

06-10-2016 LETTING ITEM 059

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

\* 16 + 2 = 18 TOTAL SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74/280	(37-1HB-1R)BP	HENRY	16	1
		ILLINOIS	CONTRACT NO. 64L52	

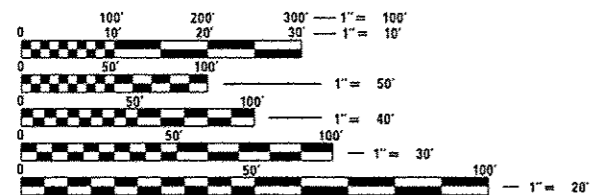
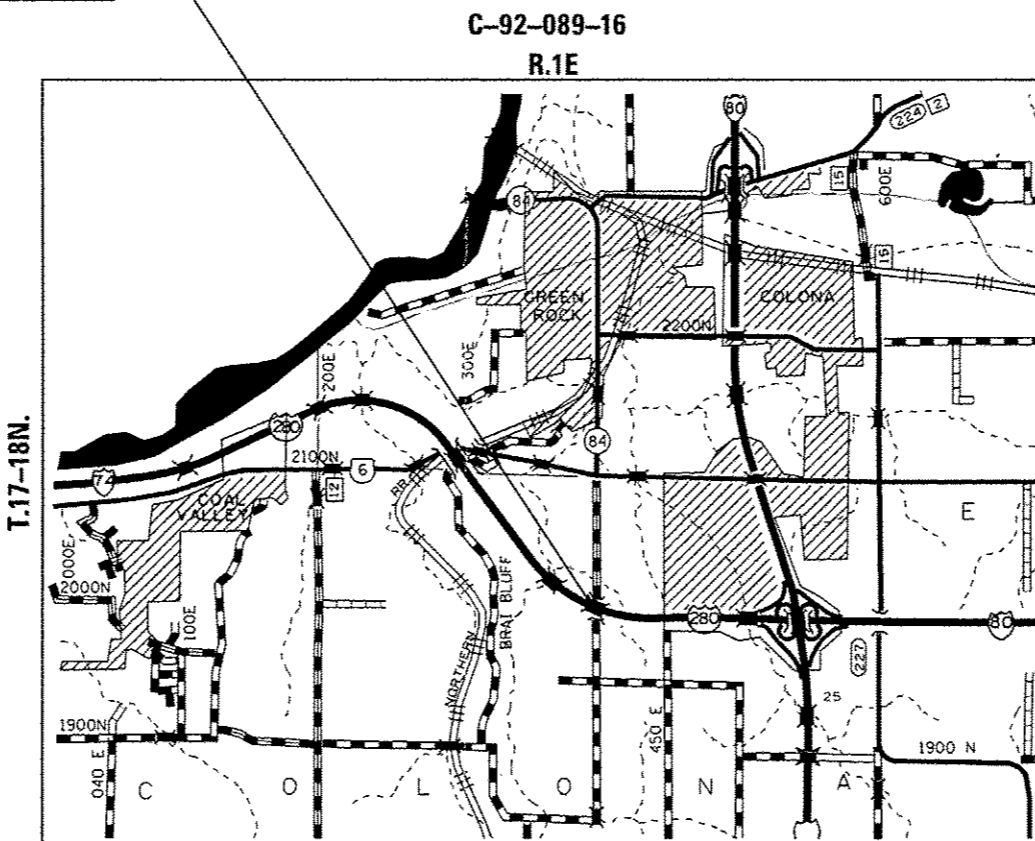
FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR STATE STANDARDS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

FAI ROUTE 74/280 (I-74/280)  
SECTION (37-1HB-1R)BP  
TYPE OF IMPROVEMENT: BRIDGE PAINTING  
SN 037-0005 & SN 037-0006 OVER TOWNSHIP ROAD 48 (TR 48)  
HENRY COUNTY

SN 037-0005 &  
SN 037-0006

COLONA TOWNSHIP, SECTION 16

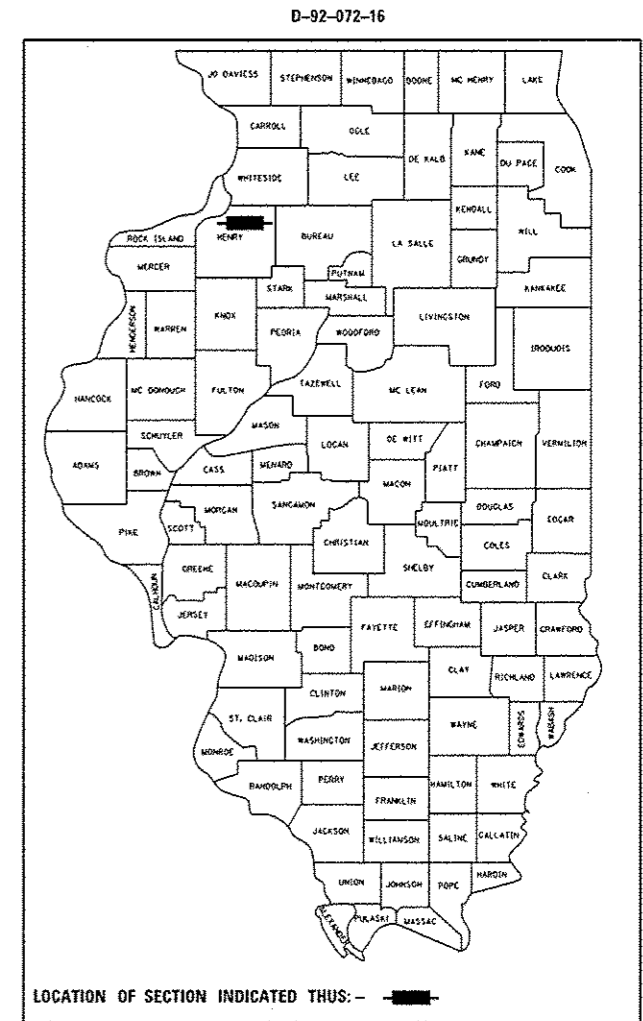


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: DAVID DOSS (815) 284-5416  
PROJECT MANAGER: MAHMOUD ETEMADI (815) 284-5393

CONTRACT NO. 64L52



LOCATION OF SECTION INDICATED THUS: - [black rectangle]

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *March 7<sup>th</sup> 2016*  
*Paul e. [signature]*  
REGION 2 ENGINEER

*May 6 2016*  
*Mahmoud M. Etemadi, P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

*May 6 2016*  
*Omer Osman, P.E.*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

# INDEX OF SHEETS

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- 2 INDEX OF SHEETS & STATE STANDARDS
- 3 GENERAL NOTES
- 4 SUMMARY OF QUANTITIES
- 5 STAGING TYPICALS
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- 8-9 TRAFFIC CONTROL PLAN - STAGE II - FOR SN's 037-0005 & 037-0006
- 10-16B EXISTING STRUCTURE PLANS FOR SN 037-0005 & SN 037-0006 (FOR INFORMATION ONLY)

# STATE STANDARDS

- 701001 - 02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15'(4.5m) AWAY
- 701006 - 05 OFF-RD OPERATIONS, 2L, 2W, 15'(4.5m) TO 24"(600mm) FROM PAVEMENT EDGE
- 701101 - 05 OFF ROAD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
- 701201 - 04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701301 - 04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311 - 03 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701321 - 15 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701901 - 05 TRAFFIC CONTROL DEVICES
- 704001 - 08 TEMPORARY CONCRETE BARRIER
- 720011 - 01 METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
- 728001 - 01 TELESCOPING STEEL SIGN SUPPORT
- 729001 - 01 APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)

FILE NAME = D:\BR\Draw\Henry\64L52 Full Cleaning &	USER NAME = dssadd Drawing SN 037-0005 & 037-0006\CADD\02-18-16\BR\Wgn PLOT SCALE = 1/8" = 1' in. PLOT DATE = Mar-18-2016 07:09:53 AM	DESIGNED - _____ CHECKED - _____ DATE - _____	REVISED - _____ REVISED - _____ REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS &amp; STATE STANDARDS</b>  SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____	F.A.I. RTE. 74/280	SECTION (37-1HB-1R1BP)	COUNTY HENRY	TOTAL SHEETS 16	SHEET NO. 2	CONTRACT NO. 64L52  ILLINOIS FED. AID PROJECT
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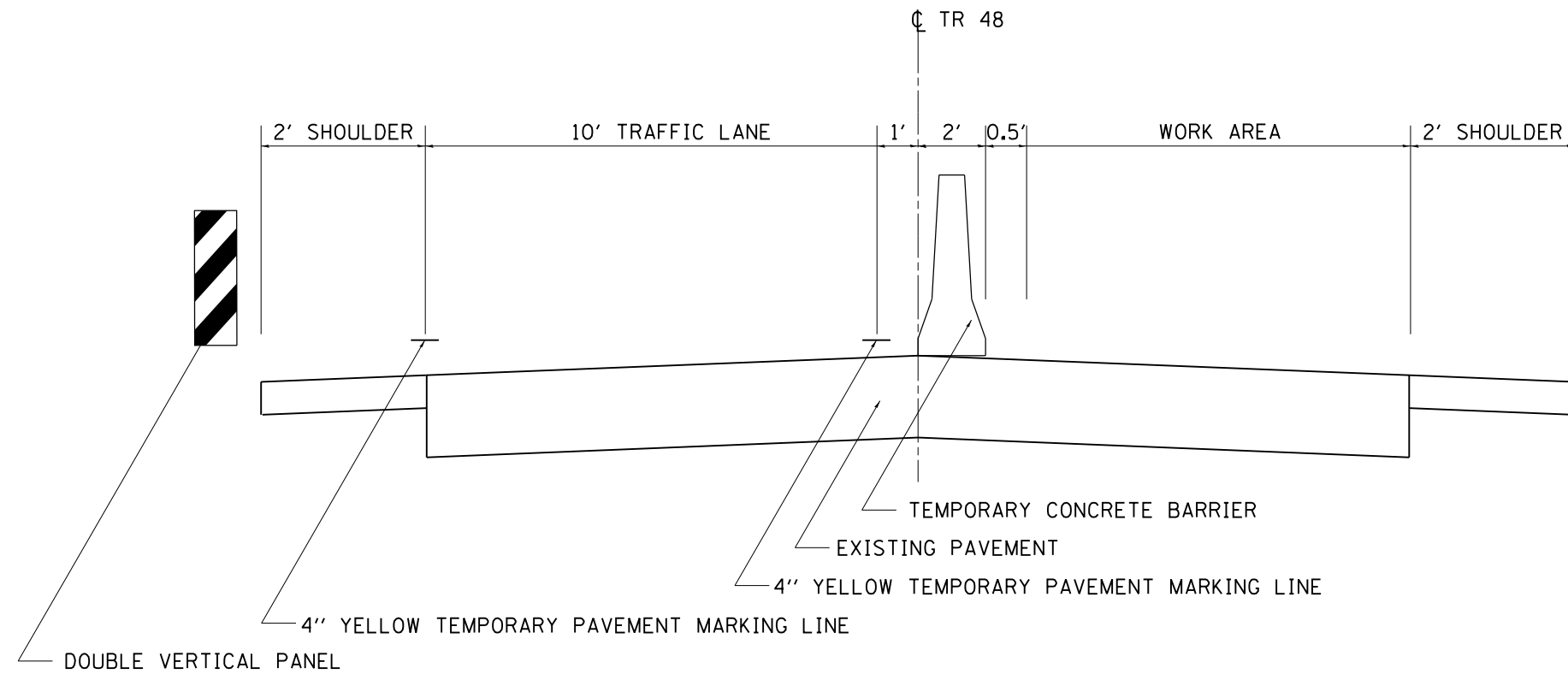
# SUMMARY OF QUANTITIES

0014  
100%  
State Funds

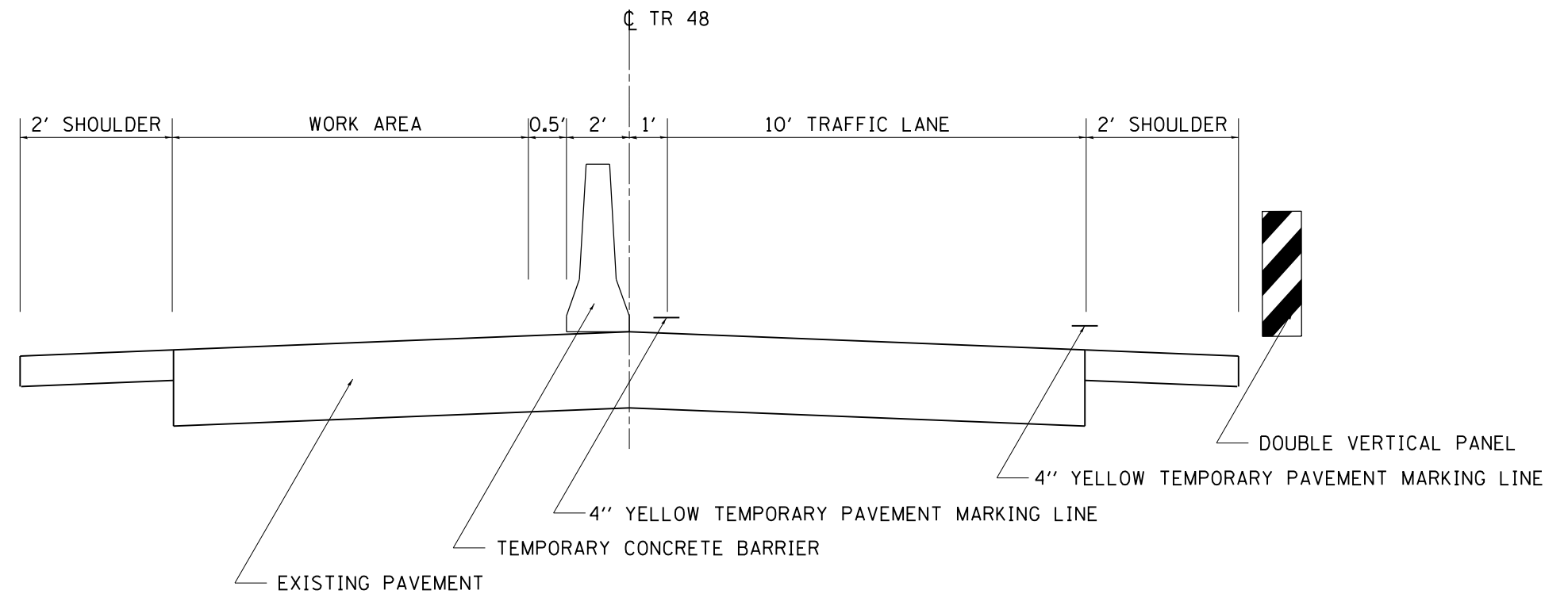
CODE NUMBER	ITEM	UNIT	TOTAL QUANTITY
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2,414
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	22
70400100	TEMPORARY CONCRETE BARRIER	FOOT	430.78
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	430.78
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2
78300100	PAVEMENT MARKING REMOVAL	SQ FT	848
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY NO. 1	L SUM	1
X5067502	BRIDGE CLEANING AND PAINTING WARRANTY NO. 2	L SUM	1
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1

# STAGING TYPICALS

STAGE I - TR 48 (E 400TH ST)



STAGE II - TR 48 (E 400TH ST)

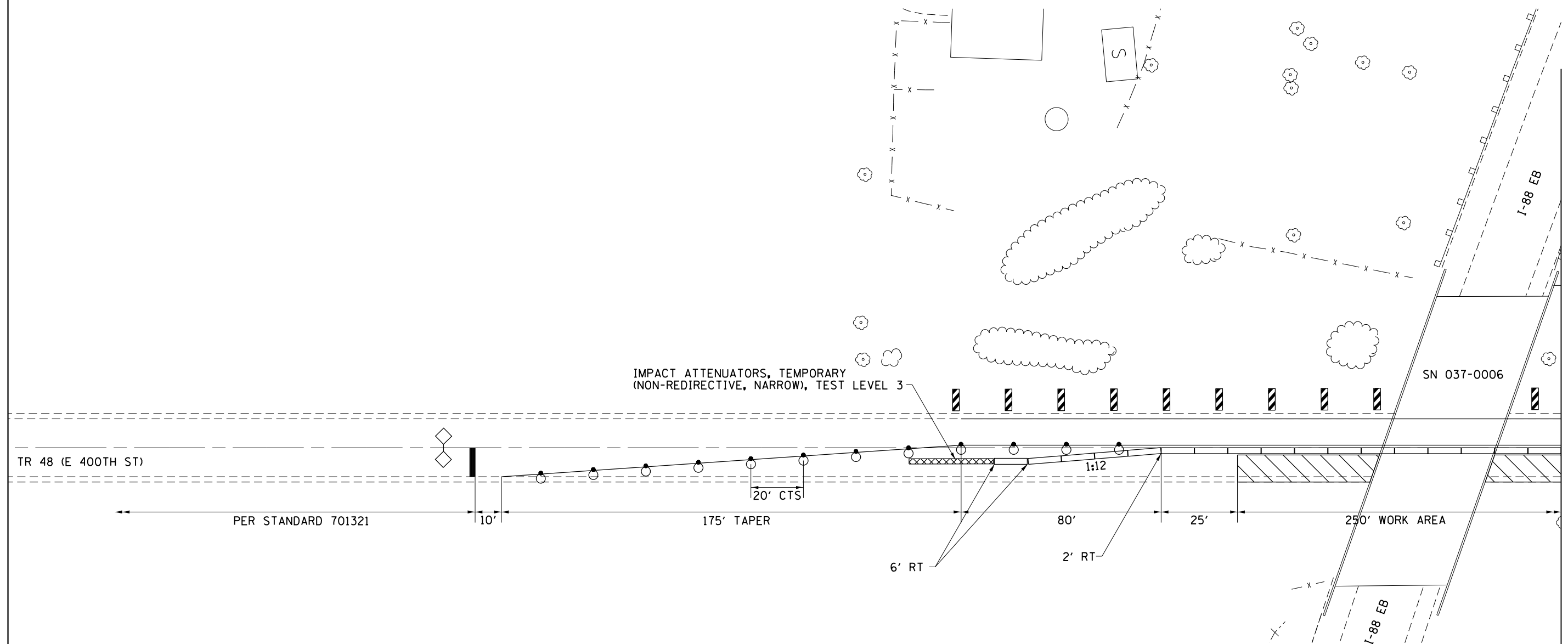


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D:\BR\Bos\Henry\64L52 Full Cleaning & Painting SN 037-0005 & 037-0006\CADD\02-sh	DRAWN - _____	REVISED - _____	74/280			(37-1HB-1R)BP	HENRY	16	5		
Default	PLOT SCALE = 100.0000' / in.	CHECKED - _____	REVISED - _____			CONTRACT NO. 64L52					
	PLOT DATE = Mar-10-2016 07:10:15 AM	DATE - _____	REVISED - _____			ILLINOIS FED. AID PROJECT					

SCALE: \_\_\_\_\_ SHEET \_\_\_\_ OF \_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

# TRAFFIC CONTROL PLAN

## STAGE I – FOR SN's 037-0005 & 037-0006



IMPACT ATTENUATORS, TEMPORARY  
(NON-REDIRECTIVE, NARROW), TEST LEVEL 3

TR 48 (E 400TH ST)

SN 037-0006

PER STANDARD 701321

175' TAPER

1:12

20' CTS

6' RT

2' RT

I-88 EB

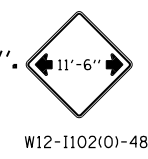
I-88 EB

### SYMBOLS

- Work area
- Double vertical panel (see detail)
- Drum with steady burning bi-directional light
- Temporary concrete barrier
- Detector loops
- Impact attenuator

### NOTES

1. REFER TO STANDARD 701321 AND 704001 FOR DETAILS NOT SHOWN.
2. OFFSETS ARE TO THE CONSTRUCTION SIDE OF THE BARRIER WALL.
3. THE MAX WIDTH SHALL BE 11'-6".



FILE NAME =	USER NAME = dosddd	DESIGNED - _____	REVISED - _____
0:\BR\Doss\Henry\64L52 Full Cleaning &	Pointing SN 037-0005 & 037-0006\CADD\02-sh	DRAWN - _____	REVISED - _____
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TRAFFIC CONTROL PLAN</b>	
<b>STAGE I – FOR SN's 037-0005 &amp; 037-0006</b>	
SCALE: _____	SHEET _____ OF _____ SHEETS
STA. _____	TO STA. _____

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74/280	(37-1HB-1R/BP	HENRY	16	6
CONTRACT NO. 64L52				
ILLINOIS FED. AID PROJECT				

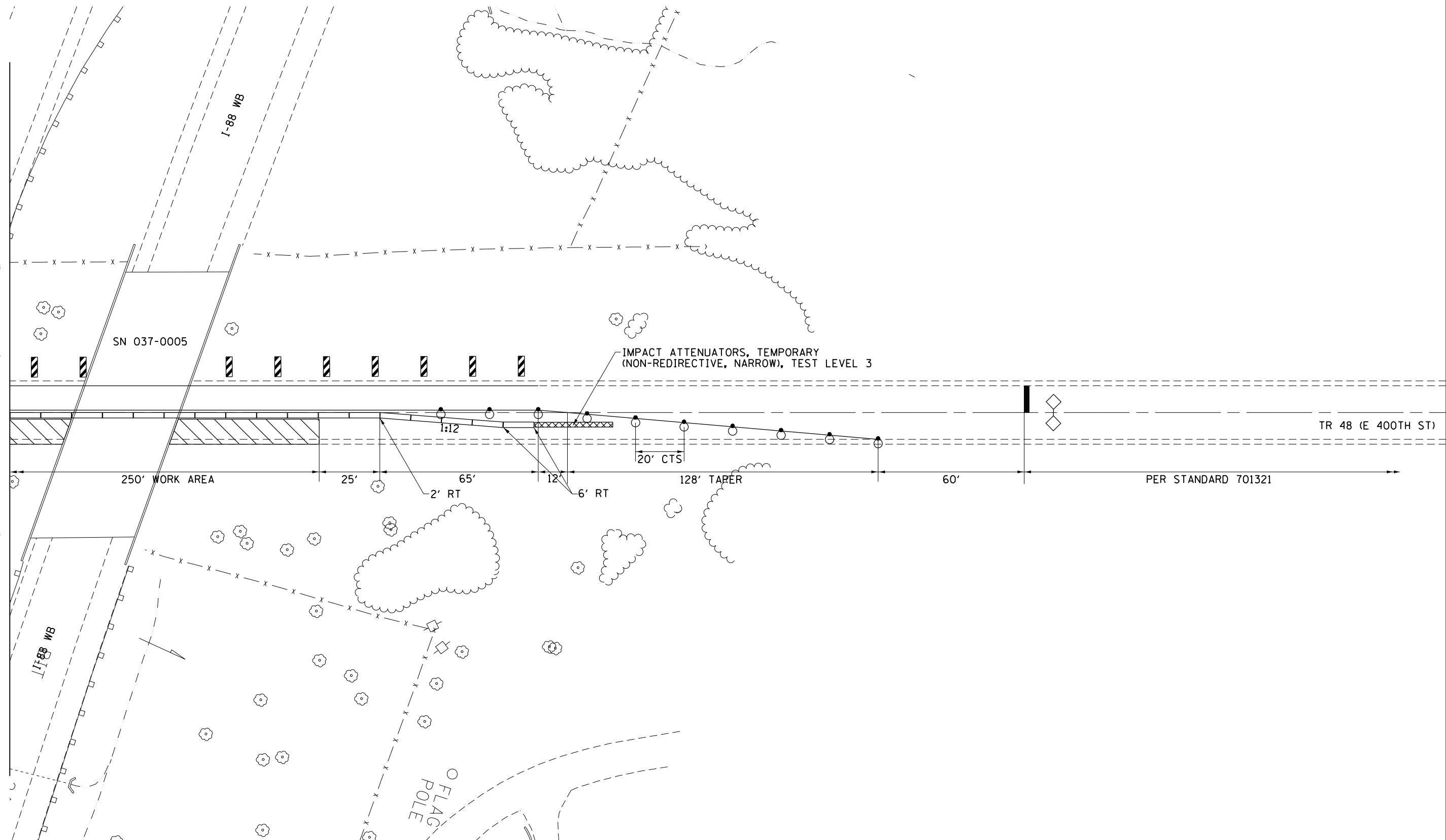
**MATCHLINE STAGE I**

# TRAFFIC CONTROL PLAN



## STAGE I - FOR SN's 037-0005 & 037-0006

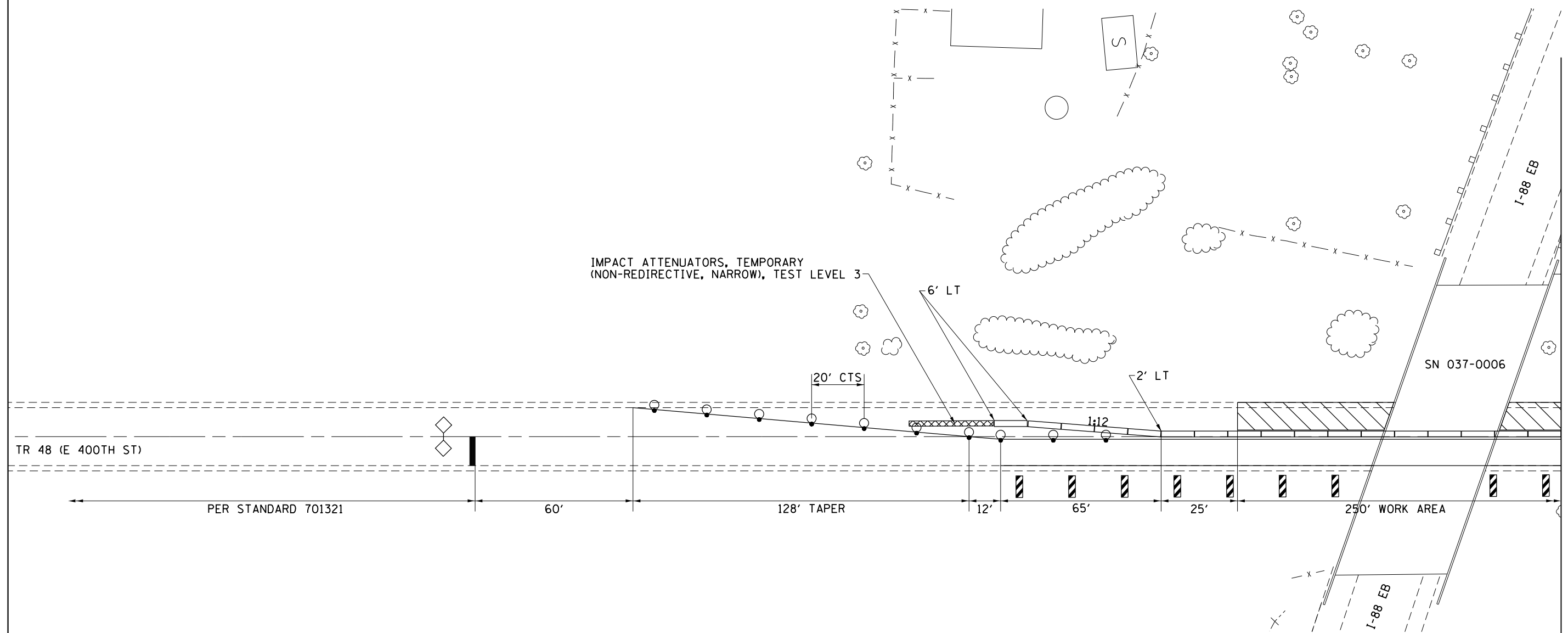
**MATCHLINE STAGE I**



FILE NAME = D:\BR\Draws\Henry\64L52 Full Cleaning & Pointing SN 037-0005 & 037-0006\CADD\02-sh	USER NAME = dossdd	DESIGNED - _____	REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL PLAN</b>		F.A.I. RTE. = 74/280	SECTION = (37-1HB-1R/BP)	COUNTY = HENRY	TOTAL SHEETS = 16	SHEET NO. = 7	
	Default	PLOT SCALE = 100.0000' / in.	CHECKED - _____		REVISED - _____	<b>STAGE I - FOR SN's 037-0005 &amp; 037-0006</b>		CONTRACT NO. 64L52		ILLINOIS FED. AID PROJECT		
	PLOT DATE = Mar-10-2016 07:10:30 AM	DATE - _____	REVISED - _____		SCALE: _____	SHEET _____ OF _____ SHEETS	STA. _____ TO STA. _____					

# TRAFFIC CONTROL PLAN

## STAGE II – FOR SN's 037-0005 & 037-0006



**MATCHLINE STAGE II**

IMPACT ATTENUATORS, TEMPORARY  
(NON-REDIRECTIVE, NARROW), TEST LEVEL 3

TR 48 (E 400TH ST)

PER STANDARD 701321

60'

128' TAPER

12'

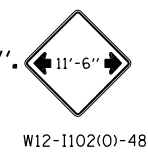
65'

25'

250' WORK AREA

**NOTES**

1. REFER TO STANDARD 701321 AND 704001 FOR DETAILS NOT SHOWN.
2. OFFSETS ARE TO THE CONSTRUCTION SIDE OF THE BARRIER WALL.
3. THE MAX WIDTH SHALL BE 11'-6".



**SYMBOLS**

- Work area
- Double vertical panel (see detail)
- Drum with steady burning bi-directional light
- Temporary concrete barrier
- Detector loops
- Impact attenuator

FILE NAME =	USER NAME = dosddd	DESIGNED - _____	REVISED - _____
D:\BR\Draws\Henry\64L52 Full Cleaning & Pointing SN 037-0005 & 037-0006\CADD\02-sh	DRAWN - _____	REVISIONS - _____	REVISIONS - _____
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL PLAN  
STAGE II – FOR SN's 037-0005 & 037-0006**

SCALE: \_\_\_\_\_ SHEET \_\_\_\_\_ OF \_\_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74/280	(37-1HB-1R/BP)	HENRY	16	8
CONTRACT NO. 64L52			ILLINOIS FED. AID PROJECT	

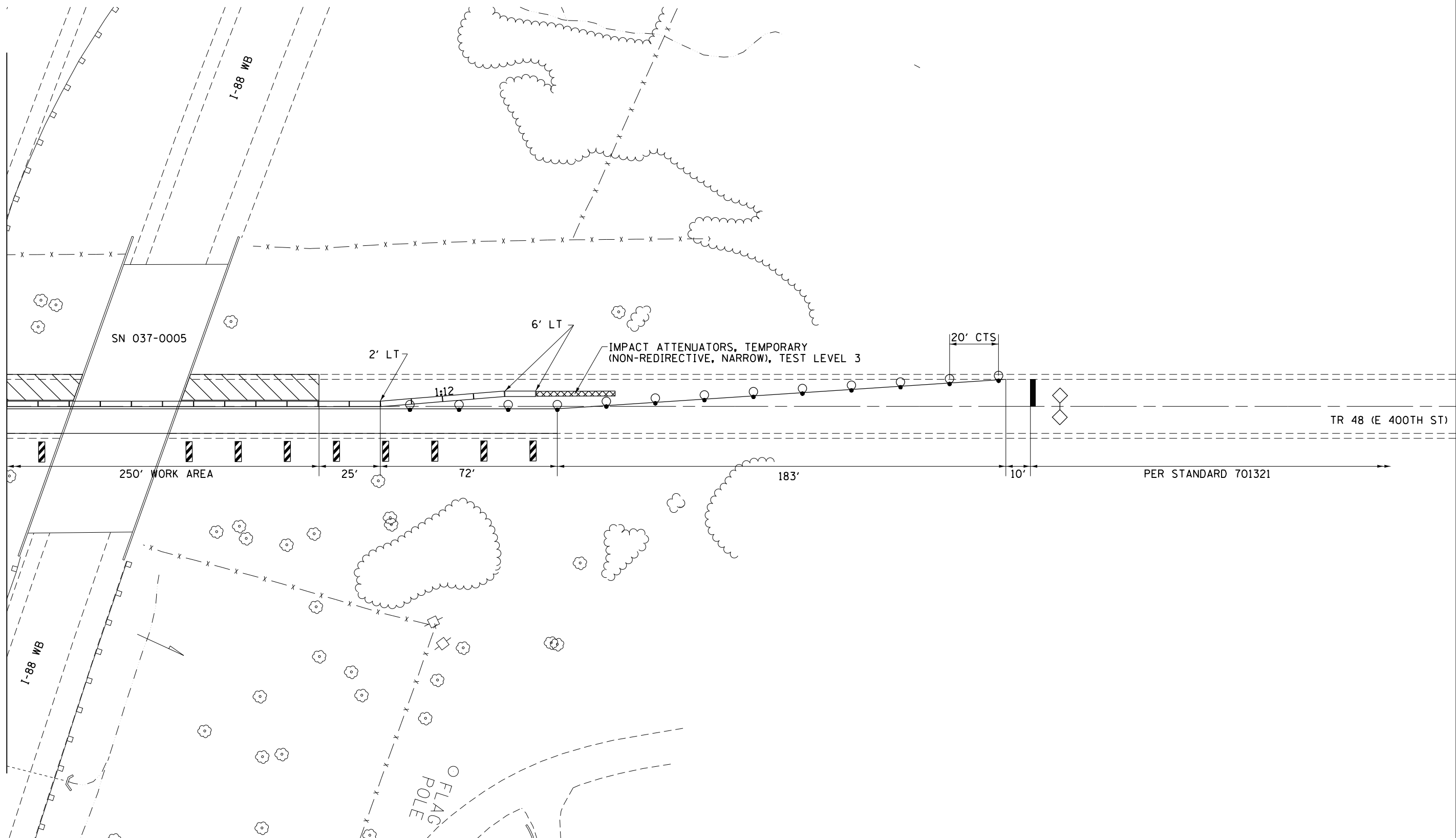


# TRAFFIC CONTROL PLAN



## STAGE II – FOR SN's 037-0005 & 037-0006

**MATCHLINE STAGE II**



FILE NAME = D:\BR\Draws\Henry\64L52 Full Cleaning & Pointing SN 037-0005 & 037-0006\CADD\02-sh...	USER NAME = dossdd	DESIGNED - _____	REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL PLAN STAGE II – FOR SN's 037-0005 &amp; 037-0006</b>	F.A.I. RTE. = 74/280	SECTION = (37-1HB-1R/BP)	COUNTY = HENRY	TOTAL SHEETS = 16	SHEET NO. = 9
	Default	PLOT SCALE = 100.0000' / in.	CHECKED - _____			REVISED - _____	SCALE: _____ SHEET _____ OF _____ SHEETS STA. _____ TO STA. _____	CONTRACT NO. 64L52		
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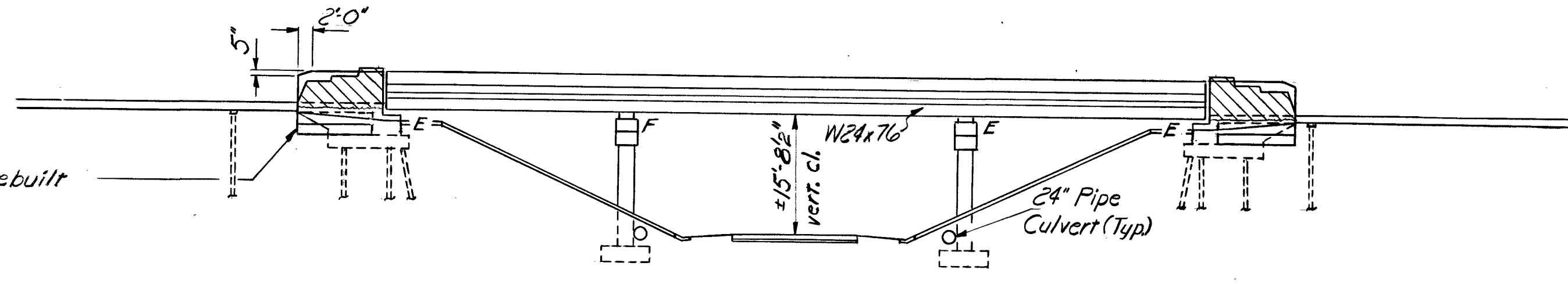
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
			77	40	23 SHEETS
FED. ROAD DIST. NO. 7			ILLINOIS FED. AID PROJECT		

Bench Mark: #99 Nail and cap in 30" wild cherry tree 130' Rr. 880+20 Elev. 683.20  
Existing Structures: #037-0005 & #037-0006, each 44'-0" wide by 119'-3" long, built as F.A.I. Rte. 74, Section 37-1-HB1 at station 884+26.42 in 1961.  
The existing three span R.C.G. superstructures shall be removed and replaced with concrete decks on wide flange beams. The twin bridges shall be reconstructed one at a time with traffic diverted to the other.  
No salvage.

GENERAL NOTES

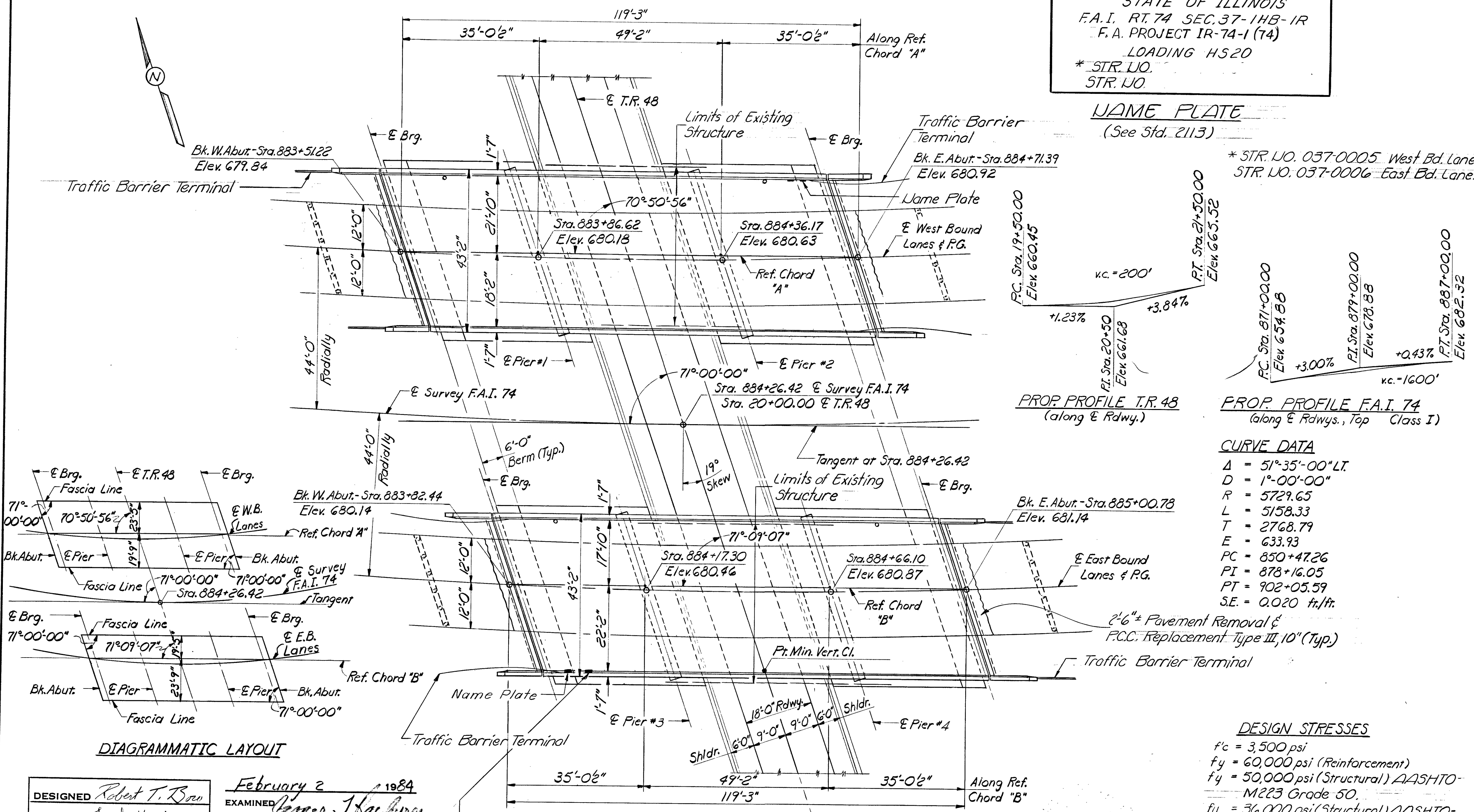
Fasteners shall be high strength bolts  $\frac{3}{4}"$ , open holes  $\frac{1}{16}"$  or  $\frac{7}{8}"$ , open holes  $\frac{5}{16}"$ , unless otherwise noted.  
Calculated weight of Structural Steel: M223 grade 50-90, 81 Q; M183-21820 lbs.  
The Zinc-silicate vinyl paint system shall be used for shop and field painting of Structural Steel except where otherwise noted.  
Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports.  
Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting diaphragms over supports.  
The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 222.  
The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the tension flanges, webs and all splice plate material of the wide flange beams.  
Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.  
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 lbs., and  $\frac{3}{4}"$  x 12" hooked bolts.  
Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$  inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two  $\frac{1}{8}"$  adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. (For Type I Elastomeric Bearings, shims of the dimensions of top plate shall be provided and placed as detailed).



ELEVATION

STATION 884+26.42  
REBUILT 198 BY  
STATE OF ILLINOIS  
F.A.I. RT. 74 SEC. 37-1HB-1R  
F.A. PROJECT IR-74-1 (74)  
LOADING HS20  
\* STR. U.O.  
STR. U.O.

NAME PLATE  
(See Std. 2113)



DIAGRAMMATIC LAYOUT

PLAN

DESIGNED Robert T. Bero  
CHECKED L. S. Houch  
DRAWN  
CHECKED L. S. Houch

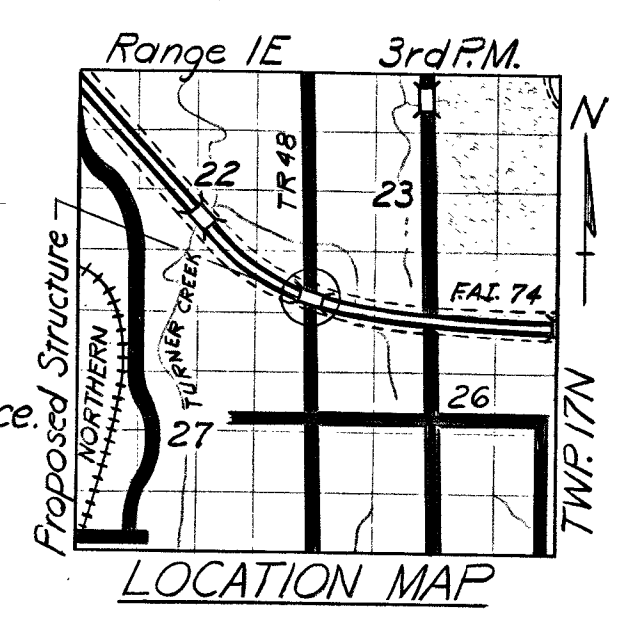
February 2, 1984  
EXAMINED  
PASSED  
APPROVED  
ENGINEER OF BRIDGES AND STRUCTURES  
DIRECTOR OF HIGHWAYS

Clean & relocate existing name plate. (Typ.)  
Cost incidental.

DESIGN STRESSES

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (Structural) AASHTO-M223 Grade 50.  
 $f_y = 36,000$  psi (Structural) AASHTO-M183.  
Allow 25' 1.5g ft. for future wearing surface.

LOADING HS20-44 ALT.  
Design Specifications: 1977 AASHTO; 1978, thru 1983  
Interim Specifications.



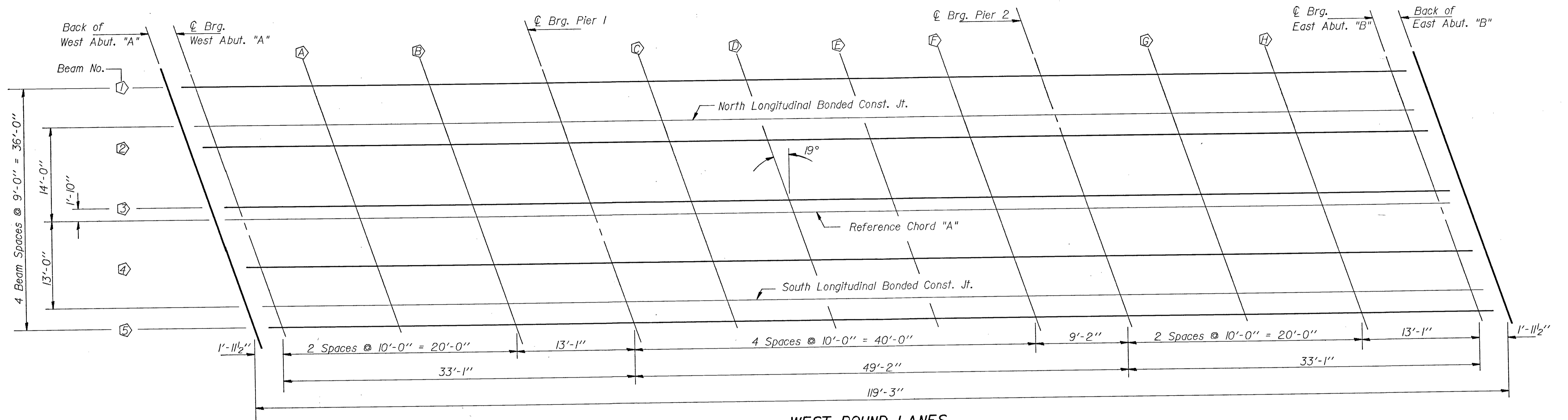
GENERAL PLAN & ELEVATION  
F.A.I. R.T.E. 74 OVER T.R. 48  
F.A.I. R.T.E. 74 SEC. 37-1HB-1R  
HENRY COUNTY  
STA. 884+26.42

TOTAL BILL OF MATERIAL

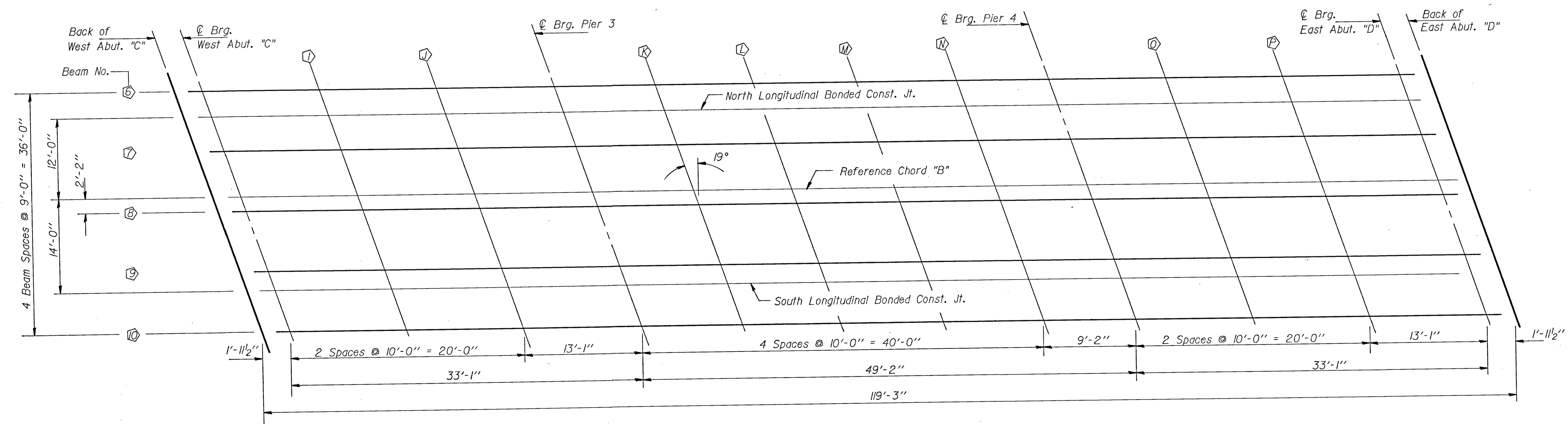
Item	Unit	Super	Sub.	Total
Protective Coat	Sq. Yds.	1280		1280
Removal of Existing Superstructures	Each	?		?
Concrete Removal	Cu. Yds.		44.5	44.5
Expansion Bolts $\frac{3}{4}"$	Each		400	400
Structure Excavation	Cu. Yds.		16.9	16.9
Floor Drains	Each	4		4
Class X Concrete	Cu. Yds.	305.0	105.1	410.1
Structural Steel	L.S.	0.5		0.5
Stud Shear Connectors	Each	6120		6120
Reinforcement Bars	Lbs.		13,890	13,890
Reinforcement Bars (Epoxy Coated)	Lbs.		84,590	84,590
Name Plates	Each	?		?
Neoprene Expansion Joint (2")	Lin. Ft.	178		178
Elastomeric Bearing Assembly, Type I	Each		30	30
Pavement Removal & P.C.C. Replacement Type III, 10" (Typ)	Sq. Yds.	?		?

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4
			77	43	23 SHEETS
F.A.I.		ILLINOIS			
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT-			



WEST BOUND LANES



EAST BOUND LANES

DESIGNED	Robert T. Boro	EXAMINED	Garnet J. Hayburn
CHECKED	L. S. Houch	PASSED	Carl E. Hummer
DRAWN	J.T. Downing	APPROVED	
CHECKED	L. S. Houch		

Feb. 2 1984  
DIRECTOR OF HIGHWAYS

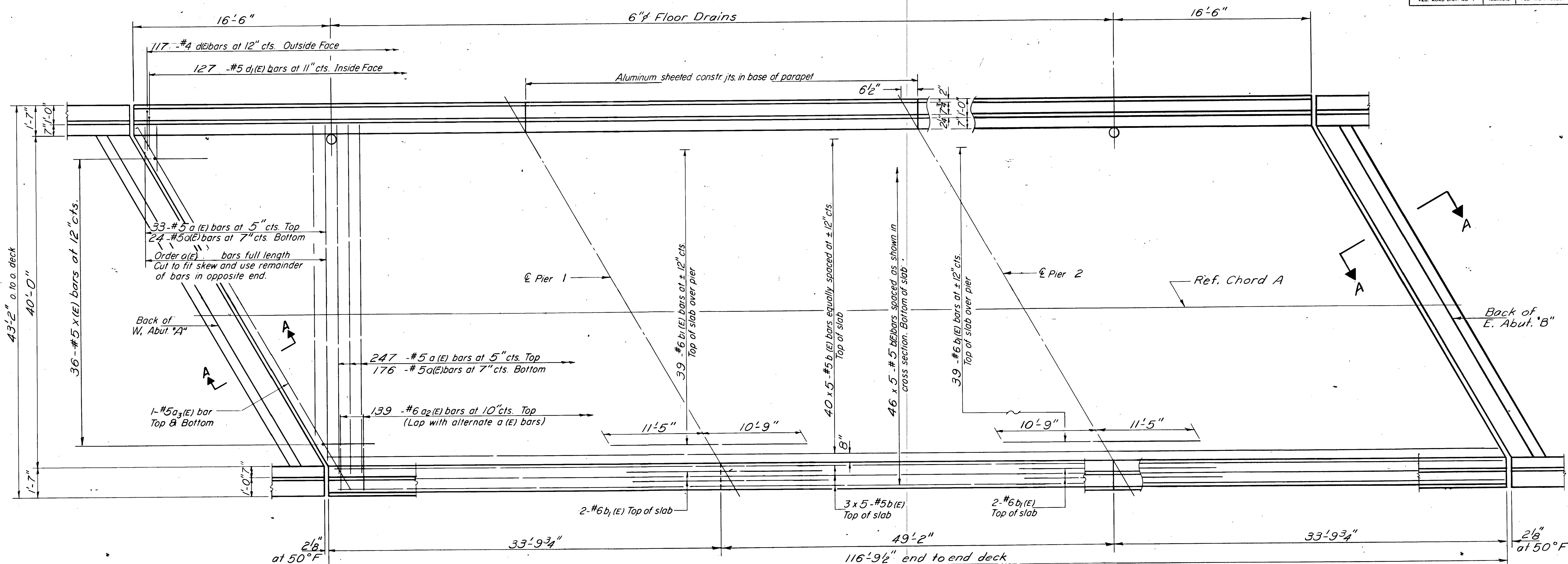
BEAM LAYOUT  
TOP OF SLAB ELEVATIONS  
F.A.I. RT. 74 SEC. 37-IHB-IR  
HENRY COUNTY  
STA. 884+26.42

FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

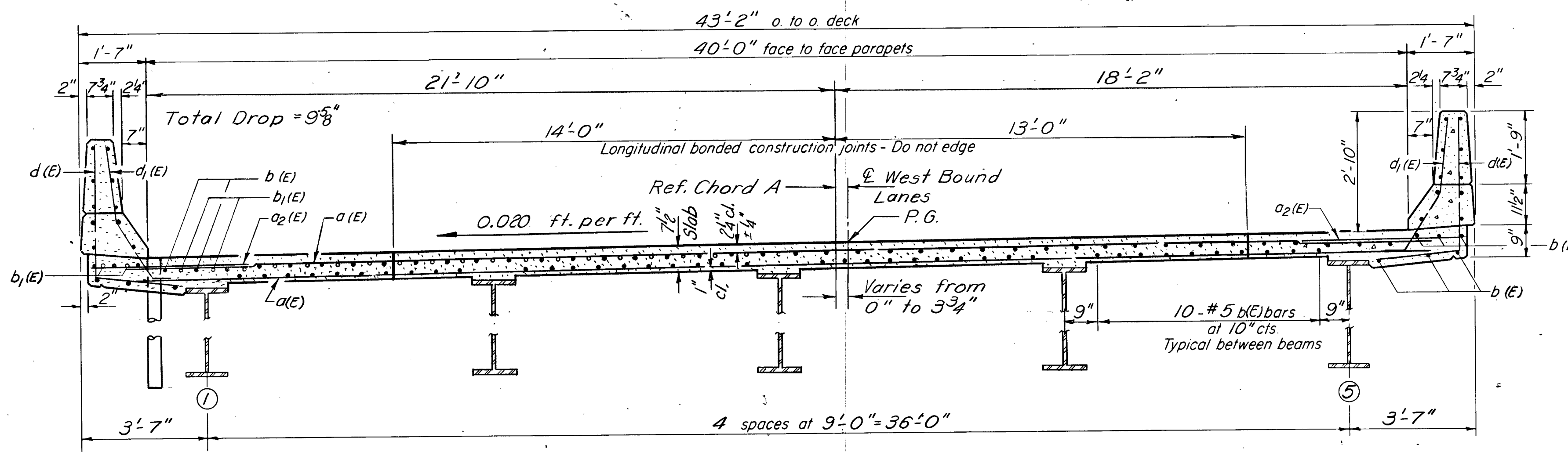
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			77	44
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 5  
23 SHEETS



PLAN

BAR LAP  
#5 = 1'-8"



CROSS SECTION  
LOOKING EAST

NOTES:  
See sheet #7 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**SUPERSTRUCTURE**  
**WEST BOUND LANES**  
F.A.I. RT. 74 SEC. 37-1HB-1R  
HENRY COUNTY  
STA. 884+26.42

DESIGNED Robert T. Boro  
CHECKED L. S. Houch  
DRAWN R. P. S.  
CHECKED L. S. Houch

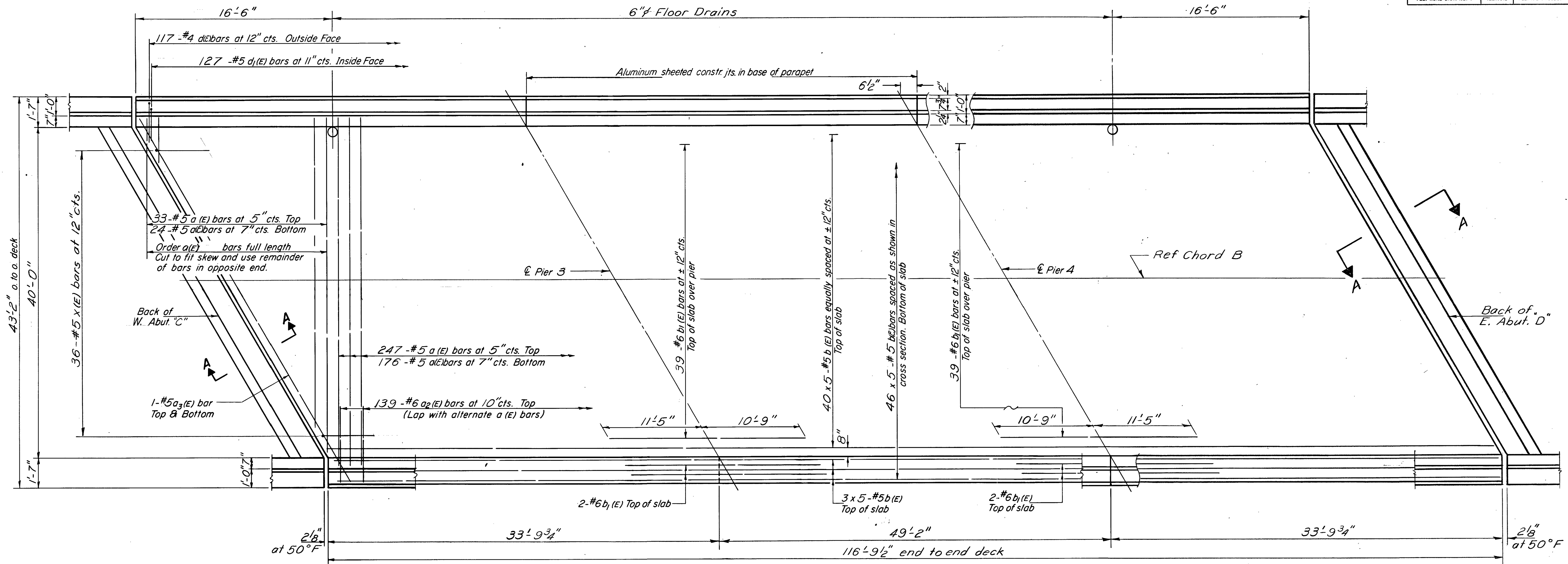
EXAMINED James J. Keenan  
PASSED Carl E. Huch  
APPROVED  
DIRECTOR OF HIGHWAYS

S-1-R(15) 11-30-81

FOR INFORMATION ONLY

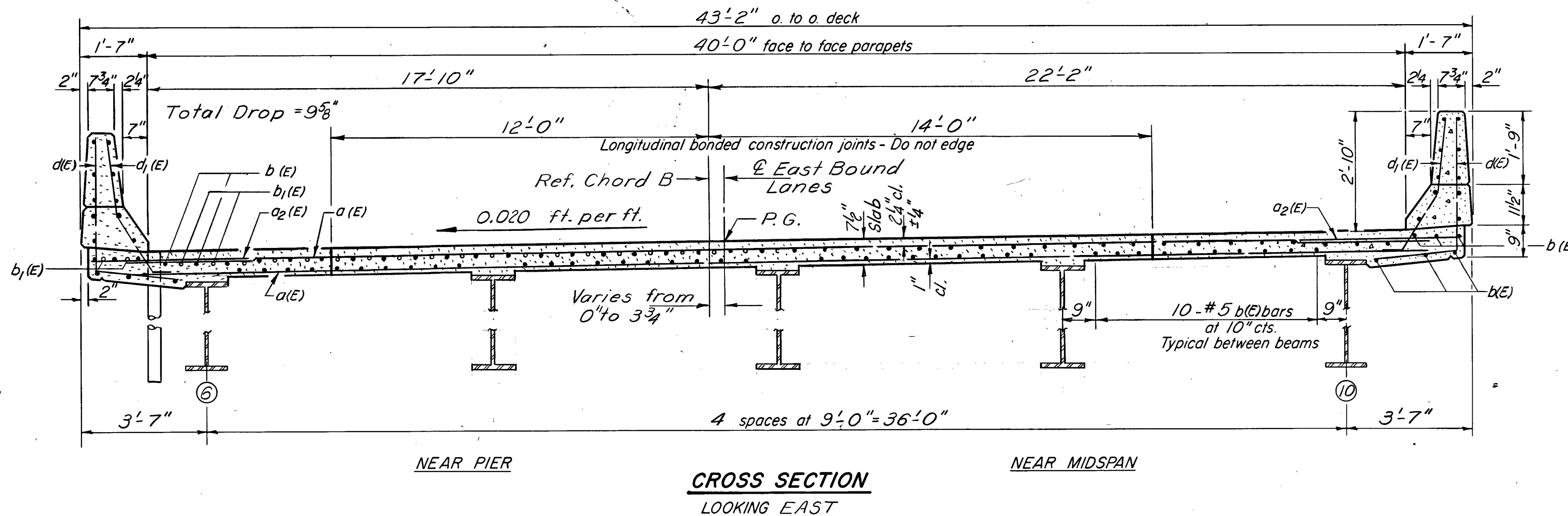
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 23 SHEETS
S. R. I.			77	45	
F. A.					
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



PLAN

BAR LAP  
#5 = 1'-8"



NOTES:  
See sheet # 7 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 20 x 3 -#5 etc. indicates 20 lines of bars with 3 lengths per line.

SUPERSTRUCTURE  
EAST BOUND LANES  
F.A.I. RT. 74 SEC. 37-IHB-1R  
HENRY COUNTY  
STA 884+26.42

DESIGNED Robert T. Boro  
CHECKED L. S. Houck  
DRAWN R. P. S.  
CHECKED L. S. Houck

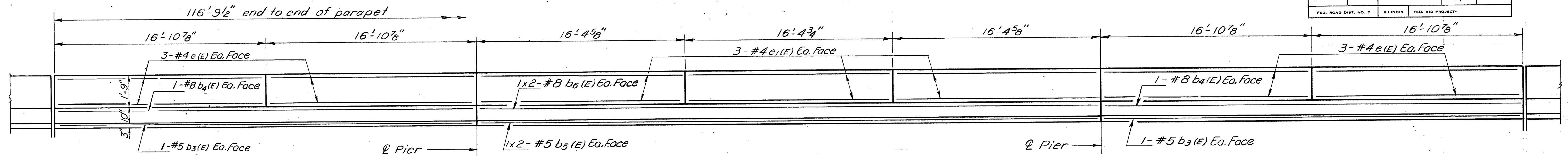
Feb. 2 1984  
EXAMINED James J. ...  
PASSED ...  
APPROVED ...  
DIRECTOR OF HIGHWAYS

S-1-R(15) 11-30-81

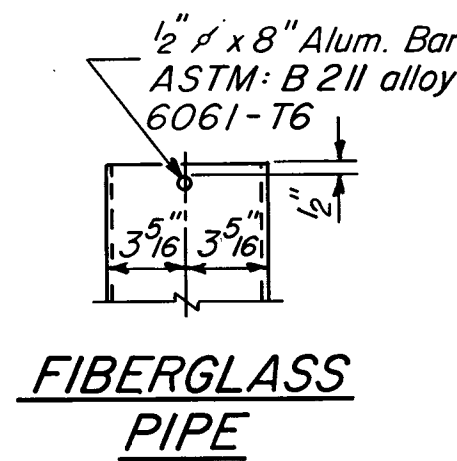
FOR INFORMATION ONLY

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7 23 SHEETS
77			46	46	
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					



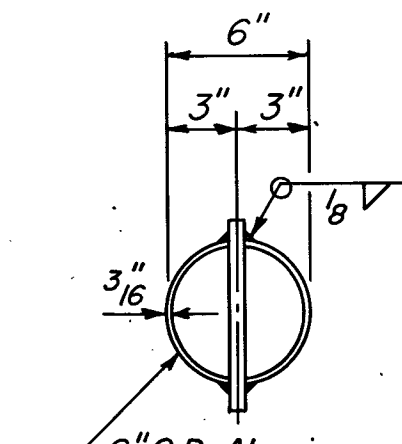
INSIDE ELEVATION OF PARAPET



FIBERGLASS PIPE

Fill slot with weld

ALUMINUM TUBE



TOP PLAN (Showing Aluminum Tube)

6" O.D. Aluminum Tube alloy 6061-T6 or 6" Fiberglass Pipe

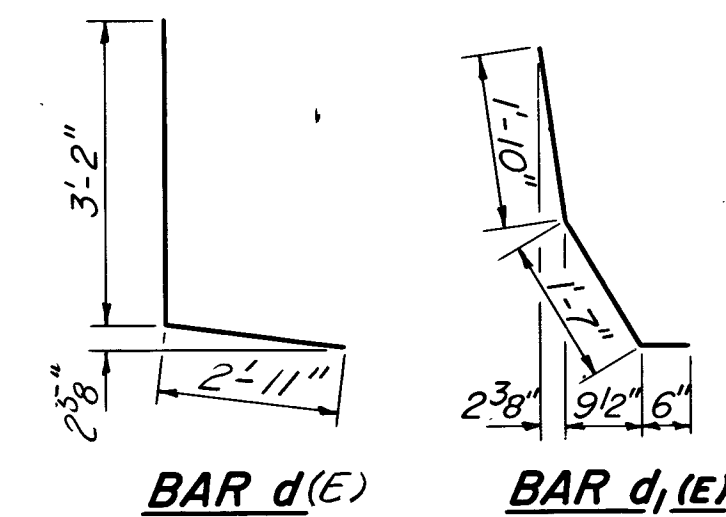
Two component non-staining gray sealing compound with polysulfide liquid polymer gun-grade with primer.

2" Preformed Cork Jt. Filler (In accordance with Articles 715.07 or 715.08) Cost incidental

Const. Jts. at Piers 1/8" Aluminum sheet ASTM B 209 alloy 3003-H14. Cost incidental.

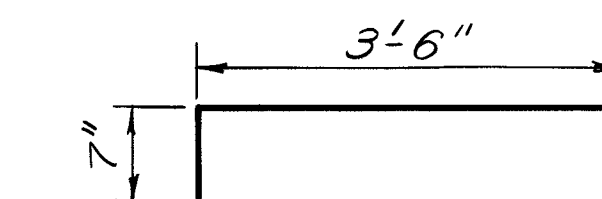
Bonded Const. Jt. (Mandatory)

PARAPET JOINT DETAILS



BAR d(E)

BAR d1(E)



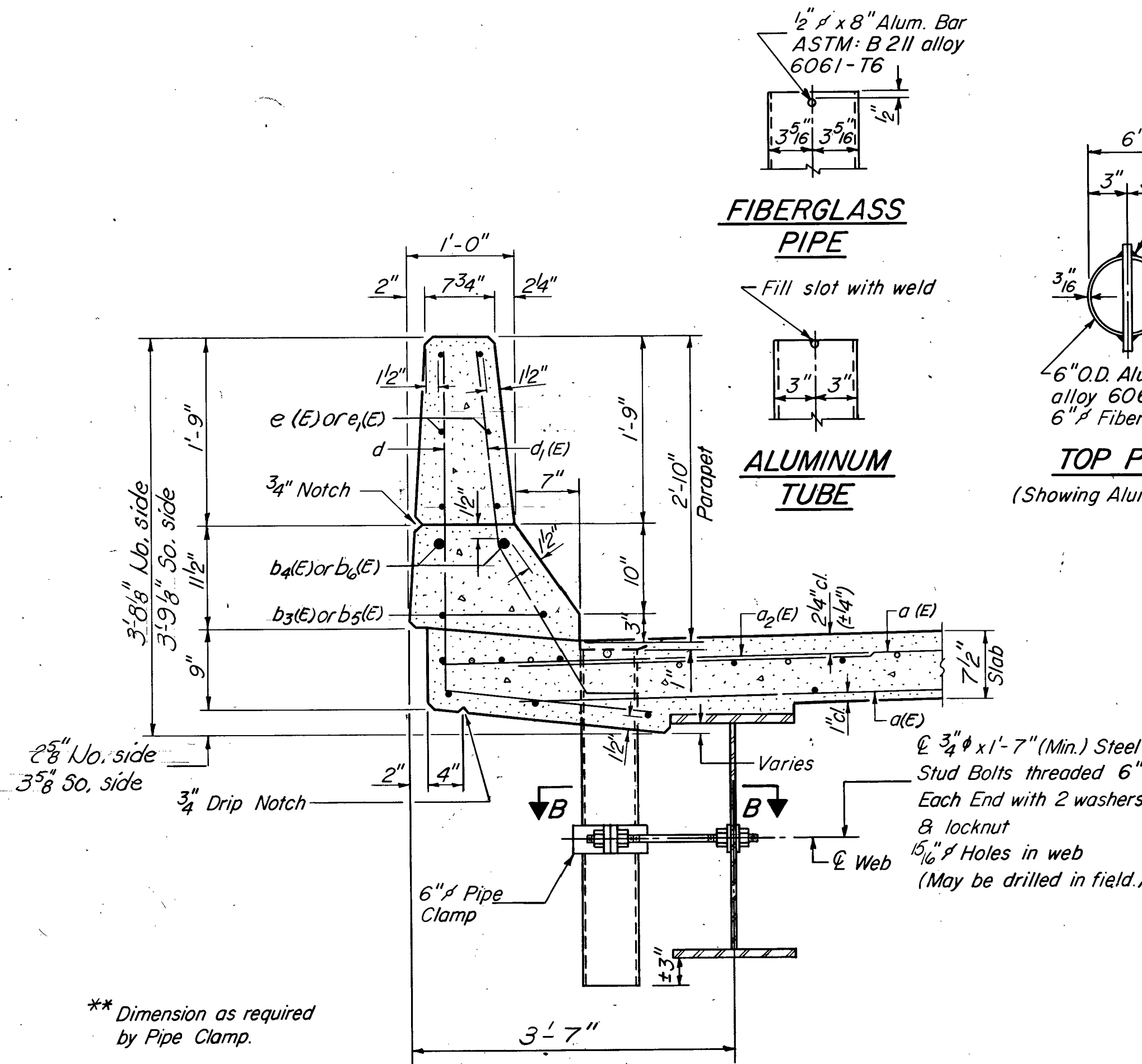
BAR x(E)

TWO SUPERSTRUCTURES  
BILL OF MATERIAL

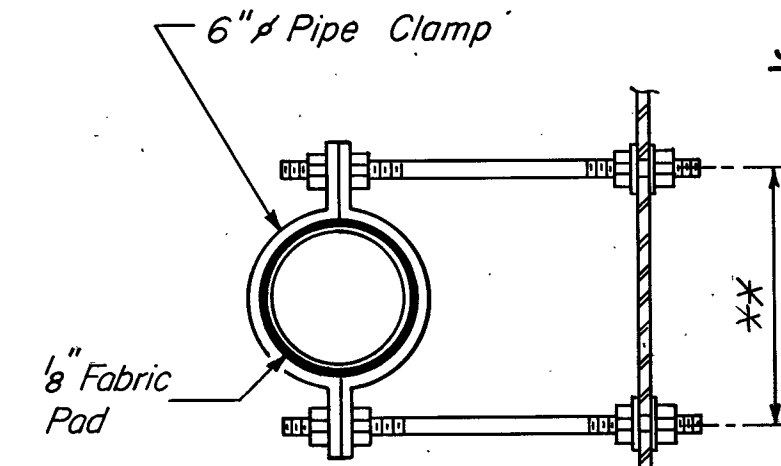
Bar	No.	Size	Length	Shape
a1(E)	960	#5	41'-0"	—
a2(E)	556	#6	4'-7"	—
a3(E)	8	#5	44'-0"	—
b(E)	920	#5	24'-8"	—
b1(E)	172	#6	22'-2"	—
b3(E)	16	#5	33'-6"	—
b4(E)	16	#8	33'-6"	—
b5(E)	16	#5	25'-7"	—
b6(E)	16	#8	25'-9"	—
d	468	#4	6'-1"	L
d1(E)	508	#5	3'-11"	L
e(E)	96	#4	16'-7"	—
e1(E)	72	#4	16'-1"	—
x(E)	144	#5	4'-1"	L
Reinforcement Bars (Epoxy Coated)				Lbs. 84,590
Class X Concrete				Cu. Yds. 305.0

Reinforcement bars designated (E) shall be epoxy coated.

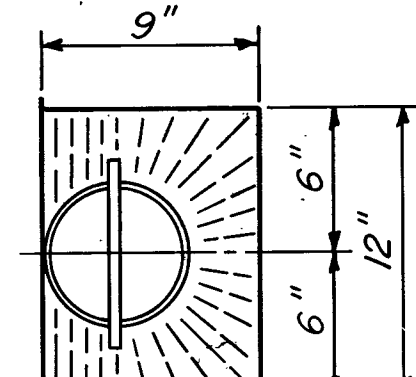
SUPERSTRUCTURE DETAILS  
WEST & EAST BOUND LANES  
F.A.I. RT. 74 SEC. 37-IHB-1R  
HENRY COUNTY  
STA. 884+26.42



SECTION THRU PARAPET



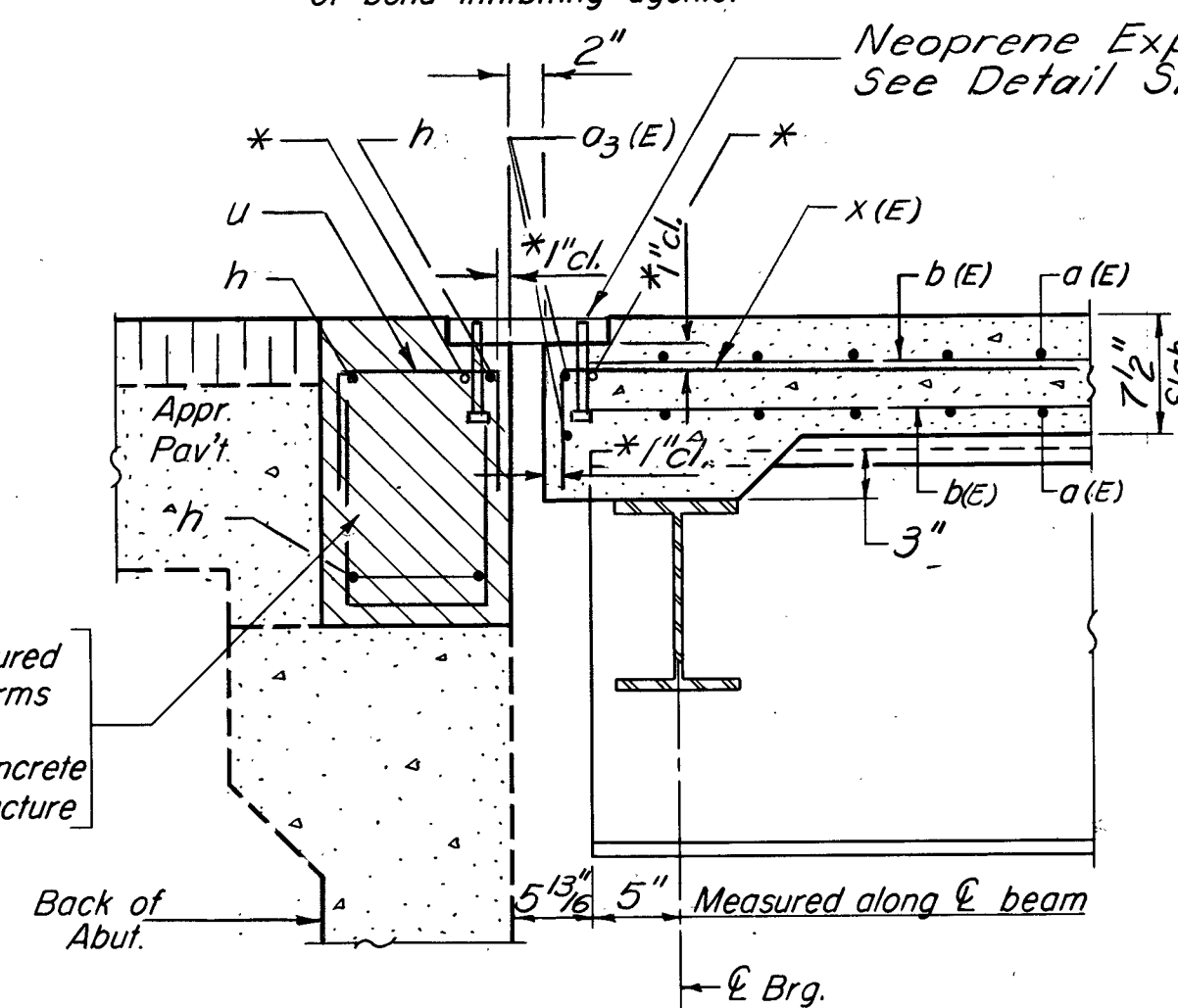
SECTION B-B



TOP PLAN

Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included with superstructure.

Note: The exterior surfaces of the Floor Drain shall be painted with the vinyl enamel coat painting specified for Structural Steel. The exterior surface of the Aluminum tube shall be cleaned and given a wash coat pretreatment in accordance with Steel Structural Painting Council's Spec. SSPC-SPI & SSPC-Pt. 27 prior to painting. Fiberglass pipe shall conform to ASTM D2996, with short time rupture strength hoop tensile stress of 30,000 psi min. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



SECTION A-A

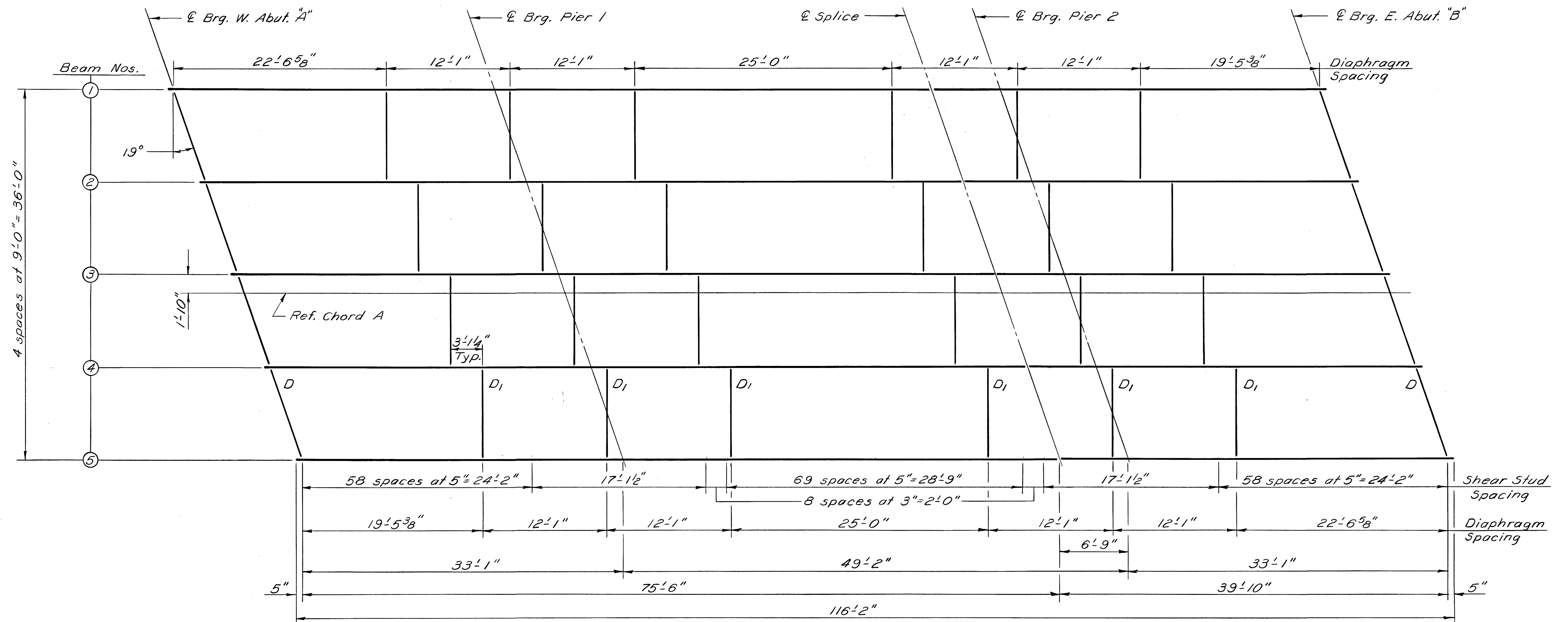
\* Place a3(E) and h bars in back of anchor bolts as shown if required to maintain 1' cl. (+0'-6"). Anchor bolts should be tied to a3(E) and h bars.

DESIGNED Robert T. Boro  
CHECKED L. S. Houch  
DRAWN R. P. S.  
CHECKED L. S. Houch

EXAMINED James J. Korman  
PASSED  
APPROVED  
DIRECTOR OF HIGHWAYS

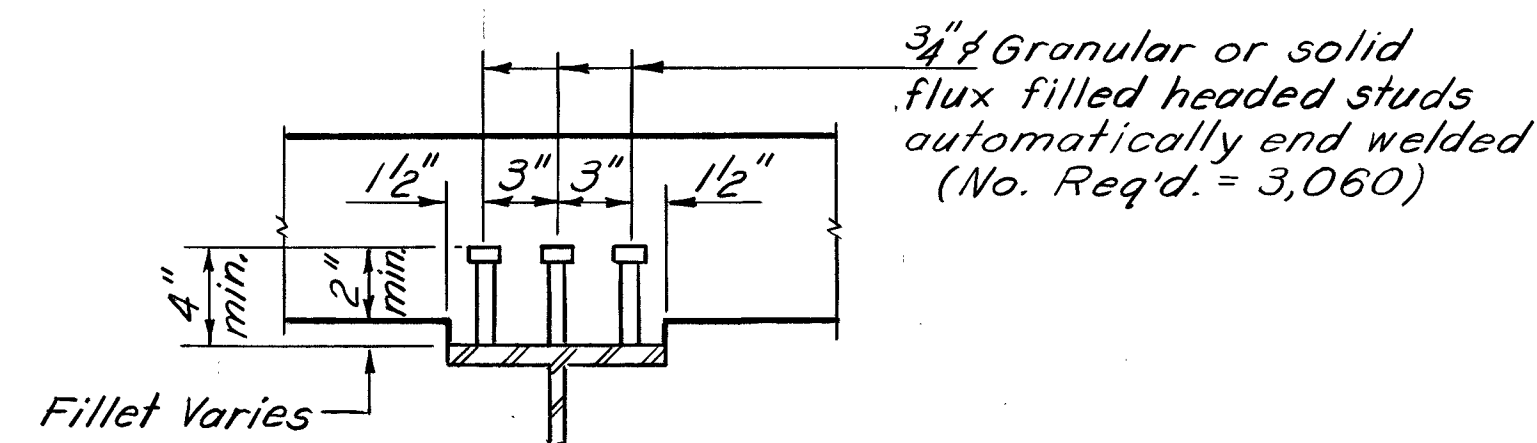
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			77	47
SHEET NO. 8 23 SHEETS				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



**FRAMING PLAN**

All Beams W24x76  
(AASHTO M223 Grade 50)



**SHEAR STUD DETAIL**

Note: Work this sheet with sheets 10 & 11.

DESIGNED	Robert T. Boro
CHECKED	L. S. Houch
DRAWN	R. P. S.
CHECKED	L. S. Houch

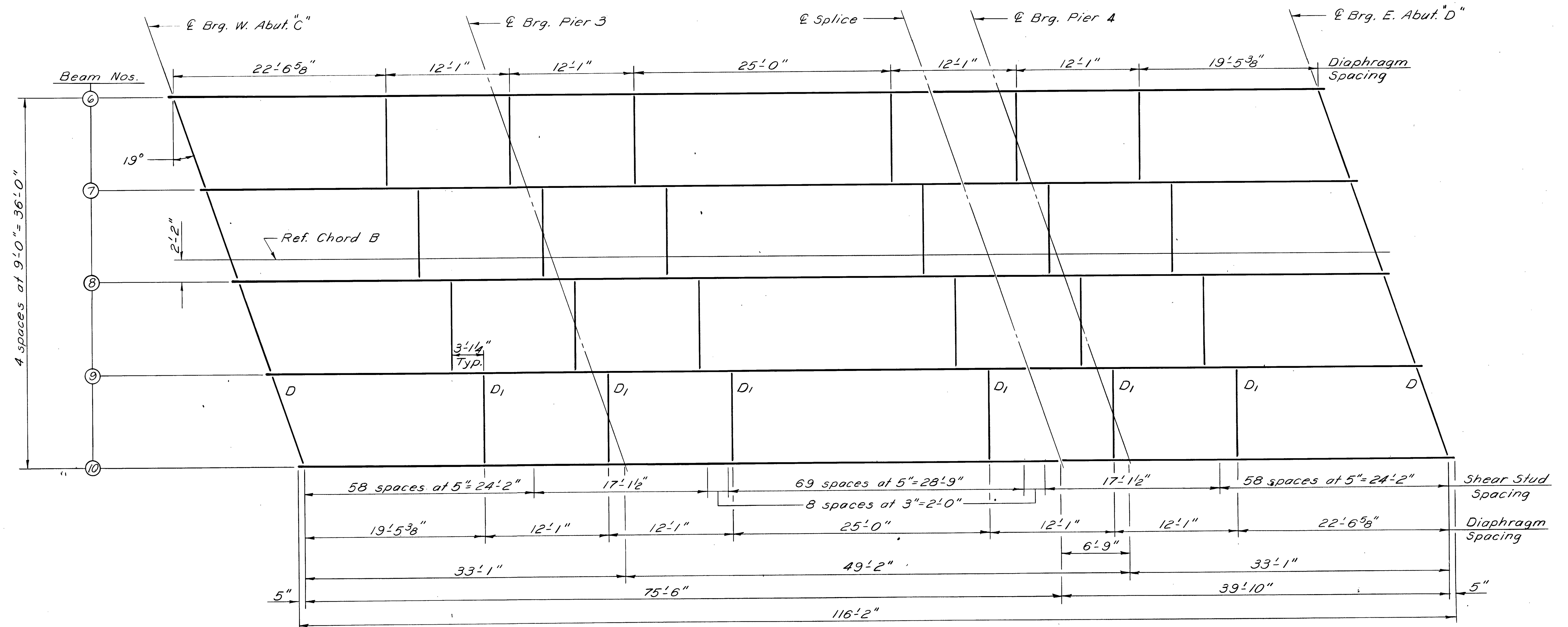
EXAMINED	Feb. 2 1984
PASSED	James T. Hawburn
APPROVED	Carl E. Wimmer
	DIRECTOR OF HIGHWAYS

**STRUCTURAL STEEL**  
**WEST BOUND LANES**  
**F.A.I. RT. 74 SEC. 37-1HB-1R**  
**HENRY COUNTY**  
**STA. 884+26.42**

**FOR INFORMATION ONLY**

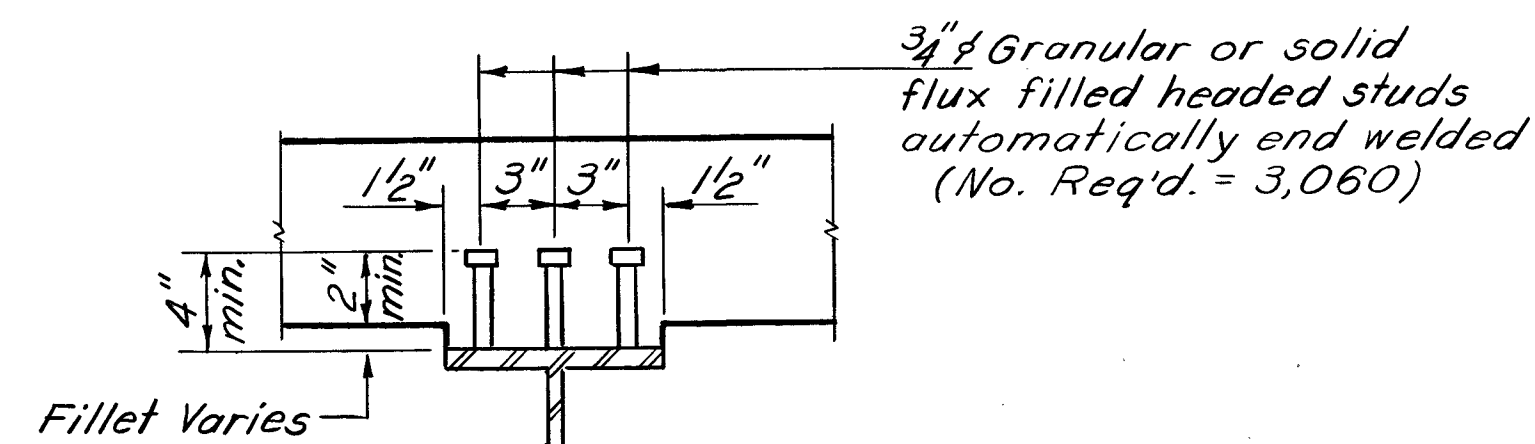
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 23 SHEETS
S. B. I.			77	48	
P. A.					
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



**FRAMING PLAN**

All Beams W-24 x 76  
(AASHTO M 223 - Grade 50)



**SHEAR STUD DETAIL**

DESIGNED	Robert T. Doro
CHECKED	L. S. Hoch
DRAWN	R. P. S.
CHECKED	L. S. Hoch

EXAMINED	Feb. 2 1984 James J. [Signature]
PASSED	[Signature]
APPROVED	[Signature]

Note: Work this sheet with sheets 10 & 11.

**STRUCTURAL STEEL**  
**EAST BOUND LANES**  
**F.A.I. RT. 74 SEC. 37-IHB-1R**  
**HENRY COUNTY**  
**STA. 884 + 26.42**

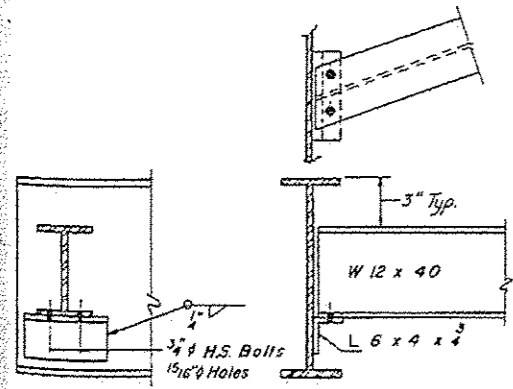
**FOR INFORMATION ONLY**



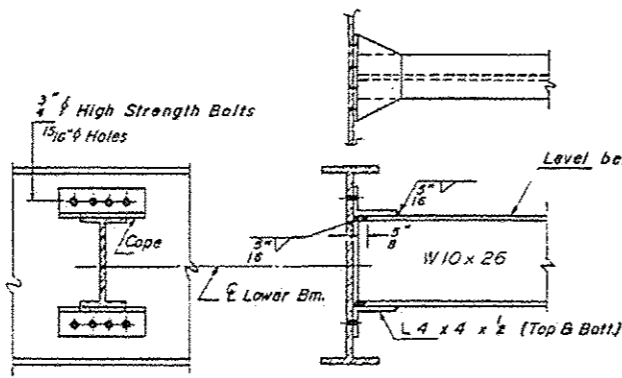
	0.4 Sp. 1 & 0.6 Sp. 3	Pier 1 & 2	0.5 Sp. 2
Is (in <sup>4</sup> )	2100	2100	2100
Ic (in <sup>4</sup> )	6984		6984
Ss (in <sup>3</sup> )	176	176	176
Sc (in <sup>3</sup> )	285.8		285.8
Q (K/i)	0.940	1.328	0.940
M <sub>D</sub> (K)	53.0	220.8	114.2
s <sub>D</sub> (K/i)	0.388		0.388
M <sub>sD</sub> (K)	29.6		66.4
M <sub>L</sub> (K)	227.2	149.1	358.8
M <sub>Imp</sub> (K)	68.2	44.7	107.7
S <sub>3</sub> (M <sub>L</sub> +I) (K)	492.3	323.1	777.5
M <sub>a</sub> (K)	747.4	707.0	1245.5
M <sub>u</sub> (K)	1682.4		1682.4
f <sub>s</sub> (Non-comp) (k.s.i.)	3.6	15.1	7.8
f <sub>s</sub> (Comp) (k.s.i.)	1.2		2.8
f <sub>s</sub> S <sub>3</sub> (M <sub>L</sub> +I) (k.s.i.)	20.7	22.0	32.6
f <sub>s</sub> (Overload) (k.s.i.)	25.5	37.1	43.2
* f <sub>s</sub> (Total) (k.s.i.)		48.2	
VR (K)	58.2		53.9

Is and Ss are the moment of inertia and section modulus of the steel section used in computing f<sub>s</sub> (Total & Overload).  
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing f<sub>s</sub> Overload.  
VR is the maximum & Impact shear range in span.  
M<sub>a</sub> (Applied Moment) = 1.3[M<sub>D</sub> + M<sub>sD</sub> + S<sub>3</sub>(M<sub>L</sub> + I)].  
M<sub>u</sub> is the Full Plastic Moment Capacity for Compact, Braced section.  
f<sub>s</sub>(Overload) is the sum of the stresses due to M<sub>D</sub> + M<sub>sD</sub> + S<sub>3</sub>(M<sub>L</sub> + I).  
f<sub>s</sub>(Total) is the sum of the stresses due to 1.3[M<sub>D</sub> + M<sub>sD</sub> + S<sub>3</sub>(M<sub>L</sub> + I)].  
\* Unbraced, Non Compact Section.

	Abuts.	Pier 1 & 2
R <sub>D</sub> (K)	15.0	61.1
R <sub>L</sub> (K)	40.3	52.8
Imp. (K)	12.1	15.8
R <sub>Total</sub> (K)	67.4	129.7

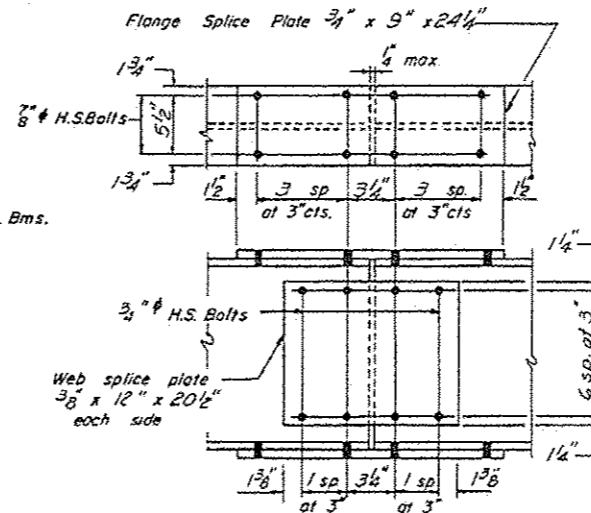


DIAPHRAGM D  
1/6 Required



DIAPHRAGM D1  
4/8 Required

Note: Two hardened washers shall be required over all 1 5/16 inch holes. All contact surfaces of joints shall be free of paint or lacquer.



SPLICE

\*TOP OF BEAM ELEVATION

Location Beam	W. 2 But. "A" or "C"	Pier 1 or 3	Splice	Pier 2 or 4	E. 2 But. "B" or "D"
1	678.73	678.99	679.33	679.41	679.78
2	678.94	679.20	679.54	679.62	679.99
3	679.15	679.41	679.75	679.82	680.19
4	679.36	679.62	679.95	680.03	680.40
5	679.57	679.83	680.16	680.24	680.60
6	679.13	679.37	679.68	679.75	680.10
7	679.34	679.58	679.89	679.96	680.31
8	679.55	679.79	680.09	680.16	680.51
9	679.75	679.99	680.30	680.37	680.71
10	679.96	680.20	680.50	680.57	680.92

\* For Fabrication Only

DESIGNED Robert T. Dora  
CHECKED J. J. Hunch  
DRAWN R.P.S.  
CHECKED J. J. Hunch

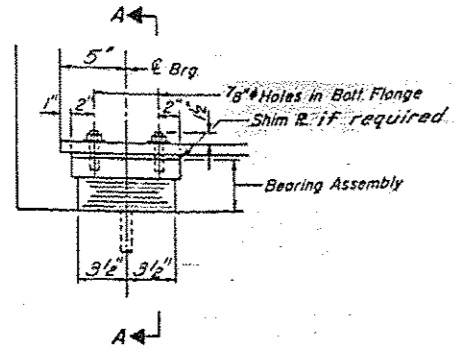
EXAMINED James J. Kaufman  
PASSED  
APPROVED

Note: All diaphragms and connecting angles shall be A36 STEEL. All splice plates shall be A36 STEEL.

STRUCTURAL STEEL DETAILS  
F.A.I. RT. 74 SEC. 37-IHB-IR  
HENRY COUNTY  
STA. 884+26.42

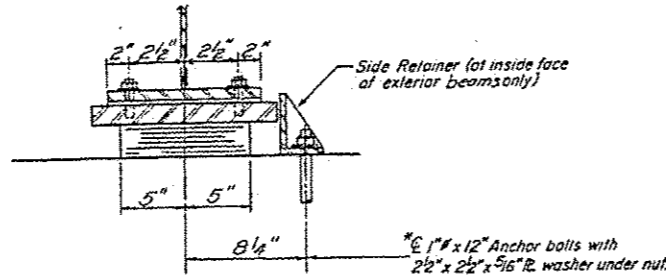
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	QUANTITY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11 23 SHEETS
			77	50	
DESIGNED BY: DATE: CALLED BY: FOR THE PROJECT:					



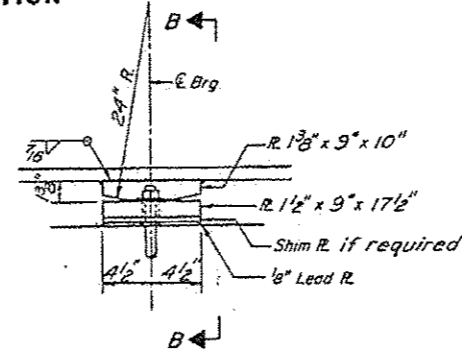
ELEVATION AT ABUTMENTS

TYPE I ELASTOMERIC EXP. BRG.



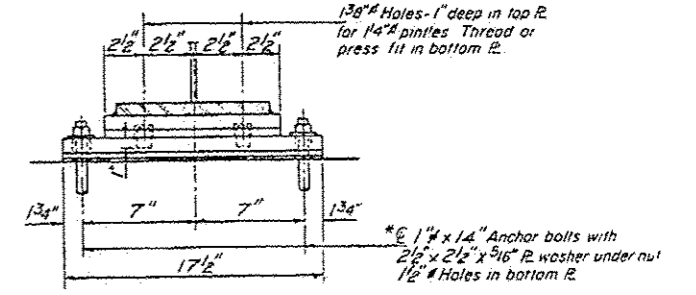
SECTION A-A

\*For drilled anchor bolts see sh. # 23.  
Anchor bolts at fixed bearings may be  
built into the masonry.



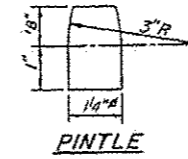
ELEVATION AT PIERS 1&3

FIXED BEARING

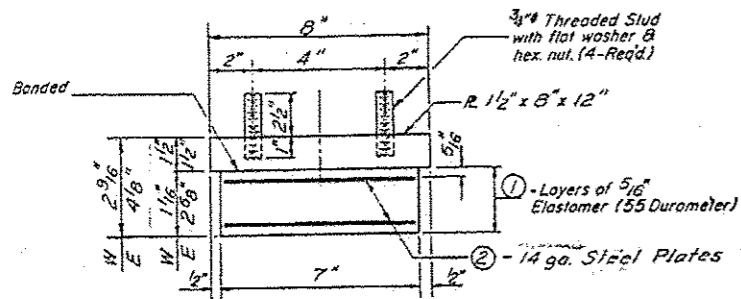


SECTION B-B

Note:  
All bearing plates for Piers 1&3 shall be AASHTO  
M 223 grade 50 steel. All side retainers shall be AASHTO  
M 183 steel.

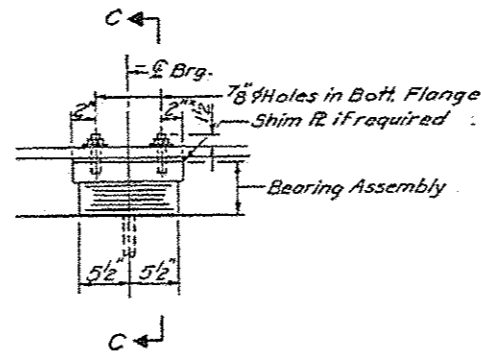


PINTLE



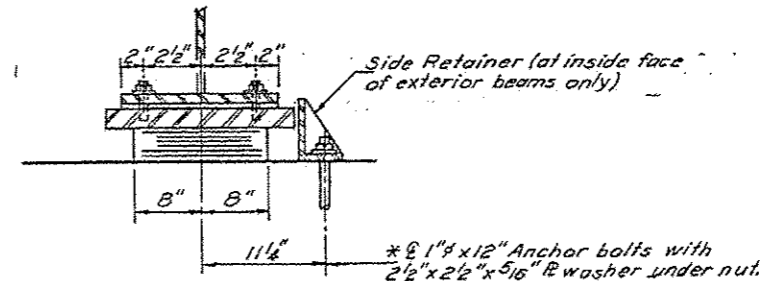
BEARING ASSEMBLY  
At Abutments

Note: Shim plates shall not be placed under  
Bearing Assembly.  
① 3 (W. Abut.) 7 (E. Abut.)  
② 2 (W. Abut.) 6 (E. Abut.)

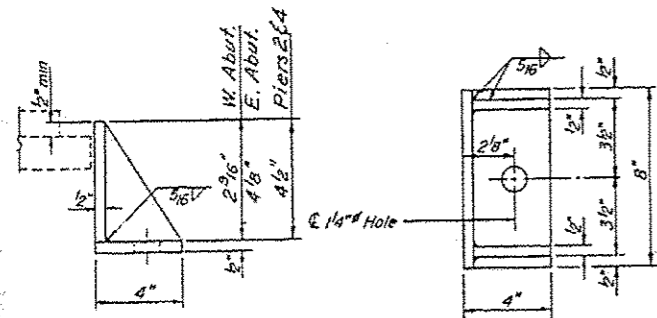


ELEVATION AT PIERS 2&4

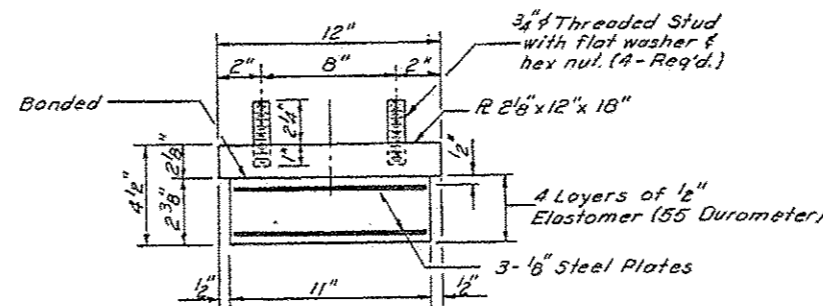
TYPE I ELASTOMERIC EXP. BRG.



SECTION C-C



SIDE RETAINER



BEARING ASSEMBLY  
At Piers 2&4

DESIGNED Robert T. Boro	EXAMINED James J. Hansen
CHECKED T. S. Houch	PASSED Carl E. Thompson
DRAWN R. P. S.	APPROVED
CHECKED T. S. Houch	DIRECTOR OF HIGHWAYS

I-2-EI 6-1-62

BEARING DETAILS  
F.A.I. RT. 74 SEC. 37-1HB-1R  
HENRY COUNTY  
STA. 884+26.42