

DESIGN DATA

2002 AND CURRENT INTERIM A.A.S.H.T.O. DESIGN SPECIFICATIONS.
 LOAD FACTOR DESIGN METHOD
 HS 25 LIVE LOADING
 DEAD LOAD INCLUDES 17 p.s.f. ALLOWANCE FOR FUTURE WEARING COURSE MODIFICATIONS.
 MAXIMUM ALLOWABLE DESIGN STRESSES:
 REINFORCED CONCRETE:
 $f'_c = 4000$ p.s.i. $n = 8$
 $f_y = 60000$ p.s.i. REINFORCEMENT
 DECK AREA 155837 SQ. FT.
 14600 CURRENT A.D.T. FOR YEAR 2002
 OPERATING RATING HS 35.3 AFTER RECONSTRUCTION

LIST OF SHEETS

| NO. | DESCRIPTION |
|-------|--|
| 1 | GENERAL PLAN AND ELEVATION |
| 2-6 | RECONSTRUCT EXPANSION JOINT TYPE D |
| 7-8 | RECONSTRUCT EXPANSION JOINT TYPE A |
| 9 | REMOVE SLAB TYPE 1 AND 3 |
| 10-11 | REPAIR CONCRETE SURFACE |
| 12 | RECONSTRUCT CONC RAILING AND RECONSTRUCT CONDUIT SYSTEM (LIGHTING) |
| 13-14 | WATERPROOF EXPANSION DEVICE |
| 15 | AS-BUILT BRIDGE DATA |

CONSTRUCTION NOTES

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

THE FIRST TWO DIGITS OF EACH BAR MARK INDICATE THE BAR NUMBER WHICH APPROXIMATES THE NOMINAL DIAMETER OF THE BAR IN MILLIMETERS (mm).

BAR MARKED WITH THE SUFFIX "E" SHALL BE EPOXY COATED IN ACCORDANCE WITH SPEC. 3301.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 SIGNED *Duane M. Green Jr.* DATE *3/6/03*
 LICENSED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC NO. 13361

B.M. ELEV. G.L.S.L. 1929 ADJ.

TRUNK HIGHWAY NO. 65
 MINNESOTA
 DEPARTMENT OF TRANSPORTATION

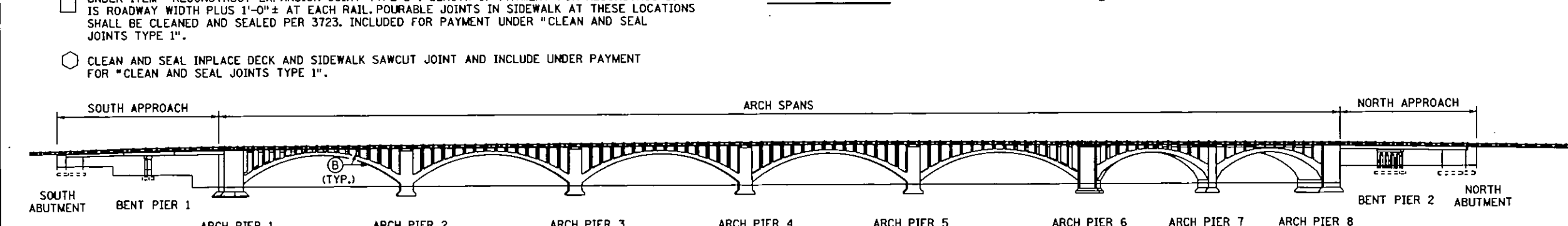
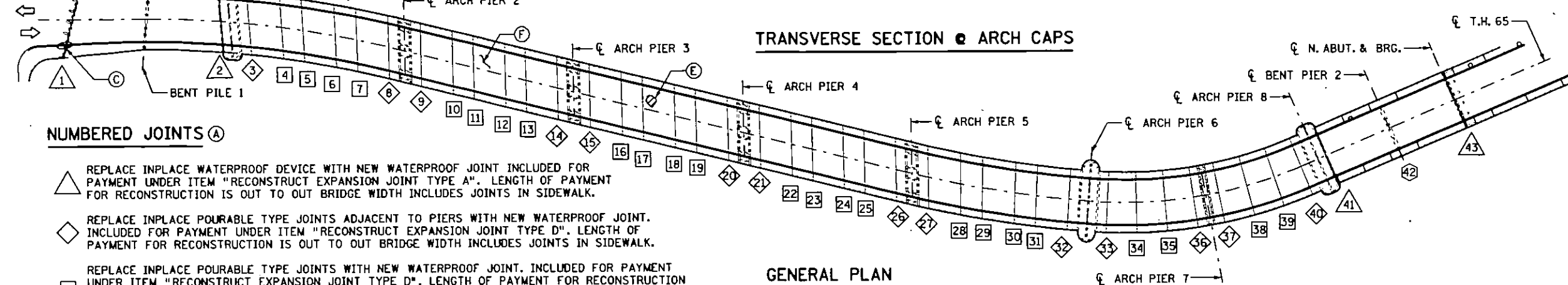
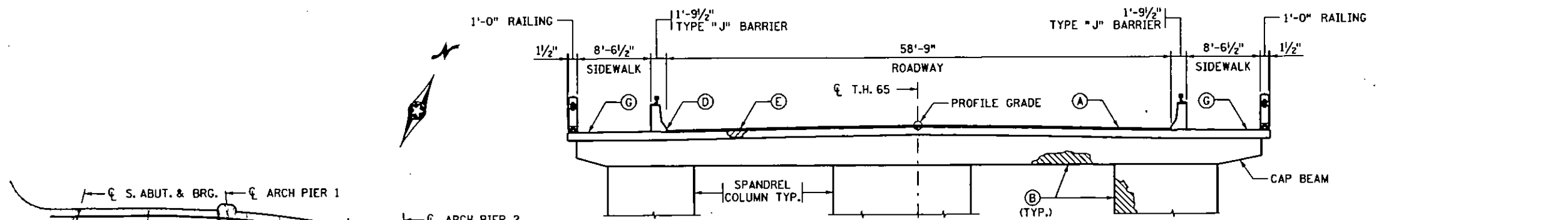
BRIDGE NO. 2440
 T.H. 65 (3RD AVE) OVER MISSISSIPPI RIVER,
 MAIN ST. IN MINNEAPOLIS

IDENTIFICATION NO. 112

GENERAL PLAN AND ELEVATION
 SEC. 23 T 29 N R 24 W
 CITY OF MINNEAPOLIS HENNEPIN COUNTY

APPROVED *Duane M. Green Jr.*
 DATE *3/6/03* STATE BRIDGE ENGINEER

DES: CAG
 CHK: GDB
 2440



NUMBERED JOINTS (A)

- △ REPLACE INPLACE WATERPROOF DEVICE WITH NEW WATERPROOF JOINT INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE A". LENGTH OF PAYMENT FOR RECONSTRUCTION IS OUT TO OUT BRIDGE WIDTH INCLUDES JOINTS IN SIDEWALK.
- ◇ REPLACE INPLACE POURABLE TYPE JOINTS ADJACENT TO PIERS WITH NEW WATERPROOF JOINT. INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D". LENGTH OF PAYMENT FOR RECONSTRUCTION IS OUT TO OUT BRIDGE WIDTH INCLUDES JOINTS IN SIDEWALK.
- REPLACE INPLACE POURABLE TYPE JOINTS WITH NEW WATERPROOF JOINT. INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D". LENGTH OF PAYMENT FOR RECONSTRUCTION IS ROADWAY WIDTH PLUS 1'-0"± AT EACH RAIL. POURABLE JOINTS IN SIDEWALK AT THESE LOCATIONS SHALL BE CLEANED AND SEALED PER 3723. INCLUDED FOR PAYMENT UNDER "CLEAN AND SEAL JOINTS TYPE 1".
- CLEAN AND SEAL INPLACE DECK AND SIDEWALK SAWCUT JOINT AND INCLUDE UNDER PAYMENT FOR "CLEAN AND SEAL JOINTS TYPE 1".

REPAIR NOTES

- NO CUTTING WILL BE PERMITTED UNTIL CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO SPEC. 2433.
- (A) NEW STRIP SEAL EXPANSION JOINTS SHALL REPLACE 38 POURABLE JOINTS & THE 4 EXISTING STRIP SEAL JOINTS. THE SAWCUT JOINT AT BENT PIER 2 TO BE CLEANED AND SEALED.
- (B) THERE ARE AREAS OF CONCRETE SPALLS AND DELAMINATION, UNDER THE POURABLE JOINTS, ON THE UNDERSIDE OF DECK, CAP BEAMS, ARCH RIB (NOT SHOWN) AND SPANDREL COLUMNS. THESE SHALL BE REPAIRED BY REMOVING UNSOUND CONCRETE AND PLACING SHOTCRETE TO THE ORIGINAL CONCRETE PROFILE. APPROPRIATE DUST CONTROL MEASURES SHALL BE PROVIDED FOR REMOVAL AND SCARIFICATION WORK. TO BE INCLUDED UNDER ITEM "REPAIR CONCRETE SURFACE"
- (C) THE BARRIER AND CONDUIT FOR LIGHTING ON THE SOUTHEAST CORNER OF THE BRIDGE SHALL BE REPAIRED AND INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT CONDUIT SYSTEM (LIGHTING)".
- (D) THE ROADWAY FACE AND TOP OF THE TYPE "J" BARRIERS ON BOTH SIDES OF THE BRIDGE SHALL BE COATED WITH A PAINTED SURFACE FINISH. INCLUDED UNDER ITEM "SPECIAL SURFACE FINISH (INPLACE)".
- (E) AFTER JOINT RECONSTRUCTION ABOUT 1% OF THE DECK REMAINS UNSOUND. MOST OF THESE AREAS ARE ADJACENT TO THE POURABLE JOINTS. THESE AREAS SHALL BE MILLED AND PATCHED AND INCLUDED FOR PAYMENT UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3".

REINFORCEMENT NOTES:

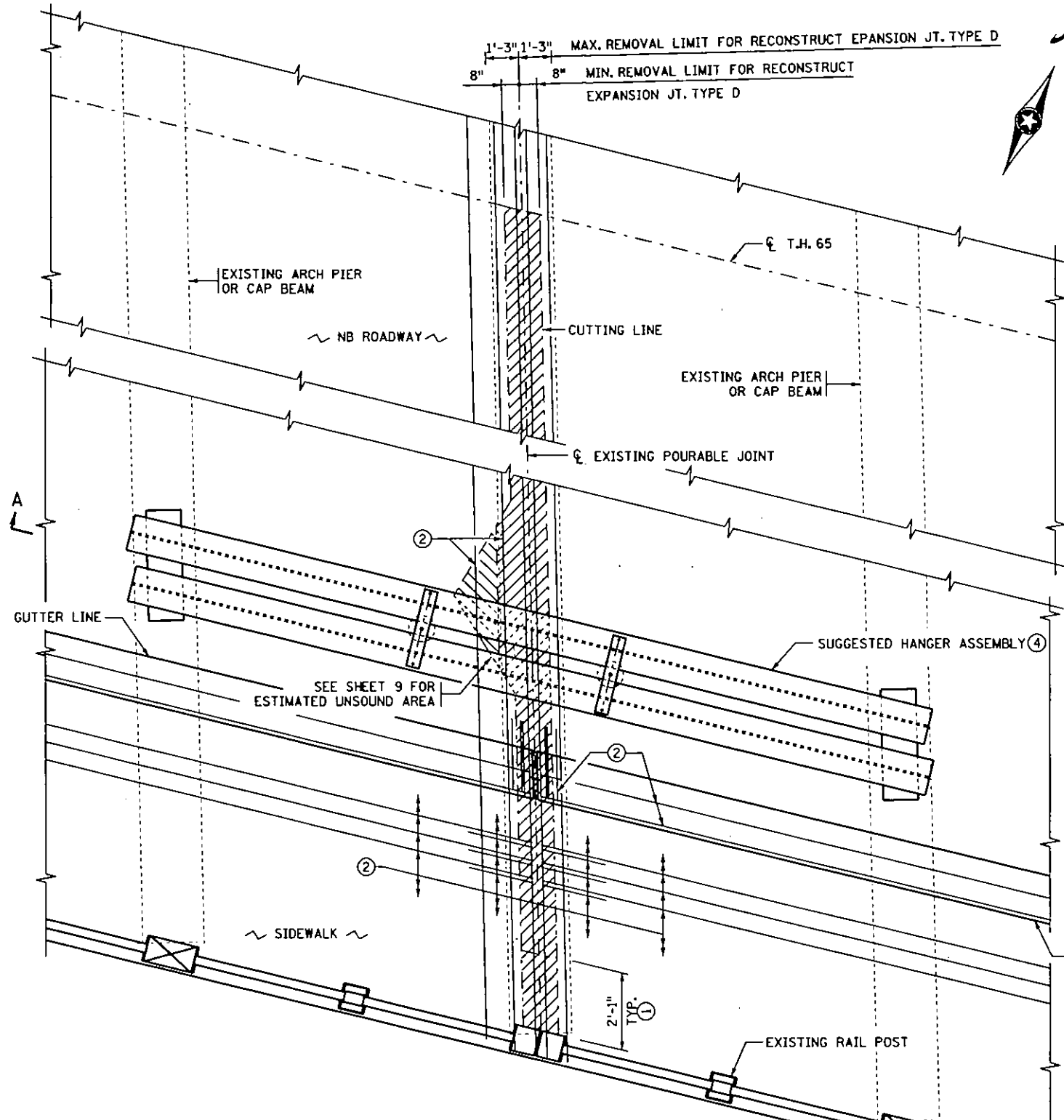
- (F) SEAL CRACKS IN CONCRETE OVERLAY WITH AN APPROVED EPOXY INCLUDED FOR PAYMENT UNDER ITEM "SEAL OVERLAY CRACKS"
- (G) NEW STRIP SEAL EXPANSION JOINTS SHALL REPLACE 14 POURABLE JOINTS IN SIDEWALKS (BOTH SIDES). AS NOTED, REMAINING SIDEWALK POURABLE JOINTS SHALL BE CLEANED AND SEALED.
- THE CONTRACTOR SHALL SALVAGE THE EXISTING SOUND REINFORCEMENT OR LAP NEW REINFORCEMENT OF EQUAL AREA. REINFORCEMENT STEEL REQUIRED TO REPLACE DAMAGED OR UNSOUND REINFORCEMENT IN ADDITION TO THAT DETAILED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE PRICE BID FOR OTHER ITEMS.
 ALL NEW REINFORCEMENT TO BE EPOXY COATED.

SCHEDULE OF QUANTITIES FOR ENTIRE BRIDGE

| ITEM NO. | 2401.511 | 2401.618 | 2402.591 | 2404.501 | 2404.618 | 2433.505 | 2433.505 | 2433.601 | 2433.603 | 2433.603 | 2433.603 | 2433.606 | 2433.618 | | | | | |
|----------|----------------------------|----------------------------------|--------------------------------------|---------------------------------|--------------------|--------------------|--------------------|---------------------------------------|------------------------------------|------------------------------------|------------------------------|---------------------|-------------------------|--|--|--|--|--|
| ITEM | STRUCTURAL CONCRETE (3Y33) | SPECIAL SURFACE FINISH (INPLACE) | EXPANSION JOINT DEVICES TYPE SPECIAL | CONCRETE WEARING COURSE (3U17A) | BLASTING (SPECIAL) | REMOVE SLAB TYPE 1 | REMOVE SLAB TYPE 3 | RECONSTRUCT CONDUIT SYSTEM (LIGHTING) | RECONSTRUCT EXPANSION JOINT TYPE A | RECONSTRUCT EXPANSION JOINT TYPE D | CLEAN AND SEAL JOINTS TYPE 1 | SEAL OVERLAY CRACKS | REPAIR CONCRETE SURFACE | | | | | |
| UNIT | SQ FT | SQ FT | LIN FT | SQ FT | SQ FT | SQ FT | SQ FT | LUMP SUM | LIN FT | LIN FT | LIN FT | GALLON | SQ FT | | | | | |
| QUANTITY | 170 | 16162 | 2982 | 1400 | 1400 | 1400 | 170 | 1 | 340 (P) | 2642 (P) | 496 | 6 | 4000 | | | | | |

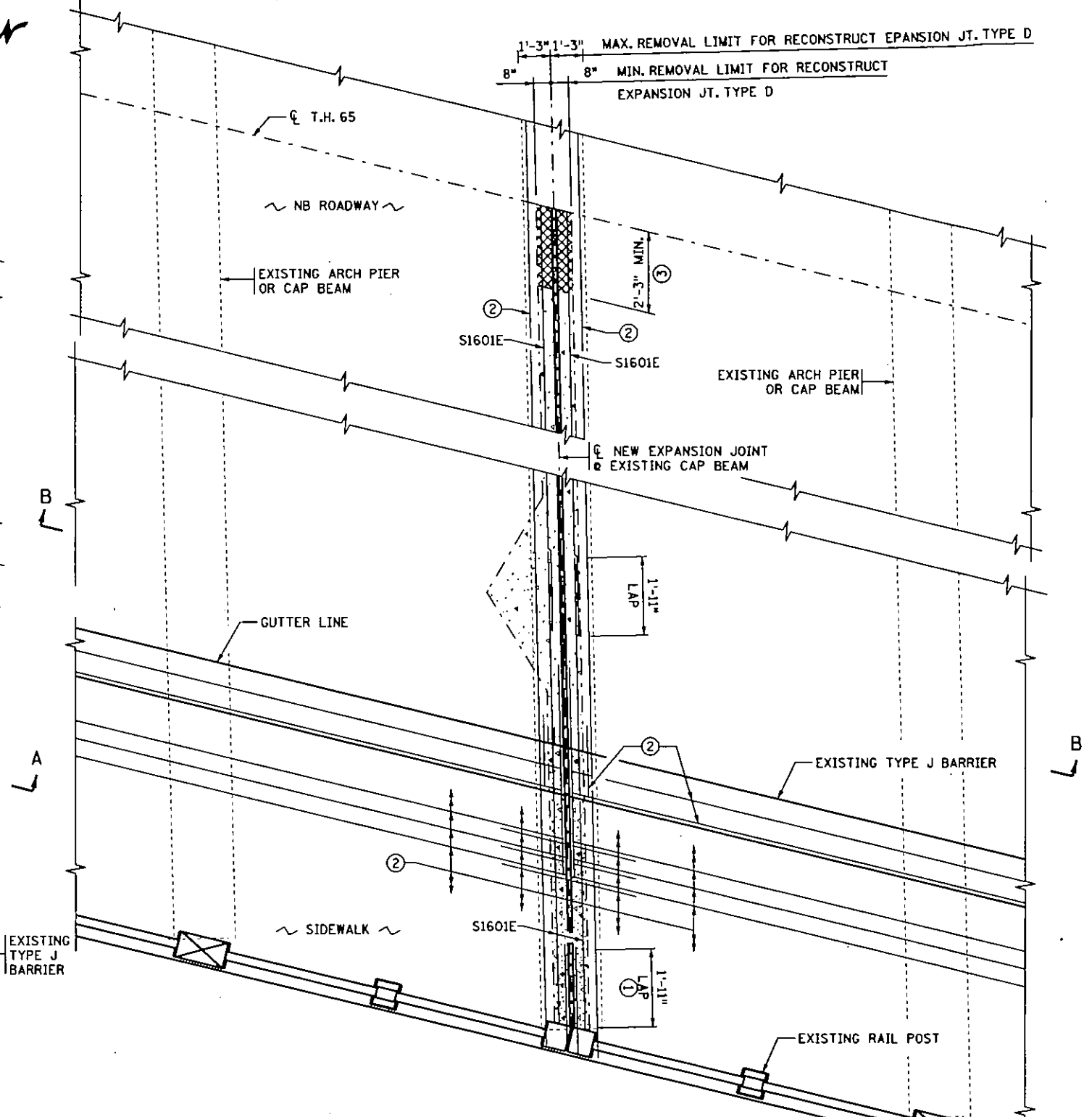
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1C 4-9-03



JOINT REMOVAL PLAN VIEW

(FOR JOINTS 3, 8, 9, 14, 15, 20, 21, 26, 27, 32, 33, 36, 37, & 40)



JOINT RECONSTRUCT PLAN VIEW

(FOR JOINTS 3, 8, 9, 14, 15, 20, 21, 26, 27, 32, 33, 36, 37, & 40)

NOTES:

- ALL WORK AND MATERIAL WITHIN 1'-3" OF \bar{C} OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D". REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"
- DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.
- ① CUT TRANSVERSE REINFORCEMENT 2'-1" FROM RAILING OR BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1601E TRANSVERSE BARS.
- ② CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS.

- ③ LEAVE 2'-3" LIN. FT. OF STAGE ONE REMOVAL EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.
- ④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

SEE SHEET NO. 6 FOR BILL OF REINFORCEMENT & SECTIONS A-A & B-B.

- ▨ LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D". AMOUNTS OF MAXIMUM REMOVAL VARY AT EACH OF THE 14 JOINTS. LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER
- ▨ SEE SHEET 9 FOR LOCATION AND ESTIMATED DIMENSIONS FOR REMOVALS OUTSIDE MAXIMUM LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D" TO BE INCLUDED FOR PAYMENT UNDER "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3".
- ▨ STRUCTURAL CONCRETE (3Y33)
- ▨ AREA LEFT EXPOSED UNTIL STAGE 2.

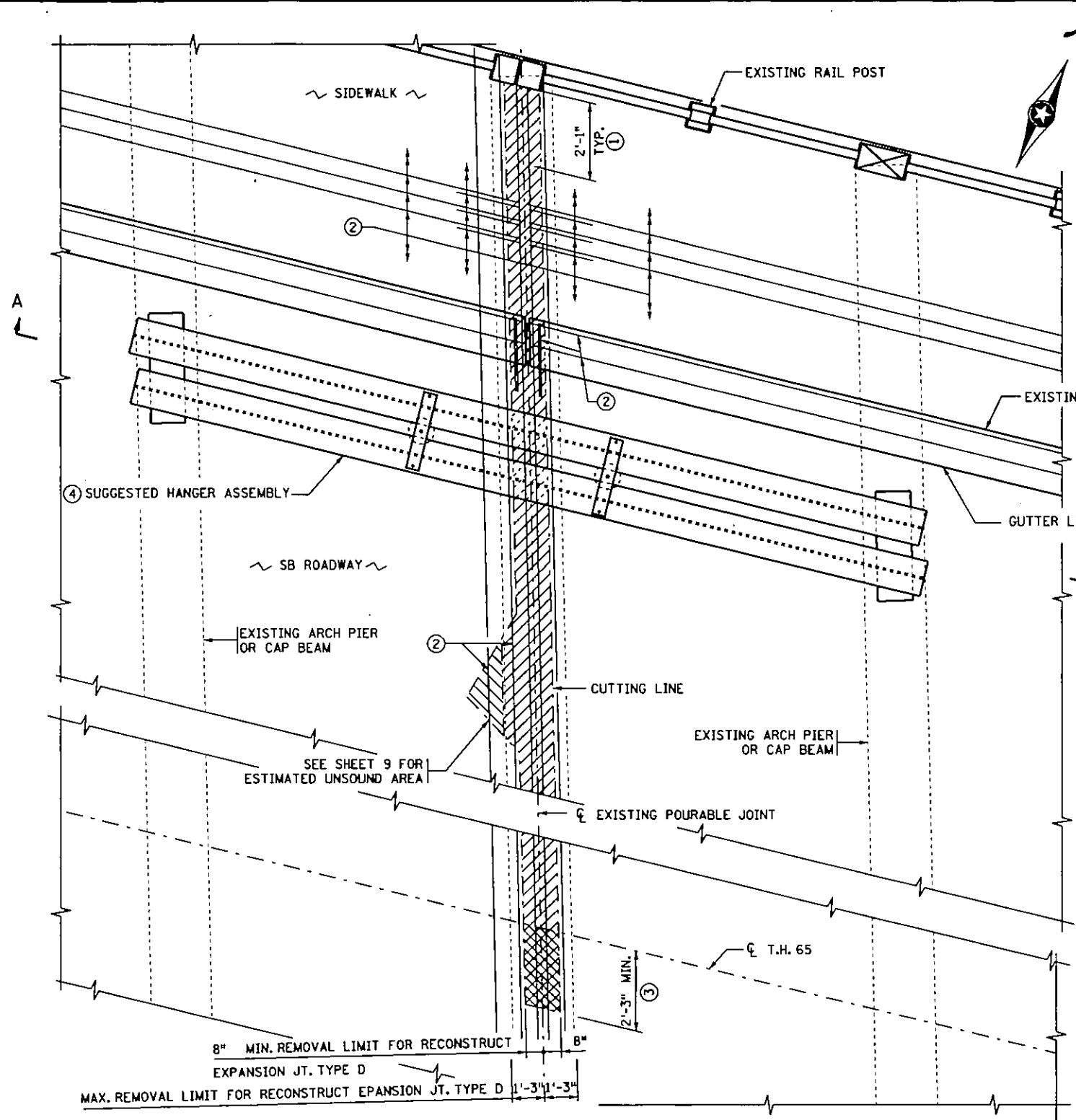
CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: **RECONSTRUCT EXPANSION JOINT TYPE D**
STAGE 1
 (TYPICAL AT EXISTING POURED JOINTS ADJACENT TO PIERS)

DES: CAG
 CHK: GDB
 APPROVED: 3-6-03
 SHEET NO. 2 OF 15 SHEETS

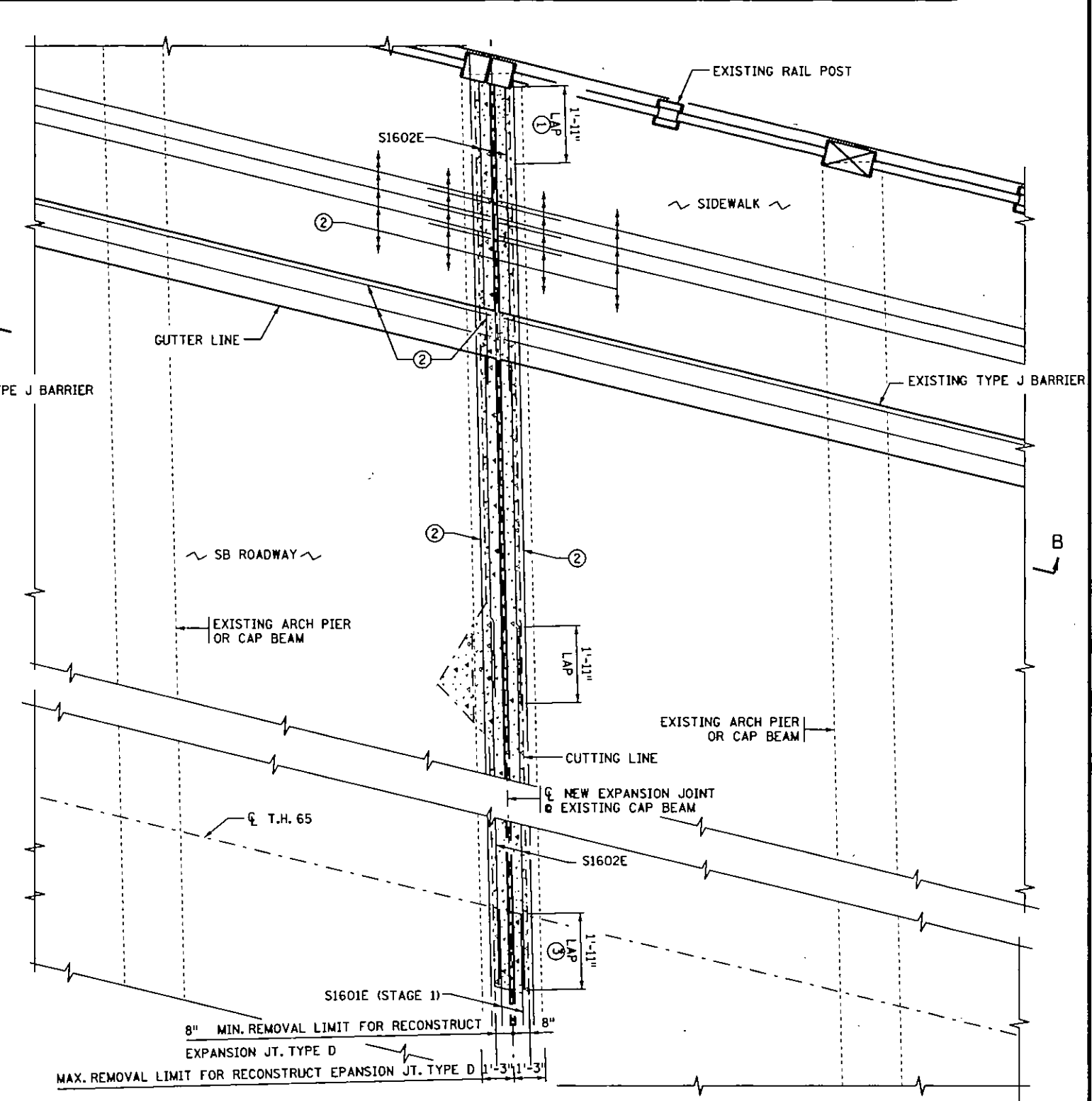
BRIDGE NO. 2440

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JOINT REMOVAL PLAN VIEW

(FOR JOINTS 3, 8, 9, 14, 15, 20, 21, 26, 27, 32, 33, 36, 37, & 40)



JOINT RECONSTRUCT PLAN VIEW

(FOR JOINTS 3, 8, 9, 14, 15, 20, 21, 26, 27, 32, 33, 36, 37, & 40)

NOTES:

- ALL WORK AND MATERIAL WITHIN 1'-3" OF ϕ OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D". REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"
- DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.
- ① CUT TRANSVERSE REINFORCEMENT 2'-1" FROM RAILING OR BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1602E TRANSVERSE BARS.
- ② CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS.

- ③ LEAVE 2'-3" LIN. FT. OF STAGE ONE REMOVAL EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.
 - ④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
- SEE SHEET NO. 6 FOR BILL OF REINFORCEMENT & SECTIONS A-A & B-B.

- LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D". AMOUNTS OF MAXIMUM REMOVAL VARY AT EACH OF THE 14 JOINTS. LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER
- SEE SHEET 9 FOR LOCATION AND ESTIMATED DIMENSIONS FOR REMOVALS OUTSIDE MAXIMUM LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D" TO BE INCLUDED FOR PAYMENT UNDER "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3".
- STRUCTURAL CONCRETE (3Y33)
- AREA LEFT EXPOSED DURING STAGE 1.

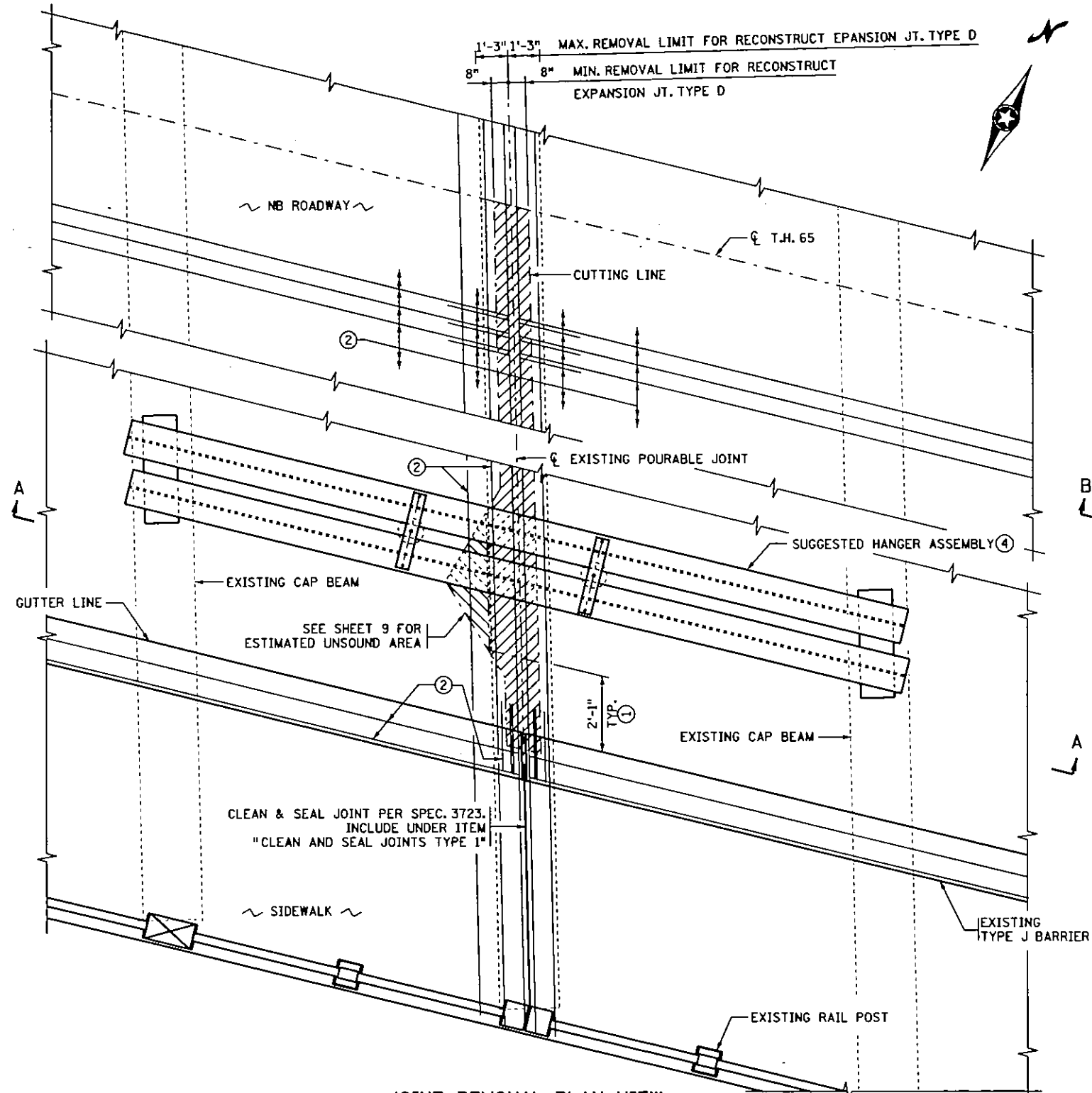
CERTIFIED BY Duane M. Green, Jr. 3/6/03
LICENSED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: **RECONSTRUCT EXPANSION JOINT TYPE D**
STAGE 2
 (TYPICAL AT EXISTING POURED JOINTS ADJACENT TO PIERS)

| | | | |
|-------------|----------|-----------|--------------------|
| DESIGNED BY | DR: CAG | APPROVED: | BRIDGE NO. 2440 |
| CHECKED BY | CHK: GDB | 3-6-03 | |

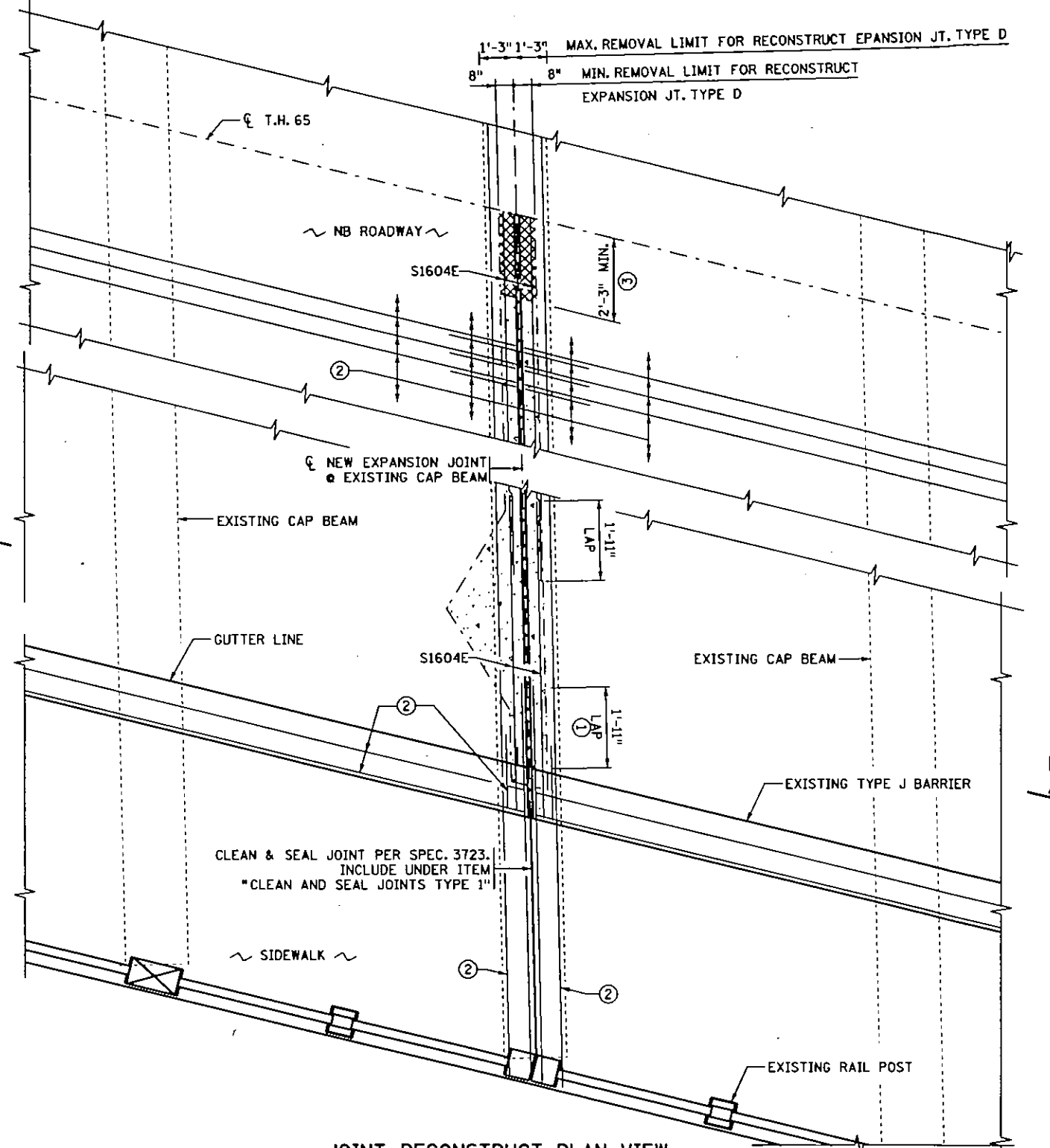
SHEET NO. 3 OF 15 SHEETS

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JOINT REMOVAL PLAN VIEW

(FOR JOINTS 4-7, 10-13, 16-19, 22-25, 28-31, 34, 35, 38, & 39)



JOINT RECONSTRUCT PLAN VIEW

(FOR JOINTS 4-7, 10-13, 16-19, 22-25, 28-31, 34, 35, 38, & 39)

NOTES:

ALL WORK AND MATERIAL WITHIN 1'-3" OF ϕ OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D" EXCEPT SIDEWALK JOINT AS NOTED. REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"

DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.

- ① CUT TRANSVERSE REINFORCEMENT 2'-1" FROM BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1604E TRANSVERSE BARS.
- ② CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS.

③ LEAVE 2'-3" LIN. FT. OF STAGE ONE REMOVAL EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.

④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

SEE SHEET NO. 6 FOR BILL OF REINFORCEMENT & SECTIONS A-A & B-B.

LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D". AMOUNTS OF MAXIMUM REMOVAL VARY AT EACH OF THE 25 JOINTS. LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER

SEE SHEET 9 FOR LOCATION AND ESTIMATED DIMENSIONS FOR REMOVALS OUTSIDE MAXIMUM LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D" TO BE INCLUDED FOR PAYMENT UNDER "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3".

STRUCTURAL CONCRETE (3Y33)

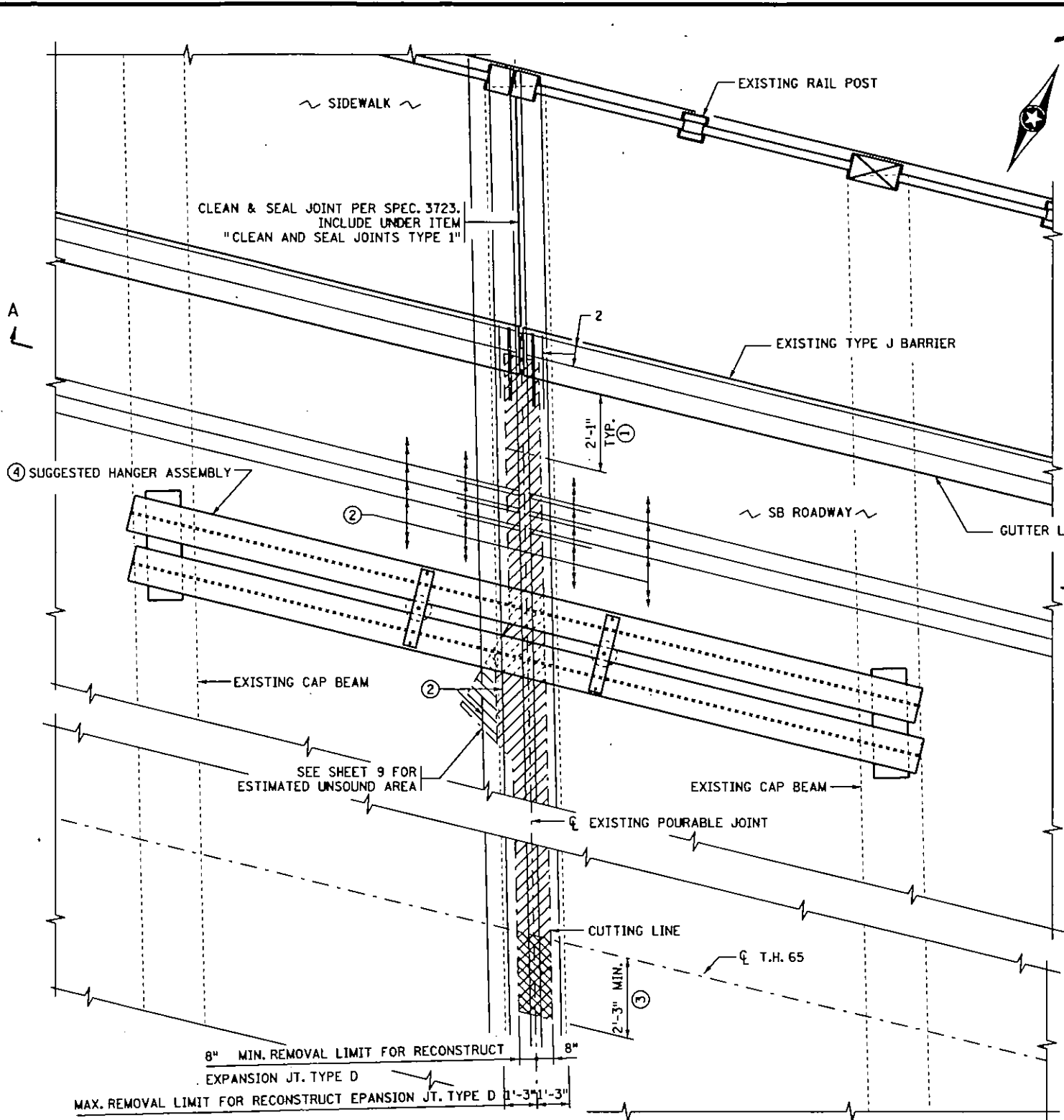
AREA LEFT EXPOSED UNTIL STAGE 2.

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03 DATE
LICENSED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: **RECONSTRUCT EXPANSION JOINT TYPE D**
STAGE 1
 (TYPICAL AT EXISTING POURED JOINTS IN MID SPANS)

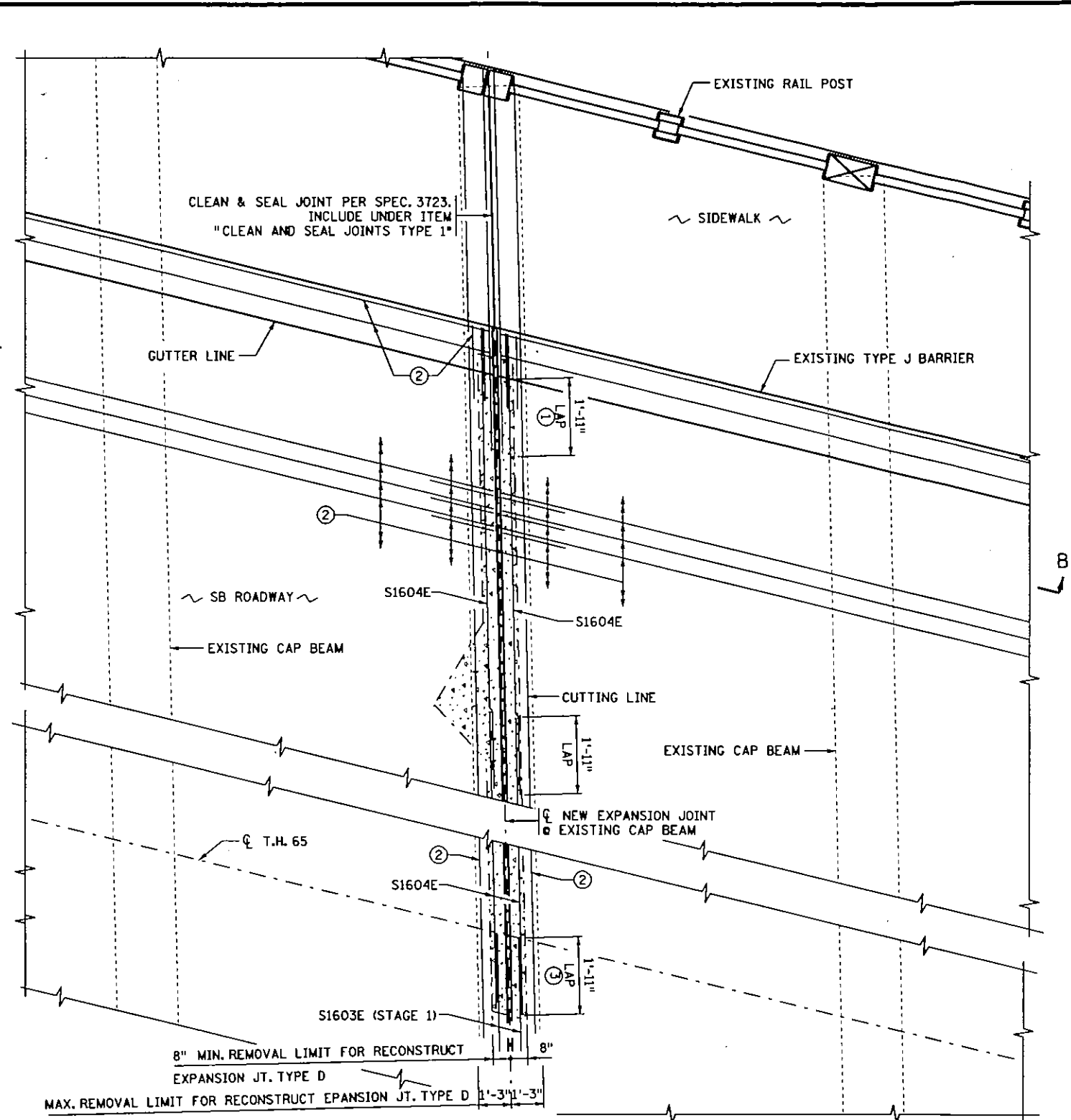
| | | | |
|------------|----------|--------------------------|--------------------|
| DES: _____ | DR: CAG | APPROVED: <i>3-6-03</i> | BRIDGE NO. 2440 |
| CHK: _____ | CHK: GDB | SHEET NO. 4 OF 15 SHEETS | |

3/15/2003 S:\Design\2440\BRIE\408.DWG



JOINT REMOVAL PLAN VIEW

(FOR JOINTS 4-7, 10-13, 16-19, 22-25, 28-31, 34, 35, 38, & 39)



JOINT RECONSTRUCT PLAN VIEW

(FOR JOINTS 4-7, 10-13, 16-19, 22-25, 28-31, 34, 35, 38, & 39)

NOTES:

ALL WORK AND MATERIAL WITHIN 1'-3" OF ϕ OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D" EXCEPT SIDEWALK JOINT AS NOTED. REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"

DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.

① CUT TRANSVERSE REINFORCEMENT 2'-1" FROM BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1605E TRANSVERSE BARS.

② CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS.

③ LEAVE 2'-3" LIN. FT. OF STAGE ONE REMOVAL EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.

④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

SEE SHEET NO. 6 FOR BILL OF REINFORCEMENT & SECTIONS A-A & B-B.

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03 DATE
 LICENSED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: **RECONSTRUCT EXPANSION JOINT TYPE D STAGE 2**
 (TYPICAL AT EXISTING POURED JOINTS IN MID SPANS)

LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D". AMOUNTS OF MAXIMUM REMOVAL VARY AT EACH OF THE 25 JOINTS. LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER

SEE SHEET 9 FOR LOCATION AND ESTIMATED DIMENSIONS FOR REMOVALS OUTSIDE MAXIMUM LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE D" TO BE INCLUDED FOR PAYMENT UNDER "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3".

STRUCTURAL CONCRETE (3Y33)

AREA LEFT EXPOSED UNTIL STAGE 2.

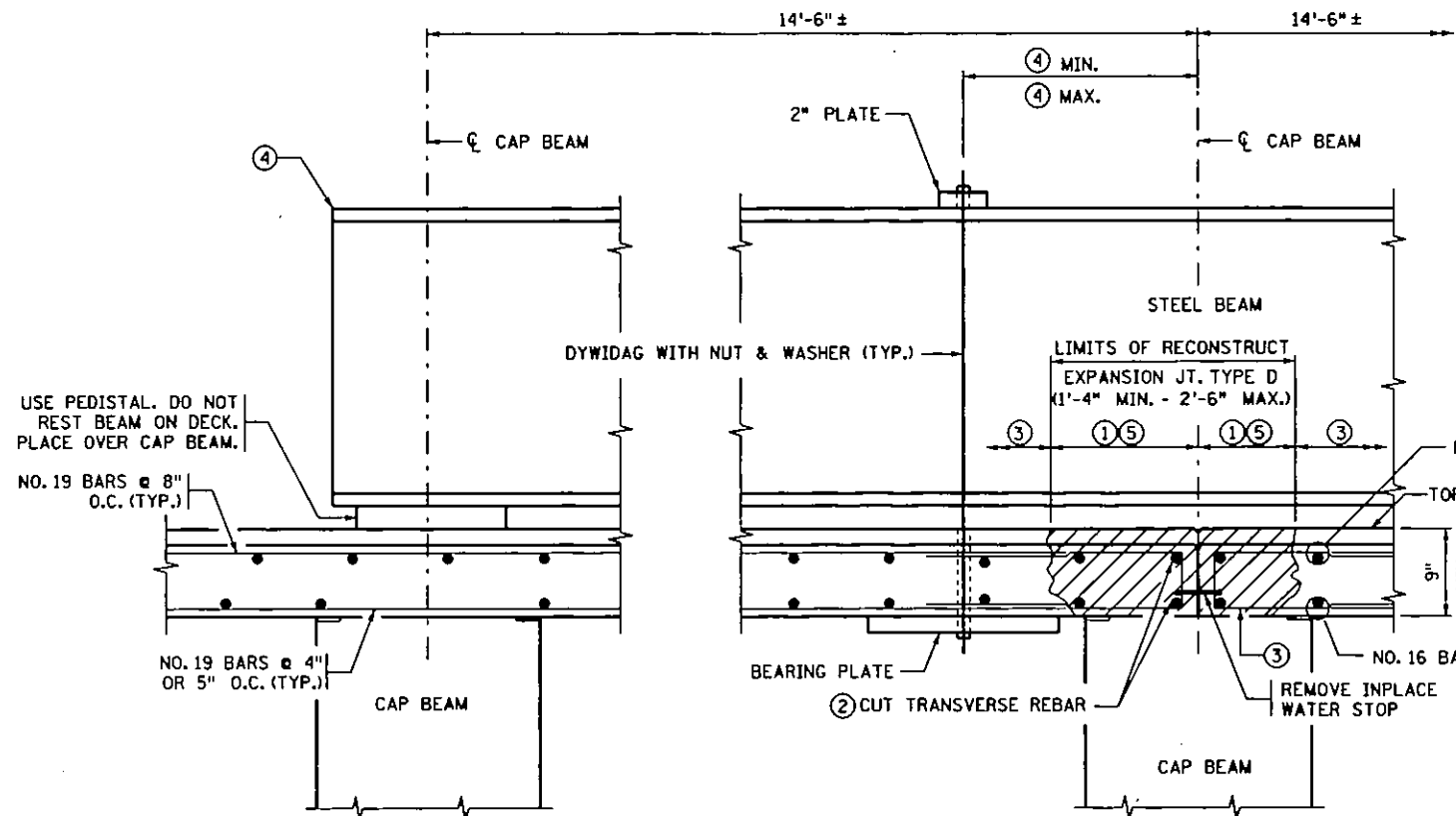
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 CHK: CHK: GDB
 APPROVED: 3-6-03
 SHEET NO. 5 OF 15 SHEETS

BRIDGE NO. 2440

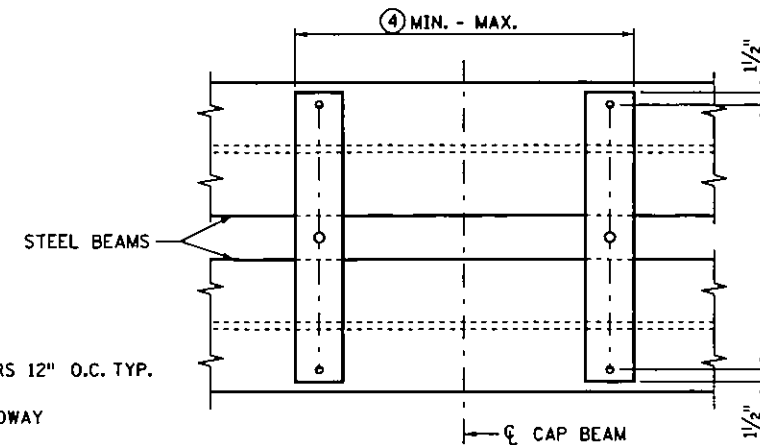
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**BILL OF REINFORCEMENT FOR
RECONSTRUCT EXPANSION JOINT TYPE D**

| BAR | STAGE 1 | STAGE 2 | LENGTH | SHAPE | LOCATION |
|--------|---------|---------|--------|-------|------------|
| S1601E | 56 | - | 22'-0" | — | TRANSVERSE |
| S1602E | - | 56 | 23'-0" | — | TRANSVERSE |
| S1603E | - | 96 | 17'-8" | — | TRANSVERSE |
| S1604E | 96 | - | 16'-8" | — | TRANSVERSE |

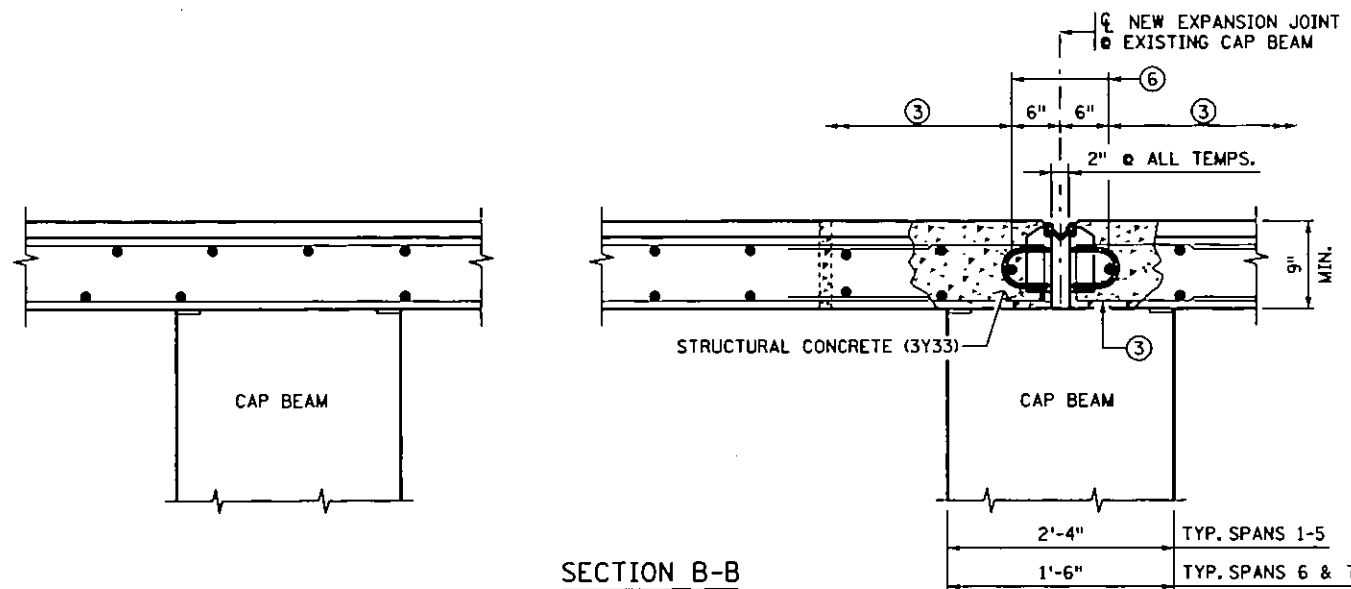


SECTION A-A

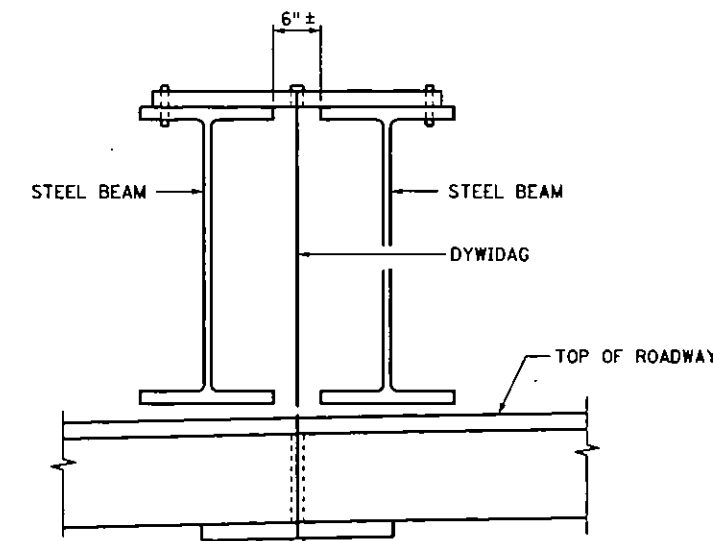


SUGGESTED HANGER ASSEMBLY PLAN VIEW

TOP VIEW OF HANGER



SECTION B-B



SUGGESTED HANGER ASSEMBLY ELEVATION VIEW

NOTES:

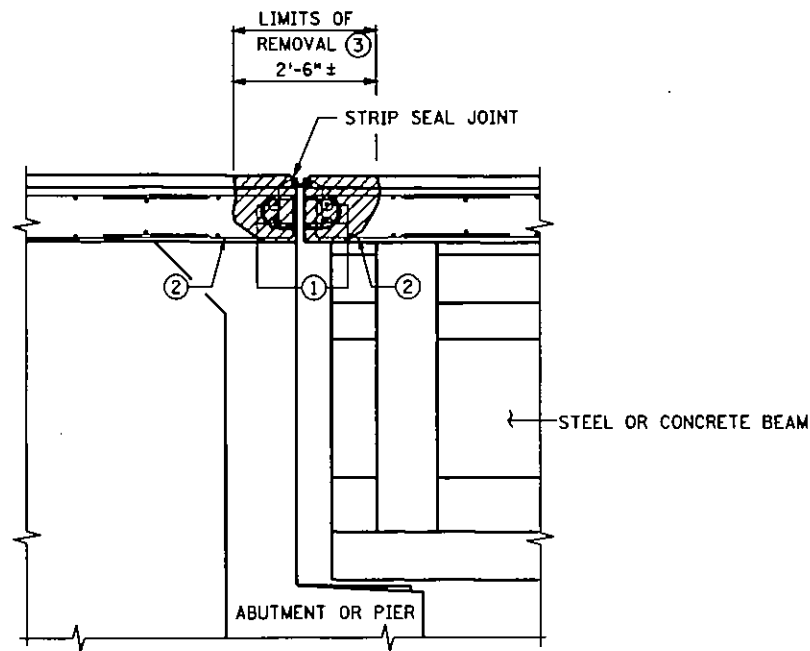
- ALL WORK AND MATERIAL WITHIN 1'-3" OF ϕ OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE D". REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3" SEE TABLE ON SHEET 9 FOR ESTIMATED LIMITS. BOTTOM OF REMOVAL AREA MAY BE TAPERED TO PROVIDE MORE BEARING FOR THE SLAB. PROVIDE ENOUGH CLEARANCE TO INSTALL EXPANSION JOINT.
 - CUT TRANSVERSE REINFORCEMENT 2'-1" FROM RAILING OR BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW TRANSVERSE BARS.
 - CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS. ALL REINFORCEMENT SHOWN AND ANY ADDITIONAL SHALL BE INCIDENTAL TO "RECONSTRUCT EXPANSION JOINT TYPE D".
 - CONTRACTOR TO DETERMINE REQUIRED SLAB SUPPORT SYSTEM. SUGGESTED HANGER SYSTEM SHOWN. TEMPORARY SUPPORT SHALL BE INCIDENTAL TO "RECONSTRUCT EXPANSION JOINT TYPE D". SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.
 - 2'-3" LIN. FT. OF STAGE ONE REMOVAL LEFT EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.
 - NEW SLAB TRANSVERSE BARS - STAGE 1
S1601E OR S1604E
NEW SLAB TRANSVERSE BARS - STAGE 2
S1602E OR S1603E
- SEE SHEETS NO. 2-5 FOR LOCATION OF SECTION A-A & B-B.
- NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO SPEC. 2433.

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
 LICENSED PROFESSIONAL ENGINEER DATE
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

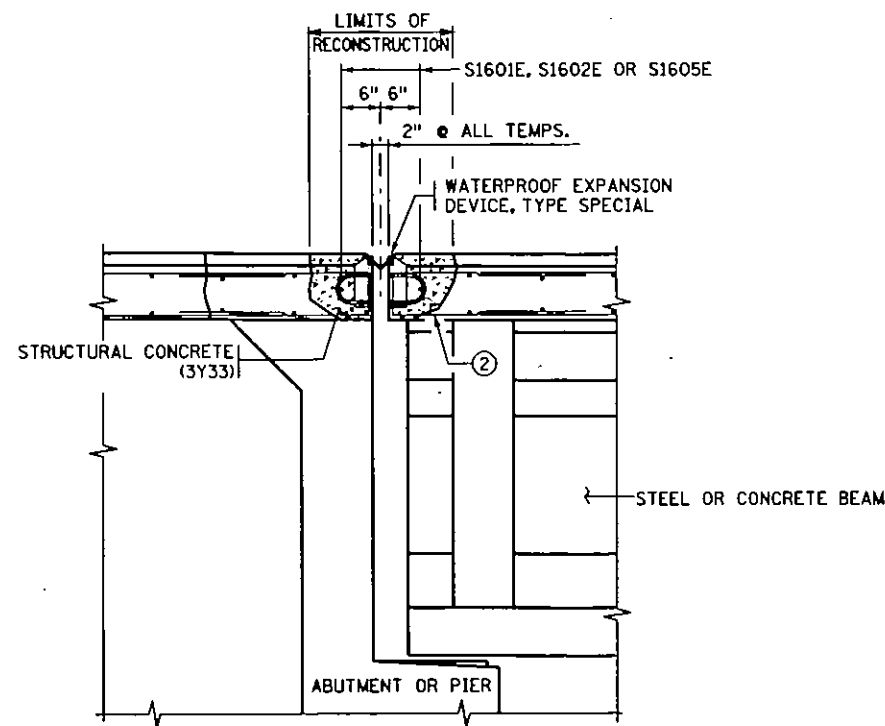
TITLE: **RECONSTRUCT EXPANSION JOINT TYPE D**

DESIGNED BY: CAG
 CHECKED BY: GDB
 APPROVED: 3-6-03
 SHEET NO. 6 OF 15 SHEETS

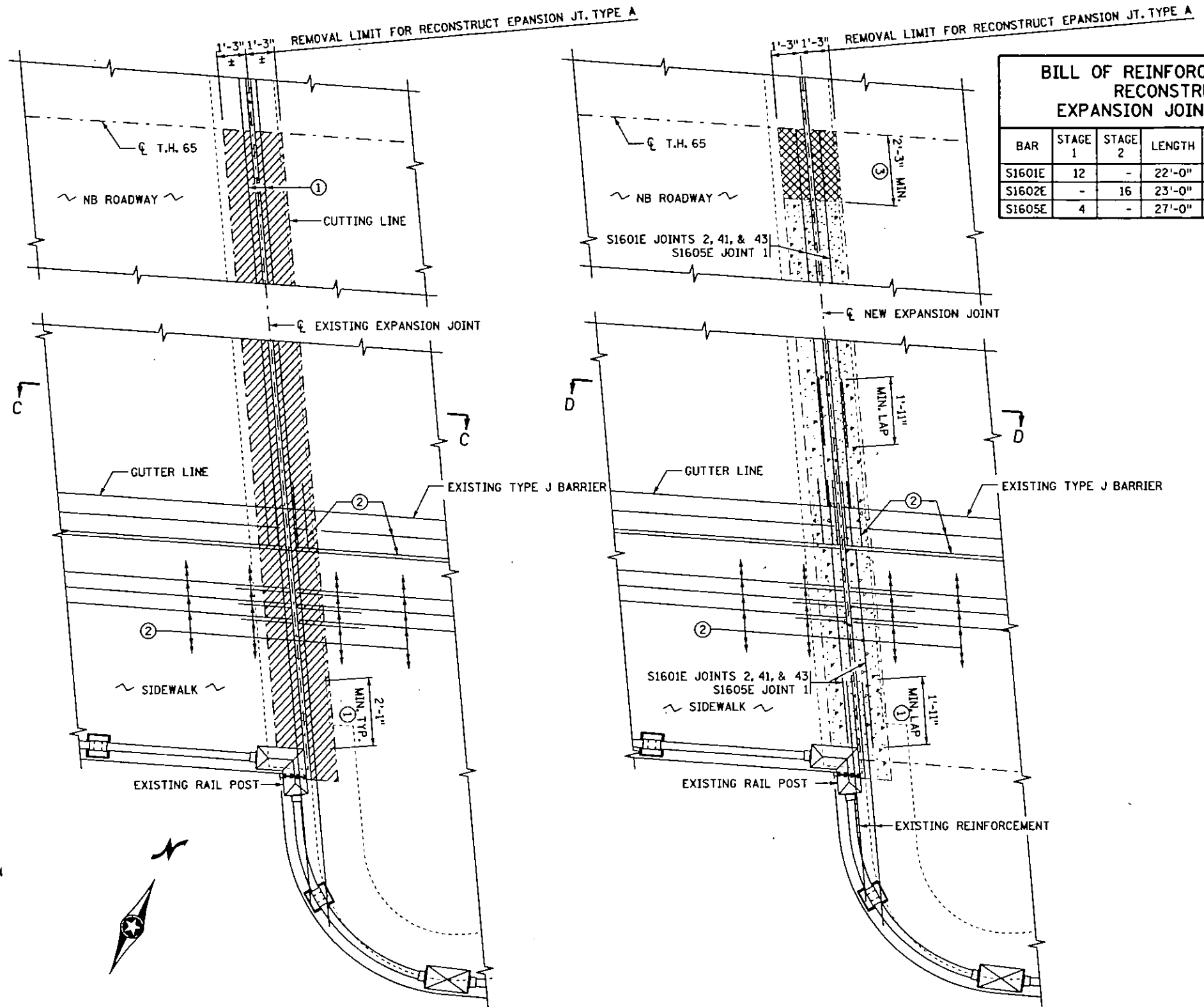
BRIDGE NO. 2440



SECTION C-C



SECTION D-D



JOINT REMOVAL PLAN VIEW

JOINT RECONSTRUCT PLAN VIEW

| BILL OF REINFORCEMENT FOR RECONSTRUCT EXPANSION JOINT TYPE A | | | | | |
|--|---------|---------|--------|-------|------------|
| BAR | STAGE 1 | STAGE 2 | LENGTH | SHAPE | LOCATION |
| S1601E | 12 | - | 22'-0" | — | TRANSVERSE |
| S1602E | - | 16 | 23'-0" | — | TRANSVERSE |
| S1605E | 4 | - | 27'-0" | — | TRANSVERSE |

NOTES:

- ① ALL WORK AND MATERIAL WITHIN 1'-3" OF C OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE A". REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"
- ② DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.
- ③ CUT TRANSVERSE REINFORCEMENT 2'-1" FROM RAILING OR BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1601E OR S1603E TRANSVERSE BARS.
- ④ CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS. ALL REINFORCEMENT SHOWN AND ANY ADDITIONAL REINFORCEMENT REQUIRED SHALL BE INCIDENTAL TO "RECONSTRUCT EXPANSION JOINT TYPE A".

- ③ 2'-3" LIN. FT. OF STAGE ONE REMOVAL LEFT EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.
- ④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

- ③ LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE A". LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER.
- ④ STRUCTURAL CONCRETE (3Y33)
- ⑤ AREA LEFT EXPOSED UNTIL STAGE 2.

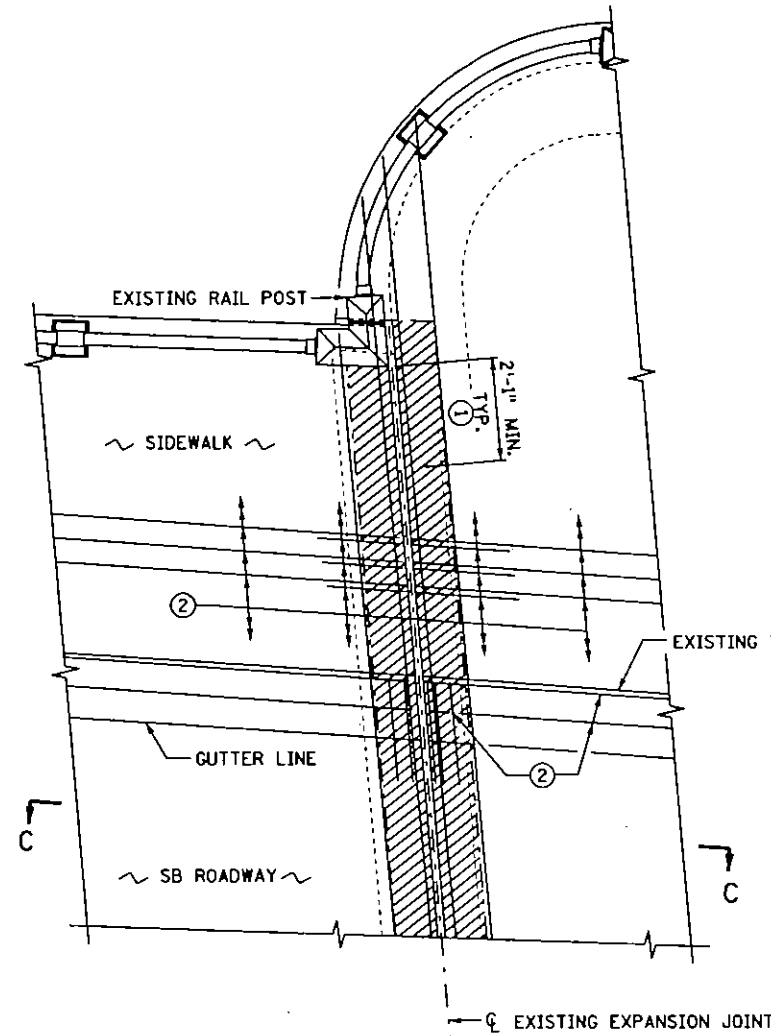
CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENSED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: RECONSTRUCT EXPANSION JOINT TYPE A
 STAGE 1
 (TYPICAL AT EXISTING EXPANSION JOINTS IN APPROACH SPANS)

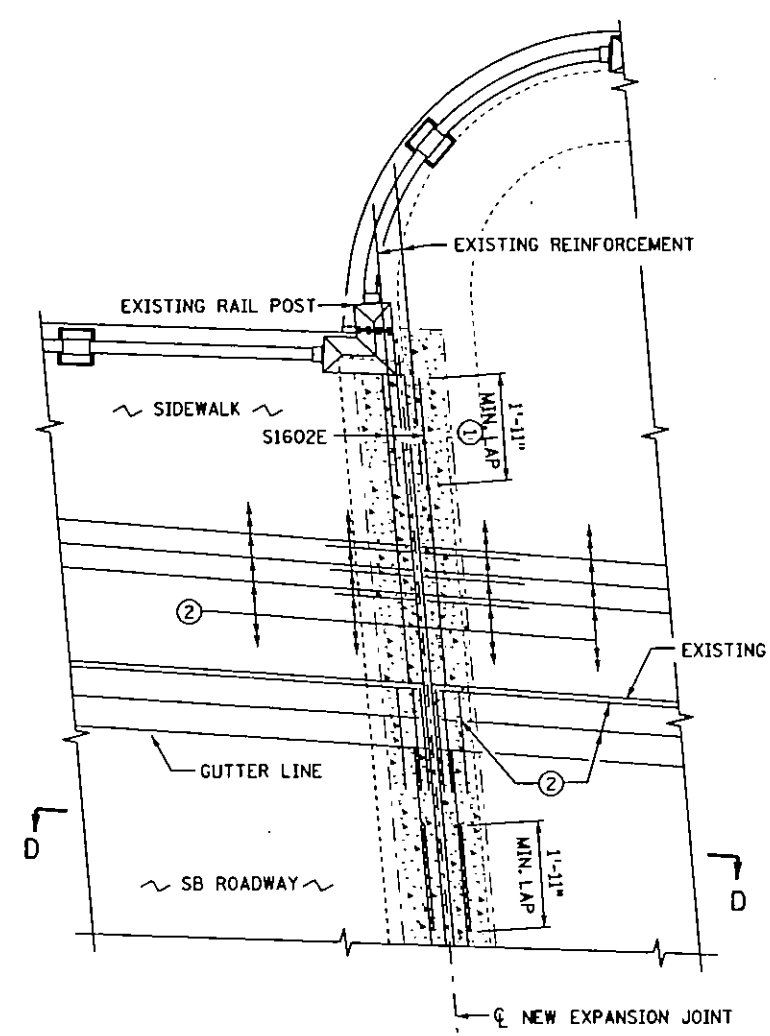
DES: DR: CAG
 CHK: CHG GDB
 APPROVED: 3-6-03
 SHEET NO. 7 OF 15 SHEETS

BRIDGE NO. 2440

3/5/2003 5:50am g:\12\2440\BR2440.DWG



REMOVAL LIMIT FOR RECONSTRUCT EPANSION JT. TYPE A
JOINT REMOVAL PLAN VIEW



REMOVAL LIMIT FOR RECONSTRUCT EPANSION JT. TYPE A
JOINT RECONSTRUCT PLAN VIEW

NOTES:

- ALL WORK AND MATERIAL WITHIN 1'-3" OF ϕ OF JOINT SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "RECONSTRUCT EXPANSION JOINT TYPE A". REMOVAL OF UNSOUND CONCRETE OUTSIDE THOSE LIMITS SHALL BE INCLUDED UNDER ITEMS "REMOVE SLAB TYPE 1" & "REMOVE SLAB TYPE 3"
- DEPTH OF REMOVAL AND REMOVAL AT BARRIER RAILS TO BE MINIMUM REQUIRED TO INSTALL NEW DEVICE AS LONG AS ADJACENT CONCRETE IS SOUND. FULL DEPTH REMOVAL REQUIRED IF CONCRETE IS UNSOUND.
- CUT TRANSVERSE REINFORCEMENT 2'-1" FROM RAILING OR BARRIER. TO ALLOW FOR A MIN. LAP OF 1'-11" FOR NEW S1601E OR S1603E TRANSVERSE BARS.
- CLEAN & STRAIGHTEN EXISTING REINFORCEMENT THAT IS EXPOSED DURING CONCRETE REMOVAL. CUT EXISTING REINFORCEMENT THAT DOESN'T ALLOW 2" CLEARANCE FOR NEW EXPANSION JOINT DEVICE. REMOVE & REPLACE UNSOUND REINFORCEMENT TO PROVIDE A 1'-11" MIN. LAP AT THESE LOCATIONS. ALL REINFORCEMENT SHOWN AND ANY ADDITIONAL REINFORCEMENT REQUIRED SHALL BE INCIDENTAL TO "RECONSTRUCT EXPANSION JOINT TYPE A".

- ③ 2'-3" LIN. FT. OF STAGE ONE REMOVAL LEFT EXPOSED TO ALLOW FOR 1'-11" MIN. LAP WITH STAGE 2 TRANSVERSE REINFORCEMENT.
- ④ EXCESSIVE CONCRETE REMOVAL AT ANY OF THE JOINTS WILL REQUIRE THE CONTRACTOR TO SUPPORT THE DECK DURING RECONSTRUCTION. ONE OPTION TO CONSIDER IS TO PROVIDE A BEAM ON TOP OF THE DECK WITH DWIDAG BARS EXTENDING THROUGH THE DECK TO PLATES OR OTHERS SUPPORTS AT THE BOTTOM OF THE DECK. SEE HANGER DETAIL SHEET NO. 6 FOR EXAMPLE OF THIS METHOD. NO REMOVAL WILL BE ALLOWED UNTIL THE CONTRACTORS DECK SUPPORT SYSTEM IS APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

- LIMITS OF "RECONSTRUCT EXPANSION JOINT TYPE A". LIMITS TO BE OUTLINED BY CONTRACTOR AND APPROVED BY THE ENGINEER
- STRUCTURAL CONCRETE (3Y33)
- AREA LEFT EXPOSED DURING STAGE 1.

SEE SHEET NO. 7 FOR BILL OF REINFORCEMENT.

SEE SHEET NO. 7 FOR SECTIONS C-C & D-D.

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENCED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: **RECONSTRUCT EXPANSION JOINT TYPE A STAGE 2**
(TYPICAL AT EXISTING EXPANSION JOINTS IN APPROACH SPANS)

| | | | |
|------|------|------|-----------|
| DES: | DR: | CAG: | APPROVED: |
| CHK: | CHK: | GDB: | 3-6-03 |

SHEET NO. 8 OF 15 SHEETS

BRIDGE NO. 2440

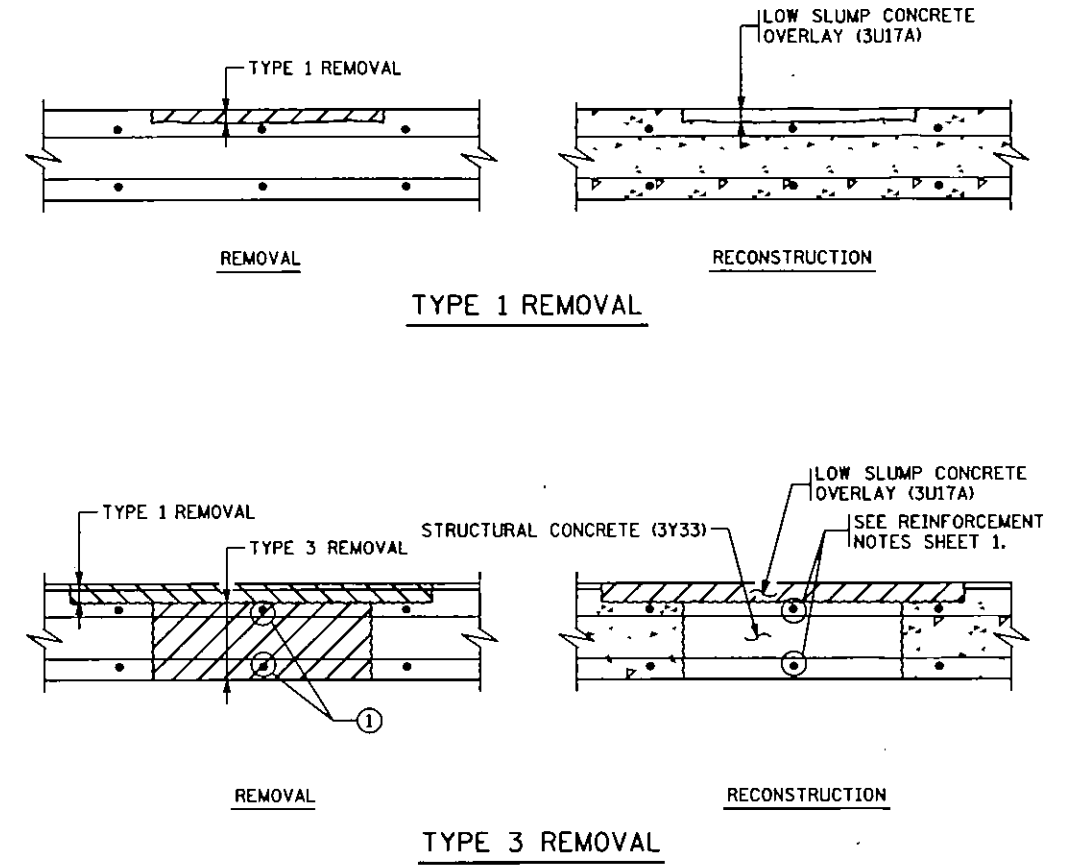
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REMOVAL ESTIMATES NORTH BOUND - STAGE ONE ②

| JOINT NO. | SOUTH SIDE OF JOINT | NORTH SIDE OF JOINT |
|-----------|---|---|
| 1 | OK | OK |
| 2 | OK | OK |
| 3 | OK | OK |
| 4 | OK | OK |
| 5 | OK | OK |
| 6 | OK | OK |
| 7 | OK | OK |
| 8 | OK | OK |
| 9 | MAX WIDTH OF 36" x 24'-0" | MAX WIDTH OF 32" x 24'-0" |
| 10 | OK | OK |
| 11 | OK | OK |
| 12 | OK | OK |
| 13 | MAX WIDTH OF 22" x 5'-0" | OK |
| 14 | MAX WIDTH OF 36" x 16'-0" | OK |
| 15 | MAX WIDTH OF 27" x 8'-0" | MAX WIDTH OF 18" x 2'-0" |
| 16 | OK | MAX WIDTH OF 16" x 16'-0" |
| 17 | OK | OK |
| 18 | OK | MAX WIDTH OF 24" x 6'-0" |
| 19 | MAX WIDTH OF 22" x 3'-0" | OK |
| 20 | MAX WIDTH OF 18" x 22'-0" | MAX WIDTH OF 34" x 22'-0" |
| 21 | MAX WIDTH OF 36" x 24'-0" | MAX WIDTH OF 43" x 10'-0" |
| 22 | OK | MAX WIDTH OF 20" x 12'-0" MAX WIDTH OF 14" x 2'-0" |
| 23 | OK | OK |
| 24 | MAX WIDTH OF 16" x 2'-0" | MAX WIDTH OF 16" x 2'-0" |
| 25 | OK | OK |
| 26 | MAX WIDTH OF 24" x 10'-0" | MAX WIDTH OF 16" x 3'-0" MAX WIDTH OF 16" x 3'-0" |
| 27 | MAX WIDTH OF 25" x 11'-0" MAX WIDTH OF 12" x 6'-0" | MAX WIDTH OF 24" x 9'-0" |
| 28 | OK | MAX WIDTH OF 19" x 4'-0" |
| 29 | MAX WIDTH OF 23" x 7'-0" | OK |
| 30 | MAX WIDTH OF 17" x 5'-0" | OK |
| 31 | OK | OK |
| 32 | MAX WIDTH OF 27" x 28'-0" | OK |
| 33 | MAX WIDTH OF 27" x 2'-0" | MAX WIDTH OF 20" x 6'-0" |
| 34 | MAX WIDTH OF 32" x 28'-0" | OK |
| 35 | OK | OK |
| 36 | OK | OK |
| 37 | OK | MAX WIDTH OF 16" x 13'-0" |
| 38 | OK | OK |
| 39 | OK | OK |
| 40 | OK | OK |
| 41 | OK | OK |
| 42 | OK | OK |
| 43 | OK | OK |

REMOVAL ESTIMATES SOUTH BOUND - STAGE TWO ②

| JOINT NO. | NORTH SIDE OF JOINT | SOUTH SIDE OF JOINT |
|-----------|--|---|
| 1 | OK | OK |
| 2 | OK | OK |
| 3 | OK | OK |
| 4 | OK | OK |
| 5 | OK | OK |
| 6 | OK | MAX WIDTH OF 24" x 4'-0" |
| 7 | OK | OK |
| 8 | MAX WIDTH OF 16" x 8'-0" | MAX WIDTH OF 16" x 8'-0" |
| 9 | MAX WIDTH OF 24" x 28'-0" | MAX WIDTH OF 20" x 14'-0" |
| 10 | OK | OK |
| 11 | MAX WIDTH OF 18" x 7'-0" MAX WIDTH OF 21" x 6'-0" | MAX WIDTH OF 16" x 13'-0" |
| 12 | MAX WIDTH OF 20" x 27'-0" | MAX WIDTH OF 20" x 27'-0" |
| 13 | MAX WIDTH OF 17" x 27'-0" | MAX WIDTH OF 17" x 27'-0" |
| 14 | MAX WIDTH OF 20" x 28'-0" | MAX WIDTH OF 20" x 28'-0" MAX WIDTH OF 36" x 7'-0" |
| 15 | MAX WIDTH OF 20" x 27'-0" | MAX WIDTH OF 20" x 27'-0" |
| 16 | MAX WIDTH OF 16" x 27'-0" | MAX WIDTH OF 18" x 27'-0" |
| 17 | MAX WIDTH OF 24" x 27'-0" | MAX WIDTH OF 24" x 27'-0" |
| 18 | OK | MAX WIDTH OF 14" x 27'-0" |
| 19 | MAX WIDTH OF 16" x 28'-0" | MAX WIDTH OF 20" x 28'-0" |
| 20 | MAX WIDTH OF 15" x 28'-0" | MAX WIDTH OF 24" x 28'-0" |
| 21 | WIDTH VARIES FROM 36" TO 57" x 24'-0" | MAX WIDTH OF 19" x 28'-0" |
| 22 | OK | OK |
| 23 | MAX WIDTH OF 17" x 3'-0" MAX WIDTH OF 17" x 8'-0" | MAX WIDTH OF 17" x 8'-0" |
| 24 | OK | OK |
| 25 | MAX WIDTH OF 48" x 48" DELAM | MAX WIDTH OF 15" x 27'-0" |
| 26 | OK | MAX WIDTH OF 30" x 17'-0" |
| 27 | MAX WIDTH OF 36" x 8'-0" | OK |
| 28 | MAX WIDTH OF 60" x 3'-0" | MAX WIDTH OF 18" x 7'-0" |
| 29 | OK | OK |
| 30 | OK | OK |
| 31 | MAX WIDTH OF 24" x 5'-0" MAX WIDTH OF 36" x 6'-0" DELAM | OK |
| 32 | OK | OK |
| 33 | OK | OK |
| 34 | OK | OK |
| 35 | OK | MAX WIDTH OF 28" x 5'-0" |
| 36 | OK | OK |
| 37 | OK | OK |
| 38 | OK | OK |
| 39 | OK | OK |
| 40 | OK | OK |
| 41 | OK | OK |
| 42 | OK | OK |
| 43 | OK | OK |



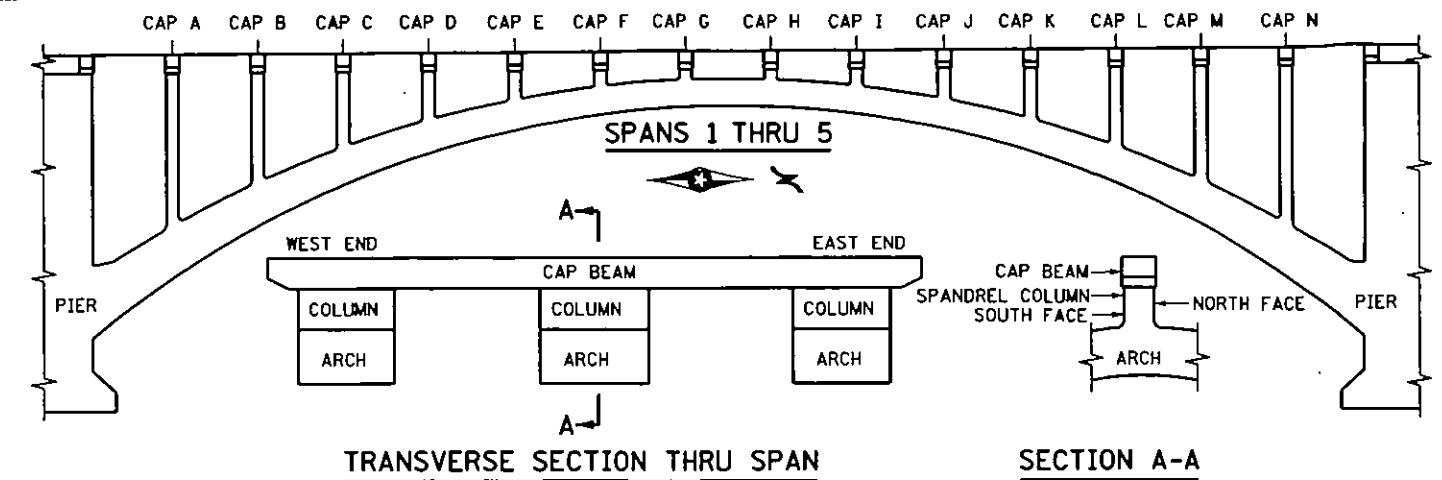
NOTES:

- NO CUTTING WILL BE PERMITTED UNTIL THE CUTTING LIMITS HAVE BEEN OUTLINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. REMOVAL AND RECONSTRUCTION SHALL CONFORM TO SPEC. 2433.
- ① REMOVE IF BAR MOSTLY EXPOSED OR UNSOUND. CUT TO LEAVE 1'-11" LAP FROM BARRIER.
- ② AREAS SHOWN ARE BASED ON DECK SURVEY INFORMATION TAKEN IN 2002. ALL UNSOUND CONCRETE AT JOINTS SHALL BE REMOVED. UNSOUND CONCRETE BEYOND 1'-3" FROM ϕ OF JOINT SHALL BE PAID FOR AS "REMOVE SLAB TYPE 1" OR "REMOVE SLAB TYPE 3"

| | | | | | | |
|--|----------------|----------------|------------------------|------------------------|---------------------|--------------------------|
| CERTIFIED BY <i>Duane M. Green, Jr.</i> LICENSED PROFESSIONAL ENGINEER | DATE 3/6/03 | LIC. NO. 13361 | DES. CHK. | DR. CHK. CAG GDB | APPROVED: 3-6-03 | BRIDGE NO. 2440 |
| NAME: DUANE M. GREEN, JR. | | | REMOVE SLAB TYPE 1 & 3 | | | SHEET NO. 9 OF 15 SHEETS |

ESTIMATED REPAIR AREAS - SPANS 1 - 3

| SPAN NO. | CAP NO. | SOUTH FACE OF CAP | NORTH FACE OF CAP |
|----------|---------|--|---|
| 1 | A | 10'-0" DELAM ON CAP AND 10'-0" CORNER DELAM DECK SATURATED 6" TO 16" FROM CAP | 5'-0" DELAM BOTTOM OF CAP DECK SATURATED 6" TO 16" FROM CAP |
| | B | OK | OK |
| | C | OK | OK |
| | D | 5'-0" SPALLS & 5'-0" DELAM @ WEST COLUMN DECK SATURATED 0" TO 6" FROM CAP | CAP OK DECK SATURATED 0" TO 6" FROM CAP |
| | E | OK | OK |
| | F | CAP OK DECK SATURATED 6" TO 16" FROM CAP (MINOR) | CAP OK DECK SATURATED 6" TO 16" FROM CAP (MINOR) |
| | G | OK | SPALLS 10 SQ. FT. ABOVE CENTER ARCH |
| | H | EXTENSIVE CRACKS IN COLUMNS ABOVE OUTSIDE ARCHS, WEST COLUMN IS OFFSET SPALL 10 SQ. FT. ABOVE CENTER ARCH SPALL 20 SQ. FT. AT EAST END OF CAP | |
| | I | NO SPALLS - MINOR DECK DELAM | 10'-0" DELAM BETWEEN CENTER AND EAST COLUMN |
| | J | OK | OK |
| | K | 2'-0" ABOVE CENTER ARCH 8'-0" CRACKING ABOVE CATWALK | 10 SQ. FT. SPALL BETWEEN CENTER & WEST COLUMN DECK SATURATED 0" TO 12" FROM CAP |
| | L | OK | OK |
| | M | OK | OK |
| | N | 10' DELAM ON CAP ABOVE CATWALK DECK SATURATED 6" TO 24" FROM CAP | 20'-0" DELAM ON WEST CENTER CAP 5'-0" DELAM ON CAP ABOVE CATWALK DECK SATURATED 6" TO 24" FROM CAP |
| 2 | A | 10'-0" DELAM ON WEST CENTER CAP 8'-0" DELAM ON EAST CENTER CAP DECK SATURATED 6" TO 36" FROM CAP | 2 SQ. FT. SPALL ON WEST CENTER TOP OF CAP DECK SATURATED 0" TO 12" FROM CAP |
| | B | OK | OK |
| | C | OK | OK |
| | D | MINOR DELAM ON DECK | 5'-0" CRACK/DELAM ON CAP BOTTOM @ CATWALK DECK SATURATED 0" TO 6" FROM CAP |
| | E | OK | OK |
| | F | CAP OK MINOR SATURATION ON DECK | CAP OK MINOR SATURATION ON DECK |
| | G | OK | OK |
| | H | OK | OK |
| | I | MINOR SATURATION ON DECK | MINOR SATURATION ON DECK |
| | J | OK | OK |
| | K | 5'-0" DELAM ON CAP ABOVE CATWALK & WEST CENTER CAP BOTTOM MINOR DECK SATURATION | MINOR CRACKS ON WEST CENTER CAP BOTTOM MINOR DECK SATURATION |
| | L | OK | OK |
| | M | OK | OK |
| | N | 5'-0" DELAM ON TOP OF CAP ABOVE CENTER COLUMN MINOR 5'-0" CRACK ON WEST CENTER BOTTOM OF CAP 10'-0" CRACK ON BOTTOM AT CATWALK DECK DELAM & SATURATED 0" TO 24" FROM CAP | DECK SATURATED 6" TO 12" FROM CAP |
| 3 | A | MINOR CRACK ON CENTER WEST CAP BOTTOM DECK DELAM & SATURATED 6" TO 18" FROM CAP | SPALLS ON BOTTOM OF EAST DECK DECK SATURATED 0" TO 6" FROM CAP |
| | B | OK | OK |
| | C | OK | OK |
| | D | DECK SATURATED 0" TO 6" FROM CAP | DECK SATURATED 0" TO 6" FROM CAP |
| | E | OK | OK |
| | F | MINOR DECK SATURATED | 5'-0" MINOR CRACK ON WEST CENTER CAP BOTTOM MINOR DECK SATURATION |
| | G | OK | OK |
| | H | OK | OK |
| | I | 5'-0" MINOR CRACK ON WEST CENTER CAP BOTTOM MINOR DECK SATURATION | OK |
| | J | OK | OK |
| | K | 5'-0" DELAM ON CAP WEST OF CENTER COLUMN MINOR DECK SATURATION | ONE AREA OF DELAM OF DECK DECK SATURATED 0" TO 6" FROM CAP |
| | L | OK | OK |
| | M | OK | OK |
| | N | 15 SQ. FT. SPALL UP TO 8" DEEP 15'-0" DELAM ON CENTER WEST BOTTOM OF CAP DECK SPALL & DELAM UP TO 18" OUT DECK SATURATED UP TO 4'-0" FROM CAP | 15 SQ. FT. SPALL ABOVE CENTER COLUMN 5 SQ. FT. ON WEST CENTER CAP TOP DECK SPALL AND DELAM UP TO 2'-0" FROM DECK SATURATED UP TO 3'-0" FROM CAP |



ESTIMATED REPAIR AREAS - SPANS 4 & 5

| SPAN NO. | CAP NO. | SOUTH FACE OF CAP | NORTH FACE OF CAP |
|----------|---------|---|--|
| 4 | A | 5 SQ. FT. DELAM ON WEST CENTER CAP DECK DELAM 6" TO 2'-0" FROM CAP DECK SATURATED UP TO 3'-0" FROM CAP | LARGE SPALL 20 SQ. FT. ABOVE CENTER COLUMN 3 SQ. FT. SPALL TOP WEST 12" DEEP MINOR CRACK @ BOTTOM ABOVE CATWALK SPALL EAST END OF CAP DECK DELAM 2'-0" FROM CAP @ SPALL WEST END DECK SATURATED 0" TO 3'-0" FROM CAP |
| | B | OK | OK |
| | C | OK | OK |
| | D | MINOR DECK SATURATED 0" TO 8" FROM CAP | MINOR DECK SATURATED 0" TO 8" FROM CAP |
| | E | OK | OK |
| | F | 10'-0" DELAM @ WEST CENTER CAP BOTTOM | CRACK/ DELAM FROM CAP E TOWARDS CAP G |
| | G | OK | OK |
| | H | OK | OK |
| | I | MINOR DECK DELAM - DECK SATURATED 0" TO 6" FROM CAP | DECK SATURATED 0" TO 6" FROM CAP |
| | J | OK | OK |
| | K | MINOR 5'-0" CRACKING AT WEST CENTER BOTTOM OF CAP DECK SATURATED 0" TO 24" FROM CAP | SPALL CAP TOP ABOUT CENTER COLUMN 10 SQ. FT. CRACK/ DELAM WEST CENTER BOTTOM 10'-0" CRACK CAP BOTTOM AT CATWALK DECK SATURATED 0" TO 18" FROM CAP |
| | L | OK | OK |
| | M | OK | OK |
| | N | 10'-0" CRACK ON CAP BOTTOM ABOVE CATWALK 10'-0" CRACK AT WEST CENTER BOTTOM OF CAP WEST SIDE OF DECK DELAM 0" TO 3'-0" FROM CAP EAST SIDE OF DECK SATURATED 0" TO 24" FROM CAP | 10'-0" CRACK ON CAP BOTTOM ABOVE CATWALK 10'-0" CRACK AT WEST CENTER BOTTOM OF CAP DECK DELAM 0" TO 3'-0" FROM CAP DECK SATURATED 0" TO 12" FROM CAP |
| 5 | A | 10'-0" CRACK/ DELAM ON CAP BOTTOM ABOVE CATWALK MINOR CRACK AT WEST CENTER BOTTOM OF CAP DELAM TOP @ CATWALK EAST DECK SPALL/ DELAM 6" TO 2'-0" FROM CAP WEST DECK SATURATED 0" TO 12" FROM CAP | 20 SQ. FT. SPALL CAP TOP @ CENTER COLUMN 10'-0" LONG CRACK @ CAP BOTTOM @ CATWALK DECK SATURATED UP TO 24" FROM CAP CRACK 3" FROM CAP FACE |
| | B | OK | OK |
| | C | OK | OK |
| | D | DECK SATURATED 0" TO 6" FROM CAP | DECK SATURATED 0" TO 6" FROM CAP |
| | E | OK | OK |
| | F | DECK SATURATED 0" TO 6" FROM CAP | DECK SATURATED 0" TO 6" FROM CAP |
| | G | OK | OK |
| | H | OK | OK |
| | I | DECK SATURATED 0" TO 6" FROM CAP MINOR DELAM ALONG LONGIT. CRACK | DECK SATURATED 0" TO 6" FROM CAP |
| | J | OK | OK |
| | K | 10'-0" CRACK ON WEST CENTER CAP BOTTOM DECK SATURATED 0" TO 6" FROM CAP | 10'-0" CRACK ON CAP BOTTOM ABOVE CATWALK 10'-0" CRACK AT WEST CENTER BOTTOM OF CAP CRACKS/ SPALLS 10'-0" TOP OF CAP @ CATWALK DECK SATURATED 0" TO 12" FROM CAP |
| | L | OK | OK |
| | M | OK | OK |
| | N | 12'-0" DELAM/ CRACK ON CAP BOTTOM ABOVE CATWALK 10'-0" DELAM/ CRACK AT WEST CENTER BOTTOM OF CAP CRACK/ DELAM ON DECK 0" TO 6" FROM CAP DECK SATURATED 12" TO 24" FROM CAP | 10'-0" CRACK AT WEST CENTER BOTTOM OF CAP DECK DELAM 3" TO 24" FROM CAP DECK SATURATED 6" TO 24" FROM CAP |

NOTES:

REPAIR BY REMOVING UNSOUND CONCRETE AND PLACING SHOTCRETE TO THE ORIGINAL CONCRETE PROFILE.
CONVENTIONAL FORMING AND PLACEMENT OF CONCRETE MAY BE SELECTED AT THE CONTRACTORS OPTION.

CERTIFIED BY

Duane M. Green, Jr.
LICENSED PROFESSIONAL ENGINEER

3/6/03
DATE

NAME: DUANE M. GREEN, JR.

LIC. NO. 13361

REPAIR CONCRETE SURFACE
SPANS 1 - 5

DES:

DR: CAG

APPROVED:

3-6-03

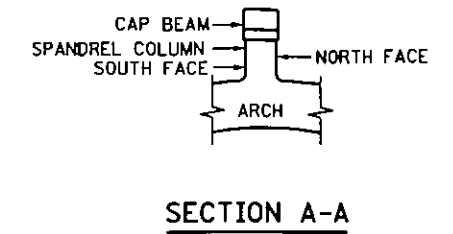
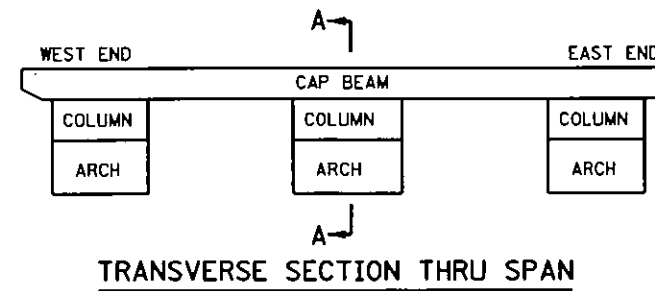
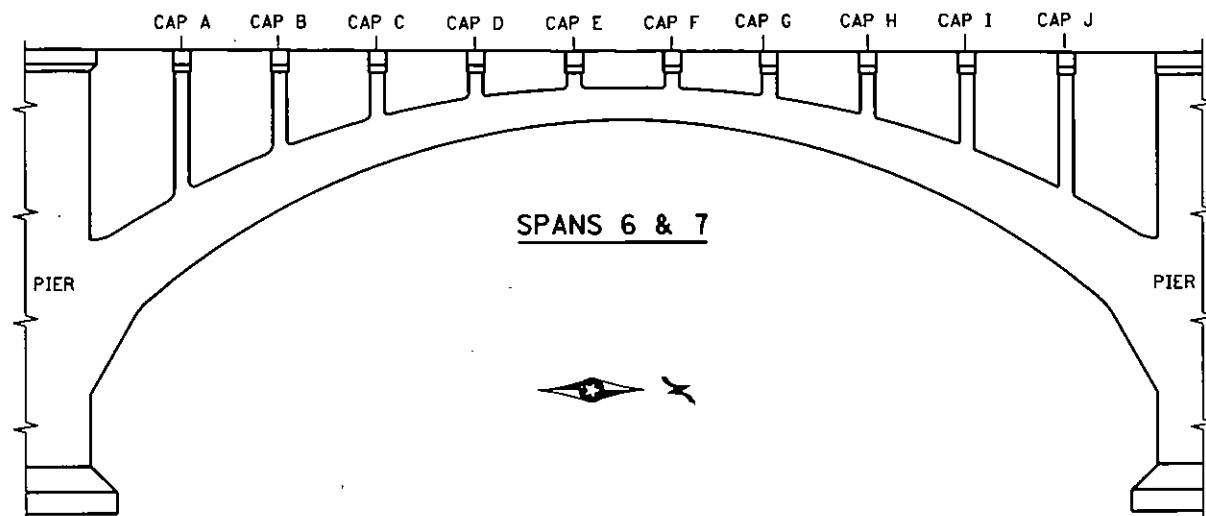
CHK:

CHK: GDB

SHEET NO. 10 OF 15 SHEETS

BRIDGE NO.

2440



NOTES:

REPAIR BY REMOVING UNSOUND CONCRETE AND PLACING SHOTCRETE TO THE ORIGINAL CONCRETE PROFILE.

CONVENTIONAL FORMING AND PLACEMENT OF CONCRETE MAY BE SELECTED AT THE CONTRACTORS OPTION.

ESTIMATED REPAIR AREA - SPANS 6 & 7

| SPAN NO. | CAP NO. | |
|----------|---------|---|
| 6 | A | EXTENSIVE DELAM AT JOINT AND CATWALK DOWN TO 2' FROM CAP |
| | B | OK |
| | C | OK |
| | D | EXTENSIVE DELAM AT CATWALK, DECK WATER SATURATED 0" TO 24" OUT |
| | E | OK |
| | F | OK |
| | G | EXTENSIVE DELAM AT CATWALK, DECK WATER SATURATED 0" TO 24" OUT |
| | H | OK |
| | I | OK |
| | J | 40' SQ. FT. OF SPALL DELAM UNDERSIDE OF DECK AT CATWALK |
| 7 | A | 30 SQ. FT. DELAM/SPALL AT CATWALK, DECK WATER SATURATED 6" TO 24" OUT |
| | B | OK |
| | C | OK |
| | D | 20 SQ. FT. DELAM/SPALL AT CATWALK, DECK WATER SATURATED 0" TO 6" OUT |
| | E | OK |
| | F | OK |
| | G | MINOR DELAM/SPALL AT CATWALK ON NORTH SIDE, MINOR DECK WATER SATURATION |
| | H | OK |
| | I | OK |
| | J | 20 SQ. FT. DELAM/SPALL AT CATWALK, DECK WATER SATURATED 0" TO 6" OUT |

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENCED PROFESSIONAL ENGINEER
 NAME: DUANE M. GREEN, JR. LIC. NO. 13361

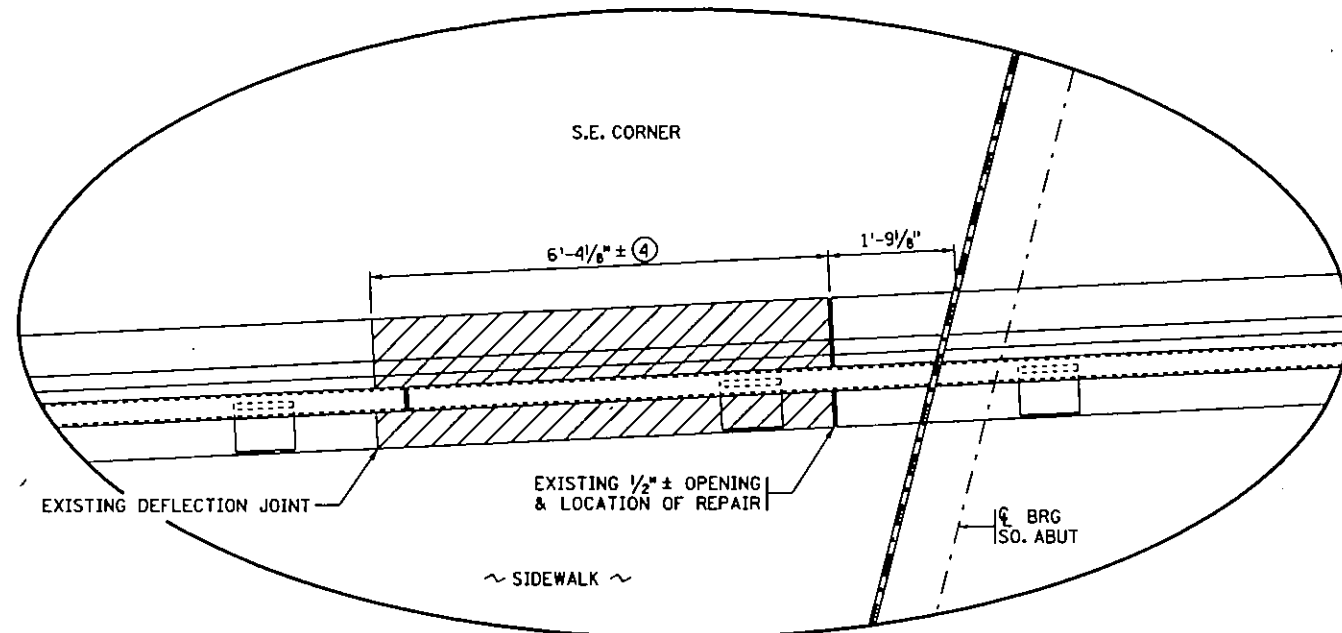
TITLE: REPAIR CONCRETE SURFACE SPANS 6 & 7

DES: DR: CAG
 CHK: GDB
 APPROVED: 3-6-03
 SHEET NO. 11 OF 15 SHEETS

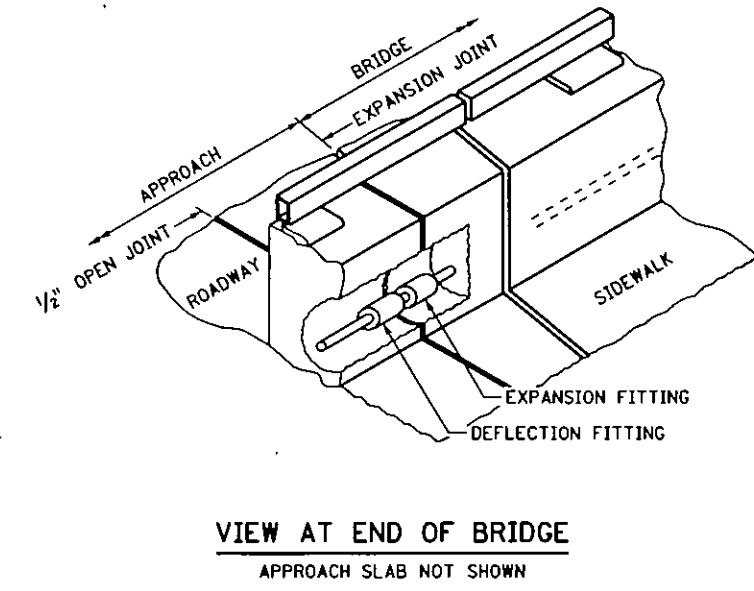
BRIDGE NO. 2440

| SUMMARY OF QUANTITIES FOR RECONSTRUCT CONDUIT SYSTEM (LIGHTING) | |
|---|-----------|
| COMBINATION DEFLECTION/EXPANSION FITTING | 1 EACH |
| STRUCTURAL CONCRETE (3Y46) | 1 CU. YD. |
| | |
| | |

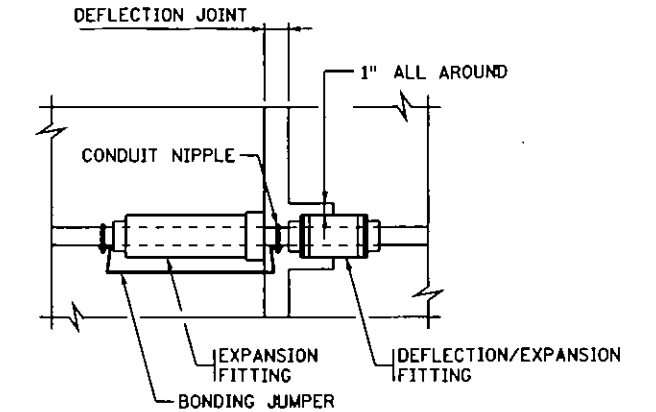
ALL MATERIAL LISTED ABOVE IS INCLUDED IN PRICE BID FOR "RECONSTRUCT CONDUIT SYSTEM (LIGHTING)"



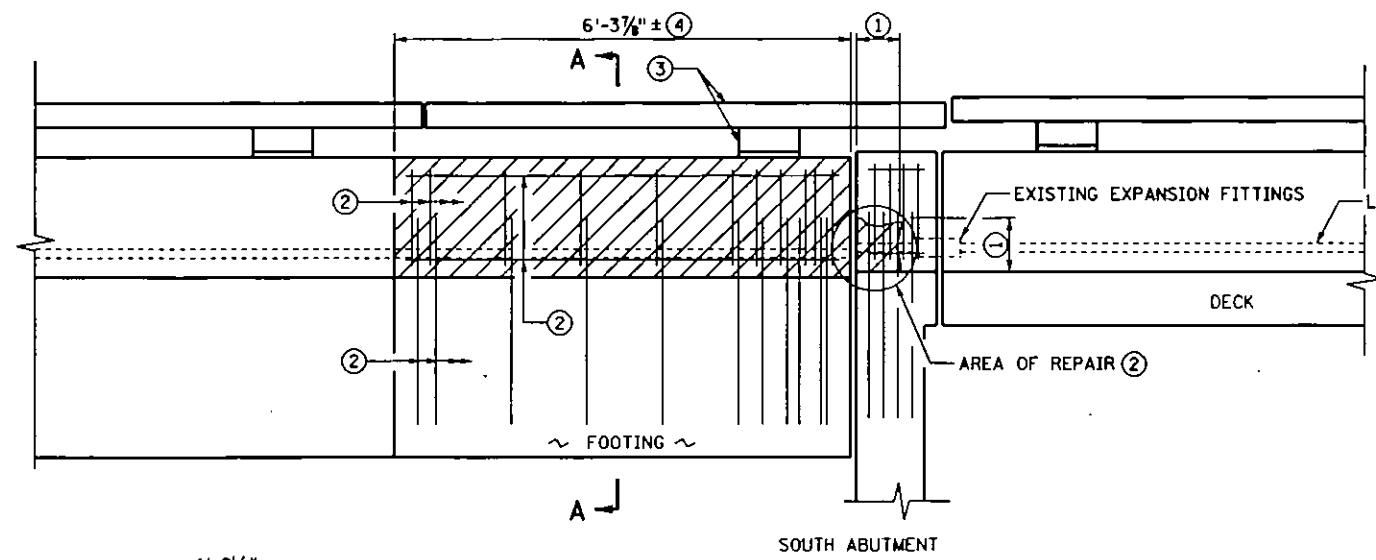
DETAIL "F"



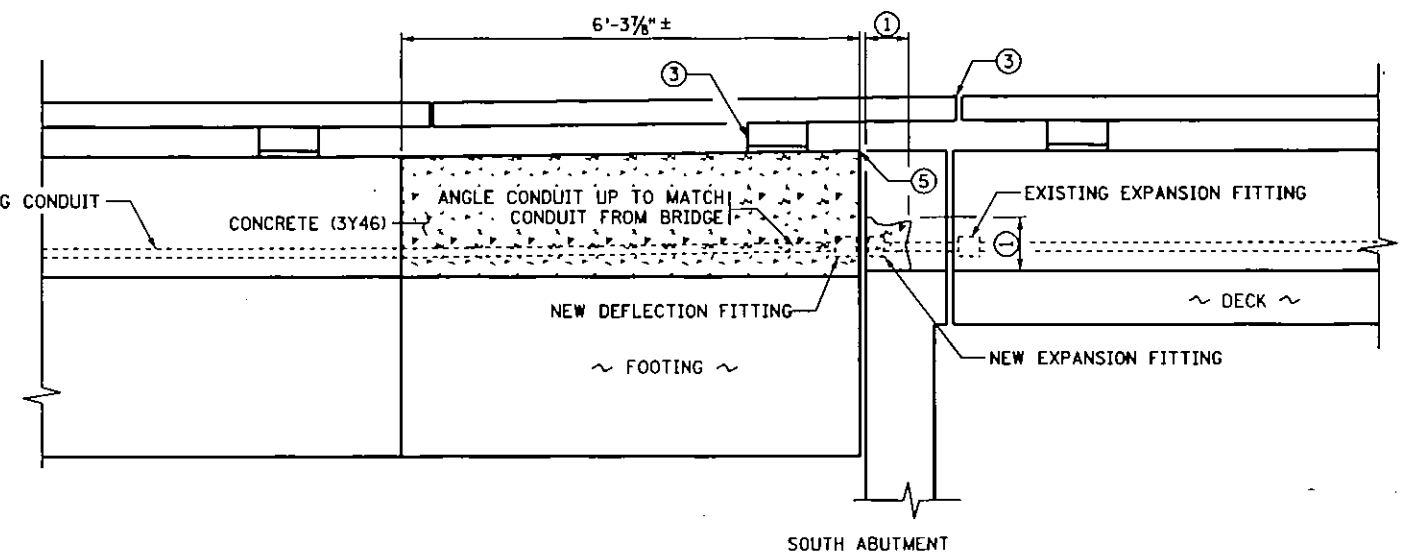
VIEW AT END OF BRIDGE
APPROACH SLAB NOT SHOWN



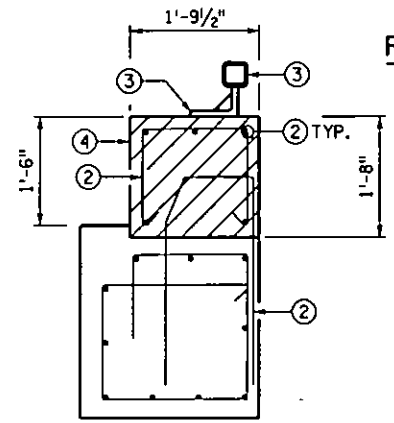
COMBINATION DEFLECTION/EXPANSION FITTING



REMOVAL ELEVATION VIEW



RECONSTRUCT ELEVATION VIEW



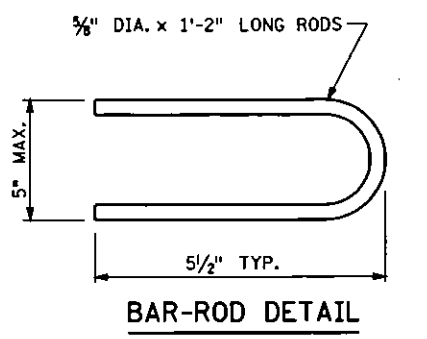
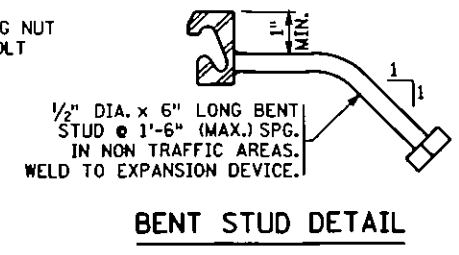
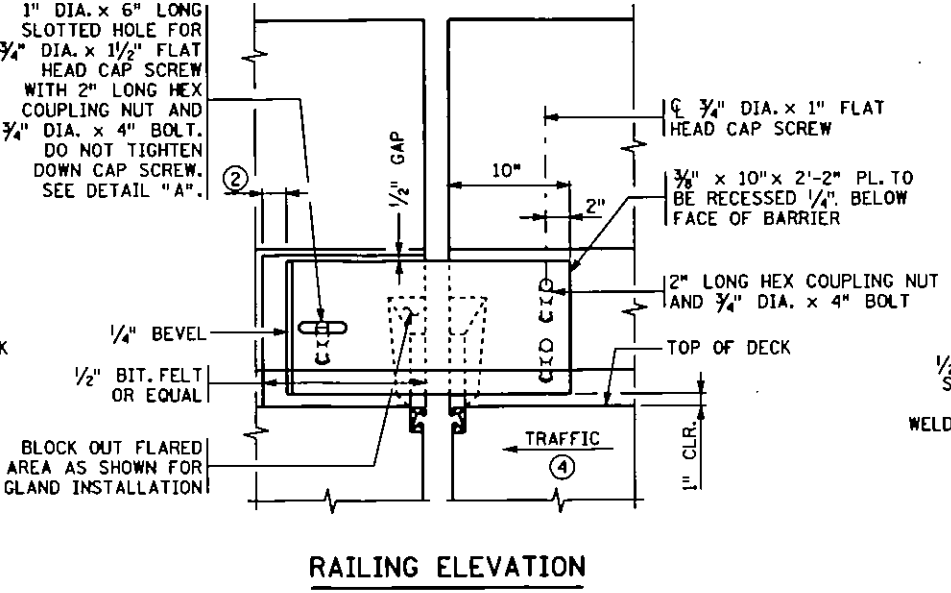
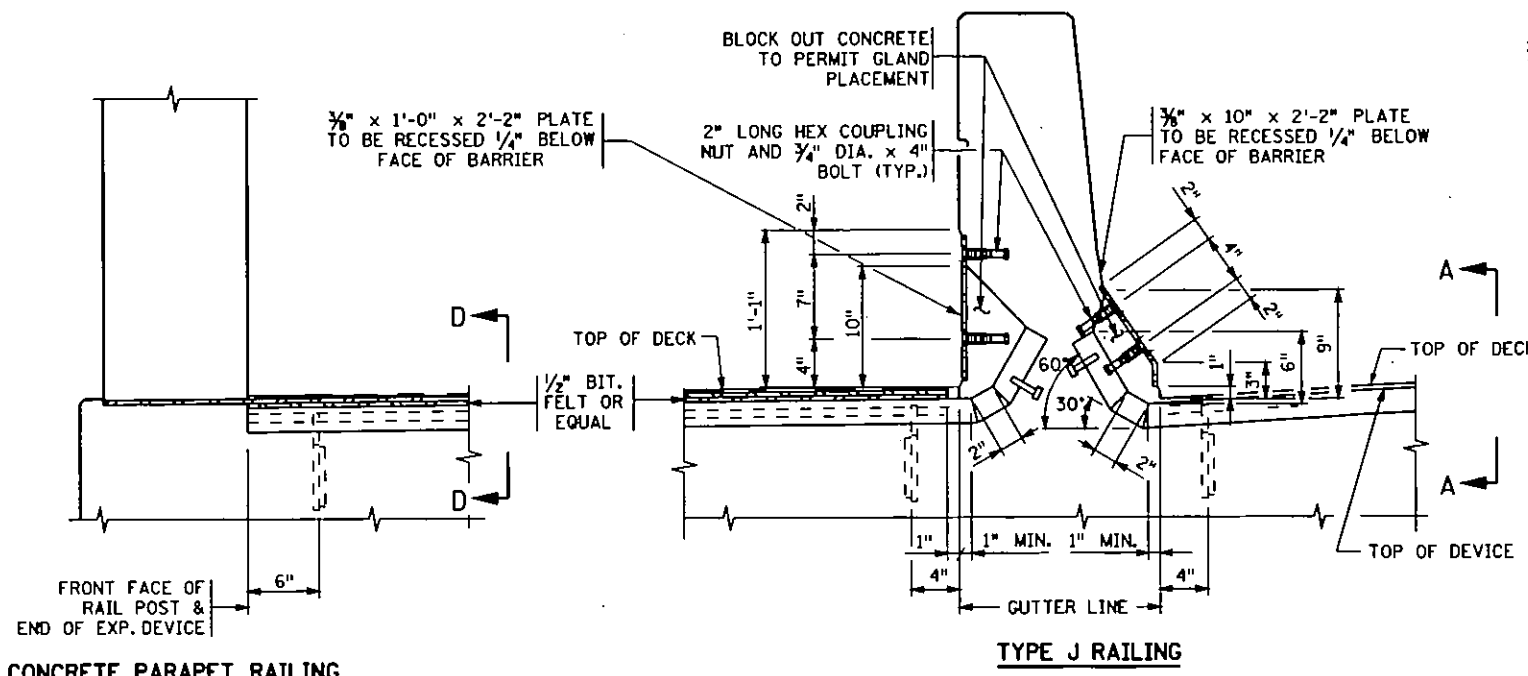
SECTION A-A

NOTES

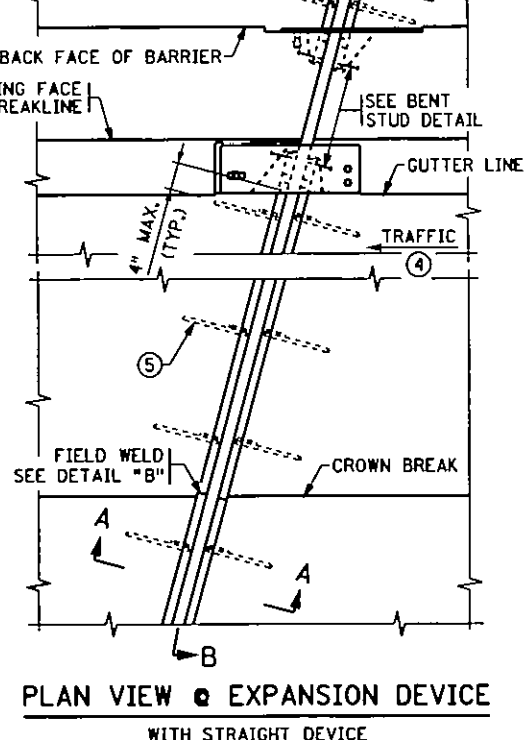
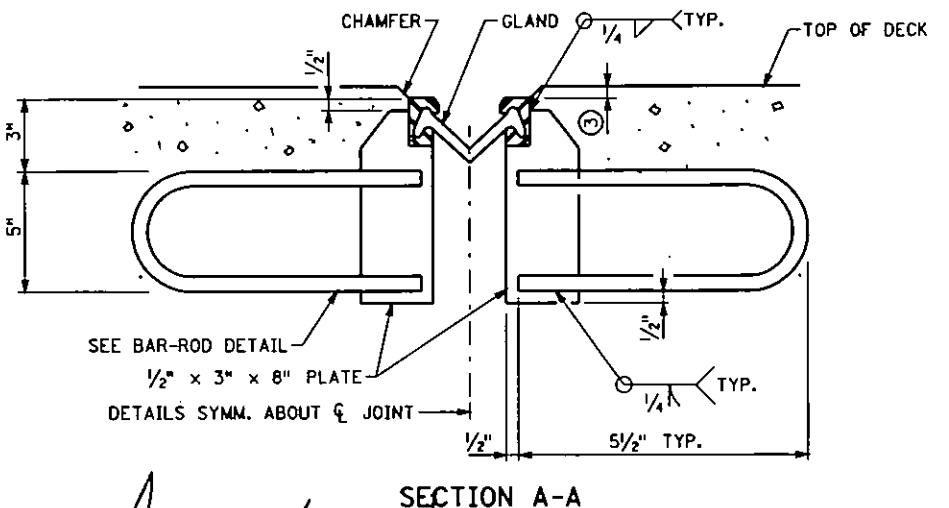
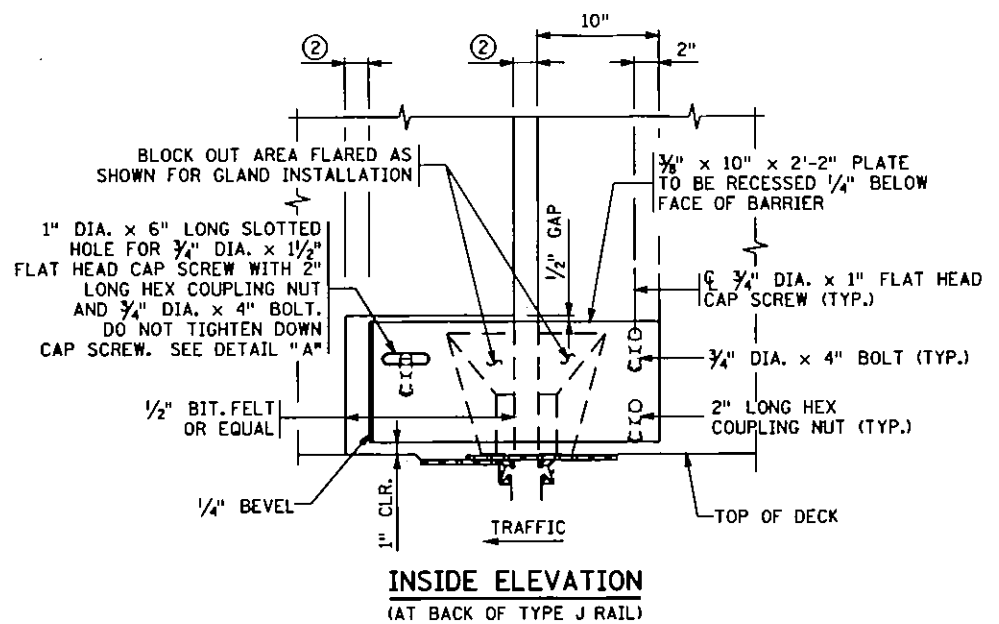
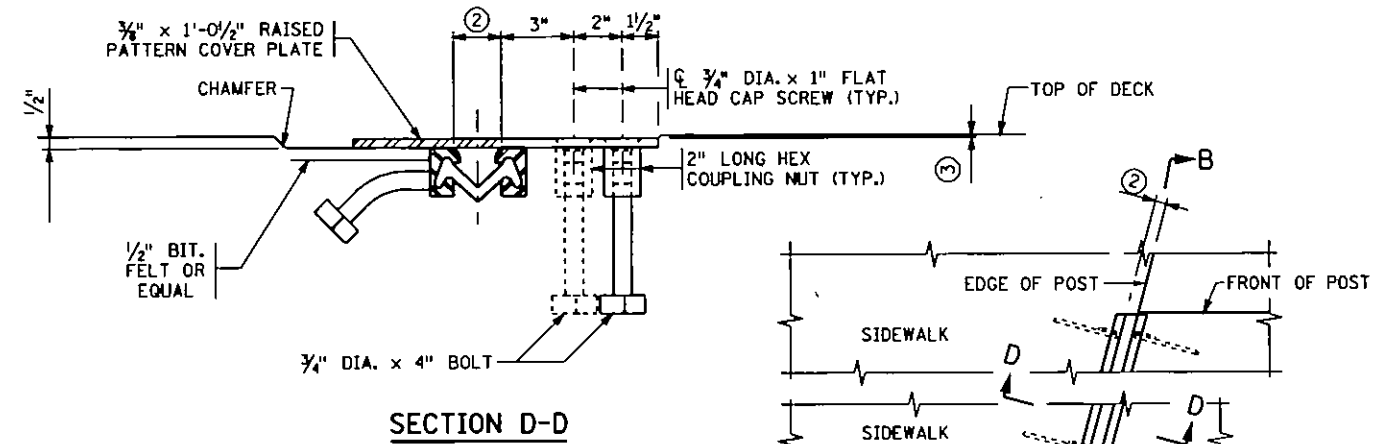
- ① REMOVE CONCRETE TO PROVIDE CLEARANCE FOR INSTALLATION OF EXPANSION FITTING & CONNECTION.
 - ② CLEAN & STRAIGHTEN ALL REINFORCEMENT. REPLACE ONLY IF NEEDED. PAYMENT TO BE INCLUDED UNDER "RECONSTRUCT CONDUIT SYSTEM (LIGHTING)".
 - ③ SALVAGE ALL TUBING AND FITTINGS. MATCH ELEVATION AT EXPANSION JOINT LOCATION.
 - ④ SUGGESTED REMOVAL AREA. REMOVE ENOUGH TO BEND EXISTING CONDUIT TO ELEVATION AT 1/2" JOINT. NEED TO LEAVE CLEARANCE FOR FITTINGS ALSO.
 - ⑤ MATCH EXISTING RAILING WHEN POURING CONCRETE. MATCH ELEVATION OF RAILING AT BOTH JOINTS.
- SEE SHEET 1 FOR LOCATION OF DETAIL "F".

| | | | | | | | |
|---|---|---|--|--------------------------|---------------------|-------------------------|--|
| CERTIFIED BY <i>Duane M. Green, Jr.</i> <small>LICENSED PROFESSIONAL ENGINEER</small> NAME: DUANE M. GREEN, JR. | DATE <i>3/6/03</i> <small>LIC. NO. 13361</small> | TITLE: RECONSTRUCT CONC RAILING AND RECONSTRUCT CONDUIT SYSTEM (LIGHTING) | | DES: _____ CHK: _____ | DR: CAG CHK: GDB | APPROVED: <i>3-6-03</i> | BRIDGE NO. 2440 SHEET NO. 12 OF 15 SHEETS |
| | | | | | | | |

3/6/2003 5:10:48pm \\s12448\BR2448.BEP



SECTION THROUGH RAILINGS - INTEGRAL SIDEWALK
(JOINTS 1-3, 8, 9, 14, 15, 20, 21, 26, 27, 32, 33, 36, 37, 41 & 43)



NOTE:
TRANSVERSE DECK REINFORCEMENT MAY BE SHIFTED THE MINIMUM DISTANCE REQUIRED FOR EXPANSION DEVICE PLACEMENT

- GENERAL NOTES**
- GALVANIZE STRUCTURAL STEEL AFTER FABRICATION AS PER Mn/DOT SPEC. 3394. GALVANIZE FASTENERS AS PER Mn/DOT SPEC. 3392.
 - JOINTS IN EXTRUSION SHALL BE LOCATED AT BREAKS IN TRANSVERSE PROFILE AND AS OTHERWISE REQUIRED. JOINTS SHALL BE CLOSE FIT AND WELDED. REPAIR AFTER WELDING AS PER Mn/DOT SPEC. 2471.3L.
 - STRUCTURAL STEEL SHALL COMPLY WITH Mn/DOT SPEC. 3306 OR Mn/DOT SPEC. 3309.
 - EXPANSION DEVICE SHALL BE STRAIGHTENED TO A TOLERANCE OF 1/8" IN 10 FT.
 - CAP SCREWS SHALL BE COUNTERSUNK 1/16" BELOW TOP OF PLATE.
 - LENGTH OF PAYMENT FOR DEVICE IS FROM OUT TO OUT OF EXTRUSION ALONG CENTERLINE OF JOINT.
 - SEE SHEET NO. 14 FOR SECTION B-B & DETAIL "B".
 - ② 2 1/2" AT ALL TEMPS. JOINTS 1,2,41 & 43
2" AT ALL TEMPS (ALL OTHER JOINTS)
 - ③ 1/8" (1/4" MAX.).
 - ④ SEE SHEET NO. 1 FOR DIRECTION OF TRAFFIC.
 - ⑤ PLACE BAR-ROD NORMAL TO JOINT.

REVISION: 06-03-02
APPROVED: NOVEMBER 6, 1995
Donald J. Manning
STATE BRIDGE ENGINEER

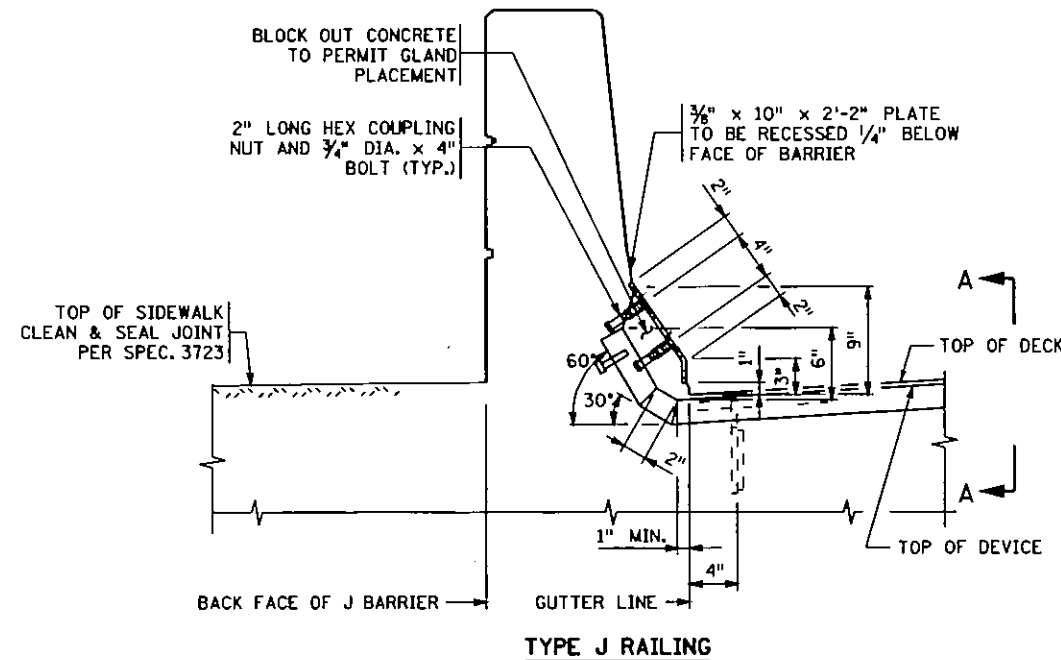
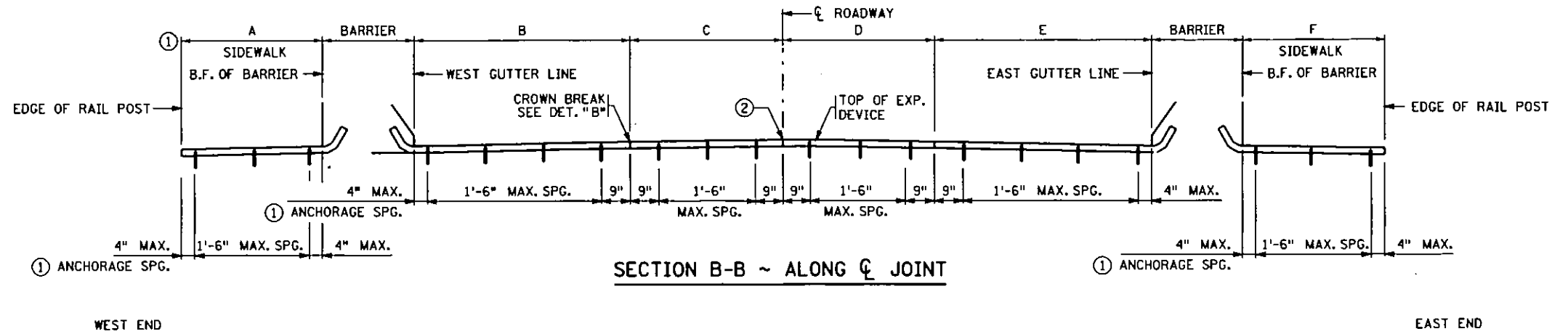
CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENSED PROFESSIONAL ENGINEER
NAME: DUANE M. GREEN, JR. LIC. NO. 13361

TITLE: WATERPROOF EXPANSION DEVICE
(WITH TYPE J BARRIER & SIDEWALK)

DES: DR: CAG
CHK: CHK: GDB
APPROVED: 3-6-03
BRIDGE NO. 2440
SHEET NO. 13 OF 15 SHEETS

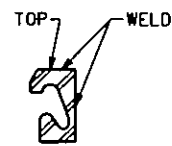
FIG. 5-397.627
MODIFIED

| MEASUREMENTS ALONG \bar{C} OF JOINT ④ | | | | | | |
|---|-----------------------|------------------------|-----------------------|-----------------------|------------------------|-----------------------|
| JOINT NO. | STAGE 2 | | | STAGE 1 | | |
| | A | B | C | D | E | F |
| 1 | 8'-9 $\frac{3}{4}$ " | 17'-11" | 12'-4 $\frac{1}{2}$ " | 12'-4 $\frac{1}{2}$ " | 21'-2" | 15'-8 $\frac{3}{8}$ " |
| 2 | 8'-7 $\frac{3}{4}$ " | 17'-7" | 12'-1 $\frac{3}{4}$ " | 12'-1 $\frac{3}{4}$ " | 17'-7 $\frac{1}{8}$ " | 8'-7 $\frac{1}{8}$ " |
| 3 | 8'-7 $\frac{1}{8}$ " | 17'-7 $\frac{1}{8}$ " | 12'-2 $\frac{3}{8}$ " | 12'-2 $\frac{3}{8}$ " | 17'-8 $\frac{1}{8}$ " | 8'-8 $\frac{3}{8}$ " |
| 4 | NA ③ | 17'-8 $\frac{3}{8}$ " | 12'-2 $\frac{3}{8}$ " | 12'-2 $\frac{3}{8}$ " | 17'-8 $\frac{1}{8}$ " | NA ③ |
| 5 | NA ③ | 17'-9 $\frac{1}{8}$ " | 12'-3 $\frac{1}{4}$ " | 12'-3 $\frac{1}{4}$ " | 17'-9 $\frac{1}{2}$ " | NA ③ |
| 6 | NA ③ | 17'-9 $\frac{1}{8}$ " | 12'-3 $\frac{3}{8}$ " | 12'-3 $\frac{3}{8}$ " | 17'-10 $\frac{3}{8}$ " | NA ③ |
| 7 | NA ③ | 17'-10 $\frac{1}{2}$ " | 12'-4 $\frac{1}{4}$ " | 12'-4 $\frac{3}{8}$ " | 17'-11" | NA ③ |
| 8 | 8'-10 $\frac{3}{4}$ " | 17'-11 $\frac{3}{8}$ " | 12'-4 $\frac{3}{8}$ " | 12'-5" | 18'-0" | 8'-10 $\frac{3}{8}$ " |
| 9 | 8'-10 $\frac{3}{8}$ " | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 17'-11 $\frac{3}{8}$ " | 8'-10 $\frac{3}{8}$ " |
| 10 | NA ③ | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 11 | NA ③ | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 12 | NA ③ | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 13 | NA ③ | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 14 | 8'-10 $\frac{1}{8}$ " | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | 8'-10 $\frac{1}{4}$ " |
| 15 | 8'-10 $\frac{1}{8}$ " | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | 8'-10 $\frac{1}{4}$ " |
| 16 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 17 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 18 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 19 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 20 | 8'-10 $\frac{1}{8}$ " | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0 $\frac{1}{8}$ " | 8'-10 $\frac{1}{4}$ " |
| 21 | 8'-10 $\frac{1}{8}$ " | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0 $\frac{1}{8}$ " | 8'-10 $\frac{1}{4}$ " |
| 22 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 23 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 24 | NA ③ | 18'-0" | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 25 | NA ③ | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | NA ③ |
| 26 | 8'-10 $\frac{1}{8}$ " | 17'-11 $\frac{3}{8}$ " | 12'-5 $\frac{1}{8}$ " | 12'-5 $\frac{1}{8}$ " | 18'-0" | 8'-10 $\frac{1}{4}$ " |
| 27 | 8'-9 $\frac{3}{4}$ " | 17'-11" | 12'-4 $\frac{3}{8}$ " | 12'-4 $\frac{1}{4}$ " | 17'-10 $\frac{3}{8}$ " | 8'-9 $\frac{1}{2}$ " |
| 28 | NA ③ | 17'-8 $\frac{3}{8}$ " | 12'-2 $\frac{3}{4}$ " | 12'-2 $\frac{3}{8}$ " | 17'-8 $\frac{1}{2}$ " | NA ③ |
| 29 | NA ③ | 17'-7 $\frac{3}{8}$ " | 12'-2" | 12'-1 $\frac{1}{8}$ " | 17'-7 $\frac{1}{4}$ " | NA ③ |
| 30 | NA ③ | 17'-5 $\frac{7}{8}$ " | 12'-1" | 12'-1" | 17'-5 $\frac{3}{8}$ " | NA ③ |
| 31 | NA ③ | 17'-5 $\frac{1}{4}$ " | 12'-0 $\frac{1}{2}$ " | 12'-0 $\frac{1}{2}$ " | 17'-5 $\frac{1}{4}$ " | NA ③ |
| 32 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{3}{8}$ " | 12'-0 $\frac{1}{8}$ " | 12'-0 $\frac{1}{8}$ " | 17'-4 $\frac{3}{8}$ " | 8'-6 $\frac{1}{2}$ " |
| 33 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |
| 34 | NA ③ | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | NA ③ |
| 35 | NA ③ | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | NA ③ |
| 36 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |
| 37 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |
| 38 | NA ③ | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | NA ③ |
| 39 | NA ③ | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | NA ③ |
| 40 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |
| 41 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |
| 43 | 8'-6 $\frac{1}{2}$ " | 17'-4 $\frac{1}{2}$ " | 12'-0" | 12'-0" | 17'-4 $\frac{1}{2}$ " | 8'-6 $\frac{1}{2}$ " |

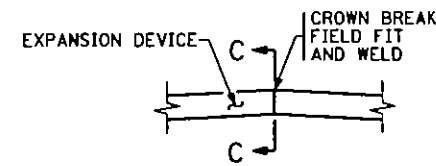


SECTION THROUGH RAILINGS

(JOINTS 4-7, 10-13, 16-19, 22-25, 28-31, 34, 35, 38, 39, & 42)



SECTION C-C



DETAIL "B"

NOTES:

- ① MEASURED ALONG \bar{C} OF JOINT.
- ② WELD STAGE ONE TO STAGE TWO AT CROWN BREAK.
- ③ CLEAN & SEAL JOINT PER SPEC. 3723.
- ④ LENGTHS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS BEFORE FABRICATION.

SEE SHEET NO. 1 FOR LOCATION OF JOINTS.

SEE SHEET NO. 13 FOR LOCATION OF SECTION B-B & DETAIL "B"

REVISION: 06-03-02

APPROVED: NOVEMBER 6, 1995

Donald J. Manning
STATE BRIDGE ENGINEER

CERTIFIED BY *Duane M. Green, Jr.* 3/6/03
LICENSED PROFESSIONAL ENGINEER DATE
NAME: DUANE M. GREEN, JR. LIC. NO. 13361

WATERPROOF
EXPANSION DEVICE

DES: DR: CAG
CHK: CHK: GDB
APPROVED: 3-6-03
SHEET NO. 14 OF 15 SHEETS

BRIDGE NO.
2440

CONCRETE OVERLAY

- LOW SLUMP
- OTHER

NONE
TYPE OR MANUFACTURER

EXPANSION JOINTS

JOINT MANUFACTURER WATSON-BOWMAN
NAME AND ADDRESS (CITY, STATE)

MANUFACTURER'S IDENTIFICATION WABO TYPE A
MFR'S No. AND/OR LETTER DESIGNATION FOR JOINT USED

GLAND MANUFACTURER WATSON BOWMAN
NAME AND ADDRESS (CITY, STATE)

SIZE OF GLAND 4" SE400

MANUFACTURER'S IDENTIFICATION _____
MFR'S No. AND/OR LETTER DESIGNATION FOR GLAND USED

BEARING PADS

NEOPRENE PAD MANUFACTURER NONE
NAME AND ADDRESS (CITY, STATE)

SPECIAL SURFACE TREATMENT

TYPE: TK TRI-SHEN COLOR: PEARL GREY

FINISHING ROADWAY FACES OF BARRIER RAILING

TYPE: _____ COLOR: _____

ANTI-GRAFFITI COATING

MANUFACTURER NONE
NAME AND ADDRESS (CITY, STATE)

PRODUCT NAME: _____ LOCATION: _____

PAINT SYSTEM

Mn/DOT CONSTRUCTION SPECIFICATION NUMBER NONE
2476 OR 2478 OR 2479

MANUFACTURER _____
NAME AND ADDRESS (CITY, STATE)

PRIME COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

INTERMEDIATE COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER

FINISH COAT _____
Mn/DOT MATERIAL SPECIFICATION NUMBER COLOR

PLAN QUALITY

RATE 1 (AGREE), 2 (NEUTRAL), OR 3 (DISAGREE, PLEASE COMMENT BELOW)

DIMENSIONING AND DETAILING ADEQUATELY DESCRIBED REQUIRED CONSTRUCTION. 1

BAR LISTS AND QUANTITIES WERE TYPICALLY COMPLETE AND FREE OF ERRORS. NA

SCALE OF DRAWINGS AND OVERALL LEGIBILITY OF LINES AND TEXT WAS GOOD. 1

(S) SPECIAL PROVISIONS ADEQUATELY DESCRIBED SPECIAL WORK AND PAYMENT. 1

COMMENTS: _____

NUMBER OF BRIDGE SUPPLEMENTAL AGREEMENTS: 1 COST: \$ 387,825.40

LIST SIGNIFICANT ERRORS OR OMISSIONS IN PLAN DETAILS OR PAY QUANTITIES IN THE SPACE PROVIDED AT RIGHT.

OTHER ITEMS ①

① UTILITIES ADDED DURING CONSTRUCTION AND SPECIALTY ITEMS.

FINAL QUANTITIES ENTERED ON SCHEDULE OF QUANTITIES: YES NO

SUMMARY OF SIGNIFICANT AS-BUILT CHANGES

THE AS-BUILT INFORMATION WAS ADDED TO THE PLAN BY:

Tom WAKS 4-12-2004
INSPECTOR(S) DATE

CHECKED BY: _____ PROJECT ENGINEER / SUPERVISOR DATE

SUBMIT THIS FORM WITH THE PROJECT FINAL, AND SUBMIT A COPY TO THE OFFICE OF BRIDGES AND STRUCTURES - ATTN: REGIONAL CONSTRUCTION ENGINEER (MS610).

REVISION: 05-22-01

APPROVED: _____

STATE BRIDGE ENGINEER

AS-BUILT DETAILS
(AS NEEDED)

FIG. 5-397.900

TITLE: AS-BUILT BRIDGE DATA

| | | |
|------------|------------|-------------------------|
| DES: _____ | DR: _____ | APPROVED: <u>3-6-03</u> |
| CHK: _____ | CHK: _____ | |

SHEET NO. 15 OF 15 SHEETS

BRIDGE NO. 2440