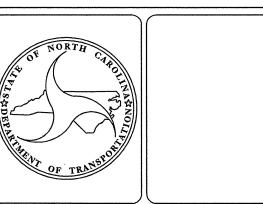
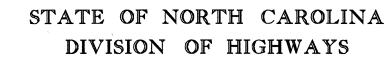
# 4700S Ŕ **PROJEC** TIP

# 00007 NO:

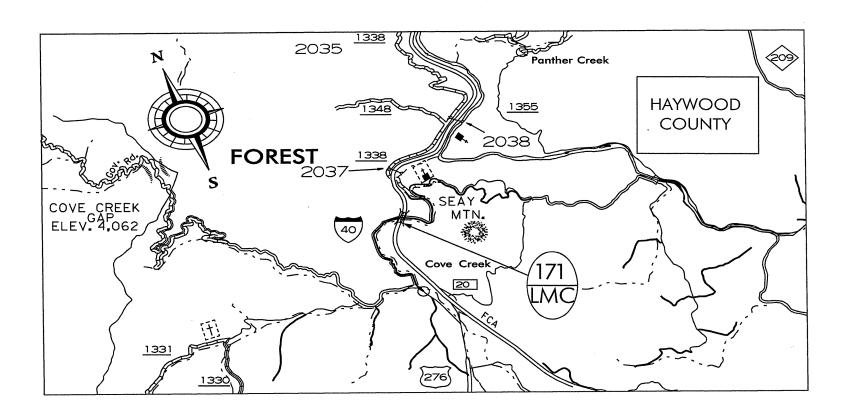




### HAYWOOD COUNTY

LOCATION: I-40, OVER SR 1338 AT JONATHAN CREEK TYPE OF WORK: BRIDGE DECK PRESERVATION - LATEX MODIFIED CONCRETE OVERLAY.

STATE	STATE	PROJECT	REFERENCE	NO	MO.	PHEETS
N.C.	P	3-470	)0S		1	
STATE PRO	NECT NO.	F.A.	PROJ. NO.		DESCRIPT	NOF
36727.	1.1	BRNH	S-000S(504)		PE	
36727.3.18		BRNH	S-000S(370)		CONS	ΓR
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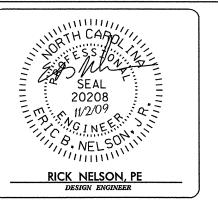


LATEX MODIFIED CONCRETE OVERLAY.

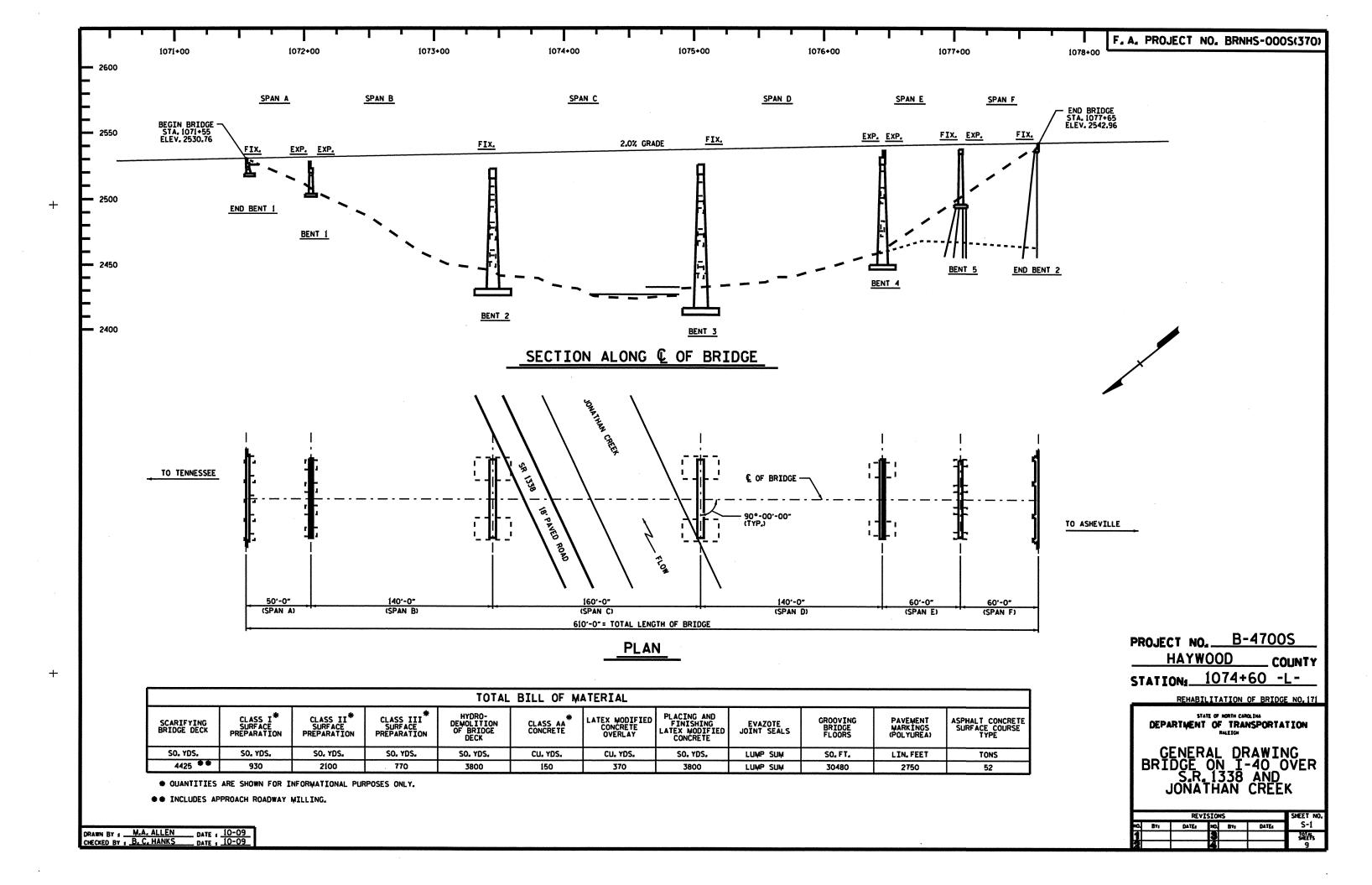
KEY:

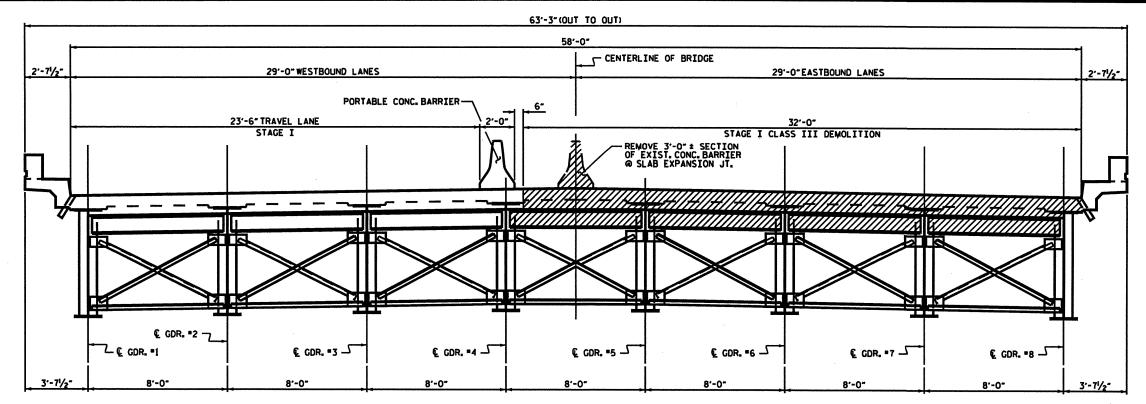
Prepared in the Office of: BRIDGE MANAGEMENT UNIT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 2006 STANDARD SPECIFICATIONS LETTING DATE: **NOVEMBER 30, 2009** DAN HOLDERMAN, PE STATE BRIDGE MANAGEMENT ENGINEER

> MIKE SUMMERS BRIDGE MANAGEMENT PROJECT MANAGER



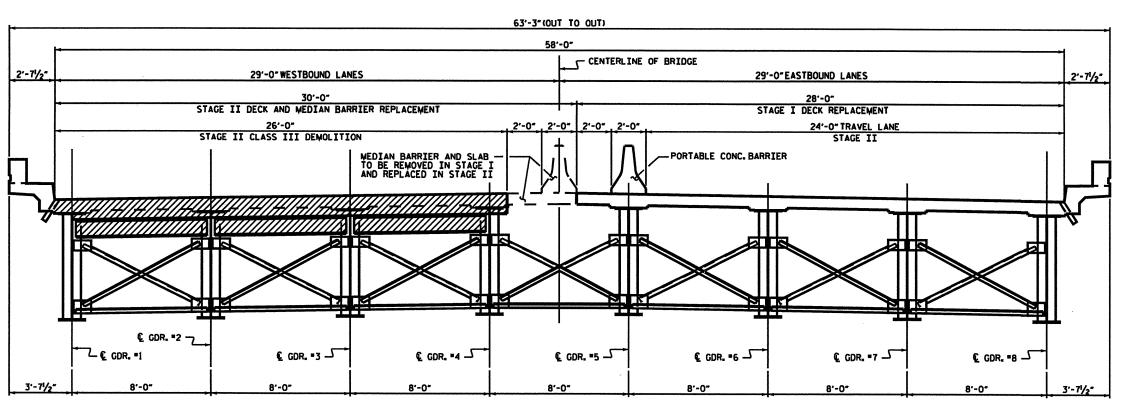
CONTRACT





#### DIAPHRAGMS AT SLAB EXPANSION JOINTS

## TYPICAL SECTION - STAGE I LOOKING EASTBOUND



#### DIAPHRAGMS AT SLAB EXPANSION JOINTS

TYPICAL SECTION - STAGE II

LOOKING EASTBOUND

#### NOTES:

THE COST OF LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO REMOVE THE EXISTING CONCRETE DIAPHRAGMS, MEDIAN BARRIER AND CHANNELS SHALL BE INCLUDED IN THE BID PRICE FOR "HYDRO-DEMOLITION OF BRIDGE DECK".

MEDIAN BARRIER AND DECK REMOVAL AT THE SLAB EXPANSION JOINTS SHALL BE PERFORMED BY FIRST INTRODUCTING A PARTIAL DEPTH SAWCUIT (1/2-MAX DEPTH) FOLLOWED BY CONCRETE REMOVAL WITH A CHIPPING HAMMER IN THE RANGE OF 35 LBS. CARE SHALL BE TAKEN SO AS TO PREVENT DAMAGE TO EXISITING DECK REINFORCING STEEL AND EXISTING GIRDERS.

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COSTS RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE BID PRICE FOR "HYDRO-DEMOLITION OF BRIDGE DECK".

PROJECT NO. B-4700S

HAYWOOD COUNTY
STATION: 1074+60 -L-

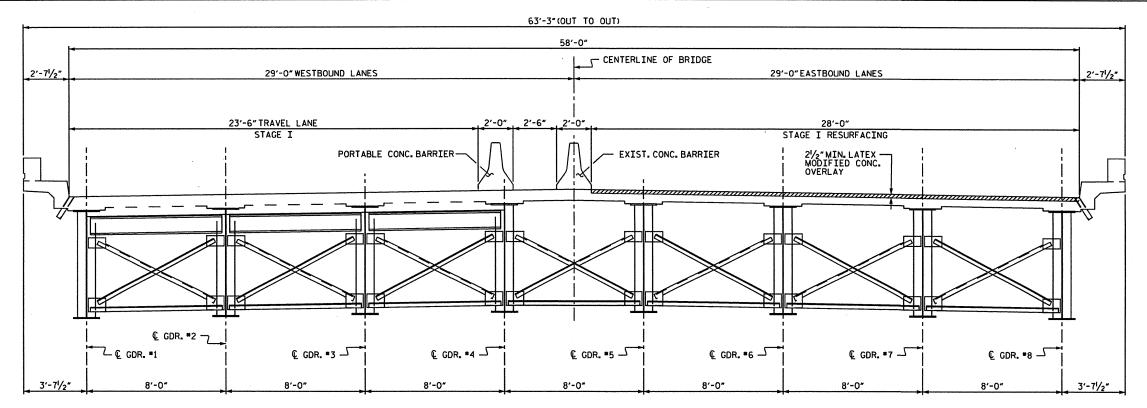
SHEET 1 OF 2

STATE OF MORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEION

TYPICAL SECTION
JOINT REPLACEMENT

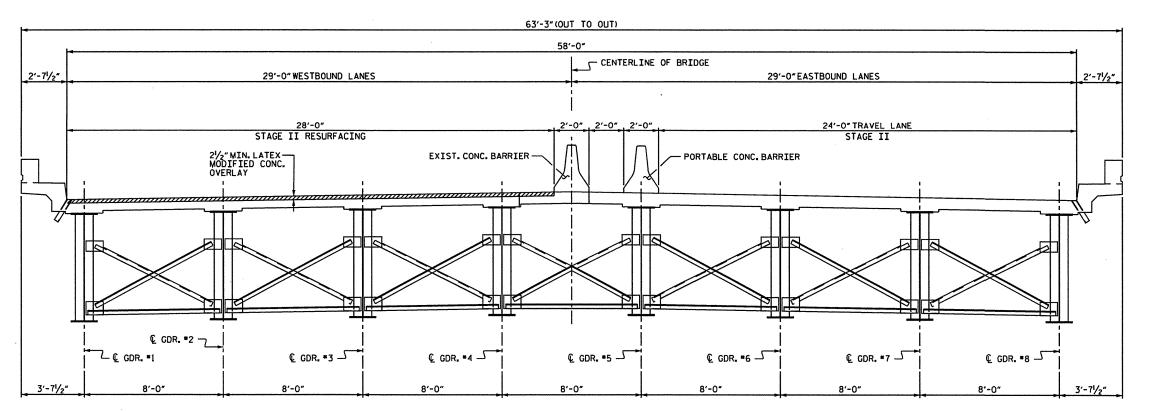
		SHEET NO.				
ğ	BYI	DATE	NO.	BYE	DATE	S-2
1			13			101AL SHEETS
14			14			9

DRAWN BY # M.A. ALLEN DATE # 10-09
CHECKED BY # B.C. HANKS DATE # 10-09



DIAPHRAGMS AT SLAB EXPANSION JOINTS

TYPICAL SECTION - STAGE I



DIAPHRAGMS AT SLAB EXPANSION JOINTS

DRAWN BY : M.A. ALLEN DATE : 10-09
CHECKED BY : B.C. HANKS DATE : 10-09

TYPICAL SECTION - STAGE II

LOOKING EASTBOUND

PROJECT NO. B-4700S

HAYWOOD COUNTY

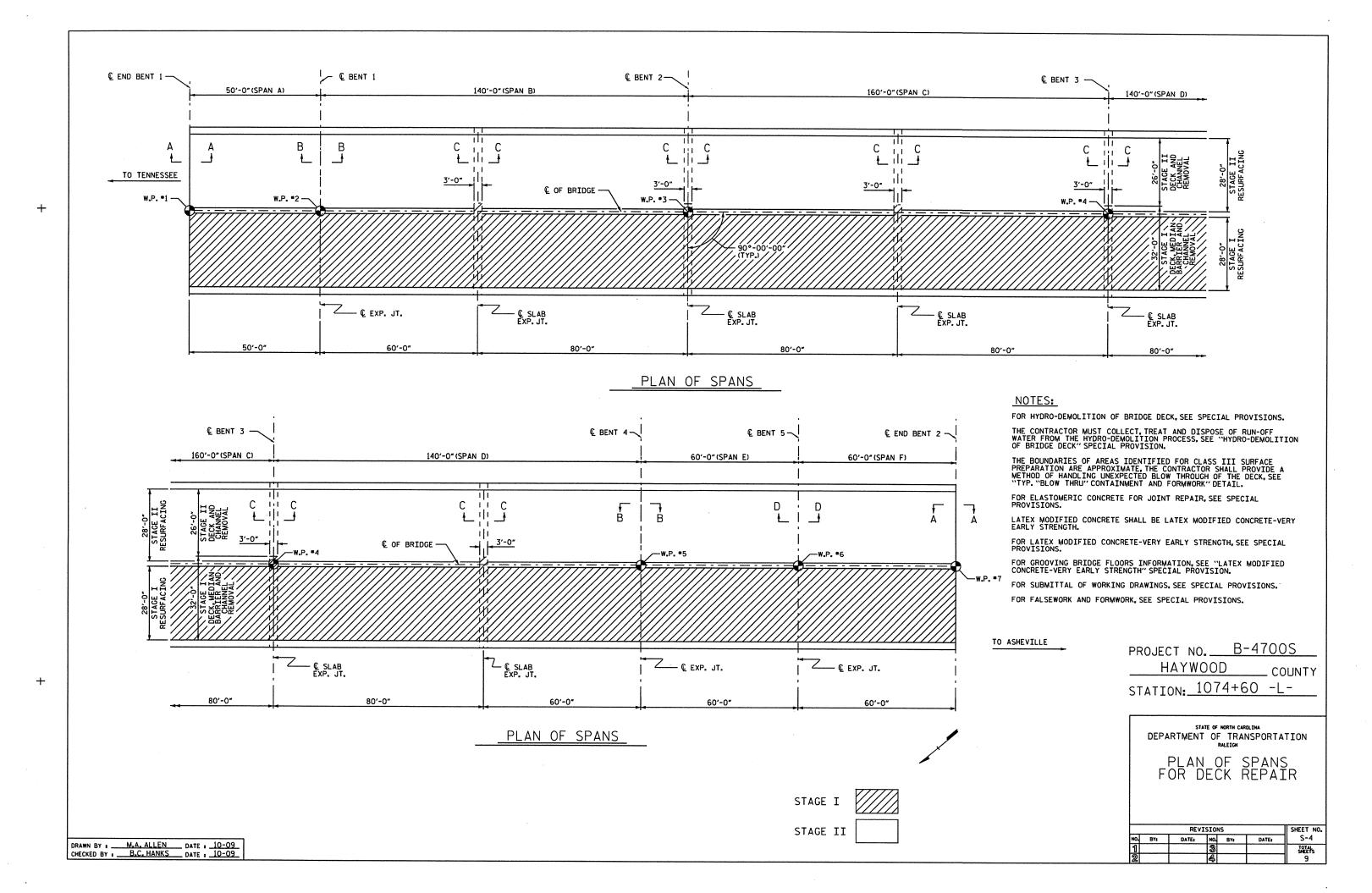
STATION: 1074+60 -L-

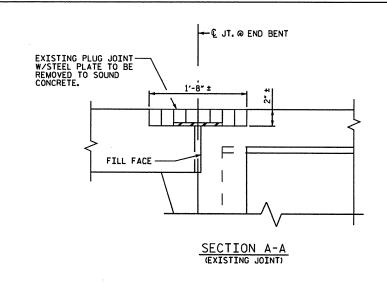
SHEET 2 OF 2

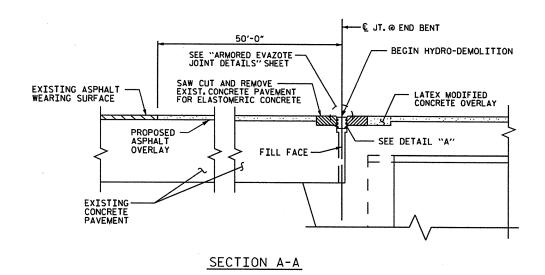
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

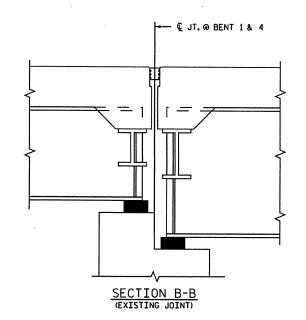
TYPICAL SECTION RESURFACING

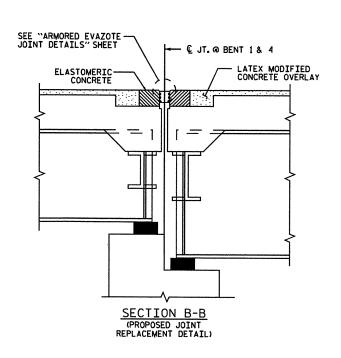
	REVISIONS					SHEET NO.
NO.	BYr	DATE	NO.	BYe	DATE	S-3
1			3			TOTAL SHEETS
2			4			9

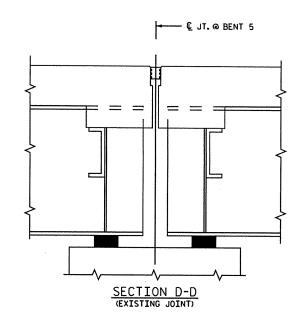


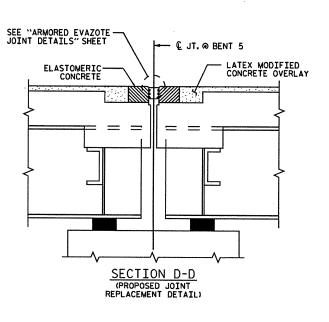












PROJECT NO. B-4700S

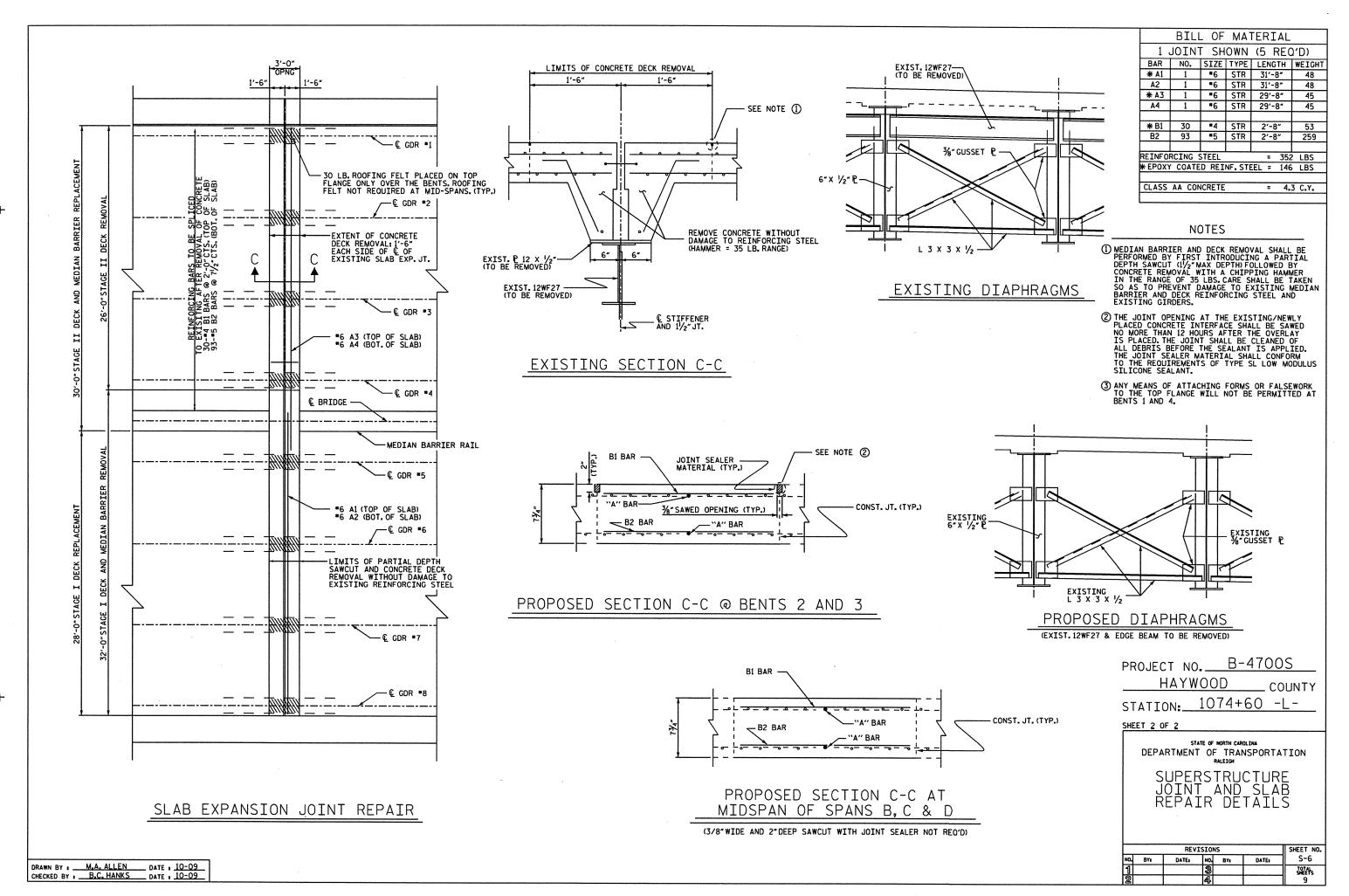
HAYWOOD COUNTY

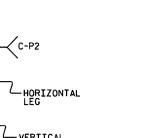
STATION: 1074+60 -L-

SHEET 1 OF 2

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
JOINT AND SLAB
REPAIR DETAILS

DRAWN BY : M.A. ALLEN DATE : 10-09
CHECKED BY : B.C. HANKS DATE : 10-09





DETAIL-FIELD WELD SPLICE OF ANGLE

1/8"

4 <del>(</del>

60°-(TYP.)

BILL OF MATERIAL ELASTOMERIC CONCRETE \* (CU.FT.) TOTAL LENGTH OF ANGLE (FT) BENT EB1 12.8 112'-0" B1 12.8 112'-0" 12.8 112'-0" 12.8 112'-0" EB2 12.8

\* BASED ON THE MINIMUM BLOCKOUT SHOWN.

#### NOTES

ANGLES SHALL CONFORM TO AASHTO M270 GRADE 36 STEEL OR APPROVED EQUAL. ALL STUD ANCHORS SHALL CONFORM TO AASHTO M169 GRADES 1010 THRU 1020 OR APPROVED EQUAL.

STUD ANCHORS SHALL BE SHOP WELDED AND ALL HOLES SHALL BE SHOP DRILLED AS SHOWN ON THE PLANS. STUD ANCHORS SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.

UPON COMPLETION OF SHOP FABRICATION, THE ENTIRE ANCHOR ASSEMBLY SHALL BE METALLIZED. THE 1/2" Ø STUD ANCHORS AND ANCHOR TABS NEED NOT BE METALLIZED. SEE SPECIAL PROVISION FOR THERMAL SPRAYED COATINGS (METALLIZATION).

ANCHOR ASSEMBLY SHALL BE MADE CONTINUOUS THE LENGTH OF THE JOINT FROM GUTTER TO GUTTER. FOR FIELD SPLICES AT ALL CROWN BREAK POINTS, THE ENDS OF THE STEEL ANGLES SHALL BE CUT PARALLEL TO THE BRIDGE CENTERLINE. FINISHED FIELD WELDS SHALL BE GROUND SMOOTH AND COATED WITH A MINIMUM THICKNESS OF 4 DRY MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR ASSEMBLY SEGMENTS SHALL NOT BE LESS THAN 12 FEET NOR MORE THAN 20 FEET IN LENGTH. SHORTER SEGMENTS MAY BE USED AT THE EDGE OF ROADWAY OR AT POINTS OF STAGED CONSTRUCTION.

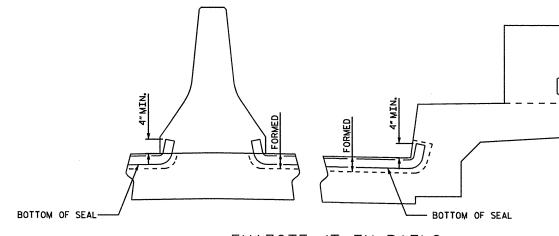
THE ANCHOR ASSEMBLY SHALL BE SECURED AND LEVELED AS SHOWN IN THE "ARMORED JOINT ANCHOR ASSEMBLY DETAILS". NO SUBMITTALS ARE REQUIRED FOR 36" Ø EXPANSION ANCHORS, NUTS OR WASHERS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL AN ALTERNATE METHOD OF ALIGNING AND LEVELING THE ANGLES. THE ALTERNATE METHOD SHALL NOT INCLUDE ANY WELDING TO THE OUTSIDE FACE OF THE ANGLES.

AFTER THE ELASTOMERIC CONCRETE HAS BEEN CAST ON BOTH SIDES OF THE JOINT, REMOVE ANY EXCESS CONCRETE THAT COMES THROUGH THE WEEP HOLES AND THOROUGHLY CLEAN THE ANGLES. ANY DAMAGED STEEL SHALL BE COATED WITH A MINIMUM OF 4 MILS OF ZINC-RICH PAINT IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SEE SPECIAL PROVISIONS FOR EVAZOTE JOINT SEALS.

SEE SPECIAL PROVISIONS FOR ELASTOMERIC CONCRETE.

\*\* AFTER THE CLASS I OR CLASS II SURFACE PREPARATION AT THE AREAS REOUIRING EVAZOTE JOINT SEALS IS COMPLETE, ADHESIVE ANCHORAGE MAY BE REOUIRED TO INSTALL THE 1/4" Ø EXP. ANCHORS. IF ADHESIVE ANCHORAGE IS REOUIRED SEE SPECIAL PROVISIONS FOR "ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS". THE PULL OUT STRENGTH OF THE 1/4" Ø EXP. ANCHORS SHALL BE 20 KIPS.



EVAZOTE JT. IN RAILS

#### 

TOTAL MOVEMENT IS CALCULATED ALONG THE CENTERLINE OF ROADWAY. JOINT OPENINGS ARE MEASURED PERPENDICULAR TO THE JOINT.

	PROJECT	NO	B-470	<u> </u>
1	HAY	/WOOE	)	COUNT
	STATION:	107	4+60	-L-

STATE OF MORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

ARMORED EVAZOTE
JOINT DETAILS

	REVISIONS					SHEET NO.
NO.	BYs	DATE	NO.	BYs	DATE	S-7
1			3			TOTAL SHEETS
2			4			9

## ARMORED JOINT DETAILS

SEE TABLE FOR JOINT OPENING

1/8" MIN. (TYP.)

1/4" MAX. (TYP.)

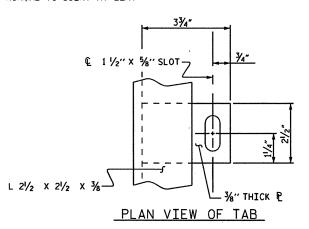
LATEX MODIFIED -CONCRETE OVERLAY

51/2"MIN.

(TYP.)

EXIST. OPENING

SECTION NORMAL TO JOINT AT BENT



- € EVAZOTE JOINT

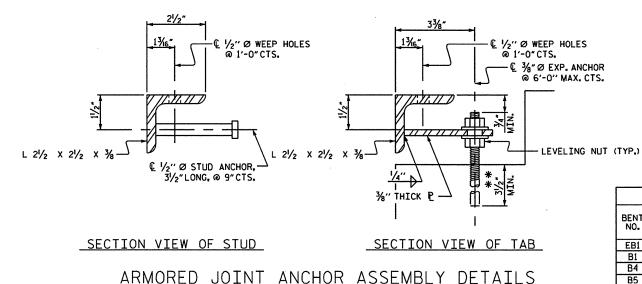
3" (MIN.) (TYP.)

ANCHOR ASSEMBLY (TYP.), SEE DETAILS

LATEX MODIFIED

CONCRETE OVERLAY

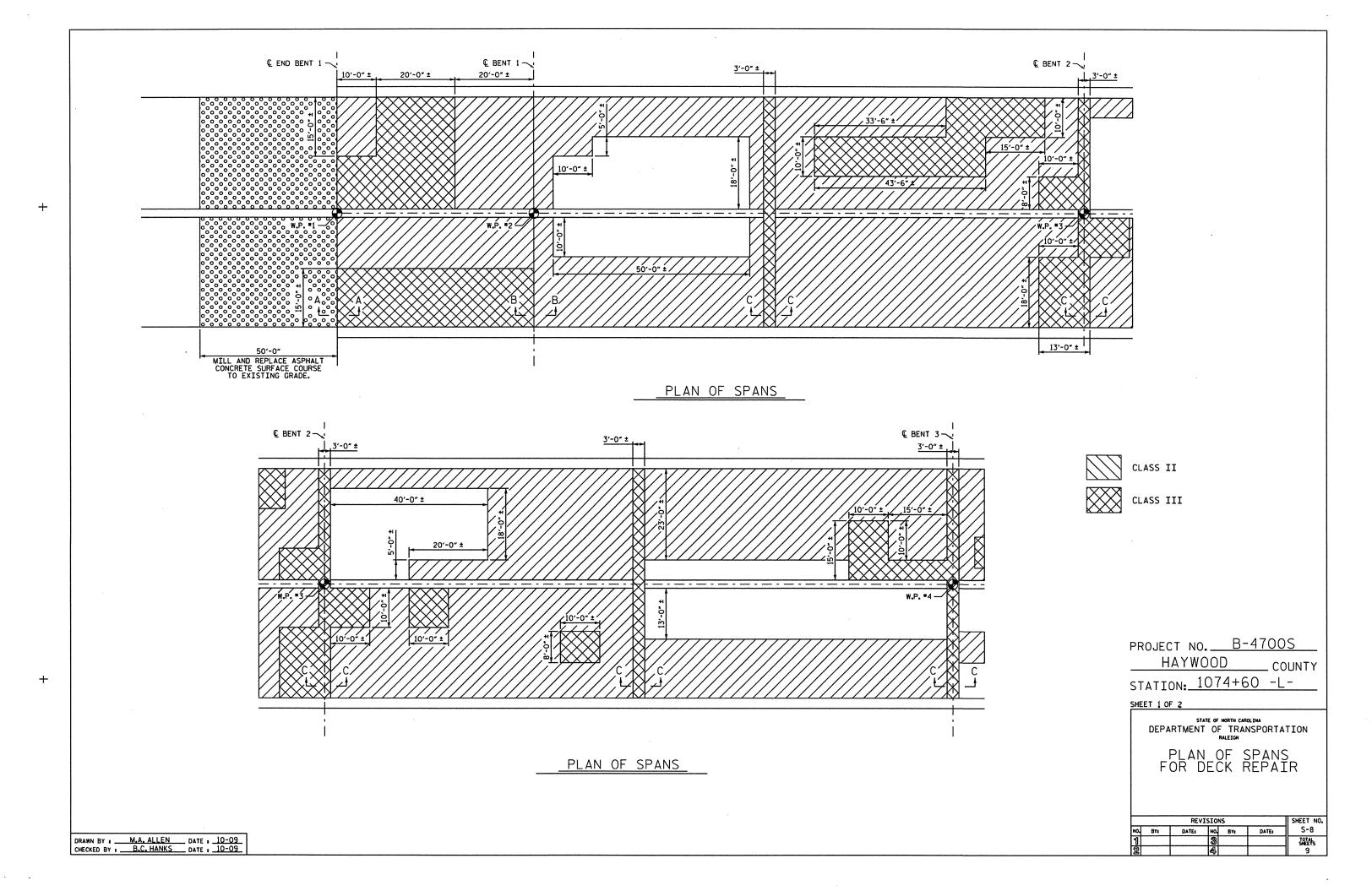
-ELASTOMERIC CONCRETE IN BLOCKOUT (TYP.)

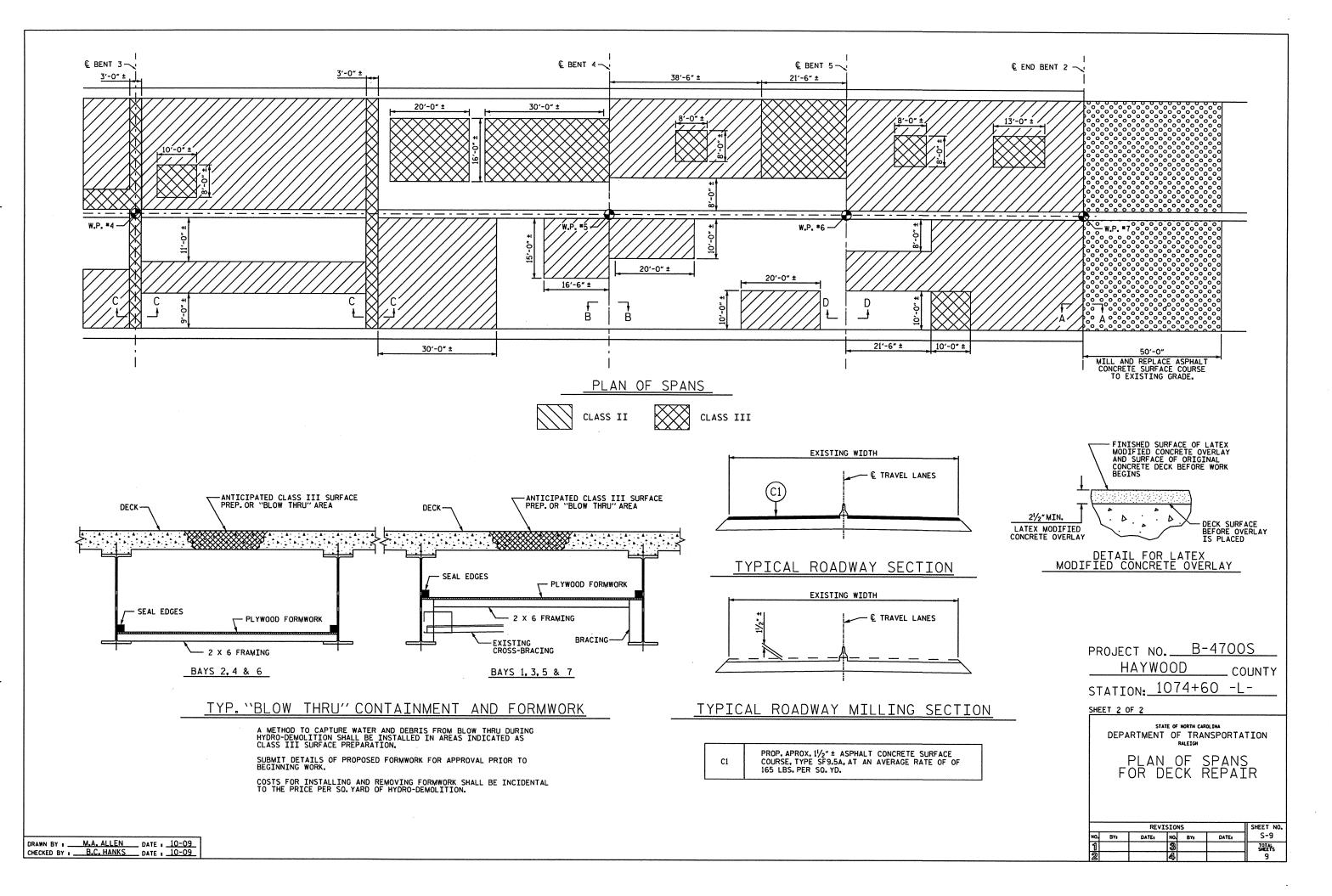


ASSEMBLED BY: M.A. ALLEN DATE: 10-09

CHECKED BY: B.C. HANKS DATE: 10-09

DRAWN BY: EEM 1/96 REV. 7/10/OI LES/RDR
CHECKED BY: RGW 1/96 REV. 5/1/06 TLA/OM





+

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

# STATE PROJECT REFERENCE NO. SHEET NO. TCP-1

# PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

## HAYWOOD COUNTY

LOCATION: BRIDGE 171 ON 1-40 OVER SR 1338 WHITE OAK RD.

TYPE OF WORK: TRAFFIC CONTROL FOR BRIDGE DECK PRESERVATION

#### ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	<u>IIILE</u>
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES
1160.01	TEMPORARY CRASH CUSHION
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS

#### INDEX OF SHEETS

	Н	F	ET	NO.	
,		_		INO.	

TITLE

TCP-1 LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, & INDEX OF SHEETS

TCP-2 GENERAL NOTES, PHASING, VICINITY MAP

CP-3 PHASE I I-40 EASTBOUND DECK PRESERVATION

TCP-4 PHASE II I-40 WESTBOUND DECK PRESERVATION

#### **LEGEND**

#### **GENERAL**

DIRECTION OF TRAFFIC FLOW

NORTH ARROW

- EXISTING PAVEMENT

WORK AREA

#### TRAFFIC CONTROL DEVICES

TYPE III BARRICADE

CON

DRUM SKINNY DRUM

FLASHING ARROW PANEL (TYPE C)

- STATIONARY SIGN

PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

TEMPORARY CRASH CUSHION

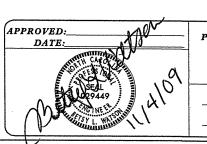
CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

LAW ENFORCEMENT

\_\_\_ FLAGGER

PORTABLE CONCRETE BARRIER



PLAN PREPARED BY:



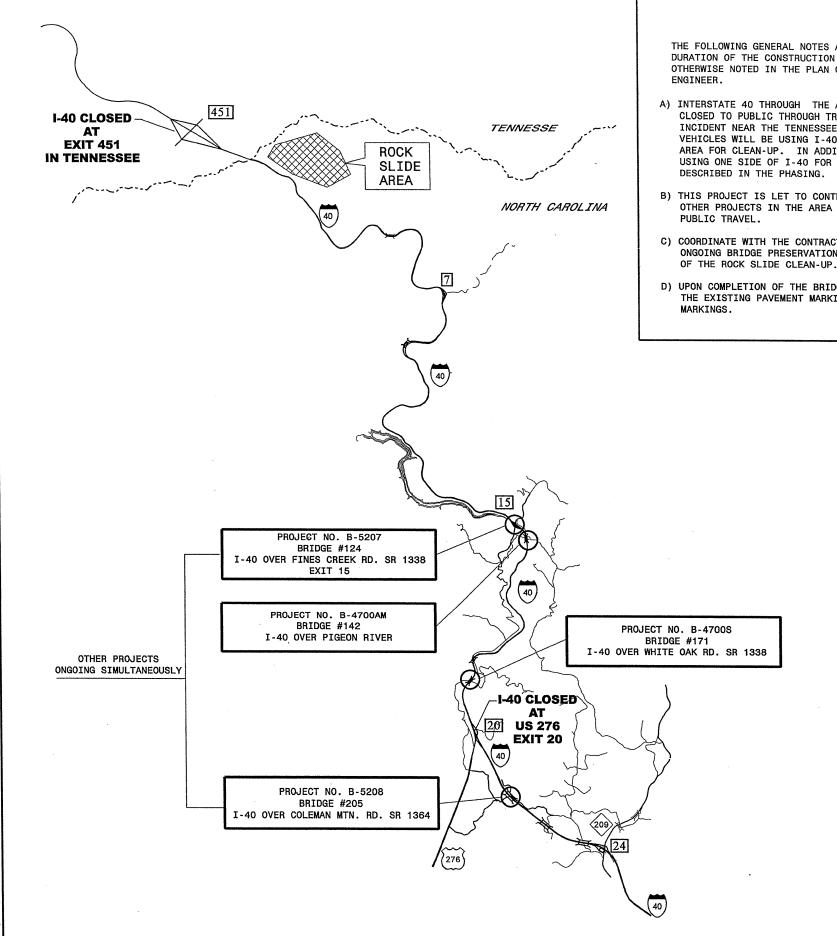
Stantec Consulting Services Inc. Sulte 300, 801 Jones Franklin Roa Raleigh, NC 27606 Tel. 919.851.6866 Fax. 919.851.7024

BETSY L. WATSON, PE GEORGE KARAGEORGE

TRAFFIC CONTROL ENGINEER
TRAFFIC CONTROL DESIGNER

2009

) fic\IrafficControl\



#### **GENERAL NOTES**

PROJECT REFERENCE NO. SHEET NO. B-4700S TCP-2

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE

- A) INTERSTATE 40 THROUGH THE AREA OF THIS PROJECT IS CLOSED TO PUBLIC THROUGH TRAFFIC DUE TO ROCK SLIDE INCIDENT NEAR THE TENNESSEE BORDER. CONSTRUCTION VEHICLES WILL BE USING I-40 TO ACCESS THE ROCK SLIDE AREA FOR CLEAN-UP. IN ADDITION, LOCAL TRAFFIC WILL BE USING ONE SIDE OF I-40 FOR ACCESS TO EXITS 15 AND 7 AS
- B) THIS PROJECT IS LET TO CONTRACT SIMULTANEOUSLY WITH OTHER PROJECTS IN THE AREA WHILE I-40 IS CLOSED TO
- C) COORDINATE WITH THE CONTRACTOR(S) OF THE OTHER ONGOING BRIDGE PRESERVATION PROJECTS AND THE CONTRACTOR
- D) UPON COMPLETION OF THE BRIDGE DECK OVERLAYS REPLACE THE EXISTING PAVEMENT MARKINGS ON I-40 WITH POLYUREA

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE

#### TRAFFIC BARRIER

E) INSTALL TEMPORARY BARRIER ACCORDING TO THE STRUCTURE PLANS AND TRAFFIC CONTROL PLANS, OR AS DIRECTED BY THE

INSTALL OR REMOVE TEMPORARY BARRIER IN A CONTINUOUS OPERATION UNTIL INSTALLATION OR REMOVAL IS COMPLETE. USE FLAGGERS TO DIRECT TRAFFIC DURING INSTALLATION AND

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH

#### TRAFFIC CONTROL PHASING

PHASE I (SEE SHEET TCP-3)

THE CONTRACTOR OF BRIDGE NO. 124/205 AT FINES CREEK RD./US 276 WILL INSTALL TRAFFIC CONTROL DEVICES AND PLACE I-40 TRAFFIC ON THE EASTBOUND SIDE IN A TWO-LANE TWO-WAY PATTERN.

COORDINATE WITH ADJACENT PROJECT CONTRACTORS BEFORE BEGINNING ANY WORK.

#### STEP 2:

WITH I-40 CLOSED TO PUBLIC THROUGH TRAFFIC AND WITH CONSTRUCTION/LOCAL TRAFFIC USING I-40 WESTBOUND SIDE, INSTALL PORTABLE COCRETE BARRIER AND CRASH CUSHIONS AND CONSTRUCT BRIDGE #171 DECK PRESERVATION ON THE I-40 EASTBOUND SIDE.

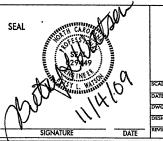
UPON COMPLETION OF BRIDGE #171 DECK PRESERVATION ON THE EASTBOUND SIDE OF I-40, COORDINATE WITH THE ADJACENT PROJECT CONTRACTORS OF BRIDGE NO.S 124 AND 142. ENSURE THE I-40 EASTBOUND DECK PRESERVATION FOR ALL THREE BRIDGES #124, #142 AND #171 IS COMPLETE BEFORE BEGINNING THE I-40 WESTBOUND SIDE IN PHASE II.

PHASE II (SEE SHEET TCP-4)

UPON COMPLETION OF THE DECK PRESERVATION FOR THE I-40 EASTBOUND SIDE FOR BRIDGE NO.S 124, 142 AND 171, COORDINATE BEGINNING THE WESTBOUND SIDE WITH THE OTHER CONTRACTORS. THE CONTRACTOR OF BRIDGE #124/205 WILL REVISE TRAFFIC CONTROL DEVICES AND SWITCH I-40 LOCAL/CONSTRUCTION TRAFFIC TO THE I-40 EASTBOUND SIDE IN A TWO-LANE TWO-WAY TRAFFIC PATTERN.

WITH LOCAL/CONSTRUCTION TRAFFIC OPERATING ON THE I-40 EASTBOUND SIDE, INSTALL PORTABLE COCRETE BARRIER AND CRASH CUSHIONS AND CONSTRUCT BRIDGE #171 DECK PRESERVATION ON THE I-40 WESTBOUND SIDE.





#### **GENERAL NOTES** TRAFFIC CONTROL PHASING

DATE: OCT. 2009 GK GK

