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STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF ENGINEERING

CUMBERLAND COUNTY

INTERSTATE 40

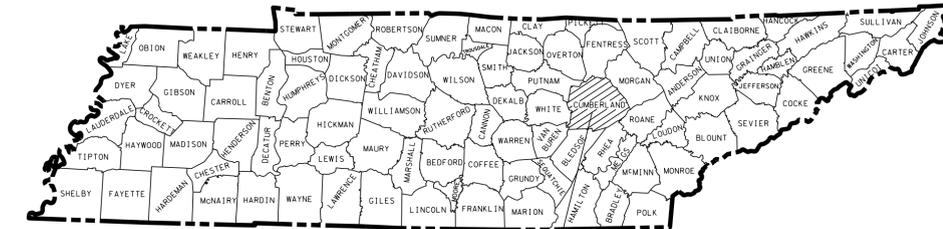
FROM THE OBED RIVER (LM 13.54) (MM 317.87)
TO EAST OF SR-101 (LM 18.05) (MM 322.38)

NIGHT TIME WORK, COLD PLANE, BRIDGE DECK REPAIR, RESURFACING & PAVEMENT MARKINGS

STATE HIGHWAY NO. I-40 F.A.H.S. NO. XX

TENN.	YEAR	SHEET NO.
	2016	1
FED. AID PROJ. NO.	NH-I-40-6(161)	
STATE PROJ. NO.	18100-8147-44	
BRIDGE	18100-4147-04	

REVISED 8-17-15; CHANGED INDEX AND STANDARD ROADWAY DRAWINGS. ADDED LOCATIONS OF PROPOSED CYCLE COUNT STATION TO LOCATION MAP.



PROJECT LOCATION

STANDARD ROADWAY DRAWINGS

DWG. NO.	REV.	DESCRIPTION
ROADWAY DESIGN STANDARDS		
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-3	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING

TRAFFIC CONTROL APPURTENANCES

T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-1	07-24-14	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T-M-3	07-24-14	MARKING STANDARDS FOR TRAFFIC ISLANDS, MEDIANS & PAVED SHOULDERS ON CONVENTIONAL ROADS
T-M-5	04-23-13	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS
T-M-6	06-22-12	MARKING DETAIL FOR EXPRESSWAY & FREEWAY INTERCHANGES
T-M-7	01-12-12	GORE MARKING DETAILS FOR EXPRESSWAY & FREEWAY INTERCHANGES
T-M-8	01-12-12	MARKING DETAILS FOR EXPRESSWAYS & FREEWAYS
T-M-9	11-01-11	MARKING DETAILS FOR RAMP INTERSECTIONS
T-M-15		ASPHALT SHOULDER RUMBLE STRIP INSTALLATION DETAILS FOR INTERSTATE AND ACCESS CONTROLLED ROUTES
T-PBR-1	06-30-09	INTERCONNECTED PORTABLE BARRIER RAIL
T-PBR-2	11-01-11	DETAIL FOR VERTICAL PANELS AND FLEXIBLE DELINEATORS
T-SG-2	07-29-04	LOOP LEAD-INS, CONDUIT AND PULL BOXES
T-SG-3	11-11-04	STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
T-WZ-10	04-02-12	ADVANCE ROAD WORK SIGNING ON HIGHWAYS AND FREEWAYS
T-WZ-21	03-15-11	LANE CLOSURE WITH LEFT HAND MERGE AND LANE SHIFT

SPECIAL NOTES

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

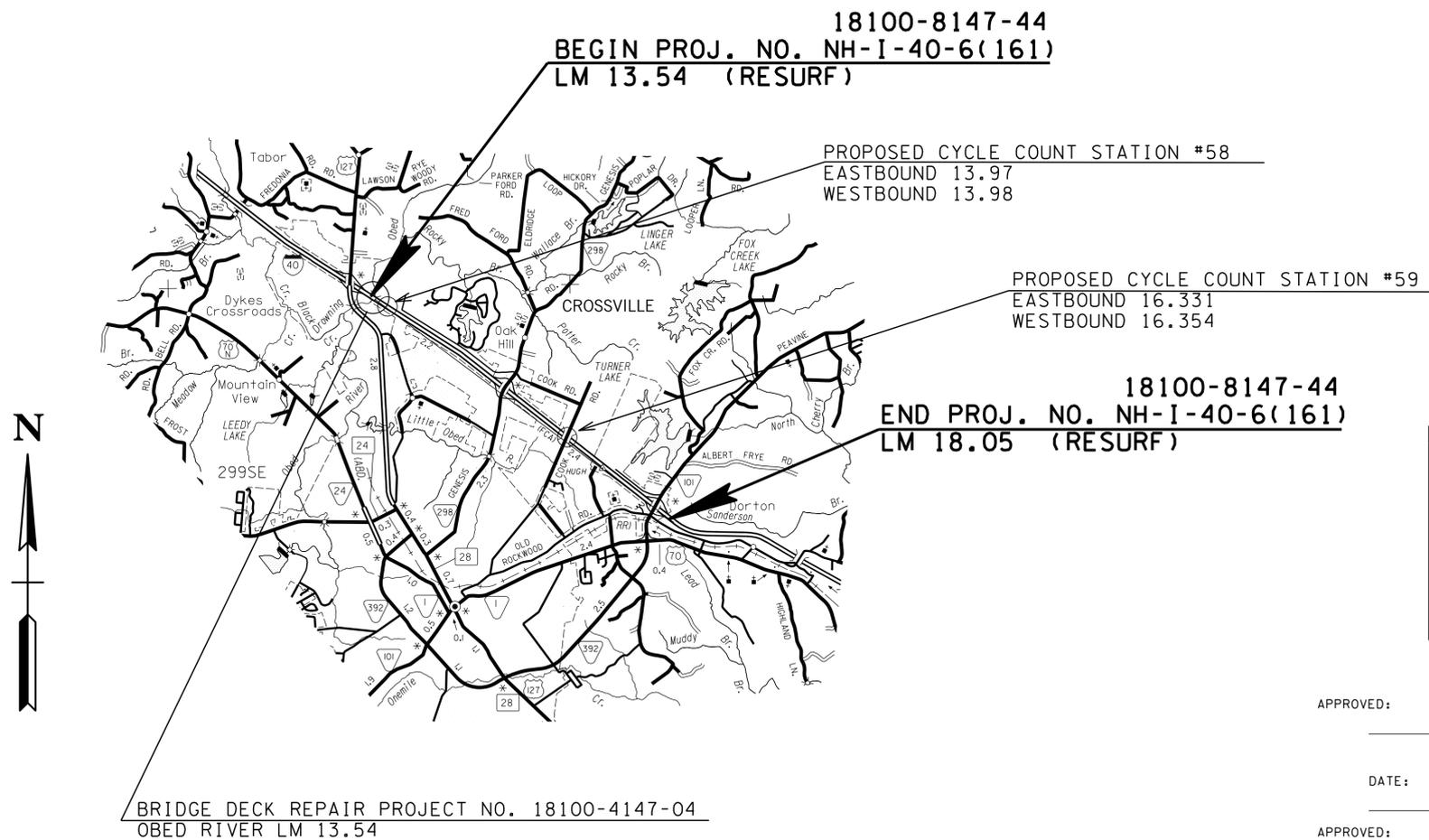
THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT ROAD SP. SV. 2 ROBERT RODGERS

DESIGNER KEVIN CRISP CHECKED BY DIANE EVITT

P.E. NO. 98023-4113-04

PIN NO. 102761.01



BRIDGE DECK REPAIR PROJECT NO. 18100-4147-04
OBED RIVER LM 13.54



PROJECT LENGTH **4.51 MILES**
TOTAL LANE MILES RESURFACED **18.04 MILES**

NO EXCLUSIONS
NO EQUATIONS

TRAFFIC DATA
AADT (2014) **33,900**

**UNOFFICIAL
SET
NOT FOR
BIDDING**

SEALED BY

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

DATE: _____

APPROVED: John Schroer
JOHN SCHROER, COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE _____

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ESTIMATED ROADWAY QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)- 303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	4122
(2)- 307-01.08	ASPHALT CONCRETE MIX (PG64-22) (BPMB-HM) GRADING B-M2	TON	7563
(3)- 307-03.08	ASPHALT CONCRETE MIX (PG76-22) (BPMB-HM) GRADING B-M2	TON	19215
(4)- 403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	166
(7)- 411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	4308
(6)(8)- 411-03.10	ACS MIX(PG76-22) GRADING D	TON	11265
(9)(10)(21)- 411-12.01	SCORING SHOULDERS (CONTINUOUS) (16IN WIDTH)	L.M.	18
415-01.02	COLD PLANING BITUMINOUS PAVEMENT	S.Y.	225685
705-04.25	GUARDRAIL & BARRIER DELINEATOR	EACH	120
705-08.11	PORTABLE IMPACT ATTENUATOR NCHRP350 TL-3	EACH	2
(11)- 712-01	TRAFFIC CONTROL	LS	1
712-01.51	PORTABLE BARRIER RAIL DELINEATOR (DOUBLE)	EACH	75
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	L.F.	1500
712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	220
712-05.01	WARNING LIGHTS (TYPE A)	EACH	24
712-05.03	WARNING LIGHTS (TYPE C)	EACH	56
(12)- 712-06	SIGNS (CONSTRUCTION)	S.F.	1817
(13)- 712-06.16	SIGNS (CONSTRUCTION)(REDUCED SPEED WARNING)	EACH	4
712-08.03	ARROW BOARD (TYPE C)	EACH	2
(18)- 712-08.10	MOBILE MESSAGE SIGN UNIT W/ATTENUATOR	HOUR	2000
(19)- 713-02.14	FLEXIBLE DELINEATOR (WHITE)	EACH	250
(19)- 713-02.15	FLEXIBLE DELINEATOR (YELLOW)	EACH	75
713-16.01	CHANGEABLE MESSAGE SIGN UNIT	EACH	2
716-01.23	Snowplwble Pvmnt Mrkrs (Bi-Dir)(2 Color)	EACH	790
(20)- 716-01.30	REMOVAL OF SNOWPLOWABLE REFLECTIVE MARKER	EACH	790
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	200
(14)- 716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	11
716-02.07	PLASTIC PAVEMENT MARKING (24" BARRIER LINE)	L.F.	1810
716-04.06	PLASTIC PAVEMENT MARKING (WRONG WAY ARROW)	EACH	4
716-04.12	PLASTIC PAVEMENT MARKING (YIELD LINE)	S.F.	15
(15)- 716-05.20	PAINTED PAVEMENT MARKING (6" LINE)	L.M.	46
716-12.02	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE)	L.M.	25
(16)(17)- 716-12.03	ENHANCED FLATLINE THERMO PVMT MRKNG (8IN BARRIER LINE)	L.F.	4240
716-12.05	ENHANCED FLATLINE THERMO PVMT MRKNG (6IN DOTTED LINE)	L.F.	1796
717-01	MOBILIZATION	LS	1
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	4
730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	48
730-14.02	SAW SLOT	L.F.	600
730-14.03	LOOP WIRE	L.F.	2440

FOOTNOTES

- (1) TO BE USED FOR SHOULDER STONE AS DIRECTED BY TDOT PROJECT SUPERVISOR.
- (2) INCLUDES 1312 TONS FOR RAMPS AND GORE AREAS.
- (3) INCLUDES 1726 TONS FOR RAMPS AND GORE AREAS.
- (4) INCLUDES 20 TONS FOR RAMPS AND GORE AREAS.
- (5) DELETED.
- (6) SEE SPECIAL PROVISION 411C FOR RIDEABILITY.
- (7) INCLUDES 748 TONS FOR RAMPS.
- (8) INCLUDES 1012 TONS FOR RAMPS.
- (9) TO BECOME PROPERTY OF THE CONTRACTOR.
- (10) INCLUDES 26886 SY FROM RAMPS.
- (11) INCLUDES ALL COST ASSOCIATED WITH NIGHT TIME WORK ZONE LIGHTING.
- (12) SEE SIGN TABULATION BLOCK THIS SHEET FOR DETAILS.
- (13) ITEM TO BE USED ONLY WHEN THE CONTRACTOR ESTABLISHES A REDUCED SPEED LIMIT WITHIN THE PROJECT CONSTRUCTION WORK ZONE LIMITS. ITEM INCLUDES SIGN FACE, SUPPOTS, AND TWO TYPE "B" FLASHERS PER THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING ON THE TYPE "B" FLASHERS WHEN WORKERS ARE IN THE CONSTRUCTION WORK ZONE AND TURNING THEM OFF WHEN WORKERS ARE NO LONGER IN THE CONSTRUCTION WORK ZONE.
- (14) THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC THE SAME UNIT PRICE SHALL BE PAID FOR PREFORMED PLASTIC.
- (15) FOR PAVEMENT MARKING ON MILLED SURFACE AND INTERMEDIATE LANE MARKING AS DIRECTED BY THE TDOT PROJECT SUPERVISOR.
- (16) SHALL BE APPLIED USING RIBBON METHOD AS DIRECTED BY TDOT PROJECT SUPERVISOR.
- (17) FOR PERMANENT PAVEMENT MARKING.
- (18) SEE SPECIAL NOTE 12, SHEET 5 FOR INFORMATION.
- (19) INCLUDES COST OF REMOVING AND PROPERLY DISPOSING OF EXISTING ITEM.
- (20) CONTRACTOR SHALL PROPERLY DISPOSE OF REMOVED SNOWPLOWABLE MARKERS
- (21) REFER TO SPECIAL PROVISION 108B REGARDING MILLED SURFACE DETERIORATION.

ESTIMATED BRIDGE QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
604-10.56	CONCRETE OVERLAYED BRIDGE DECK REPAIR (PARTIAL)	S.Y.	50
604-10.34	CONCRETE OVERLAYED BRIDGE DECK REPAIR (FULL)	S.Y.	125
604-10.05	CONCRETE REPAIR (BRIDGERAIL)	S.F.	120
604-10.44	EXISTING EXPANSION JOINT REPAIRS	L.F.	190
617-04.01	TYPE 1 THIN EPOXY OVERLAY (EPOXY-URETHANE)	S.Y.	3452
604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	1306
604-10.53	CONCRETE REPAIRS (PARTIAL DEPTH OF APPROACH PVT.)	S.Y.	5
604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	400
604-10.58	EPOXY INJECTION (INJECTION)	GAL	8

FOOTNOTES

FOR BRIDGE REPAIR DETAILS SEE SHEET B-1 THROUGH B-7.

TABULATED SIGNS (CONSTRUCTION) 712-06

QUANTITY	M.U.T.C.D. NO.	DESCRIPTION	SIZE		ITEM NO.
			IN	X IN	712-06 S.F.
4	G20-1	ROAD WORK NEXT 5 MILES	64	24	43
8	G20-2	END ROAD WORK	48	24	64
(A) 2	R4-1MOD	DO NOT PASS IN RIGHT LANE	120	42	70
(B) 2	TN-55A	RECORD-A-COMMENT	96	48	64
4	W1-4AR	SHIFT RIGHT SYMBOL	48	48	64
2	SPECIAL	MERGE NOW (LEFT ARROW)	48	48	32
8	W3-4	BE PREPARED TO STOP	48	48	128
4	W4-2R	RIGHT LANE ENDS (SYMBOL)	48	48	64
46	W8-11	UNEVEN LANES	48	48	736
2	W20-1	ROAD WORK AHEAD	48	48	32
4	W20-1	ROAD WORK 2 MILES	48	48	64
4	W20-5R	RIGHT LANE CLOSED 1 MILE	48	48	64
4	W20-5R	RIGHT LANE CLOSED 1/2 MILE	48	48	64
4	W20-5R	RIGHT LANE CLOSED 1500 FT	48	48	64
2	E5-2A	EXIT CLOSED	48	48	32
4	W20-7a	FLAGGER	48	48	64
8	TN-64	GROOVED PAVEMENT	48	48	128
4	W21-2	FRESH OIL	36	36	36
1	R1-2	YIELD	36	36	4
TOTAL					1817

- (A) BLACK LEGEND ON WHITE RETROREFLECTIVE BACKGROUND.
(B) 96"x48" (BLUE BACKGROUND WITH WHITE COPY) 0.100" SHEET ALUMINUM.

SEE FIGURE 6F-1 OF FIGURES SHOWN IN CURRENT M.U.T.C.D. THIS CONSTRUCTION SIGNING IS TO BE CONSTRUCTED AS A MINIMUM. OTHER SIGNS AS DIRECTED BY THE ENGINEER MAY BE REQUIRED DURING DIFFERENT PHASES.

TRAFFIC COUNT STATION # 58 QUANTITIES

ITEM NO.	DESCIPTION	UNIT	QUANTITY
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	2
730-12.02	CONDUIT 2" DIAMETER (PVC)	LF	24
730-14.02	SAW SLOT	LF	300
(A1)- 730-14.03	LOOP WIRE	LF	1220

FOOTNOTES

(A1) ITEM INCLUDES AN EXTRA 160' (20' PER LOOP) THAT IS TO REMAIN IN PULL BOX FOR INSTALLATION BY TRAFFIC COUNTER PERSONNEL.

TRAFFIC COUNT STATION # 59 QUANTITIES

ITEM NO.	DESCIPTION	UNIT	QUANTITY
730-03.21	INSTALL PULL BOX (TYPE B)	EACH	2
730-12.02	CONDUIT 2" DIAMETER (PVC)	LF	24
730-14.02	SAW SLOT	LF	300
(A1)- 730-14.03	LOOP WIRE	LF	1220

FOOTNOTES

(A1) ITEM INCLUDES AN EXTRA 160' (20' PER LOOP) THAT IS TO REMAIN IN PULL BOX FOR INSTALLATION BY TRAFFIC COUNTER PERSONNEL.

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF	2016	NH-I-40-6(161)	2
		18100-8147-44	
BRIDGE		18100-4147-04	

REVISED 8-17-15; ADDED TRAFFIC COUNT STATION #38 & #39. TABULATION BLOCKS ADDED ITEM NOS. 730-03.21, 730-12.02, 730-14.02, 730-14.03. CHANGED ITEM 415-01.01 TO 415-01.02.

REVISED 10-26-15; ADDED ITEM NOS. 713-16.01 & 716-04.06. CHANGED ITEM NO. 716-02.05 & 716-02.06 QUANTITIES. DELETED FOOTNOTE 5 & ADDED FOOTNOTE 21.

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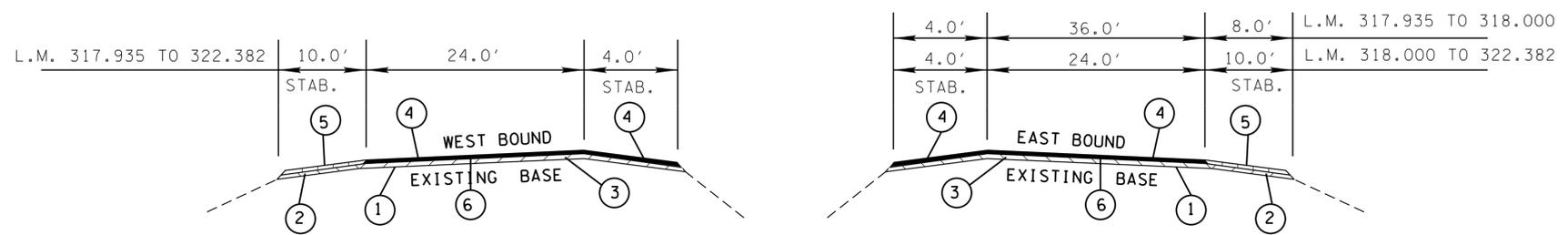
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**ESTIMATED
ROADWAY
QUANTITIES
& DETAILS**

TYPICAL SECTIONS

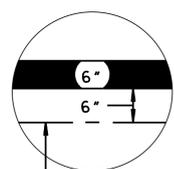
TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF	2016	NH-I-40-6(161)	3
		18100-8147-44	
BRIDGE		18100-4147-04	



PROPOSED PAVEMENT SCHEDULE	
①	TACK COAT (TC) @ (0.10 GAL./S.Y.) ITEM 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC)
②	BITUMINOUS BASE @ 2.00"± THICK (APPROX. 226 LBS./S.Y.) ITEM 307-01.08 ASPHALT CONCRETE (PG64-22) (BPMB-HM) GRADING B-M2
③	BITUMINOUS BASE @ 2.00"± THICK (APPROX. 226 LBS./S.Y.) ITEM 307-03.08 ASPHALT CONCRETE (PG76-22) (BPMB-HM) GRADING B-M2
④	BITUMINOUS SURFACE @ 1.25"± THICK (APPROX. 132.5 LBS./S.Y.) ITEM 411-03.10 ASPHALT CEMENT (PG76-22) (BPMB-HM) GRADING "D"
⑤	STABILIZED SHOULDERS @ 1.25"± THICK (APPROX. 128.75 LBS./S.Y.) ITEM 411-01.07 ACS MIX GRADING "E" (SHOULDERS)
⑥	TACK COAT (TC) @ (0.07 GAL./S.Y.) ITEM 403-01 BITUMINOUS MATERIAL FOR TACK COAT (TC)

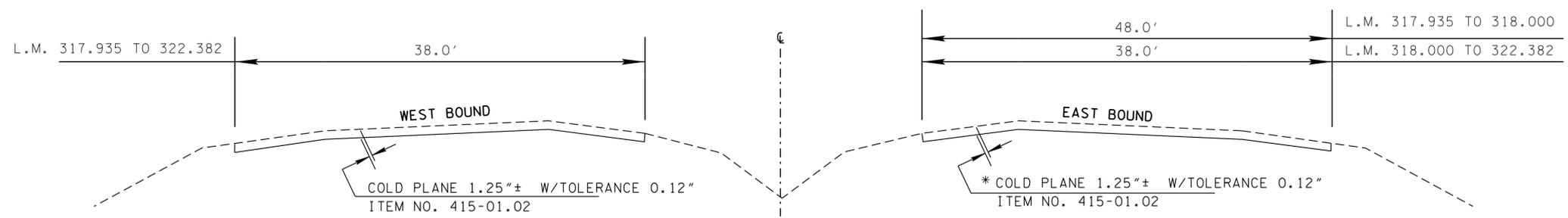
COLD PLANING AREA WITH VARIABLE DEPTHS AT CONCRETE RAMP AREAS		
LM	LM	DEPTH
15.20	17.75	3.25
17.45	17.95	3.25

** VARIABLE MILLING DEPTHS ARE FOR REMOVAL OF ASPHALT PATCHES AND ALONG RAMPS TO ALLOW NEW ASPHALT TO BE FLUSH WITH EXISTING CONCRETE RAMPS. EXACT LOCATIONS SHALL BE AS DIRECTED BY TDOT PROJECT SUPERVISOR. ALL COST ASSOCIATED WITH MILLING EXTRA DEPTH WILL NOT BE PAID FOR DIRECTLY.



LANE JOINT IS TO BE OFF SET 6" FROM CENTER OF ROADWAY.

COLD PLANING DETAIL



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**TYPICAL
SECTIONS &
DETAILS**

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GENERAL NOTES

UTILITIES

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

MISCELLANEOUS

- (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 MARKINGS

- (7) PERMANENT PAVEMENT LINE MARKINGS SHALL BE 6" ENHANCED FLATLINE THERMOPLASTIC INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK. SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. PAVEMENT MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-12.02, ENHANCED FLATLINE THERMO PVMT MRKNG (6IN LINE), L.M. THE CONTRACTOR SHALL HAVE THE OPTION OF USING REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS AT THE END OF EACH DAY'S WORK AND THEN INSTALLING THE PERMANENT MARKINGS AFTER THE PAVING OPERATION IS COMPLETED. THE TEMPORARY MARKINGS FOR THE FINAL SURFACE WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COSTS ARE TO BE INCLUDED IN THE PRICE BID FOR THE PERMANENT MARKINGS.

PAVEMENT -PAVING

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

RESURFACING

- (9) IN ALL CASES, THE LENGTH OF THE PAVEMENT TRANSITION, THE THICKNESS AND WIDTH OF THE RESURFACING AND ANY ADDITIONAL PAVEMENT MATERIALS SHALL BE AS DIRECTED BY THE TDOT ENGINEER.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

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

EROSION PREVENTION AND SEDIMENT CONTROL

LITTER, DEBRIS, WASTE, PETROLEUM

- (17) 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.
- (18) 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.

PAVEMENT EDGE DROP-OFF TRAFFIC CONTROL NOTES

- A. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES OR TRAFFIC LANE AND SHOULDER WHERE THE TRAFFIC LANE IS BEING USED BY TRAFFIC, CAUSED BY BASE, PAVING OR RESURFACING:
 - 1. DIFFERENCES IN ELEVATION BETWEEN ADJACENT ROADWAY ELEMENTS GREATER THAN 0.75 INCH AND NOT EXCEEDING 2 INCHES:
 - a. WARNING SIGNS, UNEVEN PAVEMENT (W8-11) AND/OR SHOULDER DROP-OFF (W8-9A), SHALL BE PLACED IN ADVANCE OF AND THROUGHOUT THE EXPOSED AREA. MAXIMUM SPACING BETWEEN SIGNS SHALL BE 2,000 FEET WITH A MINIMUM OF 2 SIGNS PER EXPOSED AREA. WHERE UNEVEN PAVEMENT IS ENCOUNTERED, SIGNS SHALL BE PLACED ON EACH SIDE OF THE ROADWAY.
 - b. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY ADDED PAVEMENT SHALL BE ELIMINATED WITHIN THREE WORKDAYS.
 - c. DIFFERENCES IN ELEVATION BETWEEN ADJACENT TRAFFIC LANES BEING UTILIZED BY TRAFFIC CAUSED BY COLD PLANING SHALL BE ELIMINATED WITHIN THREE WORKDAYS.
 - d. WHEN THE DIFFERENCE IN ELEVATION IS BETWEEN THE TRAFFIC LANE BEING UTILIZED BY TRAFFIC AND SHOULDER THE DIFFERENCE IN ELEVATION SHALL BE ELIMINATED WITHIN SEVEN WORKDAYS AFTER THE CONDITION IS CREATED.

SPECIAL TRAFFIC COUNTER SPECIFICATIONS

- (1) THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL RELATED EQUIPMENT. HE CONTRACTOR SHALL MAKE SURE EACH DETECTION LOOP IS OPERATIONAL AT THE COMPLETION OF THE PROJECT. THE STATE'S LONG RANGE PLANNING DIVISION'S TRAFFIC COUNTER PERSONNEL WILL MAKE THE TRAFFIC COUNTING SITE FULLY USEABLE.
- (2) ALL LOOPS SHALL BE 5' X 7' TYPICAL IN SIZE WITH 3 TURNS OF LOOP WIRE. TWO LOOPS LOCATED IN EACH LANE SPACED 16.0' FEET APART FROM LEADING EDGE TO LEADING EDGE.
- (3) LEAD WIRES TO ALL LOOPS SHALL BE RUN THROUGH 2" PVC CONDUIT FROM THE ROAD TO AN IN-GROUND PULL BOX LOCATED AS CLOSE AS POSSIBLE AND BEHIND THE GUARDRAIL. LOOP LEAD-INS AND CONDUIT SHALL BE MARKED ON THE ROADWAY SURFACE SO THAT ANY GUARDRAIL POST INSTALLATION OR OTHER CONSTRUCTION WILL NOT DISTURB THE UNDERGROUND WORK.
- (4) AN EXTRA 20 FEET OF LEAD WIRE FOR EACH LOOP SHOULD BE STORED IN THE PULL BOX. ADDITIONALLY THERE SHOULD BE ANOTHER 1.5" PVC STUBBED UP FROM INSIDE THE PULL BOX TO THE OUTSIDE EXTENDING APPROX. 3 FEET ABOVE THE GROUND FOR THE INSTALLATION OF AN ELECTRICAL BOX TO BE INSTALLED BY TDOT PERSONNEL. EACH LOOP LEAD-INS SHALL BE MARKED WITH LANE IDENTIFICATION, DENOTING THE LANE AND POSITION IN THE LANE FOR EACH LOOP (SUCH AS NB-1 FOR NORTH BOUND ETC.).
- (5) PLEASE CONTACT STANLEY DUNN AT 615-350-4571 OR 615-210-0431 WHEN ALL LOOPS AND PULL BOXES ARE INSTALLED AND READY FOR INSTALLATION OF ELECTRICAL BOXES WHICH WILL BE INSTALLED BY TDOT PERSONNEL MAKING THE SITE USABLE AND COMPLETE. PLEASE SUPPLY THE X/Y COORDINATES (BASED ON WGS COORDINATES) OF EACH PULL BOX.
- (6) EQUIPMENT AND INSTALLATION OF TRAFFIC SIGNAL ITEMS SHALL COMPLY WITH TDOT STANDARD SPECIFICATIONS, SECTION 730.

SPECIAL GENERAL NOTES REQUIRED:

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF	2016	NH-1-40-6(161)	4
		18100-8147-44	
BRIDGE		18100-4147-04	

REVISED 8-17-15: ADDED SPECIAL TRAFFIC COUNTER SPECIFICATIONS TO SHEET.

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**GENERAL
NOTES**

SPECIAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF	2016	NH-I-40-6(161)	5
		18100-8147-44	
BRIDGE		18100-4147-04	

REVISED 10-26-15; CHANGED NOTE NO 23, DELETED NOTE NOS. 19, 25 & 27.

TRAFFIC CONTROL

- (1) THE CONTRACTOR SHALL COMPLY WITH SECTION 712 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION REGARDING TEMPORARY TRAFFIC CONTROL AND THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- (2) SHOULD A FLAGGING OPERATION FOR TRAFFIC CONTROL BE UTILIZED FOR RESURFACING, THE CONTRACTOR SHALL MAKE PROVISIONS TO SAFELY CONTROL TRAFFIC INGRESS AT ALL ROADWAY ENTRANCES WITHIN THE FLAGGED WORK ZONE TO THE SATISFACTION OF THE ENGINEER, ALL COST ASSOCIATED WITH THE CONTROLS WILL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL.
- (3) EXISTING CONSTRUCTION, REGULATORY AND WARNING SIGNS WHICH CONFLICT WITH THE CONSTRUCTION SIGNING SHALL BE REMOVED DURING CONSTRUCTION AND REINSTALLED AS DIRECTED BY THE TDOT PROJECT SUPERVISOR. ALL COSTS TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 712-01, TRAFFIC CONTROL, PER LUMP SUM.
- (4) THE CONTRACTOR SHALL GIVE THE TDOT PROJECT SUPERVISOR A MINIMUM OF SEVEN (7) DAYS NOTICE PRIOR TO STARTING WORK SO THAT SUFFICIENT NOTICE CAN BE PREPARED AND DISTRIBUTED TO THE MEDIA.
- (5) IMMEDIATELY UPON COMPLETION OF EACH CONSTRUCTION PHASE, ALL TRAFFIC CONTROL ITEMS THAT ARE NOT NECESSARY FOR THE SUCCEEDING PHASE SHALL BE REMOVED, COVERED OR TURNED TO FACE AWAY FROM TRAFFIC.
- (6) A MINIMUM OF TWO (2) TYPE "C" ARROW BOARDS WILL BE REQUIRED AT EACH SITE. IF THE CONTRACTOR SCHEDULES HIS OPERATIONS SUCH THAT MORE THAN TWO (2) ARROW BOARDS ARE REQUIRED, THE COST OF ALL ADDITIONAL ARROW BOARDS WILL BE AT THE CONTRACTOR'S EXPENSE.
- (7) ITEM NO. 712-06.16 – SIGNS (CONSTRUCTION) (REDUCED SPEED WARNING) IS TO BE USED ONLY WHEN THE CONTRACTOR ESTABLISHES A REDUCED SPEED LIMIT WITHIN THE PROJECT CONSTRUCTION WORK ZONE LIMITS, ITEM INCLUDES SIGN FACE, SUPPORTS, AND TWO (2) TYPE "B" FLASHERS PER THE STANDARD SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TURNING ON THE TYPE "B" FLASHERS WHEN WORKERS ARE IN THE CONSTRUCTION WORK ZONE AND TURNING THEM OFF WHEN WORKERS ARE NO LONGER IN THE CONSTRUCTION WORK ZONE.
- (8) ACCESS TO THE PROJECT WILL BE PERMITTED AT THE INTERCHANGES ONLY. THE CONTRACTOR WILL BE PERMITTED TO CROSS MEDIAN AT EXISTING CROSS-OVERS ONLY.

NIGHT WORK

- (9) LIGHTS FOR NIGHT WORK TO BE APPROVED BY THE TDOT PROJECT SUPERVISOR.
- (10) NIGHT WORK SHALL BE DONE BETWEEN THE HOURS OF 7:00 PM AND 6:00 AM. ALL WORK TO BE DONE AT NIGHT SHALL BE DURING THESE HOURS. THIS INCLUDES CONSTRUCTION, MOBILIZATION OF EQUIPMENT AND PLACEMENT AND REMOVAL OF TRAFFIC CONTROL DEVICES.
- (11) ALL CONSTRUCTION SIGNS THAT ARE TO REMAIN IN PLACE DURING CONSTRUCTION MAY BE INSTALLED DURING DAYTIME HOURS AS DIRECTED BY THE TDOT PROJECT SUPERVISOR.

END OF TRAFFIC QUEUE PROTECTION

- (12) WHEN INTERSTATE LANE CLOSURES ARE PERFORMED, THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO (2) TRUCK MOUNTED MOBILE CHANGEABLE MESSAGE SIGNS WITH TRUCK MOUNTED ATTENUATORS FOR EACH TRAVELING DIRECTION IN WHICH LANES ARE CLOSED, TO PROTECT THE END OF THE TRAFFIC QUEUE.
 - A. AT LEAST ONE UNIT SHALL BE POSITIONED ON THE SHOULDER UPSTREAM FROM THE END OF THE TRAFFIC QUEUE AT ALL TIMES, BUT NO FURTHER THAN 1/2 MILE FROM THE QUEUE.
 - B. THE CHANGEABLE MESSAGE SIGN SHALL DISPLAY TWO PHASES: "STOPPED TRAFFIC AHEAD" AND "BE PREPARED TO STOP".
 - C. IN THE EVENT THAT THE TRAFFIC QUEUE EXTENDS UPSTREAM BEYOND THE UNIT, A SECOND UNIT SHALL MOBILIZE IN ACCORDANCE WITH [A.]. THE DOWNSTREAM UNIT MAY DEPART WHEN THE SECOND UNIT HAS MOVED INTO POSITION.
 - D. TRUCK MOUNTED CHANGEABLE MESSAGE SIGNS AND ATTENUATORS SHALL BE IN ACCORDANCE WITH THE NCHRP REPORT 350, MASH TL-3, MUTCD, AND MOUNTED PER THE MANUFACTURER'S RECOMMENDATIONS. TRUCK MOUNTED CHANGEABLE MESSAGE SIGNS SHALL BE LISTED ON QPL LIST 30, SECTION B, AND TRUCK MOUNTED ATTENUATORS SHALL BE LISTED ON QPL LIST 34, SECTION D.

- E. MOBILE CHANGEABLE MESSAGE SIGN UNITS WITH MOUNTED ATTENUATOR WILL BE PAID FOR AS ITEM NO. 712-08.10, MOBILE MESSAGE SIGN UNIT W/ATTENUATOR, PER HOUR. ALL COSTS ARE TO BE INCLUDED IN THE PRICE BID.

LANE CLOSURES

- (13) THE RESTRICTION OF TRAFFIC LANE TO ONE LANE SHALL NOT EXCEED 2 MILES OR ONE NIGHT'S PAVING OPERATION.
- (14) LANE CLOSURE WITH LEFT LANE MERGE AND LANE SHIFT TRAFFIC CONTROL IS TO BE USED ON ALL LANE CLOSURES.
- (15) THE CONTRACTOR SHALL KEEP ALL TRAFFIC LANES OPEN TO TRAFFIC DURING NON-WORKING HOURS AND/OR NON-WORK DAYS.
- (16) THE CONTRACTOR MUST MAINTAIN ALL LANES OPEN TO TRAFFIC BETWEEN THE HOURS OF 6:00 AM AND 7:00 PM.
- (17) THE CONTRACTOR SHALL NOT BE ALLOWED TO INTERRUPT TRAFFIC FLOW AND SHALL MAINTAIN ALL LANES OF TRAFFIC IN EACH DIRECTION ON THE FOLLOWING DAYS:
 - A. OFFICIAL STATE HOLIDAYS.
 - B. WEEKENDS FROM FRIDAY AT 6:00 AM UNTIL SUNDAY AT 7:00 PM.
 - C. FRIDAY AT 6:00 AM UNTIL TUESDAY AT 7:00 PM, IF A STATE HOLIDAY OCCURS OR IS OBSERVED ON MONDAY.
 - D. THURSDAY AT 6:00 AM UNTIL MONDAY AT 7:00 PM, IF A STATE HOLIDAY OCCURS OR IS OBSERVED ON FRIDAY.
 - E. DURING LOCAL FESTIVALS, GAMES OR EVENTS THAT COULD BE IMPEDED BY THE PAVING OPERATIONS WHERE AND AS DIRECTED BY THE TDOT PROJECT SUPERVISOR.

PAVING

- (18) ALL SURPLUS PATCHING AND JOINT MATERIAL IS TO BE REMOVED BEFORE PLACING TACK COAT AND SURFACE. THIS WORK WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (19) DELETED.
- (20) THE INSIDE SHOULDER SHALL BE PAVED CONCURRENTLY WITH THE INSIDE TRAFFIC LANE.
- (21) ANY QUANTITY REMAINING ON ITEMS COMPLETED PRIOR TO THE PAVING OPERATION WILL NOT BE CONVERTED TO ADDITIONAL ASPHALT FOR THE ROADWAY.
- (22) ITEM NO. 303-01, CRUSHED STONE FOR SHOULDERS, IS TO BE PLACED ON EXISTING SHOULDER AS DIRECTED BY THE TDOT PROJECT SUPERVISOR. ALL COSTS OF CONSTRUCTING SHOULDERS, SHAPING OR CLIPPING OF EXISTING SHOULDERS AND DISPOSAL OF ANY DEBRIS FROM SHOULDER CLIPPING ARE TO BE INCLUDED IN THE UNIT BID PRICE FOR ITEM NO. 303-01.

COLD PLANING

- (23) TRAFFIC WILL BE ALLOWED TO TEMPORARILY DRIVE ON THE MILLED SURFACE OF THE ROADWAY UNDER THE FOLLOWING CONDITIONS ONLY:
 - A. THE MILLED SURFACE IS FINE TEXTURED. THE FINE TEXTURE SHALL BE OBTAINED BY A MILLING MACHINE UTILIZING A MILLING HEAD WITH TEETH SPACING 3/8" OR LESS OPERATING AT LESS THAN 80 FEET PER MINUTE.
 - B. THE SURFACE SHALL BE SWEEPED AND CLEANED OF ALL LOOSE MATERIALS.
 - C. THE DIFFERENCE IN ELEVATION BETWEEN THE MILLED SURFACE AND THE ADJACENT LANE SHALL NOT EXCEED 1 1/2 INCHES.
 - D. THE MILLED SURFACE SHALL BE PAVED WITHIN 72 HOURS IF THE CURRENT ADT IS \geq 70,000 OR WITHIN 96 HOURS IF THE CURRENT ADT IS $<$ 70,000..
 - E. RAIN OR INCLEMENT WEATHER IS NOT EXPECTED OR FORECASTED WITHIN 48 HOURS AFTER MILLING.
 - F. ALL APPLICABLE SIGNING IS INSTALLED IN ACCORDANCE WITH THE MUTCD SIGNING SHALL INCLUDE MOTORCYCLE WARNING SIGNS (TN-64) PLACED IN ADVANCE OF ANY MILLED AREAS.
 - G. IF MILLED SURFACE BEGINS TO DETERIORATE, PAVING TO COVER UP DETERIORATION MILLED SURFACES SHOULD OCCUR AS DIRECTED BY THE ENGINEER DURING THE NEXT WORKING DAY. IF SEVERE DISTRESS OCCURS, IMMEDIATE RESPONSE WILL BE REQUIRED.

- H. ONLY ONE LANE IN EACH DIRECTION SHALL HAVE A MILLED SURFACE AT ONE TIME.

- (24) TWO (2) WARNING SIGNS (TN-64) SIGNS SHOULD BE PLACED ON THE INTERSTATE IN ADVANCE OF THE COLD PLANED SECTIONS. A MOTORCYCLE WARNING SIGN SHOULD ALSO BE PLACED ON ENTRANCE RAMPS LOCATED WITHIN THE LIMITS OF A COLD PLANED SECTION.
- (25) DELETED.
- (26) ALL COLD PLANED MATERIAL IS TO BECOME THE PROPERTY OF THE CONTRACTOR.
- (27) DELETED.
- (28) AT THE COMPLETION OF COLD PLANING OPERATION, ANY DEPRESSIONS WILL BE CLEANED AND BROUGHT TO PROPER GRADE WITH "B-M2" MIX MATERIAL. THE COST OF THE CLEAN UP WILL BE INCLUDED IN THE UNIT PRICE FOR "B-M2" MIX MATERIAL.

PAVEMENT MARKING

- (29) PERMANENT PAVEMENT MARKING SHALL BE APPLIED USING RIBBON METHOD AS DIRECTED BY TDOT PROJECT SUPERVISOR.
- (30) THE CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT OF ALL PAVEMENT MARKING. ANY CHANGE FROM THE EXISTING PAVEMENT MARKINGS MUST BE APPROVED BY THE REGION 2 TRAFFIC MANAGER.
- (31) RAMPS SHALL BE MARKED UP TO WHERE THEY CONNECT TO THE INTERSECTING ROADWAY.
- (32) TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT AND TAPERED JOINTS SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS BEFORE DARK HOURS, SHORT UNMARKED SECTIONS SHALL NOT BE ALLOWED. THESE MARKINGS WILL BE MEASURED AND PAID FOR UNDER ITEM NO. 716-05.20, PAINTED PAVEMENT MARKING (6") LINE.

CLEANING DITCHES

- (33) DITCHES MAY NEED TO BE CLEANED OUT AS DIRECTED BY THE TDOT PROJECT SUPERVISOR. ALL COST ASSOCIATED WITH CLEANING DITCHES TO BE INCLUDED IN OTHER ITEMS.
- (34) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS BEFORE CLEANING OUT OR REMOVAL/REPLACEMENT OF DITCHES, SIDEDRAINS, AND CROSSDRAINS, TO ENSURE THAT THE DRAINAGE FEATURES/ WATER-COURSES ARE NOT STREAMS OR WETLANDS. IF THE CONTRACTOR/TDOT INSPECTOR IS UNSURE WHETHER THE DRAINAGE FEATURES ARE STREAMS OR WETLANDS, THE INSPECTOR SHALL CONTACT THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION TO OBTAIN THE APPROPRIATE PERMITS.

NPDES

- (35) DUE TO THE TYPE OF WORK, IT IS OUR UDERSTANDING THAT THE PROJECT WILL NOT DISTURB MORE THAN ONE ACRE. IF THE DISTURBED ARE IS MORE THAN ONE ACRE, PLEASE CONTACT THE TDOT ENVIRONMENTAL DIVISION, PERMITS SECTION BECAUSE A NPDES PERMIT WILL BE REQUIRED.

MISCELLANEOUS

- (36) TIME ON THE PROJECT WILL START THE DAY THAT CONSTRUCTION SIGNS ARE PUT UP OR IN ACCORDANCE WITH SP108B IF A MAXIMUM AMOUNT OF CALENDAR DAYS IS SPECIFIED.
- (37) CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO ENSURE THAT NO DEBRIS IS DROPPED INTO THE STREAM. THIS SHALL BE ACCOMPLISHED BY THE USE OF BASKETS, NETTING, WORK PLATFORM OR OTHER SIMILARLY EFFECTIVE MEANS. ANY DEBRIS WHICH IS ALLOWED TO DROP ON THE BANKS BELOW THE BRIDGE SHALL NOT BE ALLOWED TO ENTER THE STREAM AND SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. COST OF REMOVING AND DISPOSING OF DEBRIS SHALL BE INCLUDED IN ITEMS BID ON.

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SPECIAL NOTES

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST	2016	NH-I-40-6(161)	6
		18100-8147-44	
		18100-4147-04	

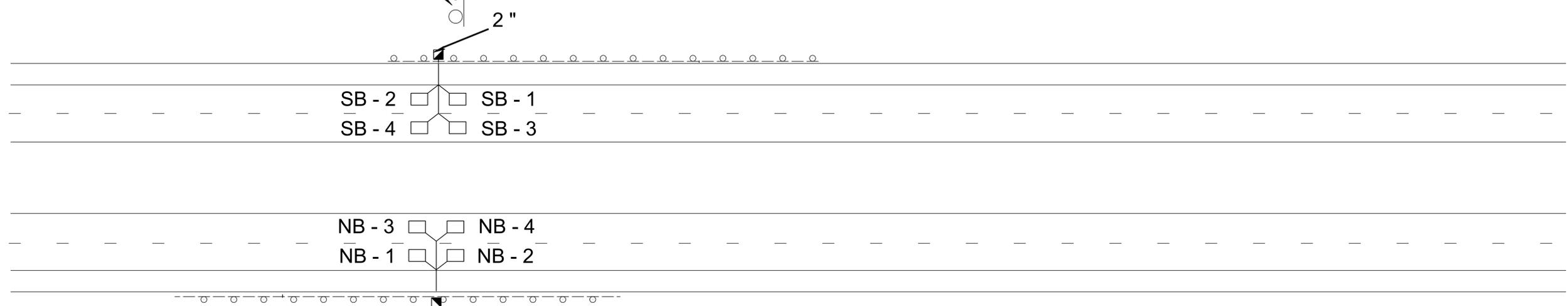
REVISED 8-17-15: ADDED SHEET

NOTE: NOTIFICATION OF COMPLETION AND THE X/Y COORDINATES OF ALL PULL BOXES IS REQUIRED SEE SPECIAL TRAFFIC COUNTER SPECIFICATIONS



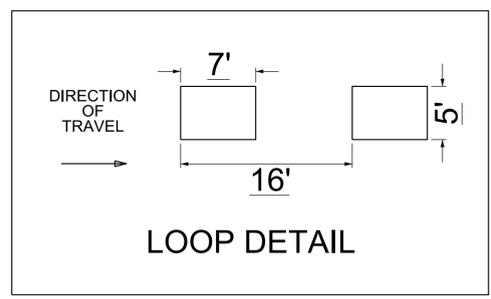
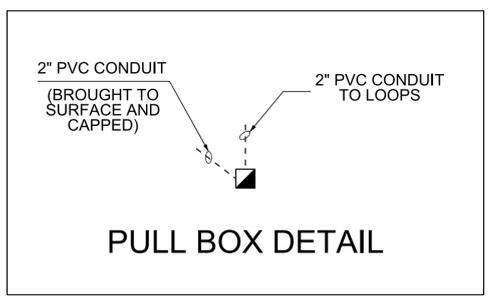
CUMBERLAND MTN
STATE PARK

WESTBOUND



I-40 CUMBERLAND COUNTY
Cycle Count Station # 58
EASTBOUND 13.97
WESTBOUND 13.98

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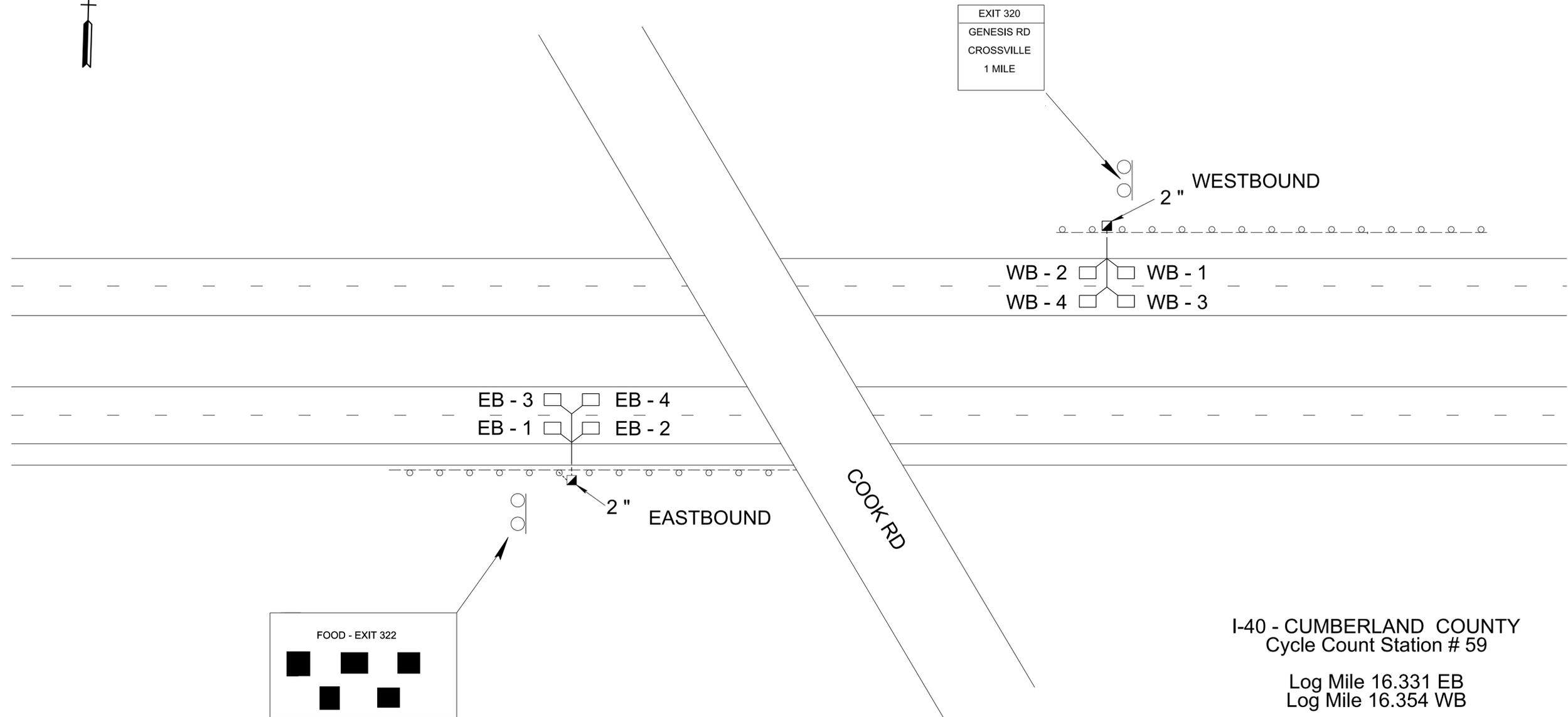
TRAFFIC
DETECTION
LOOPS DETAIL

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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST	2016	NH-I-40-6(161)	7
		18100-8147-44	
		18100-4147-04	

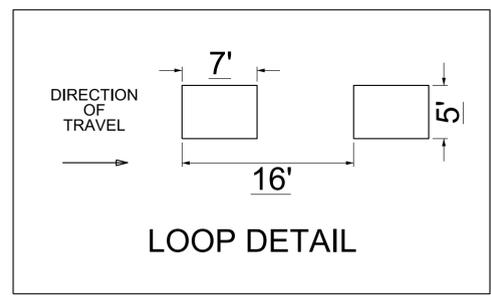
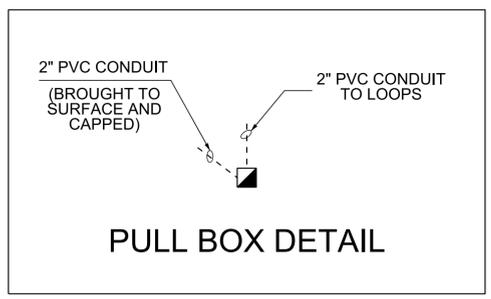
REVISED 8-17-15: ADDED SHEET

NOTE: NOTIFICATION OF COMPLETION AND THE X/Y COORDINATES OF ALL PULL BOXES IS REQUIRED SEE SPECIAL TRAFFIC COUNTER SPECIFICATIONS



I-40 - CUMBERLAND COUNTY
 Cycle Count Station # 59
 Log Mile 16.331 EB
 Log Mile 16.354 WB

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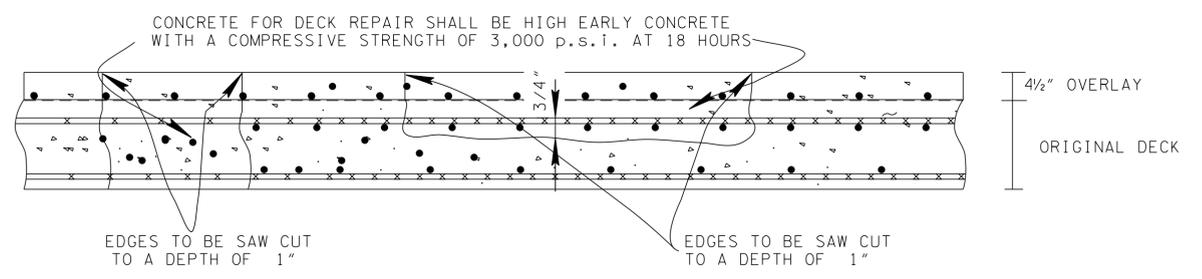
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TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B1
		NH-I-40(161)	
BRIDGE REPAIR		18100-4147-04	

TABULATION OF BRIDGE RELATED WORK AND ESTIMATED QUANTITIES

LOCATION OF BRIDGE AND BRIDGE NUMBER	REFERENCE DRAWINGS TO BE PRINTED WITH CONTRACT DRAWINGS	TYPES OF WORK	604-10.56 CONCRETE OVERLAYED BRIDGE DECK REPAIR (PARTIAL DEPTH) SY	604-10.34 CONCRETE OVERLAYED BRIDGE DECK REPAIR (FULL DEPTH) SY	604-10.05 CONCRETE REPAIR (BRIDGERAIL) S.F.	604-10.44 EXISTING EXPANSION JOINT REPAIR LF	617-04.01 TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE) SY	604-04.02 APPLIED TEXTURE FINISH (EXISTING STRUCTURES) SY	604-10.53 CONCRETE REPAIR (PARTIAL DEPTH OF APPROACH PAVEMENT) SY	604-10.62 EPOXY INJECTION REPAIR (BRIDGERAIL) LF	604-10.58 EPOXY INJECTION (INJECTION) GAL.
18-140-13.54 EBL/ OBED RIVER 18100400021		BRIDGE DECK REPAIR TYPE 1 THIN EPOXY OVERLAY EXPANSION JOINT REPAIR CONCRETE REPAIR (PARTIAL DEPTH APP. PVT.) APPLIED TEXTURE FINISH CONCRETE REPAIR AND EPOXY INJECTION (BRIDGE RAIL)	25	120	70	103	1890	653	0	300	6
18-140-13.54 WBL/ OBED RIVER 18100400022		BRIDGE DECK REPAIR TYPE 1 THIN EPOXY OVERLAY EXPANSION JOINT REPAIR CONCRETE REPAIR (PARTIAL DEPTH APP. PVT.) APPLIED TEXTURE FINISH CONCRETE REPAIR AND EPOXY INJECTION (BRIDGE RAIL)	25	5	50	87	1562	653	5	100	2
TOTAL			50	125	120	190	3452	1306	5	400	8



SKETCH SHOWING DECK REPAIR

NOTE: PARTIAL DEPTH DECK REPAIR ONLY
REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF 3/4" BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL IN THE ORIGINAL DECK.

NOTE: PARTIAL AND FULL DEPTH DECK REPAIRS
ALL REINFORCING STEEL IN THE AREAS OF THE DECK REPAIRS SHALL BE COMPLETELY CLEANED. CLEANING SHALL BE DONE PRIOR TO PLACING NEW CONCRETE. 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 SCHEDULE WITH THE BRIDGE REPAIR OFFICE AT LEAST (3) DAYS IN ADVANCE.

THE COST OF CONCRETE, CONCRETE REMOVAL, LABOR, CLEANING REBARS AND ANY MISCELLANEOUS MATERIAL REQUIRED SHALL BE PAID FOR UNDER ITEM NO. 604-10.56 CONCRETE OVERLAYED BRIDGE DECK REPAIR (PARTIAL DEPTH), S.Y. AND ITEM NO. 604-10.34 CONCRETE OVERLAYED BRIDGE DECK REPAIR (FULL DEPTH) S.Y.

NOTE: ITEM NO. 604-10.56, CONCRETE OVERLAYED BRIDGE DECK REPAIR (PARTIAL DEPTH) AND ITEM NO. 604-10.34, CONCRETE OVERLAYED BRIDGE DECK REPAIR (FULL DEPTH) SHALL BE BID THIS MAY BE INCREASED, DECREASED OR ELIMINATED BY THE ENGINEER.

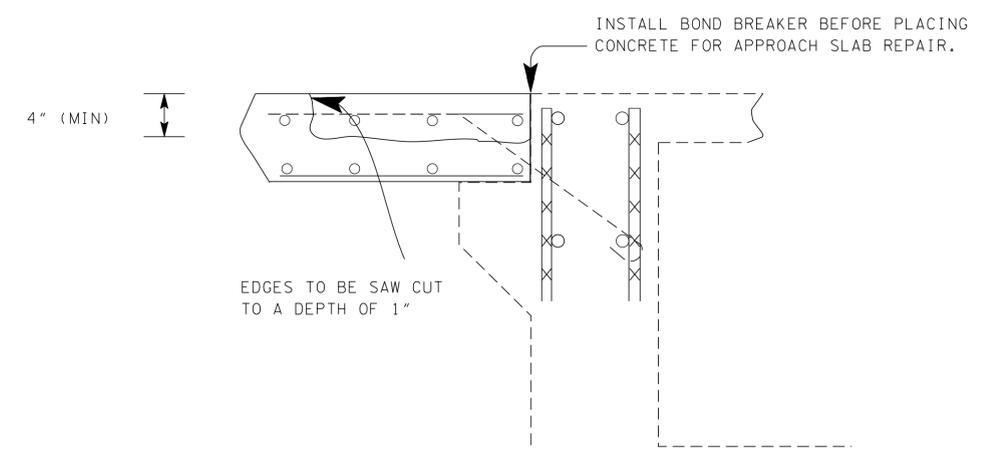
NOTE: CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO INSURE THAT NO DEBRIS OR CONSTRUCTION MATERIAL IS DROPPED INTO THE STREAM BELOW. THIS SHALL BE ACCOMPLISHED BY THE USE OF BASKETS, NETTING, WRAPPING, WORK PLATFORM, OR OTHER SIMILARLY EFFECTIVE MEANS. NO WORK OR EQUIPMENT IS ALLOWED IN THE WATER OR STREAM CHANNEL.

BRIDGE DECK REPAIR MATERIAL

IF OVERNIGHT LANE CLOSURES ARE PROVIDED FOR THIS PROJECT AND THE LANE CLOSURES ARE SUCH THAT TRAFFIC WILL BE KEPT OFF THE BRIDGE DECK WHERE DECK REPAIRS WILL BE MADE. THEN HIGH EARLY STRENGTH CONCRETE SHALL BE USED WITH A COMPRESSIVE STRENGTH OF 3,000 p.s.i. AT 18 HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT PROPOSED CONCRETE MIX WILL OBTAIN REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIAL AND TEST DIVISION OF TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. TRAFFIC SHALL NOT BE ALLOWED ON REPAIRED AREAS UNTIL THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF 18 HOURS

POWER DRIVEN HAND TOOLS:

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 lb. CLASS SHALL NOT BE USED. ALSO TRAFFIC CONTROL SHALL BE SET UP DURING PARTIAL DEPTH REPAIRS OVER TRAFFIC. (2) FULL DEPTH REPAIRS; PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 90 lb. CLASS SHALL NOT BE USED. ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 60 lb. PNEUMATIC HAMMERS. (3) CHIPPING HAMMERS OF THE 15 lb. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL.



CONCRETE APPROACH PAVEMENT REPAIR DETAILS.

NOTE: REMOVE CONCRETE TO A DEPTH OF 3/4" MINIMUM BELOW EXISTING REINFORCING STEEL OR TO SOUND CONCRETE. CONCRETE REMOVAL SHOULD BE TO A MINIMUM DEPTH OF 4". DEPTH FOR CONCRETE REMOVAL SHOULD NOT BE MORE THAN 6".

NOTE: CONCRETE FOR APPROACH SLAB REPAIR SHALL BE HIGH EARLY CONCRETE WITH A COMPRESSIVE STRENGTH OF 3,000 p.s.i. AT 18 HOURS.

NOTE: COST OF SAW CUTTING, CONCRETE REMOVAL, COMPLETELY CLEANING EXPOSED REINFORCING STEEL, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN SHALL BE INCLUDED IN ITEM NO. 604-10.53 CONCRETE REPAIR S.Y.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE
TABULATION
AND ESTIMATED
QUANTITIES

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THIN EPOXY OVERLAY NOTES

PIN # 102761.01

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B2
		NH-I-40-6(161)	
BRIDGE REPAIR		18100-4147-04	

TYPE 1 THIN EPOXY OVERLAY SYSTEM - USE DECK PRETREATMENT/PRIMER PER MANUFACTURER'S RECOMMENDATION, AND 2 LIFTS OF AN EPOXY-URETHANE COPOLYMER AND AGGREGATE. TYPE 1 OVERLAY SHALL BE APPLIED MECHANICALLY USING METERED EQUIPMENT; HAND MIXING OF MATERIAL IS NOT PERMITTED.

THIN OVERLAY SYSTEM SHALL BE FROM THE QUALIFIED PRODUCTS LIST 23, SECTION D2. MINIMUM OVERLAY THICKNESS SHALL BE 3/8 INCH.

APPLICATION EQUIPMENT SHOULD :

- A) BE CAPABLE OF METERING, MIXING AND DISTRIBUTING THE POLYMER AND PRETREATMENT TO MANUFACTURER'S RECOMMENDATION.
- B) USE AN APPLICATION MACHINE THAT FEATURES POSITIVE DISPLACEMENT VOLUMETRIC METERING PUMPS CONTROLLED BY A HYDRAULIC POWER UNIT.
- C) STORE COMPONENTS IN TEMPERATURE CONTROLLED RESERVOIRS CAPABLE OF MAINTAINING 100 DEGREES FAHRENHEIT (PLUS OR MINUS 10 DEGREES) TO INSURE OPTIMAL MIXING.
- D) CHECK MIXING RATIO AT THE PUMP OUTLETS AS WELL AS CYCLE COUNTING CAPABILITIES TO MONITOR OUTPUT ON STANDARD FEATURES.
- E) USE MOTIONLESS IN-LINE MIXING SO AS TO NOT OVERLY SHEAR THE MATERIAL TO ENTRAP AIR IN THE MIX.
- F) MAXIMIZE MATERIAL WORKING TIME BY MIXING IT IMMEDIATELY BEFORE DISPENSING.

AGGREGATE SHALL BE ANGULAR, HAVING LESS THAN 0.2% MOISTURE AND FREE OF DIRT, CLAY, ASPHALT AND OTHER FOREIGN OR ORGANIC MATERIALS. AGGREGATE FOR ALL LAYERS SHALL BE BAUXITE OR FLINT ROCK PRODUCTS FLINT AND MEETS THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
NO. 6	95-100
NO. 10	10-35
NO. 20	0-3

FULL AND PARTIAL DEPTH DECK REPAIR SHALL CURE A MINIMUM OF 28 DAYS BEFORE THE OVERLAY IS PLACED. TRAFFIC SHALL BE ALLOWED TO USE THE BRIDGE DURING THE CURING PERIOD OF THE PATCHES BUT NOT AFTER SHOTBLASTING. MAGNESIUM PHOSPHATE BASED MATERIALS WILL NOT BE ALLOWED.

THE CONCRETE DECK SURFACE SHALL BE CLEANED BY SHOTBLASTING TO REMOVE ANY OIL, DIRT, RUBBER, TRAFFIC STRIPING, OR ANY OTHER POTENTIAL DETRIMENTAL MATERIAL SUCH AS CURING COMPOUND AND LAITANCES, WHICH THE MANUFACTURER AND ENGINEER'S OPINION WOULD PREVENT PROPER BONDING AND CURING OF THE MATERIAL. IN AREAS WHERE SHOTBLASTING EQUIPMENT CAN NOT REACH (I.E., ALONG CURBS AND BRIDGE RAILS) SANDBLASTING IS PERMITTED TO AN EXTENT TO THE ENGINEER'S AND MANUFACTURER'S APPROVAL. IMMEDIATELY BEFORE APPLICATION, ALL PREPARED SURFACES SHALL BE CLEANED WITH COMPRESSED AIR OR VACUUMED TO REMOVE DUST AND DEBRIS.

ALL SURFACES THAT ARE TREATED SHALL BE DRY AT THE TIME OF APPLICATION. THE OVERLAY SHALL NOT BE APPLIED WHEN IT HAS RAINED 24 HOURS PRIOR TO, OR RAIN IS FORECAST WITHIN 8 HOURS AFTER, APPLICATION. THE MOISTURE CONTENT IN THE DECK SUBSTRATE SHALL BE TESTED. MOISTURE IS NOT TO EXCEED 4.5 PERCENT WHEN MEASURED BY ELECTRONIC METER. IF THE TEST SHOWS EXCESS MOISTURE, THE DECK SHALL CONTINUE TO DRY BEFORE APPLICATION PROCEEDS.

BLUSHING (A WAXY SURFACE COATING ON THE EPOXY) IS CAUSED BY THE REACTION OF MOISTURE WITH THE HARDENING AGENT. BLUSHING CREATES A SURFACE THAT MAKES FUTURE LAYERS DIFFICULT TO ADHERE. LIFTS THAT SHOW SIGNS OF BLUSHING SHALL BE REMOVED AND REPLACED PRIOR TO APPLICATION OF THE NEXT. THE COST TO REMOVE AND REPLACE THESE AREAS SHALL BE AT THE CONTRACTOR'S EXPENSE.

TRAFFIC, OTHER THAN APPLICATION EQUIPMENT, SHALL NOT BE ALLOWED ON ANY PORTION OF THE DECK THAT HAS BEEN SHOTBLASTED OR WHERE PART OF THE APPLICATION HAS BEEN PLACED.

SEE MANUFACTURER'S RECOMMENDATIONS FOR REQUIRED AMBIENT AND SURFACE TEMPERATURES AND HUMIDITY LIMITS FOR APPLICATION.

THE MANUFACTURER SHALL HAVE A REPRESENTATIVE ON THE JOB SITE AT ALL TIMES DURING APPLICATION AND CURE TIME. THE REPRESENTATIVE, ALONG WITH CONSULTATION WITH ENGINEER, MAY SUSPEND ANY ITEM OF WORK THAT IS SUSPECT AND DOES NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS. WORK SHALL NOT RESUME UNTIL THE ENGINEER AND REPRESENTATIVE ARE SATISFIED THAT APPROPRIATE REMEDIAL ACTION HAS BEEN TAKEN BY THE CONTRACTOR.

ALL COSTS FOR AGGREGATE, EPOXY FOR MINIMUM OF TWO LIFTS, SURFACE PREPARATION, LABOR AND ANY OTHER MISCELLANEOUS MATERIALS REQUIRED TO PLACE THIN OVERLAY SHALL BE INCLUDED IN ITEM NO. 617-04.01, TYPE 1 THIN EPOXY OVERLAY (EPOXY URETHANE), SY, AS CALLED FOR ON THE QUANTITY SHEET.

THICKNESS VERIFICATION; THE PROJECT ENGINEER SHALL BE NOTIFIED OF THE NUMBER OF GALLONS USED ON THE PROJECT WITH NOTARIZED QUANTITY STATEMENTS FROM THE CONTRACTOR AND THE MANUFACTURER. THE CONTRACTOR SHALL VERIFY TO TDOT THAT THE OVERLAY IS AN AVERAGE OF AT LEAST 3/8 INCH THICK AT THREE RANDOM LOCATIONS AGREED UPON BY THE PROJECT ENGINEER AND THE MATERIAL MANUFACTURER REPRESENTATIVE. IF 3/8 INCH AVERAGE IS NOT ACHIEVED, A RETEST SHALL BE PERFORMED IN ADJOINING AREAS. THIN AREAS SHALL BE RE-COATED AS DESCRIBED ABOVE BY THE CONTRACTOR AND RE-VERIFIED AT NO ADDITIONAL COST TO TDOT. THIS VERIFICATION MAY CONSIST OF CORES, HOLES, ETC., BUT IN ALL CASES, ANY DESTRUCTIVELY TESTED AREAS SHALL BE REPAIRED BY THE CONTRACTOR BEFORE FINAL ACCEPTANCE BY THE PROJECT ENGINEER.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

THIN EPOXY
OVERLAY
NOTES

SPECIAL NOTES FOR EPOXY INJECTION

PIN # 102761.01

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B3
		NH-I-40-6(161)	
BRIDGE REPAIR		18100-4147-04	

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

CORE SAMPLES SHALL BE TAKEN AS VERIFICATION OF THE QUALITY OF WORK.THE CONTRACTOR SHALL TAKE ONE (1) ONE (1) INCH DIAMETER (FULL DEPTH OF CONCRETE AT LOCATION CORED) CORE SAMPLE STARTING WITH THE FIRST REPAIR LOCATION THEN EVERY THIRD 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 TOBE CORED. IF ANY CORES SHOW UNACCEPTABLE RESULTS, ALL WORK SHALL BE STOPPED UNTIL THE CONTRACTOR SUBMITS A PROPOSAL FOR CORRECTING UNACCEPTABLE WORK.

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

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

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

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

PAYMENT FOR EPOXY INJECTION CRACK REPAIR SHALL BE MADE UNDER ITEM NUMBERS 604-10.62, EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE), L.F. AND 604-10.58, EPOXY INJECTION (INJECTION), GAL.

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

PRICE BID 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.

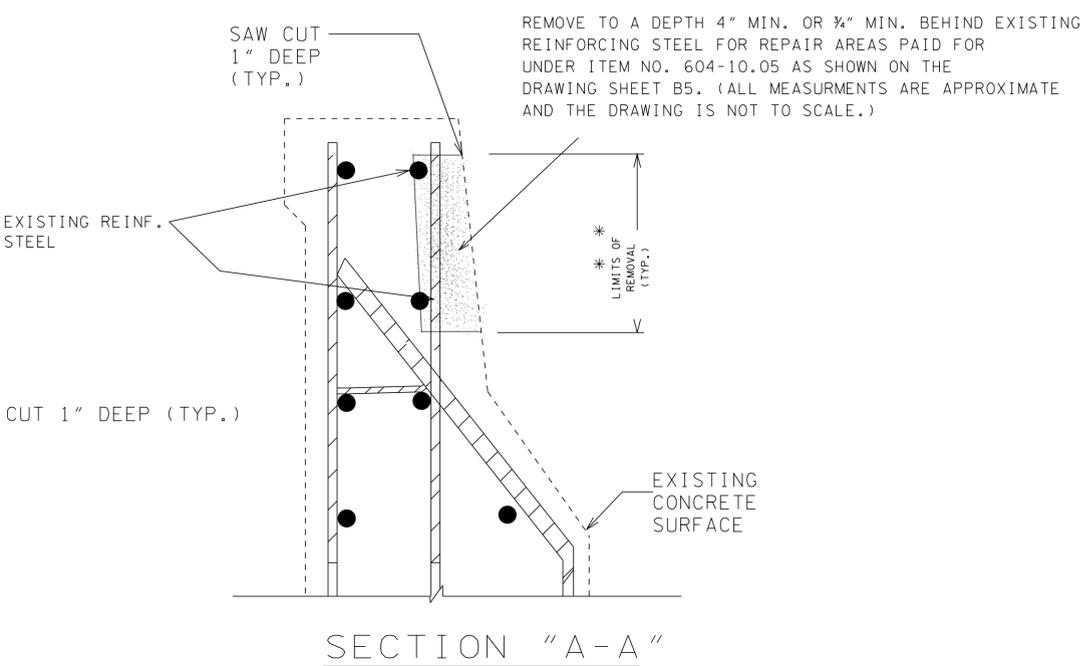
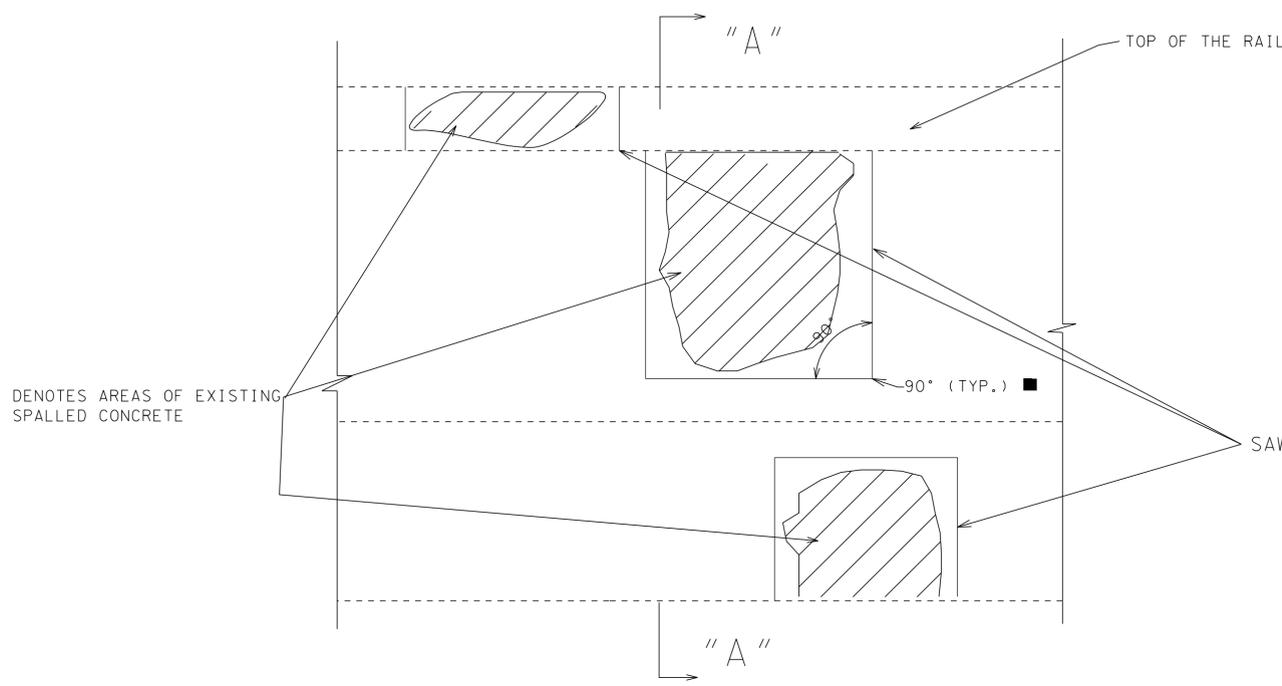
ALL WORK INCLUDING SAMPLING AND TESTING SHALL BE IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE OR CONTRACT INSPECTORS. ANY WORK DONE WITHOUT INSPECTORS PRESENT SHALL NOT BE PAID FOR. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH WEEKLY SCHEDULES OF WORK TO BE PERFORMED. SCHEDULES SHALL BE SUBMITTED 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.



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**SPECIAL NOTES
FOR
EPOXY INJECTION**

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B4
BRIDGE REPAIR		NH-1-40-6(161)	
		18100-4147-04	



TYPICAL BRIDGERAIL ELEVATION

SECTION "A-A"

DENOTES: AREA CONCRETE REPAIR
SEE PROBABLE LOCATIONS ON THE DRAWINGS SHEET B5.

DETAIL SHOWING AREAS OF CONCRETE REPAIRS TO EXISTING BRIDGERAIL

PATCHING MATERIAL

PATCHING MATERIAL: WHERE INDICATED PATCHING MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL. SEE T.D.O.T. QUALIFIED PRODUCTS LIST 13. SUBLIST F. FOR ACCEPTABLE PATCHING MATERIALS.

NOTE: ITEM NO. 604-10.05 INCLUDES ALL LABOR AND POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL TO REPAIR CONCRETE SPALLS ON PARAPET

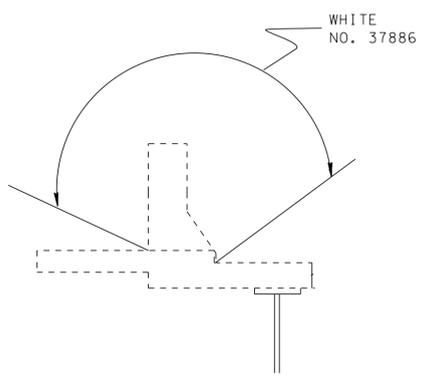
- * * DENOTES : LIMITS AND LOCATION OF REPAIRS TO BE DESIGNATED BY THE ENGINEER
- DENOTES: SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS.

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

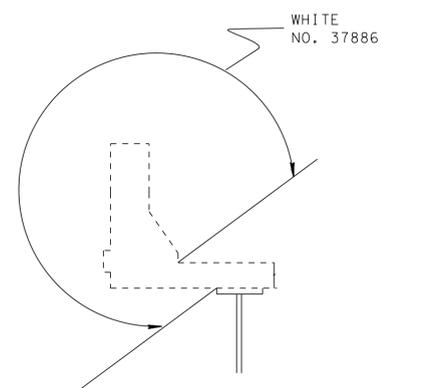
NOTE: THE COST OF SAW CUTTING, REMOVING SPALLED CONCRETE, CLEANING, PATCHING MATERIAL, LABOR AND ANY MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN TO BE INCLUDED IN ITEM NO.604-10.05, CONCRETE REPAIRS, S.F.

NOTE: THE ENGINEER SHALL DESIGNATE ALL SPALLED CONCRETE REPAIR AREAS IN THE FIELD, QUANTITIES GIVEN ARE APPROXIMATE. ITEM NO. 604-10.05 SHALL BE BID THAT THEY MAY BE INCREASED, OR ELIMINATED BY THE ENGINEER.

NOTE: POWER HAND DRIVEN TOOLS USED FOR REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:
1. PNEUMATIC HAMMERS HEAVIER THAN THE 35 LB. CLASS SHALL NOT BE USED.
2. CHIPPING HAMMERS OF 15 LB. CLASS SHALL BE USED TO REMOVE CONCRETE FROM BEHIND REINFORCING STEEL.



TEXTURE COAT DETAILS
(INSIDE BRIDGERAIL OF EACH BRIDGE)



TEXTURE COAT DETAILS
(OUTSIDE BRIDGERAIL OF EACH BRIDGE)

NOTE: THE EXISTING SURFACES THAT ARE TO RECEIVE A TEXTURE FINISH SHALL BE FREE OF ALL EFFLORESCENCE FLAKING, COATING, RUST, DIRT, OIL, MOLD AND OTHER FOREIGN SUBSTANCES. COST TO BE INCLUDED IN ITEM NO. 604-04.02.

NOTE: COST OF TEXTURE COATING SHALL BE INCLUDED IN ITEM NO. 604-04.02 AND INCLUDES EXISTING PARAPET AS SHOWN ABOVE AND ENDPST.

NOTE: 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.

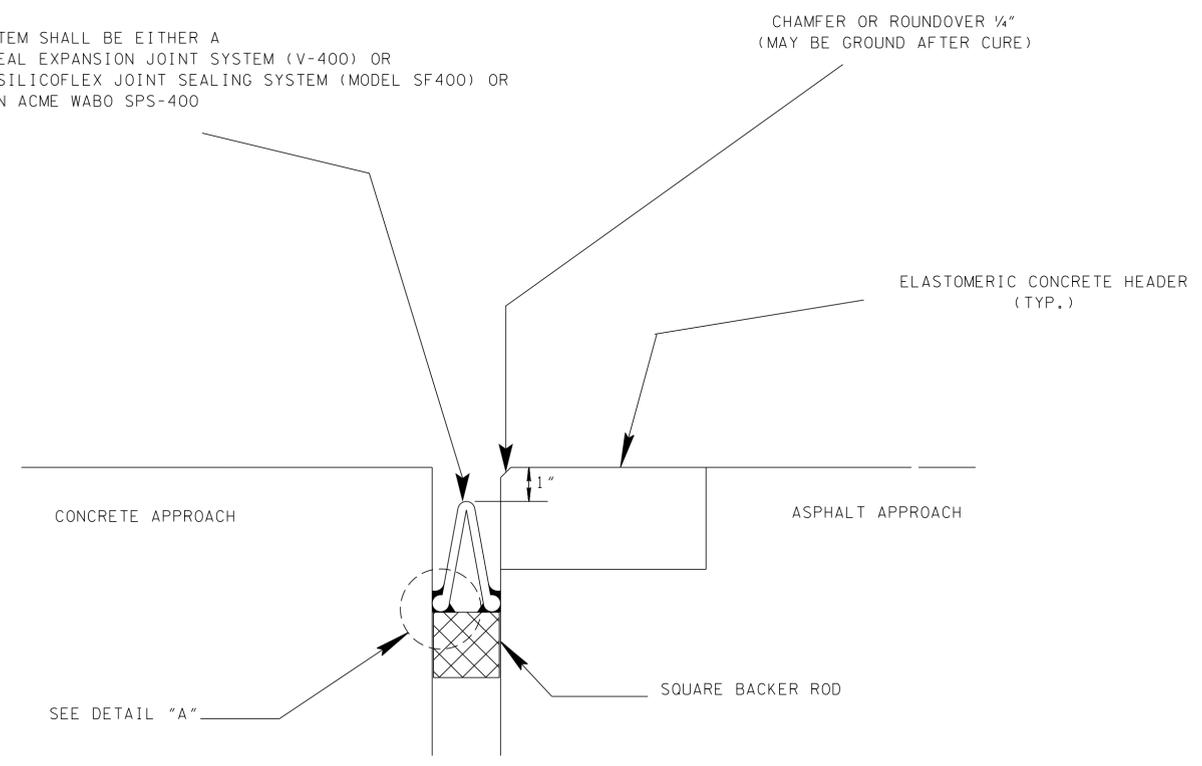


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR & TEXTURE COAT DETAIL

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B5
		NH-I-40-6(161)	
BRIDGE REPAIR		18100-4147-04	

JOINT SEAL SYSTEM SHALL BE EITHER A
 D.S. BROWN V-SEAL EXPANSION JOINT SYSTEM (V-400) OR
 A R.J. WATSON SILICOFLEX JOINT SEALING SYSTEM (MODEL SF400) OR
 A WATSON BOWMAN ACME WABO SPS-400

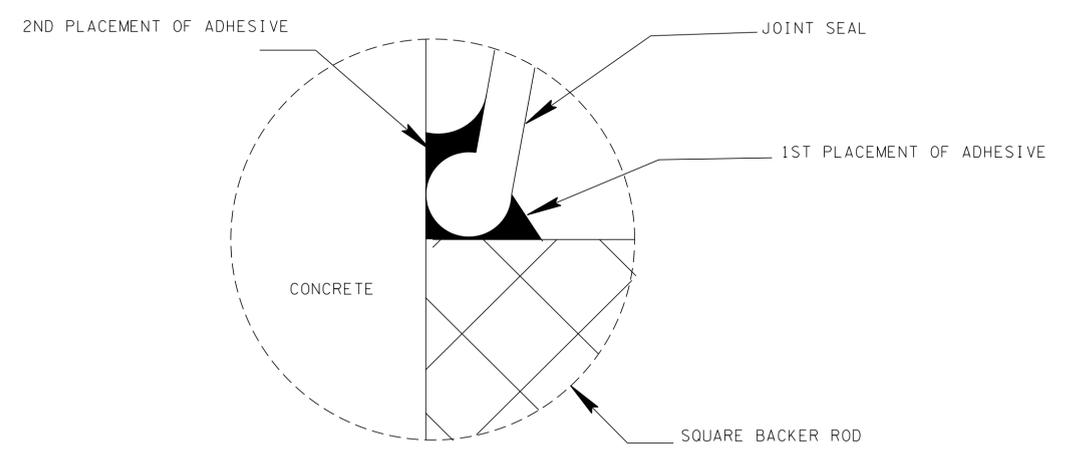


JOINT SEAL DETAIL

THIS INCLUDES THE REMOVAL OF THE EXISTING EXPANSION JOINT SYSTEM AND THE INSTALLATION OF THE NEW EXPANSION JOINT SYSTEM. THE NEW SYSTEM CONSISTS OF TWO ELASTOMERIC CONCRETE HEADERS, BACKER ROD, AND JOINT SEAL. DETAILED MANUFACTURER'S SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION OF THE JOINT. THE MANUFACTURER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORKMANSHIP AND PERFORMANCE OF THE INSTALLED JOINT

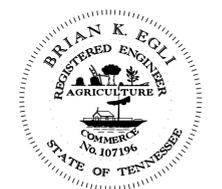
AFTER PAVING AND SEALING OVER THE EXISTING EXPANSION JOINT, THE ASPHALT SHALL BE CUT OUT AS SHOWN IN THE NEW EXPANSION JOINT DETAIL. FOLLOWING THE REMOVAL OF THE ASPHALT AND EXISTING JOINT MATERIAL, ALL AREAS SHALL BE THOROUGHLY CLEANED OF FOREIGN MATERIAL FOR THE FULL DEPTH OF THE EXISTING JOINT OPENING. ABRASIVE BLAST CLEANING MUST BE PERFORMED ON ALL SURFACES RECEIVING ANY NEW MATERIAL FOR THE NEW EXPANSION JOINT SYSTEM.

THE COST FOR REMOVING THE OLD JOINT SYSTEM AND INSTALLING THE NEW JOINT SEAL SYSTEM, LABOR, AND ANY MISCELLANEOUS MATERIALS NECESSARY TO INSTALL THE NEW EXPANSION JOINT TO BE INCLUDED UNDER ITEM NO. 604-10.44 EXPANSION JOINT REPAIRS, L.F.



DETAIL A

JOINT SEAL ADHESIVE TO BE RUN ALONG THE CORNER CREATED BY THE BACKER ROD AND THE VERTICAL FACE PRIOR TO PLACEMENT OF JOINT SEAL AND SECOND APPLICATION OF ADHESIVE.



STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

EXPANSION
 JOINT AT ENDS
 OF APPROACH
 PAVEMENT
 DETAILS

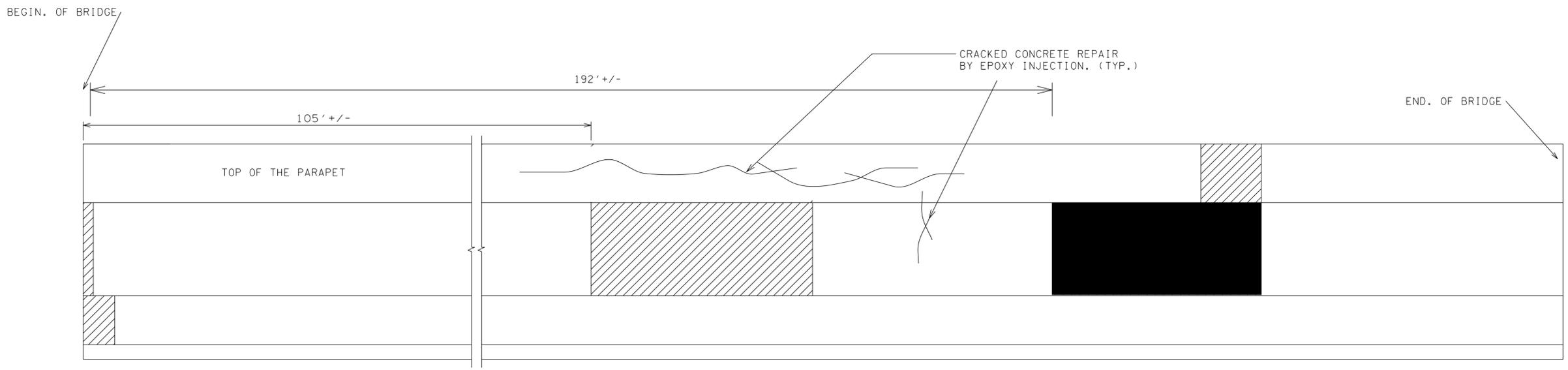
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TENNESSEE D.O.T.
DESIGN DIVISION
FILE NO.

PIN # 102761.01

TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B6
		NH-1-40-6(161)	
BRIDGE REPAIR		18100-4147-04	

■ DENOTES: APPROXIMATE AREA CONCRETE REPAIR
SEE DETAIL SHEET B4 (TYP.)



RIGHT PARAPET
BRIDGE NO. 18-I40-13.54 EBL

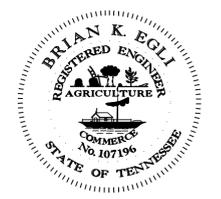
■ DENOTES: APPROXIMATE AREA CONCRETE REPAIR
SEE DETAIL SHEET B4 (TYP.)



LEFT PARAPET
BRIDGE NO. 18-I40-13.54 EBL

■ DENOTES: APPROXIMATE AREA CONCRETE REPAIR
SEE DETAIL SHEET B4 (TYP.)

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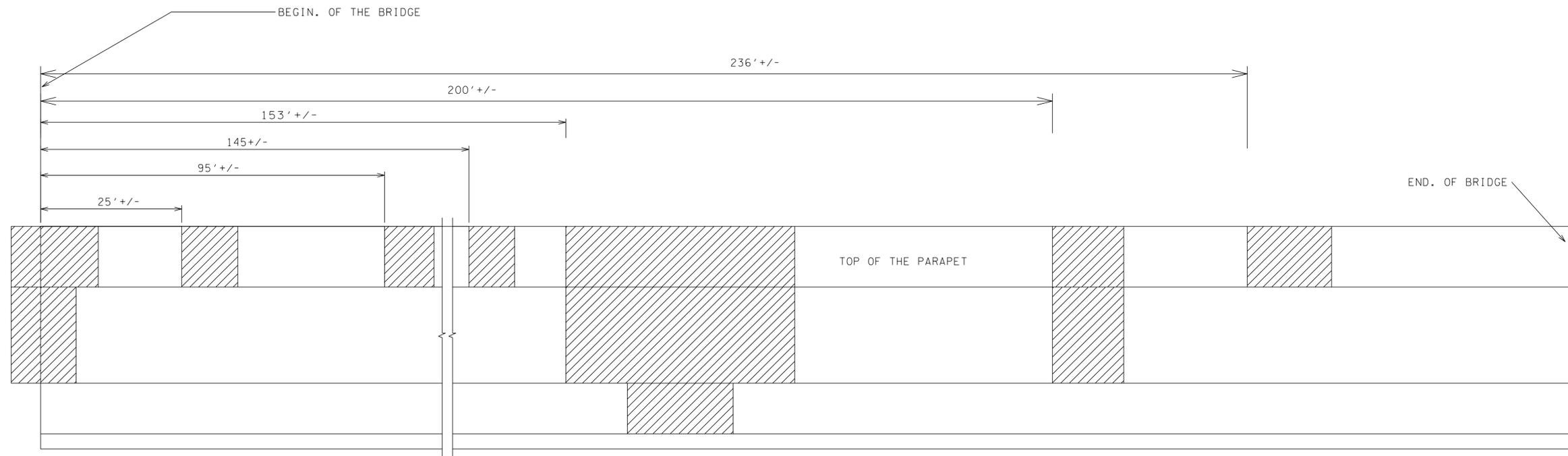


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**APPROXIMATE
CONCRETE REPAIR
LOCATION**

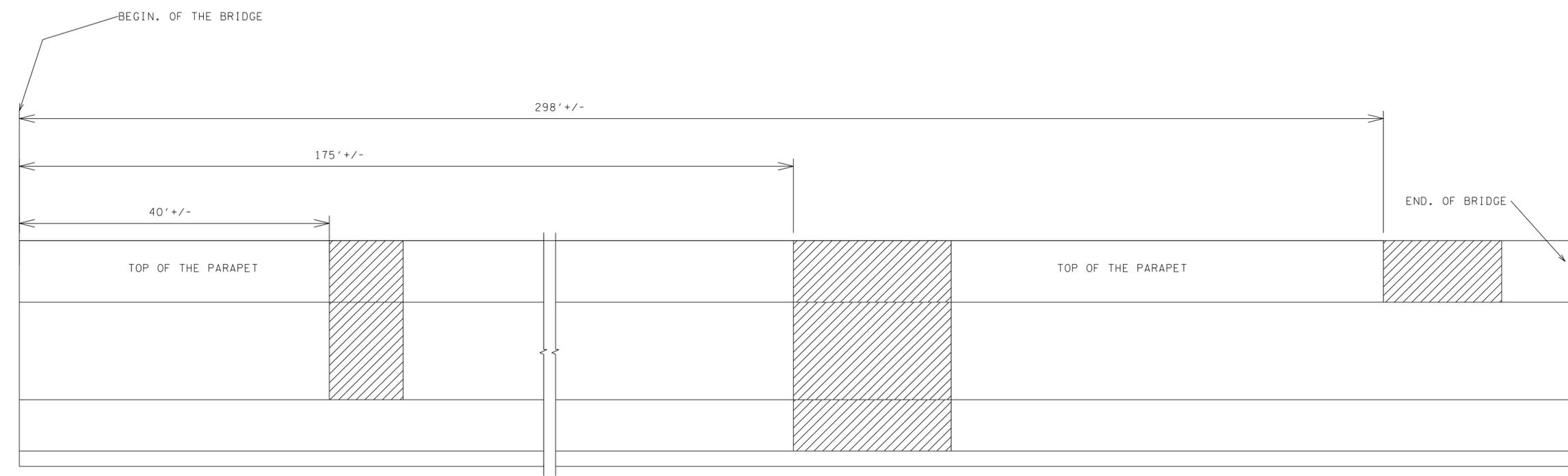
TYPE	YEAR	PROJECT NO.	SHEET NO.
RESURF		18100-8147-44	B7
		NH-1-40-6(161)	
BRIDGE REPAIR		18100-4147-04	

7/7/2015 7:48:54 AM P:\STRUCTURE\Bridgerepair\StilesH\Tabulated Sheets\Reg. 2\INTERSTATE 66 Oct. 2015 Letting\Cumberland Co\18-I40-13 60 to 17 95 Includes Bridges over Obed River (4 5 EPOXY OVERLAY) - Revised.dgn



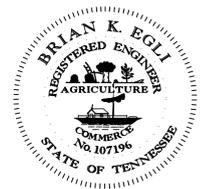
RIGHT PARAPET
BRIDGE NO. 18-I40-13.54 WBL

DENOTES: APPROXIMATE AREA CONCRETE REPAIR
SEE DETAIL SHEET B4 (TYP.)



LEFT PARAPET
BRIDGE NO. 18-I40-13.54 WBL

DENOTES: APPROXIMATE AREA CONCRETE REPAIR
SEE DETAIL SHEET B4 (TYP.)



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

**APPROXIMATE
CONCRETE REPAIR
LOCATION**