

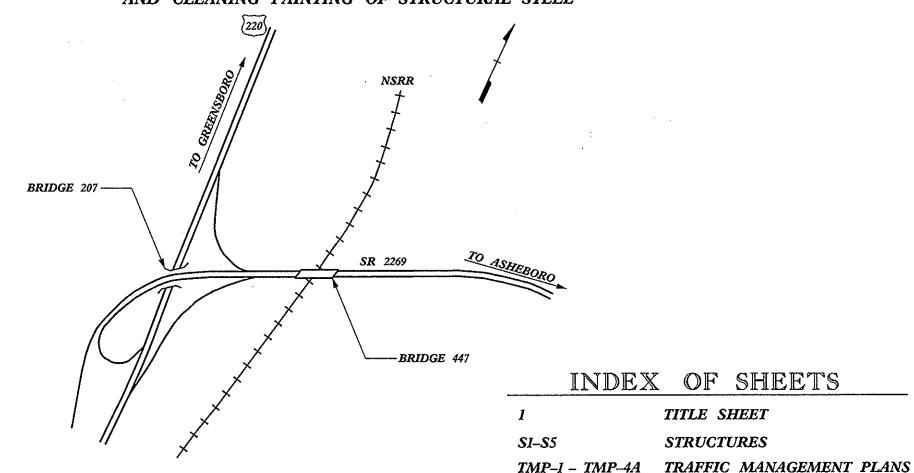
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

RANDOLPH COUNTY

| STATE | STATE PROJECT REPEABLING NO. | STATE | STATE PROJECT REPEABLING NO. | STATE PROJECT | STATE PROJECT

LOCATION: BRIDGE NO. 447 ON SR 2269 OVER NORFOLK SOUTHERN RAILWAY, NO. 427 ON SR 1462 OVER NORFOLK SOUTHERN RAILWAY, NO. 119 ON US 421 EBL OVER SANDY CREEK AND NO. 121 ON US 421 WBL OVER SANDY CREEK

TYPE OF WORK: BRIDGE PRESERVATION: STRUCTURAL STEEL REPAIRS
AND CLEANING PAINTING OF STRUCTURAL STEEL



NO RTH CAROLLINA SERVOIL

2012 STANDARD SPECIFICATIONS

LETTING DATE:
FEBRUARY 29, 2012

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP 1000 BIRCH RIDGE DR RALEIGH, N.C. 27610

RICK NELSON, P.E.
PROJECT ENGINEER



156'-0"FILL FACE TO FILL FACE 52'-0" 52'-0" 52'-0" GUTTER GUTTER -4'-0" MEDIAN

TOTAL BILL OF MATERIAL								
	CLEANING & REPAINTING CLEANING & REPAINTING OF BRIDGE *119 OF BRIDGE *121 OF BRIDGE *427			CLEANING & REPAINTING POLLUTION CONTROL OF BRIDGE #447		SPAN JACKING BRIDGE #447	STRUCTURAL STEEL FOR GIRDER REPAIR BRIDGE #447	BEARING REPLACEMENT
	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LBS.	EA.
TOTAL	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	4,150	6

GENERAL NOTES

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 COST RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR THIS PROJECT.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL OSHA AND STATE SAFETY REQUIREMENTS.

DIMENSIONS IN THESE PLANS ARE BASED ON ORIGINAL PLANS, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK.

EXISTING BRIDGE AND REPAIR DETAILS INDICATED ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL HAVE NO CLAIM AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE AND REPAIR DETAILS SHOWN ON THE PLANS AND THE ACTUAL CONDITION ON THE SITE.

WORK ON THIS BRIDGE SHALL BE PREFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION ACCESS IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

ALL VISUAL AND NON-DESTRUCTIVE TESTING WILL BE PERFORMED BY NCDOT.

FOR RAILROAD COORDINATION, SEE "SPECIAL PROVISIONS FOR PROTECTION OF RAILWAY INTEREST-NOLFOLK SOUTHERN RAILROAD".

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

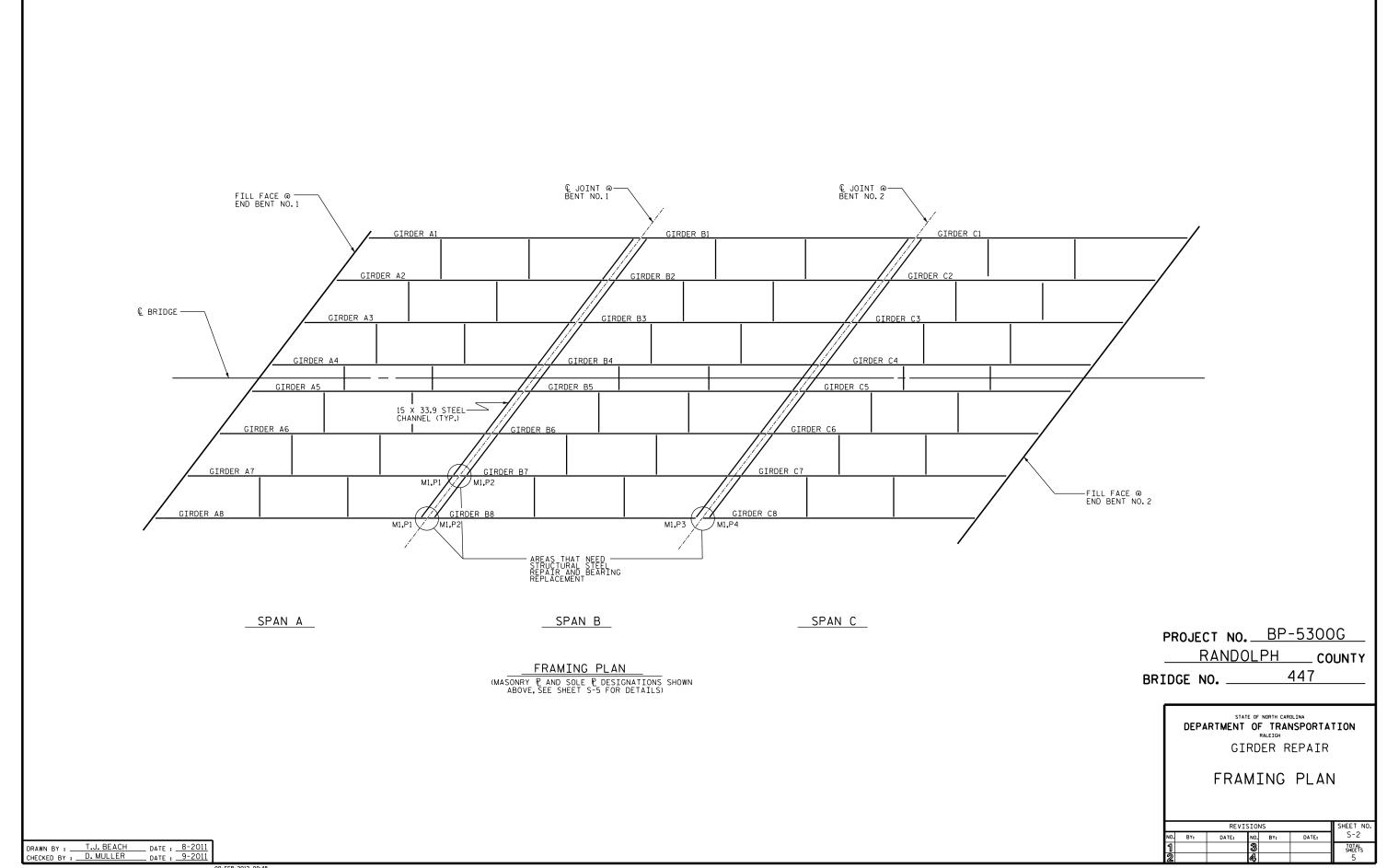
PROJECT NO. BP-5300G RANDOLPH COUNTY 447 STATION:_

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

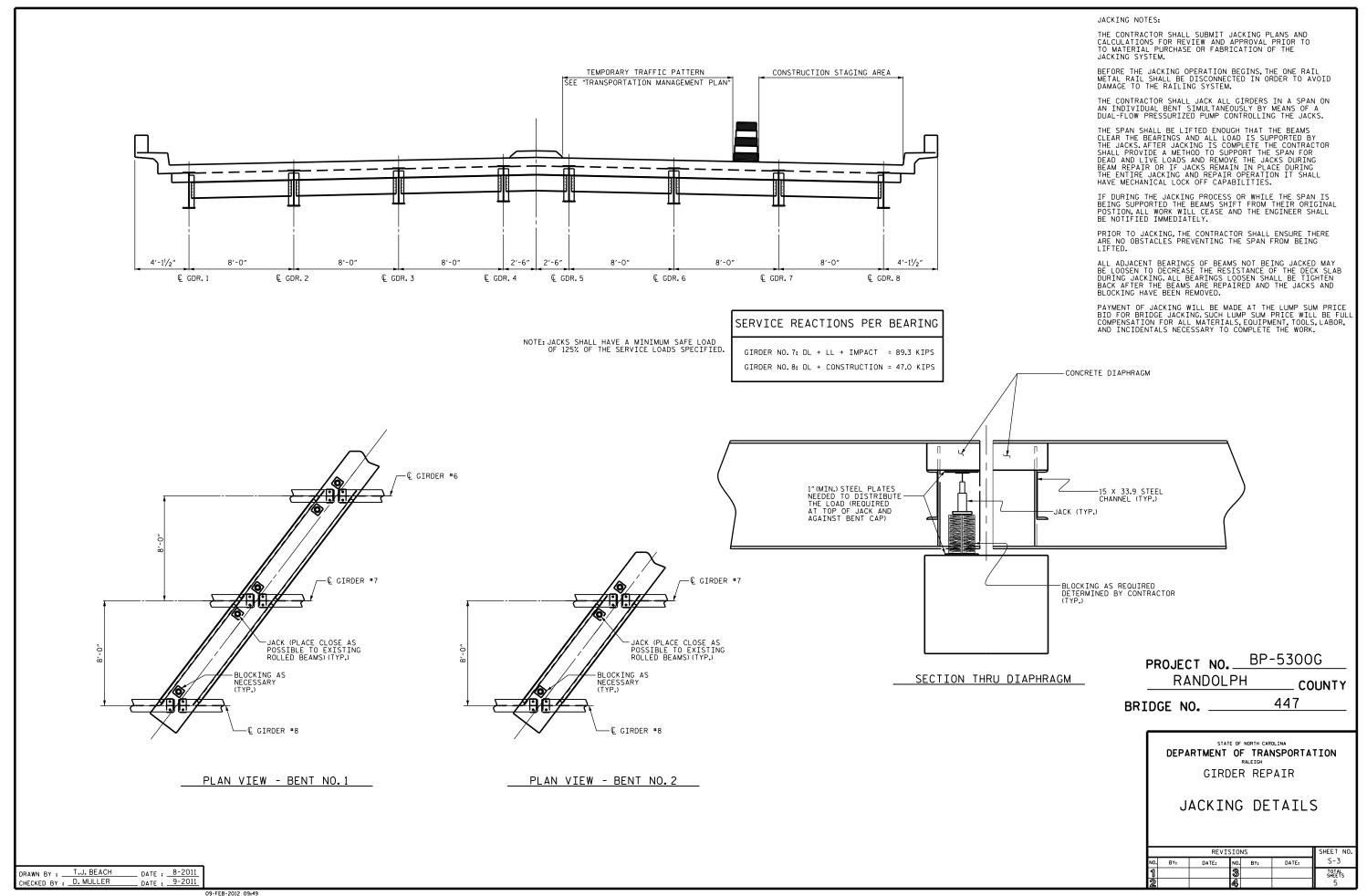
> > GIRDER REPAIR

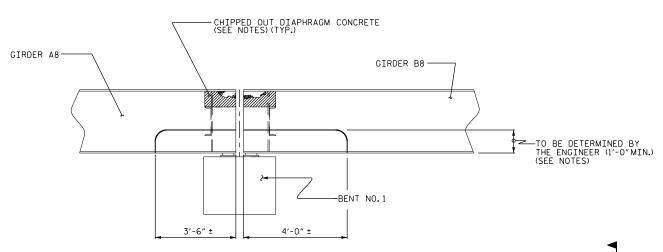
TOTAL BILL OF MATERIAL AND GENERAL NOTES

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			5

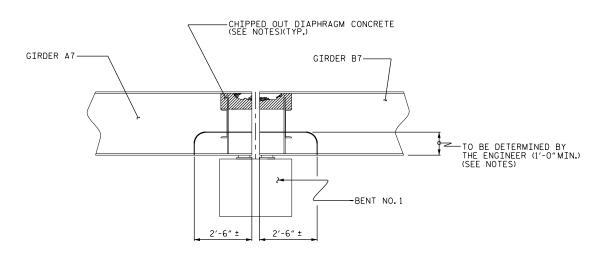


 $09\text{-}FEB\text{-}2012 \ 09\text{:}48 \\ \text{SiNPRS}\text{NPCS}\text{-}Squad \ C\Preservation_Projects\BP_5300G_Randolph\Microstation\BP-5300G_dgn}$

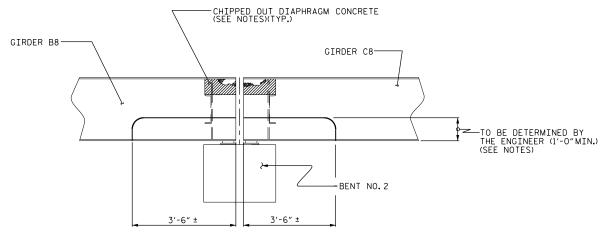




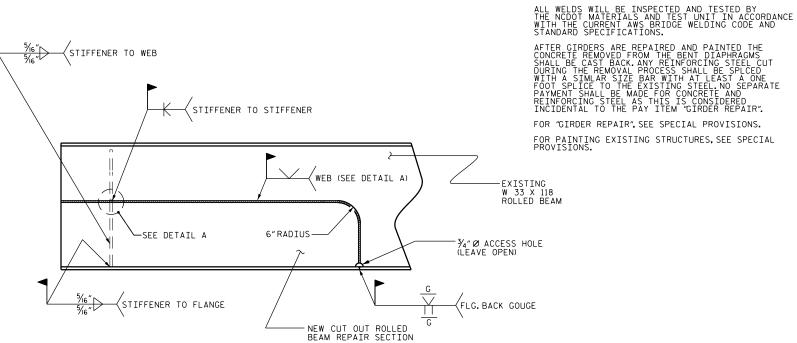
EXTERIOR GIRDER A8 & B8 AT BENT NO.1



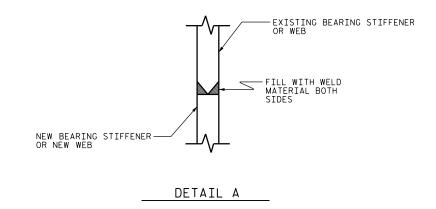
INTERIOR GIRDER A7 & B7 AT BENT NO.1



EXTERIOR GIRDER B8 & C8 AT BENT NO. 2 LIMITS OF BEAM REPAIRS



TYPICAL REPAIR WELD DETAIL



PROJECT NO. BP-5300G RANDOLPH COUNTY 447

BRIDGE NO.

REPAIR SEQUENCE:

GIRDER REPAIR DETAILS AND DIMENSIONS PROVIDED IN PLANS MAY BE MODIFIED BASED ON FIELD CONDITIONS BY THE ENGINEER.

MECHANICALLY CLEAN RUST & SCALE & EXISTING PAINT TO AT LEAST 4"BEYOND REPAIR AREA LIMITS. DETERMINE CUT-TO-FIT STEEL SECTION NEEDED TO REPAIR SECTION LOSS.

REPLACEMENT BEAM SECTION SHALL BE CUT FROM A W 33 X 118 ROLLED BEAM AND SHALL BE AASHTO M270 GRADE 50, OR APPROVED EQUIVALENT.

INSTALL CUT-TO-FIT SECTION, FULLY WELD ALONG TOP AND SIDES OF PLATE.

IN ACCORDANCE WITH THE SPECIAL PROVISIONS, AFTER REPAIR GRIND ALL WELDS FLUSH, THROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM REPAIR PROCESS, CLEAN AND PAINT STRUCTURAL STEEL.

CHIP AWAY CONCRETE FROM BENT DIAPHRAGMS AS NEEDED TO DETERMINE LIMITS OF REPAIR.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION GIRDER REPAIR

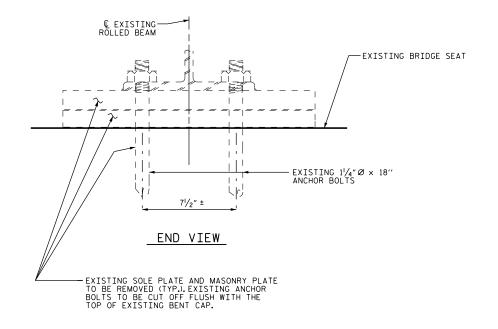
BEAM REPAIR DETAILS

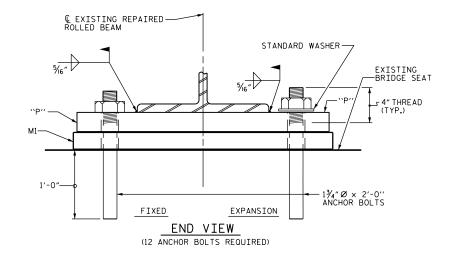
REVISIONS S-4 DATE: DATE: TOTAL SHEETS 5

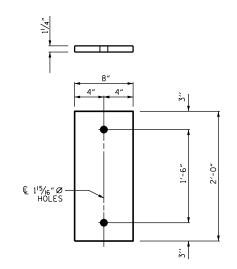
09-FEB-2012 09:49 St.VPRS\P0C\Squad C\Preservation_Projects\BP_5300G_Randolph\Microstation\BP-5300G.dgn

___ DATE : <u>8-2011</u> ___ DATE : <u>9-2011</u>

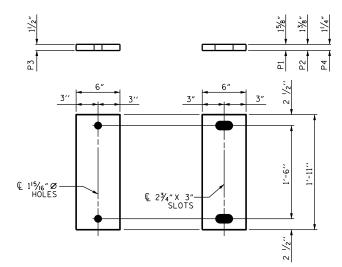
DRAWN BY : _____T.J. BEACH







MASONRY PLATE



P3 (3 REQ'D) P1, P2 & P4 (3 REQ'D)
SOLE PLATES

NOTES

AT ALL FIXED POINTS OF SUPPORT, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN, THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

FOR PAINTED STRUCTURAL STEEL (EXCLUDING AASHTO M270 GRADE 50W), SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS AND WASHERS. SHOP INSPECTION IS REQUIRED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

THE CONTRACTOR SHALL CORE INTO EXISTING BENT CAP TO INSTALL 13/4" ANCHOR BOLTS. BOLTS SHALL BE ADHESIVELY ANCHORED, SEE SPECIAL PROVISIONS. NO FIELD TESTING WILL BE REQUIRED FOR INSTALLATION OF ADHESIVELY ANCHORED BOLTS.

FOR MASONRY P AND SOLE P LOCATIONS, SEE "FRAMING PLAN" SHEET S-2.

PROJECT NO. BP-5300G
RANDOLPH COUNTY
BRIDGE NO. 447

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GIRDER REPAIR

BEARING SHEET

		SHEET NO.				
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			5

STD. NO. EB1 (SHT 2)

ASSEMBLED BY: T.J. BEACH DATE: 8-2011
CHECKED BY: D. MULLER DATE: 9-2011

DRAWN BY: JMB 11/87 REV. 8/16/99 MAB/LES
CHECKED BY: ARB 11/87 REV. 10/11/00 RWW/LES
CHECKED BY: ARB 11/87 REV. 5/1/06 TLA/GM

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY

DIVISION 8



BRIDGE PAINTING

BRIDGE #119 AND #121 - US 421 OVER SANDY CREEK BRIDGE #427 - SR 1462 (W PRESNELL ST) OVER RAILROAD BRIDGE #447 - SR 2269 (VISION DR) OVER RAILROAD

BRIDGE PRESERVATION

BRIDGE #447 - SR 2269 (VISION DR) OVER RAILROAD

WORK ZONE SAFETY & MOBILITY

"from the MOUNTAINS to the COAST"

PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT RALEIGH, NC



SHEET NO.

TITLE

TMP-1 TITLE SHEET, AND INDEX OF SHEETS

LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND

GENERAL NOTES

TMP-3 PHASING

TMP 4-4A BRIDGE #447 OUTSIDE LANE CLOSURES

TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE WORK WILL BE PERFORMED USING TIME RESTRICTED LANE CLOSURES. REFER TO SHEET TMP-3 FOR PHASING.



BETSY L. WATSON, P.E.

5300G

8

APPROVED BETEN SUCTION

TMP-1

00

3

43.

S

GEORGE KARAGEORGE SR. TRANSPORTATION DESIGNER

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

DIRECTION OF PEDESTRIAN TRAFFIC FLOW

WORK AREA

PAVEMENT REMOVAL

NORTH ARROW

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

DRUM SKINNY DRUM TUBULAR MARKER

TEMPORARY CRASH CUSHION FLASHING ARROW PANEL (TYPE C)

FLAGGER

LAW ENFORCEMENT

TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)

CHANGEABLE MESSAGE SIGN (CMS)

PORTABLE CONCRETE BARRIER (PCB)

TEMPORARY SIGNING

PORTABLE SIGN

- STATIONARY SIGN

STATIONARY OR PORTABLE SIGN

SIGNALS



PROPOSED



PAVEMENT MARKINGS

EXISTING PAVEMENT MARKING (GRAY) — SKIP LINES - - - - - MINI-SKIP LINES

---- SOLID LINES

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS



EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)

PAVEMENT MARKING ALPHANUMERIC CHARACTERS

PAVEMENT MARKERS

CRYSTAL/CRYSTAL

CRYSTAL/RED

♦ YELLOW/YELLOW

PROJ. REFERENCE NO. SHEET NO. BP-5300G TMP-1A

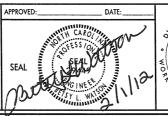
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" -PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM



Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866





ROADWAY STANDARD DRAWINGS LEGEND

PROJ. REFERENCE NO. SHEET NO. BP-5300G TMP-2

GENERAL NOTES

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

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 ENGINEER.

LANE CLOSURE TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME

DAY AND TIME RESTRICTIONS

ALL ROADS

6:00 A.M.- 9:00 A.M. MONDAY THRU FRIDAY 4:00 P.M. - 7:00 P.M. MONDAY THRU FRIDAY

HOLIDAY & HOLIDAY WEEKEND LANE CLOSURE TIME RESTRICTIONS

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND HOLIDAY WEEKENDS AS FOLLOWS:

ROAD NAME

ALL ROADS

- 1) FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2) FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 7:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M.
- 4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY; THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M.
- 7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- 8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

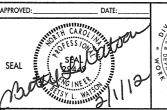
- C) LANE CLOSURES ARE REQUIRED WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN ANY PORTION OF A TRAVEL LANE, CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL
- D) INSTALL ALL LANE CLOSURES ACCORDING TO THE PLANS, ROADWAY STANDARD DRAWINGS (1101.02), OR AS DIRECTED BY THE ENGINEER.
- E) 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.
- F) 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 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

MISCELLANEOUS

- H) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER. LOCATIONS SHOWN IN THE PLANS ARE APPROXIMATE AND MAY BE REVISED AS THE OFFICER OR THE ENGINEER DEEM NECESSARY.
- I) ALL DIMENSIONS AND STATIONS IN THE TRAFFIC MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- J) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.



Stantec Consulting Services Inc 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com





GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
BP-5300G	TMP-3

PHASING

BRIDGE #119-US 421 EASTBOUND OVER SANDY CREEK

WHEN PAINTING BRIDGE #119 USE LANE CLOSURES PER RDWY. STD. DWG. 1101.02, SHEET 3 ON US 421, AS NEEDED.

BRIDGE #121-US 421 WESTBOUND OVER SANDY CREEK

WHEN PAINTING BRIDGE #119 USE LANE CLOSURES PER RDWY. STD. DWG. 1101.02, SHEET 3 ON US 421, AS NEEDED.

BRIDGE #427-SR 1462 (W PRESNELL ST) OVER RAILROAD

WHEN PAINTING BRIDGE #427 USE FLAGGING OPERATION ON SR 1462 (W PRESNELL ST) PER RDWY. STD. 1101.02, SHEET 1, AS NEEDED.

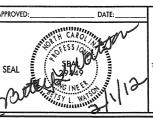
COORDINATE ALL OPERATIONS WITH RAILROAD.

BRIDGE #447-SR 2269 (VISION DR) OVER RAILROAD

WHEN WORKING ON BRIDGE #447 USE RIGHT LANE CLOSURES ON SR 2269 FOR STAGING AREA AS SHOWN ON SHEETS TMP-4 AND TMP-4A.

COORDINATE ALL OPERATIONS WITH RAILROAD.

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PHASING

