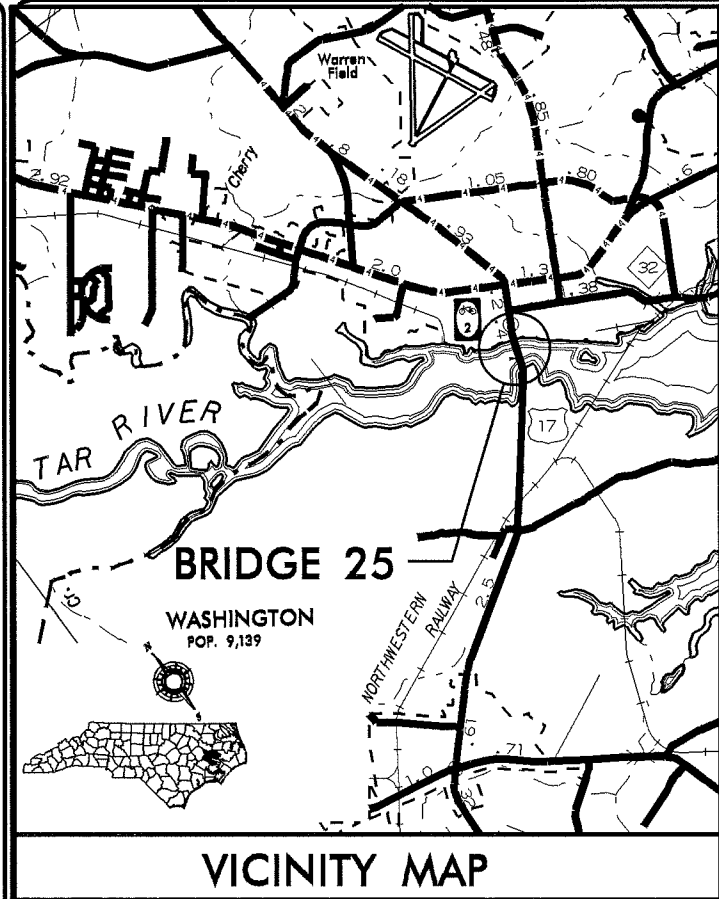


PROJECT: 17BP.2.P.12

CONTRACT: DB00086



VICINITY MAP

INDEX OF SHEETS

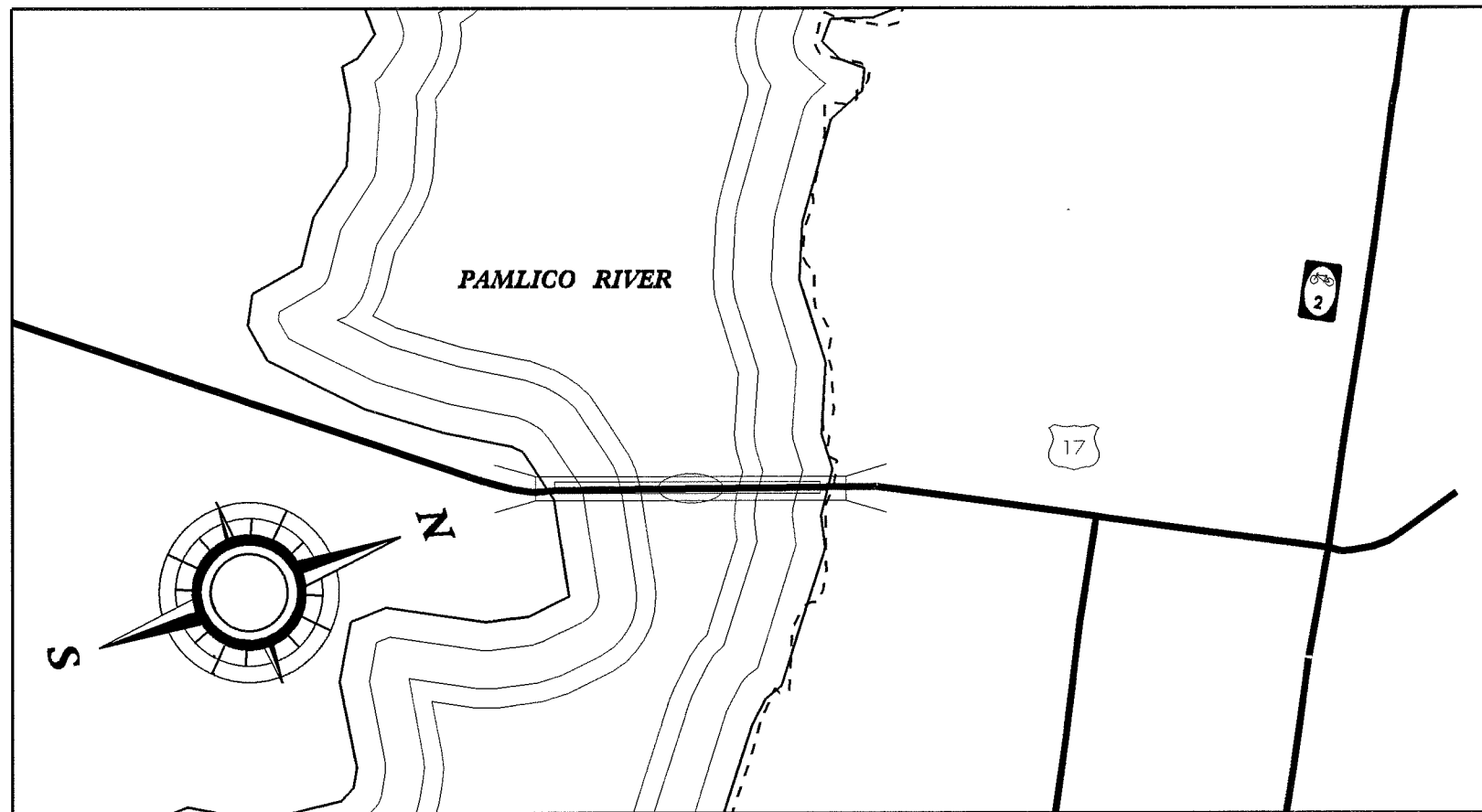
DESCRIPTION	SHEET NUMBER
TITLE SHEETS	1
STRUCTURE SHEETS	S-1 THRU S-12
TRAFFIC CONTROL PLANS	TMP-1 THRU TMP-11

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

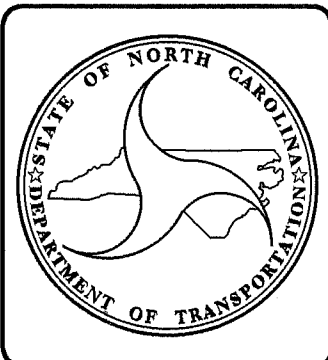
BEAUFORT COUNTY

LOCATION: BRIDGE #25, ON US17 ACROSS PAMLICO RIVER

TYPE OF WORK: BRIDGE PRESERVATION, CLEANING & PAINTING OF EXISTING BRIDGE, REPAIRS TO SUPERSTRUCTURE, CONCRETE REPAIRS & SHOTCRETE REPAIRS.



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.P.12	1	25
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
17BP.2.P.12		P.E.	
17BP.2.P.12		CONST.	



DESIGN DATA
BEAUFORT #25 :
ADT 2009 = 18000

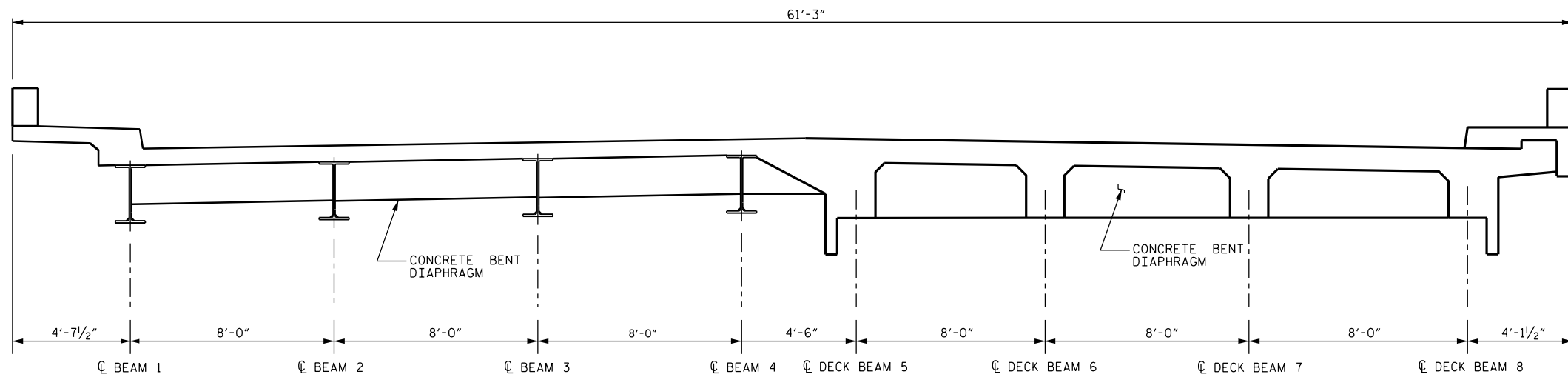
PROJECT LENGTH
BRIDGE BEAUFORT #25 = .232 MILE

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.

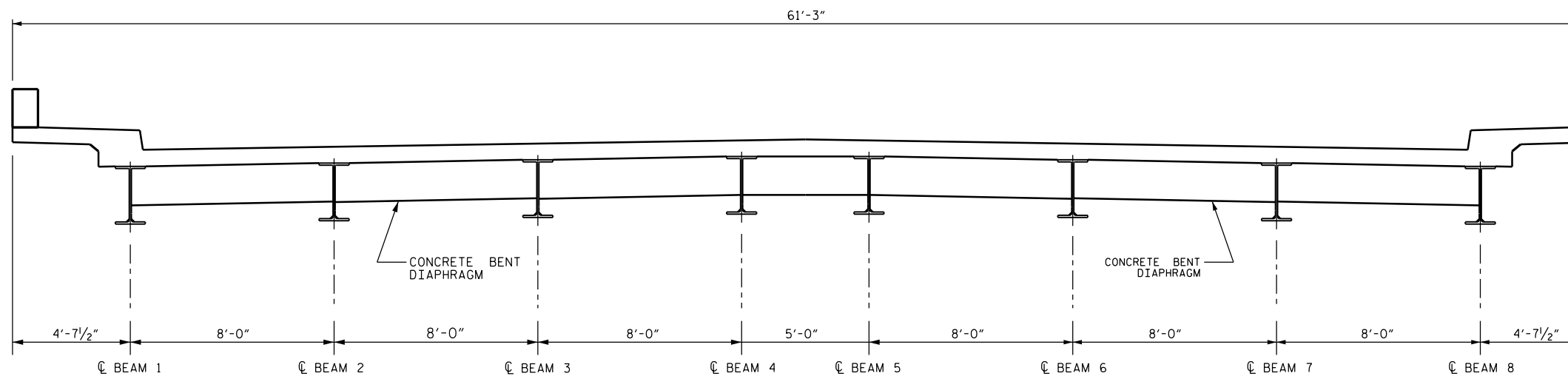
2012 STANDARD SPECIFICATIONS

LETTING DATE:
AUGUST 22, 2012

DANIEL MULLER, P.E.
PROJECT DESIGN ENGINEER



TYPICAL SECTION
SPANS 1 - 21 AND 27 - 34



TYPICAL SECTION
SPANS 22 AND 26

JACKING NOTES:

THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM.

BEFORE THE JACKING OPERATION BEGINS, THE ONE BAR METAL RAIL SHALL BE DISCONNECTED IN ORDER TO AVOID DAMAGE TO THE RAILING SYSTEM.

EXCEPT AT BENT 21, THE CONTRACTOR MAY ELECT TO JACK ONLY THE OUTSIDE GIRDERS PROVIDED THE NUTS ON THE REST OF THE STEEL GIRDERS AT THE BENT ARE LOOSENED TO PREVENT DAMAGE TO THE CONCRETE DECK.

AT BENT 21, THE CONTRACTOR SHALL JACK ALL GIRDERS ALONG THE BEARING LINE SIMULTANEOUSLY. JACKING HEIGHT SHOULD BE LIMITED TO THAT REQUIRED TO CLEAR THE BEARINGS IN ORDER TO PREVENT DAMAGE AT THE DIAPHRAGM AT BENT 22.

THE EXISTING CONDITION OF THE CONCRETE CAP AND CONCRETE DIAPHRAGM AT BENT #21 IS SUCH THAT JACKING FROM ABOVE UTILIZING A CARRIER BEAM TYPE FRAME MAY BE THE BEST POSSIBLE METHOD. A BRIDGE CLOSURE PERIOD HAS BEEN PROVIDED SPECIFICALLY FOR THIS REPAIR. SEE THE TRAFFIC MANAGEMENT PLANS.

ALL JACKING SHALL BE ACCOMPLISHED BY MEANS OF A DUAL-FLOW PRESSURIZED PUMP CONTROLLING THE JACKS.

THE SPAN SHALL BE LIFTED ENOUGH THAT THE BEAMS CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE SPAN FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING BEAM REPAIR OR IF JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION IT SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF DURING THE JACKING PROCESS OR WHILE THE SPAN IS BEING SUPPORTED THE BEAMS SHIFT FROM THEIR ORIGINAL POSITION, ALL WORK WILL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE SPAN FROM BEING LIFTED.

ALL ADJACENT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSEN TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSEN SHALL BE TIGHTEN BACK AFTER THE BEAMS ARE REPAIRED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

PAYMENT OF INDIVIDUAL BEAM JACKING WILL BE MADE AT THE UNIT PRICE BID FOR BEAM JACKING. SUCH PRICE WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AT EACH JACKING LOCATION.

PAYMENT OF SPAN BEAM JACKING AT BENT #21 WILL BE MADE AT THE LUMP SUM PRICE BID FOR SPAN JACKING. SUCH PRICE WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SERVICE REACTIONS PER BEARING

DEAD LOAD:	19.0 KIPS
LIVE LOAD + IMPACT:	47.0 KIPS
TOTAL:	66.0 KIPS

NOTE: JACKS SHALL HAVE A MINIMUM SAFE LOAD OF 125% OF THE SERVICE LOADS SPECIFIED.

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 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.

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

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR HANDLING OF BRIDGE WASH WATER, SEE SPECIAL PROVISIONS.

FOR PAINTING OF EXISTING STRUCTURES, SEE SPECIAL PROVISIONS.

PROJECT NO. 17BP.2.P.12

BEAUFORT COUNTY

BRIDGE NO. 25

SHEET OF

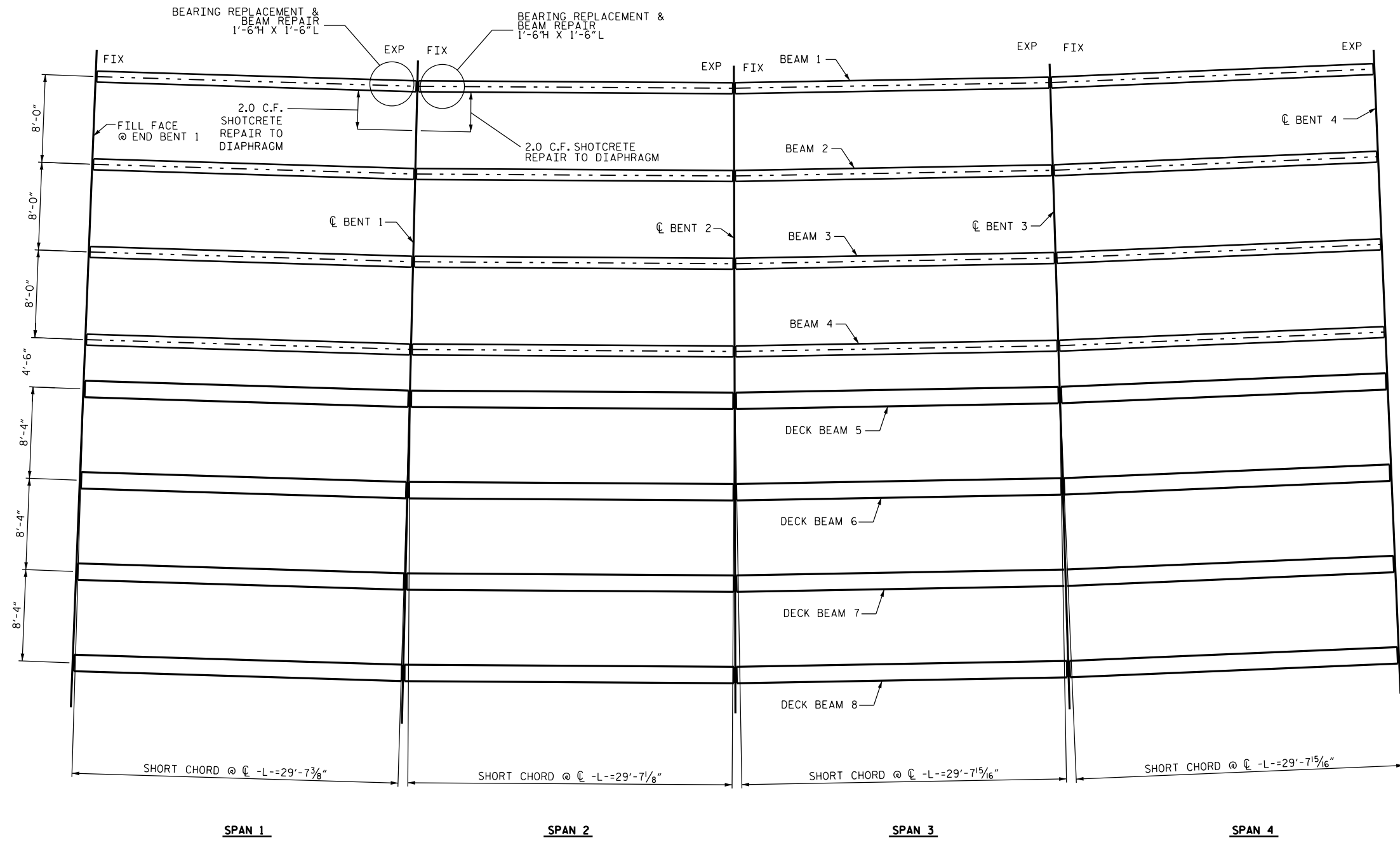
TOTAL BILL OF MATERIAL								
CLEANING & REPAINTING OF BRIDGE #25	POLLUTION CONTROL	SPAN JACKING BRIDGE #25	BEAM JACKING BRIDGE #25	STRUCTURAL STEEL FOR GIRDER REPAIR BRIDGE #25	BEARING REPLACEMENT	SHOTCRETE REPAIRS	CONCRETE REPAIRS	STRUCTURAL STEEL
LUMP SUM	LUMP SUM	LUMP SUM	EA.	LBS.	EA.	C.F.	C.F.	APPROX. LBS
LUMP SUM	LUMP SUM	LUMP SUM	6	876	10	46	10	552

DRAWN BY : D. MULLER DATE : 7/2012
CHECKED BY : P. SROUSE DATE : 7/2012

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION, NOTES AND
BILL OF MATERIAL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			12



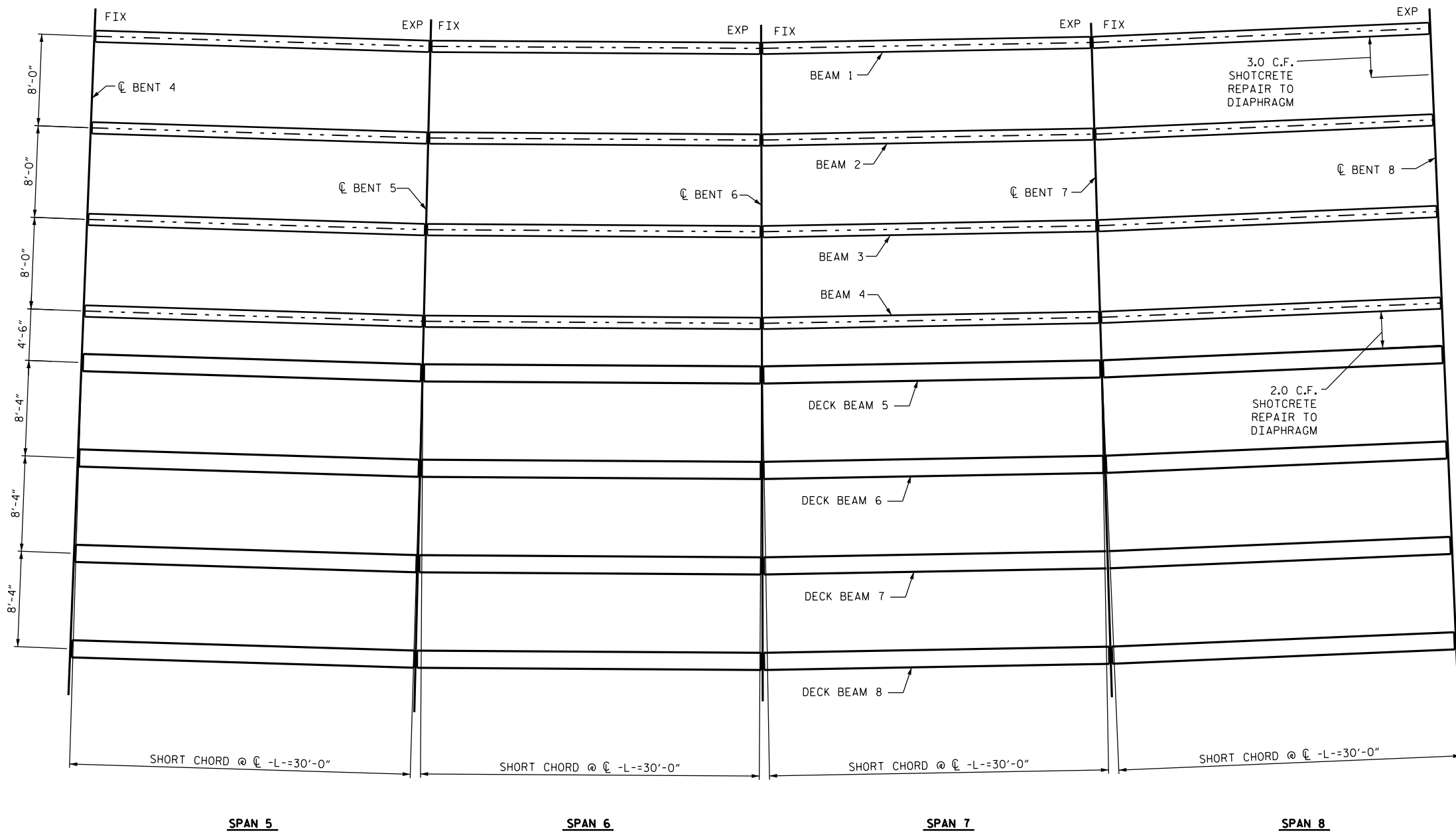
FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO: 25

SUMMARY OF QUANTITIES					
SPANS 1-4					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
1	1	1	1'-6"	1'-6"	85
1	2	1	1'-6"	1'-6"	85
TOTAL WEIGHT					170
# OF BEARING REPLACEMENTS					2
TOTAL SHOTCRETE REPAIR					4 CF
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>					
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>					

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-2
1			3			TOTAL SHEETS
2			4			12



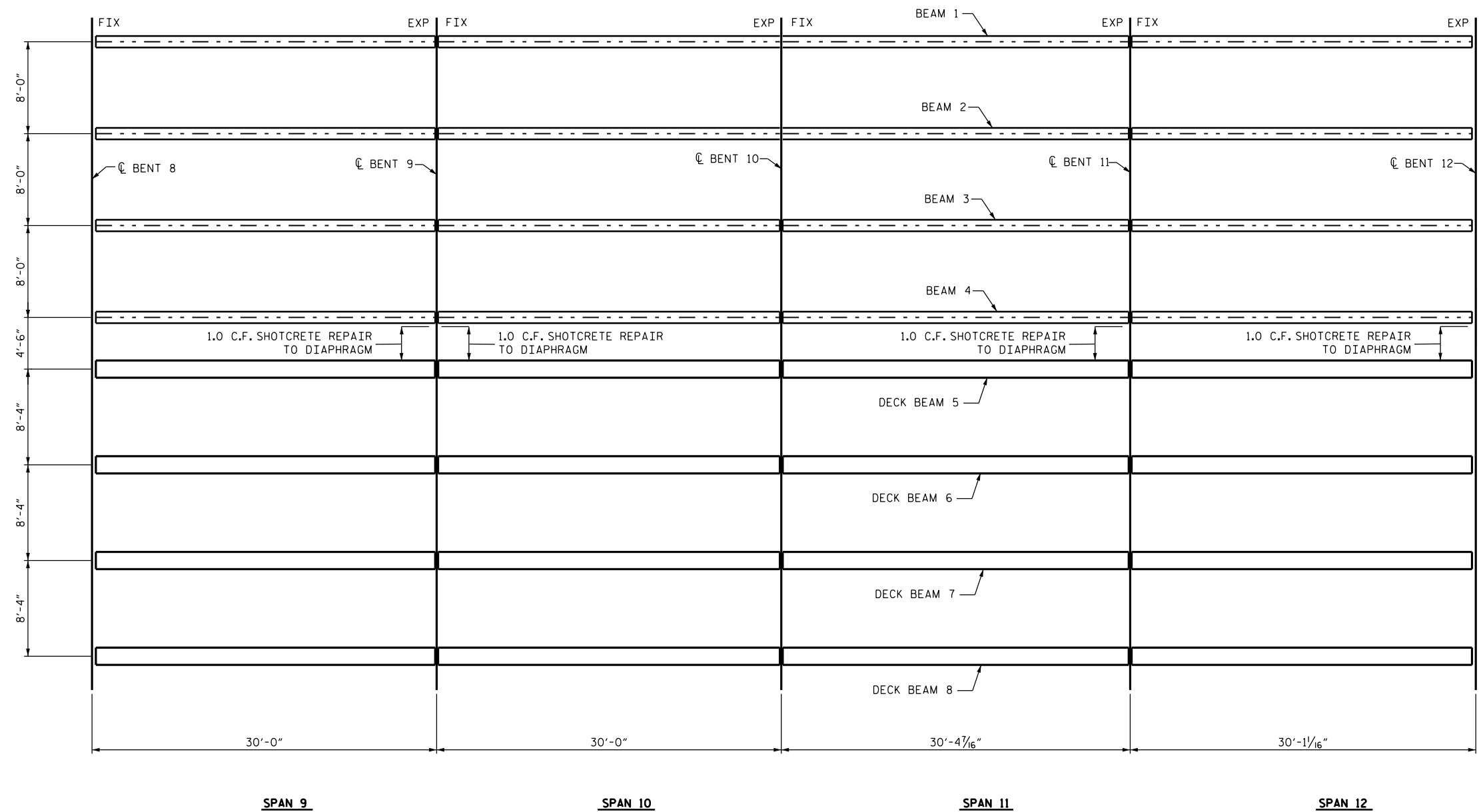
FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO. 25

SUMMARY OF QUANTITIES						
SPANS 5-8						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
TOTAL WEIGHT					0	
# OF BEARING REPLACEMENTS					0	
TOTAL SHOTCRETE REPAIR					5 C.F.	
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>						
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>						

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-3
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 5-8)						TOTAL SHEETS 12
REVISIONS						NC006
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO: 25
 SHEET OF

SUMMARY OF QUANTITIES					
SPANS 9-12					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
TOTAL WEIGHT					0
# OF BEARING REPLACEMENTS					0
TOTAL SHOTCRETE REPAIR					4 CF
DRAWN BY : <u>D. MULLER</u>		DATE : <u>7/2012</u>			
CHECKED BY : <u>P. SPROUSE</u>		DATE : <u>7/2012</u>			

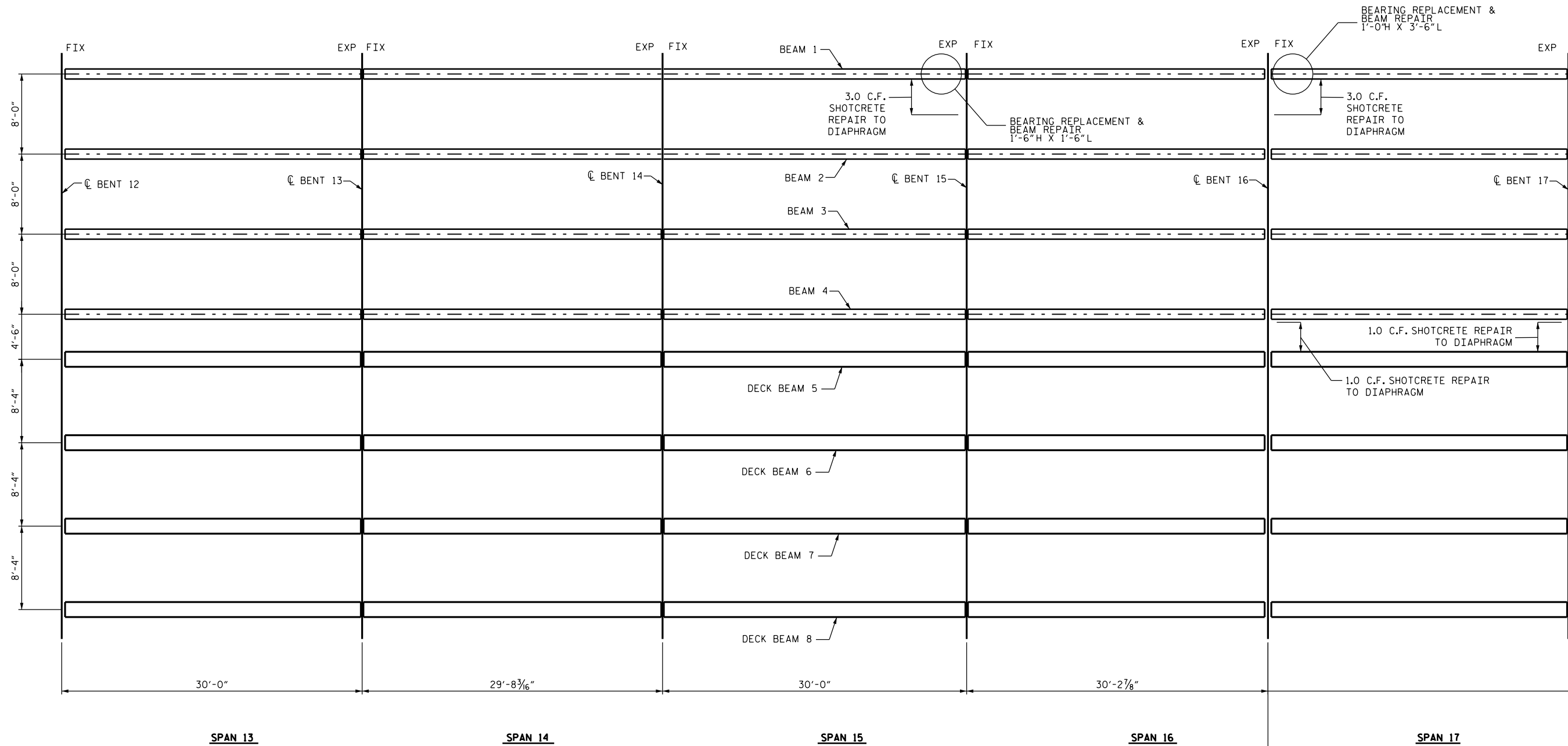
NOTES:

THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.

SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.

SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 9-12)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-4					TOTAL SHEETS 12



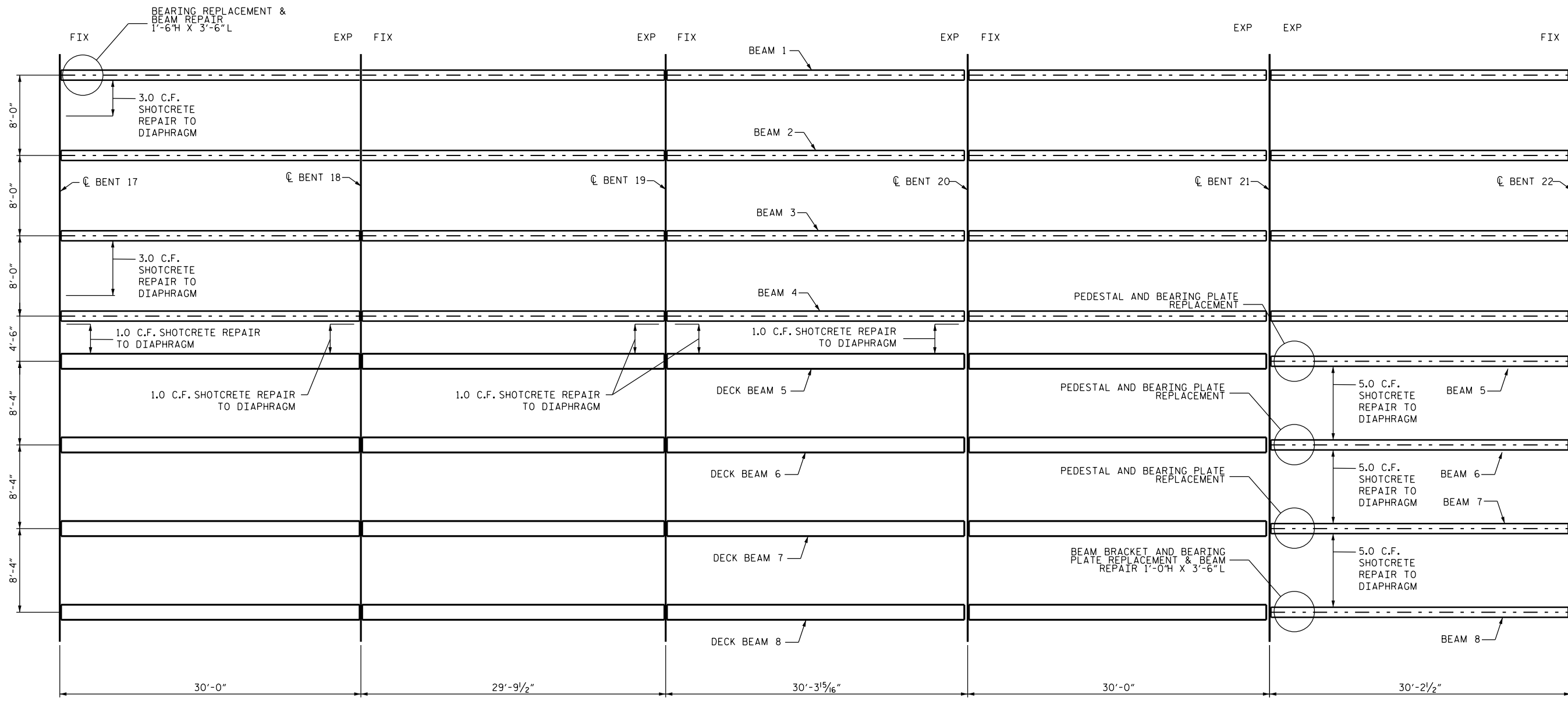
FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO: 25
 SHEET OF

SUMMARY OF QUANTITIES					
SPANS 13-17					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
1	15	15	1'-6"	1'-6"	85
1	17	16	1'-0"	3'-0"	135
TOTAL WEIGHT					220
# OF BEARING REPLACEMENTS					2
TOTAL SHOTCRETE REPAIR					8 CF
DRAWN BY : <u>D. MULLER</u>		DATE : <u>7/2012</u>			
CHECKED BY : <u>P. SPROUSE</u>		DATE : <u>7/2012</u>			

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5	
1			3			TOTAL SHEETS	
2			4			12	



SPAN 18

SPAN 19

SPAN 20

SPAN 21

SPAN 22

FRAMING PLAN

NOTES:

THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.

SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.

SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

SUMMARY OF QUANTITIES

SPANS 18-22					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
1	18	17	1'-6"	3'-6"	193
8	22	21	1'-0"	3'-6"	158
TOTAL WEIGHT					351
# OF BEARING REPLACEMENTS					5
# OF PEDESTAL REPLACEMENTS					3
# OF BRACKET REPLACEMENTS					1
TOTAL SHOTCRETE REPAIR					26 CF

DRAWN BY: D. MULLER DATE: 7/2012
 CHECKED BY: P. SPROUSE DATE: 7/2012

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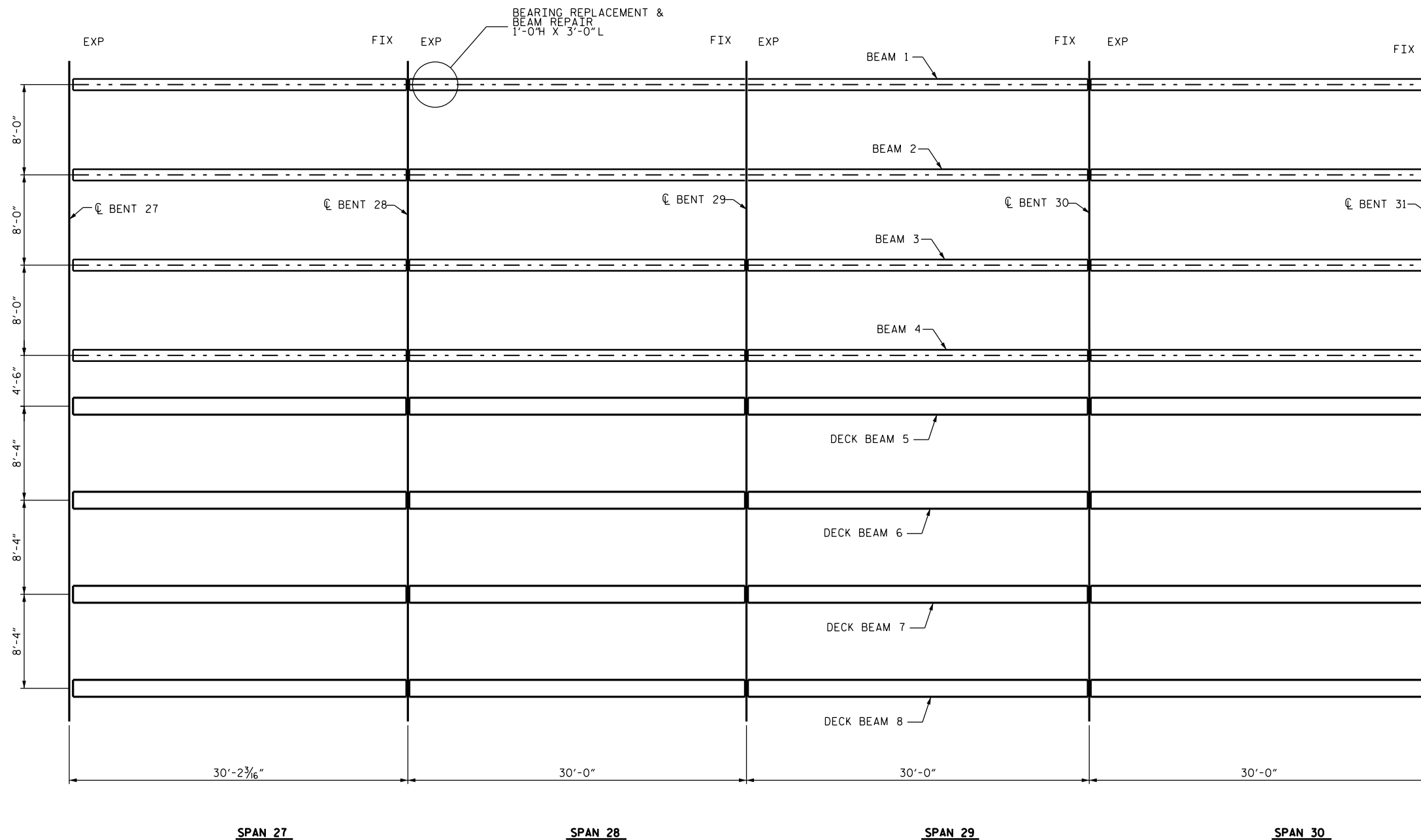
PROJECT NO. 17BP.2.P.12
 BEAUFORT COUNTY
 BRIDGE NO: 25

SHEET _ OF _

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 18-22)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. S-6
 TOTAL SHEETS 12

NC005



SPAN 23 THROUGH SPAN 26 NOT SHOWN. NO STEEL REPAIRS REQUIRED. FOR PAINTING REQUIREMENTS, SEE SPECIAL PROVISIONS

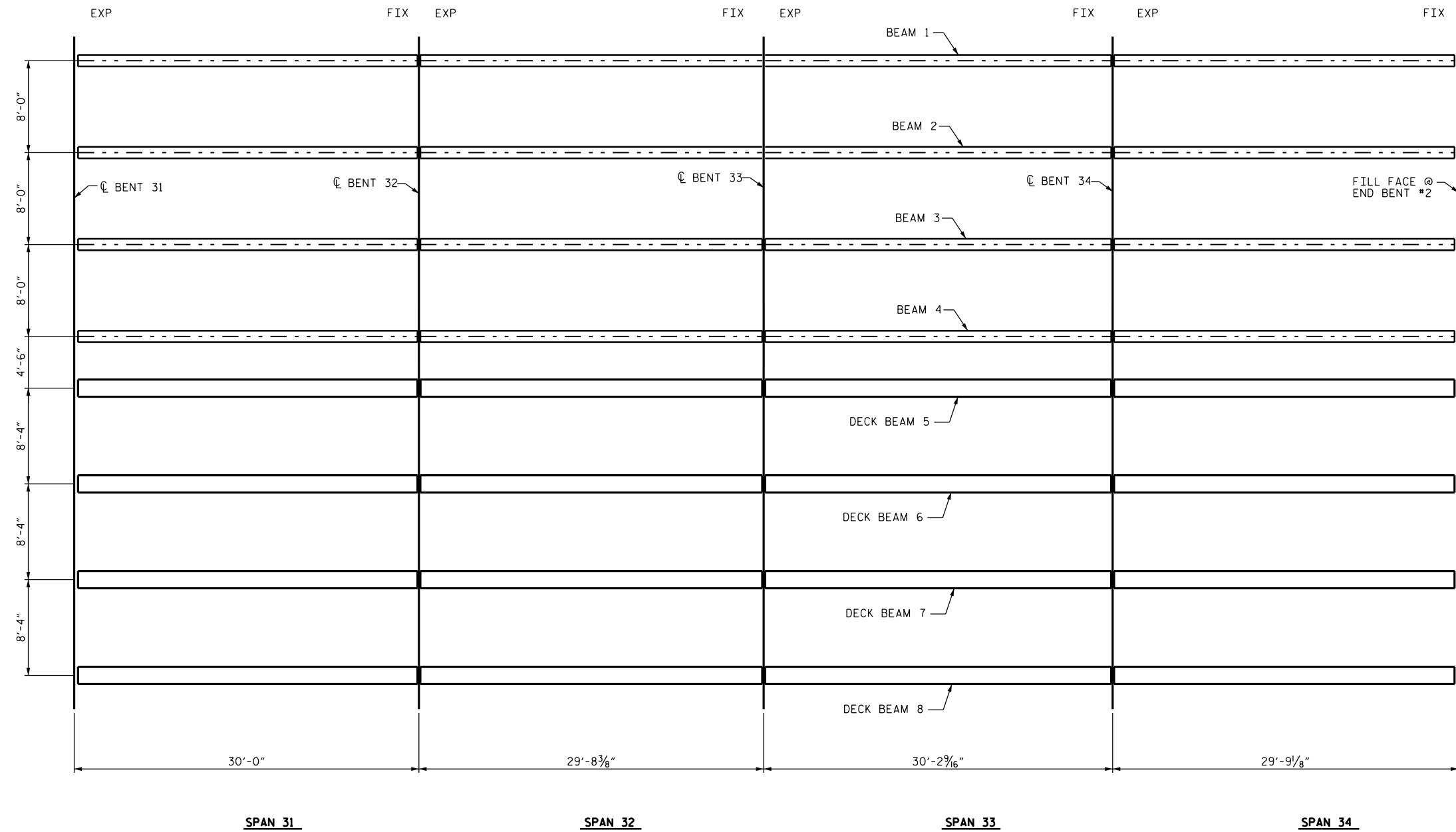
FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

SUMMARY OF QUANTITIES					
SPANS 27-30					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
1	28	28	1'-0"	3'-0"	135
1					
TOTAL WEIGHT					135
# OF BEARING REPLACEMENTS					1
TOTAL SHOTCRETE REPAIR					0 CF
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>					
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>					

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 27-30)					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-7					TOTAL SHEETS 12



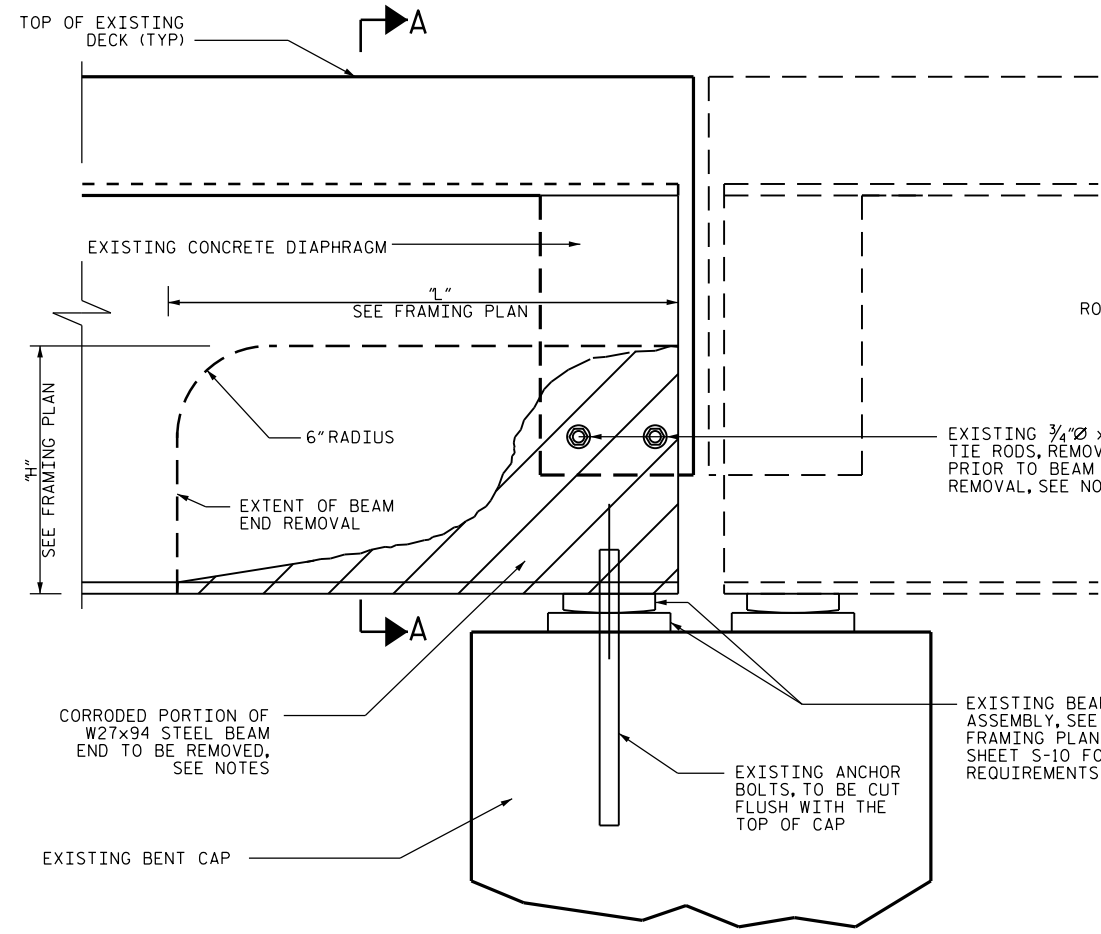
FRAMING PLAN

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO: 25
 SHEET OF

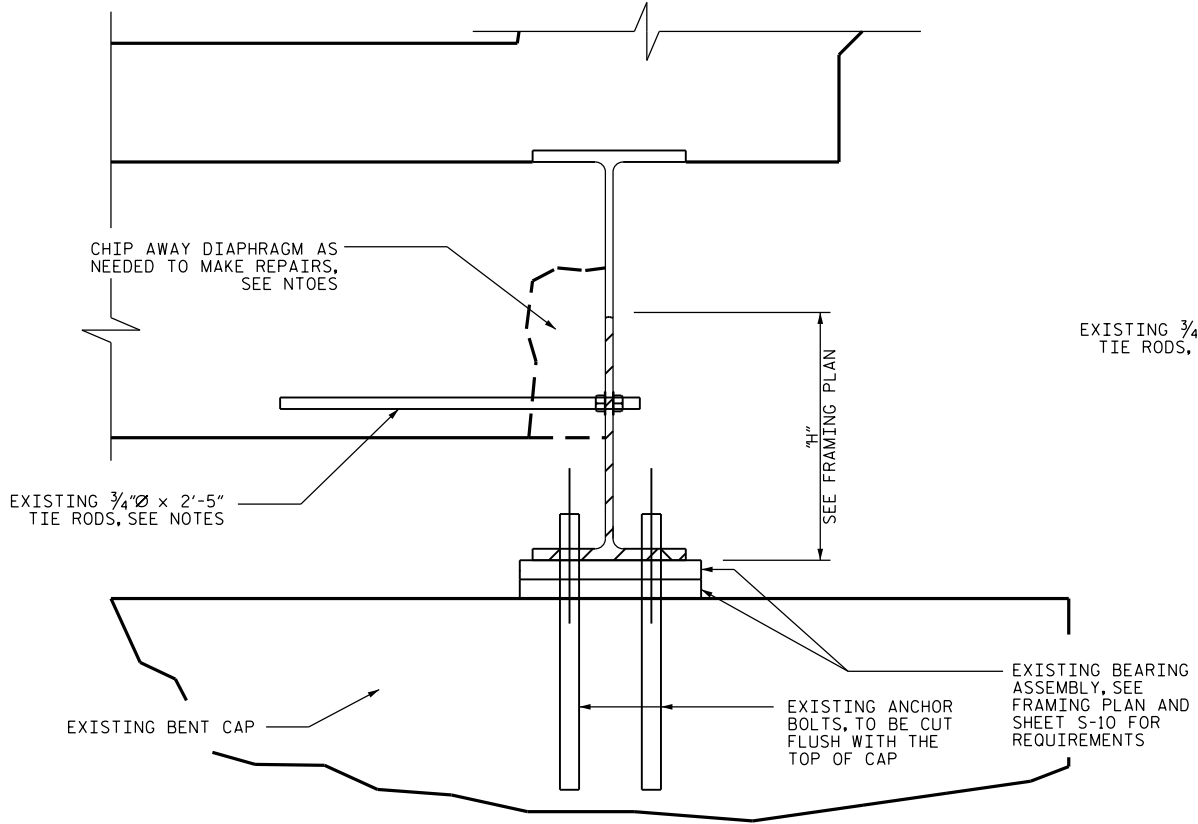
NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-9 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-12 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

SUMMARY OF QUANTITIES						
SPANS 31-34						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
TOTAL WEIGHT					0	
# OF BEARING REPLACEMENTS					0	
TOTAL SHOTCRETE REPAIR					0 CF	
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>						
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>						

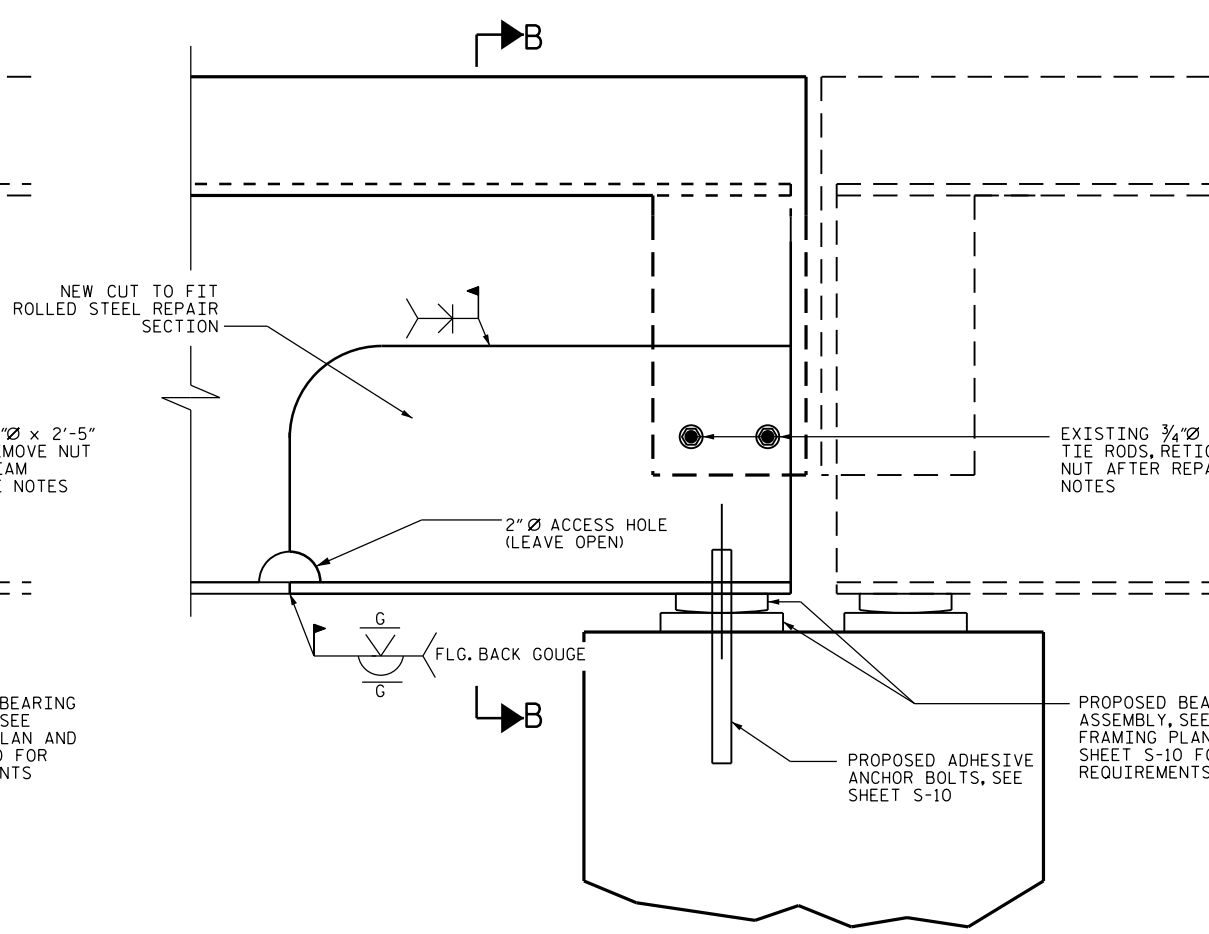
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO. S-8
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 31-34)						TOTAL SHEETS 12
REVISIONS						SHEET NO. S-8 TOTAL SHEETS 12
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			



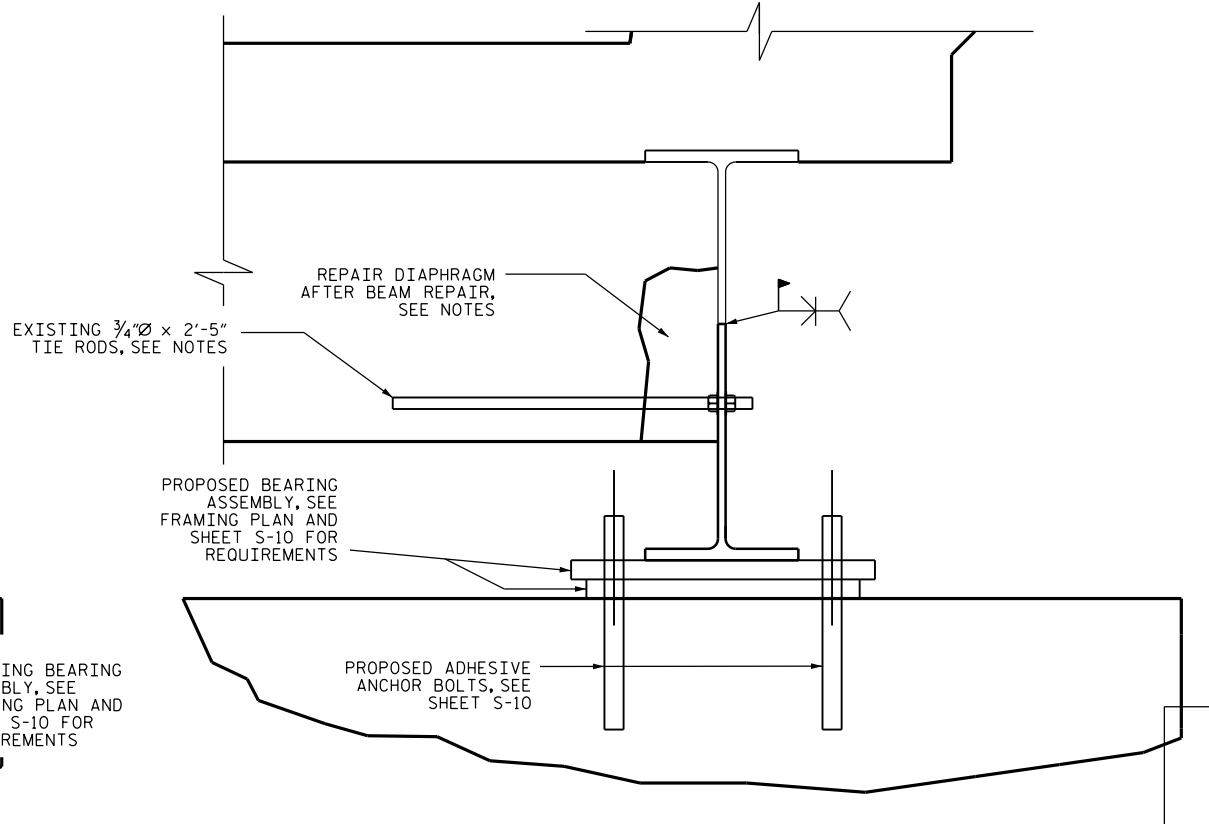
EXISTING



SECTION A-A



PROPOSED



SECTION B-B

REPAIR SEQUENCE:
 GIRDER REPAIR DETAILS AND DIMENSIONS PROVIDED IN PLANS MAY BE MODIFIED BASED ON FIELD CONDITIONS BY THE ENGINEER.
 SECTION LOSS AND FINAL EXTENT OF REQUIRED REPAIR (H x L) IS TO BE VERIFIED IN THE FIELD BY THE ENGINEER.
 CHIP AWAY CONCRETE FROM BENT DIAPHRAGMS AS NEEDED TO DETERMINE LIMITS OF REPAIR. 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 27 X 94 ROLLED BEAM AND SHALL BE AASHTO M270 GRADE 36, 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.
 ALL WELDS WILL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.
 AFTER GIRDERS ARE REPAIRED AND PAINTED THE PORTION OF THE CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE REPAIRED. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "GIRDER REPAIR".
 FOR "GIRDER REPAIR", SEE SPECIAL PROVISIONS.
 ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.
 FOR JACKING NOTES, SEE SHEET S-1.

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO: 25
 SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**STEEL REPAIRS AT
 BEAM ENDS**

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9	
1			3			TOTAL SHEETS	
2			4			12	

DRAWN BY : D. MULLER DATE : 7/2012
 CHECKED BY : P. SPROUSE DATE : 7/2012

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.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

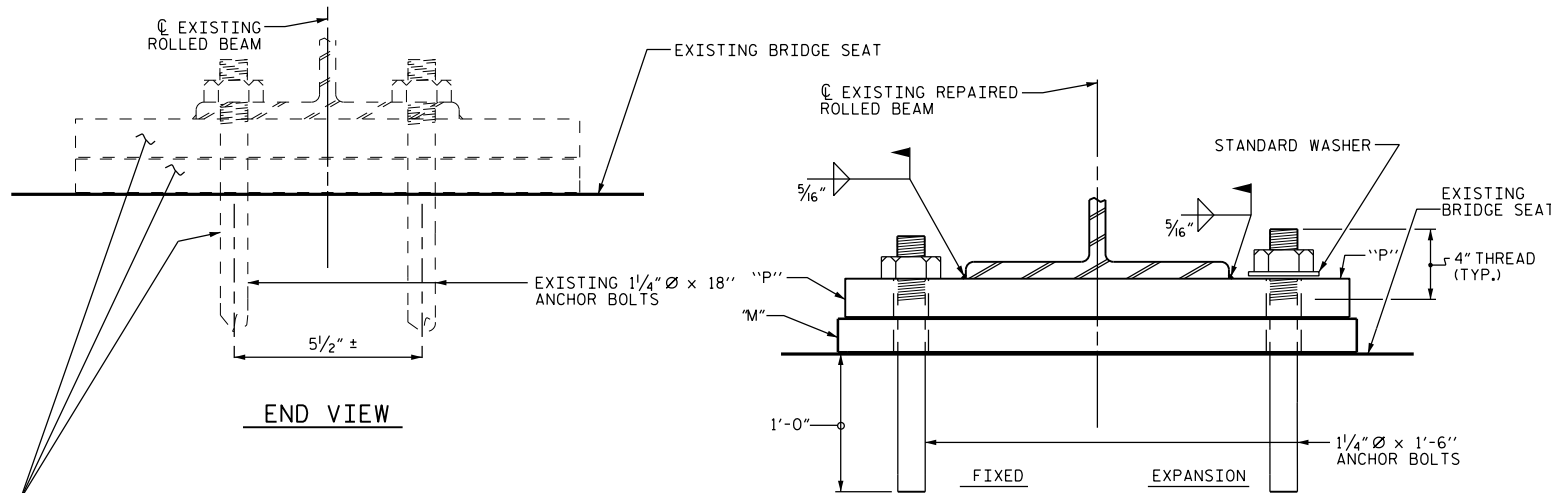
THE CONTRACTOR SHALL CORE INTO EXISTING BENT CAP TO INSTALL ANCHOR BOLTS. BOLTS SHALL BE ADHESIVELY ANCHORED PER THE STANDARD SPECIFICATIONS.

* THE LENGTH OF THE 1" ADHESIVELY ANCHORED THREADED RODS AT BENT 21 IS ASSUMED BASED ON A MINIMUM 12" EMBEDMENT AND SHALL BE ADJUSTED BY THE MANUFACTURER'S RECOMMENDATION TO ATTAIN 125% OF ANCHOR YIELD PER SECTION 420-13 OF THE STANDARD SPECIFICATIONS.

THE 1" ADHESIVELY ANCHORED THREADED RODS AT BENT 21 SHALL BE FIELD TESTED IN ACCORDANCE WITH LEVEL 1 OF SECTION 420-13 OF THE STANDARD SPECIFICATIONS. FIELD TESTING IS NOT REQUIRED AT BENTS OTHER THAN BENT 21.

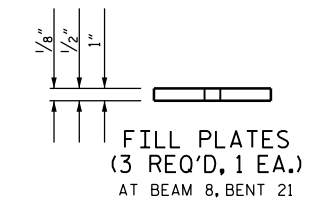
FOR LOCATIONS OF REQUIRING BEARING REPLACEMENT, SEE FRAMING PLAN.

THE LOCATION OF THE 1" RODS MAY BE ADJUSTED IN THE FIELD TO AVOID CONFLICT WITH EXISTING REINFORCING STEEL. SLOTTED HOLES ARE PROVIDED IN REPLACEMENT STEEL BRACKET FOR ADJUSTMENT. PRIOR TO INSTALLATION THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING STEEL BY EITHER A PACHOMETER OR BY DRILLING 1/8" PILOT HOLES.

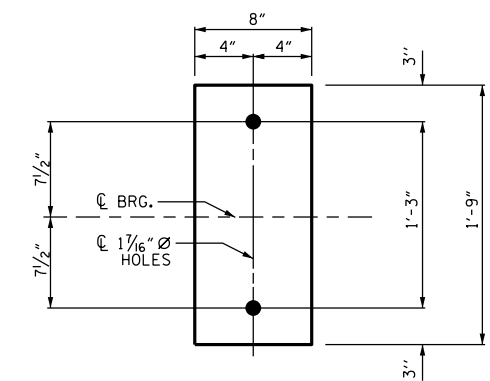


END VIEW

END VIEW
(12 ANCHOR BOLTS REQUIRED)



FILL PLATES
(3 REQ'D, 1 EA.)
AT BEAM 8, BENT 21

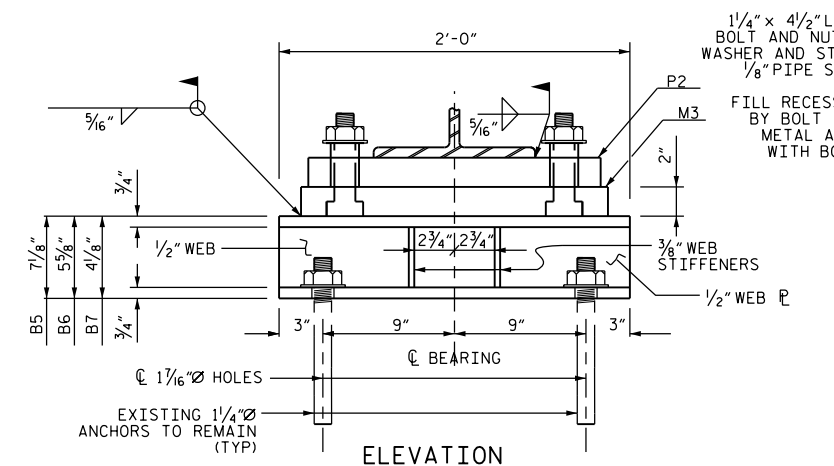


M1 (5 REQ'D)
AT BENTS 1-20

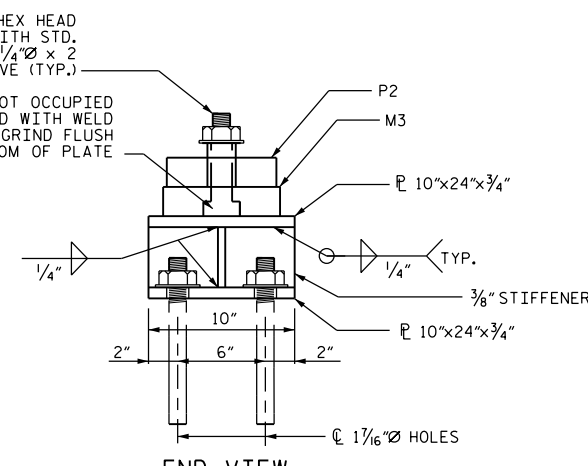
M2 (1 REQ'D)
AT BENTS 28-34

M3 (4 REQ'D)
AT BENT 21

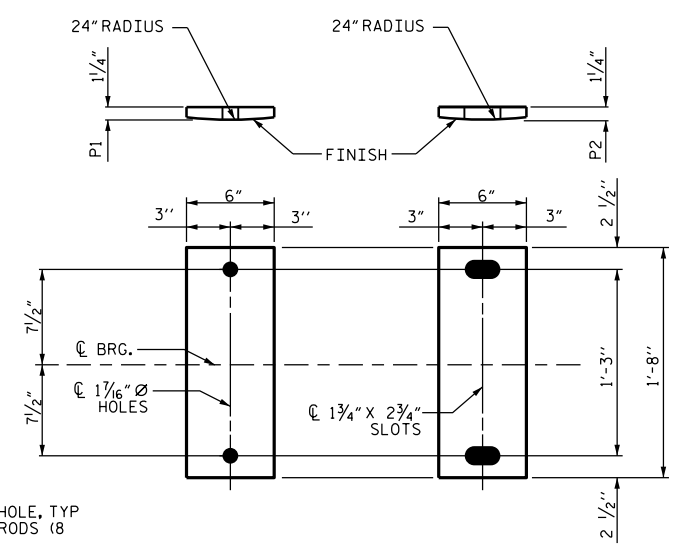
MASONRY PLATES



STEEL PEDESTAL
(3 REQUIRED)
(1 EA AT B5, B6 AND B7 AT BENT 21)



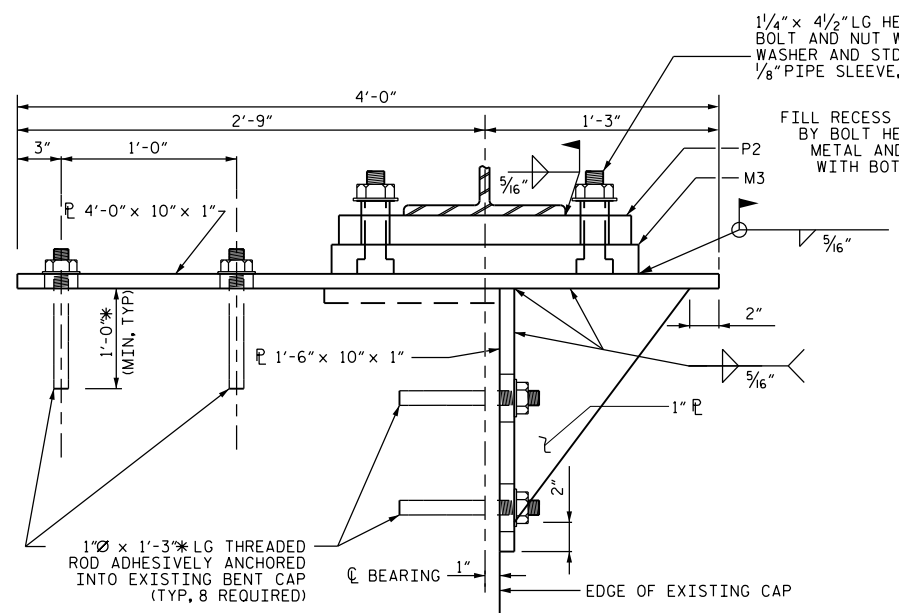
END VIEW



P3 (3 REQ'D)
AT FIXED BEARINGS

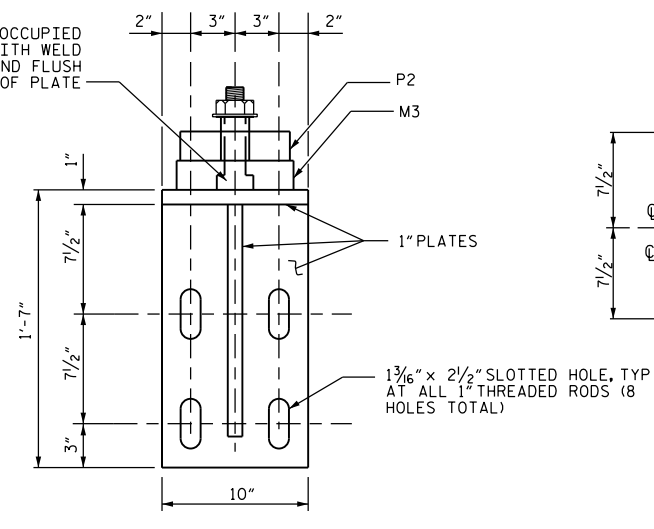
P2 (7 REQ'D)
AT EXPANSION BEARINGS

SOLE PLATES



ELEVATION

STEEL BRACKET
(1 REQUIRED)
(B8 AT BENT 21)

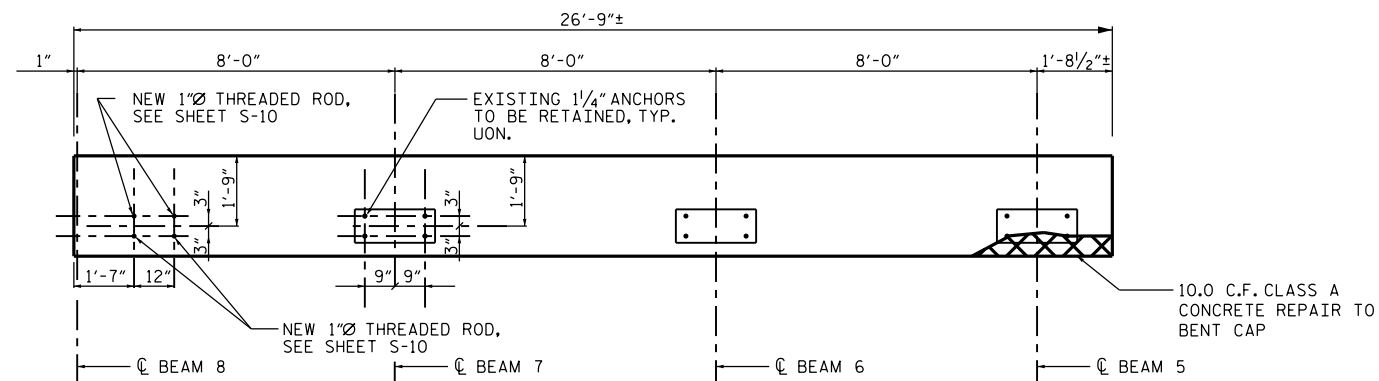


END VIEW

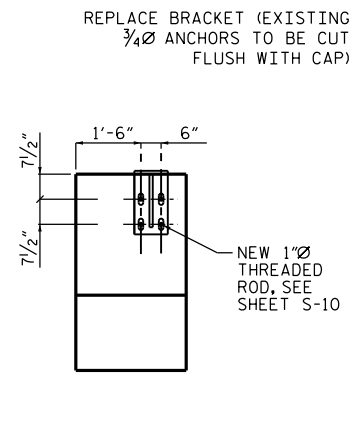
ASSEMBLED BY : D. MULLER	DATE : 7-2012
CHECKED BY : P. SPROUSE	DATE : 7-2012
DRAWN BY : JMB 11/87	REV. 8/16/99 MAB/LES
CHECKED BY : ARB 11/87	REV. 10/17/00 RWW/LES
	REV. 5/1/06 TLA/GM

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO. 25

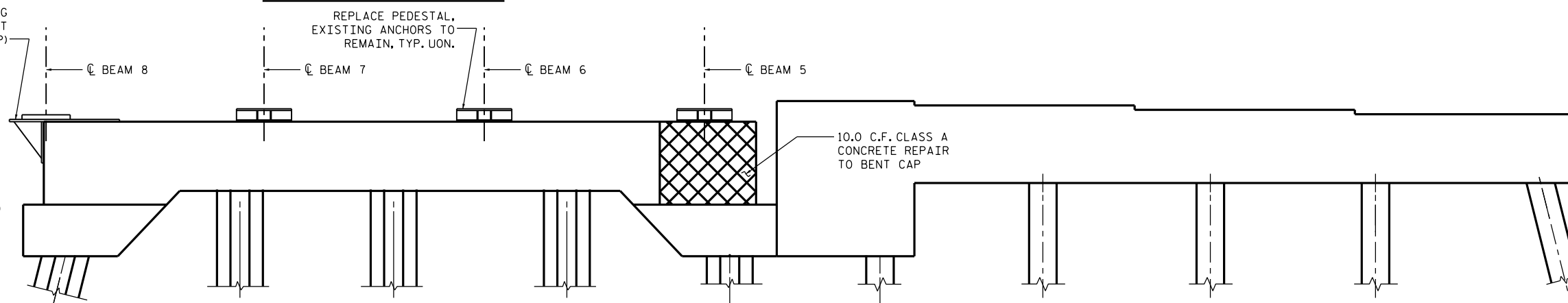
STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
GIRDER REPAIR					
BEARING SHEET					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO.					S-10
TOTAL SHEETS					12



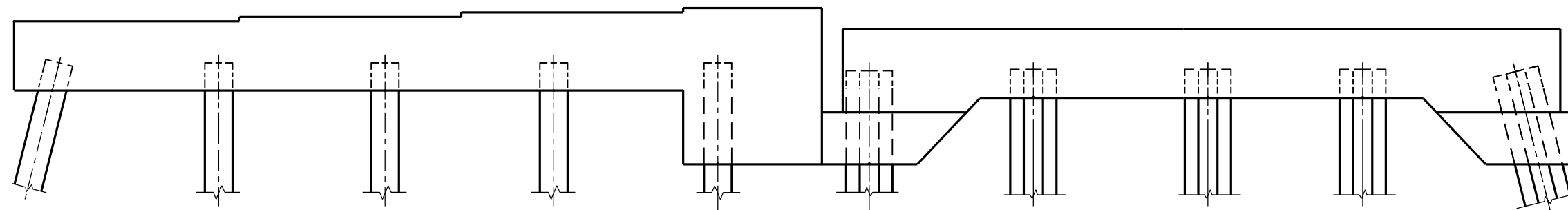
PARTIAL PLAN



WEST END ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

EAST END ELEVATION

NOTES

THE LOCATION AND EXTENT OF REPAIRS SHOWN ARE GENERAL IN NATURE. THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REMOVAL BASED ON AN EVALUATION OF THE CONDITION OF THE EXPOSED SURFACES.

CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.

ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER.

STEEL BEAMS SHALL NOT BE LOWERED ONTO BEARINGS UNTIL CONCRETE REPAIR MATERIAL HAS ACHIEVED STRENGTH.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET S-12.

PROJECT NO. 17BP.2.P.12

BEAUFORT COUNTY

BRIDGE NO. 25

SHEET _ OF _

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

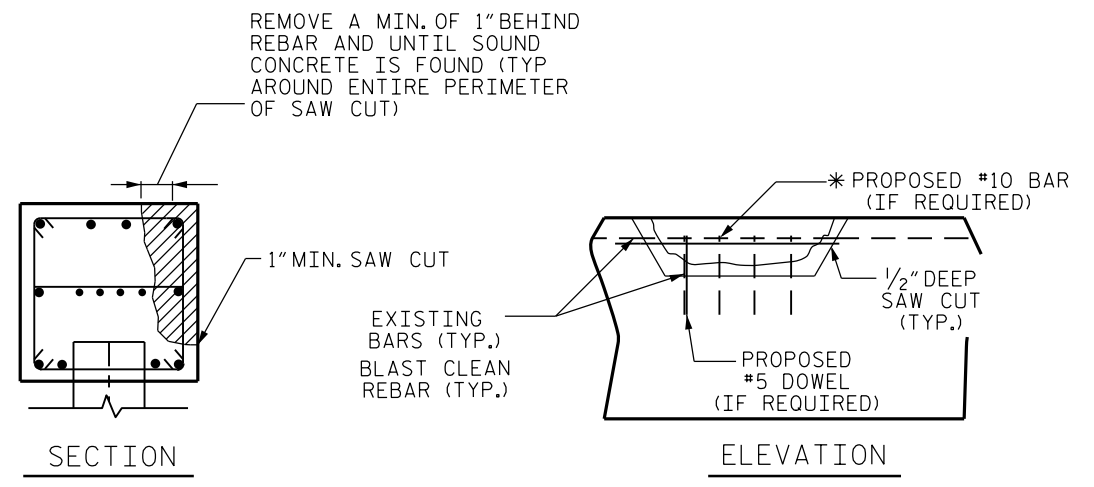
REPAIRS AT BENT 21

DRAWN BY : D. MULLER DATE : 7/2012
CHECKED BY : P. SPROUSE DATE : 7/2012

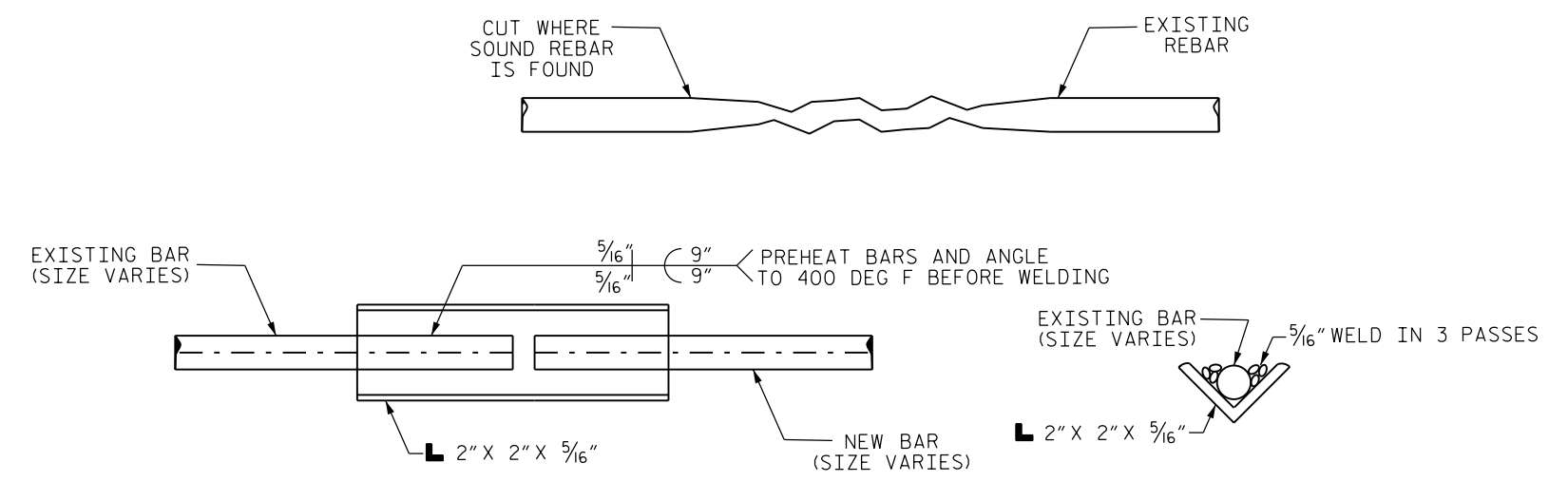
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11	
1			3			TOTAL	12
2			4			SHEETS	

NOTES:

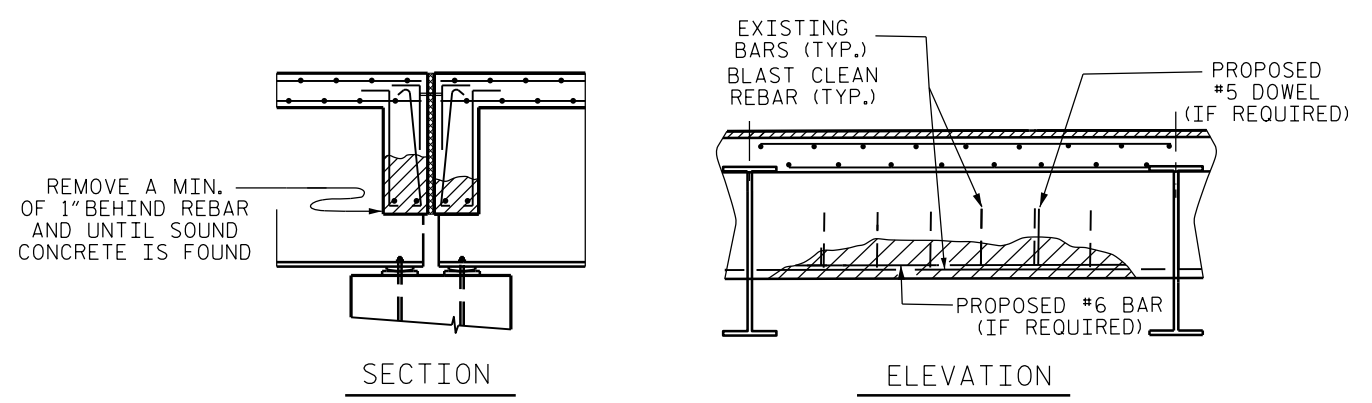
REPAIR AREAS ARE APPROXIMATE
 PROPOSED MATERIALS AND METHODS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
 FOR SHOTCRETE & CONCRETE REPAIRS REFER TO SPECIAL PROVISIONS
 DAMAGED REBAR TO BE REMOVED AND REPLACED SEE "SPlice DETAILS" AND SPECIAL PROVISIONS FOR SHOTCRETE AND CONCRETE REPAIRS.



CONCRETE CAP REPAIR DETAIL



SPlice DETAIL
(IF REQUIRED)



TYPICAL SHOTCRETE DIAPHRAGM REPAIR DETAIL

PROJECT NO. 17BP.2.P.12
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
CONCRETE REPAIR DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-12
					TOTAL SHEETS 12

NOT TO SCALE

DRAWN BY: D. MULLER DATE: 07/12
 CHECKED BY: P. SPROUSE DATE: 07/12

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

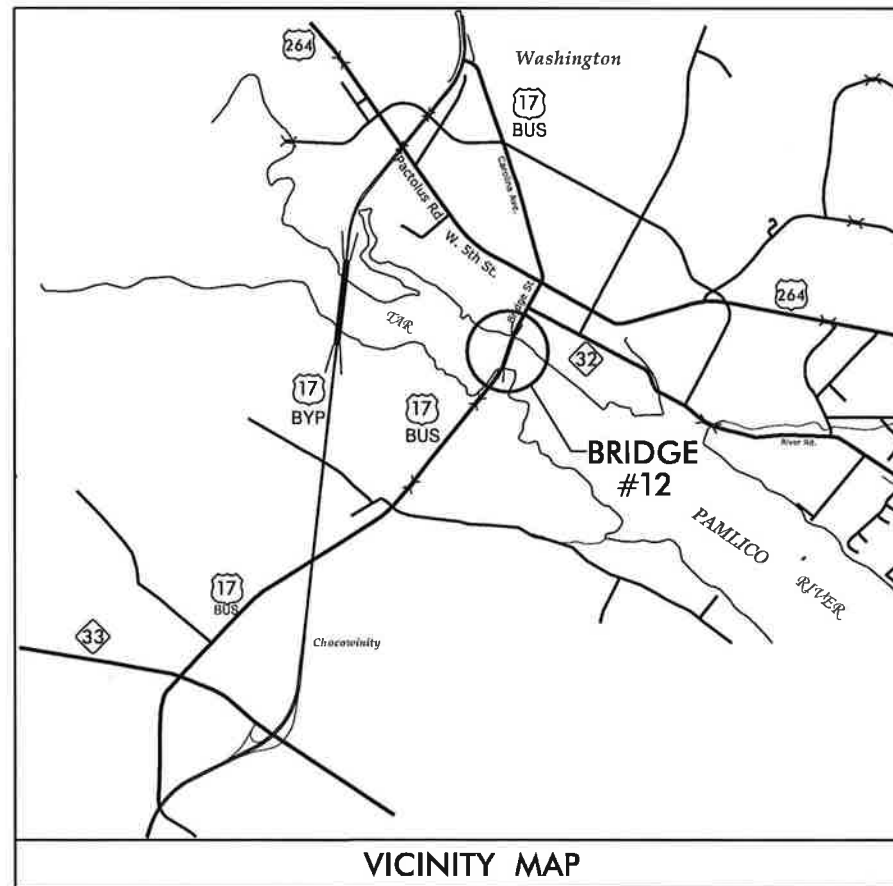
TRANSPORTATION MANAGEMENT PLAN

BEAUFORT COUNTY

DIVISION 2



BRIDGE #25 – US 17 Business over Tar/Pamlico River



INDEX OF SHEETS

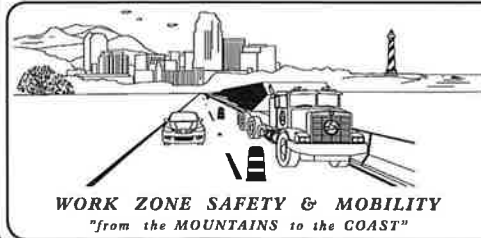
SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LEGEND AND LIST OF ROADWAY STANDARD DRAWINGS
TMP-2	GENERAL NOTES & PHASING
TMP-3	BRIDGE CLOSURE & DETOUR ROUTE OVERVIEW MAP
TMP-4	NC 33/US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-5	BRAGAW LN./US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-6	NC 33/US 17 BYP SIGNING DURING BRIDGE CLOSURE
TMP-7	WHICHARDS BEACH RD./US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-8	US 17 BUS NB ROAD CLOSURE AT BRIDGE
TMP-9	US 17 BUS SB ROAD CLOSURE AT BRIDGE
TMP-10	US 264/US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-11	US 264/US 17 BYP SIGNING DURING BRIDGE CLOSURE

TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE WORK WILL BE PERFORMED USING TIME RESTRICTED LANE CLOSURES AND A TIME RESTRICTED ROAD CLOSURE. REFER TO SHEET TMP-2 FOR PHASING.

SHEET NO.
TMP-1

WBS 17BP.2.P.12



PLAN PREPARED FOR NCDOT STRUCTURES MANAGEMENT UNIT
RALEIGH, NC



PLAN PREPARED BY:
Stantec Consulting Services Inc.
801 Jones Franklin Road-Suite 300
Raleigh, NC 27606
Tel. 919.851.6666
Fax. 919.851.7024
www.stantec.com

BETSY L. WATSON, P.E. TRAFFIC ENGINEER
GEORGE KARAGEORGE SR. TRANSPORTATION DESIGNER

APPROVED *Betsy L. Watson*
DATE: 7/30/12

SEAL

7/30/2012 U:\Traffic\TrafficControl\WBS 17BP.2.P.12 Beaufort 25\TCP\Plan Sheets\WBS 17BP.2.P.12_TC_TMP_01_TITLE.dgn gkarageorge

LEGEND

- DIRECTION OF TRAFFIC FLOW
 - DIRECTION OF PEDESTRIAN TRAFFIC FLOW
 - WORK AREA
 - PAVEMENT REMOVAL
 - NORTH ARROW
 - TYPE III BARRICADE
 - CONE
 - DRUM
 - SKINNY DRUM
 - TUBULAR MARKER
 - CHANGEABLE MESSAGE SIGN (CMS)
 - FLAGGER
 - AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)
 - FLASHING ARROW BOARD (TYPE C)
 - LAW ENFORCEMENT
 - TRUCK MOUNTED ATTENUATOR (TMA)
 - PORTABLE CONCRETE BARRIER (PCB)
 - TEMPORARY CRASH CUSHION
 - TEMPORARY SHORING
 - WORK ZONE SIGN-PORTABLE
 - WORK ZONE SIGN-STATIONARY
 - WORK ZONE SIGN-STATIONARY OR PORTABLE
- SIGNALS**
- 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

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
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1145.01	BARRICADES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION

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<p>Stantec Consulting Services Inc. 601 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____			<p>LEGEND & ROADWAY STANDARD DRAWINGS</p>

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.

- A) DO NOT CLOSE OR NARROW A LANE OF TRAFFIC, DETAIN AND/OR ALTER THE TRAFFIC FLOW ON OR DURING HOLIDAYS, HOLIDAY WEEKENDS, OR ANY OTHER TIME WHEN TRAFFIC IS UNUSUALLY HEAVY, INCLUDING THE FOLLOWING SCHEDULES:

ROAD NAME
US 17 BUSINESS

HOLIDAY & HOLIDAY WEEKEND LANE CLOSURE TIME RESTRICTIONS

- 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.

- B) DO NOT CLOSE US 17 BUSINESS DURING THE FOLLOWING TIMES:

ONE ROAD CLOSURE PERIOD OF SEVEN (7) CONSECUTIVE CALENDAR DAYS WILL BE ALLOWED IN ORDER TO PERFORM REPAIRS TO THE SUPERSTRUCTURE AND SUBSTRUCTURE AT BENT #21. THE ROAD CLOSURE SHALL ADHERE TO THE FOLLOWING DAY AND TIME RESTRICTIONS:

US 17 BUSINESS DAY AND TIME ROAD CLOSURE RESTRICTIONS

DO NOT CLOSE US 17 BUSINESS BRIDGE #25 FROM 6:00 A.M. THE FRIDAY BEFORE MEMORIAL DAY TO 11:00 P.M. THE TUESDAY AFTER LABOR DAY.

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 (1101.02), 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. COVER OR LAY DOWN SIGNS, AND TURN OFF ARROW BOARDS AND MESSAGE BOARDS.
- 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 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.

ROAD CLOSURES

- H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY ROAD CLOSURE.
- I) FURNISH AND INSTALL SIGNING AND DEVICES FOR ROAD CLOSURES ACCORDING TO THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE ALL SIGNS AND DEVICES FOR ROAD CLOSURES WHEN NOT IN EFFECT.
- J) FURNISH AND INSTALL OFFSITE-DETOUR ROUTE SIGNING AS SHOWN IN THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE OFFSITE-DETOUR SIGNING WHEN THE DETOUR IS NOT IN OPERATION, UNLESS OTHERWISE ALLOWED BY THE ENGINEER. ALL DETOUR ROUTES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTING.
- K) WHEN CLOSING A ROADWAY OR DRIVEWAY PLACE TYPE III BARRICADES COMPLETELY ACROSS THE ROADWAY OR FROM CURB TO CURB. ATTACH BARRICADE MOUNTED "ROAD CLOSED" SIGN R11-2 AT ALL CLOSURE LOCATIONS. IF LOCAL TRAFFIC IS TO BE MAINTAINED STAGGER THE BARRICADES TO ALLOW ACCESS.
- L) INSTALL SIGNS BEFORE BARRICADES WHEN CLOSING A ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING A ROADWAY TO TRAFFIC. INSTALL/REMOVE ROAD CLOSURE SIGNS AND BARRICADES IN A CONTINUOUS OPERATION AND WITHIN THE SAME CALENDAR DAY.

MISCELLANEOUS




- M) ALL DIMENSIONS AND STATIONS IN THE TRANSPORTATION MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- N) CHANGEABLE MESSAGE SIGN MESSAGES SHOWN ARE EXAMPLES. OTHER MESSAGES MAY BE USED AS CONDITIONS WARRANT. ALL MESSAGES AND LOCATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO INCORPORATING.
- O) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

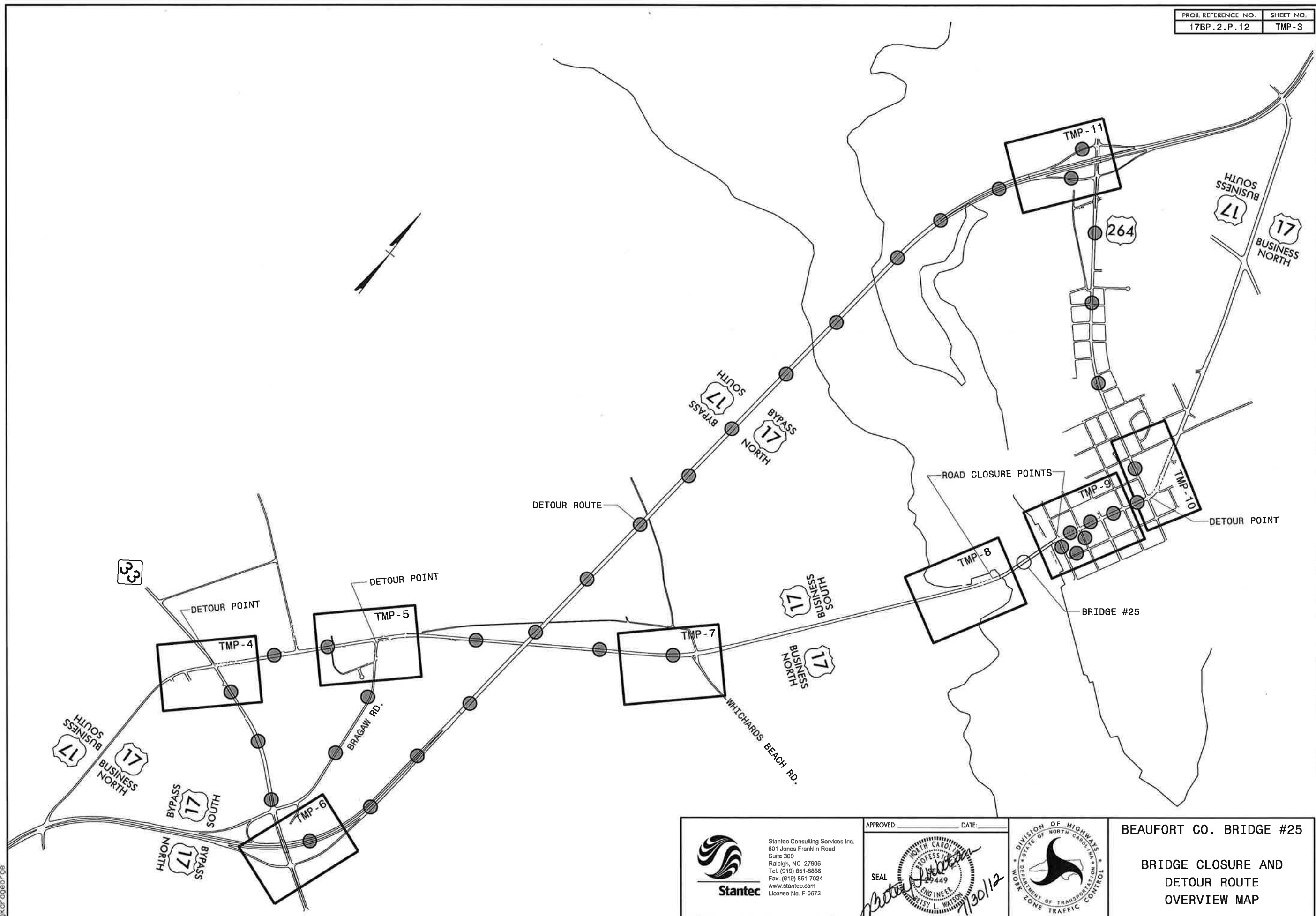
PHASING

FOR LANE CLOSURES REFER TO ROADWAY STANDARD DRAWING 1101.02, SHEET 4.




FOR ROAD CLOSURE AND OFF-SITE DETOUR FOR BRIDGE #25 REFER TO SHEETS TMP 3-11.

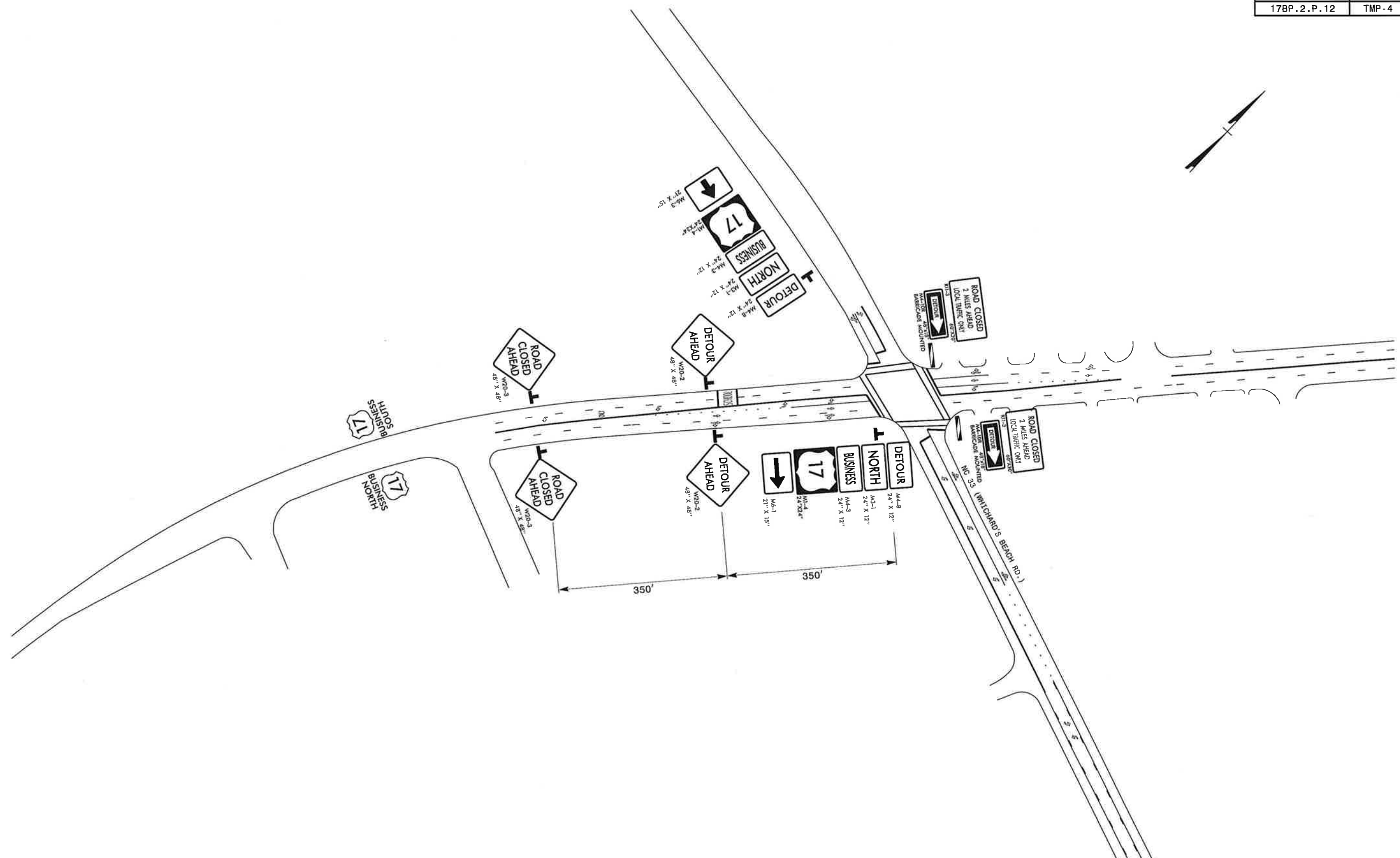
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GENERAL NOTES & PHASING			






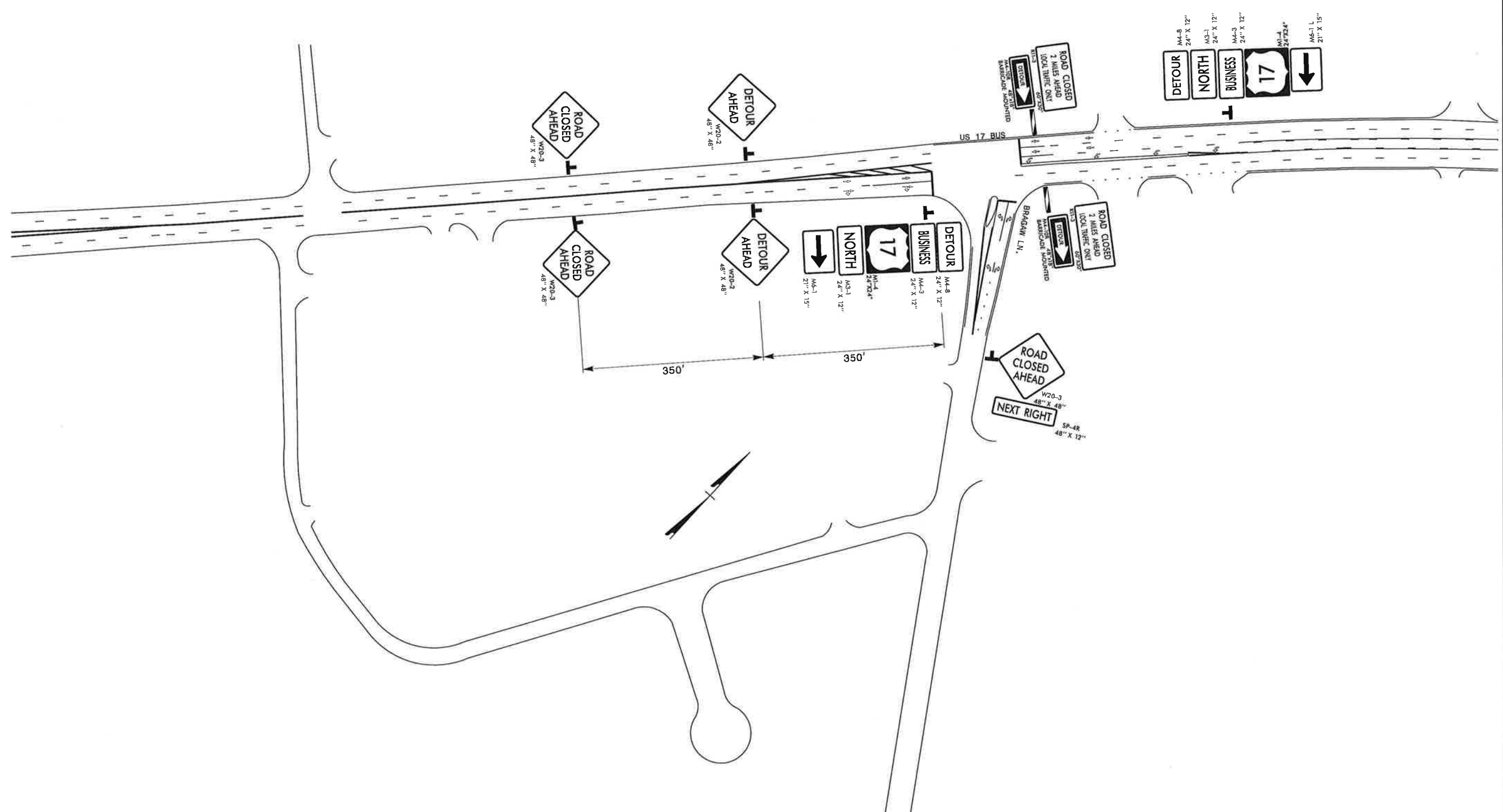
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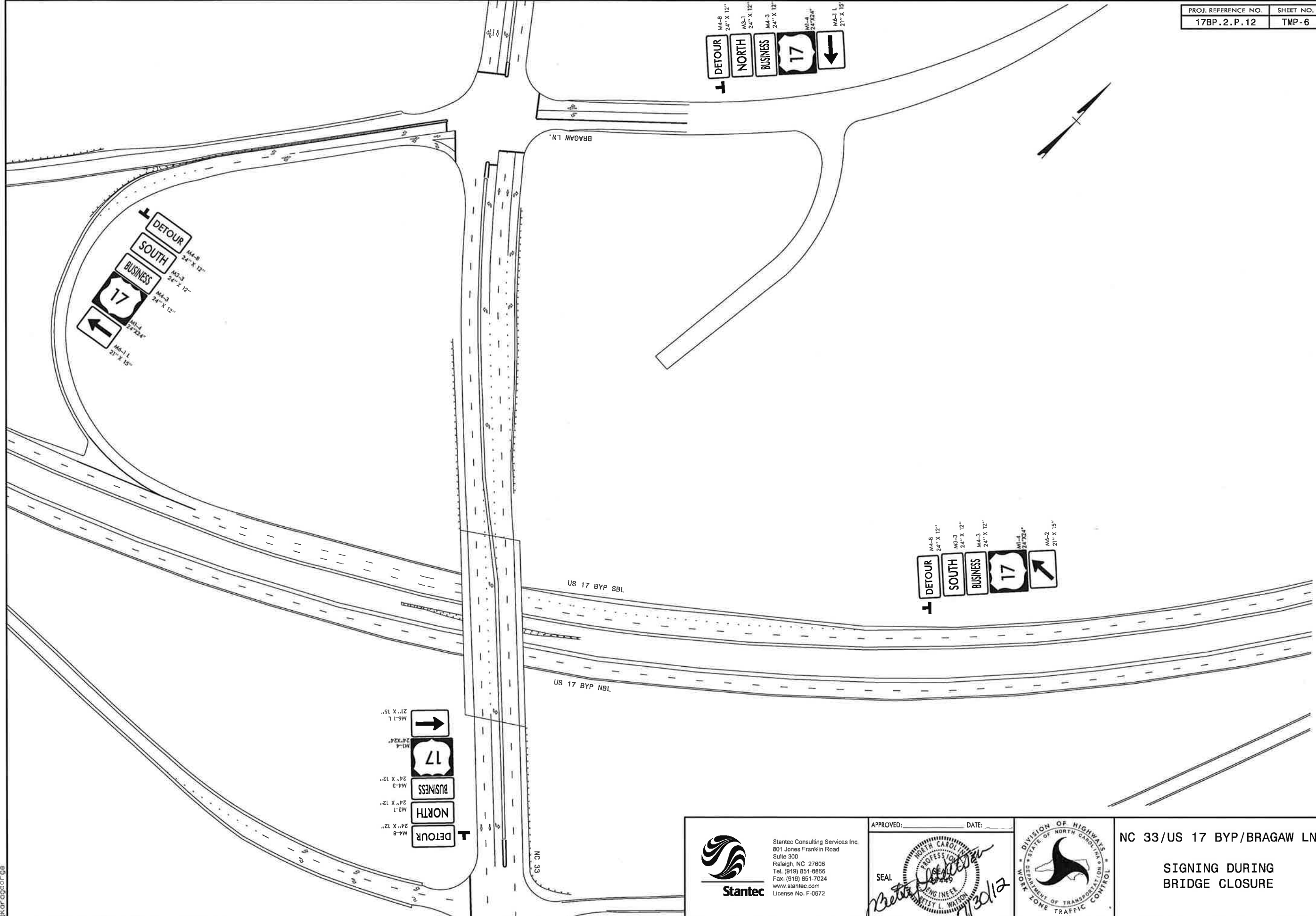
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	SEAL ROBERT L. WATSON PROFESSIONAL ENGINEER STATE OF NORTH CAROLINA LICENSE NO. 113012		



7/30/2012
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	SEAL <i>Betsy L. Watson</i> 7/30/12		

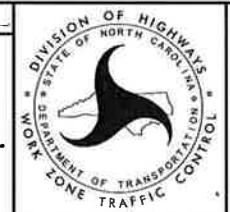


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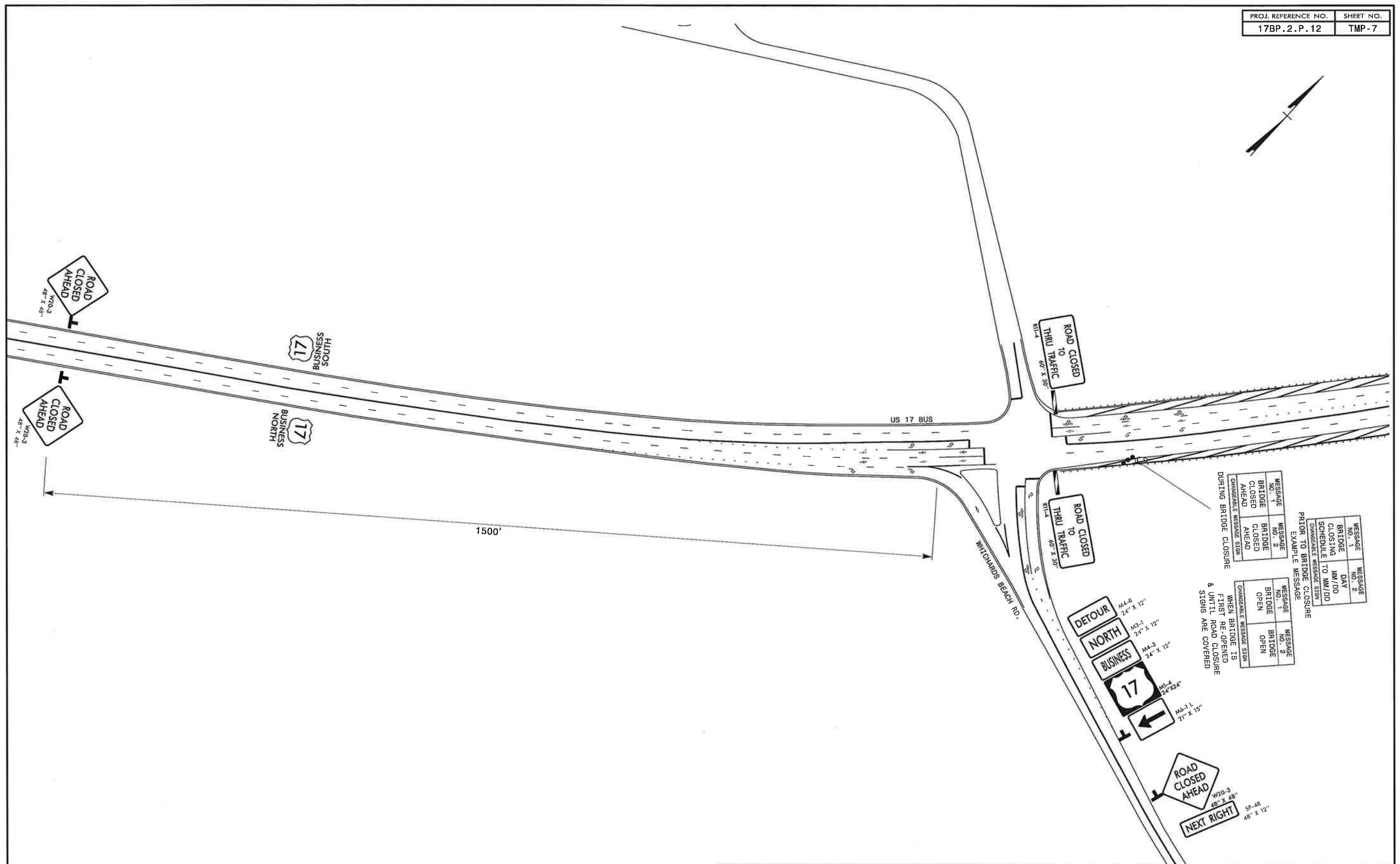
M4-B
 24" X 12" DETOUR
 M3-1
 24" X 12" NORTH
 M4-3
 24" X 12" BUSINESS
 M1-4
 24" X 24" 17
 M6-1 L
 21" X 15" →


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APPROVED: _____ DATE: _____
 SEAL

 BETH L. WATSON
 7/30/12

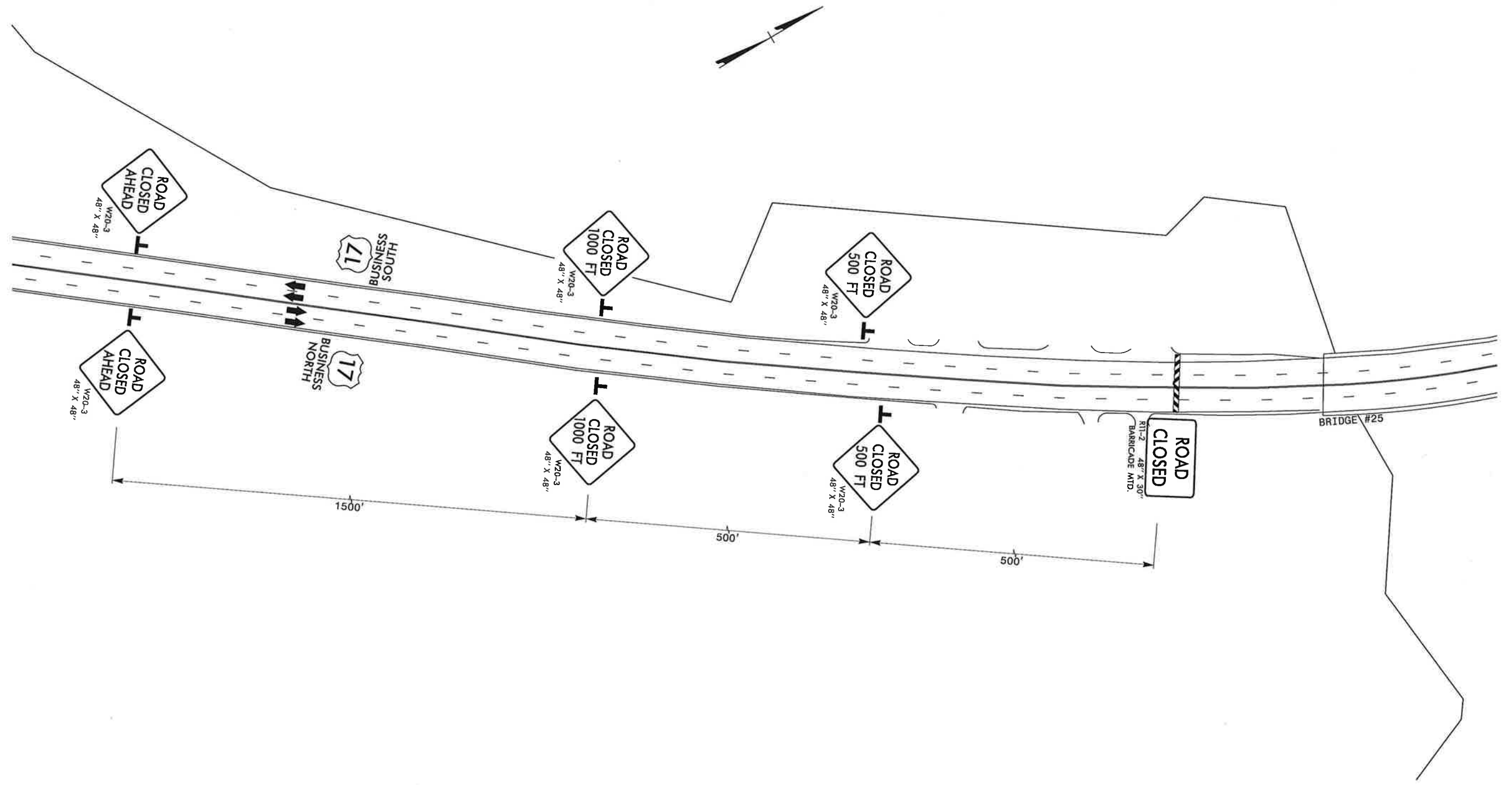


NC 33/US 17 BYP/BRAGAW LN
 SIGNING DURING
 BRIDGE CLOSURE






7/30/2012
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 gcar@stantec.com

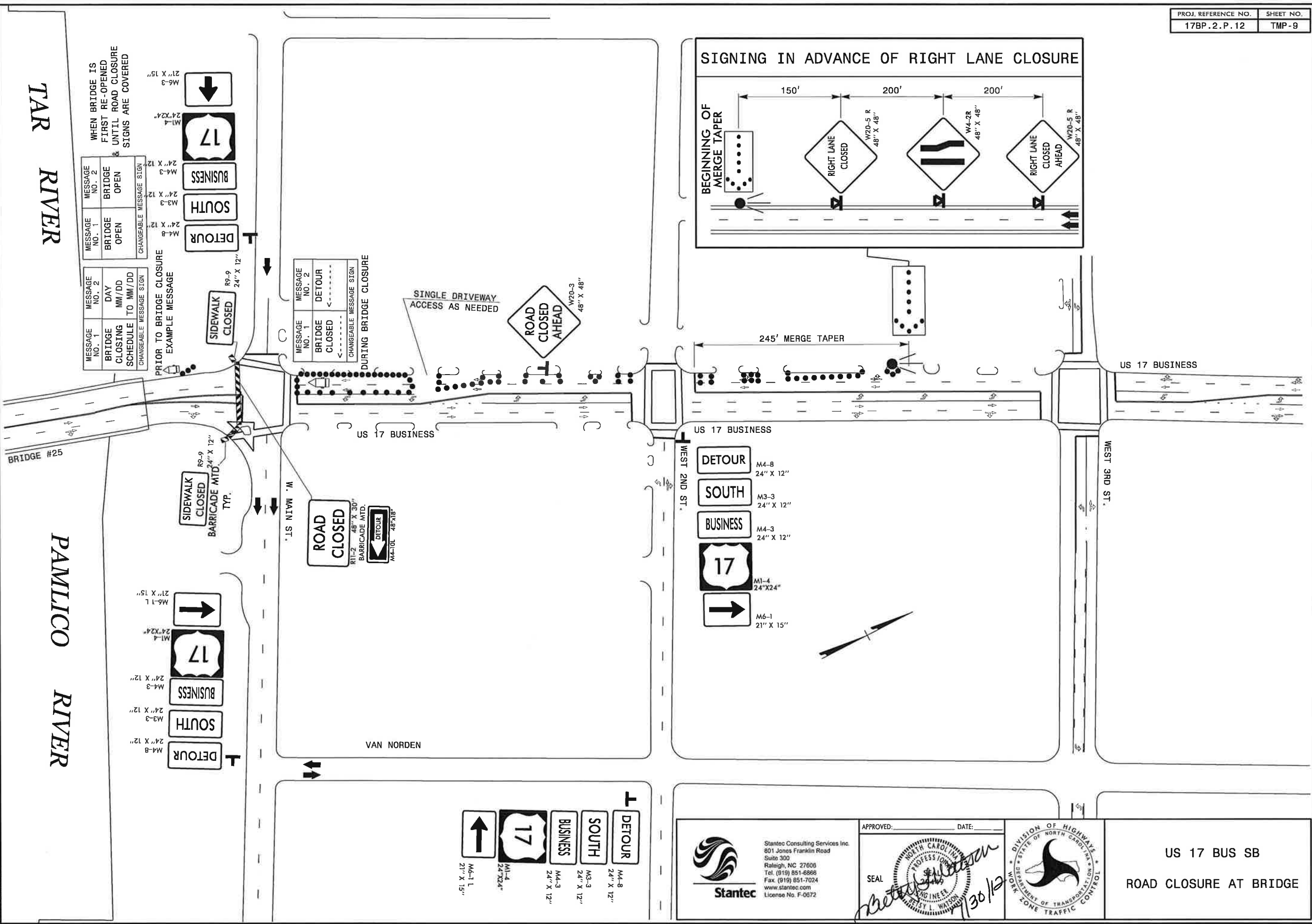
<p>Stantec Consulting Services Inc 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____ 	<p>DIVISION OF HIGHWAYS NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p>	WHICHARDS BEACH RD./US 17 BUS SIGNING DURING BRIDGE CLOSURE



7/30/2012
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 gkaragor

 Stantec Stanlec 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. F-0672	APPROVED: _____ DATE: _____  <i>Kristy L. Watson</i> 7/30/12	 DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL	US 17 BUS NB ROAD CLOSURE AT BRIDGE
	SEAL		

7/30/2012
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 gkr ggr ggr ggr



WHEN BRIDGE IS FIRST RE-OPENED UNTIL ROAD CLOSURE & SIGNS ARE COVERED

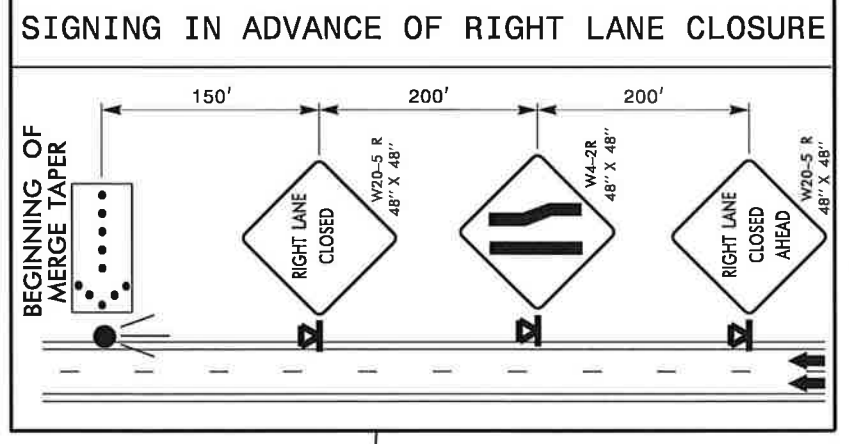
MESSAGE NO. 1	DETOUR	M4-8	24" X 12"
MESSAGE NO. 2	BRIDGE OPEN	M4-3	24" X 12"
MESSAGE NO. 1	BRIDGE OPEN	M3-3	24" X 12"
MESSAGE NO. 2	BRIDGE OPEN	M4-3	24" X 12"

PRIOR TO BRIDGE CLOSURE EXAMPLE MESSAGE

MESSAGE NO. 1	BRIDGE CLOSING SCHEDULE TO MM/DD	M6-1	21" X 15"
MESSAGE NO. 2	DAY MM/DD	M1-4	24" X 24"
MESSAGE NO. 1	BRIDGE CLOSING SCHEDULE TO MM/DD	M3-3	24" X 12"
MESSAGE NO. 2	BRIDGE CLOSING SCHEDULE TO MM/DD	M4-3	24" X 12"

DURING BRIDGE CLOSURE

MESSAGE NO. 1	BRIDGE CLOSED	R1-2	48" X 30"
MESSAGE NO. 2	DETOUR	M4-10L	48" X 18"



US 17 BUSINESS WEST 2ND ST.

DETOUR	M4-8	24" X 12"
SOUTH BUSINESS	M3-3	24" X 12"
17	M1-4	24" X 24"
→	M6-1	21" X 15"

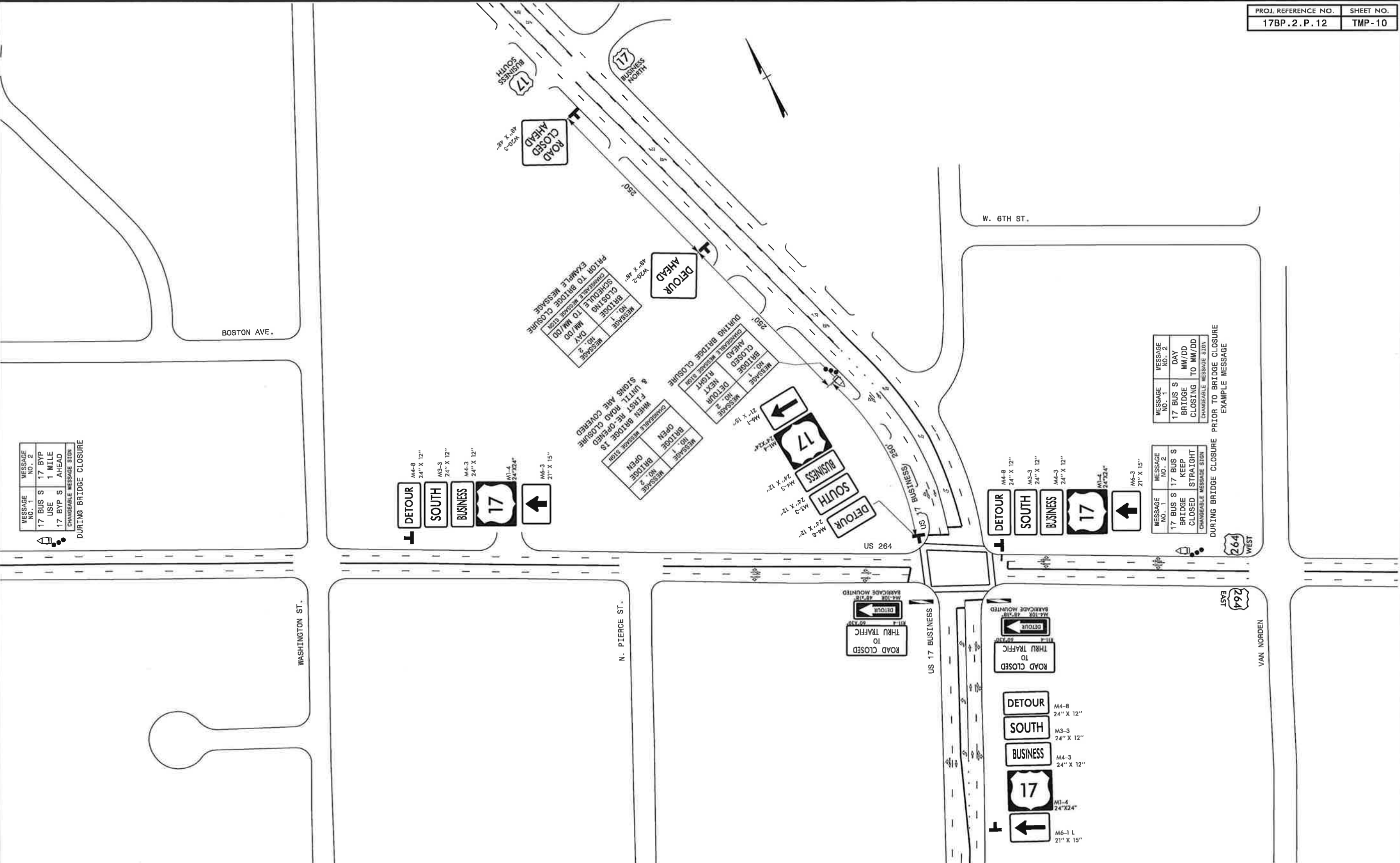
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 Suite 300
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 www.stantec.com
 License No. F-0672

APPROVED: _____ DATE: _____
 SEAL
[Signature]
 7/30/12



US 17 BUS SB
 ROAD CLOSURE AT BRIDGE

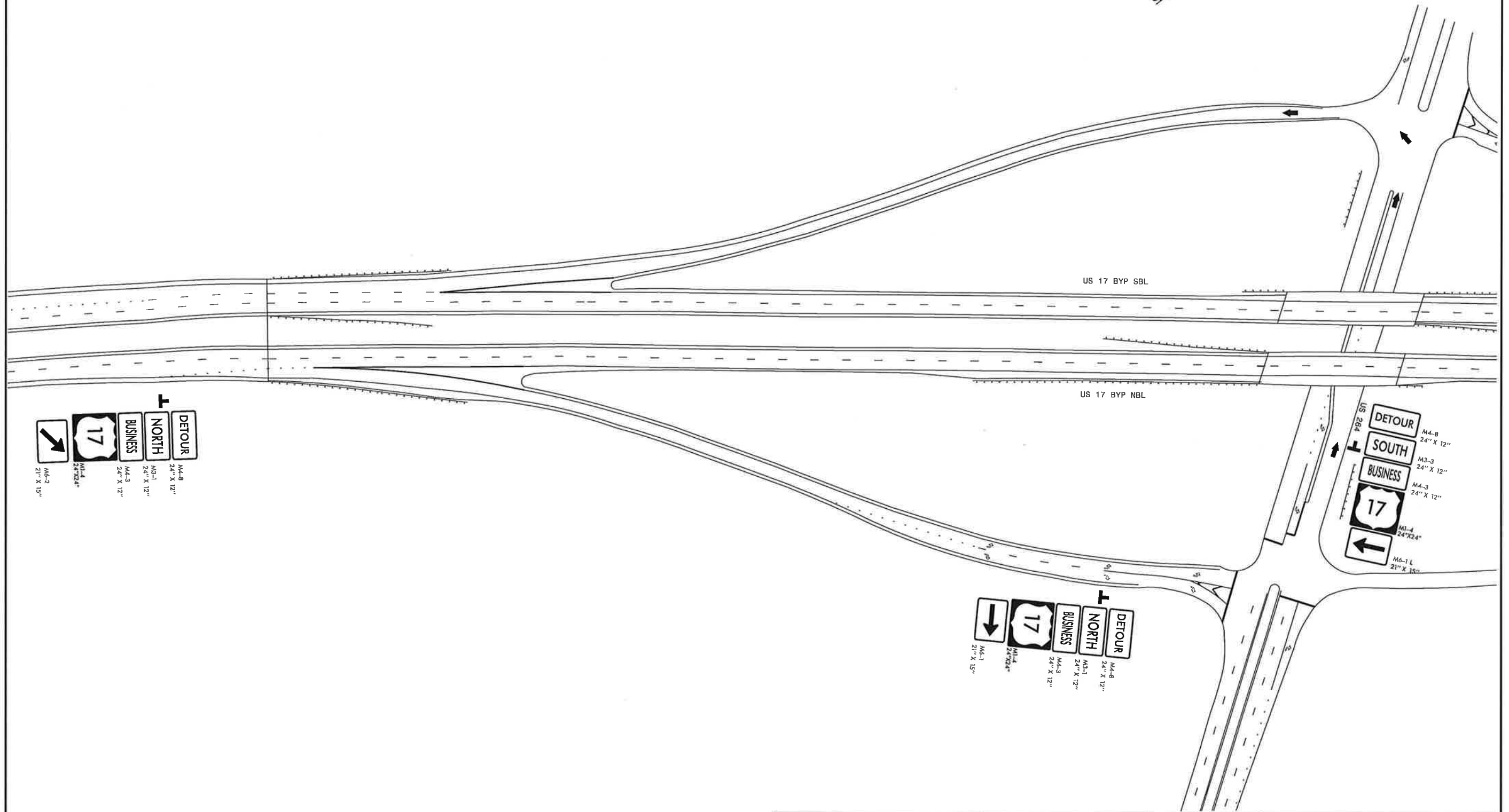
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 01/30/2012 10:00:00 AM



MESSAGE NO. 1	MESSAGE NO. 2
17 BUS S	17 BUS S
USE	DAY
17 BYP S	BRIDGE
AHEAD	CLOSING TO MM/DD
CHANGABLE MESSAGE SIGN	CLOSING TO MM/DD
DURING BRIDGE CLOSURE	

MESSAGE NO. 1	MESSAGE NO. 2
17 BUS S	17 BUS S
BRIDGE	DAY
CLOSING TO MM/DD	BRIDGE
CHANGABLE MESSAGE SIGN	CLOSING TO MM/DD
DURING BRIDGE CLOSURE PRIOR TO BRIDGE CLOSURE	
EXAMPLE MESSAGE	

<p>Stantec Consulting Services Inc. 601 Jones Franklin Road Suite 300 Raleigh, NC 27806 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____			<p align="center">US 264/US 17 BUS</p> <p align="center">SIGNING DURING</p> <p align="center">BRIDGE CLOSURE</p>
	<p align="center">SEAL <i>Gregory L. Wilson</i> 1/30/12</p>			



7/30/2012
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 gkarageorge

<p>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. F-0672</p>	APPROVED: _____ DATE: _____ 	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p>	<p align="center">US 264/US 17 BYP</p> <p align="center">SIGNING DURING BRIDGE CLOSURE</p>