

103

04-26-2019 LETTING ITEM 103

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	28-1BP-1	ST. CLAIR	16	1
		ILLINOIS	CONTRACT NO. 76L98	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

LOCATION	IL 15 - EAST OF HARDING DITCH	IL 157 - NORTH OF IL 15
	LOCATION NO. 1 SN 082-0039	LOCATION NO. 2 SN 082-0040
2017 ADT	33800 (ACTUAL)	7400 (ACTUAL)
2019 ADT	34500 (ESTIMATED)	7500 (ESTIMATED)
2039 ADT	42100 (ESTIMATED)	9200 (ESTIMATED)
MU %	3.4	2.0
SU %	5.0	13.5

FUNCTIONAL CLASSIFICATION:

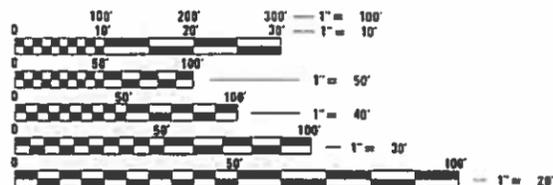
OTHER PRINCIPAL ARTERIAL

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROPOSED  
HIGHWAY PLANS

F.A.P. ROUTE 103 (IL 15)  
SECTION 28-1BP-1  
PROJECT NHPP-215L(185)  
IL 15 OVER HARDING DITCH & IL 157  
BRIDGE PAINTING  
ST. CLAIR COUNTY

C-98-343-18



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: TIM PADGETT (618) 346-3325  
DESIGNER: DIANA MURRAY (618) 346-3207

CONTRACT NO. 76L98



LOCATION MAP



GROSS LENGTH = 321.73' = 0.061 MILE  
NET LENGTH = 321.73' = 0.061 MILE

LOCATION NO. 1  
IL 15 BRIDGE OVER HARDING DITCH  
SN 082-0039 STA. 160+11.81  
157'-5" BK TO BK OF ABUTMENTS  
LATITUDE: 38.57013678°  
LONGITUDE: 90.09422956°

LOCATION NO. 2  
IL 15 BRIDGE OVER IL 157  
SN 082-0040 STA. 234+07  
163'-2 1/2" BK TO BK OF ABUTMENTS  
LATITUDE: 38.56753010°  
LONGITUDE: 90.09137979°

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED Jan. 17 20 19  
Keith Roberts  
REGIONAL ENGINEER

March 22 20 19  
Scott A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

March 23 20 19  
Paul J. Chaf  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES & COMMITMENTS
- 3 SUMMARY OF QUANTITIES
- 4-5 TYPICAL SECTIONS
- 6 LOCATION MAP
- 7-14 BRIDGE PLANS
- 15 IL 157 ROAD CLOSURE DETAIL
- 16 IL 157 DETOUR ROUTES

**STANDARDS**

- 000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701422-10 LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH
- 701428-01 TRAFFIC CONTROL SETUP AND FREEWAY/EXPRESSWAY
- 701901-08 TRAFFIC CONTROL DEVICES
- BLR 21-9 TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL ROADS

**GENERAL NOTES**

1. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE TO BE GIVEN TO ALL UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

UTILITY	ABOVE GROUND	BELOW GROUND
*AMEREN ILLINOIS - (GAS & ELECTRIC)	X	X
*AT&T ILLINOIS - (COMMUNICATIONS)	X	X
*AT&T CORPORATION - (COMMUNICATIONS)	X	X
*CITY OF CENTREVILLE - (SANITARY SEWER)		X
*COMMONFIELDS OF CAHOKIA PUBLIC WATER DISTRICT - (WATER & SEWER)		X
*ENABLE MIDSTREAM PARTNERS - (PIPELINE)		X
*LEVEL 3 COMMUNICATIONS, LLC - (COMMUNICATIONS)		X

MEMBERS OF J.U.L.I.E. (800-892-0123 OR 811) ARE INDICATED BY AN \*. NON-JULIE MEMBERS MUST BE NOTIFIED INDIVIDUALLY.

- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
- 3. THE SSPC-QP1 AND SSPC-QP2 CERTIFICATIONS WILL BE REQUIRED FOR ALL BRIDGES.
- 4. FOR LOCATION NO. 1 (SN 082-0039) AT HARDING DITCH, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL WITHIN 10 FT (MEASURED ALONG THE BEAM) OF THE DECK JOINTS SHALL BE CLEANED PER SSPC-SP15, COMMERCIAL GRADE POWER TOOL CLEANING USING VACUUM SHROUDED TOOLS WITH HEPA FILTRATION. THE DIAPHRAGMS AT THE EAST AND WEST ABUTMENTS WERE GALVANIZED ON A PREVIOUS CONTRACT AND ARE EXCLUDED FROM CLEANING AND PAINTING. ANY DAMAGE TO THE GALVANIZING WILL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COSTS TO THE DEPARTMENT.
- 5. FOR LOCATION NO. 2 (SN 082-0040) AT IL 157, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES." ALL EXISTING STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING - SSPC-SP10. THE DIAPHRAGMS AND BEARINGS AT THE EAST AND WEST ABUTMENTS WERE GALVANIZED ON A PREVIOUS CONTRACT AND ARE EXCLUDED FROM CLEANING AND PAINTING. ANY DAMAGE TO THE GALVANIZING WILL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT AT NO ADDITIONAL COST TO THE DEPARTMENT.
- 6. THE DESIGNATED AREAS CLEANED PER NEAR WHITE BLAST CLEANING AND PER COMMERCIAL GRADE POWER TOOL CLEANING SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1-0Z/E/U. THE COLOR OF THE FINAL FINISH COAT FOR LOCATION NO. 1 (SN 082-0039) SHALL BE BROWN, FEDERAL COLOR 595C 20045. THE FINAL FINISH COAT FOR LOCATION NO. 2 (SN 082-0040) FOR ALL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1.

7. THE ILLINOIS DEPARTMENT OF TRANSPORTATION STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. PLEASE CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618/874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

**COMMITMENTS**

NONE

FILE NAME =	USER NAME = murrayde	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS GENERAL NOTES &amp; COMMITMENTS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
103	28-1BP-1	ST. CLAIR	16			2					
						CONTRACT NO. 76L98					
						ILLINOIS FED. AID PROJECT					
\$MODELNAME\$	PLOT SCALE = 100.0079' / in.	CHECKED -	REVISED -	SHEET 1 OF 1 SHEETS		STA.		TO STA.			
	PLOT DATE = 12/7/2018	DATE -	REVISED -								

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				BRIDGE 0047	
67100100	MOBILIZATION	L SUM	1	1	
70100315	TRAFFIC CONTROL AND PROTECTION, STANDARD 701422	EACH	1	1	
XX009289	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	54	54	
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1	1	
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1	
Z0016702	DETOUR SIGNING	L SUM	1	1	

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REV. - MS

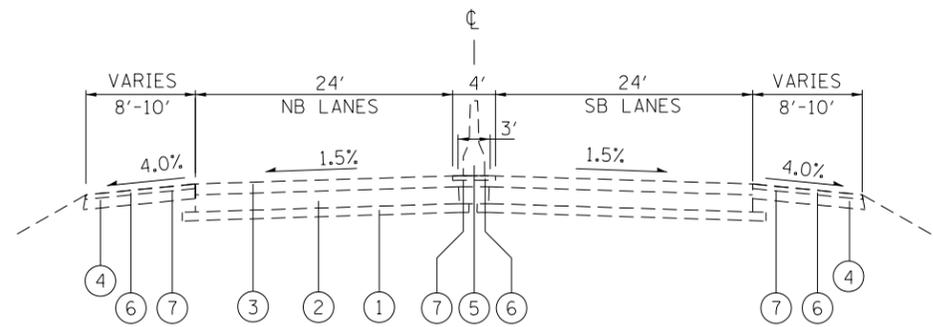
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	DRAWN - _____	REVISED - _____
PLOT SCALE = 100.0000' / in.	CHECKED - _____	REVISED - _____
PLOT DATE = 12/6/2018	DATE - _____	REVISED - _____

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

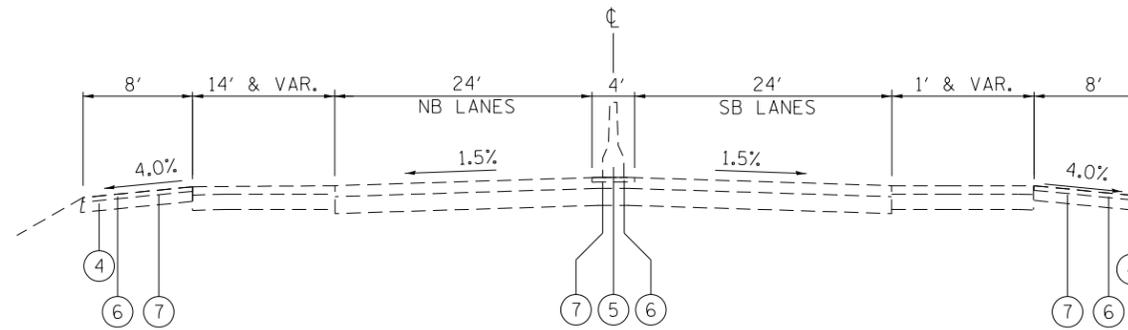
**SUMMARY OF QUANTITIES**

SCALE: \_\_\_\_\_ SHEET 1 OF 1 SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	28-1BP-1	ST. CLAIR	16	3
				CONTRACT NO. 76L98
ILLINOIS FED. AID PROJECT				



TYPICAL SECTION  
 STA. 157+83 TO STA. 159+33  
 BRIDGE OMISSION STA. 159+33.06 TO STA. 160+90.56

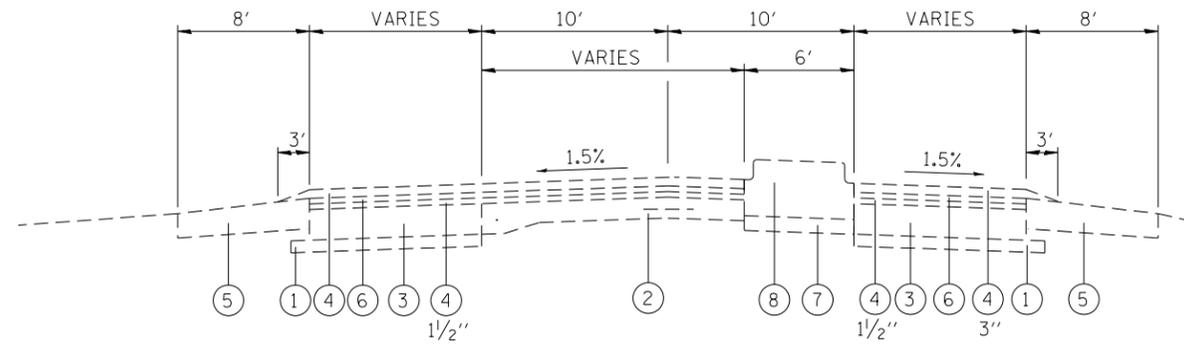


TYPICAL SECTION  
 STA. 228+07.70 TO STA. 240+65.40 EB  
 STA. 229+38.64 TO STA. 240+65.40 WB  
 BRIDGE OMISSION STA. 233+81.95 TO STA. 235+35.39

**LEGEND**

- ① EXISTING SUB-BASE GRANULAR MATERIAL, 4"
- ② EXISTING PCC PAVEMENT, 10"
- ③ EXISTING HMA RESURFACING, 6"
- ④ EXISTING HMA SHOULDER, 8"
- ⑤ EXISTING TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY)
- ⑥ EXISTING HMA SHOULDERS, 2"
- ⑦ EXISTING BITUMIOUS MATERIAL (TACK COAT)

FILE NAME =	USER NAME = murrayda	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TYPICAL SECTIONS (IL 15)</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED -	CONTRACT NO. 76L98									
PLOT DATE = 12/6/2018	DATE -	REVISED -	ILLINOIS FED. AID PROJECT									
				SCALE: N.T.S		SHEET 1 OF 2 SHEETS		STA. TO STA.				



TYPICAL SECTION  
 STA. 311+11.07 TO STA. 315+15.47

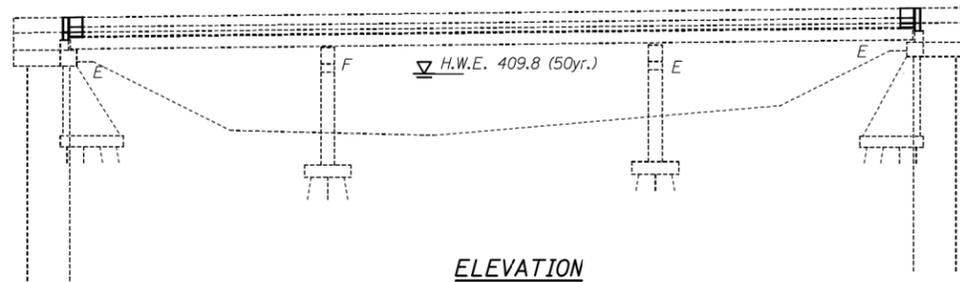
LEGEND

- ① EXISTING SUB-BASE GRANULAR MATERIAL
- ② EXISTING PCC PAVEMENT
- ③ EXISTING PCC BASE COURSE WIDENING, 9"
- ④ EXISTING HMA RESURFACING
- ⑤ EXISTING HMA SHOULDER
- ⑥ EXISTING HMA BINDER COURSE, 1 1/2"
- ⑦ EXISTING SUBBASE GRANULAR MATERIAL, TYPE B, 5"
- ⑧ EXISTING CONCRETE MEDIAN, TYPE SB-6.06

FILE NAME =	USER NAME = murrayda	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TYPICAL SECTIONS (IL 157)</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 8\Projects\0876\DRAWING\DATA\EA0\sheets\0876L98-sht-plendg		CHECKED -	REVISED -		103	28-1BP-1	ST. CLAIR	16	5			
		DATE -	REVISED -		CONTRACT NO. 76L98			ILLINOIS FED. AID PROJECT				
					SCALE: N.T.S	SHEET 2 OF 2 SHEETS	STA.	TO STA.				

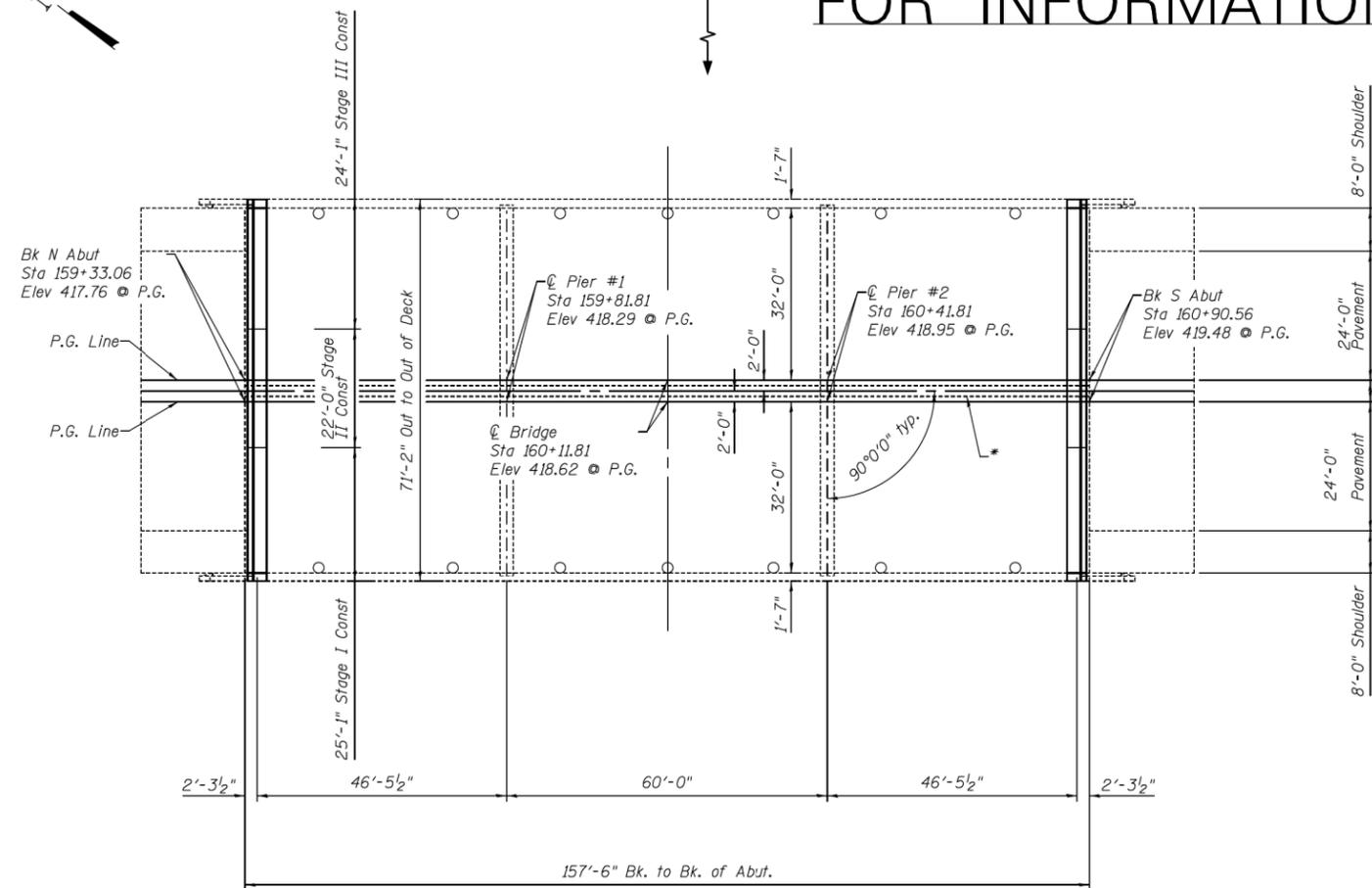


Traffic Control: Stage Construction



**ELEVATION**

**FOR INFORMATION ONLY**



**PLAN**

\* Remove existing Temporary Concrete Barrier & place new Temporary Concrete Barrier (To Remain Permanently)

**INDEX OF SHEETS**

1. General Plan & Elevation
2. Deck Cross Section & Joint Details
3. Stage Traffic Lanes (Stage I & II)
4. Stage Traffic Lanes (Stage III)
5. Joint Removal & Replacement
6. Strip Seal Details
7. Drain Details & Waterproofing Staging
8. Temporary Concrete Barrier
9. Bar Splicers
10. Structural Steel
11. Structural Steel Details
12. F.I.O. - Existing Structural Steel
13. F.I.O. - Existing Bearings

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Joint opening shall be adjusted according to Article 520.04 of the Standard Specs. when the deck is poured at an ambient temperature other than 50° F.

Existing reinforcement bars extending into removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Bridge deck concrete sealer shall be placed on top/inside faces of parapets (full length) and end posts and on top of new concrete at joints.

Remove existing concrete barrier at centerline to place HMA, replace deck ends & for proposed traffic staging. The new permanent barrier shall not be pinned to the bridge deck. See roadway plans.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All structural steel, bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable. Cost included with Furnishing and Erecting Structural Steel.

All structural steel shall conform to AASHTO Classification M 270 Grade 50, unless otherwise noted.

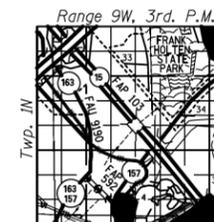
Fasteners shall be high strength bolts. Bolts 7/8" φ, open holes 15/16" φ, unless otherwise noted.

The concrete on both sides of the joint shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with "Concrete Superstructure".

**SCOPE OF WORK**

- Replace deck end
- Install Preformed Joint Strip Seals
- HMA overlay with WMS on deck & HMA on approaches
- Deck Slab Repair
- Replace diaphragms & clip angles at abutments with new galvanized diaphragms attached to new galvanized angle bearing stiffeners bolted to the webs.

○ Existing Drains to Remain



**LOCATION SKETCH**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Polymerized HMA Surface Course, Mix "E" N90	Ton	96
Concrete Removal	Cu. Yd.	21.3
Concrete Superstructure	Cu. Yd.	23.9
Furnishing and Erecting Structural Steel	Pound	7660
Reinforcement Bars, Epoxy Coated	Pound	2130
Bar Splicers	Each	48
Preformed Joint Strip Seal	Foot	140
Waterproofing Membrane System	Sq. Yd.	1136
Bridge Deck Concrete Sealer	Sq. Ft.	1608
Structural Steel Removal	Pound	4960
* Deck Slab Repair (Partial)	Sq. Yd.	5.3
* Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	13

\* Quantities are estimated. The Engineer shall determine the actual locations, and record them in the As-Built plans.

DESIGNED - AYY	EXAMINED	DATE - APRIL 28, 2017
CHECKED - ATH	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYY	PASSED	REVISOR
CHECKED - ATH	ENGINEER OF BRIDGES AND STRUCTURES	REVISION

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION (IL 15 over Harding Ditch)  
SN 082-0039**

SHEET NO. 1 OF 13 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	28-1BP-1	ST. CLAIR	62	29
			CONTRACT NO. 76J01	
ILLINOIS FED. AID PROJECT				

FILE NAME =	USER NAME = murrayda	DESIGNED -	REVISOR -
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		DRAWN -	REVISION -
		CHECKED -	REVISION -
		DATE -	REVISION -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

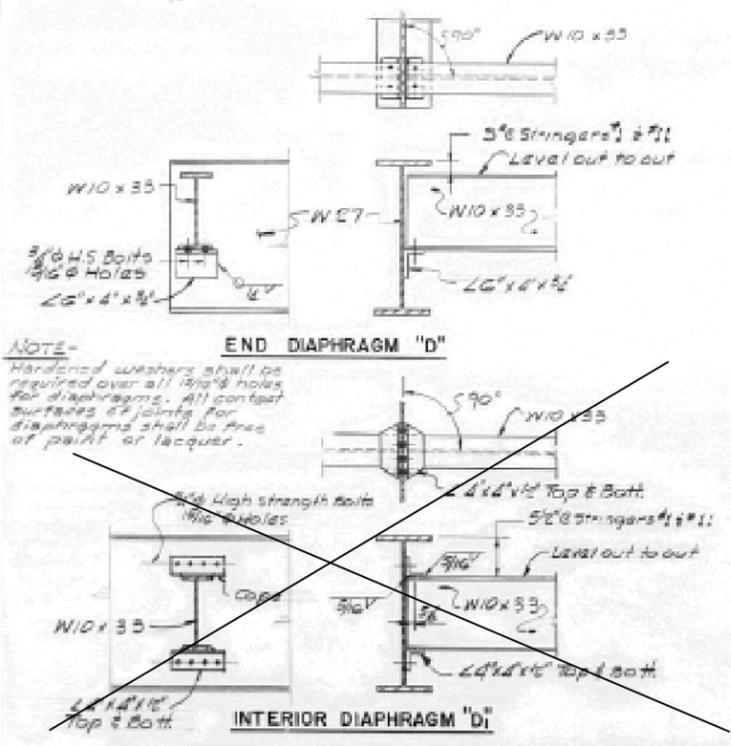
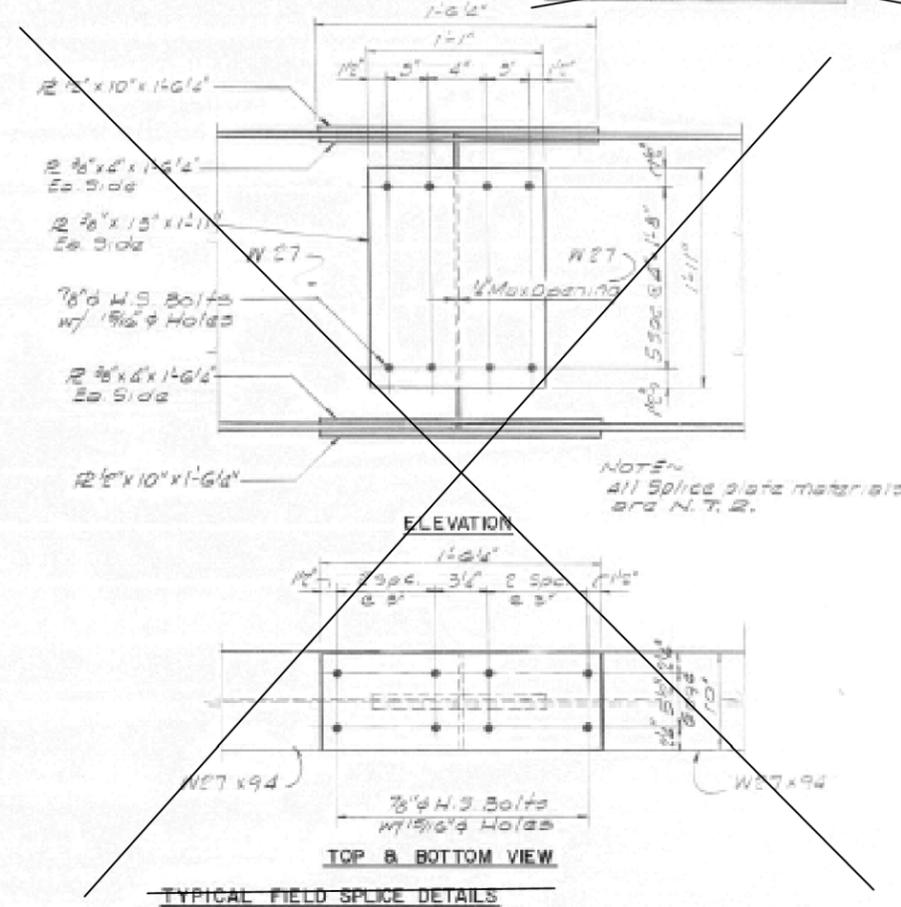
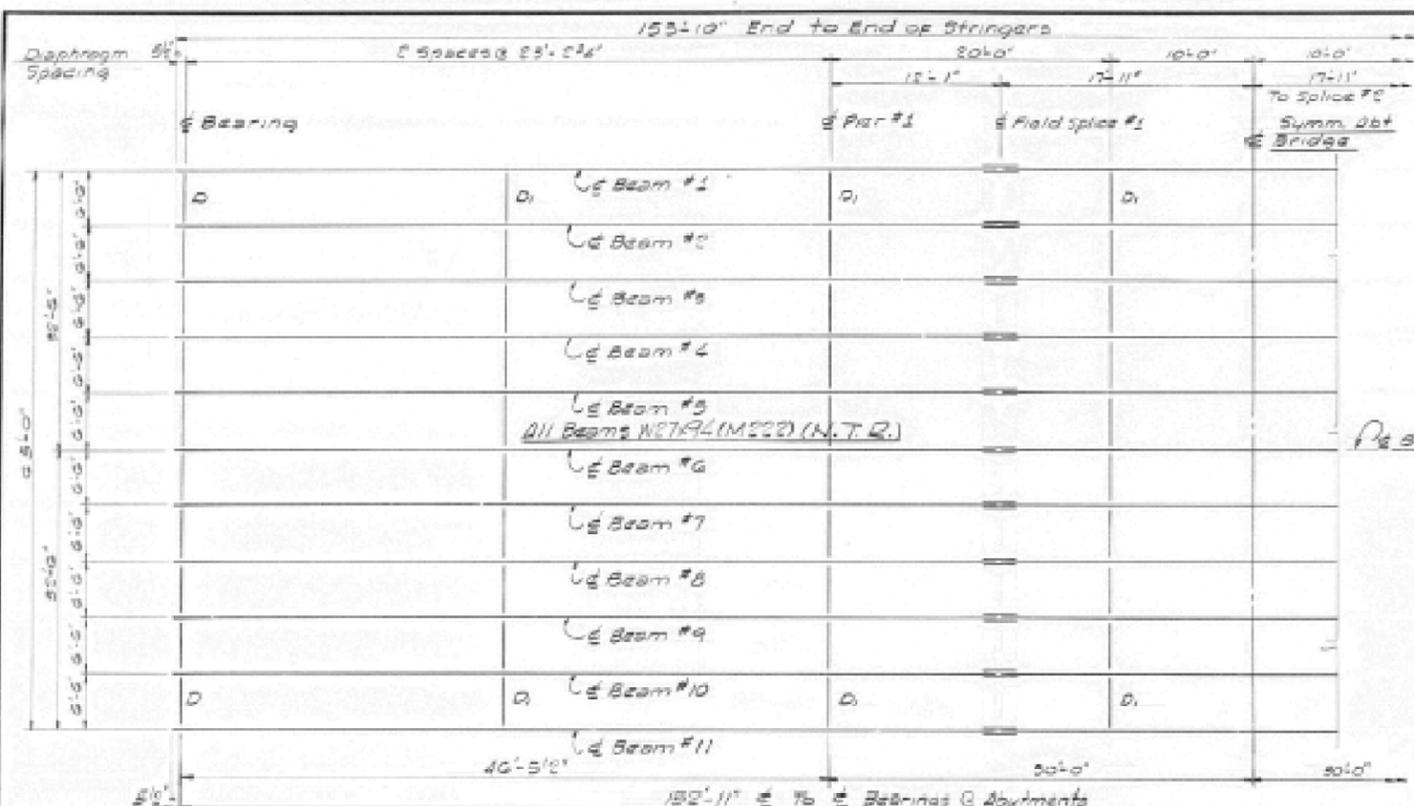
**FOR INFORMATION ONLY  
GENERAL PLAN & ELEVATION - SN 082-0039**

SCALE: SHEET 1 OF 8 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	28-1BP-1	ST. CLAIR	16	7
			CONTRACT NO. 76L98	
ILLINOIS FED. AID PROJECT				







**NOTE**  
"N.T.R." Denotes Notch Toughness Requirements.

**FRAMING PLAN**

	1/2 SPAN / 0 SPAN	P/2	3/4 SPAN
I	3270	3170	2570
S	267	267	267
E	0.927	0.927	0.927
M2	158	177	153
M4	289	289	289
IMP	78	78	78
M TOTAL	680	680	680
E TOTAL	181	181	181

	BOULTS	PIECES
E2	(1)(P3)	10.0
E4	(2)(P3)	20.0
IMP	(1)(P3)	4.4
E TOTAL	(4)(P3)	34.4

LOCATION	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11
E Bdg. NORTH ABUT.	46.15	46.55	46.65	46.75	46.86	46.96	46.86	46.75	46.65	46.55	46.45
E Bdg. Pier #1	46.76	47.06	47.16	47.26	47.37	47.47	47.37	47.26	47.16	47.06	46.96
E Splice #1	47.06	47.18	47.28	47.38	47.49	47.59	47.49	47.38	47.28	47.18	47.06
E Splice #2	47.47	47.57	47.67	47.77	47.88	47.98	47.88	47.77	47.67	47.57	47.47
E Bdg. Pier #2	47.61	47.71	47.81	47.91	48.02	48.12	48.02	47.91	47.81	47.71	47.61
E Bdg. SOUTH ABUT.	48.12	48.22	48.32	48.42	48.53	48.63	48.53	48.42	48.32	48.22	48.12

**FOR INFORMATION ONLY**  
**FOR INFORMATION ONLY**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
ST. CLAIR COUNTY  
FA RTE 103 IL RTE 15  
SECTION 28-LBR  
STATION 222+60  
**STRUCTURAL STEEL**

DESIGNED BY: JMT  
DRAWN BY: JMT  
CHECKED BY: MURPHY

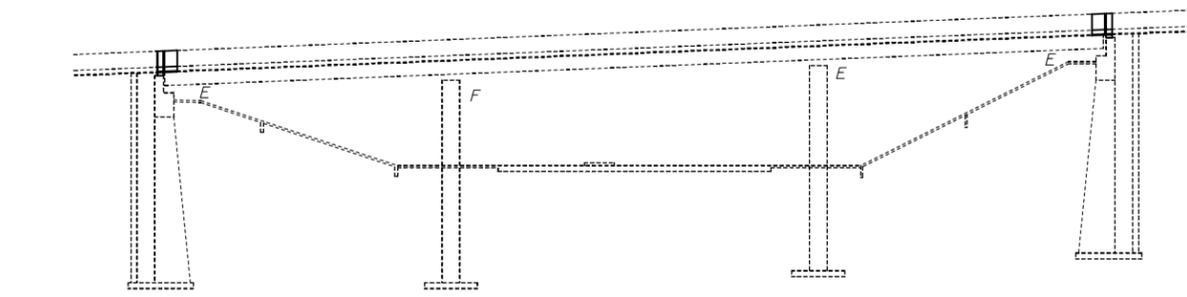
DATE: 7/15  
SHEET 12 OF 40 SHEETS

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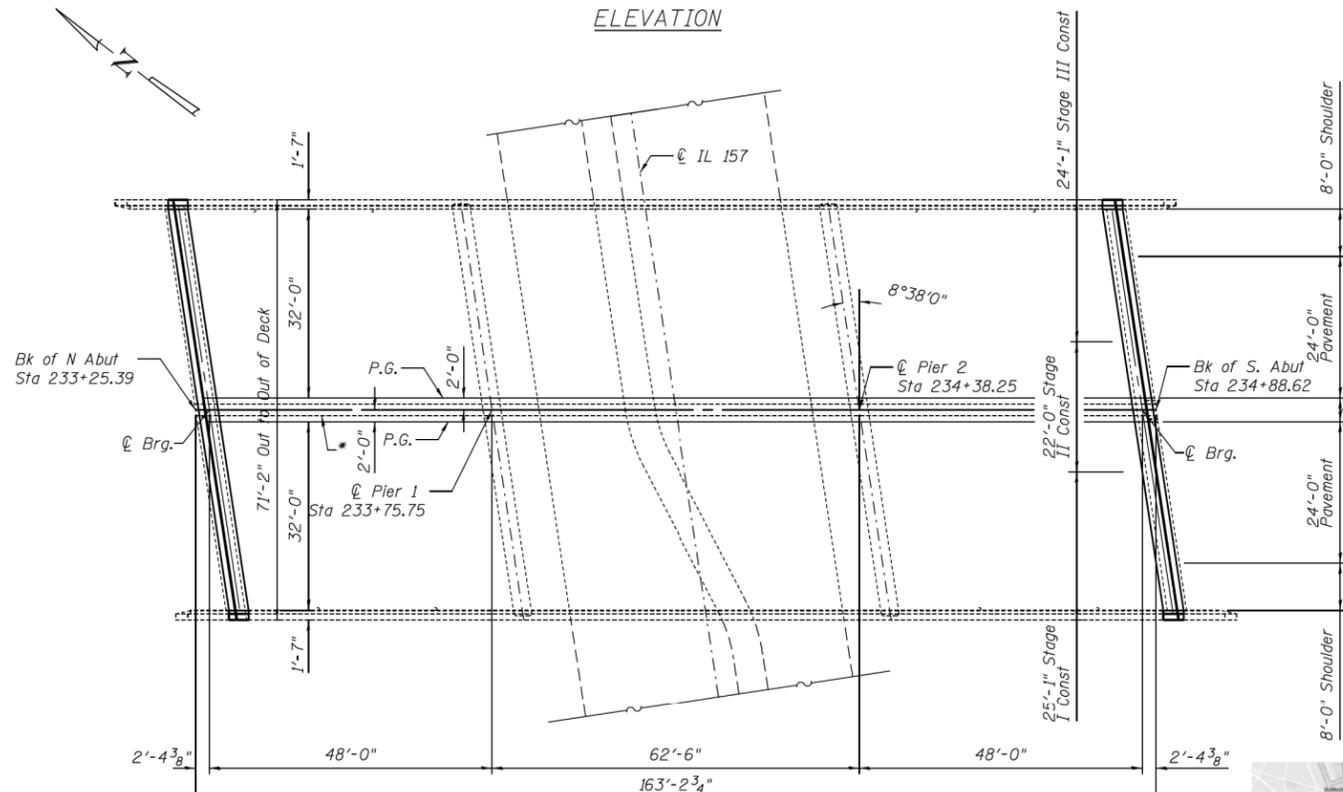
DESIGNED - AYW	EXAMINED	DATE - APRIL 28, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FOR INFORMATION ONLY - STRUCTURAL STEEL SN 082-0039	F.A.P. RTE. 103	SECTION 28-LBR-1	COUNTY ST. CLAIR	TOTAL SHEETS 62	SHEET NO. 40
CHECKED - ATH	PASSED	ENGINEER OF STRUCTURAL SERVICES	REVISOR	SHEET NO. 12 OF 13 SHEETS	CONTRACT NO. 76J01				
DRAWN - AYW	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR			ILLINOIS FED. AID PROJECT				
CHECKED - ATH									



Traffic Control Stage Construction



ELEVATION



PLAN

**SCOPE OF WORK**

- Replace deck ends & hatchblocks
- Install Preformed Joint Strip Seals
- HMA Overlay with WMS on deck & HMA overlay on approaches
- Minor Deck Slab Repair
- Replace existing abutment bearing with elastomeric bearings
- Concrete repair of west pier center column with 4" concrete encasement surrounding the column.

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1. General Plan & Elevation
2. Deck Cross Section & Joint Details
3. Stage Traffic Lanes (Stage I & II)
4. Stage Traffic Lanes (Stage III)
5. Joint Removal & Replacement
6. Strip Seal Details
7. Bearing Replacement (N. Abutment)
8. Bearing Replacement (S. Abutment)
9. Pier Repairs
10. Temporary Concrete Barrier
11. Bar Splicers
12. F.I.O. - Existing Bearings
13. F.I.O.- W. Pier
14. F.I.O.-N. Abut.
15. F.I.O.-S. Abut.

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction 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 scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Joint opening shall be adjusted according to Article 520.04 of the Standard Specs. when the deck is poured at an ambient temperature other than 50° F.

Existing reinforcement bars extending into removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Bridge deck concrete sealer shall be placed on top/inside faces of parapets (full length)/ wingwalls. In addition, place sealer on median (full length), on top of new concrete at joints and on sidewalk & curb adjacent to wingwall.

All structural steel, plates, anchor bolts, bolts, nuts and washers shall be galvanized according to AASHTO M111 or M232 as applicable. Cost included with Furnishing and Erecting Structural Steel.

All structural steel shall conform to AASHTO Classification M 270 Grade 36, unless otherwise noted.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Remove existing concrete barrier at centerline to place HMA, replace deck ends & for proposed traffic staging. The new permanent barrier shall not be pinned.

The concrete on both sides of the joints shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with "Concrete Superstructure".

\* Remove existing Temporary Concrete Barrier & place new Temporary Concrete Barrier (To Remain Permanently)

\*\* Quantities are estimated. The Engineer shall determine the actual locations, and record them in the As-Built plans.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Polymerized HMA Surface Course, Mix "E" N90	Ton	99
Concrete Removal	Cu. Yd.	20.2
Concrete Superstructure	Cu. Yd.	22.8
Concrete Structures	Cu. Yd.	1.6
Furnishing and Erecting Structural Steel	Pound	2410
Reinforcement Bars, Epoxy Coated	Pound	2420
Bar Splicers	Each	36
Preformed Joint Strip Seal	Foot	142
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	10
Anchor Bolts, 1"	Each	40
Waterproofing Membrane System	Sq. Yd.	1183
Bridge Deck Concrete Sealer	Sq. Ft.	1734
Structural Steel Removal	Pound	5160
** Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	10
** Deck Slab Repair (Partial)	Sq. Yd.	50
Jack and Remove Existing Bearings	Each	20
** Structural Repair of Concrete (Depth <=5")	Sq. Ft.	400
** Structural Repair of Concrete (Depth >5")	Sq. Ft.	20



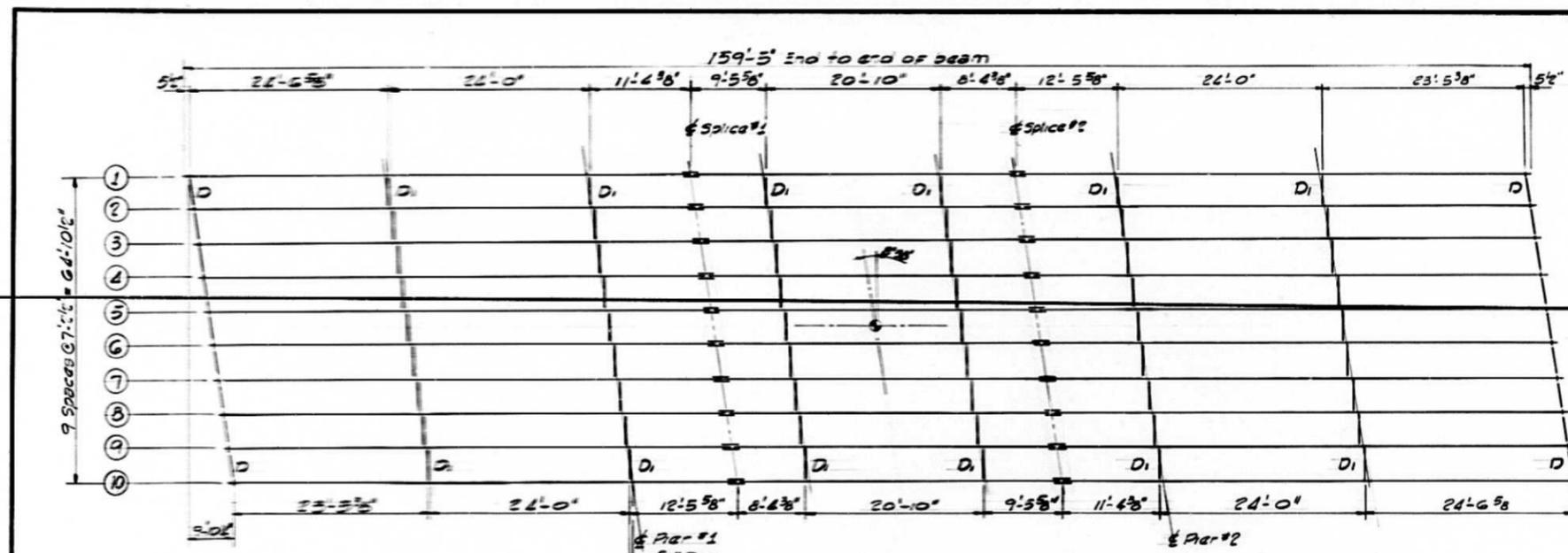
LOCATION SKETCH

FOR INFORMATION ONLY

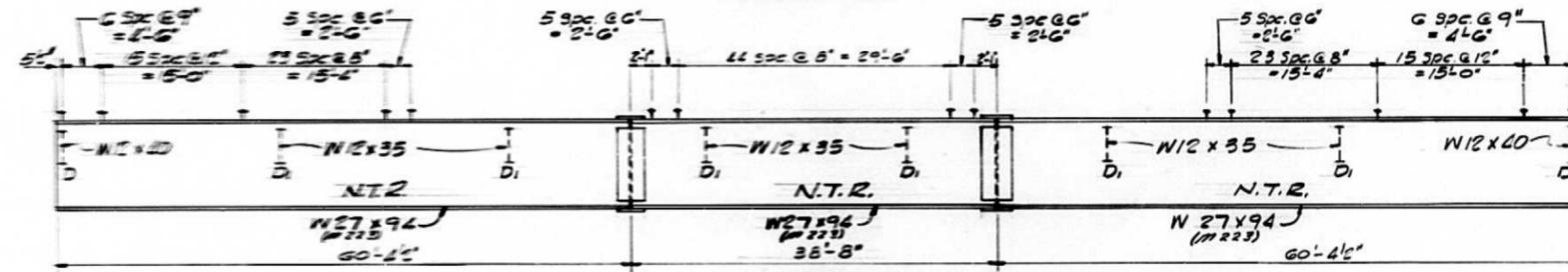
DESIGNED - AYW	EXAMINED	DATE - APRIL 28, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION (IL 15 over IL 157) SN 082-0040	F.A.P. RTE. 103	SECTION 28-1BPR-1	COUNTY ST. CLAIR	TOTAL SHEETS 62	SHEET NO. 42
CHECKED - ATH	PASSED	REVISOR			SHEET NO. 1 OF 15 SHEETS		CONTRACT NO. 76J01		
DRAWN - AYW	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISOR			ILLINOIS FED. AID PROJECT				
CHECKED - ATH	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISOR							

FILE NAME =	USER NAME = murrayda	DESIGNED -	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FOR INFORMATION ONLY GENERAL PLAN & ELEVATION - SN 082-0040	F.A.P. RTE. 103	SECTION 28-1BP-1	COUNTY ST. CLAIR	TOTAL SHEETS 16	SHEET NO. 12
pw:\planroom.dot.illinois.gov\PIDOT\Documents\IDOT Offices\District 8\Projects\0876L98\0876L98-1\Drawings\CAB\0876L98-sht-plan.dgn		CHECKED -	REVISOR -	SCALE: SHEET 6 OF 8 SHEETS STA. TO STA.		CONTRACT NO. 76L98				
PLOT SCALE = 100.0000' / in.		CHECKED -	REVISOR -			ILLINOIS FED. AID PROJECT				
PLOT DATE = 3/26/2019		DATE -	REVISOR -							

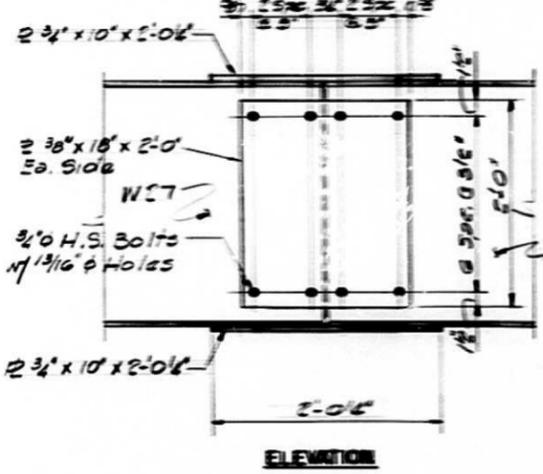
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 103-IBP-1		ST. CLAIR	54	25
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS PROJECT			



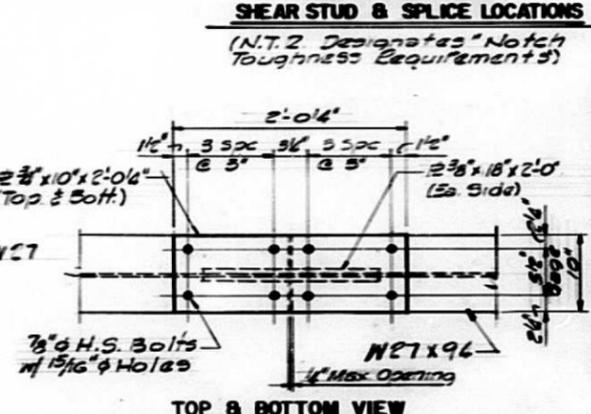
**FRAMING PLAN**



**BEAM ELEVATION**



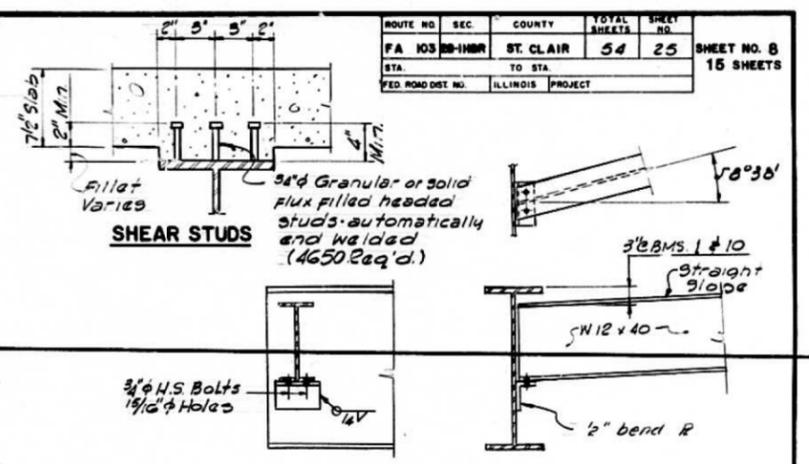
**ELEVATION**



**TOP & BOTTOM VIEW**

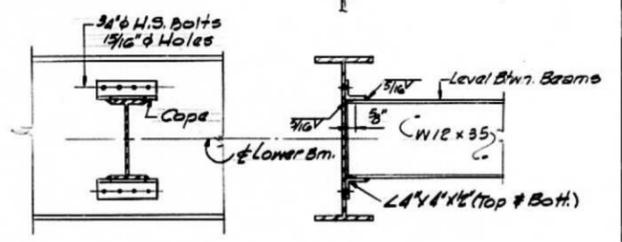
**TYPICAL FIELD SPLICE DETAILS**  
(All splice plate materials are A36 & NTR)

FOR INFORMATION ONLY



**END DIAPHRAGM - D**

**NOTE**  
Hardened washers shall be required over all 1 1/2 inch diameter holes in diaphragms.



**INTERIOR DIAPHRAGM - D1**

	1	2	3	4	5	6	7	8	9	10
$I_s$	3270	3270	3270	3270	3270	3270	3270	3270	3270	3270
$I_c$	9893	9893	9893	9893	9893	9893	9893	9893	9893	9893
$S_c$	243	243	243	243	243	243	243	243	243	243
$S_c$ (in <sup>3</sup> , n=27)	377	342	377	342	377	342	377	342	377	342
$M_D$	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794
$M_E$	156	322	182	182	182	182	182	182	182	182
$M_I$	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289	0.289
$M_2 Q$	55	80	75	75	75	75	75	75	75	75
$M_3$	722	404	872	872	872	872	872	872	872	872
$M_4$	208	112	235	235	235	235	235	235	235	235
$P_2$ NON-COMP.	7.7	15.9	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
$P_3$ COMP.	1.9	4.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
$P_4$ (4-2) FACTORED	29.6	28.5	35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2
$P_5$ TOTAL	39.2	45.4	46.8	46.8	46.8	46.8	46.8	46.8	46.8	46.8
$V_R$	50.9	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2

LOCATION	1	2	3	4	5	6	7	8	9	10
ABUT. NO. 1	438.16	438.34	438.50	438.65	438.81	438.95	439.08	439.21	439.34	439.47
PIER #1	440.08	440.28	440.39	440.59	440.71	440.75	440.68	440.61	440.54	440.47
SPLICE #1	440.55	440.71	440.86	441.02	441.18	441.22	441.15	441.08	441.01	440.94
SPLICE #2	442.08	442.24	442.40	442.55	442.71	442.75	442.68	442.61	442.54	442.47
PIER #2	442.55	442.71	442.87	443.02	443.18	443.22	443.15	443.08	443.01	442.94
ABUT. NO. 2	444.45	444.61	444.77	444.92	445.08	445.12	445.05	444.98	444.91	444.84

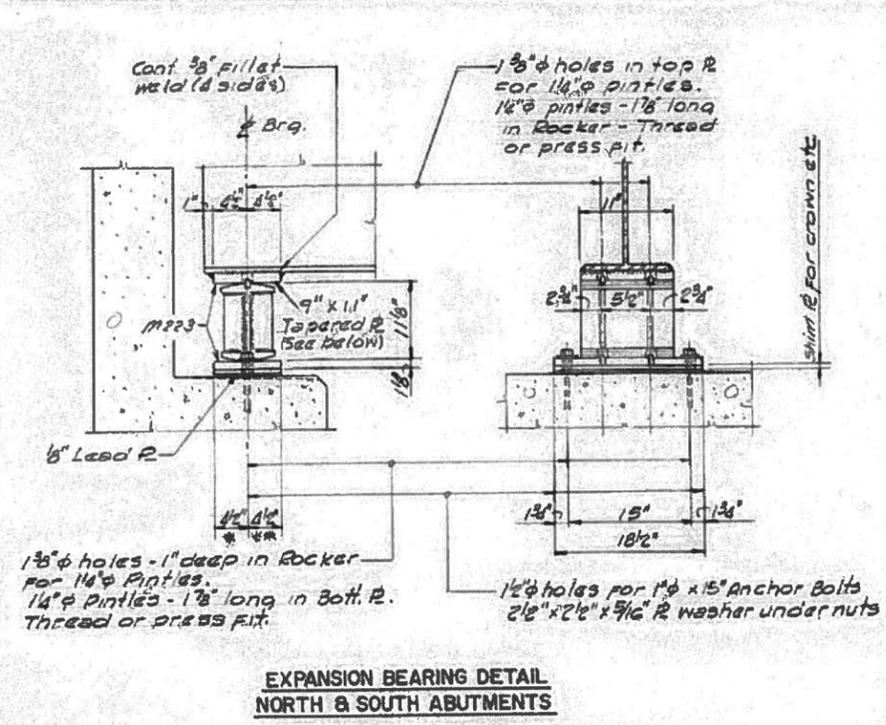
\* For fabrication only.  
 $I_s$  and  $S_c$  are the moment of inertia and section modulus of the steel section used in computing  $P_5$  total.  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $P_5$  total.  
 $V_R$  is the maximum 4+ impact shear range in span.  
The load factor (1.3)[ $Q+P_5(4+Imp)$ ] is used in computing moments and stresses.

	ABUT.	PIER
$R_Q$	18.3	64.9
$R_L$	36.9	45.5
IMP.	10.7	12.1
$R$ TOTAL	65.9	122.5

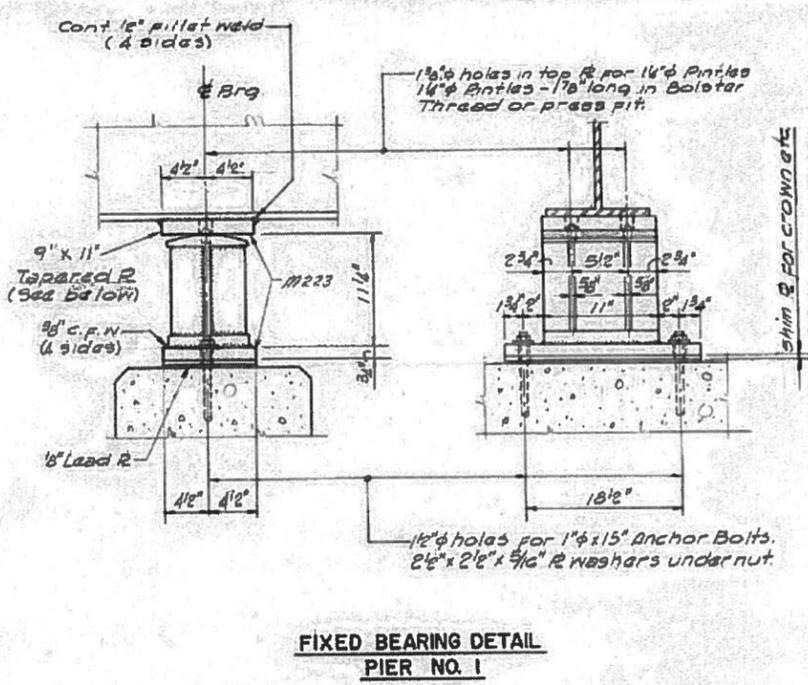
REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
NO.	BY	DATE	ST. CLAIR COUNTY F.A. RTE. 103-IL. RTE. 15 SECTION 28-1HBR STATION 234+07 <b>STRUCTURAL STEEL</b>	
			SCALE NONE	JOB NO. 0166-01
			DATE 9/83	SHEET 25 OF 54 SHEETS
				6/11/84 DS

Work this sheet with sheet 9  
(All steel noted as A36 is Gr. 50)

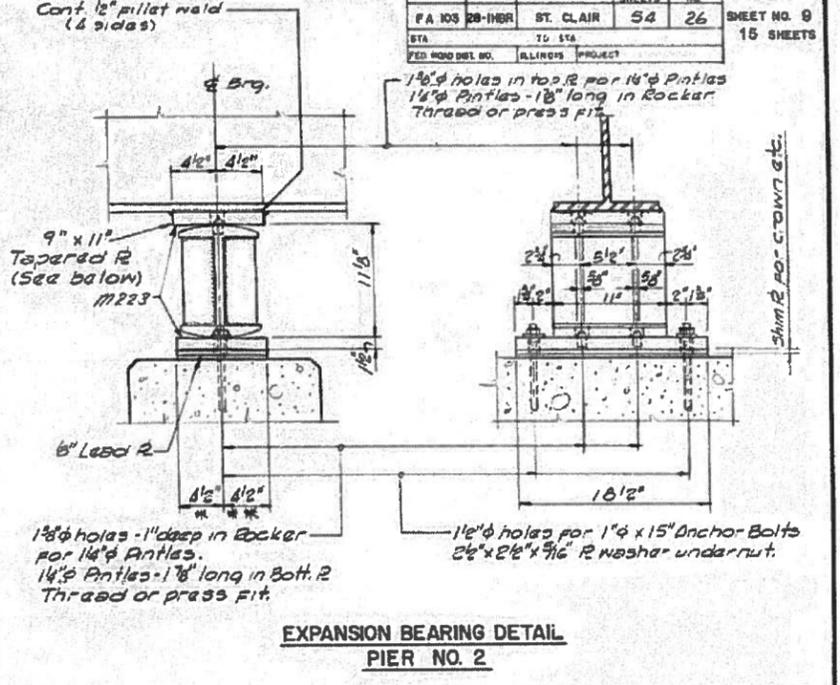
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 103	28-1HBR	ST. CLAIR	54	26
STA.	TO STA.		SHEET NO.	
			15 SHEETS	



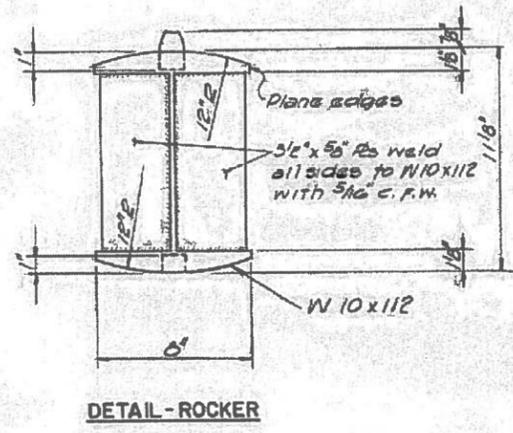
**EXPANSION BEARING DETAIL  
NORTH & SOUTH ABUTMENTS**



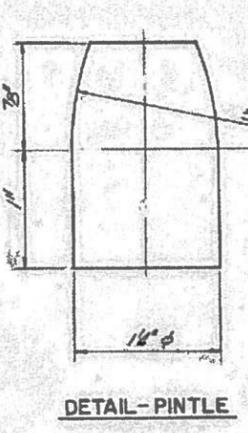
**FIXED BEARING DETAIL  
PIER NO. 1**



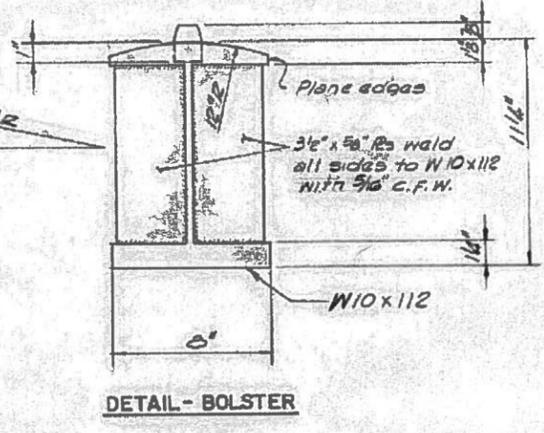
**EXPANSION BEARING DETAIL  
PIER NO. 2**



**DETAIL - ROCKER**



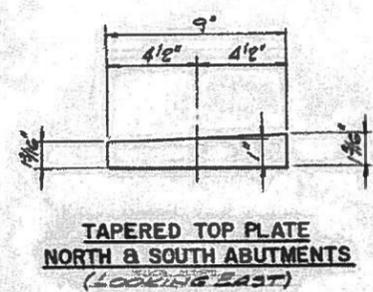
**DETAIL - PINTLE**



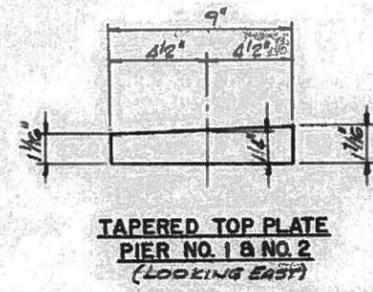
**DETAIL - BOLSTER**

**NOTES FOR SETTING OF ANCHOR BOLTS  
AT EXPANSION BEARINGS**

- \* (Side of Brg. away from fixed Brg.)  
\* 1/8" per each 100' of expansion for every 15° fall below the normal temperature of 50° F.  
\*\* (Side of Brg. toward fixed Brg.)  
\*\* 1/8" per each 100' of expansion for every 15° rise above the normal temperature of 50° F.
- After beams have been erected and dimensions \* & \*\* determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.



**TAPERED TOP PLATE  
NORTH & SOUTH ABUTMENTS  
(LOOKING EAST)**



**TAPERED TOP PLATE  
PIER NO. 1 & NO. 2  
(LOOKING EAST)**

**REQUIRED SHIM PLATES \***

LOG	No. Abut.	Pier #1	Pier #2	So. Abut.
B	2/8"	3/8"	3/8"	3/8"
G	7/8"	7/8"	7/8"	7/8"

Plate dimensions same as bottom bearing plates.  
All shim plates shall be AASHTO M183

Note: All Rockers & Bolsters shall be AASHTO M183  
All bearing plates shall be AASHTO M223 Gr 50.

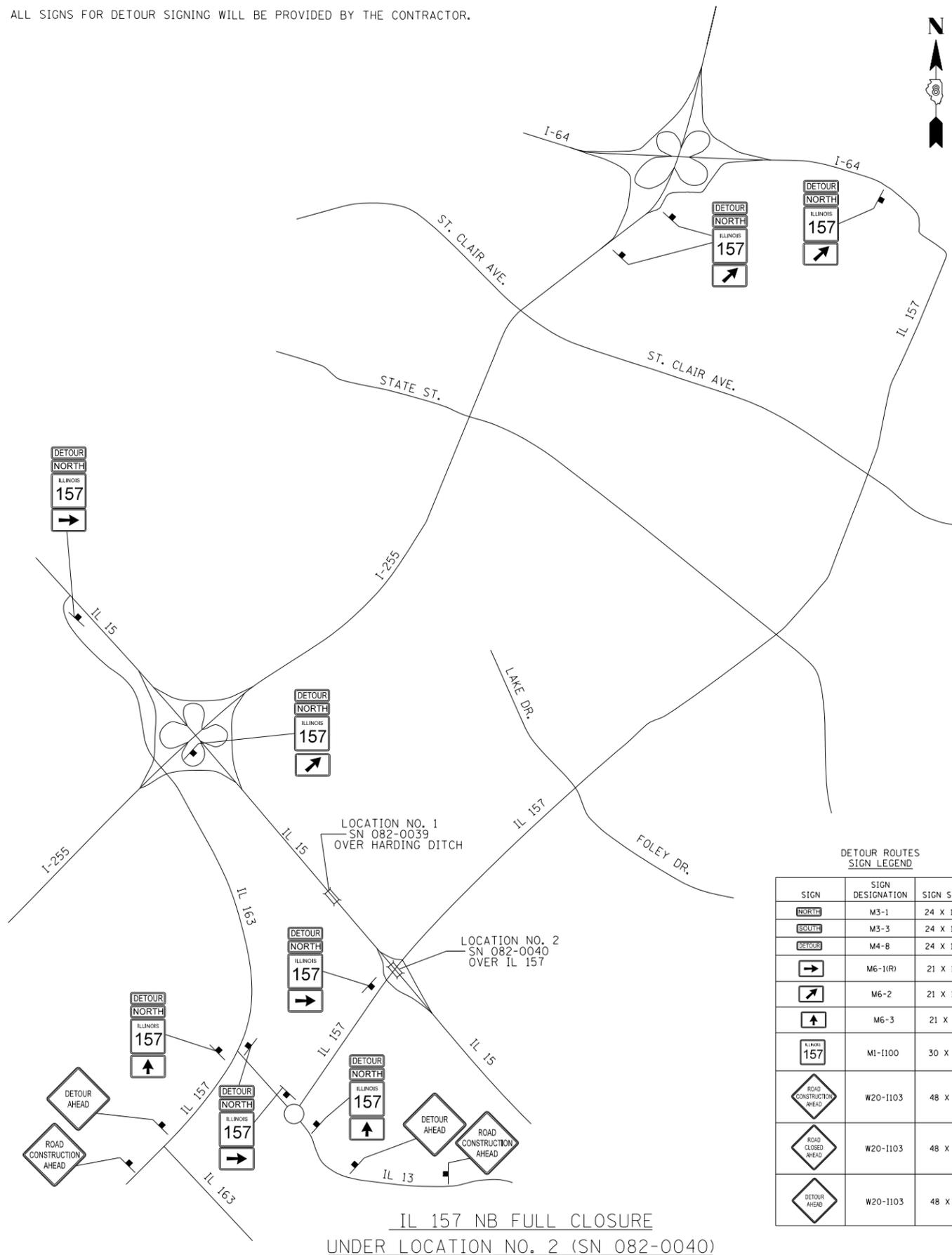
**FOR INFORMATION ONLY**

REVISIONS			STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
NO.	BY	DATE		
			ST. CLAIR COUNTY FA. RTE. 103 - IL. RTE. 15 SECTION 28-1HBR STATION 234+07 <b>BEARING ASSEMBLIES</b>	
DESIGNED BY	MNW		SCALE NONE	JOB NO. 8166-01
DRAWN BY			DATE 9/83	
CHECKED BY	J.J.E.		SHEET 26 OF 54 SHEETS	
APPROVED BY	MNW			

6/2/84 DS



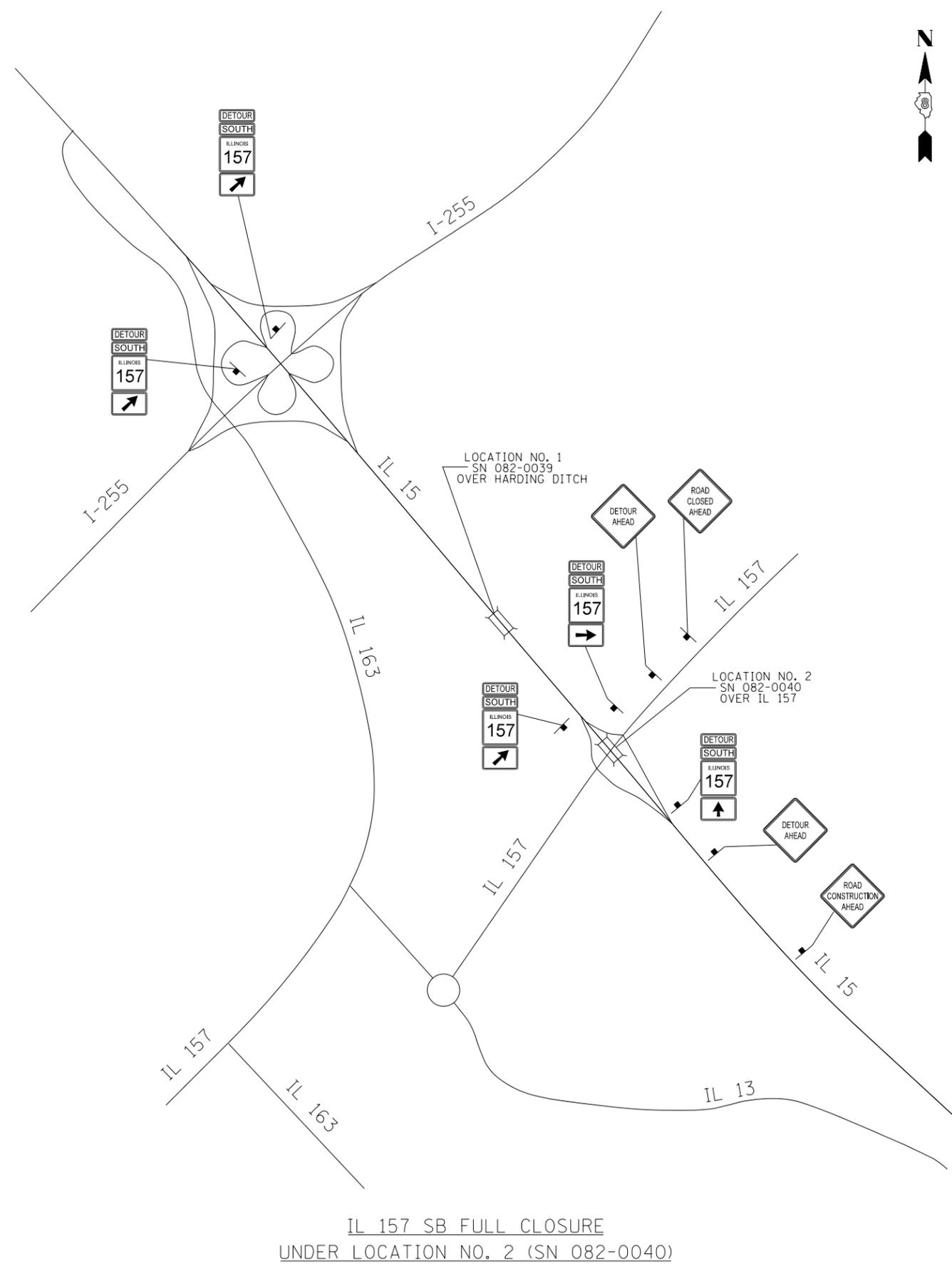
ALL SIGNS FOR DETOUR SIGNING WILL BE PROVIDED BY THE CONTRACTOR.



IL 157 NB FULL CLOSURE  
UNDER LOCATION NO. 2 (SN 082-0040)

DETOUR ROUTES  
SIGN LEGEND

SIGN	SIGN DESIGNATION	SIGN SIZE
	M3-1	24 X 12
	M3-3	24 X 12
	M4-8	24 X 12
	M6-1(R)	21 X 15
	M6-2	21 X 15
	M6-3	21 X 15
	M1-1100	30 X 24
	W20-1103	48 X 48
	W20-1103	48 X 48
	W20-1103	48 X 48



IL 157 SB FULL CLOSURE  
UNDER LOCATION NO. 2 (SN 082-0040)

FILE NAME =	USER NAME = murrayda	DESIGNED -	REVISED -
p:\IL084EBID\INTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 8\Projects\0876\Drawings\EA0\sheets\0876L98-sht-plandg		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL 157 DETOUR ROUTES  
SN 082-0039 & SN 082-0040

SCALE: NTS SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	28-IBP-1	ST. CLAIR	16	16
CONTRACT NO. 76L98				
ILLINOIS FED. AID PROJECT				