

TENN.	YEAR	SHEET NO.
	2015	1
FED. AID PROJ. NO.		
STATE PROJ. NO.	26016-4206-04	

Index Of Sheets

SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	PROJECT COMMITMENTS
2	ESTIMATED BRIDGE QUANTITIES
2A	GENERAL NOTES
2B	ESTIMATED ROADWAY QUANTITIES, GENERAL NOTES, & SPECIAL NOTES
2C	TRAFFIC CONTROL PLAN - BRIDGE NO. 1
2D	TRAFFIC CONTROL PLAN - BRIDGE NO. 2
2E	TRAFFIC CONTROL PLAN - BRIDGE NO. 1 AND 2

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

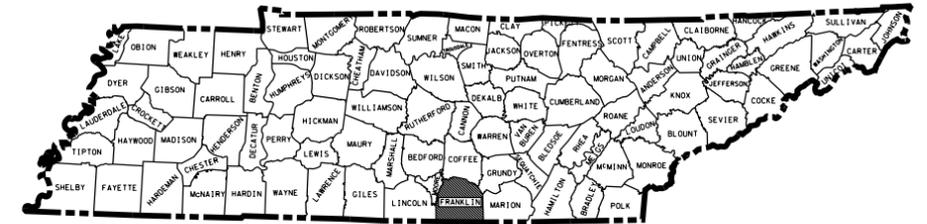
FRANKLIN COUNTY

STATE ROUTE 476 (MANSFORD BRIDGE ROAD)
OVER ELK RIVER - BRIDGE NO. 1

STATE ROUTE 476 (AWALT ROAD)
OVER HURRICANE CREEK - BRIDGE NO. 2

BRIDGE REPAIR

STATE HIGHWAY NO. 476 F.A.H.S. NO.



FRANKLIN COUNTY

STANDARD ROADWAY DRAWINGS

NO.	CURRENT REV.	DESCRIPTION

ROADWAY DESIGN STANDARDS

RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS

ROADWAY SAFETY DEVICES AND FENCES

S-GR31-1	12-01-14	W-BEAM GUARDRAIL
S-PL-3		SAFETY PLAN: MINIMUM INSTALLATION AT BRIDGE ENDS
S-GRC-1		GUARDRAIL CONNECTION TO BRIDGE ENDS OR BARRIER WALL
S-GRT-2	11-03-14	TYPE 38 GUARDRAIL TERMINAL

TRAFFIC CONTROL

T-M-1	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-2	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-1	06-30-09	DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS
T-PBR-2	11-01-11	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-10	04-02-12	TRAFFIC CONTROL PLAN SIGNAL LAYOUT FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-32	10-29-13	TRAFFIC CONTROL PLAN GENERAL NOTES FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-34	09-01-05	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE
T-WZ-35	04-02-12	TRAFFIC CONTROL PLAN PAY ITEM AND SIGN DETAILS FOR TRAFFIC SIGNAL AT TWO LANE BRIDGE RECONSTRUCTION SITE

EROSION PREVENTION AND SEDIMENT CONTROL

EC-STR-3C	08-01-12	SILT FENCE WITH WIRE BACKING
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STANDARD BRIDGE DRAWINGS

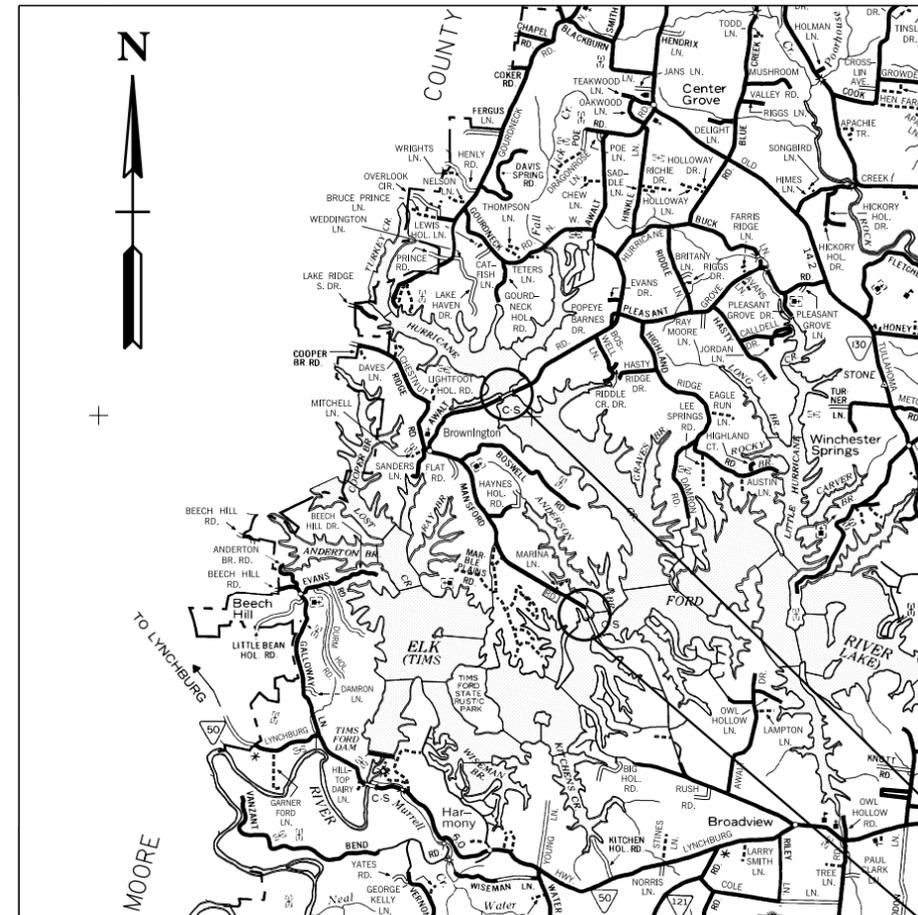
STD-2-1	11-01-10	BRIDGE MOUNTED INTERCONNECTED PORTABLE BARRIER RAIL
STD-11-1	05-01-14	BRIDGE RAILING WITH STRUCTURAL TUBING
SBR-2-115	01-04-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT CONSTRUCTION TYPES "A" THRU "J" - 1991
SBR-2-116	01-04-96	GENERAL NOTES AND DETAILS FOR EXPANSION JOINT REPLACEMENT TYPES "A" THRU "J" - 1991
SBR-2-117	05-30-96	STRIP SEAL EXPANSION JOINTS - REPLACEMENT CONSTRUCTION DETAILS TYPE "A" AND "B" - 1991
SBR-2-118	05-30-96	STRIP SEAL EXPANSION JOINTS - REPLACEMENT CONSTRUCTION DETAILS TYPE "C" AND "D" - 1991

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 JANUARY 1, 2015 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

TDOT TRANSPORTATION PROJECT SPECIALIST VALERIE NEWBERRY
DESIGNED BY NEEL-SCHAFFER, INC.
DESIGNER MARY M NICHOLSON CHECKED BY WILLIAM H. PATE
P.E. NO. 26016-4206-04
PIN NO. 119955.00



SCALE: 1" = 1 MILE

ROUTE	ADT	YEAR	POSTED SPEED LIMIT
B-1 SR476/ELK RIVER	2140	2015	45
B-2 SR476/HURRICANE CREEK	2140	2015	45

LIST OF BRIDGE DRAWINGS

DWG NO.	LAST REV DATE	DESCRIPTION
BR-118-106		BRIDGE NO. 1 LAYOUT OF BRIDGE TO BE REPAIRED
BR-118-107		BRIDGE NO. 2 LAYOUT OF BRIDGE TO BE REPAIRED
BR-118-108		BRIDGE NO. 1 AND 2 ESTIMATED BRIDGE QUANTITIES
BR-118-109		BRIDGE NO. 1 AND 2 GENERAL NOTES
BR-118-110		BRIDGE NO. 1 - PHASE CONSTRUCTION AND DEMOLITION
BR-118-111		BRIDGE NO. 2 - PHASE CONSTRUCTION AND DEMOLITION
BR-118-112		BRIDGE NO. 1 AND 2 STEEL REPAIR DETAILS
BR-118-113		BRIDGE NO. 1 BRIDGE DECK REPAIRS
BR-118-114		BRIDGE NO. 2 BRIDGE DECK & PIER REPAIR DETAILS
BR-118-115		BRIDGE NO. 1 AND 2 DRAIN MODIFICATION DETAILS
BR-118-116		BRIDGE NO. 1 AND 2 BRIDGE EXPANSION JOINT DETAILS
BR-118-117		BRIDGE NO. 1 AND 2 CURB, PARAPET & RAIL DETAILS
BR-118-118		BRIDGE NO. 1 AND 2 BRIDGE REPAIR DETAILS 1
BR-118-119		BRIDGE NO. 1 AND 2 BRIDGE REPAIR DETAILS 2
BR-118-120		BRIDGE NO. 1 AND 2 BRIDGE REPAIR DETAILS 3
BR-118-121		BRIDGE NO. 2 BRIDGE REPAIR DETAILS 4
BR-118-122		BRIDGE NO. 2 BRIDGE REPAIR DETAILS 5

LIST OF REFERENCE DRAWINGS

DWG NO.	DESCRIPTION
2115H401 THROUGH 2115H412	BRIDGE ACROSS ELK RIVER
2119H401 THROUGH 2119H412	BRIDGE ACROSS HURRICANE CREEK

SPECIAL PROVISIONS

604CR 2-19-1996 REPAIR OF BRIDGE DECK CRACKS

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

DATE: _____

APPROVED: John Schroer
JOHN SCHROER, COMMISSIONER

BRIDGE NO. 2
STATE ROUTE 476 OVER HURRICANE CREEK
BRIDGE NO. 26-SR476-7.40

BRIDGE NO. 1
STATE ROUTE 476 OVER ELK RIVER
BRIDGE NO. 26-SR476-3.39

UNOFFICIAL SET
NOT FOR BIDDING

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED: _____
DIVISION ADMINISTRATOR DATE



TYPE	YEAR	PROJECT NO.	SHEET NO.
	2015	26016-4206-04	1A

PROJECT COMMITMENTS

COMMITMENT ID	SOURCE DIVISION	DESCRIPTION	STA. / LOCATION
EDHZ001	Environmental Division, Hazardous Materials	An Asbestos Containing Material (ACM) survey was conducted on bridge no. 26S43300001, SR-476 over Elk River, LM 3.39 (26-SR476-3.39) and bridge no. 26S43300003 Hurricane Creek, LM 7.40 (26-SR476-7.40). No ACM was detected on either bridge. No special accommodations for demolition and waste disposal are anticipated for these structures and the material can be deposited in a C&D landfill. Prior to the demolition or rehabilitation of any structure (bridge or building), the contractor is required to submit the National Emission Standards for Hazardous Air Pollutants standard 10-day notice of demolition to the TDEC Division of Air Pollution Control (Standard Specification for Road and Bridge Construction (January 1, 2015) Sections 107.08 D and 202.03).	

7/30/2015 12:22:39 PM
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UNOFFICIAL SET

NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROJECT COMMITMENTS

ESTIMATED BRIDGE QUANTITIES

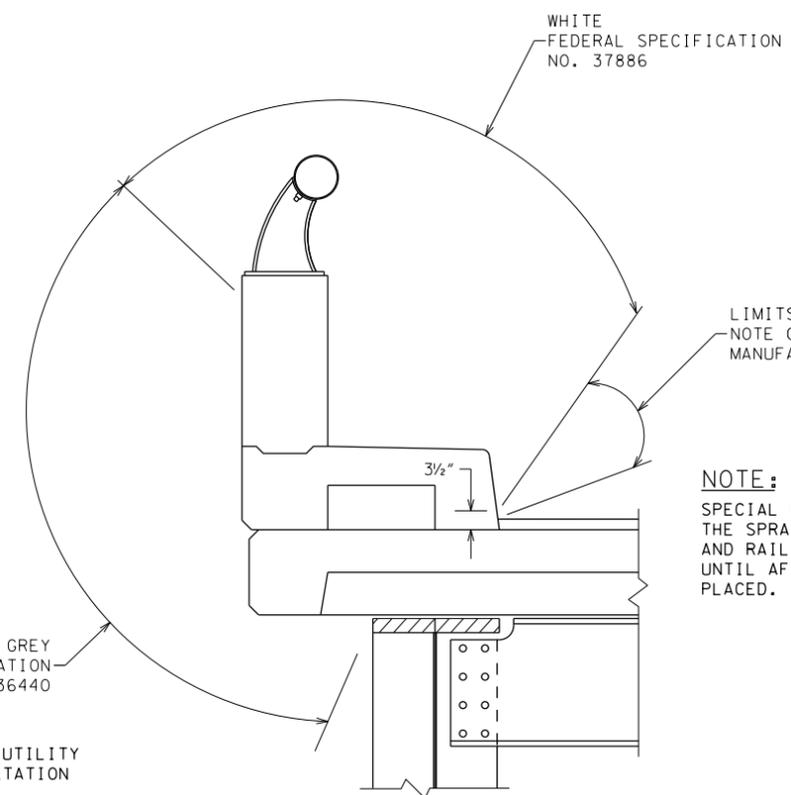
ITEM NO.	DESCRIPTION	UNIT	BRIDGE NO. 1 QUANTITY	BRIDGE NO. 2 QUANTITY	TOTAL QUANTITY
②	202-04.01 REMOVAL OF STRUCTURES (BR. NO. 26-SR476-3.39)	L.S.	1	—	1
②	202-04.02 REMOVAL OF STRUCTURES (BR. NO. 26-SR476-7.40)	L.S.	—	1	1
①③	602-10.32 STRUCTURAL STEEL (REPAIRS)	LB	1,211	1,609	2,820
⑤	603-02.01 REPAINTING STEEL STRUCTURES (BR NO. 26-SR476-3.39 & BR NO. 26-SR476-7.40)	L.S.	0.6	0.4	1
⑥	603-05.20 CONTAINMENT & DISPOSAL OF WASTE (BR NO. 26-SR476-3.39 & BR NO. 26-SR476-7.40)	L.S.	0.6	0.4	1
②④	604-02.03 EPOXY COATED REINFORCING STEEL	LB	—	1,692	1,692
②④	604-03.01 CLASS A CONCRETE (BRIDGES)	C.Y.	—	26	26
⑦	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	2,867	1,558	4,425
⑦	604-10.14 REMOVE EXISTING WEARING SURFACE	L.S.	0.6	0.4	1
⑧	604-10.17 NON-PENETRATING CONCRETE SEAL	S.Y.	168	50	218
①⑧	604-10.30 BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB)	S.Y.	20	20	40
⑨	604-10.32 EXPANSION JOINT REPAIRS (TYPE A)	L.F.	62	31	93
⑨	604-10.35 EXPANSION JOINT REPAIRS (TYPE C)	L.F.	31	—	31
⑨	604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	400	490	890
①⑩	604-10.54 CONCRETE REPAIRS	S.F.	30	77	107
①⑪	604-10.58 EPOXY INJECTION (INJECTION)	GAL	4	6	10
①⑫	604-10.62 EPOXY INJECTION (COMPLETE AND IN PLACE)	L.F.	180	275	455
①⑬	604-10.70 EXPANSION JOINT REPAIRS	L.F.	315	192	507
①⑭	604-20.10 MODIFY BRIDGE RAIL	L.F.	2,112	1,232	3,344
①⑮	610-10.35 MODIFY BRIDGE DECK DRAIN SYSTEM	L.S.	0.6	0.4	1
①⑯	617-01 BRIDGE DECK SEALANT	S.Y.	2,710	1,552	4,262
①⑰	617-02 BRIDGE DECK CRACK SEALING	L.F.	1,192	638	1,830
①⑱	617-05 SEALANT (HMWM)	GAL	3	2	5
④	908-21.01 BEARING (ABUT. NO. 2 ELASTOMERIC BEARING 20" X 16" X 4")	EACH	—	4	4

FOOTNOTES:

- ① ITEM SHALL BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER.
- ② INCLUDES ALL COST TO REMOVE AND DISPOSE OF EXISTING EXPANSION JOINTS, PORTIONS OF REPAIR AREAS AT CONCRETE CURB, PARAPET, DECK, SUBSTRUCTURES, ABANDONED UTILITY PIPE AT EACH END OF BRIDGE NO. 2 TO GROUND LEVEL AND ANY REPLACED STRUCTURAL STEEL MEMBERS AS SHOWN IN THESE PLANS. ALSO INCLUDES ALL COST TO REMOVE VEGETATION AND DEBRIS FROM ALL ABUTMENTS.
- ③ INCLUDES ALL COSTS FOR LABOR AND MATERIALS NECESSARY TO REPLACE SUPERSTRUCTURE STEEL MEMBERS ALONG WITH ANY NECESSARY BOLTS, WASHERS AND NUTS. SEE DWG NO. BR-118-112 AND BR-118-109 FOR DETAILS AND NOTES.
- ④ INCLUDES ALL COSTS TO REMOVE AND REPLACE THE BEARINGS AT ABUTMENT NO. 2 AT BRIDGE NO. 2.
- ⑤ INCLUDES ALL COSTS TO CLEAN AND PAINT ALL NEW AND EXISTING STRUCTURAL STEEL INCLUDING BEARINGS. APPROXIMATE WEIGHT OF STRUCTURAL STEEL IS 1,627,375 LBS @ BRIDGE NO. 1 AND 768,000 LBS @ BRIDGE NO. 2.
- ⑥ INCLUDES ALL COSTS TO CONTAIN AND DISPOSE OF EXISTING PAINT SYSTEM. SEE NOTES ON BR-118-109.
- ⑦ REMOVE ALL EXISTING ASPHALT FROM BRIDGE DECK. AVERAGE EXISTING ASPHALT THICKNESS ON BRIDGE NO. 1 IS 2½" AND BRIDGE NO. 2 IS 2½".
- ⑧ INCLUDES ALL COSTS FOR LABOR AND MATERIALS TO PROVIDE FULL DEPTH DECK REPAIR. SEE DWGS BR-118-113 AND BR-118-118 FOR DETAILS AND NOTES.
- ⑨ INCLUDES ALL COSTS FOR EXPANSION JOINT REPLACEMENT AS SHOWN IN STANDARD DWGS SBR-2-115 THRU SBR-2-118 AND BR-118-119. BRIDGE NO. 1 SHALL HAVE TYPE "A" EXPANSION JOINT INSTALLED AT BOTH ABUTMENTS AND TYPE "C" EXPANSION JOINT INTALLED AT BENT 3 ONLY. BRIDGE NO. 2 SHALL HAVE TYPE "A" EXPANSION JOINT INSTALLED AT ABUTMENT 2 ONLY.
- ⑩ INCLUDES ALL COSTS TO REPAIR SPALLED AND/OR DELAMINATED AREAS ON ABUTMENTS, PIERS, BENTS, CURB AND PARAPET USING QUICK SET PATCHING MATERIAL. SEE DRAWINGS BR-118-114, BR-118-118, AND BR-118-109 FOR DETAILS AND NOTES. ALSO INCLUDES ALL MATERIAL AND LABOR COST FOR CLEANING AND PAINTING OF EXISTING REINFORCING STEEL.
- ⑪ INCLUDES ALL COST FOR ADHESIVE MATERIAL ONLY.
- ⑫ INCLUDES ALL COST EXCEPT ADHESIVE MATERIAL TO EPOXY INJECT CRACKS IN PIERS, BENTS, ABUTMENTS, CURB AND PARAPET. SEE DRAWING BR-118-119 FOR DETAILS AND NOTES.
- ⑬ INCLUDES ALL COSTS TO RESEAL ALL JOINTS IN CURB AND PARAPET. SEE DWG BR-118-117 FOR DETAILS AND NOTES.
- ⑭ INCLUDES ALL COSTS TO EXTEND BRIDGE DECK DRAINS (240 DRAINS @ BRIDGE NO. 1 AND 140 DRAINS @ BRIDGE NO. 2). SEE DWG. BR-118-115 FOR DETAILS AND LOCATIONS.
- ⑮ INCLUDES ALL COSTS TO INSTALL THE SPRAY ON BRIDGE DECK SEALANT/MEMBRANE FOR FULL BRIDGE LENGTH
- ⑯ INCLUDES ALL COSTS TO INSTALL BRIDGE DECK CRACK SEALER (HMWM) AT CONSTRUCTION JOINTS. COST SHALL INCLUDE DECK SURFACE PREPARATION, CLEANING, LABOR AND ALL MISCELLANEOUS MATERIALS REQUIRED TO SEAL THE JOINTS ACCORDING TO SPECIAL PROVISION 604CR AND MANUFACTURER'S SPECIFICATIONS. THIS ITEM DOES NOT INCLUDED THE COST OF FURNISHING THE BRIDGE DECK SEALER.
- ⑰ INCLUDES ALL COST TO FURNISH THE SEALER MATERIAL (HMWM) FOR SEALING THE CONSTRUCTION JOINTS. THE SEALER SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION 604CR.
- ⑱ INCLUDES ALL COSTS TO APPLY SEALER TO SUBSTRUCTURES AT EXPANSION JOINT LOCATIONS BEFORE APPLYING TEXTURE FINISH. SEE GENERAL NOTES FOR DESCRIPTION OF CONCRETE SEAL.
- ⑲ INCLUDES ALL COSTS FOR LABOR AND MATERIALS NECESSARY FOR THE REMOVAL OF EXISTING RAIL, MODIFICATIONS AS SHOWN ON DWG BR-118-117 AND STD-11-1 FOR EXTENDING THE CONCRETE RAIL AND INSTALLING THE NEW ALUMINUM POSTS AND RAIL ALONG WITH ALL MISCELLANEOUS LABOR AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION OF THE BRIDGE RAIL.
- ⑳ ALL EXCAVATION ASSOCIATED WITH THE REPAIR OR MODIFICATION OF THE ABUTMENTS OR BRIDGE END DRAINS SHALL BE INCLUDED IN ITEM NO. 604-03.01, CLASS "A" CONCRETE.

DESIGNED BY MMN DATE 4/14
 DRAWN BY MPR DATE 4/14
 SUPERVISED BY BEB DATE 4/14
 CHECKED BY WHP DATE 7/14

MOUNTAIN GREY
 FEDERAL SPECIFICATION
 NO. 36440



PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015	2	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

LIMITS OF SPRAYED ON DECK MEMBRANE (SEE NOTE ON GENERAL NOTES DWG FOR APPROVED MANUFACTURES)

NOTE:
 SPECIAL CARE SHALL BE TAKEN TO CONTAIN THE SPRAY BELOW TOP OF CURB. THE CURB AND RAIL SHALL NOT BE TEXTURE FINISHED UNTIL AFTER SPRAY MEMBRANE HAS BEEN PLACED.

APPLIED TEXTURE FINISH DETAIL

NOTES:

- ALL COST OF CLEANING, FURNISHING, AND APPLYING 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.
- BEFORE APPLYING ANY TEXTURE FINISH, ALL SURFACES SHALL BE COMPLETELY CLEANED OF ALL DEBRIS AND FOREIGN MATERIALS.
- IN ADDITION TO THE SURFACES SHOWN IN THE APPLIED TEXTURE FINISH DETAIL SKETCH, ALL EXPOSED SURFACES OF THE WINGWALL, ABUTMENT BEAMS, CONCRETE PIERS, BENTS AND EXTERIOR PORTIONS OF ENDWALLS ARE TO RECEIVE APPLIED TEXTURE FINISH (MOUNTAIN GREY, FED. SPEC. NO. 36440). A LIST OF APPROVED TEXTURE COATINGS MAY BE OBTAINED FROM THE TDOT DIVISION OF MATERIALS AND TEST.
- NO TEXTURE COATING SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE.
- THE WASH WATER IS TO BE FILTERED AND PAINT CHIPS AND DEBRIS COLLECTED PRIOR TO RELEASE OF THE WATER.
- TEXTURE COATING OF ALL AREAS DESIGNATED SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1 AND 2
 ESTIMATED BRIDGE QUANTITIES
 BRIDGE NO 26-SR476-3.39
 SR-476 OVER ELK RIVER
 BRIDGE NO 26-SR476-7.40
 SR-476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

GENERAL NOTES:

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

LOADING:
H20-44 LIVE LOADING

DESIGN SPECIFICATIONS: (FOR REPAIR)
AASHTO LRFD FIFTH EDITION 2010 WITH INTERIMS AND 2009 AASHTO GUIDE SPEC. FOR LRFD SEISMIC BRIDGE DESIGN EDITION 1 W/ INTERIMS.

CLASS "A" CONCRETE:
TO BE CLASS "A" (CAST IN PLACE), f'c=3000 PSI CONCRETE, EXCEPT AS NOTED OTHERWISE.

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

NOTE:
THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

GROUTED BARS IN DRILLED HOLES:
HORIZONTALLY DRILLED HOLES (AND VERTICALLY DRILLED HOLES IN PIERS) 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. OTHER 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.

SHOP DRAWINGS:
SEE SECTION 105.02 OF THE STANDARD SPECIFICATIONS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE INSPECTION AND REPAIR OFFICE, DIVISION OF STRUCTURES.

WELDING
SEE SECTION 602 OF THE STANDARD SPECIFICATIONS AND NOTES ON DRAWING BR-118-121.

REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION:
ONE 9'0" MIN. TRAFFIC LANE SHALL BE MAINTAINED AT ALL TIMES.

FINISHING CONCRETE SURFACES:
CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.01 & 604-04.02. SEE DETAILS ON DRAWING BR-118-108.

QUICK SET PATCHING MATERIAL:
QUICK-SET PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTIOUS PATCHING MATERIAL. SEE TDOT QUALIFIED PRODUCTS LIST 13, SECTION B.6, FOR ACCEPTABLE PATCHING MATERIALS.

DEMOLITION:
THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR SHALL NOT USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILAR HEAVY EQUIPMENT FOR CONCRETE REMOVAL. THE MAXIMUM ALLOWABLE HAMMER SIZE IS THE 60 POUND CLASS. PNEUMATIC HAMMERS MAY BE USED, AS SPECIFIED, TO REMOVE UNSOUND CONCRETE. 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.

UTILITY NOTES:
THE LOCATION OF UTILITIES SHOWN WITHIN THE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

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 THE UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITY. PRIOR TO COMMENCING THE WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.

BOLTS
ALL BOLTS SHALL BE HIGH TENSILE STRENGTH BOLTS (ASTM A-325) UNLESS NOTED OTHERWISE. SIZE TO BE AS NOTED ON PLANS. SEE AASHTO SPECIFICATIONS; ARTICLE 11.5.6 DIVISION II. EXISTING CONTACT SURFACE SHALL BE CLEANED TO SSPC-SP10 SPECIFICATIONS PRIOR TO ATTACHMENT OF NEW MEMBERS.

NOTE:
THE CONTRACTOR SHALL NOT USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILAR HEAVY EQUIPMENT FOR CONCRETE REMOVAL. THE MAXIMUM ALLOWABLE HAMMER SIZE IS THE 60 POUND CLASS.

DESIGNED BY MMN DATE 2/14
DRAWN BY MPR DATE 2/14
SUPERVISED BY BEB DATE 2/14
CHECKED BY WHP DATE 7/14

SPECIAL NOTES TO CONTRACTOR:
CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM BELOW. THIS SHALL BE ACCOMPLISHED BY THE USE OF BASKETS, NETTING, WRAPPING, WORK PLATFORM, OR OTHER SIMILARLY EFFECTIVE MEANS. A CONTAINMENT SYSTEM MUST BE IN PLACE BEFORE WORK COMMENCES ON THE BRIDGE DECK. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE WATER AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN OTHER ITEMS BID ON.

THE CONTRACTOR IS RESPONSIBLE FOR AND SHOULD TAKE ALL PRECAUTIONS TO ENSURE STABILITY OF THE STRUCTURE DURING THE REPAIRS.

THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND QUANTITIES BEFORE ORDERING ANY MATERIALS.

CONCRETE CURING:
ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS.

SPECIAL NOTE FOR UTILITIES
IT IS INTENDED THAT THE COST OF MATERIALS AND LABOR NECESSARY FOR THE COMPLETE INSTALLATION OF UTILITIES SHALL BE BORNE BY OTHERS AND SHALL NOT BE PAID FOR AS A PART OF THIS CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH OTHERS IN THE INSTALLATION OF UTILITIES WITH NO ADDITIONAL COMPENSATION ALLOWED THE CONTRACTOR AS A RESULT.

JOINT SEALER:
USE TYPE II, CLASS "A" OR "B".

FORMS AND FALSEWORK:
CONCRETE FORM WORK, FALSEWORK, AND TEMPORARY SUPPORTS SHALL BE REMOVED FROM THE JOB SITE AFTER WORK IS COMPLETED. COST OF FORMS, FALSEWORK, AND TEMPORARY SUPPORT SHALL BE INCLUDED IN ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

APPROVAL OF MATERIALS:
NO FABRICATION SHALL BE STARTED UNTIL ALL THE MATERIALS INVOLVED HAVE BEEN APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF MATERIALS AND TESTS WITH A COPY OF THE TEST REPORTS ALSO GOING TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION, DIVISION OF STRUCTURES, BRIDGE INSPECTION AND REPAIR OFFICE.

CONCRETE SEALER
CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES COINCIDING WITH EXPANSION JOINT LOCATIONS BEFORE APPLYING TEXTURE COATING. CONCRETE SEALER SHALL BE APPLIED TO THE FRONT VERTICAL FACE OF THE ABUTMENT BACKWALL AND THE FRONT AND TOP OF THE ABUTMENT BEAM AND/OR PIER CAP. CONCRETE SEALER SHALL BE APPLIED TO THE TOP AND VERTICAL SURFACES OF THE BENT OR PIER CAP.

CONCRETE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS SHALL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER. ACCEPTABLE CONCRETE SEALERS ARE INCLUDED IN THE QUALIFIED PRODUCTS LIST FOR NON-PENETRATING CONCRETE SEALS MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS. THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF THE EXISTING CONCRETE SURFACES TO BE SEALED. THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 604-10.17 NON-PENETRATING CONCRETE SEAL.

EXISTING STRUCTURAL STEEL REMOVAL
WHEN STRUCTURAL STEEL COATED WITH LEAD AND/OR CHROMATE PAINTS ARE TO BE SEVERED USING THERMAL CUTTING METHODS, THE AREAS TO BE CUT SHALL FIRST BE CLEANED TO BARE METAL BY ABRASION.

CLEANING AND PAINTING
ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED, BLAST CLEANING SHALL BE IN ACCORDANCE WITH SECTION 603.05(B). BLAST CLEANING SHALL REMOVE ALL OF THE EXISTING PAINT SYSTEM AND LOOSE NON-ADHERENT ZINC PRIMER. NO EXISTING TOP COAT SHALL REMAIN AFTER BLAST CLEANING. BLAST CLEANING SHALL REMOVE ALL RUST IN AREAS TO BE PAINTED. AREAS OF VISIBLE OR EXPOSED STEEL SHALL BE CLEANED TO SSPC-SP10 (NEAR WHITE BLAST CLEAN) CONDITION.

ALL AREAS OF EXPOSED STEEL SHALL BE SPOT PRIMED IMMEDIATELY AFTER CLEANING TO PREVENT RE-RUSTING. AREAS SHALL BE RE-CLEANED IF RUSTING OCCURS BEFORE PRIMING. PAINT SYSTEM SHALL BE SYSTEM 'A' IN ACCORDANCE WITH SUB SECTION 03.06(B). COLOR OF THE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD 595B, (BRIGHT GREEN 14120). SEE SECTIONS 603 AND 910 OF THE STANDARD SPECIFICATIONS, INCLUDING PAINTING ANY NEW STEEL AS A RESULT OF REPLACING EXISTING STEEL. IN ADDITION, NEW STEEL SHALL MEET TDOT STANDARD SPECIFICATION SECTION 603.11.

THE SAME MANUFACTURER MUST SUPPLY ALL PRODUCTS USED IN THE COATING SYSTEM, INCLUDING THINNERS.

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

SPECIAL NOTE SURFACE PREPARATION FOR PAINT
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 REMAIN ON THE BRIDGE ALONG WITH THE POSSIBILITY OF THE PRESENCE OF MILLSCALE. CONTRACTOR SHALL BID ACCORDINGLY.

PHASE AND COLD JOINTS
ALL PHASE AND COLD JOINTS SHALL BE SEALED WITH HMWM. SEE SPECIAL PROVISION SP604CR FOR FURTHER INFORMATION.



PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015	2A	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

CLIFF AND BARN SWALLOWS
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 NEST 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 NEST PROVIDED NO BIRDS (YOUNG OR ADULTS) ARE PRESENT IN ANY NEST 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.

SPECIAL NOTE TO CONTRACTOR:
ON BUILT-UP MEMBERS (I.E. STEEL GIRDERS, ETC. USE A STRIPE COAT OF PAINT AROUND ALL EXPOSED EDGES, INCLUDING LAMINATED ONES WHERE MULTIPLE PLATES ARE BOLTED/RIVETED TOGETHER.

SPECIAL NOTE CONCERNING WORK OVER NAVIGABLE WATERWAY:
THE CONTRACTOR SHALL COMPLY FULLY WITH ANY REQUIREMENTS ESTABLISHED BY THE CORPS OF ENGINEERS, U.S. COAST GUARD, AND ANY OTHER AGENCIES WHICH MAY HAVE JURISDICTION RELATIVE TO CONSTRUCTION WORK OVER A NAVIGABLE WATERWAY WHICH IS APPLICABLE TO THIS CONTRACT, AND WHICH MAY NOT BE COVERED BY EXISTING PERMITS. THE CONTRACTOR SHALL NOTIFY THE CORPS OF ENGINEERS INFORMING THEM OF WORK TO BE PERFORMED, BEFORE ANY WORK OVER THE WATERWAY IS BEGUN THE CONTRACTOR SHALL SUBMIT A DESCRIPTION OF WORK AND SKETCHES OF ANY FALSE WORK, SCAFFOLDING, DEBRIS CONTAINMENT SYSTEMS, ETC. WHICH MAY BE REQUIRED DURING CONSTRUCTION WHICH MAY ENCRONCH UPON THE VERTICAL AND/OR HORIZONTAL CLEARANCES FOR WATERWAY TRAFFIC TO THE U.S. COAST GUARD FOR APPROVAL BEFORE ANY WORK IS BEGUN.

THE CONTRACTOR SHALL NOT USE THE ARMY CORPS OF ENGINEERS PROPERTY FOR ANY STAGE WORK AND/OR PLACEMENT OF VEHICLES/EQUIPMENT. ALL WORK INCLUDING STAGING SHALL BE DONE ON STATE RIGHT-OF-WAY OR LOCALLY OWNED PROPERTY WITH THE HOMEOWNERS PERMISSION ONLY.

SPECIAL UTILITY NOTE:
OWNERS OF ABANDONED EXISTING UTILITIES SHALL BE NOTIFIED AND ALL ABANDONED UTILITIES SHALL BE COMPLETELY REMOVED FROM THE STRUCTURE (BEFORE THE REPAINTING OPERATION BEGINS) AT THE COST OF THE UTILITY OWNER.

LITTER, DEBRIS, WASTE, PETROLEUM:
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.

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.

SPRAY ON DECK MEMBRANE
APPROVED MEMBRANE MANUFACTURES (NEW PRODUCT NOT ON TDOT OPL)

D.S. BROWN 300 EAST CHERRY STREET NORTH BALTIMORE, OH 45872 TELEPHONE: 419-257-3561 WWW.DSBROWN.COM	BRIDGE PRESERVATION 87 SHAWNEE AVENUE KANSAS CITY, KS 66105 TELEPHONE: 913-321-9000 WWW.BRIDGEPRESERVATION.COM	STIRLING LLOYD 152 ROCKWELL ROAD, BUILDING A NEWINGTON, CT 06111 TELEPHONE: 860-666-5008 WWW.STIRLINGLLOYD.COM
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 1 AND 2
GENERAL NOTES

BRIDGE NO 26-SR476-3.39
SR-476 OVER ELK RIVER
BRIDGE NO 26-SR476-7.40
SR-476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	26016-4206-04	2B

ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
105-01	CONSTRUCTION STAKES, LINES AND GRADES	L.S.	1
⑧ 209-08.02	TEMPORARY SILT FENCE (W/ BACKING)	L.F.	80
① 307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	45
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	2
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	6
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	1
① 411-01.10	ACS MIX (PG64-22) GRADING D	TON	85
① 411-01.11	ACS MIX (PG64-22) GRADING E RDWY	TON	741
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	1,067
⑨ 705-01.01	GUARDRAIL AT BRIDGE ENDS	L.F.	216
⑭ 705-08.11	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	4
④ 712-01	TRAFFIC CONTROL	L.S.	1
⑩ 712-02-02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1,252
⑪ 712-02-36	REMOVE AND RELOCATE PORTABLE BARRIER RAIL	L.F.	818
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	45
⑬ 712-04.50	PORTABLE BARRIER RAIL DELINEATOR	EACH	80
712-06	SIGNS (CONSTRUCTION)	S.F.	838
⑤ 712-09.01	REMOVABLE PAVEMENT MARKING LINE	L.F.	7,910
⑦ 712-09.04	REMOVABLE PAVEMENT MARKING (STOP LINE)	L.F.	52
⑫ 716-01.10	SNOWPLOWABLE REFLECTIVE MARKER	EACH	20
⑥ 716-13.01	SPRAY THERMO PLASTIC PAVEMENT MARKING (60 MIL) (4" LINE)	L.M.	2.64
① 717-01	MOBILIZATION	L.S.	1
③ 730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	2
② 730-40	TEMPORARY TRAFFIC SIGNAL SYSTEM	EACH	1

FOOTNOTES:

- ① ITEM MAY BE INCREASED OR DECREASED AS DIRECTED BY THE ENGINEER.
- ② CONTRACTOR CAN ELECT TO USE A TRAFFIC SIGNAL SYSTEM THAT IS RADIO CONTROLLED OR CONNECTED VIA DIRECT CABLE CONNECTION. ITEM INCLUDES USE OF VIDEO DETECTION EQUIPMENT AS PART OF SIGNAL SYSTEM WHICH TAKES THE PLACE OF INDUCTIVE LOOP EQUIPMENT FOR VEHICLE DETECTION. ITEM TO BE USED FOR TRAFFIC CONTROL AT BOTH BRIDGE SITES. INCLUDES COST TO REMOVE AND INSTALL SIGNAL AT SECOND BRIDGE LOCATION AFTER WORK AT FIRST BRIDGE LOCATION IS COMPLETED.
- ③ ITEM INCLUDES EVERYTHING NEEDED TO ESTABLISH TEMPORARY POWER FOR THE TRAFFIC SIGNAL SYSTEM. CONTRACTOR MAY ELECT TO USE A PORTABLE SOLAR POWERED TRAFFIC SIGNAL SYSTEM INSTEAD OF ESTABLISHING AN ELECTRICAL CONNECTION.
- ④ ITEM INCLUDES REMOVAL OF PAVEMENT MARKINGS. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO DETERMINE LIMITS OF PAVEMENT MARKING REMOVAL. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHOULD BE OBLITERATED PER TDOT STANDARDS SO THAT IT IS NO LONGER VISIBLE TO DRIVER.
- ⑤ INCLUDES 4,670 L.F. 4" REMOVABLE SINGLE SOLID WHITE LINE FOR BRIDGE #1 (BRIDGE NO. 26-SR476-3.39 OVER ELK RIVER) AND 3,240 L.F. 4" REMOVABLE SINGLE SOLID WHITE LINE FOR BRIDGE #2 (BRIDGE NO. 26-SR476-7.40 OVER HURRICANE CREEK).
- ⑥ INCLUDES 3,740 L.F. 4" SINGLE SOLID WHITE LINE AND 3,740 L.F. DOUBLE SOLID YELLOW LINE FOR BRIDGE #1 (BRIDGE NO. 26-SR476-3.39 OVER ELK RIVER) AND 2,750 L.F. 4" SINGLE SOLID WHITE LINE AND 2,750 L.F. DOUBLE SOLID YELLOW LINE FOR BRIDGE #2 (BRIDGE NO. 26-SR476-7.40 OVER HURRICANE CREEK).
- ⑦ INCLUDES 26 L.F. REMOVABLE STOP LINE FOR BRIDGE #1 (BRIDGE NO.26-SR476-3.39 OVER ELK RIVER) AND 26 L.F. REMOVABLE STOP LINE FOR BRIDGE #2 (BRIDGE NO. 26-SR476-7.40 OVER HURRICANE CREEK).
- ⑧ SILT FENCE WITH BACKING SHALL ONLY BE USED ON BRIDGE #2 SEE DWG. BR-118-107.
- ⑨ GUARD RAIL AT BRIDGE END ITEM INCLUDES 108 L.F. FOR EACH BRIDGE. ITEM ALSO INCLUDES THE COST OF MATERIALS AND LABOR TO REPAIR PORTION OF DAMAGED GUARDRAIL (SEE SHEET BR-118-107).
- ⑩ ITEM IS FOR PORTABLE BARRIER RAIL FOR BRIDGE 1 ONLY.
- ⑪ ITEM IS FOR PORTABLE BARRIER RAIL FOR BRIDGE 2 ONLY.
- ⑫ ITEM INCLUDES SNOWPLOWABLE REFLECTIVE MARKERS FOR BRIDGE 1 ONLY.
- ⑬ ITEM INCLUDES 51 DELINEATORS FOR BRIDGE 1 AND 29 DELINEATORS FOR BRIDGE 2.
- ⑭ ITEM INCLUDES 2 TEMPORARY ATTENUATORS FOR EACH BRIDGE.

GENERAL NOTES

UTILITY NOTES:

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 BID PRICE 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 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 NOTE:

6. 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.

PAVEMENT MARKING NOTES:

7. TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAYS WORK. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.01, REMOVABLE PAVEMENT MARKING LINE PER LINEAR FOOT.
8. PERMANENT PAVEMENT LINE MARKINGS SHALL BE 4" SPRAY THERMO PLASTIC (60 MIL) INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAYS WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-13.01 SPRAY THERMO PAVEMENT MARKINGS (60 MIL) (4" LINE). LM. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAYS 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.
9. BEFORE OPENING THE LANE SHIFT TO TRAFFIC, THE TRANSITIONAL MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 712-09.01, REMOVABLE PAVEMENT MARKING LINE, (L.F.) ALL EXISTING MARKINGS SHALL BE OBLITERATED AND ALL EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED TO ELIMINATE CONFLICTING MARKINGS. REMOVAL OF THE EXISTING MARKINGS AND RAISED PAVEMENT MARKERS WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN ITEM NO. 712-01 TRAFFIC CONTROL, LUMP SUM.

PAVEMENT NOTES:

10. THE CONTRACTOR SHALL BE REQUIRED TO COLD PLANE AND PAVE IN THE DIRECTION OF TRAFFIC.

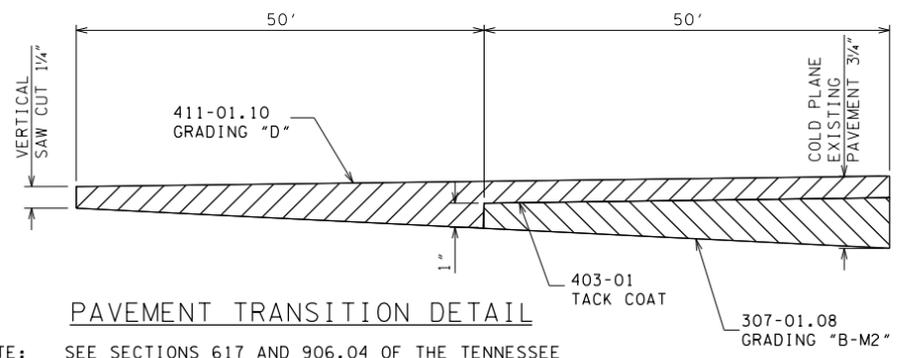
CONSTRUCTION WORK ZONE AND TRAFFIC CONTROL NOTES:

11. ADVANCE 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.
12. IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COST 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.
13. A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
14. TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
15. 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. 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.
16. 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 AN 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.
17. ALL DETOUR AND CONSTRUCTION SIGNING SHALL BE IN STRICT ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

SPECIAL NOTES

TRAFFIC CONTROL NOTE:

18. TRAFFIC CONTROL PLAN - SEE SHEET 2C AND STD. DWG. NOS. T-WZ-32, T-WZ-34, & T-WZ-35.



PAVEMENT TRANSITION DETAIL

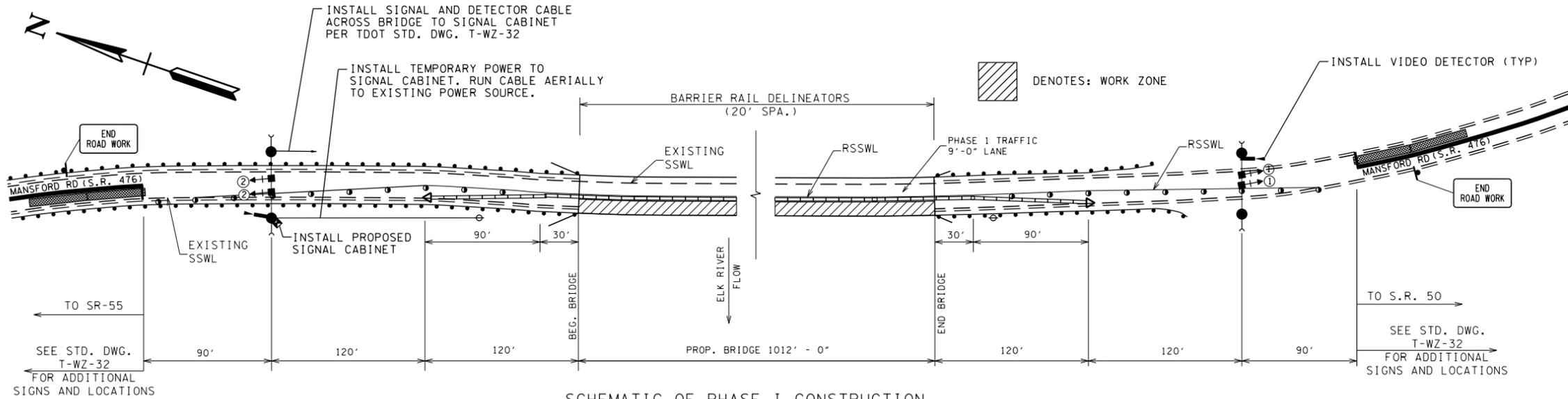
NOTE: SEE SECTIONS 617 AND 906.04 OF THE TENNESSEE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED MARCH 1, 2006.

UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED QUANTITIES, GENERAL NOTES, AND SPECIAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	26016-4206-04	2C

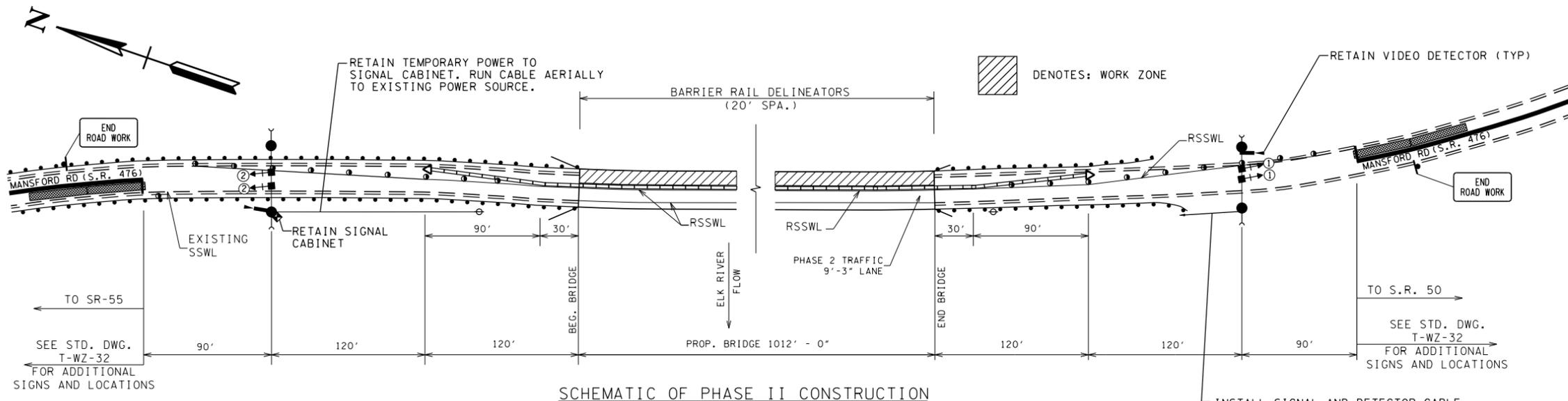


SCHEMATIC OF PHASE I CONSTRUCTION
BRIDGE NO. 1: BRIDGE NO 26-SR476-3.39 OVER ELK RIVER

- PHASE I NOTES:**
1. INSTALL 4 PHASE POLE MOUNTED CABINET.
 2. INSTALL SIGNAL CABLE IN SCH 80 CONDUIT ALONG BRIDGE. INSTALL 4 NEW WOOD SIGNAL POLES, GUYS, SPAN WIRE AND SIGNAL HEADS AT BOTH APPROACHES.
 3. INSTALL NEW VIDEO DETECTION SYSTEM FOR BOTH APPROACHES AND RUN CABLE TO SIGNAL CABINET.
 4. RECOMMEND MINIMUM 30' ATTACHMENT HEIGHT FOR VIDEO DETECTORS ON WOOD SIGNAL SUPPORT POLES. THIS MAY REQUIRE SUPPORT POLE LONGER THAN POLE LENGTH SHOWN ON TDOT STANDARD DWG. T-WZ-35.

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
◁	TEMPORARY ATTENUATOR
⊢	SIGN (CONSTRUCTION)
•	FLEXIBLE DRUMS (CHANNELIZING)
▬▬▬▬	PORTABLE BARRIER RAIL
▨	DENOTES: WORK ZONE

* SEE SHEET 2E FOR ADDITIONAL TRAFFIC CONTROL NOTES AND DETAILS.



SCHEMATIC OF PHASE II CONSTRUCTION
BRIDGE NO. 1: BRIDGE NO 26-SR476-3.39 OVER ELK RIVER

- PHASE II NOTES:**
1. ADJUST SIGNAL HEADS AS NEEDED.
 2. MOVE SIGNAL CABLE CROSSING BRIDGE TO OPPOSITE SIDE. REWIRE AS NECESSARY.
 3. MAINTAIN TEMPORARY SIGNAL PHASING FROM PHASE I.
 4. RECOMMEND MINIMUM 30' ATTACHMENT HEIGHT FOR VIDEO DETECTORS ON WOOD SIGNAL SUPPORT POLES.

TRAFFIC CONTROL NOTES:

1. TEMPORARY TRAFFIC SIGNAL LAYOUT SHOWN ON THIS SHEET IS FOR GUIDANCE ONLY. CONTRACTOR SHALL FOLLOW TDOT STANDARD DRAWINGS TO ESTABLISH TRAFFIC CONTROL PLAN USING TEMPORARY TRAFFIC SIGNAL (T-WZ-32, T-WZ-34 AND T-WZ-35).
2. UNLESS OTHERWISE NOTED, REFER TO TDOT STD. TRAFFIC CONTROL DRAWINGS TO DETERMINE TYPICAL FLEXIBLE DRUM SPACING AND PORTABLE BARRIER WALL TAPER LENGTH.
3. CONTRACTOR SHALL REMOVE EXISTING WHITE EDGE LINE SHOULDER STRIPING ON BRIDGE BEFORE IMPLEMENTING ONE-LANE, TWO-WAY SIGNALIZED TRAFFIC CONTROL. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO DETERMINE LIMITS OF SHOULDER LINE REMOVAL. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHOULD BE OBLITERATED PER TDOT STANDARDS SO THAT IT IS NO LONGER VISIBLE TO DRIVER, PAID UNDER PAY ITEM 712-01 (TRAFFIC CONTROL).
4. INSTALL REMOVABLE STOP LINES AS SHOWN ON LAYOUT, THIS SHEET. STOP LINES SHALL BE INSTALLED, MAINTAINED AND REMOVED PER TDOT STD. NOTES AND DRAWINGS.
5. SEE SHEET 2E FOR TRAFFIC SIGNAL AND ADDITIONAL TRAFFIC CONTROL NOTES AND DETAILS.

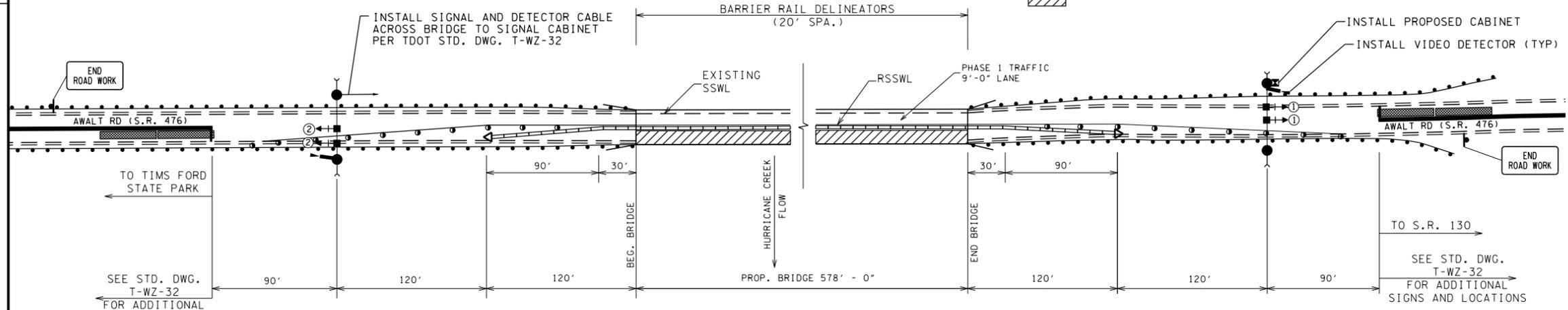
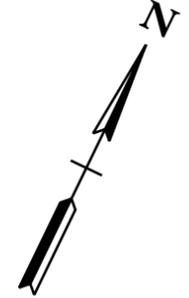
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

/27/2015 10:17 PM R:\8196 TDOT Bridge Repair\3 Franklin SR 476 (2 Bridges)\Dgn\02C - Traffic Control.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	26016-4206-04	2D



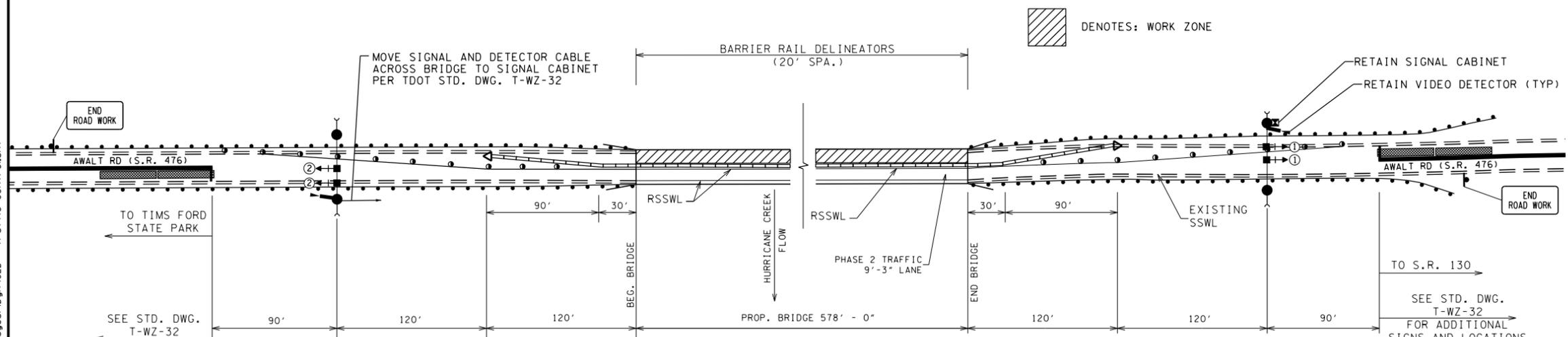
SCHEMATIC OF PHASE I CONSTRUCTION
BRIDGE NO. 2: BRIDGE NO 26-SR476-7.40 OVER HURRICANE CREEK

PHASE I NOTES:

1. INSTALL 4 PHASE POLE MOUNTED CABINET.
2. INSTALL SIGNAL CABLE IN SCH 80 CONDUIT ALONG BRIDGE. INSTALL 4 NEW WOOD SIGNAL POLES, GUYS, SPAN WIRE AND SIGNAL HEADS AT BOTH APPROACHES.
3. INSTALL NEW VIDEO DETECTION SYSTEM FOR BOTH APPROACHES AND RUN CABLE TO SIGNAL CABINET.
4. RECOMMEND MINIMUM 30' ATTACHMENT HEIGHT FOR VIDEO DETECTORS ON WOOD SIGNAL SUPPORT POLES. THIS MAY REQUIRE SUPPORT POLE LONGER THAN POLE LENGTH SHOWN ON TDOT STANDARD DWG. T-WZ-35.

TRAFFIC CONTROL LEGEND	
SYMBOL	ITEM
	TEMPORARY ATTENUATOR
	SIGN (CONSTRUCTION)
	FLEXIBLE DRUMS (CHANNELIZING)
	PORTABLE BARRIER RAIL
	DENOTES: WORK ZONE

* SEE SHEET 2E FOR ADDITIONAL TRAFFIC CONTROL NOTES AND DETAILS.



SCHEMATIC OF PHASE II CONSTRUCTION
BRIDGE NO. 2: BRIDGE NO 26-SR476-7.40 OVER HURRICANE CREEK

PHASE II NOTES:

1. ADJUST SIGNAL HEADS AS NEEDED.
2. MOVE SIGNAL CABLE CROSSING BRIDGE TO OPPOSITE SIDE. REWIRE AS NECESSARY.
3. MAINTAIN TEMPORARY SIGNAL PHASING FROM PHASE I.
4. RECOMMEND MINIMUM 30' ATTACHMENT HEIGHT FOR VIDEO DETECTORS ON WOOD SIGNAL SUPPORT POLES.

TRAFFIC CONTROL NOTES:

1. TEMPORARY TRAFFIC SIGNAL LAYOUT SHOWN ON THIS SHEET IS FOR GUIDANCE ONLY. CONTRACTOR SHALL FOLLOW TDOT STANDARD DRAWINGS TO ESTABLISH TRAFFIC CONTROL PLAN USING TEMPORARY TRAFFIC SIGNAL (T-WZ-32, T-WZ-34 AND T-WZ-35).

2. UNLESS OTHERWISE NOTED, REFER TO TDOT STD. TRAFFIC CONTROL DRAWINGS TO DETERMINE TYPICAL FLEXIBLE DRUM SPACING AND PORTABLE BARRIER WALL TAPER LENGTH.

3. CONTRACTOR SHALL REMOVE EXISTING WHITE EDGE LINE SHOULDER STRIPING ON BRIDGE BEFORE IMPLEMENTING ONE-LANE, TWO-WAY SIGNALIZED TRAFFIC CONTROL. CONTRACTOR SHALL COORDINATE WITH ENGINEER TO DETERMINE LIMITS OF SHOULDER LINE REMOVAL. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHOULD BE OBLITERATED PER TDOT STANDARDS SO THAT IT IS NO LONGER VISIBLE TO DRIVER, PAID UNDER PAY ITEM 712-01 (TRAFFIC CONTROL).

4. INSTALL REMOVABLE STOP LINES AS SHOWN ON LAYOUT, THIS SHEET. STOP LINES SHALL BE INSTALLED, MAINTAINED AND REMOVED PER TDOT STD. NOTES AND DRAWINGS.

5. SEE SHEET 2E FOR TRAFFIC SIGNAL AND ADDITIONAL TRAFFIC CONTROL NOTES AND DETAILS.

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

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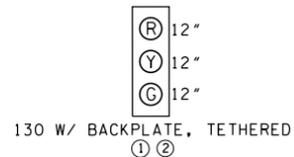
ESTIMATED CONSTRUCTION SIGN QUANTITIES FOR EACH BRIDGE:

712-06 SIGNS (CONSTRUCTION)				
MUTCD DESIGNATION	DESCRIPTION	TOTAL	QUANTITY	UNIT
G20-2 (36"x18")	END ROAD WORK	2	9	SQ. FT.
R10-6 (24"x36")	STOP HERE ON RED	2	12	SQ. FT.
R10-6 (MOD) (30"x42")	STAY IN LANE TO EXTEND GREEN	2	17.5	SQ. FT.
W1-4aR (30"x30")	LANE SHIFT	1	6.25	SQ. FT.
W3-3 (36"x36")	SIGNAL AHEAD (SYMBOL)	2	18.0	SQ. FT.
W20-1 (48"x48")	ROAD WORK 1/2 MILE	2	32.0	SQ. FT.
W20-1 (48"x48")	ROAD WORK 500 FT.	2	32.0	SQ. FT.
W20-1 (48"x48")	ROAD WORK 1000 FT.	2	32.0	SQ. FT.
W20-1 (48"x48")	ROAD WORK 1500 FT.	2	32.0	SQ. FT.
W20-4 (48"x48")	ONE LANE ROAD 1500 FT.	2	32.0	SQ. FT.
W20-7a (36"x36")	FLAGMAN (SYMBOL)	2	18.0	SQ. FT.
W16-2P (24"x18")	SUPPLEMENTAL PLATE-1000 FT.	2	6.0	SQ. FT.
W20-7b (48"x48")	BE PREPARED TO STOP	2	32.0	SQ. FT.
SPECIAL (42"x36")	MAINTAIN XX MPH SPEED*	8	84.0	SQ. FT.
SPECIAL (42"x48")	MAXIMUM X MINUTE RED**	4	56.0	SQ. FT.
TOTAL 712-06 SIGNS (CONSTRUCTION)			418.75	SQ. FT.

*MAINTAIN 25 MPH SPEED (8 FOR ELK RIVER BRIDGE & 6 FOR HURRICANE CREEK BRIDGE)

**MAXIMUM 3 MINUTE RED FOR SR 476 (OVER ELK RIVER) AND MAXIMUM 2 MINUTE RED FOR SR 476 (OVER HURRICANE CREEK)

SIGNAL HEAD DETAIL



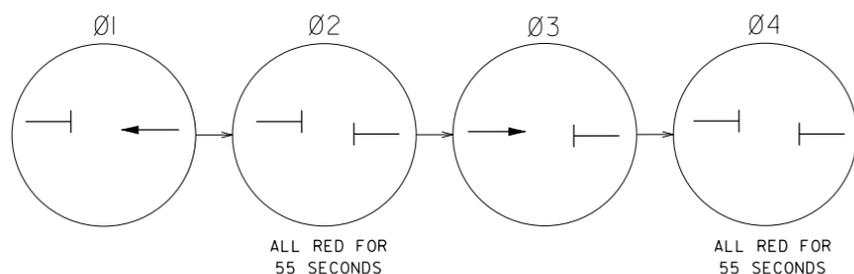
TRAFFIC CONTROL NOTES:

1. TRAFFIC SHALL BE MAINTAINED AS PER THIS SHEET, SHEETS 2C & 2D, AND THE STANDARD DRAWINGS. FOR ANY DETAILS NOT SHOWN ON THIS SHEET OR SHEETS 2C & 2D SEE STD. DWG. T-WZ-32, T-WZ-34, AND T-WZ-35.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2015	26016-4206-04	2E

BRIDGE NO 26-SR476-3.39 OVER ELK RIVER

TEMPORARY SIGNAL PHASING



NOTE:
ALL PHASES TO BE SEQUENTIAL

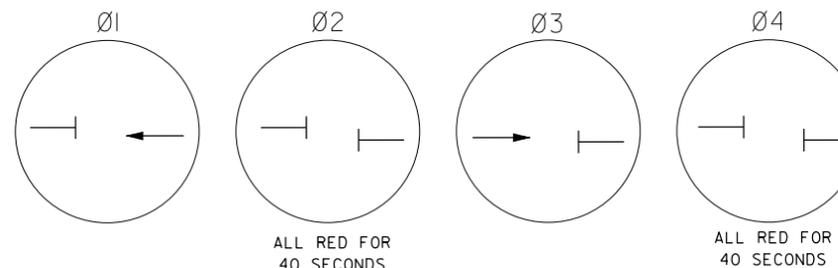
CONTROLLER PROGRAMMING DATA				
	PHASE 1	PHASE 2	PHASE 3	PHASE 4
MOVEMENT	NB		SB	
PHASE DATA				
MIN GREEN	10.0		10.0	
PASSAGE TIME	5.0		5.0	
MAXIMUM I	40.0		40.0	
YELLOW	4.5		4.5	
RED		55.0		55.0

TEMPORARY SIGNAL NOTES:

1. WHEN BRIDGE IS RETURNED TO TWO-WAY TRAFFIC, REMOVE ALL SIGNAL EQUIPMENT AND MATERIALS.
2. CONTRACTOR SHALL FIELD LOCATE TEMPORARY SIGNAL POLE LOCATIONS WITH ENGINEER PRIOR TO IMPLEMENTING TRAFFIC CONTROL WORK ZONE.
3. PROPOSED SIGNAL CABINET TO BE POLE-MOUNT ON TEMPORARY WOOD SIGNAL POLE. ENGINEER TO DIRECT CABINET LOCATION.
4. POWER SERVICE FOR TEMPORARY SIGNAL MAY BE ESTABLISHED FROM EXISTING POWER SOURCE ON WEST SIDE OF BRIDGE. CONTRACTOR SHALL COORDINATE WITH ENGINEER AND LOCAL UTILITY PRIOR TO INSTALLATION TO DETERMINE SERVICE REQUIREMENTS AND FIELD LOCATE POWER SERVICE.
5. LAYOUT OF TEMPORARY SIGNAL WAS DEVELOPED WITHOUT AID OF A SURVEY. CONTRACTOR HAS FINAL RESPONSIBILITY TO LOCATE AND AVOID EXISTING UTILITIES DURING INSTALLATION OF TEMPORARY SIGNAL. EXISTING UTILITIES SHOULD BE FIELD LOCATED PRIOR TO BEGINNING WORK. SIGNAL POLES MAY BE SHIFTED UP TO 5' TO AVOID UTILITIES WITH PRIOR APPROVAL FROM ENGINEER.
6. THESE TIMINGS ARE INITIAL, MAX GREEN DURATION MAY BE ADJUSTED IN THE FIELD BASED ON FIELD CONDITIONS BY THE CONTRACTOR WITH PRIOR APPROVAL FROM THE PROJECT ENGINEER.

BRIDGE NO 26-SR476-7.40 OVER HURRICANE CREEK

TEMPORARY SIGNAL PHASING



NOTE:
ALL PHASES TO BE SEQUENTIAL

CONTROLLER PROGRAMMING DATA				
	PHASE 1	PHASE 2	PHASE 3	PHASE 4
MOVEMENT	WB		EB	
PHASE DATA				
MIN GREEN	10.0		10.0	
PASSAGE TIME	5.0		5.0	
MAXIMUM I	35.0		35.0	
YELLOW	4.5		4.5	
RED		40.0		40.0

TEMPORARY SIGNAL NOTES:

1. WHEN BRIDGE IS RETURNED TO TWO-WAY TRAFFIC, REMOVE ALL SIGNAL EQUIPMENT AND MATERIALS.
2. CONTRACTOR SHALL FIELD LOCATE TEMPORARY SIGNAL POLE LOCATIONS WITH ENGINEER PRIOR TO IMPLEMENTING TRAFFIC CONTROL WORK ZONE.
3. PROPOSED SIGNAL CABINET TO BE POLE-MOUNT ON TEMPORARY WOOD SIGNAL POLE. ENGINEER TO DIRECT CABINET LOCATION.
4. AVAILABLE POWER SERVICE FOR TEMPORARY SIGNAL COULD NOT BE FIELD LOCATED. IF POWER SERVICE IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH ENGINEER AND LOCAL UTILITY PRIOR TO INSTALLATION TO DETERMINE SERVICE REQUIREMENTS AND FIELD LOCATE POWER SERVICE.
5. IF A PERMANENT POWER SOURCE IS NOT READILY AVAILABLE, CONTRACTOR MAY ELECT TO USE A PORTABLE SOLAR POWERED TRAFFIC SIGNAL CONTROL DEVICE WITH PRIOR APPROVAL FROM ENGINEER.
6. LAYOUT OF TEMPORARY SIGNAL WAS DEVELOPED WITHOUT AID OF A SURVEY. CONTRACTOR HAS FINAL RESPONSIBILITY TO LOCATE AND AVOID EXISTING UTILITIES DURING INSTALLATION OF TEMPORARY SIGNAL. EXISTING UTILITIES SHOULD BE FIELD LOCATED PRIOR TO BEGINNING WORK. SIGNAL POLES MAY BE SHIFTED UP TO 5' TO AVOID UTILITIES WITH PRIOR APPROVAL FROM ENGINEER.
7. THESE TIMINGS ARE INITIAL, MAX GREEN DURATION MAY BE ADJUSTED IN THE FIELD BASED ON FIELD CONDITIONS BY THE CONTRACTOR WITH PRIOR APPROVAL FROM THE PROJECT ENGINEER.

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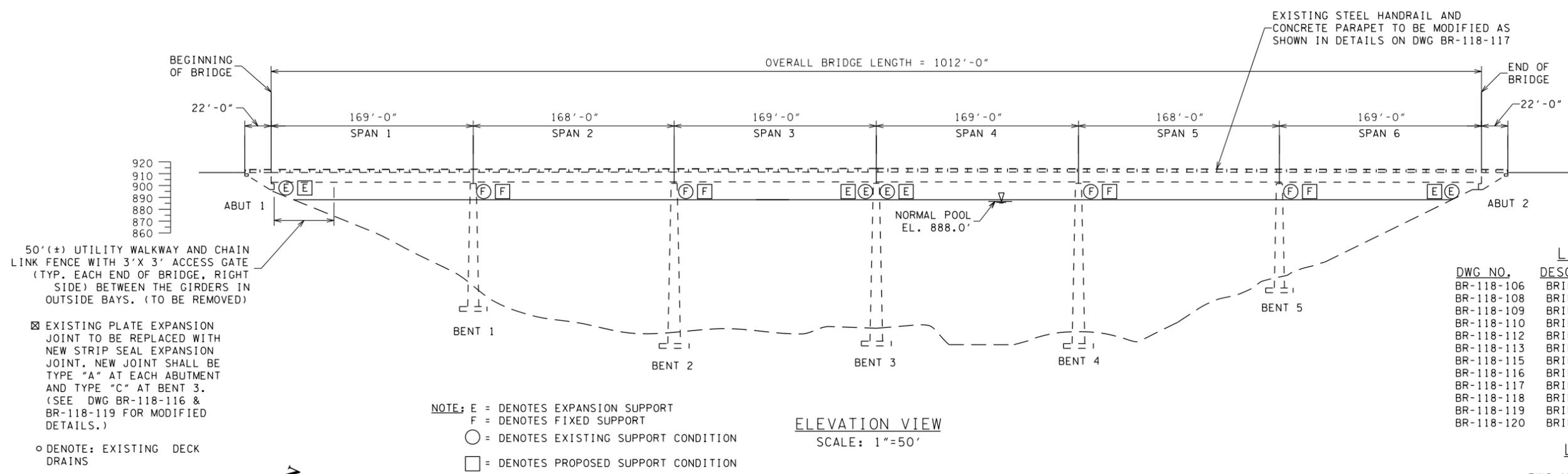
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



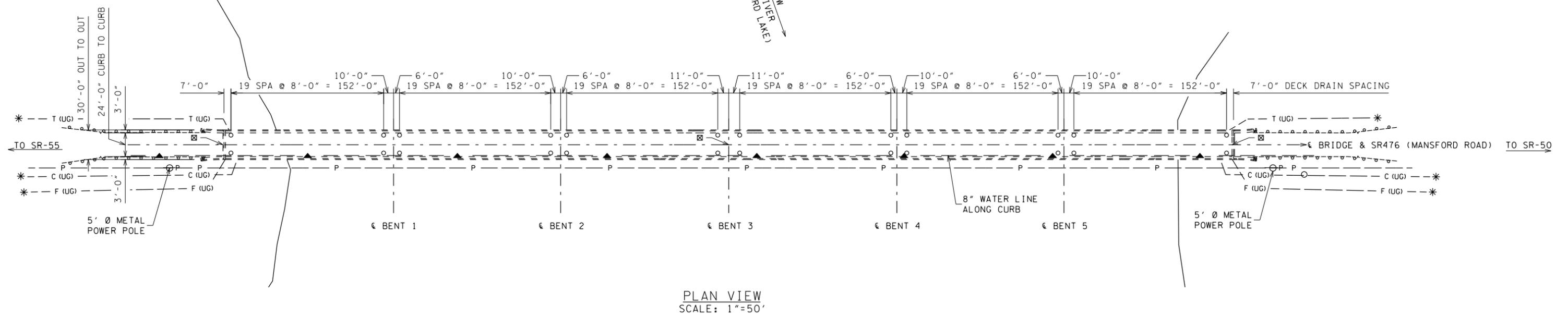
LIST OF BRIDGE DRAWINGS

DWG NO.	DESCRIPTION
BR-118-106	BRIDGE NO. 1 - LAYOUT OF BRIDGE TO BE REPAIRED
BR-118-108	BRIDGE NO. 1 AND 2 - ESTIMATED BRIDGE QUANTITIES
BR-118-109	BRIDGE NO. 1 AND 2 - GENERAL NOTES
BR-118-110	BRIDGE NO. 1 - PHASE CONSTRUCTION AND DEMOLITION
BR-118-112	BRIDGE NO. 1 AND 2 - STEEL REPAIR DETAILS
BR-118-113	BRIDGE NO. 1 - BRIDGE DECK REPAIRS
BR-118-115	BRIDGE NO. 1 AND 2 - DRAIN MODIFICATION DETAILS
BR-118-116	BRIDGE NO. 1 AND 2 - EXPANSION JOINT DETAILS
BR-118-117	BRIDGE NO. 1 AND 2 - CURB, PARAPET & RAIL DETAILS
BR-118-118	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 1
BR-118-119	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 2
BR-118-120	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 3

LIST OF REFERENCE DRAWINGS

DWG NO.	DESCRIPTION
2115H401 (SD-83-1-8) THRU 2115H412	BRIDGE ACROSS ELK RIVER

NOTE:
 DUE TO THESE BRIDGES BEING THE MAIN ACCESS TO TIM'S FORD STATE PARK, ONLY ONE BRIDGE CAN BE UNDER CONSTRUCTION AT A TIME.



GENERAL SCOPE OF WORK - BRIDGE NO. 1

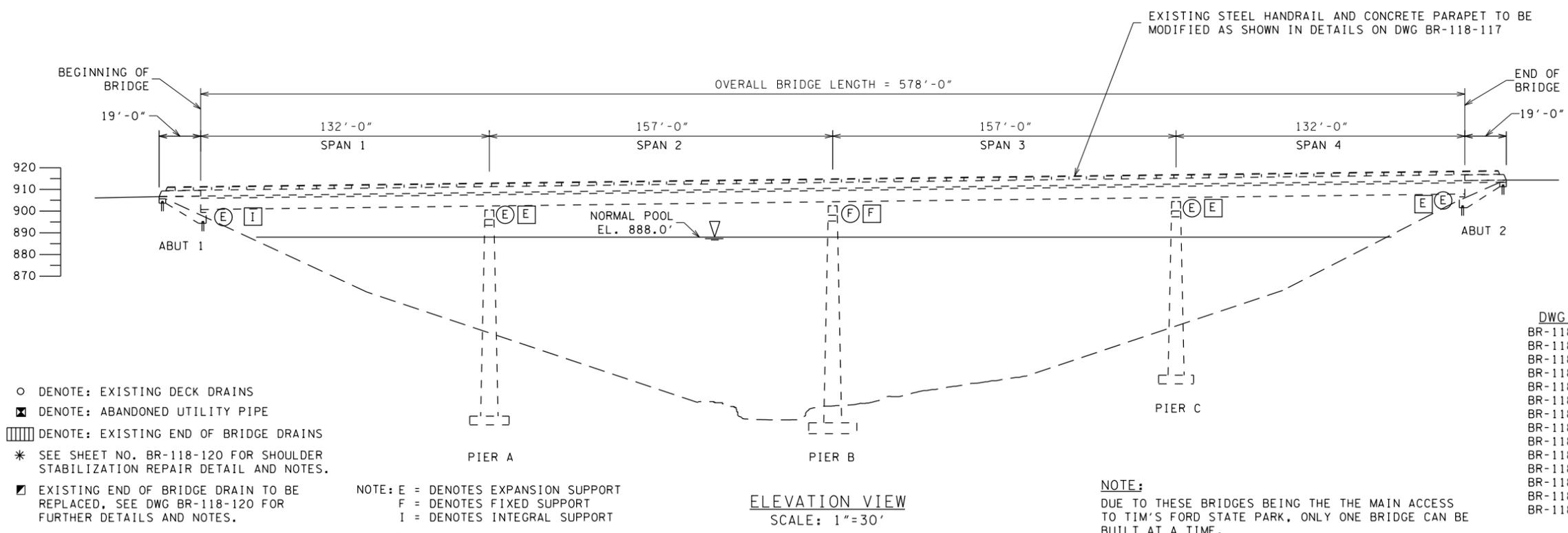
1. PROVIDE TRAFFIC CONTROL PLAN TO MAINTAIN 2-WAY TRAFFIC IN A SINGLE LANE ON THE BRIDGE AS REQUIRED DURING CONSTRUCTION.
2. REMOVE EXISTING 2 1/2" (±) ASPHALT WEARING SURFACE ON BRIDGE DECK AND PLACE NEW ASPHALT SANDWICH SEAL OVERLAY.
3. REPAIR CONCRETE DECK WITH FULL AND PARTIAL DEPTH DECK REPAIR.
4. REPLACE EXISTING PLATE EXPANSION JOINTS WITH NEW STRIP SEAL EXPANSION JOINTS AT EXISTING LOCATIONS. SEAL SUBSTRUCTURES AT EXPANSION JOINT LOCATIONS.
5. EXTEND DECK DRAINS 3" MINIMUM BELOW STEEL GIRDERS.
6. REPAIR SPALLED/DELAMINATED CONCRETE AREAS OF BOTTOM OF DECK, CURB, AND PARAPET WITH QUICK SET PATCHING MATERIAL.
7. CLEAN AND PAINT RUSTED REINFORCING STEEL PRIOR TO CONCRETE REPAIRS.
8. REPAIR CRACKS IN CONCRETE MEMBERS WITH EPOXY INJECTION.
9. RESEAL ALL JOINTS IN CURB AND PARAPET.
10. REMOVE EXISTING STEEL HANDRAIL AND MODIFY FOR STD-11-1.
11. CLEAN AND PAINT ALL STRUCTURAL STEEL AND STEEL BEARINGS.
12. REPLACE DETERIORATED OR MISSING WASHERS, ANCHOR BOLTS, AND SHOULDER BOLTS AS REQUIRED.
13. REPLACE DETERIORATED STRUCTURAL STEEL MEMBERS AS REQUIRED.
14. TEXTURE COAT ALL EXPOSED CONCRETE SURFACES AS REQUIRED.
15. PROVIDE EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED.
16. REMOVE VEGETATION AT ABUTMENTS.

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1
 LAYOUT OF BRIDGE
 TO BE REPAIRED
 BRIDGE NO 26-SR476-3.39
 SR 476 OVER ELK RIVER
 FRANKLIN COUNTY
 2015

DESIGNED BY	MMN	DATE	02/14
DRAWN BY	MPR	DATE	02/14
SUPERVISED BY	BEB	DATE	02/14
CHECKED BY	WHP	DATE	06/14

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



- DENOTE: EXISTING DECK DRAINS
- DENOTE: ABANDONED UTILITY PIPE
- ▤ DENOTE: EXISTING END OF BRIDGE DRAINS
- * SEE SHEET NO. BR-118-120 FOR SHOULDER STABILIZATION REPAIR DETAIL AND NOTES.
- EXISTING END OF BRIDGE DRAIN TO BE REPLACED, SEE DWG BR-118-120 FOR FURTHER DETAILS AND NOTES.

NOTE: E = DENOTES EXPANSION SUPPORT
 F = DENOTES FIXED SUPPORT
 I = DENOTES INTEGRAL SUPPORT

ELEVATION VIEW
 SCALE: 1"=30'

NOTE:
 DUE TO THESE BRIDGES BEING THE MAIN ACCESS TO TIM'S FORD STATE PARK, ONLY ONE BRIDGE CAN BE BUILT AT A TIME.

LIST OF BRIDGE DRAWINGS

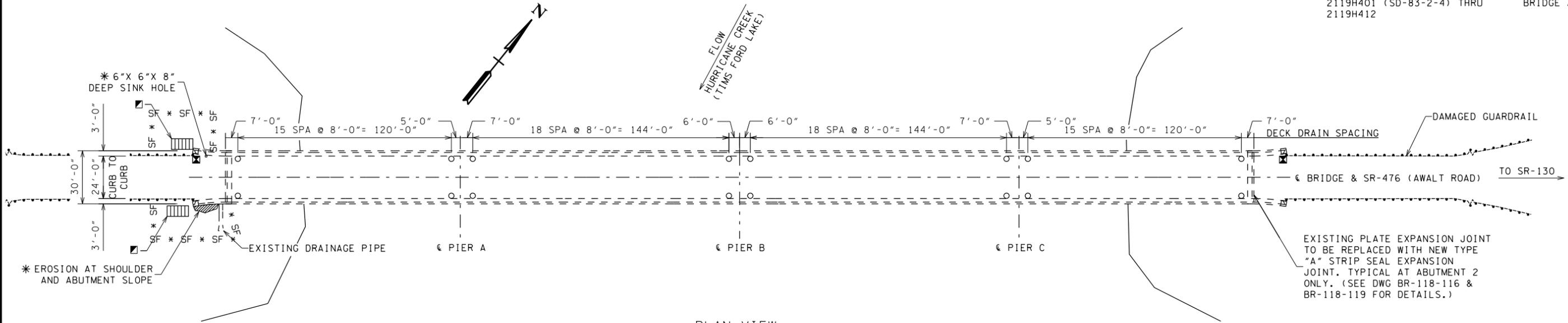
DWG NO.	DESCRIPTION
BR-118-107	BRIDGE NO. 2 - LAYOUT OF BRIDGE TO BE REPAIRED
BR-118-108	BRIDGE NO. 1 AND 2 - ESTIMATED BRIDGE QUANTITIES
BR-118-109	BRIDGE NO. 1 AND 2 - GENERAL NOTES
BR-118-111	BRIDGE NO. 2 - PHASE CONSTRUCTION AND DEMOLITION
BR-118-112	BRIDGE NO. 1 AND 2 - STEEL REPAIR DETAILS
BR-118-114	BRIDGE NO. 2 - BRIDGE DECK & PIER REPAIR DETAILS
BR-118-115	BRIDGE NO. 1 AND 2 - DRAIN MODIFICATION DETAILS
BR-118-116	BRIDGE NO. 1 AND 2 - BRIDGE EXPANSION JOINT DETAILS
BR-118-117	BRIDGE NO. 1 AND 2 - CURB, PARAPET & RAIL DETAILS
BR-118-118	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 1
BR-118-119	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 2
BR-118-120	BRIDGE NO. 1 AND 2 - BRIDGE REPAIR DETAILS 3
BR-118-121	BRIDGE NO. 2 - BRIDGE REPAIR DETAILS 4
BR-118-122	BRIDGE NO. 2 - BRIDGE REPAIR DETAILS 5

LIST OF REFERENCE DRAWINGS

DWG NO.	DESCRIPTION
2119H401 (SD-83-2-4) THRU 2119H412	BRIDGE ACROSS HURRICANE CREEK

SF * SF * SILT FENCE WITH BACKING

- = DENOTES EXISTING SUPPORT CONDITION
- = DENOTES PROPOSED SUPPORT CONDITION



PLAN VIEW
 SCALE: 1"=30'

GENERAL SCOPE OF WORK - BRIDGE NO. 2

- PROVIDE TRAFFIC CONTROL PLAN TO MAINTAIN 2-WAY TRAFFIC IN A SINGLE LANE ON THE BRIDGE AS REQUIRED DURING CONSTRUCTION.
- REMOVE EXISTING 2 1/2" (±) ASPHALT WEARING SURFACE ON BRIDGE DECK AND PLACE NEW ASPHALT SANDWICH SEAL OVERLAY.
- REPAIR CONCRETE DECK WITH FULL AND PARTIAL DEPTH DECK REPAIR.
- REPLACE EXISTING PLATE EXPANSION JOINTS WITH NEW STRIP SEAL EXPANSION JOINTS AT NOTED LOCATIONS. SEAL SUBSTRUCTURES AT EXPANSION JOINT LOCATIONS.
- EXTEND DECK DRAINS 3" MINIMUM BELOW STEEL GIRDERS.
- REPAIR SPALLED/DELAMINATED CONCRETE AREAS OF BOTTOM OF DECK, CURB, PARAPET AND PIERS WITH QUICK SET PATCHING MATERIAL.
- CLEAN AND PAINT RUSTED REINFORCING STEEL PRIOR TO CONCRETE REPAIRS.
- REPAIR CRACKS IN CONCRETE MEMBERS WITH EPOXY INJECTION.
- RESEAL ALL JOINTS IN CURB AND PARAPET.
- REMOVE EXISTING STEEL HANDRAIL AND MODIFY FOR STD-11-1.
- CLEAN AND PAINT ALL STRUCTURAL STEEL AND STEEL BEARINGS.
- REPLACE DETERIORATED OR MISSING WASHERS, ANCHOR BOLTS, AND SHOULDER BOLTS AS REQUIRED.
- REPLACE DETERIORATED STRUCTURAL STEEL MEMBERS AS REQUIRED.
- TEXTURE COAT ALL EXPOSED CONCRETE SURFACES AS REQUIRED.
- PROVIDE EROSION AND SEDIMENT CONTROL MEASURES AS REQUIRED.
- REMOVE VEGETATION AT ABUTMENTS.
- REMOVE ABANDONED UTILITY PIPE AT EACH END OF BRIDGE TO GROUND LINE.
- REPAIR END OF BRIDGE DRAINS AT BEGINNING OF BRIDGE.
- STABILIZE SHOULDERS AND ABUTMENT SLOPE AT BEGINNING OF BRIDGE.
- ENCASE ABUTMENT NO. 1 AND MAKE INTEGRAL. REPLACE BEARING AT ABUTMENT NO. 2 WITH ELASTOMERIC BEARINGS.
- REPLACE DAMAGED SECTION OF APPROACH GUARDRAIL OFF NORTHEAST END OF BRIDGE.

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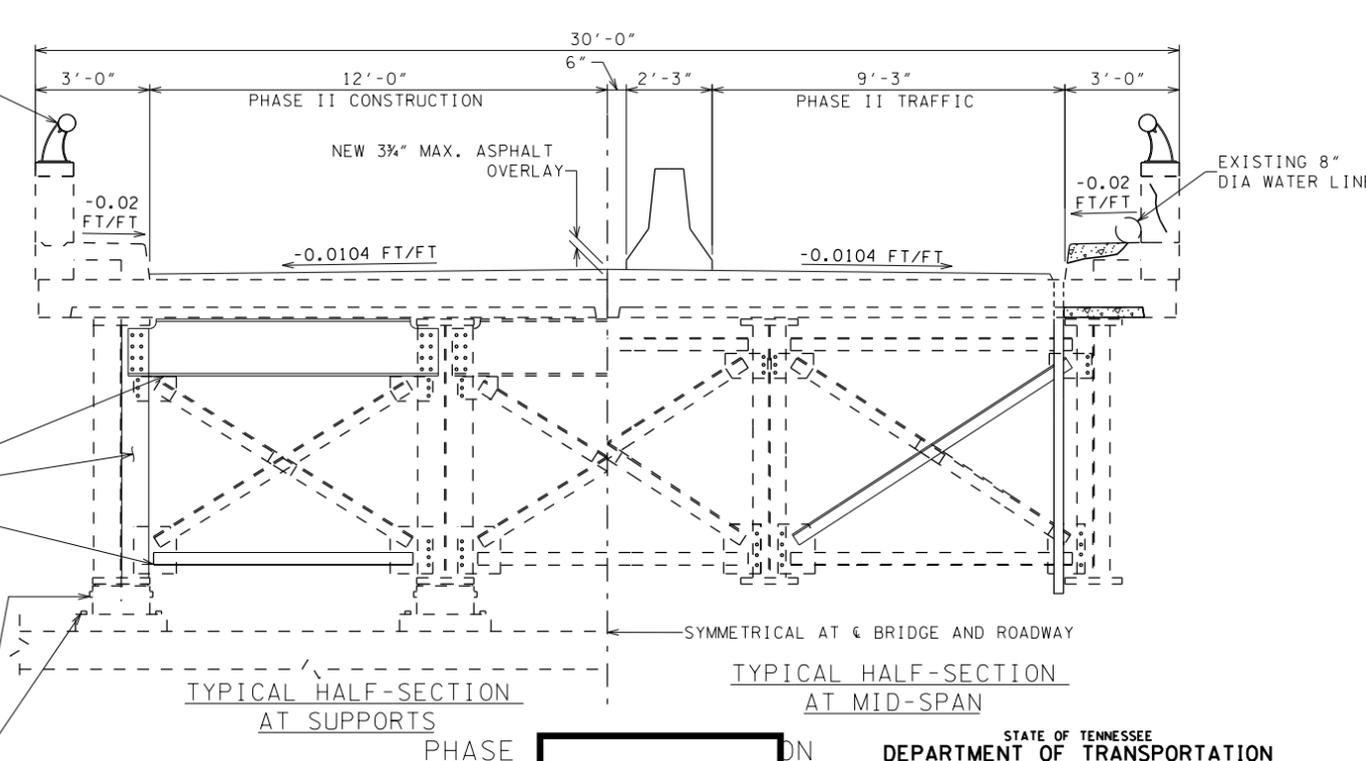
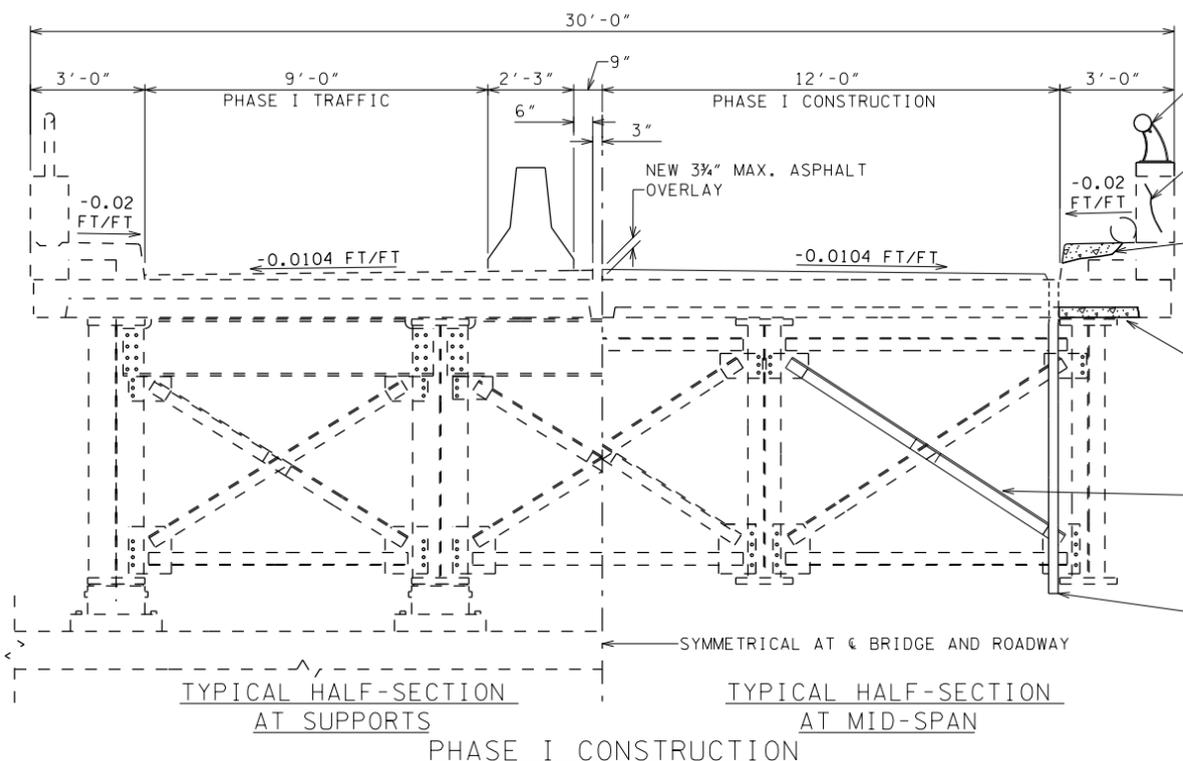
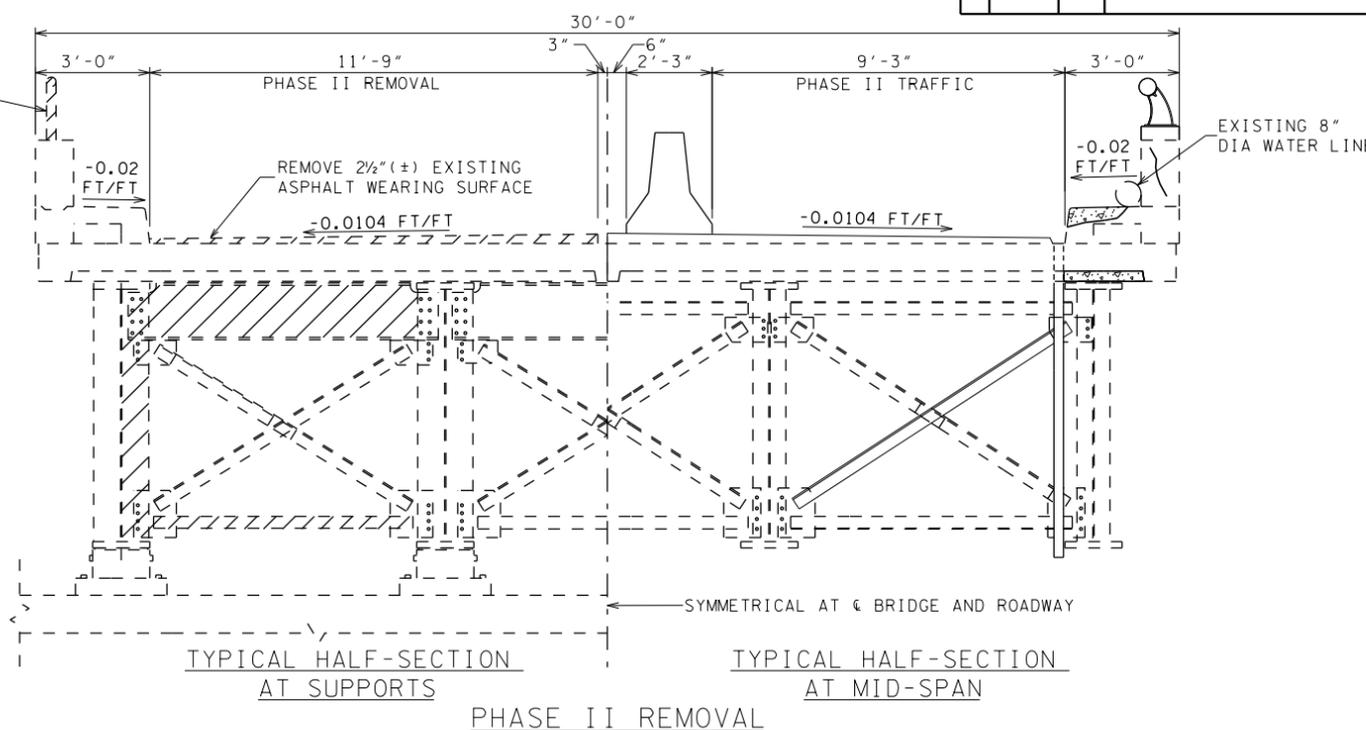
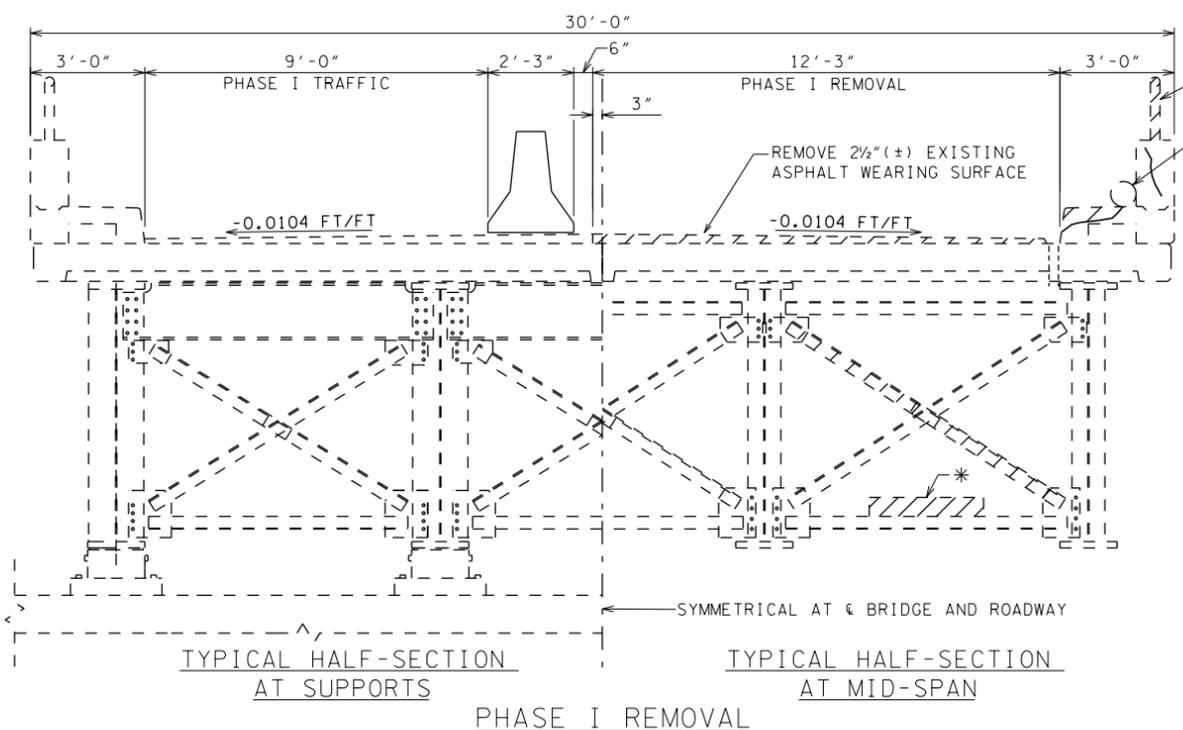
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 2
 LAYOUT OF BRIDGE
 TO BE REPAIRED
 BRIDGE NO 26-SR476-7.40
 SR 476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

DESIGNED BY	MMN	DATE	02/14
DRAWN BY	MFR	DATE	02/14
SUPERVISED BY	BEB	DATE	02/14
CHECKED BY	WHP	DATE	07/14

PROJECT NO.	YEAR	SHEET NO.
26016-4206-04	2015	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

* DENOTES UTILITY WALKWAY FOR 50' (±) EACH END OF BRIDGE TO BE REMOVED.



SEVERAL DETERIORATED OR MISSING WASHERS, NUTS, ANCHOR BOLTS AND SHOULDER BOLTS SHALL BE REPLACED AT THE BEARING ASSEMBLY.

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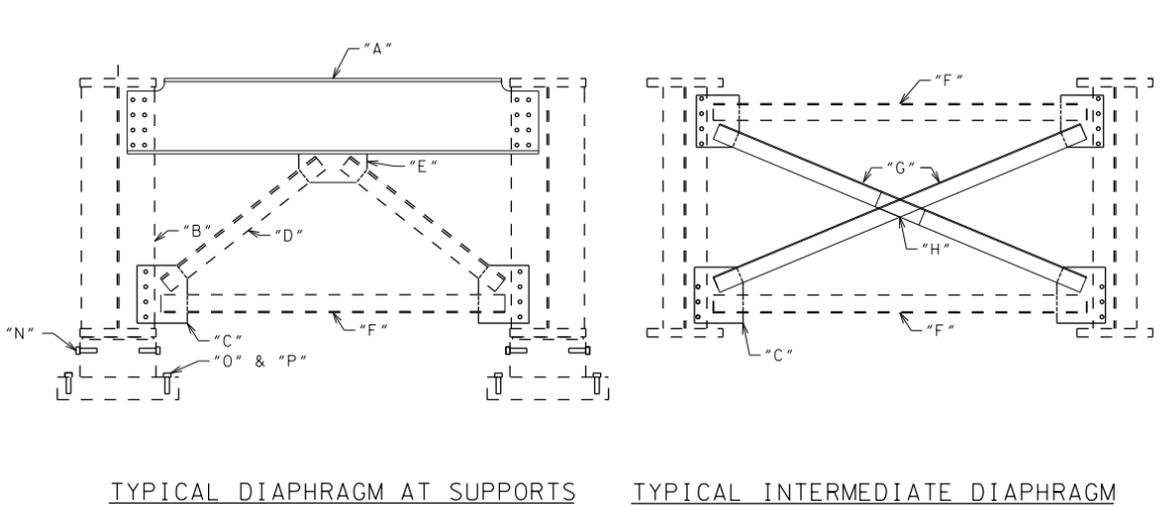
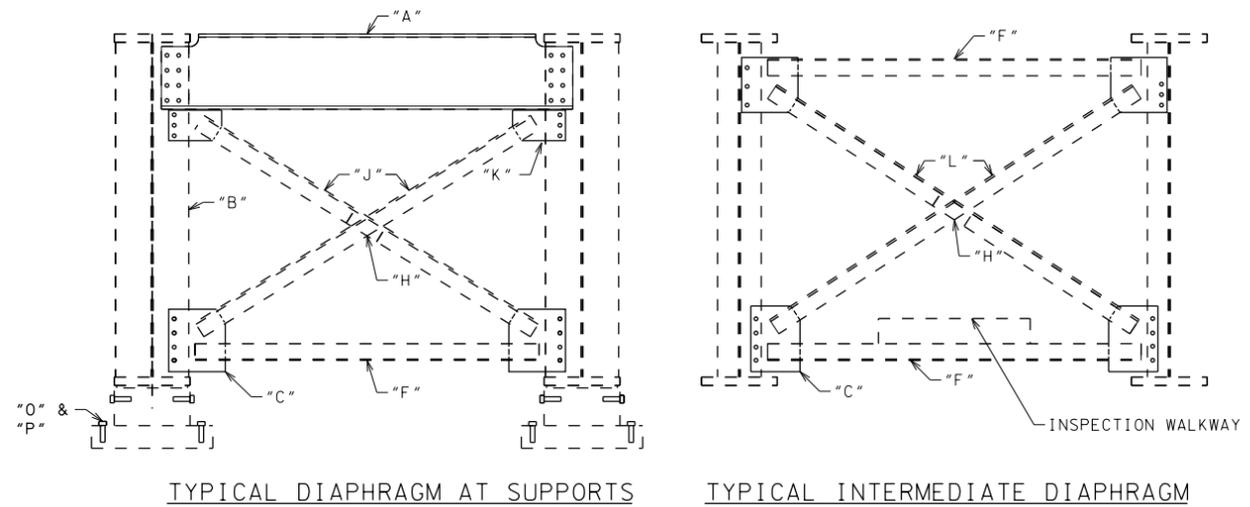
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1
 PHASE CONSTRUCTION AND DEMOLITION

BRIDGE NO 26-SR476-3.39
 SR 476 OVER ELK RIVER
 FRANKLIN COUNTY
 2015

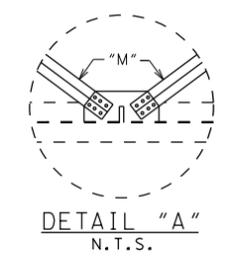
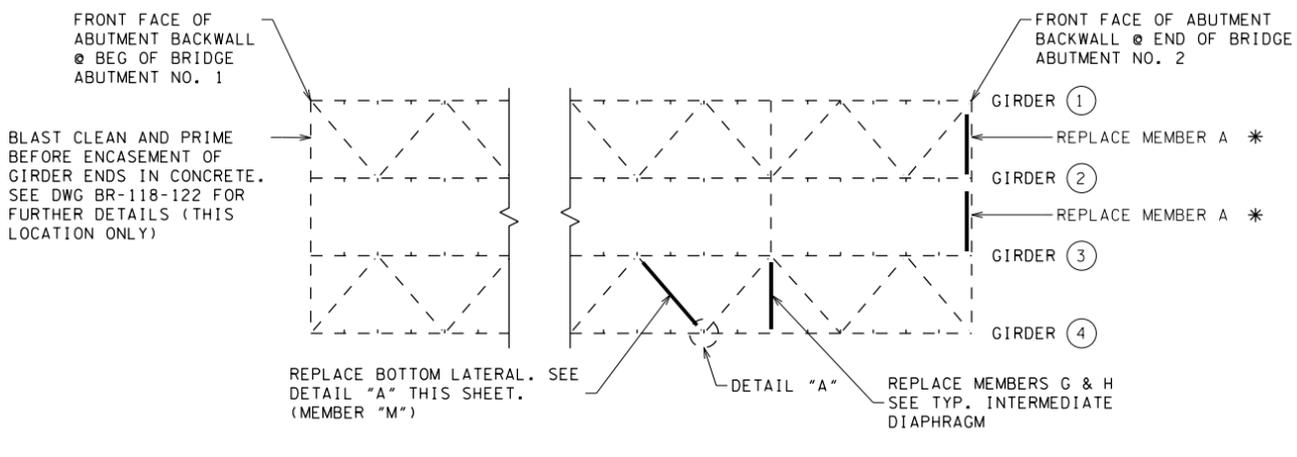
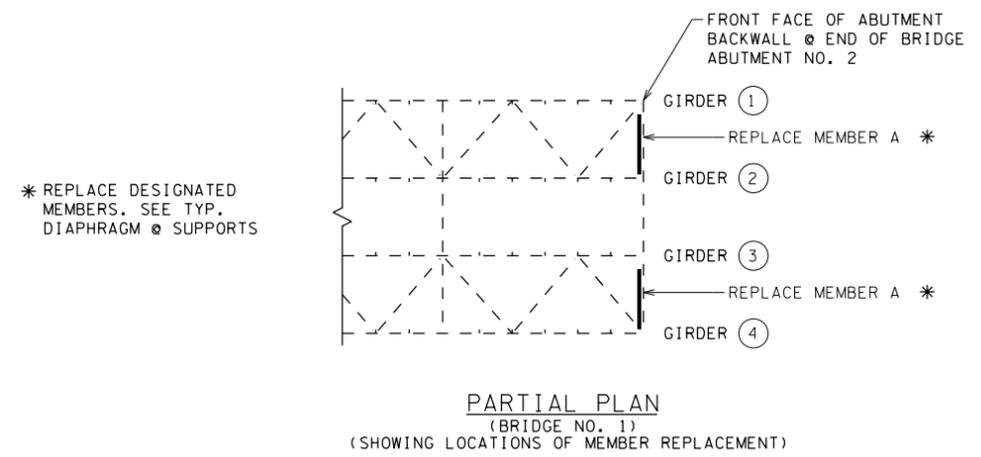
DESIGNED BY: MMN DATE: 02/14
 DRAWN BY: MPR DATE: 02/14
 SUPERVISED BY: BEB DATE: 02/14
 CHECKED BY: WHP DATE: 07/14

PROJECT NO.	YEAR	SHEET NO.	
2616-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



ELK RIVER BRIDGE - BRIDGE NO. 1
NTS

HURRICANE CREEK BRIDGE - BRIDGE NO. 2
NTS



- NOTES:**
- SEE GENERAL NOTES DRAWING BR-118-109 FOR ADDITIONAL STRUCTURAL STEEL NOTES AND HIGH TENSILE STRENGTH BOLTS NOTES.
 - ANY STEEL MEMBERS THAT ARE REMOVED SHALL BE REPLACED BY THE END OF THE DAY. NO DISCONNECTED MEMBERS SHALL BE ALLOWED OVERNIGHT.
 - ALL REPLACED MEMBERS AND COMPLETE CROSS FRAMES WILL BE REPLACED-IN-KIND USING HIGH STRENGTH BOLTS OR WELDED AS SHOWN IN EXISTING PLANS.
 - SEE EXISTING BRIDGE PLANS FOR MEMBER DIMENSIONS, CONNECTIONS AND LOCATIONS.
 - THE ENGINEER MAY INCREASE OR DECREASE STRUCTURAL STEEL MEMBER REPLACEMENT QUANTITIES.
 - THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND MEMBER SIZES BEFORE ORDERING MATERIALS.
 - FOR ALL DETAILS NOT SHOWN, SEE EXISTING PLAN SHEETS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING GIRDERS DURING STRUCTURAL STEEL REPAIRS.
 - CONTRACTOR SHALL MATCH EXISTING BOLT PATTERN FOR ALL CONNECTIONS OF GUSSETS AND END DIAPHRAGMS UNLESS OTHERWISE NOTED. WELDED MEMBERS TO BE REMOVED AND REPLACED SHALL BE GRINDING SMOOTH AT THE CUT LINE.
 - ALL COST TO INSTALL NEW STEEL MEMBERS, GUSSET PLATES, FILLER PLATES, BOLTS, NUTS, WASHERS, FASTENERS AND OTHER MISCELLANEOUS ITEMS AS SHOWN ON THIS SHEET SHALL BE PAID UNDER ITEM NO. 602-10.32, STRUCTURAL STEEL (REPAIRS), (LBS.).

▲ NO REPAIRS/REPLACEMENT REQUIRED UNLESS DEEMED NECESSARY BY THE ENGINEER.

ESTIMATED REPLACEMENT MEMBERS			
DESIGNATION	DESCRIPTION	BRIDGE NO. 1 QUANTITY	BRIDGE NO. 2 QUANTITY
A	SUPPORT DIAPHRAGM	2	2
B	VERTICAL STIFFENER (SIZES VARY)	▲	▲
C	CONNECTION PLATE	▲	▲
D	CROSS BRACE @ SUPPORT (BRIDGE NO 1)	▲	▲
E	MIDDLE CONNECTION PLATE	▲	▲
F	HORIZONTAL BRACE	▲	▲
G	INTERMEDIATE CROSS BRACE (BRIDGE NO. 2)	▲	2
H	FILLER PLATE	▲	1
J	CROSS BRACE @ SUPPORT (BR NO. 1)	▲	▲
K	TOP CONNECTION PLATE (BR. NO. 1 @ SUPPORTS)	▲	▲
L	INTERMEDIATE CROSS BRACE (BR NO. 1)	▲	▲
M	BOTTOM LATERAL	▲	1
N	1/4" SHOULDER BOLT	▲	2
O	SO HD HEX NUT FOR 1/2" Ø BOLT	2	7
P	STD WASHER FOR 1/2" Ø BOLT	2	7

ESTIMATED REPAIR QUANTITIES

ITEM NO. 602-10.32		
STRUCTURAL STEEL (LBS.)	ASTM A325 BOLTS (LBS) 7/8" DIA.	MISC. BOLTS, NUTS, WASHERS (LBS)
2718	71	31

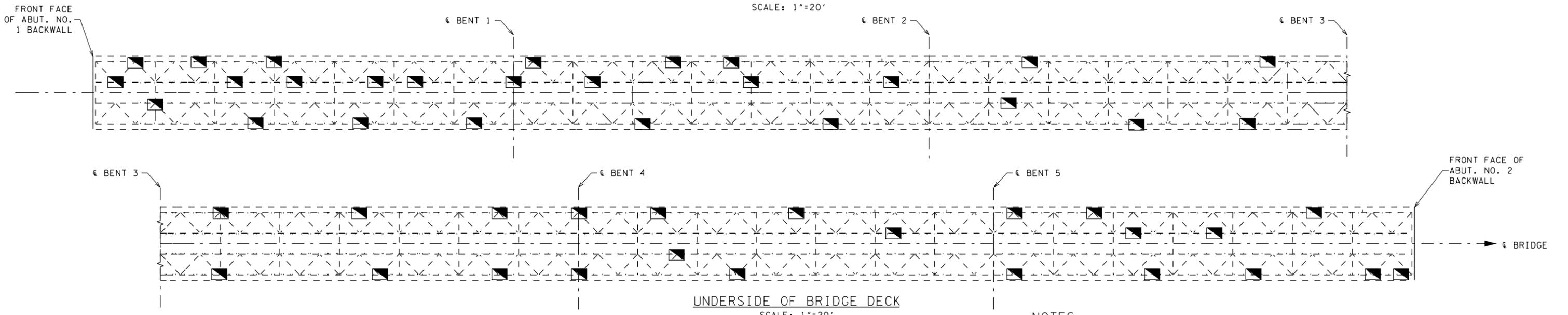
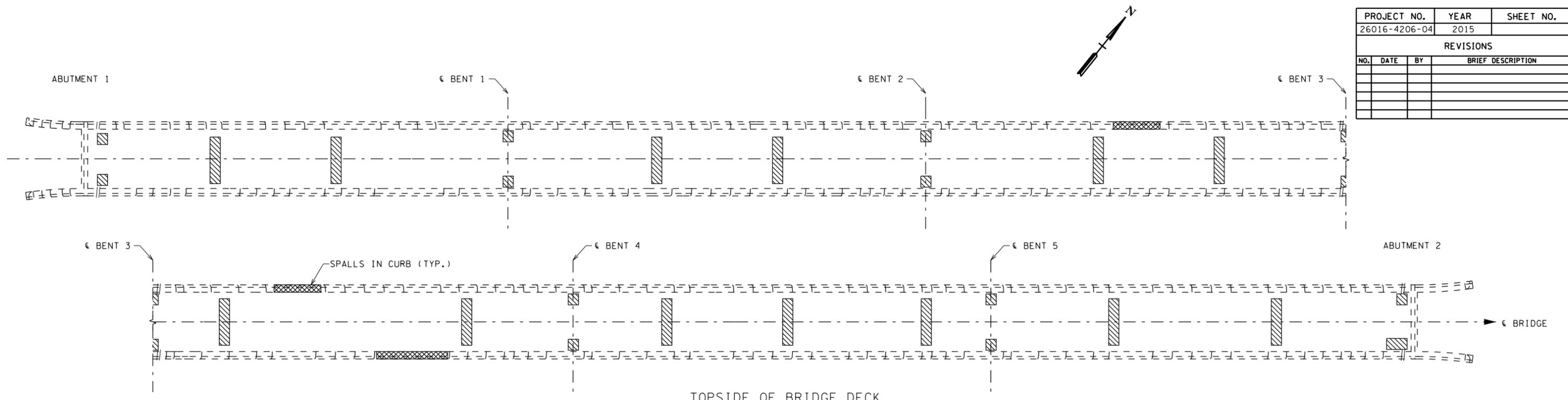
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NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 1 AND NO. 2.
STEEL REPAIR DETAILS

BRIDGE NO 26-SR476-3.39
SR 476 OVER ELK RIVER
BRIDGE NO 26-SR476-7.40
SR-476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

DESIGNED BY: MMN DATE: 03/14
DRAWN BY: MPR DATE: 03/14
SUPERVISED BY: BEB DATE: 03/14
CHECKED BY: WHP DATE: 07/14

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



- ▨ DENOTES: ESTIMATED (TYP) FULL DEPTH REPAIR LOCATIONS. ACTUAL LOCATIONS TO BE DETERMINED BY OFFICE OF BRIDGE REPAIR. THE CONTRACTOR IS TO NOTIFY OFFICE OF BRIDGE REPAIR A MINIMUM OF THREE (3) DAYS IN ADVANCE. ALL COSTS SHALL BE PAID FOR UNDER ITEM NO. 604-10.30, BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB), SY.
- ▣ DENOTES: CONCRETE REPAIRS TO RECEIVE PATCHING MATERIAL AND SHALL BE PAID FOR UNDER ITEM NO. 604-10.54.
- DENOTES: CRACKS TO RECEIVE EPOXY INJECTION AND SHALL BE PAID FOR UNDER ITEM NO. 604-10.62
- ▣ DENOTES: ESTIMATED (TYP) PARTIAL DEPTH REPAIR LOCATIONS. ACTUAL LOCATIONS TO BE DETERMINED BY OFFICE OF BRIDGE REPAIR. THE CONTRACTOR IS TO NOTIFY OFFICE OF BRIDGE REPAIR A MINIMUM OF THREE (3) DAYS IN ADVANCE. PARTIAL DEPTH REPAIRS ARE REQUIRED IN THE LEGS OF THE PRECAST CONCRETE DECK MEMBERS AS WELL AS THE DECK PORTION ON UNDERSIDE OF BRIDGE DECK. EXPOSED STIRRUPS THROUGHOUT DECK SECTIONS TO BE CLEANED, PAINTED AND COVERED AS SHOWN IN THE PARTIAL DEPTH DECK REPAIR DETAIL ON DWG BR-118-118. ALL COSTS SHALL BE PAID FOR UNDER ITEM NO. 604-10.50, BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB), SY.

- NOTES:**
- SEE DRAWING BR-118-118 FOR DETAILS OF DECK REPAIR & DRAWING BR-118-118 FOR SPALL REPAIR.
 - REPAIR AREAS SHALL BE LOCATED AND DESIGNATED BY THE ENGINEER.
 - SEE DRAWING BR-118-119 FOR EPOXY INJECTION NOTES.

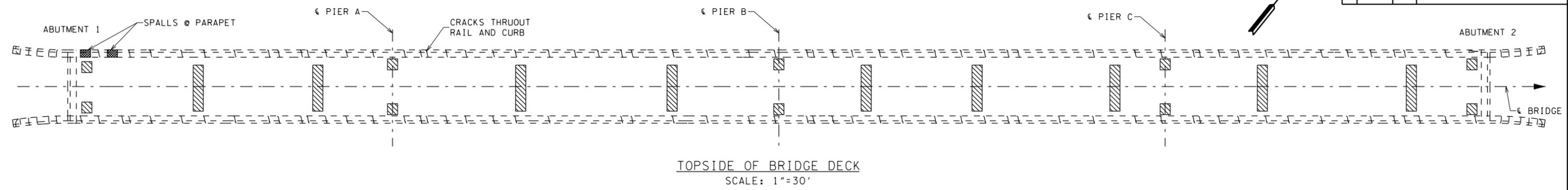
ESTIMATED QUANTITIES		
	604-10.54 CONCRETE REPAIRS (S.F.)	604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE) (L.F.)
SPAN 1	—	30
SPAN 2	—	30
SPAN 3	5	30
SPAN 4	25	30
SPAN 5	—	30
SPAN 6	—	30
TOTALS	30	180

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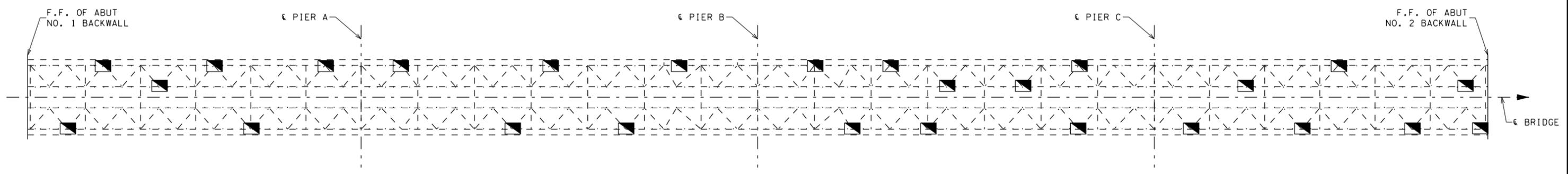
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1
 BRIDGE DECK REPAIRS
 BRIDGE NO 26-SR476-7.40
 SR 476 OVER ELK RIVER
 FRANKLIN COUNTY
 2015

DESIGNED BY: MMN DATE: 04/14
 DRAWN BY: MPR DATE: 04/14
 SUPERVISED BY: BEB DATE: 04/14
 CHECKED BY: WHP DATE: 06/14

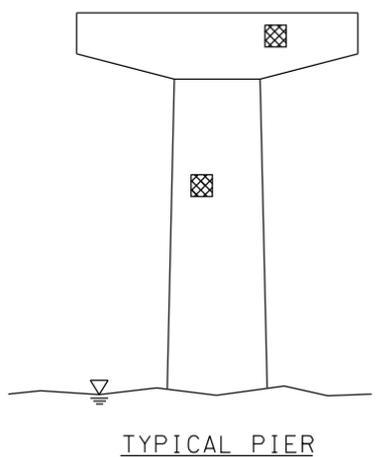
PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



TOPSIDE OF BRIDGE DECK
SCALE: 1"=30'



UNDERSIDE OF BRIDGE DECK
SCALE: 1"=30'



- ▨ DENOTES: ESTIMATED (TYP) FULL DEPTH REPAIR LOCATIONS. ACTUAL LOCATIONS TO BE DETERMINED BY OFFICE OF BRIDGE REPAIR. THE CONTRACTOR IS TO NOTIFY OFFICE OF BRIDGE REPAIR A MINIMUM OF THREE (3) DAYS IN ADVANCE. ALL COSTS SHALL BE PAID FOR UNDER ITEM NO. 604-10.30, BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB), SY.
- ▣ DENOTES: CONCRETE REPAIRS TO RECEIVE PATCHING MATERIAL AND SHALL BE PAID FOR UNDER ITEM NO. 604-10.54.
- ~ DENOTES: CRACKS TO RECEIVE EPOXY INJECTION AND SHALL BE PAID FOR UNDER ITEM NO. 604-10.62
- DENOTES: ESTIMATED (TYP) PARTIAL DEPTH REPAIR LOCATIONS. ACTUAL LOCATIONS TO BE DETERMINED BY OFFICE OF BRIDGE REPAIR. THE CONTRACTOR IS TO NOTIFY OFFICE OF BRIDGE REPAIR A MINIMUM OF THREE (3) DAYS IN ADVANCE. PARTIAL DEPTH REPAIRS ARE REQUIRED IN THE LEGS OF THE PRECAST CONCRETE DECK MEMBERS AS WELL AS THE DECK PORTION ON UNDERSIDE OF BRIDGE DECK. EXPOSED STIRRUPS THRUOUT DECK SECTIONS TO BE CLEANED, PAINTED AND COVERED AS SHOWN IN THE PARTIAL DEPTH DECK REPAIR DETAIL ON DWG BR-118-118. ALL COSTS SHALL BE PAID FOR UNDER ITEM NO. 604-10.50, BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB), SY.

- NOTES:**
- SEE DRAWING BR-118-118 FOR DETAILS OF DECK REPAIR & DRAWING BR-118-118 FOR SPALL REPAIR.
 - REPAIR AREAS SHALL BE LOCATED AND DESIGNATED BY THE ENGINEER.
 - SEE DRAWING BR-118-119 FOR EPOXY INJECTION NOTES.

ESTIMATED QUANTITIES		
	604-10.54 CONCRETE REPAIRS (S.F.)	604-10.62 EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE) (L.F.)
SPAN 1	6	60
SPAN 2	—	60
SPAN 3	—	70
SPAN 4	—	85
PIER 1	1	—
PIER 2	25	—
PIER 3	45	—
TOTALS	77	275

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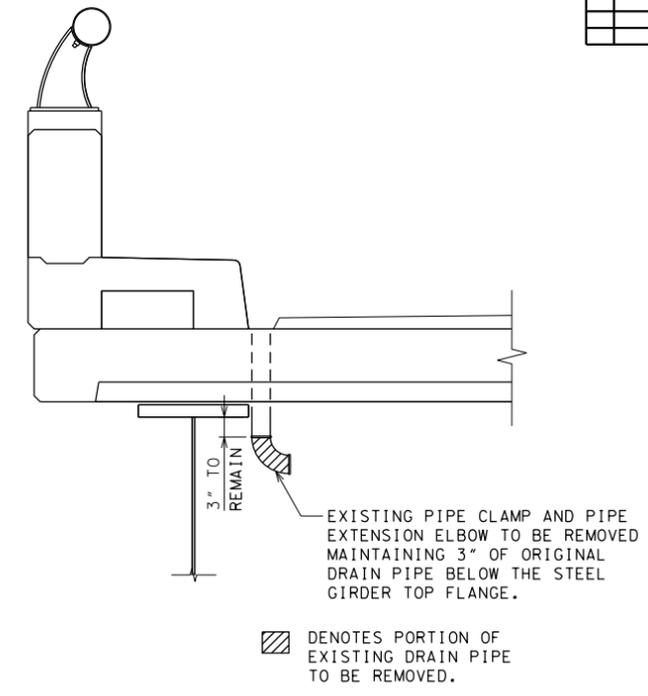
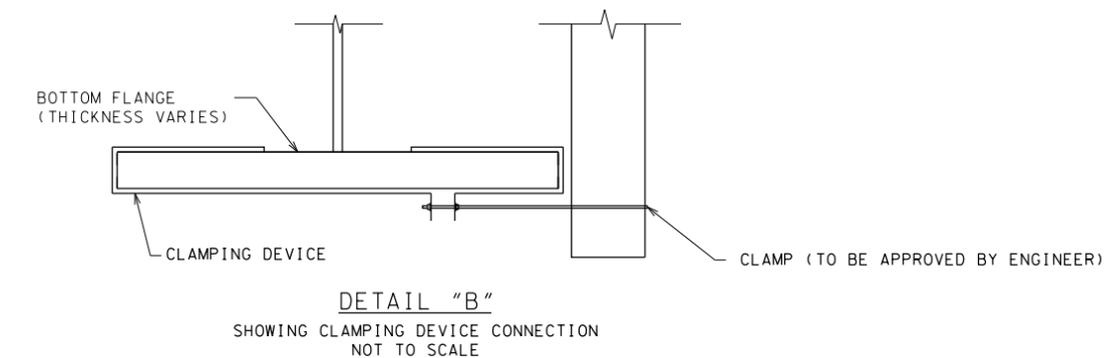
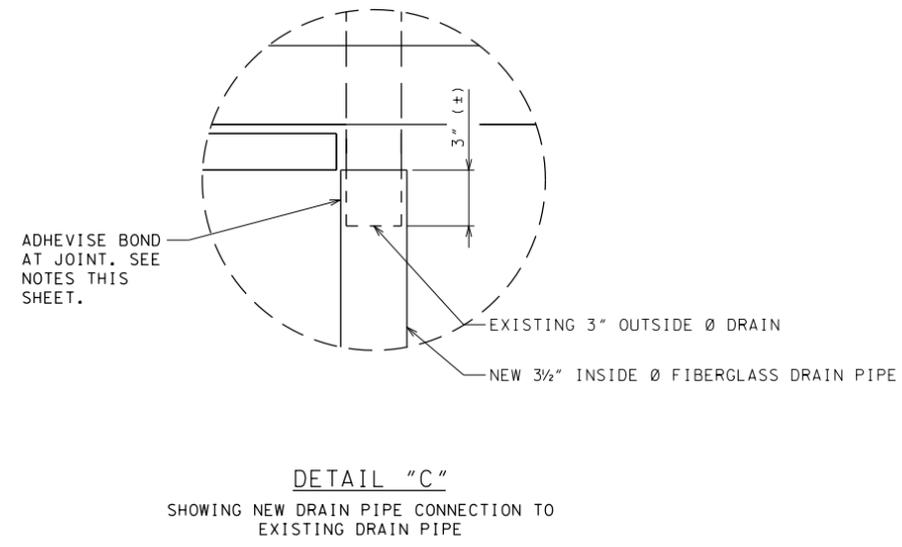
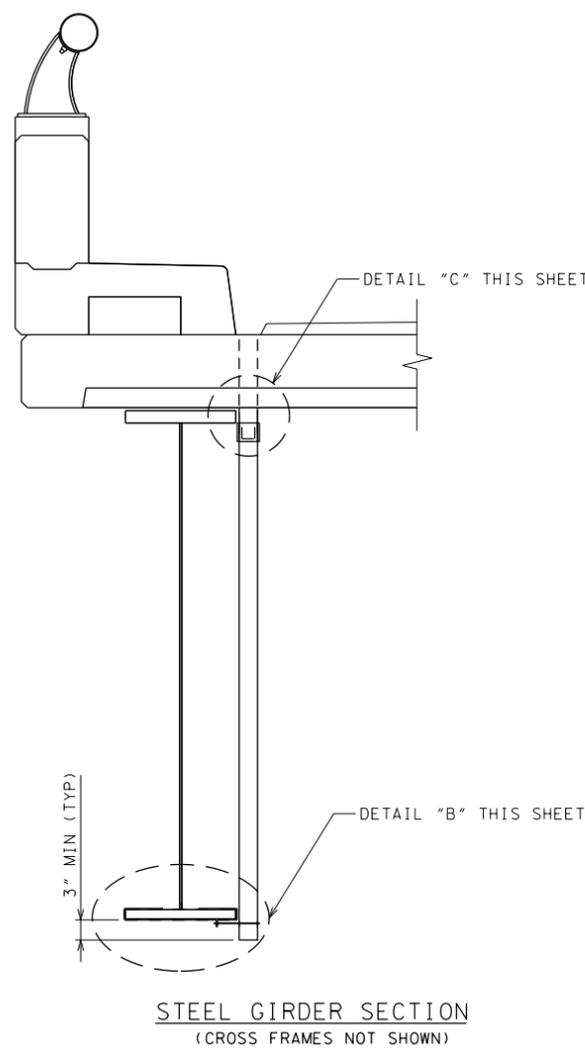
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 2
 BRIDGE DECK AND PIER
 REPAIR DETAILS

 BRIDGE NO 26-SR476-7.40
 SR 476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

DESIGNED BY: MMN DATE: 04/14
 DRAWN BY: MPR DATE: 04/14
 SUPERVISED BY: BEB DATE: 04/14
 CHECKED BY: HP DATE: 06/14

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



NOTES:

DECK DRAIN MODIFICATION WILL BE PAID FOR UNDER ITEM 610-10.35, MODIFY DECK DRAIN SYSTEM (LS) AND SHALL INCLUDE ALL LABOR AND MATERIALS REQUIRED TO REMOVE AND DISPOSE OF PIPE EXTENSION ELBOWS AS SHOWN IN THESE DETAILS AND INSTALL THE NEW FIBERGLASS DRAIN PIPE EXTENSIONS. (240 DRAINS @ BRIDGE NO. 1 AND 140 DRAINS @ BRIDGE NO. 2.)

THE DRAINS SHALL BE SECURED TO THE BOTTOM FLANGE OF THE GIRDER AS SHOWN. CLAMPING DEVICES TO BE 10 GAUGE STEEL TO SECURE DRAIN AS SHOWN. ALL STEEL SHALL BE PAINTED AS PER THE STANDARD SPECIFICATIONS PRIOR TO SECURING CLAMPING DEVICES. THE ENGINEER MAY APPROVE AN EQUAL SUBSTITUTION.

NO WELDING OR BOLTING SHALL BE ALLOWED ON THE STEEL GIRDERS FOR CONNECTION OF DRAINS OR CLAMPING DEVICES.

FOR ALL DETAILS NOT SHOWN, SEE EXISTING PLAN SHEETS

THE BRIDGE FIBERGLASS DRAIN PIPES SHALL BE OF FRP BRIDGE - GRACE COMPOSITES, WESTFALL COMPANY, INC. (WWW.FRPBRIDGEDRAINPIPE.COM) DRAIN PIPE OR TDOT APPROVED EQUAL.

DRAINAGE PIPE SHALL BE REINFORCED THERMOSETTING RESIN PIPE SYSTEMS MEETING THE REQUIREMENTS OF ASTM D 2996 RTRP-12EA12122, WITH AT LEAST 30,000 PSI SHORT TIME RUPTURE STRENGTH IN THE HOOPS TENSILE STRESS.

UV INHIBITORS MUST BE INCLUDED IN THE RESIN FORMULA AND USED THROUGHOUT THE WALL OF THE PIPE AND FITTINGS, UV RESISTANT SURFACE WAXES MUST ALSO BE PRESENT ON THE FINISHED PRODUCTS TO FURTHER INHIBIT UV DEGRADATION. ASTM G 154 AND ASTM D 4329 SHOULD SERVE AS BASE PROCEDURES TO THE TEST METHOD WITH TOLERANCES BEING SET FORTH AS ACCEPTABLE BY THE REGION'S GOVERNING TRANSPORTATION BODY.

ALL FIBERGLASS PIPE SHALL BE PIGMENTED THROUGHOUT THE WALL, COLOR TO BE STANDARD GREEN. PAINT, GELCOAT, OR ANY OTHER EXTERIOR COATING WILL NOT BE ACCEPTED FOR THE COLORING OF NEW PIPE.

THE MINIMUM TOTAL WALL THICKNESS SHALL BE NO LESS THAN 0.125 INCH.

ALL FIBERGLASS PIPE SHALL BE HANDLED AND INSTALLED ACCORDING TO THE GUIDELINES AND PROCEDURES RECOMMENDED IN THE PRINTED LITERATURE OF THE MANUFACTURER.

CONTRACTOR IS ALSO REQUIRED TO FIELD MEASURE OUTSIDE DIAMETER OF EXISTING DRAIN PIPE.

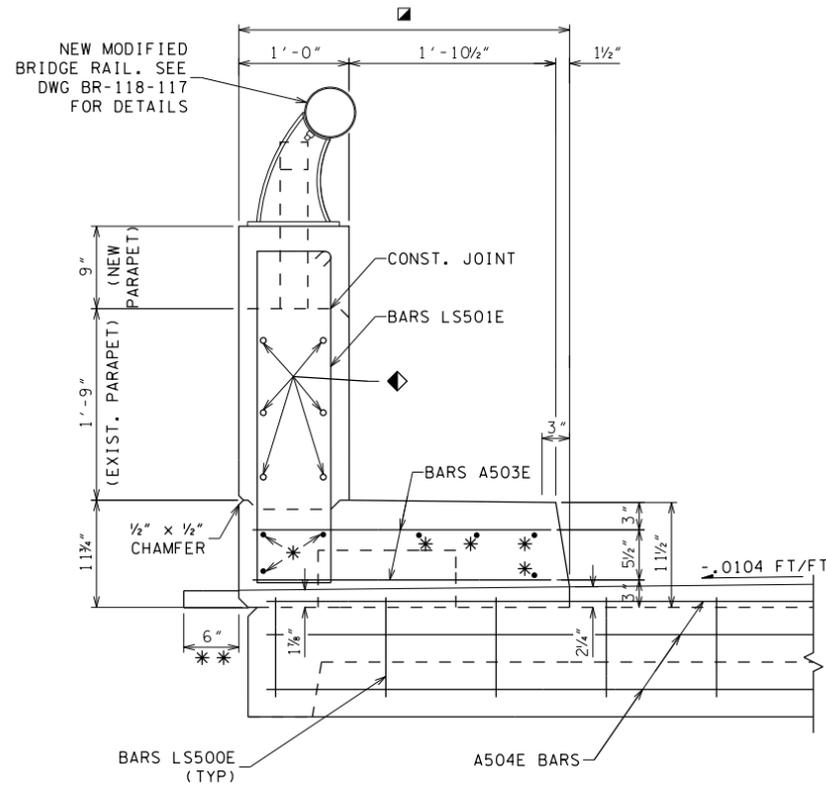
ADHESIVE BOND SHALL BE USED TO CONNECT THE NEW DRAIN PIPE TO THE EXISTING DRAIN PIPE. ADHESIVE BOND FOR JOINT SHALL BE VINYL ESTER RESIN BASED PRODUCT WITH SILICA FILLER, POLYESTER PIGMENT AND METHYL ETHYL KETONE PEROXIDE CATALYST. THE ADHESIVE FORMULATION SHALL BE CERTIFIED TO BE PROVEN SUITABLE FOR THE INTENDED APPLICATION. THE RESIN SHALL BE CERTIFIED TO HAVE NO ADDITIVES THAT LEACH OUT, CATALYSTS THAT REMAIN ACTIVE OR EXTRA INGREDIENTS THAT COULD LEAD TO THE PRODUCT'S EARLY DETERIORATION.

DESIGNED BY MMN DATE 04/14
 DRAWN BY MPR DATE 04/14
 SUPERVISED BY BEB DATE 04/14
 CHECKED BY WHP DATE 07/14

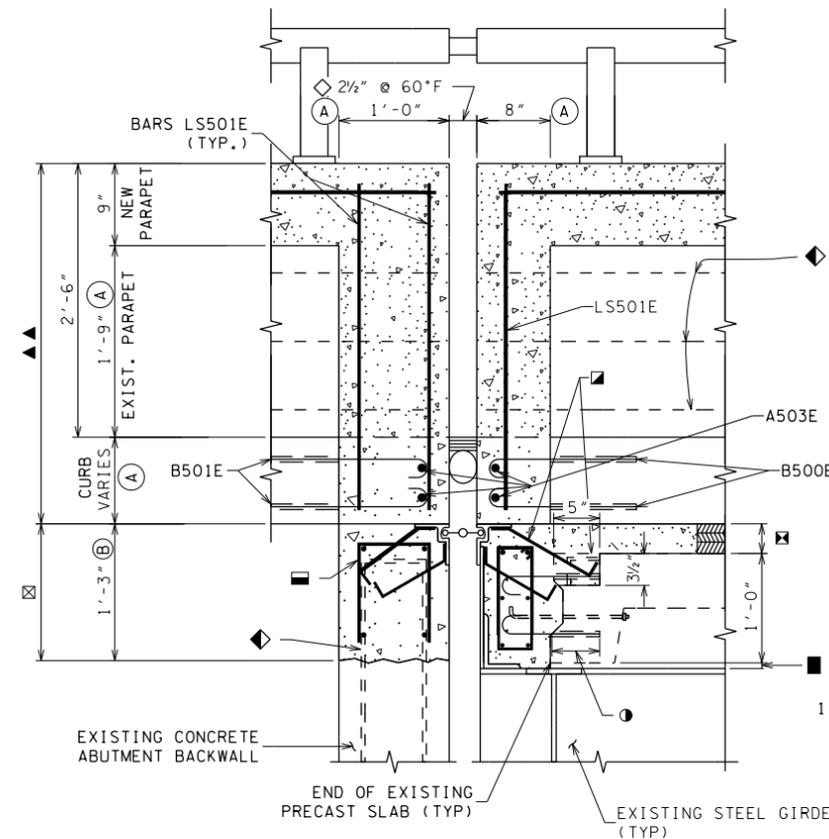
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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1 AND NO. 2
 DRAIN MODIFICATION DETAILS
 BRIDGE NO 26-SR476-3.39
 SR-476 OVER ELK RIVER
 BRIDGE NO 26-SR476-7.40
 SR-476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
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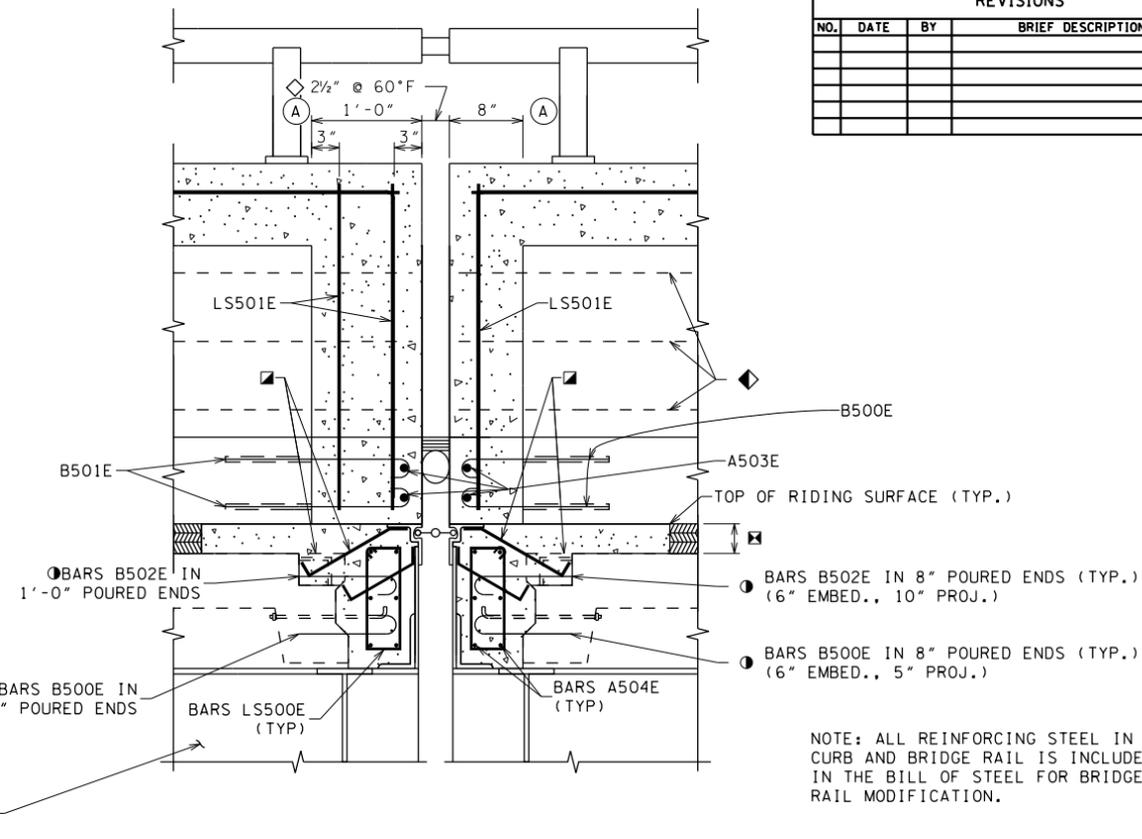


SECTION A-A ALONG JOINT



TYPICAL SECTION THRU CURB AND PARAPET AT ABUTMENT BACKWALL

BRIDGE NO. 1 AND 2
(SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "A" ON STD DWG BR-2-117)



TYPICAL SECTION THRU CURB AND PARAPET AT BENT NO. 3

BRIDGE NO. 1 ONLY
(SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "C" ON STD DWG BR-2-118)

NOTE: ALL REINFORCING STEEL IN THE CURB AND BRIDGE RAIL IS INCLUDED IN THE BILL OF STEEL FOR BRIDGE RAIL MODIFICATION.

NOTES:

◆ ALL EXISTING REINFORCING STEEL THAT IS EXPOSED SHALL BE CLEANED, STRAIGHTENED, PAINTED, AND INCORPORATED INTO NEW CONSTRUCTION. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING REINFORCING DURING DRILLING FOR NEW REINFORCING EMBEDMENT.

Ⓐ DENOTES: LIMITS OF EXISTING CONCRETE CURB AND PARAPET SLAB REMOVAL & REPOURING

Ⓑ DENOTES: LIMITS OF EXISTING CONCRETE REMOVAL & REPOURING

* DRILLED AND GROUTED BARS B500E OR BARS B501E (6" EMBED., 5" OR 9" PROJ.) SEE DWG BR-118-109 FOR GROUTED BARS IN DRILLED HOLES NOTE.

** DENOTES: MEMBRANE RETAINER WITHOUT LEGS TO EXTEND 6" BEYOND DECK SLAB ON LOW SIDE OF JOINTS

▲▲ ALL COSTS FOR PARAPET REPAIR AND MODIFICATION SHALL BE PAID FOR UNDER ITEM NO. 604-20.10, MODIFY BRIDGE RAIL, L.F. SEE DWG BR-118-117 FOR BILL OF STEEL, DETAILS AND NOTES.

☒ ALL COSTS FOR EXPANSION JOINT REPLACEMENT SHOWN IN THE DETAILS THIS SHEET, BR-118-119 AND STD DWGS SBR-2-115 THRU SBR-2-118 SHALL BE INCLUDED IN ITEM NO. 604-10.32, EXPANSION JOINT REPAIRS (TYPE A) AND ITEM NO. 604-10.35, EXPANSION JOINTS REPAIRS (TYPE C), L.F.

DESIGNED BY: MMN DATE: 03/14
DRAWN BY: MPR DATE: 03/14
SUPERVISED BY: BEB DATE: 03/14
CHECKED BY: WHP DATE: 07/14

EXPANSION JOINT REPLACEMENT DETAILS AT CURB AND PARAPET

◆ BARS A500E REPLACE NO. 5 "A" BARS SHOWN IN STD. DWG. SBR-2-117 AND SBR-2-118

● BARS LS500E REPLACE BARS H400E ON STD DWG SBR-2-117 AND SBR-2-118.

☑ IN AREA UNDER RAISED CURB, OMIT TOP STRAP IN EXPANSION JOINT AND DO NOT REMOVE THE CORNER OF THE PRE-CAST SLAB UNIT.

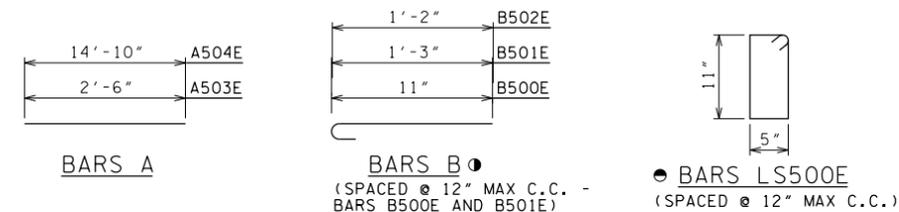
☒ SEE STD DWG SBR-2-116 AND SBR-2-117 FOR NEW REINFORCING STEEL IN ABUTMENT BACKWALL.

■ BEARING PAD THICKNESS VARIES 1/4" TO 1/2"

● BARS B500E AND B501E ARE IN ADDITION TO BARS SHOWN ON STD DWG SBR-2-117 AND SBR-2-118 (SEE DWG BR-118-109 FOR GROUTED BARS IN DRILLED HOLES NOTE)

◇ ENGINEER SHALL VERIFY JOINT OPENING BEFORE THE CONTRACTOR BEGINS WORK IN THIS AREA.

☑ NEW ASPHALT OVERLAY VARIES 3 3/4" AT 6" TO 2 1/4" AT CURBLINE



EXPANSION JOINT REINFORCING STEEL

(JOINT IN BRIDGE DECK ONLY)
SEE DWG BR-118-119 FOR FURTHER DETAILS AND NOTES

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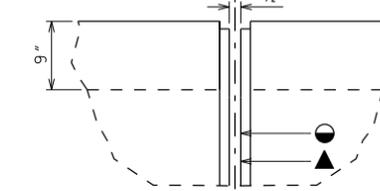
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 1 AND 2
BRIDGE EXPANSION JOINT DETAILS

BRIDGE NO. 26-SR476-3.39
SR-476 OVER ELK RIVER
BRIDGE NO. 26-SR476-7.40
SR-476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

THE EXISTING DEFLECTION JOINTS SPACED AT APPROX 24'-1" IN THE EXISTING RAIL SHALL BE INCORPORATED IN THE BRIDGE RAIL EXTENSION.

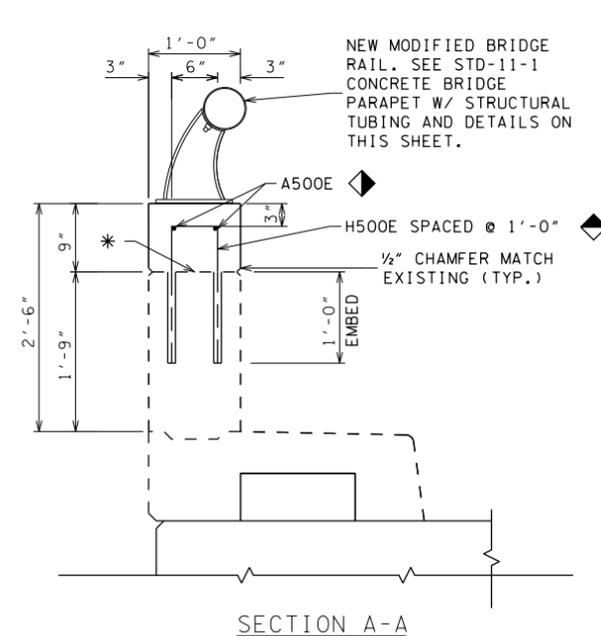
APPROX. 24'-1" EXISTING DEFLECTION JOINT SPACING (TYP)



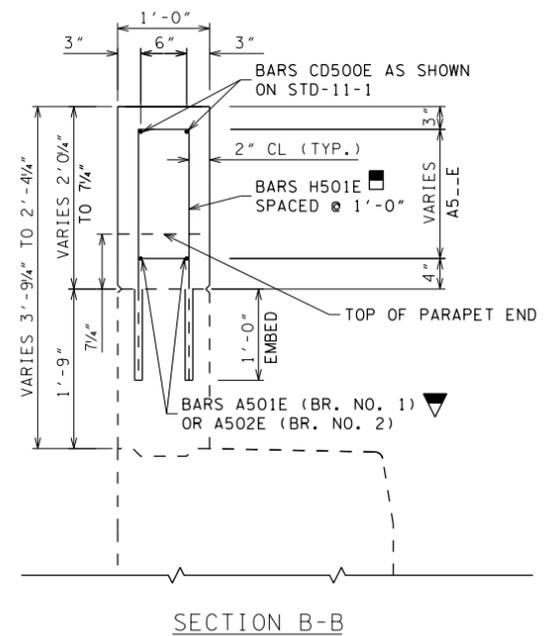
DEFLECTION JOINT DETAIL

ESTIMATED QUANTITIES INCLUDED IN ITEM NO. 604-20.10 - BRIDGE RAIL MODIFICATION			
CLASS A CONCRETE (BRIDGES) - C.Y.		EPOXY COATED REINF. STEEL- LB	
BR. 1	BR. 2	BR. 1	BR. 2
60	35	13306	7659

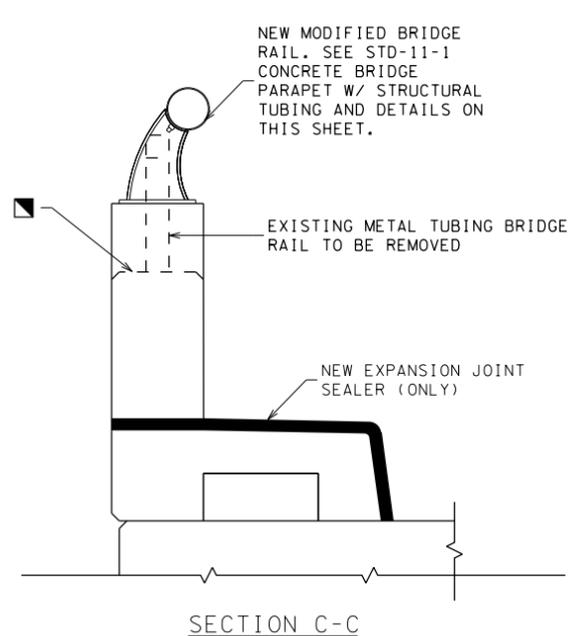
BILL OF STEEL - BRIDGE RAIL MODIFICATION										
BAR	LOCATION	SIZE	NO. REQ'D.		BENDING DIMENSION			LENGTH	TOTAL LBS	
			BR. 1	BR. 2	A	B	C		BR. 1	BR. 2
H500E	PARAPET	5	2080	1204	7"	1'-7"		3'-9"	8135	4709
H501E	WING POST	5	36	36	7"	2'-10"		6'-3"	235	235
A500E	PARAPET	5	168	96	23'-9"			23'-9"	4162	2378
A501E	PARAPET	5	8	0	20'-8"			20'-8"	172	
A502E	PARAPET	5	8	8	18'-8"			18'-8"	156	156
CD500E	WING POST	5	0	8	5'-1/2"	9%	2%	5'-11"	49	49
LS501E	PARAPET	5	18	6	3'-1"	8"		8'-8"	163	54
B500E	PARAPET	5	48	16	1'-3"			1'-10"	92	31
B501E	PARAPET	5	48	16	11"			1'-6"	75	25
A503	PARAPET	5	24	8	2'-8"			2'-8"	67	22
TOTALS:									13306	7659



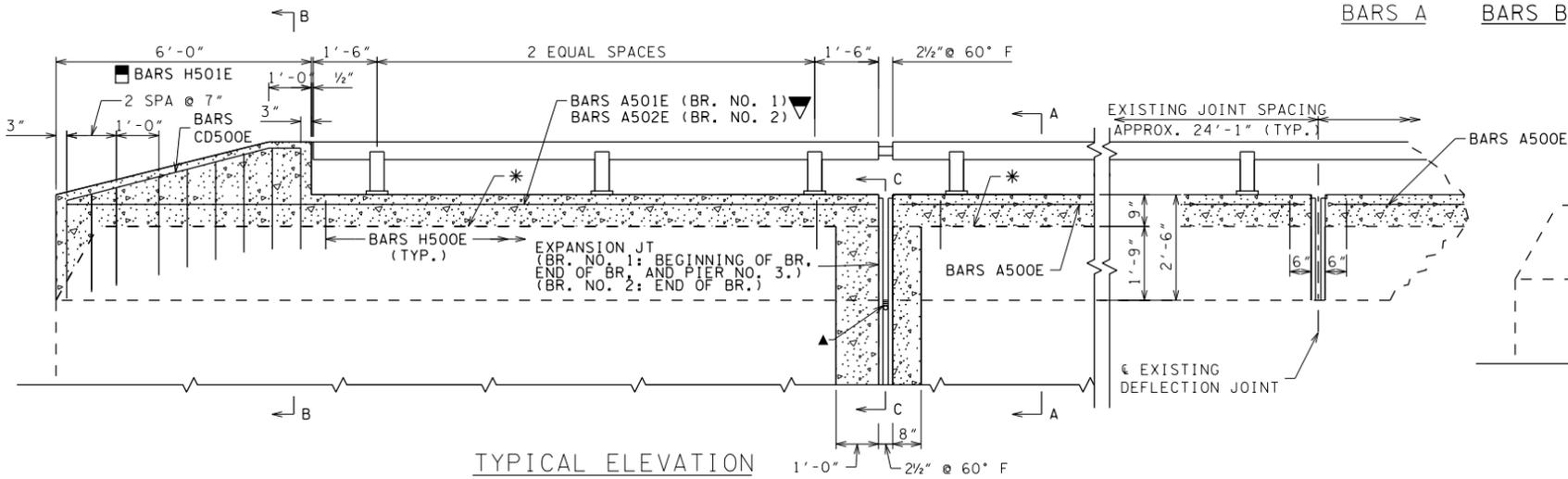
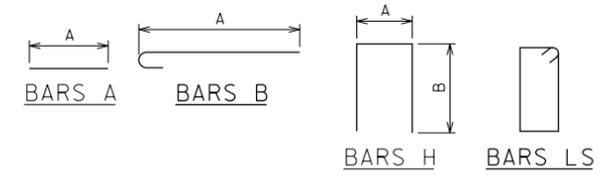
SECTION A-A



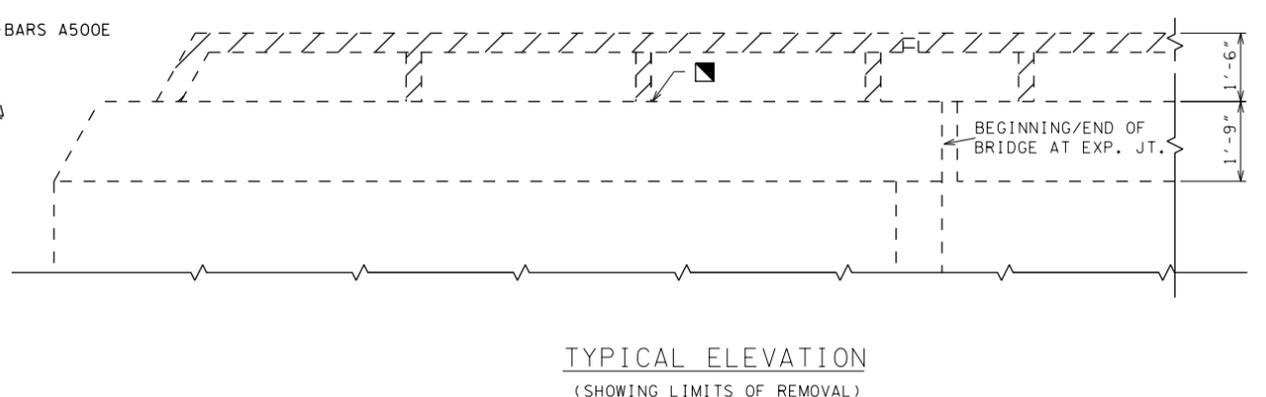
SECTION B-B



SECTION C-C



TYPICAL ELEVATION (SHOWING NEW MODIFIED PARAPET AND RAIL)



TYPICAL ELEVATION (SHOWING LIMITS OF REMOVAL)

NOTES:

ALL COSTS FOR RAIL MODIFICATION SHALL BE PAID FOR UNDER ITEM NO. 604-20.10, MODIFY BRIDGE RAIL, L.F. -INCLUDES 2,112 L.F. FOR BRIDGE NO. 1 AND 1,232 L.F. FOR BRIDGE NO. 2; SEE STD 11-1 FOR RAIL PLACEMENT AND DETAILS. EXISTING PARAPET JOINTS SHALL BE INCORPORATED IN THE RAIL EXTENSION.

COST OF JOINT CLEANING AND SEALING TO BE INCLUDED UNDER NO. 604-10.70 EXPANSION JOINT REPAIRS, L.F. THE SEALER SHALL EXTEND TO THE OUTER EDGE OF THE EXISTING BRIDGE SLAB AND ALONG FRONT FACE OF CURB.

- EXISTING POSTS SHALL BE CUT FLUSH WITH TOP OF CONCRETE PARAPET.
- ▨ DENOTES METAL TUBING BRIDGE RAIL TO BE REMOVED AND REPLACED WITH STD-11-1 RAILING.
- ▨ DENOTES AREAS OF EXPANSION JOINT REPAIR, SEE DWG BR-118-116 & BR-118-119 FOR DETAILS AND NOTES

- * TOP OF EXISTING BRIDGE RAIL SHALL BE CLEANED AND ROUGHENED BEFORE ANY CONCRETE POURS ARE PLACED (TYP.)
- ▼ BARS A501E (BR. NO. 1) AND BARS A502E (BR. NO. 2) REPLACE BARS A401E ON STD-11-1.
- ◆ BARS H500E REPLACE BARS HP500E AND BARS B571E ON STD-11-1.
- BARS H501E REPLACE BARS A570E AND BARS B570E ON STD-11-1.
- ◆ BARS A500E, A501E AND A502E REPLACE BARS A400E ON STD-11-1. BARS A500E, A501E AND A502E SHALL BE PLACED IN THE PARAPET AT THE 24'-8", 24'-0" AND 25'-0" SECTIONS RESPECTIVELY.

NOTE: SEE EXPANSION JOINT DETAIL ON DWG BR-118-116 FOR FURTHER DETAILS ON REINFORCEMENT PLACEMENT IN THE BRIDGE RAIL.

- THE DEFLECTION JOINTS IN THE CURB AND PARAPET SHALL BE CAULKED WITH A TWO PART EPOXY AND A BACKER ROD OF SUITABLE DIAMETER. THE SIZE AND TYPE SHALL BE DETERMINED BY SEALANT MANUFACTURER FOR SIZE OF JOINT BEING SEALED. THE ROD SHALL BE PLACED AT A DEPTH TO ENSURE THE CORRECT WIDTH/DEPTH RATIO OF THE NEW BRIDGE JOINT SEALER. BACKER ROD AND CAULK SHALL BE AS PER THE SEALER MANUFACTURER.
- ▲ TOP 3" OF ALL EXISTING JOINTS IN THE BRIDGE PARAPET/CURB TO BE CLEANED AND RESEALED WITH NEW SILICONE JOINT SEALER. NEW JOINT SEALER SHALL BE A COLD POUR SILICONE JOINT SEALER AND ELASTOMERIC CONCRETE AS FOUND IN TDOT QUALIFIED PRODUCTS LIST NUMBER 9. CONTRACTOR MAY CONTACT TDOT DIVISION OF MATERIALS AND TESTS FOR THE QUALIFIED PRODUCTS LIST.

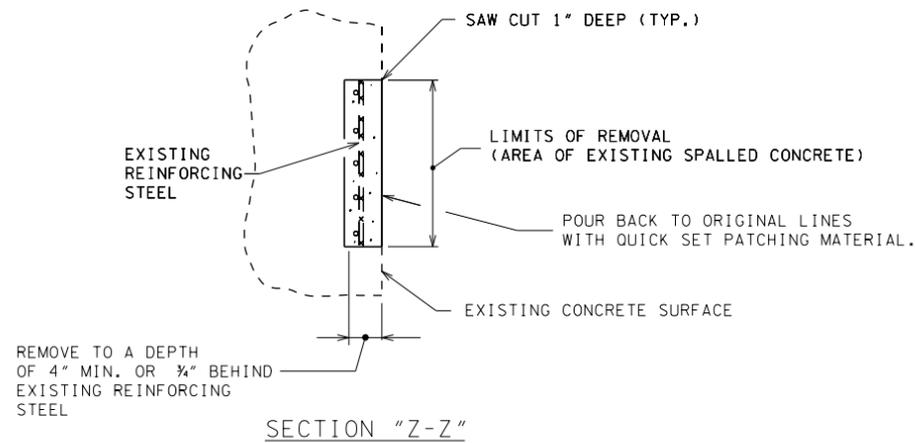
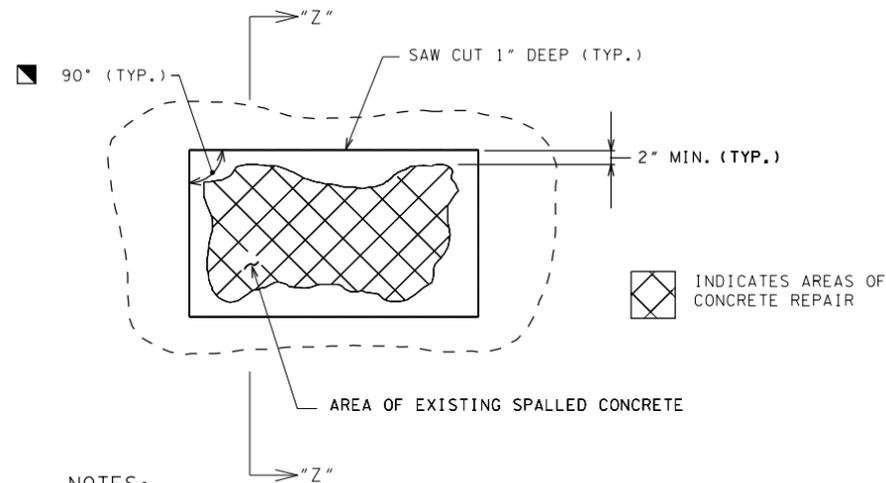
DESIGNED BY	MMN	DATE	09/14
DRAWN BY	MPR	DATE	09/14
SUPERVISED BY	BEB	DATE	09/14
CHECKED BY	WHP	DATE	09/14

UNOFFICIAL SET
NOT FOR BIDDING

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 1 AND 2
CURB, PARAPET, AND RAIL DETAILS

BRIDGE NO 26-SR476-3.39
SR-476 OVER ELK RIVER
BRIDGE NO 26-SR476-7.40
SR-476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



NOTES:

EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE DETERIORATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. ALL EXPOSED REINFORCING SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE PATCHING.

FOR CONCRETE NOTE, SEE GENERAL NOTES ON DRAWING BR-118-109.

LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER. ALL UNSOUND CONCRETE IN THESE AREAS SHALL BE REMOVED AND REPOURED WITH PATCHING MATERIAL. THE MINIMUM DEPTH OF REPAIR SHALL BE 4 INCHES. DEPTH MAY BE INCREASED TO EXTEND INTO SOUND CONCRETE AS DIRECTED BY THE ENGINEER. EDGES OF THE REPAIR AREAS SHALL HAVE A MINIMUM 1 INCH SAW CUT PERPENDICULAR TO THE FACE OF THE CONCRETE.

PATCHING MATERIAL SHALL BE POLYMER MODIFIED CEMENTITIOUS STRUCTURAL PATCHING MATERIAL, FROM THE TENNESSEE DEPARTMENT OF TRANSPORTATION QUALIFIED PRODUCTS LIST 13, SECTION B.6.

SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS. EDGES SHALL NOT BE FEATHERED OR TAPERED.

NOTES:

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

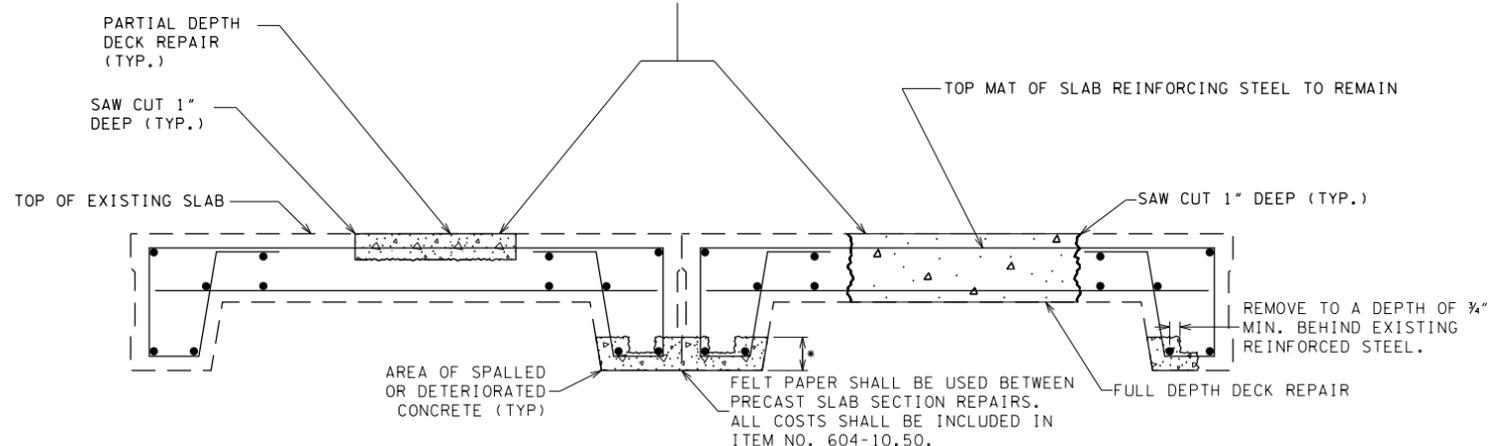
- 1) PNEUMATIC HAMMERS HEAVIER THAN A 35 LB. CLASS SHALL NOT BE USED.
- 2) CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND THE REINFORCING STEEL.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS. DETAILS OF ANY TEMPORARY SUPPORT SYSTEM (IF REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE REPAIRS HAVE BEGUN. COST TO BE INCLUDED IN ITEMS BID ON.

COST OF REMOVING DETERIORATED CONCRETE, CLEANING EXISTING REINFORCING STEEL, FORMING, PATCHING MATERIAL AND ALL ADDITIONAL MATERIALS AND LABOR NECESSARY TO COMPLETE REPAIRS SHOWN IN THIS DETAIL TO BE INCLUDED UNDER ITEM NO. 604-10.54, CONCRETE REPAIRS, S.F..

DETAIL OF SPALLED CONCRETE SURFACE AND REPAIR

CONCRETE FOR DECK REPAIR SHALL BE HIGH EARLY STRENGTH CONCRETE, $f'c = 3500$ p.s.i. @ 28 DAY STRENGTH. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 p.s.i. MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS.



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

*LIMITS AND LOCATION OF REPAIR TO BE DESIGNATED BY THE ENGINEER.

NOTES:

REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF $\frac{3}{4}$ " BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL. ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE HEADQUARTERS, BRIDGE INSPECTION AND 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. 604-10.50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB), S.Y. AND ITEM NO. 604-10.30, BRIDGE DECK REPAIR (FULL DEPTH OF SLAB), S.Y. DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO. 604-10.30.

POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL AND FULL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

- 1) PARTIAL DEPTH REPAIRS; PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60 LBS CLASS SHALL NOT BE USED.
- 2) FULL DEPTH REPAIRS; PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 90 LBS CLASS SHALL NOT BE USED. ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 60 LBS PNEUMATIC HAMMERS.
- 3) CHIPPING HAMMERS OF THE 15 LB CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

ITEM NO. 604-10.30 AND 604-10.50 SHALL BE BID WITH THE CONTINGENCY THAT THESE ITEMS MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

CARE SHALL BE TAKEN WHEN REMOVING ANY AREAS OF PRECAST SLAB SECTIONS NEAR THE 1" SAW CUT LINE. A 1" MIN. VERTICAL DEPTH SAW CUT LINE IS REQUIRED AROUND THE FULL PERIMETER OF PATCH PRIOR TO PLACEMENT OF CONCRETE.

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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1 AND 2
 BRIDGE REPAIR DETAILS 1

BRIDGE NO 26-SR476-3.39
 SR-476 OVER ELK RIVER
 BRIDGE NO 26-SR476-7.40
 SR-476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

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.

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 SHEET. 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) ONE (1) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY 3RD 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 OF 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), LF AND 604-10.58, EPOXY INJECTION (INJECTION), GAL

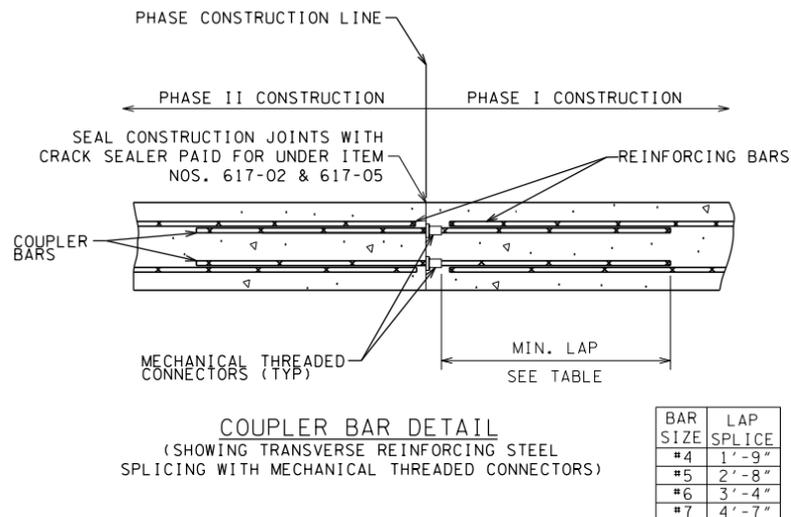
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), LF, SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING AND FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL AND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

PRICE BID 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.

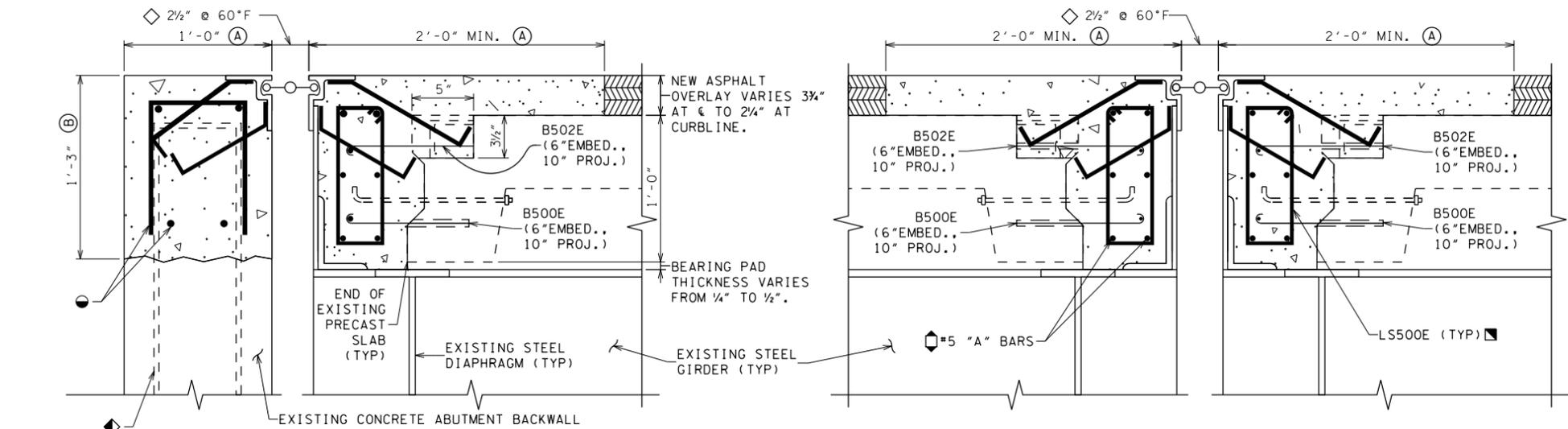
PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



NOTES:
 COST OF MECHANICAL THREADED CONNECTORS WITH COUPLER BARS TO BE INCLUDED UNDER ITEM NO. 604-10.32 EXPANSION JOINT REPAIRS (TYPE A), L.F. AND 604-10.35 EXPANSION JOINT REPAIRS (TYPE C), L.F. INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER.

APPLY HIGH MOLECULAR WEIGHT METHACRYLATE CRACK SEAL IN LONGITUDINAL CONSTRUCTION JOINTS ACCORDING TO SPECIAL PROVISION 604CR. SEALER SHALL BE APPLIED AFTER ALL CONCRETE HAS BEEN IN PLACE AT LEAST 10 DAYS. COST TO BE INCLUDED IN ITEM NOS. 617-02 & 617-05.

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TYPICAL SECTION THRU BRIDGE DECK AT ABUTMENT BACKWALL

TYPICAL SECTION THRU BRIDGE DECK AT BENT NO. 3

BRIDGE NO. 1 AND 2 (SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "A" ON STD DWG BR-2-117) BRIDGE NO. 1 ONLY (SEE EXPANSION JOINT REPLACEMENT DETAILS TYPE "C" ON STD DWG BR-2-118)

NOTES:
 ALL COSTS FOR EXPANSION JOINT REPLACEMENT SHOWN IN THE DETAILS THIS SHEET, BR-118-116 AND STD DWGS SBR-2-115 THRU SBR-2-118 SHALL BE INCLUDED IN ITEM NO. 604-10.32, EXPANSION JOINT REPAIRS (TYPE A) AND ITEM NO. 604-10.35, EXPANSION JOINT REPAIRS (TYPE C), L.F.

Ⓐ DENOTES: LIMITS OF EXISTING CONCRETE SLAB REMOVAL & REPOURING
 Ⓑ DENOTES: LIMITS OF EXISTING CONCRETE REMOVAL & REPOURING

FOR REINFORCEMENT DETAILS AT CURB AND PARAPET SEE DRAWING BR-118-116

EXPANSION JOINT REPLACEMENT DETAILS AT BRIDGE DECK

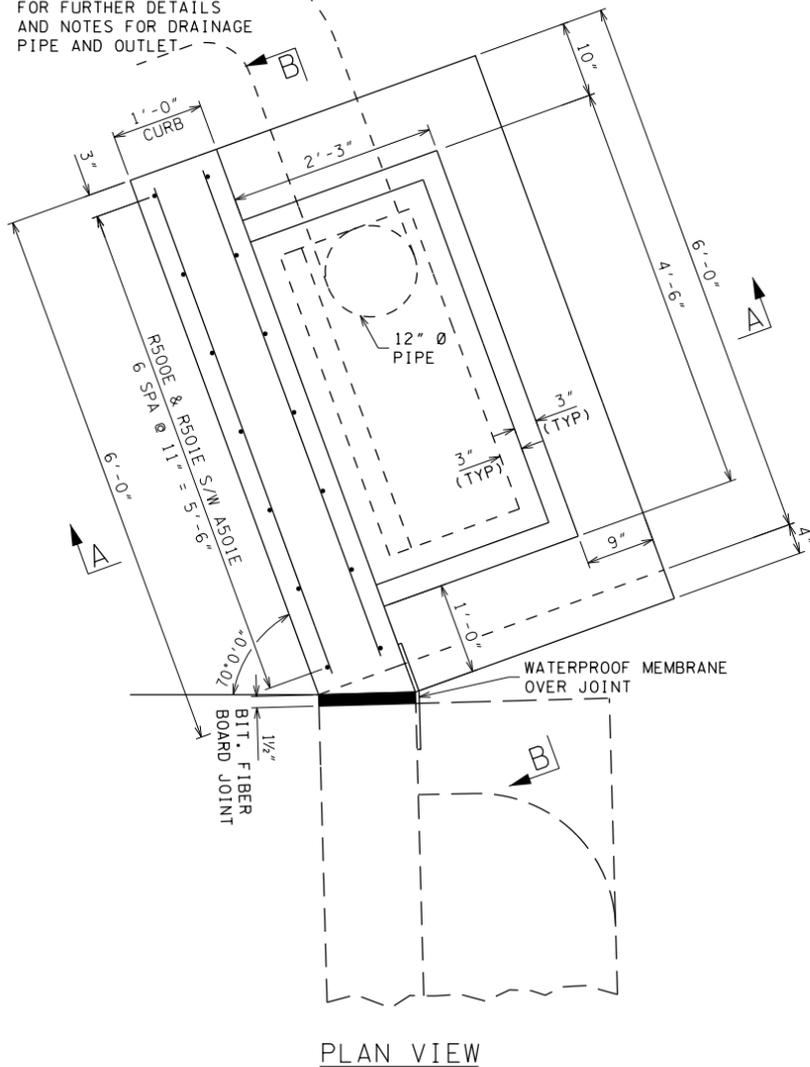
- ◆ BARS A500E REPLACE NO. 5 "A" BARS SHOWN IN STD. DWG. SBR-2-117 AND SBR-2-118.
- ◆ EXISTING REINFORCING STEEL TO REMAIN IN PLACE AND TO BE COMPLETELY CLEANED (TYP EACH SIDE)
- SEE DWG BR-118-116 FOR BAR BENDS
- SEE STD DWG SBR-2-116 AND SBR-2-117 FOR NEW REINFORCING STEEL IN ABUTMENT BACKWALL
- ◇ ENGINEER SHALL VERIFY JOINT OPENING BEFORE THE CONTRACTOR BEGINS WORK IN THIS AREA.

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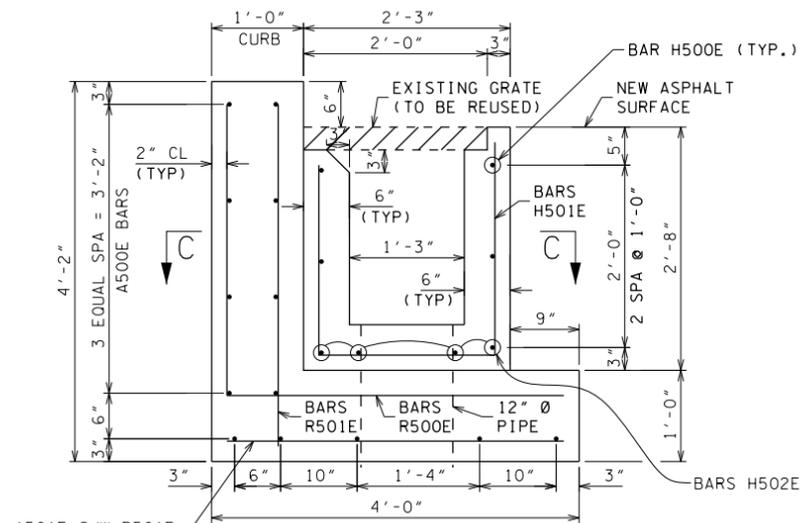
STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 1 AND 2
 BRIDGE REPAIR DETAILS 2
 BRIDGE NO. 26-SR476-3.39
 SR-476 OVER ELK RIVER
 BRIDGE NO. 26-SR476-7.40
 SR-476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

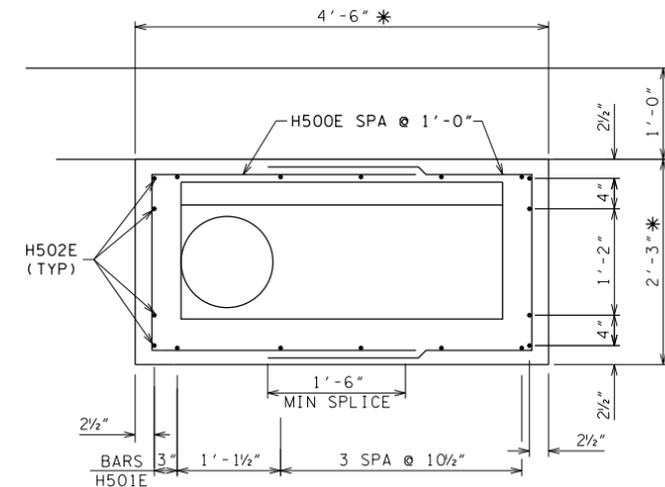
SEE STD DWG STD-1-7 FOR FURTHER DETAILS AND NOTES FOR DRAINAGE PIPE AND OUTLET



PLAN VIEW



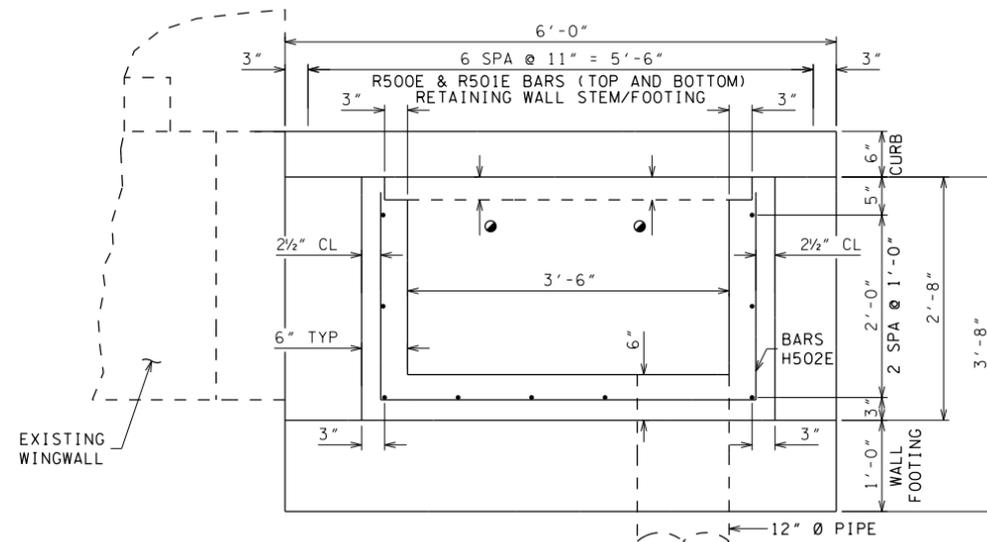
SECTION A-A
(SHOWING REINFORCING STEEL)



SECTION C-C
(DRAIN BOX ONLY)

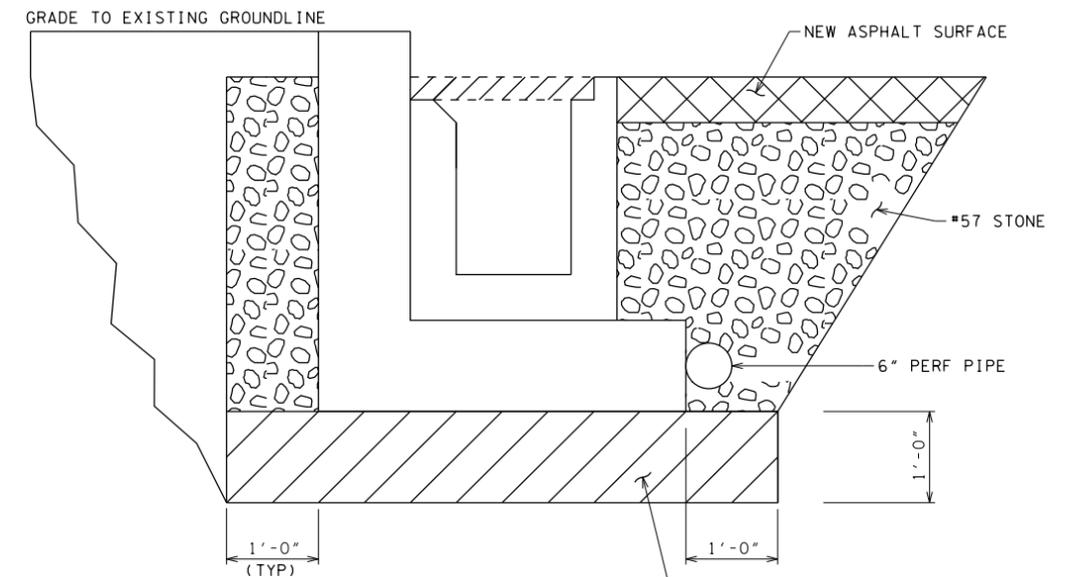
NOTE:
SHOULDER STABILIZATION REPAIR AT ABUTMENT 1, BR. 2 AREAS OF SETTLEMENT OR VOIDS SHALL BE EXCAVATED TO SOUND MATERIAL AND BACKFILL WITH COMPACTED CLASS A GRADING D. COST TO BE INCLUDED IN OTHER ITEMS BID ON.

* THE EXISTING CAST IRON GRATES WILL BE USED ON THE NEW DRAIN BOX. THE CONTRACTOR WILL FIELD MEASURE THE EXISTING GRATES AND ADJUST THE DRAINAGE BOX DIMENSIONS TO ASSURE PROPER FIT-UP.

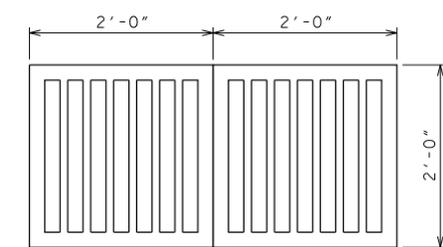


NOTE: SHALL BE DETERMINED IN THE FIELD, SHALL MATCH THE THICKNESS OF THE EXISTING GRATES

SECTION B-B
(ADJUST WALL STEEL IN FIELD TO ACCOMMODATE 12" Ø PIPE)



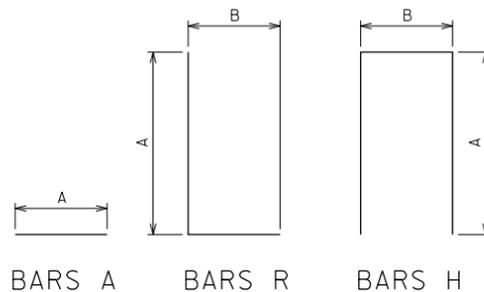
SECTION A-A
(SHOWING BACKFILL AND DRAINAGE DETAILS)



*ASSUMED EXISTING GRATE DIMENSIONS (TO BE FIELD VERIFIED)

(FOR BOTH DRAINS)

ESTIMATED QUANTITIES	
CLASS A CONCRETE (BRIDGES) (CY)	EPOXY COATED REINFORCING STEEL (LBS)
604-03.01	604-02.03
4.7	577



NOTE:
ALL MATERIAL AND LABOR FOR THE COMPLETE INSTALLATION OF DRAINS, DRAINAGE PIPE, AND OUTLET AS PER DETAILS ON THIS DRAWING AND STD-1-7 SHALL BE INCLUDED IN ITEM 604-03.01 AND 604-02.03

BILL OF STEEL (PER DRAIN)						
BAR	LOCATION	SIZE	NO.	A	B	LENGTH
H500E	DRAIN BOX	5	4	2'-10"	1'-10"	7'-6"
H501E	DRAIN BOX	5	5	2'-3"	1'-9"	6'-3"
H502E	DRAIN BOX	5	4	2'-3"	4'-2"	8'-8"
R500E	RETAINING WALL	5	7	3'-4"	3'-8"	7'-0"
R501E	RETAINING WALL	5	7	3'-10"	3'-1"	6'-11"
A500E	RETAINING WALL	5	13	5'-8"		5'-8"
A501E	RETAINING WALL	5	7	2'-3"		2'-3"

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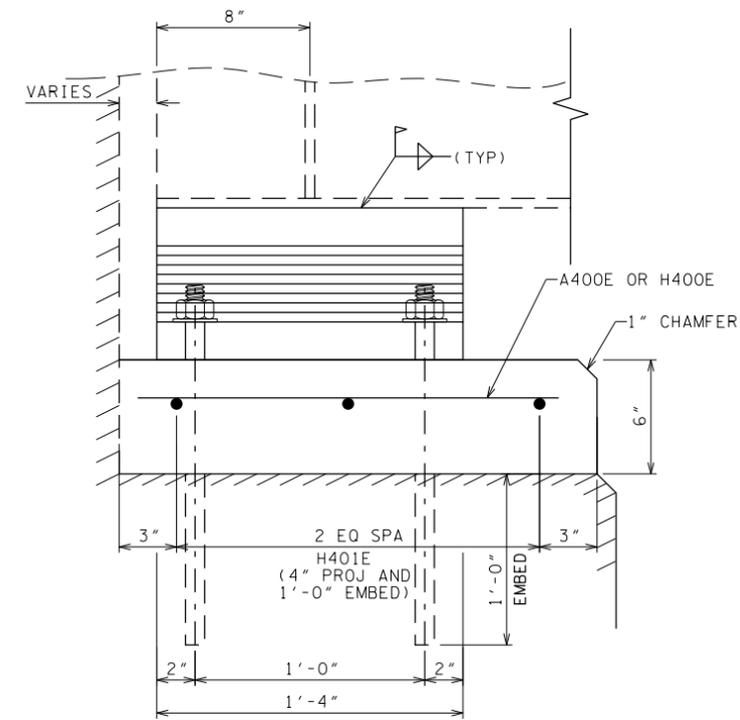
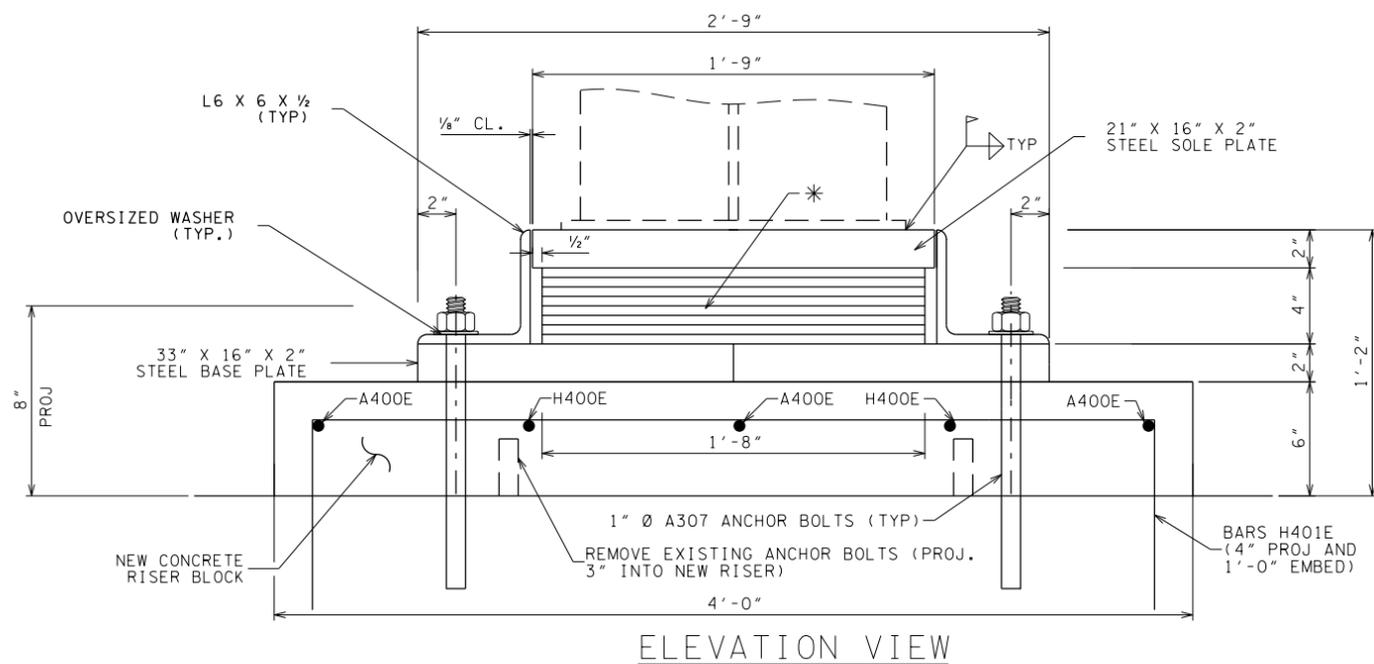
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BRIDGE NO. 2
BRIDGE REPAIR DETAILS 3

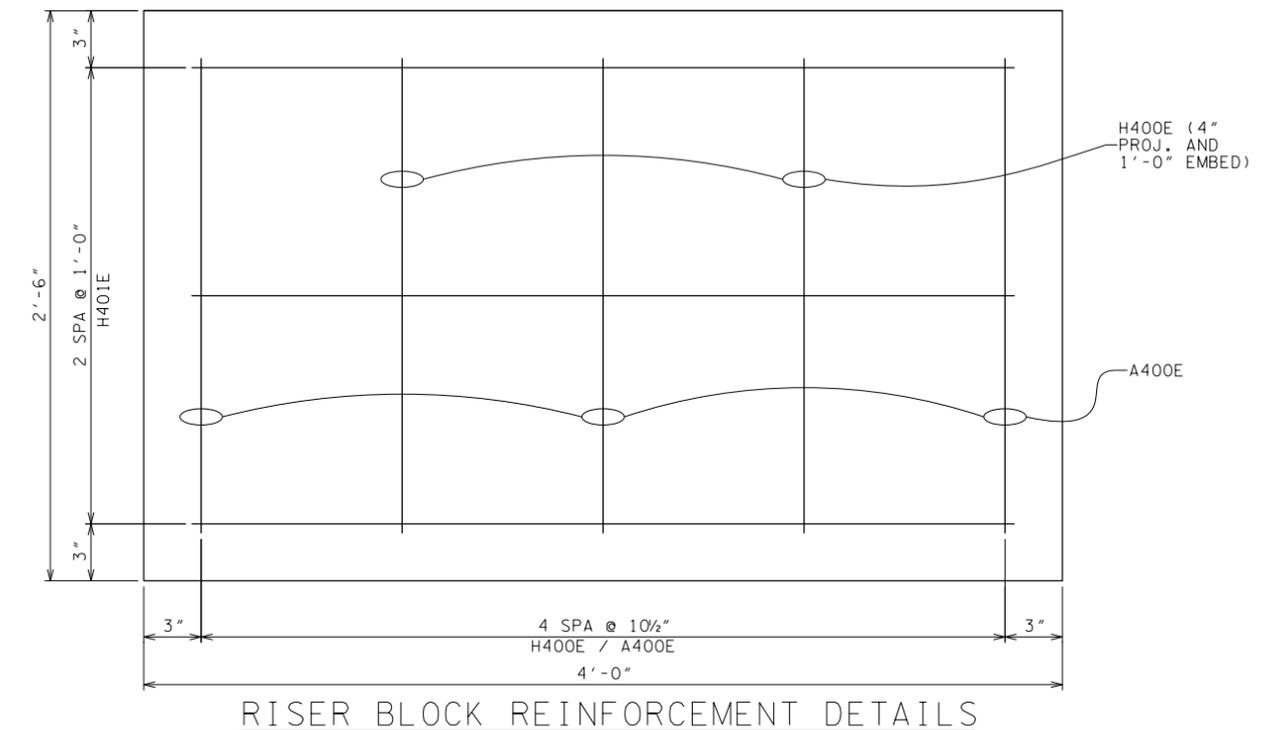
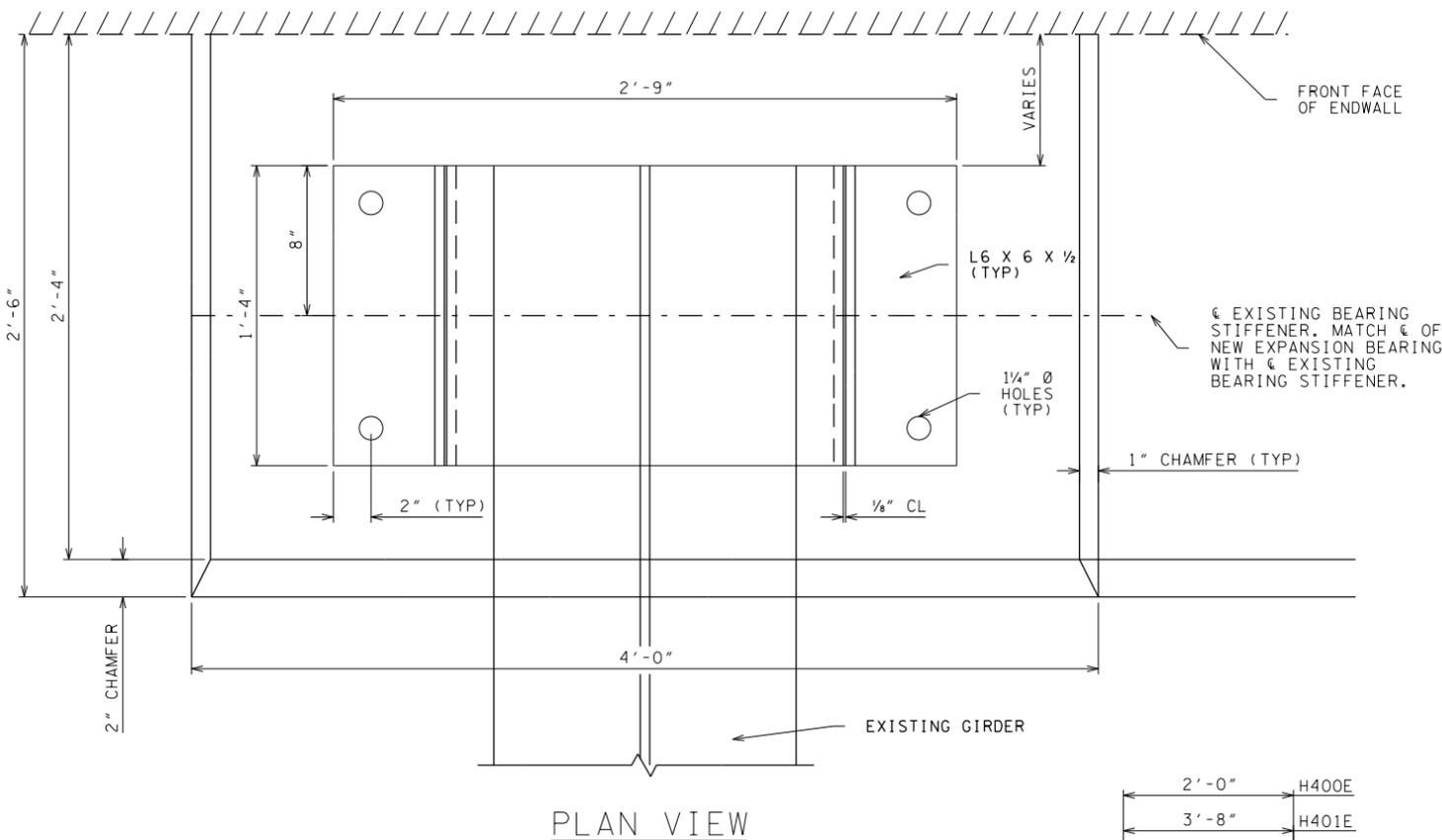
BRIDGE NO 26-SR476-7.40
SR-476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

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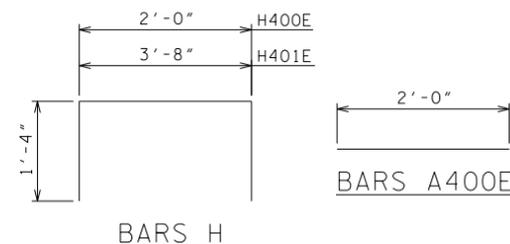
PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



- NOTE: BOTH SURFACES OF ELASTOMERIC BEARING SHALL BE VULCANIZED TO SOLE PLATE AND BASE PLATE
- NOTE: ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM 709 GRADE 50W. STEEL SHALL BE PAINTED ACCORDING TO NOTES ON DWG BR-118-109.
- NOTE: ALL EXISTING ROCKER BEARINGS AT ABUTMENT NO. 2, BRIDGE NO. 2 SHALL BE REPLACED WITH THE BEARINGS AS DETAILED ON THIS DRAWING
- NOTE: ALL COST FOR THE REMOVAL OF EXISTING BEARINGS, INSTALLATION OF CONCRETE RISER BLOCKS, REINFORCING STEEL, CONCRETE AND ALL COST OF MATERIAL AND LABOR FOR THE COMPLETE INSTALLATION OF THE BEARINGS AS DETAILED IN THIS DRAWING SHALL BE INCLUDED IN ITEM NO. 908-21.01
- * 20" X 16" X 4" ELASTOMERIC BEARING PAD WITH SHEAR MODULUS OF 95 PSI (1/8" COVER W/ 5 LAYERS OF 3/8" 50 DURAMETER REINFORCED W/ 1/4" STEEL PLATE)



BEARING DESIGN LOAD (SERVICE LOAD)	
DL REACTION	59 K
LL REACTION	120 K



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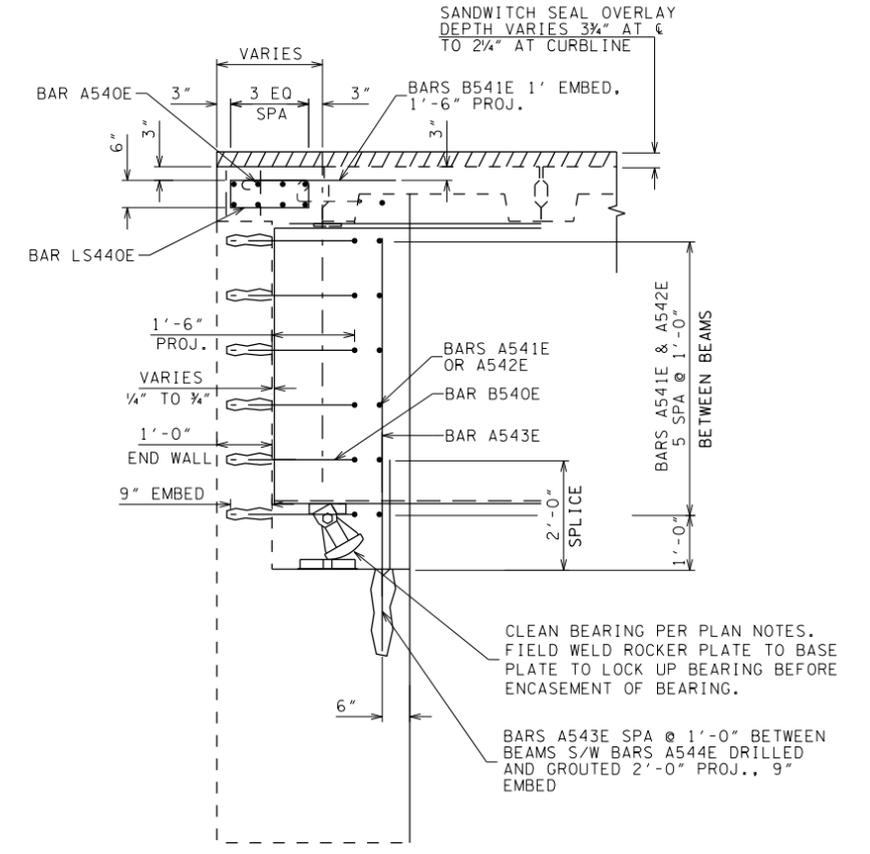
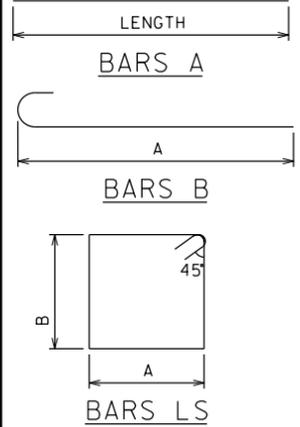
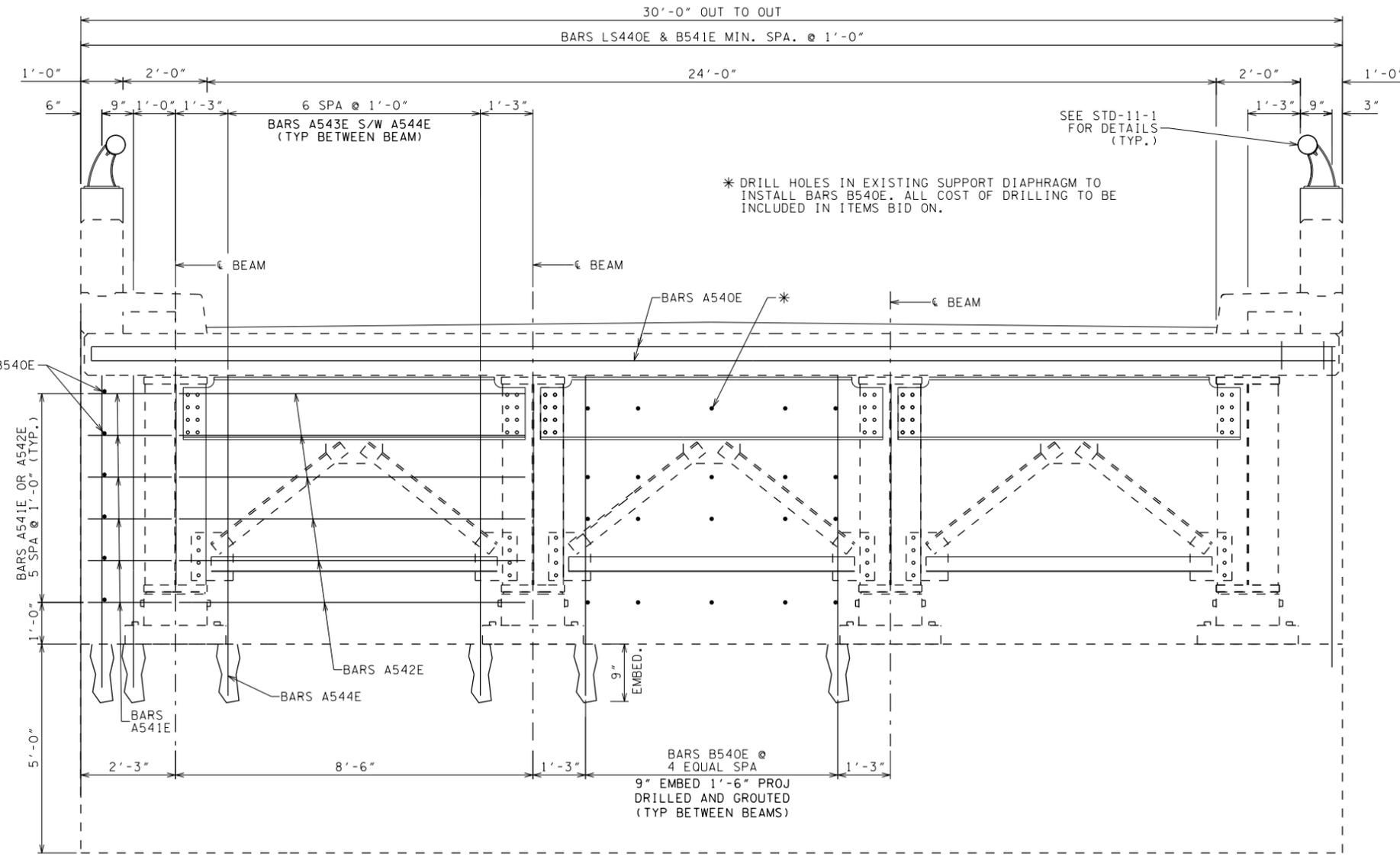
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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE NO. 2
BRIDGE REPAIR DETAILS 4
BRIDGE NO 26-SR476-7.40
SR 476 OVER HURRICANE CREEK
FRANKLIN COUNTY
2015

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PROJECT NO.	YEAR	SHEET NO.	
26016-4206-04	2015		
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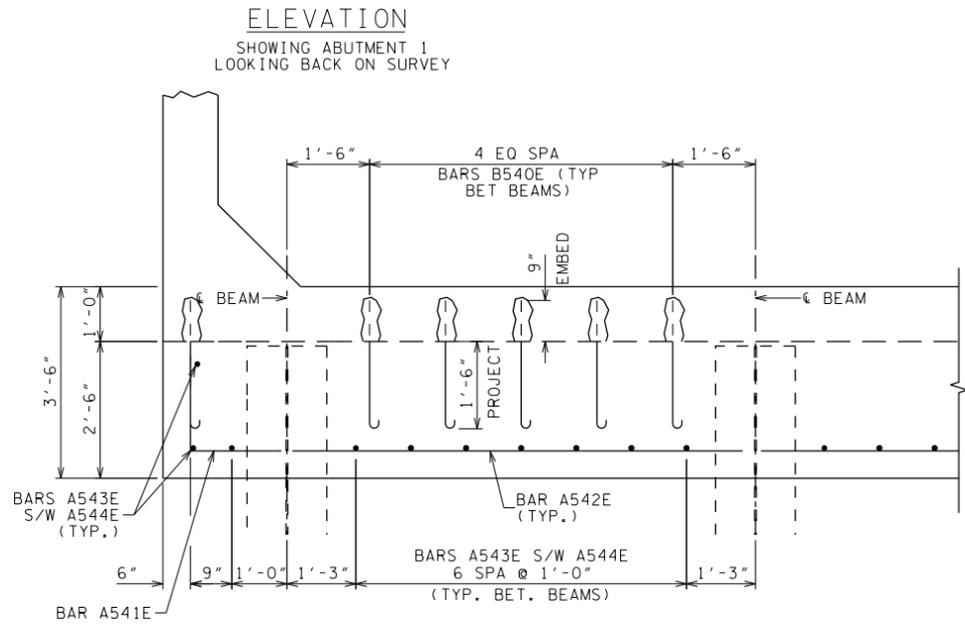
NOTES:
 ALL CONCRETE SURFACE SHALL BE THOROUGHLY CLEANSED BEFORE ENCASEMENT POUR IS MADE.
 CLEAN AND PRIME ALL STEEL MEMBERS (AS PER PLAN NOTES) THAT ARE TO BE ENCASED IN CONCRETE BEFORE ANY CONCRETE IS POURED.



BILL OF STEEL - ABUTMENT ENCASEMENT							
BAR	LOCATION	SIZE	NO. REOD	BENDING DIMENSIONS			LENGTH
				A	B	C	
A540E	ENCASEMENT	5	8	29'-8"			29'-8"
A541E	ENCASEMENT	5	12	1'-11"			1'-11"
A542E	ENCASEMENT	5	18	8'-2"			8'-2"
A543E	ENCASEMENT	5	27	6'-7"			6'-7"
A544E	ABUTMENT SEAT	5	27	2'-9"			2'-9"
B540E	ABUTMENT BACKWALL	5	72	2'-3"			2'-9"
B541E	PRECAST DECK CHANNEL BEAM	5	31	2'-6"			3'-0"
LS440E	ENCASEMENT	4	31	0'-6"	1'-6"		4'-6"

TYPE	SIZE	SERIES
A	5	40

ESTIMATED QUANTITIES	
CLASS A CONCRETE (BRIDGES) 604-03.01	EPOXY COATED REINFORCING STEEL 604-02.03
21	1115



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STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE NO. 2
 BRIDGE REPAIR DETAILS 5
 BRIDGE NO 26-SR476-7.40
 SR 476 OVER HURRICANE CREEK
 FRANKLIN COUNTY
 2015