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF (TC-26,33,84)	SD	360.00
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF (TC-26,33,84)	SD	90.00
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF (TC-26,30,33,84)	SD	450.00
880(C)	8848	WING BARRICADES (TC-26,84)	SD	180.00
880(E)	8860	WARNING LIGHTS (TYPE A) (TC-26,84)	SD	360.00
880(F)	8878	DRUMS (SP-3)(TC-26,84)	SD	900.00
880(G)	8890	CHANNELIZER CONES (TC-26,84)	SD	1,350.00
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (SP-1,2)(TC-52,84,85)	SD	118.00

**PAY QUANTITY SCHEDULE**

0301 TRAFFIC SIGNING & STRIPING				
PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
805(A)	8724	(PL) REMOVAL OF EXISTING SIGNS (TS-41)	EA	4.00
850(A)	8110	SHEET ALUMINUM SIGNS (TS-34)	SF	13.88
851(C)	8324	2" SQUARE TUBE POST (TS-33)	LF	54.00

**SUMMARY OF SIGN QUANTITIES FOR RURAL AREA REGULATORY SIGNS**

ITEM NO.	APPROXIMATE LOCATION	SIGN DESCRIPTION	TUBE POST		POST SPACING FT.	SIGN AREA S.F.	REMOVAL OF EXISTING SIGNS 805(A)	REMARKS
			A	B				
1	143+48 LT	OM-3(L)					1.00	REMOVE & DISCARD
2	143+48 RT	OM-3(R)					1.00	REMOVE & DISCARD
3	143+48 RT	SPECIAL SIGN 1	13.50	13.50	3.00	6.75		SAND CREEK
4	144+54 RT	OM-3(L)					1.00	REMOVE & DISCARD
5	144+54 LT	OM-3(R)					1.00	REMOVE & DISCARD
6	144+54 LT	SPECIAL SIGN 1 & BM 1	13.50	13.50	3.00	7.13		SAND CREEK, INSTALL BM ON BACK OF SIGN
TOTAL			54.00			13.88	4.00	



BRIDGE MARKER 1

**SIGN DETAIL**  
1:25

SIGN NUMBER	SPECIAL SIGN 1
WIDTH x HGHT.	4'-6" x 1'-6"
BORDER WIDTH	0.75"
CORNER RADIUS	1.5"
MOUNTING	Ground
SIGN AREA	6.8 Sq.Ft.
BACKGROUND	TYPE: Reflective COLOR: Green
LEGEND/BORDER	TYPE: Reflective COLOR: White

SYMBOL	X	Y	WID	HT

Panel Style: guide\_con\_destination.ssi  
M.U.T.C.D.: 2009 Edition

Dimensions are in inches.tenths      Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)										LENGTH	SERIES/SIZE
S	a	n	d	C	r	e	e	k			D 2000
5.2	9.9	14.4	18.9	22.5	28.5	33.7	36.5	40.6	45		43.6

PREPARED BY:  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
TRAFFIC ENGINEERING DIVISION  
*Kenneth C. Dederig*  
KENNETH C. DEDERING, P.E.  
OKLA. REG. NO. 21077  
08-10-17

DATE: 08-10-17

**REGISTERED PROFESSIONAL ENGINEER**  
KENNETH CHARLES DEDERING  
21077  
OKLAHOMA

DIVISION 2 SH-91	BRYAN COUNTY	DETAIL: CLD	04/17
SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC)		CHECK: GF	04/17
		ENGINEER: KCD	04/17
GROUP: ABRAHAM MAAROUF			

STATE OF OKLAHOMA      DEPARTMENT OF TRANSPORTATION  
JOB/PIECE NO. 32756(04)      SHEET NO. AT01

REVISIONS		
REV. NO.	DESCRIPTION	DATE

**TRAFFIC GENERAL CONSTRUCTION NOTES**

ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 2009 OKLAHOMA ENGLISH STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION GOVERN.

ANY DAMAGE CAUSED BY THE CONTRACTOR TO ANY STRUCTURES, ROADWAY SURFACES, STRIPING, RAISED PAVEMENT MARKERS, GUARDRAIL, ATTENUATORS, SLOPES, SIGNS, OR CABLE BARRIER EQUIPMENT/ITEMS SHALL BE REPLACED OR REPAIRED AT CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER. THIS SHALL INCLUDE THE ANY ITEMS DAMAGED DURING CONSTRUCTION, DELIVERY, OR HANDLING OF THESE ITEMS.

ALL BROKEN CONCRETE, WASTE MATERIAL, AND DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.

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. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY EXISTING UNDERGROUND UTILITIES WITHIN THE PROJECT AREA AS A RESULT OF DIGGING, TRENCHING, BORING, ETC. PRIOR TO DIGGING NEAR THE UTILITIES, THE CONTRACTOR SHALL CALL FOR A LIST OF ALL UNDERGROUND FACILITIES REGISTERED IN THE AREA OF CONSTRUCTION LISTED WITH THE FOLLOWING AGENCIES:

THE "OKIE" NOTIFICATION CENTER 1-800-522-6543,811,OR www.callokie.com OR THE LOCAL COUNTY CLERK'S OFFICE.

DEPTH OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION

ALL FIELD MEASUREMENTS PREVAIL ON INSTALLATION AND REMOVAL.

PRIOR TO FINAL ACCEPTANCE BY THE ENGINEER, ALL EXPOSED CURB, ROADWAY SURFACES (INCLUDING RUMBLE STRIPS), AND STRUCTURES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAINS, TIRE MARKS, OR OTHER DISFIGUREMENTS, AND CLEARED OF ALL DEBRIS.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATIONS, THE CONTRACTOR SHALL SPRINKLE GRADING AT INTERVALS APPROVED BY THE ENGINEER. COST OF SPRINKLING TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.

MAINTENANCE OF THROUGH TRAFFIC INCLUDES THE MAINTENANCE OF THE EXISTING ROAD IN CLOSE PROXIMITY TO THE NEW CONSTRUCTION AS SHOWN ON THE PLANS.

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

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

DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SURFACE DRAINAGE, SHALL VISUALLY INSPECT AND/OR MONITOR IT DURING RAINY OR WET WEATHER, AND TAKE NECESSARY STEPS TO ENSURE ALL AREAS IN THE MEDIAN ADEQUATELY DRAINS TO THE SATISFACTION OF THE ENGINEER.

**TRAFFIC SAFETY PAY QUANTITY NOTES**

- (TP-1) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY. SEE THE 2009 SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- (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 A MANNER APPROVED BY THE ENGINEER.
- (TP-25) NO RAW GUARDRAIL ENDS SHALL BE LEFT EXPOSED TO TRAFFIC DURING NON-WORKING HOURS.


**SPECIAL NOTES**

- (SP-1) THIS ITEM SHALL INCLUDE THE FOLLOWING :
  1. EXCAVATION OF THE EXISTING SURFACE UNDER ALL NEW GUARDRAIL INSTALLATIONS. FULL DEPTH MATERIAL SHALL BE REPLACED. ALL REMOVED MATERIALS TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF BY HIM IN A MANNER APPROVED BY THE ENGINEER.
  2. COMPACTION OF SOIL IN PREPARATION OF THE NEW PAVED SURFACE.
  3. BACKFILL TO ADJUST SHOULDER GRADE ONCE THE NEW PAVED SURFACE IS COMPLETE.
  4. MAINTAIN EXISTING SLOPE OR BETTER AS DIRECTED BY THE ENGINEER.
- (SP-2) PRICE BID TO INCLUDE COST OF WATERING & (10-20-10) FERTILIZING. WATERING ESTIMATED AT 40 GAL. PER SQ. YD. FOR ESTIMATING PURPOSES ONLY. CONTRACTOR WILL PROVIDE SUFFICIENT WATER TO PRODUCE ADEQUATE GRASS GROWTH AS APPROVED BY THE ENGINEER. FERTILIZER (10-20-10) ESTIMATED AT 200 LB. PER 1000 SQ. YD.
- (SP-3) SOLID SLAB SODDING TO BE PLACED NEXT TO NEW ASPHALT LOCATIONS IN 7.0 FOOT WIDE SECTIONS OR AS DETERMINED BY THE ENGINEER.
- (SP-4) THIS ITEM IS AN ESTIMATED QUANTITY TO BE DETERMINED BY THE ENGINEER.
- (SP-5) PRICE BID FOR THIS ITEM SHALL INCLUDE ALL CLEANING AND MAINTENANCE OF EROSION CONTROL DEVICES (INCLUDING REMOVAL OF SILT AND SEDIMENT) AS DIRECTED BY THE ENGINEER.
- (SP-6) PRICE BID TO INCLUDE COST OF PRIME COAT AND TACK COAT, MEETING REQUIREMENTS OF SECTION 407 OF THE STANDARD SPECIFICATIONS.
- (SP-7) ESTIMATED AT 112 LBS. PER. SQ. YD. PER 1" THICK.
- (SP-8) ALL GUARDRAIL TO BECOME PROPERTY OF CONTRACTOR, AND SHALL BE REMOVED FROM THE LIMITS OF THE PROJECT AND DISPOSED OF IN AREA APPROVED BY THE ENGINEER. NO PAYMENT WILL BE MADE FOR THE DISPOSAL OF THIS MATERIAL.
- (SP-9) TOP OF GUARDRAIL MUST BE A MINIMUM OF 31" FROM TOP OF RAIL TO EDGE OF FINISHED SHOULDER.
- (SP-10) STEEL POSTS WITH STEEL BLOCKOUTS WILL NOT BE ALLOWED. CONTRACTORS SHALL SUPPLY STEEL POSTS WITH PLASTIC BLOCKOUTS. CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO SECTIONS 623 AND 732 OF THE STANDARD SPECIFICATIONS. BLOCKOUTS USED ON THIS PROJECT MUST BE ON THE OKLAHOMA DEPARTMENT OF TRANSPORTATION LIST OF APPROVED GUARDRAIL BLOCKOUTS.
- (SP-11) INCLUDED IN THIS PAY ITEM IS ONE (1) W-BEAM END SECTION (FLARED). REFER TO STANDARD DRAWING GHW2-1-(LATEST REVISION).


**PAY QUANTITY SCHEDULE**

0304 GUARDRAIL				
PAY ITEM	CODE NO.	DESCRIPTION	UNIT	QUANTITY
209	0120	MACHINE GRADING (TP-1)(SP-1)	LF	1,005.00
221(C)	2801	TEMPORARY SILT FENCE (SP-4,5)	LF	650.00
221(F)	0100	TEMPORARY SILT DIKE (SP-4,5)	LF	250.00
230(A)	2806	SOLID SLAB SODDING (SP-2,3,4)	SY	516.00
411(C)	5960	SUPERPAVE, TYPE S4 (PG 64-22 OK)	TON	102.09
619(B)	4780	REMOVAL OF GUARDRAIL (TP-20,25)(SP-8)	LF	300.00
623(A)	0932	BEAM GUARD RAIL W-BEAM SINGLE (TP-25)(SP-9,10,11)	LF	425.00
623(G)	8590	GUARDRAIL END TREATMENT (31") (SP-9)	EA	3.00
623(I)	8700	GUARDRAIL BRIDGE CONN-THRIE BEAM (31") (SP-9)	EA	4.00
853	9069	GUARDRAIL DELINEATORS (TYPE 2, CODE 1)	EA	14.00

SH-91				GUARDRAIL 31"							TOTAL LENGTH
LOCATION NUMBER	MILEAGE	SIDE OF ROADWAY	DESCRIPTION	REMOVAL OF GUARDRAIL	GUARDRAIL END TREATMENT (31")	BEAM GUARDRAIL W BEAM SINGLE	GUARDRAIL BRIDGE CONNECTION-THRIE BEAM (31")	MACHINE GRADING	SOLID SLAB SODDING	SUPERPAVE TYPE "S4"	
START POINT AT 143+00				619(B) 4780	623(G) 8590	623(A) 0932	623(I) 8700	209 0120	230(A) 2806	411(C) 5960	
				L.F.	EA.	LF.	EA.	L.F.	S.Y.	TON	
1	0.034	S	A	75.00		150.00	1.00	193.75	97.00	21.64	168.75
2	0.023	N	B	75.00	1.00	75.00	1.00	253.75	130.00	24.75	143.75
3	0.036	N	C	75.00	1.00	137.50	1.00	316.25	165.00	32.50	206.25
4	0.021	S	D	75.00	1.00	62.50	1.00	241.25	124.00	23.20	131.25
TOTALS				300.00	3.00	425.00	4.00	1005.00	516.00	102.09	650.0



PREPARED BY:  
OKLAHOMA DEPARTMENT OF TRANSPORTATION  
TRAFFIC ENGINEERING DIVISION  
*Kenneth C. Dederling*  
KENNETH C. DEDERING, P.E.  
OKLA. REG. NO. 21077  
DATE 08-10-17



REGISTERED PROFESSIONAL ENGINEER  
KENNETH CHARLES DEDERING  
21077  
OKLAHOMA

DIVISION 2		BRYAN COUNTY		DETAIL:	CLD	04/17
SH-91				CHECK:	GF	04/17
SUMMARY OF PAY QUANTITIES AND NOTES (GUARDRAIL)				ENGINEER:	KCD	04/17
				GROUP:	ABRAHAM	
				EM:	MAAROUF	

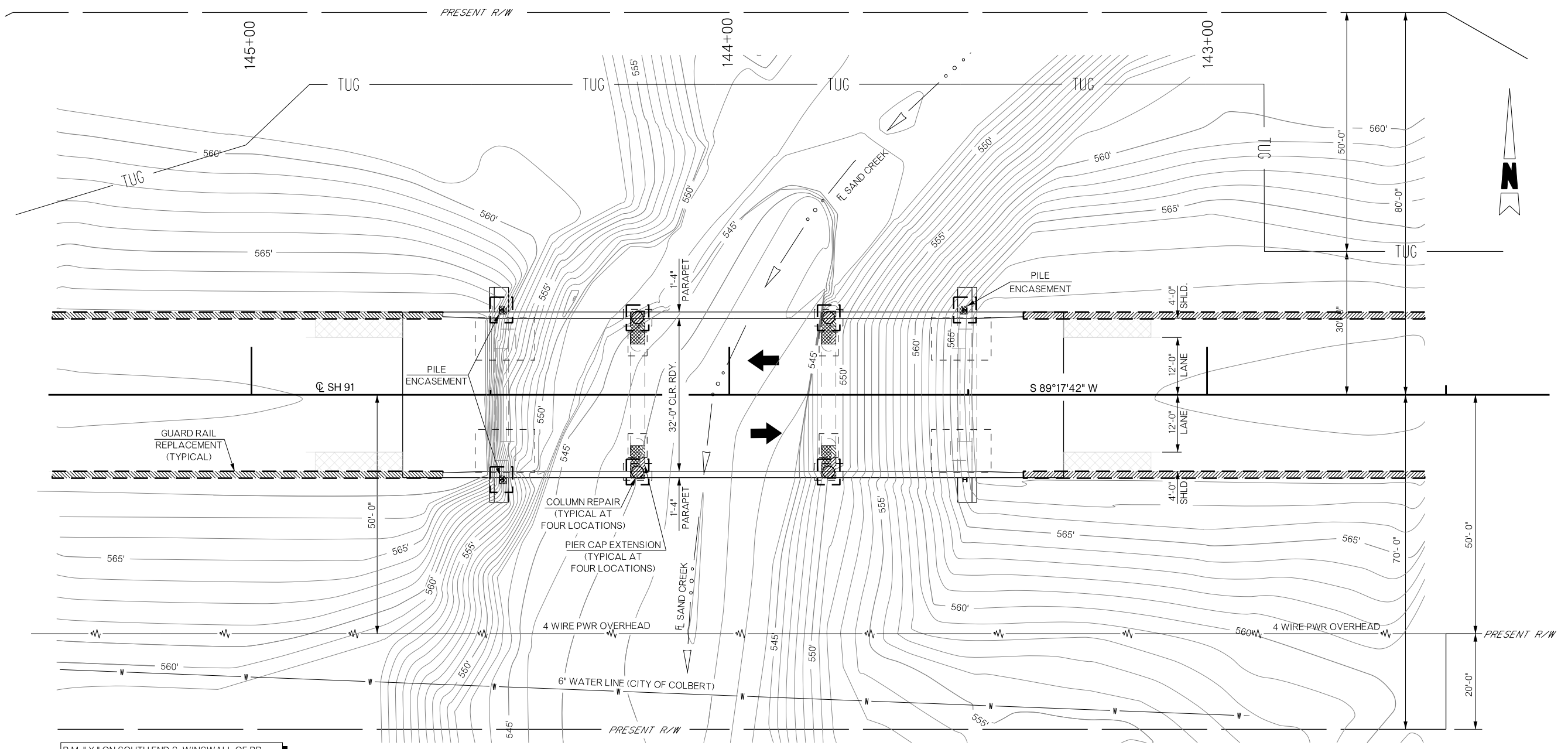
STATE OF OKLAHOMA

DEPARTMENT OF TRANSPORTATION

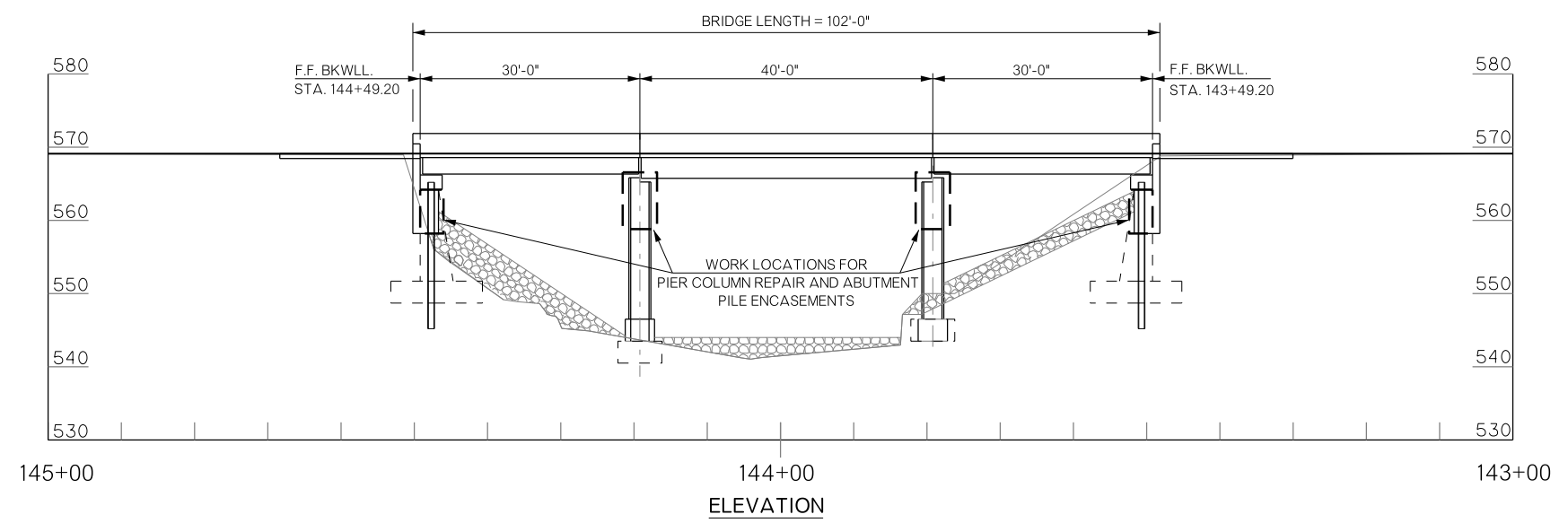
JOB/PIECE NO. 32756(04)

SHEET NO. AT02

REVISIONS		
REV. NO.	DESCRIPTION	DATE

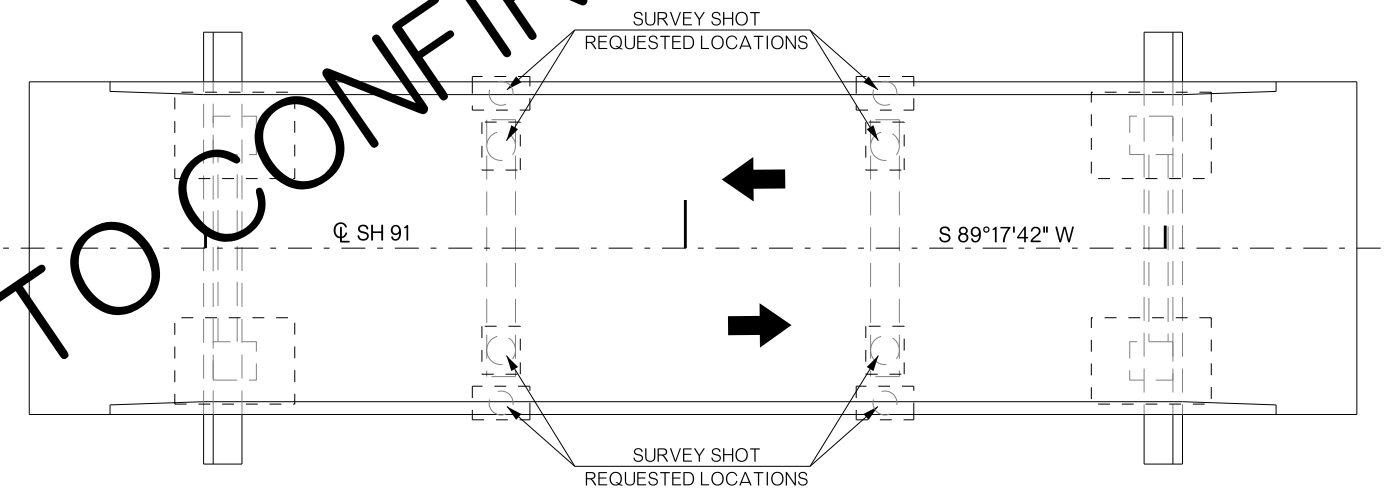
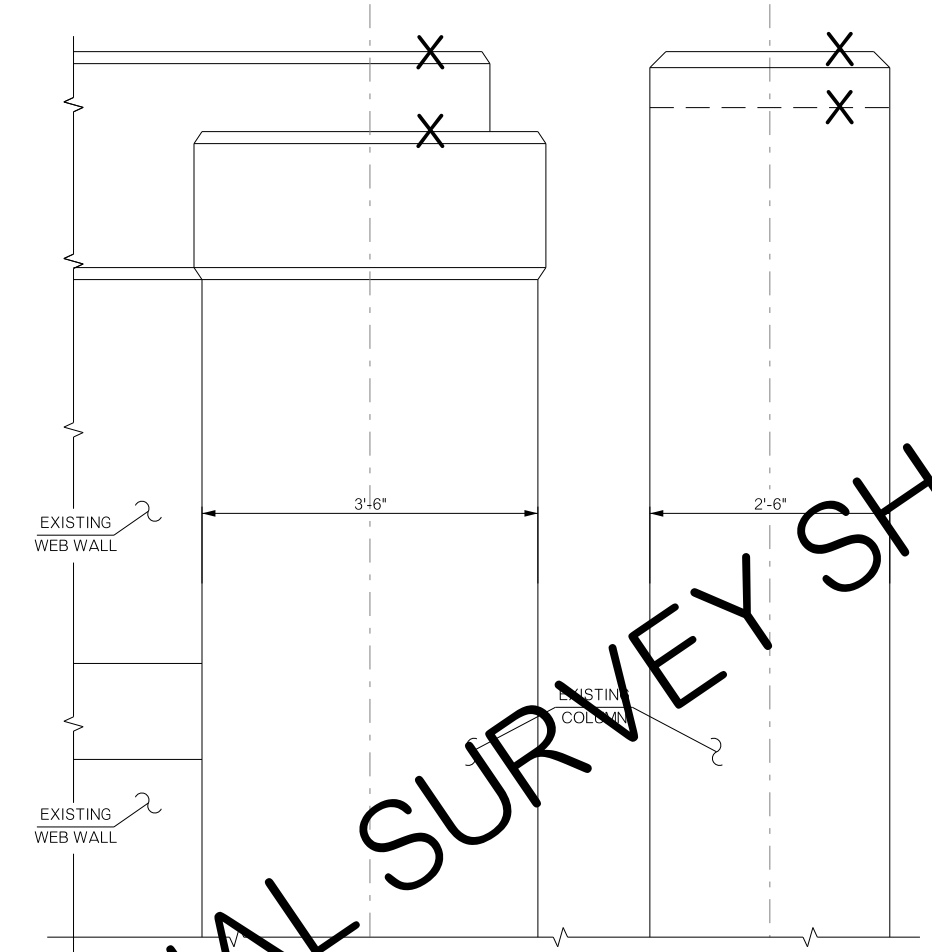
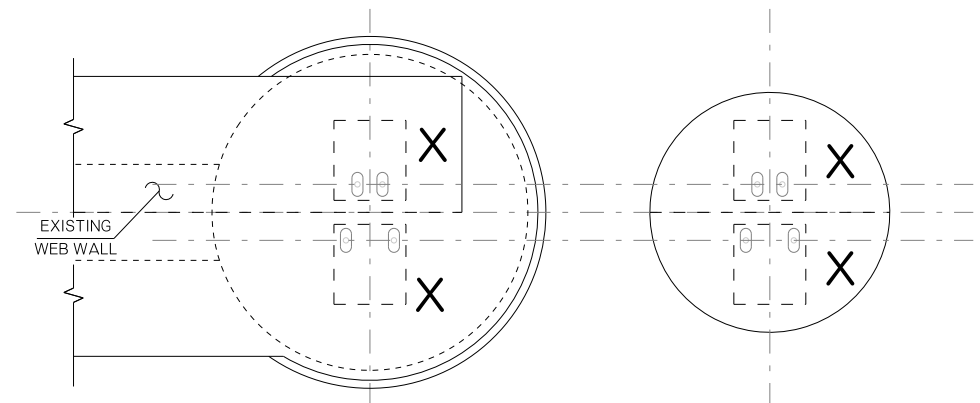


B.M. "X" ON SOUTH END S. WINGWALL OF BR.  
20.3' LT.  
STATION 144+50      ELEVATION = 569.42



BRIDGE "A"		BRYAN COUNTY		Design	N/A	N/A
SH-91 OVER SAND CREEK				Detail	RAH	7/17
GENERAL PLAN AND TYPICAL SECTION				Check	TEE	8/17
				Squad	HENSFLEY	
				Engr.	DEFRANCO	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB/PIECE NO. 32756(04)				SHEET NO. B001		

REVISIONS		
REV. NO.	DESCRIPTION	DATE

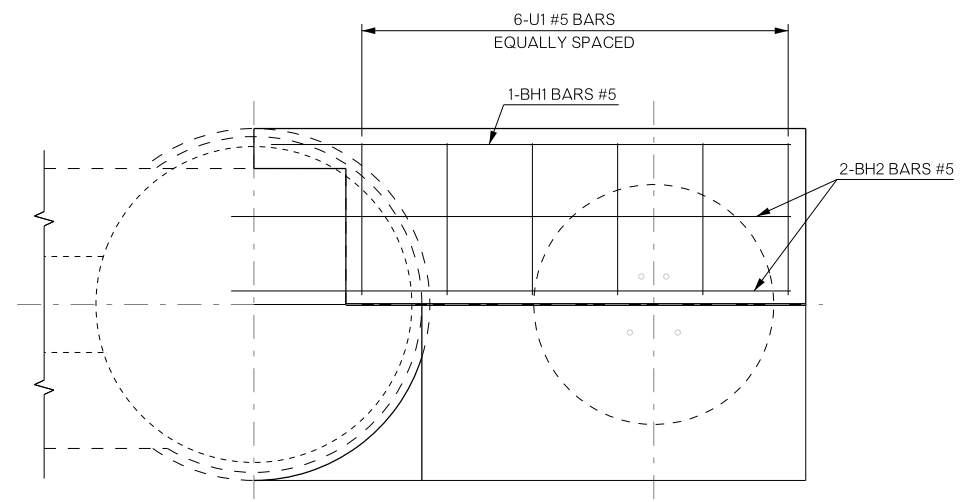


X = LOCATION OF ELEVATION TO BE OBTAINED BY SURVEY

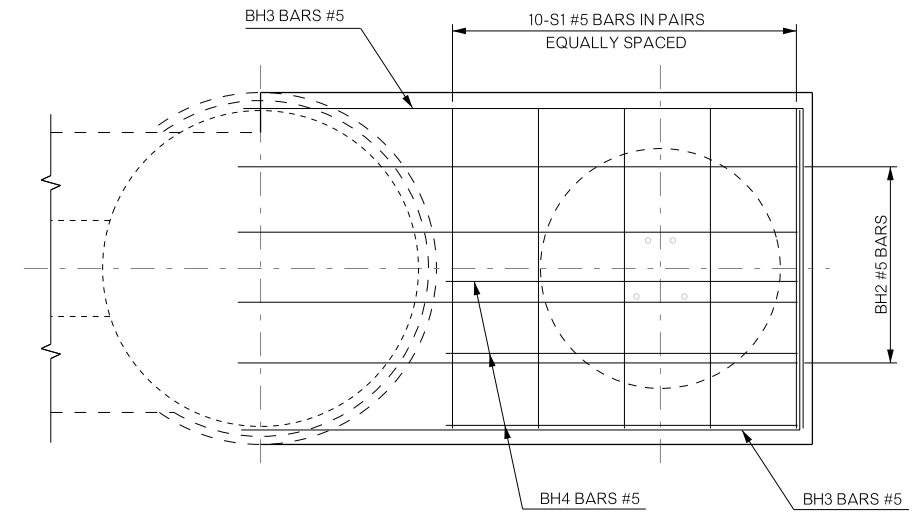
ADDITIONAL SURVEY SHOTS TO CONFIRM ELEVATIONS 8/7/11

BRIDGE "A" SH-91 OVER SAND CREEK	BRYAN COUNTY	Design	
SURVEY SHOT REQUESTED LOCATIONS		Detail	
		Check	
		Squad: HENSLEY	
		Eng: DEFRANCO	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB/PIECE NO. 32756(04)	SHEET NO.

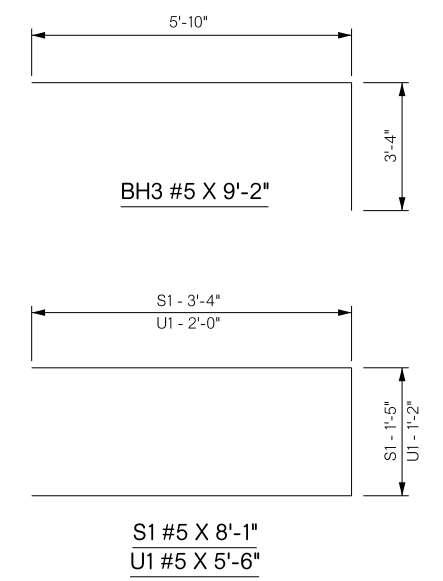
REVISIONS		
REV. NO.	DESCRIPTION	DATE



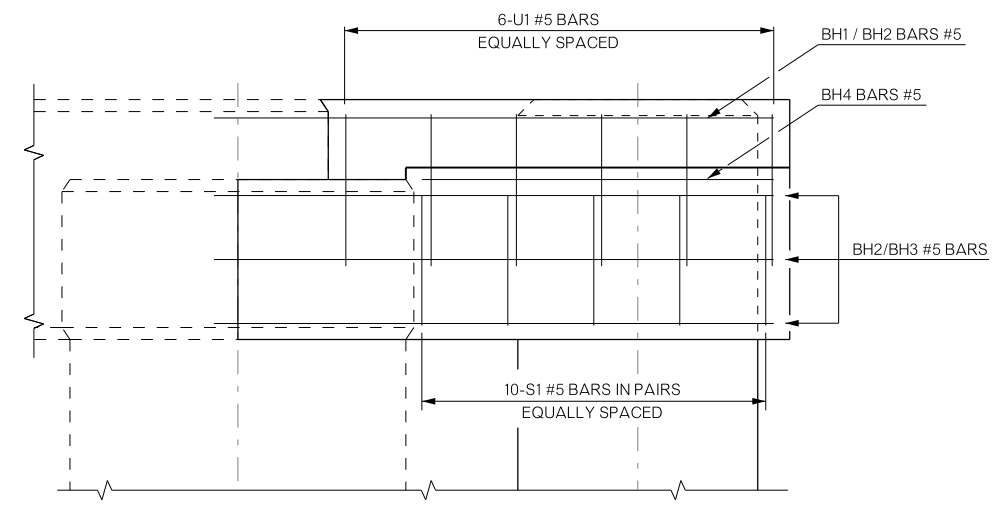
PLAN VIEW TOP STEP REINFORCING



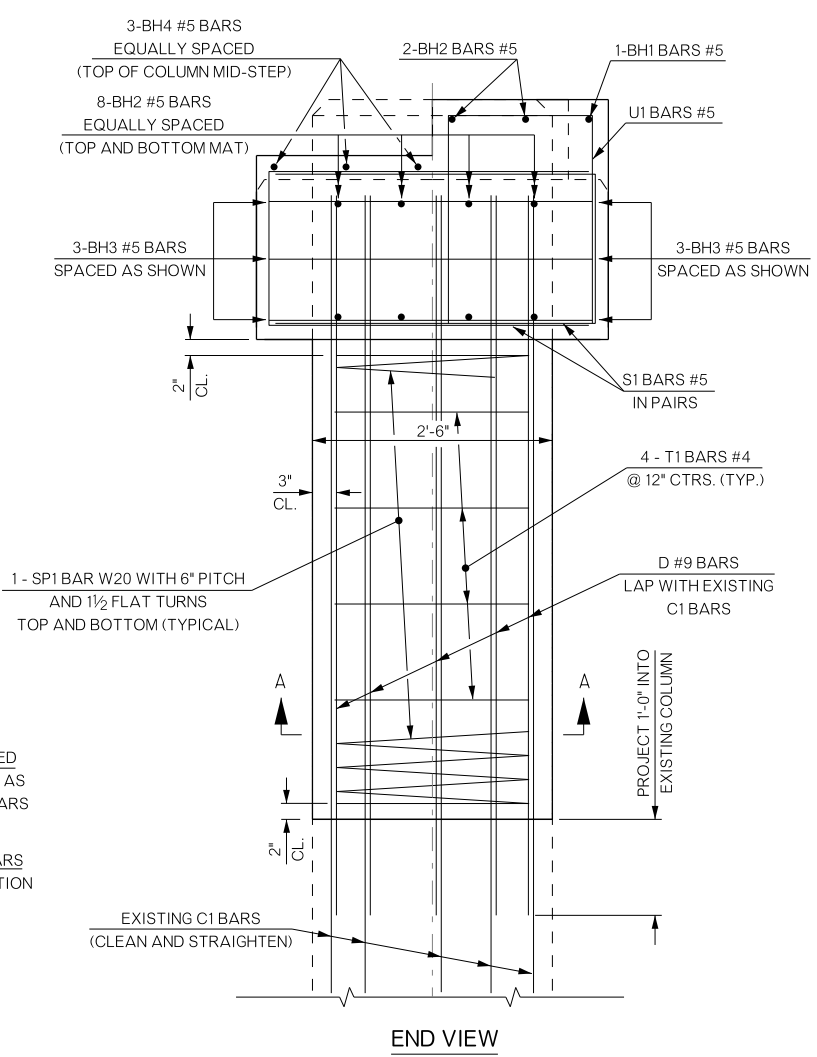
PLAN VIEW BOTTOM STEP REINFORCING



PIER BAR LIST ONE SHOWN (FOUR REQUIRED)				
MARK	NO.	SIZE	FORM	LENGTH
EPOXY COATED				
BH1	1	#5	STR.	5'-5"
BH2	10	#5	STR.	5'-8"
BH3	6	#5	STR.	9'-2"
BH4	3	#5	STR.	3'-8"
S1	10	#5	BNT.	8'-1"
U1	6	#5	BNT.	5'-6"
COLUMNS				
EPOXY COATED				
D1	8	#9	STR.	7'-4"
NON-EPOXY COATED				
SP1	1	W20	SPIRAL	77'-8"
T1	4	#4	BNT.	8'-4"



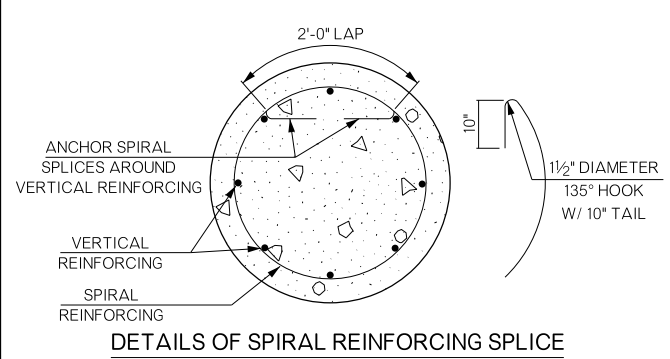
ELEVATION VIEW



END VIEW

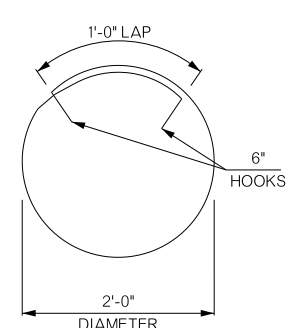
ALL CONCRETE COVER OVER REINFORCING SHALL BE 2" UNLESS OTHERWISE NOTED.

ALL EDGES OF NEW PIER CAP EXTENSION SHALL HAVE A 1 1/2" CHAMFER EXCEPT FOR PEDESTAL EDGES WHICH SHALL HAVE A 3/4" CHAMFER.

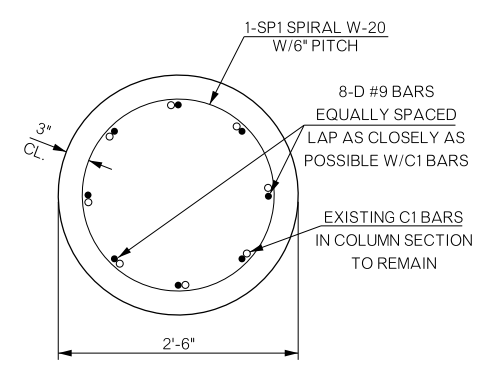


DETAILS OF SPIRAL REINFORCING SPLICE

NOTE: SPIRAL BARS SHALL CONFORM TO AASHTO M32. SPIRAL BAR LENGTH DOES NOT INCLUDE LAP. IF A LAP IS REQUIRED, THE LENGTH OF THE LAP SHALL BE AS SHOWN.



T1 #4 x 8'-4"

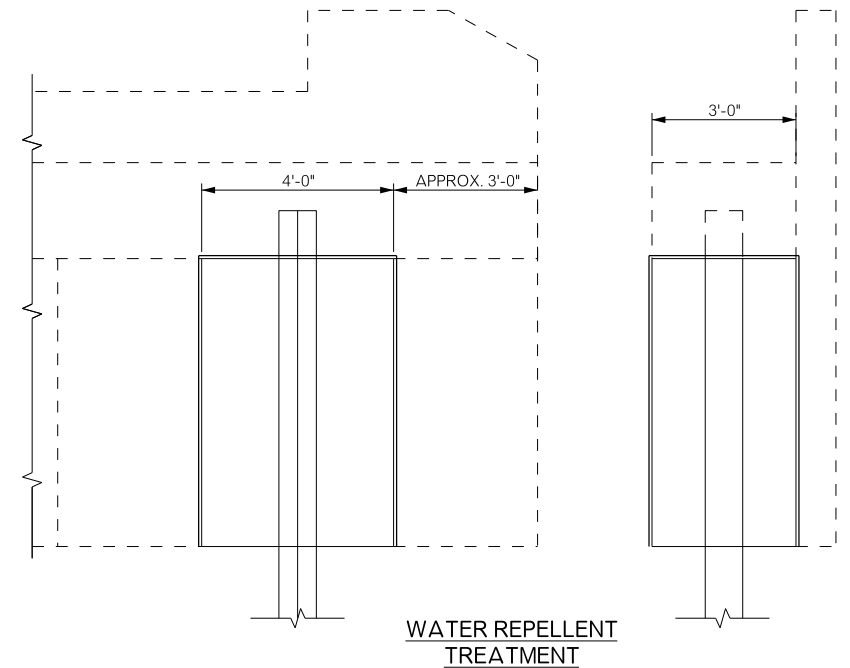
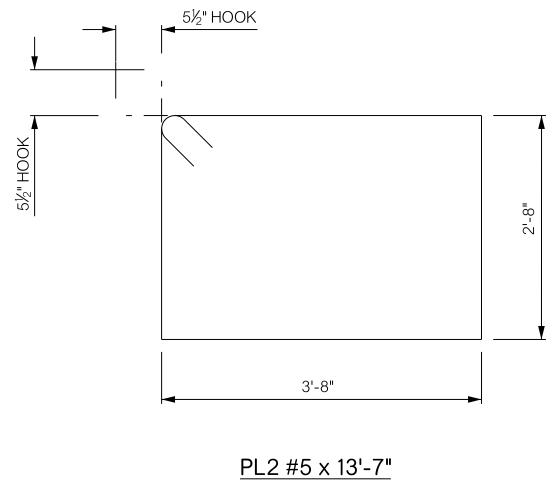
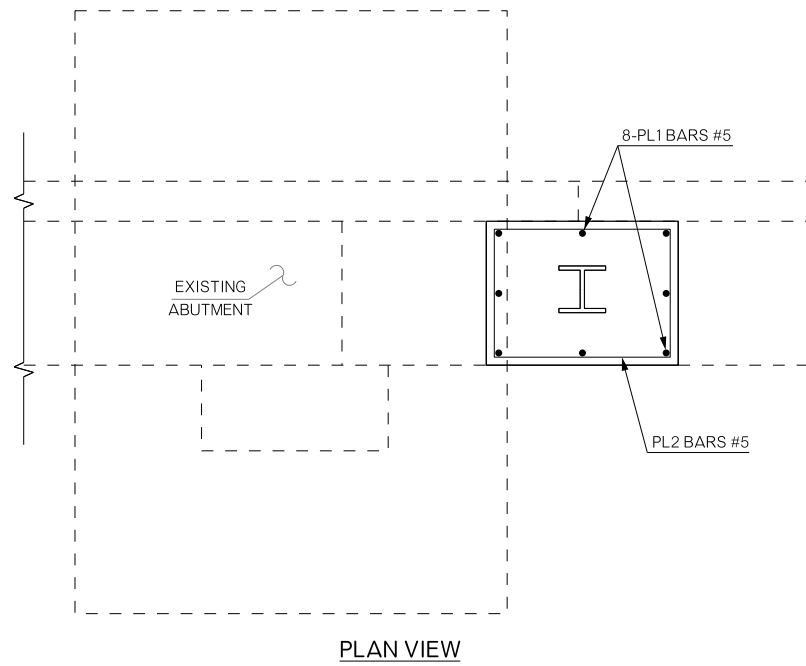


SECTION A-A

PIER QUANTITIES ONE SHOWN (FOUR REQUIRED)		
ITEM	UNIT	TOTAL
STAINLESS STEEL EXPANSION BEARING ASSEMBLY	EA.	2.00
CLASS A CONCRETE	C.Y.	2.30
REINFORCING STEEL	LB.	80.00
EPOXY COATED REINFORCING STEEL	LB.	460.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	25.00
CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	1.00

BRIDGE "A" SH-91 OVER SAND CREEK	BRYAN COUNTY	Design	N/A	N/A
COLUMN REPAIR REINFORCING		Detail	RAH	7/17
		Check	TEE	8/17
STATE OF OKLAHOMA		Squad	HENSLLEY	
DEPARTMENT OF TRANSPORTATION		Engr.	DEFRANCO	
JOB/PIECE NO. 32756(04)	SHEET NO. B003			

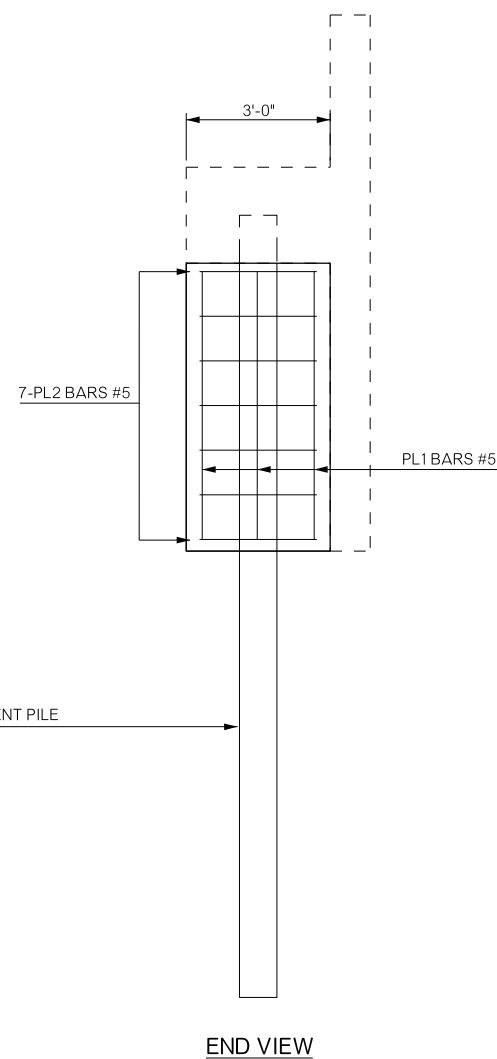
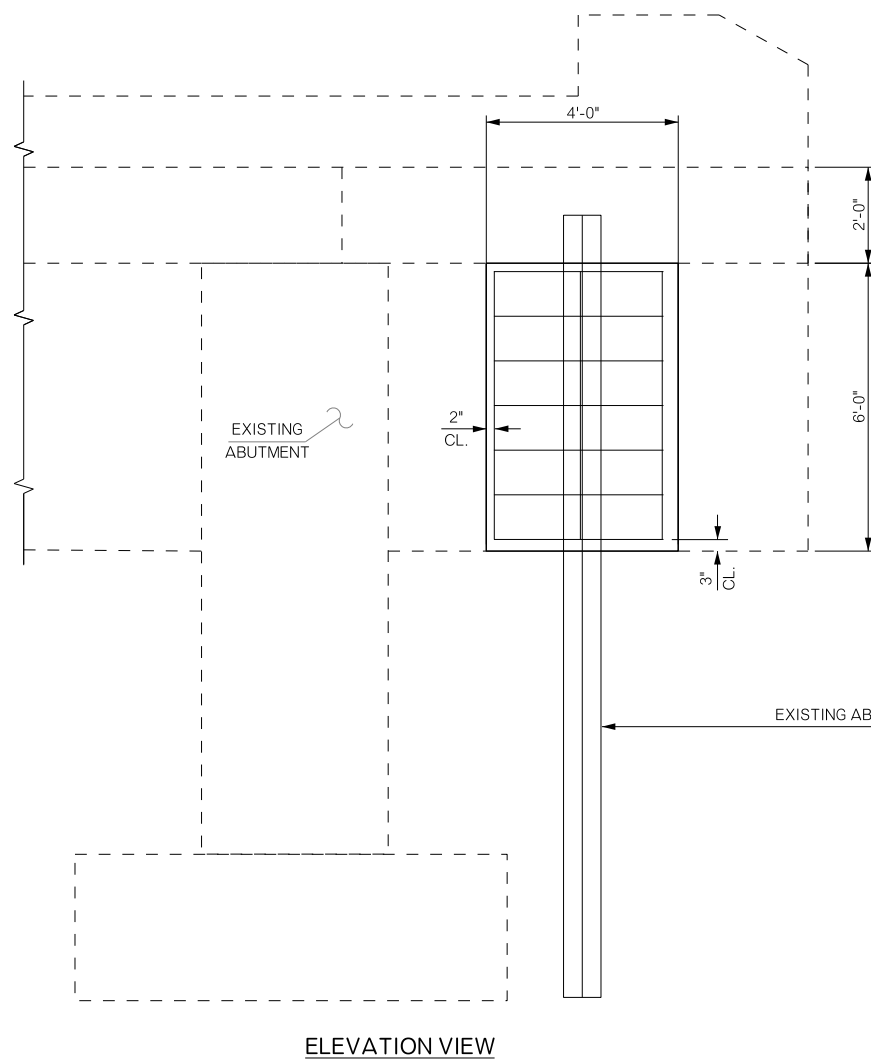
REVISIONS		
REV. NO.	DESCRIPTION	DATE



NOTE: A WATER REPELLENT TREATMENT SHALL BE APPLIED TO ALL NEW CONCRETE SURFACES OUTLINED IN HEAVY LINE. ALL EXPOSED SIDES OF THE NEW PILE ENCASEMENTS SHALL BE TREATED.

ALL CONCRETE COVER OVER REINFORCING SHALL BE 2" UNLESS OTHERWISE NOTED.

ALL EDGES OF THE NEW CONCRETE FOR PILE ENCASEMENT SHALL HAVE A 1/2" CHAMFER.



PILE BAR LIST ONE SHOWN (THREE REQUIRED)				
MARK	NO.	SIZE	FORM	LENGTH
EPOXY COATED				
PL1	8	#5	STR.	5'-7"
PL2	7	#5	BNT.	13'-7"

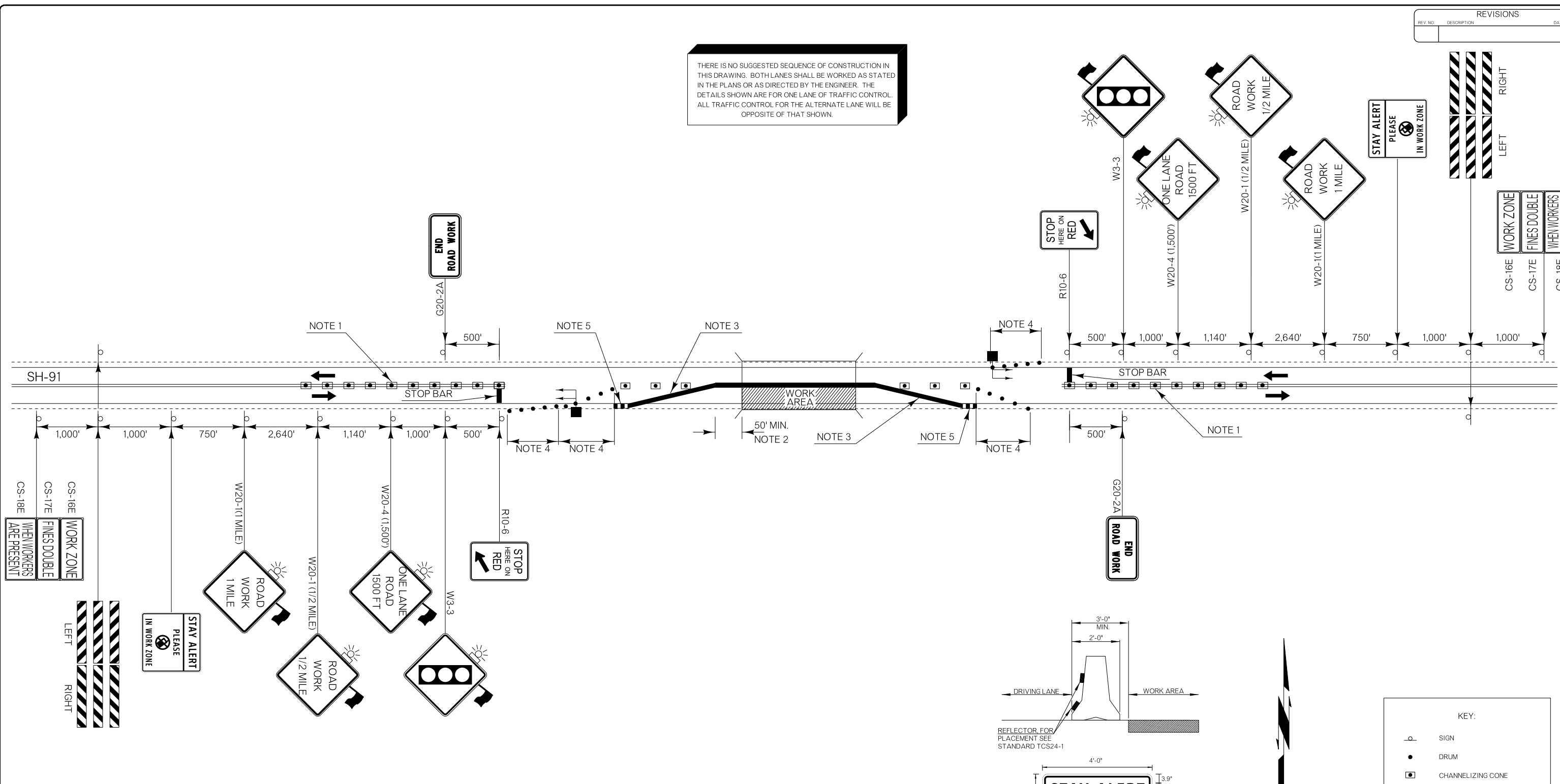
PIER QUANTITIES ONE SHOWN (THREE REQUIRED)		
ITEM	UNIT	TOTAL
CLASS A CONCRETE	C.Y.	2.70
EPOXY COATED REINFORCING STEEL	LB.	150.00
WATER REPELLENT (VISUALLY INSPECTED)	S.Y.	7.00
CORROSION INHIBITOR (SURFACE APPLIED)	S.Y.	4.00

BRIDGE "A" SH-91 OVER SAND CREEK	BRYAN COUNTY	Design	N/A	N/A
PILE ENCASEMENT DETAILS		Detail	RAH	7/17
		Check	TEE	8/17
STATE OF OKLAHOMA		Squad: HENSLEY	Engr: DEFRANCO	
DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO. 32756(04)		SHEET NO. B004



REVISIONS		
REV. NO.	DESCRIPTION	DATE

THERE IS NO SUGGESTED SEQUENCE OF CONSTRUCTION IN THIS DRAWING. BOTH LANES SHALL BE WORKED AS STATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THE DETAILS SHOWN ARE FOR ONE LANE OF TRAFFIC CONTROL. ALL TRAFFIC CONTROL FOR THE ALTERNATE LANE WILL BE OPPOSITE OF THAT SHOWN.



**NOTE 1**  
MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE TWICE THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 50 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 75 FEET FOR CHANNELIZER CONES. SPACING SHALL NOT EXCEED 100 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

**NOTE 2**  
A LONGITUDINAL BUFFER AREA, TO ALLOW WORKERS TIME TO EVACUATE THE WORK AREA, SHOULD BE PROVIDED. FOR GUIDELINES ON SETTING THE LENGTH OF THIS BUFFER, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION). ACTUAL LENGTH SHALL BE DETERMINED BY FIELD CONDITIONS AND THE JUDGEMENT OF THE ENGINEER.

**NOTE 3**  
FLARE RATE FOR CONCRETE MEDIAN BARRIER IN TEMPORARY TRAFFIC CONTROL ZONES

SPEED*	FLARE RATE (MINIMUM)
40 M.P.H.	9 TO 1
45 M.P.H.	10 TO 1
50 M.P.H.	11 TO 1
55 M.P.H.	12 TO 1
60 M.P.H.	13 TO 1
65 M.P.H.	14 TO 1
70 M.P.H.	15 TO 1
75 M.P.H.	16 TO 1

\*POSTED SPEED LIMIT PRIOR TO CONSTRUCTION

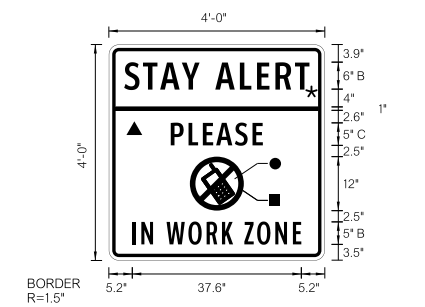
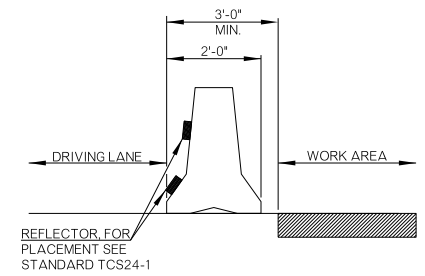
**NOTE 4**  
A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS AREA.

**NOTE 5**  
IF CLEAR ZONE CAN BE MET BY FLARING MEDIAN BARRIER THE CONSTRUCTION ZONE IMPACT ATTENUATORS MAY BE OMITTED. SEE FLARE RATE TABLE.

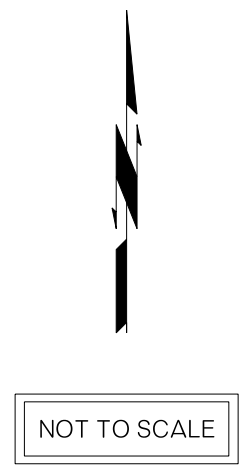
SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH PART IV OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. TEMPORARY TRAFFIC CONTROL SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC SIGNALS.

THE INSTALLATION AND TIMING OF SIGNALS SHALL BE APPROVED BY THE DIVISION TRAFFIC ENGINEER PRIOR TO SIGNALS BEING PLACED IN OPERATION.

ALL CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED. AFTER COMPLETION OF THE WORK, THE STOP LINES AND OTHER TEMPORARY INAPPLICABLE PAVEMENT MARKINGS SHALL BE REMOVED.



- BORDER  
R=1.5"  
TH=0.75"  
IN=0.75"
- COLOR:  
LEGEND, SYMBOL AND BORDER  
BLACK (NON-REFLECTORIZED)  
BACKGROUND:  
▲ FLUORESCENT ORANGE (REFLECTORIZED)  
★ FLUORESCENT YELLOW (REFLECTORIZED)  
● WHITE (REFLECTORIZED)  
■ RED (TRANSPARENT)

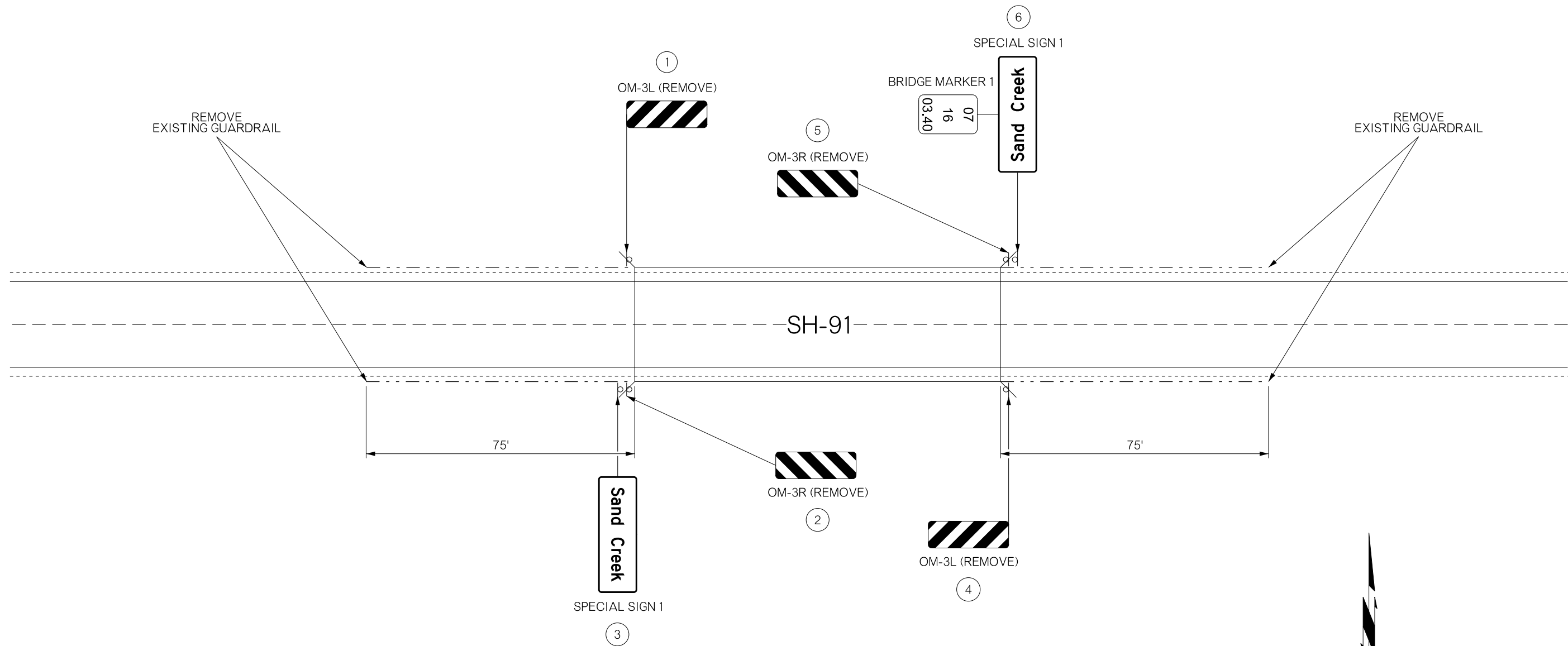


**KEY:**

○	SIGN
●	DRUM
◻	CHANNELIZING CONE
▨	WORK AREA
▬	CONST. ZONE IMPACT ATTEN.
▬	PORT. LONGITUDINAL BARRIER
▬	PORTABLE TRAFFIC SIGNAL

DIVISION 2 SH-91	BRYAN COUNTY	DETAIL:	CLD	04/17
TRAFFIC CONTROL DETAIL		CHECK:	GF	04/17
		ENGINEER:	KCD	04/17
STATE OF OKLAHOMA		GROUP:	ABRAHAM EM: MAAROUF	
DEPARTMENT OF TRANSPORTATION		JOB/PIECE NO.:	32756(04)	SHEET NO.:
				T001

REVISIONS		
REV. NO.	DESCRIPTION	DATE

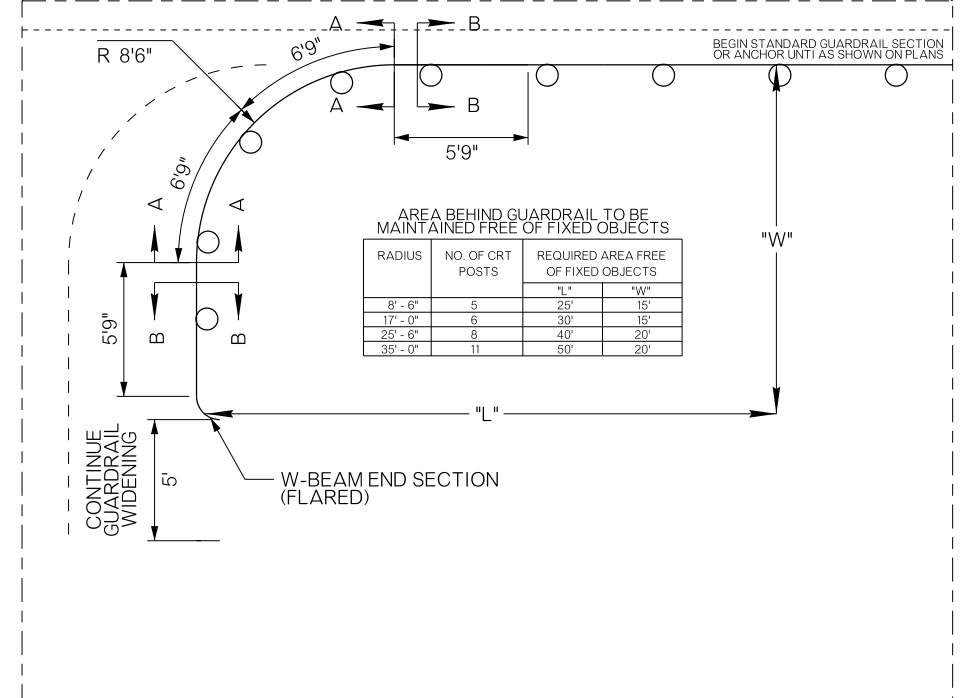
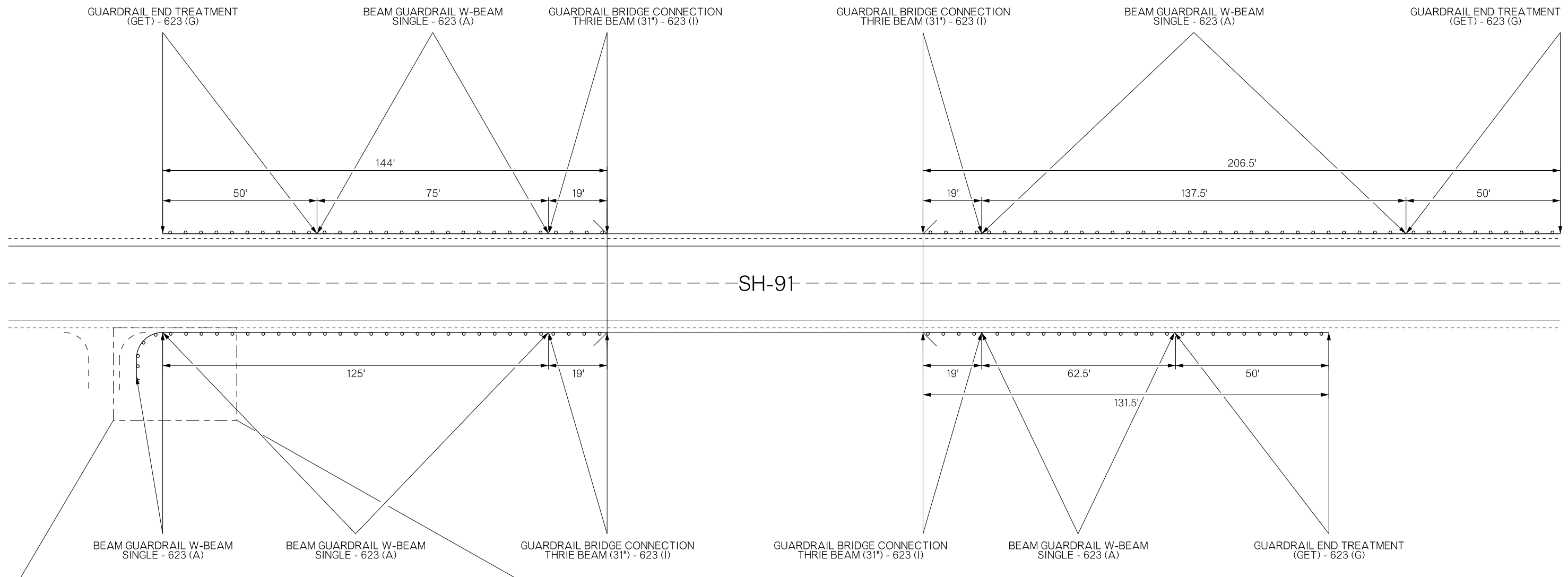


NOT TO SCALE

KEY	
	SIGN

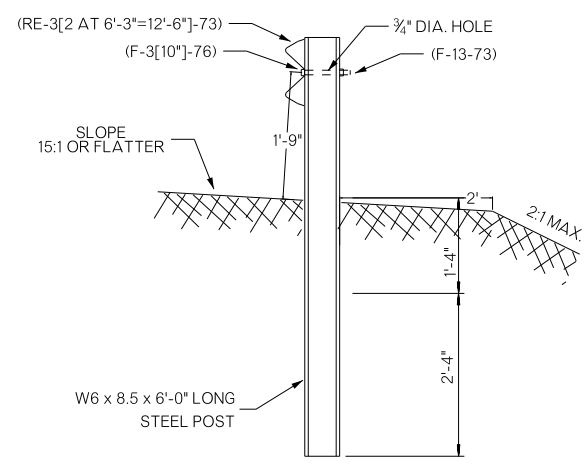
DIVISION 2 SH-91	BRYAN COUNTY	DETAIL: CLD 04/17
SIGNING AND REMOVAL		CHECK: GF 04/17
		ENGINEER: KCD 04/17
GROUP: ABRAHAM		EM: MAAROUF
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
JOB/PIECE NO. 32756(04)		SHEET NO. T002

REVISIONS		
REV. NO.	DESCRIPTION	DATE

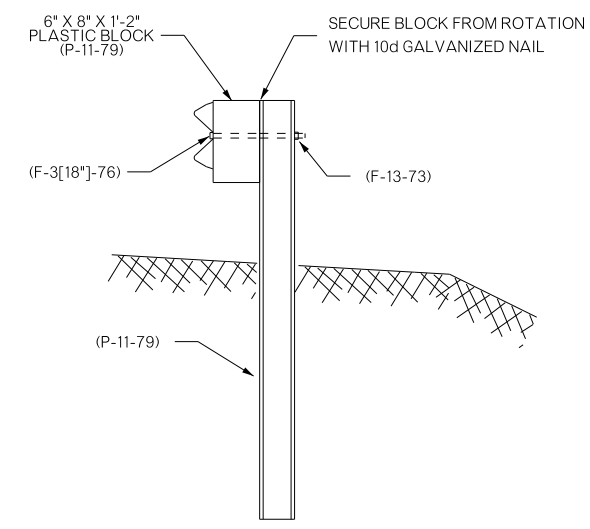


AREA BEHIND GUARDRAIL TO BE MAINTAINED FREE OF FIXED OBJECTS

RADIUS	NO. OF CRT POSTS	REQUIRED AREA FREE OF FIXED OBJECTS	
		"L"	"W"
8' - 6"	5	25'	15'
17' - 0"	6	30'	15'
25' - 6"	8	40'	20'
35' - 0"	11	50'	20'



SECTION A-A



SECTION B-B

- NOTES:
- DESIGNATIONS IN PARENTHESIS REFERENCE STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED HIGHWAY BARRIER RAIL HARDWARE" 1979, AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.
  - NO WASHERS ARE USED ON THE 5/8" BUTTON HEAD BOLTS (F-3[AS REQUIRED]-76) CONNECTING THE RAIL TO THE CONTROLLED RELEASING TERMINAL POSTS (CRT).
  - THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE NOSE AS SHOWN.
  - THE CURVED GUARDRAIL SECTION SHALL BE SHOP BENT.

NOT TO SCALE

DIVISION 2 SH-91	BRYAN COUNTY	DETAIL: CLD	04/17
GUARDRAIL LAYOUT		CHECK: GF	04/17
		ENGINEER: KCD	04/17
STATE OF OKLAHOMA		GROUP: ABRAHAM EM: MAAROUF	
DEPARTMENT OF TRANSPORTATION		JOBPIECE NO. 32756(04)	SHEET NO. T003