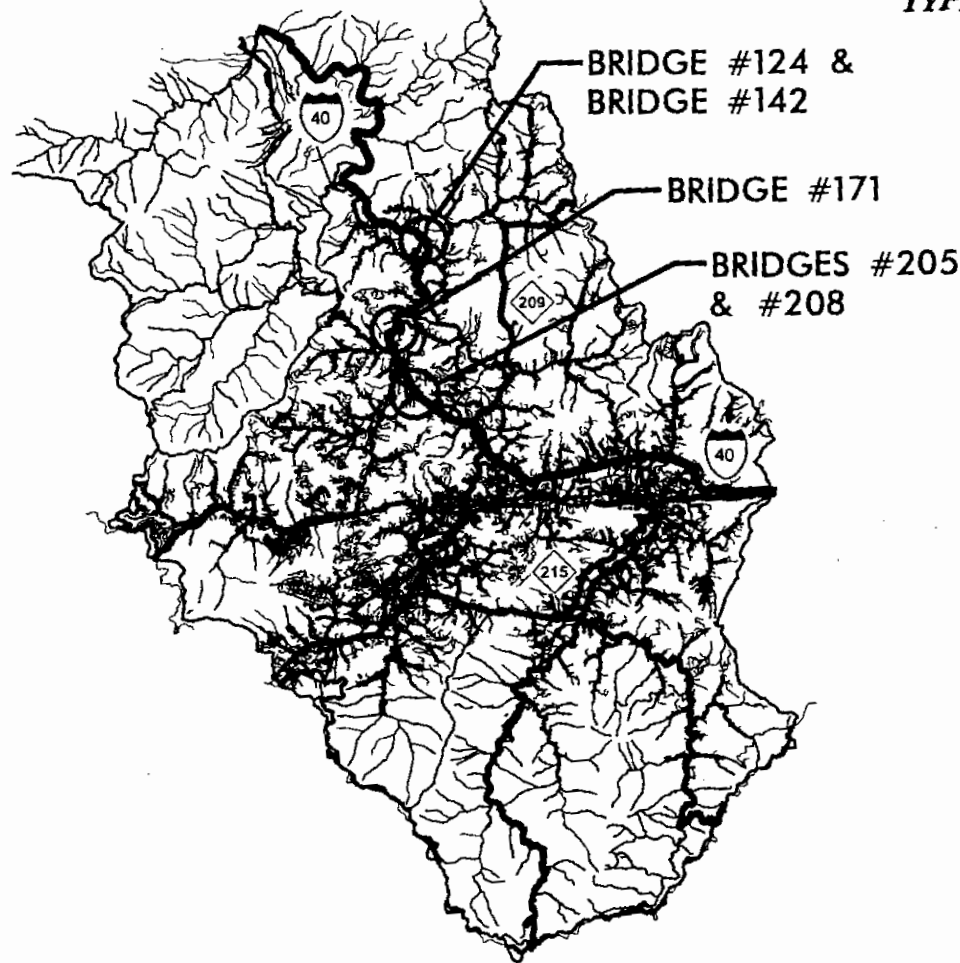


N:\PROJ\DEV\Constr\Division\Contractors\WORDPROC\NC001 2010BP-5300N Haywood\usr\Plans Sealed 9-15-11\01HAYWOOD.TSH.dgn 10/25/2011 10:34:05 AM

TIP PROJECT: BP-5300N

CONTRACT: C202899

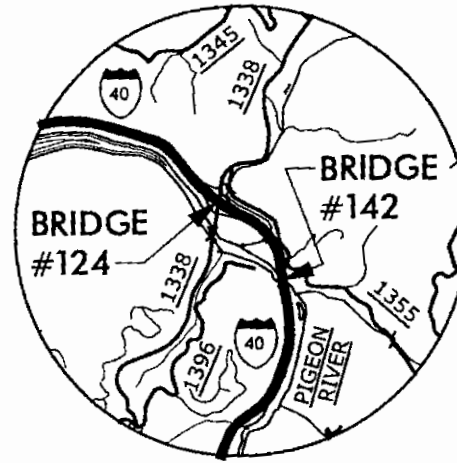


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

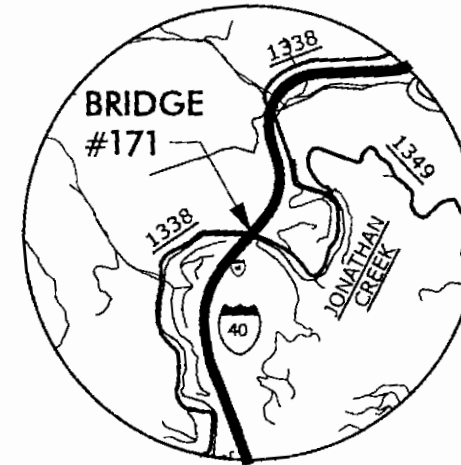
HAYWOOD COUNTY

LOCATION: BRIDGE #124 ON INTERSTATE 40 OVER S.R. 1338
BRIDGE #142 ON INTERSTATE 40 OVER PIGEON RIVER
BRIDGE #171 ON INTERSTATE 40 OVER S.R. 1338, JONATHAN CREEK
BRIDGES #205 & #208 ON INTERSTATE 40 OVER S.R. 1364

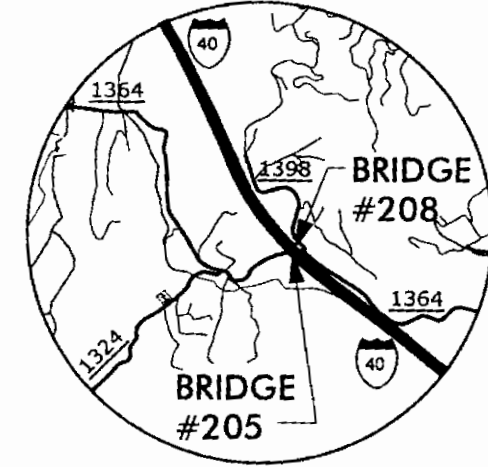
TYPE OF WORK: BRIDGE PRESERVATION: STRUCTURAL STEEL AND SUBSTRUCTURE REPAIRS



VICINITY MAP
BRIDGES #124 & #142



VICINITY MAP
BRIDGE #171



VICINITY MAP
BRIDGES #205 & #208

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC LICENSE NO. F-0091

PROJECT LENGTH

BRIDGE #124
LENGTH STRUCTURE PROJECT = .02 MILE
BRIDGE #142
LENGTH STRUCTURE PROJECT = .07 MILE
BRIDGE #171
LENGTH STRUCTURE PROJECT = .12 MILE
BRIDGES #205 & #208
LENGTH STRUCTURE PROJECT = .06 MILE

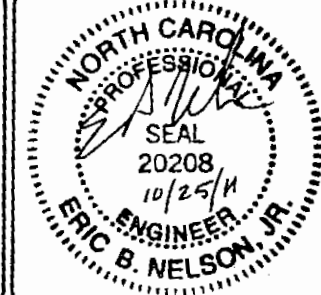
Prepared For:
DIVISION OF BRIDGE MANAGEMENT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

LETTING DATE:
JANUARY 17, 2012

ENGINEER



MARK F. ROBBINS, P.E.
PROJECT MANAGER



N:\PROJDEV\Constt\Division\Contractors\WCRUPROC\NCDDT 20\BP-5300N Haywood\usn\01A Index of Sheets.dgn 9/15/2011 1:35:08 PM

CONTRACT: **TIP PROJECT: BP-5300N**

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HAYWOOD COUNTY

LOCATION: BRIDGE #124 ON INTERSTATE 40 OVER S.R. 1338
BRIDGE #142 ON INTERSTATE 40 OVER PIGEON RIVER
BRIDGE #171 ON INTERSTATE 40 OVER S.R. 1338, JONATHAN CREEK
BRIDGES #205 & #208 ON INTERSTATE 40 OVER S.R. 1364

TYPE OF WORK: BRIDGE PRESERVATION: STRUCTURAL STEEL AND SUBSTRUCTURE REPAIRS

STATE	STATE PROJECT REFERENCE NO.	DIST. NO.	TOTAL SHEETS
N.C.	BP-5300N	1A	X
STATE PROJECT NO.		F.A. PROJECT NO.	DESCRIPTION
45438.1.1		BRIMS-040-1(227)	PE
45438.3.13		BRIMS-040-1(227)	CONSTR.

INDEX OF SHEETS

1	TITLE SHEET
1A	INDEX OF SHEETS
2	SUMMARY OF QUANTITIES
S1-S23	STRUCTURES
TMP-1 - TMP-4A	TRAFFIC MANAGEMENT PLANS



Prepared For:
DIVISION OF BRIDGE MANAGEMENT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

GENERAL NOTES

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 WHATSOEVER 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 AT THE PROJECT SITE.

WORK ON BRIDGES SHALL BE PERFORMED 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.

IT IS THE CONTRACTORS 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 CONSTRUCTION.

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

FOR UNDER STRUCTURE WORK PLATFORM, SEE SPECIAL PROVISIONS.

CONTRACTOR SHALL COORDINATE WITH INSPECTION PERSONNEL TO CAREFULLY EXAMINE HEAVILY RUSTED AREAS, AFTER SURFACE PREPARATION, TO DETERMINE IF ANY SUBSTANTIAL SECTION LOSS HAS OCCURRED.

ALL STRUCTURAL STEEL FOR REPAIRS SHALL BE NEW AASHTO M270 GRADE 36, OR APPROVED EQUIVALENT.

ALL WELDING SHALL BE DONE IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS

FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.

FOR MAINTENANCE OF TRAFFIC, SEE TRAFFIC CONTROL PLANS.

FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH PROPOSED STRUCTURE, SEE SPECIAL PROVISIONS.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR ADHESIVELY ANCHORED DOWELS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR STRUCTURAL STEEL REPAIRS, SEE SPECIAL PROVISIONS.

FOR DECK DRAIN MODIFICATION, SEE SPECIAL PROVISIONS.

FOR CLEANING & PAINTING BRIDGE NO. 124, 142, 171, 205 & 208, SEE STANDARD SPECIFICATIONS, SECTION 442, "PAINTING STEEL STRUCTURES".

FOR POLLUTION CONTROL, SEE STANDARD SPECIFICATIONS, SECTION 442, "PAINTING STEEL STRUCTURES".

INTERIOR BENT CAPS SHALL BE COATED WITH EPOXY PROTECTIVE COATING, SEE STANDARD SPECIFICATIONS SECTION 420-18. ALL COSTS RELATED TO EPOXY PROTECTIVE COATING SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT PAY ITEMS.

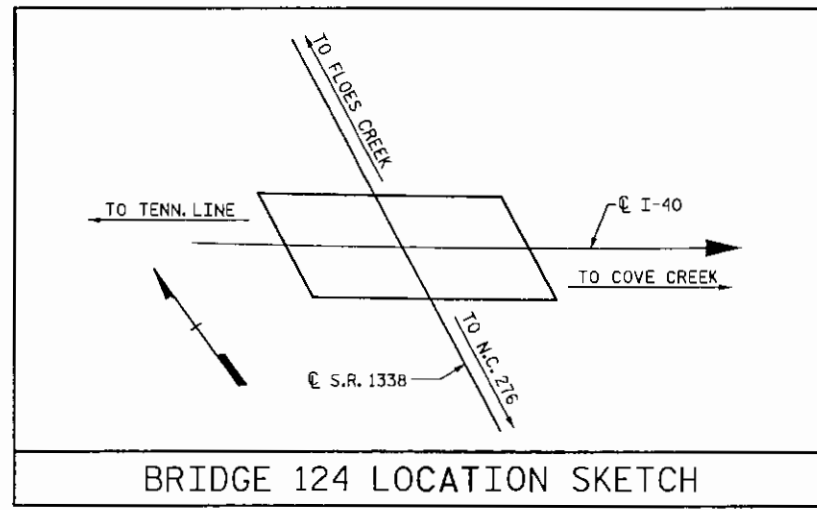
REPLACEMENT OF DAMAGED REINFORCING STEEL AND DOWELS USED IN CONCRETE REPAIR SHALL BE CONSIDERED INCIDENTAL TO CONCRETE REPAIRS. NO ADDITIONAL PAYMENT OR MEASUREMENT WILL BE MADE.

THE COST ASSOCIATED WITH PAINTING AREAS DAMAGED BY FIELD WELDING OR OTHER SHALL BE CONSIDERED INCIDENTAL IN THE BID PRICE OF "STRUCTURAL STEEL REPAIRS".

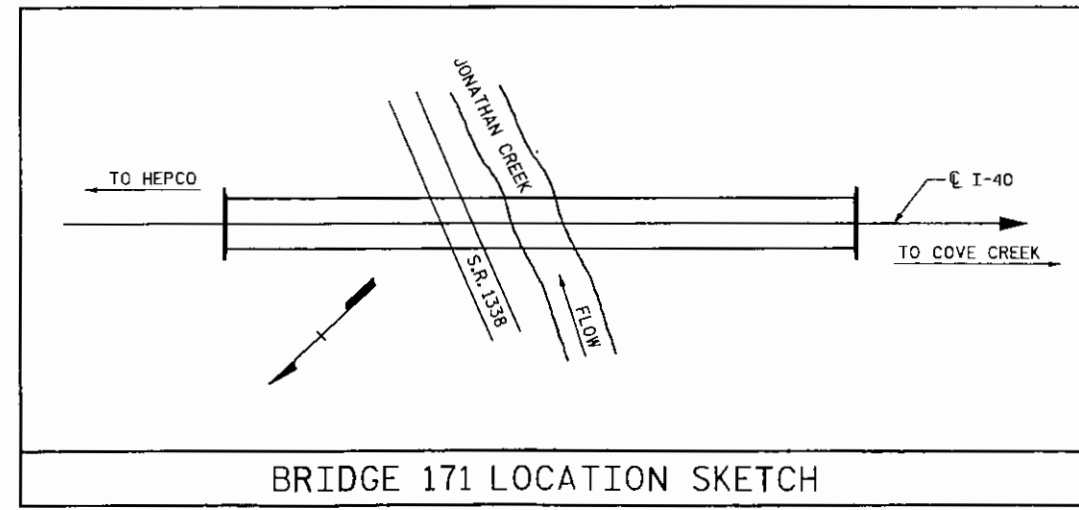
ALL THE COST ASSOCIATED WITH PREPARING ENGINEERING SUBMITTALS FOR JACKING, ANY ASSOCIATED TEMPORARY SUPPORTS, DIAPHRAGM MODIFICATIONS, EQUIPMENT AND MISCELLANEOUS COMPONENTS SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM FOR "BRIDGE JACKING". NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.

THE COST OF LABOR, MATERIALS, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY FOR REMOVAL AND DISPOSAL OF EXISTING STRUCTURE COMPONENTS SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS CONTRACT PAY ITEMS.

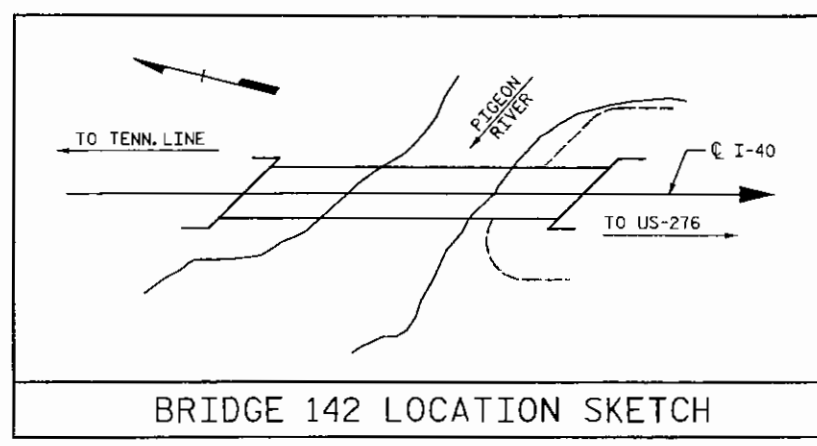
DEBRIS SHALL BE REMOVED FROM EXISTING BENT CAPS. ALL COST ASSOCIATED WITH DEBRIS REMOVAL SHALL BE CONSIDERED INCIDENTAL TO CONCRETE REPAIR PAY ITEM.



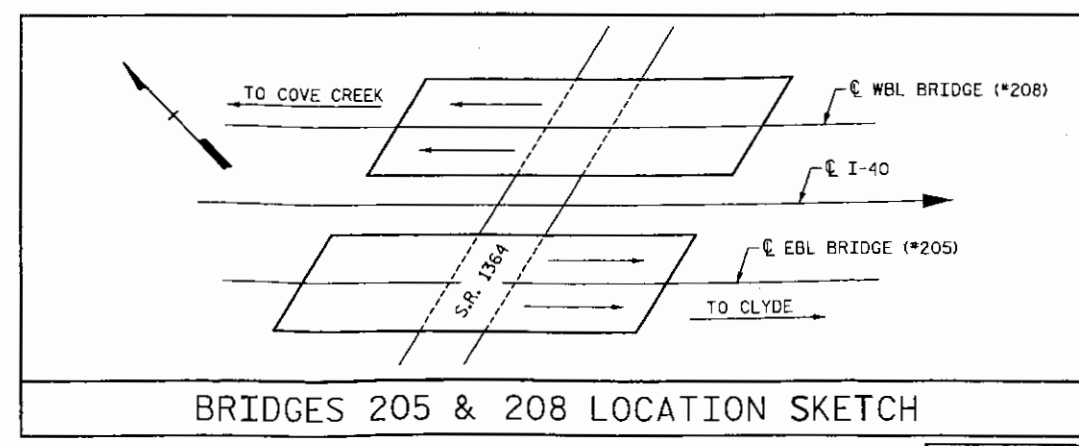
BRIDGE 124 LOCATION SKETCH



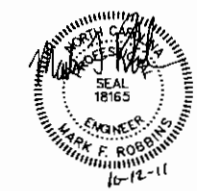
BRIDGE 171 LOCATION SKETCH



BRIDGE 142 LOCATION SKETCH



BRIDGES 205 & 208 LOCATION SKETCH



PROJECT NO. BP-5300N
HAYWOOD COUNTY
BRIDGE NO.: 124, 142, 171, 205 & 208

REHABILITATION OF HAYWOOD CO. BRIDGES

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL NOTES AND
LOCATION SKETCHES

BRIDGES ON I-40

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-1
2			4			TOTAL SHEETS S-23

STV / Ralph Whitehead Associates, Inc.
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

N:\PROJECTS\Construction\Contractor\A\WOPROD\NCDOT 2011\BP-5300N Haywood\user\m02 GeneralNotes and Loc Sketches.dgn
10/12/2011
11:05

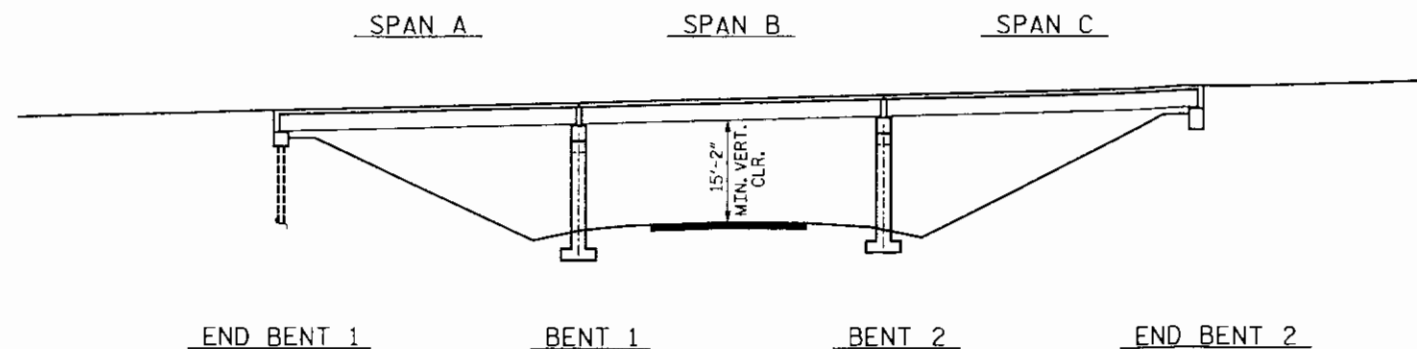
DRAWN BY : TRL
CHECKED BY : TJT
DATE : 6-11
DATE : 6-11

GENERAL NOTES

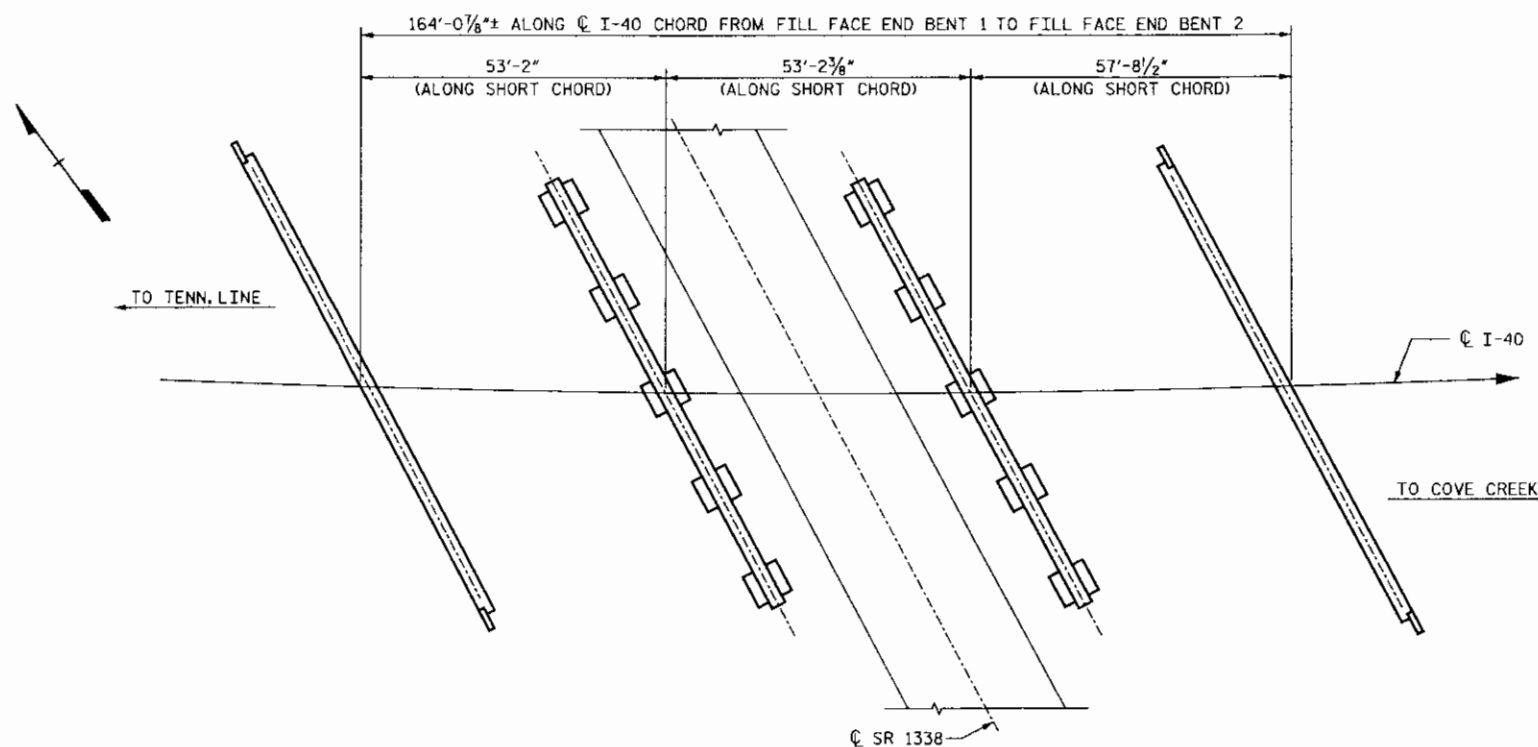
SEE SHEET 2 OF 24 FOR ADDITIONAL NOTES.

THE HAUNCH REMOVAL AS SHOWN ON SHEET 2 OF 4 SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS. ALL COSTS RELATING TO THE HAUNCH REMOVAL SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT WILL BE MADE.

THE GIRDER REPAIR AS SHOWN ON SHEET 2 OF 4 SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS CONTRACT ITEMS. ALL COSTS RELATING TO THE GIRDER REPAIR SHALL BE CONSIDERED INCIDENTAL AND NO ADDITIONAL PAYMENT WILL BE MADE.



ELEVATION
(SECTIONS AT BENTS AND END BENTS
ARE AT RIGHT ANGLES)



PLAN

BILL OF MATERIAL

	EPOXY RESIN INJECTION	UNDER STRUCTURE WORK PLATFORM	BRIDGE JACKING	CONCRETE REPAIRS	SHOTCRETE REPAIRS	CLEANING & REPAINTING BRIDGE #124	POLLUTION CONTROL
	LIN. FT.	LUMP SUM	LUMP SUM	CU. FT.	CU. FT.	LUMP SUM	LUMP SUM
BENT 1	13			38	34		
BENT 2	25			8	37		
TOTAL	38	LUMP SUM	LUMP SUM	46	71	LUMP SUM	LUMP SUM

PROJECT NO. BP-5300N
HAYWOOD COUNTY
 BRIDGE NO.: 124

REHAB. OF BRIDGE NO. 124 SHEET 1 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**GENERAL DRAWING
 BRIDGE ON I-40
 OVER SR 1338**



STV/Ralph Whitehead Associates, Inc.
 1000 West Morehead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-3951

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-2
2			4			S-23

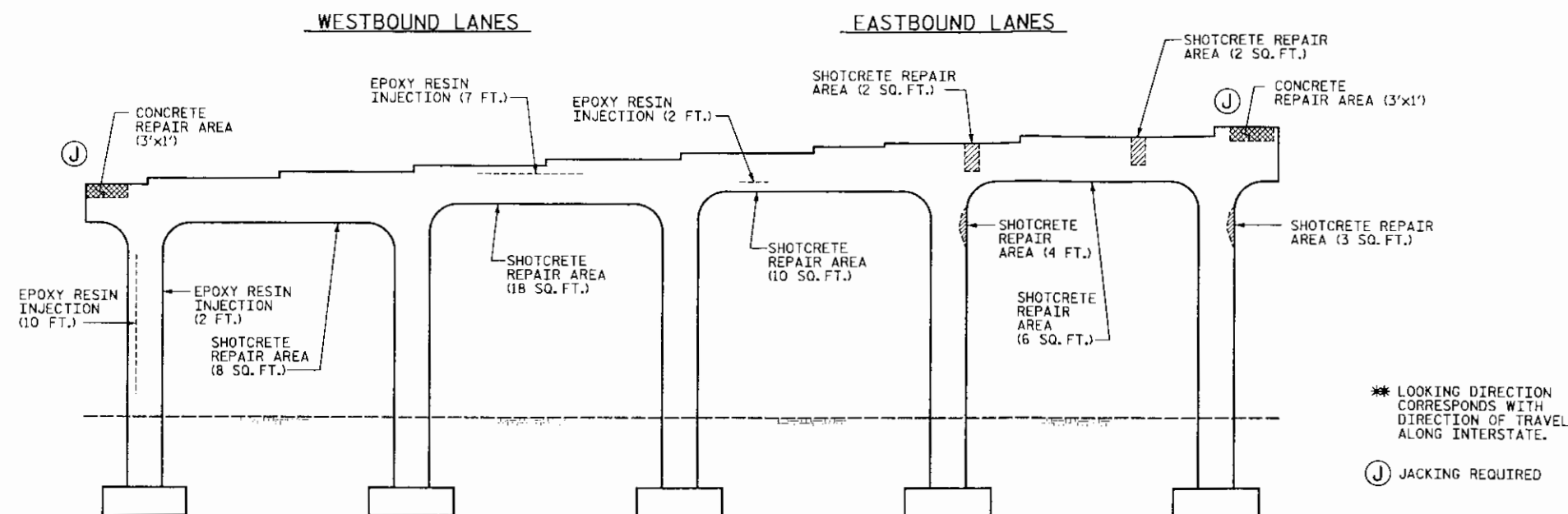
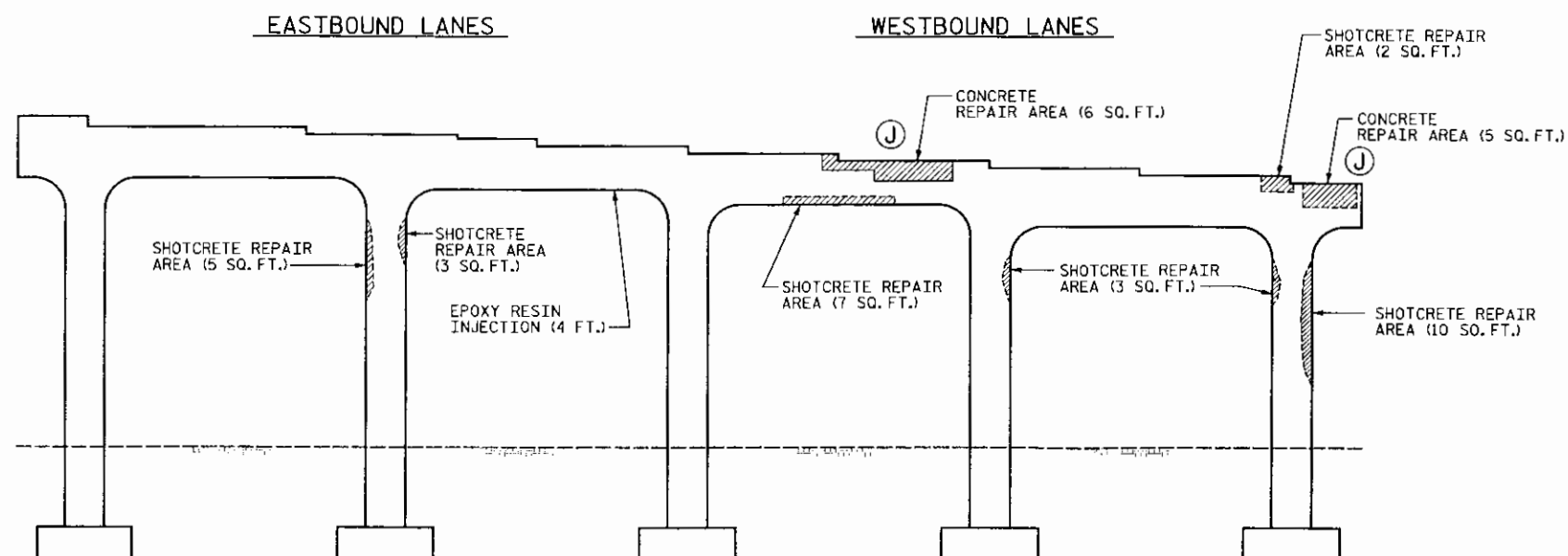
DRAWN BY : TRL DATE : 6-11
 CHECKED BY : AJP DATE : 6-11

 **STV / Ralph Whitehead Associates, Inc.**
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

 **STV / Ralph Whitehead Associates, Inc.**
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

NOTES:

1. SEE NOTES ON SHEET 3 OF 4.
2. FOR TYPICAL CONCTETE REPAIR DETAILS, SEE SHEET 3 OF 4.

ELEVATION OF BENT 2 - LOOKING EAST**ELEVATION OF BENT 2 - LOOKING WEST**

PROJECT NO. BP-5300N
HAYWOOD COUNTY
 BRIDGE NO.: 124

REHAB. OF BRIDGE NO 124 SHEET 4 OF 4

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 2
 SUBSTRUCTURE REPAIR**

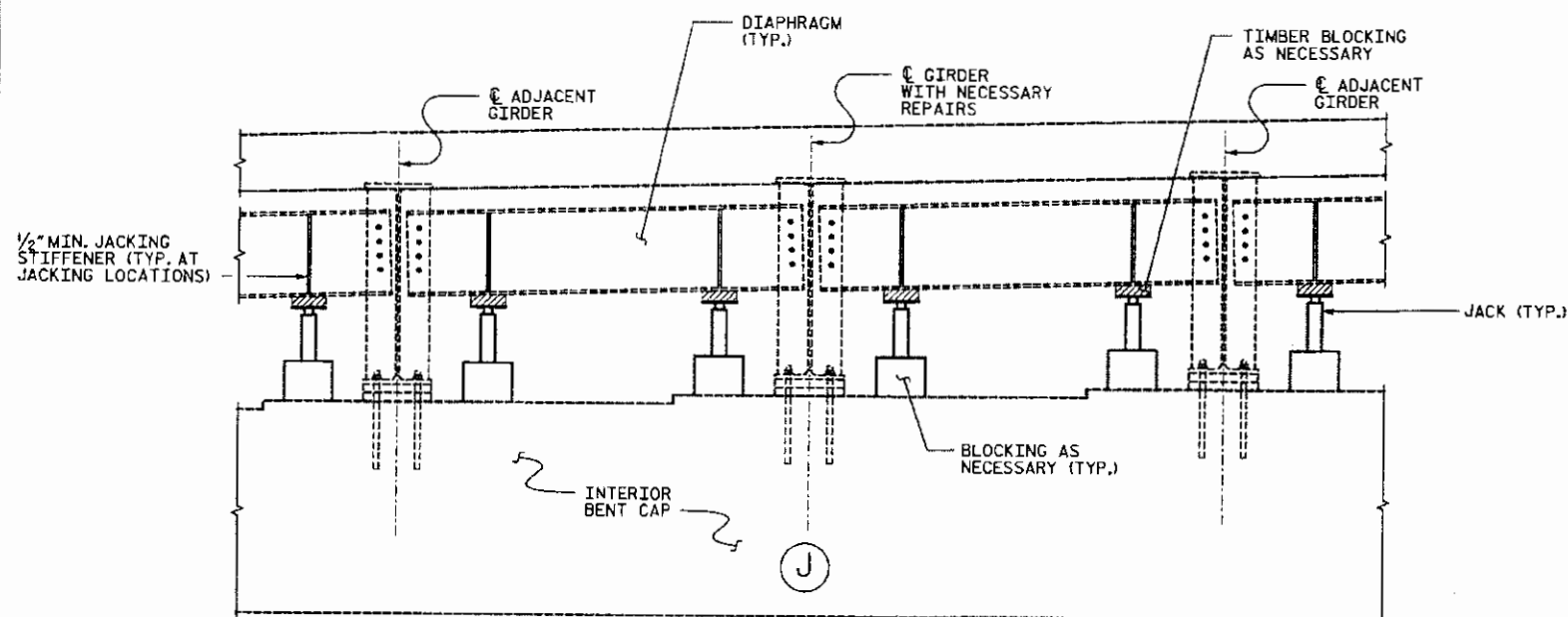
BRIDGE ON I-40
 OVER SR 1338



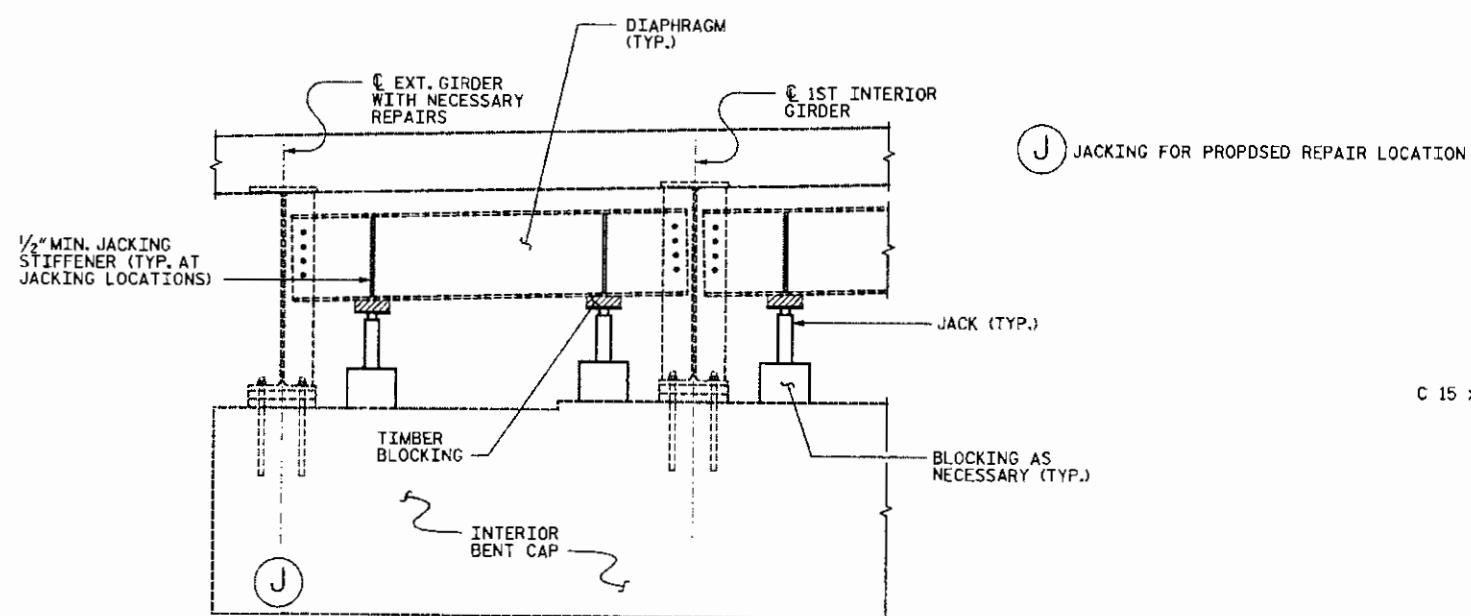
STV / Ralph Whitehead Associates, Inc.
 1000 West Marshhead St., Ste. 200
 Charlotte, NC 28208
 NC License No. F-0991

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-5
2			4			TOTAL SHEETS S-23

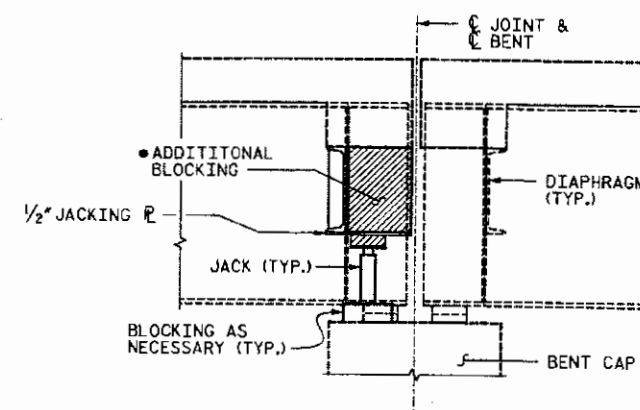
DRAWN BY : TRL DATE : 6-11
 CHECKED BY : AJP DATE : 6-11



GIRDER JACKING DETAIL AT INTERIOR GIRDER

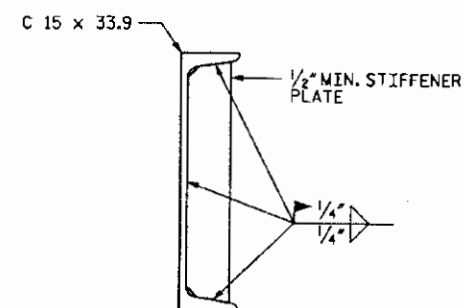


GIRDER JACKING DETAIL AT EXTERIOR GIRDER



TYPICAL SECTION @
JACKING LOCATION

- BLOCKING SHALL BE FULL WIDTH FROM BACK OF DIAPHRAGM CHANNEL TO THE END OF THE DECK TURN DOWN. BLOCKING SHALL BE INSTALLED THE FULL DEPTH OF THE DIAPHRAGM SUCH THAT THE BLOCKING WILL BE LIFTED SIMULTANEOUSLY WITH THE EXISTING DIAPHRAGM.



JACKING STIFFENER DETAIL

CONSTRUCTION SEQUENCE:

1. INSTALL JACKS AND BLOCKING AT LOCATIONS SHOWN ON PLAN.
2. REMOVE NECESSARY NUTS ON ANCHOR BOLTS.
3. JACK GIRDERS A MAXIMUM OF $\frac{1}{8}$ " IN ORDER TO RELIEVE LOAD ON BENT CAP UNDER BEARING.
4. MECHANICALLY LOCK ALL JACKS AT BENT.
5. PERFORM CONCRETE REPAIRS AT SPECIFIED LOCATIONS.
6. ONCE ALL REPAIRS ARE COMPLETE, LOWER BRIDGE. CONTRACTOR SHALL NOT LOWER BRIDGE UNTIL CONCRETE REPAIR MATERIAL HAS REACHED A COMPRESSIVE STRENGTH OF 3,000 PSI.

NOTE: THE CONTRACTOR HAS THE OPTION TO PROPOSE AN ALTERNATE CONSTRUCTION SEQUENCE PER THE APPROVAL OF THE ENGINEER.

NOTES:

1. JACKING DETAILS SHOWN ARE CONCEPTUAL AND CONSIDERED A MINIMUM. THE CONTRACTOR SHALL PROVIDE JACKING PLANS FOR ALL GIRDERS LIFTED FOR APPROVAL BY THE ENGINEER PRIOR TO ANY JACKING OPERATIONS. JACKING SHALL BE PERFORMED SUCH THAT BRIDGE CAN REMAIN OPEN TO TRAFFIC DURING JACKING OPERATIONS.
2. JACKING PLANS SHALL BE SIGNED AND SEALED BY LICENSED PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA.
3. THE CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL JACKS AS NECESSARY. A BLOCKING PLAN SHALL BE INCLUDED AS PART OF THE JACKING PLAN.
4. THE CONTRACTOR SHALL JACK GIRDERS ON AN INDIVIDUAL BENT SIMULTANEOUSLY BY MEANS OF A DUAL-FLOW PRESSURIZED PUMP CONTROLLING THE JACKS.
5. THE CONTRACTOR SHALL MONITOR THE PLAN LOCATION OF THE GIRDERS FROM INITIAL JACKING UNTIL GIRDERS ARE SECURED ON THEIR PERMANENT BEARINGS. IF THE PLAN LOCATION OF THESE GIRDERS SHIFT FROM ITS ORIGINAL POSITION, THE CONTRACTOR SHALL SECURE FROM ADDITIONAL MOVEMENT IMMEDIATELY. NOTIFY ENGINEER PRIOR TO PROCEEDING WORK OPERATIONS.
6. EACH JACK SHALL HAVE A MINIMUM SAFE WORKING CAPACITY OF 60 TONS.
7. PRIOR TO JACKING THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE SPAN FROM BEING LIFTED.
8. ONCE SPAN HAS BEEN JACKED, CONTRACTOR SHALL INSTALL A MECHANICAL LOCKING DEVICE TO ENSURE THAT GIRDER WILL NOT BE LOWERED DURING CURING OF CONCRETE.
9. CONTRACTOR TO TAKE APPROPRIATE MEANS TO REMOVE NUT ON ANCHOR BOLT WITHOUT DAMAGING THE ANCHOR BOLT. CONTRACTOR SHALL SUBMIT NUT REMOVAL METHOD TO INCLUDE PROCEDURES THAT WILL LOOSEN BOND BETWEEN INTERLOCKING THREADS TO ENGINEER FOR APPROVAL PRIOR TO REMOVING ANCHOR BOLT NUTS.
10. IN NO CIRCUMSTANCES SHOULD THE JACKING BE SOLELY SUPPORTED BY THE DIAPHRAGM. JACKS SHOULD BE CENTERED UNDER DIAPHRAGM AND ADDITIONAL BLOCKING.

PROJECT NO. BP-5300N

HAYWOOD COUNTY

BRIDGE NO.: 124, 142, 205 & 208

REHAB. OF HAYWOOD CO. BRIDGES

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

JACKING PLAN

BRIDGES ON I-40



DRAWN BY : TRL DATE : 6-11
CHECKED BY : TJT DATE : 6-11

 **STV / Ralph Whitehead Associates, Inc.**
1000 West Morehead St., Ste. 200
Charlotte, NC 28208
NC License No. F-0991

REVISIONS						SHEET NO. 5-23
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS C-23
2			4			

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

HAYWOOD COUNTY

DIVISION 14



BRIDGE PAINTING

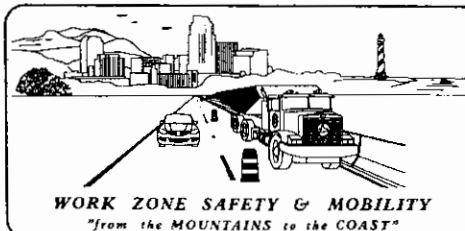
HAYWOOD CO. – #124, #142, #171, #205 AND #208

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, INDEX, TRAFFIC MANAGEMENT STRATEGY
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	GENERAL NOTES
TMP-2	SINGLE LANE CLOSURES ON I-40
TMP-2A	DESIGN TABLES
TMP-3	TRAFFIC CONTROL PHASING
TMP-4	BRIDGE #124 FLAGGING OPERATION FOR SR 1338 (FINES CREEK RD.) NORTHBOUND
TMP-4A	BRIDGE #124 FLAGGING OPERATION FOR SR 1338 (FINES CREEK RD.) SOUTHBOUND

TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE PAINTING WORK WILL BE PERFORMED USING LANE CLOSURES ON BRIDGE, AND/OR FLAGGER CONTROLLED LANE CLOSURES BELOW BRIDGE. REFER TO SHEET TMP-3 FOR TRAFFIC CONTROL PHASING.



PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT
RALEIGH, NC



PLAN PREPARED BY:
Stantec Consulting Services Inc.
801 Jones Franklin Road-Suite 300
Raleigh, NC 27606
Tel. 919.851.8866
Fax. 919.851.7024
www.stantec.com

BETSY L. WATSON, P.E.

GEORGE KARAGEORGE

TRAFFIC ENGINEER

TRANSPORTATION DESIGNER

APPROVED: *Betsy L. Watson*
DATE: 10/25/11

SEAL



WBS 45438.1.1

BP-5300N

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
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUMS

GENERAL

- ← DIRECTION OF TRAFFIC FLOW
↔ DIRECTION OF PEDESTRIAN TRAFFIC FLOW



WORK AREA



NORTH ARROW

LEGEND

TRAFFIC CONTROL DEVICES

- ▨ BARRICADE (TYPE III)
▲ CONE
● DRUM ⊙ SKINNY DRUM ⊙ TUBULAR MARKER
~ TEMPORARY CRASH CUSHION
⚡ FLASHING ARROW BOARD (TYPE C)
■ FLAGGER
🚔 LAW ENFORCEMENT
🚚 TRUCK MOUNTED ATTENUATOR (TMA)
📶 CHANGEABLE MESSAGE SIGN (CMS)
▬ PORTABLE CONCRETE BARRIER (PCB)

TEMPORARY SIGNING

- 🚧 PORTABLE SIGN
— STATIONARY SIGN
🚧 STATIONARY OR PORTABLE SIGN

SIGNALS

- EXISTING 🚧 PROPOSED 🚧 TEMPORARY
● EXISTING 🚧 PROPOSED 🚧 TEMPORARY
● EXISTING 🚧 PROPOSED 🚧 TEMPORARY

PAVEMENT MARKINGS

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

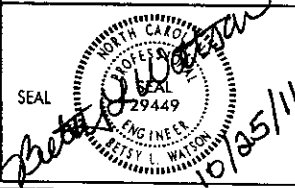
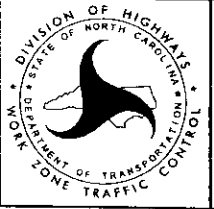
PAVEMENT MARKING SYMBOLS

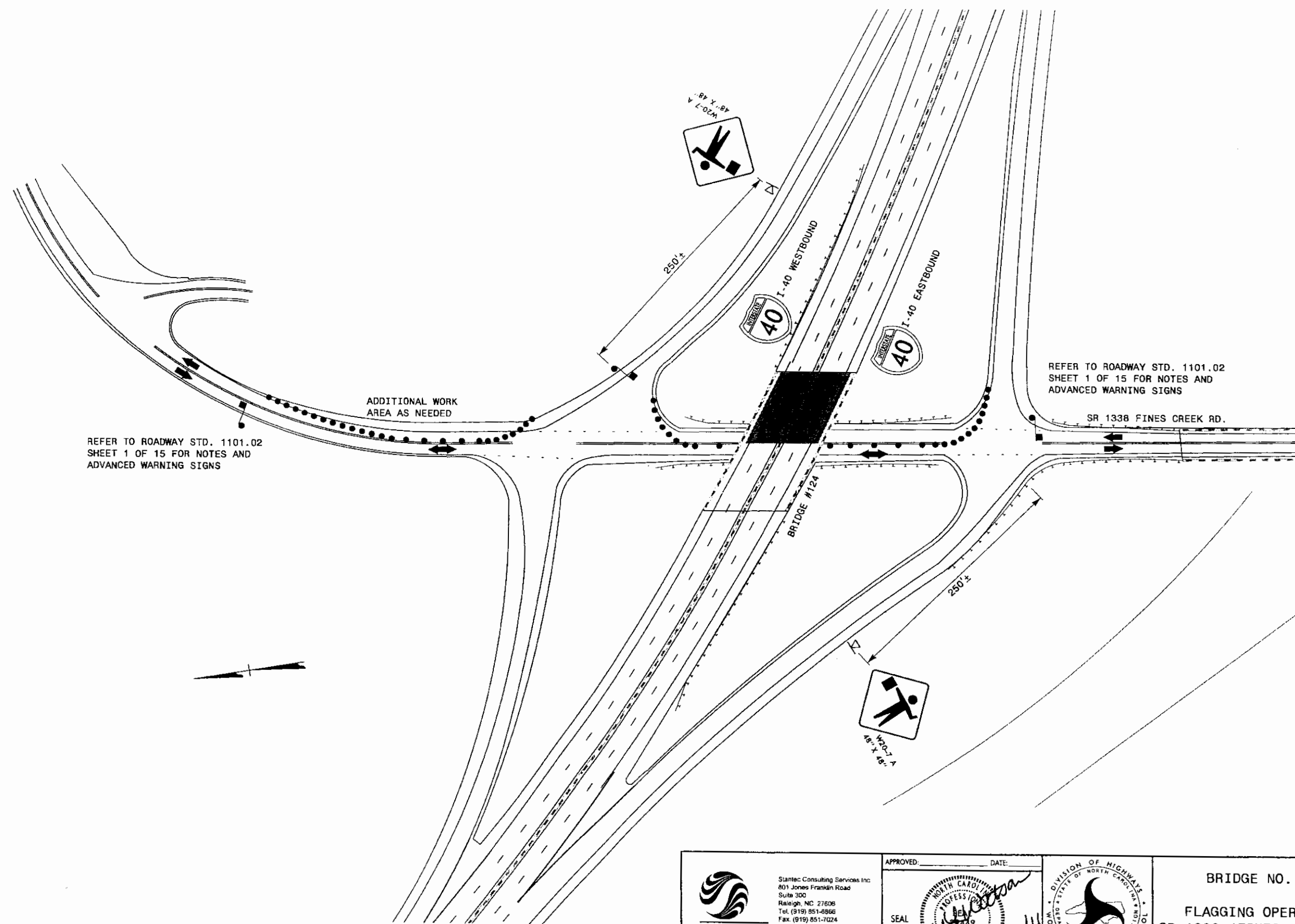
- ↑↔↑ PAVEMENT MARKING SYMBOLS
↑↔↑ EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)
ONLY PAVEMENT MARKING ALPHANUMERIC CHARACTERS

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
■ CRYSTAL/RED
◆ YELLOW/YELLOW

10/25/2011
U:\TrafficControl\NBP-5300N Haywood\TC\Plan Sheets\NBP-5300N.TC_TMP_OIA_RDWSTDLEGEND.dgn
gkarageorge

 Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel: (919) 851-9869 Fax: (919) 851-7024 www.stantec.com License No. F-0672	APPROVED: _____ DATE: _____  10/25/11		ROADWAY STANDARD DRAWINGS & LEGEND
---	--	---	--



REFER TO ROADWAY STD. 1101.02
SHEET 1 OF 15 FOR NOTES AND
ADVANCED WARNING SIGNS

ADDITIONAL WORK
AREA AS NEEDED

REFER TO ROADWAY STD. 1101.02
SHEET 1 OF 15 FOR NOTES AND
ADVANCED WARNING SIGNS

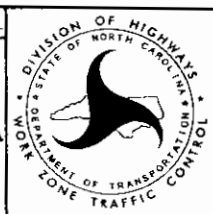
SR 1338 FINES CREEK RD.

BRIDGE #124

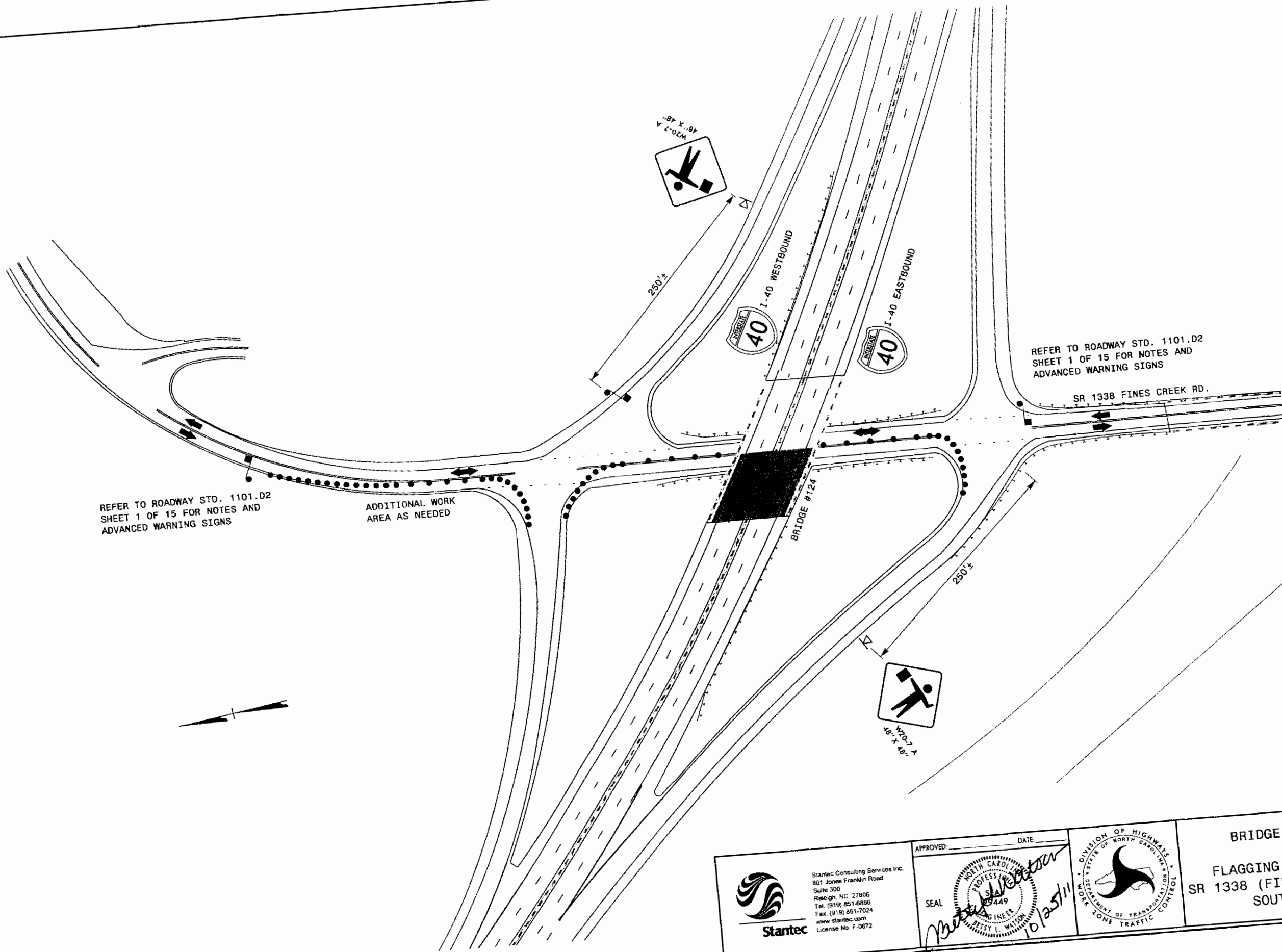


Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27608
Tel: (919) 851-8866
Fax: (919) 851-7024
www.stantec.com
License No. F-0672

APPROVED: _____ DATE: _____
SEAL: _____
PROFESSIONAL ENGINEER
PESSY L. WATSON
10/25/11



BRIDGE NO. 124
FLAGGING OPERATIONS
SR 1338 (FINES CREEK RD.)
NORTHBOUND



REFER TO ROADWAY STD. 1101.D2
SHEET 1 OF 15 FOR NOTES AND
ADVANCED WARNING SIGNS

ADDITIONAL WORK
AREA AS NEEDED

REFER TO ROADWAY STD. 1101.D2
SHEET 1 OF 15 FOR NOTES AND
ADVANCED WARNING SIGNS

SR 1338 FINES CREEK RD.

BRIDGE #124



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. P-0672

APPROVED: *[Signature]* DATE: 10/25/11
SEAL: *[Professional Engineer Seal]*
PROFESSIONAL ENGINEER
JESSY L. WATSON
10/25/11



BRIDGE NO. 124
FLAGGING OPERATIONS
SR 1338 (FINES CREEK RD.)
SOUTHBOUND

GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
BP-5300N	TMP-1B

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
I-40	6:00 A.M. - 7:00 P.M. MONDAY THRU THURSDAY AND 6:00 A.M. FRIDAY THRU 7:00 P.M. SUNDAY (NO WEEKEND CLOSURES)

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. MONDAY.
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. TUESDAY.
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 LANE.
- D) INSTALL ALL LANE CLOSURES ACCORDING TO THE PLANS, ROADWAY STANDARD DRAWINGS (1101.D2), OR AS DIRECTED BY THE ENGINEER.
- E) 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.
- F) 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.
- 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.
- H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON I-40.

MISCELLANEOUS

- 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) MAINTAIN DRIVEWAY ACCESS AT ALL TIMES, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- K) THE CONTRACTOR IS TO FURNISH, INSTALL, MAINTAIN, RELOCATE AND REMOVE CHANGEABLE MESSAGE SIGNS DURING VARIOUS STAGES OF CONSTRUCTION AT THE DISCRETION OF THE ENGINEER TO ADEQUATELY INFORM MOTORISTS OF CHANGING WORK ZONE CONDITIONS.
- L) PLACE ALL CHANGEABLE MESSAGE SIGNS AS NEEDED IN THE LOCATIONS AND WITH THE WORD MESSAGES AS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER TO PROVIDE ADVANCE WARNING TO THE PUBLIC DURING CONSTRUCTION.
- M) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

10/25/2011
U:\TrafficControl\BP-5300N Haywood\TCP\Plan Sheets\BP-5300N.TCP.TMP-01B.GENERALNOTESMASTER.dgn
ckcar@georgie



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-8868
Fax. (919) 851-7024
www.stantec.com
License No. F-0572

APPROVED: _____ DATE: _____

SEAL

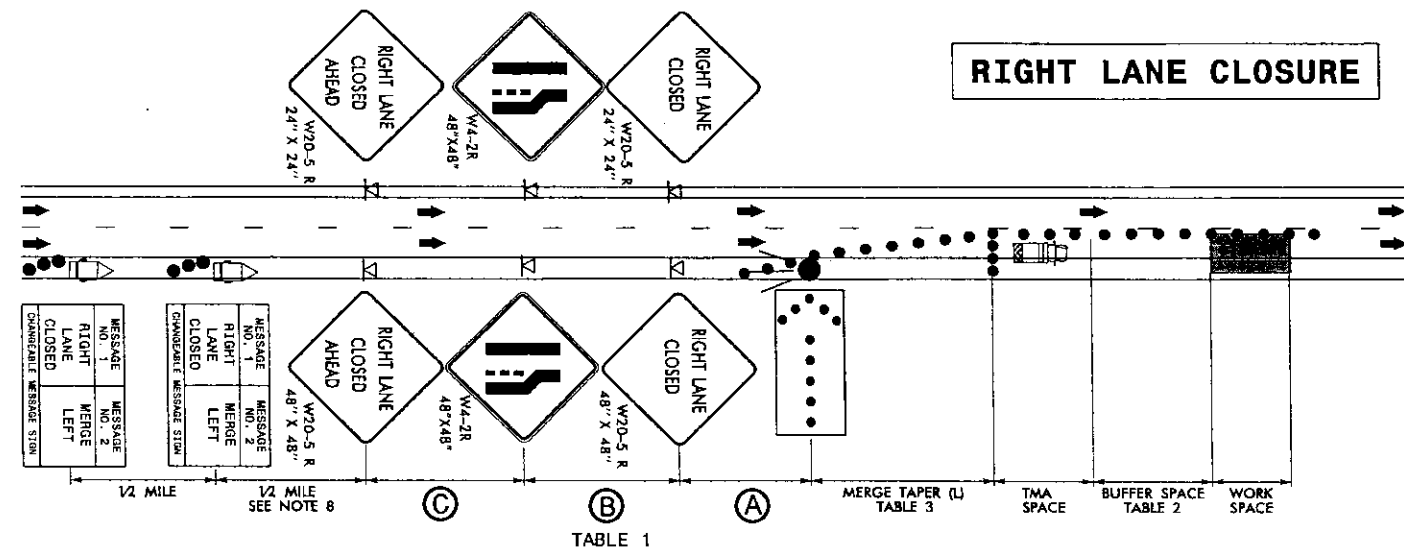
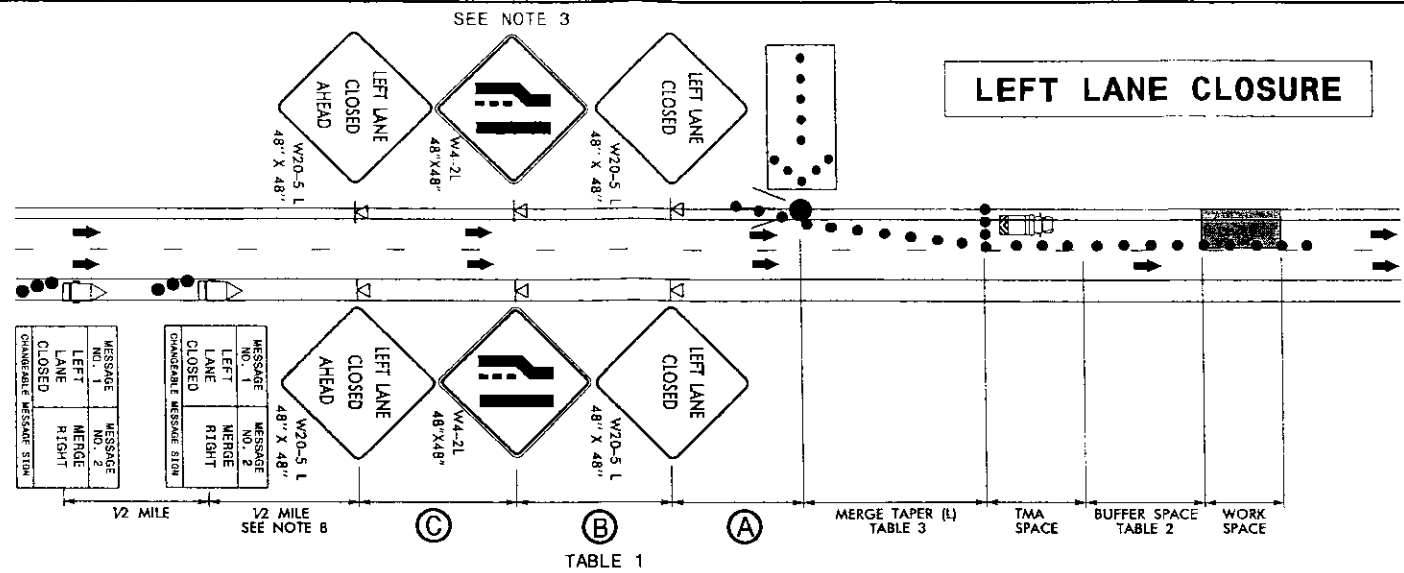
Patsy L. Watson

10/25/11



DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

GENERAL NOTES



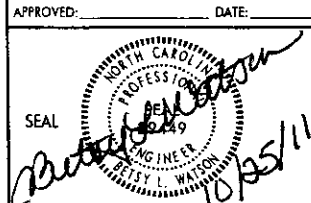
NOTES

- FOR BRIDGE #124 REFER TO STD. 1101.02 SHEET 10 OF 15, FOR RIGHT LANE CLOSURE THRU EXIT RAMP.
- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- STATIONARY SIGNS SHOULD BE USED IF THE LANE CLOSURE WILL BE IN PLACE FOR LONGER THAN 3 CONSECUTIVE DAYS.
- SIGNS ARE NOT REQUIRED ON THE LEFT SIDE OF THE ROADWAY WHEN THERE IS NOT ENOUGH ROOM FOR PLACEMENT. AT CONCRETE BARRIER LOCATIONS CLAMP ATTACHMENTS AND SMALLER SIGNS MAY BE USED.
- PLACE ARROW BOARDS ON THE SHOULDER. IF SHOULDERS DO NOT EXIST, PLACE ARROW BOARDS WITHIN THE MERGE TAPER BEHIND THE CHANNELIZING DEVICES OF THE LANE CLOSURE. IF NEEDED, EXTEND LANE CLOSURES TO PROVIDE STOPPING SIGHT DISTANCE TO THE ARROW BOARD (TABLE 2).
- PLACE LANE CLOSURE DRUMS IN TAPERS AT A MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT (MPH). ALONG BUFFER SPACES AND WORK AREAS SPACE DRUMS AT A MAXIMUM SPACING EQUAL IN FEET TO TWICE THE POSTED SPEED LIMIT (MPH). IN ALL CASES, CHANNELIZING DEVICES ARE TO BE SPACED IN SUCH A MANNER AS TO POSITIVELY ACHIEVE THE INTENDED VISUAL CHANNELIZATION. CHANNELIZING DEVICES SHOULD BE LATERALLY OFFSET 3 FT INSIDE THE CLOSED LANE AS ROOM PERMITS.
- POSITION THE TMIA TO MAINTAIN A ROLL-AHEAD DISTANCE AS RECOMMENDED BY THE MANUFACTURER.
- PLACE CHANGEABLE MESSAGE SIGN (CMS) ON THE OUTSIDE OF THE TRAVELWAY OR AS DIRECTED BY THE ENGINEER. PLACE CMS APPROXIMATELY 1/2 MILE IN ADVANCE OF THE W20-5 SIGNS. IF TRAFFIC BACKS UP TO WHERE THE CMS IS INITIALLY PLACED, RELOCATE CMS 1/2 MILE FROM ANTICIPATED BACKUP. CONTINUE TO MONITOR TRAFFIC AND MOVE CMS APPROXIMATELY 1/2 MILE IN CONJUNCTION WITH ANTICIPATED BACKUP, TAKING INTO CONSIDERATION VERTICAL GRADES AND HORIZONTAL ALIGNMENT OF THE ROADWAY.
- 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, REMOVE LANE CLOSURE DEVICES, COVER OR LAY DOWN SIGNS, AND TURN OFF ARROW BOARD AND MESSAGE SIGNS.

REFER TO SHEET TMP-2A
FOR DESIGN TABLES



Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-0696
Fax. (919) 851-7024
www.stantec.com
License No. F-0672



SINGLE LANE CLOSURES
ON I-40

TABLE 1 ADVANCE WARNING SIGN SPACING			
ROAD TYPE & POSTED SPEED LIMIT (MPH)	DISTANCE BETWEEN SIGNS (FEET)		
	(A)	(B)	(C)
URBAN ≤ 35	100	100	100
RURAL ≤ 35	200	200	200
40-50	350	350	350
55	500	500	500
CONTROLLED ACCESS ROADS (≥ 55)	1000	1500	2700

SIGN SPACING DISTANCES ARE RECOMMENDED AND APPROXIMATE. THESE DISTANCES SHOULD BE ADJUSTED FOR FIELD CONDITIONS, BY INCREASING OR DECREASING THE RECOMMENDED DISTANCES.

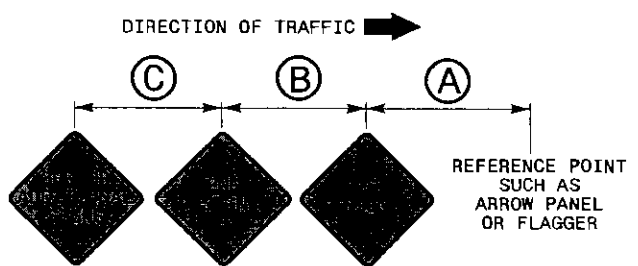


TABLE 2	
POSTED SPEED LIMIT (MPH)	LONGITUDINAL BUFFER SPACE & STOPPING SIGHT DISTANCE (FEET)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730

TAPER LENGTHS FOR CHANNELIZING DEVICES & PAVEMENT MARKINGS	
TYPE OF TAPER	TAPER LENGTH
MERGE	L
SHIFT	1/2 L
SHOULDER	1/3 L
DOWNSTREAM (OPTIONAL)	100' PER LANE
ONE-LANE, TWO-WAY TRAFFIC	50'-100'

M.U.T.C.O. FORMULAS FOR TAPER LENGTH OF CHANNELIZING DEVICES AND PAVEMENT MARKINGS:

SPEED LIMIT (S) TAPER LENGTH (L) IN FEET

40 MPH OR LESS $L = W \times S$

45 MPH OR GREATER $L = \frac{W \times S^2}{60}$

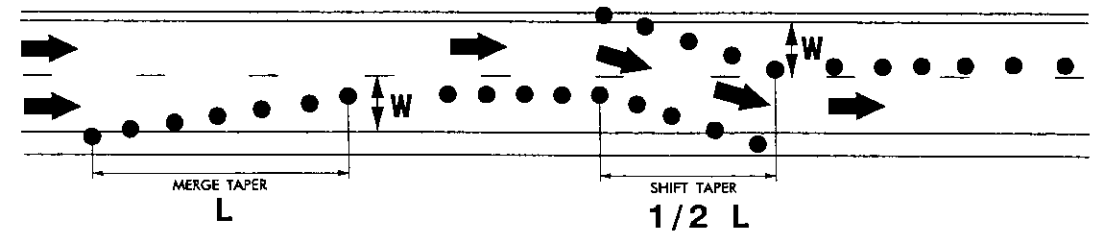
L = TAPER LENGTH (FEET)

W = OFFSET WIDTH (FEET)

S = POSTED SPEED LIMIT, OFF-PEAK 85 PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED (MPH)

WHENEVER TAPERS ARE TO BE USED IN CLOSE PROXIMITY TO AN INTERCHANGE RAMP, CROSSROADS, CURVES, OR OTHER INFLUENCING FACTORS, THE LENGTH OF THE TAPERS MAY BE ADJUSTED.

TABLE 3 TAPER (L)												
OFFSET WIDTH (FEET) W	1	2	3	4	5	6	7	8	9	10	11	12
POSTED SPEED (MPH) S	MINIMUM TAPER (L) LENGTH (FEET) L											
20	10	15	20	30	35	40	50	55	60	70	75	80
30	15	30	45	60	75	90	105	120	135	150	165	180
40	30	55	80	110	135	160	190	215	240	270	295	320
50	50	100	150	200	250	300	350	400	450	500	550	600
60	60	120	180	240	300	360	420	480	540	600	660	720
70	70	140	210	280	350	420	490	560	630	700	770	840



10/25/2011
U:\TrafficControl\BP-5300N Haywood\TCP\Plan Sheets\BP-5300N_TC_TMP-02A.dgn
gkorogorog

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel: (919) 851-5966
Fax: (919) 851-7024
www.stantec.com
License No. F-0672

APPROVED: _____ DATE: _____

SEAL

Professional Engineer
10/25/11

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL PLAN
DESIGN TABLES

TRAFFIC CONTROL PHASING

BRIDGE #124 - I-40 OVER SR 1338 (FINES CREEK RD.)

WHEN PAINTING OVER NORTHBOUND LANE USE FLAGGING OPERATION AS SHOWN ON SHEET TCP-4.

WHEN PAINTING OVER SOUTHBOUND LANE USE FLAGGING OPERATION AS SHOWN ON SHEET TCP-4A.

BRIDGE #142 - I-40 OVER PIGEON RIVER

WHEN PAINTING OVER PIGEON RIVER USE LANE CLOSURES ALONG I-40 AS SHOWN ON SHEETS TMP-2 AND TMP-2A.

BRIDGE #171 - I-40 OVER SR 1338 (WHITE OAK RD.) AND JONATHAN CREEK

WHEN PAINTING OVER SR 1338 (WHITE OAK RD.) USE A FLAGGING OPERATION ON SR 1338 PER ROADWAY STD. 1101.02 SHEET 1 OF 15.

WHEN PAINTING OVER JONATHAN CREEK USE LANE CLOSURES ALONG I-40 AS SHOWN ON SHEETS TMP-2 AND TMP-2A.

BRIDGE #205/#208 - I-40 OVER SR 1364 (COLEMAN MOUNTAIN RD.)

WHEN PAINTING OVER SR 1364 (COLEMAN MOUNTAIN RD.) USE A FLAGGING OPERATION ON SR 1364 PER ROADWAY STD. 1101.02 SHEET 1 OF 15.

10/25/2011
C:\TrafficControl\BP-5300N Haywood\TCP\Plan Sheets\BP-5300N_TC_TMP_03_PHASING.dgn
gcaraborge

 Stantec	Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel: (919) 651-8866 Fax: (919) 851-7024 www.stantec.com License No. F-0672	APPROVED: _____ DATE: _____			TRAFFIC CONTROL PHASING