

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**PROPOSED**  
**HIGHWAY PLANS**  
**C.H. 32 (LEBANON ROAD)**  
**SECTION 16-00184-00-BR**  
**STPBR FUNDS**  
**PROJECT NO. KFNE(235)**  
**C-98-353-16**  
**MANNZ BRIDGE**  
**MADISON COUNTY**

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	1
		ILLINOIS	CONTRACT NO. 97734	

**INDEX OF SHEETS**

- 1 COVER SHEET
- 2 GENERAL NOTES, COMMITMENTS
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- 10 EROSION CONTROL PLAN
- 11 DETAILS
- 12-19 STRUCTURAL SHEETS
- 20-21 SOIL BORING LOGS
- 22-26 CROSS SECTIONS

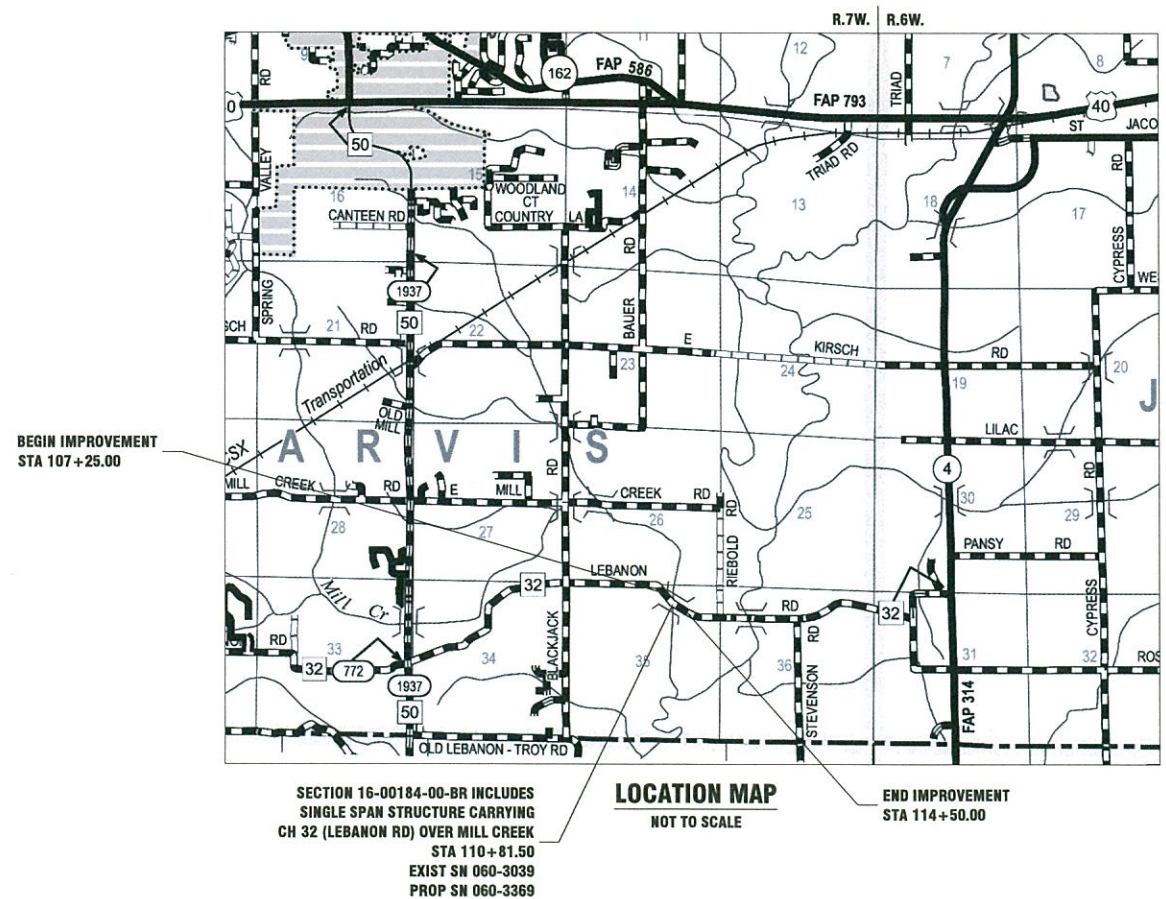
**HIGHWAY STANDARDS**

- 000001-07 630301-09
- 001001-02 631032-09
- 280001-07 701901-08
- 515001-04 725001-01
- 601101-02 BLR 21-9
- 630001-12

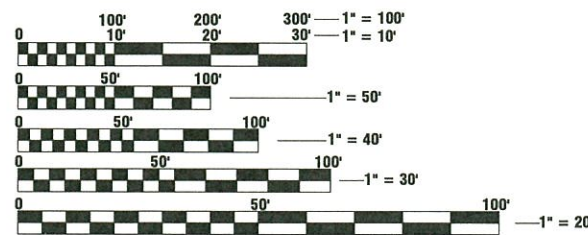


LOCATION OF SECTION INDICATED THIS:

**FUNCTIONAL CLASSIFICATION**  
**MINOR COLLECTOR**  
**2020 ADT = 384**  
**DESIGN SPEED = 55 MPH**



**GROSS LENGTH = 725 FT (0.137 MI)**  
**NET LENGTH = 725 FT (0.137 MI)**



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

THESE PLANS WERE PREPARED BY ME OR A FULL-TIME MEMBER OF MY STAFF WORKING UNDER MY PERSONAL SUPERVISION



*Mark A. Gvillo*  
 3-9-2020  
 LICENSE EXPIRES: 11-30-2021

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

APPROVED 3-9-2020 DATE  
*Mark A. Gvillo*  
 MADISON COUNTY, COUNTY ENGINEER

PASSED March 18, 2020 DATE  
*Conrad Achler*  
 DISTRICT 8 ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID  
 BASED ON LIMITED REVIEW March 18, 2020 DATE  
*Keith Roberts*  
 REGION 5 ENGINEER

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**OF THE STATE OF ILLINOIS**

**GENERAL NOTES**

1. ANY FACILITY OR APPURTENANCES WHICH ARE THE PROPERTY OF ANY PUBLIC UTILITY LOCATED WITHIN THE LIMITS OF CONSTRUCTION, SHALL BE LOCATED OR ADJUSTED BY THEIR RESPECTIVE OWNERS. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH OWNERS OF ANY SUCH FACILITY IN THEIR REMOVAL AND REARRANGEMENT OPERATIONS IN ORDER THAT THESE OPERATIONS AND THE CONSTRUCTION OF THIS PROJECT MAY PROGRESS IN A REASONABLE MANNER.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.39 OF THE STANDARD SPECIFICATION, THE J.U.L.I.E. NUMBER IS 1-800-892-0123.

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES NEAR OR WITHIN THE PROJECT LIMITS:  
-NO KNOWN UTILITIES WITHIN THE PROJECT LIMITS

3. THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE PROVISIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER PERMIT AND IMPLEMENT THE EROSION CONTROL PLAN INCLUDED IN THESE PLANS, AS SPECIFIED IN ARTICLE 107.23, THE ENGINEER MUST GIVE PRIOR APPROVAL BEFORE DISTURBANCE OF ANY AREA CAN BEGIN.

4. IN ADDITION TO FIELD SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

5. ALL STATION AND OFFSET REFERENCES ARE TO PROPOSED ROADWAY CENTERLINE, UNLESS OTHERWISE NOTED. THE STATE PLANE COORDINATE SYSTEM HAS BEEN USED FOR THE HORIZONTAL CONTROL.

6. ALL ELEVATIONS SHOWN ON THE PLANS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

7. CONTRACTOR SHALL ENSURE THAT POSITIVE DRAINAGE IS MAINTAINED FROM THE ROADWAY DITCHES TO THE CHANNEL. ANY EXTRA REQUIRED GRADING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

8. GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES OR OTHER NATURAL OR MAN-MADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THE ITEMS. IT IS THE INTENT THAT THE LIMITS OF CONSTRUCTION BE SUCH AS TO PRESERVE, IN THE ORIGINAL STATE, AS MUCH AREA AS POSSIBLE. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD FOR EARTH EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

9. THE CONTRACTOR SHALL FERTILIZE, SEED AND MULCH ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED RIGHT-OF-WAY OR EASEMENT LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDED, AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE. SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET OR IN AN UNTILLABLE CONDITION.

10. FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

AGGREGATE SURFACE COURSE, TYPE A	2.05 TONS/CU YD
SEEDING FERTILIZER RATIO (NIT:PHOS:POT)	90:90:90 LBS/ACRE
TEMPORARY EROSION CONTROL SEEDING	100 LBS/ACRE
STONE RIPRAP, CLASS A4	0.6667 TONS/SQ YD
HOT-MIX ASPHALT	112 LBS/SQ YD/IN

11. CHANNEL EXCAVATION WILL BE MEASURED AND PAID FOR AS EARTH EXCAVATION.

12. ALL GUARDRAIL AND BRIDGE RAIL REFLECTORS SHALL BE BIDIRECTIONAL.

**HMA MIXTURE REQUIREMENTS**

ROUTE	CH 32
SECTION	16-00184-00-BR
COUNTY	Madison
CONTRACT	97734

DESCRIPTION:	Bridge Replacement Lebanon Road over Mill Creek
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ADT (Construction Yr):	384
MU%:	3
SU%:	9
20 YR. ESAL'S:	0.09

MIXTURE USE	SURFACE	BINDER
AC/PG	PG 64-22	PG 64-22
RAP % (MAX)	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION
DESIGN AIR VOIDS	4.0% @ Ndes=70	4.0% @ Ndes=70
MIX COMPOSITION (GRADATION MIXTURE)	IL-9.5	IL-19.0
FRICTION AGG	MIXTURE "C"	

**COMMITMENTS:**

1. TREES THREE (3) INCHES OR GREATER IN DIAMETER AT BREAST HEIGHT SHALL NOT BE REMOVED FROM APRIL 1 THROUGH SEPTEMBER 30.

INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED -	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>GENERAL NOTES, COMMITMENTS</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 General Notes.dwg	PLOT SCALE 0.5:1	DRAWN -	REVISED -			32	16-00184-00-BR	MADISON	26	2	
	PLOT DATE 6-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734			
			REVISED ----			JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT		
				SCALE: - SHEET NO. 1 OF 1 SHEETS STA. - TO STA. -							

## SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	410
20400800	FURNISHED EXCAVATION	CU YD	660
25000210	SEEDING, CLASS 2A	ACRE	0.5
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	42
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	42
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	42
25100115	MULCH, METHOD 2	ACRE	1
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	94
28000305	TEMPORARY DITCH CHECKS	FOOT	20
28000400	PERIMETER EROSION BARRIER	FOOT	1004
28100107	STONE RIPRAP, CLASS A4	SQ YD	321
28200200	FILTER FABRIC	SQ YD	321
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	524
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	600
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	224

\*\*

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	94
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	31
50200100	STRUCTURE EXCAVATION	CU YD	195
50300225	CONCRETE STRUCTURES	CU YD	41.6
50300280	CONCRETE ENCASEMENT	CU YD	3.4
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	1560
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6120
50901050	STEEL RAILING, TYPE SM	FOOT	107
51201600	FURNISHING STEEL PILES HP12X53	FOOT	400
51202305	DRIVING PILES	FOOT	400
51203600	TEST PILE STEEL HP12X53	EACH	2
51204650	PILE SHOES	EACH	10
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	180

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△

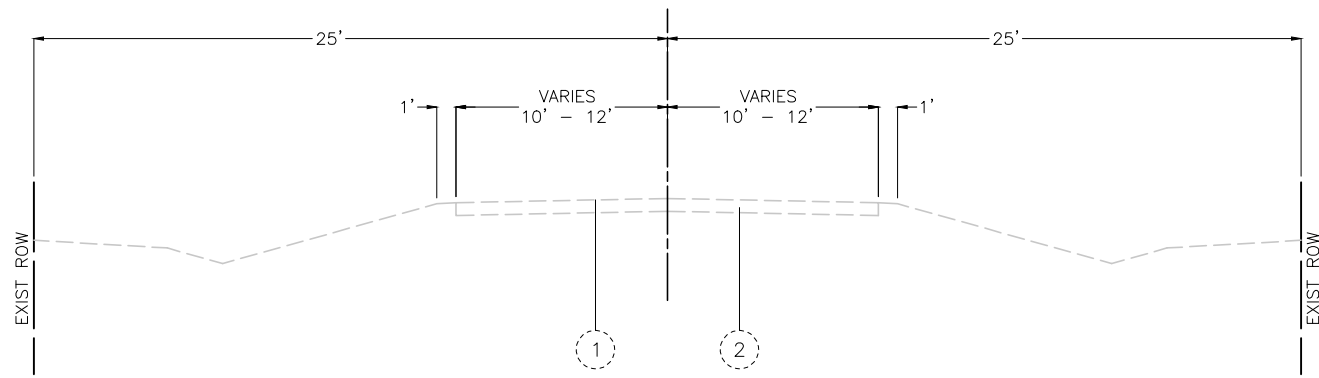
△ SPECIALTY ITEMS

INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED -	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>SUMMARY OF QUANTITIES</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 General Notes.dwg	PLOT SCALE 0.5:1	DRAWN -	REVISED -			32	16-00184-00-BR	MADISON	26	3
	PLOT DATE 16-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734		
			REVISED -			JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT	

## SUMMARY OF QUANTITIES

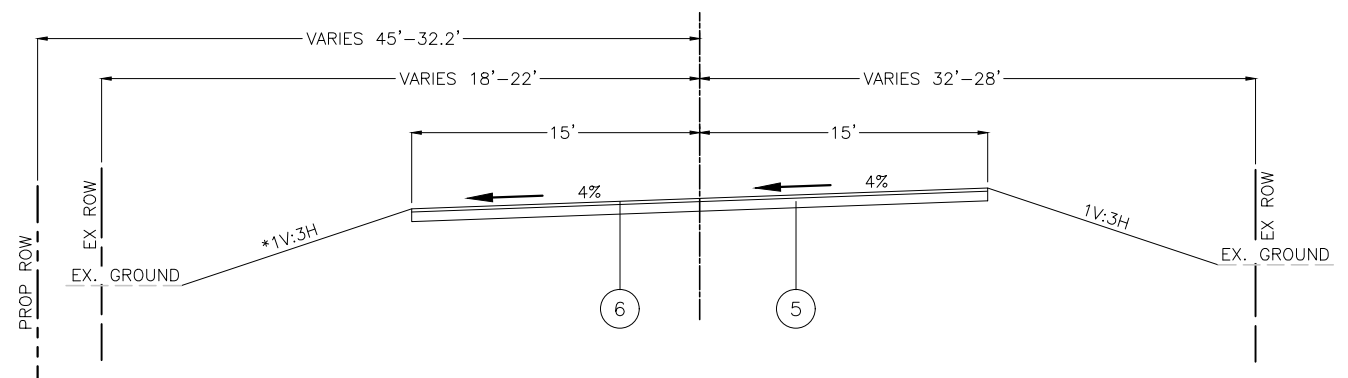
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	468	
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	91	**
58700300	CONCRETE SEALER	SQ FT	474	
△ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	
△ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	
67100100	MOBILIZATION	L SUM	1	**
△ 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	
△ 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	4	
△ 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	4	
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	**
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	**
Z0016702	DETOUR SIGNING	L SUM	1	**
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	131	**

△ SPECIALTY ITEMS  
 \*\*SPECIAL PROVISION



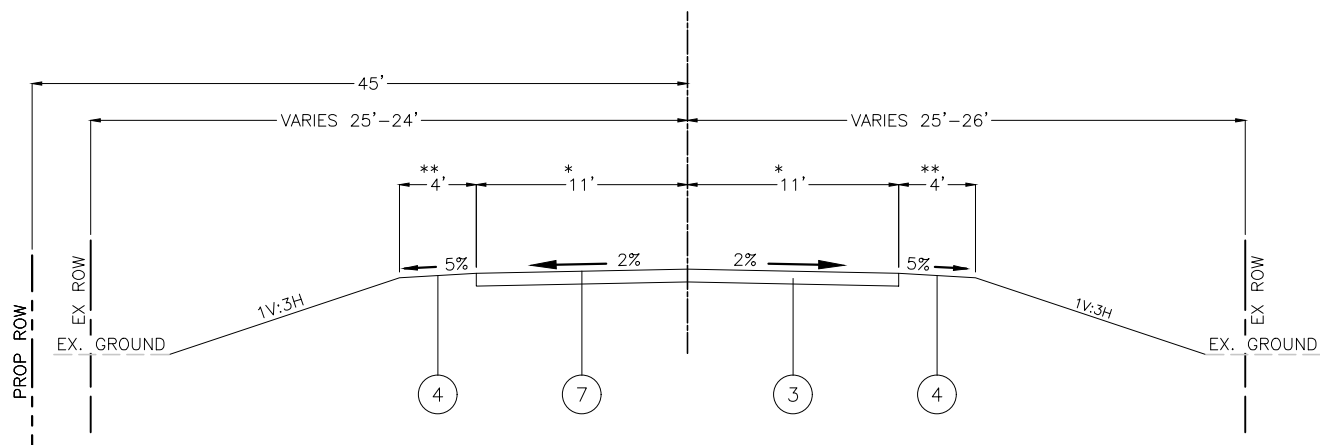
**EXISTING LEBANON ROAD**

STA 107+25.00 TO STA 114+50.00  
 EX. BRIDGE OMISSION FROM STA 110+60.85 TO STA 111+03.85



**PROPOSED LEBANON ROAD**

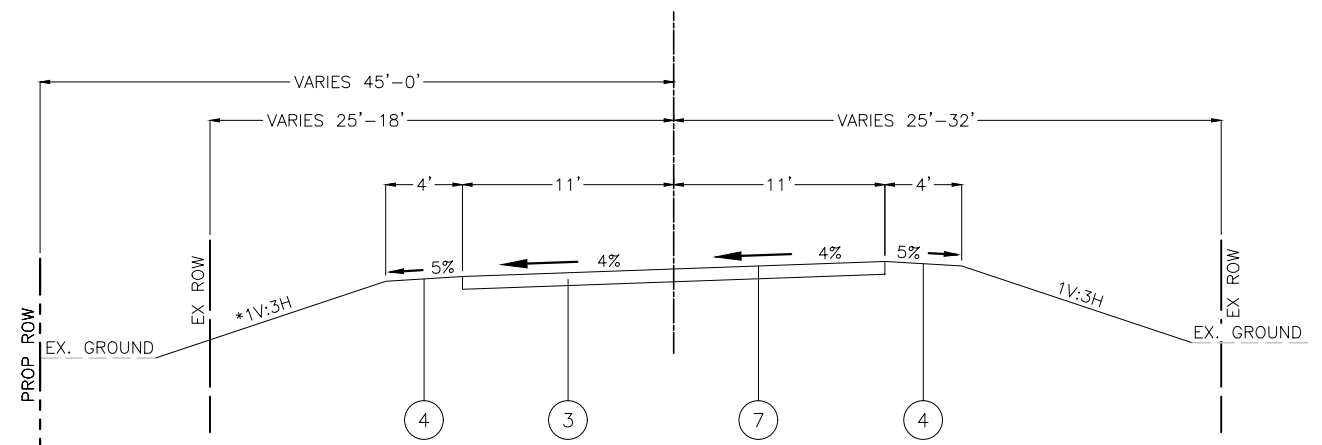
STA 109+54.47 TO STA 112+08.53  
 BRIDGE OMISSION STA 110+54.47 TO STA 111+08.53  
 \*SEE SPECIAL DITCH SECTION FOR STA 109+54.47 LT TO STA 110+50 LT



**PROPOSED LEBANON ROAD**

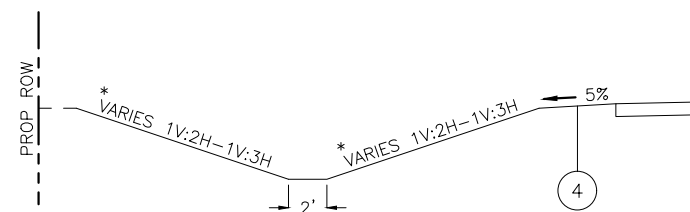
STA 107+25.00 TO STA 107+81.33  
 STA 114+30.01 TO STA 114+50.00

\*LANE WIDTH VARIES 10'-11' FROM STA 107+25.00 TO STA 107+91.00 AND 11'-12' FROM STA 113+95.00 TO STA. 114+50.00  
 \*\*SHOULDER WIDTH VARIES 1'-4' FROM STA 107+25.00 TO STA 107+91.00 AND FROM STA 113+95.00 TO STA. 114+50.00  
 \*\*\*PROP ROW FROM STA 107+25.00 TO STA 107+81.33 ONLY



**PROPOSED LEBANON ROAD**

SUPERELEVATION TRANSITION STA 107+81.33 TO STA 109+41.83  
 FULL SUPERELEVATION STA 109+41.83 TO STA 109+54.47 AND STA 112+08.53 TO STA 112+69.51  
 SUPERELEVATION TRANSITION STA 112+69.51 TO STA 114+30.01  
 \*SEE SPECIAL DITCH SECTION FOR STA 107+81.33 LT TO STA 109+54.47 LT



**SPECIAL DITCH LEFT**

STA 107+25.00 LT TO STA 110+50.00 LT

\*1V:3H SLOPES FROM STA 107+25.00 TO STA 109+59.91

\*1V:2H SLOPES FROM STA 109+59.91 TO STA 110+50.00

SEE CROSS SECTIONS FOR DITCH ELEVATION

**TYPICAL SECTION LEGEND**

- ① EXISTING AGGREGATE OIL & CHIP SURFACE
- ② EXISTING AGGREGATE BASE COURSE, 8"
- ③ PROPOSED AGGREGATE SURFACE COURSE, TY A, 8"
- ④ PROPOSED TURF SHOULDER
- ⑤ HMA BINDER COURSE, IL-19.0, N70, 6"
- ⑥ HMA SURFACE COURSE, IL-9.5, MIX "C", N70, 2"
- ⑦ PROPOSED SEAL COAT (BY OTHERS)

INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED BML	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>TYPICAL SECTIONS</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET No.
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 TYPICALS.dwg	PLOT SCALE 0.5:1	DRAWN ZRF	REVISED -			32	16-00184-00-BR	MADISON	26	5
	PLOT DATE 16-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734		
			REVISED -			JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT	

EARTHWORK SCHEDULE							
LOCATION		EARTH EXCAVATION	STRUCTURE EXCAVATION	EXCAVATION ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE(+), SHORTAGE (-)	
		(CU YD)	(CU YD)	(CU YD)	(CU YD)	(CU YD)	
STA 107+25	TO	STA 110+55	359		269	383	-114
STA 110+55	TO	STA 111+09	36	195	173	2	171
STA 111+09	TO	STA 114+50	13		10	727	-717
TOTAL:			410	195	452	1112	-660

TEMPORARY EROSION CONTROL SCHEDULE					
LOCATION			PERIMETER EROSION BARRIER	TEMPORARY DITCH CHECK	*TEMPORARY EROSION CONTROL SEEDING
			(FOOT)	(FOOT)	(POUND)
STA 107+25	TO	STA 110+69	334		
STA 111+20	TO	STA 114+50	335		
STA 108+00	LT			10	
STA 110+50	LT			10	
STA 107+25	TO	STA 110+55			36
STA 107+25	TO	STA 110+71			16
STA 111+11	TO	STA 114+50	335		
STA 111+15	TO	STA 114+50			20
STA 111+98	TO	STA 114+50			22
TOTAL:			1004	20	94

\* TEMPORARY EROSION CONTROL SEEDING QUANTITY ASSUMES TWO SEPARATE APPLICATIONS AT A RATE OF 100 LBS/ACRE.

REMOVAL SCHEDULE			
LOCATION		PIPE CULVERT REMOVAL	
		(FOOT)	
STA 107+37.92	TO	STA 107+68.45	31
TOTAL:			31

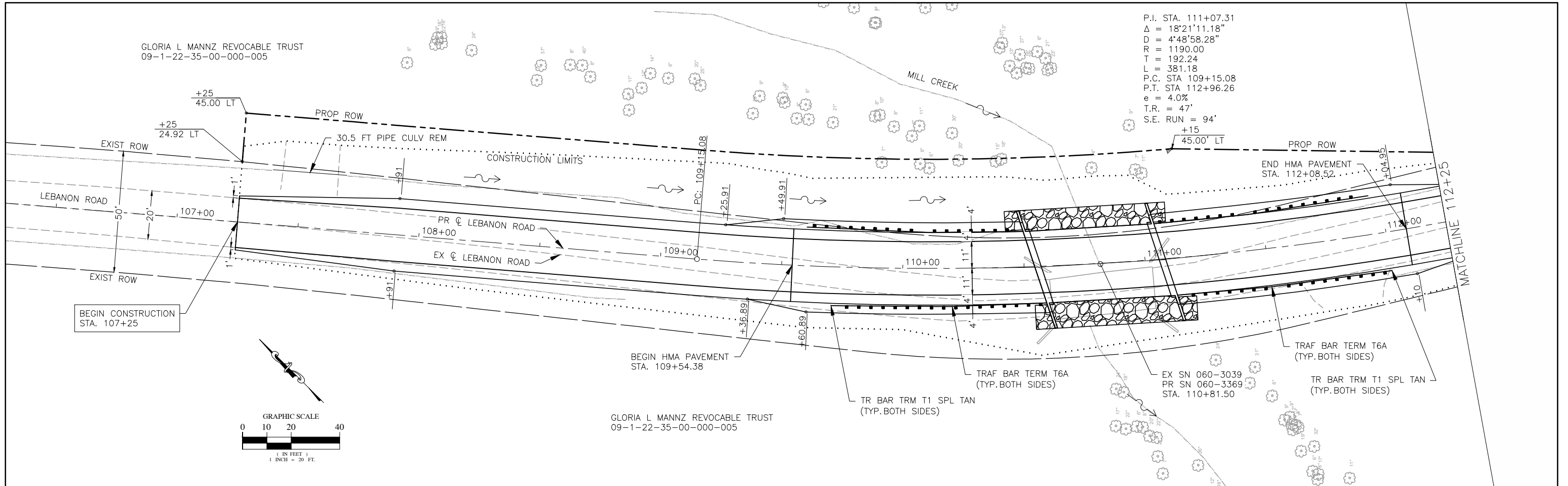
PAVEMENT SCHEDULE					
LOCATION		AGGREGATE SURFACE COURSE, TYPE A	HMA BINDER CSE, IL-19.0, N70	HMA SURFACE CSE, IL-9.5, MIX "C", N70	BITUMINOUS MATERIALS (TACK COAT)
		(TON)	(TON)	(TON)	(POUND)
STA 107+25.00	TO	STA 109+54.47	253		
STA 109+54.47	TO	STA 110+54.47		112	37
STA 110+54.47	TO	STA 111+08.53		20	
STA 111+08.53	TO	STA 112+08.53		112	37
STA 112+08.53	TO	STA 114+50.00	271		300
TOTAL:			524	224	94

RIPRAP SCHEDULE				
LOCATION			STONE RIPRAP CLASS A4 (SQ YD)	FILTER FABRIC (SQ YD)
STA 110+42.42	TO	STA 111+19.81	321	321
TOTAL:			321	321

GUARDRAIL AND MARKER SCHEDULE							
LOCATION			TRAFFIC BARR TERMINAL, TYPE 1, (SP.) TANGENT	TRAFFIC BARRIER TERMINAL, TYPE 6A	TERMINAL MARKER - DIRECT APPLIED	GUARDRAIL REFLECTORS, TYPE A	BARRIER WALL REFLECTORS, TYPE C
			(EACH)	(EACH)	(EACH)	(EACH)	(EACH)
STA 109+59.9	TO	STA 110+09.9	1		1	1	
STA 110+09.9	TO	STA 110+50.4		1			
STA 110+50.0	TO	STA 111+04.8					2
STA 111+04.8	TO	STA 111+44.3		1		1	
STA 111+44.3	TO	STA 111+94.9	1		1		
STA 109+70.9	TO	STA 110+20.9	1		1	1	
STA 110+20.9	TO	STA 110+58.8		1			
STA 110+58.8	TO	STA 111+11.8					2
STA 111+11.8	TO	STA 111+50.7		1		1	
STA 111+50.7	TO	STA 112+00.0	1		1		
TOTAL:			4	4	4	4	4

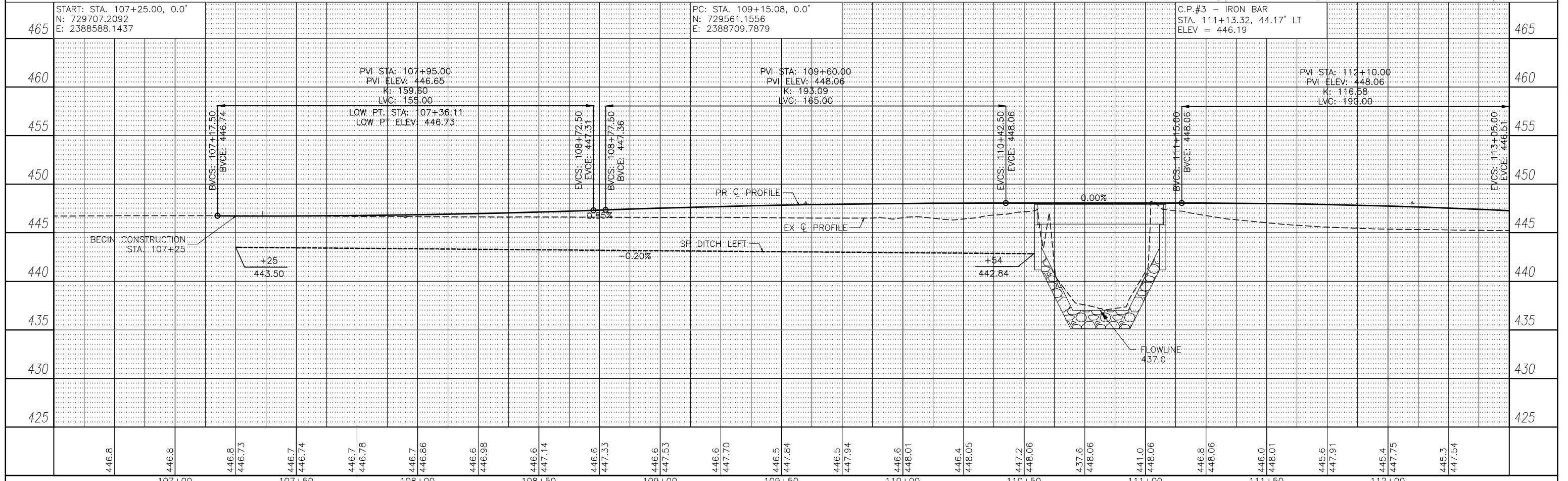
SEEDING SCHEDULE						
LOCATION		SEEDING, CLASS 2A	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH, METHOD 2
		(ACRE)	(POUND)	(POUND)	(POUND)	(ACRE)
STA 107+25	TO	STA 110+55	0.18	16	16	0.18
STA 107+25	TO	STA 110+71	0.08	7	7	0.08
STA 111+98	TO	STA 114+50	0.11	10	10	0.11
STA 111+15	TO	STA 114+50	0.10	9	9	0.10
SUBTOTAL:			0.5	42	42	0.5
TOTAL:			0.5	42	42	1.0

\*APPLY APPLICATION OF MULCH, METHOD 2 IF TEMPORARY EROSION CONTROL SEEDING IS UTILIZED

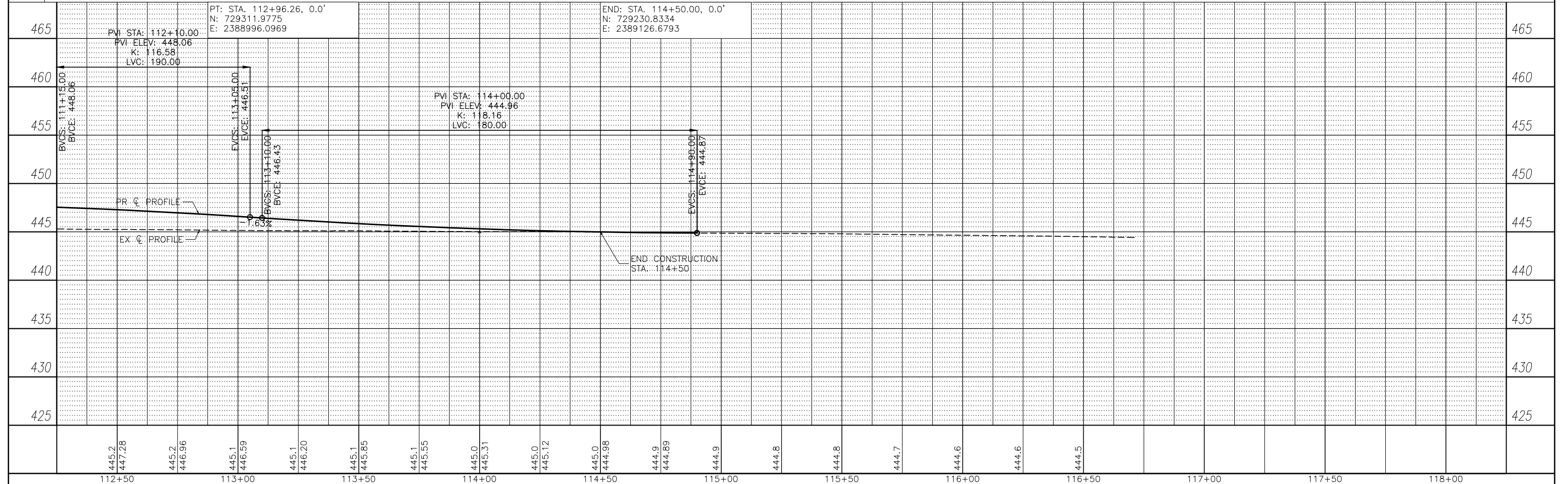
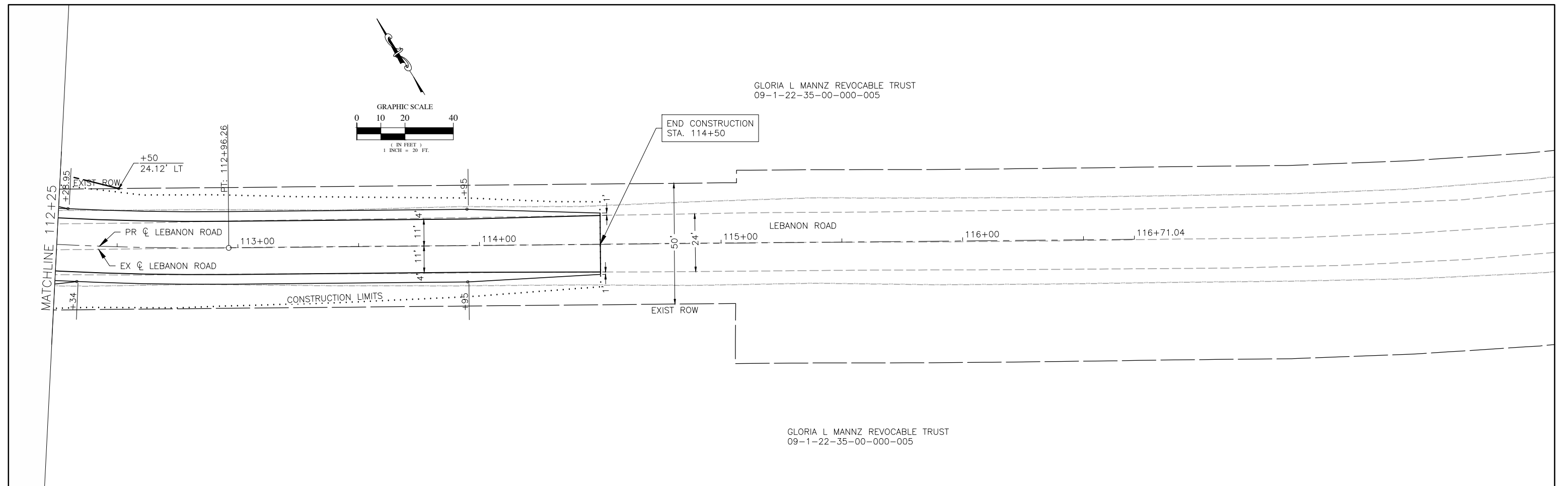


P.I. STA. 111+07.31  
 $\Delta = 18'21''11.18''$   
 $D = 4'48'58.28''$   
 $R = 1190.00$   
 $T = 192.24$   
 $L = 381.18$   
P.C. STA 109+15.08  
P.T. STA 112+96.26  
 $e = 4.0\%$   
 $T.R. = 47'$   
 $S.E. RUN = 94'$

GLORIA L MANNZ REVOCABLE TRUST  
 09-1-22-35-00-000-005



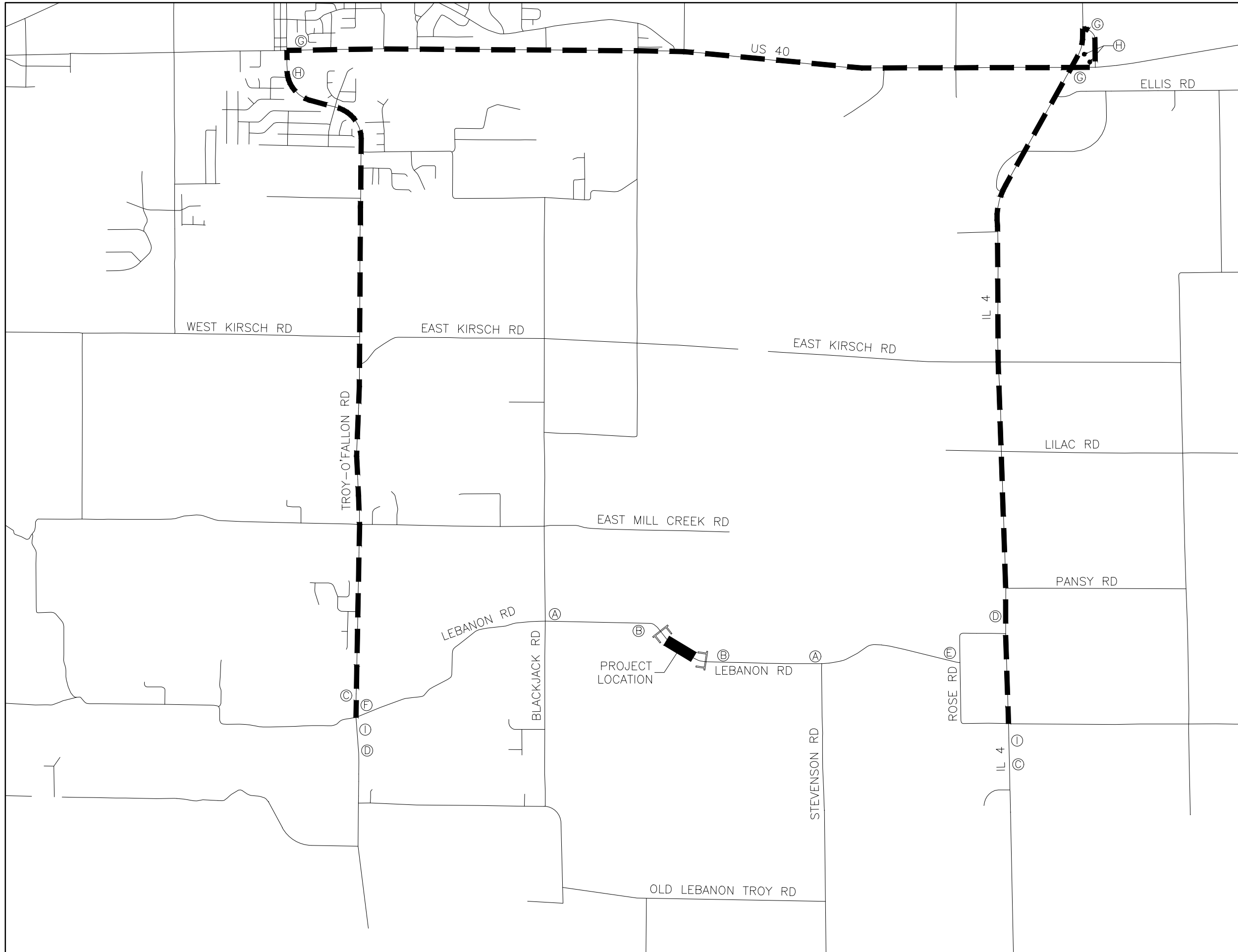
INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED BML	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>PLAN &amp; PROFILE</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Design.dwg	PLOT SCALE 0.5:1	DRAWN NEL	REVISED -			32	16-00184-00-BR	MADISON	26	7	
	PLOT DATE 6-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734			
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	PLOT DATE 6-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734		
			REVISED -			JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT	

SCALE: 1" = 20' SHEET NO. 2 OF 2 SHEETS STA. 112+25 TO STA. 114+50





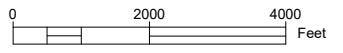
LEGEND

- (A) ROAD CLOSED AHEAD  
W20-3(O)-48
- (B) ROAD CLOSED 500'  
W20-2(O)-48
- (C) ROAD CLOSED AHEAD  
W20-3(O)-48
- (D) ROAD CLOSED AHEAD  
W20-3(O)-48
- M5-1L - 21X15 (Left Turn Arrow)
- M5-1R - 21X15 (Right Turn Arrow)
- (E) ROAD CLOSED AHEAD  
W20-3(O)-48  
1.5 MILES  
W16-3aP - 30X12
- (F) ROAD CLOSED AHEAD  
W20-3(O)-48  
2 MILES  
W16-3aP - 30X12
- (G) DETOUR  
M4-8 - 24X12  
LEBANON ROAD  
36X24  
M5-1L - 21X15
- (H) DETOUR  
M4-8 - 24X12  
LEBANON ROAD  
36X24  
M5-1R - 21X15
- (I) DETOUR  
M4-8 - 24X12  
LEBANON ROAD  
36X24  
M6-3 - 21X15

TYPE III BARRICADES WITH ROAD CLOSED SIGNS

DETOUR ROUTE

NOTES: SIGNS TO BE SPACED 500' FROM INTERSECTING SIDE STREET OR BETWEEN CONSECUTIVE SIGNS.  
DETOUR SIGNS LOCATED AT STOP-CONTROLLED INTERSECTIONS TO BE PLACED 100' PRIOR TO STOP SIGN.



INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED BML	REVISED -
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00-TRCONTROL.dwg	PLOT SCALE 0.5:1	DRAWN NEL	REVISED -
	PLOT DATE 6-Mar-20	CHECKED -	REVISED -
			REVISED -


**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**TRAFFIC CONTROL PLAN**

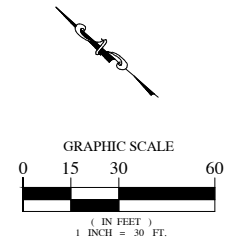
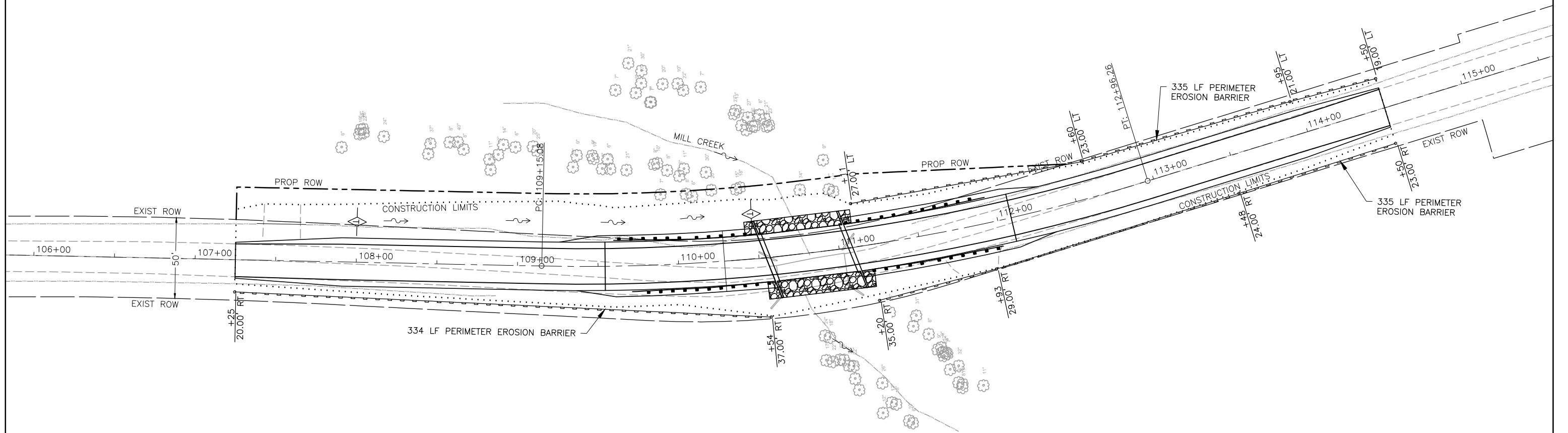
SCALE: - SHEET NO. 1 OF 1 SHEETS STA. - TO STA. -

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	9
PROJECT NAME:		CONTRACT NO. 97734		
JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT	

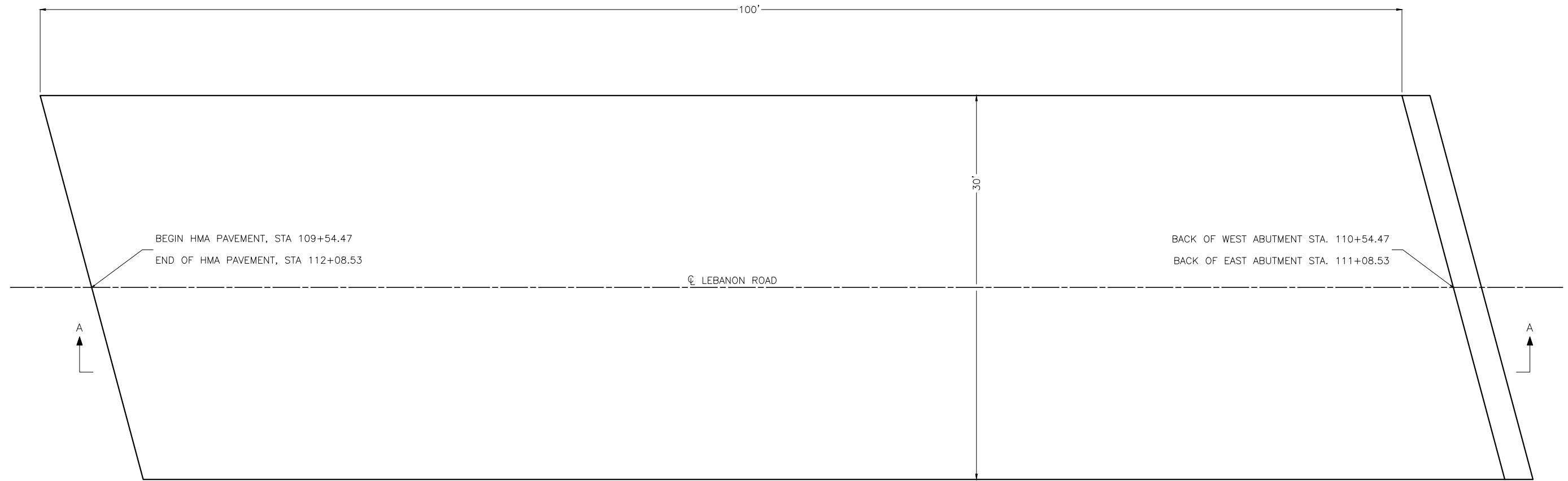
### EROSION CONTROL LEGEND

- ..... LIMIT OF CONSTRUCTION
- PERIMETER EROSION BARRIER
- ◇ TEMPORARY DITCH CHECKS
- ▨ STONE RIP RAP

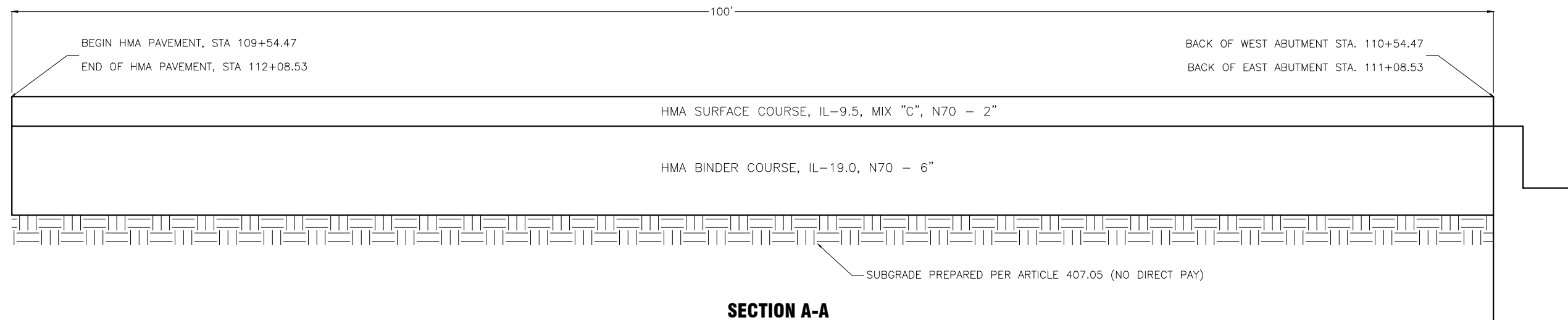
NOTE: ALL ITEMS SHALL BE INSTALLED AS SHOWN ON STANDARD 280001 AND AS DIRECTED BY THE ENGINEER.



INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED BML	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>EROSION CONTROL PLAN</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Design.dwg	PLOT SCALE 0.5:1	DRAWN NEL	REVISED -			32	16-00184-00-BR	MADISON	26	10	
	PLOT DATE 6-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734			
			REVISED -			JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT		
				SCALE: 1" = 30'		SHEET NO. 1 OF 1 SHEETS STA. 107+25 TO STA. 114+50					



**PLAN VIEW**



**SECTION A-A**

INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED MJK	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>DETAILS</b>	CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 TYPICALS.dwg	PLOT SCALE 0.5:1	DRAWN ZRF	REVISED -			32	16-00184-00-BR	MADISON	26	11
	PLOT DATE 16-Mar-20	CHECKED -	REVISED -			PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734		
			REVISED ----			SCALE: NTS	SHEET NO. 1 OF 1 SHEETS	JARVIS TOWNSHIP	ILLINOIS	FEDERAL AID PROJECT

Existing Structure: S.N. 060-3039 is a single span concrete thru girder structure on closed abutments. The back to back abutment length is approximately 43' and the out to out width is approximately 21'-6". Structure to be removed and replaced.

Traffic Control: The road will be closed during construction.

Salvage: None

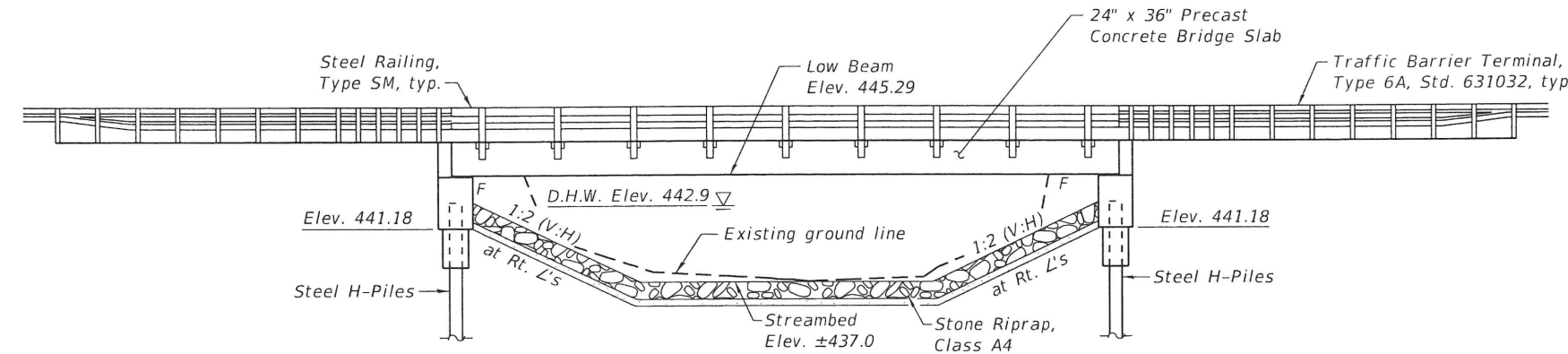
**DESIGN SCOUR ELEVATION TABLE**

Event / Limit	Design Scour Elevations (ft.)		
State	W. Abut.	E. Abut.	Item 113(1)
Q100	441.18	441.18	8
Q200	441.18	441.18	
Design	441.18	441.18	
Check	441.18	441.18	

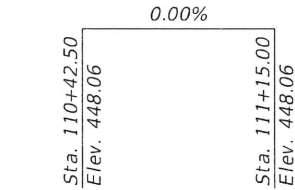
**WATERWAY INFORMATION**

Drainage Area = 11.6 sq. mi. Existing Overtopping Elev. = 443.08 at Sta. 118+08  
Proposed Overtopping Elev. = 443.08 at Sta. 118+08

Flood	Freq. Yr.	Q C.F.S.	Opening Ft <sup>2</sup>		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
					442.7				
Design	20	2708	201	198	442.9	1.6	1.4	444.5	444.3
Base	100	4020	215	214	443.2	1.5	1.4	444.7	444.6
Scour Design Check	200	4645	221	221	443.4	1.5	1.3	444.9	444.7
Overtop Existing	100	4020	215		443.2	1.5		444.7	
Overtop Proposed	100	4020		214	443.2		1.4		444.6



**ELEVATION**



**PROFILE GRADE**  
(Along  $\bar{C}$  Roadway) ②

**DESIGN SPECIFICATIONS**  
2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

**DESIGN STRESSES**

**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST UNITS**  
f'c = 6,000 psi  
f'ci = 5,000 psi  
fy = 60,000 psi (Reinforcement)

**LOADING HL-93**

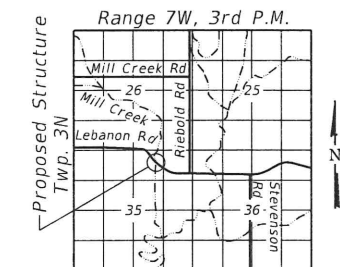
Allow 50#/sq. ft. for future wearing surface.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.25g  
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.56g  
Soil Site Class = D

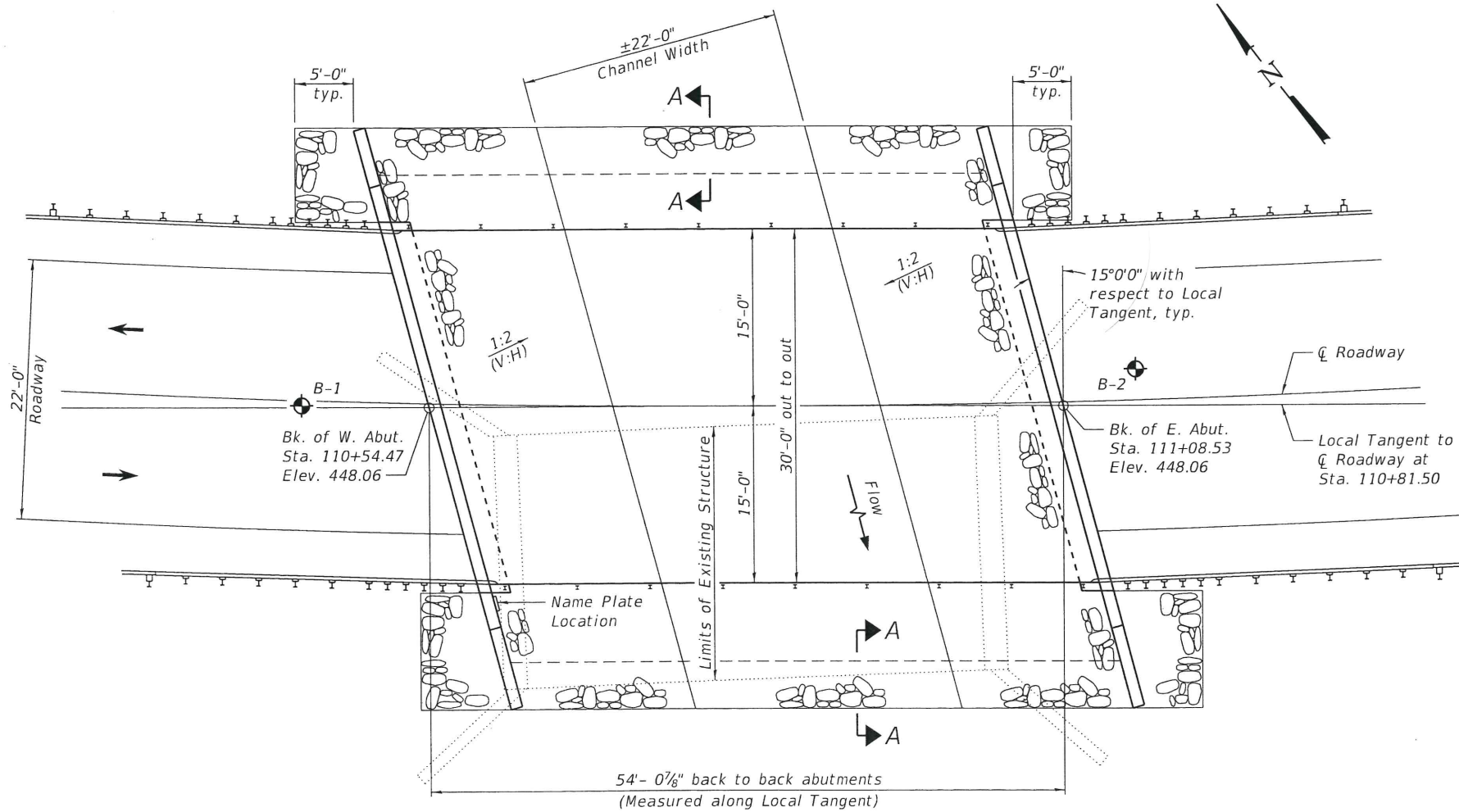
MILL CREEK  
BUILT 20\_\_ BY  
MADISON COUNTY  
SEC. 16-00184-00-BR  
STATION 110+81.50  
STR. NO. 060-3369 LOADING HL-93

**NAME PLATE**  
See Std. 515001



**LOCATION SKETCH**

LEBANON ROAD (CH 32)  
OVER MILL CREEK  
SEC. 16-00184-00-BR  
MADISON COUNTY  
STATION 110+81.50  
STRUCTURE NO. 060-3369



**PLAN**

- Notes:  
① Determined by rational analysis.  
② Profile Grade on bridge shall be along Local Tangent.  
③ For Section A-A, see sheet 2 of 10.

**DANIEL GEORGE LUTZ**  
081 006772  
STATE OF ILLINOIS  
LICENSED STRUCTURAL ENGINEER

DATE: 2/25/2020  
EXPIRATION: 11/30/2020

I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown. The design is an economical one for the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

FILE NAME: H:\PA 19 11518\bridge\Microstation\0603369-001-General Plan & Elevation.dgn

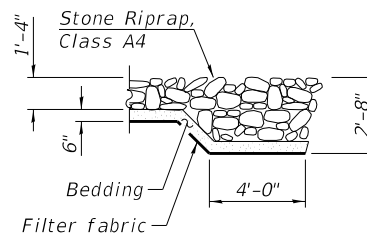
**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.

Concrete Sealer shall be applied to the designated areas of the abutments.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

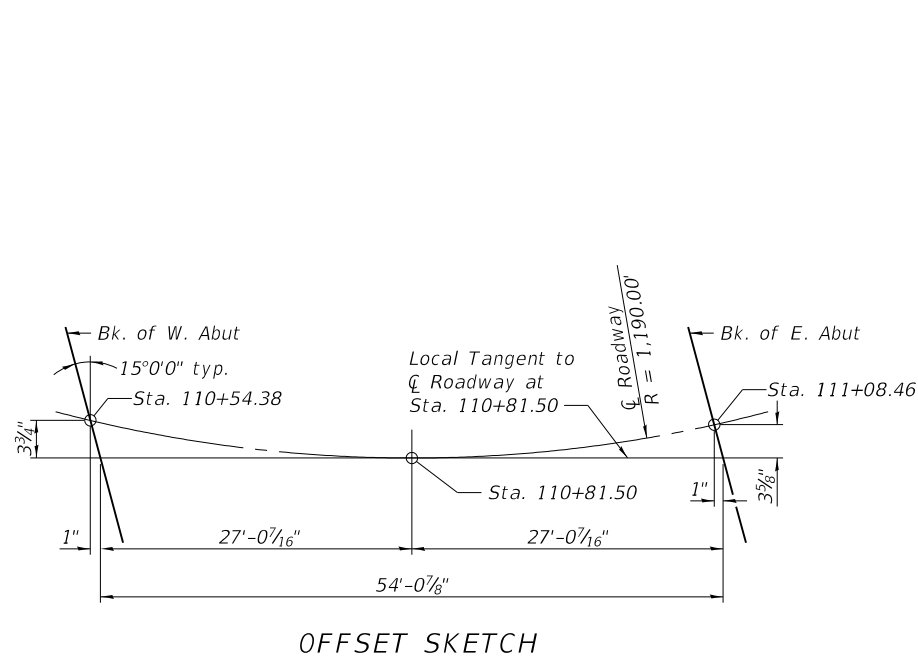
Existing abutment and wingwall foundations are unknown. Contractor shall remove any portion of the existing structure and its foundations that will prohibit the installation of the steel H-piles or the construction of the abutments.



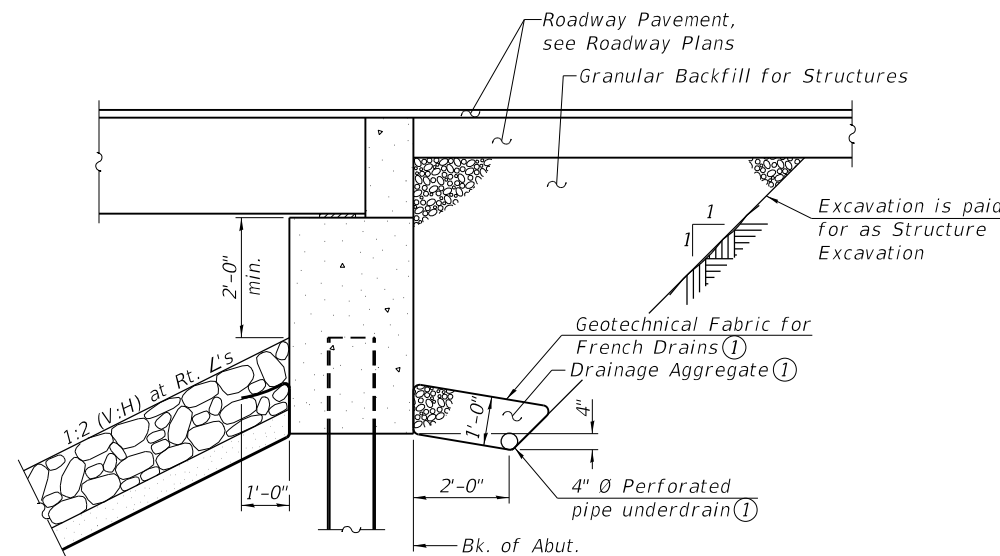
**SECTION A-A**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.	-	321	321
Filter Fabric	Sq. Yd.	-	321	321
Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N70	Ton	20	-	20
Removal of Existing Structures	Each	-	-	1
Structure Excavation	Cu. Yd.	-	195	195
Concrete Structures	Cu. Yd.	-	41.6	41.6
Concrete Encasement	Cu. Yd.	-	3.4	3.4
Precast Concrete Bridge Slab	Sq. Ft.	1,560	-	1,560
Reinforcement Bars, Epoxy Coated	Pound	-	6,120	6,120
Steel Railing, Type SM	Foot	107	-	107
Furnishing Steel Piles HP12X53	Foot	-	400	400
Driving Piles	Foot	-	400	400
Test Pile Steel HP12X53	Each	-	2	2
Pile Shoes	Each	-	10	10
Name Plates	Each	-	1	1
Waterproofing Membrane System	Sq. Yd.	180	-	180
Portland Cement Mortar Fairing Course	Foot	468	-	468
Granular Backfill For Structures	Cu. Yd.	-	91	91
Concrete Sealer	Sq. Ft.	-	474	474
Pipe Underdrains For Structures 4"	Foot	-	131	131



**OFFSET SKETCH**



**SECTION THRU PILE SUPPORTED ABUTMENT**

(Horiz. dim. at Rt. L's)

**INDEX OF SHEETS**

Sheet No.	Description
1	General Plan & Elevation
2	General Data
3	Superstructure
4	Precast Concrete Bridge Slab
5	Steel Railing, Type SM
6	West Abutment Details
7	East Abutment Details
8	HP Pile Details
9-10	Soil Boring Logs

**Notes:**

- ① Included in the cost of Pipe Underdrains for Structures 4", see Special Provisions.
- ② All drainage system components shall extend parallel to the abutment back wall until 2'-0" from the end of the wingwalls. Unperforated pipe shall outlet within the riprap on the abutment slope. The unperforated pipes shall drain into concrete headwalls in accordance with Article 601.05 of the Standard Specifications and Highway Standard 601101.

FILE NAME: H:\P\19115\Bridges\Microstation\0603369-002-General Data.dgn



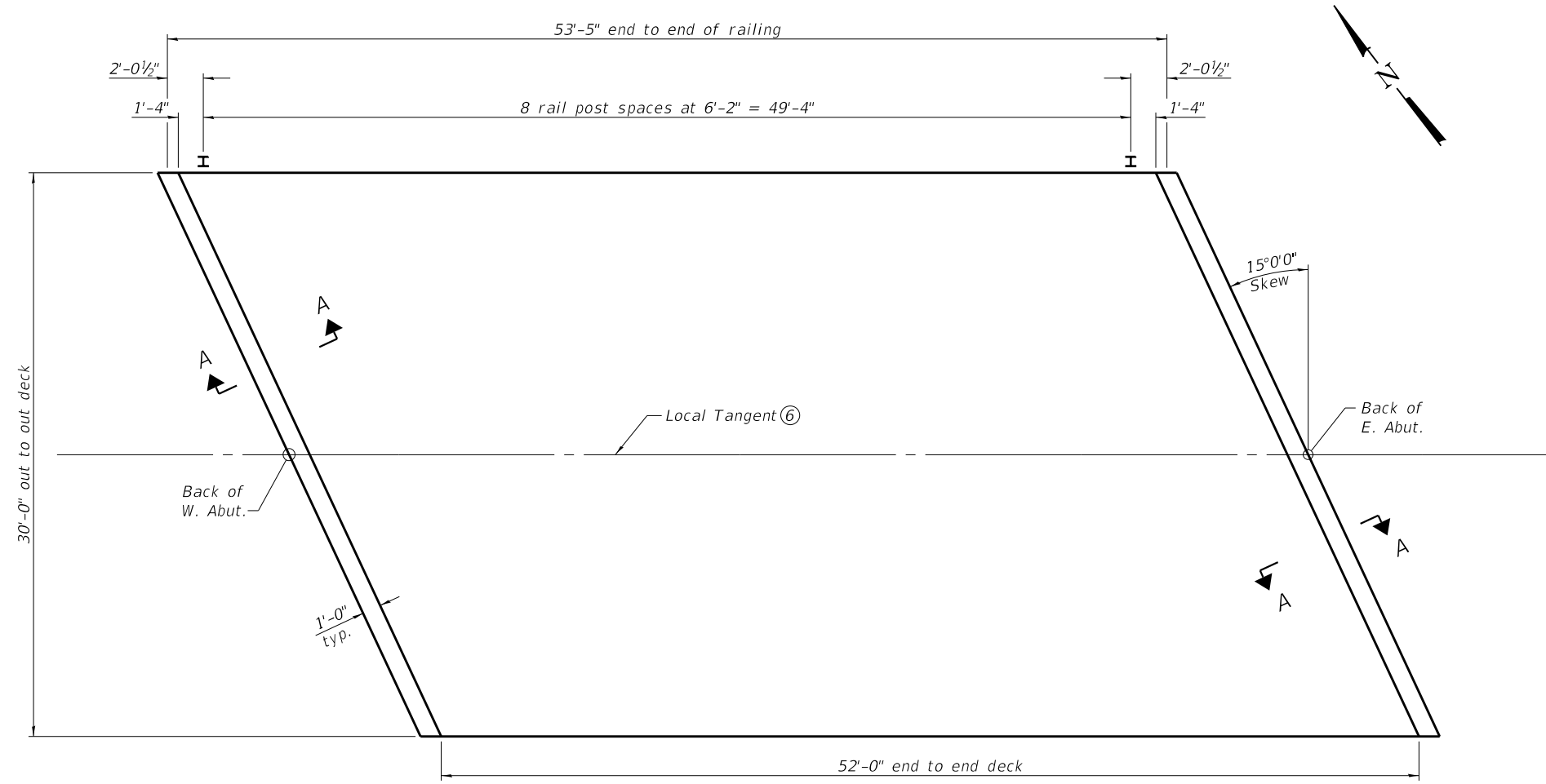
USER NAME =	DESIGNED - MAM	REVISED -
	CHECKED - JAD	REVISED -
PLOT SCALE =	DRAWN - MAM	REVISED -
PLOT DATE = 2/24/2020	CHECKED - JAD	REVISED -

**MADISON COUNTY  
HIGHWAY DEPARTMENT**

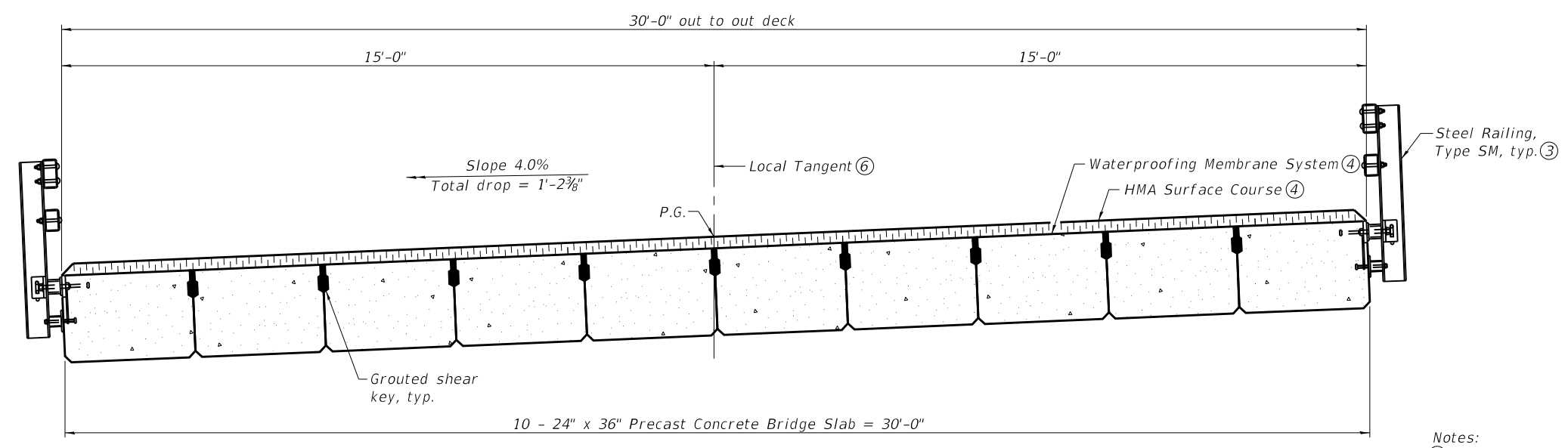
**GENERAL DATA  
STRUCTURE NO. 060-3369**

SHEET 2 OF 10 SHEETS

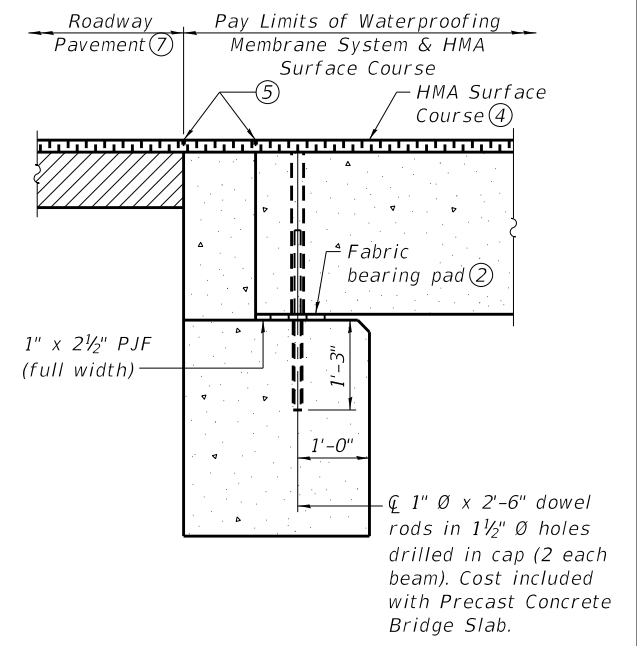
CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	13
CONTRACT NO. 97734				
ILLINOIS FED. AID PROJECT				



**PLAN**



**CROSS SECTION**  
(Looking East)



**SECTION A-A**  
(Dimensions are at Rt. L's)

**BILL OF MATERIAL**

Item	Unit	Quantity
Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N70	Ton	20
Waterproofing Membrane System	Sq. Yd.	180
Portland Cement Mortar Fairing Course	Foot	468

- Notes:
- ① For Precast Concrete Bridge Slab details and Bill of Material, see sheet 4 of 10.
  - ② For fabric bearing pad details, see sheet 4 of 10.
  - ③ For Steel Railing, Type SM details, see sheet 5 of 10.
  - ④ Total thickness of Waterproofing Membrane System and HMA Surface Course shall be 2".
  - ⑤ 1/4" x 3/4" Sawed joint with bridge relief joint sealer (full width) in accordance with Section 588 of the Standard Specifications. Cost included in Hot-Mix Asphalt Surface Course, IL-9.5, Mix "C", N70.
  - ⑥ For Local Tangent, see sheet 1 of 10.
  - ⑦ For Roadway Pavement, see Roadway Plans.

FILE NAME: H:\P\19115\Bridge\Microstation\0603369-003-Superstructure.dgn



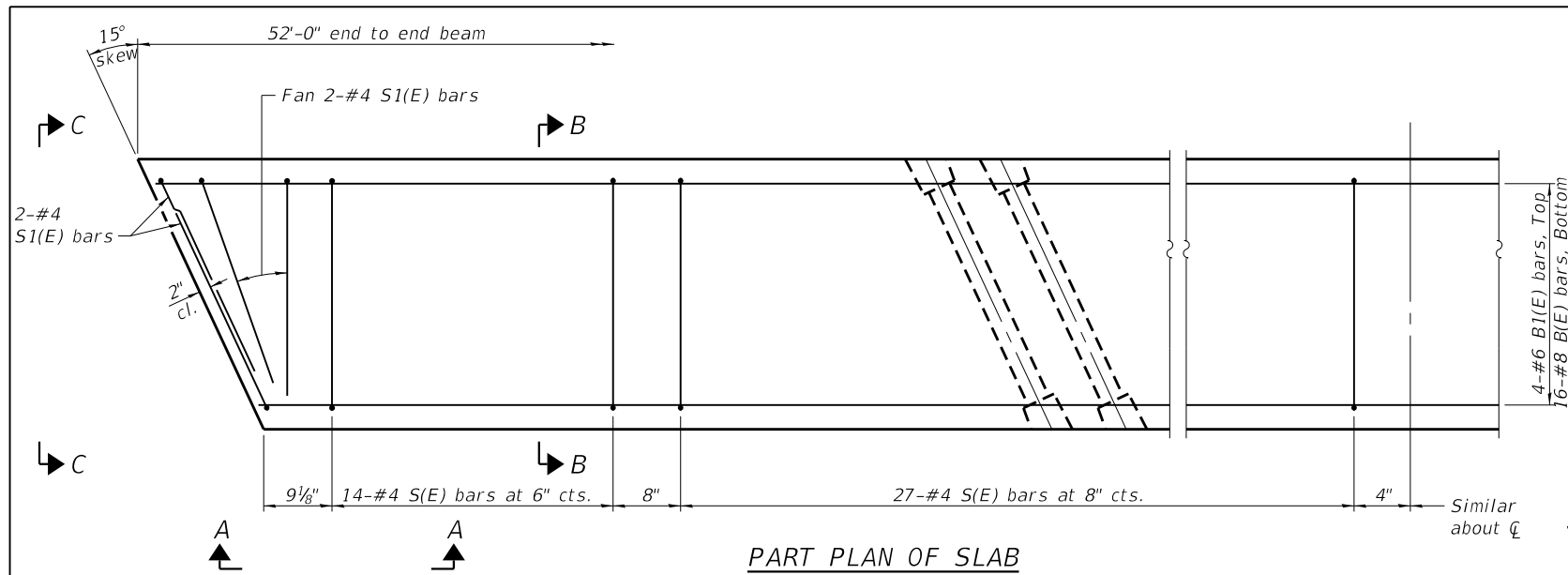
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	CHECKED - JAD	REVISED -
PLOT SCALE =	DRAWN - MAM	REVISED -
PLOT DATE = 2/24/2020	CHECKED - JAD	REVISED -

**MADISON COUNTY  
HIGHWAY DEPARTMENT**

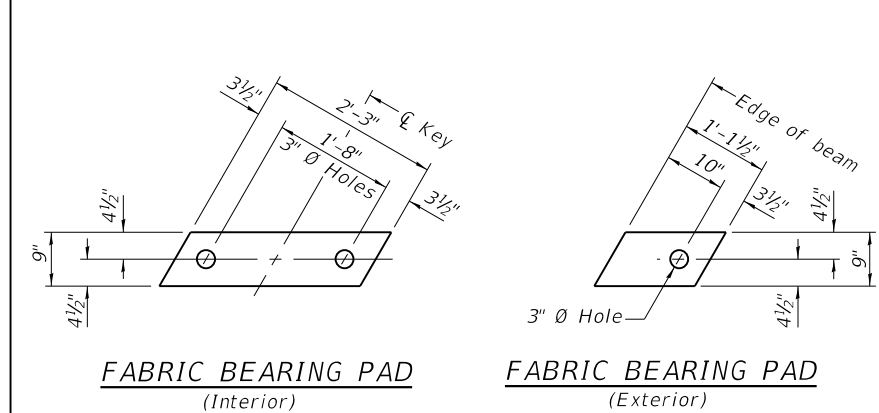
**SUPERSTRUCTURE  
STRUCTURE NO. 060-3369**

SHEET 3 OF 10 SHEETS

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	14
CONTRACT NO. 97734				
ILLINOIS FED. AID PROJECT				

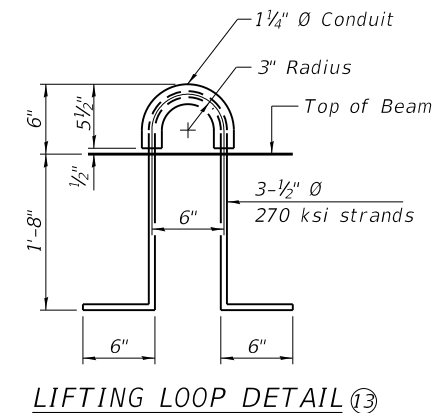


**PART PLAN OF SLAB**

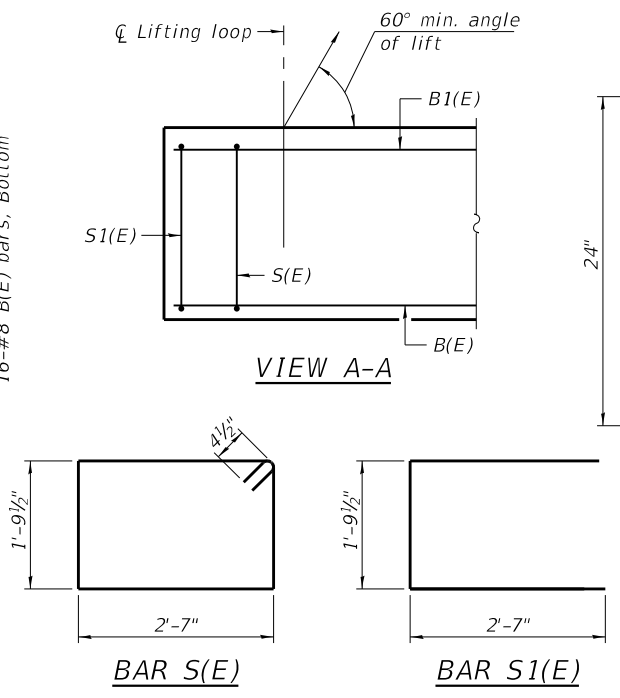


**FABRIC BEARING PAD (Interior)**

**FABRIC BEARING PAD (Exterior)**



**LIFTING LOOP DETAIL**



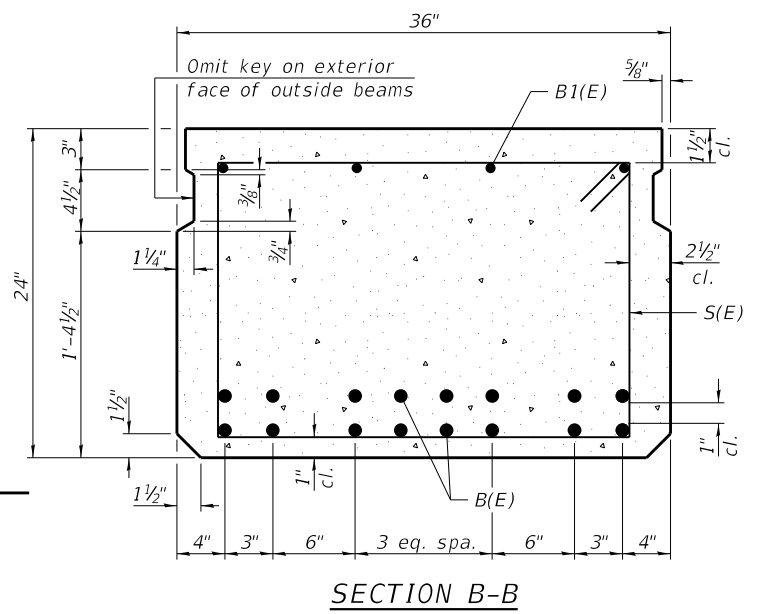
**VIEW A-A**

**BAR S(E)**

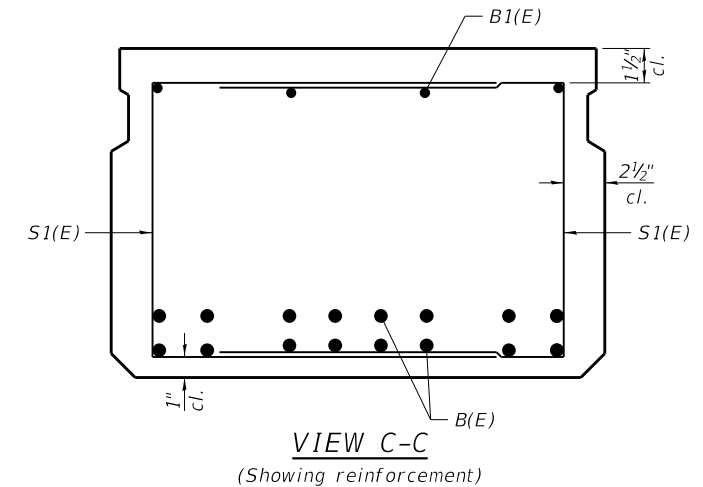
**BAR S1(E)**

**BAR LIST ONE BEAM ONLY (For information only)**

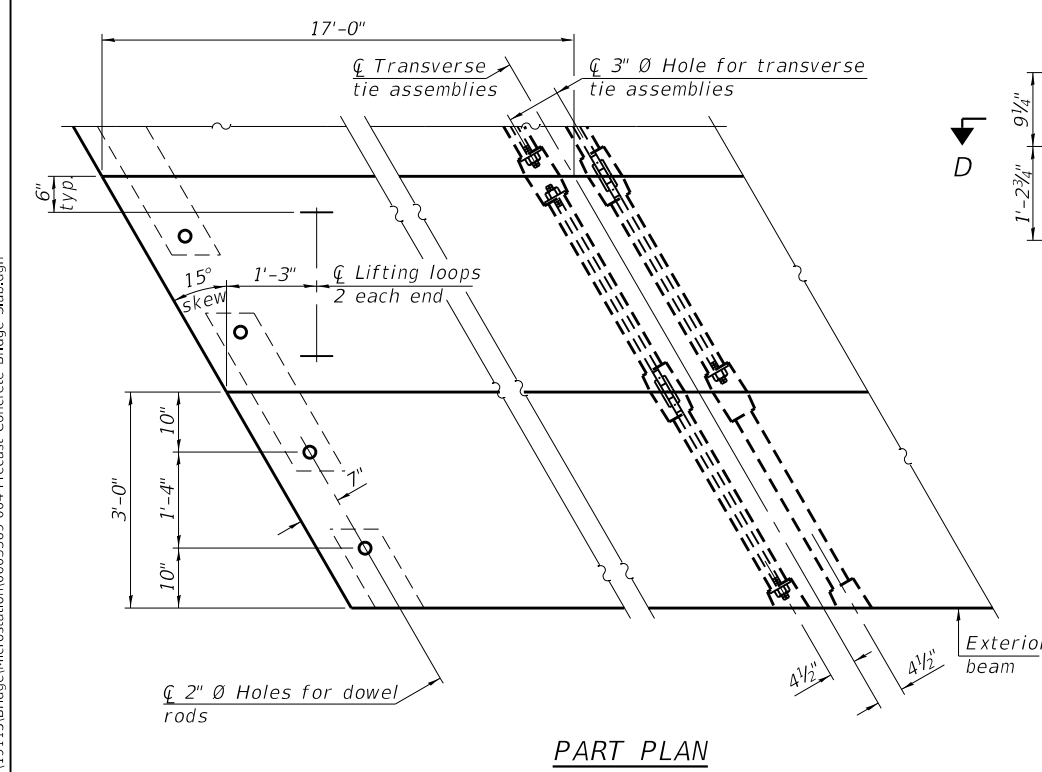
Bar	No.	Size	Length	Shape
B(E)	16	8	51'-8"	—
B1(E)	4	6	51'-8"	—
S(E)	82	4	9'-6"	□
S1(E)	8	4	7'-0"	□



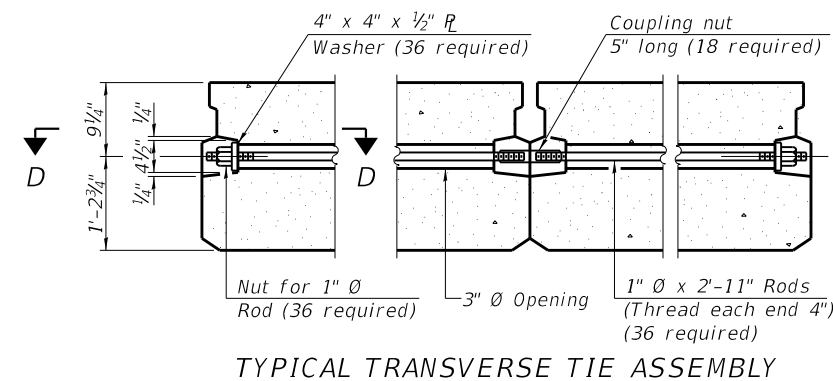
**SECTION B-B**



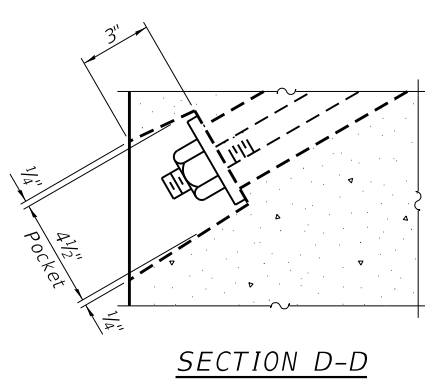
**VIEW C-C (Showing reinforcement)**



**PART PLAN**



**TYPICAL TRANSVERSE TIE ASSEMBLY**



**SECTION D-D**

- Notes:
- For additional requirements, see Special Provisions for Precast Concrete Bridge Slab.
  - Reinforcing steel shall be epoxy coated, ASTM A 706 Grade 60.
  - Compressive strength of precast concrete,  $f'_c$ , shall be 6,000 psi.
  - Compressive strength of precast concrete before initial lifting,  $f'_{ci}$  shall be 5,000 psi.
  - Spacing of S(E) bars may be adjusted up to 4" in the immediate area of the transverse tie to miss the block outs for the ties.
  - Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast concrete bridge slab. Cost included with Precast Concrete Bridge Slab.
  - Beams shall be cambered 1".
  - All bearing pads shall be 1" thick.
  - Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. Cost included with Precast Concrete Bridge Slab.
  - A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
  - Connect beams in pairs with the transverse tie configuration shown. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
  - After precast concrete bridge slab has been erected, holes shall be drilled into abutment and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of precast slab and cured according to Article 1020.13(a)(3) or 1020.13(a)(5) of the Standard Specifications for a minimum of 24 hours before grouting the longitudinal shear keys.
  - An alternative lifting system may be substituted in accordance with Section 3.6 of the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

**BILL OF MATERIAL**

Item	Unit	Quantity
Precast Concrete Bridge Slab	Sq. Ft.	1,560

FILE NAME: H:\P\19115\Bridg\Microstation\0603369-004-Precast Concrete Bridge Slab.dgn



USER NAME =  
 DESIGNED - MAM  
 CHECKED - JAD  
 PLOT SCALE =  
 DRAWN - MAM  
 CHECKED - JAD  
 PLOT DATE = 2/24/2020

DESIGNED - MAM  
 CHECKED - JAD  
 DRAWN - MAM  
 CHECKED - JAD

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**MADISON COUNTY HIGHWAY DEPARTMENT**

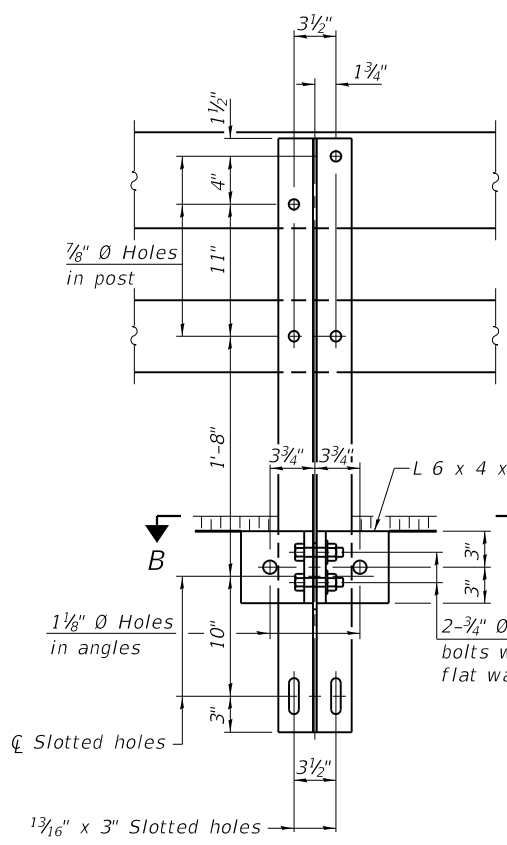
**PRECAST CONCRETE BRIDGE SLAB STRUCTURE NO. 060-3369**

SHEET 4 OF 10 SHEETS

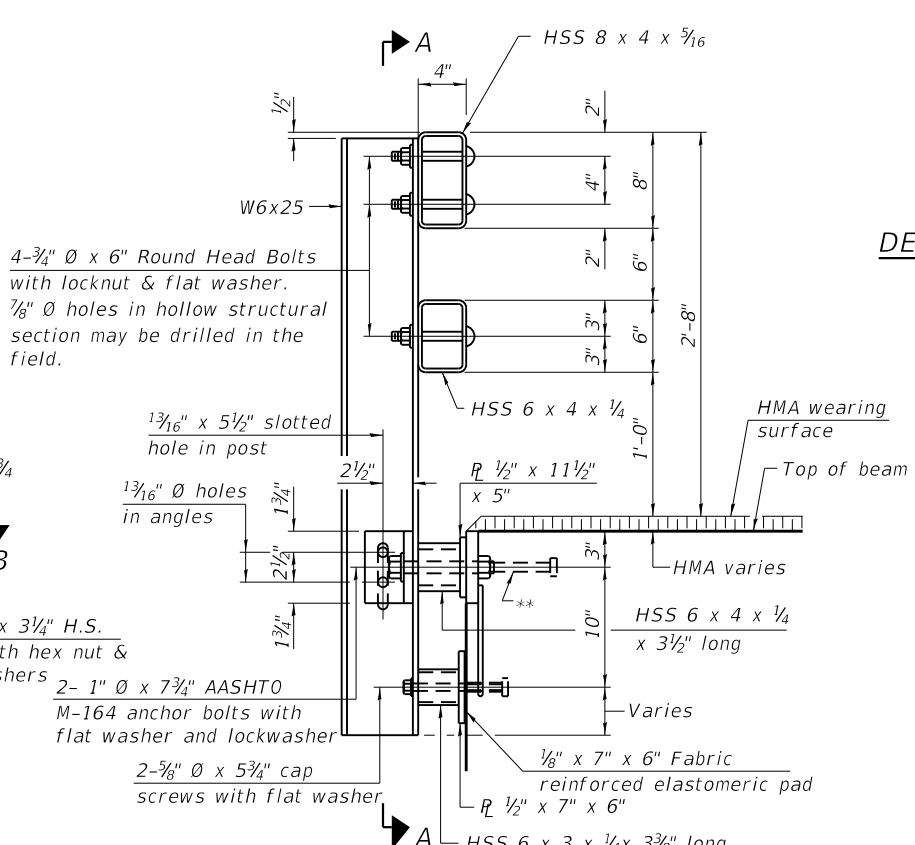
CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	15
CONTRACT NO. 97734				

ILLINOIS FED. AID PROJECT

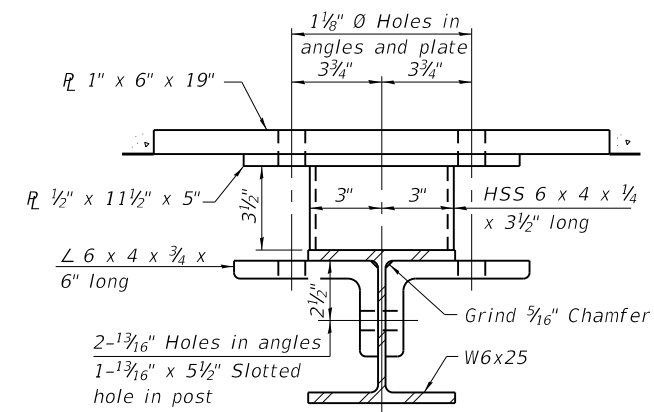
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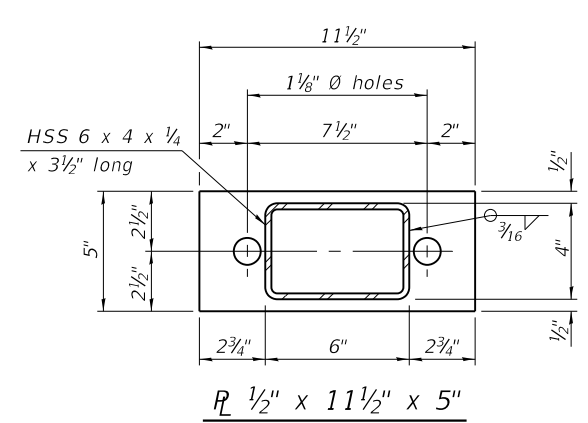
**SECTION A-A**



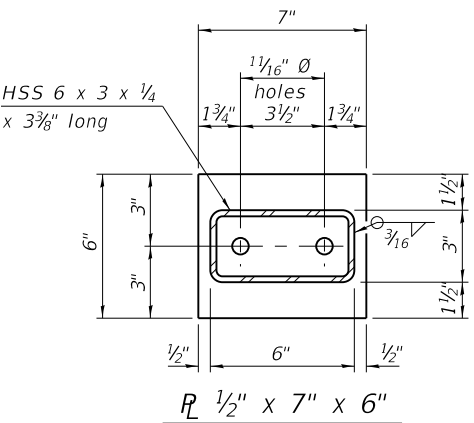
**SECTION AT RAIL POST**



**SECTION B-B**

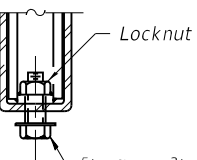
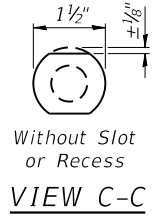
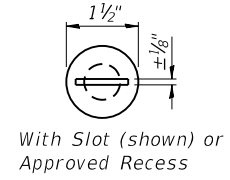
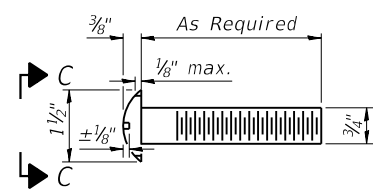


**R 1/2" x 11 1/2" x 5"**



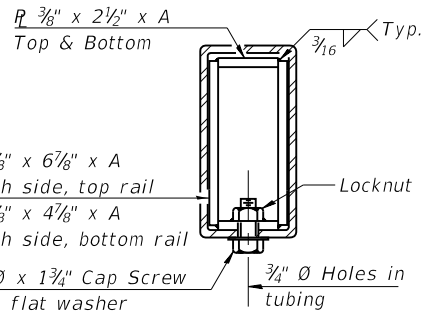
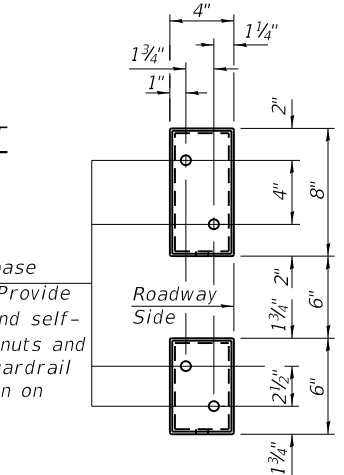
**R 1/2" x 7" x 6"**

**DETAIL OF 3/4" Ø ROUND HEAD BOLT**

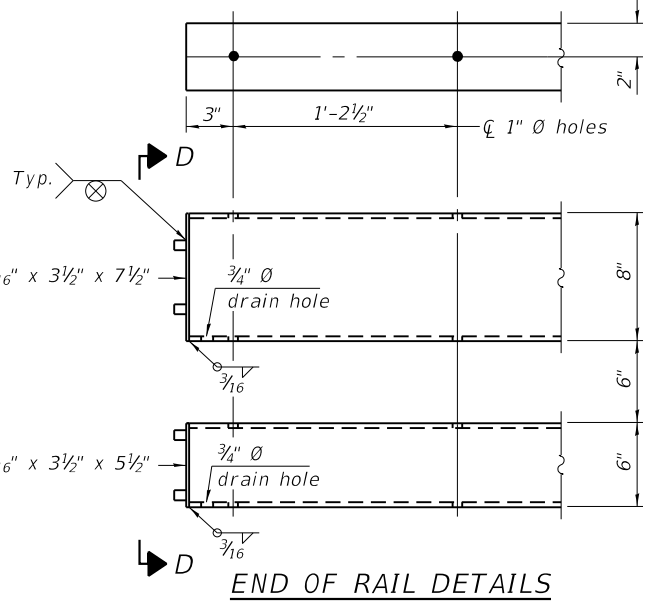


**RAIL SPLICE CONNECTION AT EXPANSION JT.**

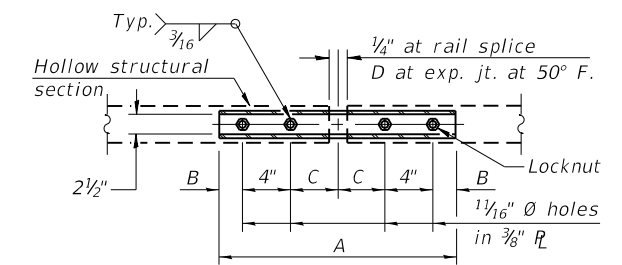
**VIEW D-D**



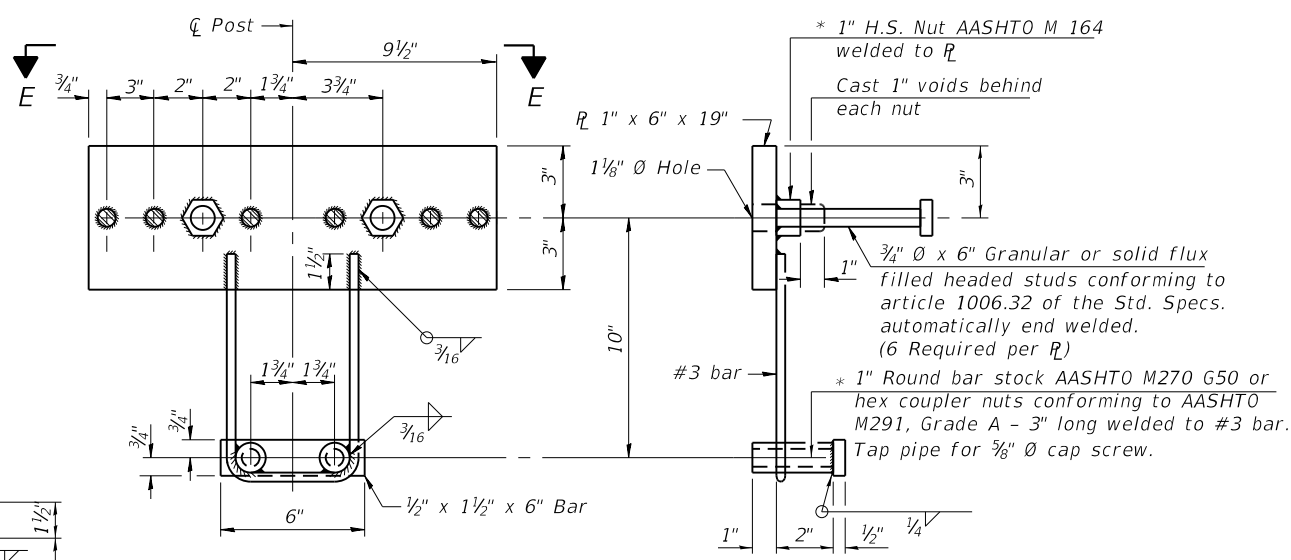
**SECTION AT RAIL SPLICE**



**END OF RAIL DETAILS**



**PLAN-BOTT. SPLICE R TYPICAL**



**ANCHOR DEVICE**

**SPLICE DIMENSIONS**

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

T = Total movement at expansion joint as shown on the design plans.

**Notes:**  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type SM	Foot	107

R-34HMAWS 2-17-2017 (6'-3" Maximum Post Spacing) (1 1/4" minimum to 3 1/8" maximum HMA thickness)



USER NAME =	DESIGNED -	REVISED -
PLOT SCALE = <td>DRAWN - <td>REVISED -</td> </td>	DRAWN - <td>REVISED -</td>	REVISED -
PLOT DATE = 2/24/2020	CHECKED -	REVISED -

**MADISON COUNTY HIGHWAY DEPARTMENT**

**STEEL RAILING, TYPE SM  
STRUCTURE NO. 060-3369**

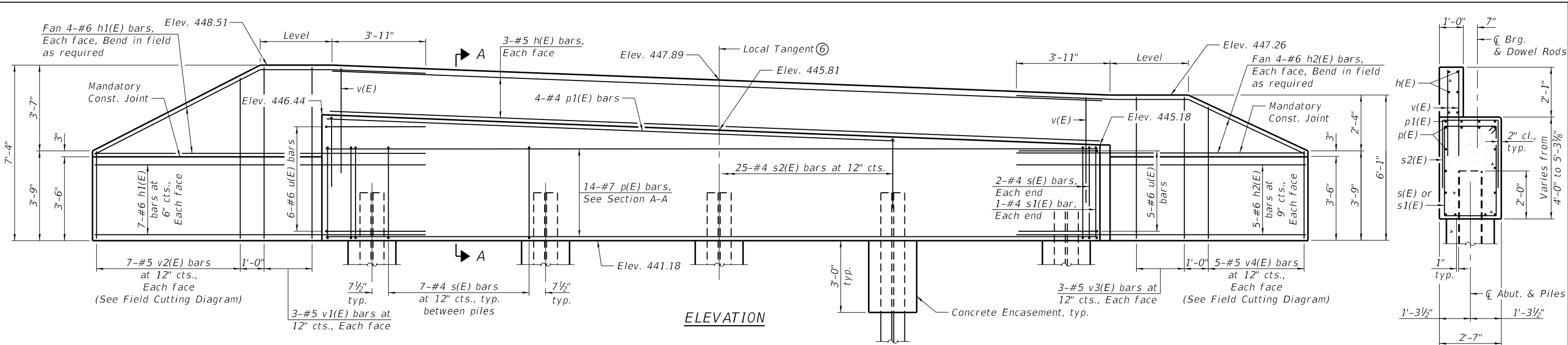
SHEET 5 OF 10 SHEETS

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	16

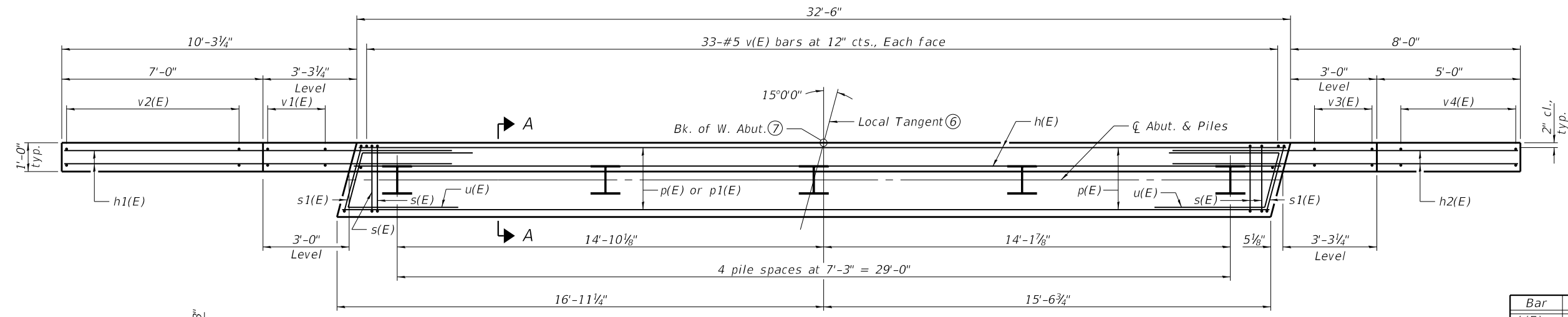
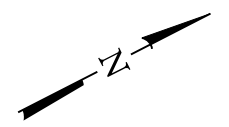
CONTRACT NO. 97734

ILLINOIS FED. AID PROJECT

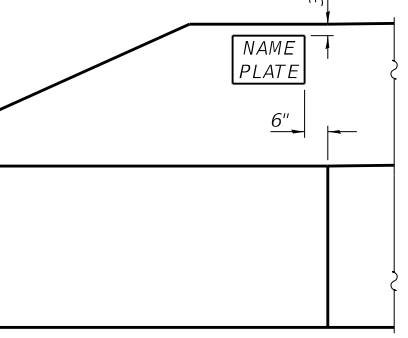




**SECTION A-A**  
(Dimensions are at Rt. L's)



**PLAN**

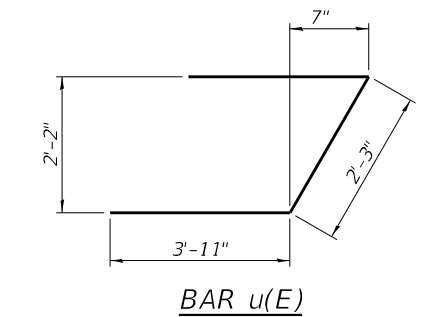


**ELEVATION**

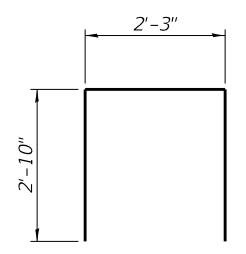
**LOCATION OF NAME PLATE**

**PILE DATA**

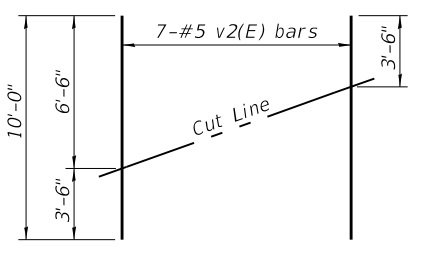
Type: Steel HP12x53 with Pile Shoes  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Est. Length: 50 ft  
 No. Production Piles: 4  
 No. Test Piles: 1



**BAR u(E)**

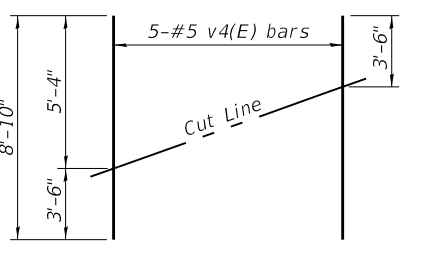


**BAR s2(E)**



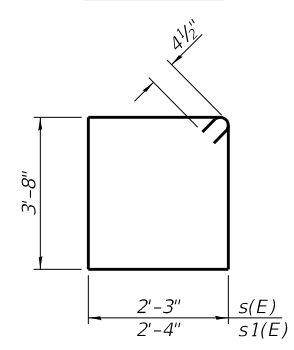
**FIELD CUTTING DIAGRAM**

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**FIELD CUTTING DIAGRAM**

Order v4(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s(E) & s1(E)**

- Notes:
- Space reinforcement in cap to miss dowel rods.
  - Cast backwall and top of wingwalls after beams have been erected.
  - For details of piles and Concrete Encasement, see sheet 8 of 10.
  - Corrosion Inhibitor per Article 1020.05(b) and Section 1021 of the Standard Specifications shall be added to the entire quantity of Concrete Structures utilized in the abutments. Cost included with Concrete Structures.
  - Concrete Sealer shall be applied to all surfaces that will be exposed in the final constructed condition, including beam seat which shall be sealed prior to erection of the Precast Concrete Bridge Slab beams.
  - For Local Tangent, see sheet 1 of 10.
  - For Back of Abutment location, see Offset Sketch on sheet 2 of 10.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	6	#5	32'-2"	—
h1(E)	22	#6	14'-0"	—
h2(E)	18	#6	12'-0"	—
p(E)	14	#7	32'-2"	—
p1(E)	4	#4	23'-9"	—
s(E)	32	#4	12'-7"	□
s1(E)	2	#4	12'-9"	□
s2(E)	25	#4	7'-11"	□
u(E)	11	#6	10'-1"	┌
v(E)	66	#5	4'-5"	—
v1(E)	6	#5	7'-0"	—
v2(E)	7	#5	10'-0"	—
v3(E)	6	#5	5'-9"	—
v4(E)	5	#5	8'-10"	—
Structure Excavation			Cu. Yd.	90
Concrete Structures			Cu. Yd.	20.8
Concrete Encasement			Cu. Yd.	1.7
Reinforcement Bars, Epoxy Coated			Pound	3,060
Furnishing Steel Piles HP12x53			Foot	200
Driving Piles			Foot	200
Test Pile Steel HP12x53			Each	1
Pile Shoes			Each	5
Concrete Sealer			Sq. Ft.	237

FILE NAME: H:\P\19115\Bridges\Microstation\0603369-006-West Abutment\_Details.dgn



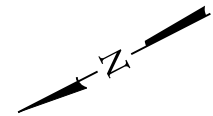
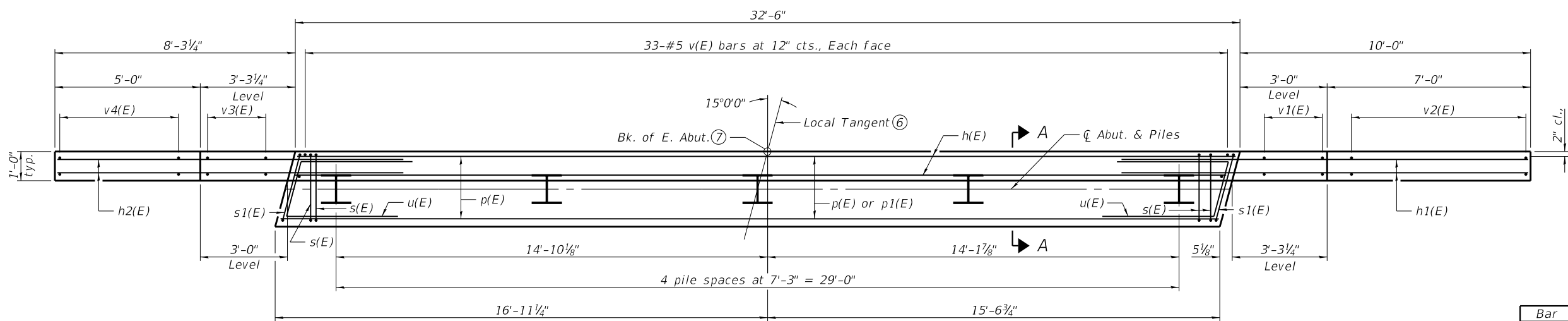
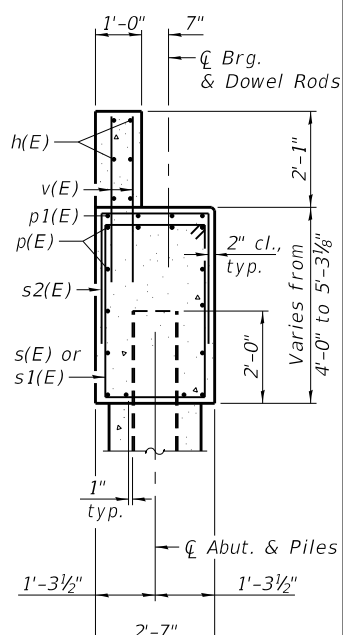
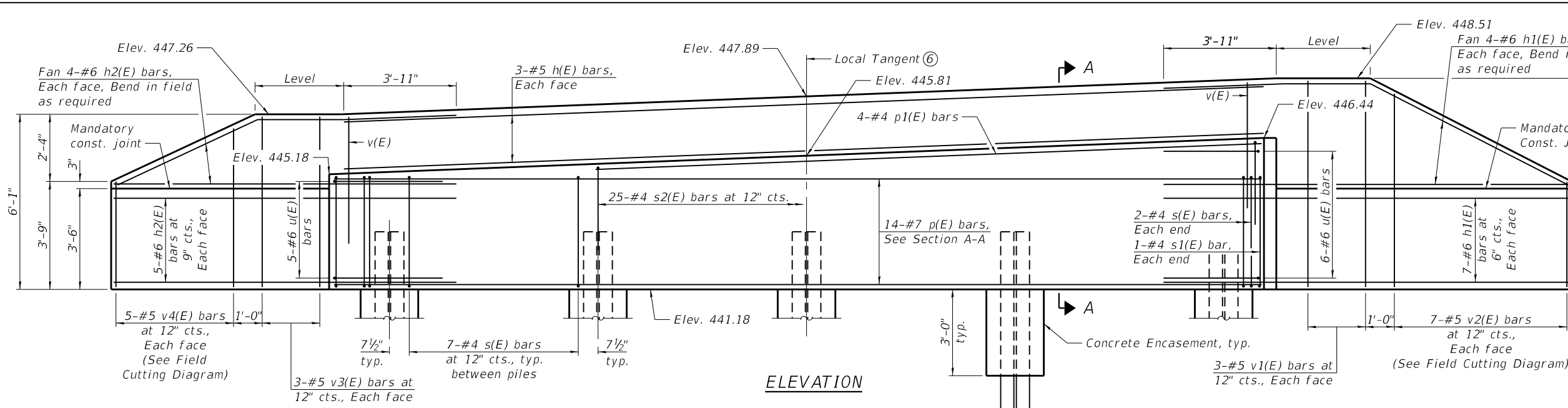
USER NAME =	DESIGNED - MAM	REvised -
PLOT SCALE =	CHECKED - JAD	REvised -
PLOT DATE = 2/24/2020	DRAWN - MAM	REvised -
	CHECKED - JAD	REvised -

**MADISON COUNTY  
HIGHWAY DEPARTMENT**

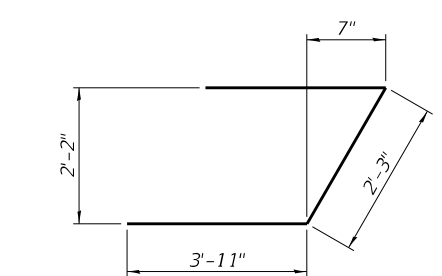
**WEST ABUTMENT DETAILS  
STRUCTURE NO. 060-3369**

SHEET 6 OF 10 SHEETS

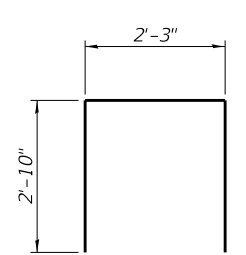
CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	17
CONTRACT NO. 97734				
ILLINOIS FED. AID PROJECT				



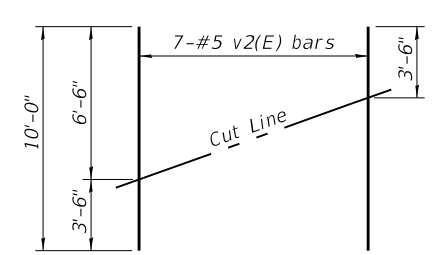
**PILE DATA**  
 Type: Steel HP12x53 with Pile Shoes  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Est. Length: 50 ft  
 No. Production Piles: 4  
 No. Test Piles: 1



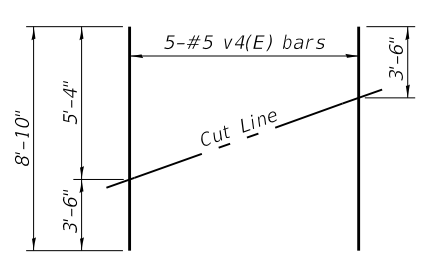
**BAR u(E)**



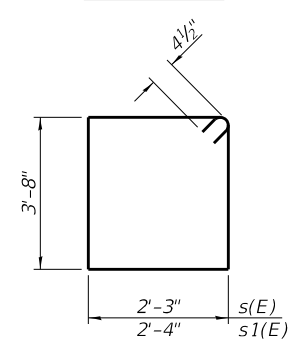
**BAR s2(E)**



**FIELD CUTTING DIAGRAM**  
 Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**FIELD CUTTING DIAGRAM**  
 Order v4(E) full length. Cut as shown and use remainder of bars in opposite face.



**BARS s(E) & s1(E)**

- Notes:
- Space reinforcement in cap to miss dowel rods.
  - Cast backwall and top of wingwalls after beams have been erected.
  - For details of piles and Concrete Encasement, see sheet 8 of 10.
  - Corrosion Inhibitor per Article 1020.05(b) and Section 1021 of the Standard Specifications shall be added to the entire quantity of Concrete Structures utilized in the abutments. Cost included with Concrete Structures.
  - Concrete Sealer shall be applied to all surfaces that will be exposed in the final constructed condition, including beam seat which shall be sealed prior to erection of the Precast Concrete Bridge Slab beams.
  - For Local Tangent, see sheet 1 of 10.
  - For Back of Abutment location, see Offset Sketch on sheet 2 of 10.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	6	#5	32'-2"	—
h1(E)	22	#6	14'-0"	—
h2(E)	18	#6	12'-0"	—
p(E)	14	#7	32'-2"	—
p1(E)	4	#4	23'-9"	—
s(E)	32	#4	12'-7"	□
s1(E)	2	#4	12'-9"	□
s2(E)	25	#4	7'-11"	□
u(E)	11	#6	10'-1"	⌒
v(E)	66	#5	4'-5"	—
v1(E)	6	#5	7'-0"	—
v2(E)	7	#5	10'-0"	—
v3(E)	6	#5	5'-9"	—
v4(E)	5	#5	8'-10"	—
Structure Excavation			Cu. Yd.	105
Concrete Structures			Cu. Yd.	20.8
Concrete Encasement			Cu. Yd.	1.7
Reinforcement Bars, Epoxy Coated			Pound	3,060
Furnishing Steel Piles HP12x53			Foot	200
Driving Piles			Foot	200
Test Pile Steel HP12x53			Each	1
Pile Shoes			Each	5
Concrete Sealer			Sq. Ft.	237

FILE NAME: H:\P\19115\Bridges\Microstation\0603369-007-East Abutment Details.dgn



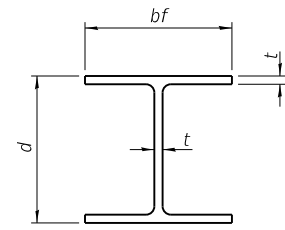
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PLOT SCALE =	CHECKED - JAD	REvised -
PLOT DATE = 2/24/2020	DRAWN - MAM	REvised -
	CHECKED - JAD	REvised -

**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**EAST ABUTMENT DETAILS  
STRUCTURE NO. 060-3369**

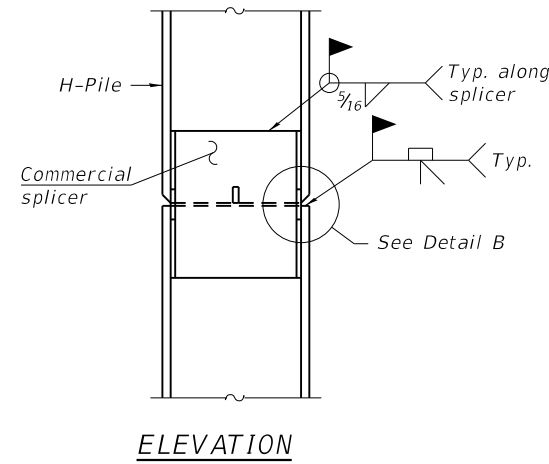
SHEET 7 OF 10 SHEETS

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	18
CONTRACT NO. 97734				
ILLINOIS FED. AID PROJECT				

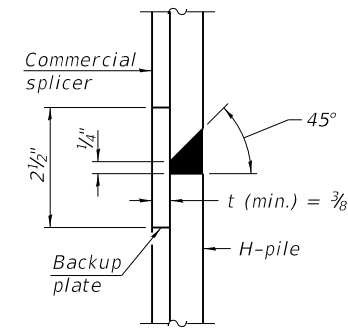


**STEEL PILE TABLE**

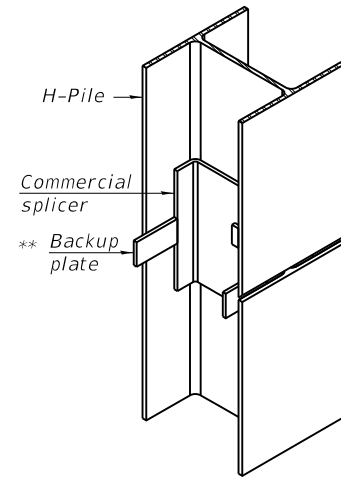
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

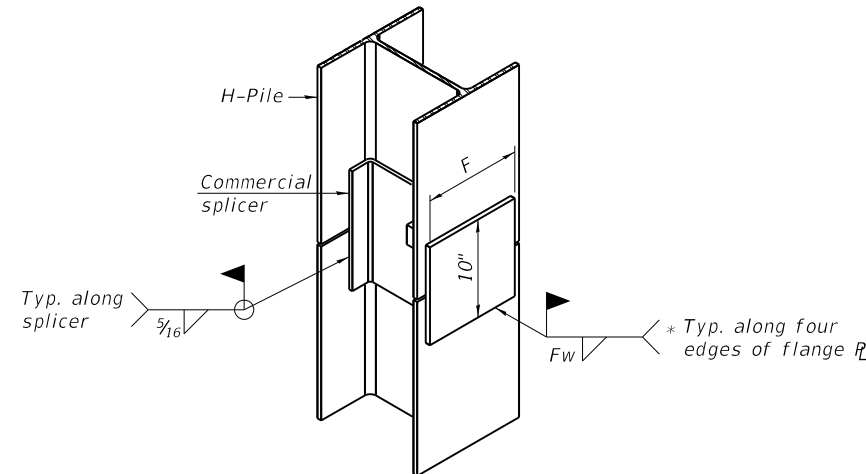


**DETAIL "B"**



**ISOMETRIC VIEW**

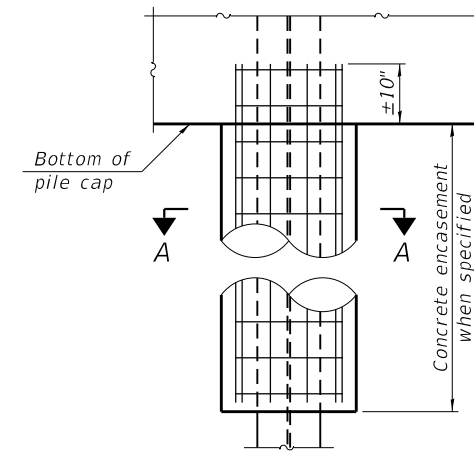
**WELDED COMMERCIAL SPLICE**



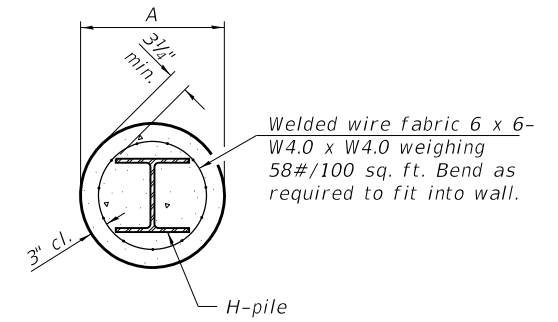
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

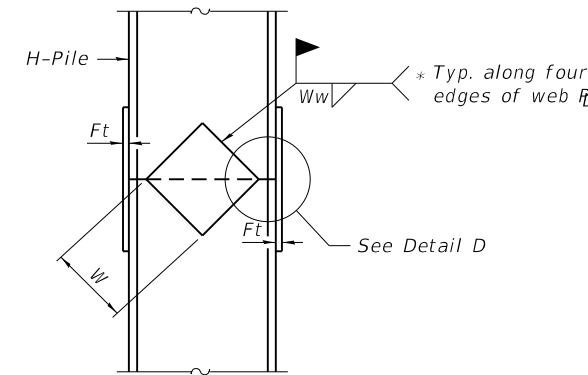


**ELEVATION**

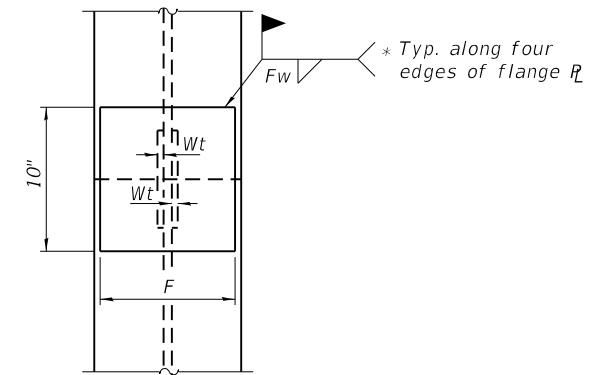


**SECTION A-A**

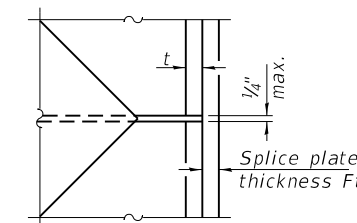
**INDIVIDUAL PILE CONCRETE ENCASUREMENT**  
 (Forms for encasement may be omitted when soil conditions permit).



**ELEVATION**



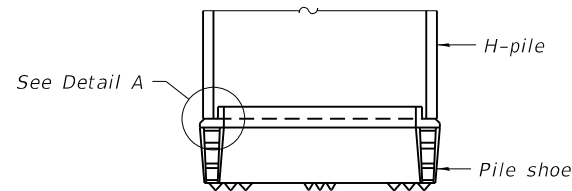
**END VIEW**



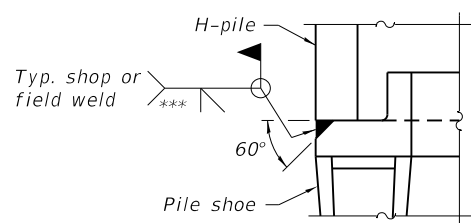
**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

Note:  
 The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP 8-11-2017



USER NAME =	DESIGNED -	REVISED -
	CHECKED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE = 2/24/2020	CHECKED -	REVISED -

**MADISON COUNTY HIGHWAY DEPARTMENT**

**HP PILE DETAILS STRUCTURE NO. 060-3369**

SHEET 8 OF 10 SHEETS

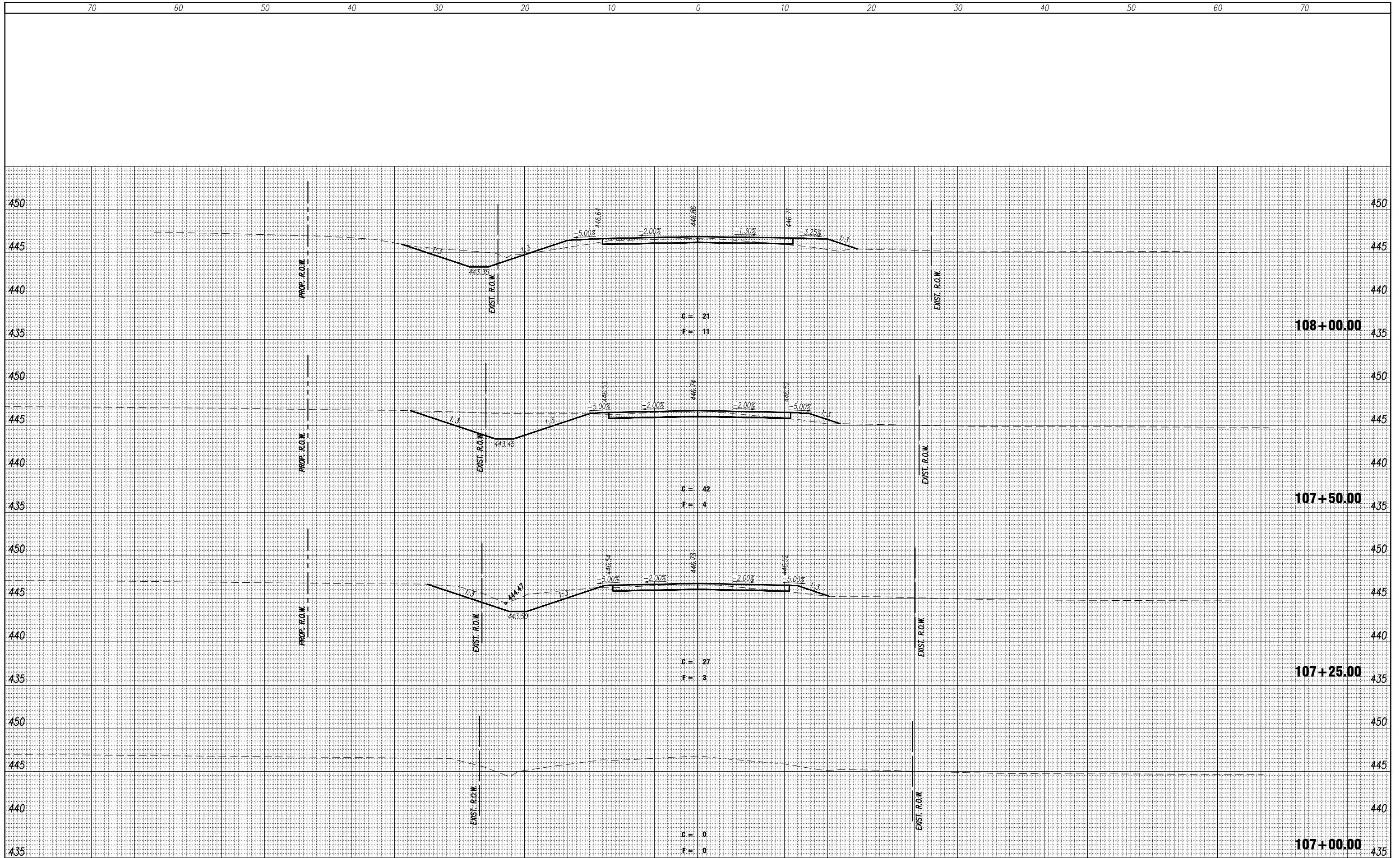
CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	19
CONTRACT NO. 97734				

ILLINOIS FED. AID PROJECT

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INTERNAL PROJECT NUMBER:  
A-272-00

FILE NAME:  
W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Cross Sections.dwg

USER NAME	Zachary R. Friedrich	DESIGNED	BML
PLOT SCALE	0.5:1	DRAWN	NEL
PLOT DATE	6-Mar-20	CHECKED	-

REVISED	-
REVISED	-
REVISED	-
REVISED	----

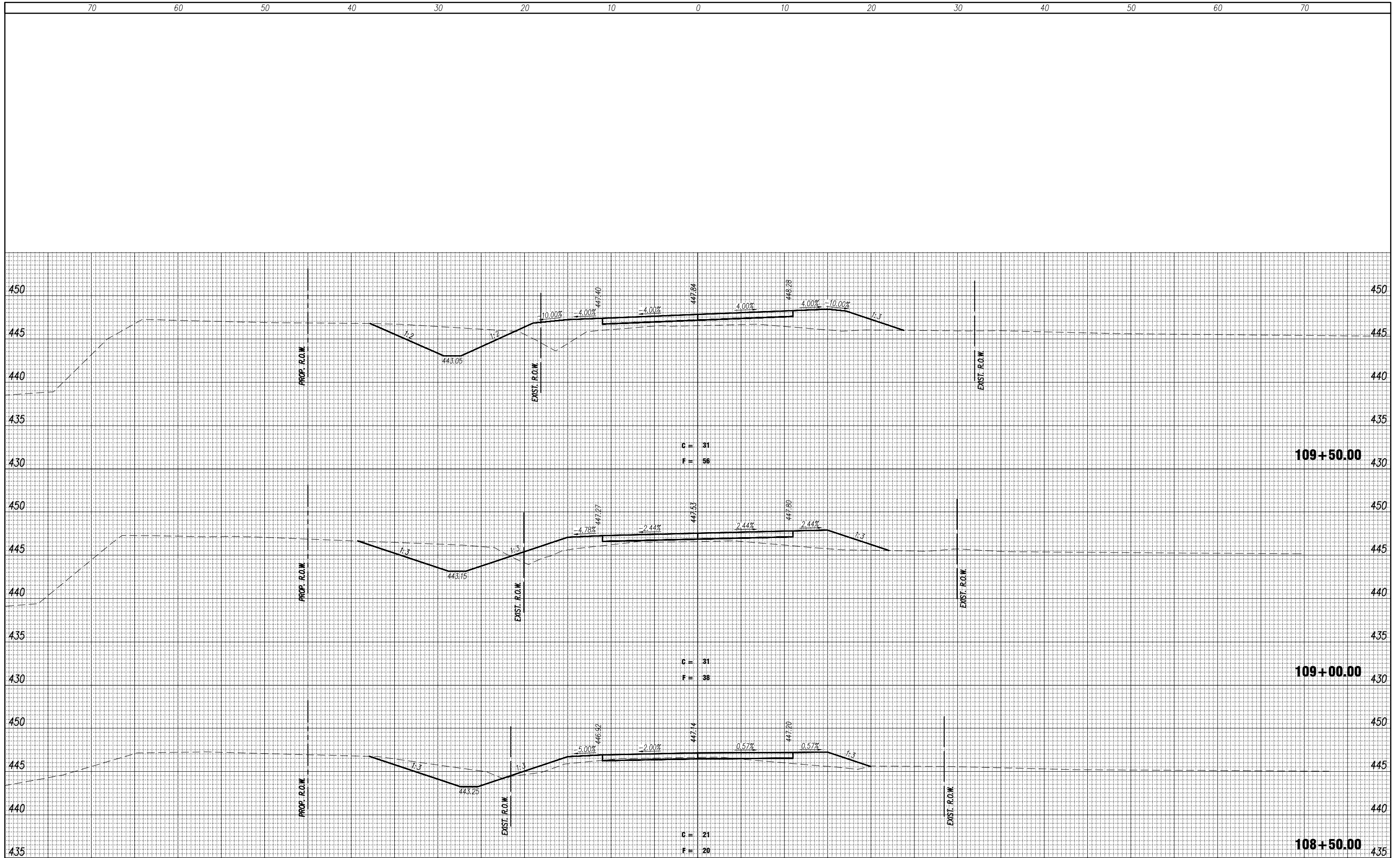
**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**CROSS SECTIONS**

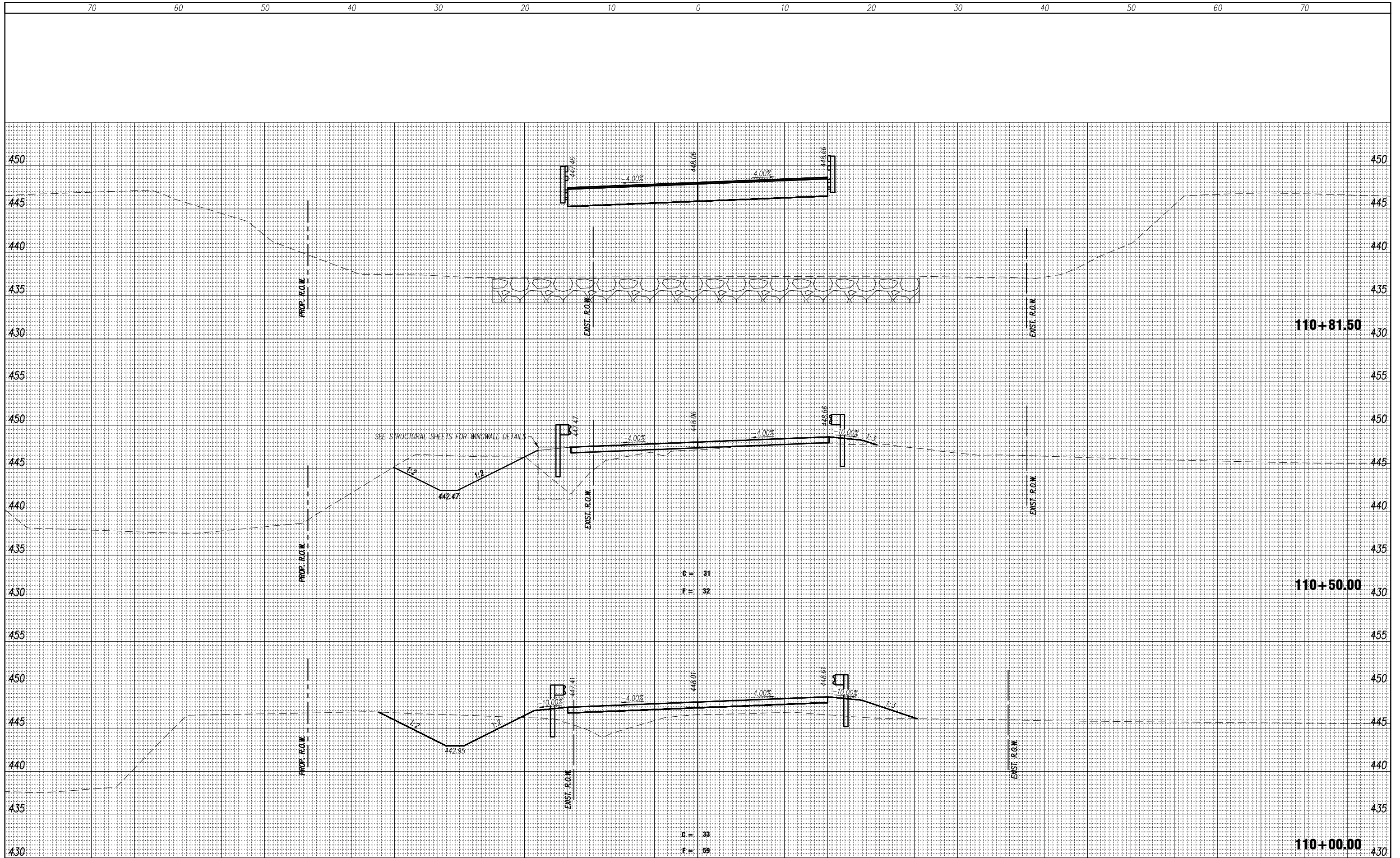
SCALE: 1" = 5' SHEET NO. 1 OF 5 SHEETS STA. 107+00 TO STA. 108+00

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	22

PROJECT NAME: MANNZ BRIDGE  
JARVIS TOWNSHIP ILLINOIS FEDERAL AID PROJECT



INTERNAL PROJECT NUMBER: A-272-00	USER NAME Zachary R. Friederich	DESIGNED BML NEL	REVISED -	<b>MADISON COUNTY HIGHWAY DEPARTMENT</b>	<b>CROSS SECTIONS</b>	CH 32	SECTION 16-00184-00-BR	COUNTY MADISON	TOTAL SHEETS 26	SHEET NO. 23
FILE NAME: W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Cross Sections.dwg	PLOT SCALE 0.5:1	DRAWN NEL	REVISED -			PROJECT NAME: MANNZ BRIDGE	CONTRACT NO. 97734			
	PLOT DATE 6-Mar-20	CHECKED -	REVISED -			JARVIS TOWNSHIP	ILLINOIS	FEDERAL AID PROJECT		
			REVISED ----			SCALE: 1" = 5'	SHEET NO. 2 OF 5 SHEETS STA. 108+50 TO STA. 109+50			



INTERNAL PROJECT NUMBER:  
A-272-00

FILE NAME:  
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USER NAME	Zachary R. Friederich	DESIGNED	BML
PLOT SCALE	0.5:1	DRAWN	NEL
PLOT DATE	6-Mar-20	CHECKED	-

REVISED	-
REVISED	-
REVISED	-
REVISED	----

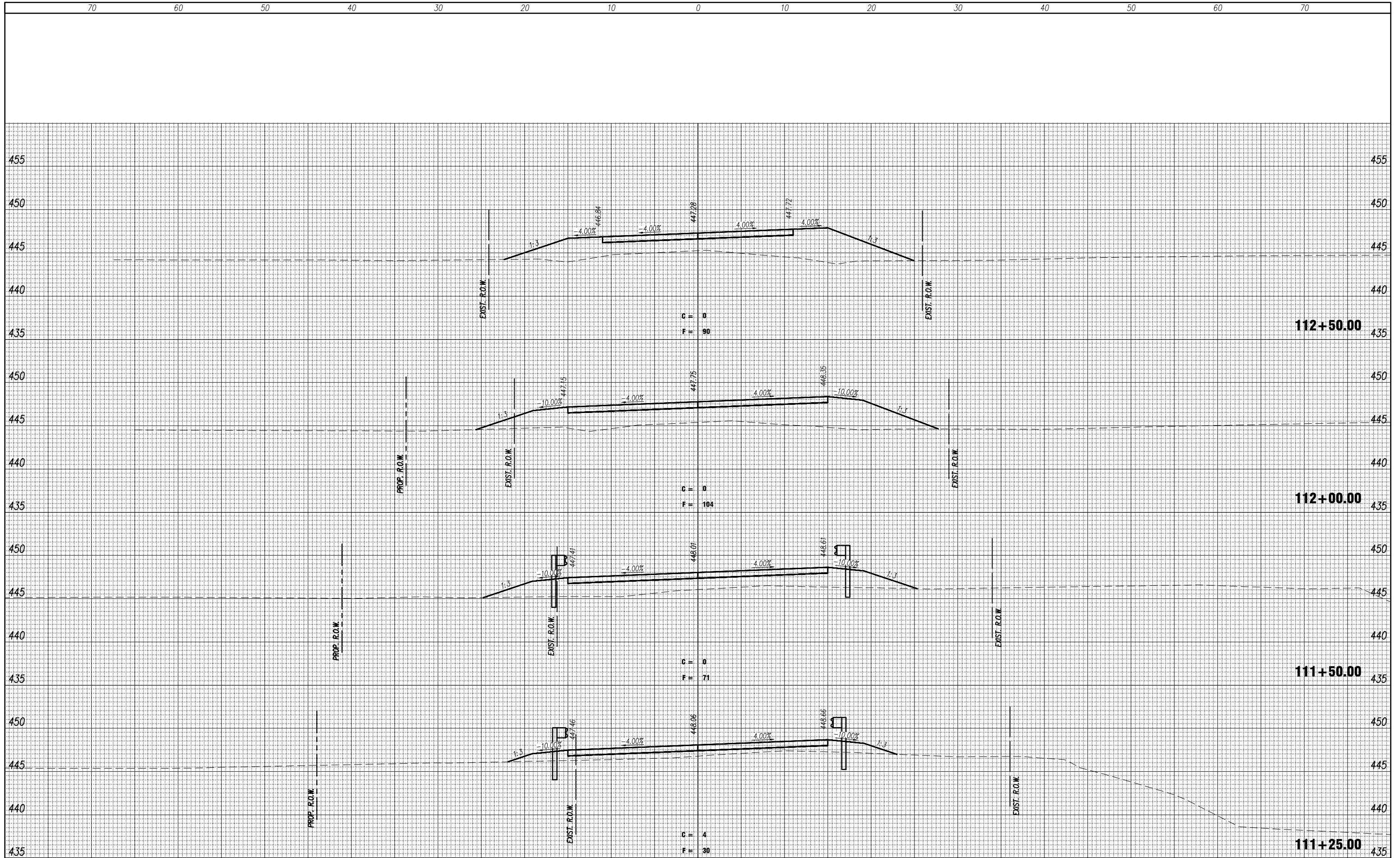
**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**CROSS SECTIONS**

SCALE: 1" = 5' SHEET NO. 3 OF 5 SHEETS STA. 110+00 TO STA. 110+81.50

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	24
PROJECT NAME: MANNZ BRIDGE		CONTRACT NO. 97734		
JARVIS TOWNSHIP		ILLINOIS	FEDERAL AID PROJECT	





INTERNAL PROJECT NUMBER:  
A-272-00

FILE NAME:  
W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Cross Sections.dwg

USER NAME	Zachary R. Friedrich	DESIGNED	BML
PLOT SCALE	0.5:1	DRAWN	NEL
PLOT DATE	6-Mar-20	CHECKED	-

REVISED	-
REVISED	-
REVISED	-
REVISED	----

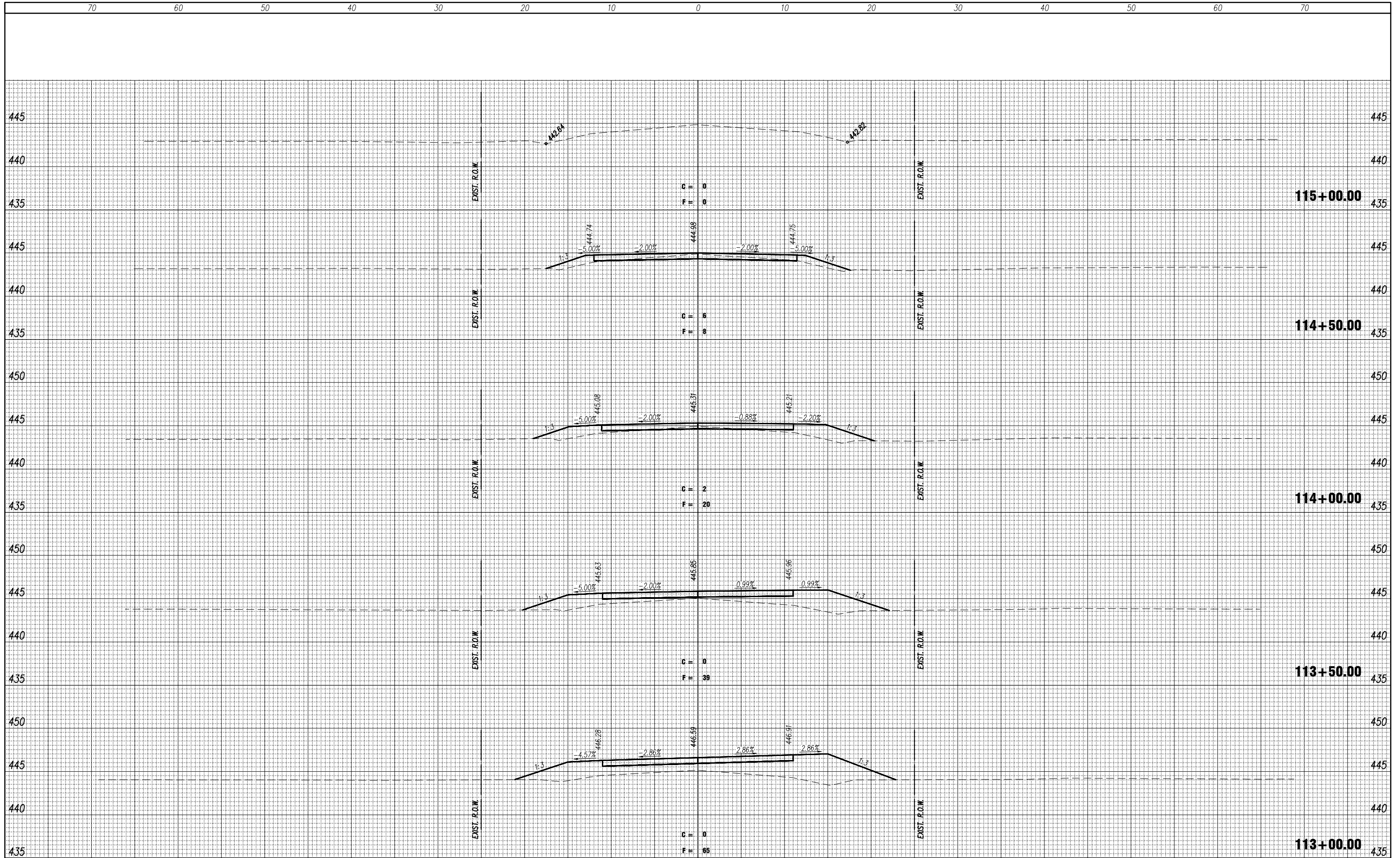
**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**CROSS SECTIONS**

SCALE: 1" = 5' SHEET NO. 4 OF 5 SHEETS STA. 111+25 TO STA. 112+50

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	25

PROJECT NAME: MANNZ BRIDGE  
JARVIS TOWNSHIP ILLINOIS FEDERAL AID PROJECT



INTERNAL PROJECT NUMBER:  
A-272-00

FILE NAME:  
W:\Civil 3D Projects\A-272-00 Mannz Bridge\A-272-00 Cross Sections.dwg

USER NAME	Zachary R. Friedrich	DESIGNED	BML
PLOT SCALE	0.5:1	DRAWN	NEL
PLOT DATE	6-Mar-20	CHECKED	-

REVISED	-
REVISED	-
REVISED	-
REVISED	----

**MADISON COUNTY  
HIGHWAY DEPARTMENT**

**CROSS SECTIONS**

SCALE: 1" = 5' SHEET NO. 5 OF 5 SHEETS STA. 113+00 TO STA. 115+00

CH	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
32	16-00184-00-BR	MADISON	26	26

PROJECT NAME: MANNZ BRIDGE  
JARVIS TOWNSHIP ILLINOIS FEDERAL AID PROJECT