

04-29-2022 LETTING ITEM 186

**INDEX OF SHEETS**

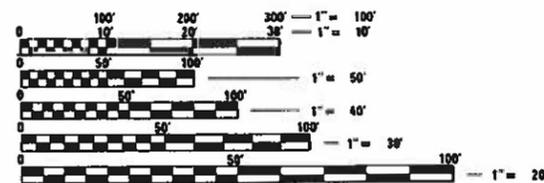
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- 610001-09 SHOULDER INLET WITH CURB
- 701311-09 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY



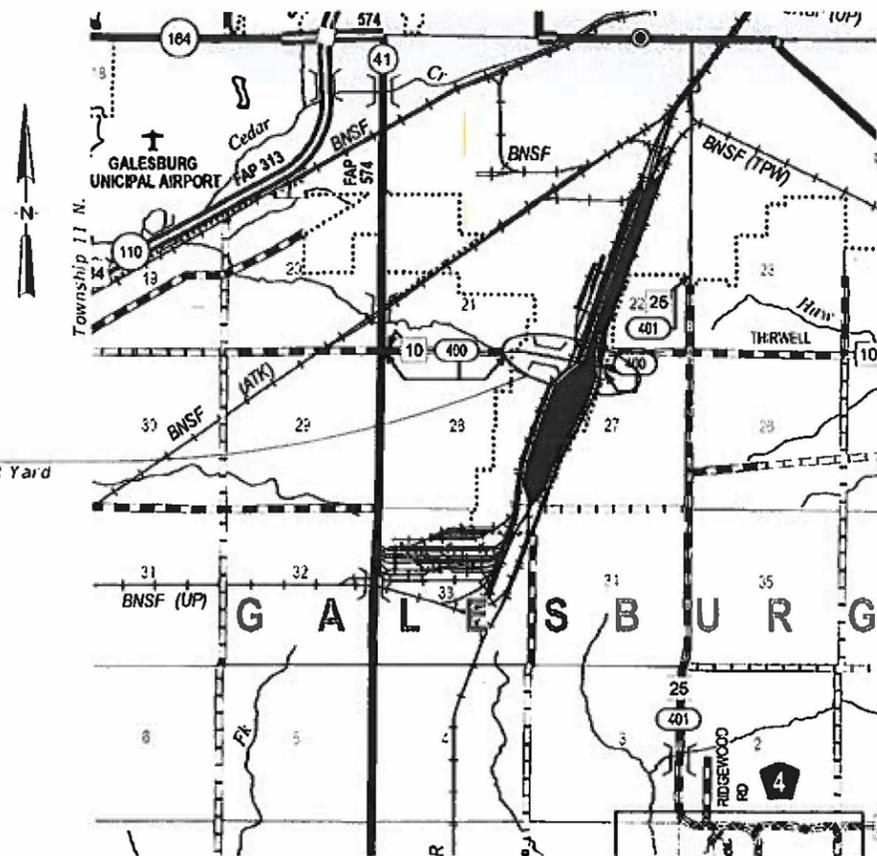
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

**PROJECT ENGINEER - JARED THOELE, P.E., S.E.**  
**PROJECT MANAGER - CINDY LOOS, P.E.**

# PLANS FOR PROPOSED CONTRACT MAINTENANCE

**ICC MULTI-MODAL BOND FUNDS (MMBF)**  
**F.A.S. 400 - C.H. 10**  
**SECTION 18-00043-01-BR**  
**GALESBURG TOWNSHIP**  
**KNOX COUNTY**  
**JOB NO. C-94-013-22**



Structure No. 048-3286  
C.H. 10 over B.N.S.F. RR Yard

Range 1 E  
GROSS LENGTH = 2086.5 FT. = 0.39 MILE  
NET LENGTH = 2086.5 FT. = 0.39 MILE  
ADT (2013) = 3700  
FUNCTIONAL CLASS - MINOR ARTERIAL  
POSTED SPEED = 45 MPH

F.A.S. REF.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	1
		CONTRACT NO. 89819		



**PRINTED BY THE AUTHORITY OF KNOX COUNTY HIGHWAY DEPARTMENT**

**CONTRACT NO. 89819**  
**CAT NO. 036288-00D**

**JARED G. THOELE**  
LICENSED PROFESSIONAL ENGINEER  
STATE OF ILLINOIS  
2/24/2022  
DATE  
1K EXP DATE 11/3/2021

APPROVED 2/24 20 22  
*Deane Rotunno*  
COUNTY ENGINEER

PASSED 3/2 20 22  
*Tony Sassine (ARS)*  
DISTRICT FOUR ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review March 02 20 22  
*Kenneth A. Jordan*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DATE: 1/24/2022  
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7625 N. University St., Suite 209  
Peoria, Illinois 61614  
Offices Nationwide

**GENERAL NOTES**

1. THE CONSTRUCTION SHALL BE GOVERNED BY THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", 2022 EDITION AND "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS", 2022 EDITION.
2. ALL REFERENCES TO THE "DEPARTMENT" OR "ENGINEER" IN THE I.D.O.T. STANDARD SPECIFICATIONS SHALL BE CONSTRUED TO MEAN THE OWNER OR HIS AGENT AS APPROPRIATE.
3. WHERE SECTION, SUB-SECTION, SUBDIVISION, OR PROPERTY MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL PROPERTY MARKERS UNTIL AN OWNER OR AUTHORIZED SURVEYOR HAS WITNESSED OR REFERENCED THEIR LOCATION.
4. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO ANY UTILITY LINES AND EXISTING IMPROVEMENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE WORK.
6. ALL SECTIONS, DETAILS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.
7. ALL THE ELEVATIONS, STATIONS, AND OFFSETS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
8. ALL PAVEMENT REMOVALS SHALL BE FULL DEPTH SAW CUT AT THE LIMITS TO BE REMOVED. THE COST OF THE SAW CUT IS INCLUDED IN PAVEMENT REMOVAL.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
10. EXCESS MATERIAL, IF NOT USED FOR OTHER ON-SITE PURPOSES, SHALL BE HAULED OFF-SITE AT CONTRACTOR'S EXPENSE.
11. THE WORK AREA SHALL BE POSITIVELY DRAINED DURING CONSTRUCTION. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION, AND TRAFFIC.
12. THE CONTRACTOR SHALL USE ANY ON SITE MATERIAL DEEMED SUITABLE BY THE ENGINEER BEFORE ANY NEW FILL IS HAULED TO THE SITE.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
14. CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE BEFORE BIDDING.
15. COMPLETE ROAD CLOSURE SHALL BE USED FOR DURATION OF CONSTRUCTION IN ACCORDANCE WITH HIGHWAY STANDARDS B.L.R. 21-9 AND B.L.R. 22-7.
16. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER AT THE CONTRACTORS EXPENSE.
17. IN ADDITION TO THE REQUIREMENT OF ARTICLE 107.16, THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT, AS DEFINED IN ARTICLE 101.17, REGARDLESS IF TRACK MOUNTED OR WHEELED.

**IDOT DISTRICT 4 GENERAL NOTES**

204.00 ENVIRONMENTAL REVIEWS

PRIOR TO THE USE OF ANY PROPOSED BORROW AREAS, USE AREAS (TEMPORARY ACCESS ROADS, DETOURS, RUN-AROUNDS, ETC.) AND/OR WASTE AREAS, THE CONTRACTOR SHALL FILE THE REQUIRED ENVIRONMENTAL RESOURCE REQUEST SURVEYS ACCORDING TO SECTION 107.22 OF THE STANDARD SPECIFICATIONS. THESE SURVEYS ARE REQUIRED IN ORDER FOR THE DEPARTMENT TO CONDUCT CULTURAL AND BIOLOGICAL RESOURCE SURVEYS FOR THE PROPOSED SITE.

THE REQUIRED ENVIRONMENTAL RESOURCE DOCUMENTATION SHALL INCLUDE THE FOLLOWING:

- BDE FORM 2289 (CULTURAL AND NATURAL RESOURCES REVIEW OF BORROW AREAS)
- BDE FORM 2290 (WASTE/USE AREA REVIEW)
- A LOCATION MAP SHOWING THE SIZE LIMITS AND LOCATION OF THE USE AREA
- COLOR PHOTOGRAPHS DEPICTING THE USE AREA
- BORROW AREA ENTRY AGREEMENT FORM - D4 P10101

PRIOR TO ANY WASTE MATERIALS BEING REMOVED FROM THE CONSTRUCTION SITE THE REQUIRED ENVIRONMENTAL RESOURCE SURVEYS SHALL BE OBTAINED AND FILED BY THE CONTRACTOR. EXCESS WASTE PRODUCTS REMOVED FROM THE CONSTRUCTION SITE SHALL BE DISPOSED OF AS REQUIRED IN SECTION 202.03 OF THE STANDARD SPECIFICATIONS.

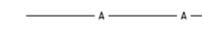
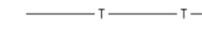
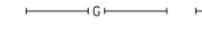
ANY PROTRUDING METAL BARS SHALL BE REMOVED PRIOR TO THE DISPOSAL OF BROKEN CONCRETE AT APPROVED DISPOSAL SITES. THE COST ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE VARIOUS REMOVAL PAY ITEM.

PLEASE NOTE THAT A MINIMUM OF FOUR WEEKS SHALL BE ALLOWED FOR THE DISTRICT TO OBTAIN THE REQUIRED WASTE SITE ENVIRONMENTAL CLEARANCES AND SIX WEEKS FOR THE REQUIRED BORROW SITE ENVIRONMENTAL CLEARANCES.

606.14 TRANSITION PAYMENT METHOD - NEW/OLD CONSTRUCTION

TEN FEET (10 FT.) (3 M) TRANSITIONS SHALL BE USED TO MATCH PROPOSED ITEMS OF WORK TO EXISTING ITEMS IN THE FIELD UNLESS OTHERWISE SHOWN. THE TRANSITION SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PROPOSED ITEM OF WORK SPECIFIED.

**LEGEND**

       	CONTROL POINT  EXISTING TELEPHONE PEDESTAL  EXISTING GUY  EXISTING POWER POLE  EXISTING SIGN  EXISTING TREE  EXISTING R.O.W. MARKER  PROPOSED SIGN	       	OVERHEAD ELECTRIC  UNDERGROUND TELEPHONE  UNDERGROUND GAS  EXISTING R.O.W.  EXISTING GUARDRAIL  PROPOSED GUARDRAIL  EXISTING FENCE  VEGITATION LINE
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LAYOUT	CGP	05/06/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022
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PLOT DATE = 2/3/2022	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
GENERAL NOTES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	2
CONTRACT NO. 89819				
ILLINOIS		FED. AID PROJECT		

CODE NO.	ITEM	UNIT	QUANTITY
20800150	TRENCH BACKFILL	CU YD	15.6
30300001	AGGREGATE SUBGRADE IMPROVEMENT	CU YD	76
31102100	SUBBASE GRANULAR MATERIAL, TYPE C 4"	SQ YD	170
31200100	STABILIZED SUBBASE 4"	SQ YD	174
42000501	PORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED)	SQ YD	280
44000100	PAVEMENT REMOVAL	SQ YD	342
44000300	CURB REMOVAL	FOOT	60
50102400	CONCRETE REMOVAL	CU YD	46.8
50157300	PROTECTIVE SHIELD	SQ YD	463
50300225	CONCRETE STRUCTURES	CU YD	31.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	45.7
50300260	BRIDGE DECK GROOVING	SQ YD	567
50300300	PROTECTIVE COAT	SQ YD	13273
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	289.2

CODE NO.	ITEM	UNIT	QUANTITY
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	114790
52000110	PREFORMED JOINT STRIP SEAL	FOOT	432
* 52200500	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	3690
59000200	EPOXY CRACK INJECTION	FOOT	26
60100955	PIPE DRAINS 15"	FOOT	102
60500060	REMOVING INLETS	EACH	4
60600605	CONCRETE CURB, TYPE B	FOOT	60
Δ 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	196
67100100	MOBILIZATION	L SUM	1
Δ 78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	8346
Δ 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8
* X0322215	CLEANING BRIDGE SCUPPERS AND DOWNSPOUTS	EACH	56
* X0322924	RETAINING WALL REMOVAL	SQ FT	3690

\* SPECIAL PROVISION    Δ SPECIALTY ITEMS

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REVIEWED	JGT	01/24/2022

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PLOT DATE = 3/7/2022		

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 SUMMARY OF QUANTITIES - 1**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 89819	

CODE NO.	ITEM	UNIT	QUANTITY
* X0323586	PIPE DRAIN REMOVAL	FOOT	122
* X0900022	BRIDGE DRAINAGE SYSTEM REPAIR	FOOT	100
* X6100120	TYPE E INLET BOX, STANDARD 610001 (SPECIAL)	EACH	4
* X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
* XX008979	CONCRETE COLLAR	EACH	2
* Z0001002	GUARDRAIL AGGREGATE EROSION CONTROL	TON	36
* Z0004552	APPROACH SLAB REMOVAL	SQ YD	642
Δ *	Z0007101 CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1
Δ *	Z0010501 CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1
* Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	814
* Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	407
* Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1
* Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	16
# Z0076600	TRAINEES	HOUR	1000
# Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1000

\* SPECIAL PROVISION Δ SPECIALTY ITEM #0042

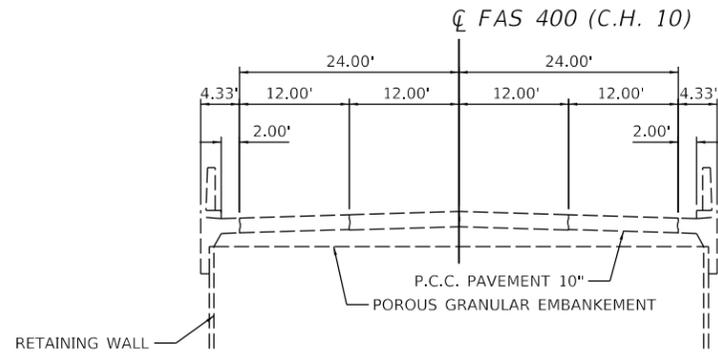
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>FAS 400 (C.H. 10) SUMMARY OF QUANTITIES - 2</b>	
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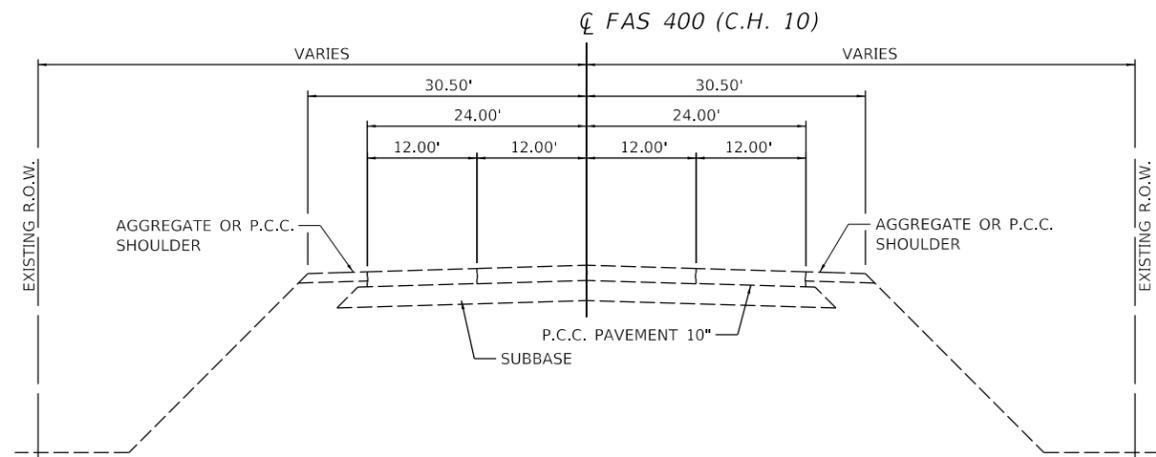
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400	18-00043-01-BR	KNOX	81	4
			CONTRACT NO. 89819	
ILLINOIS FED. AID PROJECT				



**EXISTING TYPICAL SECTION**

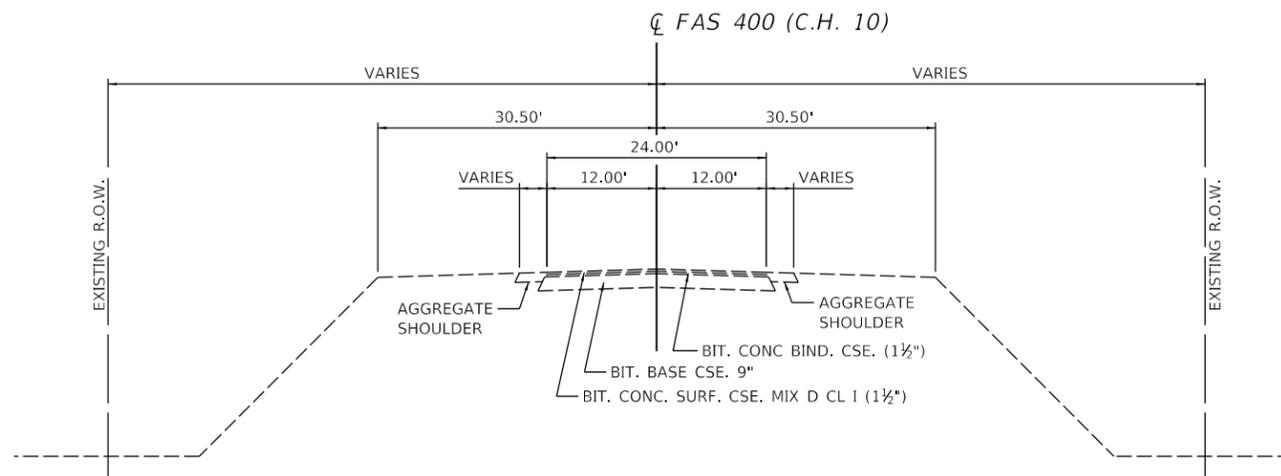
STA. 56+22.06 TO STA. 56+73.06  
 STA. 75+99.56 TO STA. 76+50.56

NOTE:  
 EXISTING PAVEMENT AND SHOULDER DEPTHS  
 ASSUMED BASED ON AS BUILT PLANS.



**EXISTING TYPICAL SECTION**

STA. 55+93.06 TO STA. 56+22.06  
 STA. 76+50.56 TO STA. 76+79.56



**EXISTING TYPICAL SECTION**

STA. 50+00.00 TO STA. 55+93.06  
 STA. 76+79.56 TO STA. 84+00.00

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DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022
DATE		

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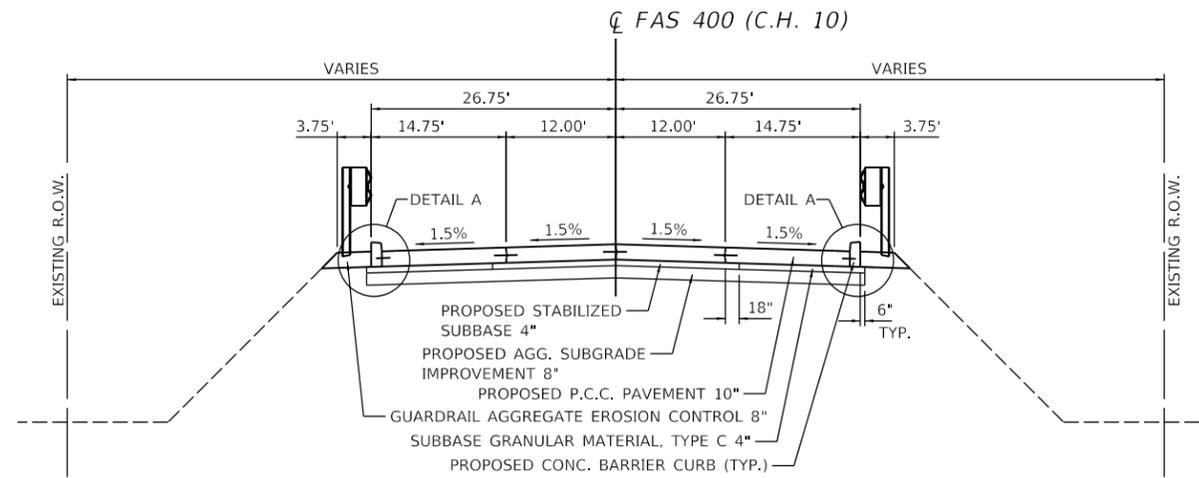
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PLOT DATE = 2/3/2022	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 TYPICAL SECTIONS - 1**

SCALE: SHEET OF SHEETS STA. TO STA.

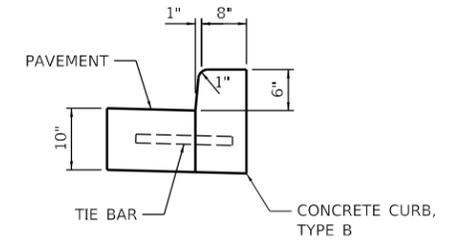
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	5
CONTRACT NO. 89819				
ILLINOIS FED. AID PROJECT				



**PROPOSED TYPICAL SECTION**

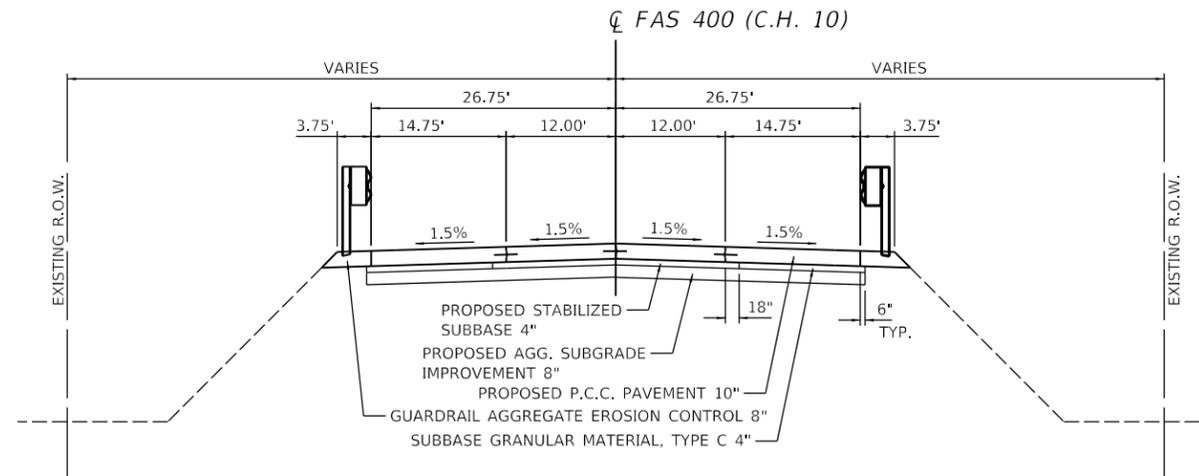
STA. 56+07.06 TO STA. 56+22.06  
 STA. 76+50.56 TO STA. 76+65.56

BRIDGE OMISSION  
 STA. 56+73.06 TO STA. 75+99.56



**DETAIL A**

NOTE:  
 MATCH CROSS SECTION OF CURB ON  
 BRIDGE APPROACH SLAB.



**PROPOSED TYPICAL SECTION**

STA. 55+93.06 TO STA. 56+07.06  
 STA. 76+65.56 TO STA. 76+79.56

LAYOUT	CGP	05/06/21
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	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 TYPICAL SECTIONS - 2**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	6
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT	

REMOVAL SCHEDULE				
LOCATION		44000100	44000300	63200310
		PAVEMENT REMOVAL	CURB REMOVAL	GUARDRAIL REMOVAL
BEGIN STATION	END STATION	SQ YD	FOOT	FOOT
COUNTY HIGHWAY 10				
55+93.06	56+22.06	171		
76+50.56	76+79.56	171		
56+08.75	56+22.06		30	
76+50.56	76+63.87		30	
55+85.16	56+34.06			98
76+38.56	76+87.46			98
TOTAL		342	60	196

PAVEMENT MARKING SCHEDULE		
LOCATION		78009004
		MODIFIED URETHANE PAVEMENT MARKING - LINE 4"
BEGIN STATION	END STATION	FOOT
COUNTY HIGHWAY 10		
55+93.06	76+79.56	8,346
TOTAL		8,346

DRAINAGE STRUCTURE SCHEDULE						
LOCATION					X6100120	
					TYPE E INLET BOX, STANDARD 610001 (SPECIAL)	EACH
NO.	STATION	OFFSET	FRAME ELEV.	N. INVERT ELEV.	S. INVERT ELEV.	
COUNTY HIGHWAY 10						
S1	56+10.54	21.08' LT	811.91	807.71	807.88	1
S2	56+10.54	21.08' RT	811.91	808.33	-	1
S3	76+60.79	21.08' LT	817.56	813.98	-	1
S4	76+60.79	21.08' RT	817.56	813.23	813.06	1
TOTAL						4

PAVEMENT AND SHOULDER SCHEDULE							
LOCATION		30300108	31102100	31200100	42000500	50300300	60600605
		AGGREGATE SUBGRADE IMPROVEMENT 8"	SUBBASE GRANULAR MATERIAL, TYPE C 4"	STABILIZED SUBBASE 4"	PORTLAND CEMENT CONCRETE PAVEMENT 10"	PROTECTIVE COAT	CONCRETE CURB, TYPE B
BEGIN STATION	END STATION	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	FOOT
COUNTY HIGHWAY 10							
55+93.06	56+22.06	172	85	87	140	140	
76+50.56	76+79.56	172	85	87	140	140	
56+07.06	56+22.06						30
76+50.56	76+65.56						30
TOTAL		344	170	174	280	280	60

PIPE SCHEDULE						
FROM STRUCTURE		TO STRUCTURE		20800150	60100955	XX008979
				TRENCH BACKFILL	PIPE DRAINS 15"	CONCRETE COLLAR
NO.	INVERT ELEV.	NO.	INVERT ELEV.	CU YD	FOOT	EACH
COUNTY HIGHWAY 10						
S2	808.33	S1	807.88	6	44	
S1	807.71	EXST. PIPE	807.68	1	7	1.00
S3	813.98	S4	813.23	7	44	
S4	813.06	EXST. PIPE	813.03	1	7	1.00
TOTAL				16	102	2.0

GUARDRAIL SCHEDULE					
LOCATION			63100085	78200005	Z0001002
			TRAFFIC BARRIER TERMINAL, TYPE 6	GUARDRAIL REFLECTORS, TYPE A	GUARDRAIL AGGREGATE EROSION CONTROL
BEGIN STATION	END STATION	SIDE	EACH	EACH	TON
COUNTY HIGHWAY 10					
55+85.16	56+24.56	LT	1	2	
55+85.16	56+24.56	RT	1	2	
76+48.06	76+87.46	LT	1	2	
76+48.06	76+87.46	RT	1	2	
55+85.16	56+22.06	LT			9
55+85.16	56+22.06	RT			9
76+50.56	76+87.46	LT			9
76+50.56	76+87.46	RT			9
TOTAL			4	8	36

DRAINAGE REMOVAL SCHEDULE			
LOCATION		60500060	X0323586
		REMOVING INLETS	PIPE DRAIN REMOVAL
STATION	OFFSET	EACH	FOOT
COUNTY HIGHWAY 10			
56+10.54	26.00' LT	1	
56+10.54	26.00' RT	1	
76+60.79	26.00' LT	1	
76+60.79	26.00' RT	1	
56+10.54	LT/RT		61
76+60.79	LT/RT		61
TOTAL		4	122

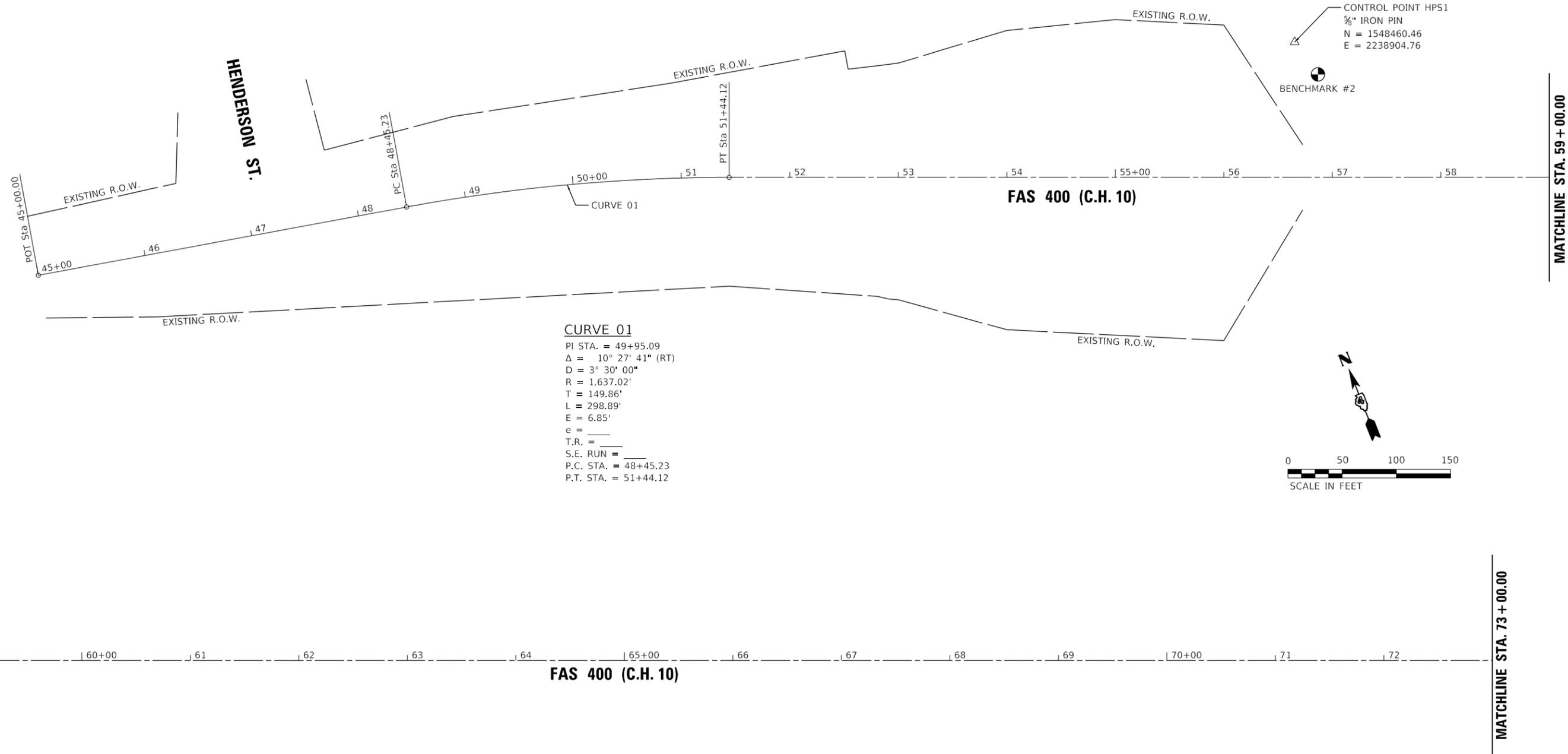
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PLOT DATE = 2/3/2022	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>FAS 400 (C.H. 10)          SCHEDULE OF QUANTITIES</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

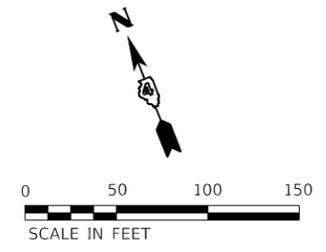
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400	18-00043-01-BR	KNOX	81	7
			CONTRACT NO. 89819	
		ILLINOIS	FED. AID PROJECT	



**CURVE 01**  
 PI STA. = 49+95.09  
 $\Delta = 10^\circ 27' 41''$  (RT)  
 D = 3° 30' 00"  
 R = 1,637.02'  
 T = 149.86'  
 L = 298.89'  
 E = 6.85'  
 e = \_\_\_\_\_  
 T.R. = \_\_\_\_\_  
 S.E. RUN = \_\_\_\_\_  
 P.C. STA. = 48+45.23  
 P.T. STA. = 51+44.12

CONTROL POINT HPS1  
 5/8" IRON PIN  
 N = 1548460.46  
 E = 2238904.76

BENCHMARK #2



BENCHMARK #1  
 COTTON SPINDLE IN EAST FACE OF POWER POLE #381 ON WEST SIDE OF SALUDA RD. AND IN LINE WITH OLD THIRWELL RD. ( $\pm 550'$  NORTH OF KNOX COUNTY HIGHWAY 10 BRIDGE).  
 APPROX. LOCATION - N = 1548505 E = 2238897

BENCHMARK #2  
 COTTON SPINDLE IN EAST FACE OF FIRST POWER POLE NORTH OF KNOX COUNTY 10 BRIDGE ON WEST SIDE OF BNSF ACCESS RD. RUNNING ALONG WEST ABUTMENT OF BRIDGE.  
 APPROX. LOCATION - N = 1548439 E = 2236942

LAYOUT	CGP	05/06/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	07/24/2022

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	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>FAS 400 (C.H. 10) ALIGNMENT, BENCHMARKS, AND TIES</b>			
SCALE: 1"=50'	SHEET	OF	SHEETS
	STA.	TO	STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	8
CONTRACT NO. 89819				
ILLINOIS FED. AID PROJECT				

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DRAWN	RSJ	05/06/21
REVIEWED	JGT	07/24/2022

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PLOT SCALE = 100.00' / in.	DRAWN - RSJ	REVISED -
PLOT DATE = 2/3/2022	CHECKED - JGT	REVISED -
	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 ALIGNMENT, BENCHMARKS, AND TIES**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	9
			CONTRACT NO. 89819	
ILLINOIS FED. AID PROJECT				

MATCHLINE STA. 73 + 00.00

FAS 400 (C.H. 10)

CONTROL POINT HPS2  
 3/8" IRON PIN  
 N = 1548472.25  
 E = 2236926.76

EXISTING R.O.W.

PC Sta 78+34.44

CURVE 02

**CURVE 02**

PI STA. = 83+34.26  
 $\Delta$  = 47° 07' 52" (LT)  
 D = 5° 00' 00"  
 R = 1,145.92'  
 T = 499.82'  
 L = 942.62'  
 E = 104.26'  
 e = \_\_\_\_\_  
 T.R. = \_\_\_\_\_  
 S.E. RUN = \_\_\_\_\_  
 P.C. STA. = 78+34.44  
 P.T. STA. = 87+77.06

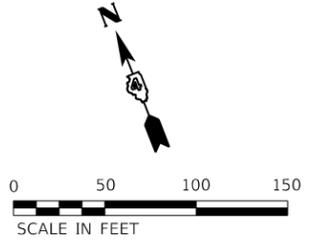
EXISTING R.O.W.

EXISTING R.O.W.

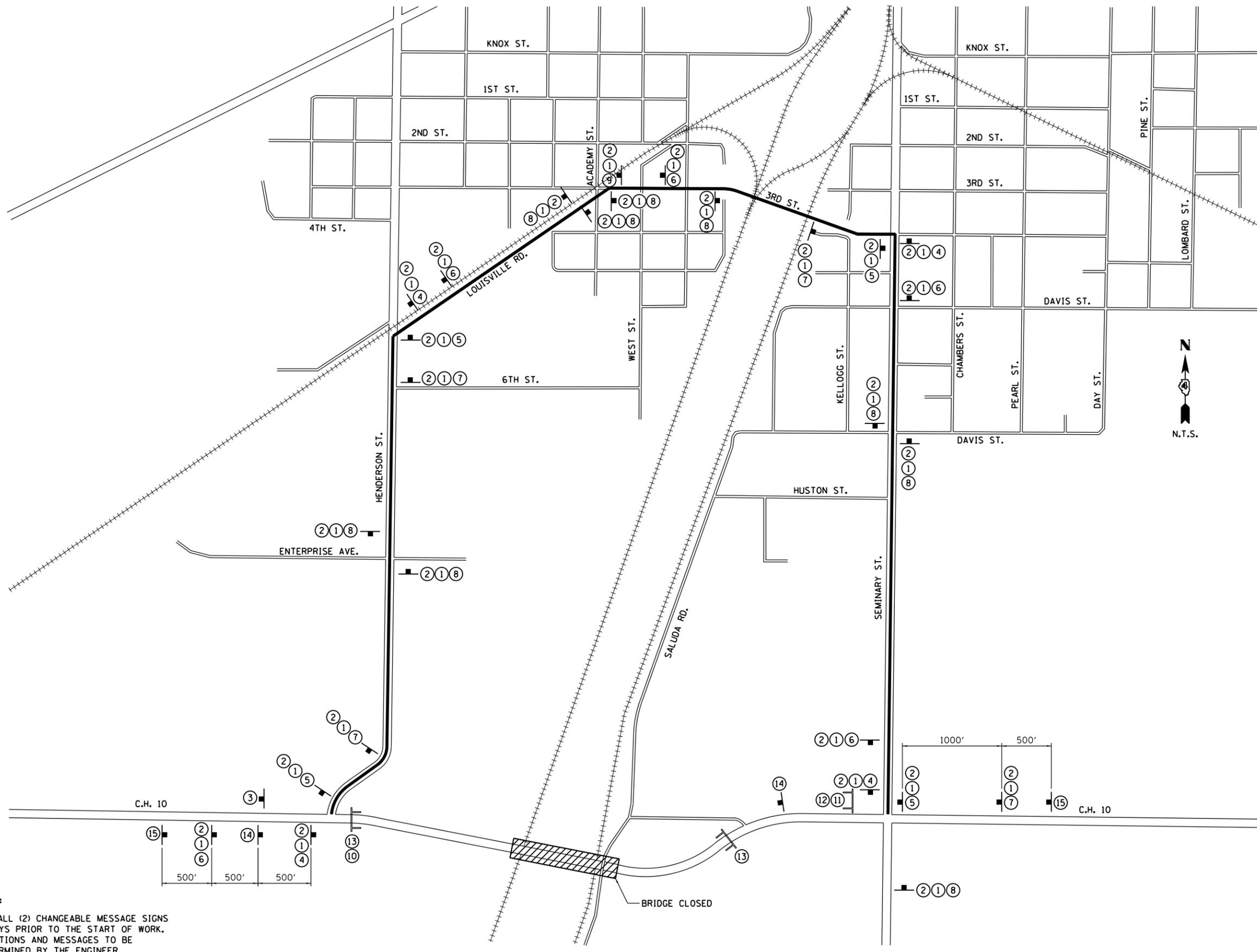
FAS 400 (C.H. 10)

EXISTING R.O.W.

MATCHLINE STA. 85 + 00.00



- ① **C.H. 10**
- ② **DETOUR** M4-8 24"x18"    ③ **END DETOUR** M4-8a 24"x18"
- ④ **←** M6-1L 21"x15"    ⑤ **→** M6-1R 21"x15"
- ⑥ **↙** M5-1L 21"x15"    ⑦ **↘** M5-1R 21"x15"
- ⑧ **↑** M6-3 21"x15"    ⑨ **↖** M6-2 21"x15"
- ⑩ **← DETOUR** M4-10L 48"x18"
- ⑪ **DETOUR →** M4-10R 48"x18"
- ⑫ **BRIDGE OUT 1.2 MILES AHEAD LOCAL TRAFFIC ONLY** R11-3b 60"x30"
- ⑬ **ROAD CLOSED** R11-2 48"x30"
- ⑭ **ROAD CLOSED 500 FT** W20-3 36"x36"
- ⑮ **DETOUR 1500 FT** W20-2 36"x36"



**LEGEND**  
 SIGN  
 TYPE III BARRICADE

**NOTE:**  
 INSTALL (2) CHANGEABLE MESSAGE SIGNS  
 7 DAYS PRIOR TO THE START OF WORK.  
 LOCATIONS AND MESSAGES TO BE  
 DETERMINED BY THE ENGINEER.

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REVIEWED	JGT	07/24/2022
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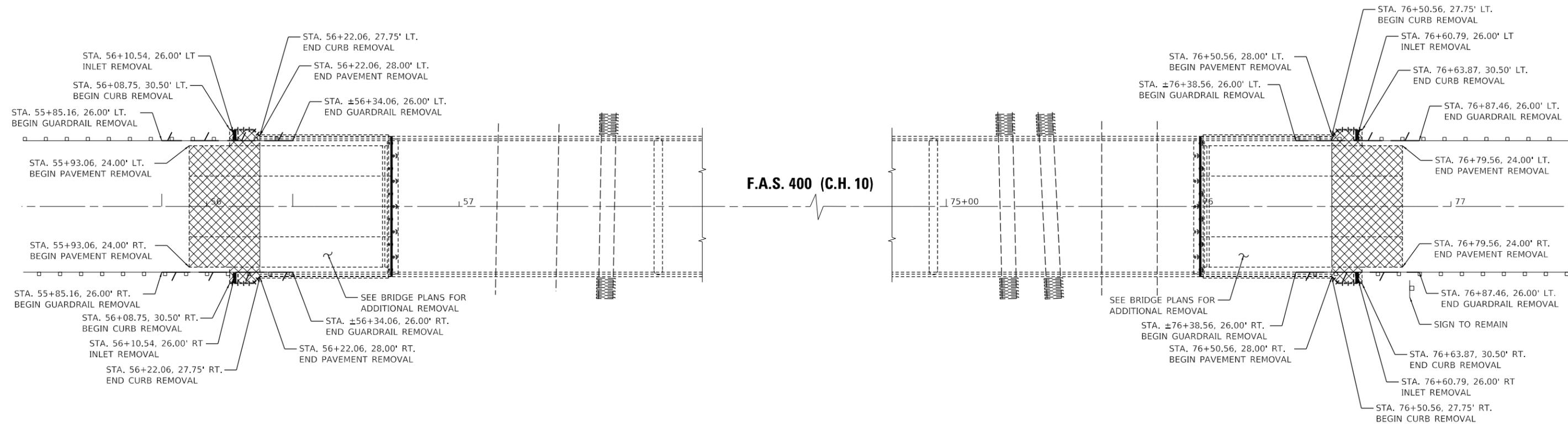
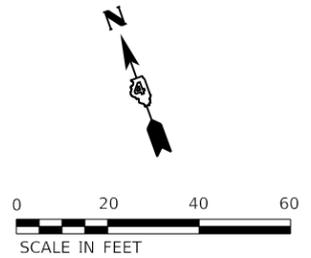
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PLOT DATE =	2/3/2022	DATE -	01/24/2022	REVISED -	

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 DETOUR PLAN**

SCALE: NTS    SHEET OF SHEETS    STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	10
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT	



**LEGEND**

- PAVEMENT REMOVAL
- GUARDRAIL REMOVAL
- CURB REMOVAL

LAYOUT	CGP	05/06/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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PLOT DATE = 2/3/2022	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FAS 400 (C.H. 10)  
 REMOVAL PLAN**

SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 89819	
		ILLINOIS	FED. AID PROJECT	

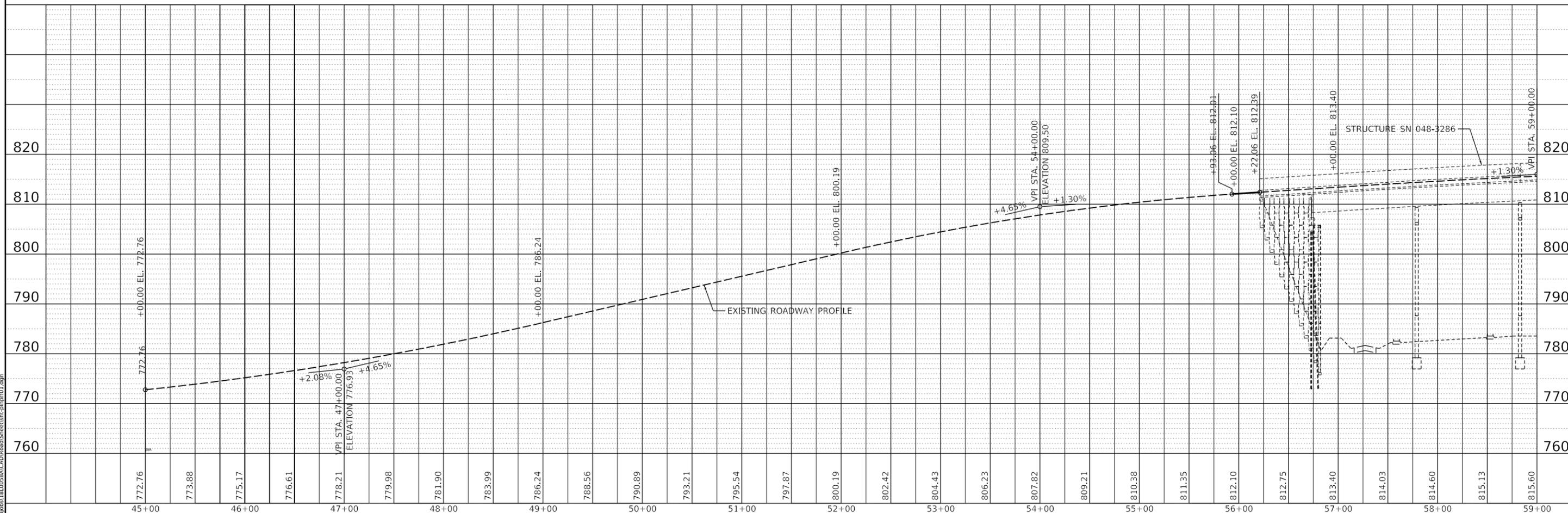
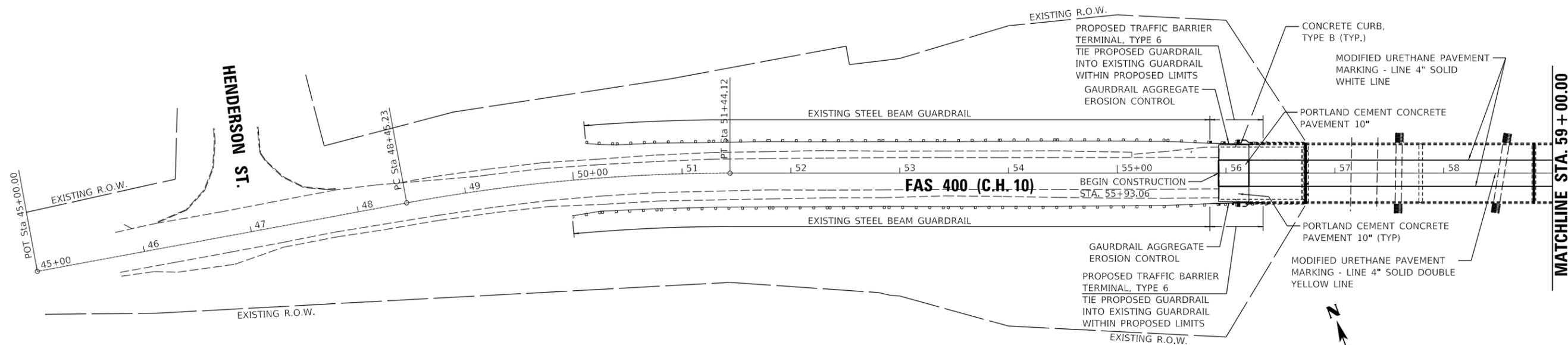
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	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILE NAME	
	NO.	



PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATION CHECKED	
	NO.	

LAYOUT	05/06/21
DRAWN	RSJ
REVIEWED	JGT
DATE	01/24/2022

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	DATE - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>FAS 400 (C.H. 10) PLAN AND PROFILE</b>	
SCALE: 1"=20'	SHEET OF SHEETS STA. TO STA.

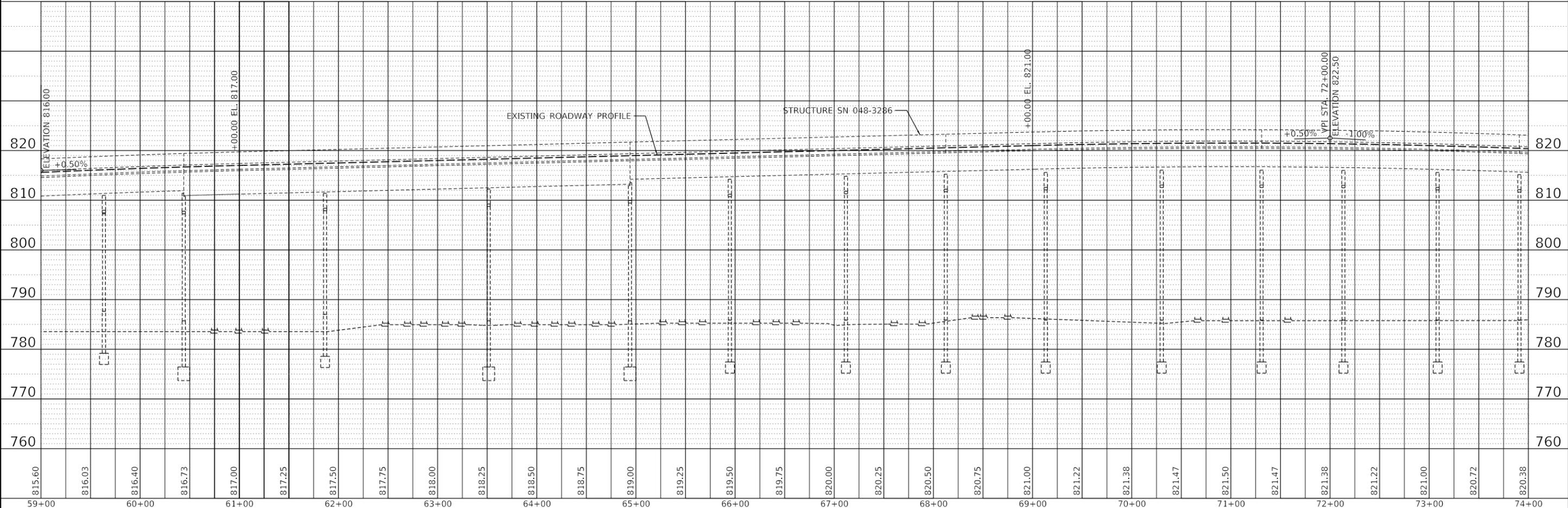
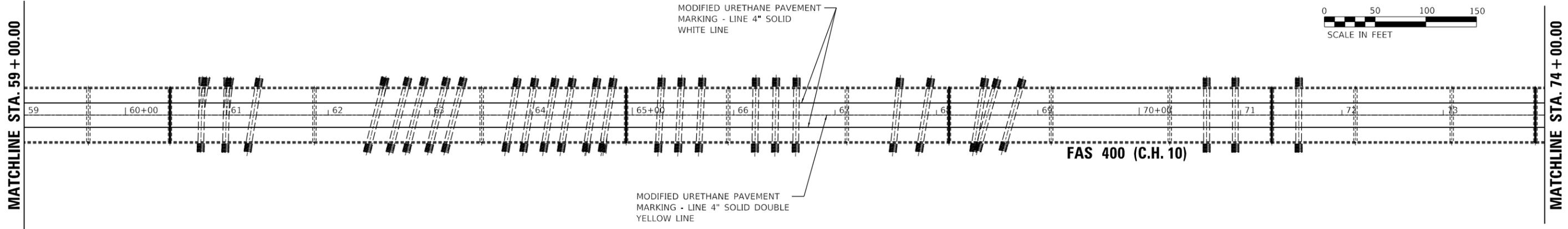
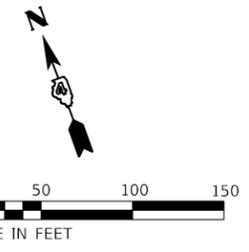
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400	18-00043-01-BR	KNOX	81	12
CONTRACT NO. 89819				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK NO.	ALIGNED CHECKED		
	CADD FILE NAME		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK NO.	GRADES CHECKED		
	STRUCTURE NOTATION CHECKED		

LAYOUT	CGP	05/06/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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	DATE - 01/24/2022	REVISED -

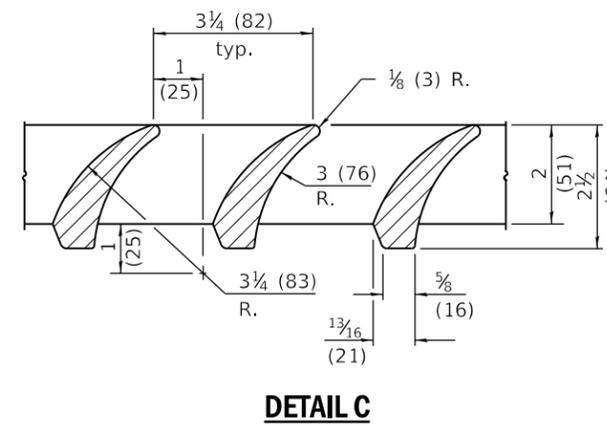
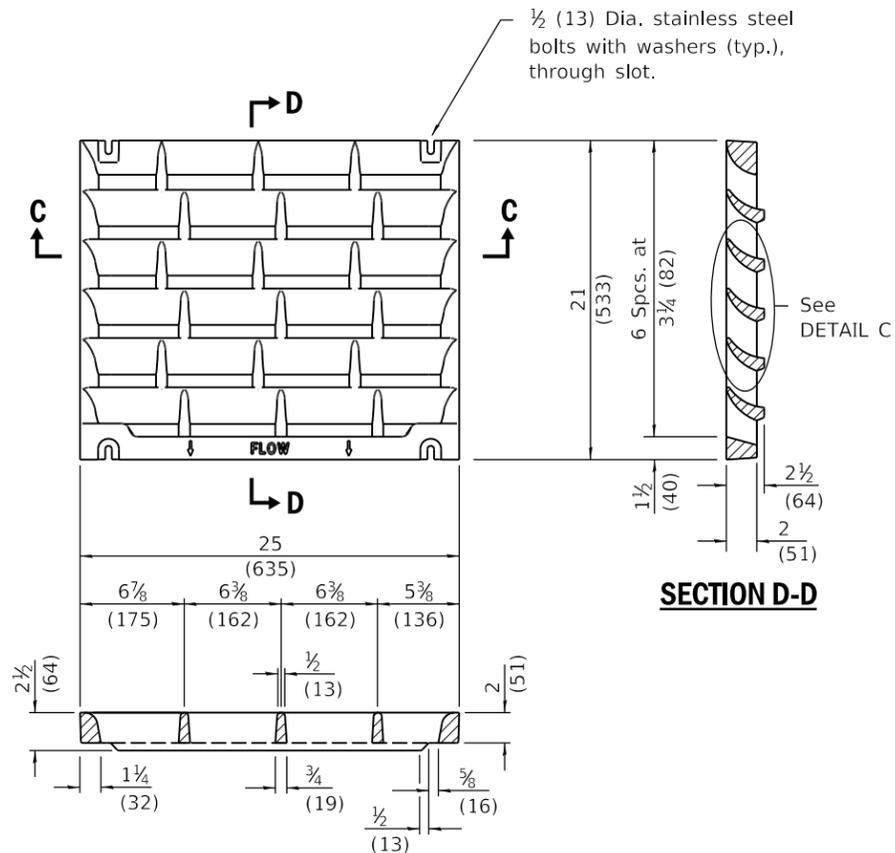
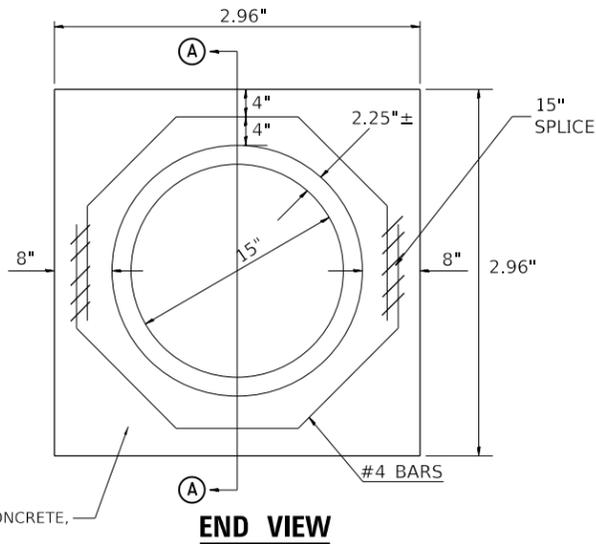
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>FAS 400 (C.H. 10) PLAN AND PROFILE</b>	
SCALE: 1"=20'	SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	13
CONTRACT NO. 89819				
ILLINOIS		FED. AID PROJECT		

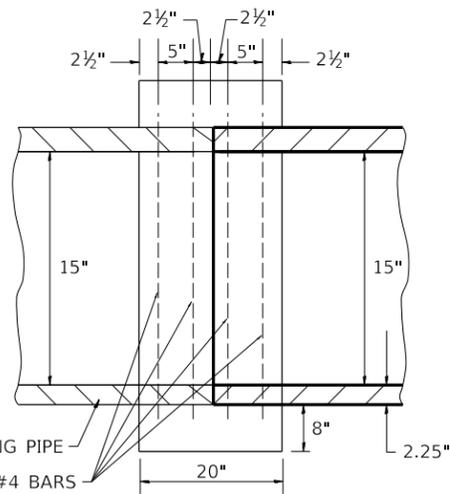




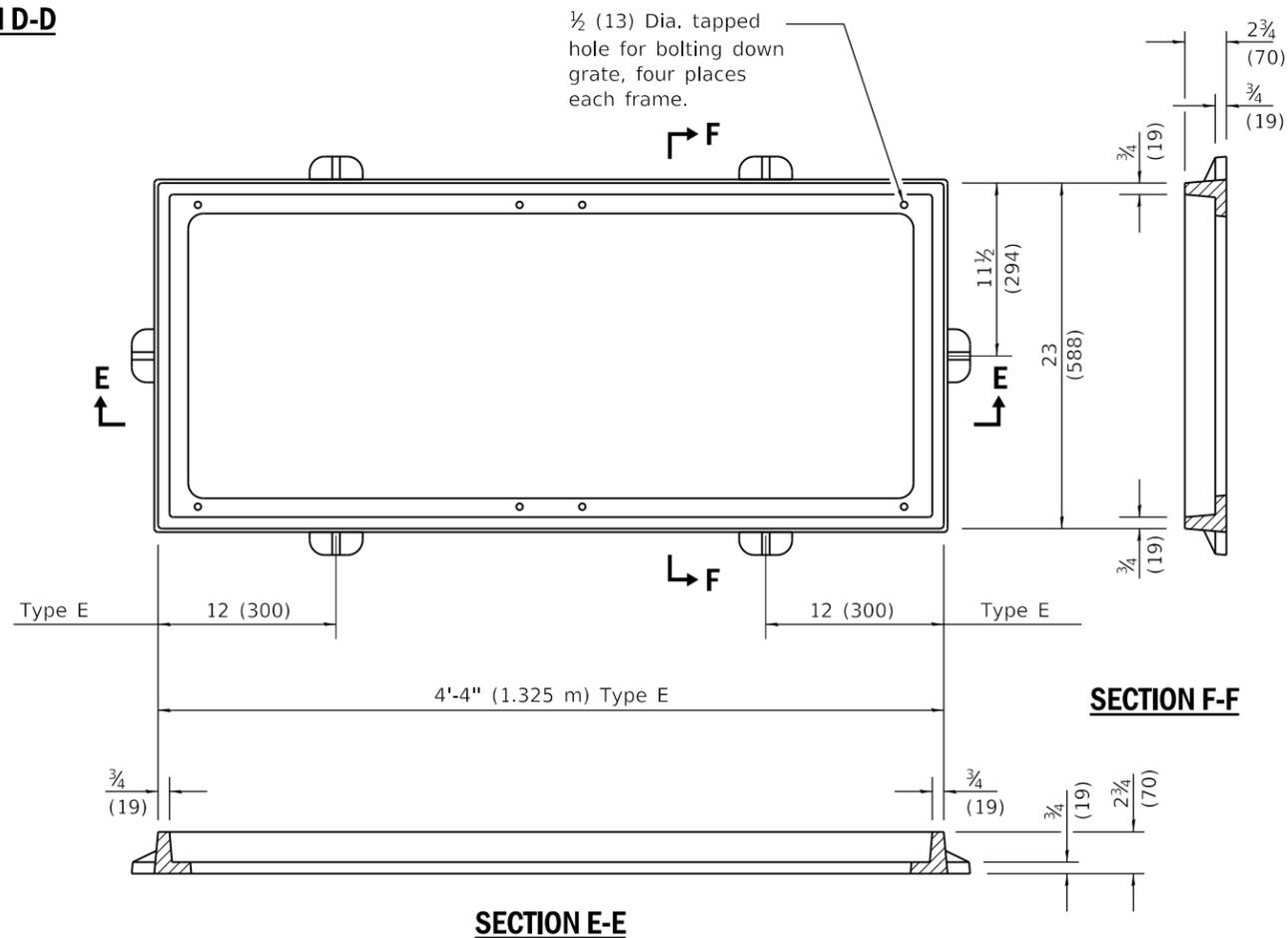
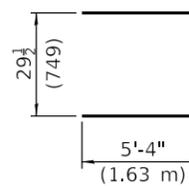
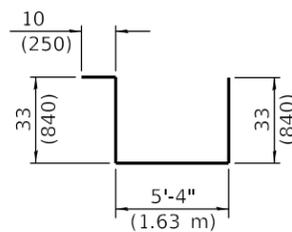
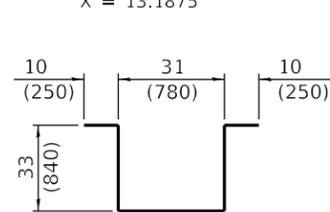
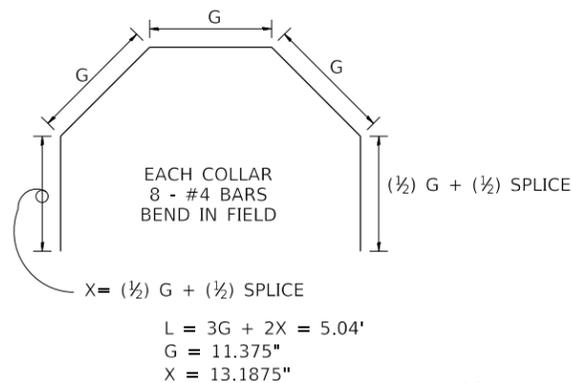


**INLET BOX**  
(4 Required)

REQUIRED MATERIAL			
TYPE E			
Bar	Qty.	Size	Length
u	6	No. 4 (No.13)	9'-9" (2.96 m)
u2	3	No. 4 (No.13)	11'-8" (3.56 m)
u4	4	No. 4 (No.13)	13'-1 1/2" (4.00 m)
Concrete	cu. yds. (m³)		1.3 (1.0)
Reinf. bars	lbs. (kg)		98 (44.5)
Grating	sq. ft. (m²)		7.3 (0.68)



**CONCRETE COLLAR DETAIL**



**DETAIL OF CAST FRAME**

- NOTES:
1. THE COLLAR SHALL BE CONSTRUCTED ENTIRELY OF CLASS S1 CONCRETE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 503 OF THE STANDARD SPECIFICATIONS. REINFORCEMENT BARS SHALL CONFORM TO SECTION 508.
  2. THIS WORK SHALL BE PAID FOR BY EACH, FOR CONCRETE COLLAR, WHICH PRICE SHALL INCLUDE ALL WORK SHOWN IN DETAIL.

**NOTES**

Welded wire reinforcement (WWR) may be used in lieu of reinforcement bars. Only one layer of WWR is permitted to avoid congestion.

LAYOUT	CGP	05/06/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022
WORLDWIDE PROJECT		
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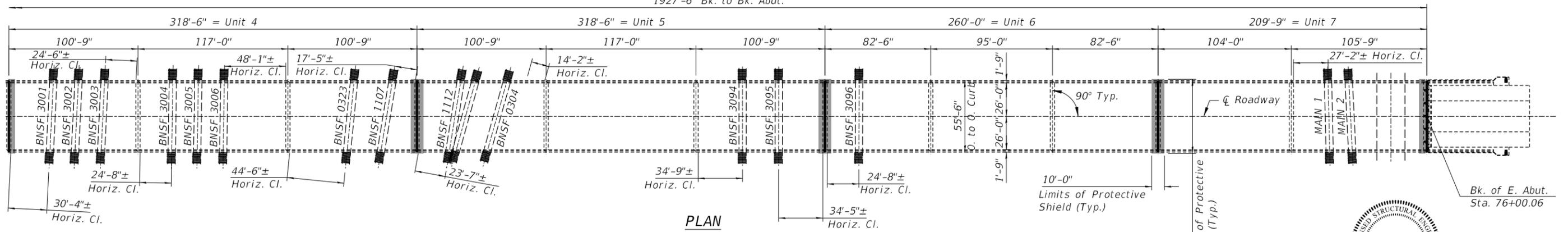
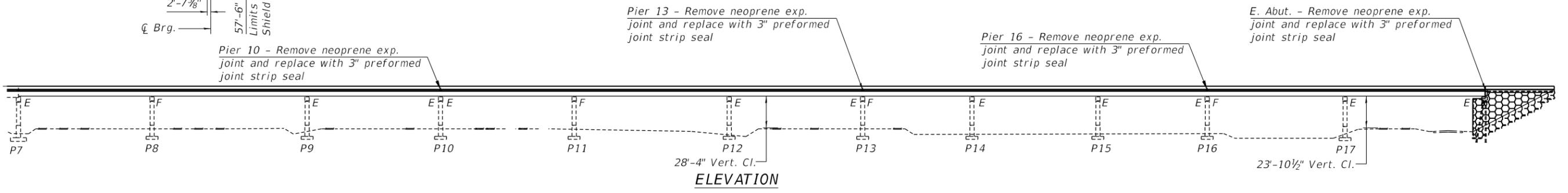
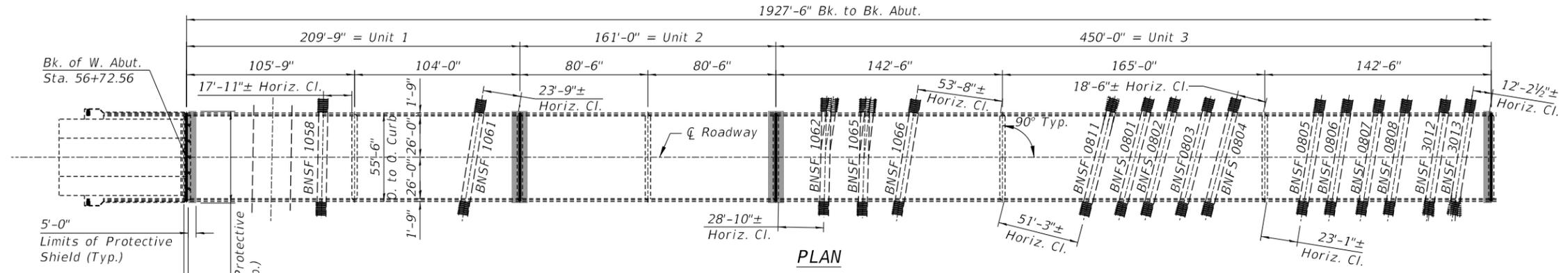
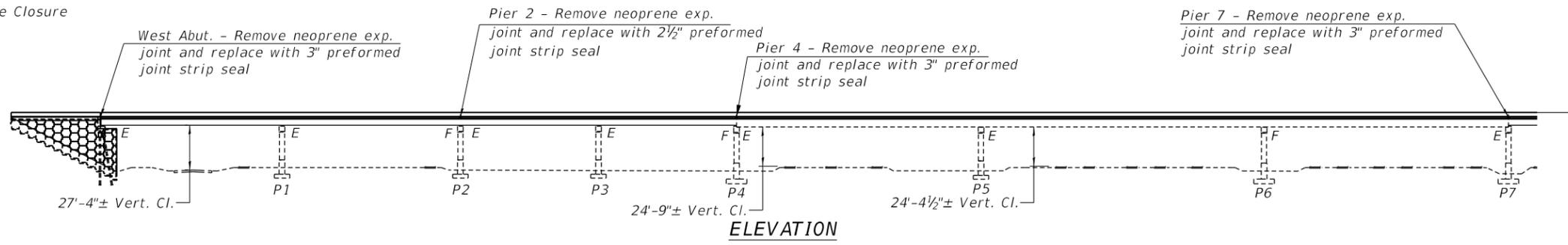
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

FAS 400 (C.H. 10)  
 DRAINAGE DETAILS - 2

SCALE: NTS    SHEET OF SHEETS    STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	16
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT	

Traffic Control: Complete Closure



*Jared Thoele*  
SIGNATURE  
1/24/2022  
DATE

LIC. EXP. DATE: 11/30/2022

DESIGNED	CGP	1/5/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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		CHECKED -	01/24/2022	REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE PLAN & ELEVATION  
SN 048-3286  
SHEET NO. 1 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	17
CONTRACT NO.			89819	
ILLINOIS			FED. AID PROJECT 4	

**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 effecting 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.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The Structural Steel shall be cleaned and painted as specified in the plans and the Special Provisions.

Only Structural Steel is to be painted. All other surfaces shall be protected from being painted. All paint and overspray shall be removed at the contractor's expense.

Color of the finish coat shall be Interstate Green, Munsell No. 7.5G 4/8.

Color and painting of the existing structural steel shall be as specified in the Special Provisions for "Cleaning and Painting Existing Steel Structures". All structural steel, on all girder ends, bearings and end cross frames, within 5' (measured along the beam) of the joints shall be cleaned by SSPC-SP10 - Near White Metal Blast Cleaning to remove all rust, dirt, debris and paint and then zone painted. The existing plans indicate a basic lead silica chromate paint system was used; therefore, containment and disposal of lead paint cleaning residues will be required.

Remove and replace any parts of drainage system that are damaged or not functioning properly. Regrade locations of drainage outlets to drain away from piers as needed.

The existing name plate shall be cleaned and reinstalled at the existing location. Cost included with Concrete Removal.

Area of deck repairs shown are estimated. The Engineer shall show actual locations of deck slab repairs on as-built plans.

Protective coat shall be applied to the approach slab, approach slab barriers and deck repairs.

Units 1-3 have a full depth reinforced concrete deck. Units 4-7 have stay-in-place reinforced concrete deck panel forms with a concrete overlay on top.

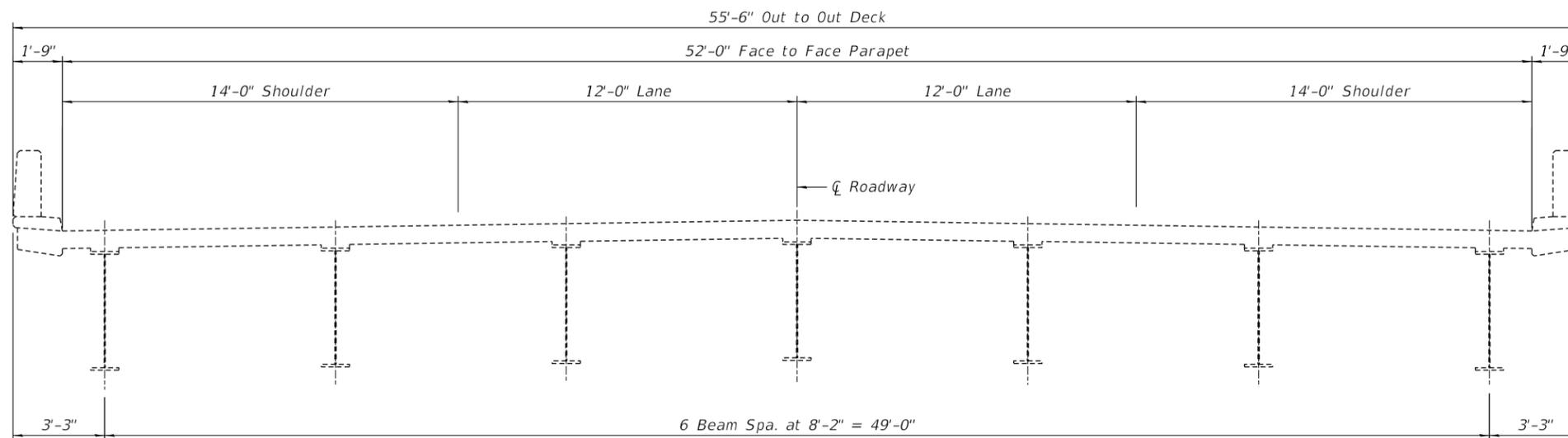
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	46.8
Protective Shield	Sq. Yd.	463
Concrete Structures	Cu. Yd.	31.8
Concrete Superstructure	Cu. Yd.	45.7
Bridge Deck Grooving	Sq. Yd.	567
Protective Coat	Sq. Yd.	12,993
Concrete Superstructure (Approach Slab)	Cu. Yd.	289.2
Reinforcement Bars, Epoxy Coated	Pound	114,790
Preformed Joint Strip Seal	Foot	432
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	3,690
Epoxy Crack Injection	Foot	26
Cleaning Bridge Scuppers and Downspouts	Each	56
Retaining Wall Removal	Sq. Ft.	3,690
* Bridge Drainage System Repair	Foot	100
Approach Slab Removal	Sq. Yd.	642
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	814
Deck Slab Repair (Partial)	Sq. Yd.	407
Temporary Shoring and Cribbing	Each	16

\* Estimated

**INDEX OF SHEETS**

1	General Plan and Elevation
2	General Data
3-4	Joint Replacement Details
5	Preformed Joint Strip Seal
6-11	Bridge Deck Repairs
12	Bridge Approach Slab & Backwall Removal
13-14	Bridge Approach Slab Details
15	Abutment Backwall
16-26	Pier Repairs
27-28	Plan and Elevation (MSE Wall)
29	Sections and Details (MSE Wall)
30-61	Existing Plans



**CROSS SECTION**  
(Looking East)

DESIGNED	CGP	1/5/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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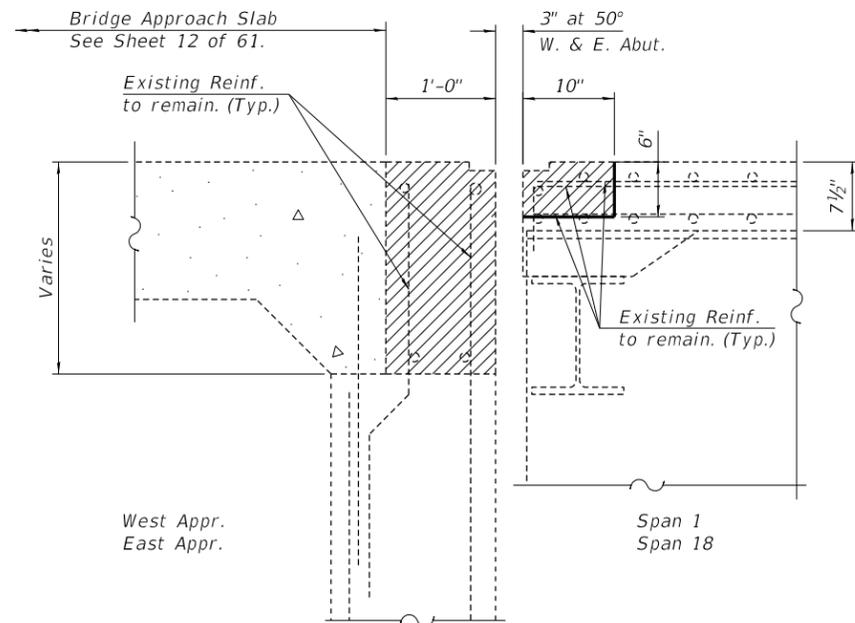
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

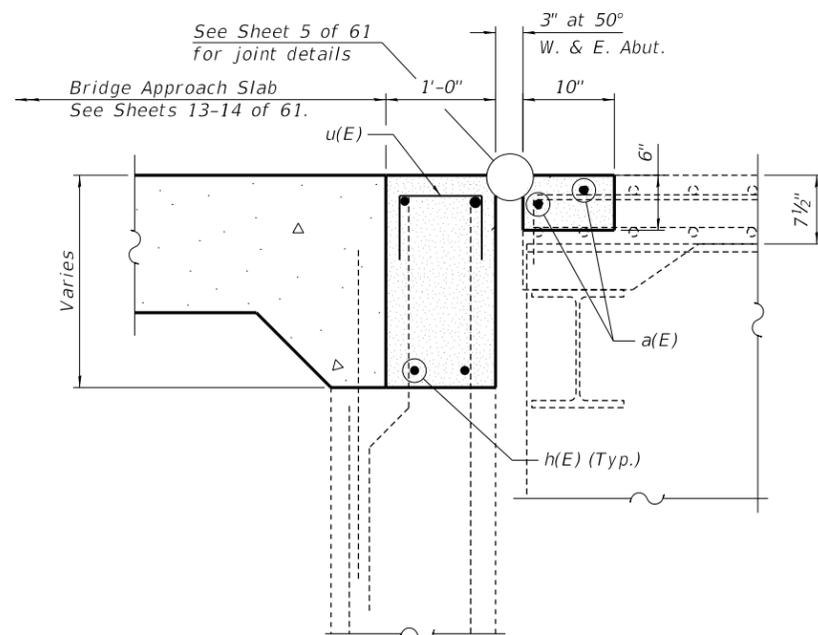
**GENERAL NOTES, INDEX & BOM**  
**SN 048-3286**

SHEET NO. 2 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	18
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT			4	



SECTION A-A



SECTION B-B

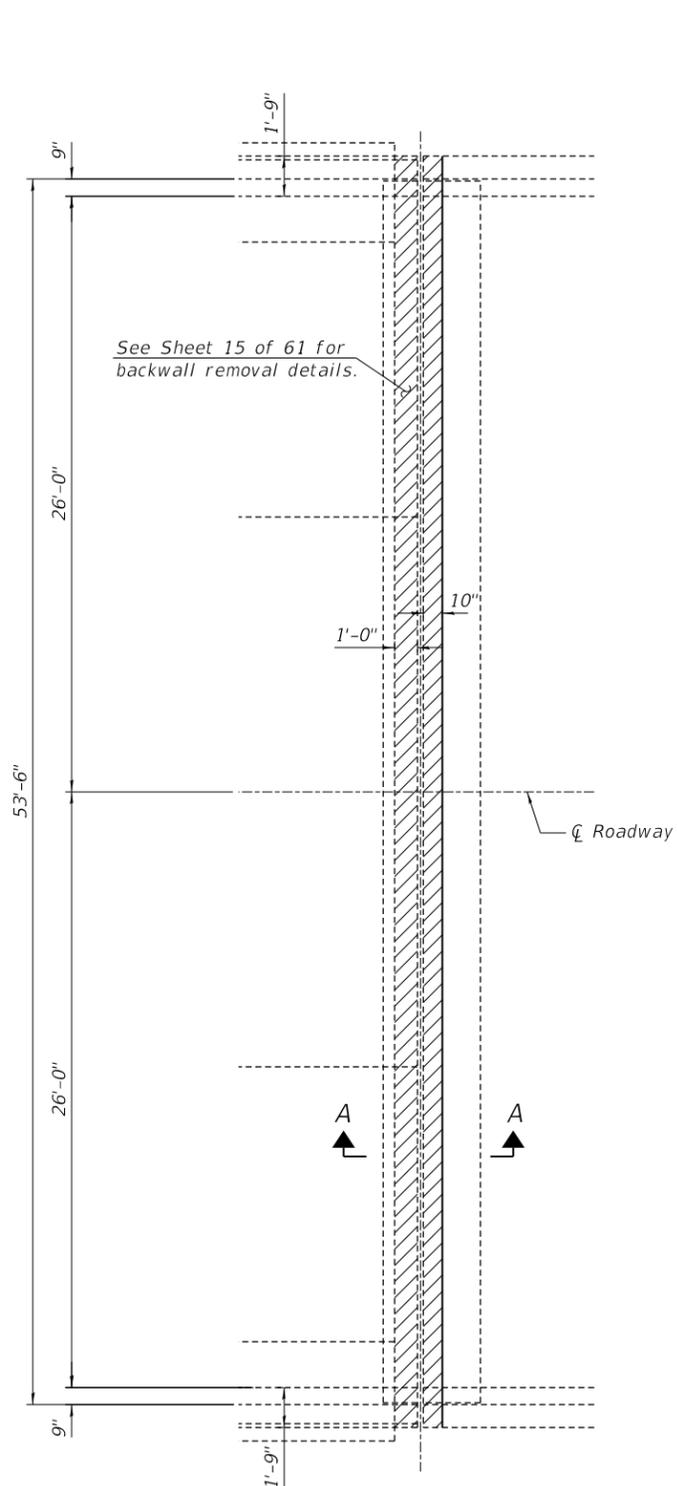
Notes:

Hatched areas indicate Concrete Removal. See Abutment Backwall Sheet for backwall Concrete Removal quantity.

Removal of existing neoprene expansion joints shall be included in the cost of Concrete Removal.

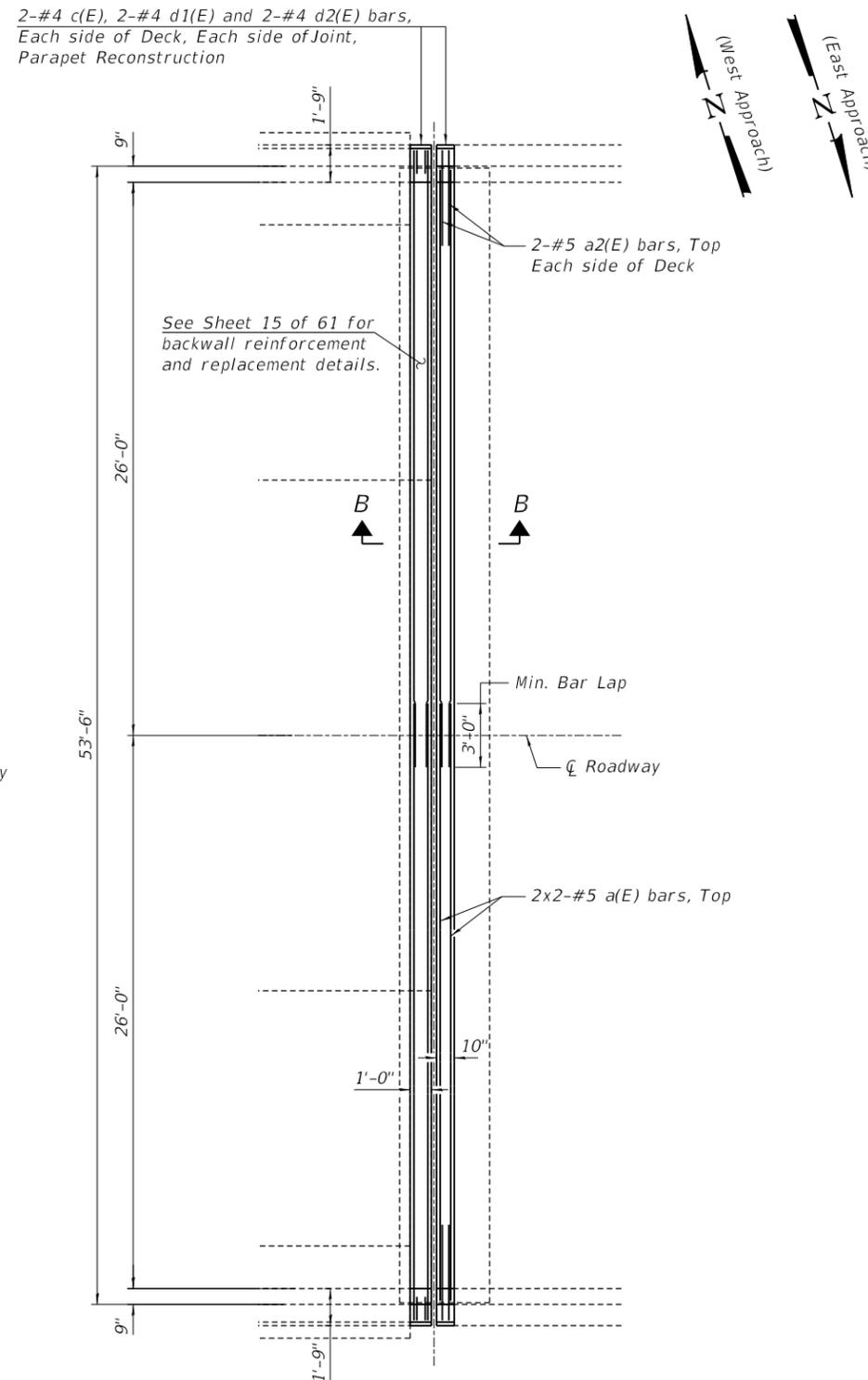
Any steel anchoring studs encountered in the neoprene joint removal area shall be cut off flush with existing concrete. Cost to be included in the bid price for Concrete Removal.

See Sheet 4 of 61 for Partial Cross Section and Bill of Material.



REMOVAL PLAN

(West Shown, East Similar after 180° Rotation)



REPLACEMENT PLAN

(West Shown, East Similar after 180° Rotation)

(Sheet 1 of 2)

DESIGNED	CGP	1/5/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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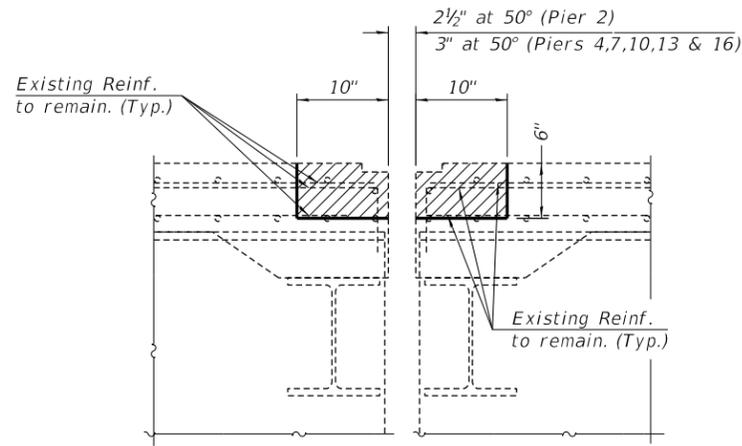
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DEPARTMENT OF TRANSPORTATION

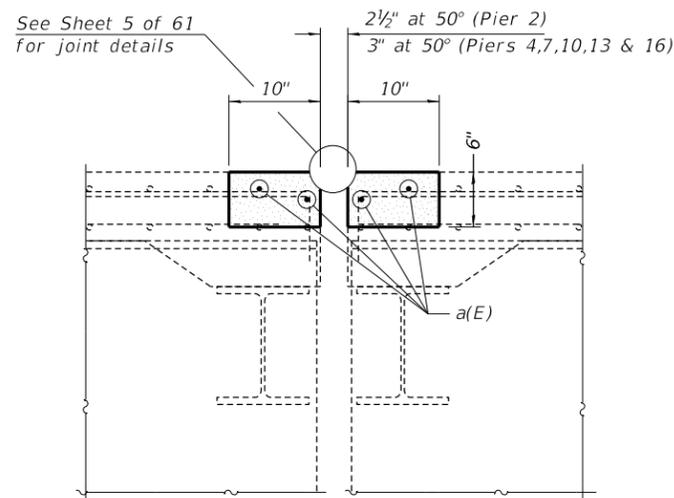
JOINT REPLACEMENT DETAILS  
SN 048-3286

SHEET NO. 3 OF 61 SHEETS

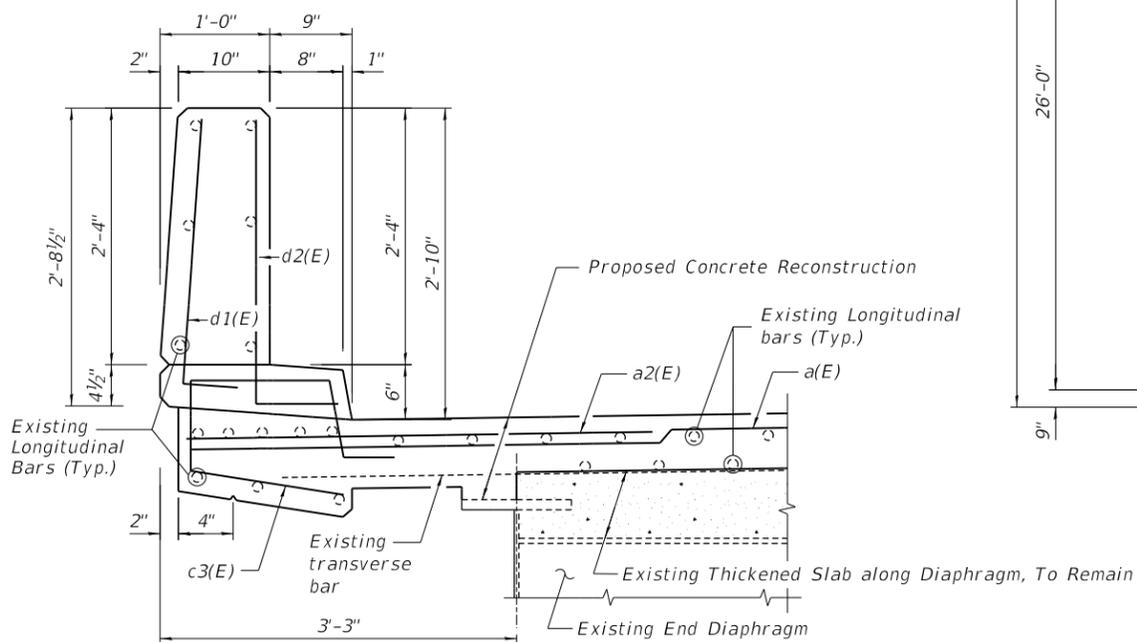
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	19
			CONTRACT NO. 89819	
ILLINOIS FED. AID PROJECT 4				



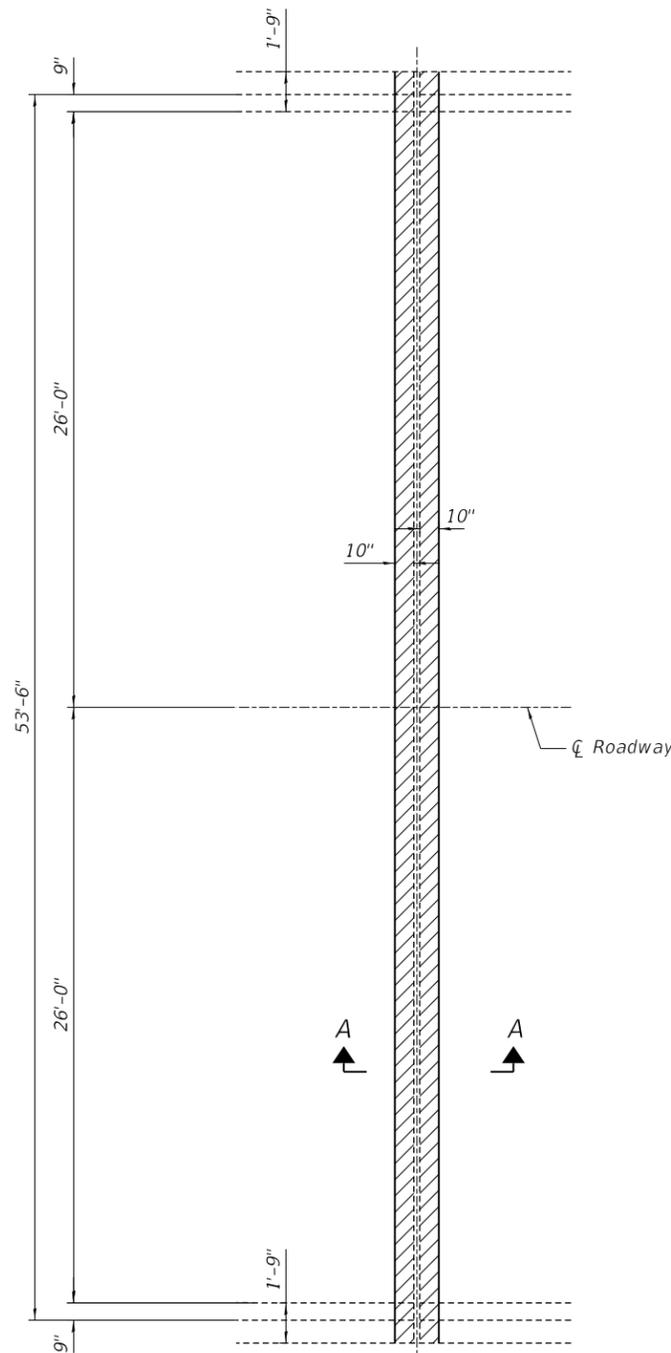
SECTION A-A



SECTION B-B



PARTIAL CROSS SECTION  
(Looking East)



REMOVAL PLAN

Notes: Hatch areas indicate Concrete Removal.

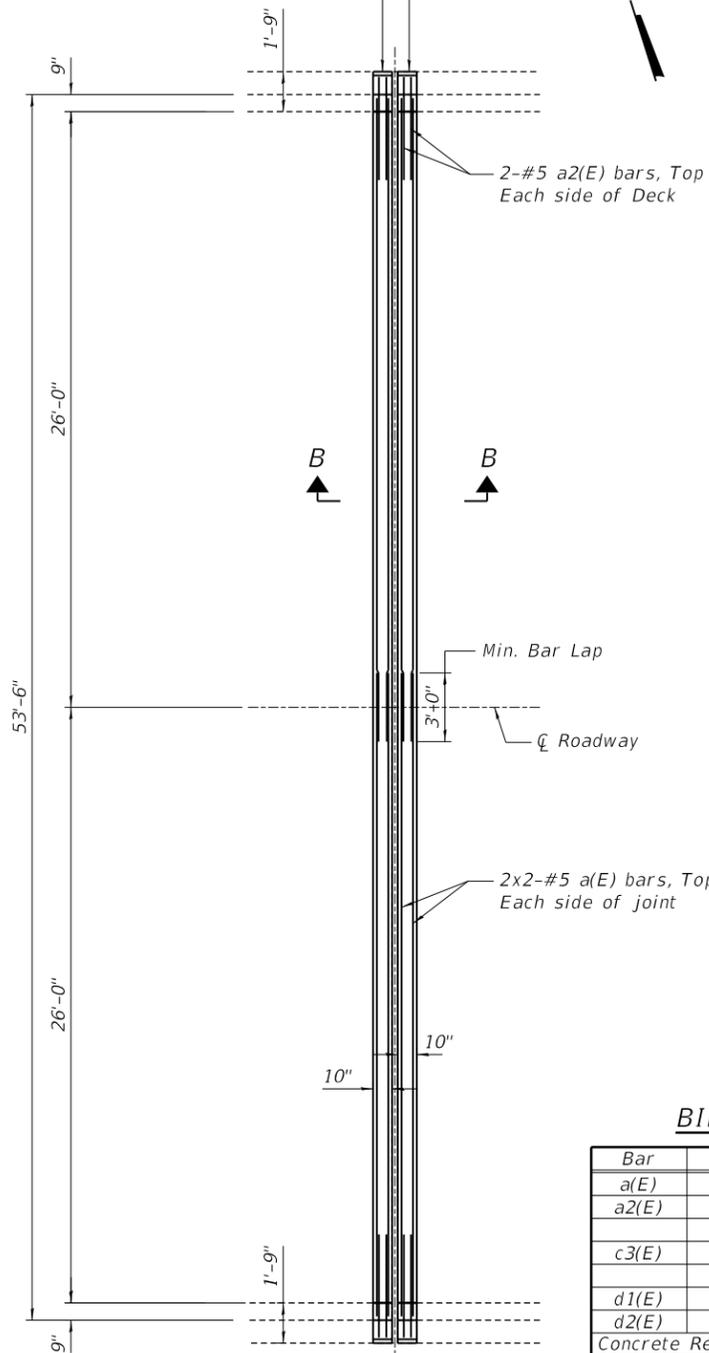
Removal of existing neoprene expansion joints shall be included in the cost of Concrete Removal.

Any steel anchoring studs encountered in the neoprene joint removal area shall be cut off flush with existing concrete. Cost to be included in the bid price for Concrete Removal.

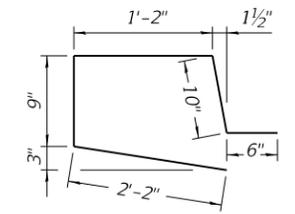
Existing longitudinal reinforcement and existing bottom transverse bar, shown in Partial Cross Section, within the removal limits shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

Existing reinforcement extending out of the existing concrete that is damaged or not salvaged shall be replaced with either drilled or epoxy grouted bars. Bars epoxy grouted shall have an embedment sufficient to develop 1.25 times the capacity of the reinforcement bar.

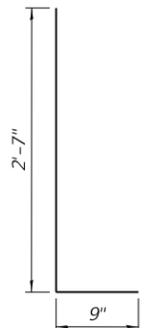
2-#4 c(E), 2-#4 d1(E) and 2-#4 d2(E) bars,  
Each side of Deck, Each side of Joint,  
Parapet Reconstruction,  
See Partial Cross Section this sht.



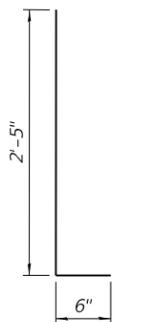
REPLACEMENT PLAN



BAR c3(E)



BAR d2(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	56	#5	28'-3"	—
a2(E)	56	#6	4'-6"	—
c3(E)	56	#4	5'-5"	┌
d1(E)	56	#4	2'-11"	┌
d2(E)	56	#4	3'-4"	┌
Concrete Removal			Cu. Yd.	15.2
Concrete Superstructure			Cu. Yd.	15.2
Reinforcement Bars, Epoxy Coated			Pound	2460

(Sheet 2 of 2)

DESIGNED	CGP	1/5/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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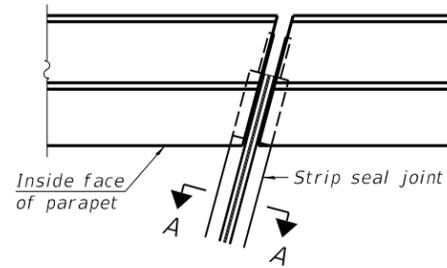
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS  
SN 048-3286

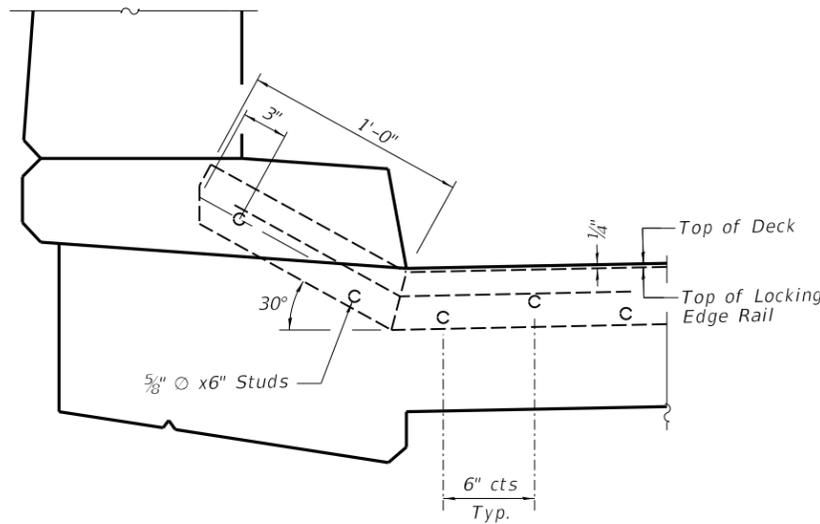
SHEET NO. 4 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	20
CONTRACT NO.			89819	

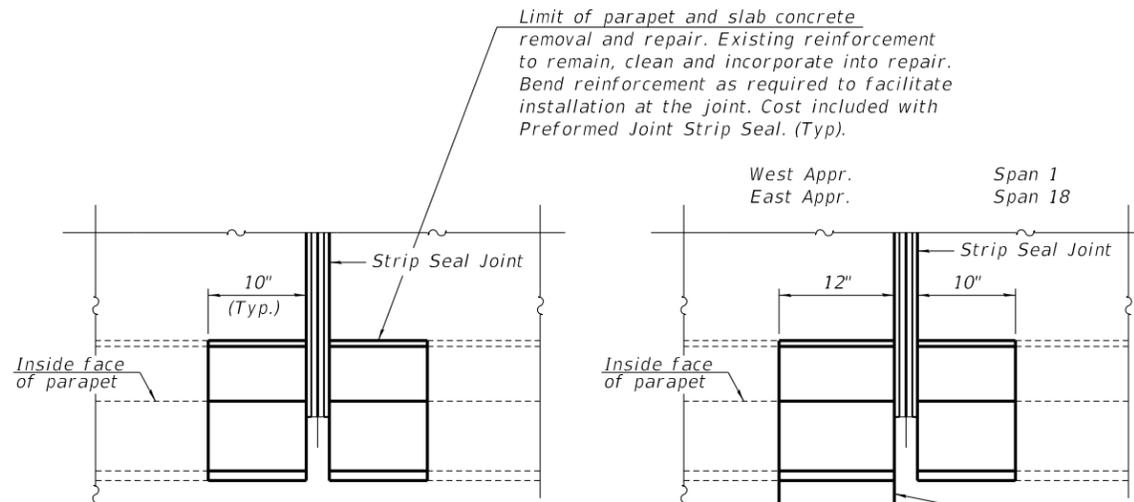
ILLINOIS FED. AID PROJECT 4



FOR SKEWS  $\leq 30^\circ$   
**PLAN AT PARAPET**



**DETAIL A**



**PIER EXPANSION JOINT**

**ABUTMENT EXPANSION JOINT**

**PLAN AT PARAPET**

**Notes:**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

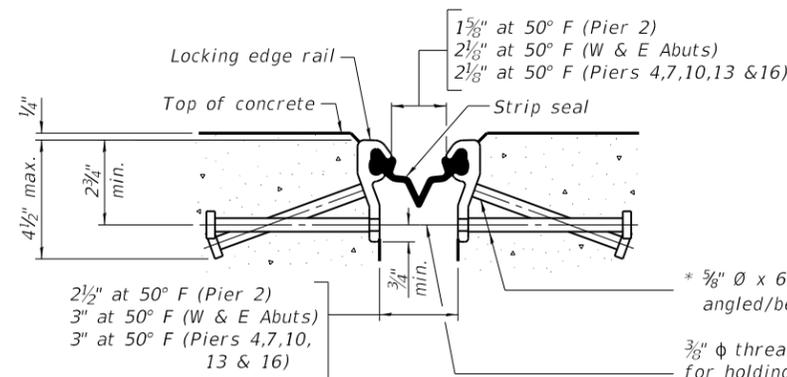
The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 39" constant slope barrier shown, 44" constant slope barrier similar as noted.

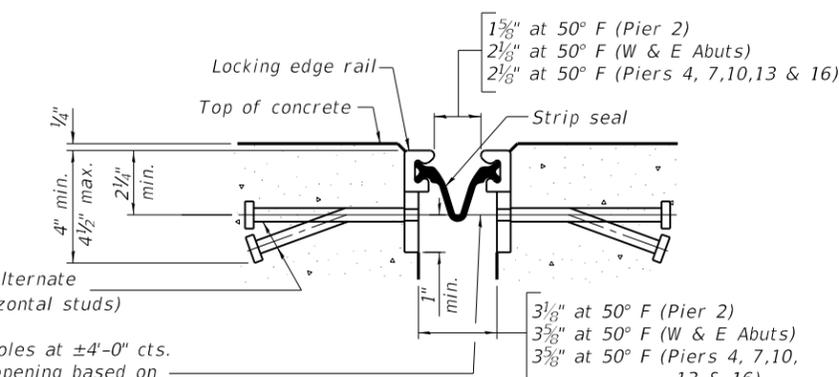
The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

Limit of parapet and slab concrete removal and repair. Existing reinforcement to remain, clean and incorporate into repair. Bend reinforcement as required to facilitate installation at the joint. Cost included with Preformed Joint Strip Seal. (Typ.)

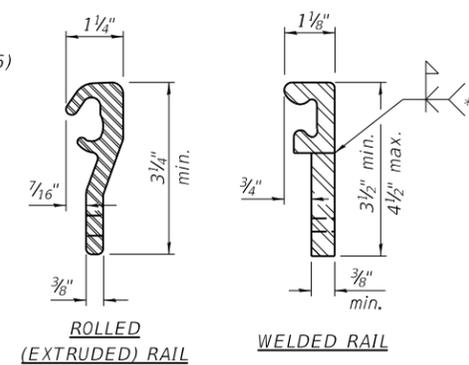
Limit of parapet and slab concrete removal and repair at abutment backwall. See Sheet 15 of 61 for details.



**SHOWING ROLLED RAIL JOINT**

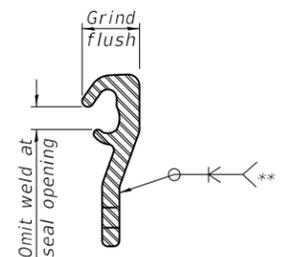


**SHOWING WELDED RAIL JOINT**



**LOCKING EDGE RAILS**

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	432

**SECTION A-A**

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

DESIGNED	CGP	1/5/21
DRAWN	RSJ	05/06/21
REVIEWED	JGT	01/24/2022

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		CHECKED	- 01/24/2022	REVISED	-

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
SN 048-3286**

SHEET NO. 5 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	18-00043-01-BR	KNOX	81	21
			CONTRACT NO.	89819
ILLINOIS FED. AID PROJECT 4				

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS

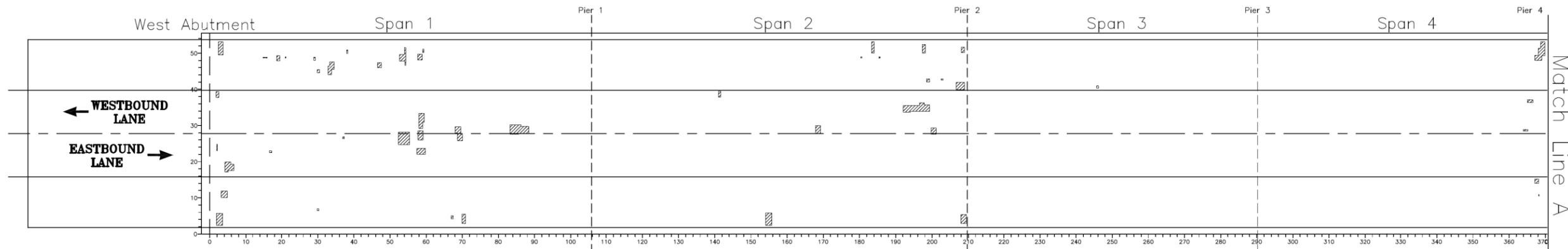


REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 883-4848



DESIGNED BY:	MNM	DATE:	1-07-2019
CHECKED BY:	EJM	DRAWING NO.:	00-0
JOB NO.:	W-18-091	SHEET:	1 OF 6



### REPAIR QUANTITIES SPANS 1-4 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	0.7	132.6	15
FULL DEPTH PATCHING	-	-	-

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	-

Figure 19

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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	CHECKED - 01/24/2022	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

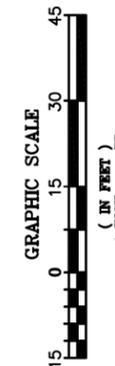
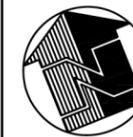
**DECK REPAIRS  
SN 048-3286**

SHEET NO. 6 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	22
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS

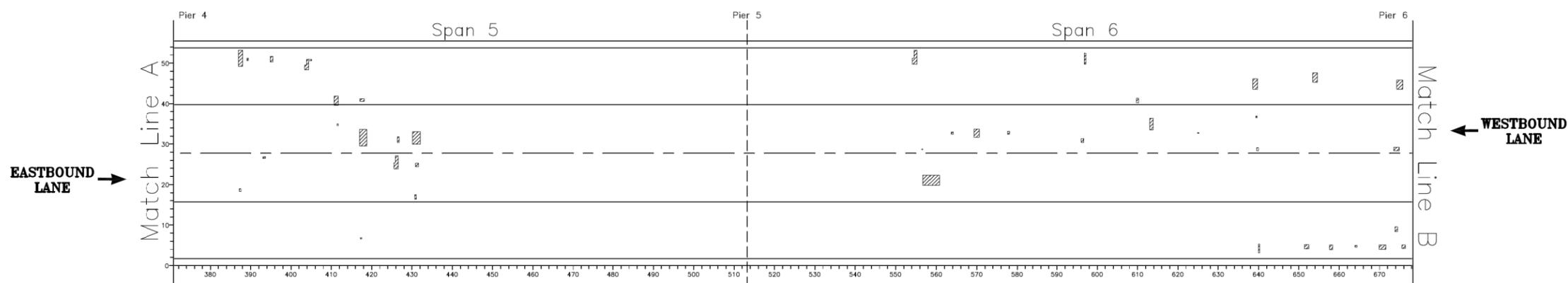


REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 883-4848



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JOB NO.:	W-18-091	SHEET:	2 OF 6



### REPAIR QUANTITIES SPANS 5-6 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	0.4	67.0	7
FULL DEPTH PATCHING	-	-	-

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	-

Figure 20

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIRS  
SN 048-3286**

SHEET NO. 7 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	23
CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT	4	

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS

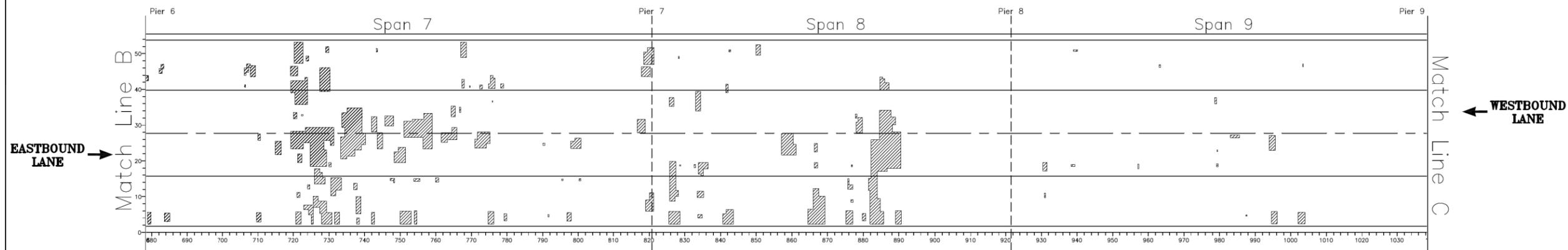


REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 883-4848



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JOB NO.: W-18-091	SHEET: 3 OF 6		



### REPAIR QUANTITIES SPANS 7-9 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	4.8	873.0	97
FULL DEPTH PATCHING	-	-	

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	

Figure 21

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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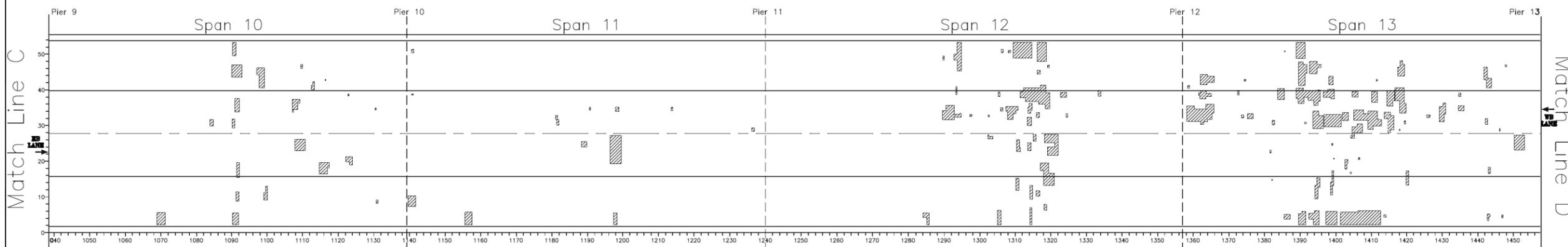
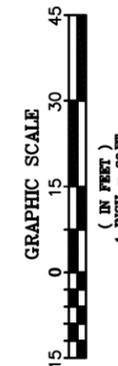
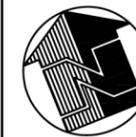
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIRS  
SN 048-3286**

SHEET NO. 8 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	24
CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT	4	

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS



REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
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### REPAIR QUANTITIES SPANS 10-13 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.2	666.0	74
FULL DEPTH PATCHING	-	-	

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	

DRAWN BY:	DTF	DATE:	1-07-2019	DRAWING NO.:	00-0
CHECKED BY:	CAY	JOB NO.:	W-18-091	SHEET:	4 OF 6

Figure 22

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIRS  
SN 048-3286**

SHEET NO. 9 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	25
				CONTRACT NO. 89819

ILLINOIS FED. AID PROJECT 4

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS

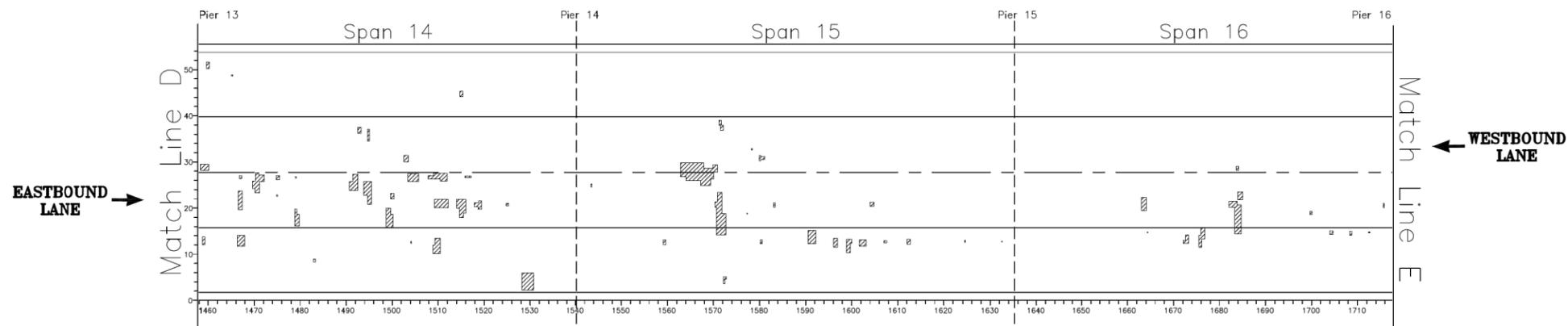


REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
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DESIGNED BY:	MNM	DATE:	1-07-2019
CHECKED BY:	EJM	DRAWING NO.:	00-0
JOB NO.:	W-18-091	SHEET:	5 OF 6



### REPAIR QUANTITIES SPANS 14-16 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	1.3	165.2	18
FULL DEPTH PATCHING	-	-	-

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	-

Figure 23

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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CHECKED - 01/24/2022

REVISED -  
REVISED -  
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REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIRS  
SN 048-3286**

SHEET NO. 10 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	26
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4

# REPAIR QUANTITIES MAP COUNTY HIGHWAY 10 OVER BNSF RAIL YARD KNOX COUNTY STATE OF ILLINOIS

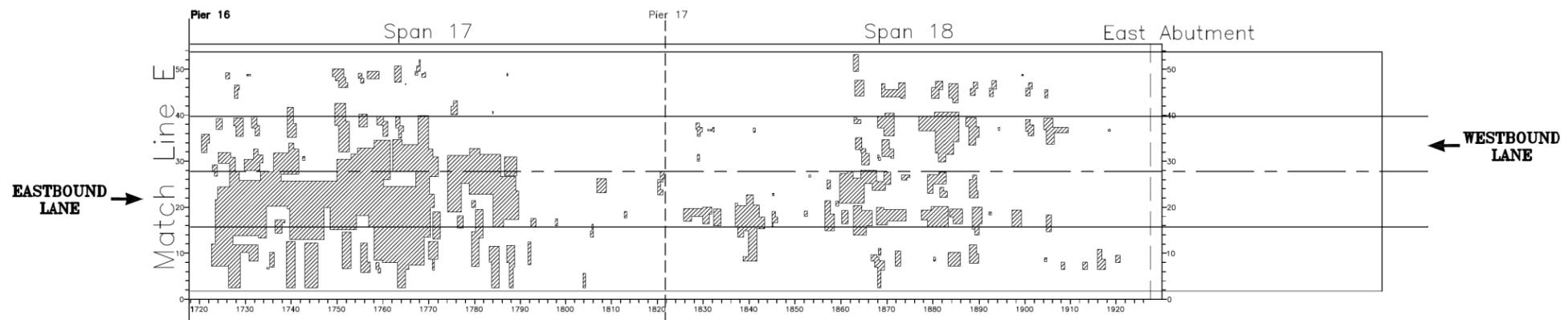


REPAIR QUANTITIES MAP  
COUNTY HIGHWAY 10  
OVER BNSF RAIL YARD  
KNOX COUNTY  
STATE OF ILLINOIS

RESOURCE INTERNATIONAL, INC.  
6350 PRESIDENTIAL GATEWAY  
COLUMBUS, OHIO 43231  
(614) 883-4949



DESIGNED BY:	MNM	DATE:	1-07-2019
CHECKED BY:	EJM	DRAWING NO.:	00-0
JOB NO.:	W-18-091	SHEET:	6 OF 6



### REPAIR QUANTITIES SPANS 17-18 - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	16.8	1,758.7	196
FULL DEPTH PATCHING	-	-	-

### REPAIR QUANTITIES TOTAL - BRIDGE DECK

	Percent	Area (S.F.)	Area (S.Y.)
PATCHING	3.8	3,662.6	407
FULL DEPTH PATCHING	-	-	-

Figure 24

DESIGNED	MNM	1/11/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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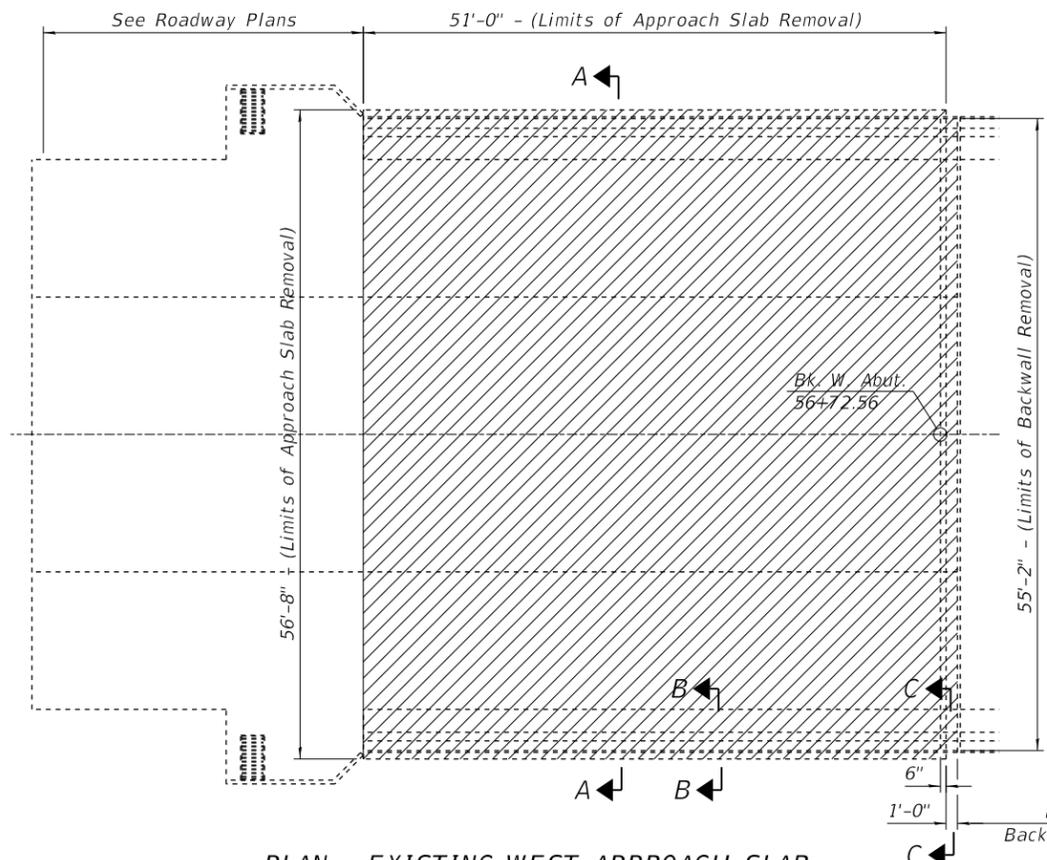


**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIRS  
SN 048-3286**

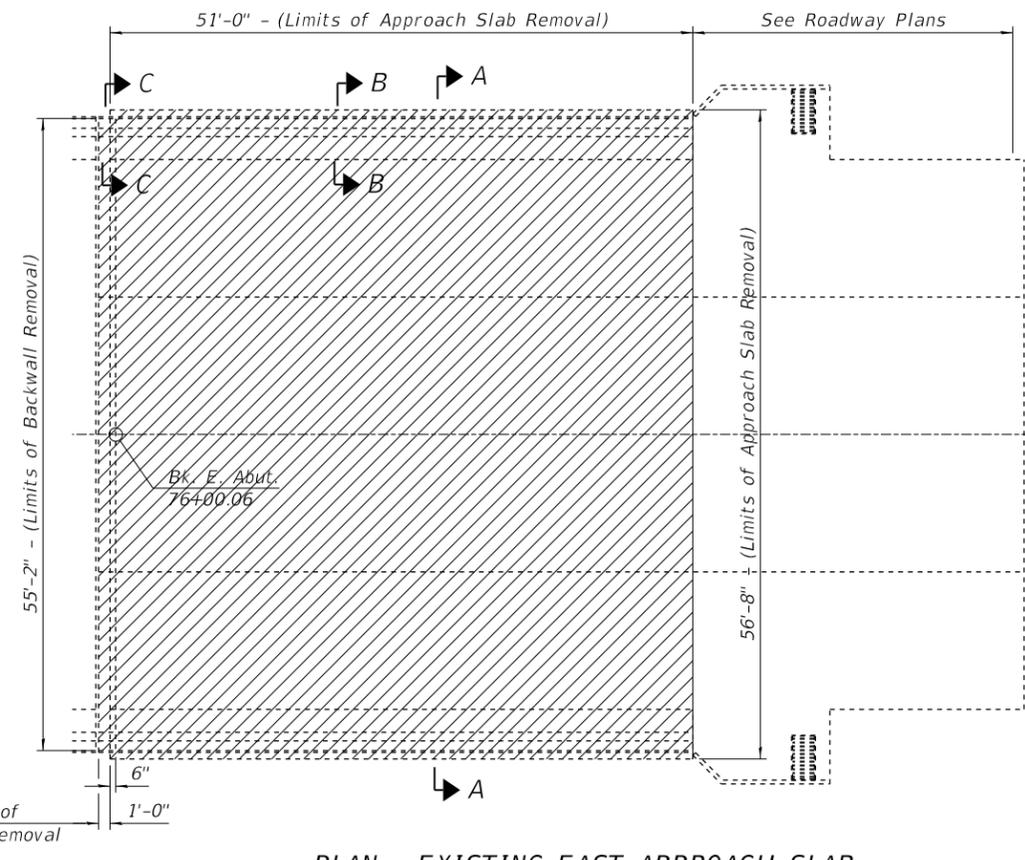
SHEET NO. 11 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				



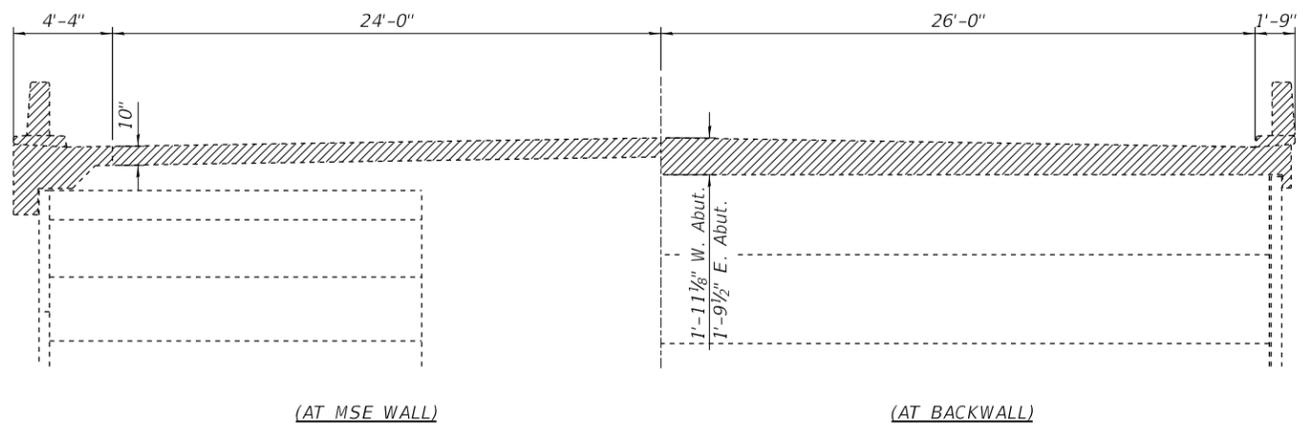
**PLAN - EXISTING WEST APPROACH SLAB**

Note: Hatched area indicates Concrete Removal



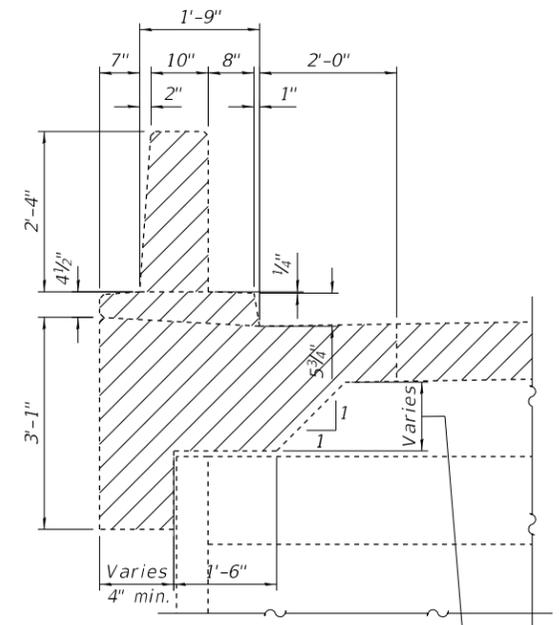
**PLAN - EXISTING EAST APPROACH SLAB**

Note: Hatched area indicates Concrete Removal



**SECTION A-A**

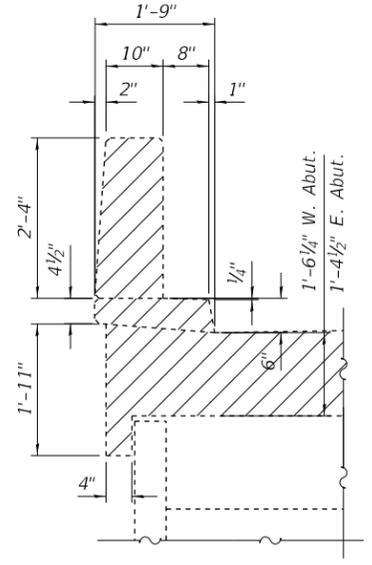
Note: Hatched area indicates Concrete Removal



**SECTION B-B**

1'-0" to 1'-7 3/4" E. Approach  
9" to 1'-0 1/2" W. Approach

Note: Hatched area indicates Concrete Removal



**SECTION C-C**

Note:  
Hatched area indicates Concrete Removal.

DESIGNED	MNM	1/19/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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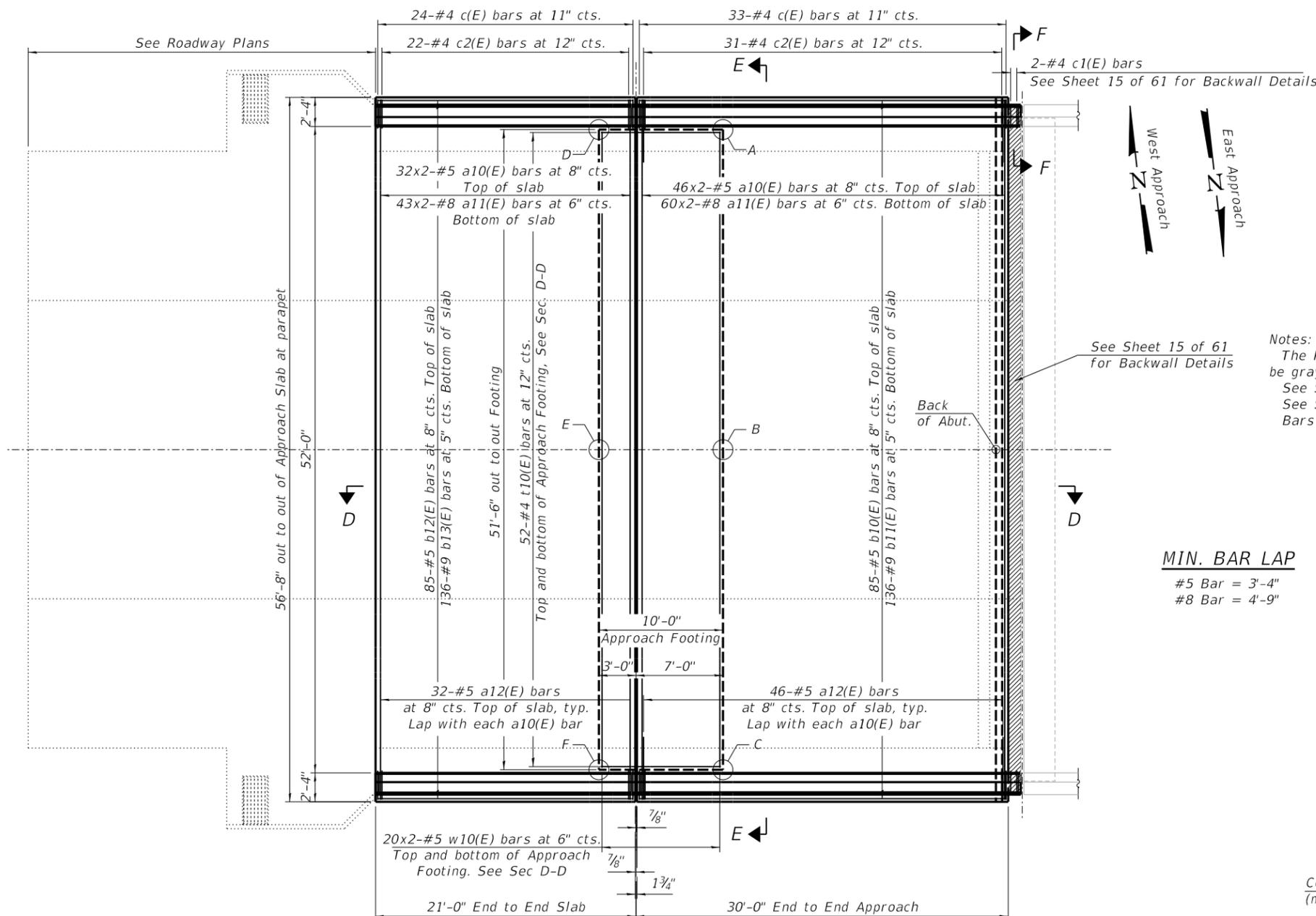
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PLOT DATE =	2/3/2022	DRAWN -	EJM	REVISED -	
		CHECKED -	01/24/2022	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB & BACKWALL REMOVAL  
SN 048-3286**

SHEET NO. 12 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	28
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

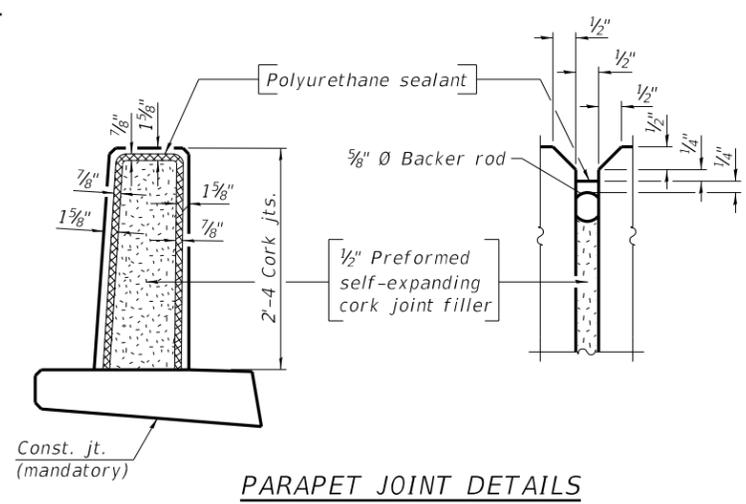


**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

Point	West Approach		East Approach	
	Top	Bottom	Top	Bottom
A	811.11	810.28	816.64	815.81
B	811.50	810.66	817.03	816.19
C	811.11	810.28	816.64	815.81
D	810.93	810.15	816.54	815.71
E	811.37	810.53	816.93	816.09
F	810.90	810.15	816.54	815.71

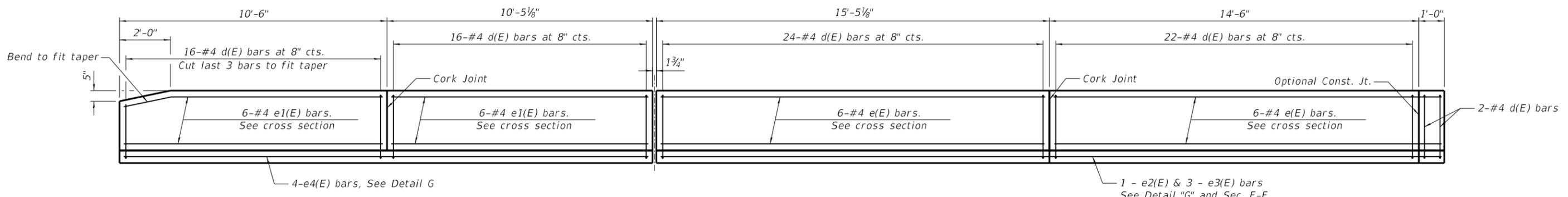
Notes:  
 The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
 See Sheet 14 of 61 for Sections D-D, E-E, and F-F.  
 See Sheet 14 of 61 for Detail G.  
 Bars indicated thus 32x2-#5 etc. indicates 32 lines of bars with 2 lengths per line.

**MIN. BAR LAP**  
 #5 Bar = 3'-4"  
 #8 Bar = 4'-9"



**PARAPET JOINT DETAILS**

**PLAN**  
 (West shown, East Similar after 180° rotation)



**INSIDE FACE OF PARAPET**  
 Dimensions are measured along inside face of parapet.  
 (North Parapet shown, South Parapet similar)

(Sheet 1 of 2)

DESIGNED	MNM	1/19/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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USER NAME = Johns00944  
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 CHECKED - 01/24/2022

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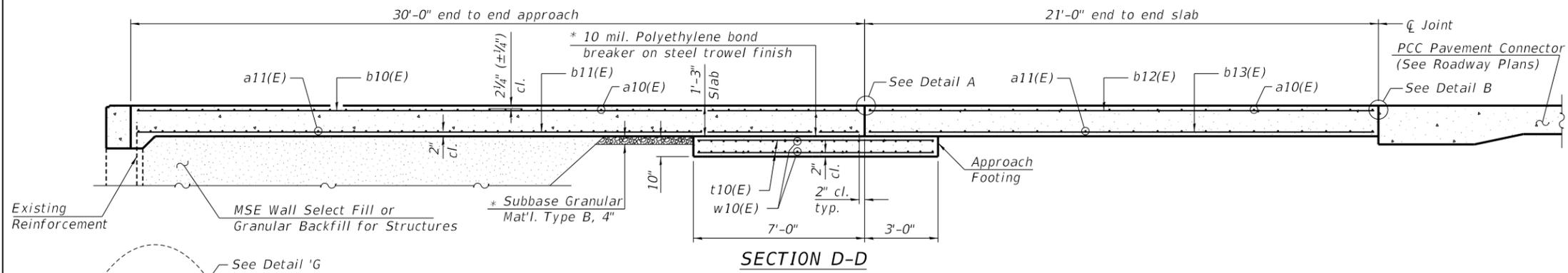
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS**  
**SN 048-3286**

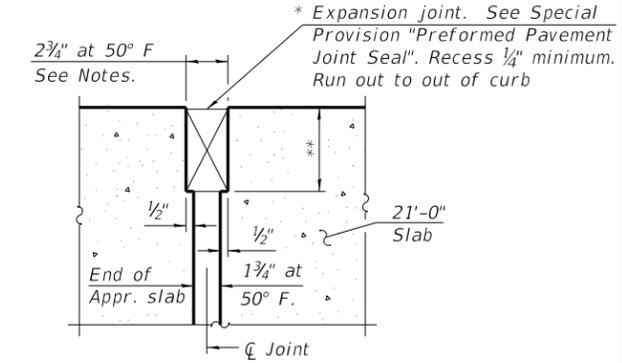
SHEET NO. 13 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			89819	

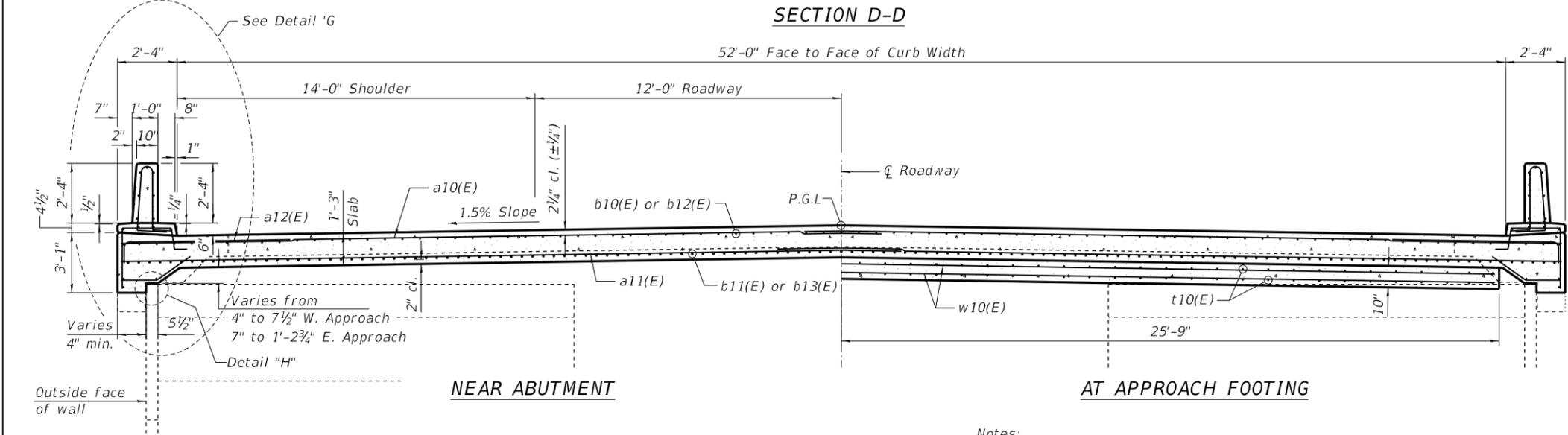
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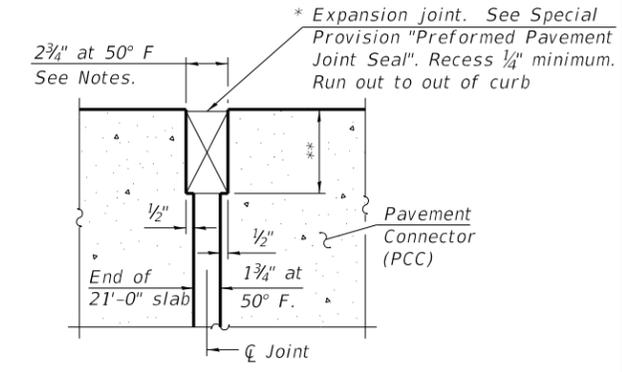
SECTION D-D



DETAIL A



SECTION E-E



DETAIL B

MIN. BAR LAP

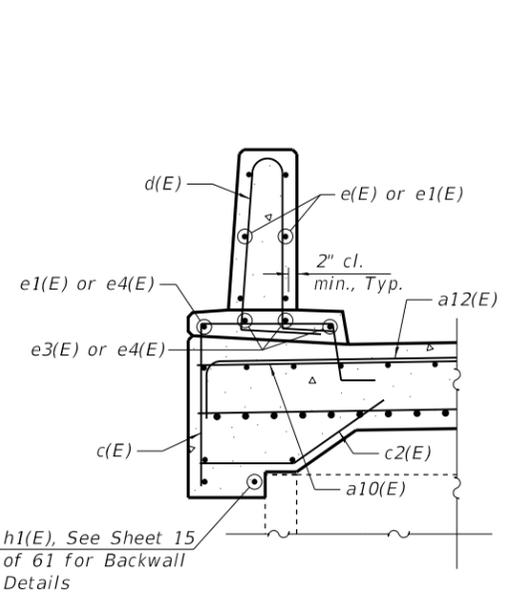
- #5 Bar = 3'-4"
- #8 Bar = 4'-9"

Notes:  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The Approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.

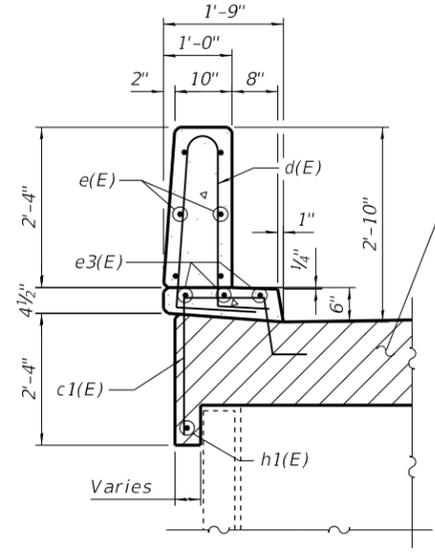
\* Cost included with Concrete Superstructure (Approach Slab)  
 \*\* Per manufacturer recommendations

TWO APPROACHES  
 BILL OF MATERIAL

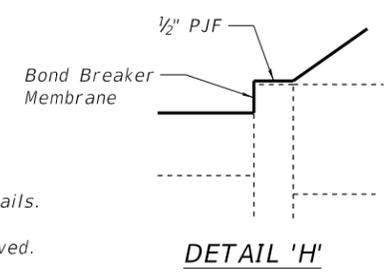
Bar	No.	Size	Length	Shape
a10(E)	312	#5	29'-10"	—
a11(E)	412	#8	30'-7"	—
a12(E)	312	#5	7'-4"	—
b10(E)	170	#5	29'-8"	—
b11(E)	272	#9	29'-8"	—
b12(E)	170	#5	20'-8"	—
b13(E)	272	#9	20'-8"	—
c(E)	228	#4	6'-4"	┌
c2(E)	212	#4	3'-0"	└
d(E)	320	#4	7'-2"	└
e(E)	48	#4	15'-1"	—
e1(E)	48	#4	10'-1"	—
e2(E)	4	#4	29'-7"	—
e3(E)	12	#4	30'-7"	—
e4(E)	16	#4	20'-7"	—
t10(E)	208	#4	9'-8"	—
w10(E)	160	#5	27'-3"	—
Concrete Removal			Cu. Yd.	24.9
Concrete Superstructure			Cu. Yd.	23.8
Concrete Superstructure (Approach Slab)			Cu. Yd.	289.2
Concrete Structures			Cu. Yd.	31.8
Reinforcement Bars, Epoxy Coated			Pound	111,370



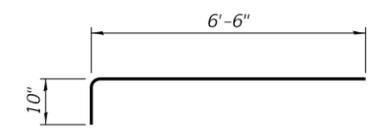
DETAIL "G"



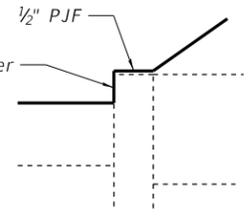
SECTION F-F



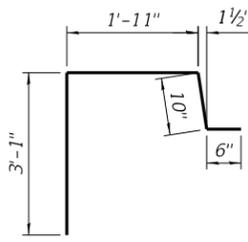
DETAIL 'H'



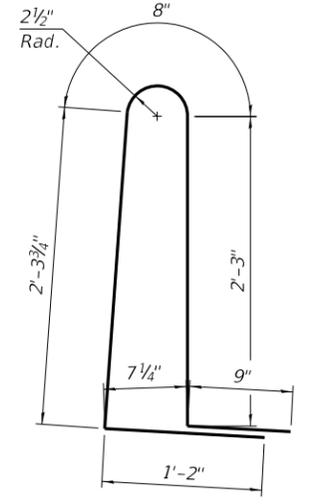
BAR a12(E)



BAR c2(E)



BAR c(E)



BAR d(E)

DESIGNED: MNM 1/19/21  
 DRAWN: EJM 05/06/21  
 REVIEWED: MNM 01/24/2022

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DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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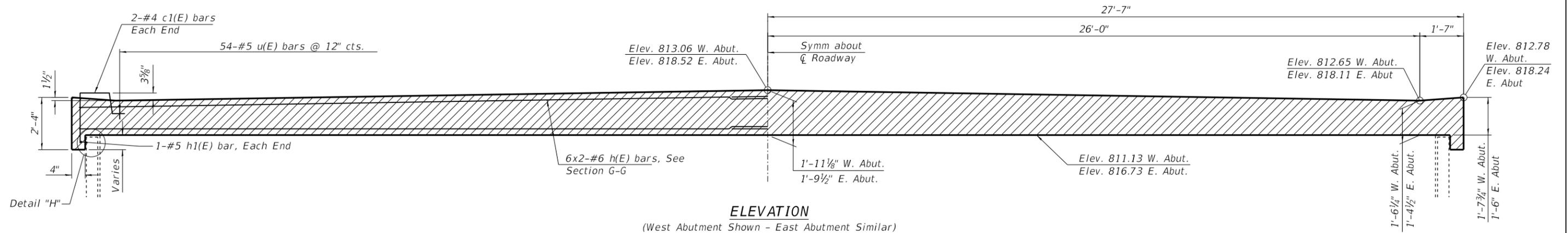
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS  
 SN 048-3286

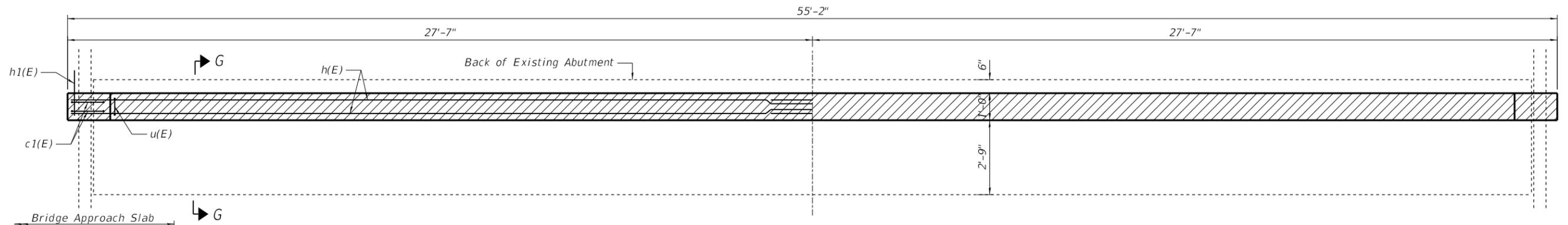
SHEET NO. 14 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	30
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4

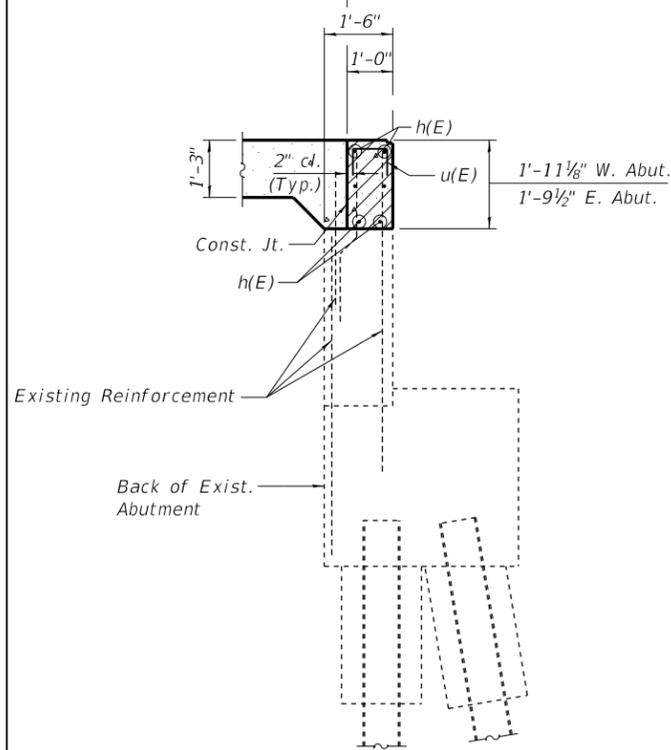
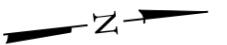


**ELEVATION**  
(West Abutment Shown - East Abutment Similar)



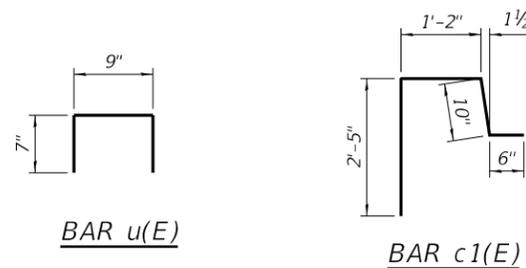
**PLAN**  
(West Abutment Shown - East Abutment Similar)

**MIN. BAR LAP**  
#6 Bar = 4'-0"



**SECTION G-G**  
(At Centerline Roadway)

**Notes:**  
See Sheet 14 of 61 for Detail "H".  
Hatched area to be poured after approach slab forms have been removed. Quantity of concrete included with Concrete Superstructure.  
Existing reinforcement extending out of existing abutment cap in the backwall shall be cleaned and incorporated into the new construction. Cost included in Concrete Removal.  
Existing reinforcement extending out of existing abutment cap that is damaged or not salvaged shall be replaced with either drilled or epoxy grouted bars. Bars epoxy grouted shall have an embedment sufficient to develop 1.25 times the capacity of the reinforcement bar.  
Bars indicated thus 6x2-#6 etc. indicates 6 lines of bars with 2 lengths per line.



**BILL OF MATERIAL**  
**TWO ABUTMENTS**

Bar	No.	Size	Length	Shape
c1(E)	8	#4	4'-11"	┌
h(E)	16	#6	29'-6"	—
h1(E)	4	#5	2'-9"	—
u(E)	108	#5	1'-11"	└
Concrete Removal			Cu. Yd.	6.7
Concrete Superstructure			Cu. Yd.	6.7
Reinforcement Bars, Epoxy Coated			Pound	960

DESIGNED - MNM 1/19/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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PLOT SCALE = 0:2.0000 ' = 1" / in.  
PLOT DATE = 2/3/2022

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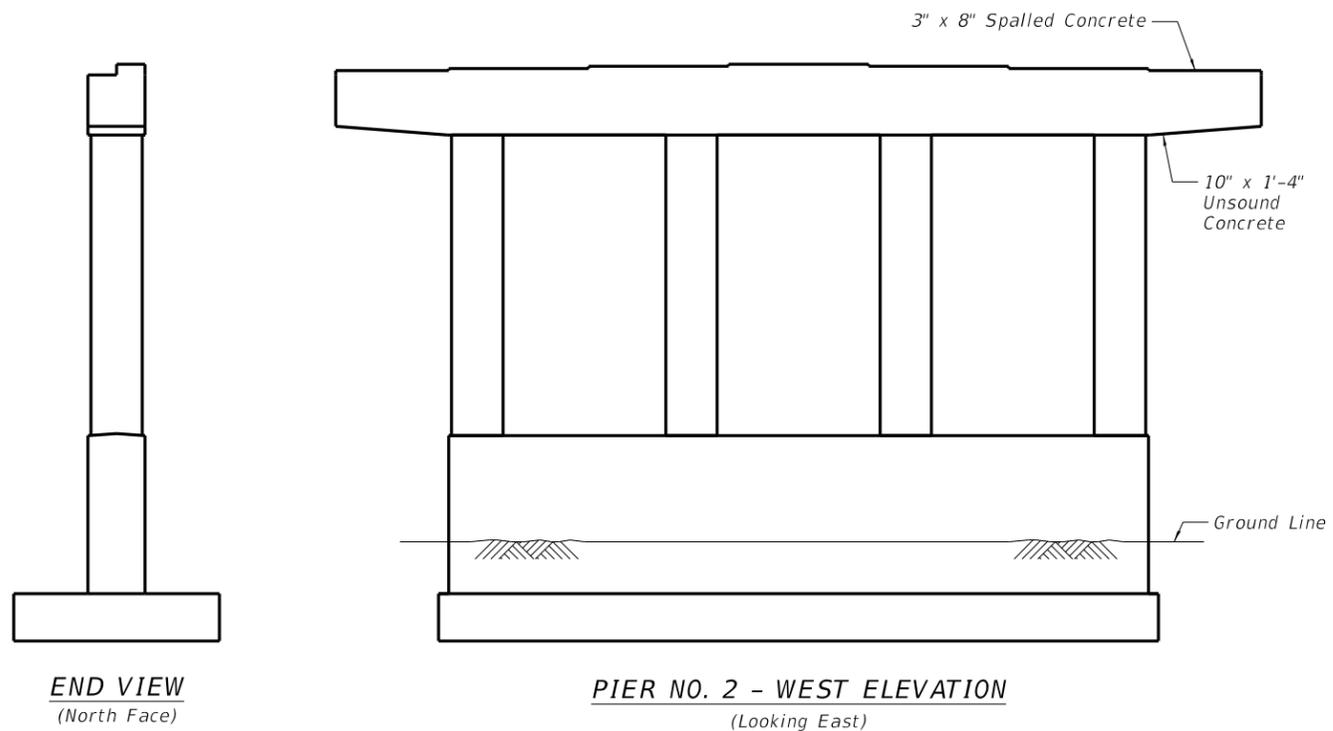
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ABUTMENT BACKWALL**  
**SN 048-3286**

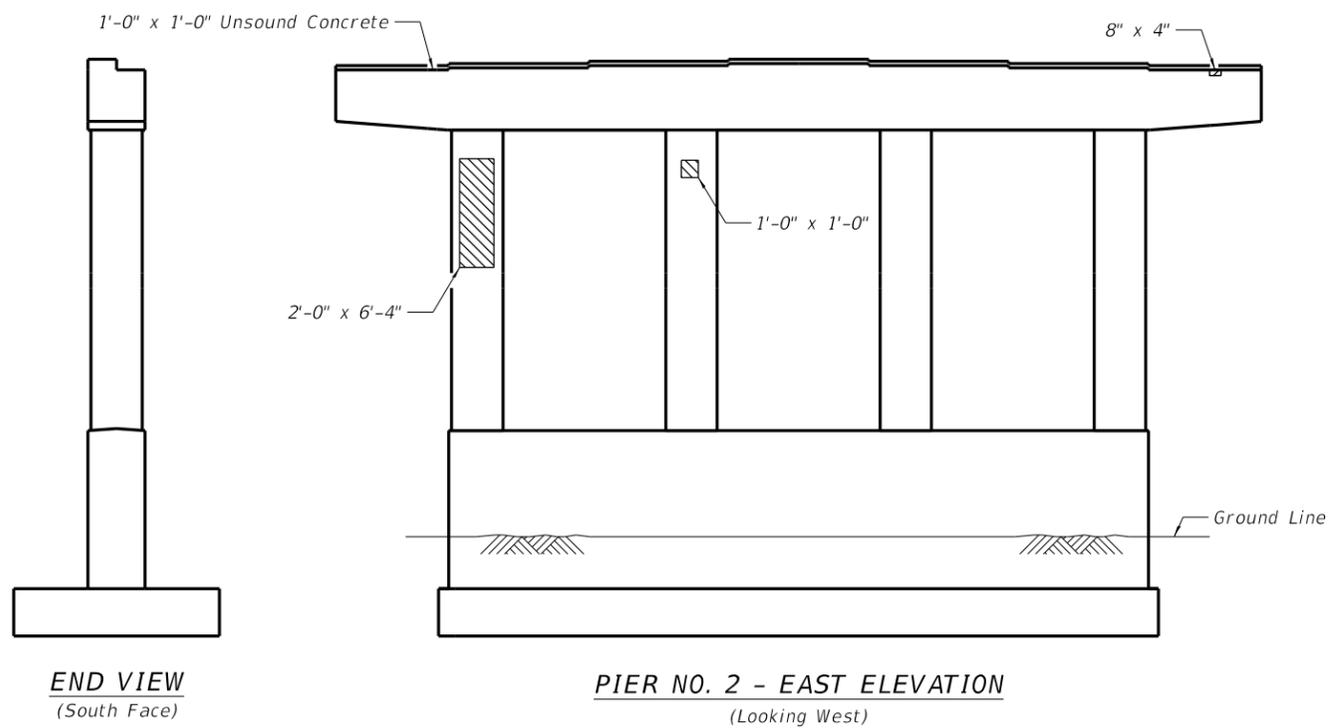
SHEET NO. 15 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	31
ILLINOIS FED. AID PROJECT			CONTRACT NO. 89819	
4				



**END VIEW**  
(North Face)

**PIER NO. 2 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)

**PIER NO. 2 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	16

(Sheet 1 of 11)

DESIGNED - MNM 1/12/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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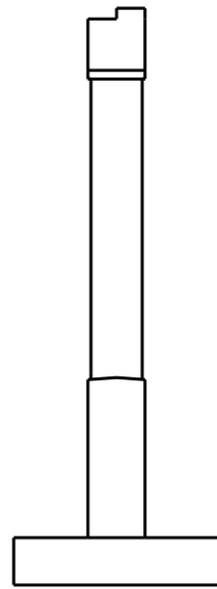
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

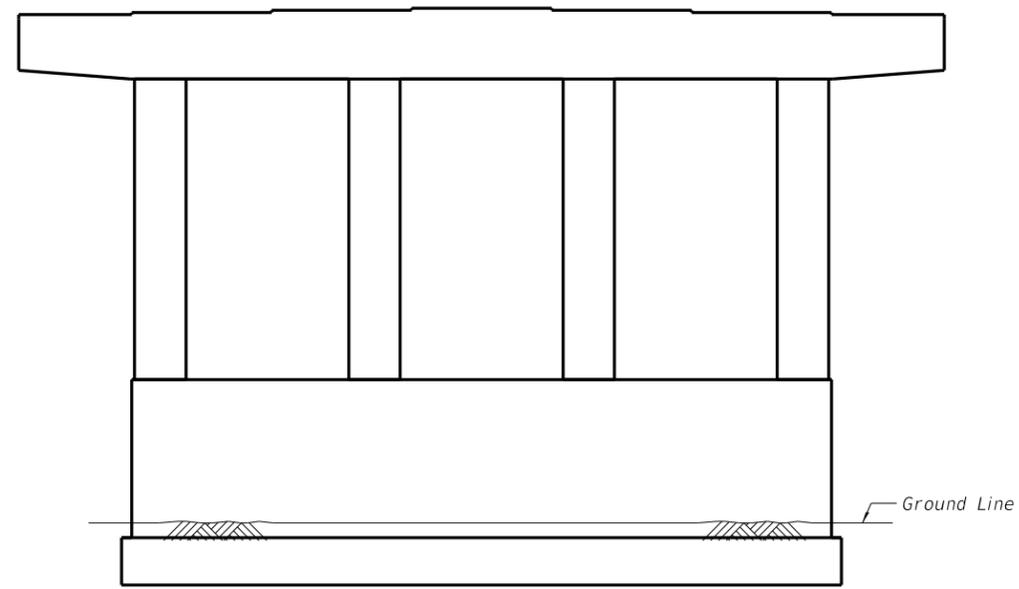
**PIER REPAIRS  
SN 048-3286**

SHEET NO. 16 OF 61 SHEETS

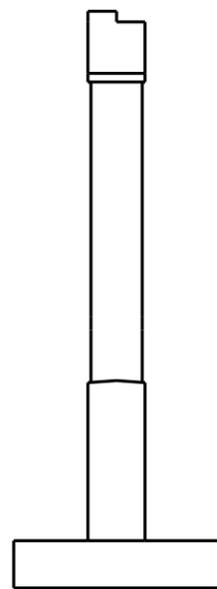
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400	18-00043-01-BR	KNOX	81	32
CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT 4		



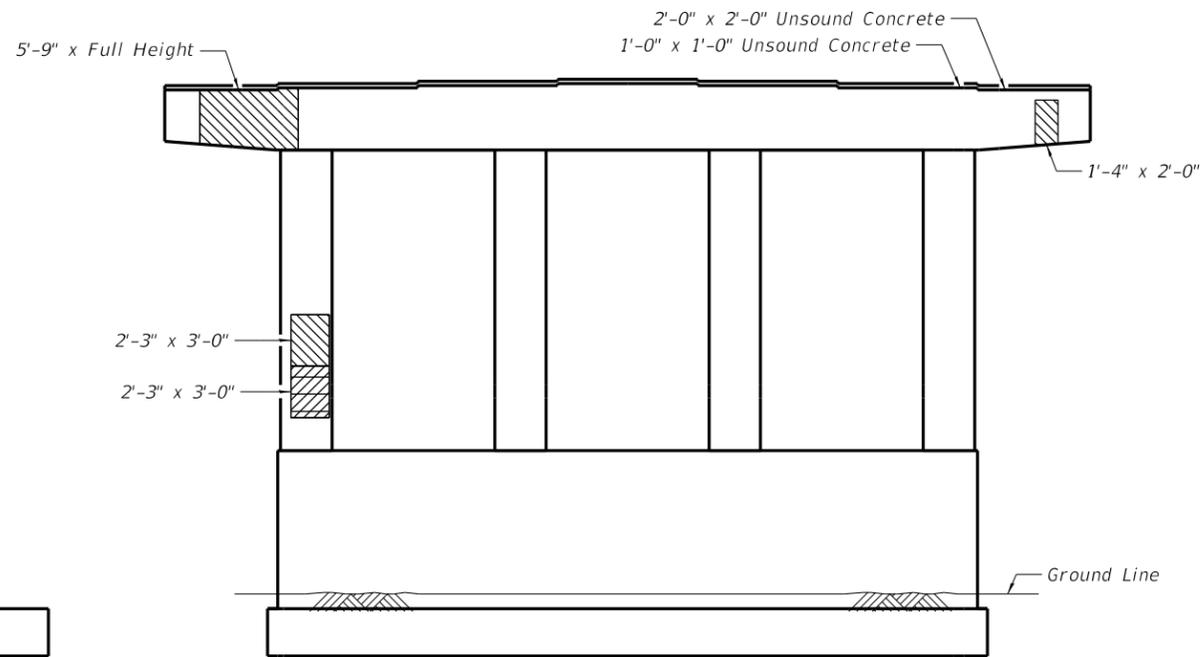
**END VIEW**  
(North Face)



**PIER NO. 4 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 4 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	41

(Sheet 2 of 11)

DESIGNED - MNM 1/12/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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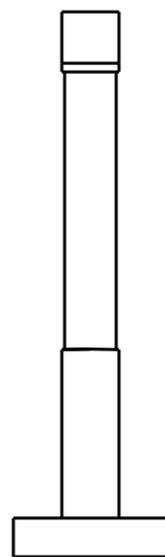
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**DEPARTMENT OF TRANSPORTATION**

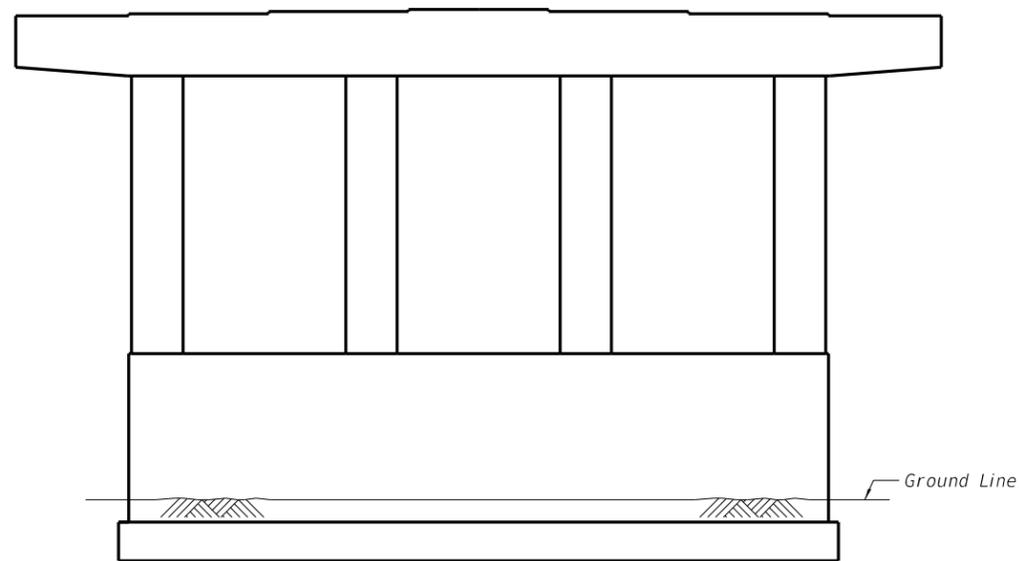
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**SN 048-3286**

SHEET NO. 17 OF 61 SHEETS

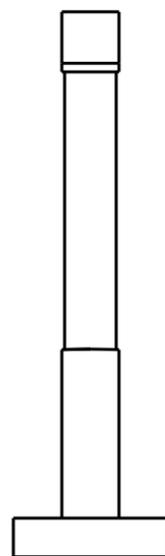
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CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT 4		



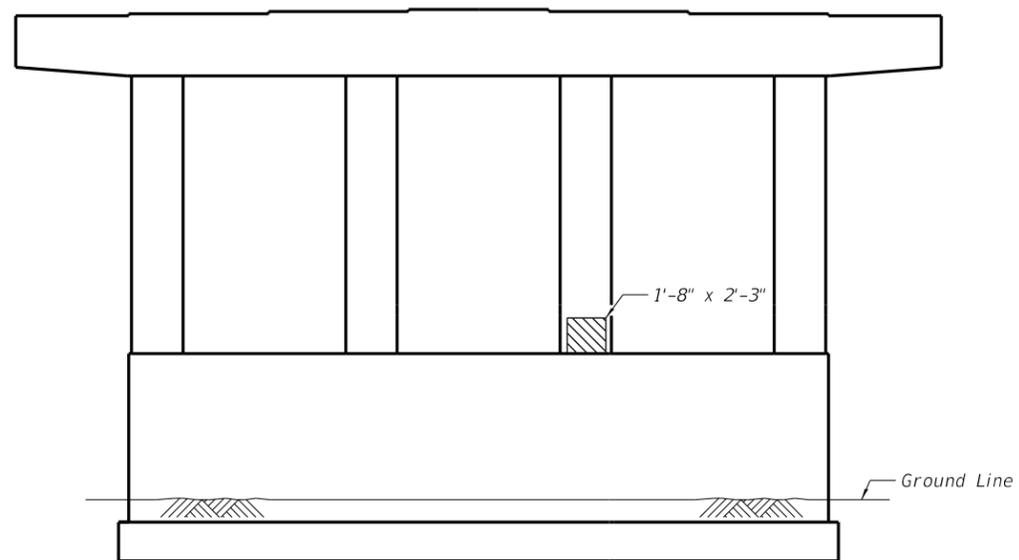
**END VIEW**  
(North Face)



**PIER NO. 5 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 5 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	4

(Sheet 3 of 11)

DESIGNED	MNM	1/12/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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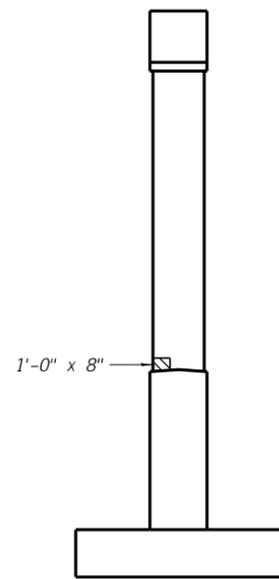
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**DEPARTMENT OF TRANSPORTATION**

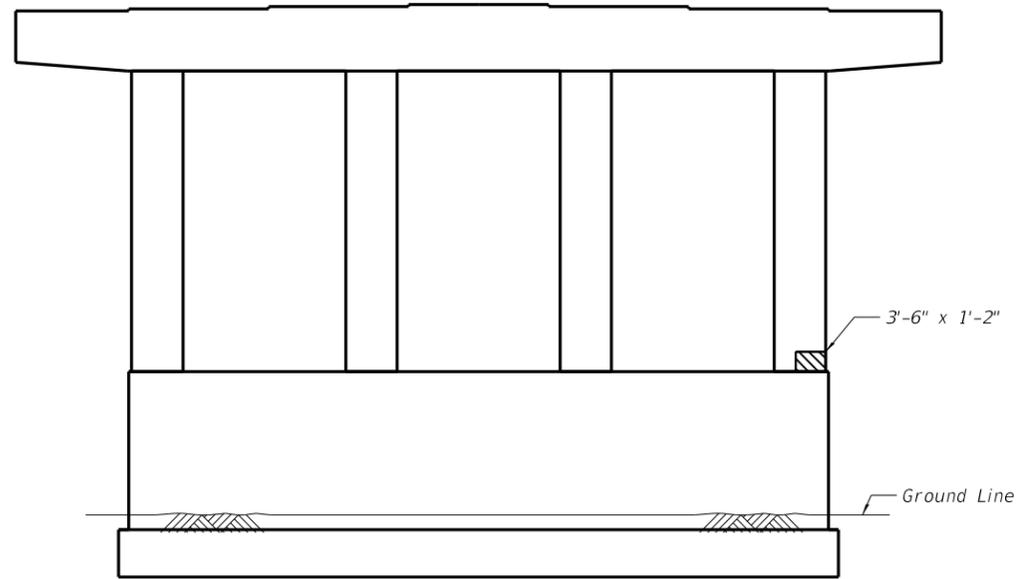
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**SN 048-3286**

SHEET NO. 18 OF 61 SHEETS

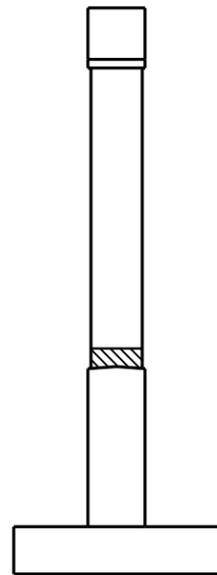
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CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT	4	



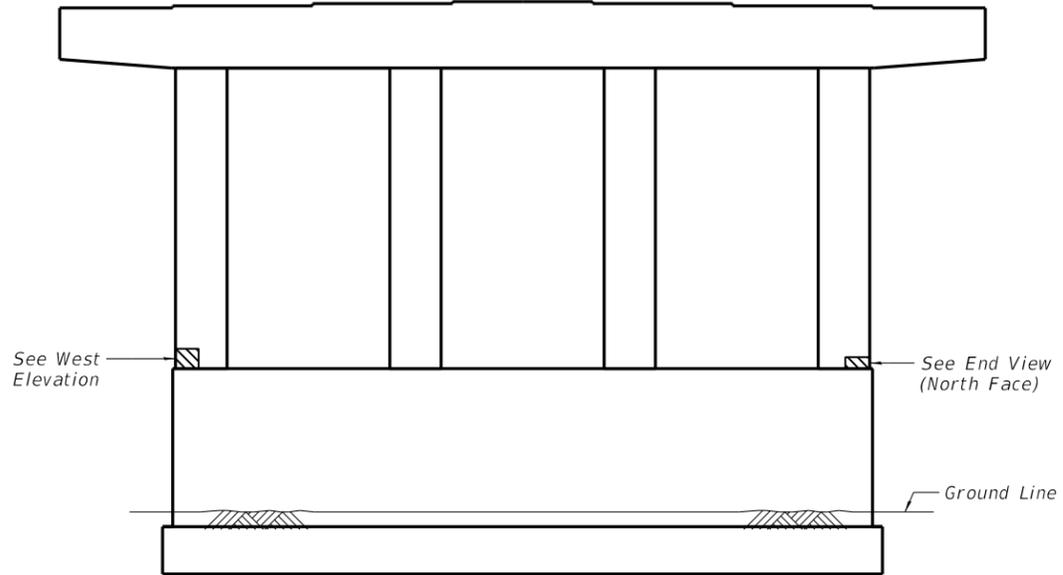
**END VIEW**  
(North Face)



**PIER NO. 6 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 6 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	5

(Sheet 4 of 11)

DESIGNED - MNM 1/12/21  
 DRAWN - EJM 05/06/21  
 REVIEWED - MNM 01/24/2022

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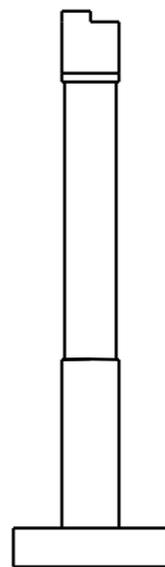
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

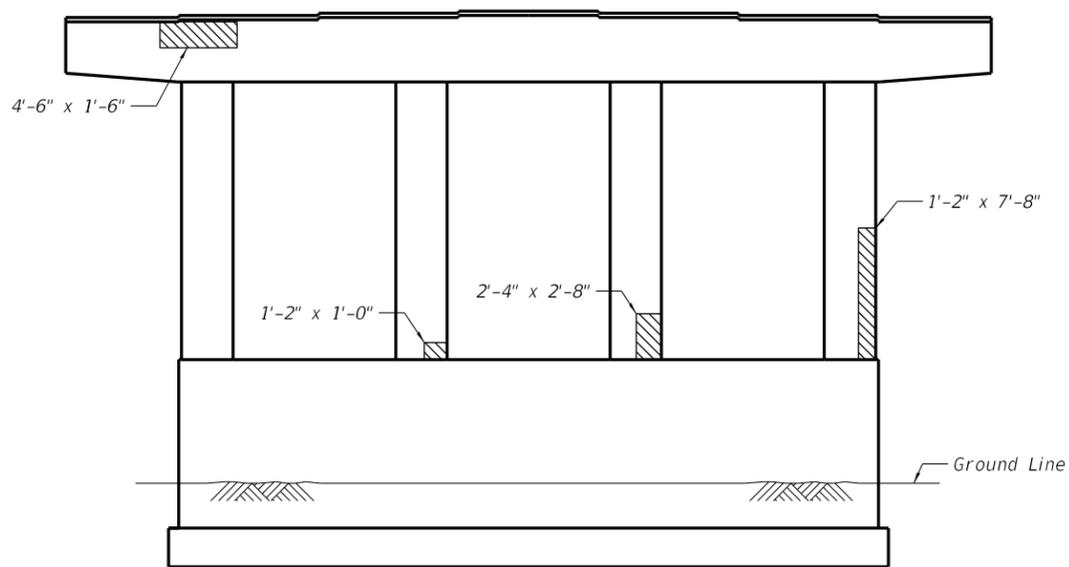
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SN 048-3286**

SHEET NO. 19 OF 61 SHEETS

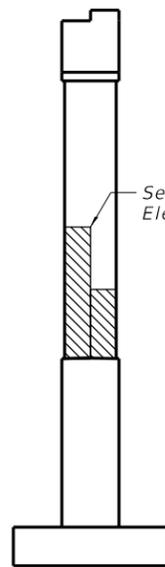
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ILLINOIS FED. AID PROJECT 4				



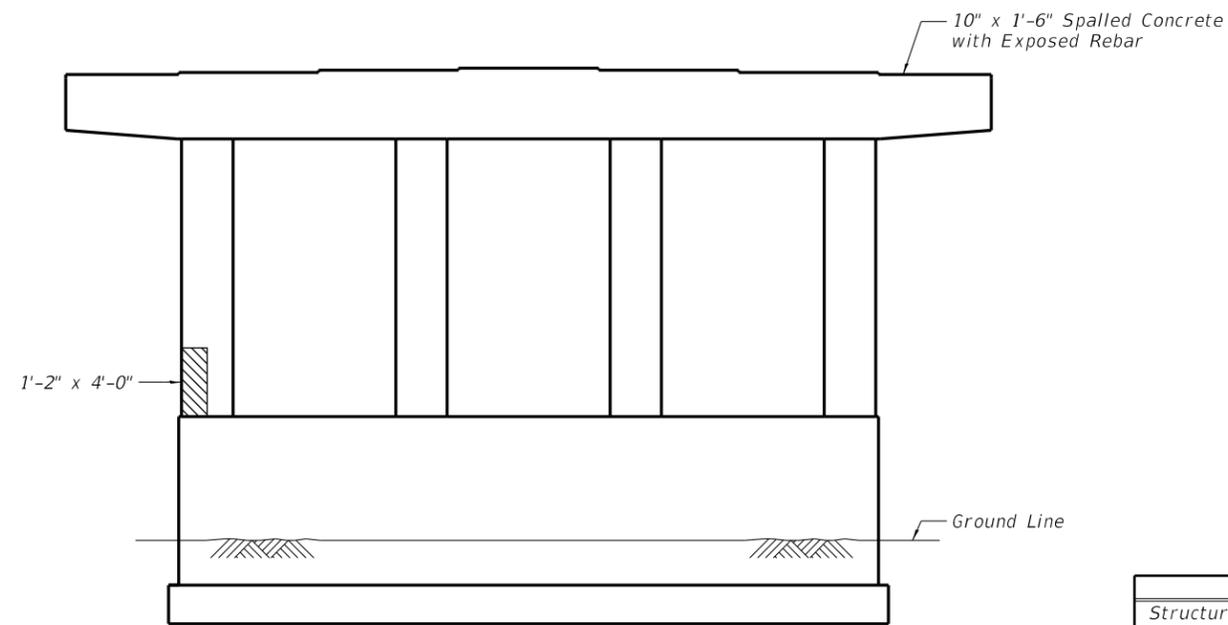
**END VIEW**  
(North Face)



**PIER NO. 7 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 7 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	29

(Sheet 5 of 11)

DESIGNED - MNM 1/12/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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CHECKED - 01/24/2022

REVISED -  
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REVISED -

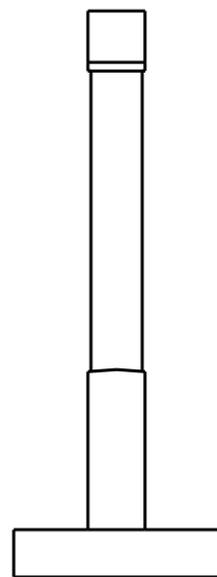
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER REPAIRS  
SN 048-3286**

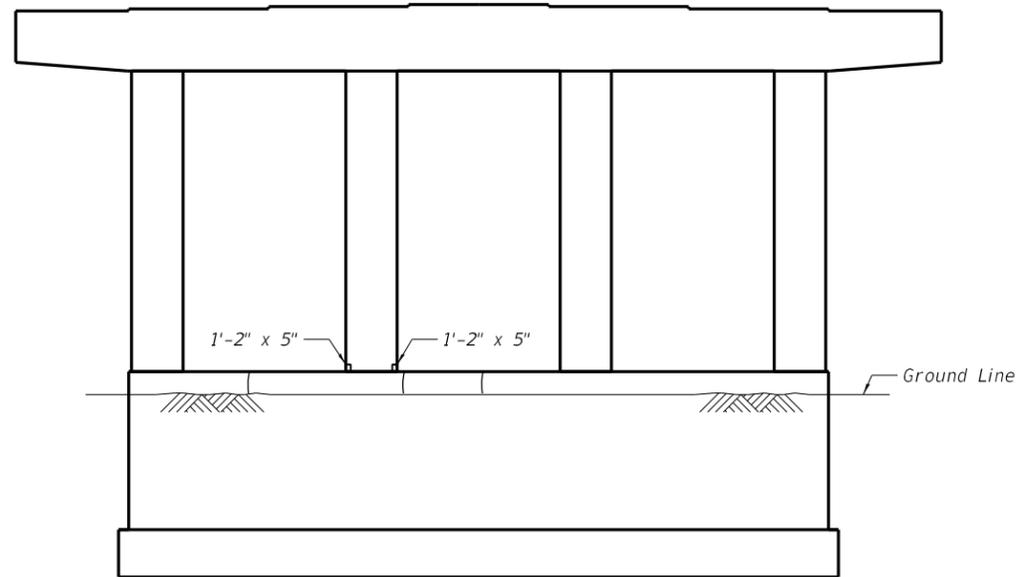
SHEET NO. 20 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	36
CONTRACT NO.			89819	

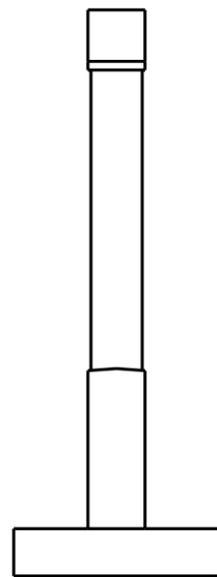
ILLINOIS FED. AID PROJECT 4



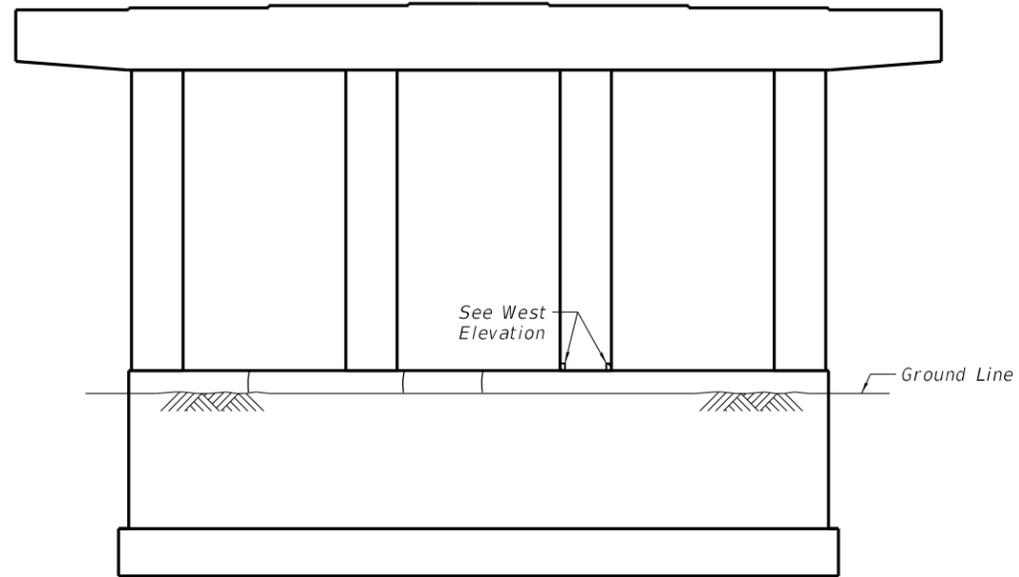
**END VIEW**  
(North Face)



**PIER NO. 8 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 8 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	1

(Sheet 6 of 11)

DESIGNED - MNM 1/12/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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PLOT DATE = 2/3/2022	DRAWN - EJM	REVISED -
	CHECKED - 01/24/2022	REVISED -

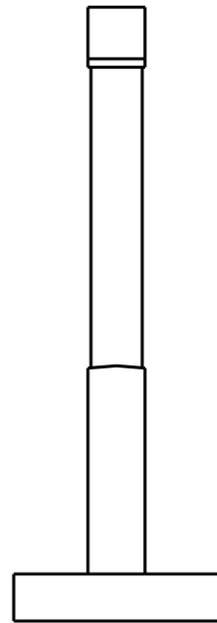
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER REPAIRS**  
**SN 048-3286**

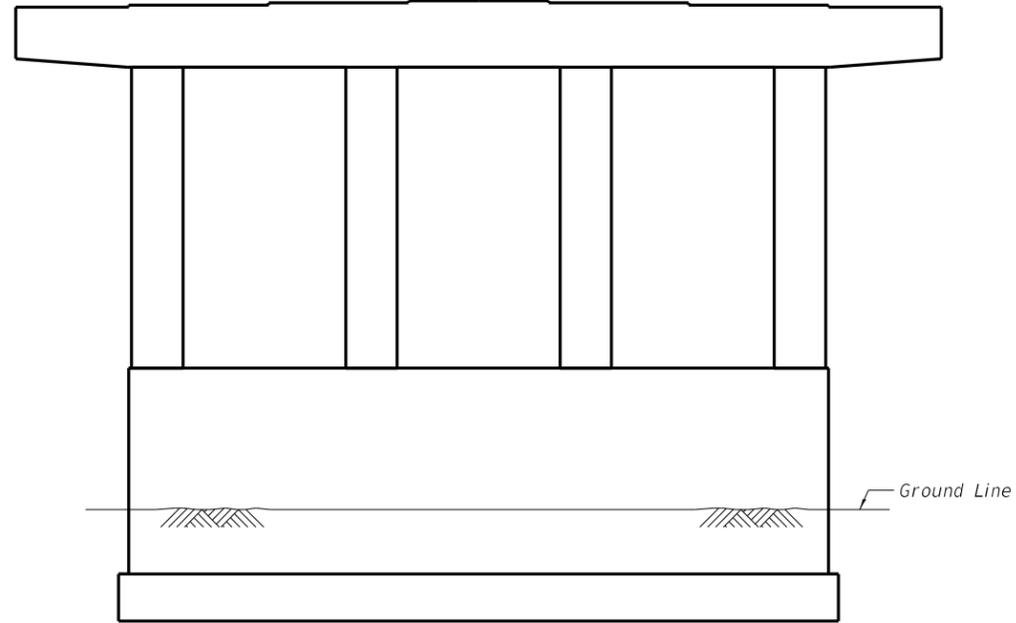
SHEET NO. 21 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	37
CONTRACT NO.			89819	

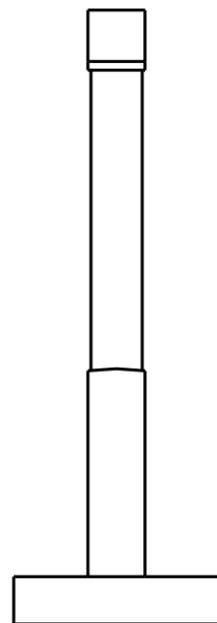
ILLINOIS FED. AID PROJECT 4



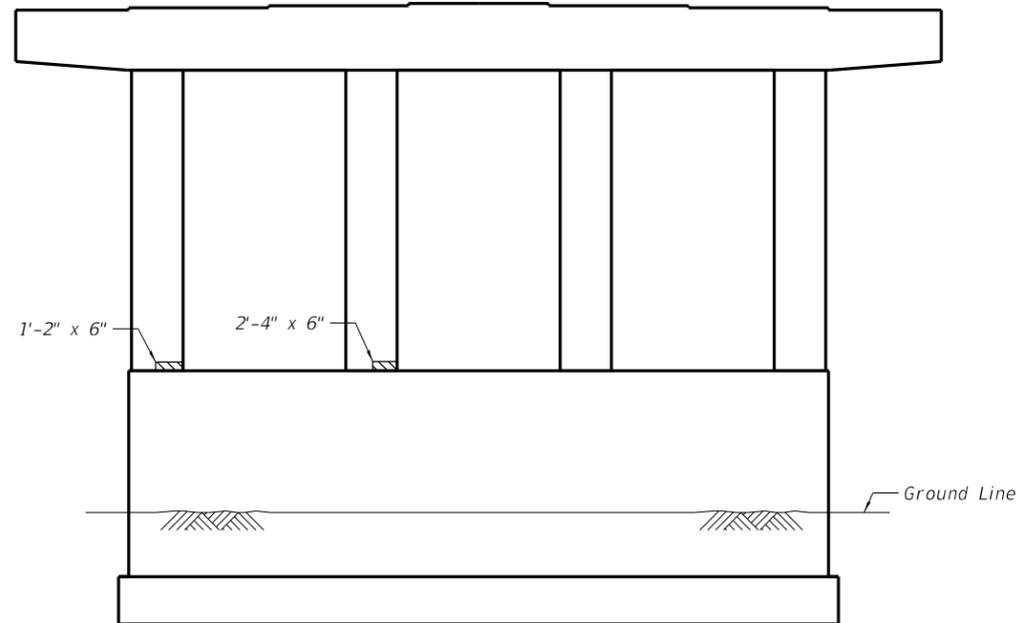
**END VIEW**  
(North Face)



**PIER NO. 9 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 9 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	2

(Sheet 7 of 11)

DESIGNED	MNM	1/12/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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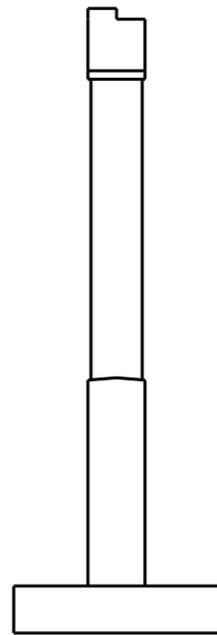
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PLOT DATE = 2/3/2022	DRAWN - EJM	REVISD -
	CHECKED - 01/24/2022	REVISD -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

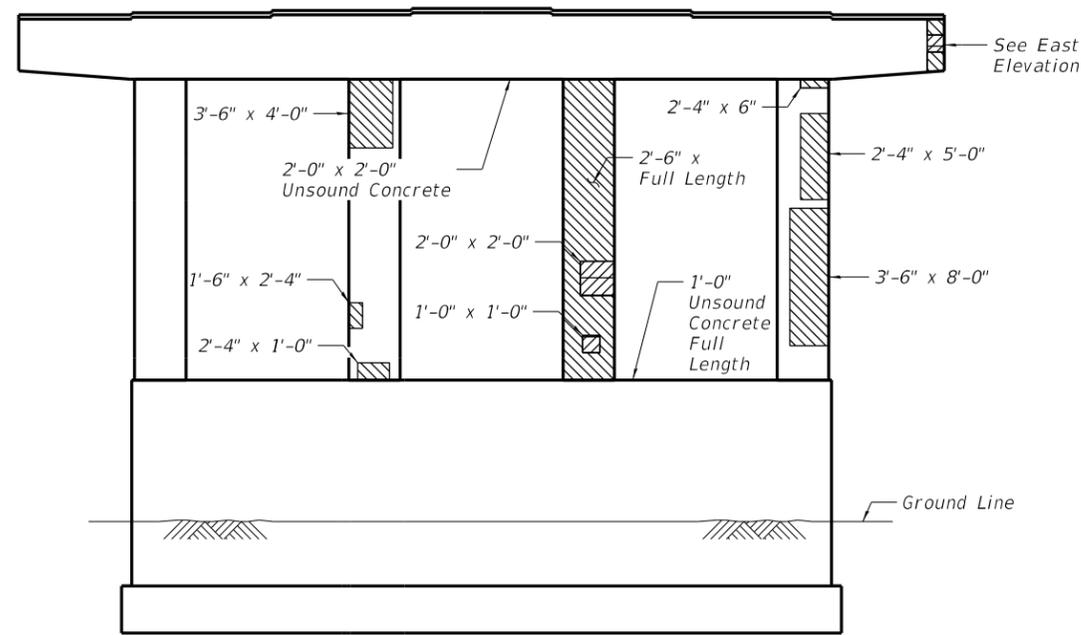
**PIER REPAIRS**  
**SN 048-3286**

SHEET NO. 22 OF 61 SHEETS

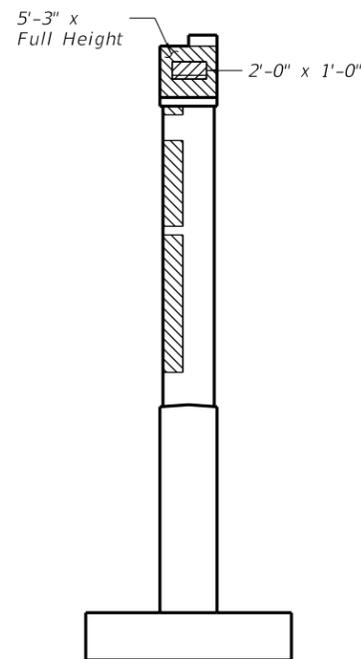
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	38
CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT 4		



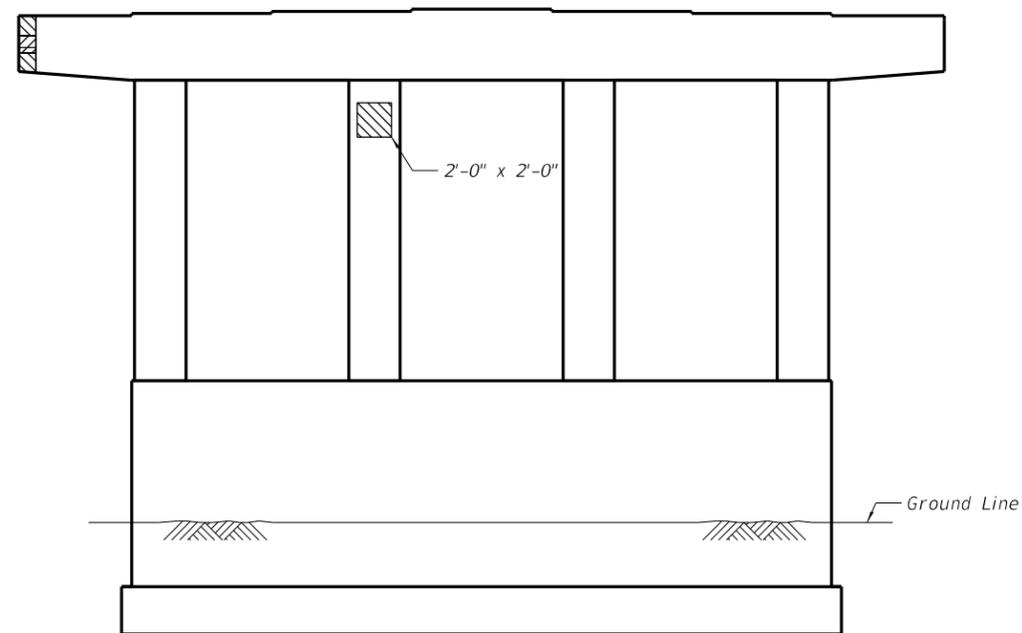
**END VIEW**  
(North Face)



**PIER NO. 10 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 10 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	127

(Sheet 8 of 11)

DESIGNED	MNM	1/12/21
DRAWN	EJM	05/06/21
REVIEWED	MNM	01/24/2022

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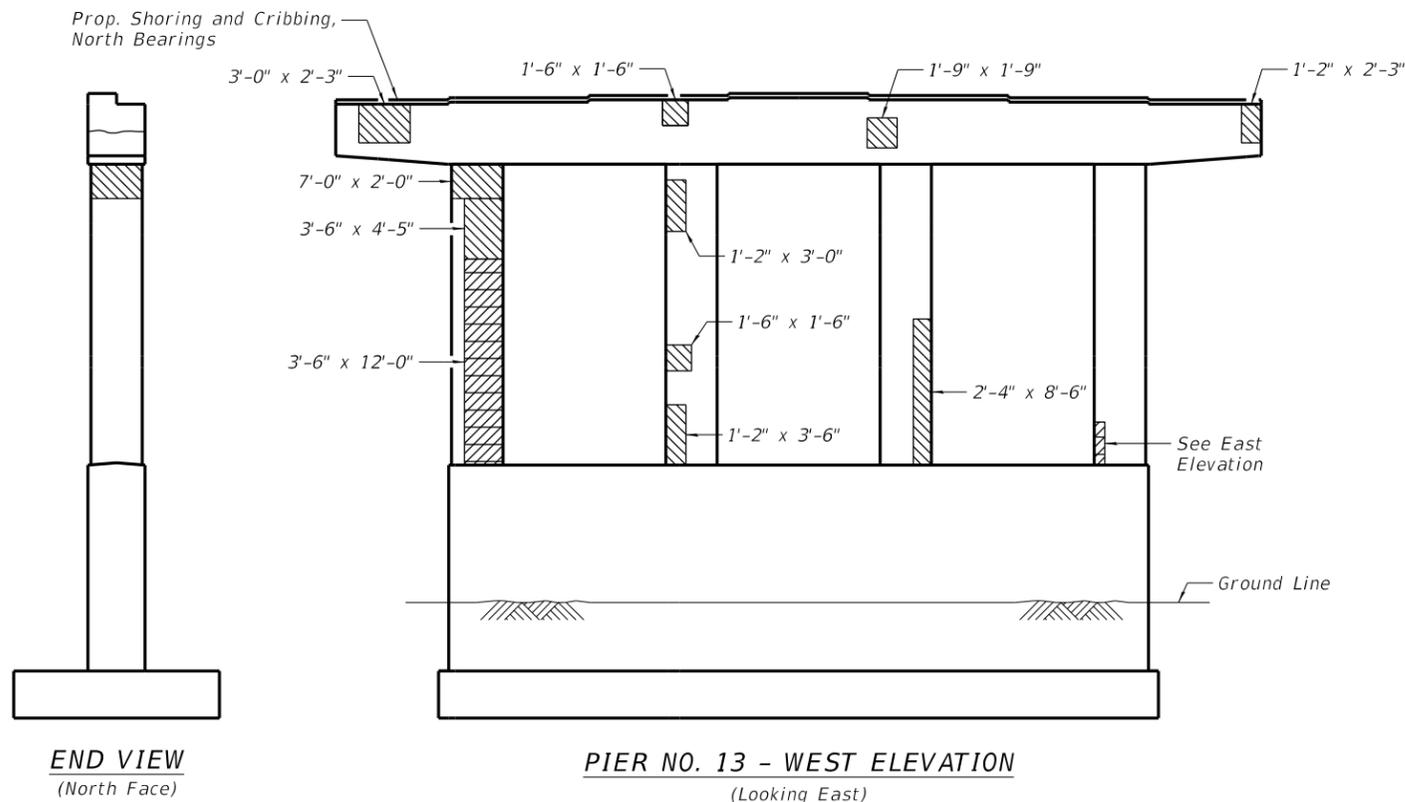
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PLOT DATE = 2/3/2022	DRAWN - EJM	REVISED -
	CHECKED - 01/24/2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER REPAIRS**  
**SN 048-3286**

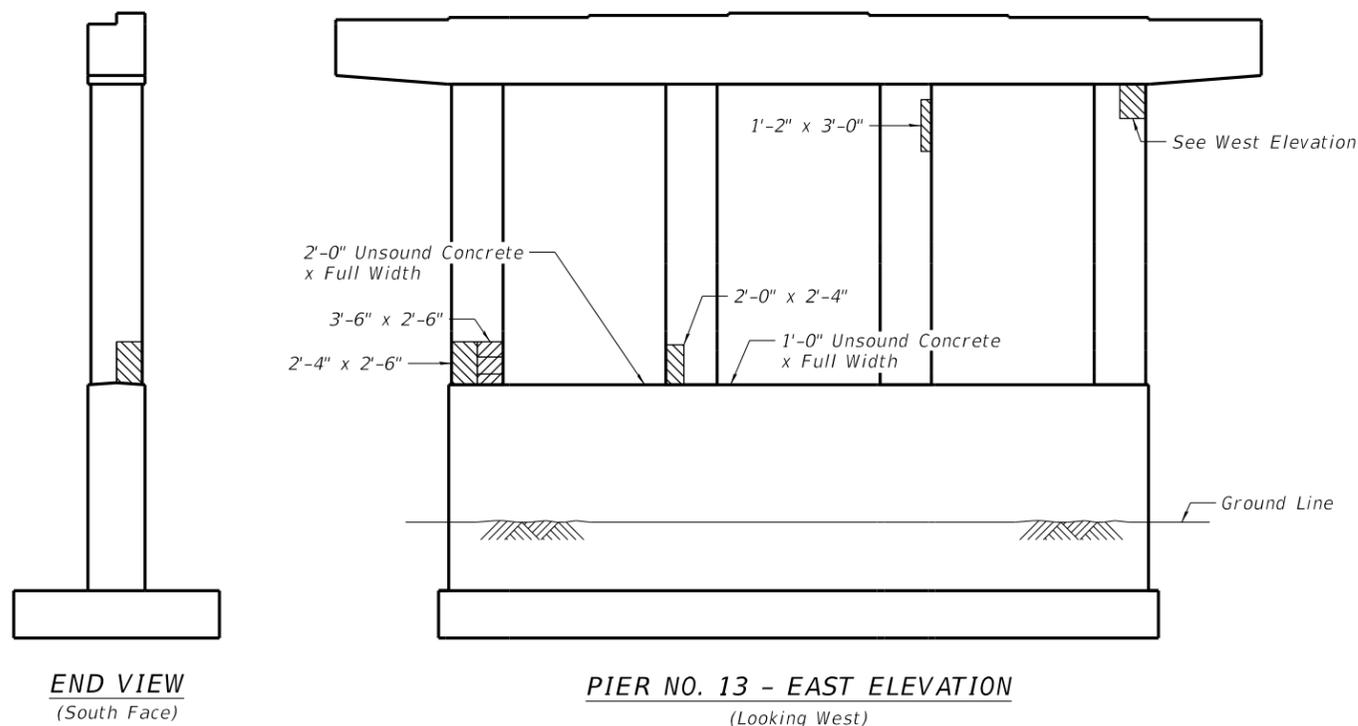
SHEET NO. 23 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	39
CONTRACT NO.			89819	
ILLINOIS		FED. AID PROJECT 4		



**END VIEW**  
(North Face)

**PIER NO. 13 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)

**PIER NO. 13 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	149
Temporary Shoring and Cribbing	Each	2

DESIGNED - MNM 1/12/21  
 DRAWN - EJM 05/06/21  
 REVIEWED - MNM 01/24/2022

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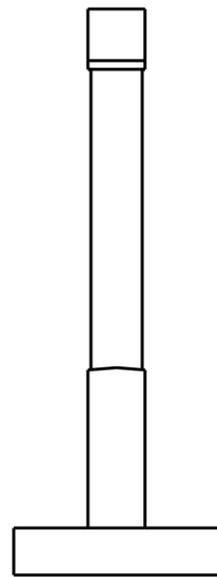
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

(Sheet 9 of 11)

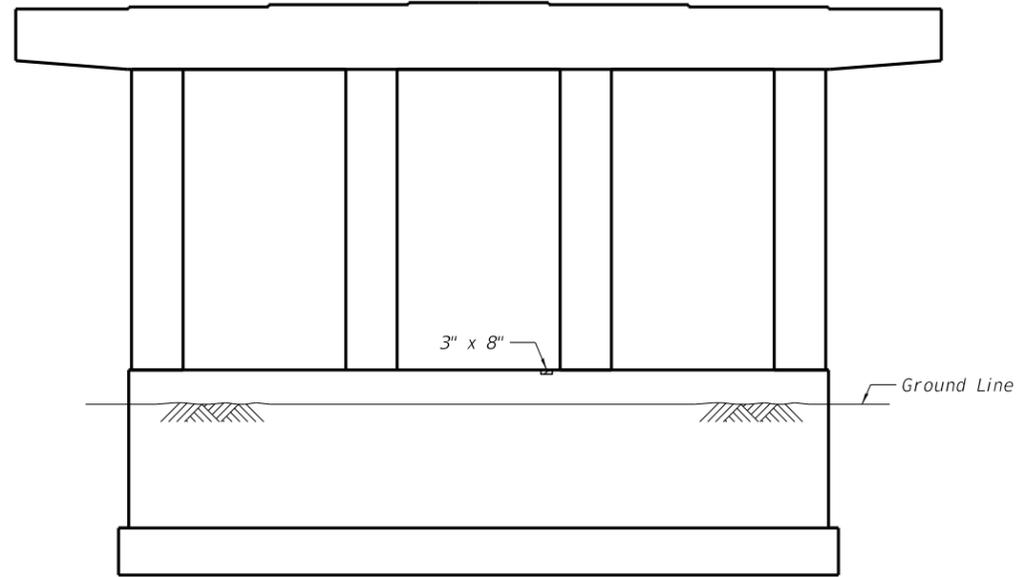
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**SN 048-3286**

SHEET NO. 24 OF 61 SHEETS

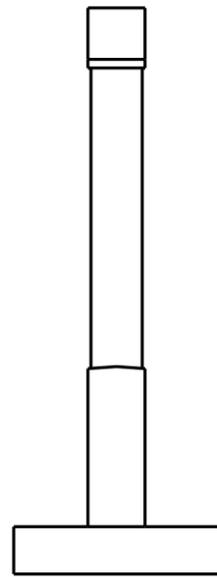
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	40
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				



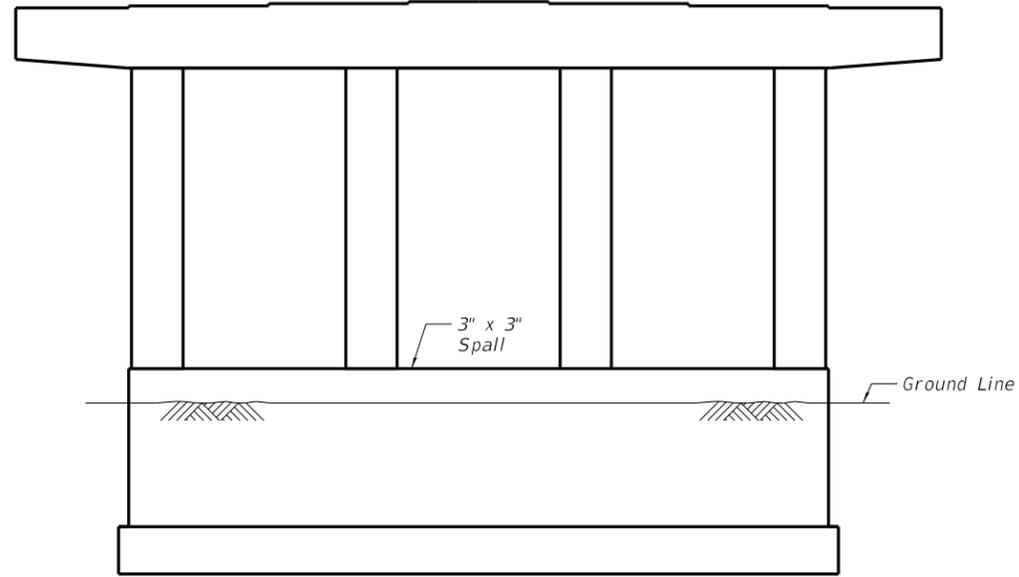
**END VIEW**  
(North Face)



**PIER NO. 14 - WEST ELEVATION**  
(Looking East)



**END VIEW**  
(South Face)



**PIER NO. 14 - EAST ELEVATION**  
(Looking West)

**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	1

(Sheet 10 of 11)

DESIGNED - MNM 1/12/21  
DRAWN - EJM 05/06/21  
REVIEWED - MNM 01/24/2022

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	CHECKED - 01/24/2022	REVISED -

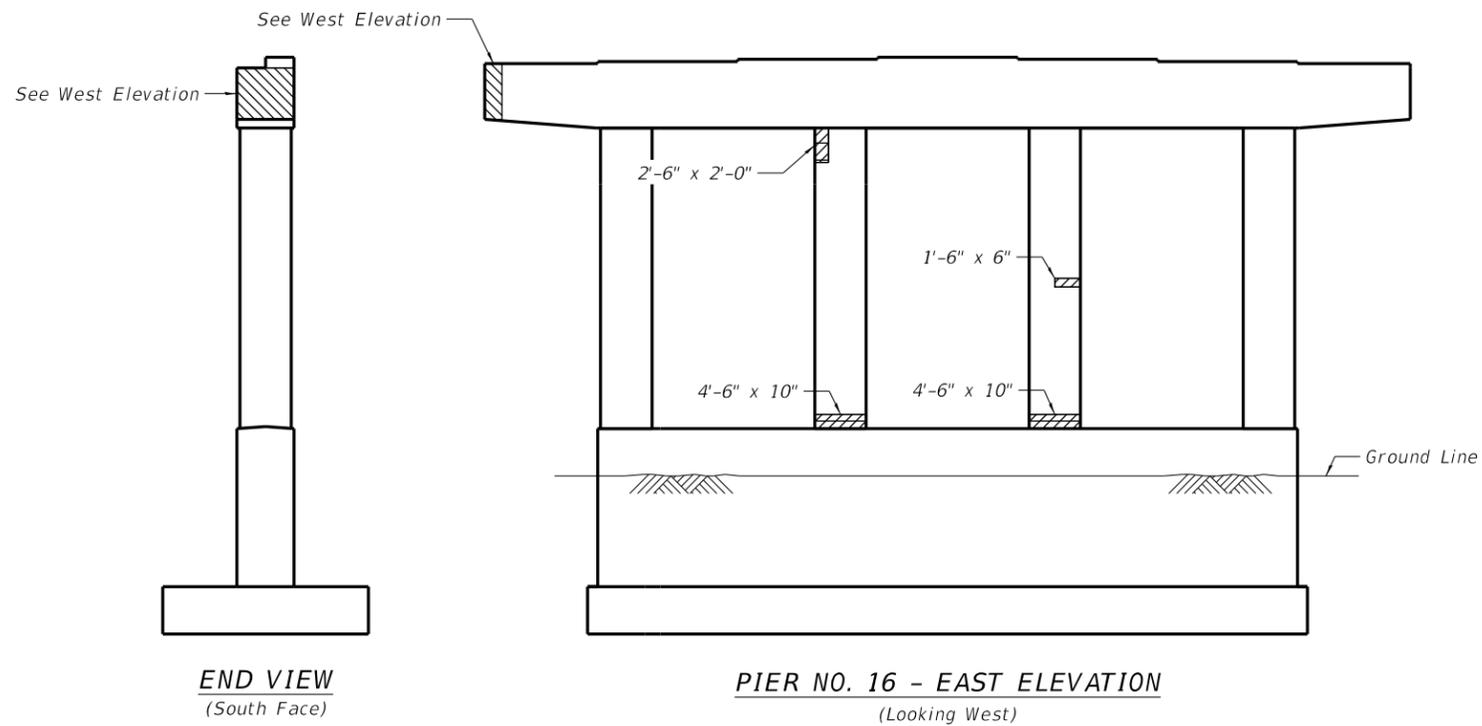
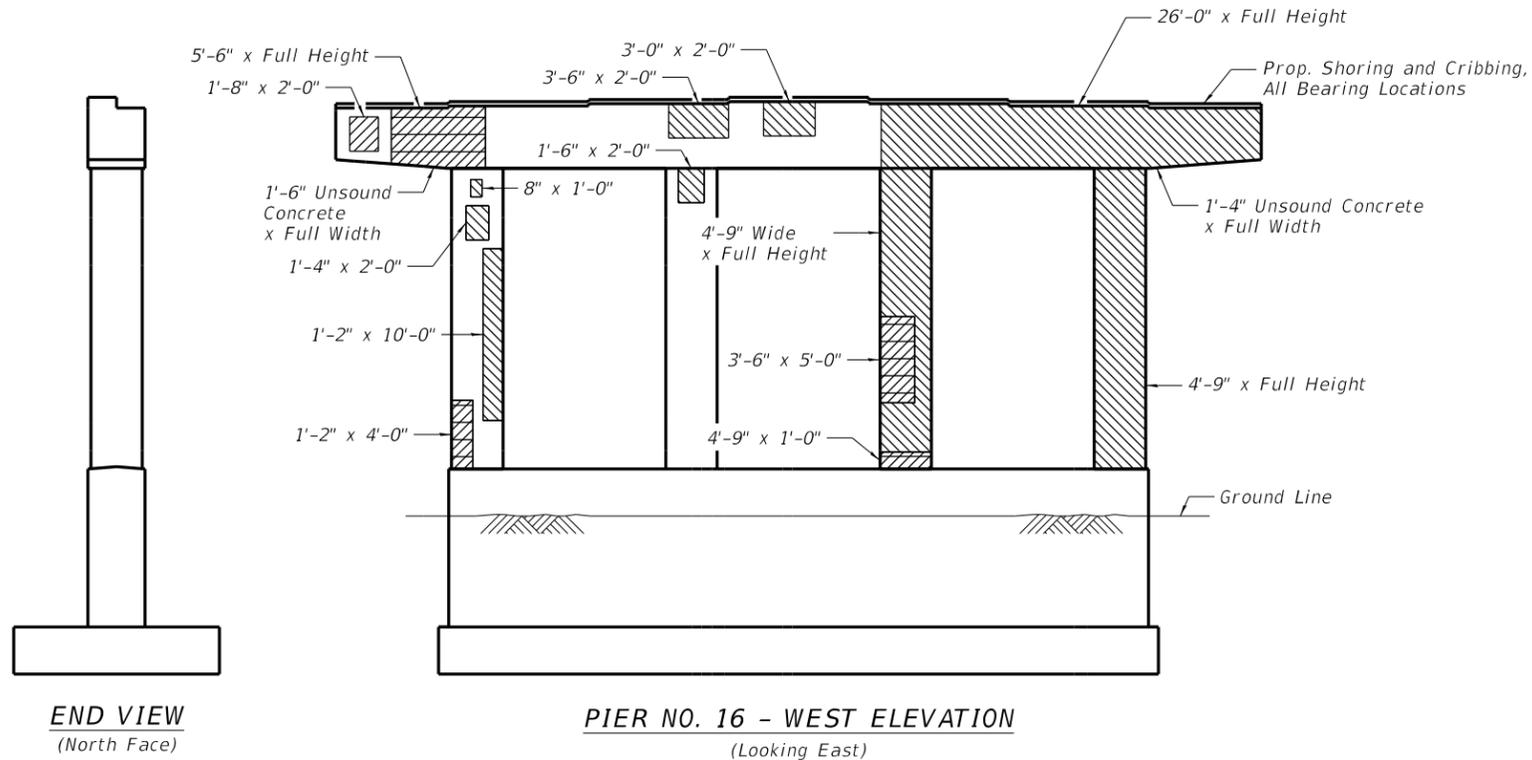
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER REPAIRS**  
**SN 048-3286**

SHEET NO. 25 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	41
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4



**LEGEND**

- Hollow or Unsound Conc., WxH
- Spalled Conc., WxH
- Spalled Conc. with Exposed Rebars, WxH
- Crack

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	417
Temporary Shoring and Cribbing	Each	14

(Sheet 11 of 11)

DESIGNED - MNM 1/12/21  
 DRAWN - EJM 05/06/21  
 REVIEWED - MNM 01/24/2022

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PIER REPAIRS  
 SN 048-3286**

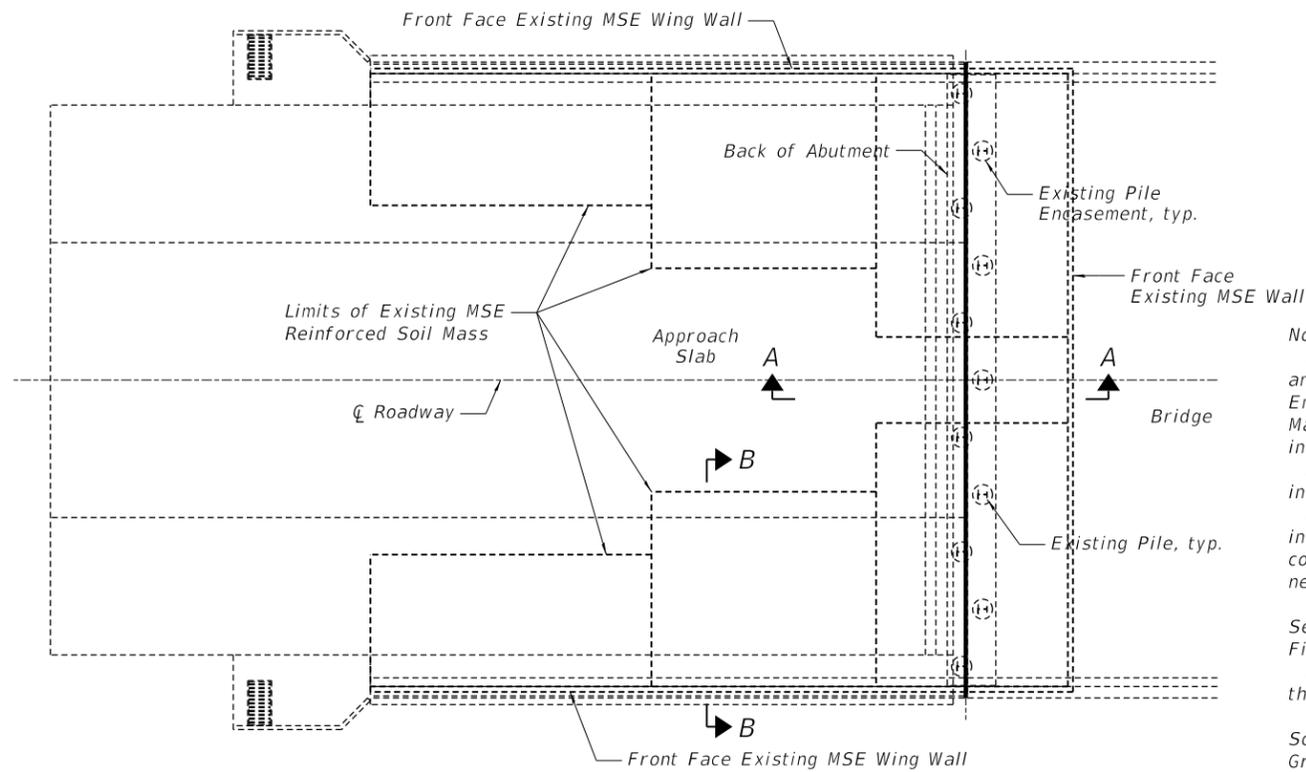
SHEET NO. 26 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	42
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4

**BILL OF MATERIAL**

Item	Unit	Total
Epoxy Crack Injection	Foot	14
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	1



**PLAN**

**Notes:**

After the approach pavement is removed, the MSE Panels, Reinforced Soil Mass, and Reinforcement Straps within the hatched regions shall be removed. The Engineer will assess the condition of the existing MSE Panels, Reinforced Soil Mass, and Backfill. The depth of the removal may increase after the Engineer's inspection.

Existing MSE Panels may be reused if in good condition based on the Engineer's inspection; otherwise, new MSE Panels will need to be fabricated.

Existing Leveling Pad that is exposed after removal of MSE Panels shall be inspected by the Engineer. The existing Leveling Pad may be reused if in good condition based on the Engineer's inspection; otherwise, new Leveling Pads will need to be constructed.

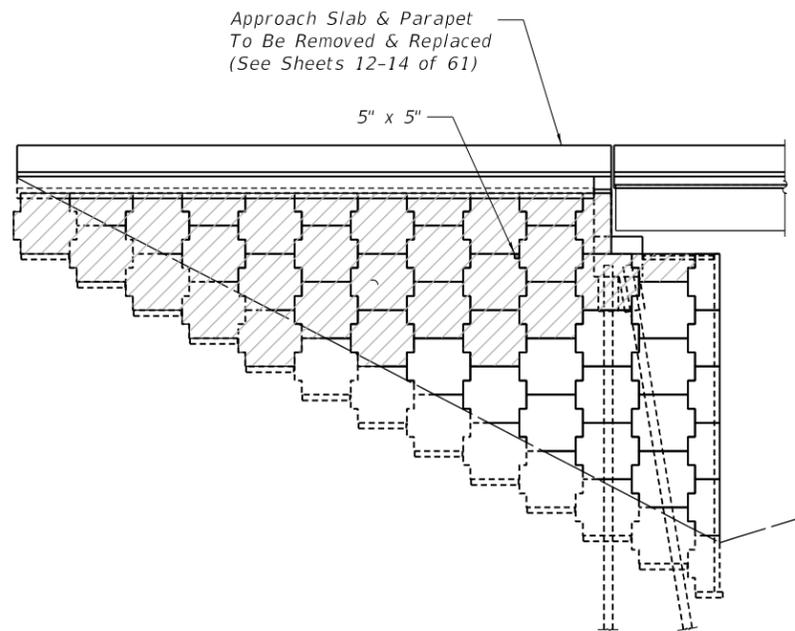
The existing Reinforced Soil Mass to be removed will be replaced with new Select Fill and Reinforcements Straps. Limits of Reinforcement Straps and Select Fill to be determined by the supplier of the wall system selected by the Contractor.

Existing and new MSE Panels shall be set back plumb along with the length of the wing walls.

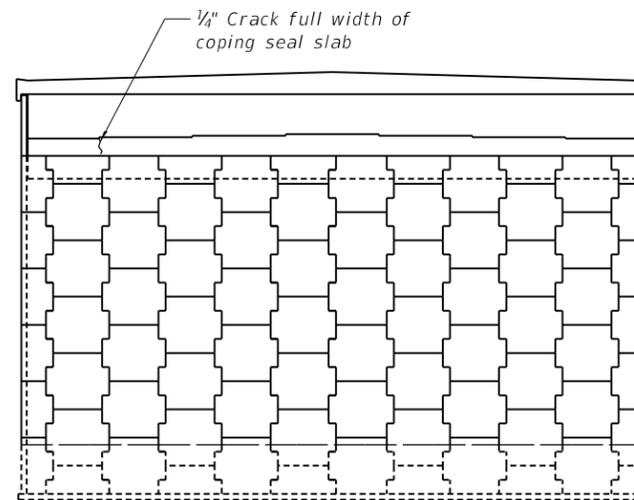
Any voids observed in the existing Backfill between the East and West Reinforced Soil Masses shall be filled and compacted with Granular Backfill for Structures. Granular Backfill for Structures is included in cost of Retaining Wall Removal.

**LEGEND**

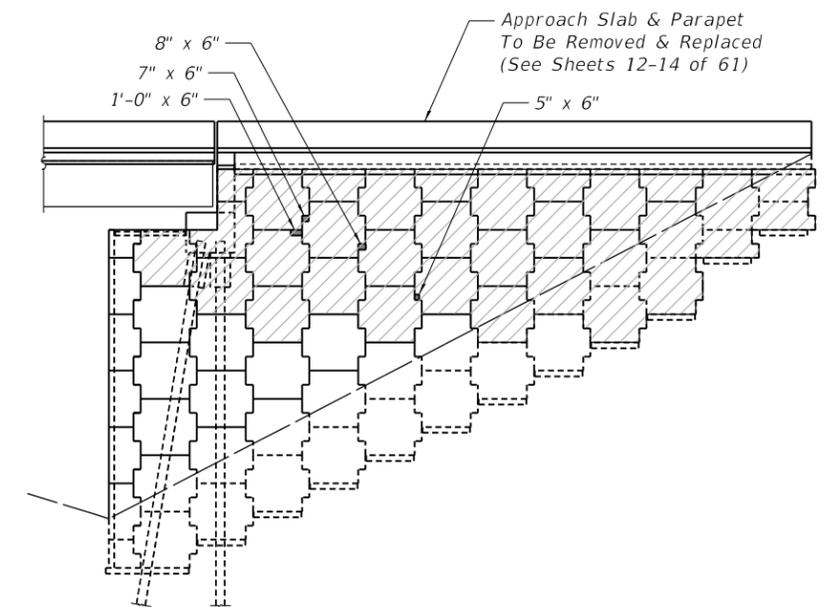
- Spalled Concrete, W x H
- ~ Crack



**SOUTH WING**



**EAST WALL**  
**MSE WALL ELEVATIONS - WEST ABUTMENT**



**NORTH WING**

(Sheet 1 of 2)

DESIGNED	1/6/21
DRAWN	05/06/21
REVIEWED	01/24/2022

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USER NAME = Johns00944	DESIGNED - RGC	REVISED -
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PLOT DATE = 2/3/2022	DRAWN - EJM	REVISED -
	CHECKED - 01/24/2022	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PLAN & ELEVATION (MSE WALL)**  
**MSE WALLS**

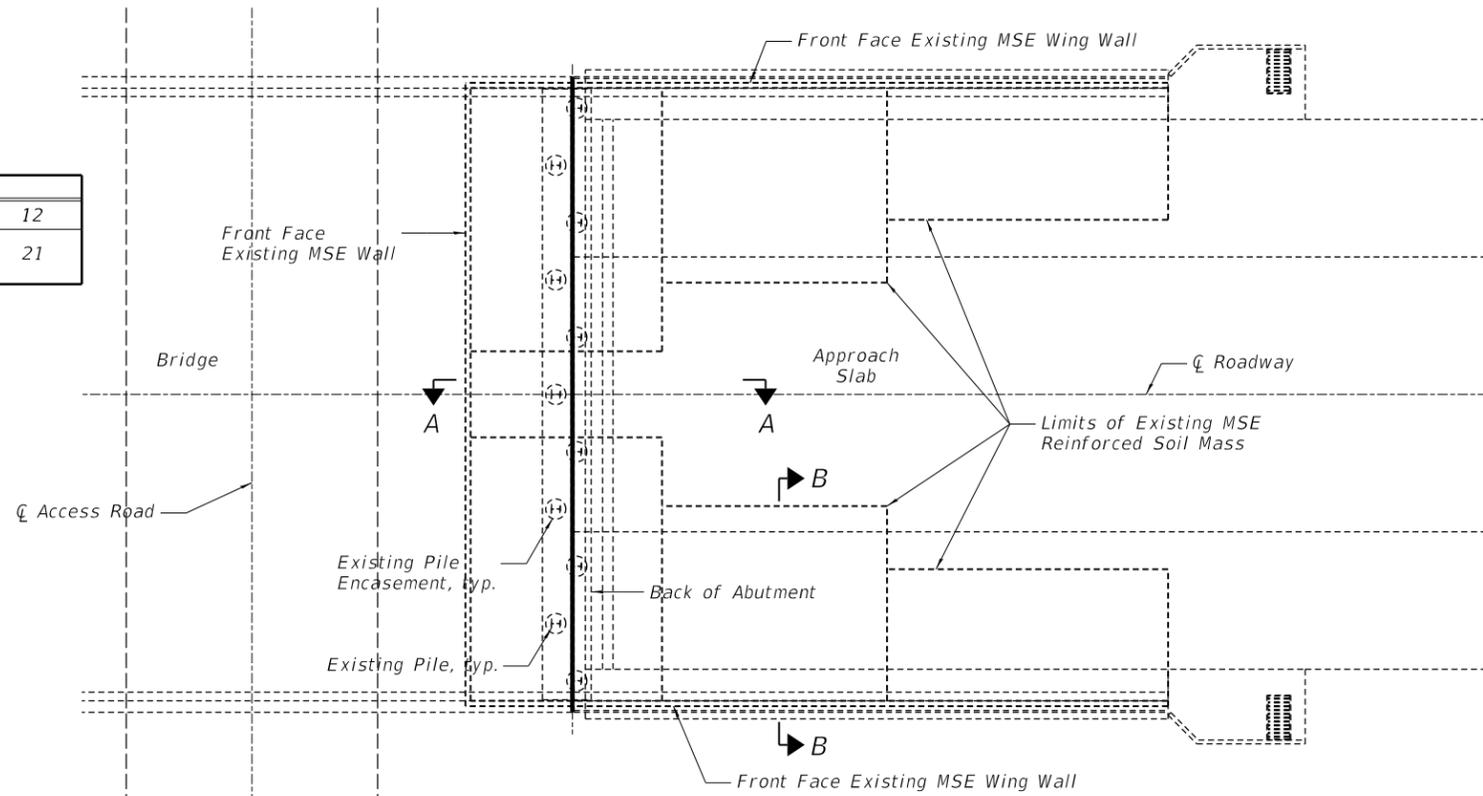
SHEET NO. 27 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	43
			CONTRACT NO. 89819	

ILLINOIS FED. AID PROJECT 4

**BILL OF MATERIAL**

Item	Unit	Quantity
Epoxy Crack Injection	Foot	12
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	21

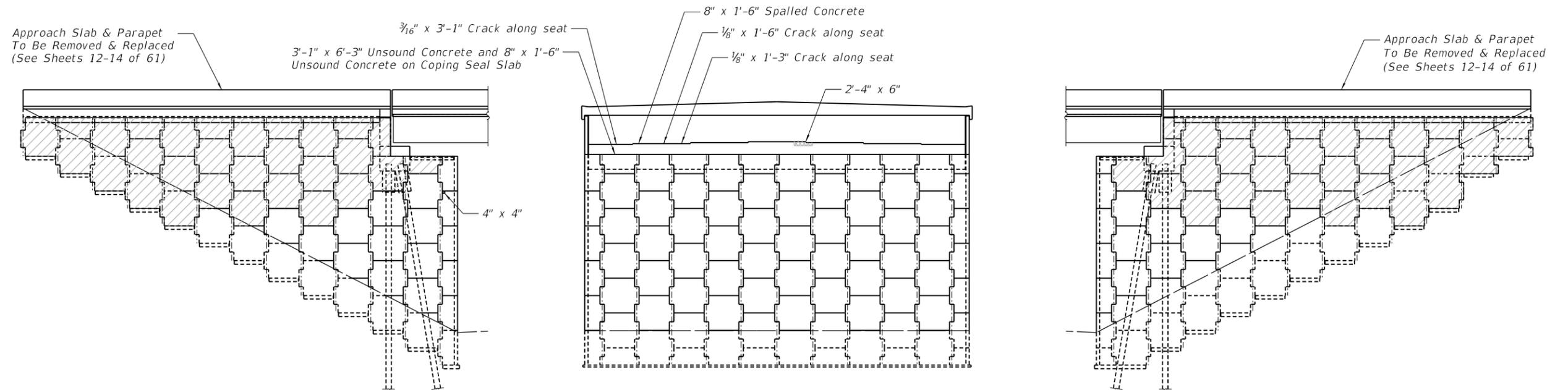


**PLAN**

**Notes:**  
 After the approach pavement is removed, the MSE Panels, Reinforced Soil Mass, and Reinforcement Straps within the hatched regions shall be removed. The Engineer will assess the condition of the existing MSE Panels, Reinforced Soil Mass, and Backfill. The depth of the removal may increase after the Engineer's inspection.  
 Existing MSE Panels may be reused if in good condition based on the Engineer's inspection; otherwise, new MSE Panels will need to be fabricated.  
 Existing Leveling Pad that is exposed after removal of MSE Panels shall be inspected by the Engineer. The existing Leveling Pad may be reused if in good condition based on the Engineer's inspection; otherwise, new Leveling Pads will need to be constructed.  
 The existing Reinforced Soil Mass to be removed will be replaced with new Select Fill and Reinforcements Straps. Limits of Reinforcement Straps and Select Fill to be determined by the supplier of the wall system selected by the Contractor.  
 Existing and new MSE Panels shall be set back plumb along with the length of the wing walls.  
 Any voids observed in the existing Backfill between the East and West Reinforced Soil Masses shall be filled and compacted with Granular Backfill for Structures. Granular Backfill for Structures is included in cost of Retaining Wall Removal.

**LEGEND**

- Hollow or Unsound Concrete, WxH
- Spalled Concrete, W x H
- Crack



**NORTH WING**

**WEST WALL**

**SOUTH WING**

**MSE WALL ELEVATIONS - EAST ABUTMENT**

(Sheet 2 of 2)

DESIGNED	1/6/21
DRAWN	05/06/21
REVIEWED	01/24/2022

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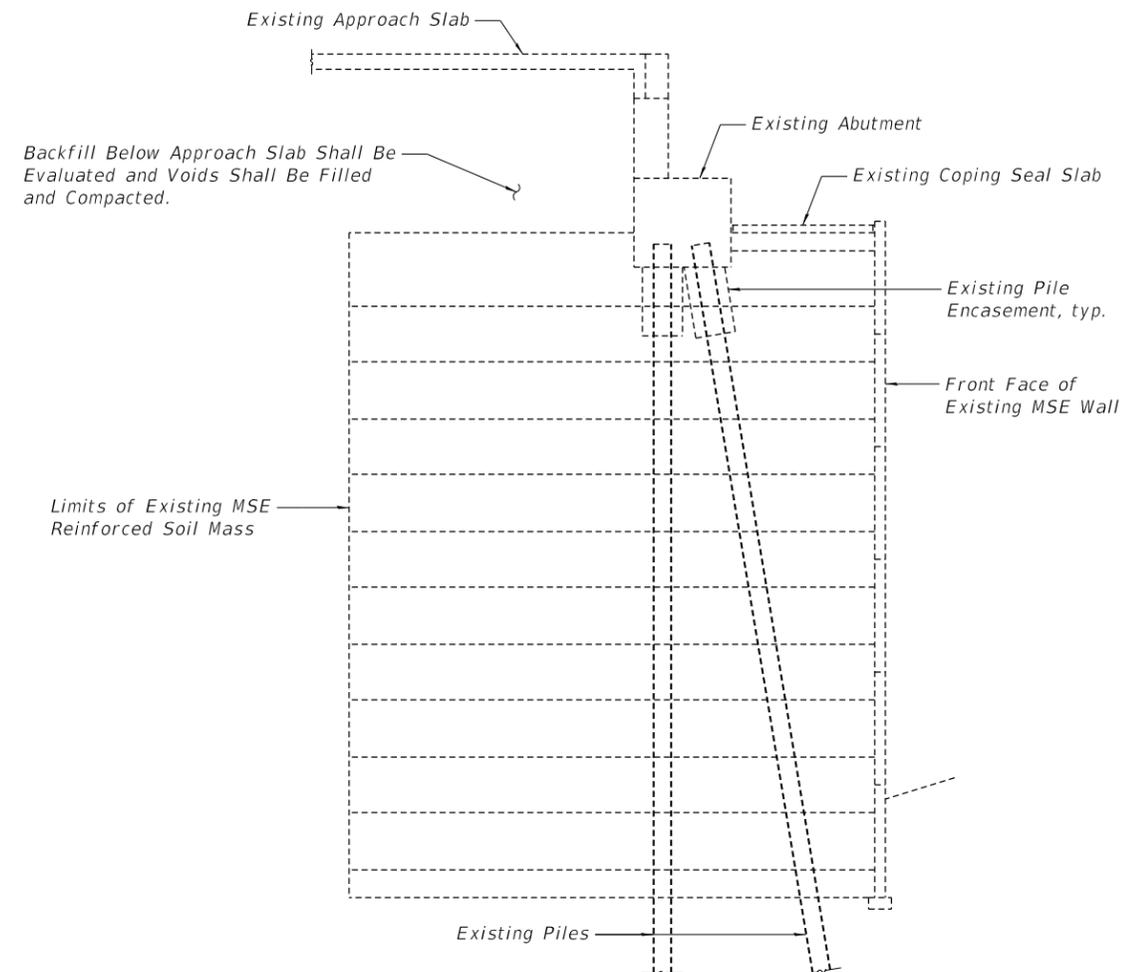
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN & ELEVATION (MSE WALL)  
MSE WALLS**

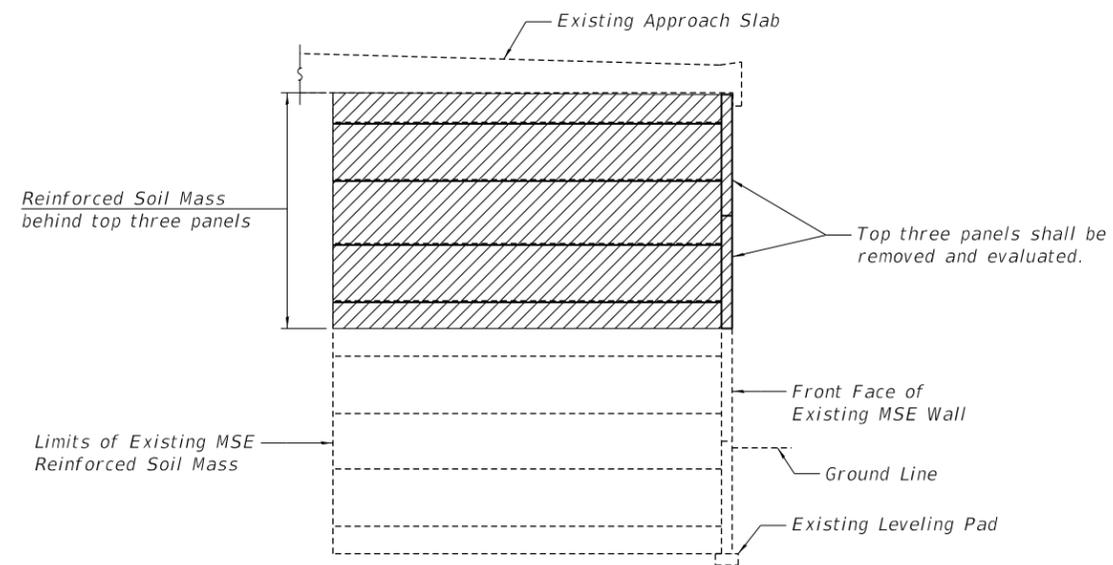
SHEET NO. 28 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	44
			CONTRACT NO. 89819	

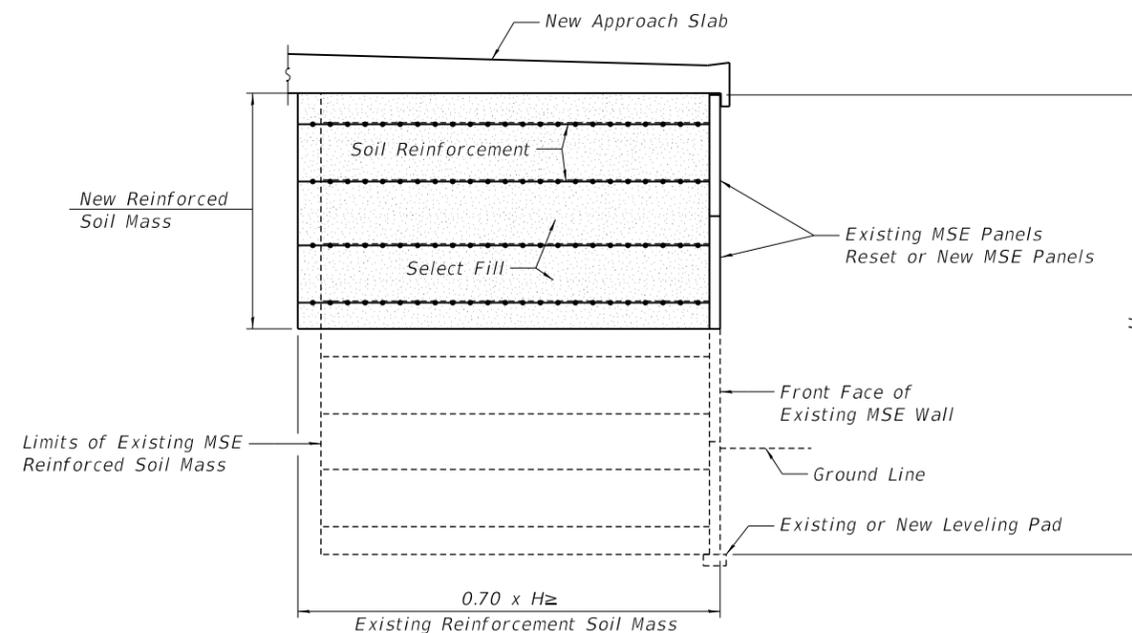
ILLINOIS FED. AID PROJECT 4



**SECTION A-A**



**REMOVAL ELEVATION SECTION B-B**



**REPLACEMENT ELEVATION SECTION B-B**

DESIGNED	RGC	1/6/21
DRAWN	EJM	05/06/21
REVIEWED	RGC	01/24/2022

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PLOT DATE =	2/3/2022				

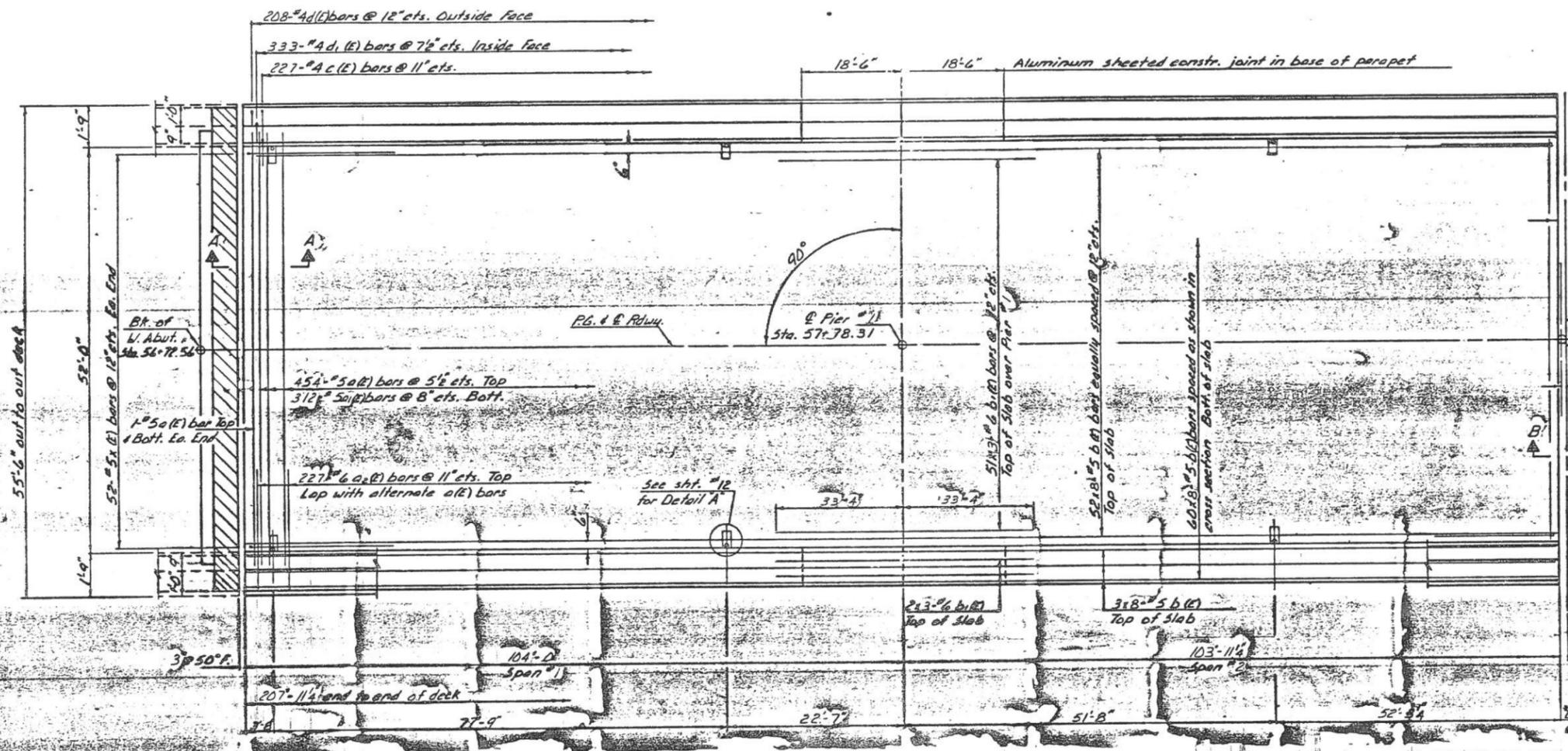
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SECTIONS & DETAILS (MSE WALL)  
MSE WALLS**

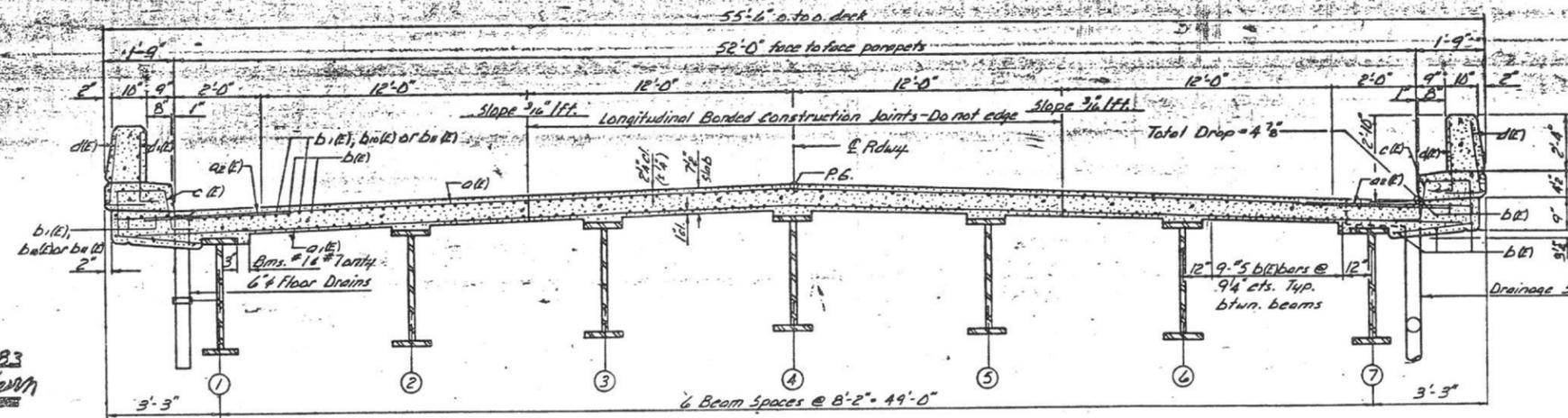
SHEET NO. 29 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	45
CONTRACT NO.			89819	

ILLINOIS FED. AID PROJECT 4



PLAN-UNIT 1  
(Spans #1 & #2)



CROSS SECTION  
UNITS #1, #2 & #3  
(Looking East)

SUPERSTRUCTURE - UNIT  
 F.A.S. RTE. 400 SEC. 43 V,  
 KNOX COUNTY  
 STA. 75+40.97  
 STAGE I

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED David Burdick	EXAMINED James J. Hartmann	1983
CHECKED Thomas Damagala	PASSED	
DRAWN R. Sommer	APPROVED	
CHECKED D.B. TJD	DIRECTOR OF HIGHWAYS	

Sept. 26

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	07/27/2022

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USERNAME	Jobs02944	DESIGNED	MNM	REVISED	
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PLOT DATE	= 2/3/2022	DRAWN	RSJ	REVISED	
		CHECKED	01/24/2022	REVISED	

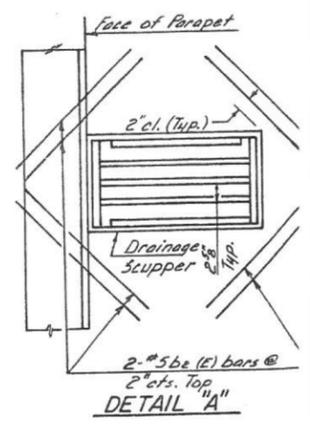
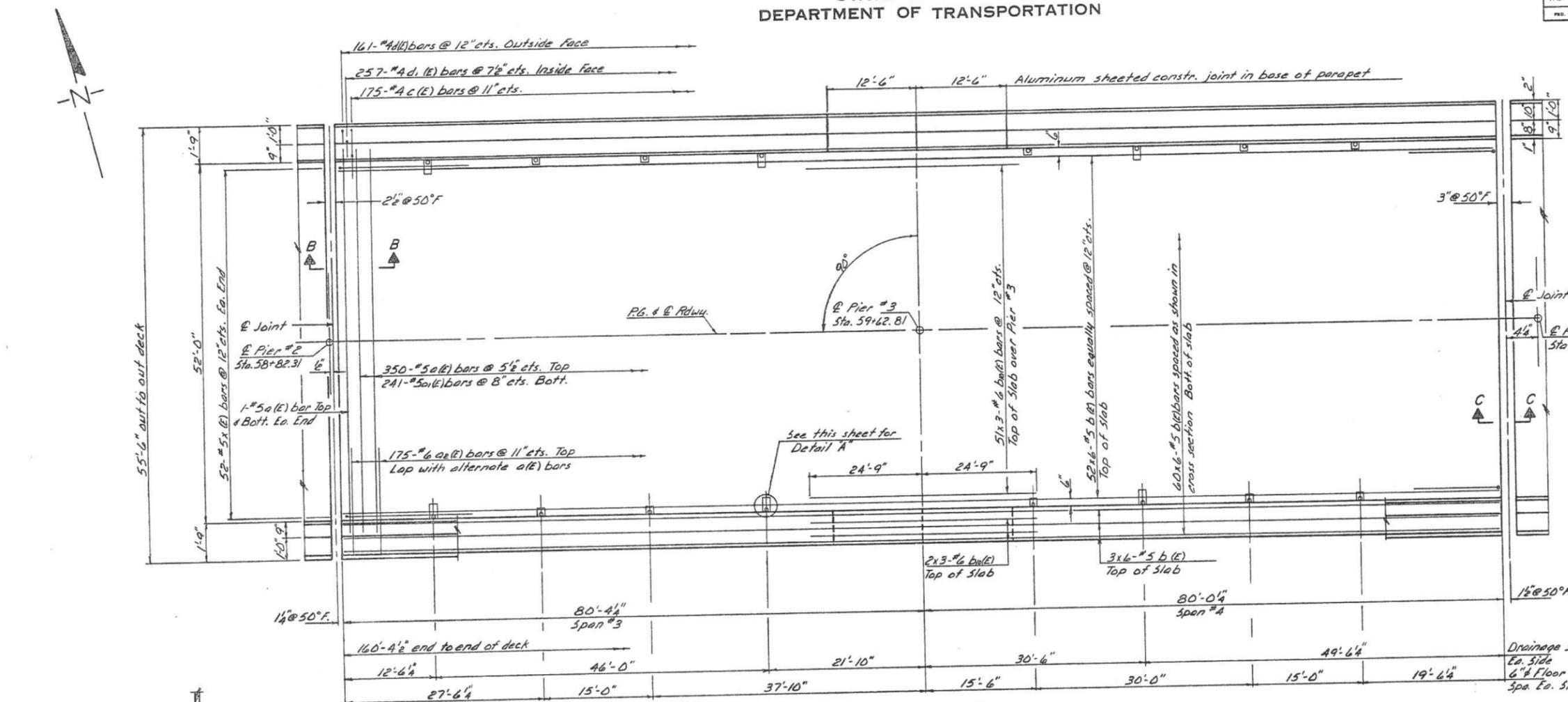
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	46
CONTRACT NO.			89819	

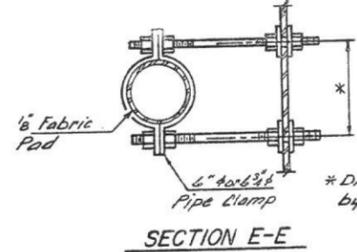
SHEET NO. 30 OF 61 SHEETS

ILLINOIS FED. AID PROJECT 4



**MIN. BAR LAPS**  
#5 bars - 1'-9"  
#6 bars - 2'-6"

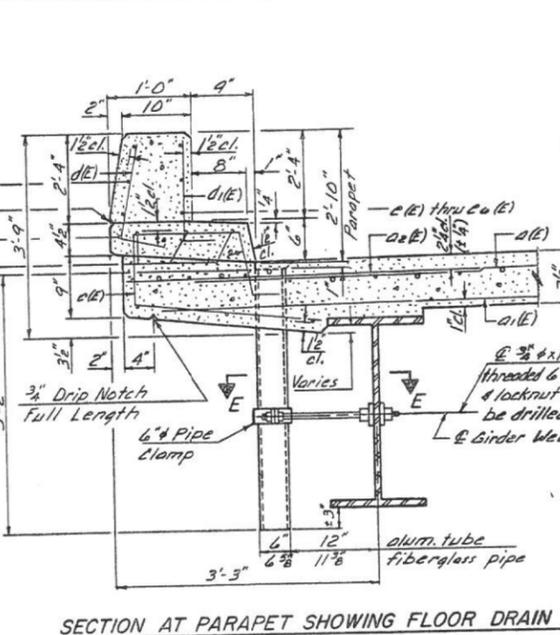
Notes:  
All cast iron parts shall be grey iron con to the requirements of A.A.S.H.T.O. M103, Class 30.  
Bolts, washers and nuts for Drainage Sca shall conform to the requirements of ASTM A-3 Reinforcement Bars designated (E) sh be epoxy coated. See Special Provisions. Bars indicated thus 20x3 - #5 etc. are 20 lines of bars with 3 lengths per line. See sht. #11 for cross section. See sht. #14 for superstructure details. Bill of Material. Cost of the Main Grate, Frame, Bolts, Washers including complete installation of Scupper shall for at the unit bid price for "Frames and Grotes Type I".



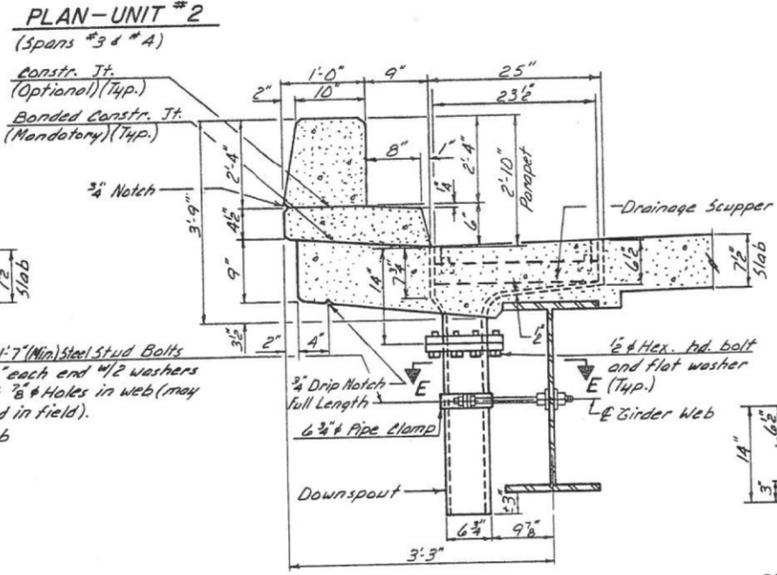
Notes:  
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 psi. minimum.  
The exterior surfaces of the Floor Drain Scupper & Downspout shall be painted with the Basic Lead Silico Chromate painting specified for Structural Steel. The exterior surfaces of the Aluminum tube shall be cleaned and given a washcoat pretreatment in accordance with Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-PT3 prior to painting.

DESIGNED	David Burdick	EXAMINED	James J. Reubens
CHECKED	Thomas J. Domagala	APPROVED	[Signature]
DRAWN	R. Sommer		
CHECKED	D.B. TSD		

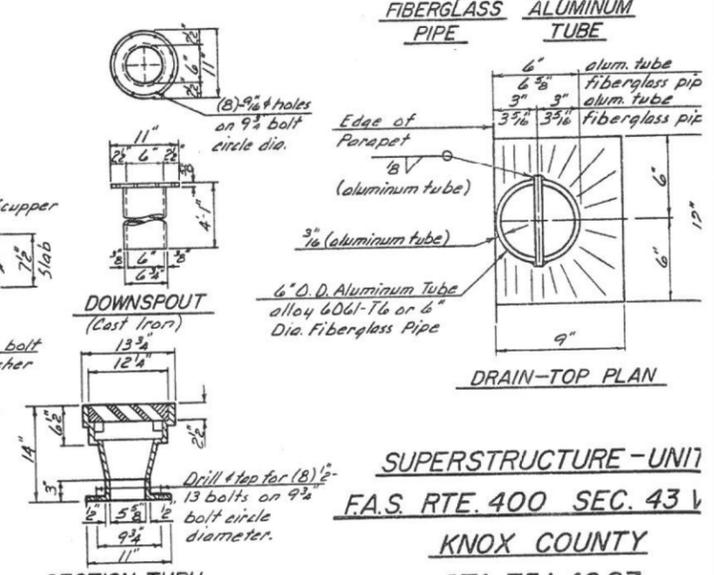
Sept. 26 1983



SECTION AT PARAPET SHOWING FLOOR DRAIN  
The surface of the Fiberglass pipe shall be free of bond inhibiting agents.



SECTION AT PARAPET SHOWING SCUPPER



SECTION THRU DRAINAGE SCUPPER (Cast Iron)

**SUPERSTRUCTURE - UNIT**  
F.A.S. RTE. 400 SEC. 43 I  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

**EXISTING PLANS  
FOR INFORMATION ONLY**

DESIGNED: 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MM 01/24/2022

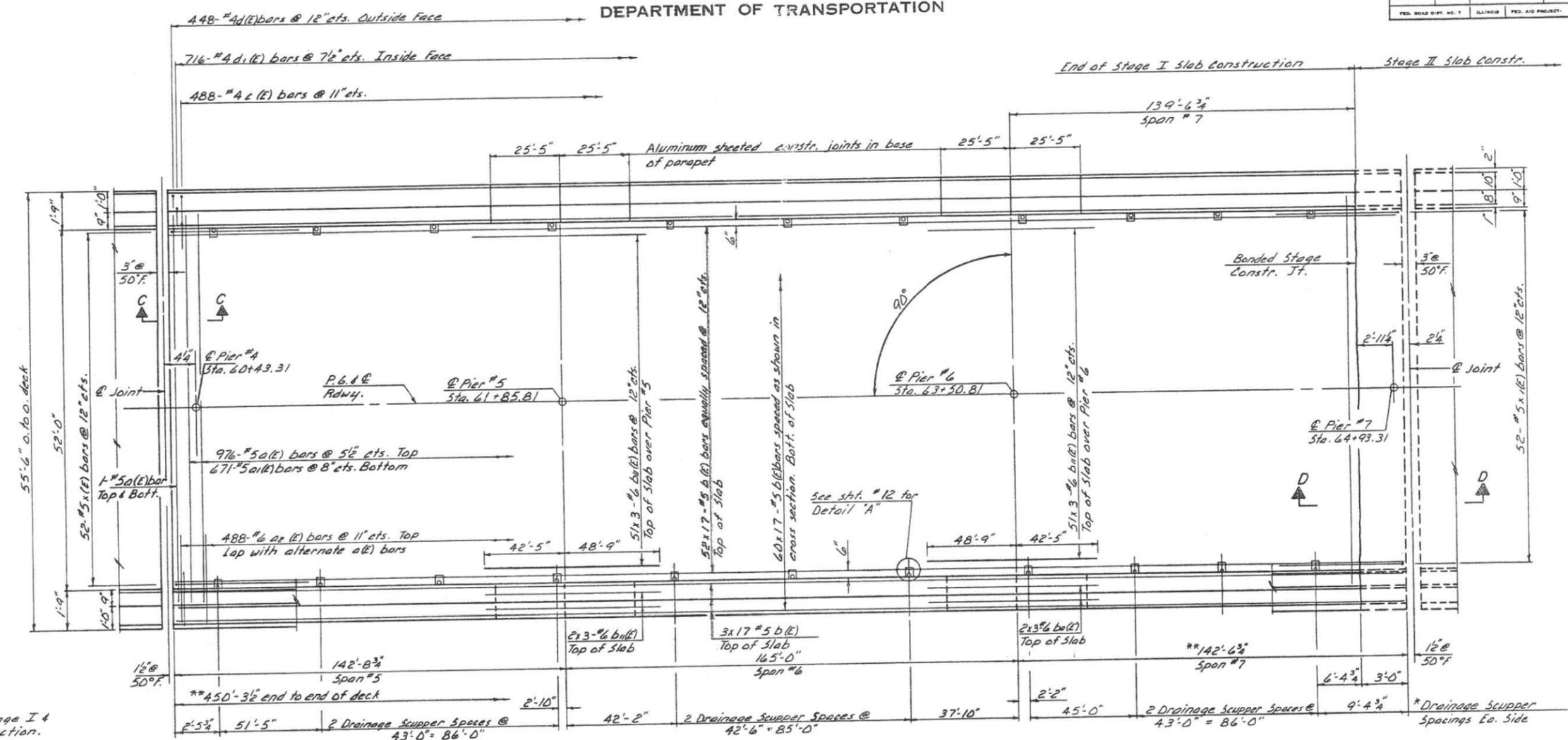
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PLOT DATE	= 2/3/2022	DRAWN	- RSJ	REVISED	-
		CHECKED	- 01/24/2022	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

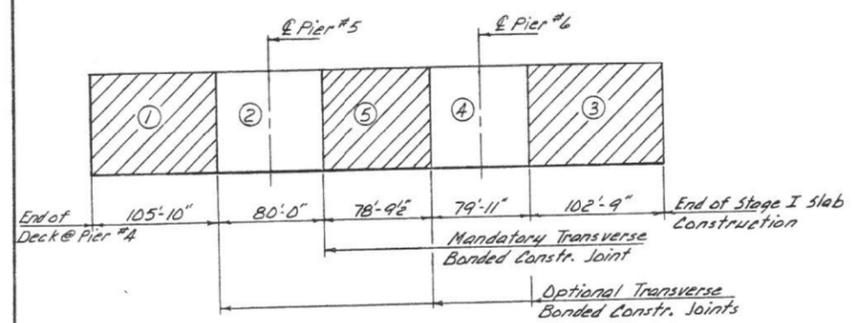
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	47
			CONTRACT NO.	89819



\*\* Dimension includes Stage I & Stage II Slab Construction.

PLAN-UNIT #3  
(Spans #5 thru #7)

MIN. BAR LAPS  
#5 bars - 1'-9"  
#6 bars - 2'-6"



**DECK SLAB POURING SEQUENCE**  
The concrete deck slab segments shall be poured in the numerical order shown above.

Notes:  
See sht. #14 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated.  
See Special Provisions.  
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See sht. #11 for cross section.

\* See sht. #16 for the Closed Drainage System Details.

EXISTING PLANS  
FOR INFORMATION ONLY

SUPERSTRUCTURE-UNIT #,  
F.A.S. RTE. 400 SEC. 43 VE  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

DESIGNED David Burdick	EXAMINED James J. Raymond
CHECKED Thomas Damogaleki	PASSED [Signature]
DRAWN R. Sommer	APPROVED [Signature]
CHECKED D.B. TJD	DIRECTOR OF HIGHWAYS

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	01/24/2022

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	CHECKED - 01/24/2022	REVISED -

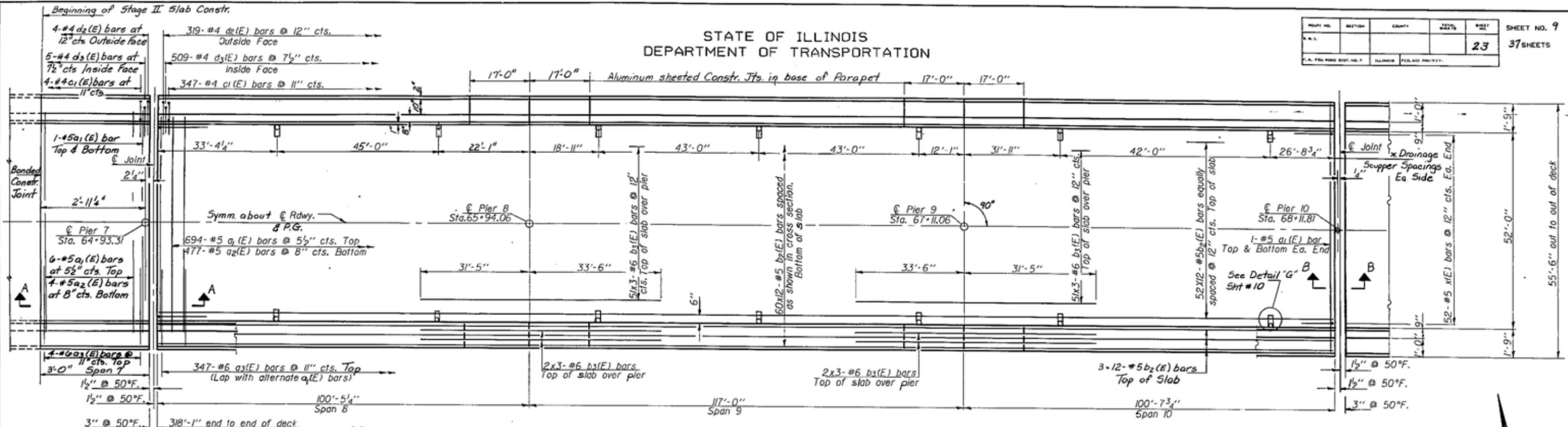
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 32 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	48
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

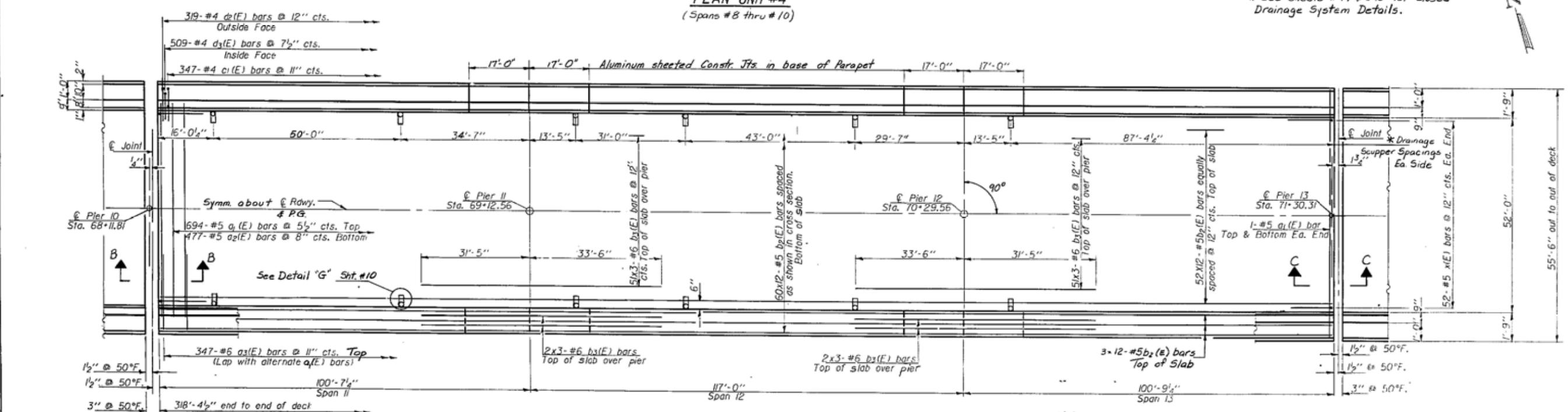
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 9
			23	37 SHEETS



PLAN UNIT #4  
(Spans #8 thru #10)

\* See sheets # 14 & # 15 for Closed Drainage System Details.



PLAN UNIT #5  
(Spans #11 thru #13)

Notes:  
See sheet #10 for cross section.  
See sheets #12 & #13 for superstructure details and Bill of Material.  
Bars indicated thus 20x3-#5...etc. indicates 20 lines of bars with 3 lengths per line.  
Reinforcement bars designated (E) shall be epoxy coated.  
See sheet #11 for Section Thru Parapet.

MIN. BAR LAPS  
#5 bars - 1'-9"  
#6 bars - 2'-6"

EXISTING PLANS  
FOR INFORMATION ONLY

SUPERSTRUCTURE UNITS #4 & #5  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED <i>Thom D'Amico</i>	EXAMINED <i>James J. Harrison</i>
CHECKED <i>Gholam R. Abouk</i>	PASSED
DRAWN <i>R. Sommer</i>	APPROVED
CHECKED <i>TJD</i>	GRA

DESIGNED 1/12/21  
DRAWN 05/06/21  
REVIEWED 01/24/2022

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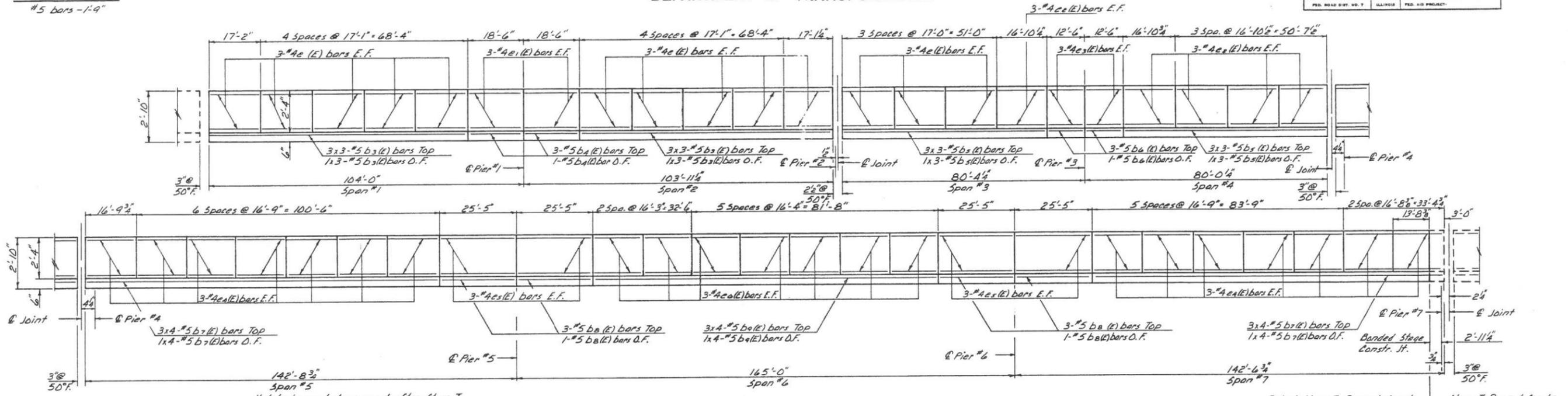
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PLOT SCALE = 0.2:0000 1" = 10'	DRAWN - RSJ	REVISED -			SHEET NO. 33 OF 61 SHEETS	CONTRACT NO. 89819			
PLOT DATE = 2/3/2022	CHECKED - 01/24/2022	REVISED -			ILLINOIS FED. AID PROJECT 4				
DESIGNED MNM 1/12/21	CHECKED - MNM	REVISED -							







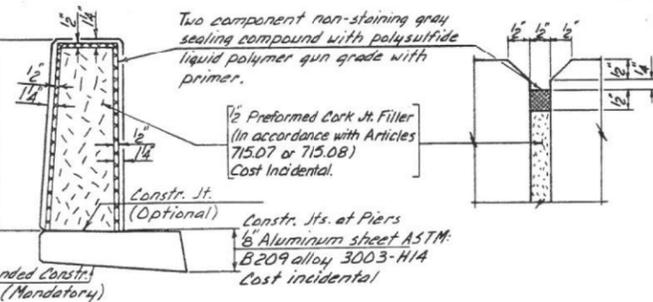
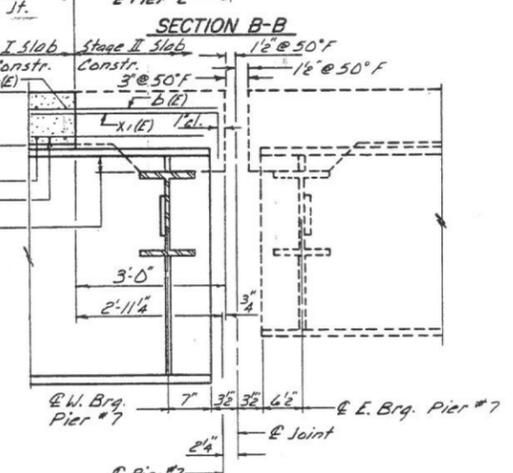
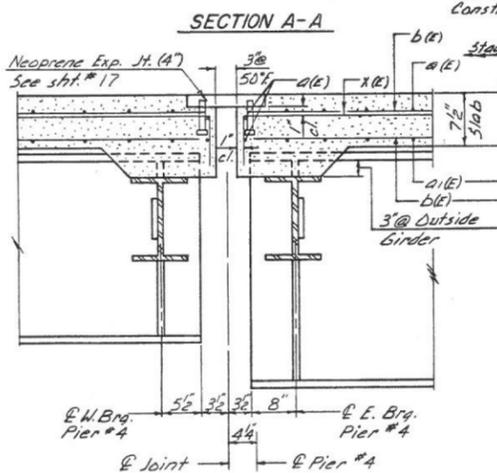
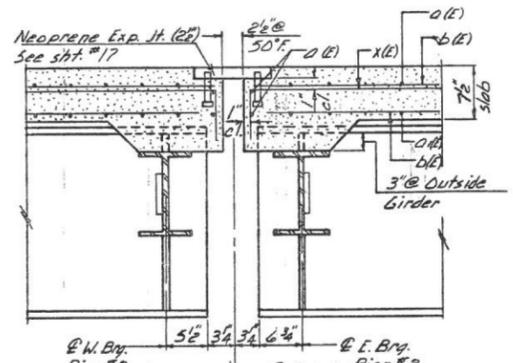
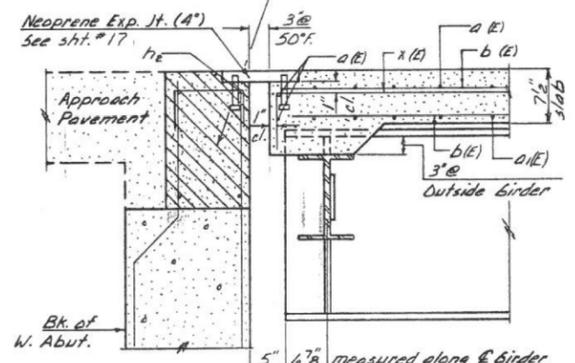
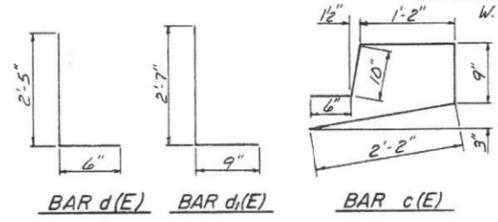
MIN. BAR LAP  
#5 bars - 1'-9"



INSIDE ELEVATION OF PARAPET  
(Looking North)

SUPERSTRUCTURE BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	1740	#5	53'-6"	
a1(E)	1224	#5	53'-10"	
a2(E)	1780	#6	4'-6"	
b1(E)	3658	#5	28'-2"	
b1a(E)	165	#6	23'-11"	
b2(E)	272	#5	2'-0"	
b3(E)	48	#5	29'-7"	
b4(E)	76	#5	18'-3"	
b5(E)	48	#5	23'-4"	
b6(E)	76	#5	12'-3"	
b7(E)	64	#5	30'-7"	
b8(E)	32	#5	25'-2"	
b9(E)	32	#5	29'-10"	
b10(E)	165	#6	18'-2"	
b11(E)	330	#6	32'-1"	
c(E)	1780	#4	5'-5"	
d(E)	1634	#4	2'-11"	
d1(E)	2612	#4	3'-4"	
Class X Concrete			Cu. Yds.	1282.1
Reinf. Bars (Epoxy Coated)			Lbs.	345,360



PARAPET JOINT DETAILS

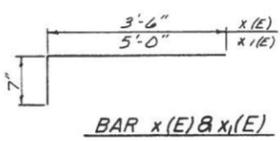
DESIGNED David Burdick  
CHECKED [Signature]  
DRAWN R. Sommer  
CHECKED D.B. TJD

EXAMINED [Signature]  
PASSED [Signature]  
APPROVED [Signature]

Sept 26 2023  
ADP3  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES  
DIRECTOR OF HIGHWAYS

**EXISTING PLANS  
FOR INFORMATION ONLY**

**SUPERSTRUCTURE DETAILS**  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE I



DESIGNED: MMN 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MMN 01/24/2022

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	CHECKED - 01/24/2022	REVISED -

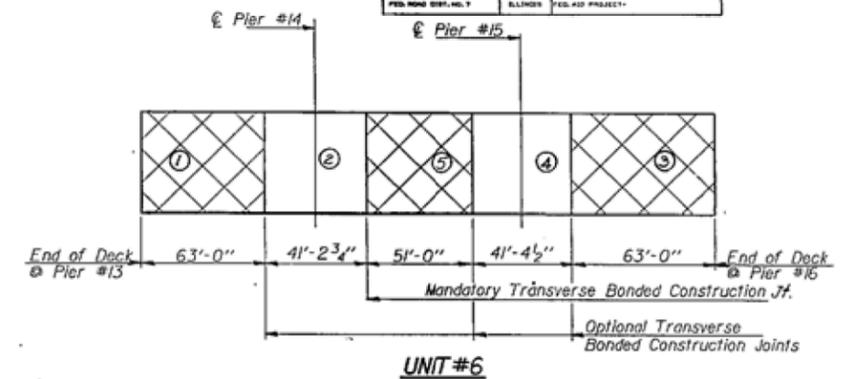
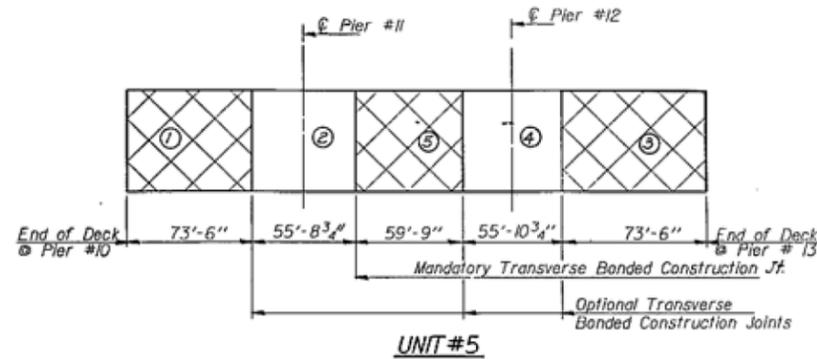
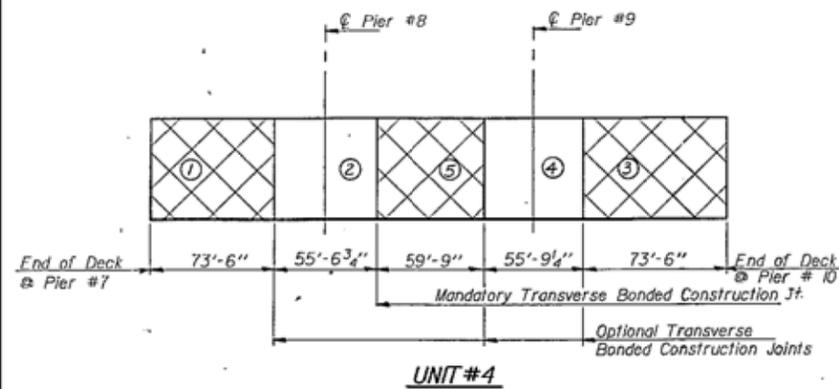
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 36 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	52
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

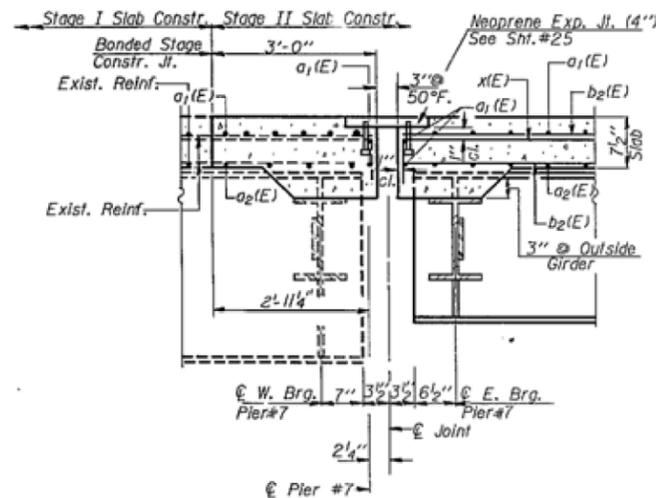
ROUTE NO.	SECTION	COUNTY	DATE	SHEET NO.
26				12
37 SHEETS				



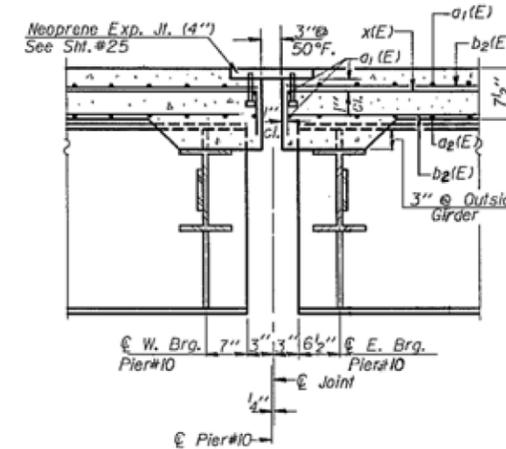
DECK SLAB POURING SEQUENCE

The concrete deck slab segments shall be poured in the numerical order shown above. No pouring sequence required for Unit #7.

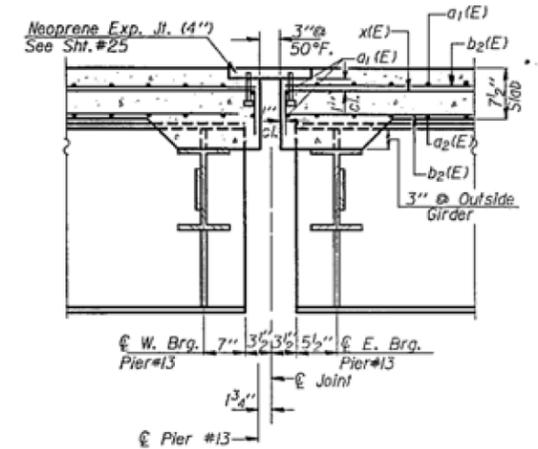
EXISTING PLANS  
FOR INFORMATION ONLY



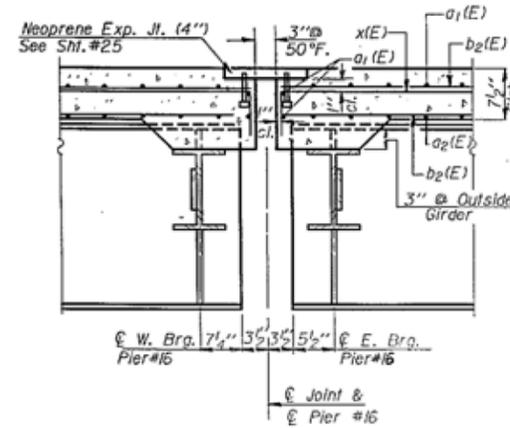
SECTION A-A



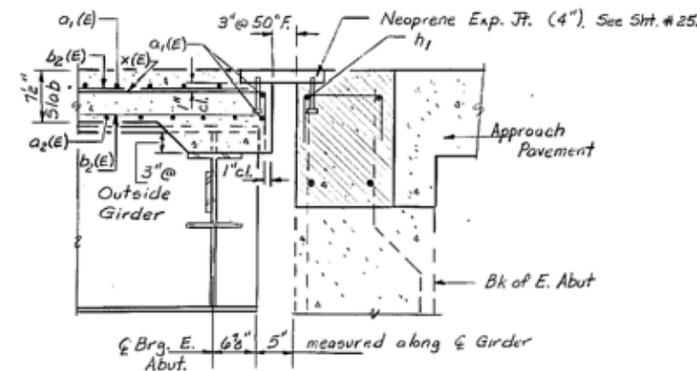
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

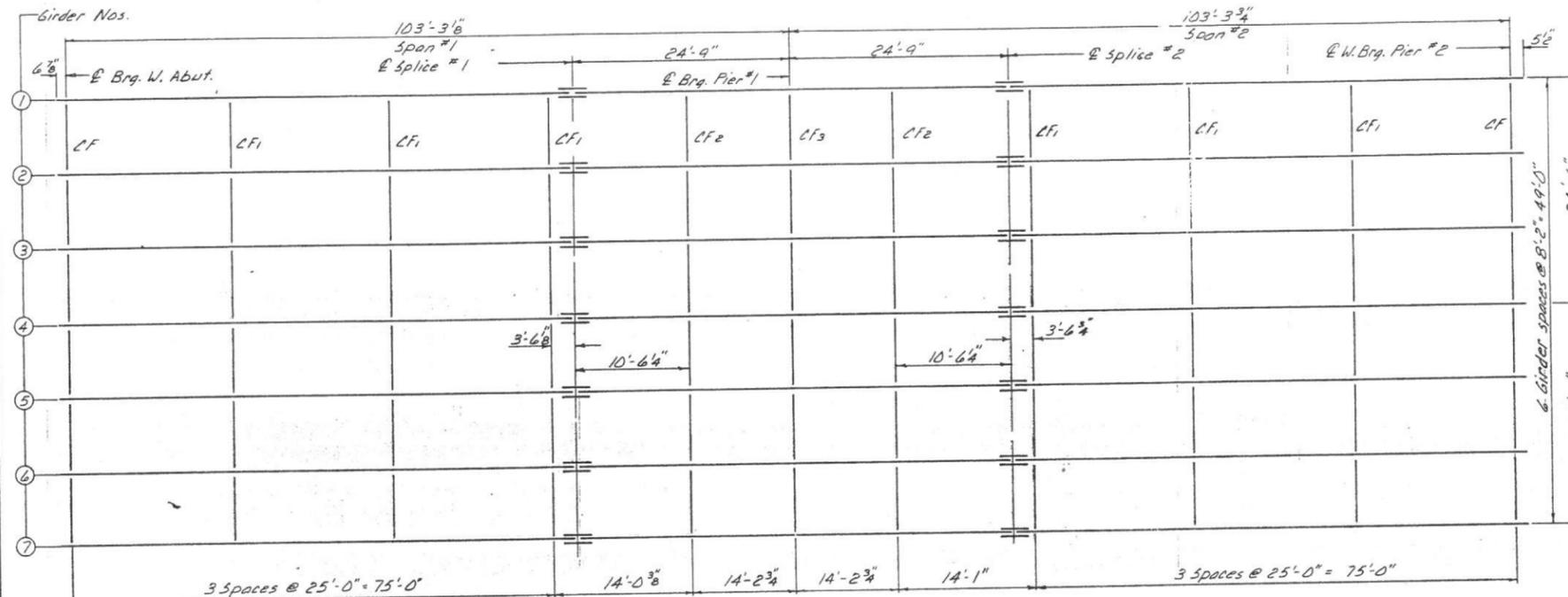
Notes:  
Hatched area to be poured after superstructure forms have been removed. Quantity of Class X Concrete included with superstructure on sheet #13.  
The anchor bolts for the neoprene expansion joints shall be tied to the a<sub>1</sub>(E) and h<sub>1</sub> bars.

SUPERSTRUCTURE DETAILS  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED	Thomas Donagaleki	EXAMINED	July 25, 1984 James J. Harkins
CHECKED	Gholam R. Abankhi	PASSED	[Signature]
DRAWN	R. Sommer	APPROVED	[Signature]
CHECKED	TJD		

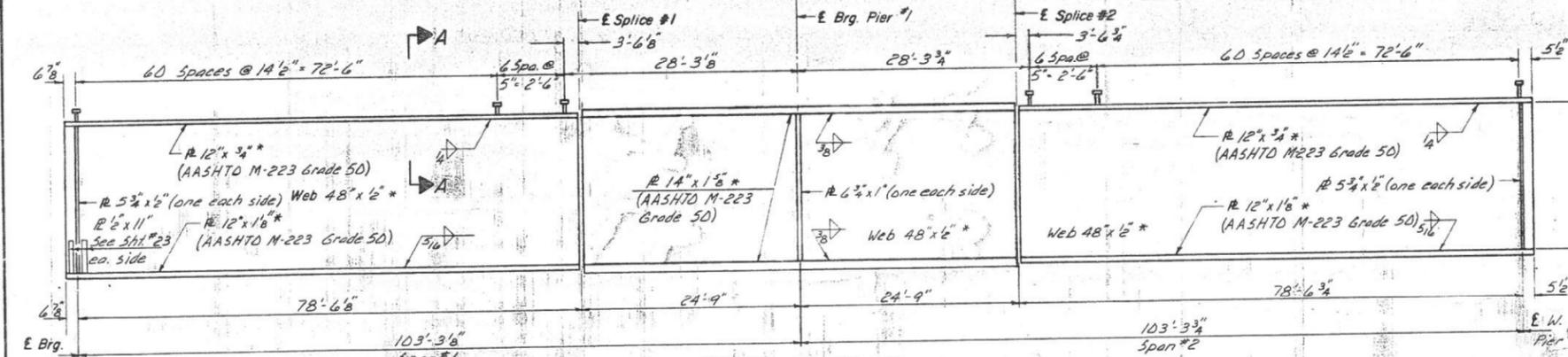
DESIGNED: MNM 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MNM 01/24/2022

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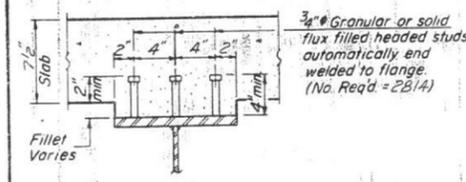
FRAMING PLAN  
Unit #1 - Spans #1 & #2

Notes: All structural steel shall be A.A.S.H.T.O. M-183 except as noted. See Sht. # 21 for structural steel details.



GIRDER ELEVATION  
(Spans #1 & #2)

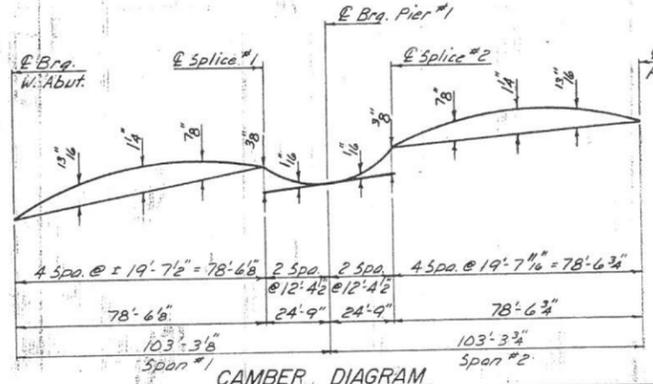
\* Notch Toughness Requirements are required for these plates.



SECTION A-A

DESIGNED	David Burdick
CHECKED	Thomas J. Dowling
DRAWN	R. Sommer
CHECKED	D.B. TSD

Sept 26 1983  
James J. Korburn  
ENGINEER IN CHARGE OF BRIDGE DESIGN  
APPROVED  
DIRECTOR OF HIGHWAYS

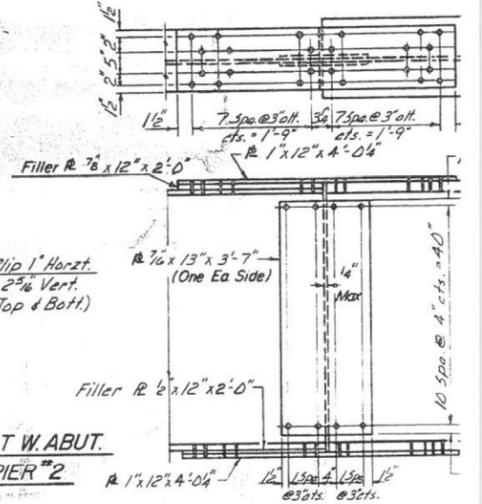


CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE

	Span #1	Span #2
$I_s$ (in <sup>4</sup> )	17,831.1	32,630.
$I_c$ (in <sup>4</sup> )	46,550.0	
$S_s$ (in <sup>3</sup> )	785.2	1273.4
$S_c$ (in <sup>3</sup> )	1104.5	
$M$ (K)	0.985	0.985
$M @$ (K)	635.5	1561.6
$M_s$ (K)	263.3	396.6
$M @$ (K)	974.9	804.9
Mimp (K)	213.5	177.4
$M_o$ (K)	1980.7	1645.5
$M_o$ (K)	3743.3	4685.
$f_s$ (non-comp.) (K.s.i.)	9.71	14.72
$f_s$ (comp.) (K.s.i.)	2.86	3.74
$f_s$ (E+I) (K.s.i.)	21.52	15.51
$f_s$ (Overload) (K.s.i.)	34.09	33.97
$f_s$ (Total) (K.s.i.)	44.32	44.16
VR (K)	63.6	

$I_s$  and  $S_s$  are the moment of inertia and section modulus of steel section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total & Overload).  
VR is the maximum  $f_s$  + impact shear range in span.  
 $M_o$  (Applied Moment) = 1.3 [ $M @$  +  $M_s @$  +  $S_s (M @ + I)$ ]  
 $f_s$  (Overload) is the sum of the stresses due to  $M @$  +  $M_s @$  +  $S_s (f_s$  (Total) is the sum of the stresses due to 1.3 [ $M @$  +  $M_s @$  +  $S_s (M @$  +  $I)$ ]  
\* Values given in tables are for service loads.



SECTION AT PIER #1

SECTION AT W. BRG. PIER #2

SPlice #1 & #2 DETAILS

All splice plate material shall be A.A.S.H.T.O. M-223 Grade 50. Notch Toughness Requirements are required on all splice plates except filler plates. Filler plates shall be placed on west side of splice #1 and on east side of splice #2 & H.S. Bolts with 1/4" holes for splices.

\*\*\*TOP OF WEB ELEVATIONS

	Girders #1 & #7	Girders #2 & #6	Girders #3 & #5	Girder #4
Brig. W. Abut.	811.94	812.07	812.19	812.32
Splice #1	812.74	812.87	812.99	813.12
Pier #1	813.02	813.15	813.27	813.40
Splice #2	813.31	813.43	813.56	813.69
W. Brig. Pier #2	814.26	814.39	814.51	814.64

\*\*\*For fabrication only

\*\*INTERIOR GIRDER REACTION TABLE

	W. Abut. & W. Brig. Pier #2	Pier #1
R @ (K)	48.9	173.2
R @ (K)	47.6	79.4
Imp (K)	10.4	17.4
R Total (K)	106.9	270.5

STRUCTURAL STEEL - UNIT #1  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MAM 01/24/2022

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DESIGNED - MNM  
CHECKED - MNM  
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DRAWN - RSJ  
PLOT DATE = 2/3/2022  
CHECKED - 01/24/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSJ  
CHECKED - 01/24/2022

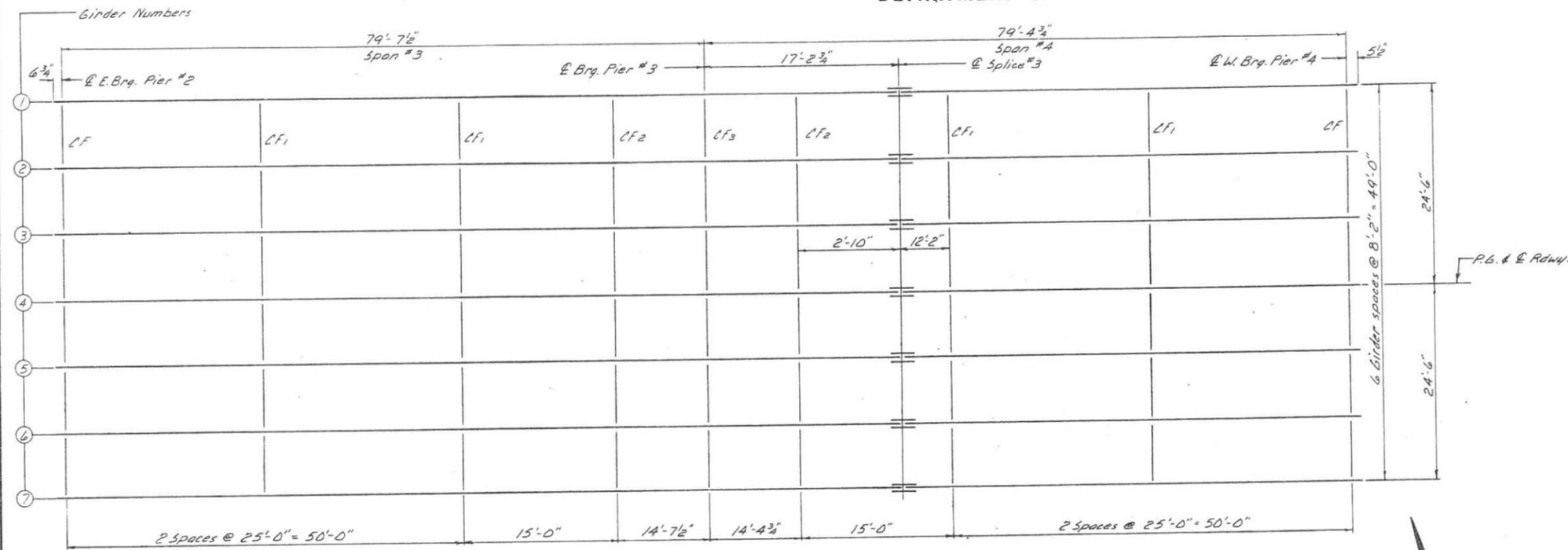
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REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 38 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	54
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

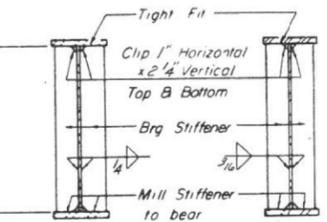
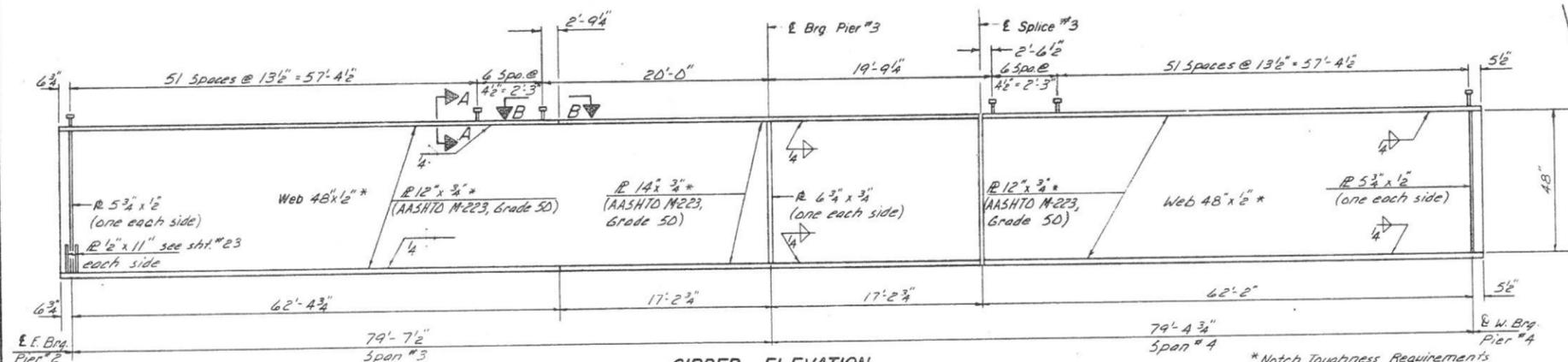
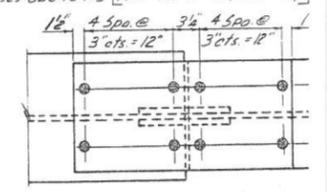


Notes:  
All structural steel shall be A.A.S.H.T.O. M-183  
except as noted.  
See sht. #21 for structural steel details.

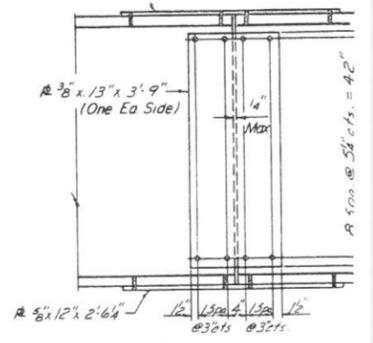
**INTERIOR GIRDER MOMENT TAB**

	0.4 Span #3	0.6 Span #4	Pier
$I_s$ (in. 4)	15,303.4	17,085	
$I_c$ (in. 4)	38,324.5		
$S_s$ (in. 3)	618.3	690.	
$S_c$ (in. 3)	887.5		
$\bar{Q}$ (K/I)	0.947	0.94	
$M \bar{Q}$ (K)	411.3	778.	
$s \bar{Q}$ (K/I)	0.33	0.3	
$M_s \bar{Q}$ (K)	170.4	203	
$M \bar{Q}$ (K)	731.7	448.	
Mimp (K)	178.5	109.	
$s_3(M \bar{Q} + I)$ (K)	1517.0	930	
$M \bar{Q}$ (K)	2728.3	248.	
$f_s$ @ non-comp. (K/s.i.)	7.98	13.5	
$f_s$ @ comp. (K/s.i.)	2.31	3.5	
$f_s s_3$ (K/s.i.)	20.60	16.1	
$f_s$ (Overload) (K/s.i.)	30.89	33.0	
$f_s$ (Total) (K/s.i.)	40.16	43.0	
$VR$ (K)	62.1		

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total & Overload).  
 $VR$  is the maximum  $\bar{Q}$  + impact shear range in span.  
 $M \bar{Q}$  (Applied Moment) =  $1.3 [M \bar{Q} + M_s \bar{Q} + s_3 (M \bar{Q} + I)]$ .  
 $f_s$  (Overload) is the sum of the stresses due to  $M \bar{Q}$  +  $M_s \bar{Q}$  +  $s_3 (M \bar{Q} + I)$ .  
 $f_s$  (Total) is the sum of the stresses due to  $1.3 [M \bar{Q} + M_s \bar{Q} + s_3 (M \bar{Q} + I)]$ .



**SECTION AT PIER #3**  
**SECTION AT E. BRG. PIER #2 & W. BRG. PIER #4**



**SPLICE #3 DETAIL**  
All splice plate material shall be A.A.S.H.T.O. 1 Grade 50. Notch Toughness Requirements are for all splice plates. Use 3/8" H.S. Bolts with 1 1/2" for splices.

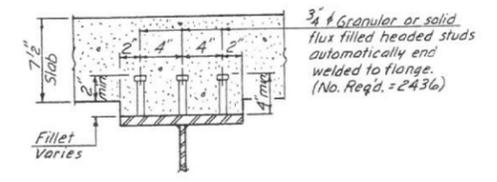
**\*\* INTERIOR GIRDER REACTION TABLE**

	E. Brg. Pier #2	W. Brg. Pier #4	Pier #3
$R \bar{Q}$ (K)	38.6	126.5	
$R \bar{E}$ (K)	46.1	64.5	
Imp (K)	11.2	15.7	
$R$ Total (K)	95.9	206.7	

**\*\*\* TOP OF WEB ELEVATIONS**

	Girders #1 & #7	Girders #21 & #6	Girders #3 & #5	Girder #4
E. Brg. Pier #2	814.29	814.41	814.54	814.66
Pier #3	814.91	815.03	815.16	815.28
Splice #3	815.04	815.16	815.29	815.41
W. Brg. Pier #4	815.52	815.65	815.77	815.90

\*\*\* For Fabrication Only

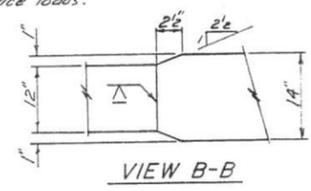


**SECTION A-A**

DESIGNED David Burdick  
CHECKED Thomas Donagale  
DRAWN A. Sommer  
CHECKED D.B. TJD

EXAMINED [Signature]  
PASSED [Signature]  
APPROVED [Signature]

Sept 26 1983



**VIEW B-B**

**STRUCTURAL STEEL - UNIT #**  
**F.A.S. RTE. 400 SEC. 43 VB**  
**KNOX COUNTY**  
**STA. 75+40.97**  
**STAGE I**

**EXISTING PLANS**  
**FOR INFORMATION ONLY**

DESIGNED MNM 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MNM 01/24/2022

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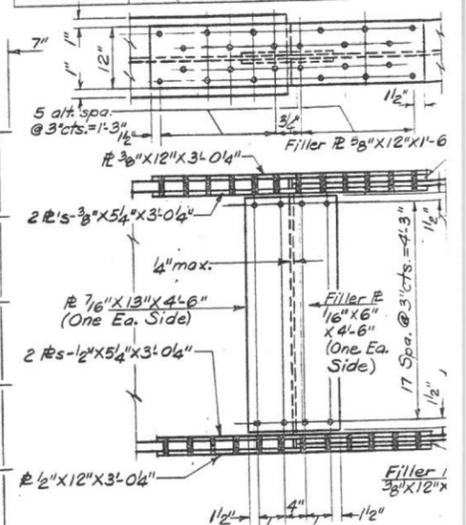
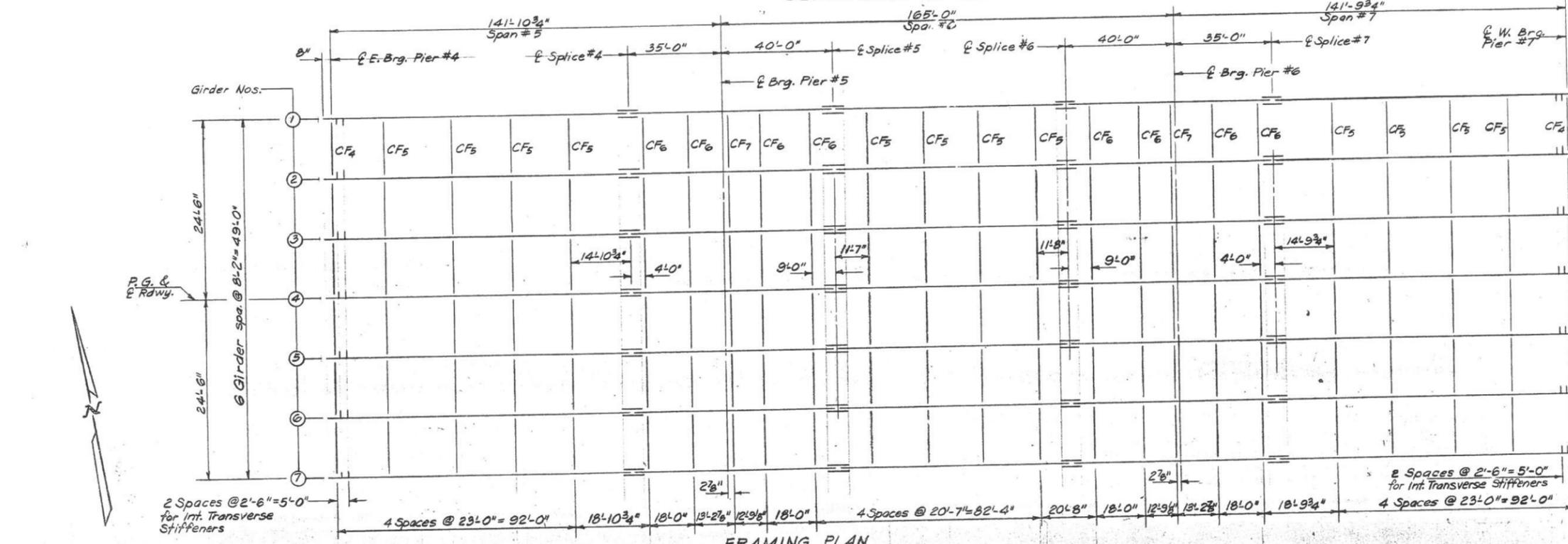
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PLOT DATE = 2/3/2022	DRAWN - RSJ	REVISED -
	CHECKED - 01/24/2022	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

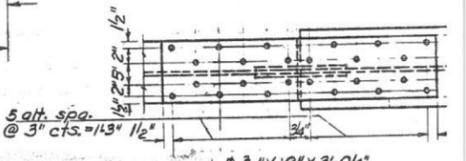
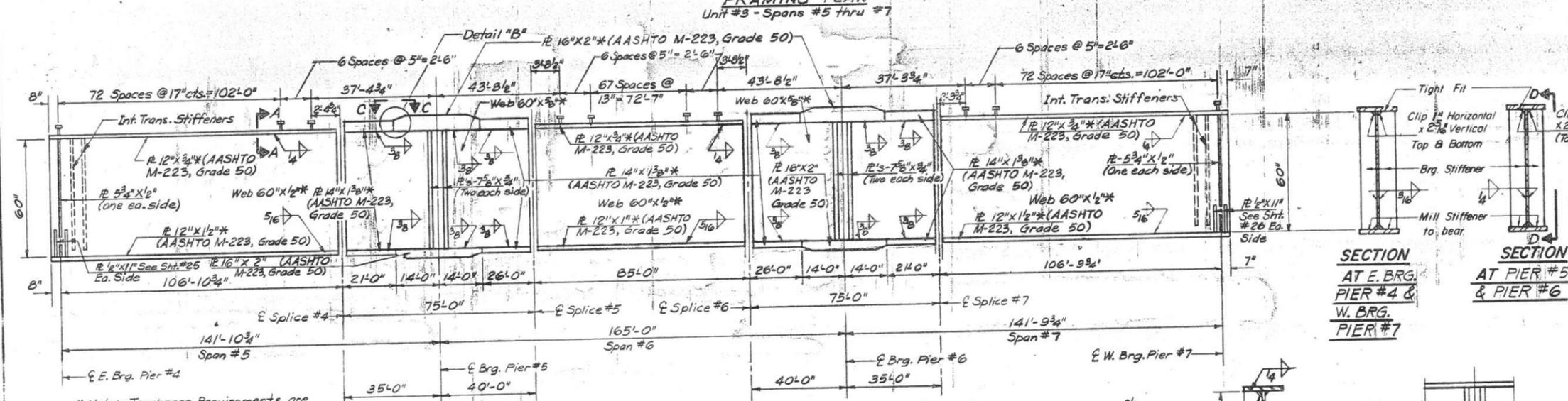
EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 39 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	55
ILLINOIS FED. AID PROJECT 4			CONTRACT NO. 89819	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



1 spa. @ 3" cts.  
**\*\*SPLICE #5 & #6 DETAILS**  
Splice #5 is shown above. Rotate 180° for Splice #6.



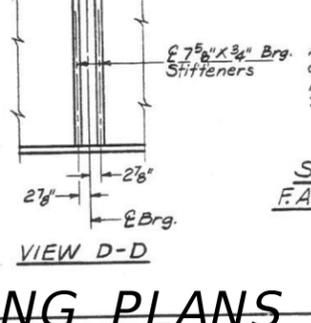
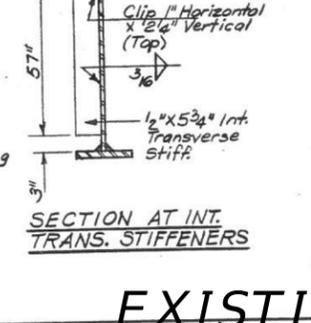
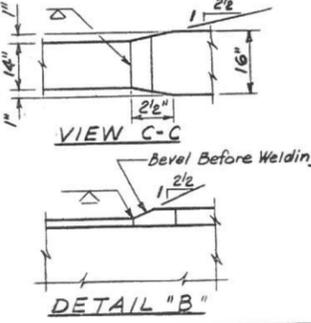
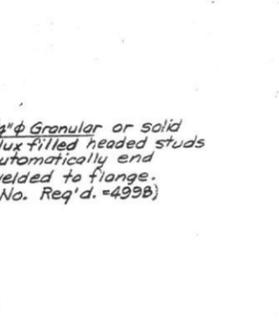
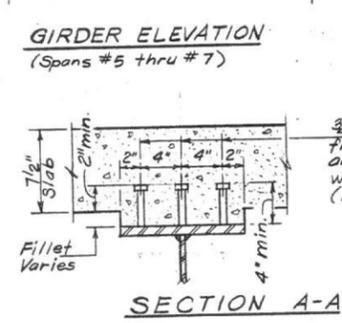
1 spa. @ 3" cts.  
**\*\*SPLICE #4 & #7 DETAILS**  
Splice #4 is shown above. Rotate 180° for Splice #7.

**NOTES:** All structural steel shall be AASHTO M-183 except as noted. See Sht. #22 for camber diagram & structural steel details.

\*Notch Toughness Requirements are required for these plates.

DESIGNED David Burdick  
CHECKED Thomas Domingalbe  
DRAWN E.V. Taylor  
CHECKED D.B. TSD

SEPT 26 2023  
EXAMINED [Signature]  
PASSED [Signature]  
APPROVED [Signature]



**\*\*SPLICE #4 & #7 DETAILS**  
Splice #4 is shown above. Rotate 180° for Splice #7.

\*All splice & material shall be AASHTO M-223 Grade 50. Notch Toughness Req. are required for all splice plates except: #5's. Use 5/8" φ H.S. Bolts with 1 1/2" φ for splices.

STRUCTURAL STEEL UNIT #3  
F.A.S. RTE. 400 SECTION 43V  
KNOX COUNTY  
STA. 75 + 40.97  
STAGE I

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	01/24/2022

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USER NAME	= Johns00944
DESIGNED	- MNM
CHECKED	- MNM
PLOT SCALE	= 0.2:0000 '1' = 1"
DRAWN	- RSJ
REVIEWED	-
PLOT DATE	= 2/3/2022
CHECKED	- 01/24/2022
REVISION	-

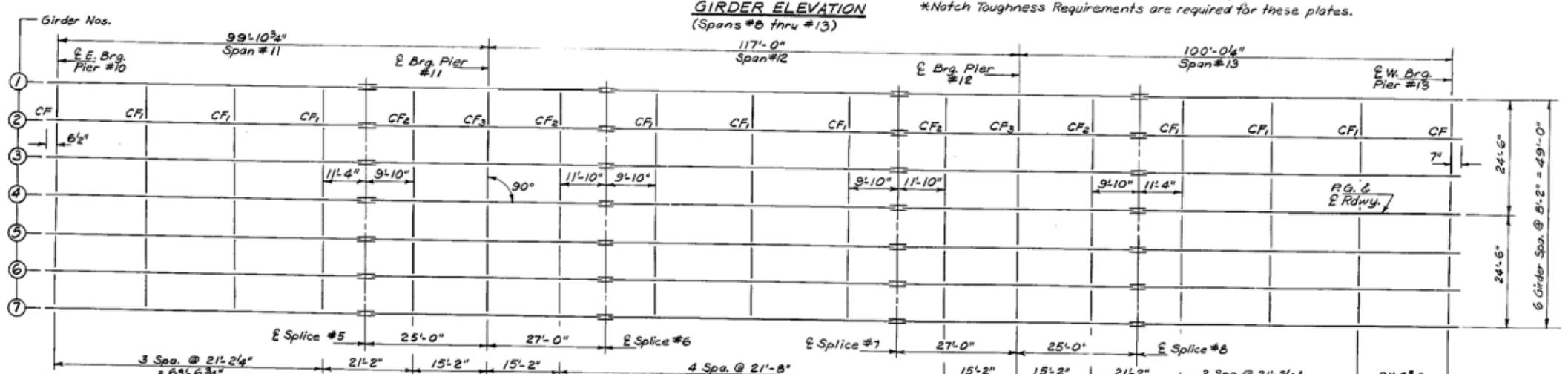
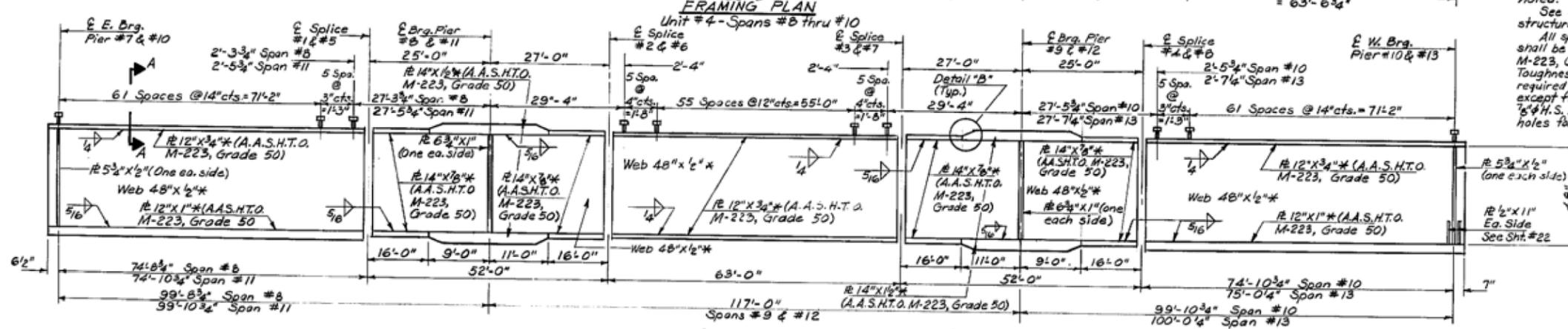
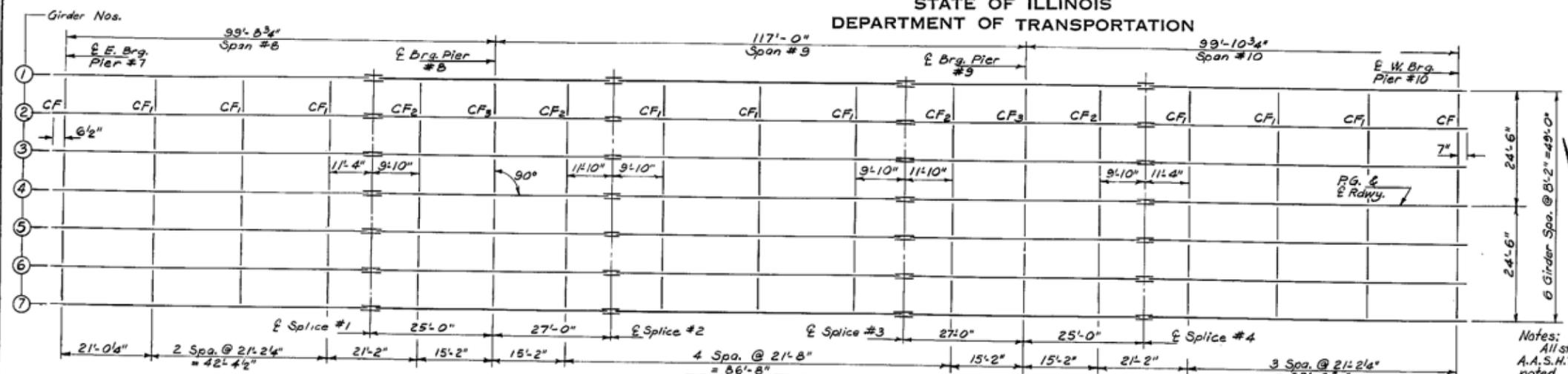
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 40 OF 61 SHEETS

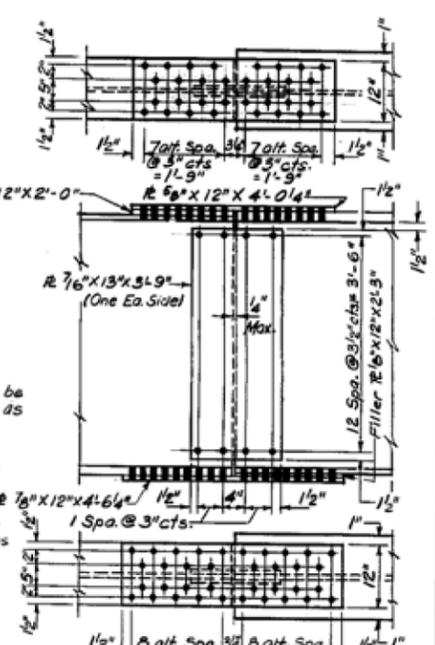
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	56
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

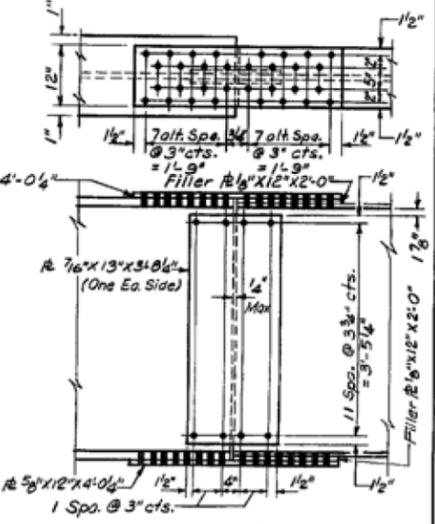
ROUTE NO.	SECTION	SHEET NO.	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	30	37	16



Notes:  
All structural steel shall be A.A.S.H.T.O. M-183 except as noted.  
See shts. #17 & #20 for structural steel details.  
All splice plate material shall be A.A.S.H.T.O. M-223, Grade 50. Notch Toughness Requirements are required for all splice plates except filler plates. Use 1/2" H.S. Bolts with 1/4" holes for splices.



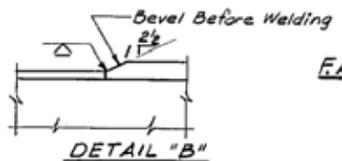
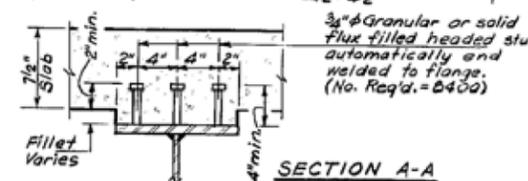
SPlice #1, #4, #5 & #8  
DETAILS  
Splices #1 & #5 are shown above. Rotate 180° for Splices #4 & #8.



SPlice #2, #3, #6 & #7  
DETAILS  
Splices #2 & #6 are shown above. Rotate 180° for Splices #3 & #7.

DESIGNED: Thomas J. DeWitt  
CHECKED: Shelan R. Abanishi  
DRAWN: E.V. Taylor  
CHECKED: TJD  
EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]

EXISTING PLANS  
FOR INFORMATION ONLY



STRUCTURAL STEEL  
UNITS #4 & #5  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED: 1/12/21  
DRAWN: 05/06/21  
REVIEWED: 01/24/2022

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2/3/2022	DRAWN	3
	RSJ	3
	CHECKED	4
	01/24/2022	4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 41 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	57
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

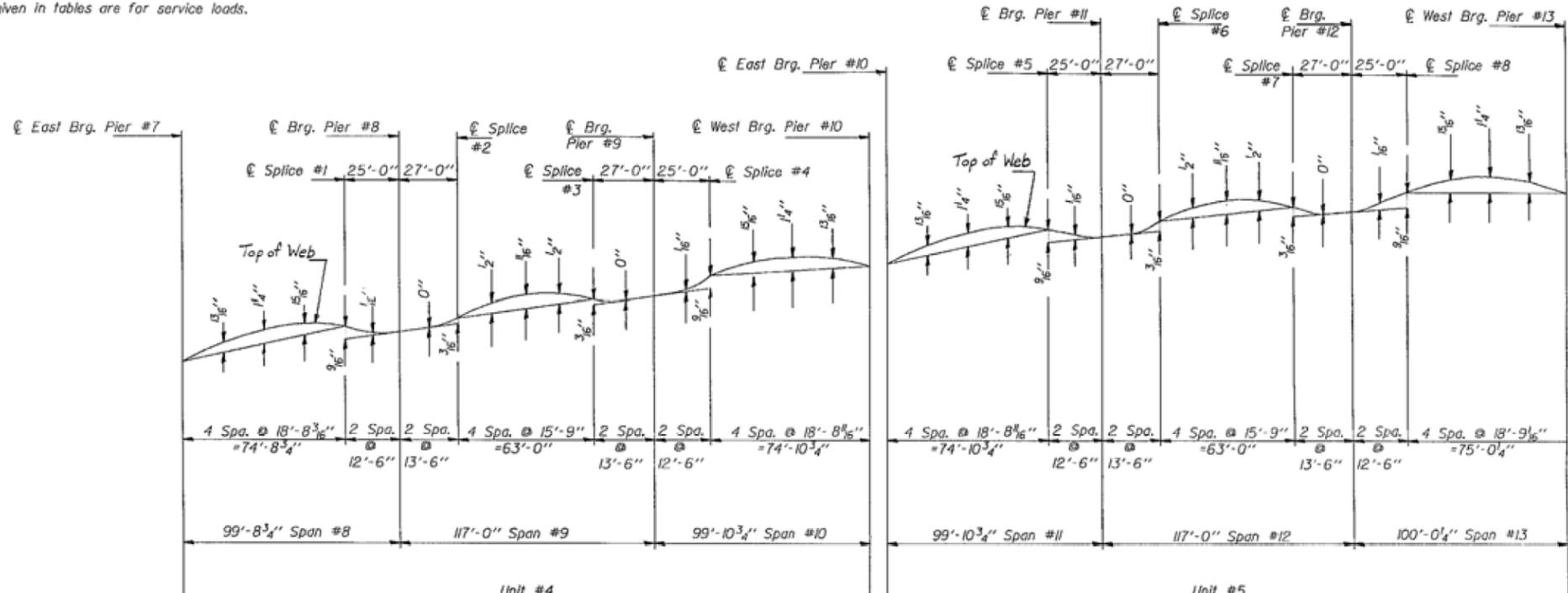
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
			31	37 SHEETS
FED. ROAD DIST. NO. 1				
ILLINOIS FED. AID PROJECT				

	0.4 Sp.#8, 0.6 Sp.#10, 0.4 Sp.#11 & 0.6 Sp.#13	Piers #8, #9 #11 & #12	0.5 Sp.#9 & 0.5 Sp.#12
$I_s$ (in <sup>4</sup> )	17036	30343	15303
$I_c$ (in <sup>4</sup> )	43860		38324
$S_s$ (in <sup>3</sup> )	729.9	1189.9	618.3
$S_c$ (in <sup>3</sup> )	1030.9		883.5
$Q$ (K/ft.)	0.967	0.969	0.971
$M \ell$ (K)	654.0	1256.1	404.6
$s \ell$ (K/ft.)	0.331	0.331	0.331
$Ms \ell$ (K)	254.2	354.1	212.3
$M \ell$ (K)	954.4	797.3	912.8
$M$ (Imp) (K)	212.2	171.0	188.6
$S_3$ (M $\ell$ +I) (K)	1944.3	1613.8	1835.7
$Ma$ (K)	3708.3	4191.2	3188.3
$f_s \ell$ non-comp (k.s.i.)	10.75	16.24	7.85
$f_s \ell$ (comp) (k.s.i.)	2.96		2.88
$f_s \ell$ (k+I) (k.s.i.)	22.63	16.27	24.93
$f_s$ (Overload) (k.s.i.)	36.34	32.51	35.66
$f_s$ (Total) (k.s.i.)	47.24	42.26	46.36
VR (K)	64.3		55.4

	E. Brg. Pier #7, W. Brg. Pier #10, E. Brg. Pier #10 & W. Brg. Pier #13	Piers #8, #9, #11 & #12
RR (K)	48.7	157.1
R $\ell$ (K)	38.9	65.1
Imp. (K)	8.6	14.0
R (Total) (K)	96.2	236.2

\*\* Values given in tables are for service loads.

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total & Overload).  
 VR is the maximum Live Load + Impact shear range in span.  
 $Ma$  (Applied Moment) =  $1.3(M \ell + Ms \ell + S_3(M \ell + I))$ .  
 $f_s$  (Overload) is the sum of the stresses due to  $M \ell + Ms \ell + S_3(M \ell + I)$ .  
 $f_s$  (Total) is the sum of the stresses due to  $1.3(M \ell + Ms \ell + S_3(M \ell + I))$ .



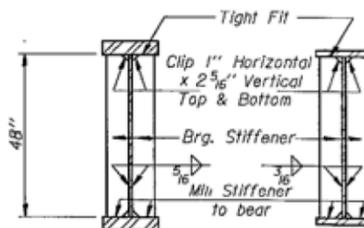
CAMBER DIAGRAM

	Grds. #18 & #7	Grds. #2 & #6	Grds. #3 & #5	Grd. #4
East Brg. Pier #7	817.73	817.86	817.99	818.12
Splice #1	818.16	818.29	818.41	818.54
Brg. Pier #8	818.23	818.36	818.49	818.62
Splice #2	818.39	818.52	818.64	818.77
Splice #3	818.70	818.83	818.96	819.09
Brg. Pier #9	818.82	818.95	819.07	819.20
Splice #4	818.99	819.12	819.25	819.38
West Brg. Pier #10	819.32	819.45	819.57	819.70
East Brg. Pier #10	819.36	819.49	819.61	819.74
Splice #5	819.75	819.88	820.01	820.13
Brg. Pier #11	819.81	819.94	820.07	820.20
Splice #6	819.96	820.09	820.22	820.34
Splice #7	820.16	820.29	820.42	820.55
Brg. Pier #12	820.19	820.32	820.45	820.57
Splice #8	820.29	820.41	820.54	820.67
West Brg. Pier #13	820.34	820.46	820.59	820.72

\* For Fabrication Only

Top of web elevations at splices have been adjusted for camber.

DESIGNED <i>Thomas J. Davagalek</i>	EXAMINED <i>James J. Robinson</i>
CHECKED <i>Shelton R. Ahnishi</i>	PASSED <i>[Signature]</i>
DRAWN <i>E.V. Taylor</i>	APPROVED <i>[Signature]</i>
CHECKED <i>TJD</i>	



SECTION AT  
PIERS #8, #9,  
#11 & #12

SECTION AT  
E. BRG.-PIER #7,  
W. BRG.-PIER #10,  
E. BRG.-PIER #10 &  
W. BRG.-PIER #13

EXISTING PLANS  
FOR INFORMATION ONLY

STRUCTURAL STEEL DETAILS  
UNITS #4 & #5  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED: MM 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MM 01/24/2022

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PLOT SCALE = 0.2:0000 '1' = 1"  
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DESIGNED - MM  
CHECKED - MM  
DRAWN - RSJ  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 42 OF 61 SHEETS

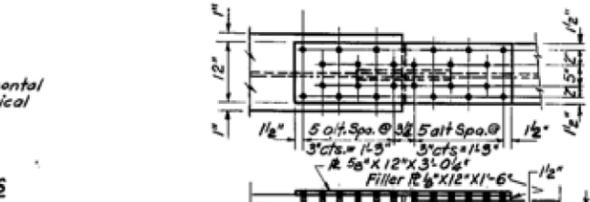
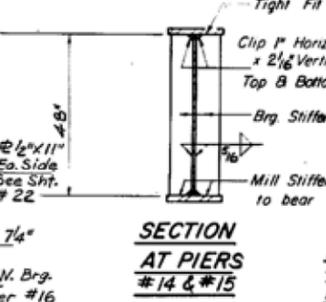
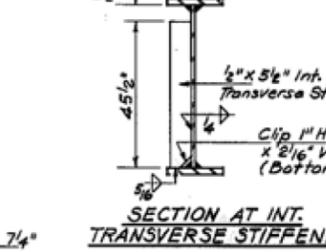
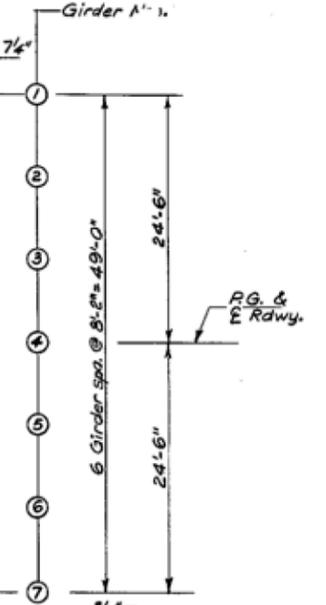
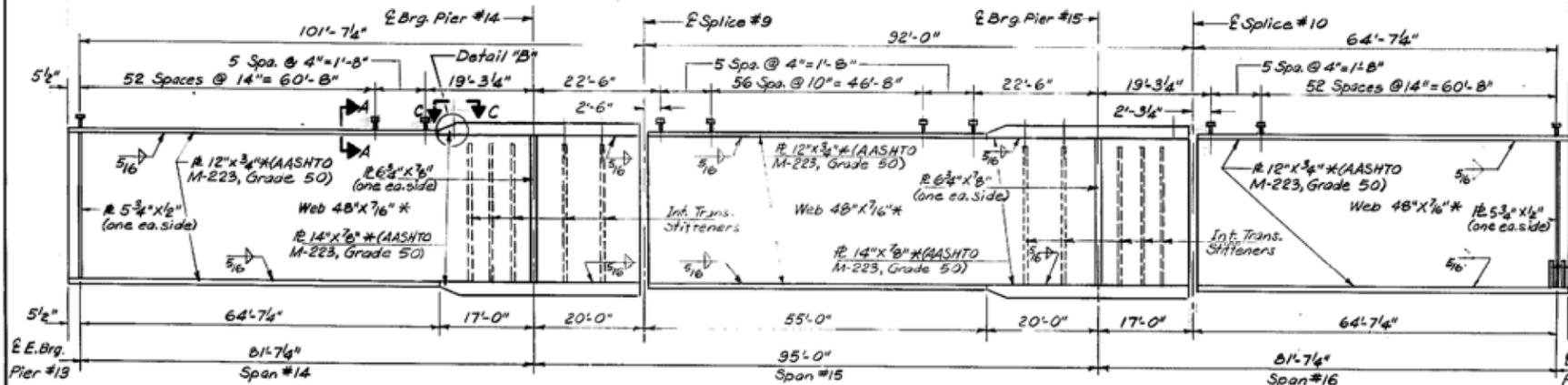
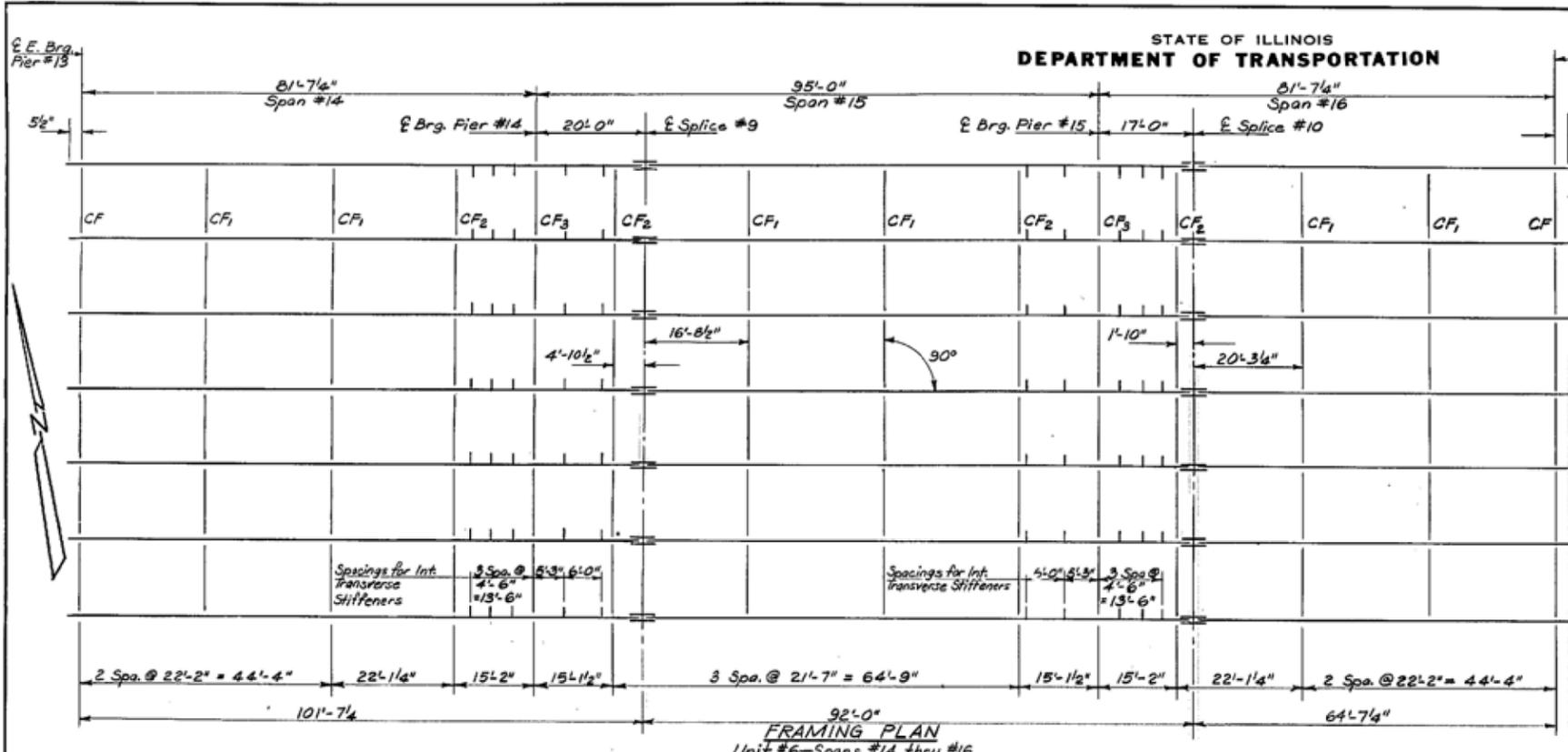
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400	18-00043-01-BR	KNOX	81	58
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
...	...	...	32	37 SHEETS
PER ROAD DIST NO. 1		ILLINOIS	PER JOB PROJECT	

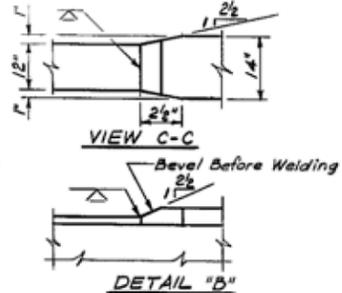
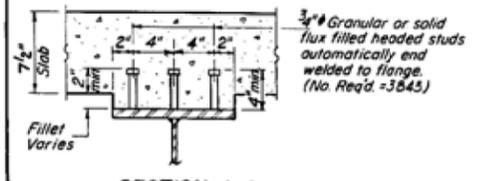
	0.4 Span #14 & 0.6 Span #16	Pier #14 & Pier #15	0.5 Span #15
$I_s$ (in <sup>4</sup> )	14722.8	18660.1	14722.8
$I_c$ (in <sup>4</sup> )	36667.1	—	36667.1
$S_s$ (in <sup>3</sup> )	594.9	750.2	594.9
$S_c$ (in <sup>3</sup> )	835.9	—	835.9
$Q$ (k/ft)	0.938	0.941	0.944
$M_R$ (K)	444.0	777.9	286.6
$S_R$ (K/ft)	0.331	0.331	0.331
$M_s R$ (K)	177.7	220.1	152.2
$M_L$ (K)	754.0	523.2	744.1
$M_{Imp}$ (K)	182.5	123.0	168.9
$S_s(M_4+I)$ (K)	1560.8	1077.0	1521.7
$M_a$ (K)	2637.3	2697.5	2548.6
$f_s R$ non-comp (k.s.i.)	8.96	15.96	5.78
$f_s R$ (comp) (k.s.i.)	2.55	—	2.18
$f_s R_5$ (E+I) (k.s.i.)	22.41	17.25	21.85
$f_s$ (Overload) (k.s.i.)	33.92	33.19	29.81
$f_s$ (Total) (k.s.i.)	44.10	43.15	36.75
VR (K)	62.7	—	54.2

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total & Overload).  
VR is the maximum  $\pm$  Impact shear range in span.  
 $M_a$  (Applied Moment) =  $1.3(M_R + M_s R + S_s(M_L + I))$ .  
 $f_s$  (Overload) is the sum of the stresses due to  $M_R$ ,  $M_s R$ ,  $S_s(M_L + I)$ .  
 $f_s$  (Total) is the sum of the stresses due to  $1.3(M_R + M_s R + S_s(M_L + I))$ .  
\*\*Values given in tables are for service loads.



	Girders #14 & #7	Girders #2 & #6	Girders #3 & #5	Girder #4
E. Brg. Pier #13	820.34	820.46	820.59	820.72
E. Brg. Pier #14	820.10	820.23	820.35	820.48
E. Splice #9	820.05	820.17	820.30	820.43
E. Brg. Pier #15	819.70	819.83	819.96	820.09
E. Splice #10	819.63	819.76	819.88	820.01
E. W. Brg. Pier #16	819.30	819.43	819.55	819.68

	E. Brg. Pier #13 & W. Brg. Pier #16	Pier #14 & Pier #15
$R_R$ (K)	39.7	124.6
$R_L$ (K)	46.3	67.6
IMP (K)	11.2	15.9
$R_{TOTAL}$ (K)	97.2	208.1



DESIGNED: *Thomas J. Johnson*  
 CHECKED: *Graham R. Alvarado*  
 DRAWN: E. V. Taylor  
 CHECKED: TJD  
 G-1 4-1-79

Notes:  
 All structural steel shall be A.A.S.H.T.O M-103 except as noted.  
 See Sheet #20 for structural steel details.  
 The girders for Unit #6 shall not be cambered.

STRUCTURAL STEEL - UNIT #6  
 F.A.S.R.T.E. 400 SECTION 43VB  
 KNOX COUNTY  
 STA. 75+40.97  
 STAGE II

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED: 1/12/21  
 DRAWN: RSJ 05/06/21  
 REVIEWED: MVM 01/24/2022

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USER NAME	Johns00944	DESIGNED	MNM	REVISED	-
CHECKED	MNM	CHECKED	MNM	REVISED	-
PLOT SCALE	0.2:0000 1" = 1'	DRAWN	RSJ	REVISED	-
PLOT DATE	2/3/2022	CHECKED	01/24/2022	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

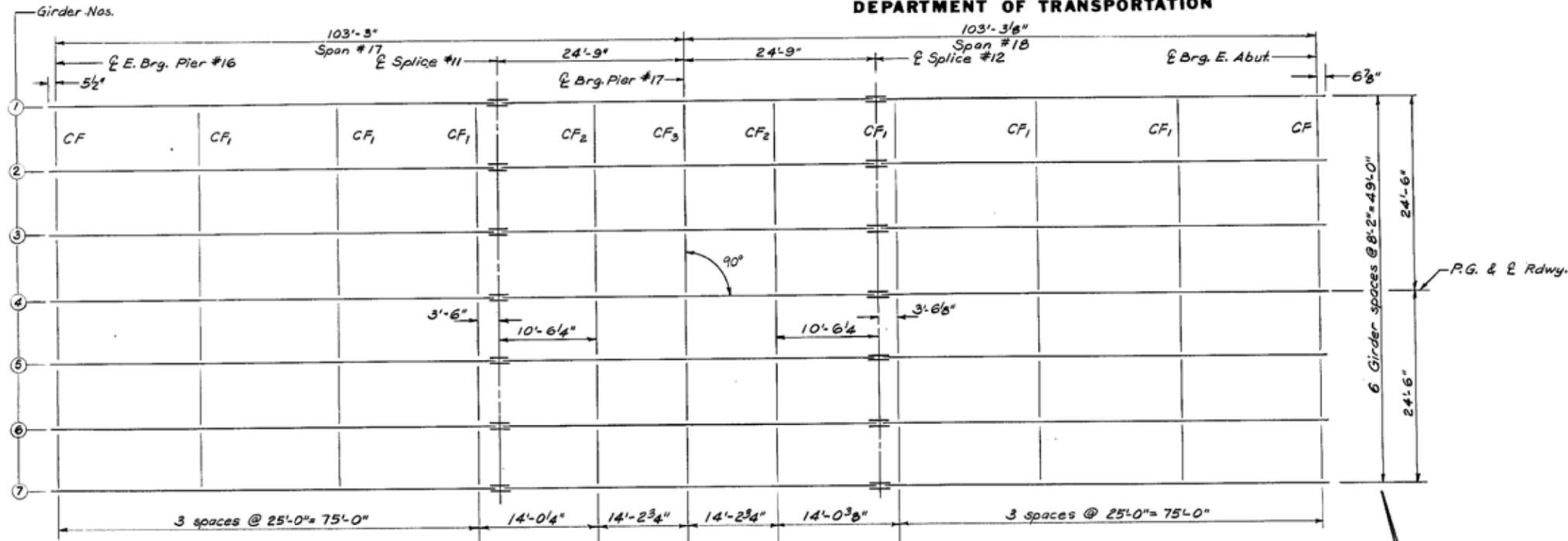
EXISTING STRUCTURE PLANS  
 SN 048-3286  
 SHEET NO. 43 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	59
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		33	37

SHEET NO. 19  
37 SHEETS



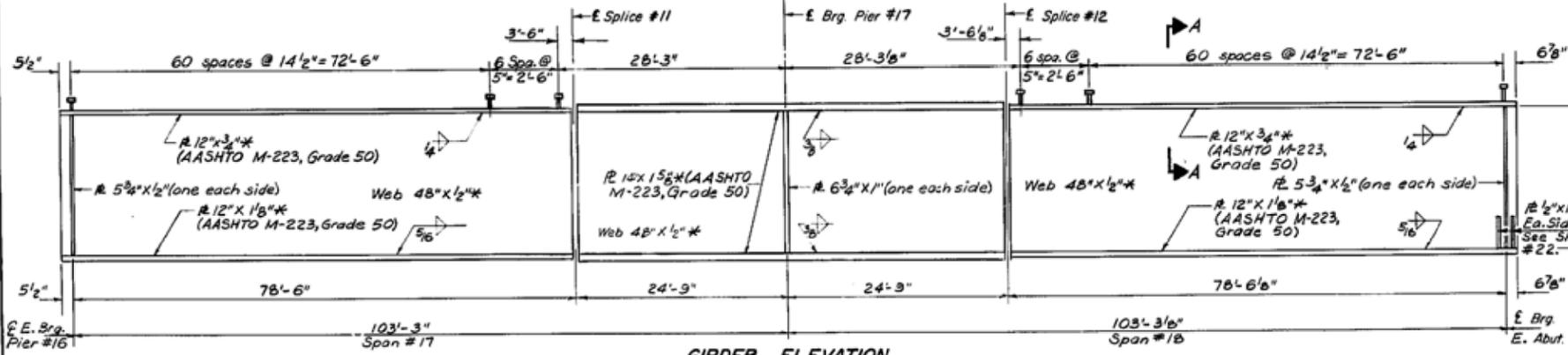
**FRAMING PLAN**  
Unit #7 - Spans #17 & #18

Notes: All structural steel shall be A.A.S.H.T.O. M-183 except as noted.  
See Sht. #20 for structural steel details.

**INTERIOR GIRDER MOMENT TABLE**

	@ 4 Span #17 & 6 Span #18	@ Pier #17
Is (in. 4)	17,831.1	32,630.6
Ic (in. 4)	46,550.0	
Ss (in. 3)	785.2	1273.4
Sc (in. 3)	1104.5	
Q (k/')	0.985	0.985
M <sub>2</sub> (k')	635.5	1561.6
s <sub>2</sub> (k/')	0.33	0.33
M <sub>3</sub> (k')	263.3	396.8
M <sub>4</sub> (k')	974.9	809.9
M <sub>imp</sub> (k')	213.5	177.4
S <sub>3</sub> (M <sub>2</sub> +I) (k)	1980.7	1645.5
M <sub>0</sub> (k')	3743.3	4685.1
f <sub>s</sub> (non-comp) (ksi)	9.71	18.46
f <sub>s</sub> (comp) (ksi)	2.86	
f <sub>s</sub> (4+I) (ksi)	21.52	15.51
f <sub>s</sub> (Overload) (ksi)	34.09	33.97
f <sub>s</sub> (Total) (ksi)	44.32	44.16
VR (k)	63.6	

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> (Total & Overload).  
VR is the maximum 4+ impact shear range in span.  
M<sub>0</sub> (Applied Moment) = 1.3 [M<sub>2</sub> + M<sub>3</sub> + S<sub>3</sub>(M<sub>2</sub> + I)]  
f<sub>s</sub> (Overload) is the sum of the stresses due to M<sub>2</sub> + M<sub>3</sub> + S<sub>3</sub>(M<sub>2</sub> + I).  
f<sub>s</sub> (Total) is the sum of the stresses due to 1.3 [M<sub>2</sub> + M<sub>3</sub> + S<sub>3</sub>(M<sub>2</sub> + I)].  
\*\* Values given in tables are for service loads.

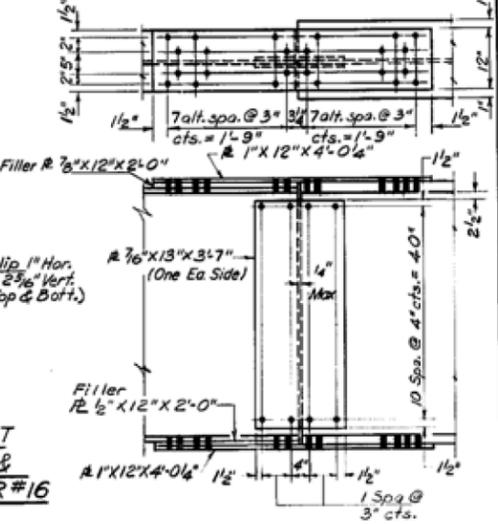


**GIRDER ELEVATION**  
(Spans #17 & #18)

\* Notch Toughness Requirements are required for these plates.

**SECTION AT PIER #17**

**SECTION AT E. ABUT. & E. BRG. PIER #16**



**SPlice #11 & #12 DETAILS**

All splice plate material shall be A.A.S.H.T.O. M-223 Grade 50. Notch Toughness Requirements are required for all splice plates except filler plates. Filler plates shall be placed on west side of splice #11 and on east side of splice #12. Use 7/8" H.S. Bolts with 1 1/8" holes for splices.

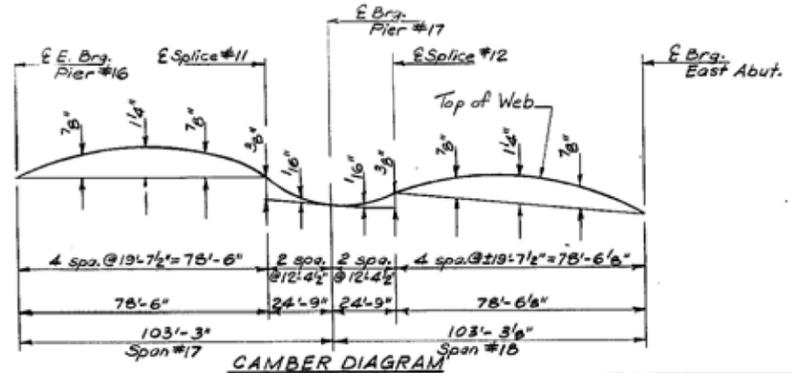
**\*\*\* TOP OF WEB ELEVATIONS**

	Girders #14 & #17	Girders #2 & #6	Girders #3 & #5	Girder #4
E. Brg. Pier #16	819.23	819.36	819.48	819.61
E. Splice #11	818.49	818.62	818.75	818.88
E. Brg. Pier #17	818.22	818.35	818.47	818.60
E. Splice #12	818.01	818.14	818.26	818.39
E. Brg. E. Abut.	817.29	817.42	817.55	817.67

\*\*\* For Fabrication Only  
Top of web elevations at splices have been adjusted for camber.

**\*\* INTERIOR GIRDER REACTION TABLE**

	E. Abut. & E. Brg. Pier #16	Pier #17
R <sub>2</sub> (k)	48.9	173.7
R <sub>4</sub> (k)	47.6	79.4
Imp (k)	10.4	17.4
R <sub>Total</sub> (k)	106.9	270.5



**CAMBER DIAGRAM**

**EXISTING PLANS FOR INFORMATION ONLY**

STRUCTURAL STEEL-UNIT #7  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MVM 07/27/2022

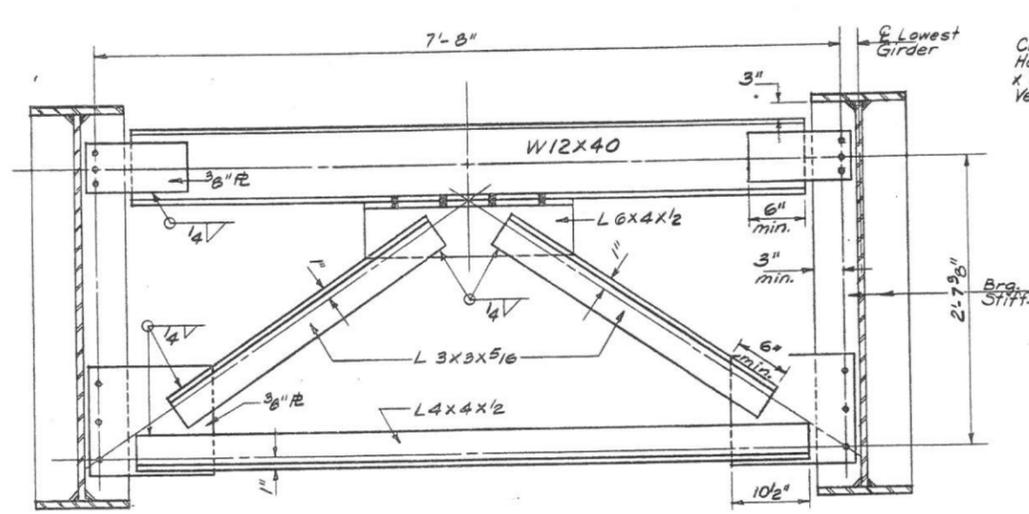


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PLOT SCALE = 0.2:0000 '1' = 1"	CHECKED - MVM	REVISED -
PLOT DATE = 2/3/2022	DRAWN - RSJ	REVISED -
	CHECKED - 01/24/2022	REVISED -

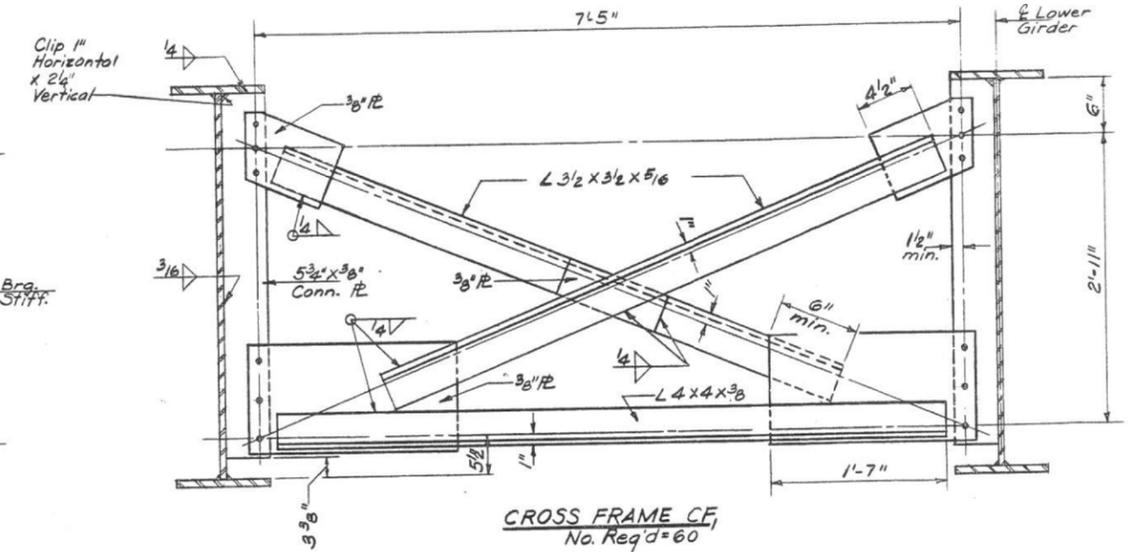
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

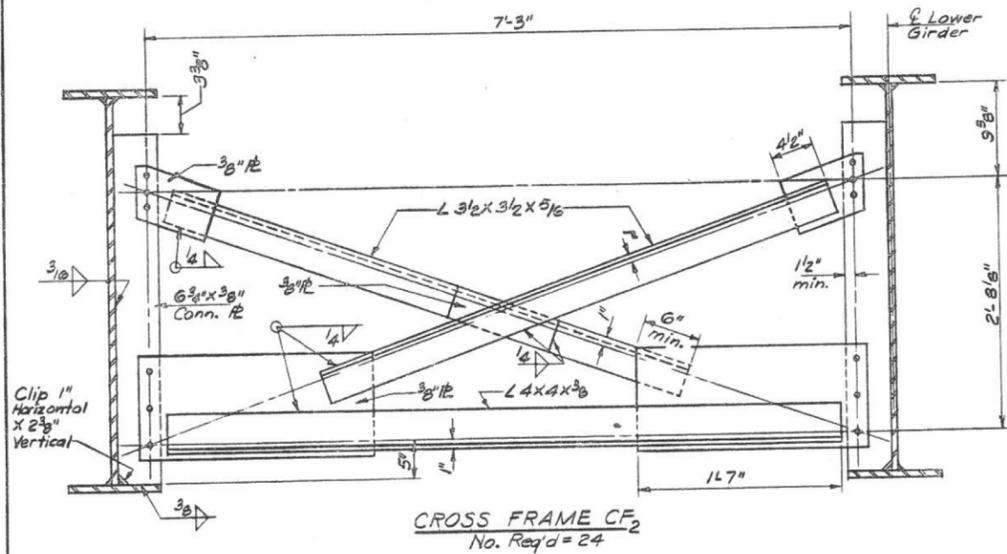
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	60
			CONTRACT NO.	89819
ILLINOIS FED. AID PROJECT 4				



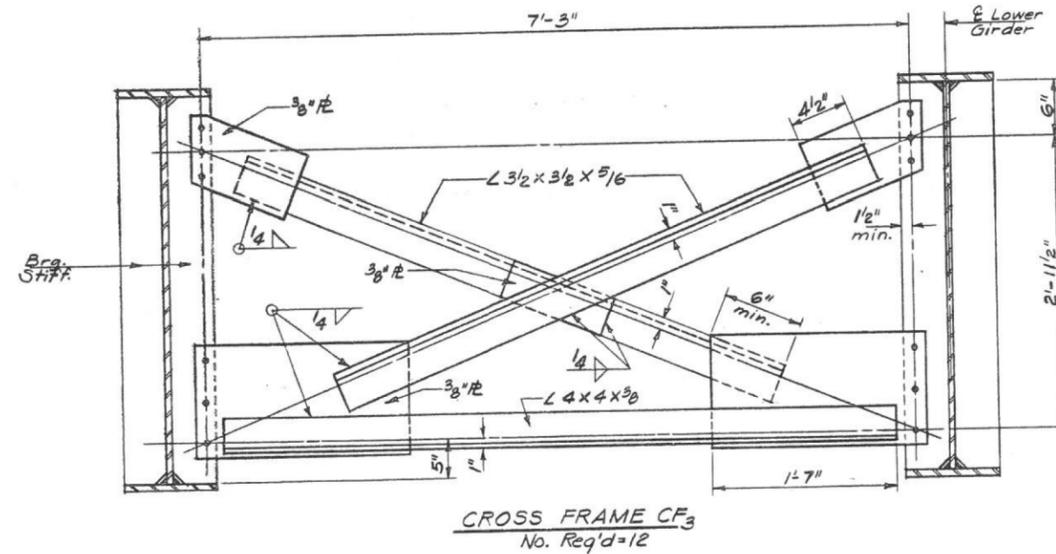
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No. Req'd = 24



CROSS FRAME CF1  
No. Req'd = 60



CROSS FRAME CF2  
No. Req'd = 24



CROSS FRAME CF3  
No. Req'd = 12

**Notes:**  
All structural steel for cross frames shall be A.A.S.H.T.O. M-183.  
All contact surfaces of joints in the crossframes shall be free of rust or lacquer.  
Use 3/4" H.S. Bolts with 15/16" holes in crossframes.  
Two hardened washers shall be required over all holes in crossframes.

**EXISTING PLANS  
FOR INFORMATION ONLY**

DESIGNED David Burdick  
CHECKED Thomas J. Taylor  
DRAWN E.V. Taylor  
CHECKED D.B. TSD

Sept 26 1983  
EXAMINED James J. Kayser  
PASSED  
APPROVED  
DIRECTOR OF HIGHWAYS

STRUCTURAL STEEL DETAILS  
UNIT #1 & UNIT #2  
F.A.S. RTE. 400 SECTION 43  
KNOX COUNTY  
STA. 75 + 40.97  
STAGE I

DESIGNED MNM 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MNM 01/24/2022

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USER NAME = Johns00944  
PLOT SCALE = 0.2:0000 '1" = 1"  
PLOT DATE = 2/3/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSJ  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 45 OF 61 SHEETS

F.A.S. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
400 18-00043-01-BR KNOX 81 61  
CONTRACT NO. 89819  
ILLINOIS FED. AID PROJECT 4

INTERIOR GIRDER MOMENT TABLE			
	0.4 Span #5 & 0.6 Span #7	Pier #5 & Pier #6	0.5 Span #6
$I_s$ (in <sup>4</sup> )	32,951.0	72,775.3	28,300.0
$I_c$ (in <sup>4</sup> )	85,015.6		69,877.2
$S_s$ (in <sup>3</sup> )	1239.4	2274.2	969.7
$S_c$ (in <sup>3</sup> )	1723.4		1366.0
$\rho$ (K/1)	1.035	1.049	1.035
$M\bar{\rho}$ (K)	1358.8	2822.7	744.9
$s\bar{\rho}$ (K/1)	0.33	0.33	0.33
$M_s\bar{\rho}$ (K)	494.3	746.5	376.0
$M\bar{\rho}$ (K)	1412.6	1565.7	1306.5
$M_{imp}$ (K)	265.6	281.8	224.7
$S_3(M\bar{\rho}+I)$ (K)	2797.0	3079.2	2552.0
$M_a$ (K)	6045.1	8642.9	4774.8
$f_s \bar{\rho}$ non-comp (ksi)	13.16	14.89	9.22
$f_s \bar{\rho}$ comp (ksi)	3.44	3.94	3.30
$f_s \bar{\rho}_3(t+I)$ (ksi)	19.48	16.25	22.42
$f_s$ (Overload) (k.s.i.)	36.08	35.08	34.94
$f_s$ (Total) (k.s.i.)	46.90	45.60	45.42
$VR$ (K)	64.8		57.4

$I_s$  and  $S_s$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total & Overload).

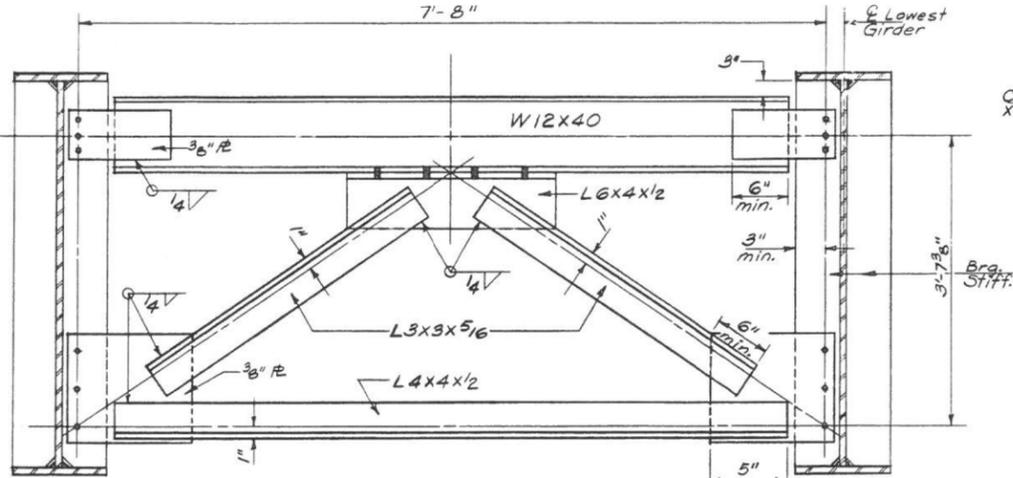
$I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total & Overload).

$VR$  is the maximum  $t$  + Impact shear range in span.

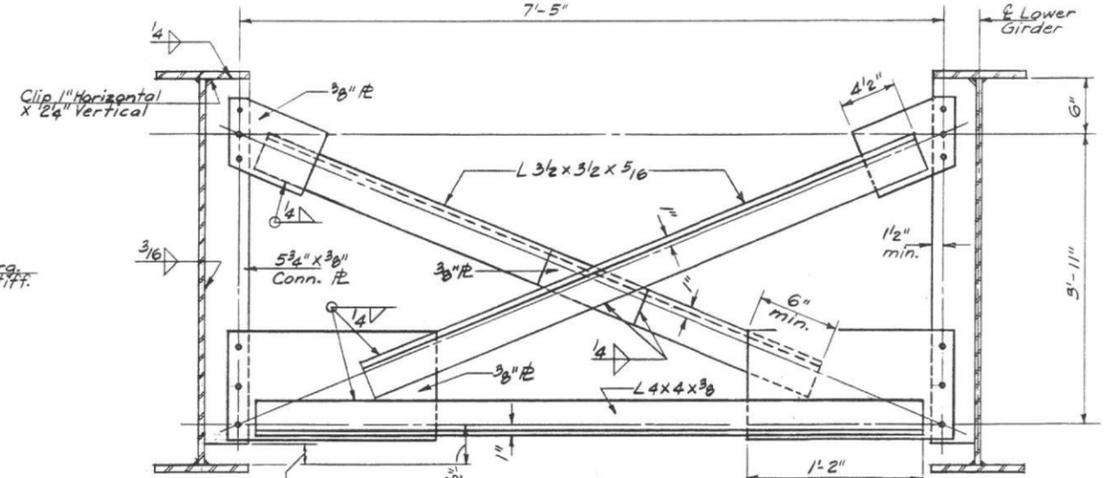
$M_a$  (Applied Moment) =  $1.3[M\bar{\rho} + M_s\bar{\rho} + S_3(M\bar{\rho} + I)]$ .

$f_s$  (Overload) is the sum of the stresses due to  $M\bar{\rho} + M_s\bar{\rho} + S_3(M\bar{\rho} + I)$ .

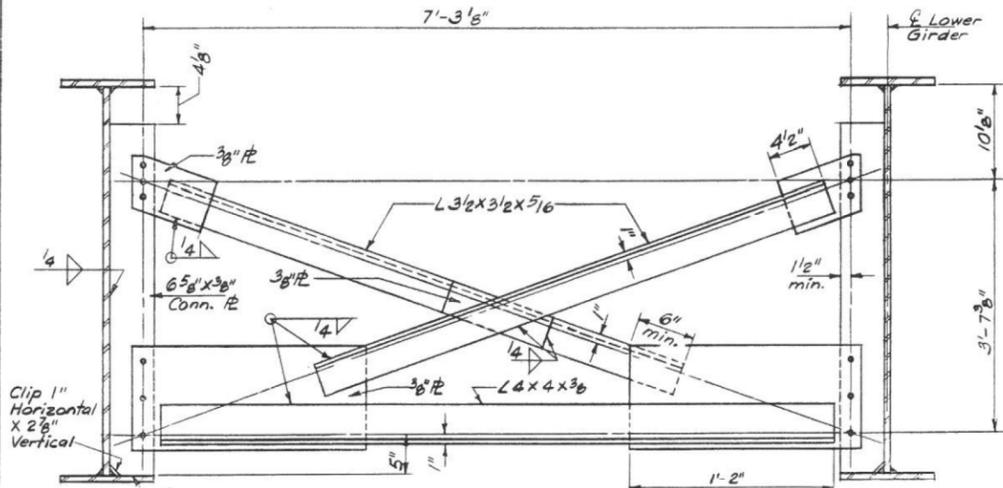
$f_s$  (Total) is the sum of the stresses due to  $1.3[M\bar{\rho} + M_s\bar{\rho} + S_3(M\bar{\rho} + I)]$ .



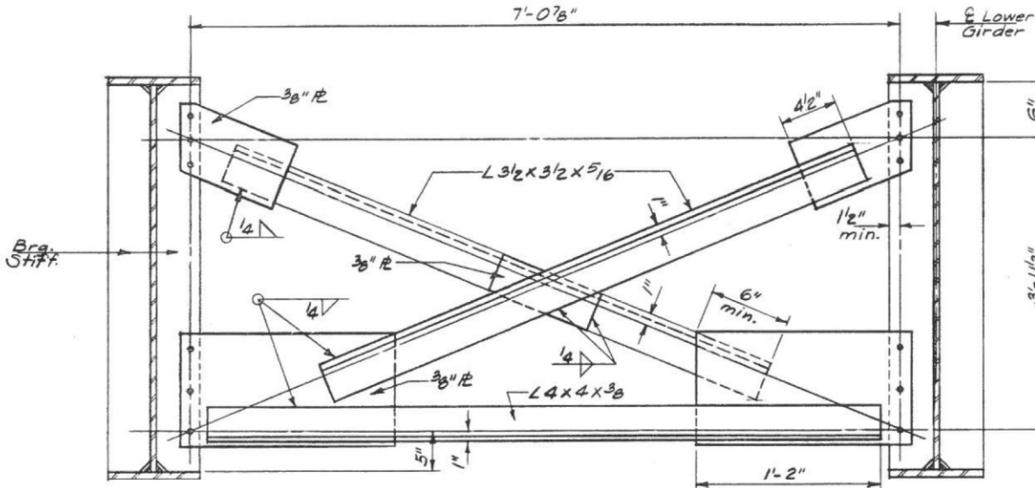
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No. Req'd = 12



CROSS FRAME CF<sub>5</sub>  
No. Req'd = 72



CROSS FRAME CF<sub>6</sub>  
No. Req'd = 48



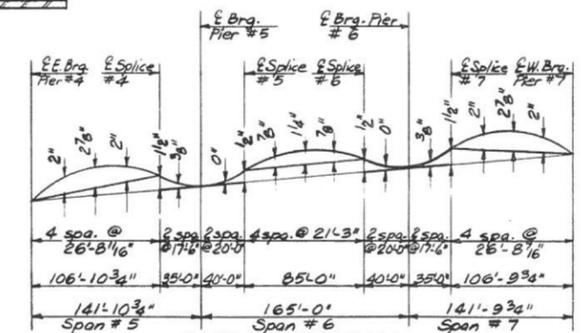
CROSS FRAME CF<sub>7</sub>  
No. Req'd = 12

Notes:  
Two hardened washers shall be required over all holes in crossframes.  
All structural steel for crossframes shall be A.A.S.H.T.O. M-103.  
All contact surfaces of joints for the crossframes shall be free of paint or lacquer.  
Use 3/4" H.S. Bolts with 15/16" holes in crossframes.

	*TOP OF WEB ELEVATIONS			
	Girders #1 & #7	Girders #2 & #6	Girders #3 & #5	Girder #4
E. Brg. Pier #4	815.47	815.59	815.72	815.84
Splice #4	816.00	816.13	816.25	816.38
Pier #5	816.18	816.30	816.43	816.55
Splice #5	816.38	816.50	816.63	816.75
Splice #6	816.80	816.93	817.05	817.18
Pier #6	817.00	817.13	817.25	817.38
Splice #7	817.18	817.30	817.43	817.55
E. W. Brg. Pier #7	817.71	817.84	817.96	818.09

\* For fabrication only.

	** INTERIOR GIRDER REACTION TABLE	
	E. Brg. Pier #4 & W. Brg. Pier #7	Pier #5 & Pier #6
$R\bar{\rho}$ (K)	71.4	235.5
$R\bar{\rho}$ (K)	50.3	104.7
Imp. (K)	9.4	18.8
$R$ TOTAL (K)	131.1	359.0



CAMBER DIAGRAM  
STRUCTURAL STEEL DETAILS  
UNIT #3  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75 + 40.97  
STAGE I

DESIGNED David Burdick  
CHECKED Thomas Domingalicki  
DRAWN E. K. Taylor  
CHECKED D. B. TSD

Sept 26 1983  
EXAMINED James J. Kowalczuk  
PASSED  
APPROVED  
DIRECTOR OF HIGHWAYS

\*\* Values given in tables are for service load.

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED 1/12/21  
DRAWN RSL 05/06/21  
REVIEWED MMM 01/24/2022

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USER NAME = Johns00944  
PLOT SCALE = 0.2:0000 '1" = 1"  
PLOT DATE = 2/3/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSL  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

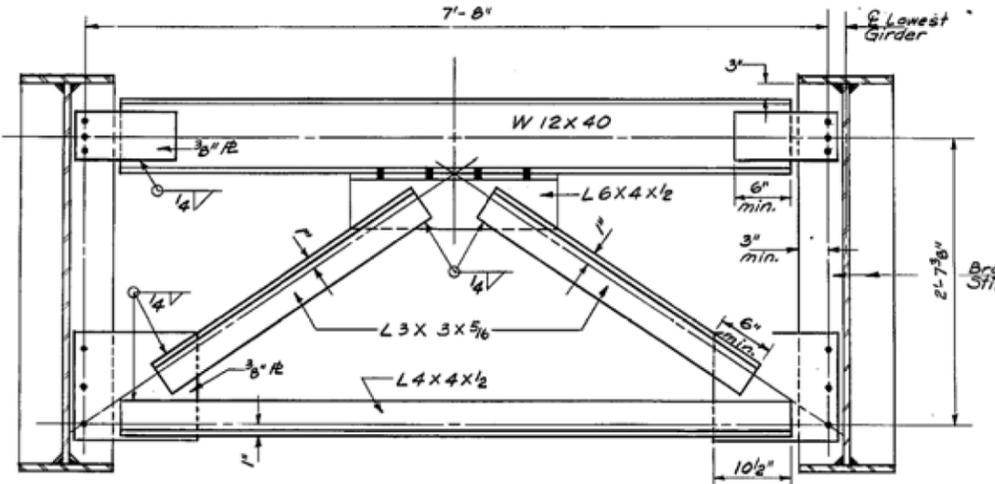
EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 46 OF 61 SHEETS

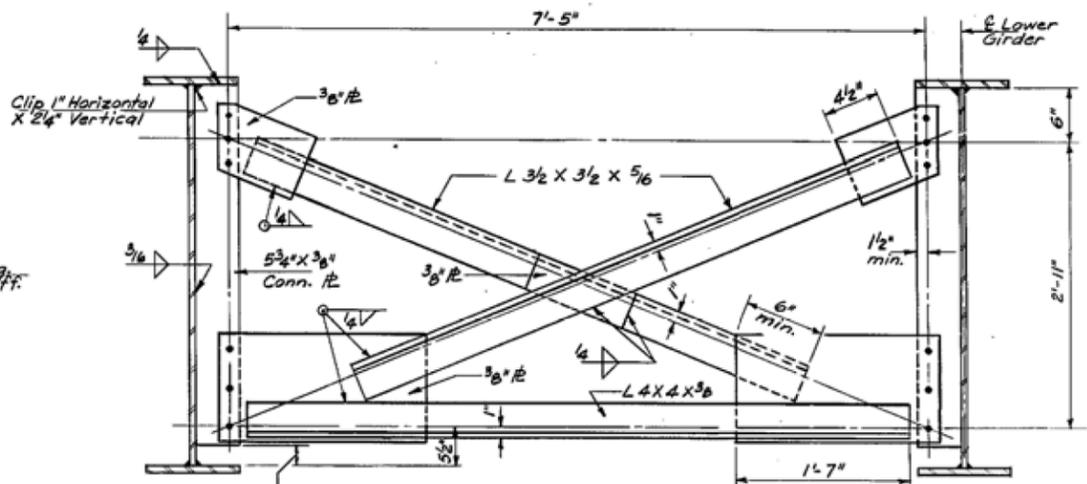
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400	18-00043-01-BR	KNOX	81	62
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

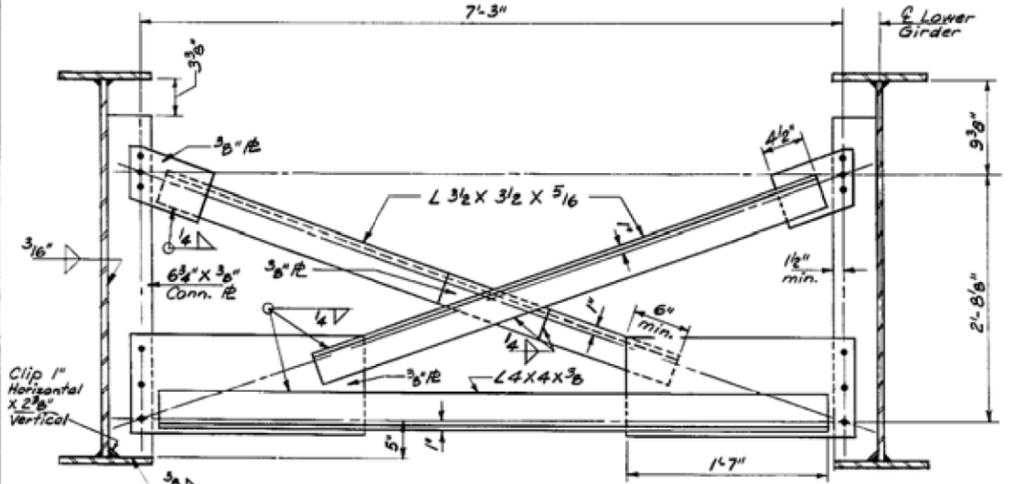
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			34	37 SHEETS
F.A.S. RTE. NO. 400		ILLINOIS	FED. AID PROJECT	



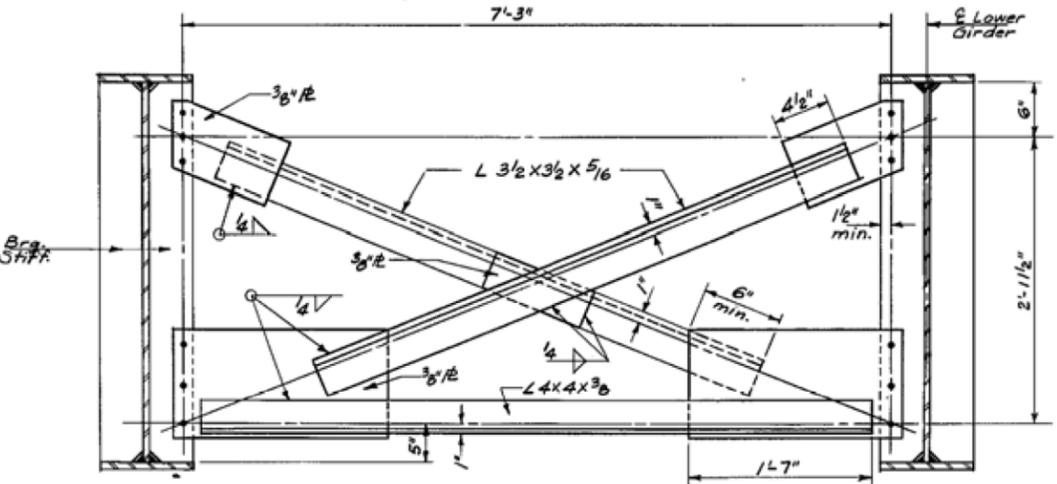
CROSS FRAME CF1  
No. Req'd = 48



CROSS FRAME CF2  
No. Req'd = 180



CROSS FRAME CF3  
No. Req'd = 84



CROSS FRAME CF4  
No. Req'd = 42

**Notes:**  
All structural steel for crossframes shall be A.A.S.H.T.O. M-103.  
All contact surfaces of joints for the crossframes shall be free of paint or lacquer.  
Use 3/4" H.S. Bolts with 15/16" holes in crossframes.  
Two hardened washers shall be required over all holes in crossframes.

EXISTING PLANS  
FOR INFORMATION ONLY

STRUCTURAL STEEL DETAILS  
UNITS #4 #5 #6 & #7  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75 + 40.97  
STAGE II

DESIGNED	Thomas D. Deming	EXAMINED	James J. Harkness
CHECKED	Carlton R. Albrecht	PASSED	James J. Harkness
DRAWN	E. V. Taylor	APPROVED	James J. Harkness
CHECKED	TSD		

DESIGNED: MNM 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MNM 07/24/2022

USER NAME = Johns00944	DESIGNED - MNM	REVISED -
PLOT SCALE = 0.2:0000 '1" = 1'	CHECKED - MNM	REVISED -
PLOT DATE = 2/3/2022	DRAWN - RSJ	REVISED -
	CHECKED - 01/24/2022	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

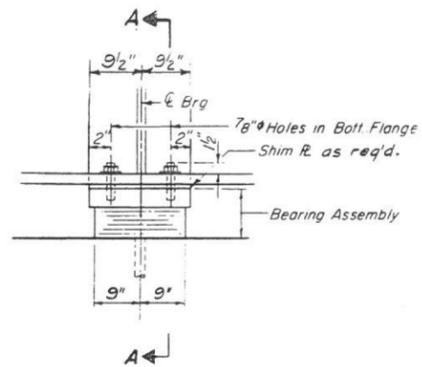
EXISTING STRUCTURE PLANS  
SN 048-3286

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	63
			CONTRACT NO.	89819

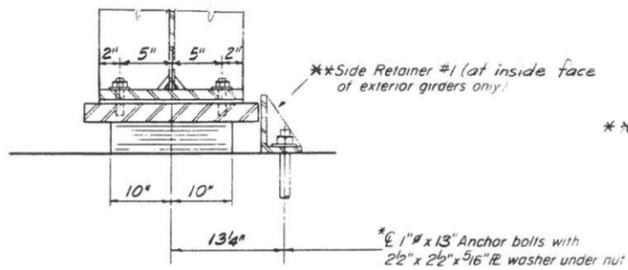
SHEET NO. 47 OF 61 SHEETS

ILLINOIS FED. AID PROJECT 4





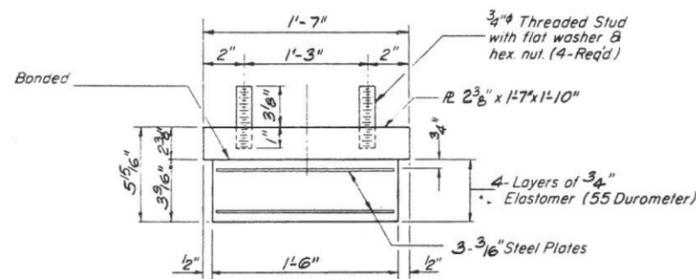
ELEVATION AT PIER #1



SECTION A-A

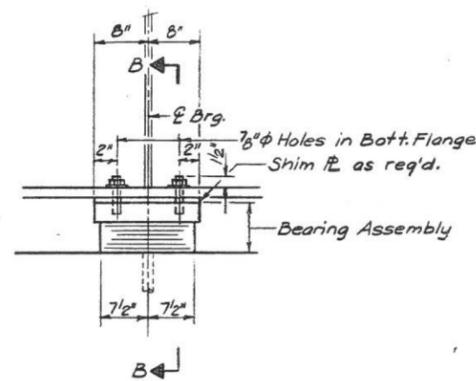
TYPE I ELASTOMERIC EXP. BRG.

Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See Sht. #27 for drilled anchor bolt details.



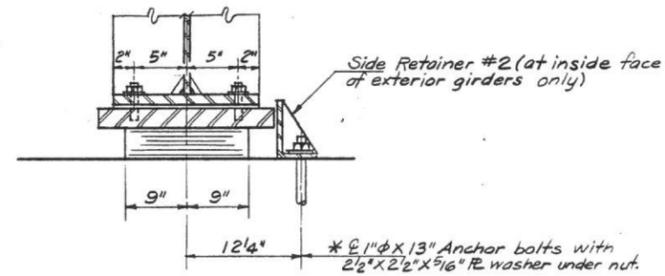
BEARING ASSEMBLY  
(7-Required)

Note: Shim plates shall not be placed under Bearing Assembly.

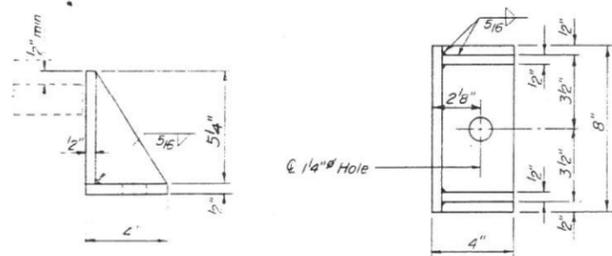


ELEVATION AT PIER #3

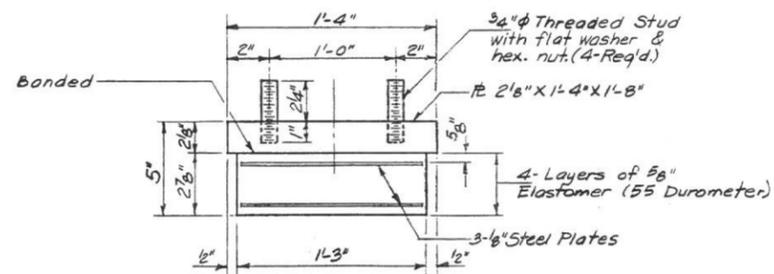
TYPE I ELASTOMERIC EXP. BRG.



SECTION B-B



SIDE RETAINER #2  
(44 Required)



BEARING ASSEMBLY  
(7 Required)

Note: Shim plates shall not be placed under Bearing Assembly.

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type I	Each	14

DESIGNED David Burdick  
CHECKED Miriam Domagala  
DRAWN E.V. Taylor  
CHECKED D.B. TJD

EXAMINED *Sept 26 1983*  
PASSED *James J. Kaylor*  
APPROVED \_\_\_\_\_  
ENGINEER OF BRIDGES AND STRUCTURES  
DIRECTOR OF HIGHWAYS

PIER #1 AND PIER #3  
BEARING DETAILS  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED MNM 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MNM 07/24/2022

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PLOT SCALE = 0.2:0000 '1' = 1"  
PLOT DATE = 2/3/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSJ  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

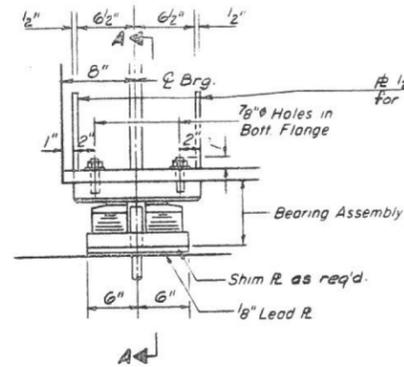
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

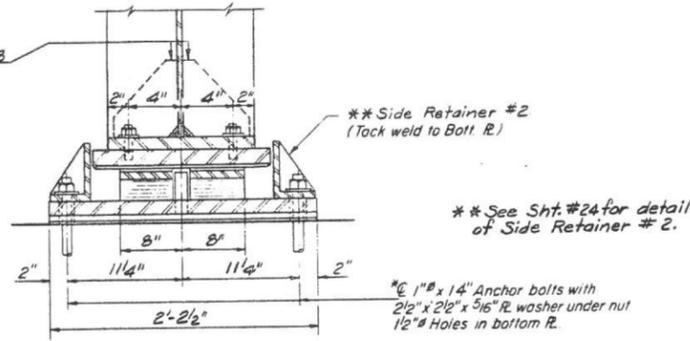
SHEET NO. 49 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

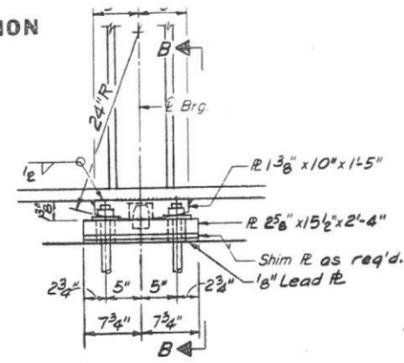
DEPARTMENT OF TRANSPORTATION



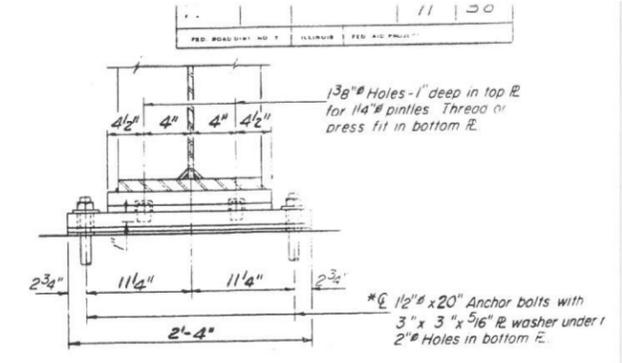
ELEVATION AT E. BRG. - PIER #4



SECTION A-A



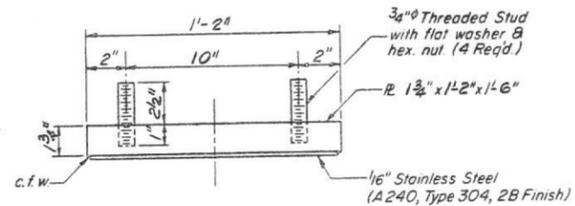
ELEVATION AT PIER #6  
(7 Required)



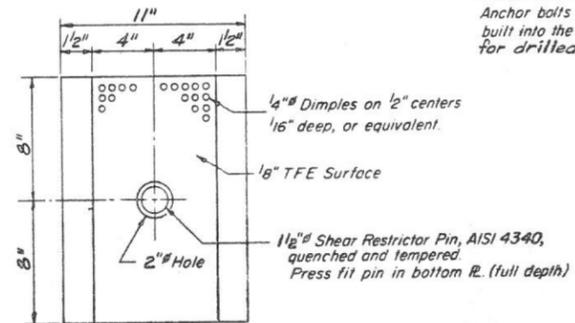
SECTION B-B

FIXED BEARING

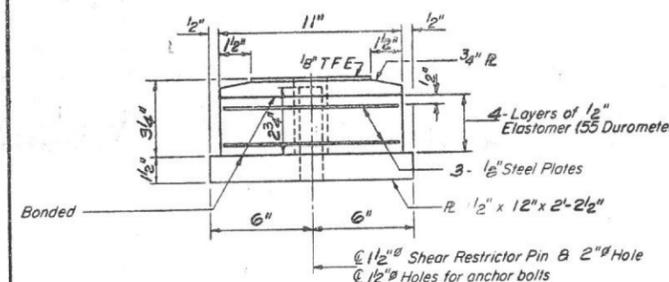
TYPE III ELASTOMERIC EXP. BRG.



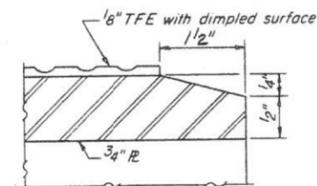
TOP BEARING ASSEMBLY



PLAN - TFE ELASTOMERIC BRG.



BOTTOM BEARING ASSEMBLY  
(7 Required)

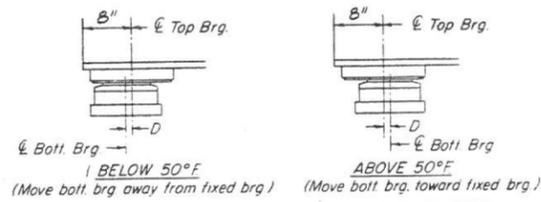


SECTION THRU TFE

\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See Sht. #27 for drilled anchor bolt details.

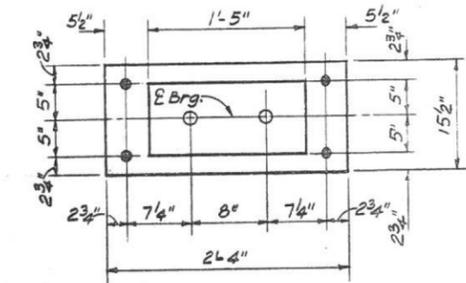
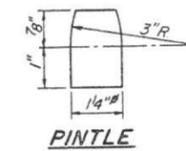
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F



PLAN - BOTTOM PLATE

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type III	Each	7

E. BRG.-PIER #4 AND PIER #6  
BEARING DETAILS  
F.A.S. RTE. 400 SECTION 43 V  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

EXISTING PLANS

FOR INFORMATION ONLY

DESIGNED: David Burdick  
CHECKED: Thomas Domagala  
DRAWN: E.V. Taylor  
CHECKED: D.B. TSD

EXAMINED: James J. Kasbaum  
PASSED: [Signature]  
APPROVED: [Signature]  
DIRECTOR OF HIGHWAYS

I-2-E3 6-1-82

DESIGNED: 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MNM 07/24/2022

I:\18jobs\18L0058A\CAD\Struct\Sheet\Existing Plans\_9c.dgn



USER NAME = Johns00944	DESIGNED - MNM	REVISED -
PLOT SCALE = 0.2:0000 1" = 1'	CHECKED - MNM	REVISED -
PLOT DATE = 2/3/2022	DRAWN - RSJ	REVISED -
	CHECKED - 01/24/2022	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

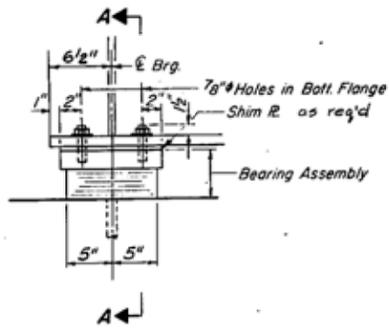
SHEET NO. 50 OF 61 SHEETS

F.A.S. RTE. 400	SECTION 18-00043-01-BR	COUNTY KNOX	TOTAL SHEETS 81	SHEET NO. 66
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT 4	

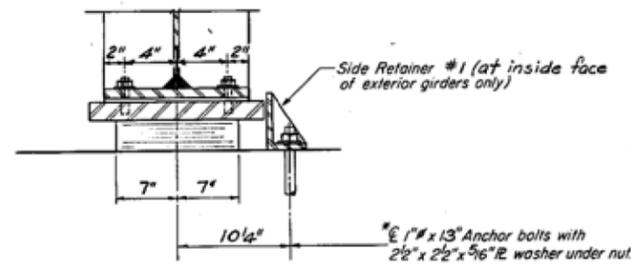


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

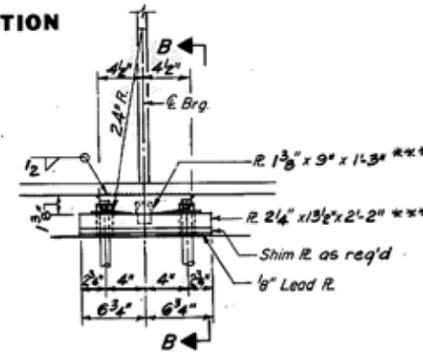
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			35	21
37 SHEETS				



ELEVATION AT EAST BRG. - PIER #7  
& EAST BRG. - PIER #10  
TYPE I ELASTOMERIC EXP. BRG.

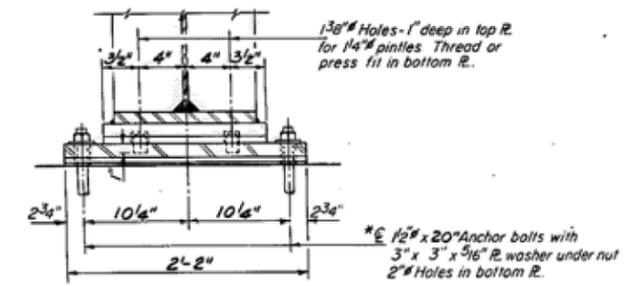


SECTION A-A



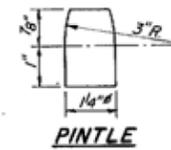
ELEVATION AT PIER #8  
& PIER #11

FIXED BEARING

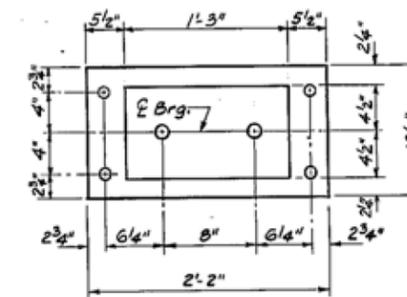


SECTION B-B

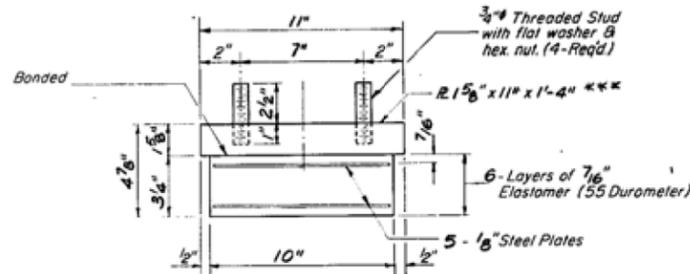
\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See sh. #26, for drilled anchor bolt details.



PINTLE

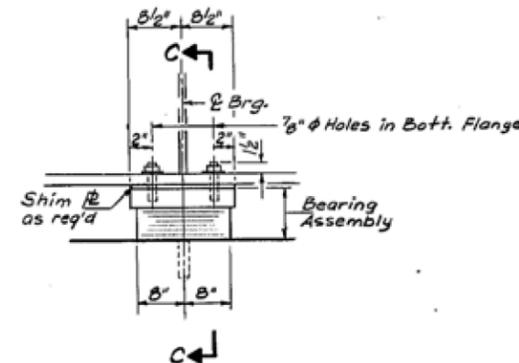


PLAN - BOTTOM PLATE



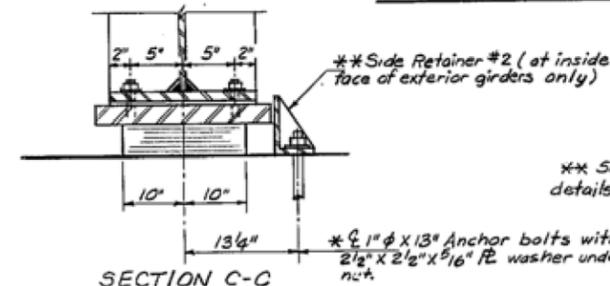
BEARING ASSEMBLY  
(14 Required)

Note: Shim plates shall not be placed under Bearing Assembly.



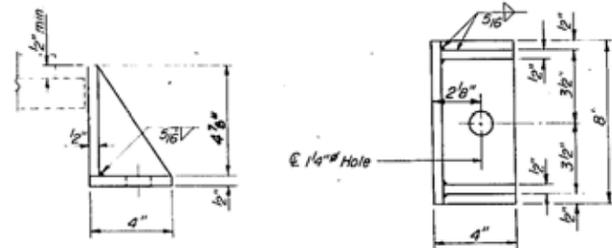
ELEVATION AT PIER #9  
& PIER #12

TYPE I ELASTOMERIC EXP. BRG.



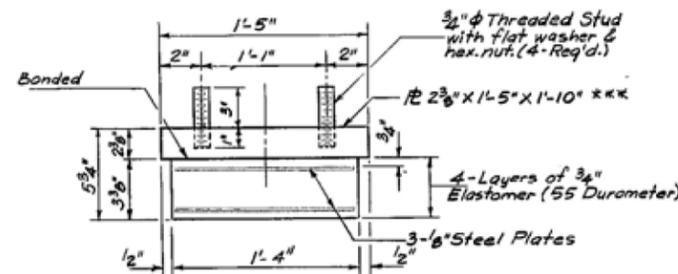
SECTION C-C

\*\* See sheet #22 for details of Side Retainer #2.



SIDE RETAINER #1  
(6 Required)

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BEARING ASSEMBLY  
(14 Required)

Note: Shim plates shall not be placed under Bearing Assembly.

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type I	Eq.	26

\*\*\* Plates shall be AASHTO M-222.

EAST BEARINGS - PIER #7,  
EAST BEARINGS - PIER #10,  
PIER #8, PIER #9, PIER #11  
AND PIER #12  
BEARING DETAILS  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED	Thomas J. Demagala	July 25, 1984
CHECKED	John R. Abronchi	
DRAWN	E. V. Taylor	
CHECKED	TJD	GRN
EXAMINED	John R. Abronchi	
PASSED		
APPROVED		

I-2-EI 6-1-82

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	07/24/2022

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USER NAME	Johns00944	DESIGNED	MNM	REVISED	-
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PLOT DATE	2/3/2022	DRAWN	RSJ	REVISED	-
		CHECKED	01/24/2022	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

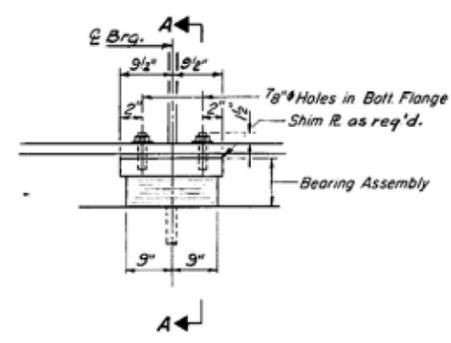
SHEET NO. 52 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	68
			CONTRACT NO.	89819
ILLINOIS FED. AID PROJECT 4				

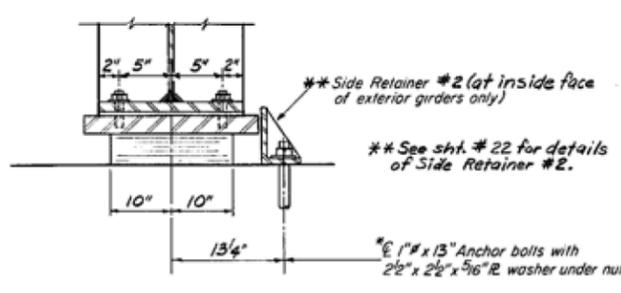


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

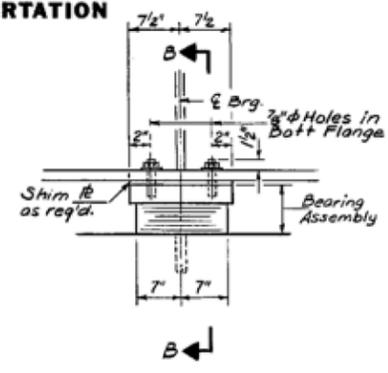
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			37	23
37 SHEETS				



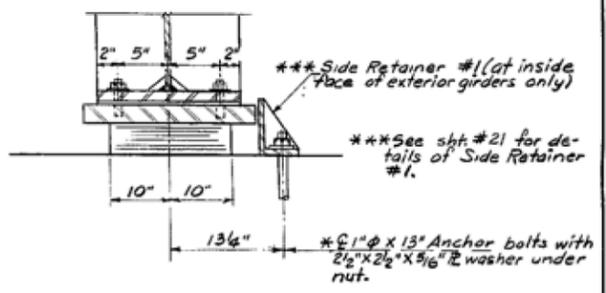
ELEVATION AT PIER #17



SECTION A-A



ELEVATION AT PIER #14

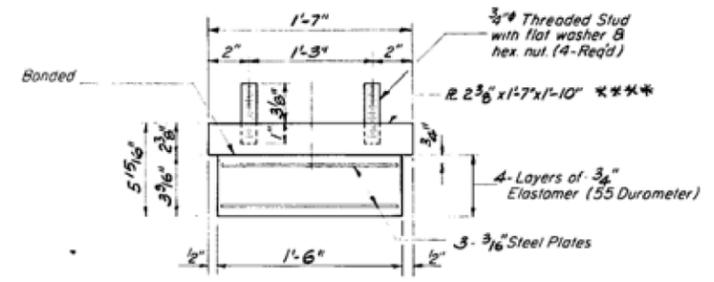


SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

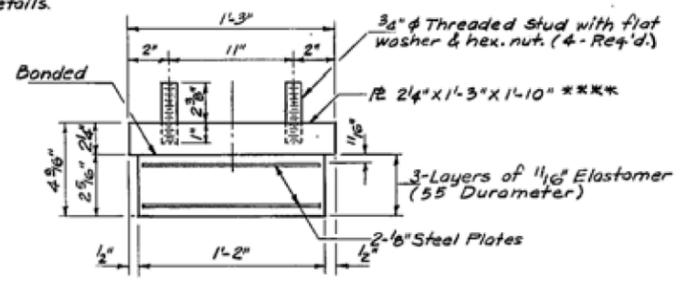
TYPE I ELASTOMERIC EXP. BRG.

\*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See sht. #26 for drilled anchor bolt details.



BEARING ASSEMBLY  
(7 Required)

Note: Shim plates shall not be placed under Bearing Assembly.



BEARING ASSEMBLY  
(7 Required)

Note: Shim plates shall not be placed under Bearing Assembly.

BILL OF MATERIAL

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type I	Each	14

\*\*\*\* Plates shall be AASHTO M-222.

DESIGNED: *Thomas Demagale*  
 CHECKED: *Helena R. Abancho*  
 DRAWN: *E. V. Taylor*  
 CHECKED: *TJD*

EXAMINED: *James J. Hamilton*  
 PASSED: *[Signature]*  
 APPROVED: *[Signature]*

July 25, 1984

DIRECTOR OF HIGHWAYS

EXISTING PLANS  
FOR INFORMATION ONLY

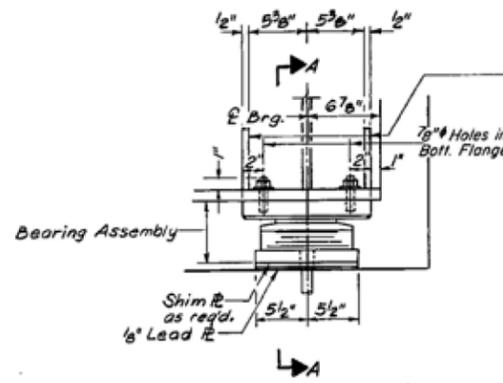
PIER #14 & PIER #17  
BEARING DETAILS  
F.A.S. RTE. 400 SECTION 43VB  
KNOX COUNTY  
STA 75+40.97  
STAGE II

DESIGNED: 1/12/21  
 DRAWN: RSL 05/06/21  
 REVIEWED: MNM 07/24/2022

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PLOT SCALE = 0.2:0000 '1" = 10'				DRAWN - RSL		CHECKED - MNM	REVISED -	SHEET NO. 54 OF 61 SHEETS		CONTRACT NO. 89819		ILLINOIS FED. AID PROJECT 4				
PLOT DATE = 2/3/2022				CHECKED - 01/24/2022		CHECKED - MNM	REVISED -	SHEET NO. 54 OF 61 SHEETS		CONTRACT NO. 89819		ILLINOIS FED. AID PROJECT 4				

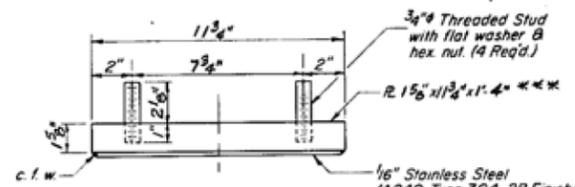


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

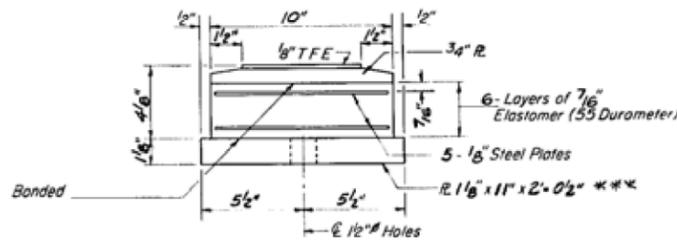


ELEVATION AT E. ABUT.

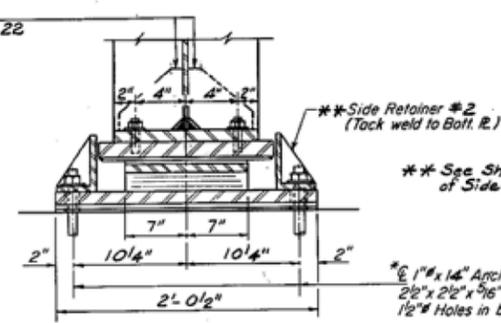
**TYPE II TFE ELASTOMERIC EXP. BRG.**



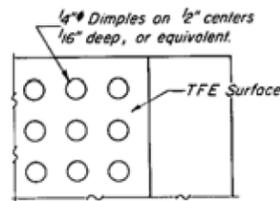
TOP BEARING ASSEMBLY



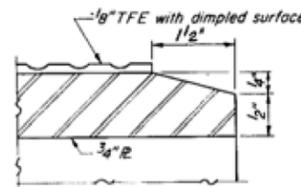
BOTTOM BEARING ASSEMBLY (7 Required)



SECTION A-A



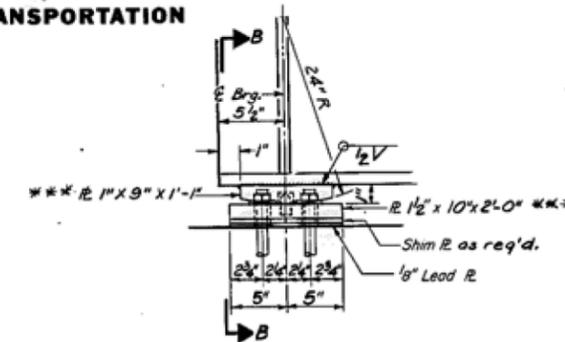
PLAN-TFE SURFACE



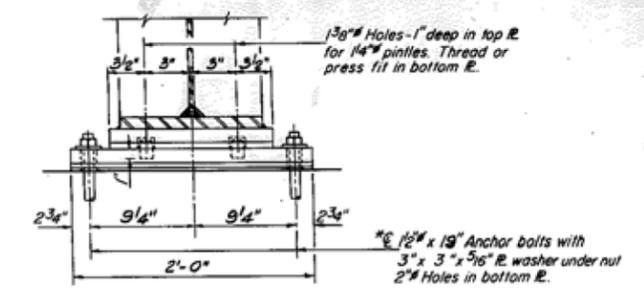
SECTION THRU TFE

Note: After girders have been erected holes of expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry. See Sht. #26 for drilled anchor bolt details.

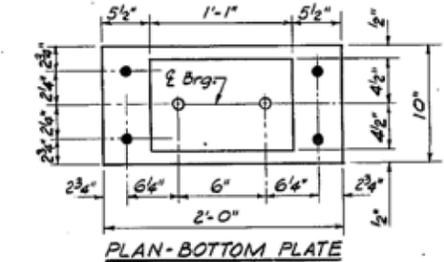
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



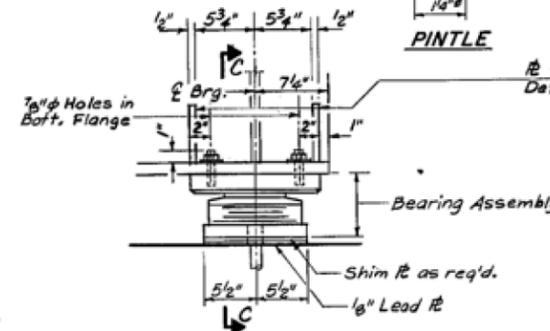
ELEVATION AT EAST BRG.-PIER #16 & EAST BRG.-PIER #13 FIXED BEARING



SECTION B-B

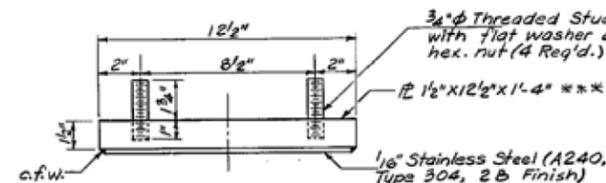


PLAN-BOTTOM PLATE

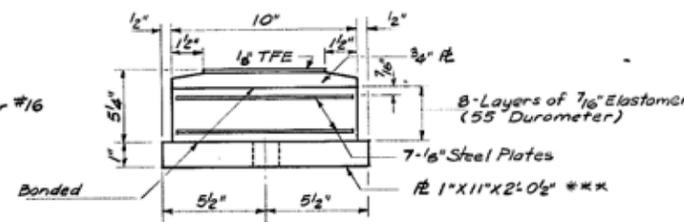


ELEVATION AT W. BRG.-PIER #16

**TYPE II TFE ELASTOMERIC EXPANSION BEARING**



TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY (7 Required)

**BILL OF MATERIAL**

Item	Unit	Quantity
Elastomeric Bearing Assembly, Type II	Each	14

\*\*\* Plates shall be AASHTO M-222.

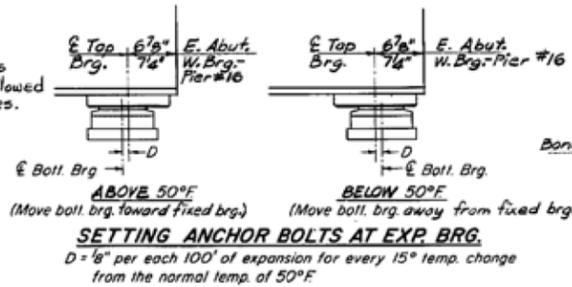
**EAST BEARINGS-PIER #13,  
WEST & EAST BEARINGS-PIER #16  
AND EAST ABUTMENT  
BEARING DETAILS  
F.A.S. RTE. 400 SECTION 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II**

**EXISTING PLANS**

**FOR INFORMATION ONLY**

DESIGNED	Thomas Demagallo
CHECKED	Ghazanfar Ahanchi
DRAWN	E. V. Taylor
CHECKED	TJD

July 25, 1984  
EXAMINED  
PASSED  
APPROVED



DESIGNED 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MM 01/24/2022

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USER NAME = Johns00944  
PLOT SCALE = 0.2:0000 1" = 1'  
PLOT DATE = 2/3/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSJ  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

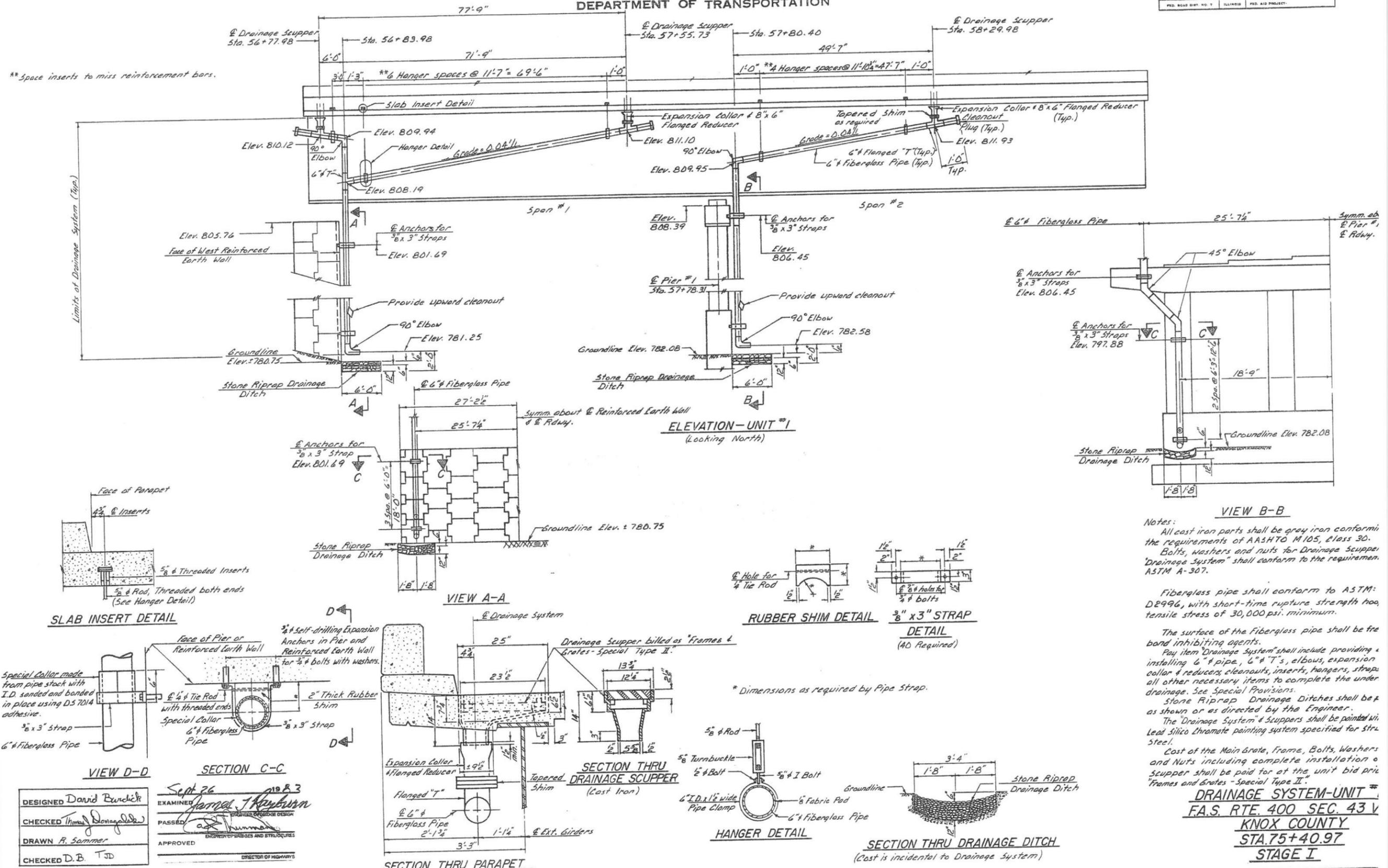
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 55 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	71
				CONTRACT NO. 89819

ILLINOIS FED. AID PROJECT 4



**DESIGNED** David Burchick

**CHECKED** Thomas Donaghy

**DRAWN** R. Sommer

**CHECKED** D.B. TJD

**EXAMINED** James J. Haysburn

**PASSED** [Signature]

**APPROVED** [Signature]

DESIGNER OF ROADS AND STRUCTURES

DIRECTOR OF HIGHWAYS

Sept 26 1983

# EXISTING PLANS FOR INFORMATION ONLY

DESIGNED 1/12/21  
DRAWN RJS 05/06/21  
REVIEWED MAM 01/24/2022

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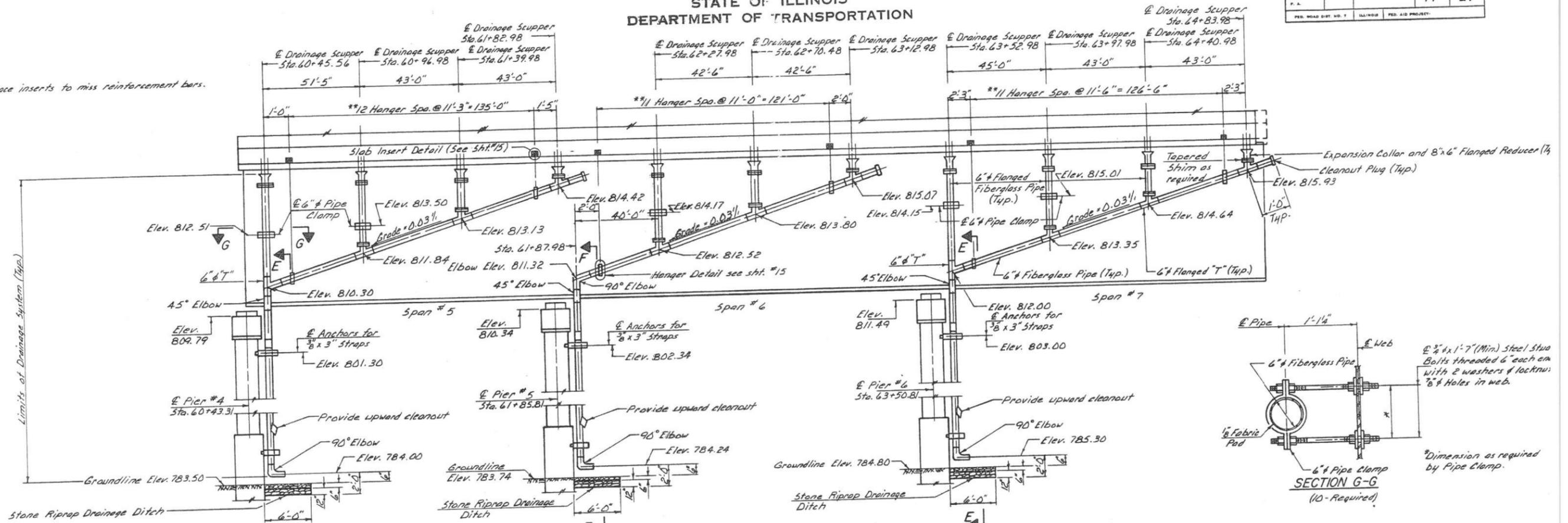
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	CHECKED - 01/24/2022	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

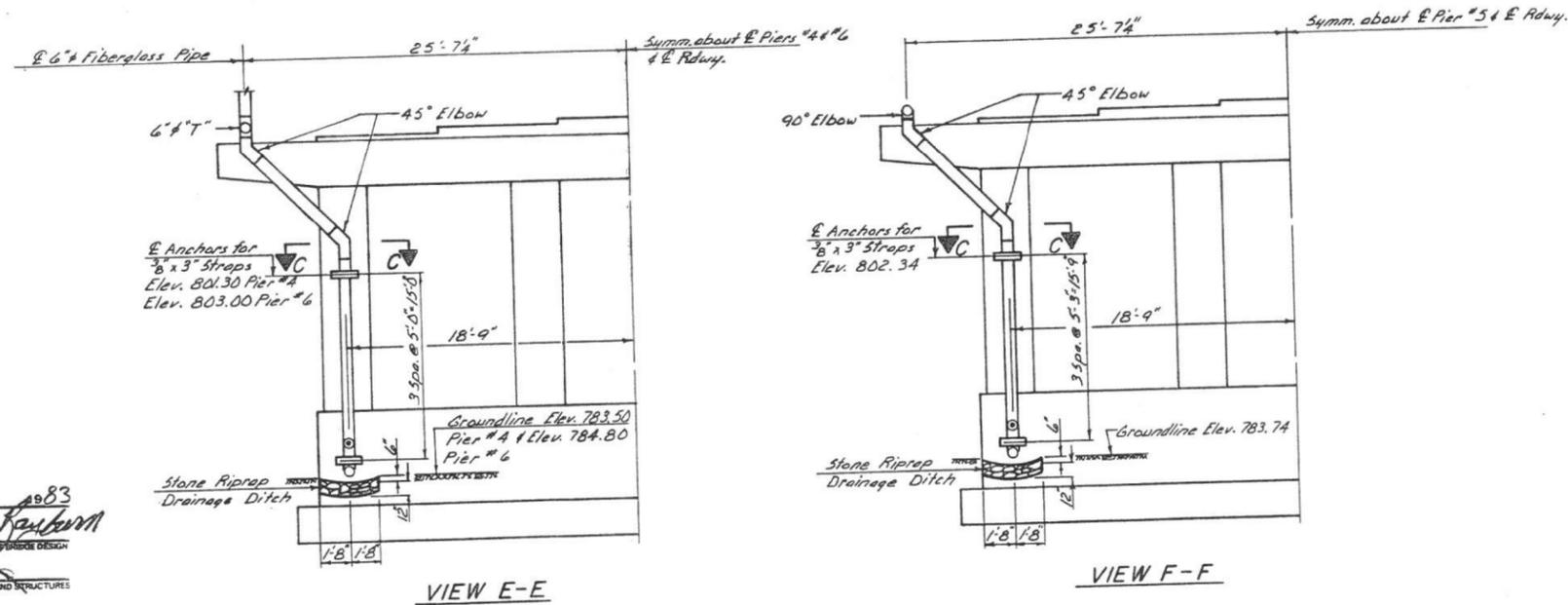
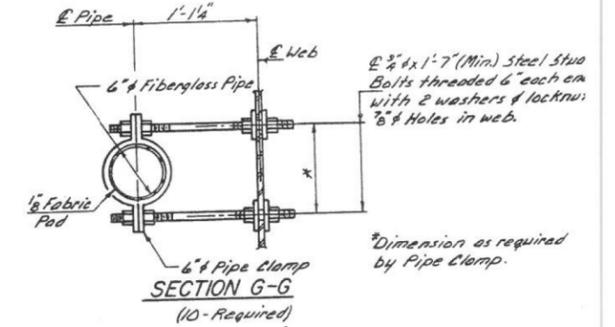
EXISTING STRUCTURE PLANS  
SN 048-3286  
SHEET NO. 56 OF 61 SHEETS

F.A.S. RTE. 400	SECTION 18-00043-01-BR	COUNTY KNOX	TOTAL SHEETS 81	SHEET NO. 72
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT 4	

\*\*space inserts to miss reinforcement bars.



ELEVATION UNIT #3  
(Looking North)



For Drainage System Details, Notes and Sec. C-C see sht. #15.

**DRAINAGE SYSTEM-UNIT #3**  
**F.A.S. RTE. 400 SEC. 43 VB**  
**KNOX COUNTY**  
**STA. 75+40.97**  
**STAGE I**

DESIGNED	David Burdick
CHECKED	Thomas Donagale
DRAWN	R. Sommer
CHECKED	D.B. TJD

Sept 26 2023  
EXAMINED *James J. Kaufmann*  
PASSED *[Signature]*  
APPROVED \_\_\_\_\_  
DIRECTOR OF HIGHWAYS

**EXISTING PLANS**  
**FOR INFORMATION ONLY**

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	07/24/2022

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USER NAME = Johns00944  
PLOT SCALE = 0.2:0000 '1" = 1"  
PLOT DATE = 2/3/2022

DESIGNED - MNM  
CHECKED - MNM  
DRAWN - RSJ  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 57 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	73
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

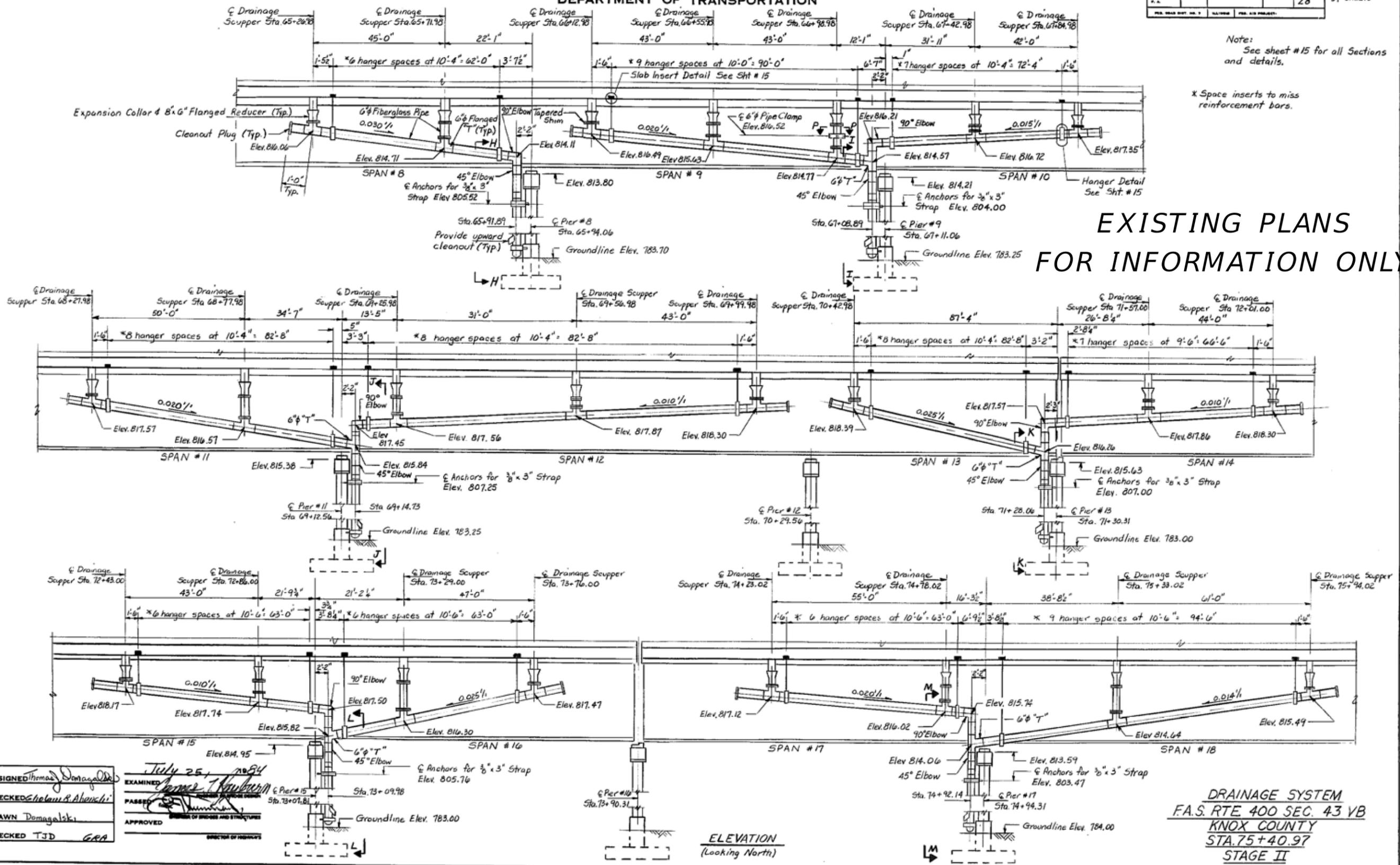
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			28	14
37 SHEETS				

Note:  
See sheet #15 for all Sections and details.

\* Space inserts to miss reinforcement bars.

EXISTING PLANS  
FOR INFORMATION ONLY



DESIGNED: Thomas DomagalSKI  
CHECKED: Shelan R. Abonchi  
DRAWN: DomagalSKI  
CHECKED: TJD

EXAMINED: [Signature]  
PASSED: [Signature]  
APPROVED: [Signature]  
DIRECTOR OF HIGHWAYS

DRAINAGE SYSTEM  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75+40.97  
STAGE II

DESIGNED: 1/12/21  
DRAWN: RSJ 05/06/21  
REVIEWED: MM 07/24/2022

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USER NAME	DESIGNED	REVISIONS
Johns00944	MNM	
PLOT SCALE = 0.2:0000 1" = 100'	CHECKED	REVISIONS
	MNM	
PLOT DATE = 2/3/2022	DRAWN	REVISIONS
	RSJ	
	CHECKED	REVISIONS
	01/24/2022	

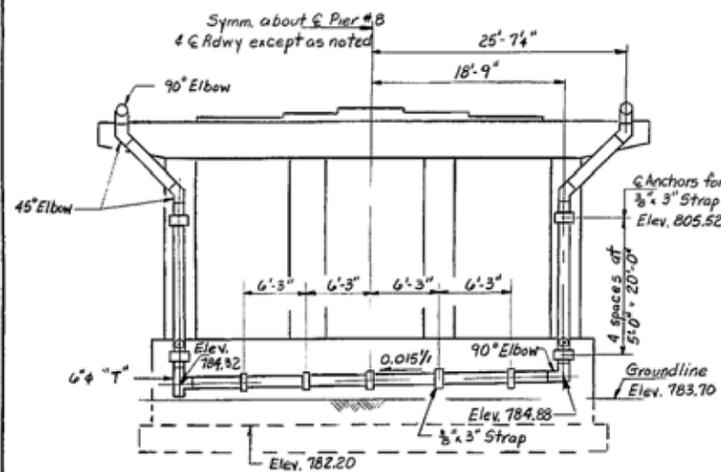
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

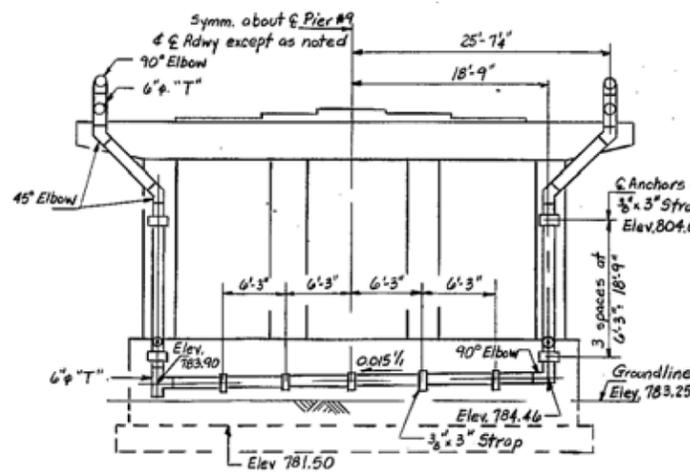
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 89819				
ILLINOIS FED. AID PROJECT 4				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

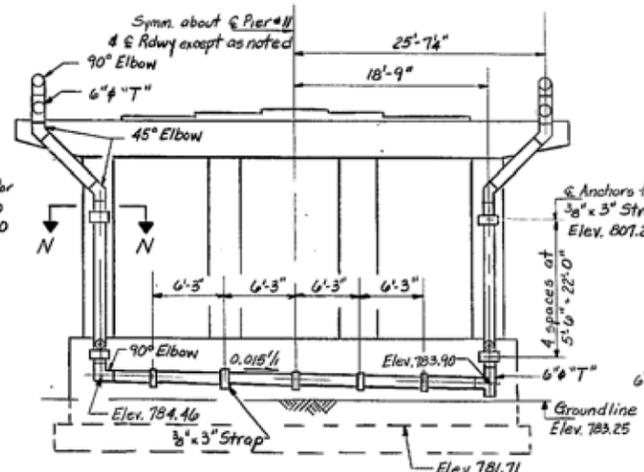
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			29	37 SHEETS



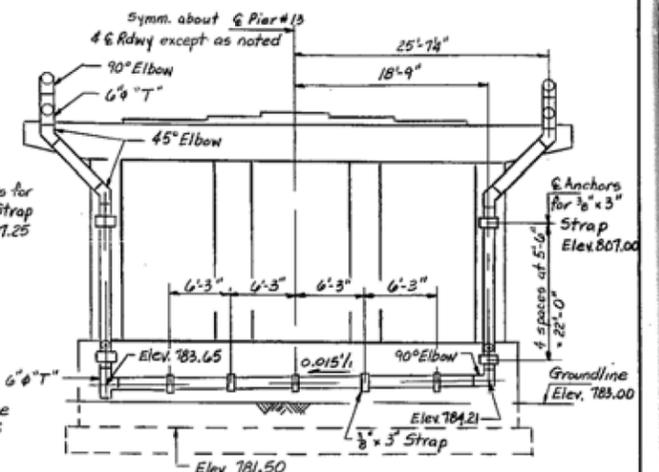
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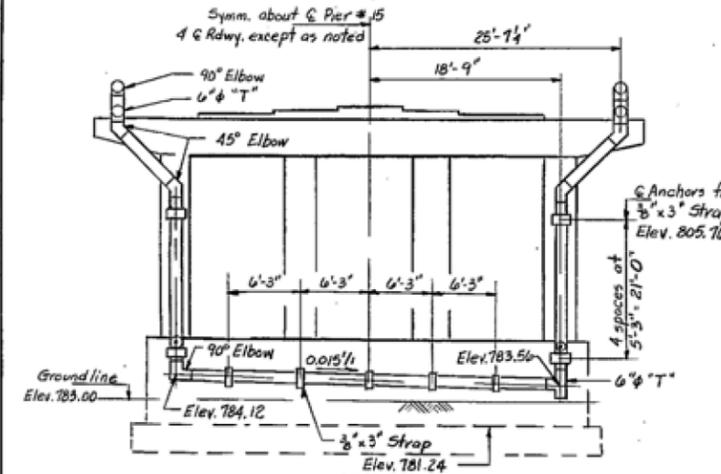
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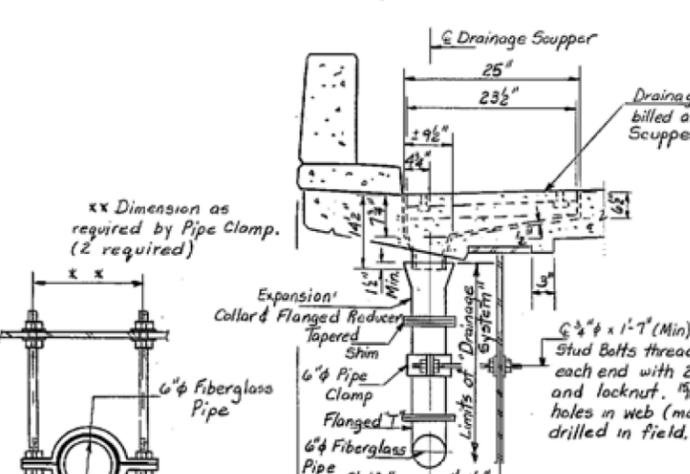
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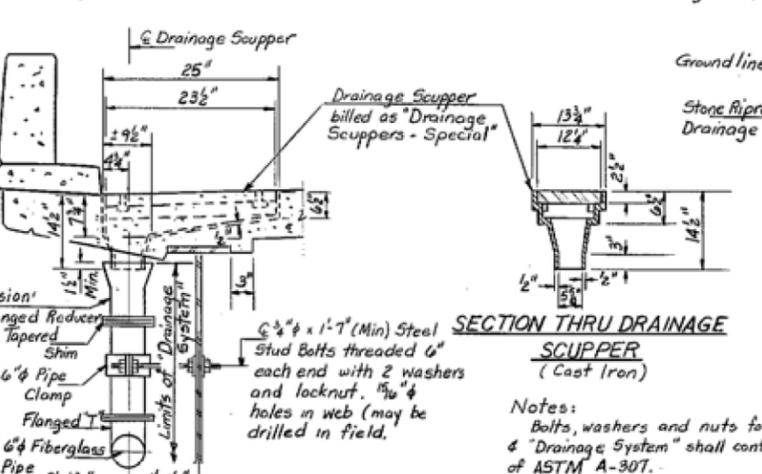
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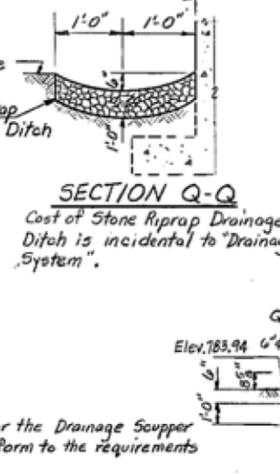
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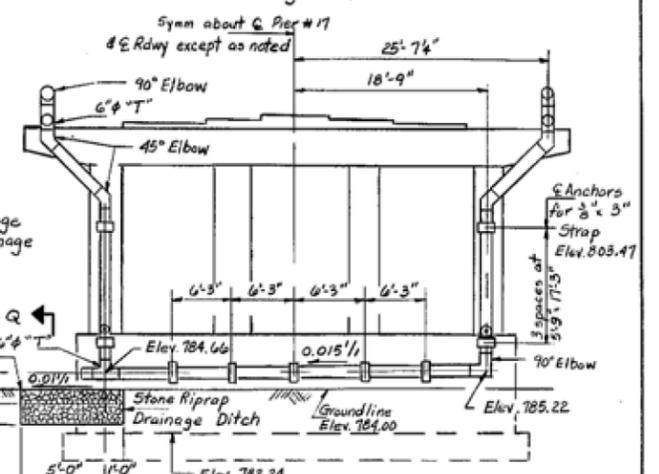
SECTION P-P



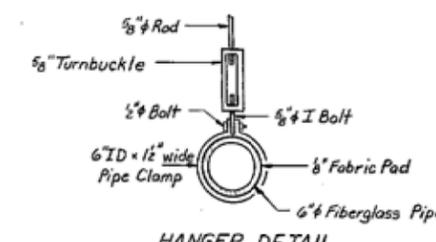
SECTION THRU DRAINAGE SCUPPER  
(Cast Iron)



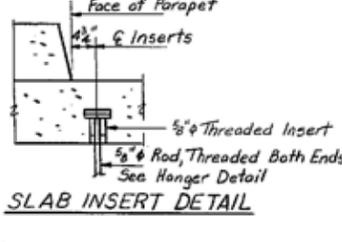
SECTION Q-Q  
Cost of Stone Riprap Drainage Ditch is incidental to "Drainage System".



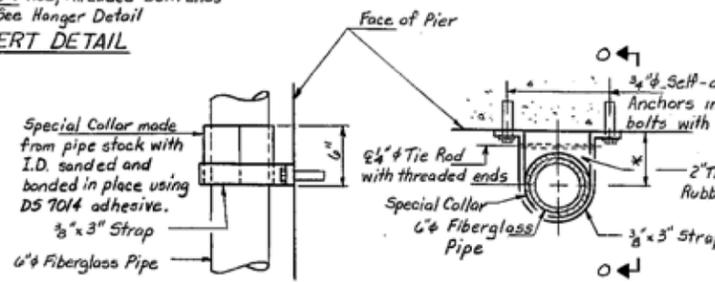
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(Looking East)



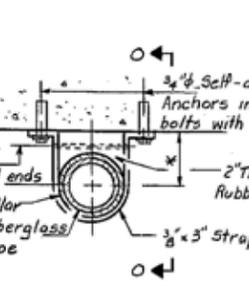
HANGER DETAIL



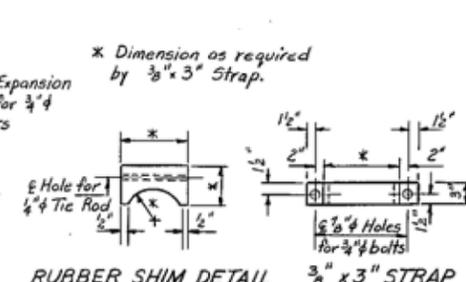
SLAB INSERT DETAIL



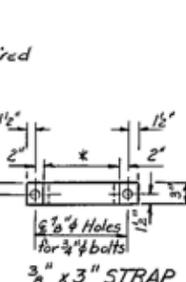
VIEW O-O



SECTION N-N



RUBBER SHIM DETAIL



3/8\"/>

Notes:  
Bolts, washers and nuts for the Drainage Scupper & "Drainage System" shall conform to the requirements of ASTM A-307.  
All cast iron parts shall be gray iron conforming to the requirements of AASHTO M105, Class 30.  
Fiberglass pipe shall conform to ASTM: D2996, with short-time rupture strength hoop tensile stress of 30,000 psi, minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.  
Stone Riprap Drainage Ditch shall be placed as shown or as directed by the Engineer.  
The "Drainage System" and Scuppers shall be painted with the Basic Lead Silico Chromate painting system specified for Structural Steel.

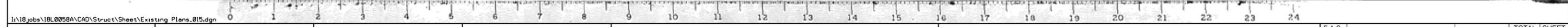
By item "Drainage System" shall include providing and installing 6\"/>

**EXISTING PLANS  
FOR INFORMATION ONLY**

**DRAINAGE SYSTEM DETAILS  
F.A.S. RTE. 400 SEC. 43 VB  
KNOX COUNTY  
STA. 75 + 40.97  
STAGE II**

DESIGNED	Thomas J. Demko	EXAMINED	James J. Kuhn
CHECKED	Graham R. Alunghi	PASSED	[Signature]
DRAWN	Domagalski	APPROVED	[Signature]
CHECKED	TJD		

DESIGNED 1/12/21  
DRAWN RSJ 05/06/21  
REVIEWED MWM 01/24/2022



USER NAME	Johns0944	DESIGNED	MNM	REVISED	-
PLOT SCALE	0.2:0000 ' = 1"	CHECKED	MNM	REVISED	-
PLOT DATE	2/3/2022	DRAWN	RSJ	REVISED	-
		CHECKED	01/24/2022	REVISED	-



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	75
			CONTRACT NO.	89819
			ILLINOIS FED. AID PROJECT	4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	NO.
			71	30
36 SHEETS				

Joint Size	"C" at 50°F	"D" at 50°F
2	2"	1 1/2" min
2 1/2	2 1/2"	1 3/4" min
4	3"	2 1/2" min

**INSTALLATION NOTES**

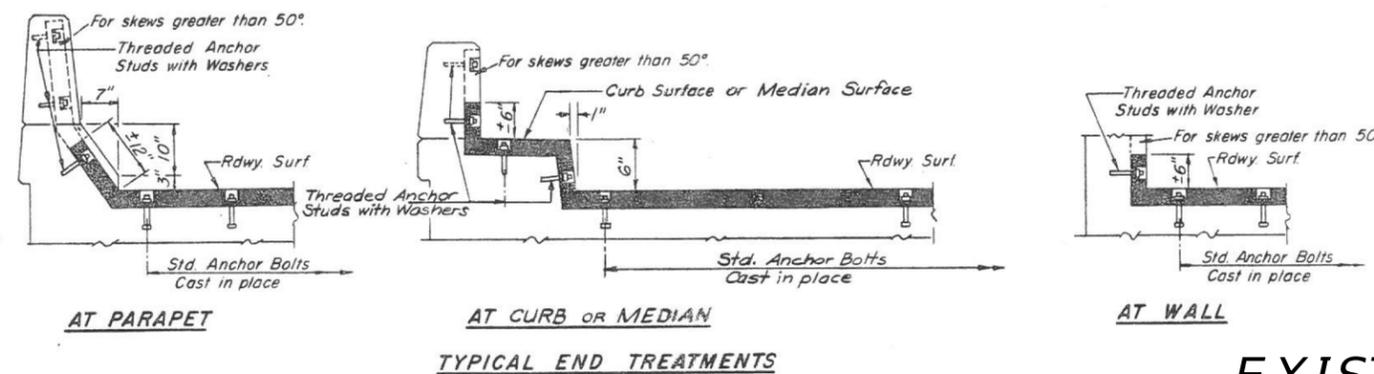
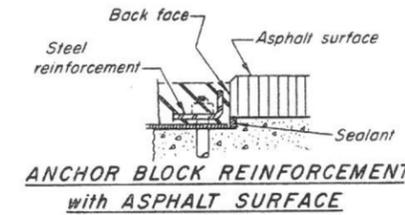
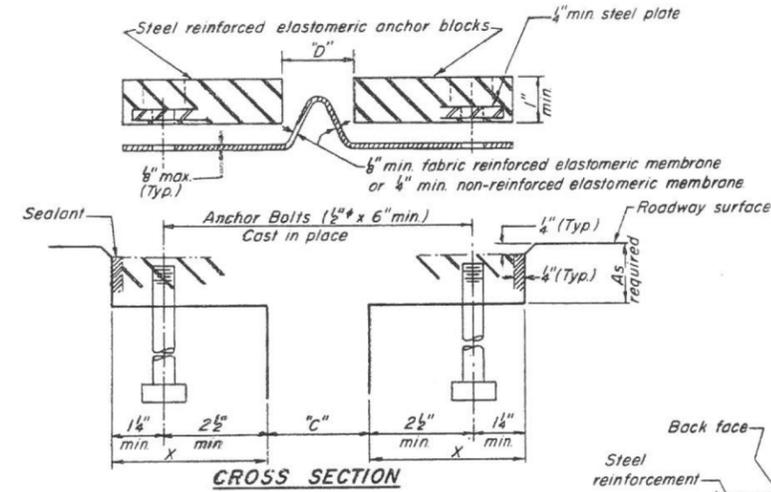
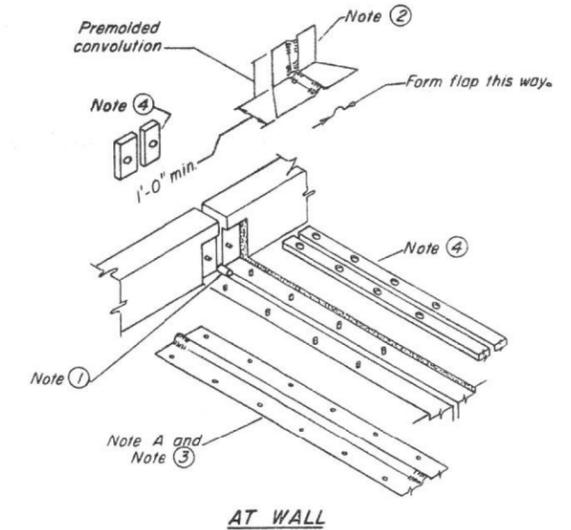
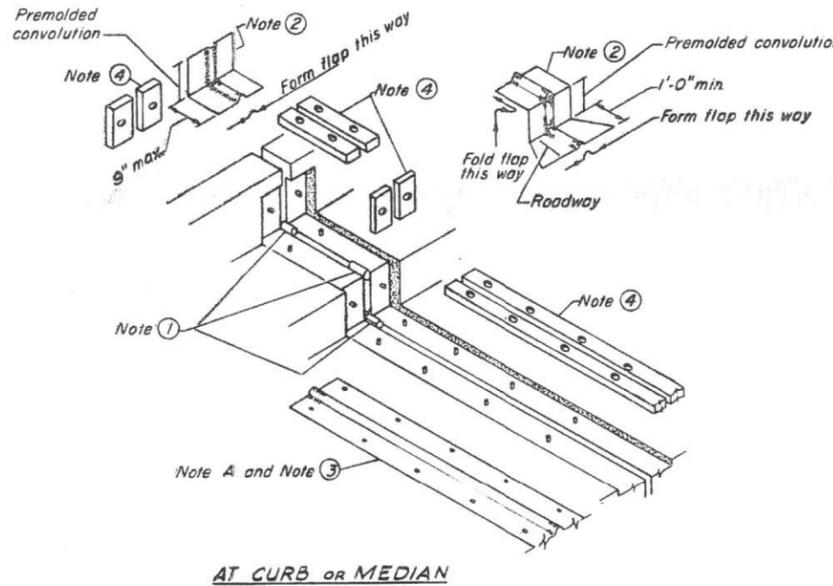
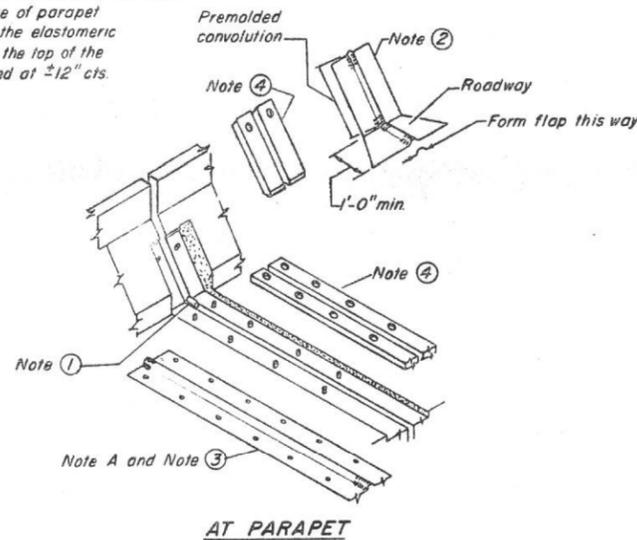
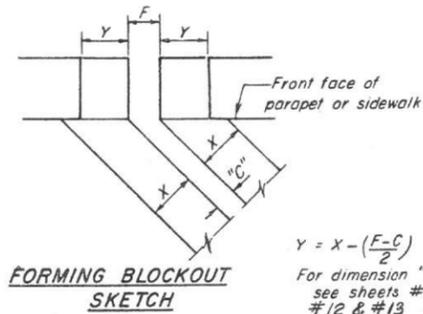
1. Install sponge mandrels into positions shown to form flap convolution.
2. Install parapet or sidewalk piece (trim roadway flap to fit before applying epoxy).
3. Install continuous seal in roadway.
4. Install anchor blocks as indicated.

NOTE A - Maximum spacing of anchor bolts shall be 12" centers

**SKREW LIMITATIONS**

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews.

For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed in accordance with dimension "D", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.



**GENERAL NOTES**

Continuous Seal Neoprene Expansion Joint shall consist of molded blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane. See Special Provisions.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its position upon joint closure.

The steel reinforcement must extend up the back face of anchor block when asphalt surfaces are used but is optional in concrete blockout.

The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted in accordance with Article 50307(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

The parapet and sidewalk flaps may be furnished factory vulcanized to the roadway membrane provided the centerline of the convolution is maintained at the process and method meet the approval of the Engineer.

DESIGNED	David Burdick
CHECKED	Thomas D. Magallon
DRAWN	E.V. Taylor
CHECKED	D.B. TSD

EXAMINED *Seal 26* 1983  
*James J. Keyburn*  
PASSED  
APPROVED  
DIRECTOR OF HIGHWAYS

EJ-CS 2-1-83

CONTINUOUS SEAL TYPE  
NEOPRENE EXPANSION JOINT  
For 2", 2 1/2" and 4" Movement

F.A.S. RTE. 400 SECTION 4  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

EXISTING PLANS  
FOR INFORMATION ONLY

DESIGNED	1/12/21
DRAWN	05/06/21
REVIEWED	07/24/2022

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PLOT SCALE	= 0:2.0000 " = 1' in.
PLOT DATE	= 2/3/2022

DESIGNED	- MNM	REVISED	-
CHECKED	- MNM	REVISED	-
DRAWN	- RSJ	REVISED	-
CHECKED	- 01/24/2022	REVISED	-

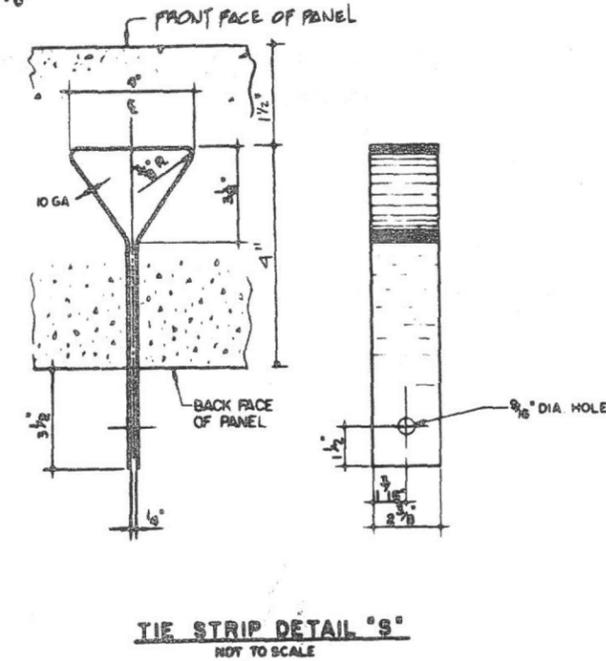
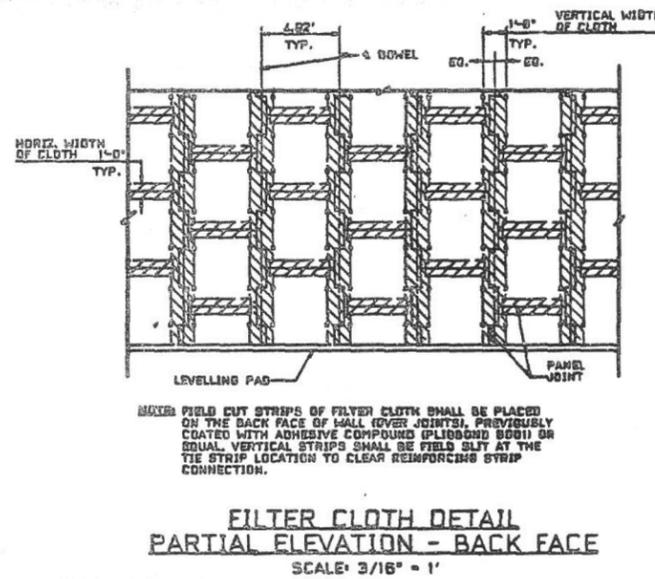
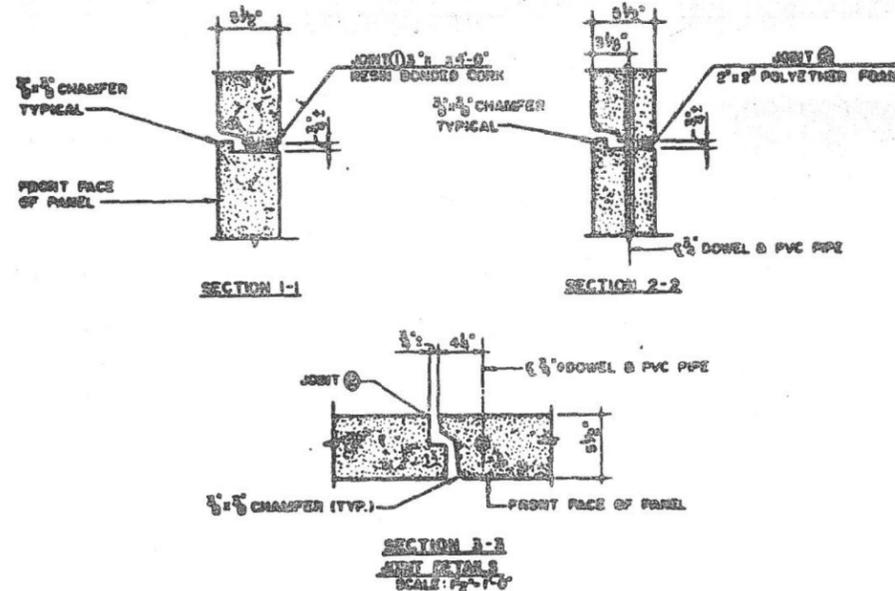
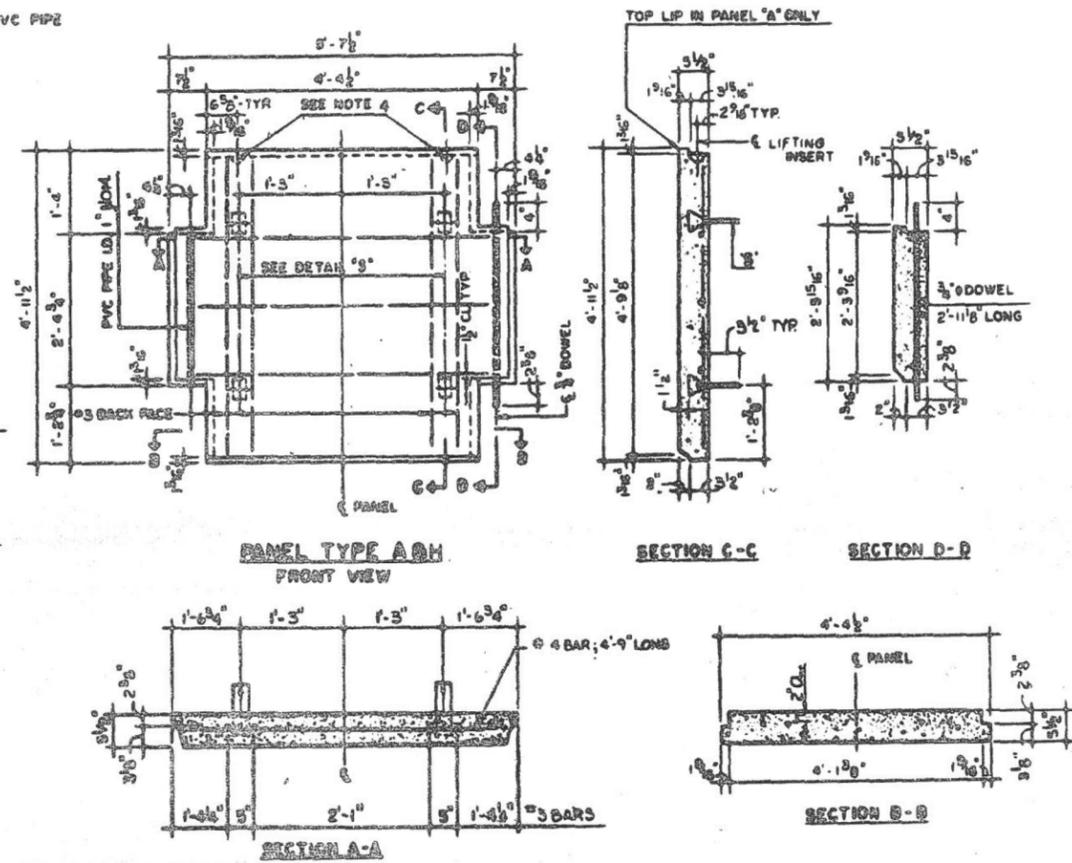
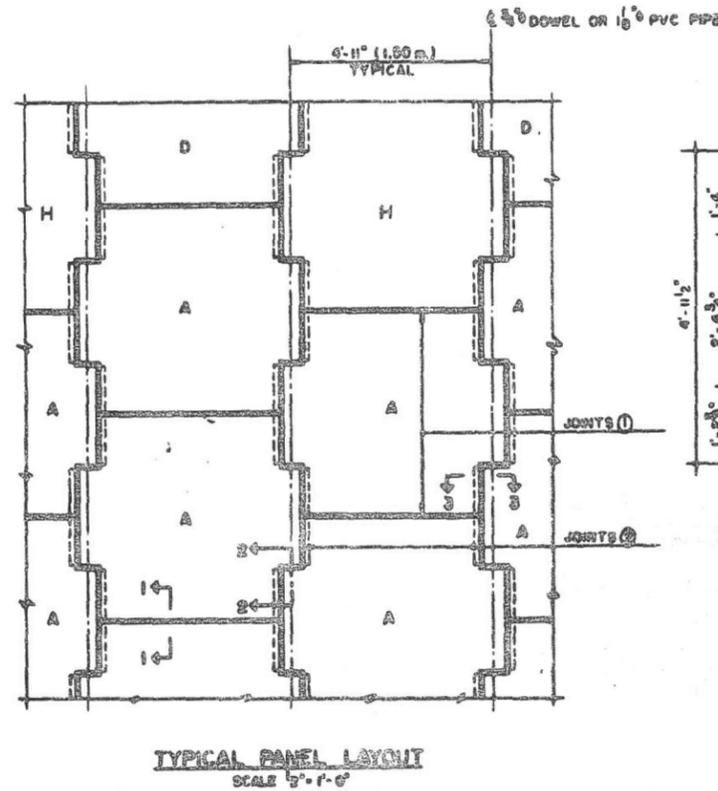
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS  
SN 048-3286

SHEET NO. 60 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	76
CONTRACT NO.			89819	
ILLINOIS FED. AID PROJECT 4				

# EXISTING PLANS FOR INFORMATION ONLY



- NOTE:
- 1 REINFORCING STEEL TO BE STEEL A615 GRADE 60.
  - 2 3/8" x 3/8" CHAMFER SHALL BE PROVIDED ON ALL EXPOSED EDGES (FRONT FACE ONLY).
  - 3 ALL PANELS AND OTHER RELATED ELEMENTS WILL BE DETAILED ON SHOP DRAWINGS.
  - 4 ONE TON LIFTING INSERTS.
  - 5 PANEL DESIGN THICKNESS IS 5 1/2". QUANTITY OF CONCRETE WILL INCREASE TO ACCOMMODATE ANY ARCHITECTURAL SURFACE FINISH THAT MAY BE SPECIFIED.

F.A.S. RTE. 400 SECTION 43  
KNOX COUNTY  
STA. 75+40.97  
STAGE I

DESIGNED	PS
CHECKED	KT
DRAWN	PS
CHECKED	KT

Sept 26 1983  
EXAMINER *James J. Harbison*  
PASSED  
APPROVED  
DIRECTOR OF HIGHWAYS

The Reinforced Earth Company	
DATE	REINFORCED EARTH WA
DESCRIPTION	F.A.S. RTE 400 OVER B.N. INC. 5 GALESBURG, KNOX COUNTY - 11
DATE	6-17-83
DATE	STANDARD 5/2" PANEL DETAILS 4

This drawing contains information proprietary to The Reinforced Earth Company, and is being furnished for the use of ILLINOIS DOT only in connection with this project, and the information contained herein is not to be transmitted to any other organization unless specifically authorized in writing by The Reinforced Earth Company. The Reinforced Earth Company is exclusive licensee in the United States under patents issued to Henri Vidal, and the furnishing of this drawing does not constitute an express or implied license under the Vidal patents.

DESIGNED 1/6/21  
DRAWN 05/06/21  
REVIEWED 01/24/2022

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DRAWN - EJM  
CHECKED - 01/24/2022

REVISED -  
REVISED -  
REVISED -  
REVISED -

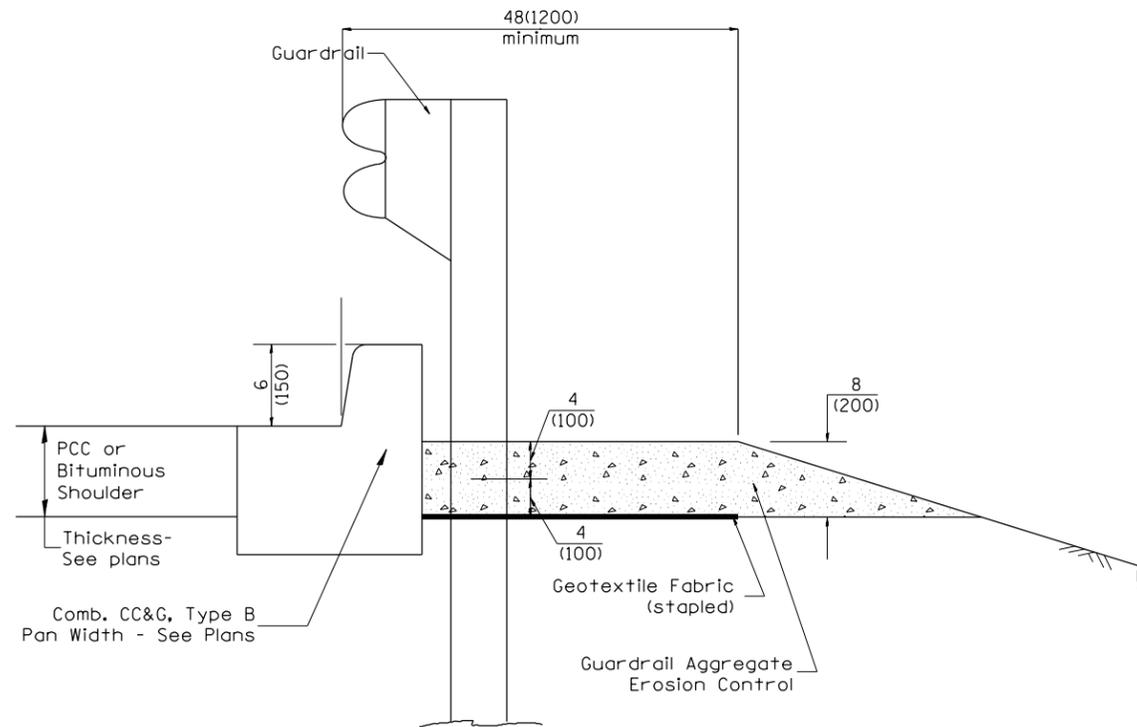
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING PANEL DETAILS  
MSE WALLS

SHEET NO. 61 OF 61 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	77
			CONTRACT NO.	89819

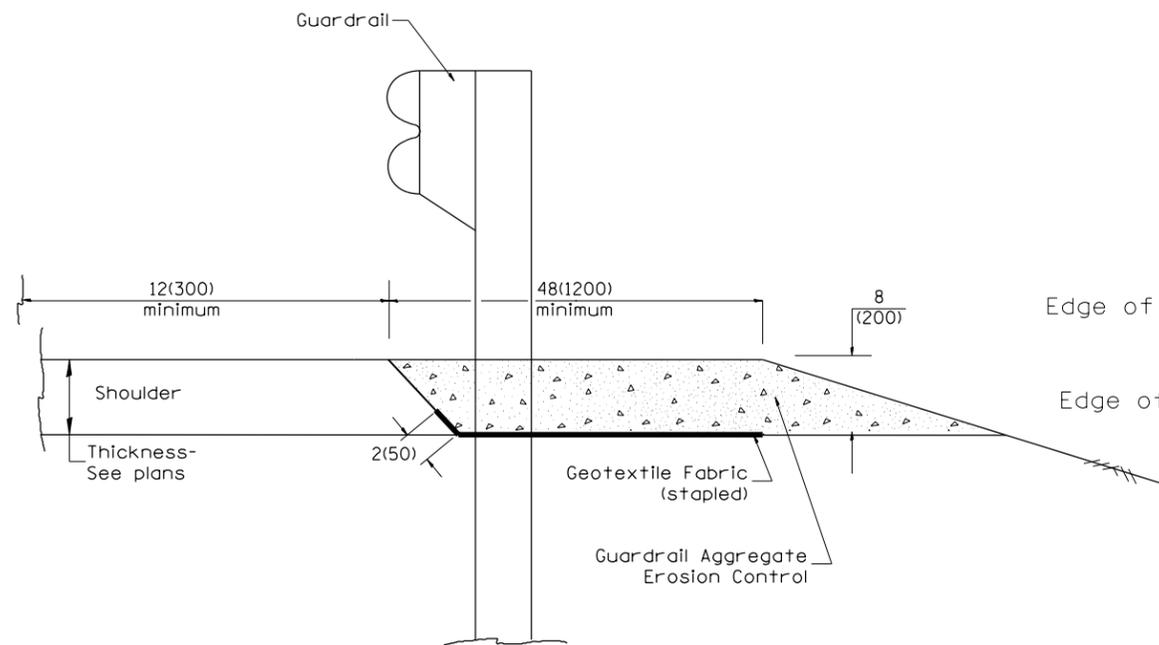
ILLINOIS FED. AID PROJECT 4



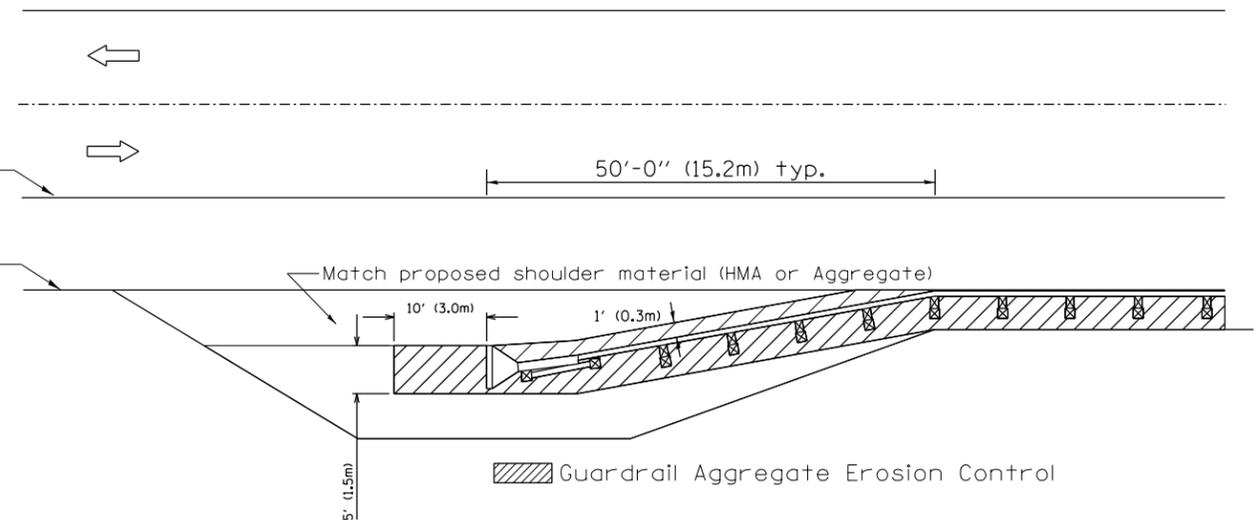
**TYPICAL SECTION WITH COMBINATION CONCRETE CURB & GUTTER**

**GENERAL NOTES: GUARDRAIL AGGREGATE EROSION CONTROL**

1. This work shall consist of grading as needed, furnishing and installing geotextile fabric and staples, and furnishing, placing and shaping crushed aggregate around and behind Steel Plate Beam Guardrail posts in accordance with Plan Details.
2. Before placing the aggregate and the Geotextile Fabric, weeds and grass shall be removed from the area to be covered.
3. After the area has been prepared, and in a dry condition, the Geotextile fabric shall be placed with a 12(300) minimum overlap. A knife cut for guardrail post installation is necessary.
4. The aggregate shall be deposited, compacted and shaped by either mechanical or hand methods, in a manner reasonably true to line and grade.
5. The Contractor shall have the option of placing the guardrail before or after the Geotextile Fabric and Aggregate are in place. If the guardrail is placed after the Geotextile Fabric and Aggregate, then any voids must be filled and the aggregate returned to line and grade.
6. Materials shall meet the following requirements:
  - A. The crushed aggregate shall be CA1 gradation in accordance with Article 1004.01(c) of the Standard Specifications.
  - B. The Geotextile Fabric shall be nonwoven fabric in accordance with Article 1080.02 of the Standard Specifications.



**TYPICAL SECTION WITHOUT EROSION CONTROL CURB**



All dimensions are in inches (millimeters) unless otherwise noted.

LAYOUT	
DRAWN	
REVIEWED	

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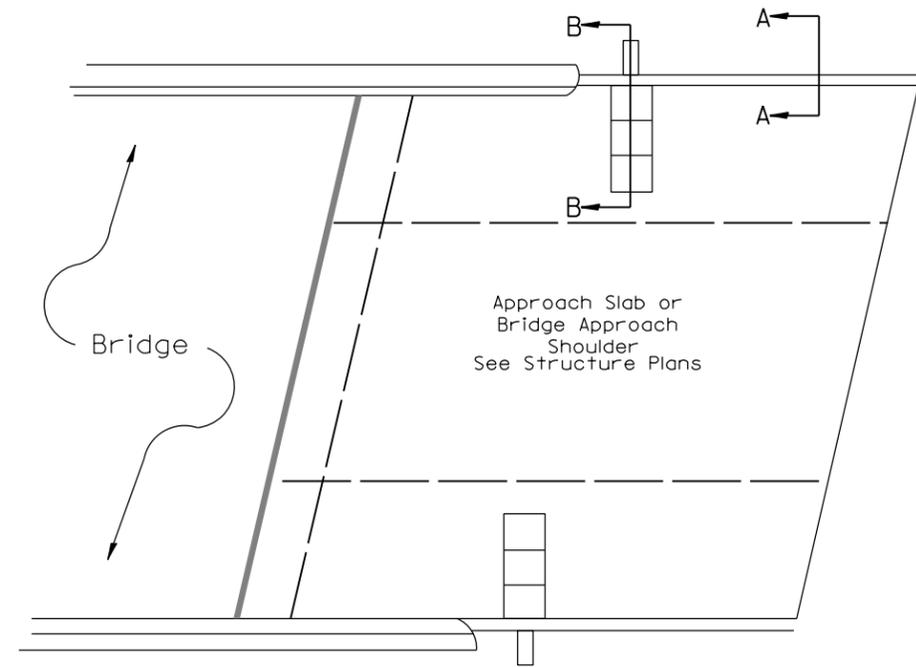
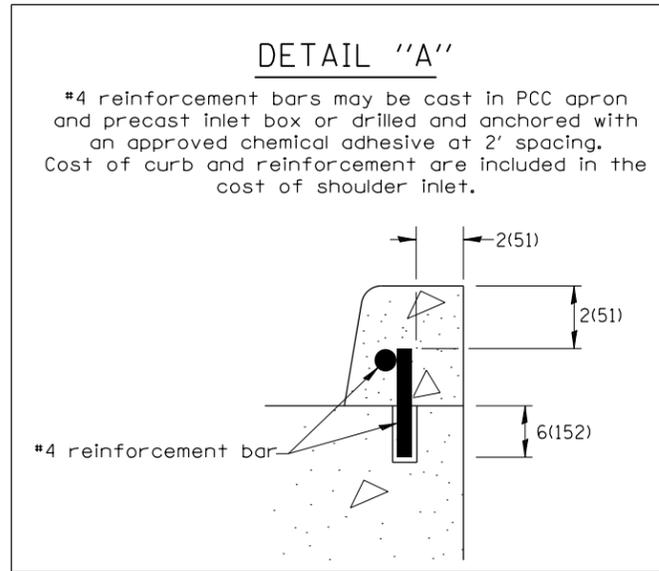
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

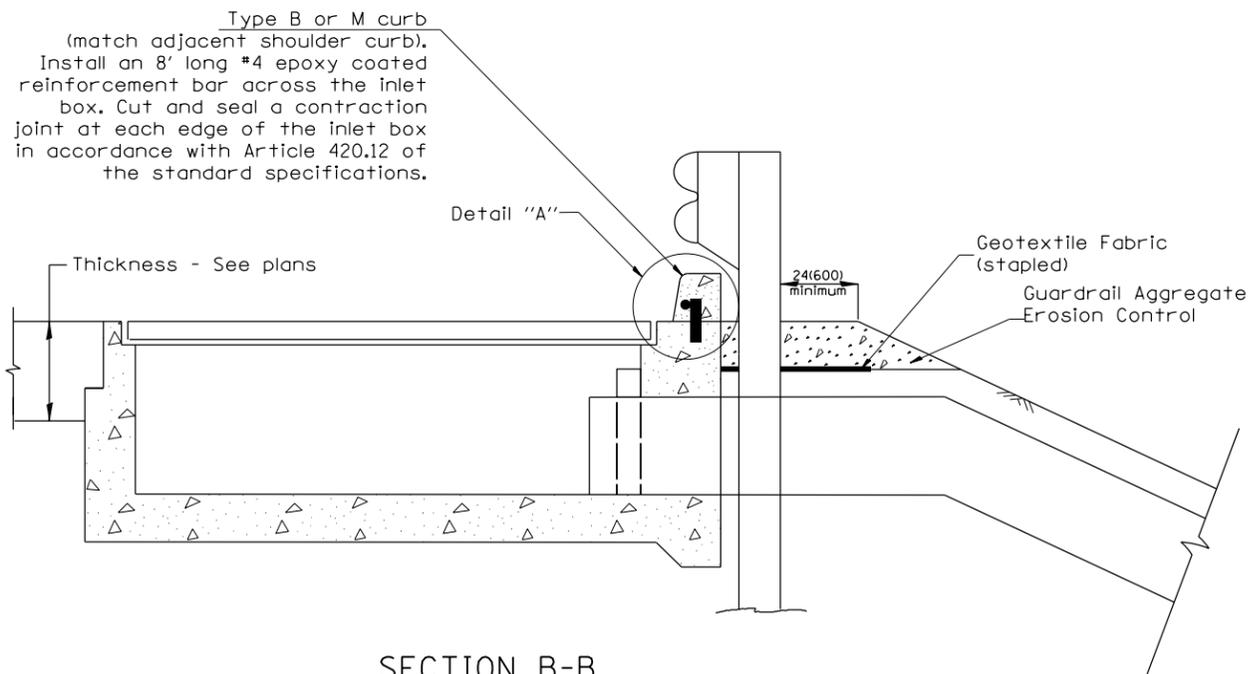
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 CADD STD. 630101-D4**

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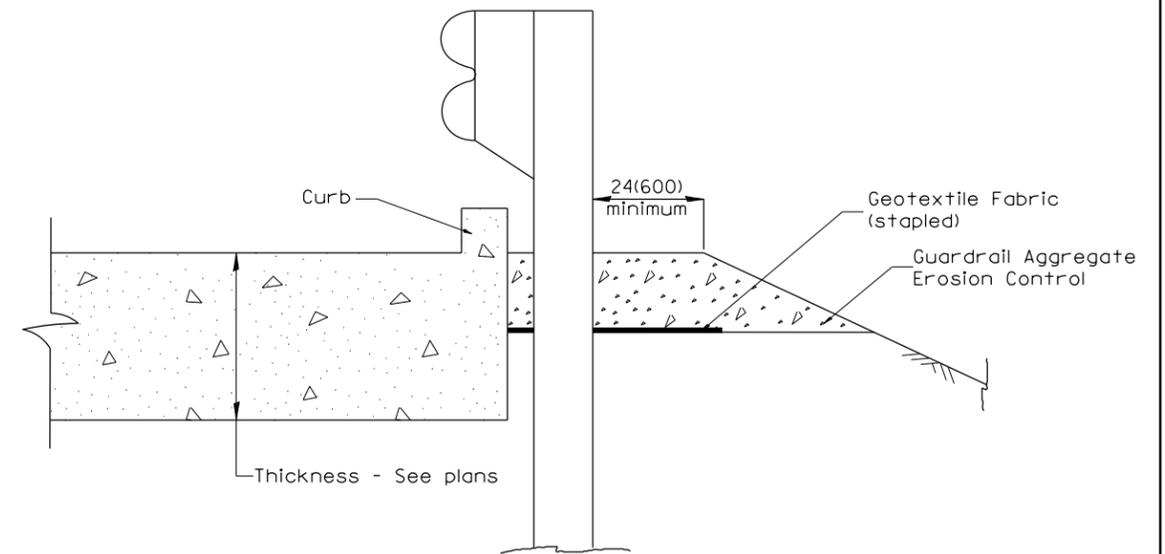
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400	18-00043-01-BR	KNOX	81	78
ILLINOIS FED. AID PROJECT			CONTRACT NO. 89819	



**PLAN VIEW**  
**APPROACH SLAB OR SHOULDER PLACEMENT**



**SECTION B-B**  
**TYPICAL SECTION AT INLETS**  
**TYPE E, F & G (HIGHWAY STANDARD 610001)**



**SECTION A-A**  
**TYPICAL SECTION WITH BRIDGE APPROACH CURB**

All dimensions are in inches (millimeters) unless otherwise noted.

LAYOUT	
DRAWN	
REVIEWED	

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 FILE: h:\job\1810058\CAD\Road\Sheet\sh-Curb\_01.dwg

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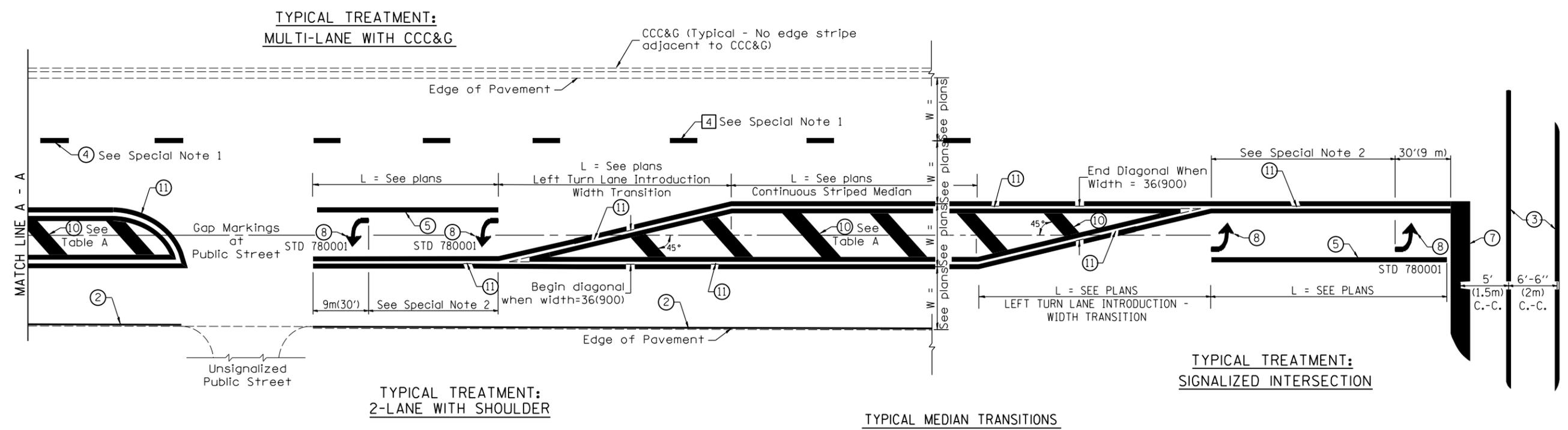
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL EROSION CONTROL TREATMENTS**  
**CADD STD. 630101-D4**

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
400	18-00043-01-BR	KNOX	81	79
CONTRACT NO. 89819			ILLINOIS FED. AID PROJECT	



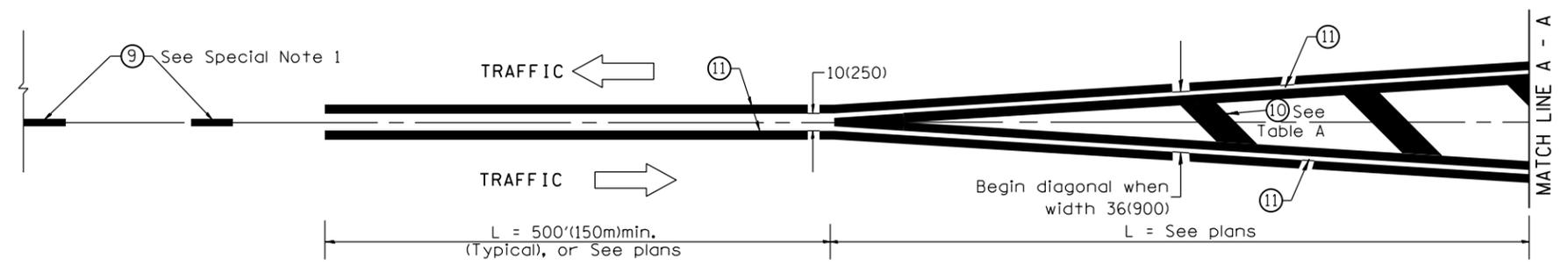


**FLUSH PAVED MEDIAN: RESTRICTED LEFT TURN LANE**

**TABLE A**

**RECOMMENDED SPACING BETWEEN DIAGONAL LINES**

SPEED LIMIT RANGE	INTERSECTION CHANNELIZATION (Includes Width Transitions for Median and Left Turn Lane Introductions)	
	CONTINUOUS	
Less Than 30 mph (50 km/h)	50' (15m)	15' (5m)
30 - 45 mph (50 - 70 km/h)	75' (23m)	20' (6m)
Over 45 mph (70 km/h)	150' (46m)	30' (9m)



**MEDIAN INTRODUCTION - WIDTH TRANSITIONS**

All dimensions are in inches (millimeters) unless otherwise noted.

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PLOT DATE = 2/3/2022	CHECKED -	REVISED -
	DATE = 01/24/2022	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL PAVEMENT MARKINGS  
 CADD STD. 780001-D4**

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 89819				
ILLINOIS FED. AID PROJECT				