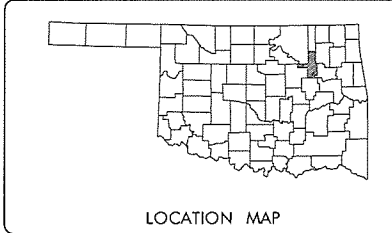


DESCRIPTION	REVISIONS	DATE

STATE OF OKLAHOMA
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED
STATE HIGHWAY
FEDERAL AID PROJECT NO. NHPP-272A(126)3B
STATE JOB NO. 31672(04)
TULSA COUNTY
JOINT SEAL AND REPAIR
(PREVENTIVE MAINTENANCE)
DIVISION EIGHT



LOCATION MAP

TRAFFIC DESIGN

PROJECT ENGINEER : JAMI SHORT
SQUAD SUPERVISOR : STEVE WILLIAMS

BRIDGE DESIGN

ENGINEERING MANAGER: MOHAMED ELYAZGI, PE SQUAD SUPERVISOR: KEVEN MAYFIELD
ENGINEER: MIKE CAO, PE ENGINEER: KATIE BROWN, PE ENGINEER INTERN: --
SQUAD MEMBERS: D.GODFORTH, J.LONSDALE, R.MEINERT, R. ADKINSON, A. GATLEY

MANDATORY TIE:
THIS PROJECT SHALL BE MANDATORILY TIED
WITH TULSA COUNTY JOB PIECE 32565(05)
AND SHALL BE BID ACCORDINGLY

INDEX OF SHEETS

NO.	TITLE
0001	TITLE SHEET
AB01	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET 1 OF 2)
AB02	GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE) (SHEET 2 OF 2)
ARR1	SUMMARY OF PAY QUANTITIES AND NOTES (RAILROAD)
AT01	SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC CONTROL)
B001	GENERAL PLAN AND TYPICAL CROSS SECTIONS - (BRIDGE "A")
B002	DETAILS OF APPROACHES - (BRIDGE "A")
B003	GENERAL PLAN AND TYPICAL CROSS SECTIONS - (BRIDGE "B")
B004	DETAILS OF APPROACHES - (BRIDGE "B")
B005	GENERAL PLAN AND TYPICAL CROSS SECTIONS - (BRIDGE "C")
B006	DETAILS OF APPROACHES - (BRIDGE "C")
T001	TRAFFIC CONTROL DETAIL BRIDGES "A" AND "B" US-169 OVER 51ST ST AND RR OUTSIDE LANES AND SHOULDER
T002	TRAFFIC CONTROL DETAIL BRIDGES "A" AND "B" US-169 OVER 51ST ST AND RR INSIDE LANES AND SHOULDER
T003	TRAFFIC CONTROL DETAIL BRIDGE "C" US-169 OVER 41ST ST NORTHBOUND OUTSIDE LANES AND SHOULDER
T004	TRAFFIC CONTROL DETAIL BRIDGE "C" US-169 OVER 41ST ST NORTHBOUND INSIDE LANES AND SHOULDER
T005	TRAFFIC CONTROL DETAIL BRIDGE "C" US-169 OVER 41ST ST SOUTHBOUND OUTSIDE LANES AND SHOULDER
T006	TRAFFIC CONTROL DETAIL BRIDGE "C" US-169 OVER 41ST ST SOUTHBOUND INSIDE LANES AND SHOULDER

STANDARD DRAWINGS

TRAFFIC		ROADWAY	
TCS1-1-01	TCS7-1-02	TCS15-1-00	PCPR-3-1
TCS2-1-00	TCS8-1-00	TCS18-1-01	
TCS3-1-01	TCS9-1-01	TCS19-1-01	
TCS4-1-01	TCS10-1-00	TCS20-1-00	
TCS5-1-00	TCS11-1-01	TCS24-1-02	
TCS6-1-02	TCS14-1-00	TCS25-1-00	

SCALE

PLAN 1" = 100'

PROFILE HOR. 1" = 100'

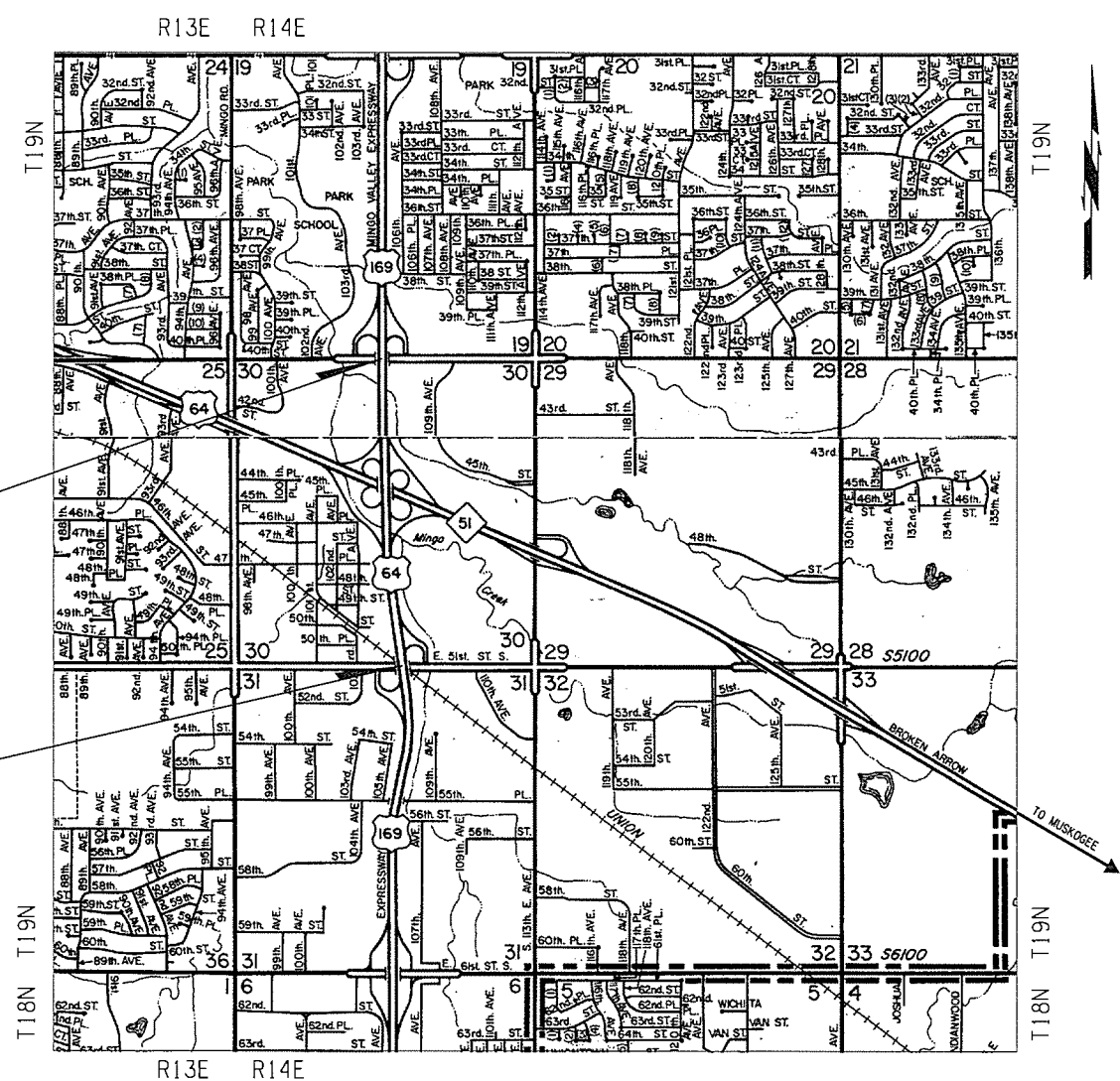
VER. 1" = 10'

LAYOUT MAP 1" = 2,640'

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.



BRIDGE "C" - LOCATION NO. 7283-0667 X
CONTROL SECTION NO. 169-72-83
NBI NO. 19240
FACILITY CARRIED: U.S. 169
FEATURE INTERSECTED: 41ST STREET
TOWNSHIP: T19N SECTION: 30 RANGE: R14E

BRIDGE "B" - LOCATION NO. 7283-0565 WX
CONTROL SECTION NO. 169-72-83
NBI NO. 19264
FACILITY CARRIED: U.S. 169
FEATURE INTERSECTED: 51ST STREET RR UNDER
TOWNSHIP: T19N SECTION: 31 RANGE: R14E

BRIDGE "A" - LOCATION NO. 7283-0565 EX
CONTROL SECTION NO. 169-72-83
NBI NO. 19263
FACILITY CARRIED: U.S. 169
FEATURE INTERSECTED: 51ST STREET RR UNDER
TOWNSHIP: T19N SECTION: 31 RANGE: R14E

P.E. NO. 31672(01)

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
BRIDGE DESIGN DIVISION
MOHAMED F. ELYAZGI, P.E.
MOHAMED F. ELYAZGI, P.E.
OKLA. REG. NO. 17542
DATE: 6/13/2016

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED _____	DATE APPROVED _____
BY _____ CHIEF ENGINEER	BY _____ DIVISION ADMINISTRATOR
PROJECT NO. NHPP-272A(126)3B	
SHEET NO. 1	

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:

All dimensions of the existing bridge components shown on the Plans are approximate. The Contractor shall verify all dimensions necessary to complete the work and shall be solely responsible for the accuracy thereof.
 Bidders shall fully inform themselves of the nature of the work and condition under which it will be performed. The Contractor shall adopt methods consistent with good construction practice and shall take all necessary precautions to prevent damage to the existing bridge or 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.
 Construction plans for the existing bridge structures may be obtained from the Reproduction Branch of the Oklahoma Department of Transportation. Ask for:

- Bridge "A" F.A.P. No. U-521(44) Structure D, US-169 over 51st Street South in Tulsa County.
- Bridge "B" F.A.P. No. U-521(44) Structure E, US-169 over 51st Street South in Tulsa County.
- Bridge "C" F.A.P. No. U-521(44) Structure F, US-169 over E 41st Street South in Tulsa County.

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 unless approved by the Engineer. The contractor shall make every effort to reopen these lane closures as soon as possible.

REMOVED MATERIAL:

All material and debris 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:

All bridge seats and pier caps shall be swept clean of all debris at the conclusion of work. All costs for cleaning the bridge seats and pier caps shall be included in other items of work.

CLEANING OF DECK DRAINS AND DRAINS AT END OF BRIDGE:

All parapet/rail openings, deck drains and drains at the ends of bridge shall be checked for functionality and cleaned of all debris as needed to ensure that water drains from the bridge normally. The method for cleaning the drains shall be approved by the Engineer and shall be paid for in other items of work.

EXCESS ASPHALT REMOVAL:

Any excess Asphalt lapping onto the bridge deck or at the joint(s) to be rehabilitated will need to be removed to allow for the seal coat to be placed. The method and extent of the removal shall be approved by the Engineer and the removal of excess material shall be done in a way that maintains the existing grade. Any asphalt removal shall be paid for in other items of work.

EXISTING LIGHTING AND ELECTRICAL:

Lights and electrical conduits on the bridge shall not be removed or disturbed. If any part is removed or damaged during construction, it shall be replaced in the original condition at the Contractor's expense, to the satisfaction of the Engineer.

SPECIAL BRIDGE NOTES

(1) REHABILITATED EXPANSION JOINT WITH PREFORMED SILICONE EXPANSION MATERIAL: (BRIDGES A, B & C)

Seal existing Expansion Joints as shown in the plans with Preformed Silicone Expansion Material in accordance with the Special Provisions 701-18(a-b)09 and 504-8(a-c)09.
 All costs including labor, equipment, material, and incidentals necessary to complete the work as shown in the plans shall be included in the unit price bid per Linear Foot of "SEALED EXPANSION JOINT".

(2) REHABILITATED CONSTRUCTION JOINT SAW AND SEAL: (BRIDGES A, B & C)

Seal existing Construction Joints as shown in the plans with Backer Rod and Rapid Cure Joint Sealant placed in accordance with Section 415 and Subsection 701.08G of the Standard Specifications for Highway Construction and as shown in the plans.
 All costs including labor, equipment, material, and incidentals necessary to complete the work as shown in the plans shall be included in the unit price bid per Linear Foot of "RAPID CURE JOINT SEALANT".

(3) FLOOD COATING TREATMENT: (BRIDGES A, B & C)

A flood coat deck seal shall be applied to the driving surface of the Bridge Deck, Approach Slabs, and the vertical face of the Parapet up to 1'-0" above the bridge deck at the bridge locations listed above. The Contractor must protect all traffic striping from the flood coat deck seal. Any traffic striping rendered ineffective or damaged during the flood coat seal application shall be replaced at the Contractor's expense to the satisfaction of the Engineer.
 The Contractor must prevent the flood coat deck seal from penetrating any joint that has been sealed with silicone. If flood coat deck seal penetrates any silicone joint the Contractor, at his own expense, will be required to:
 1) After bulk cure, remove all flood coat deck seal from these joints.
 2) Remove and replace the silicone joint sealant.
 The application of the flood coat shall be in accordance with Section 523.04E of the Standard Specification and shall be performed only after all other work is complete.
 All costs including labor, equipment, material, and incidentals necessary to complete the work described above and as shown in the plans shall be included in the unit price bid per square yard of "DECK AREA SEALED (FLOOD COATS)".

(4) SUBSTRUCTURE REPAIR WITH PNEUMATICALLY PLACED MORTAR: (BRIDGES A, B & C)

The pay item "Pneumatically Placed Mortar" consists of repairing the surface area of the Substructure.
 The actual extent of the repairs shall be determined in the field by the engineer. The repairs shall be in accordance with section 521 of the 2009 Oklahoma Standard Specifications for Highway Construction and in a manner approved by the engineer.
 The removal of deteriorated concrete shall be done using hand tools. Power tools will not be allowed unless hand tools prove incapable of excavating all deteriorated concrete to sound concrete and as approved by the engineer. Should power tools be necessary, power tools shall be of a size approved by the engineer such that their use does not cause damage to the sound concrete. Any damage done to the existing reinforcing steel during the removal process shall be repaired at the contractor's expense to the satisfaction of the engineer. Any deteriorated reinforcing steel with a section loss greater than 50%, as determined by the engineer, shall be reported to the bridge engineer for remedial action. Prior to mortar application, blast clean the concrete surface and reinforcing steel free of debris and corrosion. Apply Pneumatically Placed Mortar to replace deteriorated concrete. Build up mortar to match the original lines and grades of the substructure.
 The contractor may propose and use as an alternate one of the following repair methods:
 (1) Cast-In-Place Concrete
 (2) Pre-Placed Aggregate Concrete
 (3) Formed and Pumped Concrete and Mortar
 (4) Troweling and Dry-Packing of Repair Mortar
 The contractor shall submit a proposed work plan of the repair method to be used to the engineer for his approval. The work plan should include surface preparation methods, patching material, bonding agents, material placing methods, and finishing methods. The contractor shall test repair an area to verify the effectiveness of the proposed repair method prior to commencement of the work. Faulty repairs shall be replaced at the contractor's expense to the satisfaction of the engineer.
 All costs including labor, equipment, material, and incidentals necessary to complete the work described above shall be included in the price bid per square yard of "PNEUMATICALLY PLACED MORTAR".

(5) CLSM BACKFILL:

The pay item "CLSM backfill" consists of placing CLSM under the new approach slabs to build up damaged areas back up to existing subgrade levels as directed by the engineer for bridge "A" thru bridge "C". All costs including labor, materials, equipment and incidentals involved in the placement of the CLSM shall be included in the price bid per cubic yard of "CLSM BACKFILL".
 The pay item "CLSM backfill" also consists of placing CLSM into the voids under the abutment bridge seats and slopewalls as directed by the engineer for bridge "C". All costs including labor, materials, equipment and incidentals involved in the placement of the CLSM shall be included in the price bid per cubic yard of "CLSM BACKFILL".

(6) CLASS B BRIDGE DECK REPAIR: (BRIDGES A, B & C)

The pay item "Class B bridge deck repair" has been estimated to be used as directed by the engineer to repair any area of the deck requiring such repair. The location and extent of the deck repair shall be as shown in the plans or as determined in the field by the engineer. Payment for actual repairs shall be done in accordance with section 513.04D(2) and subsection 701.20 of the 2009 Oklahoma Standard Specifications for Highway Construction.
 Early strength concrete shall be used at no additional cost to ODOT.
 Remove all raised pavement markers and repair deck as required.
 All cost of repair including labor, equipment, material, and incidentals necessary to complete the work as described above shall be included in the price bid per square yard of "CLASS B BRIDGE DECK REPAIR".

(7) CLASS C BRIDGE DECK REPAIR: (BRIDGE A)

The pay item "Class C bridge deck repair" has been estimated to be used as directed by the engineer to repair any area of the deck requiring such repair. The location and extent of the deck repair shall be as shown in the plans or as determined in the field by the engineer. Payment for actual repairs shall be done in accordance with section 513.04D(3) and subsection 701.20 of the 2009 Oklahoma Standard Specifications for Highway Construction.
 Early strength concrete shall be used at no additional cost to ODOT.
 All cost of repair including labor, equipment, material, and incidentals necessary to complete the work as described above shall be included in the price bid per square yard of "CLASS C BRIDGE DECK REPAIR".

(8) CORROSION INHIBITOR: (BRIDGE A)

The work consists of treating concrete surfaces with a penetrating corrosion inhibitor. Before starting work, submit to the Engineer a work plan describing the treatment procedures to be used.
 Corrosion Inhibitor shall be applied to all areas receiving Class C Bridge Deck Repair, as directed by the Engineer.
 All costs for completing the work as specified including material, labor, and incidentals necessary to complete the work shall be included in the price bid per Square Yard of "CORROSION INHIBITOR".

(9) REPAIR BRIDGE ITEM (TYPE A): (BRIDGES A, B & C)

The Bearing Assemblies and Diaphragm Bolt Ends, located at the abutments and piers on bridges "A", "B" and "C" and have rusted. The Contractor is to clean and paint the rusted parts. The actual extent of the repair shall be determined in the field by the Engineer. The repairs shall be in accordance with Section 512.04(B) category E of the 2009 Oklahoma Standard Specifications for Highway Construction and in a manner approved by the Engineer.
 All costs for completing the work as specified including labor, materials and incidentals necessary to complete the cleaning, painting and collection and handling of waste shall be included in the unit bid price per Lump Sum of "REPAIR BRIDGE ITEM (TYPE 'A')".

▲ (11) REPLACE BRIDGE ITEM (TYPE A): (BRIDGES A, B & C)

The missing anchor bolts shall be replaced with new nuts, bolts and washers as directed by the Engineer. The bearing plates are to remain in place. If the existing anchor bolts have been sheared below the nuts, existing Anchor Bolts shall be cut flush with the top of the abutment, and new holes shall be drilled for replacement Anchor Bolts.
 All cost and doing the work as described above and in the plans including anchor bolts, nuts, washers, labor, materials, equipment, and incidentals shall be included in the price bid per Each of "REPLACE BRIDGE ITEM (TYPE A)".

(13) APPROACH SLAB: (BRIDGES A, B & C)

Class AA Concrete shall be used in the Approach Slabs. The quantity given is based on the actual square yards of the Approach Slabs.
 Early strength concrete shall be used at no additional cost to ODOT.
 All cost of labor, equipment, material, and incidentals necessary to complete the work as described above shall be included in the price bid per square yard of "APPROACH SLAB".

(15) REMOVAL OF BRIDGE ITEMS: (BRIDGES A, B & C)

The pay item "REMOVAL OF BRIDGE ITEMS" shall include the removal and disposal of all items to be removed from the existing bridges as specified or shown in the plans including any approach roadway pavement necessary for the installation of the new approach slabs and material excavated for the installation of the new approach slabs.
 All costs necessary to complete the work as specified or as shown in the plans including the cost of sawing, cutting, demolition, cleaning & straightening reinforcing steel, containment and removal of debris, materials, labor, equipment and incidentals shall be included in the price bid per Lump Sum of "REMOVAL OF BRIDGE ITEMS".

BRIDGES "A" THRU "C"		DIVISION 8		Design	N/A	N/A
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE, SHEET 1 OF 2)		Detail	RLA	6/15		
		Check	KMS	6/16		
		Spec: MAYFIELD				
		Eng. ELYAZGI				
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
		JOB PECE NO. 31672(04)		SHEET NLAB01		

REV. NO.	DESCRIPTION	DATE
△	Revise Pay Quantity	6/30/16
△	Revise Pay Quantity	7/1/16
△	Added Note & Pay Items	8/17/16

GENERAL NOTES

(14) MECHANICAL SPLICES: (BRIDGES A, B & C)

Mechanical Splices shall be used to connect the transverse reinforcing steel in the Approach Slabs as specified or as shown in the plans. The Mechanical Splices shall be Erico Lenton or an approved equal. The Mechanical Splices shall satisfy the requirements of Section 511.04 C of the Standard Specifications and shall be installed in accordance with the manufacturer's specifications. All cost of installing the Mechanical Splices including the cost of materials, labor, equipment and incidentals shall be included in the unit price bid per Each of "MECHANICAL SPLICES".

The lengths of reinforcing steel bars with Mechanical Splices shown in the Phase I construction bar lists include the length of the Mechanical Splice. The lengths of reinforcing steel bars to be engaged into Mechanical Splices shown in the Phase II construction bar lists do not include any additional length for engagement into the Mechanical Splices.

The actual Mechanical Splice engagement lengths shall be determined by the Mechanical Splice manufacturer, and the lengths of the reinforcing steel bars to be engaged into Mechanical Splices shall be adjusted accordingly. The cost to adjust the length of any reinforcing steel shown in the plans to accommodate the Mechanical Splices will not be measured for payment and shall be included in the unit price bid per Each of "MECHANICAL SPLICES".

(17) ANCHORAGE INTO EXISTING CONCRETE: (BRIDGES A, B & C)

The Contractor shall have the option of the methods by which the new anchor bolts shown in the plans are to be anchored into the concrete of the existing bridge. The method must be approved by the Engineer.

Drilling into the existing concrete to install the anchorage shall be accomplished without cutting existing concrete reinforcing steel bars. Prior to drilling, the Contractor shall locate and mark the existing concrete reinforcing steel bars with nondestructive tools, equipment and methods approved by the Engineer. If existing reinforcing steel bars are encountered during drilling, the drilling shall cease and the hole shall be grouted. The hole shall then be relocated to clear the existing reinforcing steel bars. Any adjustment in the locations of the new anchor bolts from the original locations shall be the minimum amount necessary to avoid cutting the existing concrete reinforcing steel bars and shall be approved by the Engineer.

All cost to anchor the new anchor bolts into the existing bridge as specified or shown in the plans including the cost of locating existing concrete reinforcing steel bars, drilling, repairing flawed drill holes, anchoring into the existing concrete, materials, labor, equipment and incidentals shall be included in other items of work.

△ (18) ROADWAY PAVEMENT AND PATCHING: (BRIDGE A & C)

This item to be used as directed by the Engineer to maintain traffic during construction, and to provide a smooth transition from the existing roadway to the approach slab. Cost of these items include sawing and removal of the existing pavement. The Existing Concrete Pavement is estimated at 10 inches.

(10) REPAIR BRIDGE ITEM (TYPE B): (BRIDGE C)

The median barriers between Northbound and Southbound lanes contain approximately 0.20 Square Yards of damaged and missing concrete that shall be repaired with Pneumatically Placed Mortar. The actual extent of the repairs shall be determined in the field by the Engineer.

The removal of deteriorated concrete shall be done using hand tools. Power tools will not be allowed unless hand tools prove incapable of excavating all deteriorated concrete to sound concrete and approved by the Engineer. Should power tools be necessary, power tools shall be of such size approved by the Engineer such that their use does not cause damage to the sound concrete.

Any damage done to the existing reinforcing steel during the removal process shall be repaired at the Contractor's expense to the satisfaction of the Engineer. Any deteriorated reinforcing steel with a section loss greater than 50%, as determined by the Engineer, shall be reported to the Bridge Engineer for remedial action.

Prior to mortar application, blast clean the concrete surface and reinforcing steel until free of debris and corrosion. Apply Pneumatically Placed Mortar to replace deteriorated concrete. Build up mortar to match the original lines and faces of the surrounding parapets.

The Contractor shall submit a proposed work plan of the repair method to be used to the Engineer for his approval. The work plan should include surface preparation methods, bonding agents, material placing methods, and finishing methods. The Contractor shall test repair on an area to verify the effectiveness of the proposed repair method prior to commencement of the work. Faulty repairs shall be replaced at the Contractor's expense and to the satisfaction of the Engineer.

All costs including labor, equipment, materials, and incidentals necessary to complete the work described above shall be included in the price bid per Square Yard of "BRIDGE REPAIR (TYPE B)".

ENVIRONMENTAL MITIGATION NOTES

MIGRATORY BIRD TREATY ACT:

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 all the bridges within the project 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 will 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 pre-approved by the ODOT Biologist.

AIRPORT:

The following Airport/Airfield is located within 4 miles of this project: Harvey Young Airport. This action may require notifying the Federal Aviation Administration (FAA) of proposed construction via FAA Form 7460-1 prior to construction.

31672(04) PAY QUANTITIES				
0200 BRIDGE "A"				
ITEM	DESCRIPTION	UNIT	QUANTITY	
411(D)	6310 SUPERPAVE, TYPE S4(PATCH)(PG64-220K)	(18) TON	100.00	
414(E)	0225 FULL DEPTH P.C. CONCRETE PATCHING (PLACEMENT ONLY) (18)	S.Y.	400.00	
414(G)	5275 P.C. CONCRETE FOR PAVEMENT (18)	C.Y.	100.00	
501(G)	6309 CLSM BACKFILL (BR-2) (5)	C.Y.	2.00	
504(A)	1304 APPROACH SLAB (BR-1)(13)	S.Y.	400.00	
504(B)	1305 SAW-CUT GROOVING (BR-1)	S.Y.	380.00	
504(C)	6250 SEALED EXPANSION JOINT (BR-1) (1)	L.F.	132.30	
504(G)	6390 RAPID CURE JOINT SEALANT (BR-1) (2)	L.F.	721.40	
511	6306 MECHANICAL SPLICES (BR-1)(14)	EA.	156.00	
513(B)	6019 CLASS B BRIDGE DECK REPAIR (6)	S.Y.	10.00	
513(C)	6020 CLASS C BRIDGE DECK REPAIR (7)	S.Y.	10.00	
521(A)	6210 PNEUMATICALLY PLACED MORTAR (4)	S.Y.	40.00	
523(C)	6570 DECK AREA SEALED (FLOODCOATS) (BR-1) (3)	S.Y.	3071.00	
525(A)	0100 (SP) NEST PREVENTION - NETTING	LSUM	1.00	
535	6130 (SP) CORROSION INHIBITOR (SURFACE APPLIED) (8)	S.Y.	10.00	
540	4510 (PL) REPAIR BRIDGE ITEM (TYPE A) (9)	LSUM	1.00	
545	4815 (PL) REPLACE BRIDGE ITEM (TYPE A) (BR-1) (11)(17)	EA.	3.00	
619(B)	2500 REMOVAL OF BRIDGE ITEMS (15)	LSUM	1.00	

- BR-1: Payment for this item will be based on the plan quantity only. See Section 109.01(b) of the Standard Specifications.
- BR-2: To be used at the discretion of the Engineer and as noted in the plans for filling voids under Abutments, Slope Walls, and the new Approach Slabs

31672(04) PAY QUANTITIES				
0201 BRIDGE "B"				
ITEM	DESCRIPTION	UNIT	QUANTITY	
501(G)	6309 CLSM BACKFILL (BR-2) (5)	C.Y.	2.00	
504(A)	1304 APPROACH SLAB (BR-1) (13)	S.Y.	400.00	
504(B)	1305 SAW-CUT GROOVING (BR-1)	S.Y.	380.00	
504(C)	6250 SEALED EXPANSION JOINT (BR-1) (1)	L.F.	132.30	
504(G)	6390 RAPID CURE JOINT SEALANT (BR-1) (2)	L.F.	721.40	
511	6306 MECHANICAL SPLICES (BR-1) (14)	EA.	156.00	
513(B)	6019 CLASS B BRIDGE DECK REPAIR (6)	S.Y.	10.00	
521(A)	6210 PNEUMATICALLY PLACED MORTAR (4)	S.Y.	40.00	
523(C)	6570 DECK AREA SEALED (FLOODCOATS) (BR-1) (3)	S.Y.	3071.00	
525(A)	0100 (SP) NEST PREVENTION - NETTING	LSUM	1.00	
540	4510 (PL) REPAIR BRIDGE ITEM (TYPE A) (9)	LSUM	1.00	
545	4815 (PL) REPLACE BRIDGE ITEM (TYPE A) (BR-1) (11)(17)	EA.	4.00	
619(B)	2500 REMOVAL OF BRIDGE ITEMS (15)	LSUM	1.00	

31672(04) PAY QUANTITIES				
0202 BRIDGE "C"				
ITEM	DESCRIPTION	UNIT	QUANTITY	
414(E)	0225 FULL DEPTH P.C. CONCRETE PATCHING (PLACEMENT ONLY) (18)	S.Y.	600.00	
414(G)	5275 P.C. CONCRETE FOR PAVEMENT (18)	C.Y.	100.00	
501(G)	6309 CLSM BACKFILL (BR-2) (5)	C.Y.	6.00	
504(A)	1304 APPROACH SLAB (BR-1) (13)	S.Y.	832.40	
504(B)	1305 SAW-CUT GROOVING (BR-1)	S.Y.	748.00	
504(C)	6250 SEALED EXPANSION JOINT (BR-1) (1)	L.F.	130.90	
504(G)	6390 RAPID CURE JOINT SEALANT (BR-1) (2)	L.F.	370.90	
511	6306 MECHANICAL SPLICES (BR-1) (14)	EA.	620.00	
513(B)	6019 CLASS B BRIDGE DECK REPAIR (6)	S.Y.	10.00	
521(A)	6210 PNEUMATICALLY PLACED MORTAR (4)	S.Y.	40.00	
523(C)	6570 DECK AREA SEALED (FLOODCOATS) (BR-1) (3)	S.Y.	3598.00	
525(A)	0100 (SP) NEST PREVENTION - NETTING	LSUM	1.00	
540	4510 (PL) REPAIR BRIDGE ITEM (TYPE A) (9)	LSUM	1.00	
540	4520 (PL) REPAIR BRIDGE ITEM (TYPE B) (10)	LSUM	1.00	
545	4815 (PL) REPLACE BRIDGE ITEM (TYPE A) (BR-1) (11)(17)	EA.	4.00	
619(B)	2500 REMOVAL OF BRIDGE ITEMS (15)	LSUM	1.00	

0640 CONSTRUCTION PAY QUANTITIES			
ITEM	DESCRIPTION	UNIT	QUANTITY
641	1399 MOBILIZATION	LSUM	1.00

MOBILIZATION:
THIS PROJECT IS MANDATORILY TIED WITH TULSA COUNTY JOB PIECE 32565(05).
THE BID PER LUMP SUM OF "MOBILIZATION" FOR THIS PROJECT SHALL INCLUDE THE COSTS FOR MOBILIZATION FOR PROJECTS 31672(04) AND 32565(05).

BRIDGES "A" THRU "C"		DIVISION 8	Design	N/A	N/A
GENERAL NOTES AND SUMMARY OF PAY QUANTITIES (BRIDGE, SHEET 2 OF 2)		Detail	RLA	5/16	
		Check	KMS	6/16	
		Specialist	MAYFIELD		
		Engineer	ELYAZGI		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB PIECE NO. 31672(04)	
				SHEET MLAB02	

REV. NO.	DESCRIPTION	REVISIONS	DATE
1	Remove Quantity Box		6/30/16

UNION PACIFIC RAILROAD COMPANY NOTES

NOTIFICATION OF WORK:

The contractor is required to give the Union Pacific Railroad Company at least 10 working days advance notice in writing, before any work is started on the site. To avoid hazards, the Union Pacific Railroad Company may have a representative present, if deemed necessary, for the purpose of inspection and the issuance of any appropriate instructions for railroad operations during the bridge rehabilitation on US-169 in Tulsa, Tulsa County as it relates to the Union Pacific Railroad Company's property. (AARDOT No. 413 280W, Milepost 286.80, Tulsa Subdivision)

The contractor shall notify:

Mr. Ryan McDermott
 Manager of Track Maintenance
 Union Pacific Railroad Company
 2827 Ray Dr.
 Denison, TX 75020
 Office Phone: 903-415-2485
 Email: rlmcderm@up.com

Mr. Clay A. McManaman
 Manager Public Projects
 Union Pacific Railroad Company
 P.O. Box 1337
 El Reno, OK 73036
 Phone: 501-373-2927

FLAGGING AND INSURANCE:

Flagging and insurance shall be provided as specified in Section 107 of the Standard Specifications and in the Special Provisions for RAILROAD FLAGGING (See Proposal for Special Provisions) and what is stated in the Union Pacific Railroad Company's Right of Entry Agreement. Union Pacific Railroad Company, at their discretion, shall provide flagging for the railroad during construction operations.

The contractor is required to reimburse Union Pacific Railroad Company for flagging services provided.

The contractor shall also furnish satisfactory evidence to the State of Oklahoma that they have provided insurance of the kinds and amounts as specified in the Special Provisions for RAILROAD INSURANCE and in the Union Pacific Railroad Company's Right of Entry Agreement.

The contractor will be required to enter into a Right of Entry Agreement with the Union Pacific Railroad Company before they will be allowed on the railroad's right-of-way.

PRE-WORK MEETING:

Prior to working on the Union Pacific Railroad Company's right-of-way or in the vicinity of their tracks, you must contact the local Manager of Track Maintenance for the Union Pacific Railroad Company to coordinate your work. It is vital that you have contact with the Union Pacific Railroad Company Manager of Track Maintenance prior to getting on the railroad's property.

COORDINATION WITH RAILROAD:

The contractor shall conduct construction operations in a manner which will not delay or interfere with train operations. Construction activity within 25 (twenty-five) feet of active tracks will require a flagman to be provided by the Union Pacific Railroad Company at the contractor's expense.

The contractor shall give written notice to the Union Pacific Railroad Company Manager of Track Maintenance, a minimum of 30 (thirty) calendar days in advance of when flagging is required.

Special permission must be obtained from the Union Pacific Railroad Company before moving any equipment or other object which could make the track impassable if it fell within the area shown on the construction clearance diagram.

Railroad flaggers, protective services, and protective devices will be required, but not limited to, events when:

- The contractor work activities are within 25 (twenty-five) feet of the track, measured from the track centerline.
- Activities are over or under the track.
- Cranes or similar equipment will not be positioned where they could foul the track if they tipped over or experienced some other catastrophic event.
- In the opinion of the Union Pacific Railroad Company Representative:
 - It is necessary to safeguard the Union Pacific Railroad Company property, employees, trains, engines, and facilities.
 - When any excavation is performed below the bottom of the elevations and track or other Union Pacific Railroad Company facilities may be subject to movement or settlement.
 - When work in any way interferes with safe operation of trains and timetable speeds.
 - When any hazard is presented to railroad track, signals, communications, electrical, or other facilities either due to person, material, equipment, or blasting in the area.

PROTECTION OF RAILROAD UNDER BRIDGE

The contractor shall be responsible for protecting the railroad track bed during all construction operations. Prior to any work being started, a proposed method of preventing debris from falling on the railroad track bed shall be submitted to the railroad representative for his approval.

The contractor shall not be permitted to leave any worker scaffolding in place in working position. At the end of each workday, the scaffolding shall be removed and set a safe distance from any operating railroad line. Scaffolding shall at all times maintain the minimum clearance as shown on the "UPRR Falsework Clearance Diagram" on the plans (Sheet No. B001 and B003).

DEMOLITION OF STRUCTURES OVER RAILROAD:

All demolition plans for removal of structures over railroad lines shall be reviewed and approved by the Union Pacific Railroad Company before any removal may begin.

Demolition of structures will be performed in accordance with the Railroad's "Instructions for Preparation of Demolition Plans for Structures Over the Union Pacific Railroad."

UNION PACIFIC RAILROAD COMPANY STANDARD REQUIREMENTS:

- 1) The elevation of the existing top-of-rail shall not be verified before beginning construction. All discrepancies shall be brought to the attention of the Railroad prior to construction.
- 2) All shoring systems that impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.
- 3) All demolitions within the Railroad's right-of-way and/or demolition that may impact the Railroad's tracks or operations shall be in compliance with the Railroad's Demolition Guidelines.
- 4) Erection over the Railroad's right-of-way shall be designed to cause no interruption to the Railroad's operation, enabling the track(s) to remain open to traffic per the Railroad's requirements.
- 5) Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment.
- 6) All permanent clearances shall be verified before project closing.
- 7) Falsework clearances shall comply with minimum construction clearances.

EROSION CONTROL AND DRAINAGE

The contractor must submit a proposed method of erosion and sediment control and have the method approved by the Railroad. The contractor will install, maintain, and remove all erosion control measures deemed necessary within the railroad right of way.

The proposed grade separation project shall not increase the quantity and/or characteristics of the flow in the Railroad's ditches and/or drainage structures. The contractor will maintain the railroad drainage at all times when working within the railroad right of way.

RAIL TRAFFIC:

The Union Pacific Railroad Company has 2 trains per day at 40 MPH on the Tulsa Subdivision. Rail traffic is for information purposes only. Actual rail traffic may vary.



BRIDGES "A" AND "B"		DIVISION 8		Design	N/A	N/A	
				Detail	RLA	6/16	
				Check	KMS	6/16	
				Squad	MAYFIELD		
				Engr.	ELYAZGI		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				SHEET NO. ARR 1	
JOB PECE NO.		31672(04)					

SUMMARY OF PAY QUANTITIES AND NOTES (RAILROAD)

REV. NO.	DESCRIPTION	REVISIONS	DATE

TRAFFIC GENERAL CONSTRUCTION NOTES

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

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING TRAFFIC ON CROSS STREETS. A MINIMUM OF ONE LANE SHALL BE MAINTAINED AT ALL TIMES. SEE STANDARD SPECIFICATIONS AND DRAWINGS FOR MAINTENANCE OF LOCAL AND THROUGH TRAFFIC.

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

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

ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL MEET ODOT'S "QUALITY STANDARDS FOR TEMPORARY TRAFFIC CONTROL DEVICES"

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 (OTEA) AS TRAFFIC CONTROL TECHNICIAN OR TRAFFIC CONTROL SUPERVISOR.

SPECIAL PAY QUANTITY NOTES

- (SP-1) PORTABLE CHANGEABLE MESSAGE SIGN TO BE PLACED WHERE DEEMED NECESSARY BY THE ENGINEER.
- (SP-2) TYPE 'C' WARNING LIGHTS ARE NOT REQUIRED.
- (SP-3) NO PAYMENT WILL BE MADE FOR MOVING THE PORTABLE LONGITUDINAL BARRIER TO AND FROM THE SHOULDER IN ORDER TO MEET THE REQUIREMENTS OF SECTION 108.12 LANE RENTAL
- (SP-4) CHANGEABLE MESSAGE SIGNS SHALL BE PLACED ON THE PROJECT 14 DAYS IN ADVANCE OF THE START DATE.
- (SP-5) REMOVE THE EXISTING TRAFFIC STRIPES ON THE BRIDGES AND APPROACHES PRIOR TO FLOODCOATING. THE NEW TRAFFIC STRIPES FOR BRIDGES AND APPROACHES SHALL BE APPLIED AFTER FLOODCOATING. ALL COSTS OF REMOVING TRAFFIC STRIPES, EQUIPMENT, MATERIAL, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE INCLUDED IN THE PRICE BID PER L.F. TRAFFIC STRIPE(MULTI-POLYMER)6" WIDE).
- (SP-6) QUANTITY SHOWN INCLUDED 1,500 LF TRAFFIC STRIPE (MULTI-POLYMER)(WHITE) AND 1,300 LF TRAFFIC STRIPE (MULTI-POLYMER)(YELLOW) AND 200 LF TRAFFIC STRIPE (MULTI-POLYMER)(BLACK) AND WILL ALL BE MEASURED BY THE LINEAR FOOT OF SIX (6") WIDE TRAFFIC STRIPE.

TRAFFIC CONSTRUCTION PAY QUANTITY NOTES

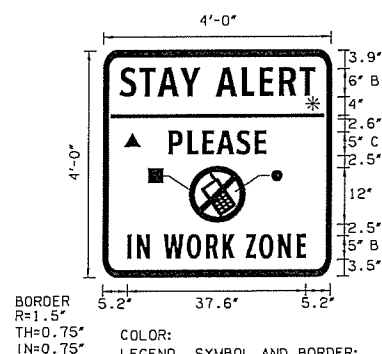
- (TC-1) THE CONTRACTOR SHALL FURNISH AND INSTALL SUCH LIGHTS, SIGNS, BARRICADES, AND PROVIDE FLAGGERS NECESSARY FOR THE CONTROL, SAFETY, AND MAINTENANCE OF TRAFFIC WHEN INSTALLING, RELOCATING OR DELIVERING PRECAST CONCRETE MEDIAN BARRIER.
- (TC-2) QUANTITY INCLUDES SUFFICIENT LENGTH OF MEDIAN BARRIER TO PROVIDE FOR THE LONGEST SECTION SHOWN ON THE PLANS. THIS SAME BARRIER WILL BE USED ON OTHER DETOUR PHASES.
- (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 16.00 S.F. AND 32.99 S.F. ALSO INCLUDED IN THIS ITEM SHALL BE THE COST OF INSTALLATION, MAINTENANCE, AND REMOVAL OF THESE SIGNS.
- (TC-33) ALL CONSTRUCTION WORK ZONE SIGNS AND CHANNELIZING DEVICES SHALL HAVE FLUORESCENT SHEETING. THE FLUORESCENT SHEETING SHALL MEET ALL REQUIREMENTS OF ASTM D4956 (LASTEST REVISION.) THE MANUFACTURER SHALL FURNISH A TYPE 'D' CERTIFICATION IN ACCORDANCE WITH ODOT STANDARD SPECIFICATIONS, (CURRENT EDITION), SUBSECTION 106.04. THE CERTIFICATION SHALL INCLUDE TEST RESULTS ON MATERIAL SUBMITTED FOR APPROVAL.
- (TC-52) ANY USED CHANGEABLE MESSAGE SIGN OR 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-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) 75 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 ODOT 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 COPY OF THE APPROVED SIGN LIST GO TO www.okladot.state.ok.us/traffic/qpl/index.php

PAY QUANTITIES				
0300 TRAFFIC CONTROL				
ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
104	0955	(SP) RAILROAD FLAGGING (NON-BIDDABLE)	DAY	30.00
871(B)	8705	(SP) CONST.ZONE IMPACT ATTENUATOR (TC-52, 70, 80)	SD	150.00
877(B)	8484	DELIVER PORTABLE LONGITUDINAL BARRIER (SP-3)(TC-1, 2)	LF	1,450.00
877(C)	8486	RELOCATION OF PORTABLE LONGITUDINAL BARRIER (SP-3)(TC-1)	LF	1,300.00
880(A)	8812	ARROW DISPLAY (TYPE C) (TC-70)	SD	300.00
880(B)	8818	CONSTRUCTION SIGNS 0 TO 6.25 SF (TC-26, 33, 84)	SD	3,600.00
880(B)	8821	CONSTRUCTION SIGNS 6.26 SF TO 15.99 SF (TC-26, 33, 84)	SD	5,850.00
880(B)	8824	CONSTRUCTION SIGNS 16.0 SF TO 32.99 SF (TC-26, 30, 33, 84)	SD	4,500.00
880(C)	8842	CONSTRUCTION BARRICADES (TYPE III) (TC-26, 84)	SD	1,800.00
880(C)	8848	WING BARRICADES (TC-26, 84)	SD	300.00
880(E)	8860	WARNING LIGHTS (TYPE A) (TC-26, 84)	SD	4,200.00
880(F)	8878	ORUMS (SP-2)(TC-26, 84)	SD	8,925.00
880(G)	8890	CHANNELIZER CONES (TC-26, 84)	SD	3,900.00
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (SP-1, 4)(TC-52, 70, 85)	SD	178.00
PAY QUANTITIES				
0301 TRAFFIC SIGNING & STRIPING				
ITEM NO.	CODE NO.	DESCRIPTION	UNIT	QUANTITY
856(A)	8535	TRAFFIC STRIPE(MULTI-POLYMER)6" WIDE (SP-5, 6)	LF	3,000.00

THE PAY QUANTITIES ARE BASED ON THE LARGEST TRAFFIC CONTROL SET UP. NOT ALL TRAFFIC CONTROL WILL BE SET UP AT THE SAME TIME.

SPECIAL SIGN



- 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 (NON-REFLECTORIZED)

PREPARED BY:
OKLAHOMA DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING DIVISION
Jami L. Short
DATE: 6/14/2016

DOT

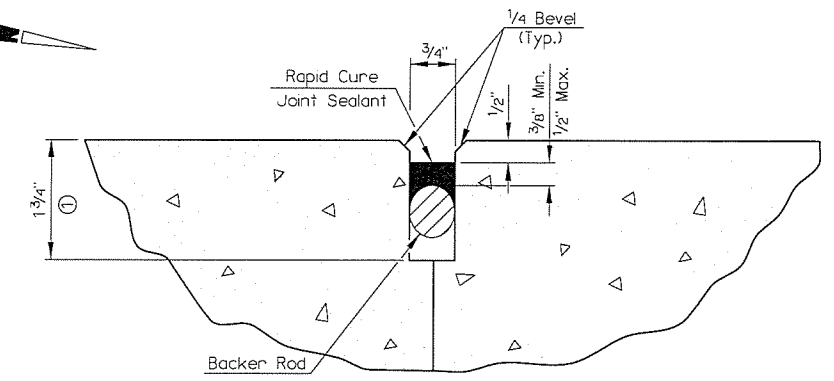
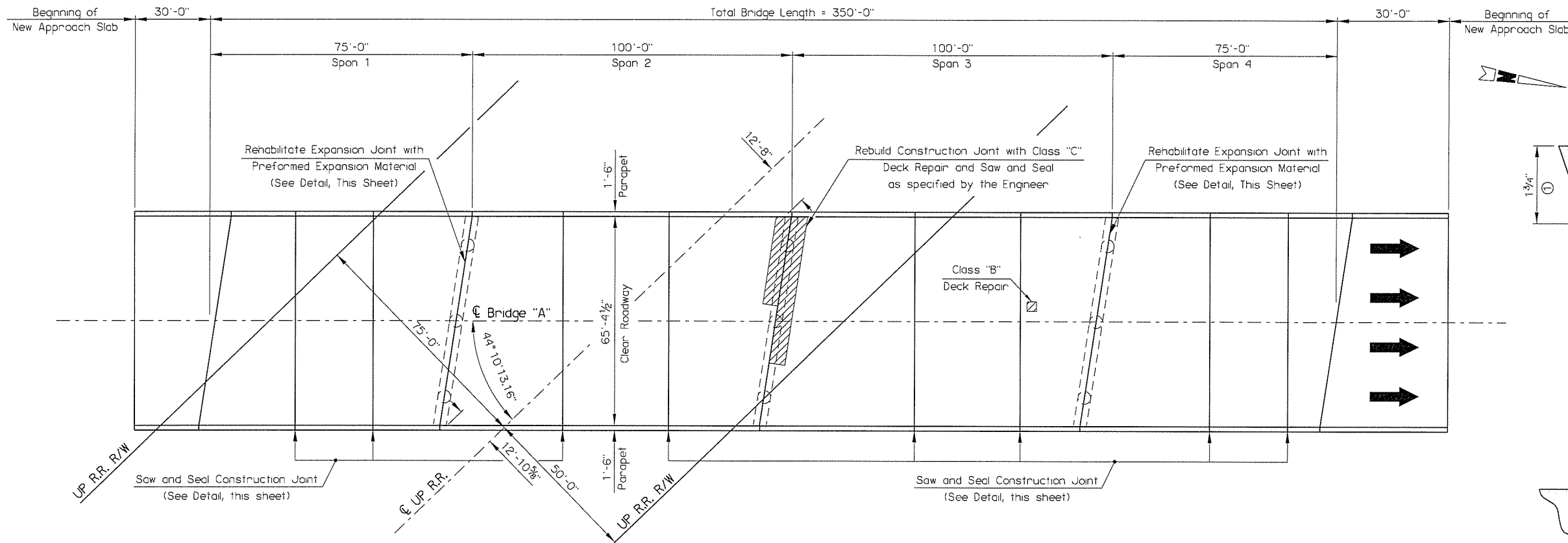
OKLA. REG. NO. 22542

PROFESSIONAL ENGINEER
JAMI L. SHORT
22542
OKLAHOMA

SUMMARY OF PAY QUANTITIES AND NOTES (TRAFFIC CONTROL)

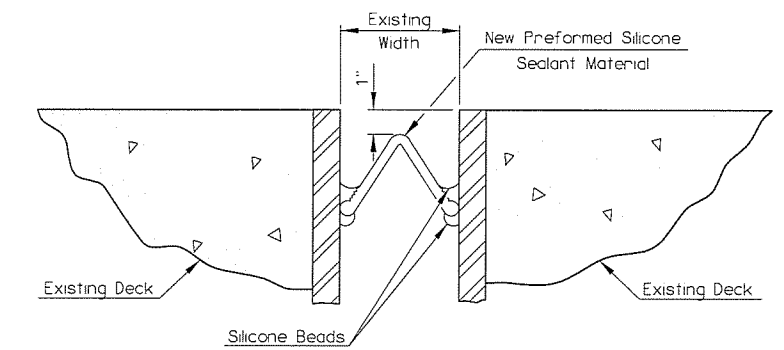
Drawn	RGN	6/16
Design	RGN	6/16
Checked	SB	6/16
Traffic Engineering JAMI L. SHORT		

REV. NO.	DESCRIPTION	REVISIONS	DATE

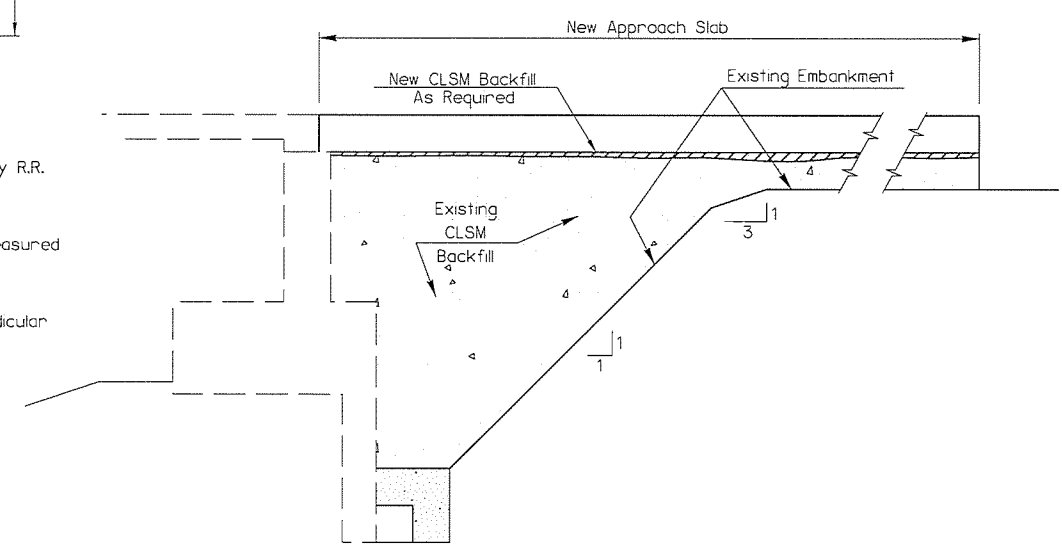


**REHABILITATED CONSTRUCTION JOINTS
SAW AND SEAL**

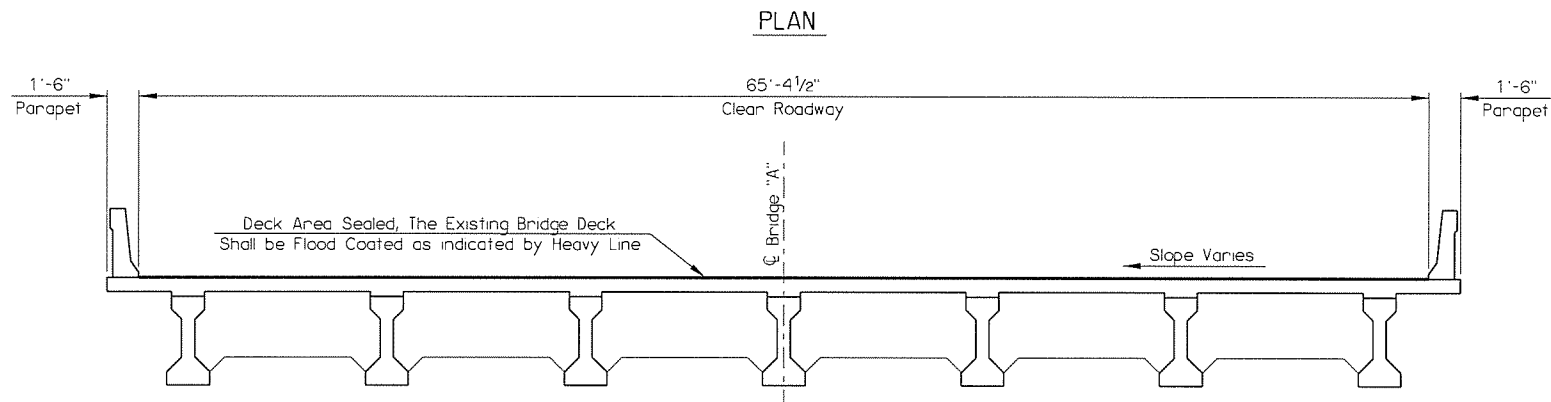
① Saw to the depth shown to provide clean straight surfaces.



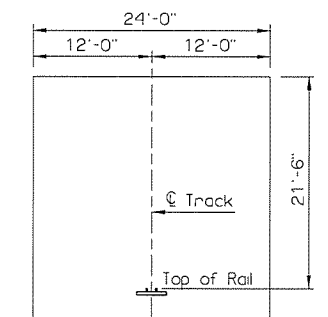
**REHABILITATED EXPANSION JOINT
PIER 1 AND PIER 3**



CLSM BACKFILL UNDER ABUTMENT



**TYPICAL CROSS SECTION
(SPANS 1 AND 4)**

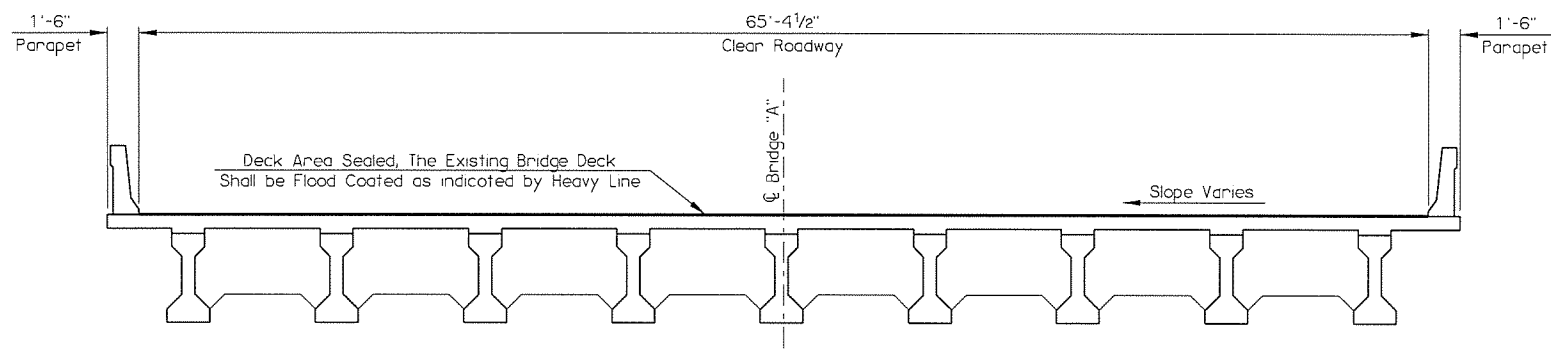


**UPRR FALSEWORK
CLEARANCE DIAGRAM**

Clearance of Falsework required by R.R. for operation during construction.

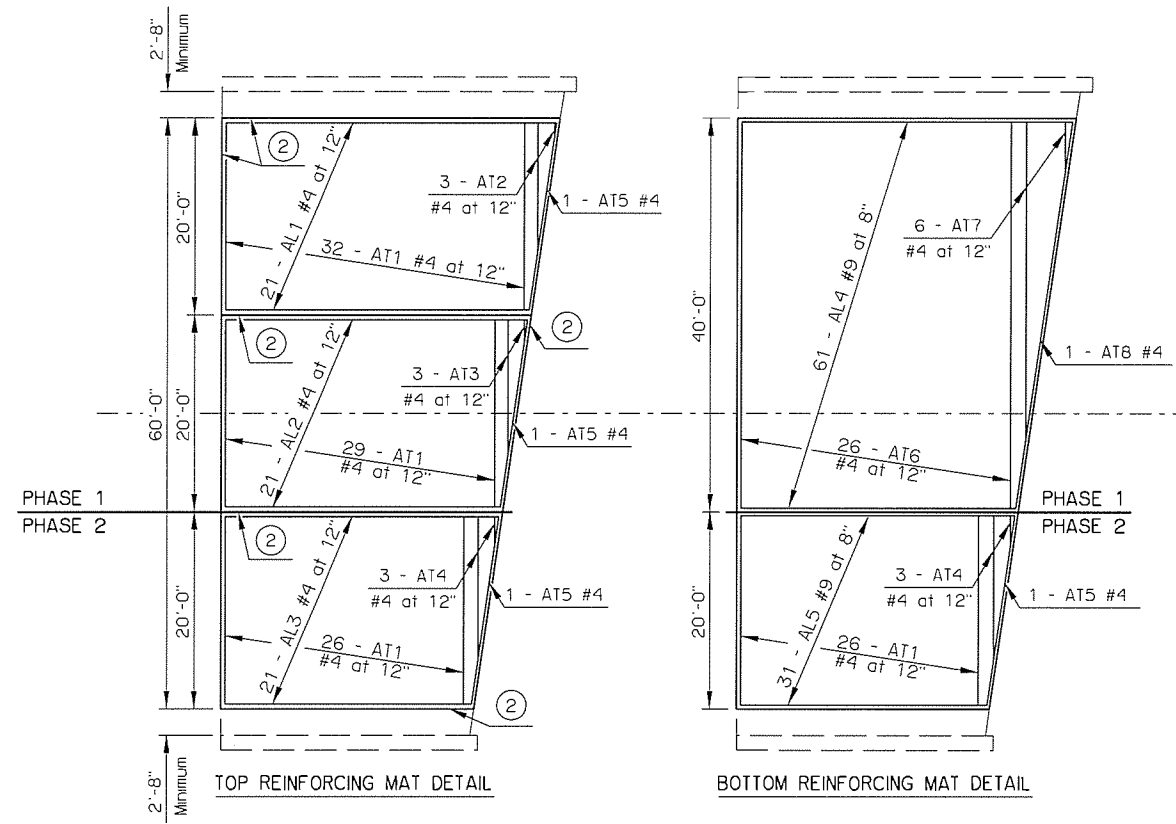
Horizontal dimensions shown are measured at Right Angles to C of R.R. Track.

Vertical dimension shown is perpendicular to plane of top of rails.



**TYPICAL CROSS SECTION
(SPANS 2 AND 3)**

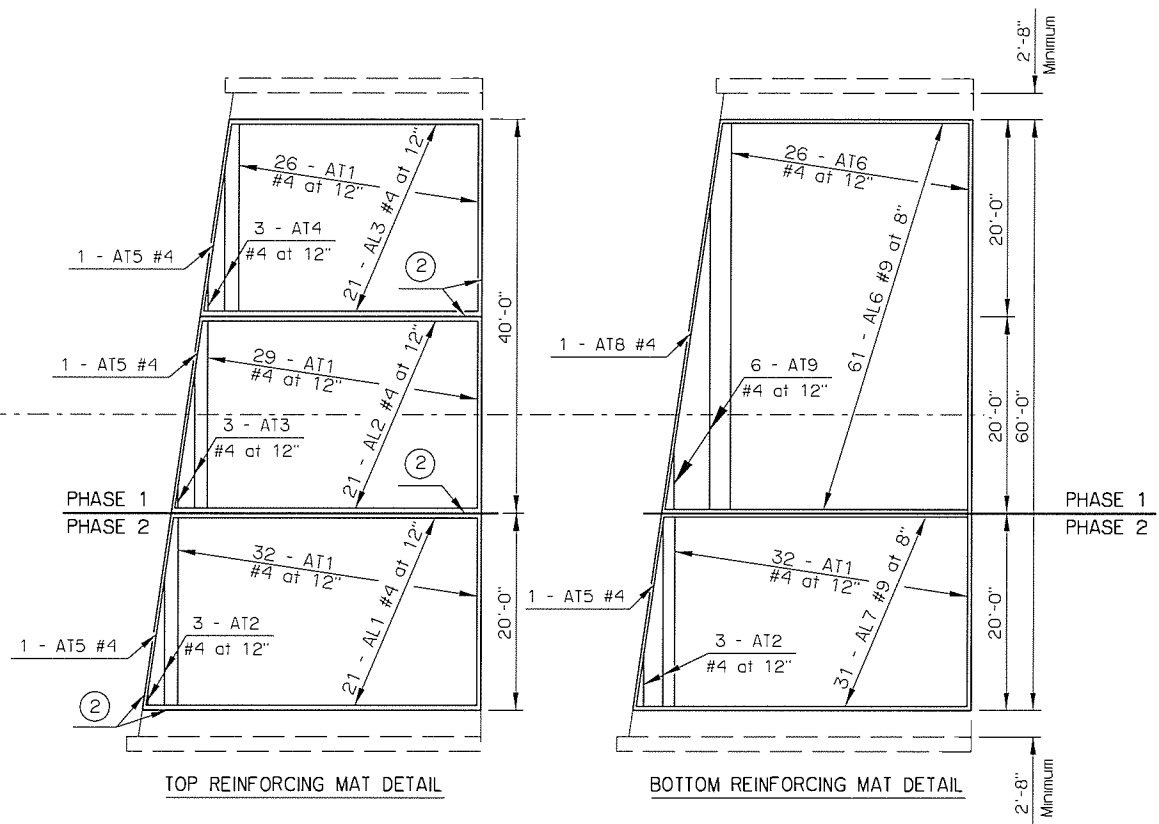
US-169 OVER 51ST NORTHBOUND BRIDGE "A"	TULSA COUNTY	Design	N/A	N/A
		Detail	ADG	5/15
		Check	RLA	6/16
		Squad:	MAYFIELD	
		Engr.	ELYAZGI	
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PIECE NO.	31672(04)	SHEET NO. B001



APPROACH SLAB NO. 1



Bridge A
N 09° 54' 30.31" E

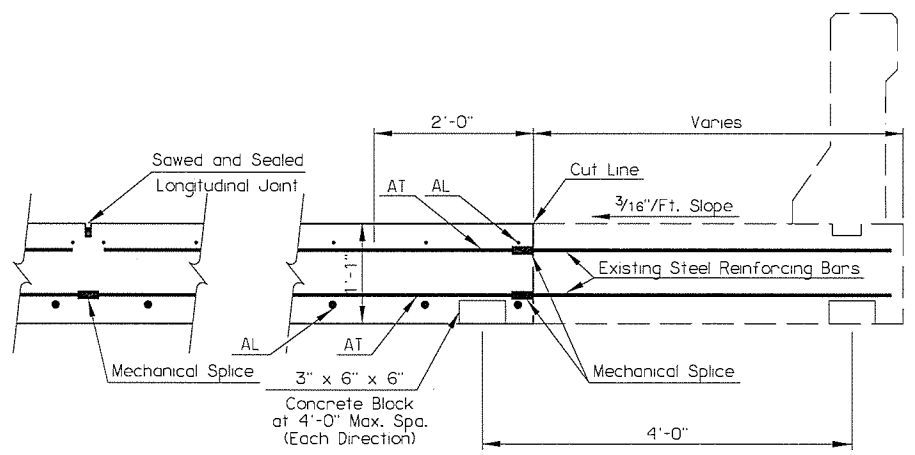


APPROACH SLAB NO. 2

② SAWED AND SEALED CONSTRUCTION JOINT
(SEE "GENERAL PLAN AND TYPICAL CROSS SECTION" (BRIDGE "A") FOR DETAIL)

BAR LIST - APPROACH SLABS (PHASE 1)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	116	#4	STR.	19'-8"	—
AT2	3	#4	STR.	7'-11" Avg.	1'-0" to 14'-10"
AT3	6	#4	STR.	8'-8" Avg.	1'-9" to 15'-7"
AT4	3	#4	STR.	9'-5" Avg.	2'-6" to 16'-4"
AT5	4	#4	STR.	19'-10"	—
AT6	55	#4	STR.	39'-10"	—
AT7	6	#4	STR.	18'-5 1/2" Avg.	1'-2" to 35'-9"
AT8	2	#4	STR.	40'-0"	—
AT9	6	#4	STR.	19'-2 1/2" Avg.	1'-11" to 36'-6"
AL1	21	#4	STR.	32'-8" Avg.	31'-3" to 34'-1"
AL2	42	#4	STR.	26'-3 1/2" Avg.	21'-4" to 31'-3"
AL3	21	#4	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL4	61	#9	STR.	31'-2 1/2" Avg.	28'-4" to 34'-1"
AL6	61	#9	STR.	28'-4 1/2" Avg.	25'-6" to 31'-3"

BAR LIST - APPROACH SLABS (PHASE 2)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	116	#4	STR.	19'-8"	—
AT2	6	#4	STR.	7'-11" Avg.	1'-0" to 14'-10"
AT4	6	#4	STR.	9'-5" Avg.	2'-6" to 16'-4"
AT5	4	#4	STR.	19'-10"	—
AL1	21	#4	STR.	32'-8" Avg.	31'-3" to 34'-1"
AL3	21	#4	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL5	31	#9	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL7	31	#9	STR.	32'-8" Avg.	31'-3" to 34'-1"



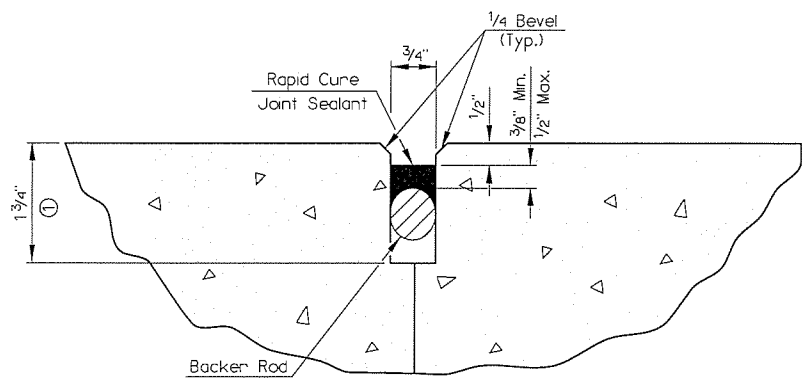
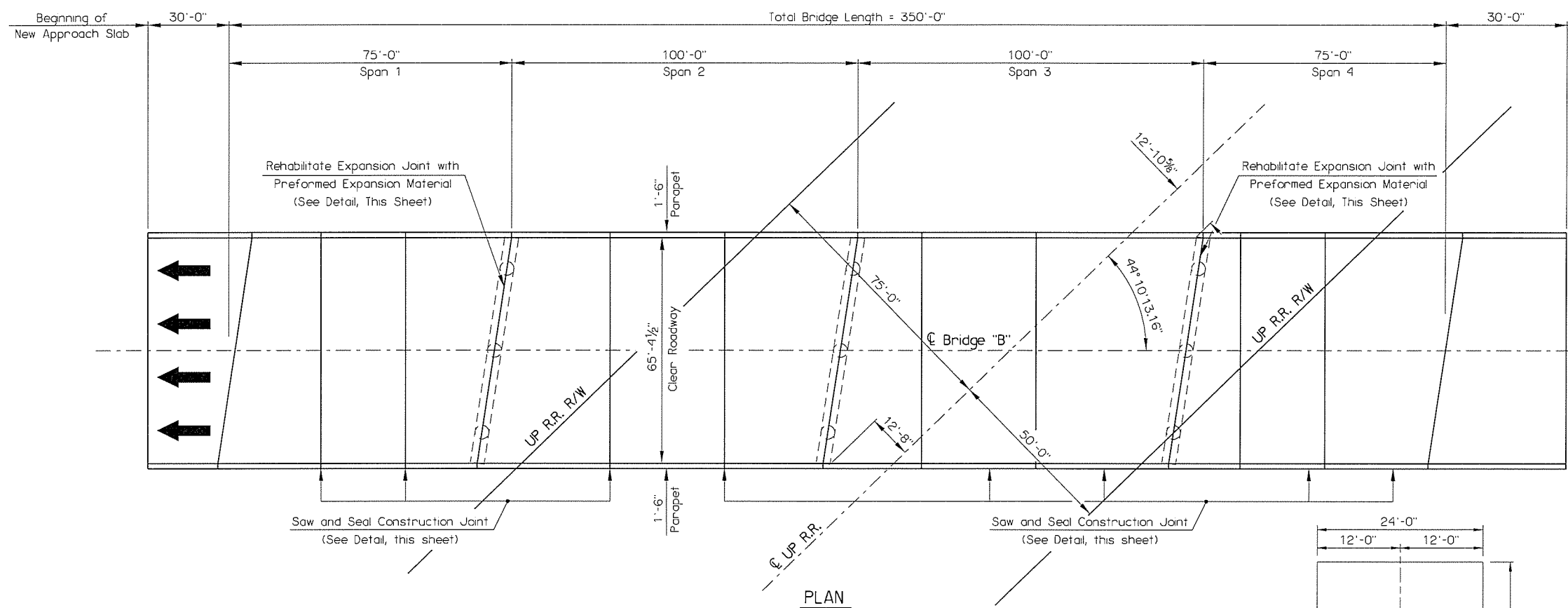
SECTION OF APPROACH SLAB

QUANTITIES - APPROACH SLABS (ONE SHOWN, TWO REQUIRED)		
ITEM	UNIT	TOTAL
Approach Slab	S.Y.	200.00
Saw-Cut Grooving	S.Y.	190.00
Deck Area Sealed (Floodcoat)	S.Y.	225.00
Mechanical Splices	EA.	156.00

① The Department considers the cost of Concrete, Reinforcing Steel, Backer Rod, Rapid Cure Joint Sealant, Polystyrene, and Polyethylene Sheeting to be included in the contract unit price of APPROACH SLAB.
There is an estimated 216.70 C.Y. of Class AA Concrete and an estimated 20,807 L.B. of Epoxy Coated Reinforcing Steel in each Approach Slab.

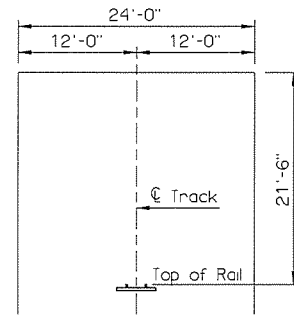
US-169 OVER 51ST NORTHBOUND BRIDGE "A"	TULSA COUNTY	Design N/A N/A
DETAILS OF APPROACHES		Detail RLA 5/15
		Check KMS 6/15
Squad: MAYFIELD Engr. ELYAZGI		
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	
JOB PIECE NO. 31672(04)		SHEET NO. B002

REV. NO.	DESCRIPTION	REVISIONS	DATE



**REHABILITATED CONSTRUCTION JOINTS
SAW AND SEAL**

① Saw to the depth shown to provide clean straight surfaces.

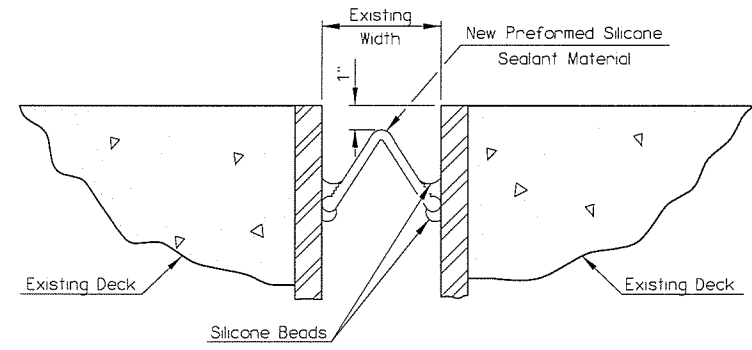


**UPRR FALSEWORK
CLEARANCE DIAGRAM**

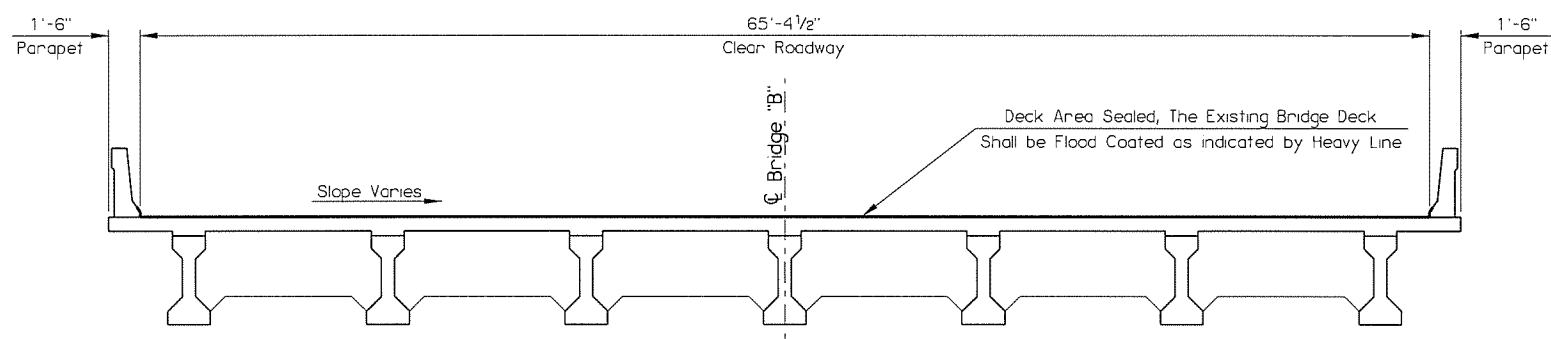
Clearance of Falsework required by R.R. for operation during construction.

Horizontal dimensions shown are measured at Right Angles to € of R.R. Track.

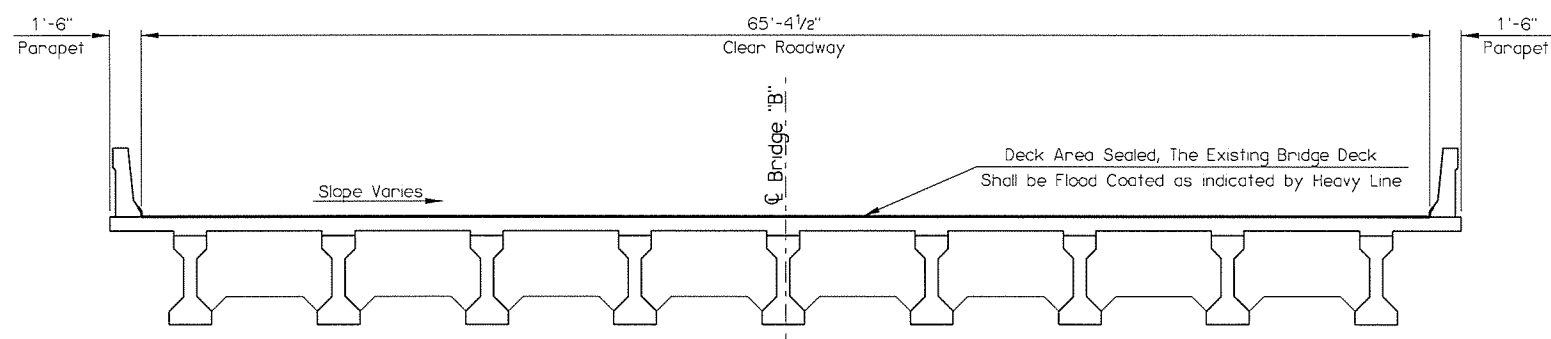
Vertical dimension shown is perpendicular to plane of top of rails.



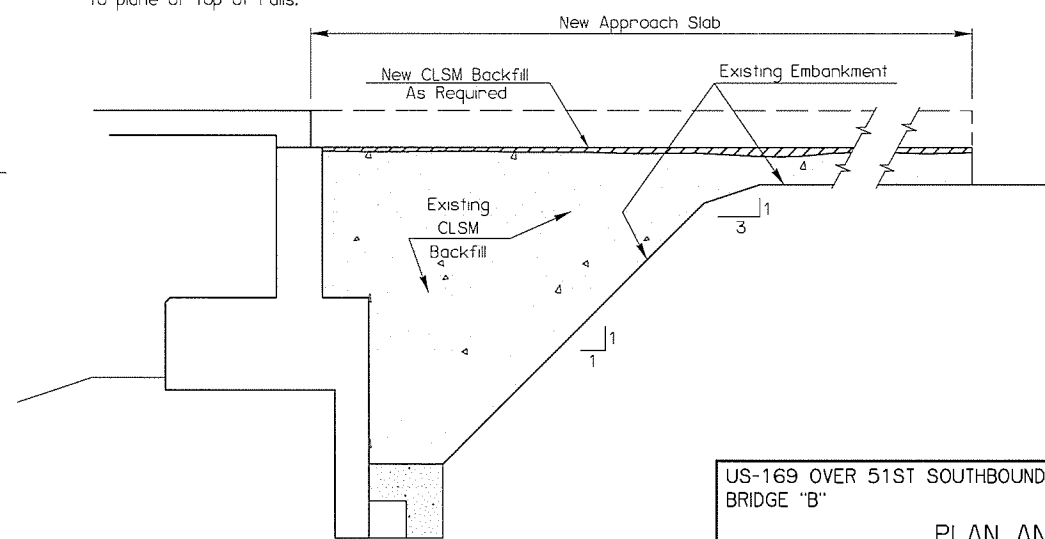
REHABILITATED EXPANSION JOINT



**TYPICAL CROSS SECTION
(SPANS 1 AND 4)**

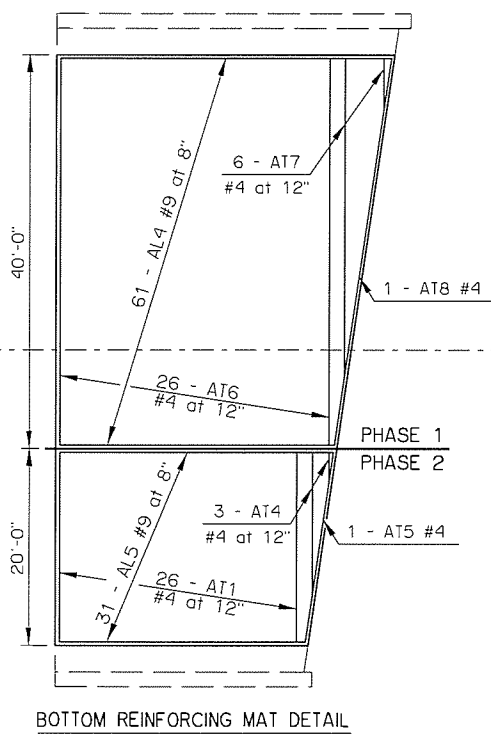
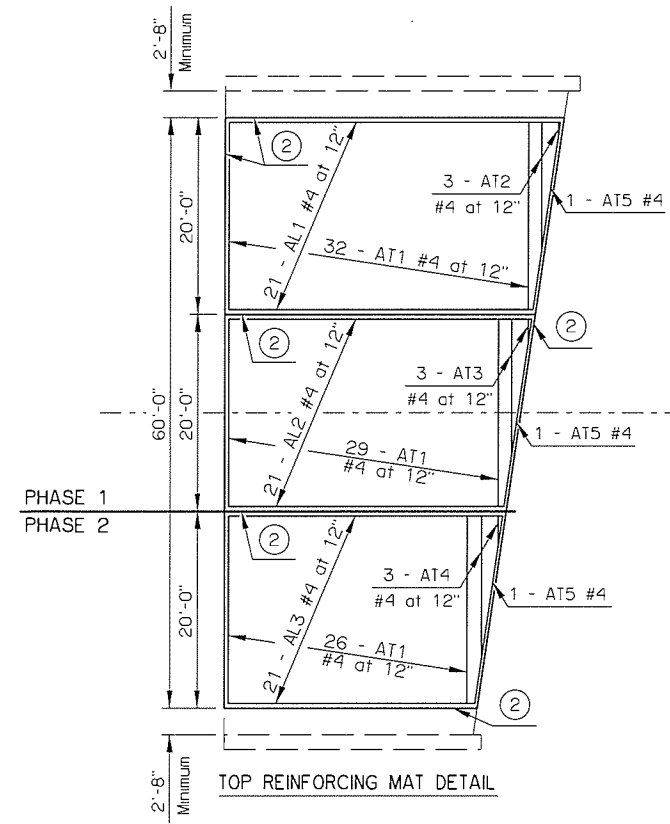


**TYPICAL CROSS SECTION
(SPANS 2 AND 3)**

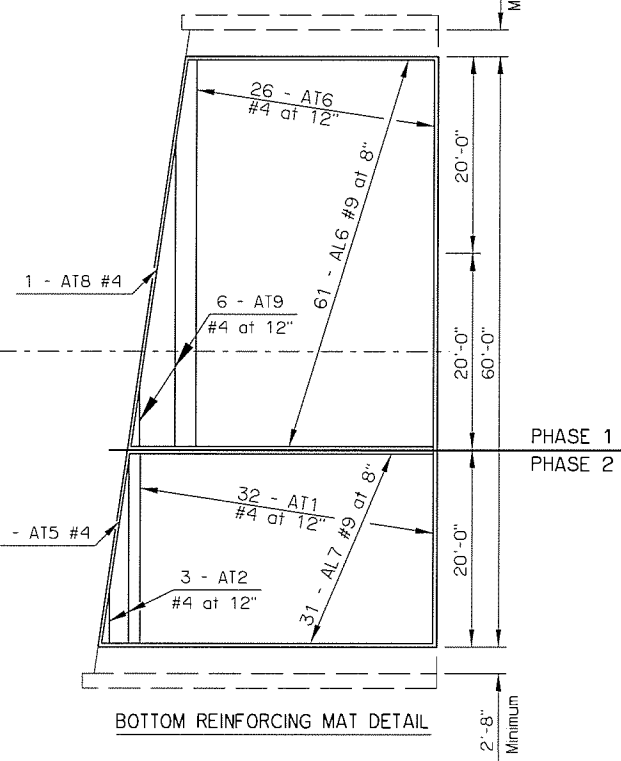
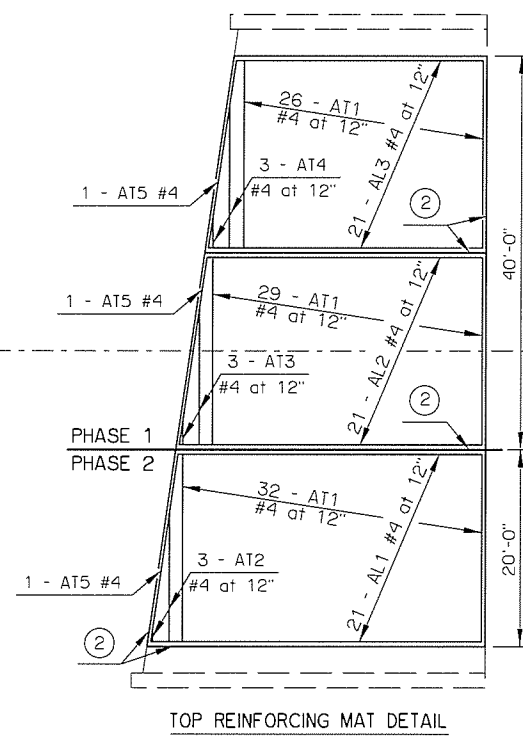


CLSM BACKFILL UNDER ABUTMENT

US-169 OVER 51ST SOUTHBOUND BRIDGE "B"	TULSA COUNTY	Design	N/A	N/A
PLAN AND TYPICAL CROSS SECTIONS		Detail	ADG	3/15
		Check	RLA	6/16
STATE OF OKLAHOMA		Squad	MAYFIELD	
		Engr.	ELYAZGI	
JOB PIECE NO. 31672(04)		DEPARTMENT OF TRANSPORTATION		
SHEET NO. B003		DATE		



Bridge B
N 09° 54' 30.31" E



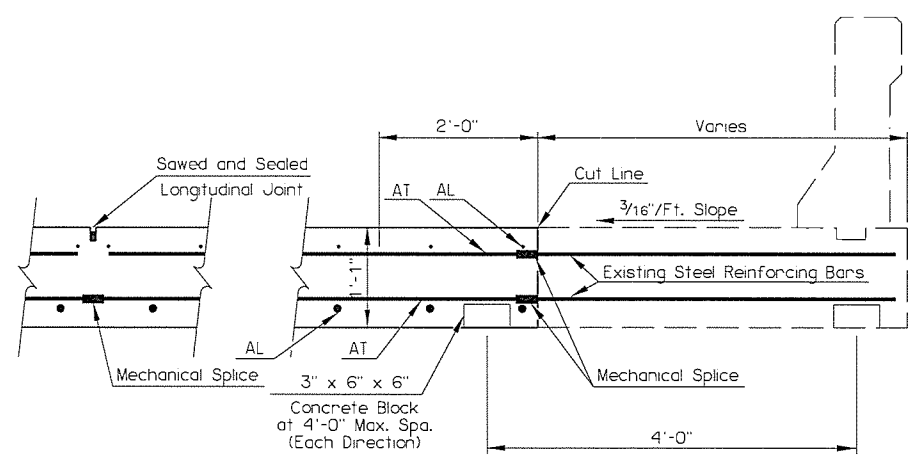
APPROACH SLAB NO. 1

APPROACH SLAB NO. 2

② SAWED AND SEALED CONSTRUCTION JOINT
(SEE "GENERAL PLAN AND TYPICAL CROSS SECTION" (BRIDGE "A") FOR DETAIL)

BAR LIST - APPROACH SLABS (PHASE 1)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	116	#4	STR.	19'-8"	—
AT2	3	#4	STR.	7'-11" Avg.	1'-0" to 14'-10"
AT3	6	#4	STR.	8'-8" Avg.	1'-9" to 15'-7"
AT4	3	#4	STR.	9'-5" Avg.	2'-6" to 16'-4"
AT5	4	#4	STR.	19'-10"	—
AT6	55	#4	STR.	39'-10"	—
AT7	6	#4	STR.	18'-5 1/2" Avg.	1'-2" to 35'-9"
AT8	2	#4	STR.	40'-0"	—
AT9	6	#4	STR.	19'-2 1/2" Avg.	1'-11" to 36'-6"
AL1	21	#4	STR.	32'-8" Avg.	31'-3" to 34'-1"
AL2	42	#4	STR.	26'-3 1/2" Avg.	21'-4" to 31'-3"
AL3	21	#4	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL4	61	#9	STR.	31'-2 1/2" Avg.	28'-4" to 34'-1"
AL6	61	#9	STR.	28'-4 1/2" Avg.	25'-6" to 31'-3"

BAR LIST - APPROACH SLABS (PHASE 2)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	116	#4	STR.	19'-8"	—
AT2	6	#4	STR.	7'-11" Avg.	1'-0" to 14'-10"
AT4	6	#4	STR.	9'-5" Avg.	2'-6" to 16'-4"
AT5	4	#4	STR.	19'-10"	—
AL1	21	#4	STR.	32'-8" Avg.	31'-3" to 34'-1"
AL3	21	#4	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL5	31	#9	STR.	26'-11" Avg.	25'-6" to 28'-4"
AL7	31	#9	STR.	32'-8" Avg.	31'-3" to 34'-1"



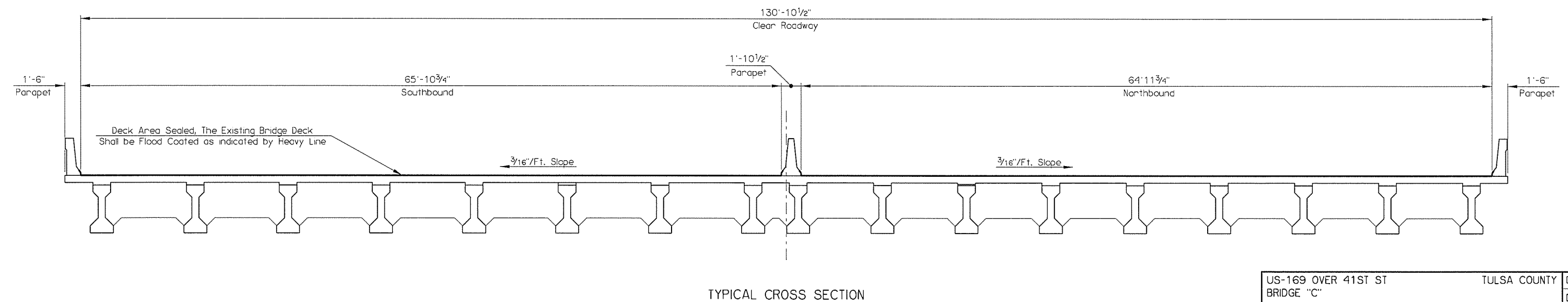
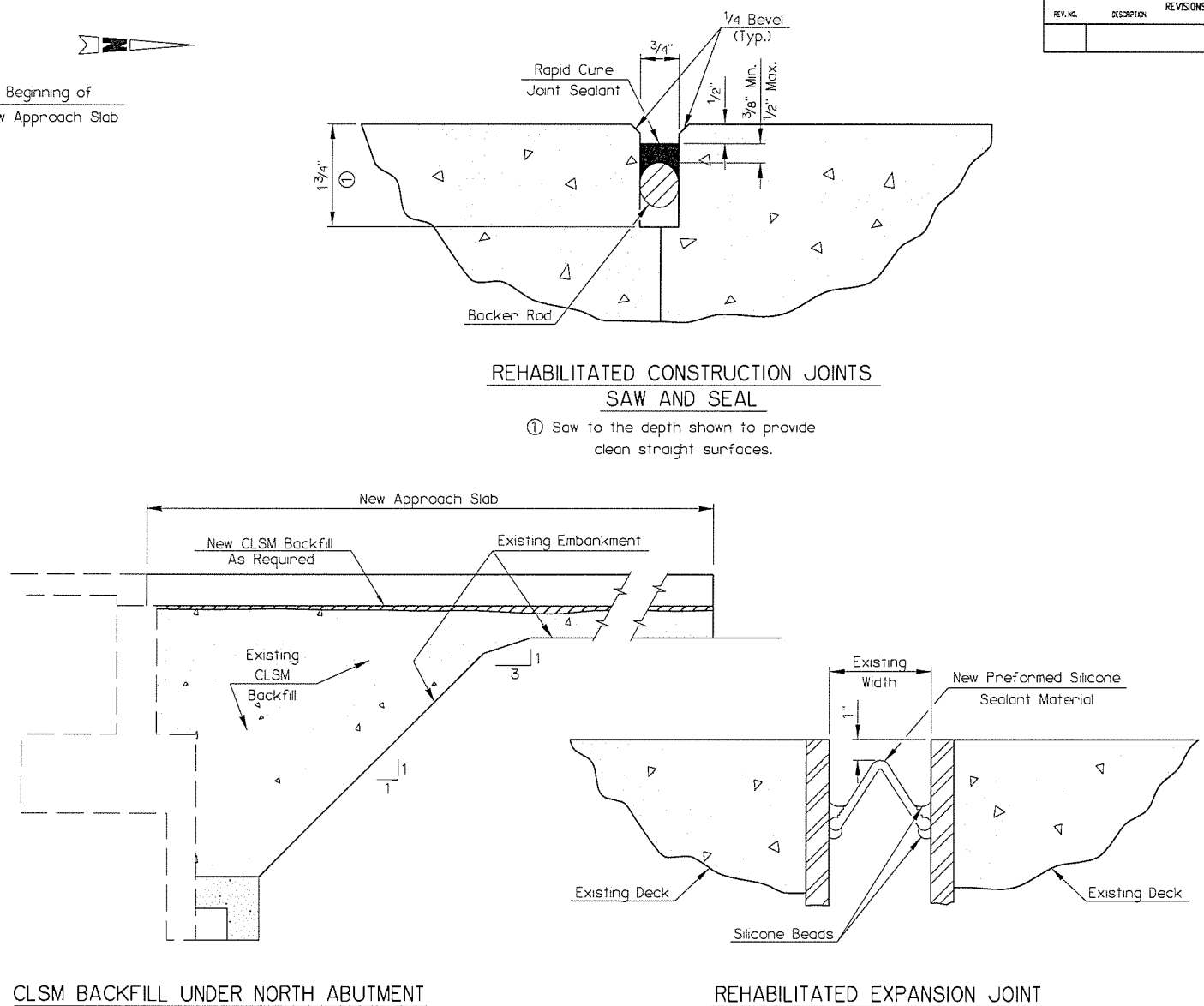
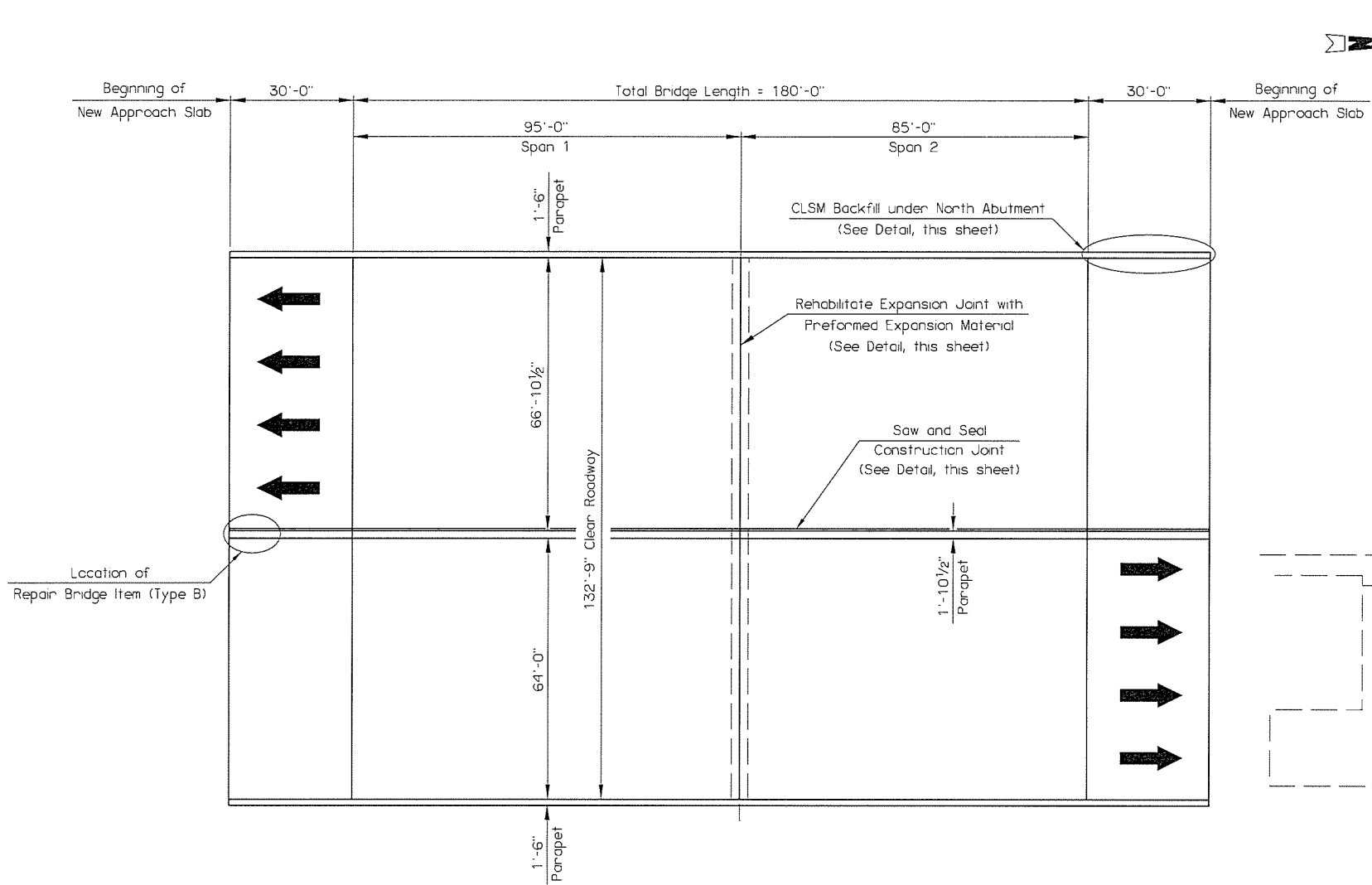
SECTION OF APPROACH SLAB

QUANTITIES - APPROACH SLABS (ONE SHOWN, TWO REQUIRED)		
ITEM	UNIT	TOTAL
Approach Slab	S.Y.	200.00
Saw-Cut Grooving	S.Y.	190.00
Deck Area Sealed (Floodcoat)	S.Y.	225.00
Mechanical Splices	EA.	156.00

① The Department considers the cost of Concrete, Reinforcing Steel, Backer Rod, Rapid Cure Joint Sealant, Polystyrene, and Polyethylene Sheeting to be included in the contract unit price of APPROACH SLAB. There is an estimated 216.70 C.Y. of Class AA Concrete and an estimated 20,807 LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

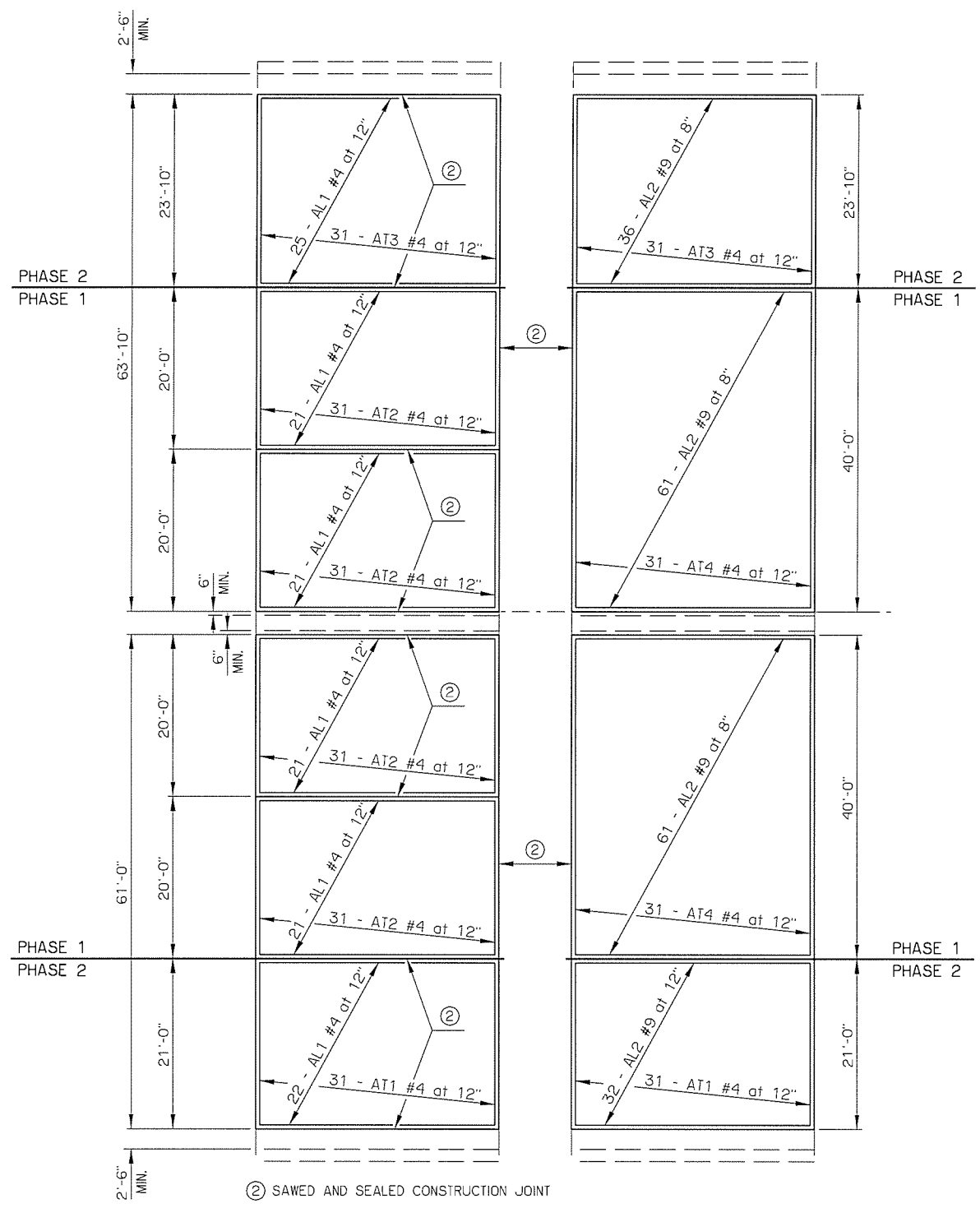
US-169 OVER 51ST SOUTHBOUND BRIDGE "B"	TULSA COUNTY	Design N/A N/A
DETAILS OF APPROACHES		Detail RLA 3/15
		Check KMS 6/16
		Squad: MAYFIELD Engr. ELYAZGI
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	JOB PRICE NO. 31672(04) SHEET NO. B004

REV. NO.	DESCRIPTION	REVISIONS	DATE



US-169 OVER 41ST ST		TULSA COUNTY		Design	N/A	N/A
BRIDGE "C"				Detail	ADG	3/15
				Check	RLA	6/16
				Spwd:	MAYFIELD	
				Eng.	ELYAZGI	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION				
JOB PIECE NO. 31672(04)		SHEET NO. B005				

REV. NO.	DESCRIPTION	REVISIONS	DATE

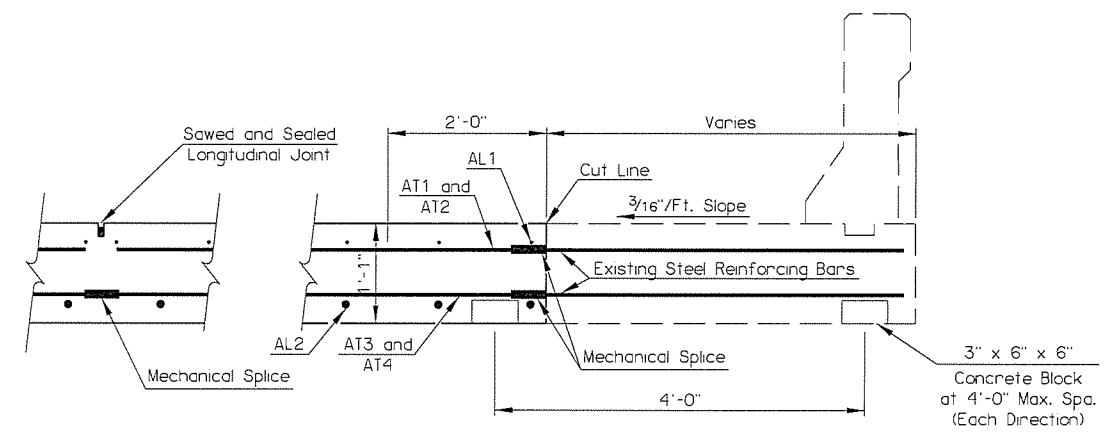


② SAWED AND SEALED CONSTRUCTION JOINT

TOP REINFORCING
MAT DETAIL

BOTTOM REINFORCING
MAT DETAIL

BOTH APPROACH SLABS



SECTION OF APPROACH SLAB

BAR LIST - APPROACH SLABS (PHASE 1)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT2	124	#4	STR.	19'-8"	_____
AT4	62	#4	STR.	39'-8"	_____
AL1	84	#4	STR.	29'-10"	_____
AL2	122	#9	STR.	29'-10"	_____

BAR LIST - APPROACH SLABS (PHASE 2)					
MARK	NO.	SIZE	FORM	LENGTH	VARIANCE
EPOXY COATED					
AT1	62	#4	STR.	20'-8"	_____
AT3	62	#4	STR.	23'-6"	_____
AL2	68	#9	STR.	29'-10"	_____

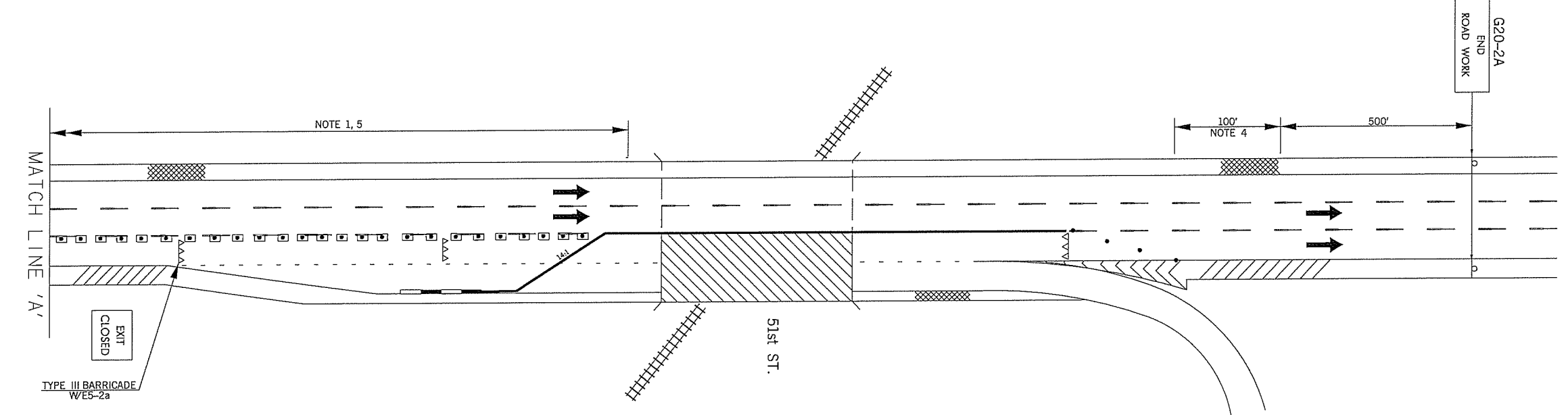
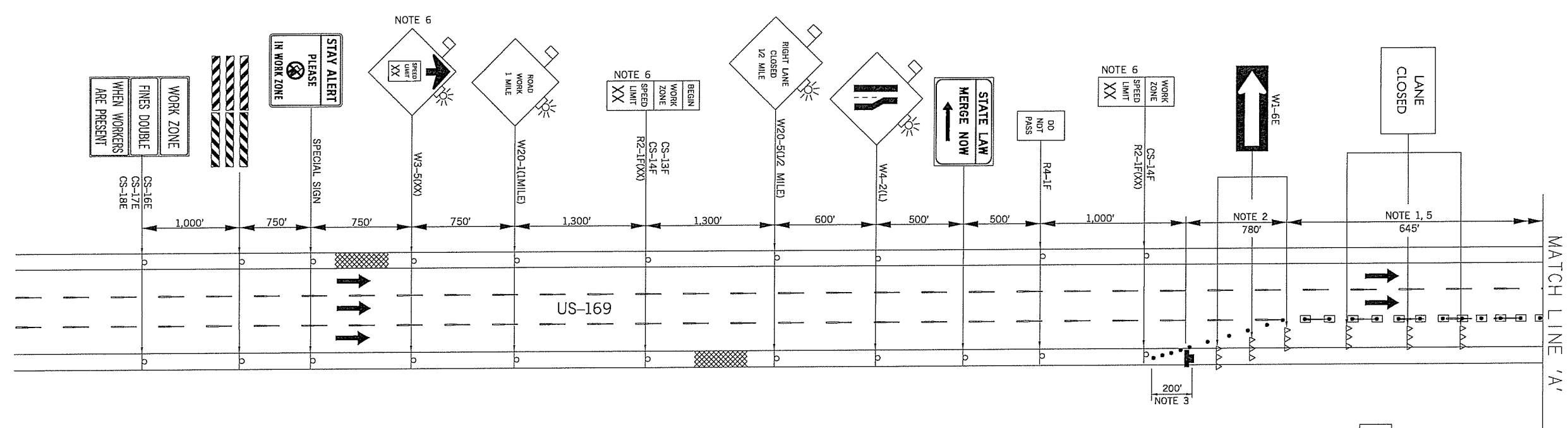
QUANTITIES - APPROACH SLABS (ONE SHOWN, TWO REQUIRED)		
ITEM	UNIT	TOTAL
Approach Slabs	S.Y.	416.20
Saw-Cut Grooving	S.Y.	374.00
Mechanical Splices	EA.	310.00
Deck Area Sealed (Floodcoat)	S.Y.	450.00

①

① The Department considers the cost of Concrete, Reinforcing Steel, Backer Rod, Rapid Cure Joint Sealant, Polystyrene, and Polyethylene Sheeting to be included in the contract unit price of APPROACH SLAB. There is an estimated 450.20 C.Y. of Class AA Concrete and an estimated 11,062 LB. of Epoxy Coated Reinforcing Steel in each Approach Slab.

US-169 OVER 41ST ST BRIDGE "C"		TULSA COUNTY	Design	N/A	N/A
			Detail	RLA	6/15
			Check	KMS	6/16
			Squad	MAYFIELD	
			Engr.	ELYAZGI	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		JOB PRICE NO. 31672(04)	
				SHEET NO. B006	

REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 50 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 3
 A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS TAPER.

NOTE 4
 DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF FOUR (4) CHANNELIZING DEVICES.

NOTE 5
 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 6
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

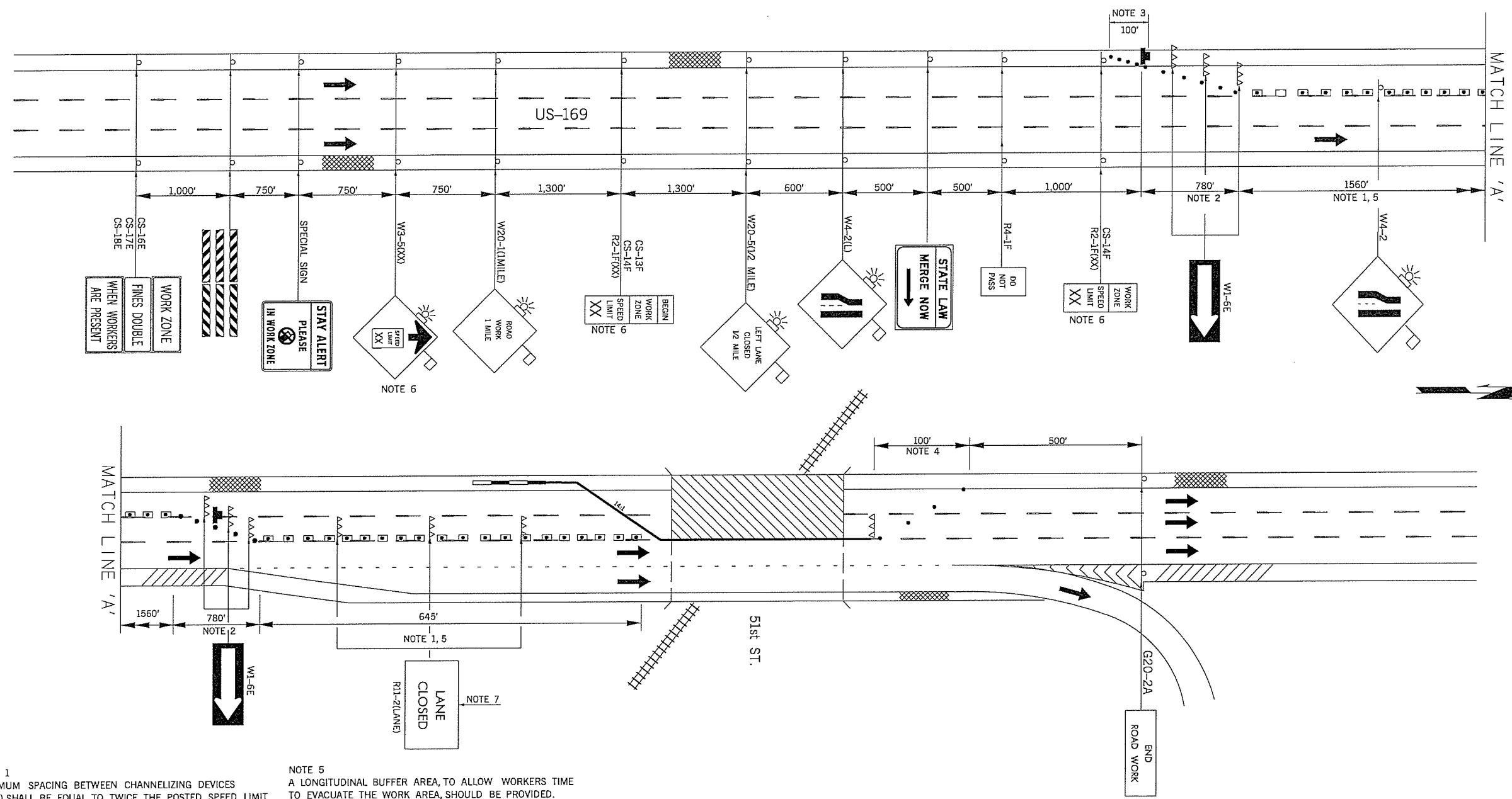
FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

NORTHBOUND & SOUTHBOUND US-169
 TRAFFIC CONTROL SHALL MIRROR EACH OTHER

- KEY:
- P — SIGN
 - DRUM
 - ▲ ARROW DISPLAY
 - ▲▲▲ TYPE III BARRICADE
 - CHANNELIZER CONE
 - C. Z. IMPACT ATTENUATOR
 - PORT. LONG. BARRIER
 - ▨ WORK AREA

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL BRIDGES 'A' & 'B' US-169 OVER E. 51st ST. & RR OUTSIDE LANES & SHOULDER			Drawn	RGN	6-16
			Design	RGN	6-16
			Checked	SB	6-16
			TRAFFIC ENGINEERING JAMI L. SHORT		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION			
		DIVISION 8		STATE JOB NO. 31672(04)	
				SHEET NO. T001	
TULSA COUNTY US-169					



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 50 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

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NOTE 4
 DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF FOUR (4) CHANNELIZING DEVICES.

NOTE 5
 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 6
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

NOTE 7
 TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

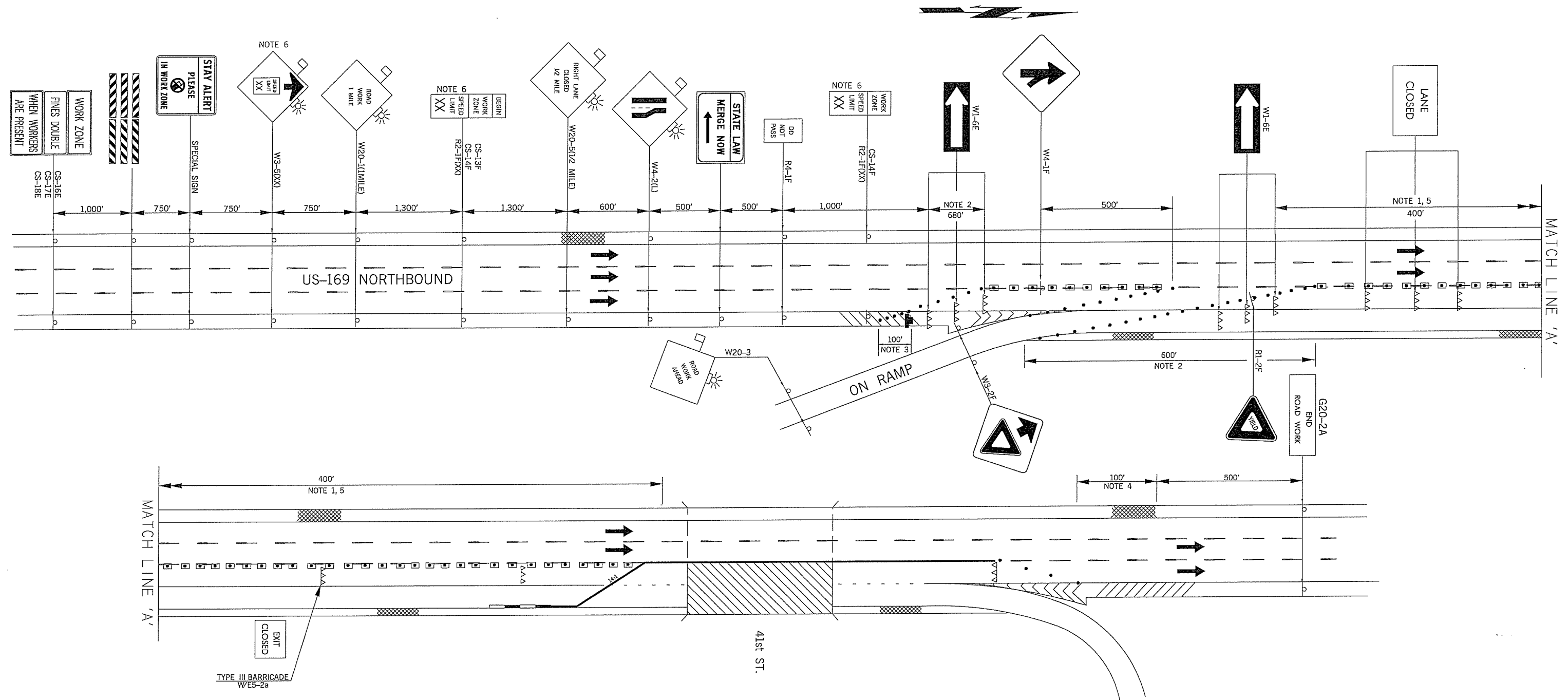
NORTHBOUND & SOUTHBOUND US-169
 TRAFFIC CONTROL SHALL MIRROR EACH OTHER

- KEY:**
- P — SIGN
 - DRUM
 - ARROW DISPLAY
 - ▲▲▲ TYPE III BARRICADE
 - CHANNELIZER CONE
 - C. Z. IMPACT ATTENUATOR
 - PORT. LONG. BARRIER
 - ▨ WORK AREA

TRAFFIC CONTROL DETAIL BRIDGES 'A' & 'B' US-169 OVER E. 51st ST. & RR INSIDE LANES & SHOULDER			Drawn	RGN	6-16
			Design	RGN	6-16
			Checked	SB	6-16
			TRAFFIC ENGINEERING JAMI L. SHORT		
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION		SHEET NO. T002	
DIVISION 8		STATE JOB NO. 31672(04)		TULSA CO. US-169	

DRAWING NOT TO SCALE

REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO THE POSTED SPEED LIMIT (M.P.H.) WITH THE FOLLOWING EXCEPTIONS. SPACING SHALL NOT EXCEED 25 FEET FOR CONES OR TUBE CHANNELIZERS. SPACING SHALL NOT EXCEED 50 FEET FOR TYPE II BARRICADES, VERTICAL PANELS OR DRUMS.

NOTE 3
 A MINIMUM OF FIVE (5) CHANNELIZING DEVICES SHALL BE PLACED THROUGH THIS TAPER.

NOTE 4
 DOWNSTREAM TAPERS SHALL CONTAIN A MINIMUM OF FOUR (4) CHANNELIZING DEVICES.

NOTE 5
 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 6
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

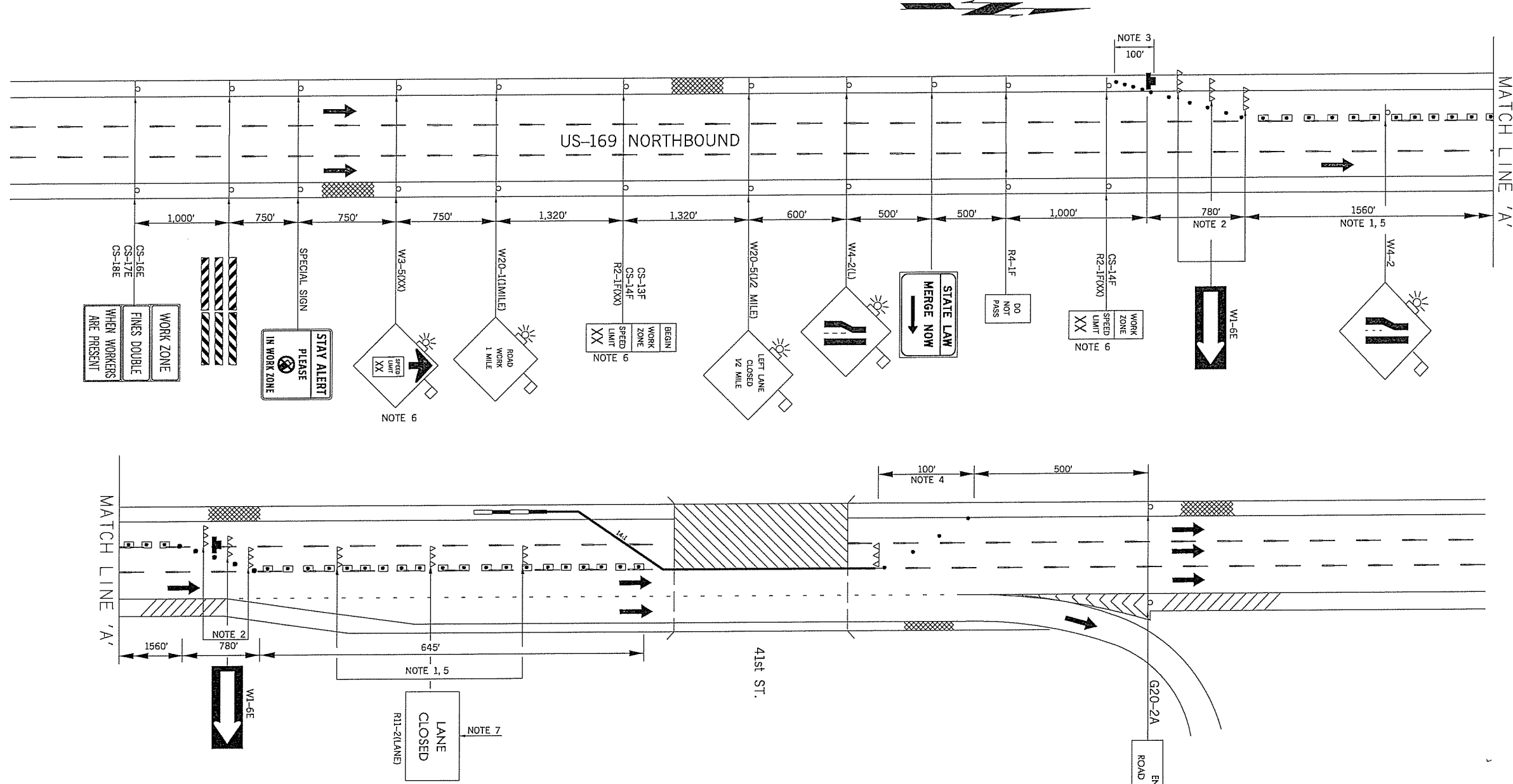
FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

- KEY:**
- ▬ SIGN
 - DRUM
 - ➔ ARROW DISPLAY
 - ▲▲▲ TYPE III BARRICADE
 - CHANNELIZER CONE
 - ▬ C. Z. IMPACT ATTENUATOR
 - ▬ PORT. LONG. BARRIER
 - ▨ WORK AREA

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL BRIDGE 'C' US-169 OVER E. 41st ST. NORTHBOUND OUTSIDE LANES & SHOULDER			Drawn	RGN	6-16
			Design	RGN	6-16
			Checked	SB	6-16
STATE OF OKLAHOMA DIVISION 8			DEPARTMENT OF TRANSPORTATION STATE JOB NO. 31672(04)		
JAMI L. SHORT TRAFFIC ENGINEERING			SHEET NO. T003 TULSA COUNTY US-169		

REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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.

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 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 6
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

NOTE 7
 TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

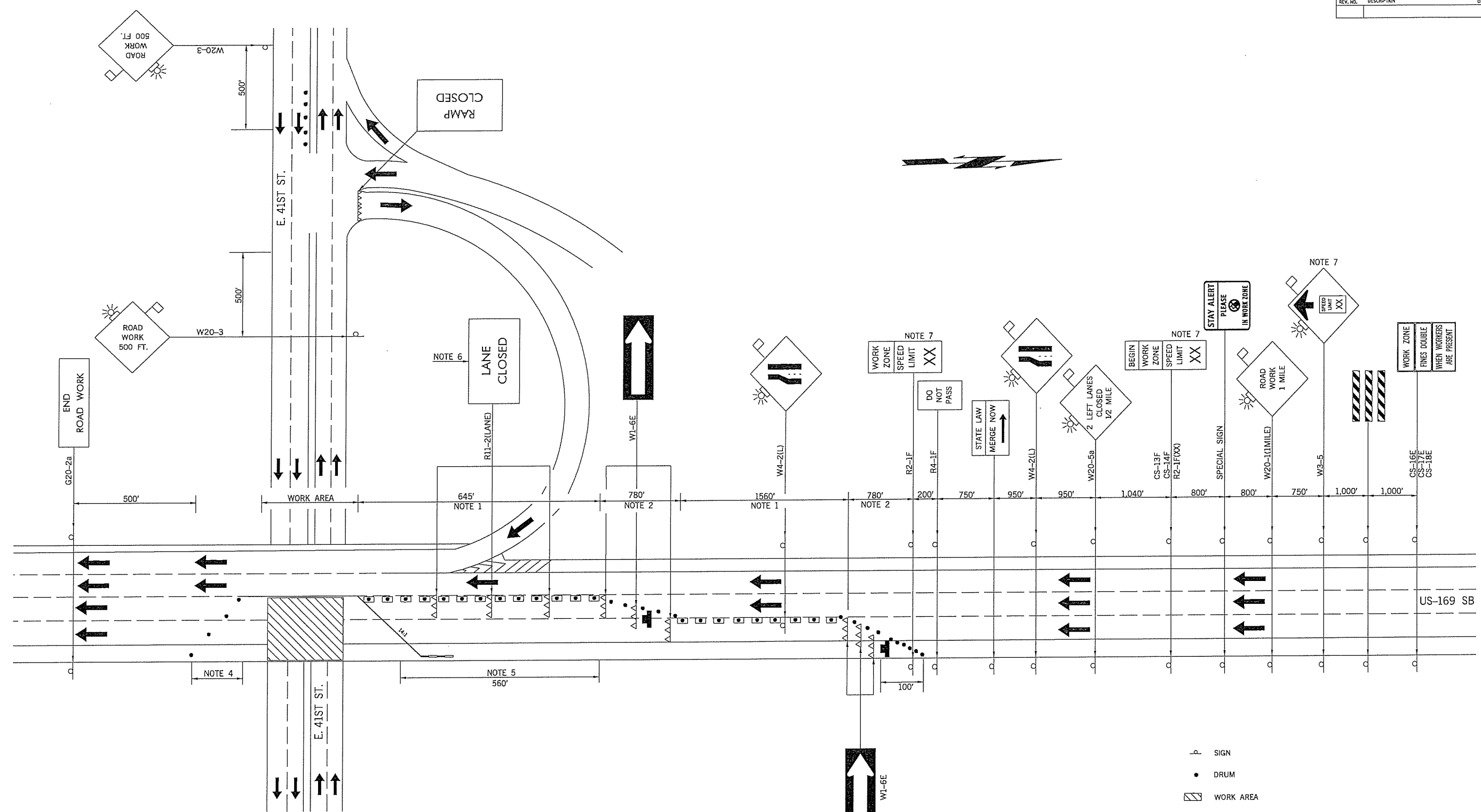
FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

- KEY:**
- ▲ SIGN
 - DRUM
 - ▶ ARROW DISPLAY
 - ▲▲▲ TYPE III BARRICADE
 - CHANNELIZER CONE
 - C. Z. IMPACT ATTENUATOR
 - PORT. LONG. BARRIER
 - ▨ WORK AREA

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL			
BRIDGE 'C'			
US-169 OVER E. 41st ST. NORTHBOUND			
INSIDE LANES & SHOULDER			
Drawn	RGN	6-16	TRAFFIC ENGINEERING JAMI L. SHORT
Design	RGN	6-16	
Checked	SB	6-16	
STATE OF OKLAHOMA		DEPARTMENT OF TRANSPORTATION	
DIVISION 8		STATE JOB NO. 31672(04)	
			SHEET NO. T004
TULSA CO. US-169			

REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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 III BARRICADES, VERTICAL PANELS OR DRUMS.

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NOTE 5
 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 6
 TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

NOTE 7
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

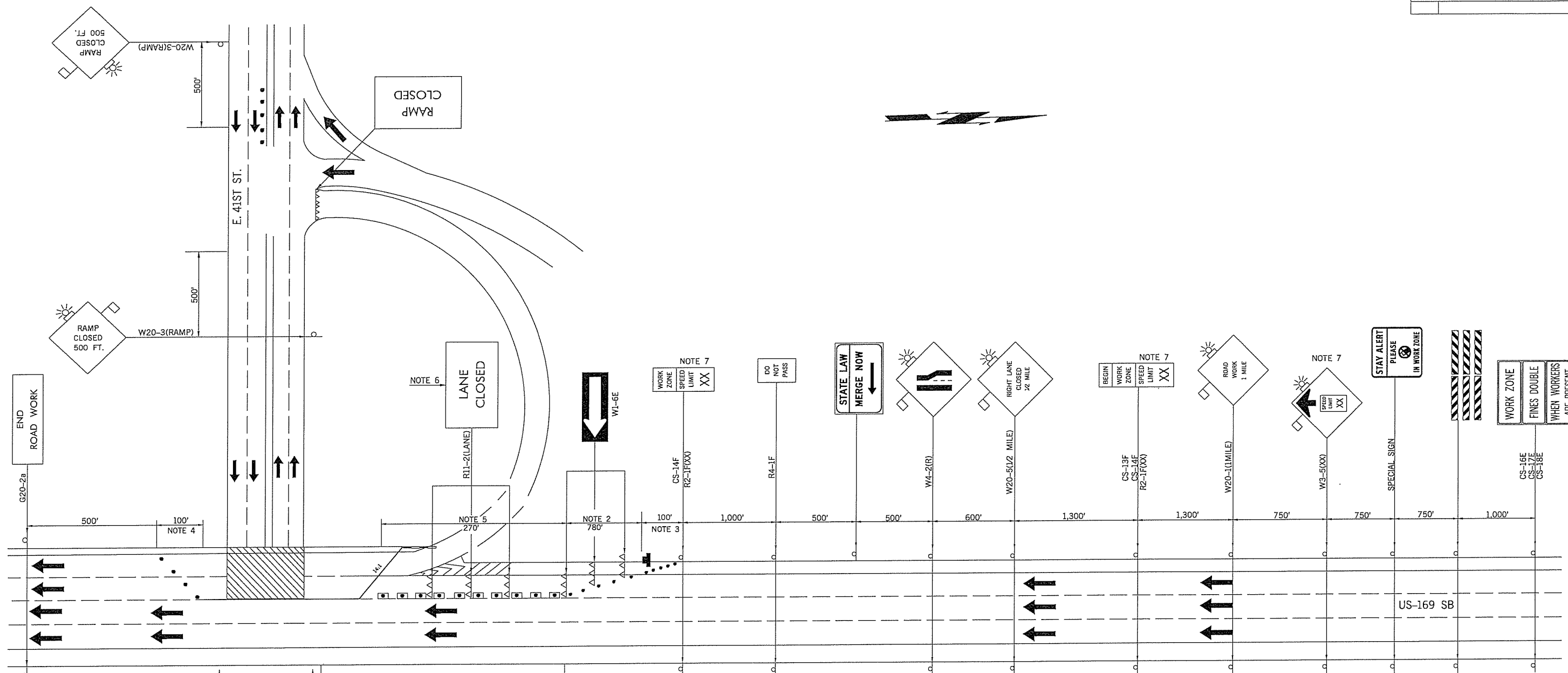
FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1-(LATEST REVISION).

- ⊠ SIGN
- DRUM
- ▨ WORK AREA
- ➔ ARROW DISPLAY
- ▲▲▲ TYPE III BARRICADES
- ◼ CHANNELIZER CONE
- C. Z. IMPACT ATTENUATOR
- PORT. LONG. BARRIER

TRAFFIC CONTROL DETAIL BRIDGE 'C' US-169 OVER E. 41st ST. SOUTHBOUND INSIDE LANES & SHOULDER			
Drawn	RGN	6-16	
Design	RGN	6-16	
Checked	SB	6-16	
TRAFFIC ENGINEERING JAMI L. SHDRT			
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION		
DIVISION 8	STATE JOB NO. 31672(04)	SHEET NO. T005	TULSA CO. US-169

DRAWING NOT TO SCALE

REV. NO.	DESCRIPTION	REVISIONS	DATE



NOTE 1
 MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES (FEET) SHALL BE EQUAL TO 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 III BARRICADES, VERTICAL PANELS OR DRUMS.

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NOTE 5
 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 6
 TYPE III BARRICADES WITH SIGNS READING "LANE CLOSED" (R11-2) SHALL BE PLACED EVERY 2,000 FEET THROUGH ACTIVITY AREA. THESE TYPE III BARRICADES AND SIGNS MAY BE OMITTED ON MOVING OPERATIONS AND SHORT DURATION PROJECTS.

NOTE 7
 CONSTRUCTION SPEED LIMIT TO BE DETERMINED BY THE DIVISION ENGINEER.

FOR ADDITIONAL INFORMATION ABOUT TAPER LENGTHS AND SPACING OF CHANNELIZING DEVICES, SEE STANDARD DRAWING TCS2-1 (LATEST REVISION).

- SIGN
- DRUM
- ▨ WORK AREA
- ➔ ARROW DISPLAY
- ▲▲▲ TYPE III BARRICADES
- CHANNELIZER CONE
- C. Z. IMPACT ATTENUATOR
- PORT. LONG. BARRIER

DRAWING NOT TO SCALE

TRAFFIC CONTROL DETAIL BRIDGE 'C' US-169 OVER E. 41st ST. SOUTHBOUND OUTSIDE LANES & SHOULDER			Drawn RGN 6-16
			Design RGN 6-16
			Checked SB 6-16
TRAFFIC ENGINEERING JAMI L. SHORT			
STATE OF OKLAHOMA	DEPARTMENT OF TRANSPORTATION	SHEET NO. T006	
	DIVISION 8	STATE JOB NO. 31672(04)	TULSA CO. US-169