

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	1
		ILLINOIS	CONTRACT NO. 68F08	

11-18-2022 LETTING ITEM 027

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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- 701001-02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5M) AWAY
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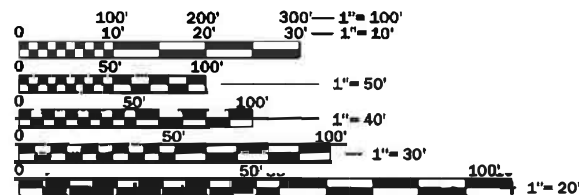
TRAFFIC DATA:

IL ROUTE 17/5TH ST
S.N. 062-0003 2019 ADT = 6,850

DESIGN CLASSIFICATION = MINOR ARTERIAL

DESIGN SPEED = 45 MPH (ASSUMED)

POSTED SPEED = 45 MPH (EASTBOUND)
35 MPH (WESTBOUND)



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

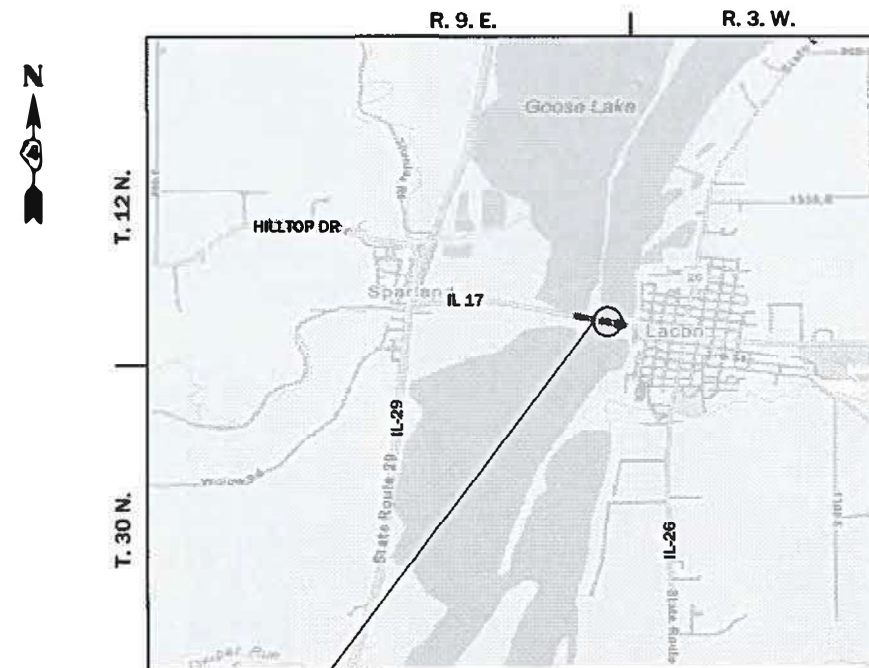
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: RICH DOTSON (309) 671-3455
PROJECT MANAGER: ANNA DEVINE (309) 671-3475
CATALOG NO. 035760-00D
CONTRACT NO. 68F08

PROPOSED HIGHWAY PLANS

F.A.P ROUTE 649 (IL-17)
SECTION (1B-D)BR,P
PROJECT STP-MUEH(694)
BRIDGE PAINTING & REHABILITATION TO
BRIDGE CARRYING IL-17 OVER
ILLINOIS RIVER
MARSHALL COUNTY

C-94-059-19



IL-17/5TH ST
S.N. 062-0003

LOCATION MAP

NOT TO SCALE

GROSS LENGTH = 1,734 FT. = 0.33 MILES
NET LENGTH = 1,734 FT. = 0.33 MILES



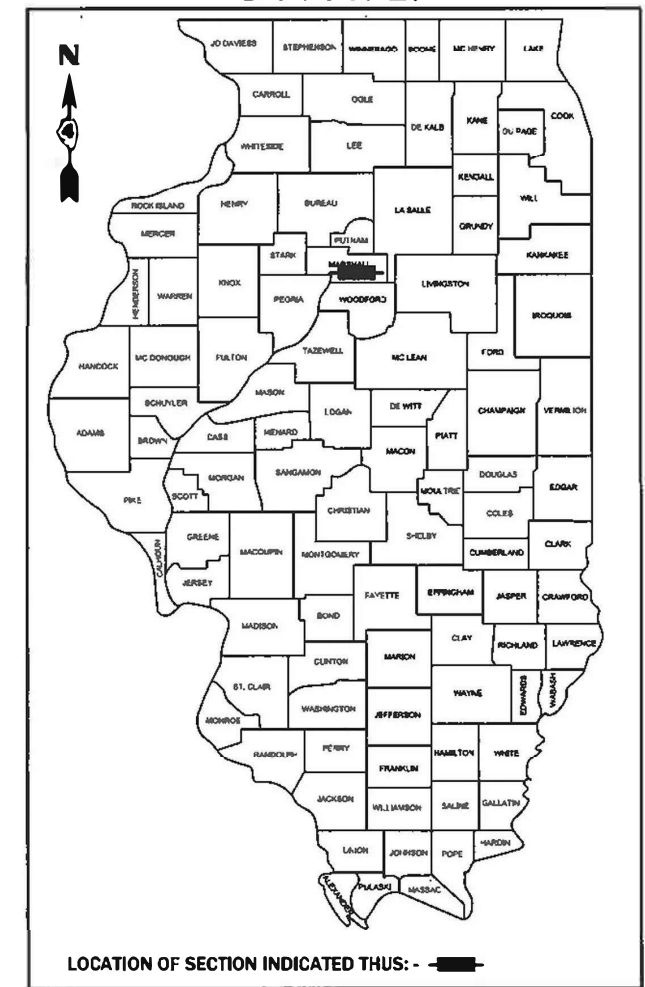
8/25/2022



[Signature]
Expires: 11/30/2023



[Signature]
Expires: 11/30/2023



LOCATION OF SECTION INDICATED THUS: -



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Aug 26 2022
Kensel A Barnett KSP
REGIONAL ENGINEER

October 14, 2022
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

October 14, 2022
[Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

GENERAL NOTES

105.06 AVAILABILITY OF ELECTRONIC FILES

MICROSTATION AND GEOPAK FILES OF THIS PROJECT WILL BE MADE AVAILABLE TO THE CONTRACTOR AFTER CONTRACT AWARD. IF THERE IS A CONFLICT BETWEEN THE ELECTRONIC FILES AND THE PRINTED CONTRACT PLANS AND DOCUMENTS, THE PRINTED CONTRACT PLANS AND DOCUMENTS SHALL TAKE PRECEDENCE OVER THE ELECTRONIC FILES. THE CONTRACTOR SHALL ACCEPT ALL RISK ASSOCIATED WITH USING THE ELECTRONIC FILES AND SHALL HOLD THE DEPARTMENT HARMLESS FOR ANY ERRORS OR OMISSIONS IN THE ELECTRONIC FILES AND THE DATA CONTAINED THEREIN. ERRORS OR DELAYS RESULTING FROM THE USE OF THE ELECTRONIC FILES BY THE CONTRACTOR SHALL NOT RESULT IN AN EXTENSION OF TIME FOR ANY INTERIM OR FINAL COMPLETION DATE OR SHALL NOT BE CONSIDERED CAUSED FOR ADDITIONAL COMPENSATION. THE CONTRACTOR SHALL NOT USE, SHARE, OR DISTRIBUTE THESE ELECTRONIC FILES EXCEPT FOR THE PURPOSE OF CONSTRUCTING THIS CONTRACT. ANY CLAIMS BY THIRD PARTIES DUE TO USE OR ERRORS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL INCLUDE THIS DISCLAIMER WITH THE TRANSFER OF THESE ELECTRONIC FILES TO ANY OTHER PARTIES AND SHALL INCLUDE APPROPRIATE LANGUAGE BINDING THEM TO SIMILAR RESPONSIBILITIES.

107.00 COMMITMENTS

THE WORK SHOWN ON THE 'CONTRACTOR ACCESS PLAN' FOR THE MARINA PARKING LOT REPRESENTS COMMITMENTS THAT HAVE BEEN MADE WITH THE CITY OF LACON.

201.00 TREE REMOVAL RESTRICTIONS

DUE TO THE POTENTIAL PRESENCE OF ENDANGERED BATS, NO TREE REMOVAL WILL BE ALLOWED ON THIS PROJECT BETWEEN APRIL 1ST AND SEPTEMBER 30TH.

202.08 EARTH EXCAVATION - INCIDENTAL TO CURB, GUTTER & DRIVEWAY

EARTH EXCAVATION AND BACKFILL FOR PROPOSED CURB AND GUTTERS AND DRIVEWAY PAVEMENTS SHALL BE INCLUDED IN THE UNIT COST OF THE VARIOUS ITEMS.

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 (BORROW SITE REVIEW)
- BDE FORM 2290 (WASTE/USE AREA REVIEW)
- A LOCATION MAP SHOWING SIZE LIMITS AND LOCATION OF THE USE AREA
- COLOR PHOTOGRAPHS DEPICTING THE USE AREA
- BORROW AREA ENTRY AGREEMENT FORM - D4 PI0101

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.

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.

406.01 BRIDGE OVERLAY NOTIFICATION

AFTER PLACEMENT OF THE BRIDGE DECK OVERLAY, THE RESIDENT ENGINEER SHALL NOTIFY THE DISTRICT BRIDGE MAINTENANCE ENGINEER OF THE "AS CONSTRUCTED" MILLING DEPTH AND OVERLAY THICKNESS FOR UPDATING THE ILLINOIS HIGHWAY INFORMATION SYSTEM.

406.05 POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) RATES

SURFACE TYPE	RESIDUAL RATE
MILLED (HMA OR PCC)	0.08 LB/SQ FT
EXISTING PAVEMENT	0.08 LB/SQ FT
FOG COAT (BETWEEN LIFTS)	0.08 LB/SQ FT

406.10 HOT-MIX ASPHALT MIXTURE REQUIREMENTS

MIXTURE USE(S):	HMA SURFACE COURSE	MARINA PARKING LOT
AC/PG:	PG 58-28	PG 58-28
DESIGN AIR VOIDS:	4.0% @ N DESIGN = 50	4.0% @ N DESIGN = 50
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5	IL-9.5
FRICTION AGGREGATE:	MIX "D"	MIX "C"
QUALITY MANAGEMENT:	QC/QA	QC/QA
MATERIAL TRANSFER DEVICE:	NO	NO

701.01 ADDITIONAL SUPPLEMENTAL TRAFFIC CONTROL

THE DEPARTMENT RESERVES THE RIGHT AT ANY TIME TO ADD ADDITIONAL TRAFFIC CONTROL SYSTEMS OR DEVICES WITHIN THE ACTIVE CONTRACT LIMITS, BY MEANS OF AN ADDITIONAL CONTRACT. ALL TERMS OF ARTICLE 105.08 OF THE STANDARD SPECIFICATIONS SHALL BE FOLLOWED BY EACH CONTRACTOR.

708.00 NO PASSING ZONE VERIFICATION

THE RESIDENT SHALL CONTACT OPERATIONS TO VERIFY THE LOCATION OF NO PASSING ZONES PRIOR TO PLACEMENT OF CENTERLINE STRIPING.

720.00 SIGNING

SIGN LOCATION MAY VARY FROM THE STATIONS SHOWN ON THE PLANS IN ACCORDANCE WITH DIRECTIONS FROM THE ENGINEER AT THE TIME OF CONSTRUCTION. SIGN LOCATIONS MAY BE ADJUSTED IN THE FIELD TO AVOID ANY FOUND UTILITIES.

ALL WOOD POST LOCATIONS SHALL BE VERIFIED WITH THE BUREAU OF OPERATIONS, TRAFFIC SECTION, BEFORE INSTALLATION.

COORDINATION

SEE SPECIAL PROVISIONS FOR UNITED STATES COAST GUARD (U.S.C.G.) REQUIREMENTS.

U.S.C.G. CONTACT:

MR. PETER J. SAMBOR, M.P.A.
U.S.C.G. BRIDGE MANAGEMENT SPECIALIST
COAST GUARD 8TH DISTRICT
1222 SPRUCE STREET, SUITE 2107F
ST. LOUIS, MISSOURI 63103
PHONE: (314) 269-2380
U.S.C.G. 24-HOUR WATCH CENTER: (314) 269-2332

AN EXISTING STRUCTURE INFORMATION PACKET IS AVAILABLE UPON REQUEST, CONTACT ANNA DEVINE AT (309) 671-3475.

STATUS OF UTILITIES

ROUTE	LOCATIONS	MIN DEPTH	COMPANY	CONTACT INFO	TYPE OF UTILITY	TYPE OF CONFLICT	DISPOSITION
IL-17	EXISTING CONDUIT ATTACHED UNDER NORTHWEST & NORTHEAST SIDE OF STRUCTURE AND ALONG SOUTH CORD OF TRUSS	NA	LUMEN	BRAD STOCKHAM WORK: (309) 477-0363	FIBER AND PHONE IN SHARED 2" GALVANIZED STEEL CONDUIT	STEEL REPAIR & LEAD PAINT REMOVAL	CONFLICT
	NORTH OF IL-17	30"		MOBILE: (309) 267-3287	BURIED	ABUTMENT REPAIRS	CAUTION
IL-17	STA 61+00	30"	AMEREN GAS	ELIZABETH COOKE WORK: (309) 677-7542	6" STEEL GAS LINE	EQUIPMENT, ABUTMENT REPAIRS, STEEL REPAIR & LEAD PAINT REMOVAL	CAUTION
	CONDUIT ATTACHED TO WEST & EAST SIDE OF STRUCTURE	NA		MOBILE: (309) 401-9000	ABANDONED 8" STEEL GAS RISER		CAUTION
	STA 78+00	30"		6" STEEL GAS LINE	CAUTION		
IL-17	MARINA PARKING LOT	NA	AMEREN ELECTRIC	JON REICK WORK: (309) 693-4697 MOBILE: (309) 258-3901	POLE & AERIAL LINE	EQUIPMENT AND ABUTMENT REPAIRS	CAUTION CAUTION
IL-17	CONDUIT ATTACHED TO NORTH & SOUTH SIDE OF STRUCTURE	NA	IDOT	ERIC HOWALD WORK: (309) 671-4481	LIGHTING		FULL REMOVAL AND REPLACEMENT

NOTES:

1. INDIVIDUAL LIFT THICKNESS OF EACH MIX TYPE WILL BE NO LESS THAN 3 TIMES NOMINAL MAXIMUM AGGREGATE SIZE AND NO MORE THAN 6 TIMES NOMINAL MAXIMUM AGGREGATE SIZE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. FOR DESIGN PURPOSES, MIXTURE WEIGHT FOR ALL MIXES IS DETERMINED TO BE 112.0 LB/S.Y./IN., UNLESS OTHERWISE NOTED.
3. SUBLOT SIZE FOR PFP AND QCP MIXES WILL BE 600 TONS, UNLESS OTHERWISE AGREED TO BY THE ENGINEER AND THE PAVING CONTRACTOR.



USER NAME = 14nho
DESIGNED - JK
DRAWN - JK
PLOT SCALE = 2,0000 ' / in.
PLOT DATE = 8/25/2022

DESIGNED - JK
DRAWN - JK
CHECKED - ST
DATE - 8/2022

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
GENERAL NOTES, JOB SPECIFIC NOTES & STATUS OF UTILITIES

SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	2
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	CONSTRUCTION CODE
				80% FED/20% STATE	80% FED/20% STATE
				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	1,861	1,861	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	175	175	
40600990	TEMPORARY RAMP	SQ YD	558	558	
40604050	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "C", N50	TON	462	462	
40604060	HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "D", N50	TON	20	20	
44000165	HOT-MIX ASPHALT SURFACE REMOVAL, 4"	SQ YD	2,062	2,062	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	320	320	
50102400	CONCRETE REMOVAL	CU YD	78.2	78.2	
50157300	PROTECTIVE SHIELD	SQ YD	323	323	
50300225	CONCRETE STRUCTURES	CU YD	21	21	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	76.3	76.3	
50300260	BRIDGE DECK GROOVING	SQ YD	4,230	4,230	
50300300	PROTECTIVE COAT	SQ YD	4,579	4,579	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	50,870	50,870	

* SPECIALTY ITEM



USER NAME = 14nhb	DESIGNED - JK	REVISED -
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PLOT DATE = 8/25/2022	DATE - 8/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 1 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	3
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	CONSTRUCTION CODE
				80% FED/20% STATE	80% FED/20% STATE
				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
50500505	STUD SHEAR CONNECTORS	EACH	34	34	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	46,800	46,800	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	348	348	
52000212	FINGER PLATE EXPANSION JOINT, 4"	FOOT	29	29	
52000220	FINGER PLATE EXPANSION JOINT, 6"	FOOT	29	29	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	40	40	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	20	20	
52100520	ANCHOR BOLTS, 1"	EACH	80	80	
52100530	ANCHOR BOLTS, 1 1/4"	EACH	4	4	
52100540	ANCHOR BOLTS, 1 1/2"	EACH	4	4	
58700300	CONCRETE SEALER	SQ FT	200	200	
59000200	EPOXY CRACK INJECTION	FOOT	955	955	
60260100	INLETS TO BE ADJUSTED	EACH	8	8	
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	320	320	

* SPECIALTY ITEM



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 2 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	4
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	CONSTRUCTION CODE
				80% FED/20% STATE	80% FED/20% STATE
				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	320	320	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	12	
67100100	MOBILIZATION	L SUM	1	1	
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	140	140	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	82	82	
* 72000100	SIGN PANEL - TYPE 1	SQ FT	24	24	
* 72400310	REMOVE SIGN PANEL - TYPE 1	SQ FT	6	6	
* 72800100	TELESCOPING STEEL SIGN SUPPORT	FOOT	34	34	
* 78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	3,467	3,467	
* 78009006	MODIFIED URETHANE PAVEMENT MARKING - LINE 6"	FOOT	3,467	3,467	
* 78011025	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	3,467	3,467	
* 78011035	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	3,467	3,467	
* 80400100	ELECTRIC SERVICE INSTALLATION	EACH	1		1
* 81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	35		35

* SPECIALTY ITEM



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 3 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	5
			CONTRACT NO. 68F08	
ILLINOIS			FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	CONSTRUCTION CODE
				80% FED/20% STATE	80% FED/20% STATE
				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
* 81100300	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	240		240
* 81100500	CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., GALVANIZED STEEL	FOOT	633		633
* 81100600	CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	966		966
* 81300320	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6"	EACH	12		12
* 81300555	JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 12" X 8"	EACH	1		1
* 81702120	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	5,709		5,709
* 82110005	LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION E	EACH	10		10
* 82200608	WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED, 180 DEGREE RED	EACH	4		4
* 82200609	WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED, 360 DEGREE GREEN	EACH	2		2
* 82500390	LIGHTING CONTROLLER, BASE MOUNTED, 240VOLT, 100AMP (DUAL)	EACH	1		1
* 83060810	LIGHT POLE, GALVANIZED STEEL, 35 FT. M.H., TENON MOUNT	EACH	4		4
* 87900100	DRILL EXISTING FOUNDATION	EACH	1		1
* X0320023	CLOSED CIRCUIT TELEVISION DOME CAMERA, HD	EACH	1		1
* X0325541	REMOVE EXISTING LIGHTING SYSTEM	L SUM	1		1

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**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 4 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT				

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				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
* X0326812	CAT 5 ETHERNET CABLE	FOOT	144		144
X0600004	CAULKING STRUCTURAL STEEL CONNECTIONS	GALLON	47.2	47.2	
X0900037	COLUMN TENSIONED STRANDS	EACH	12	12	
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
X6640210	TEMPORARY CHAIN LINK FENCE (PORTABLE)	FOOT	511	511	
* X8210402	LUMINAIRE MOUNTING BRACKET - SPECIAL	EACH	10		10
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	20	20	
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	25,410	25,410	
Z0001905	STRUCTURAL STEEL REPAIR	POUND	13,965	13,965	
Z0006700	BRIDGE DRAINAGE SYSTEM	EACH	1	1	
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	4,347	4,347	
Z0012162	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	4,347	4,347	

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SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 5 OF 6 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	7
			CONTRACT NO. 68F08	
			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	CONSTRUCTION CODE
				80% FED/20% STATE	80% FED/20% STATE
				SN 062-0003	SN 062-0003
				0047	0021
				MARSHALL CO.	MARSHALL CO.
				BRIDGE	LIGHTING
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	486.5	486.5	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	1,715	1,715	
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	1,011	1,011	
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	9.5	9.5	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	18.7	18.7	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	1	1	
Z0016702	DETOUR SIGNING	L SUM	1	1	
Z0018051	DRAINAGE SCUPPERS TO BE ADJUSTED	EACH	76	76	
Z0031200	JACKING AND CRIBBING	EACH	4	4	
Z0039910	PIER PROTECTION CELL REPAIR	EACH	2	2	
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	20	20	

* SPECIALTY ITEM



USER NAME = 14nho	DESIGNED - JK	REVISED -
DRAWN - JK	REVISED -	
PLOT SCALE = 2 0000' / in.	CHECKED - ST	REVISED -
PLOT DATE = 8/25/2022	DATE - 8/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SUMMARY OF QUANTITIES**

SCALE: N.T.S. SHEET 6 OF 6 SHEETS STA. TO STA.

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 8
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	

PAVEMENT SCHEDULE

FROM STATION	TO STATION	LT/RT	HMA SURFACE COURSE, 1L-9.5, MIX "D", N50	HMA SURFACE COURSE, 1L-9.5, MIX "C", N50	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	HMA SURFACE REMOVAL - BUTT JOINT	HMA SURFACE REMOVAL - 4"
			TON	TON	POUND	SQ YD	SQ YD
49+97.25	50+27.25	RT/LT	9.76		188.15	87.11	
67+00.75	67+30.75	RT/LT	9.75		188.01	87.04	
MARINA PARKING LOT				461.70	1,484.1		2,062.00
ROUNDED TOTAL			20	462	1,861	175	2,062

SIGNING SCHEDULE

STATION	LT/RT	SIGN NO.	SIGN PANEL - TYPE 1	TELESCOPING STEEL SIGN SUPPORT	REMOVE SIGN PANEL - TYPE 1
			SQ FT	FOOT	SQ FT
47+75.23	RT	1	9.00	17.00	
50+75.12	RT	2	6.00		6.00
69+48.74	LT	3	9.00	17.00	
ROUNDED TOTAL			24	34	6

PAVEMENT MARKING SCHEDULE

FROM STATION	TO STATION	LT/RT	MODIFIED URETHANE PAVEMENT MARKING	MODIFIED URETHANE PAVEMENT MARKING	GROOVING FOR RECESSED PAVEMENT MARKING	GROOVING FOR RECESSED PAVEMENT MARKING	PAVEMENT MARKING BLACKOUT TAPE	SHORT TERM PAVEMENT MARKING REMOVAL
			LINE 4"	LINE 6"	LINE 5"	LINE 7"	LINE 7"	
			FOOT	FOOT	FOOT	FOOT	FOOT	SQ FT
49+97.25	67+30.75	LT		1,733.50		1,733.50		
49+97.25	67+30.75	LT/RT	3,467.00		3,467.00			
49+97.25	67+30.75	RT		1,733.50		1,733.50		
MARINA PARKING LOT							140.00	81.70
ROUNDED TOTAL			3,467	3,467	3,467	3,467	140	82

CURB AND GUTTER SCHEDULE

FROM STATION	TO STATION	LT/RT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	COMBINATION CURB AND GUTTER REMOVAL	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A
			FOOT	FOOT	FOOT
49+97.25	50+77.25	LT	80	80	80
49+97.25	50+77.25	RT	80	80	80
66+50.75	67+30.75	LT	80	80	80
66+50.75	67+30.75	RT	80	80	80
ROUNDED TOTAL			320	320	320

INLETS TO BE ADJUSTED

STATION	LT/RT	EACH
50+09.70	RT	1
50+10.71	LT	1
50+20.35	RT	1
50+20.49	LT	1
66+90.53	RT	1
66+90.65	LT	1
67+00.00	LT	1
67+00.35	RT	1
TOTAL		8

TEMPORARY CHAIN LINK FENCE (PORTABLE)

FROM STATION	TO STATION	LT/RT	FOOT
MARINA PARKING LOT			511.00
ROUNDED TOTAL			511

TEMPORARY RAMP

FROM STATION	TO STATION	LT/RT	SQ YD
MARINA PARKING LOT			557.1
ROUNDED TOTAL			558



USER NAME = 14nho	DESIGNED - JK	REVISED -
	DRAWN - JK	REVISED -
PLOT SCALE = 2,000' / in.	CHECKED - ST	REVISED -
PLOT DATE = 8/23/2022	DATE - 8/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

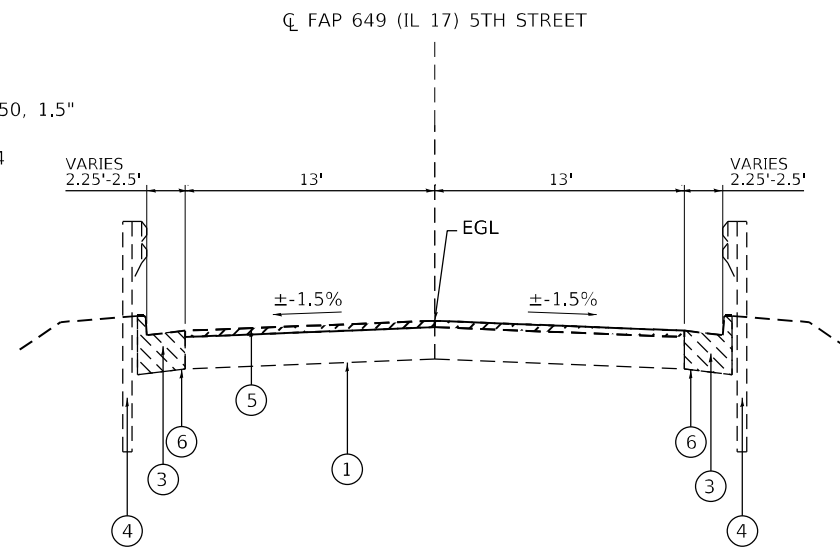
**IL-17 OVER ILLINOIS RIVER (S.N. 062-0003)
SCHEDULE OF QUANTITIES**

SCALE: N.T.S. SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	9
			CONTRACT NO. 68F08	
			ILLINOIS FED. AID PROJECT	

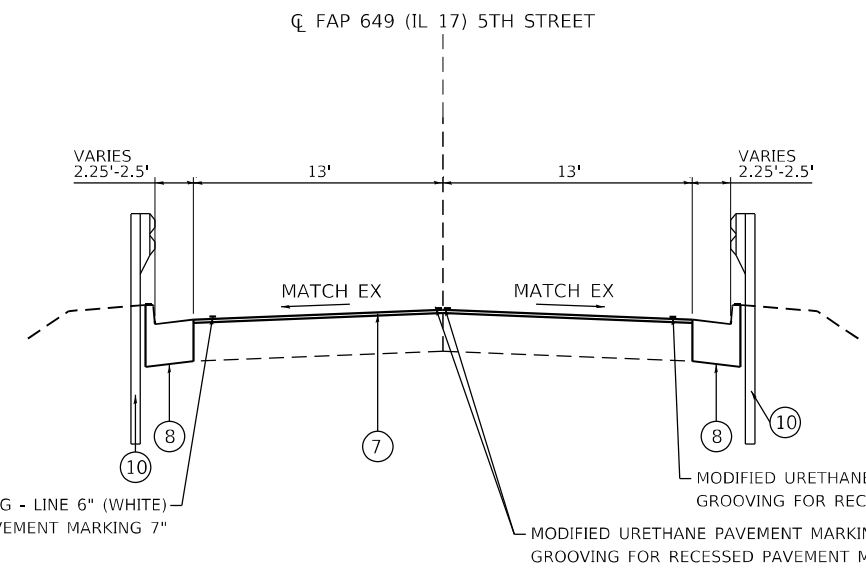
LEGEND

- ① EX HMA PAVEMENT
- ② EX CONC APPROACH SLAB
- ③ EX CONC. CURB AND GUTTER TYPE B-6.24
- ④ EX GUARDRAIL
- ⑤ PR HMA SURFACE REMOVAL - BUTT JOINT
- ⑥ PR CONC CURB AND GUTTER REMOVAL
- ⑦ PR HMA SURF COURSE, IL-9.5, MIX "D", N50, 1.5"
- ⑧ PR CONC. CURB AND GUTTER TYPE B-6.24
- ⑨ MICORSILICA OVERLAY, 2 1/4"
- ⑩ REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A



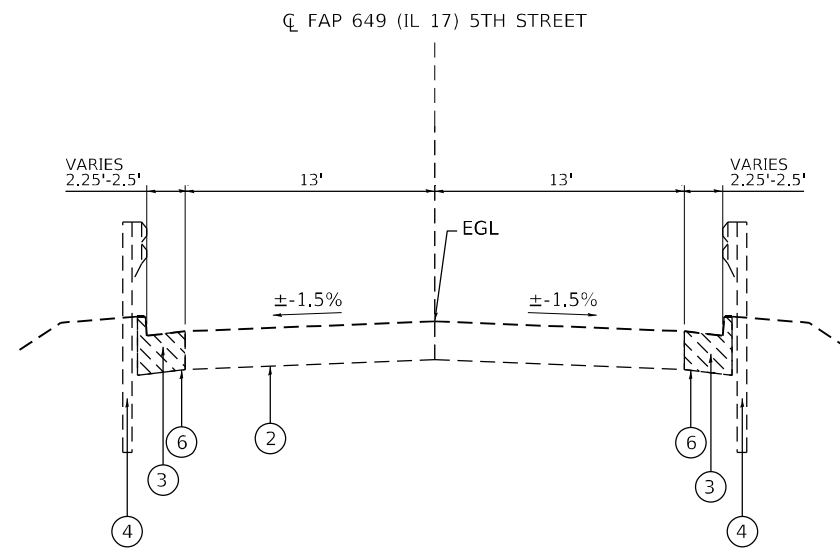
EXISTING TYPICAL SECTION

IL ROUTE 17 OVER ILLNOIS RIVER
 STA 49+97.25 TO STA 50+27.25
 STA 67+00.75 TO STA 67+30.75
 (LOOKING EAST)



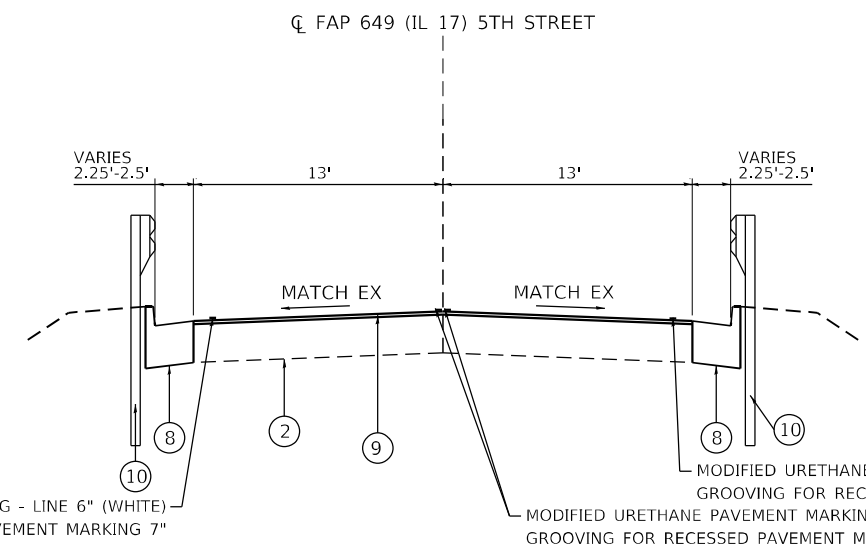
PROPOSED TYPICAL SECTION

IL ROUTE 17 OVER ILLNOIS RIVER
 STA 49+97.25 TO STA 50+27.25
 STA 67+00.75 TO STA 67+30.75
 (LOOKING EAST)



EXISTING TYPICAL SECTION

IL ROUTE 17 OVER ILLNOIS RIVER
 STA 50+27.25 TO STA 50+77.25
 STA 66+50.75 TO STA 67+00.75
 BRIDGE OMISSION
 STA 50+77.25 TO STA 66+50.75
 (LOOKING EAST)



PROPOSED TYPICAL SECTION

IL ROUTE 17 OVER ILLNOIS RIVER
 STA 50+27.25 TO STA 50+77.25
 STA 66+50.75 TO STA 67+00.75
 BRIDGE OMISSION
 STA 50+77.25 TO STA 66+50.75
 (LOOKING EAST)

USER NAME = l4nho	DESIGNED - NH	REVISED -
DRAWN - NH	REVISIONS -	
PLOT SCALE = 10,0000 * / in.	CHECKED - ST	REVISED -
PLOT DATE = 8/23/2022	DATE - 8/2022	REVISED -

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 10
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

LEGEND

Ⓐ INLETS TO BE ADJUSTED



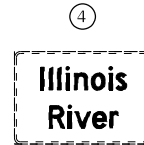
W5-2
36"X36"
TELESCOPING
STEEL SIGN
SUPPORT
STA 47+75.23



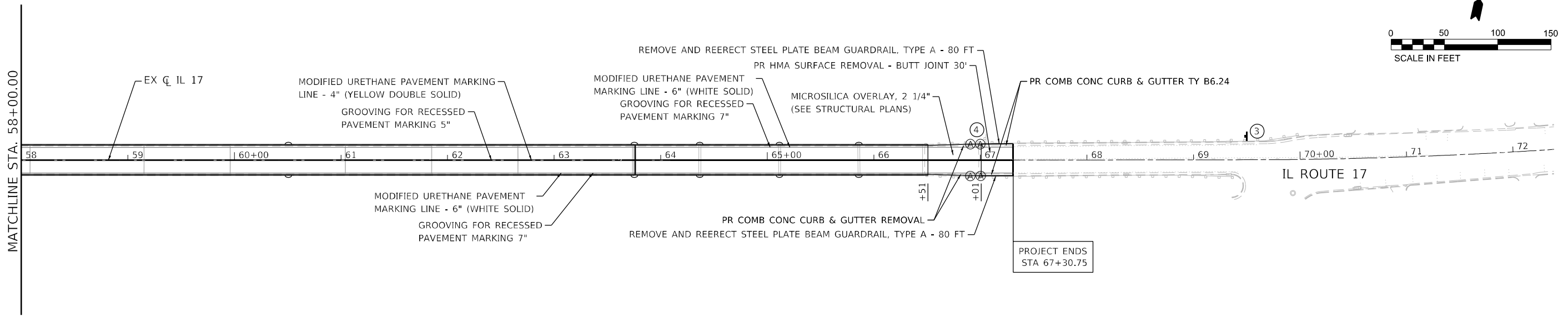
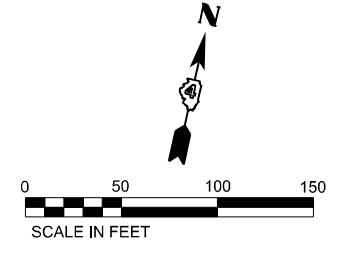
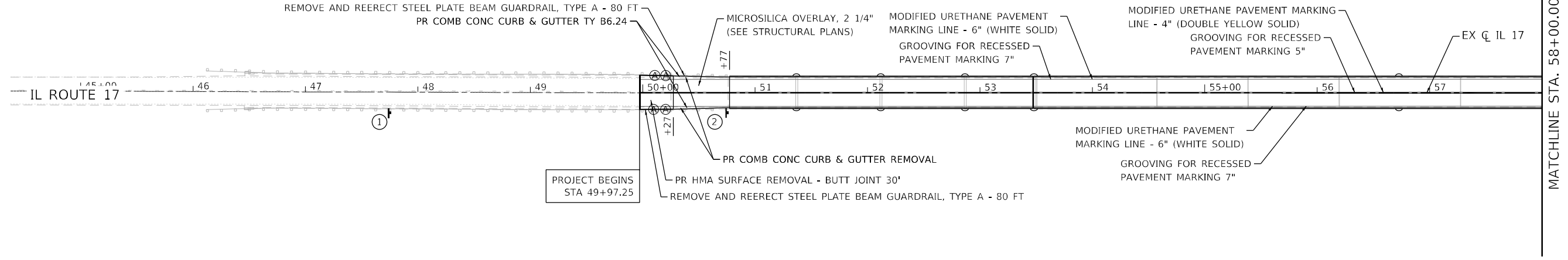
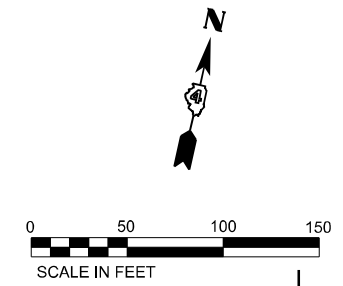
11-1101
36"X24"
MOUNTED
ON LIGHTPOLE
STA 50+75.12



W5-2
36"X36"
TELESCOPING
STEEL SIGN
SUPPORT
STA 69+48.74

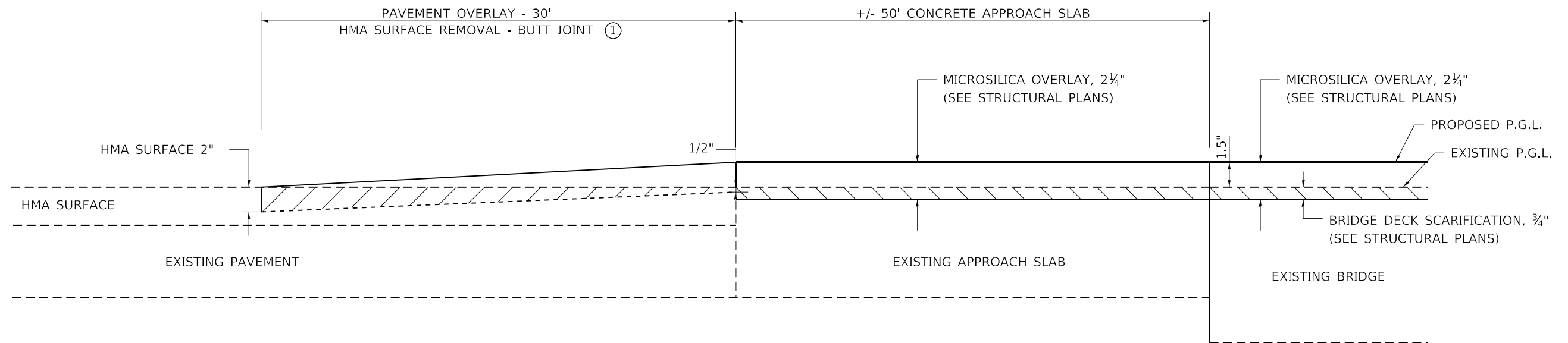


11-1101
36"X24"
EX SIGN
TO REMAIN
STA 67+05.35



USER NAME = 14nho	DESIGNED - RC	REVISED -
DRAWN - RC	REVISIONS -	
PLOT SCALE = 100,0024' / in.	CHECKED - ST	REVISED -
PLOT DATE = 8/25/2022	DATE - 8/2022	REVISED -

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 11
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				



BUTT JOINT AND HMA TAPER FOR SCARIFICATION AND MICROSILICA CONCRETE OVERLAY

TABLE A
TAPER RATES

SPECIAL NOTE NUMBER	ELEMENT	MAINLINE INTERSTATES & 4-LANE EXPRESSWAYS	ALL OTHERS
①	BUTT JOINT TAPER RATE	1:480	1:240

GENERAL NOTES

- The work shall be done in accordance with Article 406.08 and the Special Provision for Butt Joints.
- The pavement surface to be removed will be bituminous pavement. The work shall be performed in accordance with Article 440.04 and the Special Provisions for Butt Joints.
- The saw cut joints shall be primed just prior to the placing of bituminous material. The work will be in accordance with the applicable portions of Article 406.05.
- The length of butt joint is based on the taper rate times change in proposed surface grade within the butt joint pay limits, unless otherwise indicated.

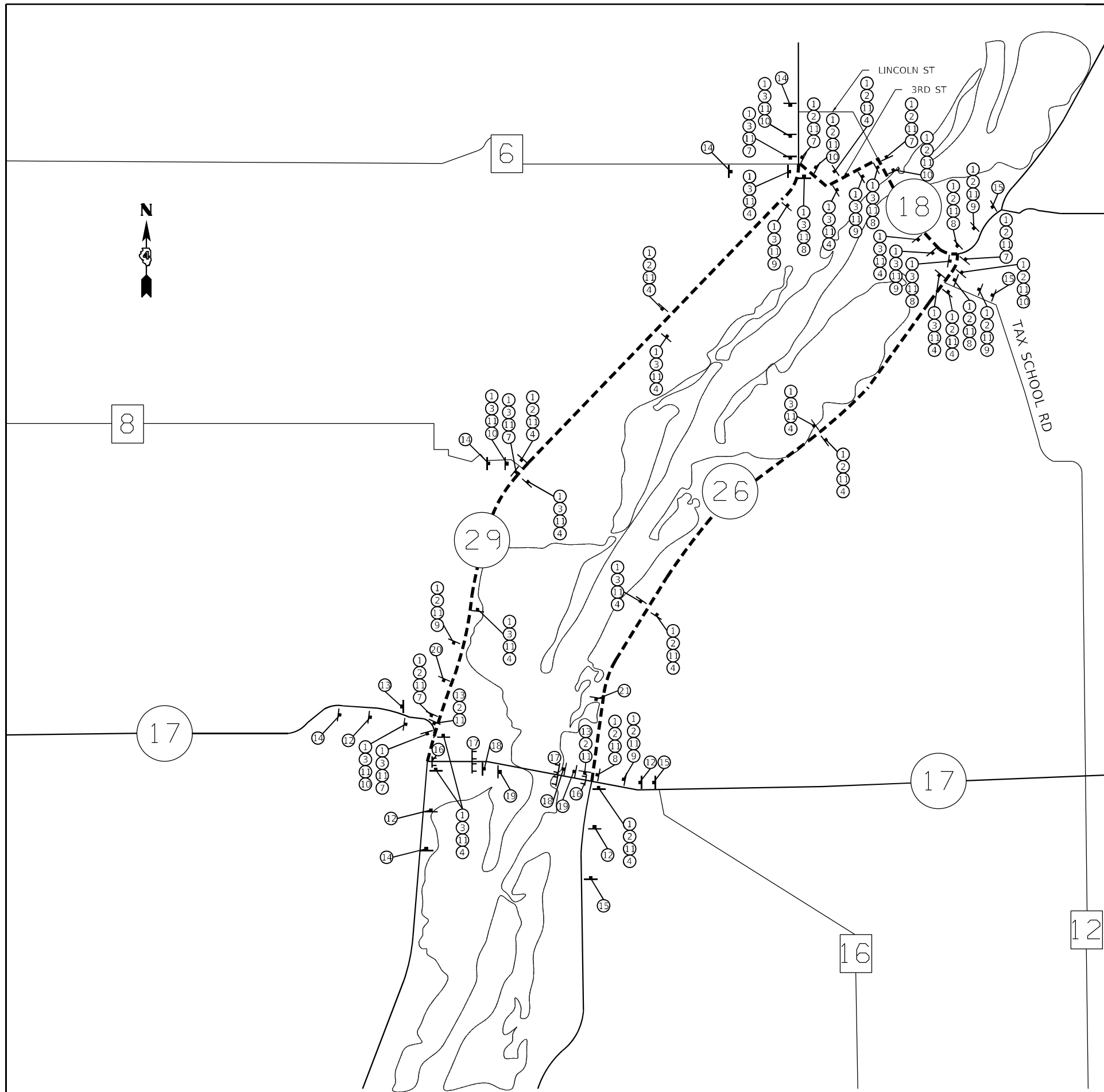
All dimensions are in inches (millimeters) unless otherwise noted.

SIGN LEGEND

1	DETOUR M4-8 36X18	13	END DETOUR M4-8a 30X15
2	WEST M3-4 (BL) 36X18	14	EASTBOUND IL-17 CLOSED AT ILLINOIS RIVER FOLLOW DETOUR SPECIAL 72"X48"
3	EAST M3-2 (BL) 36X18	15	WESTBOUND IL-17 CLOSED AT ILLINOIS RIVER FOLLOW DETOUR SPECIAL 72"X48"
4	M6-3 (3021) (BL)	16	ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30"
5	M6-2R (3021) (BL)	17	BRIDGE CLOSED R11-1104 48"X30"
6	M5-2R (3021) (BL)	18	ROAD CLOSED AHEAD W20-3 (4848)
7	M6-1L (3021) (BL)	19	ROAD CLOSED 500 FT W20-3C (4848)
8	M6-1R (3021) (BL)	20	EASTBOUND IL-17 CLOSED AT ILLINOIS RIVER SPECIAL 72"X36"
9	M5-1R (3021) (BL)	21	WESTBOUND IL-17 CLOSED AT ILLINOIS RIVER SPECIAL 72"X36"
10	M5-1L (3021) (BL)		DETOUR
11	ILLINOIS 17 M1-5 36X36		TYPE III BARRICADE
12	DETOUR AHEAD W20-2-4848		

NOTES:


- ENGINEER WILL CONFIRM THE MESSAGES AND THE LOCATIONS OF THE PORTABLE CHANGEABLE MESSAGE SIGNS.
- TWO CHANGEABLE MESSAGE SIGNS TO BE PLACED 2 WEEKS IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TWO CHANGEABLE MESSAGE SIGNS TO BE PLACED 7 DAYS AFTER PROJECT COMPLETION. LOCATIONS TO BE DISCUSSED AT PRE-CONSTRUCTION MEETING.
- TYPE III BARRICADES SHALL BE PLACED ACROSS THE ROAD AT EACH END OF THE BRIDGE CONSTRUCTION LIMITS TO PREVENT VEHICLES FROM ENTERING THE WORKZONE. THE "BRIDGE CLOSED" SIGN SHALL BE MOUNTED ON THE TYPE III BARRICADES.
- THE CONTRACTOR SHALL NOTIFY DON HOFFMAN, TRAFFIC CONTROL SUPERVISOR, 21 DAYS IN ADVANCE OF THE ANTICIPATED BRIDGE CLOSURE.



USER NAME = 14nho	DESIGNED - NH	REVISED -
	DRAWN - NH	REVISED -
PLOT SCALE = 2,000' / in.	CHECKED - ST	REVISED -
PLOT DATE = 8/25/2022	DATE - 8/2022	REVISED -

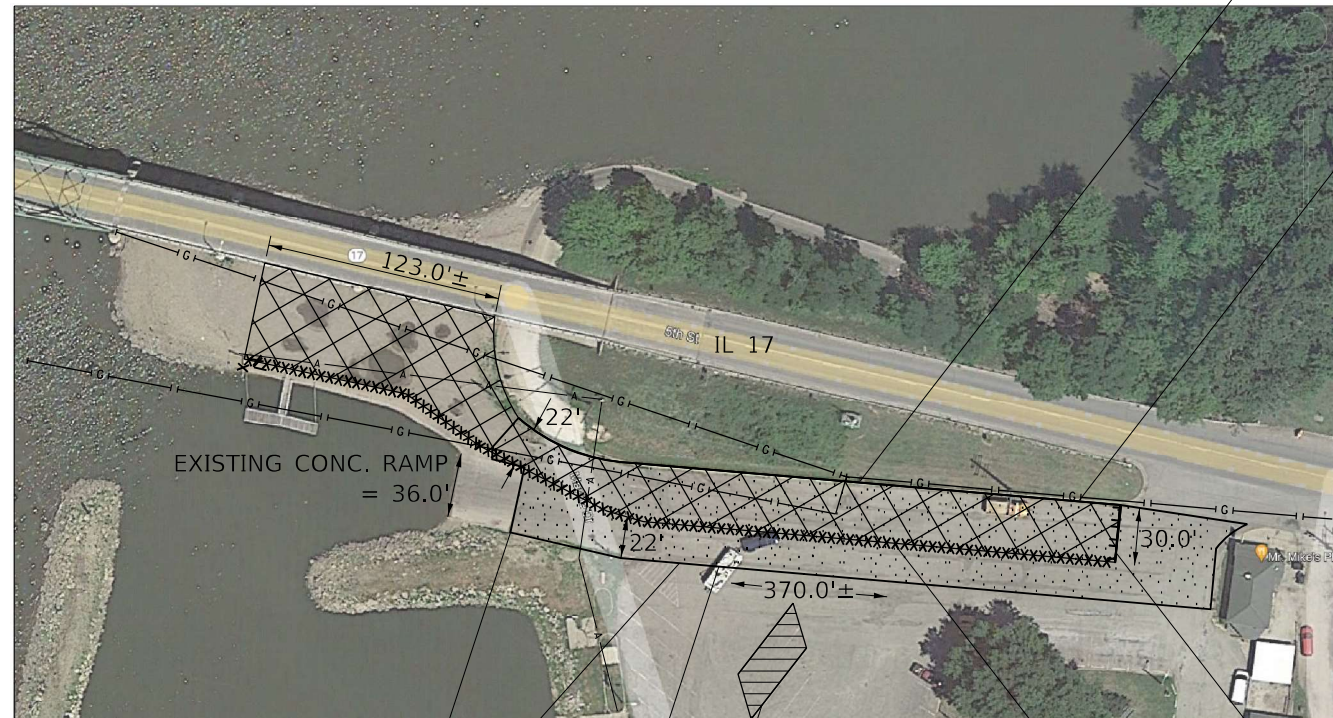
F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 13
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

NOTES:


1. TEMPORARY FENCED AREA TO BE USED AS ACCESS ONLY, NO STORAGE ALLOWED-- 
2. ACCESS TO BOAT RAMP AND DOCK SHALL NOT BE OBSTRUCTED AT ANY TIME
3. PARKING LOT REPAIRS SHALL ONLY BE ALLOWED AFTER THE CONTRACTOR IS DONE ACCESSING THE BRIDGE THROUGH THE MARINA PARKING LOT AND TO THE SATISFACTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL NOTIFY THE CITY OF LACON (MATT STICKEL 309-238-2969) & THE RESIDENT ENGINEER ATLEAST 2 WEEKS PRIOR TO ANY MILLING/RESURFACING OF THE MARINA PARKING LOT TO CONFIRM THE CONTRACTORS SCHEDULE DOES NOT CONFLICT WITH SCHEDULED MARINA ACTIVITY.


THE EXISTING PERSONAL FLOATION DEVICE (PFD) STORAGE RACK ALONG THE NORTH SIDE OF THE MARINA PARKING LOT WILL BE INACCESSABLE TO MARINA VISITORS WHILE THE "CONTRACTOR ACCESS" AREA IS IN USE. THE CONTRACTOR SHALL PROVIDE A TEMPORARY LOCATION FOR THE PFD'S WITHIN THE PUBLIC MARINA AREA. ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY FOR THE TEMPORARY STORAGE OF PFD'S SHALL BE INCLUDED IN THE COST OF THE CONTRACT.


USE EXISTING CURB AND GUTTER AS CONTROL FOR PROPOSED IMPROVEMENTS



TEMPORARY RAMP = 219.0 SQ. YD.
(FOR BOAT LOADING/UNLOADING AREA ONLY)

 HMA SURFACE REMOVAL, 4" = 2062.0 SQ. YD.
HMA SURFACE COURSE, IL-9.5, MIX "C", N50 = 462.0 TON
POLY. BITUMINOUS MATERIALS (TACK COAT) = 2968.0 POUNDS
TEMPORARY RAMP = 557.0 SQ. YD.

 PAVEMENT MARKING BLACKOUT TAPE, 7" = 140.0 FT.
SHORT TERM PAVEMENT MARKING REMOVAL = 82 SQ. FT.
BLACKOUT THE FIRST TWO PARKING SPOTS IN THE CENTER ISLE, TO PROVIDE ADEQUATE SPACE FOR A TRUCK TO BACK A TRAILER ONTO THE EXISTING RAMP.

TYPE III BARRICADES = 4.0 EACH 
SHALL BE INCLUDED IN THE COST OF TEMPORARY CHAIN LINK FENCE (PORTABLE) TO BE USED TO ENCLOSE ACCESS AREA FROM MARINA TRAFFIC

TEMPORARY CHAIN LINK FENCE (PORTABLE) = 511.0 FT. ~~XXXXXXXXXX~~
SEE SPECIAL PROVISION

MODEL: Default
FILE NAME: C:\SP\WIKS & CO\Jobs\Spring - Projects\DOT D-418956.01 Lacon Bridge Phase II\CADD\CAD_Sheets\PA68F08.dwg, 8/19/22.dgn

USER NAME = dtheberling	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 8/24/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONTRACTOR ACCESS
(MARINA PARKING LOT)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(18-D)BR, P	MARSHALL	129	14
			CONTRACT NO. 68F08	
		ILLINOIS FED. AID PROJECT		

CONSTRUCTION NOTES

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
2. EXISTING UTILITY INFORMATION IS NOT SHOWN ON THE PLAN SHEETS. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL UTILITIES AND PRIVATELY OWNED FACILITIES PRIOR TO THE INSTALLATION OF ANY COMPONENTS.
3. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BIDDING. THERE WILL BE NO ADDITIONAL COMPENSATION PAID FOR CLAIMS THAT ARISE FROM A FAILURE TO FULLY INVESTIGATE EXISTING FIELD CONDITIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING IDOT ELECTRICAL FACILITIES AT HIS/HER OWN EXPENSE IF REQUIRED. THE CONTRACTOR SHALL ALSO BE LIABLE FOR ANY DAMAGE TO IDOT FACILITIES RESULTING FROM INACCURATE LOCATING.
5. ELECTRICAL WORK SHALL CONFORM WITH NATIONAL, STATE, AND LOCAL CODES.
6. THE CONTRACTOR SHALL PROVIDE ELECTRICAL CABLE SLACK IN ACCORDANCE WITH ARTICLE 873.03.
7. ALL SURPLUS MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS.
8. THE EXISTING LIGHTING SYSTEM SHALL REMAIN IN OPERATION UNTIL THE PROPOSED SYSTEM IS INSTALLED AND OPERATIONAL.
9. ANY MAINTENANCE OF EXISTING ELECTRICAL FACILITIES WILL BE CONSIDERED EXTRA WORK IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
10. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ELECTRICAL WORK WITH OTHER TRADES.
11. THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. REROUTING, DISCONNECTION, RELOCATION, PROTECTION ETC., OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL INSTALL LIGHT POLES AT THE LOCATIONS INDICATED ON THE PLANS, MAINTAINING ADEQUATE CLEARANCE FROM UTILITY LINES. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY CLEARANCES PER THE NATIONAL ELECTRICAL SAFETY CODE AND/OR THE REQUIREMENTS OF THE UTILITY COMPANIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL CONFLICTS BETWEEN TEMPORARY AND PROPOSED LIGHTING POLE LOCATIONS AND UTILITY LINES.
13. STAINLESS STEEL SCREEN INSTALLED AROUND ANCHOR RODS AND NUTS SHALL BE ACCORDING TO ARTICLE 1070.
14. THE CONTRACTOR MAY ELECT TO FURNISH AND INSTALL PERFORATED ALUMINUM SCREENING IN LIEU OF STAINLESS STEEL SCREEN AT NO ADDITIONAL COST TO THE DEPARTMENT.
15. THE CONTRACTOR SHALL INSTALL LUMINAIRES LEVEL WITH OPTICS SET PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY.
16. ALL PROPOSED LIGHTING UNITS SHALL BE LABELED ACCORDING TO THE STANDARD SPECIFICATIONS, WITH POLE NUMBERS ATTACHED WITH STAINLESS STEEL BANDING. LIGHTING UNIT NUMBER SHALL BE AS DIRECTED BY THE ENGINEER. ALL LABELS SHALL BE CONSTRUCTED FROM DIAMOND GRADE SHEETING. LIGHT POLE NUMBER LABELS FOR LUMINAIRES MOUNTED ON THE BRIDGE STRUCTURE SHALL HAVE IDENTIFICATION LABELS INSTALLED ON THE STRUCTURE AT THE LOCATIONS APPROVED BY THE ENGINEER.
17. THE CONTRACTOR SHALL FURNISH AND INSTALL EXPANSION/DEFLECTION COUPLINGS FOR ALL BRIDGE JOINTS AS REQUIRED AND DIRECTED BY THE ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED CONDUIT IN ACCORDANCE WITH ARTICLES 811.03, 811.04, 812.03, AND 812.04 OF THE STANDARD SPECIFICATIONS.
18. ALL NON-METALLIC CONDUIT SHALL BE EQUIPPED WITH INTEGRAL STAINLESS STEEL KELLUM GRIPS AT THE ENDS FOR INCREASED STRENGTH AND DURABILITY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED CONDUIT.
19. THE CONTRACTOR SHALL INSTALL THREAD LOCKER ON ALL ATTACHED CONDUIT BRACKET THREADED CONNECTIONS TO PREVENT LOOSENING THROUGH VIBRATION. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE ATTACHED CONDUIT IN ACCORDANCE WITH ARTICLES 810.05 OF THE STANDARD SPECIFICATIONS.
20. THE CONTRACTOR SHALL GROUND ALL EXPOSED STEEL CONDUITS IN ACCORDANCE WITH NEC REQUIREMENT. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF THE GROUND SYSTEM WHEN USING NON METALLIC CONDUIT BY INSTALLING A #6 GROUNDING CONDUCTOR OUTSIDE THE NON-METALLIC CONDUIT AND BONDING THIS WIRE TO THE METALLIC CONDUITS AT EACH END. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE ATTACHED CONDUIT IN ACCORDANCE WITH ARTICLES 801.02 AND 801.04.
21. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED TO ATTACH THE CONDUITS INCLUDING BUT NOT LIMITED TO UNI-STRUT, BRACKETS, LB , FITTINGS, HARDWARE, AND OTHER MISCELLANEOUS ITEMS. THESE ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE ATTACHED CONDUIT IN ACCORDANCE WITH SECTION 811 OF THE STANDARD SPECIFICATIONS.
22. THE CONTRACTOR MAY ELECT TO SUBSTITUTE SDR 13.5 CONTINUOUS DUCT IN LIEU OF PVC SCHEDULE 40 CONDUIT AT NO ADDITIONAL COST TO THE DEPARTMENT.
23. THE CONTRACTOR SHALL FURNISH AND INSTALL FLEXIBLE NON-METALLIC CONDUIT AS REQUIRED FOR INSTALLATION. THE COST OF THE FLEXIBLE CONDUIT SHALL BE INCLUDED IN THE COST OF THE PROPOSED CONDUIT.
24. THE CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL SUPPORT FOR FLEXIBLE CONDUIT SPANS GREATER THAN FOUR FEET TO PREVENT LOOSENING THROUGH VIBRATION, WIND MOVEMENT, AND FROM SUPPORTING THE WEIGHT OF THE CABLE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED CONDUIT.
25. THE CONTRACTOR SHALL STAGE THE REMOVAL OF THE EXISTING NAVIGATIONAL LIGHTING AND THE INSTALLATION OF THE NEW NAVIGATIONAL LIGHTING SO AS TO MAINTAIN CONTINUOUS OPERATION OF THE NAVIGATIONAL LIGHTING SYSTEM.
26. THE CONTRACTOR SHALL PROVIDE ELECTRICAL CABLE SLACK IN ACCORDANCE WITH ARTICLE 817.04.
27. THE CONTRACTOR SHALL DISPOSE OF THE EXISTING LIGHTING EQUIPMENT (LIGHT POLES, LUMINAIRE ARMS, WIRING, CONDUIT, LIGHTING CONTROLLER, ETC.) OFF THE JOB SITE. THE SALVAGE COST OF THESE ITEMS SHALL BE INCLUDED IN THE BID PRICE FOR THE LIGHTING REMOVAL PAY ITEM.
28. CONDUIT ATTACHMENT BRACKETS SHALL BE INSTALLED AT 8 FT. SPACINGS (MAXIMUM) ON STRUCTURES.
29. ALL CONDUIT ATTACHMENT BRACKETS AND HARDWARE SHALL BE CONSTRUCTED FROM GALVANIZED STEEL.

SCHEDULE OF QUANTITIES

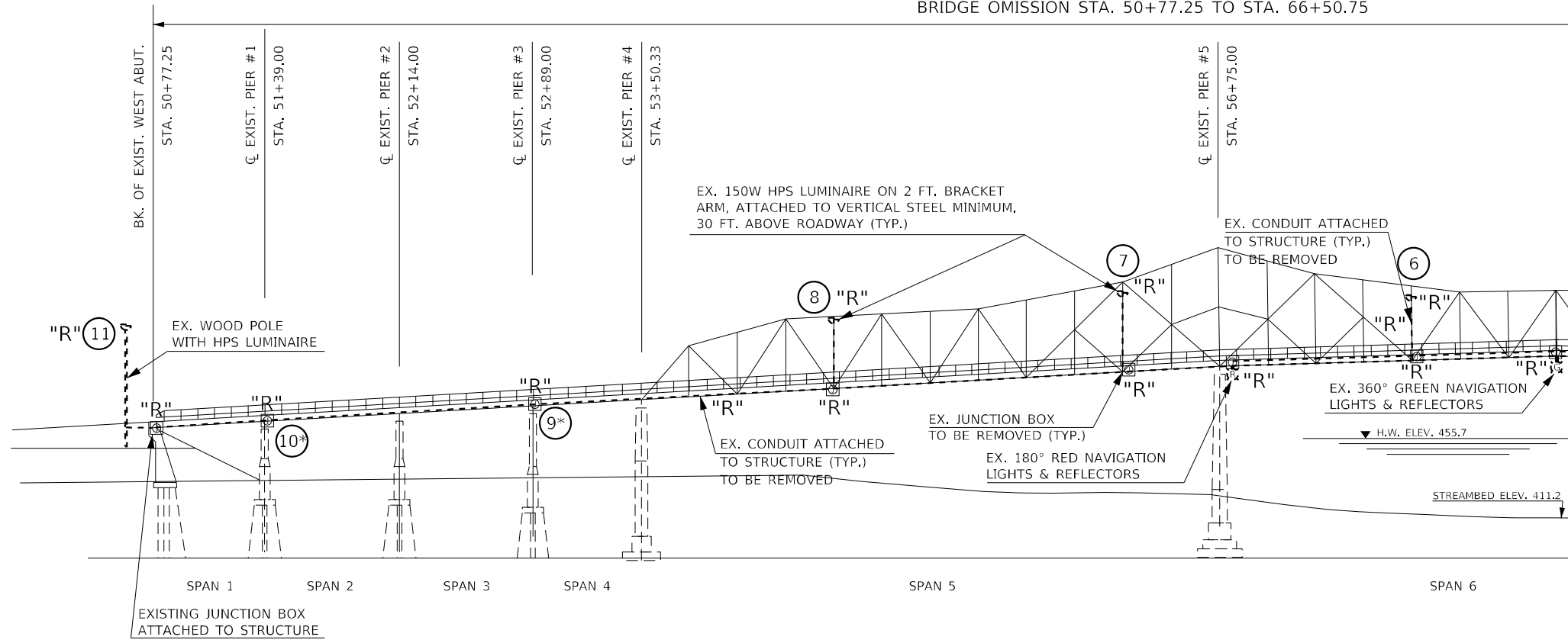
DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1.0
UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	35.0
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	240.0
CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., GALVANIZED STEEL	FOOT	633.0
CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	966.0
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6"	EACH	12.0
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 12" X 8"	EACH	1.0
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	5709.0
LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION E	EACH	10.0
WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED, 180 DEGREE RED	EACH	4.0
WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED, 360 DEGREE GREEN	EACH	2.0
LIGHTING CONTROLLER, BASE MOUNTED, 240VOLT, 100AMP (DUAL)	EACH	1.0
LIGHT POLE, GALVANIZED STEEL, 35 FT. M.H., TENON MOUNT	EACH	4.0
DRILL EXISTING FOUNDATION	EACH	1.0
CLOSED CIRCUIT TELEVISION DOME CAMERA, HD	EACH	1.0
CAT 5 ETHERNET CABLE	FOOT	144.0
REMOVE EXISTING LIGHTING SYSTEM	L SUM	1.0
LUMINAIRE MOUNTING BRACKET - SPECIAL	EACH	10.0

MODEL Path: S:\CEN\W\W\ORD\ESP\AN\Hanson# 68F08_Lacon_Bridge\68F08_Lacon_Bridge_Electrical (Final) 8-24-22.dgn

USER NAME = erik.howard PLOT SCALE = 23.8272 * / in. PLOT DATE = 8/25/2022	DESIGNED - DRAWN -	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD LIGHTING SCHEDULE OF QUANTITIES AND CONSTRUCTION NOTES	F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 15
	CHECKED - DATE -	REVISED - REVISED -			SCALE:	SHEET OF SHEETS STA. TO STA.	CONTRACT NO. 68F08 ILLINOIS FED. AID PROJECT		

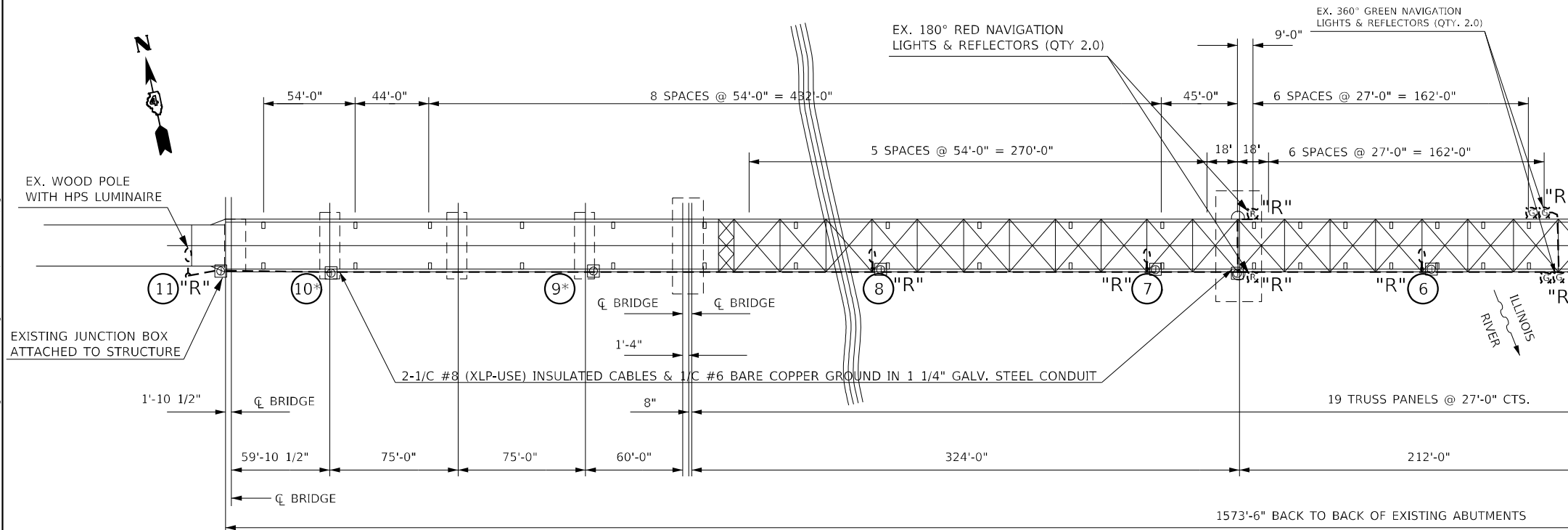
ELEVATION VIEW (WEST SECTION)

BRIDGE OMISSION STA. 50+77.25 TO STA. 66+50.75



REMOVE EXISTING LIGHTING SYSTEM - QTY. 1.0 LUMP SUM (INCLUDES ALL ITEMS LISTED BELOW FROM EAST AND WEST SECTIONS) THE FOLLOWING ITEMS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OFF OF THE RIGHT-OF-WAY:	
QTY.	ITEM
1.0	LIGHTING CONTROLLER CABINET (BASE MOUNTED)
2.0	LIGHT POLE, ALUMINUM, 35 FT. MH, 6 FT DAVIT ARM
6.0	GALVANIZED STEEL TRUSS MOUNT BRACKET ARM, 2 FT.
9.0	HPS LUMINAIRE
1.0	ELECTRICAL SERVICE
1.0	WOOD LIGHT POLE
4.0	NAVIGATION LUMINAIRE 360 DEGREE GREEN & REFLECTOR
4.0	NAVIGATION LUMINAIRE 180 DEGREE RED & REFLECTOR
ALL	ELECTRICAL CABLE IN CONDUIT
ALL	CONDUIT, JUNCTION BOXES, ATTACHMENT BRACKETS

PLAN VIEW (WEST SECTION)



- NOTES:
1. REMOVAL ITEMS INDICATED WITH "R"
 2. THE EXISTING LIGHT POLES ON #9 & #10 HAVE BEEN PREVIOUSLY REMOVED.
 3. EXISTING ROADWAY AND NAVIGATIONAL LIGHTING SYSTEMS TO BE REMOVED IN THEIR ENTIRETY. CONTRACTOR TO VERIFY REMOVAL ITEMS PRIOR TO BIDDING. NO ADDITIONAL COMPENSATION WILL BE PAID FOR REMOVAL OF EXISTING ROADWAY AND NAVIGATIONAL LIGHTING COMPONENTS.

LEGEND

	EXISTING LUMINAIRE (ELEVATION VIEW)
	EXISTING LUMINAIRE AND LIGHT POLE (PLAN VIEW)
	EXISTING LUMINAIRE ATTACHED TO STRUCTURE (PLAN VIEW)
	EXISTING JUNCTION BOX ATTACHED TO STRUCTURE
	EXISTING WATERWAY OBSTRUCTION WARNING LUMINAIRE (GREEN 360°)
	EXISTING WATERWAY OBSTRUCTION WARNING LUMINAIRE (RED 180°)
	EXISTING UNDERGROUND CONDUIT
	EXISTING LIGHTING CONTROLLER
	EXISTING ELECTRICAL SERVICE
"R"	REMOVAL ITEM
#	EXISTING LUMINAIRE NUMBER
	EXISTING CONDUIT ATTACHED TO STRUCTURE

LIGHTING SHEET 2 OF 16
NOT TO SCALE

MODEL Path: S:\CEN\WV\ORD\ESP\AN\barason\# 68F08 Iacon Bridge\68F08 Iacon Bridge Electrical (Final) 8-24-22.dgn

USER NAME = erik.howard	DESIGNED -	REVISED -
PLOT SCALE = 23,8272' / in.	DRAWN -	REVISED -
PLOT DATE = 8/25/2022	CHECKED -	REVISED -
	DATE -	REVISED -

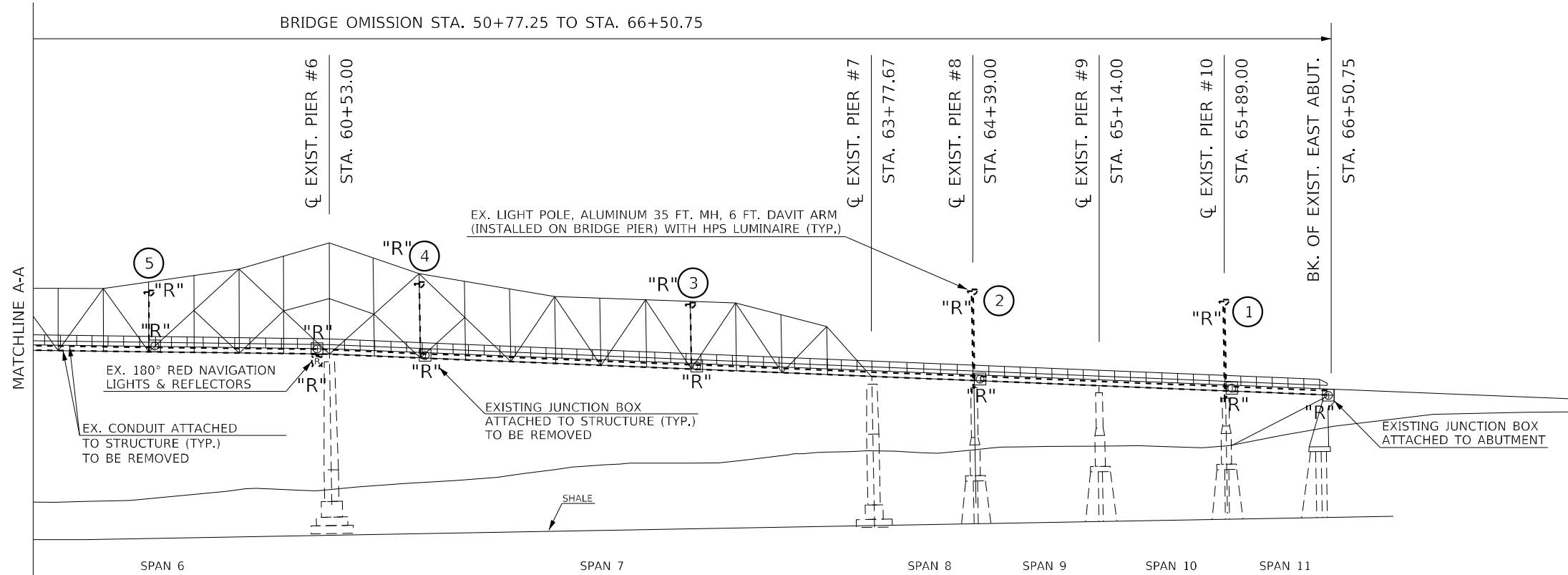
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING ROADWAY AND NAVIGATION LIGHTING SYSTEM
AND REMOVAL ITEMS - WEST SECTION

SCALE: SHEET OF SHEETS STA. TO STA.

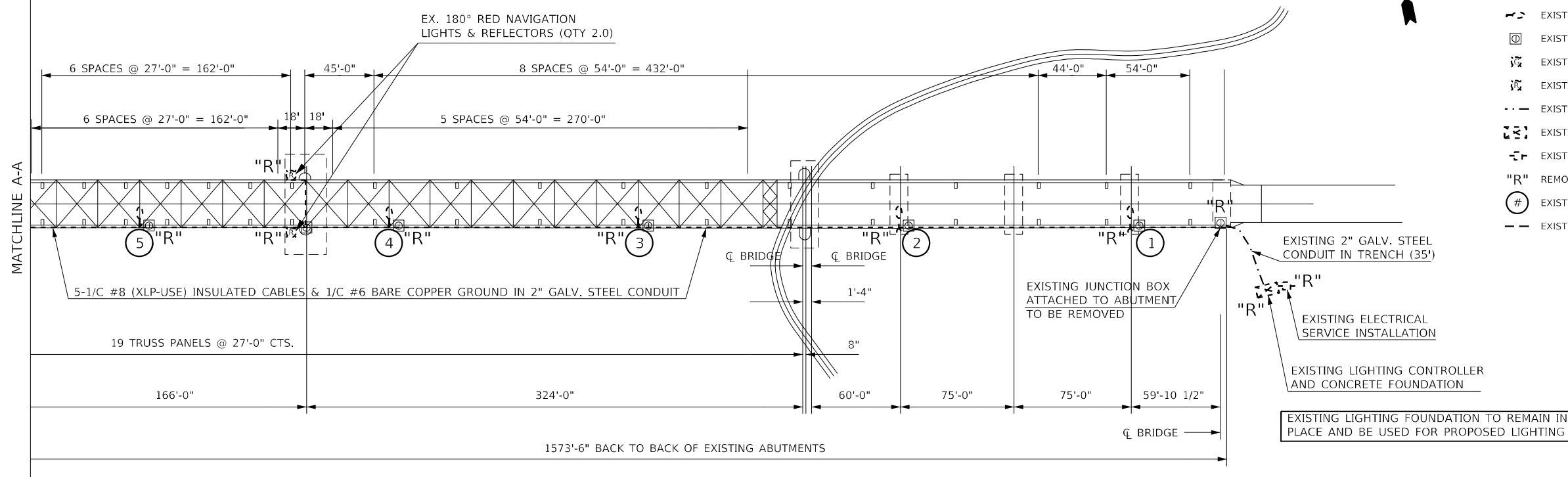
F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 16
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68F08	

ELEVATION VIEW (EAST SECTION)



- NOTES:
1. REMOVAL ITEMS INDICATED WITH "R"
 2. CONTROLLER FOUNDATION TO REMAIN IN PLACE TO BE USED IN PROPOSED LIGHTING SYSTEM
 3. EXISTING ROADWAY AND NAVIGATIONAL LIGHTING SYSTEMS TO BE REMOVED IN THEIR ENTIRETY.
 4. CONTRACTOR TO VERIFY REMOVAL ITEMS PRIOR TO BIDDING. NO ADDITIONAL COMPENSATION WILL BE PAID FOR REMOVAL OF EXISTING ROADWAY AND NAVIGATIONAL LIGHTING COMPONENTS.

PLAN VIEW (EAST SECTION)



LEGEND	
	EXISTING LUMINAIRE (ELEVATION VIEW)
	EXISTING LUMINAIRE AND LIGHT POLE (PLAN VIEW)
	EXISTING LUMINAIRE ATTACHED TO STRUCTURE (PLAN VIEW)
	EXISTING JUNCTION BOX ATTACHED TO STRUCTURE
	EXISTING WATERWAY OBSTRUCTION WARNING LUMINAIRE (GREEN 360°)
	EXISTING WATERWAY OBSTRUCTION WARNING LUMINAIRE (RED 180°)
	EXISTING UNDERGROUND CONDUIT
	EXISTING LIGHTING CONTROLLER
	EXISTING ELECTRICAL SERVICE
"R"	REMOVAL ITEM
#	EXISTING LUMINAIRE NUMBER
	EXISTING CONDUIT ATTACHED TO STRUCTURE

MODEL: Default
FILE NAME: S:\CEN\W\W\ORD\ESP\AN\barason\# 68F08_Lacon_Bridge\68F08_Lacon_Bridge_Electrical.dwg
DATE: 8/24/22

USER NAME = erik.howard	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 23,8272 * / in.	CHECKED -	REVISED -
PLOT DATE = 8/23/2022	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING ROADWAY AND NAVIGATION LIGHTING SYSTEM
AND REMOVAL ITEMS - EAST SECTION**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	17
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	

PROPOSED LUMINAIRE SCHEDULE							
LUMINAIRE NO.	LOCATION	POLE TYPE	MINIMUM MOUNTING HEIGHT (FT.)	ARM LENGTH (FT.)	LUMINAIRE TYPE	LUMINAIRE MOUNTING BRACKET - SPECIAL QTY.	INSTALLATION NOTES
1	EX. PIER #10	LIGHT POLE GALVANIZED STEEL 35 FT., TENON MOUNT	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LIGHT POLE ON MODIFIED CONCRETE FOUNDATION (PIER #10)
2	EX. PIER #8	LIGHT POLE GALVANIZED STEEL 35 FT., TENON MOUNT	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LIGHT POLE ON MODIFIED CONCRETE FOUNDATION (PIER #8)
3	VERTICAL WITH EX. LUMINAIRE 3	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
4	VERTICAL WITH EX. LUMINAIRE 4	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
5	VERTICAL WITH EX. LUMINAIRE 5	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
6	VERTICAL WITH EX. LUMINAIRE 6	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
7	VERTICAL WITH EX. LUMINAIRE 7	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
8	VERTICAL WITH EX. LUMINAIRE 8	N/A	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LUMINAIRE MOUNTING BRACKET ON EX. VERTICAL USING STAINLESS STEEL PLATE AND HARDWARE
9	EX. PIER #3	LIGHT POLE GALVANIZED STEEL 35 FT., TENON MOUNT	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LIGHT POLE ON MODIFIED CONCRETE FOUNDATION (PIER #3)
10	EX. PIER #1	LIGHT POLE GALVANIZED STEEL 35 FT., TENON MOUNT	30.0	1.0	LUMINAIRE , LED, ROADWAY, OUTPUT DESIGNATION H	1.0	INSTALL LIGHT POLE ON MODIFIED CONCRETE FOUNDATION (PIER #1)

PROPOSED WATERWAY OBSTRUCTION WARNING LUMINAIRE SCHEDULE				
LUMINAIRE NO.	LOCATION	DIRECTION	LUMINAIRE COLOR	LUMINAIRE TYPE
A	EX. PIER #6	SOUTH	RED	180°
B	EX. PIER #6	NORTH	RED	180°
C	STA. 58+64.00 (MIDDLE OF STRUCTURE)	SOUTH	GREEN	360°
D	STA. 58+64.00 (MIDDLE OF STRUCTURE)	NORTH	GREEN	360°
E	EX. PIER #5	SOUTH	RED	180°
F	EX. PIER #5	NORTH	RED	180°

MODEL Path: S:\CEN\WV\ORD\ESP\AN\barson\# 68F08_Lacon_Bridge\68F08_Lacon_Bridge_Electrical (Final)_8-24-22.dgn

USER NAME = erik.howard	DESIGNED -	REVISED -
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PLOT DATE = 8/23/2022	DATE -	REVISED -

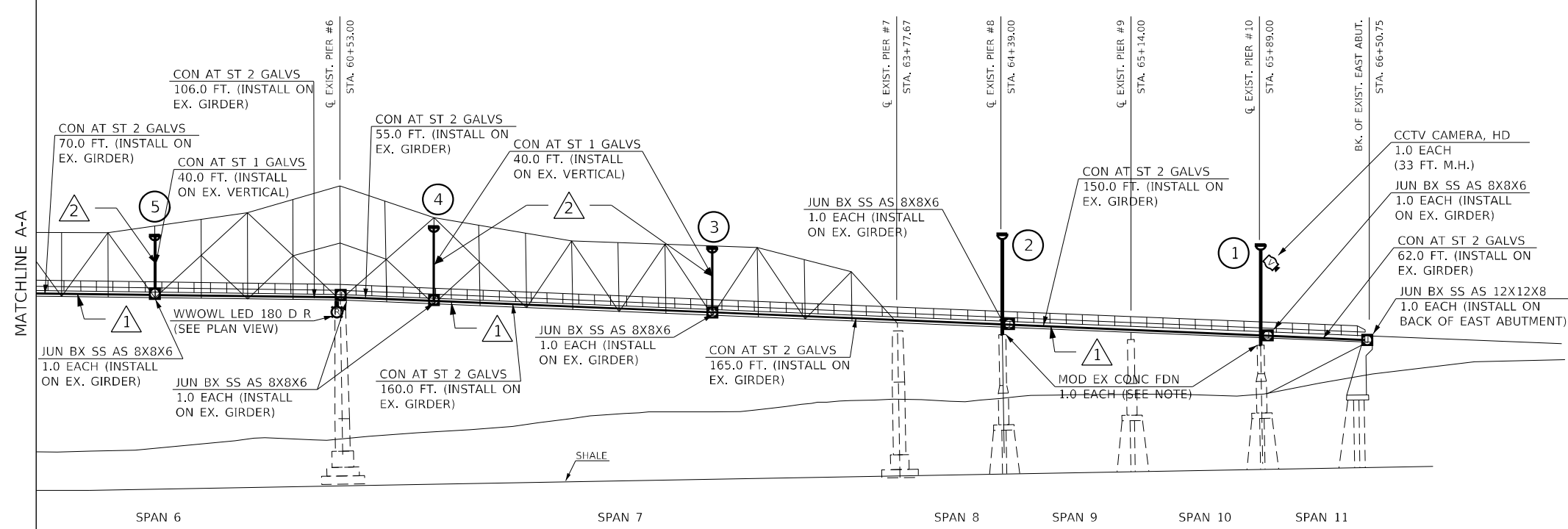
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED ROADWAY LUMINAIRE &
WATERWAY OBSTRUCTION WARNING LUMINAIRE SCHEDULES**

SCALE: SHEET OF SHEETS STA. TO STA.

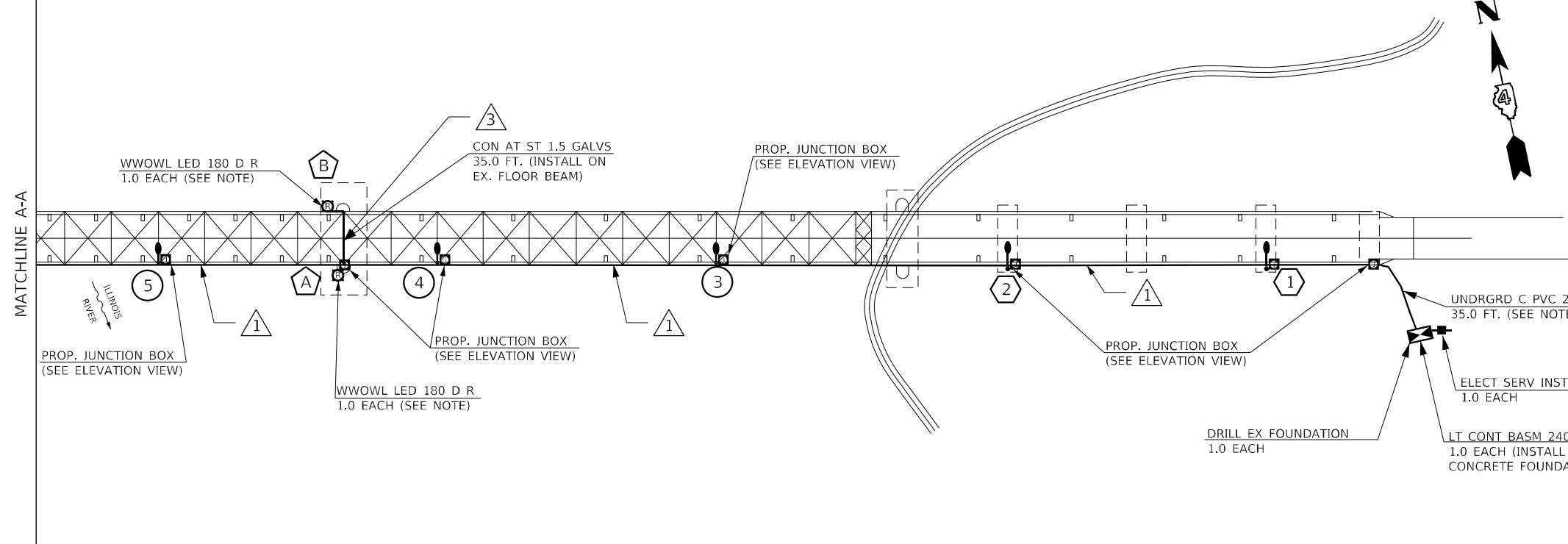
F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 22
			CONTRACT NO. 68F08	
		ILLINOIS FED. AID PROJECT		

ELEVATION VIEW (EAST SECTION)



BILL OF MATERIALS - EAST SECTION		
ITEM DESCRIPTION	UNIT	QTY.
ELECTRIC SERVICE INSTALLATION	EACH	1.0
UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	35.0
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	120.0
CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., GALVANIZED STEEL	FOOT	35.0
CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL	FOOT	768.0
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 8" X 8" X 6"	EACH	5.0
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12" X 12" X 8"	EACH	1.0
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	2628.0
LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION H	EACH	5.0
WATERWAY OBSTRUCTION WARNING LUMINAIRE, LED, 180 DEGREE RED	EACH	2.0
LIGHTING CONTROLLER, BASE MOUNTED, 240VOLT, 100AMP (DUAL)	EACH	1.0
LIGHT POLE, GALVANIZED STEEL, 35 FT. M.H., TENON MOUNT	EACH	2.0
DRILL EXISTING FOUNDATION	EACH	1.0
CLOSED CIRCUIT TELEVISION DOME CAMERA, HD	EACH	1.0
CAT 5 ETHERNET CABLE	FOOT	144.0
LUMINAIRE MOUNTING BRACKET - SPECIAL	EACH	5.0

PLAN VIEW (EAST SECTION)



ELECTRIC CABLE & CONDUIT LEGEND	
①	EC C XLP USE 2-1C#8 1C#8G X 1 (ROADWAY LIGHTING) EC C XLP USE 1C 8 X 2 (NAVIGATIONAL LIGHTING) IN PROP. 2" GALV. STEEL CONDUIT
②	EC C XLP 2-1C#10 (LUMINAIRE WIRING) IN PROP. 1" GALV. STEEL CONDUIT
③	EC C XLP 2-1C#8 1C#8G (NAVIGATIONAL LIGHTING) IN PROP. 1.5" GALV. STEEL CONDUIT
④	EC C XLP 2-1C#8 1C#8G (ROADWAY LIGHTING) IN PROP. 1.5" GALV. STEEL CONDUIT

- NOTES:
- THE CONTRACTOR SHALL INSTALL THE PROP. JUNCTION BOX ON EAST ABUTMENT TO COVER THE LOCATION WHERE THE PROPOSED 2" CONDUIT IS DRILLED THROUGH THE EAST ABUTMENT WINGWALL.
 - WATERWAY OBSTRUCTION WARNING LUMINAIRE SCHEDULE ON LIGHTING SHEET 8. THE CONTRACTOR SHALL REMOVE AND REPLACE ANCHOR BOLTS AND CONCRETE PIER SECTION AS REQUIRED TO RE-ESTABLISH AN APPROPRIATE ANCHOR BOLT INSTALLATION FOR PROPOSED LIGHT POLES 1 & 2 - REFER TO STRUCTURAL PLAN SHEETS FOR DETAILS.
 -

MODEL Path: S:\CEN\WV\ORD\ESP\AN\barson\# 68F08_Lacon Bridge\68F08_Lacon Bridge Electrical (Final) 8-24-22.dgn

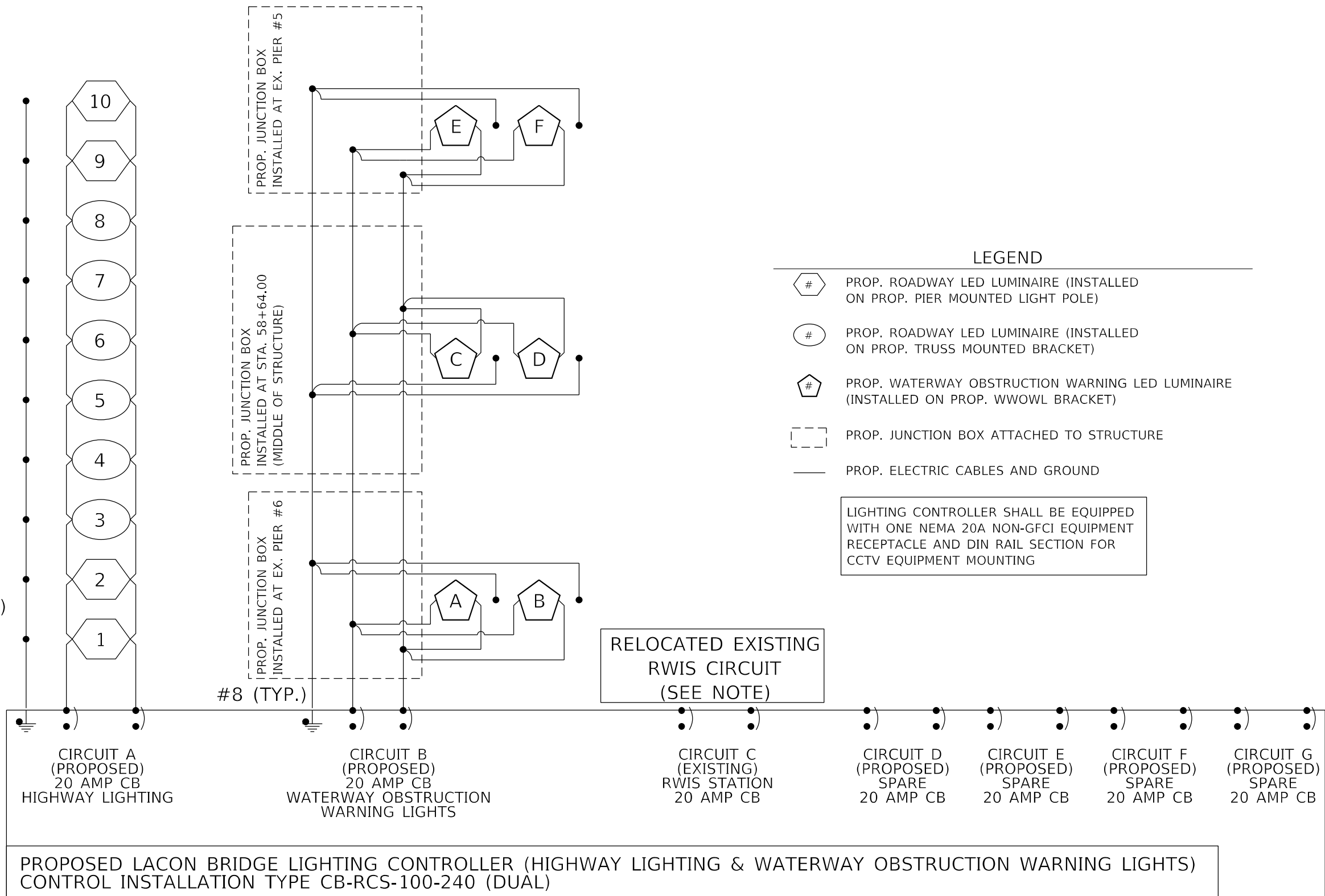
USER NAME = erik.howard	DESIGNED -	REVISED -
PLOT SCALE = 23,8272' / in.	DRAWN -	REVISED -
PLOT DATE = 8/23/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED ROADWAY AND NAVIGATION LIGHTING SYSTEM - EAST SECTION	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 24
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68F08	

#8 (TYP.)



PROPOSED LACON BRIDGE LIGHTING CONTROLLER (HIGHWAY LIGHTING & WATERWAY OBSTRUCTION WARNING LIGHTS)
CONTROL INSTALLATION TYPE CB-RCS-100-240 (DUAL)

NOTES:
1. THE CONTRACTOR SHALL RELOCATE THE EXISTING RWIS STATION CIRCUIT FROM THE EXISTING LIGHTING CONTROLLER TO THE PROPOSED LIGHTING CONTROLLER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE BID PRICE FOR THE PROPOSED LIGHTING CONTROLLER.

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USER NAME = erik.howard	DESIGNED -	REVISED -
PLOT SCALE = 23,8272 * / in.	DRAWN -	REVISED -
PLOT DATE = 8/23/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING CIRCUIT DIAGRAM

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 25
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				



Luminaire Performance Table



Print Form

Reset Form

Project

Date	Contract Number	Section Number	County
08/24/22	68F08	(1B-D)BR,P	Marshall
Marked Route Number		Municipality	
IL 17		Lacon	

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	Q-Zero Value
12	2	N/A	R3	0.07

Structure

Mounting Height	Arm Length	Set-Back	Number of Luminaires (Highmast & Sign Lighting Only)
35 Ft	1 Ft	0 Ft	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution	
Roadway, Output Designation E	Medium	Type II or III	
Total Light Loss Factor (LLF)	B-U-G Rating	Shields	Dimming Protocol
0.7	U = 0	N/A	0-10V

Layout

Spacing (to Nearest 5 ft)	Configuration (Opposite, Staggered, 1 Sided, or Median)
160	One Sided

Performance

Average Illuminance, E_{AVE} (fc)	Uniformity Ratio, E_{AVE}/E_{MIN}		
greater than or equal to 0.8	less than or equal to 3:1		
Average Luminance, L_{AVE} (cd/m ²)	Uniformity Ratio, L_{AVE}/L_{MIN}	Uniformity Ratio, L_{MAX}/L_{MIN}	Veiling Luminance Ratio, L_v/L_{AVE}
greater than or equal to 0.6	less than or equal to 3.5:1	less than or equal to 6:1	less than or equal to 0.3:1

Light Tresspass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E_H	Max. Vertical Illuminance at ROW, E_v
N/A	N/A	N/A

Notes

- Set-Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to the roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

Calculations shall be performed in one direction only.

Compliance with the performance criteria shall be held to one significant digit.

Initial lumens of the proposed luminaire may vary from the values specified in the table given in Article 1067.06 of the BDE Special Provision for Luminaire, LED.

Printed 08/24/22

BDE 5630 (04/10/19)

MODEL Path: \\S:\CEN\W\W\ORD\DESIGN\AN\Anbarson\68F08_Lacon_Bridge\68F08_Lacon_Bridge_Electrical\Final_8-24-22.dgn
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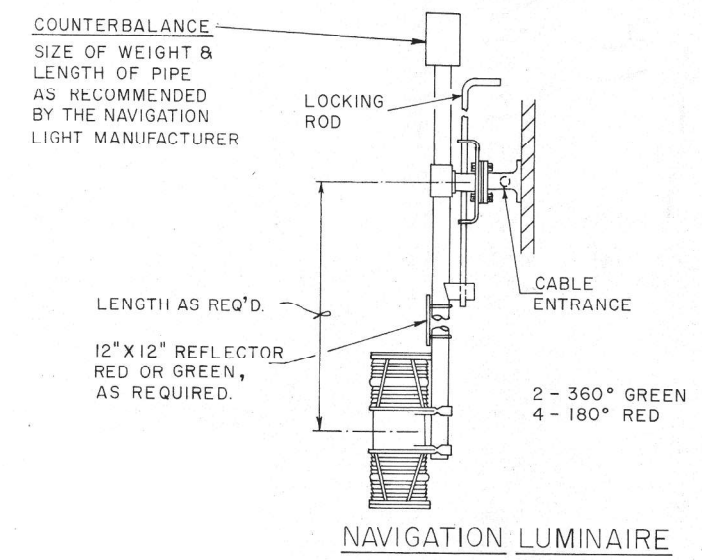
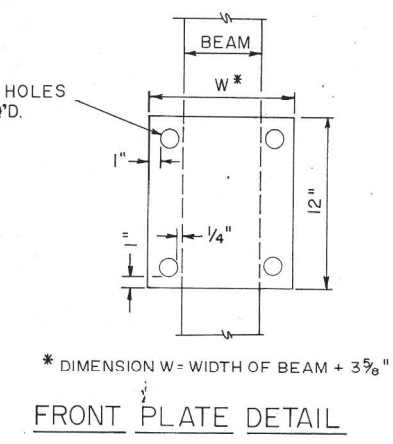
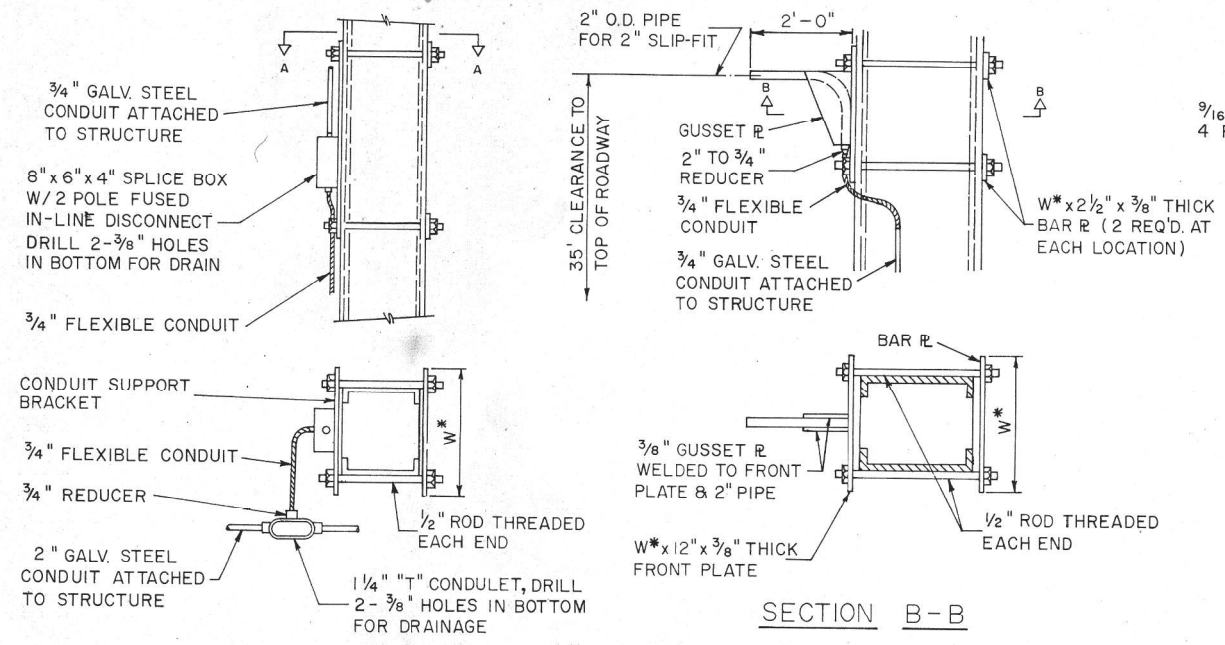
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED LUMINAIRE PERFORMANCE TABLE

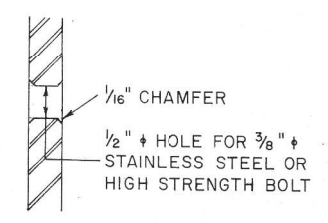
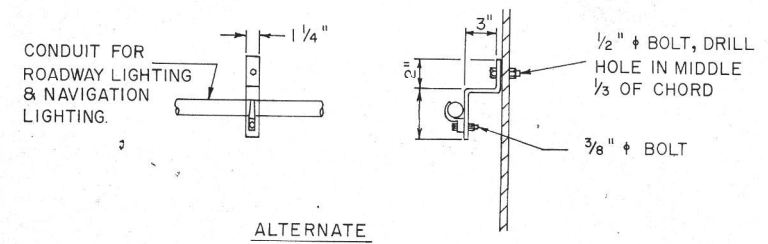
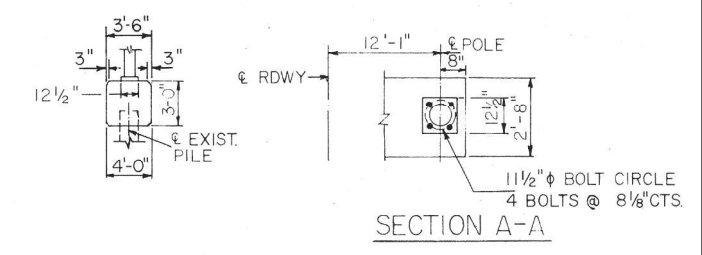
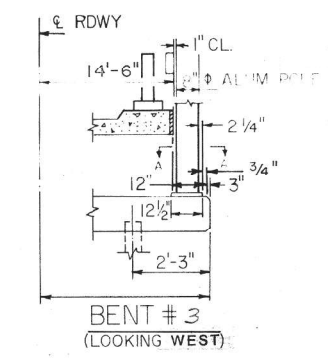
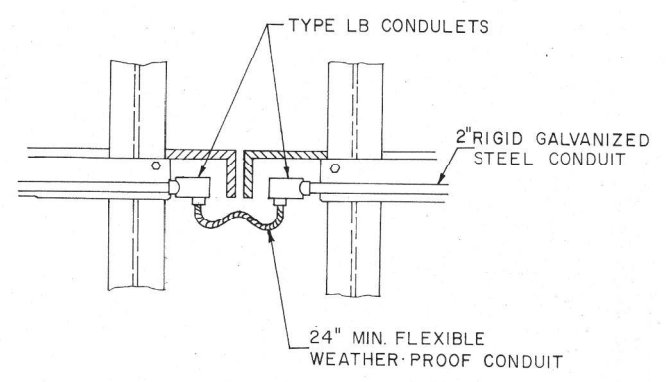
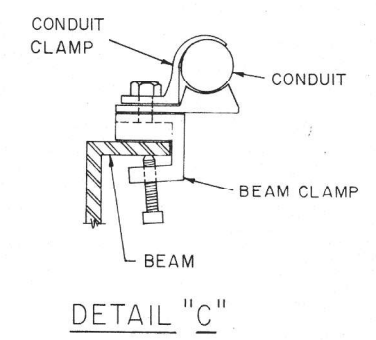
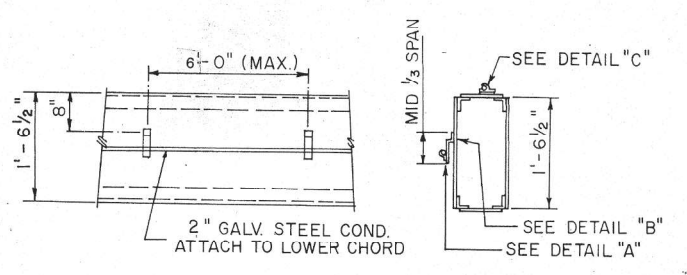
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	26
			CONTRACT NO. 68F08	
ILLINOIS FED. AID PROJECT				

WIRING DIAGRAM-NAVIGATION LIGHTING



MAST ARM MOUNTING DETAILS



ALTERNATE CONDUIT SUPPORT BRACKET

CONDUIT CLAMPS SHALL BE MALLEABLE IRON. BOLTS, LOCKNUTS, AND WASHERS SHALL BE STAINLESS STEEL. 1/4" STEEL BRACKET SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION. LOCATE ON 6'-0" CENTERS.

DETAIL "A"

NOTES:

1. INSTALL AND ORIENT LUMINAIRE BRACKET OVER POLE TENON AND FIRMLY HAND TIGHTEN THE TWO SET SCREWS. USE THIRD HOLE IN ARM BRACKET AS A GUIDE TO DRILL A 2 1/64" DIAMETER HOLE THROUGH TENON. INSTALL AND TIGHTEN SELF-TAPPING SCREW. TIGHTEN SET SCREWS AN ADDITIONAL 1/4 TO 3/4 TURN WITH HEX KEY (NOT PROVIDED.) INSTALL LOCKNUTS ON SET SCREWS IF THREADED PROJECTION ALLOWS.
2. PROPOSED LIGHT POLES SHALL MEET LATEST AASHTO STANDARD SPECIFICATIONS FOR WIND LOADING AND 90 LB. 4.0 SQ FT. E.P.A. LUMINAIRE WITH 50 YEAR DESIGN LIFE.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL A LIGHT POLE IDENTIFICATION LABEL CONSISTING OF DIAMOND GRADE REFLECTIVE SHEETING. LUMINAIRES 3,4,5,6,7,8 DO NOT REQUIRE POLES, THEREFORE THE IDENTIFICATION LABEL SHALL BE INSTALLED ON STRUCTURE AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE COST OF THE PROPOSED LUMINAIRES.

BRIDGE PIER MOUNT

MODEL: D:\p\h\... FILE NAME: S:\CEN\W\W\RD\ESP\AN\barson\# 68F08_Lacon_Bridge\68F08_Lacon_Bridge_Electrical (Final).8-24-22.dgn

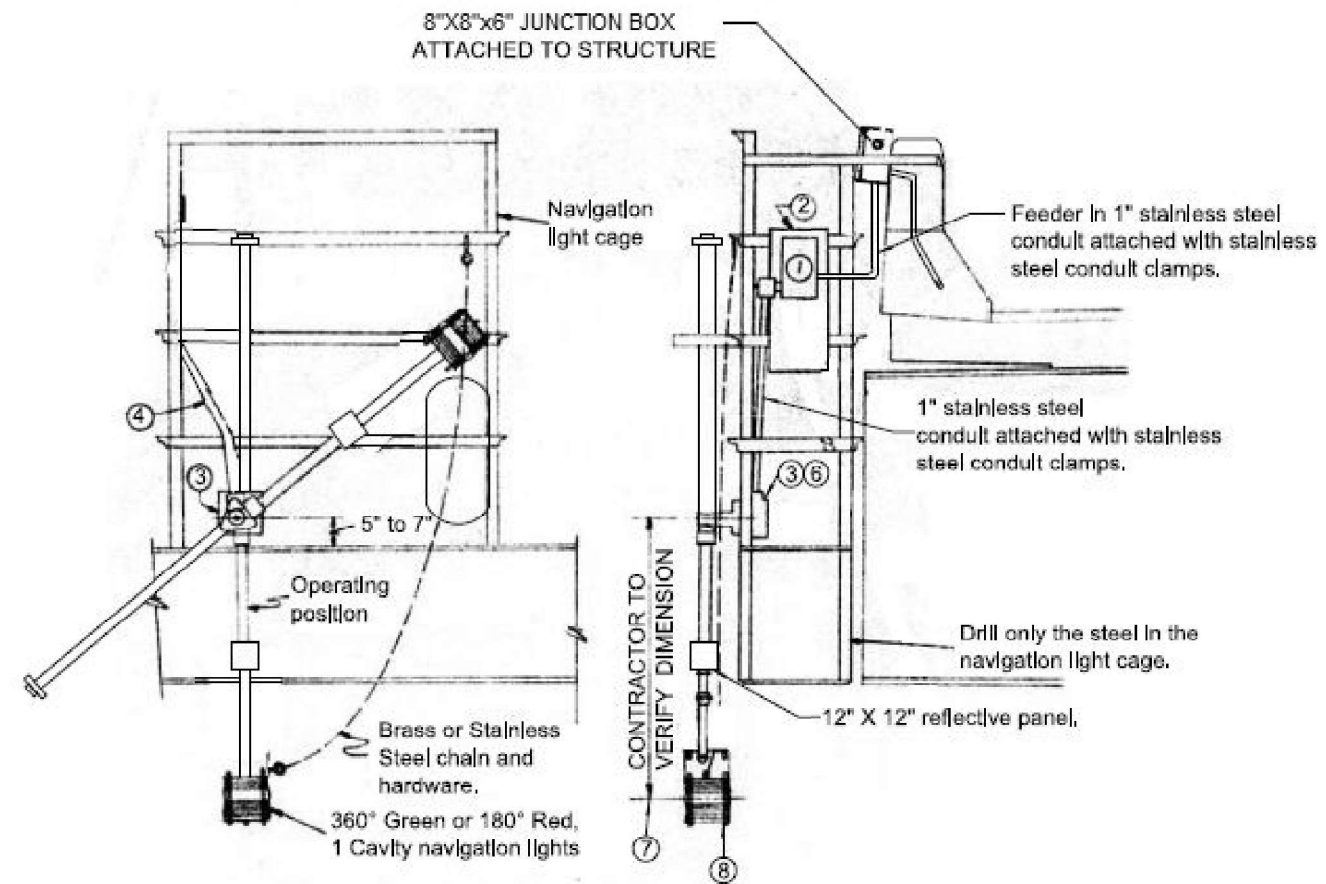
USER NAME = erik.howard	DESIGNED -	REVISED -
PLOT SCALE = 23,8272' / in.	DRAWN -	REVISED -
PLOT DATE = 8/23/2022	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED BRIDGE LIGHTING DETAILS				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	27
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	

NAVIGATION LIGHT DETAILS



NOTES:

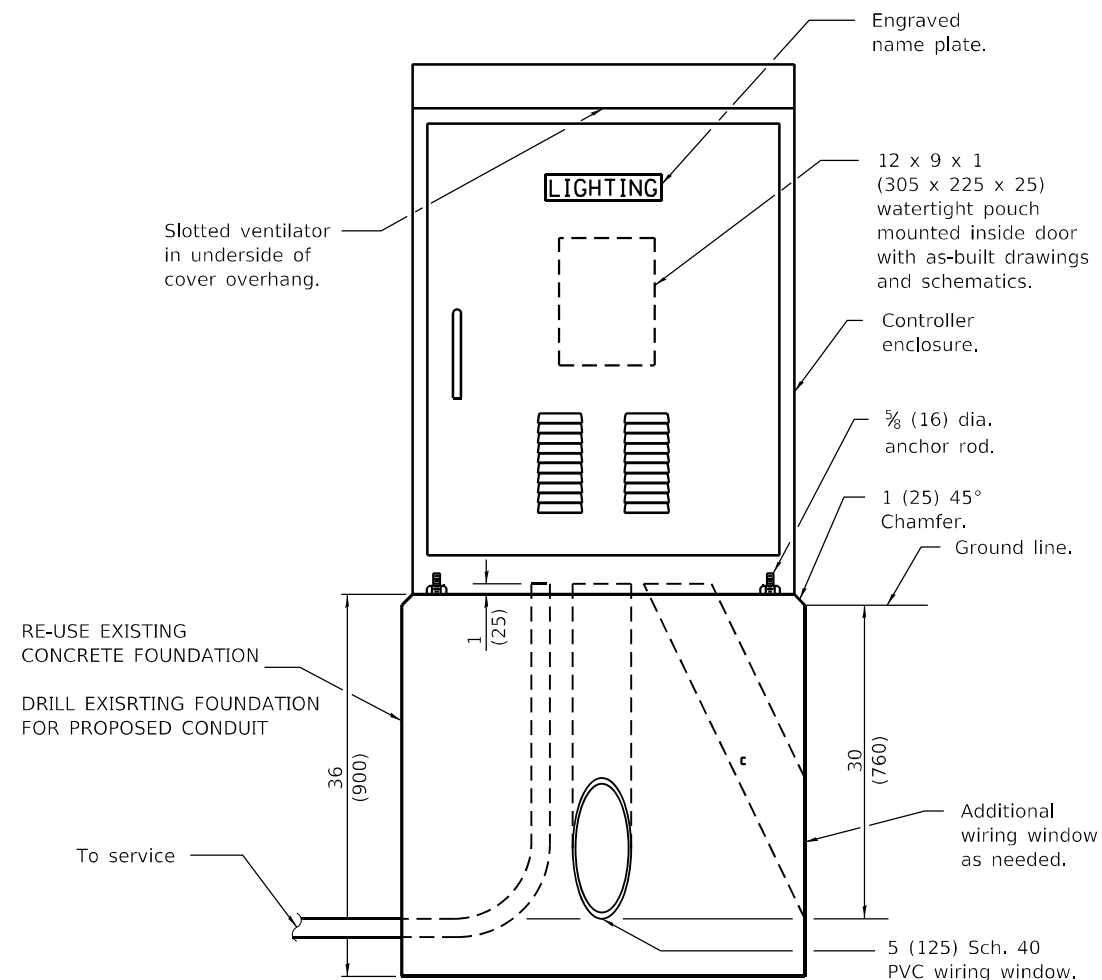
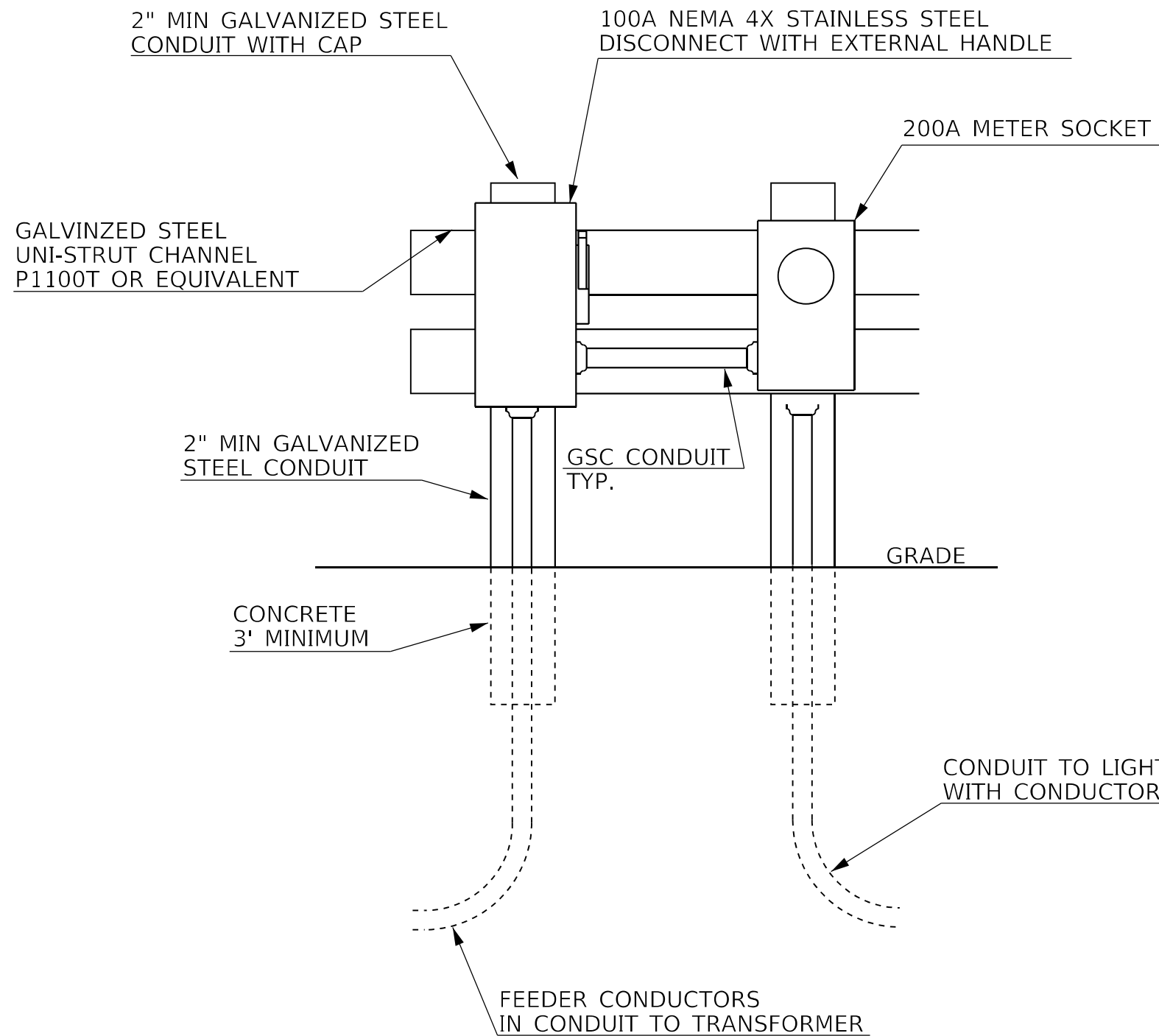
1. NEMA 4X stainless steel junction box with 30 amp disconnect switch. In weatherlight case fuse.
2. 3/16" stainless steel mounting panel fastened to cage with stainless steel bolts, flat washers, and self-locking nuts.
3. Stainless steel junction box.
4. 1" stainless steel conduit.
5. See structural plans for navigation lighting cage detail.
6. All navigation lights are mounted to a navigation light cage.
7. Stem pipe length shall make navigation light easily accessible for maintenance when in raised position.
8. Navigation light heads shall be marine-alloy bronze.

THE CONTRACTOR SHALL FURNISH AND INSTALL A NEMA 4X 30A DISCONNECT, STAINLESS STEEL CONDUIT, MOUNTING PLATE, BRACKETS, HARDWARE, AND OTHER ITEMS AS SHOWN ON THE NAVIGATIONAL LIGHTING DETAIL. THE COST OF THESE ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED NAVIGATION LIGHTING LUMINAIRES.

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	USER NAME = erik.howald	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WATERWAY OBSTRUCTION WARNING LIGHTING DETAIL	F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 28
	PLOT SCALE = 23,8272" = 1'	CHECKED -	REVISED -			CONTRACT NO. 68F08				
	PLOT DATE = 8/25/2022	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.
						ILLINOIS FED. AID PROJECT				

ELECTRIC SERVICE INSTALLATION



LIGHTING CONTROLLER

RE-USE EXISTING CONCRETE FOUNDATION

- NOTES:
1. THE COST OF THE UNDERGROUND SERVICE CABLE/ CONDUIT FROM THE EXISTING TRANSFORMER TO THE PROPOSED ELECTRICAL SERVICE AND SERVICE CABLE/ CONDUIT FROM THE ELECTRICAL SERVICE TO THE SIGNAL CONTROLLER SHALL BE INCLUDED IN THE COST OF THE PROPOSED ELECTRICAL SERVICE INSTALLATION.
 2. THE CONTRACTOR SHALL VERIFY UTILITY COMPANY SERVICE INSTALLATION REQUIREMENTS, THERE WILL BE NO ADDITIONAL COMPENSATION TO ACCOMODATE ADDITIONAL REQUIREMENTS NOT SHOWN IN THE PLANS.
 3. THE PROPOSED ELECTRICAL SERVICE INSTALLATION SHALL BE LOCATED WITHIN 10 FT. OF THE PROPOSED LIGHTING CONTROLLER CABINET AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST UTILITY COMPANY REQUIREMENTS.

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

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DATE: 8/25/2022

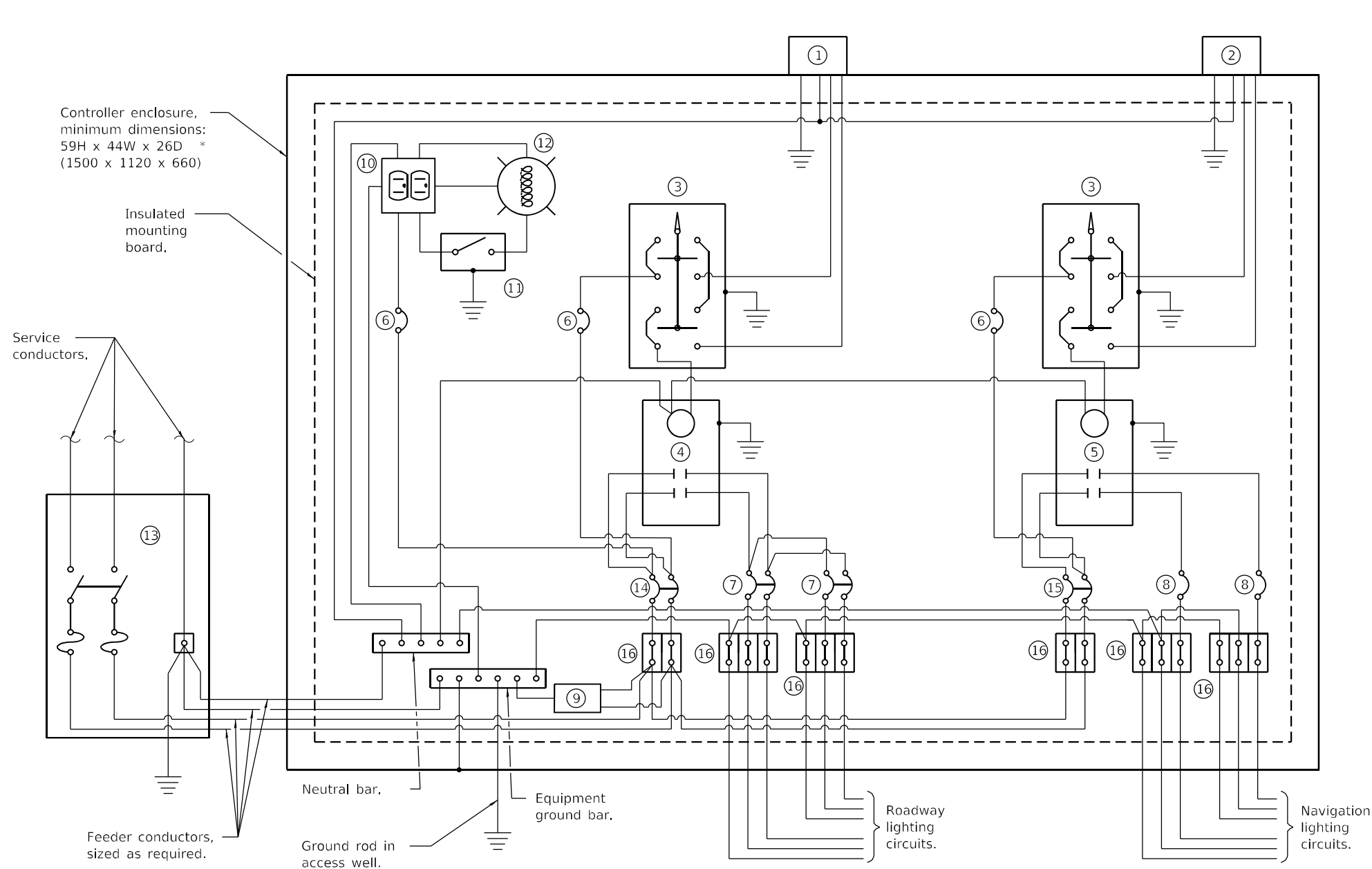
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PLOT DATE = 8/25/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELECTRIC SERVICE AND
LIGHTING CONTROLLER DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	29
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



- ① Photocell with integral surge arrester for roadway lighting.
- ② Photocell with integral surge arrester for navigation lighting.
- ③ HAND-OFF-AUTO selector switch.
- ④ 100 amp*, electrically held contactor.
- ⑤ 60 amp*, electrically held contactor.
- ⑥ 15 amp, 1-pole circuit breaker.
- ⑦ 20 amp*, 2-pole circuit breaker QTY. 4 (1 ROADWAY + 1 RELOCATED EX. RWIS + 2 SPARES)
- ⑧ 20 amp*, single-pole circuit breaker QTY. 3 (1 WWOWL + 2 SPARES)
- ⑨ Surge arrester.
- ⑩ GFCI duplex receptacle.
- ⑪ Single-pole, single-throw switch.
- ⑫ LED light bulb, enclosed and gasketed with 800 lumen lamp.
- ⑬ Service disconnect switch - 2-pole, 3-wire, 100 amp*, fused at 100 amp*, solid neutral in NEMA 4X enclosure having lockable external handle.
- ⑭ 60 amp*, 2-pole circuit breaker.
- ⑮ 30 amp*, 2-pole circuit breaker.
- ⑯ Terminal block sized for conductors as shown on plans.

* Size larger as needed.

LIGHTING CONTROLLER SHALL BE EQUIPPED WITH ONE NEMA 20A NON-GFCI EQUIPMENT RECEPTACLE AND DIN RAIL SECTION FOR CCTV EQUIPMENT MOUNTING (NOT SHOWN IN CONTROLLER WIRING DIAGRAM)

LIGHTING CONTROLLER SHALL BE EQUIPPED WITH ONE 100A 2-POLE MAIN CIRCUIT BREAKER (NOT SHOWN IN CONTROLLER WIRING DIAGRAM)

CONTROL SCHEMATIC

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

MODEL: Default
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PLOT SCALE = 23,8272 * / in.	DRAWN -	REVISED -
PLOT DATE = 8/23/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WATERWAY OBSTRUCTION WARNING			
LIGHTING CONTROLLER, 240V DETAIL - CONTINUED			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	30
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

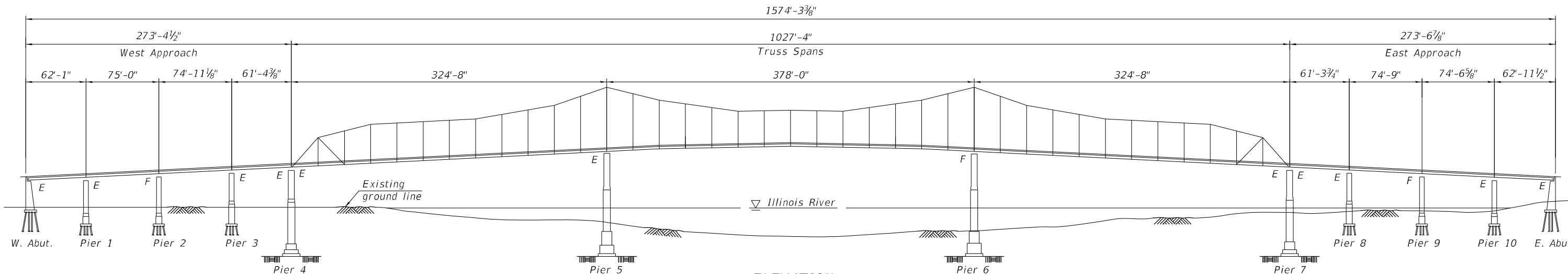
Benchmark: Stainless Steel Spire in 6" vault at the southwest quadrant of Marina Drive and IL Route 17 at end of guardrail, Elev. 458.658

Existing Structure: The Lacon Bridge, S.N. 062-0003, was constructed in 1939 as S.B.I. 90. The substructure was constructed under Section 1-B and the superstructure was constructed under Sections 1-D, 1-E, 1-F and 1-P. The bridge is an 11-span, zero skew structure composed of three (3) units. Units 1 and 3 are 4-span continuous wide flange beam approach spans and unit 2 is a 3-span continuous through truss. The length of the bridge is 1,574'-3 $\frac{3}{8}$ " back-to-back of abutments and 29'-0" out-to-out of bridge deck (26'-3" curb-to-curb). The abutments are stub-type supported on the original counterforts which are founded on untreated timber piles and the piers of the approach spans are reinforced concrete twin-column, frame type with crashwalls on untreated timber piles. The piers of the main spans are twin-column, frame type with crashwalls on spread footings founded on rock.

In 1990, the superstructure and bearings of the approach spans were replaced and the concrete deck, floor beams, stringers, and lateral bracing members of the truss spans were replaced.

Traffic: Bridge to be closed during construction and traffic detoured to the IL 18 bridge over the Illinois River at Henry, IL (SN 062-0036).

Salvage: None



ELEVATION

INDEX OF SHEETS

- S1. General Plan and Elevation
- S2. General Data
- S3.-S9. Bridge Repair Schedules
- S10.-S11. Superstructure
- S12. Drainage System
- S13.-S19. Deck Repair Plans
- S20.-S21. Expansion Joint Replacement Details
- S22.-S25. Intermediate Relief Joint Replacements Details
- S26.-S28. Finger Plate Expansion Joint Details
- S29.-S70. Structural Steel Repair Details
- S71.-S74. Structural Steel Strengthening Details
- S75. Miscellaneous Repair Details
- S76.-S77. Bearing Details
- S78. Temporary Shoring and Cribbing
- S79.-S81. Cleaning and Painting of Existing Structural Steel
- S82.-S95. Substructure Repair Details
- S96.-S97. Pier Protection Repair Details

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

LOADING HS20

No future wearing service allowed.

DESIGN STRESSES

FIELD UNITS

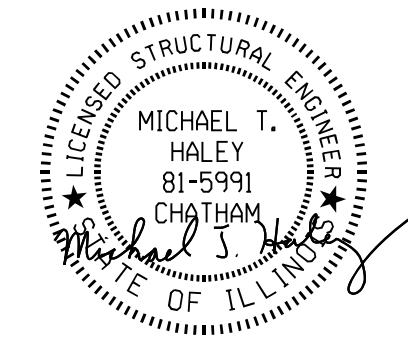
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 Grade 50)

DESIGN STRESSES (1939 ORIGINAL CONSTRUCTION)

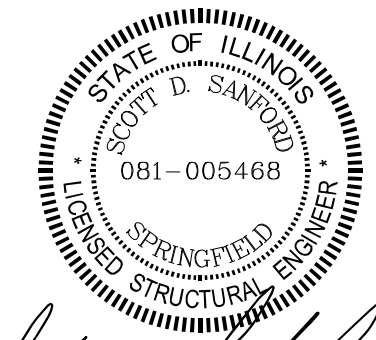
Loading: I 15
 Reinforced Concrete: $f'_c = 3,500$ psi (Substructure)
 $f_y = 33,000$ psi (Reinforcement)
 Structural Steel: $f_y = 33,000$ psi (Carbon)

DESIGN STRESSES (1990 RECONSTRUCTION)

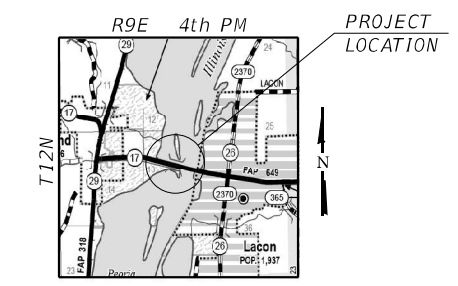
Design Specifications: 1983 AASHTO Standard Specifications for Highway Bridges with 1984 thru 1988 Interims
 Loading: HS20-44
 Reinforced Concrete: $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 Structural Steel: $f_y = 50,000$ psi (M223 Grade 50)
 $f_y = 36,000$ psi (M183 Grade 36)



8/25/2022



Signature
 Expires 11/30/2022



GENERAL PLAN AND ELEVATION
FAP 649 (IL ROUTE 17)
5TH STREET OVER ILLINOIS RIVER
(PUBLIC WATERS)
SECTION (1B-D)BR,P
MARSHALL COUNTY
STRUCTURE NUMBER 062-0003

FILE NAME: SFILES



USER NAME = \$USERS	DESIGNED - SDS, SBC, CEH	REVISED -
CHECKED - BRD, JLM, GEM	REVISIONS	
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE NO. 062-0003

SHEET S1 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	31
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

- Fasteners shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized bolts. Bolts 7/8 in. Ø, holes 15/16 in. Ø, unless otherwise noted.
- All new structural steel shall be AASHTO M270 Grade 50, unless noted otherwise.
- No field welding is permitted except as specified in the contract documents.
- Prior to pouring the new concrete deck at the expansion and intermediate relief joints, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks in the approach beams that cannot be removed by grinding ¼ in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications. Any cracks found in the truss members shall be reported to the Bureau of Bridges and Structures for further disposition.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contactor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The Contractor shall field verify all proposed steel plate and shape dimensions and spacing of holes prior to ordering steel.
- Gaps between the existing steel and the new steel angles and/or cover plates, as well as abandoned holes to be covered by new steel plates and/or angles, shall be sealed with an approved polyurethane sealant. The sealant shall be compatible with the proposed paint system and shall be submitted to the Engineer for approval prior to use. After the sealant has cured in accordance with the manufacturer's written product data sheet, a stripe finish coat shall be applied over the sealant. All costs associated with the installation of the sealant at steel repair locations shall be included with the cost for Structural Steel Repair.
- The Contractor shall perform the work with care, so that portions of the existing structure which are to remain in place shall not be damaged. If the Contractor damages any portions of the existing structure which are to remain in place, the damaged portions shall be replaced or repaired in a manner satisfactory to the Engineer at the expense of the Contractor.
- Concrete Sealer shall be applied to the designated areas of the piers.
- The Contractor shall obtain any necessary permits/permissions from the Illinois Department of Natural Resources (IDNR), Army Corps of Engineers, Illinois Environmental Protection Agency (IEPA), Coast Guard or any other entity to meet requirements set forth by those entities should Contractor choose to access abutments and piers via the river by means of dredging, placement of material for run-arounds, causeways or any other means that occurs in or adjacent to the water.
- Surface preparation at the construction joints shall be performed using high pressurized water spray, using equipment capable of producing a minimum water pressure of 5,000 psi.
- Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at these locations.
- Existing bridge deck shall be scarified 3/4" and a 2 1/4" Microsilica Concrete Overlay installed, as indicated in the plans, for a 1 1/2" net increase in total deck thickness. The minimum overlay thickness shall be checked at the grout lines between aggregates remaining after scarifying the existing concrete deck. Supports for the finishing machine rails shall not be placed within the overlay areas being poured.
- Photographs of deterioration are provided for information only.
- All structural steel repairs and strengthening in truss spans must be completed prior to placing the Microsilica Concrete Overlay.
- Reinforcement bars designated (E) shall be epoxy coated.
- Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Structural Steel Repair or Furnishing and Erecting Structural Steel as appropriate.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Concrete Removal	Cu. Yd.	65.6	12.6	78.2
Protective Shield	Sq. Yd.	323		323
Concrete Structures	Cu. Yd.		21.0	21.0
Concrete Superstructure	Cu. Yd.	74.7	1.6	76.3
Bridge Deck Grooving	Sq. Yd.	4,230		4,230
Protective Coat	Sq. Yd.	4,579		4,579
Furnishing and Erecting Structural Steel	Pound	50,870		50,870
Stud Shear Connectors	Each	34		34
Reinforcement Bars, Epoxy Coated	Pound	44,130	2,670	46,800
Preformed Joint Strip Seal	Foot	348		348
Finger Plate Expansion Joint, 4"	Foot	29		29
Finger Plate Expansion Joint, 6"	Foot	29		29
Elastomeric Bearing Assembly (Type I)	Each	40		40
Elastomeric Bearing Assembly (Type II)	Each	20		20
Anchor Bolts, 1"	Each	80		80
Anchor Bolts, 1¼"	Each	4		4
Anchor Bolts, 1½"	Each	4		4
Concrete Sealer	Sq. Ft.		200	200
Epoxy Crack Injection	Foot		955	955
Caulking Structural Steel Connections	Gal.	47.2		47.2
Column Tensioned Strands	Each		12	12
Containment and Disposal of Non-Lead Paint Cleaning Residues No. 1	L. Sum	1		1
Jack and Remove Existing Bearings	Each	20		20
Structural Steel Removal	Pound	25,410		25,410
Structural Steel Repair	Pound	13,965		13,965
Bridge Drainage System	L. Sum	1		1
Containment and Disposal of Lead Paint Cleaning Residues No. 1	L. Sum	1		1
Cleaning and Painting Steel Bridge No. 1	L. Sum	1		1
Bridge Deck Scarification, ¾"	Sq. Yd.	4,347		4,347
Bridge Deck Microsilica Concrete Overlay, 2¼"	Sq. Yd.	4,347		4,347
Concrete Structure Repair	Cu. Ft.		486.5	486.5
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.		1,715	1,715
Structural Repair of Concrete (Depth Greater than 5")	Sq. Ft.		1,011	1,011
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	9.5		9.5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	18.7		18.7
Deck Slab Repair (Partial)	Sq. Yd.	1		1
Drainage Scuppers to be Adjusted	Each	76		76
Jacking and Cribbing	Each	4		4
Pier Protection Cell Repair	Each	2		2
Temporary Shoring and Cribbing	Each	20		20

Note:

For general notes covering cleaning and painting of new and existing structural steel. See sheets S79 thru S81 of S97.

SCOPE OF WORK

- Scarify and repair the bridge deck and overlay with a Microsilica Concrete Overlay.
- Replace the Neoprene Expansion joints at the abutments with Preformed Strip Seal Joints.
- Remove and replace the finger plate expansion joints and troughs at piers 4 and 7.
- Replace the intermediate relief joints in the truss spans with preformed strip seal joints.
- Repair and/or strengthen deteriorated members of the truss and floor system.
- Repair the beam ends and replace the diaphragms at the West Abutment.
- Clean and paint the fascia beams of the approach spans and 5' of all beam ends at the expansion joints at the abutments, Pier 4 (Span 4) and Pier 7 (Span 8).
- Clean and paint the splash zone of the trusses from 12' above the bridge deck to the bottom of the lower chord. Clean and paint the entire truss floor system.
- Replace the elastomeric bearings of the approach spans at the abutments, Pier 4 (Span 4) and Pier 7 (Span 8).
- Replace the stringer expansion bearings at the intermediate relief joints in the truss spans.
- Repair the west abutment backwalls, caps and wingwalls.
- Repair the caps, columns and crashwalls of Piers 1 thru 4 and 7 thru 10.
- Rehabilitate the caps and repair the columns and crashwalls of Piers 5 and 6.
- Repair the pier protection system at Piers 5 and 6.
- Replace the navigation lighting system.
- Repair the roadway lighting and associated electrical system.
- Conduct other miscellaneous repairs and/or member strengthening as shown.

CONSTRUCTION REQUIREMENTS

Current Ratings on File for Existing Structure

Inventory: HS 0.65

Operating: HS 1.09

Live Load Restrictions: None

- Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Rating and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.
- The Contractor is advised that the existing structure contains members that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal, or replacement of the structure. An Existing Structure Information Package is available on request.
- The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Highway Bridges (Complex), for preparation of the Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provision.

FILE NAME: SFILES



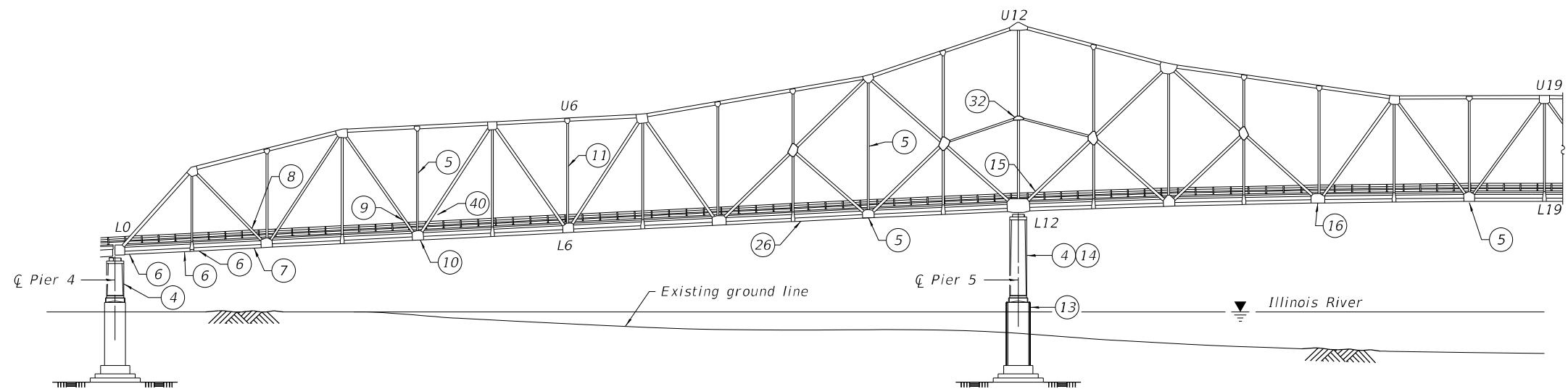
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PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

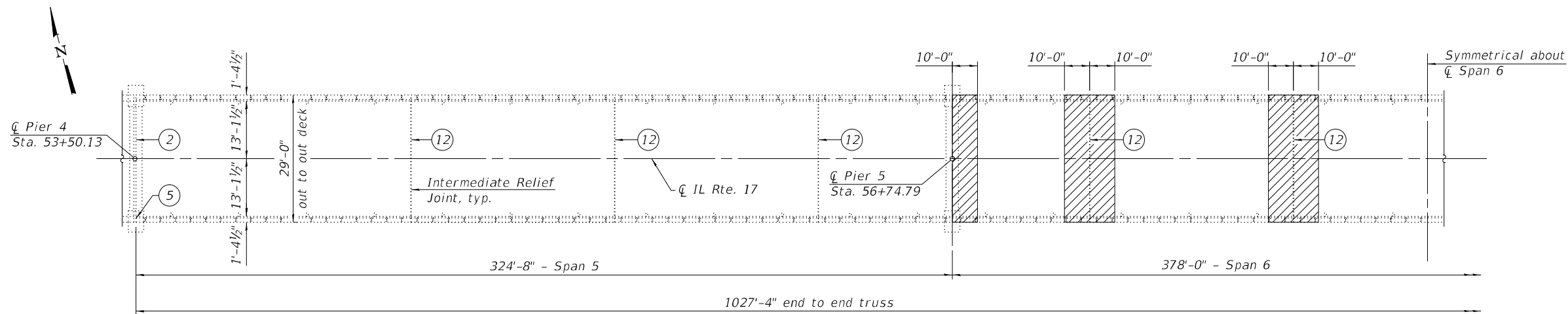
**GENERAL DATA
STRUCTURE NO. 062-0003**

SHEET 52 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	32
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		



ELEVATION - WEST HALF TRUSS



DECK PLAN - WEST HALF TRUSS

LEGEND

- Ⓝ Repair I.D. No.
- ▨ Protective Shield

BILL OF MATERIAL

Item	Unit	Total
Protective Shield	Sq. Yd.	162

(Sheet 1 of 2.)

Main Span Repair Schedule - 1 (Deck and Truss)					
Repair I.D. No.	NBIS Inspection Deficiency Item No.	Item Description	Location	Action	Sheet
-	1	Paint System	Truss members and floor system members	Clean and Paint the floor system and all truss members from the lower chord to 12' above the bridge deck.	S80-S81
-	2	Bridge Deck	Spans 5 thru 7	Scarify the bridge deck 3/4", perform partial depth and full depth Deck Slab Repair, and overlay with 2 1/4" Microsilica Concrete Overlay.	S15-S17
2	7	Expansion Joint	Finger Plate Expansion Joint at Pier 4	Remove and replace existing Finger Plate Expansion Joint with new Finger Plate Expansion Joint.	S21, S26-S28
4	8	Pier 4	Cap, columns and crashwall at Pier 4	Repair pier cap, columns and crashwall	S87
4	32	Pier 5	Cap, columns and crashwall at Pier 5	Reconstruct pier cap and repair columns and crashwall	S88, S90-S91
5	78	Electrical conduit	At panel point L0 of the South Truss	Replace conduit	*
5	45	Roadway Lighting	Roadway lighting lens near panel point U4 of the South Truss	Replace Roadway Lighting	*
5	16	Roadway Lighting	Roadway lighting lens near panel point U10 of the South Truss	Replace Roadway Lighting	*
5	69	Electrical conduit	From panel point L18 to panel point L18A along the South Truss	Replace conduit	*
6	11	Bottom Chord	L0 - L1 bottom chord near panel point L1 of the South Truss	Structural Steel Repair	S32
6	10	Bottom Chord	L0 - L2 bottom chord near panel point L0 and L1 of the North Truss	Structural Steel Repair	S31
7	13	Bottom Chord	L1 - L2 bottom chord near panel point L2 of the North Truss	Structural Steel Repair	S33
8	79	Diagonal	L2 - U1 diagonal near panel point L2 of the South Truss	Structural Steel Repair	S43
8	43	Diagonal	L2 - U1 diagonal near panel point L2 of the North Truss	Structural Steel Repair	S35
9	44	Diagonal	L4 - U3 diagonal near panel point L4 of the North Truss	Structural Steel Repair	S34
10	46	Gusset Plate	Interior Gusset Plate at panel point L4 of the South Truss	Structural Steel Repair	S36
11	48	Batten Plate	L6 - U6 vertical near panel point L6 of the North Truss	Structural Steel Repair	S37
12	-	Intermediate Relief Joint	Bridge Deck at panel point 4 and 17	Replace all Intermediate Relief Joints at L4, L7, L10, L14, and L17	S22-S23
12	94	Intermediate Relief Joint	Bridge Deck at panel point 7	Replace all Intermediate Relief Joints at L4, L7, L10, L14, and L17	S22-S23
12	95	Intermediate Relief Joint	Bridge Deck at panel point 10	Replace all Intermediate Relief Joints at L4, L7, L10, L14, and L17	S22-S23
12	96	Intermediate Relief Joint	Bridge Deck at panel point 14	Replace all Intermediate Relief Joints at L4, L7, L10, L14, and L17	S22-S23
13	54	Pier Protection	Pier protection at Pier 5	Repair pier protection	S96-S97
14	33	Pier Ladder	Ladder attached to South Column of Pier 5	Remove and discard ladder	S88
15	80	Batten Plate	L12 - M13 diagonal near panel point L12 of the North Truss	Structural Steel Repair	S44
16	56	Bottom Chord	L15 - L16 bottom chord near panel point L16 of the South Truss	Structural Steel Repair	S38
26	-	Lower Chord	Lower chord from L8 to L10 both trusses	Strengthen lower chord	S72-S74
32	-	Gusset Plate	Gusset Plate at M12 both trusses	Strengthen gusset plate	S71
40	14	Diagonal	L4 - U5 diagonal near panel point L4 of the North Truss	Structural Steel Repair	S34

Note:

NBIS Inspection Deficiency Item No. refers to the NBIS Routine Inspection Report dated April 13, 2020.

(Sheet 2 of 2.)

FILE NAME: SFILES

design firm
no. 184001036



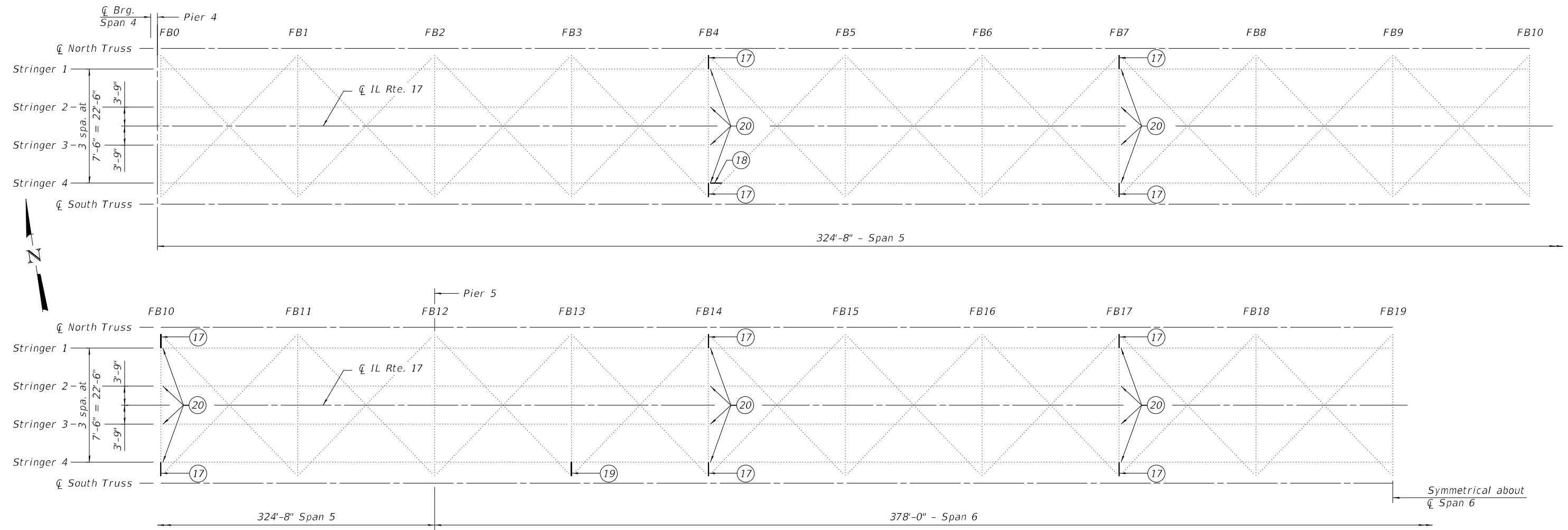
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR SCHEDULES - TRUSS SPANS
STRUCTURE NO. 062-0003

SHEET 55 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	35
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



FRAMING PLAN - WEST HALF TRUSS

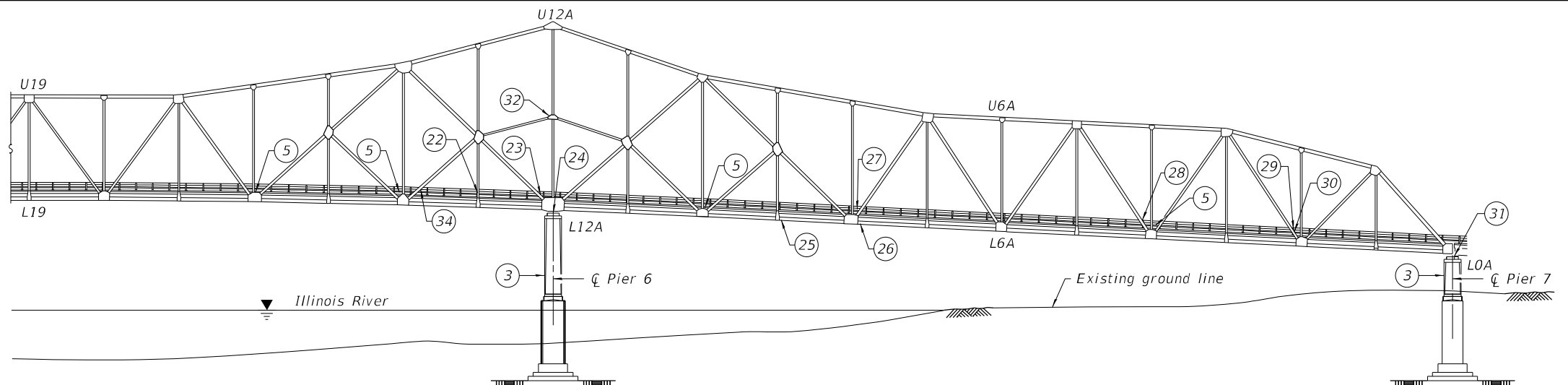
LEGEND

- # Repair I.D. No.
- FB Floor Beam

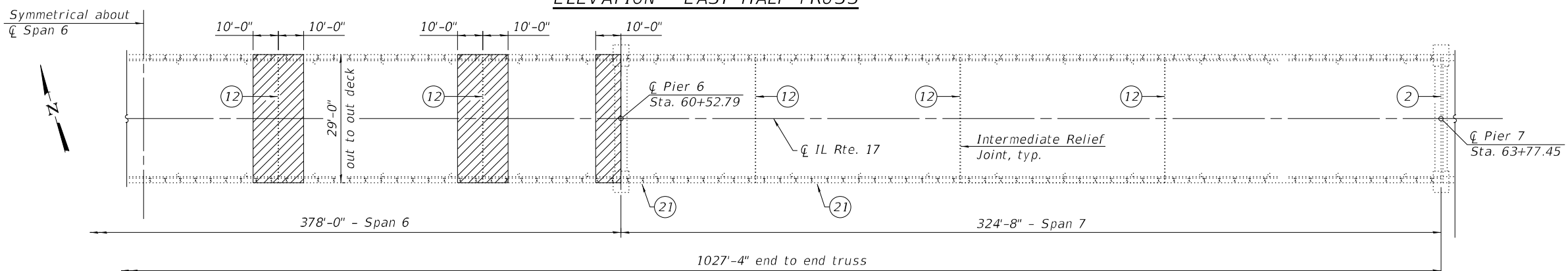
Note:
NBIS Inspection Deficiency Item No. refers to the NBIS Routine Inspection Report dated April 13, 2020.

Main Span Repair Schedule - 2 (Floor System)

Repair I.D. No.	NBIS Inspection Deficiency Item No.	Item Description	Location	Action	Sheet
17	92	Floor Beams	Both ends of floor beams at relief joints at panel points L4, L7, L10, L14 and L17	Structural Steel Repair	S51-S70
18	93	Stringer	Stringer 4 on East side of Floor Beam 4	Structural Steel Repair	S51-S52
19	105	Floor Beam	Floor beam at panel point 13 of the South Truss	Structural Steel Repair	S48
20	-	Stringer Bearings	Expansion bearing pads under stringers 1 thru 4 at relief joints at panel points L4, L7, L10, L14 and L17	Replace bearing pads under stringers 1 thru 4 at relief joints at panel points L4, L7, L10, L14 and L17	S77



ELEVATION - EAST HALF TRUSS



DECK PLAN - EAST HALF TRUSS

Main Span Repair Schedule - 3 (Deck and Truss)

Repair I.D. No.	NBIS Inspection Deficiency Item No.	Item Description	Location	Action	Sheet
-	1	Paint System	Truss members and floor system members	Clean and Paint the floor system and all truss members from the lower chord to 12' above the bridge deck.	S80-S81
-	2	Bridge Deck	Spans 5 thru 7	Scarify the bridge deck 3/4", perform partial depth and full depth Deck Slab Repair, and overlay with 2 1/4" Microsilica Concrete Overlay.	S15-S17
2	63	Expansion Joint	Finger Plate Expansion Joint at Pier 7	Remove and replace existing Finger Plate Joint with new Finger Plate Expansion Joint	S26-S28
3	23	Pier 6	Cap, columns and crashwall at Pier 6	Rehabilitate pier cap and repair columns and crashwall	S89-S91
3	37	Pier 7	Cap, columns and crashwall at Pier 7	Repair pier cap, columns and crashwall	S92
5	70	Electrical conduit	At panel point L16A of the South Truss	Replace conduit	*
5	108	Electrical conduit	At panel point L14A of the South Truss	Replace conduit	*
5	110	Electrical conduit	Near panel point L10A of the South Truss	Replace conduit	*
5	31	Electrical conduit	Near panel point L4A of the South Truss	Replace conduit	*
12	-	Intermediate Relief Joints	Bridge Deck Relief Joints at panel points 17A, 14A, 10A, 7A and 4A	Replace all Intermediate Relief Joints at L17A, L14A, L10A, L7A and L4A	S22-S24
21	38	Broken/Missing Guardrail Bolts	South Guardrail in Span 7. 6 feet East of panel point L12A and 6 feet East of panel point L9A.	Replace broken or missing guardrail bolts.	S75
22	60	Vertical	L13A - M13A vertical near panel point L13A of the North Truss	Structural Steel Repair	S39
23	98	Batten Plate	L12A - M13A diagonal near panel point L12A of the South Truss	Structural Steel Repair	S46
25	71	Bottom Chord	L9A - L8A bottom chord near panel point L9A of the North Truss	Structural Steel Repair	S42
26	-	Lower Chord	Lower chord from L8A to L10A both trusses	Strengthen lower chord	S72-S74
27	61	Lacing Bar	L8A - U7A diagonal near panel point L8A of the North Truss	Structural Steel Repair	S40
28	62	Diagonal	L4A - U5A diagonal near panel point L4A of the North Truss	Structural Steel Repair	S41
29	91	Lacing Bar	L2A - U3A diagonal near panel point L2A of the South Truss	Structural Steel Repair	S45
30	101	Lacing Bar	L2A - U3A diagonal near panel point L2A of the North Truss	Structural Steel Repair	S47
31	112	Truss Bearing	Expansion bearing at Pier 7 of the South Truss	Replace bearings	S76
32	-	Gusset Plate	Gusset plate at M12A both trusses	Strengthen gusset plate	S71
34	107	Batten Plate	L14A - M15A diagonal near panel point L14A of the South Truss	Structural Steel Repair	S50

LEGEND

- # Repair I.D. No.
- Protective Shield

Note:
NBIS Inspection Deficiency Item No. refers to the NBIS Routine Inspection Report dated April 13, 2020.

* See Roadway Lighting and Navigation Plans.

BILL OF MATERIAL

Item	Unit	Total
Protective Shield	Sq. Yd.	161



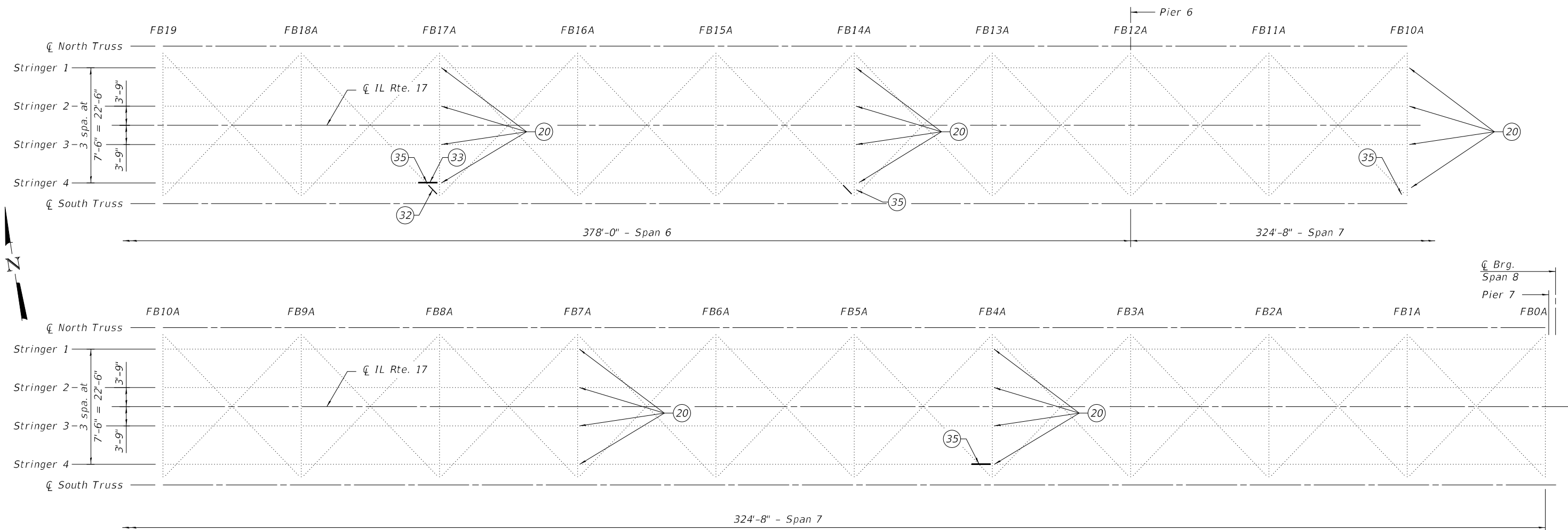
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE REPAIR SCHEDULES - TRUSS SPANS
STRUCTURE NO. 062-0003

SHEET 57 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	37
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

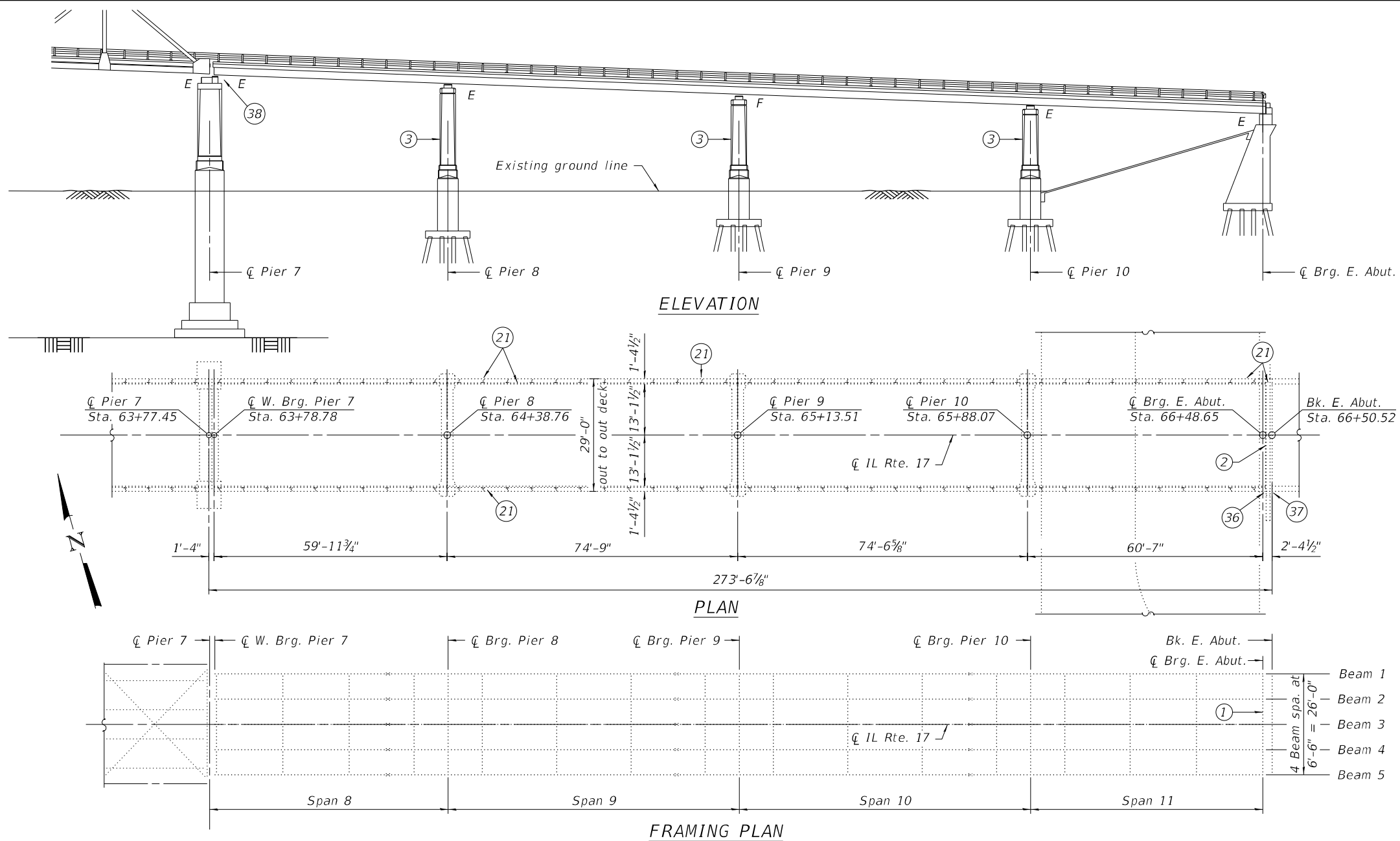


FRAMING PLAN - EAST HALF TRUSS

Note:
NBIS Inspection Deficiency Item No. refers to the NBIS Routine Inspection Report dated April 13, 2020.

Main Span Repair Schedule - 4 (Floor System)					
Repair I.D. No.	NBIS Inspection Deficiency Item No.	Item Description	Location	Action	Sheet
17	92	Floor Beams	Both ends of floor beams at relief joints at panel points L4A, L7A, L10A, L14A and L17A	Structural Steel Repair	S51-S70
20	-	Stringer Bearings	Expansion bearing pads under stringers 1 thru 4 at relief joints at panel points L4A, L7A, L10A, L14A, and L17A	Structural Steel Repair	S77
32	106	Lateral bracing	L17A of the South Truss to L18A of the North Truss near panel point L17 of the South Truss	Structural Steel Repair	S49
33	97	Stringer	Stringer 4 on West side of Floor Beam 17A	Structural Steel Repair	S61-62
35	111	Stringer	Stringer 4 on West side of Floor Beam 4A	Structural Steel Repair	S69-S70
35	-	Stringer	Stringer 4 on West side of Floor Beam 14A	Structural Steel Repair	S63-S64
35	-	Stringer	Stringer 4 on West side of Floor Beam 10A	Structural Steel Repair	S65-S66

LEGEND
 (#) Repair I.D. No.
 FB Floor Beam



East Approach Repair Schedule

Repair I.D. No.	NBIS Inspection Deficiency Item No.	Item Description	Location	Action	Sheet
-	1	Paint System	All beams and diaphragms	Clean and Paint the fascia beams (beams 1 and 5) and the ends of beams 2, 3 and 4 and diaphragms within 5' of expansion joints at the East Abutment and Pier 7.	S79-S80
-	2	Bridge Deck	Spans 8 thru 11	Scarify the bridge deck 3/4", perform partial depth and full depth Deck Slab Repair, and overlay with 2 1/4" Microsilica Concrete Overlay.	S18-S19
2	-	Expansion Joint	Neoprene Expansion Joint at the East Abutment	Replace existing Neoprene Expansion Joint with Strip Seal Expansion Joint	S20
3	65	Pier 8	Cap, columns and crashwall at Pier 8	Repair pier cap, columns and crashwall	S93
3	66	Pier 9	Columns and crashwall at Pier 9	Repair columns and crashwall	S94
3	-	Pier 10	Cap, columns and crashwall at Pier 10	Repair pier cap, columns and crashwall	S95
21	38	Broken/Missing Guardrail Bolts	Various locations in spans 9 and 11	Replace broken or missing guardrail bolts.	S75
36	39	Electrical conduit	Along south side of East Abutment	Replace conduit	*
37	73	Approach Roadway	Concrete curb East of East Abutment near approach roadway joint	Repair concrete curb	S19
38	113	Bearing	Elastomeric bearing at Pier 7 of the South Truss	Replace bearings	S76
39	-	Bearing	Elastomeric bearing at East Abutment	Replace bearings	S76

LEGEND

Repair I.D. No.

NBIS Inspection Deficiency Item No. refers to the NBIS Routine Inspection Report dated April 13, 2020.

* See Roadway Lighting and Navigation Plans.

FILE NAME: SFILES



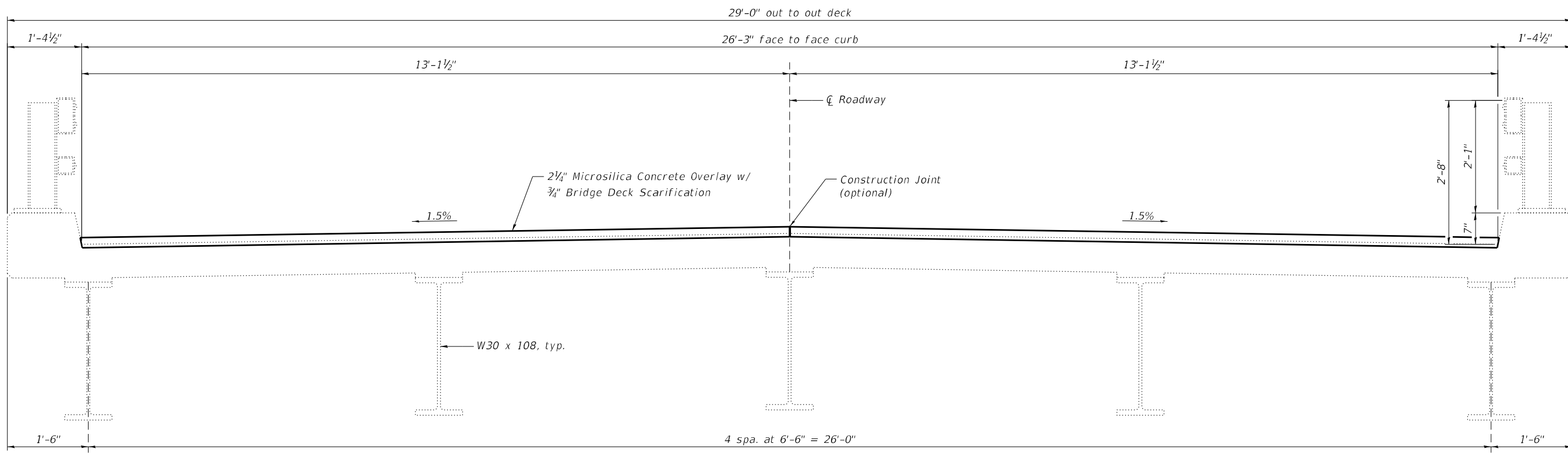
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

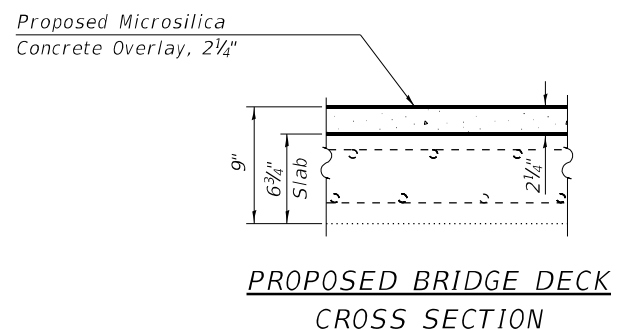
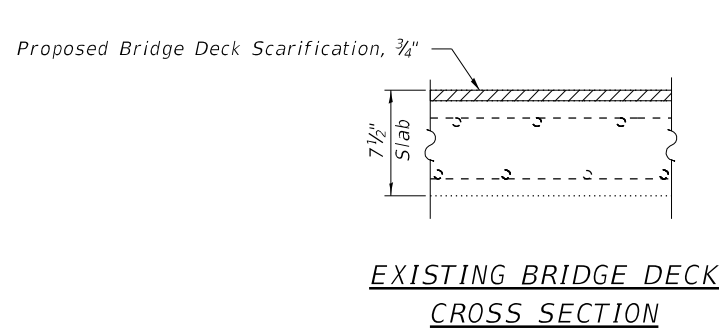
BRIDGE REPAIR SCHEDULE - EAST APPROACH
STRUCTURE NO. 062-0003

SHEET 59 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	39
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



CROSS SECTION
(Spans 1 thru 4 and 8 thru 11)



- Notes:
1. Beam repair details are not shown for clarity. For beam repair details, see sheets S29 and S30 of S97.
 2. For bridge deck repair details, see sheets S13 thru S19 of S97.

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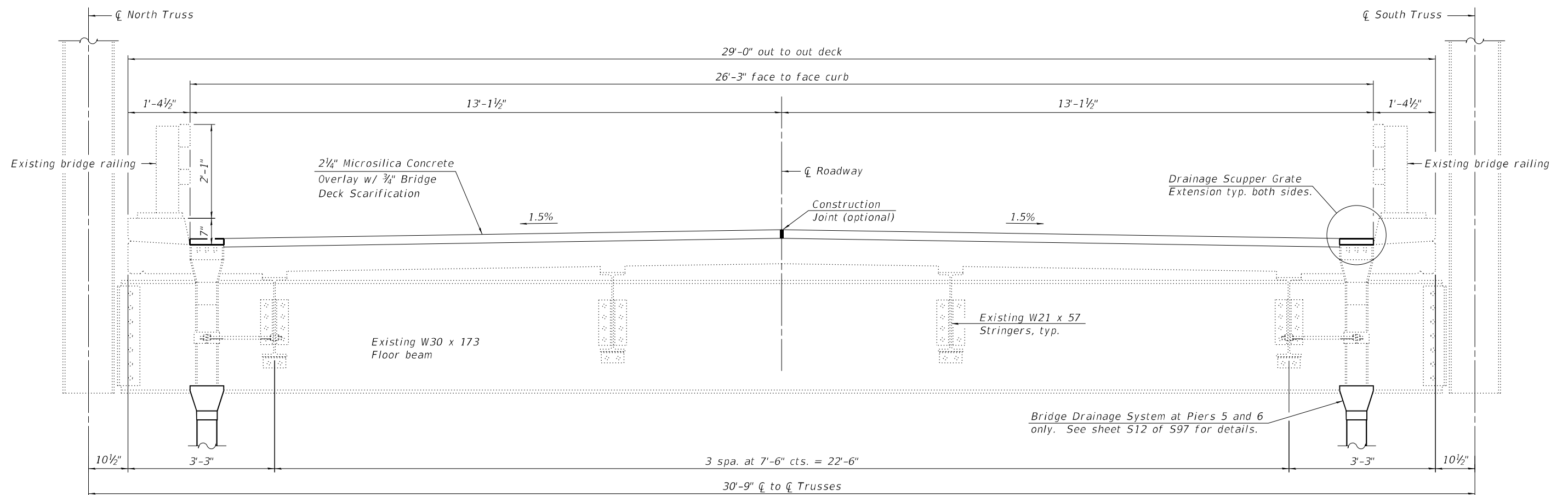
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE - APPROACHES
STRUCTURE NO. 062-0003**

SHEET S10 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	40
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

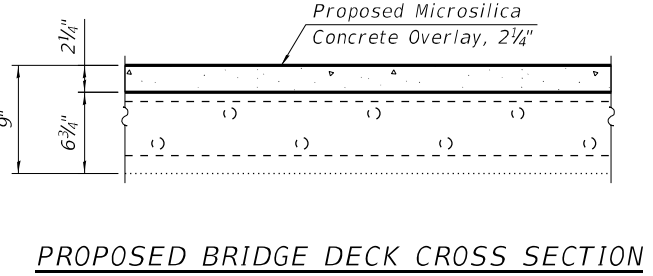
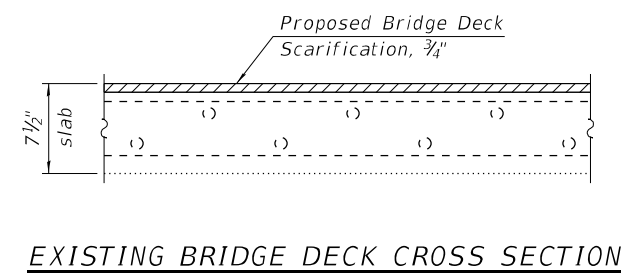
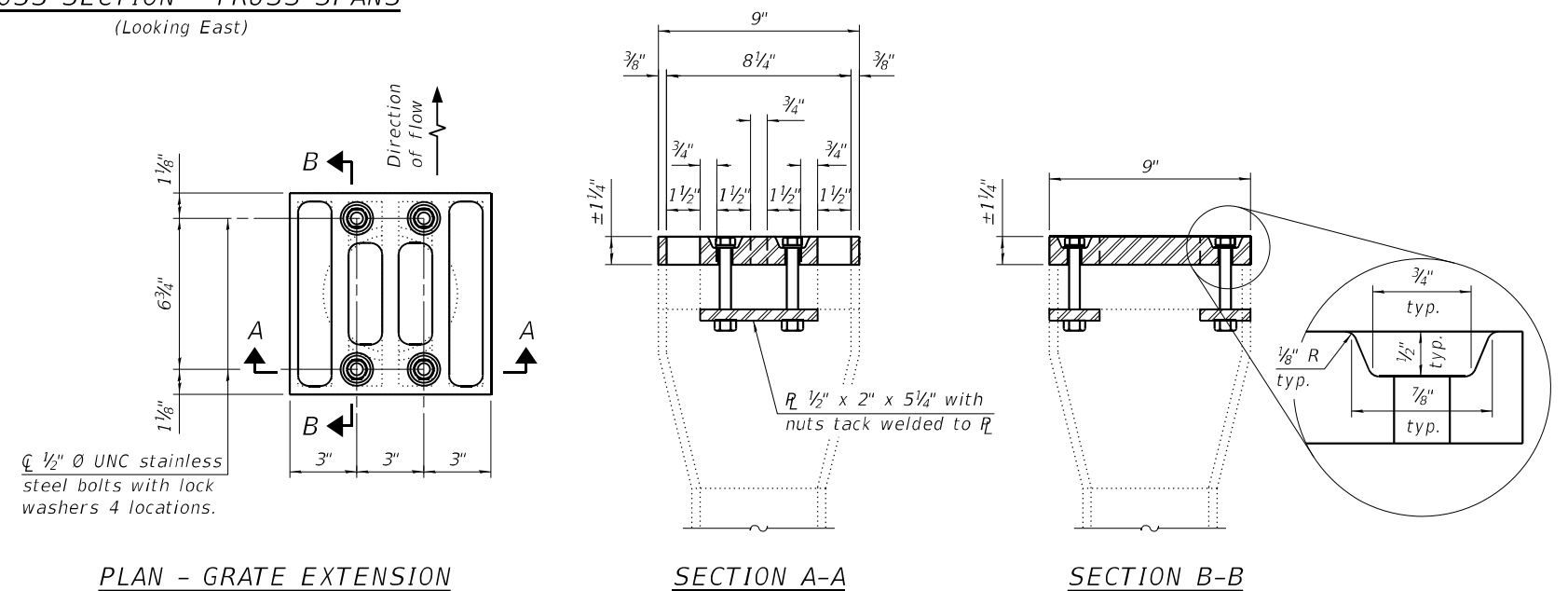


Notes:

1. The contractor shall field verify the dimensions and details of the existing scuppers and make necessary adjustments prior to ordering the proposed Drainage Scupper Grate Extensions. The height of the Drainage Scupper Grate Extensions shall be determined such that the top surface of the proposed Drainage Scupper Grate Extensions is 1/4" below the top of the finished Microsilica Concrete Overlay surface.
2. The top surface of the existing scupper grates shall be cleaned and ground smooth prior to installation of the proposed Drainage Scupper Grate Extensions.
3. The material for the proposed Drainage Scupper Grate Extensions and clamp bars shall be unfinished Grey Cast Iron and shall conform to the requirements of AASHTO M105, Class 35B and AASHTO M306.
4. Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron Drainage Scupper Grate Extensions and clamp bars. Fillet or full penetration welds shall be used for the weldments. Structural steel Drainage Scupper Grate Extensions and clamp bars, when utilized, shall be galvanized according to the requirements of AASHTO M111.
5. All bolts, nuts, washers and lock washers shall conform to the requirements of ASTM A307 and shall be galvanized according to the requirements of AASHTO M232. Stainless steel hardware according to Article 1006.29(d) of the Standard Specifications may be used as an alternative.
6. Shop plans for proposed Drainage Scupper Grate Extensions shall be submitted for approval prior to fabrication.
7. The contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
8. All labor and materials necessary to clean the existing scupper grates and install the proposed Drainage Scupper Grate Extensions shall be paid for at the contract unit price each for Drainage Scuppers to be Adjusted.

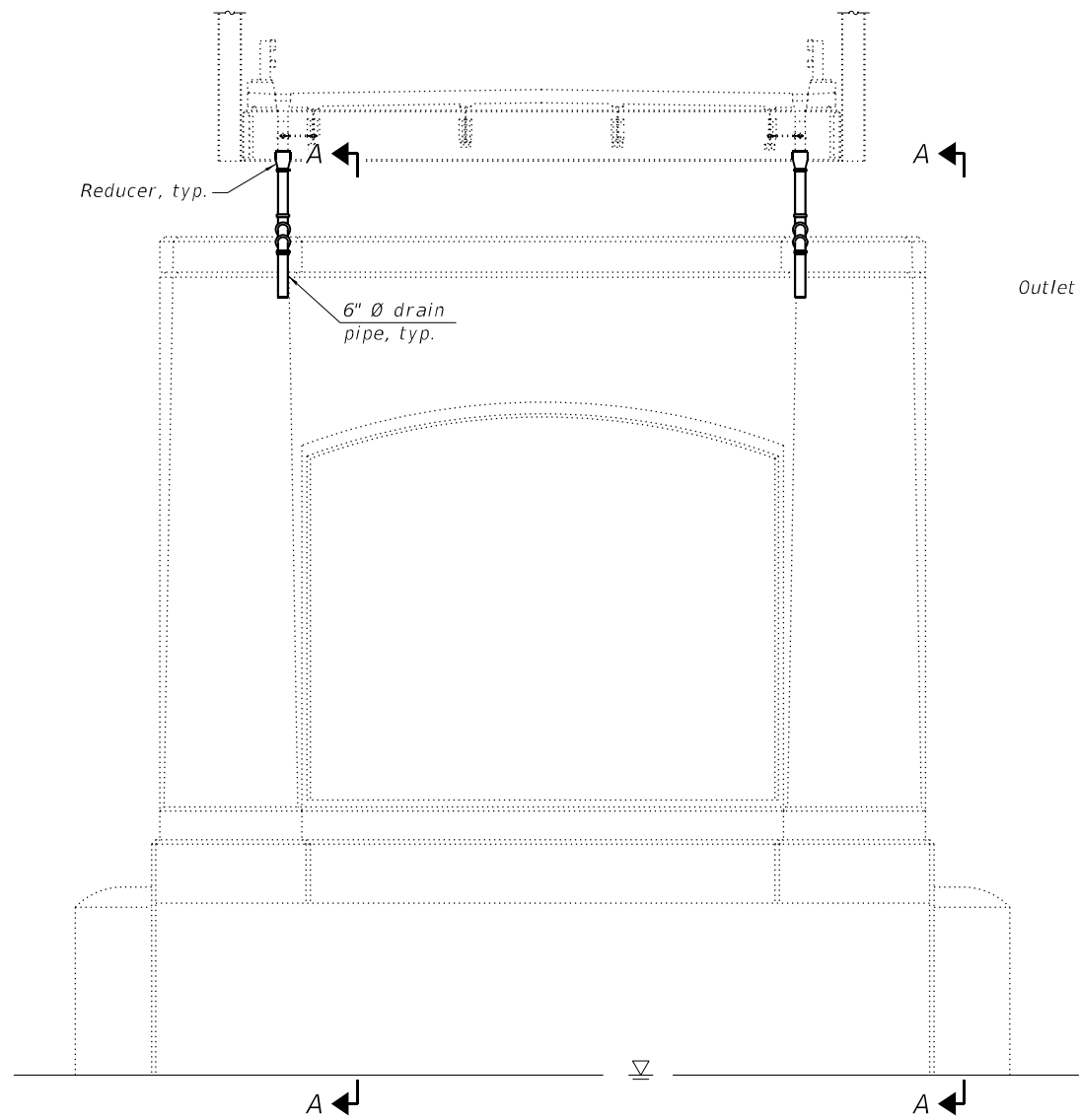
CROSS SECTION - TRUSS SPANS

(Looking East)

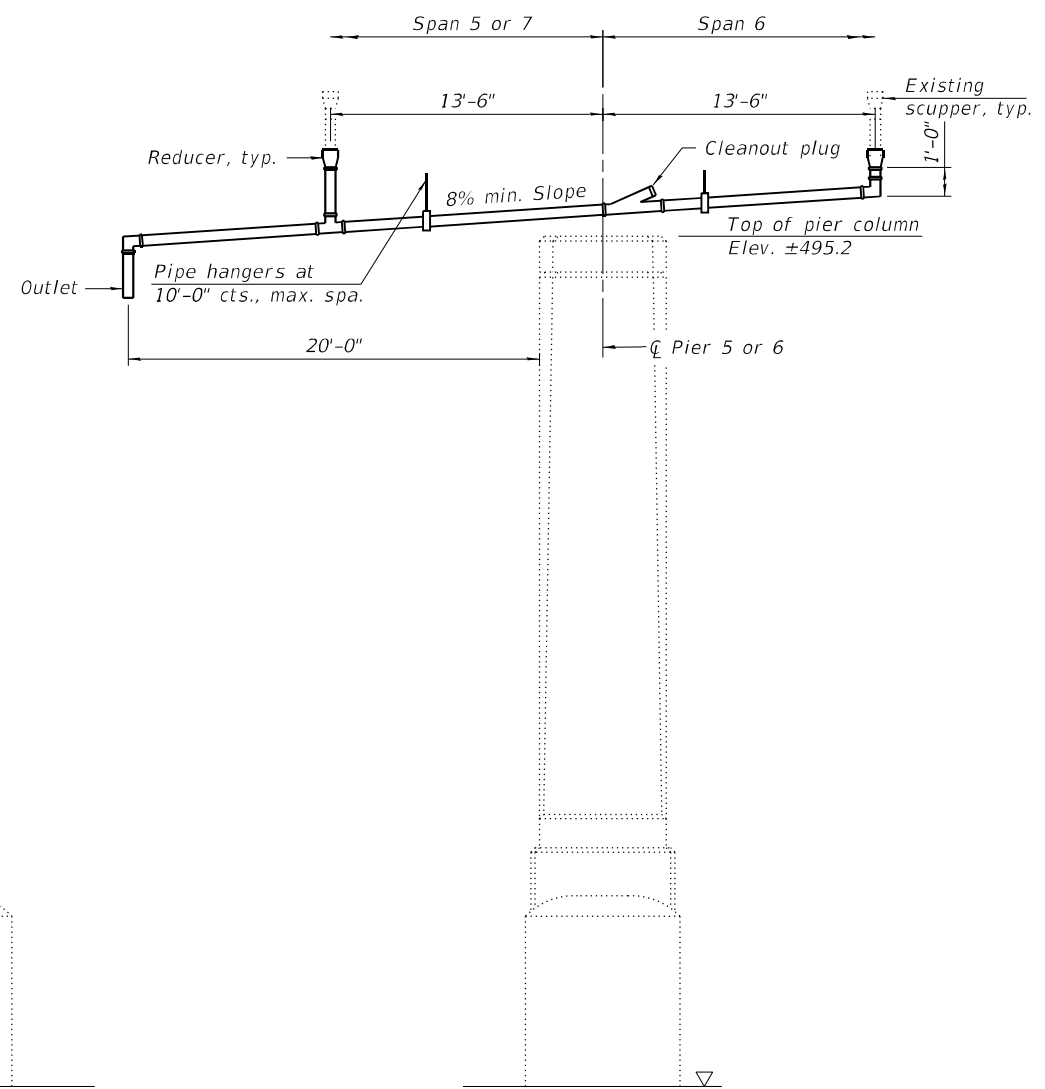


BILL OF MATERIAL

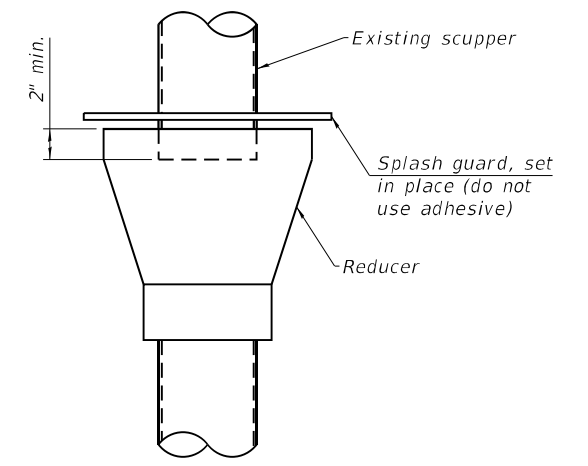
Item	Unit	Total
Drainage Scuppers to be Adjusted	Each	76



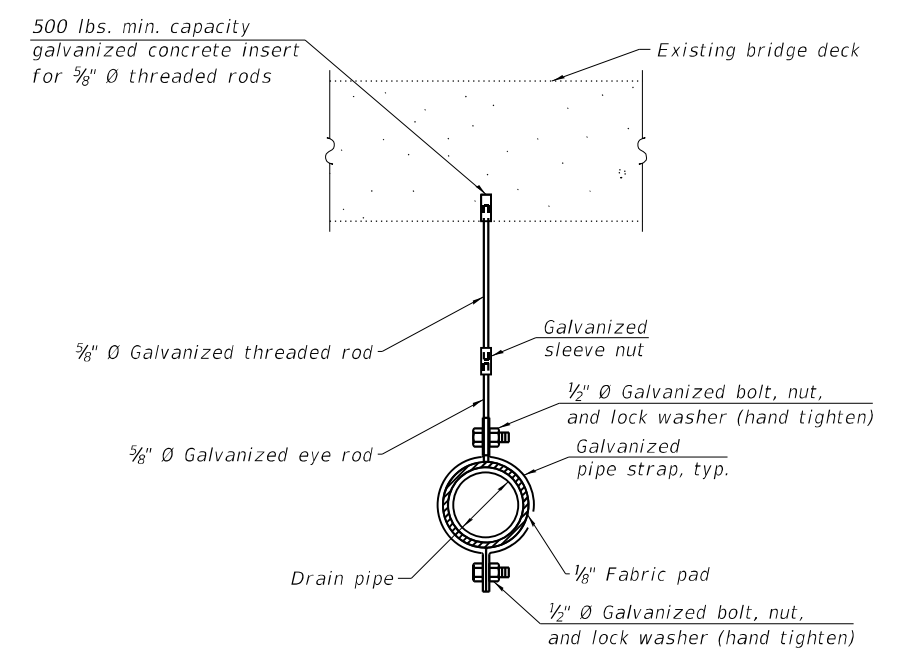
PIERS 5 AND 6 ELEVATION
 (Pier 5 - Looking East)
 (Pier 6 - Looking West)
 (Existing bearings not shown for clarity.)



VIEW A-A
 Existing truss, deck, and floor system not shown for clarity.



FRP REDUCER DETAIL

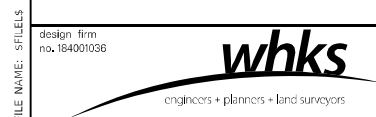


PIPE HANGER DETAIL
 Detail for new hanger to existing concrete deck connection.

- Notes:
1. Threaded rods shall be ASTM F1554 Grade 36.
 2. The cost for all work required to furnish, fabricate, and install the drainage system at Piers 5 and 6, including the pipes, reducers, cleanouts, fittings, and hardware, shall be paid for at the lump sum contract price for Bridge Drainage System.
 3. Drill holes and grout threaded rods in accordance with Section 584 of the Standard Specifications. Cost shall be included with Bridge Drainage System.
 4. Bolts, washers, and nuts shall conform to the requirements of ASTM A307 and shall be galvanized according to AASHTO M232.

BILL OF MATERIAL

Item	Unit	Total
Bridge Drainage System	L. Sum	1



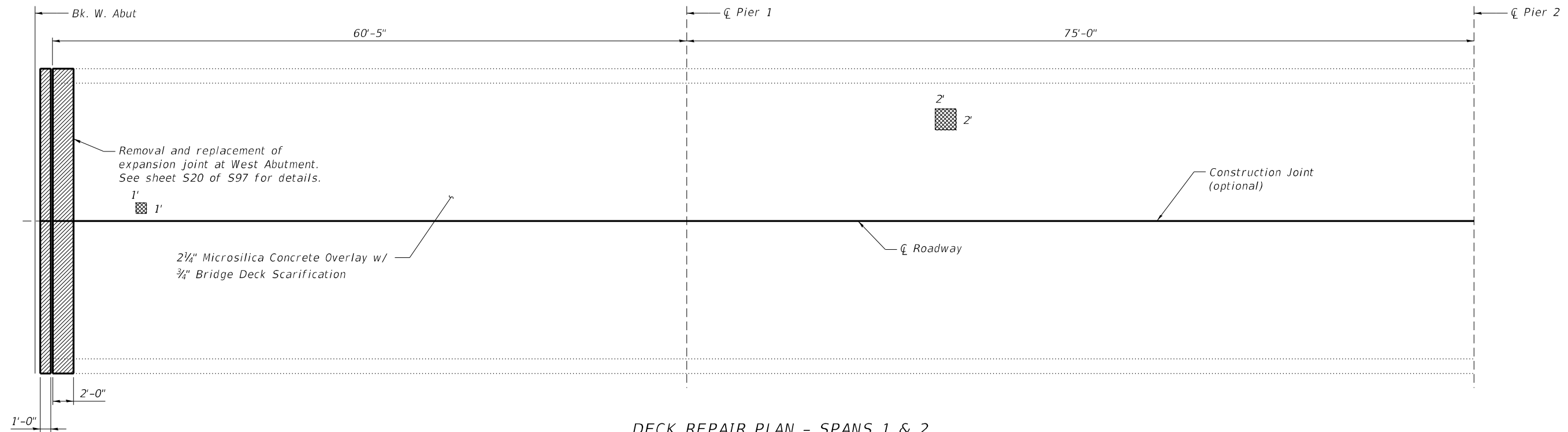
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE DRAINAGE SYSTEM - PIERS 5 & 6
 STRUCTURE NO. 062-0003**

SHEET 512 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	42
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



DECK REPAIR PLAN - SPANS 1 & 2

DECK SLAB REPAIR DETAIL - WEST APPROACH SPANS

Span	Full Depth Type I (Sq. Ft.)	Full Depth Type II (Sq. Ft.)	Total (Sq. Ft.)	Total (Sq. Yd.)
1	1	-	1	0.1
2	4	-	4	0.5
3	-	12	12	1.4
4	-	-	-	-

LEGEND

- Expansion Joint Removal and Replacement
- Deck Slab Repair (Full Depth)

Notes:

1. Repair areas shown are estimated. Deck Sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.

BILL OF MATERIAL

Item	Unit	Total
Bridge Deck Grooving	Sq. Yd.	730
Protective Coat	Sq. Yd.	791
Bridge Deck Scarification, 3/4"	Sq. Yd.	775
Bridge Deck Microsilica Concrete Overlay, 2 1/4"	Sq. Yd.	775
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.6
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	1.4

(Sheet 1 of 2)

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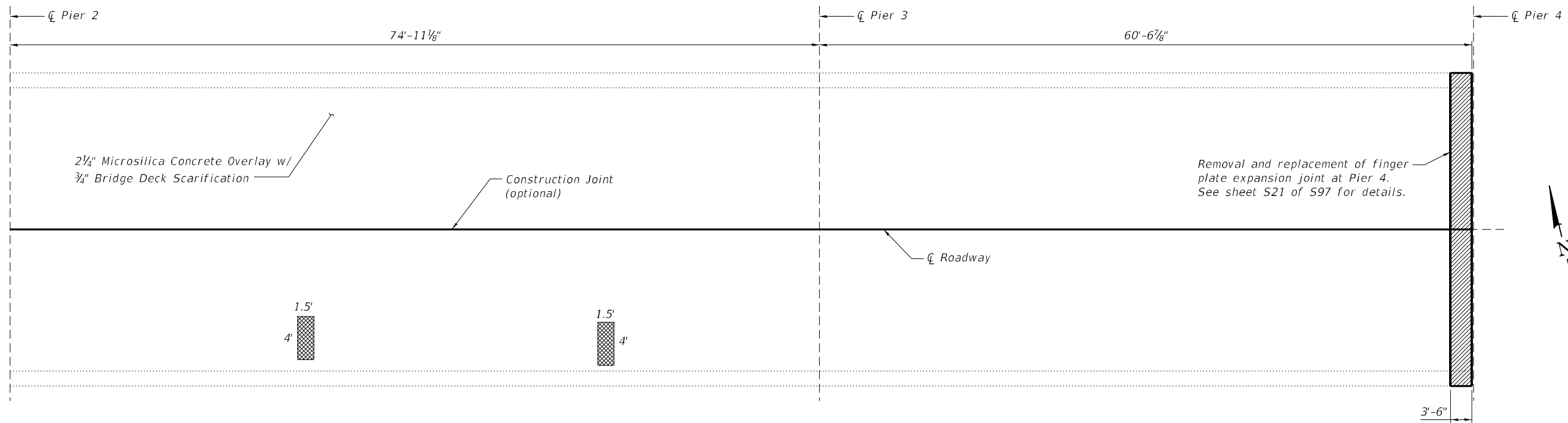
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN - WEST APPROACH
STRUCTURE NO. 062-0003**

SHEET S13 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 43
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



DECK REPAIR PLAN - SPANS 3 & 4

LEGEND

- Expansion Joint Removal and Replacement
- Deck Slab Repair (Full Depth)

Notes:

1. Repair areas shown are estimated. Deck Sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.
4. Removal and disposal of the existing finger plate expansion joints, drainage trough and associated hardware at piers 4 and 7 is paid for as Concrete Removal. See sheet S21 of S97 for details.

(Sheet 2 of 2)

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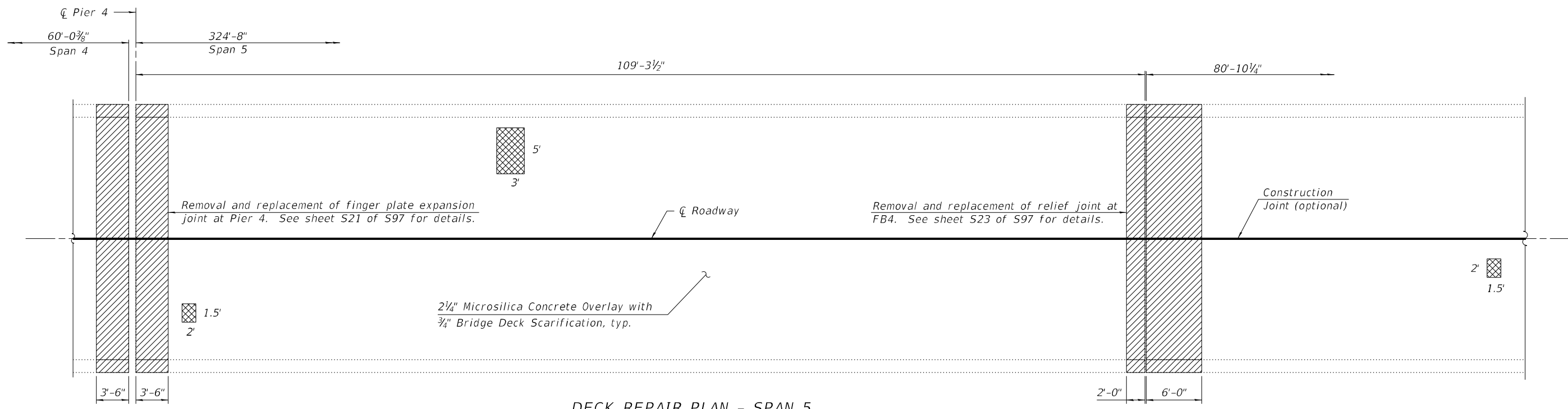
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Consulting Engineers
Springfield, Illinois

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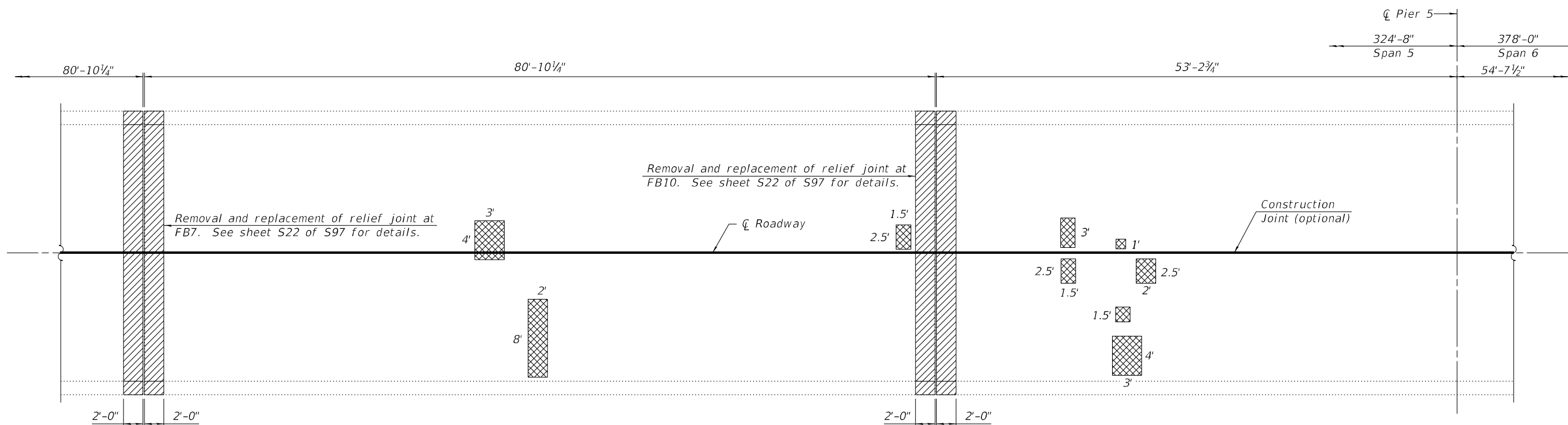
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN - WEST APPROACH
STRUCTURE NO. 062-0003**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	44
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



DECK REPAIR PLAN - SPAN 5



DECK REPAIR PLAN - SPAN 5

Notes:

1. Repair areas shown are estimated. Deck sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.
4. Removal and disposal of the existing finger plate expansion joints, drainage trough and associated hardware at Piers 4 and 7 is paid for as Structural Steel Removal. See sheet S21 of S97 for details.
5. Removal and disposal of the expansion joints and related hardware at the intermediate relief joints is included with Concrete Removal.

LEGEND

- Expansion or Intermediate Relief Joint Removal and Replacement.
- Deck Slab Repair (Full Depth)

DECK SLAB REPAIR DETAIL TRUSS SPANS

Span	Full Depth Type I (Sq. Ft.)	Full Depth Type II (Sq. Ft.)	Total (Sq. Ft.)	Total (Sq. Yd.)
5	27	55	82	9.1
6	16	33	49	5.4
7	16	23	39	4.3

BILL OF MATERIAL

Item	Unit	Total
Bridge Deck Grooving	Sq. Yd.	2,769
Protective Coat	Sq. Yd.	2,997
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	7
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	13
Deck Slab Repair (Partial)	Sq. Yd.	1
Bridge Deck Scarification, $\frac{3}{4}$ "	Sq. Yd.	2,797
Bridge Deck Microsilica Concrete Overlay, 2 $\frac{1}{4}$ "	Sq. Yd.	2,797

(Sheet 1 of 3)



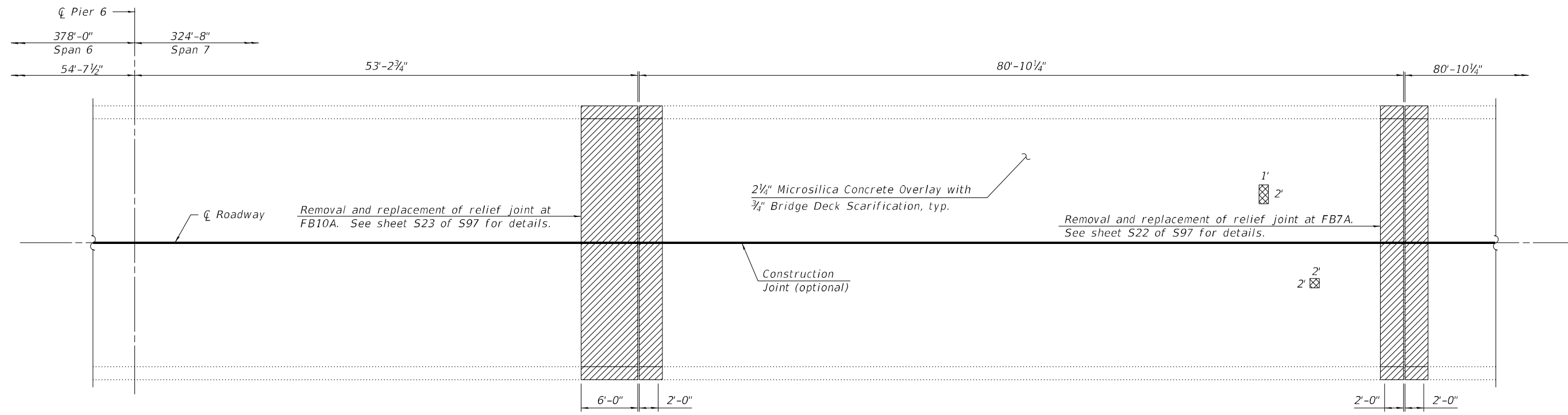
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

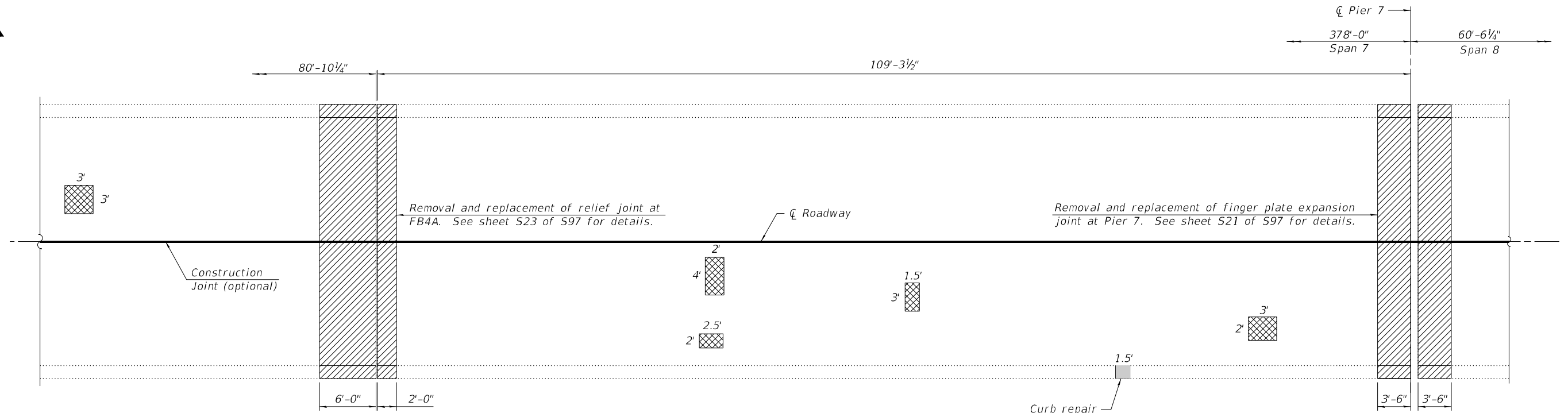
DECK REPAIR PLAN - TRUSS SPANS
STRUCTURE NO. 062-0003

SHEET S15 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	45
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



DECK REPAIR PLAN - SPAN 7






DECK REPAIR PLAN - SPAN 7

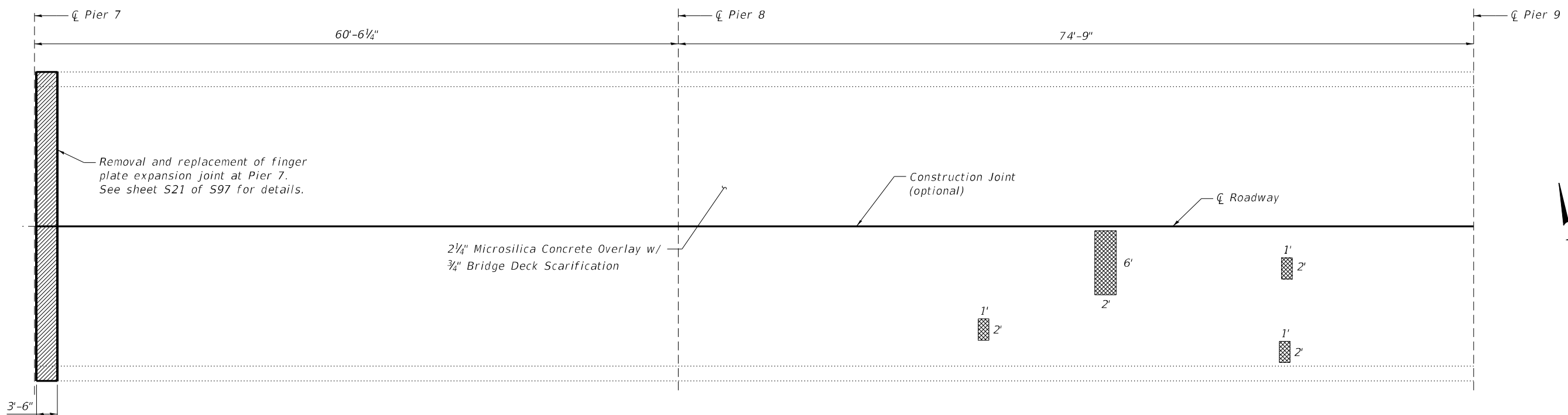
Notes:

1. Repair areas shown are estimated. Deck sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.
4. Removal and disposal of the existing finger plate expansion joints, drainage trough and associated hardware at Piers 4 and 7 is paid for as Structural Steel Removal. See sheet S21 of S97 for details.
5. Removal and disposal of the expansion joints and related hardware at the intermediate relief joints is included with Concrete Removal.

LEGEND

-  Expansion or Intermediate Relief Joint Removal and Replacement.
-  Deck Slab Repair (Full Depth)
-  Curb Repair - Deck Slab Repair (Partial)

(Sheet 3 of 3)



DECK REPAIR PLAN - SPANS 8 & 9

DECK SLAB REPAIR DETAIL - EAST APPROACH SPANS

Span	Full Depth Type I (Sq. Ft.)	Full Depth Type II (Sq. Ft.)	Total (Sq. Ft.)	Total (Sq. Yd.)
8	-	-	-	-
9	6	12	18	2.0
10	7	-	7	0.8
11	4	26	30	3.4

BILL OF MATERIAL

Item	Unit	Total
Bridge Deck Grooving	Sq. Yd.	731
Protective Coat	Sq. Yd.	791
Bridge Deck Scarification, 3/4"	Sq. Yd.	775
Bridge Deck Microsilica Concrete Overlay, 2 1/4"	Sq. Yd.	775
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1.9
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	4.3

Notes:

1. Repair areas shown are estimated. Deck Sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.
4. Removal and disposal of the existing finger plate expansion joints, drainage trough and associated hardware at piers 4 and 7 is paid for as Concrete Removal. See sheet S21 of S97 for details.

LEGEND

- Expansion Joint Removal and Replacement
- Deck Slab Repair (Full Depth)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-518-Deck Repair Plan - Approach Spans.dgn

Lin Engineering, Ltd.
Consulting Engineers
Springfield, Illinois

USER NAME =	DESIGNED - AML	REVISED -
PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 10/13/2022	DRAWN - AJF	REVISED -
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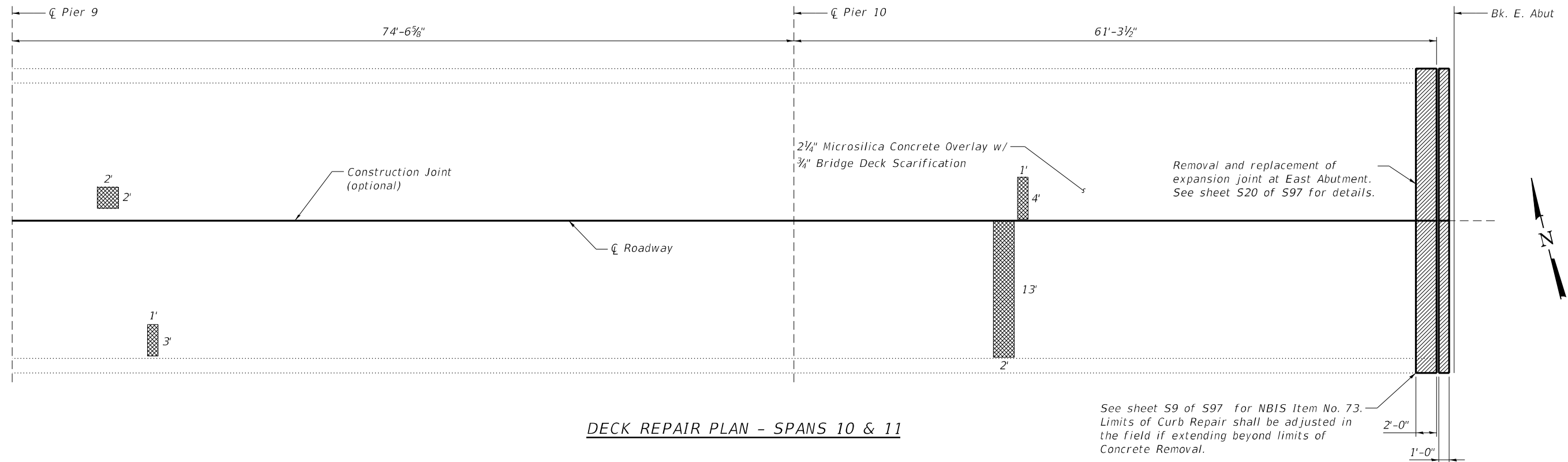
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN - EAST APPROACH
STRUCTURE NO. 062-0003**

SHEET S18 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 48
CONTRACT NO. 68F08				

ILLINOIS FED. AID PROJECT



DECK REPAIR PLAN - SPANS 10 & 11

See sheet S9 of S97 for NBIS Item No. 73. Limits of Curb Repair shall be adjusted in the field if extending beyond limits of Concrete Removal.

LEGEND

-  Expansion Joint Removal and Replacement
-  Deck Slab Repair (Full Depth)

Notes:

1. Repair areas shown are estimated. Deck Sounding was performed in June 2020 and quantities have been increased to account for anticipated growth.
2. The Engineer will determine the actual repair locations in the field and document them in the As-Built Plans.
3. Protective Coat shall be applied to the top surface of the Bridge Deck Microsilica Concrete Overlay in accordance with Section 503.19 of the Standard Specifications.

(Sheet 2 of 2)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-519-Deck Repair Plan - Approach Spans.dgn

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Consulting Engineers
Springfield, Illinois

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	CHECKED - CZ	REVISED -
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PLOT DATE = 10/13/2022	CHECKED - CZ	REVISED -

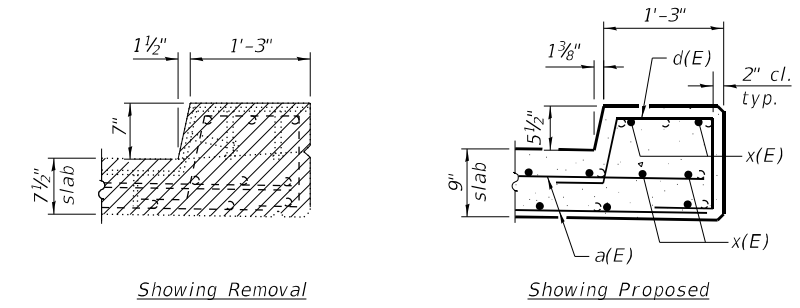
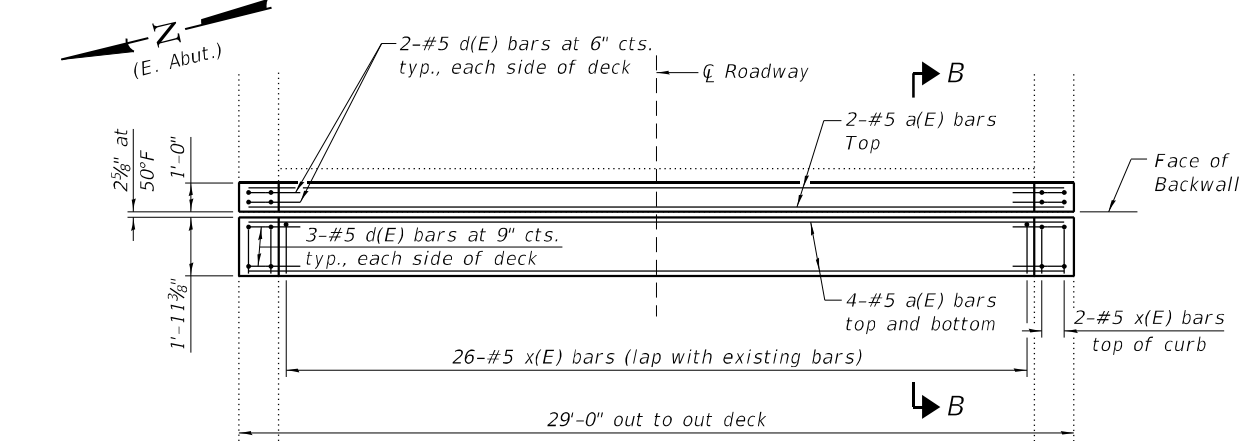
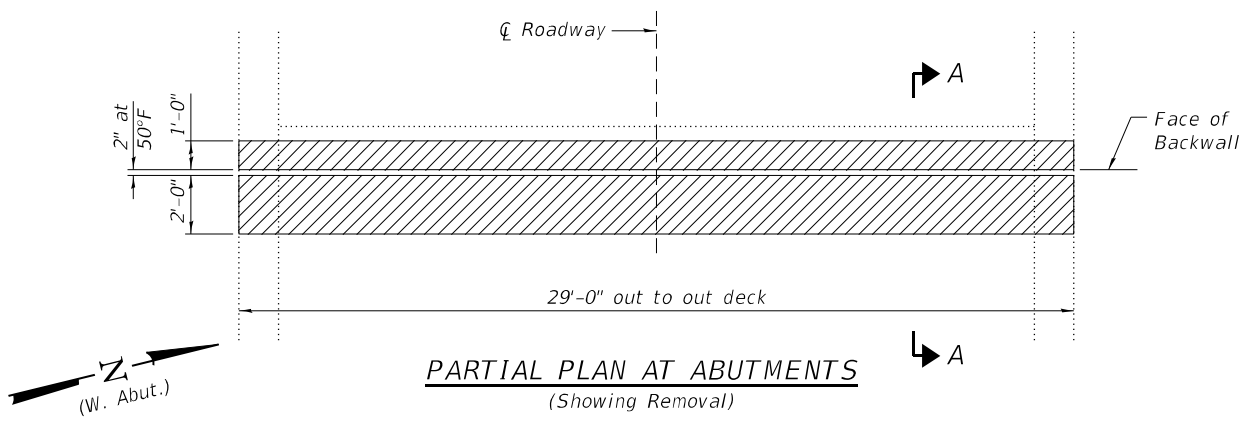
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK REPAIR PLAN - EAST APPROACH
STRUCTURE NO. 062-0003**

SHEET S19 OF S97 SHEETS

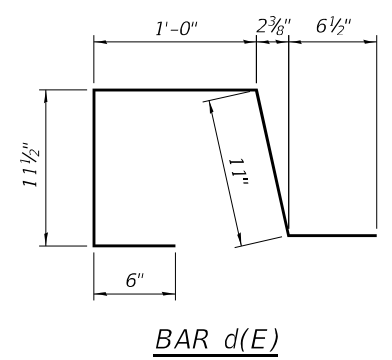
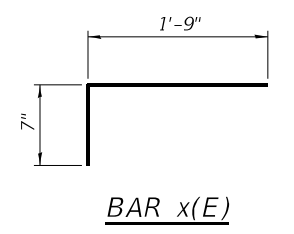
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CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

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SECTION THRU CURB
 (Typical both sides of bridge deck)

- Notes:
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
 - Removal and disposal of the expansion joint seal and related hardware at abutment joints is included with Concrete Removal.

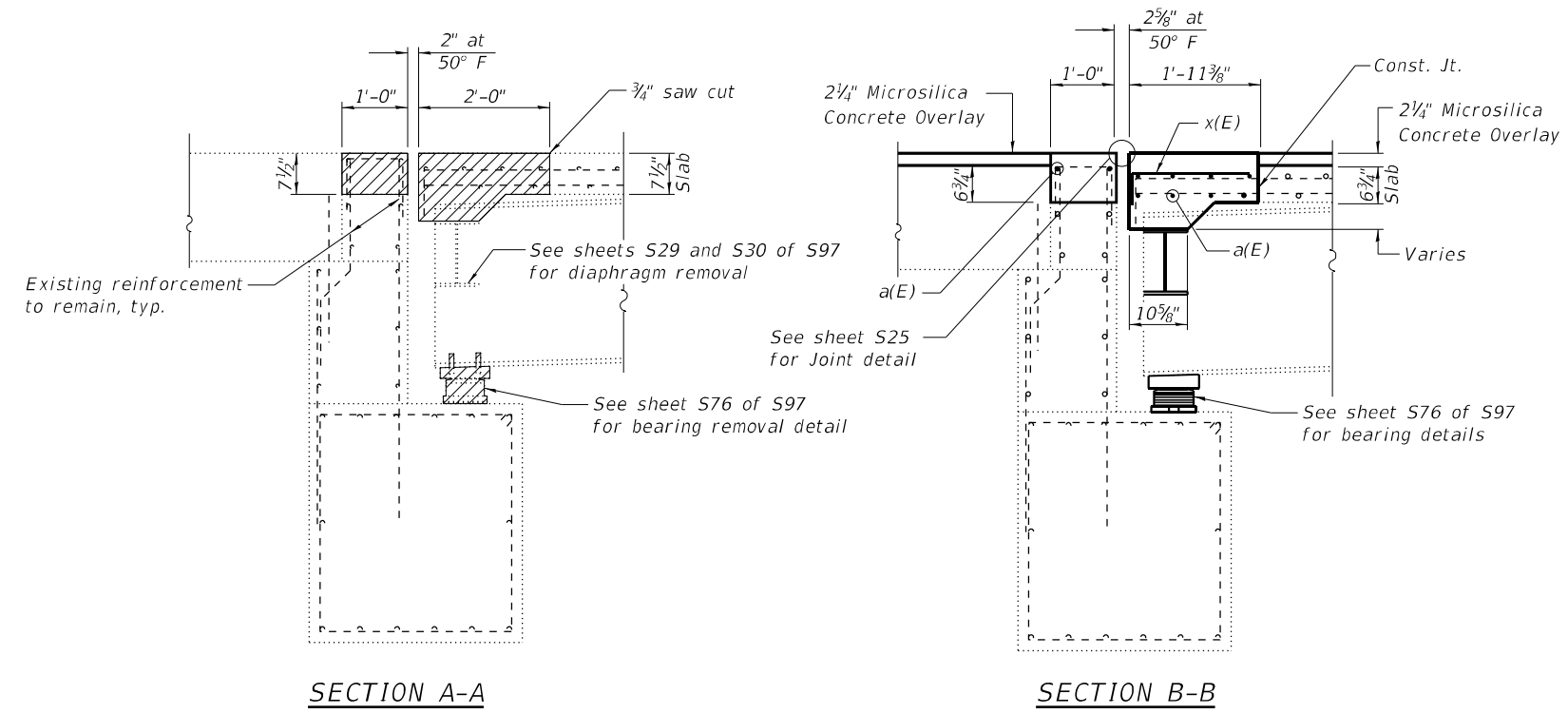


LEGEND

Concrete Removal

BILL OF MATERIAL
 (Both Abutment Joints)

Bar	No.	Size	Length	Shape	
a(E)	20	#5	28'-9"	—	
d(E)	20	#5	3'-11"	⌒	
x(E)	60	#5	2'-4"	⌒	
Concrete Removal				Cu. Yd.	5.4
Concrete Superstructure				Cu. Yd.	6.2
Reinforcement Bars, Epoxy Coated				Pound	830



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 Springfield, Illinois

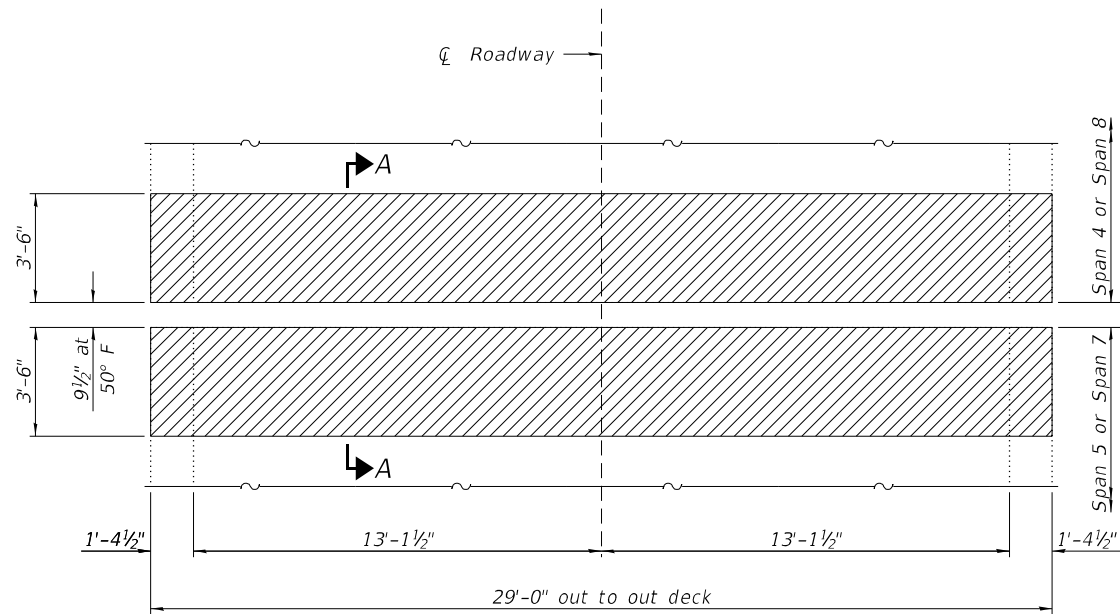
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

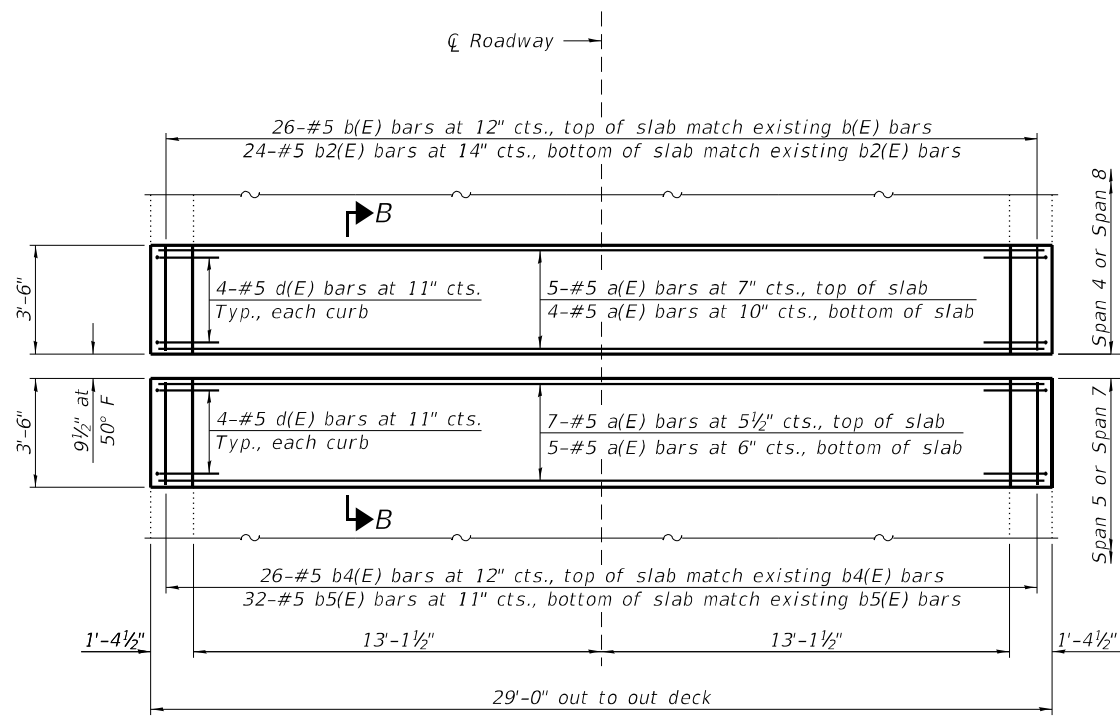
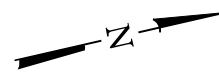
JOINT REPLACEMENT DETAILS - ABUTMENTS
STRUCTURE NO. 062-0003

SHEET S20 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



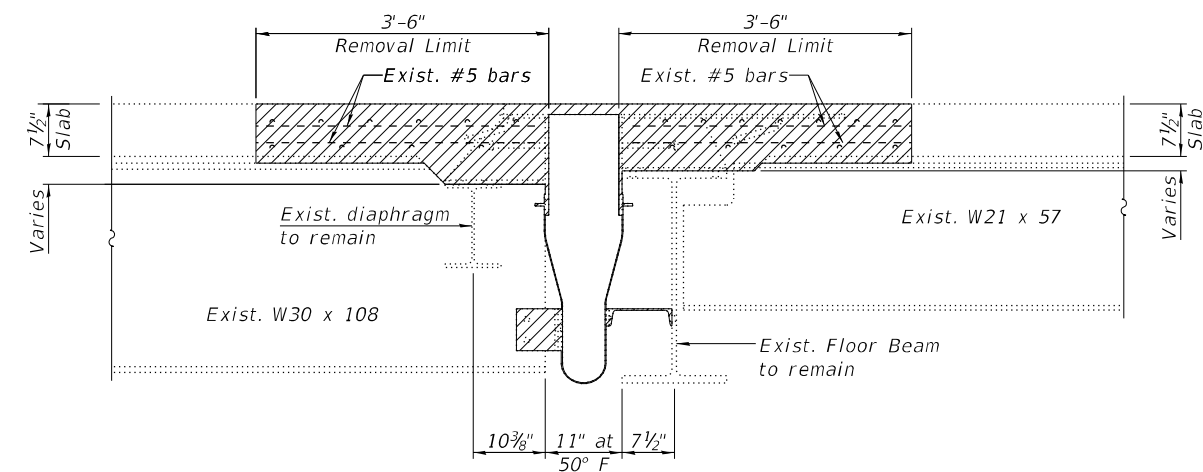
PARTIAL PLAN
(Showing Removal)



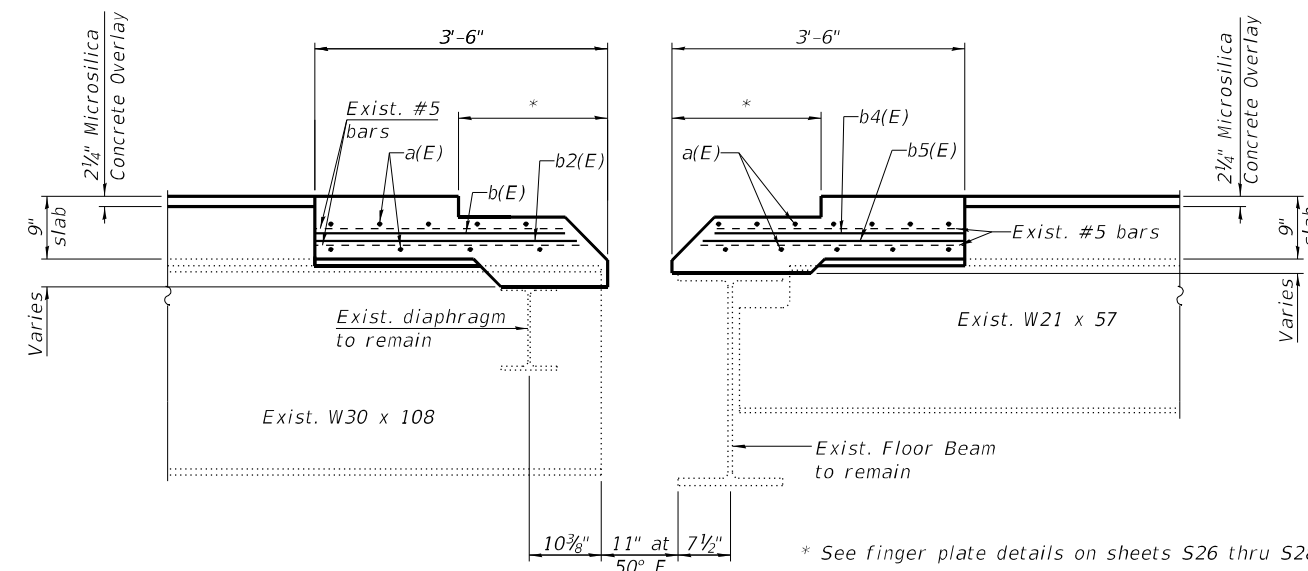
PARTIAL PLAN
(Showing Proposed)

LEGEND

Concrete Removal



SECTION A-A



SECTION B-B

* See finger plate details on sheets S26 thru S28 of S97.

BILL OF MATERIAL
(Both Piers 4 & 7)

Bar	No.	Size	Length	Shape
a(E)	42	#5	28'-9"	—
b(E)	52	#5	3'-0"	—
b2(E)	48	#5	3'-2"	—
b4(E)	52	#5	3'-0"	—
b5(E)	64	#5	3'-2"	—
d(E)	32	#5	3'-11"	⌊
Concrete Removal			Cu. Yd.	11.2
Concrete Superstructure			Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated			Pound	2,090

- Notes:
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
 - The cost of removal and disposal of the existing finger plate expansion joint, elastomeric drainage trough and all associated hardware is included with Concrete Removal.
 - For details of new Finger Plate Expansion Joint, see sheets S26 thru S28 of S97.
 - See sheet S22 of S97 for bar d(E) details.

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-521-Joint_Replacement - Pier_4.dgn

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Consulting Engineers
Springfield, Illinois

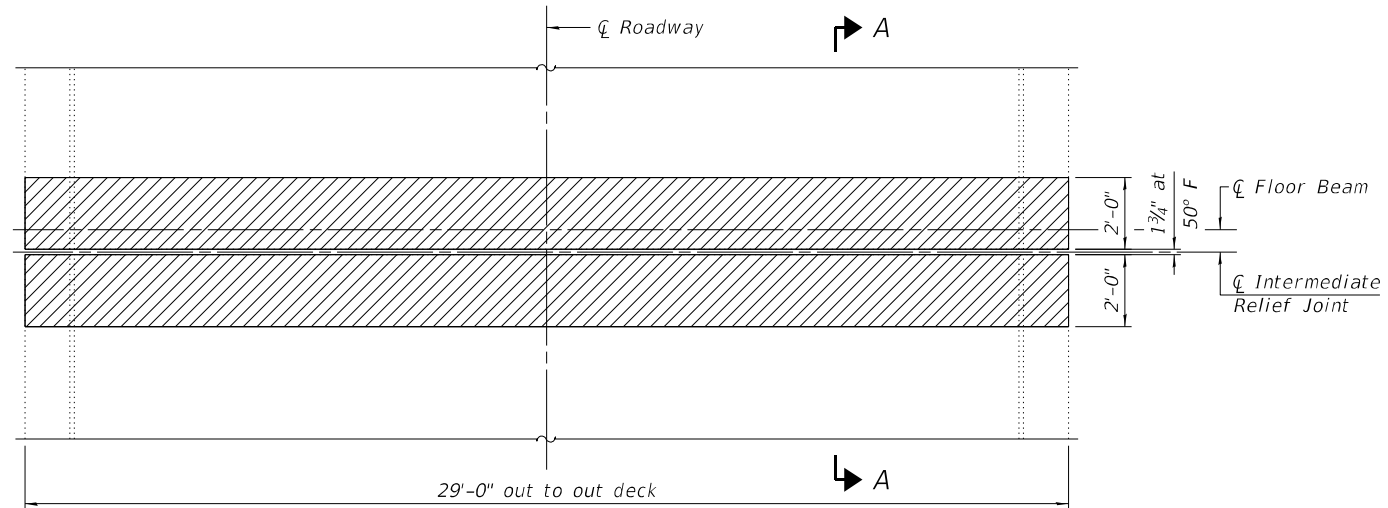
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

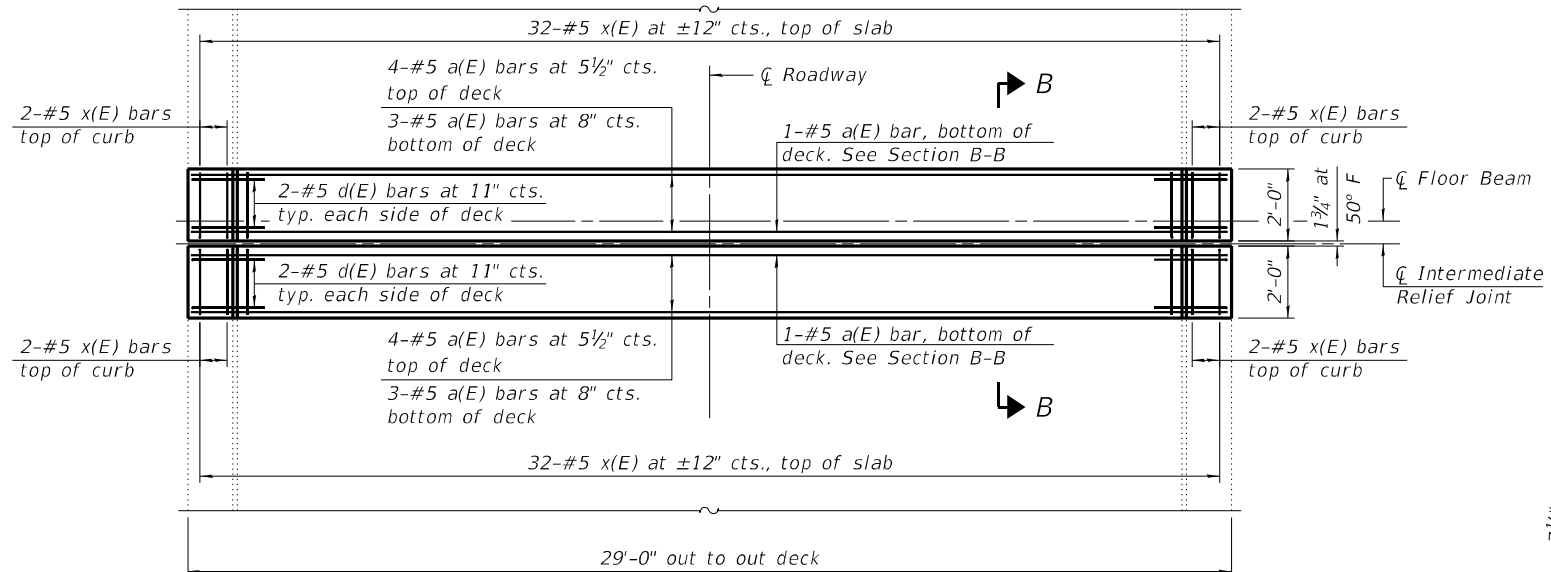
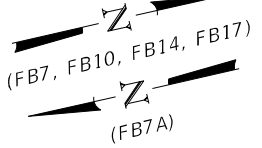
JOINT REPLACEMENT DETAILS - PIER 4 & 7
STRUCTURE NO. 062-0003

SHEET S21 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 51
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

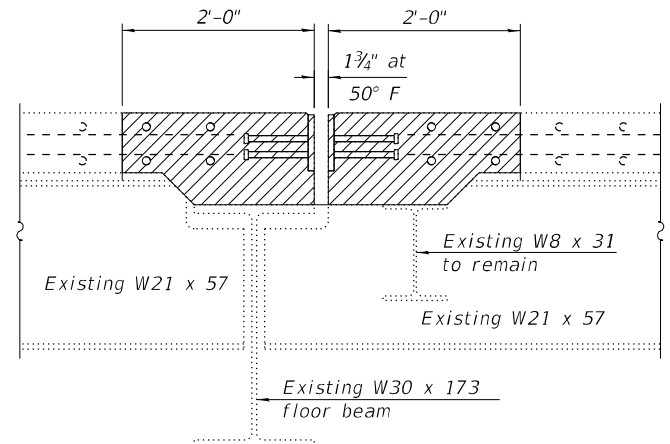


PARTIAL PLAN AT FLOOR BEAMS 7, 10, 14, 17 AND 7A
(Showing Removal)

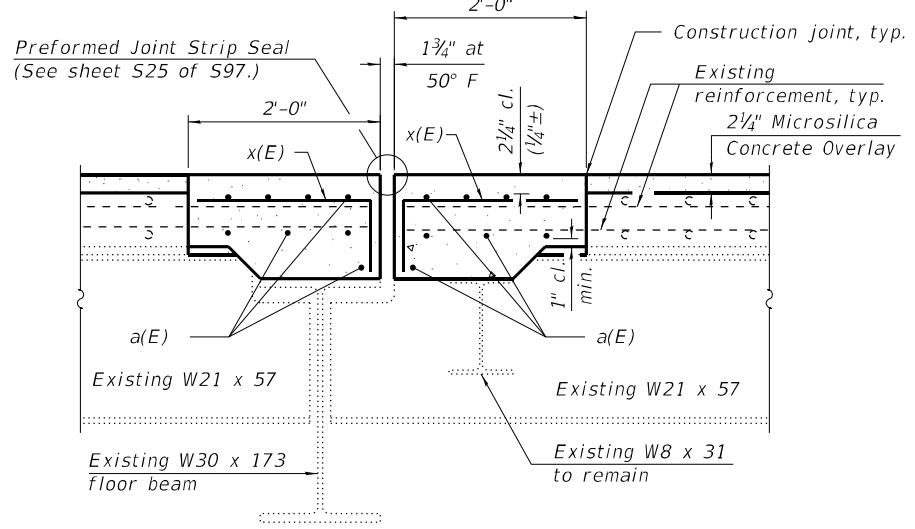


PARTIAL PLAN AT FLOOR BEAMS 7, 10, 14, 17 AND 7A
(Showing Proposed)

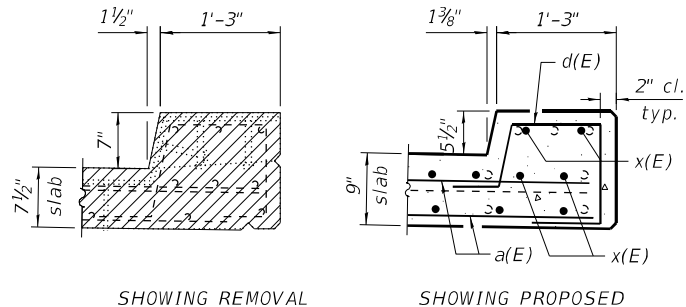
LEGEND
 Concrete Removal



SECTION A-A



SECTION B-B

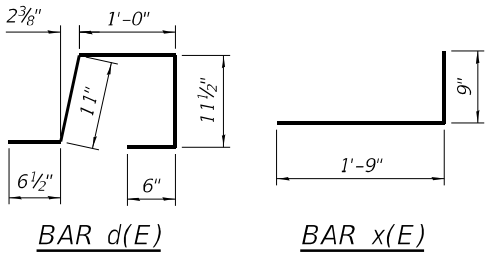


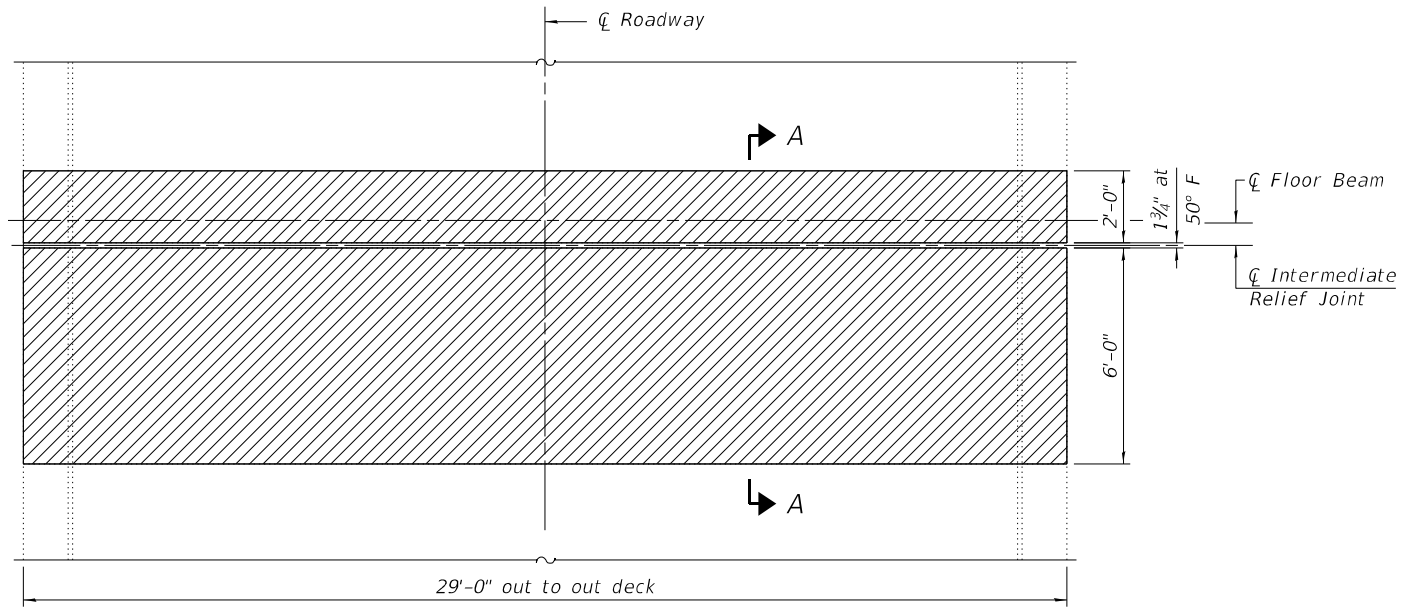
SECTION THRU CURB
(Typical both sides of bridge deck.)

BILL OF MATERIAL
(5 Locations)

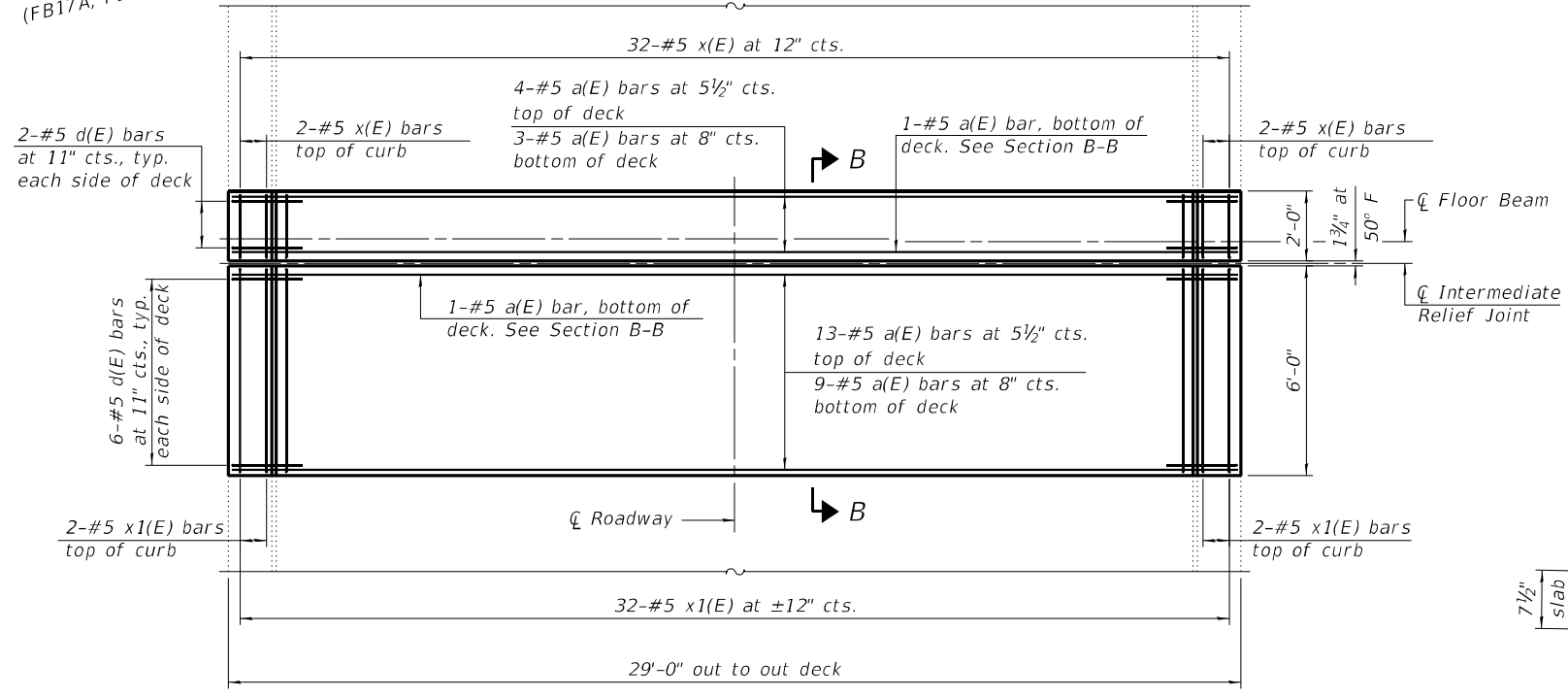
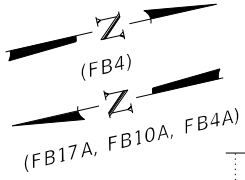
Bar	No.	Size	Length	Shape
a(E)	80	#5	28'-9"	—
d(E)	40	#5	5'-11"	┘
x(E)	360	#5	2'-6"	┘
Concrete Removal			Cu. Yd.	17.9
Concrete Superstructure			Cu. Yd.	20.6
Reinforcement Bars, Epoxy Coated			Pound	17,950

- Notes:
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
 - Removal and disposal of the expansion joint seal and related hardware at the relief joints is included with Concrete Removal.





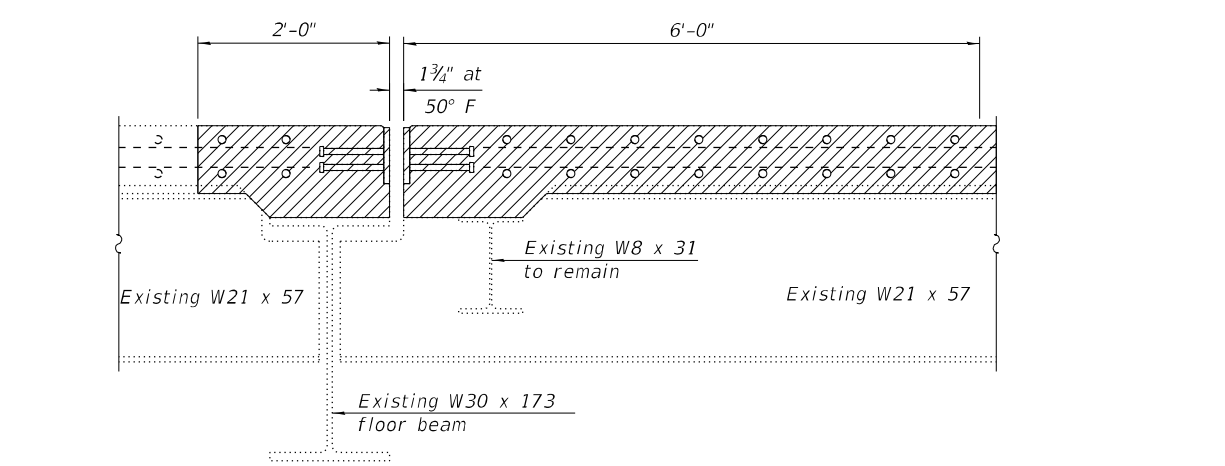
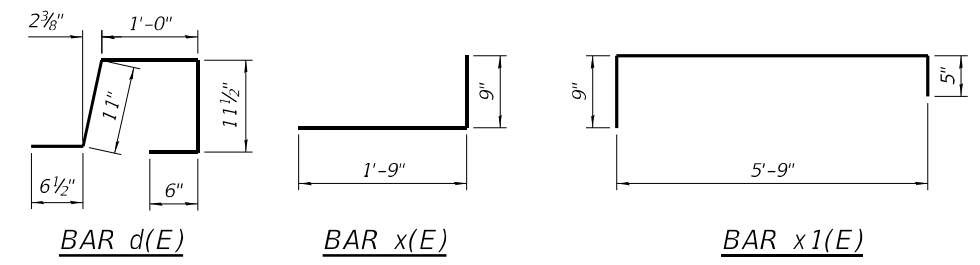
PARTIAL PLAN AT FLOOR BEAMS 4, 17A, 10A AND 4A
(Showing Removal)



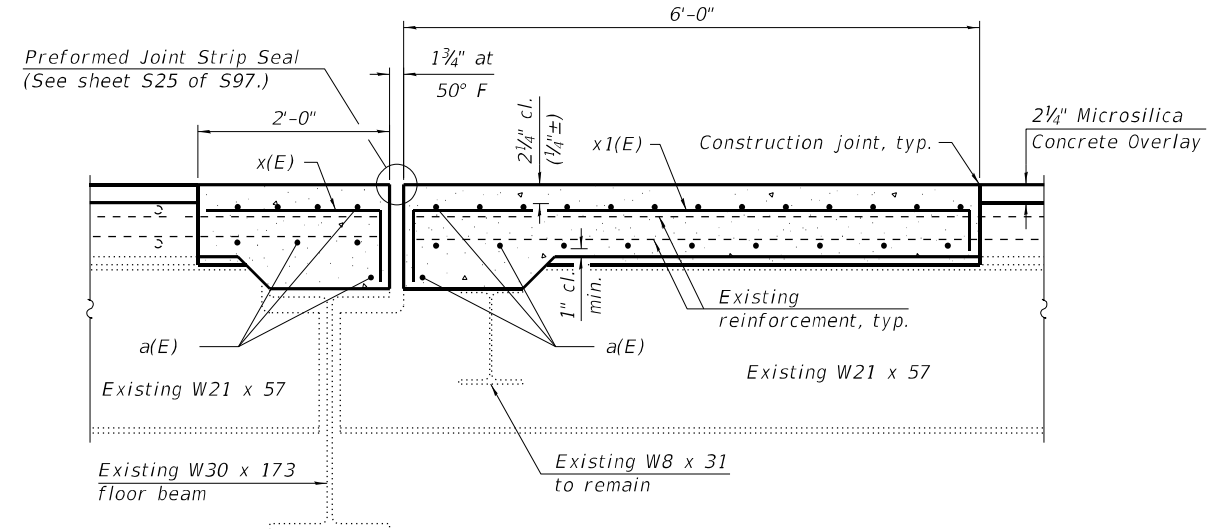
PARTIAL PLAN AT FLOOR BEAMS 4, 17A, 10A AND 4A
(Showing Proposed)

LEGEND

Concrete Removal



SECTION A-A

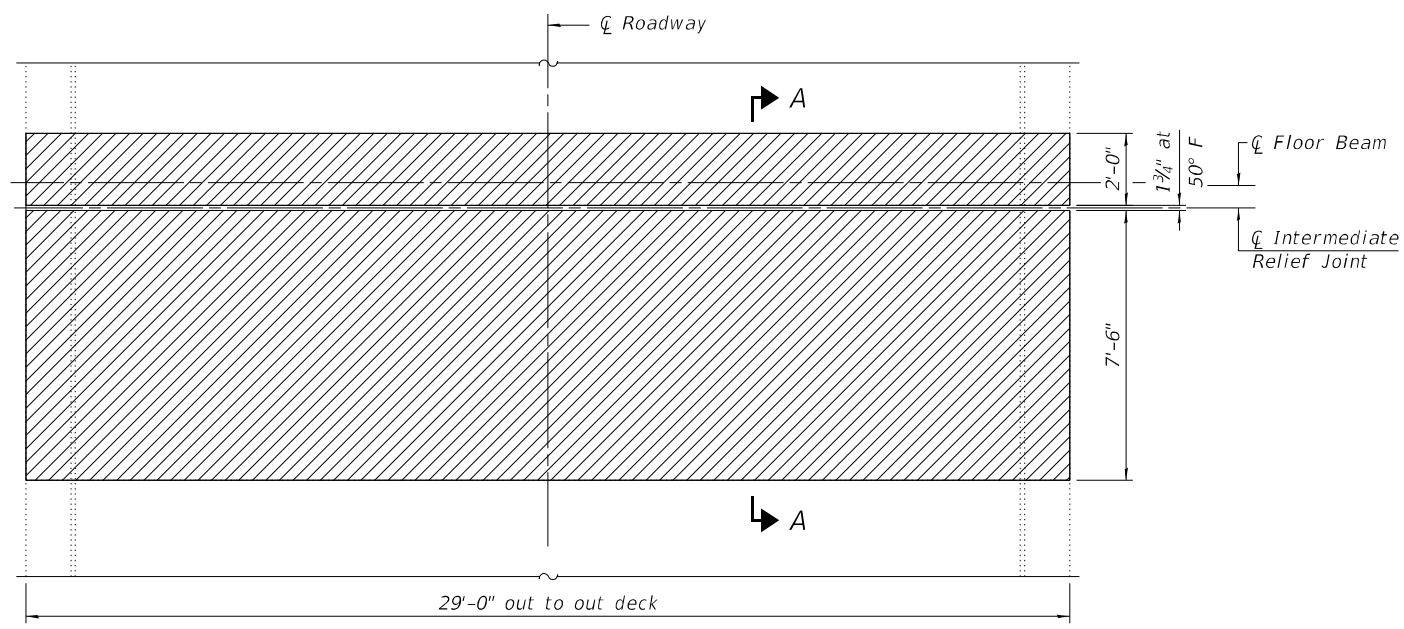


SECTION B-B

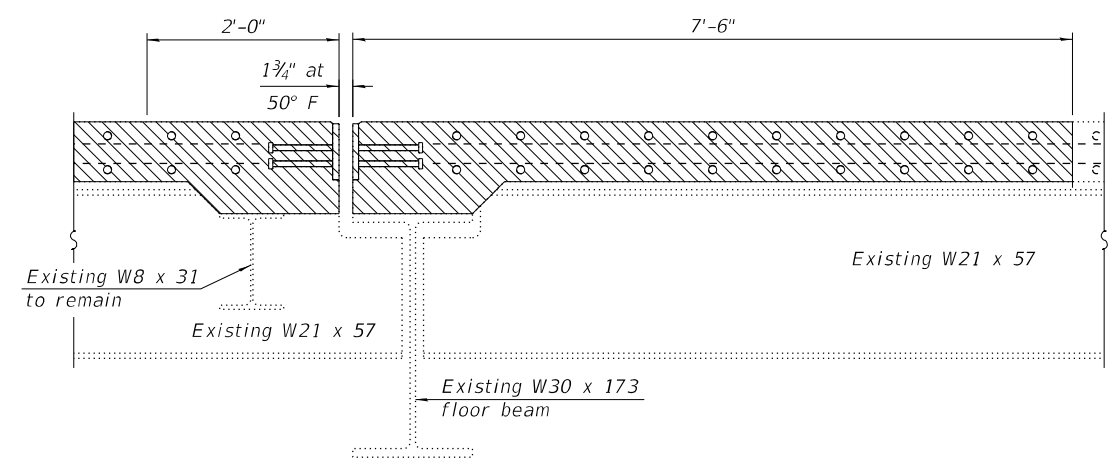
BILL OF MATERIAL
(4 Locations)

Bar	No.	Size	Length	Shape
a(E)	120	#5	28'-9"	—
d(E)	64	#5	5'-11"	┘
x(E)	144	#5	2'-6"	┘
x1(E)	144	#5	6'-11"	┘
Concrete Removal			Cu. Yd.	25.1
Concrete Superstructure			Cu. Yd.	29.4
Reinforcement Bars, Epoxy Coated			Pound	21,640

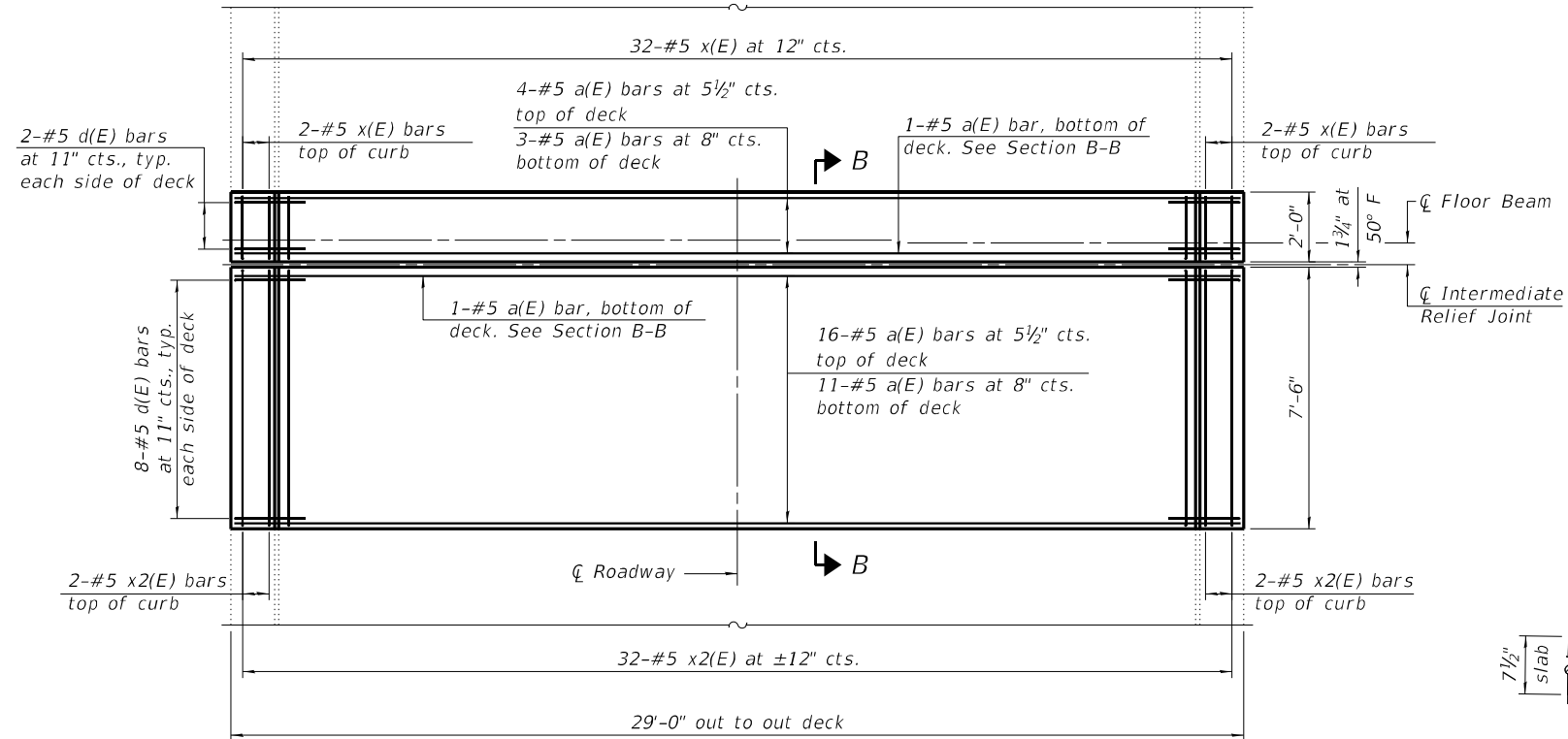
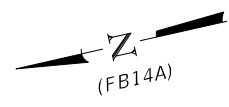
- Notes:
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
 - Removal and disposal of the expansion joint seal and related hardware at the relief joints is included with Concrete Removal.



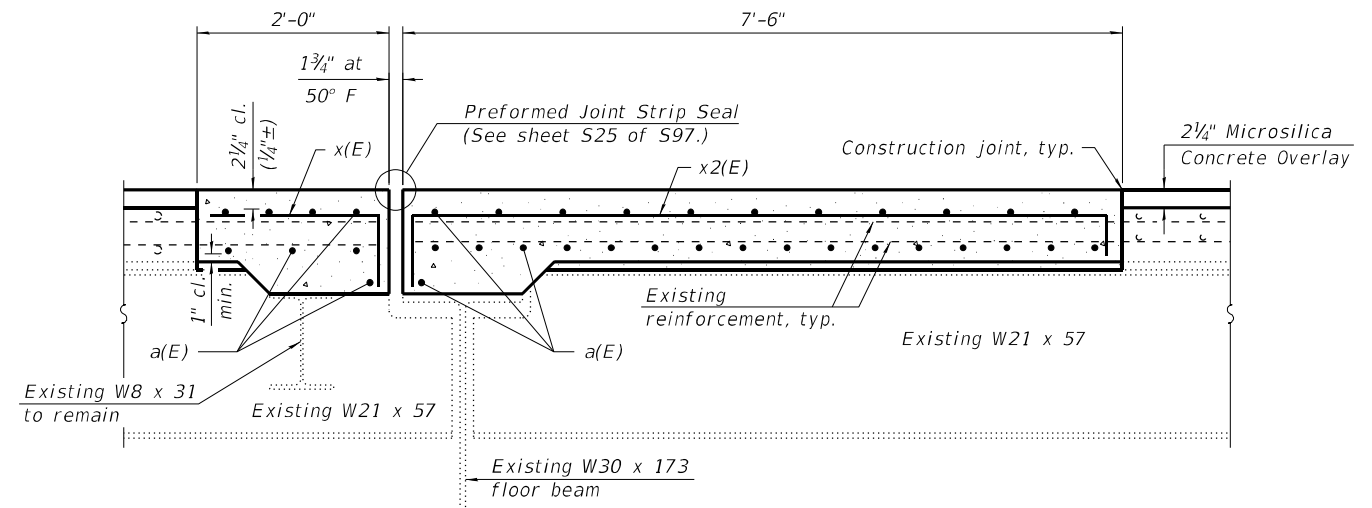
PARTIAL PLAN AT FLOOR BEAMS 14A
(Showing Removal)



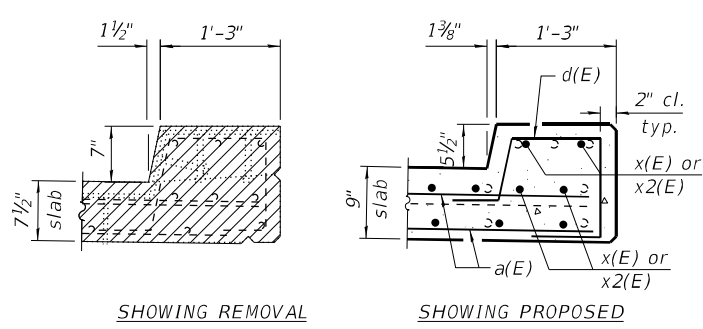
SECTION A-A



PARTIAL PLAN AT FLOOR BEAMS 14A
(Showing Proposed)



SECTION B-B

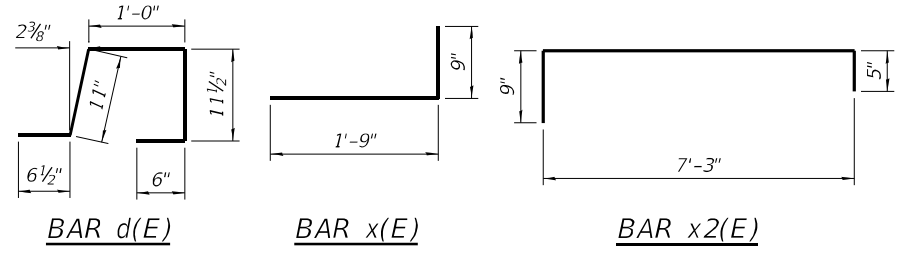


SECTION THRU CURB
(Typical both sides of bridge deck.)

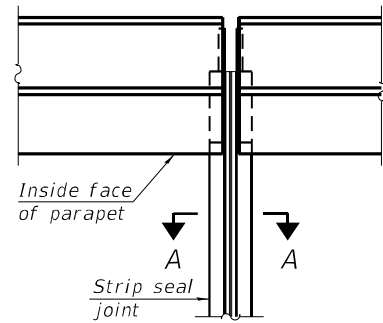
BILL OF MATERIAL
(1 Locations)

Bar	No.	Size	Length	Shape	
a(E)	36	#5	28'-9"	—	
d(E)	20	#5	5'-11"	⌋	
x(E)	36	#5	2'-6"	⌋	
x2(E)	36	#5	8'-5"	⌋	
Concrete Removal				Cu. Yd.	7.3
Concrete Superstructure				Cu. Yd.	8.6
Reinforcement Bars, Epoxy Coated				Pound	1,620

LEGEND
 Concrete Removal

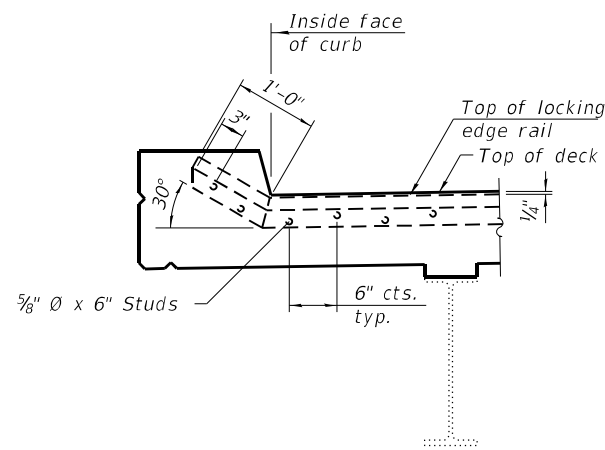


- Notes:
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Removal.
 - Removal and disposal of the expansion joint seal and related hardware at the relief joints is included with Concrete Removal.

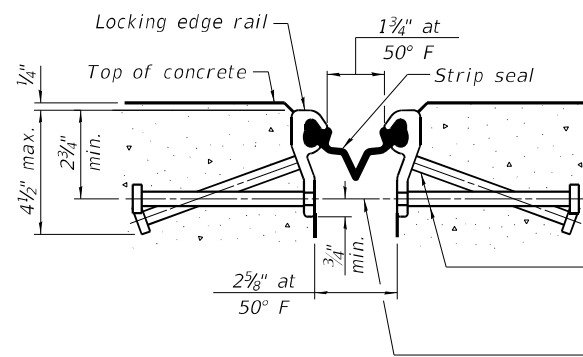


FOR SKEWS $\leq 30^\circ$

PLAN AT PARAPET



SECTION AT CURB



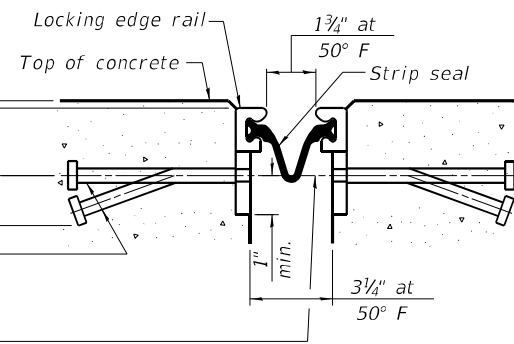
SHOWING ROLLED RAIL JOINT

* $\frac{5}{8}$ " \varnothing x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

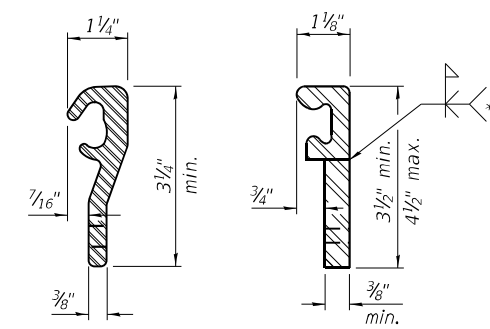
$\frac{3}{8}$ " \varnothing threaded rods in $\frac{7}{16}$ " \varnothing holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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



SHOWING WELDED RAIL JOINT

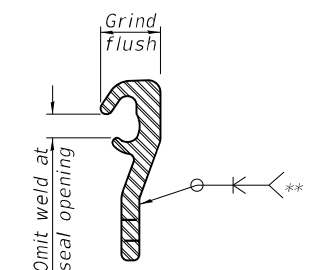


ROLLED (EXTRUDED) RAIL

WELDED RAIL

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	348

Notes:

- The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". 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 $4\frac{1}{2}$ " 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 $\frac{3}{16}$ " and sealed with a suitable sealant, however, any rail joint within 10' measured perpendicular to the face of the curb shall be welded as shown in the locking edge rail splice detail.
- Cost of curb sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
- 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.

FILE NAME: SFILES

design firm no. 184001036



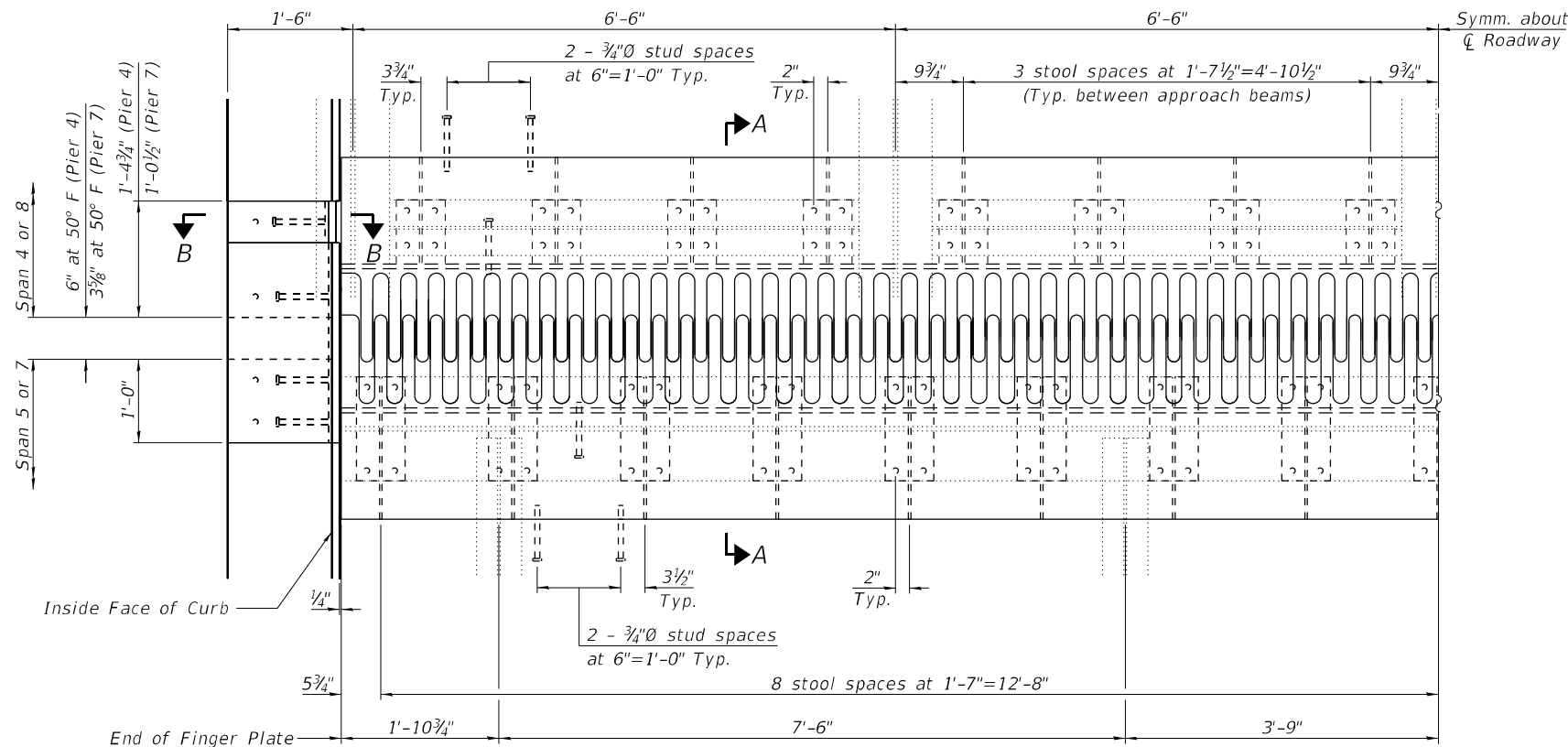
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

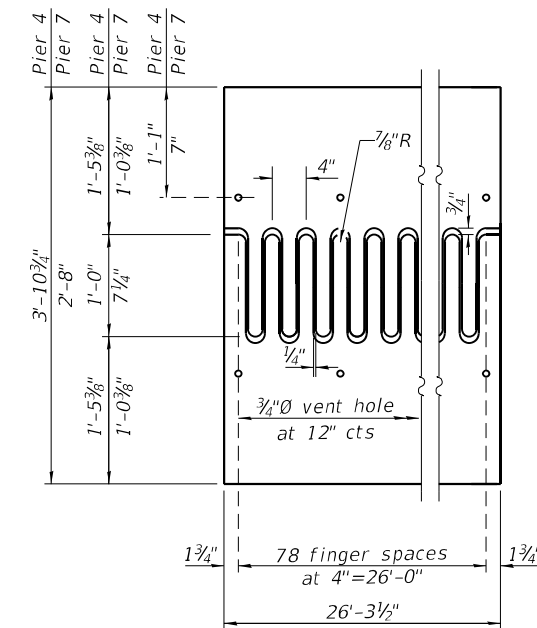
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 062-0003

SHEET 525 OF 597 SHEETS

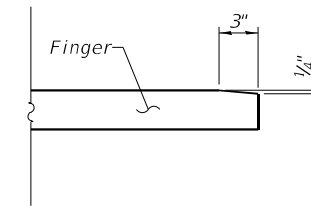
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	55
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



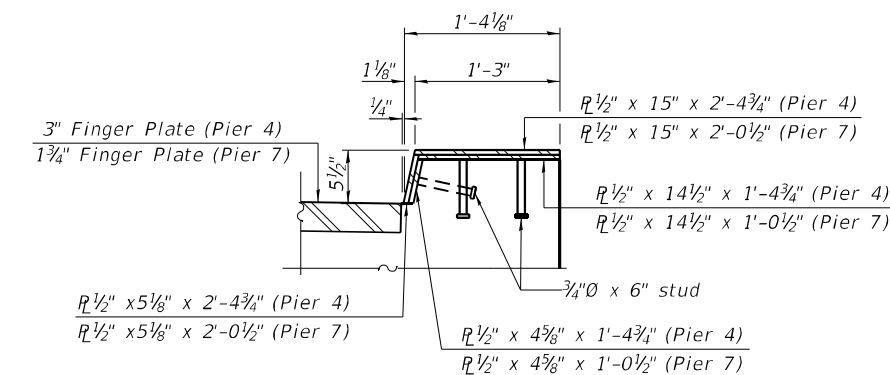
HALF PLAN



FLAME CUTTING DIAGRAM



BEVEL DETAIL

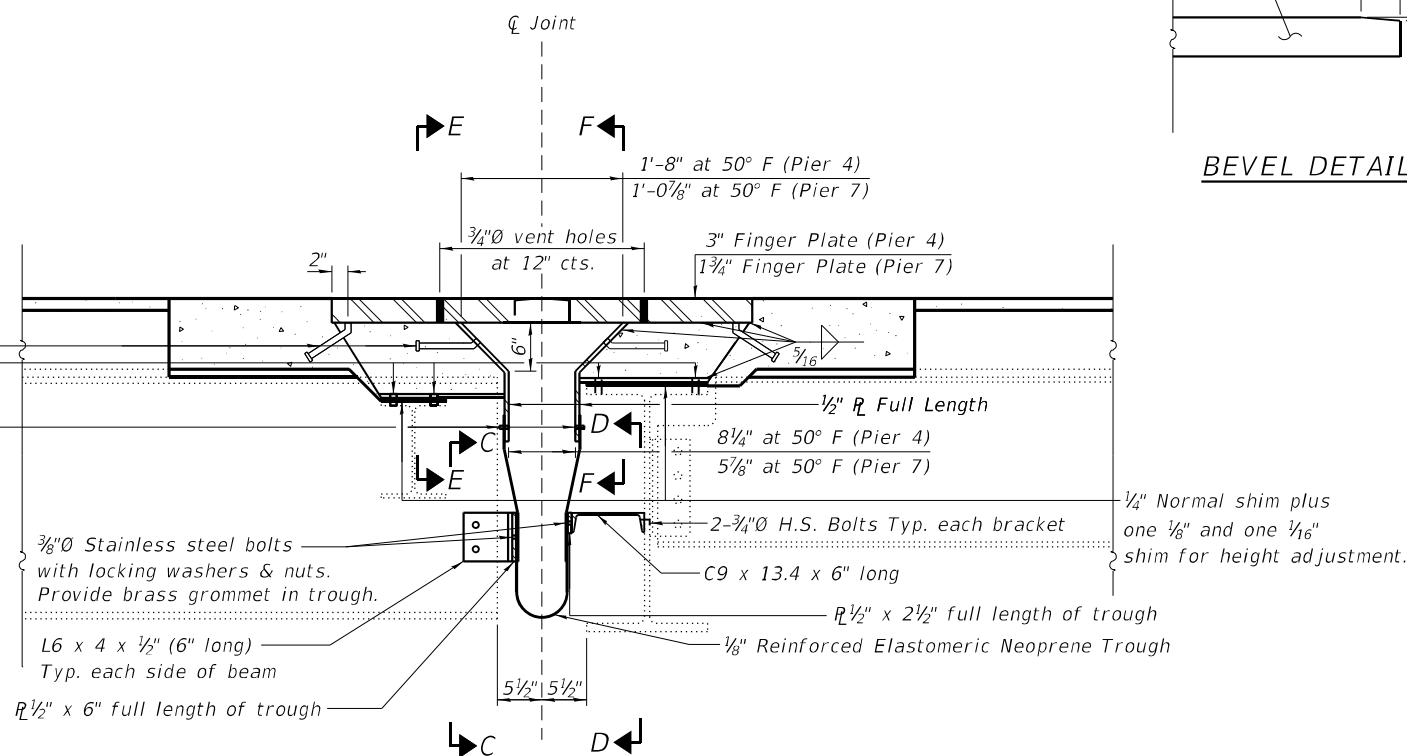


SECTION B-B

3/4"Ø x 8" Granular or solid flux filled headed studs conforming to Art. 1006.32 of the Std. Specifications.

Ø holes in flange of stools and shims to match existing holes in flange of diaphragm and floor beam. Provide 4 R washers 3" x 3" x 3/8" (min.) and 4-3/4"Ø H.S. Bolts per stool. For hole locations see sheet S28 of S97.

3/8"Ø Stud at 18" cts. with locking washer & nut automatically end welded. Provide brass grommet in side flap (Typ. each side of joint).



SECTION A-A

Notes:

1. All steel plates and shapes of the finger joint system shall receive one shop coat of paint according to Section 506. At the manufacturer's option, these steel components may be hot dipped galvanized according to AASHTO M111 and M232, as applicable, in lieu of shop painting.
2. For Views C-C and D-D see sheet S27 of S97.
3. For Section E-E and F-F see sheet S28 of S97.
4. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

BILL OF MATERIAL

Item	Unit	Quantity
Finger Plate Expansion Joint, 4"	Foot	29
Finger Plate Expansion Joint, 6"	Foot	29

(Sheet 1 of 3)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-526-Finger_Plate_Details.dgn

LE LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

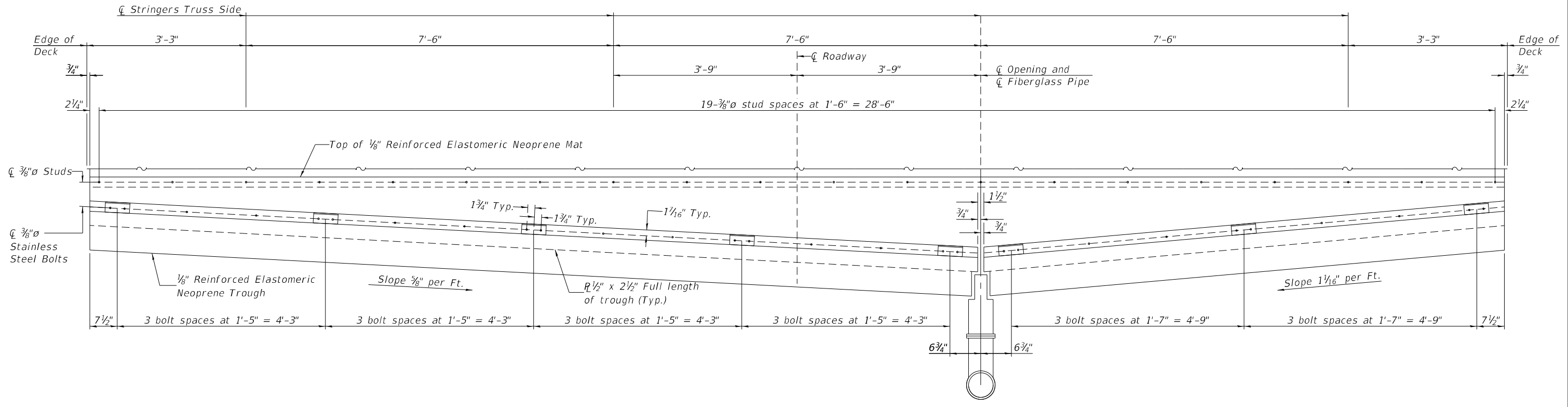
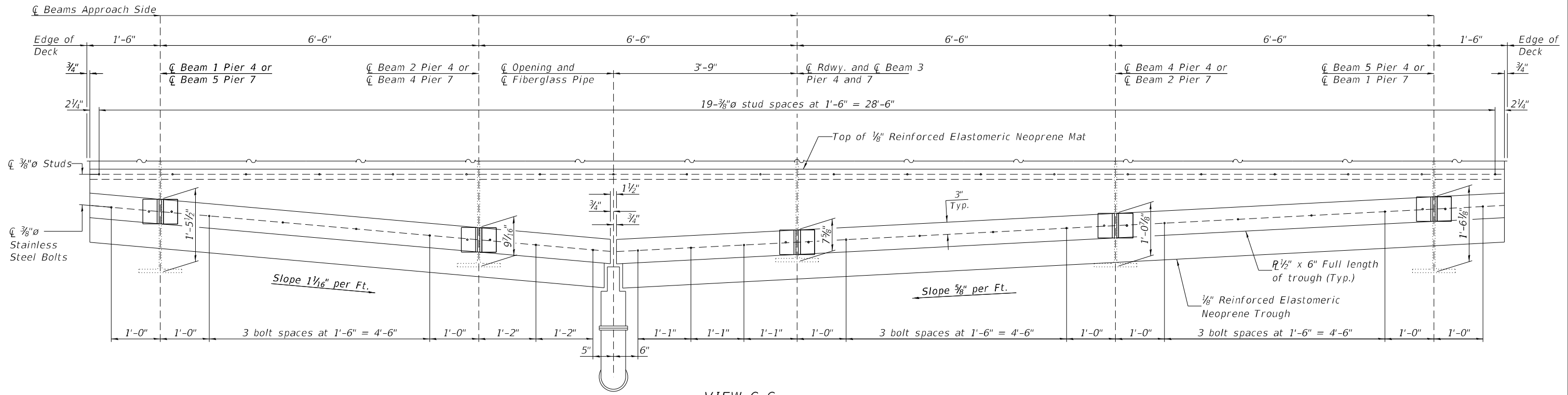
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PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 10/13/2022	DRAWN - CL	REVISED -
	CHECKED - CZ	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE DETAILS
STRUCTURE NO. 062-0003

SHEET S26 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	56
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



Note: Contractor shall replace the trough drain scoop and outflow pipe. Cost of field drilled holes is included with "Finger Plate Expansion Joint".

(Sheet 2 of 3)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-527-Finger Plate_Details.dgn

LE LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

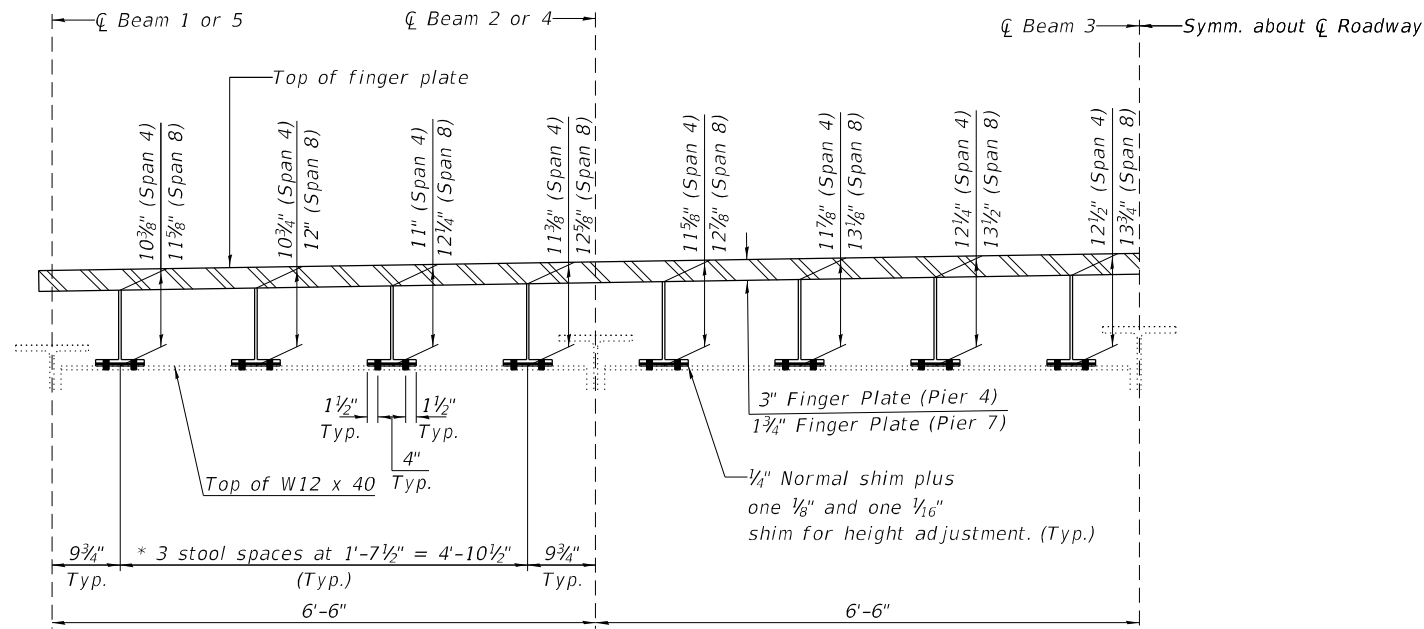
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PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 10/13/2022	DRAWN - CL	REVISED -
	CHECKED - CZ	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FINGER PLATE DETAILS
STRUCTURE NO. 062-0003**

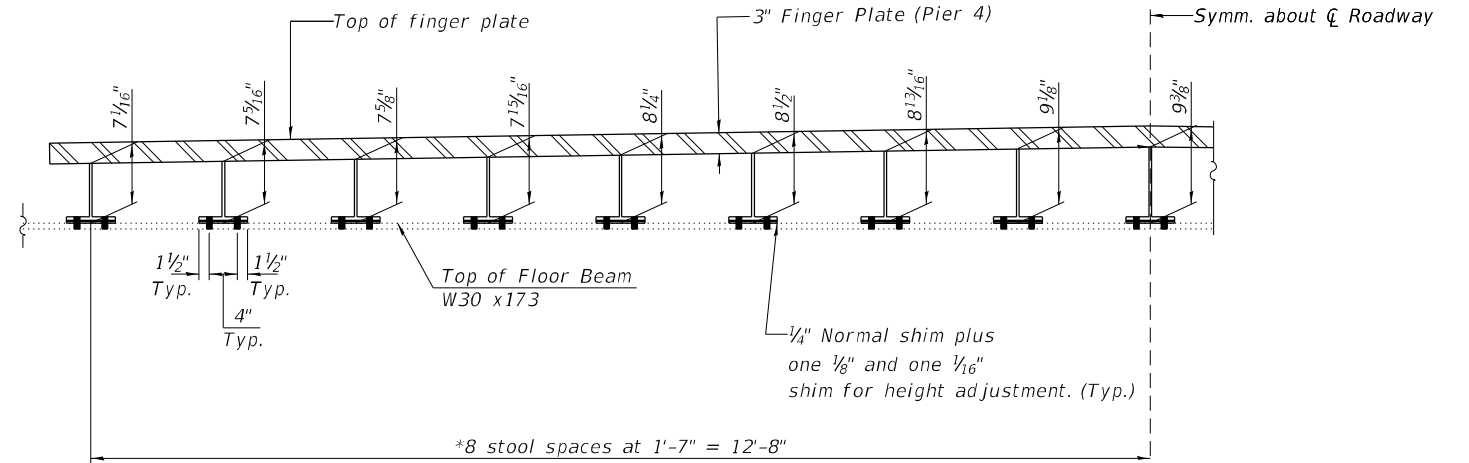
SHEET S27 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 57
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



SECTION E-E

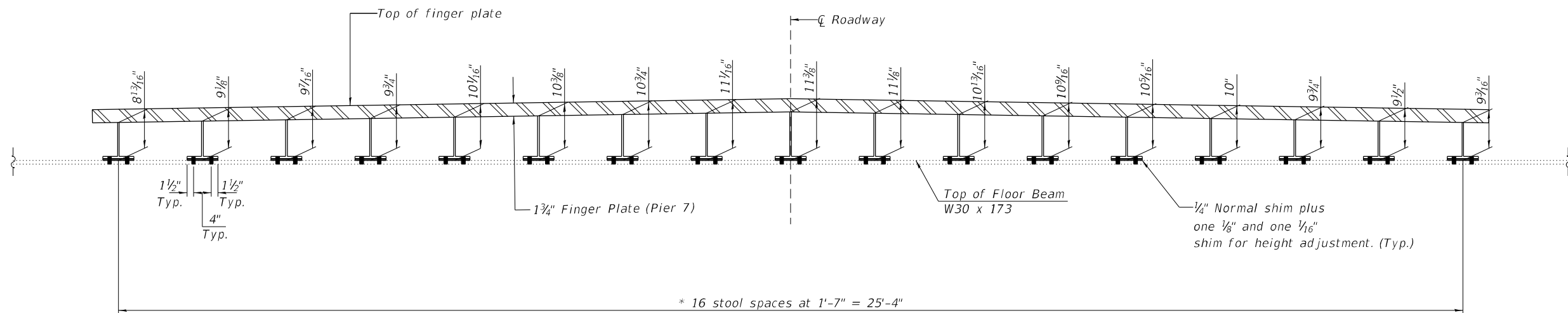
Section is at Pier 4 or 7. Span 4 or 8.
Vertical dimensions for stools varies. Dimensions shown are at centerline of diaphragm and includes 1/4" normal shims.



SECTION F-F

Section is at Pier 4. Span 5.
Vertical dimensions for stools varies. Dimensions shown are at centerline of floor beam and includes 1/4" normal shims.

* Cut stools from W24 x 62



SECTION F-F

Section is at Pier 7. Span 7.
Vertical dimensions for stools varies. Dimensions shown are at centerline of floor beam and includes 1/4" normal shims.

(Sheet 3 of 3)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-528-Finger Plate_Details.dgn



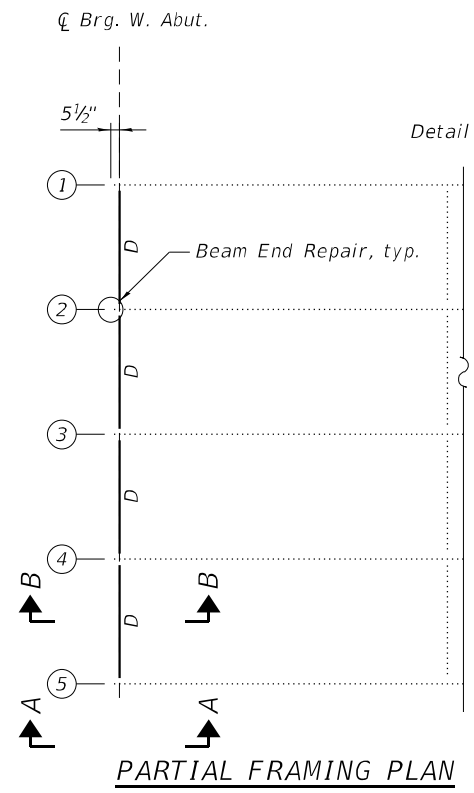
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PLOT DATE = 10/13/2022	DRAWN - CL	REVISED -
	CHECKED - CZ	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE DETAILS
STRUCTURE NO. 062-0003

SHEET S28 OF S97 SHEETS

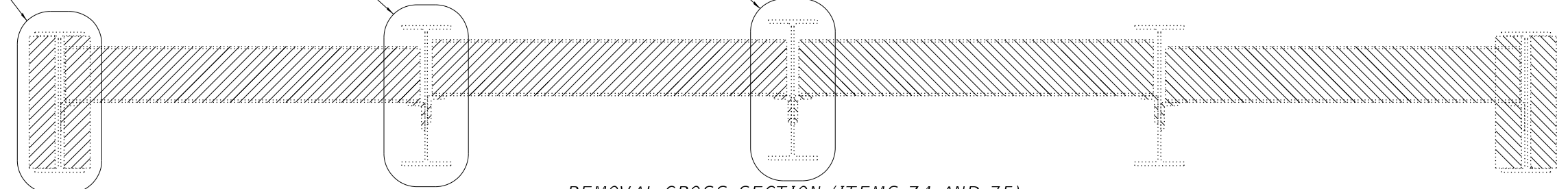
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	58
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



Detail A

Detail B

Detail C



REMOVAL CROSS SECTION (ITEMS 74 AND 75)
(Span 1, W. Abut. - looking West)

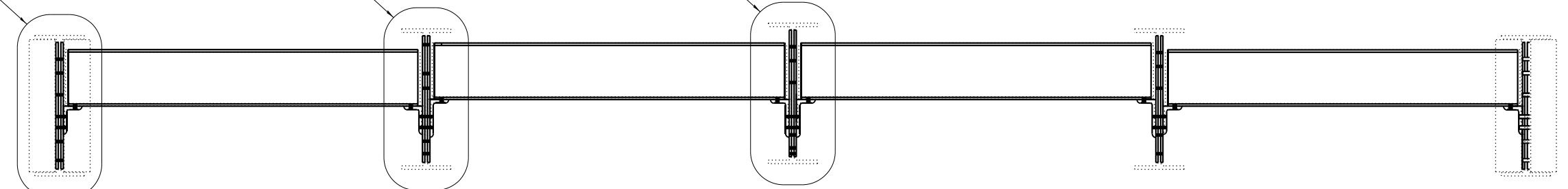
LEGEND

Structural Steel Removal

Detail A

Detail B

Detail C



PROPOSED CROSS SECTION (ITEMS 74 AND 75)
(Span 1, W. Abut. - looking West)

Notes:

1. Existing end diaphragms at West Abutment shall be removed and replaced.
2. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless otherwise noted.



ITEM 74 PHOTO



ITEM 75 PHOTO

(Sheet 1 of 2)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-529-5-Structural Steel Repair Details - Approach Spans.dgn



USER NAME =	DESIGNED - RJM	REVISED -
	CHECKED - CZ	REVISED -
PLOT SCALE =	DRAWN - LAV	REVISED -
PLOT DATE = 10/13/2022	CHECKED - CZ	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

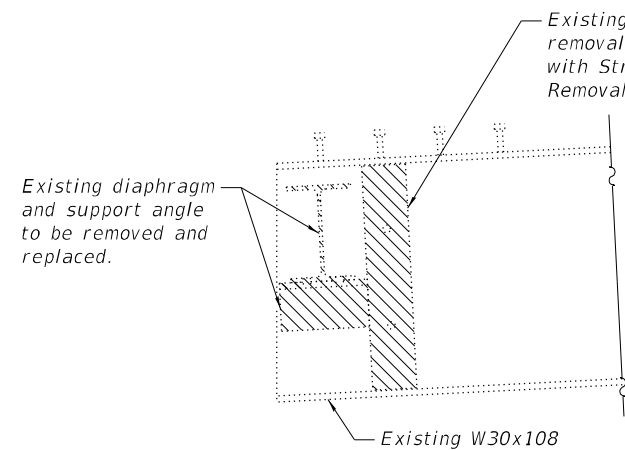
**STRUCTURAL STEEL REPAIR DETAILS (ITEMS 74 AND 75)
STRUCTURE NO. 062-0003**

SHEET S29 OF S97 SHEETS

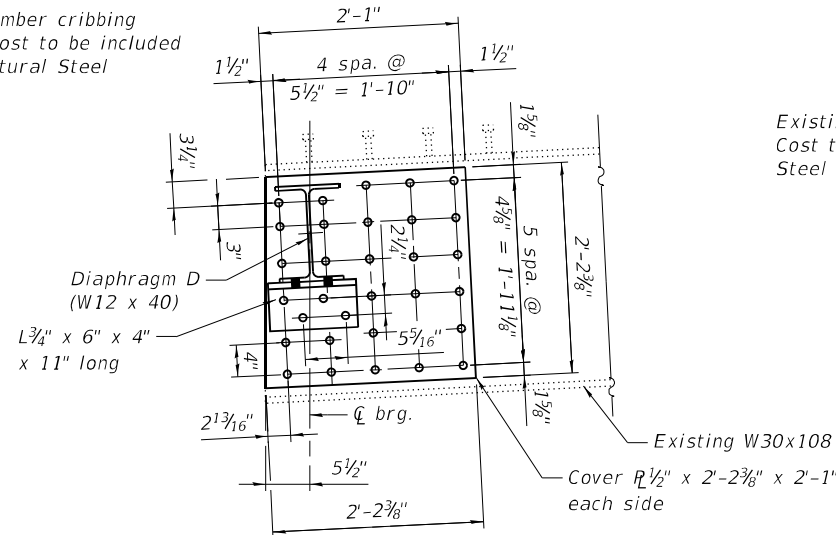
F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 59
CONTRACT NO. 68F08				

ILLINOIS FED. AID PROJECT

MODEL: Default
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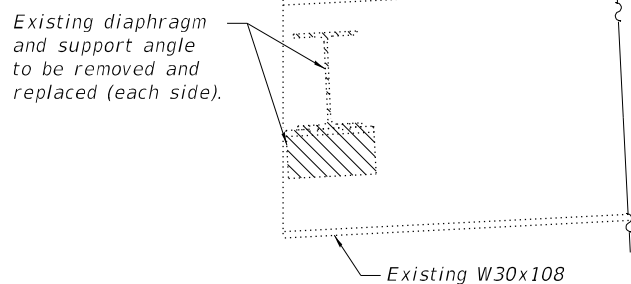


REMOVAL OF DIAPHRAGM AND TIMBER CRIBBING

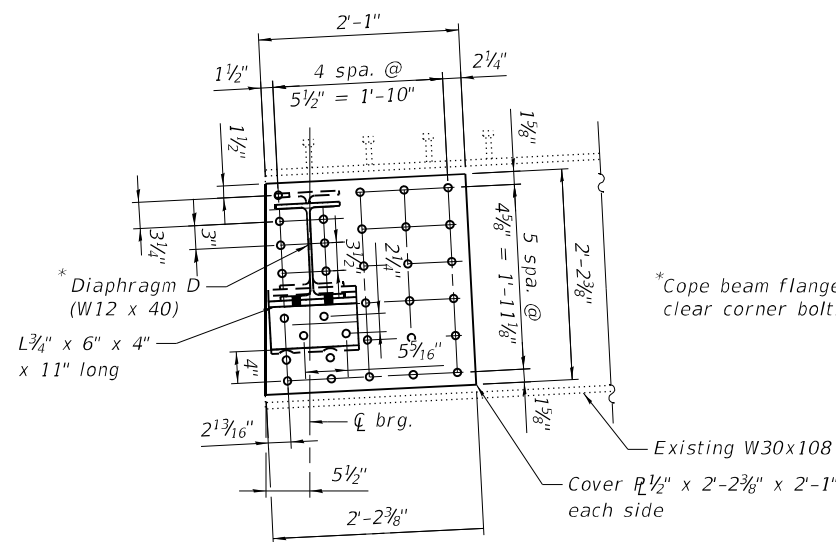


SECTION A-A

(Beam 5 shown - looking North;
 Beam 1 opposite hand)



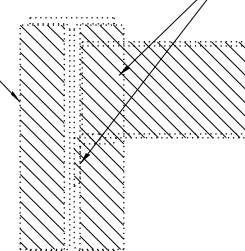
DIAPHRAGM REMOVAL



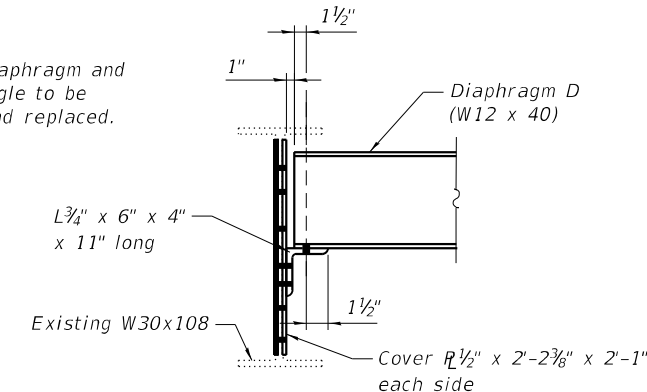
SECTION B-B

(Beam 4 shown - looking North;
 Beam 2 opposite hand)

Existing timber cribbing removal. Cost to be included with Structural Steel Removal.



REMOVAL OF DIAPHRAGM AND TIMBER CRIBBING

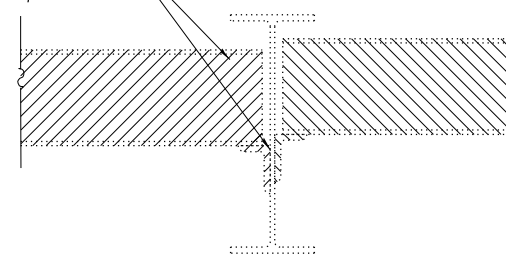


BEAM END REPAIR

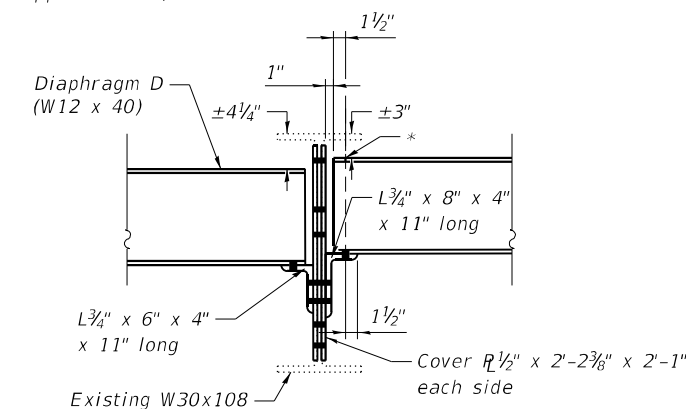
DETAIL A

(Beam 5 shown - looking West;
 Beam 1 opposite hand)

Existing diaphragms and support angles to be removed and replaced.



DIAPHRAGM REMOVAL

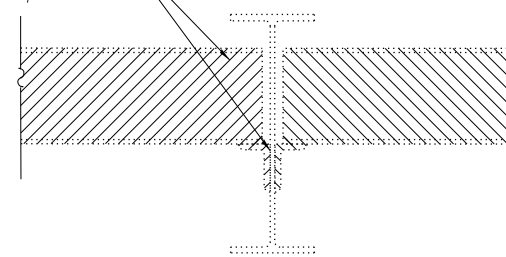


BEAM END REPAIR

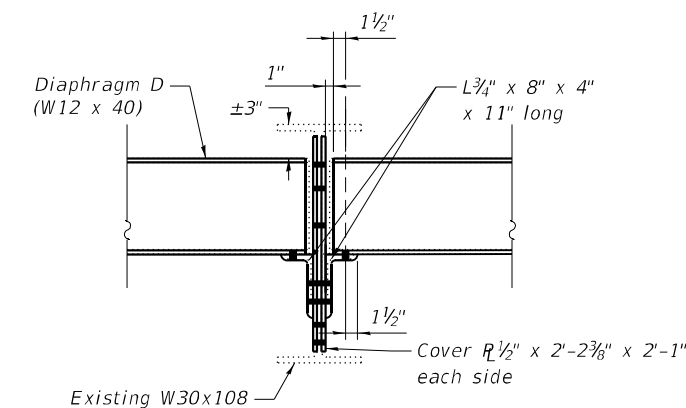
DETAIL B

(Beam 4 shown - looking West;
 Beam 2 opposite hand)

Existing diaphragms and support angles to be removed and replaced.



DIAPHRAGM REMOVAL



BEAM END REPAIR

DETAIL C

(Sheet 2 of 2) (Beam 3 shown - looking West)

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pound	1,160
Furnishing and Erecting Structural Steel	Pound	1,180
Structural Steel Repair	Pound	1,130

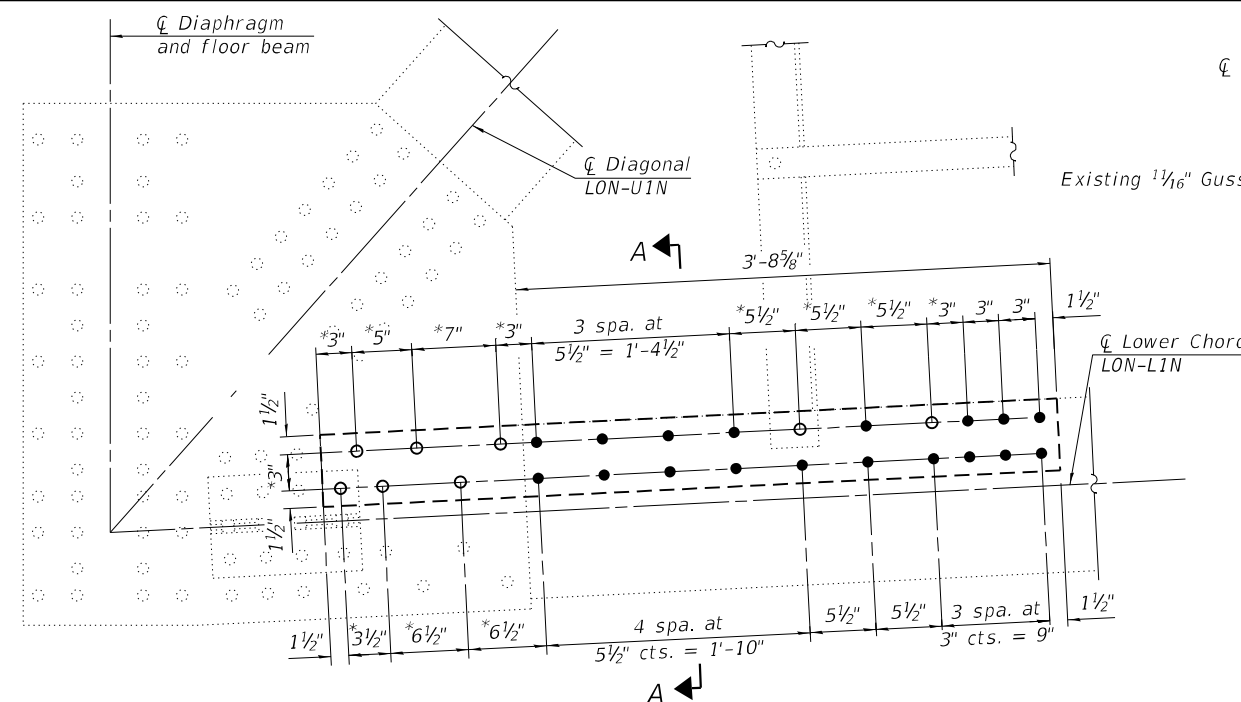
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS (ITEMS 78 AND 79)
 STRUCTURE NO. 062-0003**

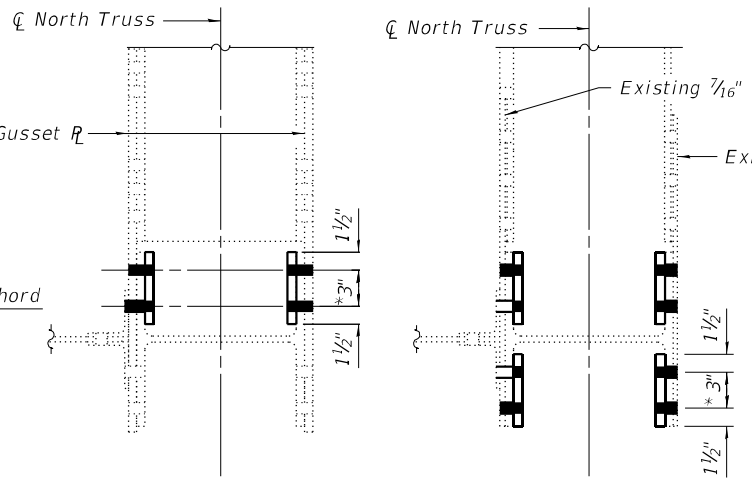
SHEET S30 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	60
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

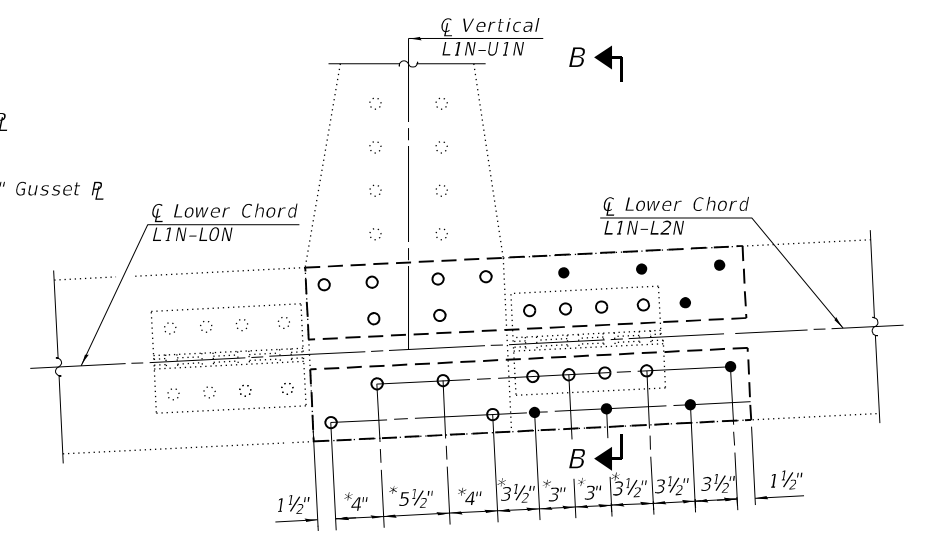
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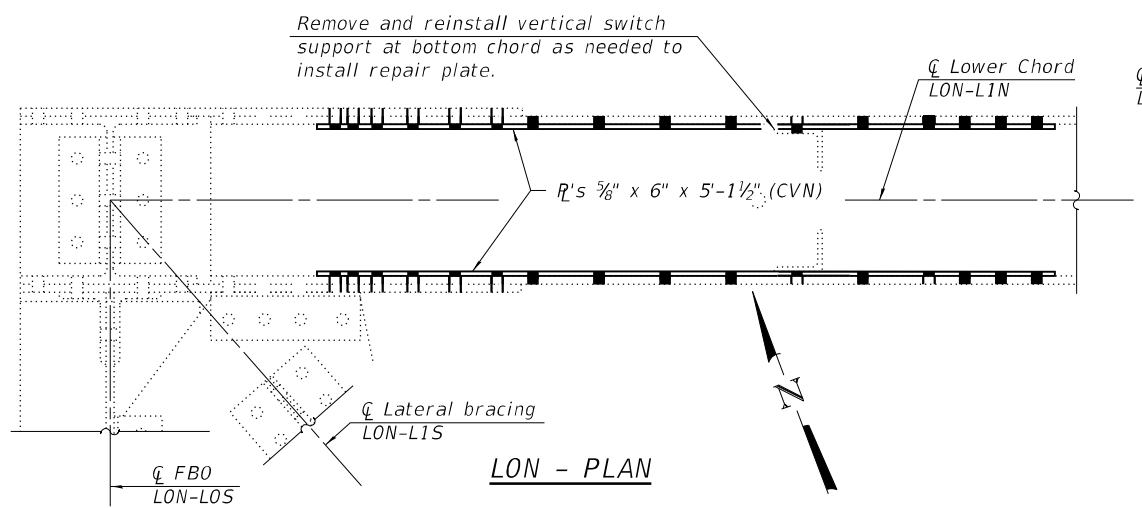
LO NORTH TRUSS - INSIDE ELEVATION (ITEM 10)
(Looking North)



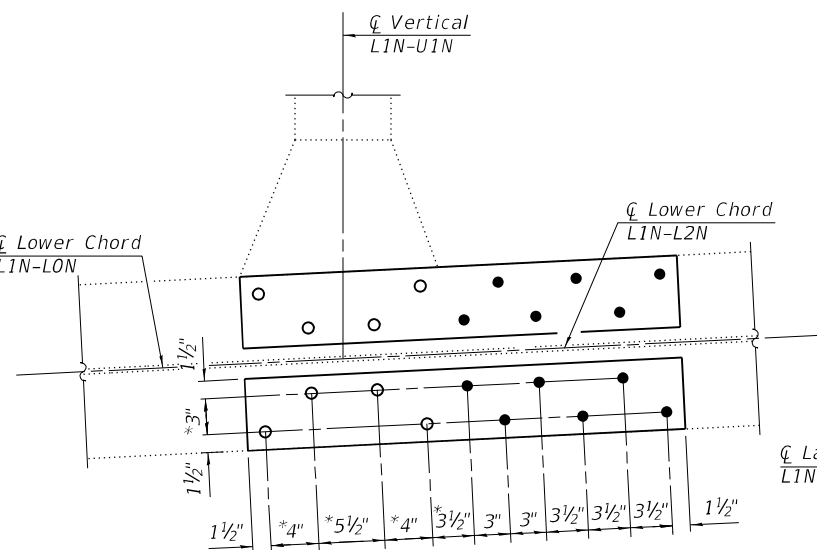
SECTION A-A **SECTION B-B**



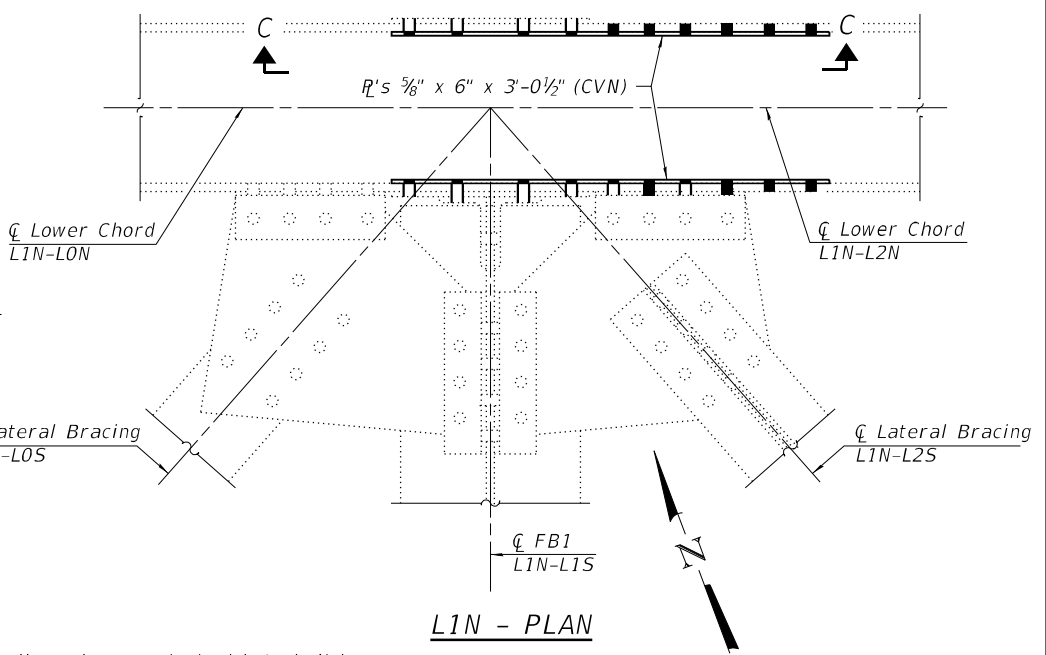
L1 NORTH TRUSS - INSIDE ELEVATION (ITEM 10)
(Looking North)



LON - PLAN



SECTION C-C



L1N - PLAN

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drilled)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	400



ITEM 10 LON PHOTO



ITEM 10 L1N PHOTO

FILE NAME: SFILES

design firm
no. 184001036

engineers + planners + land surveyors

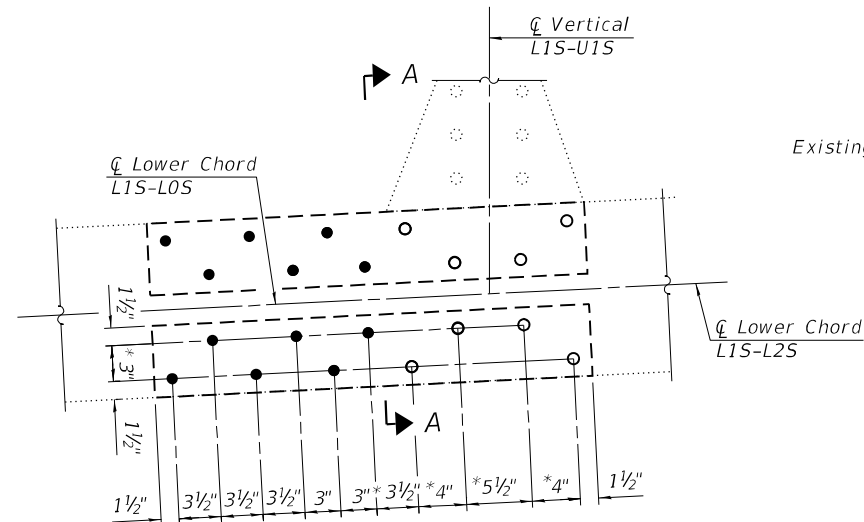
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	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

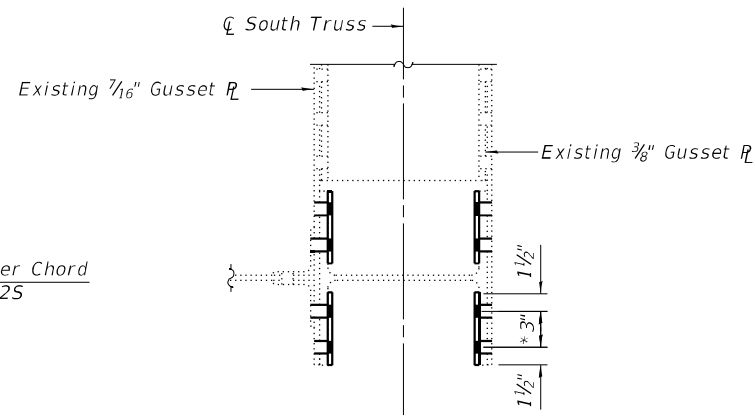
STRUCTURAL STEEL REPAIR DETAILS (ITEM 10)
STRUCTURE NO. 062-0003

SHEET 531 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	61
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



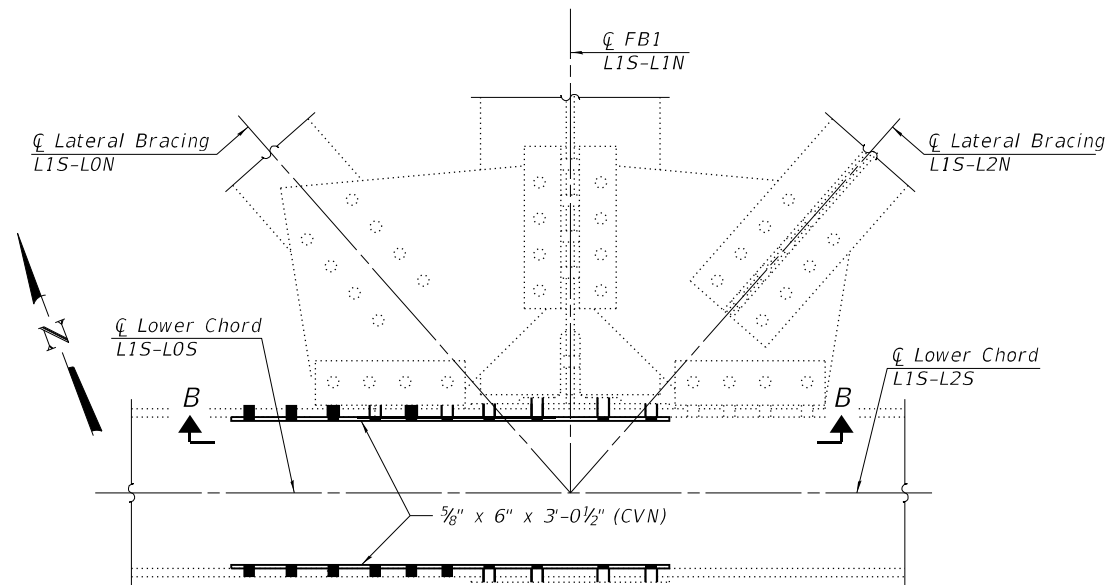
L1 SOUTH TRUSS - OUTSIDE ELEVATION (ITEM 11)
(Looking North)



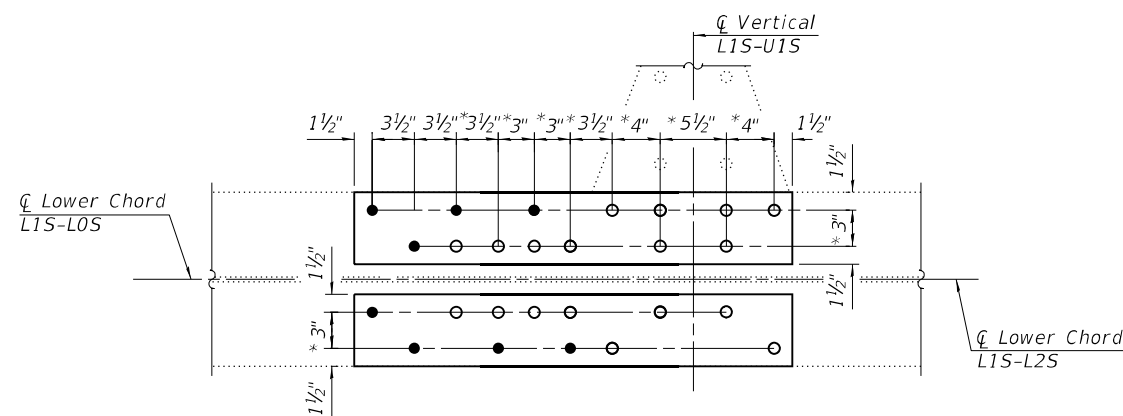
SECTION A-A



ITEM 11 PHOTO



PLAN



SECTION B-B

LEGEND

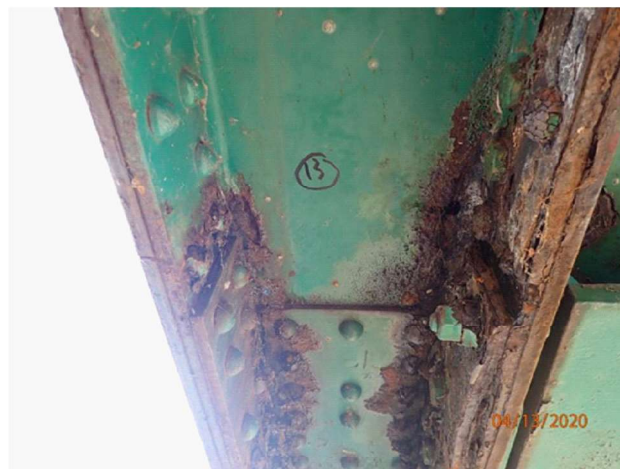
- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

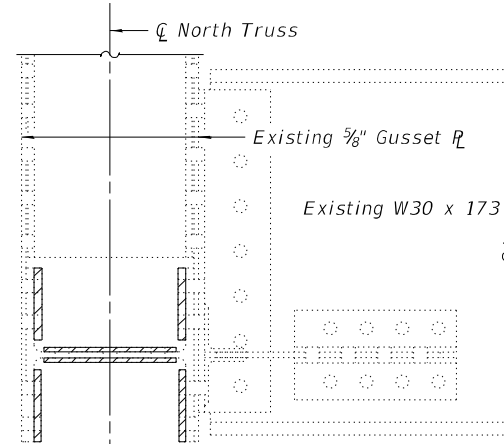
1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

BILL OF MATERIAL

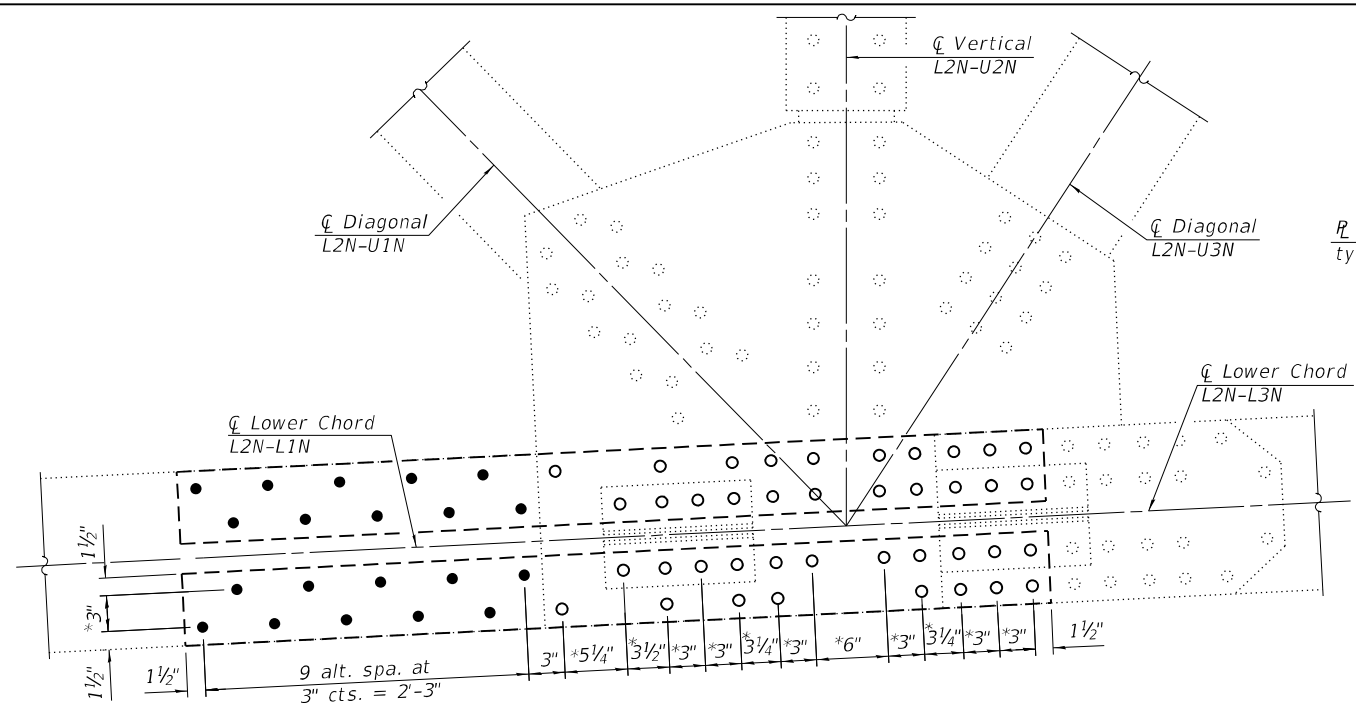
Item	Unit	Total
Structural Steel Repair	Pound	210



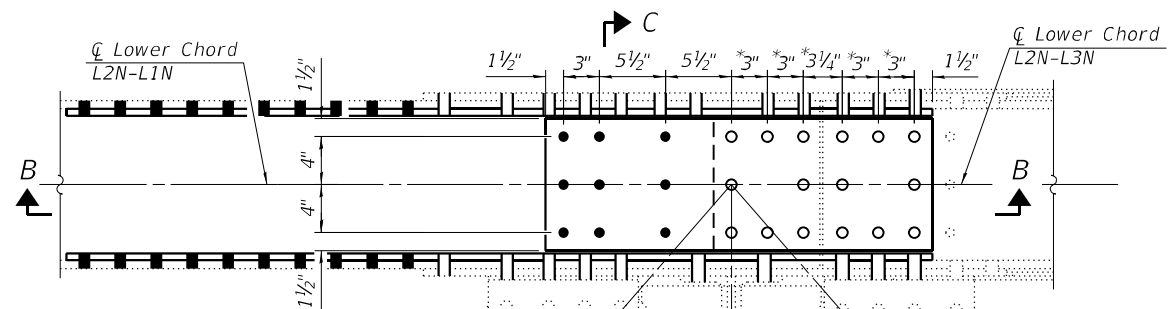
ITEM 13 PHOTO



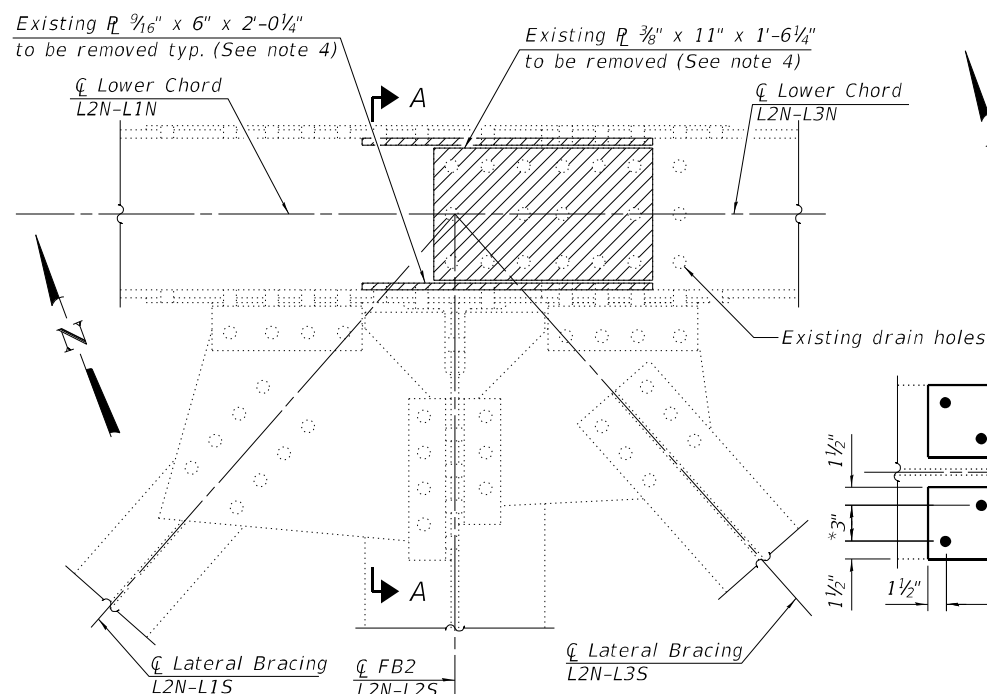
SECTION A-A



L2 NORTH TRUSS - INSIDE ELEVATION (ITEM 13)
(Looking North)

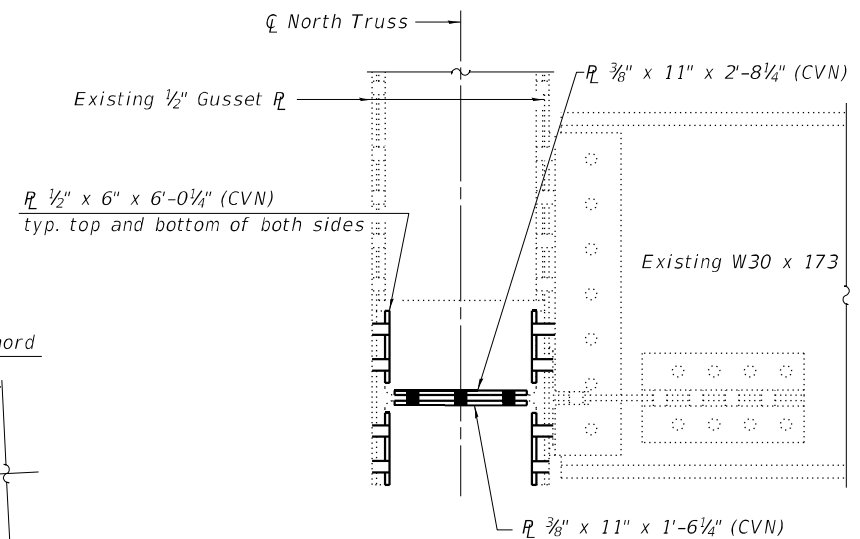


SECTION B-B



PLAN

(Hatched area indicates steel removal.
Cost included with Structural Steel Repair)



SECTION C-C

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. Existing flange and web splice plates of the lower chord at L2N shall be removed and replaced sequentially, one plate at a time. All new flange splice plates shall be installed and fully bolted prior to removing and replacing the existing web splice plates. During removal of any one flange plate, all other flange and existing web plates shall be in place and fully riveted/bolted.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	480

FILE NAME: SFILES

design firm
no. 184001036



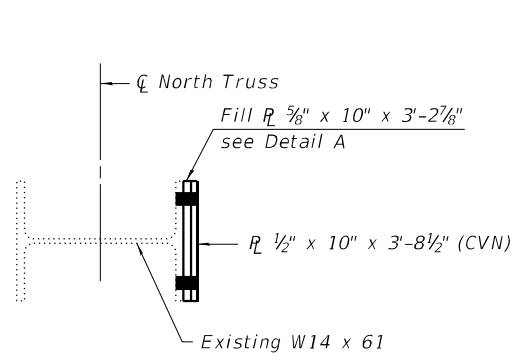
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

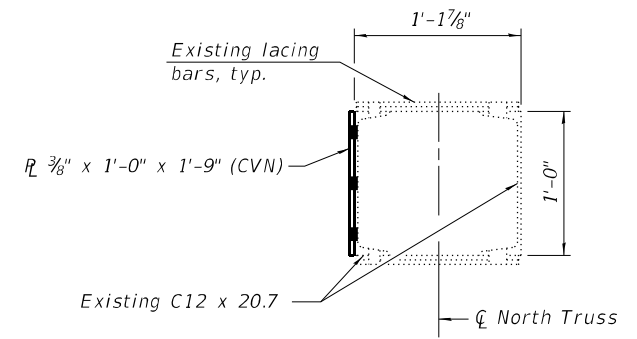
STRUCTURAL STEEL REPAIR DETAILS (ITEM 13)
STRUCTURE NO. 062-0003

SHEET 533 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	63
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



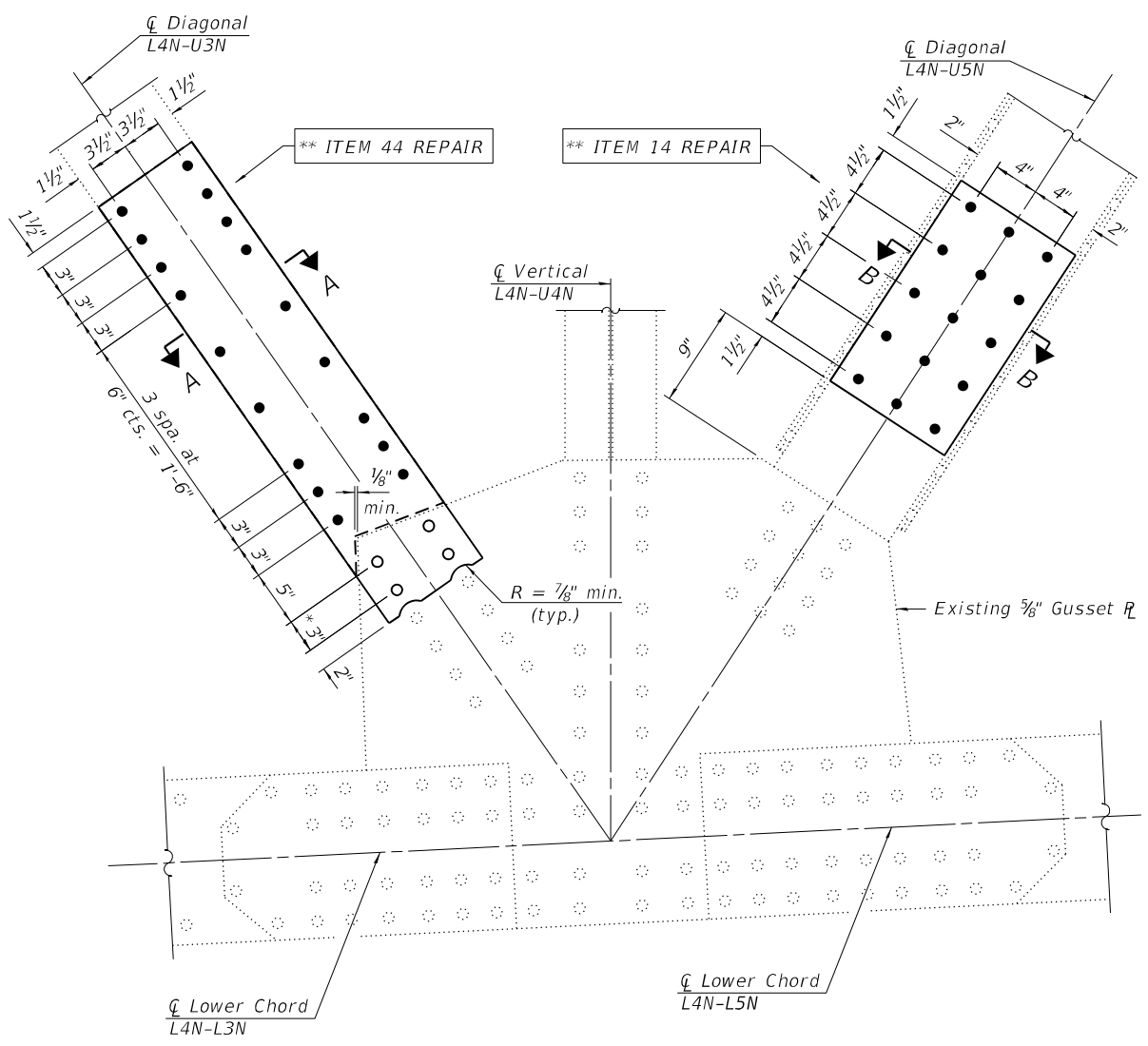
SECTION A-A



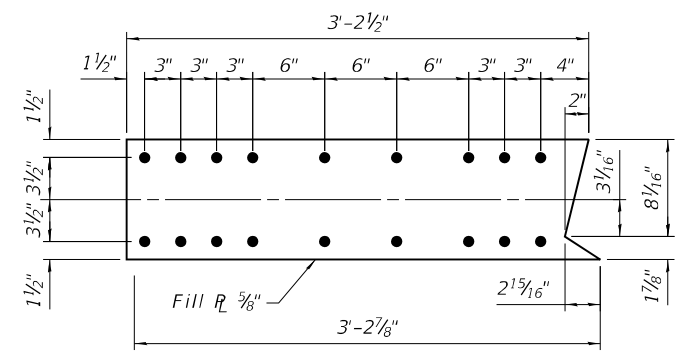
SECTION B-B



ITEM 14 PHOTO



L4 NORTH TRUSS - INSIDE ELEVATION (ITEM 14 AND 44)
(Looking North)



DETAIL A



ITEM 44 PHOTO

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

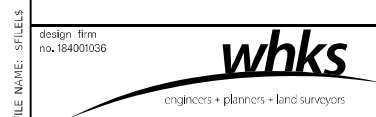
Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. The Contractor may remove and replace a portion of the existing concrete curb and deck to facilitate rivet removal and new bolt placement. Details shall be submitted to the Engineer for approval prior to removing concrete. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Structural Steel Repair.
5. The Contractor may remove and reinstall the existing lacing bars or batten plates, with new high strength bolts, to facilitate the removal of the rivets and installation of new bolts for the Structural Steel Repair. Details shall be submitted to the Engineer for approval prior to removing lacing bars or batten plates. Cost included with Structural Steel Repair.

BILL OF MATERIAL

Item	Unit	Total
** Structural Steel Repair	Pound	210

** Structural Steel Repair quantity for Item 14 = 50 lbs.
Structural Steel Repair quantity for Item 44 = 160 lbs.



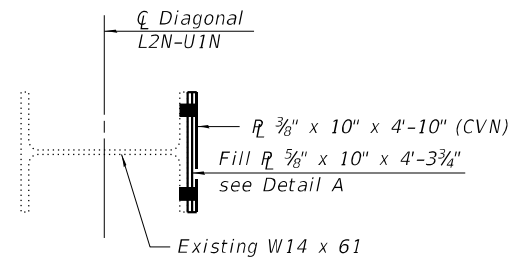
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CHECKED - BRD, JLM, GEM	REVISIONS -	
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

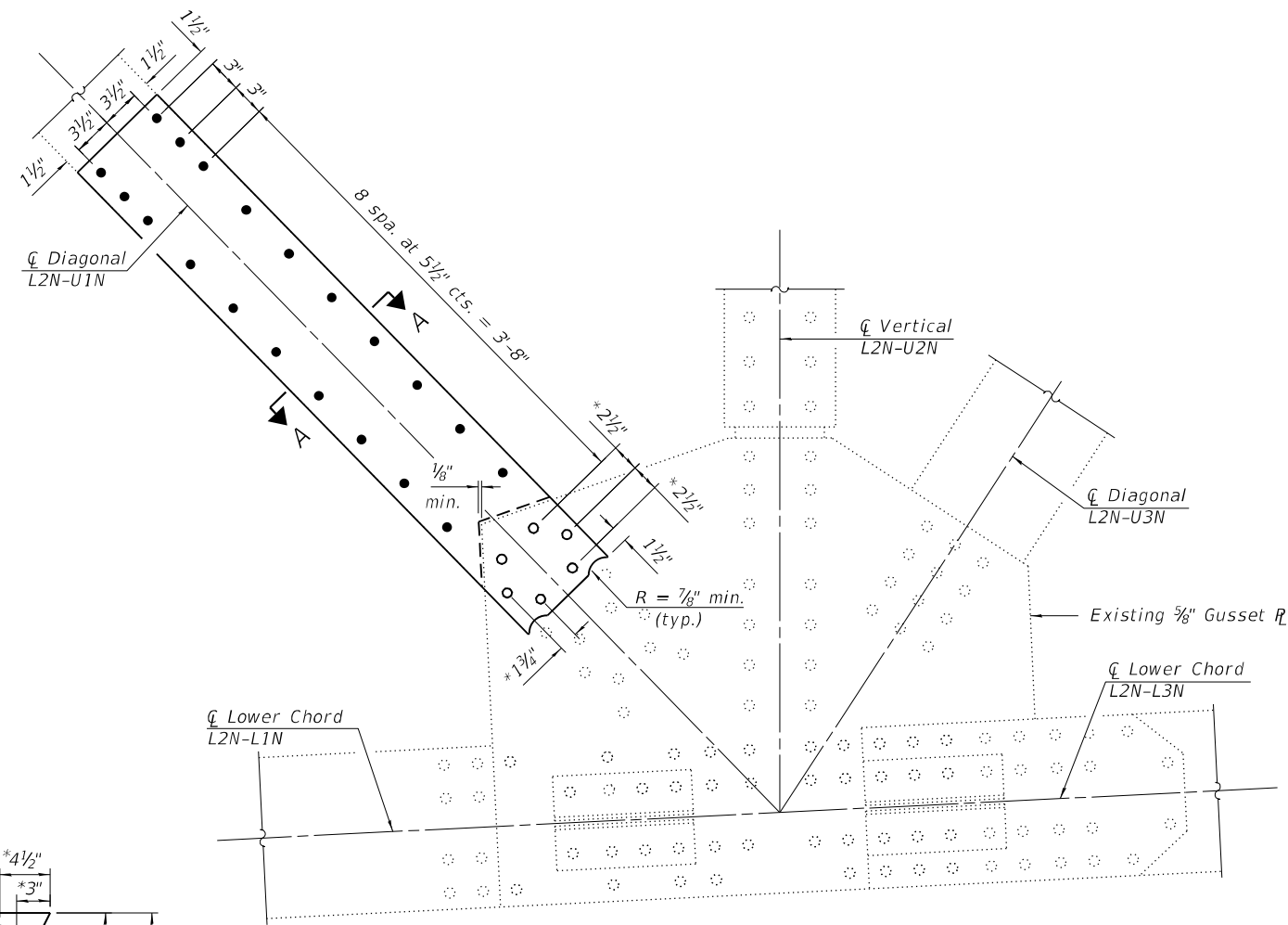
STRUCTURAL STEEL REPAIR DETAILS (ITEMS 14 AND 44)
STRUCTURE NO. 062-0003

SHEET 534 OF 597 SHEETS

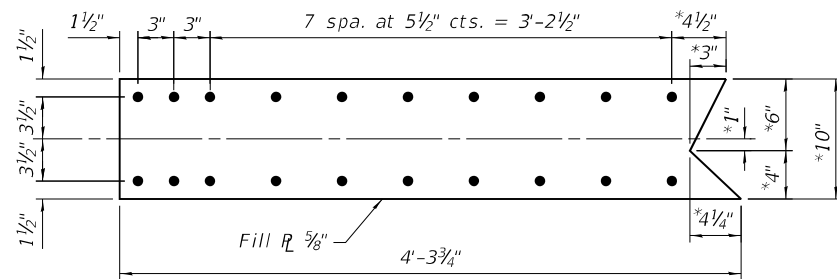
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	64
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



SECTION A-A



L2 NORTH TRUSS - INSIDE ELEVATION (ITEM 43)
(Looking North)



DETAIL A

Notes:

- Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
- Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
- Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
- The Contractor may remove and replace a portion of the existing concrete curb and deck to facilitate rivet removal and new bolt placement. Details shall be submitted to the Engineer for approval prior to removing concrete. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Structural Steel Repair.



ITEM 43 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	190

FILE NAME: SFILES

design firm
no. 184001036



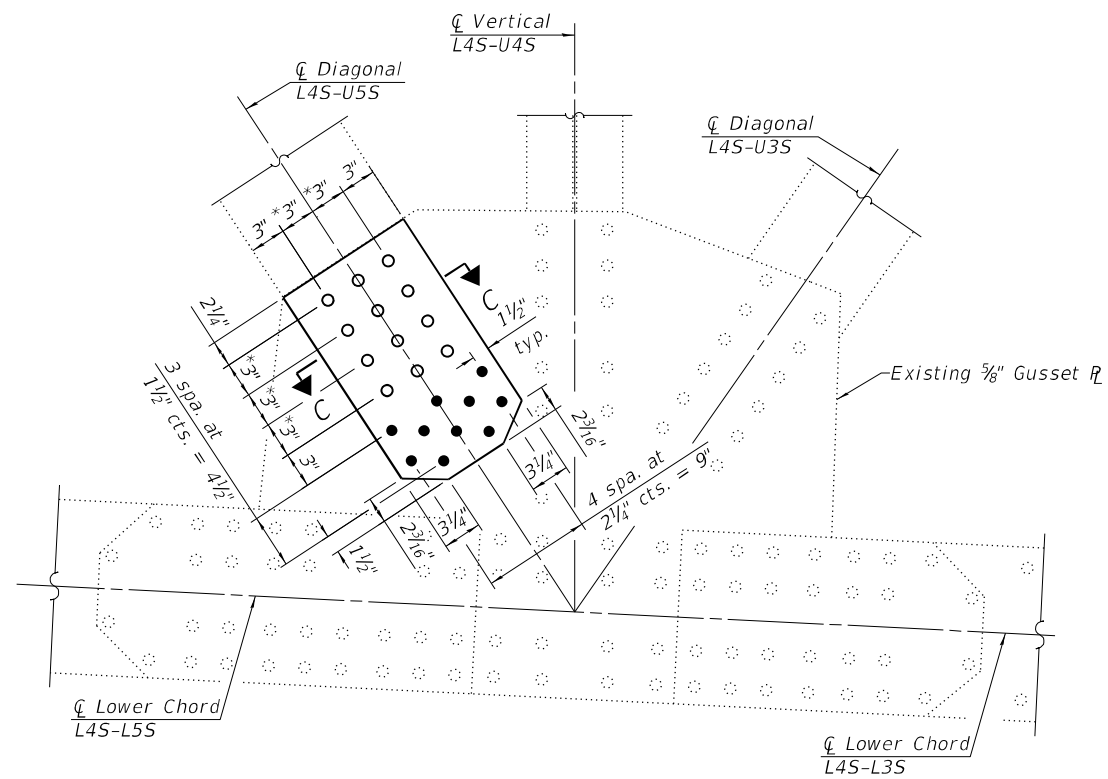
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PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

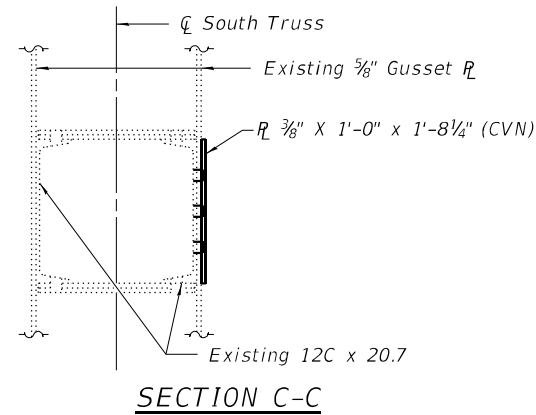
STRUCTURAL STEEL REPAIR DETAILS (ITEM 43)
STRUCTURE NO. 062-0003

SHEET 535 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	65
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



L4 SOUTH TRUSS - INSIDE ELEVATION (ITEM 46)
(Looking South)



ITEM 46 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. To facilitate structural steel repair of L4S gusset plate, phase this work with removal and replacement of intermediate relief joint.
5. The Contractor may remove and reinstall the existing lacing bars or batten plates, with new high strength bolts, to facilitate the removal of the rivets and installation of new bolts for the Structural Steel Repair. Details shall be submitted to the Engineer for approval prior to removing lacing bars or batten plates. Cost included with Structural Steel Repair.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	50

FILE NAME: SFILES

design firm
no. 184001036



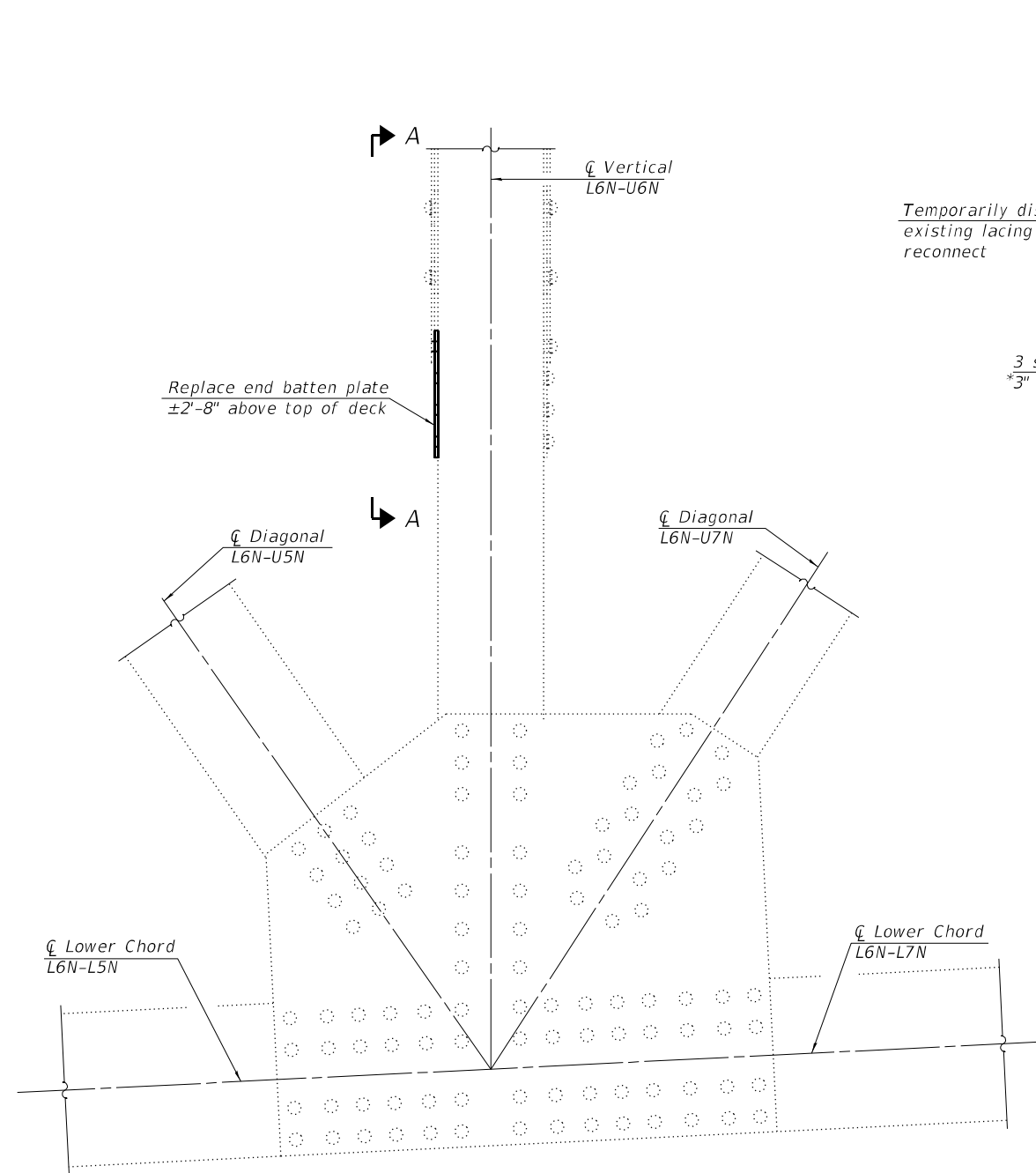
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PLOT DATE = \$TIMES	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

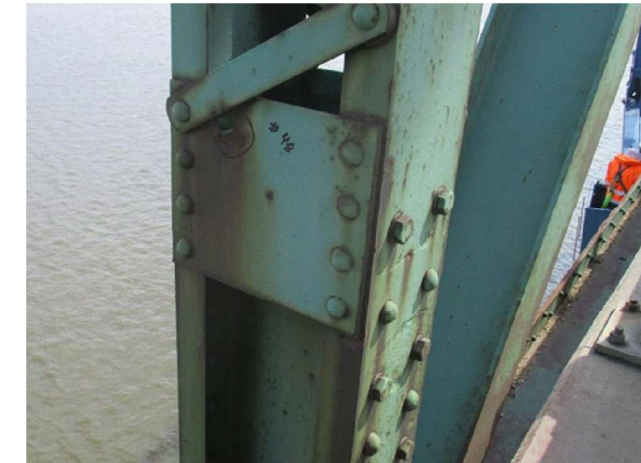
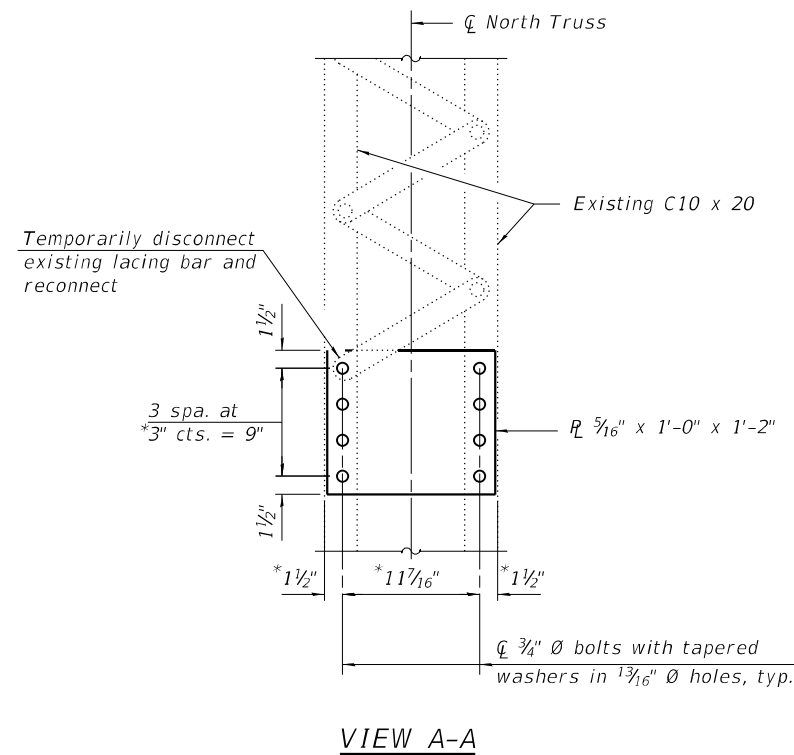
**STRUCTURAL STEEL REPAIR DETAILS (ITEM 46)
STRUCTURE NO. 062-0003**

SHEET 536 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	66
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



L6 NORTH TRUSS - INSIDE ELEVATION (ITEM 48)
(Looking North)



ITEM 48 PHOTO

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Note:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	20

FILE NAME: SFILES

design firm
no. 184001036



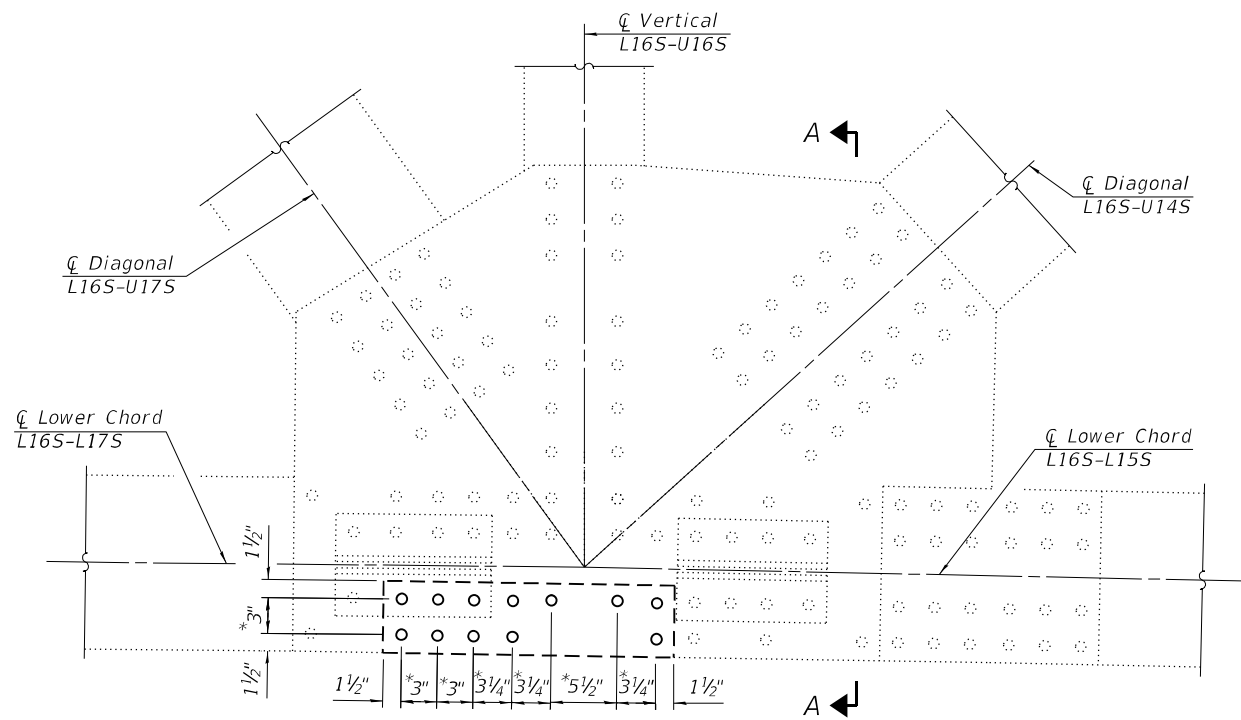
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	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

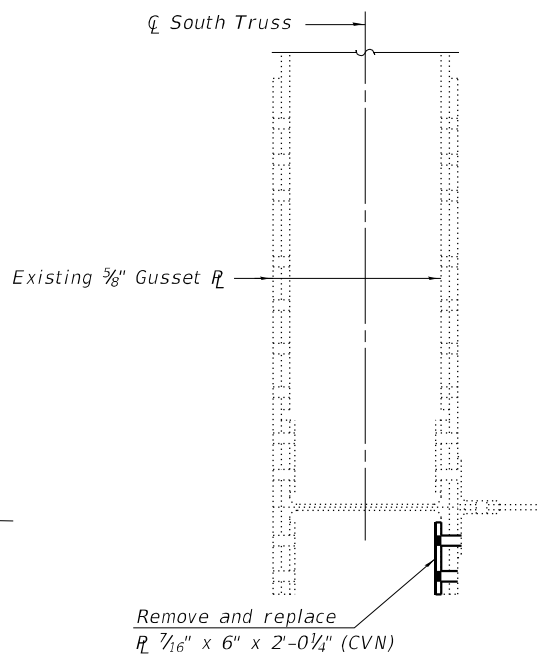
**STRUCTURAL STEEL REPAIR DETAILS (ITEM 48)
STRUCTURE NO. 062-0003**

SHEET 537 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	67
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



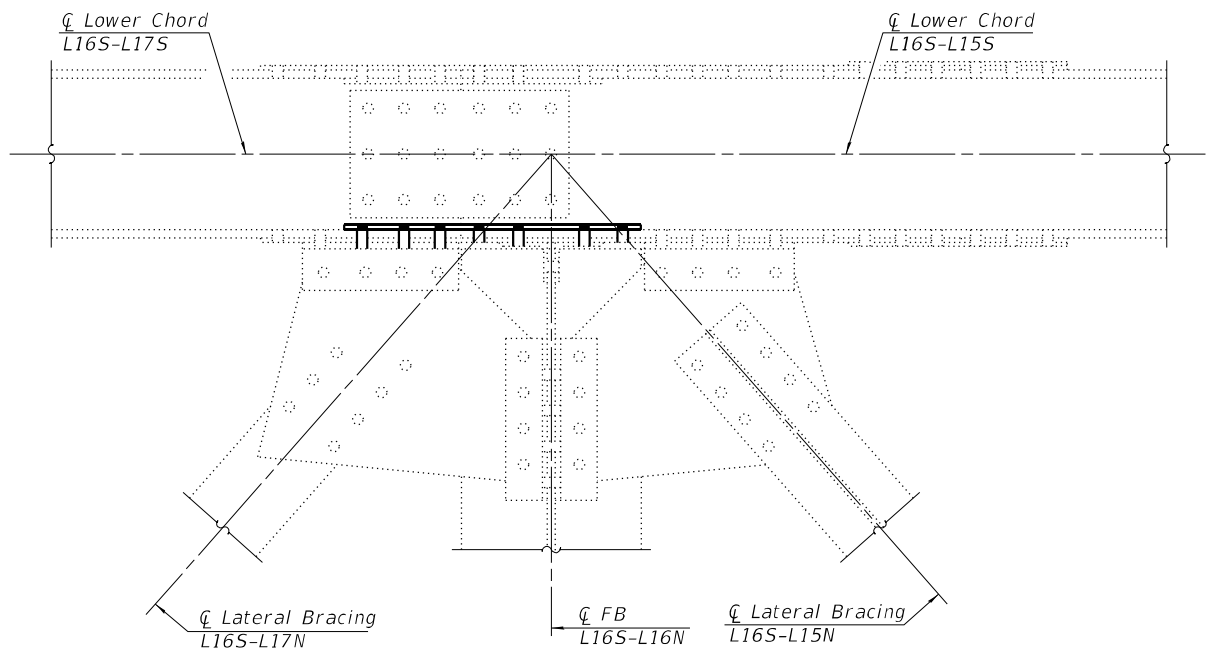
L16 SOUTH TRUSS - INSIDE ELEVATION (ITEM 56)
(Looking South)



SECTION A-A



ITEM 56 PHOTO



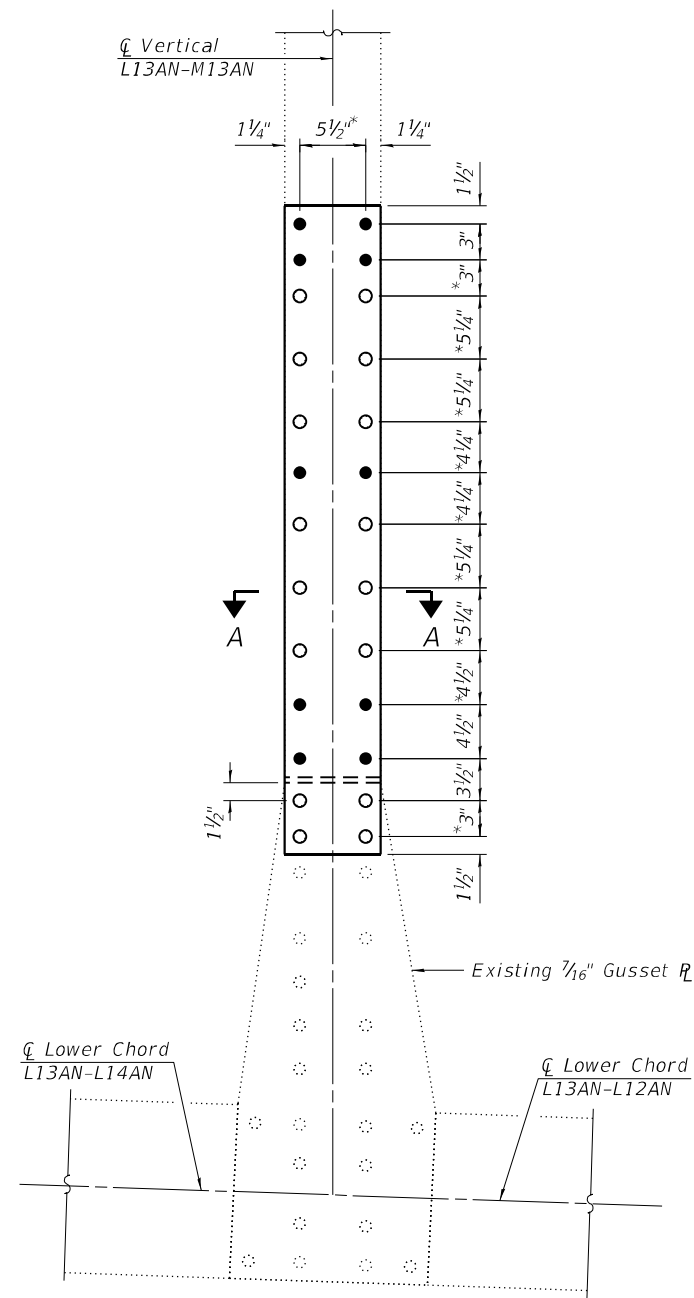
PLAN

- LEGEND**
- Existing fastener to remain
 - New bolt in new hole (shop or field drill)
 - Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

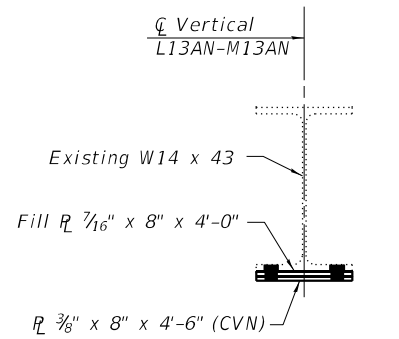
- Notes:**
1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
 2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
 3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	40



L13A NORTH TRUSS - INSIDE ELEVATION (ITEM 60)
(Looking North)



SECTION A-A



ITEM 60 PHOTO

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed unless otherwise shown. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. The Contractor may remove and replace a portion of the existing concrete curb and deck to facilitate rivet removal and new bolt placement. Details shall be submitted to the Engineer for approval prior to removing concrete. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Structural Steel Repair.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	130

FILE NAME: SFILES

design firm
no. 184001036



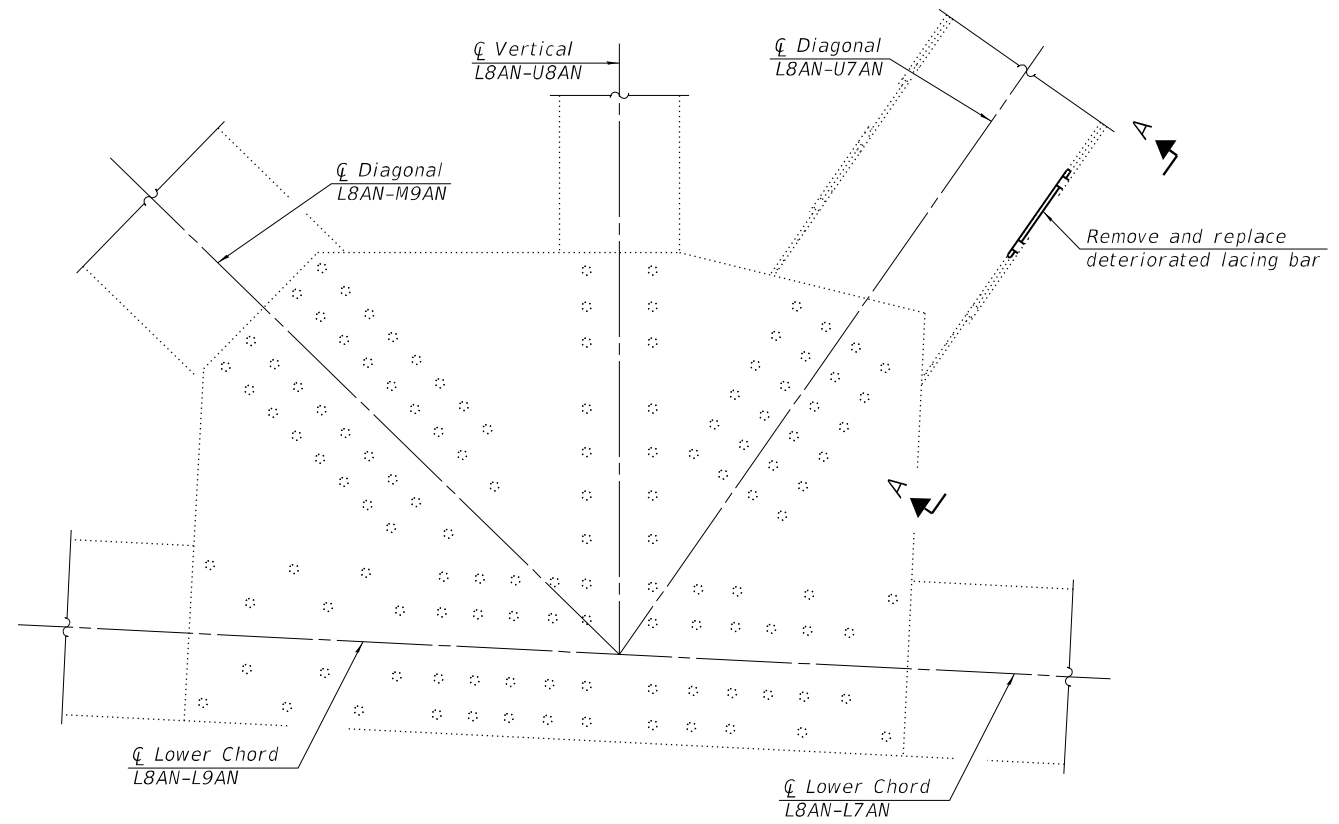
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PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

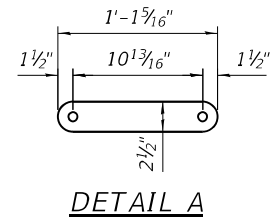
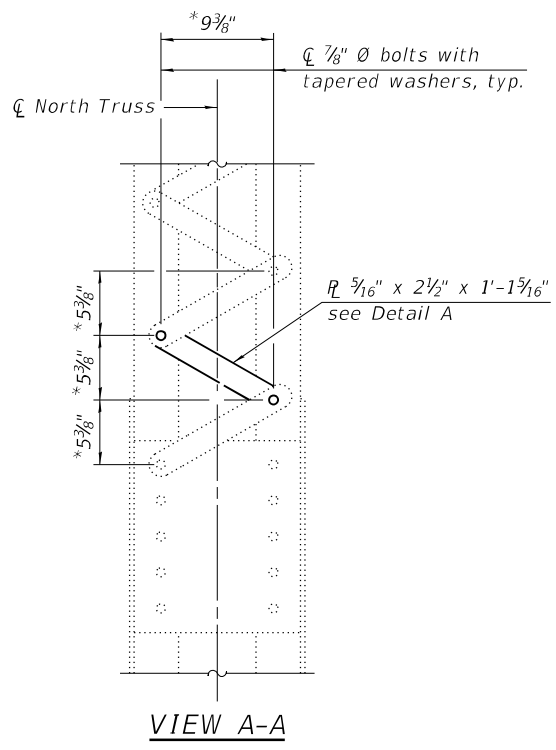
**STRUCTURAL STEEL REPAIR DETAILS (ITEM 60)
STRUCTURE NO. 062-0003**

SHEET 539 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	69
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



L8A NORTH TRUSS - INSIDE ELEVATION (ITEM 61)
(Looking North)



ITEM 61 PHOTO

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

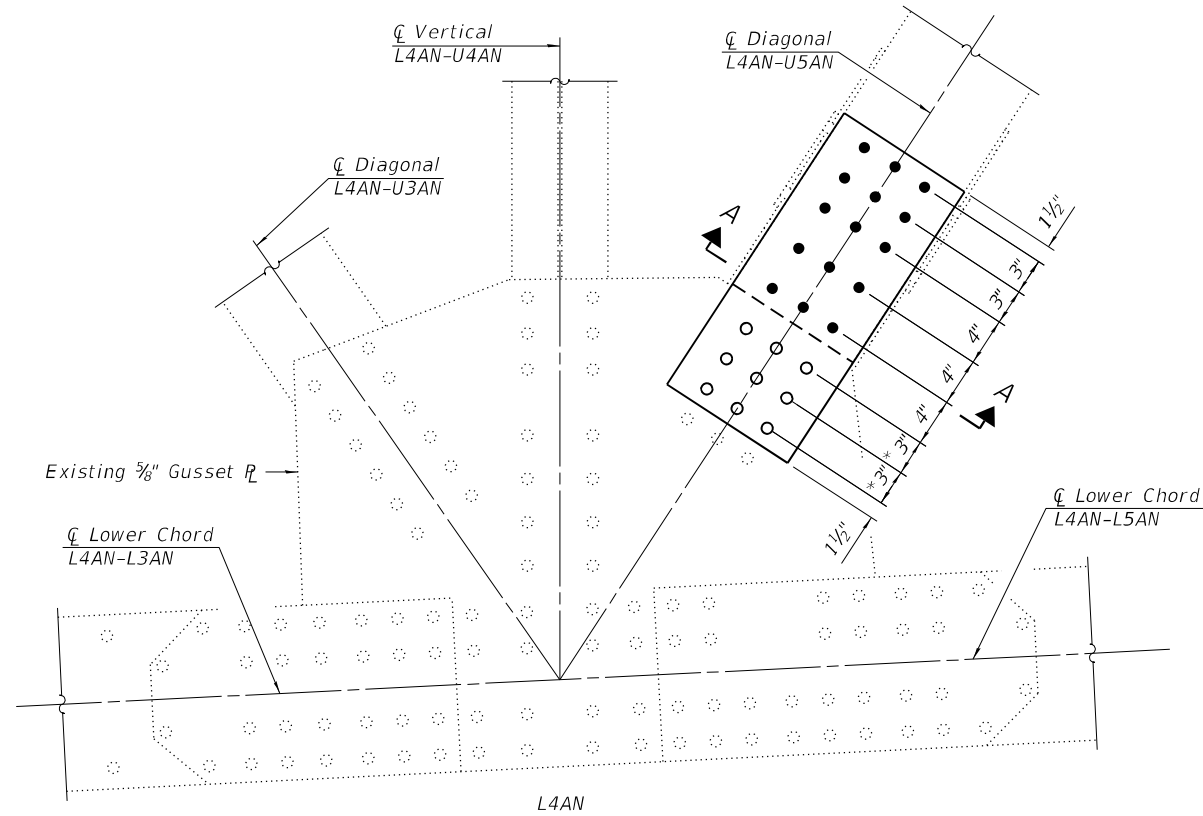
1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	10

USER NAME = \$USERS	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	70
			CONTRACT NO. 68F08	
		ILLINOIS	FED. AID PROJECT	



L4A NORTH TRUSS - OUTSIDE ELEVATION (ITEM 62)
(Looking South)



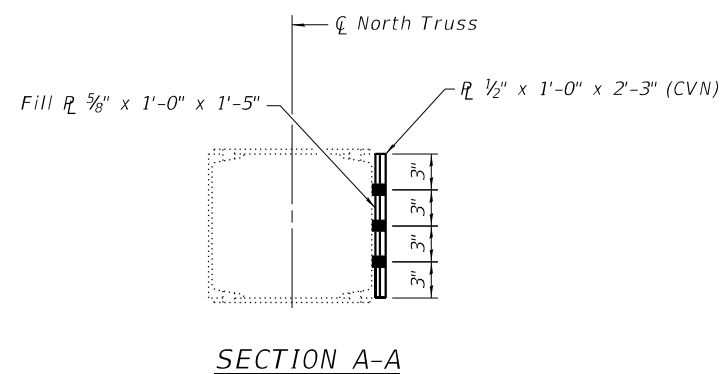
ITEM 62 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows: One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. To facilitate structural steel repair of L4A gusset plate, phase this work with removal and replacement of intermediate relief joint.
5. The Contractor may remove and reinstall the existing lacing bars or batten plates, with new high strength bolts, to facilitate the removal of the rivets and installation of new bolts for the Structural Steel Repair. Details shall be submitted to the Engineer for approval prior to removing lacing bars or batten plates. Cost included with Structural Steel Repair.



BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	110

FILE NAME: SFILES

design firm
no. 184001036



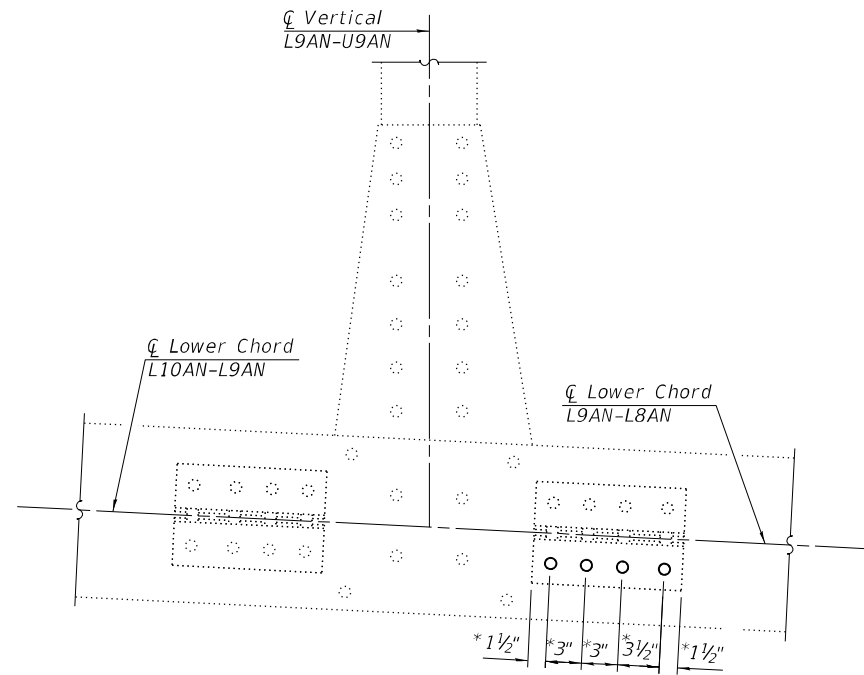
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

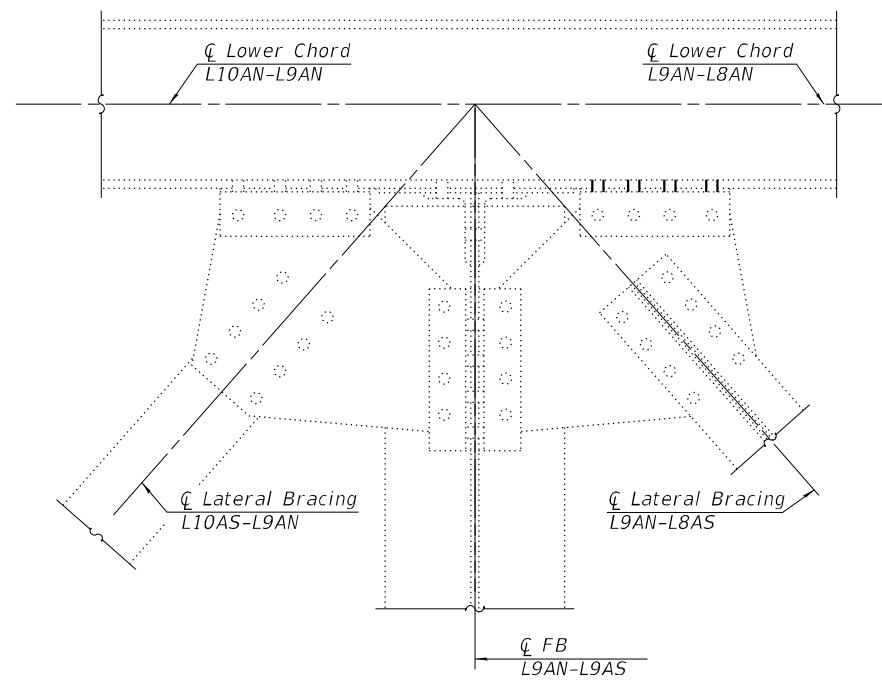
**STRUCTURAL STEEL REPAIR DETAILS (ITEM 62)
STRUCTURE NO. 062-0003**

SHEET 541 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	71
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68F08	



L9A NORTH TRUSS - INSIDE ELEVATION (ITEM 71)
(Looking North)



PLAN



ITEM 71 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	10

FILE NAME: SFILES

design firm
no. 184001036



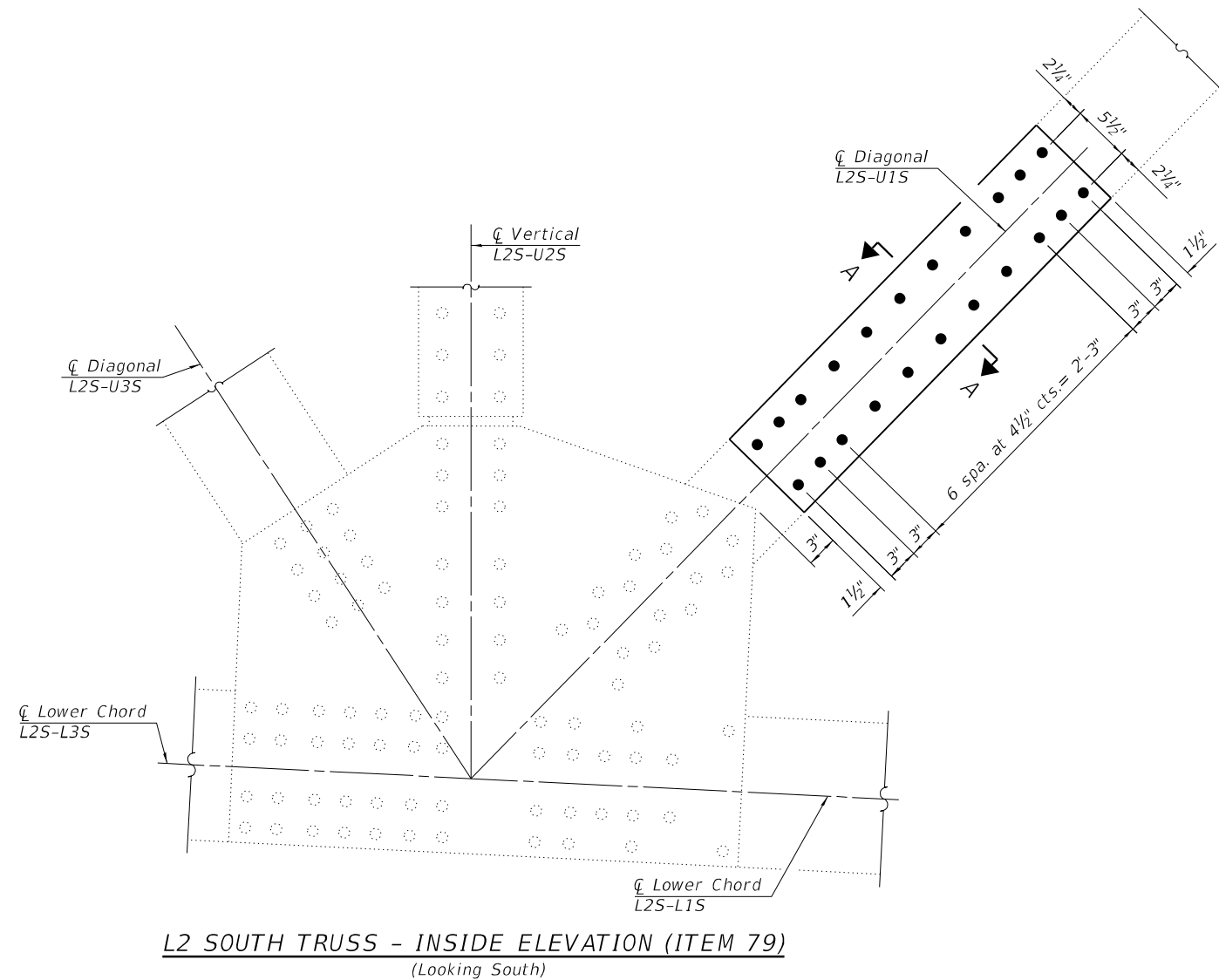
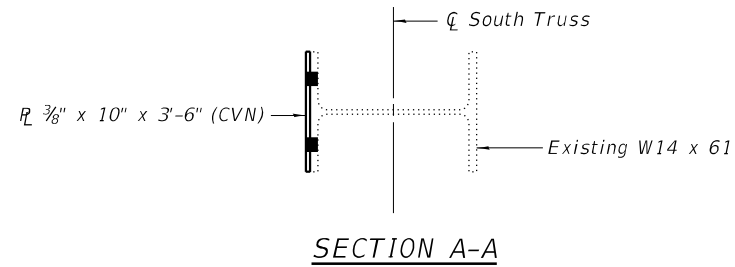
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PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS (ITEM 71)
STRUCTURE NO. 062-0003**

SHEET 542 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	72
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		



ITEM 79 PHOTO

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.
4. The Contractor may remove and replace a portion of the existing concrete curb and deck to facilitate rivet removal and new bolt placement. Details shall be submitted to the Engineer for approval prior to removing concrete. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Structural Steel Repair.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	70

FILE NAME: SFILES

design firm
no. 184001036



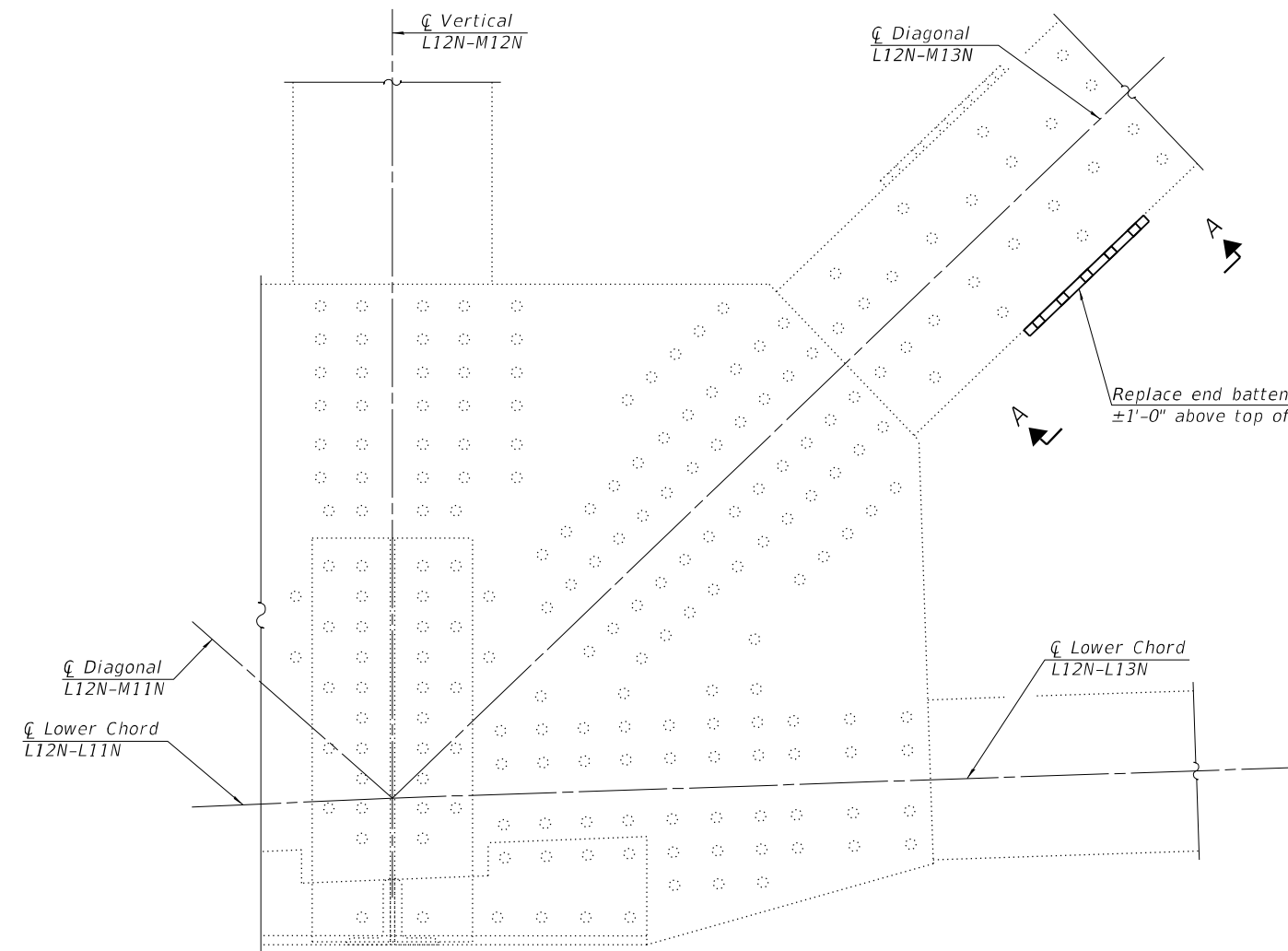
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PLOT DATE = \$TIMES	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

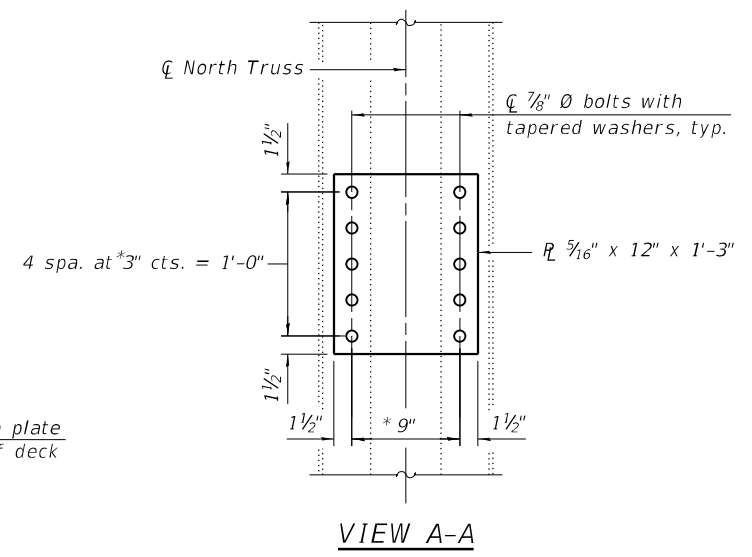
STRUCTURAL STEEL REPAIR DETAILS (ITEM 79)
STRUCTURE NO. 062-0003

SHEET 543 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	73
CONTRACT NO. 68F08			ILLINOIS FED. AID PROJECT	



L12 NORTH TRUSS - INSIDE ELEVATION (ITEM 80)
(Looking North)



ITEM 80 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Note:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	30

FILE NAME: SFILES



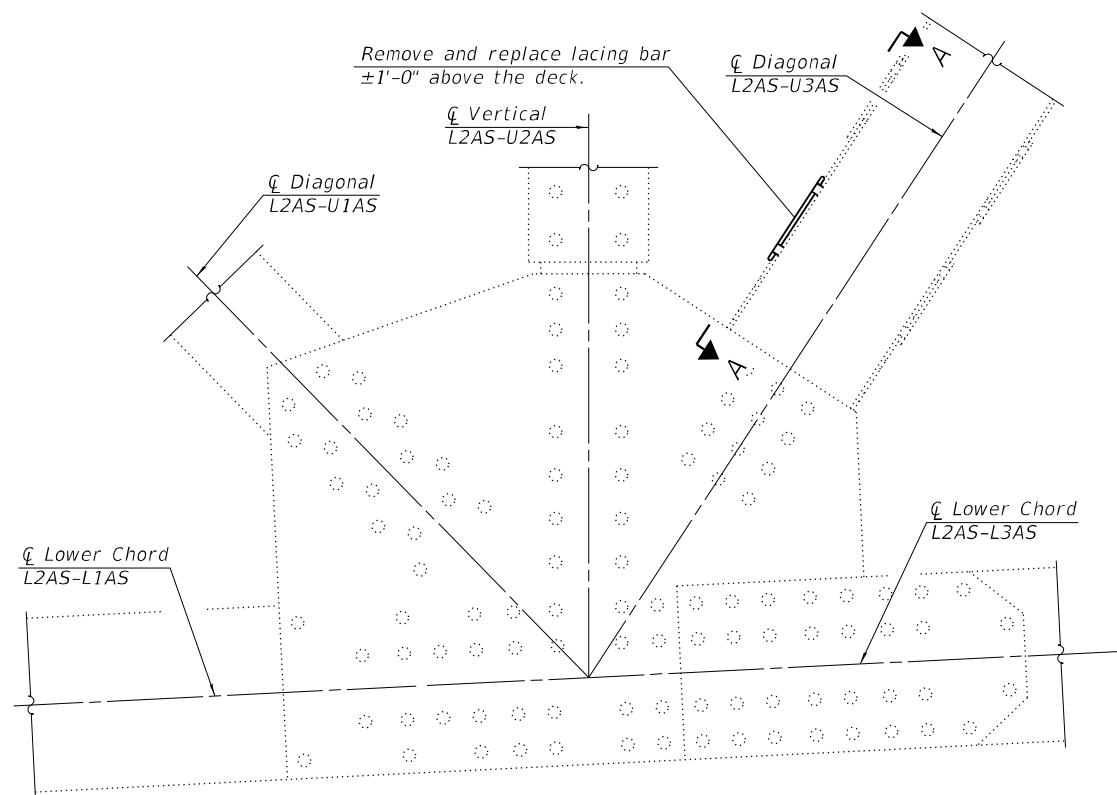
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PLOT DATE = \$TIMES	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS (ITEM 80)
STRUCTURE NO. 062-0003**

SHEET 544 OF 597 SHEETS

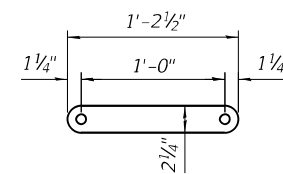
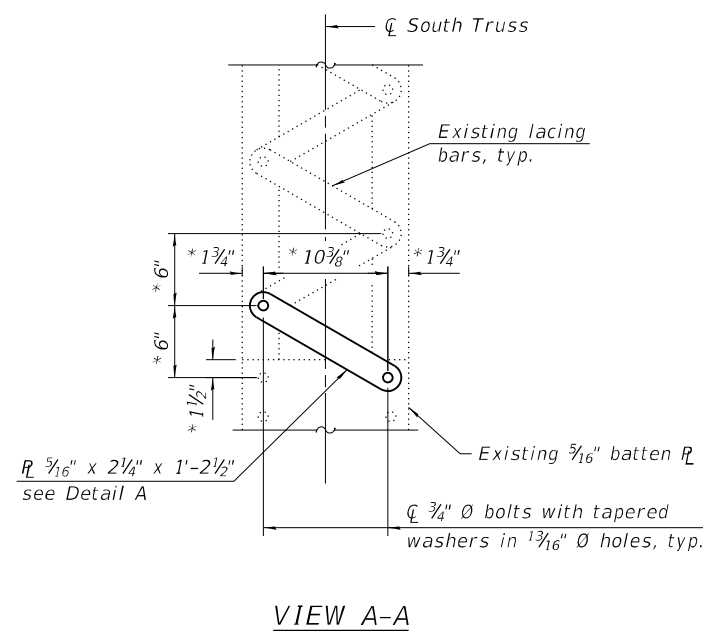
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	74
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68F08	



L2A SOUTH TRUSS - INSIDE ELEVATION (ITEM 91)
(Looking South)



ITEM 91 PHOTO



DETAIL A

LEGEND

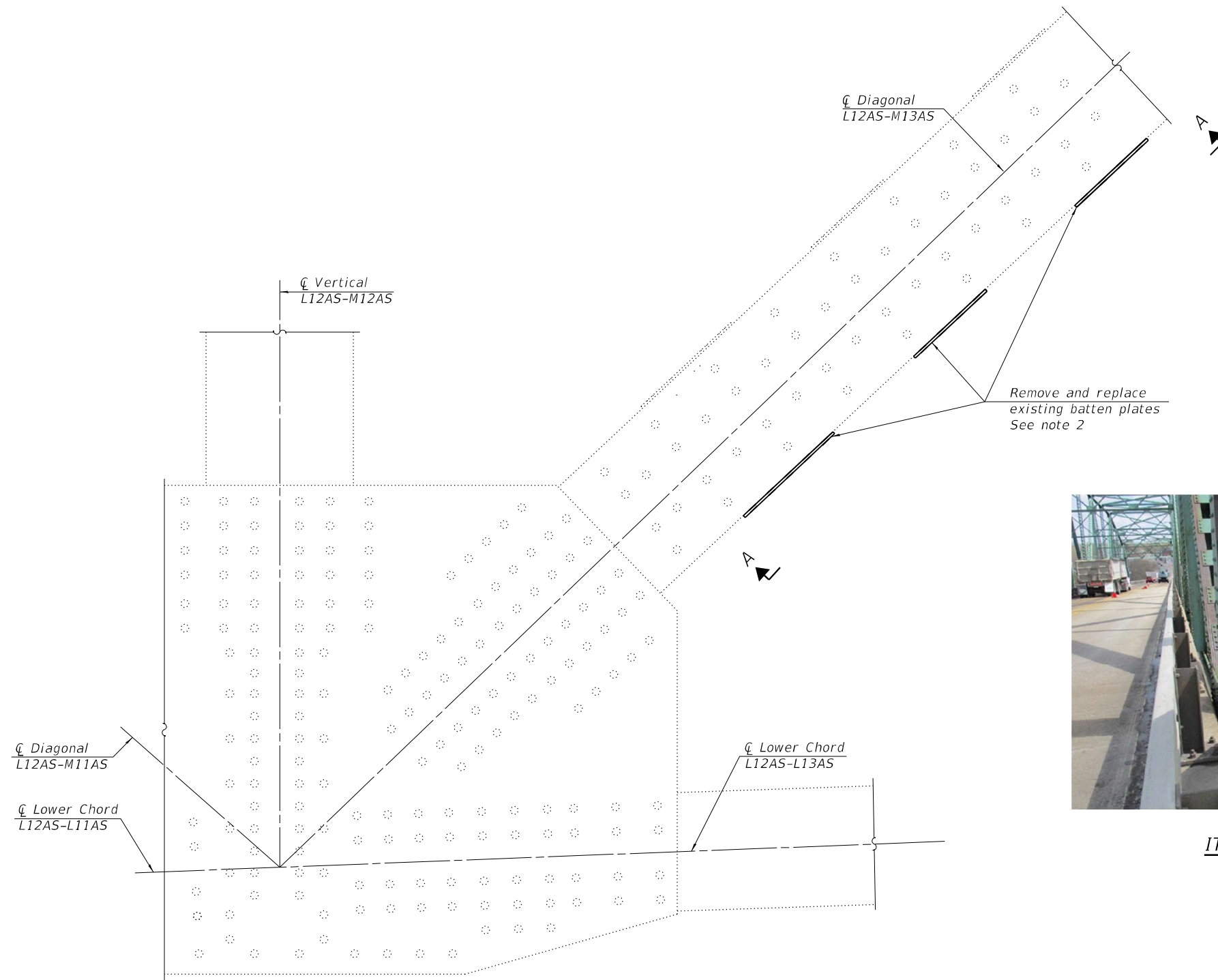
- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

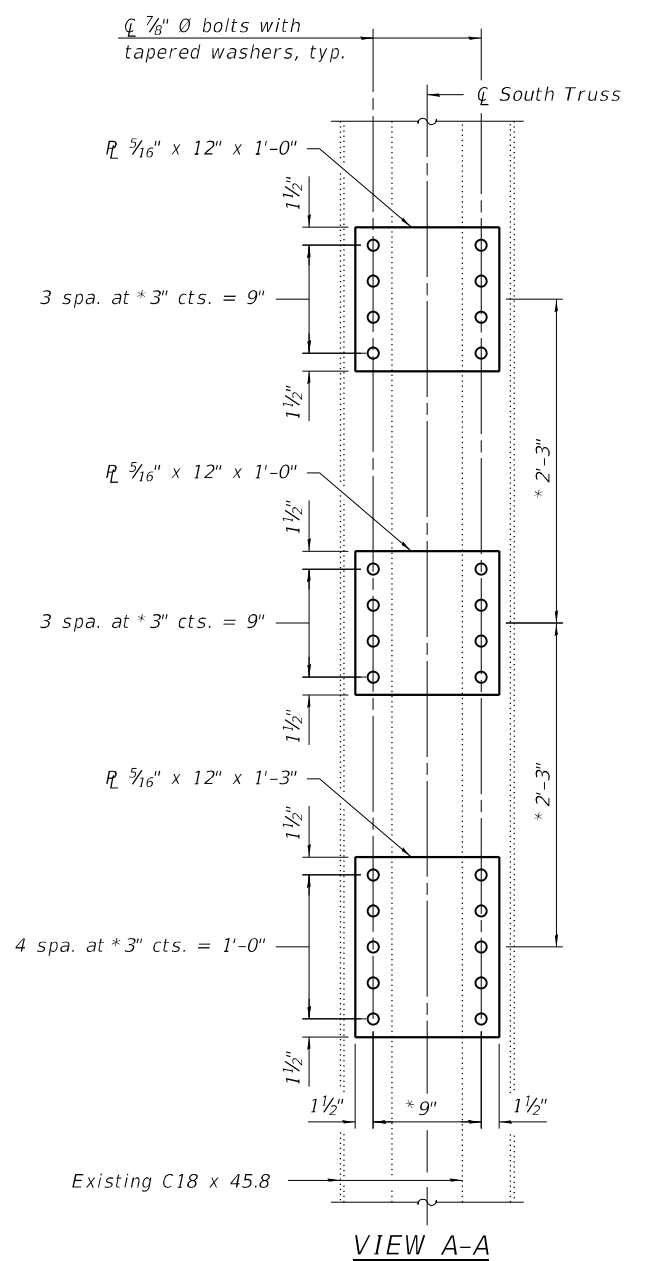
Item	Unit	Total
Structural Steel Repair	Pound	10



L12A SOUTH TRUSS - INSIDE ELEVATION (ITEM 98)
(Looking South)



ITEM 98 PHOTO



VIEW A-A

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Replace batten plates one at a time. While one batten plate is being removed and replaced, all other batten plates shall be in place and fully riveted/bolted.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	70

FILE NAME: SFILES



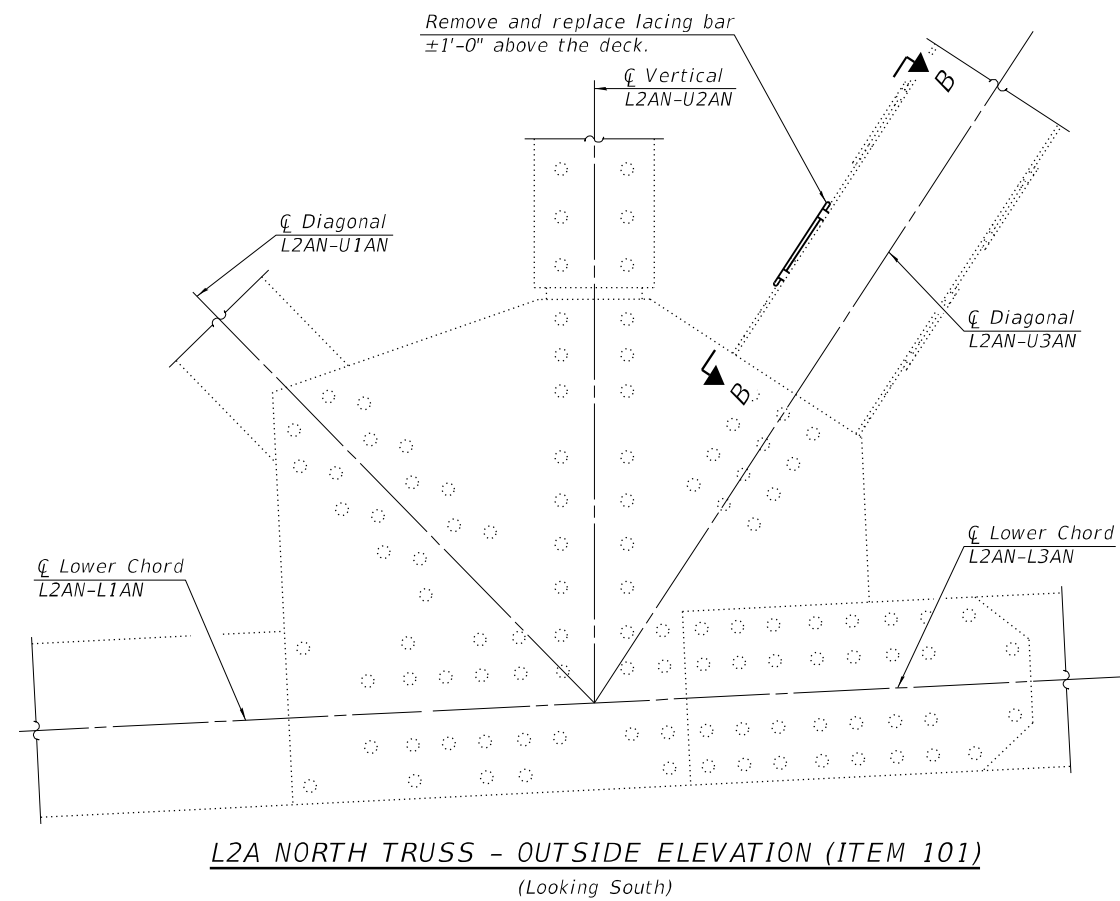
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PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

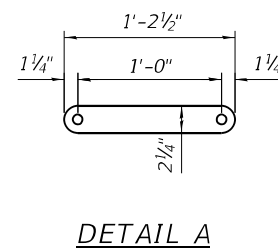
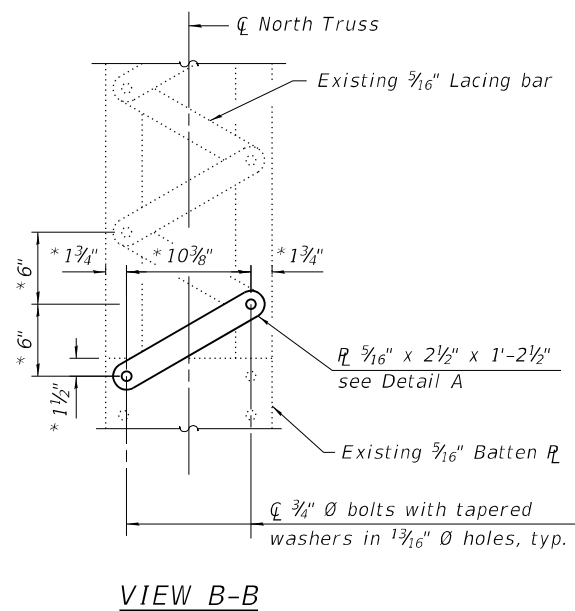
**STRUCTURAL STEEL REPAIR DETAILS (ITEM 98)
STRUCTURE NO. 062-0003**

SHEET 546 OF 597 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 76
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ITEM 101 PHOTO



DETAIL A

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2 inch and a maximum edge distance of 4 inch, and the bolts shall be spaced at 3 inch minimum to 5 1/2 inch maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	10

FILE NAME: SFILES

design firm no. 184001036



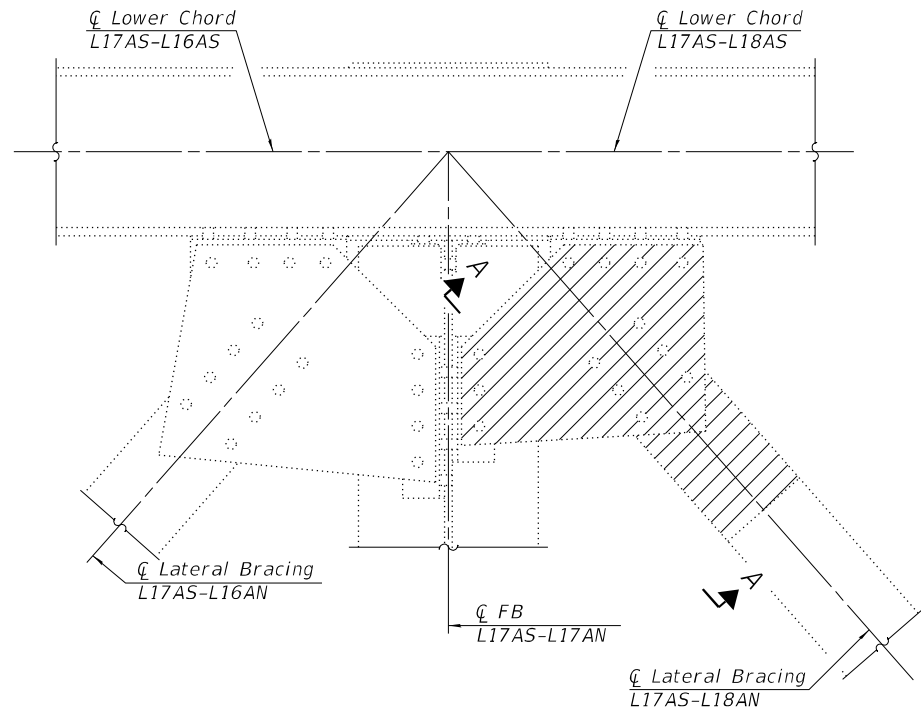
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

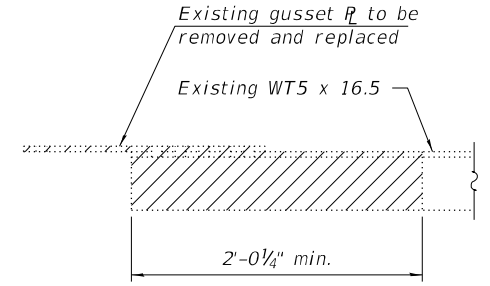
STRUCTURAL STEEL REPAIR DETAILS (ITEM 101)
STRUCTURE NO. 062-0003

SHEET 547 OF 597 SHEETS

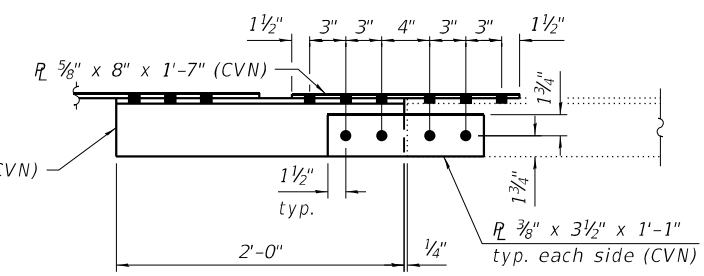
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	77
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		



L17A SOUTH TRUSS - PLAN (ITEM 106)



SECTION A-A



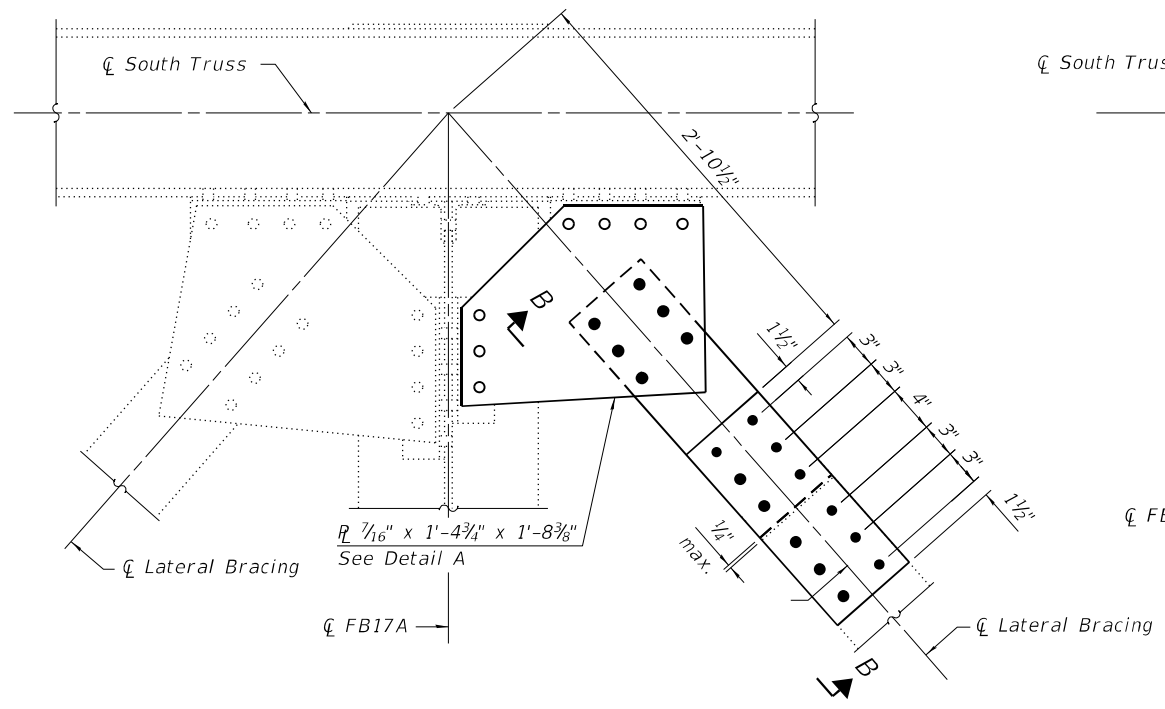
SECTION B-B



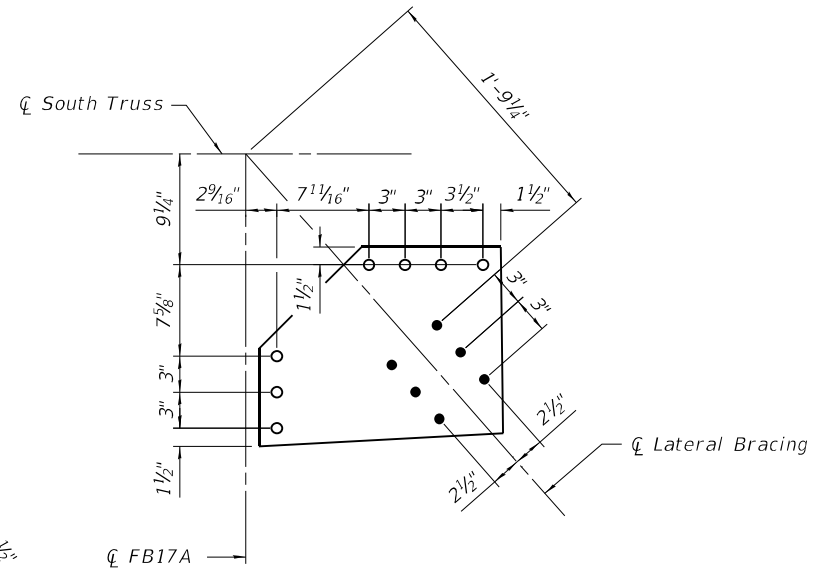
ITEM 106 PHOTO

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.
- ▨ Steel Removal (Cost included with Structural Steel Repair)



L17A SOUTH TRUSS - PLAN (ITEM 106)
(Showing Proposed)



DETAIL A

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5 1/2" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	140

FILE NAME: SFILES



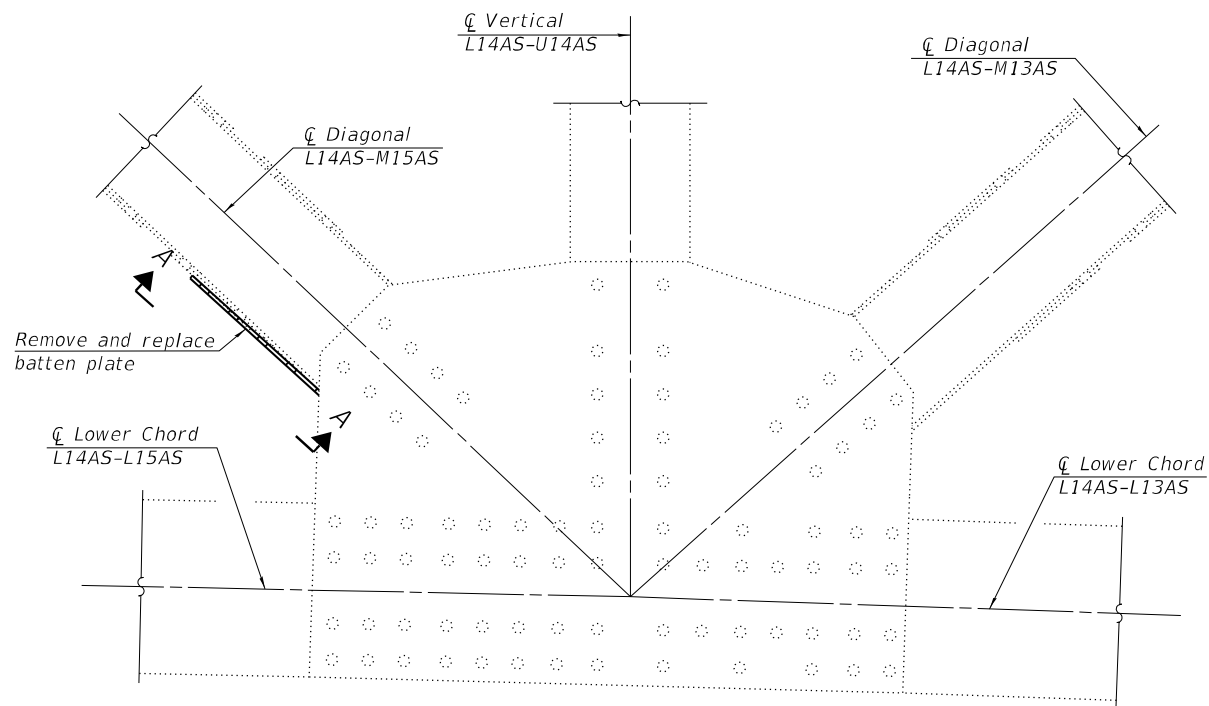
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PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

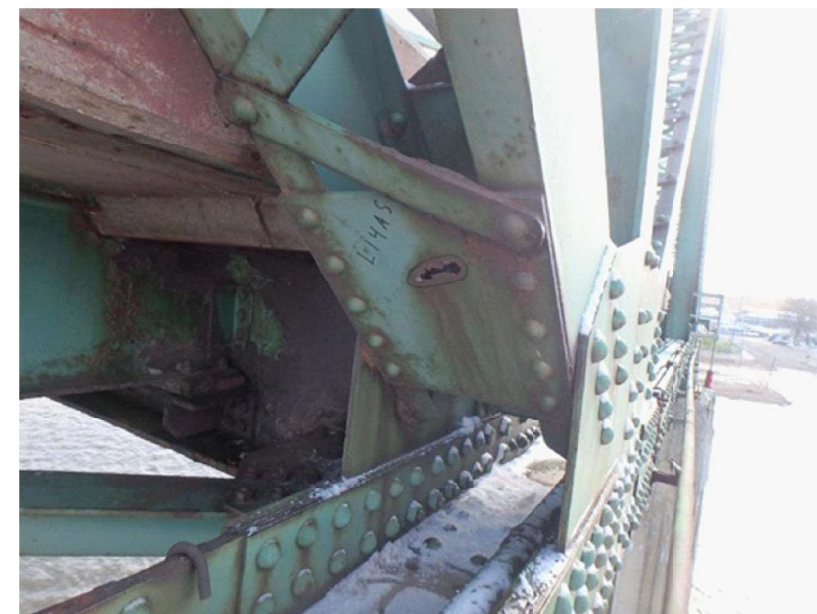
STRUCTURAL STEEL REPAIR DETAILS - (ITEM 106)
STRUCTURE NO. 062-0003

SHEET 549 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	79
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



L14A SOUTH TRUSS - OUTSIDE ELEVATION (ITEM 107)
(Looking North)



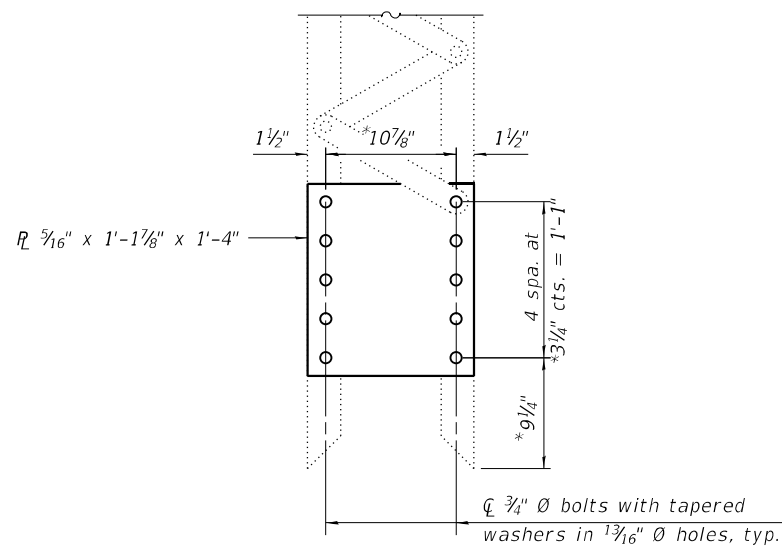
ITEM 107 PHOTO

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1½" and a maximum edge distance of 4", and the bolts shall be spaced at 3" minimum to 5½" maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.



VIEW A-A

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	30

FILE NAME: SFILES

design firm
no. 184001036



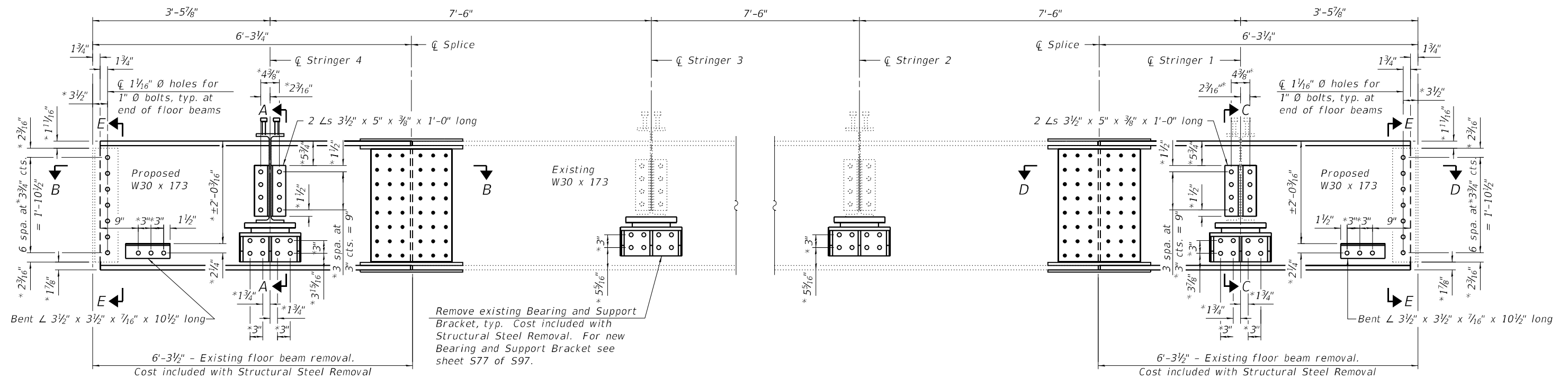
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PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS - (ITEM 107)
STRUCTURE NO. 062-0003**

SHEET 550 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	80
			CONTRACT NO. 68F08	
		ILLINOIS	FED. AID PROJECT	



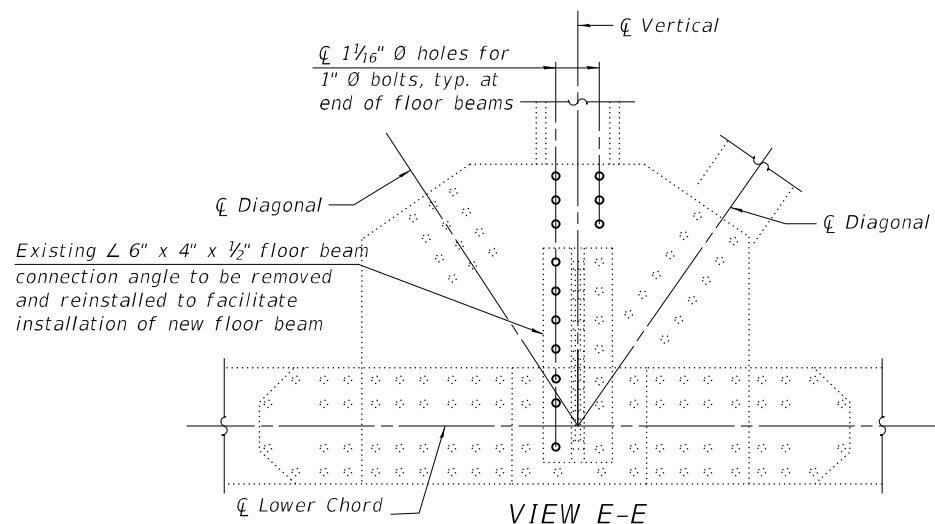
ELEVATION - FLOOR BEAM - FB4 (ITEM 92 AND 93)

(Looking West)

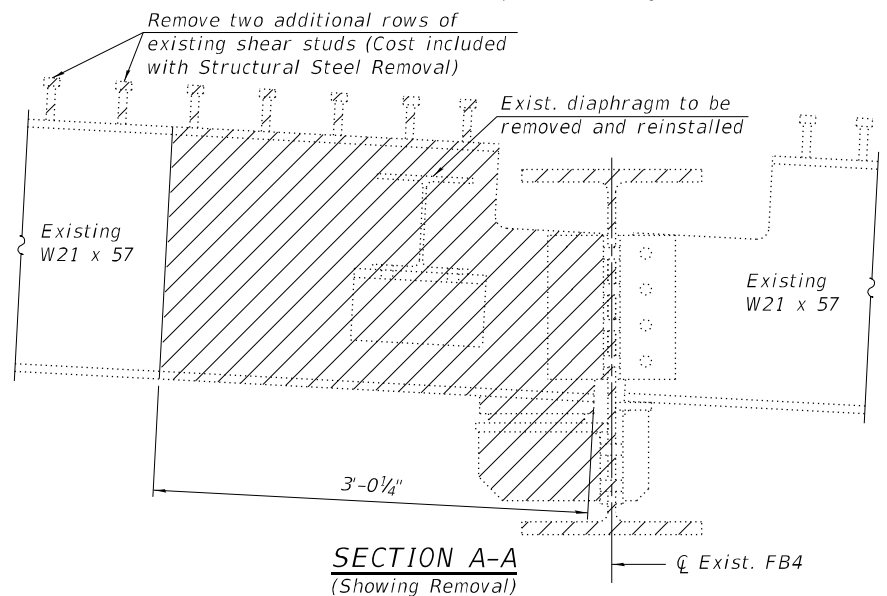
(FB4 repair addresses Item 92, Stringer 4 repair addresses Item 93.)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.
- ▨ Structural Steel Removal



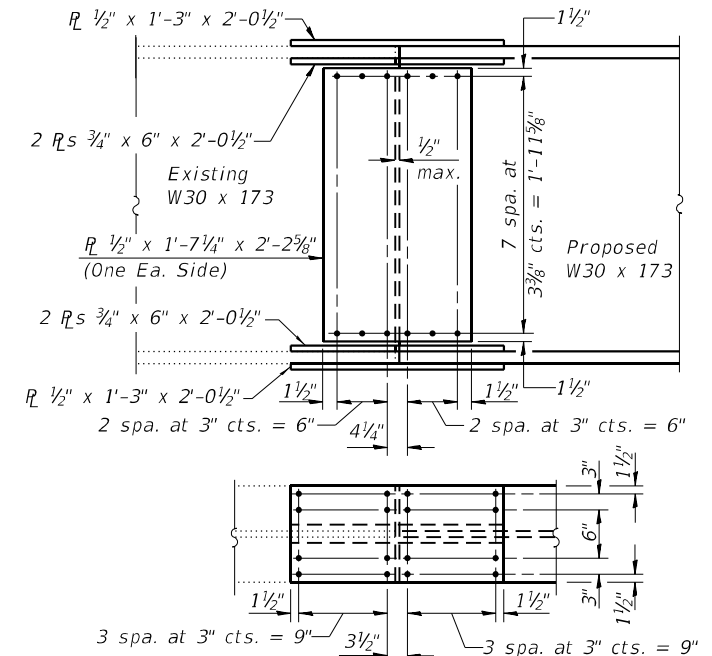
VIEW E-E
(Showing existing fasteners to be removed and replaced, see Legend.)



SECTION A-A
(Showing Removal)

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and installation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S52 of S97.



FLOOR BEAM FIELD SPLICE DETAIL

Suggested Repair Procedure:

1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View E-E.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

FILE NAME: SFILES



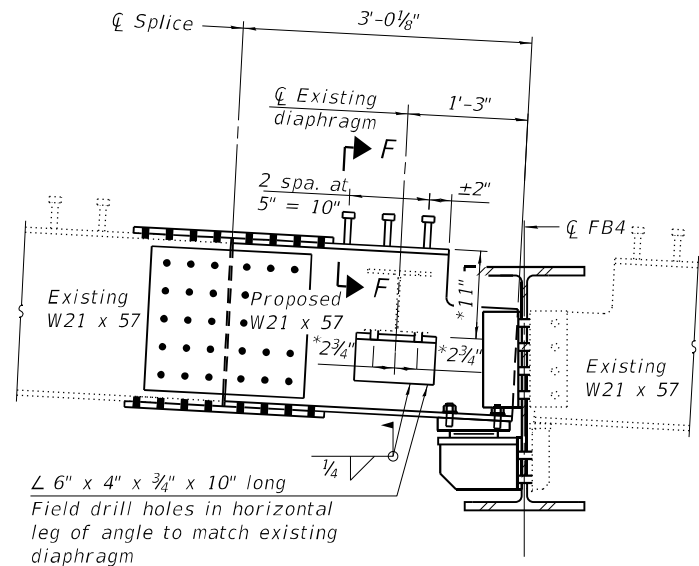
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PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

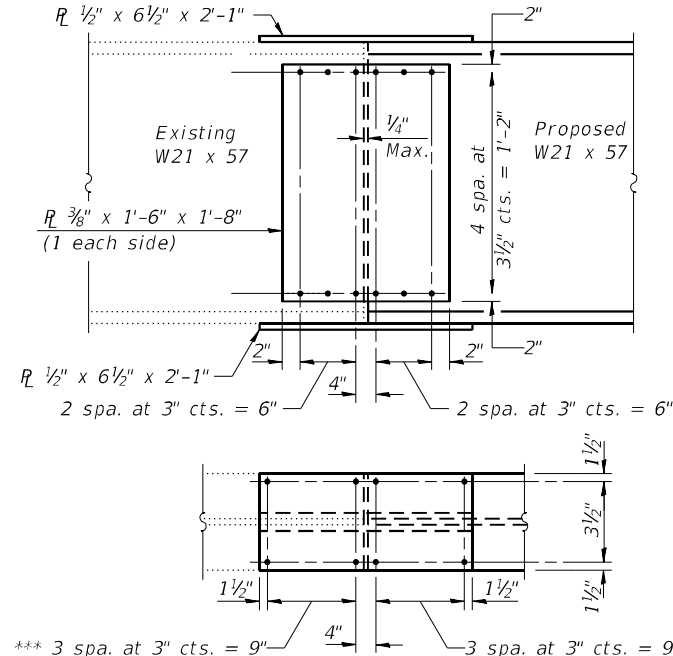
**STRUCTURAL STEEL REPAIR DETAILS - FB4 (ITEMS 92 AND 93)
STRUCTURE NO. 062-0003**

SHEET 551 OF 597 SHEETS

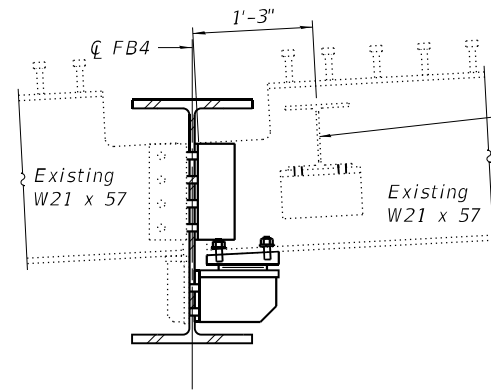
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	81
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



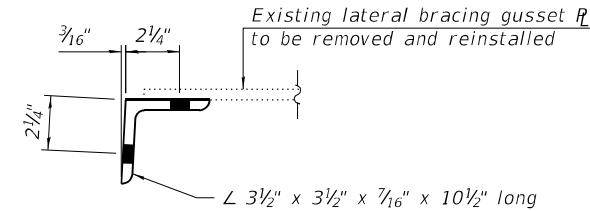
SECTION A-A



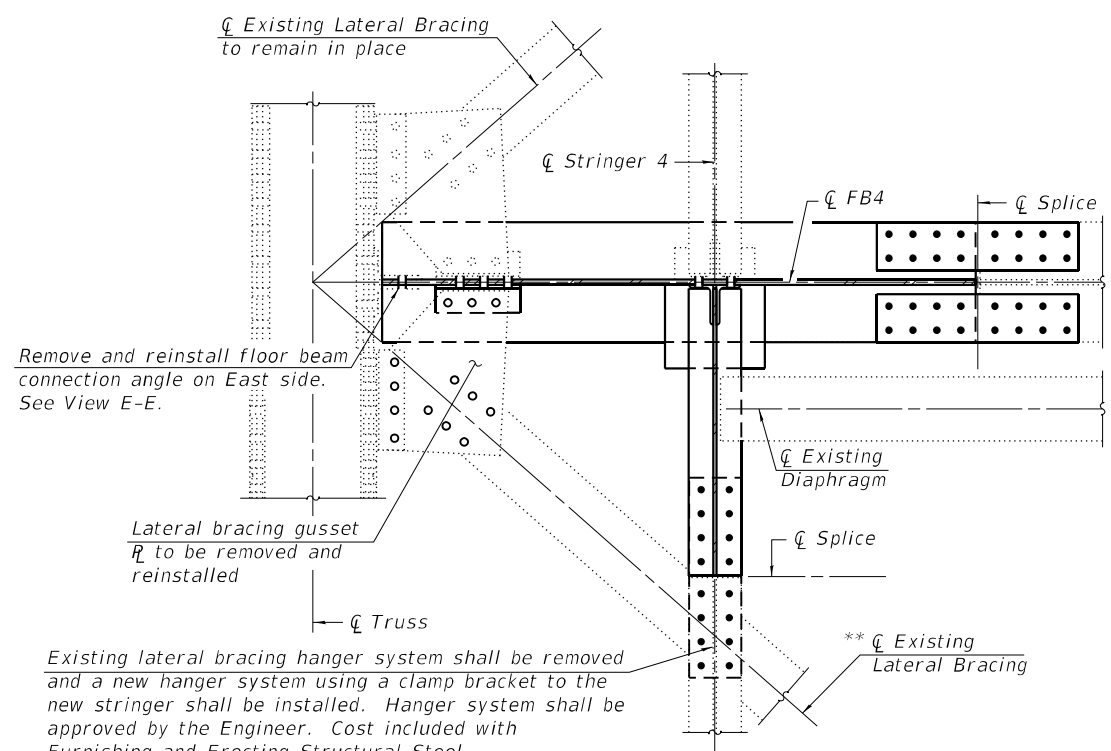
STRINGER FIELD SPLICE DETAIL



SECTION C-C

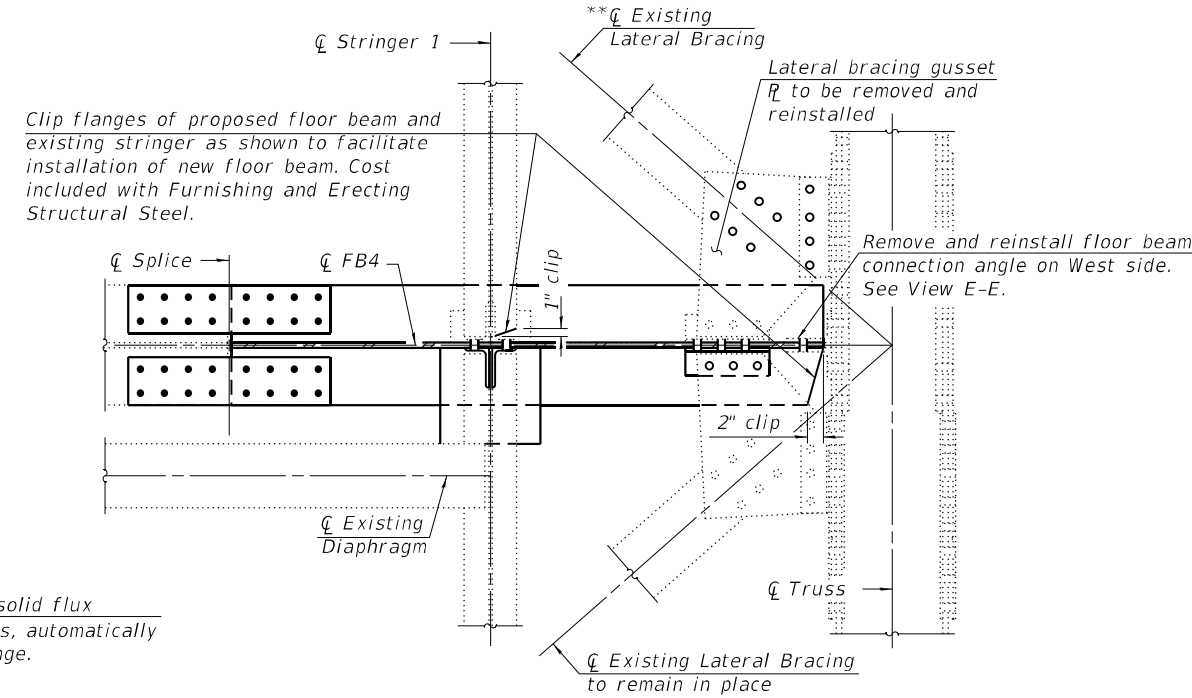


BENT ANGLE DETAIL

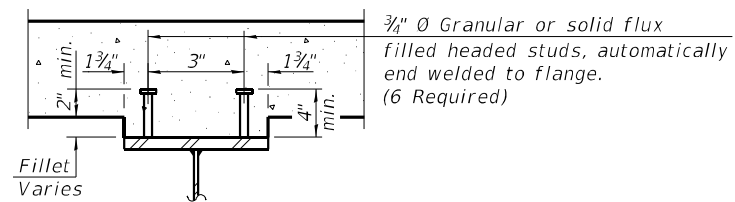


SECTION B-B

- ** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.
- *** Adjust bolt spacing as necessary in bottom flange to reuse existing holes from lateral bracing system. Field verify locations.



SECTION D-D



SECTION F-F

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	6
Structural Steel Removal	Pounds	2,840
Furnishing and Erecting Structural Steel	Pounds	4,083

Note:
Work this sheet with sheet S51 of S97.

(Sheet 2 of 2)



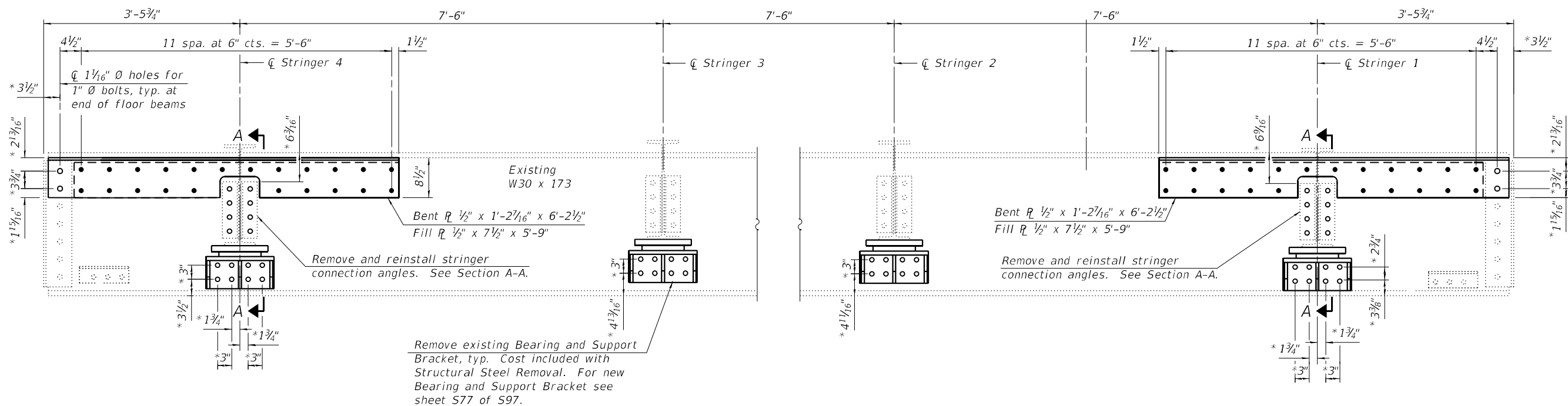
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CHECKED - BRD, JLM, GEM	REVISIONS -	
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS - FB4 (ITEMS 92 AND 93)
STRUCTURE NO. 062-0003**

SHEET S52 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	82
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION - FLOOR BEAM - FB7 (ITEM 92)
(Looking West)

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. Bent and fill plates for floor beam repair shall be paid for as Structural Steel Repair.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing steel components to facilitate adjacent work will not be measured for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S54 of S97.

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Suggested Repair Procedure:

1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
2. Install Temporary Shoring and Cribbing.
3. Perform Structural Steel Removal as noted.
4. Perform floor beam repairs and install new bearings and support brackets as noted.
5. Reinstall stringer connection angles.
6. Remove Temporary Shoring and Cribbing system.
7. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

FILE NAME: SFILES

design firm
no. 184001036



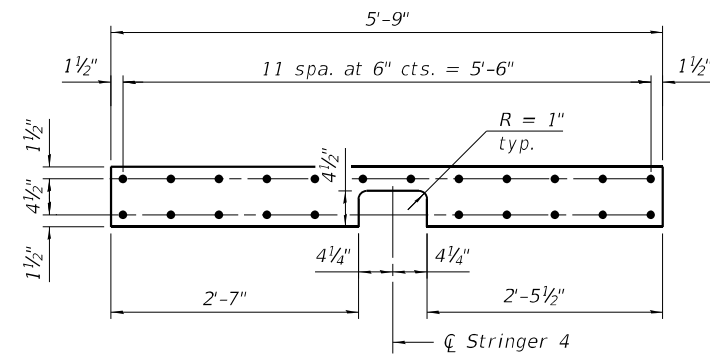
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	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

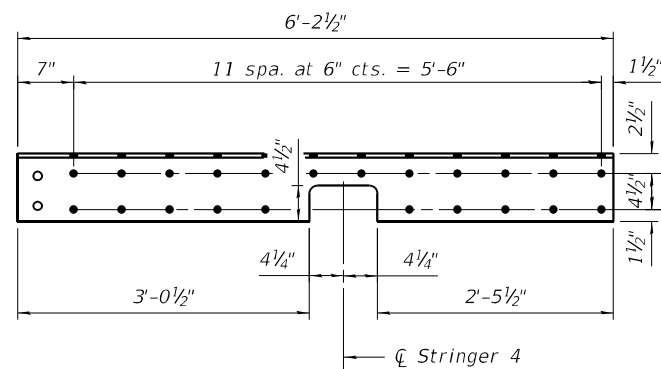
**STRUCTURAL STEEL REPAIR DETAILS - FB7 (ITEM 92)
STRUCTURE NO. 062-0003**

SHEET 553 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	83
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



1/2" FILL R_L DETAIL

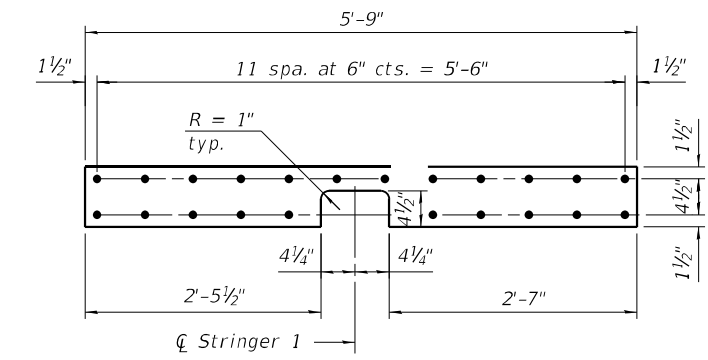
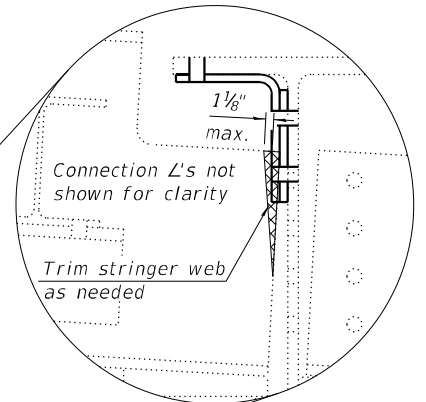
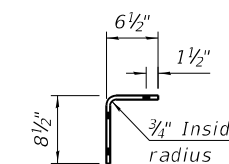
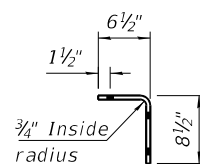


1/2" BENT R_L DETAIL

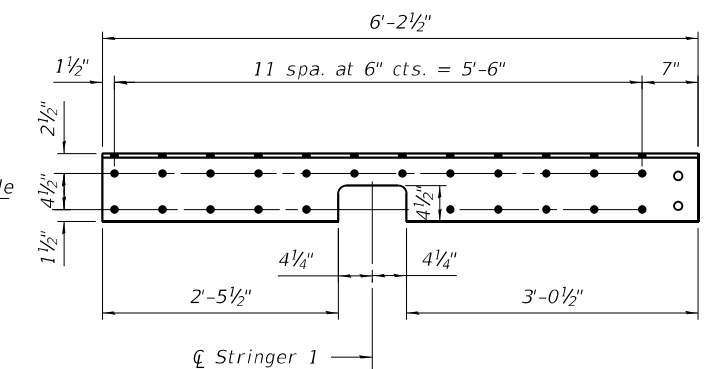
To facilitate installation of repair plates, remove stringer connection angles, trim stringer web as needed, and reinstall connection angles. Cost included with Temporary Shoring and Cribbing.

Exist. diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.

SECTION A-A



1/2" FILL R_L DETAIL



1/2" BENT R_L DETAIL

LEGEND

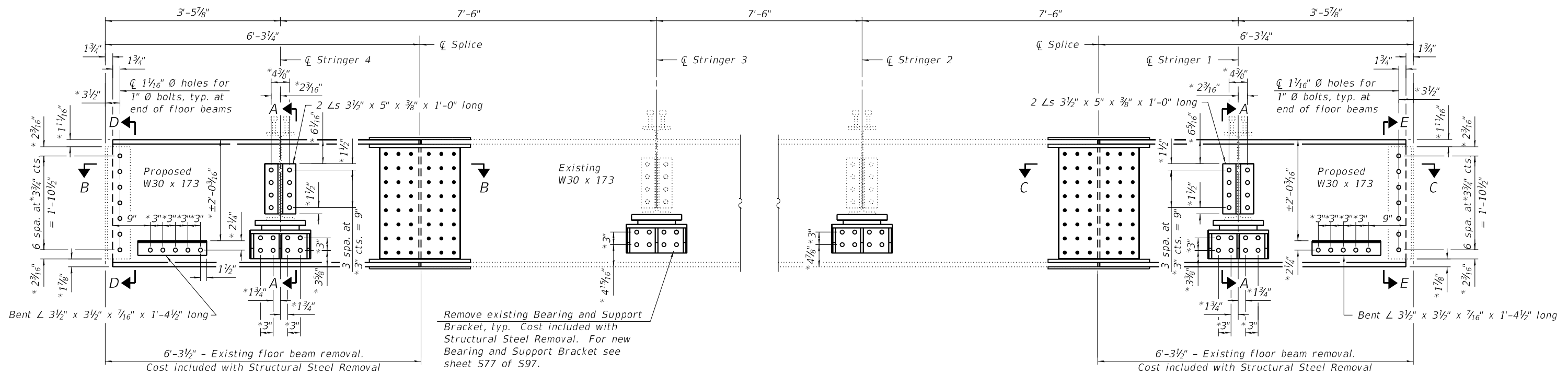
- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

BILL OF MATERIAL

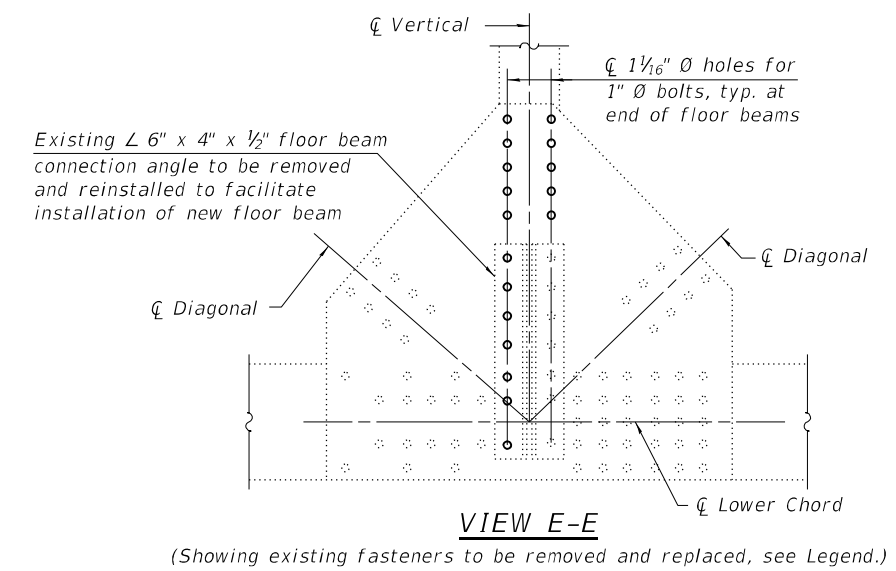
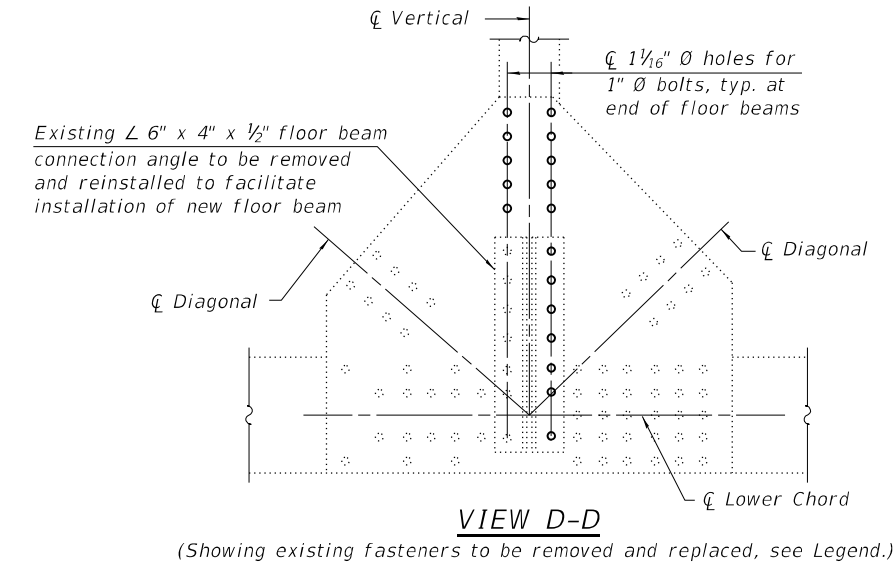
Item	Unit	Total
Structural Steel Removal	Pounds	420
Furnishing and Erecting Structural Steel	Pounds	393
Structural Steel Repair	Pounds	540

Note:
Work this sheet with sheet S53 of S97.

(Sheet 2 of 2)

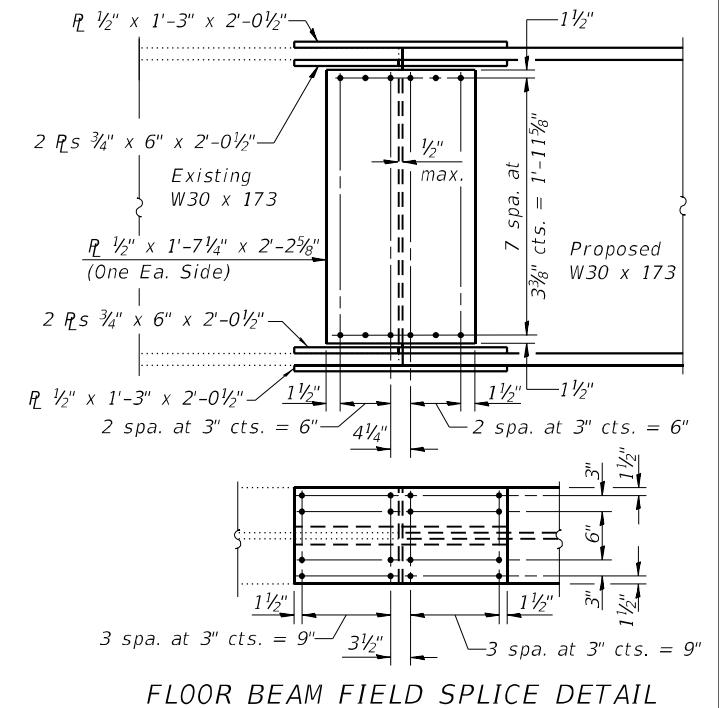


ELEVATION - FLOOR BEAM - FB10 (ITEM 92)
(Looking West)



- LEGEND**
- Existing fastener to remain
 - New bolt in new hole (shop or field drill)
 - Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

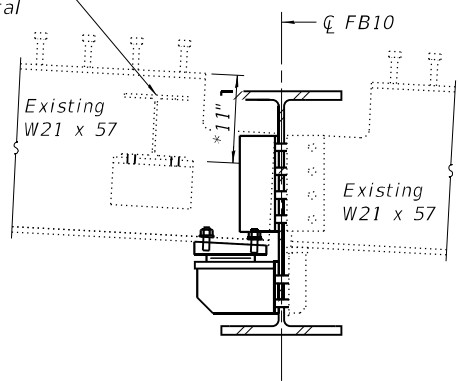
- Notes:
1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
 2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
 3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
 4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
 5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
 6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
 7. Work this sheet with sheet S56 of S97.



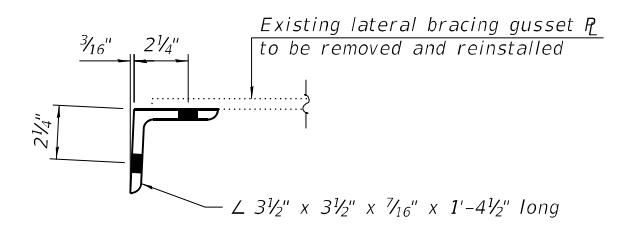
- Suggested Repair Procedure:
1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
 2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View D-D.
 3. Install Temporary Shoring and Cribbing.
 4. Perform Structural Steel Removal as noted.
 5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
 6. Reinstall lateral bracing gusset plates and floor beam connection angles.
 7. Remove Temporary Shoring and Cribbing system.
 8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

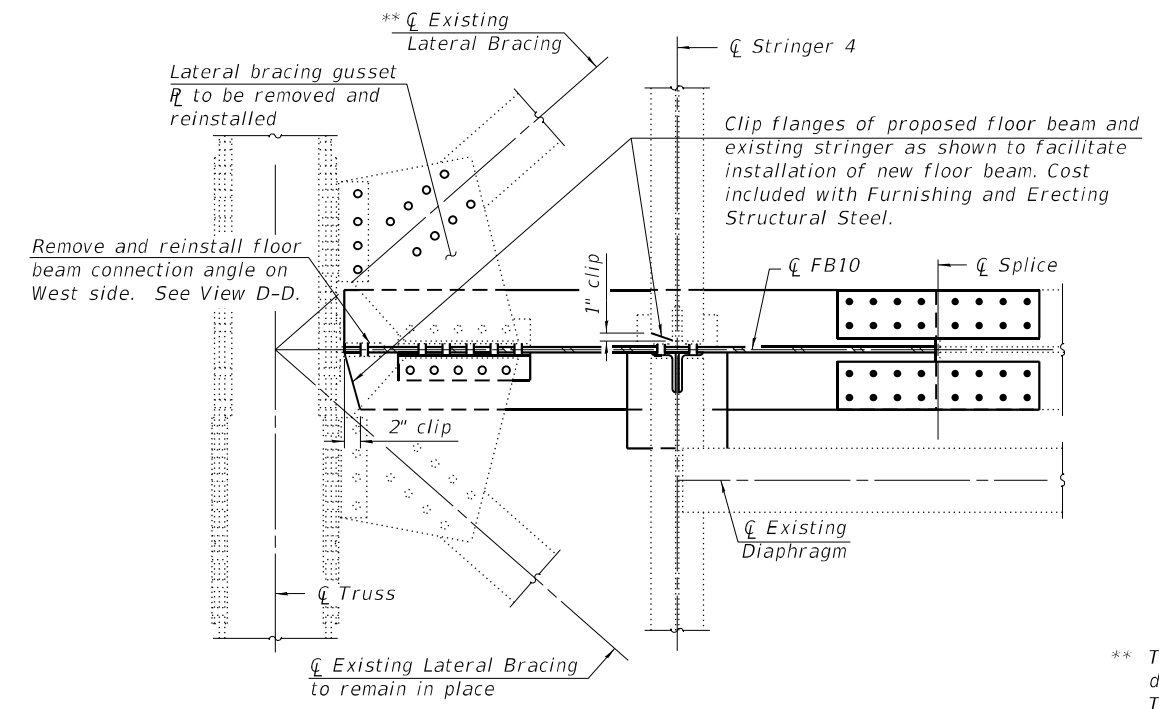
Existing diaphragm to be removed and reinstalled.
Cost included with Structural Steel Removal.



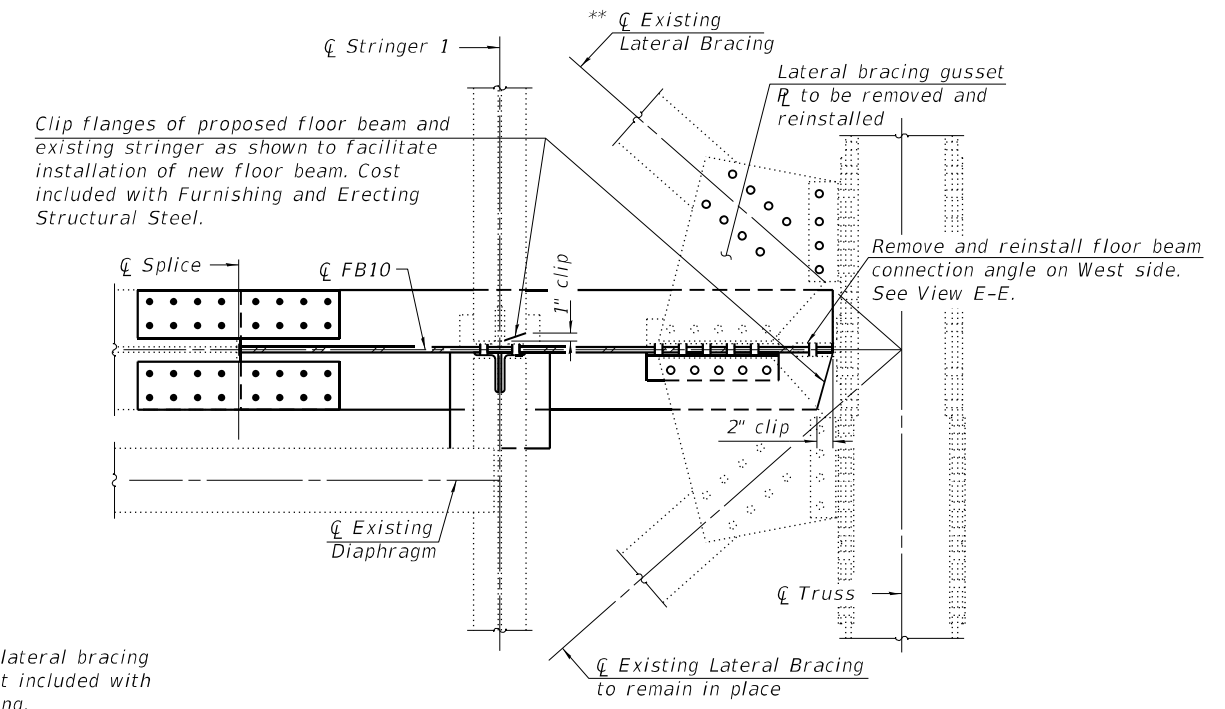
SECTION A-A



BENT ANGLE DETAIL



SECTION B-B



SECTION C-C

** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pounds	2,660
Furnishing and Erecting Structural Steel	Pounds	3,717

Note:
Work this sheet with sheet S55 of S97.

(Sheet 2 of 2)

FILE NAME: SFILES



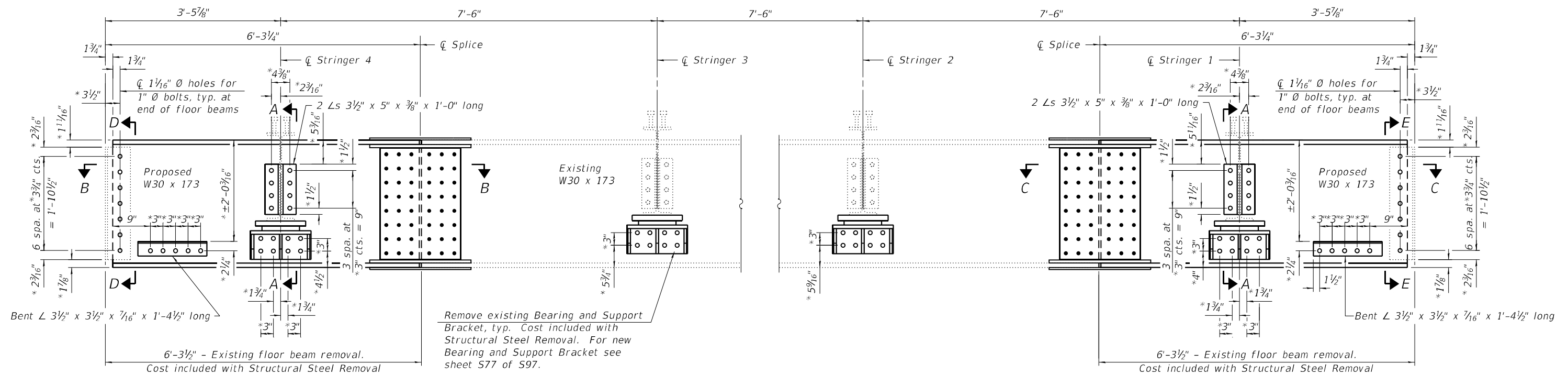
USER NAME = \$USERS	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

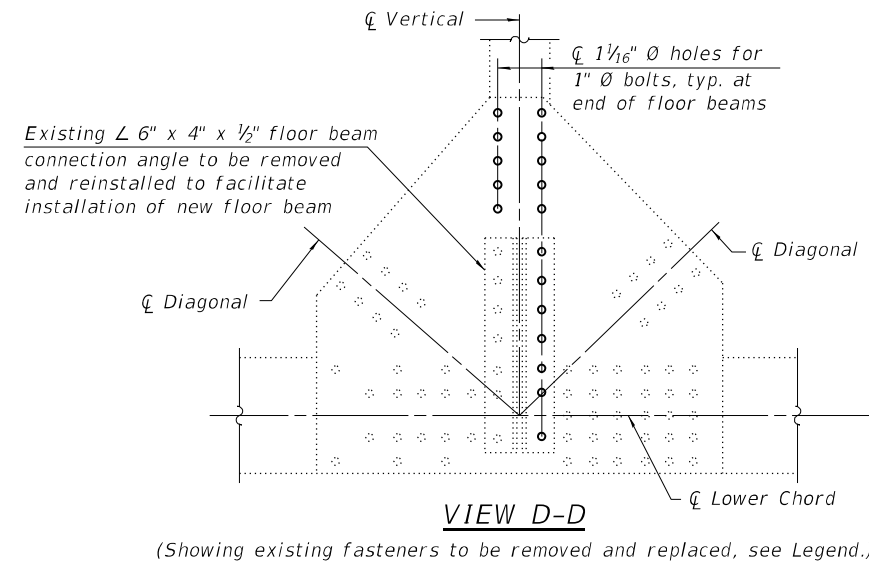
STRUCTURAL STEEL REPAIR DETAILS - FB10 (ITEM 92)
STRUCTURE NO. 062-0003

SHEET 556 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	86
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

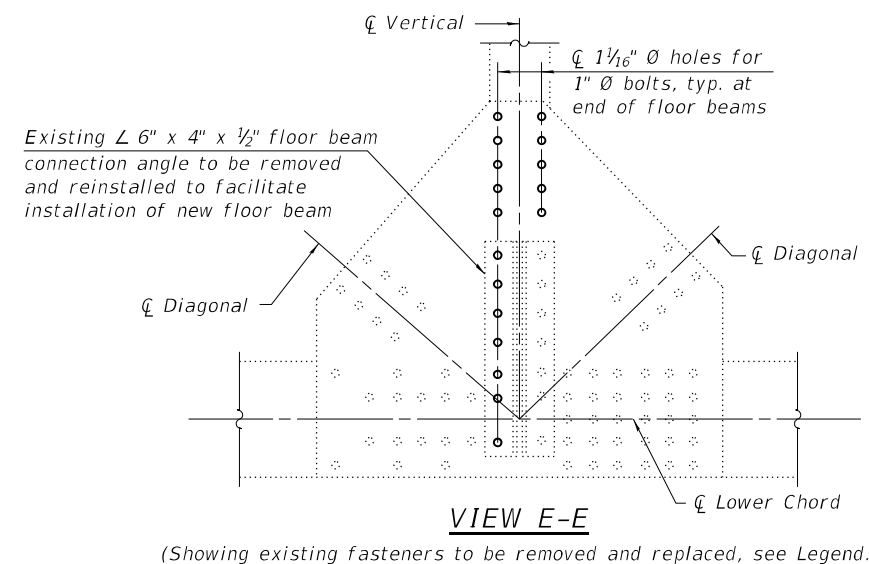


ELEVATION - FLOOR BEAM - FB14 (ITEM 92)
(Looking West)



VIEW D-D

(Showing existing fasteners to be removed and replaced, see Legend.)



VIEW E-E

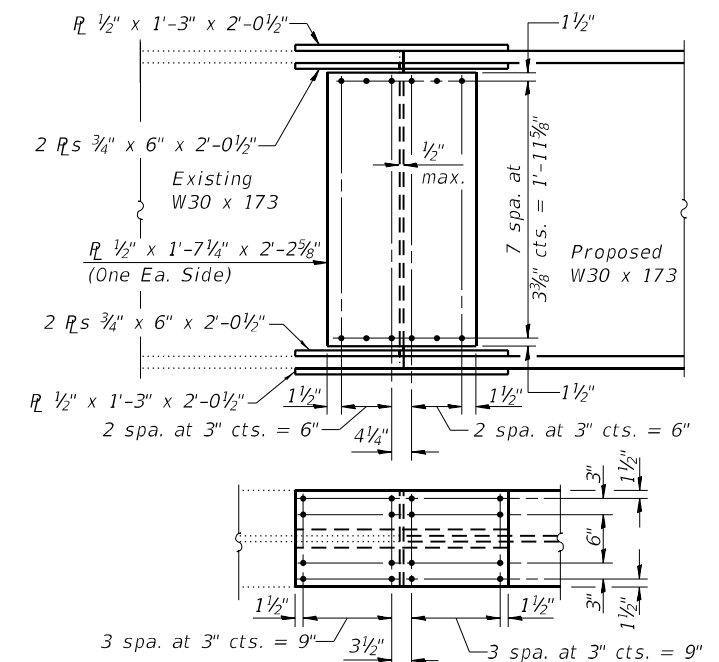
(Showing existing fasteners to be removed and replaced, see Legend.)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S58 of S97.



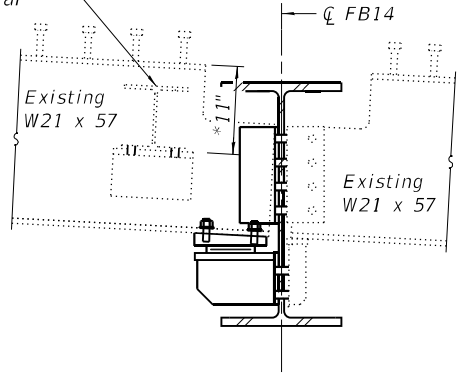
FLOOR BEAM FIELD SPLICE DETAIL

Suggested Repair Procedure:

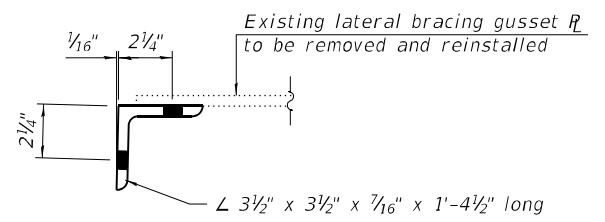
1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View D-D.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

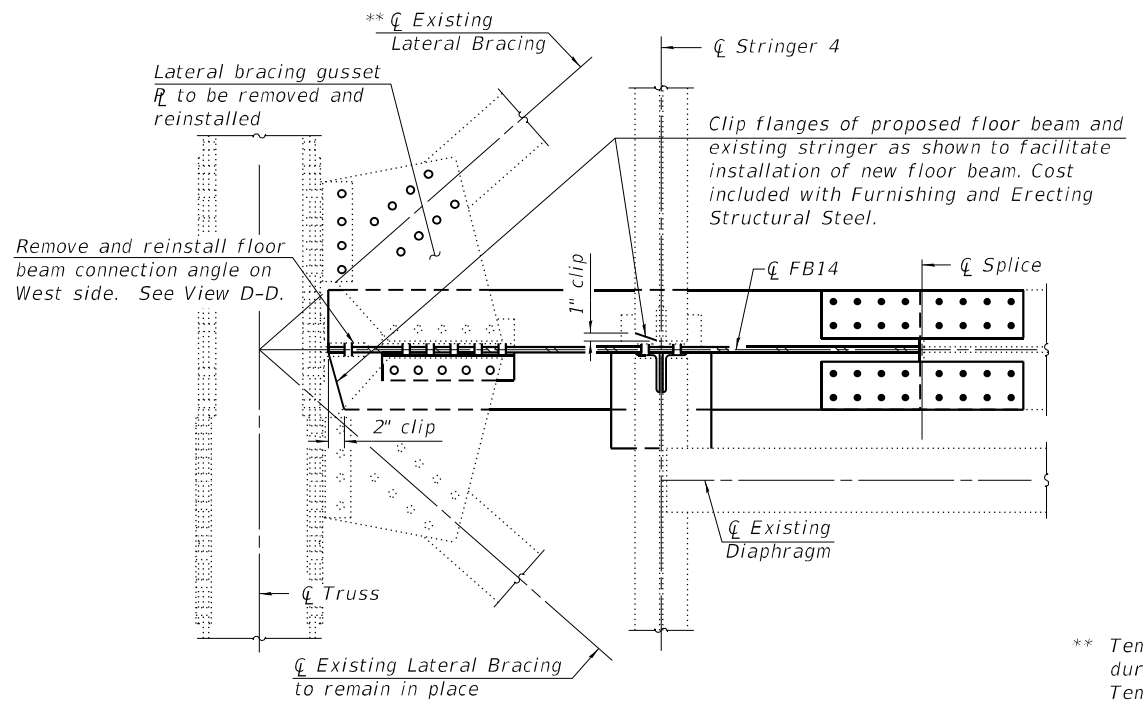
Existing diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.



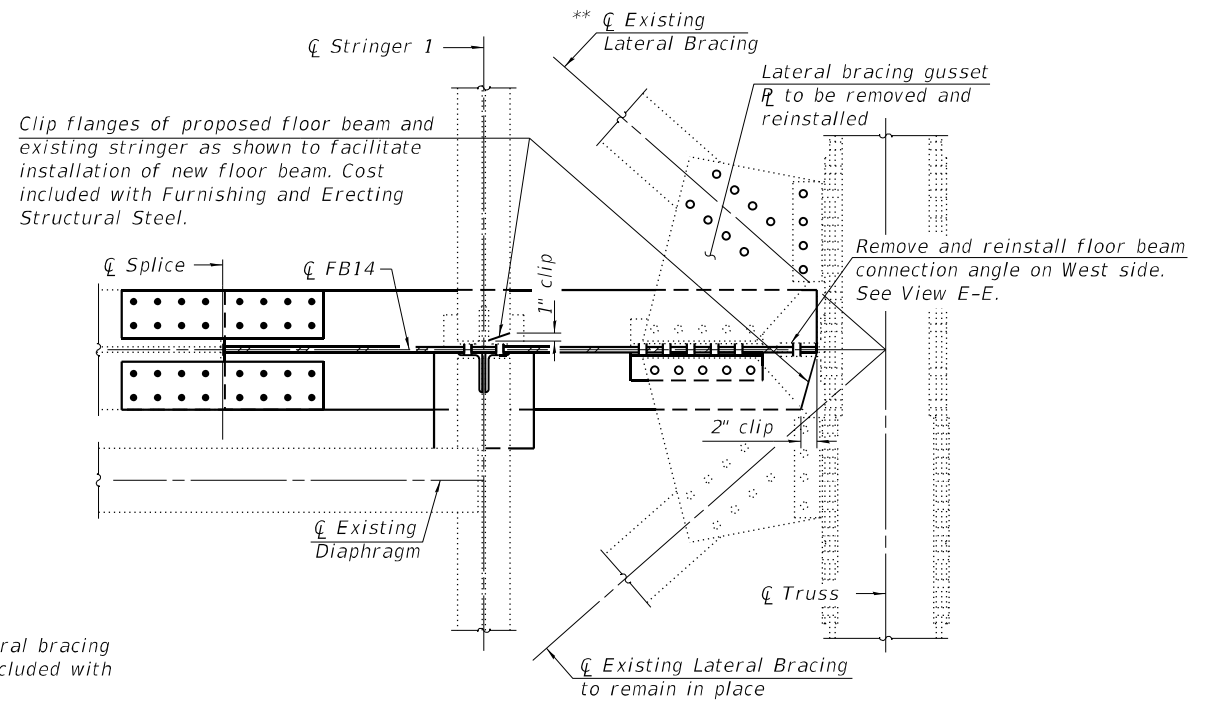
SECTION A-A



BENT ANGLE DETAIL



SECTION B-B



SECTION C-C

** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pounds	2,660
Furnishing and Erecting Structural Steel	Pounds	3,717

Note:
Work this sheet with sheet S57 of S97.

(Sheet 2 of 2)



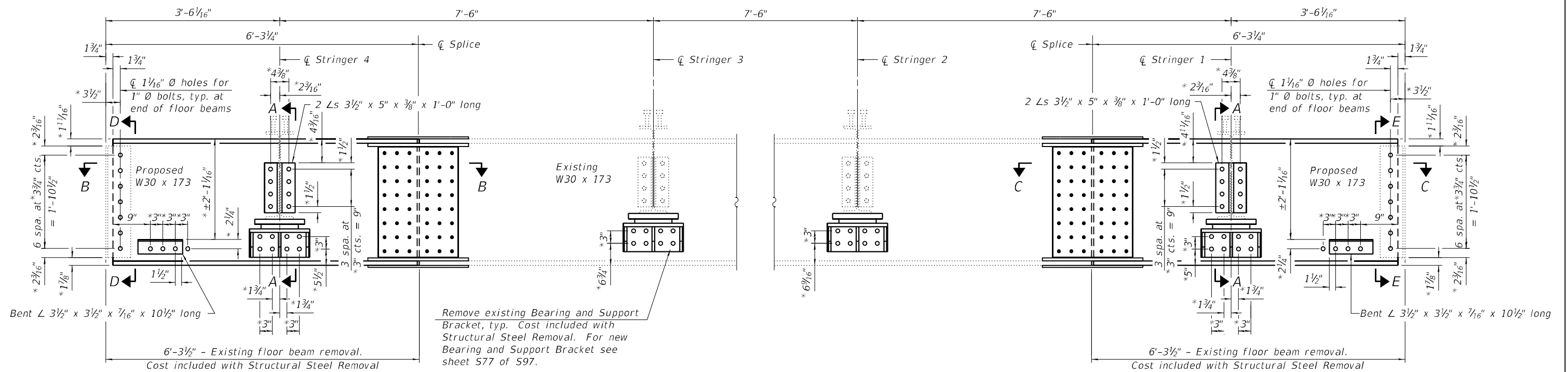
USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

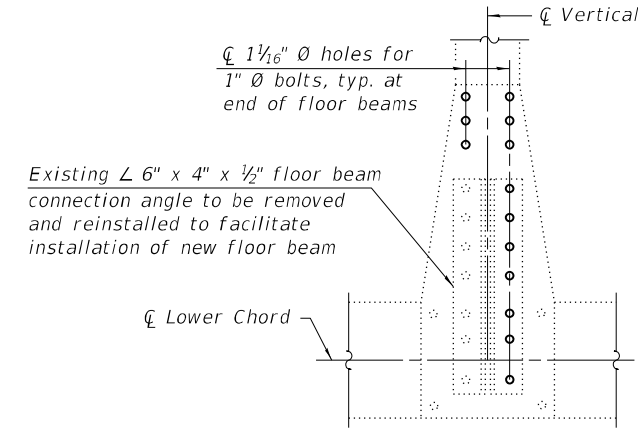
STRUCTURAL STEEL REPAIR DETAILS - FB14 (ITEM 92)
STRUCTURE NO. 062-0003

SHEET 558 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	88
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

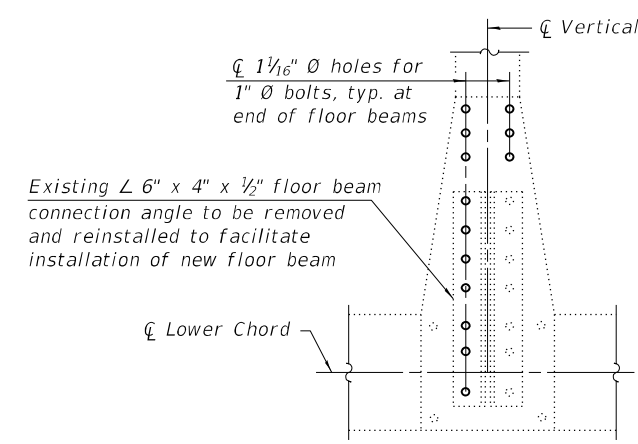


ELEVATION - FLOOR BEAM - FB17 (ITEM 92)
(Looking West)



VIEW D-D

(Showing existing fasteners to be removed and replaced, see Legend.)



VIEW E-E

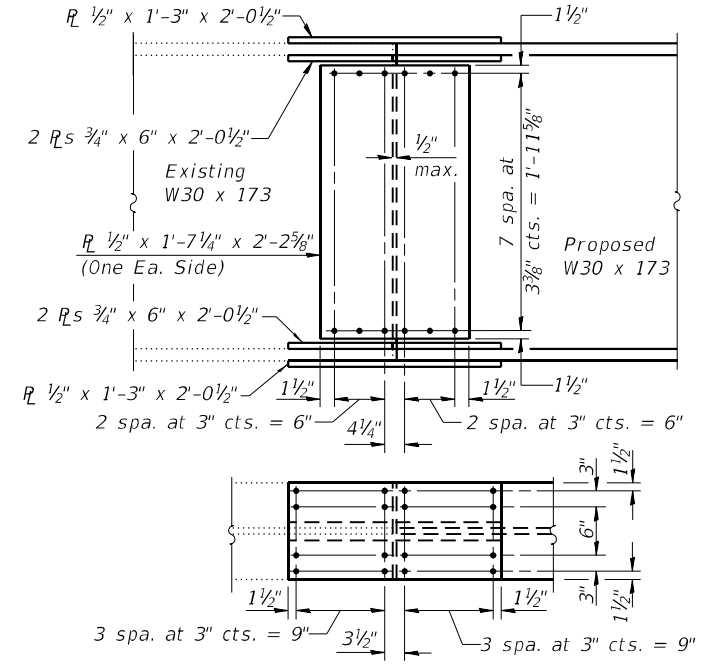
(Showing existing fasteners to be removed and replaced, see Legend.)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S60 of S97.



FLOOR BEAM FIELD SPLICE DETAIL

Suggested Repair Procedure:

1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View D-D.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

FILE NAME: SFILES



USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

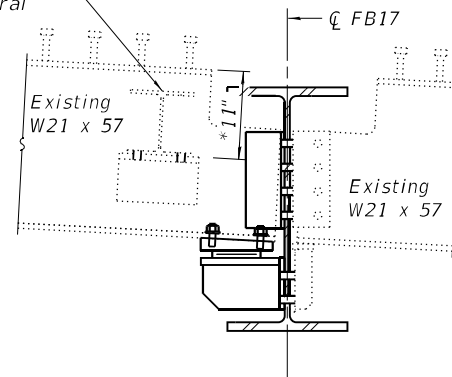
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS - FB17 (ITEM 92)
STRUCTURE NO. 062-0003

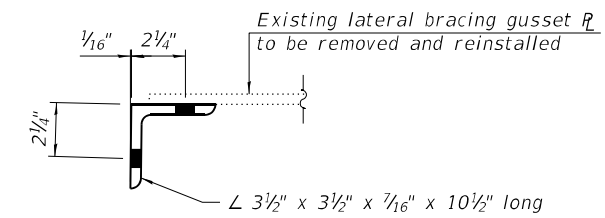
SHEET 559 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	89
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

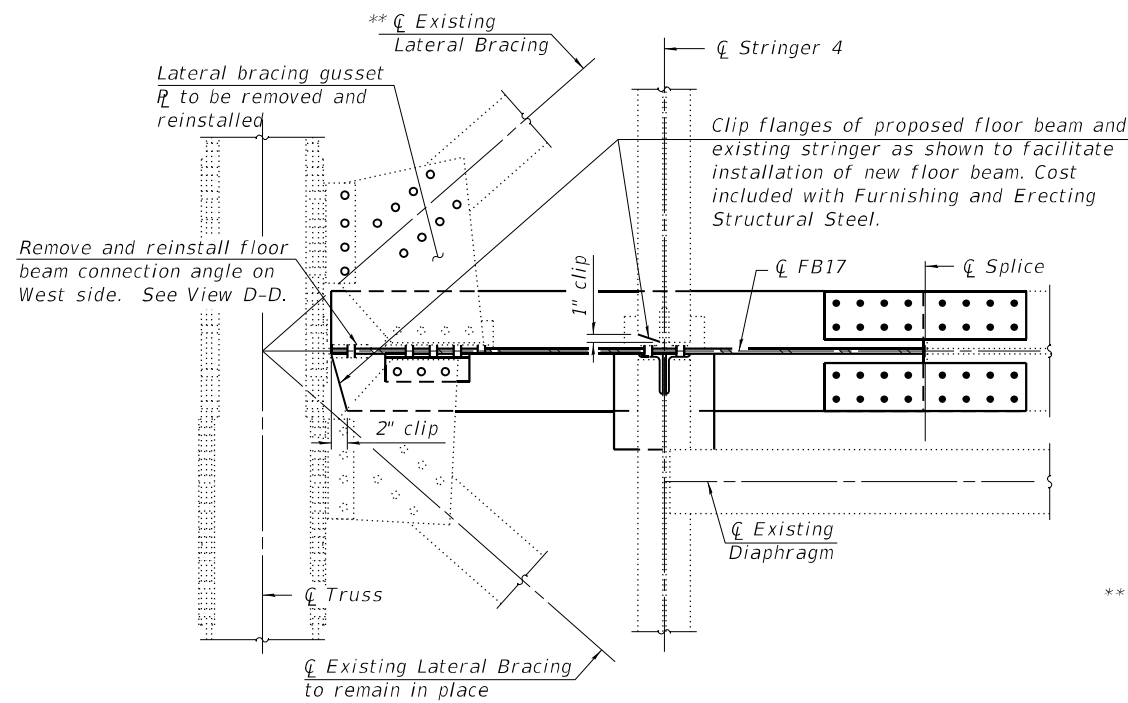
Existing diaphragm to be removed and reinstalled.
Cost included with Structural Steel Removal.



SECTION A-A

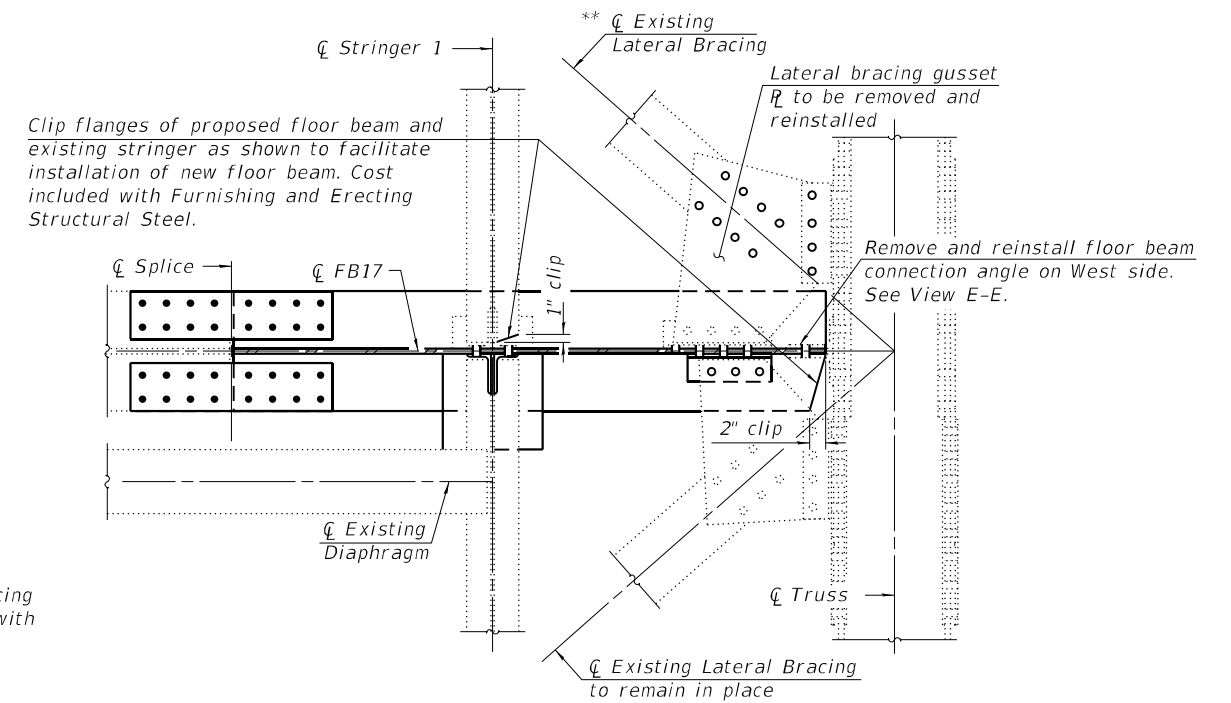


BENT ANGLE DETAIL



SECTION B-B

Clip flanges of proposed floor beam and existing stringer as shown to facilitate installation of new floor beam. Cost included with Furnishing and Erecting Structural Steel.



SECTION C-C

Clip flanges of proposed floor beam and existing stringer as shown to facilitate installation of new floor beam. Cost included with Furnishing and Erecting Structural Steel.

** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

BILL OF MATERIAL

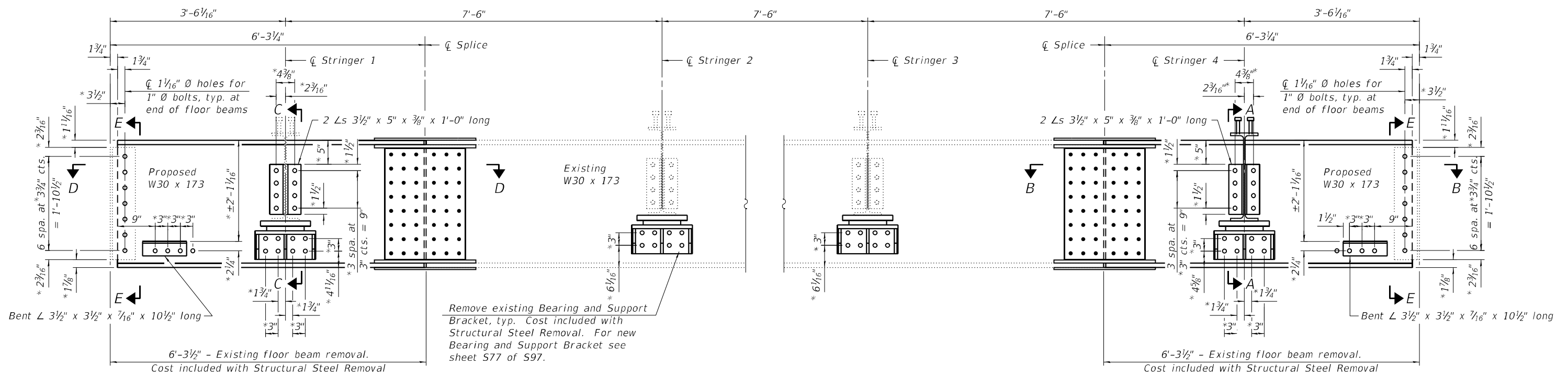
Item	Unit	Total
Structural Steel Removal	Pounds	2,660
Furnishing and Erecting Structural Steel	Pounds	3,710

Note:
Work this sheet with sheet S59 of S97.

(Sheet 2 of 2)

USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIMES\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	90
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION - FLOOR BEAM - FB17A (ITEM 92 AND 97)

(Looking East)

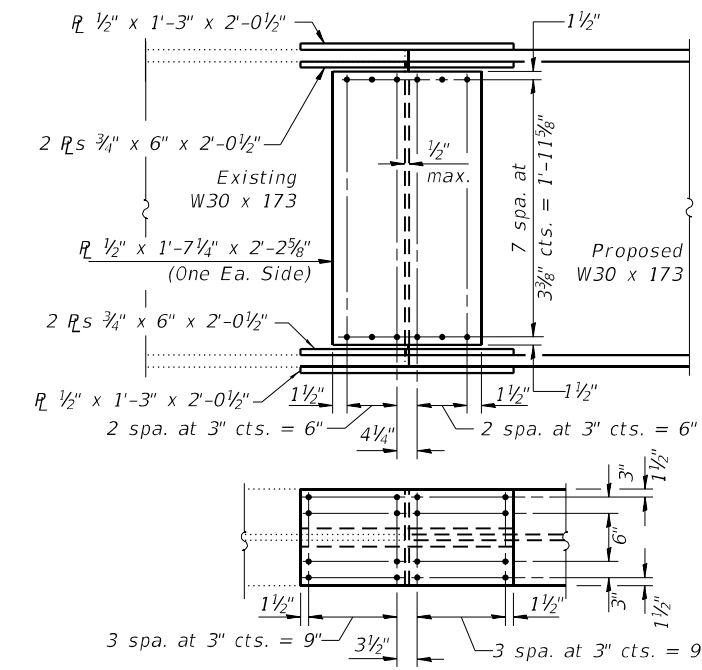
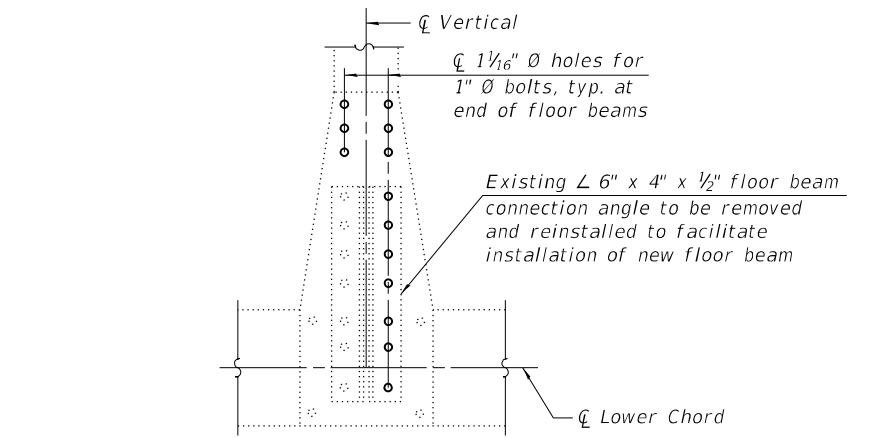
(FB17A repair addresses Item 92, Stringer 4 repair addresses Item 97.)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.
- ▨ Structural Steel Removal

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S62 of S97.



Suggested Repair Procedure:

1. Remove deck at the floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View E-E.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

FILE NAME: SFILES



design firm no. 184001036	USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
	PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
	PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
		CHECKED - SDS, BRD, JLM, GEM	REVISED -

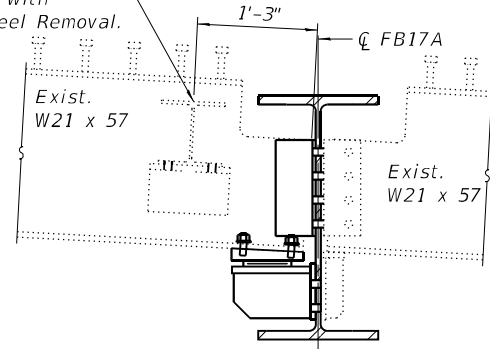
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL REPAIR DETAILS - FB17A (ITEMS 92 AND 97)
STRUCTURE NO. 062-0003**

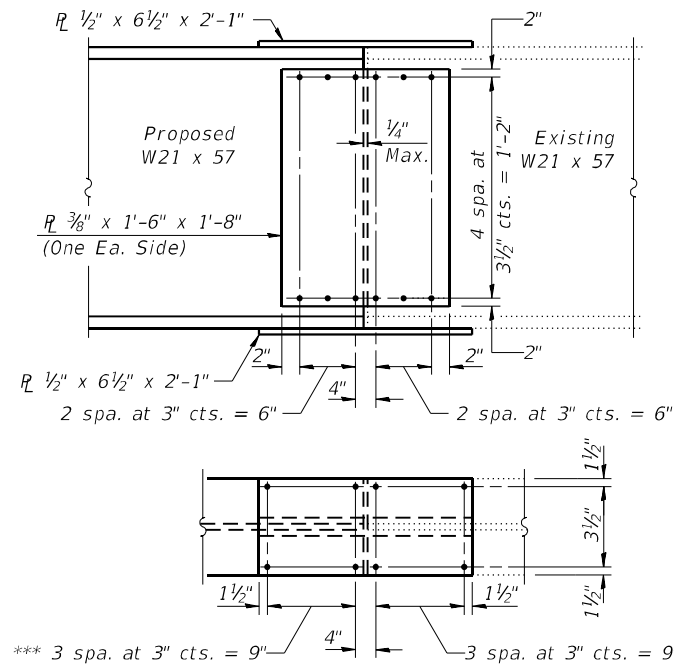
SHEET S61 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	91
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

Existing diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.



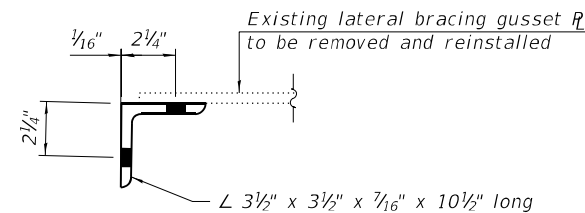
SECTION C-C



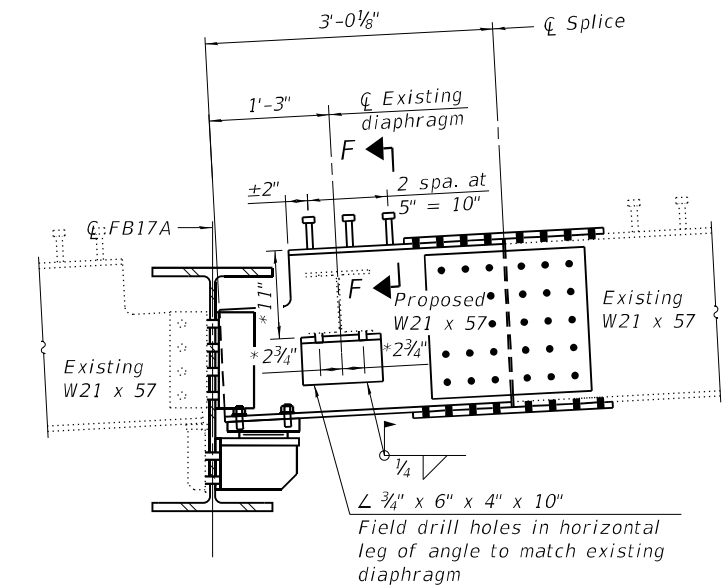
STRINGER FIELD SPLICE DETAIL

LEGEND

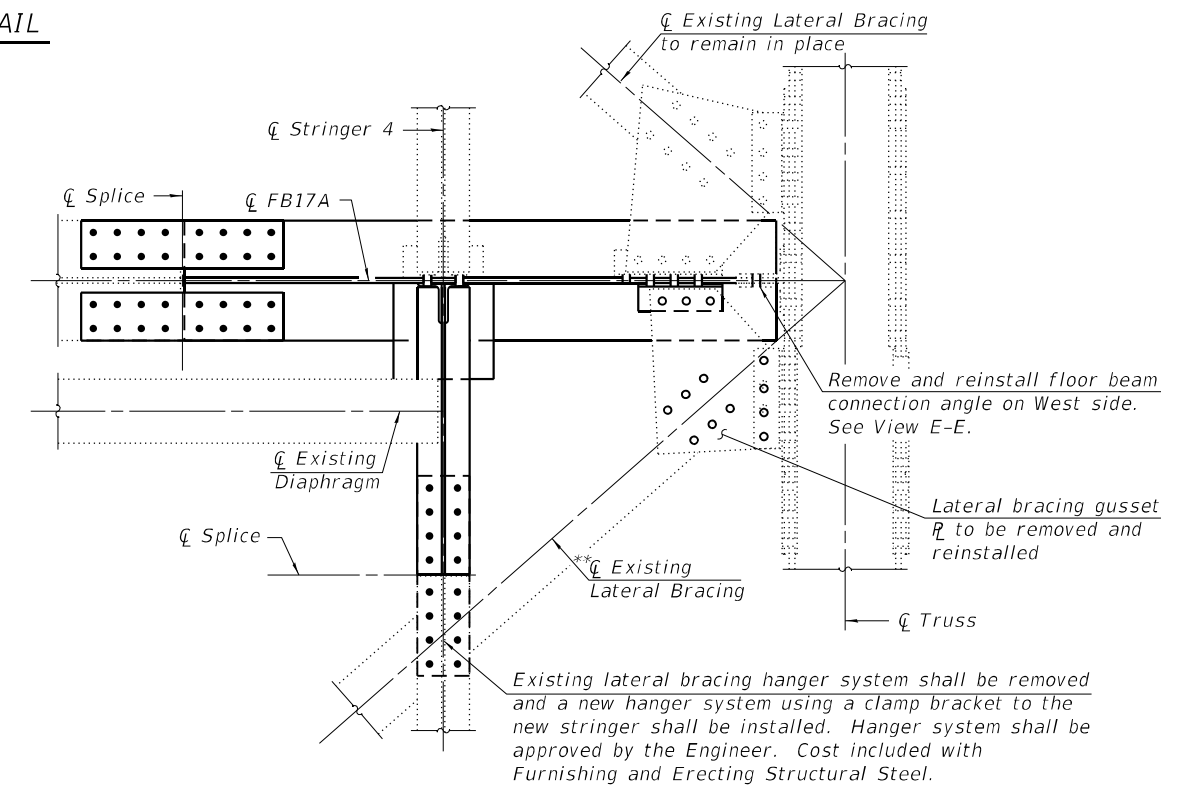
- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.
- ** Temporarily support exist. lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing
- *** Adjust bolt spacing as necessary in bottom flange to reuse existing holes from lateral bracing system. Field verify locations.



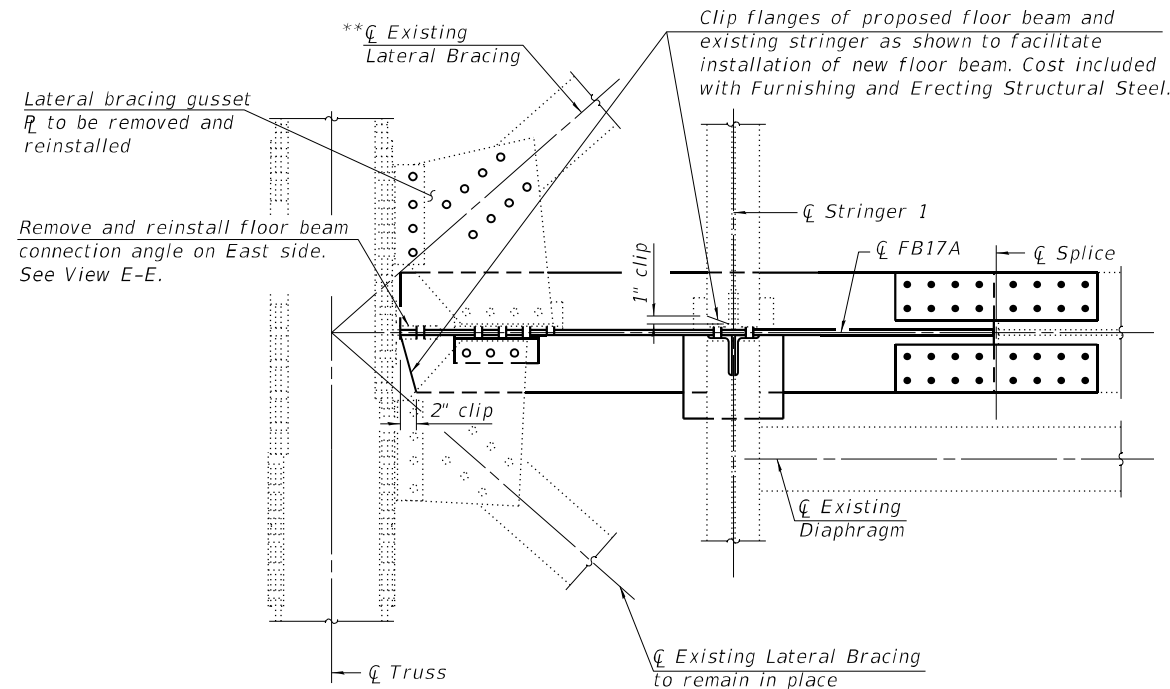
BENT ANGLE DETAIL



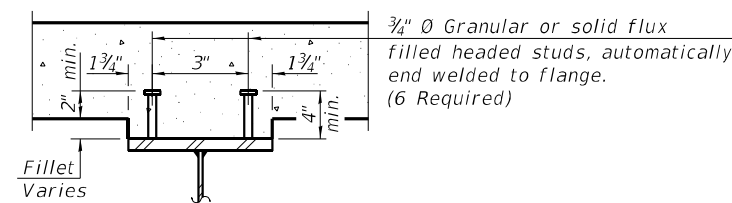
SECTION A-A



SECTION B-B



SECTION D-D



SECTION F-F

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	6
Structural Steel Removal	Pounds	2,850
Furnishing and Erecting Structural Steel	Pounds	4,090

Note:
Work this sheet with sheet S61 of S97.

(Sheet 2 of 2)

FILE NAME: SFILES



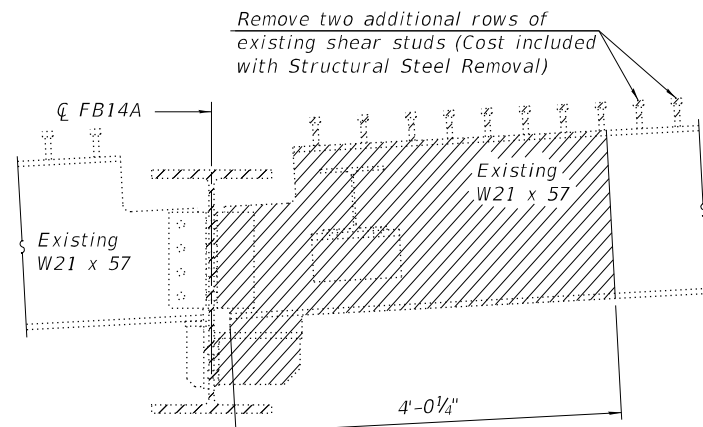
USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS - FB17A (ITEMS 92 AND 97)
STRUCTURE NO. 062-0003

SHEET 562 OF 597 SHEETS

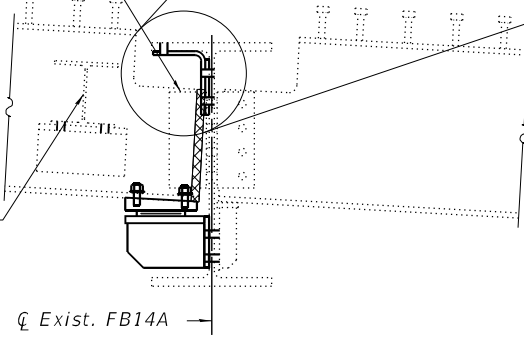
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	92
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



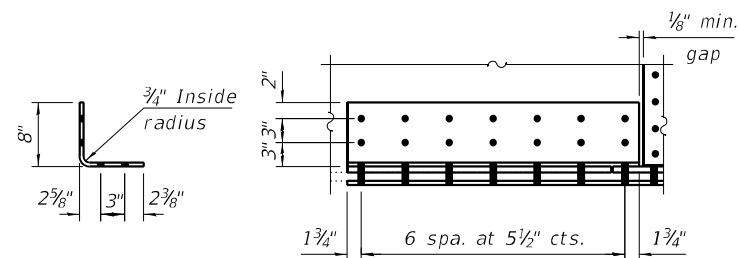
SECTION A-A
(Showing Removal)

To facilitate installation of repair plates, remove stringer connection angles, trim stringer web as needed, and reinstall connection angles. Cost included with Temporary Shoring and Cribbing.

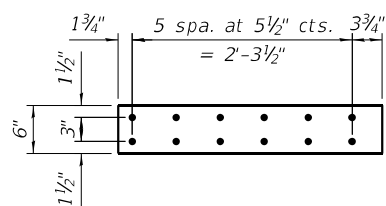
Exist. diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.



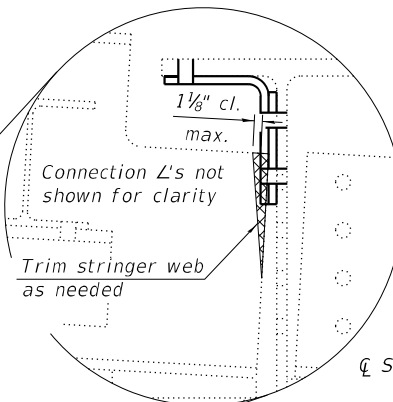
SECTION B-B



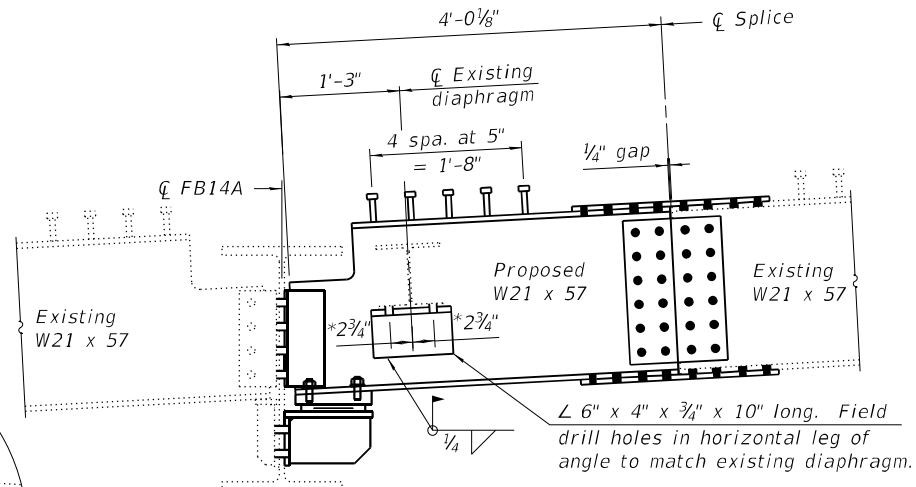
1/2" BENT R_L DETAIL



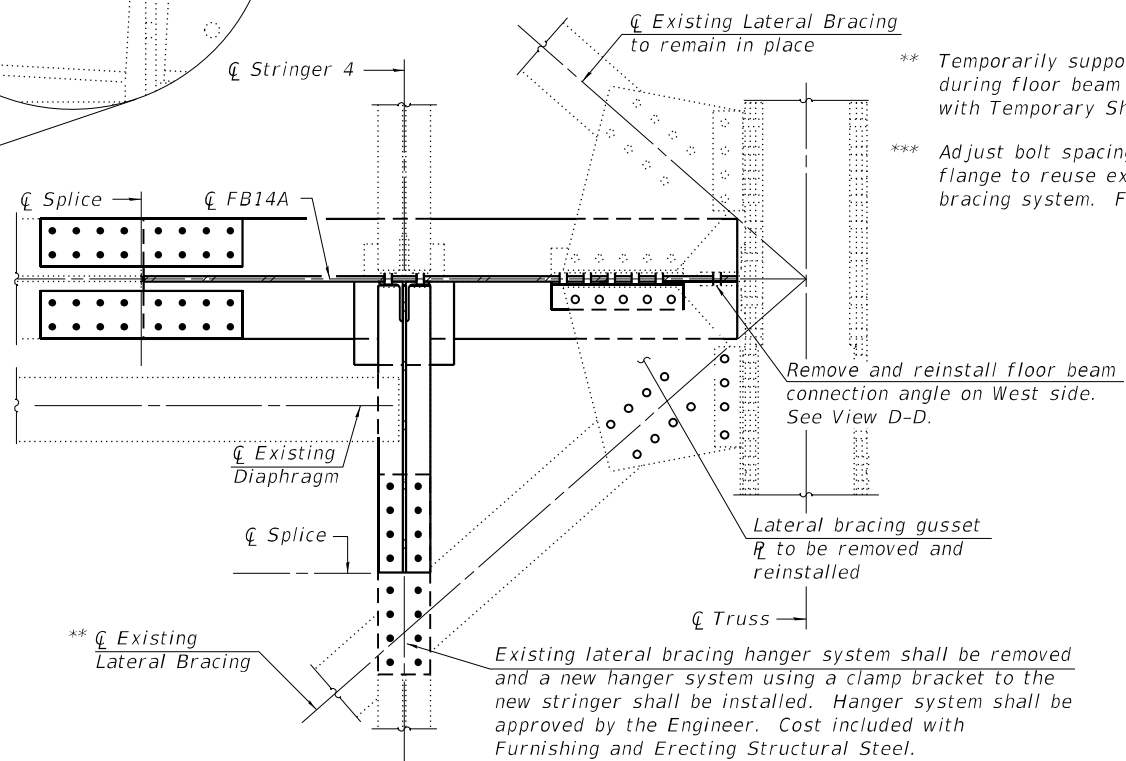
1/2" FILL R_L DETAIL



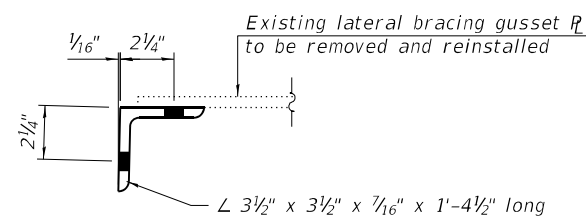
Connection L's not shown for clarity
Trim stringer web as needed



SECTION A-A

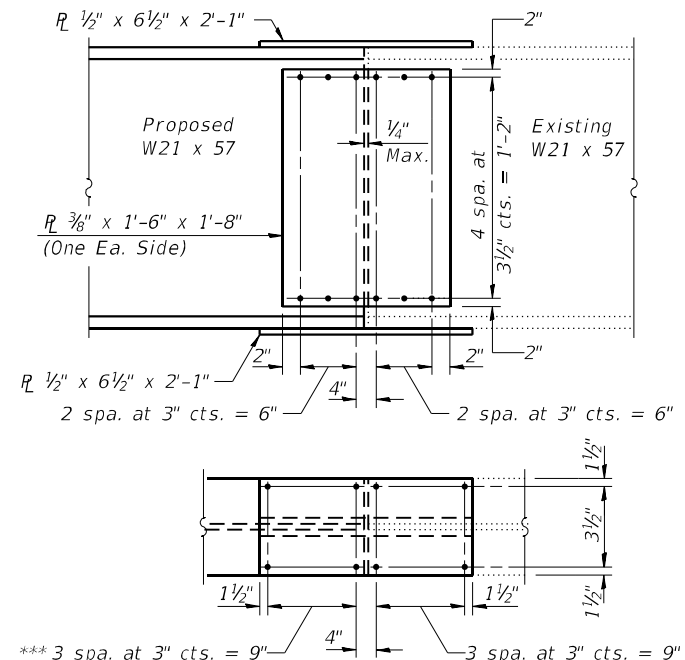


SECTION C-C

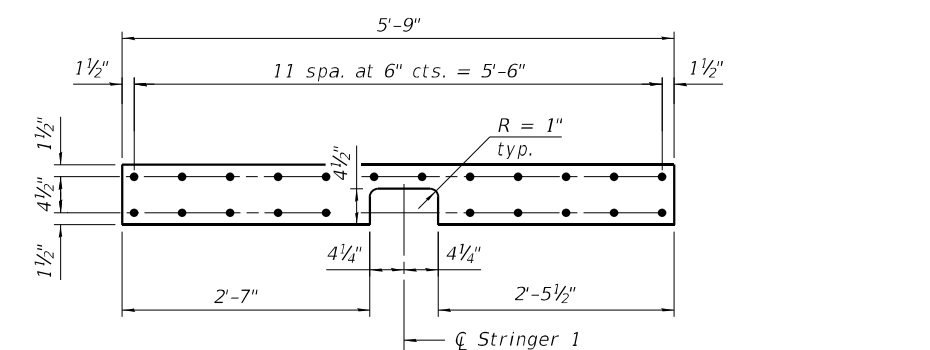


BENT ANGLE DETAIL

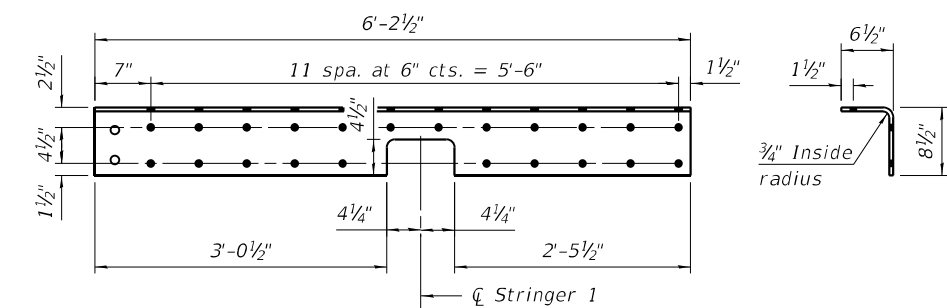
Note:
Work this sheet with sheet S63 of S97.



STRINGER FIELD SPLICE DETAIL



1/2" FILL R_L DETAIL



1/2" BENT R_L DETAIL

- LEGEND**
- Existing fastener to remain
 - New bolt in new hole (shop or field drill)
 - Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.
 - ▨ Structural Steel Removal

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	10
Structural Steel Removal	Pounds	1,820
Furnishing and Erecting Structural Steel	Pounds	3,037



USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

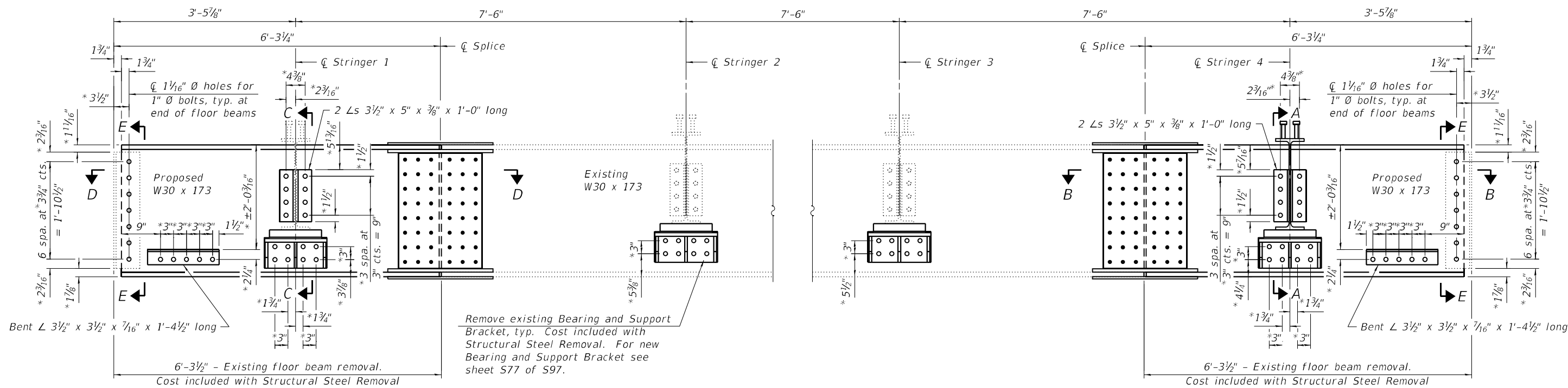
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL REPAIR DETAILS - FB14A (ITEM 92)
STRUCTURE NO. 062-0003

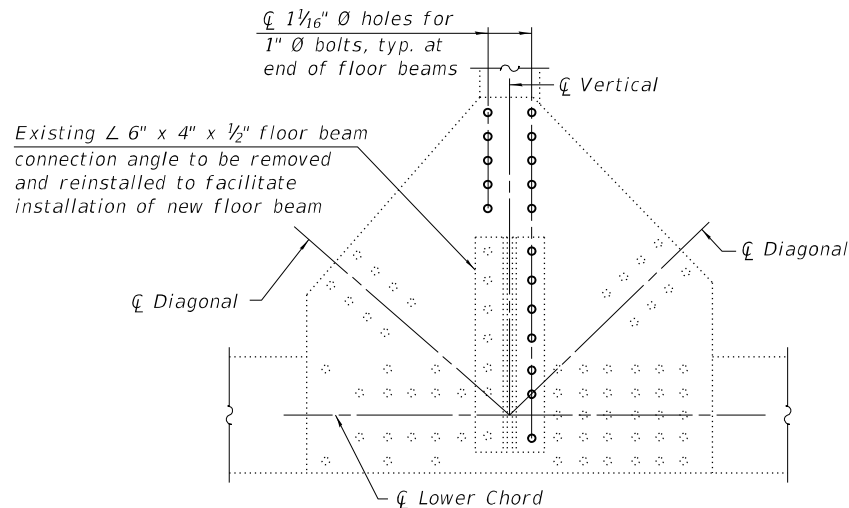
SHEET 564 OF 597 SHEETS

(Sheet 2 of 2)

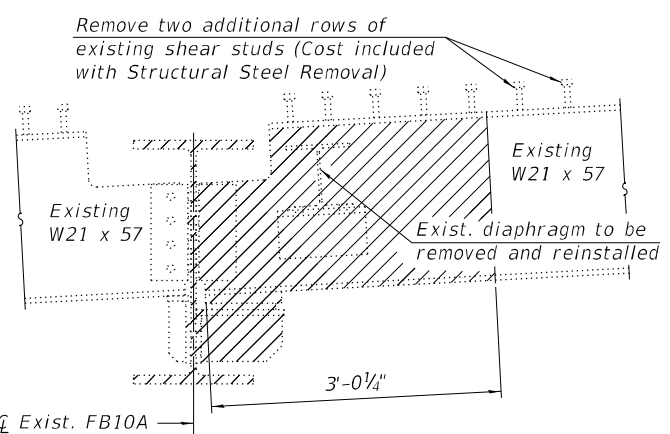
F.A.P. RTE. 649	SECTION (1B-D)BR,P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 94
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION - FLOOR BEAM - FB10A (ITEM 92)
(Looking East)



VIEW E-E
(Showing existing fasteners to be removed and replaced, see Legend.)



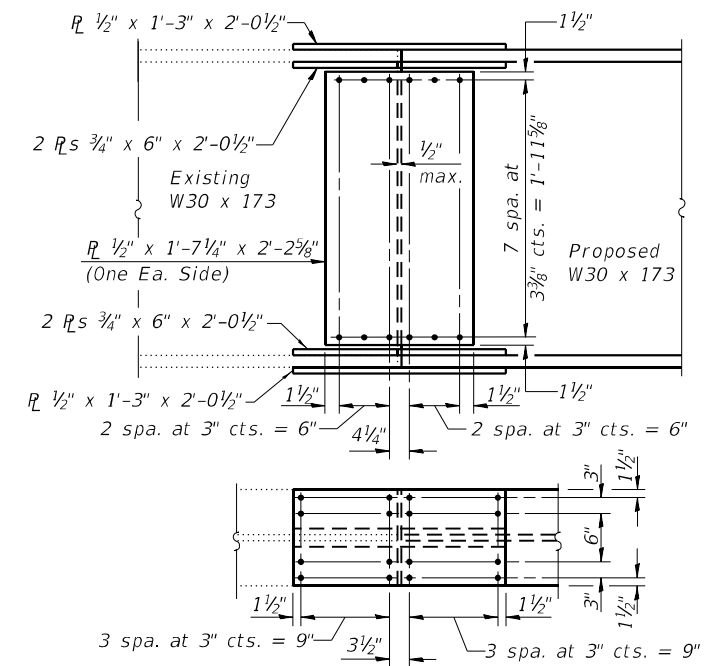
SECTION A-A
(Showing Removal)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.
- ▨ Structural Steel Removal

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members and, at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S66 of S97.



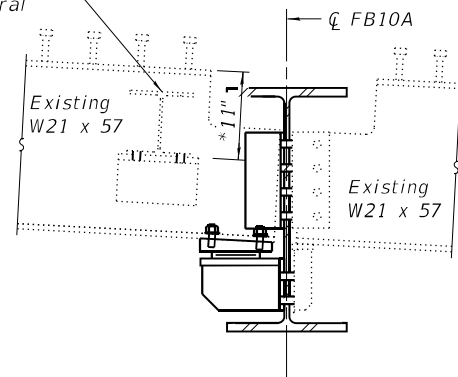
FLOOR BEAM FIELD SPLICE DETAIL

Suggested Repair Procedure:

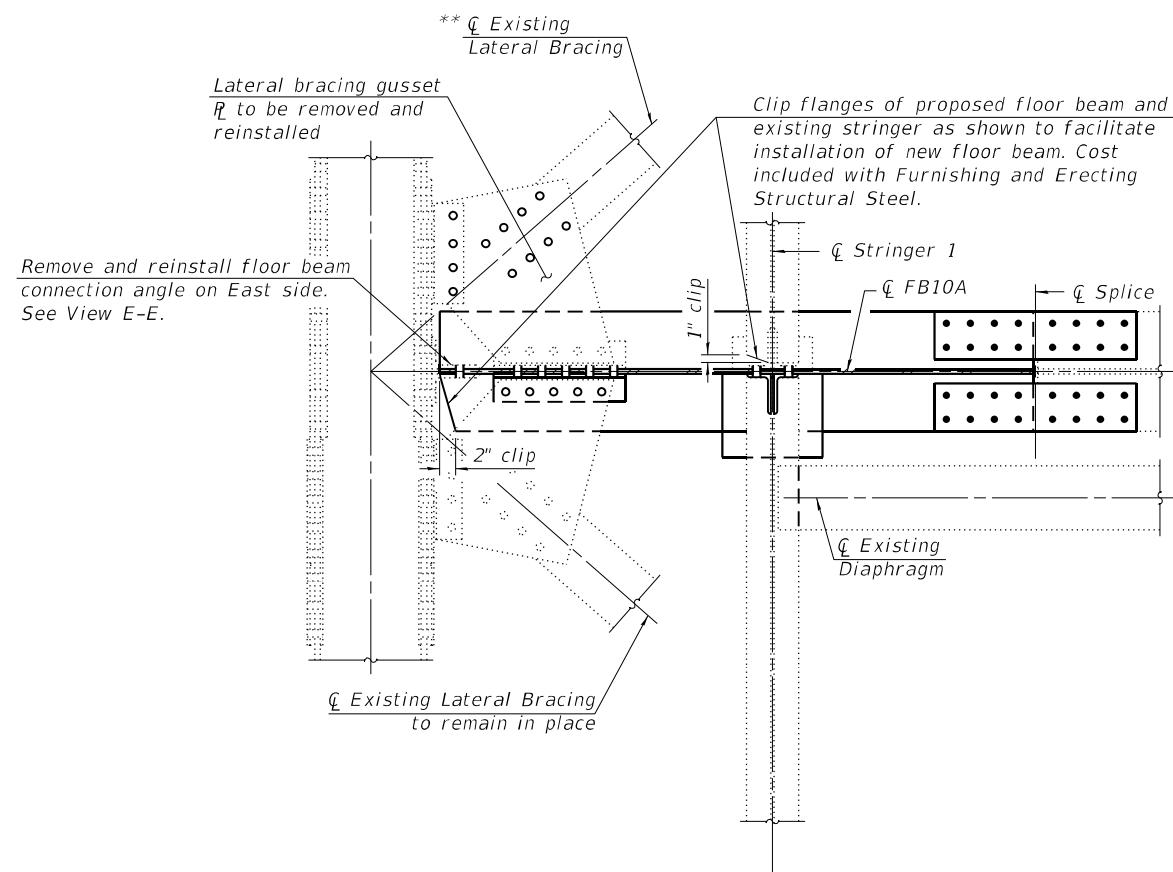
1. Remove deck at the floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View E-E.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

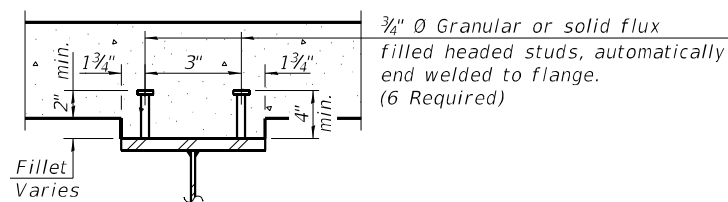
Existing diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.



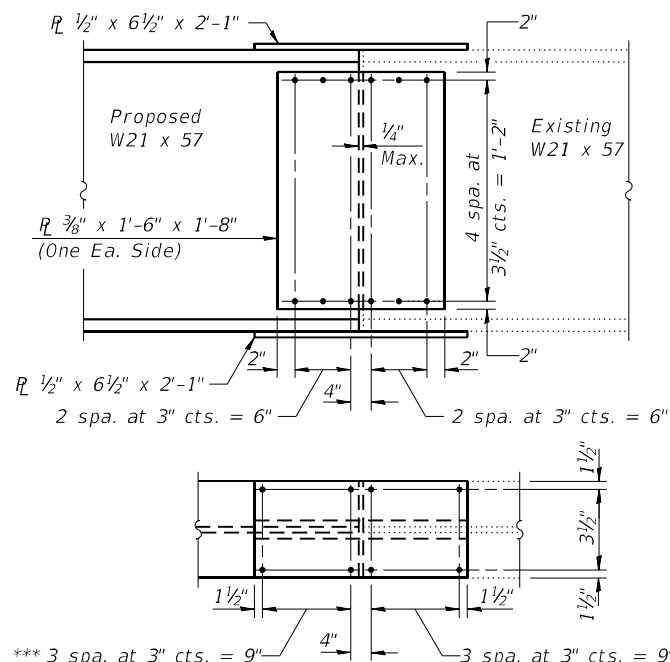
SECTION C-C



SECTION D-D



SECTION F-F

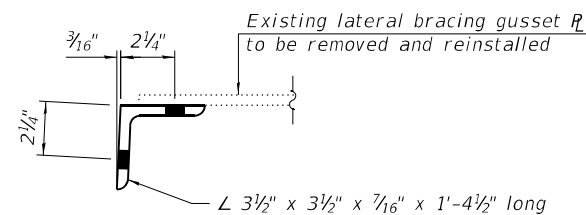


STRINGER FIELD SPLICE DETAIL

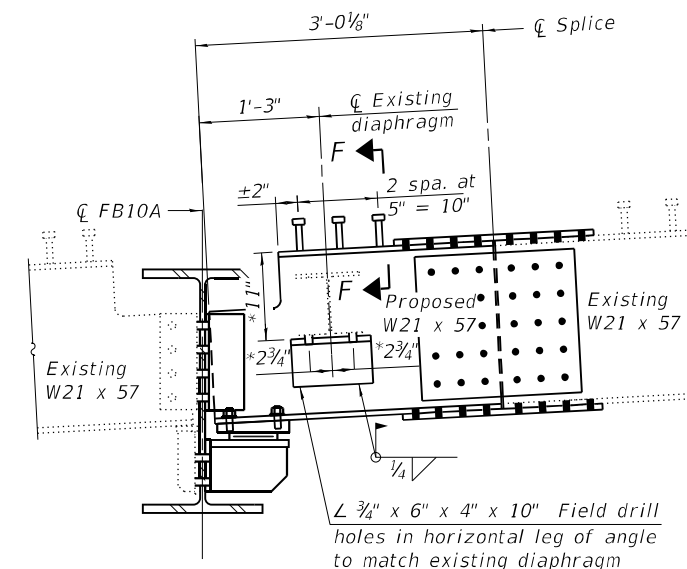
- ** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.
- *** Adjust bolt spacing as necessary in bottom flange to reuse existing holes from lateral bracing system. Field verify locations.

LEGEND

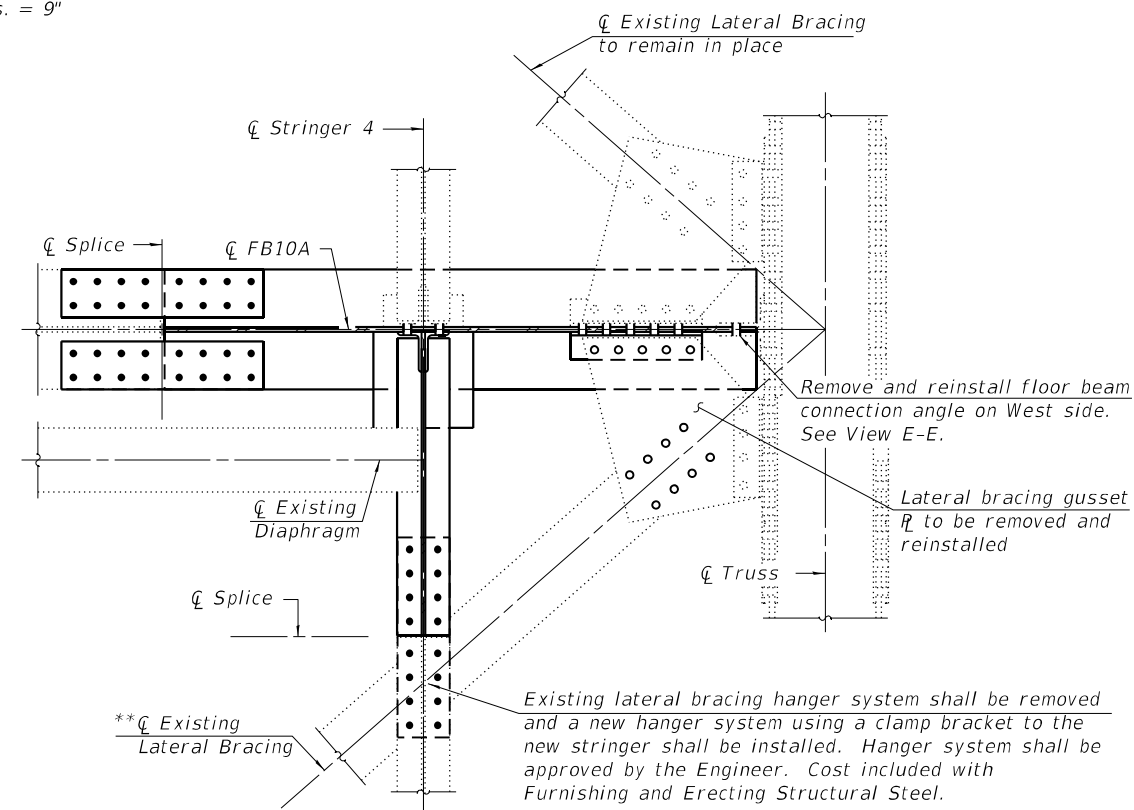
- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.



BENT ANGLE DETAIL



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	6
Structural Steel Removal	Pounds	2,850
Furnishing and Erecting Structural Steel	Pounds	4,097

Note:
Work this sheet with sheet S65 of S97.

(Sheet 2 of 2)

FILE NAME: SFILES

design firm
no. 184001036

whks
engineers + planners + land surveyors

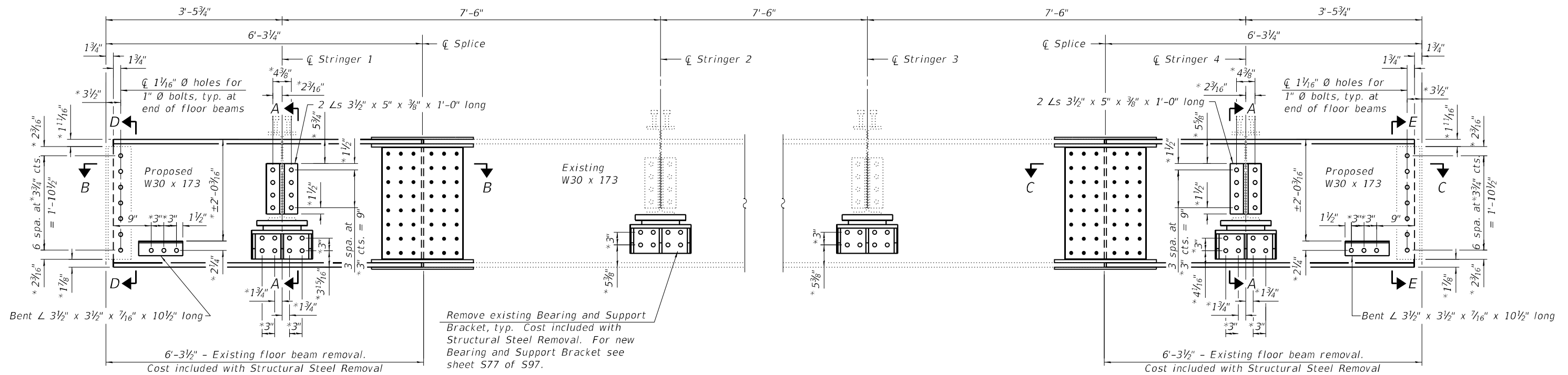
USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

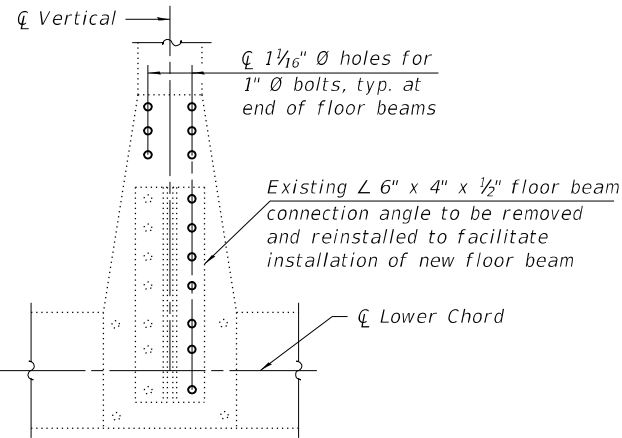
STRUCTURAL STEEL REPAIR DETAILS - FB-10A (ITEM 92)
STRUCTURE NO. 062-0003

SHEET 566 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	96
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

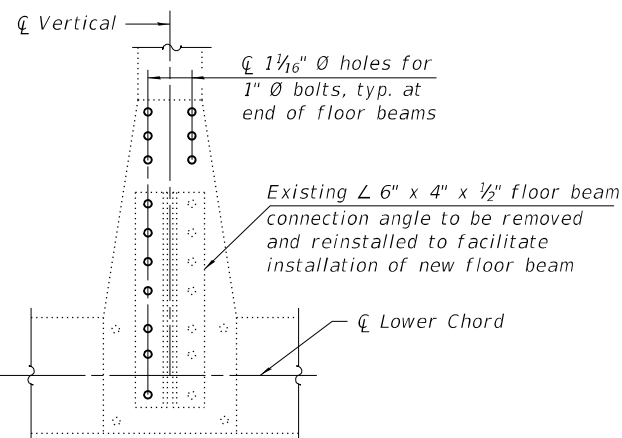


ELEVATION - FLOOR BEAM - FB7A (ITEM 92)
(Looking East)



VIEW D-D

(Showing existing fasteners to be removed and replaced, see Legend.)



VIEW E-E

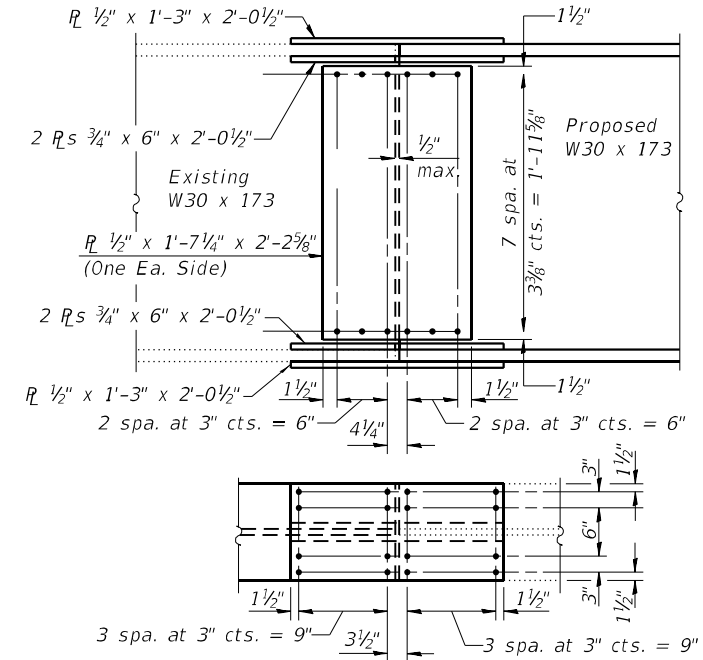
(Showing existing fasteners to be removed and replaced, see Legend.)

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

Notes:

1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2" and a maximum edge distance of 4". Along the edges of the repair plates, the bolts shall be at 3" minimum to 5 1/2" maximum centers. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. Structural steel repair plates shall be installed as follows. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. A new high strength bolt shall be inserted into the hole and the nut shall be hand tightened. The nut shall be installed on the side of the connection where the new plate will be installed. The Contractor may use the new high strength bolts as a template to mark and field drill the new plate after all required existing fasteners have been replaced. Following field drilling of the new plate, the nuts shall be removed (with the new bolts left in place) and the new plate shall be installed. The nuts shall be reinstalled and tightened. With the new plate in place, new holes shall be drilled in the existing steel members, and at the Contractor's option, the new plate. New high strength bolts shall be installed in these holes. Where repairs require more than one plate, installation of one plate shall be completed prior to beginning installation of the next.
3. All new structural steel shown on this sheet shall be paid for as Furnishing and Erecting Structural Steel, unless noted otherwise.
4. Coordinate structural steel repair of floor beam ends with removal of the existing concrete deck for removal and replacement of the Relief Joints, see sheets S22-S24 of S97.
5. Temporary support of the existing floor beams and stringers is required for floorbeam repair. Cost included with Temporary Shoring and Cribbing. See sheet S78 of S97.
6. Removal and reinstallation of existing lateral bracing gusset plates, diaphragms, floor beam connection angles and associated connections to facilitate adjacent work will not be measured separately for payment but shall be included in the cost of the associated work, unless noted otherwise.
7. Work this sheet with sheet S68 of S97.



FLOOR BEAM FIELD SPLICE DETAIL

Suggested Repair Procedure:

1. Remove deck at floor beam as shown on sheets S22-S24 of S97.
2. Remove and replace existing bolts in gusset plate with high strength bolts, as shown in View D-D.
3. Install Temporary Shoring and Cribbing.
4. Perform Structural Steel Removal as noted.
5. Perform floor beam and stringer repairs and install new bearings and support brackets as noted.
6. Reinstall lateral bracing gusset plates and floor beam connection angles.
7. Remove Temporary Shoring and Cribbing system.
8. Pour new deck as shown on sheets S22-S24 of S97.

(Sheet 1 of 2)

FILE NAME: SFILES



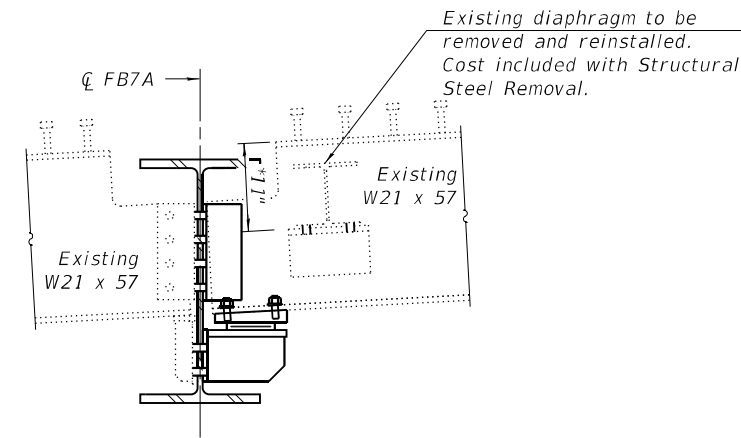
design firm no. 184001036	USER NAME = \$USERS	DESIGNED - SDS, SBC, CEH	REVISED -
		CHECKED - BRD, JLM, GEM	REVISED -
	PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
	PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

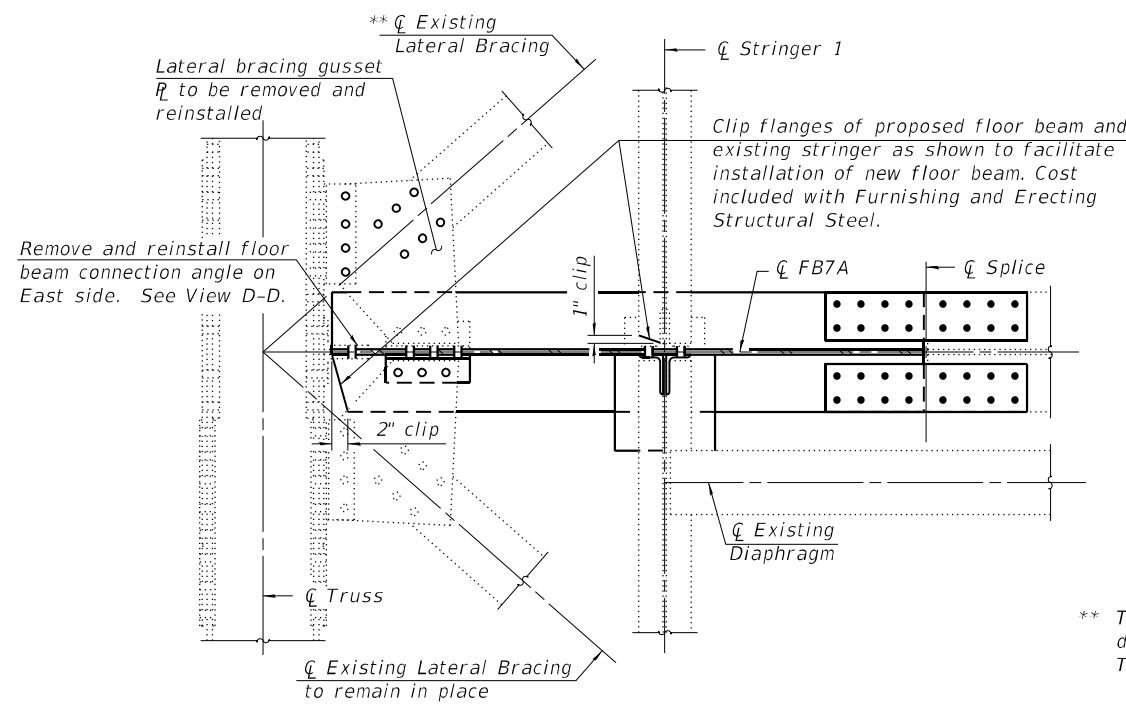
**STRUCTURAL STEEL REPAIR DETAILS - FB7A (ITEM 92)
STRUCTURE NO. 062-0003**

SHEET 567 OF 597 SHEETS

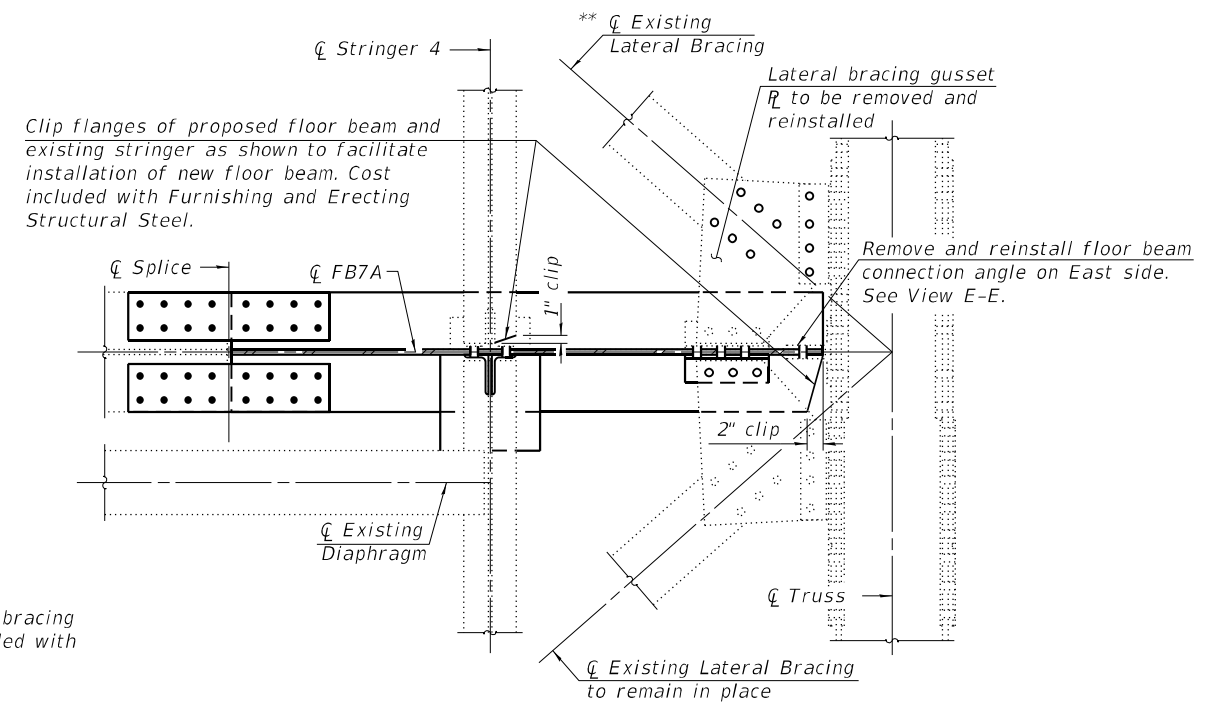
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	97
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



SECTION A-A



SECTION B-B



SECTION C-C

** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template) See note 2.

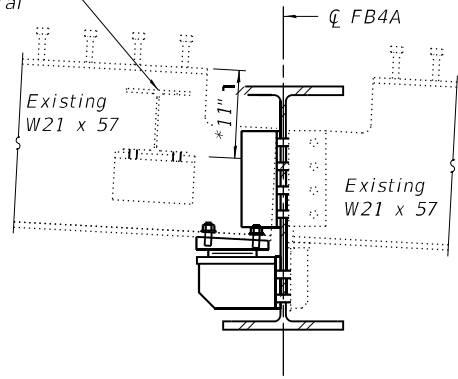
BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	Pounds	2,650
Furnishing and Erecting Structural Steel	Pounds	3,703

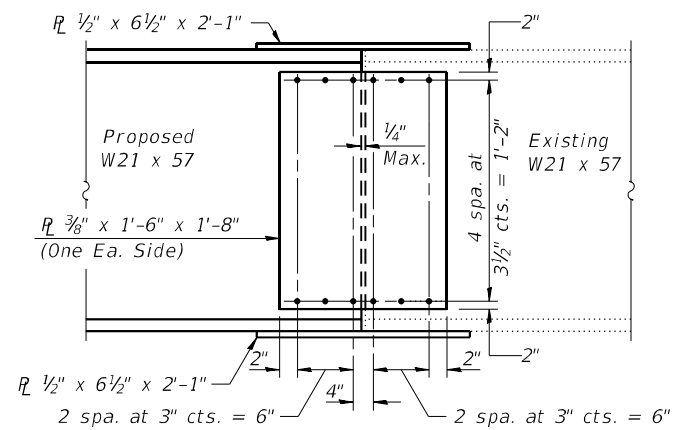
Note:
Work this sheet with sheet S67 of S97.

(Sheet 2 of 2)

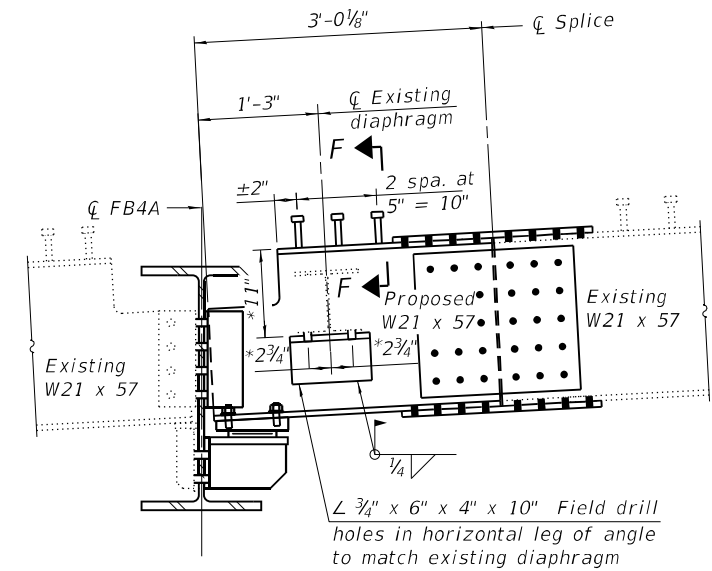
Existing diaphragm to be removed and reinstalled. Cost included with Structural Steel Removal.



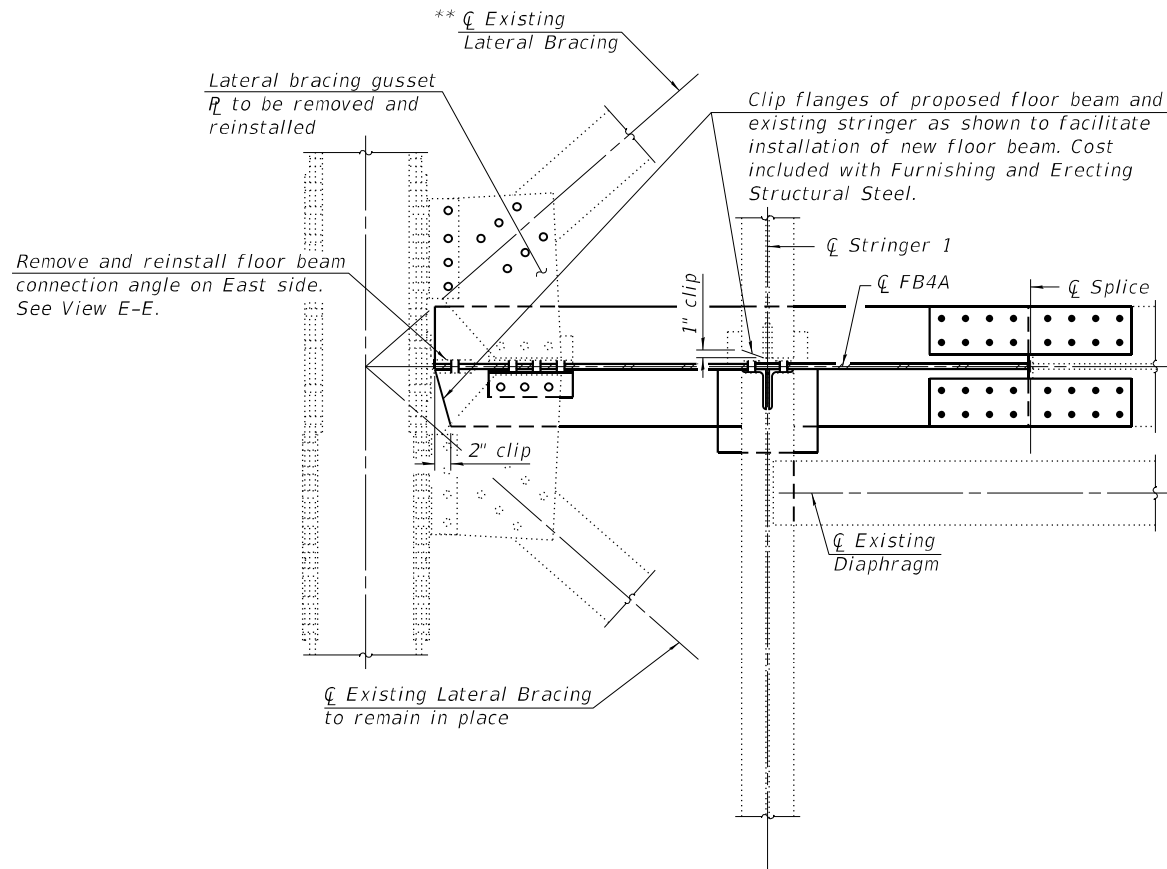
SECTION C-C



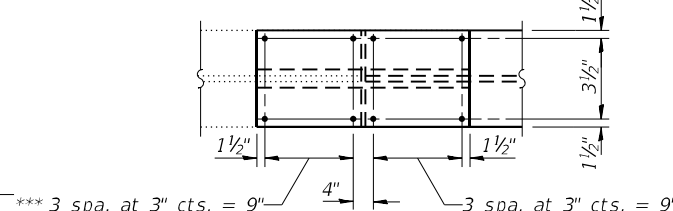
STRINGER FIELD SPLICE DETAIL



SECTION A-A

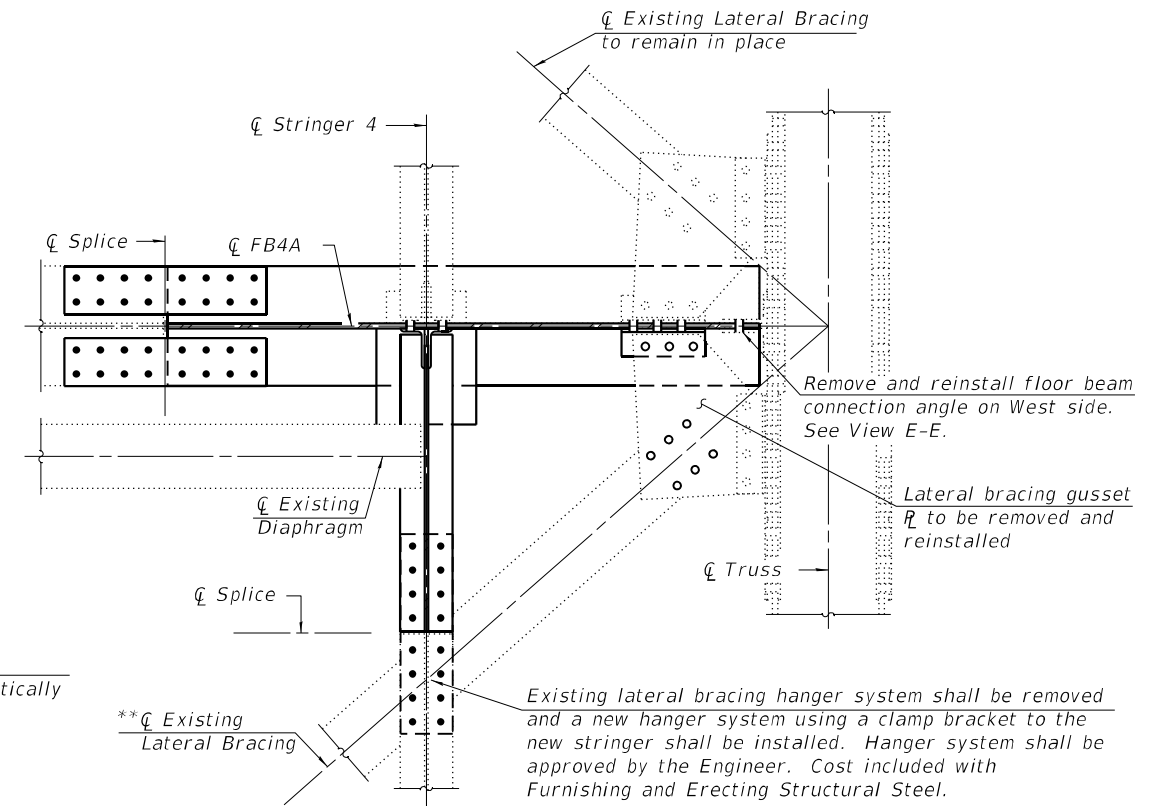


SECTION D-D

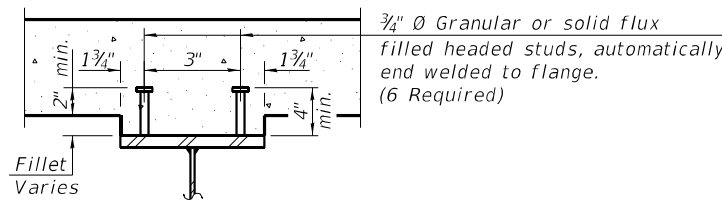


** Temporarily support existing lateral bracing during floor beam repair. Cost included with Temporary Shoring and Cribbing.

*** Adjust bolt spacing as necessary in bottom flange to reuse existing holes from lateral bracing system. Field verify locations.



SECTION B-B



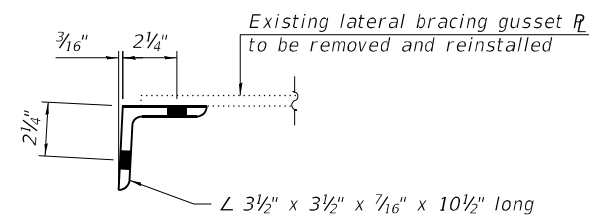
SECTION F-F

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- Replace existing fastener with new bolt in existing hole (holes in new material may be field drilled using existing member as a template). See note 2.

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	6
Structural Steel Removal	Pounds	2,840
Furnishing and Erecting Structural Steel	Pounds	4,083



BENT ANGLE DETAIL

Note:
Work this sheet with sheet S69 of S97.

(Sheet 2 of 2)

FILE NAME: SFILES

design firm
no. 184001036

whks
engineers + planners + land surveyors

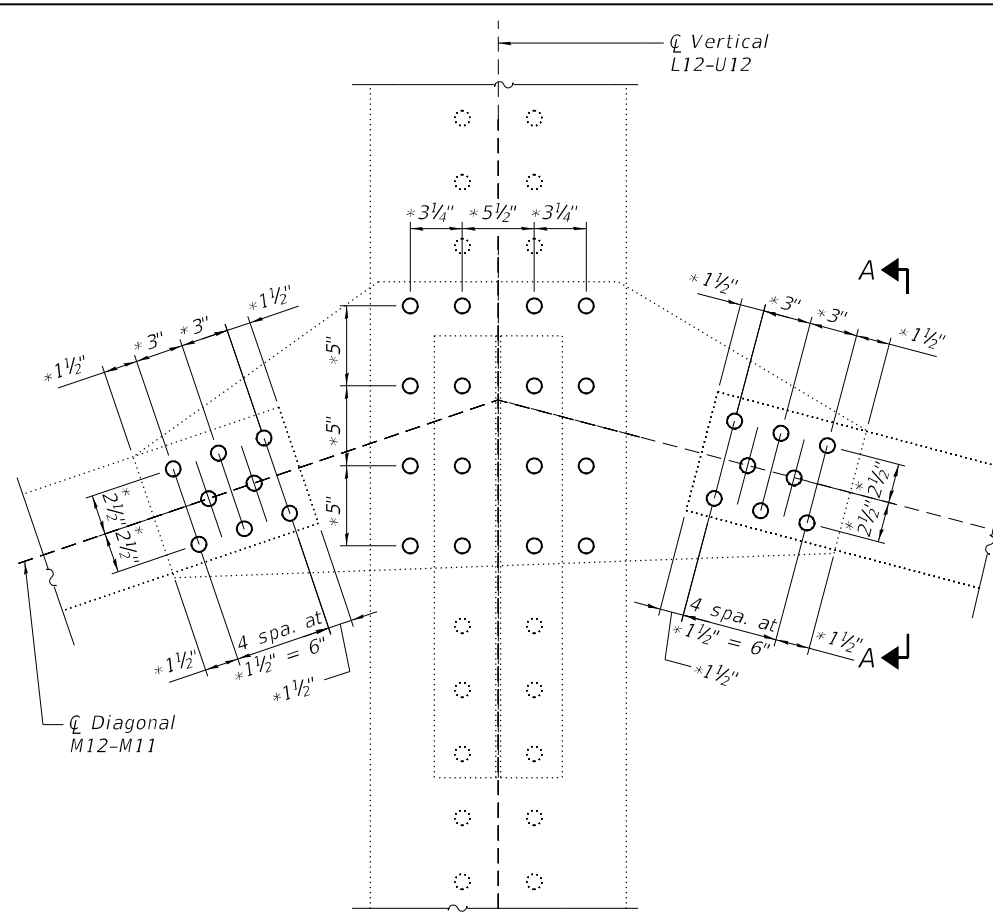
USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

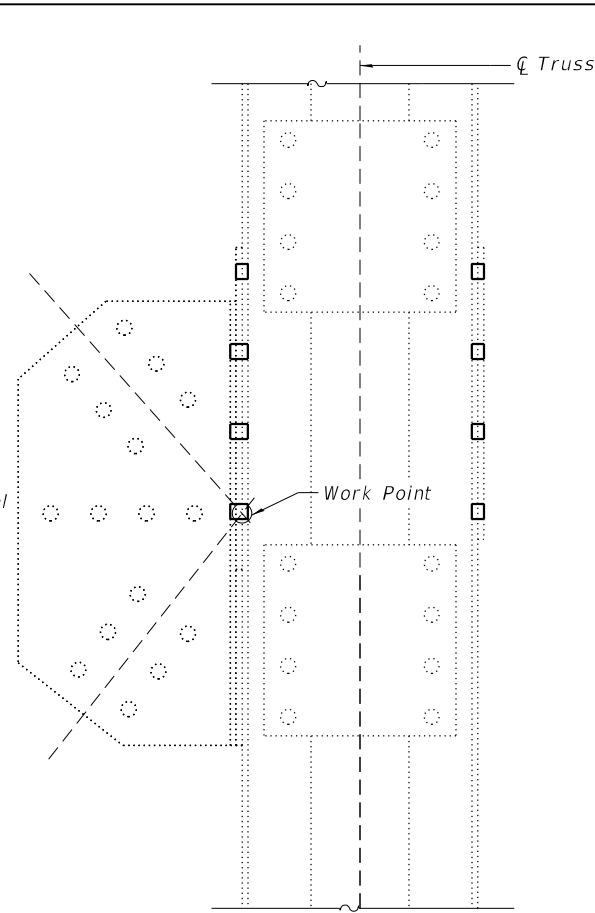
STRUCTURAL STEEL REPAIR DETAILS - FB4A (ITEMS 92 AND 111)
STRUCTURE NO. 062-0003

SHEET 570 OF 597 SHEETS

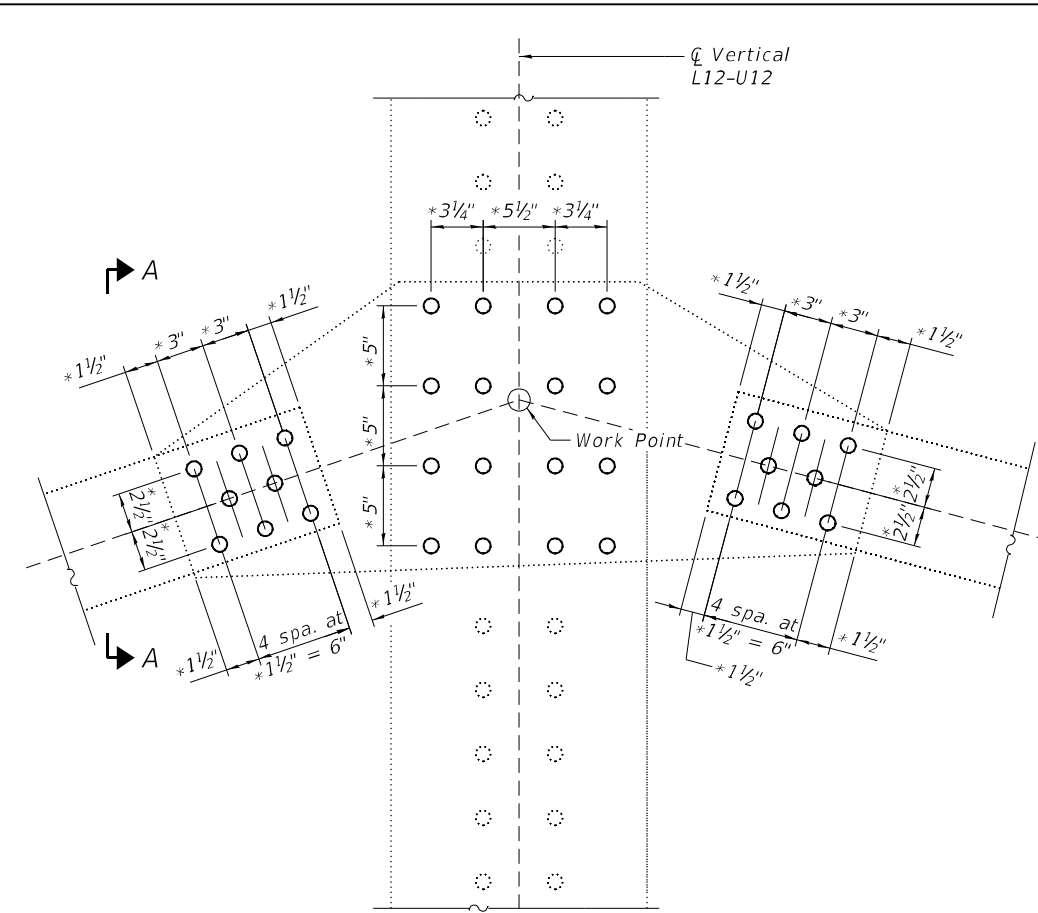
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	100
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



M12 GUSSET PLATE - INSIDE ELEVATION



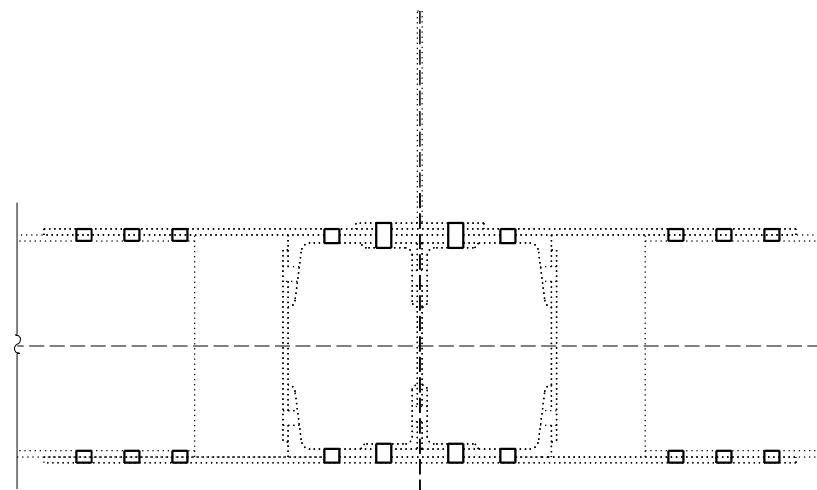
SECTION A-A



M12 GUSSET PLATE - OUTSIDE ELEVATION

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	260



M12 GUSSET PLATE - PLAN

LEGEND

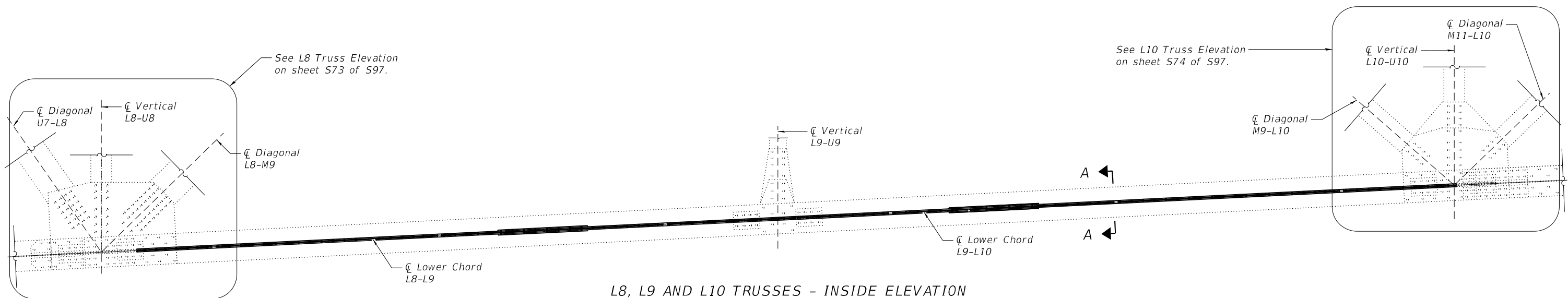
- Existing fastener to remain
- Replace existing fastener with new bolt in existing hole. See note 2.

Notes:

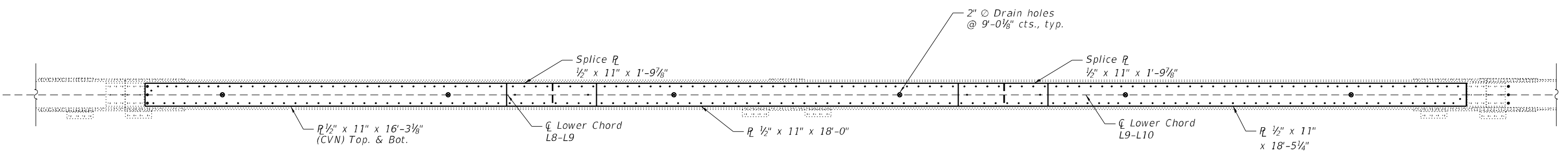
1. Bolt layout shown is approximate. Existing fastener dimensions marked with * shall be field measured and bolts shall be installed per note 2. Unless shown otherwise, bolts shall be spaced with a minimum edge distance of 1 1/2 inch and a maximum edge distance of 4 inches, and the bolts shall be spaced at 3 inches minimum to 5 1/2 inches maximum centers along plate edges. If the number of fasteners provided is different than the number depicted, the layout shall be submitted to the Engineer for approval.
2. One existing fastener shall be removed at a time and the existing hole shall be reamed as necessary. New high strength bolt shall be installed and tightened prior to moving on to next fastener.
3. Repair applies to M12 & M12A for both north and south trusses.

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-571-5\Structural Steel Strengthening Details - M12&M12A.dgn

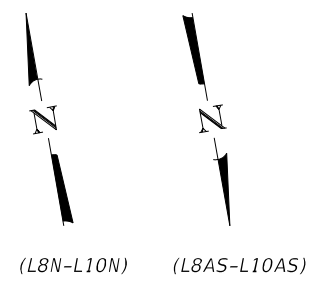
MODEL: Default
 FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-572-Structural Steel Strengthening Details - L8-L9&L10A-I-9A.dgn



L8, L9 AND L10 TRUSSES - INSIDE ELEVATION
 (L8AS-L10AS and L8N-L10N shown.
 L8S-L10S and L8AN-L10AN similar, opposite hand.)



L8, L9 AND L10 TRUSSES - PLAN
 (L8AS-L10AS and L8N-L10N shown.
 L8S-L10S and L8AN-L10AN similar, opposite hand.)



- Notes:
- See sheet S74 of S97 for Section A-A.
 - Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- ⊗ Drain hole

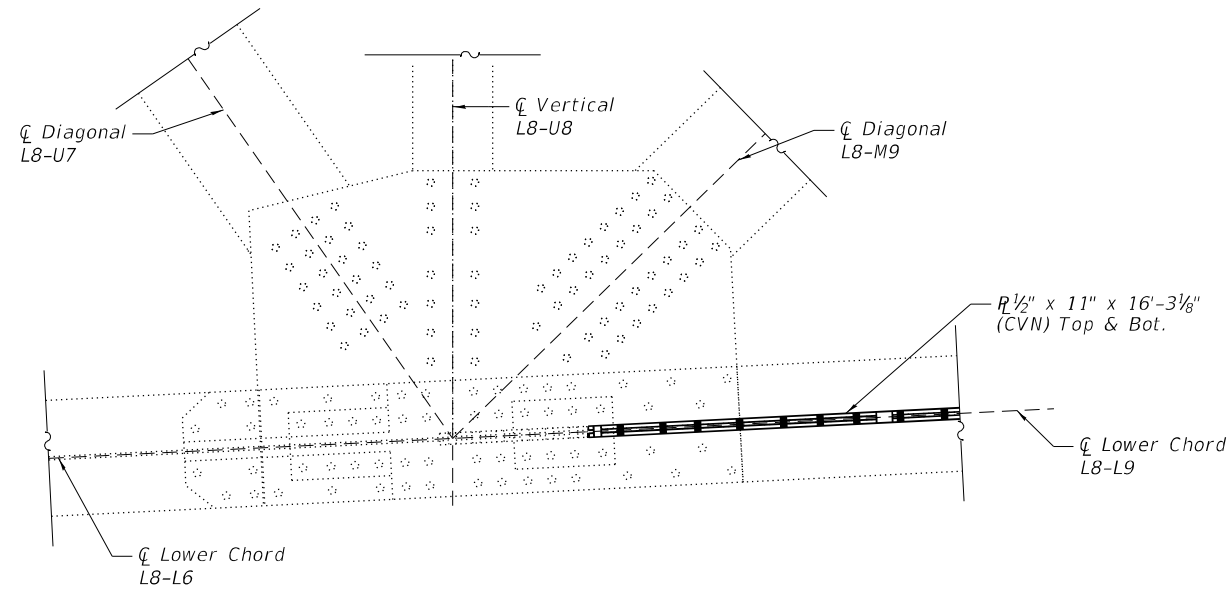
BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	9,600

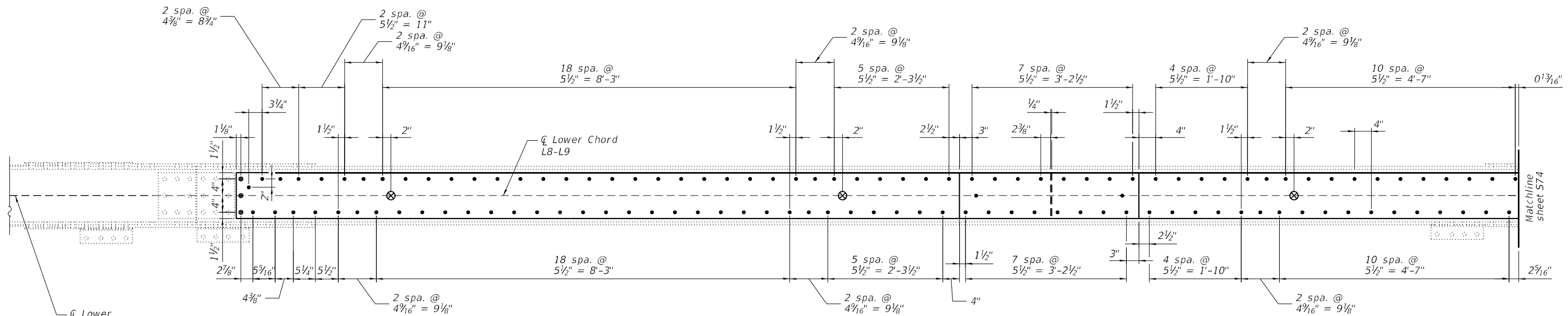
(Sheet 1 of 3)

LE	LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - RJM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL STRENGTHENING DETAILS - L8-L10 STRUCTURE NO. 062-0003	F.A.P. RTE. =	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		PLOT SCALE =	DRAWN - RJM	REVISED -			649	(1B-D)BR.P	MARSHALL	129	102
PLOT DATE = 10/13/2022	CHECKED - CZ	REVISED -	CONTRACT NO. 68F08								
			ILLINOIS FED. AID PROJECT								

SHEET S72 OF S97 SHEETS



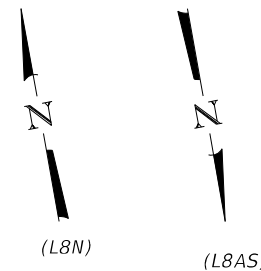
L8 TRUSS ELEVATION



L8-L10 LOWER CHORD PLAN

LEGEND

- Existing fastener to remain
- New bolt in new hole (shop or field drill)
- ⊗ Drain hole



Notes:

1. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.
2. The Contractor may use the strengthening plate as a template to mark and field drill holes in the existing web.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

(Sheet 2 of 3)

MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-573-5\Structural Steel Strengthening Details - L9-L10\L9A-L10A.dgn



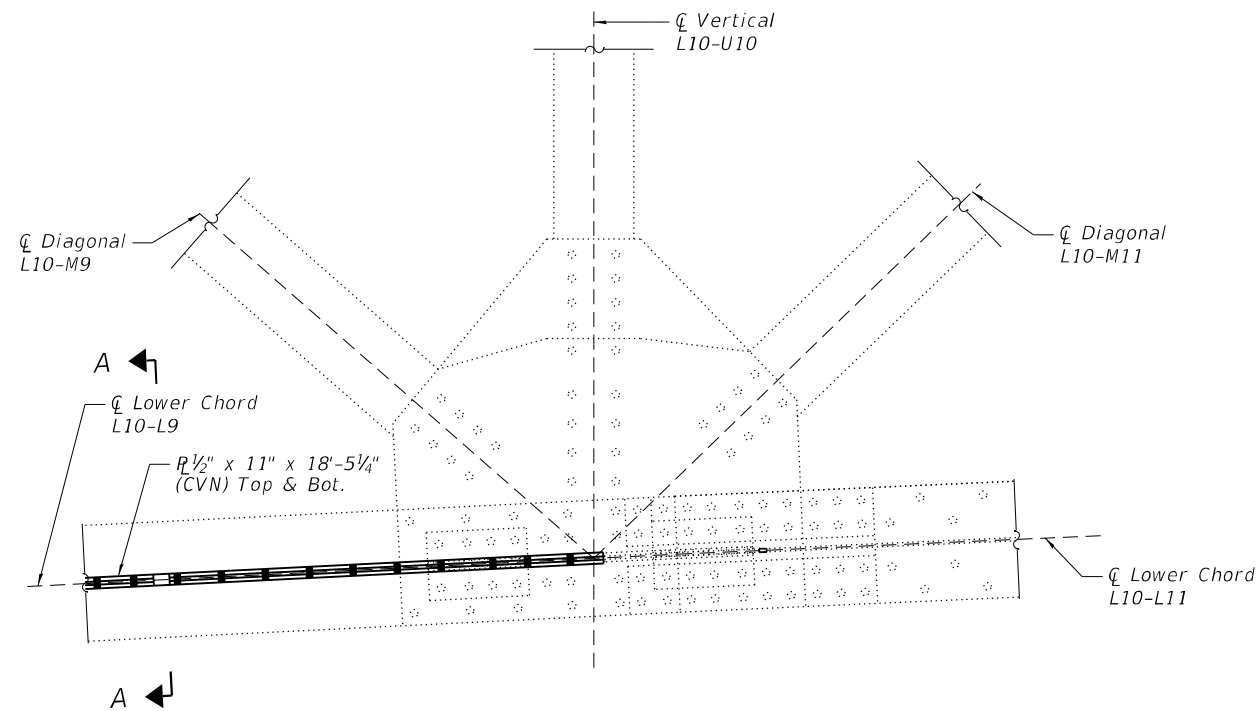
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PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 10/13/2022	DRAWN - RJM	REVISED -
	CHECKED - CZ	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

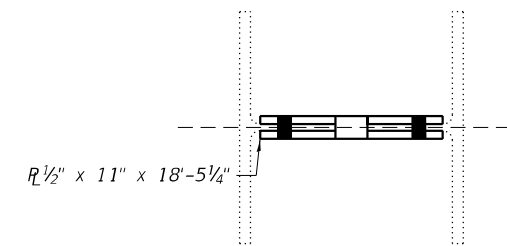
**STRUCTURAL STEEL STRENGTHENING DETAILS - L8-L10
STRUCTURE NO. 062-0003**

SHEET S73 OF S97 SHEETS

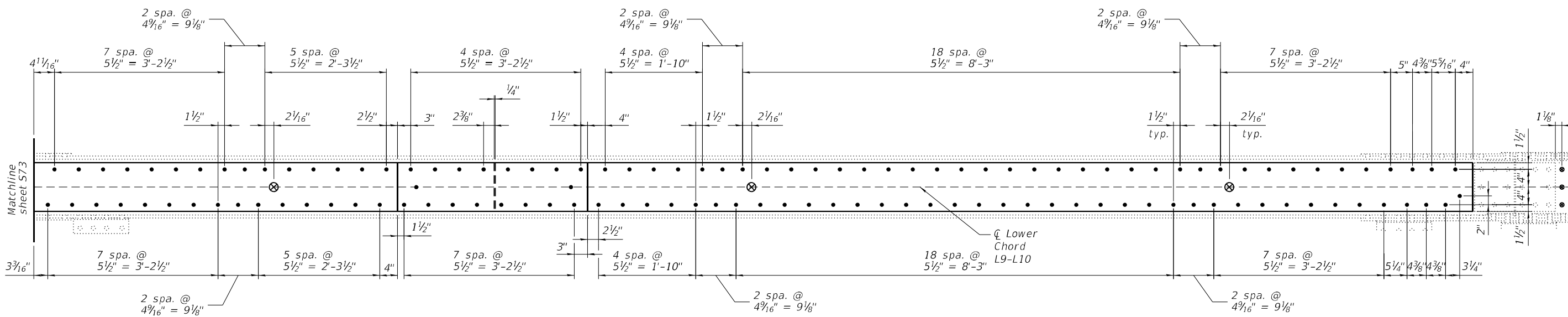
F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 103
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



L10 TRUSS ELEVATION



SECTION A-A



L8-L10 LOWER CHORD PLAN

LEGEND

- ⊙ Existing fastener to remain
- New bolt in new hole (shop or field drill)
- ⊗ Drain hole

Notes:

1. A special sequence for removal of existing fasteners and installation of the new bolts is not required for this repair detail.
2. The Contractor may use the strengthening plate as a template to mark and field drill holes in the existing web.
3. Load carrying components designated "CVN" denotes Charpy-V-Notch impact energy requirements, Zone 2.

(Sheet 3 of 3)

MODEL: Default
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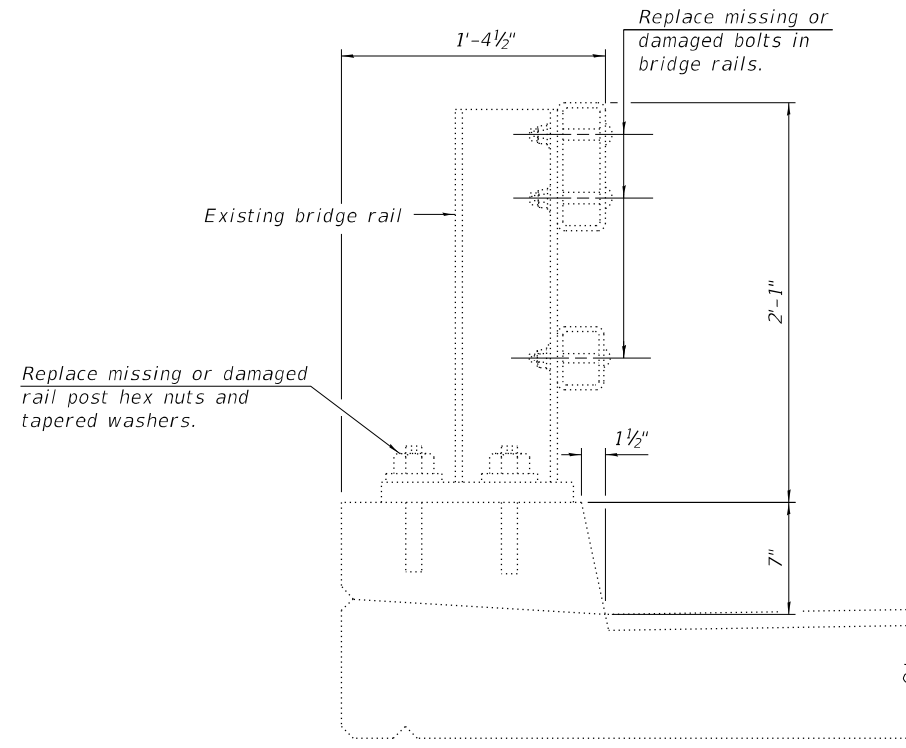
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PLOT SCALE =	CHECKED - CZ	REVISED -
PLOT DATE = 10/13/2022	DRAWN - RJM	REVISED -
	CHECKED - CZ	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL STRENGTHENING DETAILS - L8-L10
STRUCTURE NO. 062-0003**

SHEET S74 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 104
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



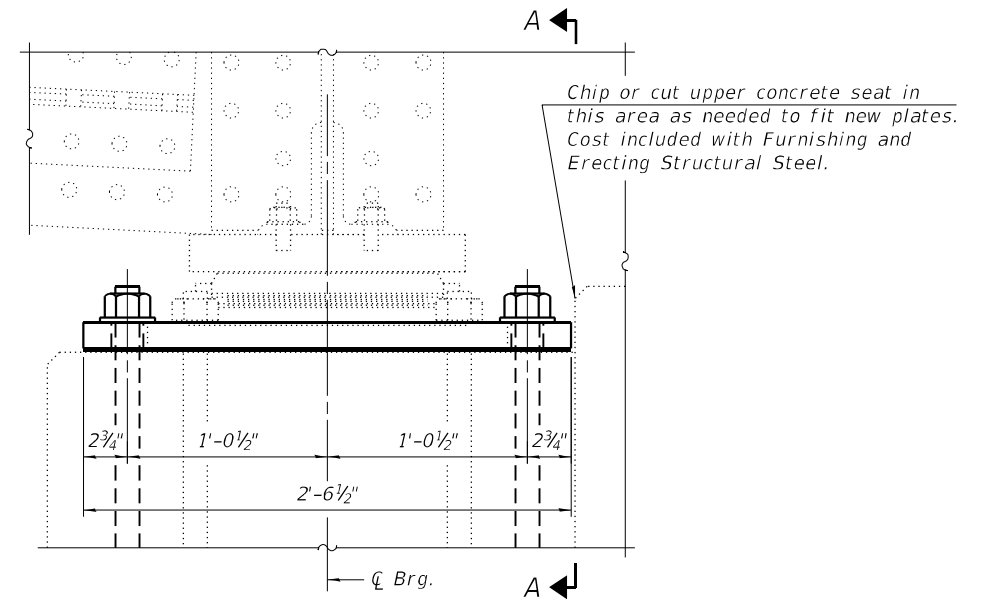
BRIDGE RAIL REPAIR (ITEM 38)

BRIDGE RAIL REPAIR TABLE

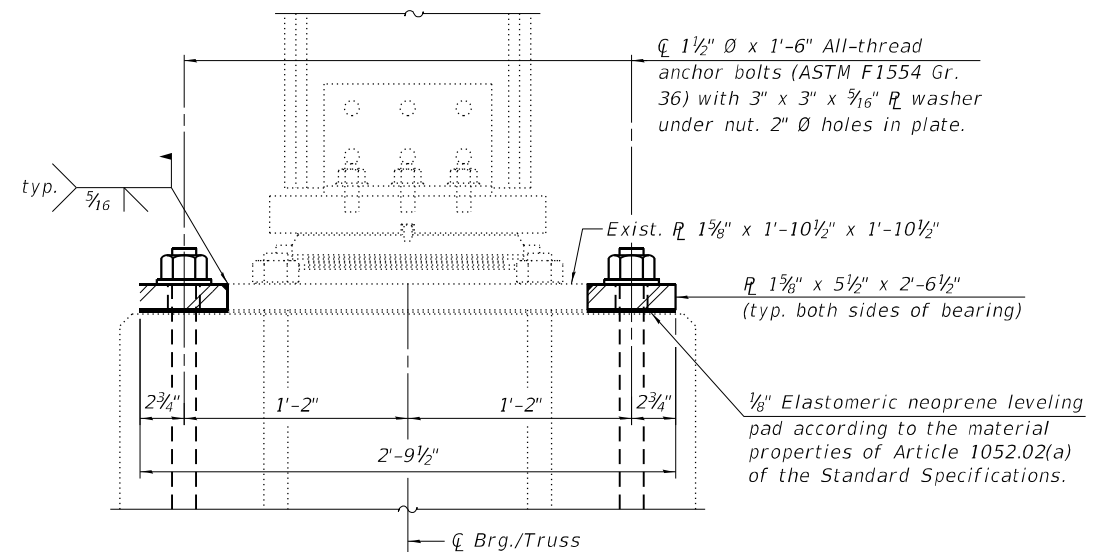
Span	Rail	Location	Repair
7	South	6' East of L12A	Replace one (1) missing bolt
7	South	6' East of L9A	Replace one (2) missing bolt
9	North	9' East of Pier 8	Replace one (1) missing bolt
9	South	12' East of Pier 8	Replace one (1) missing bolt
9	North	15' East of Pier 8	Replace one (1) missing bolt
9	North	10' West of Pier 9	Replace one (1) missing bolt
11	North	10' West of East Abutment	Replace one (1) missing bolt
11	North	5' West of East Abutment	Replace one (2) missing bolt
11	North	At East Abutment	Replace one (1) missing bolt

Notes:

1. Location and number of railing bolts or railing post anchor bolt nuts to be replaced shall be as shown in the Bridge Repair Table or as directed by the Engineer.
2. Bolts in bridge rails shall be 3/4" Ø x 6" (upper rail) or 1/2" Ø x 6" (lower rail) Round Head Bolts with locknut and flat washer. Bolts shall be according to ASTM A307 and locknuts shall be according to ASTM A563 grade A.
3. Hex nuts and tapered washers for rail post anchors shall be as required for the existing 1" dia. H.S. threaded Anchor Rods.
4. All hardware shall be galvanized according to Section 509.05 of the Standard Specifications.
5. All labor and materials required to replace damaged or missing bolts, nuts and washers is paid for as Structural Steel Repair.



ELEVATION



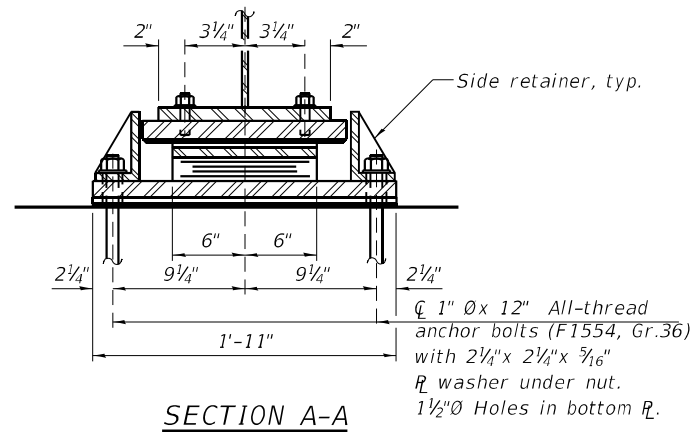
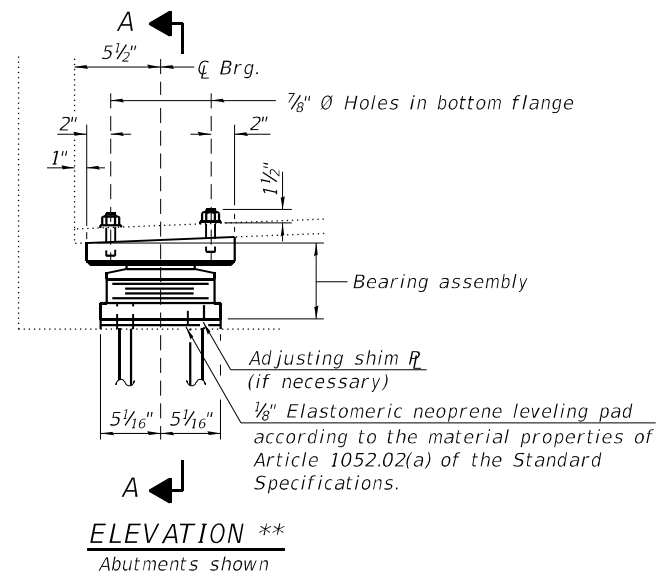
SECTION A-A

BEARING REPAIR PIER 7 SOUTH TRUSS (ITEM 112)

New bearing plates are paid for as Furnishing and Erecting Structural Steel. Anchor bolts paid for as Anchor Bolts, 1 1/2".

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1 1/2"	Each	4
Furnishing and Erecting Structural Steel	Pound	160
Structural Steel Repair	Pound	15

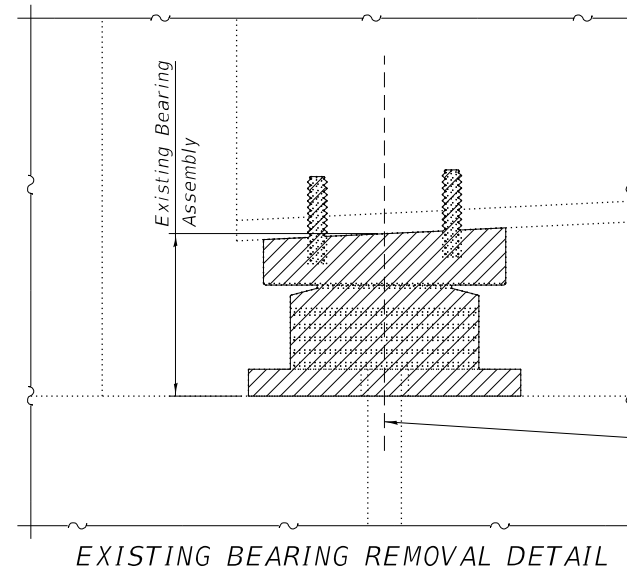
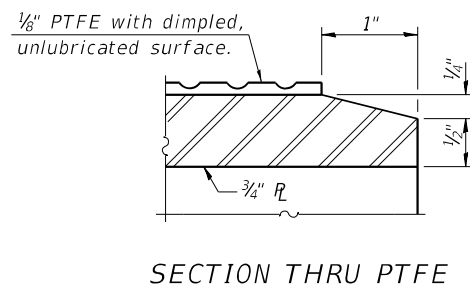
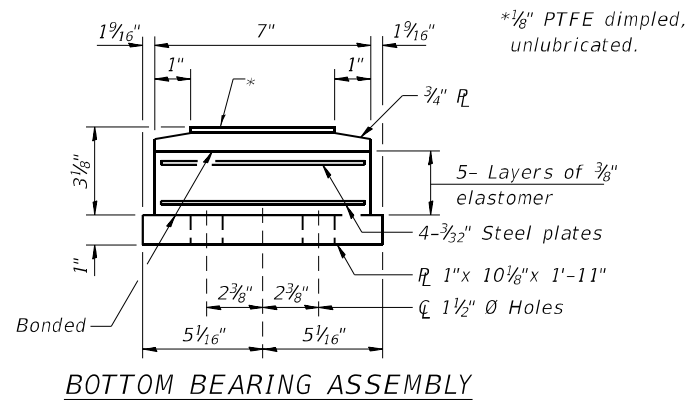
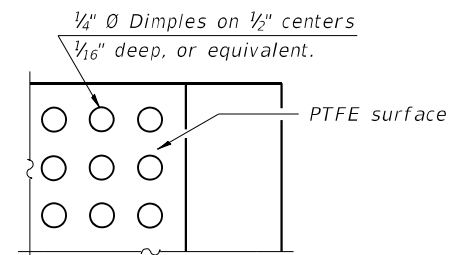
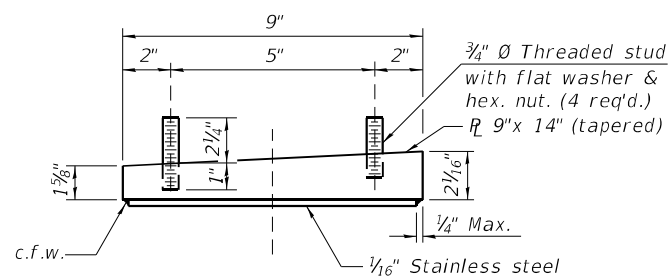


TYPE II ELASTOMERIC EXP. BRG.

** Looking North : W. Abut. & Pier-4 (Span 4)
Looking South : E. Abut. & Pier-7 (Span 8)

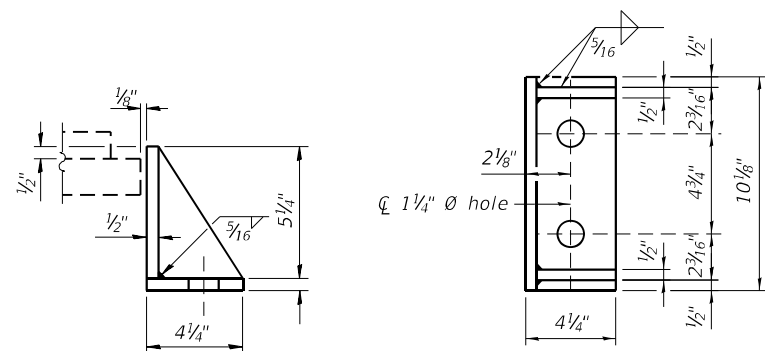
Notes:

- Side retainers and leveling pad required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
- The 1/8" PTFE 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" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
- Prior to ordering any material, the Contractor shall verify in the field all bearing dimensions. Cost included with Elastomeric Bearing Assembly, Type II.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- Bearing seat surfaces shall be cleaned according to Article 505.08(h) of the Standard Specifications.
- Anchor bolts shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- All structural steel bearing plates shall be Grade 50.

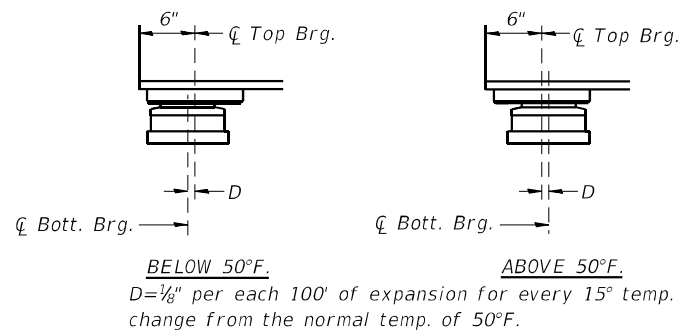


PROCEDURE FOR JACKING AND REMOVING EXISTING BEARINGS

- The Contractor shall submit, for approval by the Engineer, plans for jacking and removing the existing bearings of the abutments prior to commencing any work at abutment or pier bearings.
- The minimum jack capacity is 20 tons per girder.



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



The above diagrams are for informational purposes only to show the amount of expected offset "D" for the current temperature in the field.

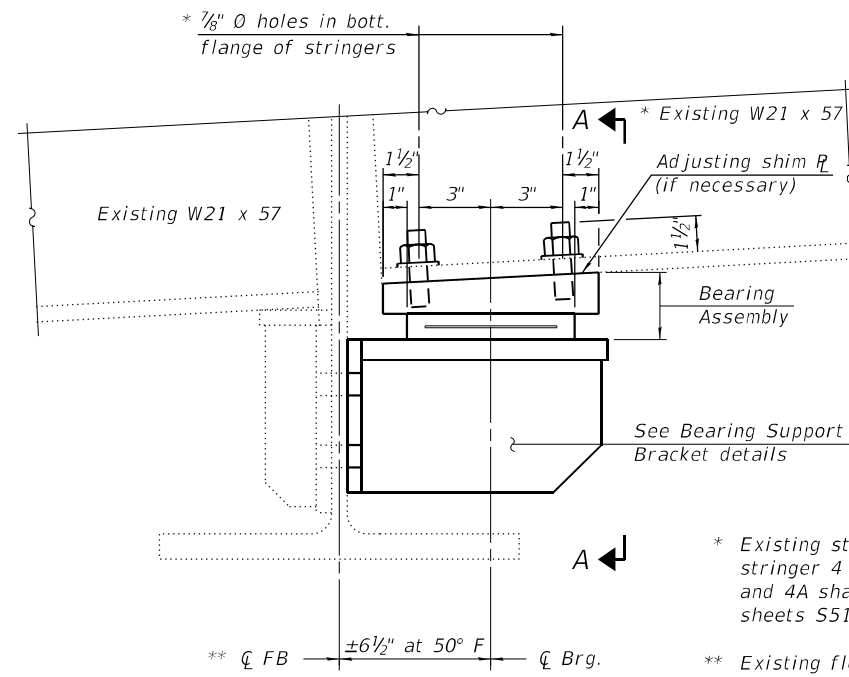
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	20
Anchor Bolts, 1"	Each	80
Jack and Remove Existing Bearings	Each	20

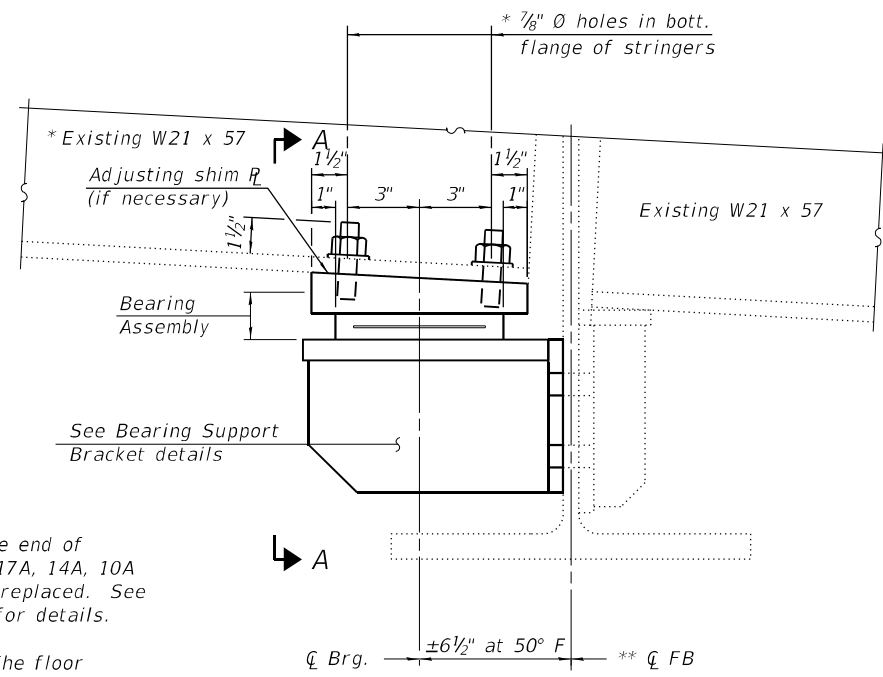
MODEL: Default
FILE NAME: E:\19111\Struct\Final Design\CADD\CADD_Sheets\0620003-68F08-576-Bearing Details - Unit 1 and 3.dgn

USER NAME =	DESIGNED - RJM	REVISED -
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PLOT DATE = 10/13/2022	DRAWN - AJF	REVISED -
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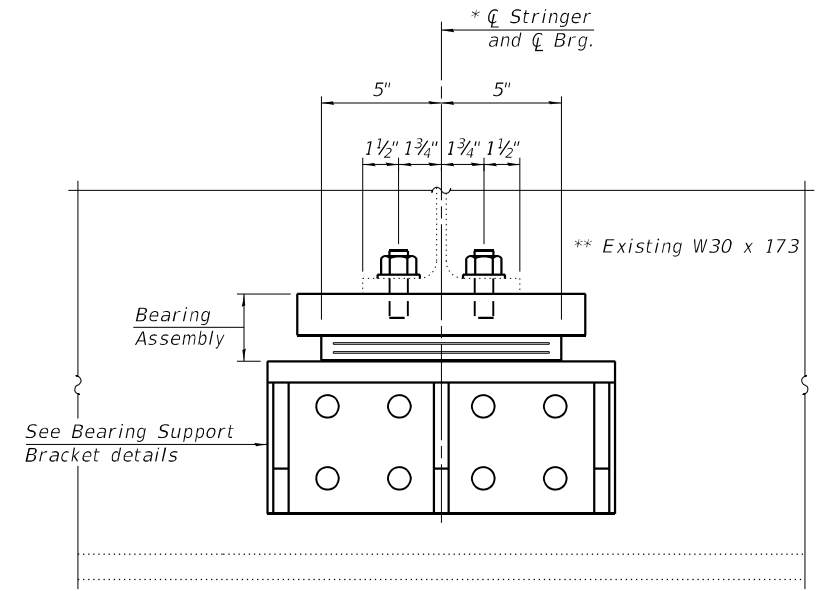
F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 106
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



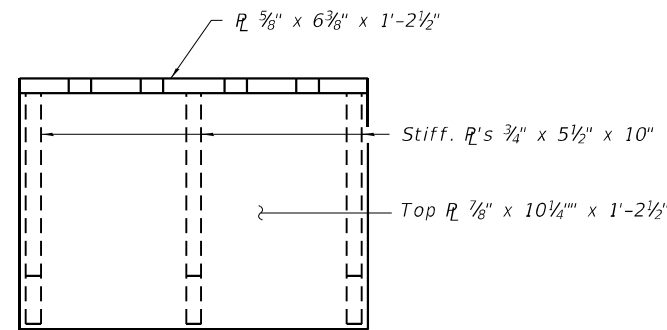
ELEVATION
(Looking North)
(Showing stringers at FB's 4, 7, 10, 14 and 17.)



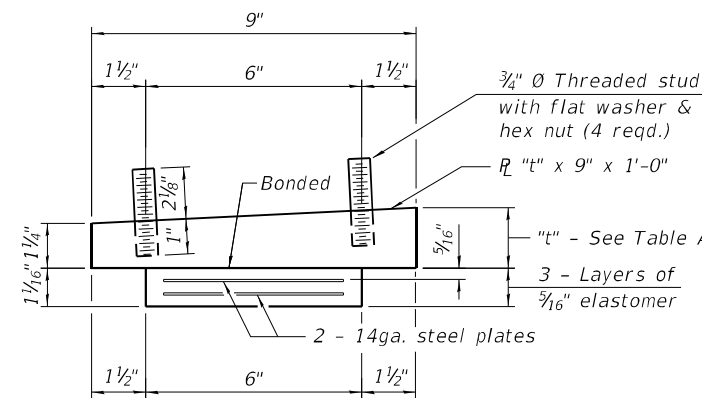
ELEVATION
(Looking North)
(Showing stringers at FB's 4A, 7A, 10A, 14A and 17A.)



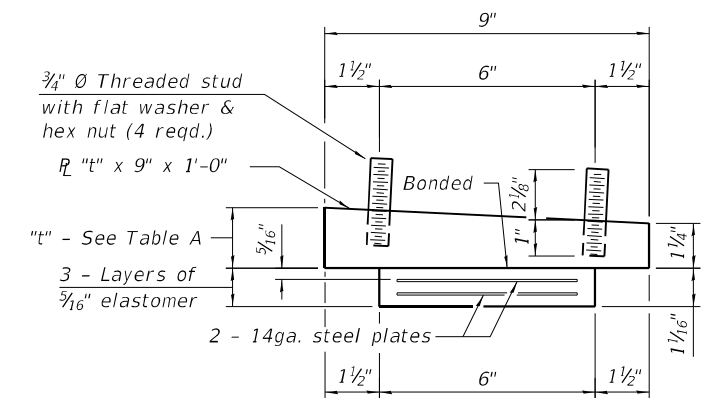
SECTION A-A



PLAN



AT FB'S 4, 7, 10, 14 AND 17



AT FB'S 4A, 7A, 10A, 14A AND 17A

BEARING ASSEMBLY

(Shim plates shall not be placed under bearing assembly.)

Notes:

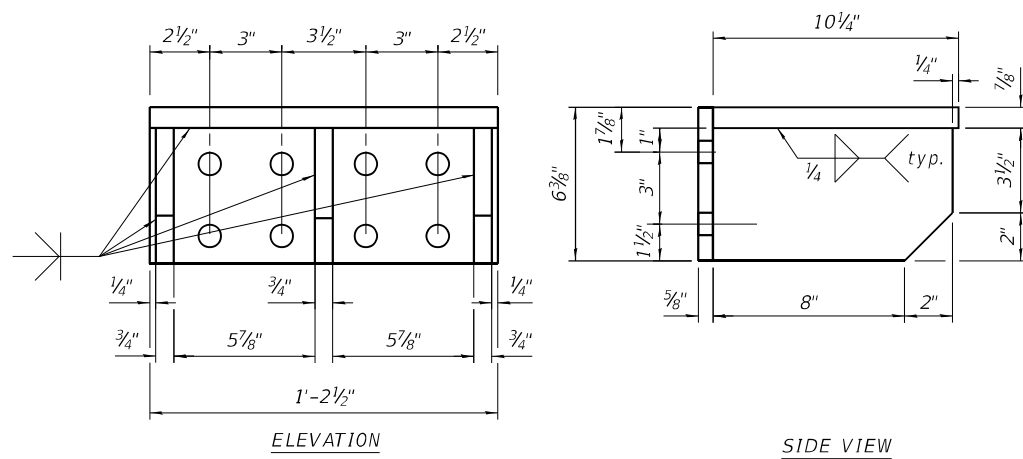
- Cost to remove existing bearings and existing bearing support brackets is included with Structural Steel Removal. See sheets S51 thru S70 of S97.
- New bearing support brackets are paid for as Furnishing and Erecting Structural Steel and the weight is included with the floor beam repair details on sheets S51 thru S70 of S97.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type 1	Each	40

TABLE A

Floor Beam	Dim. "t"
4	1 3/4"
7	1 3/4"
10	1 3/4"
14	1 1/2"
17	1 5/16"
17A	1 5/16"
14A	1 1/2"
10A	1 3/4"
7A	1 3/4"
4A	1 3/4"



BEARING SUPPORT BRACKET DETAILS

(40 Required)

FILE NAME: SFILES

design firm
no. 184001036



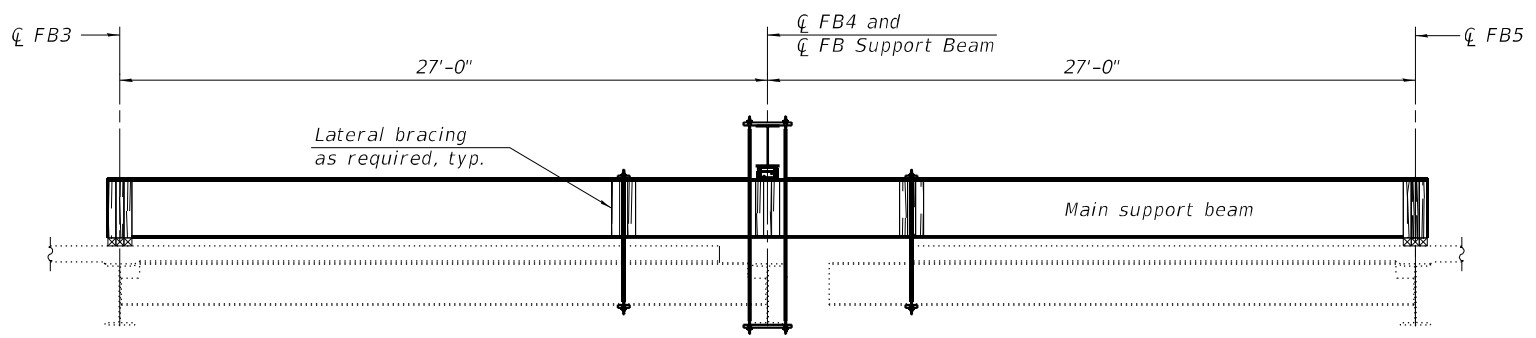
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS - RELIEF JOINTS
STRUCTURE NO. 062-0003**

SHEET 577 OF 597 SHEETS

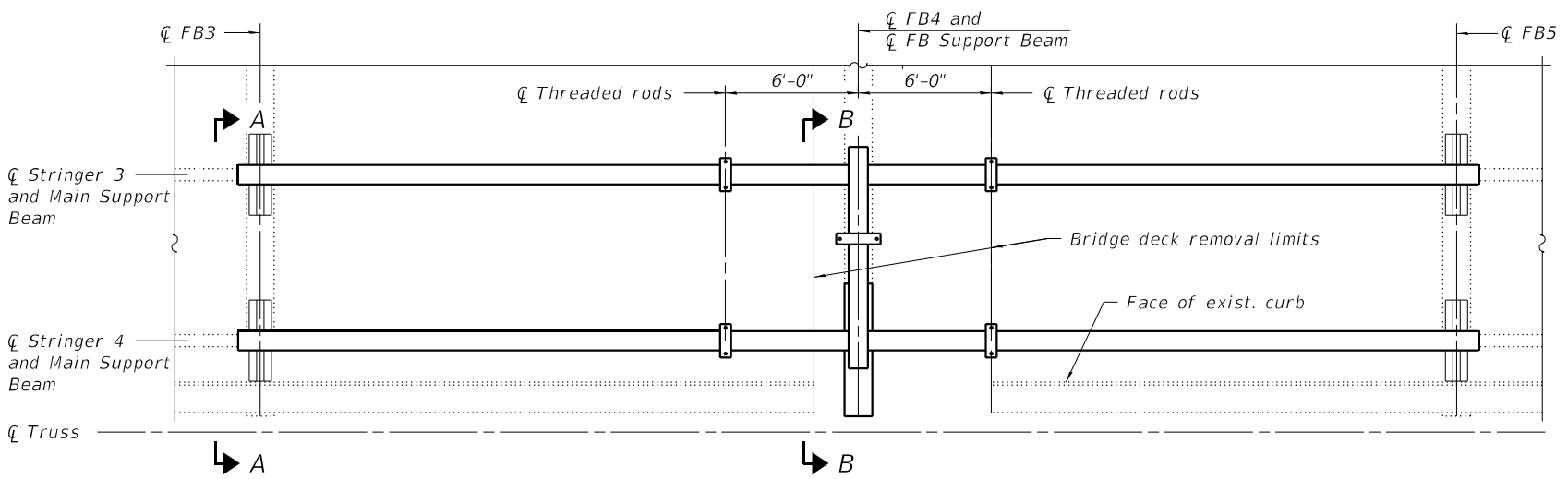
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	107
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



TYPICAL ELEVATION AT FLOOR BEAM REPAIRS
(Showing FB4, other FB's at relief joints similar.)

Notes:

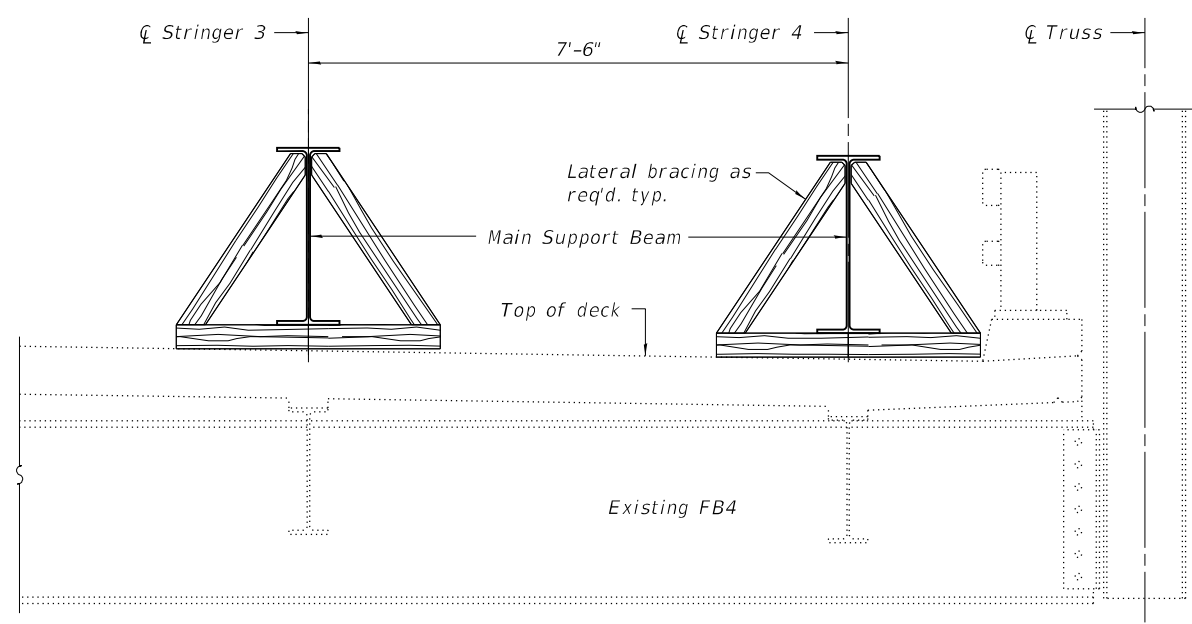
1. The Contractor shall provide a Temporary Shoring and Cribbing system to support the affected floor beams and stringers during repair of the floor beams and stringers, and replacement of the stringer bearings.
2. The Shoring and Cribbing system shown is provided as a conceptual design only to aid the Contractor with development of a complete design as required for construction. The Contractor may provide an alternate Temporary Shoring and Cribbing system. The Temporary Shoring and Cribbing system shall be designed and sealed by an Illinois licensed Structural Engineer. See Special Provisions.
3. The Temporary Shoring and Cribbing system shown covers the repair work at one (1) floor beam repair location. As shown, it covers the south end of Floor Beam 4, the stringer end replacements (if applicable) and the bearing replacements at Stringers 3 and 4, but the system can be used at both ends of all 10 floor beam repair locations, for a total of 20 locations.
4. The service dead load reaction of the floor beam is 56 kips and the dead load reaction of each stringer is 14 kips.



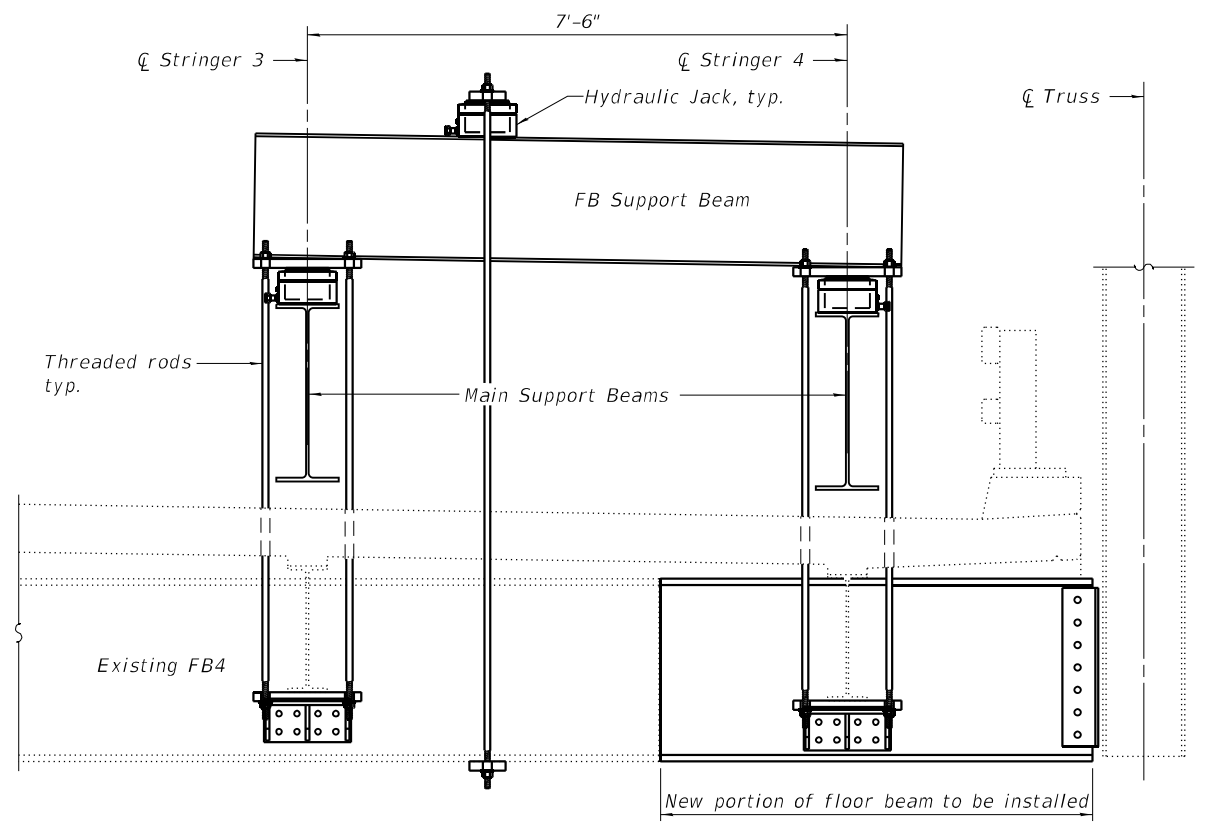
TYPICAL PLAN AT FLOOR BEAM REPAIRS
(Showing FB4, other FB's at relief joints similar.)

BILL OF MATERIAL

Item	Unit	Total
Temporary Shoring and Cribbing	Each	20



SECTION A-A



SECTION B-B

FILE NAME: SFILES



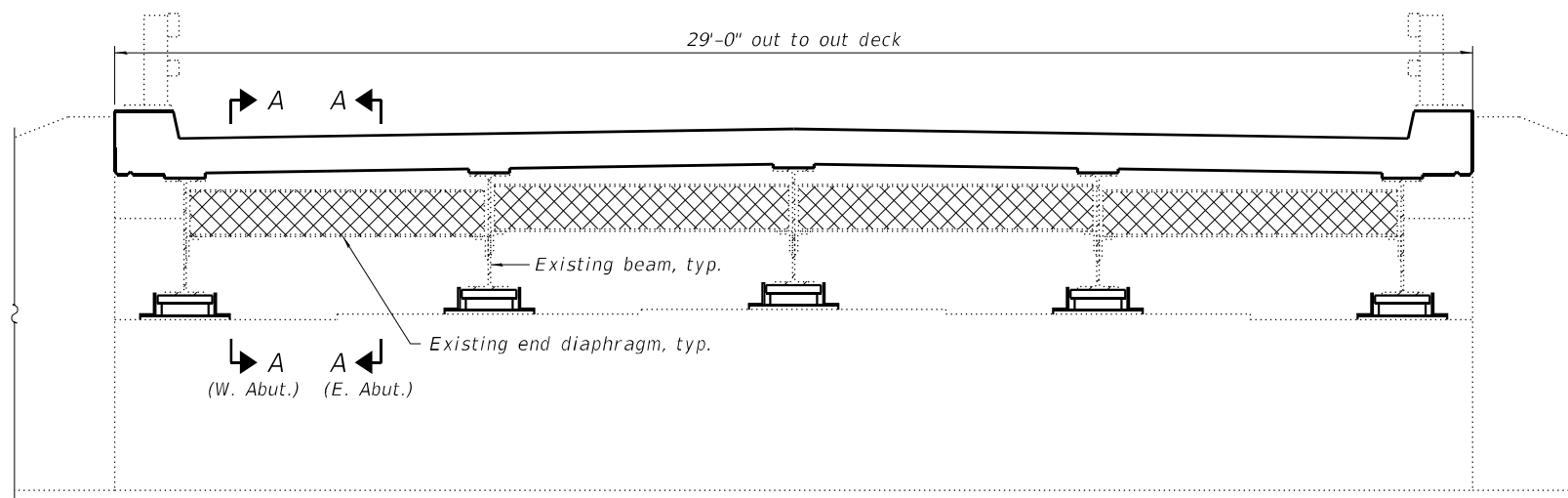
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**JACKING, SHORING, CRIBBING DETAILS
STRUCTURE NO. 062-0003**

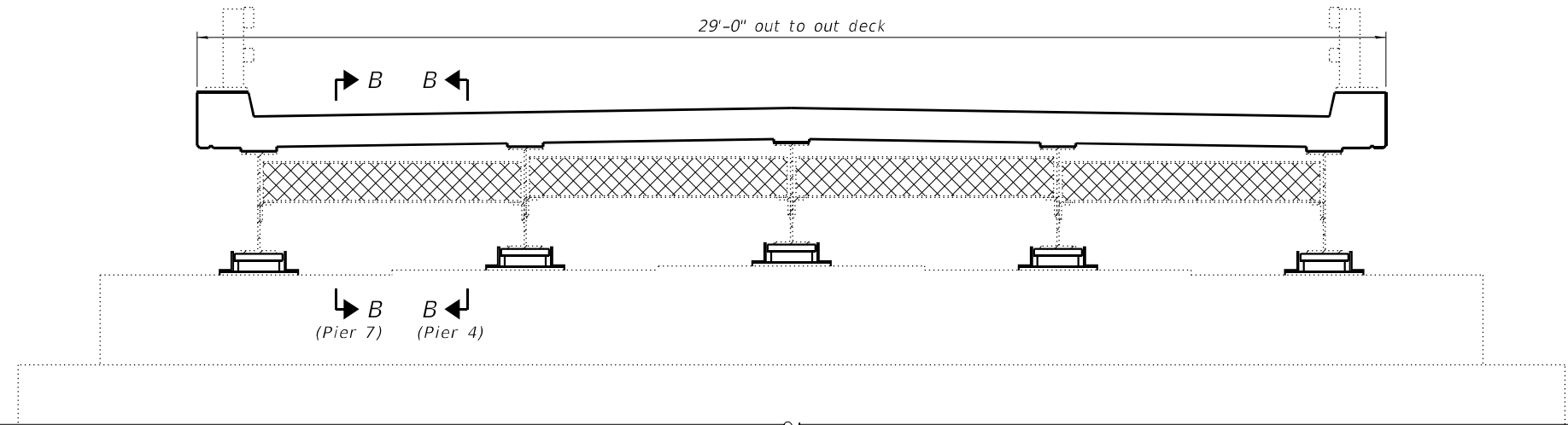
SHEET 578 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	108
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



CROSS SECTION - ABUTMENTS

Looking West at West Abut.
Looking East at East Abut.

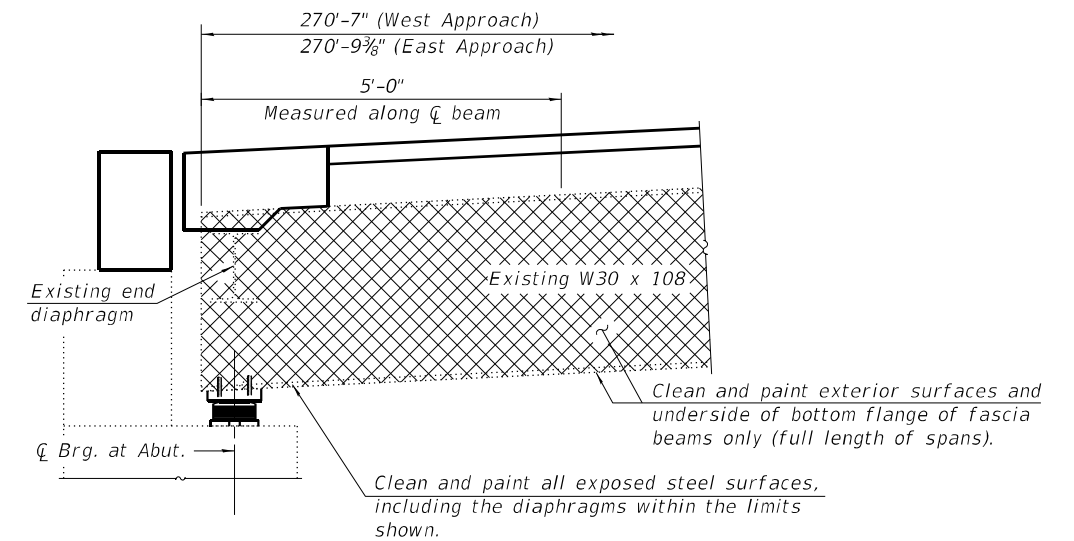


CROSS SECTION - APPROACH SPAN AT PIER 4 AND PIER 7

(Looking West - Pier 4)
(Looking East - Pier 7)

Cleaning and Painting - Approach Spans Notes:

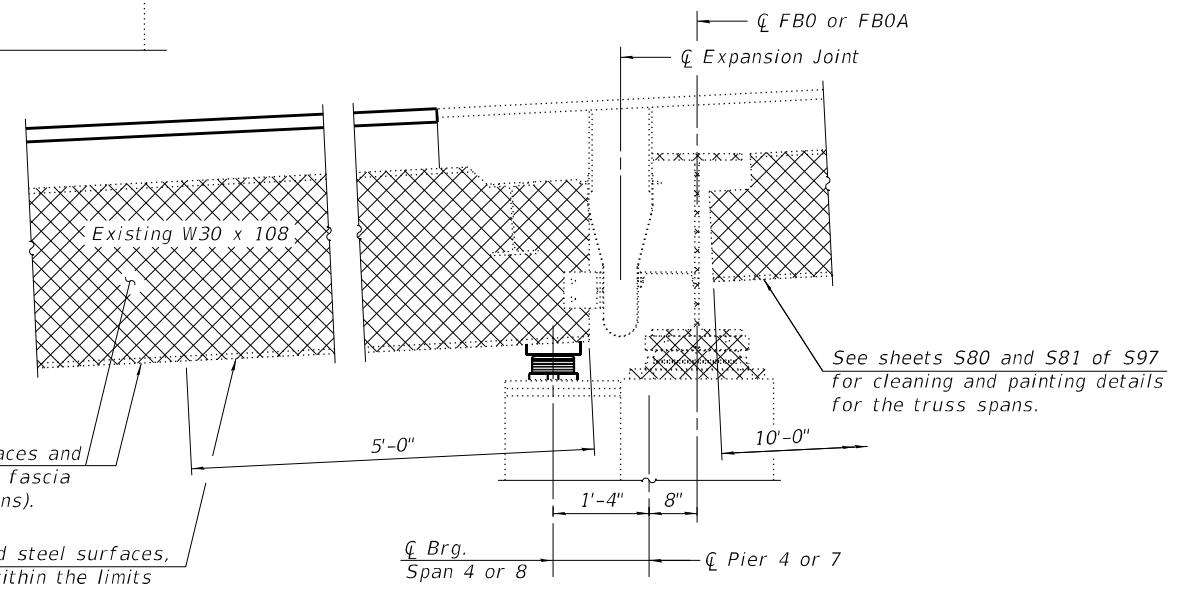
- All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.
- Cleaning and painting existing structural steel shall be as specified in the Special Provision for Cleaning and Painting Existing Steel Structures except at the locations of steel repairs or where new structural steel is to be added. All beams, bearings and other structural steel of the approach spans within 5 feet (measured along the beams) of the expansion joints at the abutments and Piers 4 and 7, shall be cleaned per Near White Blast Cleaning (SSPC-SP10). Additionally, the exterior surfaces and the bottom of the bottom flange of the fascia beams shall also be cleaned per Near White Blast Cleaning (SSPC-SP10).
- Cleaning and painting of existing structural steel in the areas of steel repairs or where new structural steel will be in contact with existing structural steel shall be as specified for Primary Connections in the Special Provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.
- The designated areas cleaned per Near White Blast Cleaning (SSPC-SP10) shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5G 4/8.
- The cost for cleaning and painting the existing structural steel as shown on this sheet shall be included with the pay item Cleaning and Painting Steel Bridge No. 1.
- Containment of cleaning residue for the designated areas shown on this sheet is required to control nuisance dust as specified in the Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues.
- Coordinate cleaning and painting activities with structural steel repairs. See sheet S29-S70 of S97.
- Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at those locations.



SECTION A-A

LEGEND

Limits of Cleaning and Painting Steel Bridge No. 1 per Near White Blast Cleaning (SSPC-SP10)



SECTION B-B

(Sheet 1 of 3)

FILE NAME: SFILES



USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
CHECKED - BRD, JLM, GEM	REVISIONS -	
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
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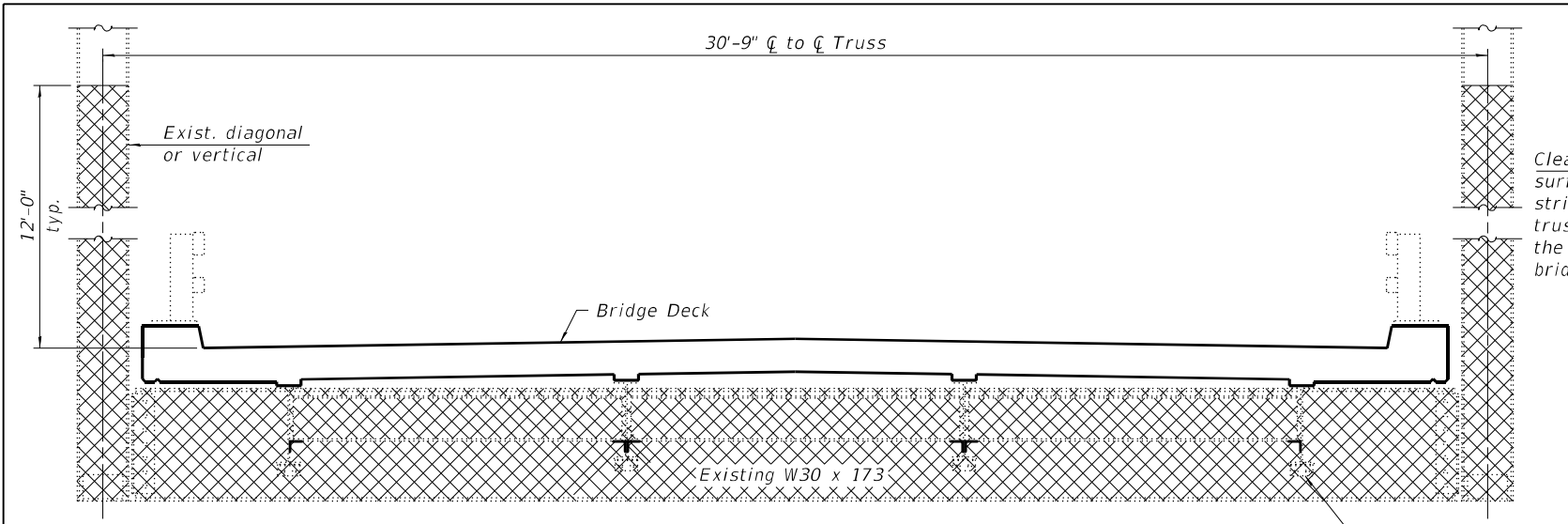
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CLEANING AND PAINTING DETAILS - APPROACH SPANS
STRUCTURE NO. 062-0003**

SHEET 579 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	109
CONTRACT NO. 68F08				

ILLINOIS FED. AID PROJECT



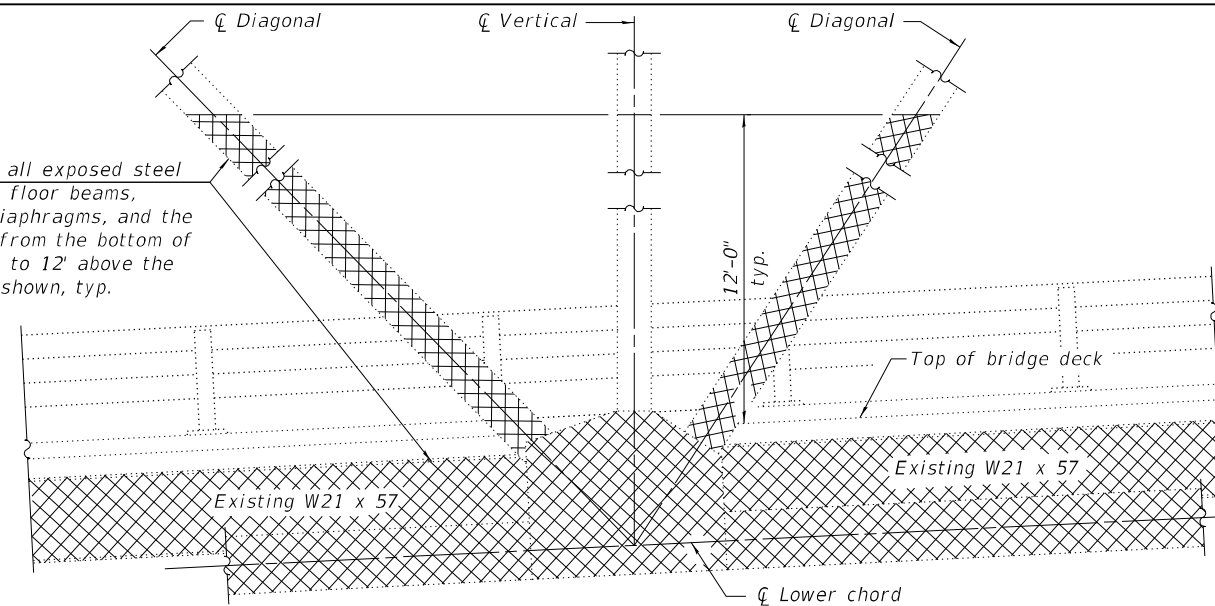
CROSS SECTION - TRUSS SPANS

(At expansion joints and intermediate relief joints only.)

Lower lateral bracing not shown for clarity. Lower lateral bracing and connection plates shall be cleaned and painted as designated for the floor system.

Support brackets at expansion joints shown. Bearings and brackets at relief joints shall be replaced.

Clean and paint all exposed steel surfaces of the floor beams, stringers and diaphragms, and the truss members from the bottom of the lower chord to 12' above the bridge deck as shown, typ.



PARTIAL ELEVATION AT TRUSS SPANS

Partial elevation shown at intermediate relief joints.

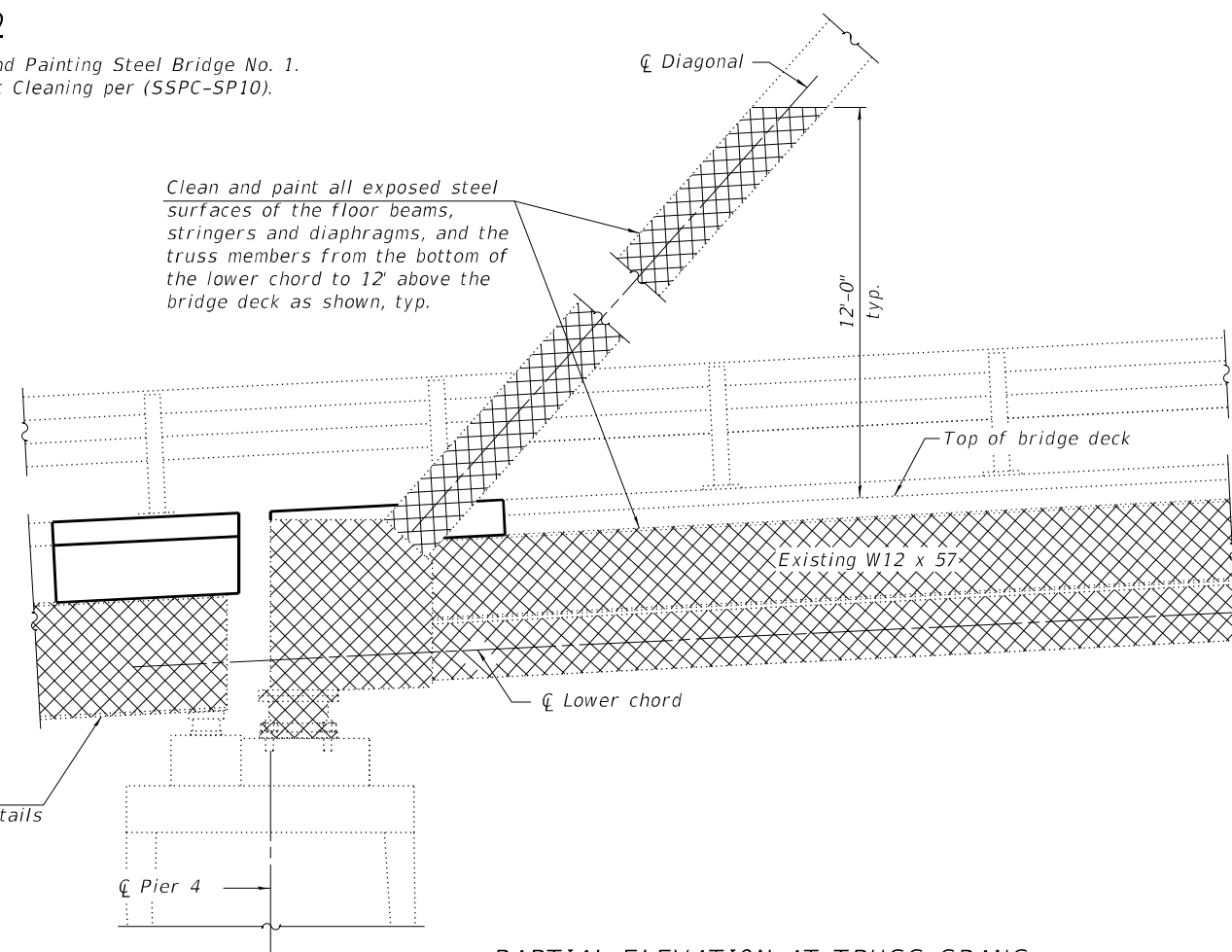
* At intermediate relief joints at Floor Beams 4, 7, 10, 14, 17, 17A, 14A, 10A, 7A and 4A only.

Cleaning and Painting - Truss Spans Notes:

- All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.
- Cleaning and painting of existing structural steel shall be as specified in the Special Provision for Cleaning and Painting Existing Steel Structures except at the locations of steel repairs or where new structural steel is to be added. All floor beams, stringers, bearings and other structural steel of the truss floor system, as well as the all members of the truss from the bottom chord to 12' above the top surface of the bridge deck, shall be cleaned per Near White Blast Cleaning (SSPC-SP10).
- Cleaning and painting of existing structural steel in the areas of steel repairs or where new structural steel will be in contact with existing structural steel shall be as specified for Primary Connections in the Special Provision for Cleaning and Painting Contact Surface Areas of Existing Steel Structures.
- The designated areas cleaned per Near White Blast Cleaning (SSPC-SP10) shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat shall be Interstate Green, Munsell No. 7.5G 4/8.
- The cost for cleaning and painting the existing structural steel as shown on this sheet shall be included with the pay item Cleaning and Painting Steel Bridge No. 1.
- The existing structural steel coating of the truss members, excluding the floor system, contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project as specified in the Special Provision for Containment and Disposal of Lead Paint Cleaning Residues.
- Containment of cleaning residue for the floor system is required to control nuisance dust as specified in the Special Provision for Containment and Disposal of Non-Lead Paint Cleaning Residues.
- The Contractor shall submit calculations and details demonstrating the structural integrity of the bridge is maintained under the additional imposed loads of the containment system for the truss spans. See Special Provisions.
- A minimum of two (2) air monitors will be required to monitor abrasive blasting operations at this site. See Special Provision for Containment and Disposal of Lead Paint Cleaning Residues.
- SSPC QP1 and SSPC QP2 Certification are required for this contract.
- Existing caulking within the limits of cleaning and painting shall be removed, and new joint sealant shall be installed. Also, within the limits of cleaning and painting, joint sealant shall be installed around all other connection plates and at areas of pack rust between built-up plate members. The sealant shall be an approved polyurethane sealant, compatible with the proposed paint system, and shall be submitted to the Engineer for approval prior to use. The surfaces of the crevices to receive joint sealant shall be cleaned per Commercial Grade Power Tool Cleaning (SSPC-SP15) and painted according to the requirements of Paint System 1 - OZ/E/U. Once the paint system is dry to the touch, the sealant shall be installed over the final finish coat. After the sealant has cured in accordance with the Manufacturer's written product data sheet, a stripe finish coat shall be applied over the sealant.
- Coordinate cleaning and painting activities with structural steel repairs. See sheets S29-S70 of S97. See the existing structural plans for more information about the size and geometry of members to be cleaned and painted.
- Cleaning and painting of beam ends shall be performed after the concrete removal at the joints has been completed and prior to the installation of any forms for the placement of the new concrete at those locations.

LEGEND

Limits of Cleaning and Painting Steel Bridge No. 1. per Near White Blast Cleaning per (SSPC-SP10).



PARTIAL ELEVATION AT TRUSS SPANS

Partial elevation at Pier 4 shown, partial elevation at Pier 7 similar.

(Sheet 2 of 3)

FILE NAME: SFILES



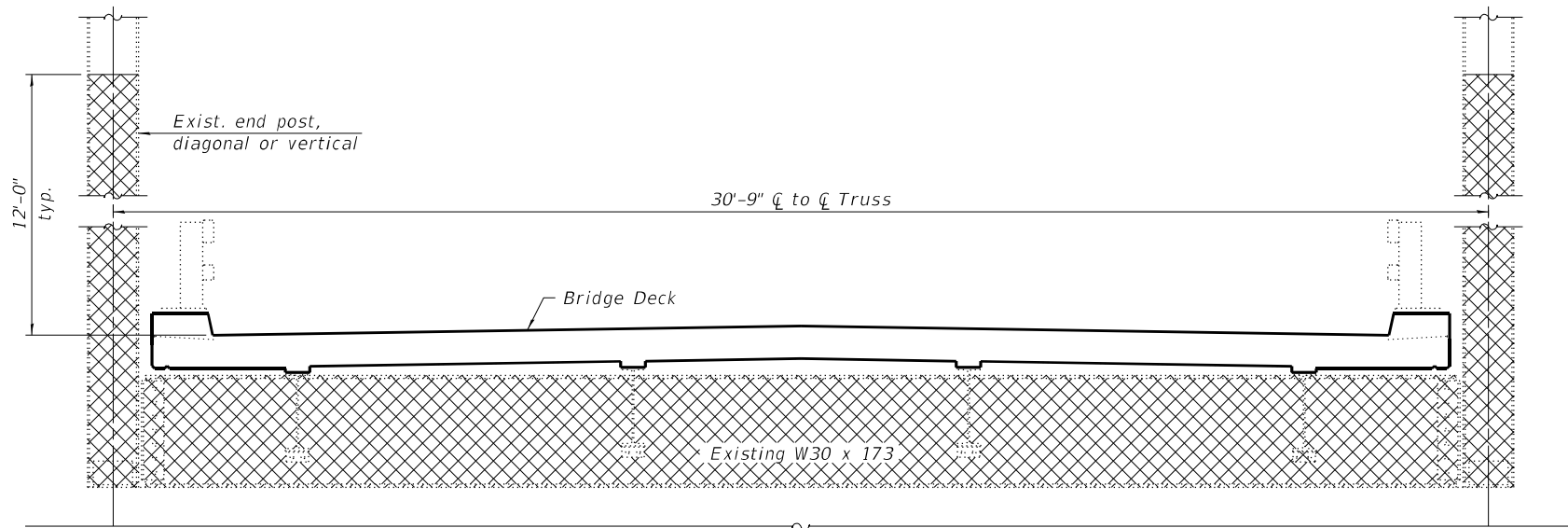
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CHECKED - BRD, JLM, GEM	REVISIONS -	
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
PLOT DATE = \$TIME\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CLEANING AND PAINTING DETAILS - TRUSS SPANS
STRUCTURE NO. 062-0003**

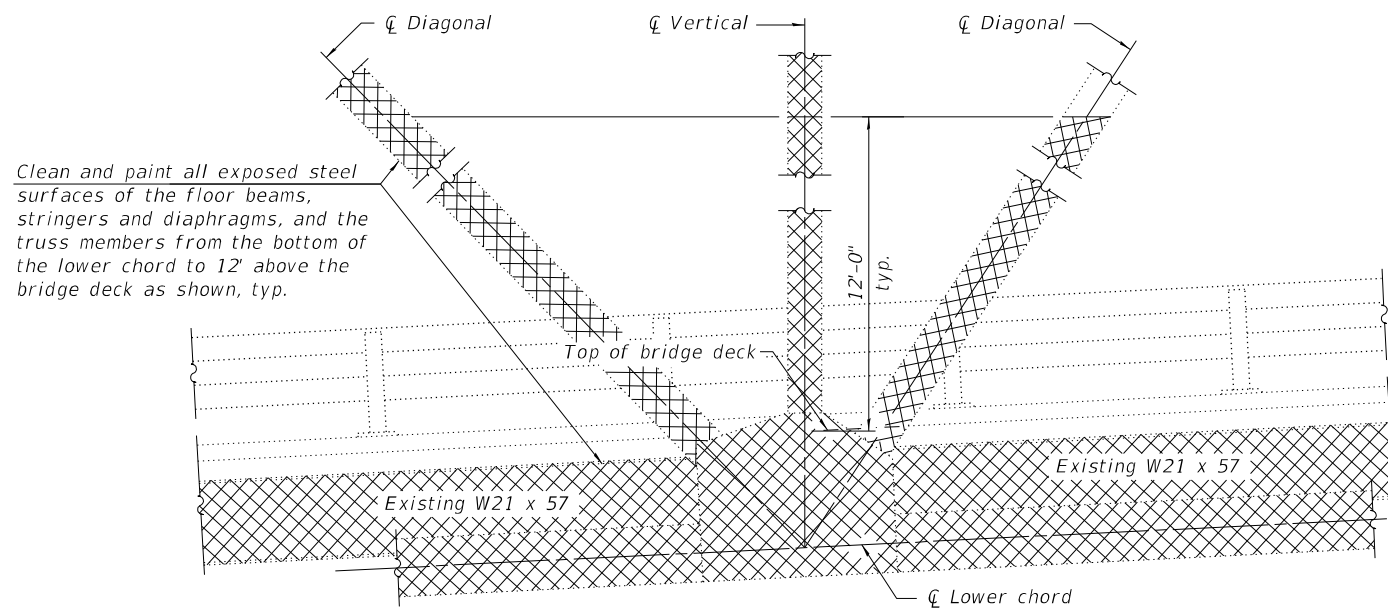
SHEET 580 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	110
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		



CROSS SECTION - TRUSS SPANS

(Except at expansion joints and intermediate relief joints.)
 Lower lateral bracing not shown for clarity. Lower lateral bracing and connection plates shall be cleaned and painted as designated for the floor system.



PARTIAL ELEVATION AT TRUSS SPANS

Except at expansion joints and intermediate relief joints.

LEGEND



Limits of Cleaning and Painting Steel Bridge No. 1, per Near White Blast Cleaning per (SSPC-SP10).

(Sheet 3 of 3)

FILE NAME: SFILES

design firm
no. 184001036



USER NAME = \$USERS	DESIGNED - SDS, SBC, CEH	REVISED -
	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$DATE\$	DRAWN - DLH	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

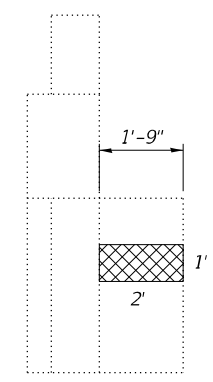
**CLEANING AND PAINTING DETAILS - TRUSS SPANS
STRUCTURE NO. 062-0003**

SHEET 581 OF 597 SHEETS

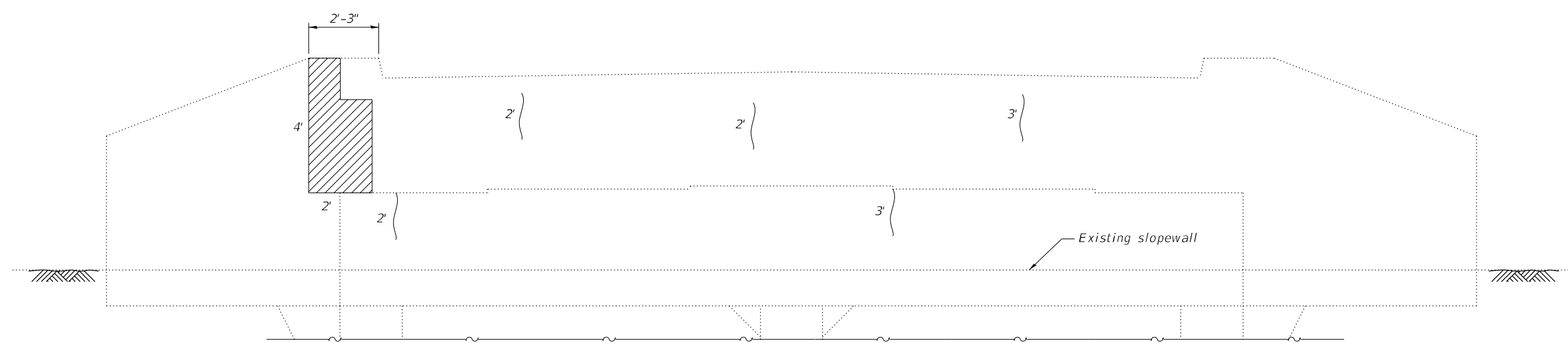
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	111
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		



PLAN - WEST ABUTMENT



SECTION A-A



ELEVATION - WEST ABUTMENT
(Looking West)

LEGEND

- Structural Repair of Concrete (Depth greater than 5")
- Structural Repair of Concrete (Depth less than or equal to 5")
- Epoxy Crack Injection

Notes:
Abutment concrete repair locations and quantities are estimated.
The actual limits will be determined in the field by the Engineer at the time of construction.

BILL OF MATERIAL

	Unit	Total
Epoxy Crack Injection	Foot	14
Structural Repair of Concrete (Depth Greater than 5")	Sq. Ft.	2
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	8

(Sheet 1 of 2)

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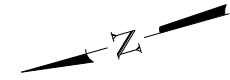
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PLOT DATE = 10/13/2022	CHECKED - CZ	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUBSTRUCTURE REPAIR DETAILS - ABUTMENTS
STRUCTURE NO. 062-0003**

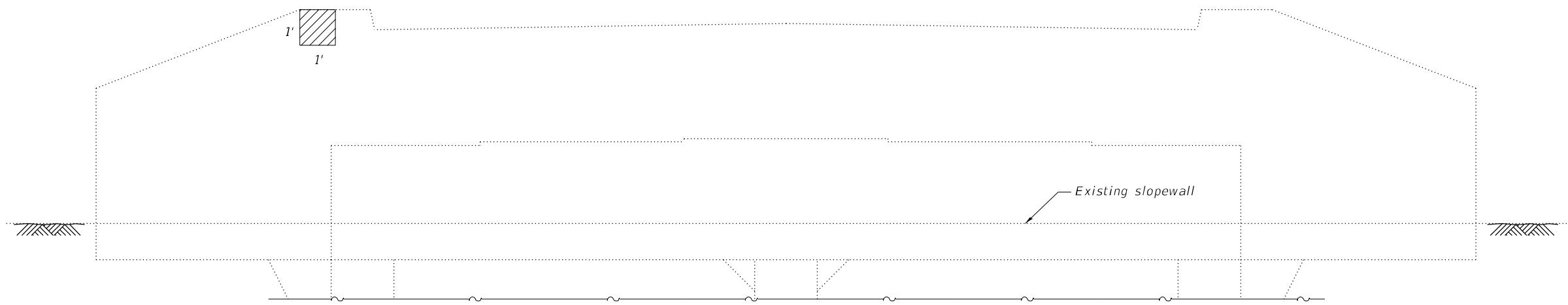
SHEET S82 OF S97 SHEETS

F.A.P. RTE. 649	SECTION (1B-D)BR.P	COUNTY MARSHALL	TOTAL SHEETS 129	SHEET NO. 112
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



PLAN - EAST ABUTMENT

Notes:
 Abutment concrete repair locations and quantities are estimated.
 The actual limits will be determined in the field by the Engineer at
 the time of construction.



ELEVATION - EAST ABUTMENT
 (Looking East)

LEGEND

Structural Repair of Concrete (Depth less than or equal to 5")

BILL OF MATERIAL

	Unit	Total
Structural Repair of Concrete (Depth Equal to or Less than 5")	Sq. Ft.	3

(Sheet 2 of 2)

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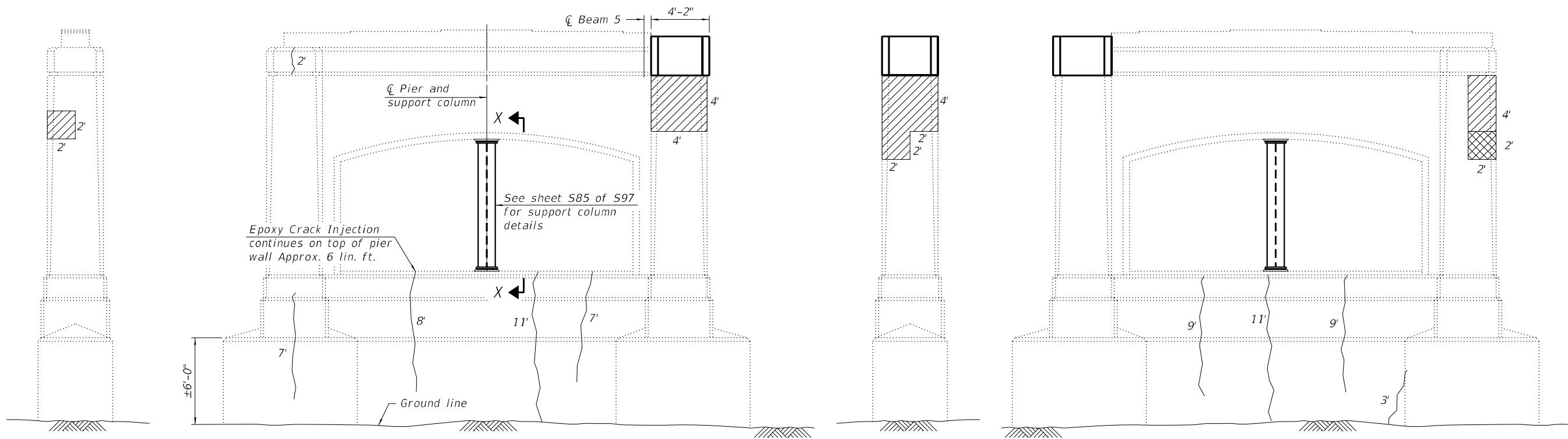
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	CHECKED - CZ	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - ABUTMENTS
STRUCTURE NO. 062-0003

SHEET S83 OF S97 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR.P	MARSHALL	129	113
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION-NORTH END
(Looking South)

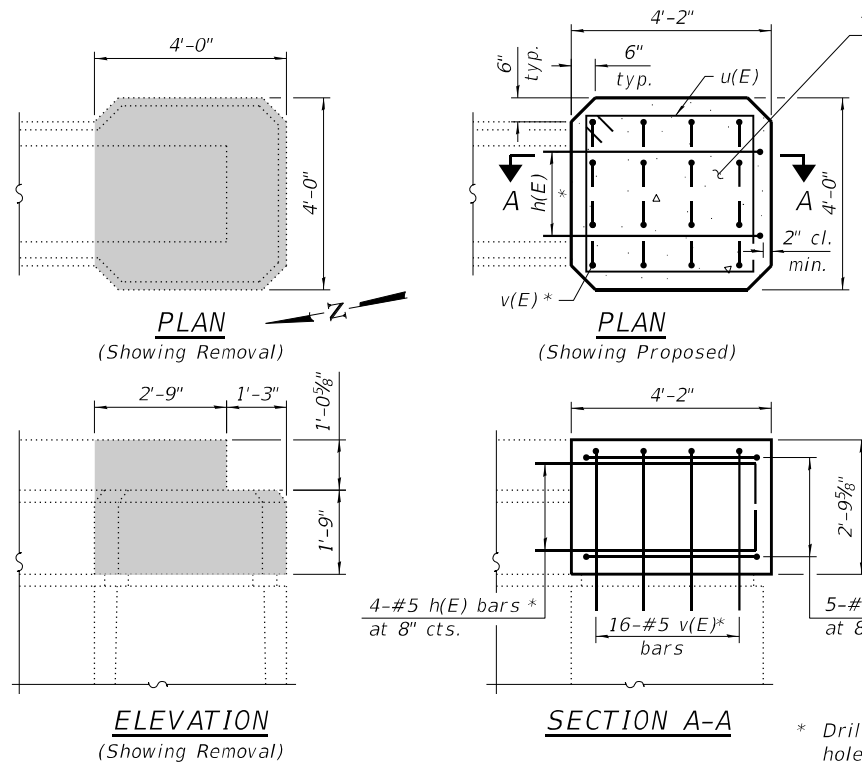
ELEVATION-WEST FACE
(Looking East)

ELEVATION-SOUTH END
(Looking North)

ELEVATION-EAST FACE
(Looking West)

Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- For light pole details, see Roadway and Navigation Lighting Plans.
- Existing reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Concrete Sealer shall be applied to the top and vertical surfaces of the new pier cap concrete.
- The service dead load reaction of the stringer is 14 kips.
- The support column shall be installed prior to commencing concrete removal at the top of the south column.

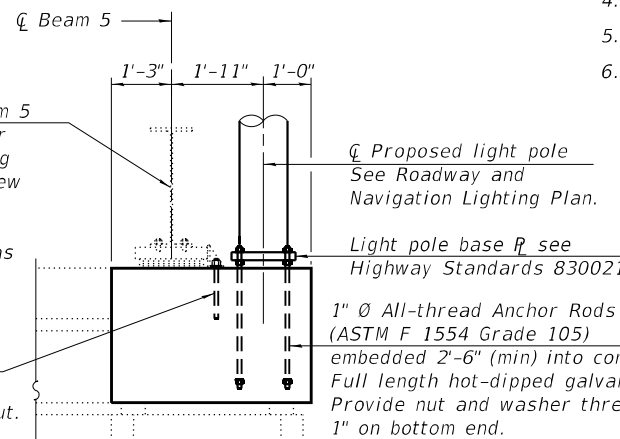


Top surface of the newly reconstructed pier cap shall receive an application of Concrete Sealer prior to re-installation of the existing bearing and installation of the proposed light pole.

Jack and temporarily support beam 5 to allow reconstruction of the pier cap. Remove and reinstall existing bearing and side retainer using new anchor bolts. Cost to jack and support the beam and remove and reinstall the bearing is paid for as Jacking and Cribbing.

1 1/4" Ø x 1'-3" All-thread anchor bolts (ASTM A307 Grade 36) with 2 3/4" x 2 3/4" x 3/16" R washer under nut.

* Drill and epoxy grout bars in 9" min. drilled holes in accordance with Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



ELEVATION
(Proposed Lighting)

LEGEND

- Concrete Removal
- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

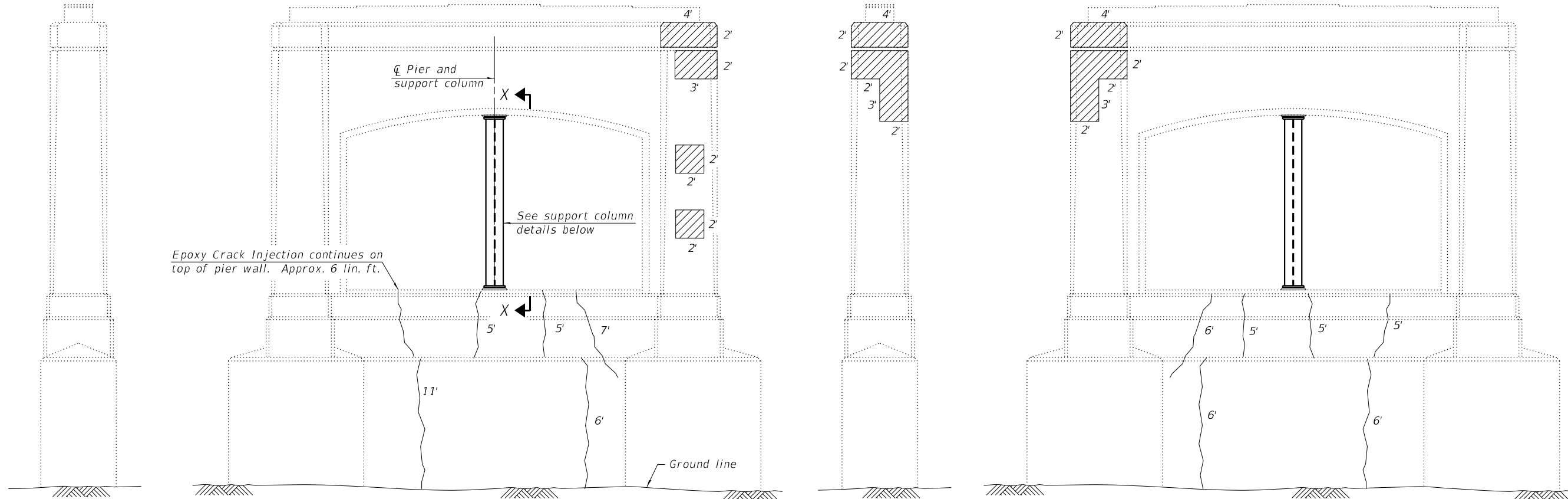
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	5'-7"	
u(E)	5	#5	13'-7"	
v(E)	16	#5	4'-4"	
Concrete Removal			Cu. Yd.	1.3
Concrete Structures			Cu. Yd.	1.7
Furnishing and Erecting Structural Steel			Pound	1,360
Reinforcement Bars, Epoxy Coated			Pound	170
Anchor Bolts, 1 1/4"			Each	1
Concrete Sealer			Sq. Ft.	50
Epoxy Crack Injection			Foot	73
Structural Repair of Concrete (Depth equal to or less than 5")			Sq. Ft.	48
Structural Repair of Concrete (Depth greater than 5")			Sq. Ft.	4
Jacking and Cribbing			Each	1

h(E) BAR

v(E) BAR

u(E) BAR

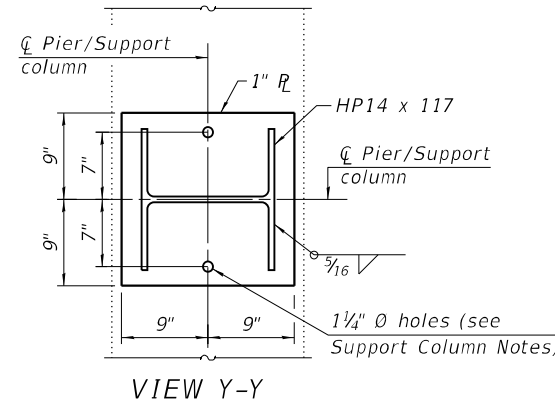


ELEVATION-NORTH END
(Looking South)

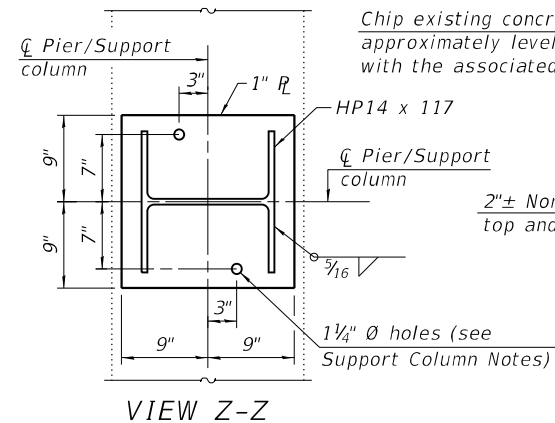
ELEVATION-WEST FACE
(Looking East)

ELEVATION-SOUTH END
(Looking North)

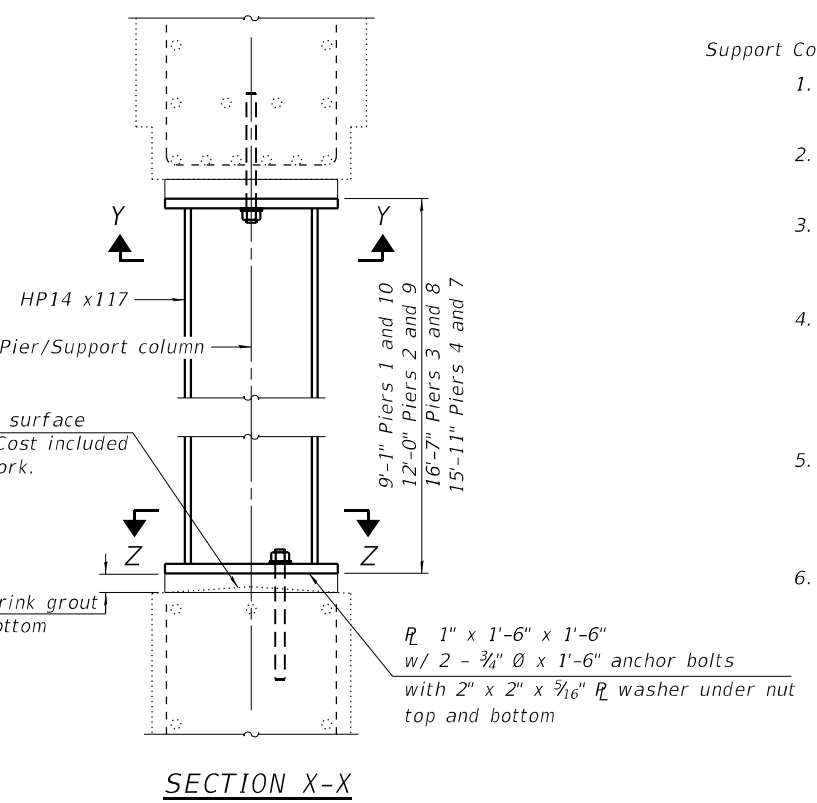
ELEVATION-EAST FACE
(Looking West)



VIEW Y-Y



VIEW Z-Z



SECTION X-X

Support Column Notes:

- In addition to other requirements indicated herein, the support columns shall be in place prior to placing the microsilica concrete overlay.
- The cost of furnishing and erecting the support columns will be included with Furnishing and Erecting Structural Steel.
- The support columns and associated hardware shall be hot dipped galvanized according to AASHTO M111 and M232, as applicable. Cost included with the associated work.
- Nonshrink grout shall be chosen from the Department's approved material list and have a minimum 7-day compressive strength of 4,000 psi. Furnishing and placing the nonshrink grout will not be measured for separate payment but shall be included in the cost of furnishing and erecting the support columns.
- Anchor bolts shall be ASTM F 1554 Grade 105 and in accordance with Article 1006.09 of the Standard Specifications. The cost of furnishing and installing the anchor bolts will be included with Furnishing and Erecting Structural Steel.
- Anchor bolts shall be drilled and grouted in 9 in. minimum deep holes in existing concrete and according to Section 584 of the Standard Specifications. An attempt has been made to locate the anchor bolts away from the existing reinforcement bars. The Contractor shall locate existing reinforcement bars will not be damaged during drilling. Holes in the top and bottom plates shall be field drilled to match the anchor bolt locations determined in the field. Holes may be moved in from the sides of the plate as needed to miss existing reinforcement. Cost included with the associated work.

Note:

Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5")
- Epoxy Crack Injection

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1,700
Epoxy Crack Injection	Foot	73
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	66

FILE NAME: SFILES



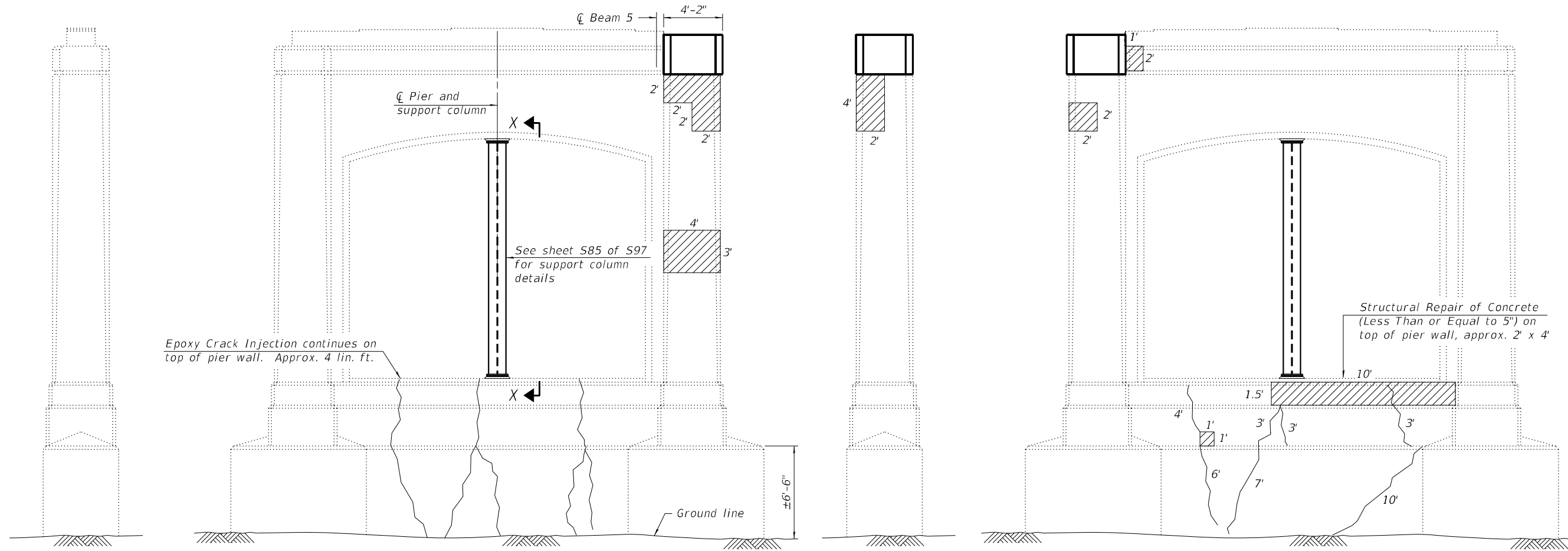
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PLOT DATE = \$DATE\$		DRAWN - DLH	REVISED -
PLOT DATE = \$TIME\$		CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - PIER 2
STRUCTURE NO. 062-0003

SHEET 585 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	115
CONTRACT NO. 68F08				
ILLINOIS		FED. AID PROJECT		

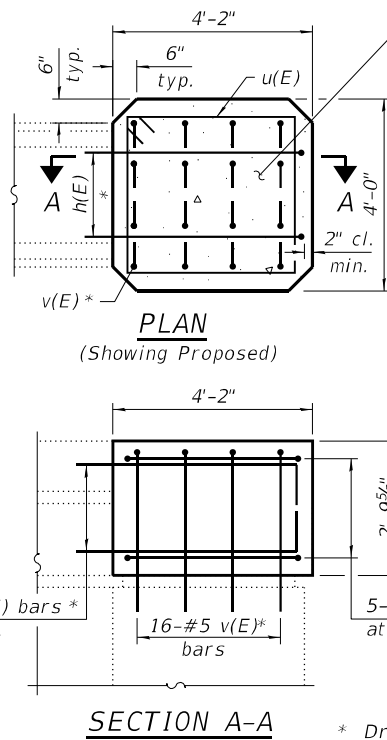
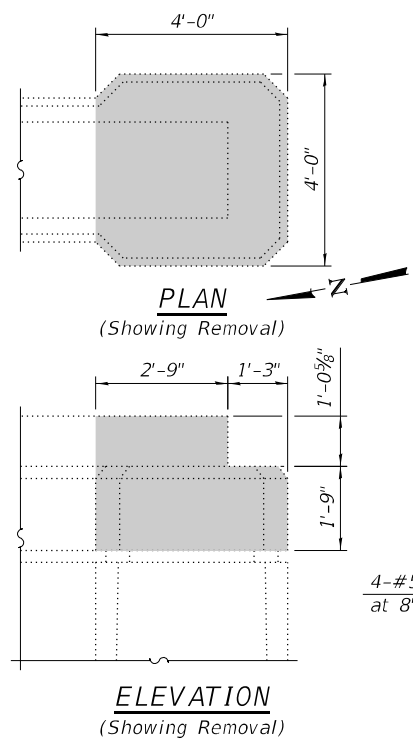


ELEVATION-NORTH END
(Looking South)

ELEVATION-WEST FACE
(Looking East)

ELEVATION-SOUTH END
(Looking North)

ELEVATION-EAST FACE
(Looking West)

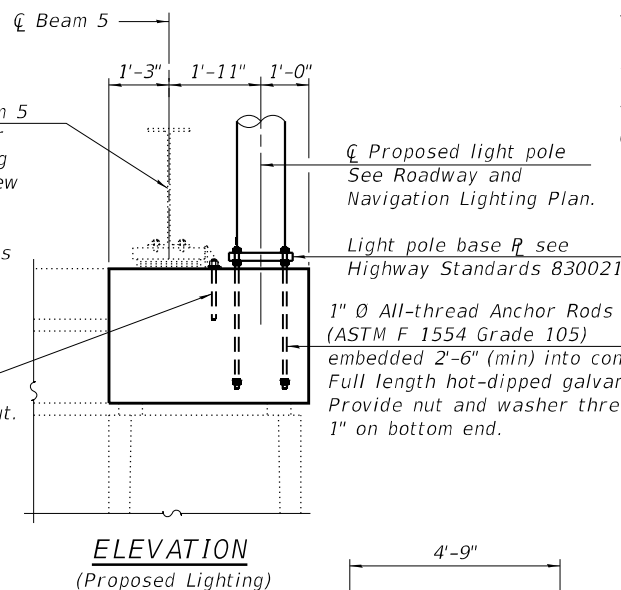


Top surface of the newly reconstructed pier cap shall receive an application of Concrete Sealer prior to re-installation of the existing bearing and installation of the proposed light pole.

Jack and temporarily support beam 5 to allow reconstruction of the pier cap. Remove and reinstall existing bearing and side retainer using new anchor bolts. Cost to jack and support the beam and remove and reinstall the bearing is paid for as Jacking and Cribbing.

1 1/4" Ø x 1'-3" All-thread anchor bolts (ASTM A307 Grade 36) with 2 3/4" x 2 3/4" x 5/16" R washer under nut.

* Drill and epoxy grout bars in 9" min. drilled holes in accordance with Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- For light pole details, see Roadway and Navigation Lighting Plans.
- Existing reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
- Concrete Sealer shall be applied to the top and vertical surfaces of the new pier cap concrete.
- The service dead load reaction of the stringer is 14 kips.
- The support column shall be installed prior to commencing concrete removal at the top of the south column.

LEGEND

- Concrete Removal
- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

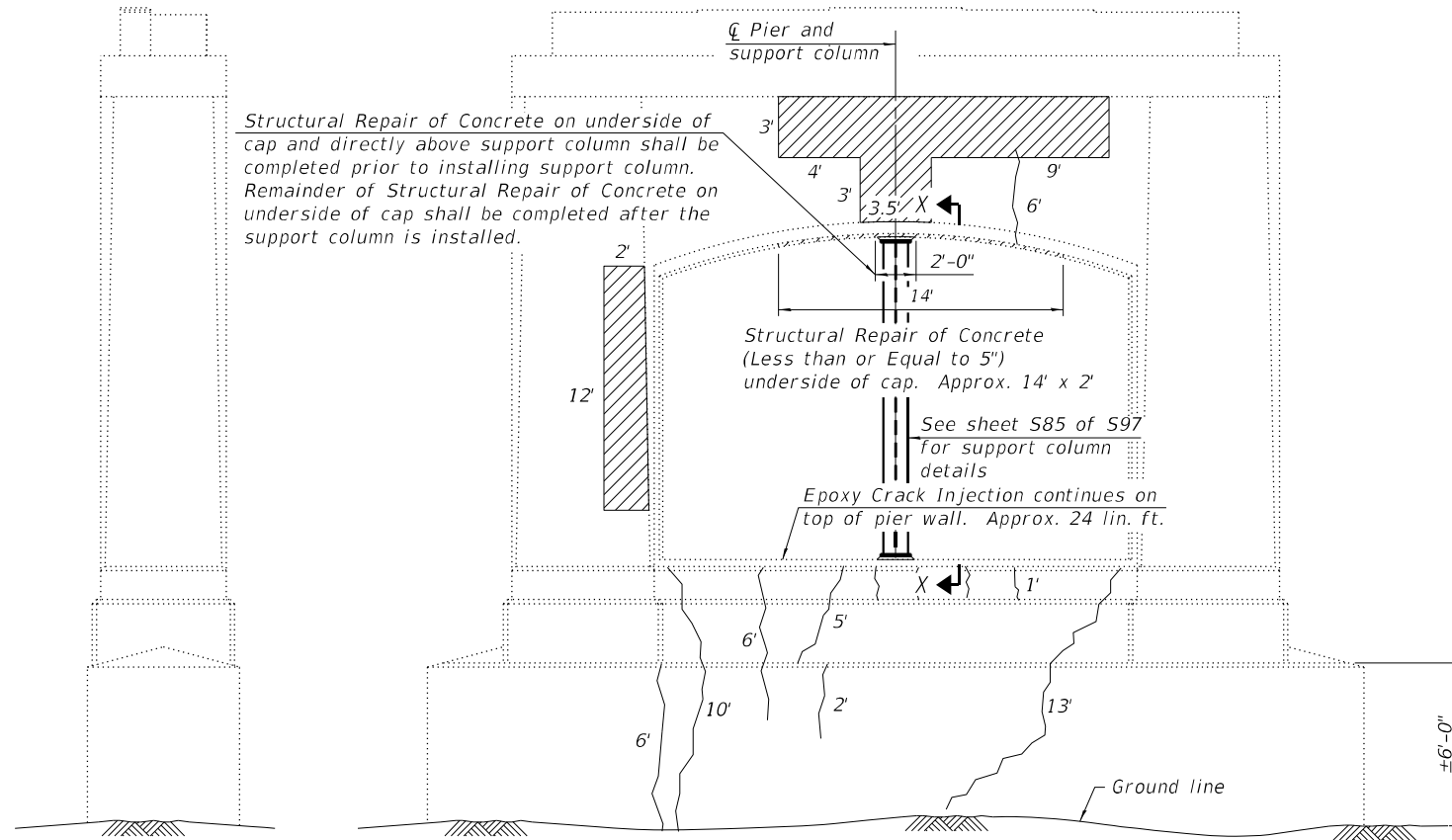
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	4	#5	5'-7"	[Symbol]	
u(E)	5	#5	13'-7"	[Symbol]	
v(E)	16	#5	4'-4"	[Symbol]	
Concrete Removal				Cu. Yd.	1.3
Concrete Structures				Cu. Yd.	1.7
Furnishing and Erecting Structural Steel				Pound	2,230
Reinforcement Bars, Epoxy Coated				Pound	170
Anchor Bolts, 1 1/4"				Each	1
Concrete Sealer				Sq. Ft.	50
Epoxy Crack Injection				Foot	85
Structural Repair of Concrete (Depth equal to or less than 5")				Sq. Ft.	54
Jacking and Cribbing				Each	1

h(E) BAR

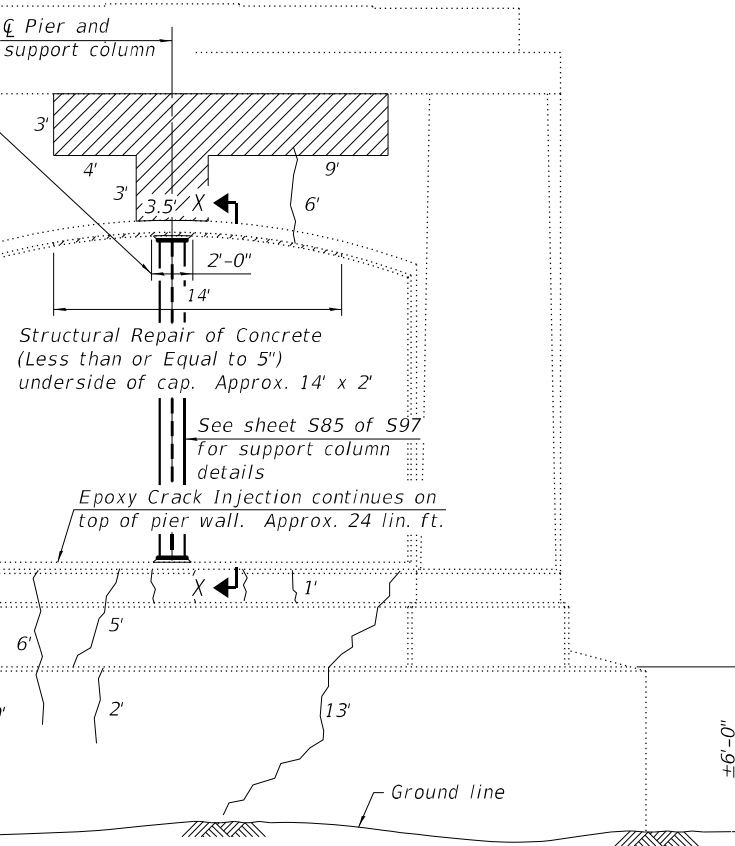
v(E) BAR

u(E) BAR

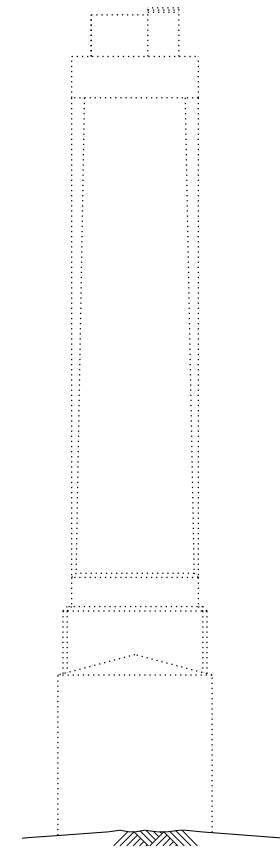


ELEVATION-NORTH END
(Looking South)

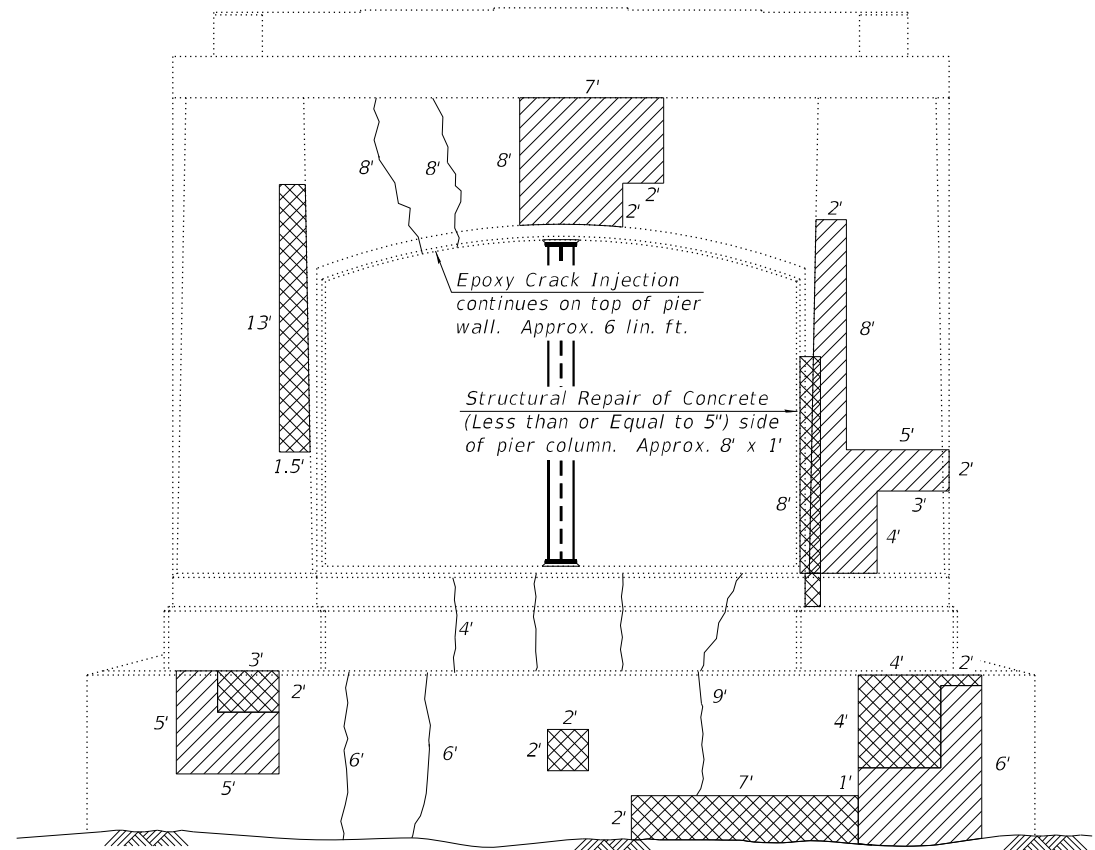
Structural Repair of Concrete on underside of cap and directly above support column shall be completed prior to installing support column. Remainder of Structural Repair of Concrete on underside of cap shall be completed after the support column is installed.



ELEVATION-WEST FACE
(Looking East)
(See notes regarding sequence of repairs.)



ELEVATION-SOUTH END
(Looking North)






ELEVATION-EAST FACE
(Looking West)
(See notes regarding sequence of repairs.)

Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- Except as noted, Structural Repair of Concrete for the pier cap on this sheet shall not commence until the support column is installed and be sequenced to limit the work to one face at a time. Work, including concrete removal, shall not commence on the opposite face until the concrete repair material achieves a minimum compressive strength of 2,500 psi.

LEGEND

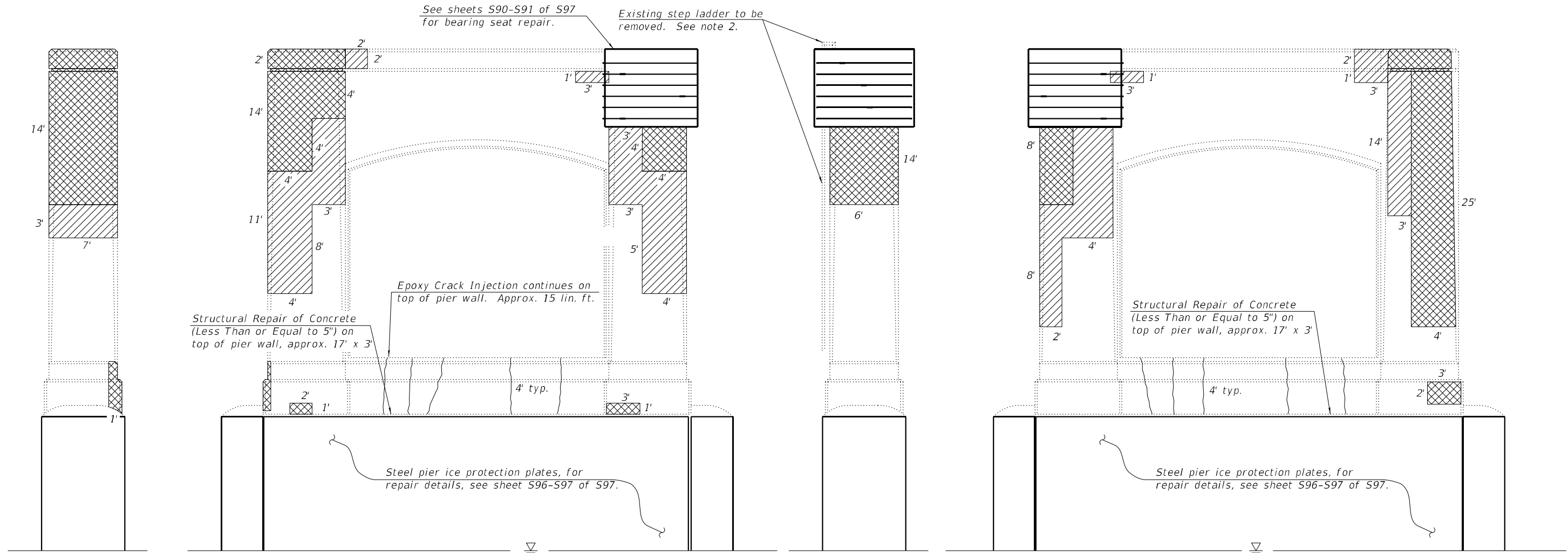
-  Structural Repair of Concrete (Depth equal to or less than 5")
-  Structural Repair of Concrete (Depth greater than 5")
-  Epoxy Crack Injection

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	2,160
Epoxy Crack Injection	Foot	131
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	253
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	70

USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
CHECKED - BRD, JLM, GEM	DRAWN - DLH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - SDS, BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	117
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION-NORTH END
(Looking South)
(See notes regarding sequence of repairs.)

ELEVATION-WEST FACE
(Looking East)
(See notes regarding sequence of repairs.)

ELEVATION-SOUTH END
(Looking North)
(See notes regarding sequence of repairs.)

ELEVATION-EAST FACE
(Looking West)
(See notes regarding sequence of repairs.)

Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- Existing steel step ladder and attachment hardware shall be removed and disposed of to facilitate concrete repairs. Existing anchor bolts within the concrete repair areas shall be cut flush with the depth of sound concrete after unsound concrete has been removed. Existing anchor bolts outside of the concrete repair areas shall be cut flush with the existing concrete surface and covered with epoxy. This work will not be measured or paid for separately, but shall be included in the cost of the associated work.
- Structural Repair of Concrete for the columns on this sheet shall be sequenced to limit the work to one face of one column at a time. Work, including concrete removal, shall not commence on another column face until the concrete repair material achieves a minimum compressive strength of 2,500 psi.

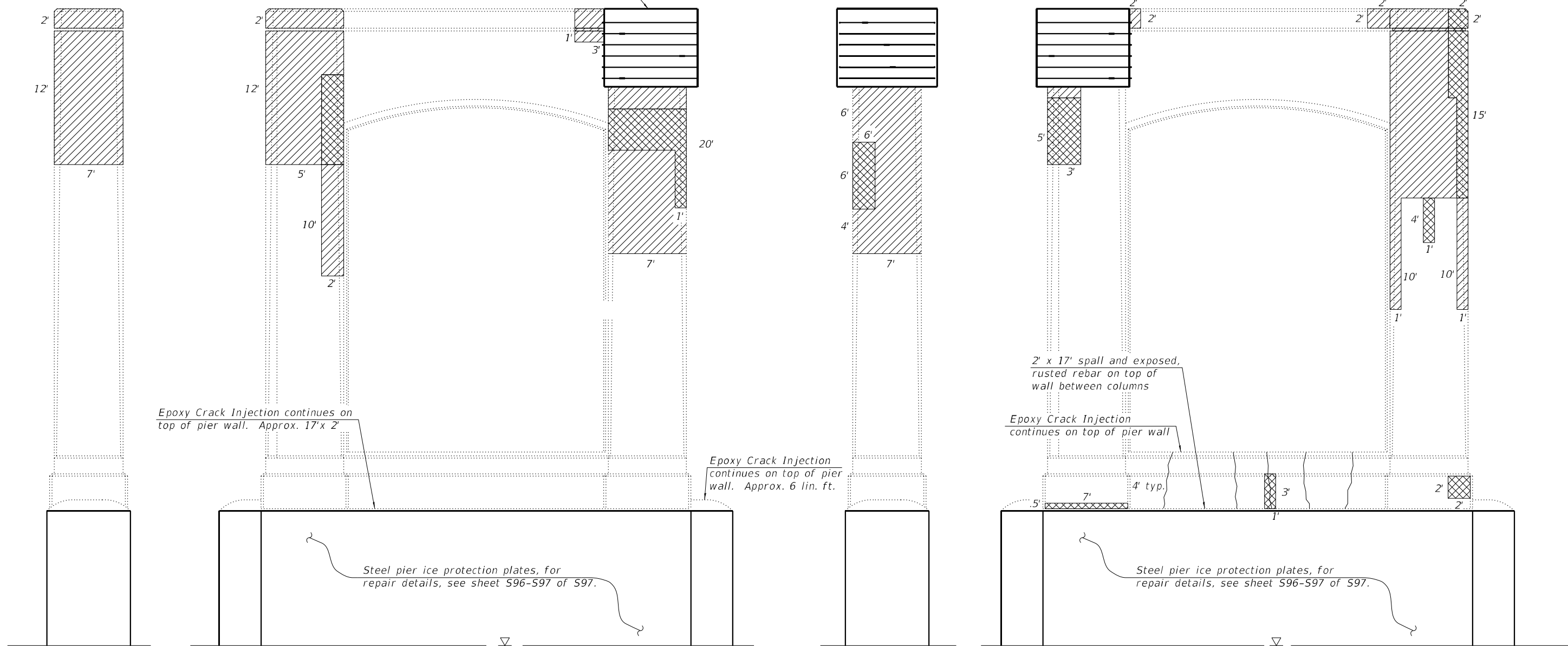
LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	55
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	335
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	505

See sheets S90-S90 of S97
for bearing seat repair.



ELEVATION-NORTH END
(Looking South)
(See notes regarding sequence of repairs.)

ELEVATION-WEST FACE
(Looking East)
(See notes regarding sequence of repairs.)

ELEVATION-SOUTH END
(Looking North)
(See notes regarding sequence of repairs.)

ELEVATION-EAST FACE
(Looking West)
(See notes regarding sequence of repairs.)

LEGEND

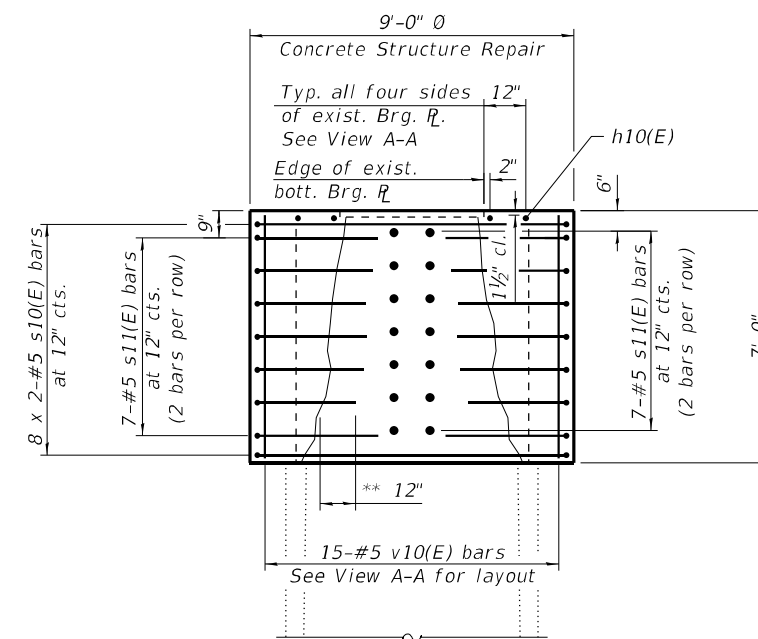
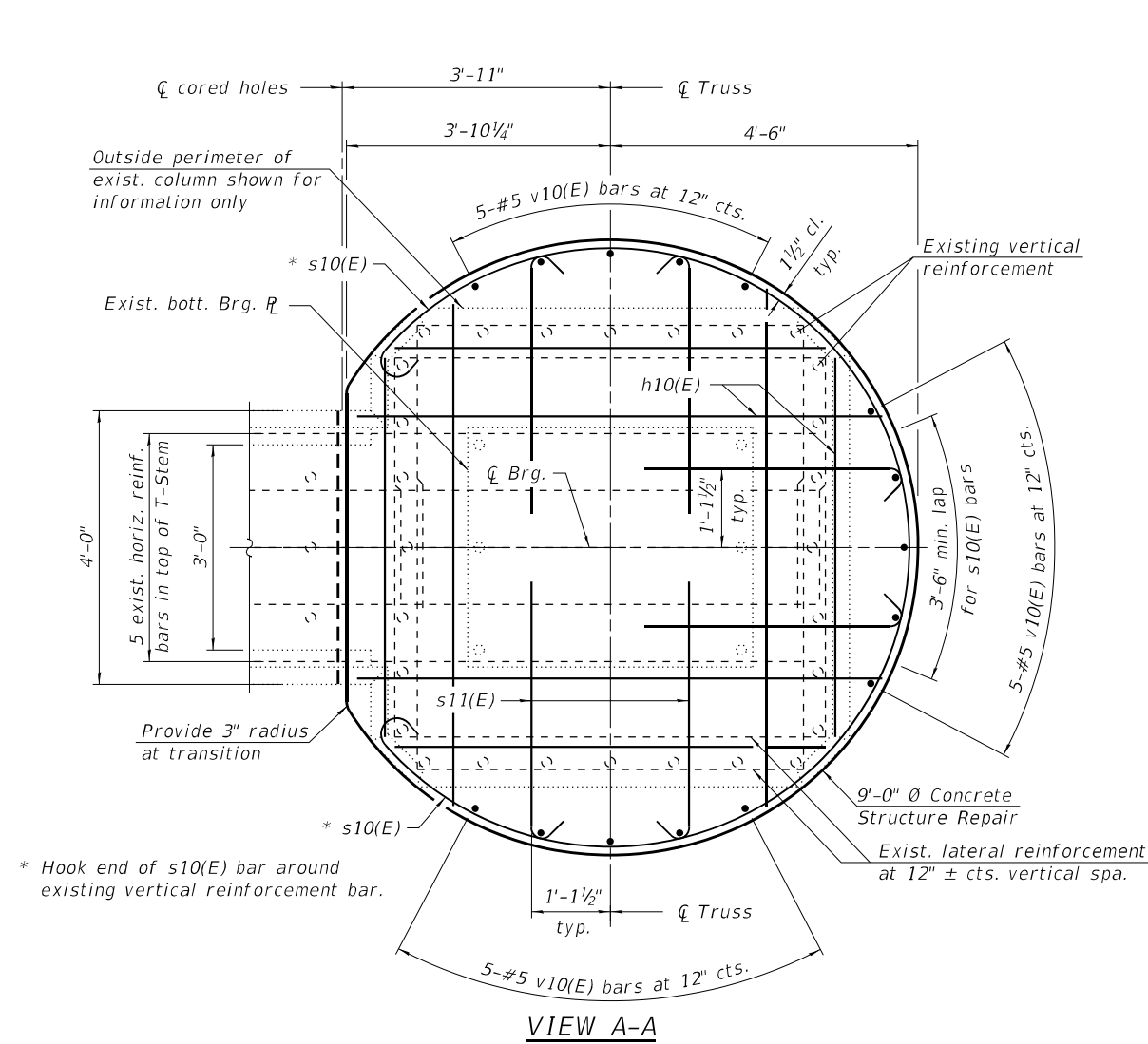
- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- Structural Repair of Concrete for the columns on this sheet shall be sequenced to limit the work to one face of one column at a time. Work, including concrete removal, shall not commence on another column face until the concrete repair material achieves a minimum compressive strength of 2,500 psi.

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	43
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	574
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	197

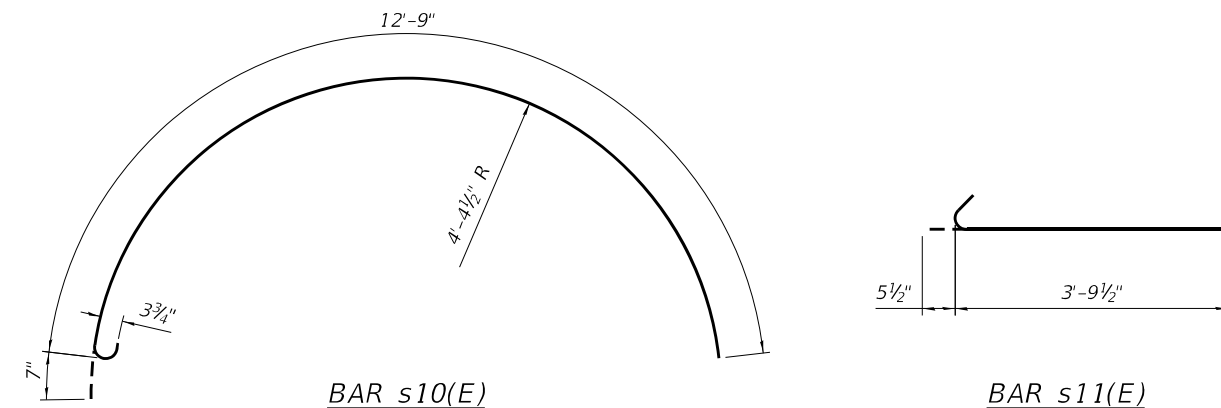


(Showing column repair reinforcement. Column tensioned strands and existing lateral reinforcement not shown.)

** s11(E) bars shall be drilled and grouted in 12 in. deep holes in sound concrete. See Notes.

Notes:

- The sound concrete profile shown is estimated. It is estimated that the region of unsound concrete will taper from a shallow depth near the base of the repair to a depth that approaches the perimeter of the existing bottom bearing plates near the top of the repair. It is estimated that unsound concrete may extend 2 inches under the existing bottom bearing plate. See Concrete Structure Repair Special Provision for additional information.
- Existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with Concrete Structure Repair.
- s11(E) reinforcement bars shall be drilled and grouted into 12 in. deep holes in sound concrete and according to Section 584 of the Standard Specifications. Location of the s11(E) bars may be adjusted as needed to avoid existing reinforcement bars. Additionally, proof shall be provided that the chemical adhesive chosen by the Contractor satisfies the ICC-ES AC 308 Table 3.89 test requirements. Contractor shall field cut the s11(E) reinforcement bars to the proper length if the encountered depth of sound concrete results in the bars being too long. Cost included with Reinforcement Bars, Epoxy Coated.
- Prior to casting the proposed concrete, portions of the existing bottom bearing plates that are exposed after the concrete removal and will be in contact with the proposed concrete shall be cleaned and painted according to the Cleaning and Painting Contact Surface Areas of Existing Steel Structures special provision for secondary connections. Cost included with Concrete Structure Repair.
- Existing reinforcement near the post-tensioning strand cored holes is shown for information only. An attempt has been made to locate the cored holes away from the existing reinforcement. Prior to commencing concrete removal, the Contractor shall locate existing reinforcement bars using rebar detection equipment to ensure existing reinforcement bars will be not damaged during coring. Any discovered conflicts shall be reported to the Bureau of Bridges and Structures for further disposition.
- Bars indicated thus 8 x 2-#5 etc. indicates 8 lines of bars with 2 lengths per line.
- Cut h10(E) bars to fit in field as needed. Cost included with Reinforcement Bars, Epoxy Coated.



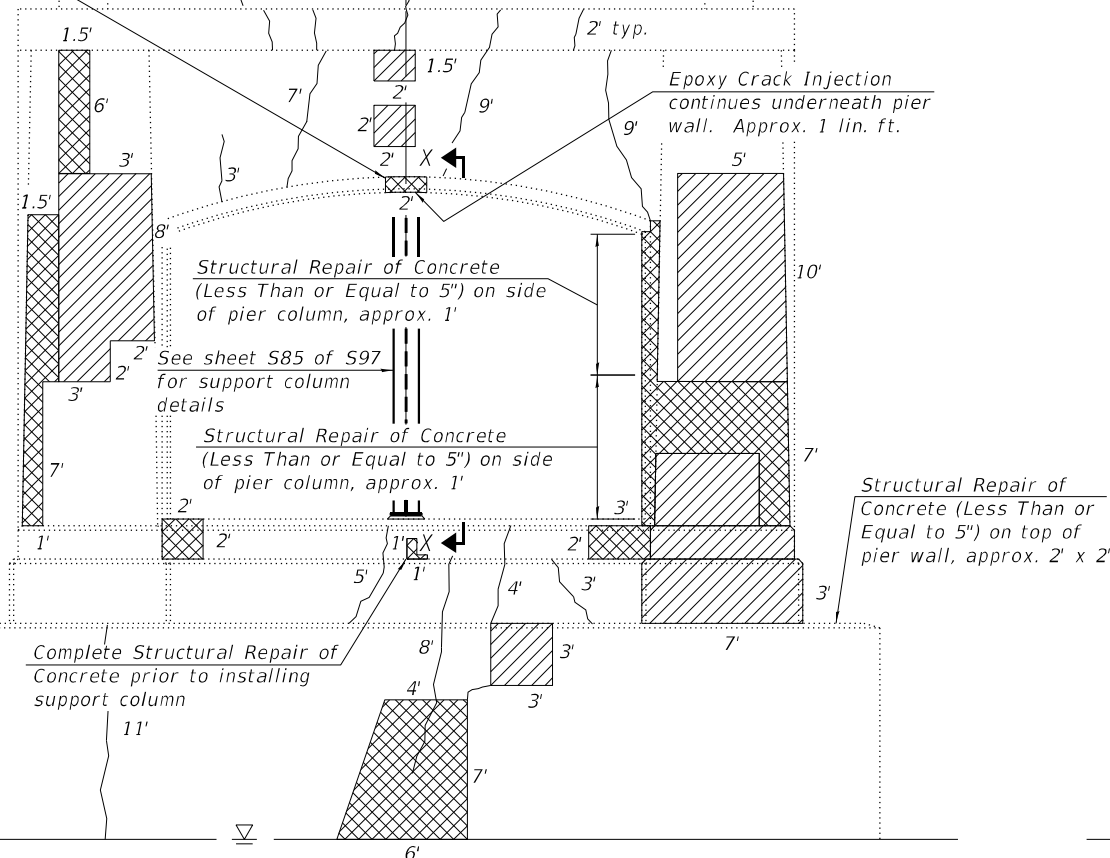
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	16	#5	7'-7"	—
s10(E)	32	#5	13'-4"	⤿
s11(E)	84	#5	4'-3"	⤿
v10(E)	30	#5	6'-8"	—
Concrete Structure Repair			Cu. Ft.	473.4
Reinforcement Bars, Epoxy Coated			Pound	1,160
Column Tensioned Strands			Each	12

(Sheet 2 of 2)

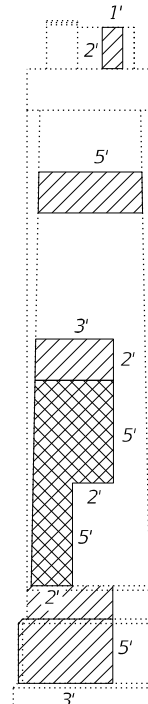
Complete Structural Repair of Concrete prior to installing support column

Centerline of Pier and support column



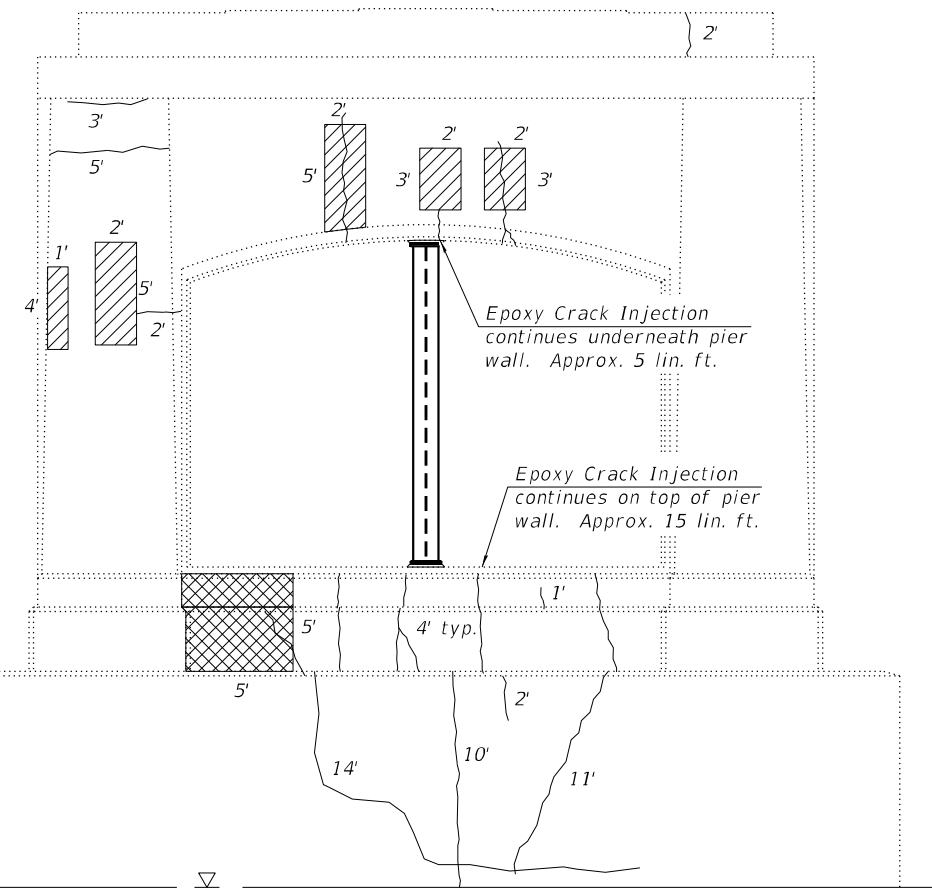
ELEVATION-WEST FACE

(Looking East)
(See notes regarding sequence of repairs.)



ELEVATION-SOUTH END

(Looking North)
(See notes regarding sequence of repairs.)



ELEVATION-EAST FACE

(Looking West)
(See notes regarding sequence of repairs.)




ELEVATION-NORTH END

(Looking South)

Notes:

- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
- Structural Repair of Concrete for the columns on this sheet shall be sequenced to limit the work to one face of one column at a time. Work, including concrete removal, shall not commence on another column face until the concrete repair material achieves a minimum compressive strength of 2,500 psi.
- Except as noted, Structural Repair of Concrete for the pier cap on this sheet shall not commence until the support column is installed and be sequenced to limit the work to one face at a time. Work, including concrete removal, shall not commence on the opposite face until the concrete repair material achieves a minimum compressive strength of 2,500 psi.

LEGEND

-  Structural Repair of Concrete (Depth equal to or less than 5")
-  Structural Repair of Concrete (Depth greater than 5")
-  Epoxy Crack Injection

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	2,160
Epoxy Crack Injection	Foot	165
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	252
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	188

FILE NAME: SFILES

design firm
no. 184001036



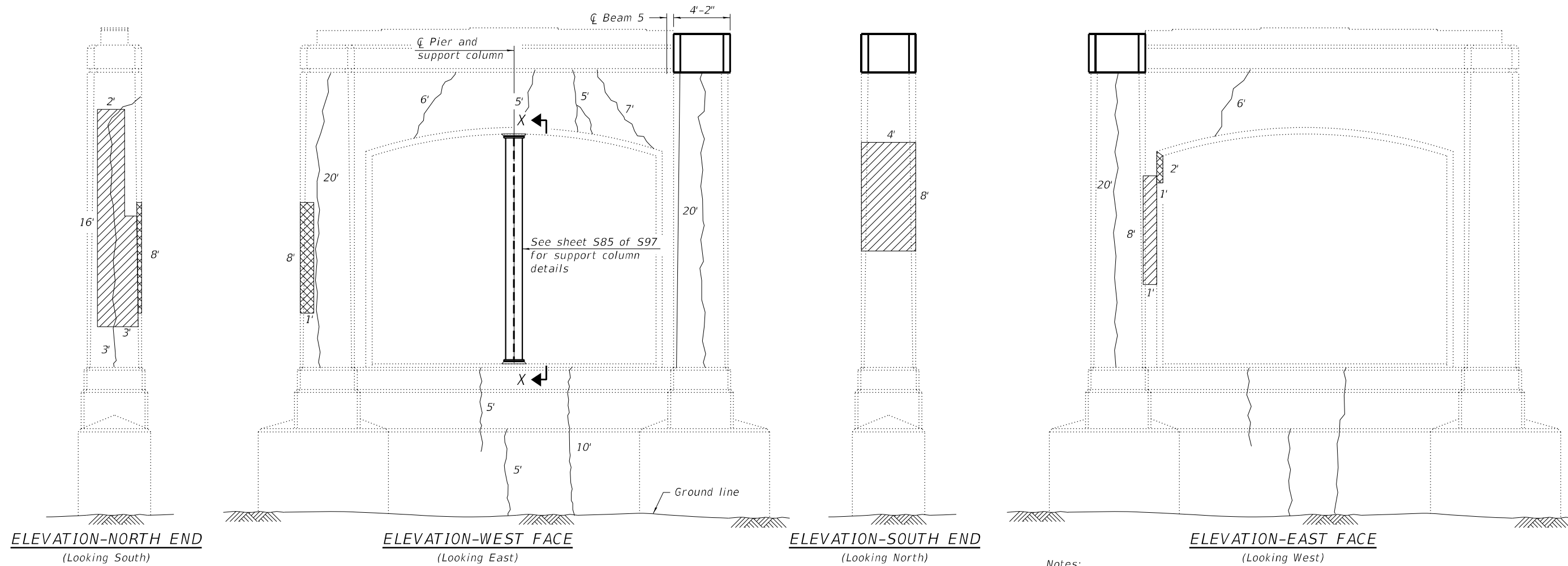
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PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

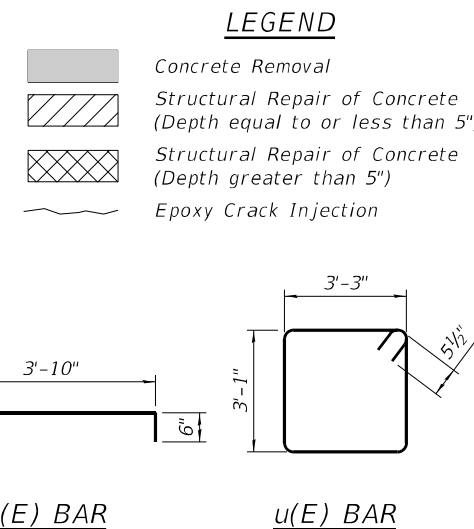
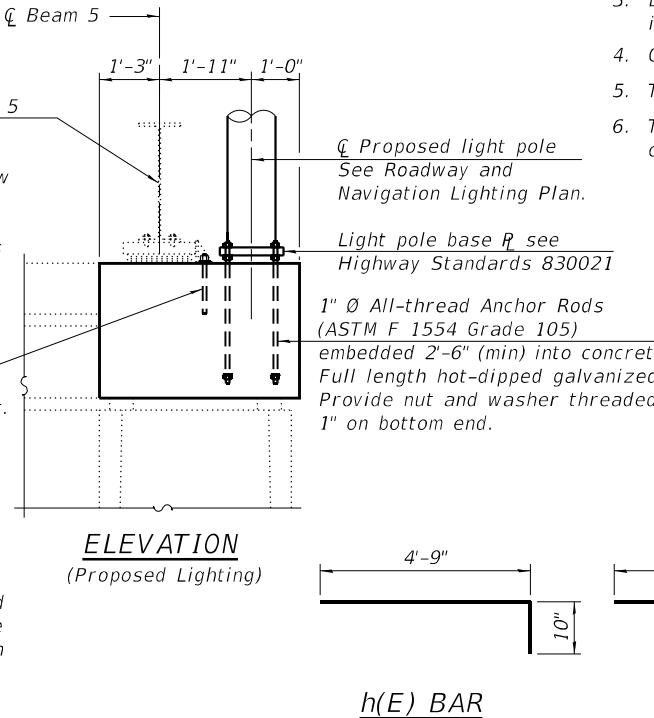
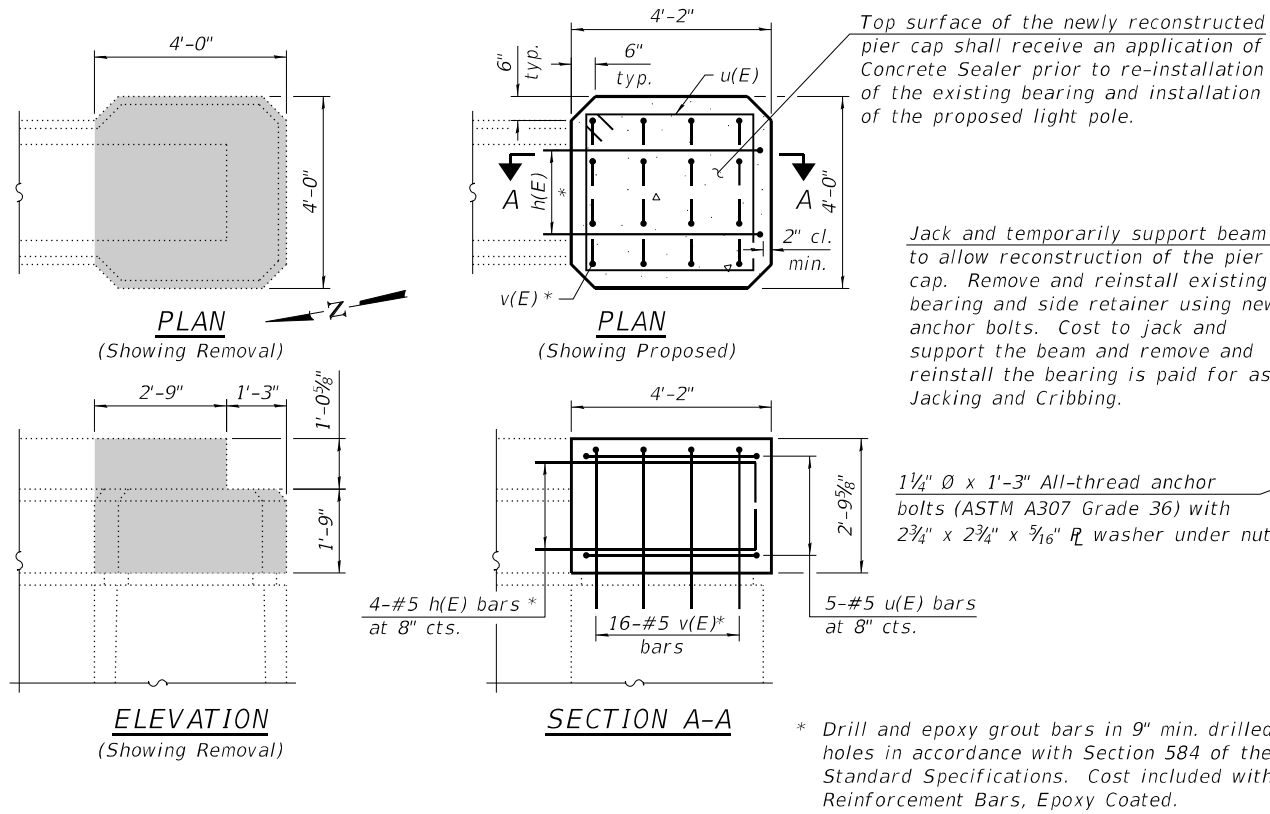
**SUBSTRUCTURE REPAIR DETAILS - PIER 7
STRUCTURE NO. 062-0003**

SHEET 592 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	122
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



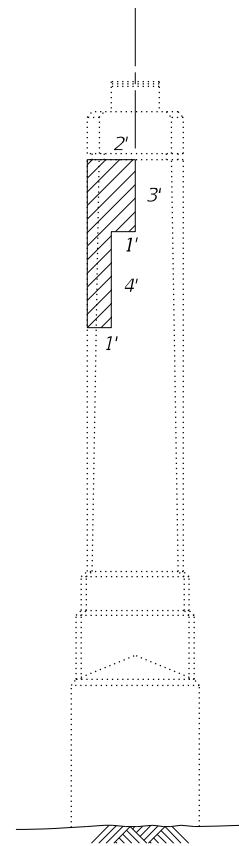
- Notes:
- Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
 - For light pole details, see Roadway and Navigation Lighting Plans.
 - Existing reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
 - Concrete Sealer shall be applied to the top and vertical surfaces of the new pier cap concrete.
 - The service dead load reaction of the stringer is 14 kips.
 - The support column shall be installed prior to commencing concrete removal at the top of the south column.



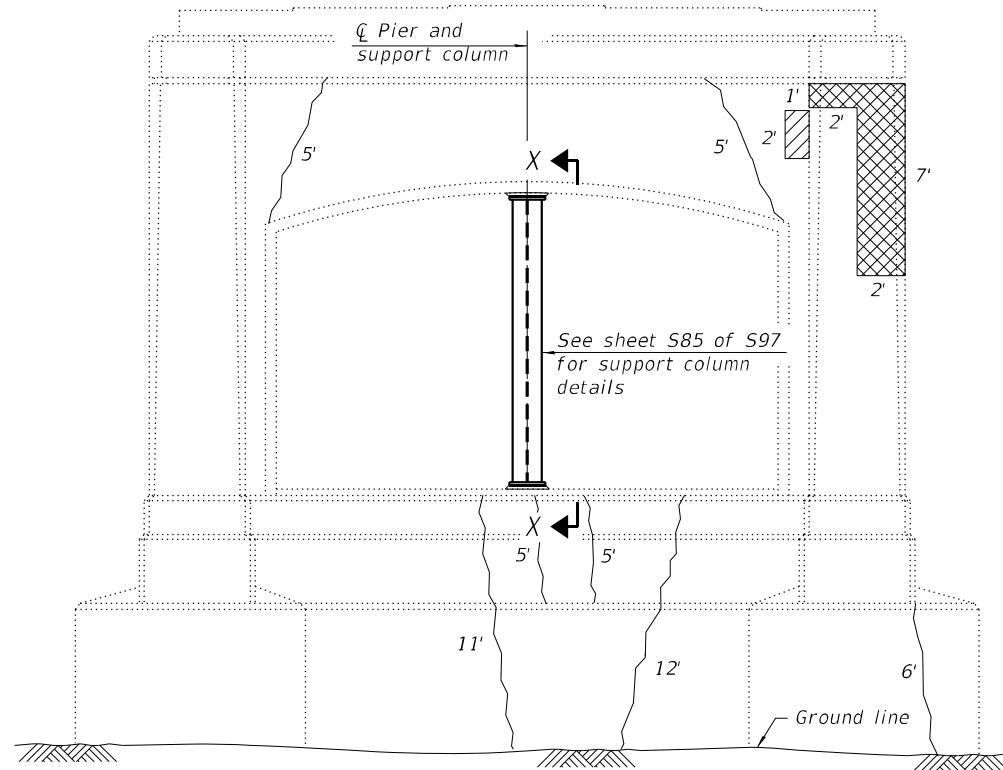
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	4	#5	5'-7"	[Symbol]	
u(E)	5	#5	13'-7"	[Symbol]	
v(E)	16	#5	4'-4"	[Symbol]	
Concrete Removal				Cu. Yd.	1.3
Concrete Structures				Cu. Yd.	1.7
Furnishing and Erecting Structural Steel				Pound	2,230
Reinforcement Bars, Epoxy Coated				Pound	170
Anchor Bolts, 1 1/4"				Each	1
Concrete Sealer				Sq. Ft.	50
Epoxy Crack Injection				Foot	148
Structural Repair of Concrete (Depth equal to or less than 5")				Sq. Ft.	80
Structural Repair of Concrete (Depth greater than 5")				Sq. Ft.	10
Jacking and Cribbing				Each	1

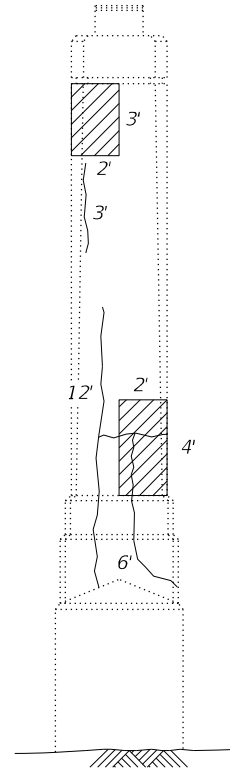
* Drill and epoxy grout bars in 9" min. drilled holes in accordance with Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



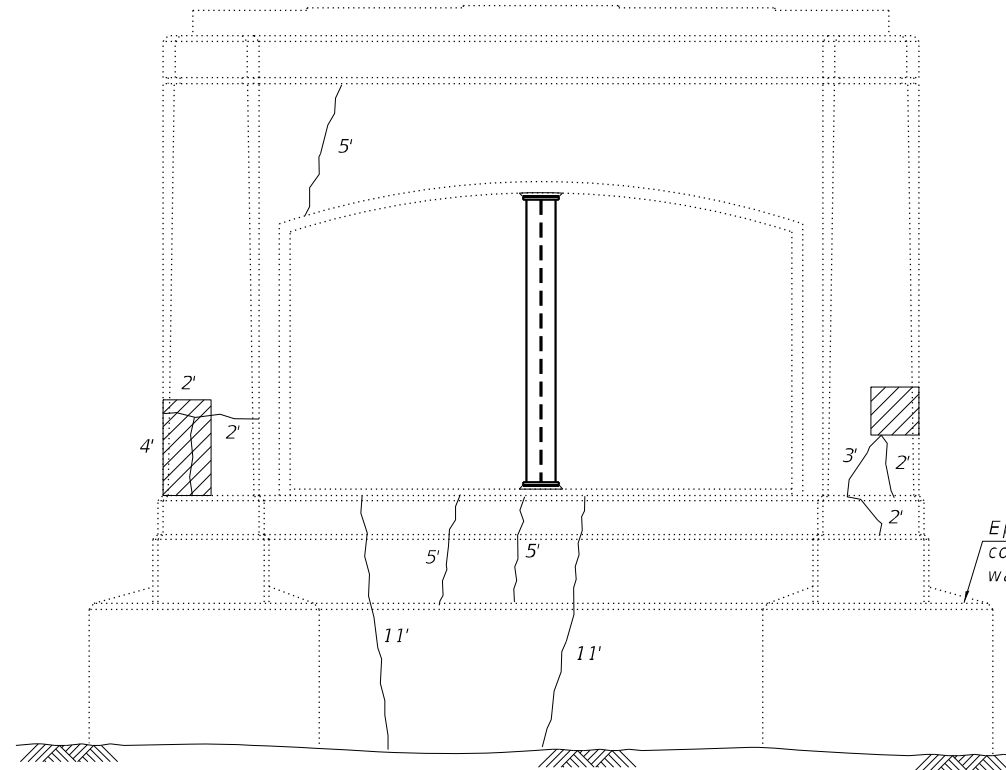
ELEVATION-NORTH END
(Looking South)



ELEVATION-WEST FACE
(Looking East)



ELEVATION-SOUTH END
(Looking North)



ELEVATION-EAST FACE
(Looking West)

Note:

Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.

LEGEND

- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	1,700
Epoxy Crack Injection	Foot	118
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	38
Structural Repair of Concrete (Depth greater than 5")	Sq. Ft.	16

FILE NAME: SFILES

design firm
no. 184001036



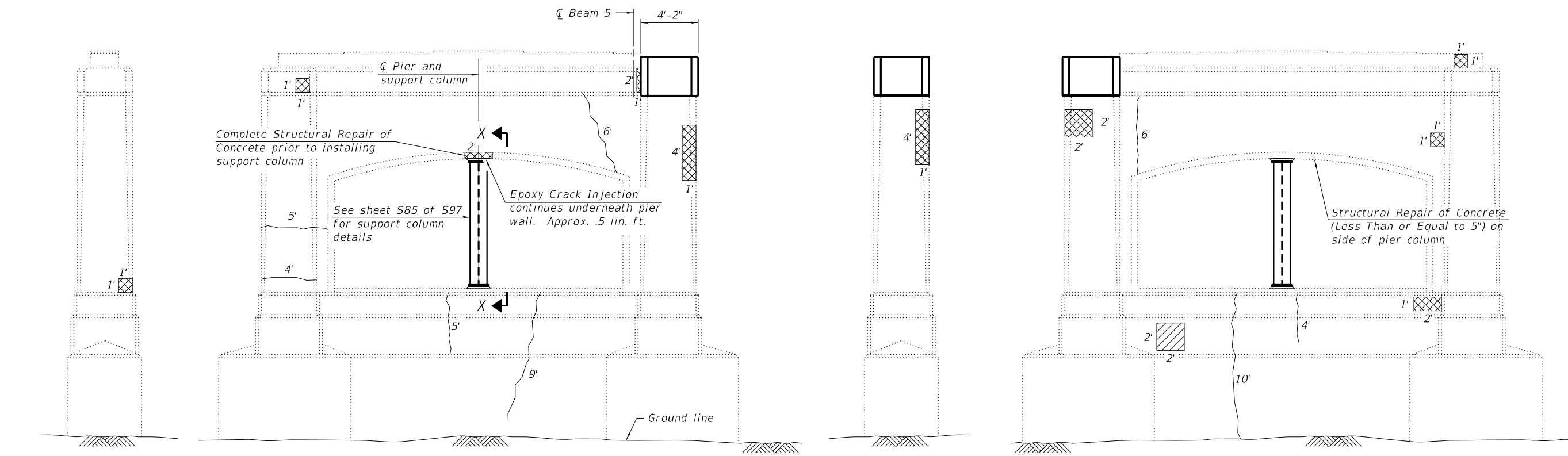
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PLOT DATE = \$TIMES	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE REPAIR DETAILS - PIER 9
STRUCTURE NO. 062-0003

SHEET 594 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	124
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				



ELEVATION-NORTH END
(Looking South)

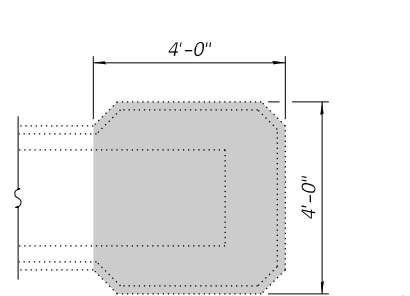
ELEVATION-WEST FACE
(Looking East)

ELEVATION-SOUTH END
(Looking North)

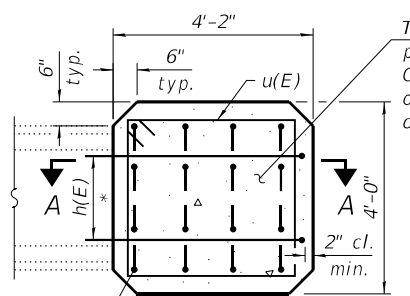
ELEVATION-EAST FACE
(Looking West)

Notes:

1. Concrete repair and crack injection locations and quantities are estimated. The actual limits will be determined in the field by the Engineer. The Bureau of Bridges and Structures shall be contacted for further evaluation if concrete removal for Structural Repair of Concrete exceeds the limits in the Special Provision for Structural Repair of Concrete and prompts notification of the Engineer.
2. For light pole details, see Roadway and Navigation Lighting Plans.
3. Existing reinforcement extending into removed areas shall be cleaned, straightened and incorporated into the new construction. Cost included with Concrete Removal.
4. Concrete Sealer shall be applied to the top and vertical surfaces of the new pier cap concrete.
5. The service dead load reaction of the stringer is 14 kips.
6. The support column shall be installed prior to commencing concrete removal at the top of the south column.



PLAN
(Showing Removal)



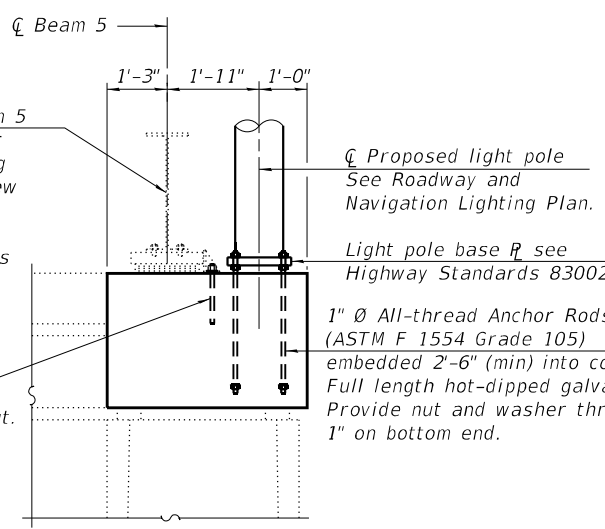
PLAN
(Showing Proposed)

Top surface of the newly reconstructed pier cap shall receive an application of Concrete Sealer prior to re-installation of the existing bearing and installation of the proposed light pole.

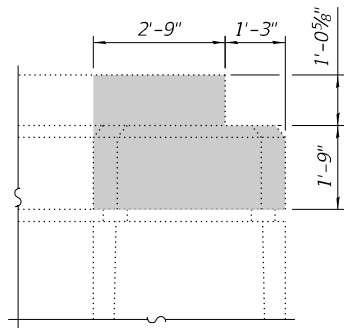
Jack and temporarily support beam 5 to allow reconstruction of the pier cap. Remove and reinstall existing bearing and side retainer using new anchor bolts. Cost to jack and support the beam and remove and reinstall the bearing is paid for as Jacking and Cribbing.

1 1/4" Ø x 1'-3" All-thread anchor bolts (ASTM A307 Grade 36) with 2 3/4" x 2 3/4" x 5/16" R washer under nut.

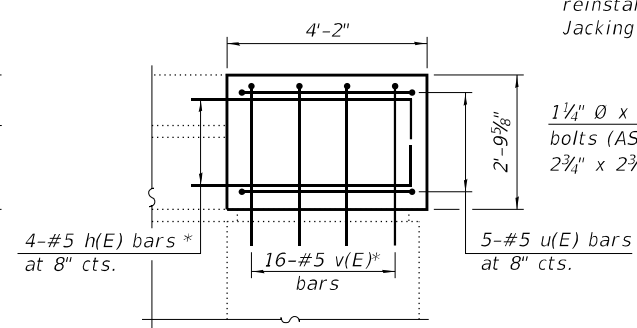
* Drill and epoxy grout bars in 9" min. drilled holes in accordance with Section 584 of the Standard Specifications. Cost included with Reinforcement Bars, Epoxy Coated.



ELEVATION
(Proposed Lighting)



ELEVATION
(Showing Removal)



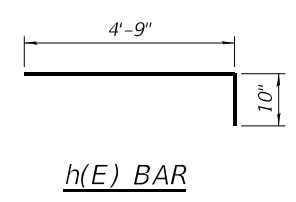
SECTION A-A

LEGEND

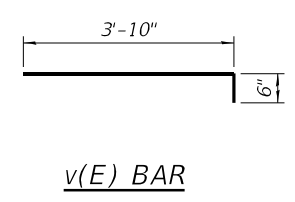
- Concrete Removal
- Structural Repair of Concrete (Depth equal to or less than 5")
- Structural Repair of Concrete (Depth greater than 5")
- Epoxy Crack Injection

BILL OF MATERIAL

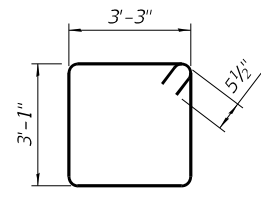
Bar	No.	Size	Length	Shape	
h(E)	4	#5	5'-7"	□	
u(E)	5	#5	13'-7"	□	
v(E)	16	#5	4'-4"	□	
Concrete Removal				Cu. Yd.	1.3
Concrete Structures				Cu. Yd.	1.7
Furnishing and Erecting Structural Steel				Pound	1,360
Reinforcement Bars, Epoxy Coated				Pound	170
Anchor Bolts, 1 1/4"				Each	1
Concrete Sealer				Sq. Ft.	50
Epoxy Crack Injection				Foot	50
Structural Repair of Concrete (Depth equal to or less than 5")				Sq. Ft.	4
Structural Repair of Concrete (Depth greater than 5")				Sq. Ft.	19
Jacking and Cribbing				Each	1



h(E) BAR



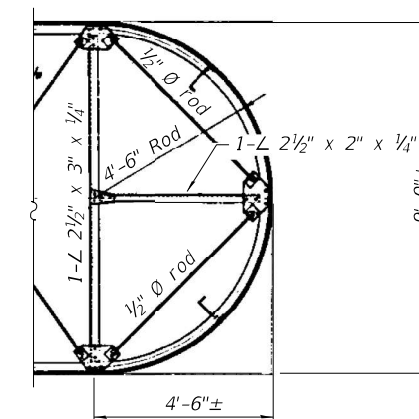
v(E) BAR



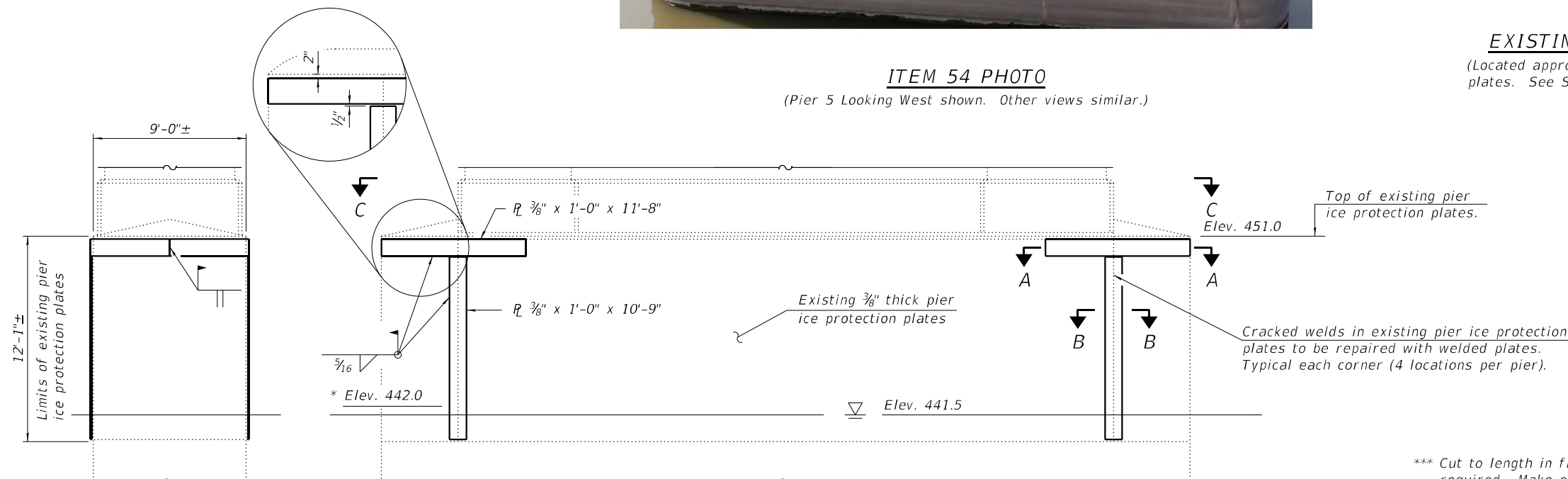
u(E) BAR



ITEM 54 PHOTO
(Pier 5 Looking West shown. Other views similar.)



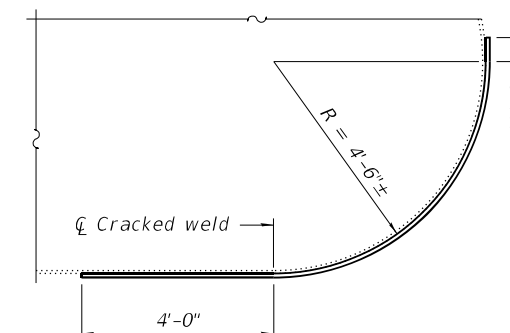
EXISTING LATERAL BRACING-PARTIAL PLAN
(Located approximately 6" below top of existing ice pier protection plates. See Special Provisions for additional information.)



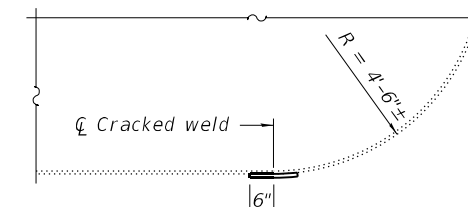
PARTIAL END VIEW

PARTIAL ELEVATION - PIERS 5 AND 6
(Showing pier ice protection plates)

* Minimum repair elevation. See Special Provision.

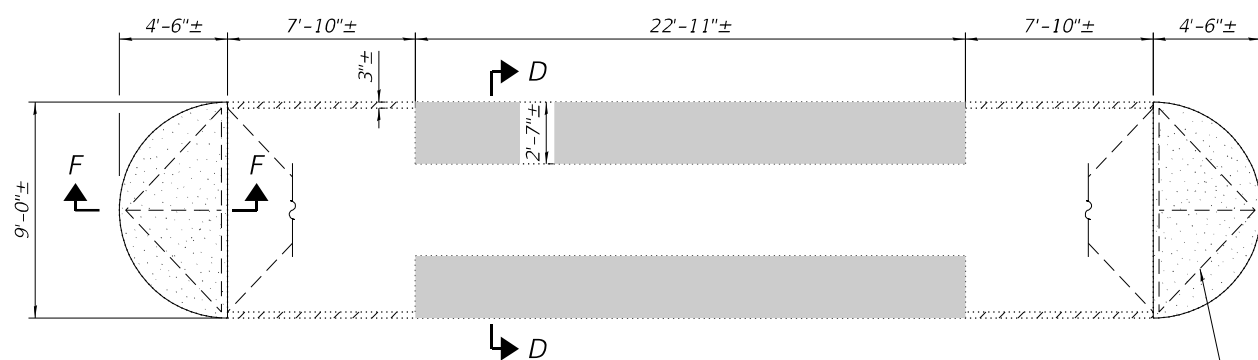


SECTION A-A
(Showing repair plate.)
(Opposite side repair plate not shown.)



SECTION B-B
(Showing repair plate.)

*** Cut to length in field, as required. Make end weld shown in Partial End View.



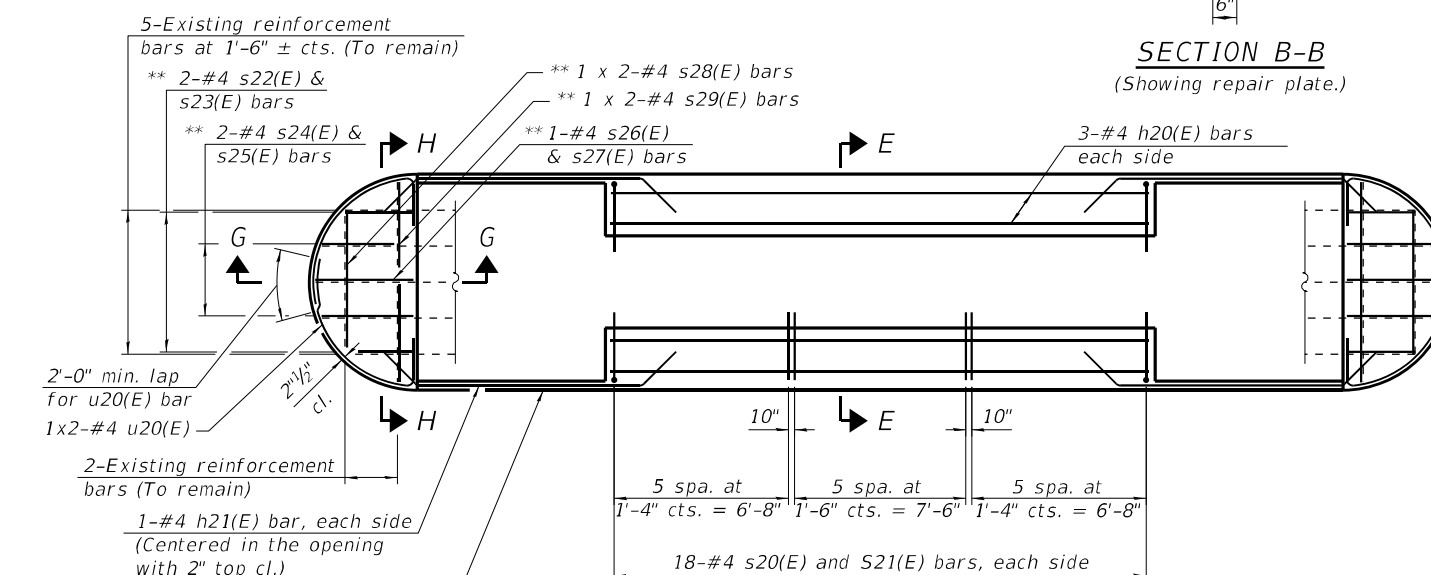
SECTION C-C
(Showing concrete removal.)

LEGEND

- Concrete Repair - Area A
- Concrete Repair - Area B
- Concrete Repair - Area C

Existing lateral bracing. See plan detail this sheet.

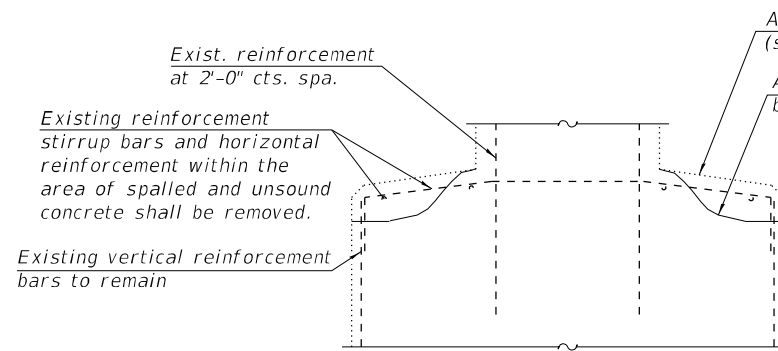
** Place proposed reinforcement immediately adjacent to existing reinforcement.



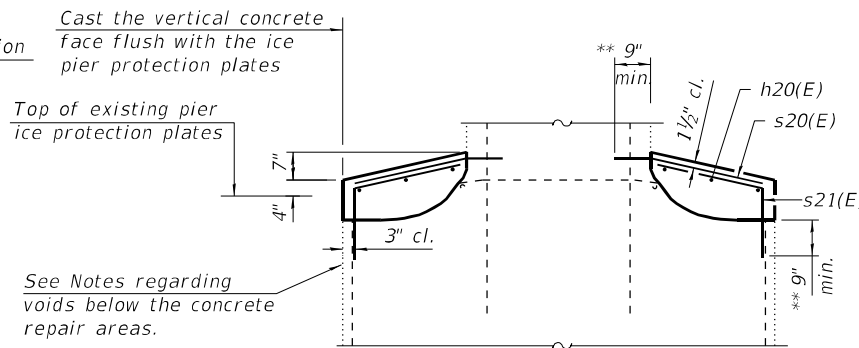
SECTION C-C
(Showing proposed concrete and reinforcement)

(Sheet 1 of 2)

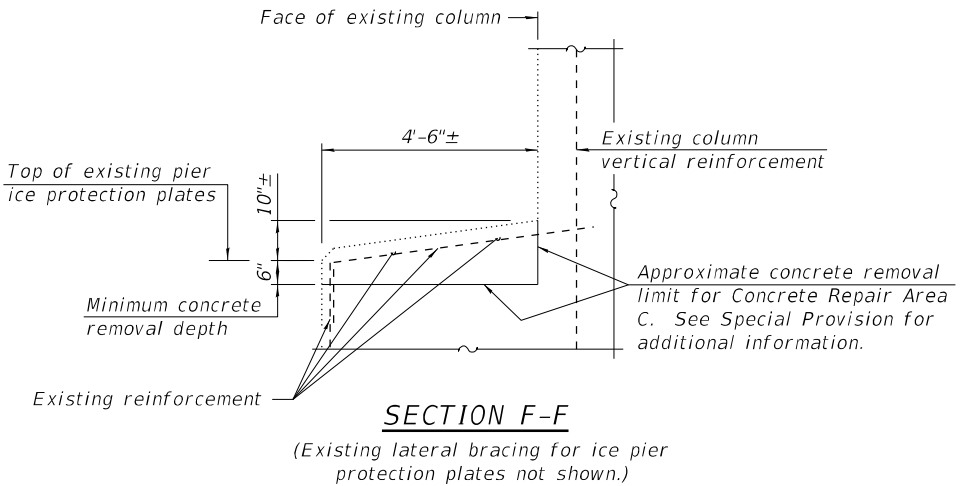
** See Notes for information on drilling and grouting bars and layout of s20(E) bars.



SECTION D-D

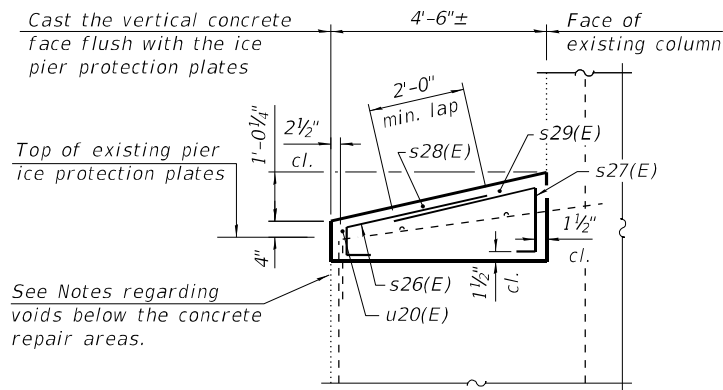


SECTION E-E



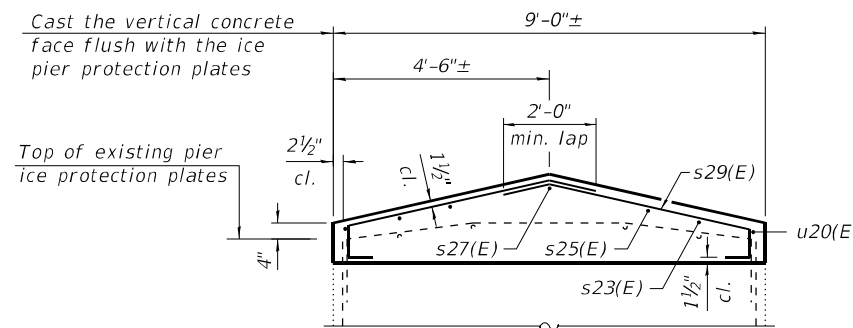
SECTION F-F

(Existing lateral bracing for ice pier protection plates not shown.)



SECTION G-G

(Existing lateral bracing for pier ice protection plates not shown. Sections at s22(E) thru s25(E) bars similar.)

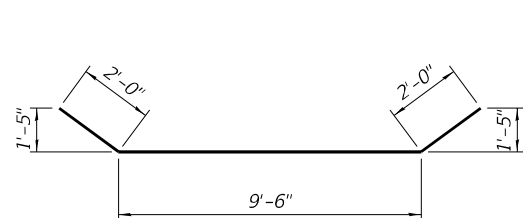


SECTION H-H

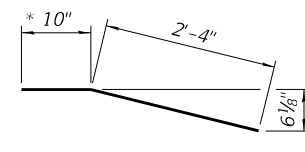
(Existing lateral bracing for pier ice protection plates not shown. Section at s28(E) bars similar.)

Notes:

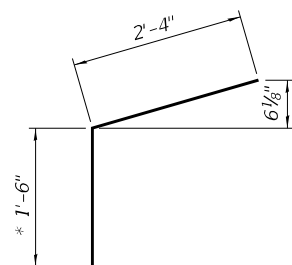
1. See Pier Protection Cell Repair Special Provision for additional information on the steel and concrete repairs.
2. The repair plates shall be installed prior to casting concrete for the concrete repairs.
3. Unless noted, existing reinforcement extending into removed areas shall be cleaned, straightened, and incorporated into the new construction. Cost included with the associated work.
4. s20(E) and s21(E) reinforcement bars shall be drilled and grouted in 9 in. minimum deep holes in sound concrete and according to Section 584 of the Standard Specifications. An attempt has been made to space the s20(E) bars to miss the adjacent existing vertical reinforcement bars shown in the details. The spacing of the s20(E) bars shall be adjusted in the field as necessary for the drilled holes to miss the existing reinforcement.
Depending upon the depth of unsound concrete, the s20(E) and s21(E) bar lengths highlighted in the bar bend details may need to be lengthed to achieve the required minimum embedment into sound concrete. Contractor shall determine the depth of unsound concrete and adjust the bar lengths accordingly before ordering the reinforcement.
Cost of drilling and grouting is included with Reinforcement Bars, Epoxy Coated.
5. Bars indicated thus 1 x 2-#4 etc. indicates lines of bars with 2 lengths per line.
6. Voids that are discovered around the inside of the existing ice pier protection plates and extending below the concrete repair areas shall be filled with grout if the Engineer determines that the concrete from the concrete repair will not fill the void. The grout shall be chosen from the Department's qualified product list of nonshrink grouts. If needed this work will be paid according to Article 109.04.



BAR h21(E)

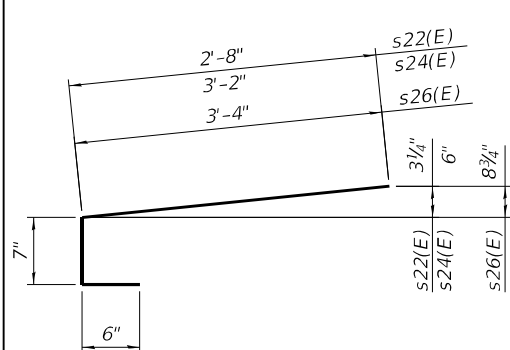


BAR s20(E)

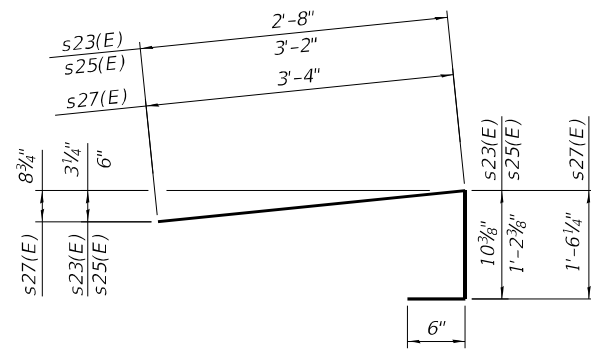


BAR s21(E)

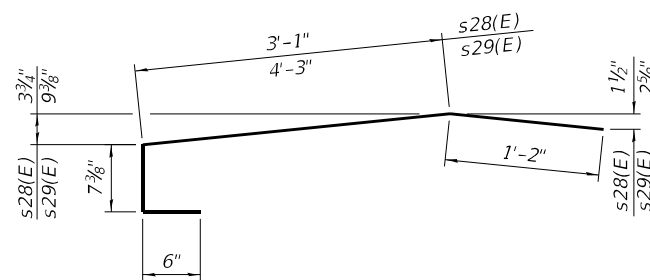
* Bar length to be verified by Contractor. See Notes.



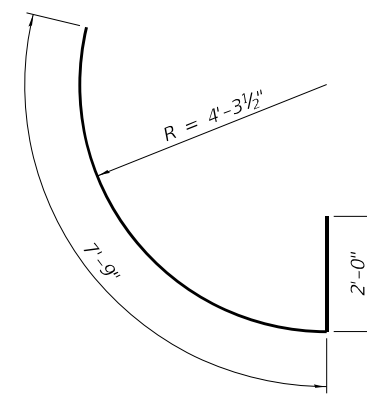
BAR s22(E), s24(E), & s26(E)



BAR s23(E), s25(E) & s27(E)



BAR s28(E) & s29(E)



BAR u20(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	12	#4	22'-7"	
h21(E)	8	#4	13'-6"	
s20(E)	72	#4	3'-2"	
s21(E)	72	#4	3'-10"	
s22(E)	8	#4	3'-9"	
s23(E)	8	#4	4'-1"	
s24(E)	8	#4	4'-3"	
s25(E)	8	#4	4'-11"	
s26(E)	4	#4	4'-5"	
s27(E)	4	#4	5'-5"	
s28(E)	8	#4	5'-5"	
s29(E)	8	#4	6'-7"	
u20(E)	8	#4	9'-9"	C
Pier Protection Cell Repair			Each	2
Concrete Removal			Cu. Yd.	6.1
Concrete Structures			Cu. Yd.	14.2
Reinforcement Bars, Epoxy Coated			Pound	830
Concrete Structure Repair			Cu. Ft.	13.1

(Sheet 2 of 2)

FILE NAME: SFILES



USER NAME = \$USERS\$	DESIGNED - SDS, SBC, CEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - BRD, JLM, GEM	REVISED -
PLOT DATE = \$TIME\$	DRAWN - DLH	REVISED -
	CHECKED - SDS, BRD, JLM, GEM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER PROTECTION REPAIR DETAILS - PIERS 5 AND 6 (ITEM 54)
STRUCTURE NO. 062-0003

SHEET 597 OF 597 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
649	(1B-D)BR,P	MARSHALL	129	127
CONTRACT NO. 68F08				
ILLINOIS FED. AID PROJECT				

FILE NAME: \$FILES\$

design firm
no. 184001036



USER NAME = \$USERS\$
PLOT DATE = \$DATE\$
PLOT DATE = \$TIME\$

DESIGNED - SDS, SBC, CEH
CHECKED - BRD, JLM, GEM
DRAWN - DLH
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REVISED -
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**STATE OF ILLINOIS
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SHEET 597 OF 597 SHEETS

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