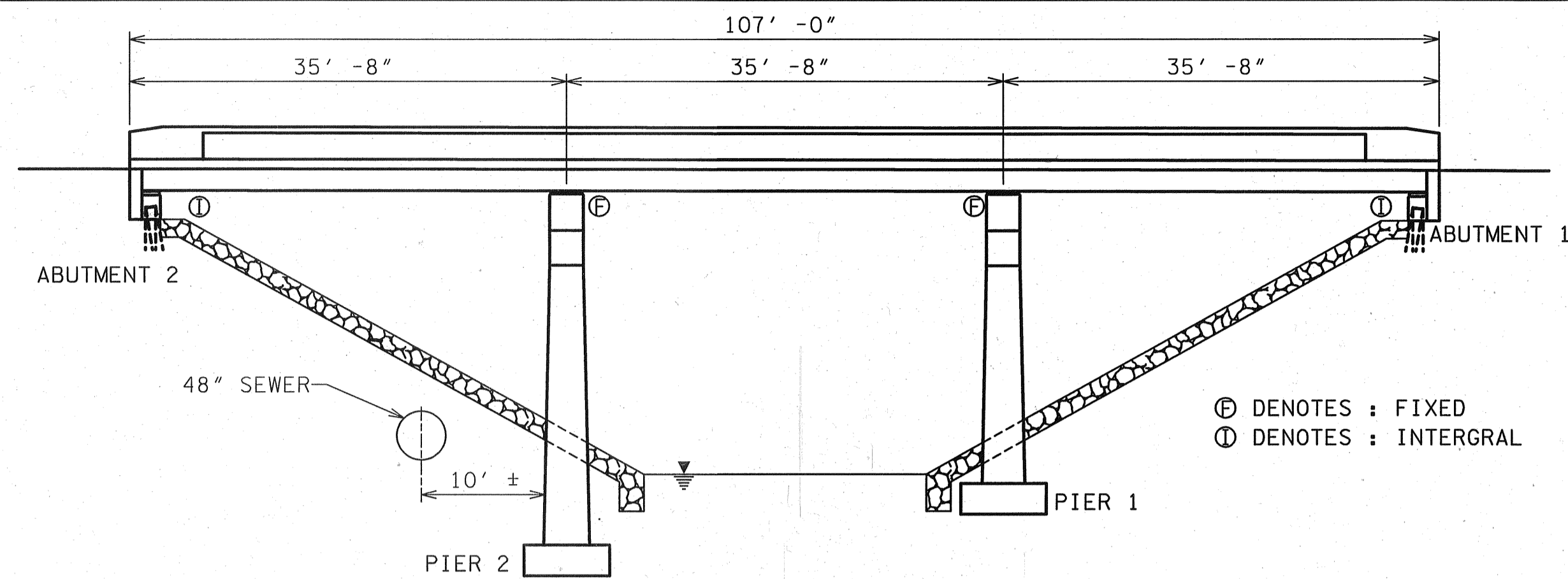


CURVE DATA RAMP M &

Δ 86°-35'
 R_c 1000'
 L_c 1211.16'
 θ_s 8°-35'-40"
 T_s 1095.46'
 L_s 300'
 X_s 299.33'
 Y_s 14.98'



ELEVATION VIEW
(SHOWN ALONG RAMP L & LT. RDWY.)

GENERAL SCOPE OF WORK:

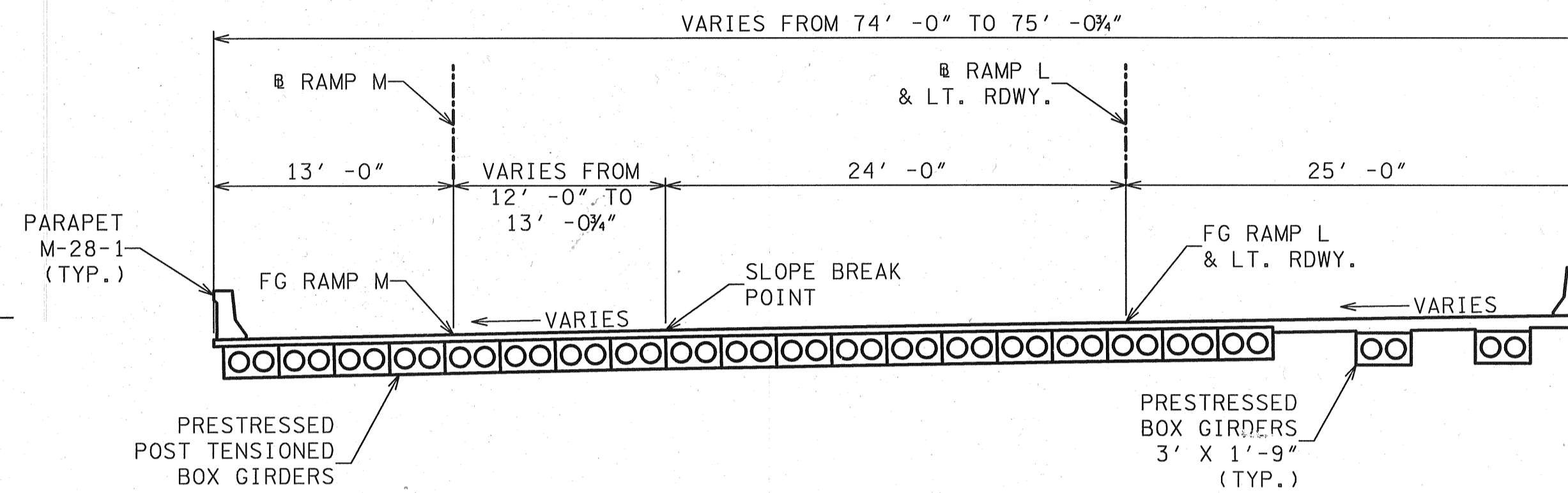
1. PROVIDE TRAFFIC CONTROL TO MAINTAIN TWO 12' LANES OF TRAFFIC ON BRIDGE DURING CONSTRUCTION.
2. PROVIDE PARTIAL DEPTH DECK REPAIRS.
3. REPAIR CRACKS IN ABUTMENTS, AND PIERS VIA EPOXY INJECTION.
4. REPAIR AREAS OF SPALLED AND/OR DELAMINATED CONCRETE ON ABUTMENTS AND PIERS USING QUICK SET PATCH MATERIAL.
5. GROUT VOIDED AREAS UNDER ABUTMENTS.
6. TEXTURE COAT ABUTMENTS, PIERS, PARAPETS, AND OUTSIDE BEAMS.
7. PLACE ASPHALT SANDWICH SEAL ON BRIDGE DECK.

CONSTRUCTION NO. 33005-3175-94

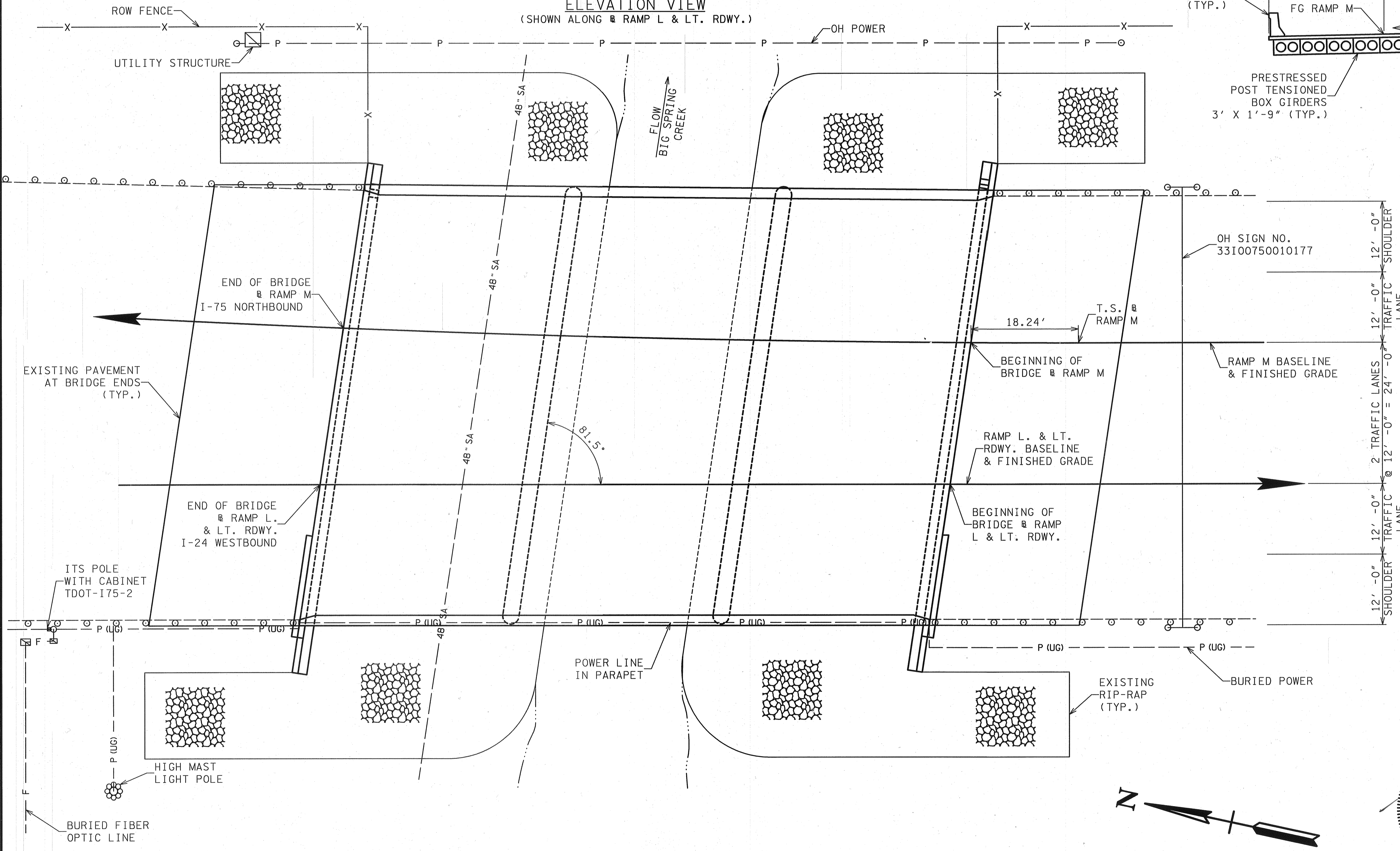
PROJECT NO.	YEAR	SHEET NO.
BH-I-75-1(130)	2010	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	05-21-10	CEE	REVISION DATES

⊕ DENOTES : FIXED
 ⊙ DENOTES : INTEGRAL



TYPICAL SECTION AT MIDSPAN
(LOOKING BACK ON I-75N OR AHEAD ON I-24E)



PLAN VIEW

LIST OF BRIDGE DRAWINGS

DWG NO.	LAST REV. DATE	DESCRIPTION
BR-101-23	05-21-10	LAYOUT OF BRIDGE TO BE REPAIRED
BR-101-24	05-21-10	ESTIMATED BRIDGE QUANTITIES & GENERAL NOTES
BR-101-25	05-21-10	SUPERSTRUCTURE REPAIRS
BR-101-26		SUBSTRUCTURE REPAIRS
BR-101-27		BRIDGE REPAIR DETAILS
BR-101-28		BRIDGE REPAIR DETAILS

LIST OF REFERENCE DRAWINGS
(TO BE PRINTED WITH PLANS)

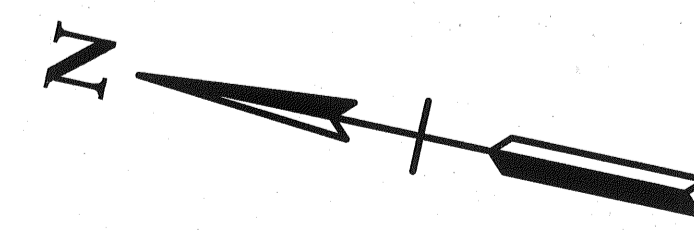
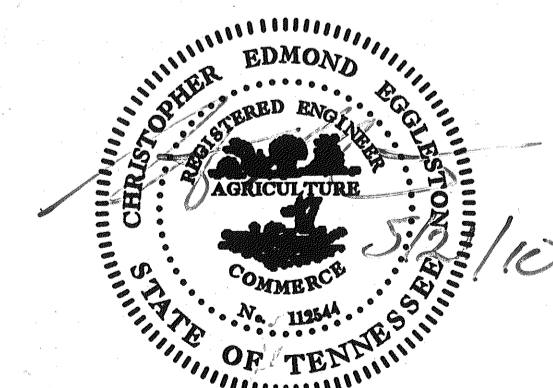
DWG NO.	DESCRIPTION
H-2-48	GENERAL PLAN
H-2-49	DECK PLAN & DETAILS
H-2-50	ABUTMENTS
H-2-51	PIERS
M-202-83	LAYOUT
M-202-85	SUPERSTRUCTURE
M-202-86	SUPERSTRUCTURE DETAILS
M-202-87	PRESTRESSED BOX BEAM DETAILS
M-202-88	ABUTMENT NO. 1
M-202-89	ABUTMENT NO. 2
M-202-90	PIERS NO. 1 & 2
M-28-1	BRIDGE RAILING CONCRETE PARAPET

****SPECIAL NOTE****

THESE PLANS REFERENCE THE BRIDGE INSPECTION REPORTS FOR ABUTMENT AND BENT NUMBERING SCHEME.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 LAYOUT OF BRIDGE TO BE REPAIRED

BRIDGE NO. 33-I0075-1.17 RT.
 INTERSTATE 75
 OVER
 BIG SPRING CREEK
 HAMILTON COUNTY
 2010



DESIGNED BY: CEE DATE: 11/09
 DRAWN BY: CEE DATE: 11/09
 SUPERVISED BY: BEB DATE: 11/09
 CHECKED BY: RMD DATE: 02/10

CONSTRUCTION NO. 33005-3175-94			
PROJECT NO.	YEAR	SHEET NO.	
BH-I-75-1(130)	2010	2	
REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	05-21-10	CEE	REV. EPOXY INJECTION QUANTITIES

GENERAL NOTES:

SPECIFICATIONS:

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, TENNESSEE DEPARTMENT OF TRANSPORTATION. (MARCH 1, 2006 EDITION)

LOADING:

HL-93 LIVE LOADING, SEISMIC ZONE 1 ACCELERATION COEFFICIENT Z=0.09

DESIGN SPECIFICATIONS:

AASHTO LRFD 2007 EDITION WITH ADDENDA

CONCRETE:

TO BE CLASS "A" (CAST-IN-PLACE), f'c= 3,500 PSI), 18 HOUR CONCRETE EXCEPT AS NOTED AND IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CONCRETE CURING:

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

REINFORCING STEEL:

SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE (EPOXY COAT ALL SLAB STEEL). SEE SECTION 604 & 907 OF THE STANDARD SPECIFICATIONS.

REQUIREMENTS AND RESTRICTIONS FOR PHASE CONSTRUCTION:

TWO 12' TRAFFIC LANES, ONE FOR EACH RAMP, SHALL BE MAINTAINED AT ALL TIMES.

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 REMOVAL SHALL BE INCLUDED IN ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

FINISHING CONCRETE SURFACES:

CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATION. 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. FOR LOCATION DETAILS, SEE THIS SHEET.

QUICK SET PATCHING MATERIAL:

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

SPECIAL NOTE FOR UTILITIES:

CARE SHALL BE TAKEN WHILE REMOVING AND REPAIRING BRIDGE COMPONENTS SO AS NOT TO DISTURB OR DAMAGE UTILITIES.

DEMOLITION:

THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED, 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.

SPECIAL NOTES TO CONTRACTOR:

CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM. THIS SHALL BE ACCOMPLISHED BY THE USE OF BASKETS, NETTING, WRAPPING, WORK PLATFORM, OR OTHER SIMILAR EFFECTIVE MEANS. 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.

ANY CONSTRUCTION WITHIN THE STREAM CHANNEL SHALL BE SEPARATED FROM FLOWING WATER, AND ACCOMPLISHED DURING LOW FLOW CONDITIONS. THIS SHALL BE ACCOMPLISHED BY THE USE OF FLUMES, DIVERSION CHANNEL WITH SANDBAG BERM, DIVERSION PIPE, OR IN SOME CASES COFFERDAMS.



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



THE CONTRACTOR SHALL TAKE ANY MEANS NECESSARY TO ENSURE THAT NO CONSTRUCTION MATERIALS OR DEBRIS, INCLUDING DUST, IS ALLOWED TO ENTER THE STREAM. ALL METHODS SHALL BE APPROVED BY THE ENGINEER

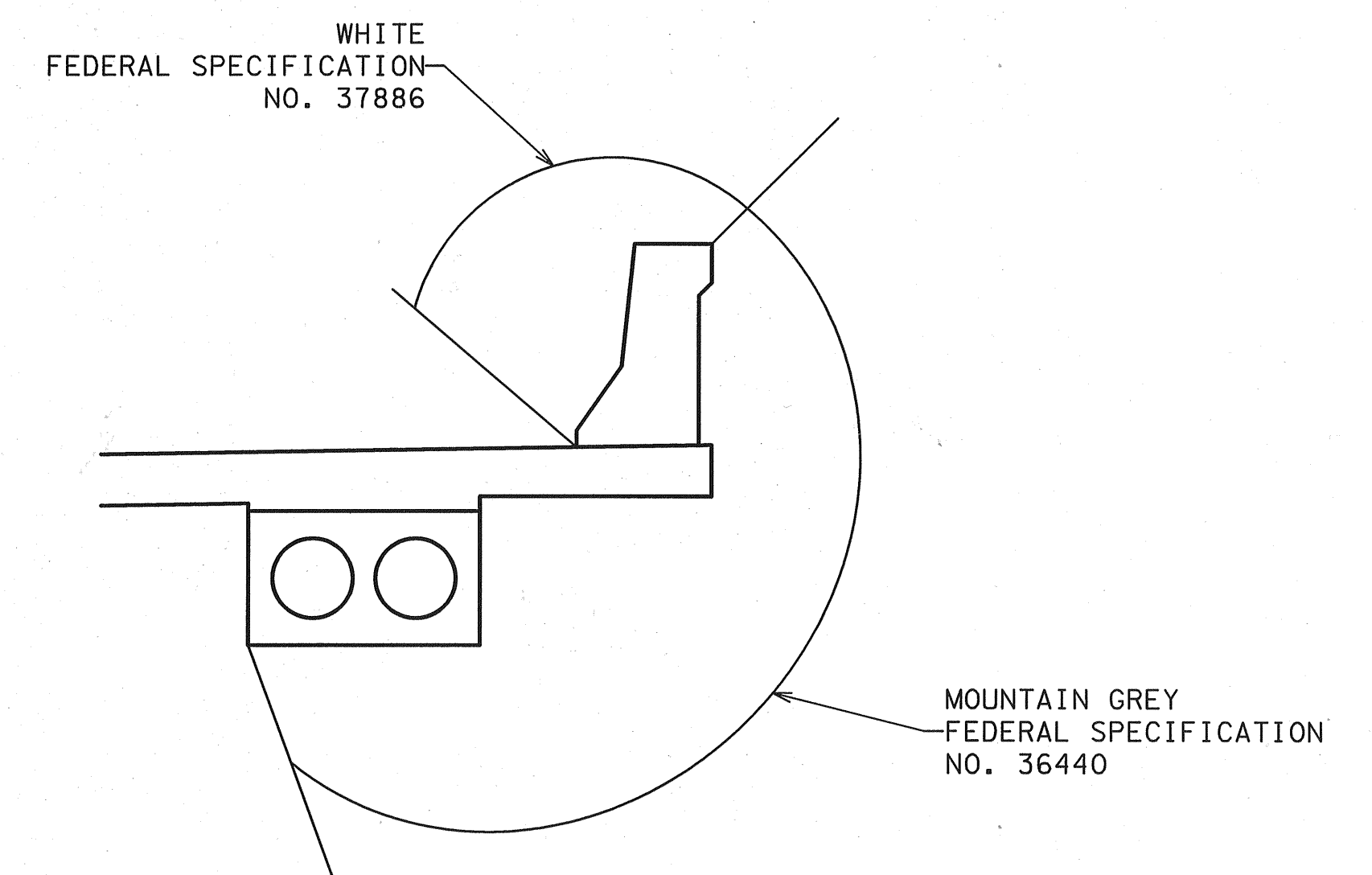
APPROVAL OF MATERIALS:

NO FABRICATION SHALL BE STARTED UNTIL 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.

ESTIMATED BRIDGE QUANTITIES ¹			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
2	201-05.31 VEGETATION REMOVAL	L.S.	1
3	204-08.01 BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.	5
	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	506
4	604-10.50 BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	50
5	604-10.54 CONCRETE REPAIRS	S.F.	170
6	604-10.58 EPOXY INJECTION (INJECTION)	GAL	1
7	604-10.62 EPOXY INJECTION (COMPLETE AND IN PLACE)	L.F.	100
8	617-01 BRIDGE DECK SEALANT	S.Y.	882

FOOTNOTES:

- 1 ITEM SHALL BE BID AS A CONTINGENCY AND MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.
- 2 INCLUDES ALL COST TO REMOVE AND DISPOSE OF VEGETATION AROUND BRIDGE AS DIRECTED BY THE ENGINEER.
- 3 INCLUDES ALL COST TO FILL VOIDS UNDER ABUTMENTS.
- 4 INCLUDES ALL COST TO REMOVE AREAS OF CONCRETE DECK PARTIAL DEPTH AND REPAIR. FOR DETAILS AND NOTES SEE DWG. BR-101-27.
- 5 INCLUDES ALL COST TO REPAIR SPALLED AND/OR DELAMINATED AREAS ON ABUTMENTS AND PIERS USING PATCHING MATERIAL.
- 6 INCLUDES ALL COST FOR ADHESIVE MATERIAL ONLY.
- 7 INCLUDES ALL COST TO EPOXY INJECT CRACKS IN ABUTMENTS AND PIERS EXCEPT FOR ADHESIVE MATERIAL. SEE DWG. BR-101-26.
- 8 INCLUDES ALL COST TO INSTALL BRIDGE DECK SEALANT FOR FULL LENGTH PLUS TWO FEET BEYOND BEGINNING AND END OF BRIDGE. FOR DETAILS SEE SHEET 2A.
- 9 CONCRETE FOR DECK REPAIR SHALL BE 18 HOUR CONCRETE.



NOTES:

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

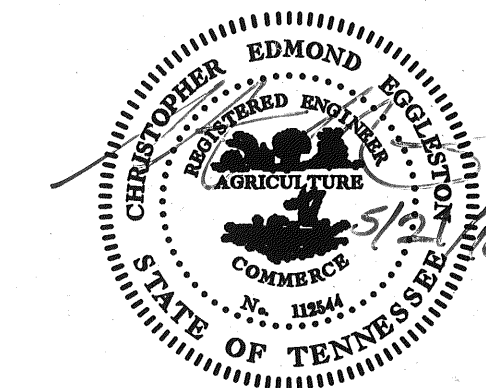
THE CONTRACTOR SHALL USE CONTAINMENT SCREENS OR OTHER MEASURES AS NECESSARY TO PREVENT ANY TEXTURE COATING FROM ENTERING THE ENVIRONMENT. CONTAINMENT MEASURES SHALL BE APPROVED BY THE ENGINEER AND COST SHALL BE INCLUDED IN ITEMS BID ON.

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 FINISHED DETAIL SKETCH, ALL EXPOSED SURFACES OF THE WINGWALL, ABUTMENT BEAMS, CONCRETE PIERS, AND EXTERIOR PORTIONS OF ENDWALLS ARE TO RECEIVE AND APPLIED TEXTURE FINISH (MOUNTAIN GREY, FED. SPEC. NO. 36440).

TEXTURE COATING OF ALL AREAS DESIGNATED SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

APPLIED TEXTURE FINISH DETAIL



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ESTIMATED BRIDGE QUANTITIES
& GENERAL NOTES

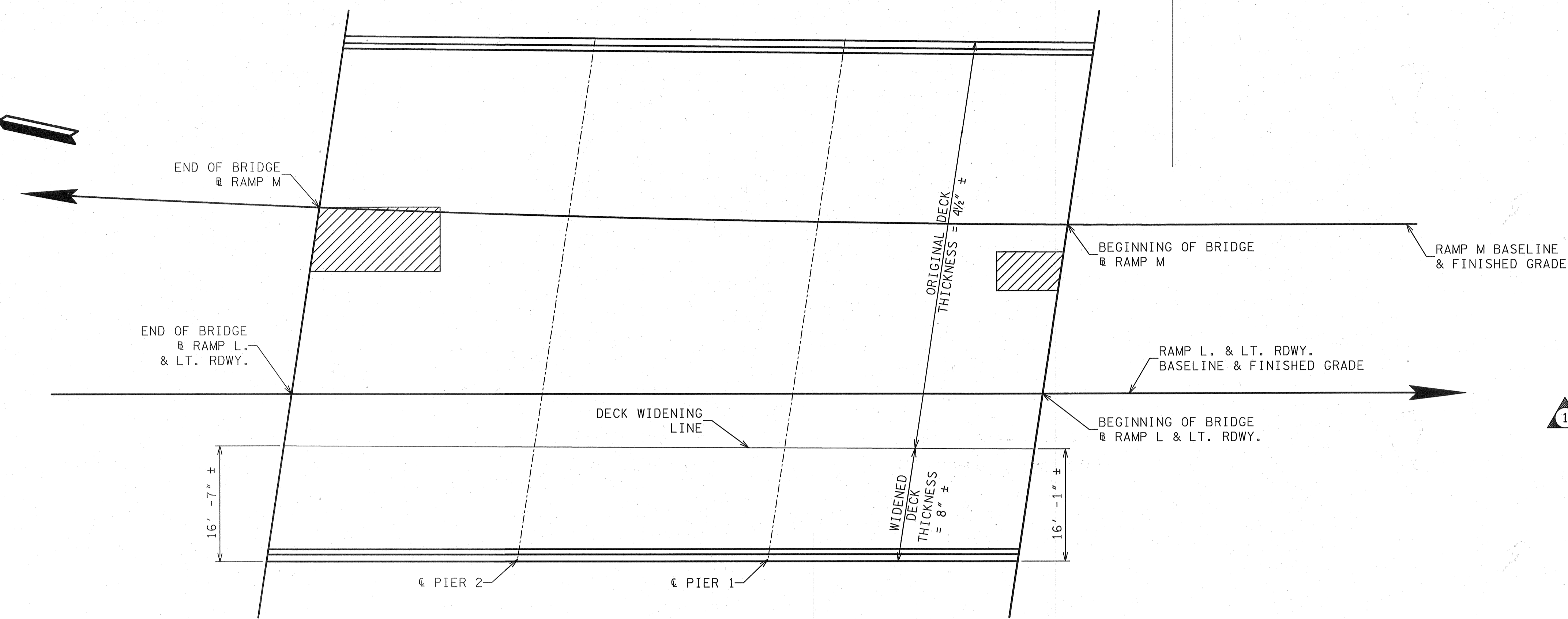
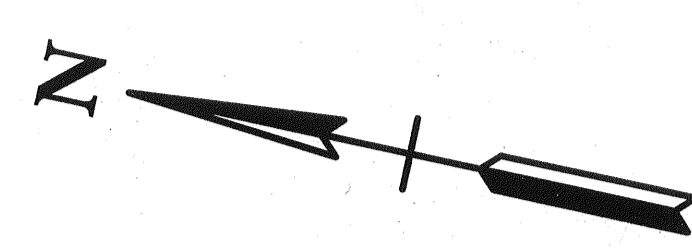
BRIDGE NO. 33-10075-1.17 RT.
INTERSTATE 75
OVER
BIG SPRING CREEK
HAMILTON COUNTY
2010

DESIGNED BY: CEE DATE: 06/09
DRAWN BY: CEE DATE: 06/09
SUPERVISED BY: BEB DATE: 06/09
CHECKED BY: RMD DATE: 02/10

CONSTRUCTION NO. 33005-3175-94

PROJECT NO.	YEAR	SHEET NO.
BH-1-75-1(130)	2010	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION
1	05-21-10	CEE	ADDED PARTIAL DEPTH REPAIR AREAS

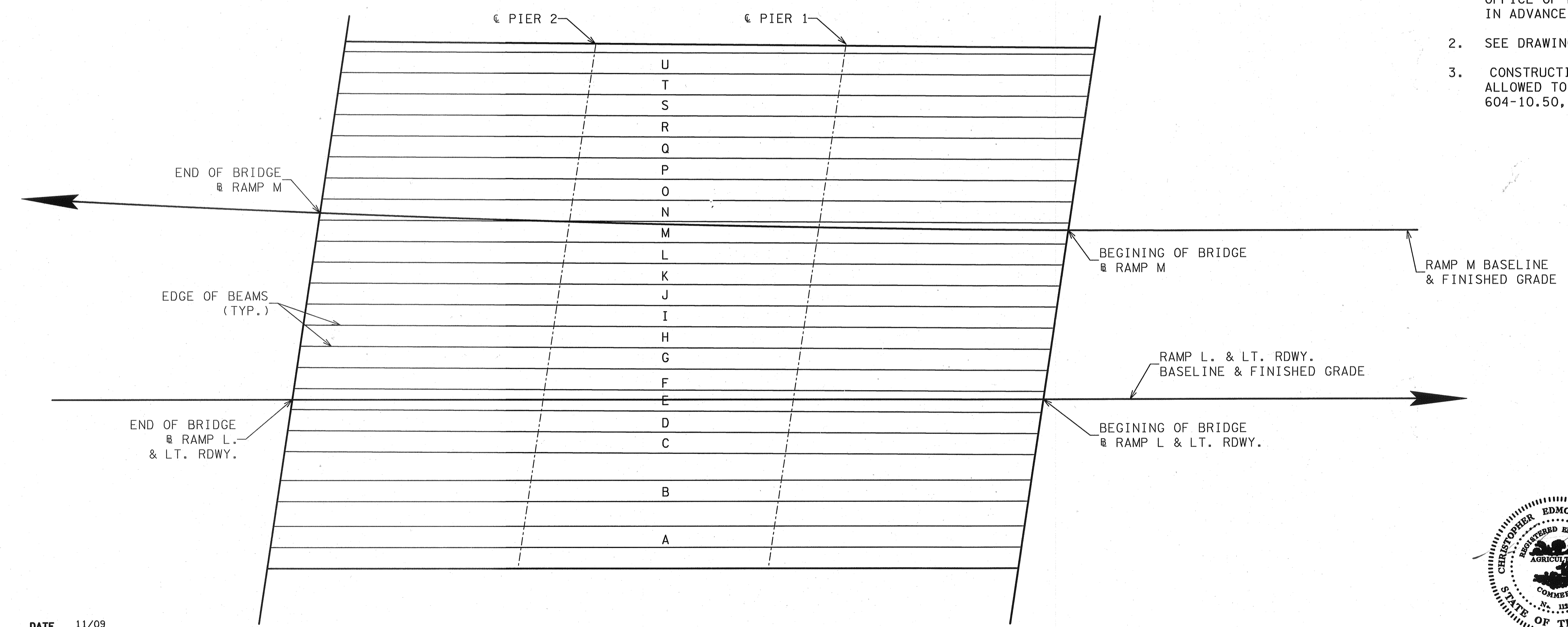


PLAN VIEW
(TOP OF DECK)

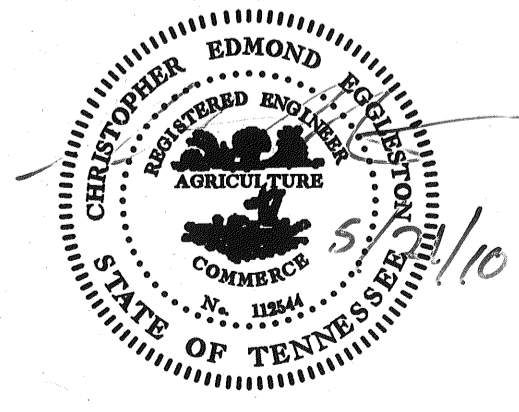
DENOTES AREA TO RECEIVE PARTIAL DEPTH DECK REPAIRS.

LEGEND
T DENOTES: BEAM DESIGNATION

- NOTES:**
1. THE OFFICE OF BRIDGE INSPECTION AND REPAIR SHALL LOCATE ALL AREAS OF PARTIAL DEPTH DECK REPAIRS. THE CONTRACTOR SHALL NOTIFY THE OFFICE OF BRIDGE INSPECTION AND REPAIR A MINIMUM OF THREE (3) DAYS IN ADVANCE.
 2. SEE DRAWING BR-101-27 FOR DETAILS OF DECK REPAIR.
 3. CONSTRUCTION MATERIALS AND DEBRIS SHALL BE CONTAINED AND NOT ALLOWED TO ENTER THE STREAM. ALL COST SHALL BE INCLUDED IN ITEM NO. 604-10.50, BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB), (S.Y.)



PLAN VIEW
(DECK UNDERSIDE)



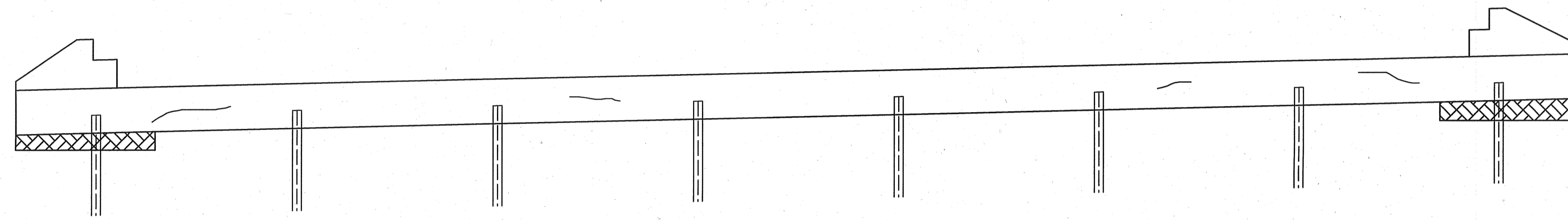
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE REPAIRS
BRIDGE NO. 33-10075-1.17 RT.
INTERSTATE 75
OVER
BIG SPRING CREEK
HAMILTON COUNTY
2010

DESIGNED BY CEE DATE 11/09
DRAWN BY CLR DATE 11/09
SUPERVISED BY BEB DATE 11/09
CHECKED BY RMD DATE 02/10

CONSTRUCTION NO. 33005-3175-94

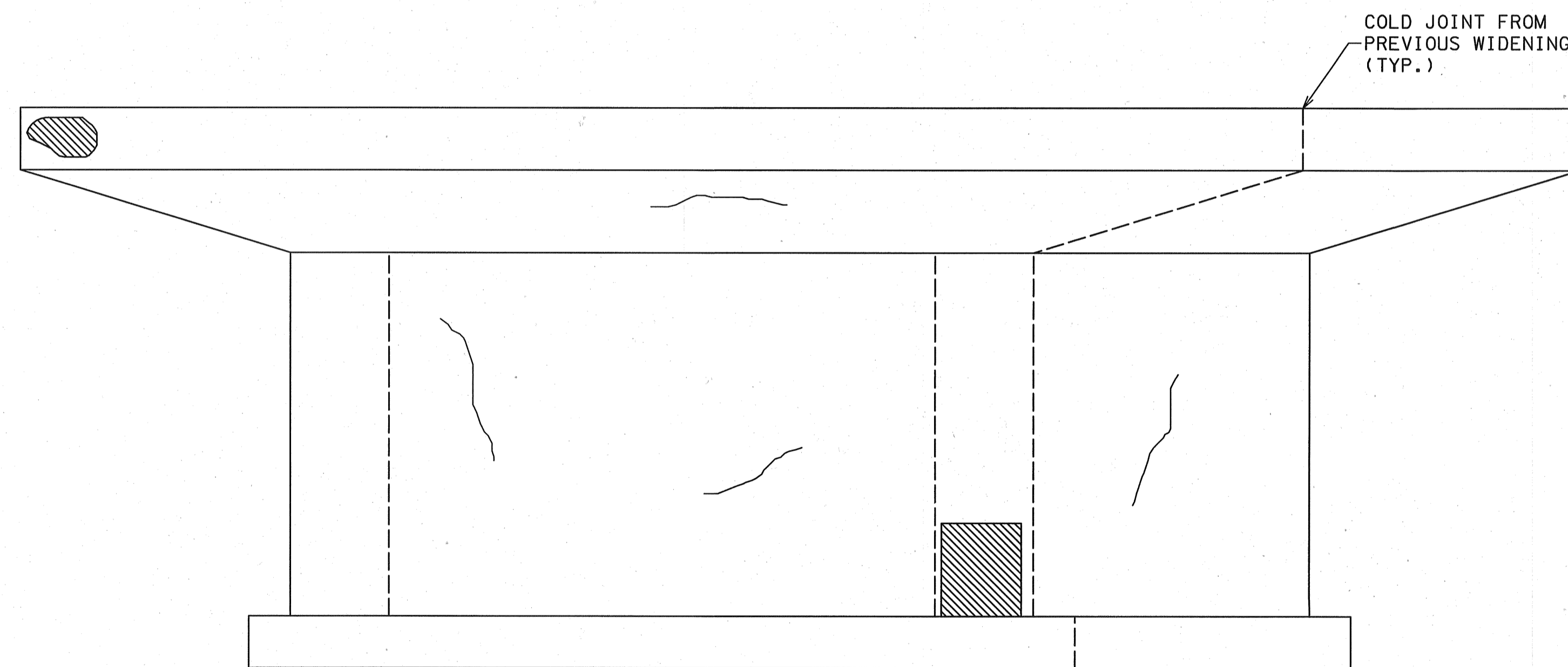
PROJECT NO.	YEAR	SHEET NO.
BH-I-75-1(130)	2010	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



TYPICAL ABUTMENT
(ELEVATION VIEW)

ESTIMATED QUANTITIES			
SUBSTRUCTURE ELEMENT	604-10.54 CONCRETE REPAIR (S.F.)	604-10.62 EPOXY INJECTION (L.F.)	204-08.401 BACKFILL MATERIAL (FLOWABLE FILL) (C.Y.)
ABUTMENT 1	2	20	2
ABUTMENT 2	84	20	0
PIER 1	82	50	0
PIER 2	2	10	3


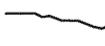



TYPICAL PIER
(ELEVATION VIEW)

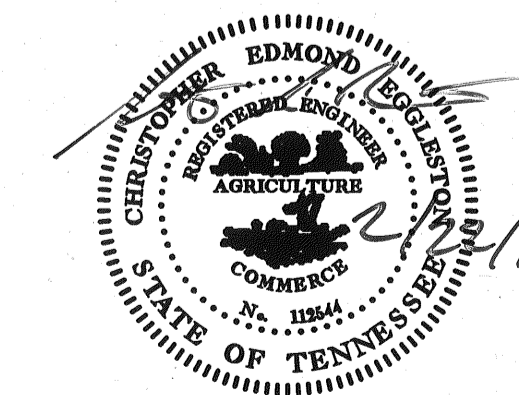
NOTES:

1. SEE DRAWING BR-101-28 FOR EPOXY INJECTION NOTES.
2. THE ENGINEER SHALL LOCATE ALL AREAS OF CONCRETE REPAIR.
3. REPAIR VOIDED AREAS UNDER ABUTMENTS USING FLOWABLE FILL.
4. ALL PILES SHALL BE PROTECTED FROM FILL MATERIAL BY WRAPING OR OTHER EFFECTIVE MEANS. COST TO BE INCLUDED IN PRICE BID ON OTHER ITEMS.
5. CONSTRUCTION MATERIALS AND DEBRIS SHALL NOT BE ALLOWED TO ENTER THE STREAM. ALL COST SHALL BE INCLUDED IN ITEM NO. 604-10.54, CONCRETE REPAIRS, (S.F.)

LEGEND

-  DENOTES: SPALLING
-  DENOTES: CRACKING
-  DENOTES: VOIDS

DESIGNED BY: CEE DATE: 11/09
 DRAWN BY: CLR DATE: 11/09
 SUPERVISED BY: BEB DATE: 11/09
 CHECKED BY: RMD DATE: 02/10

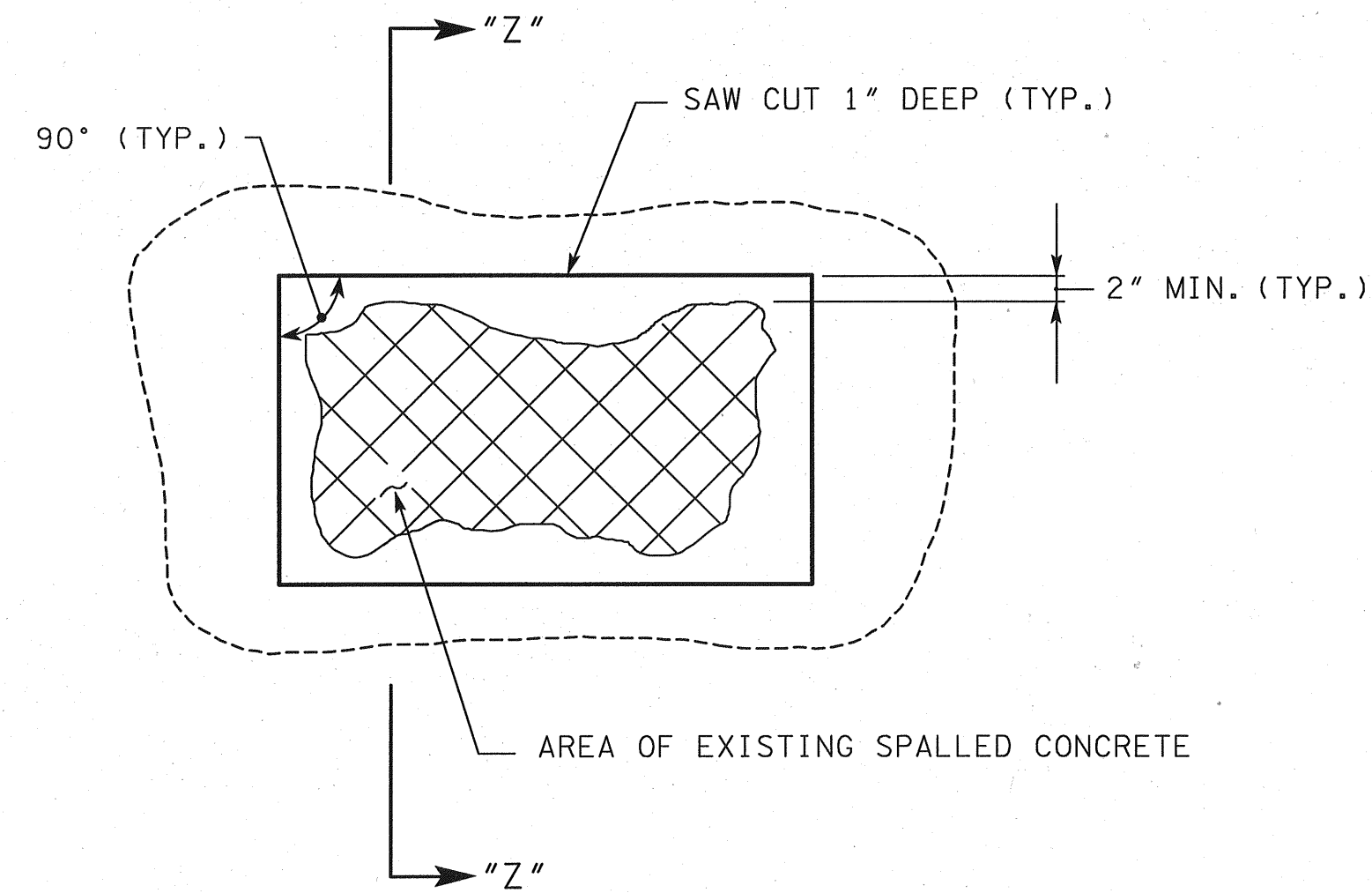


STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 SUBSTRUCTURE REPAIRS

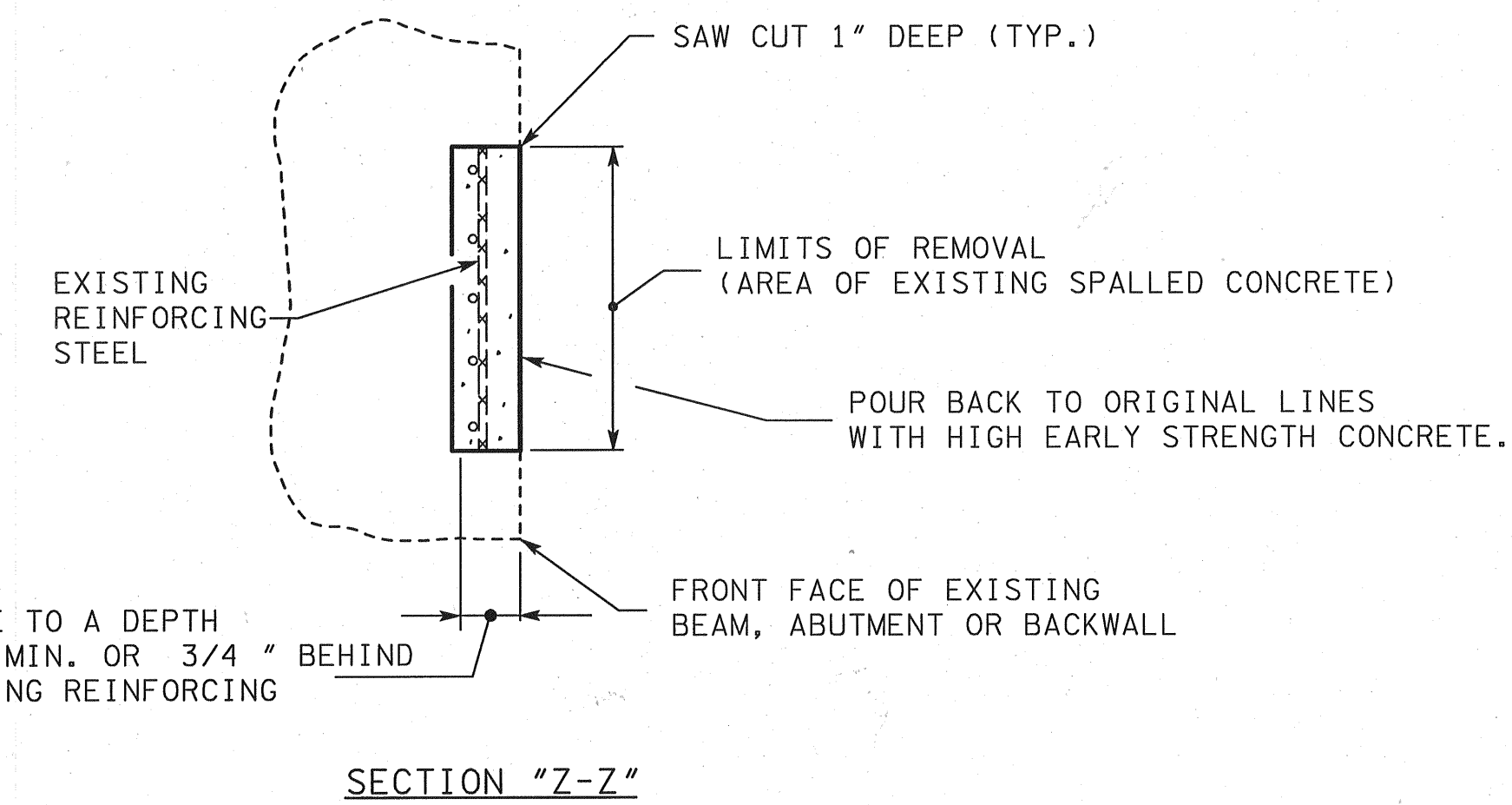
BRIDGE NO. 33-10075-1.17 RT.
 INTERSTATE 75
 OVER
 BIG SPRING CREEK
 HAMILTON COUNTY
 2010

CONSTRUCTION NO. 33005-3175-94		
PROJECT NO.	YEAR	SHEET NO.
BH-I-75-1(130)	2010	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION



 INDICATES AREAS OF CONCRETE REPAIR



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 REPOURING.

FOR CONCRETE NOTE, SEE GENERAL NOTES ON DRAWING BR-101-24.

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.

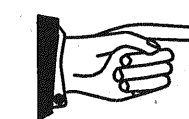
SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

NOTES:

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

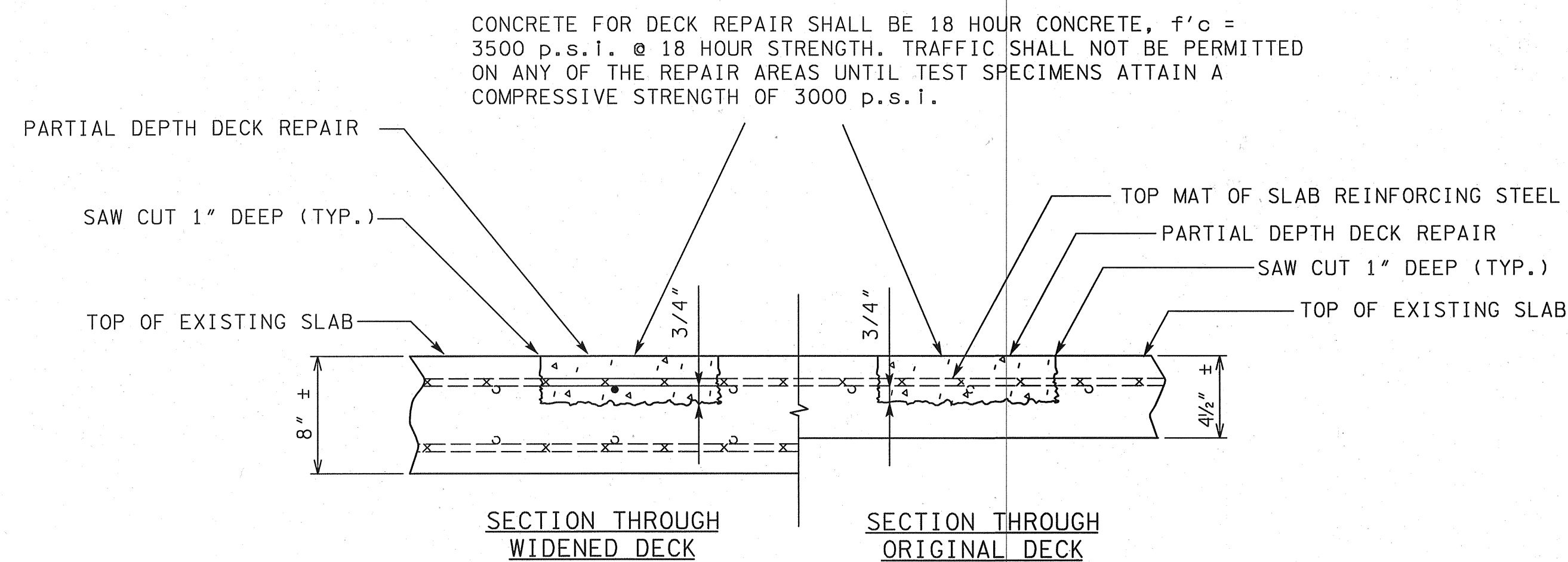
- 1) PNEUMATIC HAMMERS HEAVIER THAN A 35 LB. CLASS SHALL NOT BE USED.
- 2) CHIPPING HAMMERS OF THE 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND THE REINFORCING STEEL.

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 18 HOUR CONCRETE, $f'c = 3500$ p.s.i. @ 18 HOUR STRENGTH. TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3000 p.s.i.

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.).

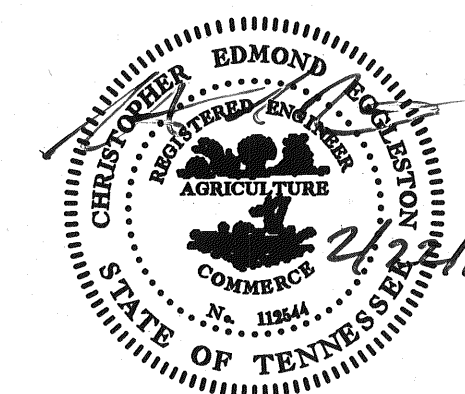
POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

- 1) PARTIAL DEPTH REPAIRS; PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60 LBS CLASS SHALL NOT BE USED.
- 2) CHIPPING HAMMERS OF THE 15 LB CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.

CARE SHALL BE TAKEN WHEN REMOVING ANY AREAS OF SLAB 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.

DESIGNED BY CEE DATE 12/09
 DRAWN BY FSE DATE 12/09
 SUPERVISED BY BEB DATE 12/09
 CHECKED BY RMD DATE 02/10

DETAIL SHOWING PARTIAL DEPTH DECK REPAIR



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE REPAIR DETAILS
 BRIDGE NO. 33-10075-1.17 RT.
 INTERSTATE 75
 OVER
 BIG SPRING CREEK
 HAMILTON COUNTY
 2010

CONSTRUCTION NO. 33005-3175-94

PROJECT NO.	YEAR	SHEET NO.
BH-I-75-1(130)	2010	

REVISIONS			
NO.	DATE	BY	BRIEF DESCRIPTION

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.).

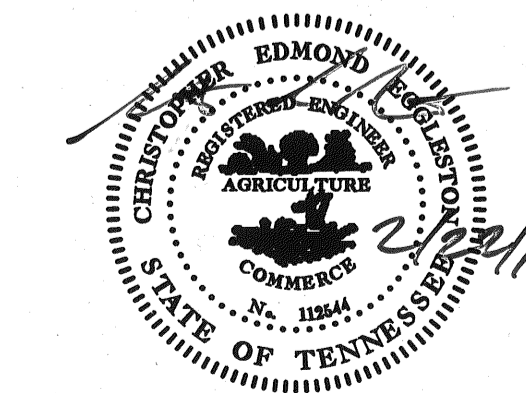
PRICE BID FOR ITEM NUMBER 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), (L.F.), SHALL INCLUDE COST OF ALL LABOR AND MATERIALS (EXCEPT ADHESIVE) FOR GRINDING AND FOR SURFACE PREPARATION, CRACK PREPARATION, CAPPING, INJECTION OF ADHESIVE, ALL SAMPLING AND TESTING, REMOVAL OF CAPPING MATERIAL 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.

DESIGNED BY CEE DATE 12/09
 DRAWN BY CEE DATE 12/09
 SUPERVISED BY BEB DATE 12/09
 CHECKED BY RMD DATE 02/10



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION
 BRIDGE REPAIR DETAILS

BRIDGE NO. 33-10075-1.17 RT.
 INTERSTATE 75
 OVER
 BIG SPRING CREEK
 HAMILTON COUNTY
 2010