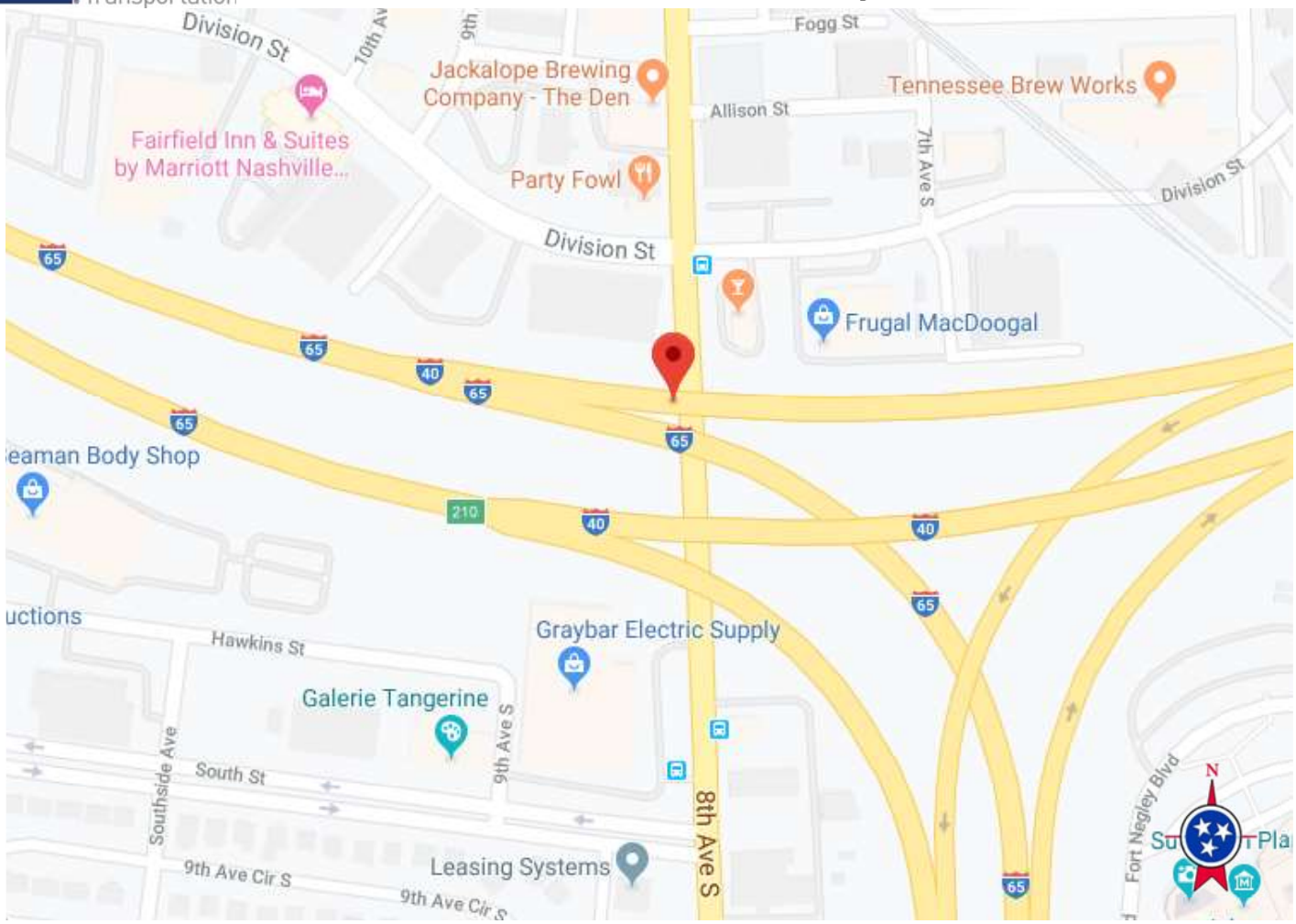
Davidson County SE

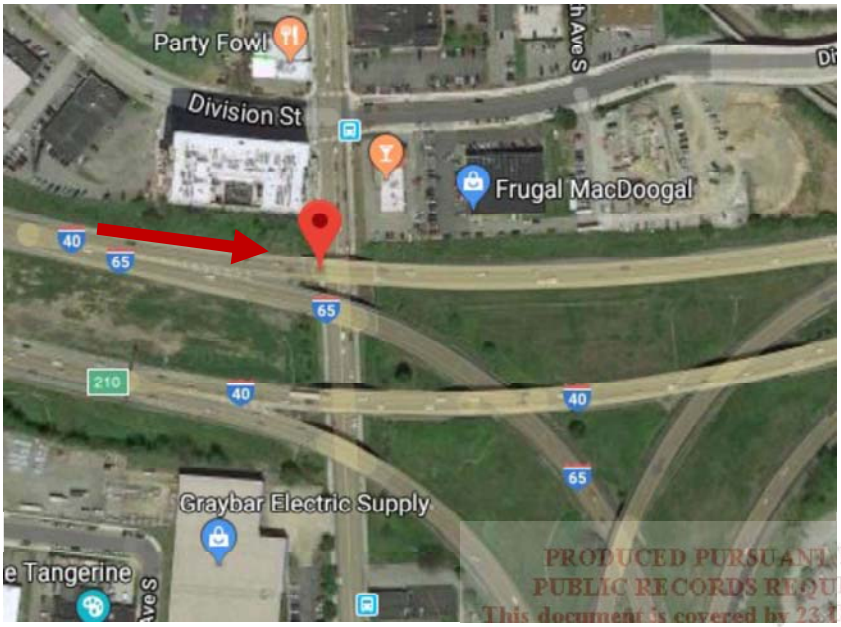


Regular Inspection Report

Location: 19-I0040-18.34-L

Federal ID: 19I00400080

Owner: Nashville



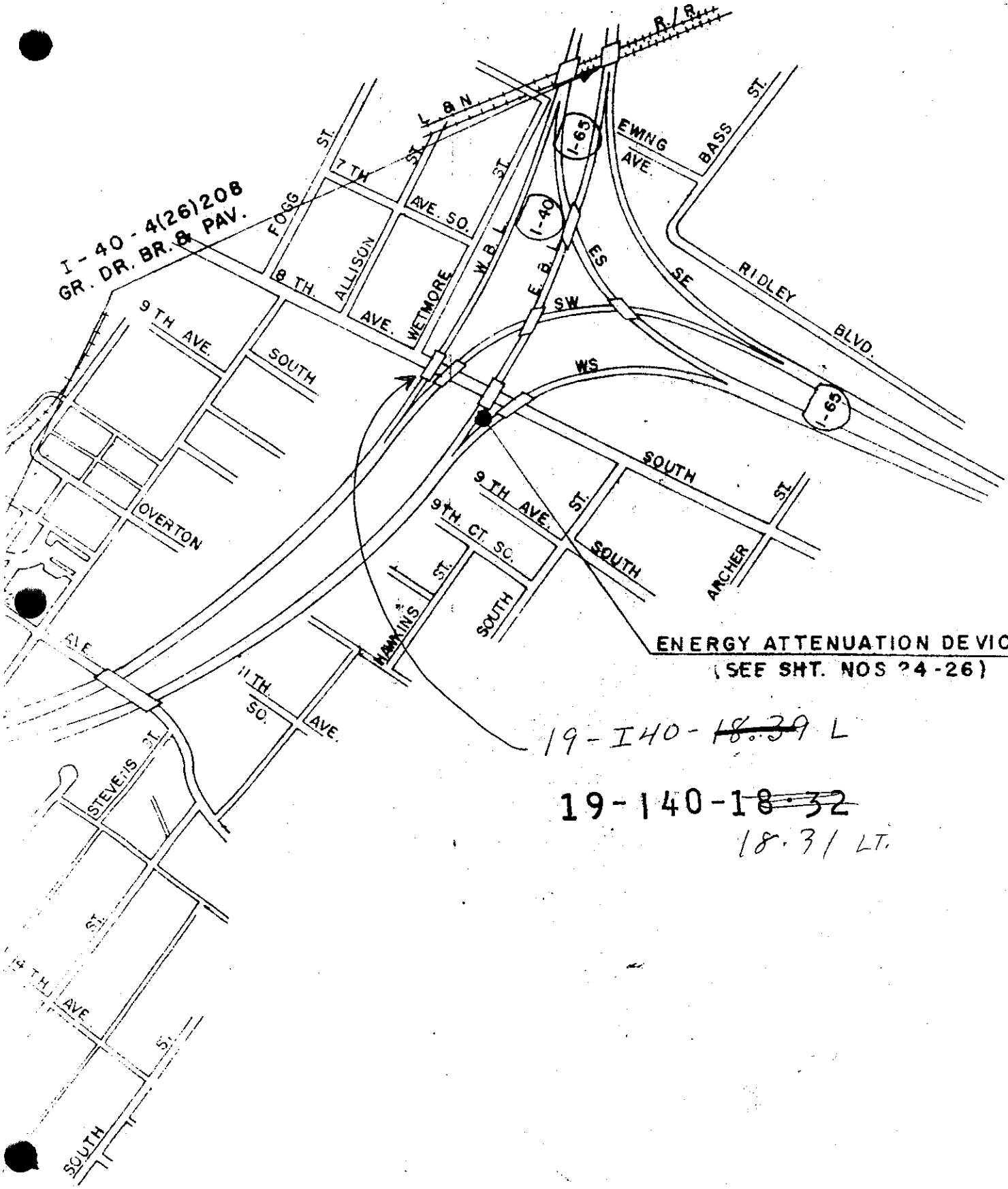
Description:

3span Bridge/ W.P.G.

I-40 LL/8th AVE SR 6

G.P.S.

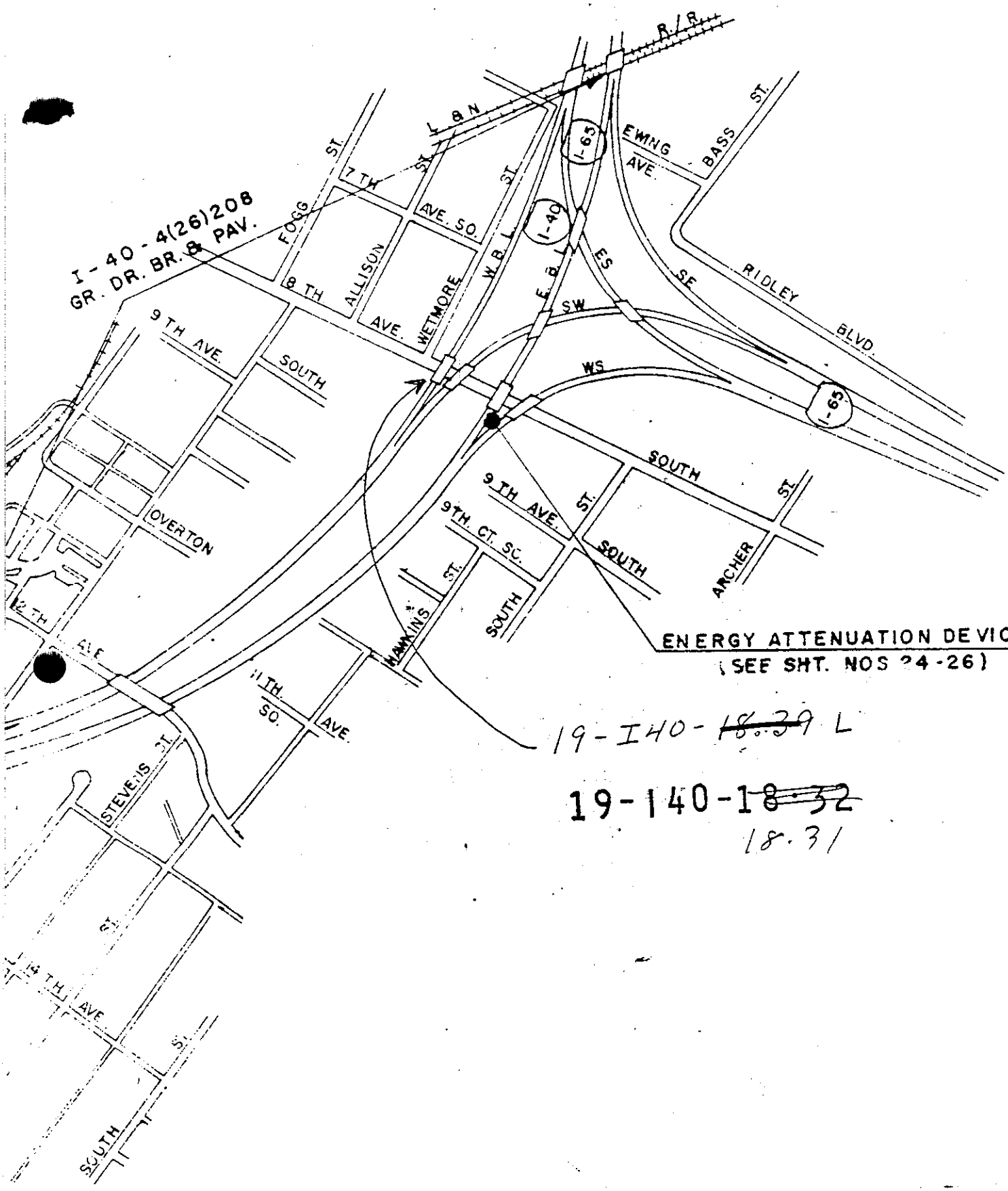
N 36° 8.8000’ W 86° 46.8000’



19-I40-~~18.39~~ L

19-140-1~~8.32~~
18.31 LT.

ST RETAINING WALL
)S 20 25)



ENERGY ATTENUATION DEVICE
(SEE SHT. NOS 24-26)

19-I40-~~18.39~~ L

19-140-~~18.32~~
18.31

(1) RETAINING WALL
NOS 20 23)

Bridge Maintenance Recommendations

Bridge Location No.: 19 - I0040 - 18.34 L
Co. Route Log Mile

Crossing: 8TH AVE SR 6 *

Bridge Rating: GOOD

Inspection Cycle: 15

Inspection Date: 12/1/2003

Comments: REPAIR BACKWALL - ABUTS. #1&2.

Bridge Number: 19I00400080
County: Davidson
Region: 03
District: 31
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Maintenance Recommendations:

Maintenance Completed By / Date

190	**CLEAN AND PAINT BEARING AT ABUTMENT NO. BOTH__**
	CLEAN AND SPOT PAINT STRUCTURAL STEEL
	TIGHTEN LOOSE ANCHOR NUTS ON BEARINGS ABUTMENT #2
	REPLACE MISSING ANCHOR BOLT BEARING "C" ABUTMENT #2
	REPLACE JOINT (EXPANSION) "A" END

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

Bridge Maintenance Recommendations

Bridge Location No.: 19 - I0040 - 18.34 L
Co. Route Log Mile

Crossing: I40 LL / 8TH AVE SR 6 *

Bridge Rating: GOOD

Inspection Cycle: 14

Inspection Date: 10/22/2001

Comments: REPAIR BACKWALL - ABUTS. #1&2.

Bridge Number: 19I00400080
County: Davidson
Region: 03
District: 31
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Maintenance Recommendations:

		Maintenance Completed By / Date
190	CLEAN AND PAINT BEARING AT ABUTMENT NO. BOTH__	
	CLEAN AND SPOT PAINT STRUCTURAL STEEL	
	TIGHTEN LOOSE ANCHOR NUTS ON BEARINGS ABUTMENT #2	
	REPLACE MISSING ANCHOR BOLT BEARING "C" ABUTMENT #2	

COMPLETION NOTIFICATION: RETURN WITHIN 6 MONTHS OF INSPECTION DATE.

INITIAL AND DATE RECOMMENDATIONS WHEN COMPLETED.

MAINTENANCE ACTIVITIES ARE COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE PARTIALLY COMPLETED (DATE) _____ BY_____

MAINTENANCE ACTIVITIES ARE INCOMPLETE, SCHEDULED FOR (DATE) _____

EXPLANATIONS AND COMMENTS:

CONTACT:

Bridge Maintenance Recommendations

Bridge Location No.: 19 - I0040 - 18.3~~1~~4 L
Co. Route Log Mile

Bridge Number: 19I00400080

Crossing: I40 LL / 8TH AVE SR 6 *

County: Davidson
Region: 03
District: 31
Maint.Resp.: 01
Spec.Case: 0
Co.Seq: 01

Bridge Rating: FAIR

Inspection Cycle: 13

Inspection Date: 2/29/00

Comments: REPAIR BACKWALL - ABUTS. #1&2. INSTALL APVD. APPROACH TERMINALS.

Level of Service:	1	Number Main Spans:	003
Owner:	01	Number Appr Spans:	0000
Appr Rdwy (xxx ft):	038	Bridge Length (xxxxxx ft)	000133
Skew:	84	Curb-to-Curb (xxx.x ft):	0380
Type of Service:	11	Out-to-Out (xxx.x ft):	0420
Main Structure Type:	402	Item 500:	02
Appr Structure Type:	000	Facility Carried By:	I40

Maintenance Recommendations:

Maintenance Completed By / Date

191	**RESET BEARING AT ABUTMENT NO. 0002**
190	**CLEAN AND PAINT BEARING AT ABUTMENT NO. BOTH**

BRIDGE MAINTENANCE RECOMMENDATIONS

BRIDGE SEQ. NO. : 19I00400080 BRIDGE NO. : 19 - I0040 - 1831 - L
OVER : I40 LL / 8TH AVE SR 6 *

DATE	: 02/25/98	BRIDGE RATING	: FAIR	COUNTY	: Davidson
CO. SEQ.	: 01	INSPECTION CYCLE	: 12	MAINT DIST	: 31
SPEC. CASE	: 1	INSPECTION DATE	: 02/25/98	REGION	: 03

007 - FACILITY CARRIED BY STRUCT : I40
021 - MAINTENANCE RESPONSIBILITY : 01
022 - OWNER : 01
042 - TYPE OF STRUCTURE : 11
043 - STRUCTURE TYPE, MAIN : 402
044 - STRUCTURE TYPE, APPROACH : 000
045 - SPANS, MAIN UNIT : 003
046 - SPANS, APPROACH : 0000
049 - STRUCTURE LENGTH : 000133
032 - APPROACH ROADWAY WIDTH : 038
034 - SKEW : 84
051 - BRDG RDWY WID, CRB-TO-CRB : 0380
052 - DECK WIDTH, OUT-TO-OUT : 0420
500 - HWY OF THE INVENTORY ROUTE : 02

: MAINTENANCE & REPAIR RECOMMENDATIONS :		: MAINTENANCE COMPLETED :		
1	REWORK "EXPANSION JOINT" IN SPAN NO. 0003___	1	BY _____	DATE _____
2	CLEAN AND SEAL JOINTS IN SPAN NO. 0002___	2	BY _____	DATE _____
3	RESET BEARING AT ABUTMENT NO. 0002__	3	BY _____	DATE _____
4	REPAIR A\C SURFACE IN SPAN NO. 0001___	4	BY _____	DATE _____
5	CLEAN AND SEAL JOINTS IN SPAN NO. 0001___	5	BY _____	DATE _____
6	CLEAN AND PAINT BEARING AT ABUTMENT NO. BOTH__	6	BY _____	DATE _____
7	REPAIR A\C SURFACE IN SPAN NO. 0002___	7	BY _____	DATE _____

: COMMENTS FOR BRIDGE SEQ. NO. : 19I00400080 :

REPAIR BACKWALL - ABUTS. #1&2. INSTALL APVD. APPROACH TERMINALS.

COMPLETION NOTIFICATION : RETURN WITHIN 6 MONTHS OF INSPECTION DATE

MAINTENANCE ACTIVITIES ARE
--- COMPLETED (DATE) --------
--- PARTIALLY COMPLETE (DATE) --------
--- INCOMPLETE SCHEDULED FOR (DATE) --------

EXPLANATIONS AND COMMENTS:

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 03-05-2003

BRIDGE ID NO: 19I00400080 *LOCATION NO:* 19 - I0040 - 18.34 L

(6A) CROSSING: I40 LL / 8TH AVE SR 6

(505) METHOD OF ANALYSIS: LOAD FACTOR METHOD *(548) RATING BASED ON:* CONCRETE DECK

LOAD RATINGS IN TONS

INVENTORY (503) H	20	*(518B) HS*	36
OPERATING (504) H	40	*(519) HS*	73

(549) EVALUATOR: CAJ
(522) EVAL. DATE: 4/13/2004
LAST UPDATED BY: JOHNSON
(29) ADT: 121,260 *(30) ADT YR:* 2003
(100) STRAHNET ROUTE: YES
(19) DETOUR LENGTH: 2 *KM*
(520) VC OVER RDWY: 99.99 *METERS*

CONDITION RATINGS

(58) DECK RATING:	7
(59) SUPERSTRUCTURE RATING:	6
(60) SUBSTRUCTURE RATING:	7
(61) CHANNEL PROTECTION:	N
(62) CULVERT RATING:	N
(113A) NBIS SCOUR CODE:	N
(113B) TDOT SCOUR CODE:	

APPRAISAL RATINGS

(67) STRUCTURAL EVALUATION:	6
(68) DECK GEOMETRY:	6
(69) UNDER CLEARANCE:	6
(70) BRIDGE POSTING:	5
(71) WATERWAY ADEQUACY:	N
(72) APPROACH RDWY ALIGNMENT:	8

CODE VALUES

N - NOT APPLICABLE
9 - EXCELLENT CONDITION
8 - VERY GOOD CONDITION
7 - GOOD CONDITION
6 - SATISFACTORY
5 - FAIR CONDITION
4 - POOR CONDITION
3 - SERIOUS CONDITION
2 - CRITICAL CONDITION
1 - FAILURE IS IMMINENT
0 - FAILED CONDITION

OTHER RATING ITEMS

(521) OVERALL CONDITION:	G		
(513) TEXTURE COAT RATING:	N		
(514) PAINT CONDITION RATING:	2	05	1989
(41) WEIGHT POSTING CODE:	A		

(36) TRAFFIC SAFETY FEATURES: 0 1 1 1
(525) REPAIR LIST NO: N

COMMENTS

NO COMMENTS AT THIS TIME.

(502) SUFF. RATING:	86.6
(528) STR. DEFICIENT:	NO
(529) FUNC. OBSOLETE:	NO

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 08/28/2003

Bridge Number: (Includes Item 5A)	19I004000801
Feature Intersected:	I40 LL / 8TH AVE SR 6
Evaluation Status:	
County:	19
Route:	I0040
Special Case:	0
County Sequence:	1
Log Mile:	18.34

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	10/22/2001 12/1/03
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	
	Br. Rail / Trans. / Appr. Rail / Terminal / SPEED LIMIT	0 / 1 / 1 / 1 / 55
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	6
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	N
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	N
72	APPROACH RDWY ALIGNMENT	8
521	OVERALL CONDITION	GOOD

TEAM LEADER SIGNATURE

12/1/03
REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- 1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

Revised 08/28/2003

County: 19
Route: SR006
Special Case: 0
County Sequence: 1
Log Mile: 8.04

Bridge Number: (Includes Item 5A) 19I004000802
Feature Intersected: I40 LL / 8TH AVE SR 6

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	10/22/2001 12/1/03
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	14 FT. 11 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	14 FT. 11 IN. ____ FT. ____ IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	67 FT. 11 IN. ____ FT. ____ IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: H R	____ FT. ____ IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: H R	____ FT. ____ IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	____ FT. ____ IN.
521	OVERALL CONDITION	GOOD

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
NONE NEEDED OR NOT APPLICABLE

_____
Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL N

(C) ADEQUACY OF TRANSITIONS N

(D) ADEQUACY OF TERMINALS N

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
FT. IN.
____ FT. ____ IN.

HEIGHT POSTED AT BOTH APPROACHES?
YES [ ]
~~NO [ ]~~
N/A [ ]

555 COMMENTS _____

D. L. Watts
~~TEAM LEADER SIGNATURE~~

12/1/03
REVIEW DATE

14'-11" → 4.55m.

DT-1449

TENNESSEE BRIDGE INSPECTION PROGRAM
SUMMARY OF EVALUATION

REV. 05-22-00

(548) RATING BASED ON: CONCRETE DECK

(505) METHOD OF ANALYSIS: _____

INVENTORY 503 H 20 Tons 518B HS 36 Tons

OPERATING 504 H 40 Tons 519 HS 73 Tons

Bridge No.: 19-I40-18.34-L
(549) Evaluator: Alan Johnson
(522) Eval. Date: 09 / 06 /2000
(29) ADT: 99400 (1999)Yr(30)
(100) Strahnet Route Yes(X) No( )
(19) Detour 2 km
(53) Vert. Clearance Over Deck
_____ m(XX.XX) (X) NA

CONDITION RATING (Structural)

		Culverts	
58	Deck	N	7
59	Superstructure	N	5 6
60	Substructure	N	7
61	Chl & Chl Protection		N
62	Culv & Ret Walls		N
113A	Scour Condition		N
113B	Scour Condition		

APPRAISAL RATING (Relation to System)

		Culverts	
67	Structural Evaluation		5 6
68	Deck Geometry		6
69	Under Clearance	N	6 5
70	Bridge Posting		5
71	Waterway Adequacy		N
72	Approach Rdwy Alignment		8

Overall Condition (521): G (F) P C

Texture Coat (513) N

Paint (514 A, B, & C) 2 0 5 1 9 8 9

Traffic Safety Features (36): 0 1 1 1

Repair List No. (525): N

Comments and Recommendations:
SIB's >> H20-HS36 REVIEWED - CAJ - 03-22-2002

* * Article 5.1.2 of Maint. Man. For Conc. Br. with unknown reinf.
* * * Des. Std. or Des. Plans For H15 or HS20 Loading.

COMMENTARY (Condition)

N NOT APPLICABLE
9 EXCELLENT CONDITION
8 VERY GOOD CONDITION - no problems noted
7 GOOD CONDITION - some minor problems
6 SATISFACTORY CONDITION - structural elements show some minor deterioration
5 FAIR CONDITION - all primary structural elements are sound, but may have minor section loss, deterioration, spalling, or scour.
4 POOR CONDITION - advanced section loss, deterioration, spalling, or scour
3 SERIOUS CONDITION - loss of section, deterioration, spalling, or scour have affected primary structural components - local failures are possible - fatigue cracks in steel or shear cracks in concrete may be present
2 CRITICAL CONDITION - advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored, it may be necessary to close the bridge until corrective action is taken.
1 "IMMINENT" FAILURE CONDITION - Major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic, but corrective action may put it back in light service.
0 FAILED CODITION - Out of service, beyond corrective action.

COMMENTARY (Appraisal)

N - Not Applicable
9 - Superior to present desirable criteria
8 - Equal to present desirable criteria 7 - Better than present minimum criteria
6 - Equal to present minimum criteria
5 - Somewhat better than minimum adequacy to tolerate being left in place as is
4 - Meets minimum tolerable limits to be left in place as is
3 - Basically intolerable, requiring high priority of corrective action
2 - Basically intolerable, requiring high priority of replacement.
1 - This value of rating code not used.
0 - Bridge closed.

GOOD ------ 7, 8, & 9
FAIR ------ 5 & 6
POOR ------ 3 & 4
CRITICAL -- 0, 1, & 2

SUFFICIENCY RATING : _____.

DATE OF SUFF. RATING : ____ / ____ / ____.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 06/15/2000

County:	19
Route:	I0040
Special Case:	0
County Sequence:	01
Log Mile:	18.34

Bridge Number: (Includes Item 5A) 19I004000801

Feature Intersected: I40 LL / 8TH AVE SR 6

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	02/29/2000 10/22/01
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. ____ FT. ____ IN.
36	TRAFFIC SAFETY FEATURES	

Br. Rail	Trans.	Appr. Rail	Appr. Rail Ends
1	1	1	0
0			1

41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	5 6
60	SUBSTRUCTURE	7
61	CHANL/CHANL PROTECTION	N
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	N
72	APPROACH RDWY ALIGNMENT (USE VALUES OF 3, 6, OR 8)	8
521	OVERALL CONDITION (Circle One)	

GOOD FAIR POOR CRITICAL

Kevin Heggie Clark 10/22/01
TEAM LEADER SIGNATURE REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION - NO PROBLEMS NOTED.
- 7 GOOD CONDITION - SOME MINOR PROBLEMS.
- 6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- 5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- 4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- 3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOURSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- 2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- 1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT BACK IN LIGHT SERVICE.
- 0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORRECTIVE ACTION.

Revised 06/15/2000

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Underpass Condition Coding Form

County:	19
Route:	SR006
Special Case:	0
County Sequence:	01
Log Mile:	8.04

Bridge Number: (Includes Item 5A) 19I004000802

Feature Intersected: I40 LL / 8TH AVE SR 6

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	INSPECTION DATE	02/29/2000 10/22/01
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	14 FT. 11 IN. ____ FT. ____ IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	14 FT. 11 IN. ____ FT. ____ IN.
47	TOTAL HORIZONTAL UNDERCLEARANCE	67 FT. 10 IN. ____ FT. ____ IN.
54	MINIMUM VERTICAL UNDERCLEARANCE (EXCLUDES SHOULDERS) Circle One: (H) R	14 FT. 11 IN.
55	MINIMUM LATERAL UNDERCLEARANCE ON RIGHT SIDE Circle One: (H) R	10 FT. 0 IN.
56	MINIMUM LATERAL UNDERCLEARANCE ON LEFT SIDE	— FT. — IN.

UNDERPASS SAFETY FEATURES

515 (A) TYPE UNDERPASS BARRIER
None Needed or N/A

Revised Barrier Type

(B) ADEQUACY OF BARRIER OR RAIL N

(C) ADEQUACY OF TRANSITIONS N

(D) ADEQUACY OF TERMINALS N

554 VERTICAL CLEARANCE LISTED ON HEIGHT POSTING
99 FT. 99 IN.
____ FT. ____ IN.

521 OVERALL CONDITION (Circle One)
(GOOD) FAIR POOR CRITICAL

HEIGHT POSTED AT BOTH APPROACHES? YES [ ] NO [X] N/A [ ]

555 COMMENTS _____

Daniel Hogan Clark
TEAM LEADER SIGNATURE

10/22/01
REVIEW DATE

CONCRETE DECK RATINGS
---- LOAD FACTOR ANALYSIS ----

BRIDGE NUMBER..: 19 - I40 - 18.31 - LL

NAME : ALAN JOHNSON DATE : 09-04-1997

SPAN NUMBER..: TYPICAL BAY NUMBER..: TYPICAL

COMMENTS..: THE DECK IS IN GOOD CONDITION.

INPUT DATA

CLEAR SPAN LENGTH .....(FEET)..:	7.54
SLAB THICKNESS .....(INCH)..:	8
CLEAR DISTANCE - BOTTOM STEEL TO BOTTOM DECK ..(INCH)..:	1
NEW BAR SIZE NUMBER OF STEEL BAR.....(WHOLE NUMBER)..:	6
IS THE BAR ROUND ? .....(Y-N)..:	Y
SPACING BETWEEN THE STEEL BARS .....(INCH)..:	6.5
YIELD STRENGTH - STEEL .....(KSI)..:	40
PERCENT OF STEEL EFFECTIVE FOR MOMENT..(WHOLE NUMBER)..:	100
YIELD STRENGTH - CONCRETE .....(KSI)..:	3
ASPHALT THICKNESS .....(IN.)..:	4
SUPPORTING BEAM FLANGE OR WALL THICKNESS .....(IN)..:	11.5
DECK CONT. OVER 3 OR MORE BEAMS OR SUPPORTS ?...(Y-N)..:	Y
IS THE DECK MONOLITHIC ?.....(Y-N)..:	N
IS THE DECK SUPPORTED BY LONGITUDINAL BEAMS ?...(Y-N)..:	Y

OUTPUT DATA FOR LOAD FACTOR ANALYSIS

COMPUTED VALUES			NON-FACTORED MOMENTS	
A ----------	(INCH) =	1.066		
SPAN LENGTH ----	(FEET) =	8.020001		
MOM-CAP --------	(K-FT) =	14.91	MDL --- =	.95
MOM-AVAIL-LL+I -	(K-FT) =	13.67	H-LL+I =	3.91
W-DL ----------	(K/FT) =	.148	HS-LL+I =	5.21

H & HS RATINGS - (TONS)

H @ INV	H @ OPER	HS @ INV	HS @ OPER
24	40	44	73

BARS INPUT FILE DATA REPORT

- General Data -

FILE NAME: 19- 293.DAT
REGION: 3
ROUTE: I0040
LOGMILE: 1831
SYSTEM BRIDGE?: YES
LANE (R/L): L
CROSSING: I40-LL / 8TH.AVE. SOUTH

- Specific Data -

STD. OVERLOAD BRIDGE?: NO	TIMBER SUBSTRUCTURE?: NO
STRUCTURE TYPE - I43: 402	ASPHALT DEPTH ON DECK: 4.
LAST REVISION DATE: 09/04/97	TYPE OF RATING ANALYSIS: LF
OVERALL CONDITION: F	TOTAL NUMBER OF SPANS: 3
IS BRIDGE POSTED?: NO	MAXIMUM SPAN LENGTH - I48: 72
	YEAR BRIDGE WAS BUILT: 1970

AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS

A PROPRIETARY COMPUTER SOFTWARE PRODUCT

```
AASHTOWAREtm   BBBBBBBBBBBB        AAAAAAA        RRRRRRRRRRR        SSSSSSSSSSSS
               BBBBBBBBBBBBB      AAAAAAAAA       RRRRRRRRRRRR      SSSSSSSSSSSSSS
               BBB        BBB    AA     AA       RRR       RRR    SSSS        SSSS
               BBB        BBB   AAA     AAA      RRR       RRR    SSS
               BBB        BBB   AAA     AAA      RRR       RRR    SSSS
               BBBBBBBBBBBB     AAA     AAA      RRRRRRRRRRRR       SSSSSSSSSSSS
               BBBBBBBBBBBBB    AAA     AAA      RRRRRRRRRR           SSSSSSSSSSSS
               BBB        BBB   AAAAAAAAAAAAA    RRR    RRR                  SSSS
               BBB        BBB   AAAAAAAAAAAAA    RRR     RRR                  SSS
               BBB        BBB   AAA     AAA      RRR      RRR    SSSS        SSSS
               BBBBBBBBBBBBB    AAA     AAA      RRR       RRR   SSSSSSSSSSSSSS
               BBBBBBBBBBBB     AAA     AAA      RRR        RRR   SSSSSSSSSSSS
```

BRIDGE ANALYSIS AND RATING SYSTEM

444 NORTH CAPITOL STREET, N.W., SUITE 249
WASHINGTON, D.C. 20001 U.S.A.
(202) 624-5800

RELEASE 5.5 - MOD 3.3

FEBRUARY 5, 1997

```
                                                          BARS-PC R5.5-MOD 3.0

                                RECORD                                               REC.NO.
01      090497 ALAN  JOHNSON     H15                             *LF*                  100
02CAJ293 ALAN  JOHNSON                     CSIB70   132 6 4    39 8 0 3                100
05CAJ293LM 18.313 19 I-40                                                              200
06CAJ2931 THERE IS 4" OF ASPHALT ON THE DECK.                                          300
07CAJ29336000 3000                                                                     400
08CAJ293G01  3        26 6 0    71 6 0    31 0 0CSC          1.390                     500
10CAJ293G01 01                 W  222          26 6 0                                  600
10CAJ293G01 02                 W  222          71 6 0                                  700
10CAJ293G01 03                 W  222          31 0 0                                  800
11CAJ293G01 0101    22 0 001                                                           900
11CAJ293G01 0102     4 6 002                                                          1000
11CAJ293G01 0201     4 0 002                                                          1100
11CAJ293G01 0202    63 6 001                                                          1200
11CAJ293G01 0203     4 0 002                                                          1300
11CAJ293G01 0301     4 6 002                                                          1400
11CAJ293G01 0302    26 6 001                                                          1500
12CAJ293G01                       01    33.250111.50P0.937532.781  0.0                1600
12CAJ293G01                       01         020.625 31.37516.625  0.0                1700
12CAJ293G01                       01         0311.50 0.93750.4687  0.0                1800
12CAJ293G01                       02    34.250113.00P0.500034.000  0.0                1900
12CAJ293G01                       02         0211.50 0.937533.281  0.0                2000
12CAJ293G01                       02         030.625 31.37517.125  0.0                2100
12CAJ293G01                       02         0411.50 0.93750.9687  0.0                2200
12CAJ293G01                       02         0513.00 0.50000.2500  0.0                2300
14CAJ293G01 0101    22 0 ON  01   102.08.0017.51.4396.008.00 4.50                     2400
14CAJ293G01 0102     4 6 ON  02   102.08.0018.01.9396.008.00 4.50                     2500
14CAJ293G01 0201     4 0 ON  02                                                       2600
14CAJ293G01 0202    16 9 ON  01                                                       2700
14CAJ293G01 0203    30 0 OC  01                                                       2800
14CAJ293G01 0204    16 9 ON  01                                                       2900
14CAJ293G01 0205     4 0 ON  02                                                       3000
14CAJ293G01 0301     4 6 ON  02                                                       3100
14CAJ293G01 0302    26 6 ON  01                                                       3200
16CAJ293G01 01T01    26 6 OC                                                          3300
16CAJ293G01 01B01    21 0 OSPSP 1    21 0 0                                           3400
16CAJ293G01 01B02     5 6 OSPSP 1     5 6 0                                           3500
16CAJ293G01 02T01    71 6 OC                                                          3600
16CAJ293G01 02B01    15 6 OSPSP 1    15 6 0                                           3700
16CAJ293G01 02B02    42 0 OSPSP 2    21 0 0                                           3800
16CAJ293G01 02B03    14 0 OSPSP 1    14 0 0                                           3900
16CAJ293G01 03T01    31 0 OC                                                          4000
16CAJ293G01 03B01     8 6 OSPSP 1     8 6 0                                           4100
16CAJ293G01 03B02    22 6 OSPSP 1    22 6 0                                           4200

THE FOLLOWING STRUCTURES WERE SELECTED


CAJ293
```

STRUCTURE I.D. = CAJ-293

****
* STRUCTURE HEADER AND DESCRIPTION *
****

100-- 2 ALAN JOHNSON EA/I/O/P = FILE REQUESTS AND OUTPUT DATA EXCEPTIONS
TYPE = CSIB YEAR = 70 LEN = 132.52 FT. WIDTH = 39.67 FT. 3 SPANS SP.LOAD =
INV.LL.TRK.= OP.LL.TRK.=

****
* STRUCTURE LOCATION AND PERMANENT IDENTIFICATION FACTORS *
****

200-- 5 BRIDGE=LM 18.31 DIST./CO.= 3 19 CONST. ROUTE = I-40 CONST. SECT.= CONST. STA.= 0+ .
MICROFILM REEL NO. DESIGN PLANS= COMPUTATIONS= CORRESPONDENCE=
ROUTE I.D.= MARKED ROUTE =

****
* COMMENTS *
****

300-- 6 1 THERE IS 4" OF ASPHALT ON THE DECK.

****
* SPECIFICATIONS GENERALLY APPLICABLE TO STRUCTURE MEMBERS *
****

	STRUCT STEEL	REINF. CONCRETE	COMPOSITE STEEL/CONC	PRESTRESSED CONCRETE			IMPACT FACTOR INV OP POST SPEC	TIMBER
400-- 7	FY=36000.	FY = 3000. F"C= 0.	FY = 0. F"C= 0.	LOSS = 0. EG/ES= .000	F"S = 0. F"". C= 0.		MAX =.00 .00 .00 .00 MIN =.00 .00 .00 .00	FY = 0. FV = 0.

****
* MEMBER SPECIFICATIONS AND REQUIRED ANALYSIS-GIRDER,STRINGER AND FLOOR BEAM *
****

	MEMBER ID	SPANS SYMM	STIFF. CODE	SPAN 1 (SPAN 4)	SPAN 2 (SPAN 5)	SPAN 3 (SPAN 6)	MATL CODE	ALLOWABLE STRESS FY	FB	FC*	FC**	LL DIST. FACTOR	END FL.BM	THRU DECK	MAX INV	IMPACT FACTOR OP.	POST	SPEC
500-- 8	G 1	3		26.500	71.500	31.000	CSC	.00		.00		1.390			.00	.00	.00	.00

****
* SUPERIMPOSED DEAD LOADS-GIRDERS,STRINGERS AND FLOOR BEAMS *

MEMBER ID	SYMM.	SPAN NO.	DISTANCE FR. LEFT SUPP.	LOAD TYPE	LOAD P OR W(L)	LOAD W(R)	LENGTH
600--10	G 1	1	.000FT.	W	222.0	.0	26.500FT.
700--10	G 1	2	.000FT.	W	222.0	.0	71.500FT.
800--10	G 1	3	.000FT.	W	222.0	.0	31.000FT.

SECTION RANGE SPECIFICATIONS

MEMBER ID	SYMM.	SPAN NO.	RANGE NO.	RANGE LENGTH	SECTION NO. LEFT	SECTION NO. RIGHT	SEC. VAR.	HINGE CODE	HINGE 1 DIST.	HINGE 2 DIST.	HYBRID GIRDER CODE	HYBRID GIRDER FY	CODE	FY
900--11	G 1	1	1	22.000FT.	1	0			.000FT.	.000FT.		0.		0.
1000--11	G 1	1	2	4.500FT.	2	0			.000FT.	.000FT.		0.		0.
1100--11	G 1	2	1	4.000FT.	2	0			.000FT.	.000FT.		0.		0.
1200--11	G 1	2	2	63.500FT.	1	0			.000FT.	.000FT.		0.		0.
1300--11	G 1	2	3	4.000FT.	2	0			.000FT.	.000FT.		0.		0.
1400--11	G 1	3	1	4.500FT.	2	0			.000FT.	.000FT.		0.		0.
1500--11	G 1	3	2	26.500FT.	1	0			.000FT.	.000FT.		0.		0.

SECTION PROPERTIES (STEEL OR TIMBER) - GIRDERS STRINGERS, FLOOR BEAMS

MEMBER ID		NON-DETAILED DESCRIPTION SEC.	A	I	S	CODE	SAME	ADR	DETAILED DESCRIPTION H	ELE	A	IX	DY	DX
1600--12	G 1	0	.00	.0	.0	1	0		33.25	1	11.50P	.9	32.8	.0
1700--12	G 1	0	.00	.0	.0	1	0		.00	2	.63	31.4	16.6	.0
1800--12	G 1	0	.00	.0	.0	1	0		.00	3	11.50	.9	.5	.0
1900--12	G 1	0	.00	.0	.0	2	0		34.25	1	13.00P	.5	34.0	.0
2000--12	G 1	0	.00	.0	.0	2	0		.00	2	11.50	.9	33.3	.0
2100--12	G 1	0	.00	.0	.0	2	0		.00	3	.63	31.4	17.1	.0
2200--12	G 1	0	.00	.0	.0	2	0		.00	4	11.50	.9	1.0	.0
2300--12	G 1	0	.00	.0	.0	2	0		.00	5	13.00	.5	.3	.0

SECTION PROPERTIES (COMPOSITE) - GIRDERS, STRINGERS, FLOOR BEAMS

MEMBER ID	SPAN SYMM	SPAN RANGE	RANGE LENGTH	COMP CODE	N	SECT SAME	A R	WIDTH	THICK -NESS	FILLET WIDTH	FILLET THICK.	EFFECT. WIDTH	EFFECT. THICK.	DIST TO TOP SECT.
2400--14	G 1	1 1	22.000FT.	N	0	1	0	102.00	8.00	17.50	1.43	96.00	8.00	4.50
2500--14	G 1	1 2	4.500FT.	N	0	2	0	102.00	8.00	18.00	1.93	96.00	8.00	4.50
2600--14	G 1	2 1	4.000FT.	N	0	2	0	.00	.00	.00	.00	.00	.00	.00
2700--14	G 1	2 2	16.750FT.	N	0	1	0	.00	.00	.00	.00	.00	.00	.00
2800--14	G 1	2 3	30.000FT.	C	0	1	0	.00	.00	.00	.00	.00	.00	.00
2900--14	G 1	2 4	16.750FT.	N	0	1	0	.00	.00	.00	.00	.00	.00	.00
3000--14	G 1	2 5	4.000FT.	N	0	2	0	.00	.00	.00	.00	.00	.00	.00
3100--14	G 1	3 1	4.500FT.	N	0	2	0	.00	.00	.00	.00	.00	.00	.00
3200--14	G 1	3 2	26.500FT.	N	0	1	0	.00	.00	.00	.00	.00	.00	.00

BRACING LENGTH SPECIFICATIONS - LOAD FACTOR ANALYSIS

MEMBER ID	SYMM	SPAN	RANGE T/B		RANGE LENGTH	SUPPORT COND. LEFT	RIGHT	SPACES	SPACING DISTANCE	STIFF SPACING
3300--16	G	1	1	T 1	26.500FT.C			0	.000FT.	.000IN.
3400--16	G	1	1	B 1	21.000FT.SP	SP		1	21.000FT.	.000IN.
3500--16	G	1	1	B 2	5.500FT.SP	SP		1	5.500FT.	.000IN.
3600--16	G	1	2	T 1	71.500FT.C			0	.000FT.	.000IN.
3700--16	G	1	2	B 1	15.500FT.SP	SP		1	15.500FT.	.000IN.
3800--16	G	1	2	B 2	42.000FT.SP	SP		2	21.000FT.	.000IN.
3900--16	G	1	2	B 3	14.000FT.SP	SP		1	14.000FT.	.000IN.
4000--16	G	1	3	T 1	31.000FT.C			0	.000FT.	.000IN.
4100--16	G	1	3	B 1	8.500FT.SP	SP		1	8.500FT.	.000IN.
4200--16	G	1	3	B 2	22.500FT.SP	SP		1	22.500FT.	.000IN.

SUMMARY OF RATING CALCULATIONS------STRUCTURE MEMBER G 1 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

INPUT CODING -- STRUCTURE LM 18.31 D/P STR. I.D.-- CAJ-293

DATE 9/ 4/97
BY ALAN JOHNSON

	INVENTORY			OPERATING		
	LIVE LOAD	RATING		LIVE LOAD	RATING	
	H15	H	41.41	HS20	HS	49.73

STRUCTURE DESCRIPTION --

IDENTIFICATION	LM 18.31
TYPE	CSIB
YEAR OF CONSTR.	1970
LENGTH	132.52 FEET
ROADWAY WIDTH	39.67 FEET
NUMBER OF SPANS	3

LOCATION --

DISTRICT	3
COUNTY	19
CONSTR. RTE.	I-40
CONSTR. SEC.	
CONSTR. STA.	0+ .
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS --

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS --

THERE IS 4" OF ASPHALT ON THE DECK.

INVENTORY RATING SUMMARY --

MEMBER ID.	G 1
SPAN	2
CRITICAL C.P. DIST.	35.8 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FT. KIPS)
MEMBER CAPACITY	1231.2
DL EFFECT	336.7
CAPACITY FOR (LL+I)	828.0
ACTUAL (LL+I)	299.9

INVENTORY RATING H 41.41

OPERATING RATING SUMMARY --

MEMBER ID.	G 1
SPAN	2
CRITICAL C.P. DIST.	35.8 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FT. KIPS)
MEMBER CAPACITY	2052.0
DL EFFECT	336.7
CAPACITY FOR (LL+I)	1380.0
ACTUAL (LL+I)	555.0

OPERATING RATING HS 49.73

*** FINAL SUMMARY OF RATING RESULTS FOR --- STRUCTURE ID. CAJ-293 BARS-PC RELEASE 5.5
INVENTORY AND/OR OPERATING ANALYSIS

STRUCTURE LM 18.31 D/P STR. ID-- CAJ-293

INPUT CODING--

DATE 9/ 4/97

BY ALAN JOHNSON

	INVENTORY		OPERATING	
	LIVE LOAD	RATING	LIVE LOAD	RATING
	H15	H 41.4	HS20	HS 49.7

STRUCTURE DESCRIPTION--

IDENTIFICATION	LM 18.31
TYPE	CSIB
YEAR OF CONSTR.	1970
LENGTH	132.52 FEET
ROADWAY WIDTH	39.67 FEET
NUMBER OF SPANS	3

LOCATION--

DISTRICT	3
COUNTY	19
CONSTR. RTE.	I-40
CONSTR. SEC.	
CONSTR. STA.	0+ .
KEY RTE.	
MARKED RTE.	

MICROFILM REEL NUMBERS--

DESIGN PLANS
COMPUTATIONS
CORRESPONDENCE

ANALYST REMARKS--

THERE IS 4" OF ASPHALT ON THE DECK.

INVENTORY RATING SUMMARY

MEMBER I.D.	G 1
SPAN	2
CRITICAL C.P. DIST.	35.8 FEET
LIVE LOAD DESIGNATION	H15

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	1231.2
DL EFFECT	336.7
CAPACITY FOR (LL+I)	828.0
ACTUAL (LL+I)	299.9

INVENTORY RATING H 41.41

OPERATING RATING SUMMARY

MEMBER I.D.	G 1
SPAN	2
CRITICAL C.P. DIST.	35.8 FEET
LIVE LOAD DESIGNATION	HS20

	MOMENT (FOOT-KIPS)
MEMBER CAPACITY	2052.0
DL EFFECT	336.7
CAPACITY FOR (LL+I)	1380.0
ACTUAL (LL+I)	555.0

OPERATING RATING HS 49.73

DETAIL DATA FOR FLEXURAL MEMBER

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
MATERIAL--CSC
LL DIST. FACT. = 1.390

NO. SPANS = 3
NOT SYMMETRICAL

SPAN NO.	LENGTH FT.	RNG. NO.	LENGTH FT.	SEC.NO. LT	SEC.NO. RT	VAR CODE S T P	VAR CODE S T B	DL DUE TO MEM. WEIGHT W(LT) LBS/FT	DL DUE TO MEM. WEIGHT W(RT) LBS/FT
1	26.500	1	22.000	01	01			140.1	140.1
		2	4.500	02	02			184.3	184.3
2	71.500	1	4.000	02	02			184.3	184.3
		2	63.500	01	01			140.1	140.1
		3	4.000	02	02			184.3	184.3
3	31.000	1	4.500	02	02			184.3	184.3
		2	26.500	01	01			140.1	140.1

SUPERIMPOSED DISTRIBUTED DL(S)
LENGTH DISTRIBUTED**********
DIST. FROM LT SUPPORT***

SPAN NO.	W(LT) LBS/FT	W(RT) LBS/FT	* FT.	* FT.
1	222.0	222.0	.000	26.500
2	222.0	222.0	26.500	71.500
3	222.0	222.0	98.000	31.000

SUPERIMPOSED CONCENTRATED DL(S)
DIST. FROM LT SUPPORT****

STIFF TRANS.	STIFF LONG.	SPAN NO.	P KIPS	* FT.

CHECK POINTS RATED--

SPAN NO.	DIS FRM LT SPRT FT.	FUNC M	FUNC VL	FUNC VR
1	.000	X		X
1	10.600	X	X	X
2	.000	X	X	X
2	35.750	X	X	X
3	.000	X	X	X
3	18.600	X	X	X
3	31.000	X	X	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 1.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1OF SPAN 1

	H	GROSS AREA	---NET AREA--- + BEND	- BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	TOP - BEND	BOTTOM + BEND	BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					7238.5		16.62	435.4		435.4	
COM (N=3N)					7238.5		16.62	435.4		435.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = .00 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	1.0	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.000	.000	.000	.000	.000	.000
N 2	.000	.000	.000	.000	.000	.000
T 3	.000	.000	.000	.000	.000	.000
H 4	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8	.000	.000	.000	.000	.000	.000
N 9	.000	.000	.000	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
AREA TOTALS						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

***** DL MOMENT EFFECT

DL FT-KIPS	SDL FT-KIPS
.0	.0

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1231.2	.0	1231.2	.0
OPERATING	2052.0	-580.4	2052.0	-580.4
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	.0	.0	.000	L	.0	.0	.0	.000		7.947	119.2	H 119.2
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER HS20	+BEND	.0	.0	62.550	L	.0	.0	.0	.000		7.851	282.6	HS157.0
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 1.40

***** SECTION PROPERTIES IN COMPOSITE RANGE 1OF SPAN 1

	H	GROSS AREA	NET AREA + BEND	NET AREA - BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	SECTION MODULUS TOP - BEND	SECTION MODULUS BOTTOM + BEND	SECTION MODULUS BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					7238.5		16.62	435.4		435.4	
COM (N=3N)					7238.5		16.62	435.4		435.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 21.00 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	1.387	-1.601	.124	.000	.000	.000
N 2	2.787	-2.480	.216	.000	.000	.000
T 3	4.213	-2.680	.271	.000	.000	.000
H 4	5.676	-2.565	.293	.000	.000	.000
5	4.539	-2.288	.287	.000	.000	.000
P 6	3.466	-1.890	.258	.000	.000	.000
O 7	2.469	-1.413	.210	.000	.000	.000
I 8	1.560	-.893	.148	.000	.000	.000
N 9	.742	-.389	.076	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
POS AREA	71.1	.0	5.8	.0	.0	.0
NEG AREA	.0	115.8	.0	.0	.0	.0

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	1.0	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** DL MOMENT EFFECT

AREA TOTALS	DL FT-KIPS	SDL FT-KIPS
	-70.8	-8.6

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1278.9	-555.2	1278.9	-555.2
OPERATING	2131.4	-925.4	2131.4	-925.4
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .254 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	TRUCK LOAD AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	126.0	96.9	24.600	R	.0	102.6	78.9	10.600		6.289	94.3	H 94.3
	-BEND	68.1	54.3	61.950	R	.0	80.5	64.2	47.950	.000			
OPER HS20	+BEND	164.1	126.2	-17.400	L	.0	136.8	105.2	10.600				
	-BEND	154.3	123.0	68.803	R	.0	107.4	85.6	47.950	.000	5.997	215.9	HS119.9
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 2.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1OF SPAN 2

	H	GROSS AREA	---NET AREA--- + BEND	- BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	TOP - BEND	BOTTOM + BEND	BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					10940.7		17.12	638.9		638.9	
COM (N=3N)					10940.7		17.12	638.9		638.9	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 15.50 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	-.1	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	-.507	-4.004	.309	.000	.000	.000
N 2	-.982	-6.199	.539	.000	.000	.000
T 3	-1.394	-6.699	.677	.000	.000	.000
H 4	-1.711	-6.413	.732	.000	.000	.000
5	-1.902	-5.720	.717	.000	.000	.000
P 6	-1.935	-4.724	.644	.000	.000	.000
O 7	-1.778	-3.532	.524	.000	.000	.000
I 8	-1.401	-2.232	.369	.000	.000	.000
N 9	-.795	-.973	.190	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
POS AREA	.0	.0	14.6	.0	.0	.0
NEG AREA	32.9	289.5	.0	.0	.0	.0

***** DL MOMENT EFFECT

DL FT-KIPS	SDL FT-KIPS
-391.6	-68.3

AREA TOTALS: 14.6 322.4

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1861.8	-723.1	1861.8	-723.1
OPERATING	3102.9	-1205.2	3102.9	-1205.2
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .287 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	TRUCK LOAD AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	17.4	13.4	124.400	R	.0	15.3	11.8	110.400				
	-BEND	174.7	135.7	61.950	R	.0	244.3	189.7	47.950	15.900	2.960	44.4	H 44.4
OPER HS20	+BEND	32.7	25.1	133.701	R	.0	20.4	15.7	110.400				
	-BEND	395.9	307.5	68.803	R	.0	325.7	253.0	47.950	15.900	3.045	109.6	HS 60.9
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 2.50

***** SECTION PROPERTIES IN COMPOSITE RANGE 3OF SPAN 2

	H	GROSS AREA	---NET AREA--- + BEND	- BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	TOP - BEND	BOTTOM + BEND	BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					20087.5		30.87	8456.9		650.6	
COM (N=3N)					14897.5		25.26	1863.7		589.8	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 21.00 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	-.185	1.158	-.379	.000	.000	.000
N 2	-.358	3.070	-.662	.000	.000	.000
T 3	-.508	5.795	-.831	.000	.000	.000
H 4	-.624	8.955	-.899	.000	.000	.000
5	-.693	12.407	-.881	.000	.000	.000
P 6	-.705	8.998	-.791	.000	.000	.000
O 7	-.648	5.875	-.643	.000	.000	.000
I 8	-.511	3.170	-.453	.000	.000	.000
N 9	-.290	1.235	-.234	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
POS AREA	.0	362.2	.0	.0	.0	.0
NEG AREA	12.0	.0	17.9	.0	.0	.0

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	.1	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

AREA TOTALS	DL FT-KIPS	SDL FT-KIPS
	262.9	73.8

***** DL MOMENT EFFECT

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1029.2	-804.9	1029.2	-804.9
OPERATING	1715.3	-1341.4	1715.3	-1341.5
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .254 FOR +BEND AND = .300 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	291.0	232.0	76.250	R	.0	299.9	239.1	62.250		2.761	41.4	H 41.4
	-BEND	21.3	16.4	124.400	R	.0	24.0	18.5	110.400	.000			
OPER HS20	+BEND	555.0	442.5	48.247	L	.0	399.9	318.8	62.250		2.486	89.5	HS 49.7
	-BEND	40.1	30.8	133.701	R	.0	32.1	24.7	110.400	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 3.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1OF SPAN 3

	H	GROSS AREA	---NET AREA--- + BEND	- BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	TOP - BEND	BOTTOM + BEND	BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					10940.7		17.12	638.9		638.9	
COM (N=3N)					10940.7		17.12	638.9		638.9	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 14.00 , YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.137	-.830	-1.068	.000	.000	.000
N 2	.266	-1.960	-1.863	.000	.000	.000
T 3	.377	-3.161	-2.338	.000	.000	.000
H 4	.463	-4.276	-2.530	.000	.000	.000
5	.515	-5.216	-2.479	.000	.000	.000
P 6	.524	-5.880	-2.226	.000	.000	.000
O 7	.482	-6.169	-1.811	.000	.000	.000
I 8	.379	-5.728	-1.275	.000	.000	.000
N 9	.215	-3.708	-.658	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
AREA TOTALS						
POS AREA	8.9	.0	.0	.0	.0	.0
NEG AREA	.0	264.0	50.4	.0	.0	.0

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	.5	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** DL MOMENT EFFECT

DL FT-KIPS	SDL FT-KIPS
-383.0	-67.8

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1856.3	-728.6	1856.3	-728.6
OPERATING	3093.8	-1214.3	3093.8	-1214.3
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .284 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	11.9	9.2	1.900	L	.0	10.3	7.9	15.900				
	-BEND	160.2	124.8	62.550	L	.0	240.9	187.6	76.550	110.400	3.025	45.4	H 45.4
OPER HS20	+BEND	21.0	16.1	-6.800	L	.0	13.7	10.6	15.900				
	-BEND	362.8	282.6	55.695	L	.0	321.2	250.2	76.550	110.400	3.347	120.5	HS 66.9
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 3.60

***** SECTION PROPERTIES IN COMPOSITE RANGE 2OF SPAN 3

	H	GROSS AREA	---NET AREA--- + BEND	- BEND	IX + BEND	IX - BEND	C (BOT)	SECTION MODULUS TOP + BEND	TOP - BEND	BOTTOM + BEND	BOTTOM - BEND
	IN.	SQ.IN.	SQ.IN.	SQ.IN.	IN**4	IN**4	IN.	IN**3	IN**3	IN**3	IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					7238.5		16.62	435.4		435.4	
COM (N=3N)					7238.5		16.62	435.4		435.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = 22.50 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	.0	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.055	-.332	.813	.000	.000	.000
N 2	.106	-.784	1.735	.000	.000	.000
T 3	.151	-1.265	2.785	.000	.000	.000
H 4	.185	-1.711	3.948	.000	.000	.000
5	.206	-2.086	5.208	.000	.000	.000
P 6	.210	-2.352	6.550	.000	.000	.000
O 7	.193	-2.467	4.856	.000	.000	.000
I 8	.152	-2.291	3.210	.000	.000	.000
N 9	.086	-1.483	1.597	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
POS AREA	3.6	.0	95.2	.0	.0	.0
NEG AREA	.0	105.6	.0	.0	.0	.0

***** DL MOMENT EFFECT

DL FT-KIPS	SDL FT-KIPS
-35.9	-1.5

AREA TOTALS
98.7
105.6

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1253.7	-580.4	1253.7	-580.4
OPERATING	2089.4	-967.4	2089.4	-967.4
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .254 FOR -BEND)

LIVE LOAD		TRUCK LOAD LL+IMP FT-KIPS	TRUCK LOAD LL FT-KIPS	TRUCK LOAD LOC.NO. 1 WHEEL FT.	DIR	TRUCK LOAD AXLE SPACE FT.	LANE LOAD LL+IMP FT-KIPS	LANE LOAD LL FT-KIPS	LANE LOAD LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	148.8	114.5	102.600	L	.0	122.6	94.3	116.600		5.153	77.3	H 77.3
	-BEND	62.6	49.9	62.550	L	.0	73.7	58.8	76.550	.000			
OPER HS20	+BEND	225.8	173.7	130.600	R	.0	163.5	125.8	116.600		5.662	203.8	HS113.2
	-BEND	141.8	113.1	55.695	L	.0	98.3	78.4	76.550	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER

BARS RELEASE 5.5

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293
MEMBER I.D.--G01
C.P. LOCATION 4.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 2OF SPAN 3

	H IN.	GROSS AREA SQ.IN.	---NET AREA--- + BEND SQ.IN.	- BEND SQ.IN.	IX + BEND IN**4	IX - BEND IN**4	C (BOT) IN.	SECTION MODULUS TOP + BEND IN**3	TOP - BEND IN**3	BOTTOM + BEND IN**3	BOTTOM - BEND IN**3
NON-COM	.00	.00	.00	.00	.0	.0	.00	.0	.0	.0	.0
COM (N=N)					7238.5		16.62	435.4		435.4	
COM (N=3N)					7238.5		16.62	435.4		435.4	

(AS)C = .0 SQ. IN. , (DS)C = .0 SQ. IN. BRACE LENGTH = .00 ,YBAR = .00

***** INFLUENCE LINE (SIMPLE SPAN)

***** ULTIMATE STRENGTH ***** MOMENT CAPACITY

	M1/M2 TOP	M1/M2 BOTTOM	TOP + BEND FT-KIPS	TOP - BEND FT-KIPS	BOTTOM + BEND FT-KIPS	BOTTOM - BEND FT-KIPS
INVENTORY	1.0	.0				
OPERATING	.0					
POST VEH1	.0					
POST VEH2	.0					
POST VEH3	.0					
POST SPEC	.0					

***** ORDINATES OF AND AREAS UNDER INFLUENCE LINE (CONTINUOUS SPAN)

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.000	.000	.000	.000	.000	.000
N 2	.000	.000	.000	.000	.000	.000
T 3	.000	.000	.000	.000	.000	.000
H 4	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8	.000	.000	.000	.000	.000	.000
N 9	.000	.000	.000	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000
AREA TOTALS						
POS AREA	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0

***** DL MOMENT EFFECT

DL FT-KIPS	SDL FT-KIPS
.0	.0

***** AVAIL.CAPAC.FOR LL+IMPACT

	TOP +BEND F-KPS	TOP -BEND F-KPS	BOT +BEND F-KPS	BOT -BEND F-KPS
INVENTORY	1231.2	-580.4	1231.2	-580.4
OPERATING	2052.0	-967.4	2052.0	-967.4
VEH. 1	.0	.0	.0	.0
VEH. 2	.0	.0	.0	.0
VEH. 3	.0	.0	.0	.0
SPECIAL	.0	.0	.0	.0

***** LIVE LOAD AND RATING CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

LIVE LOAD		---TRUCK LOAD--- LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	AXLE SPACE FT.	---LANE LOAD--- LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC LOAD FT.	LOC.CONC LOAD 2 FT.	RATING FACT.	SAFE LOAD CAPACITY TONS	RATING VALUE
INV H15	+BEND	.0	.0	111.900	L	.0	.0	.0	.000		7.679	115.2	H 115.2
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
OPER HS20	+BEND	.0	.0	97.900	L	.0	.0	.0	.000		7.211	259.6	HS144.2
	-BEND	.0	.0	.000	L	.0	.0	.0	.000	.000			
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									
POST SPEC	+BEND	.0	.0	.000							.000	.0	
	-BEND	.0	.0	.000									

SUMMARY OF SHEAR ANALYSIS

DATE 09/04/97

D/P STRUCTURE I.D. CAJ-293

MEMB. ID	MATL	SPAN NO.	DIS FRM LT SPRT FT.	L R	DL SHEAR KIPS	SDL SHEAR KIPS	---INVENTORY--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	---OPERATING--- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	--VEH. 1 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 2 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 3 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--SPECIAL-- LL+I MAX.V KIPS	LL+I MIN.V KIPS
G01	CSC	1	.000	L	1.3	.4	23.9	T	9.2	L	40.2	T	15.1	T								
		1	10.600	L	12.1	2.0	11.9	T	14.1	L	15.5	T	18.7	L								
		2	.000	L	36.7	7.9	35.6	L	1.2	L	58.5	T	2.0	T								
		2	35.750	L	.1	.0	13.7	L	13.4	L	22.9	T	22.1	T								
		3	.000	L	28.3	5.6	29.6	L	.4	L	48.4	T	.7	T								
		3	18.600	L	9.2	1.5	13.3	L	12.0	T	17.8	L	18.2	T								
		3	31.000	L	3.4	1.3	7.2	L	24.2	T	11.9	T	43.0	T								

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 1.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 1 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
33.25	.63	53.20	31.38	50.20	5.44	5.44	5.80	5.80	CONT	21.00	3.32	3.32	.00	75.91	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	6.05	.0	10.78	10.78	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	41.17	41.17	41.17	7238.5	7238.5	16.62	435.4	435.4	435.4	435.4	502.17	502.17	502.17	502.17
COM(N=N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				
COM(N=3N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X	X			1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1231.23	695.32	1231.23	602.86	1506.52	502.17	2165.48	2667.66	409.44	409.44
OPER.	2052.04	1158.86	2052.04	1004.76	1506.52	502.17	2165.48	2667.66	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

M (DL)	M (SDL)	-- DEAD LOAD -- REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
.00	.00	.00	.00	-1.29	.36

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.00

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

	LIVE LOAD		-- LIVE LOAD -- TRUCK MOMENT: REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LANE MOMENT: LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	FIXED SHEAR +V KIPS	FIXED SHEAR -V KIPS	MAX SHEAR +V KIPS	MAX SHEAR -V KIPS
INV.	H15	+BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00		
		-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00		
														.00	23.85
OPER.	HS20	+BEND	.00	.0	.0	62.550	L	.0	.0	.000	.000	.00	.00		
		-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00		
														.00	40.24

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.000	.000	.000	.000	.000	.000
N 2	.000	.000	.000	.000	.000	.000
T 3	.000	.000	.000	.000	.000	.000
H 4	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8	.000	.000	.000	.000	.000	.000
N 9	.000	.000	.000	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	.0	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0	.0

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA = .00
Y-ORDINATE	.00	.00	.00	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.00

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	1231.2	.0	1231.2	.0	999.0000	999.0000	999.0000	999.0000		
OPER.	HS20	2052.0	580.4	2052.0	580.4	999.0000	999.0000	999.0000	999.0000		

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	744.5	858.7	744.5	858.7	999.0000	999.0000	999.0000	999.0000		
OPER.	HS20	1240.9	1431.2	1240.9	1431.2	999.0000	999.0000	999.0000	999.0000		

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		LEFT	RIGHT	LEFT	RIGHT		
INV.	H15	189.53	189.53	7.9467	7.9467	H 119.2	119.2
OPER.	HS20	315.88	315.88	7.8509	7.8509	HS157.0	282.6

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 1.40

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 1 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
33.25	.63	53.20	31.38	50.20	5.44	5.44	5.80	5.80	CONT	21.00	3.32	3.32	.00	75.91	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	6.05	.0	10.78	10.78	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	41.17	41.17	41.17	7238.5	7238.5	16.62	435.4	435.4	435.4	435.4	502.17	502.17	502.17	502.17
COM(N=N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				
COM(N=3N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X			X	1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = .00 FT-KIPS, MR = -452.38 FT-KIPS, M1/M2 = 1.0000 CB = 1.0

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1231.23	602.85	1231.23	602.86	1506.52	502.17	2165.48	2667.66	409.44	409.44
OPER.	2052.04	1004.75	2052.04	1004.76	1506.52	502.17	2165.48	2667.66	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
-70.77	-8.63	-70.77	-8.63	-12.06	-1.99

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.40

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .254 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	125.96	126.0	96.9	24.600	R	102.6	78.9	10.600	.000	2.47	9.80		
		-BEND	80.55	68.1	54.3	61.950	R	80.5	64.2	47.950	.000	2.39	2.39		
														14.06	14.06
OPER.	HS20	+BEND	164.10	164.1	126.2	-17.400	L	136.8	105.2	10.600	.000	15.08	13.43		
		-BEND	154.29	154.3	123.0	68.803	R	107.4	85.6	47.950	.000	14.56	14.56		
														18.74	18.74

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	1.387	-1.601	.124	.000	.000	.000
N 2	2.787	-2.480	.216	.000	.000	.000
T 3	4.213	-2.680	.271	.000	.000	.000
H 4	5.676	-2.565	.293	.000	.000	.000
5	4.539	-2.288	.287	.000	.000	.000
P 6	3.466	-1.890	.258	.000	.000	.000
O 7	2.469	-1.413	.210	.000	.000	.000
I 8	1.560	-.893	.148	.000	.000	.000
N 9	.742	-.389	.076	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	71.1	.0	5.8	.0	.0	.0	77.0
NEG AREA	.0	115.8	.0	.0	.0	.0	115.8

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA = .00
Y-ORDINATE	.00	.00	.00	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 1.40

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	1278.9	555.2	1278.9	555.2	10.1533	6.8929	10.1533	6.8929		
OPER.	HS20	2131.4	925.4	2131.4	925.4	12.9890	5.9974	12.9890	5.9974	HS119.9	215.9

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	792.2	696.9	792.2	696.9	6.2892	8.6517	6.2893	8.6518	H 94.3	94.3
OPER.	HS20	1320.3	1161.5	1320.3	1161.5	8.0457	7.5277	8.0458	7.5278		

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		LEFT	RIGHT	LEFT	RIGHT		
INV.	H15	180.54	197.41	12.8422	12.8422		
OPER.	HS20	300.90	329.01	16.0528	16.0528		

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 2.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 2 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
34.25	.63	54.80	31.38	50.20	6.19	6.19	4.30	4.30	CONT	15.50	3.49	3.49	.00	53.31	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	7.97	.0	17.28	17.28	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	54.17	54.17	54.17	10940.7	10940.7	17.12	638.9	638.9	638.9	638.9	721.55	721.55	721.55	721.55
COM(N=N)				10940.7	.0	17.12	638.9	.0	638.9	638.9				
COM(N=3N)				10940.7	.0	17.12	638.9	.0	638.9	638.9				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X	X			1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = 44.02 FT-KIPS, MR = -704.21 FT-KIPS

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1585.79	999.07	1585.79	884.59	2164.65	721.55	2714.33	3435.88	409.44	409.44
OPER.	2642.98	1665.11	2642.98	1474.32	2164.65	721.55	2714.33	3435.88	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
-391.60	-68.34	-391.60	-68.34	36.74	7.94

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.00

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .287 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	17.38	17.4	13.4	124.400	R	15.3	11.8	110.400	.000	14.59	1.08		
		-BEND	244.27	174.7	135.7	61.950	R	244.3	189.7	47.950	15.900	14.45	14.45		
														35.63	34.38
OPER.	HS20	+BEND	32.67	32.7	25.1	133.701	R	20.4	15.7	110.400	.000	46.05	2.04		
		-BEND	395.85	395.9	307.5	68.803	R	325.7	253.0	47.950	15.900	45.60	45.60		
														58.48	56.43

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	-.507	-4.004	.309	.000	.000	.000
N 2	-.982	-6.199	.539	.000	.000	.000
T 3	-1.394	-6.699	.677	.000	.000	.000
H 4	-1.711	-6.413	.732	.000	.000	.000
5	-1.902	-5.720	.717	.000	.000	.000
P 6	-1.935	-4.724	.644	.000	.000	.000
O 7	-1.778	-3.532	.524	.000	.000	.000
I 8	-1.401	-2.232	.369	.000	.000	.000
N 9	-.795	-.973	.190	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	.0	.0	14.6	.0	.0	.0	14.6
NEG AREA	32.9	289.5	.0	.0	.0	.0	322.4

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA = .00
Y-ORDINATE	.00	.00	.00	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.00

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	1861.8	723.1	1861.8	723.1	107.1373	2.9603	107.1373	2.9603	H 44.4	44.4
OPER.	HS20	3102.9	1205.2	3102.9	1205.2	94.9831	3.0445	94.9831	3.0445	HS 60.9	109.6

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	1368.4	957.9	1368.4	957.9	78.7483	3.9214	78.7487	3.9214		
OPER.	HS20	2280.7	1596.5	2280.7	1596.5	69.8147	4.0330	69.8151	4.0330		

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR			
		LEFT	RIGHT	LEFT	RIGHT	RATING VALUE	SAFE LOAD
INV.	H15	162.16	162.16	4.5513	4.5513		
OPER.	HS20	270.27	270.27	4.6215	4.6215		

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 2.50

***** SECTION PROPERTIES IN COMPOSITE RANGE 3 OF SPAN 2 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
33.25	.63	53.20	31.38	50.20	5.44	5.44	5.80	5.80	CONT	21.00	3.32	3.32	.00	75.91	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	6.05	.0	10.78	10.78	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	41.17	41.17	41.17	7238.5	7238.5	16.62	435.4	435.4	435.4	435.4	502.17	502.17	502.17	502.17
COM(N=N)				20087.5	.0	30.87	8456.9	1936.1	650.6	650.6				
COM(N=3N)				14897.5	.0	25.26	1863.7	931.5	589.8	589.8				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X			X	1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = 44.02 FT-KIPS, MR = 308.90 FT-KIPS, M1/M2 = .1425 CB = 1.0

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1231.23	602.85	1231.23	602.86	1506.52	502.17	2165.48	2667.66	409.44	409.44
OPER.	2052.04	1004.75	2052.04	1004.76	1506.52	502.17	2165.48	2667.66	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
262.91	73.79	262.91	73.79	.12	.01

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.50

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .254 FOR +BEND AND = .300 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	299.90	291.0	232.0	76.250	R	299.9	239.1	62.250	.000	1.82	7.08		
		-BEND	24.04	21.3	16.4	124.400	R	24.0	18.5	110.400	.000	1.89	1.89		
														13.73	13.73
OPER.	HS20	+BEND	555.04	555.0	442.5	48.247	L	399.9	318.8	62.250	.000	1.96	8.05		
		-BEND	40.10	40.1	30.8	133.701	R	32.1	24.7	110.400	.000	2.04	2.04		
														22.91	22.91

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	-.185	1.158	-.379	.000	.000	.000
N 2	-.358	3.070	-.662	.000	.000	.000
T 3	-.508	5.795	-.831	.000	.000	.000
H 4	-.624	8.955	-.899	.000	.000	.000
5	-.693	12.407	-.881	.000	.000	.000
P 6	-.705	8.998	-.791	.000	.000	.000
O 7	-.648	5.875	-.643	.000	.000	.000
I 8	-.511	3.170	-.453	.000	.000	.000
N 9	-.290	1.235	-.234	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	.0	362.2	.0	.0	.0	.0	362.2
NEG AREA	12.0	.0	17.9	.0	.0	.0	29.9

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 2.50

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	1029.2	804.9	1029.2	804.9	3.4319	33.4791	3.4319	33.4794		
OPER.	HS20	1715.3	1341.4	1715.3	1341.5	3.0905	33.4527	3.0905	33.4530		

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	11196.4	946.5	828.0	946.5	37.3342	39.3720	2.7609	39.3723	H 41.4	41.4
OPER.	HS20	18660.6	1577.6	1380.0	1577.6	33.6204	39.3410	2.4863	39.3413	HS 49.7	89.5

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR			
		LEFT	RIGHT	LEFT	RIGHT	RATING VALUE	SAFE LOAD
INV.	H15	188.90	188.90	13.7538	13.7538		
OPER.	HS20	314.83	314.83	13.7396	13.7396		

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 3.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 1 OF SPAN 3 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
34.25	.63	54.80	31.38	50.20	6.19	6.19	4.30	4.30	CONT	14.00	3.49	3.49	.00	48.15	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	7.97	.0	17.28	17.28	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	54.17	54.17	54.17	10940.7	10940.7	17.12	638.9	638.9	638.9	638.9	721.55	721.55	721.55	721.55
COM(N=N)				10940.7	.0	17.12	638.9	.0	638.9	638.9				
COM(N=3N)				10940.7	.0	17.12	638.9	.0	638.9	638.9				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X	X			1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = -343.46 FT-KIPS, MR = -691.74 FT-KIPS

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1585.79	999.07	1585.79	884.59	2164.65	721.55	2714.33	3435.88	409.44	409.44
OPER.	2642.98	1665.11	2642.98	1474.32	2164.65	721.55	2714.33	3435.88	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
-383.04	-67.82	-383.04	-67.82	28.30	5.63

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.00

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .284 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	11.90	11.9	9.2	1.900	L	10.3	7.9	15.900	.000	8.21	.38		
		-BEND	240.87	160.2	124.8	62.550	L	240.9	187.6	76.550	110.400	8.10	8.10		
														28.58	29.62
OPER.	HS20	+BEND	20.97	21.0	16.1	-6.800	L	13.7	10.6	15.900	.000	11.85	.68		
		-BEND	362.82	362.8	282.6	55.695	L	321.2	250.2	76.550	110.400	11.70	11.70		
														46.72	48.42

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.137	-.830	-1.068	.000	.000	.000
N 2	.266	-1.960	-1.863	.000	.000	.000
T 3	.377	-3.161	-2.338	.000	.000	.000
H 4	.463	-4.276	-2.530	.000	.000	.000
5	.515	-5.216	-2.479	.000	.000	.000
P 6	.524	-5.880	-2.226	.000	.000	.000
O 7	.482	-6.169	-1.811	.000	.000	.000
I 8	.379	-5.728	-1.275	.000	.000	.000
N 9	.215	-3.708	-.658	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	8.9	.0	.0	.0	.0	.0	8.9
NEG AREA	.0	264.0	50.4	.0	.0	.0	314.4

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA =	.00
Y-ORDINATE	.00	.00	.00		

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.00

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	1856.3	728.6	1856.3	728.6	156.0514	3.0246	156.0514	3.0246	H 45.4	45.4
OPER.	HS20	3093.8	1214.3	3093.8	1214.3	147.5507	3.3467	147.5507	3.3467	HS 66.9	120.5

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP. (TONS)
INV.	H15	1363.0	963.3	1363.0	963.3	114.5799	3.9993	114.5806	3.9993		
OPER.	HS20	2271.6	1605.6	2271.7	1605.6	108.3384	4.4253	108.3390	4.4253		

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR			
		LEFT	RIGHT	LEFT	RIGHT	RATING VALUE	SAFE LOAD
INV.	H15	168.61	168.61	5.6935	5.6935		
OPER.	HS20	281.02	281.02	5.8042	5.8042		

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 3.60

***** SECTION PROPERTIES IN COMPOSITE RANGE 2 OF SPAN 3 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
33.25	.63	53.20	31.38	50.20	5.44	5.44	5.80	5.80	CONT	22.50	3.32	3.32	.00	81.33	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	6.05	.0	10.78	10.78	19.61

-- SECTION PROPERTIES -- / -------- SECTION MODULUS -------- / ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	41.17	41.17	41.17	7238.5	7238.5	16.62	435.4	435.4	435.4	435.4	502.17	502.17	502.17	502.17
COM(N=N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				
COM(N=3N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X			X	1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = .00 FT-KIPS, MR = -343.46 FT-KIPS, M1/M2 = .0000 CB = 1.0

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- / -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- / -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1231.23	602.85	1231.23	602.86	1506.52	502.17	2165.48	2667.66	409.44	409.44
OPER.	2052.04	1004.75	2052.04	1004.76	1506.52	502.17	2165.48	2667.66	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
-35.86	-1.53	-35.86	-1.53	9.19	1.50

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.60

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .254 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	148.85	148.8	114.5	102.600	L	122.6	94.3	116.600	.000	2.32	12.00		
		-BEND	73.73	62.6	49.9	62.550	L	73.7	58.8	76.550	.000	2.24	2.24		
														13.33	13.33
OPER.	HS20	+BEND	225.76	225.8	173.7	130.600	R	163.5	125.8	116.600	.000	11.85	18.21		
		-BEND	141.82	141.8	113.1	55.695	L	98.3	78.4	76.550	.000	11.44	11.44		
														18.20	18.20

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.055	-.332	.813	.000	.000	.000
N 2	.106	-.784	1.735	.000	.000	.000
T 3	.151	-1.265	2.785	.000	.000	.000
H 4	.185	-1.711	3.948	.000	.000	.000
5	.206	-2.086	5.208	.000	.000	.000
P 6	.210	-2.352	6.550	.000	.000	.000
O 7	.193	-2.467	4.856	.000	.000	.000
I 8	.152	-2.291	3.210	.000	.000	.000
N 9	.086	-1.483	1.597	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	3.6	.0	95.2	.0	.0	.0	98.7
NEG AREA	.0	105.6	.0	.0	.0	.0	105.6

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA = .00
Y-ORDINATE	.00	.00	.00	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 3.60

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	1253.7	580.4	1253.7	580.4	8.4224	7.8717	8.4224	7.8718		
OPER.	HS20	2089.4	967.4	2089.4	967.4	9.2550	6.8210	9.2550	6.8211		

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	767.0	722.1	767.0	722.1	5.1526	9.7931	5.1526	9.7932	H 77.3	77.3
OPER.	HS20	1278.3	1203.5	1278.3	1203.5	5.6620	8.4859	5.6620	8.4860	HS113.2	203.8

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		LEFT	RIGHT	LEFT	RIGHT		
INV.	H15	182.56	182.56	13.6906	13.6906		
OPER.	HS20	304.26	304.26	17.1133	17.1133		

DETAIL DATA AT MOMENT CHECK POINT FOR BARS-PC RELEASE 5.5
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION - 4.00

***** SECTION PROPERTIES IN COMPOSITE RANGE 2 OF SPAN 3 ******

-- STRUCTURAL STEEL PROPERTIES --

H (IN.)	Tweb (IN.)	H/Tweb	D (IN.)	D/Tweb	- B' (IN) - TOP	- B' (IN) - BOT	- B'/t - TOP	- B'/t - BOT	Lb (FT) TOP	Lb (FT) BOT	Ry (IN) TOP	Ry (IN) BOT	- Lb / Ry TOP	- Lb / Ry BOT	HYBRID RATIO, R +BEND	HYBRID RATIO, R -BEND
33.25	.63	53.20	31.38	50.20	5.44	5.44	5.80	5.80	CONT	22.50	3.32	3.32	.00	81.33	1.0000	1.0000

-- COMPOSITE CONCRETE PROPERTIES --

EFF.WIDTH (IN.)	EFF.THICK. (IN.)	VALUE N	(AS)C (SQ.IN.)	(DS)C (IN.)	VALUE a	VALUE Y	Atf (SQ.IN.)	Abf (SQ.IN.)	Aw (SQ.IN.)
96.0	8.0	9	.00	.00	6.05	.0	10.78	10.78	19.61

-- SECTION PROPERTIES -- -------- SECTION MODULUS -------- ---- PLASTIC SECTION MODULUS ----

	GROSS AREA SQ.IN.	NET AREA +BEND SQ.IN.	NET AREA -BEND SQ.IN.	IX +BEND IN.**4	IX -BEND IN.**4	C (BOT) IN.	TOP +BEND IN.**3	TOP -BEND IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3	TOP +BEND IN.**3	TOP -BEND+ IN.**3	BOTT +BEND IN.**3	BOTT -BEND IN.**3
NON-COM	41.17	41.17	41.17	7238.5	7238.5	16.62	435.4	435.4	435.4	435.4	502.17	502.17	502.17	502.17
COM(N=N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				
COM(N=3N)				7238.5	.0	16.62	435.4	.0	435.4	435.4				

-- ULTIMATE STRENGTH --

Fy (PSI) STEEL	f'c (PSI) CONC.	Fy (PSI) REBAR	2055/(SQRT Fy) TOP FLANGE	2055/(SQRT Fy) BOT FLANGE	2200/(SQRT Fy) TOP FLANGE	2200/(SQRT Fy) BOT FLANGE	-- YIELD STRESS, Fy (PSI) -- BOT FLANGE	TOP FLANGE	WEB
36000.	3000.	3000.	10.83	10.83	11.60	11.60	36000.	36000.	36000.

***** SECTION QUALIFICATION *****

	STIFFENED LONG	STIFFENED TRANV	UNSTIFFENED	COMPACT	BRACED NON-COMPACT	UNBRACED NON-COMPACT	REDUCTION FACTOR	SYMMETRICAL	UNSYMMETRICAL
+BEND			X	X			1.0000		X
-BEND			X	X			1.0000	X	

***** SECTION CAPACITY *****

+BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS
-BEND ML = .00 FT-KIPS, MR = .00 FT-KIPS

--- NON-COMPOSITE MOMENT CAPACITY (FT-KIPS) --- -- COMPOSITE MOMENT CAPACITY (FT-KIPS) -- -- SHEAR CAPACITY (KIPS) --

	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	MU	MAX. CAP. STEEL	MAX. CAP. CONC.	MU	VU LEFT	VU RIGHT
INV.	1231.23	695.32	1231.23	602.86	1506.52	502.17	2165.48	2667.66	409.44	409.44
OPER.	2052.04	1158.86	2052.04	1004.76	1506.52	502.17	2165.48	2667.66	409.44	409.44

***** MOMENT (FT-KIPS) AND SHEAR (KIPS) *****

-- DEAD LOAD --

M (DL)	M (SDL)	REDIS. M-(DL)	REDIS. M-(SDL)	V (DL)	V (SDL)
.00	.00	.00	.00	-3.41	-1.25

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 4.00

***** LIVE LOAD CALCULATIONS (IMPACT FACTOR = .300 FOR +BEND AND = .300 FOR -BEND)

			-- LIVE LOAD -- TRUCK MOMENT					LANE MOMENT				FIXED SHEAR		MAX SHEAR	
	LIVE LOAD		REDIS LL+I FT-KIPS	LL+IMP FT-KIPS	LL FT-KIPS	LOC.NO. 1 WHEEL FT.	DIR	LL+IMP FT-KIPS	LL FT-KIPS	LOC.CONC. LOAD #1 FT.	LOC.CONC. LOAD #2 FT.	+V KIPS	-V KIPS	+V KIPS	-V KIPS
INV.	H15	+BEND	.00	.0	.0	111.900	L	.0	.0	.000	.000	.00	.00		
		-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00		
														24.24	.00
OPER.	HS20	+BEND	.00	.0	.0	97.900	L	.0	.0	.000	.000	.00	.00		
		-BEND	.00	.0	.0	.000	L	.0	.0	.000	.000	.00	.00		
														43.03	.00

***** ORDINATES OF AND AREAS UNDER MOMENT INFLUENCE LINE (CONTINUOUS SPAN) *****

	SPAN 1	SPAN 2	SPAN 3	SPAN 4	SPAN 5	SPAN 6
T 0	.000	.000	.000	.000	.000	.000
E 1	.000	.000	.000	.000	.000	.000
N 2	.000	.000	.000	.000	.000	.000
T 3	.000	.000	.000	.000	.000	.000
H 4	.000	.000	.000	.000	.000	.000
5	.000	.000	.000	.000	.000	.000
P 6	.000	.000	.000	.000	.000	.000
O 7	.000	.000	.000	.000	.000	.000
I 8	.000	.000	.000	.000	.000	.000
N 9	.000	.000	.000	.000	.000	.000
T 0	.000	.000	.000	.000	.000	.000

							AREA TOTALS
POS AREA	.0	.0	.0	.0	.0	.0	.0
NEG AREA	.0	.0	.0	.0	.0	.0	.0

***** MOMENT INFLUENCE LINE (SIMPLE SPAN)

X-DIST (FT.)	.00	.00	.00	POS AREA = .00
Y-ORDINATE	.00	.00	.00	

DETAIL DATA AT MOMENT CHECK POINT FOR
COMPOSITE STEEL AND CONCRETE FLEXURAL MEMBER - LOAD FACTOR RATING

DATE 9/ 4/97

D/P STRUCTURE I.D. = CAJ-293
MEMBER I.D. -- G 1
C.P. LOCATION -- 4.00

***** RATING FACTOR *****

-- RATING FACTOR FOR MOMENT --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR - MOMENT					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	1231.2	580.4	1231.2	580.4	999.0000	999.0000	999.0000	999.0000		
OPER.	HS20	2052.0	967.4	2052.0	967.4	999.0000	999.0000	999.0000	999.0000		

-- RATING FACTOR FOR SERVICEABILITY --

		AVAILABLE (LL+I) CAPACITY (FT-KIPS)				RATING FACTOR -SERVICEABILITY					
		TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	TOP +BEND	TOP -BEND	BOTT +BEND	BOTT -BEND	RATING VALUE	SAFE LOAD CAP.(TONS)
INV.	H15	744.5	858.7	744.5	858.7	999.0000	999.0000	999.0000	999.0000		
OPER.	HS20	1240.9	1431.2	1240.9	1431.2	999.0000	999.0000	999.0000	999.0000		

-- RATING FACTOR FOR SHEAR --

		AVAILABLE CAPACITY (KIPS)		RATING FACTOR - SHEAR		RATING VALUE	SAFE LOAD
		LEFT	RIGHT	LEFT	RIGHT		
INV.	H15	186.18	191.77	7.6791	7.6791	H 115.2	115.2
OPER.	HS20	310.30	319.62	7.2115	7.2115	HS144.2	259.6

SUMMARY OF SHEAR ANALYSIS

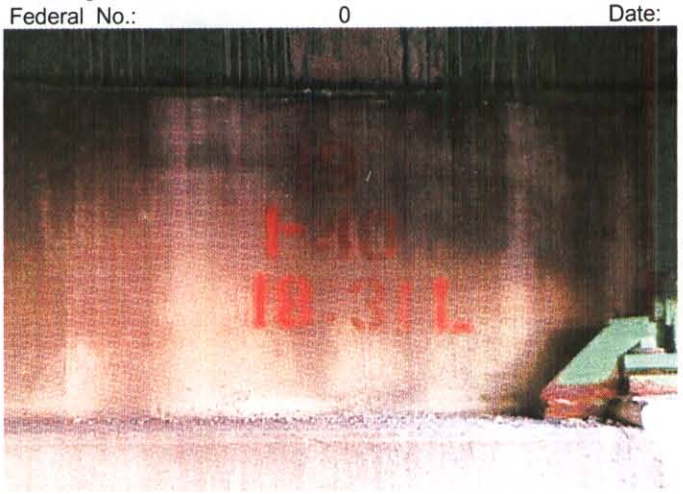
DATE 9/ 4/97

D/P STRUCTURE I.D. CAJ-293

MEMB. ID	MATL	SPAN NO.	DIS FRM L LT SPRT R FT.	DL SHEAR KIPS	SDL SHEAR KIPS	---INVENTORY---- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	---OPERATING---- LL+I MAX.V KIPS	T L	LL+I MIN.V KIPS	T L	--VEH. 1 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 2 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--VEH. 3 -- LL+I MAX.V KIPS	LL+I MIN.V KIPS	--SPECIAL--- LL+I MAX.V KIPS	LL+I MIN.V KIPS
G 1	CSC	1	.000 L	1.3	.4	23.9	T	9.2	L	40.2	T	15.1	T	.0	.0	.0	.0	.0	.0	.0	.0
		1	10.600 L	12.1	2.0	11.9	T	14.1	L	15.5	T	18.7	L	.0	.0	.0	.0	.0	.0	.0	.0
		2	.000 L	36.7	7.9	35.6	L	1.2	L	58.5	T	2.0	T	.0	.0	.0	.0	.0	.0	.0	.0
		2	35.750 L	.1	.0	13.7	L	13.4	L	22.9	T	22.1	T	.0	.0	.0	.0	.0	.0	.0	.0
		3	.000 L	28.3	5.6	29.6	L	.4	L	48.4	T	.7	T	.0	.0	.0	.0	.0	.0	.0	.0
		3	18.600 L	9.2	1.5	13.3	L	12.0	T	17.8	L	18.2	T	.0	.0	.0	.0	.0	.0	.0	.0
		3	31.000 L	3.4	1.3	7.2	L	24.2	T	11.9	T	43.0	T	.0	.0	.0	.0	.0	.0	.0	.0

Bridge No.: 00019 — I40 — 18.34 LT
Crossing:: 0
Federal No.: 0 Date: December 1, 2003

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.:	19	— I40	~~18~~.34 LT	
Crossing::	0			
Federal N	0		Date:	December 1, 2003

PIC2

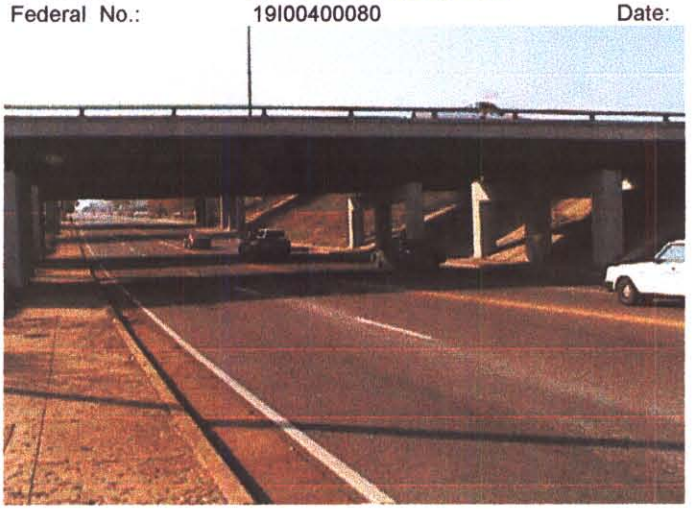
VIEW ACROSS DECK

PIC3

ELEVATIO RIGHT SIDE

Bridge No.: 00019 — I 40 — 18.34 LT
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: October 22, 2001

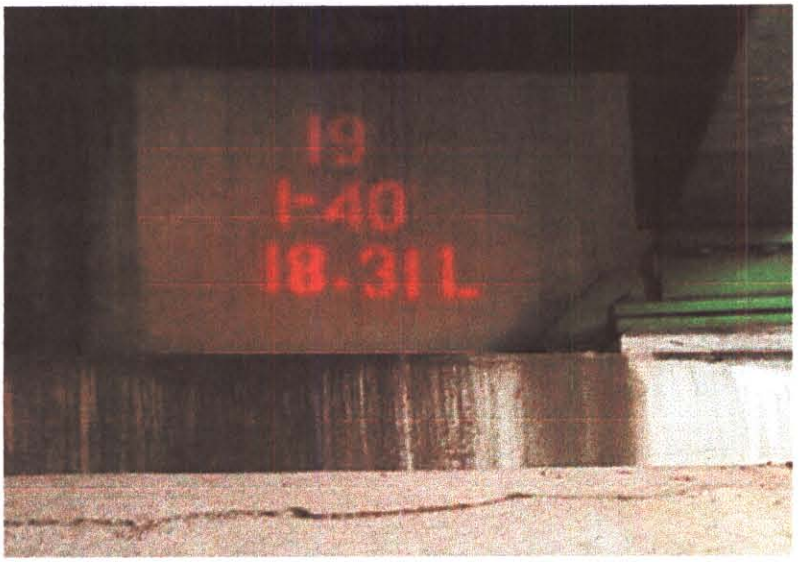
PIC1



ELEVATION LEFT VIEW

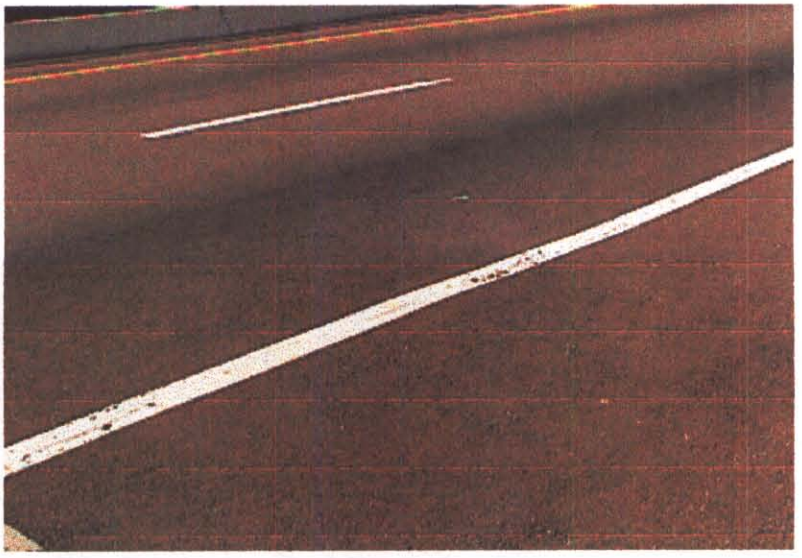
Bridge No.: 19 — I 40 ~~-18.~~34 LT
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No 19I00400080 Date: October 22, 2001

PIC2



BRIDGE NO. AT ABUTMENT # 1

PIC3



VIEW ACROSS DECK

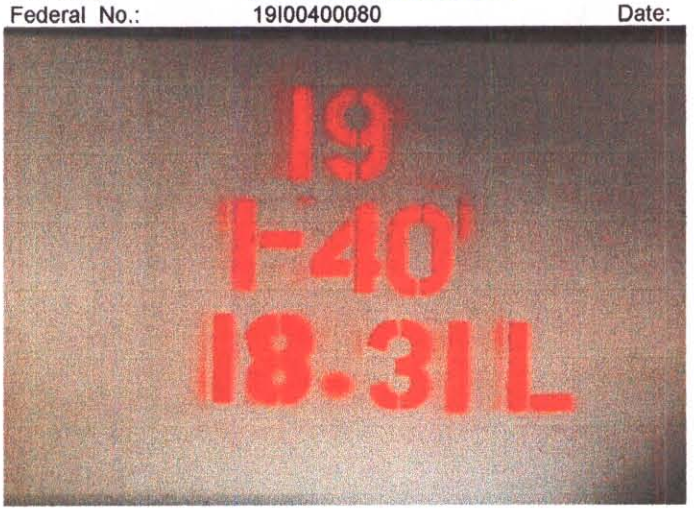
Bridge No.: 19 — I 40 ~~18~~.34 LT
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: October 22, 2001

PIC4

EXPANSION JOINT AT "A" END MISSING FILLER

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC1



BRIDGE NO. AT ABUTMENT # 1

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No 19I00400080 Date: February 29, 2000

PIC2

ABUTMENT TYPICAL

PIC3

BENT TYPICAL

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC4

BOTTOM DECK VIEW

PIC5

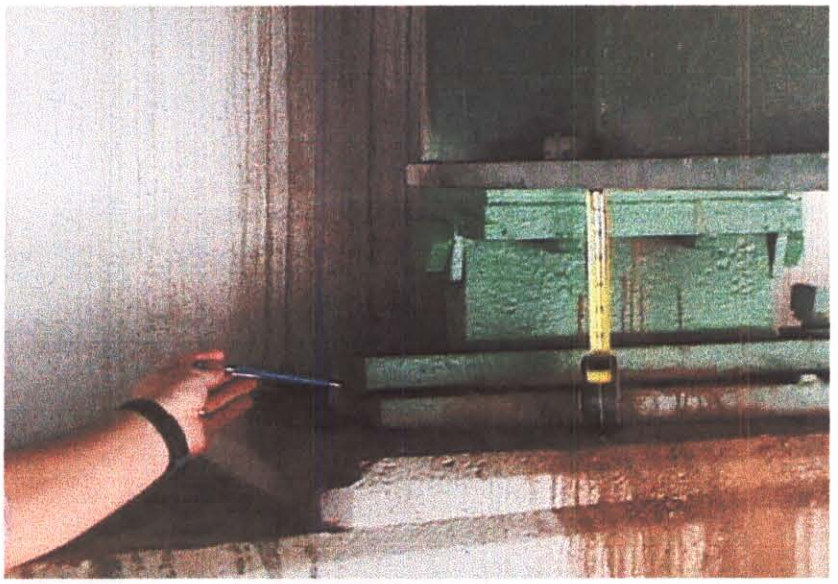
LEFT SIDE VIEW

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC6

BEARING AT BEAM "B" ABUTMENT #2(REPAIRED)

PIC7



BEARING AT BEAM "B" ABUTMENT #2(REPAIRED)

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC8

"C" ABUTMENT #2(VERTICAL MOVEMENT)

PIC9

VIEW ACROSS DECK

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC10

APPROACH # 1

PIC11

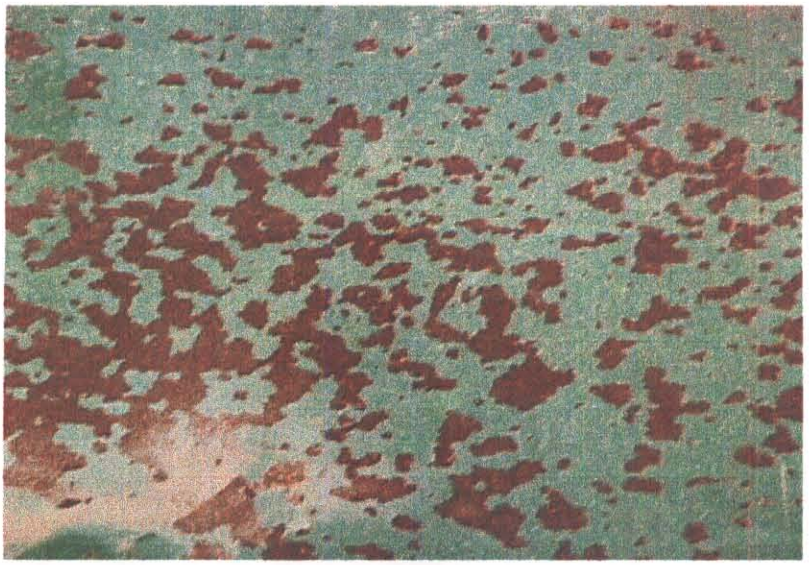
APPROACH # 2

Bridge No.: 19 — I0040 — 1831
Crossing:: I40 LL / 8TH AVE SR 6 *
Federal No.: 19I00400080 Date: February 29, 2000

PIC12

POT HOLE WITH EXPOSED REBAR AT "A" APPROACH

PIC13



RUST BEAM "E"

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 15 Date 12.1.03
Previous Report No. 14 Date 10/22/2001
Plans: DESIGN

Bridge No. 19I00400080 (Eleven Digit No.)
Bridge Location No. 19 - I0040 - 18.34 L (Co. Route Log Mile)

I40 LL (Road Name) over 8TH AVE SR 6 * (Crossing)
Indepth Insp. Req'd: NO
(If yes itemize limits under comments

Structure Type WPG
FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface NO Type ASPHALT Depth 3" (in.)
Bridge Rail NO Describe changes:
Approach Rail NO

CLEARANCE CHANGES: NO (If yes make changes below)

Vertical Clearance over deck		(ft.-in.)
Vertical Under Clearance	14'11"	(ft.-in.)
Horizontal Under Clearance		(*.* ft.)
Deck Width Curb/Curb	38'	(*.* ft.)
Deck Width Rail/Rail		(*.* ft.)
Sidewalk Width Rt.		Lt.

INSPECTORS

Watts
Clark
Low

Condition: **GOOD** (If change describe in comments)

		Comments
Approaches		
Deck Condition (Item 58)	G	
Superstructure (Item 59)	G	
a. Beams	G	
b. Bearings	F	
c. Diaphragms	G	
Substructure (Item 60)	G	
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	N/V	
d. Wing W./Breast W.	F	Abut #1 Lt. Wing: 2' x 3' Hwy Scale
Scour/Erosion	G	
Channel (Item 61)	/	

UNDERWATER INSPECTION
To Be Performed By: NONE REQUIRED
Date Underwater Insp. _____
BRIDGE is: OPEN

Weight Limit Posted No
Gross..... _____ Tons
2 Axle..... _____ Tons
3 or more Axles.. _____ Tons

COMMENTS:

Supervising Bridge Inspector: [signature]

BRIDGE RATING: **GOOD**

INSPECTION REPORT FOR UNDERPASS ROUTE

Page No. ____

Form BIR 3.0A
(Rev. 9-22-98)
DT-1443

Field Report No. 15 Date 12.1.03
Previous Report No. 14 Date 10.22.01

Bridge No. 19I00400080 (Eleven Digit No.)

Underpass Location No. 19 - SR6 - 8.04 LL (Co. / Route / Log Mile)

I40 LL (Railroad/Walkway) or 8th Ave / SR6 (Co. / Route / Log Mile) over 19 - SR6 - 8.04 (Co. / Route / Log Mile)

County DAVIDSON

Structure Name (If Named) ____

Year Constructed 1972

Year Widened — Year Rehabilitated —

GEOMETRIC FEATURES UNDER BRIDGE

(.* ft. unless otherwise noted)*

Divided Highway N/A Type of Wearing Surface Asphalt

Width of Approach Traveled Roadway 48.0 ft. (Does Not Include Shoulders)

Width of Median if Divided Highway — ft.

Approach Shoulder Width 2.0 ft. Right 2.0 ft. Left

*Horizontal Clearance Under Bridge 68.0 ft.

*Distance Between Pier Protection Guardrail and Substructure — ft. Right — ft. Left

*Width of Sidewalk Under Bridge 8.0 ft. Right 8.0 ft. Left

*Minimum Vertical Clearance: 14 ft. 11 in. (ft.-in.)

*Show on Sketch

TRAFFIC SAFETY FEATURES

	Rating	Standard/ SubStandard Non Exist
Pier Protection Railing or Parapet		Non-Exist
Approach Guardrail Terminals		
Approach Guardrail		
Approach Guardrail Terminal		

SIGNING

	Yes/ No/ Needed
Paddleboards	No
Vertical Clearance (<14'-6")	No
Narrow Passage	No
One Lane Passage	No
Other Underpass Signs Needed	

INSPECTORS

1. Watts
2. Clark
3. Love
4. ____
5. ____
6. ____

Form BIR 3.0A (Continued)
(Rev. 9-22-98)
DT-1443

Page No.____

Date 12.1.03

Underpass Location No. 19 - SRG - 8.04
Co. Route Log Mile

Other Signs or Plaques:

Comments Regarding any
Problems with Signing:

BRIDGE FEATURES *(*.* ft.)*

Bridge Skew 84 ° LT.

Number of Lanes/Tracks on Bridge 2

Structure Type (Main Span) WIPG

No. Main Spans 3

Structure Type (Appr.Spans) —

No. Appr. Spans —

Maximum Span Length 71.5 (ft.)

Total Length 132.5 (ft.)

Width of Bridge Out-to-Out 42.0 (ft.)

Right Angle to Centerline of Bridge)

Width of Bridge Along Skew — (ft.)

(If Unable to Measure at Right Angle to Centerline of Bridge)

BRIDGE CONDITION: Good

Does Potential Exist for Elements from Bridge Falling on Roadway Beneath? No

Does Potential Exist Because of Deteriorated Condition or Failure of Major Members? No

Comment on any Conditions of Bridge that would Effect Roadway Beneath:

Note: If Underpass Route is Divided Highway, Use Two of These Forms, One for Each Roadway.

MINIMUM PICTURES REQUIRED

1. Elevation View of Bridge on Both Sides Showing Underpass
2. View Showing Both Approaches to Bridge
3. View Showing Safety Features
4. View Showing Any Problems

SUMMARY
19-I40-18.34 LT
12/1/03

I 40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in good condition. The approach alignment is good. Approach areas are in poor condition at "A" end with breakouts at joint and depressions.. Bridge railing is substandard type. Approach rail terminals and transitions are good and standard type.

Asphalt cement wearing surface is good. Parapet is fair with cracks, pitting, and light to moderate scale. Expansion joint at "A" end has 10' section of fillet missing and broken concrete sections. Joints leakage shows light to moderate stains on abutment #2.

The bottom deck is good with map cracking around repaired areas. Superstructure elements are good. Bearings are fair at abutment #2 see typical sheet. Bents and abutments are good. Left wing of abutment #1 is fair due to a 6" deep x 2'x3' breakout with map cracking. There are no underpass safety features for the pier protection. The minimum distance to the nearest bent is 10'.

Jim Watts

ROUTINE BRIDGE INSPECTION REPORT

Page No.___

Form BIR 3.0C
(Rev. 9-22-98)
DT-1537

Field Report No. 14 Date 10-22-01
Previous Report No. 13 Date 2/29/00
Plans: DESIGN

Bridge No. 19I00400080 (Eleven Digit No.)

Bridge Location No. 19 - I0040 - 18.34 L (Co. Route Log Mile)

I40 LL (Road Name) over ~~I40 EB~~ 8TH AVE SR 6 * (Crossing)

Indepth Insp. Req'd: NO (If yes itemize limits under comment)

Structure Type WPG

FRACTURE CRITICAL: NO

FEATURE CHANGES:

Wearing Surface NO Type ASPHALT Depth 3" (in.)

Bridge Rail S Describe changes:

Approach Rail YES NEW APPROVED GUARDRAILING, TRANS, & TERM'S

CLEARANCE CHANGES: (If yes make changes below)

Vertical Clearance over deck		(ft.-in.)
Vertical Under Clearance	14'11"	(ft.-in.)
Horizontal Under Clearance	'	(*.* ft.)
Deck Width Curb/Curb	38'	(*.* ft.)
Deck Width Rail/Rail		(*.* ft.)
Sidewalk Width Rt.	Lt.	

INSPECTORS

HEGGIE CLARK
CARVER
LOVE
HONEA

Condition: ~~FAIR~~ GOOD (If change describe in comments)

		Comments
Approaches	G	
Deck Condition (Item 58)	G	
Superstructure (Item 59)	G	
a. Beams	G	
b. Bearings	F	LOOSE ANCHOR NUTS, MISSING BOLT "C" AB# 2
c. Diaphragms	G	
Substructure (Item 60)	G	
a. Caps/Bridge Seats	G	
b. Columns/Piles	G	
c. Footings	N/A	
d. (Wing W./Breast W.)	F	LT #1 — 6" D@ B.O. W/MAP CRACKING
Scour/Erosion		
Channel (Item 61)		

UNDERWATER INSPECTION

To Be Performed By: NONE REQUIRED

Date Underwater Insp.

BRIDGE is: OPEN

Weight Limit Posted NO

Gross..... Tons

2 Axle..... Tons

3 or more Axles.. Tons

COMMENTS:

Supervising Bridge Inspector: Heggie Clark BRIDGE RATING: ~~FAIR~~ GOOD

SUMMARY
19-I40-18.34 LT
10/22/01

I 40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in good condition. The approach alignment and approach areas are in good condition. Bridge railing is substandard type. Approach rail terminals and transitions are good and standard type.

Asphalt cement wearing surface is good. Parapet is fair with cracks, pitting, and light to moderate scale. Expansion joint at "A" end has 10' section of fillet missing and broken concrete sections. Joints leakage shows light to moderate stains on abutment #2.

The bottom deck is good with map cracking around repaired areas. Superstructure elements are good. Bearings are fair at abutment #2 see typical sheet. Bents and abutments are good. Left wing of abutment #1 is fair due to a 6" deep breakout with map cracking. There are no underpass safety features for the pier protection. The minimum distance to the nearest bent is 10'.

Karen Heggie Clark

BRIDGE INSPECTION REPORT

FORM BIR 3.0
Rev. 09/24/98
DT-0069

FIELD REPORT NO. 13 DATE 2-29-2000
REVIOUS REPORT NO. 12 DATE 2-25-98
PLANS ---- YES [✓] NO [ ]

BRIDGE NO. 19I00400080
ELEVEN DIGIT NO.

BRIDGE LOC. NO. 19 - I40 - 18.3 4 L
CO. ROUTE LOG MILE

I40 OVER 8Th Ave (SR6)
ROAD NAME FEATURE INTERSECTED

STRUCTURE NAME (IF NAMED)

YEAR CONSTRUCTED 72 COUNTY Davidson MAINTENANCE DISTRICT NO. 31
(ESTIMATED OR ACTUAL)
[ ] [✓]

YEAR WIDENED
ESTIMATED OR ACTUAL
[ ] [ ]

YEAR REHABILITATED
ESTIMATED OR ACTUAL
[ ] [ ]

FEATURES

WEARING SURFACE-- CONCRETE [ ] TIMBER [ ] ASPHALT [✓] (DEPTH= 3)
FLARED WIDTH ---------- YES [ ] NO [✓]
NAVIGATIONAL CONTROL-- YES [ ] NO [✓]
MEDIAN WIDTH --------- OPEN [✓] NONE [ ] CLOSED [ ]

BRIDGE SKEW 84° LT [ ] RT [✓]

STRUCTURE TYPE WPG NO. SPANS 3
Main Span Main Span

STRUCTURE TYPE NO. SPANS
Approach Spans Approach Spans

MAXIMUM SPAN LENGTH 71.5 TOTAL LENGTH 132.5

INSPECTORS

1. Hunter
2. Daniel
3. Crutcher
4. Waller
5. Cey
6.
7.
8.
9.

WIDTHS

DECK OUT-TO-OUT 42
ROADWAY CURB/CURB 38
SIDEWALK RT LT
*APPROACH ROADWAY 24
APPR. SHLD. 7 RT 7 LT
*DOES NOT INCLUDE SHOULDER

CLEARANCES

MIN. VERTICAL OVER DECK
MIN. VERTICAL UNDER CL 14' 11"
MIN. LATERAL UNDER CL 10 RT
open LT

UNDERWATER INSPECTION

INSPECTION PERFORMED BY:
DOT FIELD TEAM [ ] DATE
CONTRACT DIVERS [ ] DATE
NONE REQUIRED [✓]

(<25')
NBIS BRIDGE
LENGTH over 25'
(ft) (in)

FRACTURE CRITICAL
DETAILS: YES [ ] NO [✓]
IF YES, INCLUDE BIR 3.9

CHANGE IN STRUCTURAL CONDITION YES [X] NO [ ]
MAJOR REPAIRS MADE YES [X] NO [ ]

COMMENTS: Repairs have been made to deck

Gilbert Wayne Hunter
SUPERVISING BRIDGE INSPECTOR

BRIDGE RATING [ ] [X] [ ] [ ]
GOOD FAIR POOR CRITICAL

FORM BIR 3.1
Rev. 09/24/98
DT-0080

BRIDGE LOC. NO. 19 (CO.) - I40 (ROUTE) - 18.31 L (L.M.)

DATE: 2-29-2000

PERFORMANCE EVALUATION

Time of day inspected 11:00 Weather conditions Sunny 65°

Vehicles observed All types

LIVE LOAD BEHAVIOR	YES	NO	COMMENTS
Substructure			
Horiz. & Vert. Defl.	[ ]	[X]	
Vibration	[ ]	[X]	
Superstructure			
Horiz. & Vert. Defl.	[X]	[ ]	
Vibration	[X]	[ ]	

APPROACH

Alignment	(G)	F	P	C	
Slab	G	F	P	C	NA
Joints	G	F	(P)	C	NA
Pavement	(G)	F	P	C	New Asphalt
Embankment	(G)	F	P	C	
Drains	G	F	P	C	NA

TRAFFIC SAFETY FEATURES

					STANDARD	SUB-STANDARD	
Bridgerailing	(G)	F	P	C	[X]	[ ]	
Transitions	(G)	F	P	C	[X]	[ ]	
Guardrail	(G)	F	P	C	[X]	[ ]	
Guardrail Terminal	G	F	P	C	[ ]	[X]	None on "A" end

SIGNING

	YES	NO	NEEDED	
Paddleboard	[ ]	[X]	[ ]	WEIGHT LIMIT POSTED YES [ ] NO [X]
Vertical Clearance (< 14')	[ ]	[ ]	[ ]	
Narrow [ ] One Lane Bridge [ ]	[ ]	[ ]	[ ]	GROSS _____ TONS 2 AXLE _____ TONS 3 OR MORE AXLES _____ TONS

Other Signs or Plaques —

Comments Regarding Any Problems With Signing —

Other Recommendations —

FORM BIR 3.2
Rev. 09/24/98
DT-0081

BRIDGE LOC. NO. 19 (CO.) - I40 (ROUTE) - 18.31 L (L.M.) DATE: 2-29-2000

DECK

					COMMENTS
WEARING SURFACE	(G)	F	P	C	New Asphalt
DECK - STRUCTURAL CONDITION	(G)	F	P	C	deck has been repaired & overlayed
CURBS	G	F	P	C	NA
MEDIAN	G	F	P	C	NA
SIDEWALKS	G	F	P	C	NA
PARAPET	(G)	F	P	C	
RAILING	(G)	F	P	C	
PAINT	G	F	P	C	NA
DRAINS	G	F	P	C	NA
LIGHTING STD'S	G	F	P	C	NA
UTILITIES	G	F	P	C	
JOINT LEAKAGE	G	(F)	P	C	Mod staining
EXPANSION JOINTS	G	F	P	(C)	5' section "A" end potholes exists & developing 3" deep

SUPERSTRUCTURE

					COMMENTS
BEARING DEVICES	G	(F)	P	C	Plates have been added to decrease beam movement has helped but ¼ to ⅜" still at bearing exists
GIRDERS OR BEAMS	(G)	F	P	C	
FLOOR BEAMS	G	F	P	C	NA
STRINGERS	G	F	P	C	NA
DIAPHRAGMS	(G)	F	P	C	
BRACING	G	F	P	C	NA
TRUSSES - GENERAL	G	F	P	C	
- PORTALS	G	F	P	C	
- BRACING	G	F	P	C	
PAINT	G	(F)	P	C	peeling is random & mod corrosion
ALIGNMENT OF MEMBERS	(G)	F	P	C	

TEXTURE COAT

CONDITION RATING	(G)	F	P	C
OVERALL APPEARANCE	(G)	F	P	C
STAINING	(G)	F	P	C
SCALING	(G)	F	P	C
FADING	(G)	F	P	C

NEEDS SPOT PAINTING? YES [ ] NO [ ]
NEEDS REPAINTING? YES [ ] NO [ ]

COMMENTS:

RECOMMENDATIONS

FORM BIR 3.3
Rev. 09/24/98
DT-0082

BRIDGE LOC. NO. 19 - I40 - 18.31 L
CO. ROUTE L.M.

DATE: 2-29-2000

SUBSTRUCTURE

ABUTMENTS					COMMENTS
CAPS	(G)	F	P	C	
BREASTWALL	G	F	P	C	NA
WINGS	(G)	F	P	C	
BACKWALL	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTING	G	F	P	C	NV
PILES	G	F	P	C	NV
EMBANKMENT	(G)	F	P	C	
BEARING SURFACE	(G)	F	P	C	
SLOPE PAVING	(G)	F	P	C	

PIERS				
CAPS	G	F	P	C
COLUMNS	G	F	P	C
PLUMB	G	F	P	C
FOOTINGS	G	F	P	C
PILES	G	F	P	C
BEARING SURFACE	G	F	P	C

BENTS					
CAPS	(G)	F	P	C	
COLUMNS	(G)	F	P	C	
PLUMB	(G)	F	P	C	
FOOTINGS	G	F	P	C	NV
PILES	G	F	P	C	NV
BEARING SURFACE	(G)	F	P	C	

SCOUR CONDITION NONE [X]

RECOMMENDATIONS:

FORM BIR 3.0A
Rev. 6-9-92
DT-1443

CURRENT FIELD REPORT NO. 13 DATE 2-29-2000
PREVIOUS FIELD REPORT NO. 12 DATE 2-25-98

INSPECTION REPORT FOR UNDERPASS ROUTE

BRIDGE NO. 19I00400080 (ELEVEN DIGIT NUMBER) UNDERPASS LOC. NO. 19 (CO.) - SR6 (RTE.) - 8.04 (L.M.)

___ (CO.) - I40 (RTE.) - ___ (L.M.) OVER ___ (CO.) - SR6 (RTE.) - ___ (L.M.) STRUCTURE NAME (IF NAMED) ___

COUNTY Davidson

YEAR CONSTRUCTED 72 YEAR WIDENED ___ YEAR REHABILITATED ___
ESTIMATED [ ] ACTUAL [✓]

GEOMETRIC FEATURES UNDER BRIDGE

DIVIDED HIGHWAY - - - - LEFT RDWY [ ] RIGHT RDWY [ ] N.A. [✓]
TYPE OF WEARING SURFACE - - - - CONCRETE [ ] ASPHALT [✓] GRAVEL [ ]
WIDTH OF APPROACH TRAVELED ROADWAY 48 FT. (DOES NOT INCLUDE SHOULDERS)
WIDTH OF MEDIAN IF DIVIDED HIGHWAY ___ FT.
APPROACH SHOULDER WIDTH 2 FT. (RT.) 2 FT. (LT.)
*HORIZONTAL CLEARANCE UNDER BRIDGE 68 FT. 0 IN.
*DISTANCE BETWEEN PIER PROTECTION GUARDRAIL AND SUBSTRUCTURE — FT. (RT.) — FT. (LT.)
*WIDTH OF SIDEWALK UNDER BRIDGE 8 FT. (RT.) 8 FT. (LT.)
*MINIMUM VERTICAL CLEARANCE 14 FT. 11 IN.

*SHOW ON SKETCH

TRAFFIC SAFETY FEATURES FOR UNDERPASS ROUTE		STANDARD	SUB-STANDARD	
PIER PROTECTION RAILING OR PARAPET	G F P C	[ ]	[ ]	NON EXIST [X]
APPROACH GUARDRAIL TRANSITIONS	G F P C	[ ]	[ ]	NON EXIST [X]
APPROACH GUARDRAIL	G F P C	[ ]	[ ]	NON EXIST [X]
APPROACH GUARDRAIL TERMINAL	G F P C	[ ]	[ ]	NON EXIST [X]

SIGNING FOR UNDERPASS ROUTE

PADDLEBOARD	YES [ ]	NO [ ]	NEEDED [ ]
VERTICAL CLEARANCE (< 14'6")	YES [ ]	NO [ ]	NEEDED [ ]
NARROW PASSAGE	YES [ ]	NO [ ]	NEEDED [ ]
ONE LANE PASSAGE	YES [ ]	NO [ ]	NEEDED [ ]
CURVE	YES [ ]	NO [ ]	NEEDED [ ]
SPEED LIMIT	YES [ ]	NO [ ]	NEEDED [ ]

INSPECTORS

1. Hunter
2. Daniel
3. Crutcher
4. Waller
5. Cey
6. ___

FORM BIR 3.0A (CONTINUED)
Rev. 6-9-92
DT-1443

UNDERPASS LOC. NO. 19 (CO.) - SR6 (RTE.) - 8.04 (L.M.)

OTHER SIGNS OR PLAQUES —

COMMENTS REGARDING ANY PROBLEM WITH SIGNING —

BRIDGE FEATURES

BRIDGE SKEW 84° LT
STRUCTURE TYPE WPG (MAIN SPAN) NO. SPANS 3 (MAIN TYPE)
STRUCTURE TYPE ____ (APPROACH SPAN) NO. SPANS ____ (APPROACH TYPE)
MAXIMUM SPAN LENGTH 71.5 FT. TOTAL LENGTH 132.5 FT.
WIDTH OF BRIDGE OUT-TO-OUT 42 FT. (RT. < TO L OF BRIDGE)
WIDTH OF BRIDGE ALONG SKEW — FT. (IF UNABLE TO MEASURE AT RT. ∢ TO L OF BRIDGE)
NUMBER OF LANES/TRACKS ON BRIDGE 2

BRIDGE CONDITION G (F) P C

DOES POTENTIAL EXIST FOR ELEMENTS FROM BRIDGE FALLING ON ROADWAY BENEATH? YES [ ] NO [X]

DOES POTENTIAL EXIST BECAUSE OF DETERIORATED CONDITION FOR FAILURE OF MAJOR MEMBERS? YES [ ] NO [X]

COMMENT ON ANY CONDITIONS OF BRIDGE THAT WOULD EFFECT ROADWAY BENEATH —

NOTE: IF UNDERPASS ROUTE IS DIVIDED HIGHWAY, USE TWO (2) OF THESE FORMS, ONE FOR EACH ROADWAY.

MINIMUM PICTURES REQUIRED

1. ELEVATION VIEW OF BRIDGE ON BOTH SIDES SHOWING UNDERPASS
2. VIEW SHOWING BOTH APPROACHES TO BRIDGE
3. VIEW SHOWING SAFETY FEATURES
4. VIEW SHOWING ANY PROBLEMS

SUMMARY
19-I40-18.31 LT
2-29-00

I40/SR 6
3 Span/W.P.G.

This bridge was inspected and found to be in fair condition. The approach alignment and approach areas are in good condition. Bridge railing is standard type. Approach rail is standard type, except for the terminals, which are sub-standard type.

Asphalt cement wearing surface is good. Parapet is fair with cracks, pitting, and light to moderate scale. Expansion joints have been repaired with concrete but ▮ a▮ end has 5' section cracked and potholes are developing across section. Joint leakage shows light to moderate stains on abutment #2.

The bottom deck is good with only a 2▮ deep breakout with exposed steel on the overhangs. Superstructure elements are good. However, the diaphram is cracked 2▮ at abutment #2. Bearings are moving up to ¼▮ to 3/16▮ in a vertical direction at abutment #2. Plates have been installed under beams to shift deflection to bottom of bearing plate and reduce deflection. Bearing nuts have been left off to allow movement. Bents are good. There are no underpass safety features for the pier protection. The minimum distance to the nearest bent is 9'.

Gilbert Wayne Hunter

10-22-01 BL

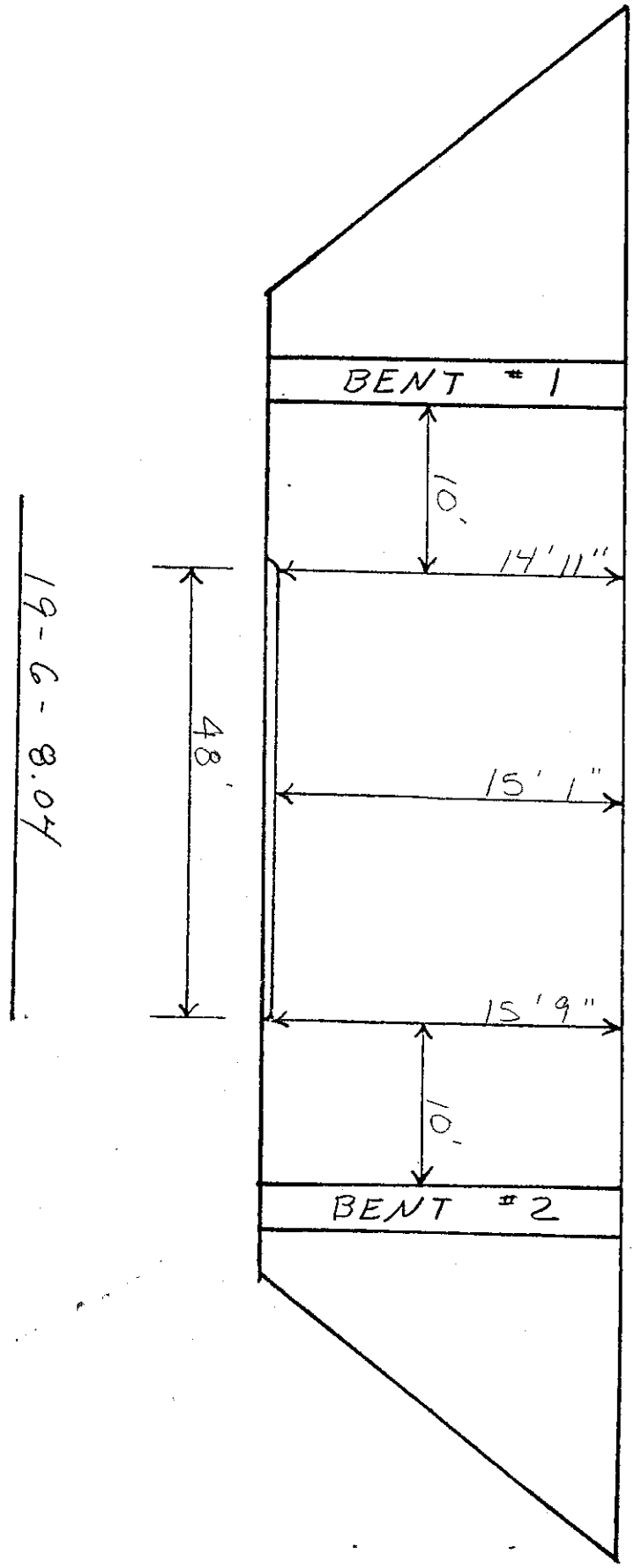
2-25-98 MD

AUG 08 1991

5-18-93 M

3-27-96 [illegible]

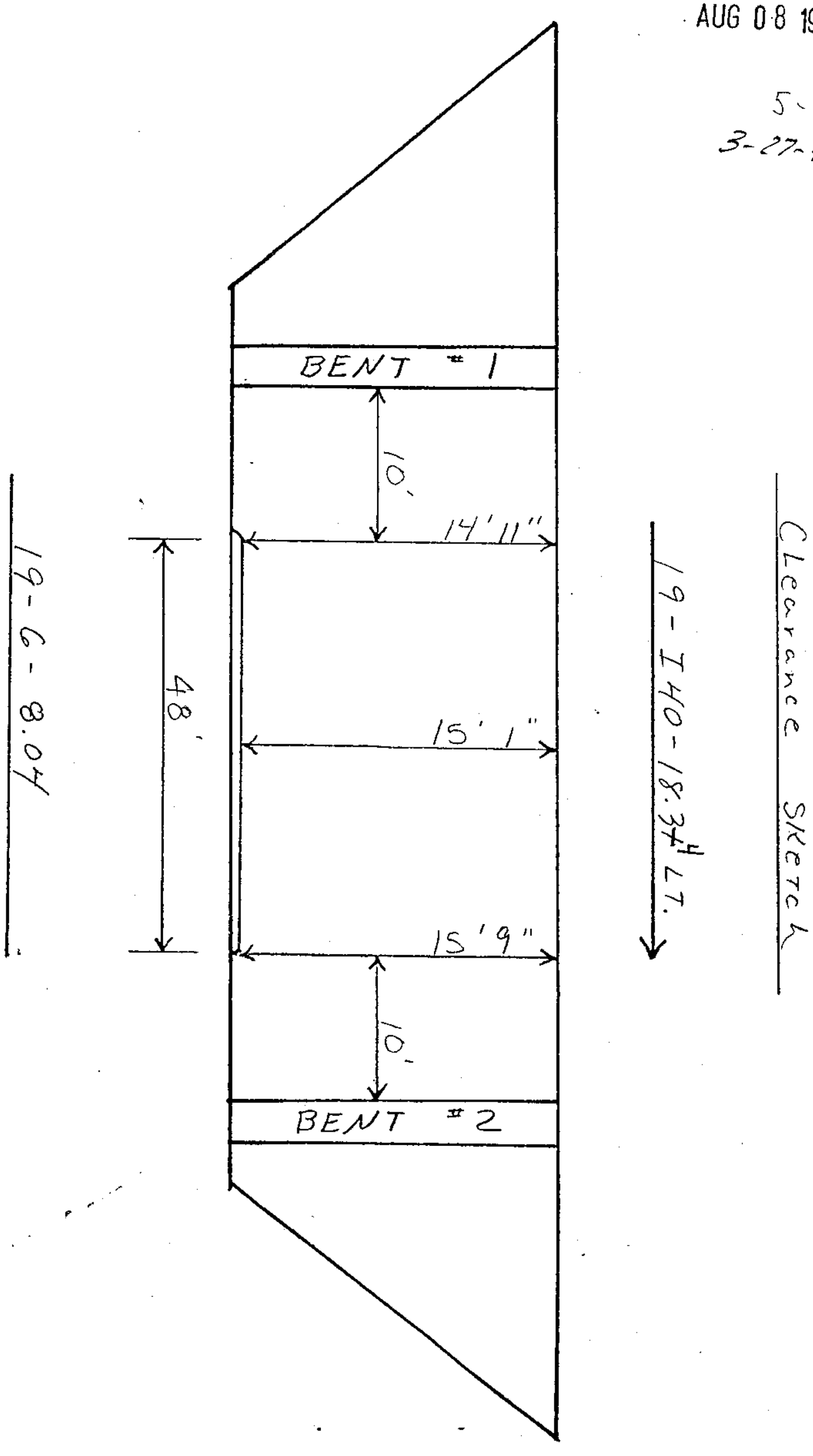
12.1.03 JW



Clearance Sketch

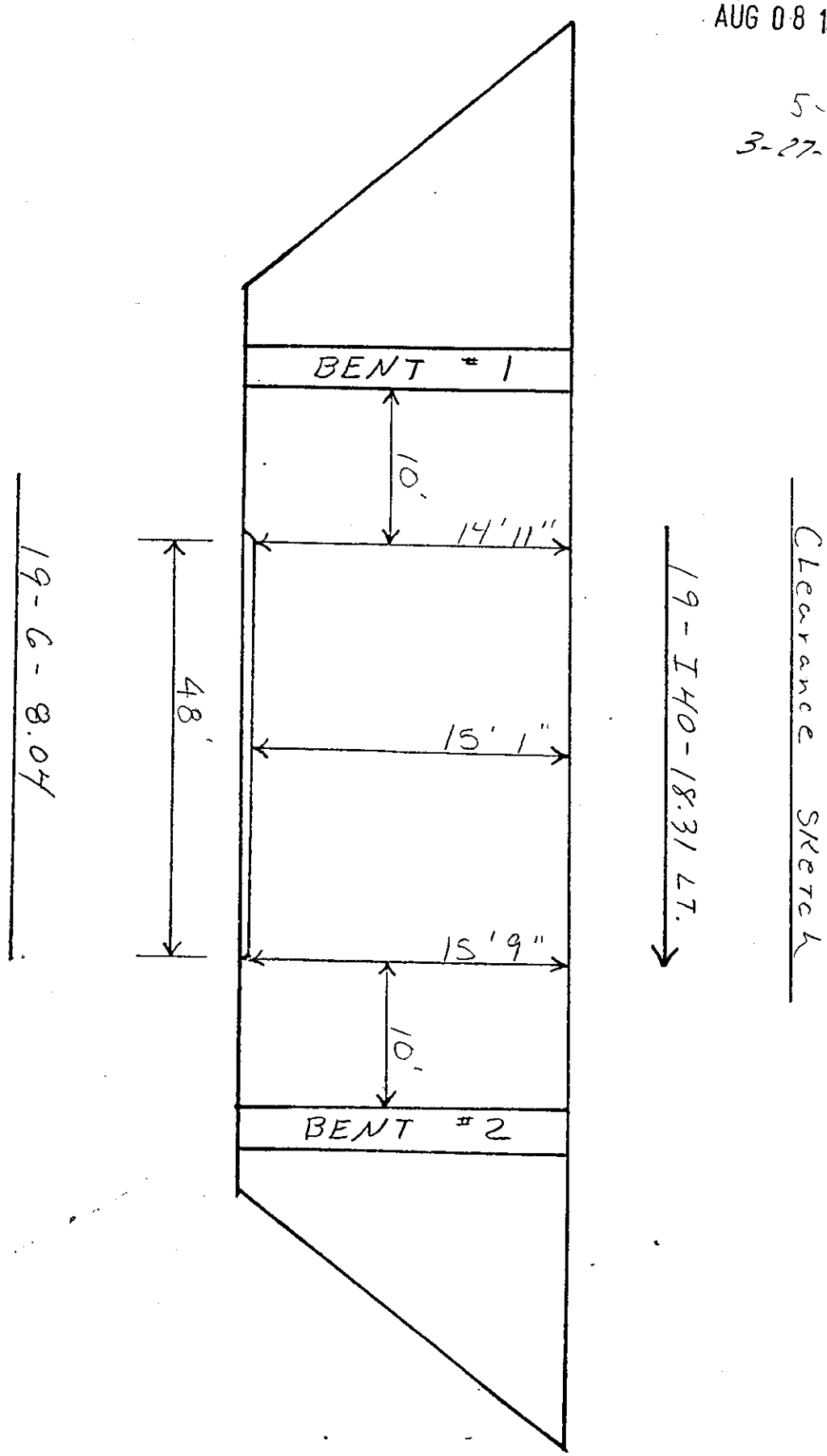
10-22-01 BL
2-25-98 MD
AUG 08 1991

5-18-93
3-27-96



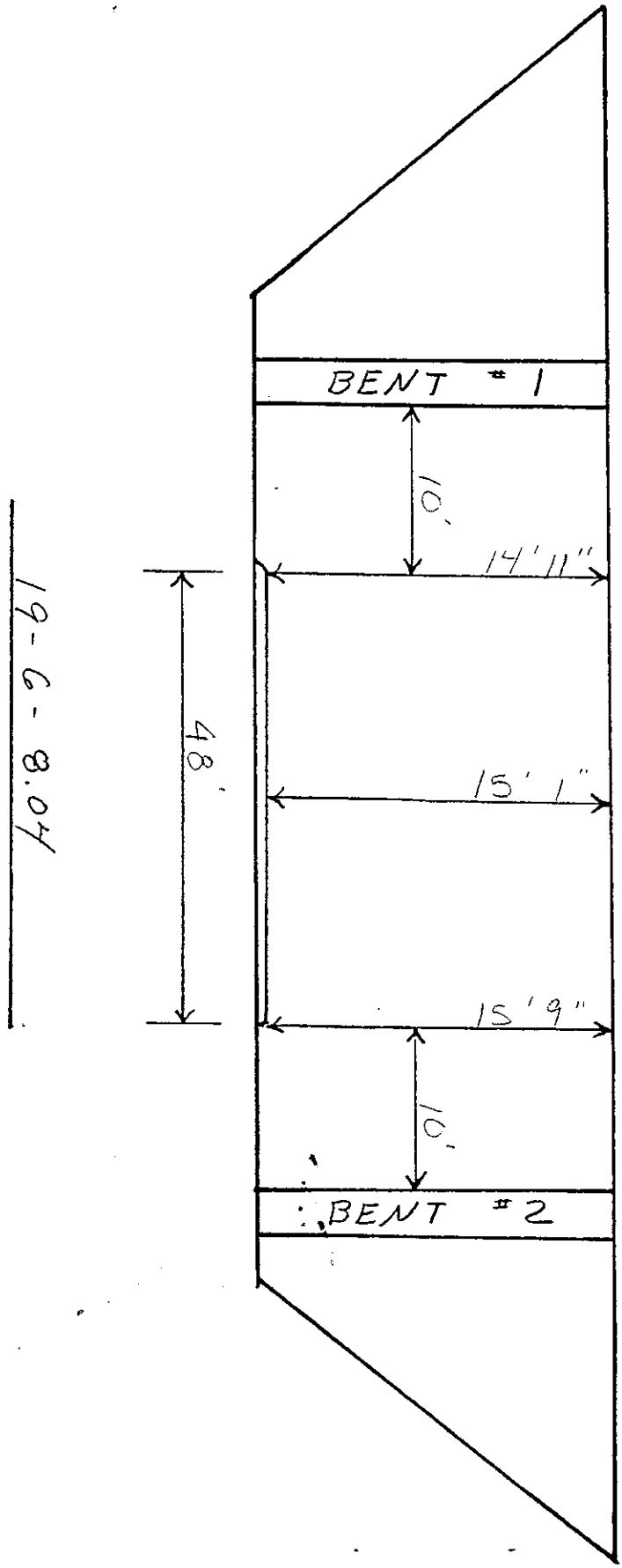
2-25-98MD
AUG 08 1991

5-18-93 ML
3-27-96



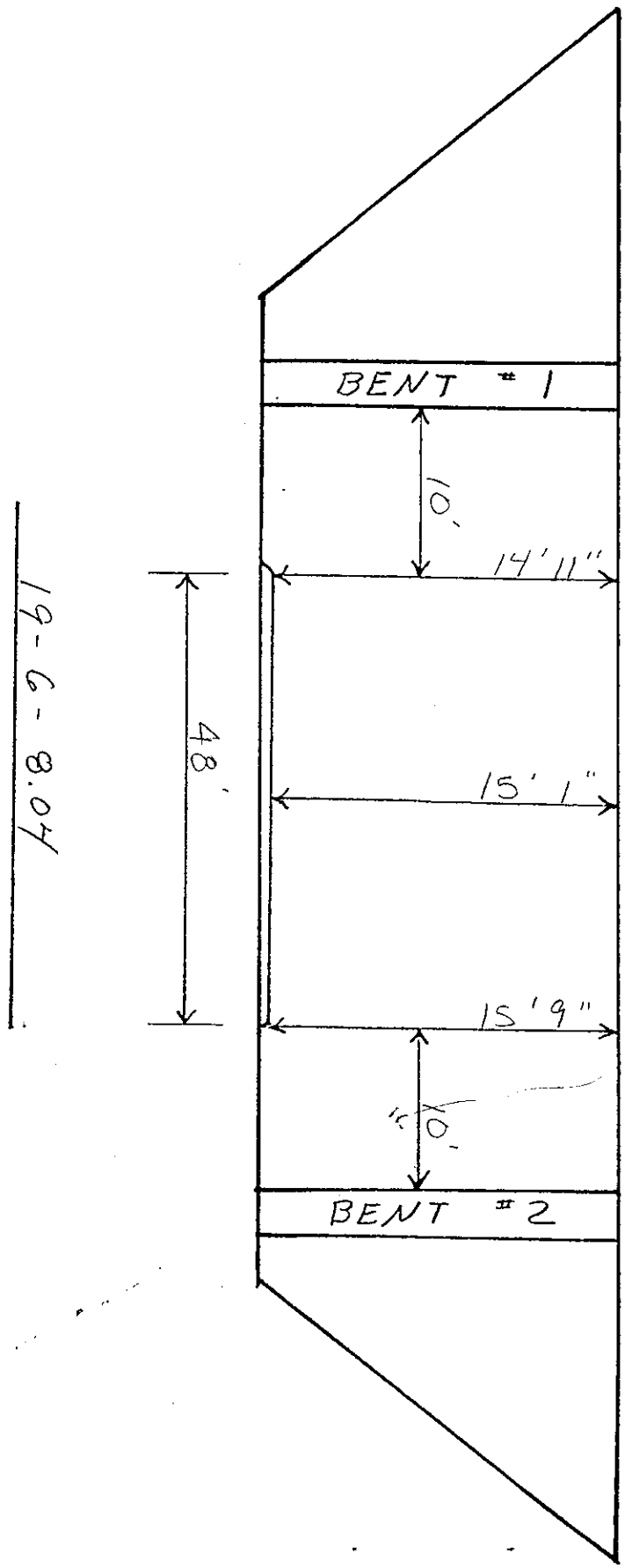
2-25-98mp
AUG 08 1991

5-18-9
3-27-96



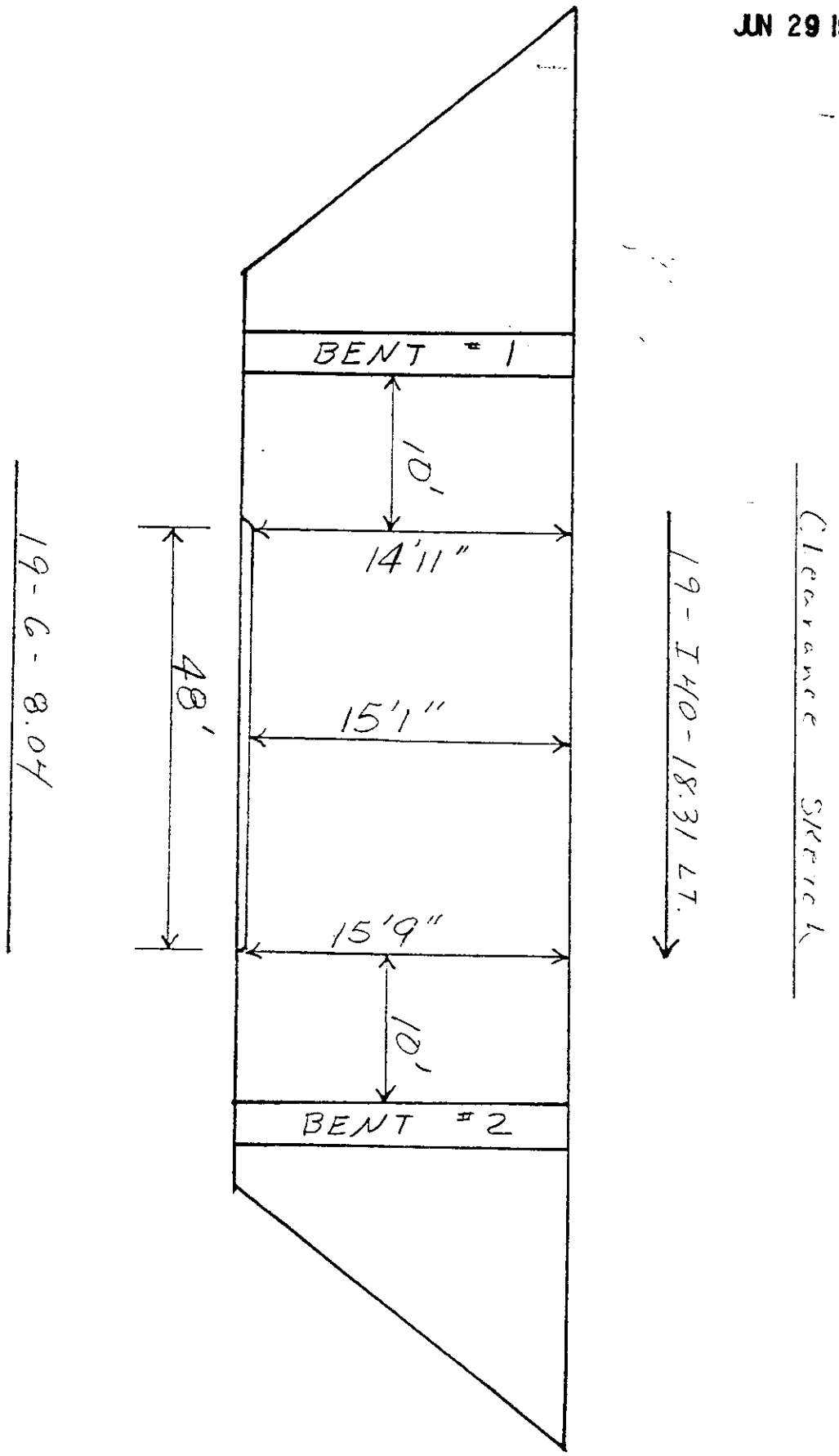
Clearance Sketch

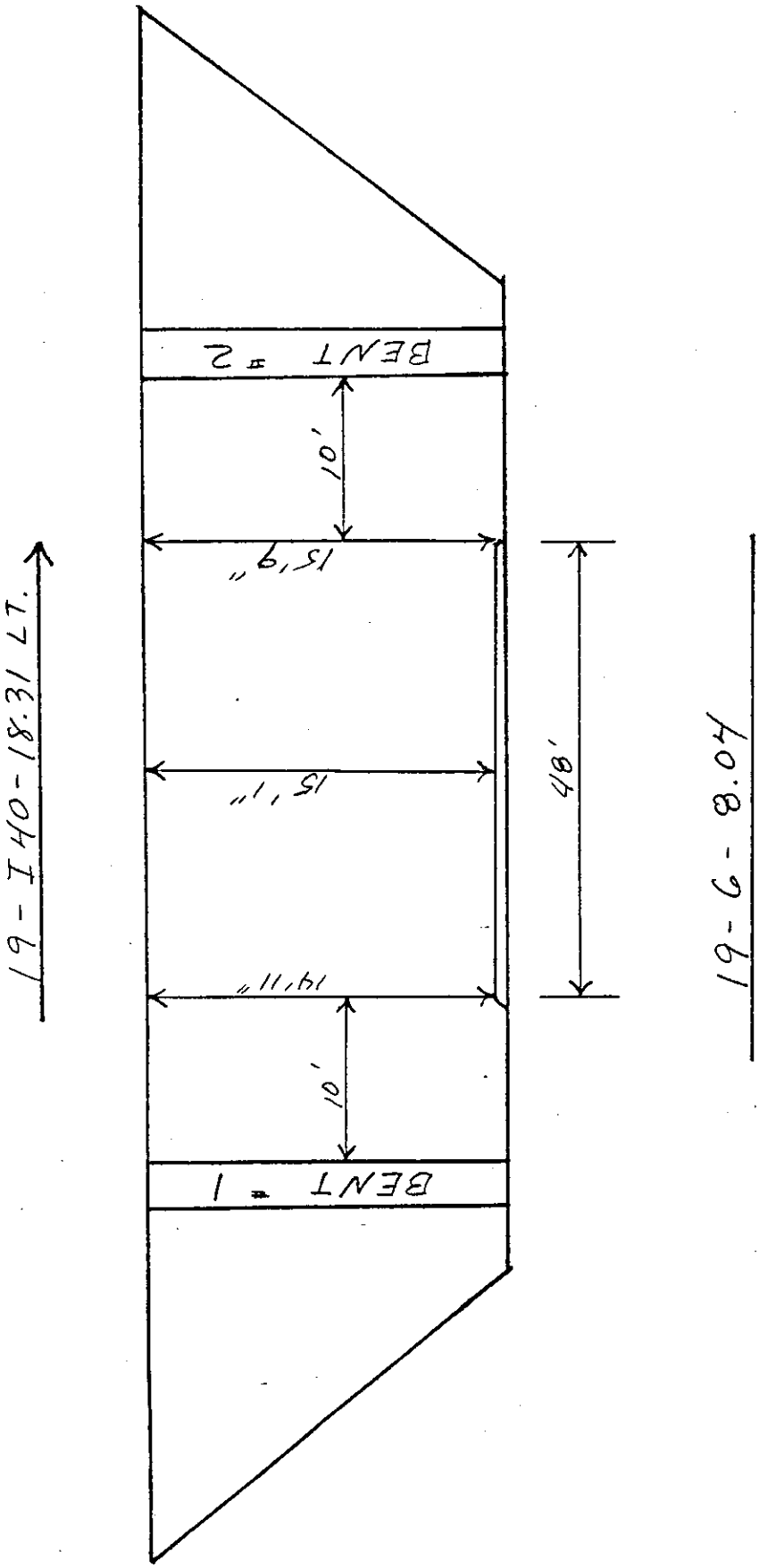
AUG 08 1991



Clearance Sketch

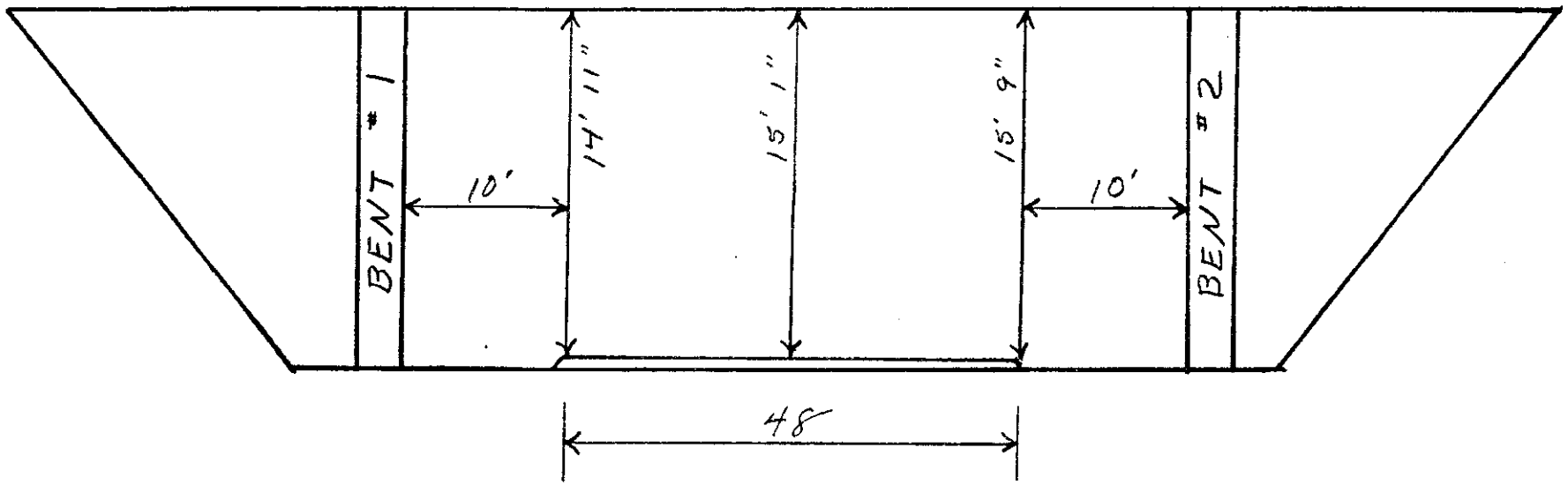
JUN 29 1989


BENT # 1
10'
14'11"
48'
15'1"
15'9"
10'
BENT # 2
19-6-8.04
19-I40-18.31 LT.
Clearance Sketch



JUN 0 2 1987

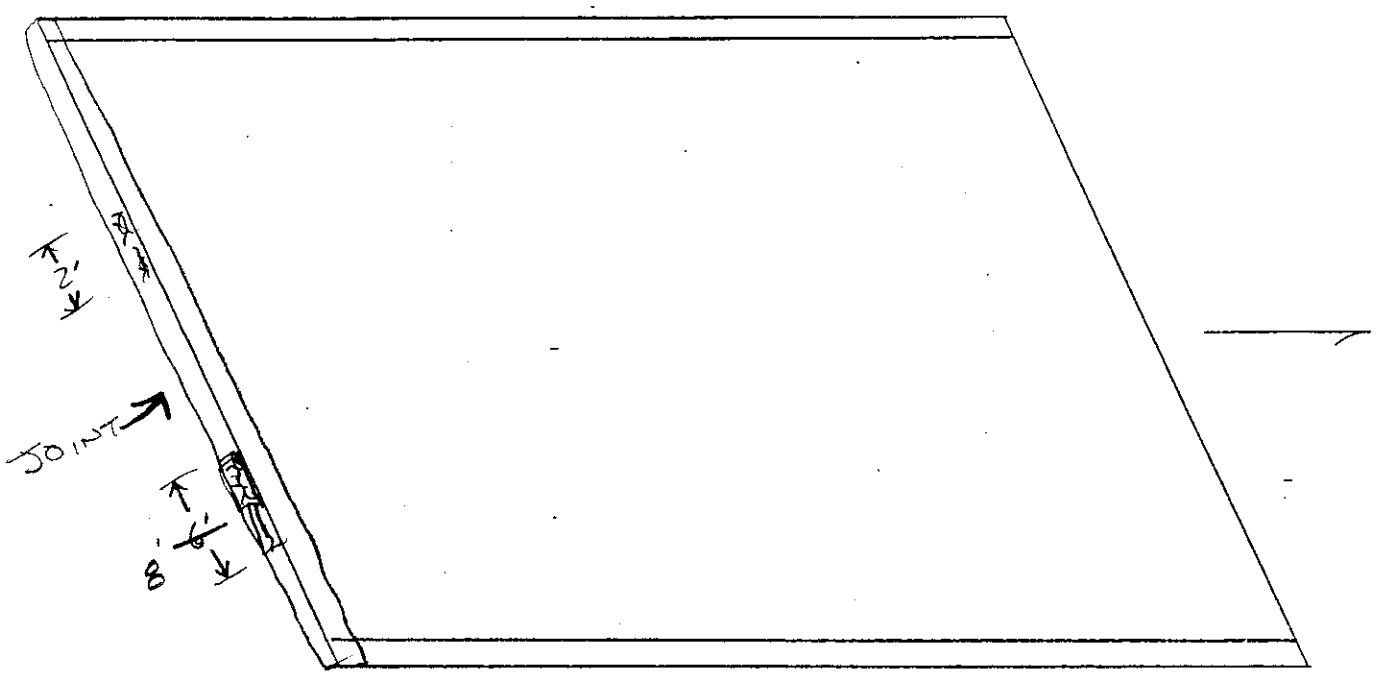
19-I40-18.31 LT. →



19-6-8.04

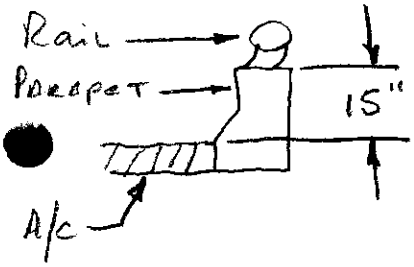
AUG 19 1985

2-29-00MD
10-22-01KAC
12.1.03JW



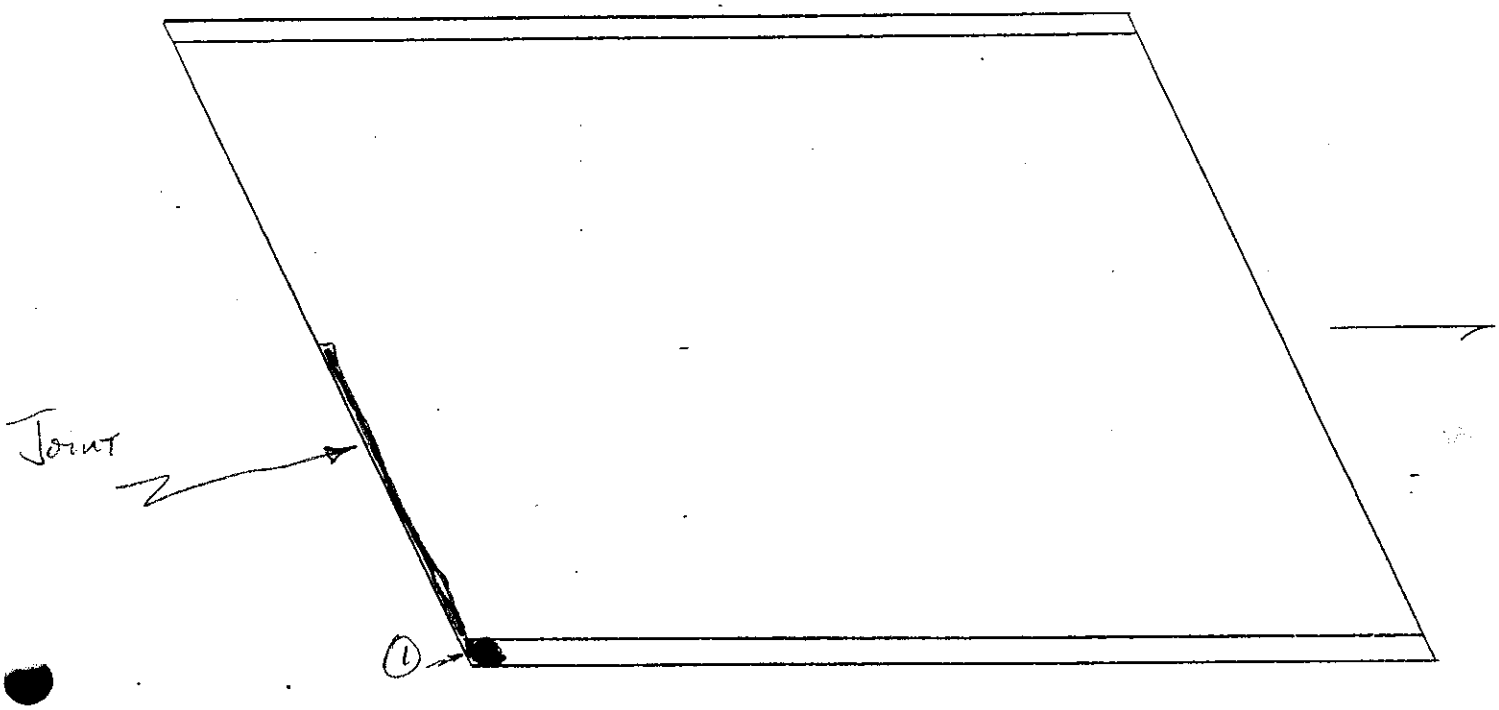
TOP SLAB = | Br. = 19-I40-18.3 4 LT

DECK	N/V	Asphalt wearing surface is good
PARAPET	Fair	random cracks & small B.O.'s @ SCALE @ BOTT.
JOINTS	Poor	concrete @ Abut. # 1 is breaking up ~~w/ exposed steel~~ MISSING 10' FILLER
RAILS	Good	



Typ. All Spans

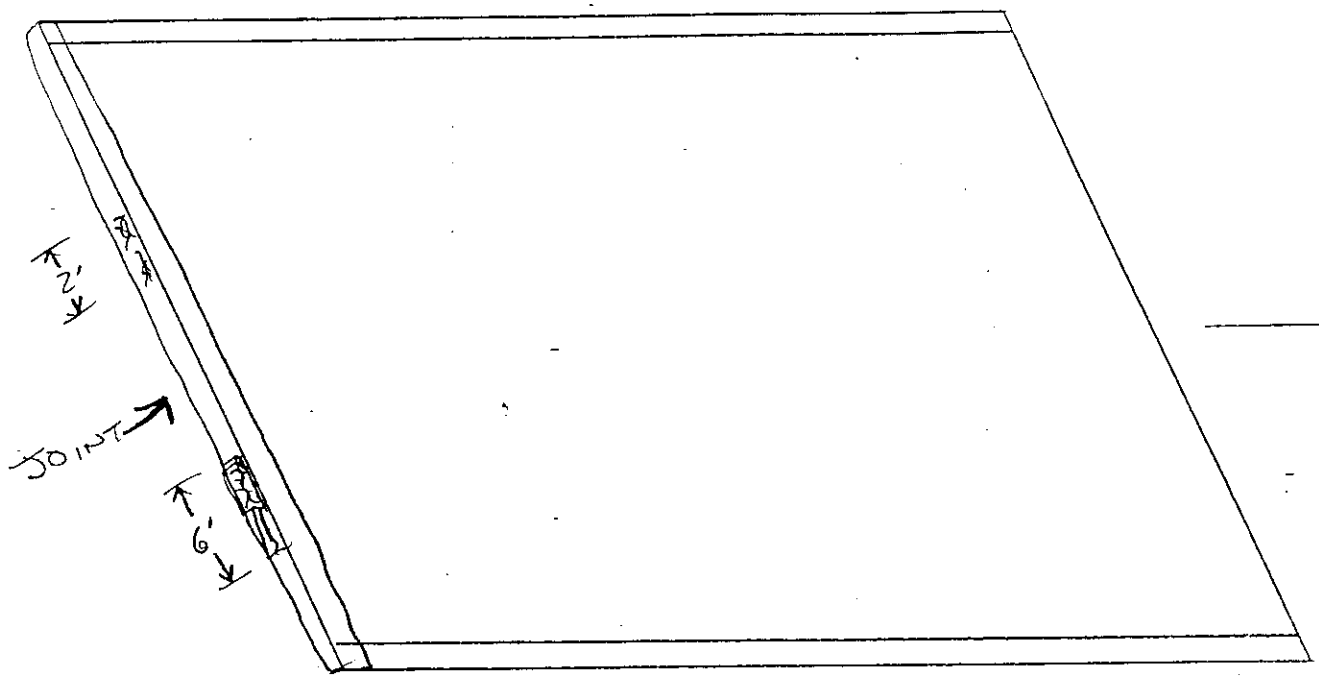
3-6-00 JW
10-19-01 JW
12-1-03 JW



Top Slab = 1 Br. # 19-I40-18.34

Deck	NV	AC Overlay Good
E Parapet	F	Hwy ~~Mod~~ Scale & Popouts w/ Exp Stl. & Substandard
Joints	P	Paved Over (A/C BO's 4" Wd. x 3" Dp. x 12' Lg.
Rails	P	① Hwy Cal. Dwg. Rt. Sd. @ 1st Post & 4th Post Substandard

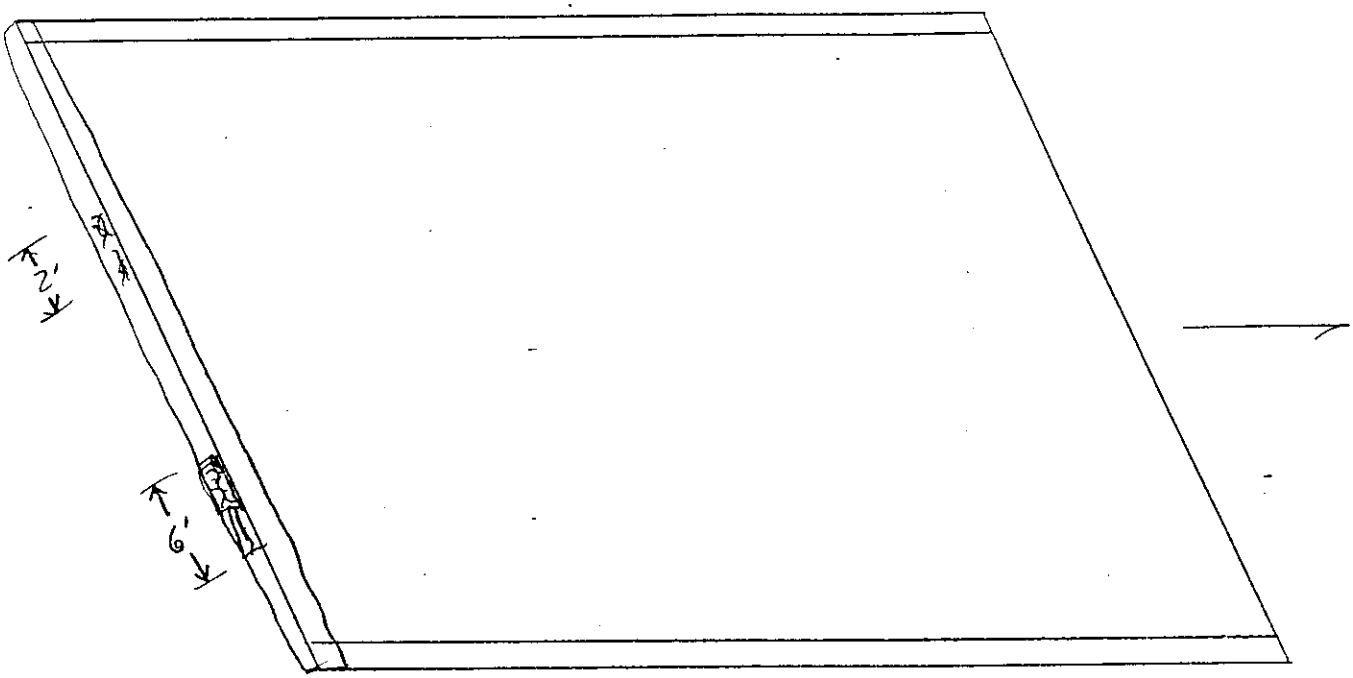
2-29-00MD
10-22-01KAC



Top Slab ≠ | Br. ≠ 19-I40-18.34 LT

Deck	N/V	Asphalt wearing surface is good
Parapet	Fair	random cracks & small B.O.'s @ SCALE @ BOTT.
Joints	Poor	concrete @ Abut. # 1 is breaking up ~~w/ exposed steel~~ MISSING 10' FILLER
Rails	Good	

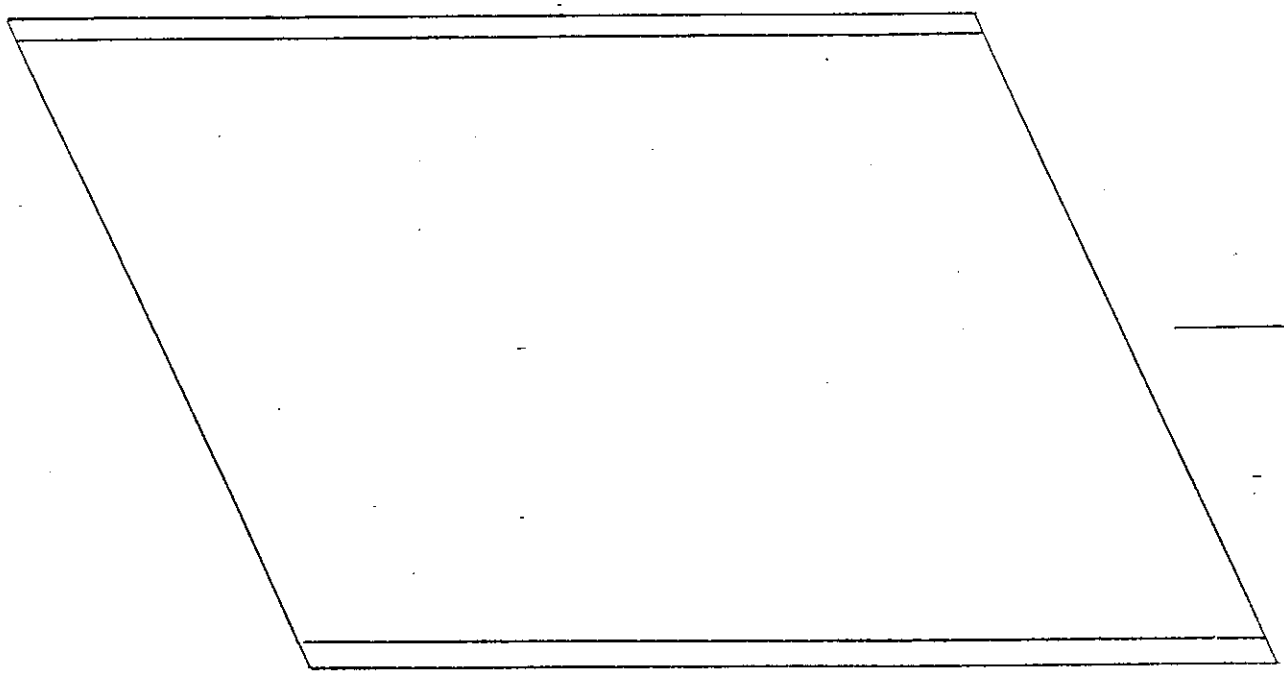
2-29-00MD



Top Slab = | Br. # 19-I40-18.31 LT

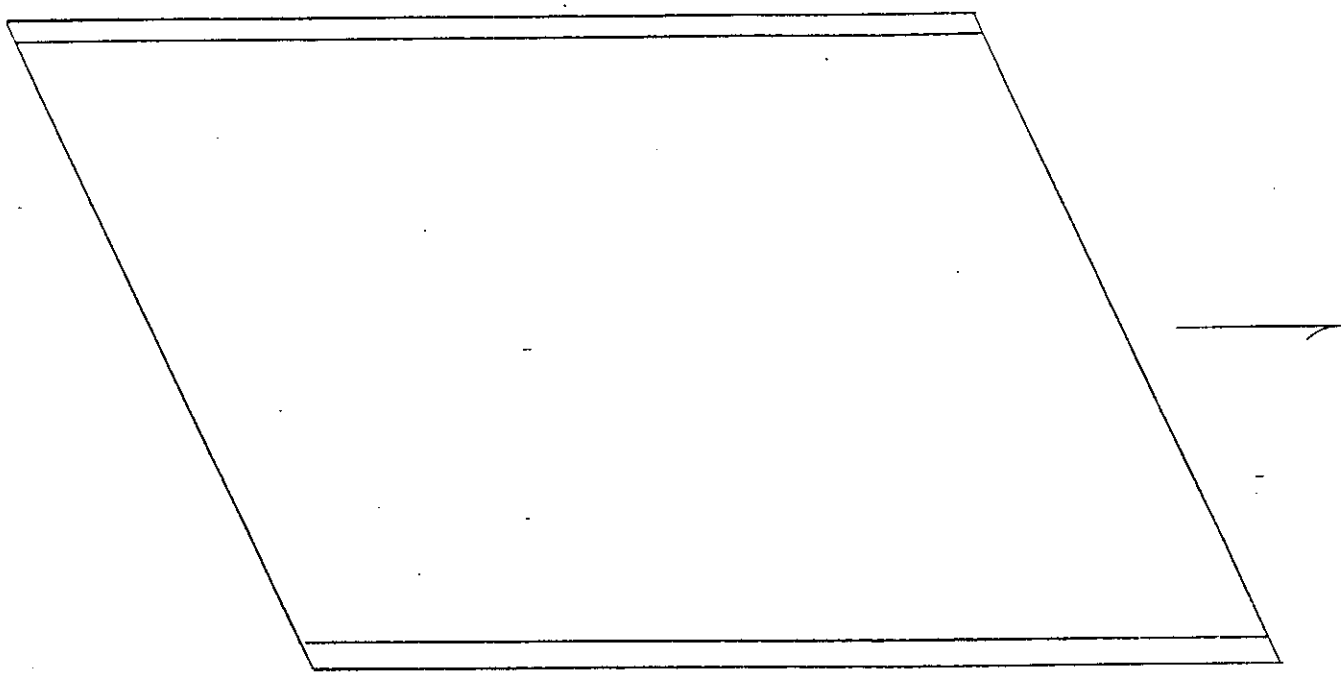
Deck	N/V	Asphalt wearing surface is good
Parapet	Fair	random cracks & small B.O.'s
Joints	Poor	concrete @ Abut. # 1 is breaking up w/ exposed steel
Rails	Good	

2-29-00MD



Top Slab = 2 Br. # 19-I40-18.31 LT

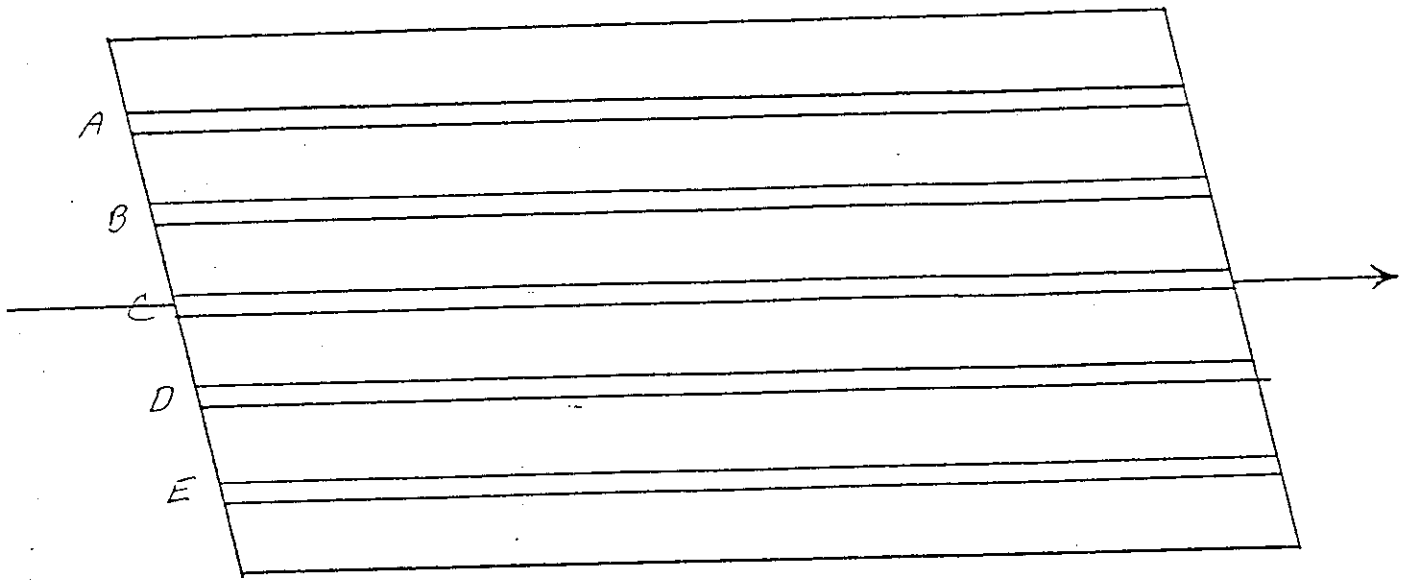
Deck	N/V	AC is good.
Parapet	Good	
Joints	N/A	
Rails	Good	



Top Slab = 3 Br. = 19-I40-18.31 LT

Deck	N/V	AC overlay is good
Parapet	Good	
Joints	Good	@ Abut. # 2 only
Rails	Good	

2-29-00MD

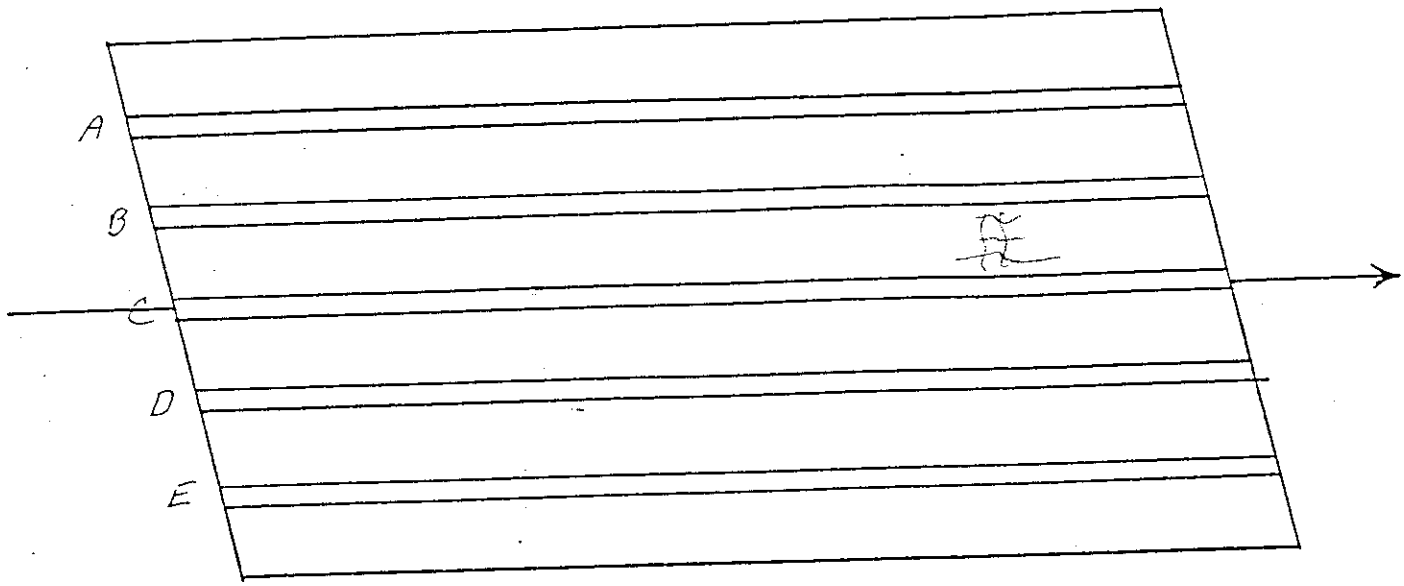


Bottom Slab = |

Br. # 19-I40-18.31 LT

Deck	Good	random h.c.s w efflor. / random patches of full depth deck repair
Diaph.	Good	lgt. corrosion
Beams	Good	paint chipping off on interior of web "E"

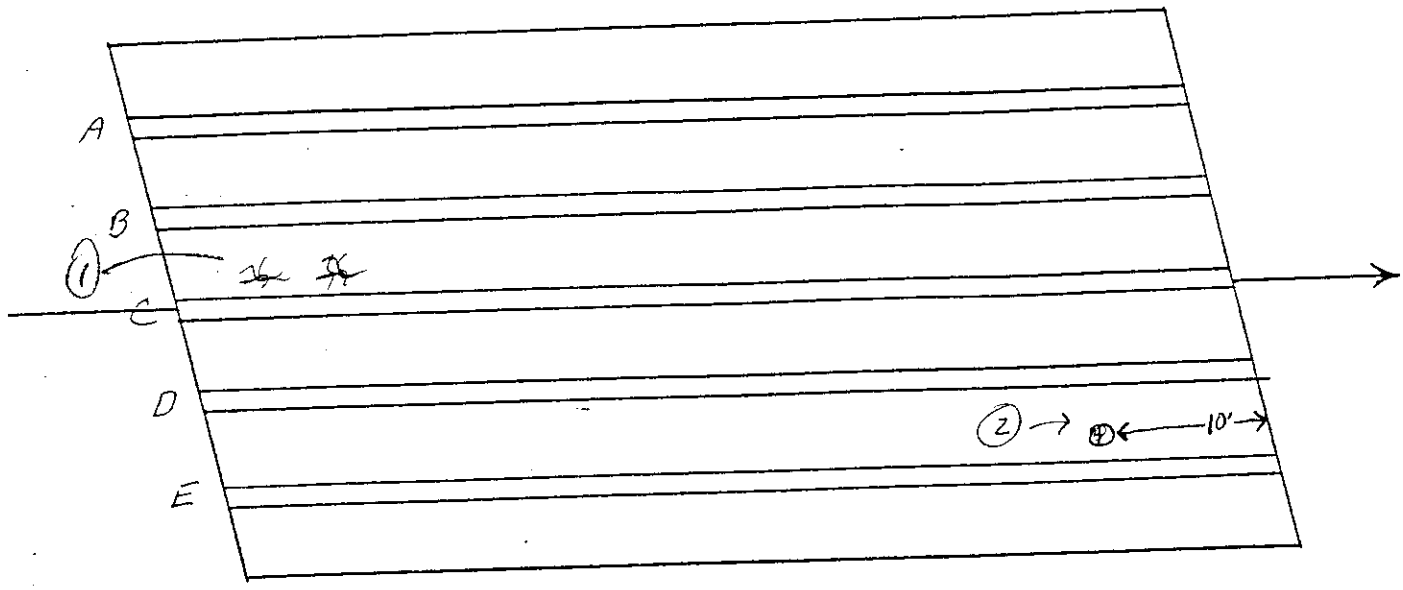
2-29-00MD



Bottom Slab = 2 Br. # 19-I40-18.31 LT

Deck	Good	areas of full depth deck repair
Diaph.	Good	
Beams	Good	paint flaking w/ lgt. corrosion developing on inside of Beam "E"

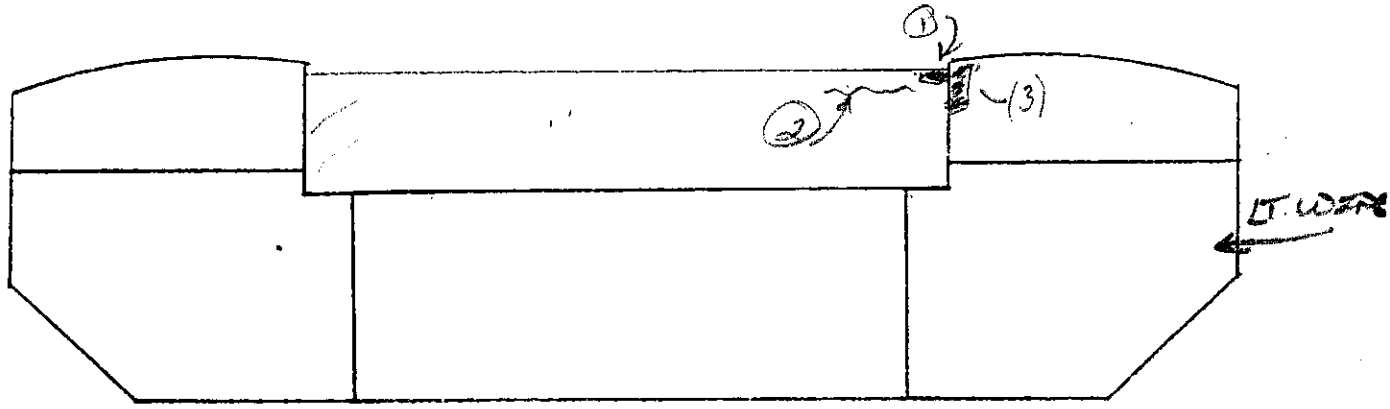
2-29-00MD



Bottom Slab = 3 Br. # 19-I40-18.31 LT

Deck	Good	① areas of map cracks w/ efflor. / ② deck repair break-out 1'x1'x4" dp w/ exp. steel
Diaph.	Good	
Beams	Good	

2-29-00
R
10-22-01 DM
12-01-03 BL

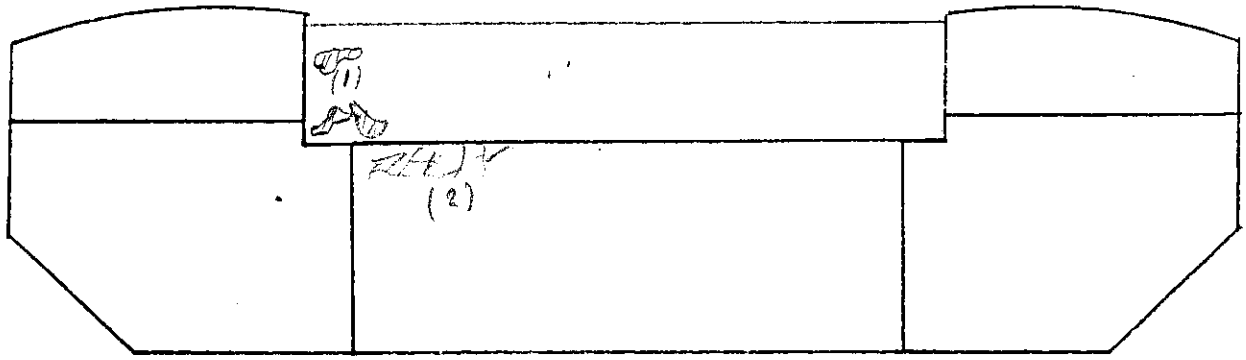


ABUT # 1 Br. # 19-I40-18.3X4 LT

Back Wall	G	(1) SCALED 5" DP (2) ~~3.0~~ 3" DEEP X ~~4~~" HORIZONTAL CRACK 2'
Wall	G	
X Wings	~~G~~ F	(3) AT 16" H X 22" L X 6" dp w MAP CRACKING
Footing	~~G~~ NIV	
Bearings	G	light corrosion

*

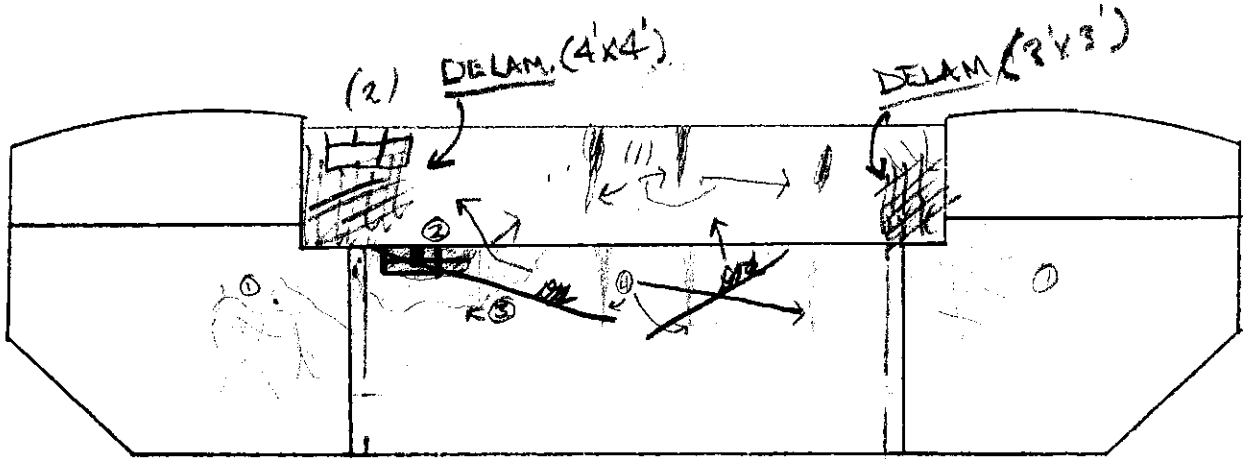
2-29-00
10-22-01 DM
12-01-03 BL



ABUT #2 Br. # 19-I40-18.3X41 LT

Back Wall	G	B.o. up to 20"lx 8"wx 1"dp
wall	G	(2) Map cracking
wings	G	
Footing	~~F~~ NV	~~1/4 - 1/16 MOVEMENT VERTICAL @ BEAM C & D~~ (?)
Bearings	~~G~~ F	loose nuts on 'A-B-C-D-E', missing nut on 'B' missing anchor bolt on 'C'

3-6-00
E
10-19-01 DM
12-01-03 B

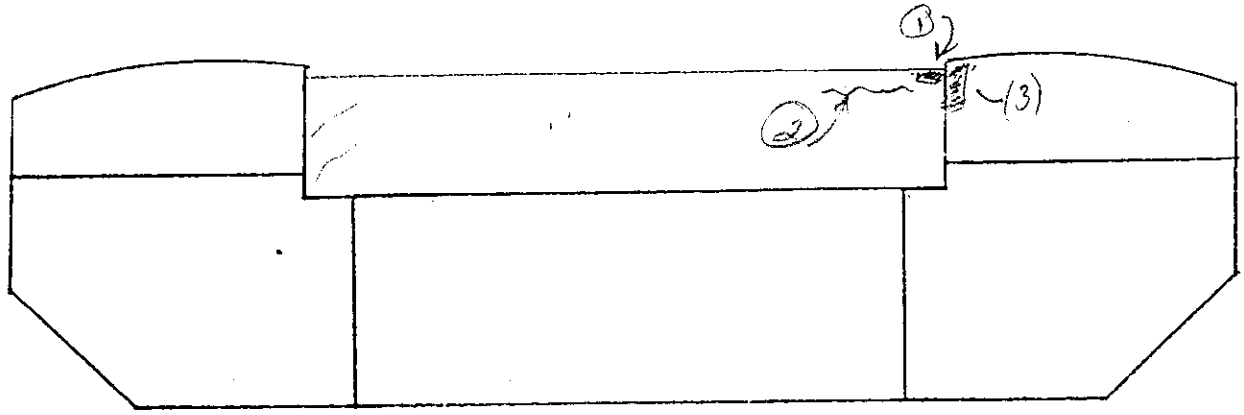


ABUT #1 Br. # 19-I40-18.3X4

Back Wall	P ~~A~~	②B.O. 2' L x 1½' h x 1' deep w/ exposed steel ③ Heavy spall ④ Heavy eff
CAP		
~~WALL~~	G	
WINGS	F	@ map cracking w/ popouts + eff
FOOTING	NV	
Bearings	P	All bearings are tilted back 2" Bearing "A" pin bolts ~~is stressed~~ missing

*

2-24-00
R
10-22-01 DM

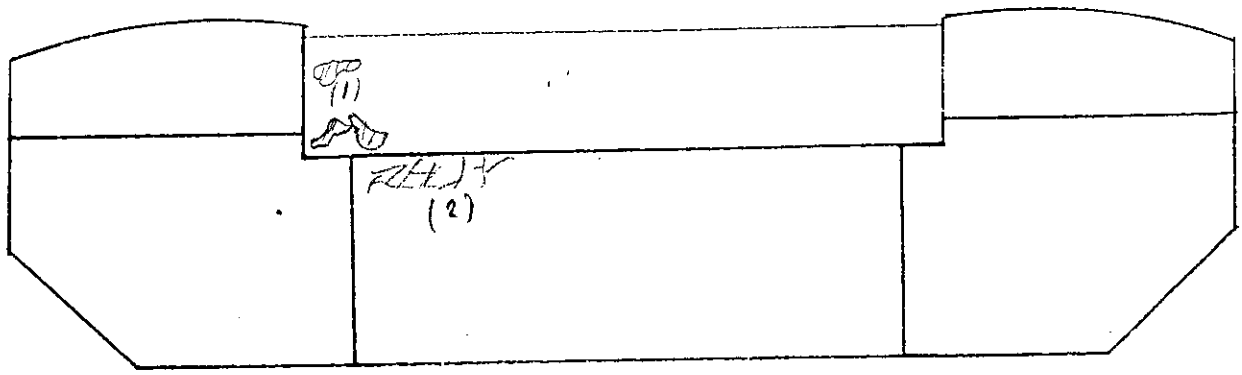


ABUT # 1 Br. # 19-I40-18.3X4 LT

Back wall	G	(1) B.0 3" DEEP X 4" (2) HORIZONTAL CRACK 2'
wall	G	
* wings	G F	(3) @ 16" H X 22" L X 6" dp w MAP cracking
Footing	G NIV	
Bearings	G	light corrosion

*

2-27-02
@
10-22-01 DH



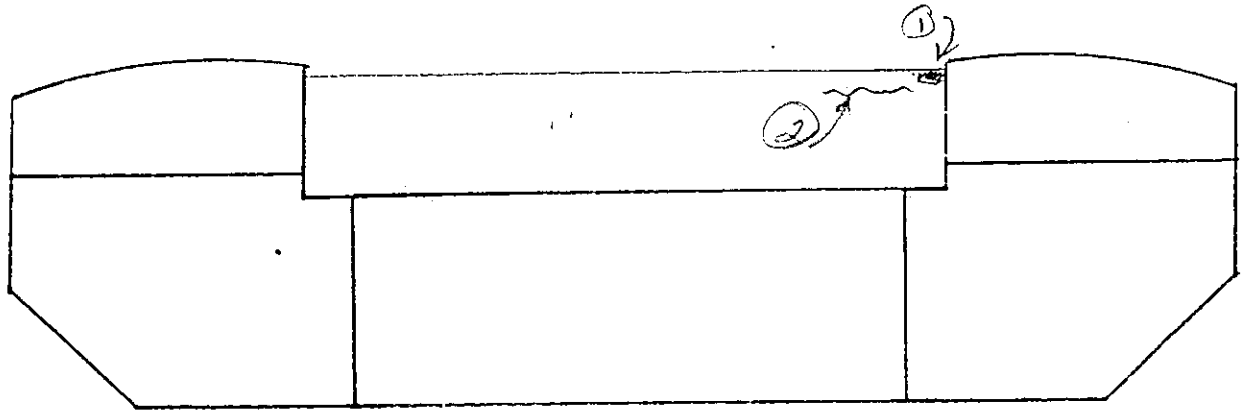
ABUT #2 Br. # 19-I40-18.3X44 LT

Back wall	G	B.O. up to 20"LX 8"WX 1"dp
wall	G	(2) Map cracking
wings	G	
Footing	~~F~~ NIV	~~1/4 - 1/16 MOVEMENT VERTICAL @ BEAM C & D~~ (?)
Bearings	~~G~~ F	loose nuts on 'A-B-C-D-E', missing nut on 'B' missing anchor bolt on 'C'

*

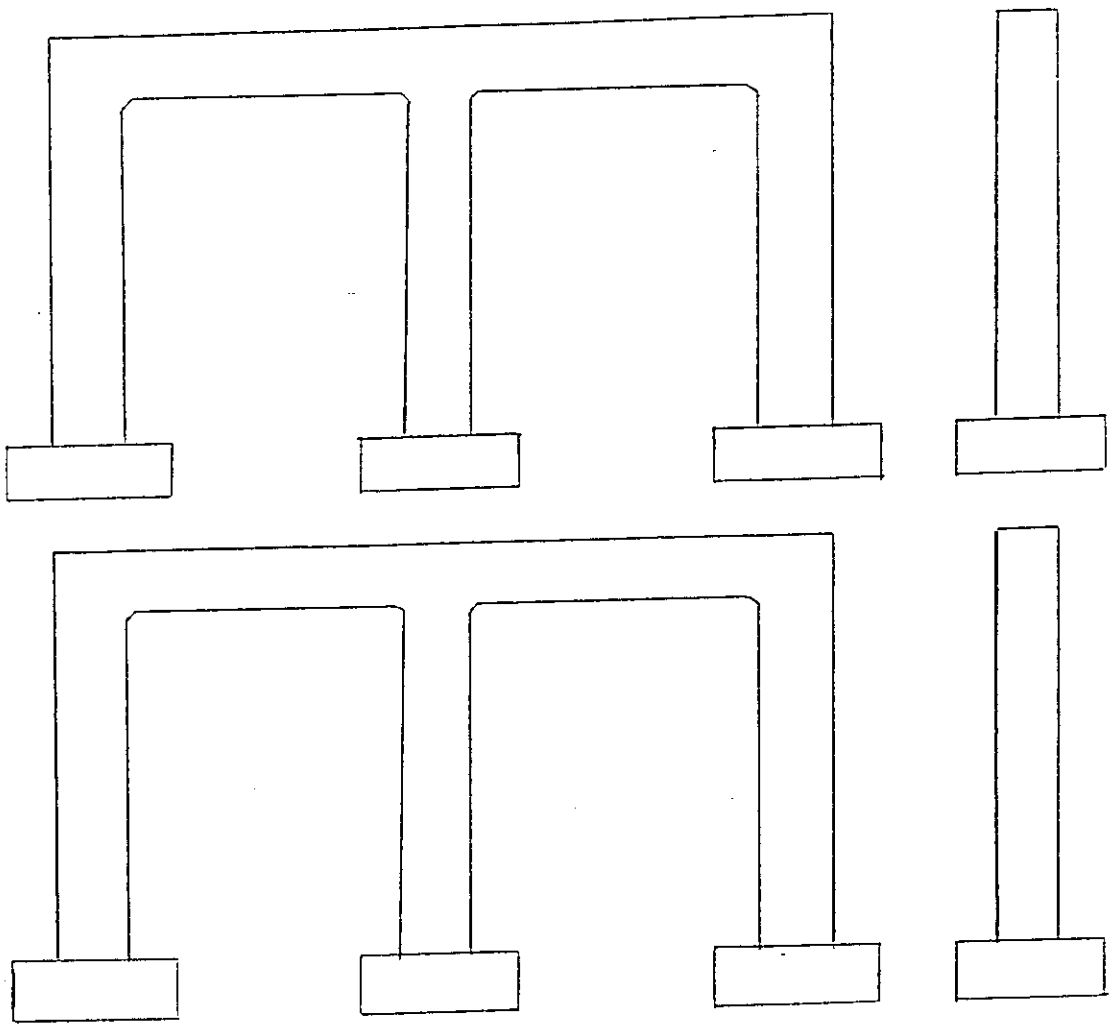
*

2-29-00
R



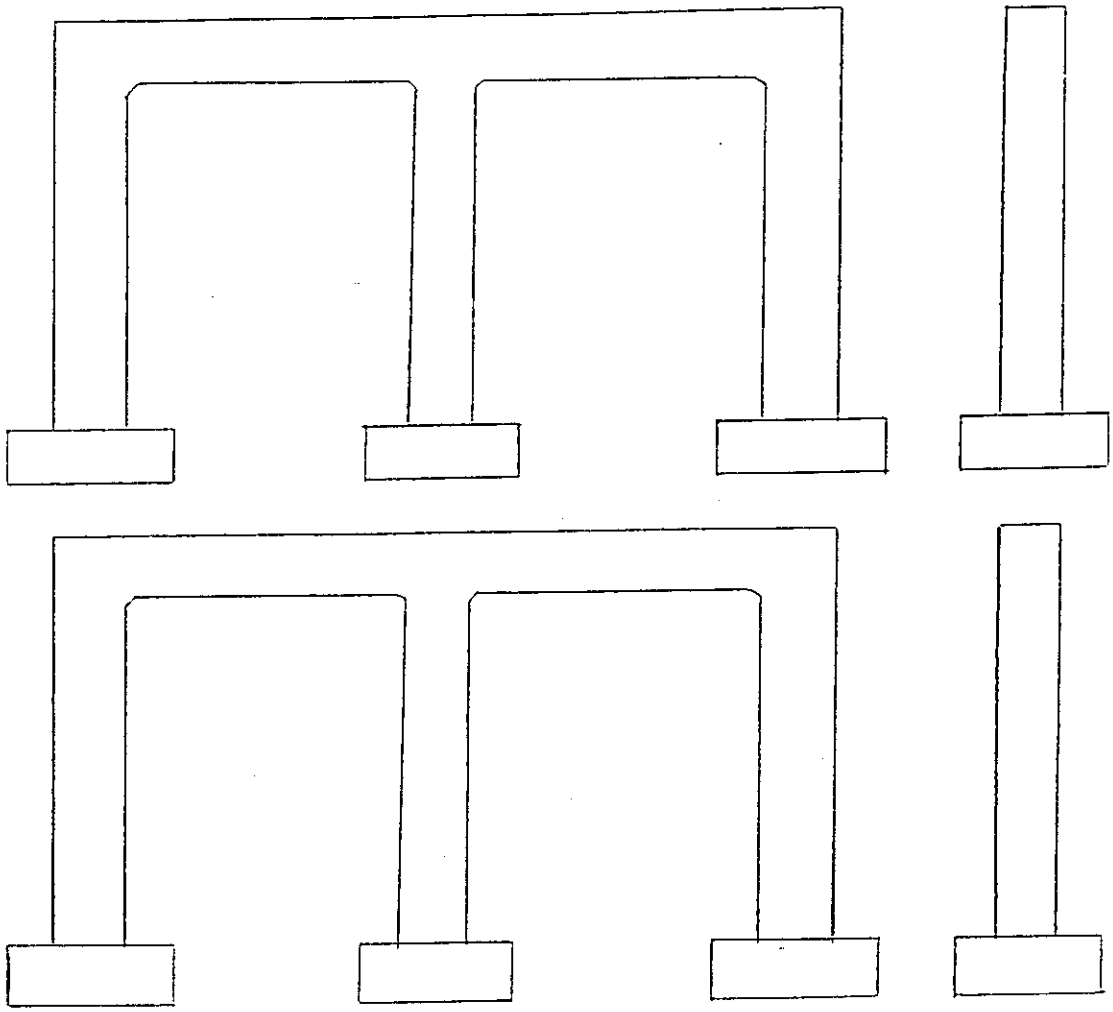
ABUT # 1 Br. # 19-I40-18.31 LT

Back Wall	G	① B.O. 3" DEEP X 4" ② HORIZONTAL CRACK 2'
Wall	G	
Wings	G	
Footing	G	
Bearings	G	



Bent # 1 Br. # 19-I40-18.31 LT

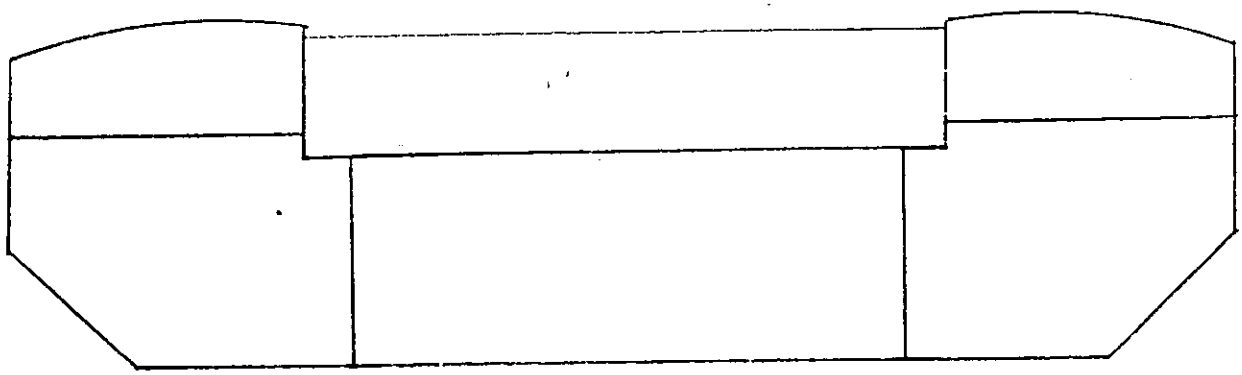
CAP	G
Column	G
Footing	G
Bearings	G



Bent = 2 Br. = 19-I40-18.31 LT

CAP	G
Column	G
Footing	G
Bearings	G

2-22-05
(2)



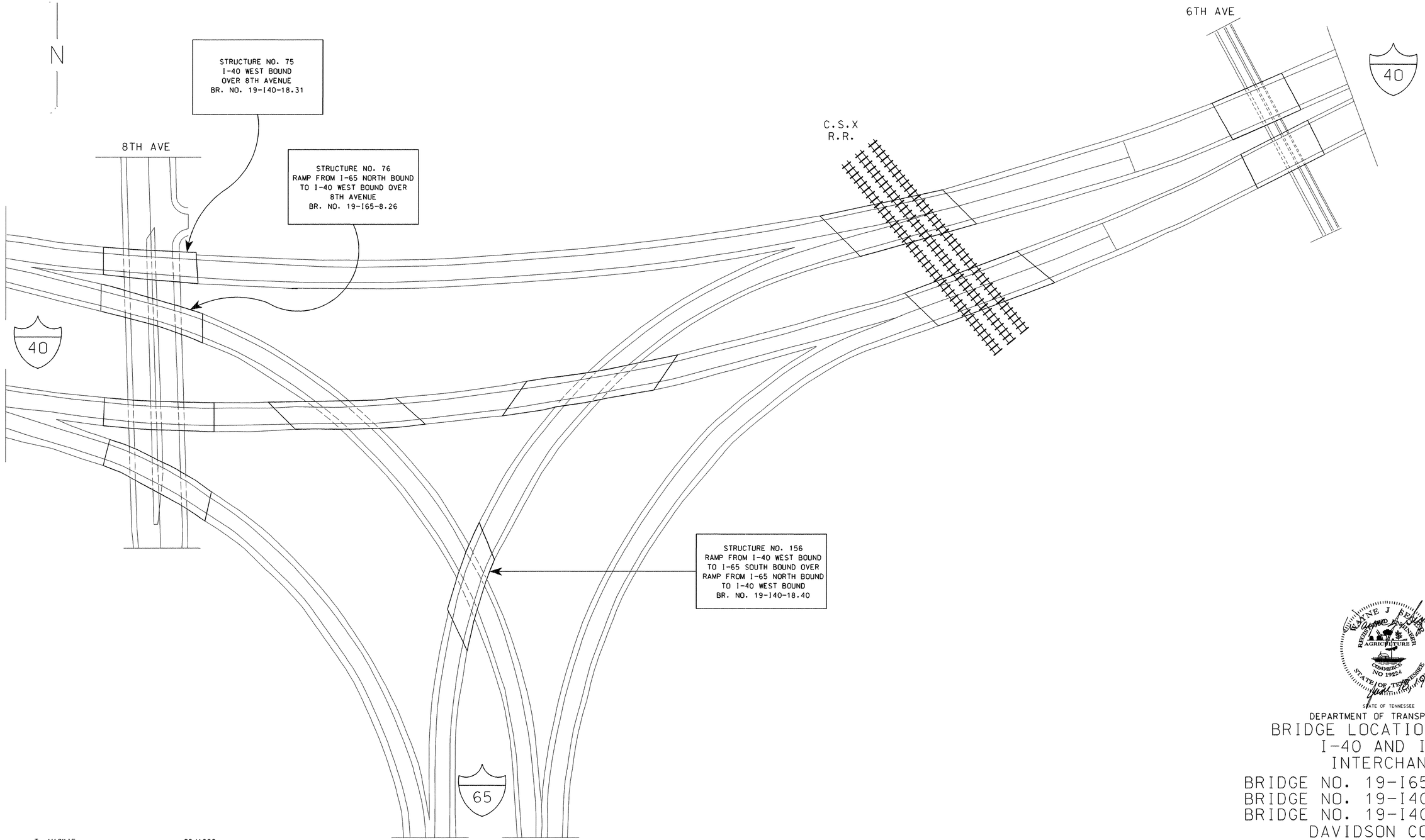
ABUT #2 Br. # 19-I40-18.31 LT

Back Wall	G	
Wall	G	
Wings	G	
Footing	F	1/4 - 1/16 MOVEMENT VERTICAL @ BEAM C & D
Bearings	G	

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DISCRIPTION
1	7-6-99	TDM	REVISED YEAR



DESIGNED BY T. MACKIE DATE 08/1998
DRAWN BY SCOTT C. NELSON DATE 09/1998
SUPERVISED BY W.SEGER & T.CHRISTIANSON DATE 09/1998
CHECKED BY W.SEGER & T. MACKIE DATE 09/1998

WAYNE J. FEDAK
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO 19224
STATE OF TENNESSEE
9/10/99

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE LOCATION SKETCH
I-40 AND I-65
INTERCHANGE

BRIDGE NO. 19-I65-8.26
BRIDGE NO. 19-I40-18.31
BRIDGE NO. 19-I40-18.40
DAVIDSON COUNTY
1999

BR-40-50

ESTIMATED BRIDGE QUANTITIES

ITEM NO	DESCRIPTION	UNIT	QUANTITY PER BRIDGE			TOTAL QUANTITIES
			19-I65-8 26 N B OVER 8th AVE	19-I40-18 31 OVER 8th AVE	19-I40-18 40 OVER I-65	
307-07 07	PERF GRADE (PF76-22) (BPMB-HM) GR B-M2	TON	—	60	80	140
411-01 01	MINERAL AGGREGATE (ACS) GRADING D	TON	—	35	47	82
411-02 01	MINERAL AGGREGATE (ACS) GRADING E	TON	—	29	38	67
411-02 02	ASPHALT CEMENT (ACS) GRADING E	TON	—	2	3	5
411-07 11	PERF GRADE ASPH CEMENT (PG76-22) (BPMB-HM) GR D	TON	—	3	3	6
(1) 602-10 05	BRACING REPAIRS	L S	—	0 5	0 5	1
602-10 09	STEEL HANDRAIL REPAIRS	L F	—	36	35	71
(2) 602-10 12	BEARING DEVICE (REPAIR)	L S	—	1	—	1
602-10 19	JACKING STEEL SPANS	L S	—	1	—	1
(3) 603-02 01	REPAINTING EXISTING STEEL STRUCTURES	L S	—	0 5	0 5	1
604-04 02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S Y	635	606	796	2037
(4) 604-10 14	REMOVAL OF EXISTING WEARING SURFACE	L S	—	0 5	0 5	1
(5) 604-10 17	NON-PENETRATING CONCRETE SEAL	S Y	75	70	99	244
(6) 604-10 30	BRIDGE DECK REPAIR (FULL DEPTH OF SLAB)	S Y	—	116	—	116
(7) 604-10 42	CONCRETE REPAIRS	C F	77	81	253	411
(8) 604-10 44	EXPANSION JOINT REPAIRS	L F	—	77	111	188
(6) 604-10 50	BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB)	S Y	—	176	76	252
(9) 604-10 54	CONCRETE REPAIRS	S F	110	66	21	197
(10) 617-01	BRIDGE DECK SEALANT	S Y	—	562	751	1313

FOOTNOTES

(1) INCLUDES ALL COSTS TO PLACE CANTILEVER SUPPORTS IN PHASE I CONSTRUCTION FOR BRIDGE NO 19-I40-18 31 AS SHOWN ON DRAWING NO BR-40-61 & BR-40-61A AND PROVIDE MEANS TO CATCH AND CONTAIN ALL CONCRETE BEING REMOVED OVER TRAFFIC ON BRIDGES NO 19-I40-18 31 AND 19-I40-18 40 AS SHOWN ON DRWAING NO BR-40-61A

(2) COST OF RESETTING EXPANSION BEARINGS FOR BRIDGE NO 19-I40-18 31 INCLUDES INSTALLATION OF SHIM PLATES, REMOVING THE EXISTING TOP BEARING PLATE AND BOLTING TO THE BOTTOM FLANGE OF THE GIRDER, LABOR AND ANY MISCELLANEOUS MATERIALS NEEDED TO COMPLETE THE REPAIRS TO THE BEARINGS SHALL BE PAID FOR UNDER ITEM NO 602-10 12, L S SEE DRAWING NO BR-40-62 FOR DETAILS AND NOTES

(3) INCLUDES HAND TOOL CLEANING, PAINTING, CONTAINMENT AND DISPOSAL AND ALL LABOR AND MATERIALS FOR 10 ABUTMENT BEARING DEVICES PER BRIDGE

(4) INCLUDES ALL LABOR AND MATERIALS FOR REMOVAL AND DISPOSAL OF APPROXIMATELY 5" (±) EXISTING ASPHALT WEARING SURFACE WITHIN THE LIMITS OF EACH BRIDGE EXISTING ASPHALT DEPTHS VARY FROM 4" TO 6"

(5) INCLUDES CLEANING ALL SURFACES OF ALL DEBRIS AND FOREIGN MATERIALS BEFORE APPLYING SEALER SEE NOTE ON DRAWING NO BR-40-52

(6) ITEM NO'S 604-10 30 AND 604-10 50 IS A CONTINENCY ITEM THAT MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER

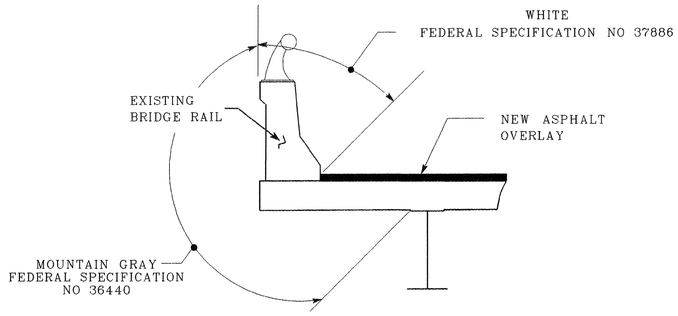
(7) INCLUDES THE COST OF CONCRETE, REINFORCING STEEL, RESETTING HANDRAIL ANCHOR BOLTS, FORMING, LABOR AND ALL MISCELLANEOUS ITEMS FOR COMPLETE AND IN PLACE REPAIR OF PARAPETS SEE DRAWING NO BR-40-64 FOR NOTES AND DETAILS

(8) INCLUDES ALL COSTS FOR REMOVAL OF EXISTING CONCRETE AND PLACEMENT OF NEW 18 HOUR CONCRETE, JOINT SEALANT, MECHANICAL BAR SPLICES AND REINFORCEMENT STEEL SEE DRAWING NO'S BR-40-59 AND BR-40-60 FOR NOTES AND DETAILS

(9) INCLUDES THE COST OF ALL LABOR AND MATERIALS REQUIRED TO REPAIR THE SURFACE OF THE BENTS AND ABUTMENTS AS DETAILED ON DRAWING NO BR-40-63 USING HIGH EARLY STRENGTH CONCRETE THIS ITEM SHALL BE BID AS CONTINGENCY AND MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER

(10) INCLUDES THE COST OF THE MASTIC AS SHOWN IN THE ASPHALT PAVEMENT DETAIL ON THIS SHEET

DESIGNED BY Terry Mackie DATE April 1999
DRAWN BY Don Kimber DATE June 1999
SUPERVISED BY W Seger & T Christianson DATE June 1999
CHECKED BY W. Seger, T. Mackie DATE June 1999

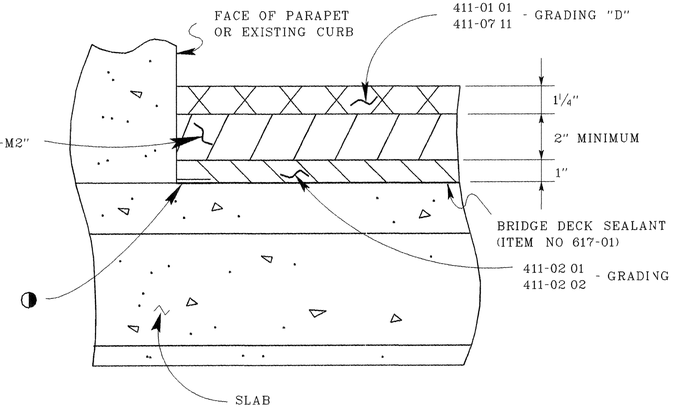


DETAIL SHOWING LIMITS OF TEXTURE FINISH

NOTES

TEXTURE FINISH THE SURFACES AS SHOWN FOR THE FULL LENGTH OF THE BRIDGES IN ADDITION TO AREAS SHOWN IN THE ABOVE SKETCH, THE FOLLOWING EXPOSED AREAS SHALL RECEIVE AN APPLIED TEXTURE FINISH (MOUNTAIN GREY) (36440), WINGWALLS, EXTERIOR PORTIONS OF ENDWALLS, ABUTMENT WALLS AND BENTS TO BE INCLUDED IN ITEM NO 604-04 02, S Y

BEFORE APPLYING TEXTURE FINISH, ALL SURFACES SHALL BE COMPLETELY CLEANED OF ALL DEBRIS AND FOREIGN MATERIALS



ASPHALT PAVEMENT DETAIL

(TYPICAL AT FACE OF EXISTING PARAPET)

◑ MASTIC AS RECOMMENDED BY MANUFACTURER OF MEMBRANE SEE STD SPEC ART 906 04

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	2

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6-25-99	TDM	REVISED FOOTNOTES
2	7-6-99	TDM	GENERAL REVISIONS

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ESTIMATED BRIDGE QUANTITIES
BRIDGE NO 19-I65-8 26
BRIDGE NO. 19-I40-18 31
BRIDGE NO 19-I40-18 40
DAVIDSON COUNTY
1999

(2)

BR-40-51

UTILITY NOTES

THE LOCATION OF UTILITIES SHALL BE FIELD LOCATED BY THE CONTRACTOR, AND BY CONTACTING THE UTILITY COMPANIES INVOLVED SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC AT 1-800-351-1111

UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO CO-OPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID, IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITY FACILITIES THAT WILL REMAIN IN PLACE IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENTS

THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY

GENERAL TIME LIMITATIONS AND WORK SEQUENCES

FOR EXACT TIMES AND LIQUIDATED DAMAGES SEE SPECIAL PROVISION 108B

WEEKDAY WORK

REPAIR ALL OVERHANGS AND PARAPETS ON ALL THREE (3) BRIDGES
REPAIR BEARINGS ON BRIDGE No 19-I40-18 31
PLACE ALL REQUIRED BRACING TO PREVENT FALLING CONCRETE ON BRIDGES No's 19-I40-18 31 AND 19-I40 - 18.40

THIS WORK WILL REQUIRE LANE CLOSURES ON 8th AVE FOR BRIDGES No's 19-I40-18 31 AND 19-I40-18.40 THESE CLOSURES SHALL BE DONE IN NON-PEAK TRAFFIC HOURS ONLY AND FULL TRAFFIC FLOW WITH ALL LANES OPEN BETWEEN THE HOURS OF 6 00 AM TO 9 00 AM AND BETWEEN 3 00 PM AND 7 00 PM

WEEKEND WORK

REMOVE ASPHALT, REMOVE CONCRETE IN LIMITS OF NEW JOINTS, REMOVE FULL AND PARTIAL DEPTH DECK CONCRETE, POUR NEW CONCRETE IN JOINT HEADERS AND IN FULL AND PARTIAL DEPTH DECK REPAIR AREAS AND PLACE NEW SEAL AND ASPHALT OVERLAY ON BRIDGE'S No 19-140-18 31 AND 19-I40-18.40.

THIS WORK WILL REQUIRE I40 AND I65 TO BE CLOSED TO ONE (1) LANE AND LANES CLOSURES TO 8th AVE FOR BRIDGE No 19-I40-18 31 AND LANE CLOSURES TO I65 UNDER BRIDGE No 19-I40-18 40 THE ONE (1) LANE CLOSURES TO BRIDGE'S No 19-I40-18 31 AND 19-I40-18 40 SHALL START AT 7 00 PM ON FRIDAY AND END ON 6 00 AM MONDAY THE INTERSTATE SHALL HAVE ALL LANES OPEN AFTER 6 00 AM MONDAY AND REMAIN SO DURING THE WEEK

REQUIREMENTS AND RESTRICITONS FOR PHASE CONSTRUCTION

1 SEE DRAWING NO BR-40-54,56 AND 58 FOR PHASE CONSTRUCTION DETAILS
2 SEE SPECIAL PROVISION 108B FOR TRAFFIC CONTROL RESTRICTIONS AND PROJECT COMPLETION REQUIREMENTS
3 SEE ROADWAY TRAFFIC CONTROL SHEETS FOR OTHER RESTRICTIONS

DESIGNED BY Terry Mackie DATE May 1999
DRAWN BY Don Kimber DATE June 1999
SUPERVISED BY W Seger & Tommy Christianson DATE June 1999
CHECKED BY W. Seger & Terry Mackie DATE June 1999

GENERAL NOTES

SPECIFICATIONS

STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (MARCH 1, 1995 EDITION)

DESIGN SPECIFICATIONS

AASHTO 1996 EDITION WITH ADDENDA

REINFORCING STEEL

SEE THE STANDARD SPECIFICATIONS

SHOP DRAWINGS

SHALL BE SUBMITTED ACCORDING TO SPECIAL PROVISION NO 105A, SHOP DRAWINGS SHALL BE SUBMITTED TO THE BRIDGE REPAIR OFFICE OF THE DIVISION OF STRUCTURES

CONCRETE CURING

ALL CONCRETE IN REPAIR AREAS SHALL BE CURED ACCORDING TO THE STANDARD SPECIFICATIONS

MECHANICAL BAR SPLICERS

MUST BE ON THE APPROVED LIST MAINTAINED BY THE DIVISION OF MATERIALS AND TESTS THE BAR SPLICER SHALL MEET AASHTO STANDARD SPECIFICATIONS FOR MECHANICAL CONNECTION WHEN EPOXY COATING IS REQUIRED, THE EXPOSED THREADS SHALL BE REPAIRED AFTER SPLICING ACCORDING TO THE STANDARD SPECIFICATIONS, SECTION 907

DEMOLITION

THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARY HEAVY EQUIPMENT FOR CONCRETE REMOVAL PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE FOR FULL DEPTH OF CONCRETE SLAB REMOVAL EXCEPT OVER BEAMS THE MAXIMUM HAMMER SIZE IS 90 POUND CLASS FOR PARTIAL DEPTH OF CONCRETE SLAB REMOVAL AND ANY WORK OVER BEAMS, THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS SAWING OR CUTTING OF CONCRETE IS ACCEPTABLE AS LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET WITH APPROVAL OF THE ENGINEER

GROUTED BARS IN DRILLED HOLES

HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR CLEANED, PACKED WITH EPOXY GROUT AND DRIVEN TO ITS SEAT ALL GROUTING MATERIAL SHALL BE APPROVED BY THE TENNESSEE DEPARTMENT OF TRANSPORTATION MATERIALS AND TESTS

BRIDGE RAIL

RE-BUILD BRIDGE RAILINGS ACCORDING TO STANDARD DRAWING STD-11-1

WELDING

ANSI/AASHTO/AWS D1 5-88 BRIDGE WELDING CODE AND THE STANDARD SPECIFICATIONS

ROADSIDE BANKS/SLOPES

ROADSIDE BANKS/ SLOPES USED BY THE CONTRACTOR FOR WORK ACCESS, PARKING, AND ANY OTHER OPERATIONS THAT ARE DISTURBED BY HIS OPERATIONS SHALL BE REPAIRED BY REGRADING, RESEEDING, MULCHING, OR WHATEVER MEANS ARE NECESSARY TO RESTORE THE BANKS/SLOPES TO THE ORIGINAL CONDITION ALL RESTORATION WORK SHALL MEET THE FULL SATISFACTION OF THE ENGINEER COST OF ALL RESTORATION WORK SHALL BE INCLUDED IN ITEMS BID ON

FINISHING CONCRETE SURFACES

CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604 22 OF THE TENNESSEE STANDARD SPECIFICATION A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LEIU OF A CLASS II FINISH NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM 604-04 02

HIGH EARLY STRENGTH CONCRETE (EXPANSION JOINTS, FULL AND PARTIAL DEPTH REPAIRS)

SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF 3,000 psi AT 18 HOURS THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX SHALL OBTAIN REQUIRED PROPERTIES PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 psi MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF 18 HOURS

HIGH EARLY STRENGTH CONCRETE (PARAPETS AND SLAB OVERHANGS)

HIGH EARLY STRENGTH CONCRETE (PARAPET AND SLAB OVERHANG) THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS 'A', EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS THE WATER CEMENT RATIO SHALL BE A MINIMUM OF 0 40 NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 psi TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 psi MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	7 6 99	TDM	GENERAL REVISIONS

SPECIAL NOTE TO CONTRACTOR

NO CONCRETE OR OTHER DEBRIS SHALL BE ALLOWED TO DROP ONTO THE ROADWAY BELOW WHEN MAKING REPAIRS TO THE EXISTING STRUCTURE

CLEANING AND PAINTING

ALL STEEL BEARINGS SHALL BE CLEANED AND PAINTED CLEANING SHALL BE IN ACCORDANCE WITH TENNESSEE STANDARD SPECIFICATION SECTION 603 05 (A) HAND OR POWER TOOL CLEANING SHALL REMOVE ALL RUST, SCALE, LOOSE PAINT AND DIRT AFTER CLEANING, THE BEARINGS SHALL BE PAINTED WITH AN APPROVED EPOXY MASTIC PAINT APPLIED AT A MINIMUM DRY FILM THICKNESS OF 4 0 MILS THE COLOR OF THE FINISH COAT SHALL COMPLY WITH FEDERAL STANDARD NO 595A FEDERAL SPEC NO 24110 (BRIGHT GREEN) SEE SECTIONS 603 AND 9.0 OF THE STANDARD SPECIFICATIONS

SEE THE TENNESSEE DEPARTMENT OF TRANSPORTATION'S QUALIFIED PRODUCTS LIST FOR ACCEPTABLE BRANDS OF EPOXY MASTIC ALL PRODUCTS USED, INCLUDING THINNERS SHALL BE SUPPLIED BY THE SAME MANUFACTURER

APPLICATION THE COATING APPLICATOR SHALL FOLLOW THE MANUFACTURER'S PRINTED INSTRUCTIONS AND SHALL HAVE THESE INSTRUCTIONS ON SITE DURING THE COURSE OF THE WORK

CONCRETE SEALER

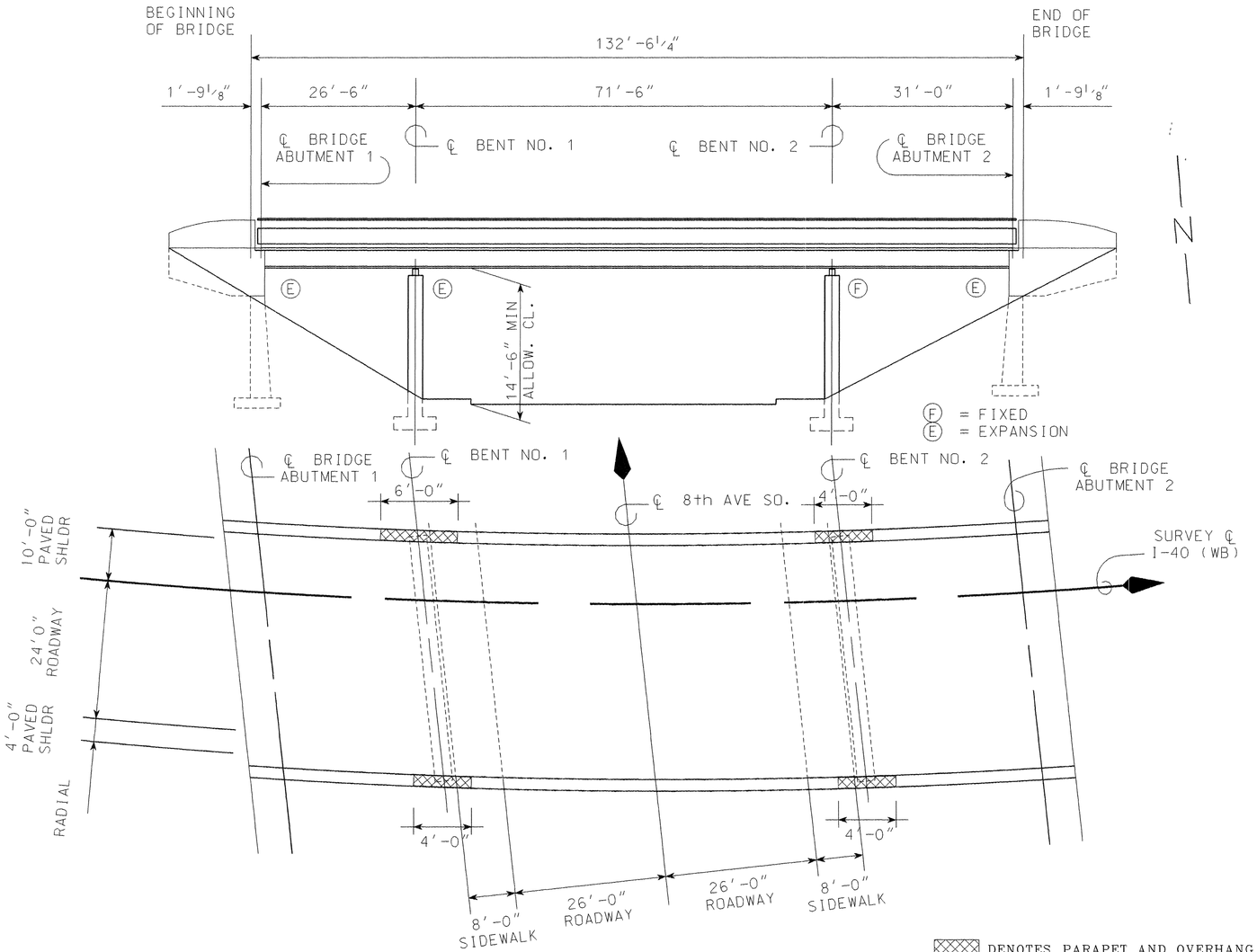
CONCRETE SEALER SHALL BE APPLIED TO SUBSTRUCTURES COINCIDING WITH EXPANSION JOINT LOCATIONS BEFORE PLACEMENT OF BEARING DEVICES AND APPLYING TEXTURE COATING CONCRTE SEALER SHALL BE APPLIED TO THE FRONT VERTICAL FACE OF THE ABUTMENT BACKWALL, THE FRONT AND TOP OF THE ABUTMENT BEAM PLUS CURTAIN WALL, SUMP WALLS OR ANY OTHER FACES THAT ARE DEEMED NECESSARY BY THE ENGINEER CONCRTE SHALL BE CLEAN AND DRY BEFORE APPLYING THE CONCRETE SEAL, AND THE THICKNESS OF THE SEAL SHALL BE AS RECOMMENDED BY THE SEALANT MANUFACTURER ACCEPTABLE CONCRETE SEALERS ARE INCLUDED IN THE QUALIFIED PRODUCTS LIST OF NON PENETRATING CONCRTE SEALS MAINTAINED BY THE DIVISOIN OF MATERIALS AND TESTS THE SEALER SHALL BE CLEAR OR SIMILAR TO THE COLOR OF EXISTING CONCRETE SURFACES TO BE SEALED THE COST OF THE SEALER, COMPLETE AND IN PLACE, SHALL BE INCLUDED IN ITEM NO 604-10 17

WAYNE J SEGER REGISTERED ENGINEER AGRICULTURE COMMERCE NO 19224 STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
GENERAL NOTES
BRIDGE NO. 19-165-8 26
BRIDGE NO 19-140-18 31
BRIDGE NO 19-140-18.40
DAVIDSON COUNTY
1999

1

BR-40-52



GENERAL SCOPE OF WORK

1} REMOVE EXISTING ASPHALT OVERLAY (VARIES FROM 4" TO 6") FROM BRIDGE DECK.

2} PERFORM PARTIAL AND FULL DEPTH BRIDGE DECK REPAIRS.

3} PLACE NEW ASPHALT OVERLAY WITH SEAL AND MATCH WITH THE EXISTING ASPHALT OVERLAY THICKNESS.

4} REPAIR PARAPET BREAKOUTS AND SPALLED AREAS.

5} REPAIR AND PAINT THE EXISTING ABUTMENT BEARINGS DEVICES.

6} REPLACE SECTIONS OF DAMAGED HANDRAIL ON PARAPET.

7} REMOVE EXISTING EXPANSION JOINTS AT ABUTMENT NO. 1 & NO. 2 AND REPLACE WITH NEW CONCRETE HEADERS AND NEW SILICONE EXPANSION JOINT.

8} REPAIR DETERIORATED AREAS ON ABUTMENTS, PARAPETS AND OVERHANGS.

▨ DENOTES PARAPET AND OVERHANG REPAIR AREAS

9} APPLY CONCRETE SEALER TO ABUTMENT BEAMS AND BACKWALLS.

10} APPLY TEXTURE FINISH TO PARAPETS, OVERHANGS AND SUBSTRUCTURES.

11} REPAIR BREAKOUT AREAS ON BOTTOM OF CONCRETE DECK.

12} MAINTAIN TRAFFIC CONTROL.

DESIGNED BY TERRY MACKIE DATE 04/1999
DRAWN BY SCOTT C. NELSON DATE 04/1999
SUPERVISED BY W.SEGER & T.CHRISTIANSON DATE 04/1999
CHECKED BY W.SEGER & T.MACKIE DATE 04/1999

⚠2⚠1 LIST OF DRAWINGS

DRAWING NO	LAST REV DATE	DRAWING
BR-40-50	7-6-99	BRIDGE LOCATION SKETCH
BR-40-51	7-6-99	ESTIMATED QUANTITIES
BR-40-52	7-6-99	GENERAL NOTES
BR-40-55	7-6-99	LAYOUT OF BRIDGE TO BE REPAIRED
BR-40-56	7-6-99	PHASE CONSTRUCTION DETAILS
BR-40-59	7-6-99	BRIDGE REPAIR DETAILS
BR-40-60	7-6-99	BRIDGE REPAIR DETAILS
BR-40-61	7-6-99	BRIDGE REPAIR DETAILS
BR-40-61A	7-6-99	BRIDGE REPAIR DETAILS
BR-40-62	7-6-99	BRIDGE REPAIR DETAILS
BR-40-63		BRIDGE REPAIR DETAILS
BR-40-64	7-6-99	BRIDGE REPAIR DETAILS

LIST OF REFERENCE DRAWINGS

(TO BE PRINTED WITH PLANS)

DRAWING NO.	DRAWING
K-61-20 THRU 26	EXISTING BRIDGE DRAWINGS WITH STRUCTURAL TUBING
K-38-154A	EXISTING BRIDGERAIL

LIST OF SPECIAL PROVISIONS

** DENOTES CURRENT REVISION DATE, AS PER CONTRACT DOCUMENTS

NO	LAST REV DATE	REGARDING
105A	**	APPROVAL OF SHOP DRAWINGS
108B	**	PROJECT COMPLETION AND INCENTIVE/DISINCENTIVE

LIST OF STANDARD DRAWINGS ⚠2

DRAWING NO	LAST REV. DATE	DRAWING
STD-9-1	12-19 94	REINFORCING BAR SUPPORT DETAILS FOR CONCRETE SLABS
*STD-11-1	5-21-99	BRIDGE RAILING CONCRETE PARAPET WITH STRUCTURAL TUBING 1999

* DENOTES TO BE PRINTED WITH THE PLANS

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6-25-99	TDM	REVISED DATES
2	7-6-99	TDM	REVISED DATES AND ADDED DRAWING

WAYNE J. SEGER REGISTERED ENGINEER AGRICULTURE COMMERCE NO 19924 STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

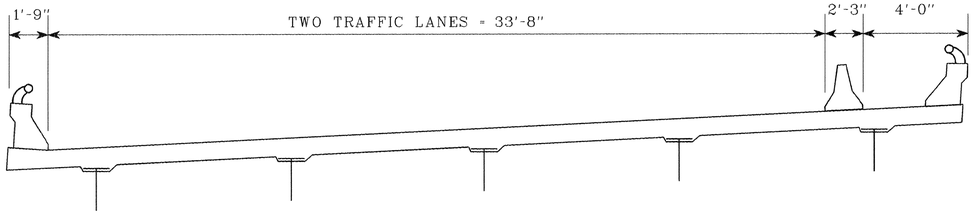
EXISTING BRIDGE NO. 75
LAYOUT OF BRIDGE TO BE REPAIRED
INTERSTATE 40 WESTBOUND
OVER 8TH AVE.
BRIDGE NO. 19-I40-18.31
DAVIDSON COUNTY
1999

BR-40-55

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

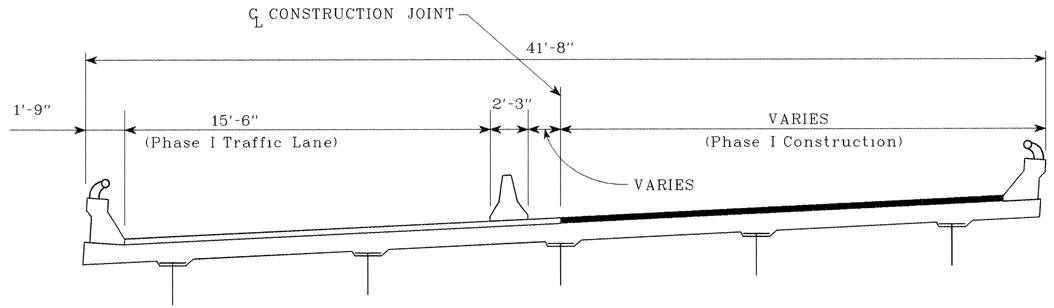
NO	DATE	BY	BRIEF DESCRIPTION
1	7-7-99	TDM	GENERAL REVISION



PRE-PHASE I CONSTRUCTION DETAIL

(WORK TO BE COMPLETED PRIOR TO WEEKEND)

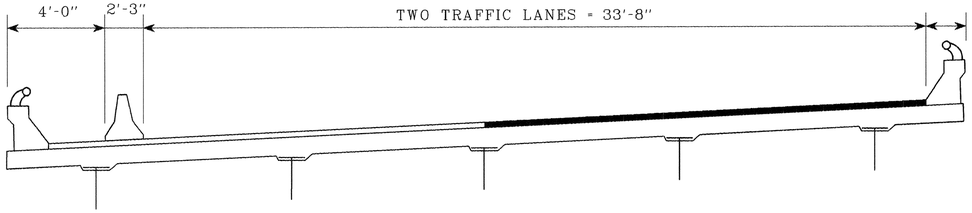
WORK TO BE COMPLETED 1) ALL ABUTMENT REPAIRS
2) ALL BEARING DEVICE REPAIRS
3) PARAPET, OVERHANG AND HANDRAIL REPAIRS



PHASE I CONSTRUCTION

(FOR WEEKEND WORK ONLY)

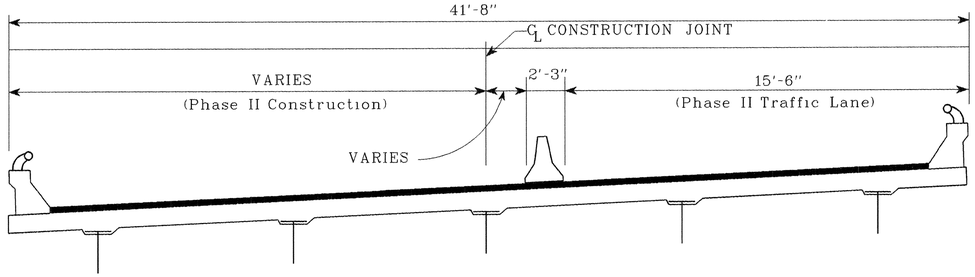
WORK TO BE COMPLETED 1) BRIDGE DECK REPAIRS
2) EXPANSION JOINT REPAIRS
3) ASPHALT OVERLAY WITH SEAL



PRE-PHASE II CONSTRUCTION DETAIL

(WORK TO BE COMPLETED PRIOR TO WEEKEND)

WORK TO BE COMPLETED 1) PARAPET, OVERHANG AND HANDRAIL REPAIRS



PHASE II CONSTRUCTION

(FOR WEEKEND WORK ONLY)

WORK TO BE COMPLETED 1) BRIDGE DECK REPAIRS
2) EXPANSION JOINT REPAIRS
3) ASPHALT OVERLAY WITH SEAL

PHASE CONSTRUCTION DETAILS

(LOOKING FORWARD ON SURVEY)

NOTE FOR MORE WEEKEND CONSTRUCTION DETAILS SEE THE TRAFFIC CONTROL PLANS, SHEET NO 2-A THRU 2-P

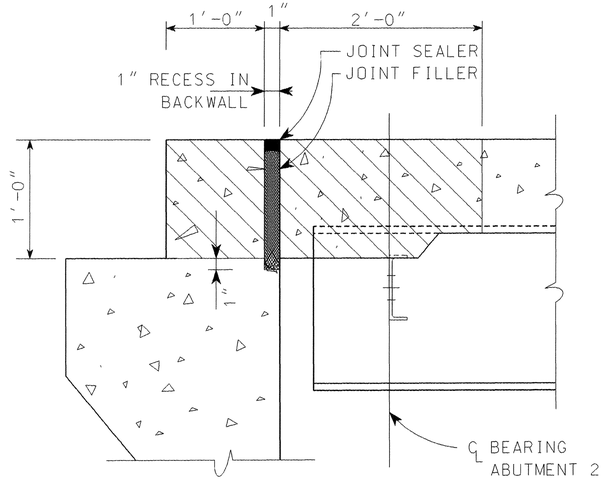
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE NO. 75
PHASE CONSTRUCTION DETAILS
INTERSTATE 40 WESTBOUND
OVER 8TH AVE.
BRIDGE NO. 19-I40-18.31
DAVIDSON COUNTY
1999

DESIGNED BY	TERRY MACKIE	DATE	04/1999
DRAWN BY	SCOTT C. NELSON	DATE	04/1999
SUPERVISED BY	W.SEGER & T.CHRISTIANSON	DATE	04/1999
CHECKED BY	W.SEGER & T.MACKIE	DATE	04/1999

1

BR-40-56



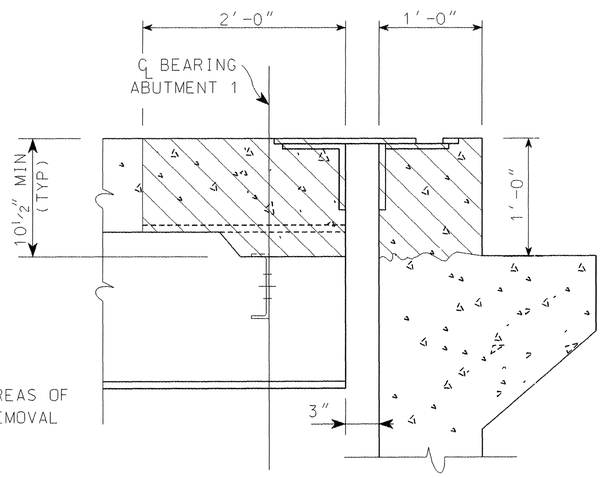
SECTION THRU ABUTMENT NO. 1

(SHOWING REMOVAL LIMITS)

BRIDGE NO. 19-I40-18.31 (LENGTH = 38'-6")

BRIDGE NO. 19-I40-18.40 (LENGTH = 61'-2")

DENOTES: AREAS OF REMOVAL

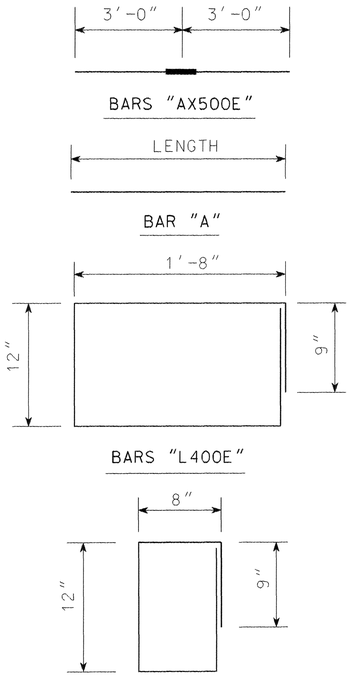


SECTION THRU ABUTMENT NO. 2

(SHOWING REMOVAL LIMITS)

BRIDGE NO. 19-I40-18.31 (LENGTH =38'-4")

BRIDGE NO. 19-I40-18.40 (LENGTH =49'-6")



PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

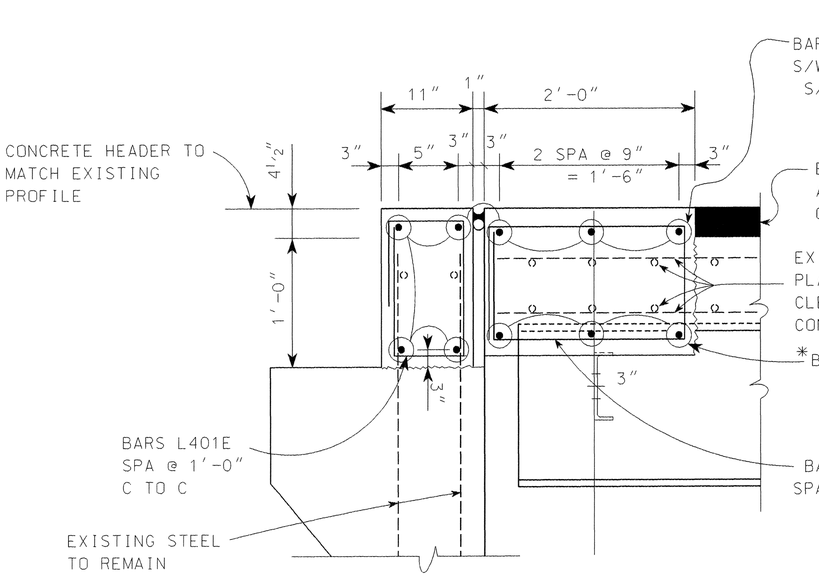
NO	DATE	BY	BRIEF DESCRIPTION
1	6-25-99	TDM	GENERAL REVISION

NOTE: DIMENSIONS SHOWN ON THIS SHEET ARE OUTSIDE TO OUTSIDE OF BAR.

NOTE: THE SUFFIX "E" DENOTES EPOXY COATED REINFORCEMENT FOR BARS SO MARKED.

BRIDGE NO. 19-I40-18.31			
BILL OF STEEL			
BAR	SIZE	NO. REQ'D	LENGTH
A500E	5	10	19'-3"
A501E	5	10	19'-3"
A502E	5	10	19'-2"
A503E	5	10	19'-2"
L400E	4	78	6'-1"
L401E	4	78	4'-1"
AX500E	5	14	3'-0"

BRIDGE NO. 19-I40-18.40			
BILL OF STEEL			
BAR	SIZE	NO. REQ'D	LENGTH
A504E	5	10	28'-6"
A505E	5	10	32'-8"
A506E	5	10	24'-10"
A507E	5	10	24'-8"
L400E	4	112	6'-1"
L401E	4	112	4'-1"
AX500E	5	14	3'-0"

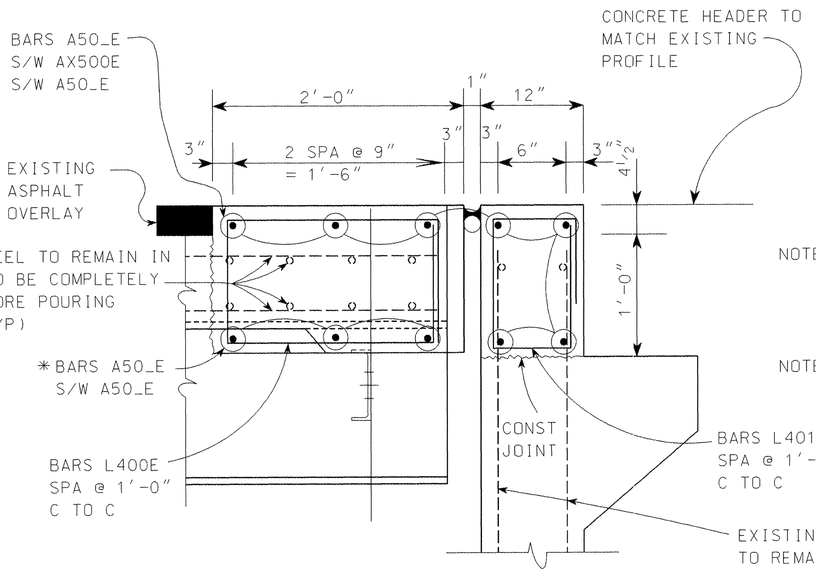


SECTION THRU ABUTMENT NO. 1

(SHOWING PROPOSED EXPANSION JOINT)

BRIDGE NO. 19-I40-18.31

BRIDGE NO. 19-I40-18.40



SECTION THRU ABUTMENT NO. 2

(SHOWING PROPOSED EXPANSION JOINT)

BRIDGE NO. 19-I40-18.31

BRIDGE NO. 19-I40-18.40

NOTE: WHEN REMOVING DESIGNATED CONCRETE FOR THE EXPANSION DEVICE, EXTREME CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL. EXISTING STEEL SHALL BE LEFT PROJECTING AND BE INCORPORATED IN WITH THE NEW REINFORCING STEEL. THE EXISTING EXPOSED REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE PLACEMENT OF NEW CONCRETE.

NOTE: COST OF ANY MODIFICATIONS NECESSARY TO PROPERLY INSTALL THE EXPANSION JOINTS SHALL BE INCLUDED UNDER ITEMS BID ON.

NOTE: COST OF REMOVING THE EXISTING EXPANSION JOINTS AND REPLACEMENT OF NEW EXPANSION JOINTS, INCLUDING ALL CONCRETE REMOVAL, NEW CONCRETE, REINFORCEMENT BARS, MECHANICAL COUPLERS, LABOR, AND ALL MISCELLANEOUS MATERIALS NECESSARY TO COMPLETE THE REPAIRS AS SHOWN THESE PLANS TO THE EXPANSION JOINTS AT BOTH ABUTMENTS SHALL BE INCLUDED IN ITEM NO. 604-10.44, EXPANSION JOINT REPAIRS, L.F.

NOTE: FOR ADDITIONAL NOTES AND DETAILS, SEE DWG. NO. BR-40-60.

✳ DENOTES: BARS TO BE FIELD CUT TO PLACE BETWEEN BEAMS

EXPANSION JOINT REPAIR DETAILS

DESIGNED BY TERRY MACKIE DATE 06/1999

DRAWN BY SCOTT C. NELSON DATE 06/1999

SUPERVISED BY W.SEGER & T.CHRISTIANSON DATE 06/1999

CHECKED BY W.SEGER & T.MACKIE DATE 06/1999

STATE OF TENNESSEE

DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS

BRIDGE NO. 19-I40-18.31

BRIDGE NO. 19-I40-18.40

DAVIDSON COUNTY

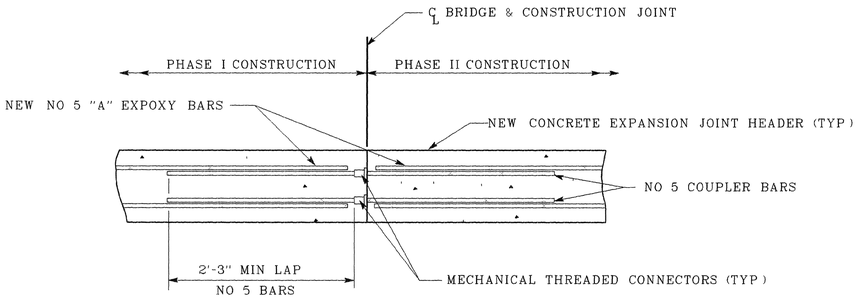
1999

BR-40-59

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	7-6-99	TDM	REVISED NOTE

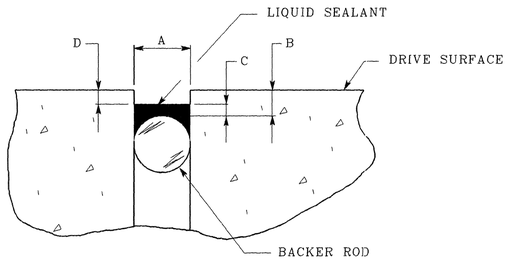


COUPLER BAR DETAIL

SHOWING TRANSVERSE REINFORCING STEEL SPLICING
WITH MECHANICAL THREADED CONNECTORS

NOTE

COST OF MECHANICAL THREADED CONNECTORS WITH COUPLER BARS TO BE INCLUDED UNDER ITEM NO 604-10 44, EXPANSION JOINT REPAIR, L F INSTALLATION MUST MEET WITH THE FULL APPROVAL OF THE ENGINEER



SECTION THRU EXPANSION JOINT

A JOINT OPENING AT TIME OF SEALING	B MINIMUM SPACE FROM TOP OF BACKER ROD TO DRIVE SURFACE	C DEPTH OF 902 RCS FROM TOP OF BACKER ROD TO SURFACE OF 902 RCS	D MINIMUM SPACE FROM TOP OF 902 RCS TO DRIVE SURFACE
UP TO 2½"	1⅛" TO 1¼"	½" TO ⅝"	½" TO ¾"
ABOVE 2½"	1¼" TO 1⅜"	⅝" TO ⅞"	⅝" TO ⅞"

EXPANSION JOINT DETAILS

NOTES:

⚠1 ITEM NO 604-10 44, EXPANSION JOINT REPAIR (L.F.)

THE EXPANSION JOINT SYSTEM INCLUDES FURNISHING ALL MATERIALS AND EQUIPMENT & COMPLETE INSTALLATION AS SHOWN ON THIS DRAWING & THE MANUFACTURER'S SPECIAL PROVISIONS THE JOINT SEALANT SYSTEM CONSISTS OF A SURFACE PRIMER, A SELF-LEVELING OR NON-SAG SEALANT AND BACKER MATERIAL DETAILED SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION THE MANUFACTURER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE WORKMANSHIP AND PERFORMANCE OF THE INSTALLED JOINT

JOINT SEALANT

THE JOINT SEALANT WILL BE A POURABLE, COLD APPLIED (TWO COMPONENT) RAPID-CURING, SELF LEVELING MATERIAL WHEN INSTALLED ON GRADES LESS THAN OR EQUAL TO 3/ ALONG THE CENTERLINE OF THE JOINT JOINT SEALANTS USED IN CONJUNCTION WITH OTHER MANUFACTURER APPROVED COMPONENTS COMPRISING ANOTHER MANUFACTURER'S JOINT SEALANT SYSTEM, WILL MEET THE REQUIREMENTS OF THESE SPECIFICATIONS PRIOR TO PREPARING THE JOINT SEALANT, THE MANUFACTURER'S REPRESENTATIVE WILL BE CONSULTED TO ESTABLISH THE USABLE POT LIFE OF THE MATERIAL TO BE MIXED CONSIDERING THE AMBIENT TEMPERATURE AT THE TIME OF MIXING, WHEN MIXING HAS BEEN COMPLETED THE AGE OF THE MIXTURE WILL BE TIMED AND THE MATERIAL WILL BE DISCARDED WHEN THE MANUFACTURER'S PREDICTED POT LIFE HAS BEEN EXCEEDED IF AT ANY POINT IN THE TIME DURING THE INSTALLATION OF JOINT SEALANT THE MANUFACTURER'S REPRESENTATIVE DETERMINES THAT THE MIXED JOINT SEALANT HAS CURED TO A POINT WHERE IT CAN NOT BE PROPERLY INSTALLED IT WILL BE DISCARDED

SURFACE PRIMER

THE JOINT SEALANT MUST BE APPLIED TO CLASS "A" CONCRETE SURFACES WITH THE USE OF A SPECIAL PRIMER FOR EACH APPLICATION THE VERTICAL FACES OF THE JOINT RECEIVING SURFACE PRIMER ARE TO BE FREE OF DUST PARTICLES, MOISTURE, OILS AND LAITANCE AT THE TIME THE SURFACE PRIMER IS APPLIED PER THE MANUFACTURER'S REQURIEMENTS, THE SURFACE PRIMER WILL BE FULLY CURED BEFORE THE JOINT SEALANT IS INSTALLED THE MANUFACTURER'S APPROVAL AND INSTALLATION PROCEDURES FOR A SPECIAL PRIMER MUST BE GIVEN TO THE PROJECT ENGINEER IN WRITING BEFORE THE PRIMER IS INSTALLED

BACKER ROD

THE BACKER ROD SHALL BE A CLOSED CELL, NON-GASSING FOAM MATERIAL CAPABLE OF WITHSTANDING ELEVATED TEMPERATURES RESULTING FROM THE REACTION OF THE TWO COMPONENT SEALANT THAT MAY OCCUR THE MATERIAL TYPE IS TO BE APPROVED BY THE JOINT SEALANT SYSTEM MANUFACTURER AND TESTED IN ACCORDANCE WITH ASTM D545 A LETTER OF CERTIFICATION SHALL BE ISSUED TO TDOT MATERIALS AND TESTS DIVISIONS BY THE MANUFACTURER WITH EACH DELIVERY OF MATERIALS ON THE SITE FIRST SHIPMENT SHALL INCLUDE A COPY OF THE MANUFACTUREF'S QUALITY ASSURANCE PROGRAM LISTING ALL TESTING CRITERIA

HIGH EARLY STRENGTH CONCRETE

THE CONCRETE SHALL BE HIGH EARLY STRENGTH WITH A COMPRESSIVE STRENGTH OF 3000 psi AT 18 HOURS SEE CONCRETE NOTE, UNDER GENERAL NOTES ON DRAWING NO BR-40-52

NOTE:

FOR ADDITIONAL NOTES AND DETAILS, SEE DRAWING NO BR-40-59

DESIGNED BY Terry Mackie — DATE May 1999
DRAWN BY Don Kimber — DATE June 1999
SUPERVISED BY Wayne Seger, T Christianson — DATE June 1999
CHECKED BY Terry Mackie, Wayne Seger — DATE June 1999

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

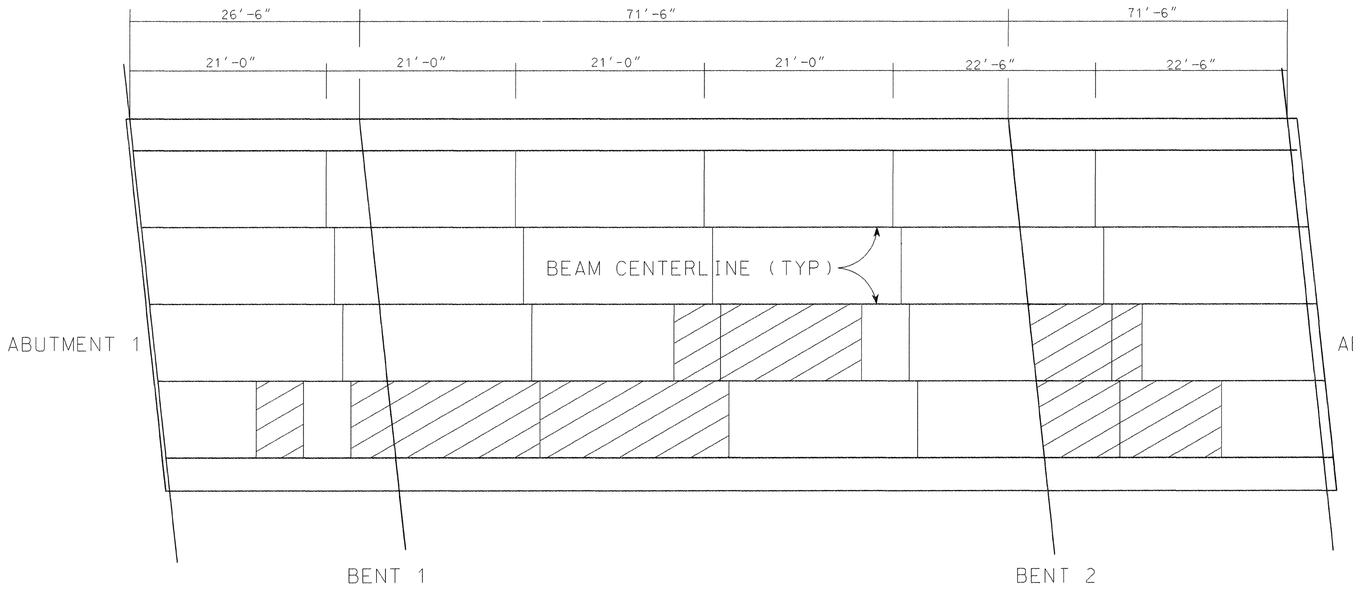
BRIDGE REPAIR DETAILS
BRIDGE NO. 19-I40-18.31
BRIDGE NO. 19-I40-18.40
DAVIDSON COUNTY
1999

BR-40-60

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	7-6-99	TDM	GENERAL REVISION



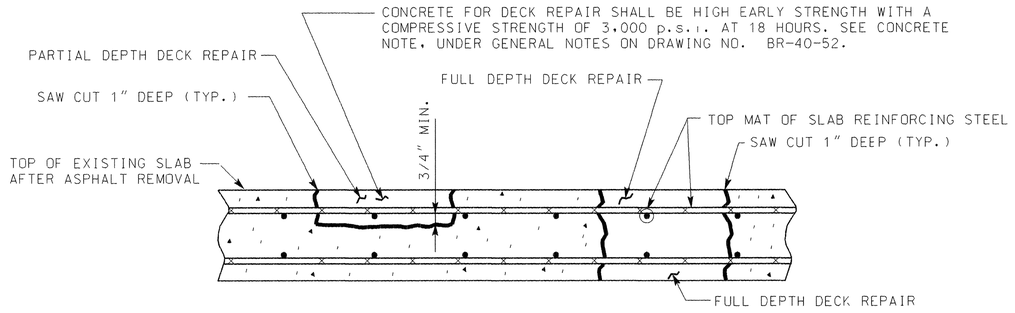
PLAN

(BRIDGE NO. 19-I40-18.31)

NOTE: FOR ADDITIONAL BRACING DETAILS, SEE DWG. NO. BR-40-61A.

DENOTES: APPROXIMATE AREAS OF FULL DEPTH DECK REPAIR.

NOTE: FULL DEPTH REPAIR AREAS SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. EXACT AREAS WILL BE DETERMINED AFTER REMOVAL OF ASPHALT.



DETAIL SHOWING FULL AND PARTIAL DEPTH DECK REPAIR

(BRIDGE NO. 19-I40-18.31 & 19-I40-18 40)

REMOVE CONCRETE IN ALL DELAMINATED AREAS TO A DEPTH OF $^{3}/_{4}$" (MINIMUM) BELOW THE TOP BAR OF THE TOP MAT OF REINFORCING STEEL. ALL REINFORCING STEEL IN AREAS OF DECK REPAIR SHALL BE COMPLETELY CLEANED. AREAS OF CONCRETE REMOVAL SHALL BE DESIGNATED BY PERSONNEL FROM THE BRIDGE REPAIR OFFICE. INSPECTIONS TO DETERMINE AREAS OF DECK REPAIR SHALL BE SCHEDULED WITH THE BRIDGE REPAIR OFFICE AT LEAST THREE (3) DAYS IN ADVANCE. DECK REPAIR WILL BE PAID FOR UNDER ITEM NO. 604-10 50, BRIDGE DECK REPAIR (PARTIAL DEPTH OF SLAB), AND ITEM NO.604-10.30, BRIDGE DECK REPAIR (FULL DEPTH OF SLAB). DURING PARTIAL DEPTH REPAIRS, SHOULD DETERIORATED CONCRETE BE ENCOUNTERED WHICH APPEARS TO RUN FULL DEPTH IN THE SLAB, THE ENGINEER MAY DESIGNATE THESE AREAS TO BE REPAIRED UNDER ITEM NO. 604-10.30. POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE IN MAKING PARTIAL AND FULL DEPTH REPAIRS ARE SUBJECT TO THE FOLLOWING RESTRICTIONS: 1) (PARTIAL DEPTH REPAIRS) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 60 POUND CLASS SHALL NOT BE USED. 2) (FULL DEPTH REPAIRS) PNEUMATIC HAMMERS HEAVIER THAN NOMINAL 90 POUND CLASS SHALL NOT BE USED. ALSO ALL DECK REPAIR OVER BEAMS WILL BE RESTRICTED TO 60 POUND PNEUMATIC HAMMERS. 3) CHIPPING HAMMERS OF THE 15 POUND CLASS SHALL BE USED TO REMOVE CONCRETE FROM BENEATH ANY REINFORCING STEEL. 4) TRAFFIC CONTROL SHALL BE PROVIDED FOR TRAFFIC BELOW BRIDGE DURING PARTIAL AND FULL DEPTH DECK REPAIR.

NOTE: ITEM NO. 604-10.30 AND 604-10.50 SHALL BE BID WITH THE CONTINGENCY THAT THESE ITEMS MAY BE INCREASED, DECREASED, OR ELIMINATED AS DIRECTED BY THE ENGINEER.

STATE OF TENNESSEE

DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE NOS. 75, 76 & 156
BRIDGE REPAIRS
BRIDGE NO. 19-I65-8.26
BRIDGE NO. 19-I40-18.31
BRIDGE NO. 19-I40-18.40
DAVIDSON COUNTY
1999

DESIGNED BY	TERRY MACKIE	DATE	04/1999
DRAWN BY	SCOTT C. NELSON	DATE	04/1999
SUPERVISED BY	W.SEGER & T.CHRISTIANSON	DATE	04/1999
CHECKED BY	W.SEGER & T.MACKIE	DATE	04/1999

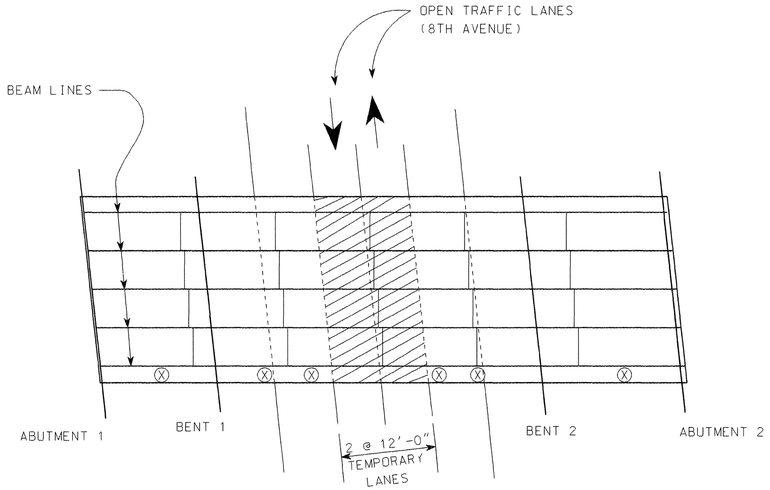
1

BR-40-61

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

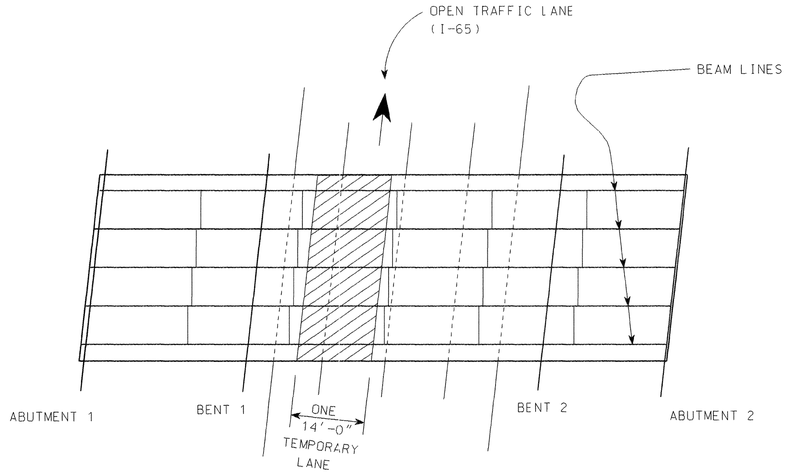
REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	7-6-99	TDM	ADDED DRAWING



PLAN

BRIDGE NO. 19-I40-18.31 SHOWING LOCATIONS WHERE BRACING SHALL BE PLACED TO PREVENT REMOVED CONCRETE FROM FALLING ONTO ROAD BELOW. SEE DETAILS THIS SHEET FOR BRACING CANTILEVER AND CONTAINING FALLING CONCRETE.

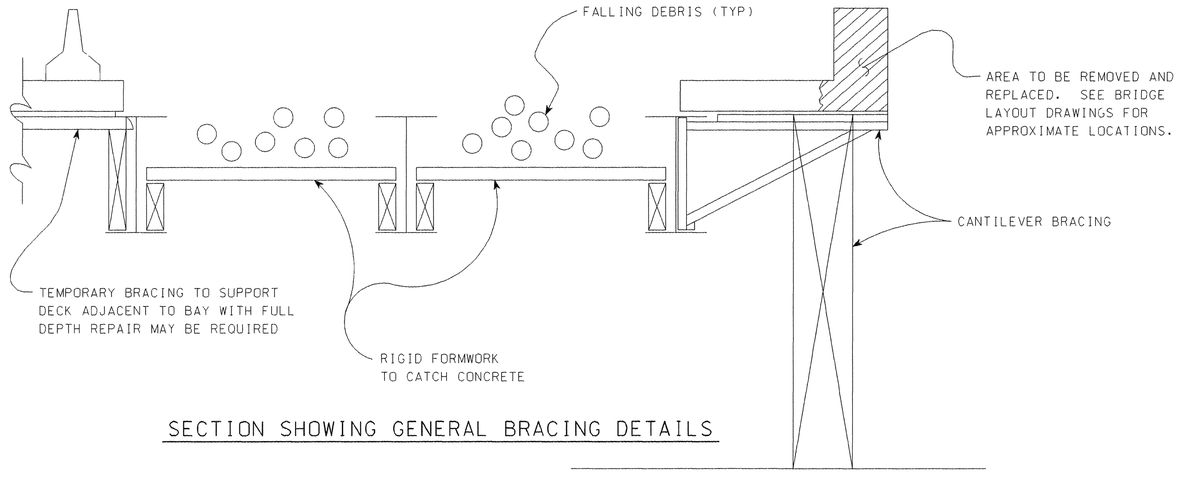


PLAN

BRIDGE NO 19-I40-18 40 SHOWING LOCATIONS WHERE BRACING SHALL BE PLACED TO PREVENT REMOVED CONCRETE FROM FALLING ONTO ROAD BELOW. SEE DETAILS THIS SHEET FOR BRACING CANTILEVER AND CONTAINING FALLING CONCRETE

▨ DENOTES: LOCATIONS WHERE RIGID FORMWORK SHALL BE REQUIRED TO CATCH ANY FALLING CONCRETE OR DEBRIS.

Ⓧ DENOTES: GENERAL LOCATIONS OF TEMPORARY BRACING FOR CANTILEVER SUPPORT. OTHER LOCATIONS MAY BE REQUIRED



SECTION SHOWING GENERAL BRACING DETAILS

COST NOTE: ALL TEMPORARY CANTILEVER BRACING ON BRIDGE NO 19-I40-18.31 AND ALL FORMWORK ON BRIDGE NO 19-I40-18.31 AND 18 40 TO CATCH FALLING CONCRETE SHALL BE PAID FOR UNDER ITEM NO. 602-10.05, BRACING REPAIR LUMP SUM

NOTE: TEMPORARY CANTILEVER SUPPORTS SHALL BE PLACED ON THE FRIDAY BEFORE THE WEEKEND REPAIRS AND THE FORMWORK TO CATCH FALLING CONCRETE SHALL BE PLACED DURING NON-PEAK TRAFFIC HOURS DURING THE WORK WEEK FOR LANE CLOSURE RESTRICTIONS AND TIMES, SEE DWG NO BR-40-52 AND SPECIAL PROVISION 108B.

NOTE: METHOD OF BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO THE ENGINEER'S REVIEW BEFORE REPAIRS HAVE BEGUN. COST OF BRACING SHALL BE INCLUDED IN ITEM NO. 602- 10.05, BRACING REPAIRS, L.S

DESIGNED BY TERRY MACKIE DATE 06/1999
DRAWN BY SCOTT C. NELSON DATE 06/1999
SUPERVISED BY W.SEGER & T.CHRISTIANSON DATE 06/1999
CHECKED BY W.SEGER & T.MACKIE DATE 06/1999

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR DETAILS
BRIDGE NO. 19-I40-18.31
BRIDGE NO. 19-I40-18.40
DAVIDSON COUNTY
1999

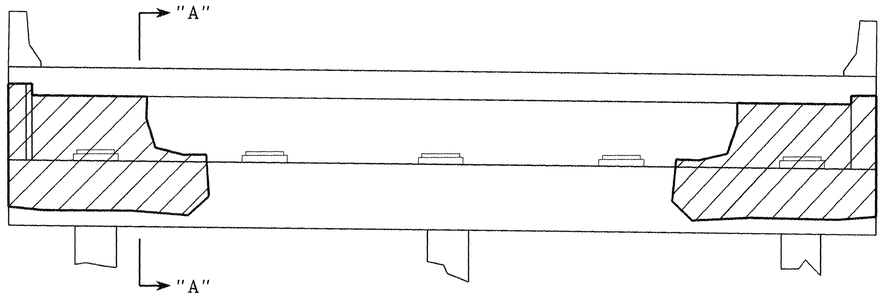
1

BR-40-61A

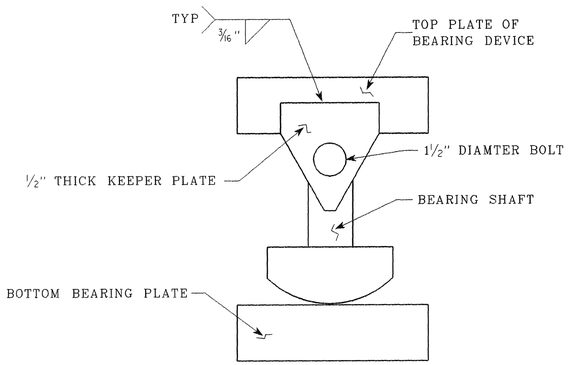
PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION
1	6-29-99	T M	GENERAL REVISION

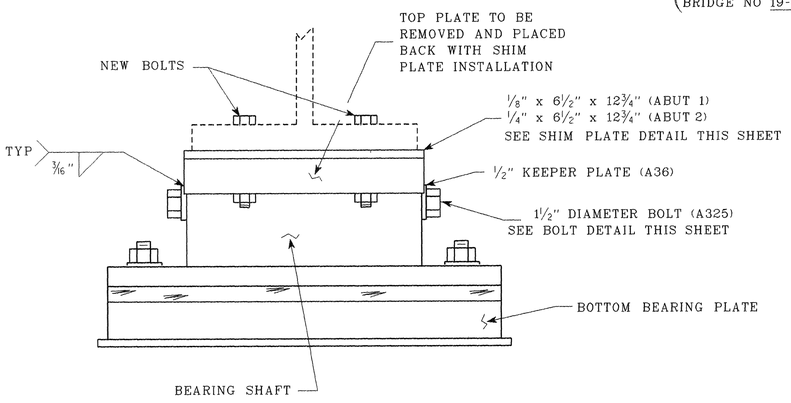


ABUTMENT ELEVATION VIEW



BEARING DEVICE DETAIL

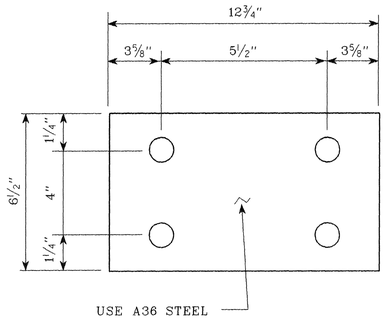
(SIDE ELEVATON VIEW)



BEARING DEVICE DETAIL

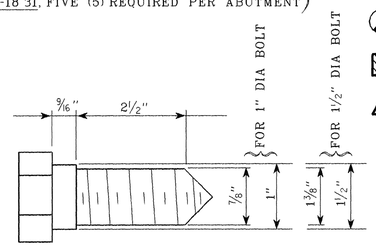
NOTES

THE KEEPER PLATE AND BOLT HAVE SHEARED OFF AT VARIOIUS LOCATOINS ANY MISSING OR BROKEN KEEPER PLATES AND BOLTS SHALL BE REPLACED THE CONTRACTOR SHALL FIELD MEASURE THE KEEPER PLATES BEFORE FABRICATION

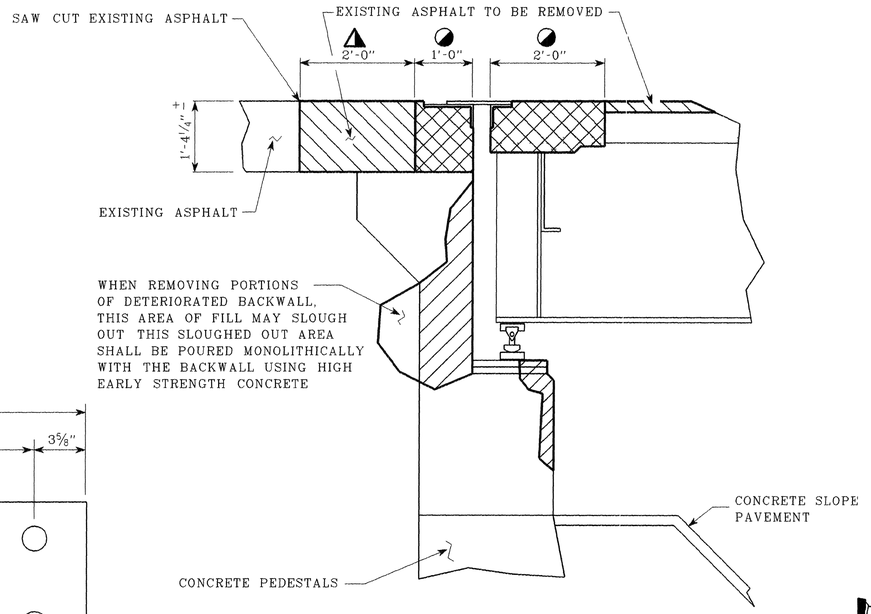


SHIM PLATE DETAIL

(SHIM PLATES REQUIRED ONLY FOR ABUTMENTS ON BRIDGE NO 19-140-18 31, FIVE (5) REQUIRED PER ABUTMENT)



BOLT DETAIL



SECTION "A-A"

NOTES

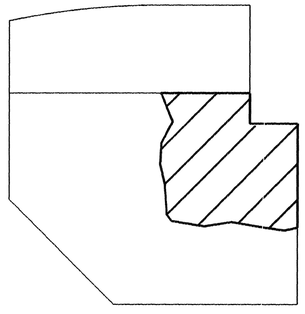
DENOTES AREA OF REMOVAL FOR EXPANSION JOINT REPAIR FOR FULL WIDTH OF SLAB

DENOTES AREAS OF SPALLED CONCRETE TO BE REPAIRED FOR MORE DETAILS AND NOTES REGARDING SPALLED CONCRETE AREAS SEE DRAWING NO BR-40-63

DENOTES EXPANSION JOINT REPAIRS IS REQUIRED FOR BRIDGE NO 'S 19-140-18 31 (NO 75) AND 19-140-18 40 (NO 156) ONLY

DENOTES EXISTING ASPHALT TO BE REMOVED

DENOTES THE EXISTING ASPHALT BEFORE THE BRIDGE SHALL BE REPLACED BY FIVE (5) EQUAL LIFTS OF GRADING "B" MODIFIED AND TOPPED WITH A 1 1/4" SURFACE LAYER OF GRADING "D" MIX



WINGWALL ELEVATION

NOTES

ALL WORK TO THE WINGWALLS, APRON WALLS, BACKWALLS, BEARING DEVICES, AND ABUTMENT BEAMS, SHALL BE COMPLETED DURING THE WEEKDAYS, PRIOR TO THE WEEKEND WORK

IF ANY DAMAGE OCCURS TO THE CONCRETE SLOPE PAVEMENT DURING THE JACKING OPERATION OR REPAIR PERIOD, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING IN-KIND NO ADDITIONAL COST SHALL BE AWARDED FOR SLOPE PAVEMENT REPAIRS

EXISTING APRON WALLS SHALL BE REMOVED AND REPLACED CARE SHALL BE TAKEN AS NOT TO DAMAGE THE EXISTING REINFORCING IF THE EXISTING REINFORCING IS DAMAGED THE CONTRACTOR SHALL REPLACE AT HIS OWN EXPENSE

ALL REPAIRS TO THE CONCRETE UNDERNEATH THE BEARING DEVICE SHALL BE DONE BEFORE THE BEARING DEVICE IS RE-INSTALLED CARE SHALL BE TAKEN AS NOT TO DAMAGE THE ANCHOR BOLTS COST OF REPLACING ANY DAMAGED ANCHOR BOLTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND AT NO ADDITIONAL COST

THE BEAMS SHALL BE JACKED AND THE TOP PLATE OF THE EXPANSION BEARING UNBOLTED THE BEARING SHAFT SHALL THEN BE REMOVED AND ANY MISSING OR BROKEN KEEPER PLATES AND BOLTS SHALL BE REPLACED

AFTER THE EXISTING GIRDERS HAVE BEEN JACKED AND THE EXISTING BEARING DEVICES ARE BEING REPAIRED, THE EXISTING GIRDERS SHALL BE SUPPORTED ON TEMPORARY WOOD BLOCKOUTS OR ALTERNATE THIS BLOCKOUT SHALL BE PLACED AT THE EXISTING BEARING LOCATION, (ON TOP OF THE EXISTING BOTTOM BEARING PLATE)

ALL BEARING REPAIRS SHALL BE COMPLETED BEFORE THE EXPANSION JOINTS ARE REMOVED AND REPLACED

COST NOTES

WHEN REMOVING THE BEARING DEVICES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING THE EXISTING GIRDERS THE GIRDER SUPPORTS SHALL BE PLACED PRIOR TO BEARING DEVICE REPAIR WORK BEING STARTED ON THIS PROJECT AT ANY GIVEN LOCATION THE METHOD OF SUPPORT SHALL BE THE FULL RESPONSIBLITY OF THE CONTRACTCR AND SHALL MEET THE FULL SATISFACTION OF THE ENGINEER DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR HIS APPROVAL COST OF THE SUPPORT SYSTEM SHALL BE INCLUDED IN ITEM NO 602-10 19

COST OF ALL BEARING DEVICE REPAIRS, INCLUDES REMOVING AND PLACING BACK TOP BEARING PLATES, SHIM PLATES, BOLTS, KEEPER PLATES, WELDING, REMOVING AND REPLACING BOLTS, RESETTING ANCHOR BOLTS, AND LABOR SHALL BE INCLUDED IN ITEM NO 602-10 12, BEARING DEVICE REPAIR (L S)

JACKING OF EXISTING STEEL GIRDERS TO FACILITATE THE INSTALLATION OF REPAIRED BEARING DEVICES AND SHIM PLATES (AS REQUIRED) SHALL BE PERFORMED INCREMENTALLY IN SUCH A MANNER THAT THE EXISTING SLAB IS NOT CRACKED JACKING PROCEDURES ARE TO BE MONITORED BY THE ENGINEER AND SHALL BE HALTED SHOULD SUCH DAMAGE OCCUR JACKING OF STEEL BEAM SHALL BE LIMITED TO THE MINIMUM HEIGHT REQUIRED TO INSTALL THE REPAIRED BEARING DEVICES AND SHIM PLATES JACKING IS REQUIRED FOR BRIDGE NO 19-140-18 31, WHERE SHIM PLATE INSERTION IS REQUIRED COST OF JACKING EXISTING STEEL GIRDER SHALL BE INCLUDED UNDER ITEM NO 602-10 19, JACKING STEEL SPANS (L S)

COST OF GRADING "B" (MODIFIED), EXCAVATION AND BACKFILLING TO BE INCLUDED IN ITEM NO 307-07 07, PERF GRADE (PF76-22) (BPMB-HM) GR B-M2, TON

CONTRACTOR TO TAKE EXTREME CARE WHEN REMOVING ENDS OF SLAB AT THE ABUTMENTS SO AS NOT TO DAMAGE EXISTING LONGITUDINAL REINFORCING STEEL ALL EXISTING REINFORCING STEEL SHALL BE COMPLETELY CLEANED BEFORE POURING NEW CONCRETE SLAB COST OF CLEANING REINFORCEMENTS, REMOVING AND REPOUING THE ENDS OF THE SLAB TO BE INCOLUDED UNDER ITEM NO 604-10 44, EXPANSION JOINT REPAIRS (L F)

COST OF PAINTING ALL ABUTMENT BEARING DEVICES SHALL BE INCLUDED IN ITEM NO 603-02 01, REPAINTING EXISTING STEEL STRUCTURES (L S) FOR PAINTING NOTES SEE DRAWING NO

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE NO. 75, 76 & 156
BRIDGE REPAIR DETAILS
BRIDGE NO. 19-165-8.26
BRIDGE NO. 19-140-18.31
BRIDGE NO. 19-140-18.40
DAVIDSON COUNTY
1999

DESIGNED BY Terry Mackie DATE May, 1999
DRAWN BY Cory Hawkins DATE May, 1999
SUPERVISED BY Wayne Seger, T. Christianson DATE May, 1999
CHECKED BY Wayne Seger, Terry Mackie DATE July, 1999

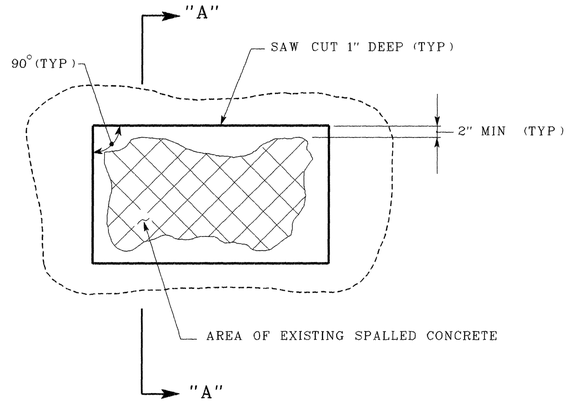
1

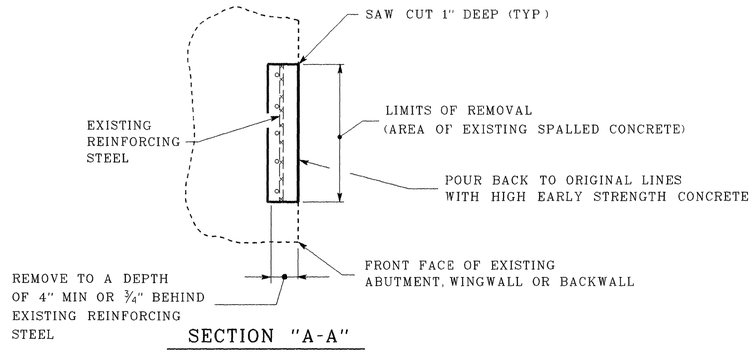
BR-40-62

PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

NO	DATE	BY	BRIEF DESCRIPTION





SECTION "A-A"

DETAILS OF SPALLED CONCRETE SURFACE REMOVAL AND REPAIR

NOTES

EXTREME CARE SHALL BE TAKEN WHEN REMOVING THE DETERIORATED CONCRETE SO AS NOT TO DAMAGE THE EXISTING REINFORCING STEEL ALL EXPOSED REINFORCING SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE ENGINEER BEFORE REPOURING

FOR CONCRETE NOTE, SEE GENERAL NOTES ON DRAWING NO BR-40-52

LIMITS AND LOCATION OF REPAIRS TO BE DISIGNATED BY THE ENGINEER ALL UNSOUND CONCRETE IN THESE AREAS SHALL BE REMOVED AND REPOURED WITH HIGH EARLY STRENGH CONCRETE THE MINIMUM DEPTH OF REPAIR SHALL BE 4 INCHES DEPTH MAY BE INCREASED TO EXTEND INTO SOUND CONCRETE AS DIRECTED BY THE ENGINEER EDGES OF THE REPAIR AREAS SHALL HAVE A MINIMUM 1 INCH SAW CUT PERPENDICULAR TO THE FACE OF THE CONCRETE

ITEM NO 604-10 54 SHALL BE BID WITH THE CONTINGENCY THAT THE ITEM MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER

SAW CUT EXISTING CONCRETE SURFACES SO AS TO OBTAIN SQUARED CORNERS

NOTES

POWER DRIVEN HAND TOOLS USED FOR THE REMOVAL OF UNSOUND CONCRETE ARE SUBJECT TO THE FOLLOWING RESTRICTIONS

1 Pneumatic hammers heavier than a 35 lb class shall not be used
2 Chipping hammers of the 15 lb class shall be used to remove concrete from behind the reinforcing steel

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS DETAILS OF ANY TEMPORARY SUPPORT SYSTEM (IF REQUIRED) SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND SHALL MEET WITH THE FULL SATISFACTION OF THE ENGINEER BEFORE REPAIRS HAVE BEGUN COST TO BE INCLUDED IN ITEMS BID ON

COST OF REMOVING DETERIORATED CONCRETE, CLEANING EXISTING REINFORCING STEEL, FORMING, HIGH EARLY STRENGTH CONCRETE AND ALL ADDITIONAL MATERIALS AND LABOR NECESSARY TO COMPLETE REPAIRS SHOWN IN THIS DETAIL TO BE INCLUDED UNDER ITEM NO 604-10 54, CONCRETE REPAIRS, S F

QUANTITY CHART

(ITEM NO 604-10 54, CONCRETE REPAIR (S F)

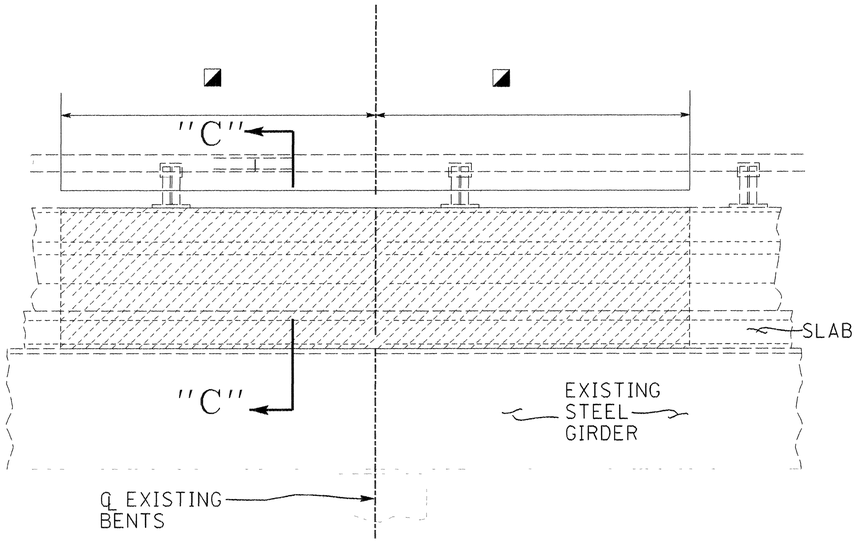
BRIDGE NO.	ABUT 1	ABUT 2
19-I65-8 26	48	62
19-I40-18 31	30	36
19 I40-18 40	15	6

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE NO. 75, 76 & 156
BRIDGE REPAIR DETAILS
BRIDGE NO 19-I65-8.26
BRIDGE NO. 19-I40-18 31
BRIDGE NO. 19-I40-18 40
DAVIDSON COUNTY
1999

DESIGNED BY Terry Mackie DATE May, 1999
DRAWN BY Cory Hawkins DATE May, 1999
SUPERVISED BY Wayne Seger, T Christianson DATE May, 1999
CHECKED BY Wayne Seger, Terry Mackie DATE May, 1999

BR-40-63



DETAIL SHOWING NEW PARAPET INSTALLATION

DENOTES AREAS OF DETERIORATED CONCRETE THAT IS TO BE REMOVED

DENOTES SEE LAYOUT DRAWING NO'S BR-40-53, BR-40-55 AND BR-40-57 FOR GENERAL LIMITS OF REMOVAL OF DETERIORATED PARAPETS AND OVERHANGS THIS LIMIT MAY BE INCREASED, DECREASED OR ELIMINATED AS DIRECTED BY THE ENGINEER

NOTE CARE SHALL BE TAKEN AS NOT TO DAMAGE ANY OF THE HORIZONTAL AND VERTICAL REINFORCING STEEL IN THE PARAPET OR OVERHANGS IF THE REINFORCING STEEL IS CUT PROVISIONS SHALL BE MADE TO OBTAIN THE REQUIRED STANDARD SPLICE LENGTH IF ANY VERTICAL REINFORCING IS DAMAGED THEN THE STEEL SHALL BE REPLACED ACCORDING TO THE BAR BENDING DIMENSIONS ON REFERENCE SHEET K-38-154A

HIGH EARLY STRENGTH CONCRETE (PARAPET AND SLAB OVERHANG) THE MIX TO MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, CLASS 'A', EXCEPT THE CEMENT CONTENT SHALL BE A MINIMUM OF 714 LBS THE WATER CEMENT RATIO SHALL BE A MINIMUM OF 0 40 NO FLY ASH REPLACEMENT WILL BE PERMITTED, AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3,500 p s i TRAFFIC SHALL NOT BE PERMITTED ON ANY OF THE REPAIR AREAS UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 p s i MINIMUM AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF TEN (10) DAYS

NOTE COST OF HIGH EARLY STRENGTH CONCRETE, STEEL, RESETTING HANDRAIL ANCHOR BOLTS, FORMING, LABOR AND ALL MISCELLANEOUS ITEMS FOR THE COMPLETE AND IN-PLACE REPAIR OF THE PARAPETS SHALL BE INCLUDED IN ITEM NO 604-10 22, CONCRETE PARAPET REPAIRS, L F

NOTE PROVISIONS SHALL BE MADE FOR SETTING THE HANDRAIL ANCHOR BOLTS BEFORE THE CONCRETE IS POURED FOR THE PARAPET

NOTE COST OF HIGH EARLY STRENGTH CONCRETE, LABOR, FORMING AND MISCELLANEOUS ITEMS NECESSARY FOR THE PARAPET AND SLAB OVERHANG REPAIRS SHALL BE INCLUDED IN ITEM NO 604-10 42, CONCRETE REPAIRS, C F

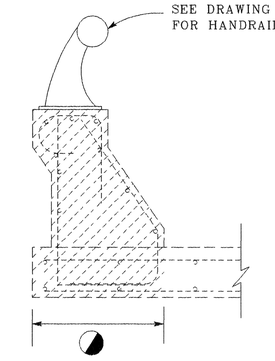
PROJECT NO.	YEAR	SHEET NO.
19958-4127-04	1999	

REVISIONS

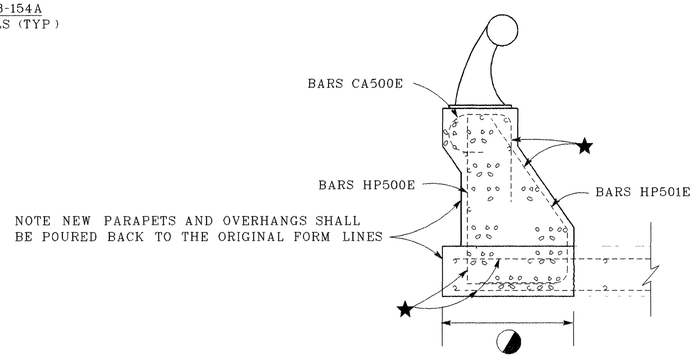
NO	DATE	BY	BRIEF DESCRIPTION
1	7 6 99	TDM	GENERAL REVISION

DENOTES LIMITS OF OVERHANG REPAIR THE LIMITS OF THE OVERHANG REPAIR FOR BRIDGE NO 19-I65-8 26 SHALL NOT EXTEND PAST THE FRONT FACE OF THE PARAPET SO AS TO PRESERVE THE EXISTING BRIDGE DECK SEAL FOR BRIDGE NO 19-I40-18 40, THE LOW-SIDE OVERHANG SHALL BE REMOVED TO THE CENTER LINE OF THE EXTERIOR GIRDER THE OVERHANG SUPPORTS NEEDED TO SUPPORT THE OVERHANG CAN STAY IN PLACE UNTIL ALL BRIDGE DECK REPAIRS ARE COMPLETE

NOTE CARE SHALL BE TAKEN SO AS NOT TO DAMAGE THE EXISTING PARAPET AND OVERHANG REINFORCING STEEL IF ANY REINFORCING STEEL IS CUT OR DAMAGED, IT SHALL BE THE CONTRACTOR'S RESPONSIBITITY TO REPAIR OR REPLACE TO THE FULL SATISFICATION OF THE ENGINEER ALL EXISTING REINFORCING STEEL SHALL BE CLEANED PRIOR TO POURING NEW CONCRETE PARAPET AND OVERHANG



SECTION "C"
(SHOWING REMOVAL LIMITS)



SECTION "C"
(SHOWING REPAIRED SECTION)

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE REPAIR DETAILS
BRIDGE NO 19-I65-8 26
BRIDGE NO 19-I40-18 31
BRIDGE NO 19-I40-18 40
DAVIDSON COUNTY
1999

BR-40-64

DES GNED BY Terry Mackie DATE May 1999
DRAWN BY Don Kimber DATE May 1999
SUPERVISED BY W. Seger & T. Christianson DATE May 1999
CHE KED BY W. Seger & Terry Mackie DATE June 1999

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

August 4, 1999

Mr. Terry Leatherwood
Bridge Inv. & Repair Office
Suite 1200
J. K. Polk Bldg.

RE: Contract Maintenance
July 23, 1999 Letting

Mr. Leatherwood;

Enclosed are two (2) 1/2 size sets of repair details of in house and/or consultant repair projects for the July 23, 1999 Letting.

COUNTY	BRIDGE NO.	DESCRIPTION	DONE BY & CONTRACT NO.
BLOUNT	05-SR335-9.974	SR335 / PISTOL CREEK	CONSULTANT NO. 5891
	(WORKING DAYS - ON OR BEFORE DECEMBER 15, 1999)		
CARROLL	09-SR436-0.70	SR436 / REEDY CREEK	
WEAKLEY	92-SR118-8.06	SR118 / OVERFLOW	
" "	92-SR118-9.74	SR118 / OVERFLOW	
" "	92-SR118-10.14	SR118 / OVERFLOW	
	NO PLANS -- SCOUR		CONSULTANT NO. 5893
	(WORKING DAYS - ON OR BEFORE NOVEMBER 16, 1999)		
CARROLL	09-SR424-3.04	SR424 / RUTHERFORD FORK OBION RIVER	
GIBSON	27-SR188-5.60	SR188 / NORTH FORK FORKED DEER RIVER	
	NO PLANS -- SCOUR		CONSULTANT NO. 5894
	(WORKING DAYS - ON OR BEFORE OCTOBER 30, 1999)		
DAVIDSON	19-I65-8.26	I-65 N.B. / 8TH AVE.	
" "	19-I40-18.31	I-40 W.B. / 8TH AVE.	
" "	19-I40-18.40	RAMP FROM I-40 W.B. / RAMP FROM I-65 N.B.	IN HOUSE NO. 5903
	(WORKING DAYS - ON OR BEFORE OCTOBER 15. 1999)		
DECATUR	20-SR100-9.63	SR100 / RUSTING CREEK	
	NO PLANS -- SCOUR		CONSULTANT NO. 5904
	(WORKING DAYS - ON OR BEFORE OCTOBER 16, 1999)		

HUMPHERYS	43-SR1-6.53 (L & R)	SR1 / TRACE CREEK	
" "	43-SR1-16.05	SR1 / TRACE CREEK	CONSULTANT
	(WORKING DAYS - ON OR BEFORE AUGUST 1, 2001)		NO. 5927
SHELBY	79-2827-3.16	2827 (MT. MORIAH) / I-240	
" "	79-176-5.97	176 (GETWELL RD.) / I-240	
" "	79-SR4-7.39	SR4 (LAMAR AVE., RAMP 7D) / I-240	
" "	79-SR4-7.49	SR4 (LAMAR AVE.) / W.B. I-240 RAMP	
" "	79-SR4-7.40	SR4 (LAMAR AVE.) / I-240	
" "	79-I240-9.12R	E.B. I-240 / B.N. S.F. R.R.	
" "	79-I240-9.12L	W.B. I-240 / B.N. S.F. R.R.	
" "	79-I240-7.76R	E.B.I-240 / Airways	
" "	79-I240-7.76L	W.B.I-240 / Airways	
" "	79-I240-7.71	E.B. I-240 / NONCONNAH CREEK	
" "	79-I240-7.83	W.B. I-240 / NONCONNAH CREEK	CONSULTANT
	(WORKING DAYS - ON OR BEFORE JULY 1, 2000)		NO. 5958
WASHINGTON	90-I181-4.08	I-181 / BROWN'S MILL RD.	CONSULTANT
	(WORKING DAYS - ON OR BEFORE NOVEMBER 15, 1999)		NO. 5965

If we can be of any further assistance, please contact us.

Yours very truly,

(for)
Hollis Tackitt
Civil Engineering Manager 2
Bridge Inspection and Repair

WJS:hl
Enclosure
cc: file

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BRIDGE INSPECTION AND REPAIR OFFICE
NASHVILLE, TENNESSEE 37243-0338

June 18, 1999

Mr. Donald Dahlinger
Special Design and Estimates Office
Suite 1000, J.K. Polk Bldg.
Nashville, TN. 37243

RE: Contract Maintenance
Project No. 19958-4127-04
Bridge No. 19-I40-18.31(WBL)/8TH Av.
Bridge No. 19-I40-18.40(WB Ramp)/Ramp From I65 NBL
Bridge No. 19-I65-8.26(NBL)/8TH AV.
Davidson County

Dear Mr. Dahlinger:

Enclosed are the repair drawings, reference drawings, estimated quantities, and cost estimate for the above referenced project, which is scheduled for the July 23, 1999 letting.

If we can be of any further assistance, please contact us.

Sincerely,

(for)
Hollis Tackitt
Civil Engineering Manager 2
Bridge Inspection and Repair

ML:tbc

cc: Mr. Mike Lawson
Mr. Terry Leatherwood

19-I40-18.31 WB

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE, TENNESSEE 37203

November 14, 1989

Mr. Richard Omohundro
Director of Construction
DEPARTMENT OF TRANSPORTATION
Suite 700, James K. Polk Building
Nashville, Tennessee 37219

C O M P L E T I O N N O T I C E

Contract No. 7576
Project No. 19-946-4120-04
Reference No. same
County: Davidson

Dear Sir:

Please be advised that the above project was completed 11-4-89. The final records will be submitted on or before 12-4-89. The history of the project is as follows:

Type: repainting eight bridges inthe I-40/I-65 interchange area
Length: 0.00 Miles
Proposal Received: 5-5-89
Notice of Award: 5-17-89
Contract Executed: 6-9-89
Contract Accepted: 6-15-89
Contract Effective: 6-29-89
Contractor: Kazanas Industrial Maintenance
Surety: Contractor's Bonding & Insurance Co.
Civil Engineering Supervisor 1: Joe Epley

Contract Amount: $164,799.94
Contract Time: on/before 11-30-89
Time Began: 6-29-89
Work Began: 7-18-89
Work Completed: 11-4-89
Time Consumed: 129 cal. Days

You are requested to advertise this project for final settlement.

Yours truly,

L H Estep

Loyd H. Estep
C. E. Spec. III (Construction)

NOV 1989 RECEIVED D.O.T. BUREAU OF HWYS. DIVISION OF STRUCTURES

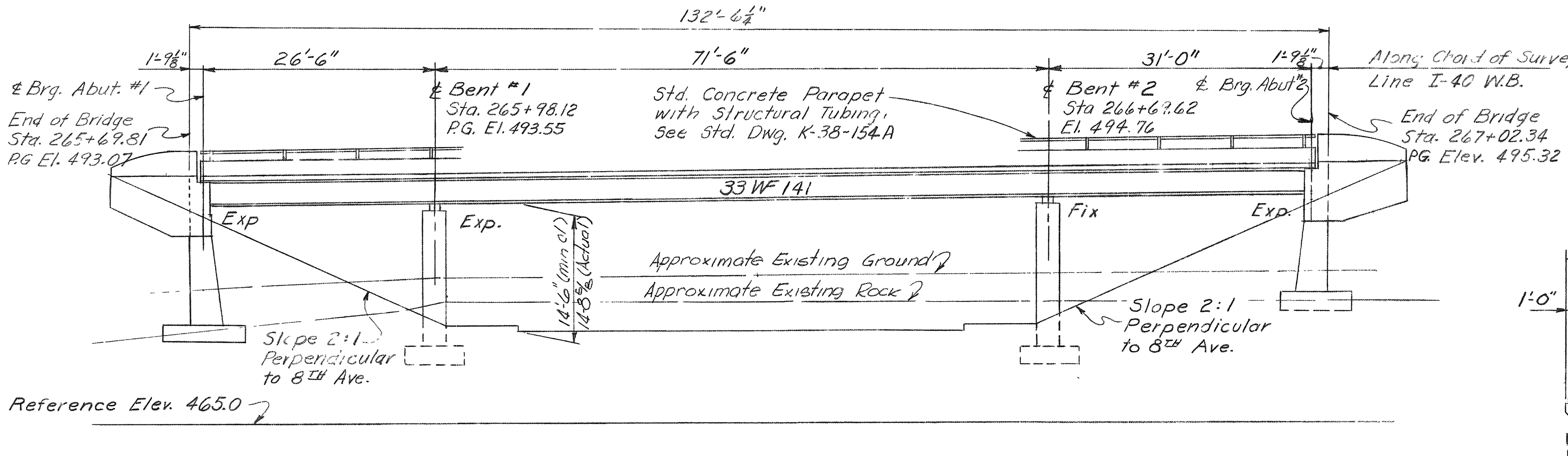
c: State Mtls. & Test Division
Mr. N. E. Christianson
Comm. Dept. of Labor
Mr. Don Hailey
Mr. Clarence Elkins
Mr. Larry Ahleit
Mr. Bill Wilson
Mr. Alvin Zager
Dept. of Employment Security
Mr. Jim Norris

Contractor
Surety
Engineering Director
Materials Engineer
Utilities Engineer
Mr. Ed Wasserman
Harris Tucker
Civil Engineering Supervisor 1
District Engineer: Johnny Woosley
Ben Teague (Bridge Inspection)

HYDRAULIC & STRUCTURAL DESIGN: WEC, JWF, RLH, ERG, ELO, WRW, JHP, RAP, HMB, BRB, RMD, EAH, DWF
INSPECTION & REPAIR: GPM, WPG, CZM, LEH, RSG, CMH, EPW

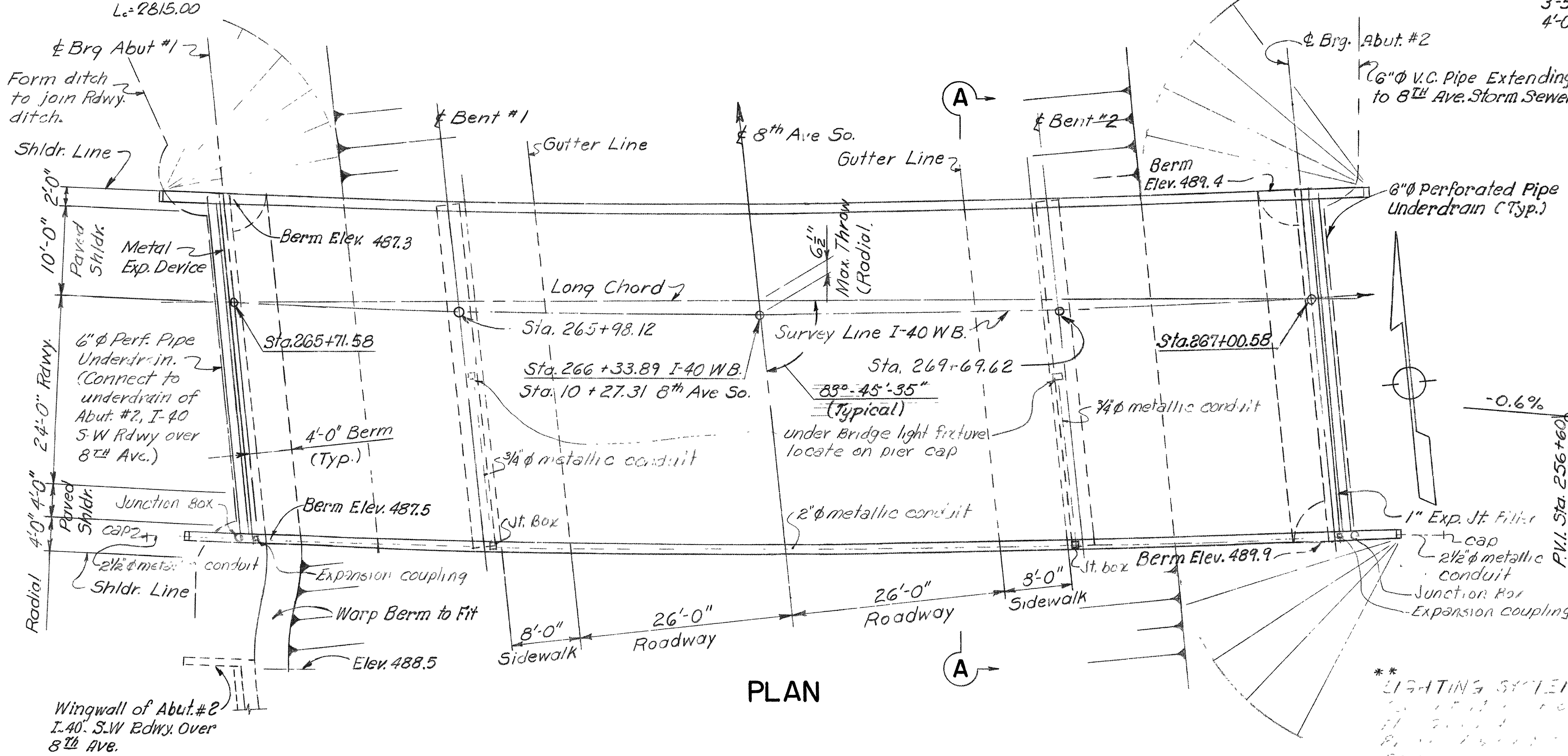
FED. ROAD DIST NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	113	305

(3) Rev 15-Jan 71 RmD Bridge Rail X Dimension
(4) RMB 12-9-71 Rev Light Standard Base Details K-61-124 to K-61-96.
(1) Revised 6-2-70 Abut. Quantities Wingpost Length
(2) RMD 9-2-70 Foundation Notes Estimated Quantities

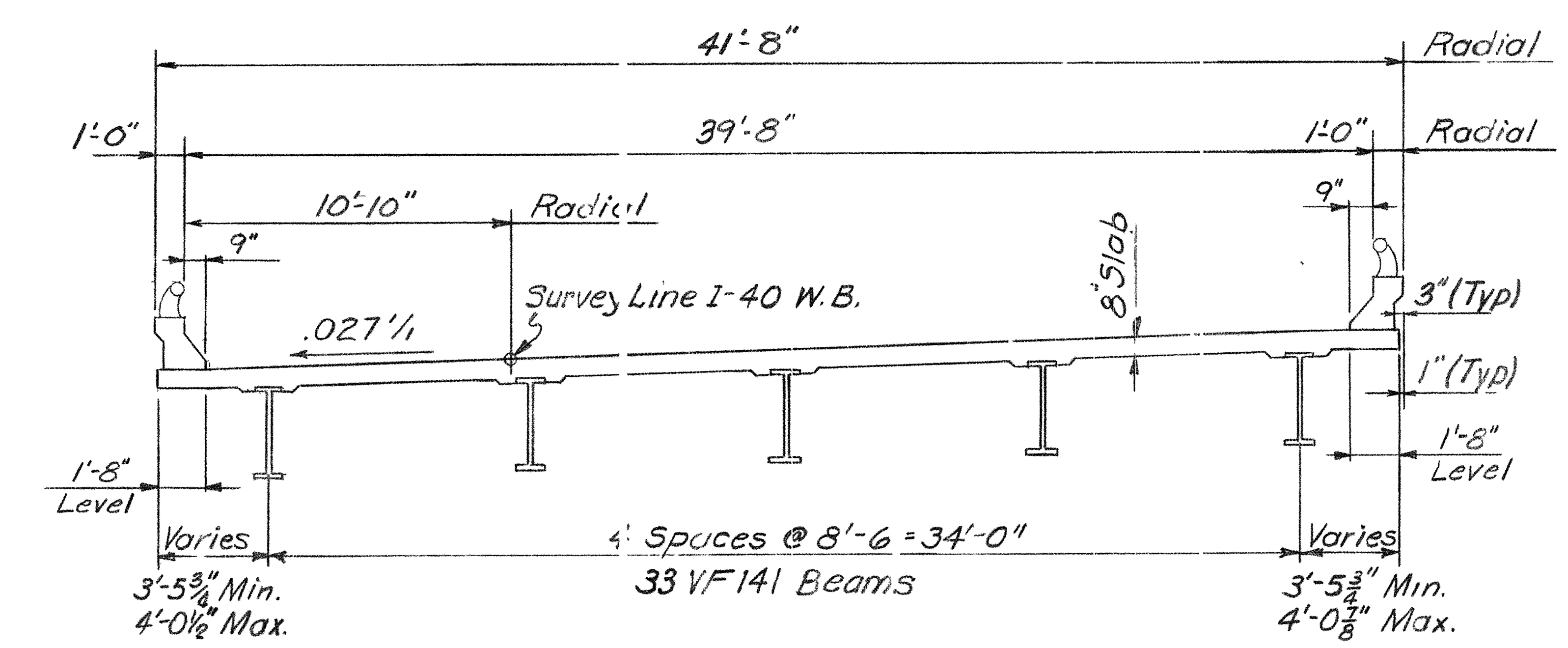


ELEVATION

CURVE DATA
D_c = 1°-30'-00"
R = 3819.72
P.I. Sta. 268+40.77
T = 1474.87
L_c = 2815.00

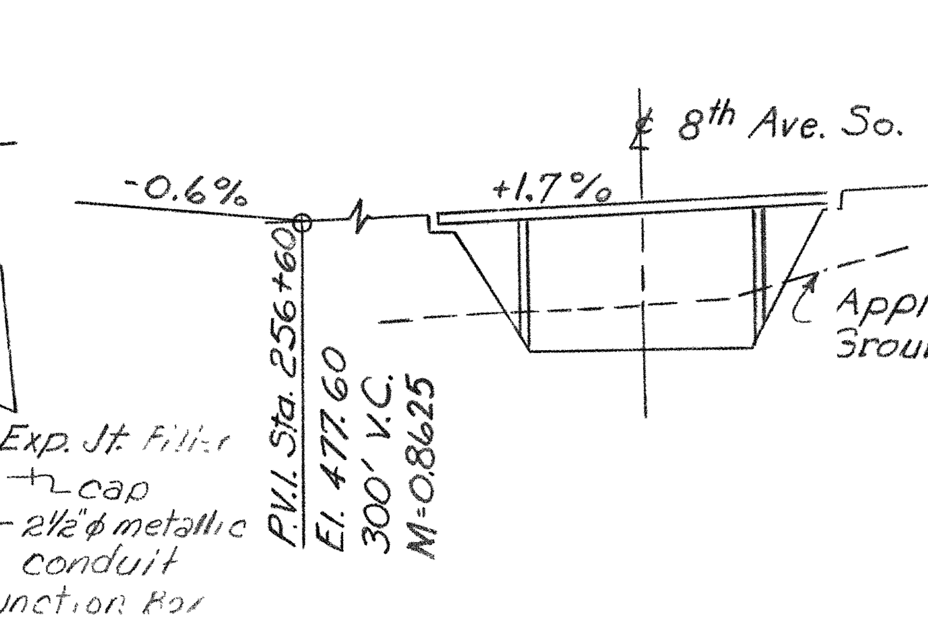


PLAN

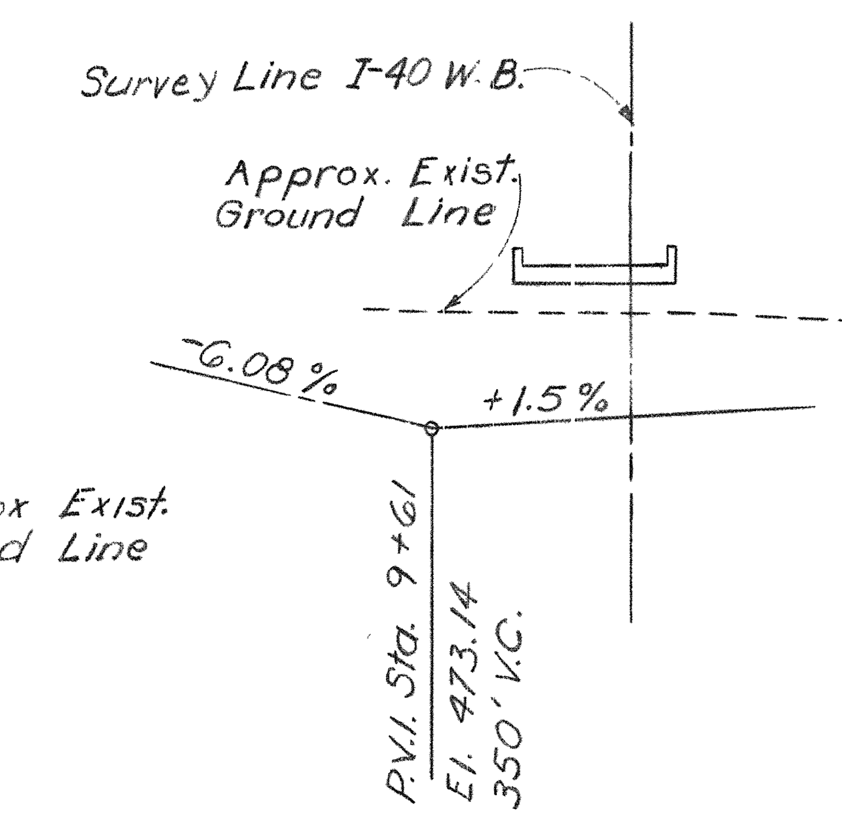


SECTION A-A

BRIDGERAIL NOTE:
Use Standard Concrete Parapet with Structural Tubing. See Standard Drawing K-38-154A.
(3) North Side: N=13 L=9'-10" X=1'-2 1/2" | Bridgerail Post Spacing.
(3) South Side: N=13 L=9'-10" X=1'-2 1/2"
Dimensions shown are measured along center line of base plate.



I-40 W.B. PROFILE



8TH AVE. PROFILE

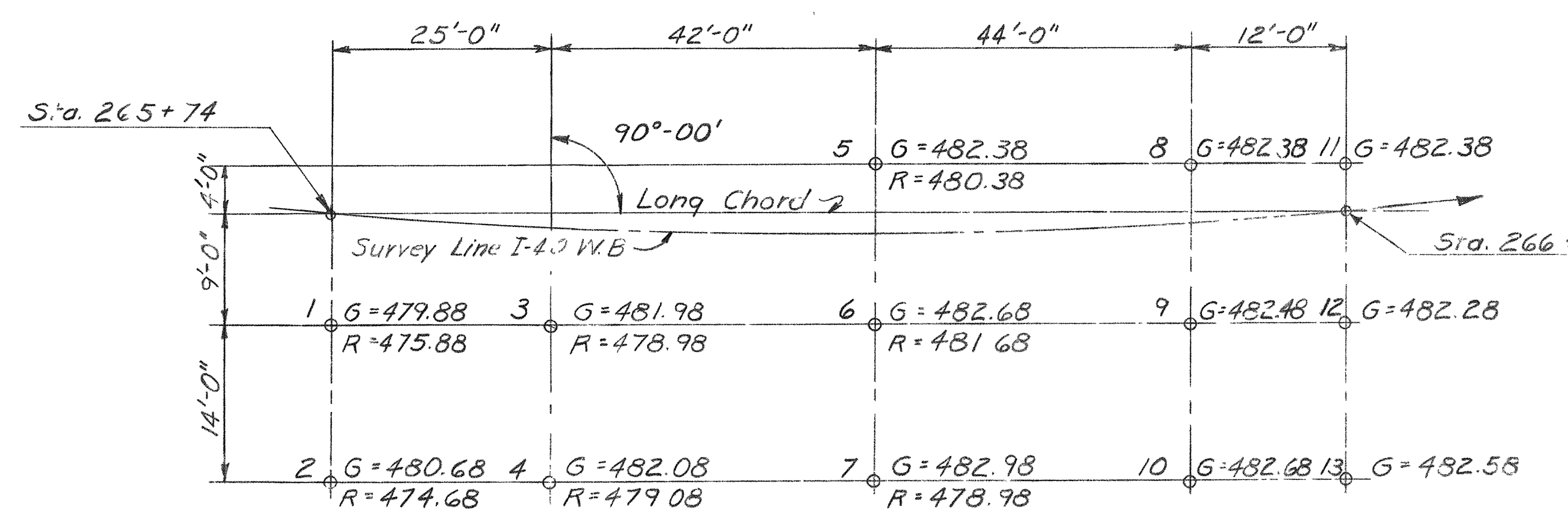
GENERAL NOTES
SPECIFICATIONS: Standard Road and Bridge Specifications of the Tennessee Department of Highways. (1968 Edition)
DESIGN SPECIFICATIONS: 1969 Edition of A.A.S.H.O. Standard Specifications for Highway Bridges
LOADING: HS-20-44 with Alternate Military
CONCRETE: To be Class "A" f'c = 3,000 psi See Special Provision Regarding Finishing concrete surface.
REINFORCING STEEL: To be ASTM A615. STD. hook details as recommended by C.R.S.I. shall apply, unless otherwise noted on Bill of Steel. Bending dimensions shown are Based on Gr. 40.
SHOP INSPECTION OF STEEL STRUCTURES: The Contractor as soon as he receives his work orders, shall notify the Bridge Engineer, in writing, who will supply the structural steel and the location of the plant where it will be fabricated.
APPROVAL OF MATERIALS: No fabrication shall be started until the materials involved have been approved by the Tennessee Highway Division of Tests.
IDENTITY OF MAIN MATERIALS: Heat numbers on main material must be preserved or transferred during fabrication and shop painting so that they will be identifiable in field.
WELDING: See Tennessee Standard Specifications Section 602.18 and notes on DWG K-61-22
HIGH STRENGTH BOLTS: See Tennessee Standard Specifications Section 602.12 & notes on DWG K-61-22.
RADIOGRAPHIC AND MAGNETIC PARTICLE INSPECTION: See Special Provisions regarding Welded Structures and notes Dwg. K-61-22.
PAINT: System B - Silico Chromate, See Tennessee Highway standard specifications Section [illegible].
JOINT SEALER: See Special Provisions, Type II, Class 'A' or 'B'
STEEL STRUCTURES: See Tenn Std. Specifications Section 602 and notes on DWG. No. K-61-22

(2) FOUNDATION NOTES
When the foundation for Bents and Abutments have been excavated, holes 6 feet deep shall be drilled into rock at points designated by the Engineer. From the results obtained the Bridge Engineer shall determine the final footing elevations.
No reinforcing steel for Abutment or Bent columns shall be ordered until the final footing elevations are established.
When excavating for rock foundations, rock shall be line drilled and pre-split. The contractor shall use extreme care so as not to excavate rock below elevations shown on plans. Any additional expense caused by undercutting rock below plans elevations shall be borne by the contractor. See Tennessee Highway Specs. 1968 Edition, Section 201.08, 204.09 & 204.10A.

LIST OF DRAWINGS

SPECIAL NOTE FOR UTILITIES: It is intended that the cost of materials and labor necessary for the complete installation of utilities shall be borne by others and shall not be paid for as a part of this contract. The contractor shall cooperate with others in the installation of utilities with no additional compensation allowed the contractor as a result.

** LIGHTING SYSTEM: [illegible] (4)



SOUNDING SKETCH

ESTIMATED QUANTITIES (1) (2)

ITEM No.	201-05	204-02.01	204-04.01	604-03.01	604-03.0[illegible]	602-01.03	6[illegible]-06	6[illegible]-0[illegible].03	710-10	710-11	714-01
ITEM	Rock Drilling L.F.	Excav (C.Y.) Dry	Excav (C.Y.) Rock	Concrete Class A C.Y.	Reinforcing Steel Lbs.	Steel Structures	Bridgerail L.F.	Linseed oil Treatment S.Y.	6" perf. c.m. pipe 18ga. w/porous backfill Mat. - Lin. ft.	6" c.m. pipe Lin. ft.	[illegible]
Superstructure				136.7	48,507		261	662			
Abutment #1	18	85	13	45.0	5,360			46	49	18	
Bent #1	18		36	31.7	6,026						
Bent #2	18		36	32.7	6,200						
Abutment #2	18	28	11	40.2	5,434			46	49	18	
Total	72	113	96	286.3	71,1[illegible]7	Lump Sum*	261	754	[illegible]	36	L.S.**

* Total estimated weight of steel structures = 118,000 Lbs. includes bearing devices, roadway expansion device, shear connectors weld metal etc. Also see Tennessee Standard Specifications Section 602.07 & 602.28.

Note: Excavation for Abutments based on existing ground, and for Bents on lower road profile.

NOTE: The cost of 16 threaded steel inserts and 16 7/8" ø hex. head bolts (A307) to be included in bridge items bid on.

NOTE: The cost of all miscellaneous joint material to be included in bridge items bid on.

Note: cost of polyethylene sheeting and all miscellaneous items necessary for installation to be included in cost of perforated c.m. pipe.

39'-8" ROADWAY
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LAYOUT OF BRIDGE NO. 75

INTERSTATE 40 W.B. OVER 8th AVE.
STATION 266 + 33.89
DAVIDSON COUNTY
1970

DESIGNED BY ______ DATE ______
DRAWN BY R. Tuttle DATE Dec. '65
TRACED BY ______ DATE ______
CHECKED BY J.F.K. DATE Nov. '66

APPROVED ______

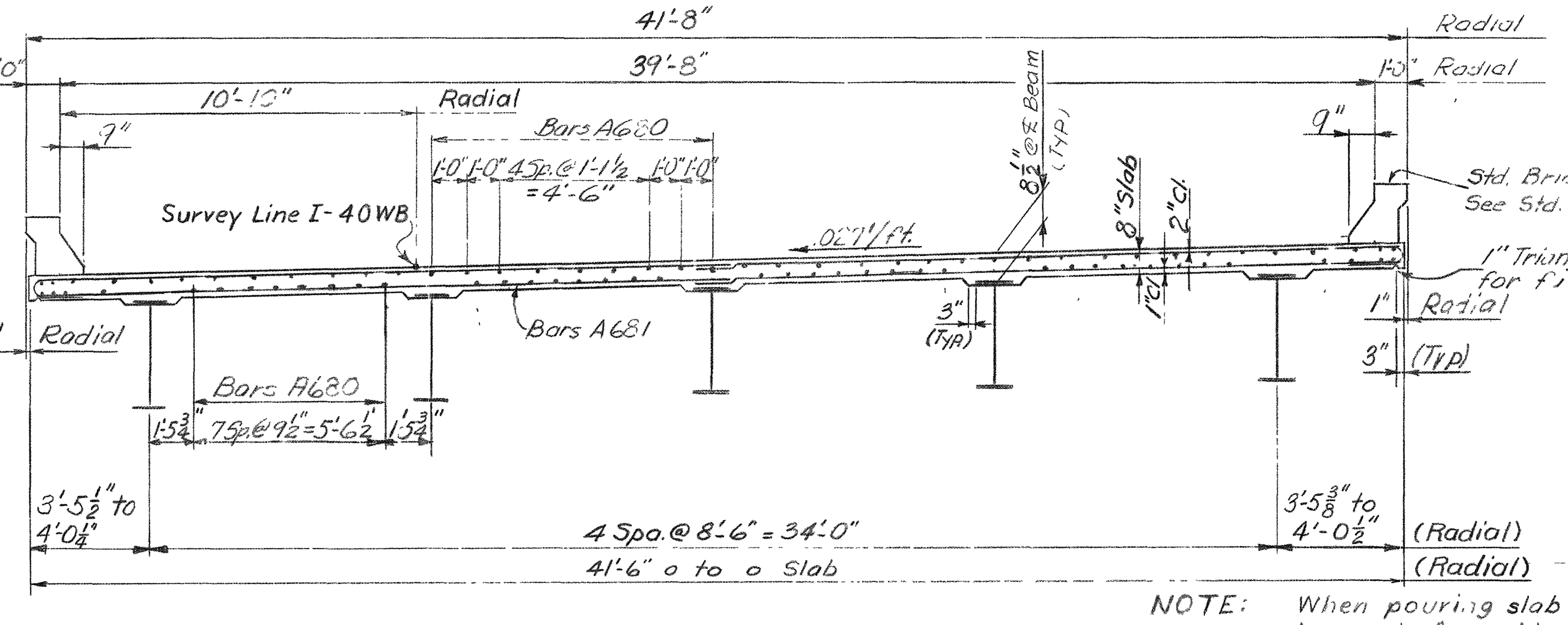
K-61-20

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST. NO.	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	114	305

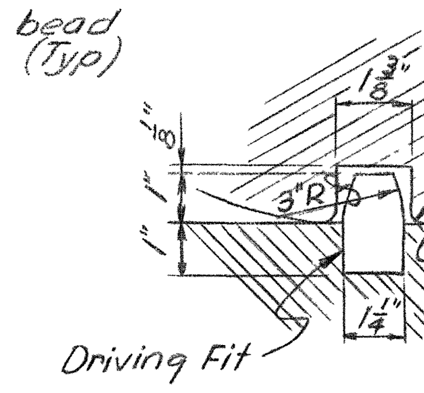
△1 4-2-71 C.E.H. Revised Anchor bolt proj.

Note: No portion of the curb shall be poured until the entire deck slab is in place.



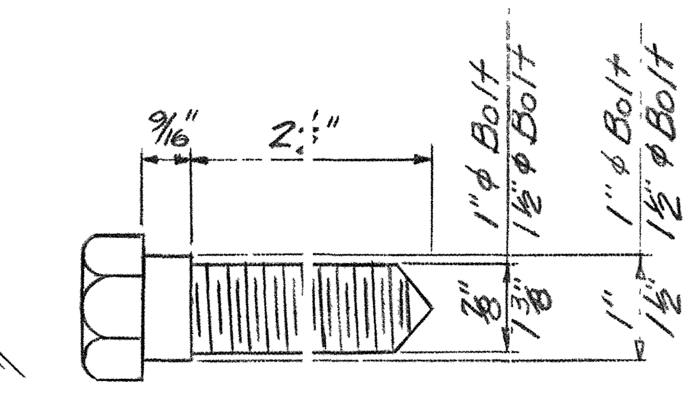
SECTION A-A

NOTE: When pouring slab provision shall be made for setting bars for bridge-rail parapet. For location see Std Dwg. K-38-154 A

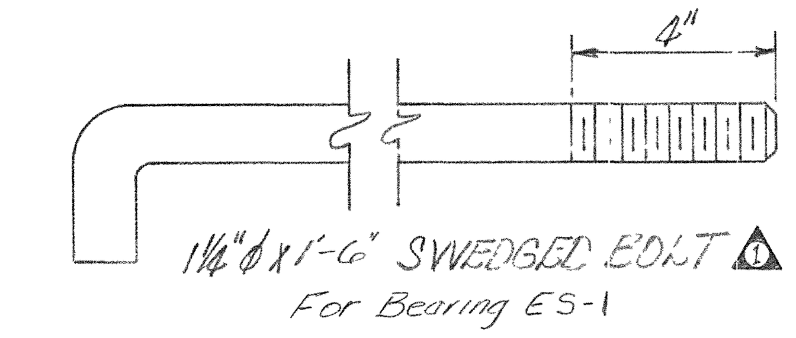


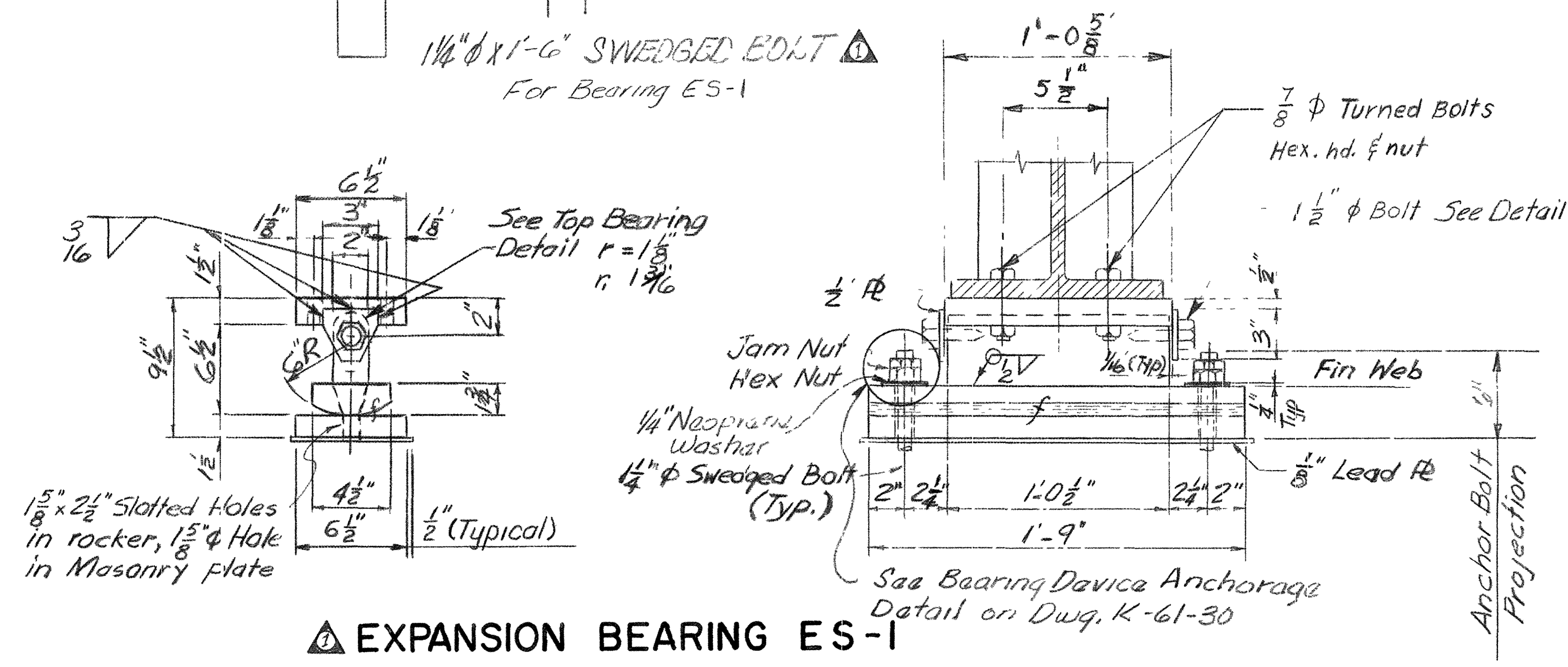
PINTLE DETAIL

Note. f denotes ASA 250 Finish



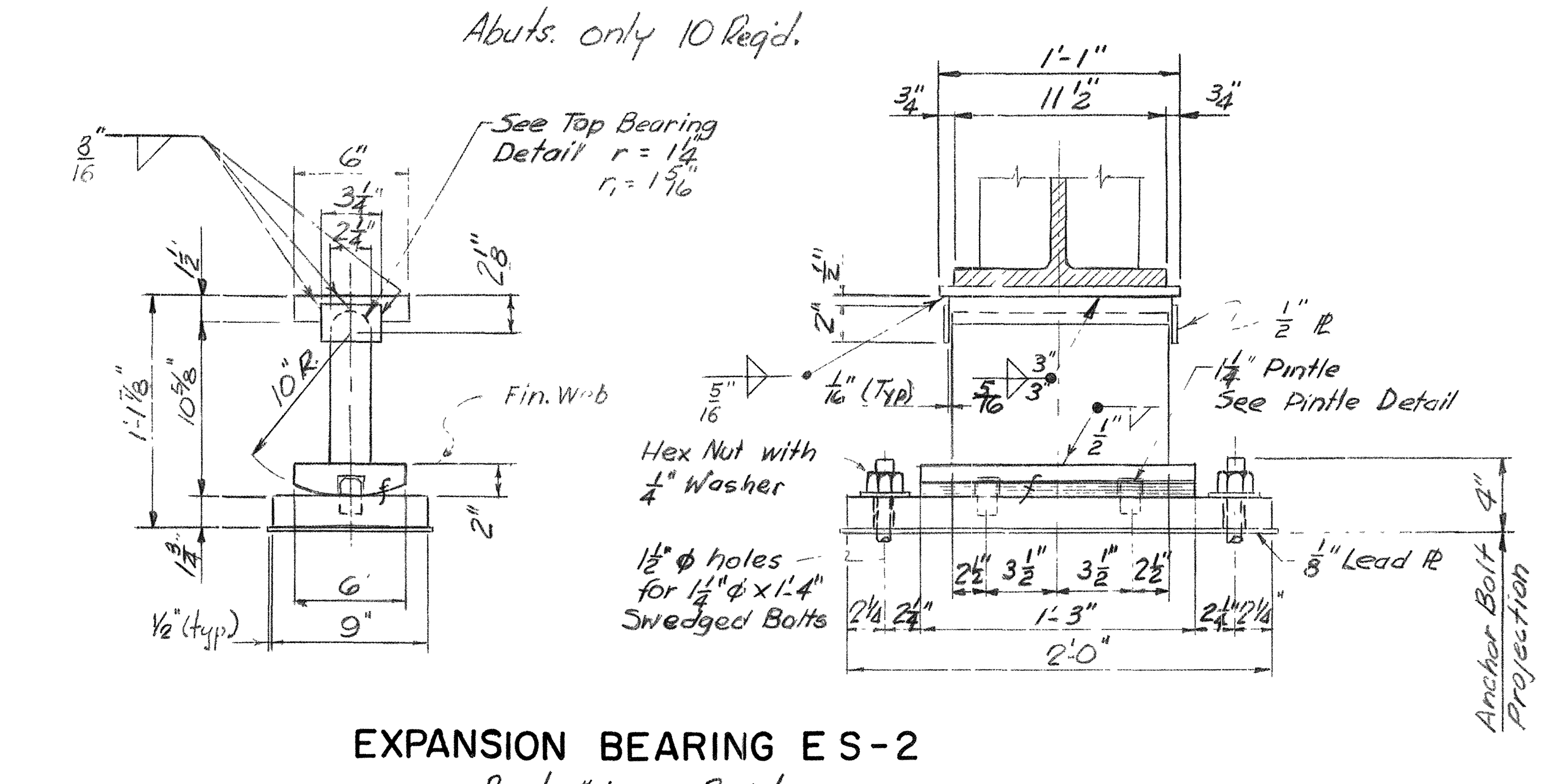
BOLT DETAIL





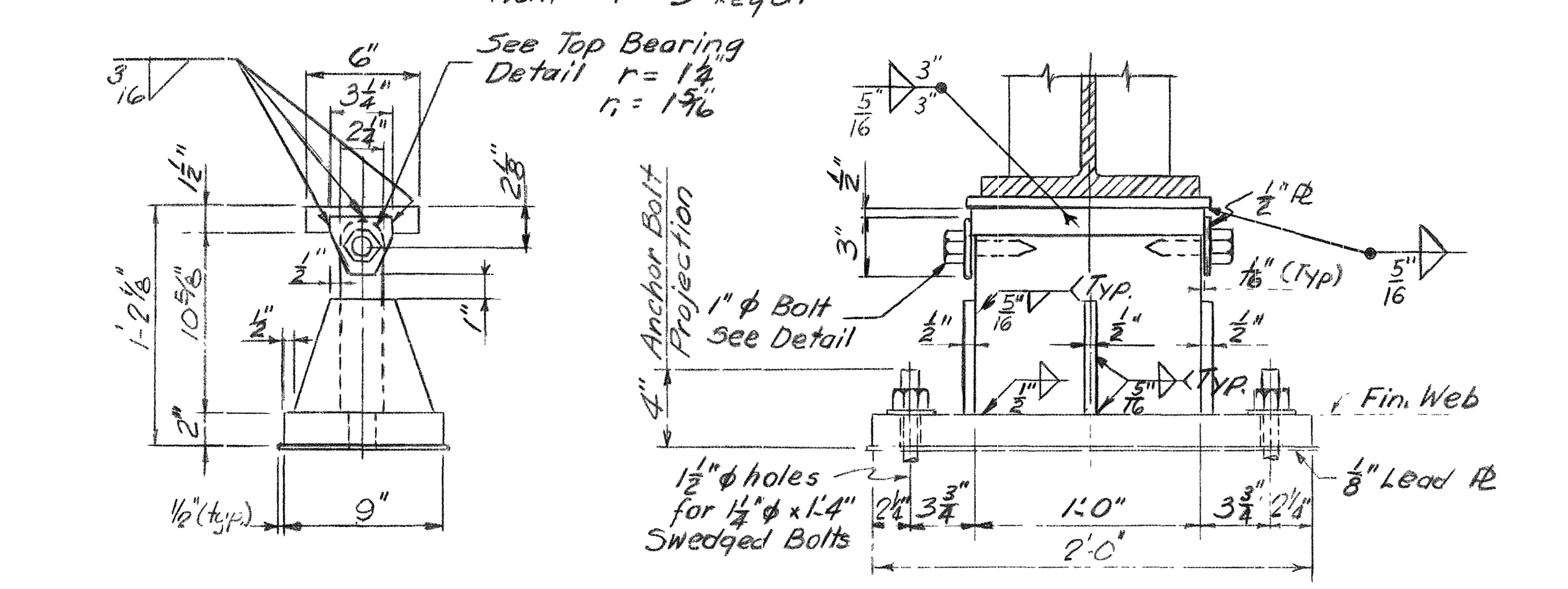
△1 EXPANSION BEARING ES-1

Abuts. only 10 Req'd.



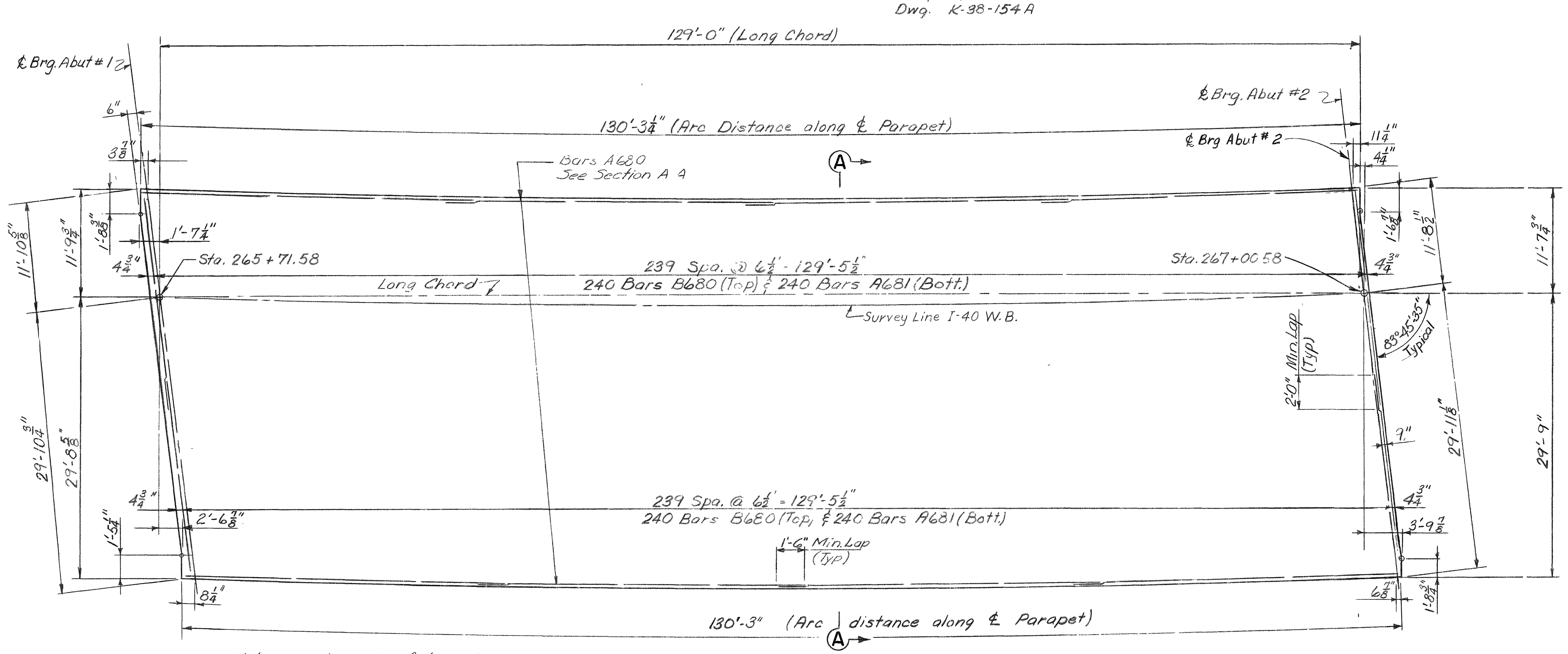
EXPANSION BEARING ES-2

Bent #1 5 Req'd.



FIXED BEARING F S

Bent # 2 5 Req'd.



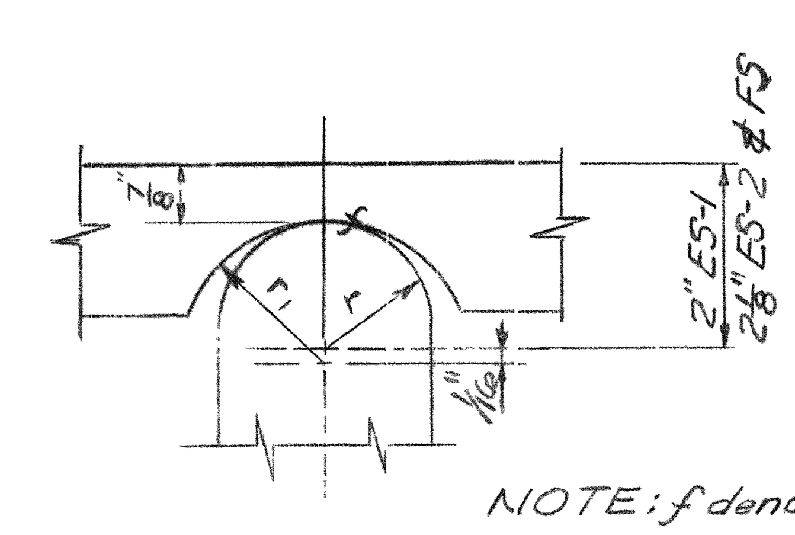
SLAB PLAN

Note: The outside edge of slab and bridgerail to conform to horizontal curve.

Concrete Deck: The concrete deck shall not be poured until all structural steel is erected and all welding or bolting complete.

ESTIMATED QUANTITIES

Item	Concrete-Class "A" Cu. Yds.	Reinforcing Steel Lbs.
Superstructure	136.7	45,507



NOTE: f denotes ASA 125 Finish.

TOP BEARING DETAIL

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

SUPERSTRUCTURE DETAILS

INTERSTATE 40 W.B. OVER 8th AVE.

STATION 266 + 33.89

DAVIDSON COUNTY

1970

DESIGNED BY	ALK	DATE	MAR 66
DRAWN BY	H.B.	DATE	April 66
TRACED BY		DATE	
CHECKED BY	RWH	DATE	Nov. 66

APPROVED

K-61-21

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	115	305

STRUCTURAL STEEL NOTES

Structural Steel shall conform to ASTM-A36 except **as noted**

Field connections shall be ⅞" ϕ High **Tensile Strength** bolts ASTM-**A325** unless otherwise shown. See AASHO Specs. Art. 2.10.20. **All high strength bolted connections are friction type.**

Welding and Radiographic Inspection. See AWS Current Specs and Tennessee Standard Specifications Section 603.13. The cost of Radiographic and Magnetic Particle Inspection is to be included in the price bid for structural steel.

Paint System B. Silico chromate. See Tennessee Highway Standard Specification Section 603. No shop paint shall be applied to the top surface of the flanges or at any point of field welded or bolted connection. Splices and other field connections shall be cleaned and primed before forming slab.

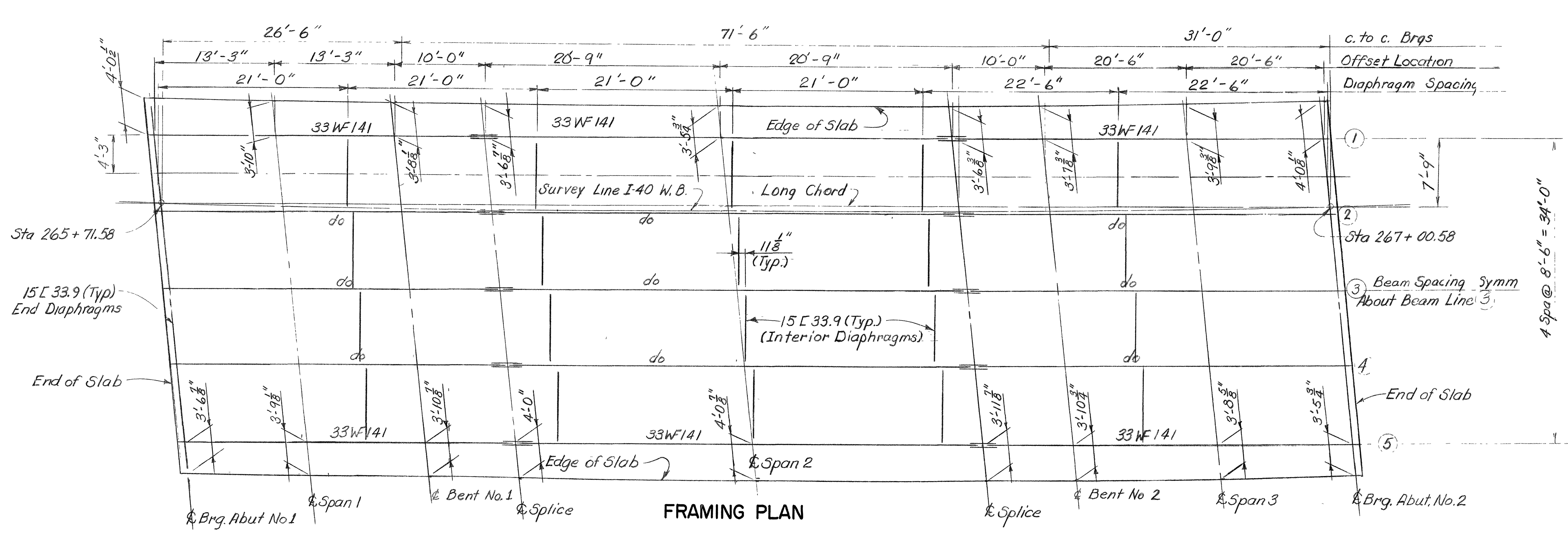
Camber: Beams shall be cambered to compensate for dead load and vertical curve.

Dimensions: Dimensions shown are for a normal temperature of 70°F with dead load on the structure. Layout dimensions are horizontal dimensions

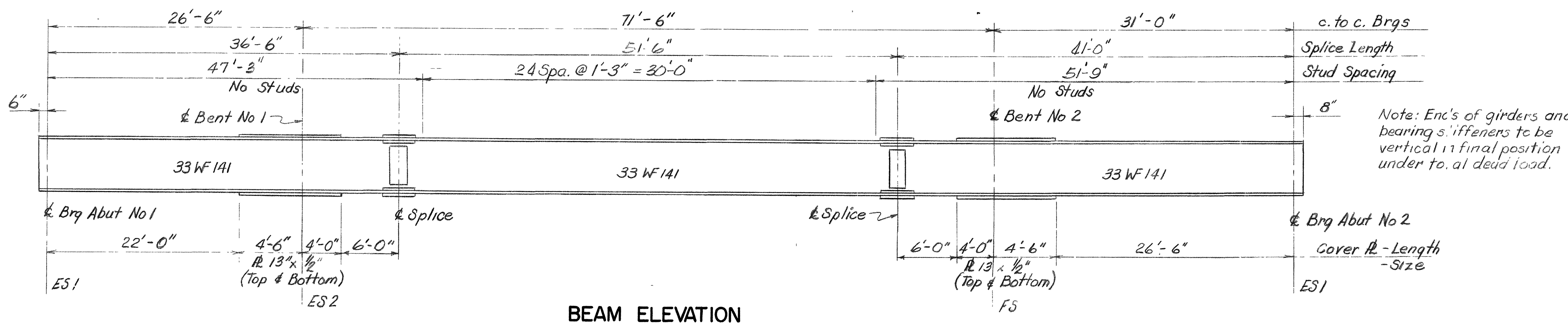
Stud Shear Connectors: See Tennessee Standard Specifications Section 602.14

Approval of Materials: No fabrication shall be started until the materials involved have been approved by the Tennessee Highway Division of Tests.

Additional Shop Splice Note: Shop splices necessary due to lengths or size of material involved may be located by the Fabricator subject to approval by the Engineer

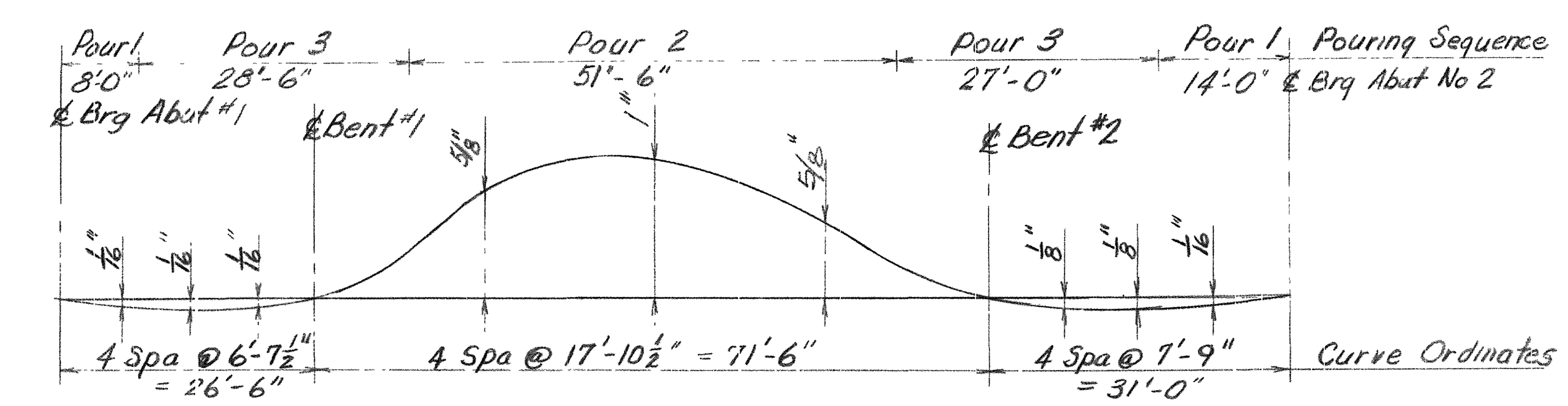


FRAMING PLAN



Note: Ends of girders and bearing stiffeners to be vertical in final position under total dead load.

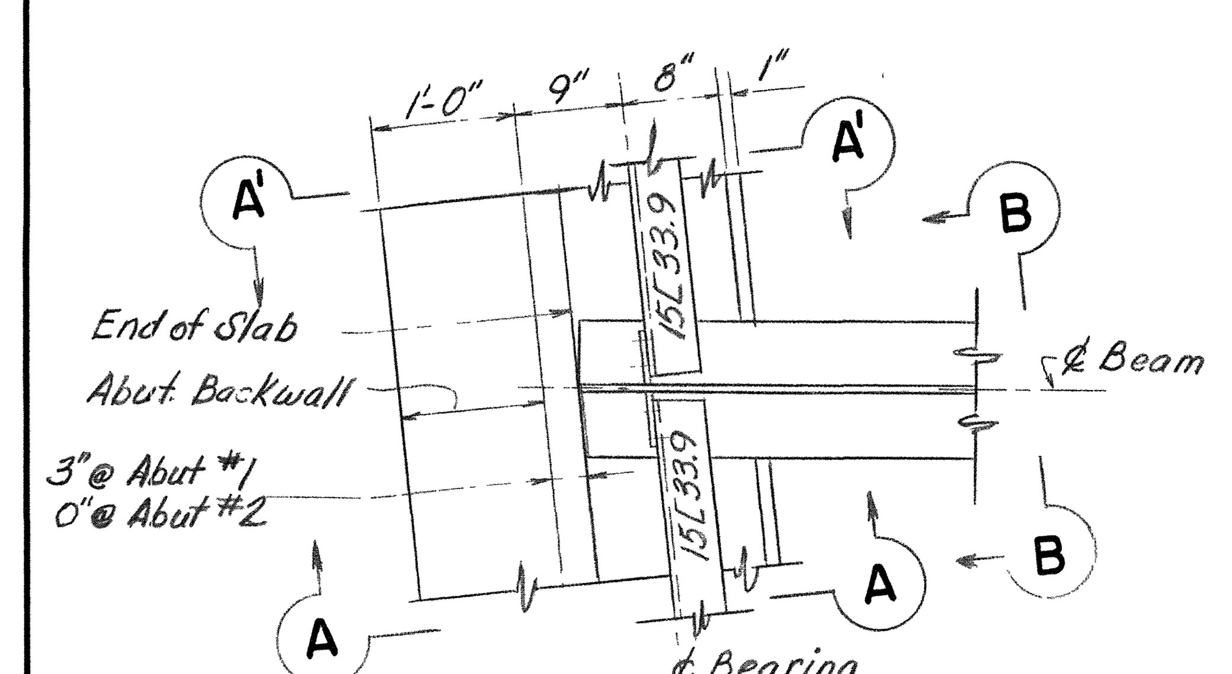
BEAM ELEVATION
(Same for all Beams)



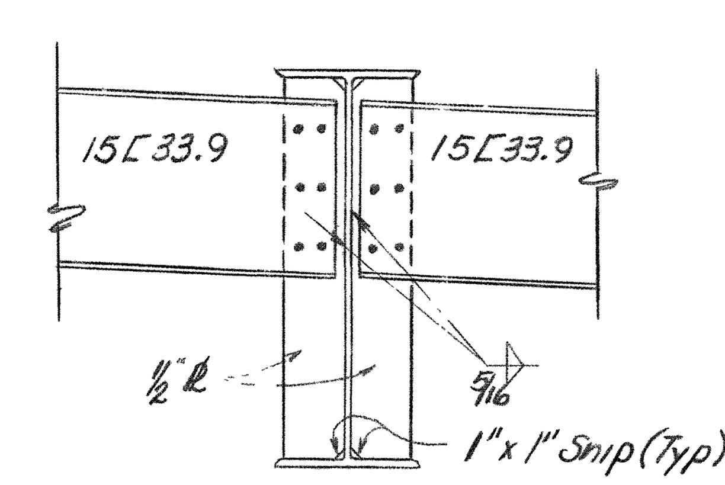
DEAD LOAD CORRECTION CURVE & POURING SEQUENCE

Dead Load Correction Same For All Beams

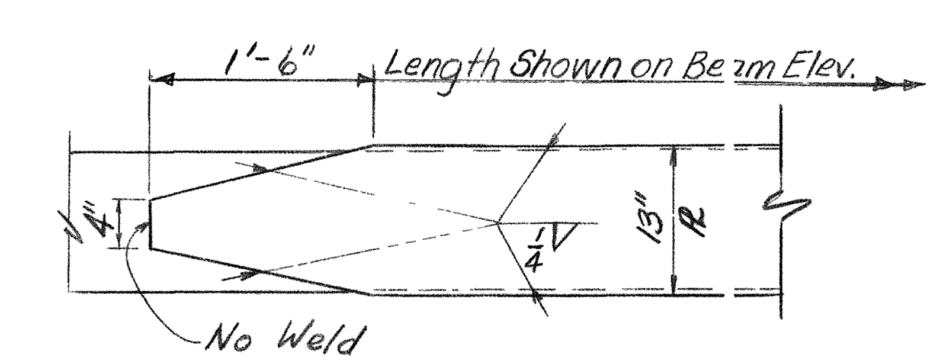
All pour to be made in numerical sequence. Pours with the same number designation may be made simultaneously. Dimensions shown for pouring limits are on lines parallel to the abutments and bents.



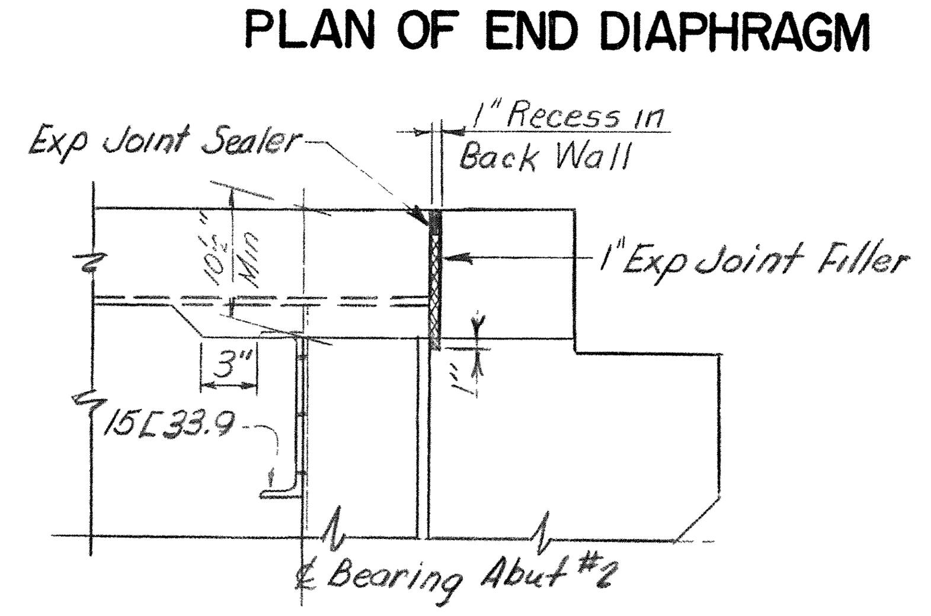
PLAN OF END DIAPHRAGM



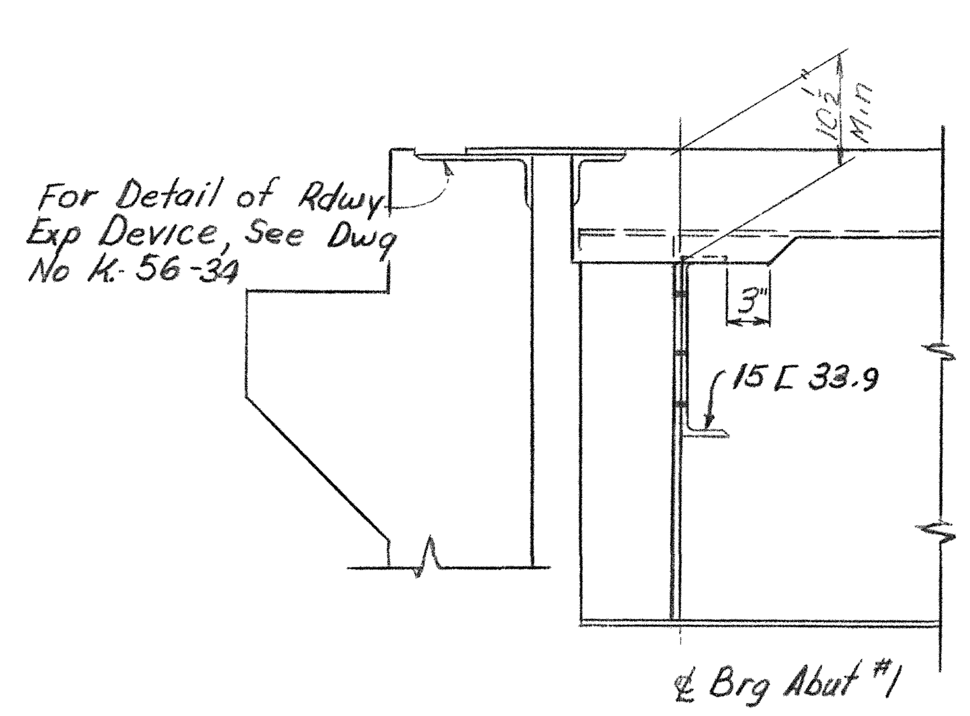
SECTION B-B



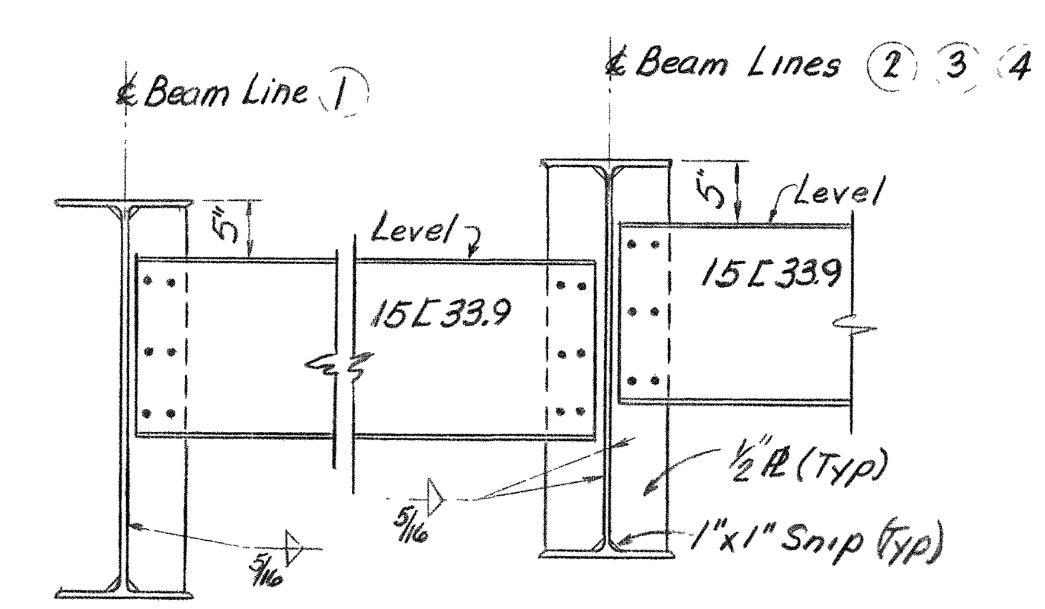
COVER PLATE WELDING DETAIL



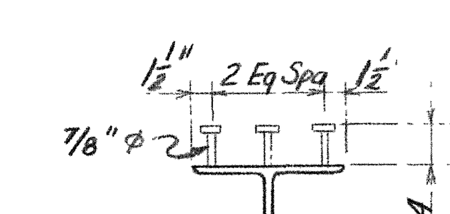
SECTION A'-A'



SECTION A-A

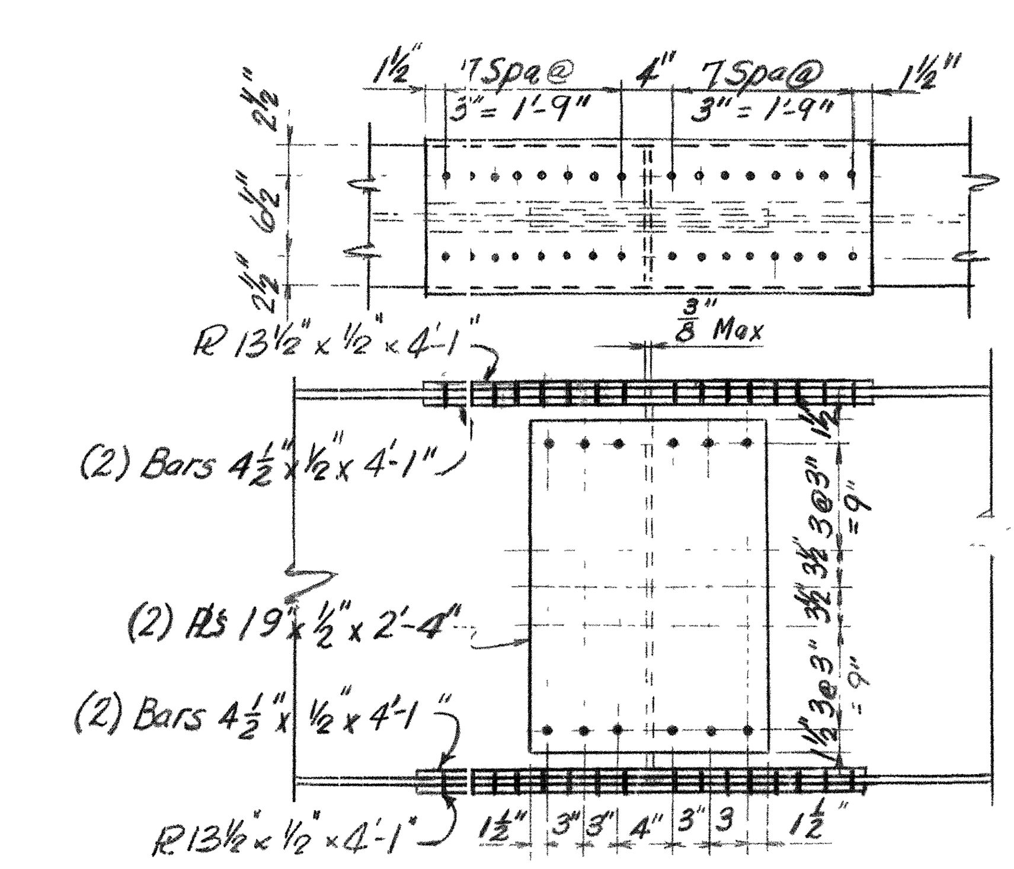


INTERMEDIATE DIAPHRAGM CONNECTION DETAIL



STUD DETAIL

Note: Studs shall be in sets of 3 and spaced as shown on this sheet.



SPLICE DETAIL

Note: Holes to be sub-punched or sub-drilled ⅛" smaller, reamed to size and match marked while assembled in the shop.

DESIGNED BY	ALK	DATE	March '66
DRAWN BY	ALK	DATE	April '66
TRACED BY		DATE	
CHECKED BY	RWH	DATE	Nov '66

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STRUCTURAL STEEL DETAILS

INTERSTATE 40 W.B. OVER 8th AVE.

STATION 266+33.89
DAVIDSON COUNTY
1970

APPROVED

K-61-22

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST NO	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	116	305

Note: When Pouring Abutment Beam, Provisions Shall be Made for Setting Anchor Bolts for Bearing Devices. For Bolt Location See Detail A Shown this Sheet. Bolt Projection 6".

Revised 6-2-70 Changed Wingpost Length.
R.H.D. 9-2-70 Revised Section D-D and added Abutment drainage detail.
Rev. 28-Oct-70 Removed option to drill anchor bolts.
4-2-71 C.E.H. Revised Anchor Bolt proj.

ESTIMATED QUANTITIES

ITEM	CONCRETE CLASS "A" C.Y.	REINFORCING STEEL LBS.
ABUTMENT 1	45.0	5,350

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 1 DETAILS

INTERSTATE 40 W.B. OVER 8TH AVE.

STATION 266 + 33.89
DAVIDSON COUNTY
1970

DESIGNED BY		DATE	July 66
DRAWN BY		DATE	Sept. 66
TRACED BY		DATE	
CHECKED BY	RWH	DATE	Nov. 66

APPROVED ______

K-61-23

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	117	305

Note: When Pouring Abutment Beam, Provisions Shall be Made for Setting Anchor Bolts for Bearing Devices. For Bolt Location See Detail A Shown this Sheet. Bolt Projection 4".

Revised 6-2-70 Changed Wingpost Length
R.M.R. 7-2-70 Revised Section D-D & added Abutment drainage detail.
Rev. 28-Oct-70 Removed option to drill anchor bolts.
4-2-71 Revised Anchor bolt proj.

ESTIMATED QUANTITIES

ITEM	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
ABUTMENT	40.2	5,034

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

ABUTMENT NO. 2 DETAILS

INTERSTATE 40 W.B. OVER 8th AVE.

STATION 266 + 33.89

DAVIDSON COUNTY

1970

DESIGNED BY ___ DATE July 66
DRAWN BY ___ DATE Sept. 66
TRACED BY ___ DATE Sept. 66
CHECKED BY ___ DATE Nov. 66

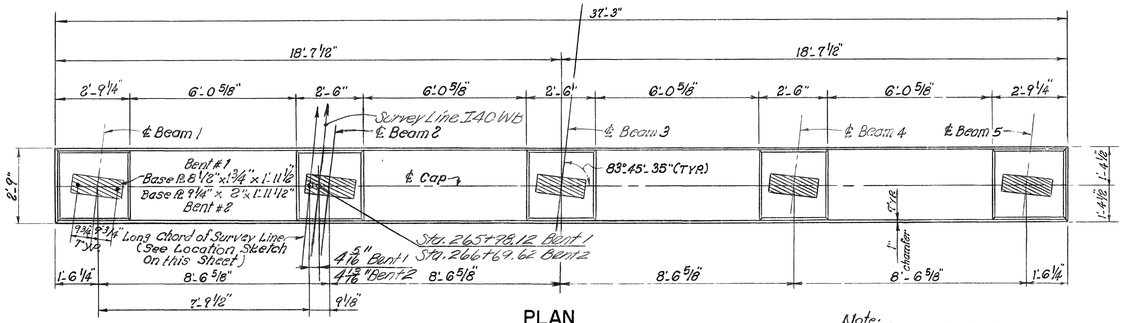
APPROVED ___

K-61-24

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	118	305

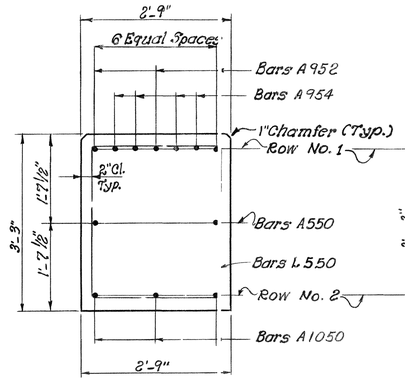
1 R.M.D. 9-2-70 Section D-D
Estimated Quantities
Dimension Section B-B
2 R.M.D. 11-23-70 - Elevations



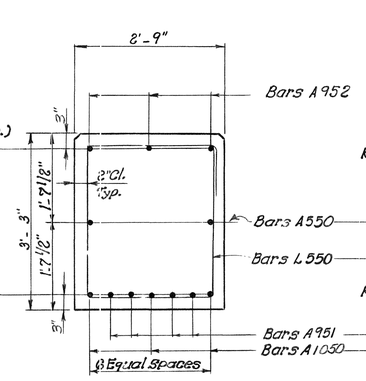
PLAN

Note: When Pouring Cap Beams Provisions Shall be Made for Setting Anchor Bolts for Bearing Plates. If the Contractor Elects to Drill the Holes for the Anchor Bolts, the Reinforcing Steel Shall be Placed So As not to Interfere With the Drilling. for Bolt Location See Detail A Shown this Sheet
Projection = 4"

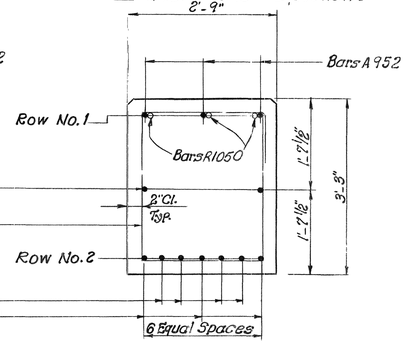
Note: Risier Blocks to be poured monolithic with Cap Beam.



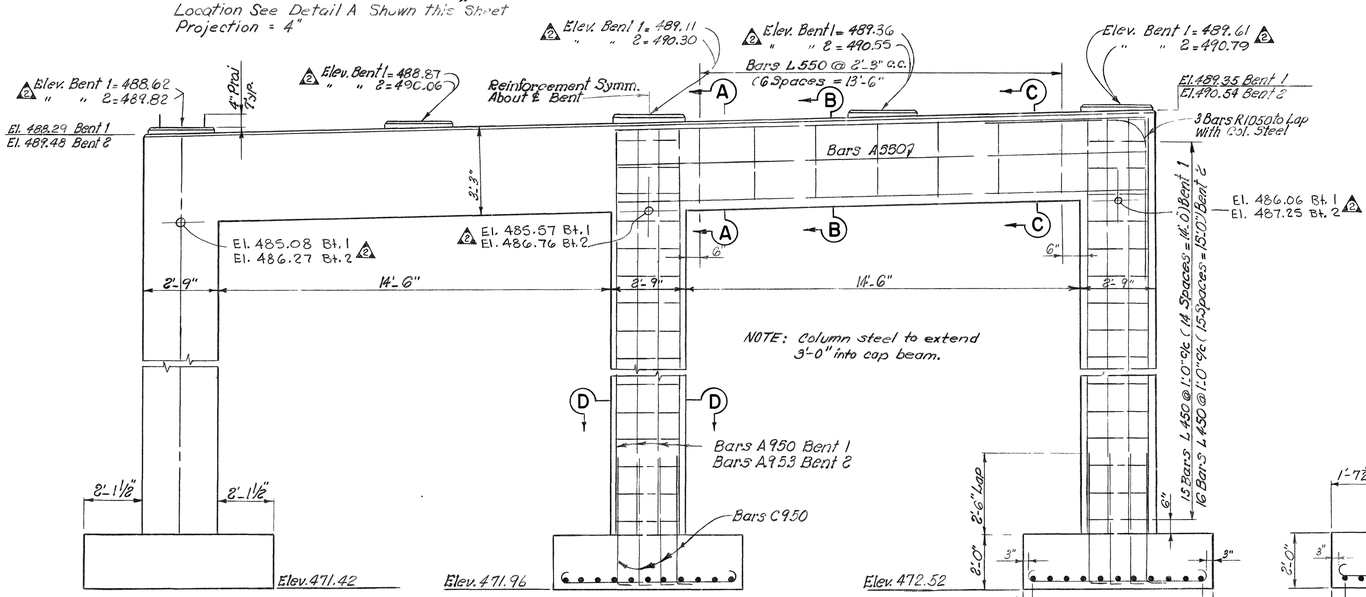
SECTION A-A



1 SECTION B-B

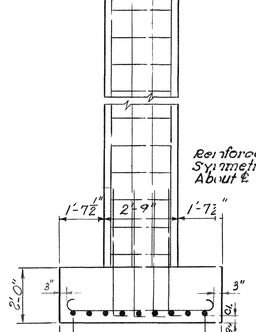


SECTION C-C

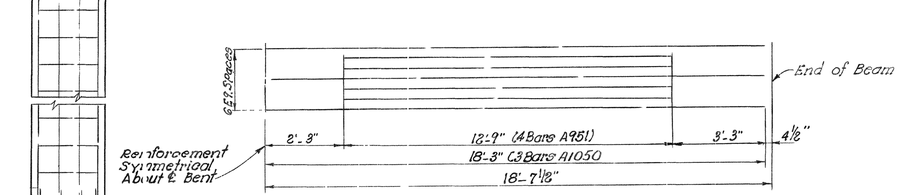


ELEVATION
Looking Forward on Survey

FOOTING PLAN



END ELEVATION



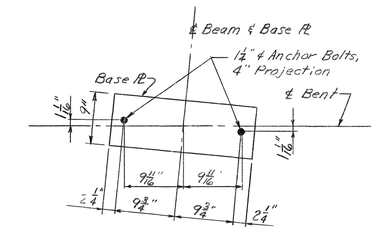
ROW NO. 1 - TOP OF CAP BEAM

ROW NO. 2 - BOTTOM OF CAP BEAM

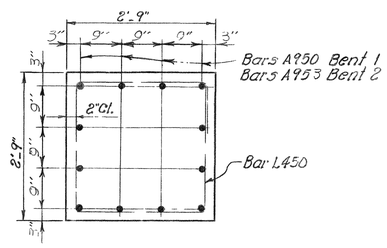
PLAN OF MAIN REINFORCEMENT - CAP BEAM

ESTIMATED QUANTITIES 1

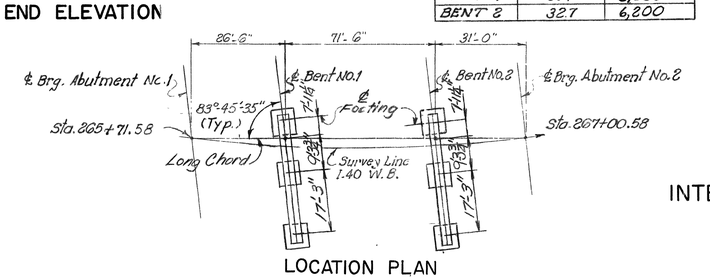
ITEM	Concrete Class "A" Cu. Yds.	Reinforcing Steel Lbs.
BENT 1	31.7	6,026
BENT 2	32.7	6,200



ANCHOR BOLT LOCATION
DETAIL A



SECTION D-D 1



LOCATION PLAN

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BENT DETAILS

INTERSTATE 40 W.B. OVER 8th. AVE.

STATION 266 + 33.89
DAVIDSON COUNTY

1970

DESIGNED BY	Habib	DATE	June 1966
DRAWN BY	Habib	DATE	June 1966
TRACED BY		DATE	
CHECKED BY	RWH	DATE	Nov. 66

APPROVED

K-61-25

BRIGHTON ENGINEERING COMPANY

BILL OF STEEL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN	I-40-4(26)208	1970	113	305

1 Revised 6-2-70 Bars A909, A905 & G400

2 B.M.D. 9-2-70 Bars A950; A953; & C950 Number Required

ABUTMENTS

BAR	LOCATION	SIZE	NO REQ'D ABUT 1	NO REQ'D ABUT 2	BENDING DIMENSIONS a	b	c	d	LENGTH
A400	Wing Post	4	2	2					2'-10"
A401	Wing Post	4	4	4					3'-2"
A402	Wing Post	4	4	4					3'-5"
A403	Wing Post	4	4	4					3'-8"
A404	Wing Post	4	20	20					3'-9"
A405	Wing Post	4	12	12					7'-8"
A500	Cap	5	2	2					41'-4"
A501	Backwall	5	9	9					40'-9"
A502	Backwall	5	56	56					4'-0"
A503	Wingwalls	5	16	16					7'-8"
A504	Wingwalls	5	4	16					6'-10"
A505	Wingwalls	5	2	2					8'-2"
A506	Wingwalls	5	2	2					7'-1"
A507	Wingwalls	5	2	2					7'-9"
A508	Wingwalls	5	2	2					6'-8"
A509	Wingwalls	5	4	4					5'-8"
A510	Wingwalls	5	12	4					6'-6"
A511	Wingwalls	5	4						6'-4"
A512	Wingwalls	5	4	4					4'-8"
A513	Wingwalls	5	4	4					3'-0"
A514	Column	5	4						12'-0"
A515	Column	5	2						5'-0"
A516	Column	5	2						12'-3"
A517	Column	5	4						11'-0"
A518	Column	5	2						4'-0"
A519	Column	5	2						11'-3"
A520	Column	5	4						10'-0"
A521	Column	5	2						3'-0"
A522	Column	5	2						10'-3"
A523	Column	5		12					8'-9"
A524	Column	5		6					9'-0"
A600	Footing	6	48	36					5'-9"
A601	Footing	6	36						9'-9"
A602	Footing	6		36					7'-9"

ABUTMENTS

BAR	LOCATION	SIZE	NO REQ'D ABUT 1	NO REQ'D ABUT 2	BENDING DIMENSIONS a	b	c	d	LENGTH
A900	Cap	9	3						41'-4"
A901	Column	9	3						12'-0"
A902	Column	9	3						11'-0"
A903	Column	9	3						10'-0"
A904	Column	9		6					8'-9"
A1000	Cap	10	5	9					41'-4"
B900	Footing	9	9	6	4'-3"				5'-6"
D700	Wgwl. & Cap	7	4	4	4'-6"				6'-2"
D701	Wgwl. & Cap	7	4	4	5'-0"				6'-8"
G400	Wing Post	4	12	12	11"	11"	1'-8"	1'-5"	3'-6"
H500	Pavm't Seat	5	26	26	1'-8"	6"			2'-8"
H501	Footing	5	12	9	1'-8"	3'-0"			7'-6"
H502	Cap	5	28	28	8"	2'-6"			5'-8"
J500	Stubwall	5	8	8	3'-2 1/8"	3'-1 1/8"	6 3/4"	0'-1"	6'-10"
L500	Cap	5	26	26	2'-2"	6"	2'-2"		9'-2"
L501	Column	5	3	3	1'-8"	6"	2'-2"		8'-2"
L502	Column	5	3	3	1'-8"	6"	2'-5"		8'-8"
L503	Column	5	3	3	1'-8"	6"	2'-7"		9'-0"
L504	Column	5	3	3	1'-8"	6"	2'-9"		9'-4"
L505	Column	5	3	3	1'-8"	6"	2'-11"		9'-8"
L506	Column	5	3	3	1'-8"	6"	3'-1"		10'-0"
L507	Column	5	3	3	1'-8"	6"	3'-3"		10'-4"
L508	Column	5	3		1'-8"	6"	3'-5"		10'-8"
L509	Column	5	3		1'-8"	6"	3'-7"		11'-0"
L510	Column	5	2		1'-8"	6"	3'-9"		11'-4"
L511	Column	5	1		1'-8"	6"	3'-11"		11'-8"
R500	Wgwl. & Cap	5	6	6	3 3/4"	1'-6"			2'-11"
V500	Wgwl.	5	2	2	5'-2"	3'-7"	6'-2"		11'-4"
V501	Wgwl.	5	2	2	5'-2"	3'-8"	5'-10"		11'-0"

BENTS

BAR	LOCATION	SIZE	NO REQ'D BENT 1	NO REQ'D BENT 2	BENDING DIMENSIONS a	b	c	d	LENGTH
A550	Cap	5	2	2					36'-6"
A950	Column	9	36	2					14'-6"
A951	Cap	9	8	8					12'-9"
A952	Cap	9	6	6					36'-6"
A953	Column	9		36					15'-9"
A954	Cap	9	4	4					8'-0"
A1050	Cap	10	6	6					36'-6"
			2	1					
C950	Col. Dowels	9	36	36	9'-3"				4'-9"
D650	Footing	6	33	33	5'-6"				7'-0"
D651	Footing	6	27	27	6'-6"				8'-0"
L450	Column	4	45	48	2'-5"	1'-7"	2'-5"		10'-8"
L550	Cap	5	14	14	2'-5"	1'-7"	2'-11"		11'-8"
R1050	Col. Cap	10	6	6	2'-0"	6'-0"	6'-0"		11'-2"

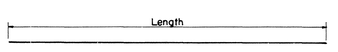
SUPERSTRUCTURE

BAR	LOCATION	SIZE	NO. REQ'D	BENDING DIMENSIONS a	b	c	d	LENGTH
A680	Slab	6	324					33'-9"
A681	Slab	6	480					21'-9"
B680	Slab	6	480	21'-9"				22'-9"

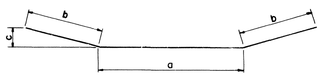
REINFORCING STEEL CODE

TYPE	SIZE	SERIES
A	5	50

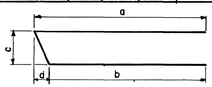
NOTE: Dimensions on this sheet are outside to outside of bars.



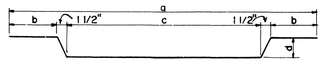
BARS A



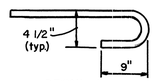
BARS E



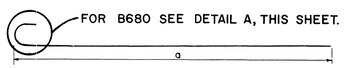
BARS J



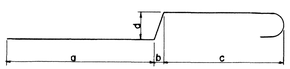
BARS N



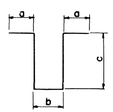
DETAIL A
For BAR B680



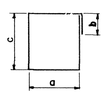
BARS B



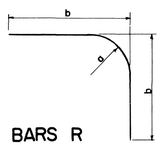
BARS F



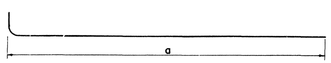
BARS K



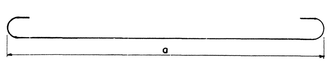
BARS L



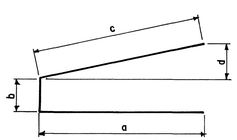
BARS R



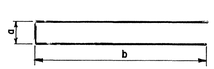
BARS C



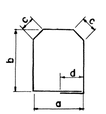
BARS D



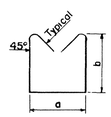
BARS G



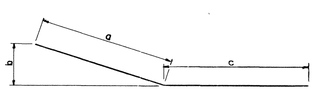
BARS H



BARS M



BARS S



BARS V

DESIGNED BY _____ DATE _____
DRAWN BY DWF DATE 12-1966
TRACED BY _____ DATE _____
CHECKED BY RWH DATE Dec '66

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

BILL OF STEEL

INTERSTATE 40 W.B. OVER 8TH AVE.

STATION 266+33.89

DAVIDSON COUNTY

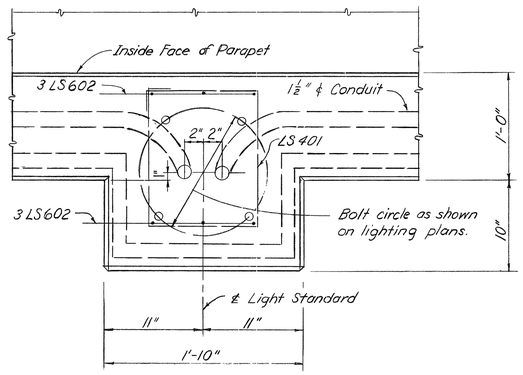
1970

APPROVED _____

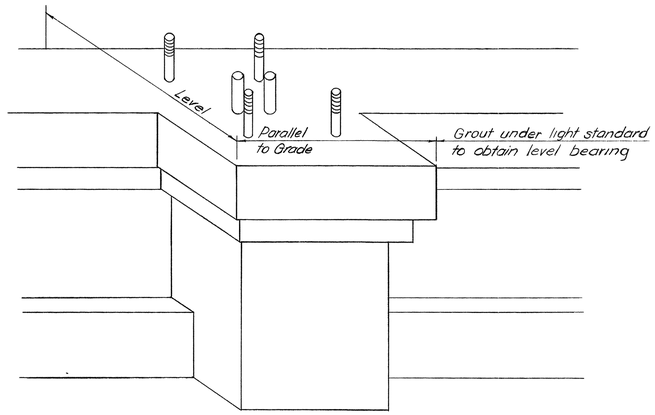
K-51-26

BRIGHTON ENGINEERING COMPANY

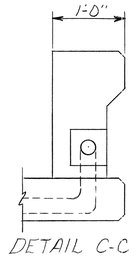
FED ROAD DIST NO	STATE	FED AID PROJ NO.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
3	TENN	I-40-4(26) 208	1970	213	305



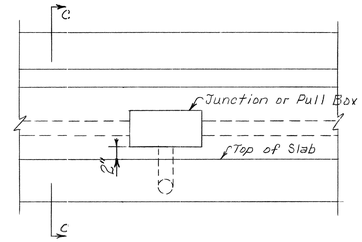
PLAN



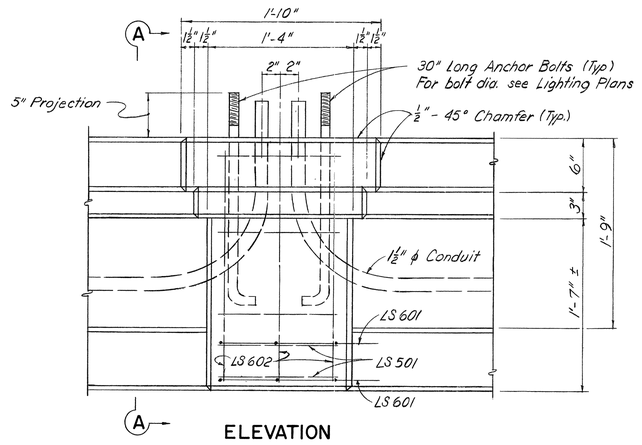
ISOMETRIC



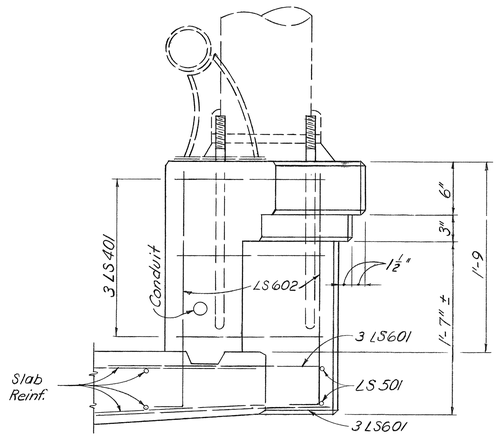
DETAIL C-C



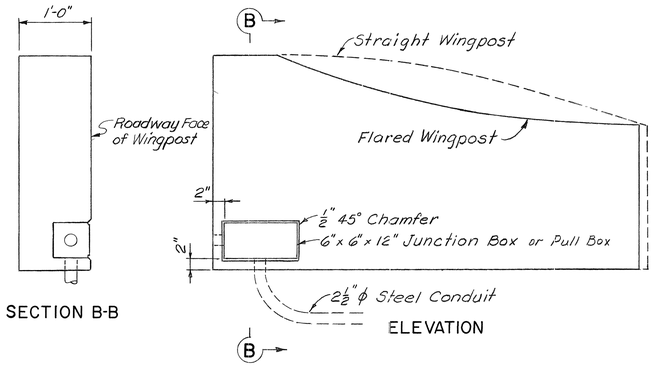
DETAIL SHOWING ELECTRICAL JUNCTION OR PULL BOXES IN PARAPET



ELEVATION



SECTION A-A



SECTION B-B

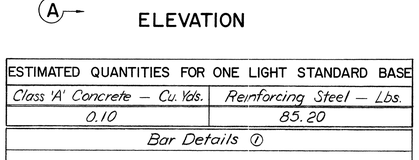
ELEVATION

DETAILS SHOWING ELECTRICAL JUNCTION BOX IN WINGPOST

See Bridge Layout Sheet for Location.

ESTIMATED QUANTITIES FOR ONE LIGHT STANDARD BASE	
Class 'A' Concrete — Cu. Yds.	Reinforcing Steel — Lbs.
0.10	85.20

Bar Details ①



① Bar dimensions are outside to outside. First digit of number indicates size.

NOTES for LIGHT STANDARD BASE DETAILS

① See individual bridge plans for location of Light Standard Bases, if applicable.
② Cost of Light Standard Base including concrete and reinforcing steel to be included in the price bid for Bridge Railing.
③ For Bridge Railing see Tennessee Standard K-38-154 or K-38-154A where applicable.

DESIGNED BY JCH DATE 2/68
DRAWN BY DATE
TRACED BY DATE
CHECKED BY RFC DATE 4/68

LIGHT STANDARD BASE DETAILS

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

LIGHT STANDARD BASE DETAILS
& ELECTRICAL BOX DETAILS

INTERSTATE 40 STRUCTURES

DAVIDSON COUNTY
1970

APPROVED

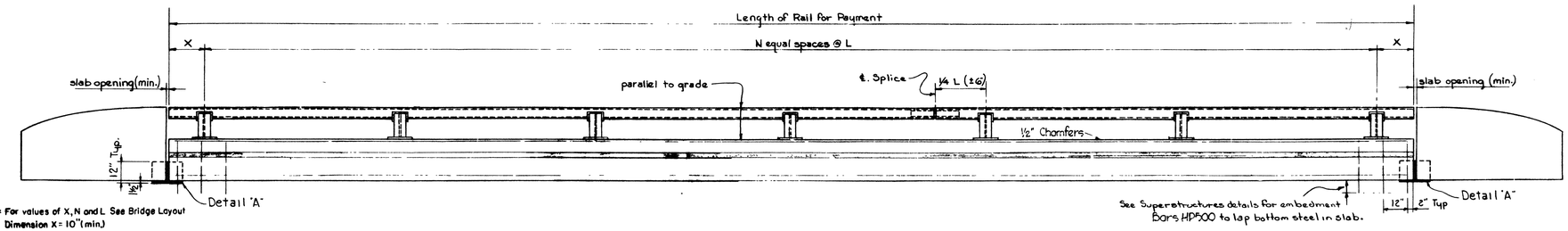
K-61-96

BRIGHTON ENGINEERING COMPANY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	3/10/69	BRB	Face of Parapet
2	11-3-69	BRB	Rail Material
3	11-9-70	BRB	REVISED PARAPET JOINT DETAILS.
4	2-23-71	BRB	Revised parapet detail & steel quantities & NOTE
5	12-21-71	BRB	Parapet Height & general details
6	4/26/76	HMB	AASHTO Specs. for aluminum welding
7	6-1-76	HMB	Welding Conformance Note



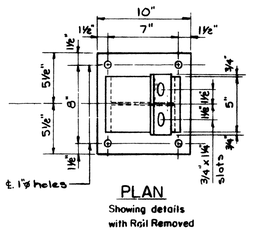
NOTE: For values of X, N and L See Bridge Layout
Dimension X = 10" (min.)
1'-9" (max.)
Dimension L = 10'-6" (max.)

See Superstructures details for embedment Bars HP500 to lap bottom steel in slab.

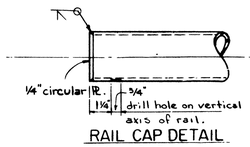
③ ELEVATION of PARAPET & RAIL

TYPICAL EXTERIOR VIEW OF CONTINUOUS BRIDGE

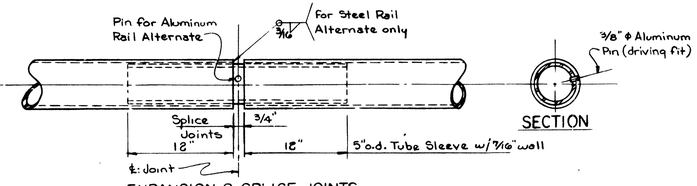
FOR STRUCTURES WITH DECK JOINTS, THE PARAPET OPENING SHALL EQUAL THE DECK OPENING. (SEE DETAIL "B" BELOW). FOR DETAILS OF WINGPOST, SEE BRIDGE DRAWINGS.



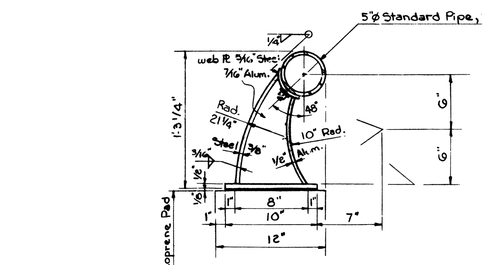
PLAN
Showing details with Rail Removed



RAIL CAP DETAIL
Typ. at Rail Ends

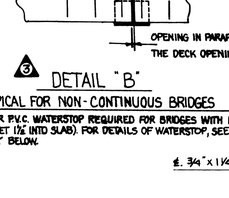


EXPANSION & SPLICE JOINTS
Rail Expansion Joints to be used at Armored Joints in Bridge Deck with tube opening equal to slab opening.



RAIL POST DETAILS

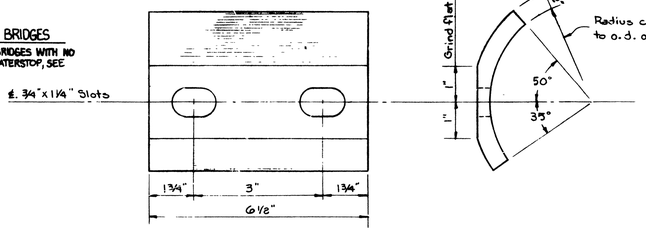
Cast aluminum posts conforming to the dimensions shown above for fabricated aluminum may be considered subject to the approval of the Engineer.



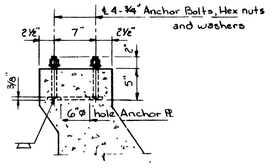
③ DETAIL "B"

TYPICAL FOR NON-CONTINUOUS BRIDGES

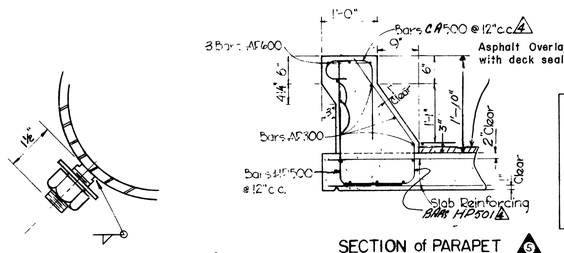
RUBBER OR P.V.C. WATERSTOP REQUIRED FOR BRIDGES WITH NO CURBS. (SET 1⅞ INTO SLAB). FOR DETAILS OF WATERSTOP, SEE DETAIL "A" BELOW.



BENT PLATE DETAIL
Typical at each Post

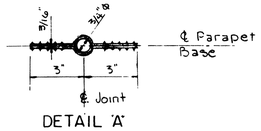


ANCHORAGE DETAILS
Showing Part Section of Parapet

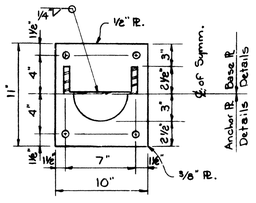


SECTION of PARAPET ③
Detail as shown for deck-mounted parapet. See Superstructure drawings for other slab details.

FASTENER DETAIL ③
Each Post Connection requires 2-⅝"ϕ reduced weld-base studs with hex nuts and washers.
Note: Alternate Details may be submitted to the Bridge Engineer for approval. Fasteners conforming to ASTM B211 shall have an anodic coating of .0002 inch minimum thickness, with dichromate or boiling water seal.



DETAIL "A"
For parapet openings where bitum. fiber expansion joint in deck is used.



PLAN
Showing Base R. and Anchor R.

GENERAL NOTES

DESIGN: AASHO. 1969 Specifications with addenda ③

MATERIALS: Tubing and Rail Posts may be either Aluminum or Steel.

For Aluminum Alternate –
Rail & Splice Sleeve to be Alloy 6061-T6, ASTM B429
Fabricated Posts & Rail End Caps - Alloy 6061-T6, ASTM B209 - Cast Aluminum Posts - Alloy A344-T4
Rail Fasteners - Alloy 2024-T4 for Bolts and Alloy 6262-T9 for Hex Nuts, ASTM B211.

For Steel Alternate -
Railing Member - ASTM A53 Grade B Steel Pipe.
Splice Sleeve - ASTM A500-65, Grade B Carbon Steel Tubing, or A53, Grade B Steel Pipe.
Fabricated Posts & End Caps - ASTM-A36
Rail Fasteners - ASTM-A307
Miscellaneous Rail Items - Waterstops - See 1968 Tenn. Hwy. Dept. Specifications
Anchor plates - ASTM-A36, Anchor Bolts - A307, Neoprene Pads - See 1968 Tenn. Hwy. Dept. Specifications.
For Parapet Wall - Concrete to be Class "A" and Reinforcing Steel ASTM-A615

RAIL ITEM:
Basis of payment to be per linear foot. The item includes all components of the rail, its anchorage, and the reinforced concrete parapet. Payment will be made under item 616.06 .

FABRICATION & ERECTION:
1. The railing member shall be continuous from end to end of structure with each rail segment attached to a minimum of three posts, unless otherwise shown on bridge drawings. ③
2. Alignment and Profile of rail shall conform to plans details. For horizontal curves of Radius less than 2000 feet, the rail shall be fabricated to the required shape. Rails shall be parallel to and Posts normal to Roadway Grade unless otherwise noted on plans.
③ 3. PARAPETS ON CONTINUOUS STRUCTURES SHALL HAVE NO JOINTS EXCEPT AS OTHERWISE SHOWN AT ABUTMENT ENDS ON BRIDGE DRAWINGS SEE ALSO DETAIL "B".
4. No Concrete for the parapet shall be cast on any structure until the falsework has been struck.
5. All metal materials not specified to be Aluminum Alloy shall be galvanized to the applicable ASTM Requirements. See note 7 below.
⑥ ⑦ 6. All welding shall conform to the requirements of either the "Specification for Welded Structures for Steel Rail Alternate or "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" for Aluminum Rail Alternate. After welding, all exposed joints shall be finished by grinding or filling to give a neat appearance.
7. If the steel rail alternate is selected, all components may be either hot-dip galvanized or painted.

For Painted-Steel Alternate:
(A) All surfaces to be painted shall be Blast Cleaned in accordance with "Steel Structures Painting Council Specifications" SSPC-SP6-52T (Commercial Blast Cleaning).
(B) 1st Shop Coat: Zinc Chromate-Iron Oxide Ready Mixed Paint AASHO. Specs. M-142-49. Thickness of coating 1¼ to 1¾ mills. Drying time 16 to 32 hrs. Inside of pipe railing is to be completely painted with first shop coat only. Thickness may exceed 1¾ mills.
2ND Shop Coat: Zinc Chromate-Iron Oxide with enough Black added to provide contrast.
3RD Shop Coat: Aluminum (Prussian Blue added) Tennessee Highway Department Specifications.
Field Painting: After erection is completed, the Contractor shall repair skinned or otherwise damaged paint to the satisfaction of the Engineer before applying final field coat of Aluminum (Tenn. Highway Dept. Specs.) Paint shall be applied as set out in A.A.S.H.O. Specs. Article 2.14.6 unless otherwise noted on this drawing or Shop Plans approved by the Engineer.

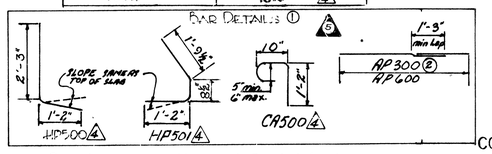
For Galvanized Steel Alternate:
(A) Railing members and fabricated posts shall be galvanized to A.S.T.M. requirements A123 and anchor bolts, nuts and washers A153. Anchor plate need not be galvanized.
(B) All fabrication shall be complete and ready for assembly before galvanizing except that nuts for rail fasteners and anchor bolts are to be tapped afterwards.
(C) Galvanized members shall be free from dross, flux and rough-coating caused by low vat temperatures.

SPECIAL NOTE: Since the finished railing must meet all requirements of fit, alignment and grade, to the full satisfaction of the Engr. it is suggested that complete field measurements be made before any shop fabrication is performed.

④ NOTE: ANCHOR BOLTS SHALL BE LOCATED IN THE FIELD BASED ON DIMENSIONS TAKEN FROM SHOP DRAWINGS.

⑤ UNIT QUANTITIES FOR ESTIMATING PARAPET ITEMS ④

Class "A" Conc. cu. yds./lin. ft.	Reinf. Steel lbs./lin. ft.
.081	16.9 ④



① Bar dimensions are outside to outside. First digit of number indicates size.

② These Bars shall be full length of parapet except that no bar will pass through open joints.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
NASHVILLE

BRIDGE RAILING
CONCRETE PARAPET with STRUCTURAL TUBING
1968

DESIGNED BY R. Reynolds DATE
DRAWN BY BE Luttrell DATE Nov 68
TRACED BY DATE
CHECKED BY Bill Burke DATE Dec 1968

CORRECT _____ BRIDGE ENGINEER

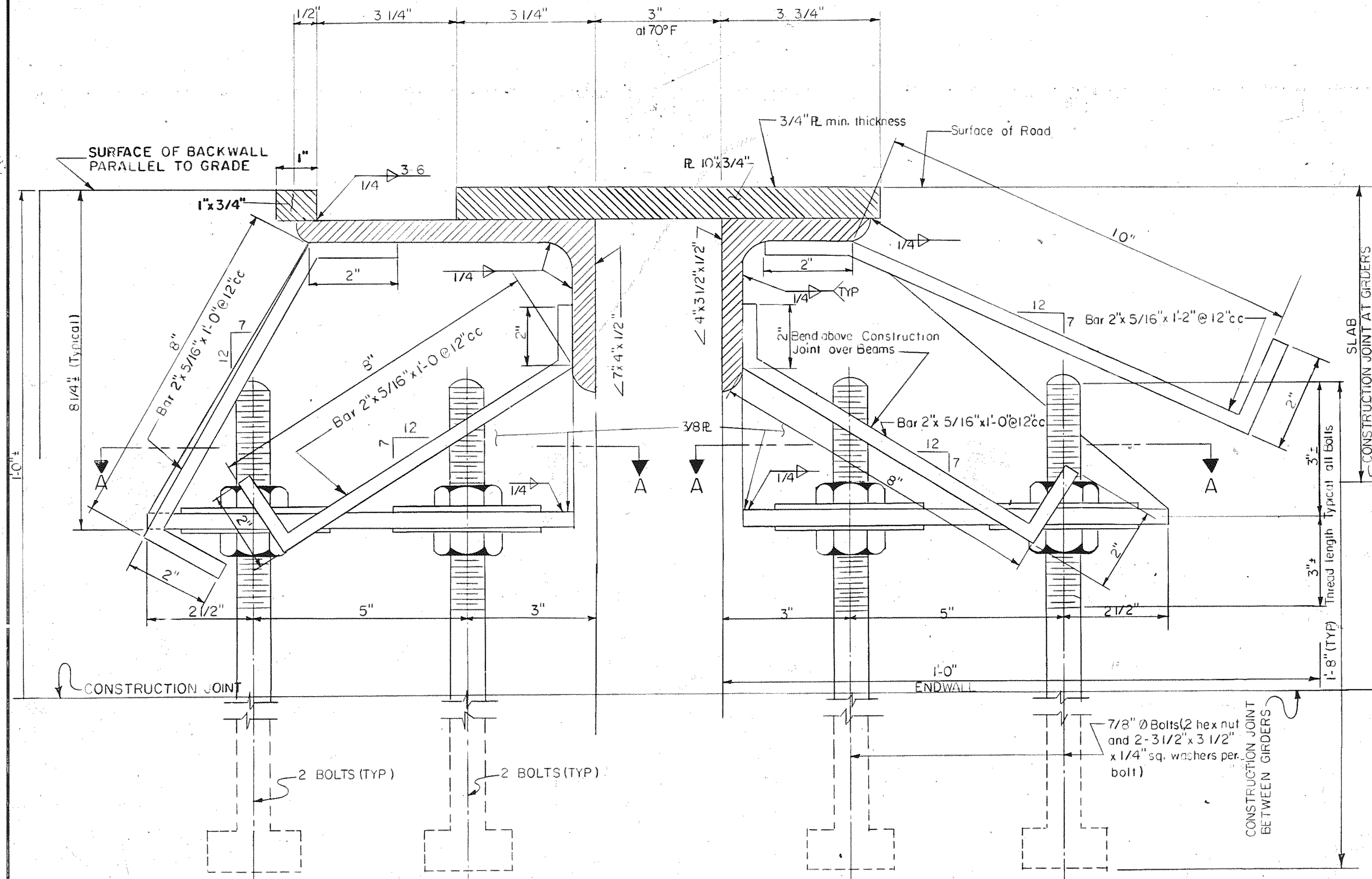
APPROVED _____ STATE HIGHWAY ENGINEER

K-38-154A

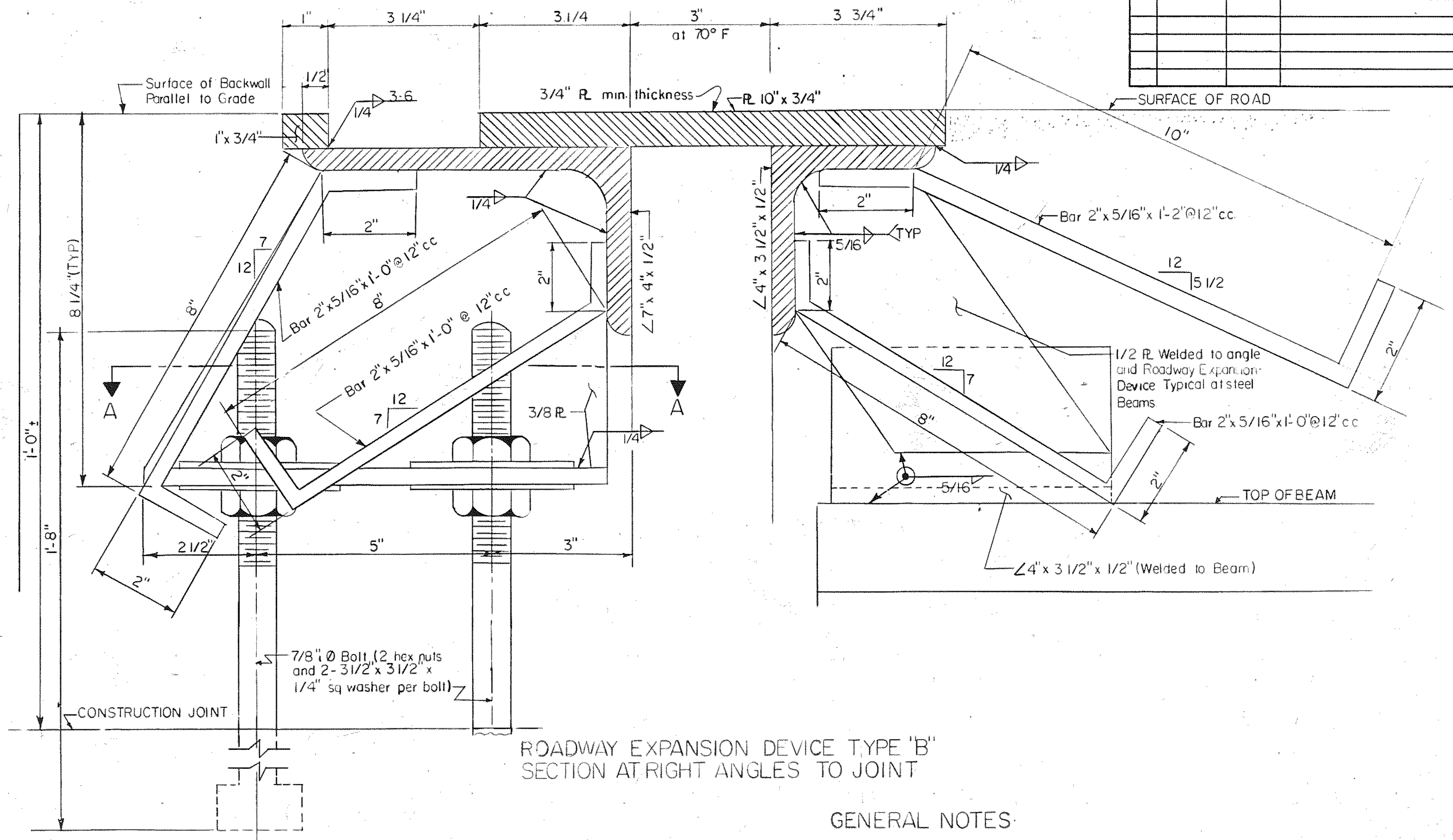
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.		19		

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	22/12/59	T.A.U.	Parapet Exp. Device Revised



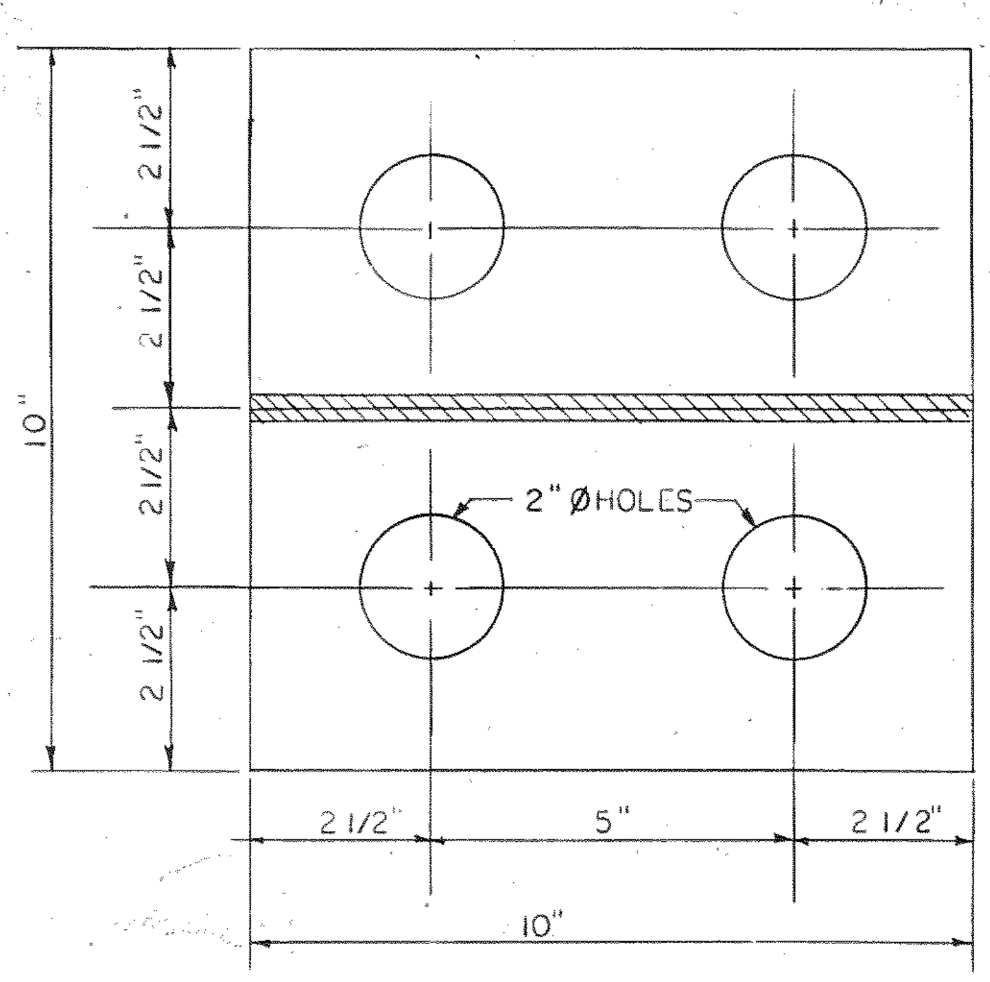
ROADWAY EXPANSION DEVICE TYPE "A"
SECTION AT RIGHT ANGLES TO JOINT



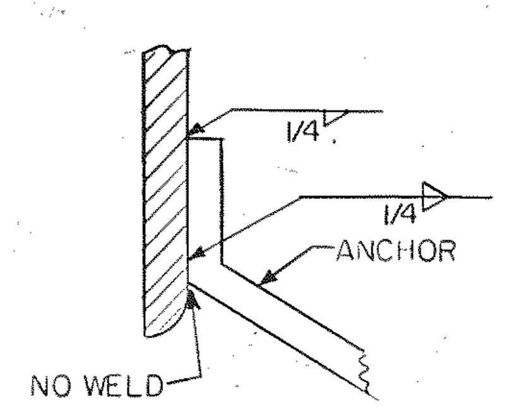
ROADWAY EXPANSION DEVICE TYPE "B"
SECTION AT RIGHT ANGLES TO JOINT

GENERAL NOTES

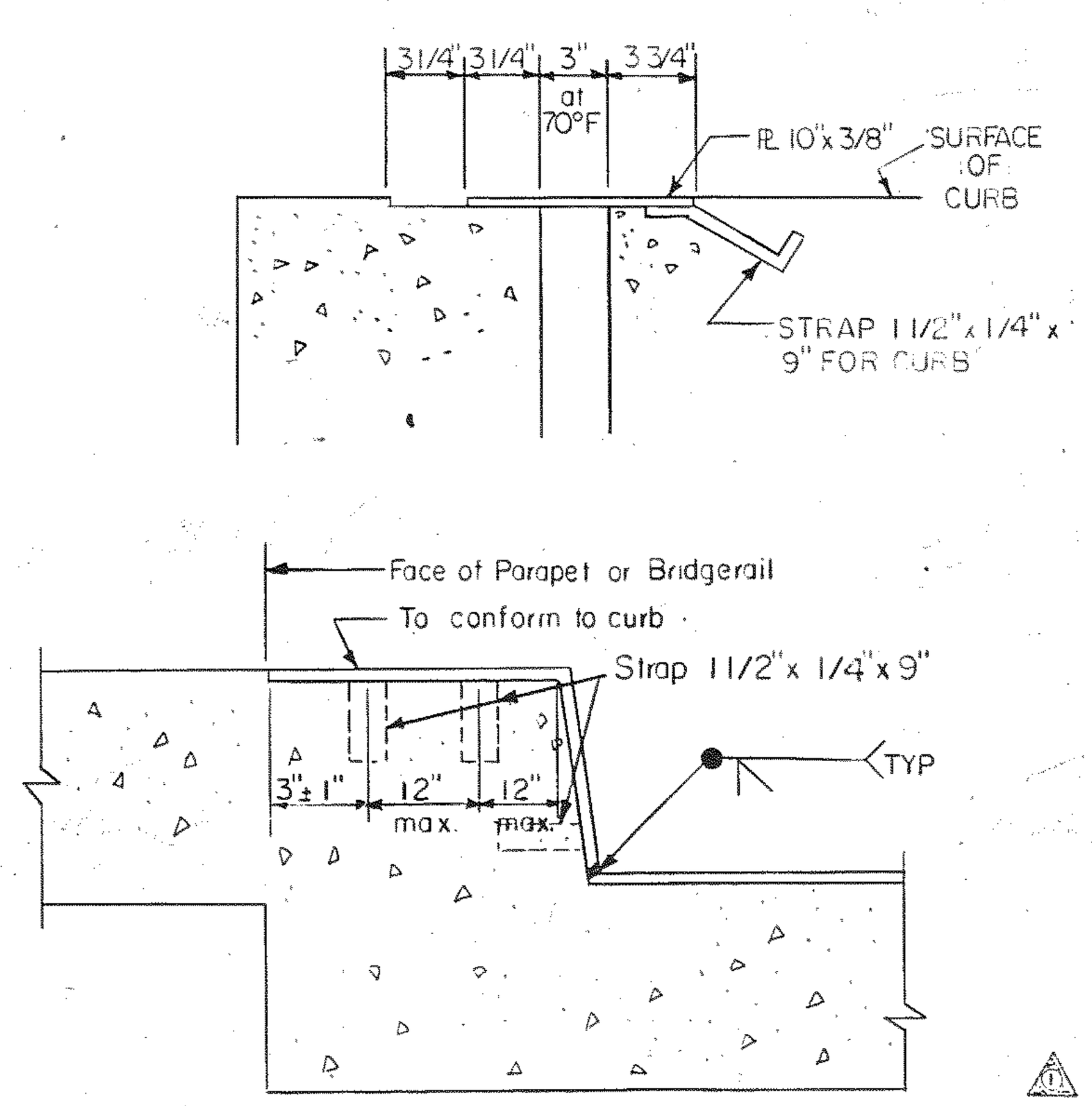
1. STRUCTURAL STEEL CONFORMING TO ASTM A36 TO BE USED
2. WELDING TO CONFORM TO AWS SPECIFICATIONS FOR BRIDGES.
3. TYPE A SHALL BE USED ON CONCRETE BRIDGES AND TYPE "B" SHALL BE USED ON BRIDGES WITH STEEL BEAMS.
4. LEVELING BOLT ASSEMBLIES SHALL BE LOCATED OPPOSITE BEAM CONNECTIONS ON TYPE "B" DEVICES EXCEPT WHEN DISTANCE BETWEEN ASSEMBLIES EXCEEDS 10 FT. THEN ADDITIONAL CONNECTIONS SHALL BE MADE TO END DIAPHRAGMS WITH CORRESPONDING BOLT ASSEMBLIES IN BACKWALL, SPACING NOT TO EXCEED 10 FT. ON TYPE "A" DEVICES. BOLT ASSEMBLIES SHALL BE LOCATED IN END DIAPHRAGMS BETWEEN GIRDERS WITH CORRESPONDING ASSEMBLIES IN BACKWALL AT A SPACING NOT TO EXCEED 10 FT.
   BOLT ASSEMBLIES SHALL BE LOCATED IN THE FIELD BASED UPON DIMENSIONS TAKEN FROM SHOP DRAWINGS.
5. ON BRIDGES WHERE LEVELING BOLTS CAN NOT BE IMBEDDED 1'10" BELOW ROADWAY, A 4" 90° BEND SHALL BE PUT ON BOTTOM END OF BOLTS.
6. EXPANSION DEVICES SHALL BE ALIGNED AND BROUGHT TO PROPER ELEVATION BEFORE LEVELING BOLTS ARE TIGHTENED AND BEAM CONNECTIONS WELDED.
7. FABRICATE TO FIT SLOPE AND SKEW OF BRIDGE AS REQUIRED. ROADWAY PLATE SHALL BE BEVELED FOR GRADES 3% OR GREATER.
8. FOR INFORMATION NOT SHOWN ON THIS DRAWING SEE BRIDGE DESIGN DRAWINGS.



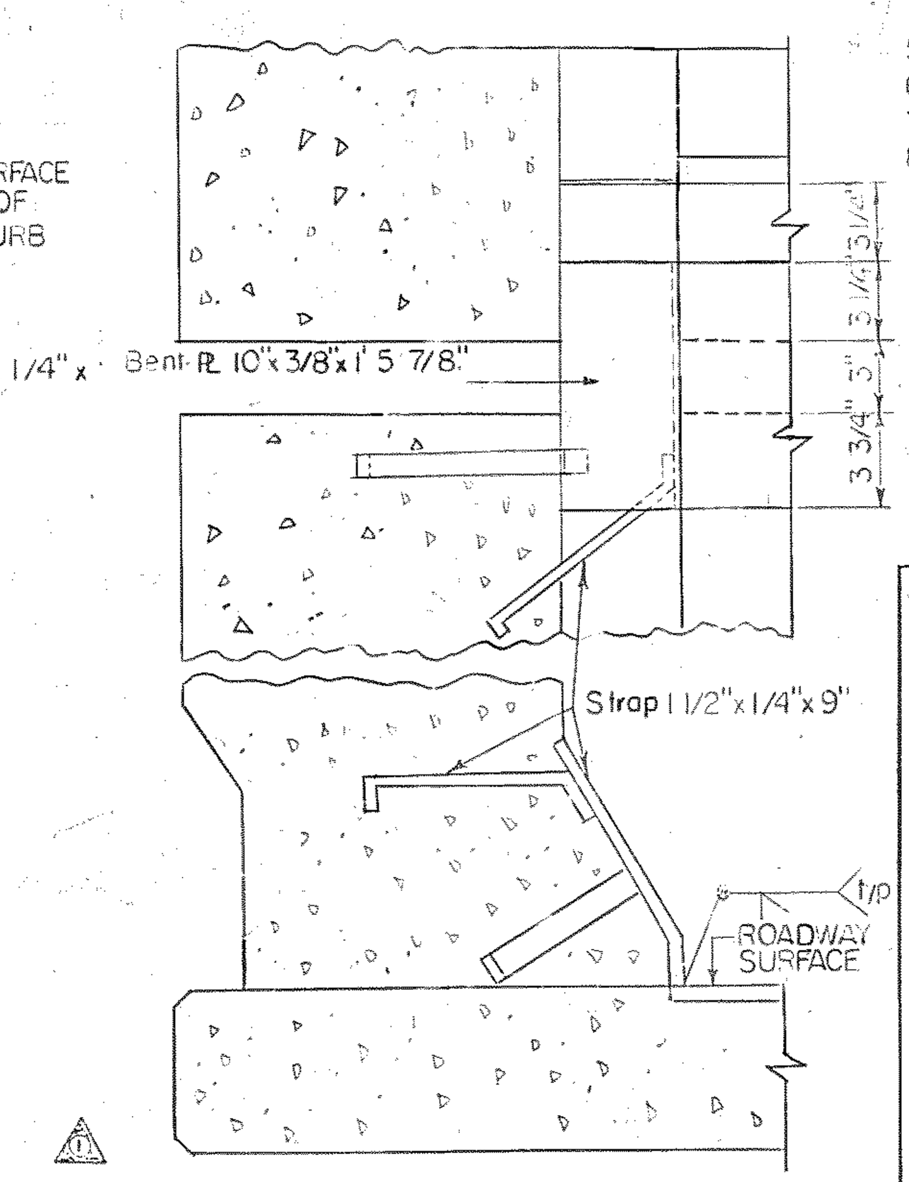
SECTION A-A
"Bolts & Washers not shown"



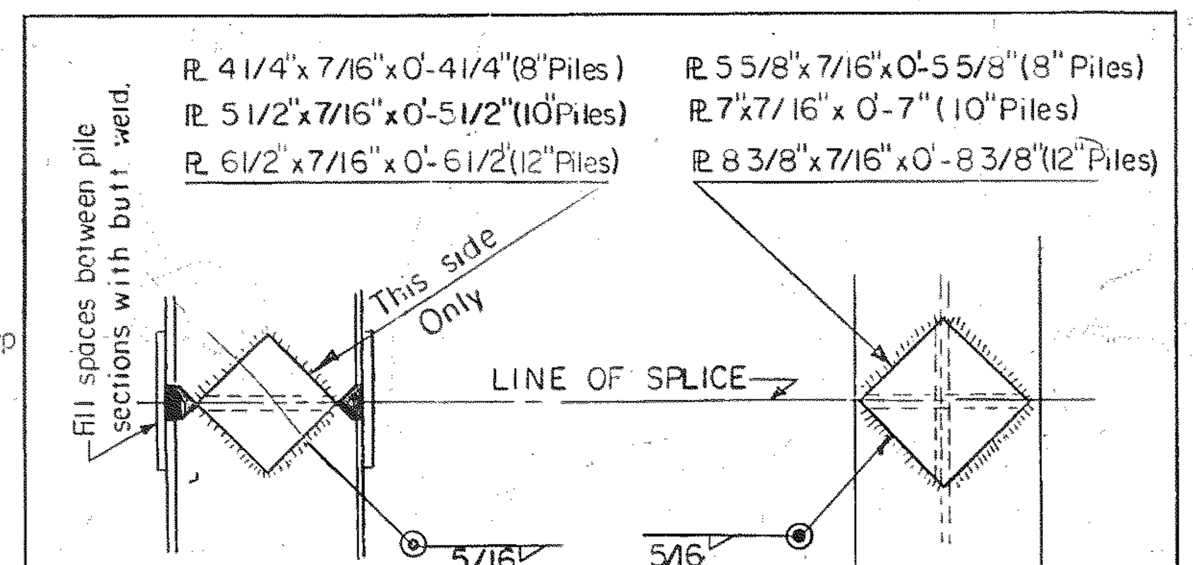
TYPICAL ANCHOR STRAP TO ANGLE CONNECTION



DETAIL CURB EXPANSION DEVICE
Required: One at each end of Roadway Expansion Device when curbs are used.
Plan above is shown for right angle structure. Fabricate to fit skew as required.



DETAIL PARAPET EXPANSION DEVICE
Required: One at each end of Roadway Expansion Device when curbs are not used.
Plan above is shown for right angle structure. Fabricate to fit skew as required.



NOTE: Structural steel conforming to ASTM-A7 or ASTM-A36 will be acceptable.

STANDARD PILE SPLICE DETAIL

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

STANDARD
ROADWAY EXPANSION DEVICE
STEEL PILE SPLICE
1967

CORRECT: [signature] BRIDGE ENGINEER
APPROVED: [signature] STATE HIGHWAY ENGINEER

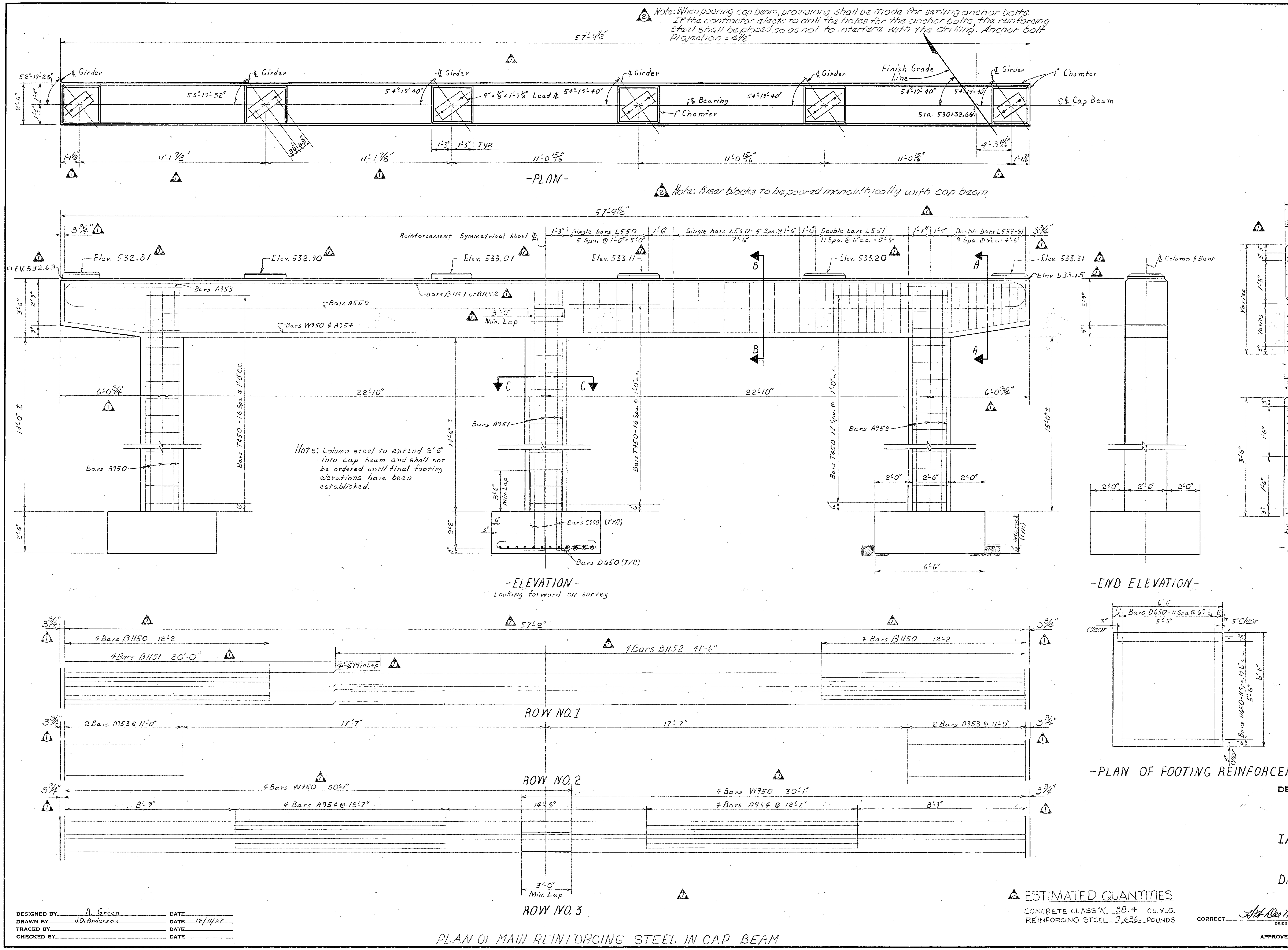
DESIGNED BY		DATE	
DRAWN BY		DATE	
TRACED BY	T.A. UTLEY	DATE	OCT. 67
CHECKED BY		DATE	

K-56-34

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	TENN.	I-65-3( )94	1968		

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	1-26-68	R.G.	Dimensions & Elevations
2	3-18-68	J.C.B.	Notes added
3	3-18-68	J.C.B.	Quantities



STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
NASHVILLE

Bent No. 2
Left Lane
Interstate 65 Over
Two Mile Pike
Station 529+09.84
Davidson - Sumner Counties
1968

ESTIMATED QUANTITIES

CONCRETE CLASS "A" 38.4 CU. YDS.
REINFORCING STEEL 7,636. POUNDS

DESIGNED BY B. Green DATE
DRAWN BY J.D. Anderson DATE 12/11/67
TRACED BY DATE
CHECKED BY DATE

CORRECT [signature] BRIDGE ENGINEER
APPROVED [signature] STATE HIGHWAY ENGINEER

K-56-14