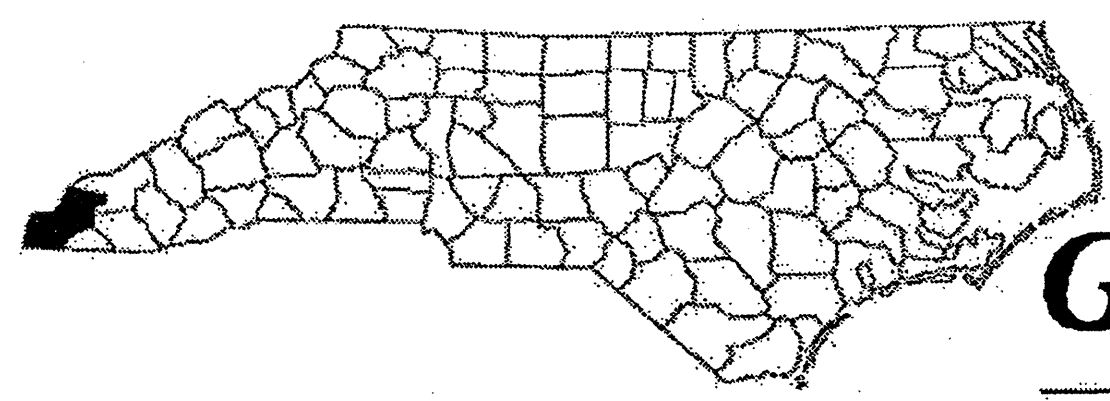


09/08/12

CONTRACT: C202997 TIP PROJECT: WBS 17BP.14.P.5

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

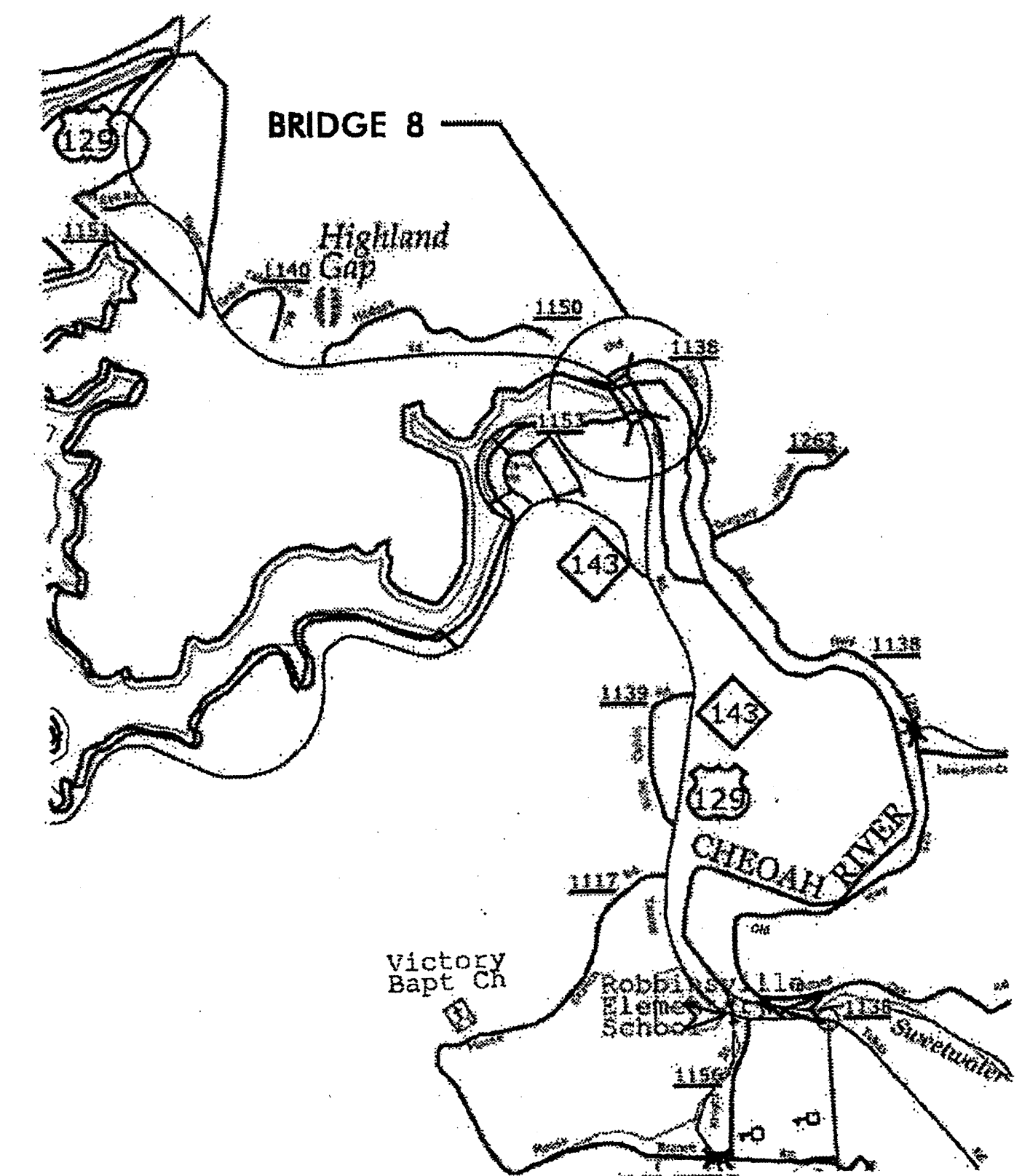


GRAHAM & CHEROKEE COUNTIES

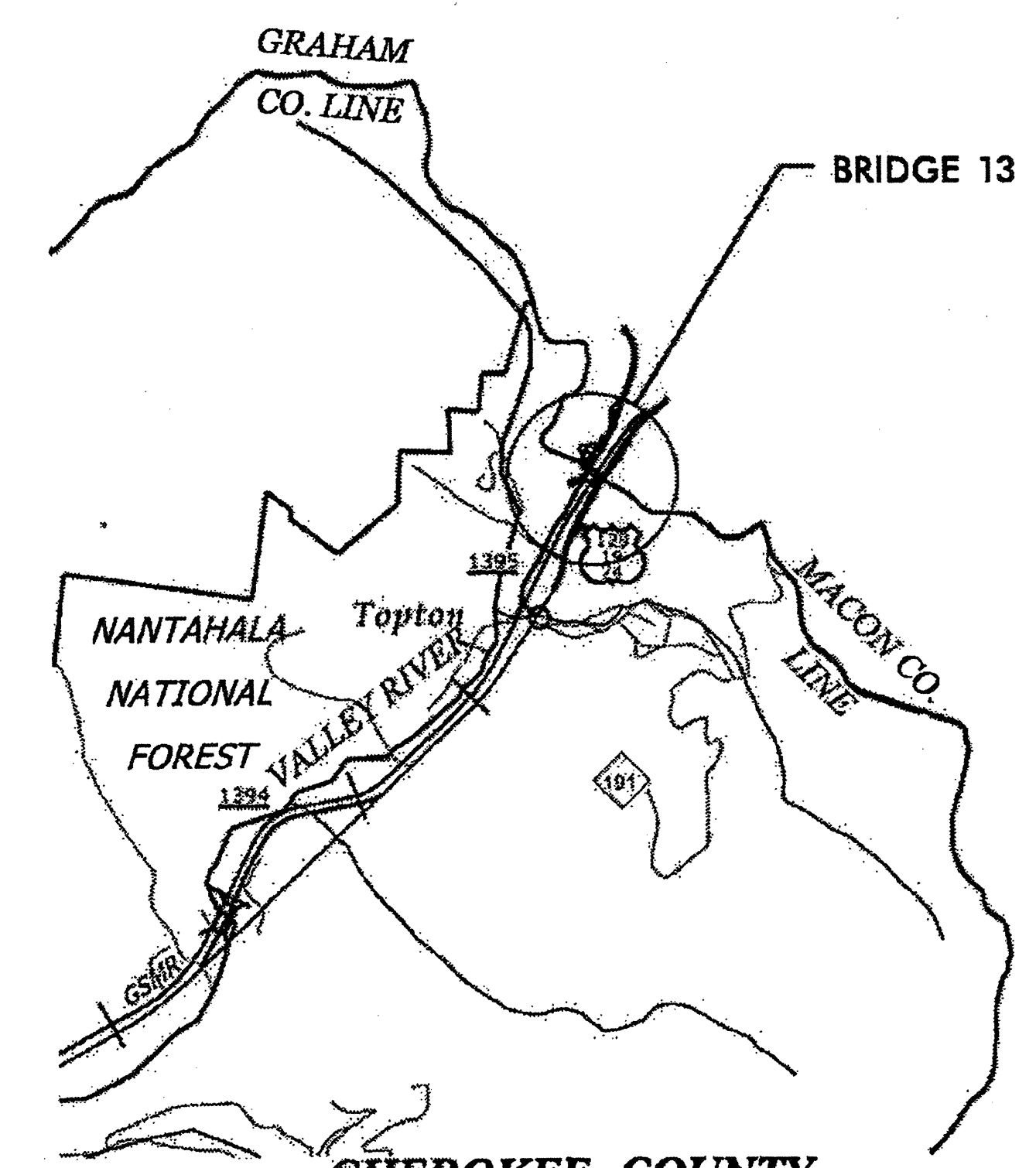
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS 17BP.14.P.5	1	
WBS NO.	P.A. PROJ. NO.	DESCRIPTION	
17BP.14.P.5		PE	
17BP.14.P.5		CONST.	

**LOCATION: GRAHAM COUNTY BRIDGE 8 ON US 129 OVER CHEOAH RIVER
CHEROKEE COUNTY BRIDGE 13 ON US 129 OVER GREAT SMOKEY MOUNTAINS RAILWAY
CHEROKEE COUNTY BRIDGE 14 ON US 19B OVER HIWASSEE RIVER**

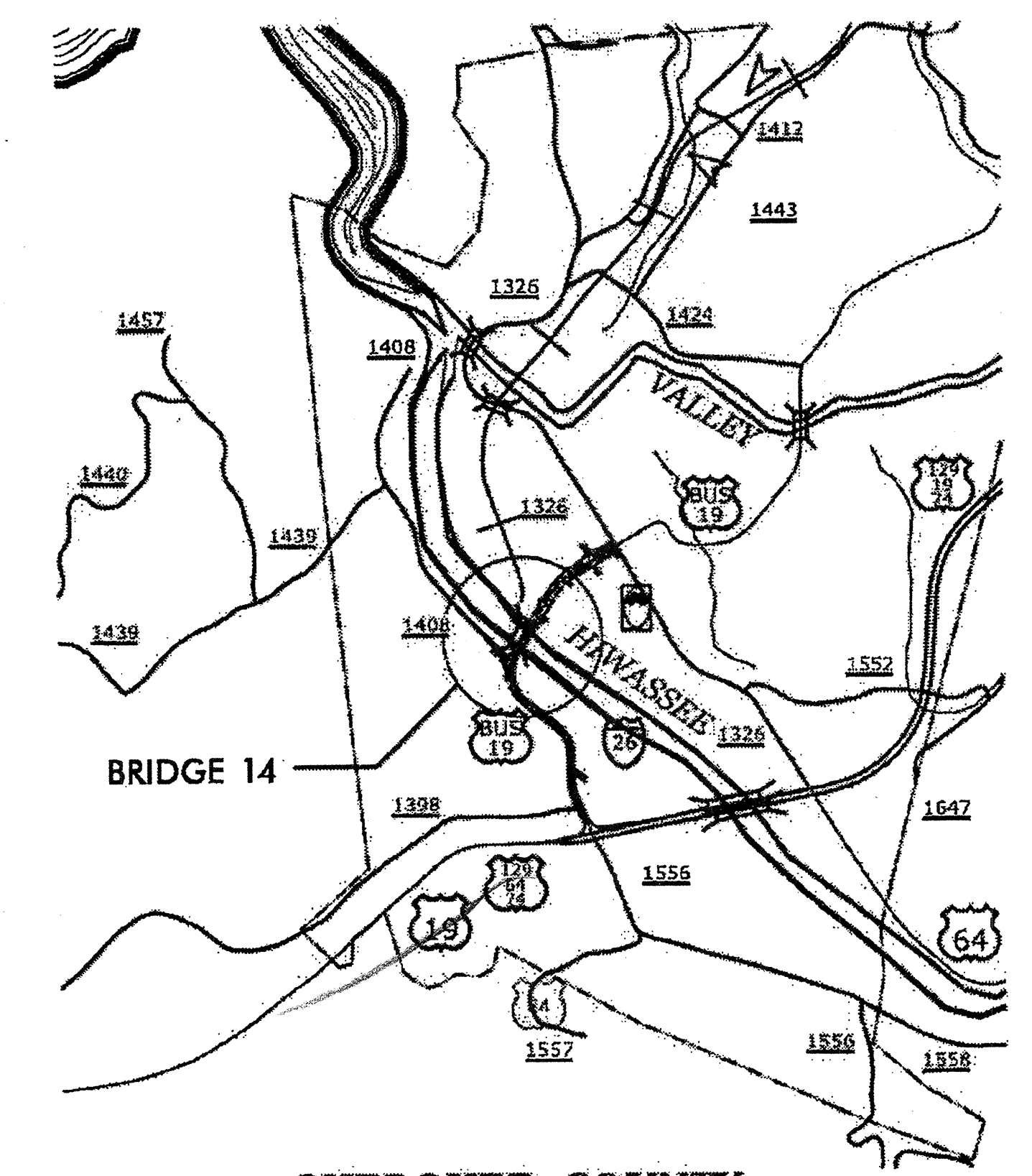
**TYPE OF WORK: BRIDGE PRESERVATION - LATEX MODIFIED CONCRETE OVERLAY
BRIDGE PAINTING**



GRAHAM COUNTY BRIDGE 8 LOCATION



CHEROKEE COUNTY BRIDGE 13 LOCATION

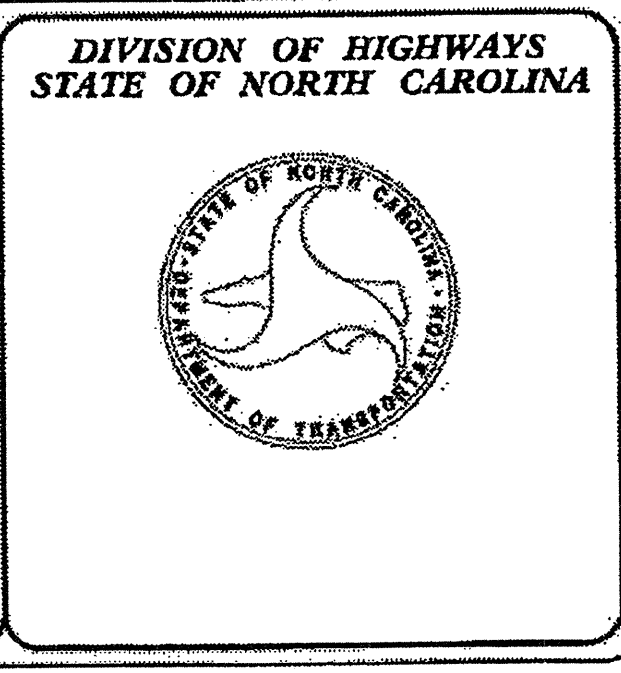
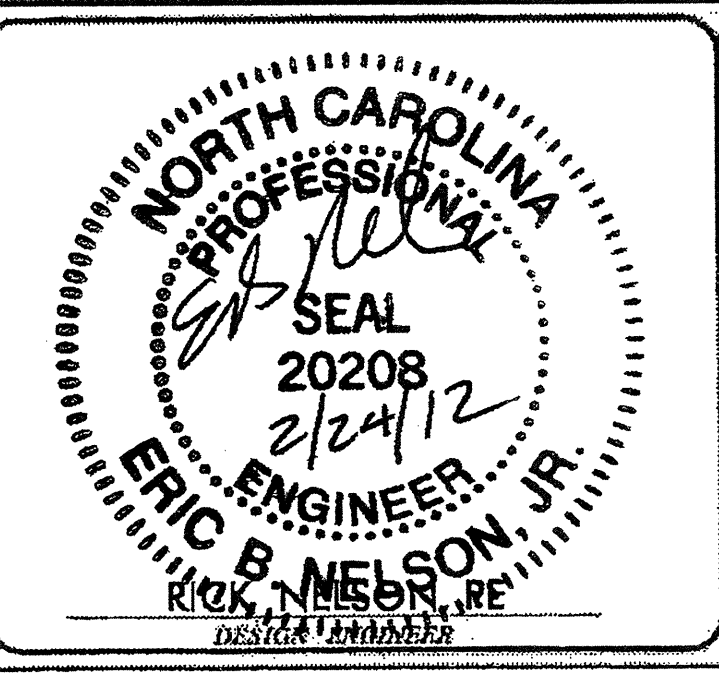


CHEROKEE COUNTY BRIDGE 14 LOCATION

		PROJECT LENGTH	
--	--	-----------------------	--

PREPARED IN THE OFFICE OF:
Stantec
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	JOE KELYINGTON, PE PROJECT ENGINEER
LETTING DATE:	
	APRIL 17, 2012
NCDOT CONTACT:	ZAKI Wafa, PE BRIDGE MANAGEMENT PROJECT MANAGER



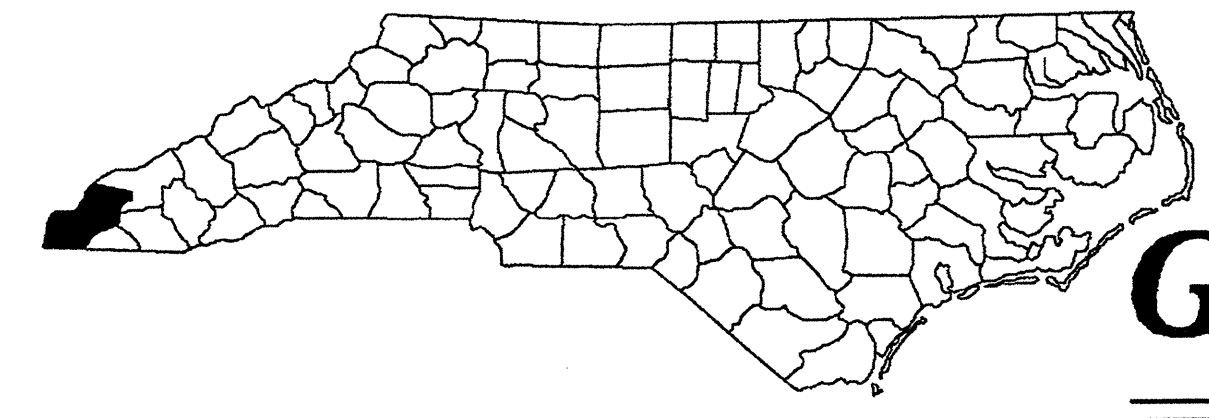
SYSTEMS TIME & DATE: 09/08/12 10:00 AM

09/08/99

CONTRACT: C202997 TIP PROJECT: WBS 17BP.14.P.5

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS 17BP.14.P.5	1A	



GRAHAM & CHEROKEE COUNTIES

INDEX OF SHEETS

DWG.	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF SHEETS
2	SUMMARY OF QUANTITIES
RDY-1	ROADWAY PLANS - GRAHAM CO. BRIDGE 8
RDY-2	ROADWAY PLANS - CHEROKEE CO. BRIDGE 13
RDY-3	ROADWAY PLANS - CHEROKEE CO. BRIDGE 14
S-1 THRU S-11	STRUCTURE PLANS - GRAHAM CO. BRIDGE 8
S-12 THRU S-23	STRUCTURE PLANS - CHEROKEE CO. BRIDGE 13
S-24 THRU S-32	STRUCTURE PLANS - CHEROKEE CO. BRIDGE 14
TMP-1 THRU TMP-9A	TRAFFIC MANAGEMENT PLANS

ROADWAY STANDARD DRAWINGS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEARING IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JANUARY 17, 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO	TITLE
852.01	CONCRETE ISLANDS

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$USER\$\$\$\$\$
\$\$\$\$\$D\$\$\$\$\$
\$\$\$\$\$C\$\$\$\$\$
\$\$\$\$\$M\$\$\$\$\$
\$\$\$\$\$\$\$\$\$\$

09/08/99

TIP PROJECT: WBS 17BP.14.P.5

CONTRACT: C202997

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

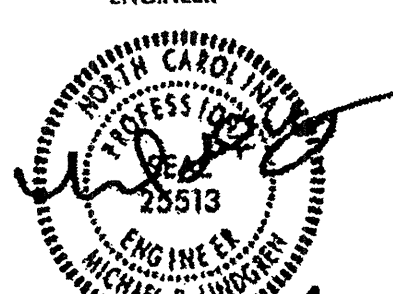
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N.C.	WBS 17BP.14.P.5	2	

SUMMARY OF QUANTITIES

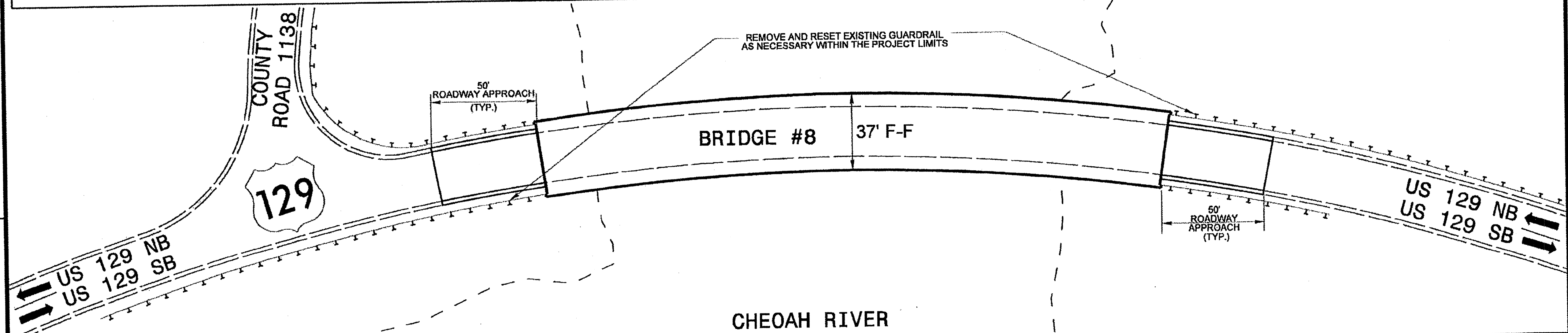
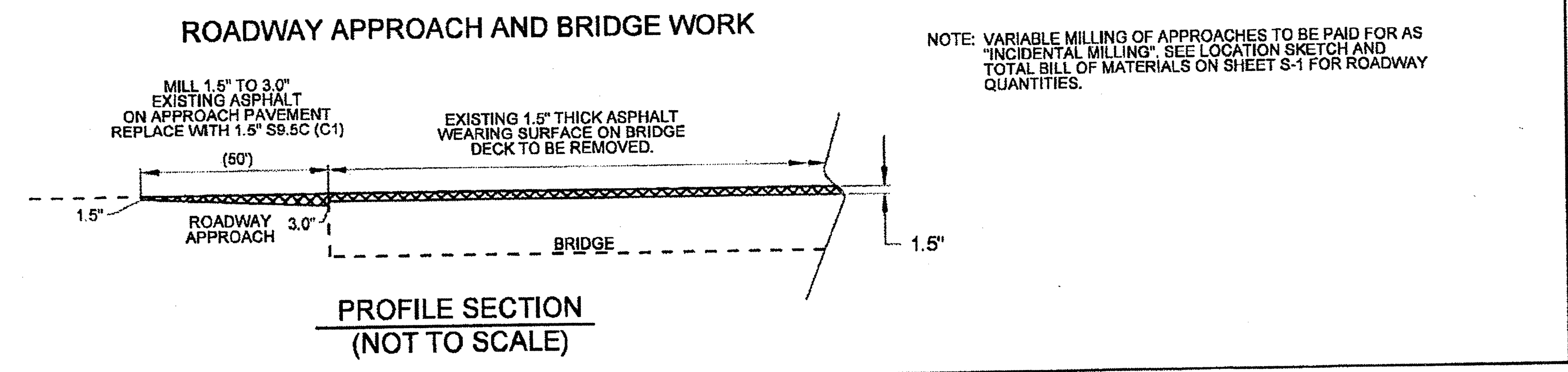
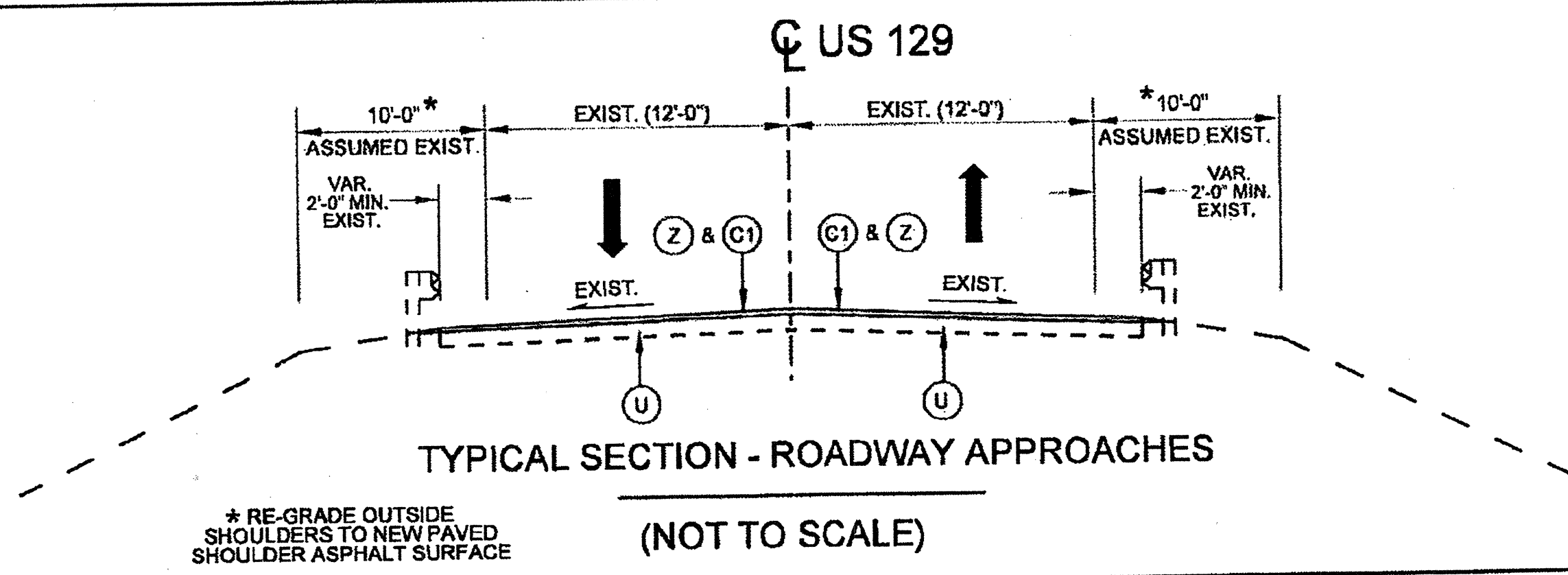
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0000100000-N	800	Lump Sum		MOBILIZATION	8175000000-E	420	21.1	CY	CLASS AA CONCRETE (BRIDGE)
0106000000-E	230	2	CY	BORROW EXCAVATION	8296000000-N	442	Lump Sum		POLLUTION CONTROL
1245000000-E	SP	0.058	SMI	SHOULDER RECONSTRUCTION	8566000000-E	SP	131.7	SY	CLASS III, SURFACE PREPARATION
1330000000-E	607	4,404	SY	INCIDENTAL MILLING	8629000000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS B
1519000000-E	610	30	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	8660000000-E	SP	85	CF	CONCRETE REPAIRS
1523000000-E	610	80	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5C	8692000000-N	SP	Lump Sum		FOAM JOINT SEALS
1575000000-E	620	7	TON	ASPHALT BINDER FOR PLANT MIX	8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM CLEANING & REPAINTING BRIDGE #13
2647000000-E	852	12	SY	5" MONOLITHIC CONCRETE ISLANDS (SURFACE MOUNTED)	8881000000-E	SP	172.4	CY	GENERIC STRUCTURE ITEM LATEX MOD CONC OVERLAY VERY EARLY STRENGTH
3345000000-E	864	215	LF	REMOVE & RESET EXISTING GUARD-RAIL	8893000000-E	SP	3,109.5	SY	GENERIC STRUCTURE ITEM HYDRO-DEMOLITION OF BRIDGE DECK
4405000000-E	1110	584	SF	WORK ZONE SIGNS (PORTABLE)	8893000000-E	SP	3,117.8	SY	GENERIC STRUCTURE ITEM PLACE & FINISH LATEX MOD CONC OVERLAY VERY EARLY STRENGTH
4415000000-N	1115	2	EA	FLASHING ARROW BOARD	8893000000-E	SP	3,117.8	SY	GENERIC STRUCTURE ITEM SCARIFYING BRIDGE DECK
4420000000-N	1120	2	EA	PORTABLE CHANGEABLE MESSAGE SIGN	8897000000-N	SP	2	EA	GENERIC STRUCTURE ITEM SPAN JACKING GRAHAM COUNTY BRIDGE #8
4430000000-N	1130	350	EA	DRUMS					
4435000000-N	1135	50	EA	CONES					
4445000000-E	1145	160	LF	BARRICADES (TYPE III)					
4455000000-N	1150	1,120	DAY	FLAGGER					
4510000000-N	SP	240	HR	LAW ENFORCEMENT					
4725000000-E	1205	2	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)					
4810000000-E	1205	600	LF	PAINT PAVEMENT MARKING LINES (4")					
4847000000-E	1205	4,198	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE BEADS)					
4847110000-E	1205	200	LF	POLYUREA PAVEMENT MARKING LINES (8", *****) (HIGHLY REFLECTIVE BEADS)					
4847140000-E	1205	14	LF	POLYUREA PAVEMENT MARKING LINES (24", *****) (HIGHLY REFLECTIVE BEADS)					
4905000000-N	1253	29	EA	SNOWPLOWABLE PAVEMENT MARKERS					
8161000000-E	420	26,993	SF	GROOVING BRIDGE FLOORS					

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

8/17/98

PROJECT REFERENCE NO. WBS 17BPJ4P5	SHEET NO. RDY-1
ROADWAY DESIGN ENGINEER	
	
2/24/2012	

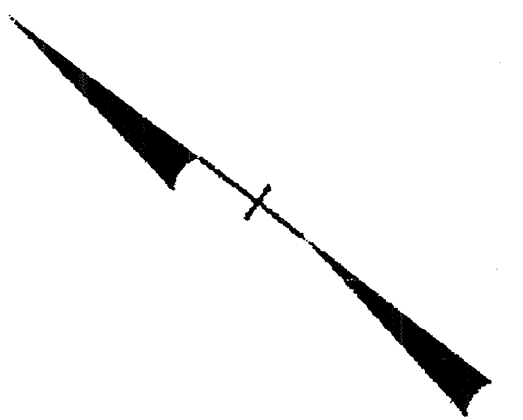
PAVEMENT SCHEDULE	
C1	PROP. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
Z	ASPHALT MILLING



DISCLAIMER: THIS PROJECT HAS NOT BEEN SURVEYED. EXISTING TOPOGRAPHY WAS CREATED FROM AERIAL PHOTOGRAPHY NOT ACTUAL SURVEY.

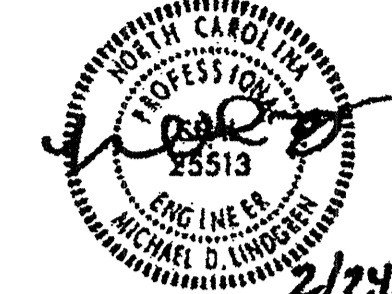
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1. ALL EROSION CONTROL MEASURES SHALL ADHERE TO NCDOT STANDARDS.

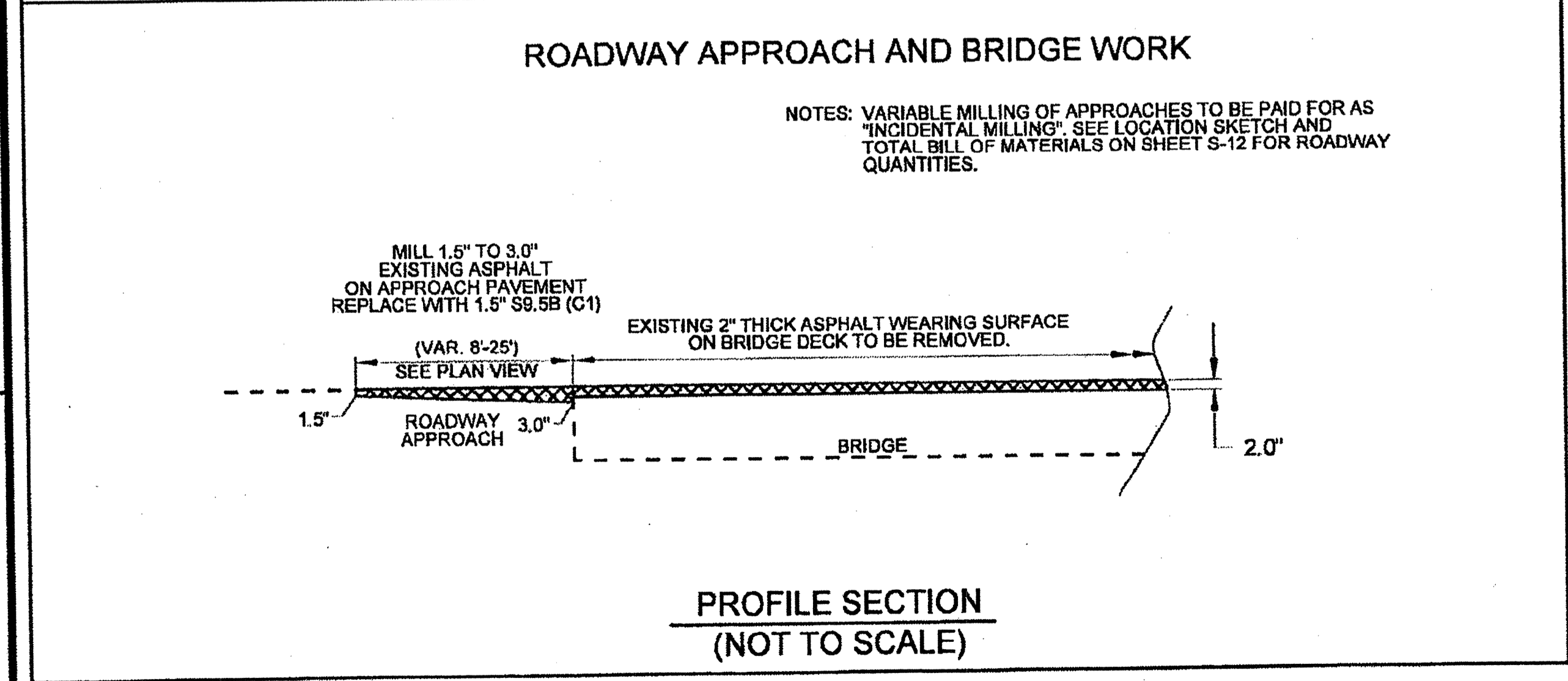
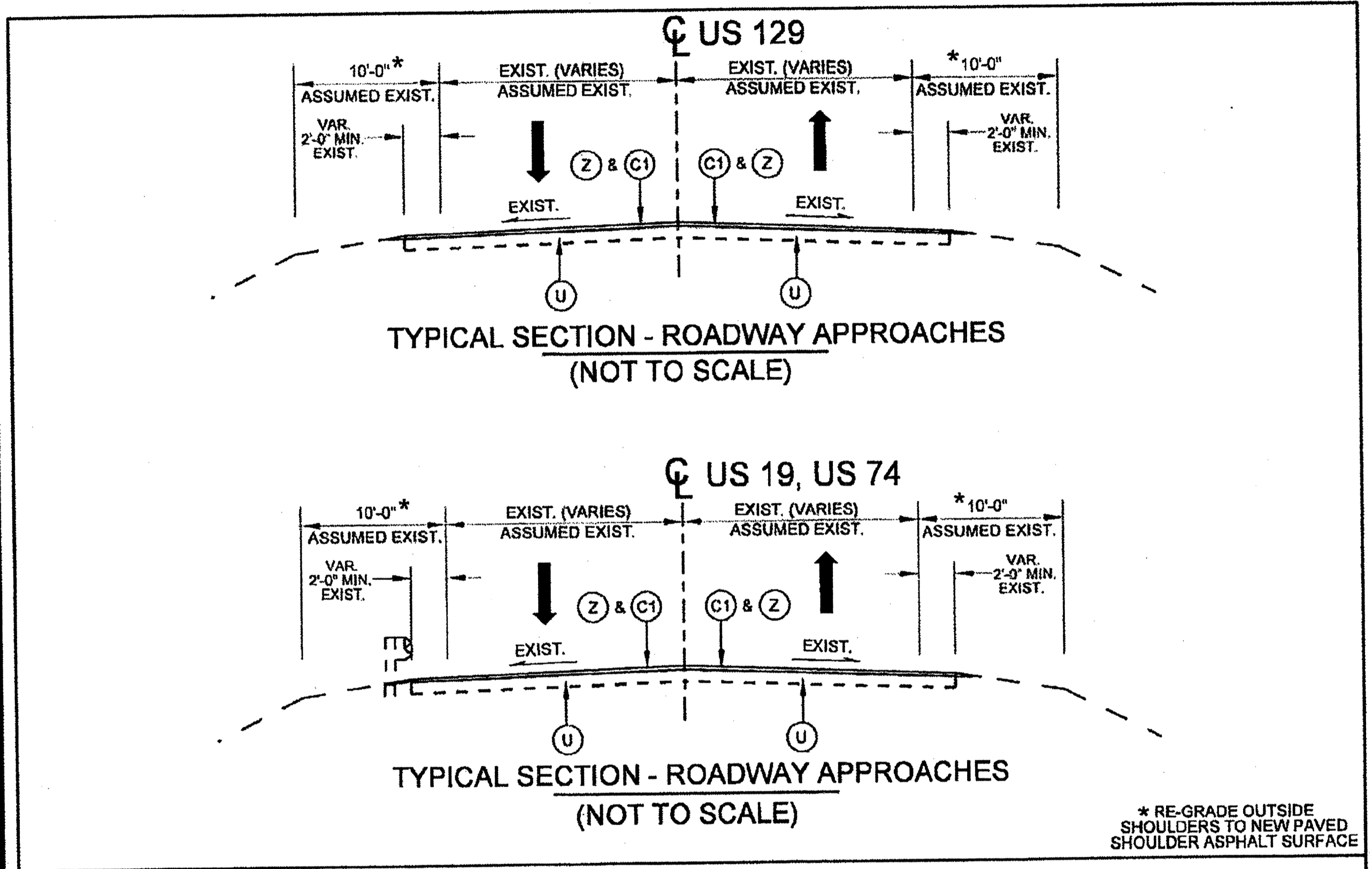
GRAHAM COUNTY
BRIDGE #8
US 129 OVER
CHEOAH RIVER



8/17/99

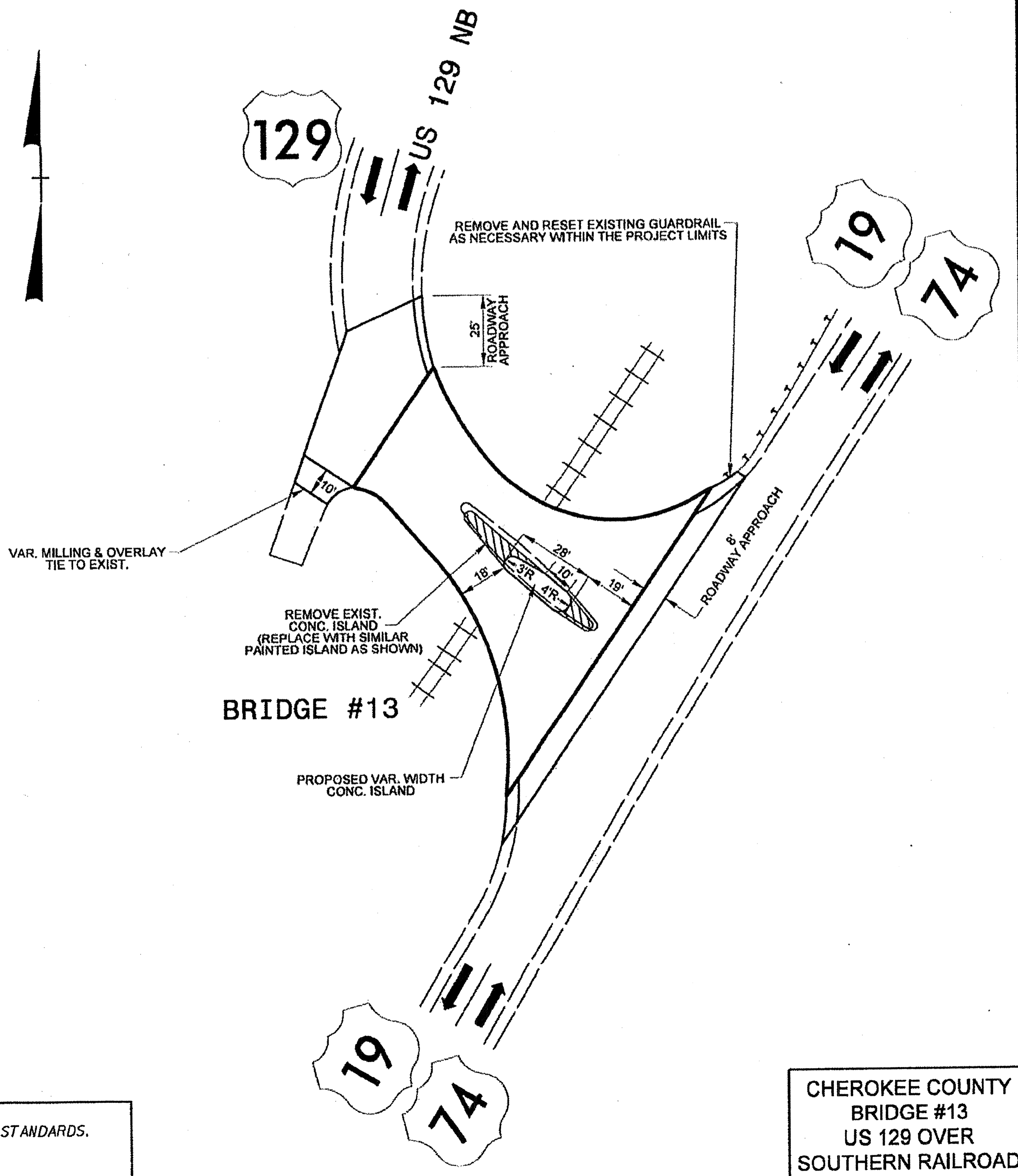
PAVEMENT SCHEDULE	
C1	PROP. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
Z	ASPHALT MILLING

PROJECT REFERENCE NO. WBS 17BPJ4P5	SHEET NO. RDY-2
ROADWAY DESIGN ENGINEER	
	
2/24/2012	



DISCLAIMER: THIS PROJECT HAS NOT BEEN SURVEYED. EXISTING TOPOGRAPHY WAS CREATED FROM AERIAL PHOTOGRAPHY NOT ACTUAL SURVEY.

NOTES:
1. ALL EROSION CONTROL MEASURES SHALL ADHERE TO NCDOT STANDARDS.

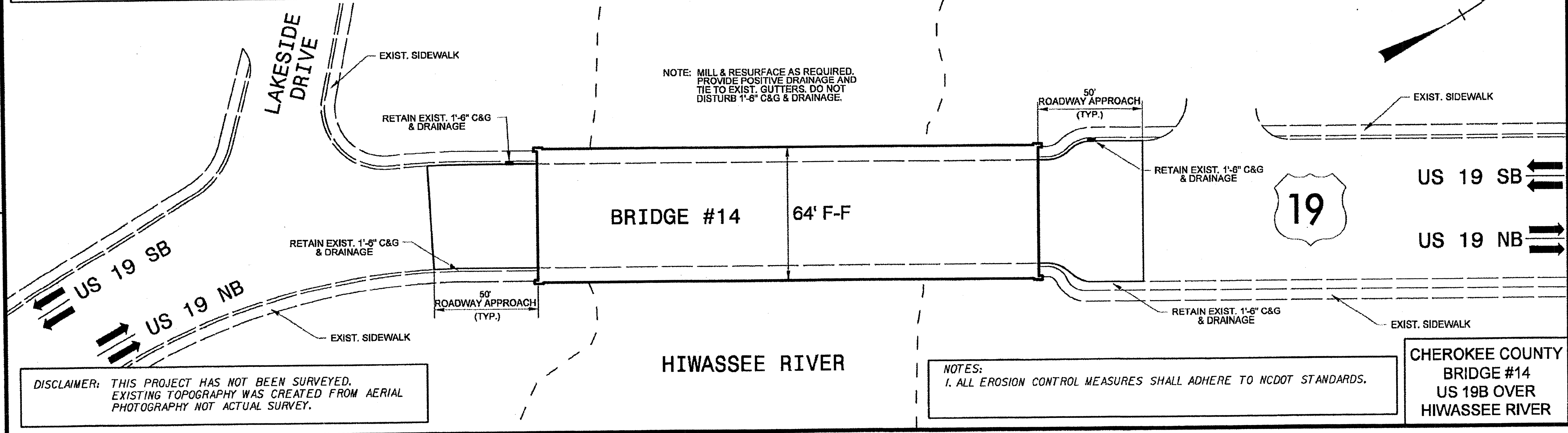
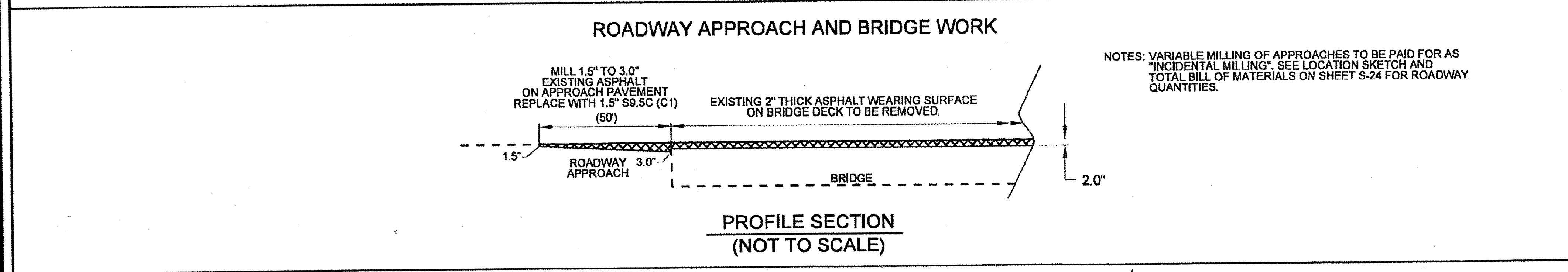
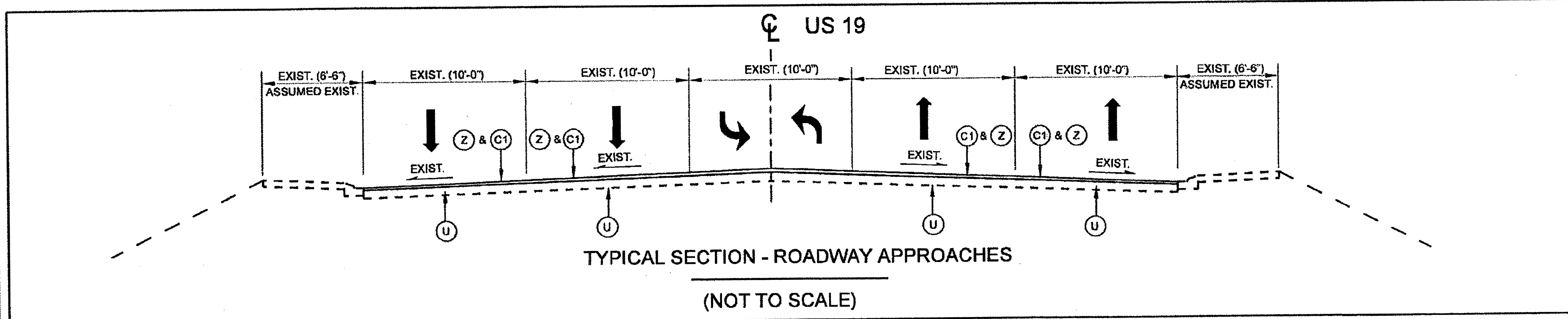
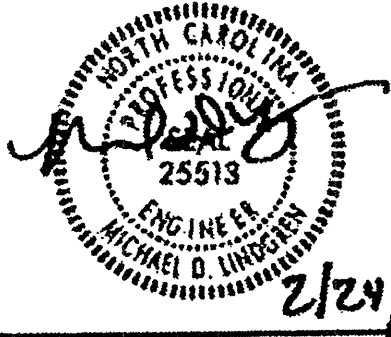


8/17/99

PROJECT REFERENCE NO. WBS 17BP14P-5 SHEET NO. RDY-3

PAVEMENT SCHEDULE	
C1	PROP. 1.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
U	EXISTING PAVEMENT
Z	ASPHALT MILLING

ROADWAY DESIGN ENGINEER

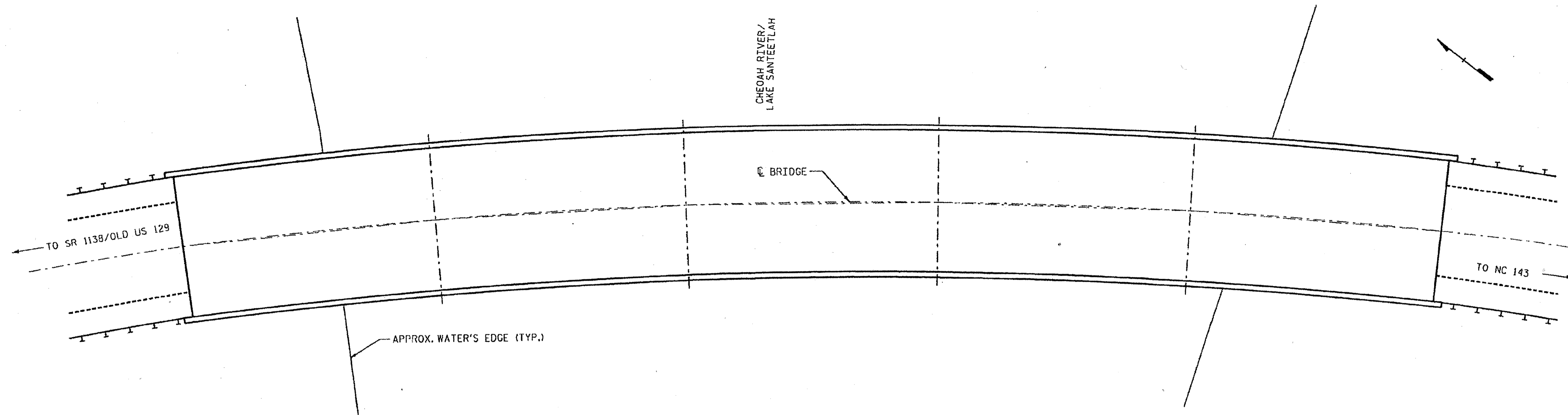


DISCLAIMER: THIS PROJECT HAS NOT BEEN SURVEYED. EXISTING TOPOGRAPHY WAS CREATED FROM AERIAL PHOTOGRAPHY NOT ACTUAL SURVEY.

NOTES:
1. ALL EROSION CONTROL MEASURES SHALL ADHERE TO NCDOT STANDARDS.

CHEROKEE COUNTY
BRIDGE #14
US 19B OVER
HIWASSEE RIVER

US:St-Lustur.us\Bridges Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co. Cr-chem 8\Drawing\898...S_BDP.dgn 2/24/2012 5:13:33 PM Isabelle



BRIDGE 8 ON US 129

LOCATION: BRIDGE 370008, US 129 ACROSS CHEOAH RIVER
100' SOUTH OF JUNCTION WITH SR 1138

TOTAL BILL OF MATERIAL								
SHOULDER RECONSTRUCTION	INCIDENTAL MILLING	MILLING ASPHALT PVMT., 1.5" DEPTH *	CONC. SURFACE COURSE, TYPE S9.5C	REMOVE AND RESET EXIST. GUARDRAIL	GROOVING BRIDGE FLOORS	CONCRETE REPAIRS	FOAM JOINT SEALS	LATEX MODIFIED CONCRETE OVERLAY- VERY EARLY STRENGTH
S.MI.	SO.YDS.	SO.YDS.	TON	LF	SO.FT.	CU.FT.	LUMP SUM	CU.YDS.
0.038	315.3	1,132.8	27	200	9,853.0	6.5	LUMP SUM	55.1

TOTAL BILL OF MATERIAL							
HYDRO-DEMOLITION OF BRIDGE DECK	CLASS I * SURFACE PREPARATION	CLASS II * SURFACE PREPARATION	CLASS III * SURFACE PREPARATION	CLASS AA * CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE OVERLAY- VERY EARLY STRENGTH	SCARIFYING BRIDGE DECK	SPAN JACKING GRAHAM CO. BRIDGE #8
SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	SO.YDS.	SO.YDS.	EA
1,124.5	0	27.5	0	0	1,132.8	1,132.8	2

*QUANTITIES ARE ESTIMATES FROM BEST AVAILABLE DATA AND SHOULD BE CONSIDERED FOR INFORMATION PURPOSES ONLY. IF ANY CLASS III LOCATIONS ARE ENCOUNTERED PRIOR TO OR DURING HYDRO-DEMOLITION, SEE TYP. "BLOW THRU" CONTAINMENT AND FORMWORK DETAIL. NO SEPARATE MEASUREMENT OR PAYMENT FOR THESE ITEMS WILL BE MADE. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR HYDRO-DEMOLITION OF BRIDGE DECK OR SCARIFYING BRIDGE DECK. (SEE SPECIAL PROVISIONS)

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

LOCATION SKETCH AND TOTAL BILL OF MATERIAL

DECK REHAB. FOR BRIDGE NO. 8

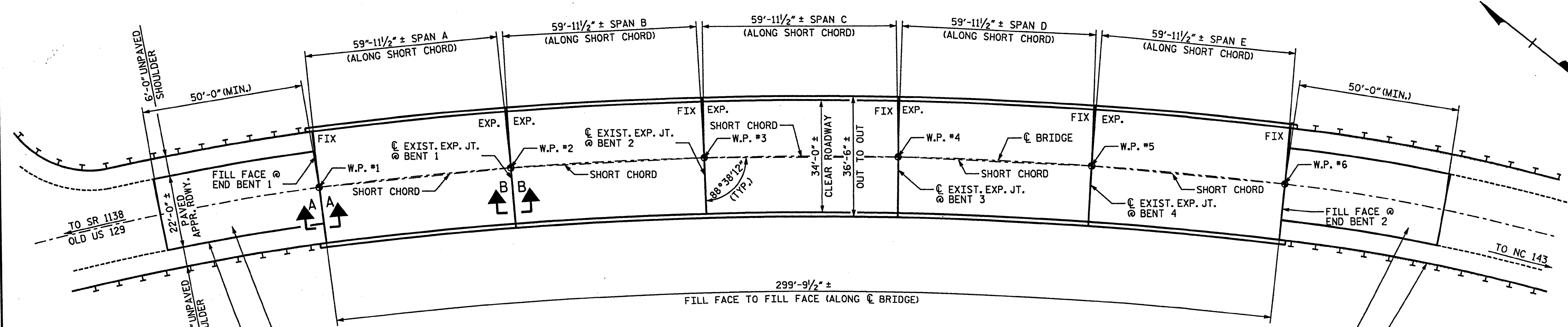
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-1
1			3			TOTAL SHEETS
2			4			32

Joseph Kelvington

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 Fax (919) 851-7024
 www.stantec.com
 License No. F-0872

DRAWN BY: C.T. MCCULLOUGH DATE: 1/05
 CHECKED BY: J.T. KELVINGTON DATE: 1/05

J:\17001007\Transportation\Design\Structures\Bridges Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co\Drawing\BFB_DeckPlan.dgn 1/21/2012 2:58:56 PM blaton

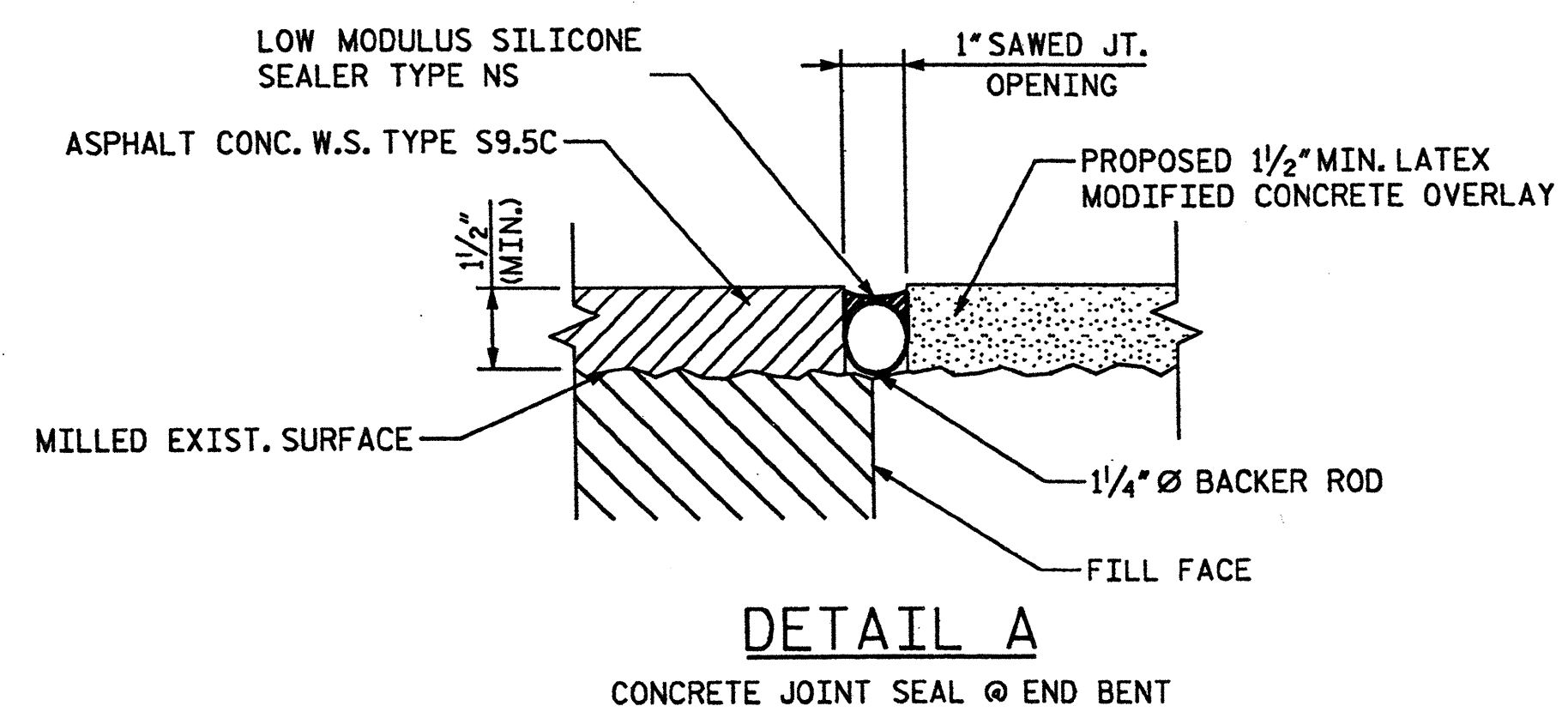
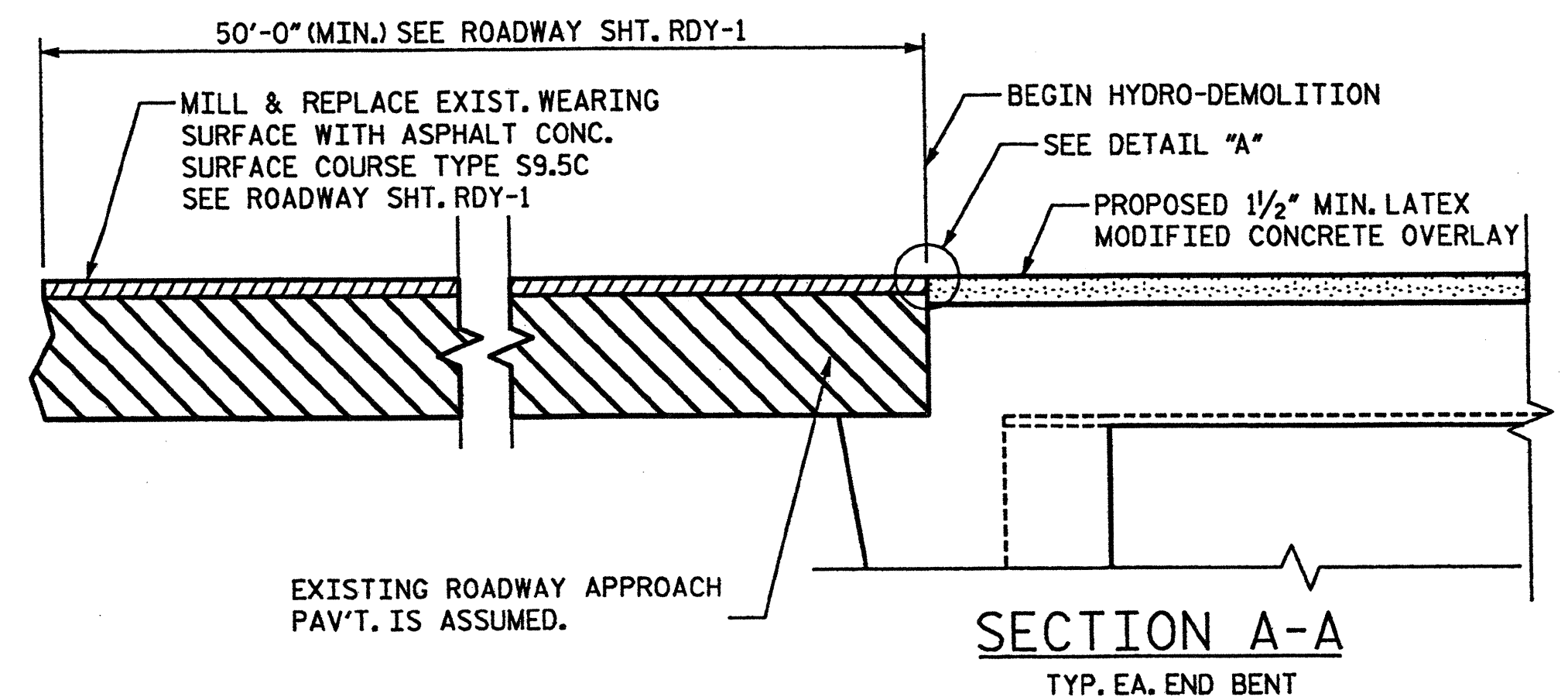


PLAN VIEW OF SPANS A-E

NOTE: ALL DIMENSIONS ARE RADIAL OR ON ARC UNLESS NOTED OTHERWISE.
 BRIDGE BARRIER RAILS AND POSTS NOT SHOWN FOR CLARITY.

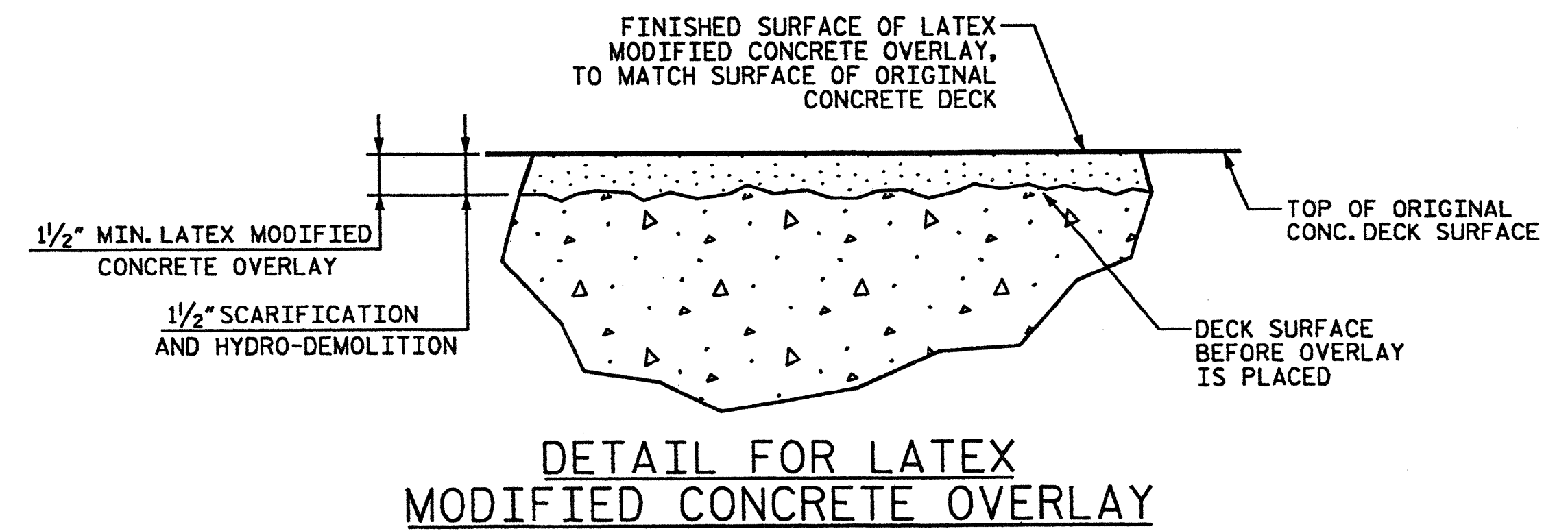
MILL AND REPLACE EXIST. RDWY. PAV'T WITH ASPHALT CONC. SURFACE COURSE. SEE ROADWAY SHT. RDY-1
 APPROX. EDGE OF EXIST. ROADWAY PAV'T (TYP.)

MILL AND REPLACE EXIST. RDWY. PAV'T WITH ASPHALT CONC. SURFACE COURSE. SEE ROADWAY SHT. RDY-1
 EXIST. GUARDRAIL (TYP.)



NOTES:

FOR HYDRO-DEMOLITION, 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 APPROXIMATE. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL, SHT. S-4.
 LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.
 FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.
 FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
 SECTION A-A IS TYPICAL AT END BENTS 1 AND 2.
 SECTION B-B IS TYPICAL AT BENTS 1 THRU 4.
 FOR SECTION B-B, SEE SHT. S-9.
 1/4" BACKER ROD SHALL BE CLOSED CELL EXPANDED POLYETHYLENE FOAM TYPE L. PLACE BACKER ROD TO LIMITS OF PAVED APP. ROADWAY. NO SEPARATE PAYMENT FOR LABOR, MATERIALS, AND EQUIPMENT NEEDED TO CONSTRUCT CONCRETE JOINT SEALS SHALL BE MADE. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.



PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF BRIDGE

DECK REHAB. FOR BRIDGE NO. 8

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

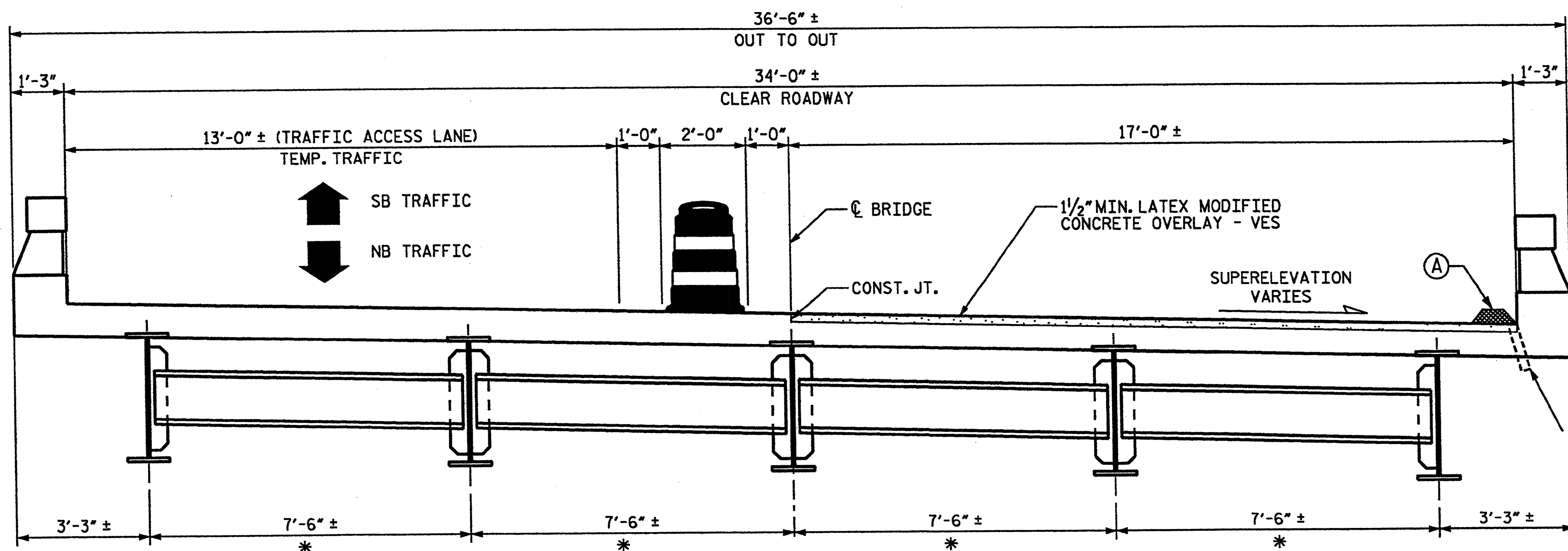
TOTAL SHEETS: 32

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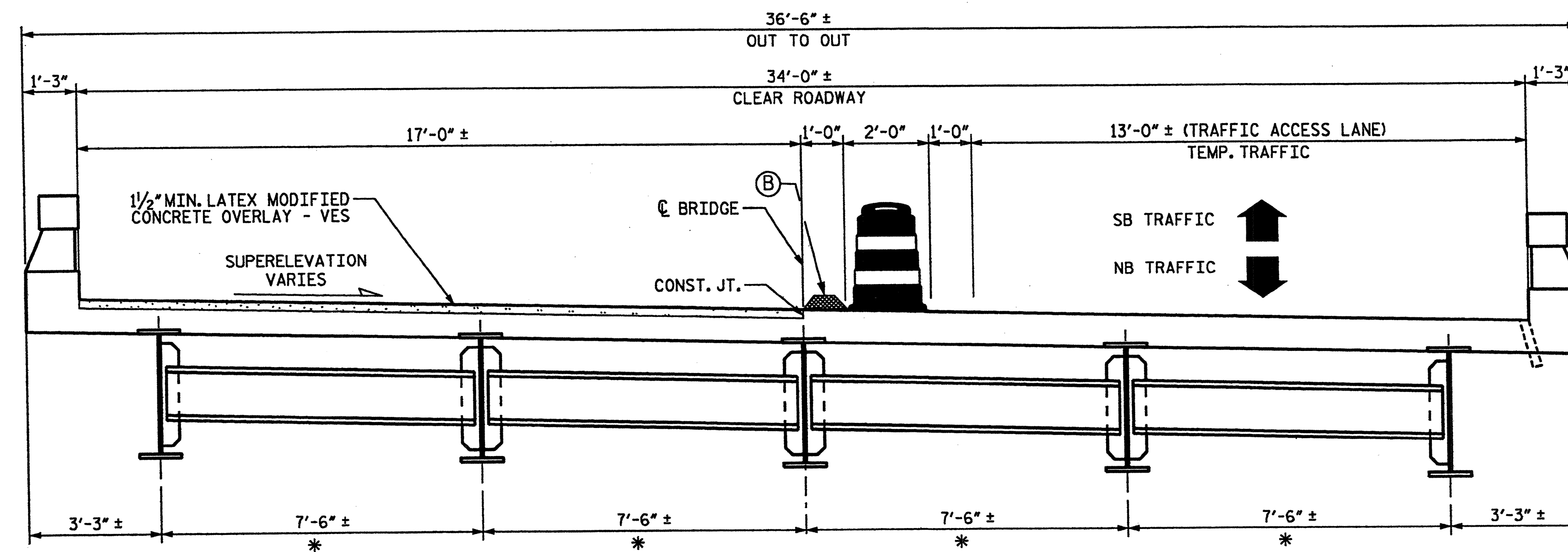
DRAWN BY: C.T. MCCULLOUGH DATE: 1/05
 CHECKED BY: J.T. KELVINGTON DATE: 1/05

J. T. Kelvington
 J. T. KELVINGTON
 ENGINEER
 13406

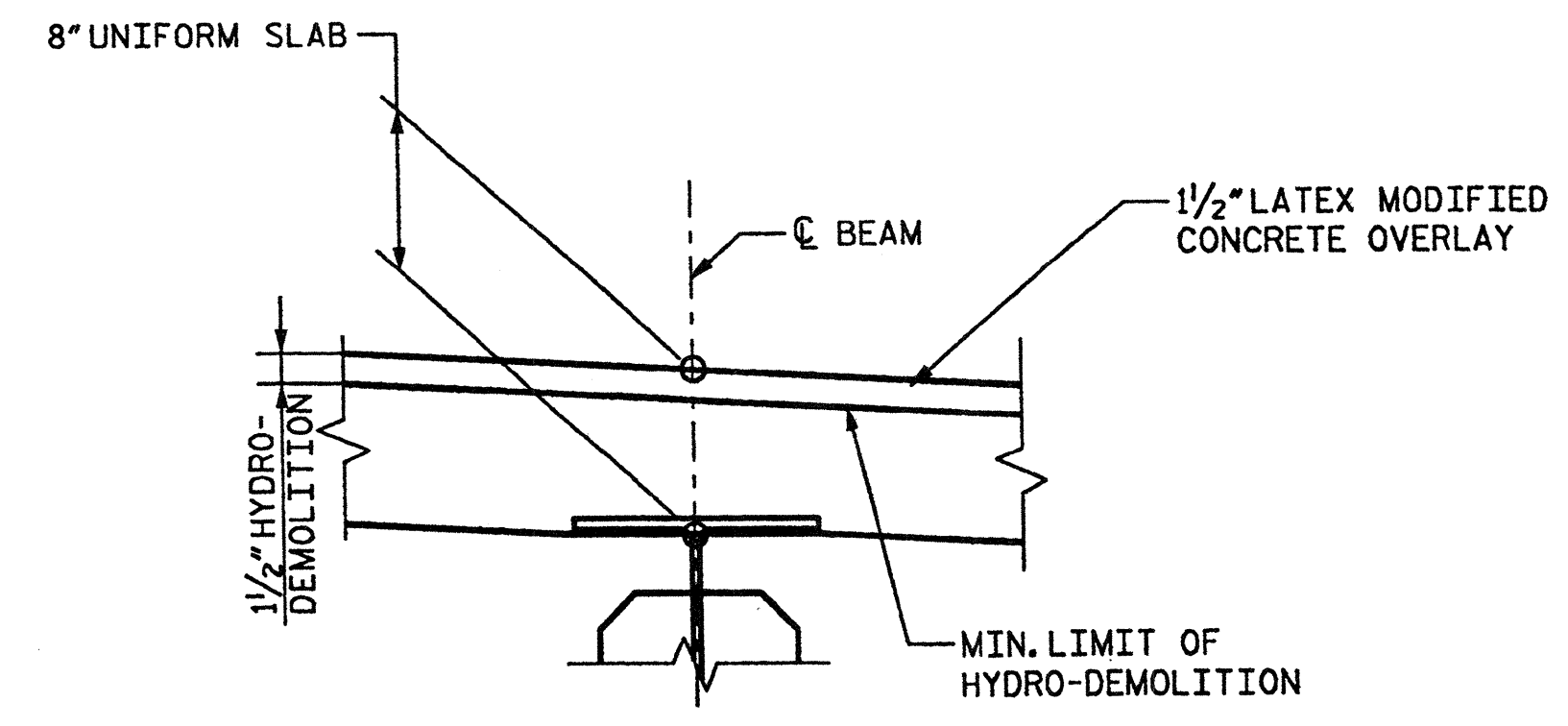
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 C:\Graham & Cherokee Co\Graham & Cherokee Co\Graham & Cherokee Co\17BP.14.P.5 Graham & Cherokee Co\Drawing\BP8_TypSect.dgn



TYPICAL SECTION
 SPAN A - E
 NOTE: ALL DIMENSIONS SHOWN ARE RADIAL.
 * RADIAL DIMENSION @ C BENT



TYPICAL SECTION
 SPAN A - E
 NOTE: ALL DIMENSIONS SHOWN ARE RADIAL.
 * RADIAL DIMENSION @ C BENT



EXIST. SLAB DETAIL

EXIST. DECK DRAIN TO BE SEALED (TYP.)

NOTES:

- WATER & CONCRETE SLURRY FROM HYDRO-DEMOLITION SHALL NOT BE ALLOWED TO DRAIN ACROSS TRAVEL LANES. CONTRACTOR SHALL PROVIDE A METHOD TO CONTROL THE WATER.
- FOR TRAFFIC CONTROL AND CONSTRUCTION PHASING, SEE TRANSPORTATION MANAGEMENT PLANS.
- (A) DAM AS REQUIRED TO CAPTURE CONCRETE SLURRY AT DRAINS AND EXPANSION JOINTS.
- (B) DAM CONTINUOUSLY ALONG EDGE OF WORK ZONE TO CAPTURE CONCRETE SLURRY.
- VES - DENOTES VERY EARLY STRENGTH.

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION
DECK REHAB. FOR BRIDGE NO. 8

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			32

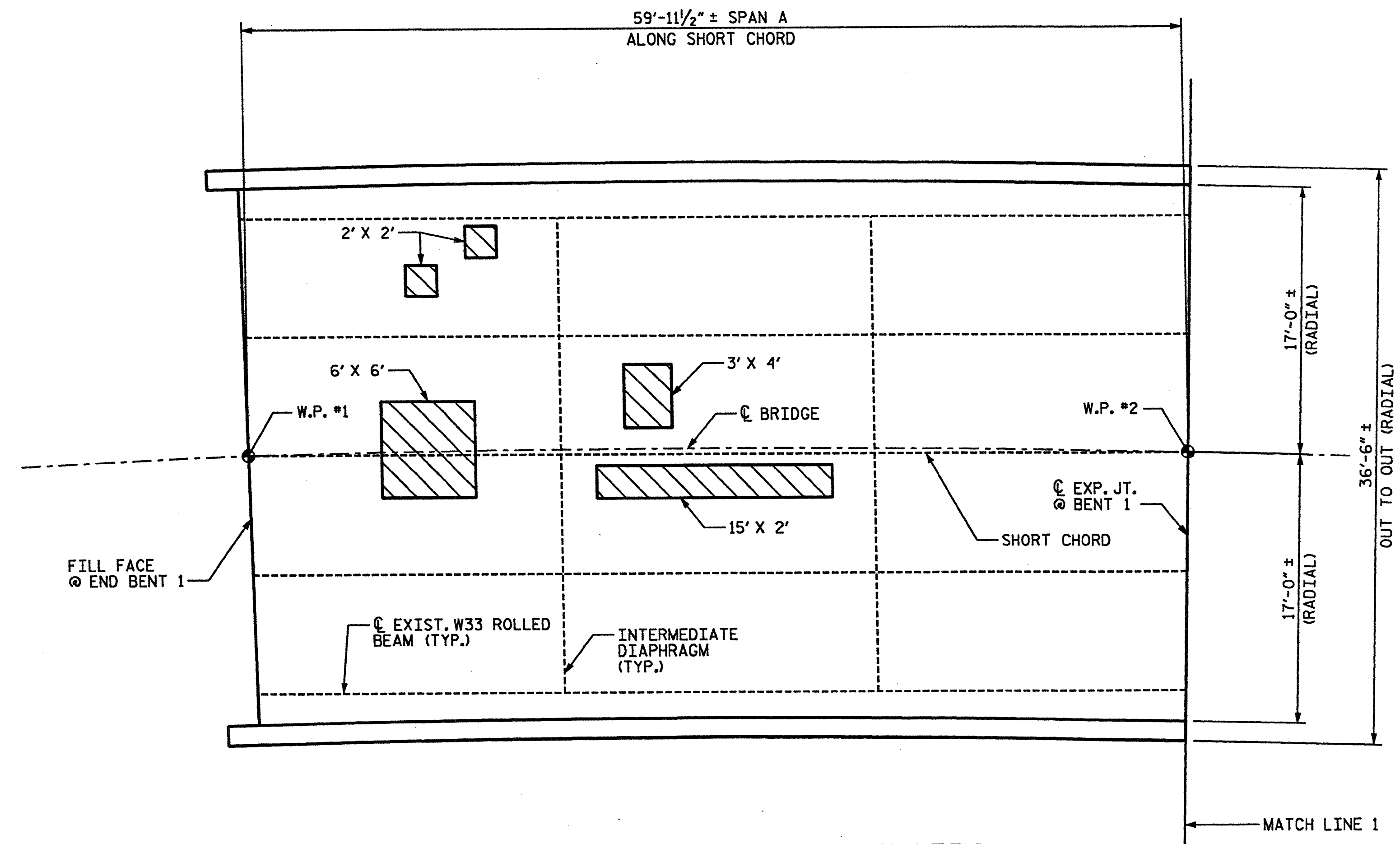
Stantec Consulting Services Inc.
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 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

DRAWN BY : C. I. MCCULLOUGH DATE : 1/05
 CHECKED BY : J. T. KELVINGTON DATE : 1/05

Joseph Kelvington

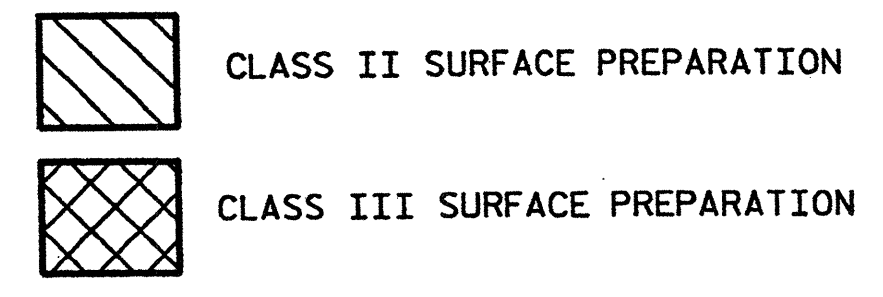
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 STATE OF NORTH CAROLINA
 NO. 13406
 KELVINGTON

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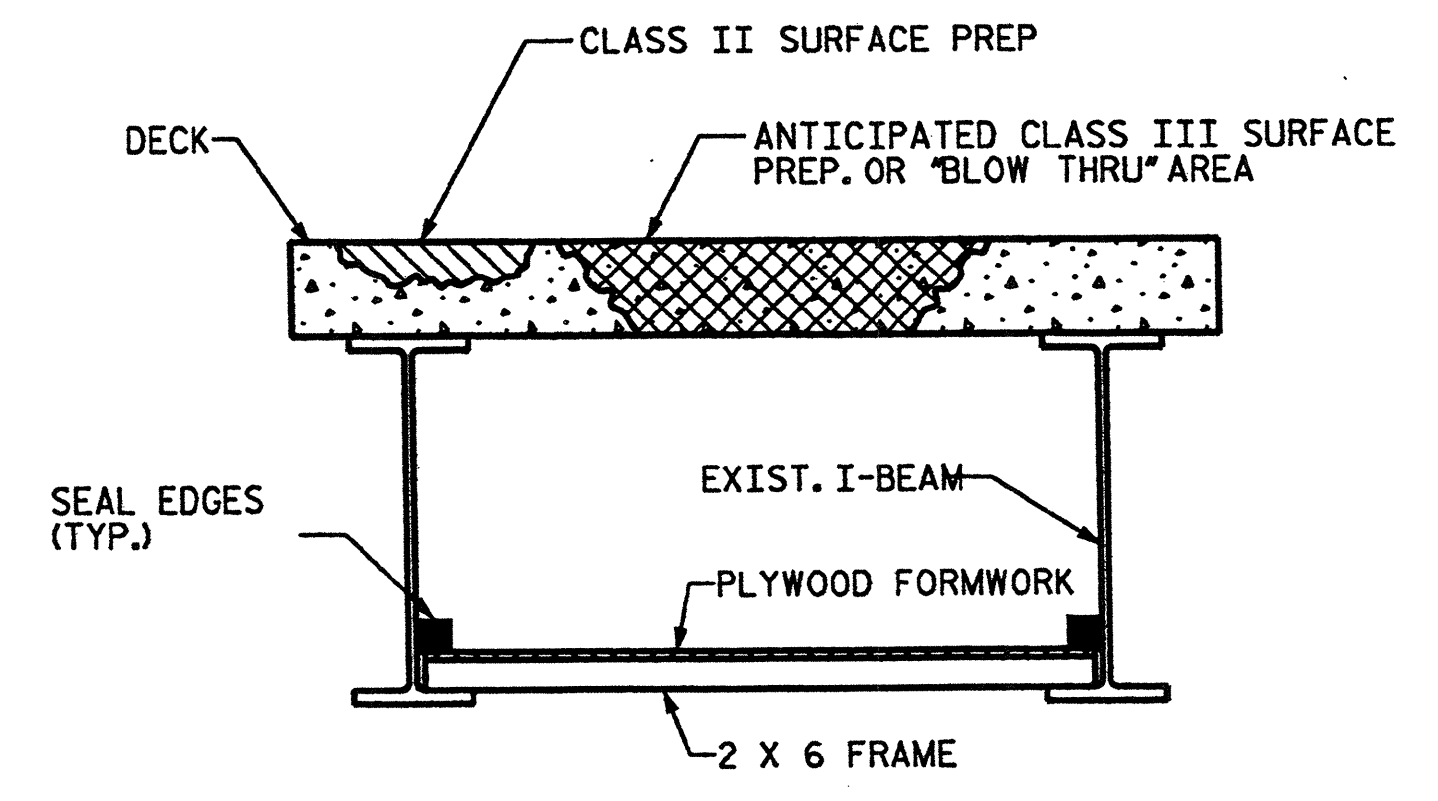


PLAN OF SPAN A - DECK REPAIRS

NOTE: EXIST. BARRIER AND RAIL DETAILS ARE NOT SHOWN FOR CLARITY.



L X W = LENGTH OF AREA PARALLEL TO © BRIDGE X
WIDTH IF AREA PERPENDICULAR TO © BRIDGE.



TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

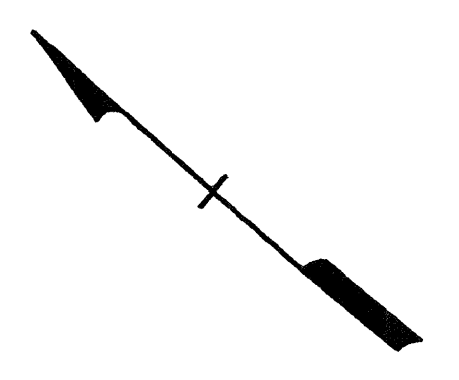
SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.




PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN A**

DECK REHAB. FOR BRIDGE NO. 8

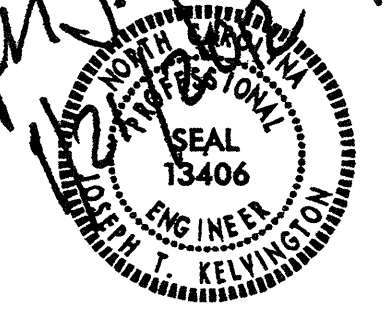
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4	
1			3			TOTAL SHEETS	
2			4			32	



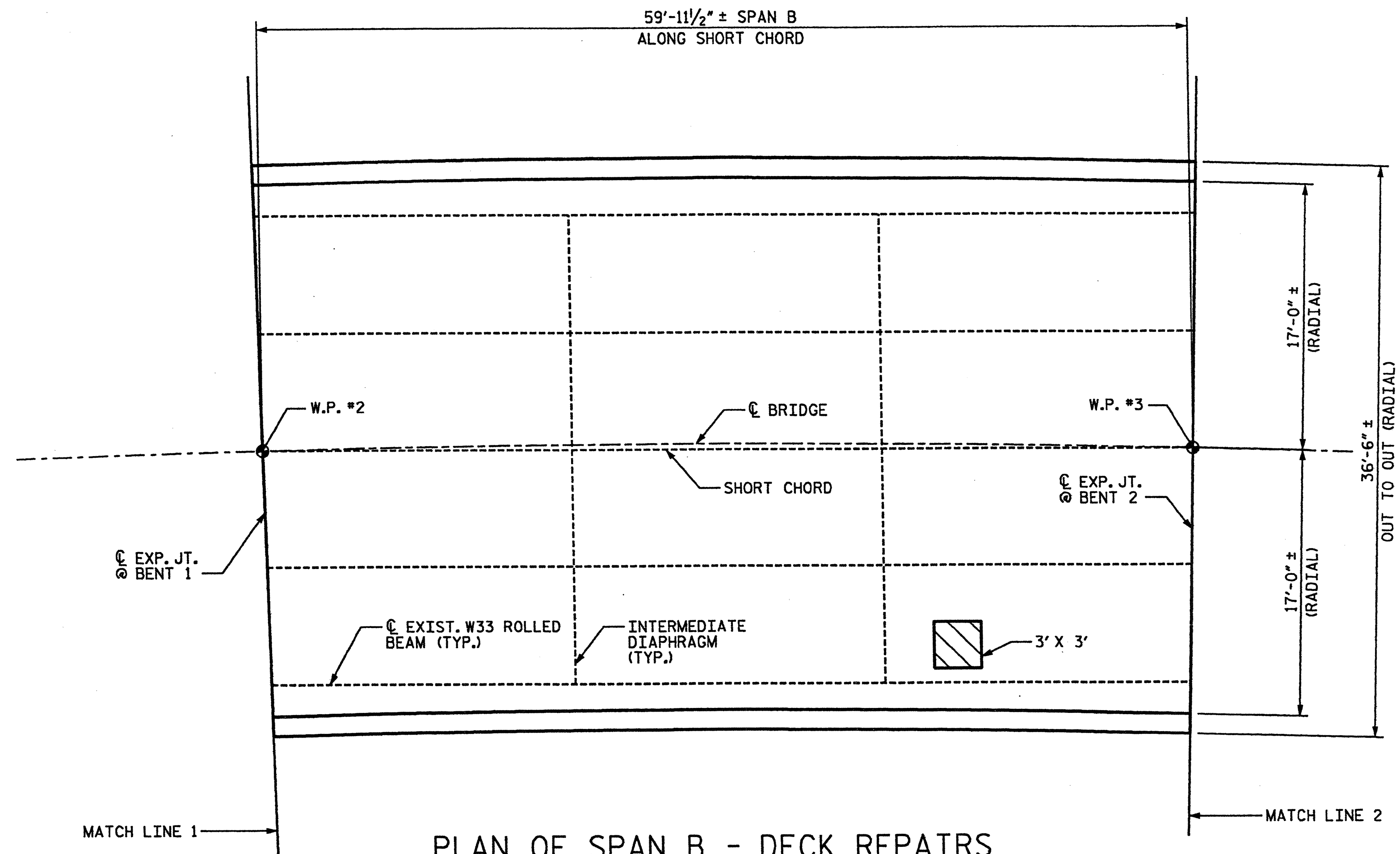
Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-9966
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0872

DRAWN BY : C. T. MCCULLOUGH DATE : 1/05
 CHECKED BY : J. T. KELVINGTON DATE : 1/05

Joseph J. Kelvington



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PLAN OF SPAN B - DECK REPAIRS

NOTE: EXIST. BARRIER AND RAIL DETAILS ARE NOT SHOWN FOR CLARITY.

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.

Joseph J. Kelvington
 PROFESSIONAL ENGINEER
 STATE OF NORTH CAROLINA
 EXPIRES 12/31/06
 13406
 KELVINGTON

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

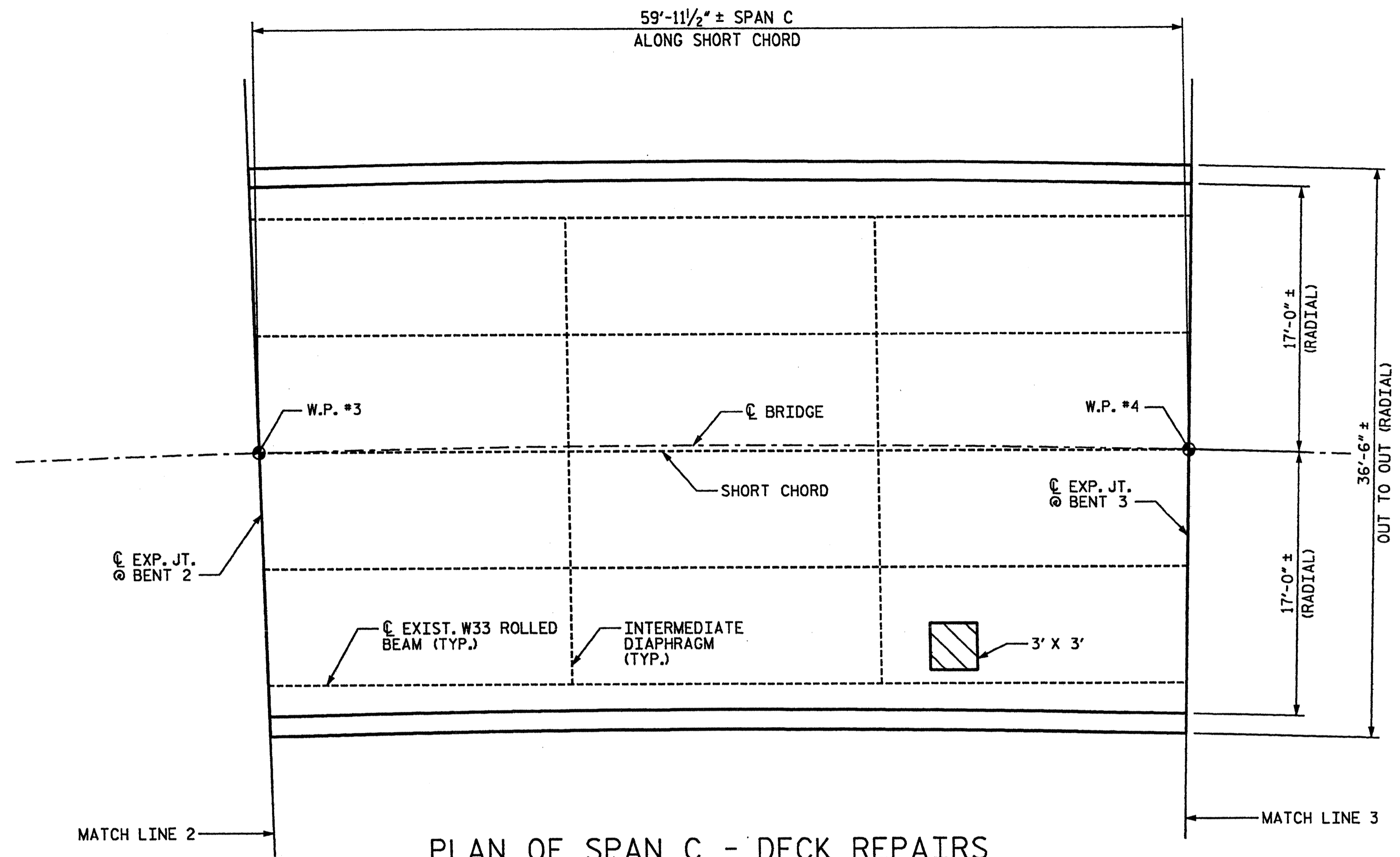
L x W = LENGTH OF AREA PARALLEL TO C BRIDGE X
 WIDTH IF AREA PERPENDICULAR TO C BRIDGE.

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 801 Jones Franklin Road
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 Tel. (919) 851-6866
 Fax. (919) 851-7024
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DRAWN BY : C T MCCULLOUGH DATE : 1/05
 CHECKED BY : J T KELVINGTON DATE : 1/05

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
DECK REPAIR DETAILS					
SPAN B					
DECK REHAB. FOR BRIDGE NO. 8					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-5
					TOTAL SHEETS 32

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PLAN OF SPAN C - DECK REPAIRS

NOTE: EXIST. BARRIER AND RAIL DETAILS ARE NOT SHOWN FOR CLARITY.

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

L X W = LENGTH OF AREA PARALLEL TO C BRIDGE X WIDTH IF AREA PERPENDICULAR TO C BRIDGE.

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

James J. Kelvington



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN C**

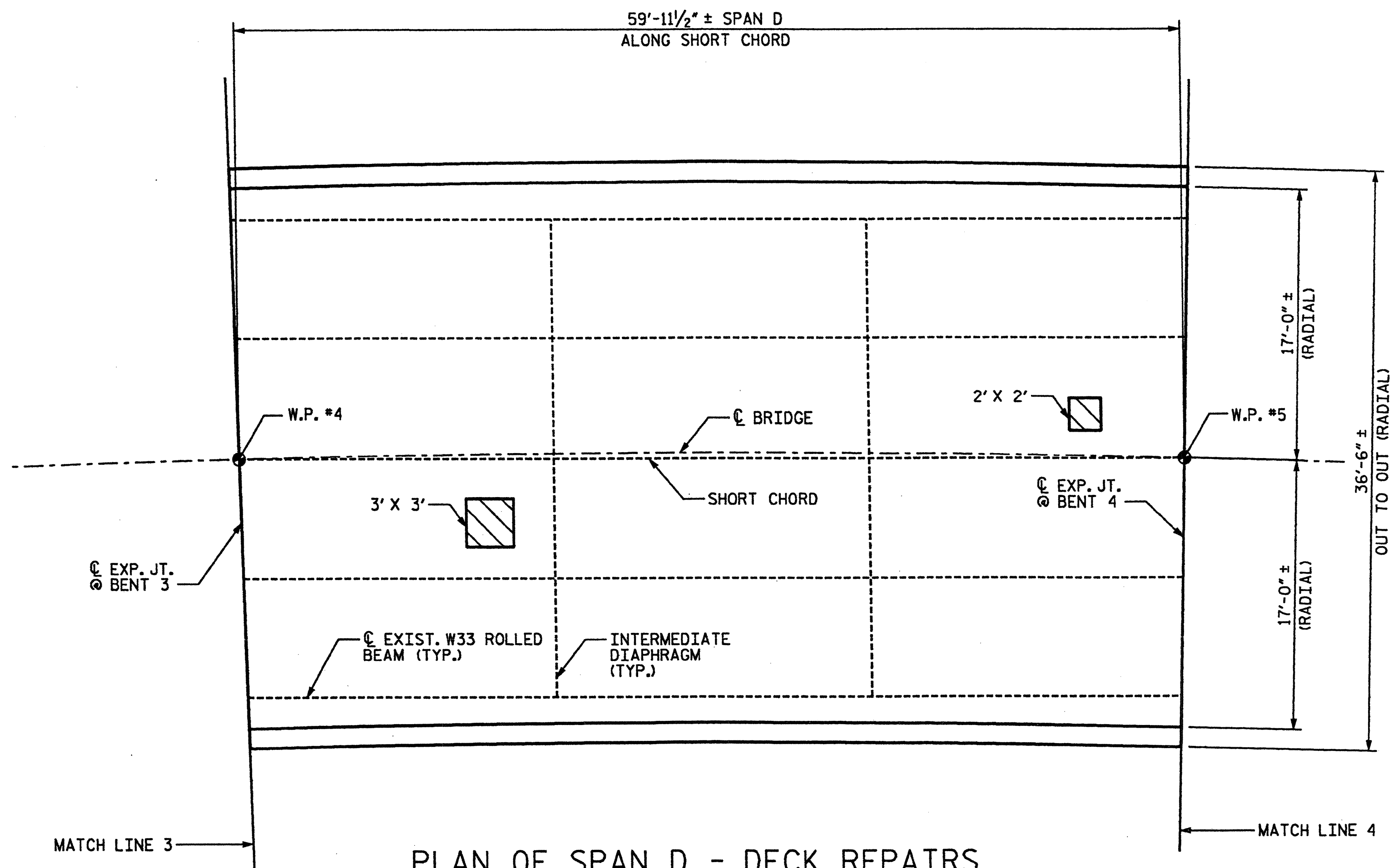
DECK REHAB. FOR BRIDGE NO. 8

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-6
1			3			TOTAL SHEETS
2			4			32

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DRAWN BY : C. T. MCCULLOUGH DATE : 1/05
 CHECKED BY : J. T. KELVINGTON DATE : 1/05

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PLAN OF SPAN D - DECK REPAIRS

NOTE: EXIST. BARRIER AND RAIL DETAILS ARE NOT SHOWN FOR CLARITY.

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

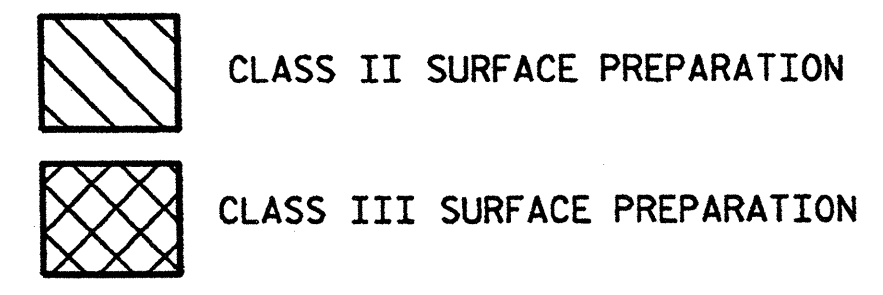
CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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

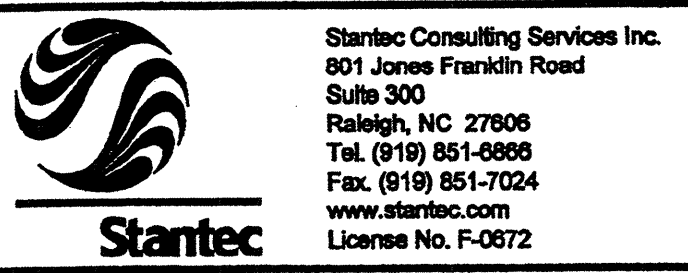
SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____



L X W = LENGTH OF AREA PARALLEL TO © BRIDGE X
 WIDTH IF AREA PERPENDICULAR TO © BRIDGE.

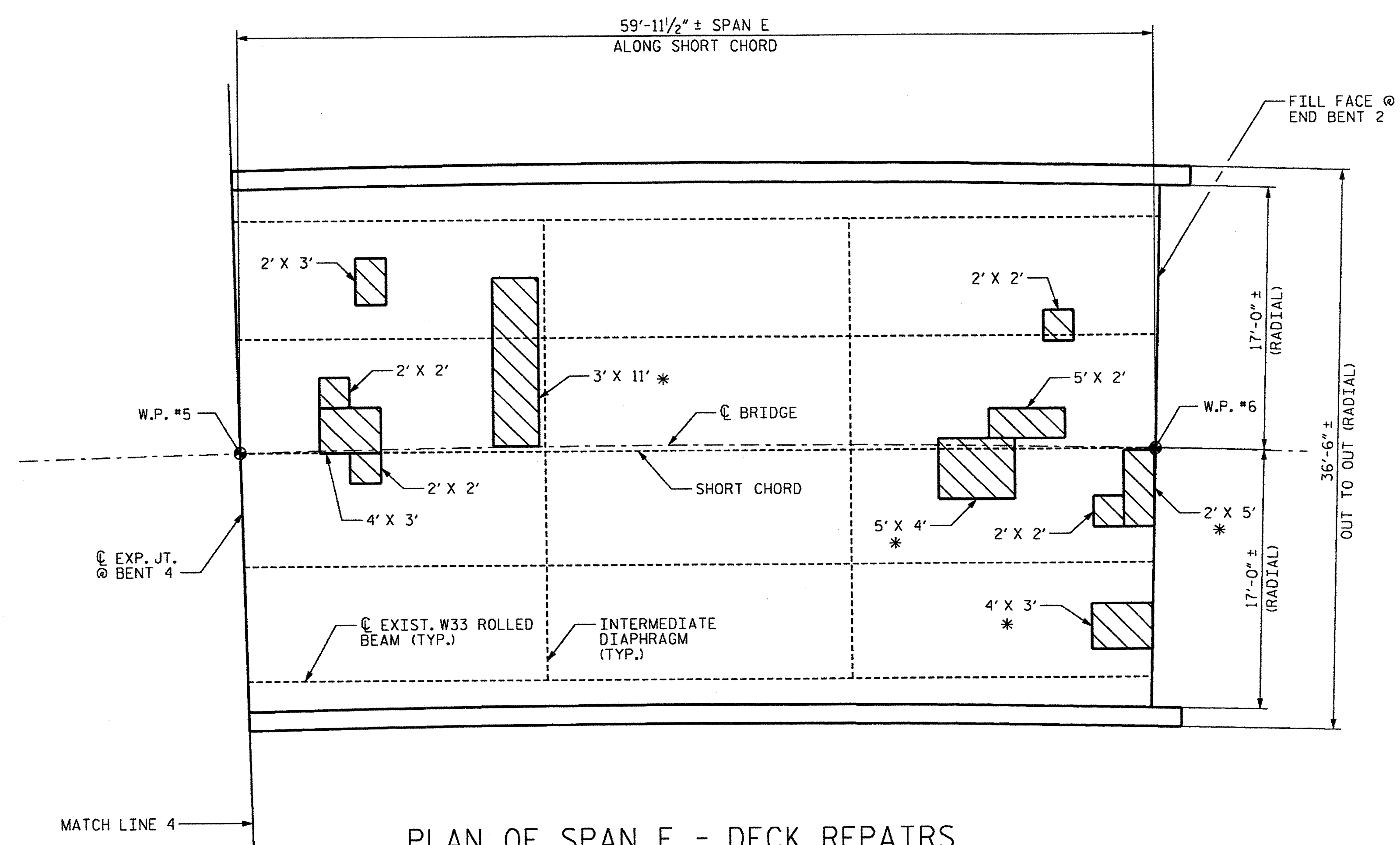


DRAWN BY : C T MCCULLOUGH DATE : 1/05
 CHECKED BY : J I KELVINGTON DATE : 1/05

Joseph Kelvington
 NORTH CAROLINA
 PROFESSIONAL ENGINEER
 13406
 JOSEPH I. KELVINGTON

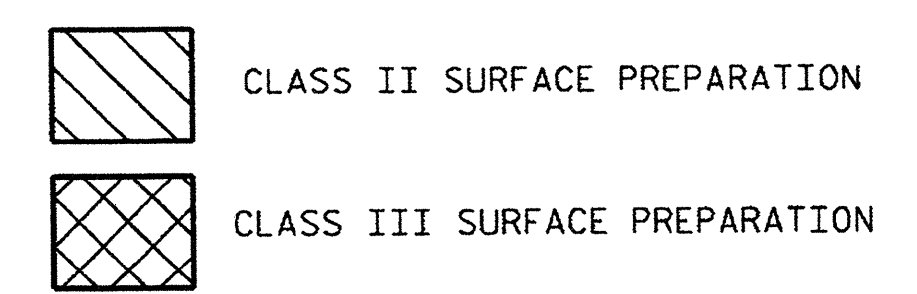
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DECK REPAIR DETAILS SPAN D					
DECK REHAB. FOR BRIDGE NO. 8					
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-7
					TOTAL SHEETS 32

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PLAN OF SPAN E - DECK REPAIRS

NOTE: EXIST. BARRIER AND RAIL DETAILS ARE NOT SHOWN FOR CLARITY.
 * APPROXIMATE AREA OF CONCRETE SURFACE PATCH. REMOVAL WITH HAND TOOLS MAY BE REQUIRED.



L X W = LENGTH OF AREA PARALLEL TO C BRIDGE X
 WIDTH IF AREA PERPENDICULAR TO C BRIDGE.

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

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SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN E**

DECK REHAB. FOR BRIDGE NO. 8

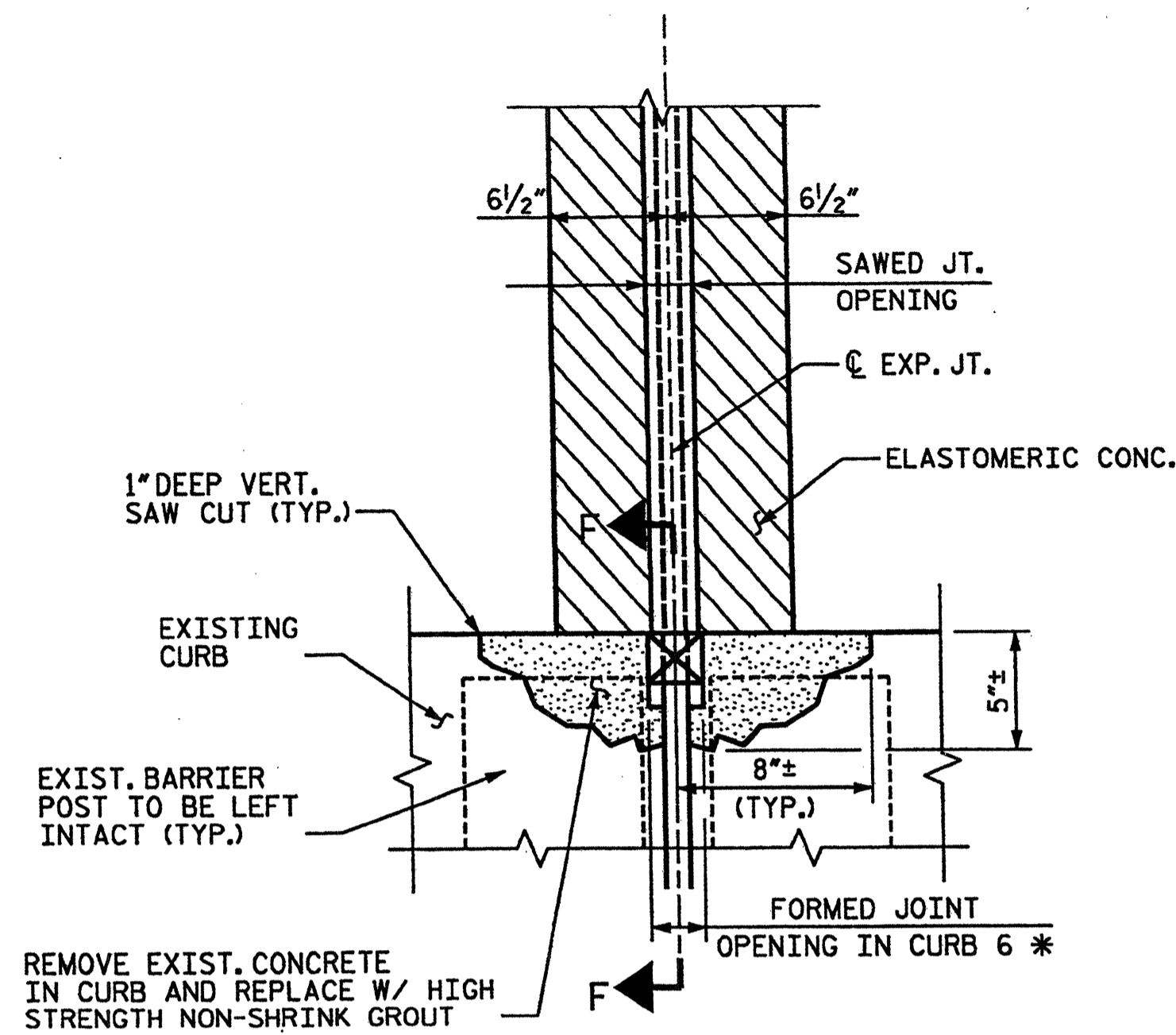
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			8
2			4			32

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 www.stantec.com
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DRAWN BY : C T MCCULLOUGH DATE : 1/05
 CHECKED BY : J T KELVINGTON DATE : 1/05

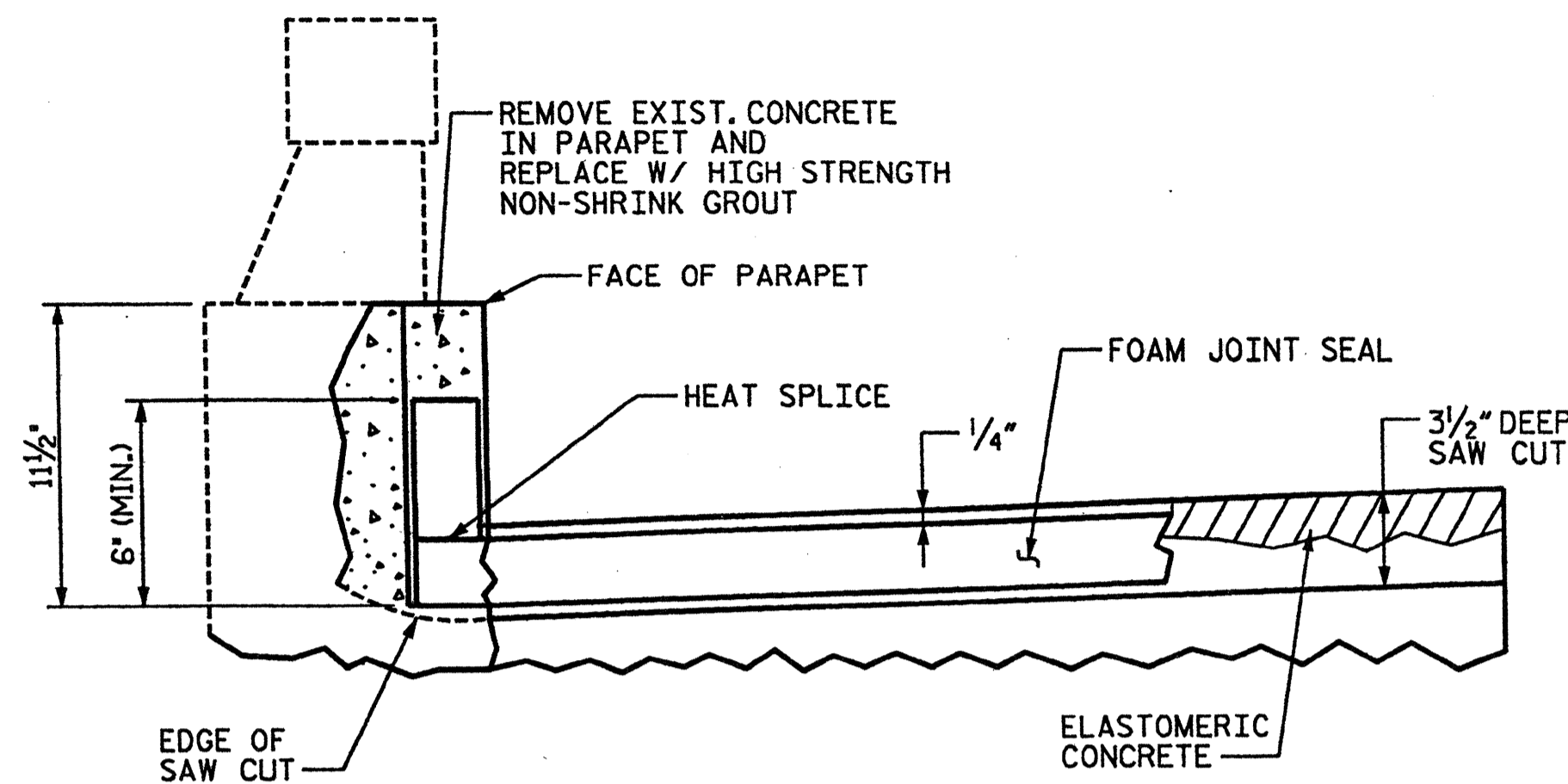
Joseph J. Kelvington
 1/26/2012
 PROFESSIONAL ENGINEER
 SEAL 13406
 JOSEPH T. KELVINGTON

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PARTIAL PLAN @ JOINT

(TYP. @ BENTS 1 - 4)
* MATCH TO SAWED OPENING IN DECK

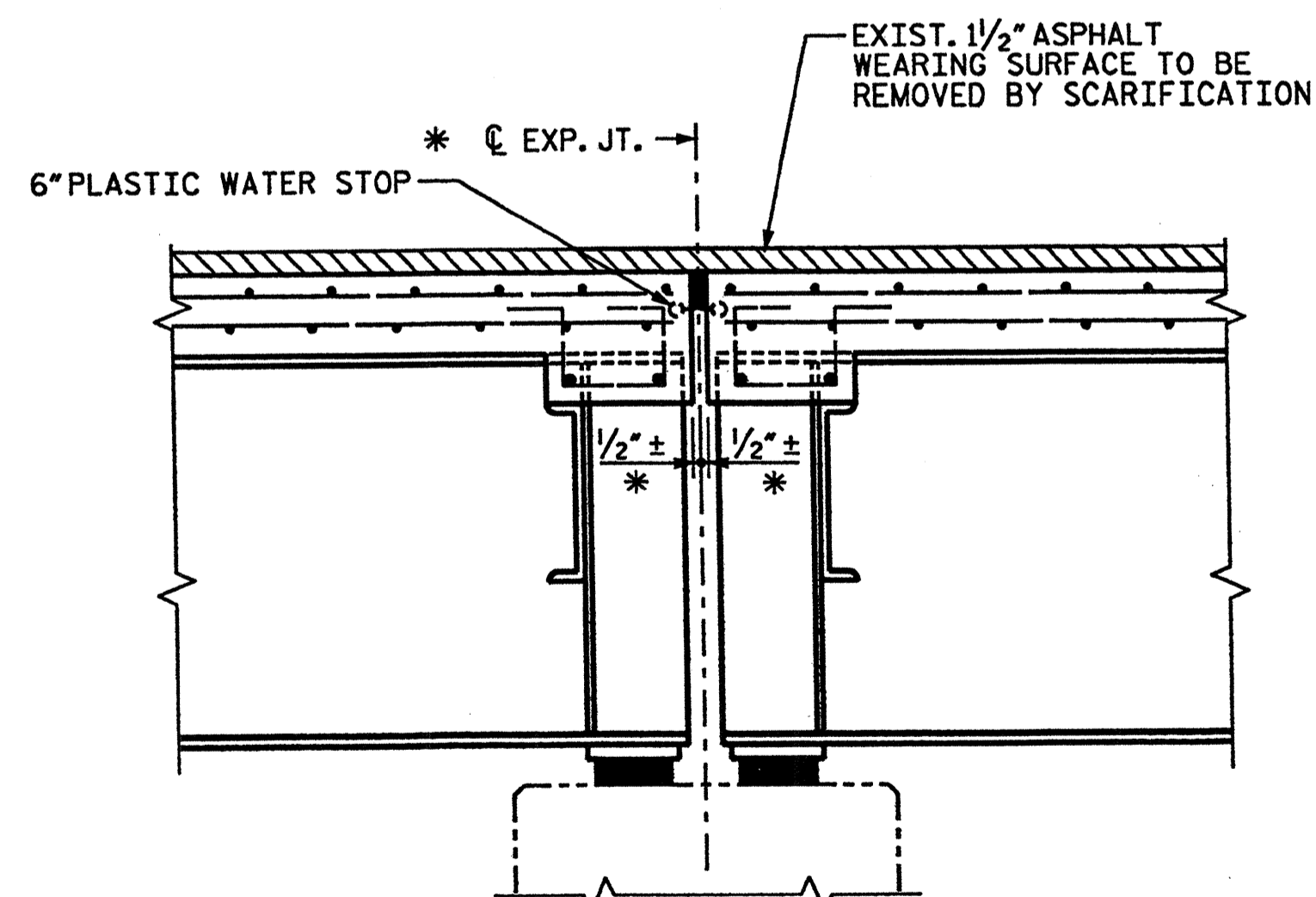


SECTION F-F

CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.
FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISIONS.
HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.

ELASTOMERIC CONCRETE	
LOCATION	QTY
BENT 1	4.3 C.F.
BENT 2	4.3 C.F.
BENT 3	4.3 C.F.
BENT 4	4.3 C.F.

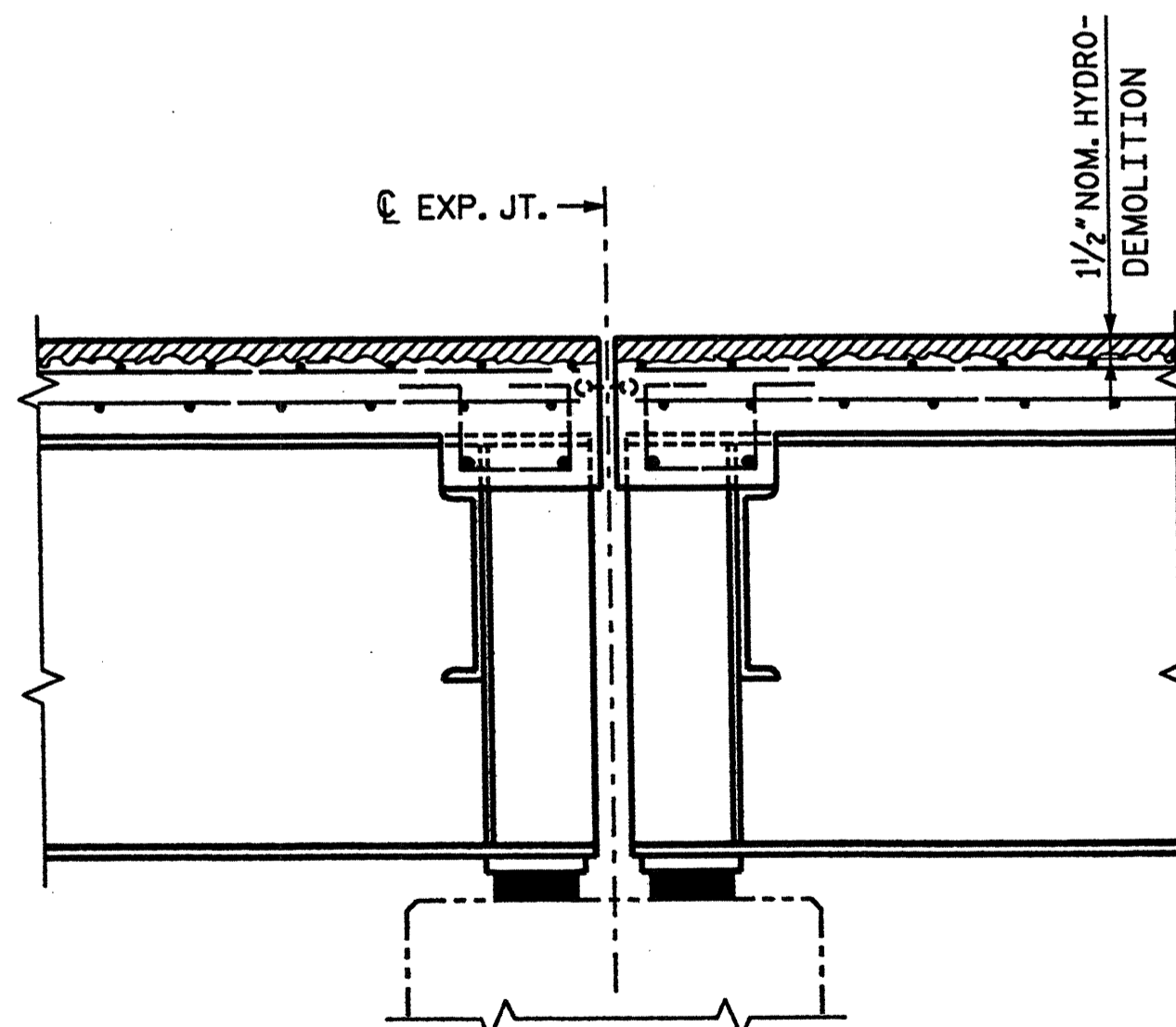
TOTAL ELASTOMERIC CONC. = 17.2 C.F.
TOTAL ELASTOMERIC CONC. = 0.6 C.Y.



SECTION B-B

(EXISTING JOINT)

* FROM ASSUMED OR BEST AVAILABLE INFORMATION.

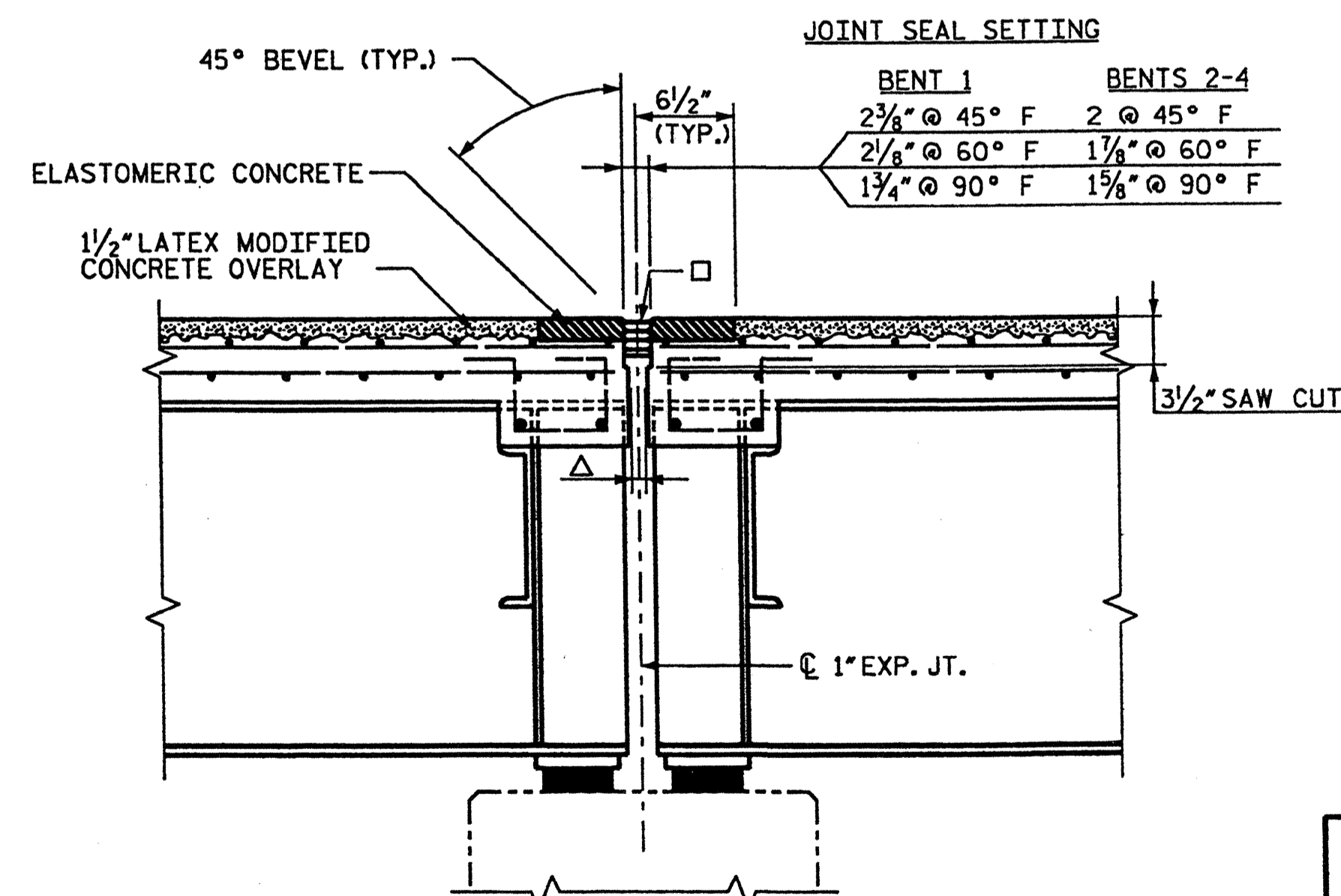


SECTION B-B

(EST. MAX. EXISTING JOINT DEMOLITION)

NOTE: RETAIN ALL EXIST. REINF. STEEL. CLEAN AND REPAIR AS REQ'D.

ALL EXPOSED EXISTING JOINT SEAL MATERIALS ARE TO BE COMPLETELY REMOVED.



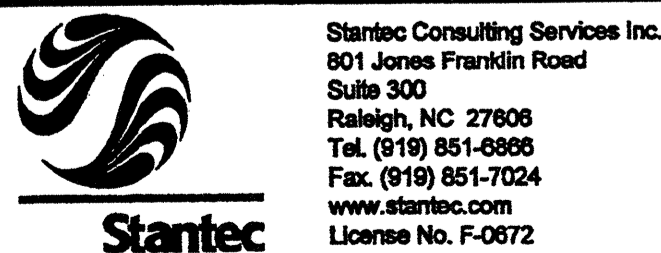
SECTION B-B

(JOINT SEAL DESIGN)

□ USE 2.8125" X 2.50" UNCOMPRESSED FOAM JT. SEAL MATERIAL @ BENT 1 THRU 4.
△ EXISTING OPENING @ BENTS 1 THRU 4.

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
INTERIOR BENT JOINT SEAL DETAILS					
DECK REHAB. FOR BRIDGE NO. 8					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					32



DRAWN BY: C.T. MCCULLOUGH DATE: 1/05
CHECKED BY: J.T. KELVINGTON DATE: 1/05

John Kelvington
Professional Engineer
No. 10000
State of North Carolina

2/21/2012 2:59:03 PM dia10n
 J:\17100101\Transportation\Design\Structures\Bridges Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co\Drawings\Bridges\Repair_BENT1.dgn

NOTES:

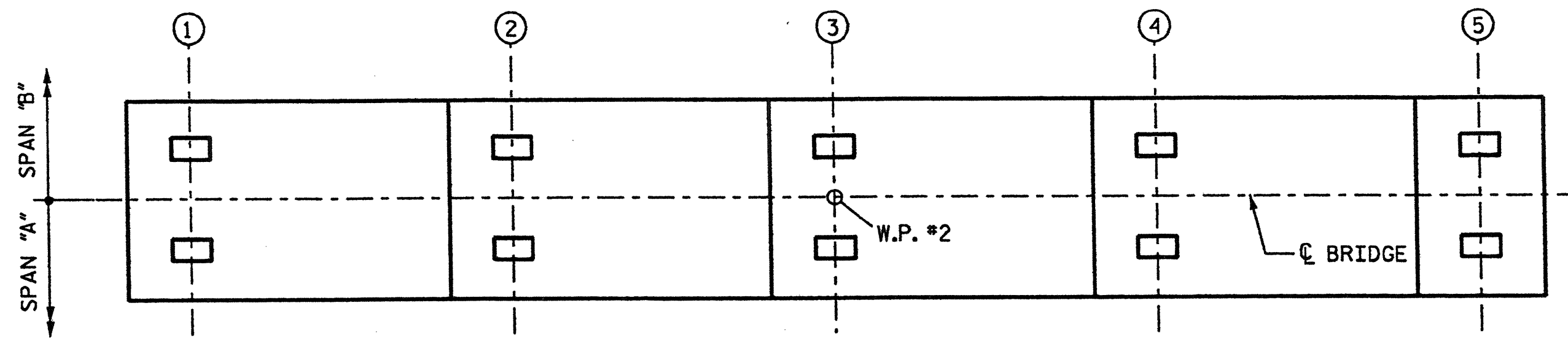
REPAIR AREA DIMENSIONS SHOWN ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.

ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.

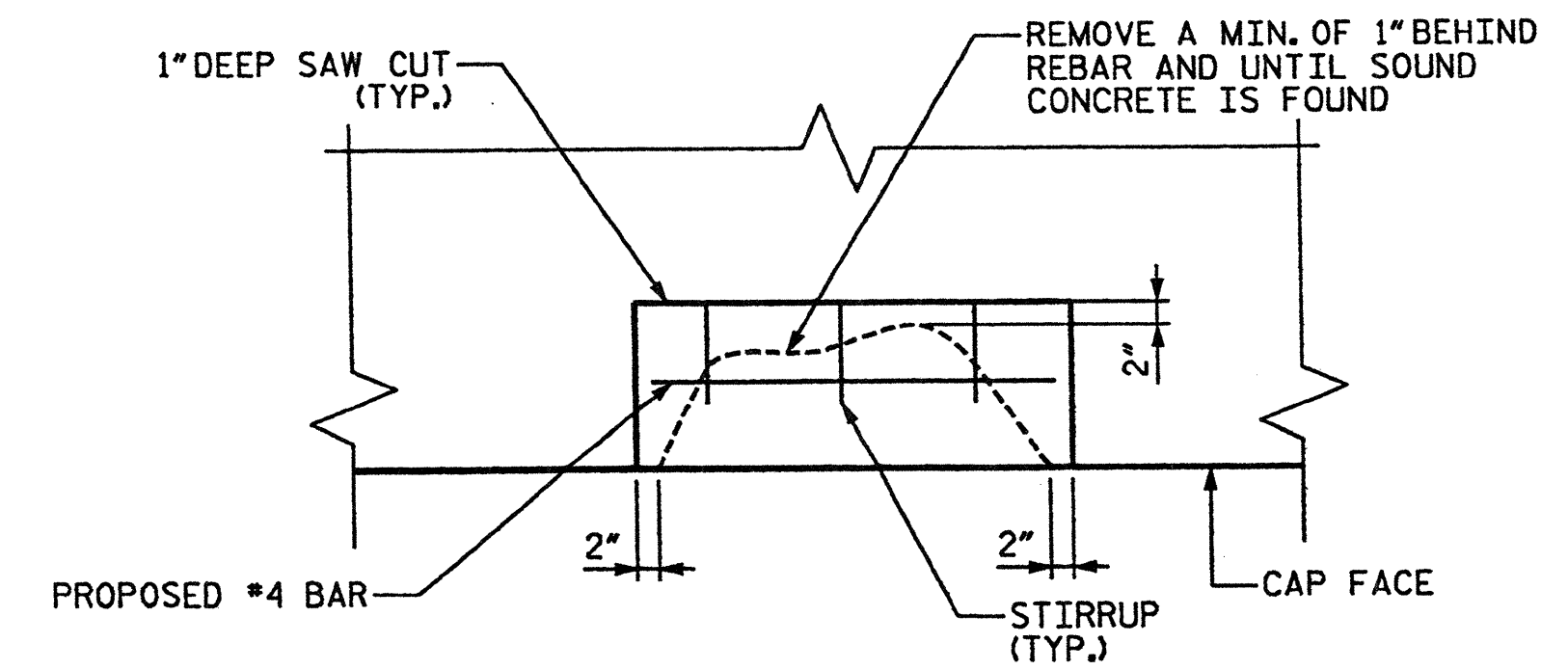
AREAS NOT OTHERWISE SPECIFIED FOR CONCRETE REPAIR MAY BE REPAIRED WITH SHOTCRETE, CLASS A CONCRETE, OR POLYMER CONCRETE AT THE CONTRACTOR'S OPTION.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

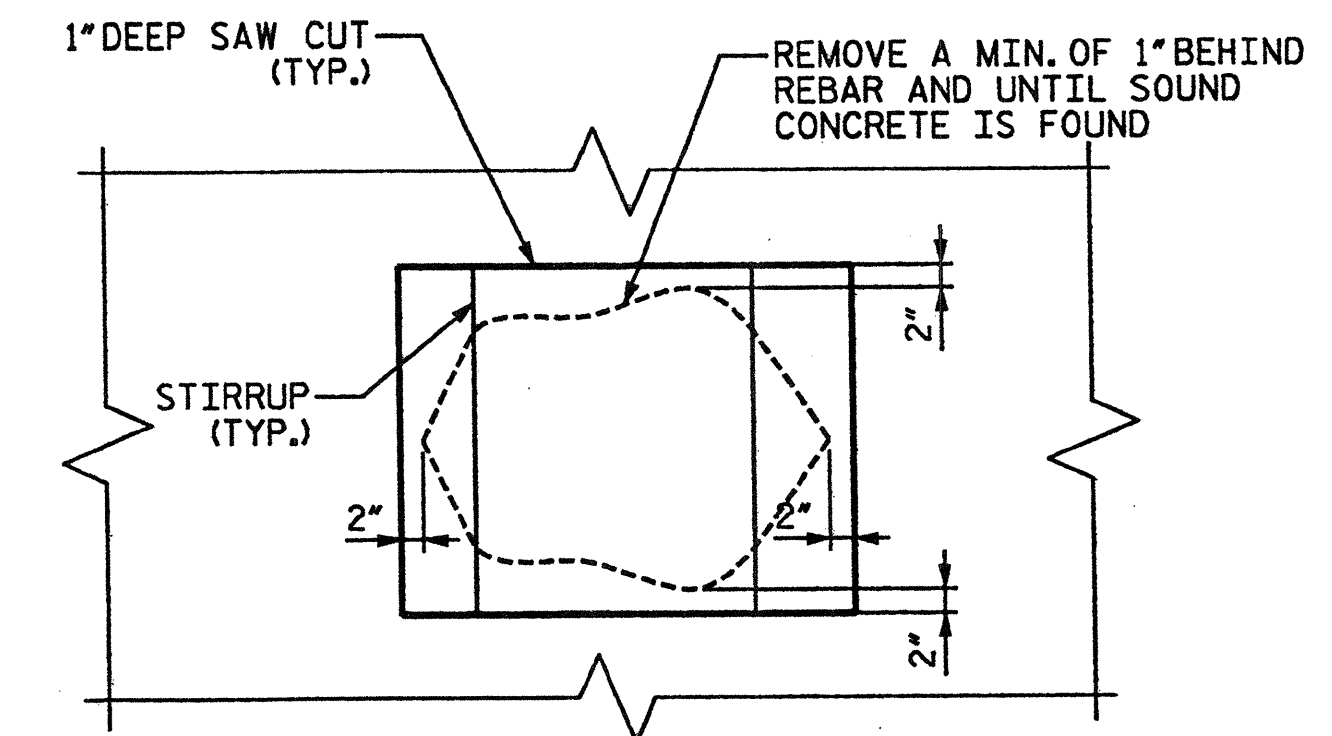
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.



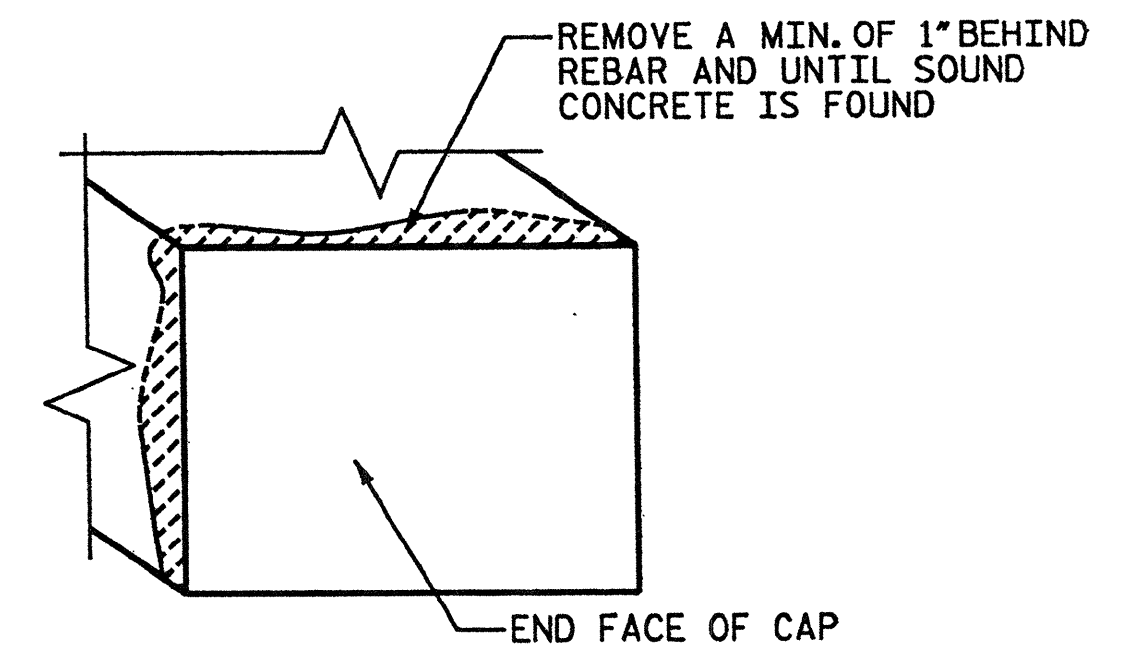
BENT 1 REPAIRS - PLAN OF CAP



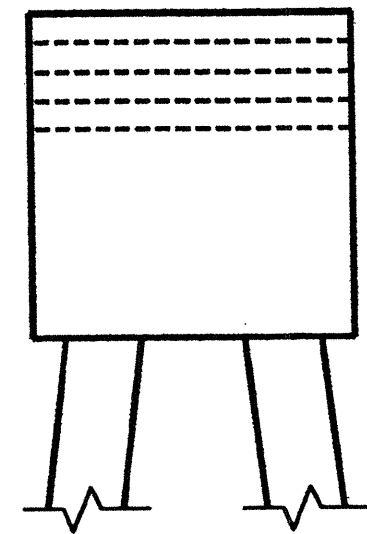
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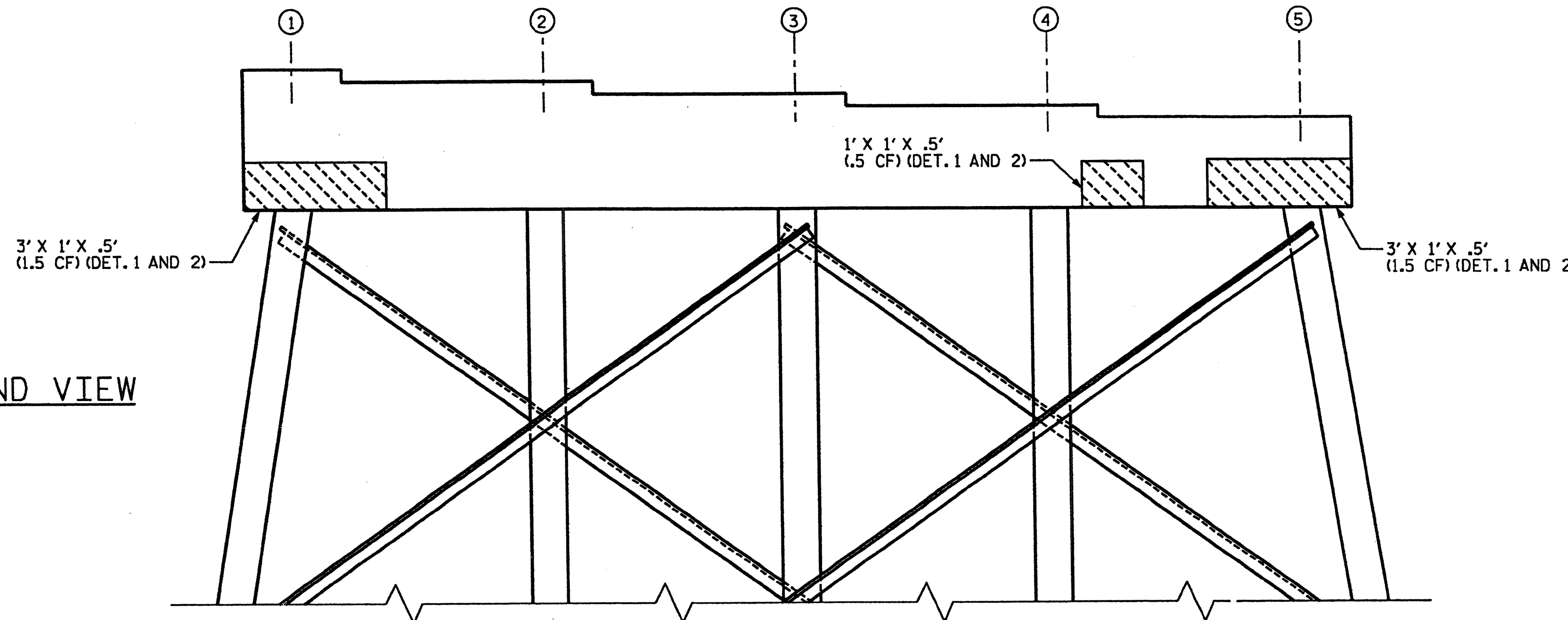
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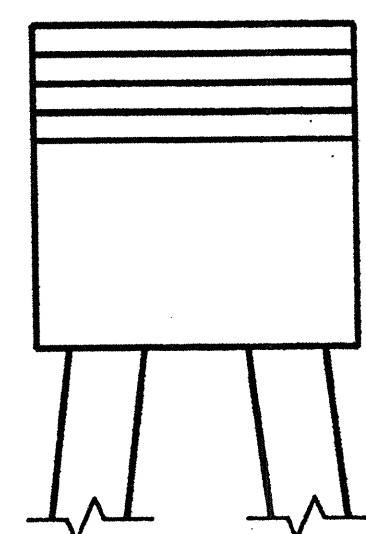
TYPICAL REPAIR DETAIL 3



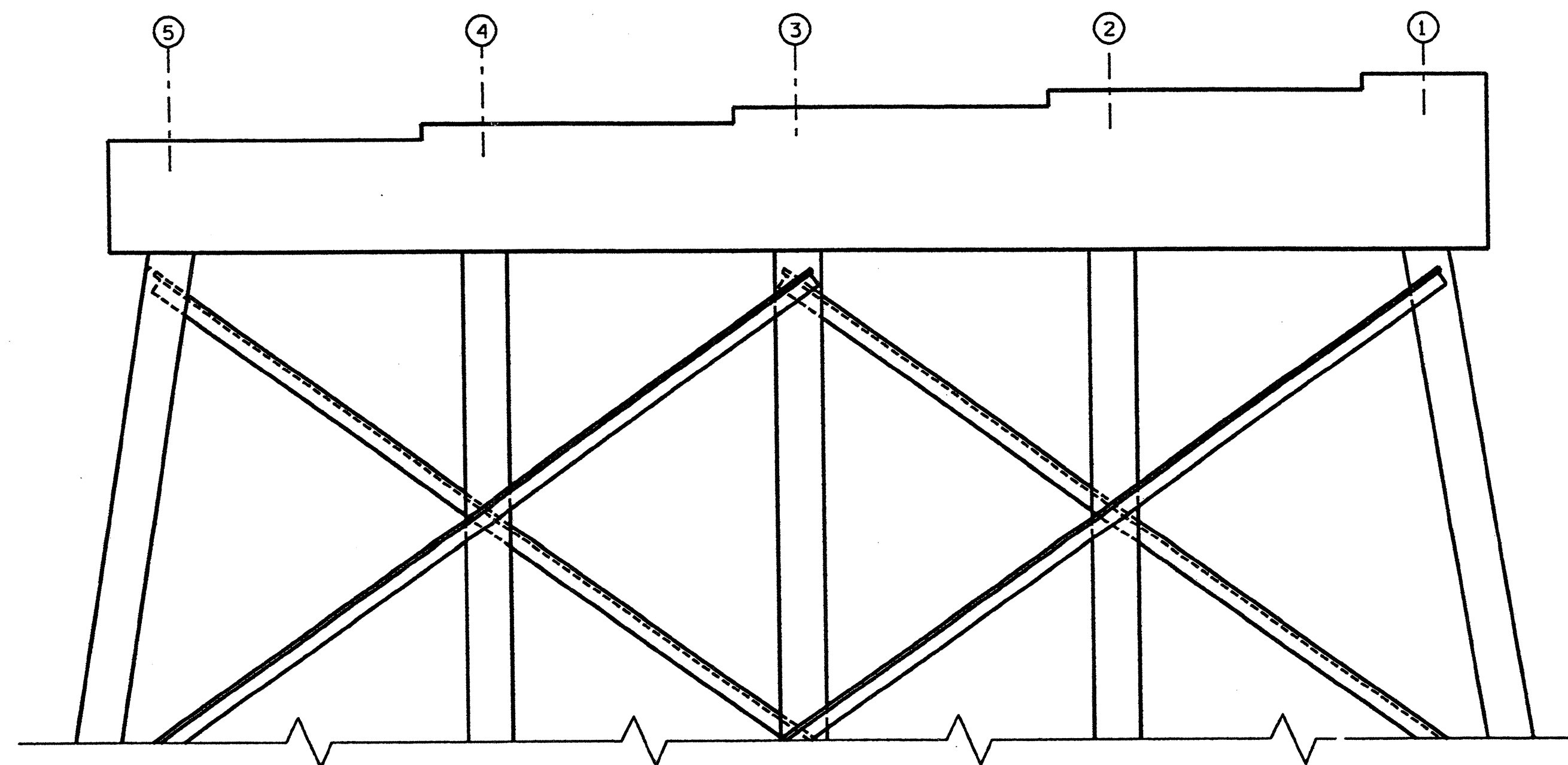
BENT 1 REPAIRS - END VIEW



**NORTH FACE
BENT 1 REPAIRS - ELEVATION (SPAN A SIDE)**



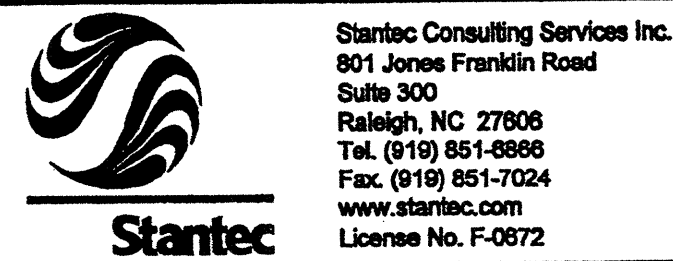
BENT 1 REPAIRS - END VIEW



**SOUTH FACE
BENT 1 REPAIRS - ELEVATION (SPAN B SIDE)**

ESTIMATED QUANTITIES:
CONCRETE REPAIR 3.5 CF

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
 STATION: _____



DRAWN BY: C T MCCULLOUGH DATE: 1/05
 CHECKED BY: J T KELVINGTON DATE: 1/05

Joseph A. Kelvington
 PROFESSIONAL ENGINEER
 No. 13406
 STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
REPAIR DETAILS BENT 1					
DECK REHAB. FOR BRIDGE NO. 8					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-10
					TOTAL SHEETS 32

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1/21/2012
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NOTES:

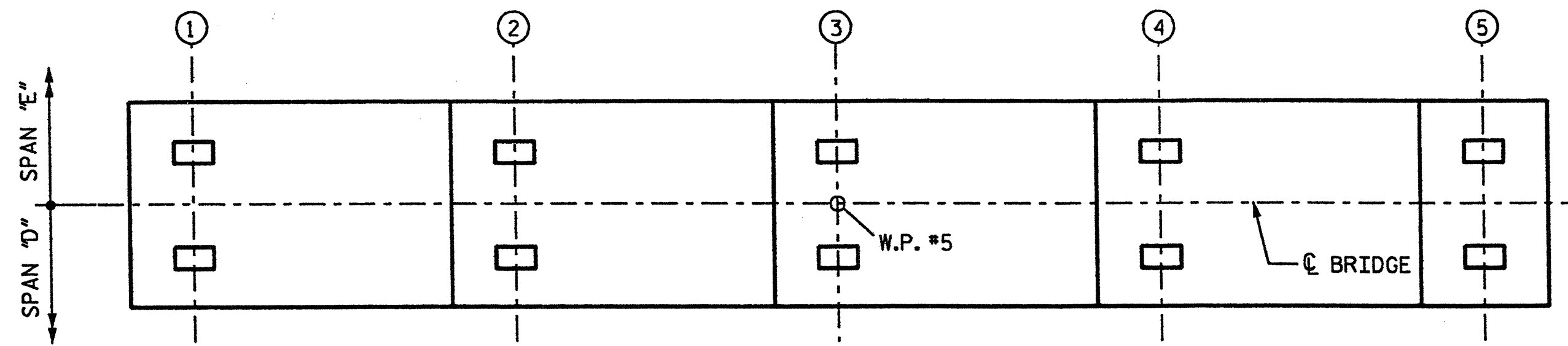
REPAIR AREA DIMENSIONS SHOWN ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.

ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.

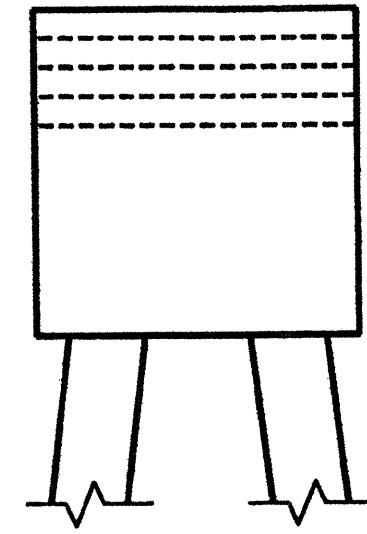
AREAS NOT OTHERWISE SPECIFIED FOR CONCRETE REPAIR MAY BE REPAIRED WITH SHOTCRETE, CLASS A CONCRETE, OR POLYMER CONCRETE AT THE CONTRACTOR'S OPTION.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

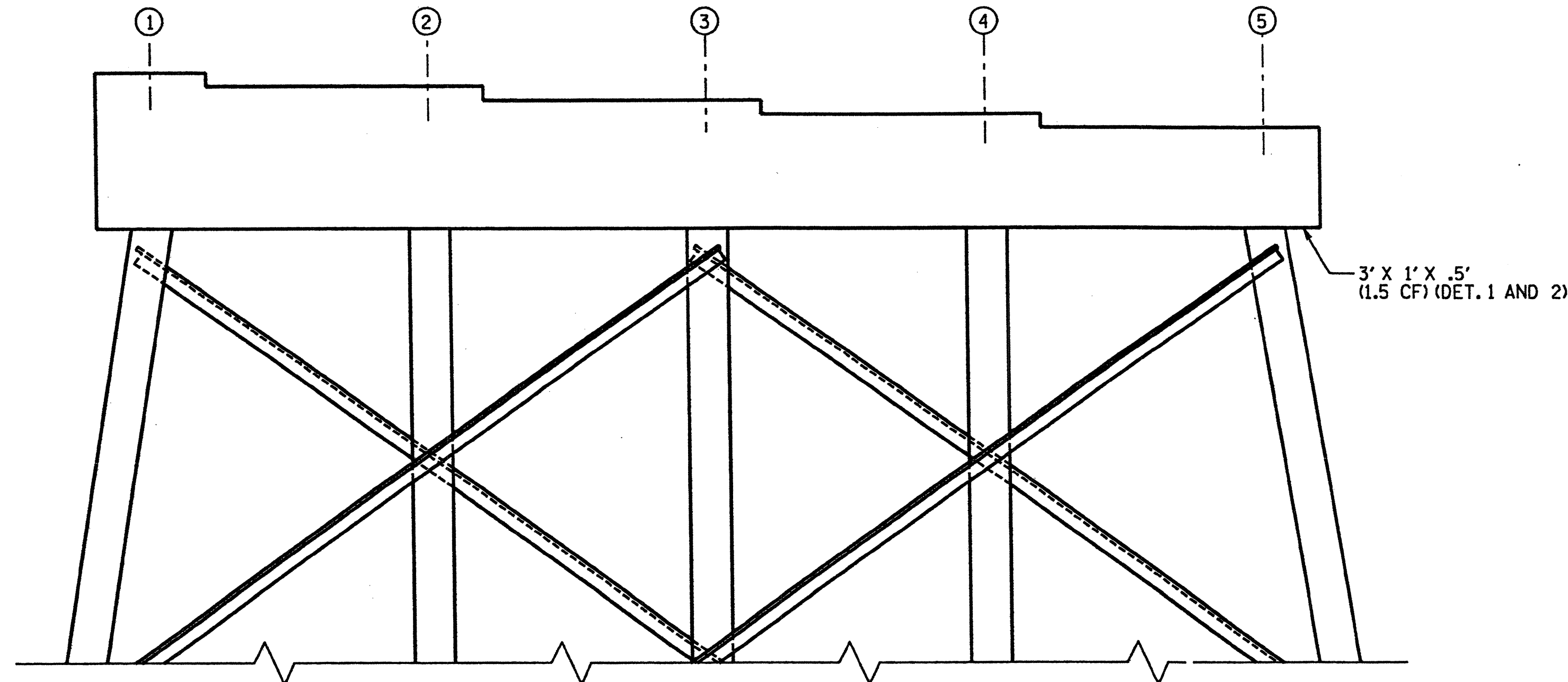
FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.



BENT 4 REPAIRS - PLAN OF CAP

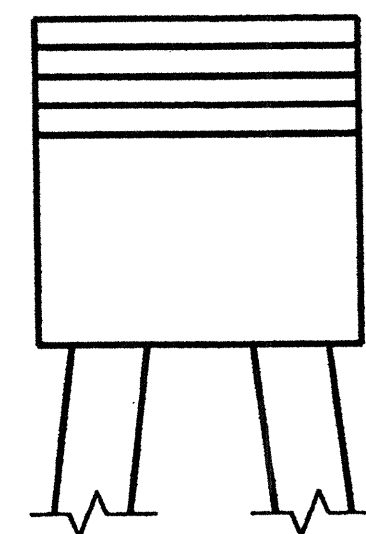


BENT 4 REPAIRS - END VIEW

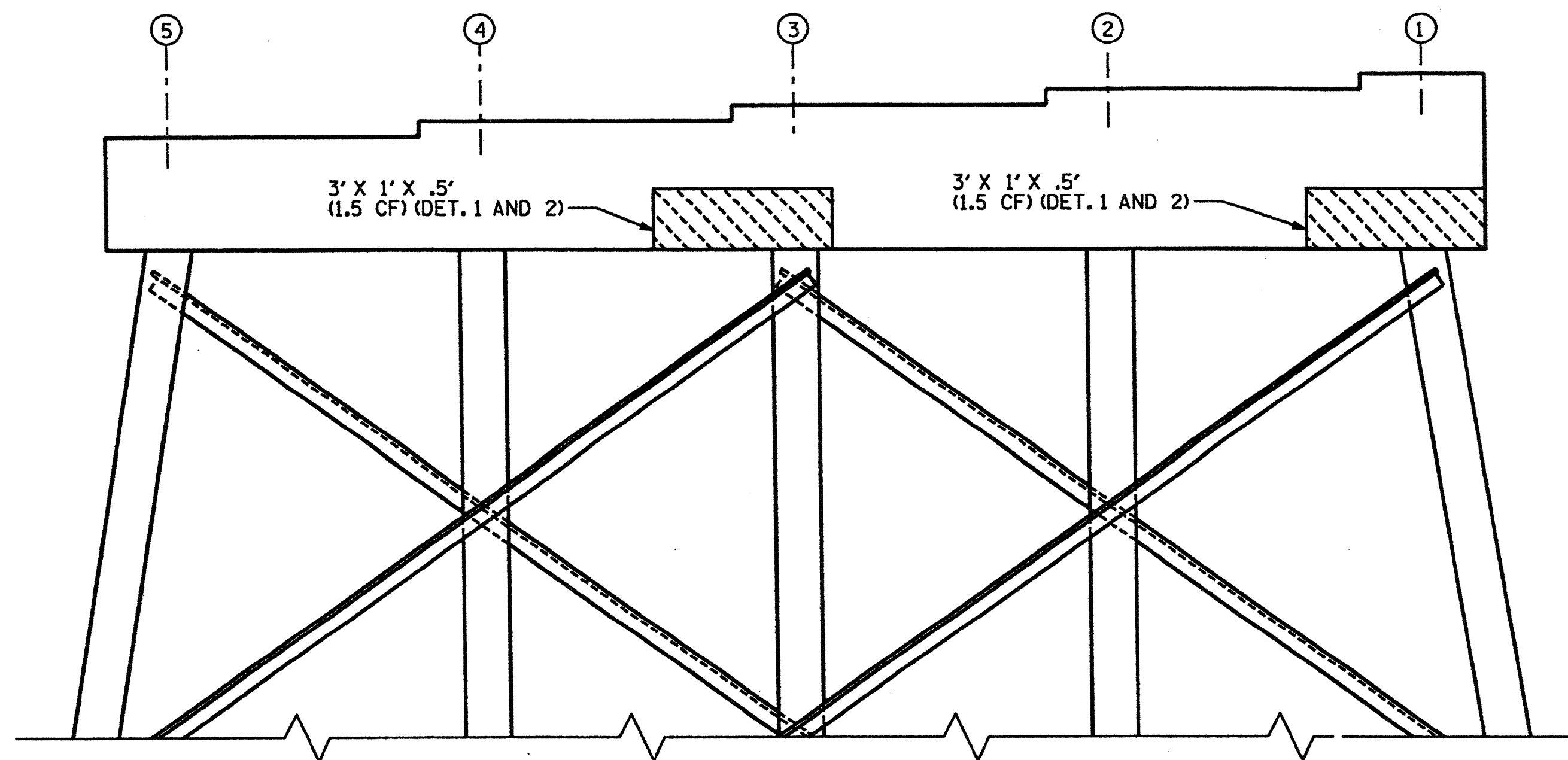


NORTH FACE

BENT 4 REPAIRS - ELEVATION (SPAN D SIDE)

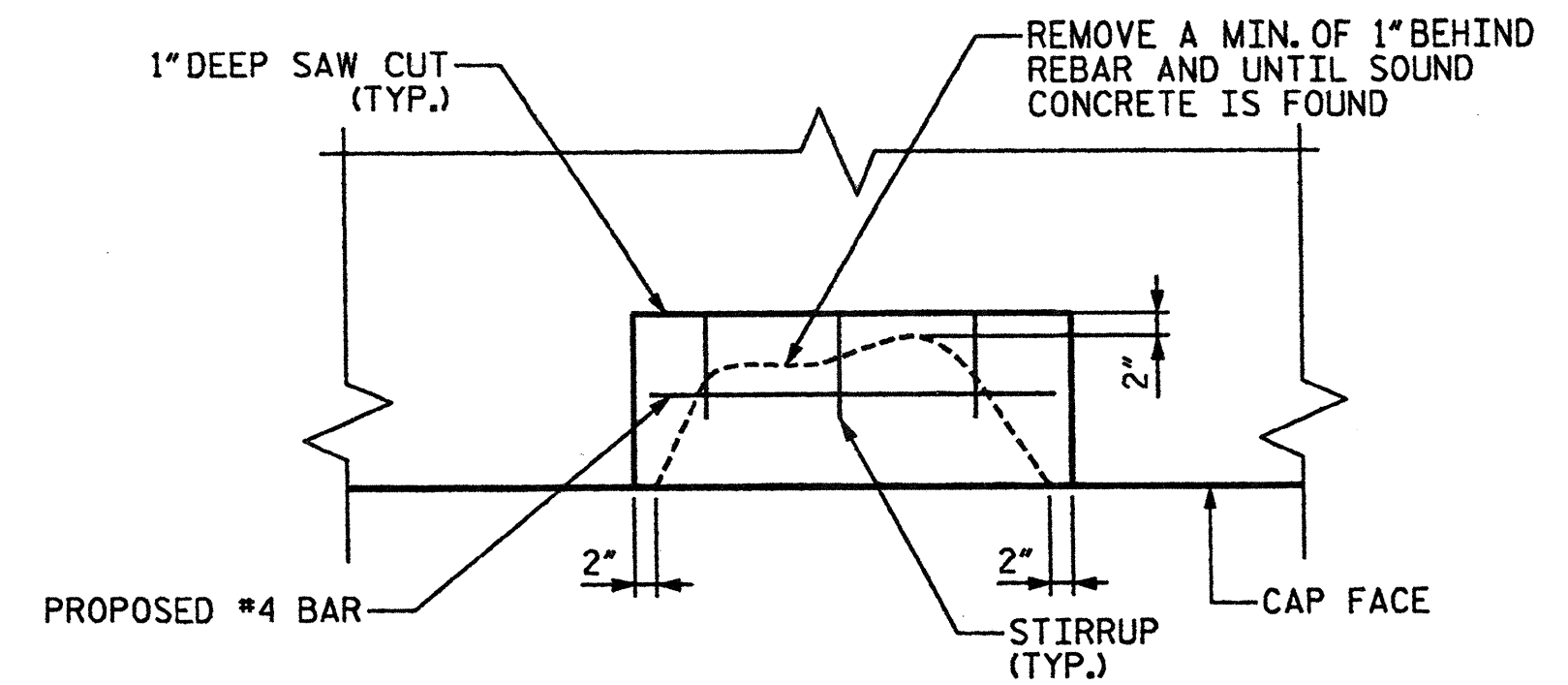


BENT 4 REPAIRS - END VIEW

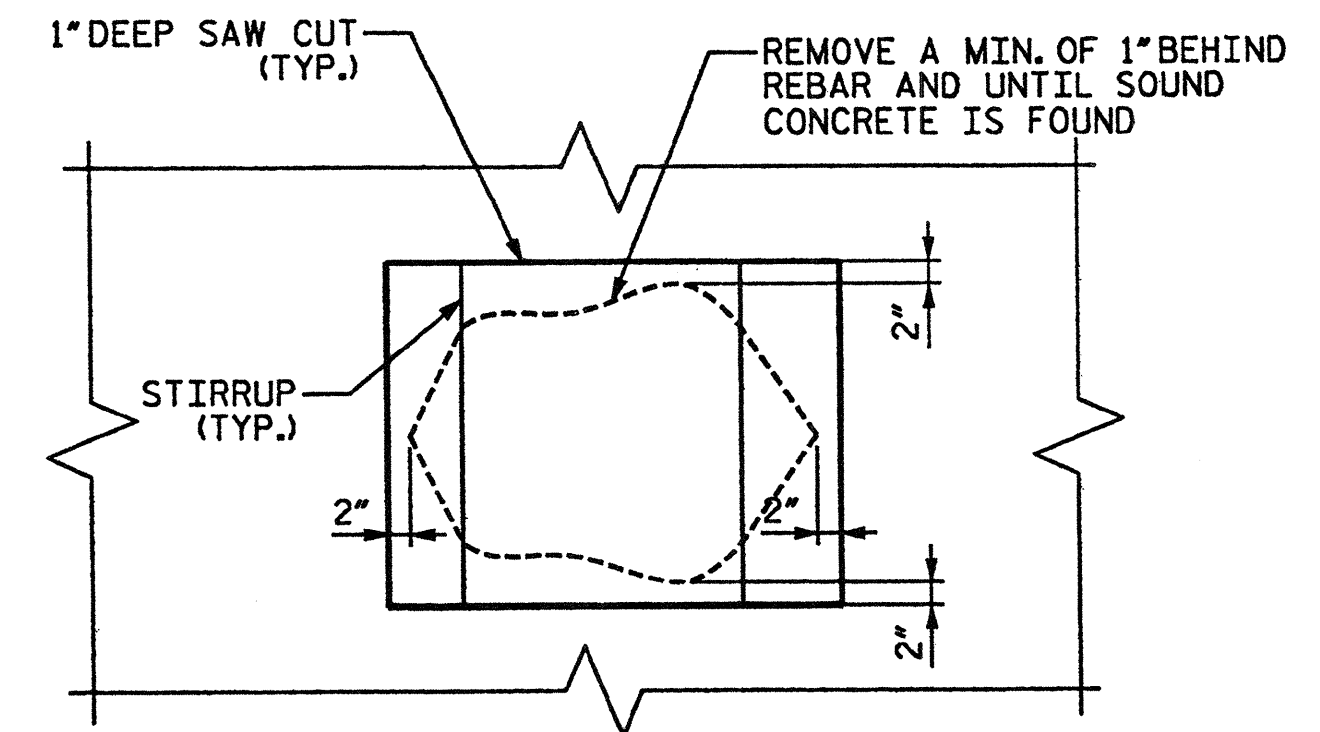


SOUTH FACE

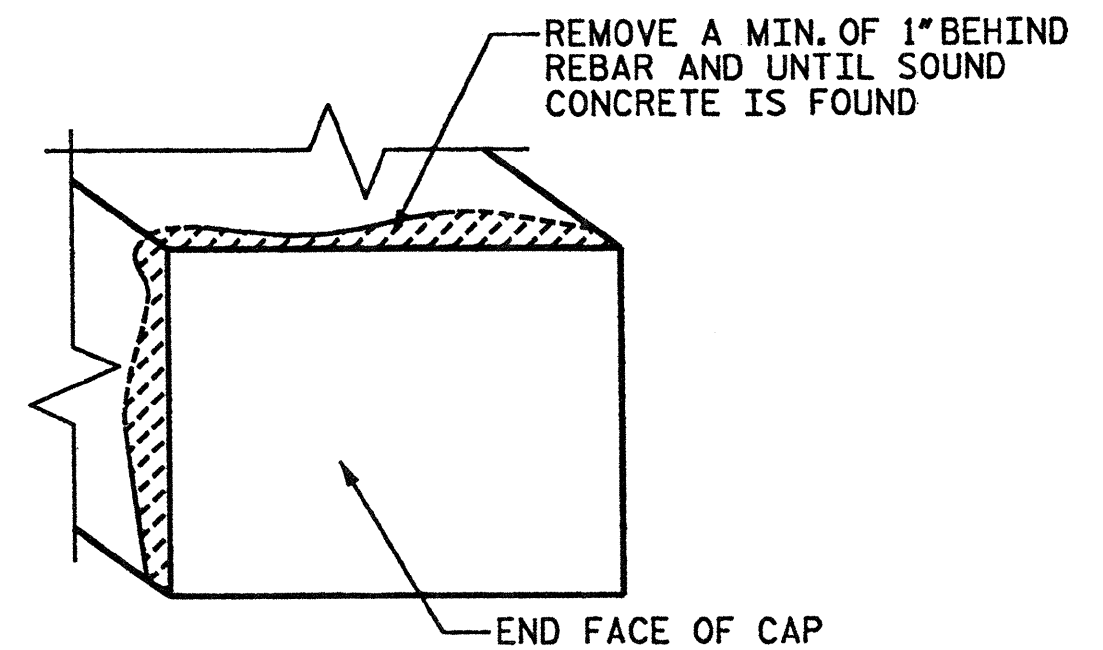
BENT 4 REPAIRS - ELEVATION (SPAN E SIDE)



TYPICAL REPAIR DETAIL 1



TYPICAL REPAIR DETAIL 2



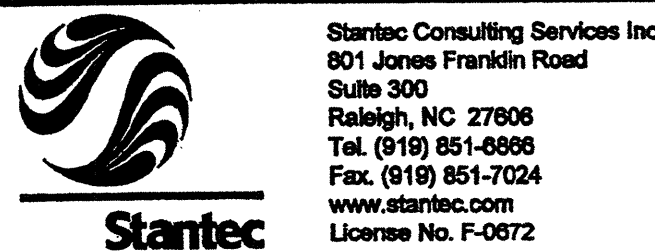
TYPICAL REPAIR DETAIL 3

ESTIMATED QUANTITIES:
CONCRETE REPAIR 3.0 CF

PROJECT NO. WBS 17BP.14.P.5
GRAHAM COUNTY
STATION: _____

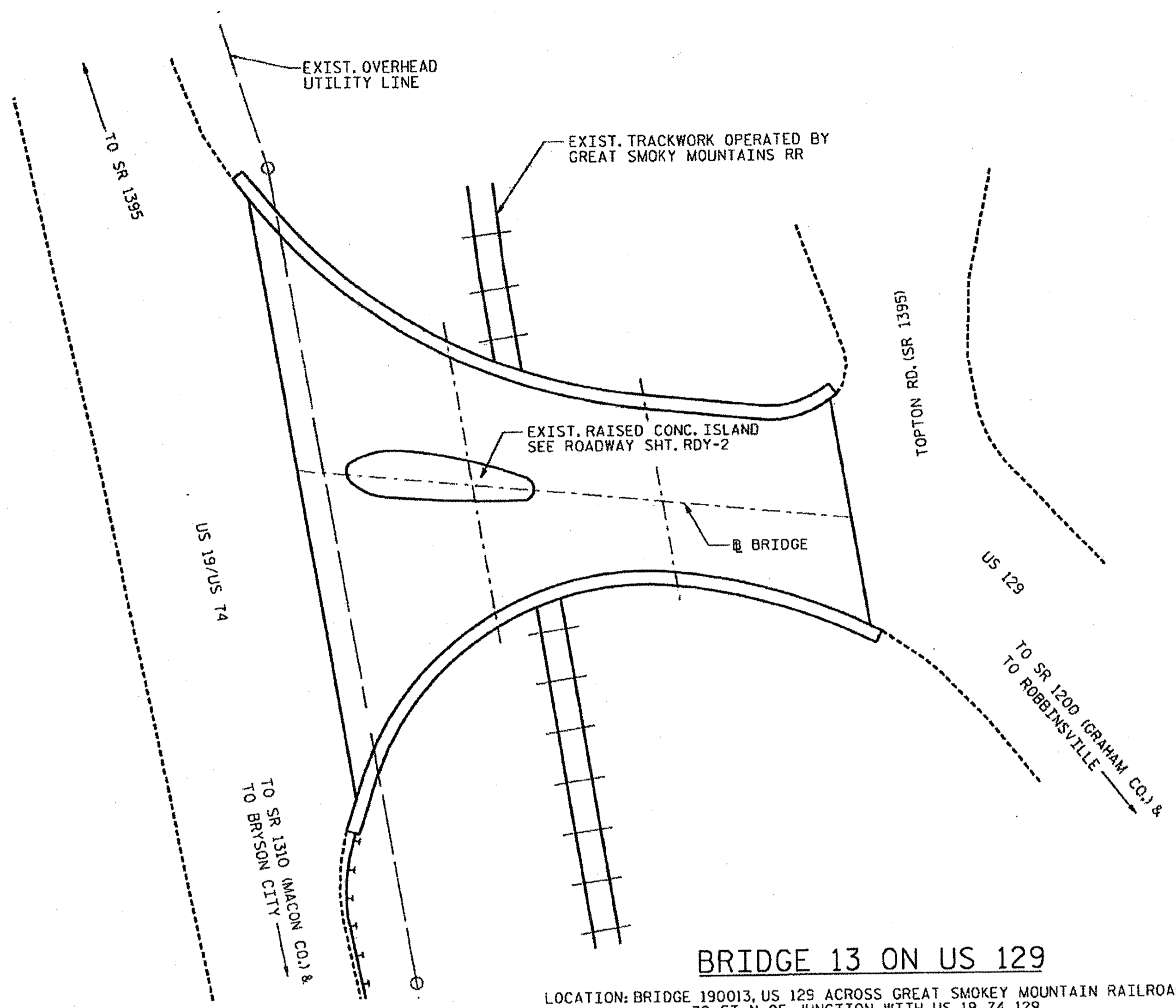
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
REPAIR DETAILS BENT 4					
DECK REHAB. FOR BRIDGE NO. 8					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-11
					TOTAL SHEETS 32

Joseph Kelvington
Professional Engineer
13406
1/21/2012



DRAWN BY : C. T. MCCULLOUGH DATE : 1/05
CHECKED BY : J. T. KELVINGTON DATE : 1/05

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NOTE:
THE CONTRACTOR WILL BE REQUIRED TO COORDINATE WITH GREAT SMOKY MOUNTAINS RAILROAD PRIOR TO CONSTRUCTION. SEE SPECIAL PROVISIONS.

BRIDGE 13 ON US 129

LOCATION: BRIDGE 190013, US 129 ACROSS GREAT SMOKEY MOUNTAIN RAILROAD 70 FT. N. OF JUNCTION WITH US 19, 74, 129

TOTAL BILL OF MATERIAL

SHOULDER RECONSTRUCTION	INCIDENTAL MILLING	MILLING ASPHALT * PVMT., 2" DEPTH	CONC. SURFACE COURSE, TYPE S9,5C	5" MONOLITHIC CONC. ISLAND (SURFACE MOUNTED)	REMOVE AND RESET EXIST. GUARDRAIL	GROOVING BRIDGE FLOORS	CLASS AA CONCRETE (BRIDGE)	CLASS III SURFACE PREPARATION	CONCRETE REPAIRS	FOAM JOINT SEALS
S.MI.	SO.YDS.	SO.YDS.	TONS	SO.YDS.	L.F.	SO.FT.	CU.YDS.	SO.YDS	CU.FT.	LUMP SUM
0.02	332	598.3	30	12	15	5,076	21.1	131.7	78.5	LUMP SUM

TOTAL BILL OF MATERIAL

CLEANING & PAINTING OF CHEROKEE CO. BRIDGE # 13	POLLUTION CONTROL	LATEX MODIFIED CONCRETE OVERLAY- VERY EARLY STRENGTH	HYDRO-DEMOLITION OF BRIDGE DECK	CLASS I * SURFACE PREPARATION	CLASS II * SURFACE PREPARATION	CLASS III * SURFACE PREPARATION	CLASS AA * CONCRETE	PLACING & FINISHING LATEX MODIFIED CONCRETE OVERLAY- VERY EARLY STRENGTH	SCARIFYING BRIDGE DECK
LUMP SUM	LUMP SUM	CU.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	SO.YDS.	SO.YDS.
LUMP SUM	LUMP SUM	41.9	598.3	0.0	44.5	5.3	0.8	598.3	598.3

*QUANTITIES ARE ESTIMATES FROM BEST AVAILABLE DATA AND SHOULD BE CONSIDERED FOR INFORMATION PURPOSES ONLY. IF ANY CLASS III LOCATIONS ARE ENCOUNTERED PRIOR TO OR DURING HYDRO-DEMOLITION, SEE TYP. "BLOW THRU" CONTAINMENT AND FORMWORK DETAIL. NO SEPARATE MEASUREMENT OR PAYMENT FOR THESE ITEMS WILL BE MADE. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR HYDRO-DEMOLITION OF BRIDGE DECK OR SCARIFYING BRIDGE DECK. (SEE SPECIAL PROVISIONS)

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
STATION: _____

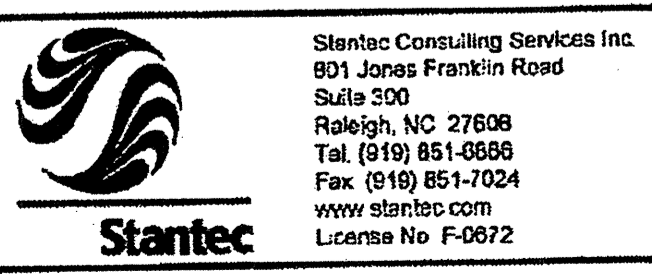
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

LOCATION SKETCH AND TOTAL BILL OF MATERIAL

DECK REHAB. FOR BRIDGE NO. 13

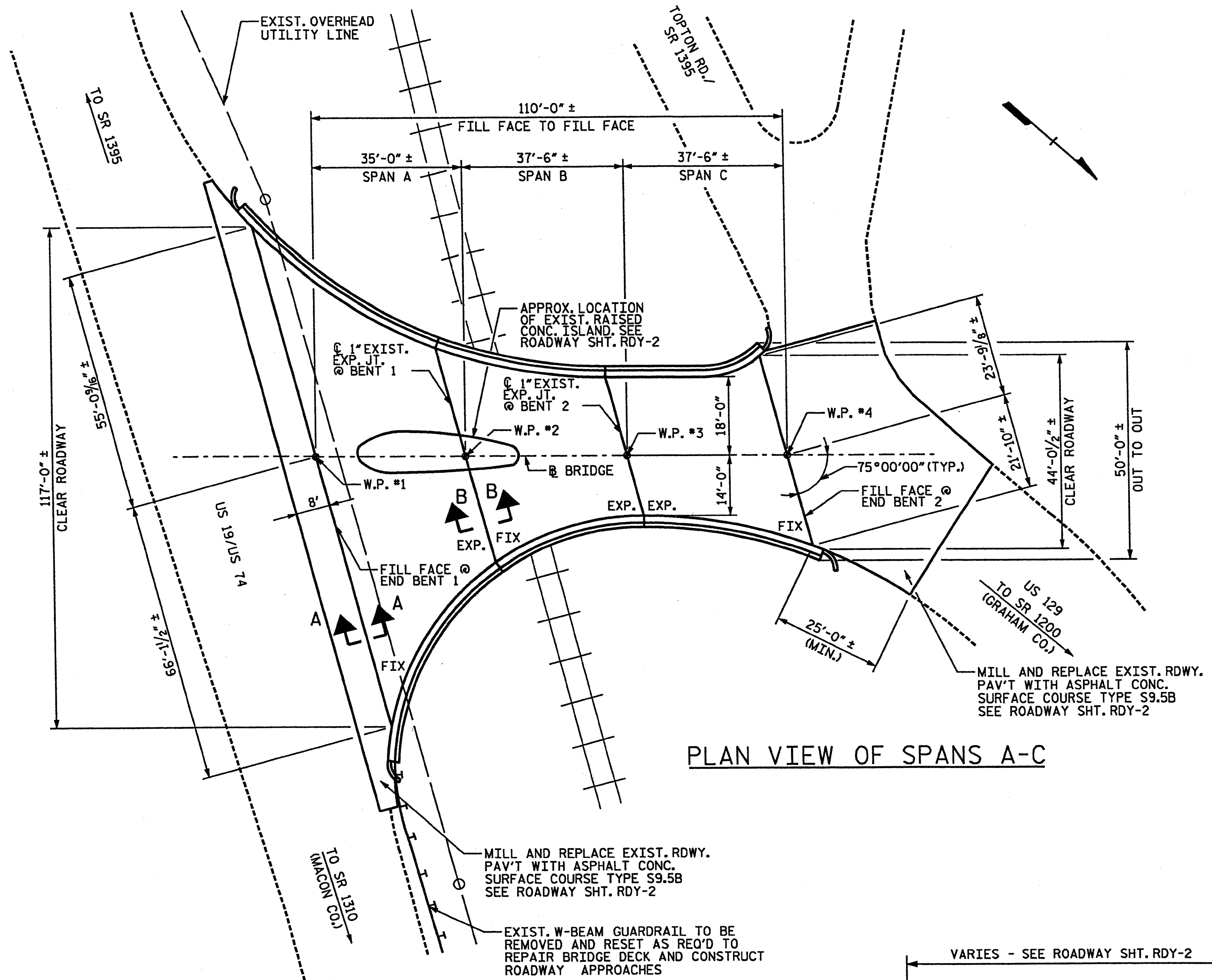
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			32
2			4			

Joseph A. Kelvington
Professional Engineer
No. 3406
Cherokee County, NC



DRAWN BY : C. T. MCCULLOUGH DATE : 01/05/2012
CHECKED BY : J. I. KELVINGTON DATE : 01/05/2012

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NOTES:

EXISTING DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS WITH LATEX MODIFIED CONCRETE. SEE SPECIAL PROVISIONS.

FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.

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

EXCEPT AS SHOWN AS MANDATORY CLASS III SURF. PREPARATION, THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL, SHT. NO. S-18.

LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.

FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

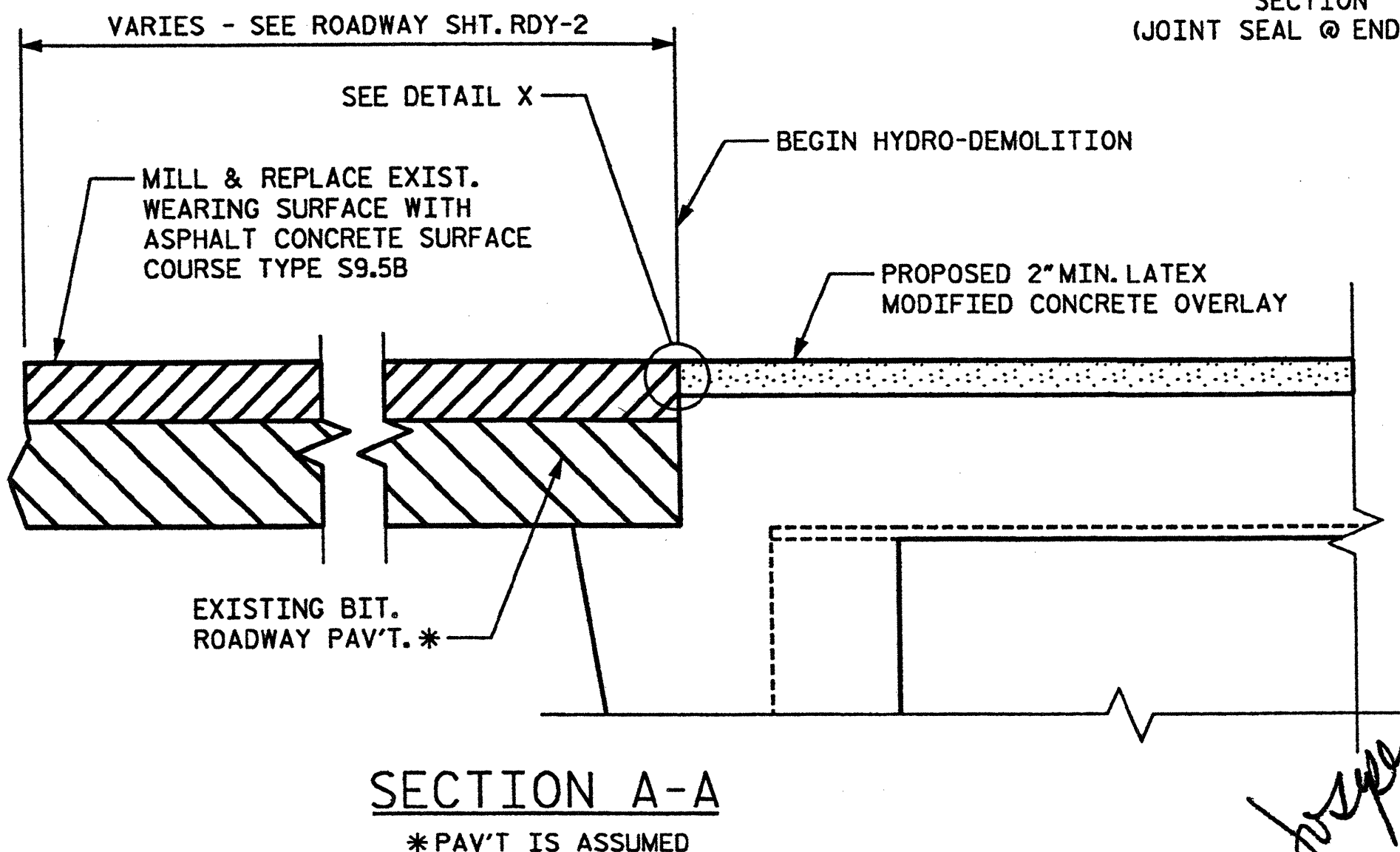
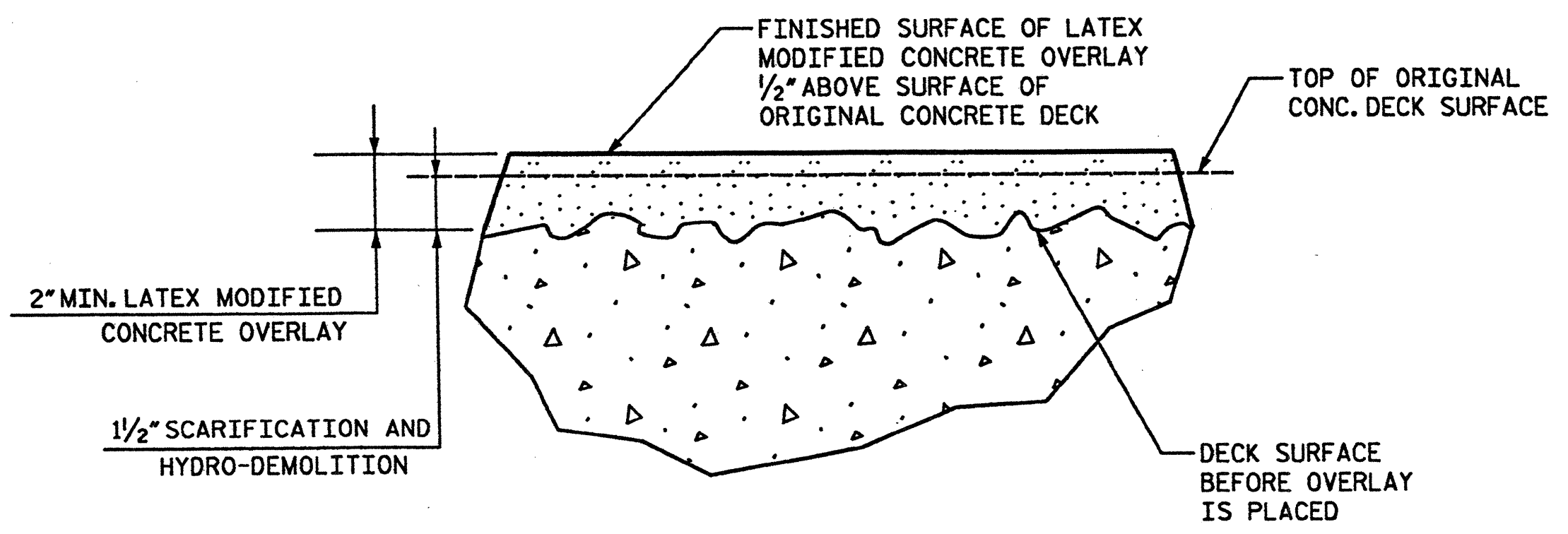
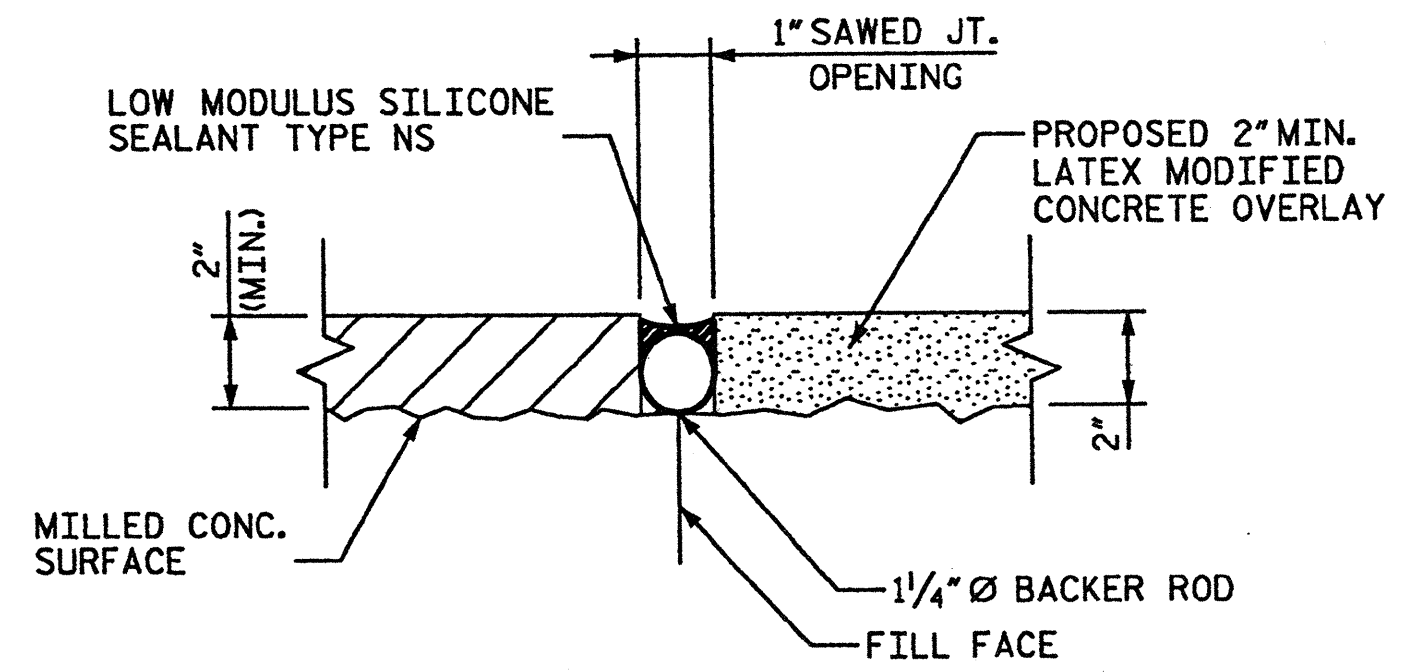
SECTION A-A IS TYPICAL AT END BENT 1 AND END BENT 2.

SECTION B-B IS TYPICAL AT BENT 1 AND BENT 2.

FOR SECTION B-B, SEE SHT. NO. S-21.

1/4" BACKER ROD SHALL BE CLOSED CELL EXPANDED POLYETHYLENE FOAM TYPE L. PLACE BACKER ROD TO WITHIN 1'-0" OF EXISTING CURB FACE. NO SEPARATE PAYMENT FOR LABOR, MATERIALS, AND EQUIPMENT NEEDED TO CONSTRUCT CONCRETE JOINT SEALS SHALL BE MADE. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

BRIDGE DENOTES BRIDGE BASE LINE.



PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
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PLAN OF BRIDGE

DECK REHAB. FOR BRIDGE NO. 13

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

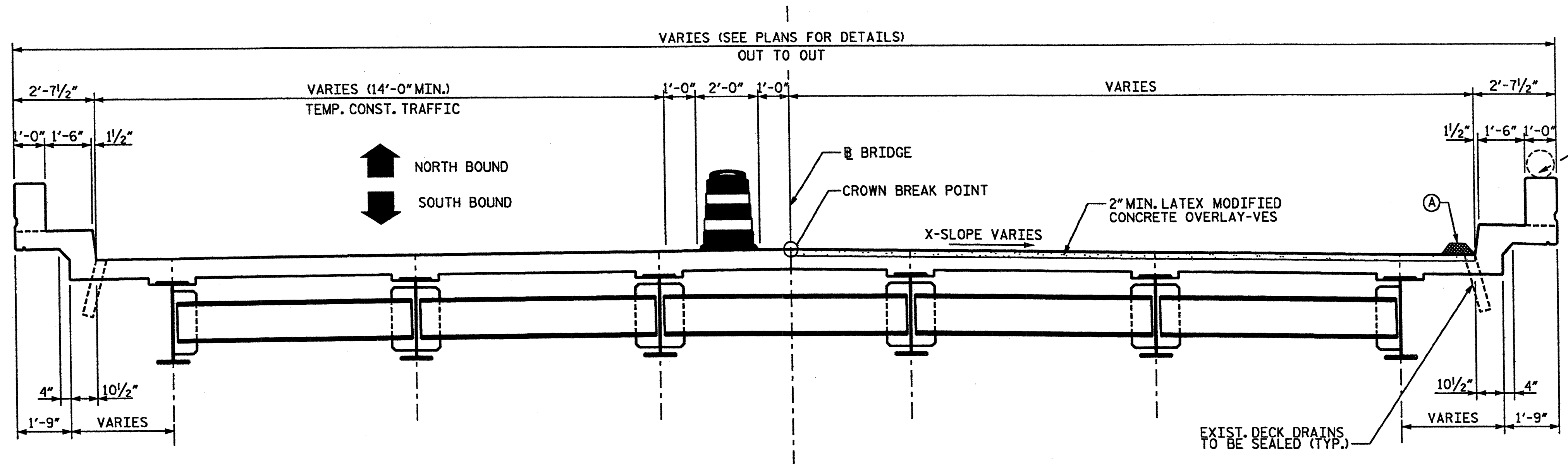
TOTAL SHEETS: 32



DRAWN BY : C. T. MCCULLOUGH DATE : 01/05/2012
 CHECKED BY : J. T. KELVINGTON DATE : 01/05/2012

Joseph Kelvington
 12/11/2012
 13406
 J. KELVINGTON

2/5/2012 1:21:07 PM blaton
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TYPICAL SECTION

SPAN A-C
 NOTE: SEE SHTS. S-15, S-16, AND S-17 FOR BEAM SPACING.

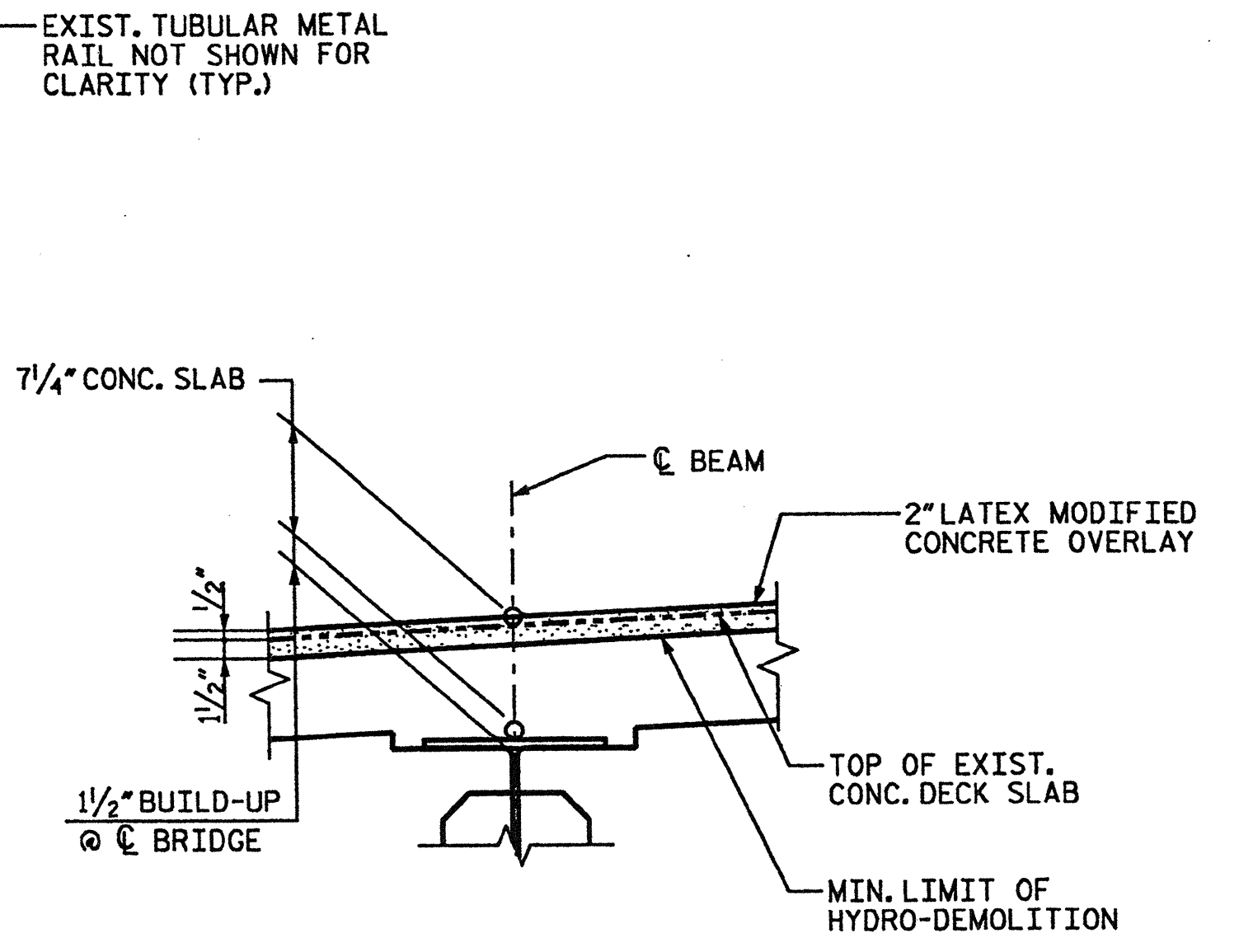
NOTES

WATER & CONCRETE SLURRY FROM HYDRO-DEMOLITION SHALL NOT BE ALLOWED TO DRAIN ACROSS TRAVEL LANES. CONTRACTOR SHALL PROVIDE A METHOD TO CONTROL THE WATER.

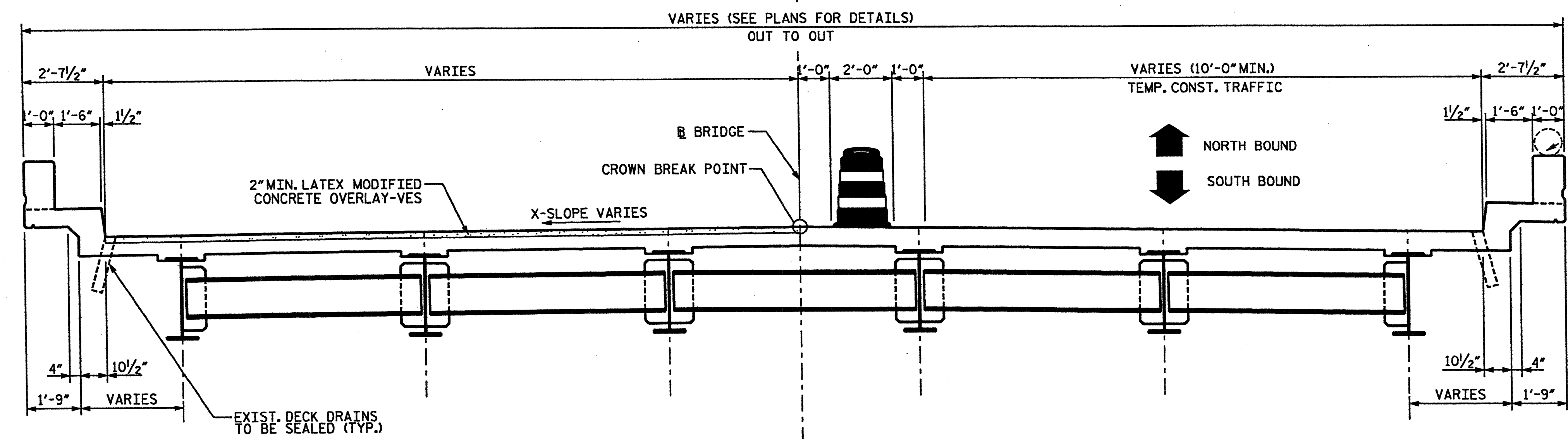
FOR TRAFFIC CONTROL AND CONSTRUCTION PHASING, SEE TRANSPORTATION MANAGEMENT PLANS.

Ⓐ DAM AS REQUIRED TO CAPTURE CONCRETE SLURRY @ DRAINS AND EXPANSION JOINTS.

VES DENOTES VERY EARLY STRENGTH.



EXIST. SLAB DETAIL



TYPICAL SECTION

SPAN A-C
 NOTE: SEE SHTS. S-15, S-16, AND S-17 FOR BEAM SPACING.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

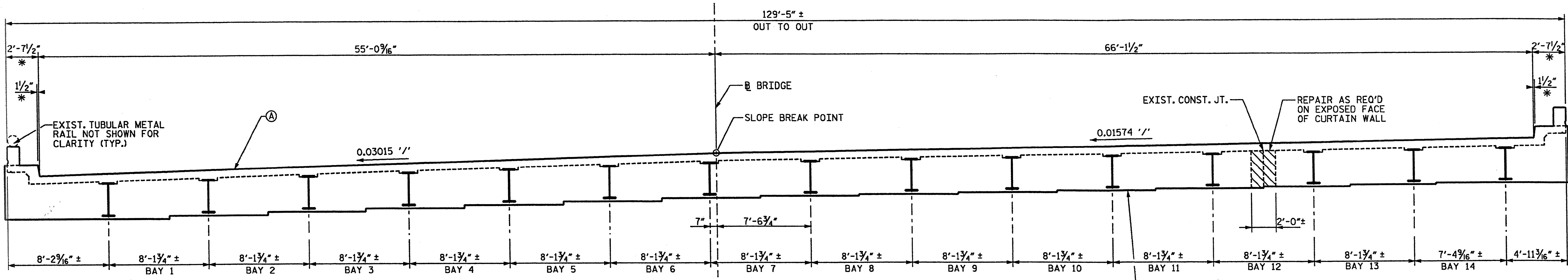
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TYPICAL SECTION TRAFFIC PHASING					
DECK REHAB. FOR BRIDGE NO. 13					
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					32
					S-14



DRAWN BY: C T MCCULLOUGH DATE: 01/05/2012
 CHECKED BY: J T KELVINGTON DATE: 01/05/2012

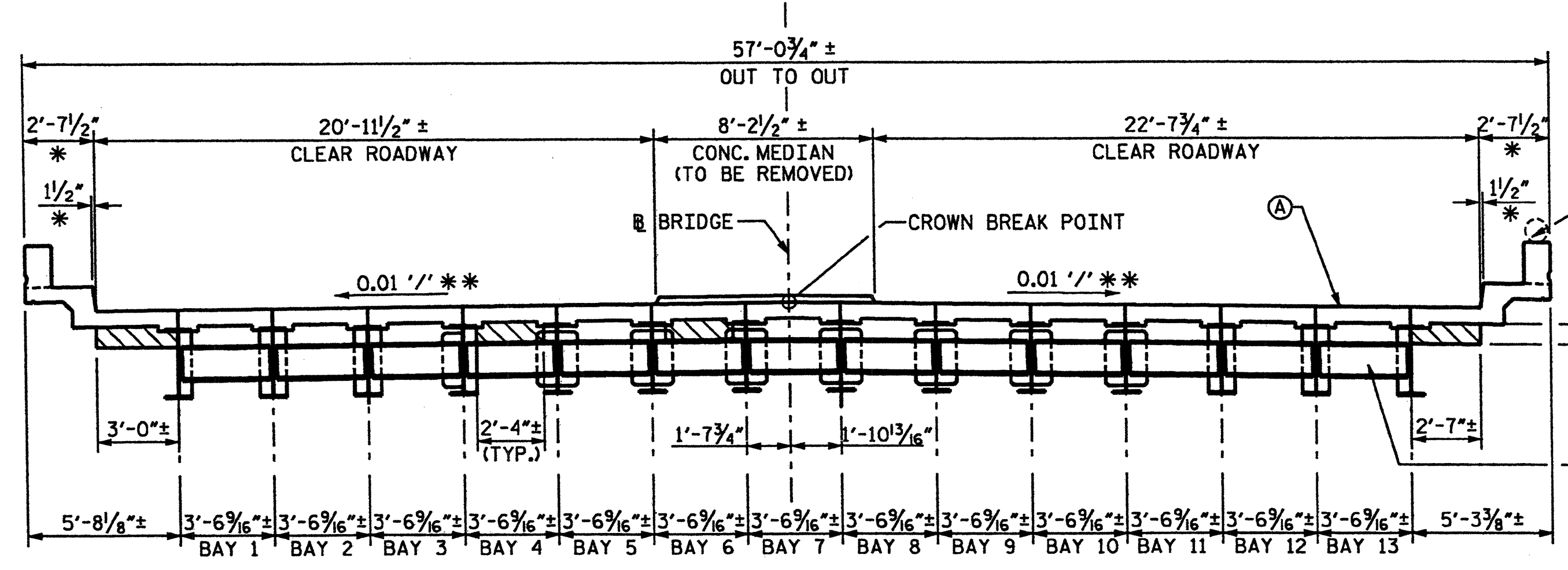
Joseph Kelvington
 SEAL 13406
 ENGINEER
 J. KELVINGTON

2:55:07 PM bldtgn
 1/21/2012
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SECTION EB1

SPAN A - END BENT 1
 NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG THE FILL FACE, EXCEPT WHEN NOTED OTHERWISE.
 * RADIAL TO ARC @ O.S. EDGE OF SUPERSTRUCTURE



SECTION B1

SPAN A - BENT 1
 NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG @ BENT 1, EXCEPT WHEN NOTED OTHERWISE.

ESTIMATED QUANTITIES:
 CONCRETE REPAIR 12 CF

- EXISTING CONCRETE REPAIR:
- 1.) SAW CUT 1" DEEP TO LINES SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
 - 2.) REMOVE EXISTING CONCRETE TO SOUND SUBSTRATE OR TO MINIMUM 1" BEHIND EXIST. REINFORCING STEEL.
 - 3.) REPLACE TO ORIGINAL CONCRETE SURFACE DIMENSIONS WITH EITHER SHOTCRETE, CLASS AA CONC. OR POLYMER CONC.

- Ⓐ EXISTING 2" ASPHALT WEARING SURFACE TO BE REMOVED BY SCARIFICATION.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- ** NORMAL TO @ BRIDGE

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
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**TYPICAL SECTION
 SPAN A**

DECK REHAB. FOR BRIDGE NO. 13

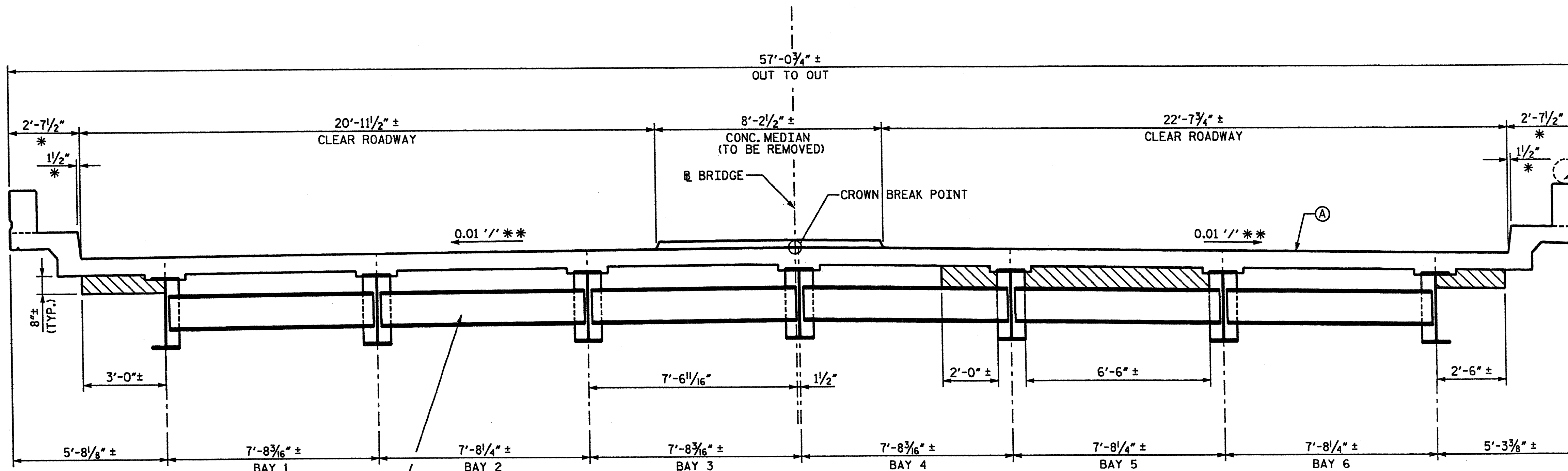
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15	
1			3			TOTAL SHEETS 32	
2			4				

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 CHECKED BY : J T KELVINGTON DATE : 01/05/2012

Jeffrey H. Kinney
 1/21/12

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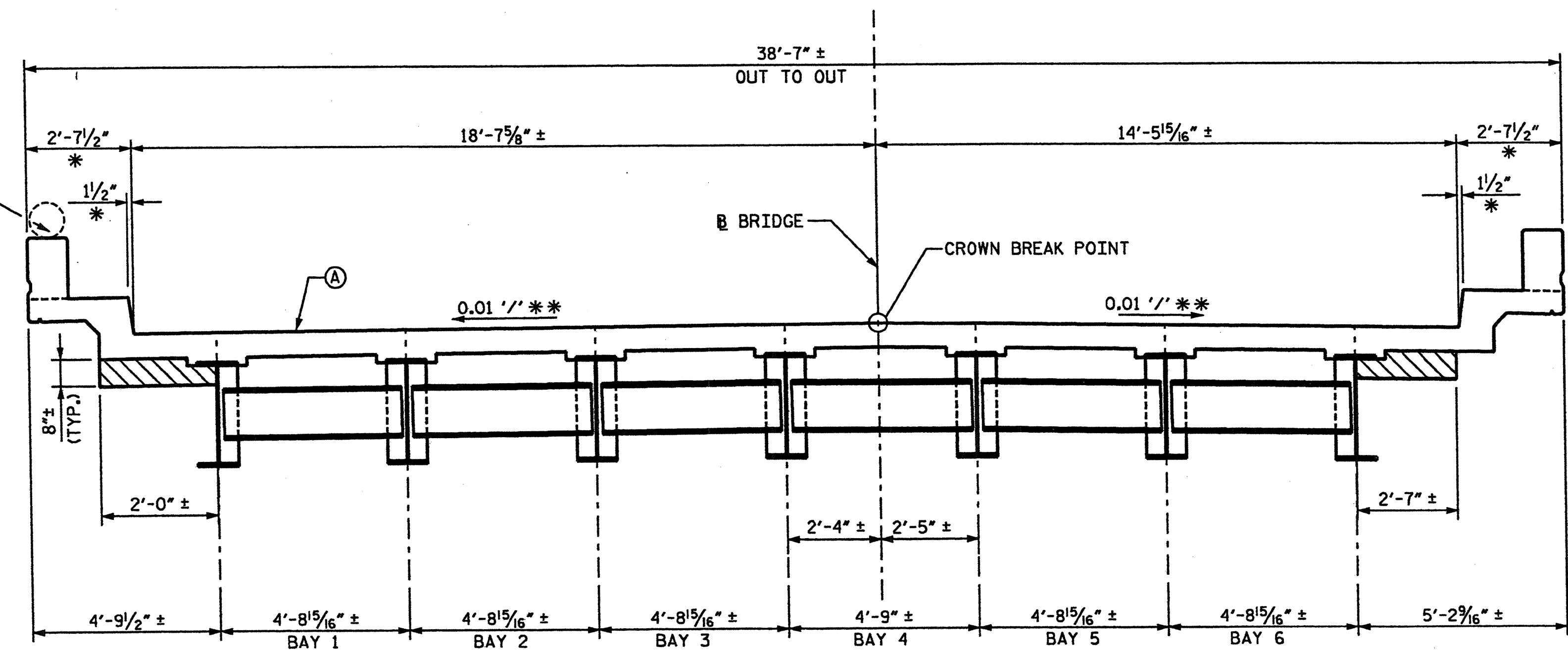
EXIST. STEEL CHANNEL BENT DIAPHRAGM WITH 1'-3" ± DEEP X 1'-5" ± WIDE CONC. EDGE BEAM (TYP. EA. INTERIOR BENT)

SECTION B1

SPAN B - BENT 1
NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG C BENT 1, EXCEPT WHEN OTHERWISE NOTED.
* RADIAL TO ARC @ O.S. EDGE OF SUPERSTRUCTURE

ESTIMATED QUANTITIES:
CONCRETE REPAIR 18 CF

- EXISTING CONCRETE REPAIR:
- 1.) SAW CUT 1" DEEP TO LINES SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
 - 2.) REMOVE EXISTING CONCRETE TO SOUND SUBSTRATE OR TO MINIMUM 1" BEHIND EXIST. REINFORCING STEEL.
 - 3.) REPLACE TO ORIGINAL CONCRETE SURFACE DIMENSIONS WITH EITHER SHOTCRETE, CLASS AA CONC. OR POLYMER CONC.



SECTION B2

SPAN B - BENT 2
NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG C BENT 2, EXCEPT WHEN NOTED OTHERWISE.

- Ⓐ EXISTING 2" ASPHALT WEARING SURFACE TO BE REMOVED BY SCARIFICATION.
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
** NORMAL TO C BRIDGE

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**TYPICAL SECTION
SPAN B**

DECK REHAB. FOR BRIDGE NO. 13

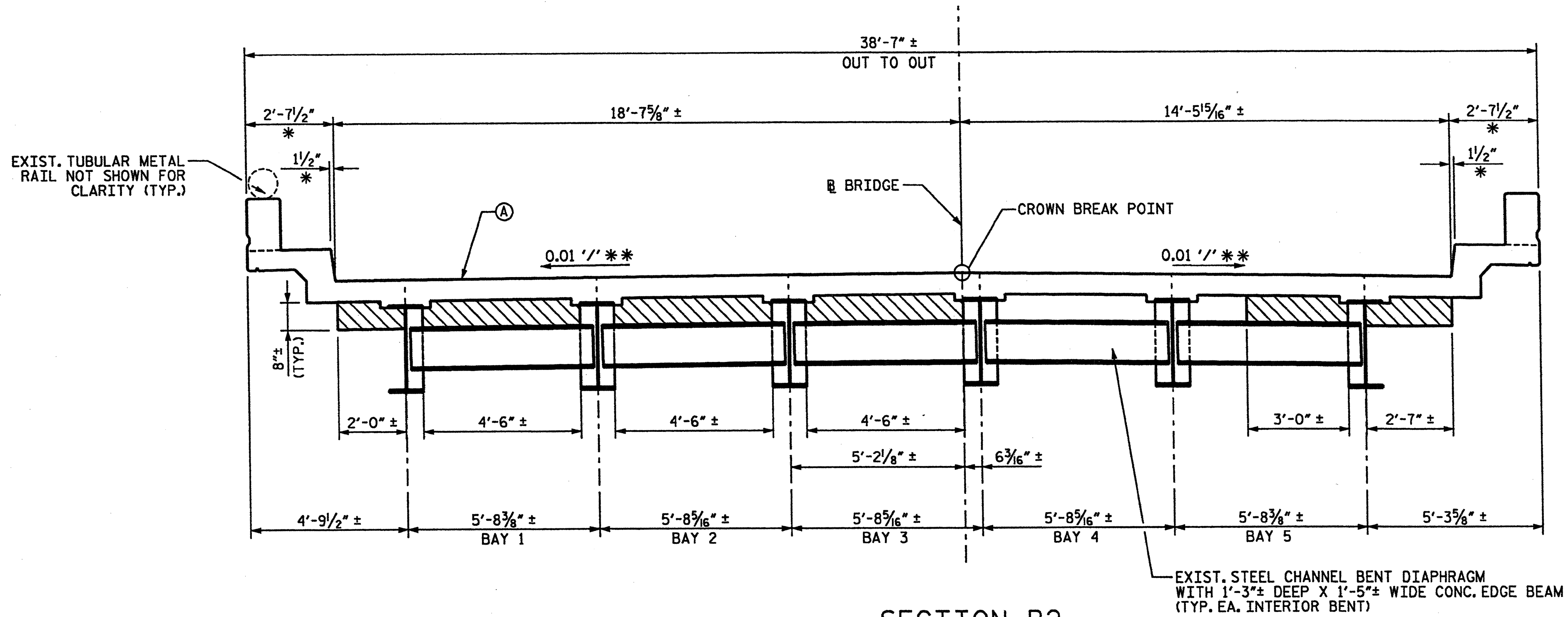
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5-16
1			3			TOTAL SHEETS
2			4			32

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DRAWN BY : C T MCCULLOUGH DATE : 01/05/2012
CHECKED BY : J T KELVINGTON DATE : 01/05/2012

John T. Kelvington
Professional Engineer
Seal 13406
January 1, 2012

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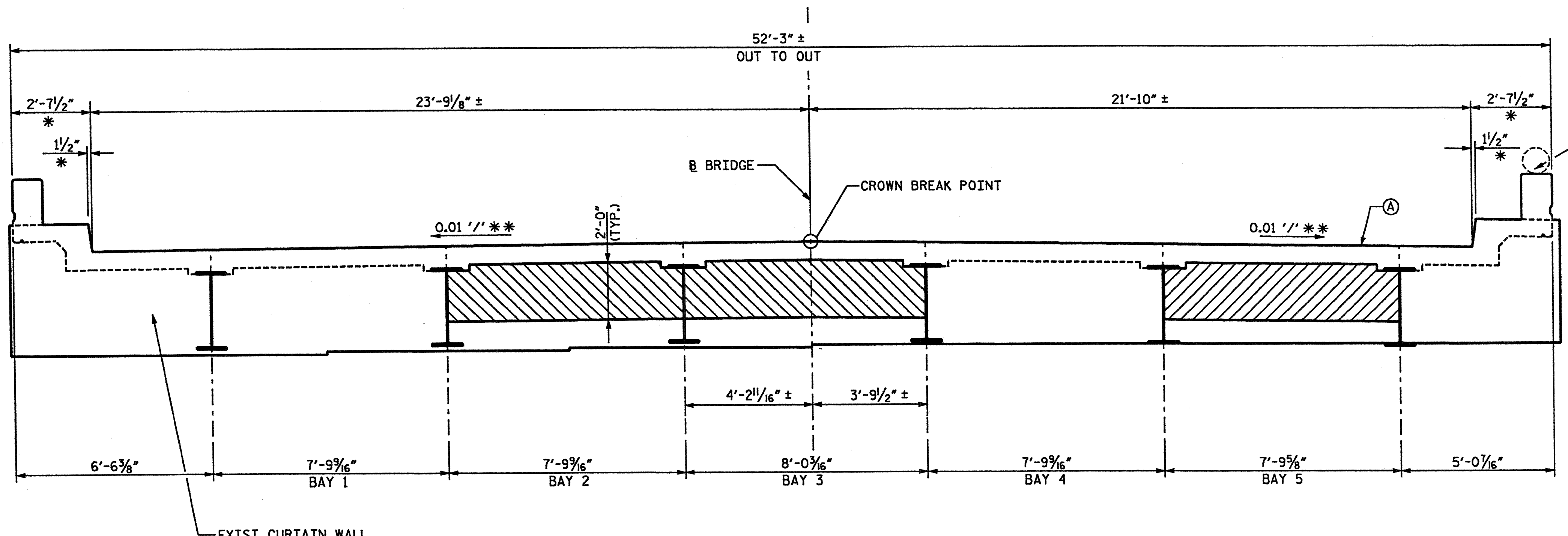


EXISTING CONCRETE REPAIR:
 1.) SAW CUT 1" DEEP TO LINES SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.
 2.) REMOVE EXISTING CONCRETE TO SOUND SUBSTRATE OR TO MINIMUM 1" BEHIND EXIST. REINFORCING STEEL.
 3.) REPLACE TO ORIGINAL CONCRETE SURFACE DIMENSIONS WITH EITHER SHOTCRETE, CLASS AA CONC. OR POLYMER CONC.

SECTION B2

SPAN C - BENT 2
 NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG ϕ BENT 2, EXCEPT WHEN NOTED OTHERWISE.
 * RADIAL TO ARC @ O.S. EDGE OF SUPERSTRUCTURE

ESTIMATED QUANTITIES:
CONCRETE REPAIR 40 CF



SECTION EB2

SPAN C - END BENT 2
 NOTE: ALL DIMENSIONS SHOWN ARE APPROXIMATE, MEASURED ALONG ϕ FILL FACE, EXCEPT WHEN NOTED OTHERWISE.

(A) EXISTING 2" ASPHALT WEARING SURFACE TO BE REMOVED BY SCARIFICATION.
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
 ** NORMAL TO ϕ BRIDGE

Joseph T. Kelvington
 PROFESSIONAL ENGINEER
 STATE OF NORTH CAROLINA
 SEAL 13406
 JOSEPH T. KELVINGTON

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION SPAN C

DECK REHAB. FOR BRIDGE NO. 13

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			32

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DRAWN BY: C. T. MCCULLOUGH DATE: 01/05/2012
 CHECKED BY: J. T. KELVINGTON DATE: 01/05/2012

NOTE: EXIST. PAV'T NOTCH NOT SHOWN FOR CLARITY.

\N:\100101\transportation\Design\Structures\Bridges\Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co\Cherokee Co\Cherokee Co\Cherokee Co\Cherokee Co\DeckRepair2.dgn 1/21/2012 2:59:11 PM blaton

NOTES:

NO SEPARATE PAYMENT FOR REMOVAL OF EXISTING CONCRETE ISLAND SHALL BE MADE. COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SCARIFYING BRIDGE DECK.

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND ANY INCIDENTAL CLASS III SURFACE PREPARATION SHOWN IS ESTIMATED AND DOES NOT NECESSARILY REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.




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

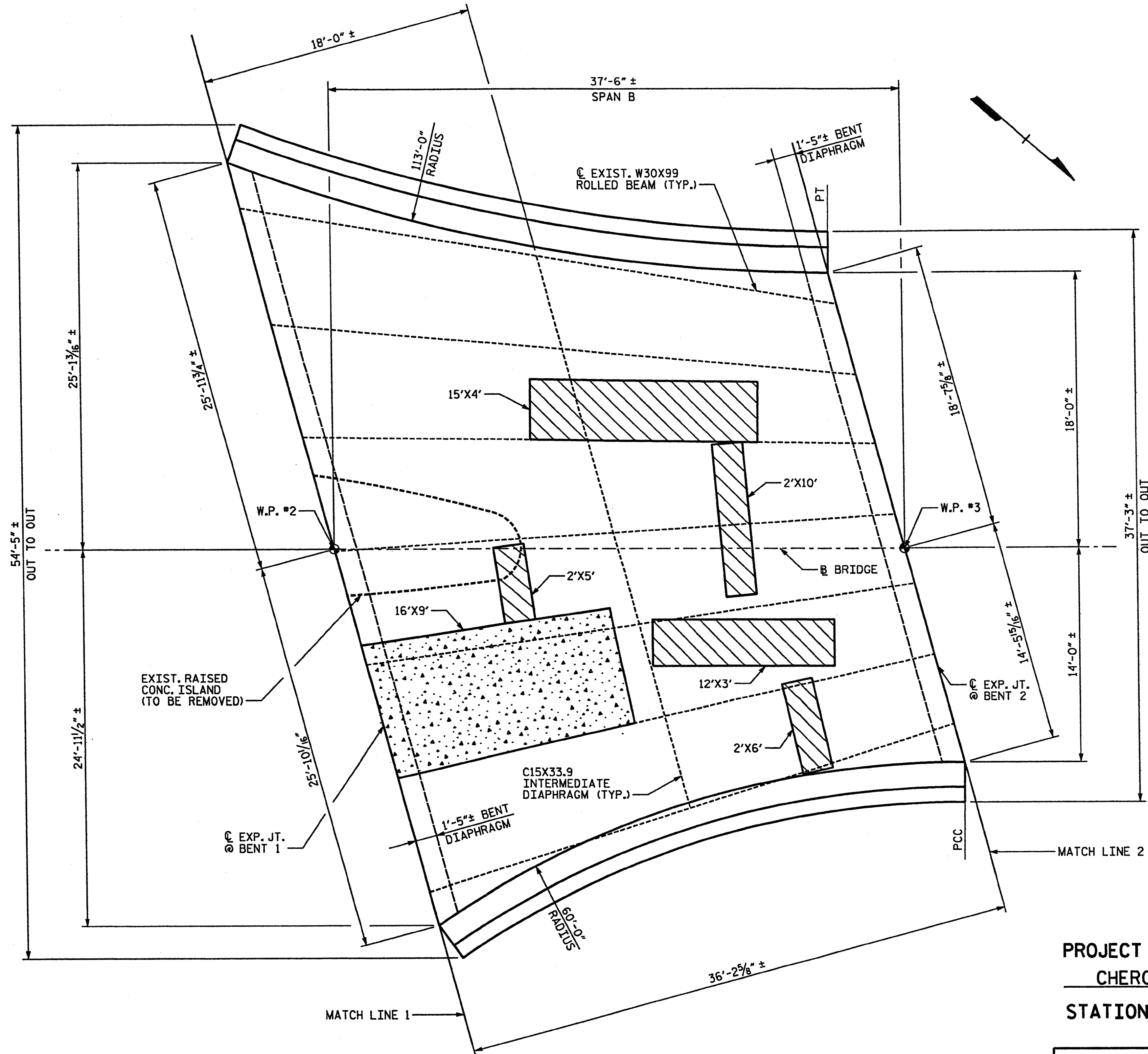
SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

MANDATORY CLASS III SURFACE PREPARATION IS ESTIMATED FROM BEST AVAILABLE INFORMATION. AMOUNTS AND LOCATIONS SHOWN ARE APPROXIMATE. ACTUAL AMOUNTS SHALL BE ESTABLISHED IN THE FIELD BY THE ENGINEER.

INCIDENTAL CLASS III SURFACE PREPARATION IS THE AMOUNT OF FULL DEPTH DECK REPAIR NOT SPECIFICALLY IDENTIFIED AS MANDATORY CLASS III SURFACE PREPARATION THAT IS ENCOUNTERED DURING HYDRO-DEMOLITION.

ESTIMATED MANDATORY SURFACE PREPARATION:
 SURFACE AREA = 16 SY
 CLASS AA CONC. = 2.6 CY

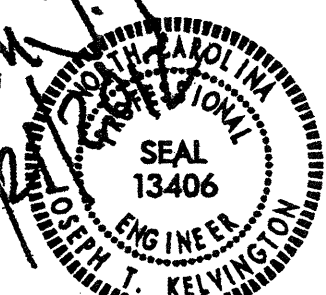
-  MANDATORY CLASS III SURFACE PREPARATION (SEE SPECIAL PROVISIONS)
-  CLASS II SURFACE PREPARATION
-  INCIDENTAL CLASS III SURFACE PREPARATION



PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

PLAN OF SPAN B - DECK REPAIRS

NOTE: EXISTING METAL RAIL AND POSTS ARE NOT SHOWN FOR CLARITY. SEE SHEET S-16 FOR BENT 1 AND BENT 2 TYPICAL SECTIONS.

Joseph J. Kelvington
 1/21/2012



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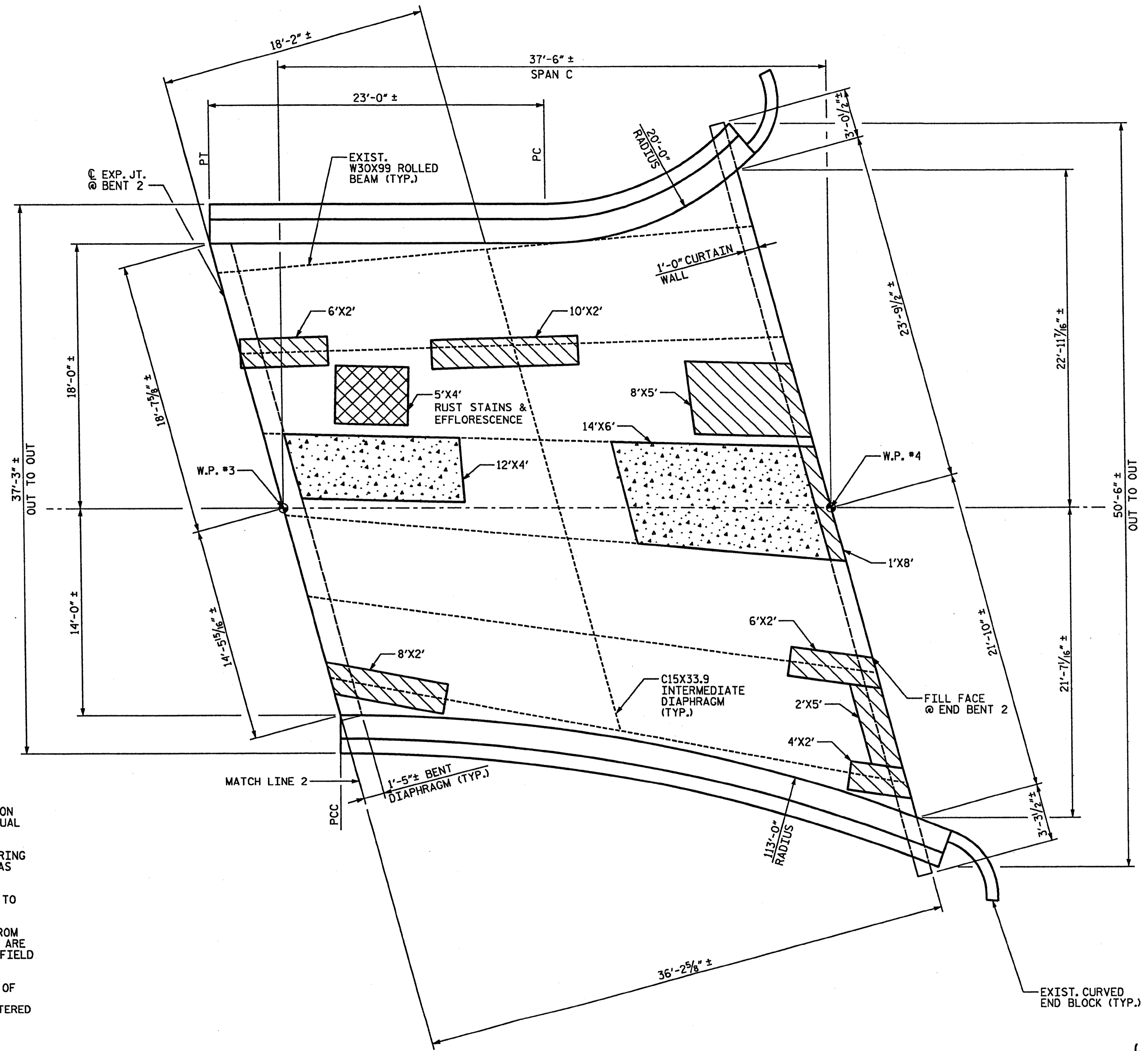
**DECK REPAIR PLAN
 SPAN B**

DECK REHAB. FOR BRIDGE NO. 13

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-19
1			3			TOTAL SHEETS
2			4			32

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-  MANDATORY CLASS III SURFACE PREPARATION (SEE SPECIAL PROVISIONS)
-  CLASS II SURFACE PREPARATION
-  INCIDENTAL CLASS III SURFACE PREPARATION



NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND ANY INCIDENTAL CLASS III SURFACE PREPARATION SHOWN IS ESTIMATED AND DOES NOT NECESSARILY REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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.

MANDATORY CLASS III SURFACE PREPARATION IS ESTIMATED FROM BEST AVAILABLE INFORMATION. AMOUNTS AND LOCATIONS SHOWN ARE APPROXIMATE. ACTUAL AMOUNTS SHALL BE ESTABLISHED IN THE FIELD BY THE ENGINEER.

INCIDENTAL CLASS III SURFACE PREPARATION IS THE AMOUNT OF FULL DEPTH DECK REPAIR NOT SPECIFICALLY IDENTIFIED AS MANDATORY CLASS III SURFACE PREPARATION THAT IS ENCOUNTERED DURING HYDRO-DEMOLITION.

ESTIMATED MANDATORY SURFACE PREPARATION:
 SURFACE AREA = 14.7 SY
 CLASS AA CONC. = 2.3 CY

PLAN OF SPAN C - DECK REPAIRS

NOTE: EXISTING METAL RAIL AND POSTS ARE NOT SHOWN FOR CLARITY. SEE SHEET S-17 FOR BENT 2 AND END BENT 2 TYPICAL SECTIONS.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DECK REPAIR PLAN SPAN C

DECK REHAB. FOR BRIDGE NO. 13

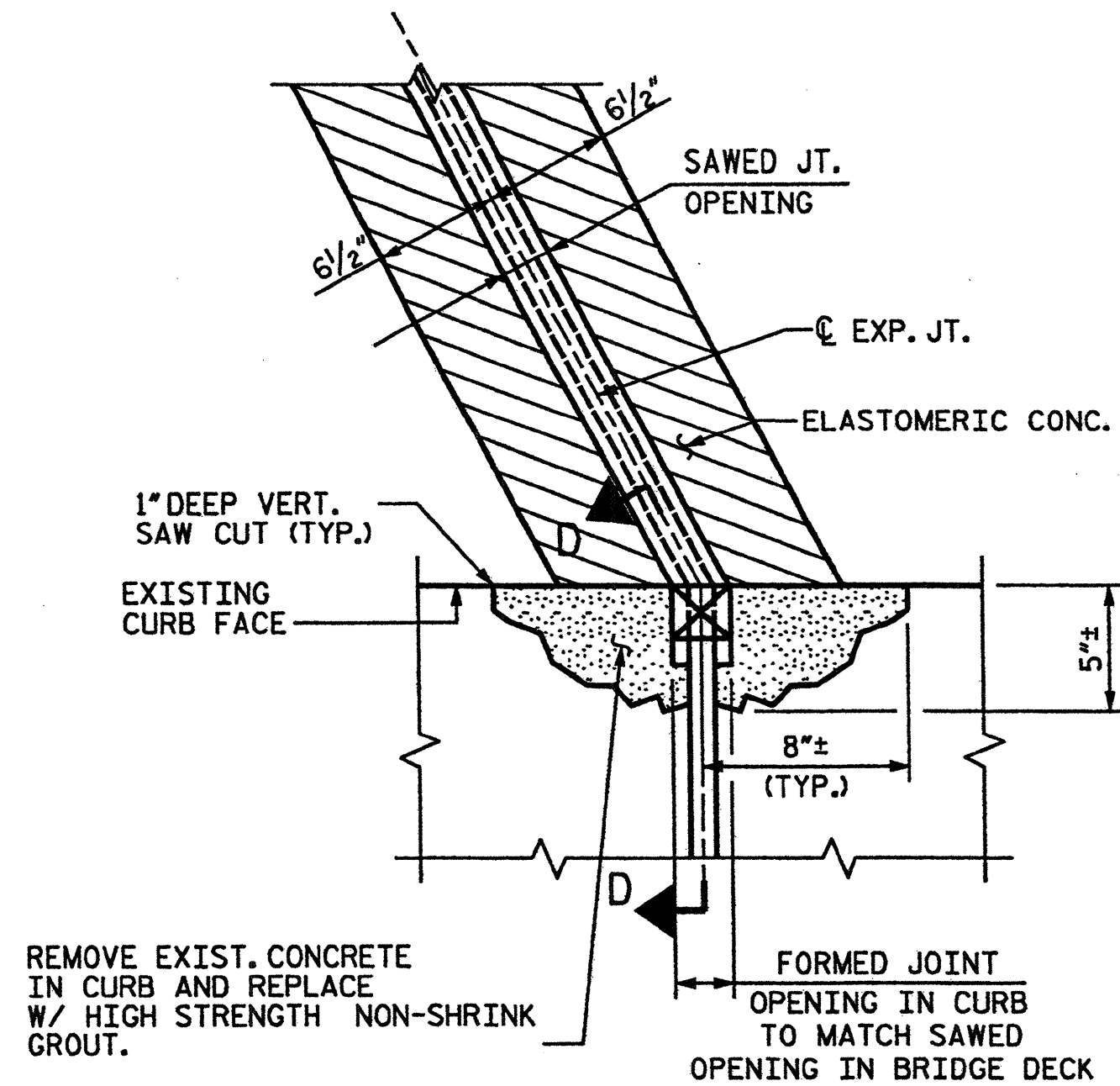
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-20
1			3			TOTAL SHEETS
2			4			32



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 CHECKED BY : J. T. KELVINGTON DATE : 01/05/2012

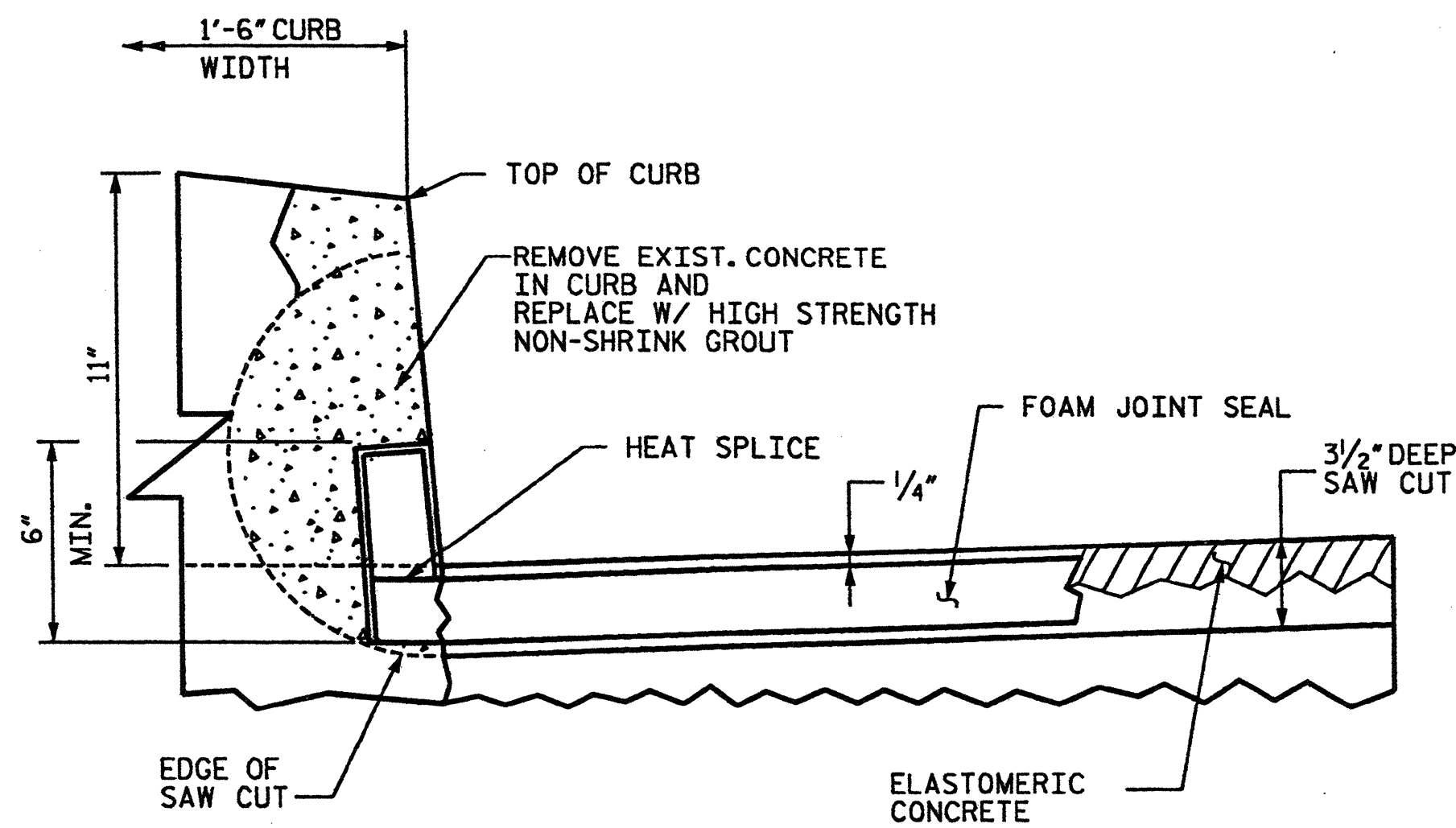
Joseph Kelvington
 1/5/2012
 SEAL 13406
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF NORTH CAROLINA

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PARTIAL PLAN @ JOINT
(TYP. @ INTERIOR BENTS)

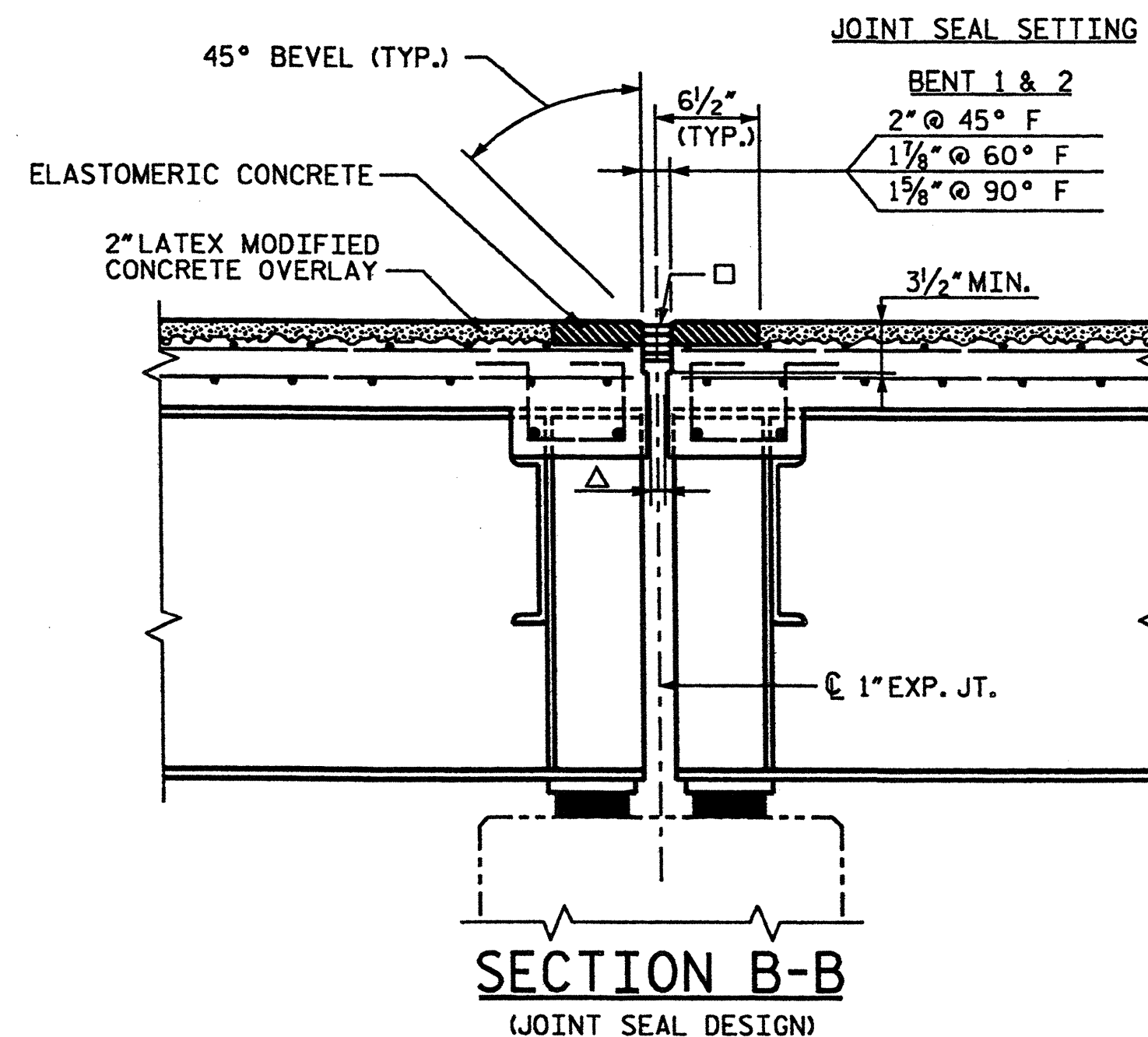
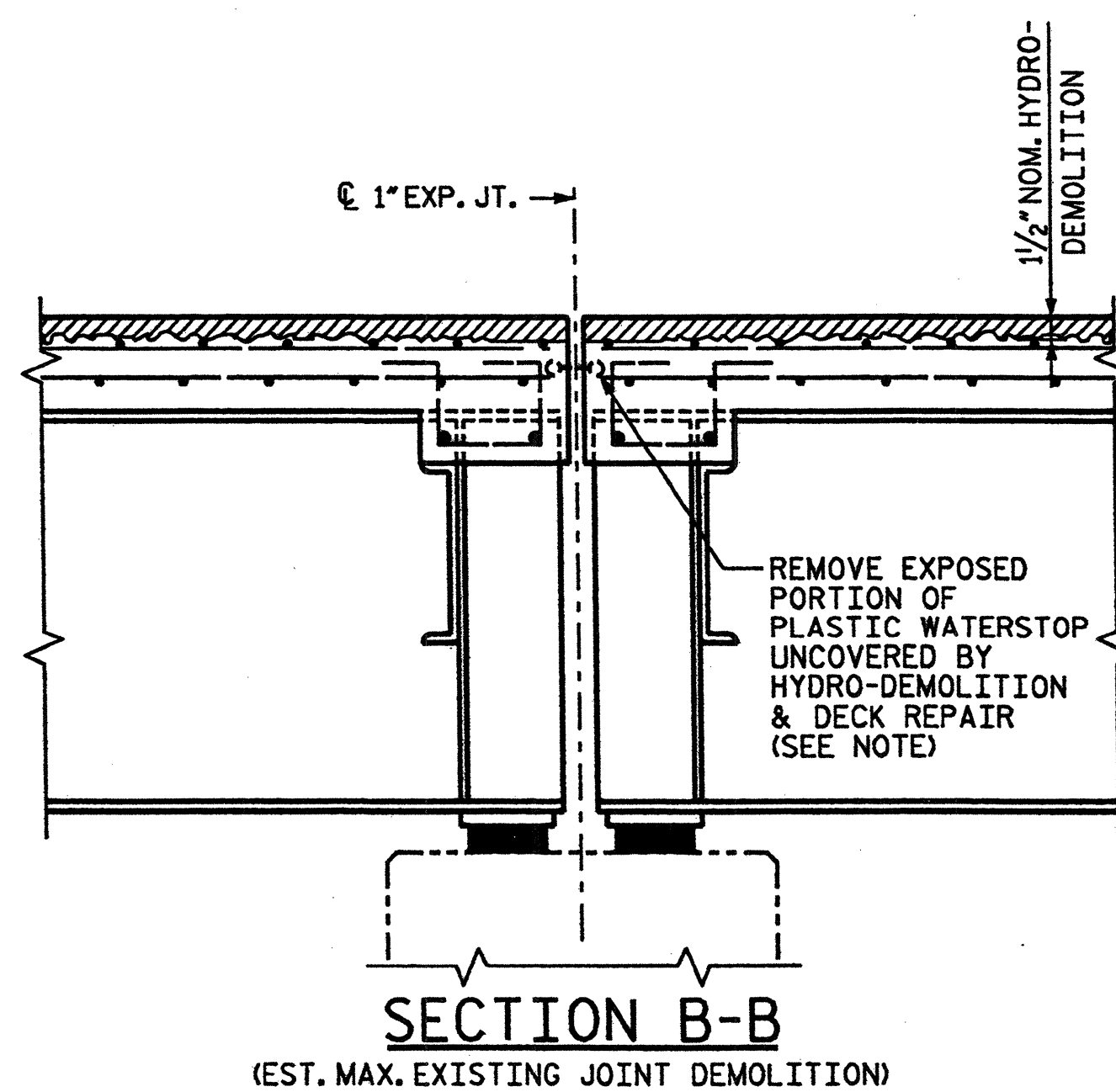
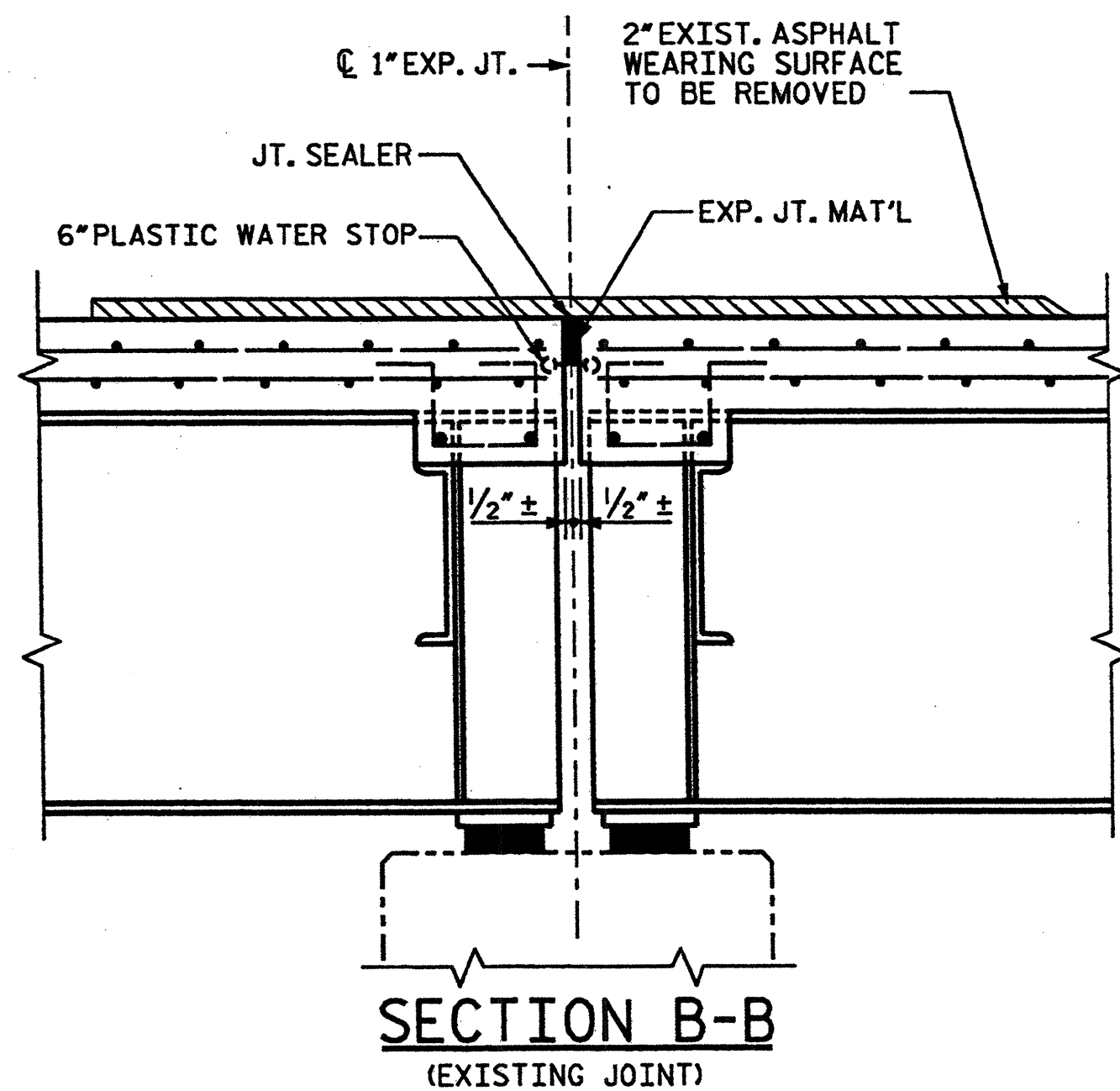
HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.
FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISION ENTITLED "GROUT FOR STRUCTURES".



SECTION D-D
CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.

ELASTOMERIC CONCRETE	
LOCATION	QTY
BENT 1	6.71 C.F.
BENT 2	4.29 C.F.

TOTAL ELASTOMERIC CONC. = 11.0 C.F.
TOTAL ELASTOMERIC CONC. = 0.41 C.Y.



PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
STATION: _____

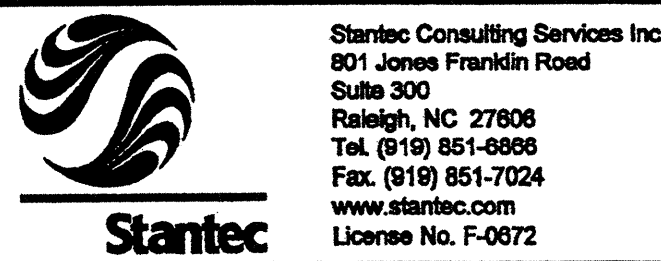
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXPANSION JOINT DETAILS

DECK REHAB. FOR BRIDGE NO. 13

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 32



DRAWN BY: C T MCCULLOUGH DATE: 01/05/2012
CHECKED BY: J T KELVINGTON DATE: 01/05/2012

NOTE: ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.

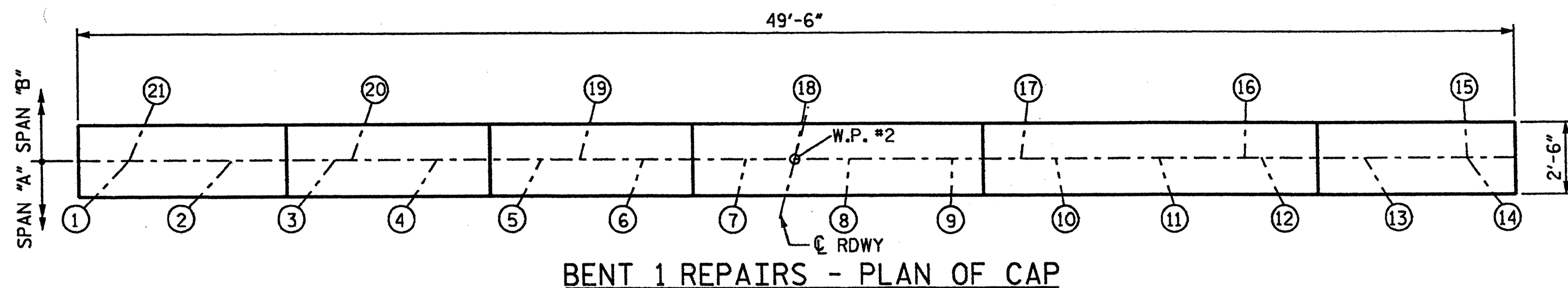
RETAIN ALL EXIST. REINF. STEEL. CLEAN AND REPAIR AS REQ'D.

□ USE 2.8125" X 2.50" UNCOMPRESSED FOAM JT. SEAL MATERIAL @ BENT 1 AND BENT 2.
△ 1" EXISTING JOINT OPENING

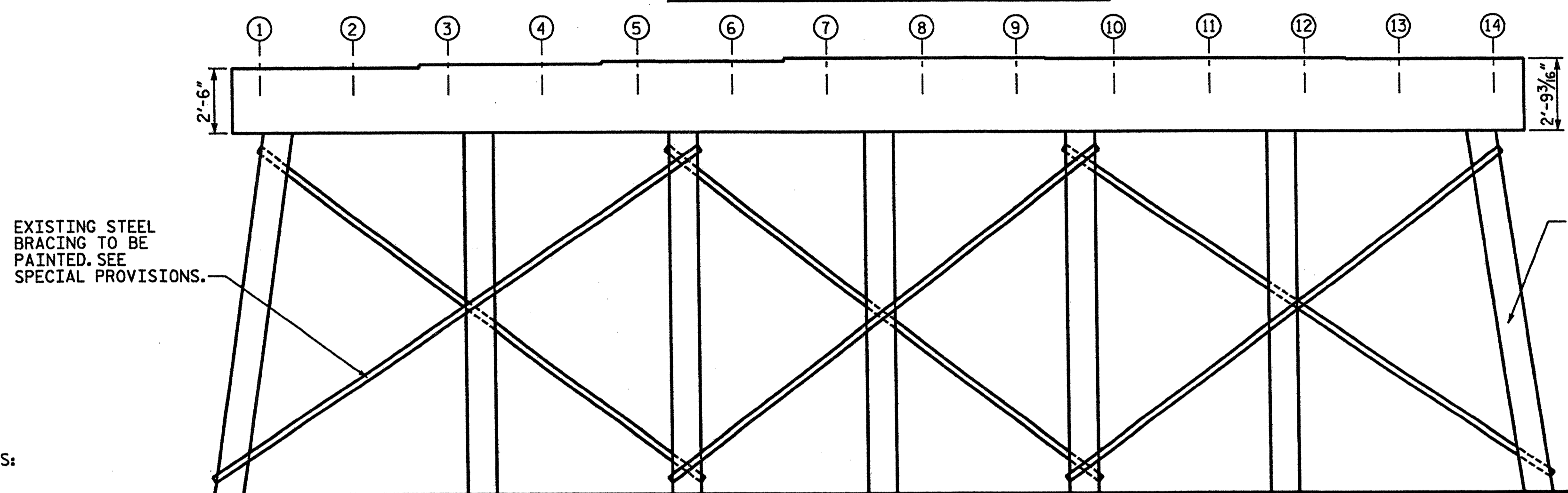
Jones Kelvington
Professional Engineer Seal 13406
STATE OF NORTH CAROLINA
J. T. KELVINGTON

J:\7100107 Transportation\Design\Structures\Bridges Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co.\Cherokee Co.\Drawing\BPI3_Repair_BENT1.dgn 1/21/2012 2:59:13 PM blaton

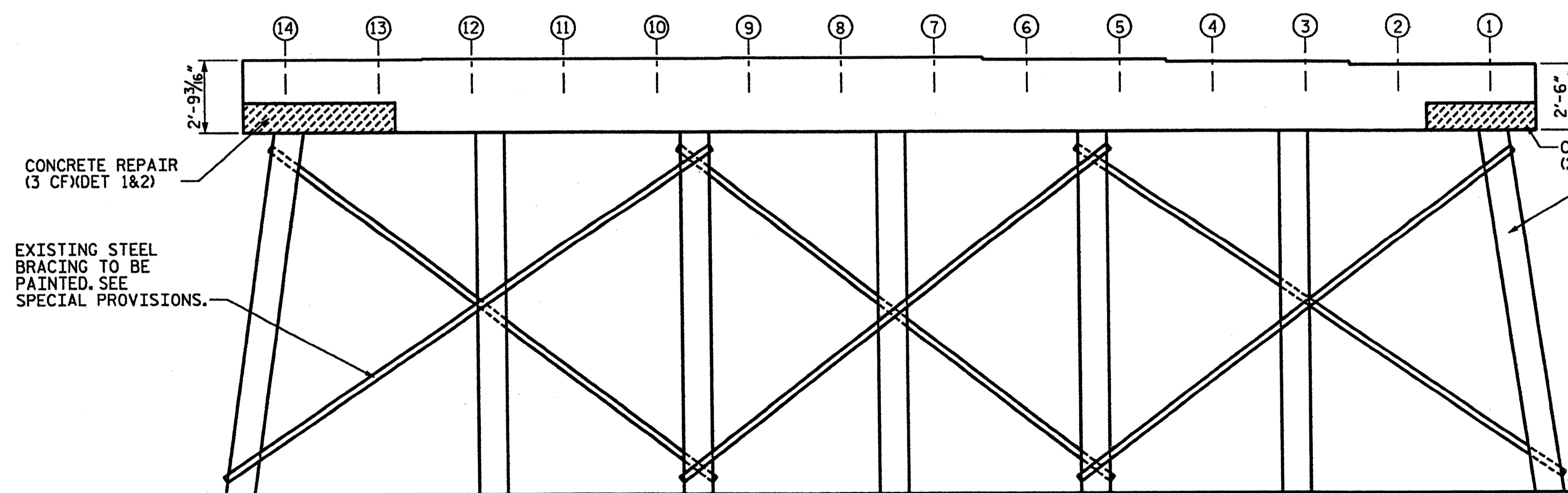
⊙ DENOTES ∅ EXISTING GIRDER NO.



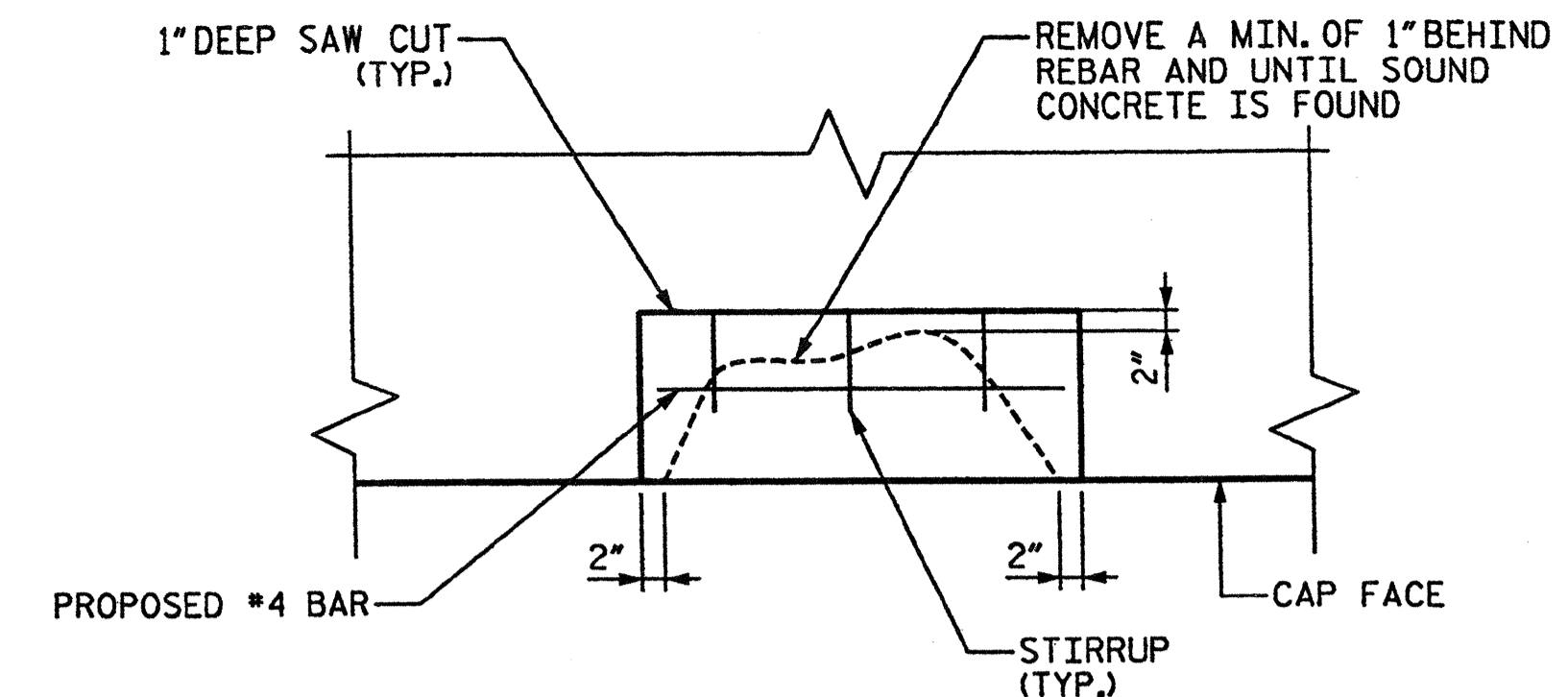
BENT 1 REPAIRS - PLAN OF CAP



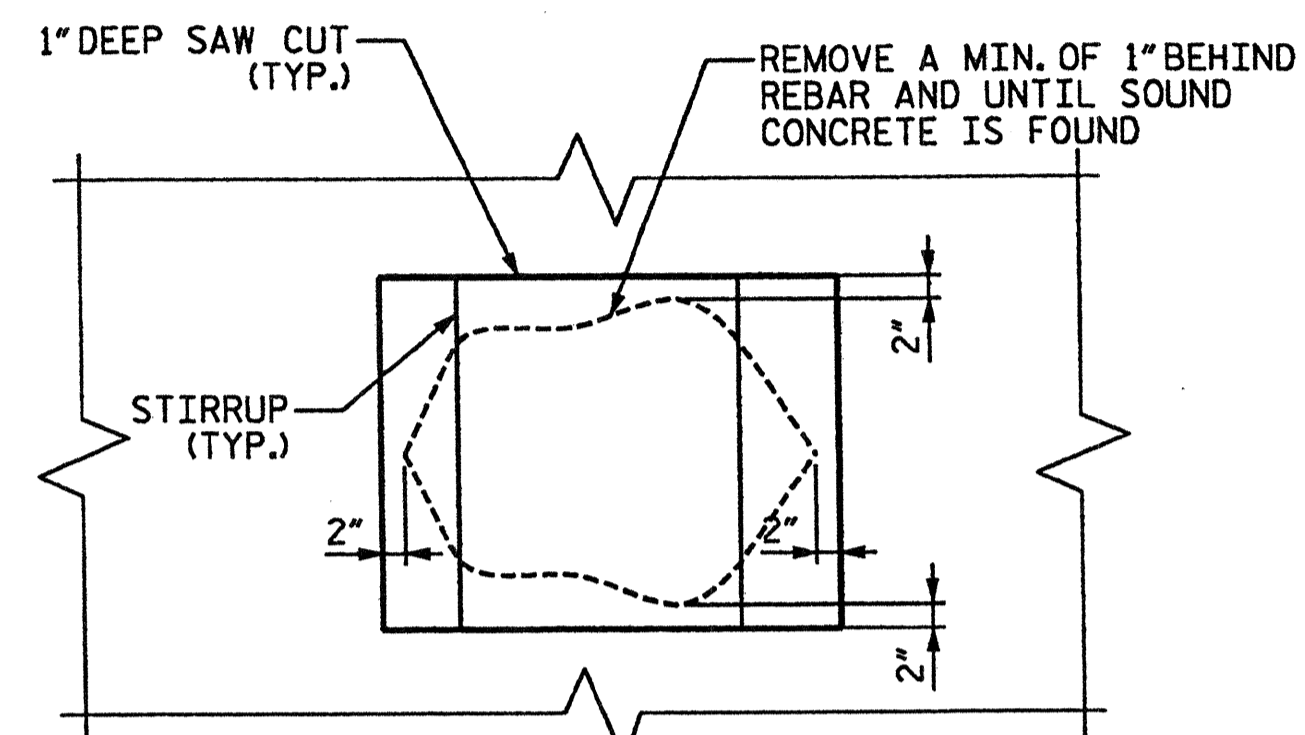
BENT 1 REPAIRS - ELEVATION (SPAN A SIDE)



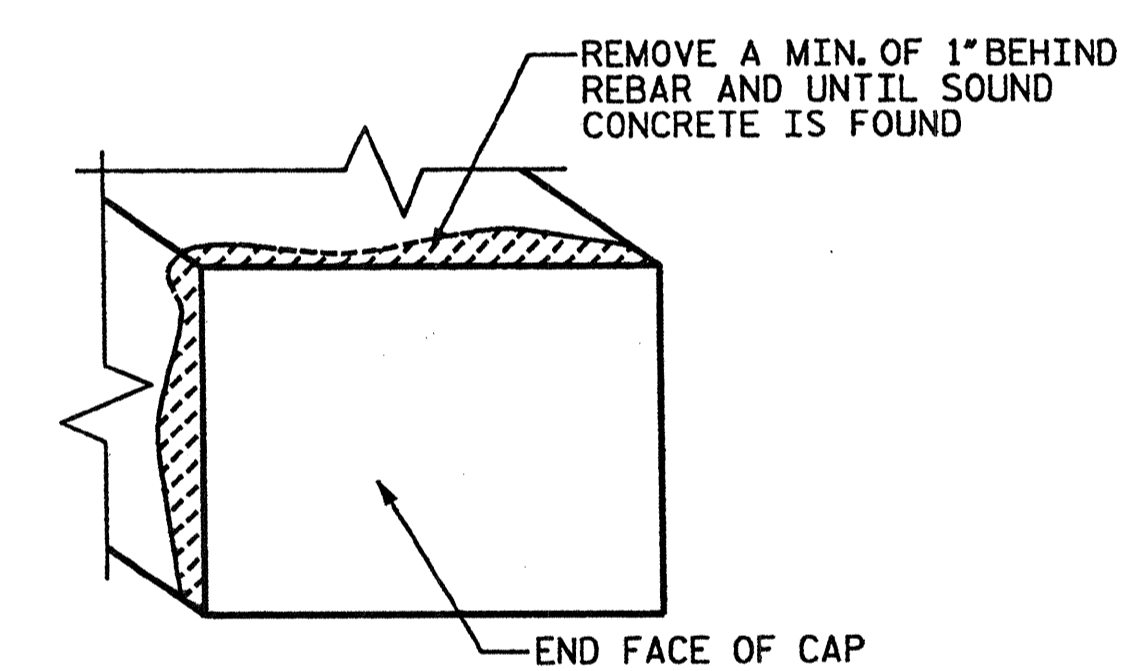
BENT 1 REPAIRS - ELEVATION (SPAN B SIDE)



TYPICAL REPAIR DETAIL 1



TYPICAL REPAIR DETAIL 2



TYPICAL REPAIR DETAIL 3

TOTAL ESTIMATED QUANTITIES:
CONCRETE REPAIR = 5 CF

NOTES:

REPAIR AREA DIMENSIONS SHOWN ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.

ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO THE SUBSTR. REPAIR AND SHALL BE GRADE 60.

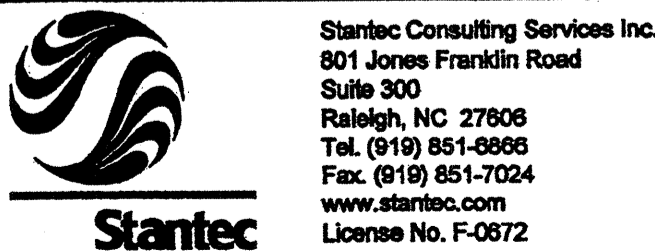
AREAS NOT OTHERWISE SPECIFIED FOR CONCRETE REPAIR MAY BE REPAIRED WITH SHOTCRETE, CLASS A CONC. OR POLYMER CONC. AT THE CONTRACTORS' OPTION.

PROJECT NO. WBS 17BP.14.P.5

CHEROKEE COUNTY

STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT 1					
DECK REHAB. FOR BRIDGE NO. 13					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-22
					TOTAL SHEETS 32

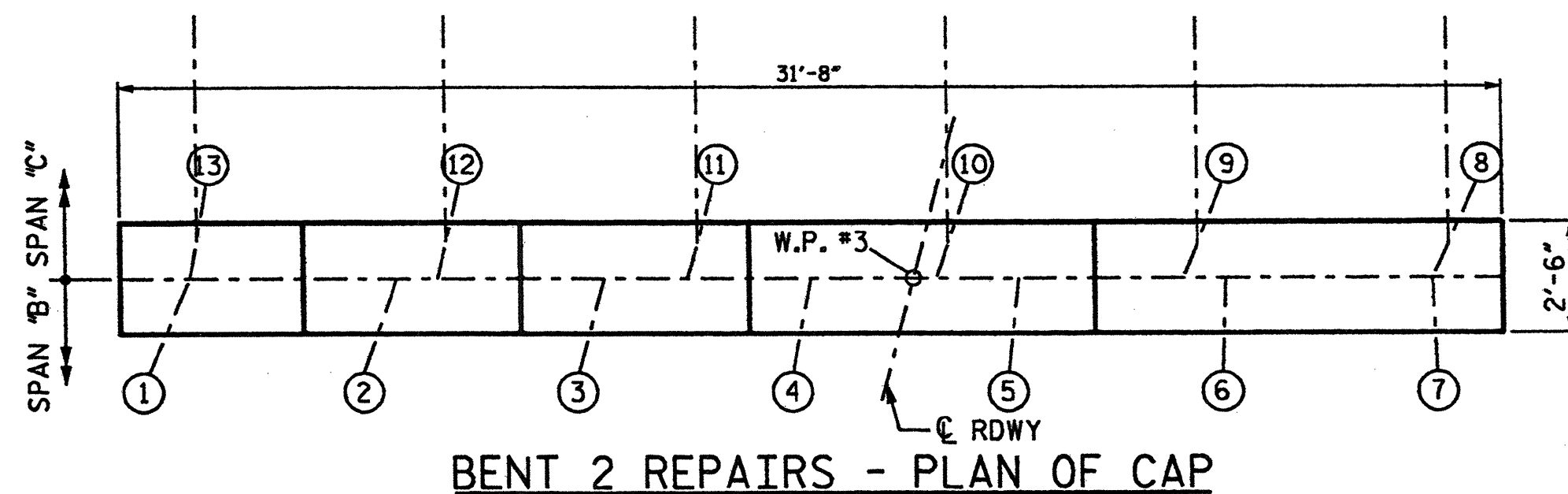


DRAWN BY: C. T. MCCULLOUGH DATE: 01/05/2012
CHECKED BY: J. T. KELVINGTON DATE: 01/05/2012

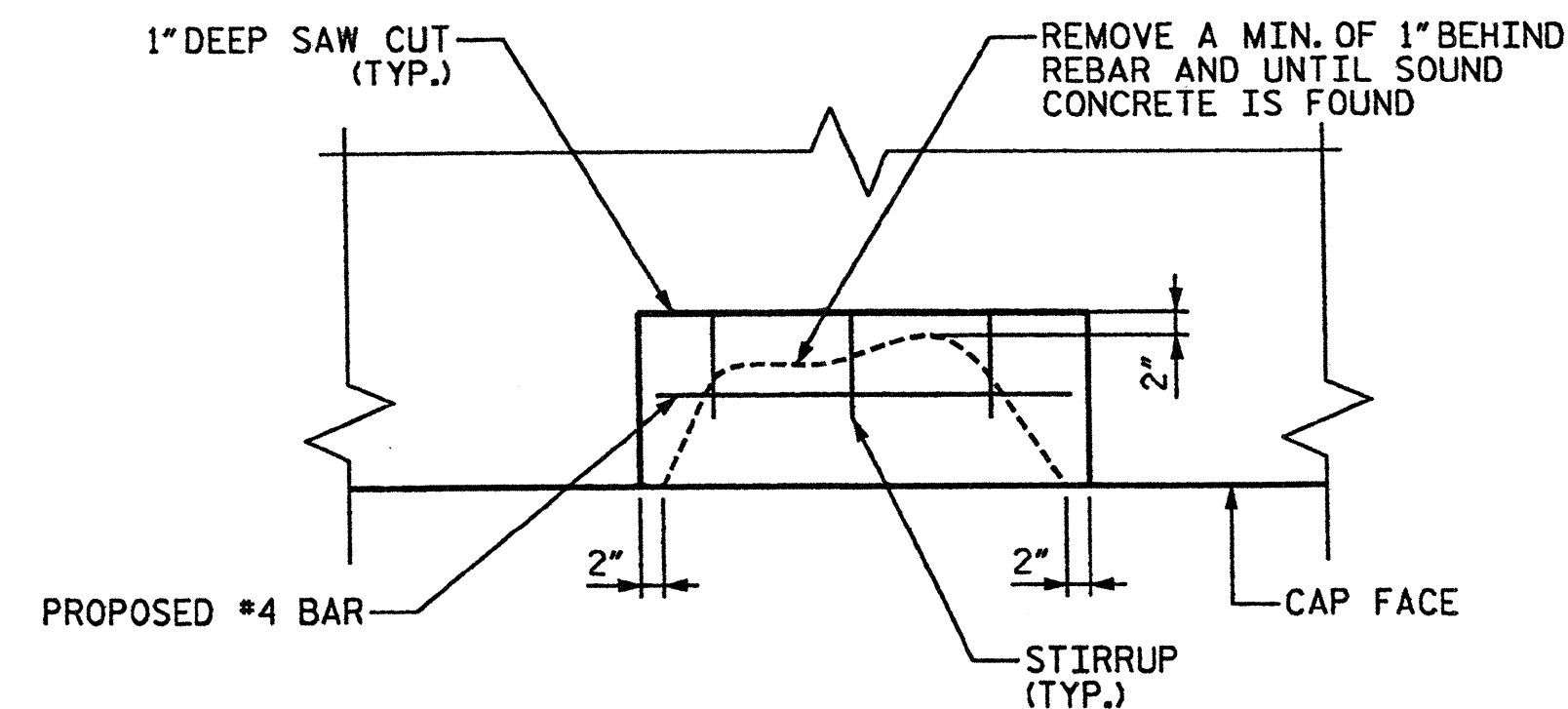
Joseph Kelvington

J:\17100107\Transportation\Design\Structures\Bridges\Group 2011\WBS 17BP.14.P.5 Graham & Cherokee Co\Cherokee Co\Drawing\BPI3.Repair_BENT2.dgn 1/21/2012 2:59:14 PM blaton

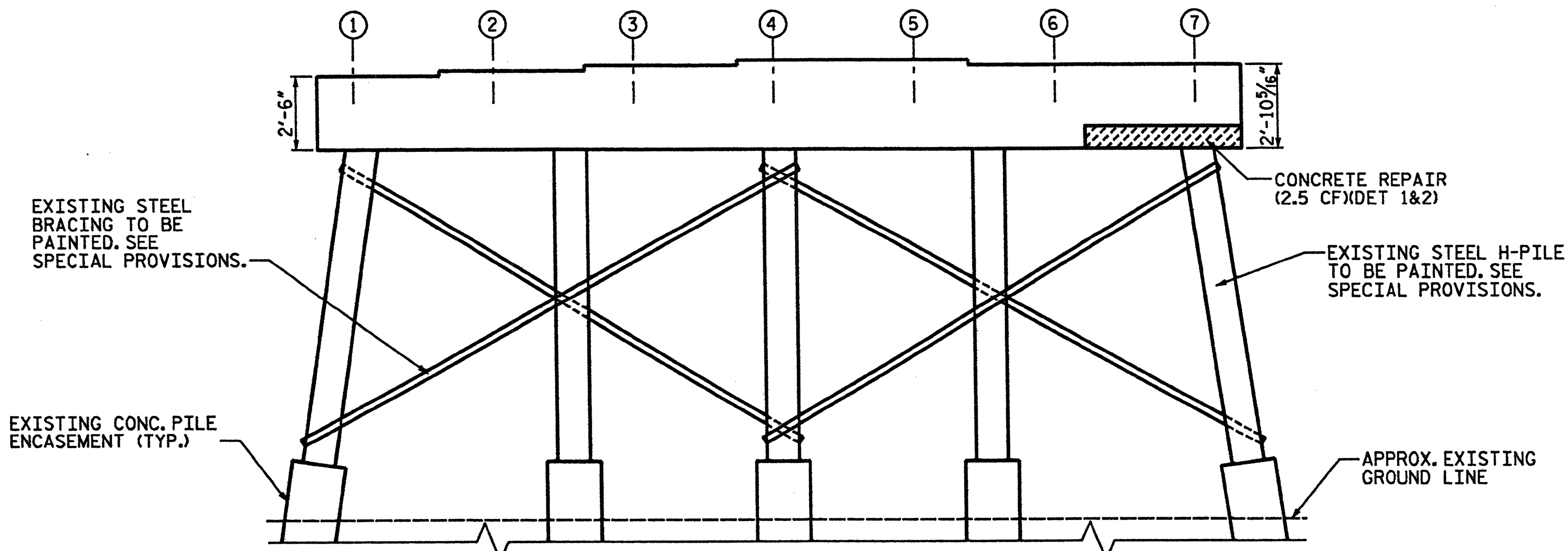
⊙ DENOTES ⊕ EXISTING GIRDER NO.



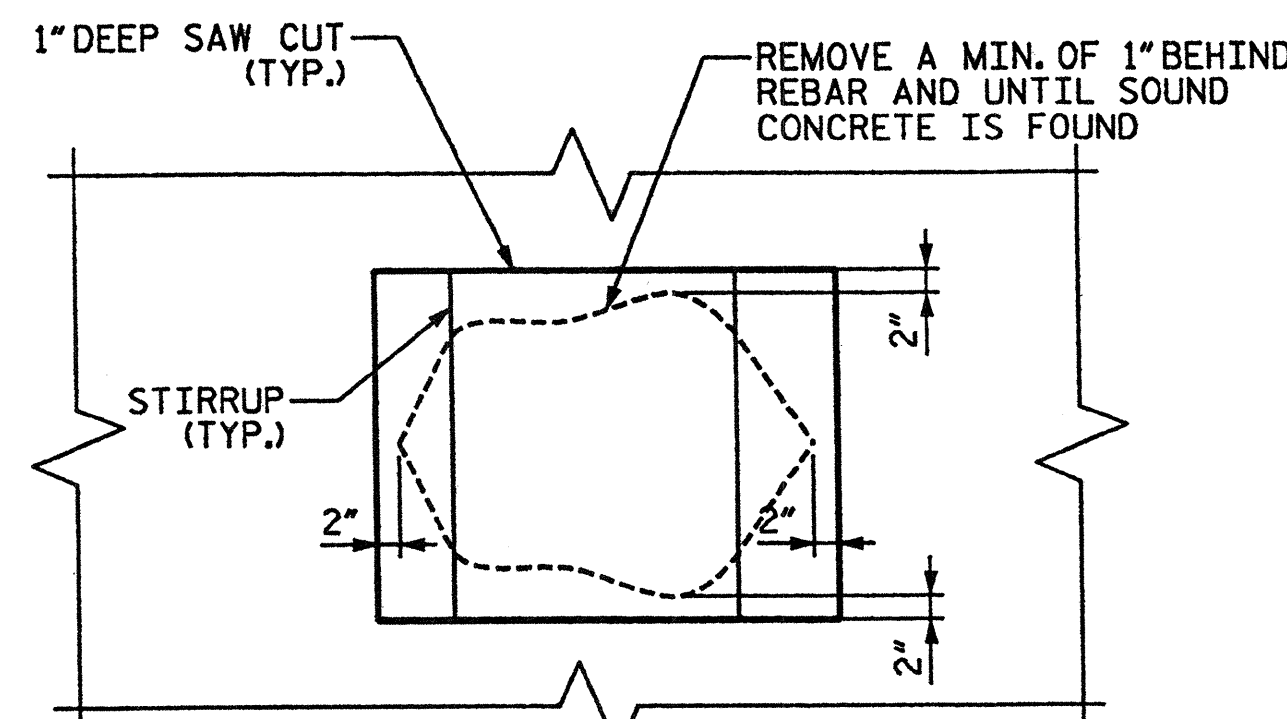
BENT 2 REPAIRS - PLAN OF CAP



TYPICAL REPAIR DETAIL 1



BENT 2 REPAIRS - ELEVATION (SPAN B SIDE)



TYPICAL REPAIR DETAIL 2

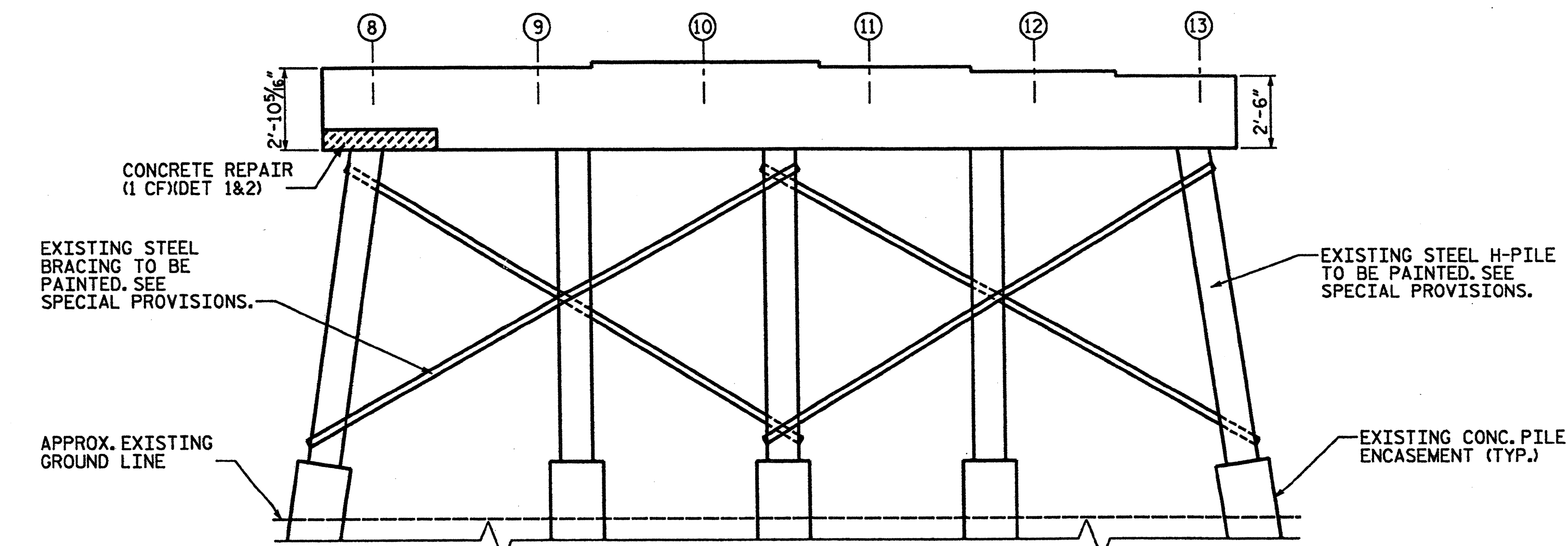
TOTAL ESTIMATED QUANTITIES:
CONCRETE REPAIR = 3.5 CF

NOTES:

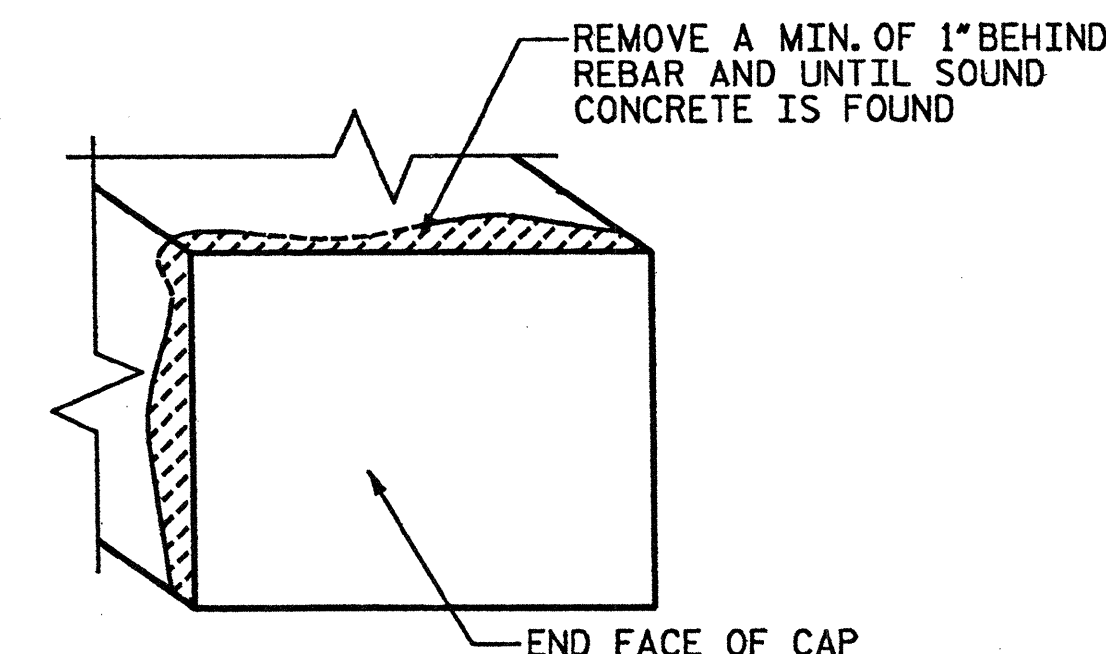
REPAIR AREA DIMENSIONS SHOWN ARE APPROXIMATE BASED ON BEST AVAILABLE INFORMATION.

ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO THE SUBSTR. REPAIR AND SHALL BE GRADE 60.

AREAS NOT OTHERWISE SPECIFIED FOR CONCRETE REPAIR MAY BE REPAIRED WITH SHOTCRETE, CLASS A CONC. OR POLYMER CONC. AT THE CONTRACTORS' OPTION.



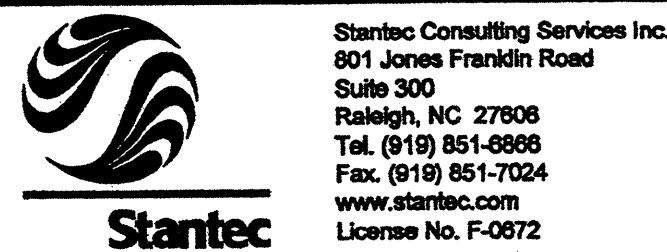
BENT 2 REPAIRS - ELEVATION (SPAN C SIDE)



TYPICAL REPAIR DETAIL 3

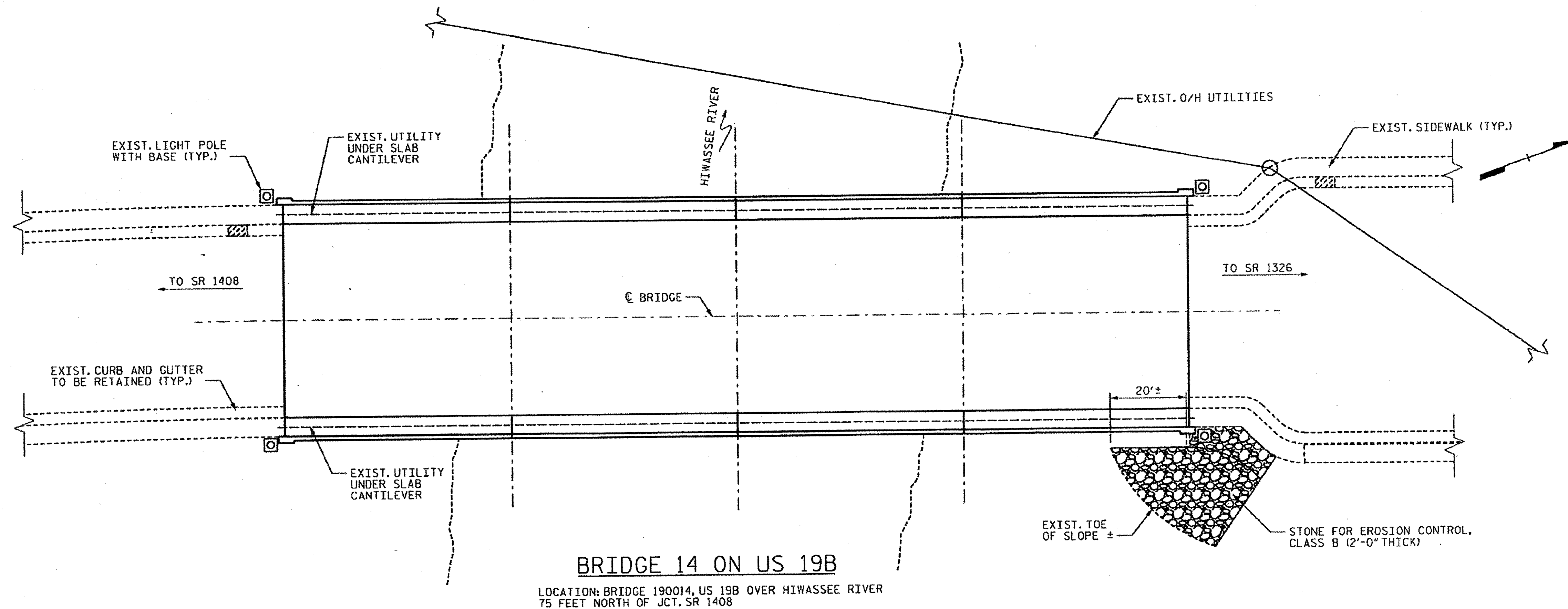
PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BENT 2					
DECK REHAB. FOR BRIDGE NO. 13					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					32



DRAWN BY : C T MCCULLOUGH DATE : 01/05/2012
 CHECKED BY : J T KELVINGTON DATE : 01/05/2012

Jesse Kelvington
 1/21/12
 SEAL 13406
 ENGINEER
 J. KELVINGTON



BRIDGE 14 ON US 19B
 LOCATION: BRIDGE 190014, US 19B OVER HIWASSEE RIVER
 75 FEET NORTH OF JCT. SR 1408

NOTE: GEOTEXTILES FOR EROSION CONTROL
 STONE, CLASS B WILL NOT BE REQUIRED
 PLACE STONE FOR EROSION CONTROL, CLASS B
 TO REPAIR EXISTING SLOPES DAMAGED
 BY SCOUR AS DIRECTED BY THE ENGINEER

**BRIDGE 14 ON US 19B
 OVER HIWASSEE RIVER**

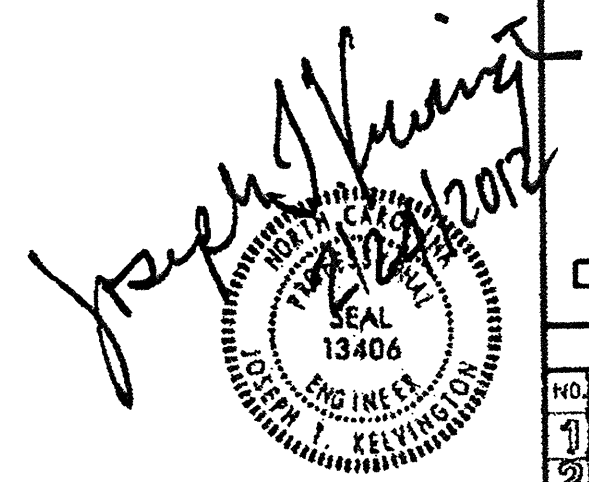
TOTAL BILL OF MATERIAL

INCIDENTAL MILLING	MILLING * ASPHALT PVM 2" DEPTH	CONC. SURFACE COURSE, TYPE S9.5C	GROOVING BRIDGE FLOORS	STONE FOR EROSION CONTROL, CLASS B **	FOAM JOINT SEALS	HYDRO-DEMOLITION OF BRIDGE DECK	CLASS AA CONCRETE	CLASS I SURFACE PREPARATION	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	PLACING AND FINISHING LATEX MODIFIED CONCRETE OVERLAY VERY EARLY STRENGTH	SCARIFYING BRIDGE DECK
SO.YDS.	SO.YDS.	TONS	SO.FT.	TONS	LUMP SUM	SO.YDS.	CU.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	SO.YDS.	SO.YDS.
633.6	1386.7	53	12,064	60	LUMP SUM	1386.7	0	0	11.9	0	75.4	1386.7	1386.7

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

** ESTIMATED QUANTITY BASED CONDITIONS NOTED IN BRIDGE INSPECTION REPORT DATED MAY 4, 2010.

* QUANTITIES ARE ESTIMATES FROM BEST AVAILABLE DATA AND SHOULD BE CONSIDERED FOR INFORMATION PURPOSES ONLY. IF ANY CLASS III LOCATIONS ARE ENCOUNTERED PRIOR TO OR DURING HYDRO-DEMOLITION, SEE TYP. "BLOW THRU" CONTAINMENT AND FORMWORK DETAIL. NO SEPARATE MEASUREMENT OR PAYMENT FOR THESE ITEMS WILL BE MADE. ALL COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR HYDRO-DEMOLITION OF BRIDGE DECK OR SCARIFYING BRIDGE DECK. (SEE SPECIAL PROVISIONS)



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

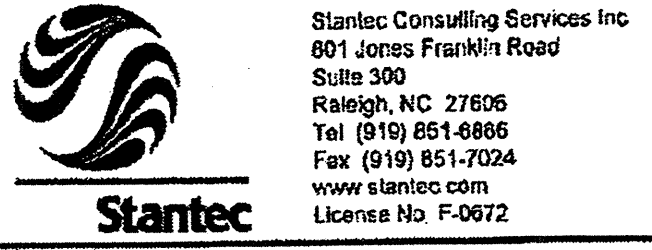
LOCATION SKETCH AND TOTAL BILL OF MATERIAL

DECK REHAB. FOR BRIDGE NO. 14

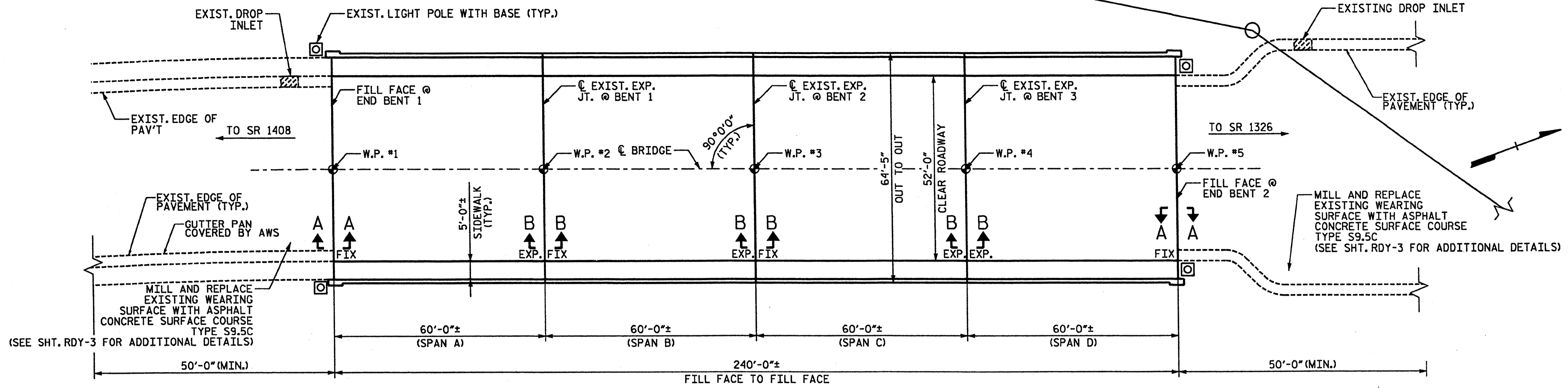
REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

TOTAL SHEETS: 32

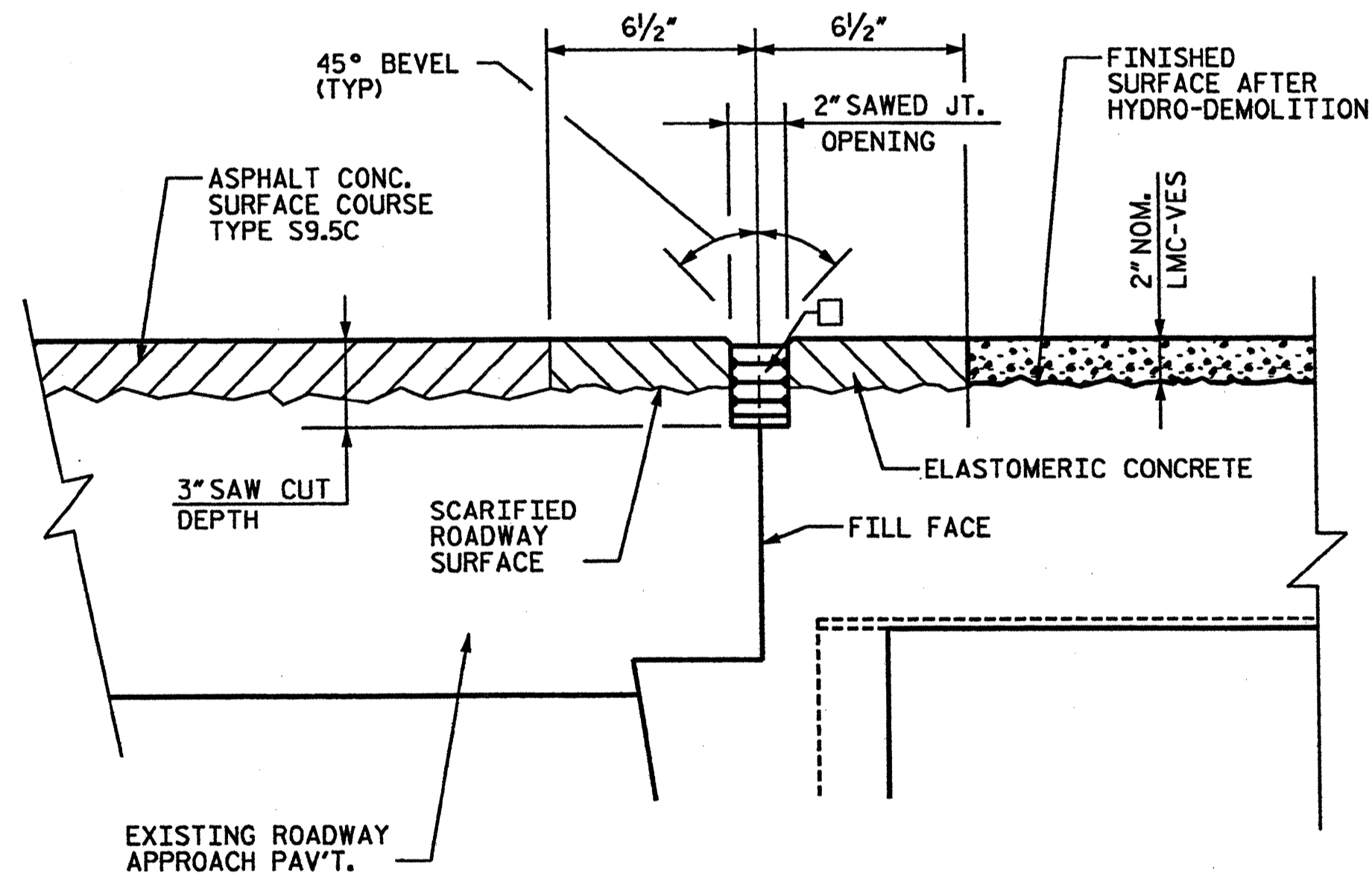
2/24/2012 5:25:57 PM Igdle
 2011\WBS 17BP.14.P.5 C:\Cherokee Co\Cherokee Co\Drawing\BP.14.P.5.DWG



DRAWN BY: K R TYLER DATE: 12/11
 CHECKED BY: J I KELVINGTON DATE: 12/11

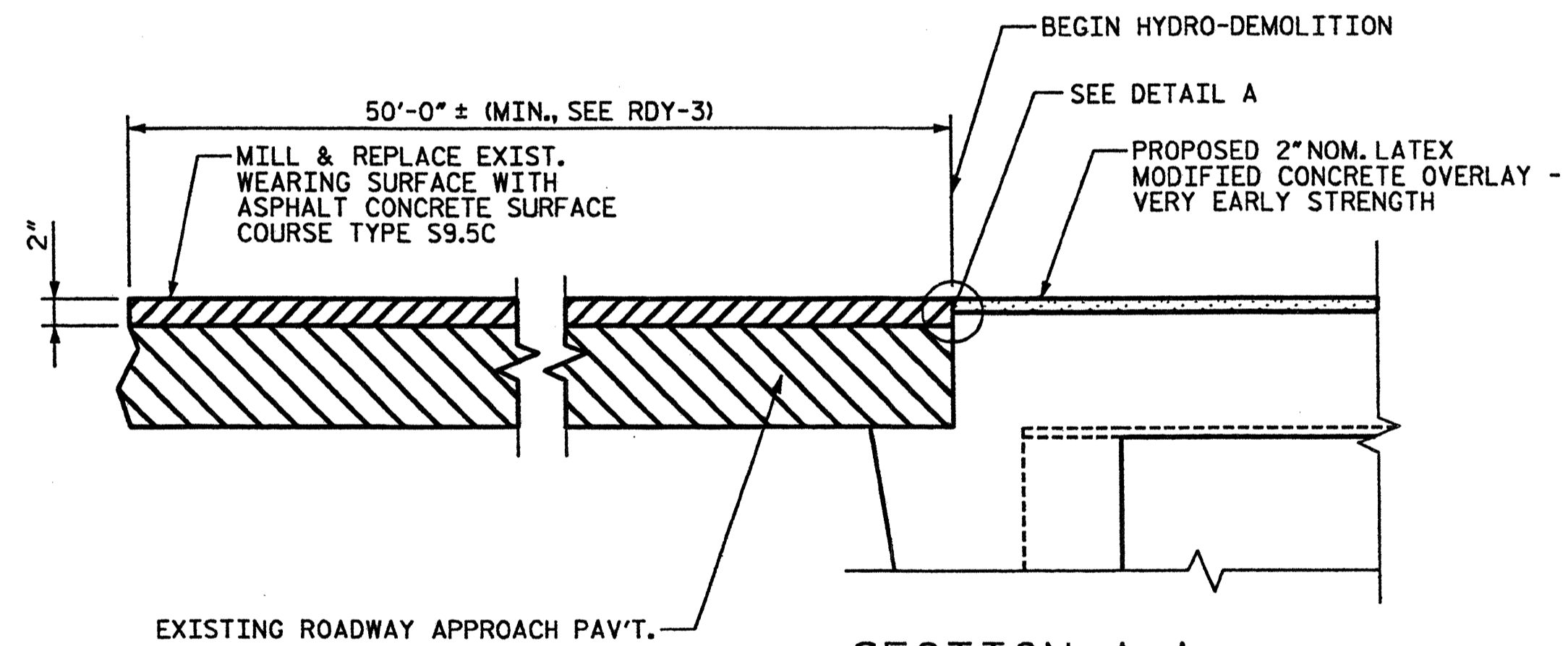


PLAN OF SPANS A-D



DETAIL A

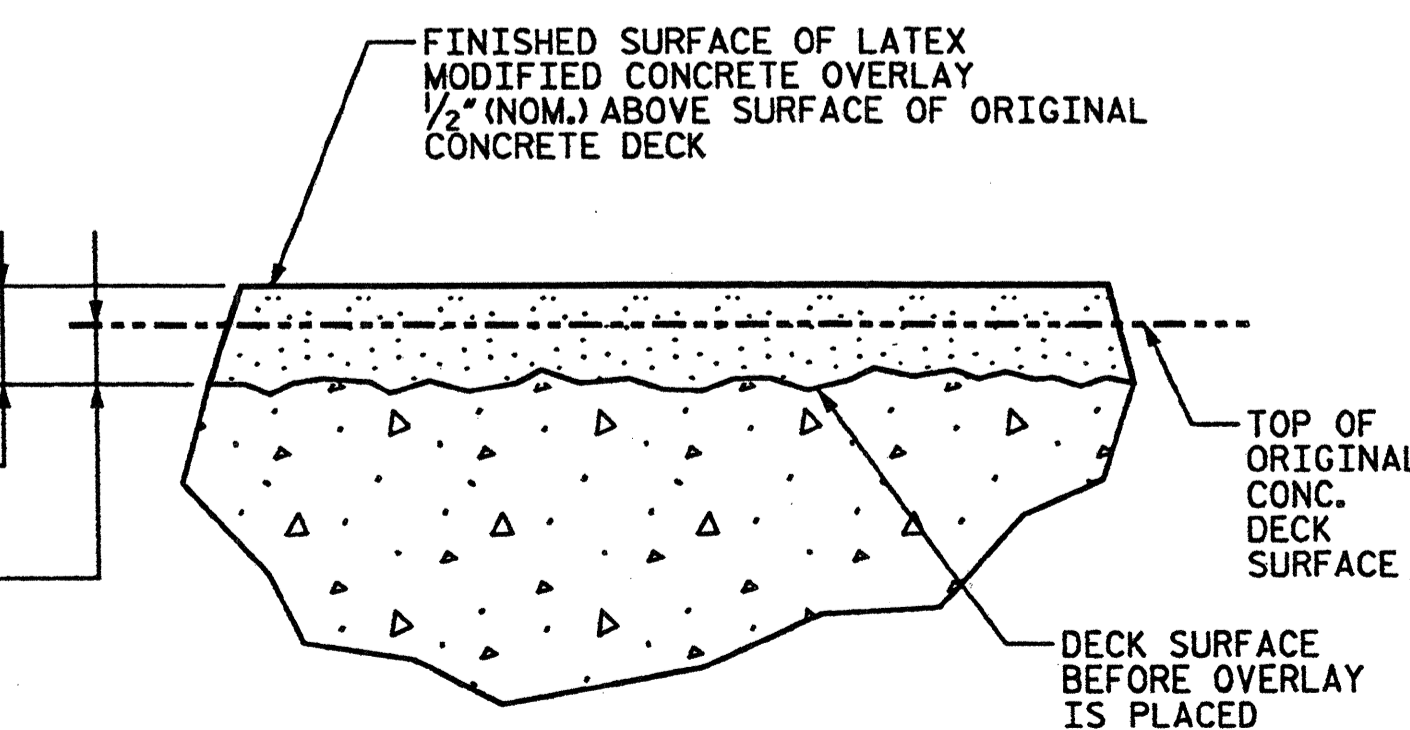
- - USE 2.500" X 2.00" UNCOMPRESSED FOAM JOINT SEAL
- LMC-VES DENOTES LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH



SECTION A-A

NOTES:

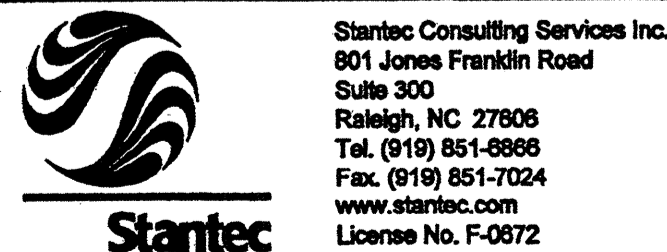
- FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS. SEE SPECIAL PROVISIONS.
- THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL, SHT. NO. S-27.
- LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.
- FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.
- FOR SECTION B-B, SEE SHT. NO. S-31.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

PROJECT NO. WBS 17BP.14.P.5
 CHEROKEE COUNTY
 STATION: _____

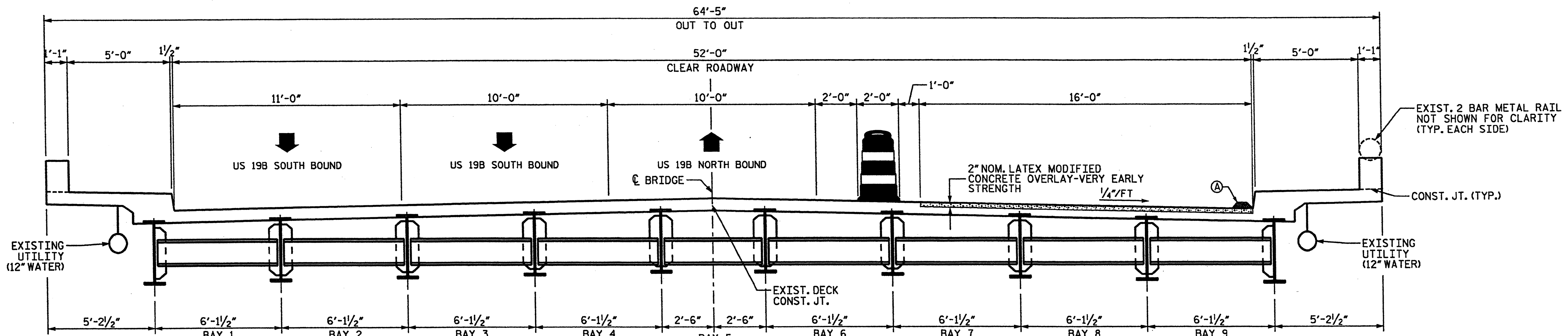
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF BRIDGE					
DECK REHAB. FOR BRIDGE NO. 14					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-25
					TOTAL SHEETS 32



DRAWN BY: K. R. TYLER DATE: 12/11
 CHECKED BY: J. T. KELVINGTON DATE: 12/11

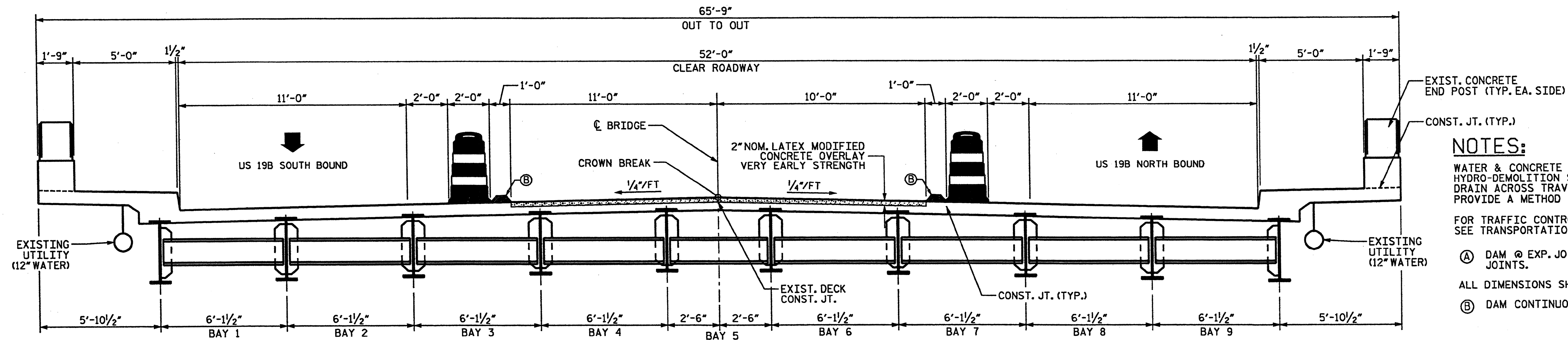
Joseph Kelvington
 12/11/11
 SEAL 13406
 ENGINEER
 NORTH CAROLINA

2014.WBS 17BP.14.P.5 Gr-nham & Cherokee Co\Cherokee 14\Drawing\BPK_DeckPlan.dgn 1/21/2012 2:59:16 PM bictan



TYPICAL SECTION - NORTH BOUND LANE CONSTRUCTION

NB LANE CONST. SHOWN, SB LANE CONST. SYMMETRICAL ABOUT ϕ BRIDGE
 SPANS B & C SHOWN, SPANS A&D SIMILAR



TYPICAL SECTION - CENTER LANE CONSTRUCTION

NOTES:

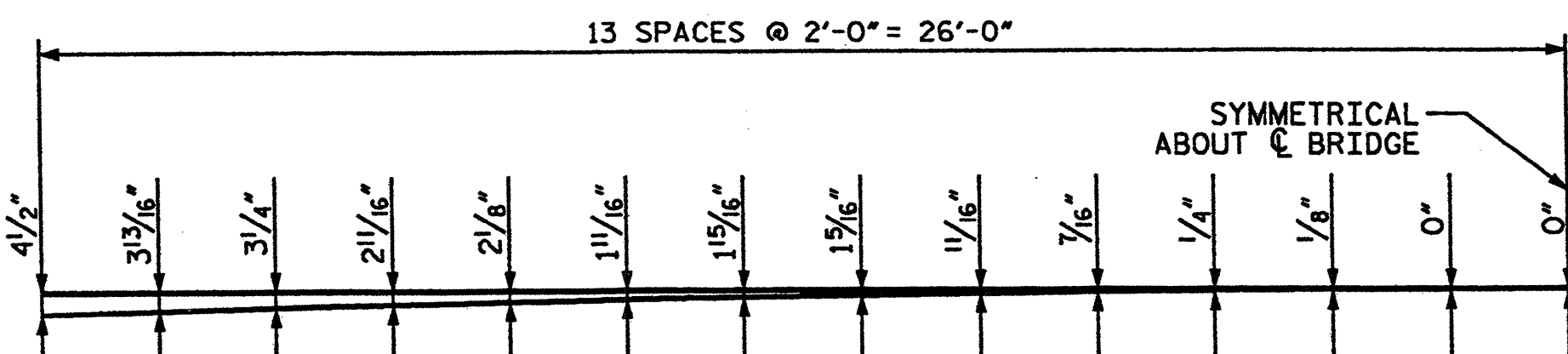
WATER & CONCRETE SLURRY FROM HYDRO-DEMOLITION SHALL NOT BE ALLOWED TO DRAIN ACROSS TRAVEL LANES. CONTRACTOR SHALL PROVIDE A METHOD TO CONTROL THE WATER.

FOR TRAFFIC CONTROL AND CONSTRUCTION PHASING, SEE TRANSPORTATION MANAGEMENT PLANS.

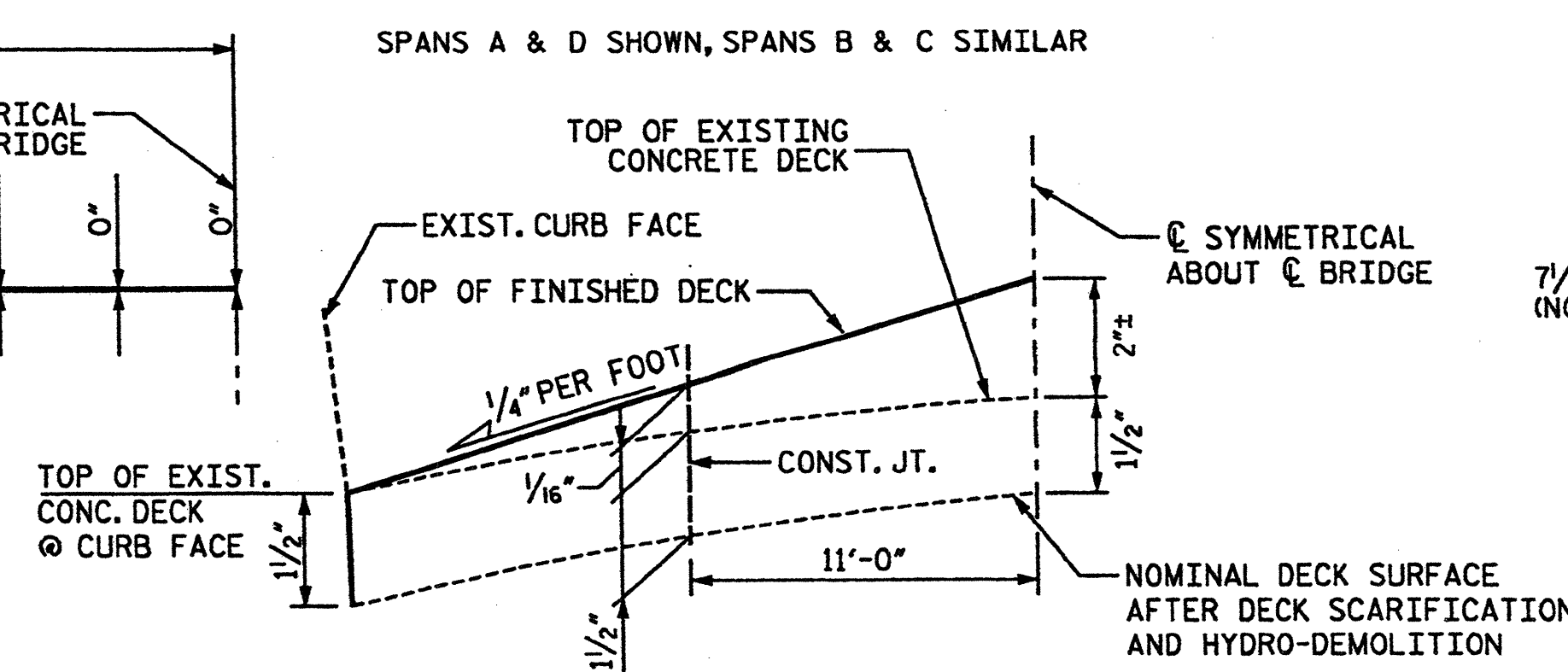
(A) DAM @ EXP. JOINTS AS REQUIRED TO SEAL JOINTS.

ALL DIMENSIONS SHOWN ARE APPROXIMATE.

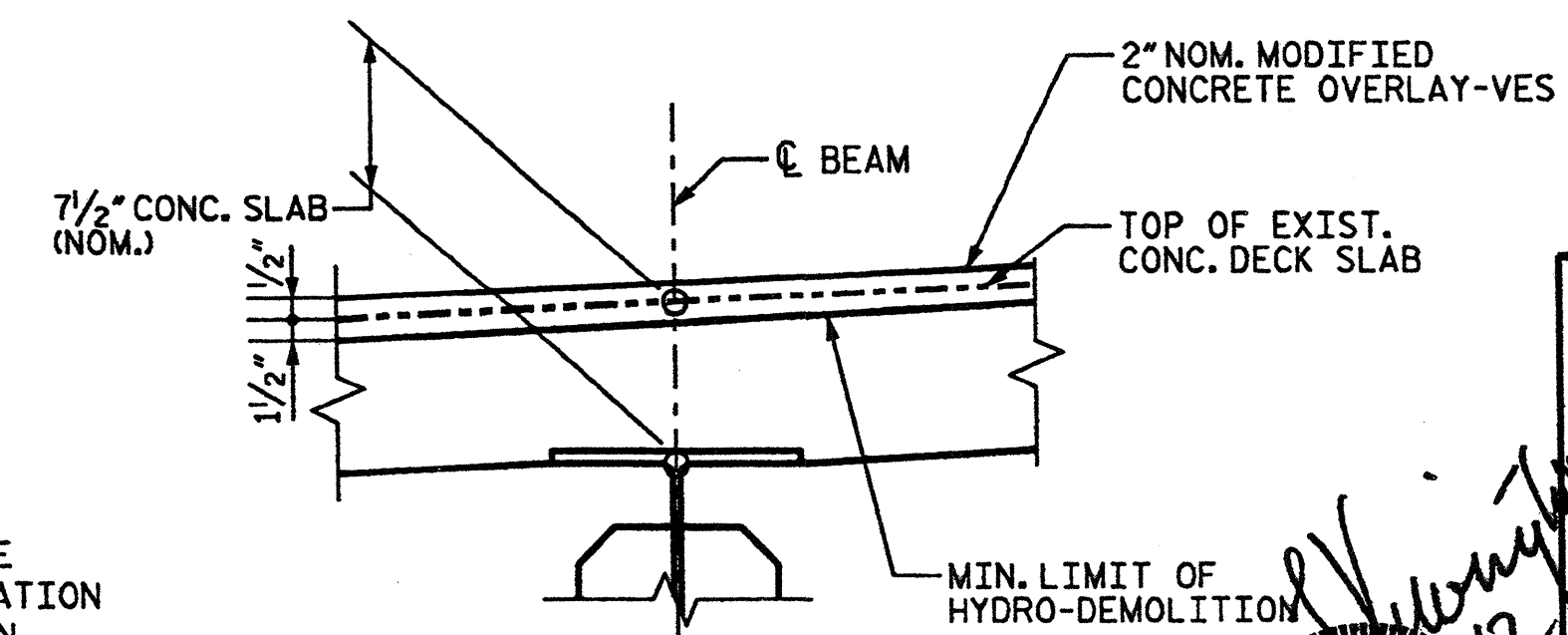
(B) DAM CONTINUOUSLY THRU WORK AREA.



EXISTING CROWN DIAGRAM



BRIDGE CROSS SLOPE SCHEMATIC FOR DECK OVERLAY



EXIST. SLAB DETAIL

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
TYPICAL SECTION
DECK REHAB. FOR BRIDGE NO. 14

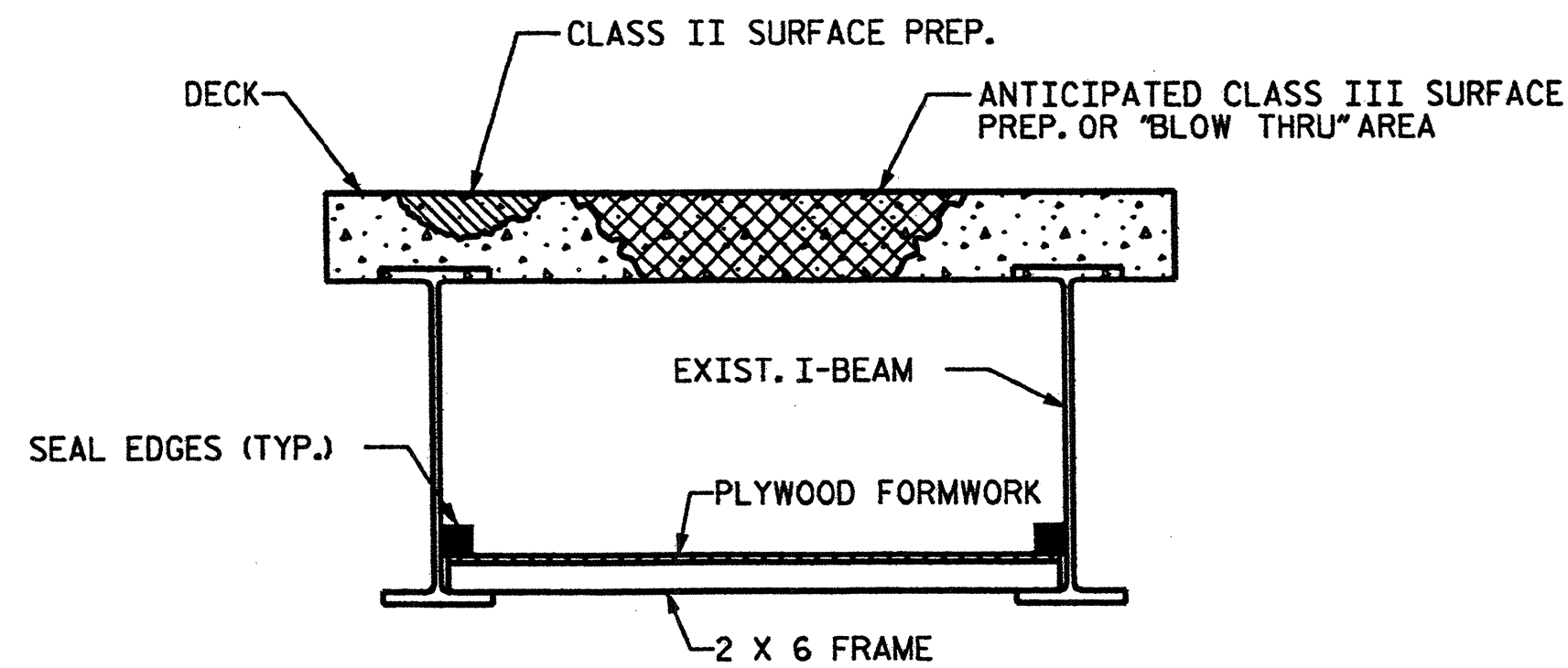
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					32

Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27608
 Tel. (919) 851-8898
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

DRAWN BY: K R TYLER DATE: 12/11
 CHECKED BY: J T KELVINGTON DATE: 12/11

J. T. Kelvington
 J. T. KELVINGTON
 12/11

2011 WBS 17BP.14.P.5 Graciam & Cherokee Co\Cherokee 14\Drawings\BPKL_TypSect.dgn 1/21/2012 2:55:17 PM b1010n



TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

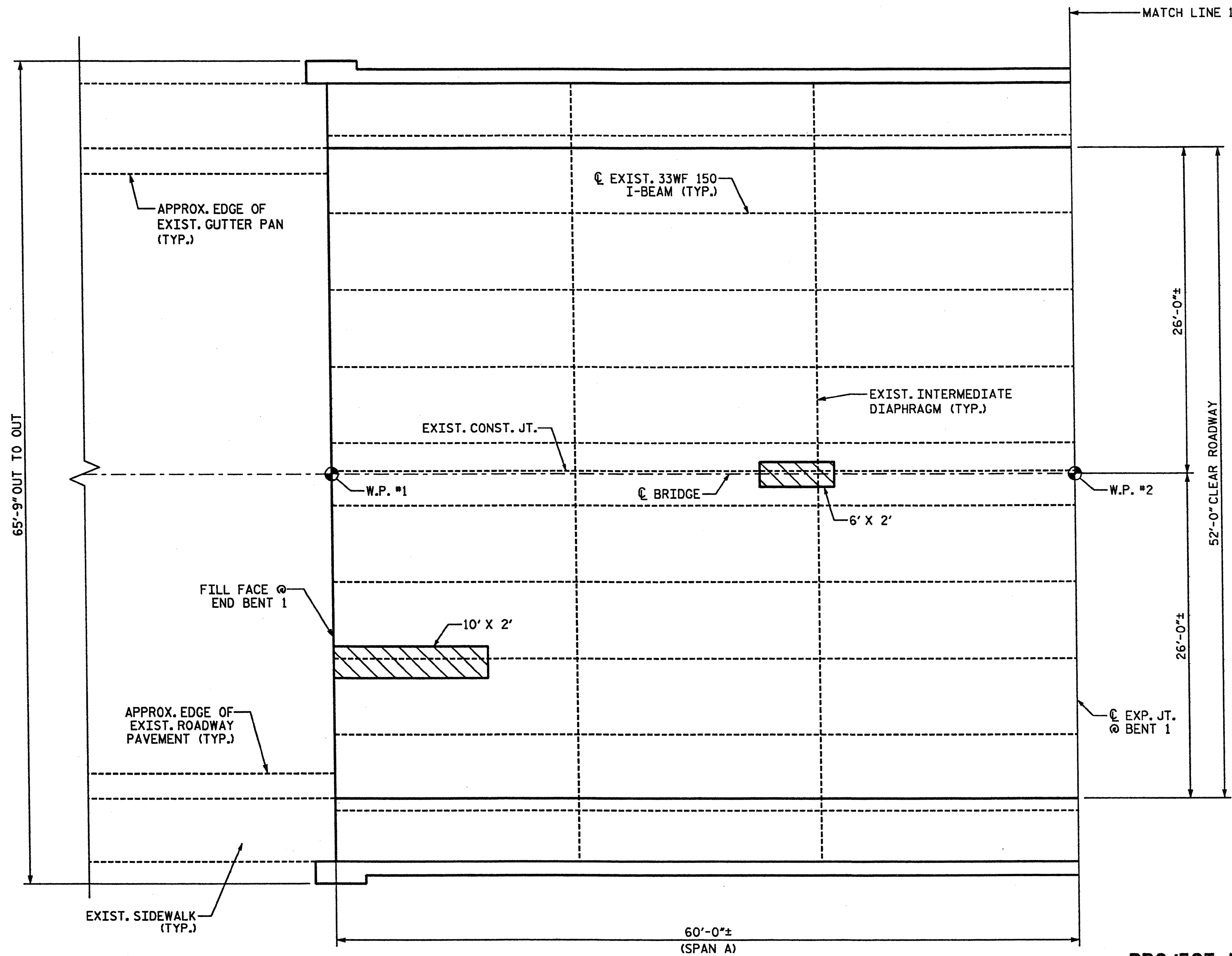
SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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 ALL PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.



PLAN OF SPAN A - DECK REPAIRS

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

L X W = LENGTH OF AREA PARALLEL TO C BRIDGE X WIDTH OF AREA PERPENDICULAR TO C BRIDGE.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

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 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27608
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 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0872

DRAWN BY : K R TYLER DATE : 12/11
 CHECKED BY : J T KELVINGTON DATE : 12/11

Joseph J. Kelvington
 12/12/11

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN A**

DECK REHAB. FOR BRIDGE NO. 14

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-27
1			3			TOTAL SHEETS
2			4			32

1/21/2012 2:59:48 PM b1atlon
 I:\WBS_17BP.14.P.5_Graham & Cherokee Co\Cherokee CADrawing\BP14_RepairPlan1.dgn

WBS 17BP.14.P.5 Or-dham & Cherokee Co\Cherokee 14\Drawing\BP14_RepairPlan2.dgn 1/21/2012 2:59:08 PM bicton

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

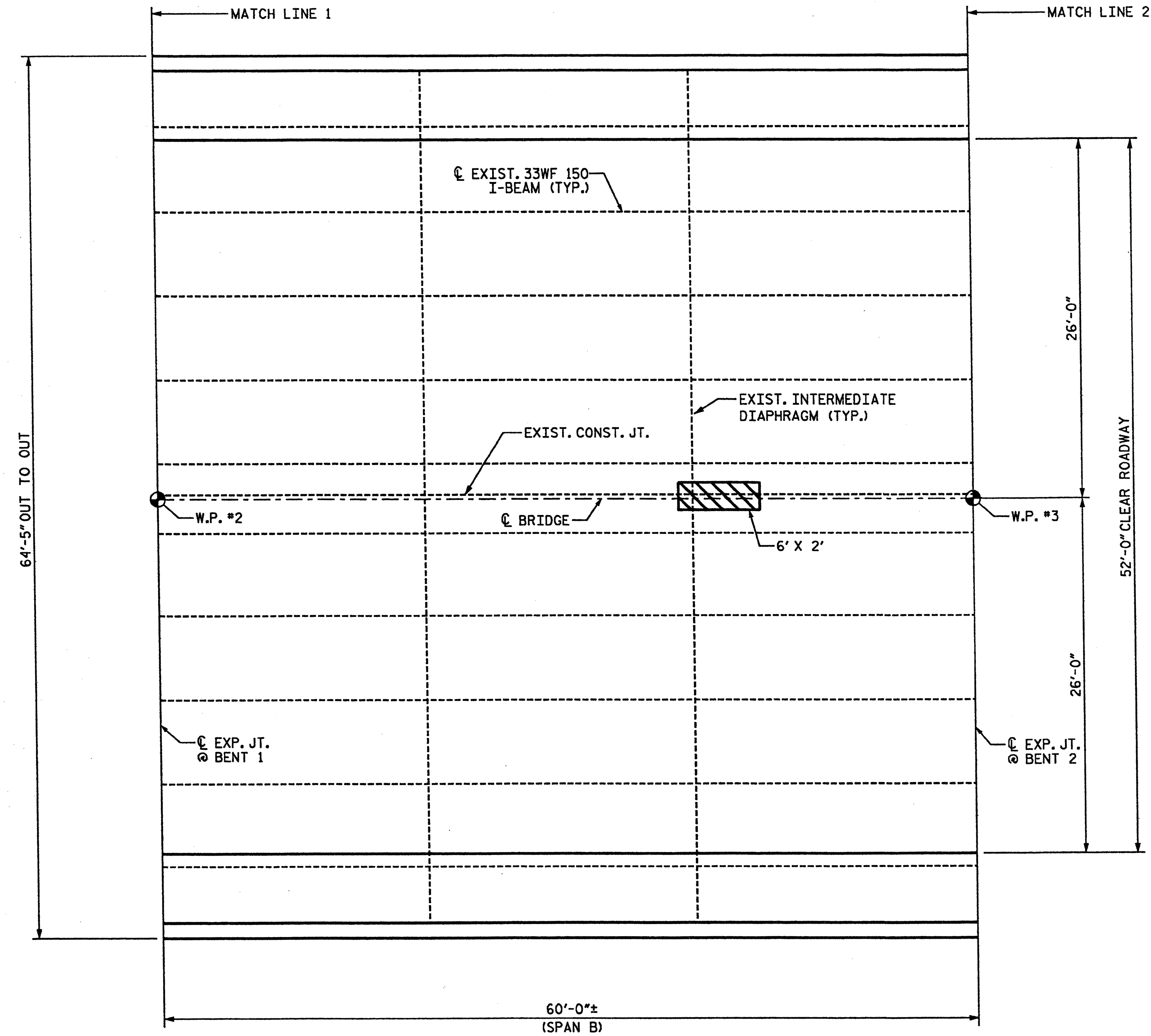
SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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 ALL PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.



PLAN OF SPAN B - DECK REPAIRS

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

L X W = LENGTH OF AREA PARALLEL TO CENT. BRIDGE X WIDTH OF AREA PERPENDICULAR TO CENT. BRIDGE.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN B**

DECK REHAB. FOR BRIDGE NO. 14

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-28
1			3			TOTAL SHEETS
2			4			32

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 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27806
 Tel. (919) 851-6886
 Fax: (919) 851-7024
 www.stantec.com
 License No. F-0972

DRAWN BY : K R TYLER DATE : 12/11
 CHECKED BY : J T KELVINGTON DATE : 12/11

J. Kelvington
 12/12

WBS 17BP.14.P.5 Graham & Cherokee Co Cherokee 14\Drawing\BPI4_RepairPlan3.dgn 1/21/2012 2:59:19 PM blacton

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

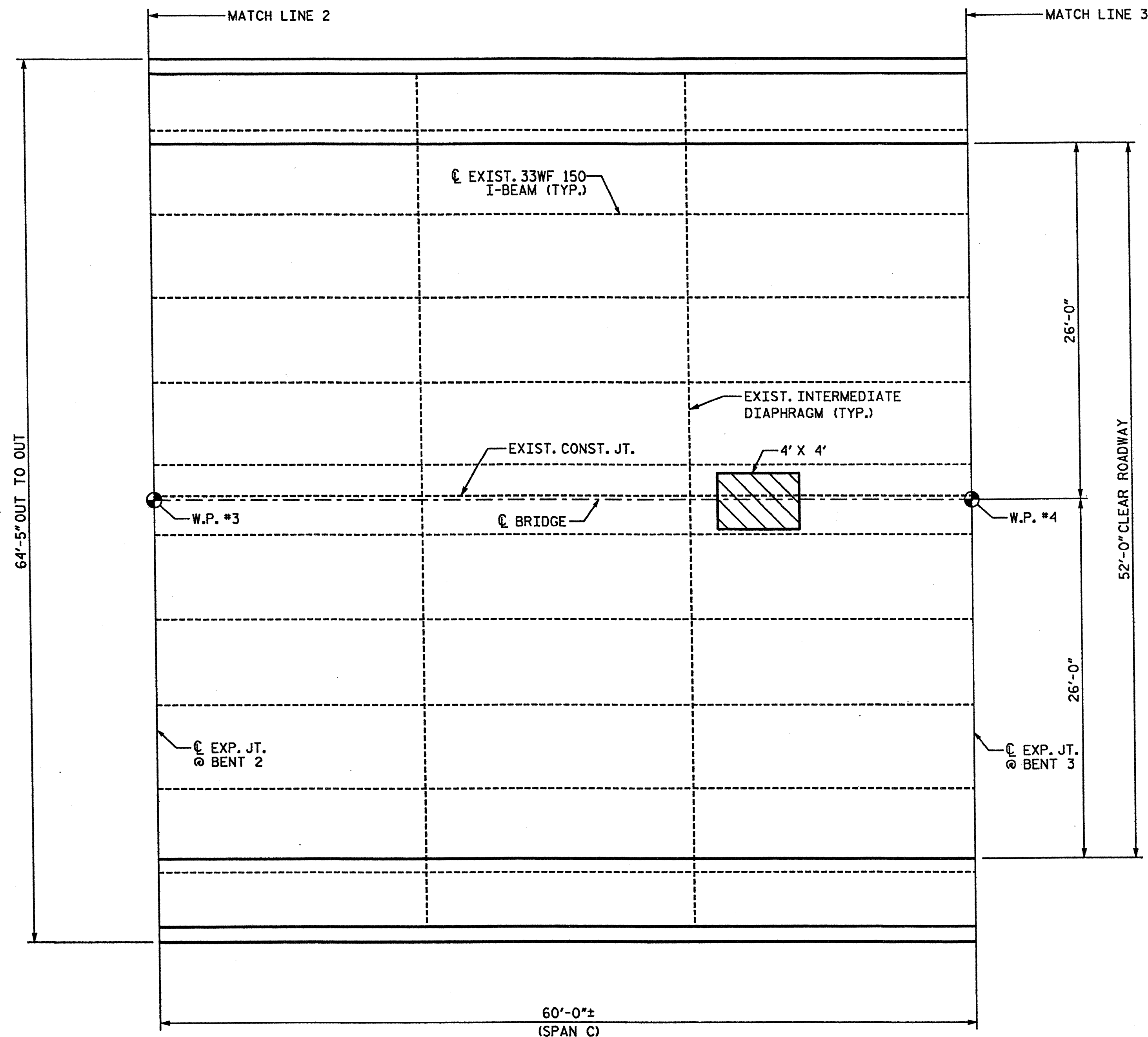
SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.

CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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 ALL PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.

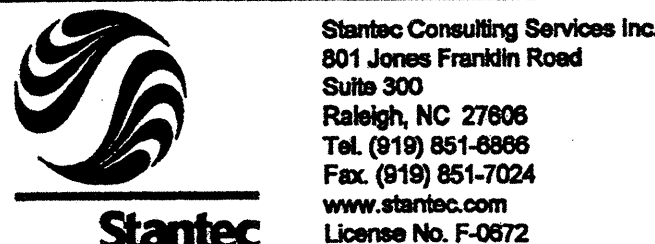


PLAN OF SPAN C - DECK REPAIRS

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

L X W = LENGTH OF AREA PARALLEL TO $\text{\textcircled{C}}$ BRIDGE X
WIDTH OF AREA PERPENDICULAR TO $\text{\textcircled{C}}$ BRIDGE.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____



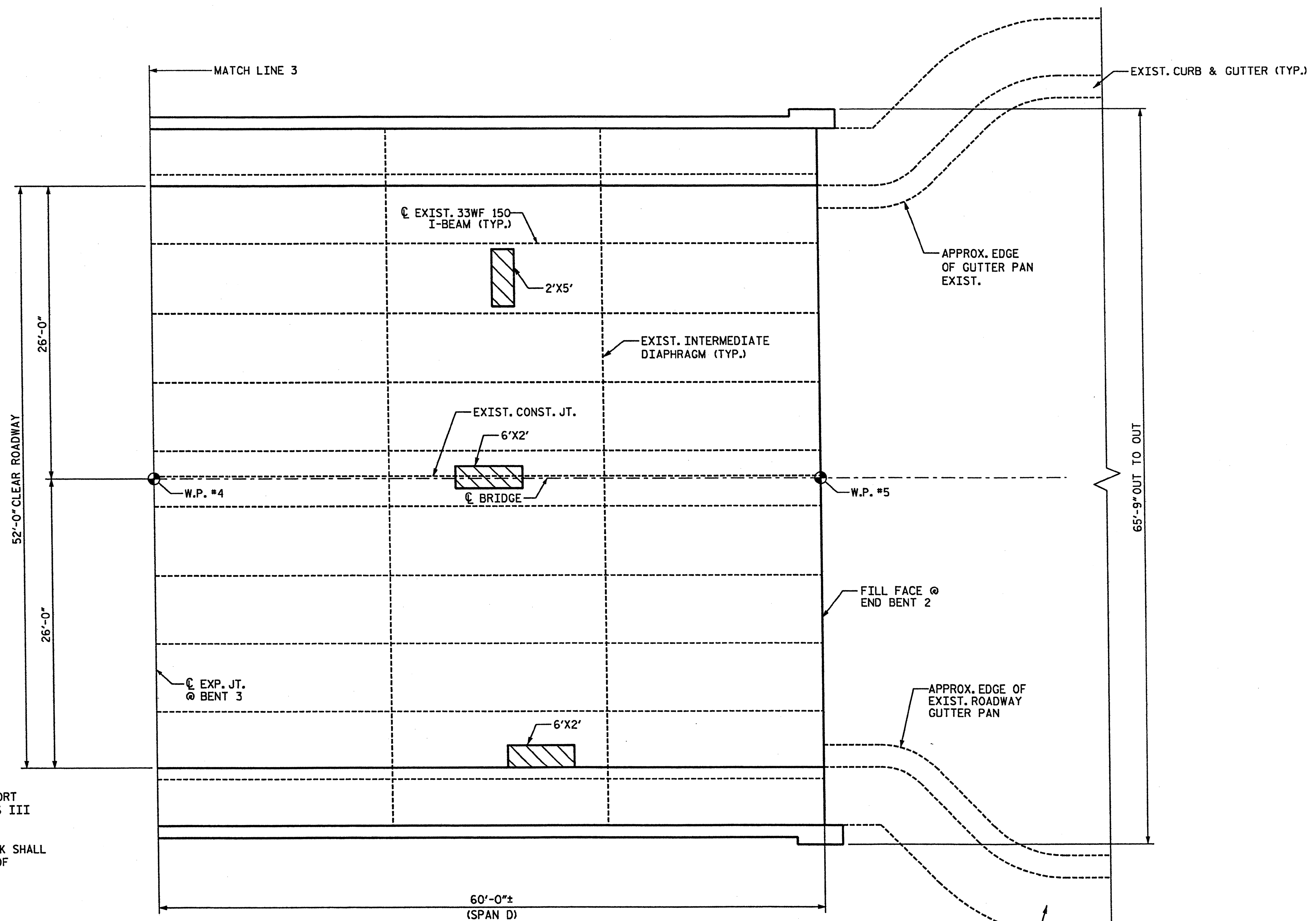
Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-8866
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0572

DRAWN BY : K R TYLER DATE : 12/11
 CHECKED BY : J T KELVINGTON DATE : 12/11

J. Kelvington
 1/21/2012

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DECK REPAIR DETAILS SPAN C					
DECK REHAB. FOR BRIDGE NO. 14					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-29					TOTAL SHEETS 32

2/2/2012 2:59:20 PM b1arion \\WBS\17BP.14.P.5\Graham & Cherokee Co\Cherokee\14\Drawing\BIP4_Repair\Plan.dgn



NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.

SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.


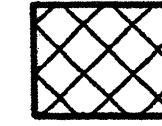
CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.

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 ALL PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

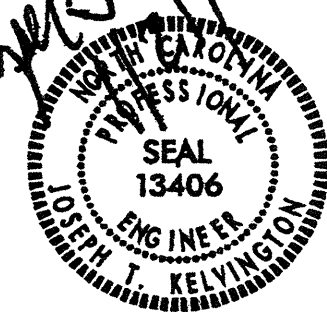
CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT.

PLAN OF SPAN D - DECK REPAIRS

-  CLASS II SURFACE PREPARATION
-  CLASS III SURFACE PREPARATION

L X W = LENGTH OF AREA PARALLEL TO $\text{\textcircled{C}}$ BRIDGE X WIDTH OF AREA PERPENDICULAR TO $\text{\textcircled{C}}$ BRIDGE.

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

James D. Kelvington
 12/12/2012



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DECK REPAIR DETAILS
 SPAN D

DECK REHAB. FOR BRIDGE NO. 14

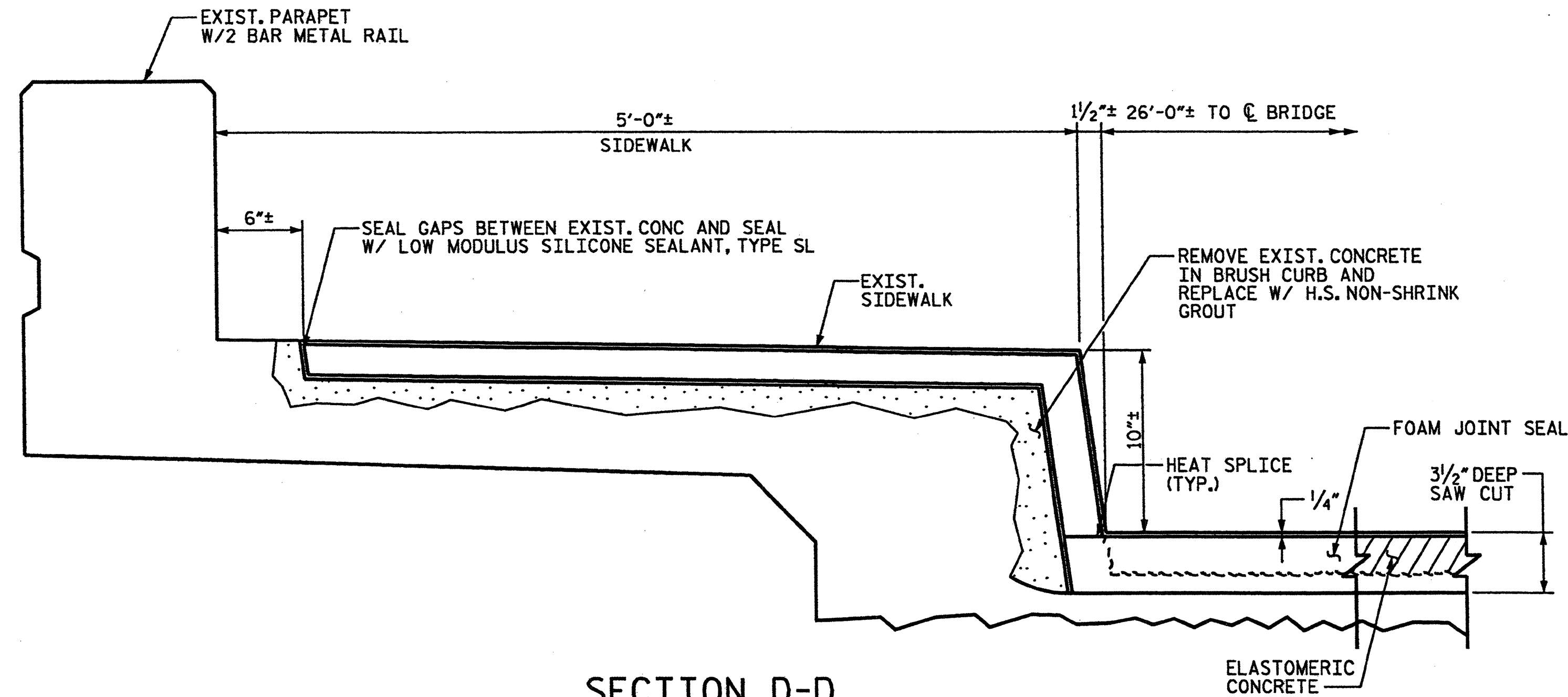
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 32



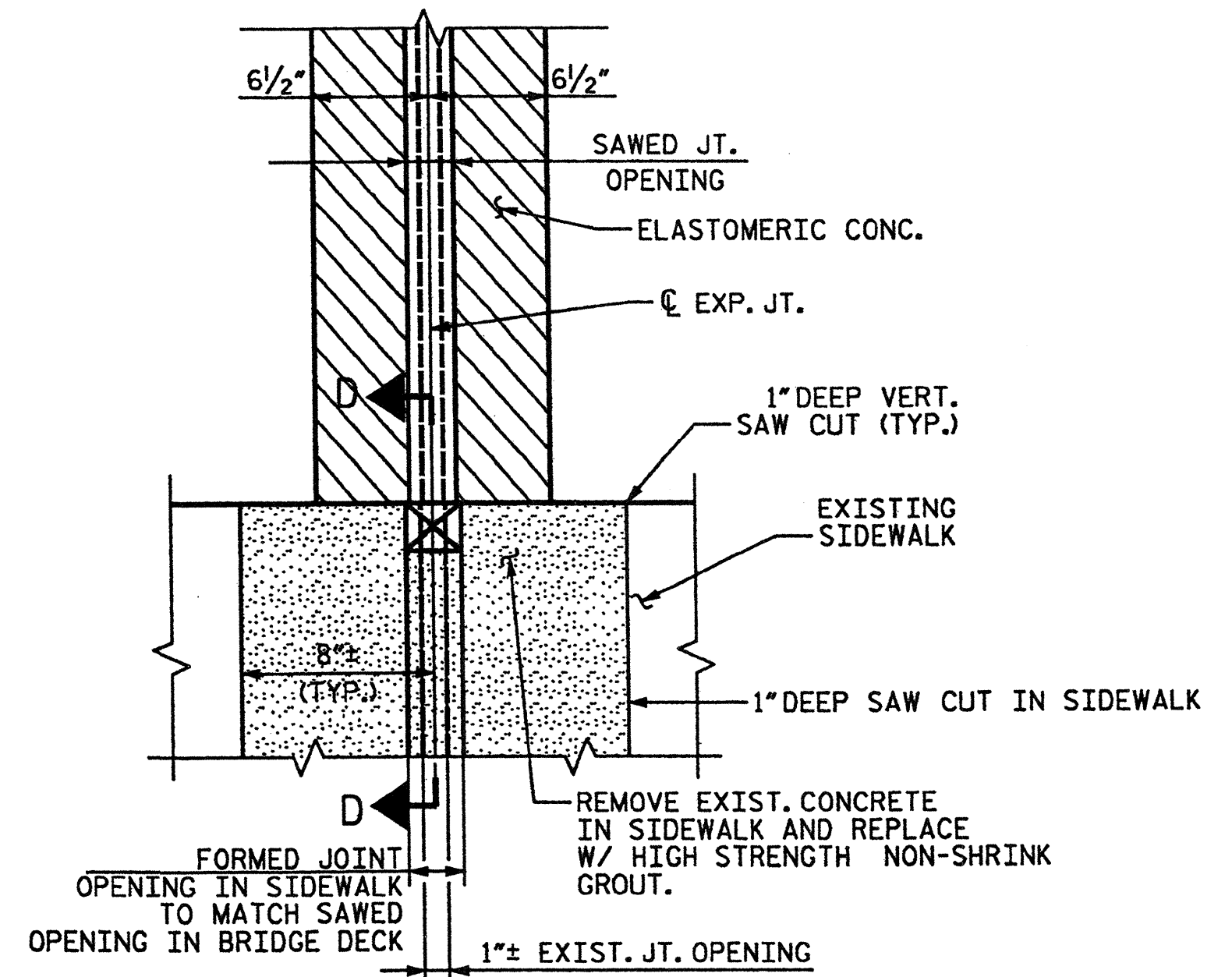
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 Fax. (919) 851-7024
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DRAWN BY : K R TYLER DATE : 12/11
 CHECKED BY : J I KELVINGTON DATE : 12/11



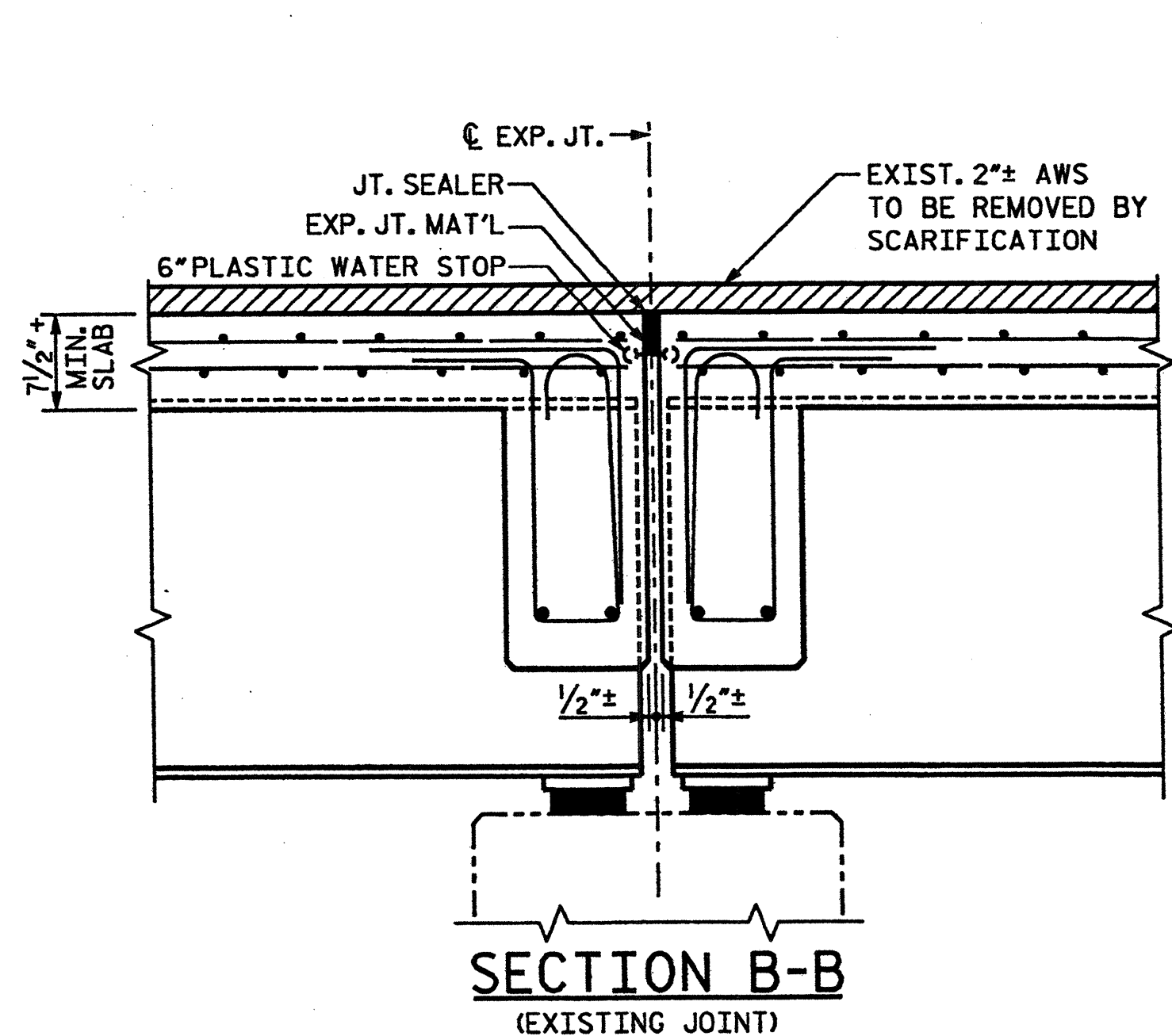
SECTION D-D

CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.
 FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISION "GROUT FOR STRUCTURES".
 HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.



PARTIAL PLAN @ JOINT

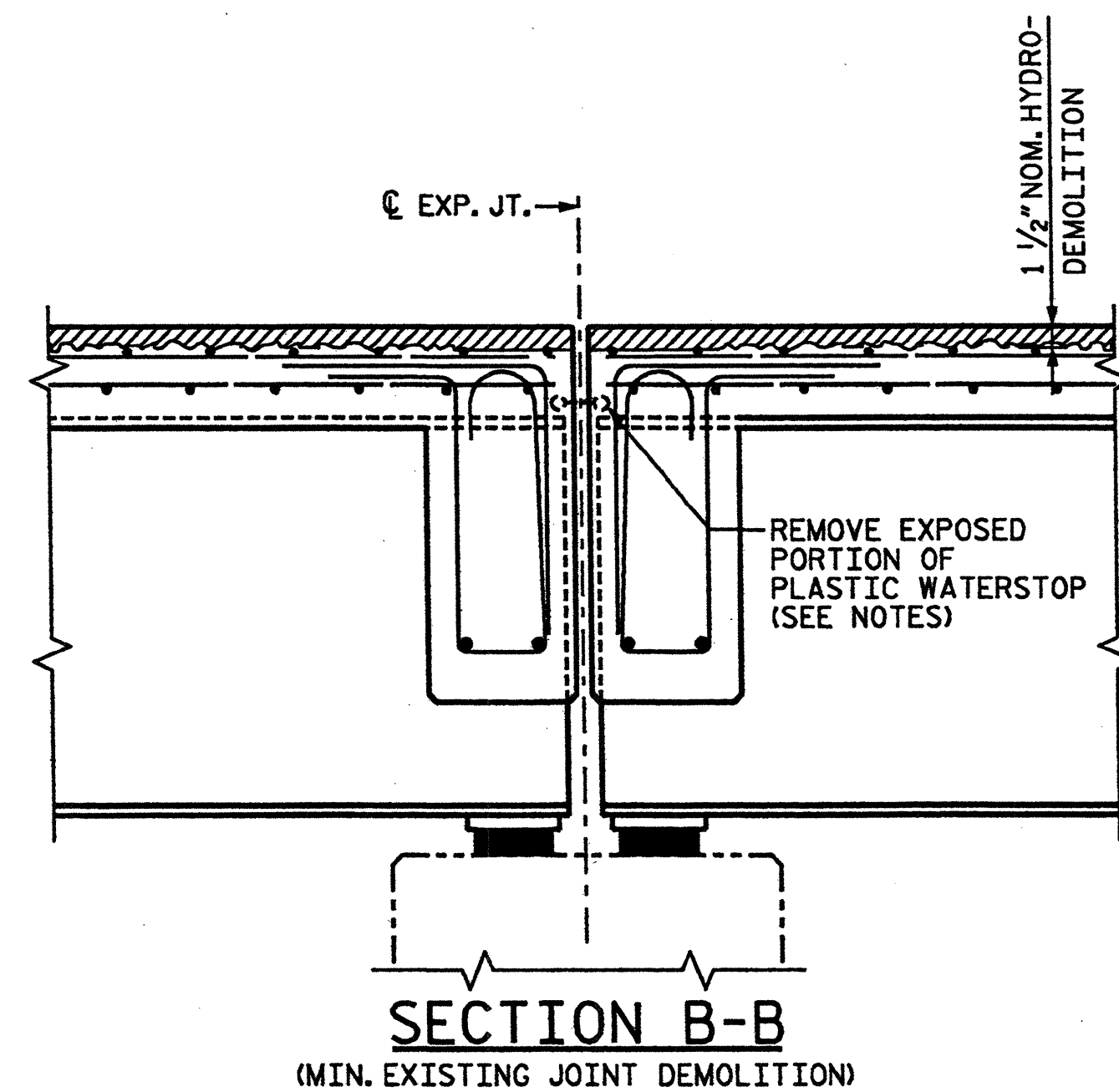
(TYPICAL AT BENTS 1-3)



SECTION B-B

(EXISTING JOINT)

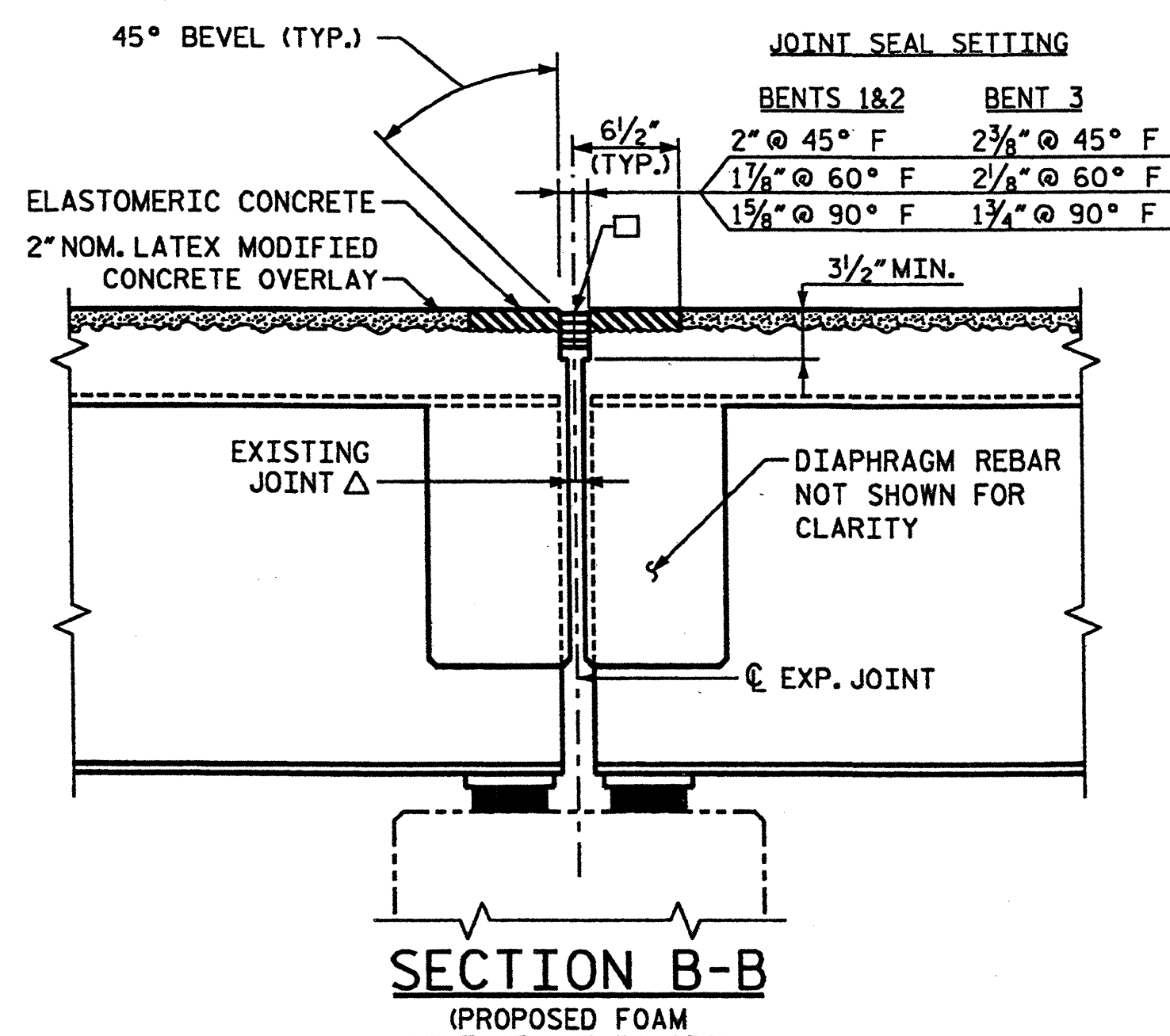
ALL EXIST. JT. DETAILS ARE ASSUMED.



SECTION B-B

(MIN. EXISTING JOINT DEMOLITION)

- NOTES:
 1. ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.
 2. RETAIN ALL EXIST. REINF. STEEL CLEAN AND REPAIR AS REQUIRED.



SECTION B-B

(PROPOSED FOAM JOINT SEAL EXPANSION)

- USE 2.8125" X 2.5" UNCOMPRESSED FOAM JT. SEAL MATERIAL FOR BENTS 1 THRU 3.
 △ EXISTING 1" FORMED OPENING

ELASTOMERIC CONCRETE	
LOCATION	QTY
BENT 1	8.7 C.F.
BENT 2	8.7 C.F.
BENT 3	8.7 C.F.

TOTAL ELASTOMERIC CONC. = 26.1 C.F.
 TOTAL ELASTOMERIC CONC. = 1.0 C.Y.

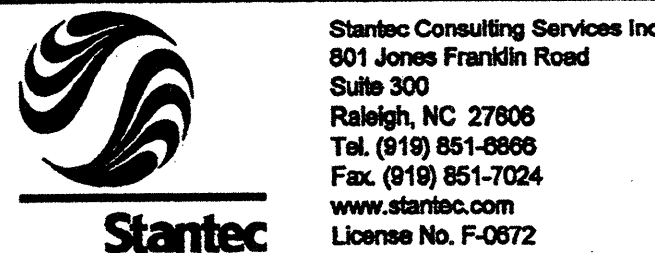
PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

INTERIOR BENT JOINT SEAL DETAILS

DECK REHAB. FOR BRIDGE NO. 14

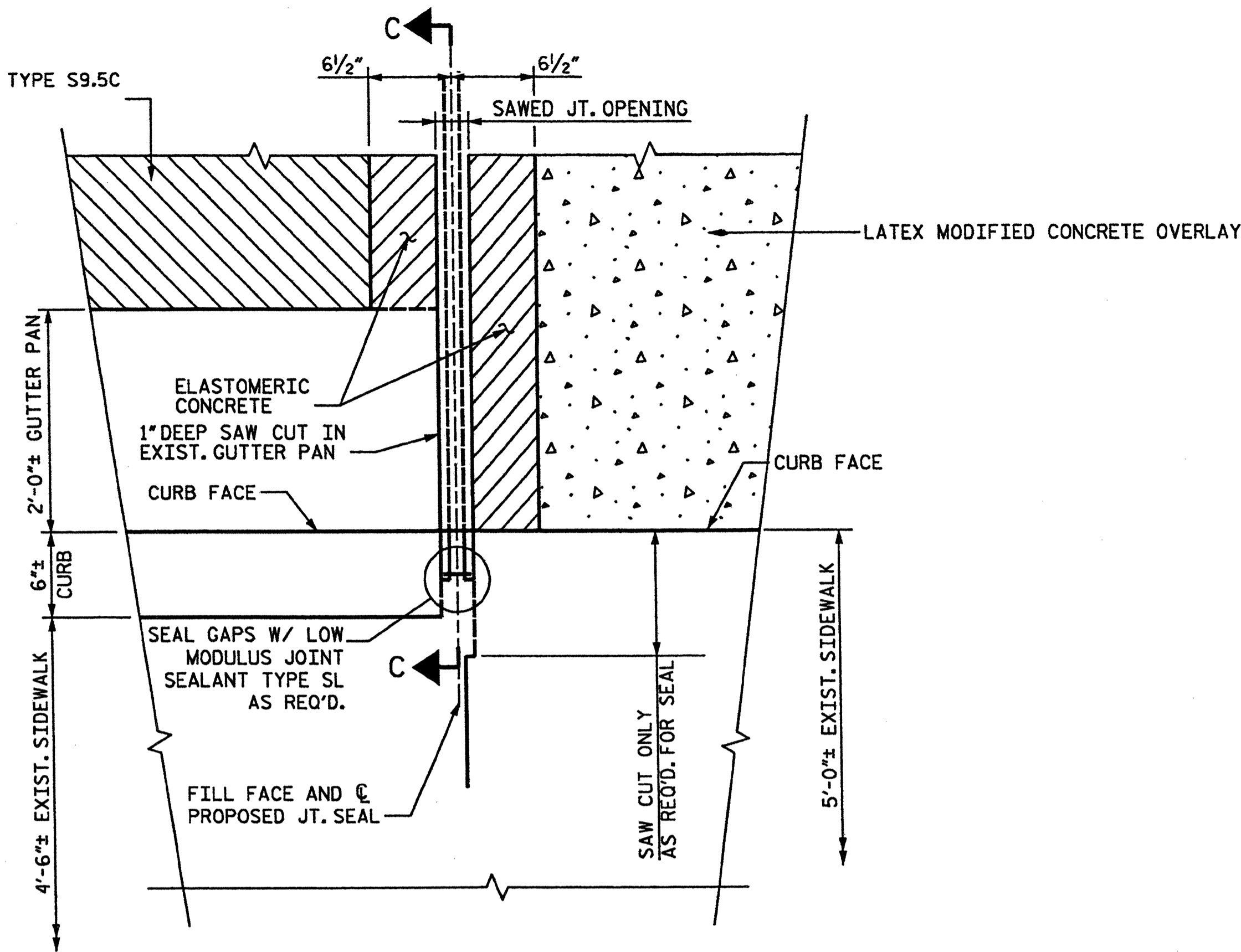
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-31	
1			3			TOTAL SHEETS	
2			4			32	



DRAWN BY : K R TYLER DATE : 12/11
 CHECKED BY : J T KELVINGTON DATE : 12/11

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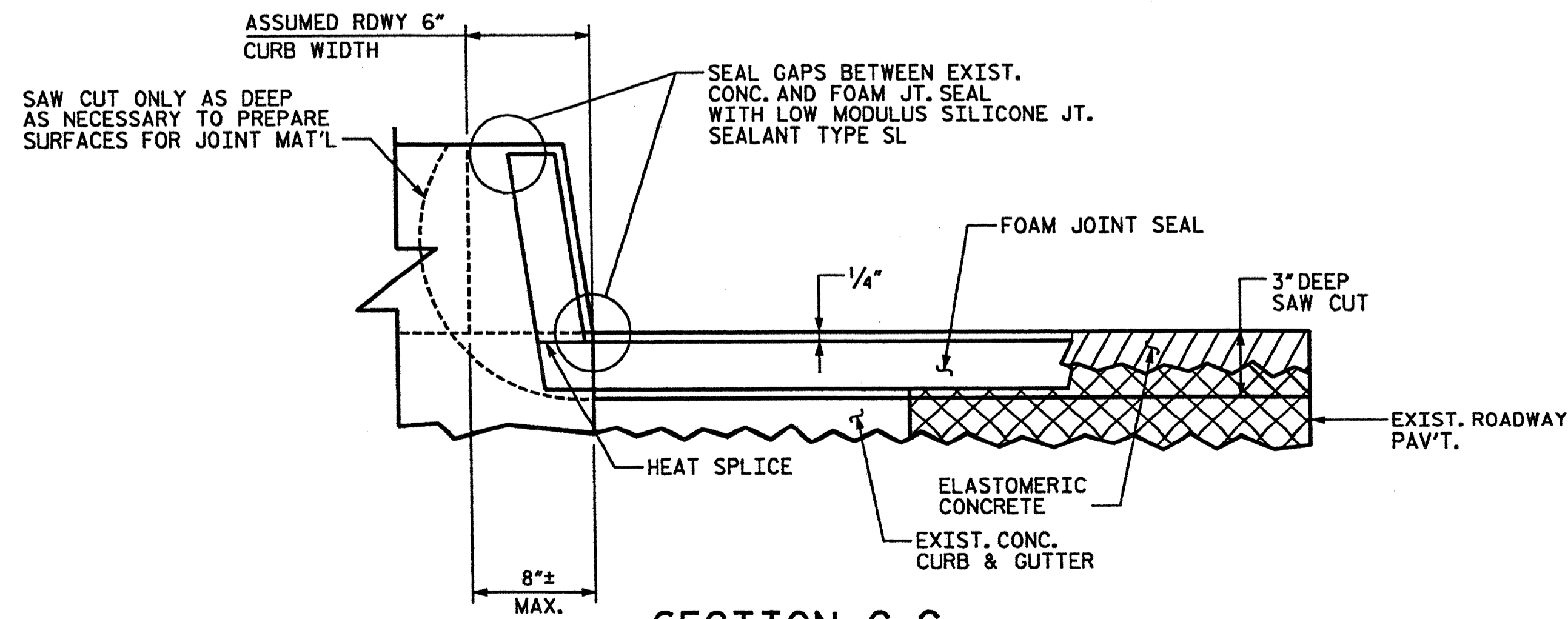
ASPHALT CONC. WEARING SURFACE TYPE S9.5C
SEE ROADWAY SHT. RDY-3.



PARTIAL PLAN @ END BENT 1
(END BENT 2 SIMILAR)

ELASTOMERIC CONCRETE	
LOCATION	QTY
END BENT 1	8.7 C.F.
END BENT 2	8.7 C.F.

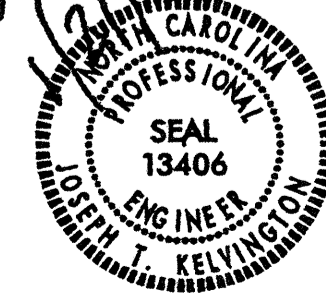
TOTAL ELASTOMERIC CONC. = 17.4 C.F.
TOTAL ELASTOMERIC CONC. = 0.6 C.Y.



SECTION C-C

PROJECT NO. WBS 17BP.14.P.5
CHEROKEE COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**END BENT
JOINT SEAL DETAILS**
DECK REHAB. FOR BRIDGE NO. 14



REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

TOTAL SHEETS: 32

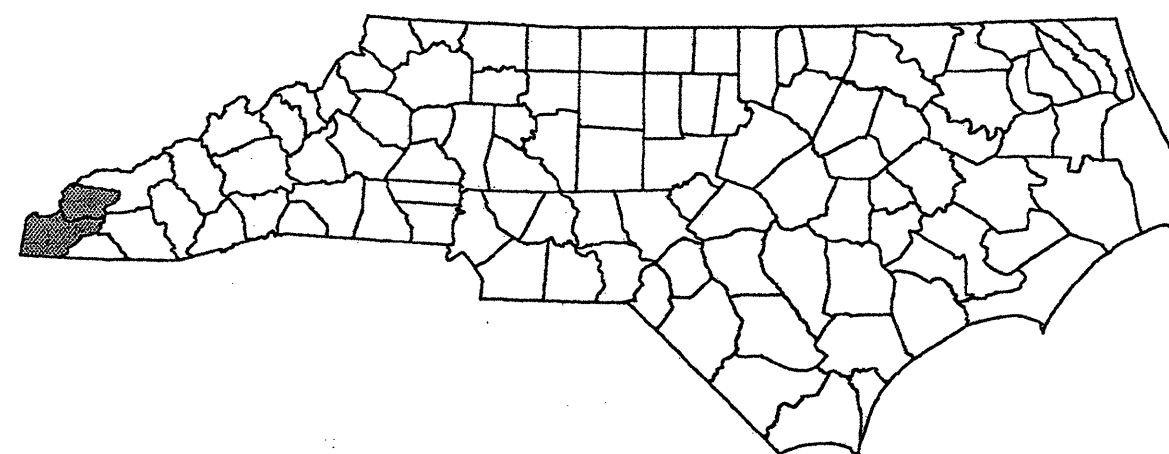
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DRAWN BY: K R TYLER DATE: 12/11
CHECKED BY: J T KELVINGTON DATE: 12/11

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN
CHEROKEE & GRAHAM COUNTIES

DIVISION 14

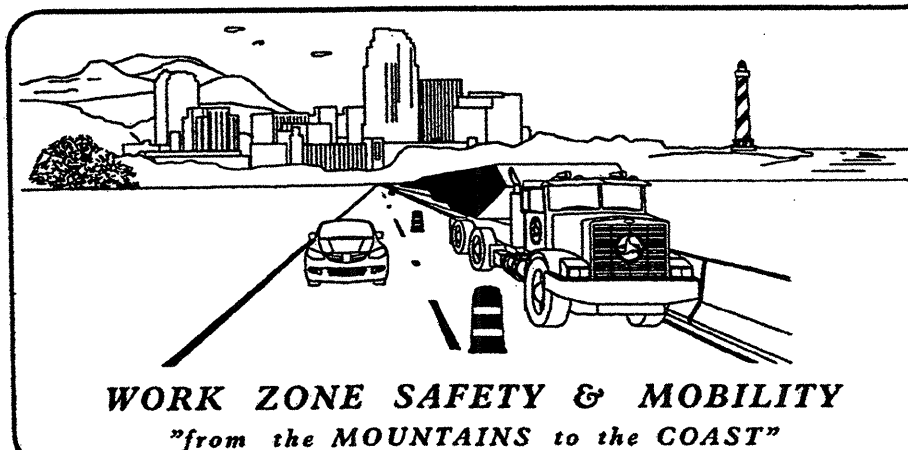


BRIDGE PRESERVATION

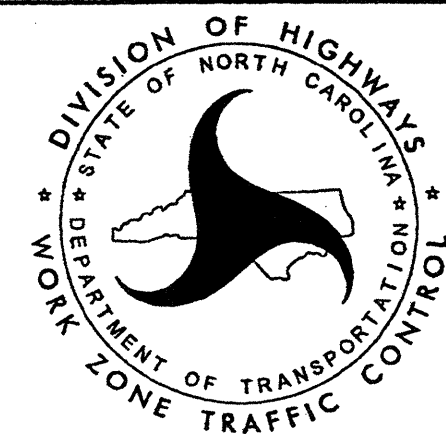
CHEROKEE #13 – US 129 OVER RAILROAD

CHEROKEE #14 – US 19B (HIAWASSEE ST.) OVER HIAWASSEE RIVER

GRAHAM #8 – US 129 OVER CHEOAH RIVER



PLAN PREPARED FOR NCDOT BRIDGE MANAGEMENT UNIT
RALEIGH, NC



SHEET NO.
TMP-1

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-2	LEGEND AND LIST OF ROADWAY STANDARD DRAWINGS
TMP-3	GENERAL NOTES & PHASING
TMP-4	CHEROKEE #13-US 129 NB WORK AREA
TMP-5	CHEROKEE #13-US 129 SB WORK AREA
TMP-6	CHEROKEE #13-US 19/US 74 EB WORK AREA
TMP-7	CHEROKEE #14-US 19 BUS NB RT LANE WORK AREA
TMP-8	CHEROKEE #14-US 19 BUS SB RT LANE WORK AREA
TMP-9,9A	CHEROKEE #14-US 19 BUS NB/SB LEFT CENTER LANE WORK AREAS

TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE REPAIRS WILL BE PERFORMED USING TIME RESTRICTED LANE CLOSURES.

WBS 17BP.14.P.5

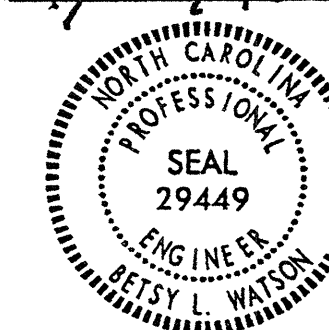


PLAN PREPARED BY:
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Raleigh, NC 27606
Tel. 919.851.6866
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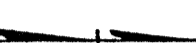









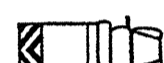






BETSY L. WATSON, P.E. *TRAFFIC ENGINEER*
GEORGE KARAGEORGE *SR TRANSPORTATION DESIGNER*

APPROVED: *Betsy L. Watson*
DATE: 1/19/12

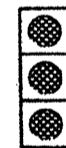


SEAL



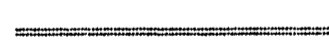


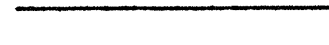
LEGEND

-  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
-  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

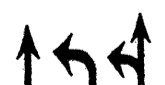


SIGNALS

-  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)
-  PAVEMENT MARKING ALPHANUMERIC CHARACTERS

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

ROADWAY STANDARD DRAWINGS

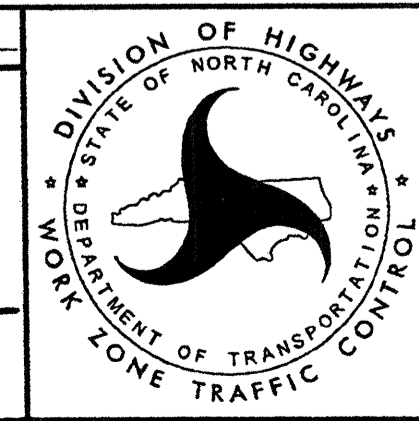
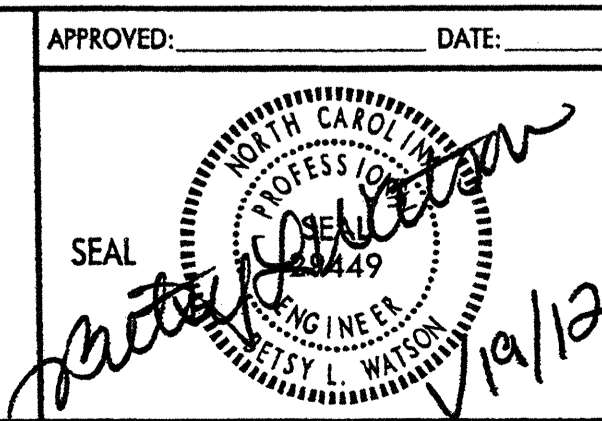
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.01	WORK ZONE 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
1135.01	CONES
1150.01	FLAGGING DEVICES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - (PERMANENT AND TEMPORARY)
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE

I:\18\2012\17BP.14.P.5\TrafficControl\TCP\WBS\17BP.14.P.5\Graham Chrokee Preservation\TCP\Plan Sheets\17BP.14.P.5_TC_TMP_02_ROWYSTDSLEGEND.dgn



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LEGEND
&
ROADWAY STANDARD DRAWINGS

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:

<u>ROAD NAME</u>	<u>DAY AND TIME RESTRICTIONS</u>
US 19 BUSINESS	8:00 A.M. - 6:00 P.M. MONDAY THRU FRIDAY
US 19	6:00 A.M. - 9:00 A.M. MONDAY THRU FRIDAY 4:00 P.M. - 7:00 P.M. MONDAY THRU FRIDAY
US 129	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. 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 (1101.02), 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.

FLAGGER OPERATIONS

- H) FLAGGER STATIONS SHALL BE LOCATED SUCH THAT APPROACHING TRAFFIC WILL HAVE SUFFICIENT DISTANCE TO STOP AT THE INTENDED STOPPING POINT. IF NEEDED, EXTEND THE LANE CLOSURE SUCH THAT THE FLAGGER STATION IS POSITIONED BEFORE A HORIZONTAL OR CREST VERTICAL CURVE WHERE ADEQUATE STOPPING SIGHT DISTANCE TO THE FLAGGER IS PROVIDED. REFER TO ROADWAY STANDARD DRAWING 1101.11 SHEET 2.
- I) FLAGGERS SHALL NOT STAND IN THE ROADWAY.
- J) FLAGGER STATIONS SHALL BE ILLUMINATED AT NIGHT.
- K) PLACE CHANNELIZING DEVICES FOR FLAGGER OPERATION LANE CLOSURES AT A MAXIMUM SPACING OF 20 FEET IN TAPERS AND AT A MAXIMUM SPACING OF 80 FEET ALONG THE BUFFER SPACE AND WORK AREA.
- L) ADVISE RESIDENTS AND BUSINESSES AFFECTED BY THE LANE CLOSURE ABOUT METHODS OF SAFE INGRESS AND EGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.

PAVEMENT MARKINGS AND MARKERS

- M) RECORD ALL LOCATIONS AND TYPES OF EXISTING PAVEMENT MARKINGS AS THEY WILL BE REPLACED IN THE SAME LOCATION ON THE NEW SURFACE.
- N) UPON COMPLETION OF ALL OTHER CONSTRUCTION OPERATIONS INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

<u>ROAD NAME</u>	<u>MARKING</u>	<u>PAVEMENT MARKER</u>
US 129	POLYUREA	SNOWFLOWABLE
US 19 BUSINESS	POLYUREA	SNOWFLOWABLE

MISCELLANEOUS

- O) ALL DIMENSIONS AND STATIONS IN THE TRAFFIC MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- P) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

PROJ. REFERENCE NO.	SHEET NO.
17BP.14.P.5	TMP-3

PHASING

GRAHAM #8 - US 129 OVER CHEOAH RIVER

PERFORM WORK USING FLAGGING OPERATIONS PER ROADWAY STANDARD DRAWING 1101.02 SHEET 1.

CHEROKEE #13 - US 129 OVER RAILROAD

REMOVE EXISTING CONCRETE ISLAND AND PERFORM WORK USING FLAGGING OPERATIONS AS SHOWN ON SHEETS TMP-4,5,6.

CHEROKEE #14 - US 19B (HIWASSEE ST.) OVER HIWASSEE RIVER

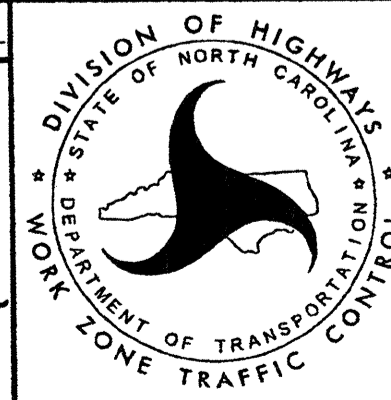
PERFORM WORK USING LANE CLOSURES AS SHOWN ON SHEETS TMP-7,8,9,9A.

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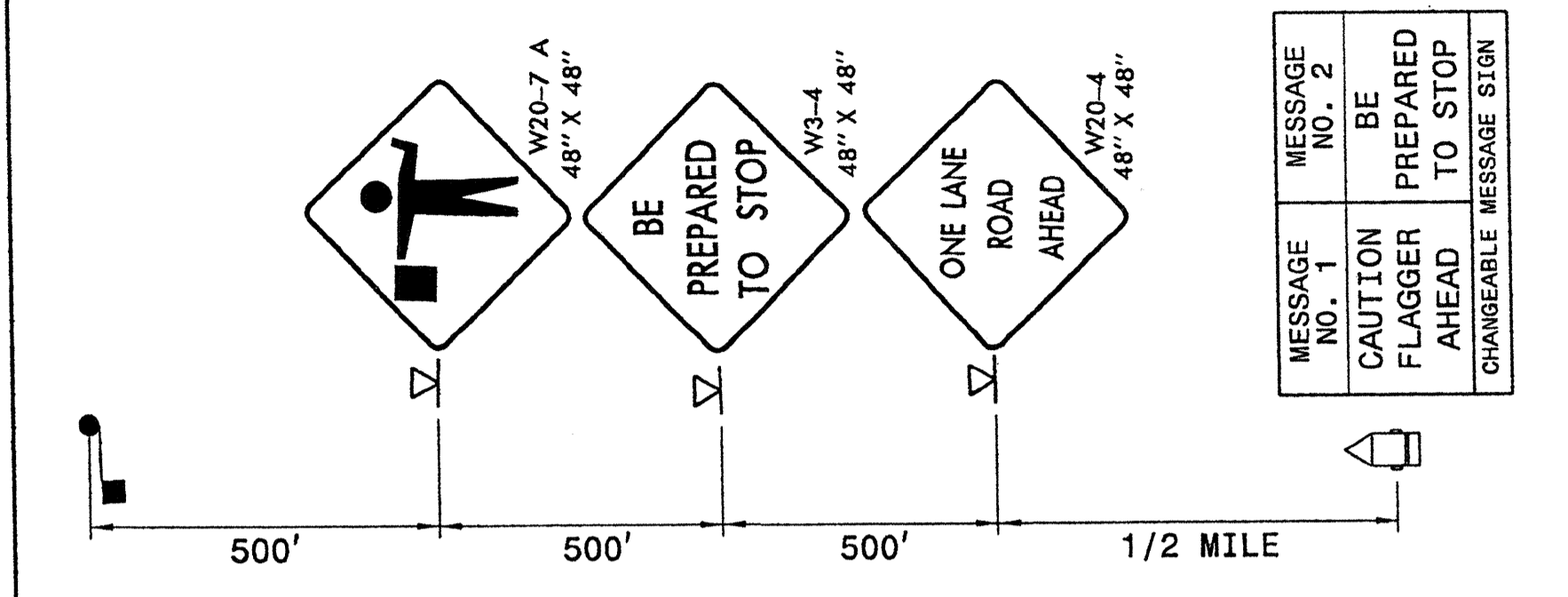
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APPROVED: _____ DATE: _____
SEAL: 1/9/12

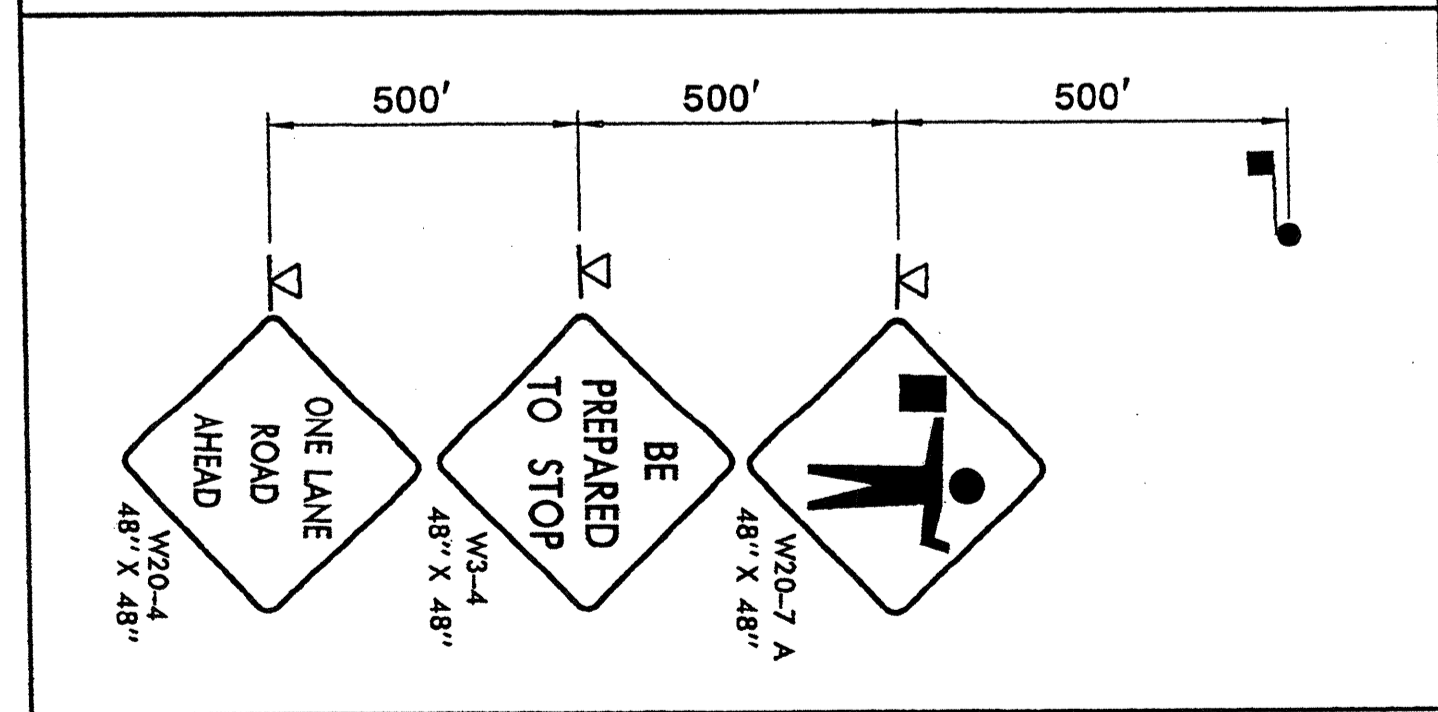


GENERAL NOTES &
PHASING

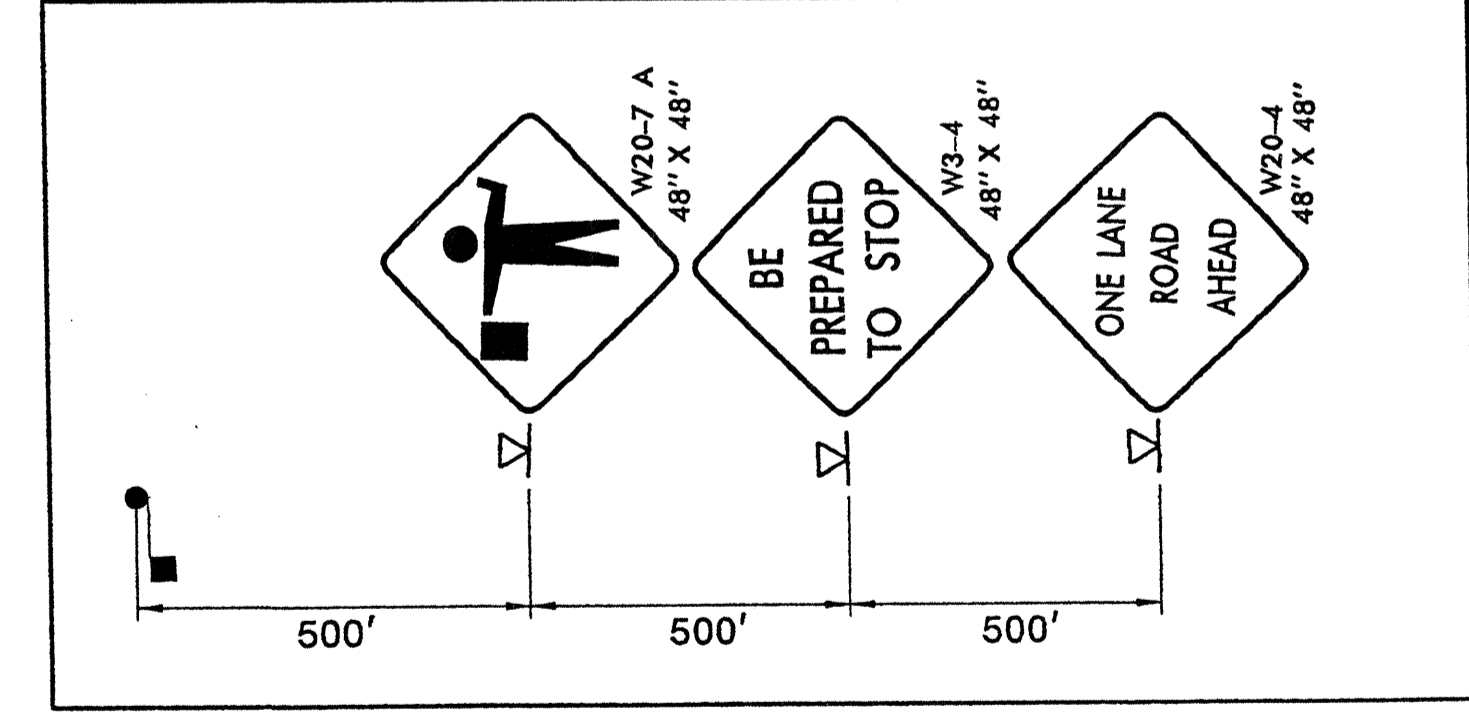
SIGNING IN ADVANCE OF FLAGGER



SIGNING IN ADVANCE OF FLAGGER



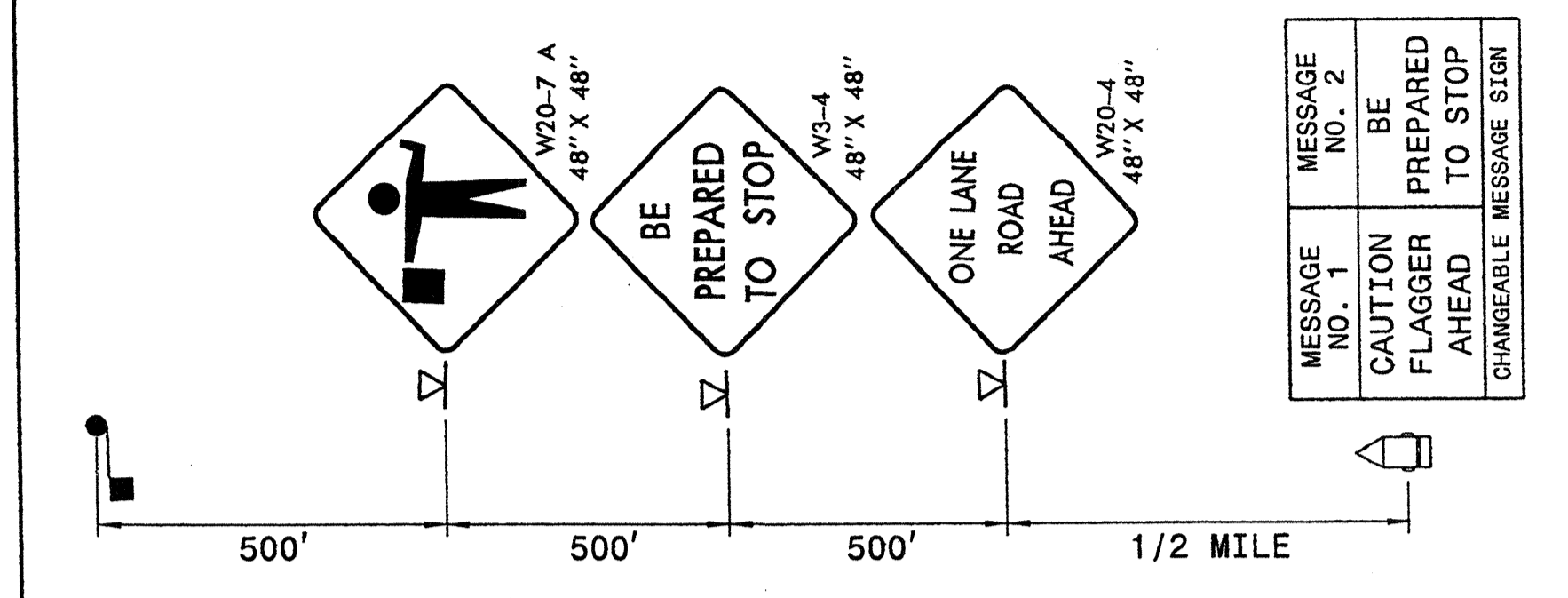
SIGNING IN ADVANCE OF FLAGGER



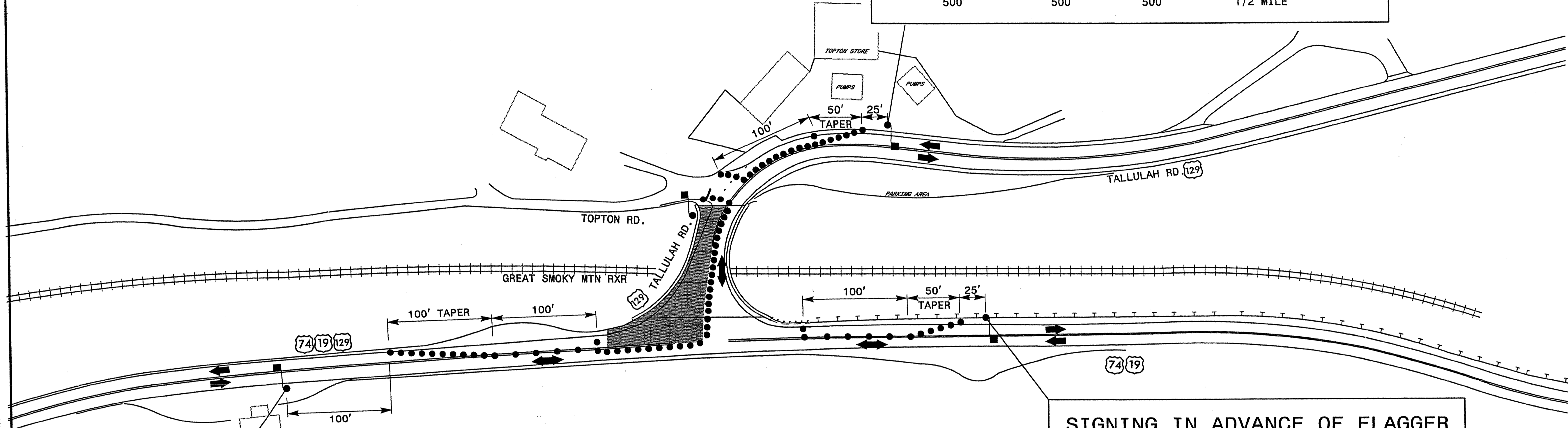
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<p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____ 		CHEROKEE CO. BRIDGE #13 US 129 NB WORK AREA

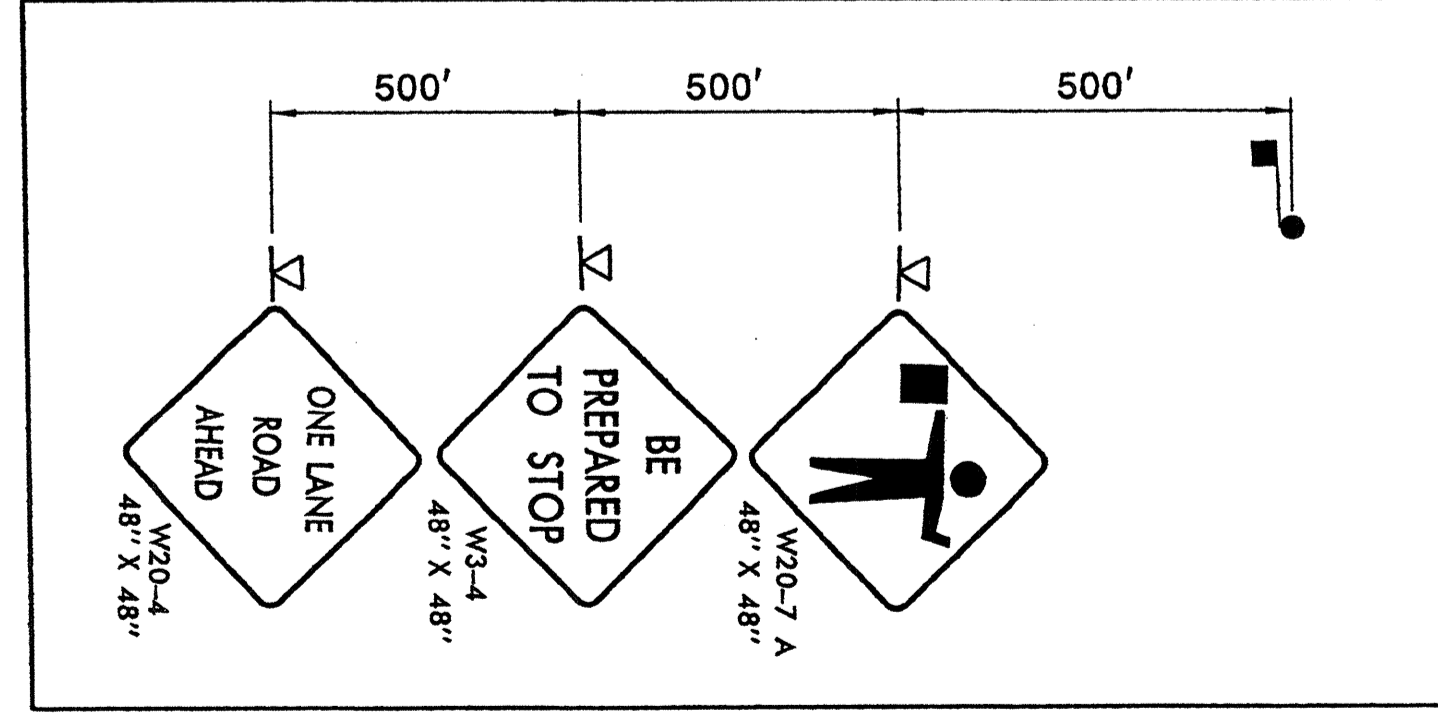
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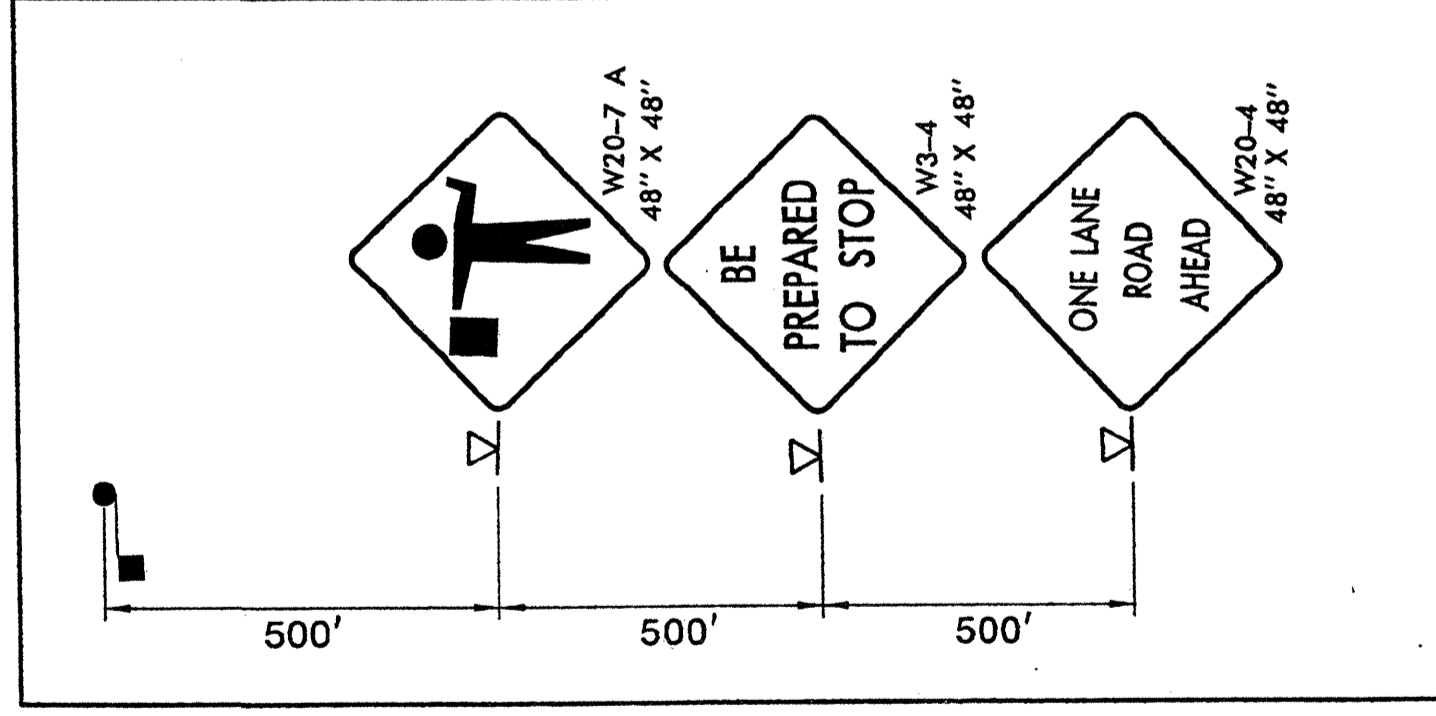
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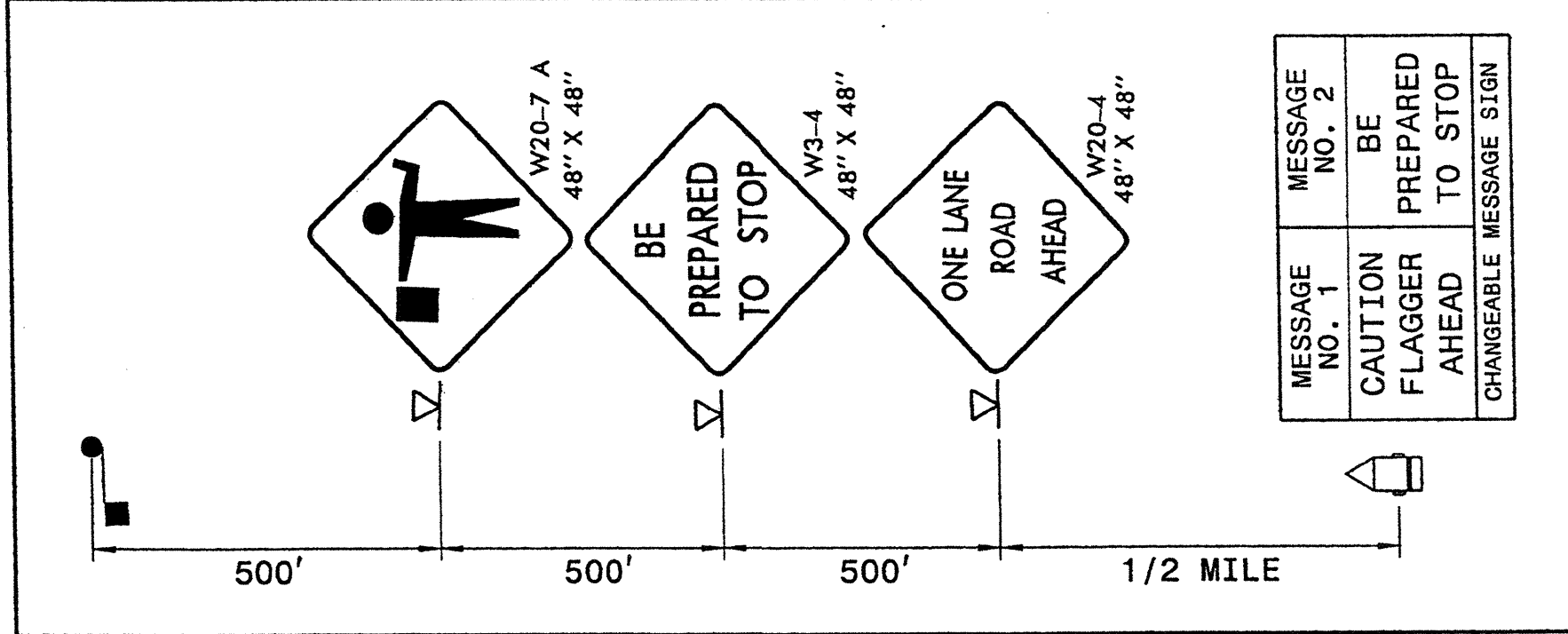


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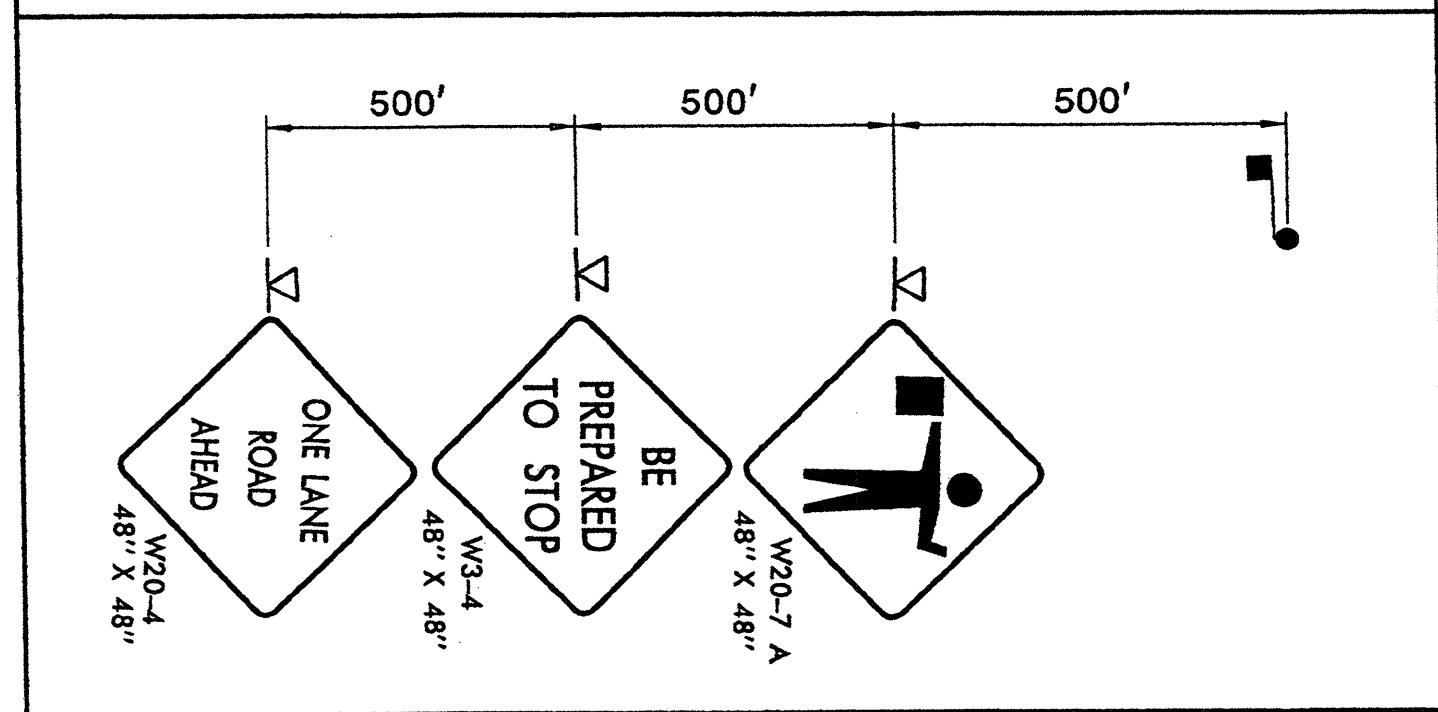


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	<p>1/19/12</p>		

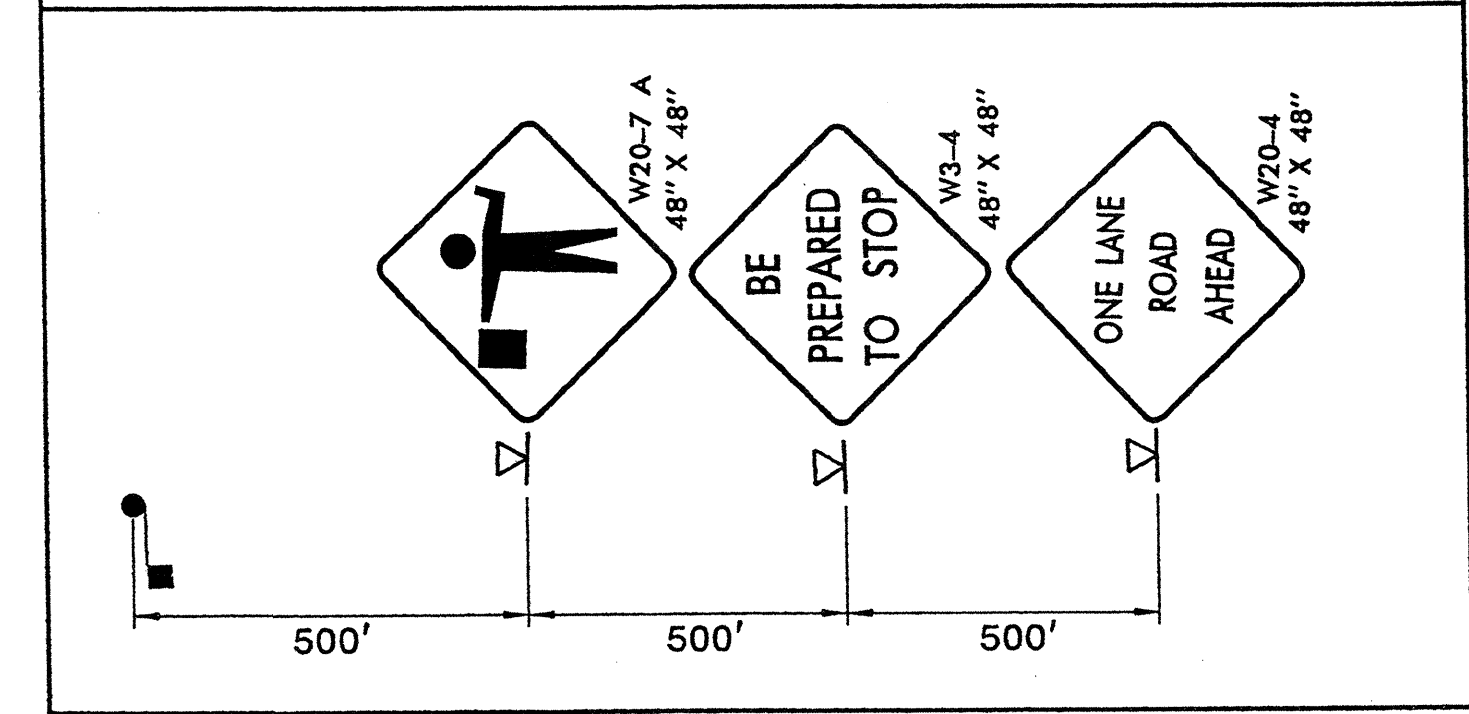
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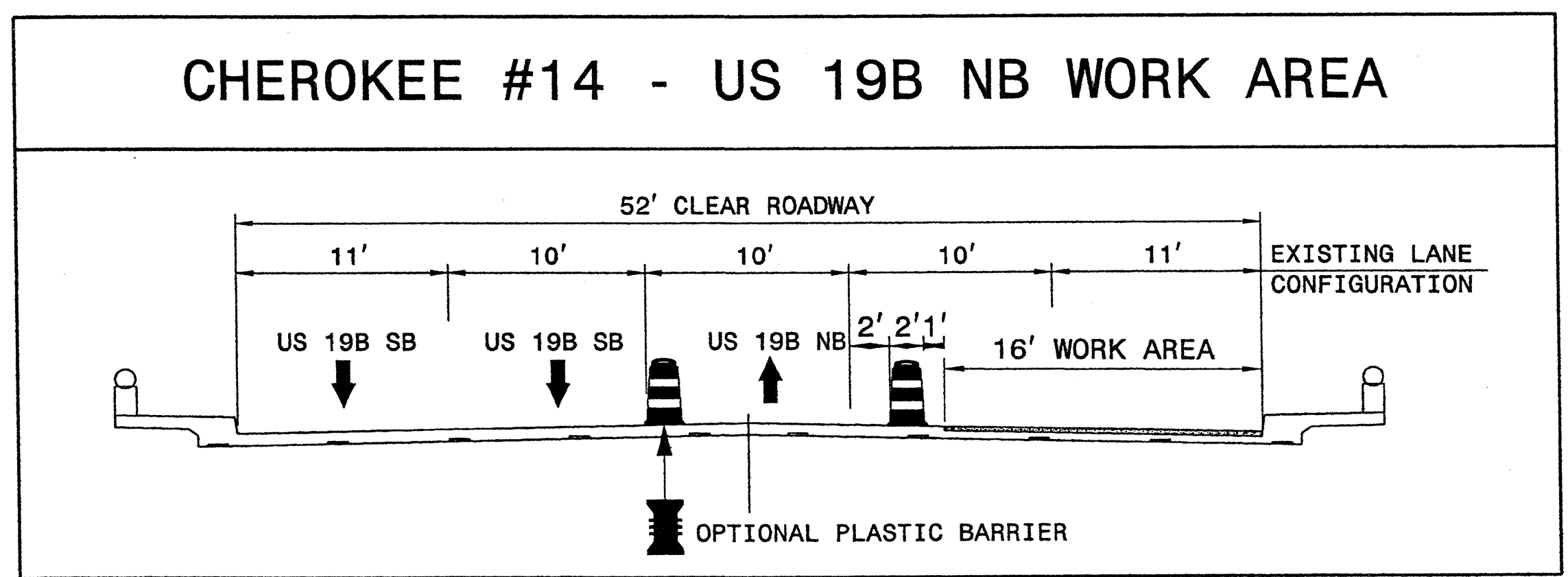
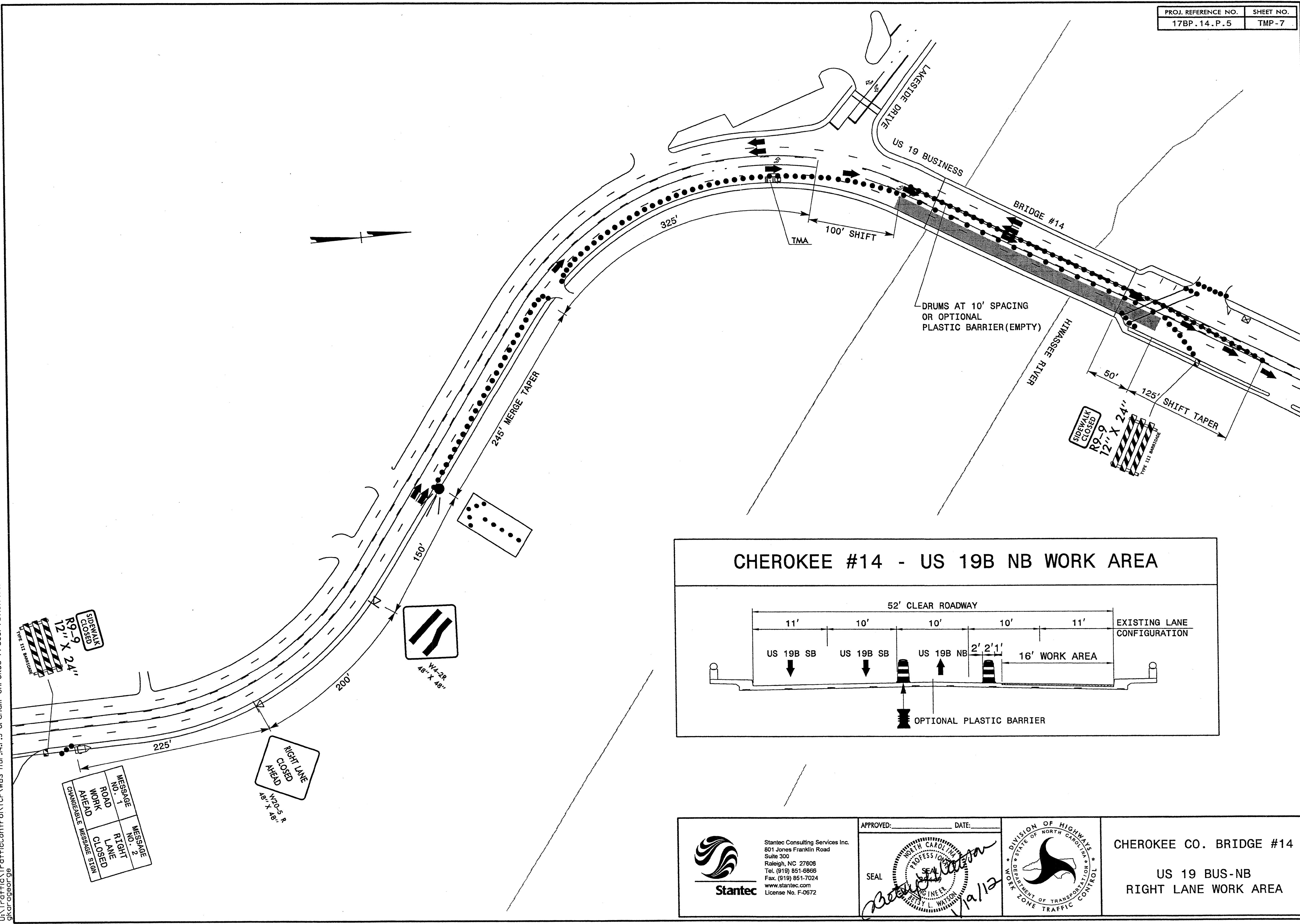
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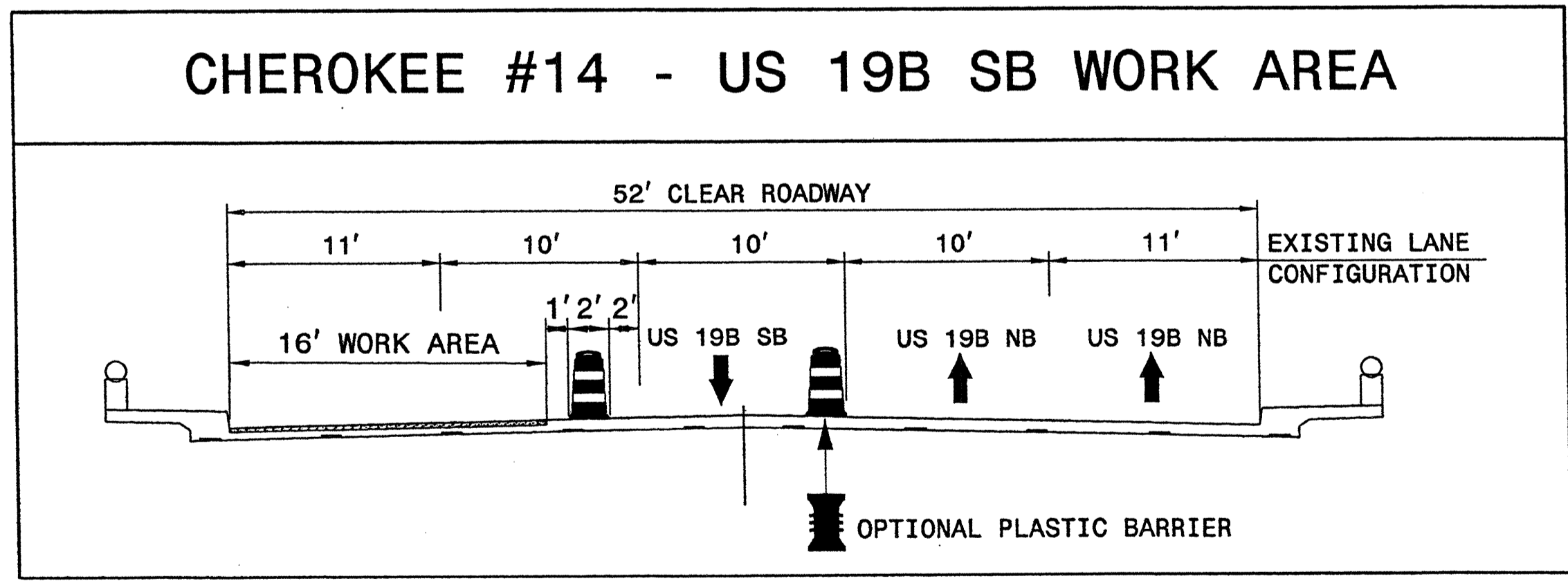
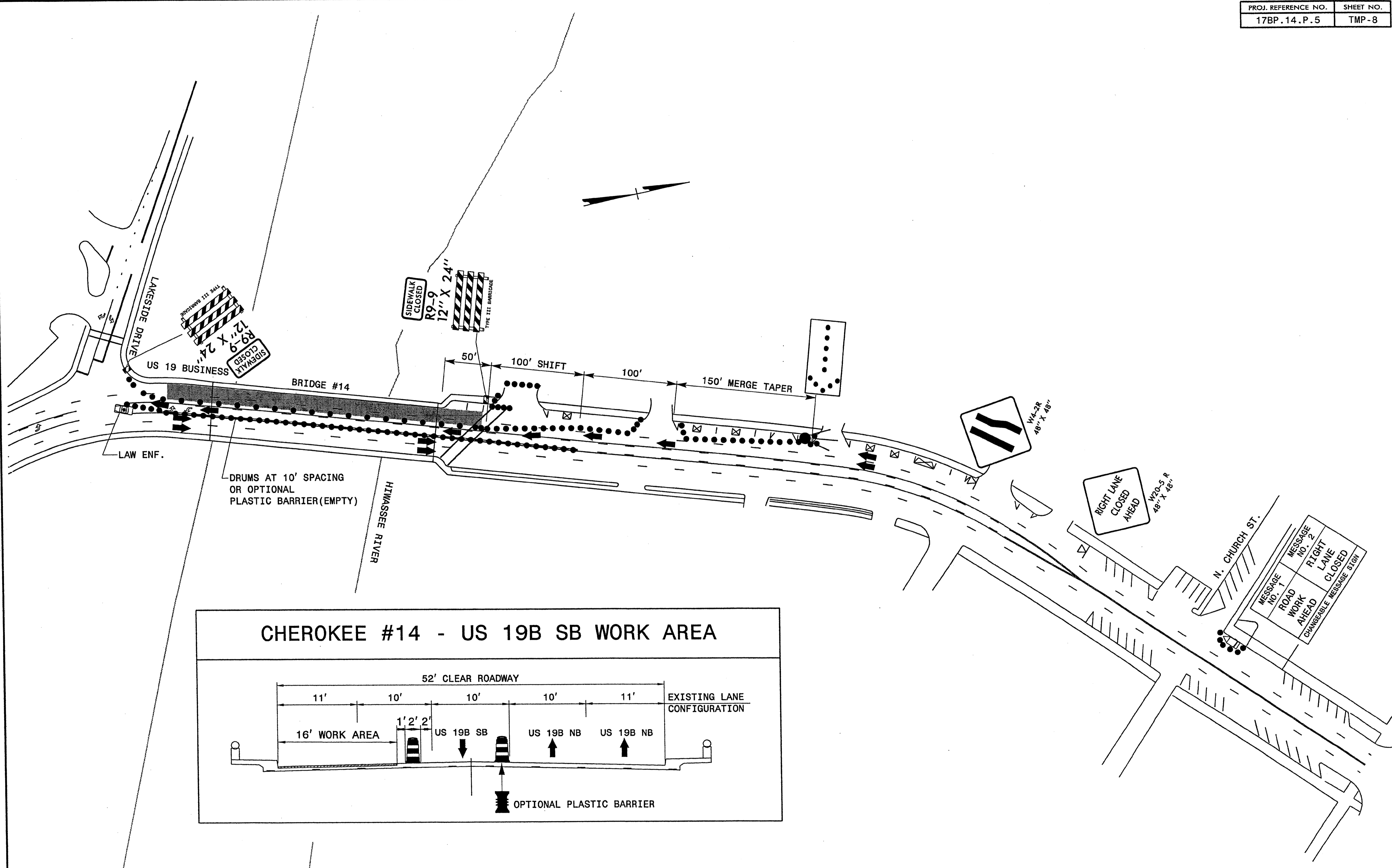
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MESSAGE NO. 1
 ROAD WORK AHEAD
 CHANGEABLE MESSAGE SIGN
 MESSAGE NO. 2
 RIGHT LANE CLOSED
 MESSAGE SIGN

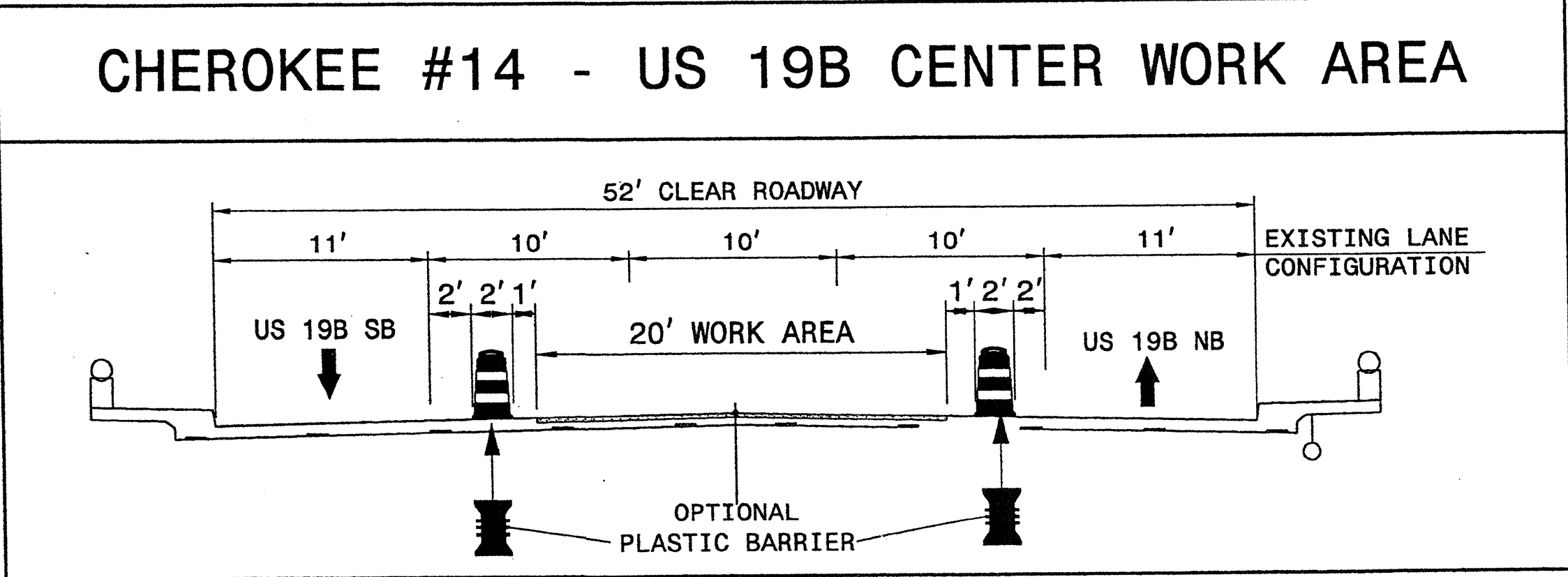
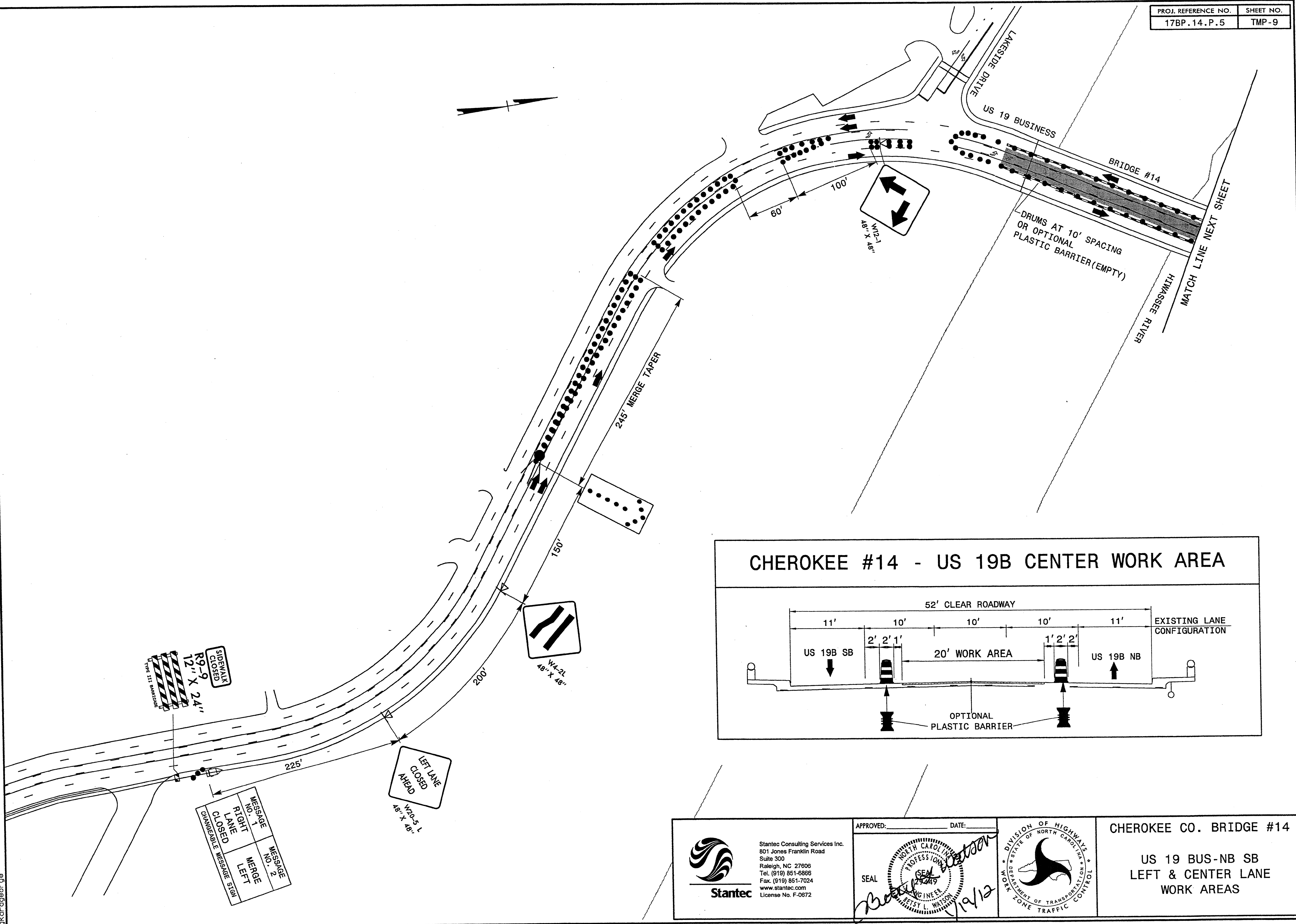
<p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27608 Tel. (919) 851-6968 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____ 		CHEROKEE CO. BRIDGE #14 US 19 BUS-NB RIGHT LANE WORK AREA

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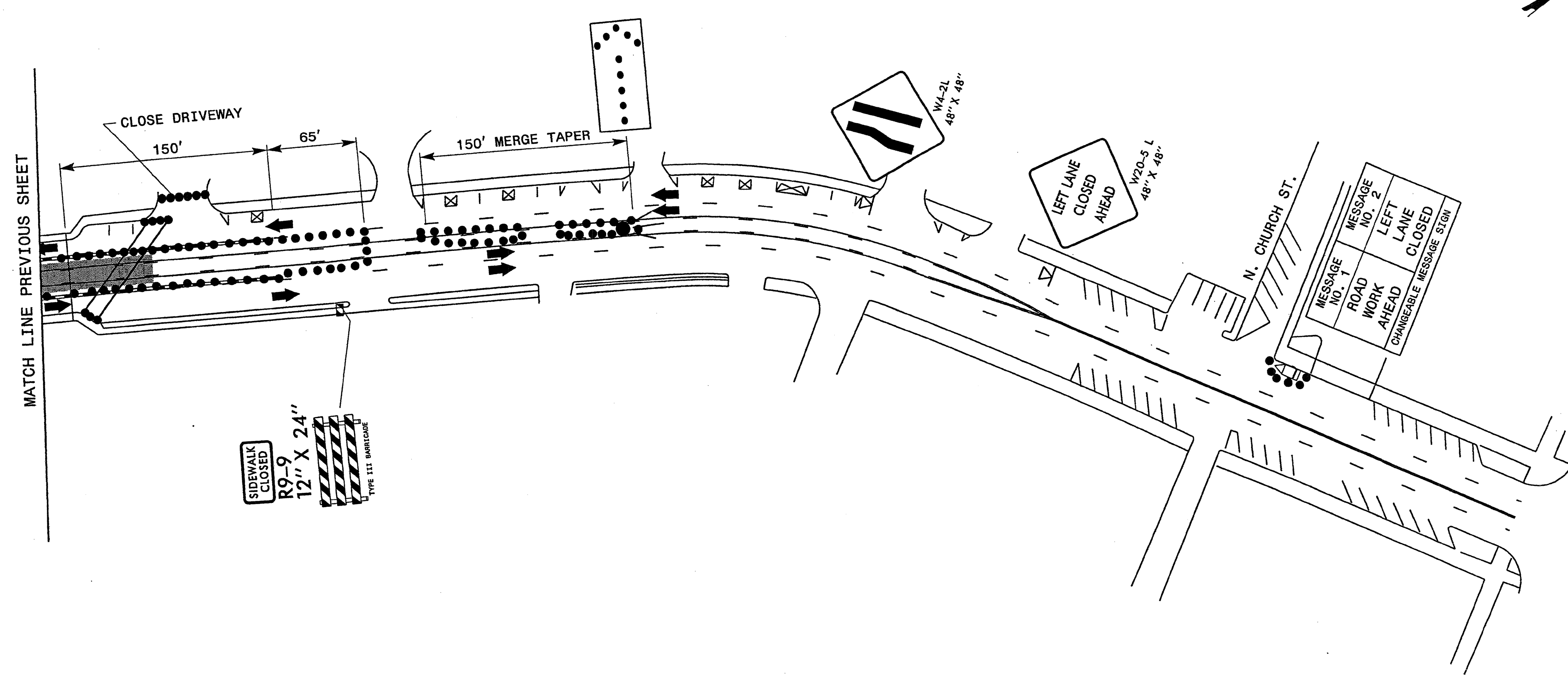


<p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____ 	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL</p>	CHEROKEE CO. BRIDGE #14 US 19 BUS-SB RIGHT LANE WORK AREA
	SEAL <i>Robert L. Watson</i> 1/19/12		


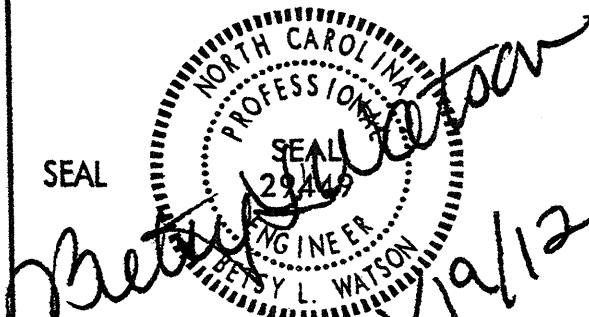
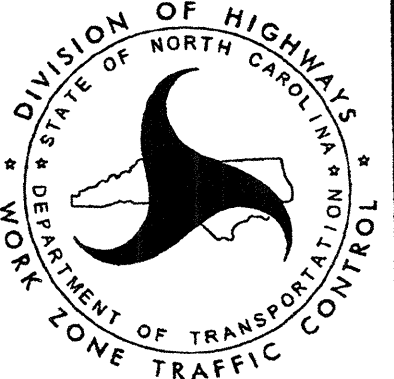
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	1/19/12		



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 skar.gge@stc.com

 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	APPROVED: _____ DATE: _____ 		CHEROKEE CO. BRIDGE #14 US 19 BUS-NB SB LEFT & CENTER LANE WORK AREAS
	SEAL <i>Gregory L. Watson</i> 1/9/12		

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN	-----	375 LBS. PER SQ. IN.
OF TIMBER		
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2006 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN