

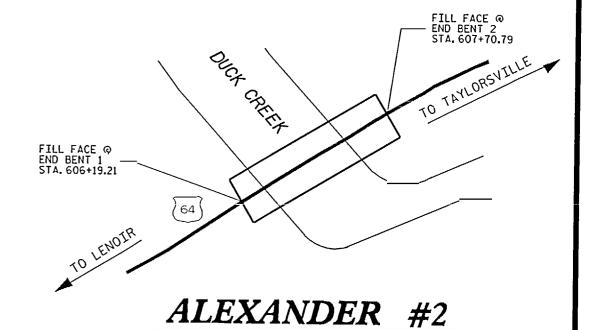
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

ALEXANDER & CALDWELL

COUNTIES

LOCATION: CALDWELL CO. BRG. #47, US 64 -NC90, OVER MIDDLE LITTLE RIVER; ALEXANDER CO. BRG. #2, US 64, OVER DUCK CREEK.

TYPE OF WORK: BRIDGE DECK REHABILITATION WITH LATEX MODIFIED CONCRETE.



STATE MARCH REPRESENTS NO.

BK-5101B

N.C.

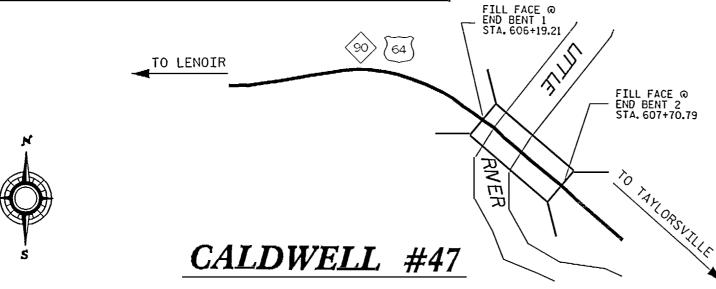
42579.3.2

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NO. SOLETS

CONST

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PROJ:

DESIGN DATA ALEXANDER #2

ADT 2005 = 5000 ADT 2025 = 7400

CALDWELL, #47

ADT 2004 = 3300ADT 2025 = 6600

PROJECT LENGTH

ALEXANDER #2

TOTAL LENGTH HYDRO-DEMO PROJECT = .029 MILE

CALDWELL #47

TOTAL LENGTH HYDRO-DEMO PROJECT = .029 MILE

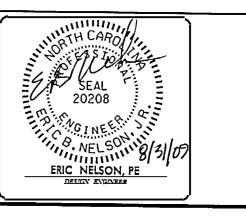
Prepared in the Office of:

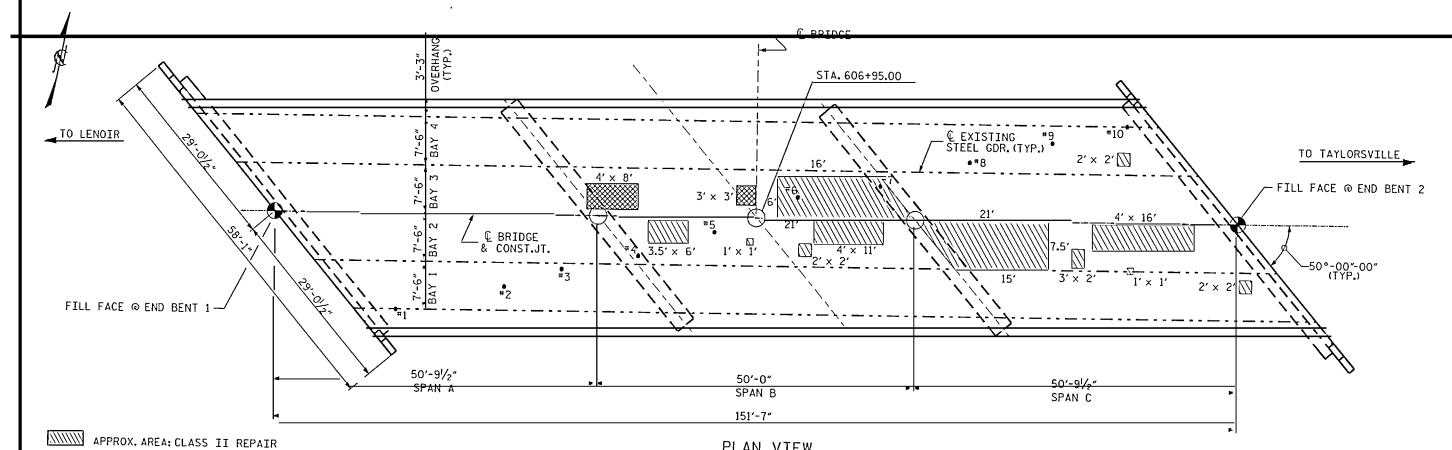
DIVISION OF BRIDGE MANAGEMENT

2006 STANDARD SPECIFICATIONS

LETTING DATE: 10-22-09

DAN HOLDERMAN, PE PROTECT ENGINEER





APPROX. AREA: CLASS III REPAIR

APPROX. TEST BORING LOCATION

NOTES

FOR REPAIR OF BRIDGE WITH LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

SEE SPECIAL PROVISIONS FOR SURFACE PREPARATION.

FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS .

FOR UNDER DECK CONTAINMENT SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN -OFF WATER FROM THE HYDRO- DEMOLITION PROCESS, SEE SPECIAL PROVISIONS.

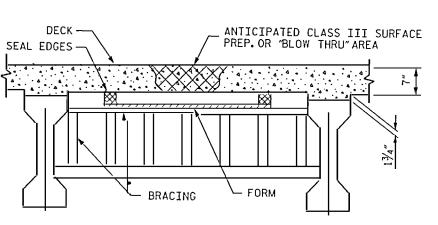
THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPOXIMATE.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR CLASS AA CONCRETE SEE SPECIAL PROVISIONS.

PLAN VIEW

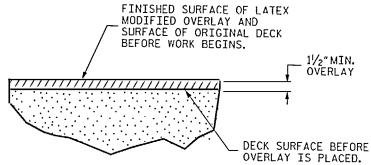


TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SO. YARD OF HYDRO-DEMOLITION.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

P.I. STA. = 608+00 ELEV. = 1133.57 VC = 900' +5.00% o-1.45% STA. 606+19.21 € STA. 607+70.79 © FILL FACE CR. EL. 1140.33 ⊕ FILL FACE CR. EL. 1138.79

PROJECT NO.	BK-5101B
COUNTY:	ALEXANDER
STATION: 60	6+95.00-L-
DECK RFHAB	BRIDGE NO. 2

STATE OF MORTH CARCLINA DEPARTMENT OF TRANSPORTATION

PLAN VIEW OF BRIDGE #2 ON US 64 OVER DUCK CREEK

34'-0"CLEAR ROADWAY-(40°-00' SKEW)

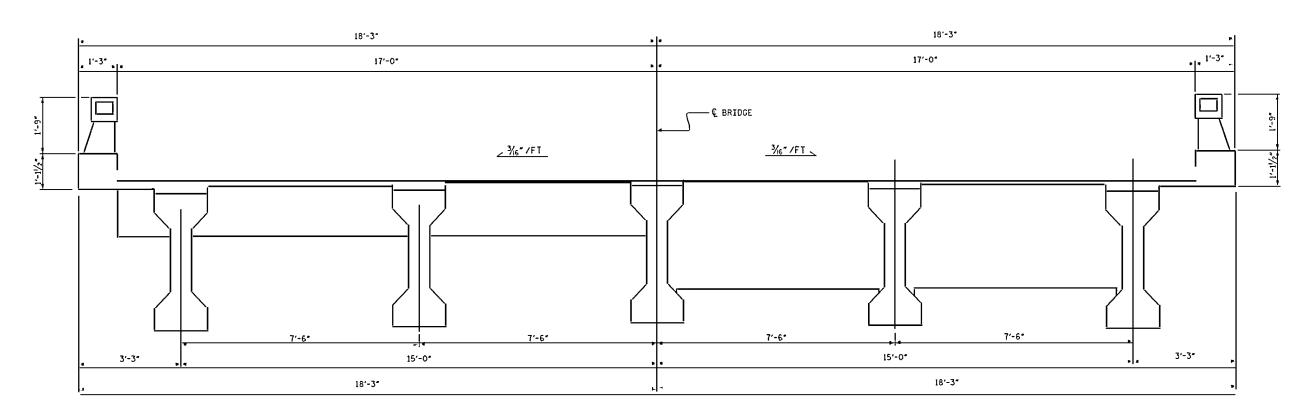
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C.	BY	DATE	ĸo.	BY	DATE	2
1			3			TOTAL SHEETS
2			6			(
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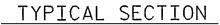
TOTAL RILL OF MATERIAL

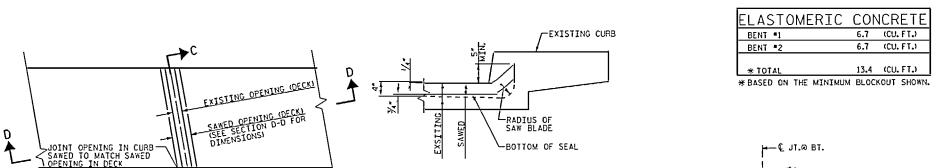
l l 1	TOTAL BILL OF MATERIAL											
						LATEX			1			
*** DECK	* CLASS I		* CLASS III	UNDER DECK	HYDRO-	MODIFIED	* CI V C	FVAZOTE	CDOONTNO	B	SNOWPLOWABLE	ASPHALT
SCARIFICATION SO.YDS.	PREPARATION	PREPARATION	PREPARATION	CONTAINMENT	DEMOLITION	VERY EARLY STRENGTH	CONCRETE	JOINT SEALS	BRIDGE FLOOR	MARKING	RAISED PAVEMENT MARKERS	CONCRETE SURFACE COURSE TYPE SF 9.5A
909	S0.YDS. 524	SO.YDS. 49	SO.YDS.	SO. FT.	SO.YDS.	C.Y.	C.Y.	LUMP SUM	SO.FT.	LF	EΔ	TONS
* QUANTITY SHOWN IS FOR INFORMATION ONLY ** INCLUDES APPROACH HILLIAN												
	100 ONE - THE INCLUDES ATTROACH MILLING.											

CHECKED BY : EBN DATE: 07/09

31-AUG-2009 15:10 cbright AT BGMU240325







SECTION C-C

NOTES:

LATEX MODIFIED CONCRETE OVERLAY

BLOCKOUT FOR ELASTOMIC CONCRETE

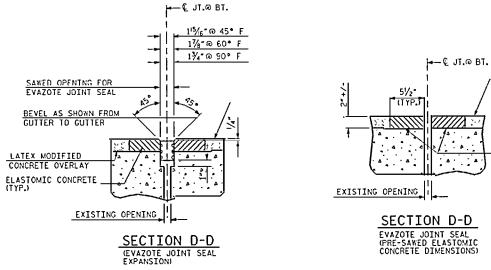
ALL JOINTS, SHALL BE REPLACED WITH AN EVAZOTE SEAL.

FOR EVAZOTE JOINT SEAL, SEE SPECIAL PROVISIONS.

THE INSTALLED EVAZOTE JOINT SEALS SHALL BE WATERTIGHT.

OPENINGS ARE BASED ON A NOMINAL UNCOMPRESSED SEAL WIDTH OF 21/2".

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT FOR THE EVAZOTE JOINT SEAL IN LIEU OF SAWING THE JOINT.



PROJECT NO. BK-5101B

COUNTY: ALEXANDER

STATION: 606+95.00-L
DECK REHAB BRIDGE NO. 2

STATE OF NORTH CARCLINA
DEPARTMENT OF TRANSPORTATION
RALEICX

TYPICAL SECTION AND JOINT DETAILS

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2			- 6			(

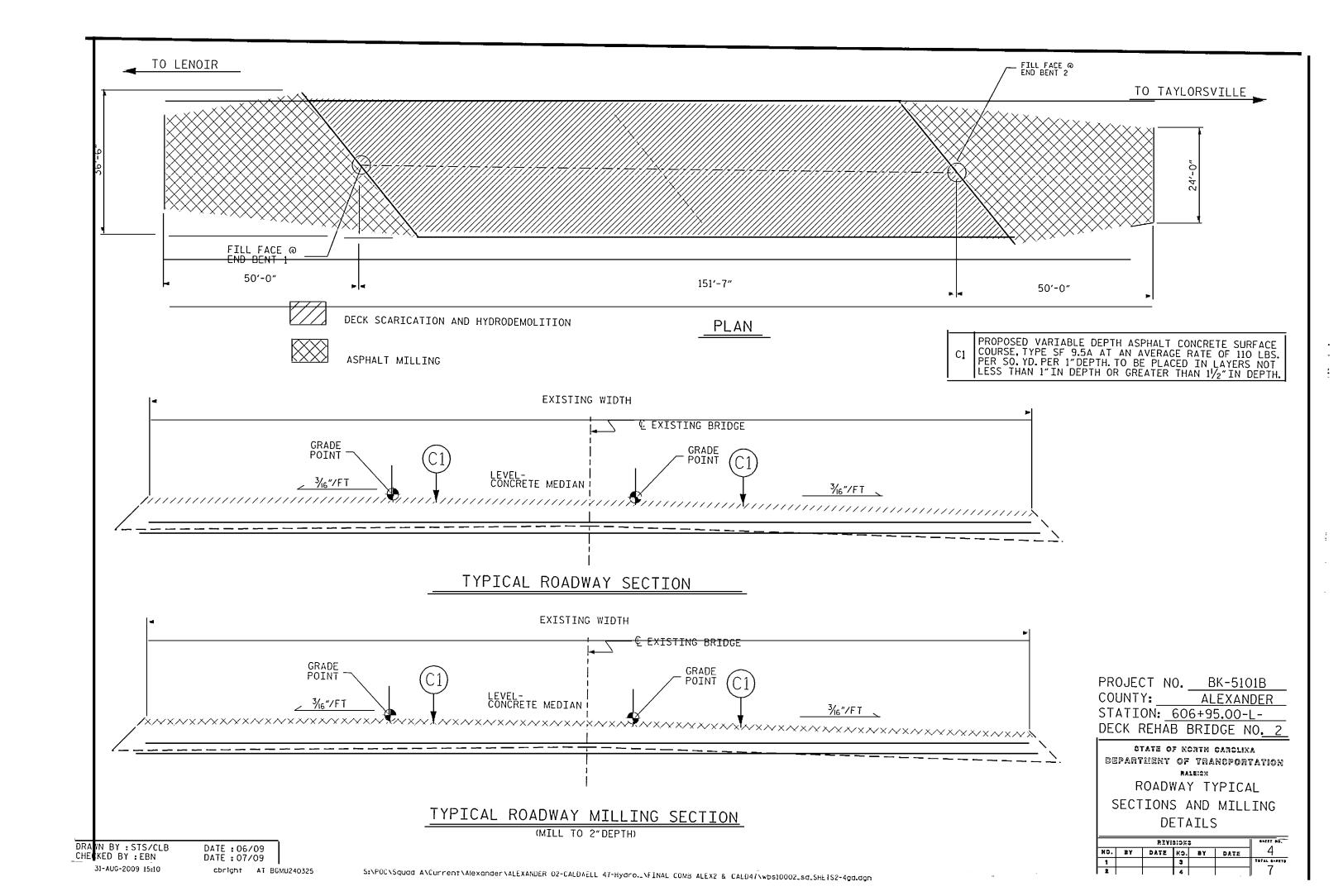
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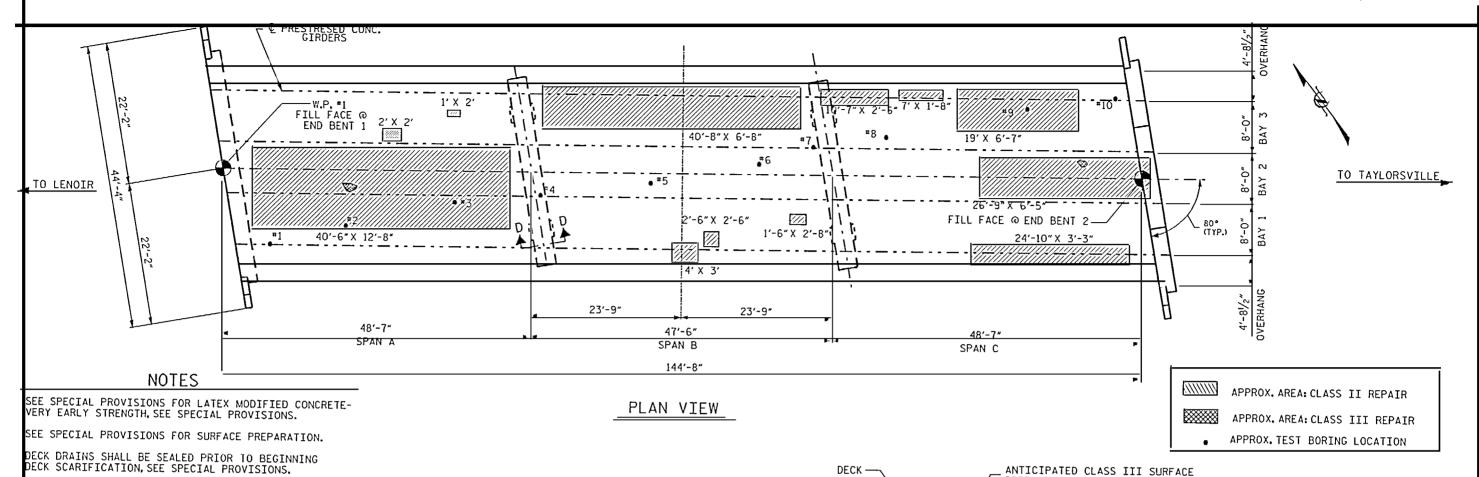
PROVIDE WATERTICHT — SEAL AT END OF EVAZOTE JOINT SEAL 'AS RECOMMENDED BY MANUFACTURER 1¹⁵/₆*@ 45° F;

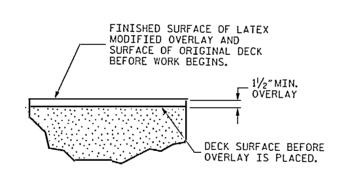
1 1/4 0 60° F: 1 1/4 0 90° F

& JOINT @ BENT

EVAZOTE JOINT SEAL DETAILS

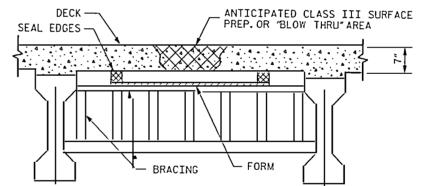








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TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COST FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.

	TOTAL BILL OF MATERIAL											
	LATEX											
** DECK SCARIFICATION	* CLASS I SURFACE PREPARATION	亲CLASS II SURFACE PREPARATION	* CLASS III SURFACE PREPARATION	UNDERDECK CONTAINMENT	HYDRO- DEMOLITION	MODIFIED CONCRETE VERY EARLY STRENGTH	CLASS AA CONCRETE	EVAZOTE JOINT SEALS	GROOVING BRIDGE FLOOR	PAVEMENT MARKING	SNOWPLOWABLE RAISED PAVEMENT MARKERS	ASPHALT CONCRETE SURFACE COURSE SF9.5A
SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	SO.FT.	SQ.YDS.	C.Y.	C.Y.	LUMP SUM	S0. FT.	I F	FΛ	TONS
587	312	137	1	28.0	450	40	0.3	LUMP SUM		F30	200	70113
	* OUANTITY SHOWN IS FOR INFORMATION ONLY. ** INCLUDES APPROACH MILLING.											

DRAWN BY : STS/ CLB DATE: 07/09 CHECKED BY : EBN DATE: 07/09

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SEE SPECIAL PROVISIONS FOR HYDRO-DEMOLITION.

THE CONTRACTOR MUST COLLECT AND TREAT RUN-OFF WATER FROM THE HYDRO- DEMOLITION PROCESS,

SEE SPECIAL PROVISIONS.

BLOW THROUGH OF THE DECK.

VATERTIGHT.

SEE SPECIAL PROVISIONS FOR UNDER DECK CONTAINMENT.

THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPOXIMATE. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED

OR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

OMINAL UNCOMPRESSED SEAL WIDTH OF EVAZOTE JOINT SEAL SHALL BE 4"AT BENTS #3 & #6

HE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE OINT FOR THE EVAZOTE JOINT SEAL IN LIEU OF SAWING

FOR CLASS AA CONCRETE, SEE SPECIAL PROVISIONS.

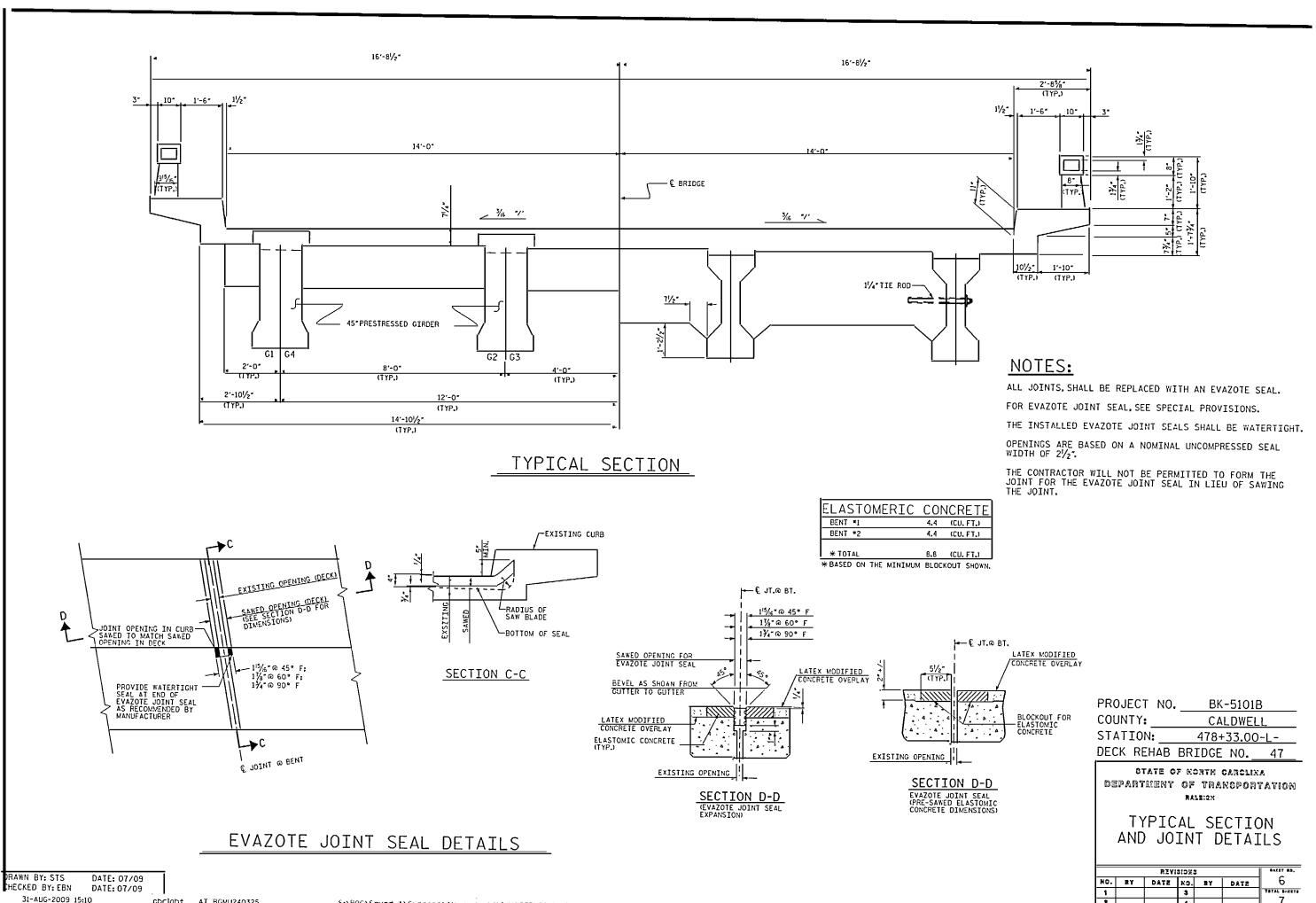
HE INSTALLED EVAZOTE JOINT SEALS SHALL BE

RIVISIONS								
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		NO.	BY	DATE	ĸo.	BY	DATE] 5 [
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	urrent\Alexander\ALEXANDER 02-CALD%ELL 47-Hydro\FINAL COMB ALEX2 & CALD47\%BSI30047_SD_SHEETS5-7.dgn	2			- 6			[(

PROJECT NO. BK-5101B CALDWELL COUNTY: STATION: 478+33.00-L-DECK REHAB BRIDGE NO. 47

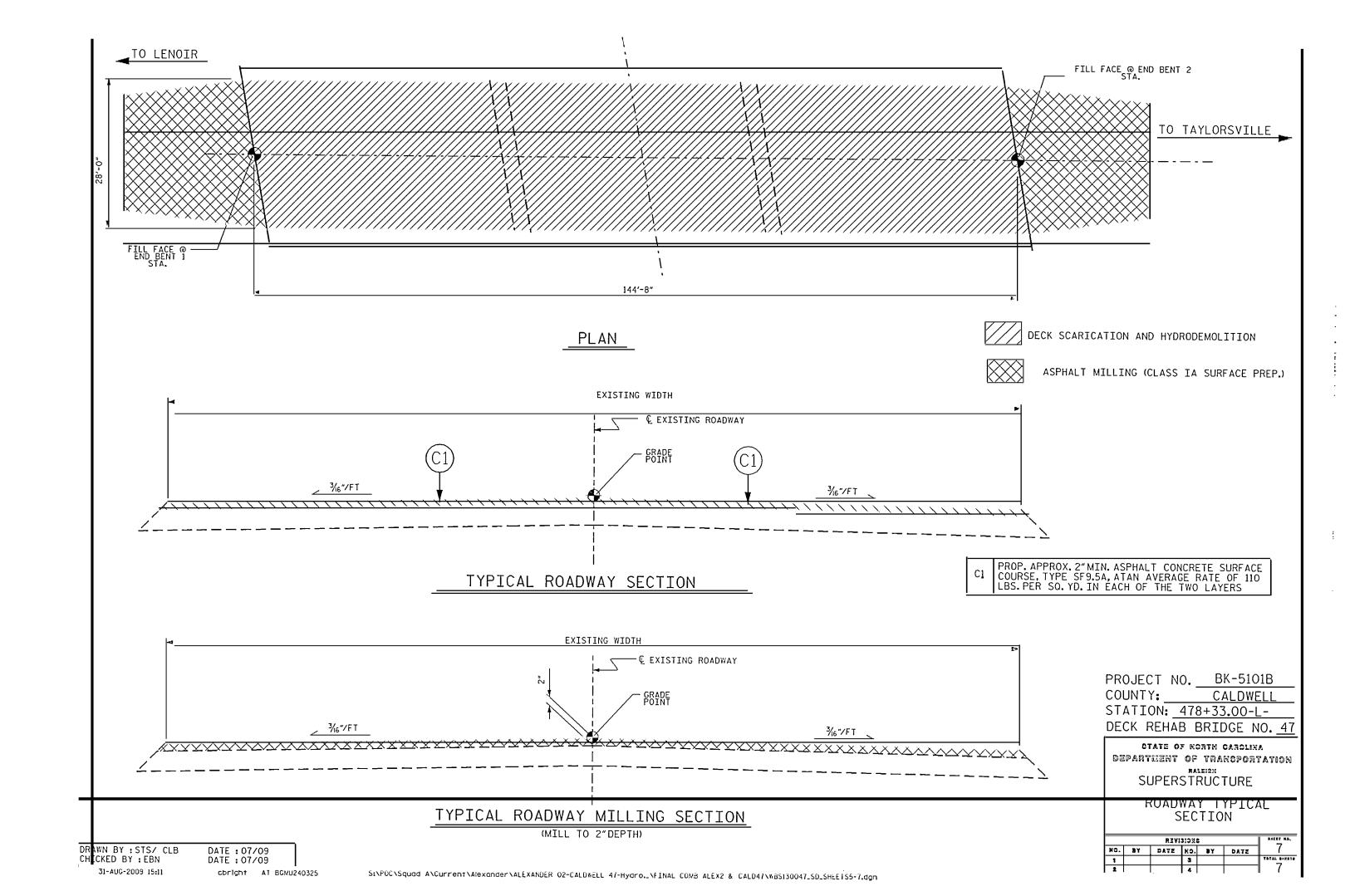
STATE OF NORTH CARCLINA DEPARTMENT OF TRANSPORTATION RALEICH

DECK REPAIR FOR BRIDGE #47 ON US 64 OVER LITTLE RIVER 28'-0"CLEAR ROADWAY- (80°-00' SKEW)-



cbright AT BGMU240325

S:\POC\Squad A\Current\Alexander\ALEXANDER 02-CALDWELL 47-Hydro._\FINAL COMB ALEX2 & CALD47\WBS130047_SD_SHEEIS5-7.dgn



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SHEET NO BK-5105B TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL AND PAVEMENT MARKING

ALEXANDER & CALDWELL COUNTIES

LOCATION: BRIDGE #47 CALDWELL COUNTY & BRIDGE #2 ALEXANDER COUNTY ALONG US 64/NC 90

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.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER SPACING
1253.01	SNOWPLOWABLE RAISED PAVEMENT MARKERS

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS LEGEND, AND INDEX OF SHEETS
TCP-2	GENERAL NOTES
TCP-3	PROJECT PHASING
TCP-4	OFFSITE DETOUR PLAN

LEGEND

GENERAL

◆ DIRECTION OF TRAFFIC FLOW

→ NORTH ARROW

PROPOSED PVMT. ---- EXIST. PVMT.

WORK AREA

REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

T TYPE I BARRICADE

TT TYPE II BARRICADE

TYPE III BARRICADE

▲ CONE

● DRUM ⑤ SKINNY DRUM

FLASHING ARROW PANEL (TYPE C)

- STATIONARY SIGN

PORTABLE SIGN

STATIONARY OR PORTABLE SIGN

- PORTABLE CONCRETE BARRIER

TEMPORARY CRASH CUSHION

CHANGEABLE MESSAGE SIGN

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

POLICE

___ FLAGGER

PAVEMENT MARKINGS

CRYSTAL/CRYSTAL PAVEMENT MARKER

◆ YELLOW/YELLOW PAVEMENT MARKER

CRYSTAL/RED PAVEMENT MARKER

PAVEMENT MARKING SYMBOLS



PLAN PREPARED BY:



BETSY L. WATSON, PE

GEORGE KARAGEORGE

TRAFFIC CONTROL ENGINEER TRAFFIC CONTROL DESIGNER

5105 8

PROJECT REFERENCE NO.	SHEET NO.
BK-5105B	TCP-2

GENERAL NOTES

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

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 ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- A) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- B) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR
- D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY. CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- E) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.
- F) PROVIDE A MINIMUM OF 1 MILE BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

TRAFFIC PATTERN ALTERATIONS

G) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

H) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFFSITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

I) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFFSITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- K) UNLESS OTHERWISE NOTED IN THE PLANS, SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII. AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
- L) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED. OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
- M) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

- N) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE ACCORDING TO THE ROADWAY STANDARD DRAWINGS.
- O) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON FINAL LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME

MARKING

MARKER

ALL ROADS

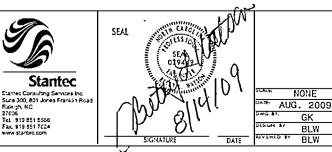
THERMOPLASTIC

SNOWPLOWABLE

P) REPLACE ALL PAVEMENT MARKINGS AND MARKERS BEFORE RE-OPENING LANES TO TRAFFIC.

MISCELLANEOUS

- Q) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE
- R) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE OFFSITE DETOUR THROUGH THE NCDOT DIVISION OFFICE.
- S) COORDINATE WITH THE ENGINEER TO ENSURE THAT ALL APPROPRIATE PUBLIC INFORMATION MEASURES HAVE BEEN ADDRESSED BY NCDOT PERSONNEL PRIOR TO IMPLEMENTING ANY DETOURS OR OTHERWISE ALTERING ANY TRAFFIC PATTERN.



GENERAL NOTES

NONE

GK BLW REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
BK-5105B	TCP-3

PROJECT PHASING

STEP 1:

INSTALL AND COVER ALL DETOUR ROUTING PANELS AND ROAD CLOSURE SIGNING AND MAINTAIN COVERED.

STEP 2:

IN A CONTINUOUS OPERATION, DO THE FOLLOWING:

- UNCOVER DETOUR ROUTING PANELS AND ROAD CLOSURE SIGNING, AND INSTALL TYPE III BARRICADES AND ANY REMAINING TRAFFIC CONTROL DEVICES DIRECTING US 64/NC 90 TRAFFIC ONTO DETOUR ROUTE AS SHOWN ON SHEET TCP-4 (MORRIS CREEK ROAD TO DUDLEY SHOALS ROAD TO ANTIOCH CHURCH ROAD TO NC 127).
- INSTALL WING BARRICADES ALONG US 64/ NC 90 IN THE VICINITY OF CALDWELL POND ROAD AND OLD NC 90 AS SHOWN ON SHEET TCP-4.
- COMPLETELY CLOSE US 64/ NC 90 ON EITHER SIDE OF BRIDGE 47 IN CALDWELL COUNTY, AND ON EITHER SIDE OF BRIDGE 2 IN ALEXANDER COUNTY.

STEP 3:

- COMPLETE BRIDGE DECK PRESERVATION OF BOTH BRIDGES PER STRUCTURE PLANS.
- REPLACE PAVEMENT MARKINGS AND MARKERS ON BOTH BRIDGES ACCORDING TO RSD 1205.12.

STEP 4:

- IN A CONTINUOUS OPERATION, REMOVE BARRICADES AND DETOUR/ ROAD CLOSURE SIGNS, AND RE-OPEN US 64/ NC 90 TO NORMAL TRAFFIC PATTERN.

Stantec
Stantec
Stantec
Stantec Consulting Services Inc.
Suits 300, 801 Joines Franklin Road
Raleigh, NC
27506
Tel. \$19 851 8566
Fax. \$19 851,7024
www.stantec.com



PROJECT PHASING

ΛE	NONE	
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