

**INDEX OF SHEETS**  
SEE SHEET 2

**DESIGN DESIGNATION**  
FREEWAY AND EXPRESSWAY

**ADT**

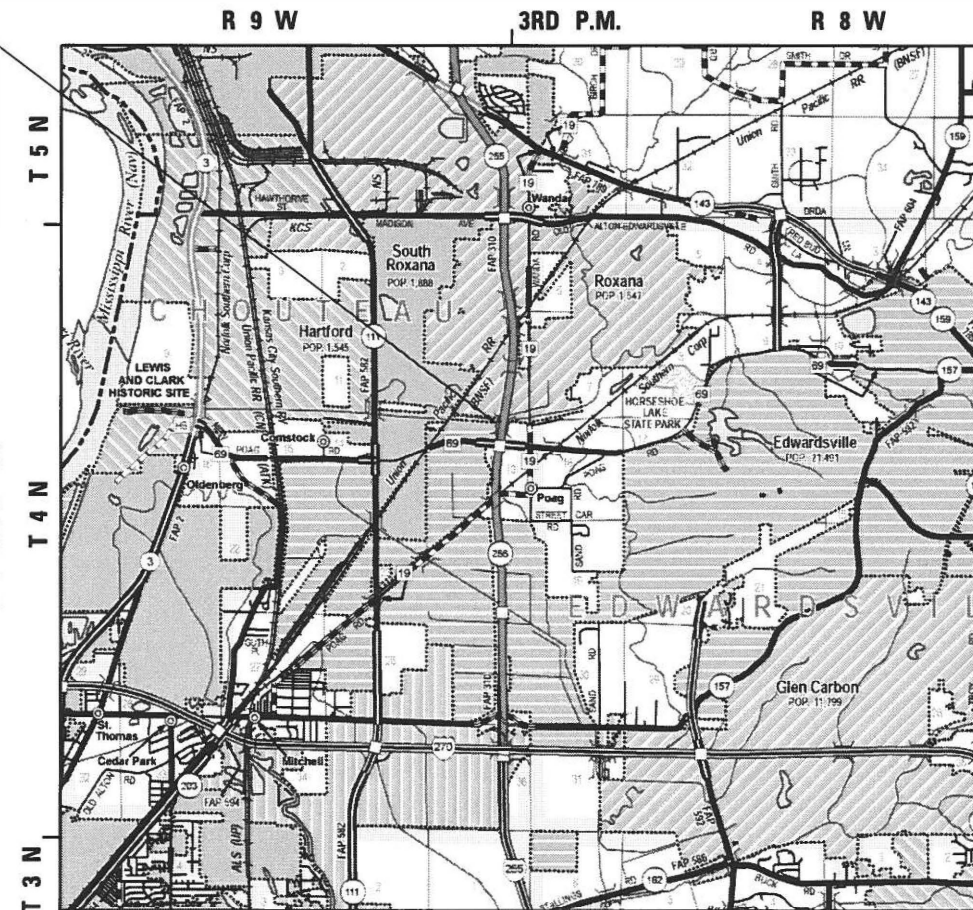
	SN 060-0278 NB	SN 060-0279 SB
2019 ADT (ACTUAL) =	14,900	14,900
2020 ADT (ESTIMATED) =	15,100	15,100
2040 ADT (ESTIMATED) =	19,150	19,150
MU =	5.0%	5.0%
SU =	7.6%	7.6%

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**

**PROPOSED HIGHWAY PLANS**  
FAP RTE 310 (IL 255)  
SECTION 60-10BR-2  
PROJECT #NHPP-MEKZ(370)  
**BRIDGE JOINT REPAIR AND HMA OVERLAY**  
**AT STRUCTURE NOS. 060-0278 & 060-0279**  
**MADISON COUNTY**

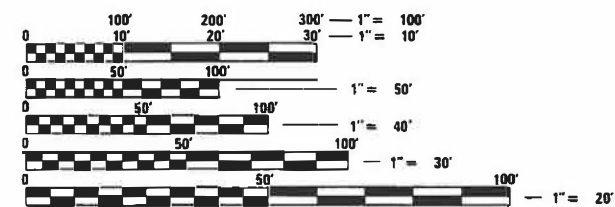
C-98-055-20

TWIN PARALLEL 4-SPAN WELDED  
PLATE GIRDER STRUCTURE  
CARRYING FAP 310 (IL 255) OVER  
THE CAHOKIA DIVERSION CHANNEL.  
SN 060-0278 (NB)  
LATITUDE: 38.80338° N  
LONGITUDE: 90.04366° W  
SN 060-0279 (SB)  
LATITUDE: 38.80323° N  
LONGITUDE: 90.04369° W.



**LOCATION MAP**  
MAP SCALE: 1"=1 MILE

SN 060-0278	SN 060-0279
GROSS LENGTH = 508 FT. = 0.096 MILE	GROSS LENGTH = 508 FT. = 0.096 MILE
NET LENGTH = 508 FT. = 0.096 MILE	NET LENGTH = 508 FT. = 0.096 MILE
TOTAL GROSS LENGTH = 1,016 FT. = 0.192 MILE	
TOTAL NET LENGTH = 1,016 FT. = 0.192 MILE	



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:** TIFFANY BRASE (618) 346-3175  
**PROJECT MANAGER:** PHIL FREIMUTH (618) 346-3194  
**CONTRACT NO. 76N15**



**Brett I. Benhoff**  
License No. 062-066099  
Exp. 11/30/2021



HMG ENGINEERS, Inc.  
9360 Holy Cross Lane  
Breese, Illinois 62230  
www.hmgengineers.com

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	1
		ILLINOIS	CONTRACT NO. 76N15	

D-98-041-20



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 7 2020  
Keith Roberts  
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER  
August 14, 2020

Scott A. Elk  
ENGINEER OF DESIGN AND ENVIRONMENT  
August 14, 2020

Jessie M. Gu  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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**INDEX OF SHEETS**

- 1. COVER SHEET
- 2. GENERAL NOTES
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- 10. MISCELLANEOUS DETAILS
- 11-21. BRIDGE PLANS
- 22-33. EXISTING BRIDGE PLANS (FOR INFORMATION ONLY)

**HIGHWAY STANDARDS**

000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
642001-02	SHOULDER RUMBLE STRIPS, 16 IN.
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY WITH BARRIER
701426-09	LANE CLOSURE, MULTI LANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
781001-04	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

**MIXTURE REQUIREMENTS**

ROUTE	FAP 310 (IL 255)
SECTION	60-10BR-2
COUNTY	MADISON
CONTRACT	76N15

DESCRIPTION: BRIDGE REPAIR, HMA OVERLAY AND JOINT REPAIR SN 060-0278 (NB) AND SN 060-0279 (SB)

ADT (CONST. YR)	30200
MU%	5
SU%	7.6
20 YR. ESAL'S	12.53

MIXTURE USE	POLY SURFACE
AC/PG	SBS PG 76-22
RAP % (MAX)	SEE SPECIAL PROVISION
DESIGN AIR Voids	4.0% @ Ndes=90
MIX COMPOSITION	IL 9.5
FRICTION AGG	MIXTURE "E"
QUALITY MGMT PROGRAM	QC/QA

**COMMITMENTS**

NONE

**GENERAL NOTES**

1. ALL ELEVATIONS REFER TO NATIONAL GEODATIC SURVEY (N.G.S.) DATUM.
2. IF ANY SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED OR RESURFACED OVER. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
3. UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
  - \* AMEREN ILLINOIS (GAS & ELECTRIC)
  - \* AT&T ILLINOIS (COMMUNICATIONS)
  - \* CHARTER COMMUNICATIONS, INC. (CABLE TV)
  - \* CITY OF EDWARDSVILLE (WATER & SANITARY SEWER)
  - \* NORTHEAST CENTRAL COUNTY PUBLIC WATER DISTRICT (WATER)
  - \* VILLAGE OF ROXANA (WATER & SANITARY SEWER)
  - \* VILLAGE OF SOUTH ROXANA (WATER & SANITARY SEWER)

MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY \*. NON MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
4. AN ESTIMATED 41 TONS OF HMA WILL BE REMOVED.
5. ALL AREAS DISTURBED FOR ANY REASON SHALL BE SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER. NUTRIENTS SHALL CONFORM TO APPLICABLE PORTIONS OF ARTICLE 250.04 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE AT THE CONTRACTOR'S EXPENSE AND NO OTHER COMPENSATION WILL BE PERMITTED.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.
7. SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO MILLED, PRIMED AND FINAL HMA SURFACE. A QUANTITY FOR TEMPORARY PAVEMENT MARKING EQUAL TO THE AMOUNT OF PERMANENT PAVEMENT MARKING HAS BEEN INCLUDED IN THE PLANS. "SHORT TERM PAVEMENT MARKING REMOVAL" SHALL BE PAID FOR THE FINAL SURFACE ONLY.
8. ALL TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED IN SUCH A WAY AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
9. THE STAGE CONSTRUCTION TRAFFIC CONTROL SEQUENCE AS SHOWN IN THE PLANS IS SUGGESTED. THE CONTRACTOR MAY SUBMIT IN WRITING A PROPOSED STAGE CONSTRUCTION TRAFFIC CONTROL SEQUENCE MEETING THE TRAFFIC CONTROL STANDARDS, PLAN NOTES, AND SPECIAL PROVISIONS IN THIS CONTRACT FOR APPROVAL BY THE DEPARTMENT.
10. ANY REFERENCE TO BITUMINOUS CONCRETE SHALL BE CONSTRUED TO MEAN HMA.
11. THE FOLLOWING RATES WERE USED IN THE COMPUTATION OF QUANTITIES:
 

HOT-MIX ASPHALT	112 LBS/SQ YD/IN.
BITUMINOUS MATERIALS (TACK COAT)	0.05 LBS/SQ FT
12. THE ILLINOIS DEPARTMENT OF TRANSPORTATION STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITIES, WOMEN, AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN, AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. PLEASE CONTACT THE DISTRICT 8 EEO OFFICE AT 618/874-6528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.
13. CONTRACTOR ACCESS FOR PLACING RIPRAP ALONG NORTH SLOPE SHALL BE THROUGH THE MEDIAN.

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**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611  
Engineers • Surveyors

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PLOT DATE -	CHECKED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES**

SHEET 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	2
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	URBAN	
				CONSTRUCTION CODE	
				80% FED 20% STATE	80% FED 20% STATE
				BRIDGE 0047 S.N. 060-0278	BRIDGE 0047 S.N. 060-0279
28100107	STONE RIPRAP, CLASS A4	SQ YD	436	218	218
28200200	FILTER FABRIC	SQ YD	436	218	218
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	2030	1015	1015
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	712	356	356
40604174	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "E", N90	TON	380	190	190
50102400	CONCRETE REMOVAL	CU YD	32.6	16.3	16.3
50157300	PROTECTIVE SHIELD	SQ YD	4072	2036	2036
50300100	FLOOR DRAINS	EACH	16	8	8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	37.4	18.7	18.7
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2520	1260	1260
50800515	BAR SPLICERS	EACH	24	12	12
52000110	PREFORMED JOINT STRIP SEAL	FOOT	176	88	88
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	3768	1884	1884
60260100	INLETS TO BE ADJUSTED	EACH	4	2	2

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

**SUMMARY OF QUANTITIES**

SHEET 1 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	3
			CONTRACT NO. 76N15	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	URBAN	
				CONSTRUCTION CODE	
				80% FED 20% STATE	80% FED 20% STATE
				BRIDGE 0047 S.N. 060-0278	BRIDGE 0047 S.N. 060-0279
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	320	160	160
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	14	14
70300100	SHORT TERM PAVEMENT MARKING	FOOT	312	156	156
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	156	78	78
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	2310	1155	1155
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1516	758	758
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1516	758	758
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	1	1
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	1	1
* 78004356	PREFORMED PLASTIC PAVEMENT MARKING, TYPE D - INLAID - LINE 6"	FOOT	2310	1155	1155
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	24	12	12
X0320000	DRAINAGE SYSTEM, NO. 1	EACH	1	1	0

\* SPECIALTY ITEM

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SHEET 2 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	4
			CONTRACT NO. 76N15	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	URBAN	
				CONSTRUCTION CODE	
				80% FED 20% STATE	80% FED 20% STATE
				BRIDGE 0047 S.N. 060-0278	BRIDGE 0047 S.N. 060-0279
X0320002	DRAINAGE SYSTEM, NO. 2	EACH	1	0	1
X0324028	GROUT FOR USE WITH RIPRAP	CU YD	9.8	4.9	4.9
X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	1156	578	578
X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	8250	4125	4125
X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	1156	578	578
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	2	1	1
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	200	20	180
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	500	100	400
∅ Z0076600	TRAINEES	HOUR	500	500	
Z0033700	LONGITUDINAL JOINT SEALANT	FOOT	996	498	498
∅ Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500	
Z0049790	RELOCATING NAME PLATES	EACH	2	1	1

∅ 0042

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REV. - MS



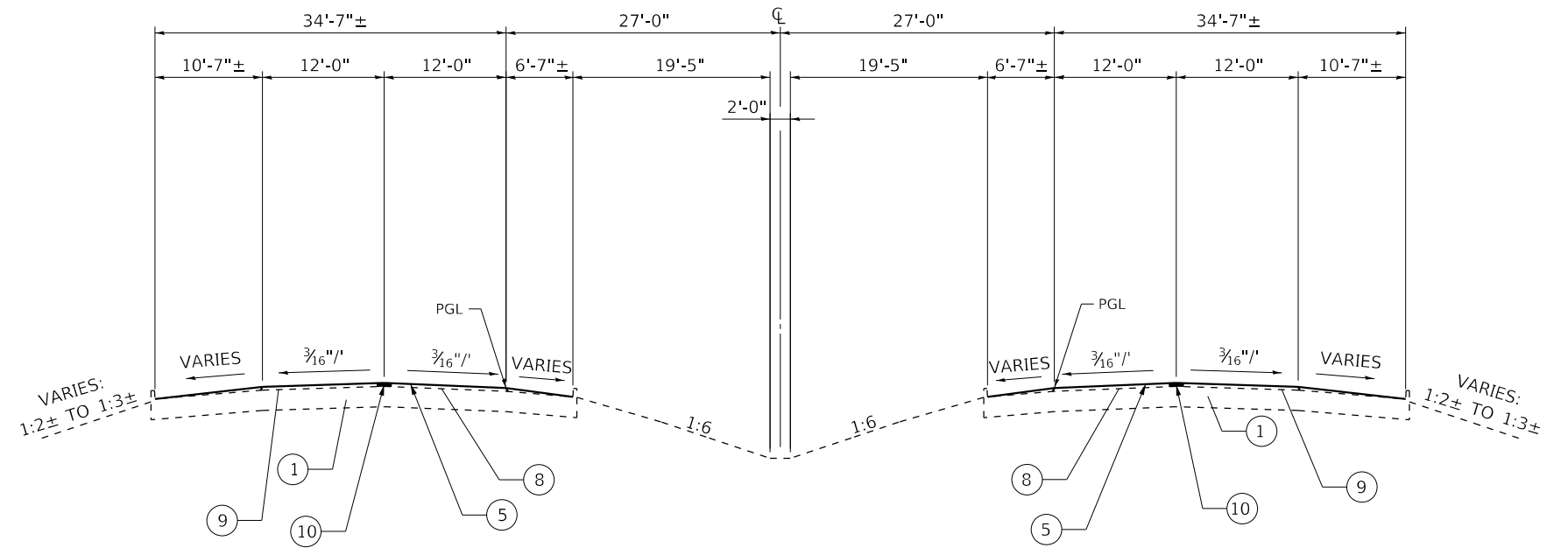
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DEPARTMENT OF TRANSPORTATION**

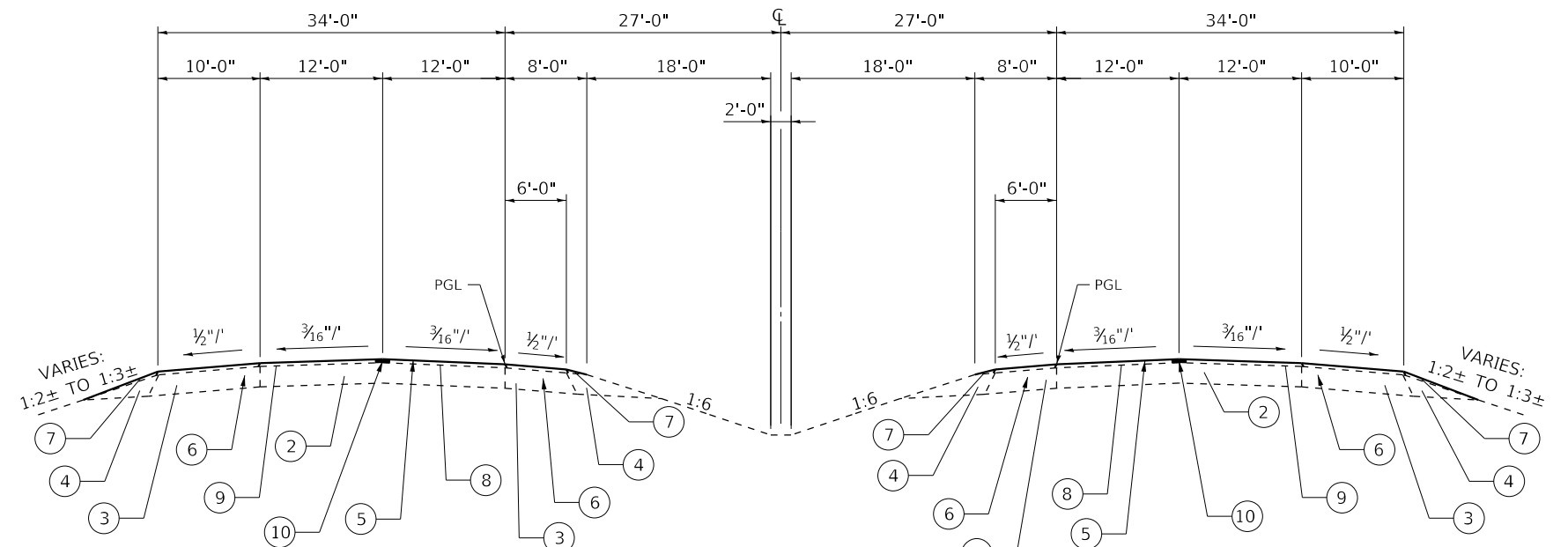
**SUMMARY OF QUANTITIES**

SHEET 3 OF 3 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	5
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				



TYPICAL BRIDGE APPROACH SECTION



TYPICAL SECTION

NOTE:  
LONGITUDINAL JOINT SEALANT SHALL BE APPLIED BETWEEN LANE LINES.

- ① EXISTING PCC BRIDGE APPROACH PAVEMENT WITH HMA OVERLAY
- ② EXISTING BITUMINOUS PAVEMENT
- ③ EXISTING BITUMINOUS SHOULDER
- ④ EXISTING AGGREGATE SHOULDERS
- ⑤ PROPOSED POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "E", N90 (2" NOM. IN BUTT JOINT)
- ⑥ HOT-MIX ASPHALT SHOULDERS
- ⑦ AGGREGATE WEDGE SHOULDER, TYPE B (SEE SCHEDULE FOR LOCATIONS)
- ⑧ POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)
- ⑨ EXISTING HMA SURFACE REMOVAL AND REPLACEMENT POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, 12.5, N80, 2"
- ⑩ PROPOSED LONGITUDINAL JOINT SEALANT

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SHEET 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	6
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

**PAVING & ROADWAY SCHEDULE**

LOCATION	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "E", N90	SHOULDER RUMBLE STRIPS, 16 INCH	LONGITUDINAL JOINT SEALANT	INLETS TO BE ADJUSTED
	POUND	SQ YD	TON	FOOT	FOOT	EACH
<b>IL 255 NORTHBOUND (SN 060-0278)</b>						
STA 1785+35.00 TO STA 1785+75.00	80.0	178.0	15.0	80.0	39.0	
SN 060-0278	855.0		160.0		420.0	
STA 1790+03.00 TO STA 1790+43.00	80.0	178.0	15.0	80.0	39.0	2.0
SUBTOTALS	1,015.0	356.0	190.0	160.0	498.0	2.0
<b>IL 255 SOUTHBOUND (SN 060-0279)</b>						
STA 1785+09.00 TO STA 1785+49.00	80.0	178.0	15.0	80.0	39.0	
SN 060-0279	855.0		160.0		420.0	
STA 1789+77.00 TO STA 1790+17.00	80.0	178.0	15.0	80.0	39.0	2.0
SUBTOTALS	1,015.0	356.0	190.0	160.0	498.0	2.0
TOTAL	2,030.0	712.0	380.0	320.0	996.0	4.0
USE	2,030	712	380	320	996	4

**PAVEMENT MARKING SCHEDULE**

LOCATION	SHORT TERM PAVEMENT MARKING		SHORT TERM PAVEMENT MARKING REMOVAL	TEMPORARY PAVEMENT MARKING- LINE 6"		TEMPORARY PAVEMENT MARKING REMOVAL	PERFORMED PLASTIC PAVEMENT MARKING TYPE D - INLAID - LINE 6"			RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	PAVEMENT MARKING REMOVAL- GRINDING
	YELLOW	WHITE		YELLOW SOLID	WHITE SOLID		YELLOW SOLID	WHITE SKIP DASH	WHITE SOLID		
	FOOT	FOOT	SQ FT	FOOT	FOOT	SQ FT	FOOT	FOOT	FOOT	EACH	SQ FT
<b>IL 255 NORTHBOUND (SN 060-0278)</b>											
STA 1785+35.00 TO STA 1790+43.00	52.0	104.0	78.0	507.5	647.5	577.5	507.5	140.0	507.5	12	577.5
<b>IL 255 SOUTHBOUND (SN 060-0279)</b>											
STA 1785+09.00 TO STA 1790+17.00	52.0	104.0	78.0	507.5	647.5	577.5	507.5	140.0	507.5	12	577.5
TOTAL	104.0	208.0	156.0	1,015.0	1,295.0	1,155.0	1,015.0	280.0	1,015.0	24	1,155.0
USE	312		156	2,310		1,155	2,310			24	1,155

NOTES:  
SHORT TERM PAVEMENT MARKING FOR THE CENTERLINE SHALL CONSIST OF A SINGLE DASH.

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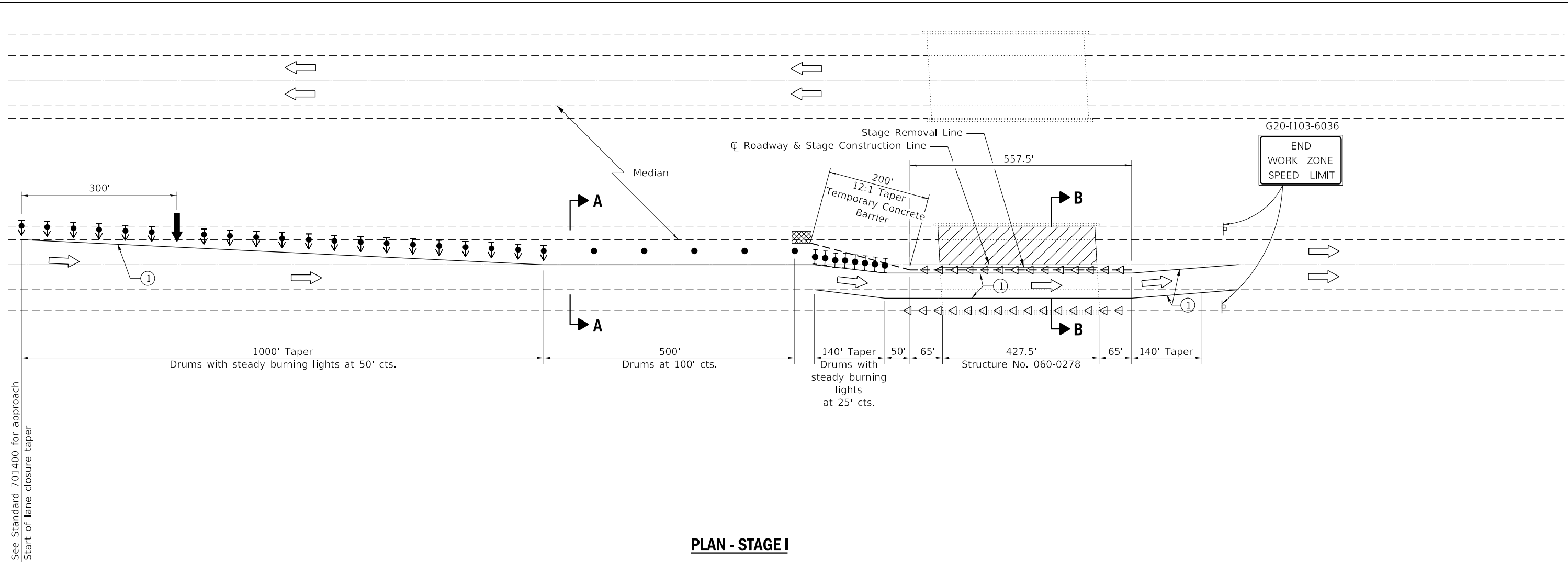
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SCHEDULES**

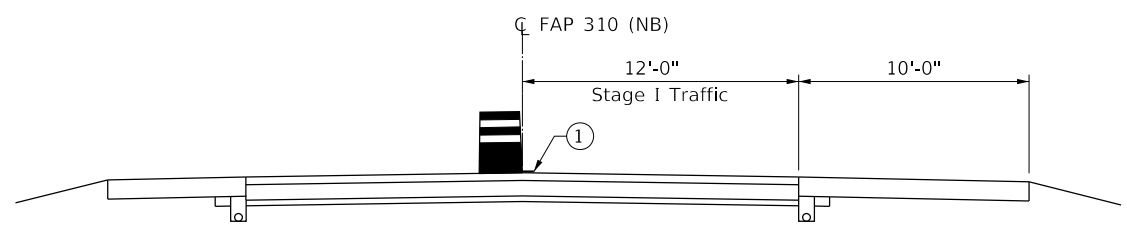
SHEET 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	7
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

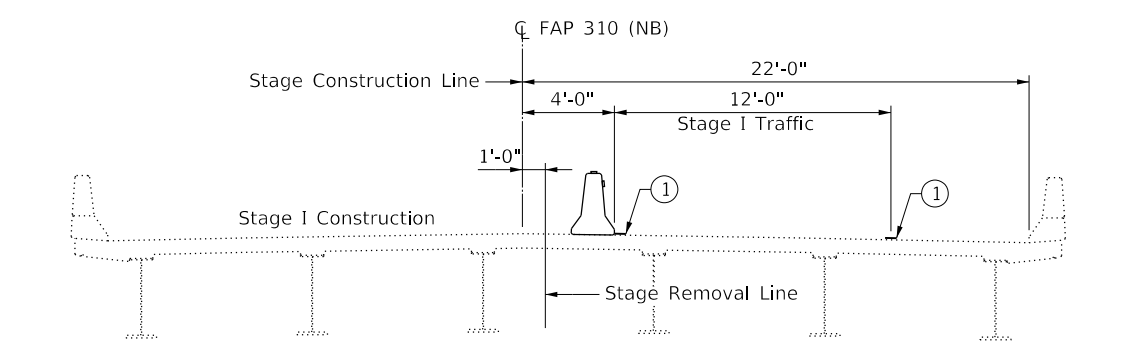


**PLAN - STAGE I**

See Standard 701400 for approach  
Start of lane closure taper



**SECTION A-A**



**SECTION B-B**

STRUCTURE NO. 060-0278

**SYMBOLS**

- Arrow board
- Work area
- Sign
- Traffic Control Drum
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Temporary concrete barrier
- Monodirectional guardrail/barrier wall markers at 25' cts., Markers on right shall be crystal and markers on left shall be amber.
- Impact attenuator

① Temporary pavement marking tape shall be placed throughout the taper and along-side the work area. The right edge line shall be white and the left edge line shall be yellow. Included in the cost of Standard.

**GENERAL NOTES**

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the pavement or on the shoulder within 24" of the edge of pavement for daylight operation exceeding one day and where temporary concrete barrier is utilized.

This Standard must always be used in combination with Standard 701400.

Temporary concrete barrier shall be according to Standard 704001.

**NOT TO SCALE**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION  
STANDARD 701402 - STAGE I**

SHEET 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	8
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76N15	

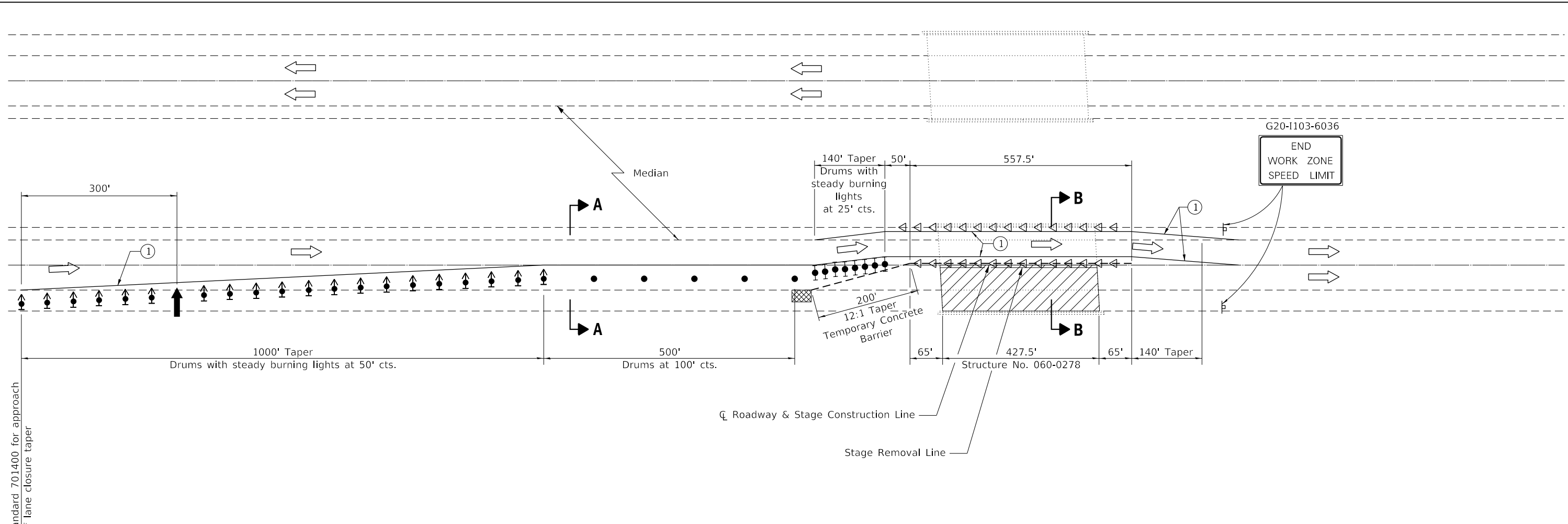
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**HMG ENGINEERS, INC.**  
9360 HOLY CROSS LANE  
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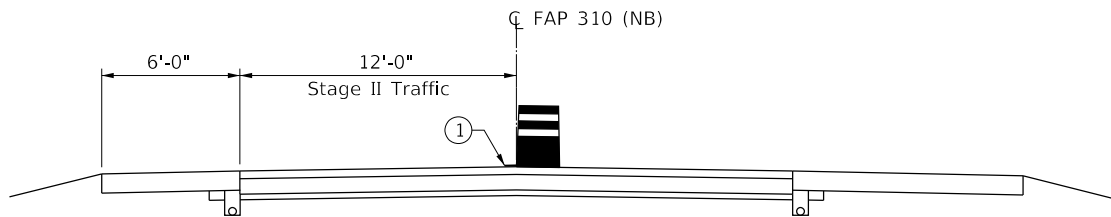
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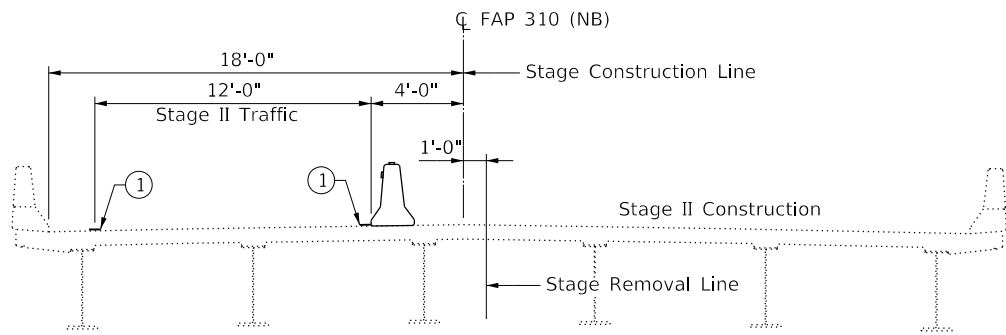


**PLAN - STAGE II**

See Standard 701400 for approach  
Start of lane closure taper



**SECTION A-A**



**SECTION B-B**

STRUCTURE NO. 060-0278

**SYMBOLS**

- Arrow board
- Work area
- Sign
- Traffic Control Drum
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade, drum, or vertical barricade with steady burn monodirectional light
- Temporary concrete barrier
- Monodirectional guardrail/barrier wall markers at 25' cts., Markers on right shall be crystal and markers on left shall be amber.
- Impact attenuator

① Temporary pavement marking tape shall be placed throughout the taper and along-side the work area. The right edge line shall be white and the left edge line shall be yellow. Included in the cost of Standard.

**GENERAL NOTES**

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the pavement or on the shoulder within 24" of the edge of pavement for daylight operation exceeding one day and where temporary concrete barrier is utilized.

This Standard must always be used in combination with Standard 701400.

When work is being performed in the left lane, the set up would be a mirror image to what is shown.

Temporary concrete barrier shall be according to Standard 704001.

Traffic Control and Protection for Structure No. 060-0279 shall be identical to what is shown through 180° rotation.

**NOT TO SCALE**

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION  
STANDARD 701402 - STAGE II**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	9
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

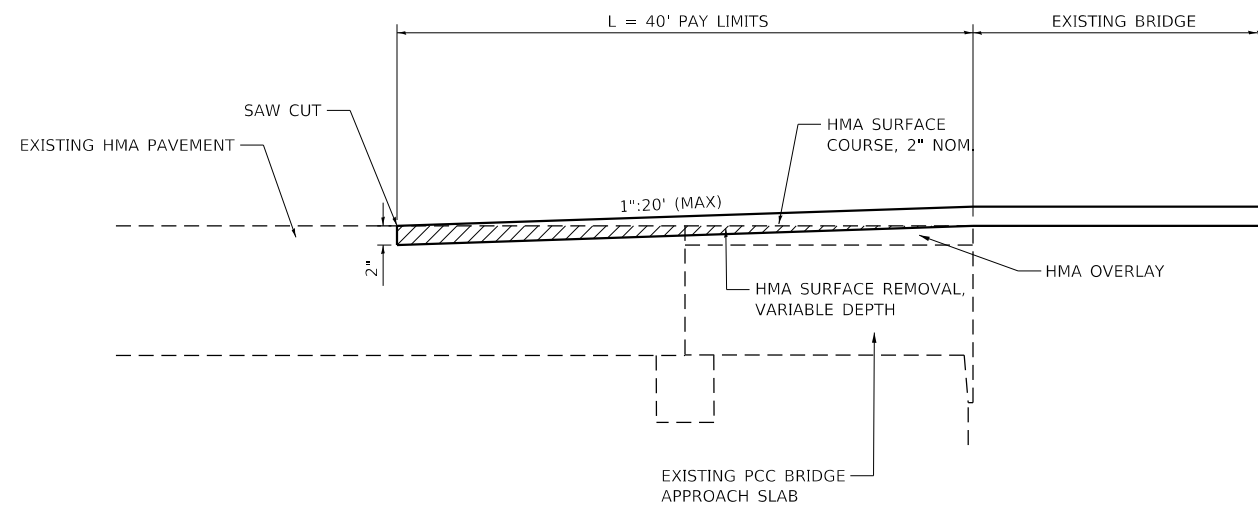
SHEET 1 OF 1 SHEETS

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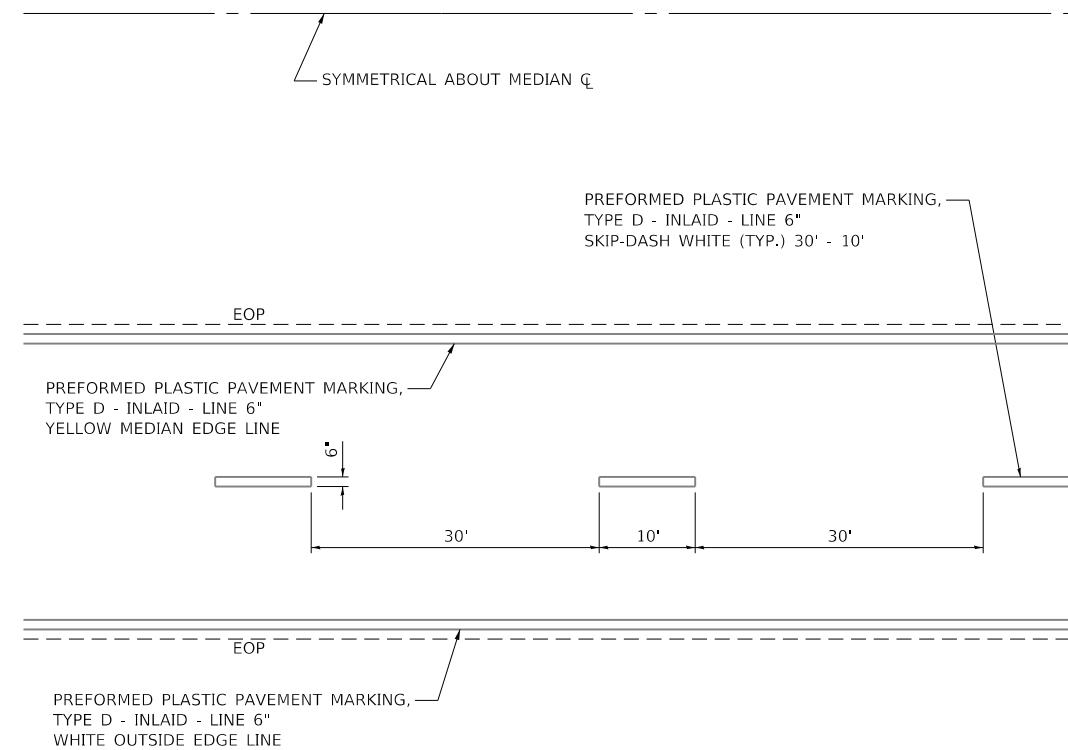
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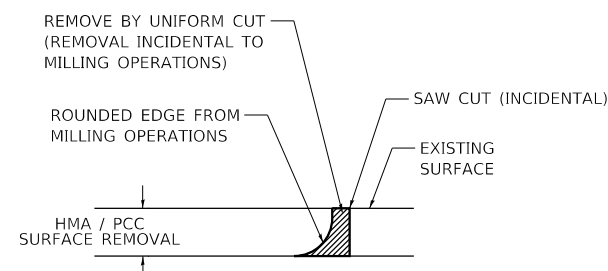
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**BUTT JOINT AT BRIDGE APPROACH TO EXISTING HMA**



**TYPICAL APPLICATION FOR PAVEMENT MARKING**



NOTE:  
WHEN MILLING OPERATIONS PRODUCE A ROUNDED EDGE,  
THEN A SAW CUT SHALL BE USED TO MANUFACTURE  
A PERPENDICULAR EDGE AS SHOWN IN THE DETAIL.  
THE ENGINEER SHALL BE THE SOLE JUDGE  
CONCERNING THE USE OF THIS DETAIL.

**BUTT JOINT DETAIL**

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**MISCELLANEOUS DETAILS**

SHEET 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	10
CONTRACT NO. 76N15				

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**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement bars designated (E) shall be epoxy coated.

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

The provided quantities of Deck Slab Repair are intended to be used to repair any unsound areas in the bridge deck discovered during construction of the Expansion Joints. Deck slab areas to be repaired shall be designated by the Engineer, and marked on the as-built plans.

Bridge deck concrete sealer shall be placed on top/inside faces of parapet (full length) and wingwalls, on top of new concrete at joints, 2'-9" wide abutment seats and a vertical 2' face of the cap below the seats.

Hot-mix asphalt surface course overlay for the bridge deck shall be constructed in accordance with applicable portions of Section 582 of the Standard Specifications.

Waterproofing Membrane System for the bridge shall be in accordance with material and construction requirements of the applicable portions of Section 581 of the Standard Specifications.

Concrete deck shall be cleaned to the satisfaction of the Engineer before placing Waterproofing Membrane System.

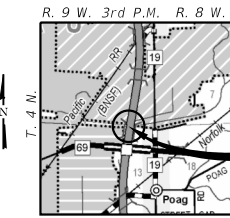
Bridge Deck Sealer shall not be applied to surfaces to which Membrane Waterproofing System is applied.

Existing name plates shall be removed, cleaned and incorporated into new construction. Cost included with Relocating Name Plates.

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

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

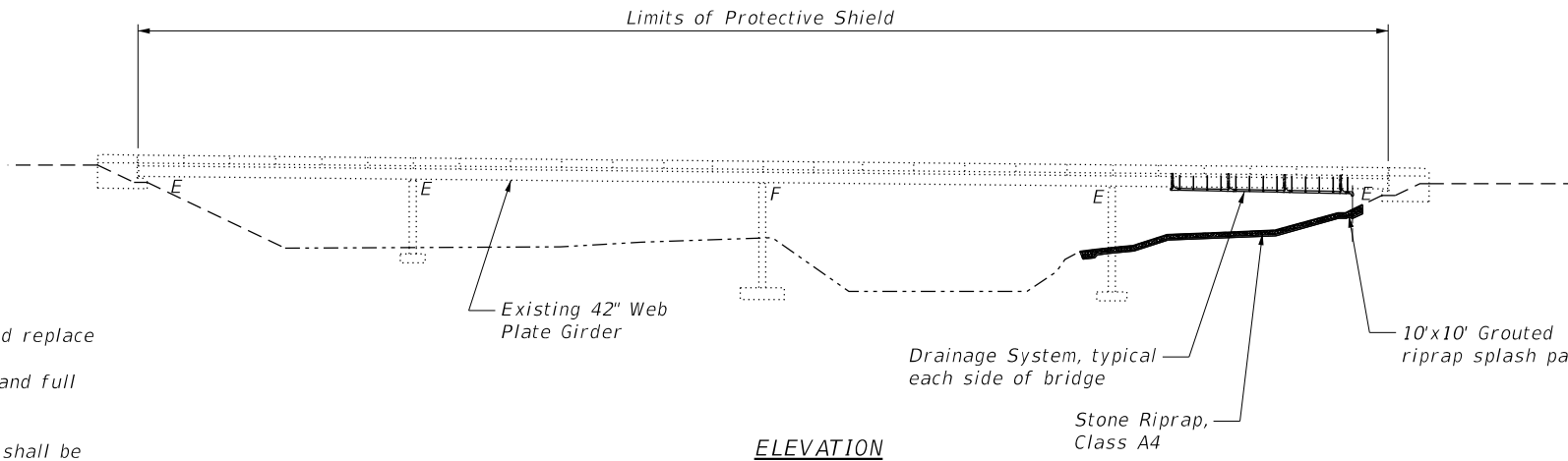
The deck surface shall have its final finish tined according to Article 120.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructures.



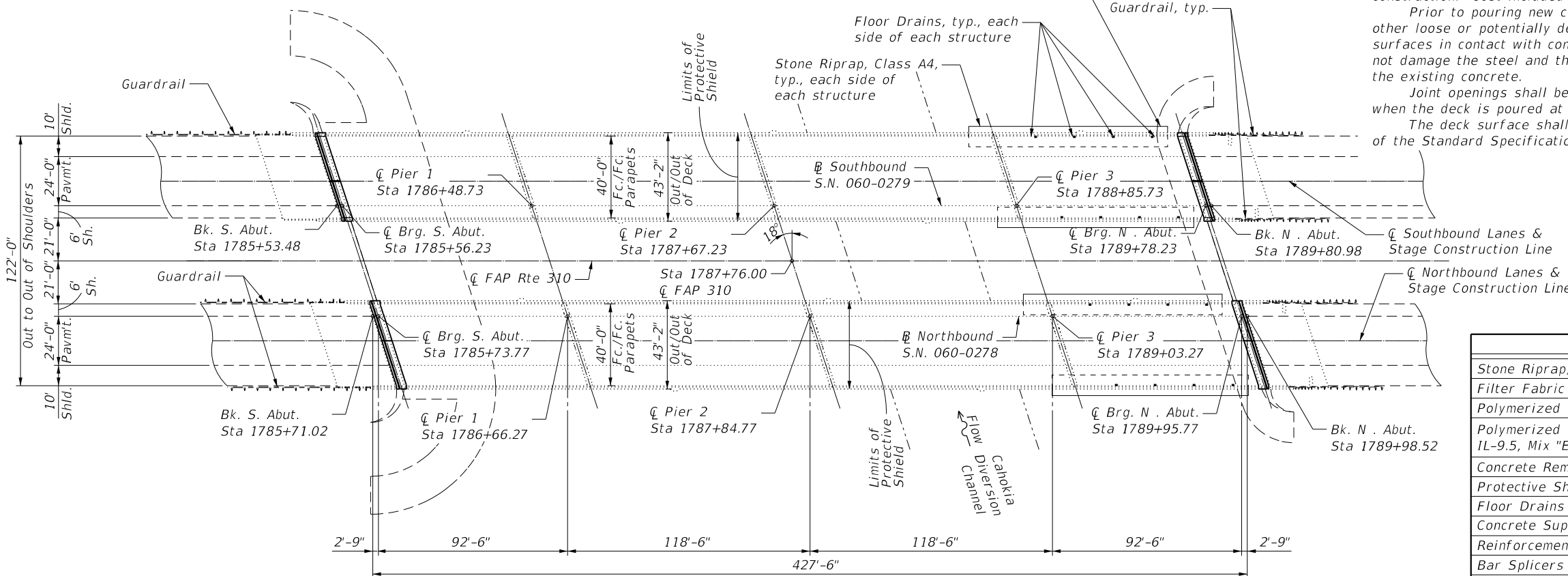
**LOCATION SKETCH**

**SCOPE OF WORK**

1. Construct Protective Shield
2. Remove existing expansion joint and replace as shown in these Plans.
3. Repair existing deck using partial and full depth patches.
4. Install Drainage System
5. A Waterproofing Membrane System shall be applied to the deck.
6. An HMA overlay shall be installed over the deck with a butt joint approach transition.



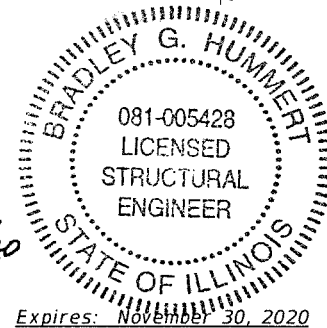
**ELEVATION**



**PLAN**

**TOTAL BILL OF MATERIAL FOR TWO STRUCTURES**

ITEM	UNIT	QUANTITY
Stone Riprap, Class A4	Sq Yd	436
Filter Fabric	Sq Yd	436
Polymerized Bituminous Materials (Tack Coat)	Pound	1,710
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "E", N90	Ton	320
Concrete Removal	Cu Yd	32.6
Protective Shield	Sq Yd	4,072
Floor Drains	Each	16
Concrete Superstructure	Cu Yd	37.4
Reinforcement Bars, Epoxy Coated	Pound	2,520
Bar Splicers	Each	24
Preformed Joint Strip Seal	Foot	176
Waterproofing Membrane System	Sq Yd	3,768
Grout For Use With Riprap	Cu Yd	9.8
Bridge Deck Concrete Sealer	Sq Ft	8,250
Deck Slab Repair (Full Depth, Type I)	Sq Yd	2
Deck Slab Repair (Full Depth, Type II)	Sq Yd	200
Deck Slab Repair (Partial)	Sq Yd	500
Drainage System, N1	Each	1
Drainage System, N2	Each	1
Longitudinal Joint Sealant	Foot	840
Relocating Name Plates	Each	2

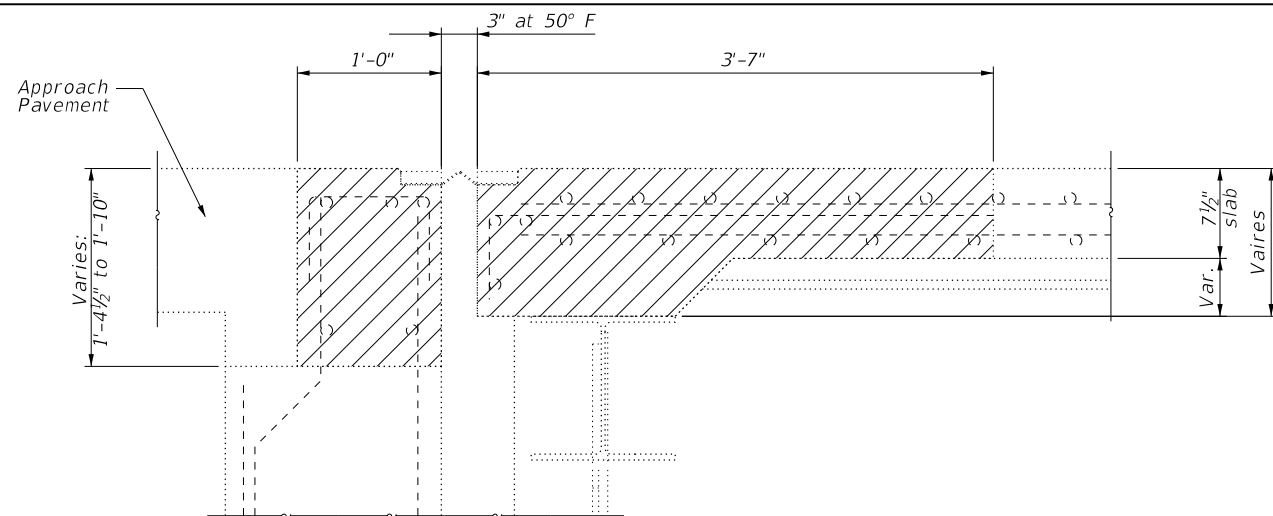
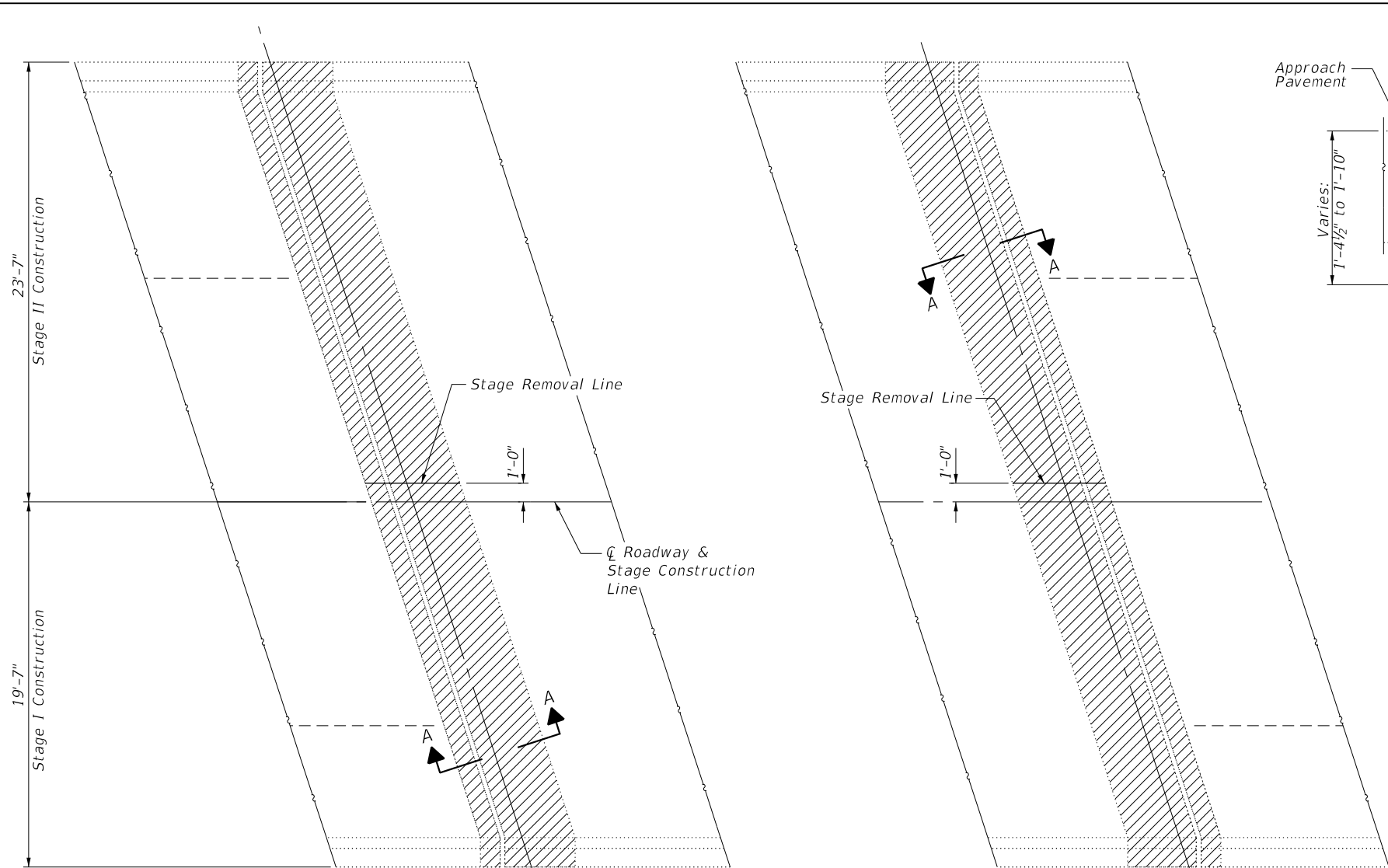


*Bradley G. Hummert* Date: 5/6/20  
 Bradley G. Hummert  
 Licensed Structural Engineer  
 in Illinois No. 081-005428

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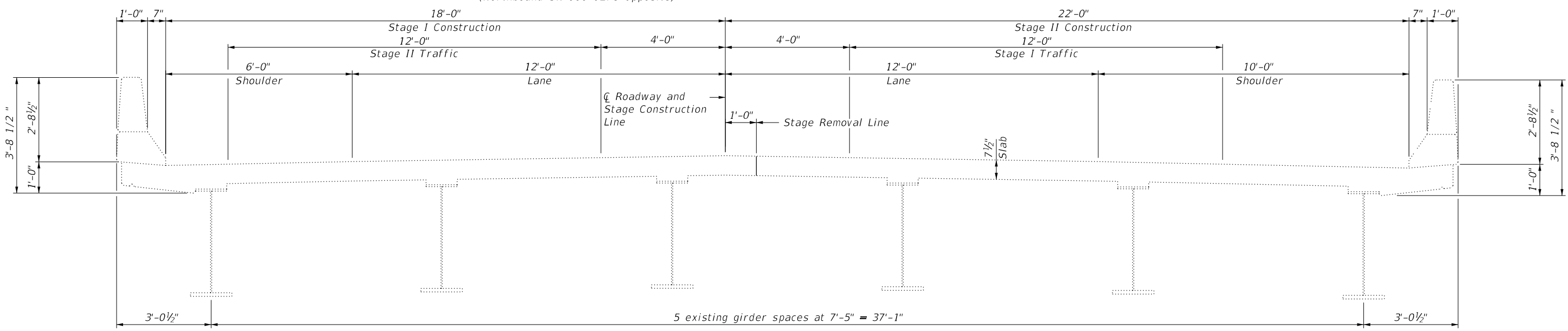
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	11
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				



**PLAN - SOUTHBOUND SN 060-0279**  
(Northbound SN 060-0278 Opposite)

Hatching indicates areas of Concrete Removal.



**CROSS SECTION AT EXPANSION JOINT (DECK SIDE)**  
Looking in Direction of Traffic

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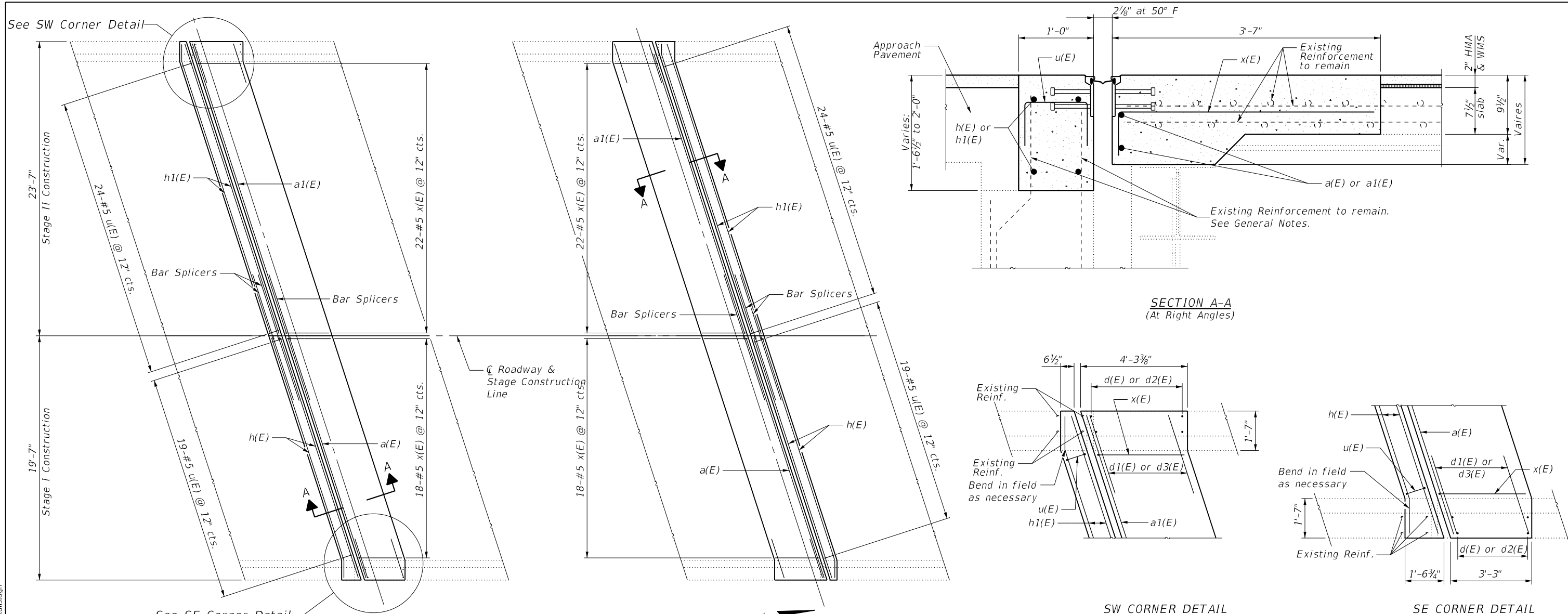
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CONCRETE REMOVAL**  
**SN 060-0278 (NB) AND SN 060-0279 (SB)**

SHEET 2 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76N15				

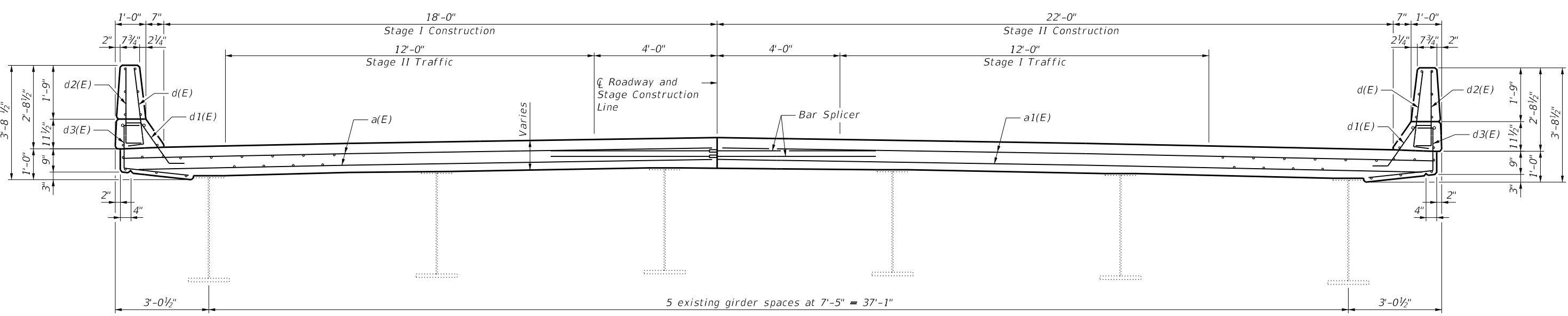
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PLAN - SOUTHBOUND SN 060-0279  
(Northbound SN 060-0278 Opposite)

SW CORNER DETAIL  
(NE Corner Opposite)

SE CORNER DETAIL  
(NW Corner Opposite)



CROSS SECTION AT EXPANSION JOINT (DECK SIDE)  
Looking in Direction of Traffic

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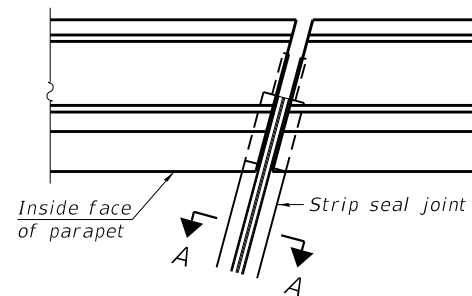
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE CONSTRUCTION DETAILS  
SN 060-0278 (NB) AND SN 060-0279 (SB)

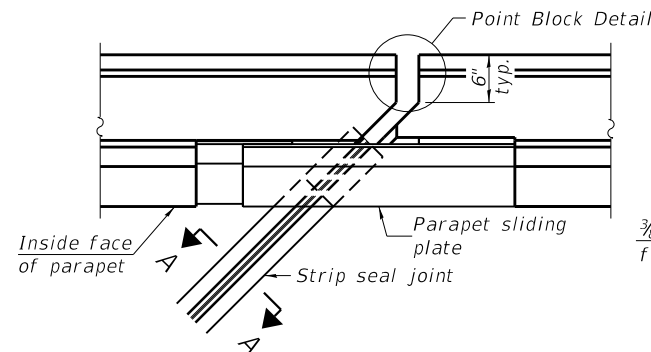
SHEET 3 OF 11 SHEETS

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CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

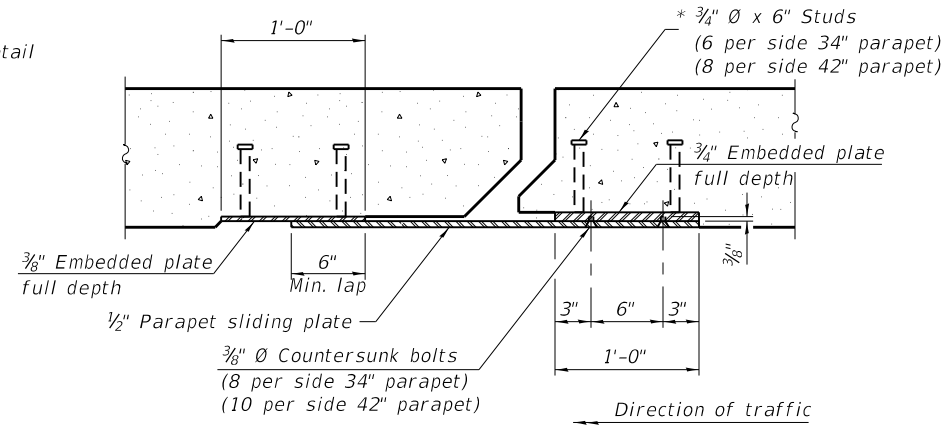


FOR SKEWS  $\leq 30^\circ$

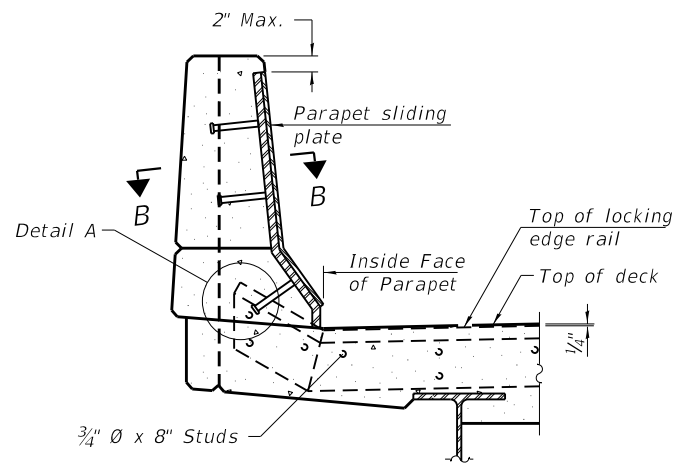
PLAN AT PARAPET



FOR SKEWS  $> 30^\circ$

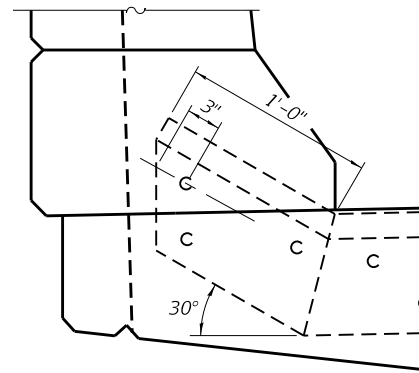


SECTION B-B

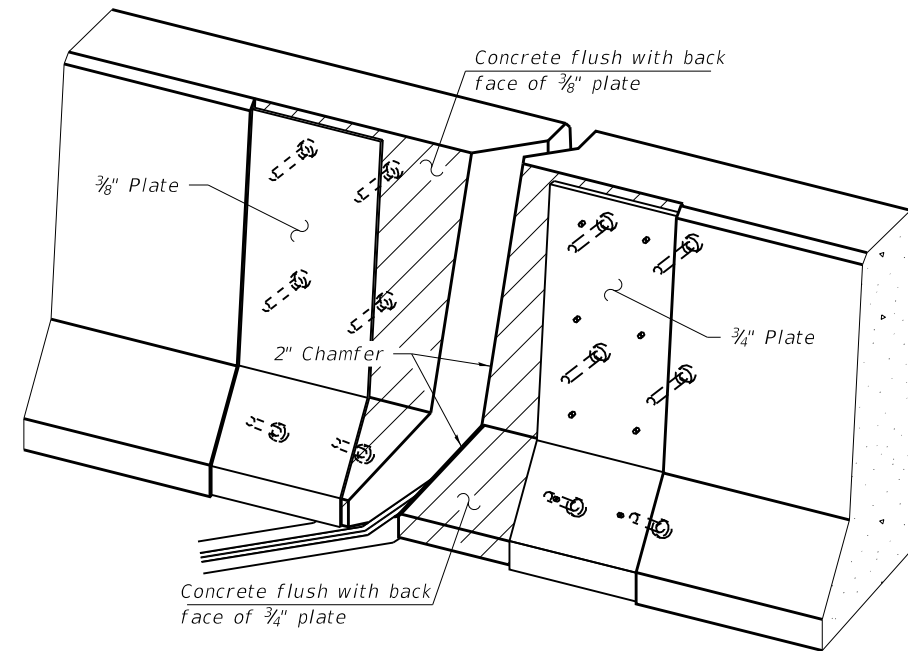


ELEVATION AT PARAPET

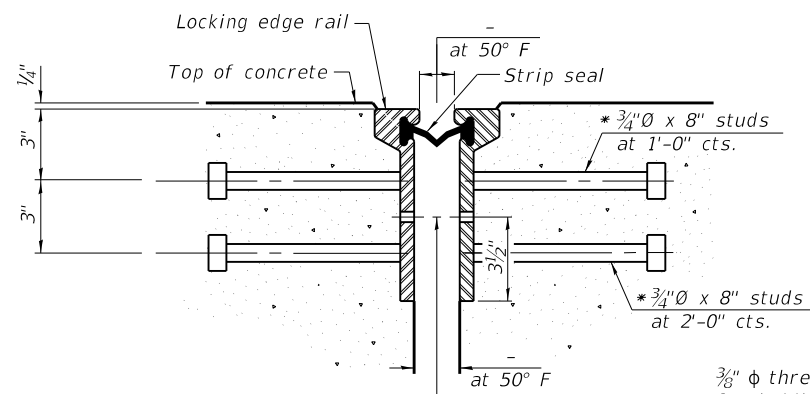
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)

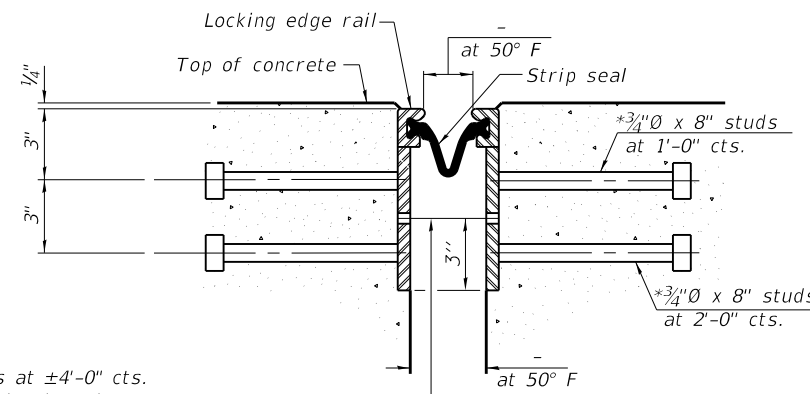


SHOWING ROLLED RAIL JOINT

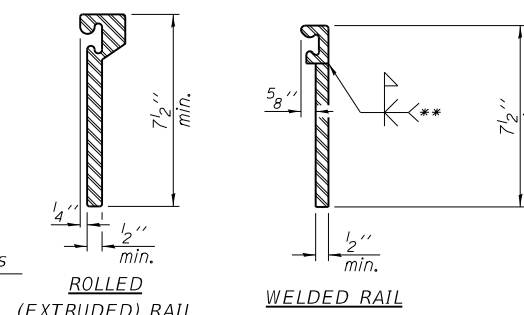
$3/8$   $\phi$  threaded rods in  $7/16$   $\phi$  holes at  $\pm 4$ -0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

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



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  
STRUCTURE NO. 060-0278 (NB)

Item	Unit	Total
Preformed Joint Strip Seal	Foot	88

BILL OF MATERIAL  
STRUCTURE NO. 060-0279 (SB)

Item	Unit	Total
Preformed Joint Strip Seal	Foot	88

EJ-SS (TALL WITH GUTTER) 10-1-19

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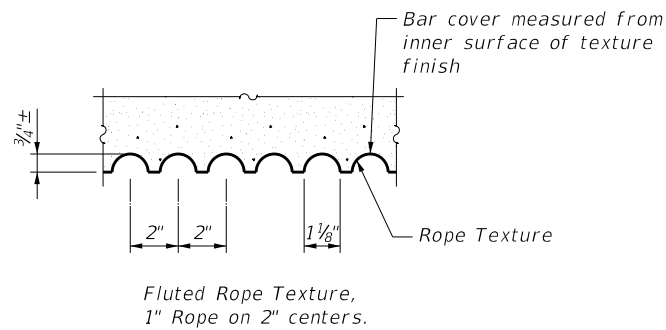
STATE OF ILLINOIS  
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PREFORMED JOINT STRIP SEAL  
SN 060-0278 (NB) AND SN 060-0279 (SB)

SHEET 4 OF 11 SHEETS

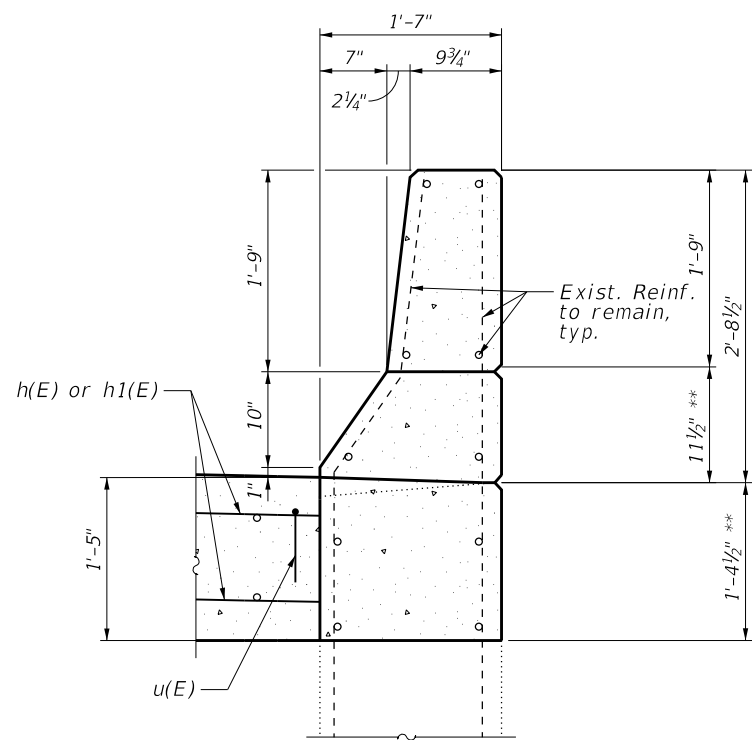
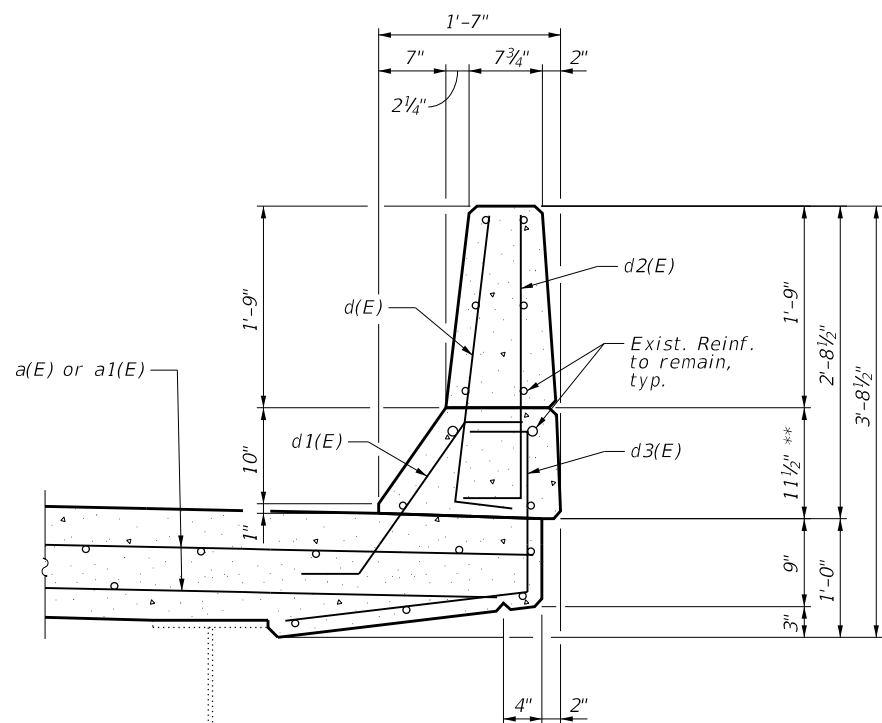
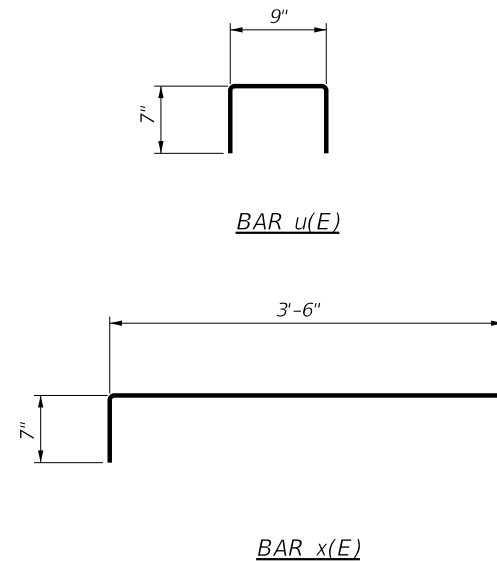
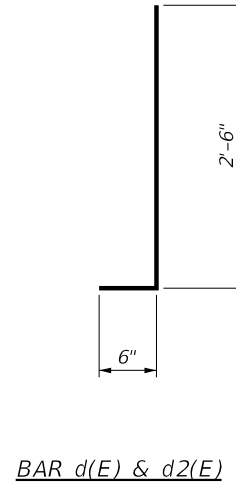
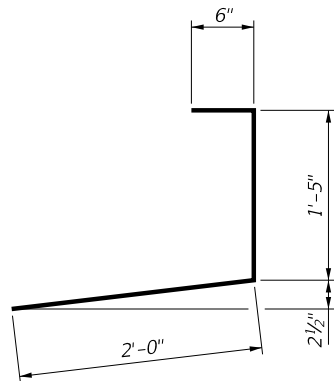
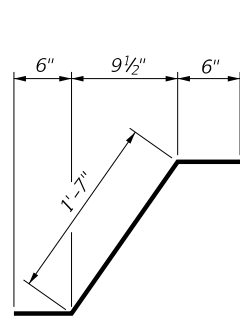
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310	60-10BR-2	MADISON	33 14
			CONTRACT NO. 76N15
ILLINOIS FED. AID PROJECT			

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Note:  
The use of reverse image polyvinyl plastic sheets (form liners) attached to concrete forms will produce the textured surfaces as depicted.

**ROPE TEXTURE FINISH**



\*\* Patterned rope textured concrete to match existing. See existing bridge plans.

**BILL OF MATERIAL  
STRUCTURE NO. 060-0278 (NB)**

Bar	No.	Size	Length	Shape
a(E)	4	#6	20'-2"	—
a1(E)	4	#6	24'-4"	—
d(E)	12	#5	3'-0"	J
d1(E)	12	#5	2'-7"	J
d2(E)	12	#4	3'-0"	J
d3(E)	12	#4	3'-11"	J
h(E)	8	#5	18'-8"	—
h1(E)	8	#5	22'-10"	—
u(E)	86	#5	1'-11"	□
h(E)	80	#5	4'-1"	—
Concrete Removal		Cu Yd	16.3	
Concrete Superstructure		Cu Yd	18.7	
Reinforcement Bars, Epoxy Coated		Pound	1,260	
Bar Splicers		Each	12	

**BILL OF MATERIAL  
STRUCTURE NO. 060-0279 (SB)**

Bar	No.	Size	Length	Shape
a(E)	4	#6	20'-2"	—
a1(E)	4	#6	24'-4"	—
d(E)	12	#5	3'-0"	J
d1(E)	12	#5	2'-7"	J
d2(E)	12	#4	3'-0"	J
d3(E)	12	#4	3'-11"	J
h(E)	8	#5	18'-8"	—
h1(E)	8	#5	22'-10"	—
u(E)	86	#5	1'-11"	□
h(E)	80	#5	4'-1"	—
Concrete Removal		Cu Yd	16.3	
Concrete Superstructure		Cu Yd	18.7	
Reinforcement Bars, Epoxy Coated		Pound	1,260	
Bar Splicers		Each	12	

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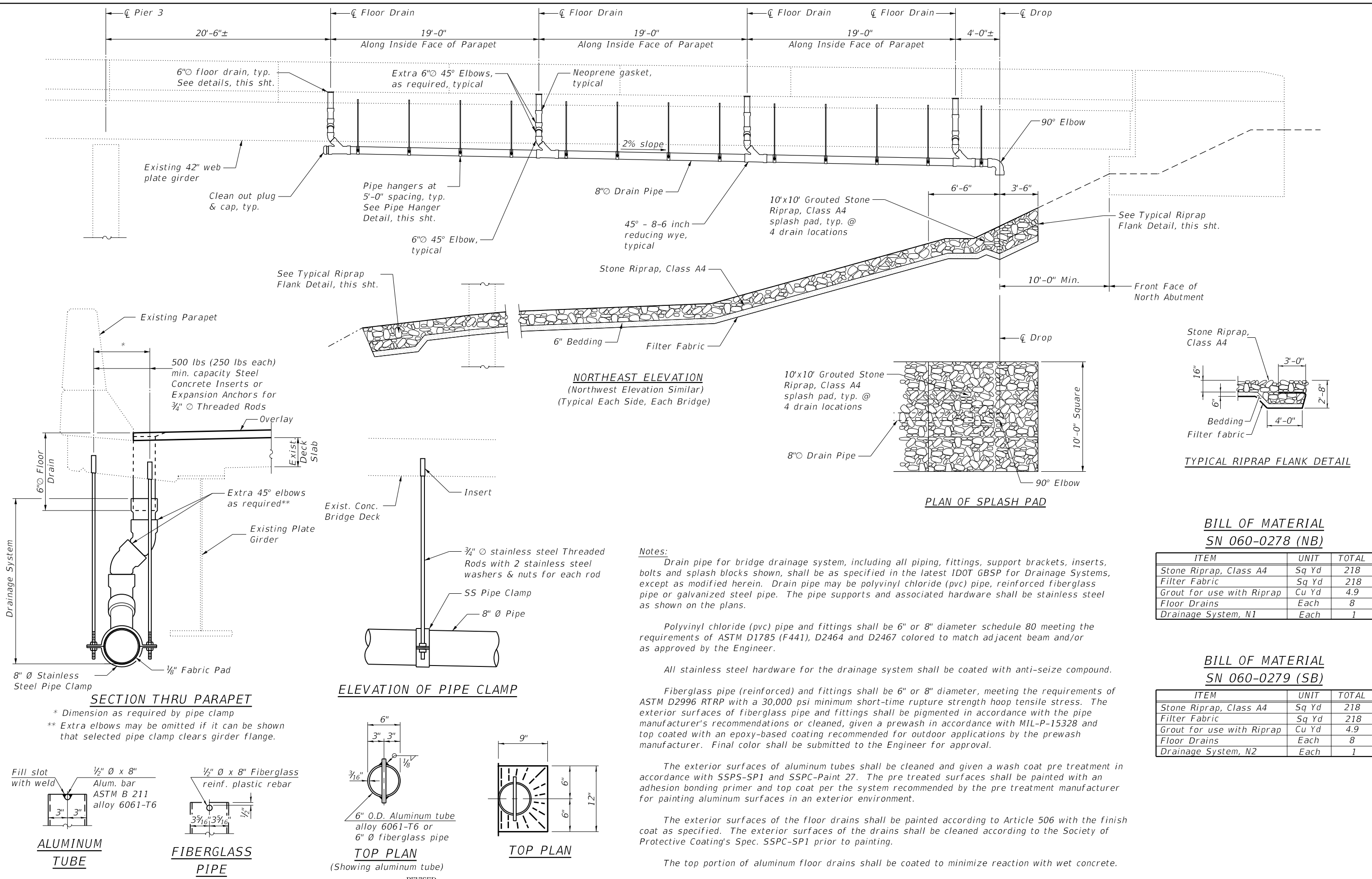
**PARAPET DETAILS & BILL OF MATERIAL  
SN 060-0278 (NB) AND SN 060-0279 (SB)**

SHEET 5 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

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**NORTHEAST ELEVATION**  
(Northwest Elevation Similar)  
(Typical Each Side, Each Bridge)

**PLAN OF SPLASH PAD**

**TYPICAL RIPRAP FLANK DETAIL**

**SECTION THRU PARAPET**

**ELEVATION OF PIPE CLAMP**

**TOP PLAN**  
(Showing aluminum tube)

**TOP PLAN**

**Notes:**

Drain pipe for bridge drainage system, including all piping, fittings, support brackets, inserts, bolts and splash blocks shown, shall be as specified in the latest IDOT GBSP for Drainage Systems, except as modified herein. Drain pipe may be polyvinyl chloride (pvc) pipe, reinforced fiberglass pipe or galvanized steel pipe. The pipe supports and associated hardware shall be stainless steel as shown on the plans.

Polyvinyl chloride (pvc) pipe and fittings shall be 6" or 8" diameter schedule 80 meeting the requirements of ASTM D1785 (F441), D2464 and D2467 colored to match adjacent beam and/or as approved by the Engineer.

All stainless steel hardware for the drainage system shall be coated with anti-seize compound.

Fiberglass pipe (reinforced) and fittings shall be 6" or 8" diameter, meeting the requirements of ASTM D2996 RTRP with a 30,000 psi minimum short-time rupture strength hoop tensile stress. The exterior surfaces of fiberglass pipe and fittings shall be pigmented in accordance with the pipe manufacturer's recommendations or cleaned, given a prewash in accordance with MIL-P-15328 and top coated with an epoxy-based coating recommended for outdoor applications by the prewash manufacturer. Final color shall be submitted to the Engineer for approval.

The exterior surfaces of aluminum tubes shall be cleaned and given a wash coat pre treatment in accordance with SSPS-SP1 and SSPC-Paint 27. The pre treated surfaces shall be painted with an adhesion bonding primer and top coat per the system recommended by the pre treatment manufacturer for painting aluminum surfaces in an exterior environment.

The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings Spec. SSPC-SP1 prior to painting.

The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

**BILL OF MATERIAL**  
**SN 060-0278 (NB)**

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq Yd	218
Filter Fabric	Sq Yd	218
Grout for use with Riprap	Cu Yd	4.9
Floor Drains	Each	8
Drainage System, N1	Each	1

**BILL OF MATERIAL**  
**SN 060-0279 (SB)**

ITEM	UNIT	TOTAL
Stone Riprap, Class A4	Sq Yd	218
Filter Fabric	Sq Yd	218
Grout for use with Riprap	Cu Yd	4.9
Floor Drains	Each	8
Drainage System, N2	Each	1

**HMG**  
Engineers • Surveyors

HMG ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

USER NAME =	DESIGNED -	REVISIONS
PLOT SCALE =	CHECKED -	REVISIONS
PLOT DATE =	DRAWN -	REVISIONS
	CHECKED -	REVISIONS

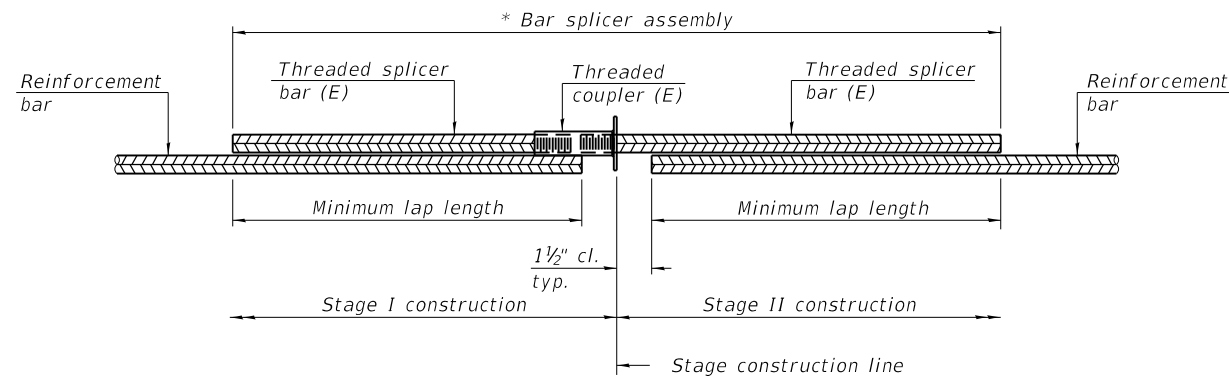
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DRAINAGE SYSTEM DETAILS**  
**SN 060-0278 (NB) AND SN 060-0279 (SB)**

SHEET 6 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	16
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				





**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

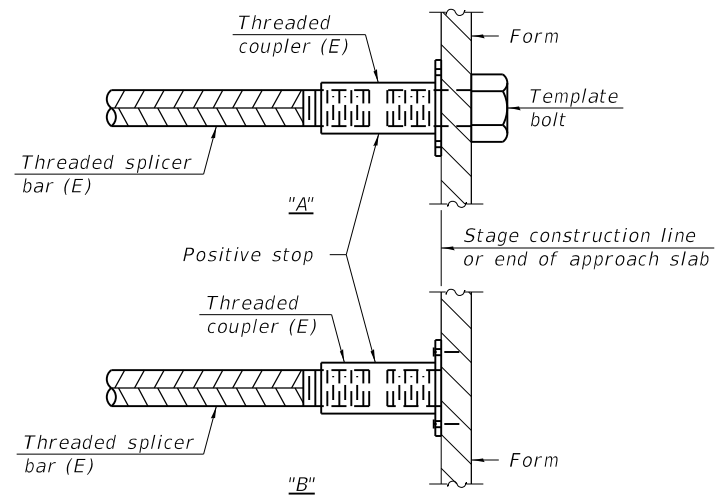
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

**STRUCTURE NO. 060-0278 (NB)**

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. Deck	#6	2	3'-10"
N. Abut. Backwall	#5	4	3'-3"
S. Abut. Deck	#6	2	3'-10"
S. Abut. Backwall	#5	4	3'-3"

**STRUCTURE NO. 060-0279 (SB)**

Location	Bar size	No. assemblies required	Minimum lap length
N. Abut. Deck	#6	2	3'-10"
N. Abut. Backwall	#5	4	3'-3"
S. Abut. Deck	#6	2	3'-10"
S. Abut. Backwall	#5	4	3'-3"

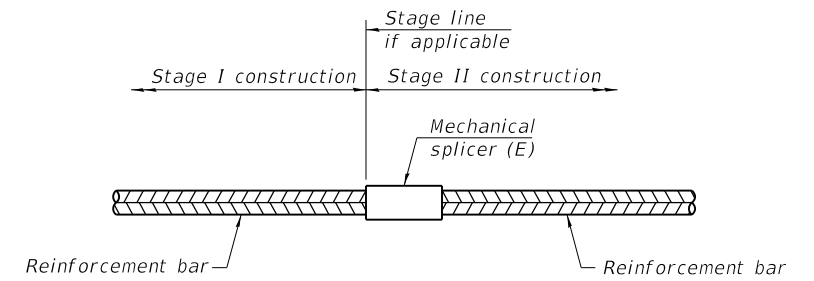


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required

**Notes:**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

MODEL: Default  
 FILE NAME: H:\7882\DOT\_D8\_Var7882\_03\_W03\_76N15\_1255\_Bridge\_Repairs\CAD\_Sheets\0876N15-017-0600278-0279-splicer.dgn

BSD-1

1-1-2020

**HMG**  
 Engineers • Surveyors

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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

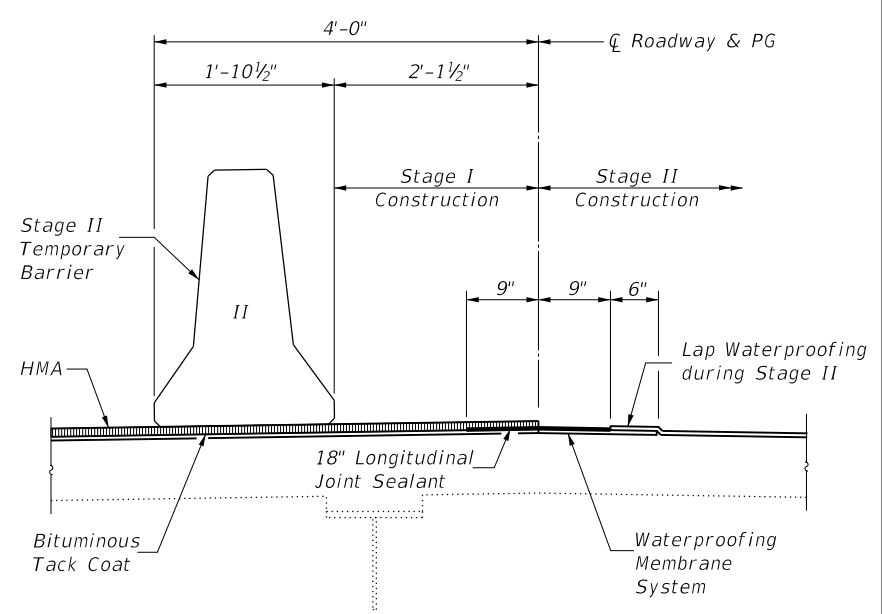
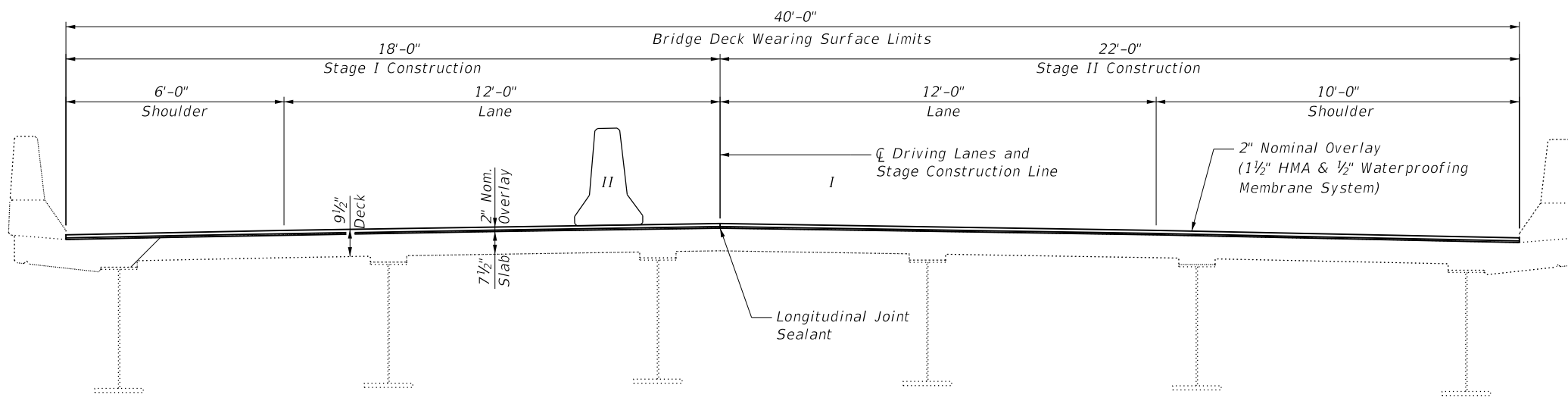
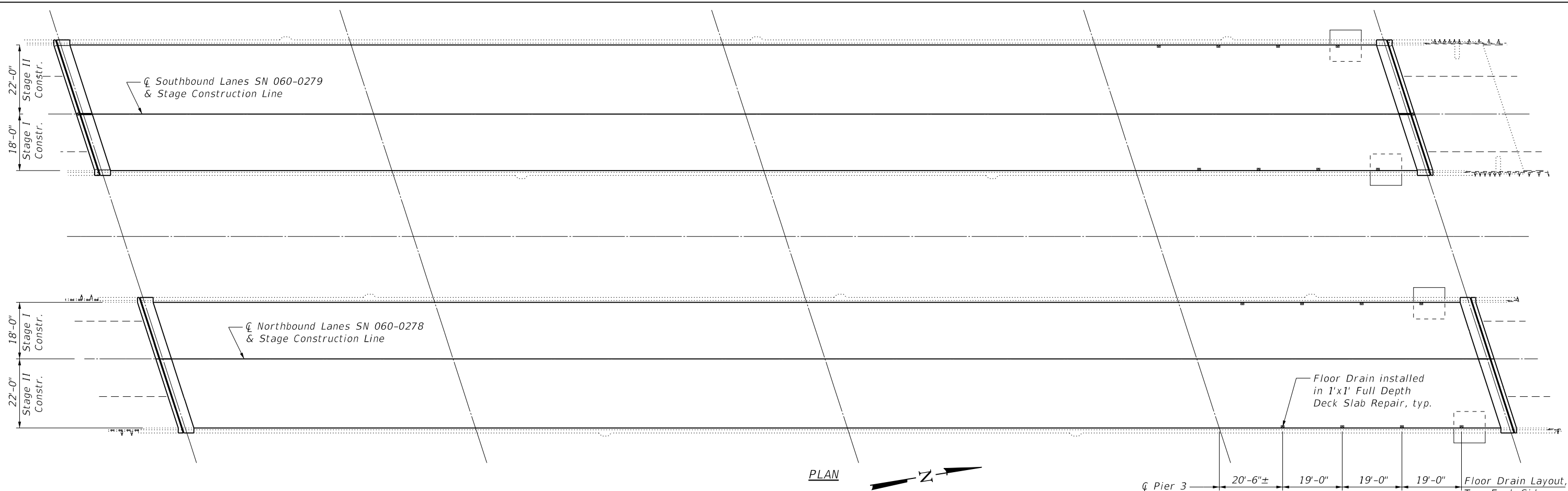
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 SN 060-0278 (NB) AND SN 060-0279 (SB)**

SHEET 7 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	17
CONTRACT NO. 76N15				

ILLINOIS FED. AID PROJECT



**BILL OF MATERIAL**  
STRUCTURE NO. 060-0278 (NB)

ITEM	UNIT	QUANTITY
Bituminous Materials (Tack Coat)	Pound	1,015
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "E", N90	Ton	190
Waterproofing Membrane System	Sq Yd	1,884
Bridge Deck Concrete Sealer	Sq Ft	4,125
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Longitudinal Joint Sealant	Foot	420

**BILL OF MATERIAL**  
STRUCTURE NO. 060-0279 (SB)

ITEM	UNIT	QUANTITY
Bituminous Materials (Tack Coat)	Pound	1,015
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "E", N90	Ton	190
Waterproofing Membrane System	Sq Yd	1,884
Bridge Deck Concrete Sealer	Sq Ft	4,125
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Longitudinal Joint Sealant	Foot	420

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE WEARING SURFACE OVERLAY DETAILS  
SN 060-0278 (NB) AND SN 060-0279 (SB)

SHEET 8 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	18
CONTRACT NO. 76N15				

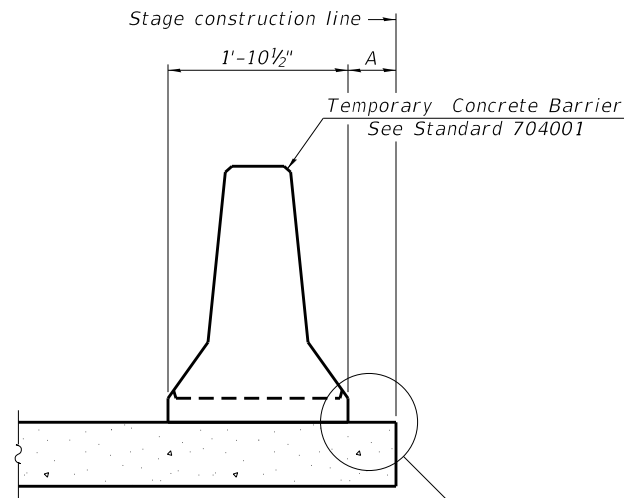
ILLINOIS FED. AID PROJECT

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4/27/2020 5:07:59 PM

**HMG**  
Engineers • Surveyors

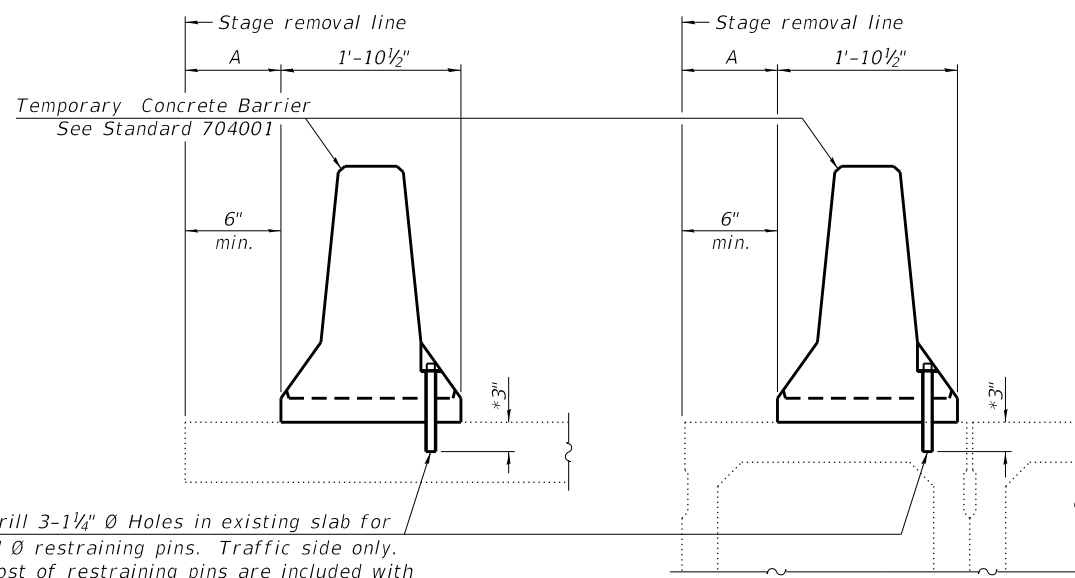
USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

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9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

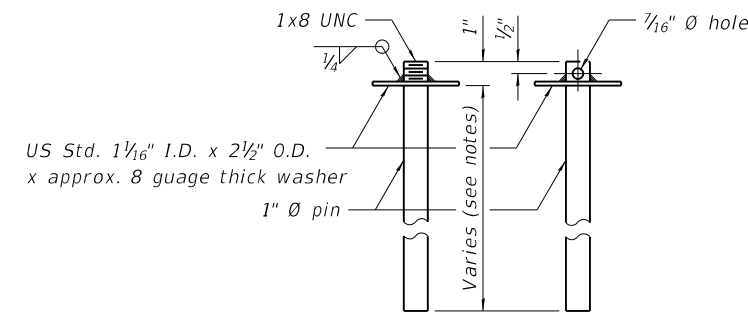


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

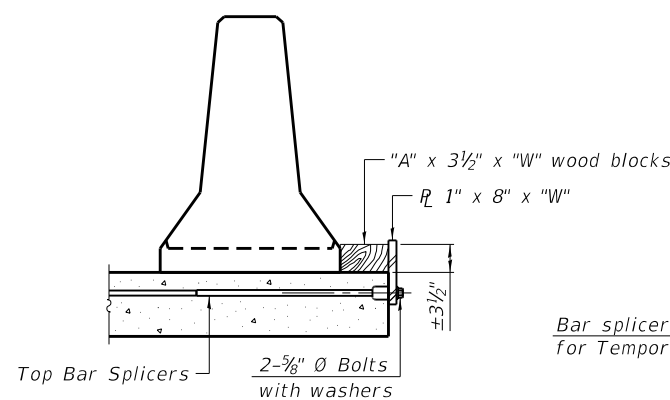
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

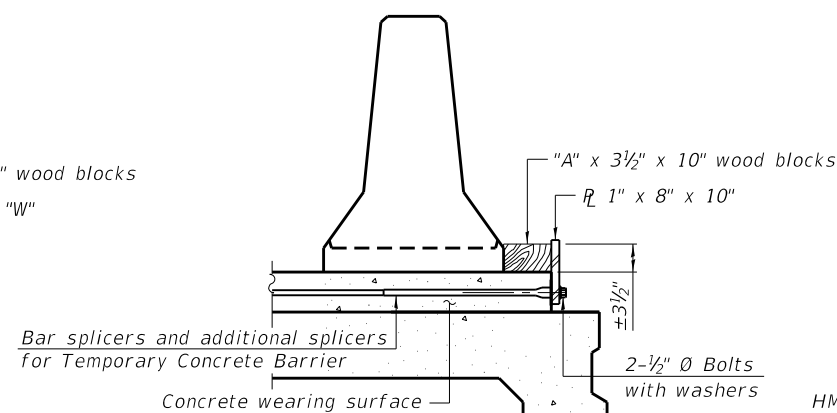


RESTRAINING PIN

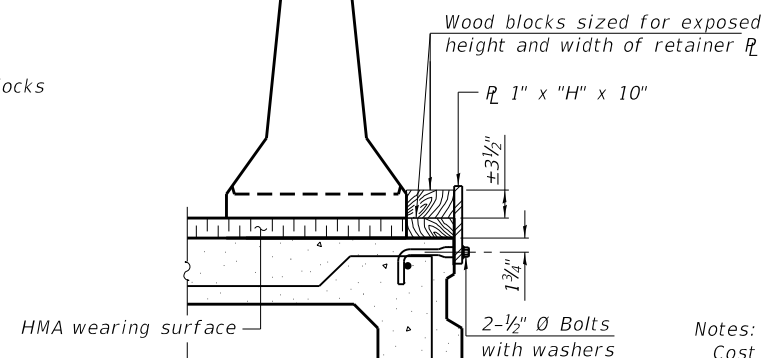
SECTIONS THRU SLAB OR DECK BEAM



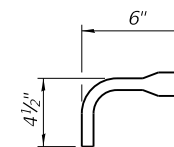
DETAIL I



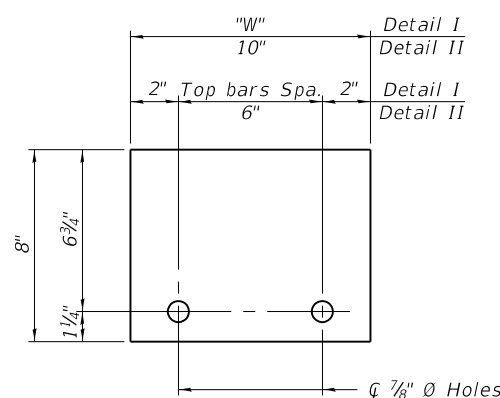
DETAIL II



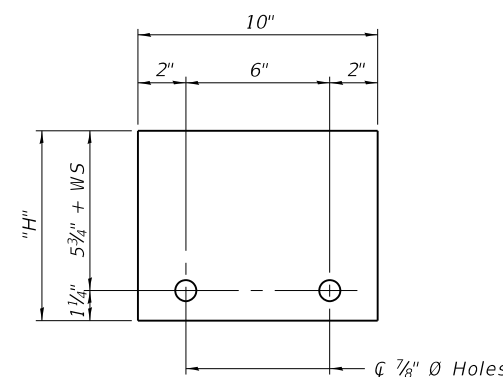
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

Notes:  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate center of each temporary concrete barrier.  
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate.  
 For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.  
 Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
 Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

MODEL: Default  
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R-27 2-17-2017

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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

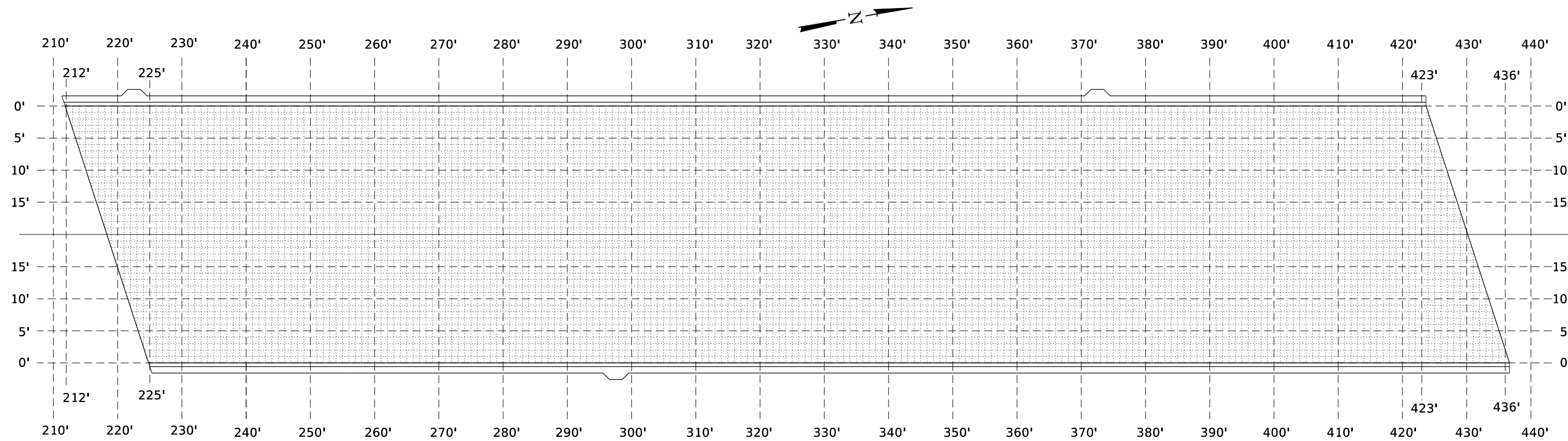
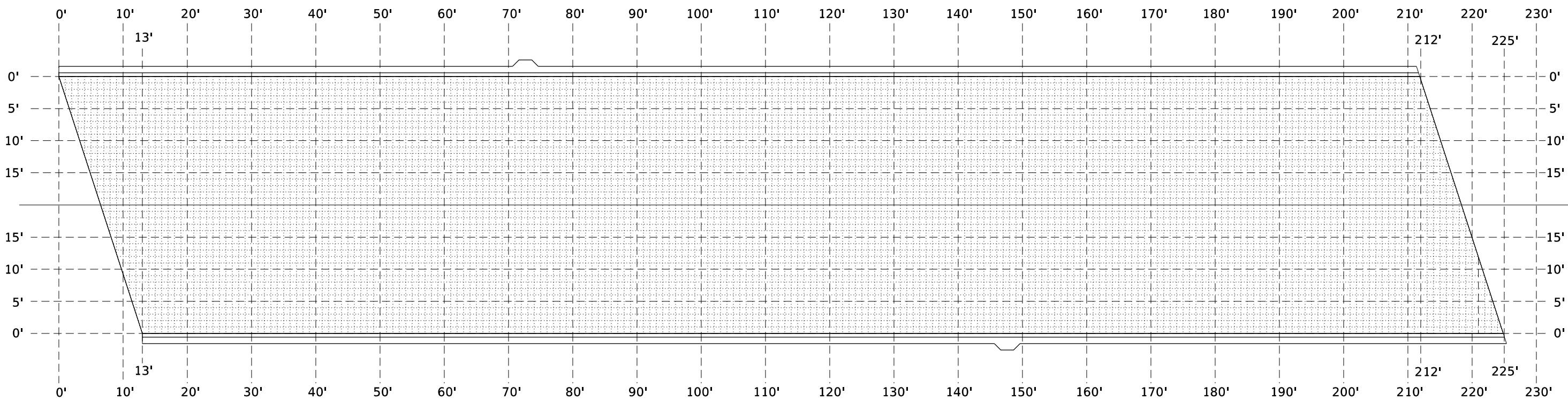
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
 SN 060-2078 (NB) AND SN 060-2079 (SB)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	19
CONTRACT NO. 76N15				

SHEET 9 OF 11 SHEETS

ILLINOIS FED. AID PROJECT



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type II)	Sq Yd	20
Deck Slab Repair (Partial)	Sq Yd	100

Total area of deck repairs is estimated. The Engineer shall show actual locations of deck repairs on As-built plans.

MODEL: Default  
FILE NAME: H:\7882\_IDOT\_D8\_Var7882\_03\_W03\_76N15\_1255\_Bridge\_Repairs\CAD\_Sheets\B876N15-020-0600278-Patching-AsBuilt.dgn

**HMG** HMG ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

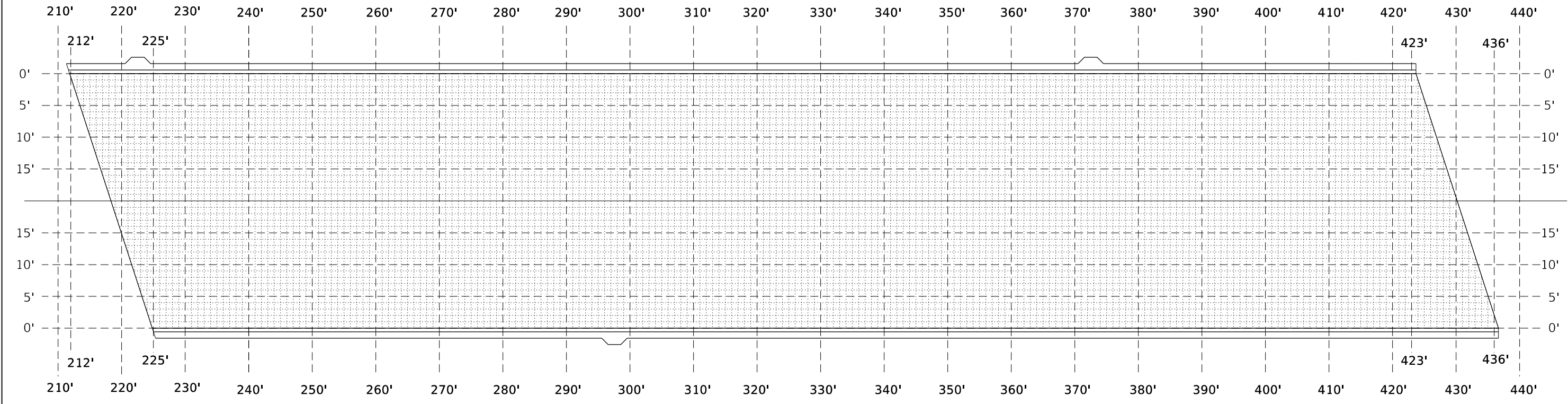
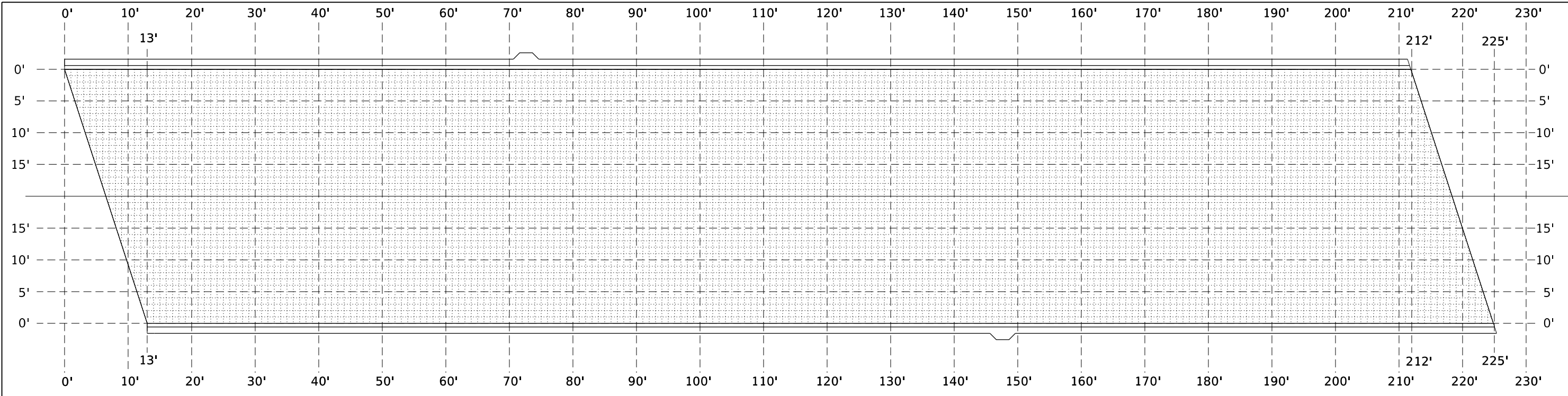
USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING PLAN - AS BUILT  
STRUCTURE NO. 060-0278 (NB)**

SHEET 10 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	20
ILLINOIS FED. AID PROJECT				



**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type II)	Sq Yd	180
Deck Slab Repair (Partial)	Sq Yd	400

Total area of deck repairs is estimated. The Engineer shall show actual locations of deck repairs on As-built plans.

MODEL: Default  
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**HMG** HMG ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

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PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING PLAN - AS BUILT  
STRUCTURE NO. 060-0279 (SB)**

SHEET 11 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	21
CONTRACT NO. 76N15				

ILLINOIS FED. AID PROJECT

Plan 10-71-93 LETTER 1419-93

PROJECT ENGINEER: BILL ULIVI (618) 346-3180 SQUAD LEADER: RICH CALL (618) 346-3192

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-1	MADISON	37	1
FHWA REG. NO. 5		NUMBER	PROJECT NHF-310(21)	
D-98-143-89				

**INDEX OF SHEETS**

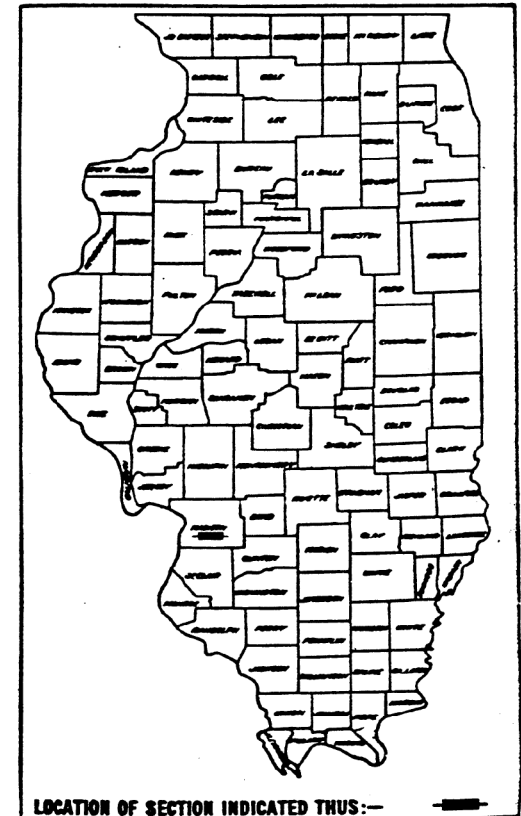
SHEET NO.	ITEM
1	TITLE SHEET
2	GENERAL NOTES, DETAIL, SCHEDULE AND SUMMARY OF QUANTITIES
3	TYPICAL SECTIONS
4	WICK DRAIN DETAILS
5-8	PLAN AND PROFILE
9-32	BRIDGE PLANS
33-34	CULVERT PROFILES
35-37	CROSS SECTIONS
37A,B	RIGHT-OF-WAY (2 SHEETS)

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

SCALE IN FEET

PLAN	1 INCH = 50 FEET
PROFILE, HORIZ.	1 INCH = 50 FEET
PROFILE, VERT.	1 INCH = 5 FEET
CROSS SECTIONS	1 INCH = 10 FEET HORIZ. 1 INCH = 5 FEET VERT.

F.A.P. ROUTE 310 SECTION 60-10B-1 (ALTON BY-PASS)  
PROJECT NHF-310 (21)  
MADISON COUNTY, IL  
JOB NO. C-98-093-93



LOCATION OF SECTION INDICATED THUS: —

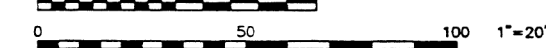
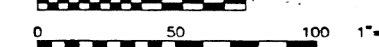
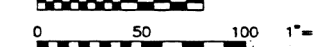
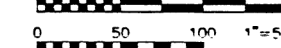
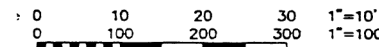
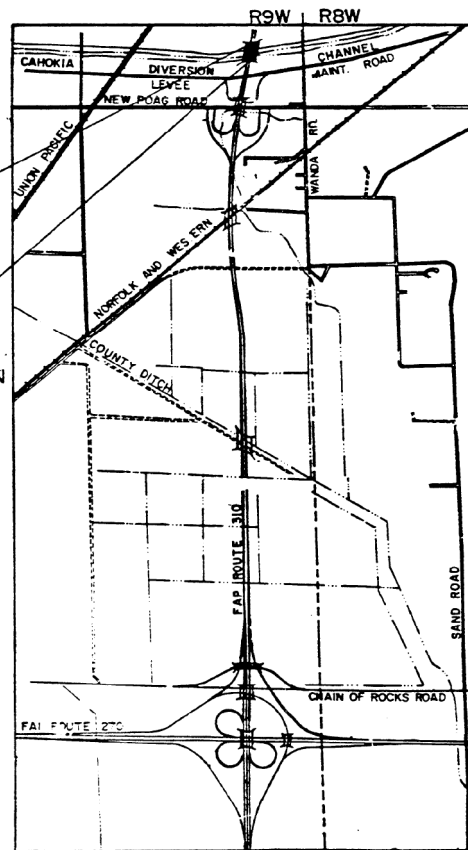
**HIGHWAY STANDARDS**

1686-4	STANDARD SYMBOLS AND ABBREVIATIONS
2113-2	NAME PLATE FOR BRIDGES
2262-4	REINFORCED CONCRETE PIPE ELBOW AND PRECAST REINFORCED CONCRETE FLARED END SECTION
2298-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2299-13	DESIGN OF TRAFFIC CONTROL DEVICES
2300-3	FLAGGER TRAFFIC CONTROL SIGN
2301-5	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2302-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
2324-8	BRIDGE APPROACH SHOULDER PAVEMENT
2381	TEMPORARY EROSION CONTROL SYSTEMS
2442-1	BRIDGE APPROACH PAVEMENT
2443-1	BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)

SECTION 60-10B-1 INCLUDES TWO (2) PARALLEL 4-SPAN WELDED PLATE GIRDER STRUCTURES ON CONCRETE PIERS AND CONCRETE PILE BENT ABUTMENTS CARRYING FAP ROUTE 310 OVER THE CAHOKIA DIVERSION CHANNEL.  
SPANS: 92.5', 118.5', 118.5', 92.5' SKEW: 15°  
STA. 1787+76.00 FAP 310

PROJECT ID - SECTION 60-10B-1 ENDS  
STA. 1789+89.22  
@ FAP ROUTE 310

PROJECT ID - SECTION 60-10B-1 BEGINS  
STA. 1785+62.78  
@ FAP ROUTE 310



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.

JOINT UTILITY LOCATING INFORMATION FOR EXCAVATIONS  
PHONE: 800-892-0123

PREPARED BY  
OATES ASSOCIATES  
CONSULTING ENGINEERS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

REGISTERED PROFESSIONAL ENGINEER  
040254  
ILLINOIS

DATE: 9/16/93  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]  
DIRECTOR OF HIGHWAYS

STRUCTURAL SHEETS 9-32  
PREPARED BY HSIONG ASSOCIATES LTD.

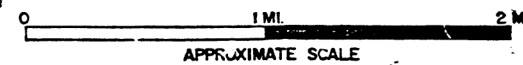
FOR INFORMATION ONLY

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE ON THE FOLLOWING SHEETS

DESIGN DESIGNATION  
6743 (10) TRUNK 10:27 (B-20)

SECTION NET LENGTH 426.44 FEET = 0.081 MILES  
PROJECT NET LENGTH 426.44 FEET = 0.081 MILES

LAYOUT



OATES ASSOCIATES, INC. CONTRACT NO. 96626

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
(FOR INFORMATION ONLY)

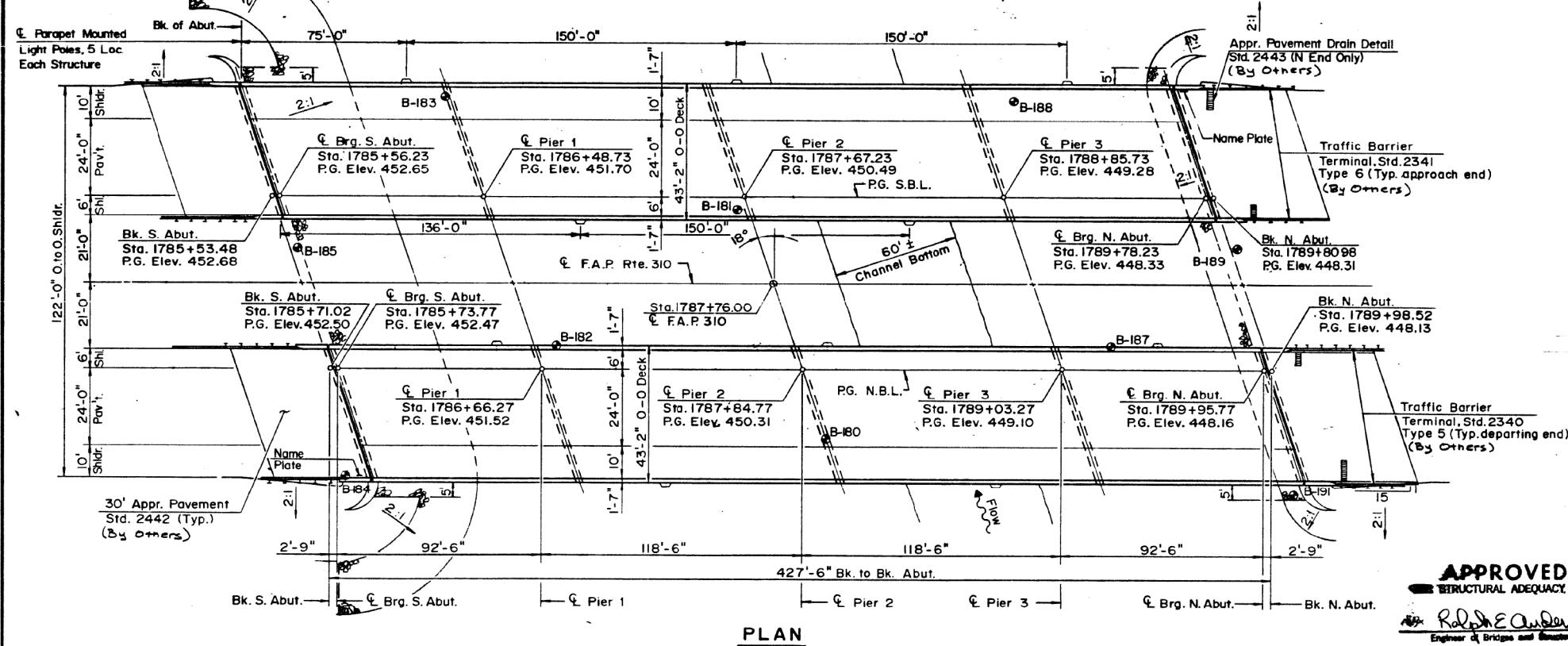
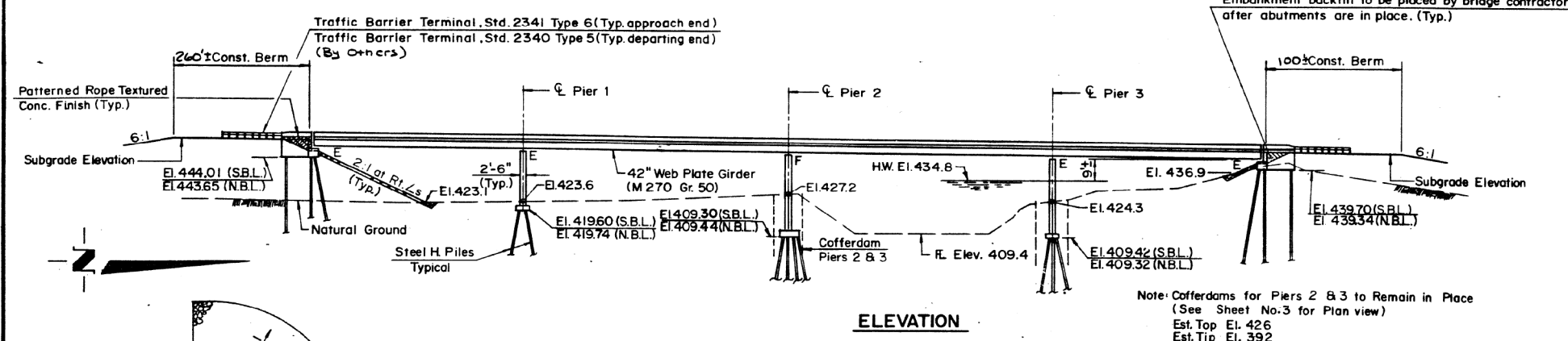
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-2	MADISON	33	22
CONTRACT NO. 76N15				

SHEET 1 OF 12 SHEETS

ILLINOIS FED. AID PROJECT

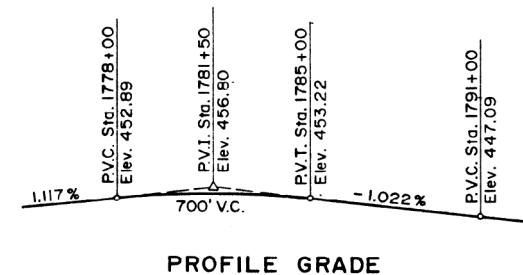
B.M.: H-519 is on top of levee 100' ± west of Wanda Road  
 B 900' ± north of intersection of Poag Road & Wanda Road.  
 Elev. 456.06.  
 No existing structure.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	NO.
FAP 310	60-10B-1	MADISON	37	9
FED ROAD DIST NO. 7	ILLINOIS PROJECT		SHEET 1 OF 24	



**WATERWAY INFORMATION**

Drainage Area = 260 sq.mi.		Low Grade Elev. 447.8 at Sta. 1790+00 ±			
Flood	Yr.	C.F.S.	Opening Sq. Ft.	Nat. Head - Ft.	Headwater El.
Design	50	21700	4360	434.8	0.5 - 435.3
Base	100	26800	5115	436.9	0.6 - 437.5
Overtopping					
Max. Calc.	500	36300	6730	441.0	0.7 - 441.7



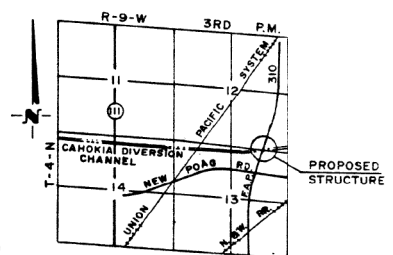
**DESIGN SPECIFICATIONS**  
 1989 AASHTO, 1990 & 1991 Interims

**LOADING HS 20-44**

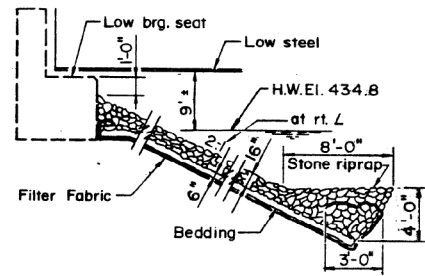
Allow 25#/sq.ft. for future wearing surface

**DESIGN STRESSES**

- f'c = 3,500 psi
- fy = 60,000 psi (Reinforcement)
- fy = 50,000 psi AASHTO M270 Gr.50 (Structural Steel)
- fy = 36,000 psi AASHTO M270 Gr.36 (Structural Steel)



**FOR INFORMATION ONLY**



**SEISMIC DATA**  
 S.P.C. = B  
 Bedrock Accel. = J02  
 Site Coef. = .15

**NAME PLATE**  
 (See Stc. 2113)

STATION 1787+76.00  
 BUILT 199 BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 310 SEC. 60-10B-1  
 FA. PROJ.  
 LOADING HS 20  
 STR. NO. 060-0278(N.B.L.)  
 STR. NO. 060-0279(S.B.L.)



Carl M. Holtz  
 Illinois Structural No.081-004535

**APPROVED**  
 STRUCTURAL ADEQUACY ONLY

Ralph E. Anderson  
 Engineer of Bridge and Structures

**GENERAL PLAN & ELEVATION**  
 F.A.P. RTE. 310 OVER  
 CAHOKIA DIVERSION CHANNEL  
 F.A.P. RTE. 310 SEC.60-10B-1  
 MADISON COUNTY  
 STA. 1787+76.00  
 STR. NOS. 060-0278 (N.B.) & 060-0279(S.B.)

HSIONG ASSOCIATES LTD.  
 DESIGNED: G.J.G.      CHECKED: C.M.H.  
 DRAWN: T.G.      DATE: 8/26/92      NO. H-070

MODEL: Default  
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**HMG**  
 HMG ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BRESEE, ILLINOIS 62230  
 (618) 526-9611

USER NAME =	DESIGNED -	REVISED -
PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
 (FOR INFORMATION ONLY)

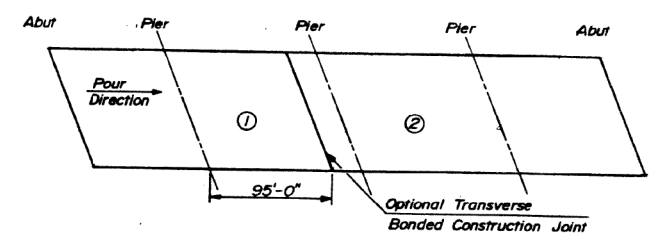
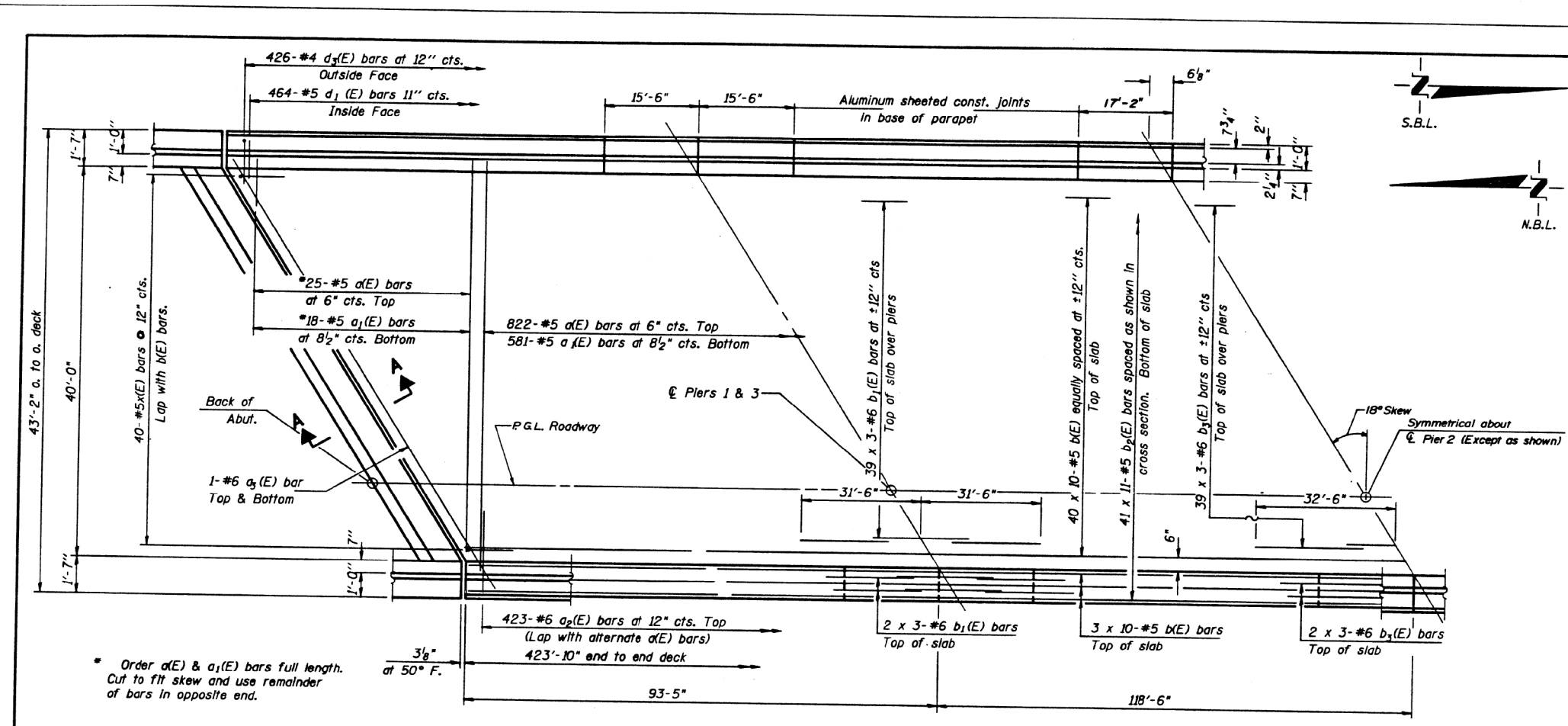
SHEET 2 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-2	MADISON	33	23
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

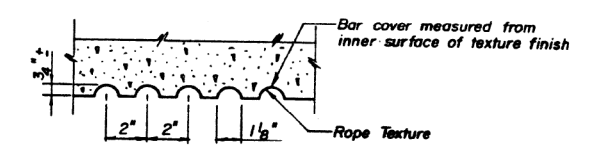




ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 310	60-108-1	MADISON	37	14
FED. ROAD DIST. NO. 7		SLAB NO. 108-1	SHEET 8 OF 24	

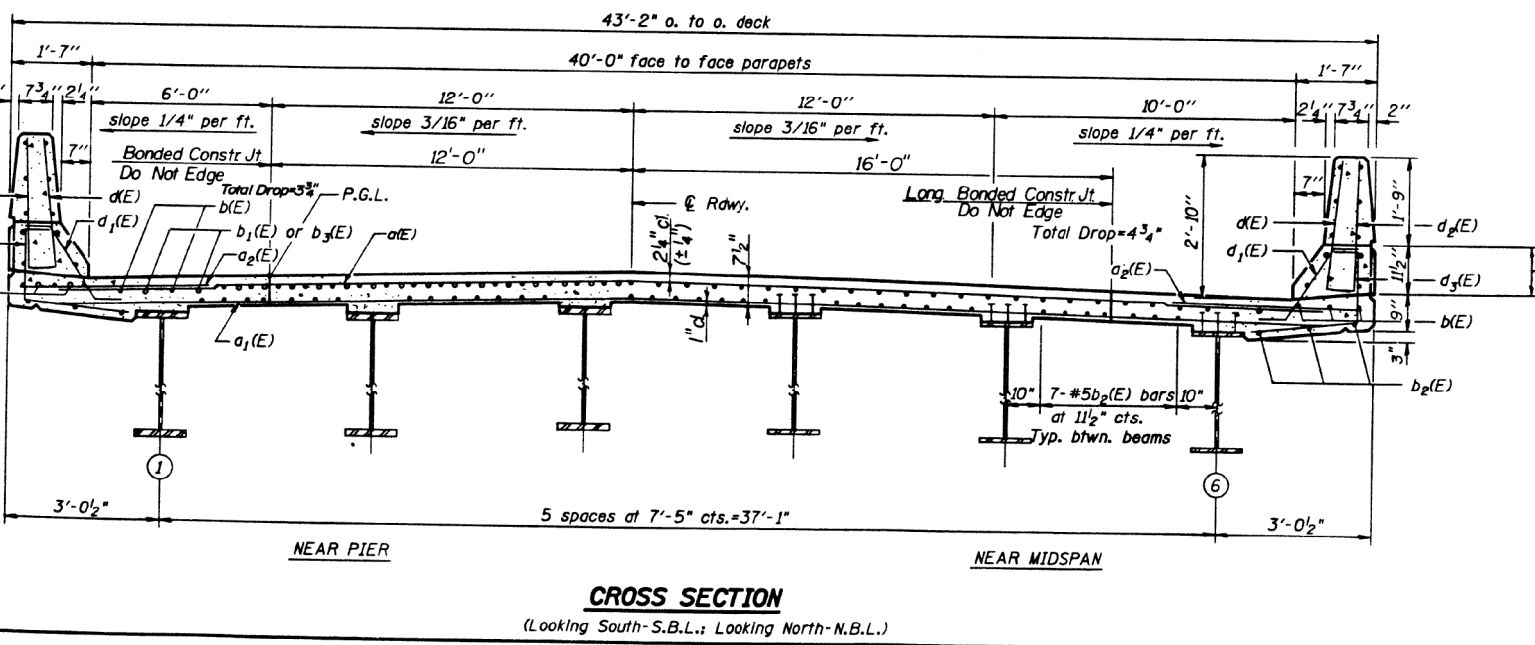


**SLAB POURING SEQUENCE**  
(See Pouring Sequence Note Below)



**NOTE:** The use of reverse image polyvinyl plastic sheets (form liners), attached to concrete forms will produce the textured surfaces as depicted.

**ROPE TEXTURE FINISH**  
See addition details Sheet 9 of 24



**Notes:** See Sheet #9 of 24 for superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
See Sheet #9 of 24 for parapet reinforcement.  
See Sheet #9 of 24 for Sec. A-A.  
See Sheet #1 of 24 for parapet mounted light pole locations.

**Pouring Sequence Note:**  
When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following requirements are met:  
1. At least 72 hours shall have elapsed from the end of the previous pour.  
2. The concrete strength shall have attained a minimum modulus of rupture of 650psi or a minimum compressive strength of 3,500psi.

Min. Bar Lap

#5	1'-8"
#6	2'-7"

**FOR INFORMATION ONLY**

**SUPERSTRUCTURE PLAN**  
F.A.P. RTE. 310 SEC. 60-108-1  
MADISON COUNTY  
STA. 1787+78.00  
STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)  
**HSIONG ASSOCIATES LTD.**  
DESIGNED: P. M. L. CHECKED: P. L.  
DRAWN: C.S.L. DATE: 8/26/92 HOTO

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
(FOR INFORMATION ONLY)

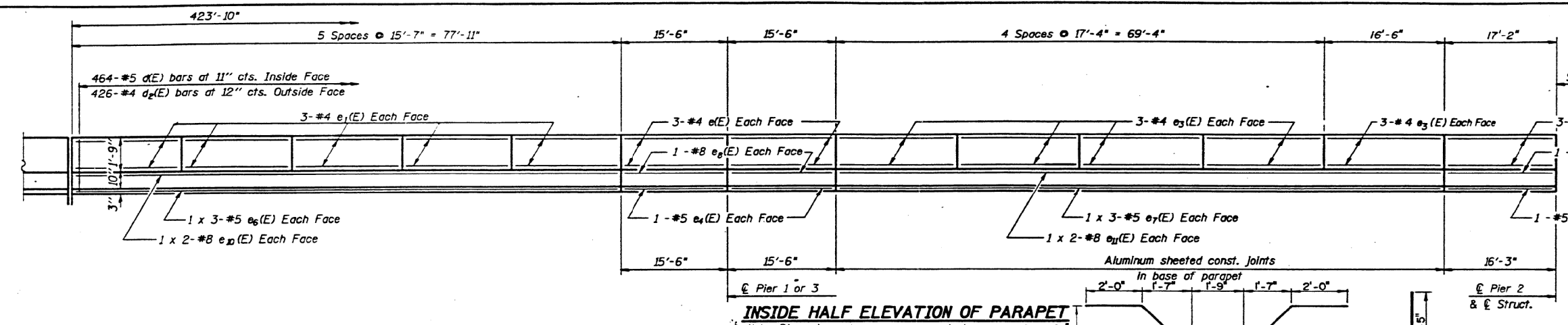
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-108-2	MADISON	33	25
CONTRACT NO. 76N15				

**HMG** ENGINEERS, INC.  
9360 HOLY CROSS LANE  
BREESE, ILLINOIS 62230  
(618) 526-9611

DESIGNED -	REVISIONS -
CHECKED -	REVISIONS -
DRAWN -	REVISIONS -
CHECKED -	REVISIONS -

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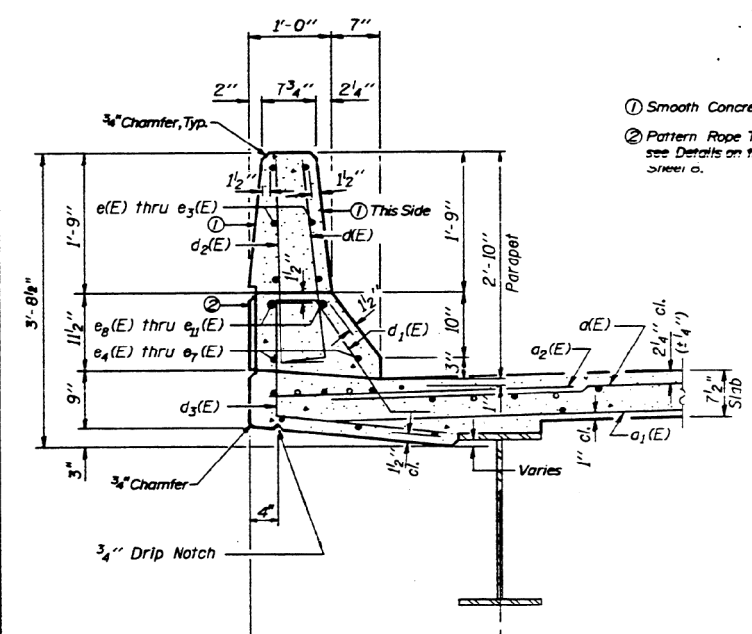
SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 310	60-10B-1	MADISON	37	17
SHEET 9 OF 24				



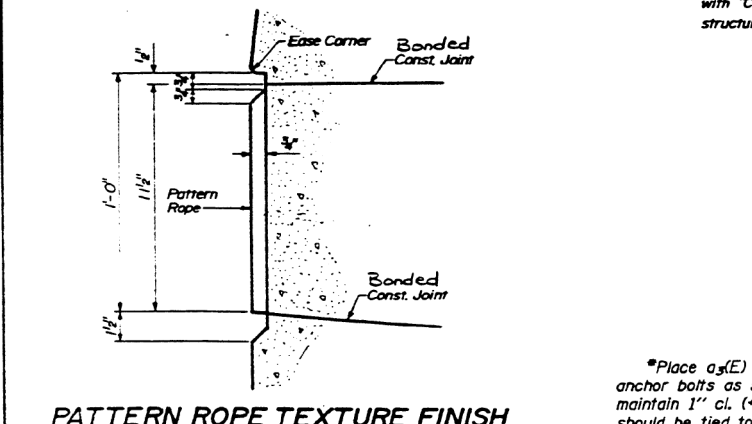
**INSIDE HALF ELEVATION OF PARAPET**  
 Note: Dimensions shown as measured along inside face of parapet.

**SUPERSTRUCTURE - N.B.L. & S.B.L.**  
**BILL OF MATERIAL**

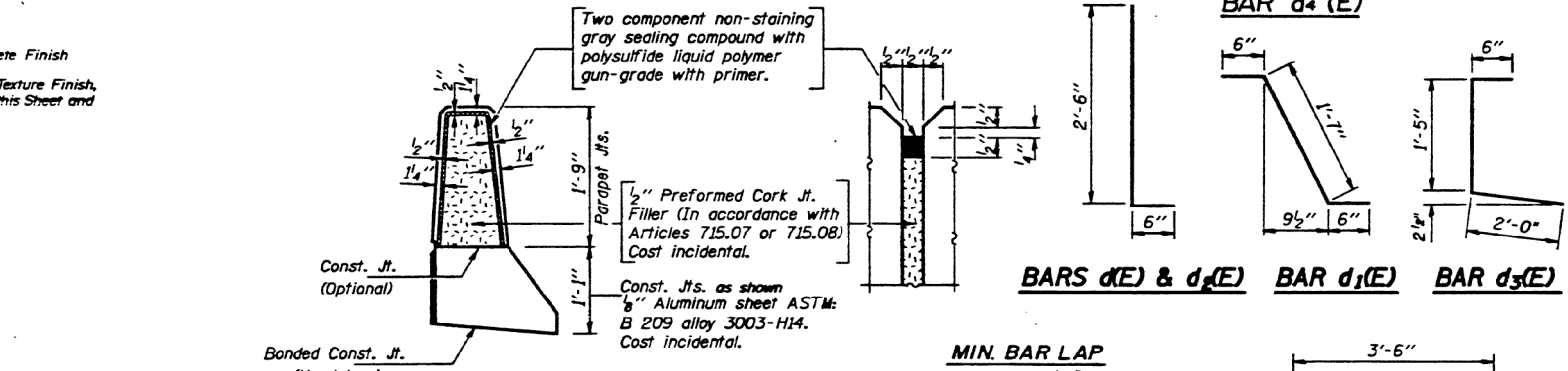
Bar	No.	Size	Length	Shape
a(E)	1694	#5	41'-6"	
a1(E)	1198	#5	41'-0"	
a2(E)	1692	#6	4'-0"	
a3(E)	8	#6	43'-6"	
a(E)	920	#5	44'-6"	
d1(E)	516	#6	22'-9"	
d2(E)	902	#5	40'-7"	
d3(E)	258	#6	23'-5"	
d4(E)	30	#6	4'-5"	
ds(E)	50	#6	10'-3"	
a(E)	1856	#5	3'-0"	
d1(E)	1856	#5	2'-7"	
d2(E)	1704	#4	3'-0"	
d3(E)	1704	#4	3'-11"	
a(E)	96	#4	15'-3"	
e1(E)	240	#4	15'-4"	
e2(E)	48	#4	16'-11"	
e3(E)	192	#4	17'-1"	
e4(E)	32	#5	15'-3"	
e5(E)	16	#5	16'-11"	
e6(E)	48	#5	27'-3"	
e7(E)	48	#5	30'-0"	
e8(E)	32	#8	15'-3"	
e9(E)	16	#8	16'-11"	
e10(E)	32	#8	41'-0"	
e11(E)	32	#8	45'-0"	
e12(E)	48	#4	16'-11"	
x1(E)	160	#5	4'-1"	
Reinforcement Bars (Epoxy Coated)		Lbs.		282,910
Class X Concrete Superstructure		Cu. Yds.		10,713
Bridge Deck Grooving		Sq. Yds.		3,800



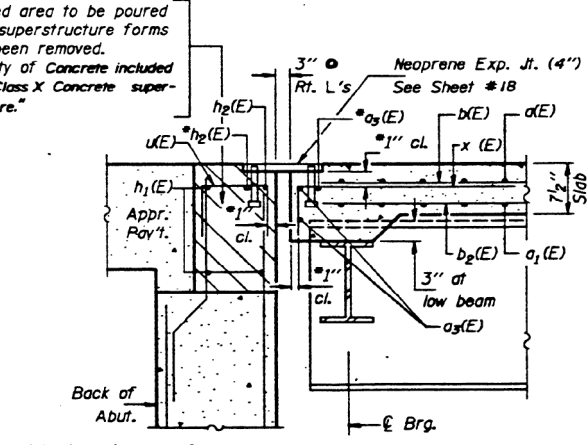
**SECTION THRU PARAPET**



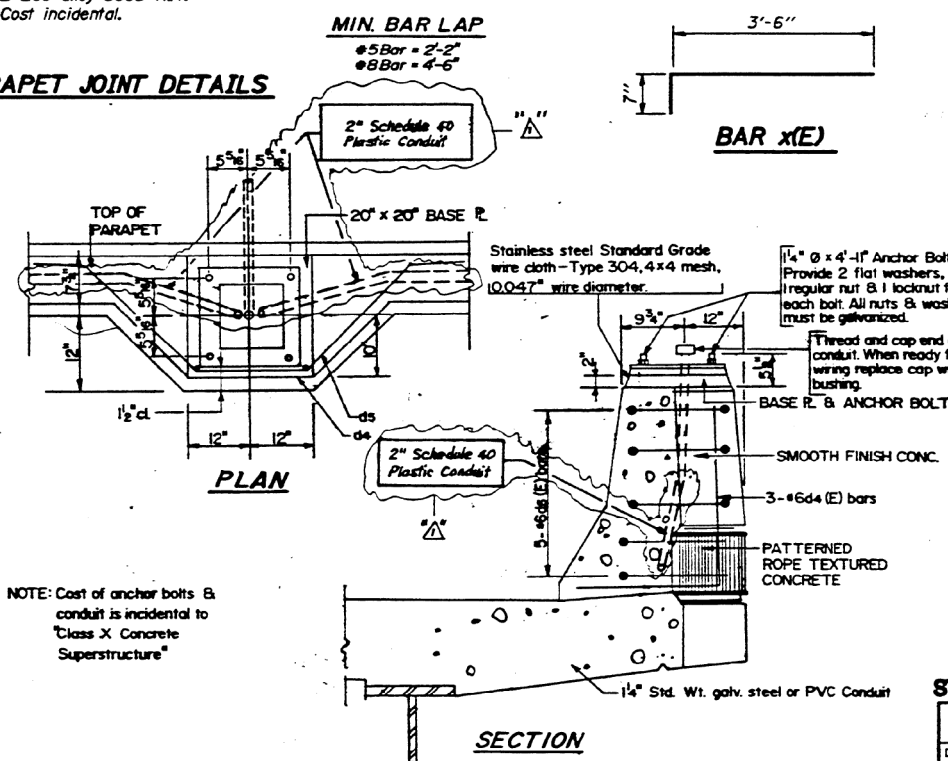
**PATTERN ROPE TEXTURE FINISH**



**PARAPET JOINT DETAILS**



**SECTION A-A**



**PLAN**

**SECTION**

\*Place a3(E) and h2 bars in back of anchor bolts as shown if required to maintain 1" cl. (+0-1/8"). Anchor bolts should be tied to a3(E) and h2 bars.

NOTE: Cost of anchor bolts & conduit is incidental to "Class X Concrete Superstructure"

**FOR INFORMATION ONLY**

Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.  
**SUPERSTRUCTURE DETAILS**  
**F.A.P. RTE. 310 SEC. 60-10B-1**  
**MADISON COUNTY**  
**STA. 1787+76.00**  
**STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)**

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11-5-93

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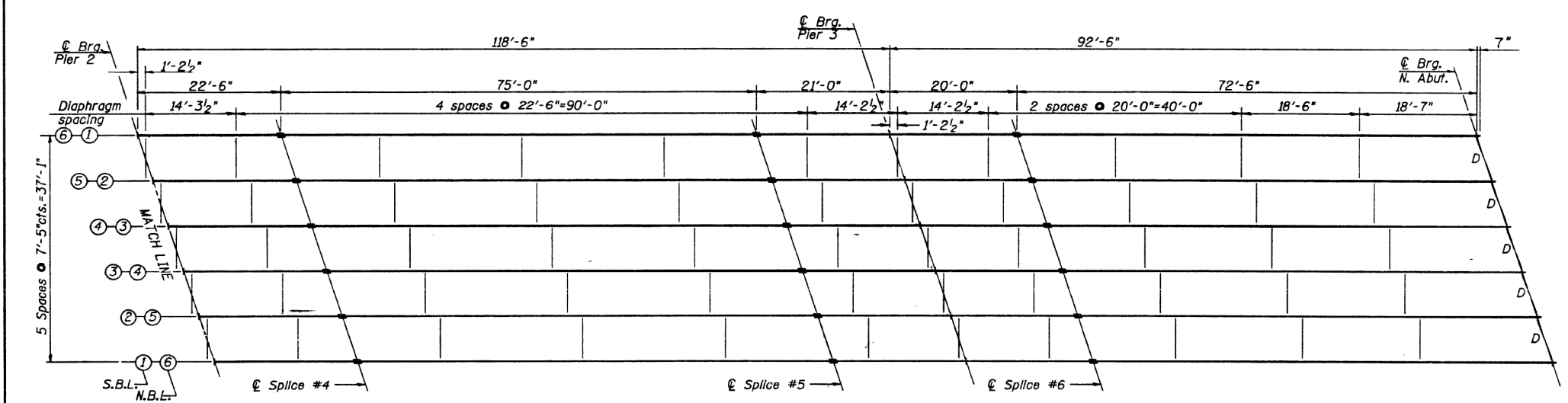
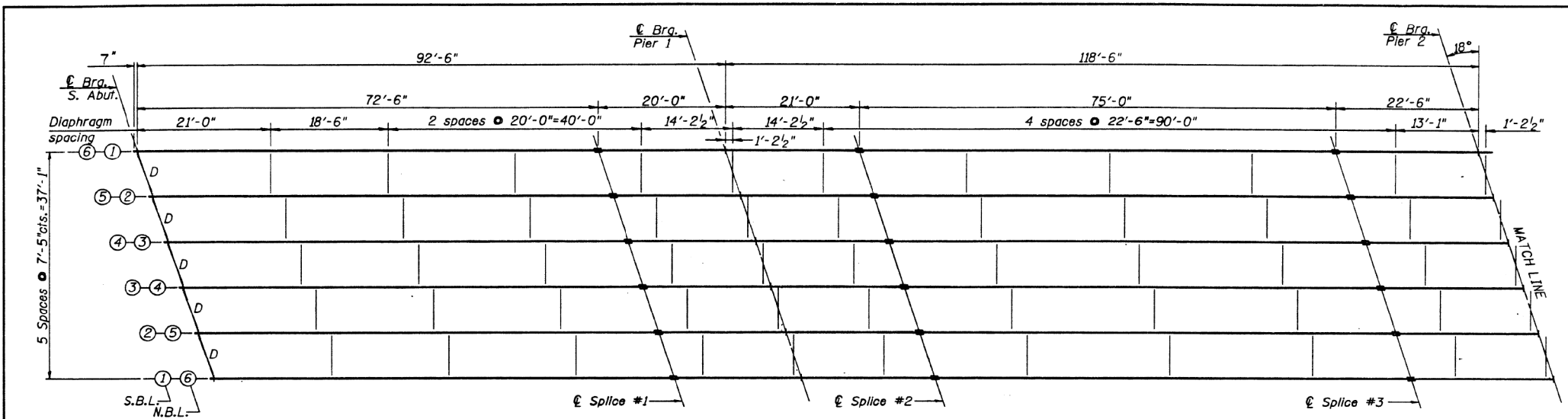
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PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

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

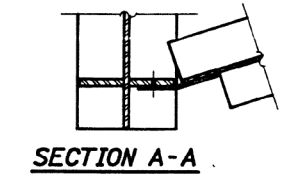
**EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279**  
**(FOR INFORMATION ONLY)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	26
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

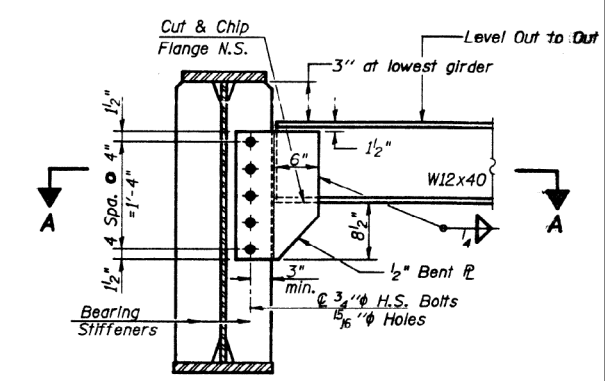
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F.A.P. 310	60-10B-1	MADISON	37	18
ILLINOIS FED. AID PROJECT -				
SHEET 18 OF 24				



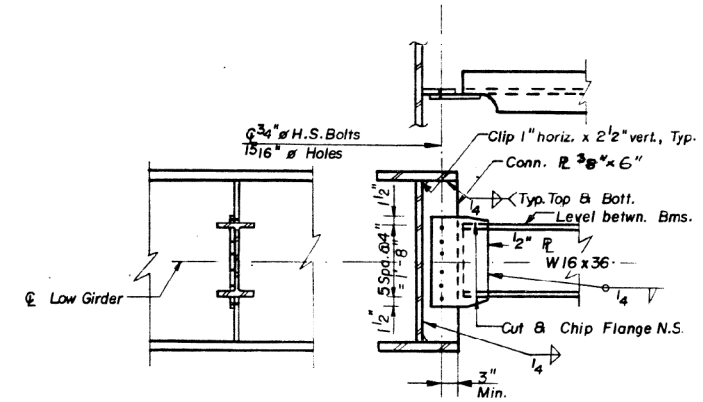
**FRAMING PLAN**



**SECTION A-A**



**END DIAPHRAGM - D**  
20 Required



**INTERIOR DIAPHRAGM**  
210 Required

Note: Two hardened washers shall be required over all holes in Diaphragm Connections

**FOR INFORMATION ONLY**

**FRAMING PLAN**  
**F.A.P. RTE. 310 SEC. 60-10B-1**  
**MADISON COUNTY**  
**STA. 1787 + 78.00**  
**STR. NOS. 060-0278(N.B.) 8060-0279(S.E.)**

**HONG ASSOCIATES LTD.**  
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 DRAWN: C.S.L. DATE: 8/26/92 NO. H-978

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**HMG**  
 Engineers • Surveyors

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PLOT SCALE =	CHECKED -	REVISED -
PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

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

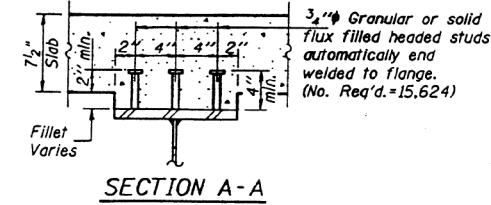
**EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279**  
**(FOR INFORMATION ONLY)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	27
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

INTERIOR GIRDER MOMENT TABLE				
	0.4 Sp. 1 0.6 Sp. 4	Piers 1 & 3	0.5 Sp. 2 & 3	Pier 2
Is (in <sup>4</sup> )	14784	21201	14784	24745
Ic (in <sup>4</sup> )	42166	-	42166	-
Ss (in <sup>3</sup> )	843	948	843	1094
Sc (in <sup>3</sup> )	1162	-	1162	-
Z (in <sup>3</sup> )	-	1056	-	1213
W (K/ft.)	0.90	1.23	0.90	1.23
M <sub>D</sub> (K)	492	1415	447	1575
s <sub>D</sub> (K/ft.)	0.33	-	0.33	-
M <sub>S</sub> (K)	205	-	217	-
M <sub>L</sub> (K)	802	651	879	772
M (Imp)	184	141	180	158
S <sub>1</sub> (M <sub>L</sub> +I) (K)	1643	1320	1765	1550
M <sub>a</sub> (K)	3042	3556	3158	4063
M <sub>u</sub> (K)	-	4400	-	5054
f <sub>s</sub> non-comp(k.s.i.)	7.0	17.9	6.4	17.3
f <sub>s</sub> comp(k.s.i.)	2.9	-	3.4	-
f <sub>s</sub> (k.s.i.)	17.0	16.7	18.2	17.0
f <sub>s</sub> (Overload) (k.s.i.)	26.9	34.6	28.0	34.3
f <sub>s</sub> (Total) (k.s.i.)	35.0	-	36.4	-
VR (K)	61.7	-	61.7	-

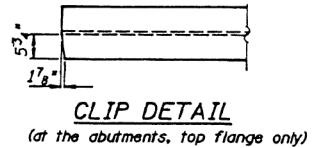
INTERIOR GIRDER REACTION TABLE				
	S. Abut.	Piers 1 & 3	Pier 2	N. Abut.
R <sub>D</sub> (K)	41.7	145.0	149.0	41.7
R <sub>L</sub> (K)	39.0	70.3	75.7	39.0
Imp. (K)	9.0	10.5	10.5	9.0
R (Total) (K)	89.7	225.8	235.2	89.7

\* M<sub>u</sub> = Full Plastic Moment Capacity for Compact, Braced Section  
 \*\* Non-compact section.  
 $M_a$  (Applied Moment) =  $1.3[M_D + M_S + 5_1(M_L + I)]$ .  
 I<sub>s</sub> and S<sub>s</sub> are the moment of inertia and section modulus of the steel section used in computing f<sub>s</sub> (Total & Overload).  
 I<sub>c</sub> and S<sub>c</sub> are the moment of inertia and section modulus of the composite section used in computing f<sub>s</sub> (Total & Overload).  
 VR is the maximum Live Load + Impact shear range in span.  
 Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.  
 The fully Plastic Moment capacity (M<sub>u</sub>) is computed according to AASHTO 10.48.1  
 f<sub>s</sub> (Overload) is the sum of the stresses due to M<sub>D</sub> + M<sub>S</sub> + 5<sub>1</sub>(M<sub>L</sub> + I).  
 f<sub>s</sub> (Total) is the sum of the stresses due to 1.3[M<sub>D</sub> + M<sub>S</sub> + 5<sub>1</sub>(M<sub>L</sub> + I)].  
 M<sub>D</sub> - Moment due to dead loads on non-composite section  
 M<sub>S</sub> - Moment due to dead loads on composite section  
 M<sub>L</sub> - Moment due to live loads on non-composite section or composite section.  
 I - Live load impact



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 413	60-10B-3	MADISON	37	19A

ILLINOIS FED. AID PROJECT  
SHEET 11 OF 24



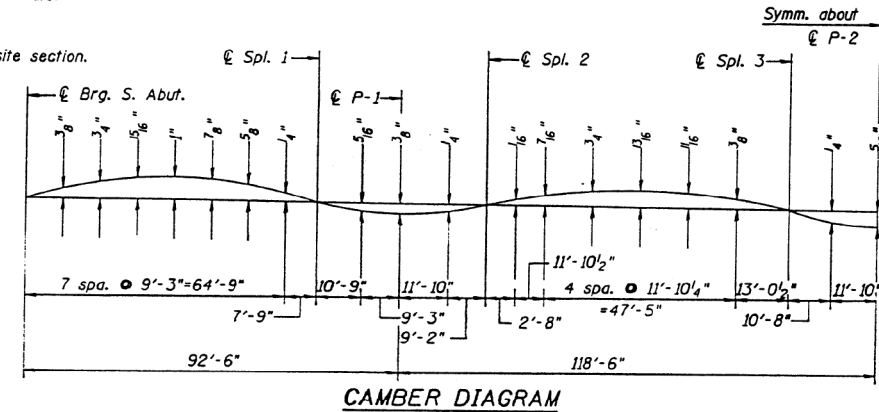
TOP OF WEB ELEVATIONS  
(For Fabrication Only)

SOUTH BOUND STRUCTURE											
Loc. Girder	€ Brg. S. Abut.	€ Spl. #1	€ Pier #1	€ Spl. #2	€ Spl. #3	€ Pier #2	€ Spl. #4	€ Spl. #5	€ Pier #3	€ Spl. #6	€ Brg. N. Abut.
1	451.79	450.95	450.72	450.53	449.76	449.50	449.30	448.54	448.29	448.12	447.47
2	451.95	451.11	450.88	450.70	449.93	449.67	449.47	448.70	448.46	448.28	447.64
3	452.09	451.25	451.02	450.84	450.07	449.81	449.61	448.84	448.60	448.42	447.78
4	452.05	451.22	450.98	450.80	450.03	449.77	449.57	448.80	448.56	448.39	447.74
5	451.96	451.12	450.88	450.70	449.93	449.67	449.47	448.71	448.46	448.29	447.64
6	451.83	450.99	450.75	450.57	449.80	449.54	449.34	448.58	448.33	448.16	447.51

NORTH BOUND STRUCTURE											
Loc. Girder	€ Brg. S. Abut.	€ Spl. #1	€ Pier #1	€ Spl. #2	€ Spl. #3	€ Pier #2	€ Spl. #4	€ Spl. #5	€ Pier #3	€ Spl. #6	€ Brg. N. Abut.
1	451.64	450.80	450.57	450.38	449.62	449.36	449.16	448.39	448.14	447.97	447.32
2	451.75	450.92	450.68	450.50	449.73	449.47	449.27	448.50	448.26	448.08	447.44
3	451.84	451.01	450.77	450.59	449.82	449.56	449.36	448.60	448.35	448.18	447.53
4	451.76	450.92	450.69	450.50	449.73	449.47	449.27	448.51	448.26	448.09	447.44
5	451.61	450.77	450.54	450.35	449.59	449.33	449.13	448.36	448.12	447.94	447.30
6	451.43	450.59	450.36	450.18	449.41	449.15	448.95	448.18	447.94	447.76	447.12

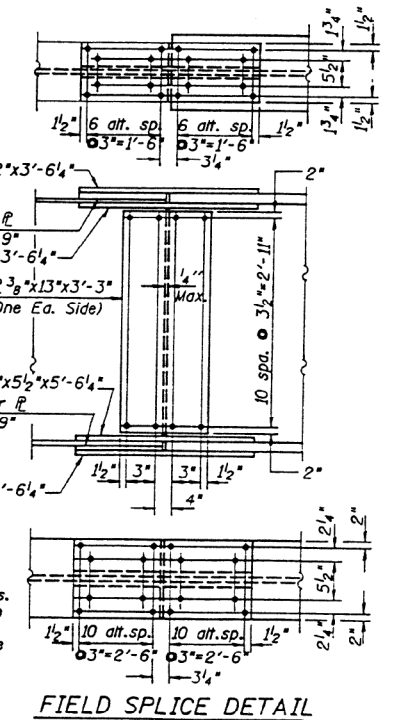
Note: Splice Elevations are theoretical elevations before deflection due to D steel and concrete.



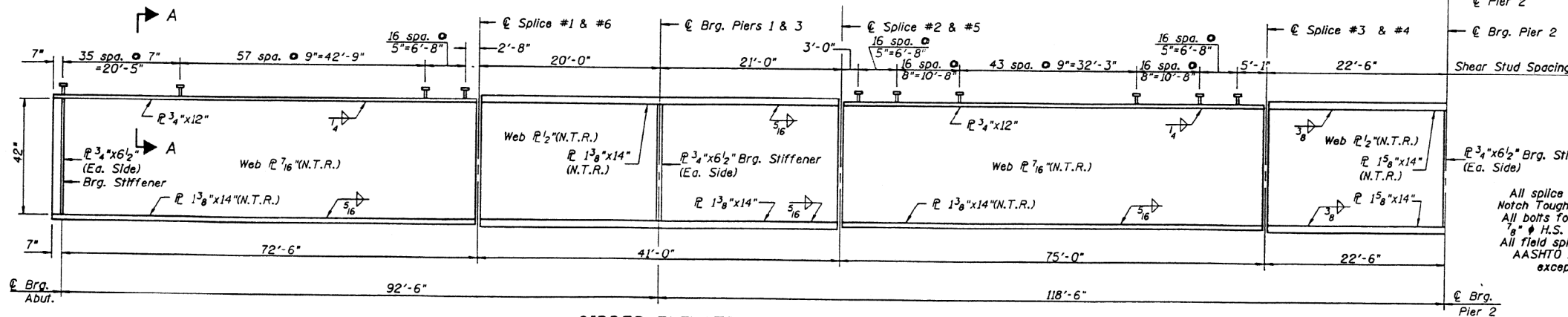
CAMBER DIAGRAM

SPLICE FILL PLATE THICKNESS		
SPLICE	A	B
1 & 6	5/8"	-
2 & 5	5/8"	-
3 & 4	7/8"	1/4"

SECTION AT PIER SECTION AT ABUTMENT



NOTE:  
 All splice plates shall meet Notch Toughness Requirements.  
 All bolts for field splices are 5/8" H.S. bolts, 5/8" holes.  
 All field splice plates shall be AASHTO M-270, Grade 50 except fill plates.



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

Note: All girder flange, web and stiffener plates shall be AASHTO M270, Gr. 50.

FOR INFORMATION ONLY

AS REVISED

Revised splice elevations (12-21-93)

GIRDER DETAILS  
 F.A.P. RTE. 310 SEC. 60-10B-1  
 MADISON COUNTY  
 STA. 1787+76.00  
 STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)

HSIONG ASSOCIATES LTD.  
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 DRAWN: C.S.L. DATE: 8/26/92 NO. H278

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HMG  
 Engineers + Surveyors

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	CHECKED -	REVISED -
PLOT SCALE =	DRAWN -	REVISED -
PLOT DATE =	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

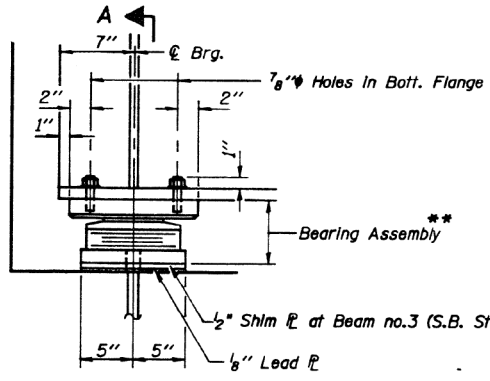
EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
 (FOR INFORMATION ONLY)

SHEET 7 OF 12 SHEETS

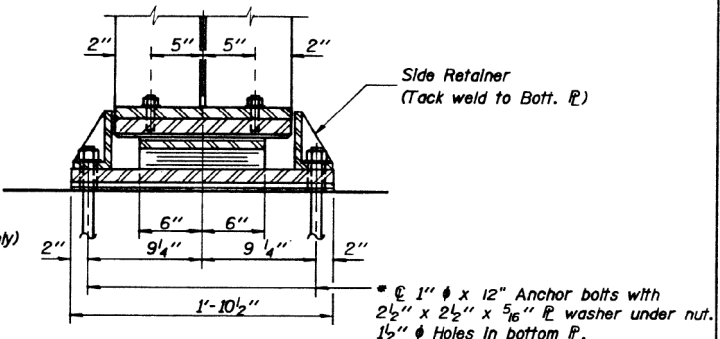
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-2	MADISON	33	28

CONTRACT NO. 76N15  
 ILLINOIS FED. AID PROJECT

DISTRICT	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 31 B	60-10B-1	MADISON	37	20
ILLINOIS FED. AID PROJECT			SHEET 12 OF 24	

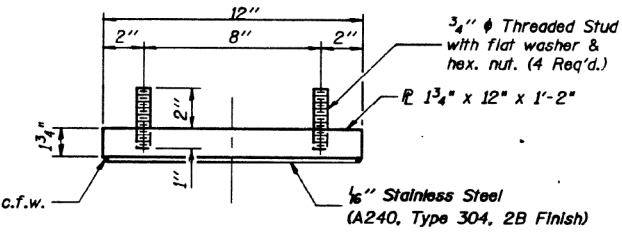


ELEVATION AT ABUT.

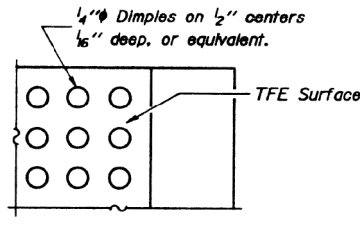


SECTION A-A

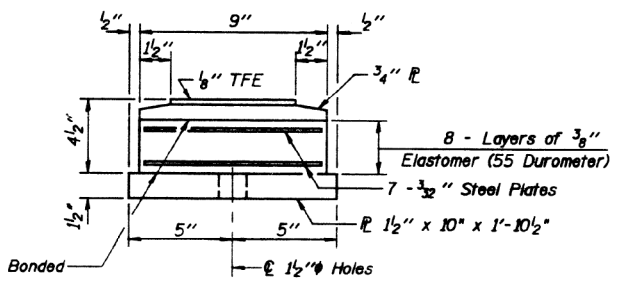
TYPE II TFE ELASTOMERIC EXP. BRG.



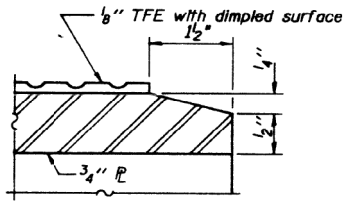
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



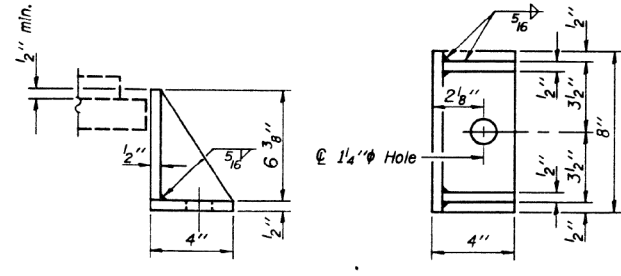
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

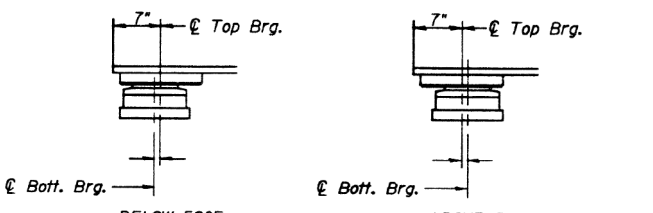
Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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



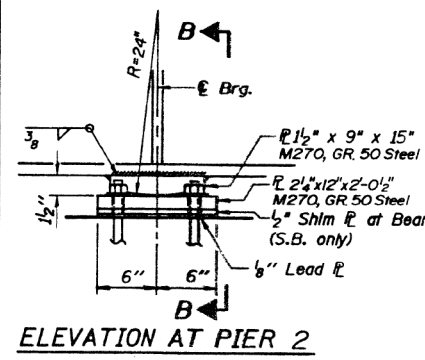
SIDE RETAINER

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

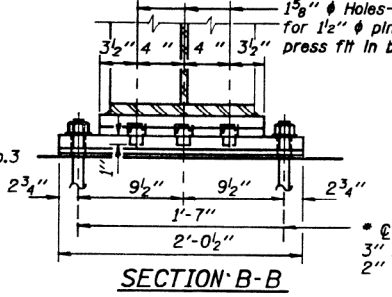


SETTING ANCHOR BOLTS AT EXP. BRG.

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



ELEVATION AT PIER 2

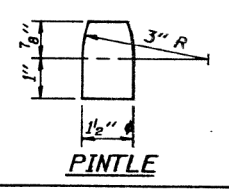


SECTION B-B

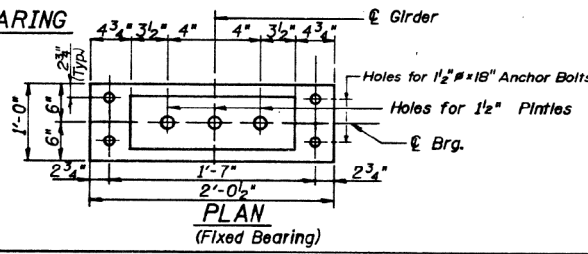
Notes: Anchor bolts at fixed bearings may be built into the masonry. See sheet #19 for Anchor Bolt Installation.

1 1/2" x 18" Anchor bolts with 3" x 3" x 5/16" washer under nut 2" Holes in bottom flange.

FIXED BEARING



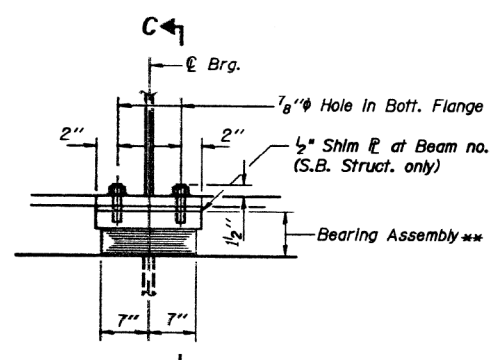
PINTLE



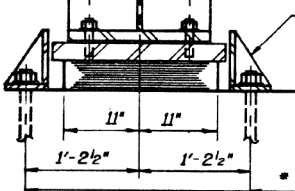
PLAN (Fixed Bearing)

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	24
Elastomeric Bearing Assembly Type II	Each	24

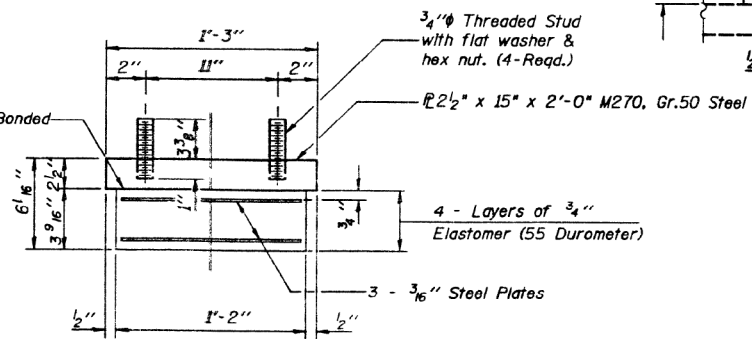


ELEVATION AT PIERS 1 & 3



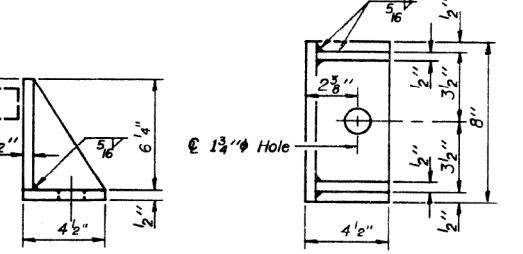
SECTION C-C

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



SIDE RETAINER

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

BEARING DETAILS  
F.A.P. RTE. 310 OVER  
CAHOKIA DIVERSION CHANNEL  
F.A.P. RTE. SEC. 60-10B-1  
MADISON COUNTY  
STA. 1787 + 76.00  
STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)

FOR INFORMATION ONLY

HSIONG ASSOCIATES LTD.  
DESIGNED: P.M.L. CHECKED: P.Y.L.  
DRAWN: C.S.L. DATE: 8/26/92 NO. H078

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HMG  
Engineers • Surveyors

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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

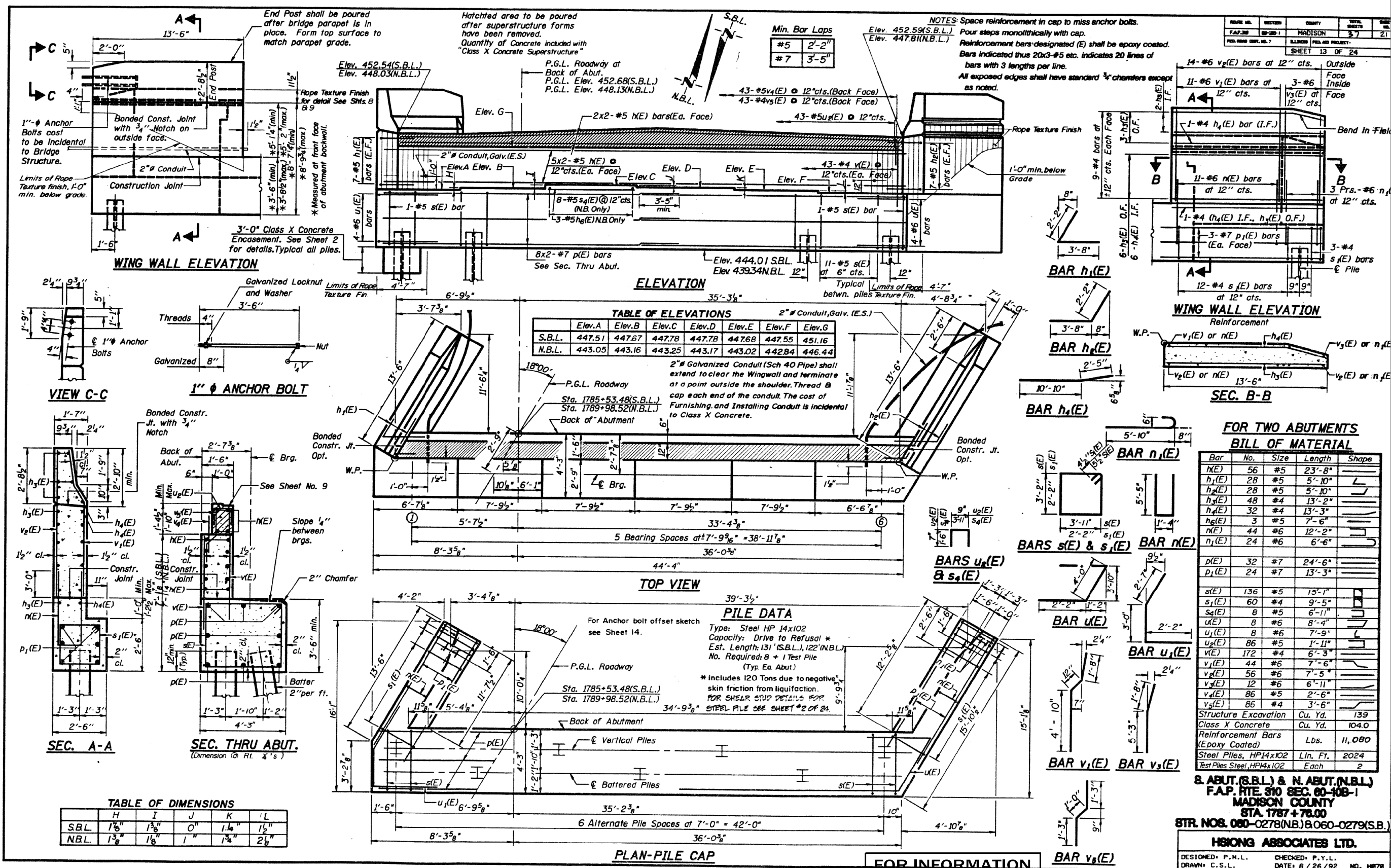
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
(FOR INFORMATION ONLY)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	29
				CONTRACT NO. 76N15

SHEET 8 OF 12 SHEETS

ILLINOIS FED. AID PROJECT



MODEL: Default  
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 HMG ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

**HMG**  
 ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
 (FOR INFORMATION ONLY)

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10BR-2	MADISON	33	30
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

**HSNG ASSOCIATES LTD.**  
 DESIGNED: P.M.L. CHECKED: P.Y.L.  
 DRAWN: C.S.L. DATE: 8/26/92 NO. 14878

FOR INFORMATION ONLY

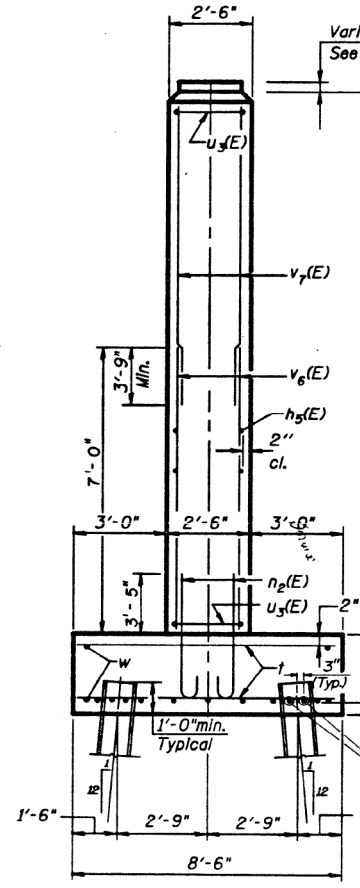
c:\p1\p1\p1.dwg 12/12/92

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 318	60-10B-1	MADISON	37	23
SHEET 15 OF 24				

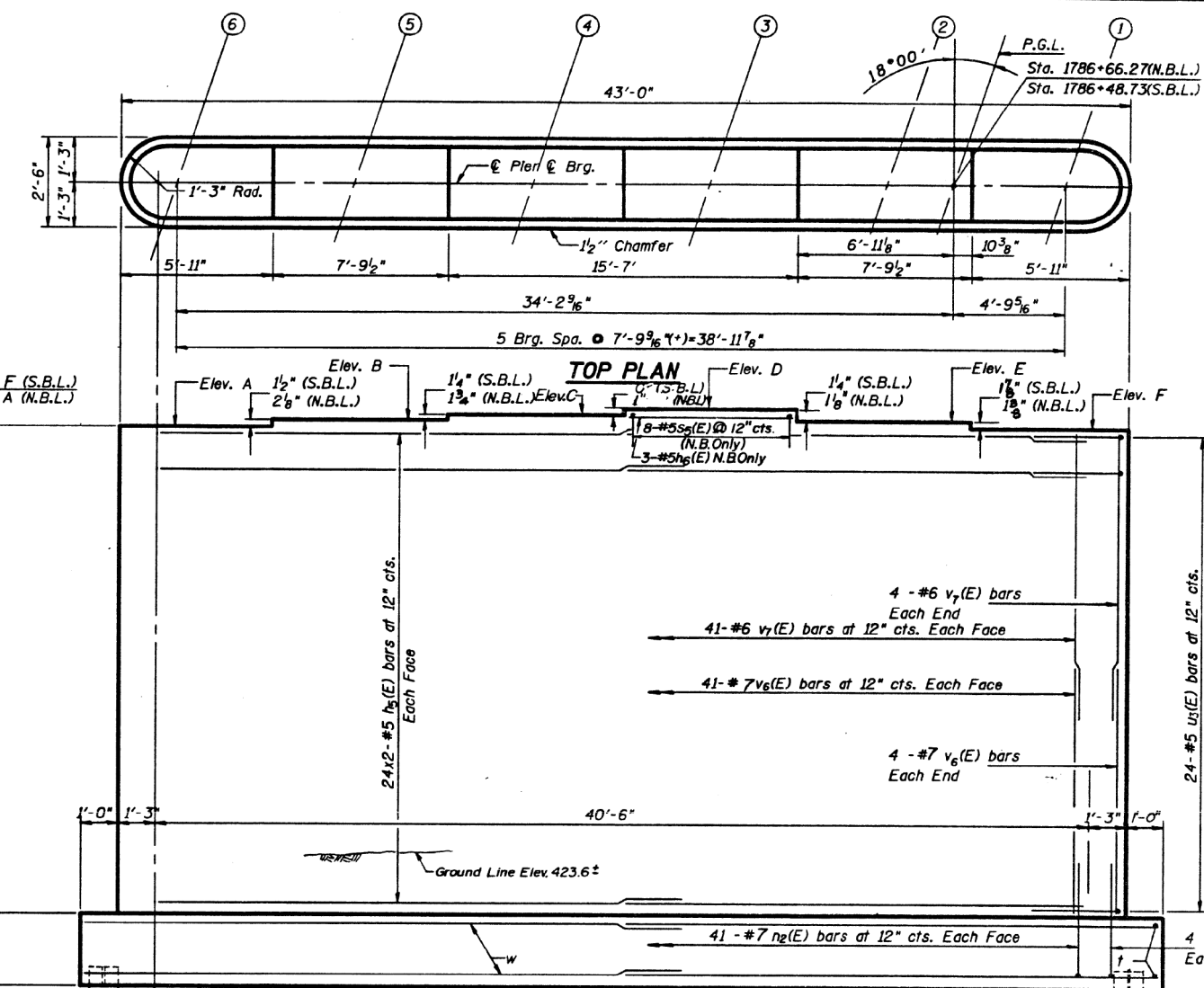
Notes: Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 All exposed edges shall have standard 1/4" chamfers except as noted.  
 Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

**PILE DATA**

Type: HP 14x89  
 Capacity: Drive to refusal  
 Est. Length: 105'  
 No. Req'd: 13 + 1 Test Pile  
 (Typical Each Pier)

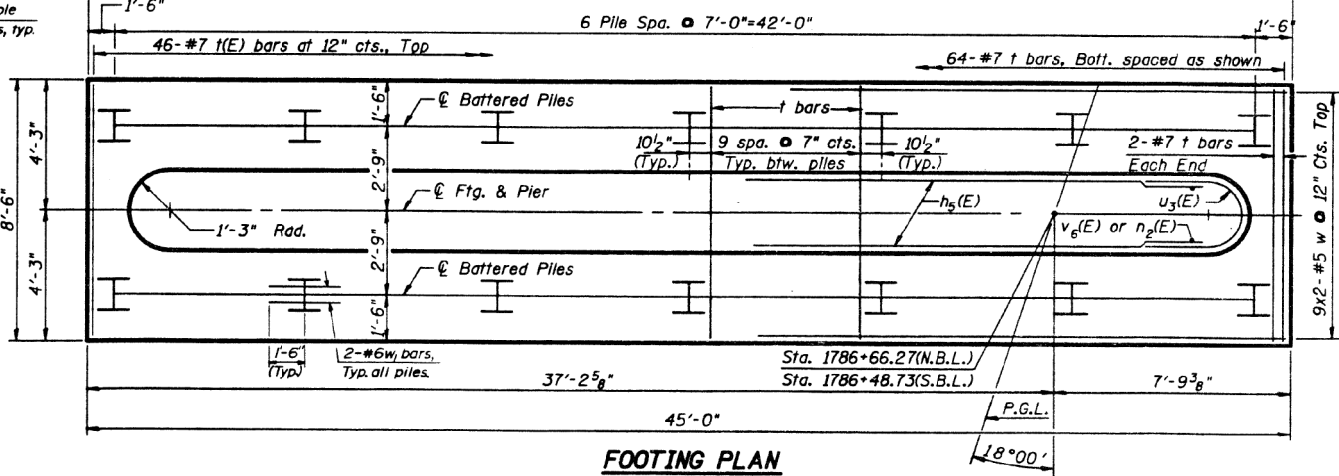


**END VIEW**

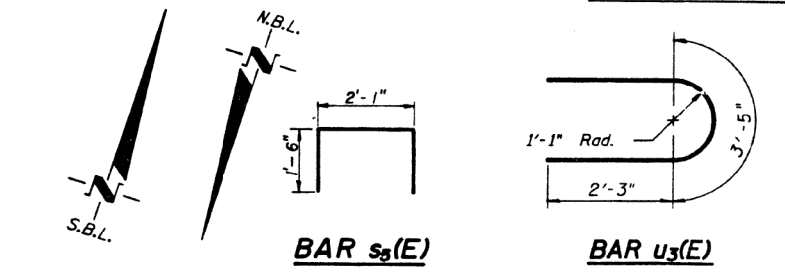


**ELEVATION**

(Looking North-S.B.L.; South-N.B.L.)

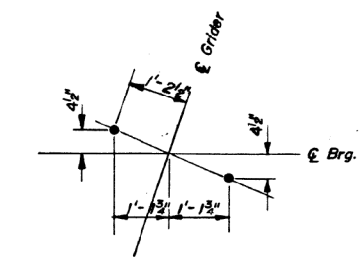


**FOOTING PLAN**



**TABLE OF ELEVATIONS**

	Elev.A	Elev.B	Elev.C	Elev.D	Elev.E	Elev.F
S.B.L.	446.63	446.76	446.86	446.86	446.76	446.60
N.B.L.	446.24	446.42	446.57	446.65	446.56	446.45



**ANCHOR BOLT PLAN**

**BILL OF MATERIAL**  
(For Two Piers)

Bar	No.	Size	Length	Shape
h5(E)	192	#5	21'-6"	—
h6(E)	3	#5	7'-6"	—
n2(E)	180	#7	7'-1"	U
s5(E)	8	#5	5'-1"	□
t	220	#7	8'-2"	—
u3(E)	96	#5	7'-11"	U
v6(E)	180	#7	7'-0"	—
v7(E)	180	#6	21'-0"	—
w	72	#5	23'-4"	—
w1	56	#6	3'-0"	—
Class X Concrete				Cu. Yd. 273.5
Reinforcement Bars, Epoxy Coated				Lbs. 21,710
Structure Excavation				Cu. Yd. 181
Test Pile Steel HP 14x89				Each 2
Steel Piles HP 14x89				Lin. Ft. 2,730

Reinforcement Bars designated (E) shall be epoxy coated.

**PIER 1 DETAILS**  
 F.A.P. RTE. 310 SEC. 60-10B-1  
 MADISON COUNTY  
 STA. 1787 + 78.00  
 STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)

**HSIONG ASSOCIATES LTD.**

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 DRAWN: C.S.L. DATE: 8/26/92 NO. H878

**FOR INFORMATION ONLY**

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 HMG ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS**  
 DEPARTMENT OF TRANSPORTATION

**EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279**  
 (FOR INFORMATION ONLY)

SHEET 10 OF 12 SHEETS

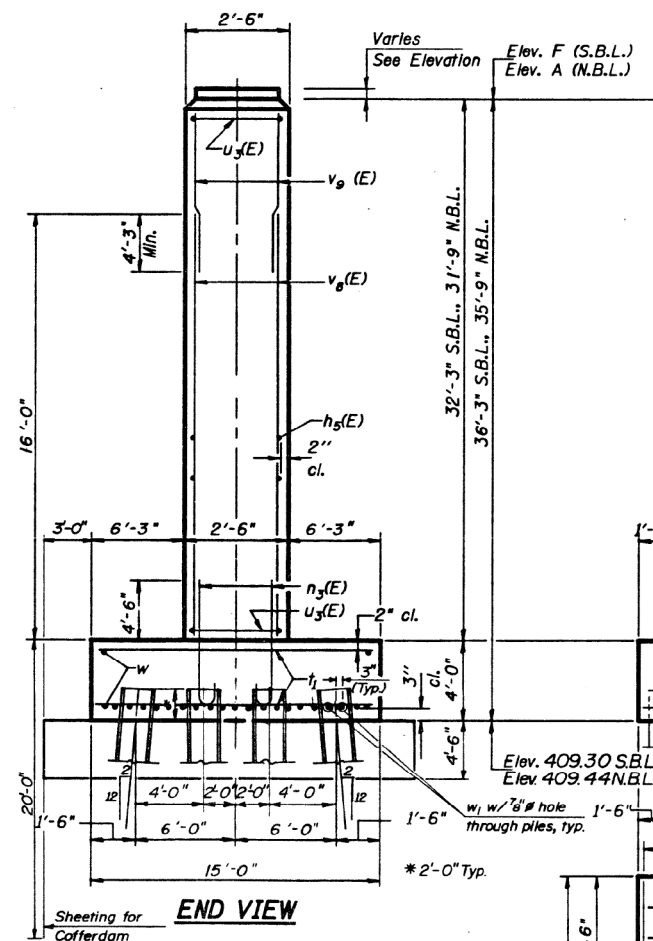
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310	60-10B-2	MADISON	33	31
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 310	60-10B-1	MADISON	37	74
SHEET 16 OF 24				

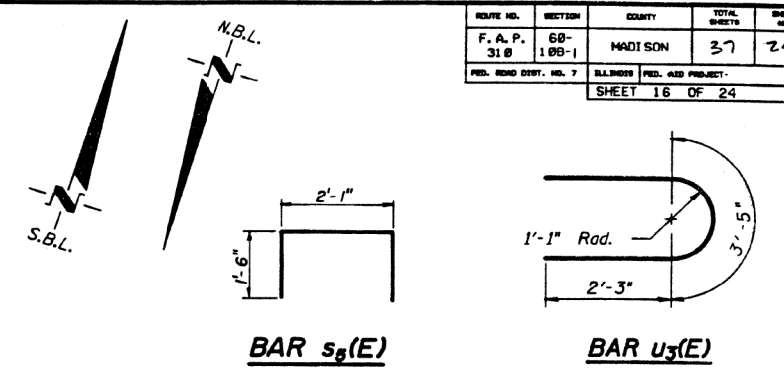
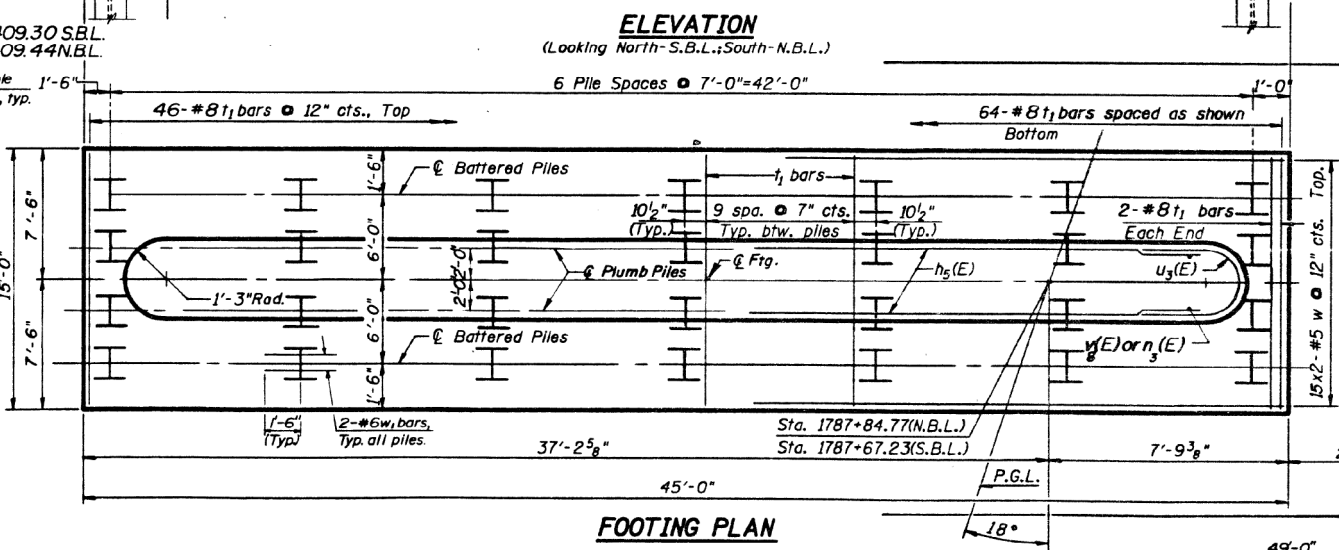
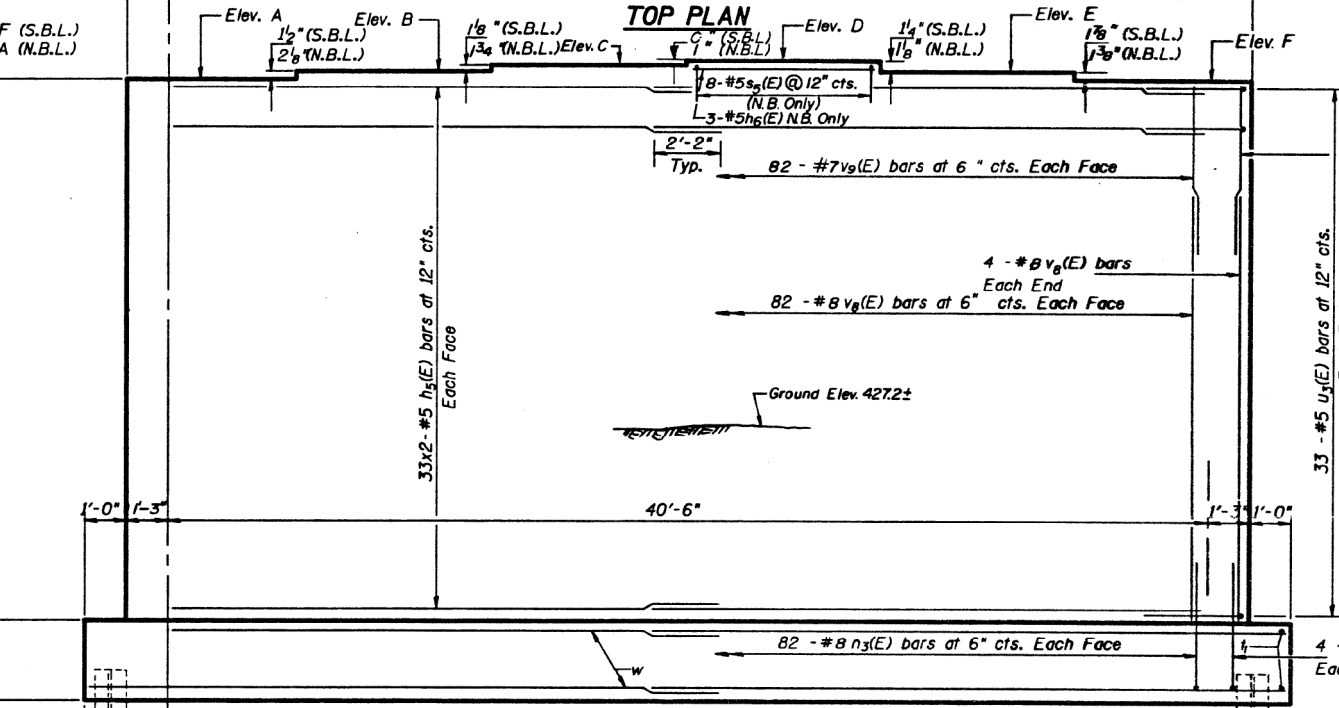
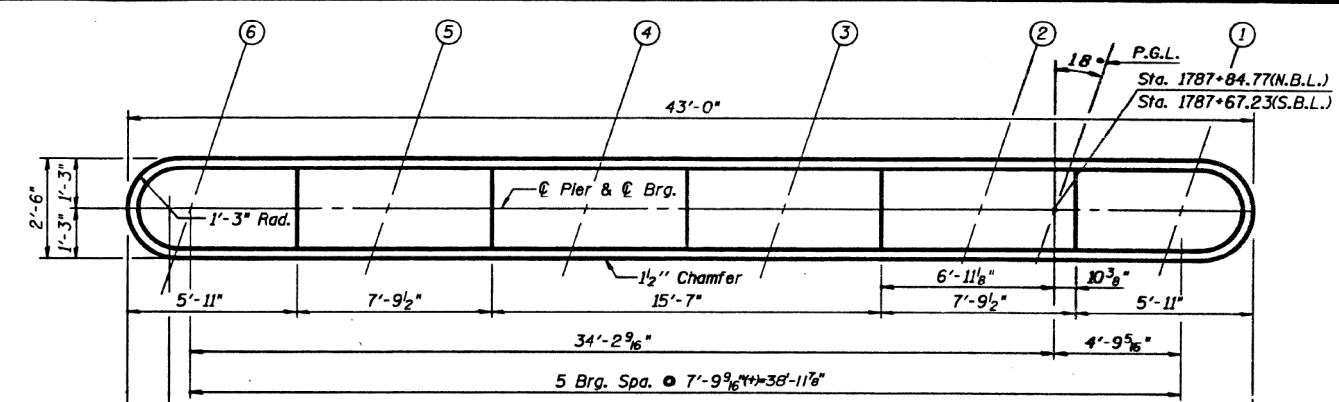
Notes: Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 All exposed edges shall have standard 3/4 chamfers except as noted.  
 Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet No.3 for Cofferdam.

**PILE DATA**

Type: Steel HP 14x89  
 Capacity: Drive to refusal  
 Est. Length: 98'  
 No. Req'd: 27 \* 1 Test Pile  
 (Typical each pier)

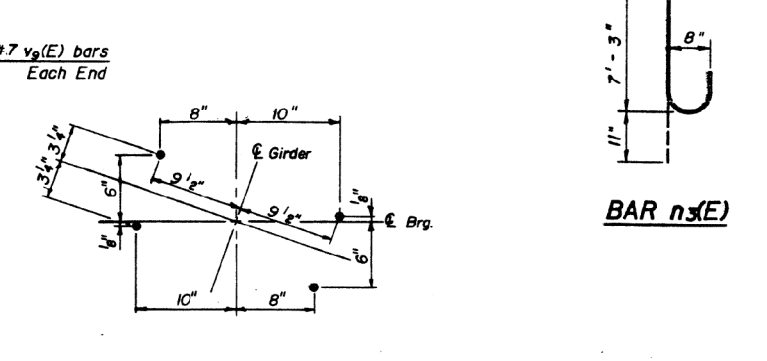


NOTE: Sheeting and concrete seal coat dimensions are based on the water elevation at 426.0. The Contractor is responsible for securing a safe and satisfactory cofferdam in accordance with the Standard Specifications.



**TABLE OF ELEVATIONS**

Elev.A	Elev.B	Elev.C	Elev.D	Elev.E	Elev.F
S.B.L. 445.59	445.72	445.81	445.81	445.71	445.55
N.B.L. 445.19	445.37	445.52	445.60	445.51	445.40



**BILL OF MATERIAL (For Two Piers)**

Bar	No.	Size	Length	Shape
h2(E)	264	#5	21'-6"	—
h6(E)	3	#5	7'-6"	—
n3(E)	344	#8	8'-2"	—
s5(E)	8	#5	5'-1"	—
t1	220	#8	14'-8"	—
u3(E)	132	#5	7'-11"	—
v9(E)	344	#8	16'-0"	—
v9(E)	344	#7	20'-9"	—
w	112	#5	23'-4"	—
w1	112	#6	3'-0"	—
Class X Concrete				Cu. Yd. 453.3
Reinforcement Bars, Epoxy Coated				Lbs. 55,720
Cofferdam Excavation				Cu. Yd. 16.64
Cofferdam				Each 2
Test Pile Steel, HP14x89				Each 2
Steel Piles, HP14x89				Lin. Ft. 5,292
Seal Coat Concrete				Cu. Yd. 343.0

**MIN. BAR LAPS**  
 #5 BARS = 2'-2"  
 NOTE: Reinforcement Bars designated (E) shall be epoxy coated.  
 NOTES: ALL REINFORCEMENT BARS SHALL BE EPOXY COATED FOR SHEAR STUD DETAILS FOR STEEL PILE SEE SHEET #2 OF 24.

**PIER 2 DETAILS**  
 F.A.P. RTE. 310 SEC. 60-10B-1  
 MADISON COUNTY  
 STA. 1787+76.00  
 STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)

**HSIONG ASSOCIATES LTD.**  
 DESIGNED: P.M.L. CHECKED: P.Y.L.  
 DRAWN: C.S.L. DATE: 8/26/92 NO. H878

**FOR INFORMATION ONLY**

MODEL: Default  
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 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
 (FOR INFORMATION ONLY)

SHEET OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-2	MADISON	33	32
CONTRACT NO. 76N15				
ILLINOIS FED. AID PROJECT				

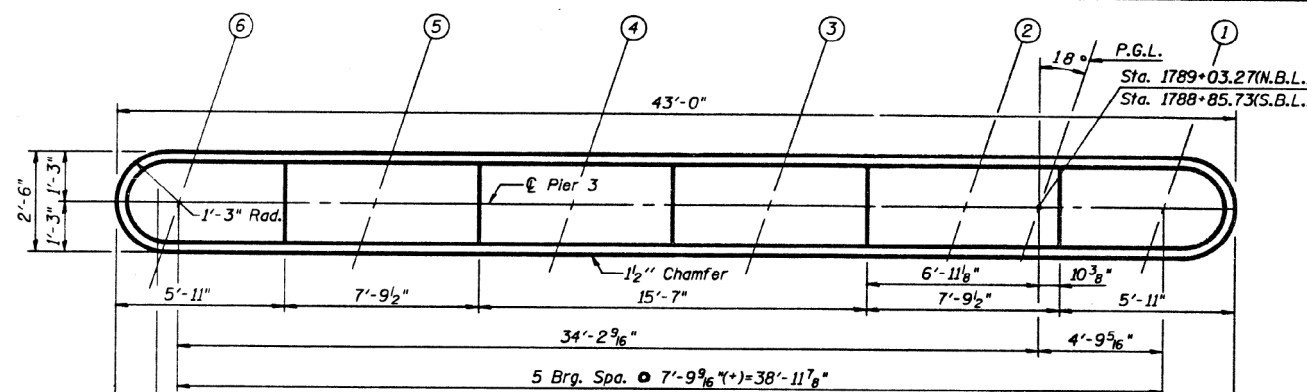


Notes: Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 All exposed edges shall have standard  $\frac{3}{4}$ " chamfers except as noted.  
 Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
 See Sheet No. 3 for Cofferdam.

**PILE DATA**

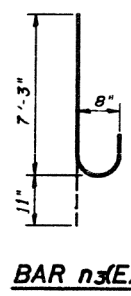
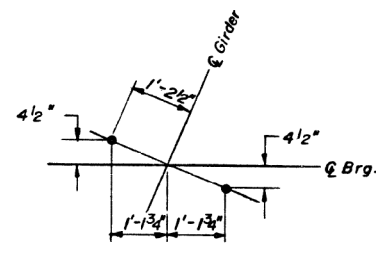
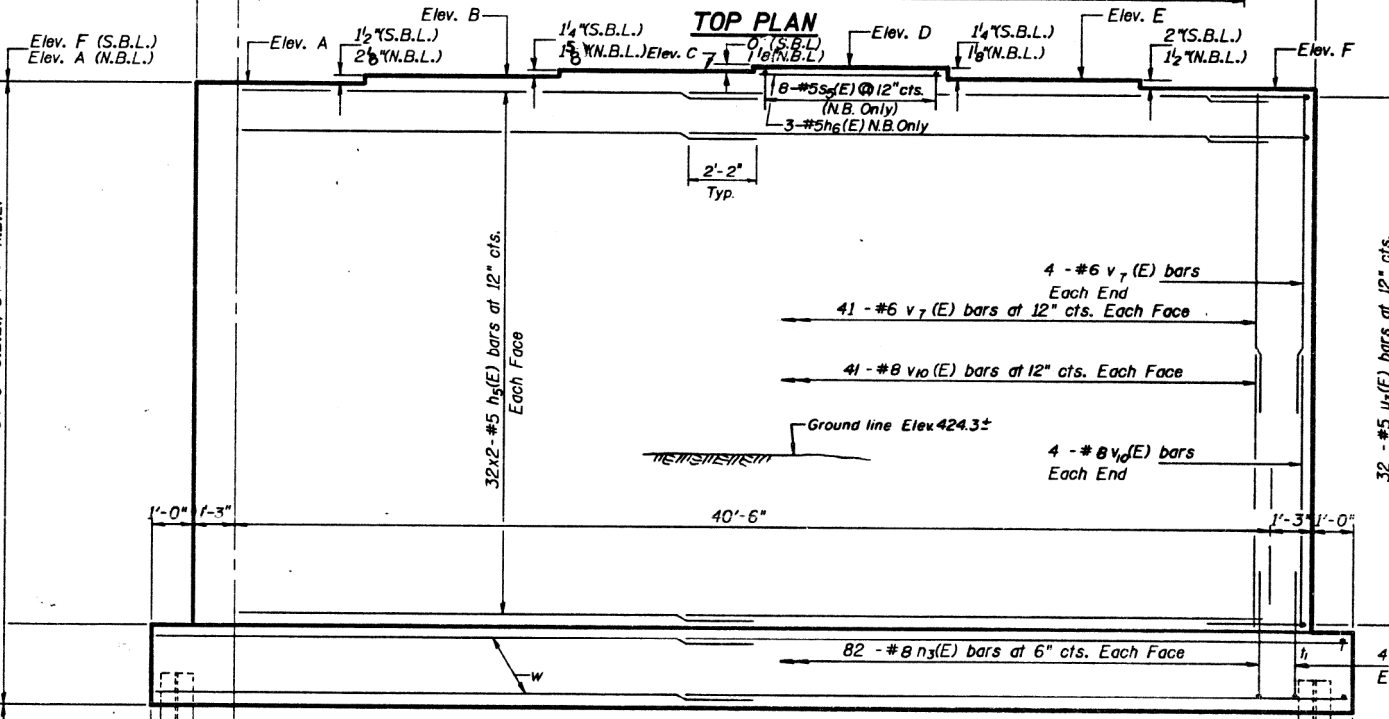
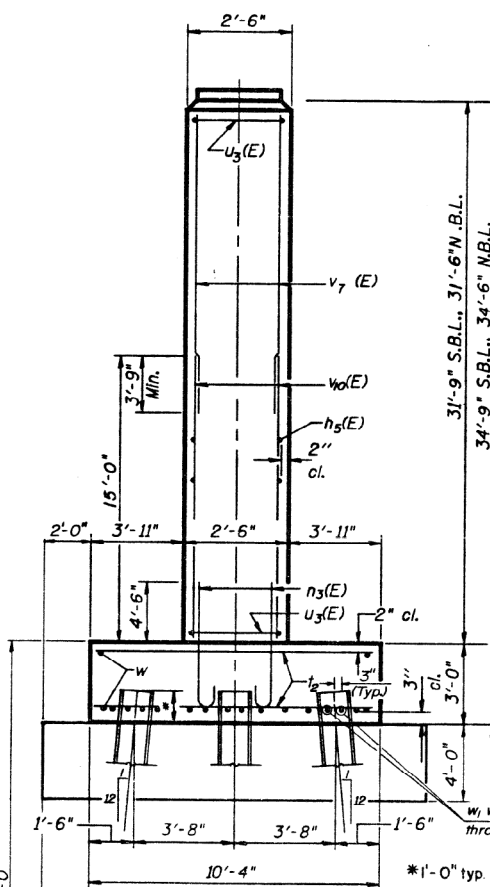
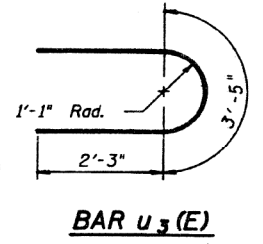
Type: Steel HP 14x89  
 Capacity: Drive to refusal  
 Est. Length: 92'  
 No. Req'd: 20 + 1 Test Pile  
 (Typical each pier)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 310	60-10B-2	MADISON	37	25
FED. ROAD DIST. NO. 7		ILL. ROAD DIST. NO. 100	SHEET 17 OF 24	

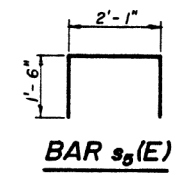


**TABLE OF ELEVATIONS**

Elev. A	Elev. B	Elev. C	Elev. D	Elev. E	Elev. F
S.B.L. 444.21	444.34	444.44	444.44	444.34	444.17
N.B.L. 443.82	444.00	444.14	444.23	444.14	444.02



**ANCHOR BOLT PLAN**



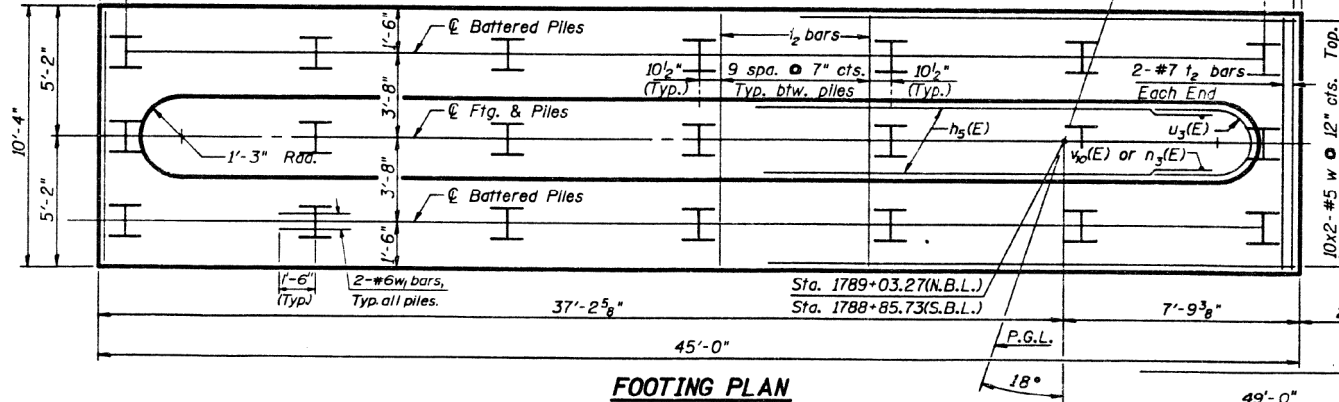
**BILL OF MATERIAL (For Two Piers)**

Bar	No.	Size	Length	Shape
h5(E)	256	#5	21'-6"	—
h6(E)	3	#5	7'-6"	—
n3(E)	344	#8	8'-2"	U
s5(E)	8	#5	5'-1"	U
t2	220	#7	10'-0"	—
u3(E)	128	#5	7'-11"	U
v7(E)	180	#6	21'-0"	—
vd(E)	180	#8	15'-0"	—
w	80	#5	23'-4"	—
w1	84	#6	3'-0"	—
Class X Concrete				Cu. Yd. 353.7
Reinforcement Bars, Epoxy Coated				Lbs. 34,090
Cofferdam Excavation				Cu. Yd. 985
Cofferdam				Each 2
Test Piles Steel HP14x89				Each 2
Steel Piles HP 14x89				Lin Ft. 3,680
Seal Coat Concrete				Cu. Yd. 208.1

**MIN. BAR LAP #5 Bars=2'-2"**

NOTES:  
 ALL REINFORCEMENT BARS SHALL BE EPOXY COATED. FOR SHEAR STUD DETAILS FOR STEEL PILE SEE SHEET #2 OF 24.

NOTE: Sheeting and concrete seal coat dimensions are based on the water elevation at 426.0. The Contractor is responsible for securing a safe and satisfactory cofferdam in accordance with the Standard Specifications.



**FOR INFORMATION ONLY**

**PIER 3 DETAILS**  
 F.A.P. RTE. 310 SEC. 60-10B-2  
 MADISON COUNTY  
 STA. 1787 + 78.00  
 STR. NOS. 060-0278(N.B.) & 060-0279(S.B.)

**HSIONG ASSOCIATES LTD.**  
 DESIGNED: P.M.L. CHECKED: P.Y.L.  
 DRAWN: C.S.L. DATE: 8/26/92 NO. H878

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**HMG** HMG ENGINEERS, INC.  
 9360 HOLY CROSS LANE  
 BREESE, ILLINOIS 62230  
 (618) 526-9611

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PLOT DATE =	DRAWN -	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS - S.N. 060-0278 & 060-0279  
 (FOR INFORMATION ONLY)

SHEET 12 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
310	60-10B-2	MADISON	33	33
ILLINOIS				FED. AID PROJECT