

Index Of Sheets

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL NOTES AND ESTIMATED BRIDGE QUANTITIES
2A	ROADWAY GENERAL NOTES
2B	ESTIMATED ROADWAY QUANTITIES AND GENERAL NOTES
3-3C	TRAFFIC CONTROL PLANS AND SPECIAL NOTES

NO PROJECT COMMITMENTS SHEET INCLUDED IN THIS SET OF PLANS.

Standard Drawings

DRAWING NO.	CURRENT REVISION DATE	DESCRIPTION
ROADWAY DESIGN STANDARDS		
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
TRAFFIC CONTROL		
T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-5	04-23-13	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS
T-M-6	06-22-12	MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES
T-PBR-1	06-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-2	11-01-11	DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-19	07-19-13	STANDARD STEEL SIGN SUPPORTS
T-S-20	11-01-11	SIGN DETAILS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-12	03-13-09	ONE LANE CLOSURE DETAIL FOR BRIDGES ON DIVIDED HIGHWAYS
T-WZ-16	03-13-09	LANE SHIFT ON DIVIDED HIGHWAYS AND FREEWAYS
T-WZ-18	03-13-09	SHOULDER CLOSURE DETAIL FOR FREEWAYS AND DIVIDED HIGHWAYS
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-8	06-10-14	FILTER SOCK
BRIDGE APPURTENANCES		
STD-1-5	03-26-14	PAVEMENT AT BRIDGE ENDS

EROSION PREVENTION AND SEDIMENT CONTROL

EC-STR-8 06-10-14 FILTER SOCK

BRIDGE APPURTENANCES

STD-1-5 03-26-14 PAVEMENT AT BRIDGE ENDS

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

TDOT C.E. MANAGER I BRIAN K. EGLI, P.E.

DESIGNED BY PALMER ENGINEERING COMPANY
DESIGNER SCOTT WILSON, P.E.

P.E. NO. 01005-4137-04
PIN NO. 119694.00

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

ANDERSON COUNTY

STATE ROUTE 61 OVER
INTERSTATE 75

BRIDGE REPAIR

STATE ROUTE 61

BRIDGE NO: 01-SR61-20.87 (LT. & RT.)



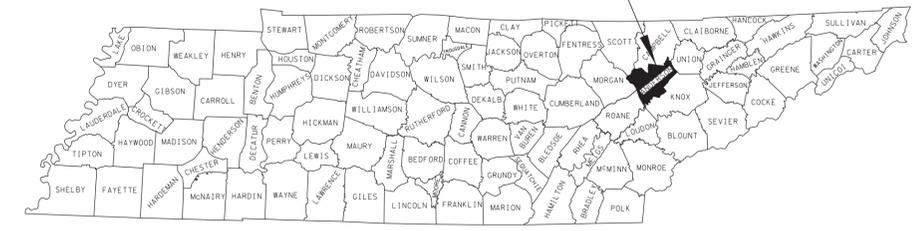
SCALE: 1" = 1 MILE

TRAFFIC DATA

ADT (2014) = 23,100
SR61 - POSTED SPEED LIMIT = 45 M.P.H.

TENN.	YEAR	SHEET NO.
	2015	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	01005-4137-04	

PROJECT LOCATION



LIST OF BRIDGE DRAWINGS

DRAWING	DRAWING NO.
LAYOUT OF LEFT BRIDGE TO BE REPAIRED	BR-116-76
GENERAL NOTES AND ESTIMATED QUANTITIES	BR-116-77
SUPERSTRUCTURE	BR-116-78
SUPERSTRUCTURE REPAIRS	BR-116-79
JOINT REPAIRS	BR-116-80
BEAM REPAIRS	BR-116-81
SUBSTRUCTURE REPAIRS	BR-116-82
SUBSTRUCTURE REPAIRS	BR-116-83
CONCRETE REPAIR DETAILS	BR-116-84

***LIST OF BRIDGE REFERENCE DRAWINGS**

(* DENOTES TO BE PRINTED WITH PLANS)

K-88-42 THRU K-88-54, K-88-51A,
K-15-60, AND K-38-154A

APPROVED: Paul D. Degges
PAUL D. DEGGES, CHIEF ENGINEER

DATE: _____

APPROVED: John Schroer
JOHN SCHROER, COMMISSIONER

UNOFFICIAL SET
NOT FOR BIDDING

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (JANUARY 1, 2015 EDITION)

DESIGN SPECIFICATIONS: LRFD 2012 EDITION WITH ADDENDA.

CONCRETE: TO BE CLASS "A" (CAST IN PLACE), F'C = 3,000 P.S.I. EXCEPT AS NOTED OTHERWISE.

SPECIAL NOTE TO CONTRACTOR CONCERNING CONCRETE: CONCRETE FOR INDICATED AREAS OF REPAIR SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF F'C = 3,000 P.S.I. AT EIGHTEEN (18) HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN THE REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. TRAFFIC SHALL NOT BE PERMITTED ON ANY REPAIR AREA UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF EIGHTEEN (18) HOURS.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED 1/2" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT, AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED 1/4" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.

PATCHING MATERIAL: MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL ON VERTICAL AND OVERHEAD SURFACES. SEE THE QUALIFIED PRODUCTS LIST 13, SECTION B.6.

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS TO BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CONCRETE AND PATCHING MATERIAL: NO CONCRETE OR PATCHING MATERIAL SHALL BE PLACED BY PNEUMATIC METHODS.

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH CONCRETE REMOVAL THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

FORMS AND FALSEWORK: ALL CONCRETE FORMS AND FALSEWORK SHALL BE REMOVED AFTER REPAIRS ARE COMPLETED. COST OF REMOVAL SHALL BE INCLUDED IN ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS.

ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

SEASONAL LIMITATIONS NOTE: NO DISTURBANCE OF CLIFF AND BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG OR ADULTS) IS PERMITTED DURING APRIL 15 THROUGH JULY 31. NEST REMOVAL OR DESTRUCTION AND THE IMPLEMENTATION OF MEASURES PREVENTING FUTURE NEST BUILDING (E.G. OBSTRUCTING A STRUCTURE USING NETTING) ARE PERMITTED DURING AUGUST 1 THROUGH APRIL 14. EXCEPTIONS ARE AS FOLLOWS:

1. TDOT MAY REMOVE OR DESTROY NESTS AND PREVENT NEST BUILDING PROVIDED NO EGGS ARE PRESENT PRIOR TO APRIL 15. ABSENCE OF EGGS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS AND PHOTOGRAPHS.
2. TDOT MAY REMOVE OR DESTROY NESTS PROVIDED NO BIRDS (YOUNG OR ADULTS) ARE PRESENT IN ANY NESTS PRIOR TO JULY 31. ABSENCE OF BIRDS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS, PHOTOGRAPHS, AND OBSERVATIONS OF NO BIRDS USING NESTS.

SURFACE PREPARATION AND PAINTING OF STRUCTURAL STEEL NOTES

CLEANING AND PAINTING: REFER TO THE SSPC-VIS 3 VISUAL STANDARD FOR POWER AND HAND-TOOL CLEANED STEEL. RUST, SCALE, AND DIRT SHALL BE THOROUGHLY REMOVED BY APPROVED METHODS OF HAND CLEANING, POWER TOOLS, OR ANY COMBINATION OF THESE METHODS. HAND CLEANING TO A (SSPC-SP 2) MAY INCLUDE THE USE OF METAL BRUSHES, SCRAPERS, CHISELS, HAMMERS, OR OTHER EFFECTIVE MEANS. POWER TOOL CLEANING TO A (SSPC-SP 3) MAY INCLUDE WIRE BRUSHES, IMPACT TOOLS, GRINDERS, SANDERS, OR ANY APPROVED COMBINATION OF THESE METHODS. BRISTLE OR WOOD FIBER BRUSHES SHALL BE USED FOR REMOVING LOOSE DUST. CLEANING SHALL BE DONE TO THE COMPLETE SATISFACTION OF THE ENGINEER. ALL AREAS OF EXPOSED STEEL SHALL BE SPOT PRIMED IMMEDIATELY AFTER CLEANING.

PAINT SYSTEM: PAINT SHALL BE SYSTEM B IN ACCORDANCE WITH SUBSECTION 603.06. COLOR OF THE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD NO. 595, *16515 GRAY. SEE SECTIONS 603 AND 910 OF THE STANDARD SPECIFICATIONS. THE CONTRACTOR HAS THE OPTION OF APPLYING THE PAINT USING SPRAY, ROLLER, OR BRUSH TECHNIQUES.

CONTAINMENT AND DISPOSAL: OUR RECORDS SHOW THAT THIS BRIDGE HAS OR HAS HAD LEAD / CHROMATE PAINT APPLIED TO IT DURING ITS HISTORY. THE CONTRACTOR SHALL ASSUME THAT REMNANTS OF THAT PAINT REMAIN ON THE BRIDGE ALONG WITH THE POSSIBILITY OF THE PRESENCE OF MILLSCALE. THE CONTRACTOR SHALL BID ACCORDINGLY. SEE THE TENNESSEE STANDARD SPECIFICATIONS SECTION 603.13 FOR SPECIAL PRECAUTIONS THAT MUST BE TAKEN IN THE REMOVAL; CONTAINMENT AND DISPOSAL OF THE SURFACE PREPARATION WASTE AND PAINT REMOVAL MEDIA; AND, WORKER AND PUBLIC SAFETY.

PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015	2	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	LEFT	RIGHT	TOTAL
①	201-05.31 VEGETATION REMOVAL	L.S.	0.5	0.5	1
②	202-04.10 REMOVAL OF STRUCTURES (RT. BRIDGE ABUT. BACKWALL)	L.S.	-	2	2
③	603-02.01 REPAINTING EXISTING STEEL STRUCTURES (BR. NO. 01-SR061-20.87 LT., BEARINGS)	L.S.	1	-	1
③	603-02.02 REPAINTING EXISTING STEEL STRUCTURES (BR. NO. 01-SR061-20.87 RT., BEARINGS)	L.S.	-	1	1
④	603-05.20 CONTAINMENT & DISPOSAL OF WASTE (BR. NO. 01-SR061-20.87 LT., BEARINGS)	L.S.	1	-	1
④	603-05.21 CONTAINMENT & DISPOSAL OF WASTE (BR. NO. 01-SR061-20.87 RT., BEARINGS)	L.S.	-	1	1
⑤	604-02.03 EPOXY COATED REINFORCING STEEL	LB.	-	2432	2432
	604-03.01 CLASS A CONCRETE (BRIDGES)	C.Y.	6	25	31
⑥	604-03.04 PAVEMENT AT BRIDGE ENDS	S.Y.	-	216	216
	604-03.20 BRIDGE JOINT MODIFICATION	L.F.	82	82	164
	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	2049	2046	4095
	604-05.31 BRIDGE DECK GROOVING (MECHANICAL)	S.Y.	933	1133	2066
⑦	604-10.05 CONCRETE	S.F.	3	4	7
⑧	604-10.14 REMOVE EXISTING WEARING SURFACE	L.S.	0.5	0.5	1
	604-10.18 REINFORCING STEEL (REPAIRS)	LB.	739	705	1444
	604-10.20 HYDRODEMOLITION	S.Y.	1008	1008	2016
	604-10.22 CONCRETE PARAPET REPAIR	L.F.	448	448	896
	604-10.24 JACKING CONCRETE SPANS	L.S.	2	2	4
⑨	604-10.30 BRIDGE DECK REPAIR (FULL DEPTH OF SLAB)	S.Y.	10	10	20
⑩	604-10.42 CONCRETE REPAIRS	C.F.	3	15	18
⑪	604-10.54 CONCRETE REPAIRS	S.F.	3	3	6
⑫	604-10.58 EPOXY INJECTION (INJECTION)	GAL.	29	31	60
⑬	604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	284	310	594
	619-01 BRIDGE DECK OVERLAY (PMC)	S.Y.	1008	1008	2016
	620-09 REMOVAL & REPLACEMENT OF EXISTING BRIDGERAIL	L.F.	103	103	206
	707-02.24 ANCHORAGE SYSTEM	L.F.	127	127	254

- ① INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY FOR THE REMOVAL AND DISPOSAL OF VEGETATION NEAR THE STRUCTURE AND ANY OTHER REMOVAL NECESSARY TO COMPLETE THE WORK, AS DIRECTED BY THE ENGINEER. WHERE POSSIBLE, STUMPS AND ROOTS ARE TO REMAIN TO PREVENT GROUND DISTURBANCE. ANY DAMAGE TO VEGETATED AREAS NOT SPECIFICALLY MENTIONED WITHIN THE PROJECT SCOPE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. THESE AREAS ARE TO BE RETURNED TO THEIR PRE-CONSTRUCTION STATE AND SHALL BE DETERMINED BY THE ENGINEER. ALL COSTS (LABOR AND MATERIALS) ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN ITEMS BID ON.
- ② INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR REMOVAL OF ABUTMENT BACKWALLS AS DETAILED AS WELL AS SHORING REQUIRED (FOR PHASED CONSTRUCTION AND MAINTENANCE OF TRAFFIC) TO CONSTRUCT ABUTMENT BACKWALLS AND CONCRETE PABE.
- ③ INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR SURFACE PREPARATION AND PAINTING OF STEEL BEARINGS. ALSO INCLUDES SURFACE PREPARATION AND LUBRICATION OF CONTACT SURFACES OF BEARINGS. SURFACE PREPARATION INCLUDES CLEANING AND POLISHING SLIDING SURFACES. LUBRICATE WITH MOLYKOTE 3402C BONDED LUBRICANT OR APPROVED EQUAL.
- ④ INCLUDES ALL LABOR AND MATERIALS NECESSARY FOR CONTAINMENT AND DISPOSAL OF ALL WASTE GENERATED DURING CLEANING AND PAINTING OF STEEL BEARINGS.
- ⑤ INCLUDES ALL COSTS ASSOCIATED WITH MECHANICAL CONNECTORS.
- ⑥ PRIOR TO CONSTRUCTION OF THE PAVEMENT AT BRIDGE ENDS, THE CONTRACTOR SHALL SUBMIT A PROPOSED BILL OF STEEL TO THE ENGINEER. THE COST OF MECHANICAL CONNECTORS IN REINFORCEMENT OF PABE IS TO BE INCLUDED IN COST OF PABE.
- ⑦ INCLUDES ALL LABOR AND MATERIALS NECESSARY TO PLACE HIGH EARLY STRENGTH CONCRETE FOR REPAIR OF INDICATED AREAS.
- ⑧ INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REMOVE & DISPOSE OF EXISTING ASPHALT WEARING SURFACE WITHIN THE LIMITS OF THE BRIDGE. PER 2013 TDOT INSPECTION REPORT: 6" (LEFT BRIDGE) & 7" (RIGHT BRIDGE).
- ⑨ INCLUDES COST OF ALL LABOR AND MATERIALS NECESSARY TO PLACE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL FOR REPAIR OF INDICATED AREAS.
- ⑩ ITEM QUANTITY SHALL BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UNOFFICIAL
SET

NOT FOR
BIDDING

GENERAL NOTES AND
ESTIMATED BRIDGE QUANTITIES
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

1/12/2015 2:45:50 PM

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DESIGNED BY G.S. WILSON DATE 10/2014
 DRAWN BY C.D. VICTORY DATE 10/2014
 SUPERVISED BY G.S. WILSON DATE 10/2014
 CHECKED BY G.S. WILSON DATE 10/2014

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	2A

GENERAL NOTES

GRADING

- (1) ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- (2) THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

UTILITIES

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

MISCELLANEOUS

- (1) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

ROAD CLOSURE

- (1) NO LESS THAN SEVEN (7) DAYS PRIOR TO THE CLOSURE OF THE ROAD, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING INDIVIDUALS OR AGENCIES COMPLETELY DESCRIBING THE AFFECTED ROADS AND THE APPROXIMATE DURATION OF THE CONSTRUCTION: THESE PARTIES INCLUDE, BUT ARE NOT LIMITED TO: (1) LOCAL LAW ENFORCEMENT OFFICE, (2) LOCAL FIRE DEPARTMENT, (3) AMBULANCE SERVICE, (4) LOCAL SCHOOL SUPERINTENDENT, (5) UNITED STATES POSTAL SERVICE, AND (6) LOCAL ROAD SUPERINTENDENT.

PAVEMENT MARKINGS

FINAL PAVEMENT MARKING IF 4" ENHANCED FLATLINE THERMOPLASTIC IS USED

- (1) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.01, ENHANCED FLATLINE THERMO PVMT MRKNG (4 IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

DETOURS, LANE SHIFTS AND MEDIAN CROSS-OVERS

- (2) THE PAVEMENT MARKING ON THE LANE SHIFTS FOR EDGE LINES WILL BE INSTALLED AND MAINTAINED TO THE SAME STANDARDS AS FOR PERMANENT MARKINGS ON THE MAIN ROADWAY. THESE MARKINGS SHALL BE IN PLACE PRIOR TO ALLOWING TRAFFIC ONTO THE PAVEMENT. THESE PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.02, REMOVABLE PAVEMENT MARKING (8" BARRIER LINE), L.F.
- (3) BEFORE OPENING THE LANE SHIFTS TO TRAFFIC, THE TRANSITIONAL MARKINGS ON THE EXISTING ROADWAY MUST BE IN PLACE. ALL EXISTING MARKINGS IN THE AREA OF THESE TRANSITIONAL MARKINGS SHALL BE OBLITERATED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING CONFLICTING MARKINGS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01, TRAFFIC CONTROL, LUMP SUM.

PAVEMENT

PAVING

- (1) THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

RESURFACING

- (2) WHERE DIRECTED BY THE TDOT ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO SHAPE PUBLIC SIDE ROADS, BUSINESS ENTRANCES, AND PRIVATE DRIVES, AS WELL AS CLEANING OF EXISTING DRAINS BEFORE PLACING MATERIALS. ALL COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (3) IN ALL CASES, THE LENGTH OF THE PAVEMENT TRANSITION, THE THICKNESS AND WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT MATERIALS SHALL BE AS DIRECTED BY THE TDOT ENGINEER.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- (1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (5) USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN THIRTY (30) FEET OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL INCREASE TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (6) THE CONTRACTOR SHALL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN THIRTY (30) FEET OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO PARK WITHIN THIRTY (30) FEET OF A OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE FOR ROADWAYS WITH CURRENT ADT'S LESS THAN 1500 AND DESIGN SPEED OF LESS THAN 60 MPH. THIS DISTANCE SHALL BE INCREASED TO FORTY-FIVE (45) FEET FOR ROADWAYS WITH CURRENT ADT'S OF 1500 OR GREATER AND DESIGN SPEED OF 60 MPH OR GREATER OR ON THE OUTSIDE OF A HORIZONTAL CURVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS REQUIRED SETBACK, THE CONTRACTOR SHALL DETERMINE THE ALTERNATE LOCATIONS AND REQUEST THE ENGINEER'S APPROVAL TO USE THEM.
- (7) ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**ROADWAY
GENERAL
NOTES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	2B

GENERAL NOTES (CONT.)

EROSION PREVENTION AND SEDIMENT CONTROL

DISTURBED AREA

- (1) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EROSION PREVENTION AND SEDIMENT CONTROL MEASURES OVER TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES ON ALL PROJECTS.

SEDIMENT CONTROL

- (2) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- (3) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT THE OFF-SITE MIGRATION OR DEPOSIT OF SEDIMENT ON ROADWAYS USED BY THE GENERAL PUBLIC. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G., FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN A STREET MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED WITH THE ADJOINING PROPERTY OWNER BEFORE REMOVAL OF SEDIMENT.

STREAM/WETLAND

- (4) SOIL MATERIALS MUST BE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. EPSC MEASURES TO PROTECT WATER QUALITY MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. APPROPRIATE EPSC MEASURES MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDE OF STOCKPILED SOIL, AND ALONG STREAM BANKS IN CLEARED AREAS TO PREVENT SEDIMENT MIGRATION INTO STREAMS IN ACCORDANCE WITH TDOT STANDARDS. THEY MUST BE INSTALLED ON THE CONTOUR, ENTRENCHED AND STAKED, AND EXTEND THE WIDTH OF THE AREA TO BE CLEARED.

INSPECTION, MAINTENANCE, REPAIR

- (5) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES/STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN EXPENSE.

LITTER, DEBRIS, WASTE, PETROLEUM

- (6) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.
- (7) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

SPECIAL NOTES

- (1) THE CONTRACTOR SHALL USE EXTREME MEASURES TO ENSURE THAT CONSTRUCTION AND CONSTRUCTION EQUIPMENT WILL NOT ENTER ANY PORTION OF WATER QUALITY FEATURES.
- (2) NO CLEARING OF VEGETATION ALONG WATER QUALITY FEATURES SHALL OCCUR.

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	LT. BRIDGE	RT. BRIDGE	TOTAL
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	0.5	0.5	1
① 209-03.22	FILTER SOCK (18 INCH)	L.F.	200	200	400
307-02.08	ASPHALT CONCRETE MIX (PG70-22) (BPMB-HM) GRADING B-M2	TON	-	124	124
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1.3	1.7	3
411-02.10	ACS MIX (PG70-22) GRADING D	TON	214	233	447
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	2925	2925	5850
705-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	15	15	30
② 705-08.51	PORTABLE IMPACT ATTENUATOR NCHRP 350 TL-3	EACH	1	1	2
712-01	TRAFFIC CONTROL	L.S.	0.5	0.5	1
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	460	460	920
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	45	45	90
712-06	SIGNS (CONSTRUCTION)	S.F.	436	436	872
712-08.03	ARROW BOARD (TYPE C)	EACH	1	1	2
712-09.02	REMOVABLE PAVEMENT MARKING (8" BARRIER LINE)	L.F.	1740	1740	3480
716-12.01	ENHANCED FLATLINE THERMO PVMT MRKNG (4 IN LINE)	L.M.	0.5	0.5	1
717-01	MOBILIZATION	L.S.	0.5	0.5	1

① SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT. INCLUDES COST OF SEDIMENT REMOVAL. PLACE FILTER SOCK DOWNGRADE OF ANY DISTURBED AREAS.

② THIS ITEM SHALL BE A PORTABLE ENERGY ABSORBING TERMINAL MEETING THE REQUIREMENTS OF NCHRP 350 FOR TEST LEVEL 3. EXAMPLES WOULD BE A QUAD-GUARD OR A REACT 350 OR A TRACC.

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SET**

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BIDDING

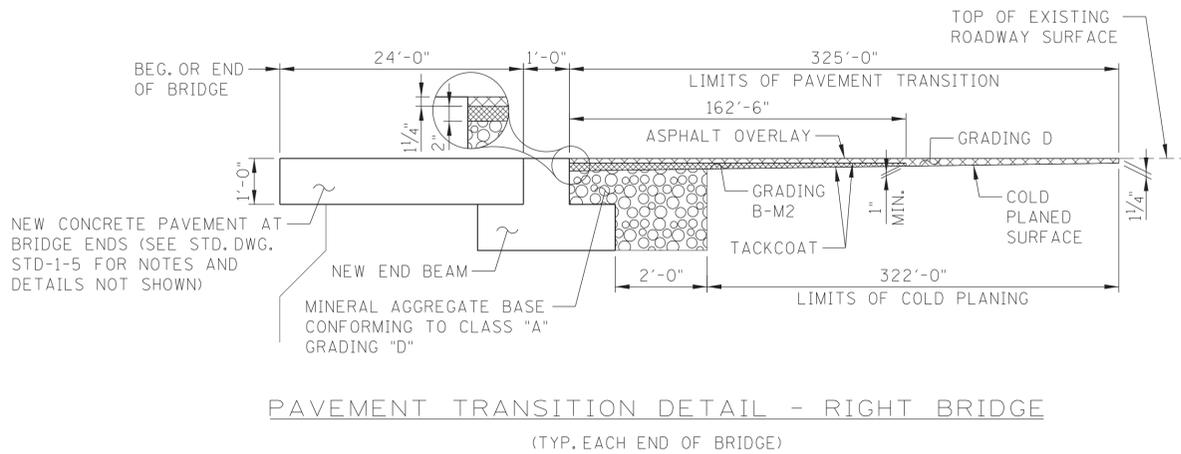
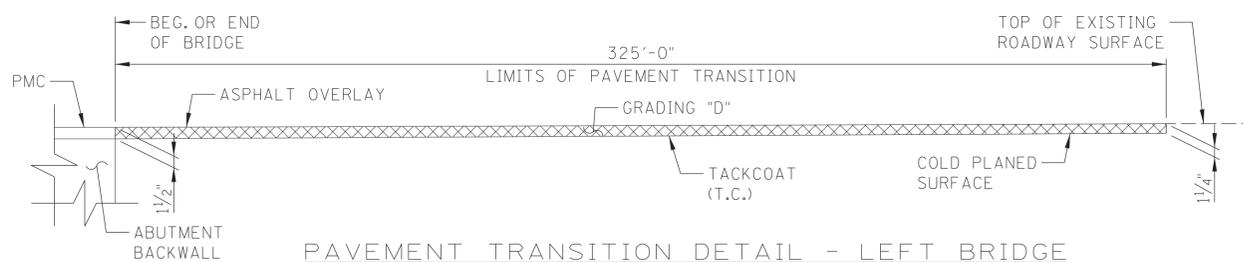
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**ESTIMATED
ROADWAY
QUANTITIES
AND
GENERAL NOTES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	3

TRAFFIC CONTROL SIGN QUANTITIES				
TYPE	DESCRIPTION	SIZE	EACH	SIGNS (CONST.) 712-06, S.F.
G20-2	END ROAD WORK	48"x24"	6	48
R2-1	SPEED LIMIT 30	36"x48"	2	24
W1-4L	REVERSE CURVE (LEFT)	48"x48"	2	32
W1-4R	REVERSE CURVE (RIGHT)	48"x48"	2	32
W3-5	SPEED LIMIT 30 (AHEAD)	48"x48"	2	32
W4-2L	LANE ENDS (MERGE RIGHT)	48"x48"	6	96
W4-2R	LANE ENDS (MERGE LEFT)	48"x48"	6	96
W20-1	ROAD WORK AHEAD	48"x48"	2	32
W20-1	ROAD WORK 1 MILE	48"x48"	6	96
W20-5L	LEFT LANE CLOSED 1/2 MILE	48"x48"	6	96
W20-5L	LEFT LANE CLOSED 1500 FEET	48"x48"	6	96
W20-5R	RIGHT LANE CLOSED 1/2 MILE	48"x48"	6	96
W20-5R	RIGHT LANE CLOSED 1500 FEET	48"x48"	6	96
TOTAL				872

- TRAFFIC CONTROL SPECIAL NOTES**
- THESE TRAFFIC CONTROL PLANS DO NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF INSTALLING TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
 - CONSTRUCTION SIGNING SHOWN IN THESE PLANS IS TO SERVE AS A GUIDE ONLY. OTHER SIGNS MAY BE REQUIRED DURING VARIOUS PHASES OF CONSTRUCTION.
 - THE CONTRACTOR IS REQUIRED TO PROVIDE LANE SHIFTS WHERE NECESSARY TO ROUTE TRAFFIC AROUND CONSTRUCTION.
 - NO TRAFFIC SHALL BE DETOURED OR ROADWAY CLOSED, ABANDONED, OR REMOVED WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
 - ADVANCE WARNING SIGNS ARE TO BE PLACED PRIOR TO BEGINNING OF CONSTRUCTION AND REMAIN IN PLACE UNTIL THE COMPLETION OF THIS PROJECT.
 - PERMANENT SIGNS AND PERMANENT MARKINGS SHALL BE IN PLACE BEFORE COMPLETED ROADWAYS ARE OPEN TO TRAFFIC.
 - SEE THE CURRENT EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" FOR TRAFFIC DETAILS NOT SHOWN, GENERAL TRAFFIC CONTROL NOTES, AND SIGN DETAILS.
 - CONTRACTOR TO COVER ALL CONFLICTING SIGNS DURING CONSTRUCTION. COVERINGS SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION. COST ASSOCIATED WITH COVERING AND UNCOVERING SIGNS TO BE INCLUDED IN ITEM 712-06, SIGNS (CONSTRUCTION).
 - THE CONTRACTOR IS TO COORDINATE ALL LANE CLOSURES WITH THE TDOT REGIONAL OFFICE AND THE COUNTY ENGINEER.
 - MINIMUM TRAVEL LANE WIDTH TO BE 12 FEET (STRIPED).
 - WHERE RUMBLE STRIPS CONFLICT WITH WHEEL PATHS, PROVIDE METHOD TO PREPARE (SMOOTH) RUMBLE STRIPS PRIOR TO EXPOSURE TO TRAFFIC. RUMBLE STRIPS SHALL BE REPLACED IN-KIND. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN COST OF OTHER ITEMS BID ON.



SEE SEC. 617 AND 906.04 OF THE TENNESSEE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

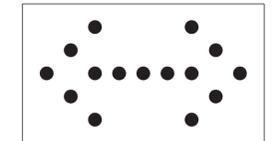
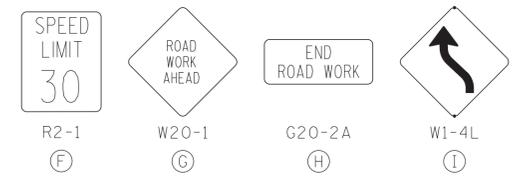
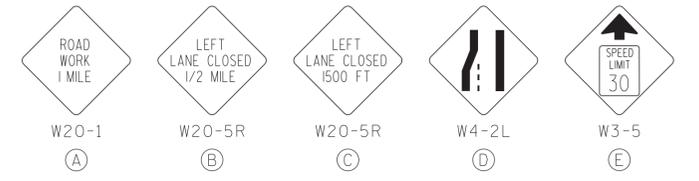
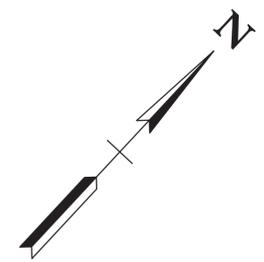
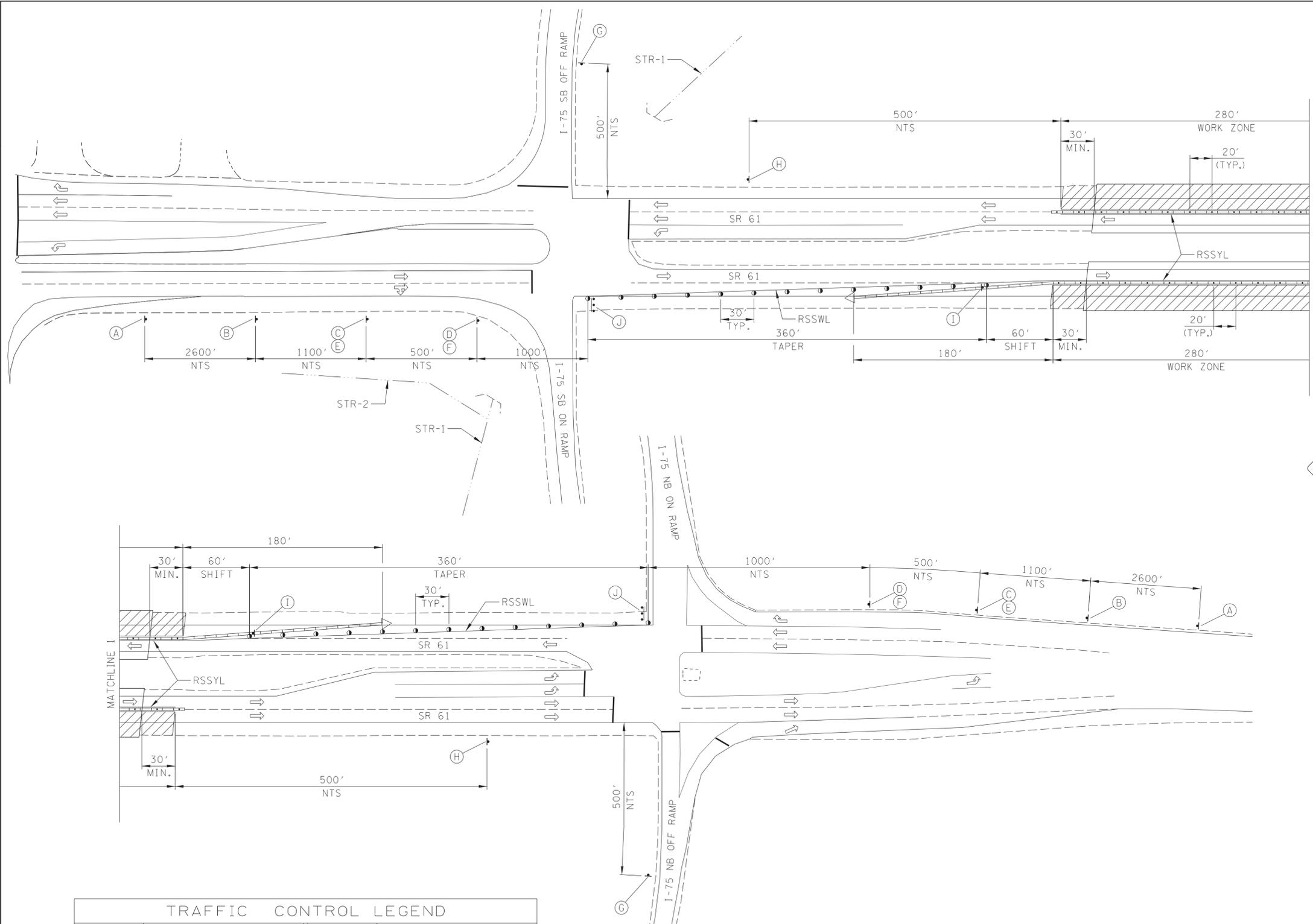
COST OF MINERAL AGGREGATE CLASS "A" GRADING "D" BASE QUANTITY SHALL BE INCLUDED IN COST OF PAVEMENT AT BRIDGE ENDS.

EXISTING SENSOR MATERIAL EMBEDDED IN ASPHALT FOR TRAFFIC SIGNALIZATION SHALL BE MAINTAINED. ALL COST ASSOCIATED WITH MAINTAINING EXISTING SENSOR MATERIAL TO BE INCLUDED IN COST OF OTHER ITEMS BID ON.

UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL PLAN

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	3A

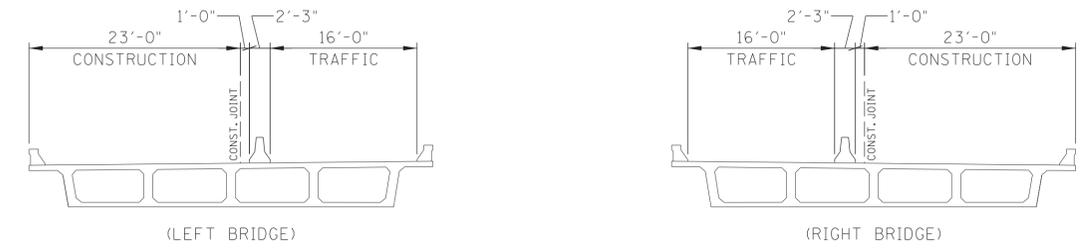


TYPE "C" ARROW BOARD (96"X48")
SEE STD. DWG. T-FAB-1
(PLACE ON SHOULDER)

J

UNOFFICIAL SET
NOT FOR BIDDING

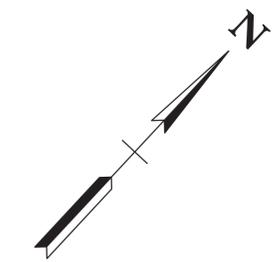
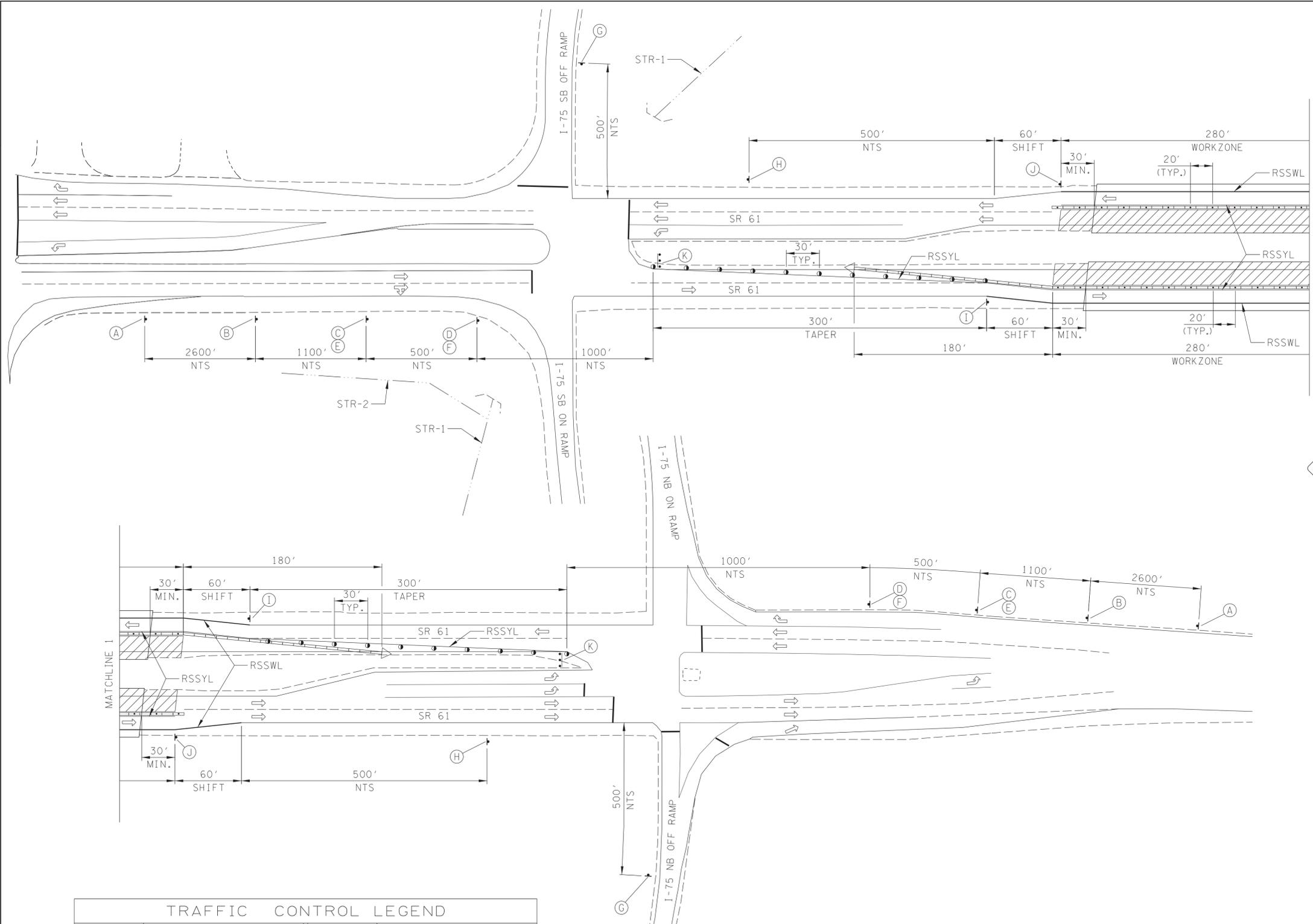
TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
●	FLEXIBLE DRUMS	●●●	FLASHING YELLOW ARROW BOARD
▨	WORK ZONE	▶	SIGN
—	PORTABLE BARRIER RAIL (WITH DELINEATORS)	◁	ATTENUATOR
RSSWL	REMOVABLE SINGLE SOLID WHITE LINE	⇒	FLOW OF TRAFFIC
NTS	NOT TO SCALE		



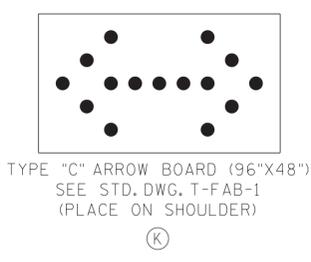
TYPICAL SECTION
(LOOKING AHEAD)

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TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	3B



- W20-1
(A)
- W20-5R
(B)
- W20-5R
(C)
- W4-2L
(D)
- W3-5
(E)
- R2-1
(F)
- W20-1
(G)
- G20-2A
(H)
- W1-4R
(I)
- W1-4L
(J)



TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
	FLEXIBLE DRUMS		FLASHING YELLOW ARROW BOARD
	WORK ZONE		SIGN
	PORTABLE BARRIER RAIL (WITH DELINEATORS)		ATTENUATOR
	REMOVABLE SINGLE SOLID WHITE LINE		FLOW OF TRAFFIC
	REMOVABLE SINGLE SOLID YELLOW LINE		NOT TO SCALE

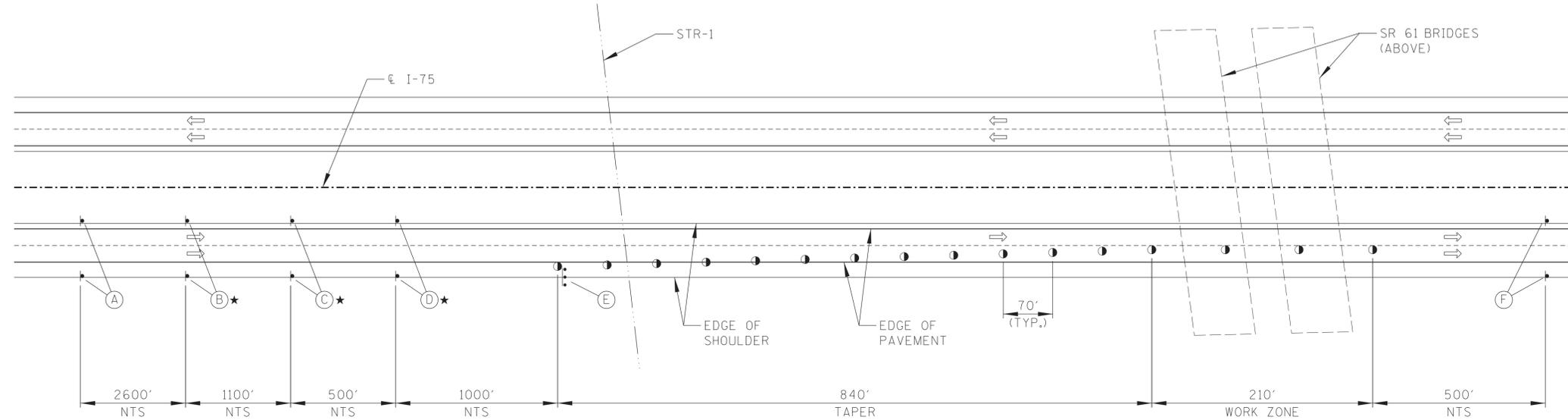
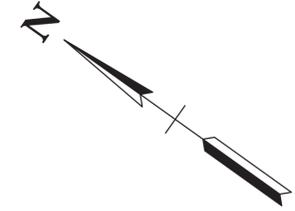


TYPICAL SECTION
(LOOKING AHEAD)

UNOFFICIAL SET
NOT FOR BIDDING

TYPE	YEAR	PROJECT NO.	SHEET NO.
BRIDGE REPAIR	2015	01005-4137-04	3C

TRAFFIC CONTROL LEGEND			
SYMBOL	ITEM	SYMBOL	ITEM
●	FLEXIBLE DRUMS	...	FLASHING YELLOW ARROW BOARD
+	SIGN	⇨	FLOW OF TRAFFIC
NTS	NOT TO SCALE		



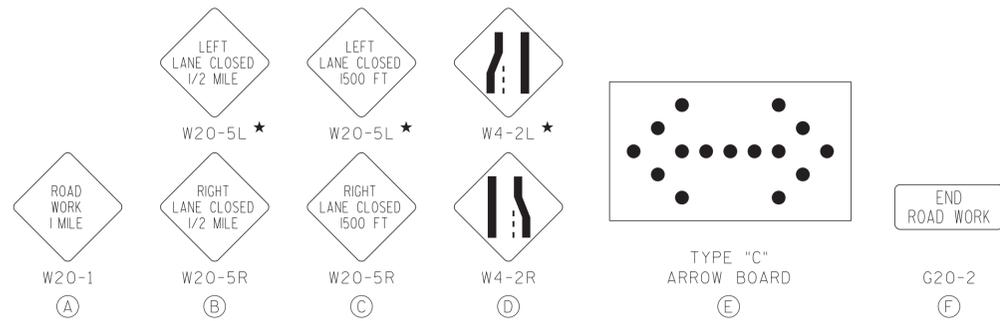
LANE CLOSURE DETAILS - INTERSTATE 75 (NORTHBOUND & SOUTHBOUND)

SOUTHBOUND LANE CLOSURES SHOWN, NORTHBOUND LANE CLOSURES OPPOSITE HAND.

★ FOR LEFT LANE CLOSURE, USE SIGNS (W20-5L) AND (W4-2L).

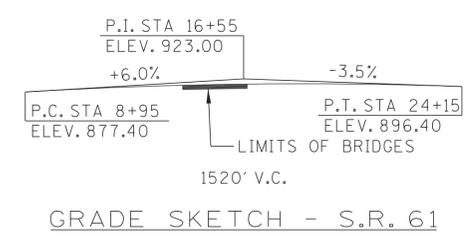
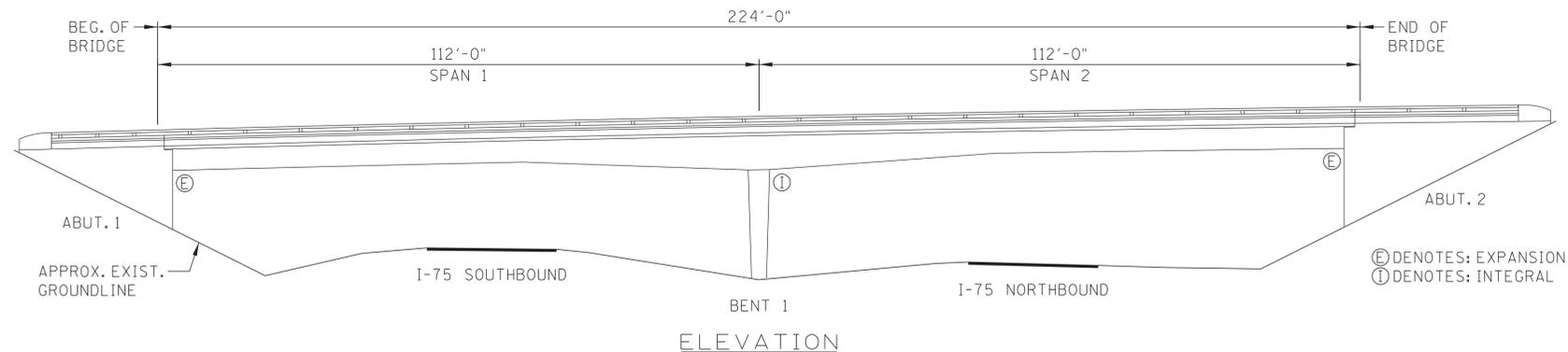
REFER TO STD. DWG. T-WZ-11 FOR DETAILS AND NOTES NOT SHOWN.

INTERSTATE LANE CLOSURES MAY BE LIMITED AS DIRECTED BY THE REGIONAL CONSTRUCTION SUPERVISOR AND/OR REGIONAL SAFETY COORDINATOR.



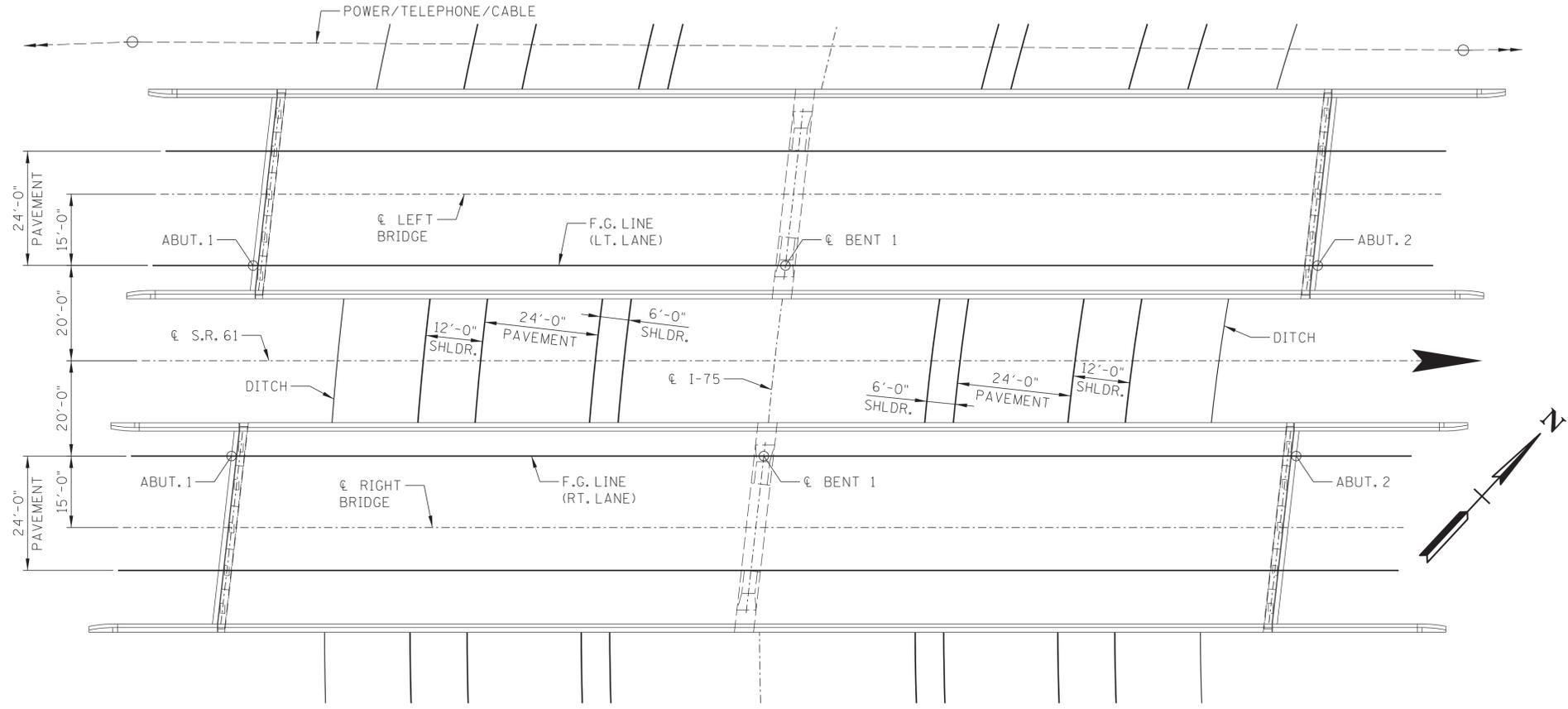
UNOFFICIAL SET
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NOT TO SCALE
TRAFFIC CONTROL PLAN
I-75 LANE CLOSURE DETAILS



PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

ELEVATION



PLAN

LIST OF DRAWINGS

DRAWING	DRAWING NO.	LAST REV. DATE
LAYOUT OF BRIDGE TO BE REPAIRED	BR-116-76	
GENERAL NOTES AND ESTIMATED QUANTITIES	BR-116-77	
SUPERSTRUCTURE	BR-116-78	
SUPERSTRUCTURE REPAIRS	BR-116-79	
JOINT REPAIRS	BR-116-80	
BEAM REPAIRS	BR-116-81	
SUBSTRUCTURE REPAIRS	BR-116-82	
SUBSTRUCTURE REPAIRS	BR-116-83	
CONCRETE REPAIR DETAILS	BR-116-84	

LIST OF REFERENCE DRAWINGS
(TO BE PRINTED WITH PLANS)

K-88-42 THRU K-88-54, K-88-51A, K-15-60, AND K-38-154A

SCOPE OF WORK

1. PROVIDE REQUIRED TRAFFIC CONTROL AND PHASED CONSTRUCTION MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES.
2. PROVIDE REQUIRED TRAFFIC CONTROL AND PHASED CONSTRUCTION MAINTAINING ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES FOR I-75 TRAFFIC (BELOW).
3. JACK THE SUPERSTRUCTURE TO ENABLE CLEANING, LUBRICATING, AND PAINTING OF THE BEARINGS AT BOTH ABUTMENTS OF BOTH BRIDGES.
4. REMOVE EXISTING ASPHALT SURFACE FROM EXISTING BRIDGE DECKS.
5. SCARIFY 3/4" FROM THE TOP OF THE EXISTING BRIDGE DECKS USING HYDRODEMOLITION.
6. RECONSTRUCT THE CONCRETE BRIDGE DECKS IN AREAS OF FULL DEPTH DECK REPAIR (UTILIZE 18 HOUR CONCRETE).
7. OVERLAY THE SCARIFIED DECKS WITH 1 1/2" POLYMER MODIFIED CONCRETE (WITH TYPE III CEMENT).
8. MECHANICALLY GROOVE THE DECKS OF BOTH BRIDGES AND NEW CONCRETE PAVEMENT AT BRIDGE ENDS OF RIGHT BRIDGE.
9. REMOVE EXISTING ALUMINUM BRIDGE RAILING.
10. PLACE NEW CONCRETE AT PARAPETS TO HEIGHT OF EXISTING END POSTS (THIS WILL REPLACE ALUMINUM RAILING).
11. RECONSTRUCT PARAPETS AT ABUTMENT WINGS TO ALIGN WITH PARAPETS ON BRIDGE.
12. REMOVE AND REPLACE THE BACKWALL AT ABUTMENT 1 AND ABUTMENT 2 OF THE RIGHT BRIDGE. THE PROPOSED BACKWALL WILL BE CONSTRUCTED WITH A ROADWAY BRACKET AND NEW JOINT SEAL SYSTEM.
13. REPAIR DETERIORATED AREAS OF CONCRETE AT THE ENDS OF THE SUPERSTRUCTURE (END WALL OF BOX GIRDER) NEAR BOTH ABUTMENTS OF THE RIGHT BRIDGE.
14. PROVIDE NEW CONCRETE PAVEMENT AT BRIDGE ENDS AT BOTH ENDS OF THE RIGHT BRIDGE.
15. REMOVE EXISTING JOINT MATERIAL AT ABUTMENTS AND REPLACE WITH JOINT SEAL SYSTEM. MODIFY AND REPAIR (FOR LEFT BRIDGE) TOP OF ABUTMENT BACKWALL FOR NEW JOINT SEAL SYSTEM.
16. INSTALL ANCHORS TO STABILIZE WING WALLS THAT ARE TILTED.
17. EPOXY INJECT CRACKS IN CONCRETE BOX GIRDERS AND SUBSTRUCTURE UNITS.
18. REMOVE AND REPAIR DETERIORATED AREAS OF CONCRETE ON SUBSTRUCTURES.
19. REPAIR CORNERS OF ABUTMENTS WITH NEW CONCRETE BUILD OUT.
20. REPAIR DAMAGED CONCRETE AT EXISTING BRIDGE END DRAINS.
21. HIGH PRESSURE WATER WASH AND TEXTURE COAT PARAPETS AND CANTILEVERS AS WELL AS ALL EXPOSED AREAS OF GIRDERS AND SUBSTRUCTURE UNITS.
22. CONSTRUCT ASPHALT PAVEMENT TRANSITIONS AT ENDS BRIDGES (LEFT BRIDGE) AND ENDS OF PABE (RIGHT BRIDGE). MAINTAIN SENSOR MATERIAL EMBEDDED IN ASPHALT FOR TRAFFIC SIGNALIZATION.
23. CLEAN AND MAINTAIN DRAIN HOLES IN BOX GIRDERS (COST TO BE INCLUDED IN ITEMS BID ON).
24. CLEAN AND MAINTAIN BRIDGE END DRAINS (COST TO BE INCLUDED IN ITEMS BID ON).
25. ALL DIRT/DEBRIS/TRASH SHALL BE REMOVED FROM SUBSTRUCTURES (COST TO BE INCLUDED IN ITEMS BID ON).
26. REMOVE VEGETATION FOR A DISTANCE OF TEN FEET ALONG EACH SIDE OF THE BRIDGES AS DIRECTED BY THE ENGINEER.

POSTED SPEED LIMIT = 45 M.P.H.
ADT (2014) = 23,100

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

UNOFFICIAL SET
NOT FOR BIDDING

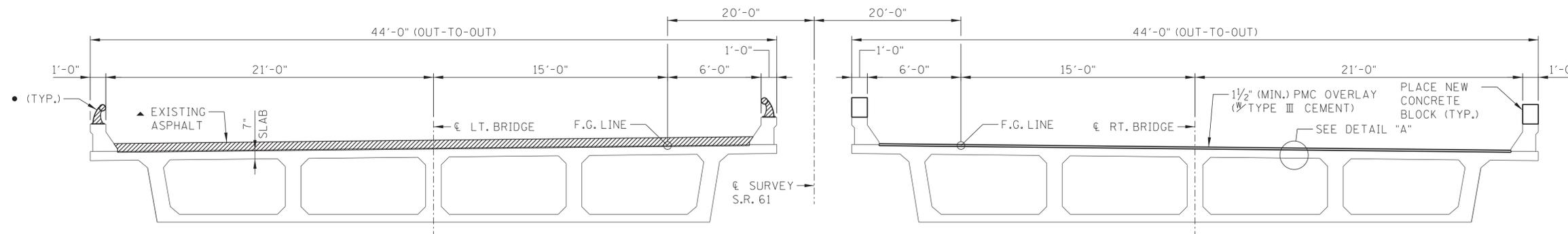
LAYOUT OF BRIDGE TO BE REPAIRED
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

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DESIGNED BY G.S. WILSON DATE 10/2014
DRAWN BY C.D. VICTORY DATE 10/2014
SUPERVISED BY G.S. WILSON DATE 10/2014
CHECKED BY G.S. WILSON DATE 10/2014

PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



EXISTING TYPICAL SECTION

(LOOKING AHEAD)

LEFT BRIDGE SHOWN,
RIGHT BRIDGE SIMILAR

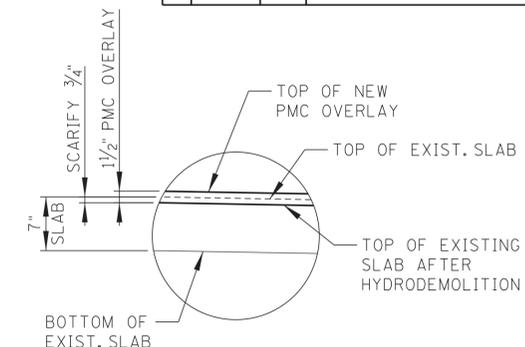
PROPOSED TYPICAL SECTION

(LOOKING AHEAD)

RIGHT BRIDGE SHOWN,
LEFT BRIDGE SIMILAR

DENOTES AREA TO BE REMOVED.

- REMOVE EXISTING RAILING. COST OF RAIL REMOVAL TO BE INCLUDED IN ITEM 604-10.22, CONCRETE PARAPET REPAIR, L.F. (TYP.)
- ▲ PER 2013 TDOT INSPECTION REPORT, EXISTING ASPHALT IS 6 INCHES (LEFT BRIDGE) AND 7 INCHES (RIGHT BRIDGE).



DETAIL "A"

SPECIAL NOTE CONCERNING USE OF HYDRODEMOLITION FOR SCARIFYING DECK 3/4", PARTIAL DEPTH CONCRETE REMOVAL AND NEW CONCRETE:

(THIS IS A GENERAL DESCRIPTION OF WORK REQUIRED AND PAYMENT FOR THAT WORK. SEE SPECIAL PROVISION 604H & TDOT STANDARD SPECIFICATION 619 FOR EXACT LIMITS OF WORK AND PAYMENT CONCERNING HYDRODEMOLITION AND NEW PMC OVERLAY.)

THE DECK AREA ON THE BRIDGE, SHALL RECEIVE HYDRODEMOLITION AS DESCRIBED BELOW. THE AREA SHALL BE SCARIFIED 3/4" MINIMUM AND HAVE PARTIAL DEPTH DETERIORATED CONCRETE REMOVED USING HYDRODEMOLITION. PARTIAL DEPTH AREAS WILL NOT BE MARKED ON THE DECK BUT WILL BE REMOVED AS THE HYDRODEMOLITION COMES IN CONTACT WITH PARTIAL DEPTH DETERIORATED CONCRETE WHILE SCARIFYING. THESE AREAS SHALL BE PAID FOR UNDER ITEM NO. 604-10.20, HYDRODEMOLITION, S.Y.

ALL COSTS ASSOCIATED WITH HYDRODEMOLITION, INCLUDING ALL MATERIAL AND LABOR NECESSARY TO REMOVE AND DISPOSE OF ALL CONCRETE AND OTHER DEBRIS TO A 3/4" MINIMUM DEPTH, ROTOMILLING, VACUUMING, SHIELDING, CONTAINMENT, FILTRATION OF WASTEWATER, ADDITIONAL JACKHAMMERING, PROTECTIVE BARRIER, AND ALL OTHER ASPECTS OF WORK NECESSARY TO REMOVE THE TOP 3/4" MINIMUM OF THE BRIDGE DECK BY HYDRODEMOLITION SHALL BE INCLUDED UNDER ITEM NUMBER 604-10.20, HYDRODEMOLITION, S.Y.

THE NEW PMC OVERLAY, WHICH INCLUDES THE PMC ABOVE 3/4" BELOW THE ORIGINAL BRIDGE DECK ELEVATION, SHALL BE PAID FOR UNDER ITEM NO. 619-01, BRIDGE DECK OVERLAY (PMC), S.Y.

THE NEW POLYMER MODIFIED CONCRETE PLACED IN AREAS OF PARTIAL DEPTH REMOVAL UP TO 3/4" BELOW THE ORIGINAL BRIDGE DECK ELEVATION SHALL BE PAID FOR ACCORDING TO TDOT STANDARD SPECIFICATION 619 AND WILL BE PLACED AT THE SAME TIME AS THE NEW PMC OVERLAY.

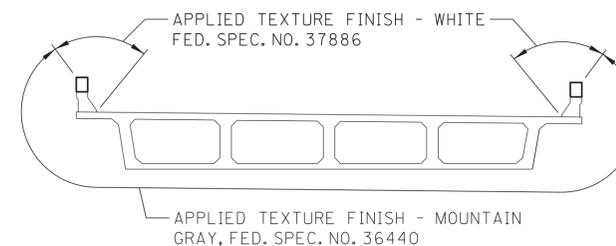
1/4" ROTOMILLING OF THE CONCRETE DECK WILL BE ALLOWED PRIOR TO HYDRODEMOLITION. EXTREME CARE SHALL BE EXERCISED SO AS NOT TO CUT INTO EXISTING REINFORCING STEEL.

PRESSURE WASHING OF 10,000 P.S.I. MIN. AND VACUUMING OF THE HYDRODEMOLISHED SURFACES SHALL BE DONE PRIOR TO PLACEMENT OF THE NEW PMC OVERLAY TO ENSURE A DECK FREE OF ANY LOOSE MATERIAL. THE SURFACES SHALL MEET WITH THE APPROVAL OF THE ENGINEER BEFORE PLACEMENT OF THE PMC IS ALLOWED.

A REPRESENTATIVE FROM HEADQUARTERS OF THE BRIDGE INSPECTION AND REPAIR OFFICE SHALL BE PRESENT BEFORE AND DURING HYDRODEMOLITION ACTIVITIES.

SPECIAL NOTE CONCERNING PLACEMENT OF THE POLYMER MODIFIED CONCRETE (PMC) OVERLAY

THE POLYMER MODIFIED CONCRETE (PMC) OVERLAY SHALL BE PLACED ONLY DURING NIGHT-TIME HOURS, EXCEPT WHEN SPECIFICALLY AUTHORIZED BY THE ENGINEER. NIGHT-TIME HOURS SHALL BE DEFINED AS THE TIME BETWEEN SUNSET AND SUNRISE. STRICT ADHERENCE TO CURING THE PMC OVERLAY AS PER TENNESSEE DOT STANDARD SPECIFICATIONS SHALL BE MAINTAINED.



APPLIED TEXTURE FINISH DETAILS

(TYPICAL LEFT & RIGHT BRIDGES)

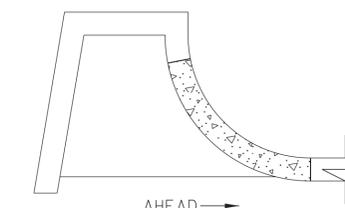
IN ADDITION TO SURFACES SHOWN, ALL EXPOSED CONCRETE SURFACES ON THE PIERS AND ABUTMENTS ARE TO RECEIVE AN APPLIED TEXTURE FINISH, MOUNTAIN GRAY, (FED. SPEC. NO. 36440).

COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02.

THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER AND COST SHALL BE INCLUDED IN ITEMS BID ON.

THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL FLAKING TEXTURE COATING, RUST, DIRT, OIL, AND OTHER FOREIGN SUBSTANCES PRIOR TO THE APPLICATION OF THE TEXTURE FINISH. THE SURFACE SHALL BE CLEANED TO THE COMPLETE SATISFACTION OF THE ENGINEER USING A HIGH PRESSURE WATER WASH. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF WATER.



PLAN - END DRAIN

(BEGINNING OF LEFT BRIDGE)

DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-03.01, CLASS A CONCRETE (BRIDGES), C.Y.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

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SUPERSTRUCTURE
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

1/12/2015 1:35:31 PM

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DESIGNED BY G.S. WILSON DATE 10/2014
DRAWN BY C.D. VICTORY DATE 10/2014
SUPERVISED BY G.S. WILSON DATE 10/2014
CHECKED BY G.S. WILSON DATE 10/2014

PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

BILL OF STEEL

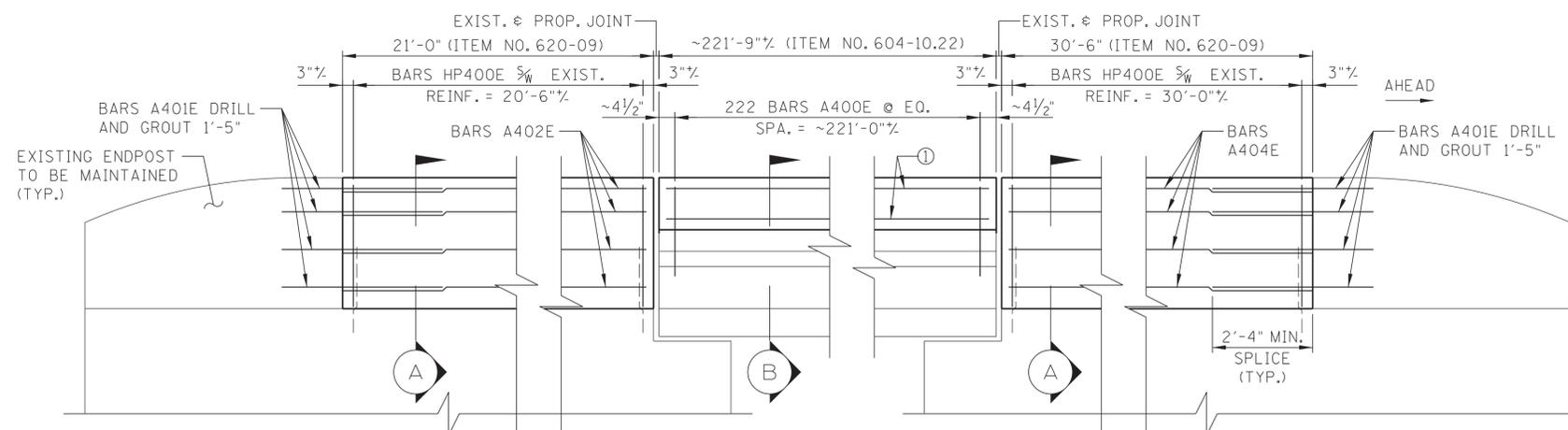
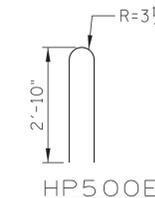
(PER PARAPET)
(4 TOTAL PARAPETS)

BAR	SIZE	NO. REQ'D.	LENGTH
A400E	4	222	2'-5"
A401E	4	14	3'-9"
A402E	4	7	20'-10"
A403E	4	8	56'-7"
A404E	4	7	30'-4"
HP400E	4	52	6'-0"

REINFORCING STEEL CODE

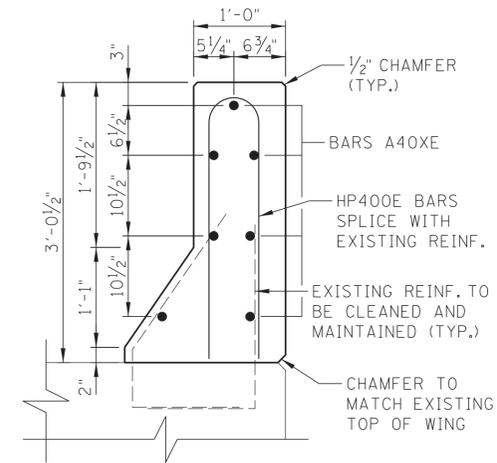
TYPE	SIZE	SERIES
A	4	01

THE SUFFIX E, FOR BARS SO MARKED, DENOTES EPOXY COATED REINFORCEMENT.



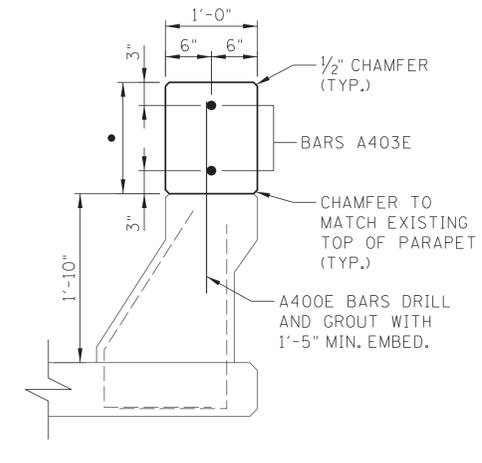
ELEVATION - PROPOSED TYPICAL PARAPET

① TYPICAL LINE OF BARS CONSISTS OF 4 BARS A403E 1/2'-4" MIN. SPLICE.



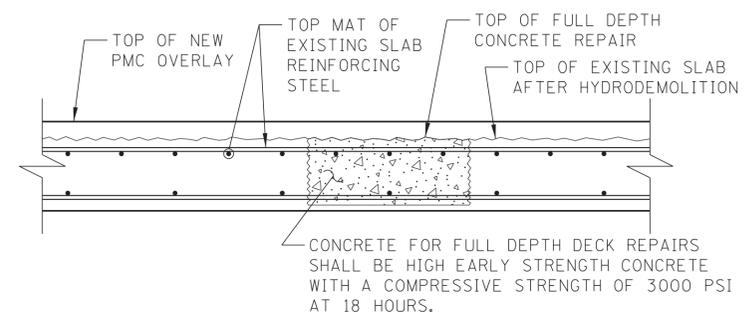
SECTION "A"

TRAFFIC FACE OF PROPOSED PARAPET IS TO ALIGN WITH PARAPET ON BRIDGE.



SECTION "B"

• APPROX. 1'-2 1/2" HEIGHT OF NEW CONCRETE TO MATCH HEIGHT OF EXISTING WING POSTS.



DETAIL SHOWING FULL DEPTH DECK REPAIR

ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF FULL DEPTH CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE BRIDGE REPAIR OFFICE. INSPECTIONS TO DETERMINE AREAS OF DECK REPAIR SHALL BE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AT LEAST THREE (3) DAYS IN ADVANCE. DECK REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10.30, BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB), S.Y. POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING FULL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

1. PNEUMATIC HAMMERS HEAVIER THAN A 60 POUND CLASS SHALL NOT BE USED. ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 35 POUND PNEUMATIC HAMMERS.
2. CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

FULL DEPTH REPAIR AREAS SPECIFIED ON SITE BY THE ENGINEER SHALL BE POURED TO THE HYDRODEMOLITION SURFACE LEVEL AND LEFT ROUGHENED BEFORE THE PLACEMENT OF THE PMC OVERLAY. THE PMC OVERLAY SHALL NOT BE PLACED UNTIL THE FULL DEPTH REPAIR AREA TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 PSI.

ITEM NO. 604-10.30 MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

PARAPET MODIFICATION NOTES:

- REMOVE CONCRETE PARAPET ON WINGS FROM EXPANSION JOINT TO ENDPST. EXISTING VERTICAL REINFORCEMENT EXTENDING FROM WINGS IS TO BE CLEANED, MAINTAINED, AND INCORPORATED INTO NEW CONCRETE. DIMENSIONS SHOWN ARE PER PLANS AND ARE TO MATCH DIMENSIONS OF ENDPST.

CONTRACTOR SHALL FIELD MEASURE DIMENSIONS OF BRIDGERAIL PRIOR TO BEGINNING WORK AND ORDERING REINFORCING STEEL.

ALL COST ASSOCIATED WITH MODIFICATION OF EXISTING BRIDGERAIL INCLUDING REMOVING THE EXISTING RAILING AND POSTS, STEEL REINFORCEMENT, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE THE WORK AS SHOWN SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 604-10.22, CONCRETE PARAPET REPAIR, L.F.

ALL COST ASSOCIATED WITH REMOVING AND REPLACING OF EXISTING BRIDGERAIL ON WINGWALLS INCLUDING REMOVAL OF THE EXISTING CONCRETE, STEEL REINFORCEMENT, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE THE WORK AS SHOWN SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM NO. 620-09, REMOVAL & REPLACEMENT OF EXISTING BRIDGERAIL, L.F.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

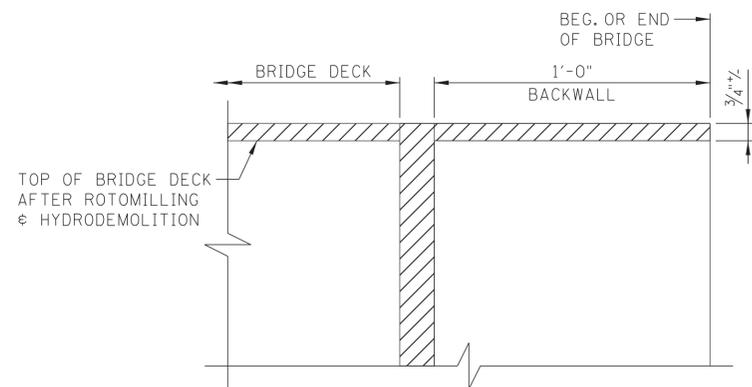
UNOFFICIAL SET
NOT FOR BIDDING

SUPERSTRUCTURE REPAIRS
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

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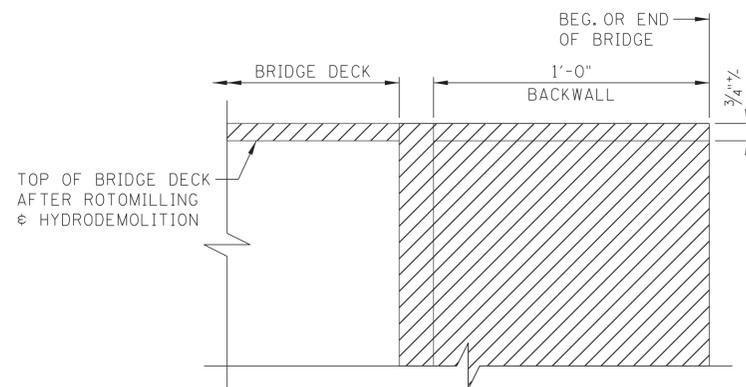
DESIGNED BY	G.S. WILSON	DATE	10/2014
DRAWN BY	C.D. VICTORY	DATE	10/2014
SUPERVISED BY	G.S. WILSON	DATE	10/2014
CHECKED BY	G.S. WILSON	DATE	10/2014

PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



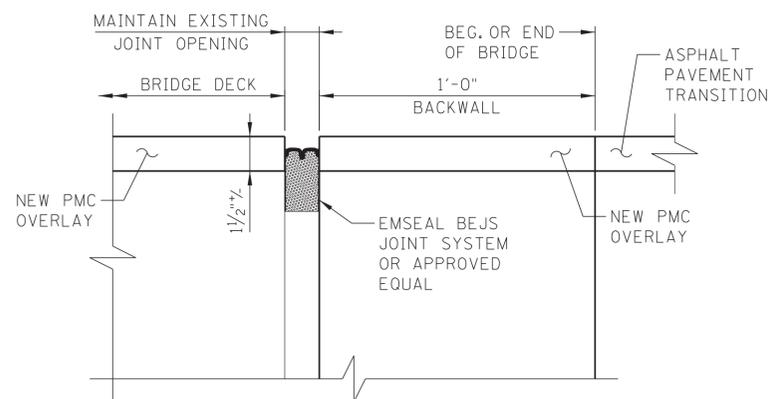
JOINT REPAIR DETAIL - LEFT BRIDGE
(SHOWING EXISTING JOINT)

DENOTES EXISTING MATERIAL TO BE REMOVED (TYP.)

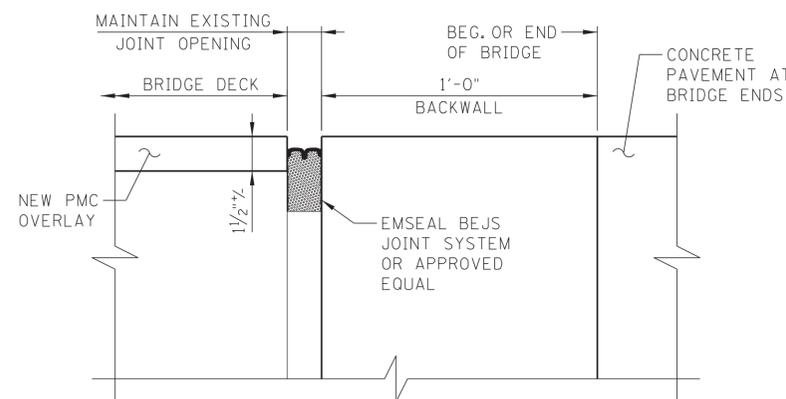


JOINT REPAIR DETAIL - RIGHT BRIDGE
(SHOWING EXISTING JOINT)

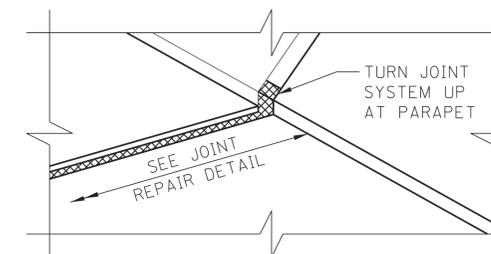
DENOTES EXISTING MATERIAL TO BE REMOVED (TYP.)



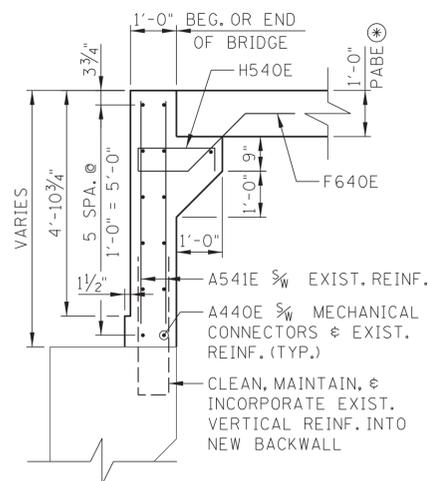
JOINT REPAIR DETAIL - LEFT BRIDGE
(SHOWING PROPOSED JOINT)



JOINT REPAIR DETAIL - RIGHT BRIDGE
(SHOWING PROPOSED JOINT)



ISOMETRIC VIEW OF PARAPET
(TYPICAL EACH END, EACH BRIDGE)



RIGHT BRIDGE - ABUTMENT BACKWALL
(SHOWING PROPOSED REINFORCEMENT)

⊗ NEW CONCRETE PAVEMENT AT BRIDGE ENDS (PABE). SEE STD-1-5 FOR NOTES AND DETAILS.

CLEAN, MAINTAIN, AND INCORPORATE EXISTING REINFORCEMENT EXTENDING FROM WINGWALLS INTO NEW ABUTMENT BACKWALL.

COST OF REMOVAL OF EXISTING AND CONSTRUCTION OF NEW ABUTMENT BACKWALLS TO BE INCLUDED IN ITEM NO. 202-04.10, REMOVAL OF STRUCTURES, L.S., ITEM NO. 604-03.01, CLASS A CONCRETE (BRIDGES), C.Y., AND ITEM NO. 604-02.03, EPOXY COATED REINFORCING STEEL, LB.

COST OF NEW PAVEMENT AT BRIDGE ENDS (PABE) TO BE INCLUDED IN ITEM NO. 604-03.04, PAVEMENT AT BRIDGE ENDS, S.Y.

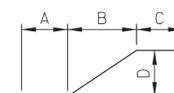
BILL OF STEEL

(PER ABUTMENT)
(2 TOTAL ABUTMENTS)
(RIGHT BRIDGE ONLY)

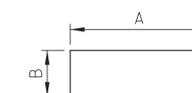
BAR	SIZE	NO. REQ'D	A	B	C	D	LENGTH
A440E	4	26					20'-2"
A541E	5	84					4'-10"
F640E	6	42	1'-1"	1'-3"	1'-1"	1'-3"	3'-11"
H540E	5	42	1'-8"	6"			2'-8"
COUPLER	4	52					2'-3"

LENGTH

A BARS



F BARS



H BARS

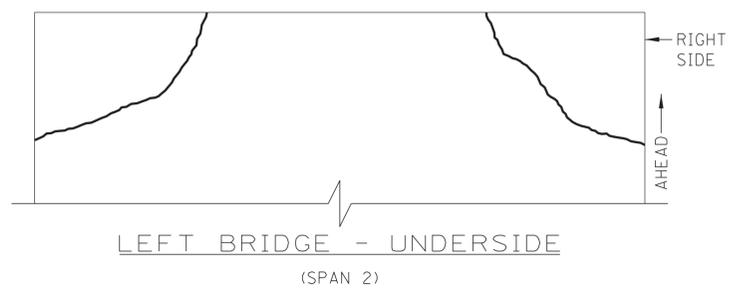
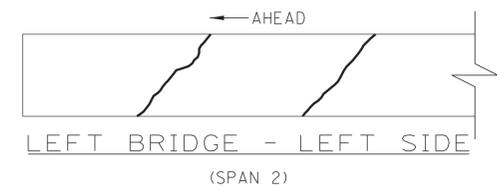
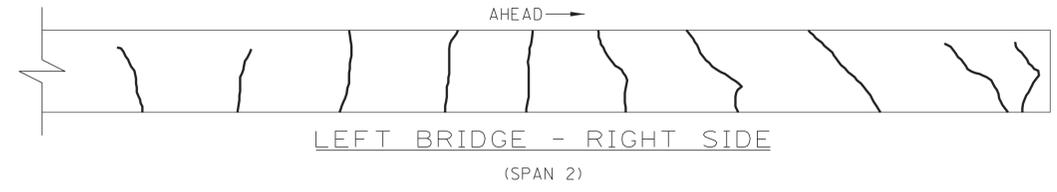
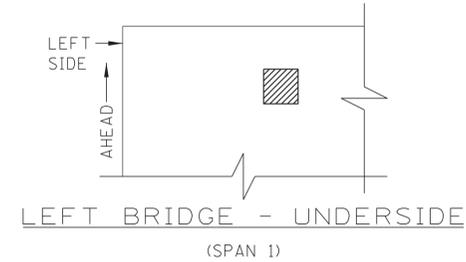
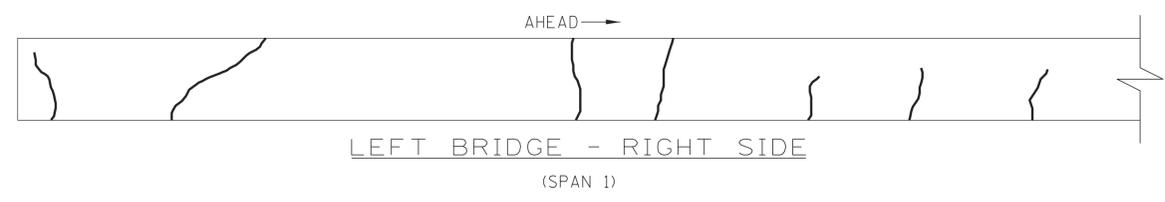
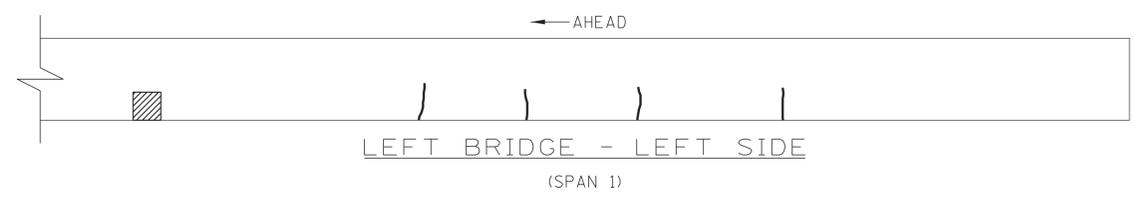
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

JOINT REPAIRS
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

DESIGNED BY G.S. WILSON DATE 10/2014
 DRAWN BY C.D. VICTORY DATE 10/2014
 SUPERVISED BY G.S. WILSON DATE 10/2014
 CHECKED BY G.S. WILSON DATE 10/2014

PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

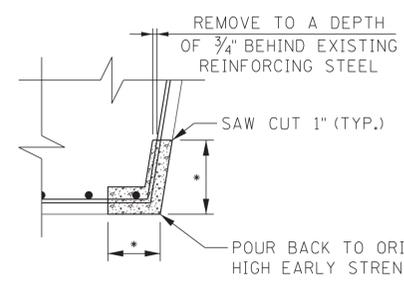


DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.42. FOR DETAILS SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED, SEE DETAIL THIS SHEET.

DENOTES CRACK TO BE EPOXY INJECTED. SEE EPOXY INJECTION NOTES ON DWG. BR-116-64.

ESTIMATED QUANTITIES

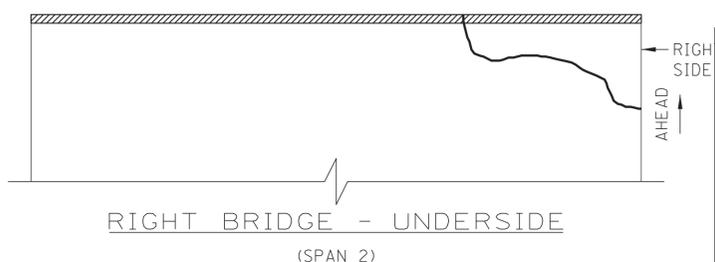
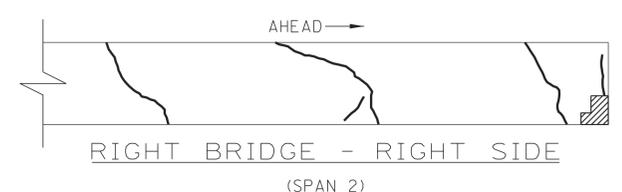
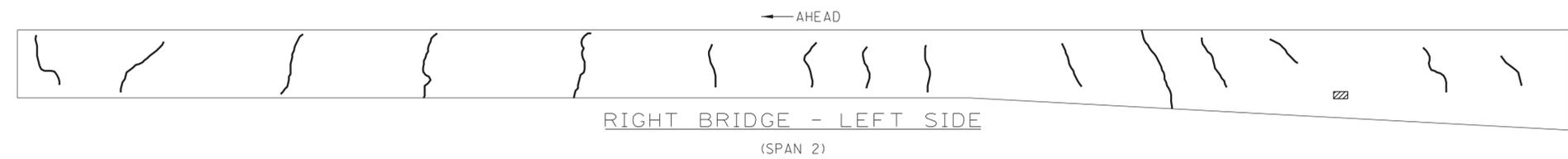
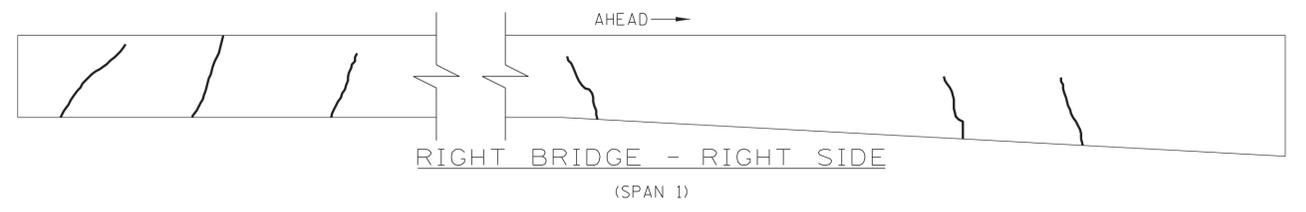
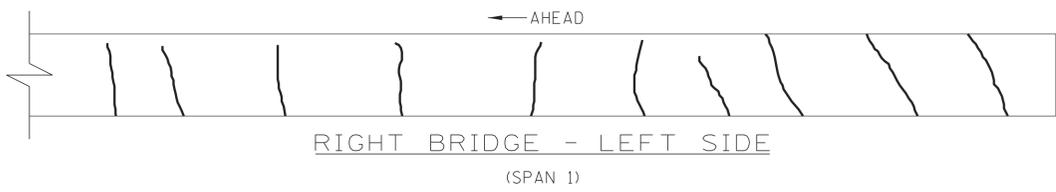
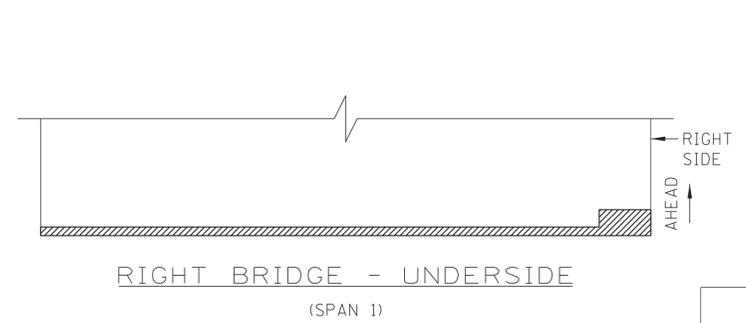
LOCATION OF REPAIR	ITEM 604-10.42 APPROX. REPAIR AREAS (C.F.)	ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)
LEFT BRIDGE		
SPAN 1	3	39
SPAN 2	-	55
RIGHT BRIDGE		
SPAN 1	8	74
SPAN 2	7	99
TOTAL	18	267



BEAM REPAIR DETAIL

NOTES:

- SEE PLAN THIS SHEET FOR APPROX. LIMITS AND LOCATIONS. FINAL LIMITS AND LOCATIONS OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- THE COST OF REMOVING PORTIONS OF THE EXISTING CONCRETE WITHIN THE LIMITS SHOWN, SAW CUTTING, COMPLETELY CLEANING EXISTING REINFORCING STEEL, HIGH EARLY STRENGTH CONCRETE, FORMING, LABOR, AND ALL MISCELLANEOUS MATERIAL NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN PRICE BID FOR ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.
- CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING DELAMINATED CONCRETE SO AS NOT TO DAMAGE EXISTING REINFORCING STEEL. ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE PLACING NEW CONCRETE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS TO THE BEAMS. DETAILS OF ANY TEMPORARY SUPPORT SYSTEM OR FALSEWORK REQUIRED SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE ANY BEAM REPAIR IS BEGUN. COST TO BE INCLUDED IN ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F.
- ITEM NO. 604-10.42, CONCRETE REPAIRS, C.F. MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.



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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BEAM REPAIRS
STATE ROUTE 61 OVER INTERSTATE 75
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ANDERSON COUNTY
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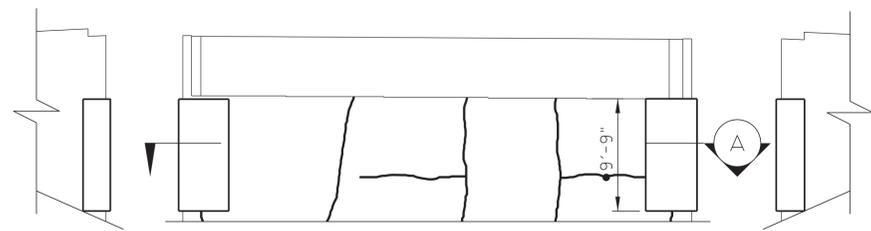
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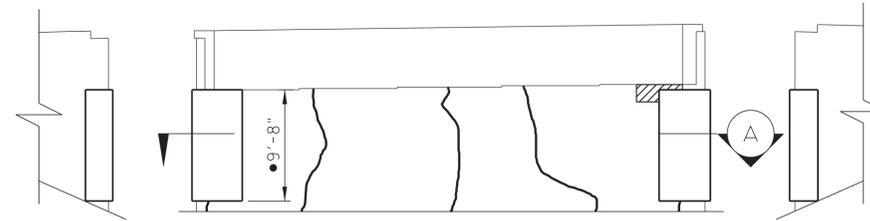
Palmer ENGINEERING

DESIGNED BY G.S. WILSON DATE 10/2014
DRAWN BY C.D. VICTORY DATE 10/2014
SUPERVISED BY G.S. WILSON DATE 10/2014
CHECKED BY G.S. WILSON DATE 10/2014

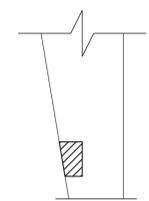
PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



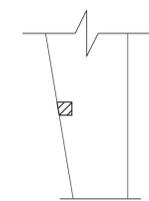
LEFT BRIDGE - ABUT. 1
(LOOKING BACK)



RIGHT BRIDGE - ABUT. 1
(LOOKING BACK)



LEFT BRIDGE - BENT 1
(LOOKING BACK)

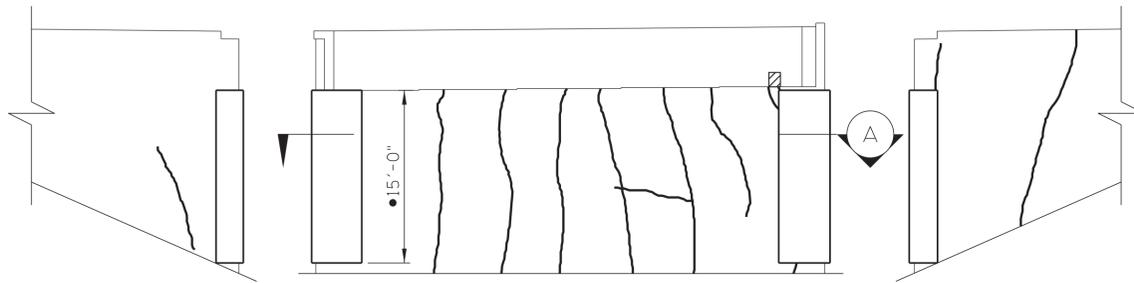


RIGHT BRIDGE - BENT 1
(LOOKING BACK)

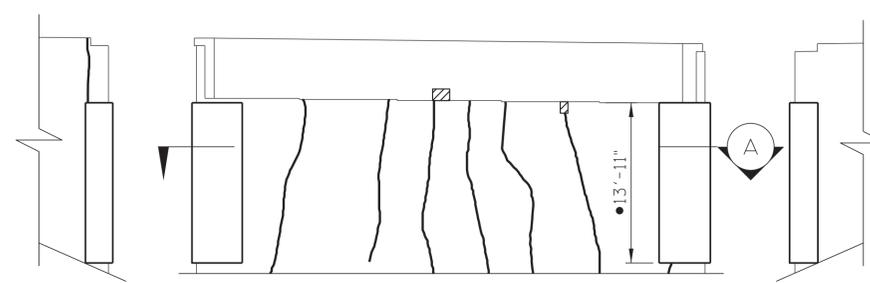
- DENOTES AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 AND/OR 604-10.54. FOR DETAILS SHOWING AREAS OF EXISTING SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED, SEE DWG. BR-116-64.
- DENOTES CRACK TO BE EPOXY INJECTED. SEE EPOXY INJECTION NOTES ON DWG. BR-116-64.

ESTIMATED QUANTITIES

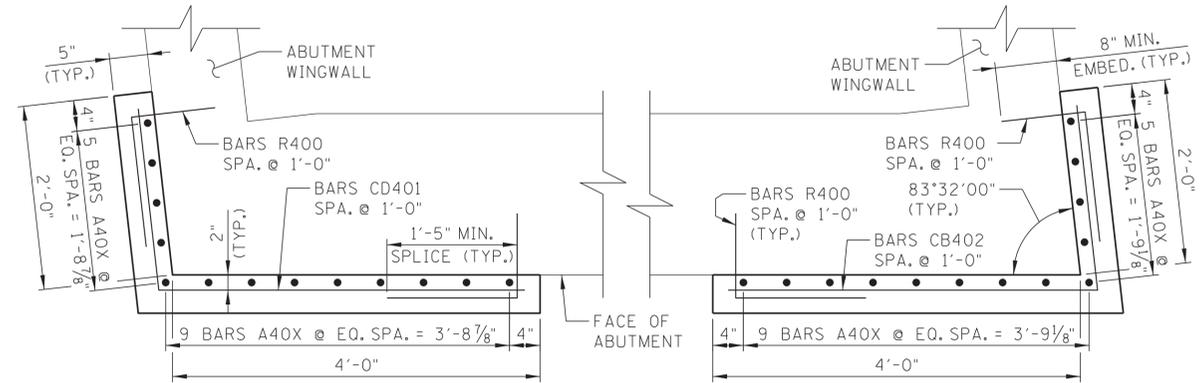
LOCATION OF REPAIR	ITEM 604-10.05 AND/OR 604-10.54 APPROX. REPAIR AREAS (S.F.)	ITEM 604-10.62 APPROX. REPAIR AREAS (L.F.)
LEFT BRIDGE		
ABUT. 1	-	52
BENT 1	5	-
ABUT. 2	1	138
RIGHT BRIDGE		
ABUT. 1	4	39
BENT 1	1	-
ABUT. 2	2	98
TOTAL	13	327



LEFT BRIDGE - ABUT. 2
(LOOKING AHEAD)



RIGHT BRIDGE - ABUT. 2
(LOOKING AHEAD)



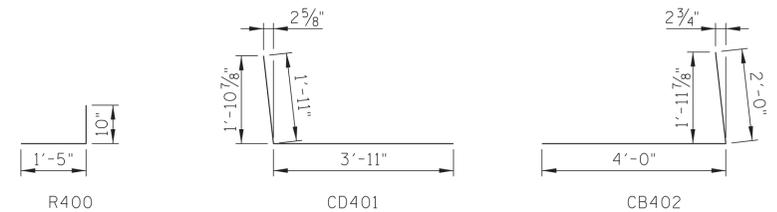
SECTION "A"
(TYP. EACH ABUTMENT)

BILL OF STEEL

BAR	SIZE	NO. REQ'D	LENGTH
R400	4	180	2'-3"
CD401	4	45	5'-10"
CB402	4	45	6'-0"
A403	4	26	9'-5"
A404	4	26	14'-8"
A405	4	26	9'-4"
A406	4	26	13'-7"

- CONTRACTOR SHALL FIELD VERIFY ABUTMENT HEIGHTS PRIOR TO ORDERING MATERIALS NECESSARY FOR ABUTMENT REPAIR.
- BARS R400E, CD401, & CB402 TYPICAL AT EACH ABUTMENT.
- BARS A403 TO BE USED AT LEFT BRIDGE - ABUTMENT 1.
- BARS A404 TO BE USED AT LEFT BRIDGE - ABUTMENT 2.
- BARS A405 TO BE USED AT RIGHT BRIDGE - ABUTMENT 1.
- BARS A406 TO BE USED AT RIGHT BRIDGE - ABUTMENT 2.

ALL COSTS ASSOCIATED WITH ABUTMENT MODIFICATIONS ARE TO BE INCLUDED IN ITEM NO. 604-03.01, CLASS A CONCRETE (BRIDGES), C.Y. AND 604-03.02, STEEL BAR REINFORCEMENT (BRIDGES), LB.



BARS R400 TO BE DRILLED AND GROUTED WITH 8" MINIMUM EMBEDMENT. (TYP.)

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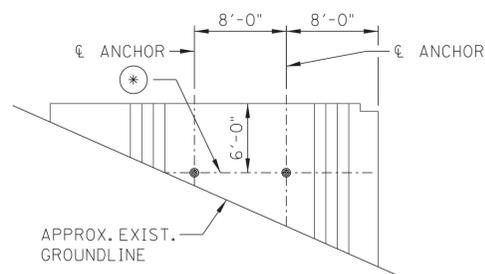
SUBSTRUCTURE REPAIRS
STATE ROUTE 61 OVER INTERSTATE 75
BR. NO. 01-SR061-20.87 (LT. & RT.)
ANDERSON COUNTY
2015

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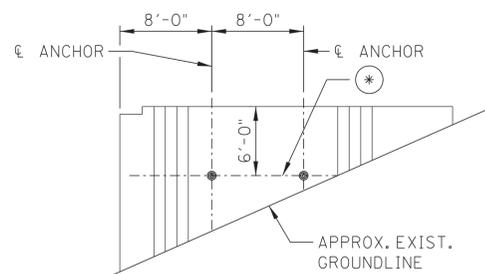
Palmer ENGINEERING

DESIGNED BY G.S. WILSON DATE 10/2014
DRAWN BY C.D. VICTORY DATE 10/2014
SUPERVISED BY G.S. WILSON DATE 10/2014
CHECKED BY G.S. WILSON DATE 10/2014

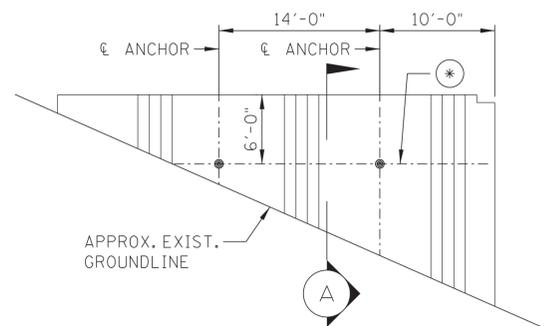
PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



ABUT. 1 - RT. WING WALL

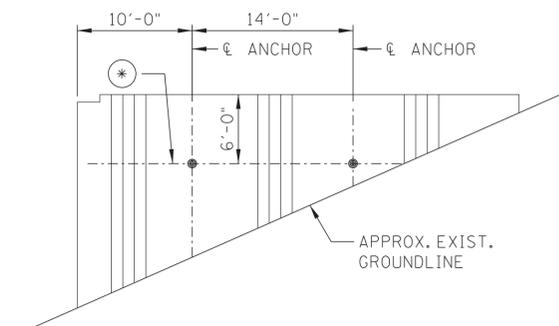


ABUT. 1 - LT. WING WALL

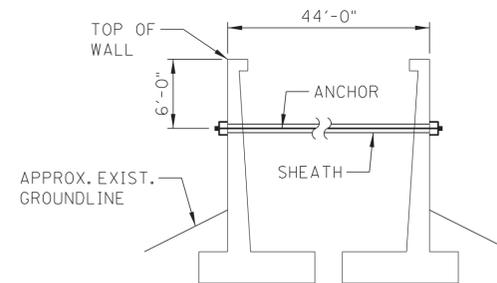


ABUT. 2 - LT. WING WALL

(LEFT BRIDGE SHOWN - RIGHT BRIDGE SIMILAR)



ABUT. 2 - RT. WING WALL



SECTION "A"

ANCHOR LOADS			
SERVICE LOAD (KIPS/FT. OF WALL) ▲			
LEFT BRIDGE		RIGHT BRIDGE	
ABUT. 1	ABUT. 2	ABUT. 1	ABUT. 2
6	15	6	15

⊗ ANCHOR ⊗ WALERS
 ▲ NOTE: SERVICE LOAD VALUES ARE AT ⊗ ANCHOR ⊗ WALERS AND ARE IN THE HORIZONTAL DIRECTION.

NOTES:

- THE DETAILS SHOWN ARE CONCEPTUAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE ANCHOR SYSTEM AND DETERMINING THE NUMBER OF ROCK ANCHORS REQUIRED TO RESIST THE SERVICE LOADS GIVEN ON THIS SHEET.
- PROPOSED ANCHORS SHALL BE SNUG TIGHT AGAINST THE EXISTING WALL AND SHALL NOT BE POST-TENSIONED.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT TO THE TDOT HEADQUARTERS, BRIDGE INSPECTION AND REPAIR OFFICE, PLANS AND DETAILS DESIGNED AND ENDORSED BY AN ENGINEER LICENSED IN TENNESSEE SHOWING THE PROPOSED ANCHORING SYSTEM AND INSTALLATION PROCEDURE.
- ANCHORS SHALL BE PROTECTED AGAINST CORROSION BY ENCAPSULATION WITH A SHEATH AND GROUTED THEIR FULL LENGTH.
- WALERS AND EXPOSED ENDS OF ANCHORS SHALL BE PAINTED GRAY TO MATCH COLOR OF NEW CONCRETE TEXTURE COATING.
- THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE STABILITY OF THE WINGWALLS DURING REPAIRS.
- ALL COSTS ASSOCIATED WITH INSTALLING ANCHORS TO STABILIZE EXISTING WINGWALLS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 707-02.24, ANCHORAGE SYSTEM, L.F.
- REPAIR OF DETERIORATED AREAS OF CONCRETE AND EPOXY INJECTION SHALL BE COMPLETED AFTER WALLS HAVE BEEN STABILIZED.

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Palmer ENGINEERING
 DESIGNED BY G.S. WILSON DATE 10/2014
 DRAWN BY C.D. VICTORY DATE 10/2014
 SUPERVISED BY G.S. WILSON DATE 10/2014
 CHECKED BY G.S. WILSON DATE 10/2014

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

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SUBSTRUCTURE REPAIRS
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PROJECT NO.	YEAR	SHEET NO.	
01005-4137-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

SPECIAL NOTES FOR EPOXY INJECTION

UNLESS OTHERWISE NOTED, THE INTENT OF THIS SPECIFICATION IS FOR DESIGNATED CRACKS TO BE INJECTED THEIR FULL LENGTH AND DEPTH.

DESIGNATED CRACKS SHALL BE INJECTED WITH AN APPROVED EPOXY RESIN ADHESIVE FILLING ALL VOIDS FOR THE CRACK DEPTH OR THICKNESS OF THE MEMBER. THE EPOXY RESIN ADHESIVE SHALL BE ON THE CURRENT QUALIFIED PRODUCTS LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TEST. ALL CRACKS SHALL BE INJECTED USING AN ADHESIVE SUITABLE FOR THE FIELD CONDITIONS (CRACK WIDTH, TEMPERATURE, HUMIDITY, ETC.) RECOMMENDED BY THE ADHESIVE MANUFACTURER AS SHOWN ON MATERIAL DATA SHEETS. FOLLOWING INJECTION, ALL INJECTION PORTS AND CAPPING MATERIAL SHALL BE REMOVED FROM EXPOSED SURFACES LEAVING THE SURFACE SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES. THIS WORK ALSO INCLUDES MAKING ANY EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACES.

THE CONTRACTOR SHALL HAVE SUFFICIENT EXPERIENCE AND TRAINING TO PERFORM THE EPOXY INJECTION IN ACCORDANCE WITH THESE PLANS. PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A WRITTEN PROCEDURE FOR PERFORMING THE EPOXY INJECTION. THE PROCEDURE SHALL DESCRIBE IN DETAIL HOW THE WORK WILL BE PERFORMED. THE PROCEDURE SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:

- 1) DESCRIPTION OF EQUIPMENT.
 - A. THE INJECTION EQUIPMENT SHALL BE OF THE TYPE THAT MIXES ADHESIVE COMPONENTS AT THE INJECTION HEAD.
 - B. THE INJECTION EQUIPMENT SHALL BE CAPABLE OF DISCHARGING MIXED ADHESIVE AT ANY PRESSURE UP TO 300 PSI. THE INJECTION EQUIPMENT SHALL BE EQUIPPED WITH GAUGES WHICH CAN MEASURE THE INJECTION PRESSURE AND VOLUME.
- 2) EQUIPMENT CALIBRATION PROCEDURES AND SCHEDULE.
- 3) MATERIALS TO BE USED (INCLUDING MANUFACTURER DATA SHEETS).
 - A. CAPPING MATERIAL
 - B. EPOXY ADHESIVE (TYPE TO BE APPROPRIATE FOR CRACK SIZES TO BE INJECTED).
- 4) PORT SPACING
 - A. PORT SPACING SHALL NOT BE LESS THAN THE THICKNESS OF THE CONCRETE IN THAT LOCATION.
- 5) INJECTION SEQUENCE
 - A. INJECTION SHALL PROCEED FROM LOWER END OF CRACK ALONG ADJACENT PARTS.
 - B. SKIPPING OF PORTS DURING INJECTION SHALL NOT BE ALLOWED.

THE CONTRACTOR SHALL HAVE THE MANUFACTURER'S INSTRUCTIONS FOR PROPORTIONING AND MIXING AVAILABLE AT THE JOB SITE AT ALL TIMES AND SHALL ENSURE THAT THE EQUIPMENT IS SUPPLYING THE MIXED ADHESIVE IN THE CORRECT PROPORTIONS.

TO ENSURE PROPER MIXING AND PROPORTIONING, SAMPLES SHALL BE TAKEN FROM THE INJECTOR HEAD. SAMPLES SHALL BE TAKEN AT THE START OF EACH WORKDAY AND EACH TIME THE ADHESIVE RESERVOIRS ARE REFILLED. THE SAMPLES SHALL BE IN A TEST CUP. THE SAMPLE SHALL BE MONITORED TO ENSURE THAT THE CURE TIME IS IN COMPLIANCE WITH THE MANUFACTURER'S DATA SHEETS. IF THE SAMPLES DO NOT CURE IN THE SPECIFIED TIME THEN THE EQUIPMENT USED TO PRODUCE THE SAMPLE SHALL NOT BE USED UNTIL THE PROBLEM IS CORRECTED.

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK. THE CONTRACTOR SHALL TAKE ONE (1) TWO (2) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY TENTH REPAIR LOCATION AFTERWARDS WORK SHALL NOT PROCEED UNTIL THE CORE SAMPLE IS TAKEN AND ACCEPTED. ALL CORE SAMPLES AND HOLES SHALL BE INDEXED FOR FUTURE REFERENCE. THE ENGINEER SHALL DESIGNATE ALL LOCATIONS TO BE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK.

THE INITIAL CORE WILL ALSO SERVE TO QUALIFY THE FOREMAN FOR THIS WORK. IF AT ANY TIME A NEW FOREMAN IS USED, HE SHALL BE QUALIFIED WITH A CORE SAMPLE.

THE CONTRACTOR, AT HIS EXPENSE, SHALL REPAIR ALL CORE HOLES WITH AN APPROVED CEMENTITIOUS PATCHING MATERIAL.

CORE SAMPLES SHALL BE VISUALLY INSPECTED TO CONFIRM THAT CRACKS ARE COMPLETELY FILLED WITH ADHESIVE. ANY CORE HAVING LESS THAN 95% OF THE CRACK FILLED WITH ADHESIVE SHALL BE CONSIDERED UNACCEPTABLE AND BE REJECTED.

CORE SAMPLES SHALL BE TESTED FOR BOND STRENGTH. SAMPLES MAY BE FRACTURED BY HAMMER BLOW TO CRACK AREA OR THROWN AT A HARD SURFACE. IF ADHESIVE FAILURE OCCURS BEFORE CONCRETE FAILURE, THE CORE SHALL BE CONSIDERED UNACCEPTABLE AND REJECTED.

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS:

- 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND
- 604-10.58, EPOXY INJECTION (INJECTION), GAL

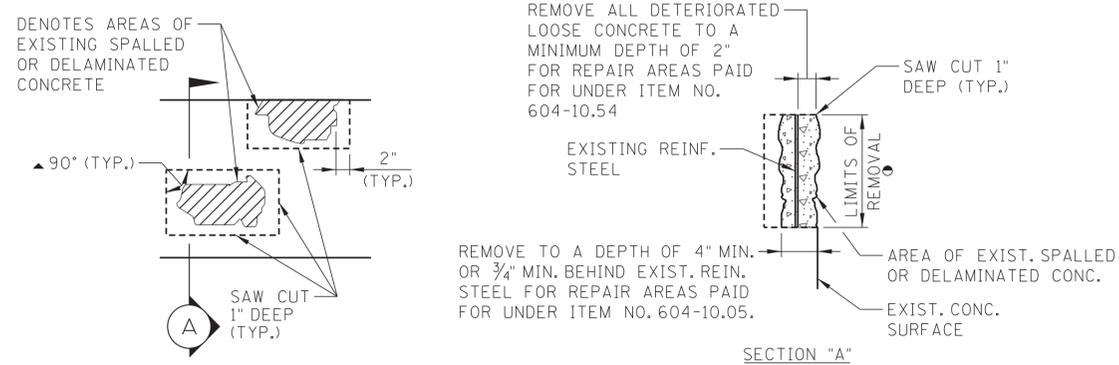
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F., SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL AND PORTS, AND OTHER INCIDENTALS. CRACKS SHALL BE MEASURED FOR PAYMENT ALONG THE LENGTH OF THE VISIBLE SURFACE CRACK.

PRICE BID ALSO INCLUDES ALL COSTS ASSOCIATED WITH MAKING THE EXISTING INJECTION PORTS (FROM A PREVIOUS REPAIR PROJECT) SMOOTH AND FLUSH WITH THE SURROUNDING CONCRETE SURFACE.

PRICE BID FOR ITEM NUMBER 604-10.58, EPOXY INJECTION (INJECTION), GAL, SHALL INCLUDE COST FOR ADHESIVE MATERIAL INJECTED ONLY.

NO PAYMENT SHALL BE MADE FOR REWORK DEEMED NECESSARY BY FAILURE OF ADHESIVE SAMPLES OR CORE SAMPLES.

ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED AT LEAST THREE (3) DAYS IN ADVANCE OF WORK TO BE DONE. THE ENGINEER SHALL BE NOTIFIED OF ANY CHANGE IN THE SCHEDULE A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE OF CHANGE.



DETAILS SHOWING AREAS OF EXIST. SPALLED OR DELAMINATED CONCRETE SURFACES TO BE REMOVED AND REPAIRED

- DENOTES: LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER.
- ▲ DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE EXISTING SPALLED OR DELAMINATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED EXISTING REINFORCING STEEL SHALL RECEIVE A COMPLETE CLEANING TO REMOVE ALL RUST. ALL EXISTING REINFORCEMENT SHALL REMAIN IN PLACE. ALL WORK MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

THE ENGINEER SHALL HAVE THE OPTION OF DESIGNATING A SPALLED OR DELAMINATED AREA TO BE REPAIRED UNDER ITEM NO. 604-10.05 OR 604-10.54. PATCHING MATERIAL FOR ITEM NO. 604-10.05 SHALL BE HIGH EARLY STRENGTH CONCRETE. PATCHING MATERIAL FOR ITEM NO. 604-10.54 SHALL BE A POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL. SEE QUALIFIED PRODUCTS LIST 13 (F).

COST OF SAW CUTTING, REMOVING SPALLED OR DELAMINATED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F. OR ITEM NO. 604-10.05, CONCRETE, S.F.

THE ENGINEER SHALL DESIGNATE ALL SPALLED OR DELAMINATED CONCRETE REPAIR AREAS IN THE FIELD. QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 AND 604-10.54 MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

POWER DRIVEN HAND TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.
2. CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.

PNEUMATICALLY PLACED CONCRETE IS NOT ALLOWED.

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