

76896

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	1

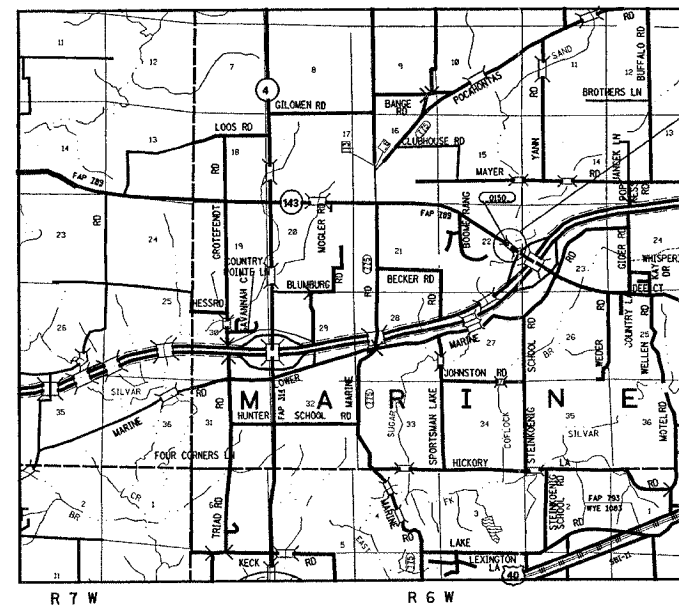
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

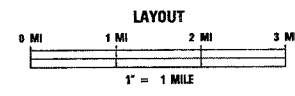
FAP ROUTE 789 (IL 143)  
SECTION 68-BR-1  
PROJECT : BHF-0789(043)  
SUPERSTRUCTURE REPLACEMENT  
OVER SUGAR FORK CREEK  
MADISON COUNTY

C-98-063-05

FOR INDEX OF SHEETS, SEE SHEET NO. 2



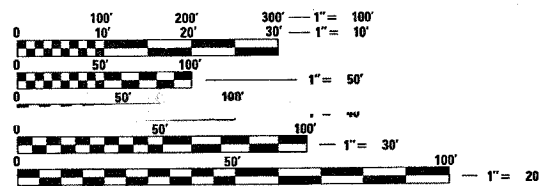
PROJECT LOCATION  
IL 143 OVER SUGAR FORK CREEK  
(SN 060-0150)  
STA 98+33.25



LATITUDE = 38.77874      LONGITUDE = 89.74731

PROJECT ENGINEER: P/ TTI LEBEAU (618) 346-3179  
SQUAD CONTACT: ART MUEHLFELD (618) 346-3209

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



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

TRAFFIC DATA  
ADT: 3675 (2006)  
ADT: 4460 (2026)  
SU: 7.22  
MU: 1.12

CONTRACT NO. 76896

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED May 17, 2006  
May [Signature]  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FIVE ENGINEER

June 30, 2006  
Mike [Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2006  
Milton R. Seas, P.E.  
DIRECTOR, DIVISION OF HIGHWAYS

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OF THE STATE OF ILLINOIS**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	2
STA.		TO STA.		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CONTRACT NO. 76896				

## INDEX OF SHEETS

1. COVER PAGE
2. INDEX OF SHEETS/HIGHWAY STANDARDS/GENERAL NOTES
3. SUMMARY OF QUANTITIES
4. TYPICAL SECTIONS/MIXTURE REQUIREMENTS/MILLING DETAIL
5. SCHEDULE OF QUANTITIES/DETECTOR LOOP DETAIL
6. WIDE LOAD SIGNING
- 7 - 8. STAGING PLAN
9. PLAN AND PROFILE SHEET
- 10 - 21. BRIDGE PLANS
- 22 - 24. CROSS SECTIONS

## HIGHWAY STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH OF A FOOT
442101-05	CLASS B PATCHES
515001-02	NAME PLATE FOR BRIDGES
630001-06	STEEL PLATE BEAM GUARDRAIL
630301-03	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-02	TRAFFIC CONTROL BARRIER TERMINAL, TYPE 6A
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701006-02	OFF-ROAD OPERATIONS, 2L, 2W, 4.5m (15') TO 600m (24') FROM PAVEMENT EDGE
701011-01	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-08	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-02	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
702001-06	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER
780001-01	TYPICAL PAVEMENT MARKINGS
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

## GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
3. THE THICKNESS OF THE BITUMINOUS MIXTURES SHOWN ON THE PLANS IS THE NORMAL THICKNESS. DEVIATIONS MAY OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
4. SAW CUTTING ON ALL EDGES FOR REMOVAL ITEMS SHALL BE INCLUDED IN THE COST OF THE REMOVAL ITEM AS INDICATED AND ACCORDING TO SECTION 440 OF THE STANDARD SPECIFICATIONS.
5. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO UTILITIES WITHIN THE PROJECT AREA BEFORE DIGGING BY CALLING J.U.L.I.E. AND BY NOTIFYING NON-J.U.L.I.E. MEMBERS INDIVIDUALLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
  - AMERENIP
  - BOND MADISON WATER COMPANY
  - CENTERPOINT ENERGY
  - SBC
  - VERIZON NORTH, INC.
MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY \*. NON-MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
6. 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 UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING, FERTILIZING, AND MULCHING ANY AREAS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION. THIS WORK WILL NOT BE MEASURED FOR PAYMENT, BUT SHALL BE INCLUDED IN THE COST OF THE CONTRACT. THE SEEDING SHALL BE CLASS 2. THE APPLICATION OF THE SEEDING, FERTILIZER, AND MULCH SHALL BE TO THE SATISFACTION OF THE ENGINEER. FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.
8. IF THE CONTRACTOR REMOVES TREES WITHIN THE RIGHT-OF-WAY LIMITS FOR HIS CONSTRUCTION ACTIVITY, I.E. IN ORDER TO GAIN ACCESS TO THE PROJECT SITE, IT WILL BE HIS RESPONSIBILITY TO REPLACE THE TREES AT A 1:1 RATIO. THE TREES WILL BE REPLACED WITH A 1 GALLON NATIVE ILLINOIS TREE SPECIES AND SHALL BE APPROVED BY THE ENGINEER. THE TREE REMOVAL AND TREE REPLACEMENT WILL BE AT THE CONTRACTOR'S EXPENSE, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

## COMMITMENTS

NONE

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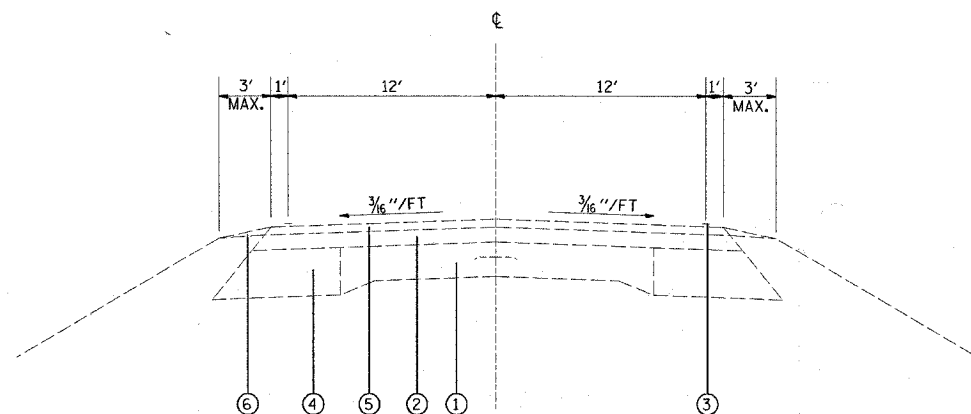
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NAME	DATE	
		FAP ROUTE 789 SECTION 68-BR-1 MADISON COUNTY

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HORIZ.  
DATE

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CHECKED BY

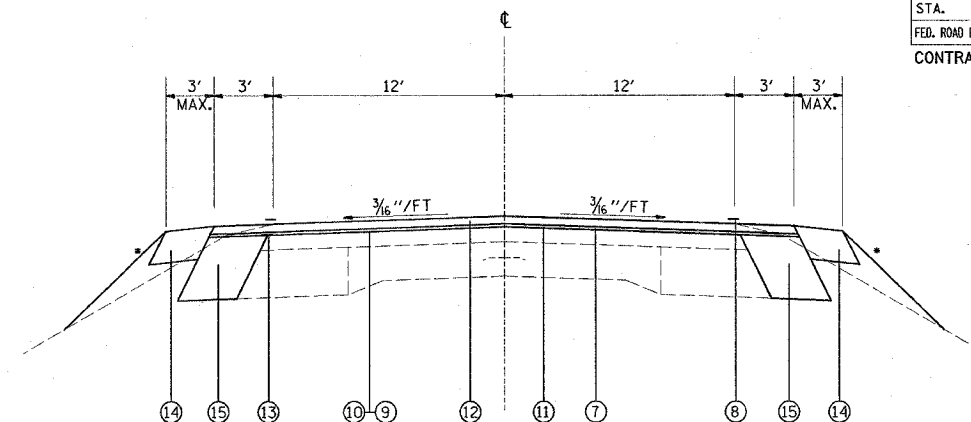


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	4
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 76896				



**EXISTING TYPICAL SECTION**

STA. 96+89.40 TO STA. 97+70.27  
 STA. 99+26.23 TO STA. 99+78.40



**PROPOSED TYPICAL SECTION**

STA. 96+89.40 TO STA. 97+70.27  
 STA. 99+26.23 TO STA. 99+78.40

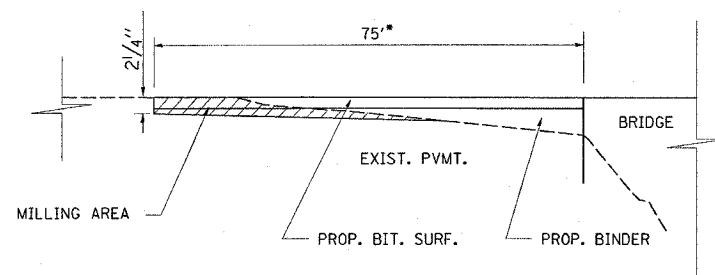
• SEE CROSS SECTIONS FOR SIDE SLOPE

**LEGEND**

- ① EXISTING PAVEMENT 9-6-9
- ② EXISTING BITUMINOUS BINDER, 3"±
- ③ EXISTING PAVEMENT MARKING
- ④ EXISTING BITUMINOUS WIDENING, 9"
- ⑤ EXISTING BITUMINOUS SURFACE COURSE, 1/2"
- ⑥ EXISTING AGGREGATE SHOULDER
- ⑦ PROPOSED MILLING
- ⑧ PROPOSED PAVEMENT MARKING
- ⑨ PROPOSED BITUMINOUS MATERIAL (PRIME COAT)
- ⑩ PROPOSED AGGREGATE (PRIME COAT)
- ⑪ PROPOSED BINDER COURSE, 3 3/4"
- ⑫ PROPOSED BITUMINOUS CONCRETE SURFACE COURSE, 1 1/2"
- ⑬ PROPOSED STRIP REFLECTIVE CRACK CONTROL
- ⑭ PROPOSED AGGREGATE SHOULDER
- ⑮ PROPOSED BITUMINOUS CONCRETE BASE COURSE WIDENING, 12"

**MIXTURE REQUIREMENTS**

MIXTURE USE	SURFACE	BINDER	BINDER / BCE CSE	INCIDENTAL SURF.
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22
RAP % (MAX)	10%	15%	15%	10%
DESIGN AIR VOIDS	4% Ndes=70	4% Ndes=70	4% Ndes=70	4% Ndes=70
MIX COMPOSITION				
(GRADATION MIXTURE)		IL 19.0	IL 19.0	IL 19.0
FRICTION AGGREGATE	MIXTURE "C"	MIXTURE "B"	MIXTURE "B"	MIXTURE "C"



\*SEE PLAN & PROFILE FOR BEGINNING AND END STATION OF RESURFACING

**MILLING DETAIL**

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TYPICAL SECTIONS/MIXTURE REQUIREMENTS & MILLING DETAIL**  
 FAP ROUTE 789  
 SECTION 68-BR-1  
 MADISON COUNTY  
 SCALE: VERT. HORIZ.  
 DATE DRAWN BY CHECKED BY

PLOT DATE = 5/15/2006  
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	5
STA.	TO STA.			
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 76896				

PAVING SCHEDULE

STATION	BIT. MAT'L PRIME COAT (TON)	AGG. PRIME COAT (TON)	BIT. CONC. BINDER CSE MIX "B" (TON)	BIT. CONC. SURF. CSE., SUPER., MIX "C", N70 (TON)	BIT. SURF. REMOVAL VAR DEPTH (SQ YD)	AGG. SHLD TYPE B (TON)	STRIP REFL CRACK CTL TREATMENT (FT)	INCIDENTAL BIT. (TON)	BIT BSE CSE WIDENING (SQ YD)
96+70.00 TO 97+70.27	0.10	0.50	81.81	27.80	299.71	4.27			
96+90.20 TO 97+65.80 LT							75.6		25.2
96+90.20 TO 97+79.50 RT							89.3		29.8
97+70.00 TO 98+96.23				52.00					
98+88.75 TO 99+78.40 LT						6.71	89.6		29.9
99+02.69 TO 99+78.40 RT						4.92	75.7		25.2
98+96.23 TO 100+25.00	0.13	0.60	71.05	33.50					
99+25.00 LT PE								1.5	
TOTAL	0.23	1.10	152.86	113.30	299.71	15.90	330.2	1.5	110.1

THERMO. PAVEMENT MARKING SCHEDULE

STATION		PAVEMENT		BRIDGE	
		WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)	WHITE LINE (FT)	YELLOW SKIP DASH LINE 4" (FT)
94+66.00 TO 96+68.27	¢		50.6		
96+68.27 TO 97+70.27	RT/LT	204.0			
96+68.27 TO 97+70.27	¢		25.5		
97+70.27 TO 98+96.23	RT/LT			251.9	
97+70.27 TO 98+96.23	¢				31.5
98+96.23 TO 100+27.00	RT/LT	261.5			
98+96.23 TO 101+23.00	¢		56.7		
SUB-TOTAL		465.5	132.8	251.9	31.5
TOTAL			598.3		283.4

TEMPORARY PAVEMENT MARKING SCHEDULE

STATION		PAVEMENT	BRIDGE	PAVEMENT	BRIDGE	WORK ZONE PM REMOVAL (SQ FT)	PVMT MRKG REMOVAL (SQ FT)
		TEMP PVMT MRKG- LINE 4" (FT)	TEMP PVMT MRKG- LINE 4" (FT)	TEMP PVMT MRKG- LINE 6" (FT)	TEMP PVMT MRKG- LINE 6" (FT)		
94+66.00 TO 96+70.27	¢ STAGE I						68.1
96+70.27 TO 100+25.00	¢ & EDGE WALL	457.5	126.0			194.5	
96+37.50 TO 99+83.00	WALL			219.5	126.0		
96+70.27 TO 100+25.00	¢ & EDGE WALL	457.5	126.0			194.5	
96+37.50 TO 99+83.00	WALL			219.5	126.0		
99+83.00 TO 101+23.00	¢ STAGE II						46.7
SUB-TOTAL		914.9	252.0	439.0	252.0	389.0	114.8
TOTAL			1166.9		691.0	389.0	114.8

GUARDRAIL SCHEDULE

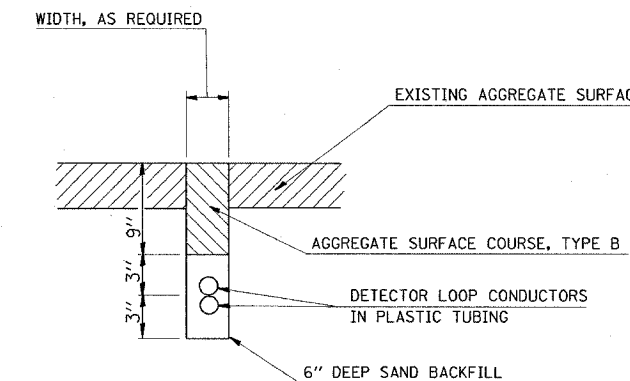
LOCATION	STA	OFFSET	STA	OFFSET	SPBGR REMOVAL (FT)	SPBGR (FT)	TBT-T1 (SPECIAL) (EA)	TBT-T6A (EA)	TBT-T2 (EA)	GUARDRAIL MKRS (EA)
	96+00.0	20.5'	96+37.5	17.0'	37.5		1			1
	97+33.0	16.0'	97+64.5	16.0'	31.5			1		1
	97+48.5	16.0'	97+80.0	16.0'	31.5			1		1
	99+03.0	16.5'	99+72.0	16.5'	69.0		1	1		1
	98+85.0	16.0'	99+26.2	45.5'	56.5	12.5		1	1	1
	99+44.5	38.0'	100+05.0	18.5'	75.0	25.0	1		1	1
TOTAL					301.0	37.5	3	4	2	8

EARTHWORK SCHEDULE

STATION	CUT (SQ FT)	FILL (SQ FT)	EARTH EXCAV. (CU YD)	EARTH EXC. ADJTD FOR SHRINK. (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BAL WASTE (+) SHORTAGE (-) (CU YD)
STA 96+50.0	0.0	0.0	0.4	0.3	0.0	0.3
STA 96+75.0	0.8	0.0	3.0	2.2	0.9	1.3
STA 97+00.0	5.6	2.0	4.4	3.3	3.1	0.2
STA 97+25.0	4.0	4.7	3.6	2.7	5.2	-2.5
STA 97+50.0	3.8	6.5				
STA 99+10.0	7.2	1.1	4.1	3.1	0.3	2.8
STA 99+25.0	7.5	0.0	9.7	7.3	0.0	7.3
STA 99+50.0	13.5	0.0	13.9	10.4	1.4	9.0
STA 99+75.0	16.5	3.0	16.2	12.1	2.8	9.3
STA 100+00.0	18.4	3.0	15.2	11.4	1.4	10.0
STA 101+25.0	14.5	0.0	6.7	5.0	0.0	5.0
STA 100+50.0	0.0	0.0				
TOTAL			77.2	57.9	15.1	42.8

PATCHING SCHEDULE

STATION	L	X	W	CLASS B PATCHES TY II (SQ YD)	SAW CUTS (FT)	DOWEL BARS (EACH)
± 99+25.0 RT	6	X	12	8	48	20
± 99+25.0 LT	6	X	12	8	48	20
TOTAL				16	96	40



DETAIL

DETECTOR LOOP INSTALLED IN TRENCH

INSTALLATION IS TO BE DONE IN CONFORMANCE WITH THE REQUIREMENTS OF THE PLANS AND SECTION 886 OF THE STANDARD SPECIFICATIONS WITH THE FOLLOWING EXCEPTIONS:

1. SLOTS ARE TO BE TRENCHED INSTEAD OF SAWED.
2. THIS WORK SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF TEMPORARY BRIDGE TRAFFIC SIGNALS - 1 EACH.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SCHEDULE OF QUANTITIES & DETECTOR LOOP DETAIL**  
 FAP ROUTE 789  
 SECTION 68-BR-1  
 MADISON COUNTY

SCALE: VERT. DATE  
 HORIZ. DRAWN BY  
 CHECKED BY

PLOT DATE = 5/15/2006  
 PLOT SCALE = 1/8" = 1'-0"  
 PLOT SHEET = 24 OF 24  
 PLOT REFERENCE = SHEET 5

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 76896				

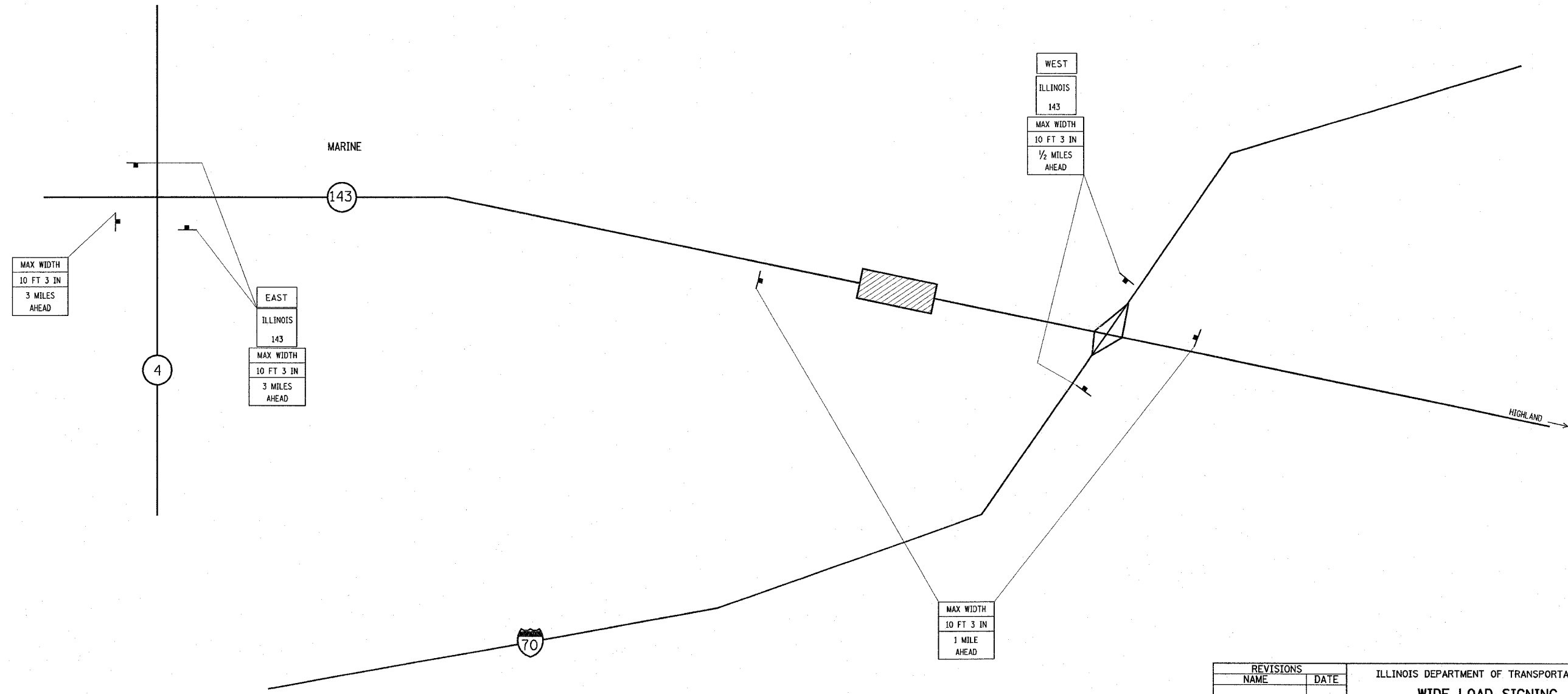
**NOTES**

1. ALL SIGNS REQUIRED WILL BE SUPPLIED TO THE CONTRACTOR BY I.D.O.T. CONTACT JEAN SLAPE @ (618) 346-3289.
2. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT SIGNS AT THE LOCATIONS SHOWN ON THIS SHEET, AS DIRECTED BY THE RE/RT. THE POSTS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL GIVE ILLINOIS DEPARTMENT OF TRANSPORTATION, BUREAU OF OPERATIONS TWO WEEKS NOTICE FOR SIGNS. THE CONTRACTOR SHALL PICK UP THE SIGNS AT THE T.M. BUILDING IN FAIRVIEW HEIGHTS, AND RETURN THEM UPON COMPLETION OF THE CONTRACT. ANY SIGNS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE ABOVE NOTED WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE, LUMP SUM, FOR WIDE LOAD SIGNING AND NO OTHER COMPENSATION WILL BE ALLOWED.
5. SIGN SPACING WILL BE 400' OR TO FIT FIELD CONDITIONS.
6. THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN SHALL NOT BE LESS THAN 6'.



**SIGNS REQUIRED**

MAX WIDTH 10 FT 3 IN 1/2 MILE AHEAD	(2)	EAST	(2)
MAX WIDTH 10 FT 3 IN 1 MILES AHEAD	(2)	WEST	(2)
MAX WIDTH 10 FT 3 IN 3 MILES AHEAD	(3)	ILLINOIS 143	(4)



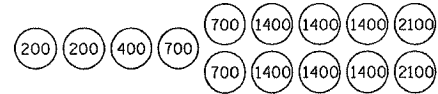
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REVISIONS	
NAME	DATE

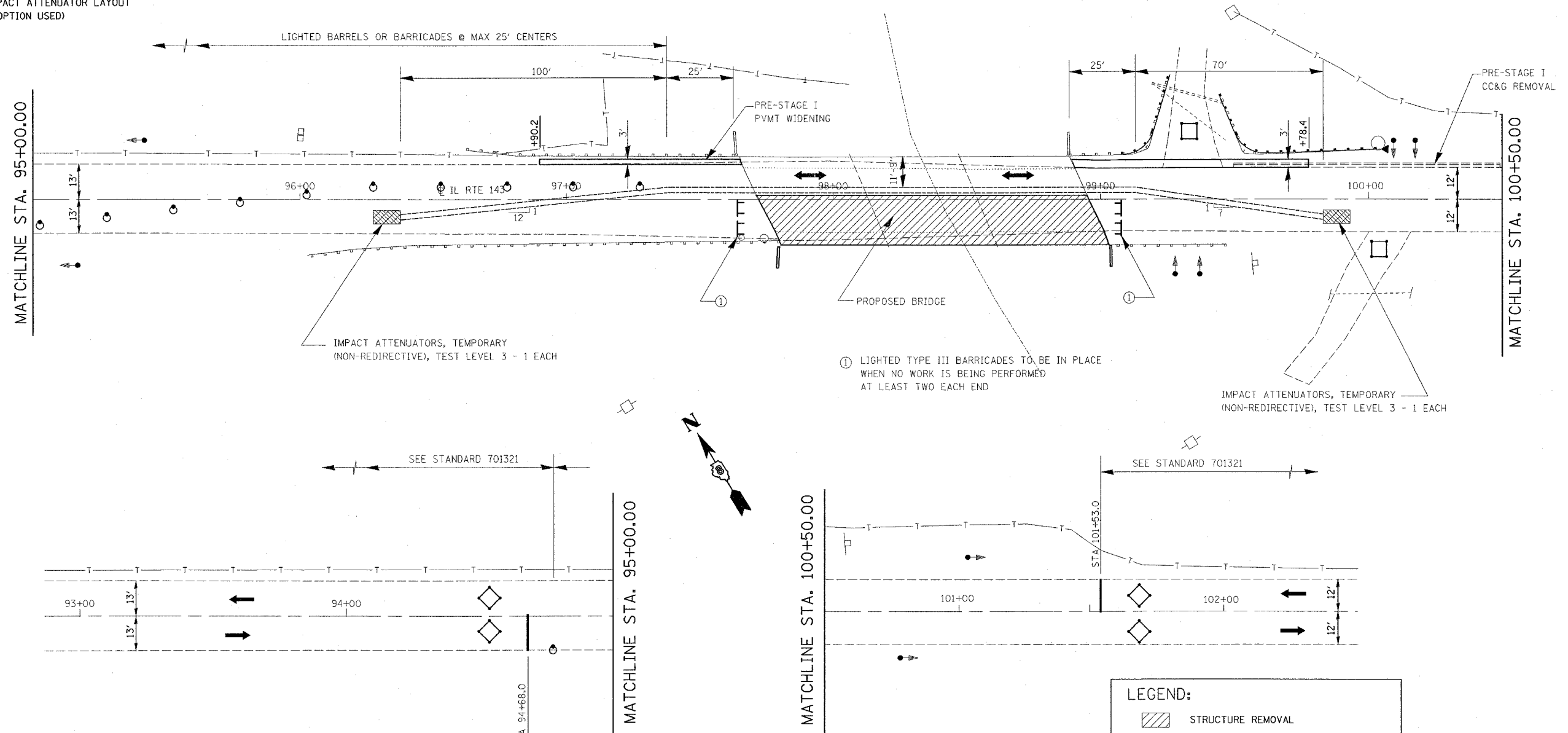
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**WIDE LOAD SIGNING**  
 FAP ROUTE 789  
 SECTION 68-BR-1  
 MADISON COUNTY

VERT. SCALE:      DRAWN BY  
 HORIZ.              CHECKED BY  
 DATE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	7
STA. 93+00.00		TO STA. 102+50.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CONTRACT NO. 76896				



SAND MODULE IMPACT ATTENUATOR LAYOUT (IF OPTION USED)



PRE-STAGE I CONSTRUCTION:

- PRE-STAGE I CONSTRUCTION SHALL CONSIST OF THE REMOVAL OF EXISTING CURB AND GUTTER, REMOVAL AND RE-ERECTION OF EXISTING GUARDRAILS, AND CONSTRUCTION OF THE 3' PAVEMENT WIDENING ON THE NORTHEAST AND NORTHWEST CORNERS OF THE STRUCTURE. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD 701326.

STAGE I CONSTRUCTION:

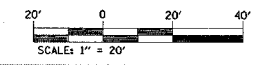
- STAGE I CONSTRUCTION SHALL CONSIST OF STAGE I REMOVAL OF THE EXISTING SUPERSTRUCTURE, AND STAGE I CONSTRUCTION OF THE REPLACEMENT STRUCTURE. STAGE I CONSTRUCTION SHALL BE DONE ACCORDING TO STAGE CONSTRUCTION AS DETAILED IN THE BRIDGE PLANS. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321 AND AS DETAILED IN THE STAGE CONSTRUCTION PLANS. THIS TRAFFIC CONTROL SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION 701321 (SPECIAL).

NOTES:

- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
- TRAFFIC CONTROL & PROTECTION, STANDARD 701321 (SPECIAL) INCLUDES BOTH STAGE I & II AND ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN ON THE STAGE CONSTRUCTION PLANS.
- THE FINAL BITUMINOUS WEARING SURFACE MUST BE IN PLACE ON THE STRUCTURE PRIOR TO OPENING A LANE TO TRAFFIC.
- REFER TO PLAN AND PROFILE SHEET TO DETERMINE LIMITS OF MILLING AND RESURFACING AREA.
- ALL ADDITIONAL TRAFFIC SIGNAL HEADS, LOOP DETECTORS AND ASSOCIATED EQUIPMENT REQUIRED TO MAINTAIN ACCESS AT THE FIELD AND DRIVEWAY ENTRANCES SHALL BE INCLUDED IN THE COST OF "TEMPORARY BRIDGE TRAFFIC SIGNALS"
- THERE ARE TWO ENTRANCES WITHIN THE LIMITS OF THIS PROJECT. THE PRIVATE ENTRANCE IS LOCATED AT STATION 99+34.00 AND THE FIELD ENTRANCE AT STATION 100+13.45. THE CONTRACTOR SHOULD KEEP THEM OPEN DURING STAGE CONSTRUCTION.

LEGEND:

	STRUCTURE REMOVAL
	TEMPORARY CONCRETE BARRIER
	IMPACT ATTENUATOR
	INDUCTION LOOP DETECTOR
	DRUM WITH STEADY BURNING LIGHT
	SIGNALIZED TWO-WAY TRAFFIC LANE
	TEMPORARY BRIDGE TRAFFIC SIGNAL
	TYPE III BARRICADE



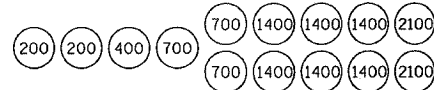
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**STAGE I CONSTRUCTION**  
 FAP ROUTE 789  
 SECTION 68-BR-1  
 MADISON COUNTY

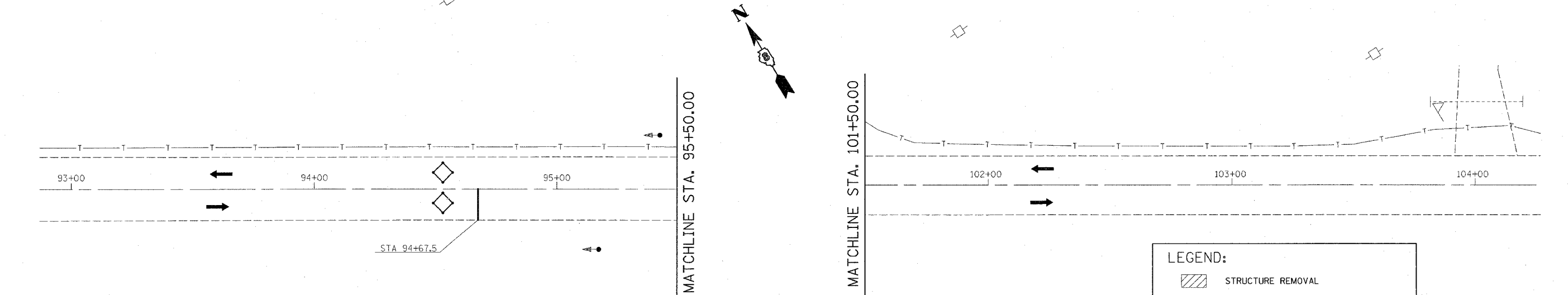
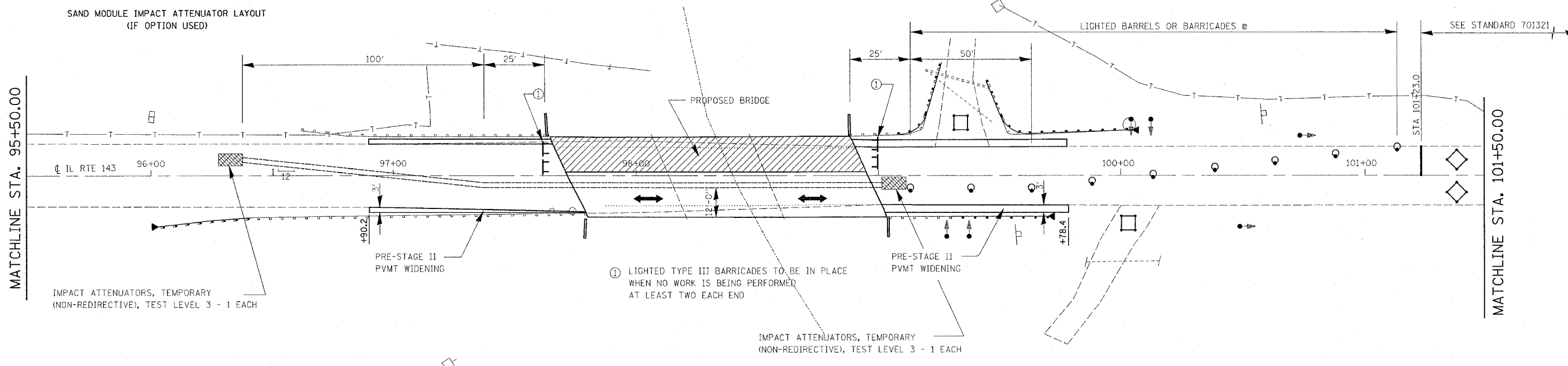
SCALE: VERT. 1" = 20'  
 HORIZ. 1" = 40'

DATE: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

PLOT DATE = 5/15/2006  
 FILE NAME = c:\p\proj\va\68br1\plan\br1stg1.dgn  
 PLOT SCALE = 20.0000 / IN.  
 REFERENCE = 41814



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	8
STA. 93+00.00 TO STA. 104+00.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CONTRACT NO. 76896				



**PRE-STAGE II CONSTRUCTION:**

- PRE-STAGE II CONSTRUCTION SHALL CONSIST OF REMOVAL AND REPLACEMENT OF THE EXISTING GUARDRAILS AS SHOWN ON THE PLANS, AND CONSTRUCTION OF THE 3'± PAVEMENT WIDENING ON THE SOUTHEAST AND SOUTHWEST CORNERS OF THE STRUCTURE. PRE-STAGE II SHOULD BE CONSTRUCTED AT THE END OF STATE I CONSTRUCTION AND BEFORE THE REMOVAL OF THE TEMPORARY CONCRETE BARRIERS.

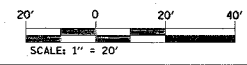
**STAGE II CONSTRUCTION:**

- STAGE II CONSTRUCTION SHALL CONSIST OF STAGE II REMOVAL OF THE EXISTING SUPERSTRUCTURE, AND STAGE II CONSTRUCTION OF THE REPLACEMENT STRUCTURE. STAGE II CONSTRUCTION SHALL BE DONE ACCORDING TO STAGE CONSTRUCTION AS DETAILED IN THE BRIDGE PLANS. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321 AND AS DETAILED IN THE STAGE CONSTRUCTION PLANS. THIS TRAFFIC CONTROL SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION 701321 (SPECIAL).

- NOTES:**
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE AND FIELD ENTRANCES LOCATED WITHIN THE LIMITS OF THE PROJECT.
  - TRAFFIC CONTROL & PROTECTION, STANDARD 701321 (SPECIAL) INCLUDES BOTH STAGE I & II AND ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN ON THE STAGE CONSTRUCTION PLANS.
  - THE FINAL BITUMINOUS WEARING SURFACE MUST BE IN PLACE ON THE STRUCTURE PRIOR TO OPENING A LANE TO TRAFFIC.
  - REFER TO PLAN AND PROFILE SHEET TO DETERMINE LIMITS OF MILLING AND RESURFACING AREA.
  - ALL ADDITIONAL TRAFFIC SIGNAL HEADS, LOOP DETECTORS AND ASSOCIATED EQUIPMENT REQUIRED TO MAINTAIN ACCESS AT THE FIELD AND DRIVEWAY ENTRANCES SHALL BE INCLUDED IN THE COST OF "TEMPORARY BRIDGE TRAFFIC SIGNALS"
  - THERE ARE TWO ENTRANCES WITHIN THE LIMITS OF THIS PROJECT. THE PRIVATE ENTRANCE IS LOCATED AT STATION 99+34.00 AND THE FIELD ENTRANCE AT STATION 100+13.45. THE CONTRACTOR SHOULD KEEP THEM OPEN DURING STAGE CONSTRUCTION.

**LEGEND:**

- STRUCTURE REMOVAL
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR
- INDUCTION LOOP DETECTOR
- DRUM WITH STEADY BURNING LIGHT
- SIGNALIZED TWO-WAY TRAFFIC LANE
- TEMPORARY BRIDGE TRAFFIC SIGNAL
- TYPE III BARRICADE



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE II CONSTRUCTION**

FAP ROUTE 789  
SECTION 68-BR-1  
MADISON COUNTY

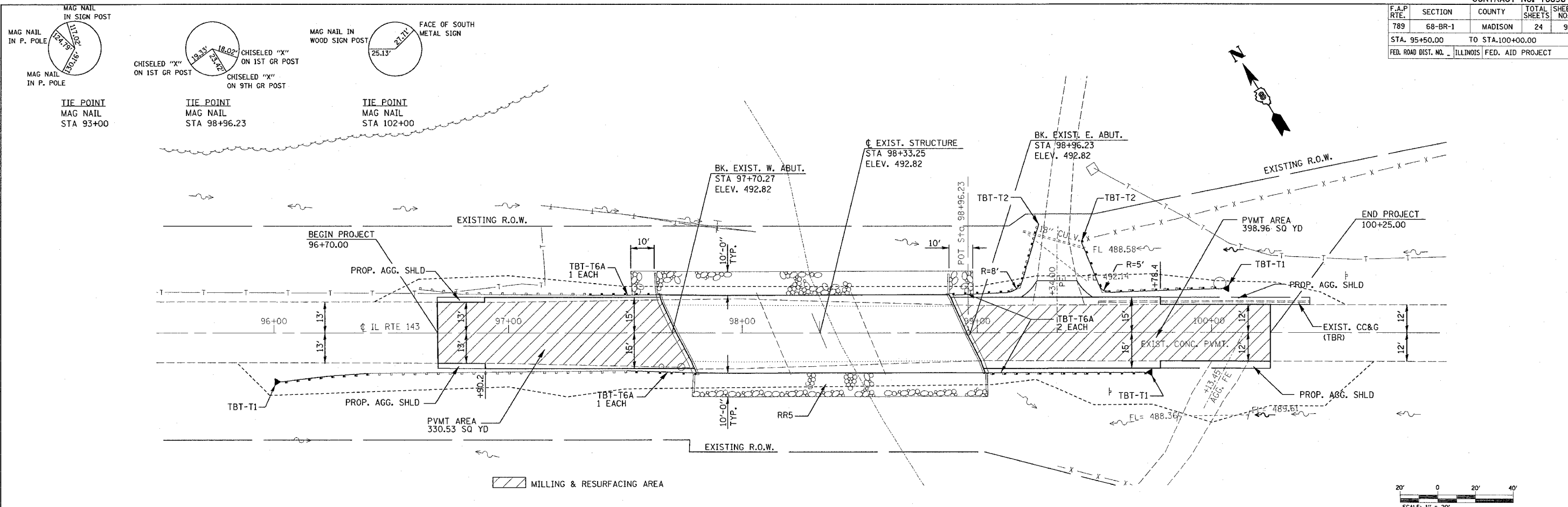
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HORIZ. \_\_\_\_\_

DATE \_\_\_\_\_ DRAWN BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

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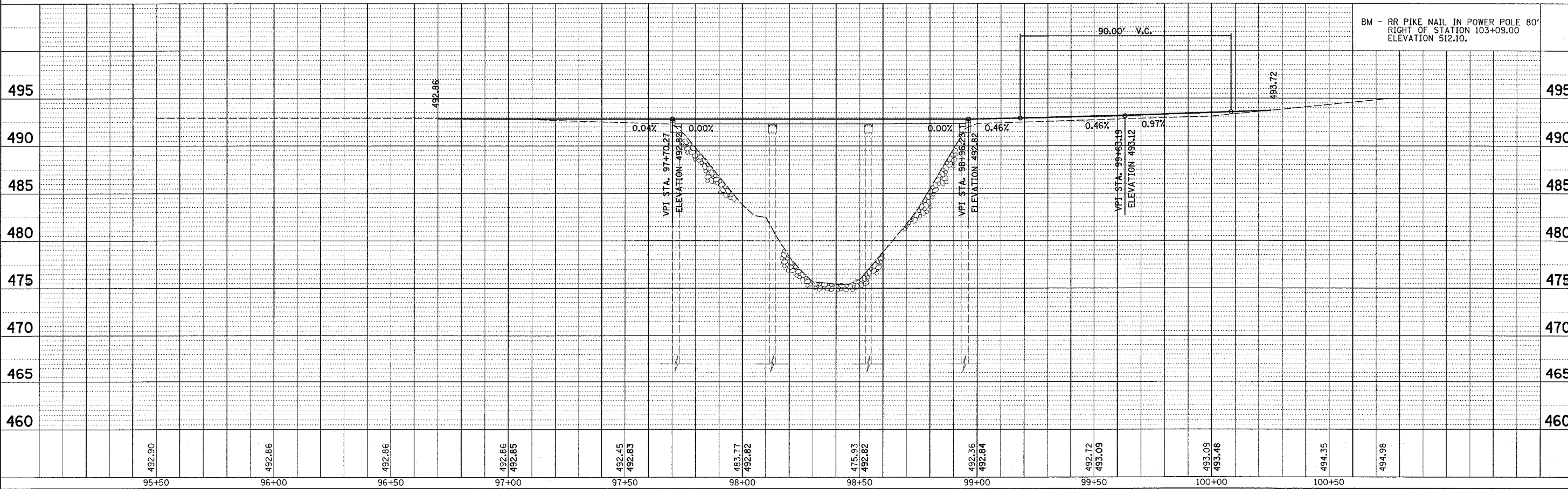


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	9
STA. 95+50.00		TO STA. 100+00.00		
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				



PLAN	DATE	BY
REVISION		
NO. 1		
NO. 2		
NO. 3		
NO. 4		
NO. 5		
NO. 6		
NO. 7		
NO. 8		
NO. 9		
NO. 10		

PROFILE	DATE	BY
REVISION		
NO. 1		
NO. 2		
NO. 3		
NO. 4		
NO. 5		
NO. 6		
NO. 7		
NO. 8		
NO. 9		
NO. 10		



PLOT DATE = 5/15/2006  
 FILE NAME = c:\pwworkspace\76896\plan\plotted\76896.dgn  
 USER NAME = gblsh

Bench Mark: RR Spike in Power Pole 80' Right of Sta. 103+09.00 Elev. 512.10.

Existing Structure: S.N. 060-0150 was built in 1939 as S.A. Rte. 7 Sec. 68-B-15D at Sta. 98+33.25. In 1974 the superstructure was replaced, the substructure widened, and Pier Bents 2 & 3 were added. The existing three span structure consists of PPC deck beams on pile bent abutments and pile bent piers. The bk. to bk. abutments dimension measures 125'-11 1/2" while the O.-O. width measures 33'-0". The existing superstructure shall be replaced with PPC deck beams, and the substructure will be repaired with formed concrete repairs. Staging shall be used during construction.

No Salvage.

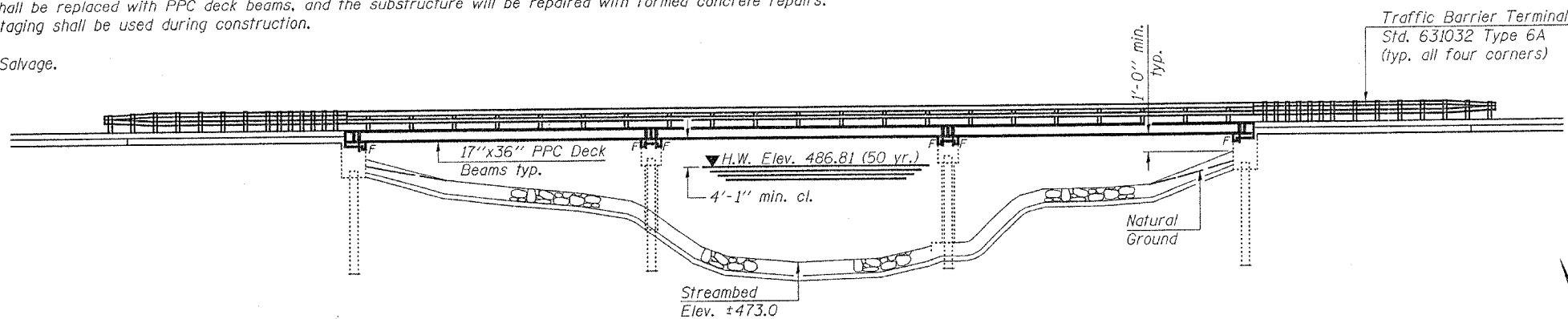
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

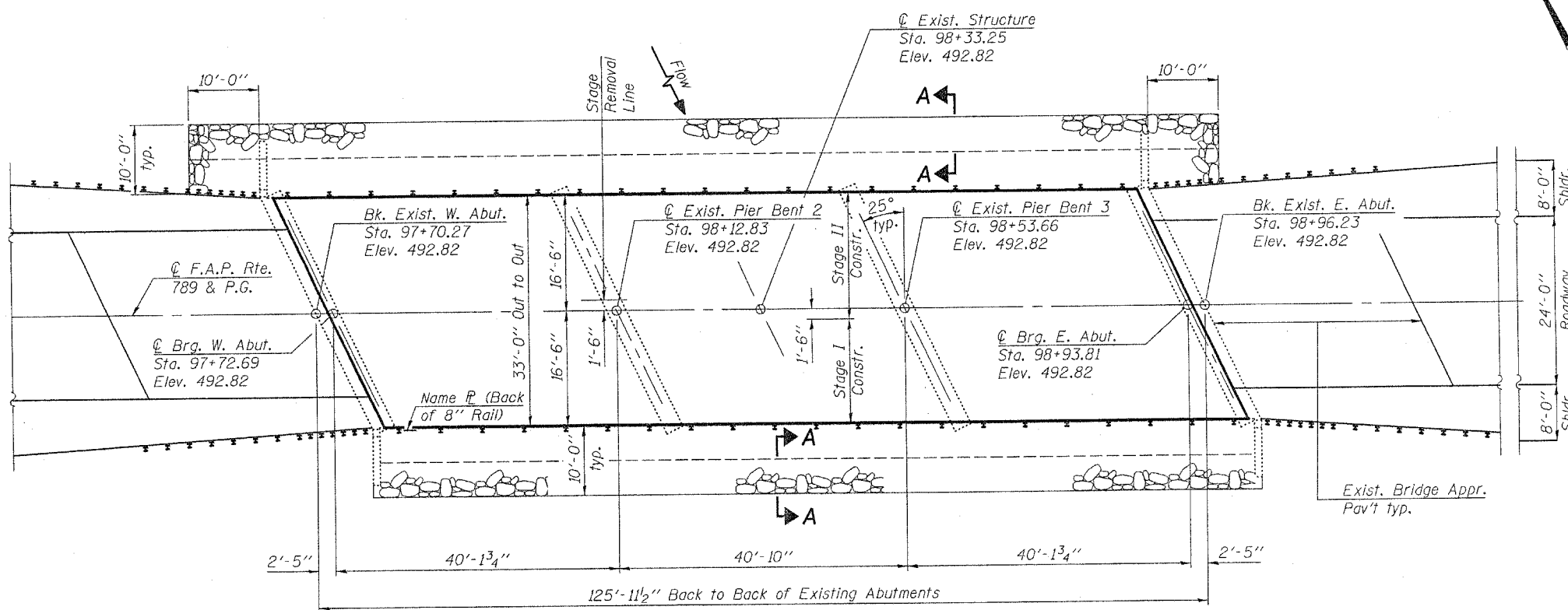
1. General Plan
2. Stage Construction Details
3. Temporary Concrete Barrier
4. Type SM Steel Bridge Rail Side Mounted
- 5.-7. Superstructure Details
8. West Abutment
9. East Abutment
10. Abutment Concrete Removal Details
11. Pier Bents
12. Substructure Repair Details

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	10	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

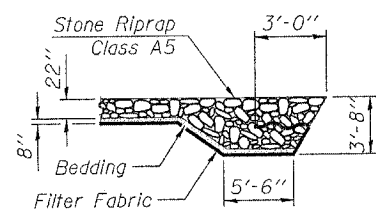
Contract #76896



ELEVATION



PLAN



SECTION A-A

STATION 98+33.25  
REBUILT 200 BY  
STATE OF ILLINOIS  
FAP RT 789 - SEC 68-BR-1  
LOADING HS20  
STR. NO. 060-0150

NAME PLATE

See Std. 515001

WATERWAY INFORMATION

Drainage Area = 23.6 sq. mi. Low Grade Elev. 492.18 @ Sta. 97+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Opening Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	10	4,720	487	487	486.81	2.97	2.97	489.78	489.78
Base	100	5,411	512	512	487.06	3.31	3.31	490.37	490.37
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	7,063	570	570	487.63	4.19	4.19	491.82	491.82

LOADING HS20-44 (New Construction)

No Allowance for Future Wearing Surface.

DESIGN SPECIFICATIONS (New Construction)

2002 AASHTO

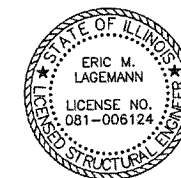
DESIGN STRESSES

FIELD UNITS

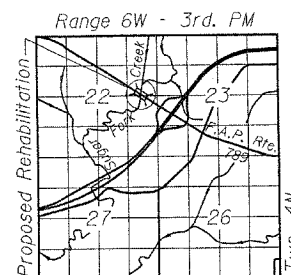
$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi (1/2"  $\phi$  low lax. strands)  
 $f_{si} = 201,960$  psi (1/2"  $\phi$  low lax. strands)



Eric Lagemann 5/10/20  
Expires 11/30/2006



LOCATION SKETCH

GENERAL NOTES

The minimum thickness of Bituminous overlay shall be 2" and varies as required to adjust for the new profile grade and beam camber.

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

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price for the work.

The top surface of the beams shall be finished according to Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".

All Construction joints shall be bonded.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to the exterior face and 9" in on the underside of the fascia beams. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

The contractor is advised that the existing Precast Prestressed Concrete Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.

See sheet 2 of 12 for additional notes.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.		764	764
Filter Fabric	Sq. Yd.		764	764
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		5.8	5.8
Concrete Structures	Cu. Yd.		13.9	13.9
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	4034		4034
Reinforcement Bars, Epoxy Coated	Pound		1320	1320
Steel Bridge Rail, Type SM	Foot	252		252
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.	462		462
Portland Cement Mortar Fairing Course	Foot	1223		1223
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq. Ft.		173.5	173.5
Bituminous Concrete Surface Course, Superpave, Mix "C", N70	Ton	52		52

GENERAL PLAN  
ILLINOIS ROUTE 143 OVER  
SUGAR FORK CREEK

F.A.P. ROUTE 789 - SECTION 68-BR-1  
MADISON COUNTY  
STATION 98+33.25  
STRUCTURE NO. 060-0150

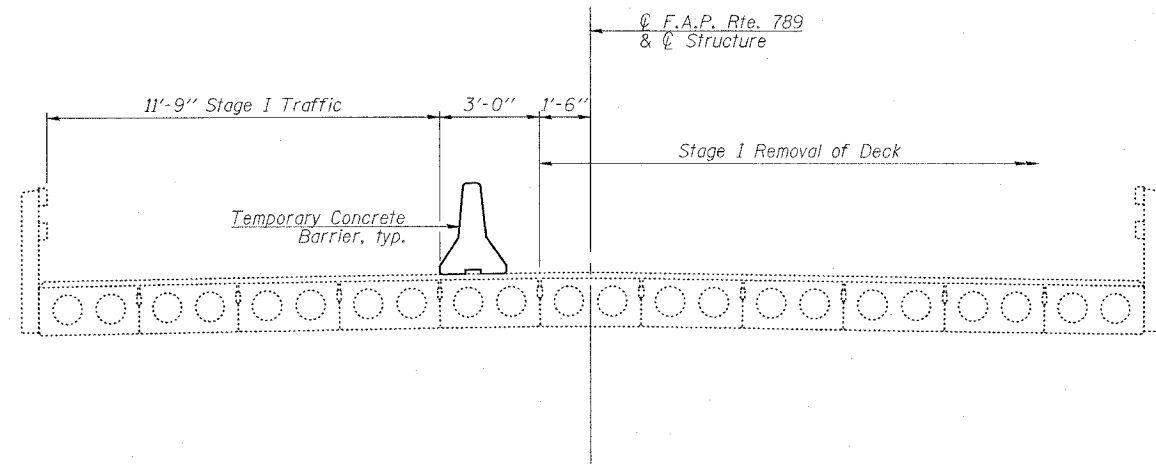
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CHECKED	NJM
DRAWN	EML
CHECKED	NJM

HORNER & SHIFRIN, INC.  
ENGINEERS ARCHITECTS PLANNERS

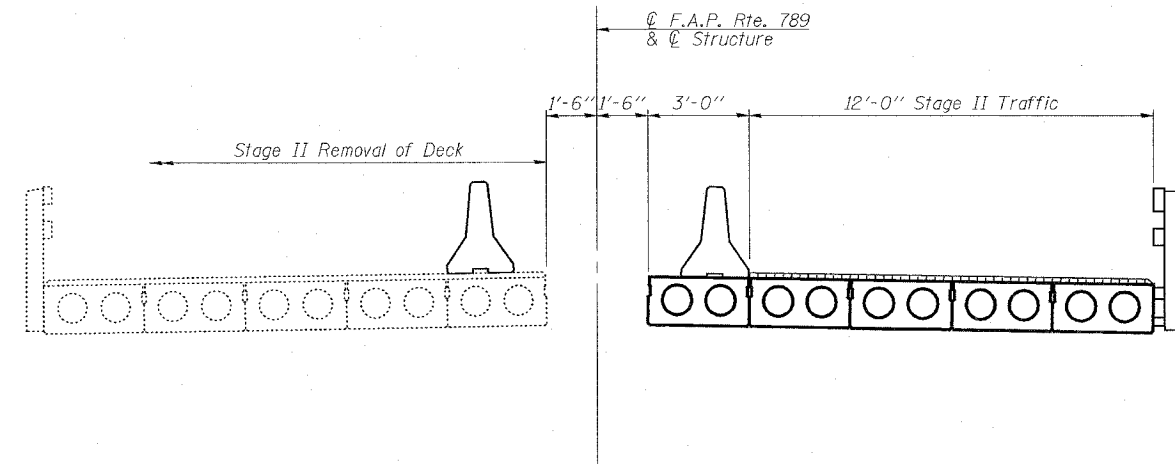
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	11	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

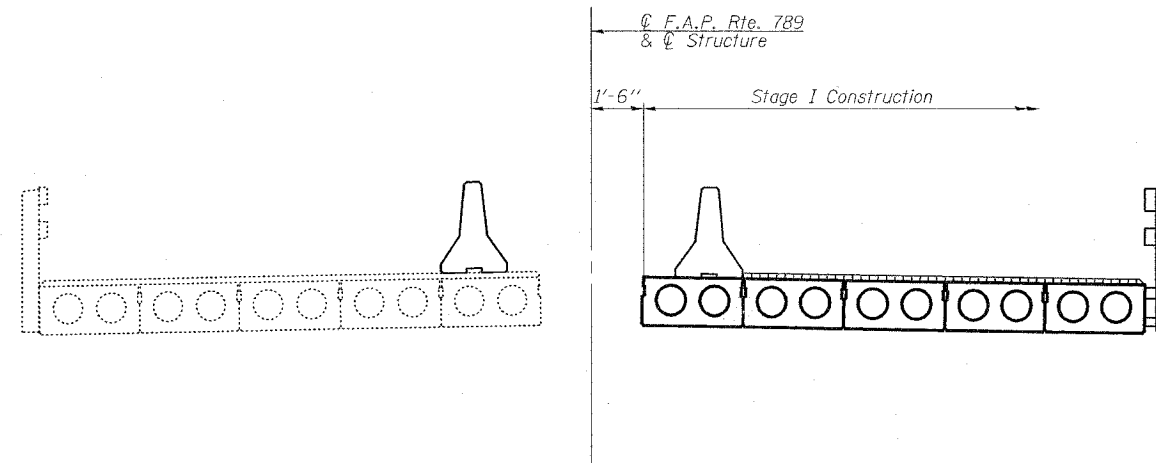
Contract #76896



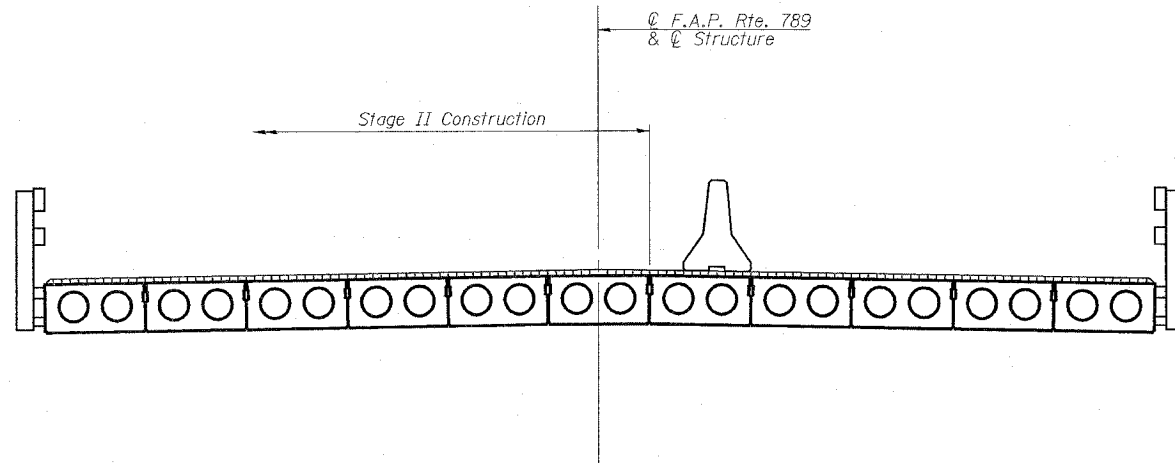
**STAGE I REMOVAL**



**STAGE II REMOVAL**



**STAGE I CONSTRUCTION**



**STAGE II CONSTRUCTION**

**GENERAL NOTES CONT.**

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on new beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new beams. To distribute load to multiple beams and protect the concrete, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.

Repair of the abutments and piers shall be completed prior to placement of the new deck beams.

Notes:  
All sections are looking East.  
For quantity of Temporary Concrete Barrier, see roadway plans.  
For details of Temporary Concrete Barrier, see sheet 3 of 12.

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

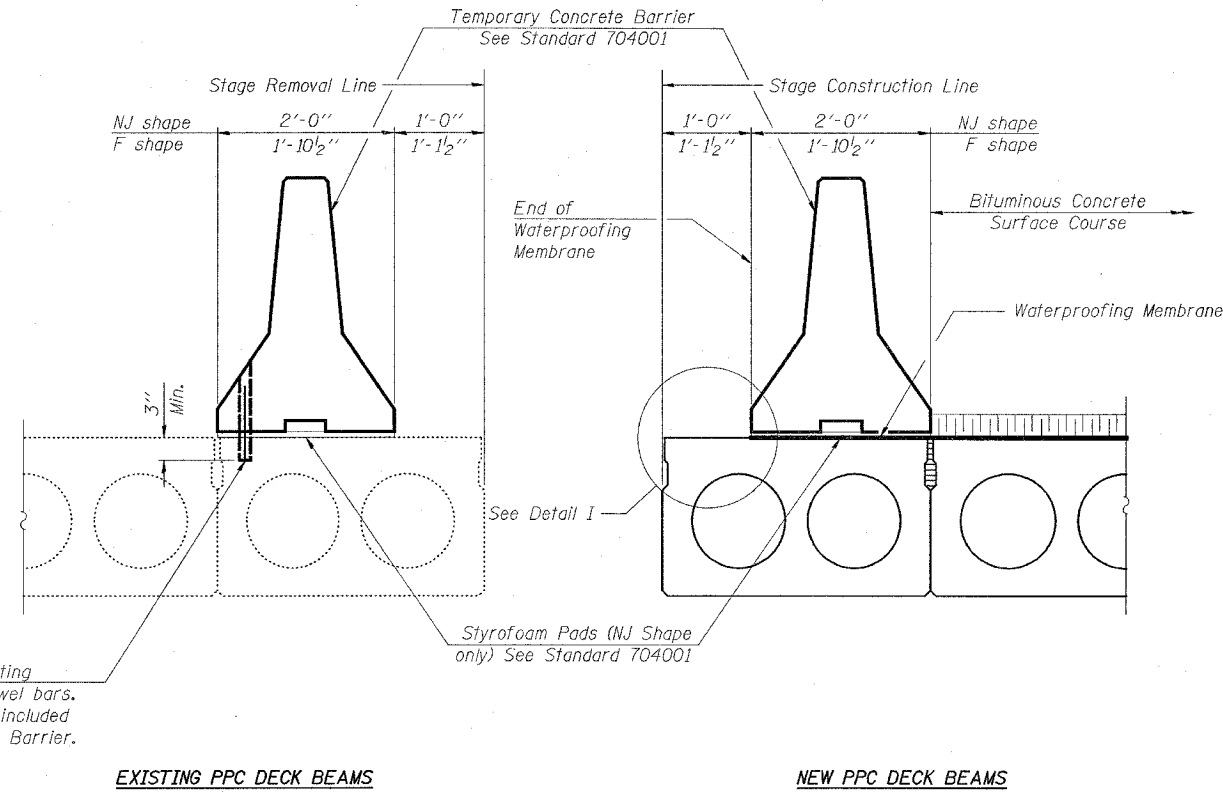
**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**STAGE CONSTRUCTION DETAILS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	12	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #76896

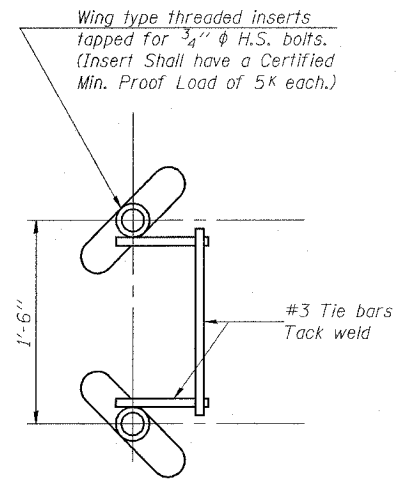


Drill 1/4"  $\phi$  Holes in existing beam for 1"  $\phi$  x 10" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

EXISTING PPC DECK BEAMS

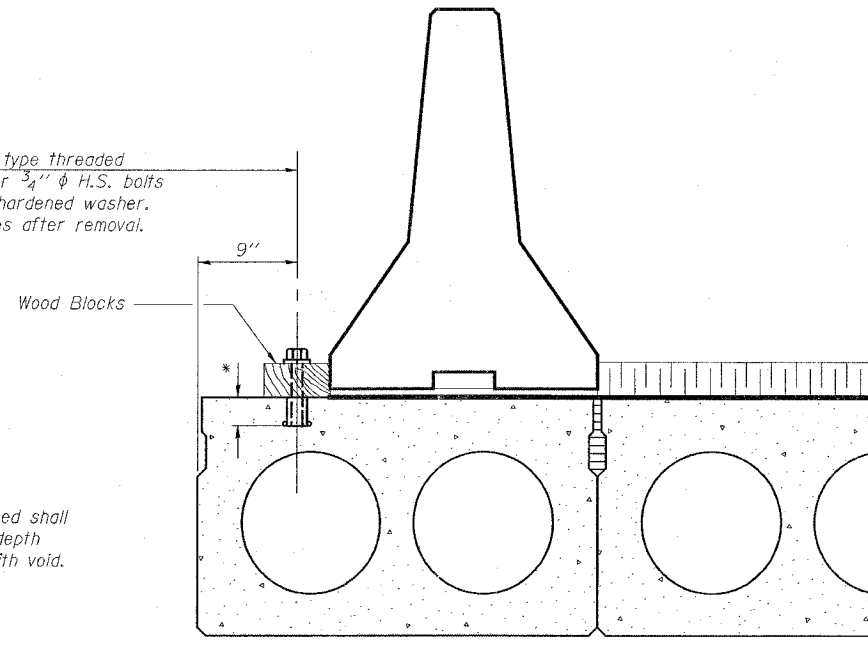
NEW PPC DECK BEAMS

SECTIONS THRU PPC DECK BEAMS



INSERT DETAIL

2 - Wing type threaded inserts for 3/4"  $\phi$  H.S. bolts with flat hardened washer. Grout holes after removal.



DETAIL I

The Temporary Concrete Barrier and wood blocks shall not be removed until Stage II Construction PPC Deck Beams have been placed and shear keys grouted.

NOTES

- The 3/4"  $\phi$  high strength bolts used to connect the wood blocks shall be tightened to a snug fit without crushing the wood block.
- The wing type threaded insert assembly shall be spaced 6'-0" longitudinally.
- The Waterproofing Membrane shall extend under the Temporary Concrete Barrier without the asphalt sand seal protection layer. Once the Temporary Concrete Barrier has been removed, and the penetrating primer, coal tar emulsion, coal tar emulsion and fiberglass fabric, and coal tar emulsion slurry layers of the Waterproofing Membrane is lapped 6", the asphalt sand seal protection layer shall be applied according to Article 581 of the Standard Specifications.
- The cost for H.S. bolts, flat headed washers, and wood block is included with Temporary Concrete Barrier.
- The cost for wing type threaded inserts is included with Precast Prestressed Concrete Deck Beams (17" Depth).

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
F.A.P. ROUTE 789 - SECTION 68-BR-1  
MADISON COUNTY  
STATION 98+33.25  
STRUCTURE NO. 060-0150**

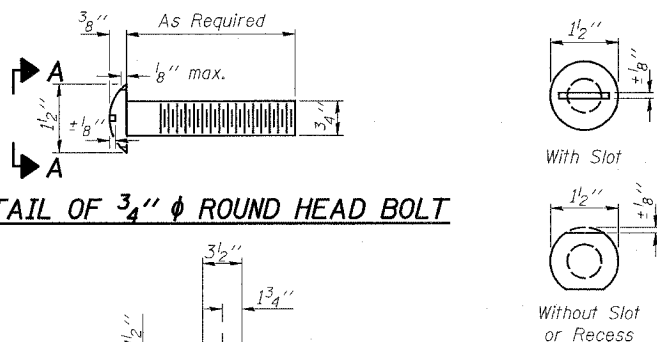
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	13	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #76896

12 SHEETS

DETAIL OF 3/4" φ ROUND HEAD BOLT



VIEW A-A

4-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ holes in hollow structural section may be drilled in the field.

RAIL SPLICE CONNECTION  
AT EXPANSION JT.

Locknut

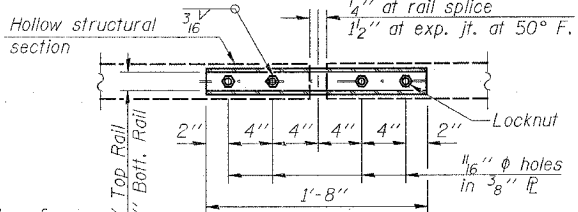
1/8" x 2 1/2" Slotted Holes in hollow structural section

5/8" φ x 1 3/4" Cap Screw with flat washer & 3/4" φ X pipe spacer, 1/2" long.

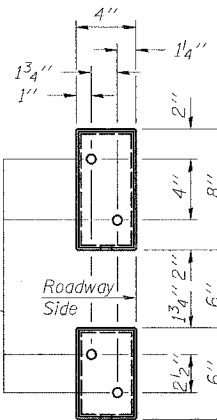
Hollow structural section

1/4" at rail splice  
1/2" at exp. jt. at 50° F.

PLAN-BOTT. SPLICE P  
TYPICAL



SECTION AT  
RAIL SPLICE



VIEW E-E

3/8" x 6 7/8" x 1'-8" Each side, top rail  
3/8" x 4 1/8" x 1'-8" Each side, bottom rail

3/8" x 2 1/2" x 1'-8" Top & Bottom

Typ.

3/16" Typ.

3/4" φ Holes in tubing

3/4" φ drain hole

1'-2 1/2"

1" φ holes

3/16" x 3 1/2" x 7 1/2"

3/16" x 3 1/2" x 5 1/2"

END OF RAIL DETAILS

NOTES

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.

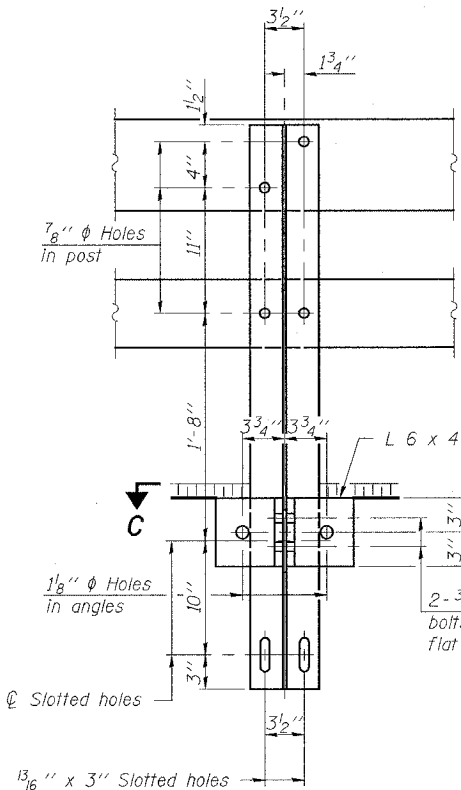
The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" φ cap screws in bottom of posts shall be tightened to a snug fit only.

For rail post spacing, see sheet 5 of 12.

BILL OF MATERIAL

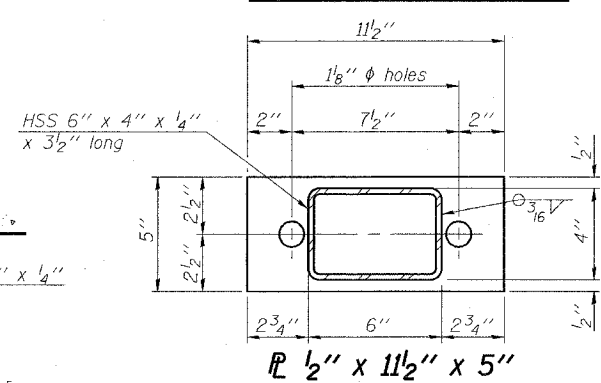
Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	252

TYPE SM  
STEEL BRIDGE RAIL SIDE MOUNTED  
F.A.P. ROUTE 789 - SECTION 68-BR-1  
MADISON COUNTY  
STATION 98+33.25  
STRUCTURE NO. 060-0150

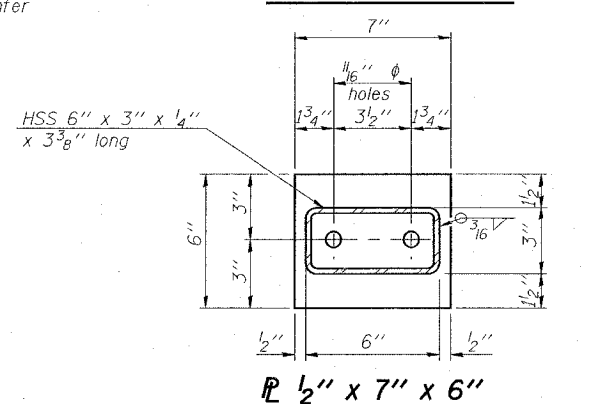


SECTION B-B

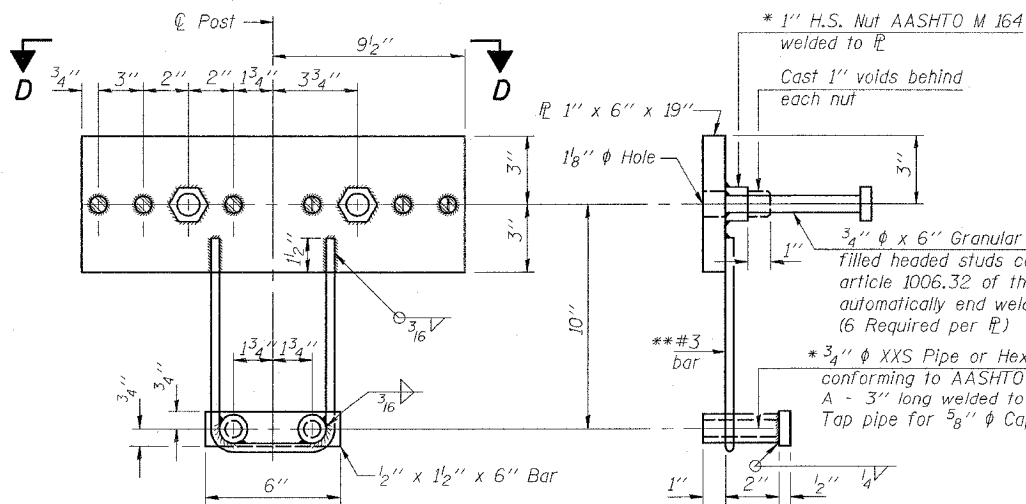
SECTION AT RAIL POST



1/2" x 11 1/2" x 5"



1/2" x 7" x 6"



ANCHOR DEVICE

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

\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

R-34BWS

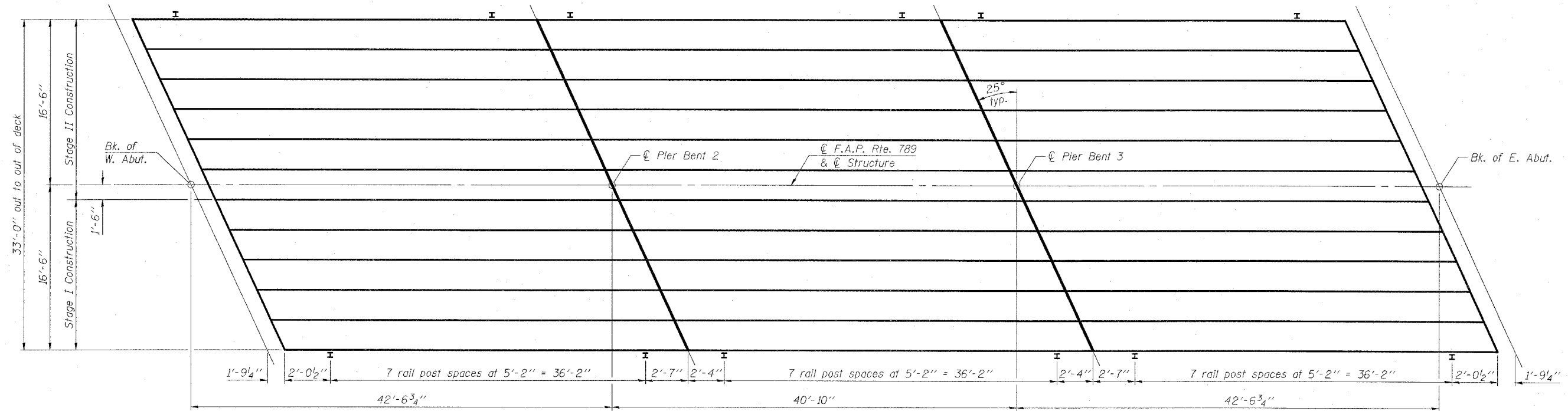
HORNER & SHIFRIN, INC.  
ENGINEERS ARCHITECTS PLANNERS

10-28-05 (6'-3" Maximum Post Spacing) (1 1/4" minimum to 3 1/8" maximum BWS thickness)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

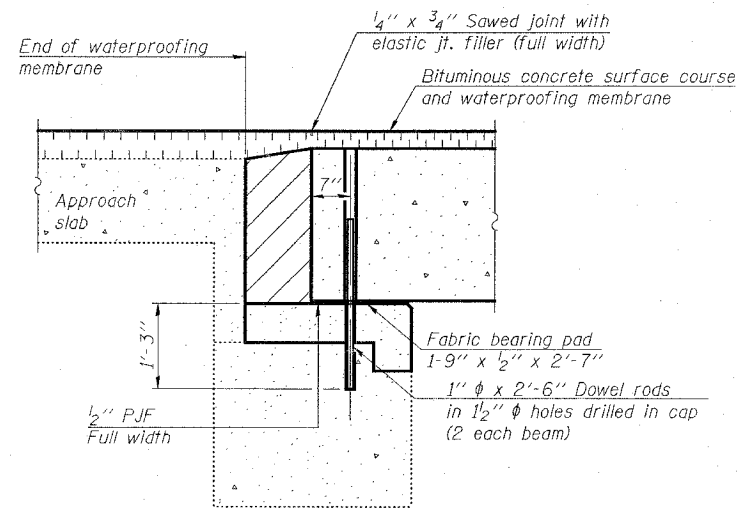
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	14	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #76896

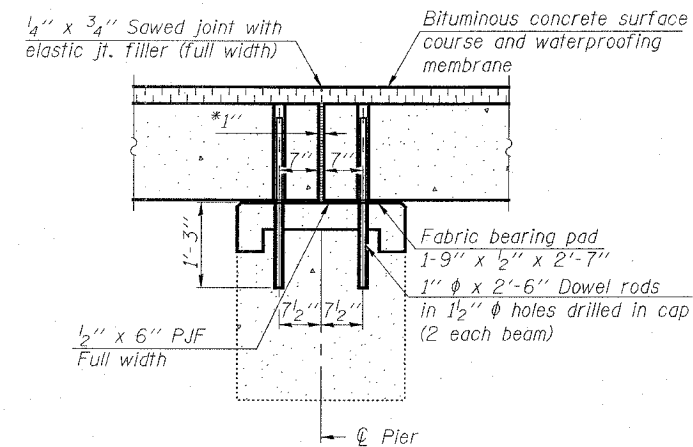


Note:  
Rail spacing the same on both sides of the bridge.

PLAN



SECTION THRU ABUTMENT



SECTION THRU FIXED PIER

Notes:  
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.  
All horizontal dimensions are at right angles to beam ends. Hatched area to be poured after beams are in place. See sheet 7 of 12 for bearing pad details.

\* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

DESIGNED	E.M.L.
CHECKED	N.J.M.
DRAWN	E.M.L.
CHECKED	N.J.M.

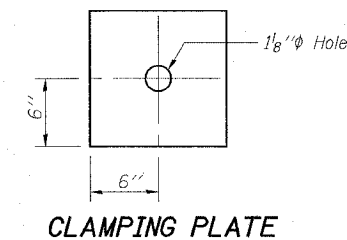
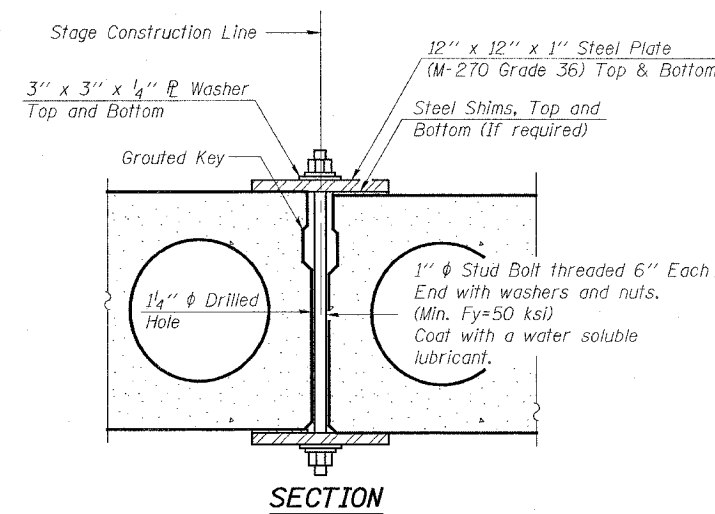
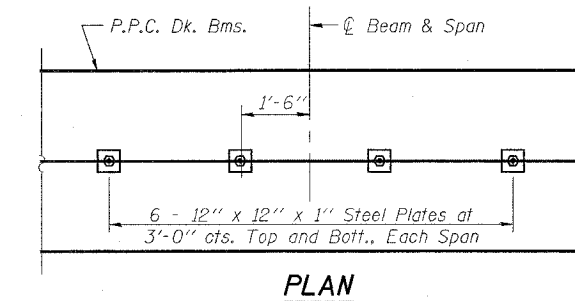
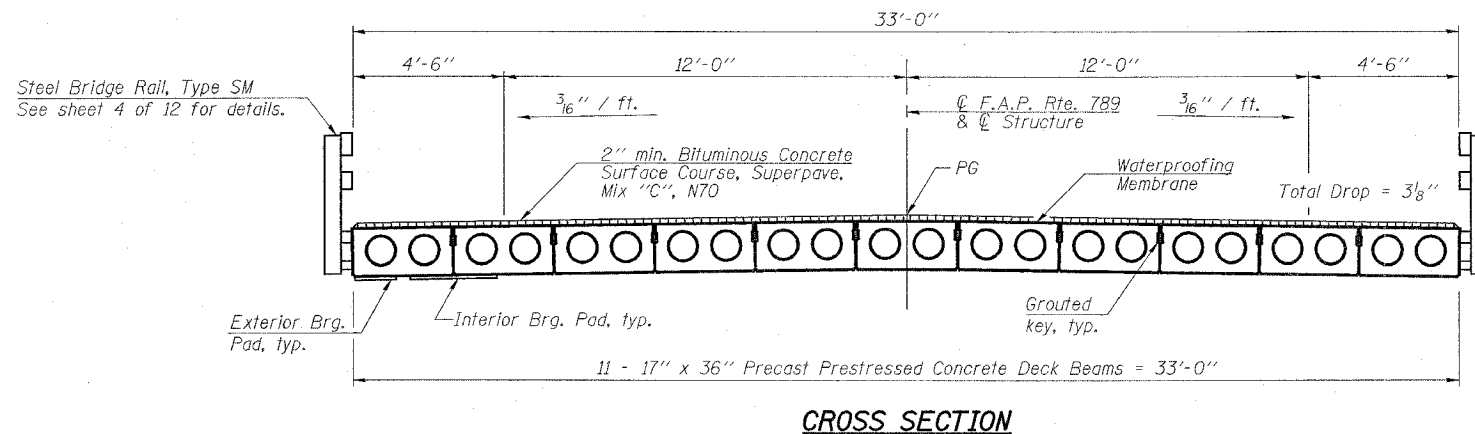
**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**SUPERSTRUCTURE DETAILS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

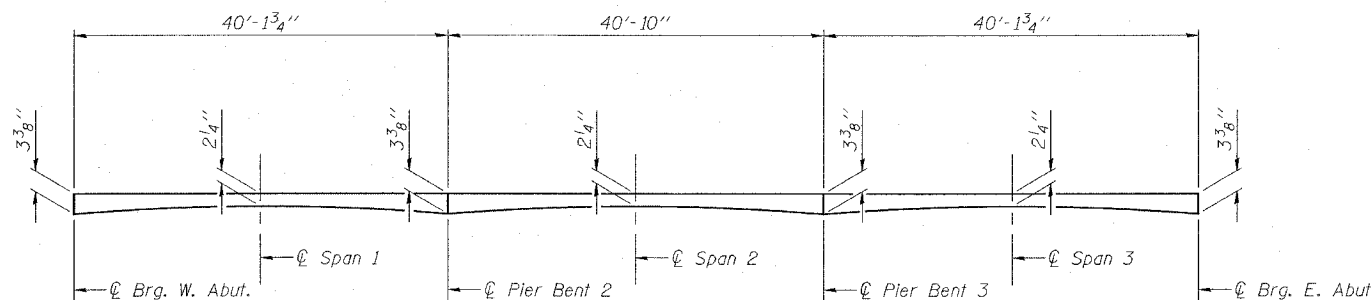
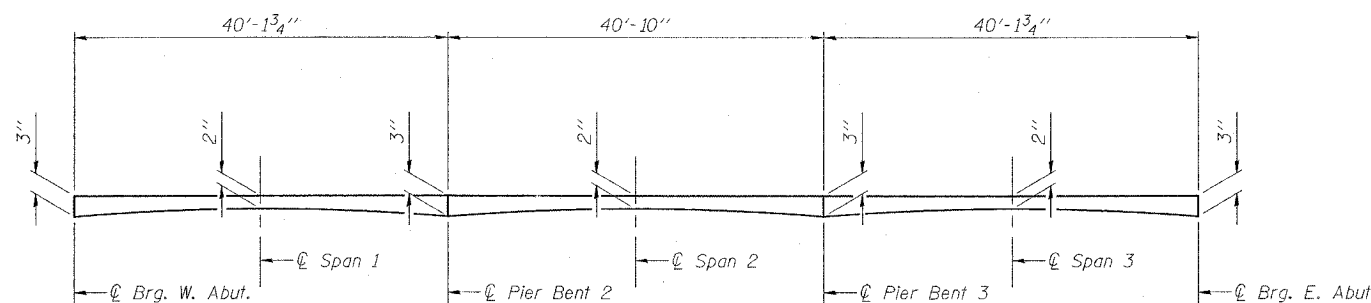
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 12 SHEETS
F.A.P. 789 68-BR-1	MADISON			15	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #76896



**SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.**

See Special Provisions for Stage Construction of Precast Prestressed Concrete Deck Beams. Cost included with "Precast Prestressed Concrete Deck Beams". See Stage Construction Details for traffic lanes.



Note:  
Bituminous Concrete Surface Course Profile dimensions include 1/2" for waterproofing membrane thickness.

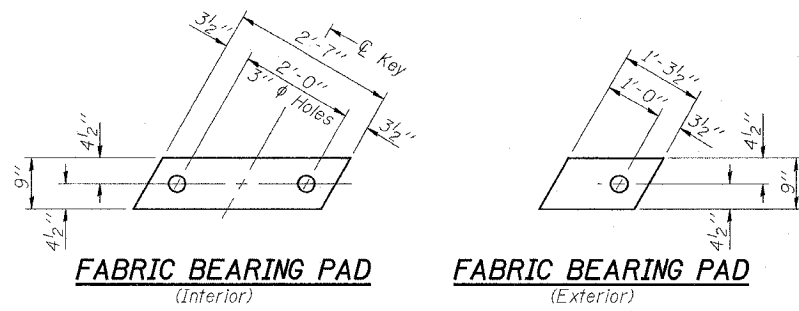
DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**SUPERSTRUCTURE DETAILS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

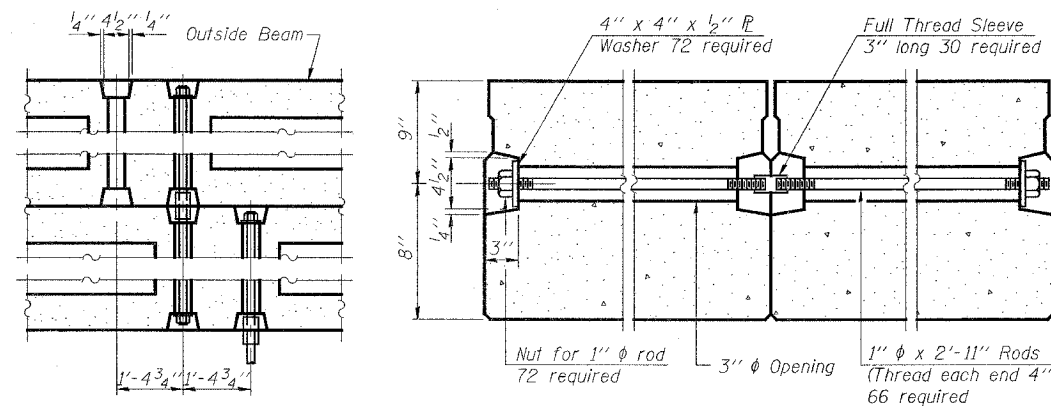
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.P. 789	68-BR-1	MADISON	16	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



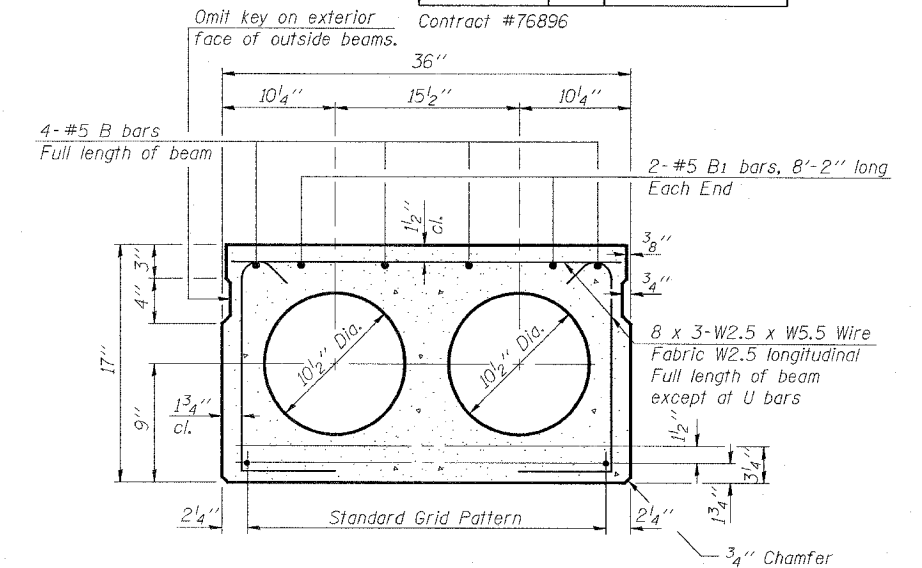
FABRIC BEARING PAD  
(Interior)

FABRIC BEARING PAD  
(Exterior)

FIXED



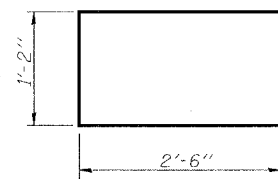
TYPICAL TRANSVERSE TIE ASSEMBLY



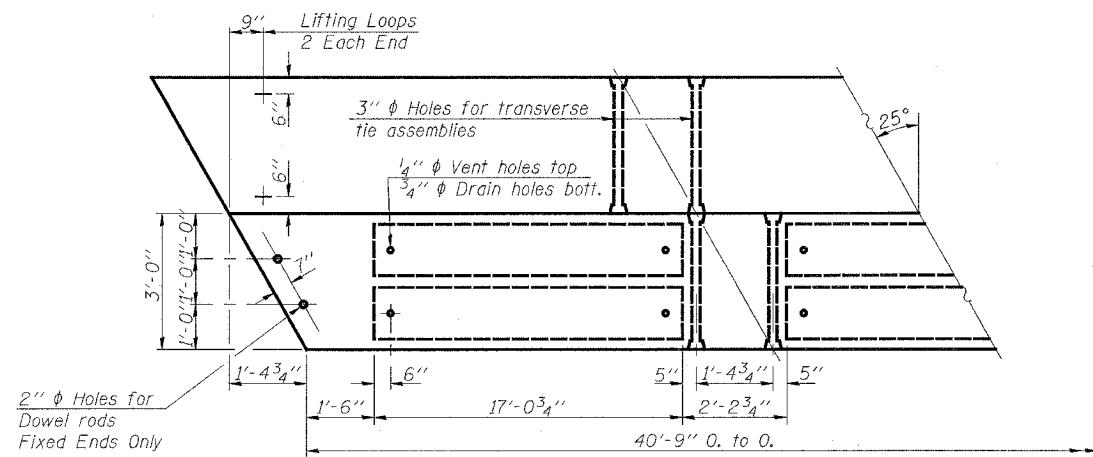
TYPICAL SECTION

1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
10-Strands 1 3/4" up, 2-Strands 3/4" up, 2-Strands 12" up

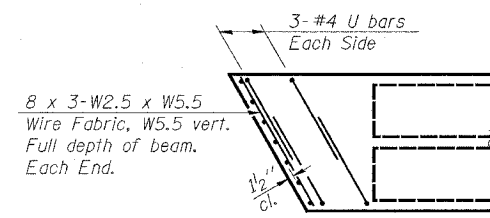
Note:  
Place strands symmetrically about  $\phi$  of beam.



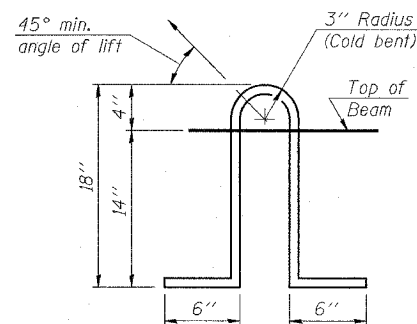
BAR U



PLAN



END PLAN



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2 - 1/2"  $\phi$ -270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i. See sheet 5 of 12 for spacing of rail post. See sheet 4 of 12 for rail anchor device to be cast in precast beams. See sheet 6 of 12 for Shear Key Clamping Details at Stage Const. Jt. See sheet 3 of 12 for Wing Type Threaded Insert location and spacing.

BILL OF MATERIAL

Item	Unit	Total
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	4034

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**SUPERSTRUCTURE DETAILS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

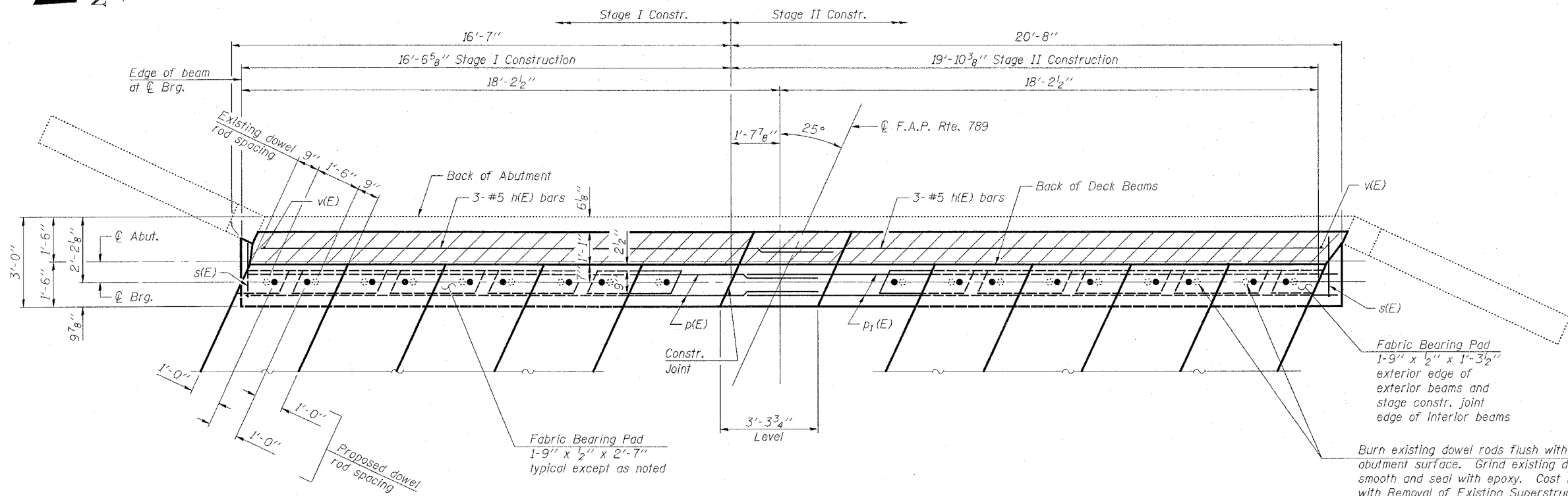


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	17	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

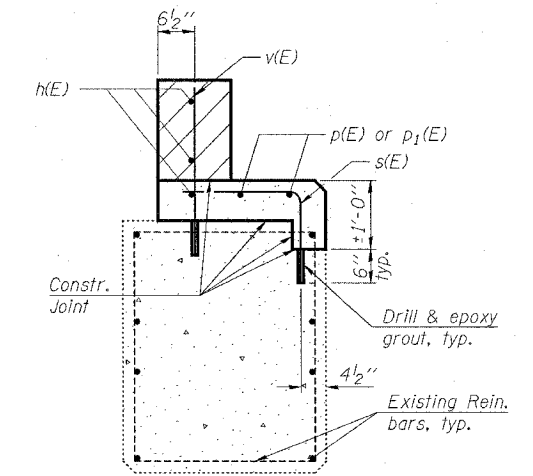
SHEET NO. 8  
12 SHEETS

Contract #76896



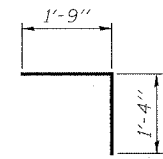
**PLAN**

(Not all deck beams and bearings are shown)  
(Bituminous concrete surface course not shown)

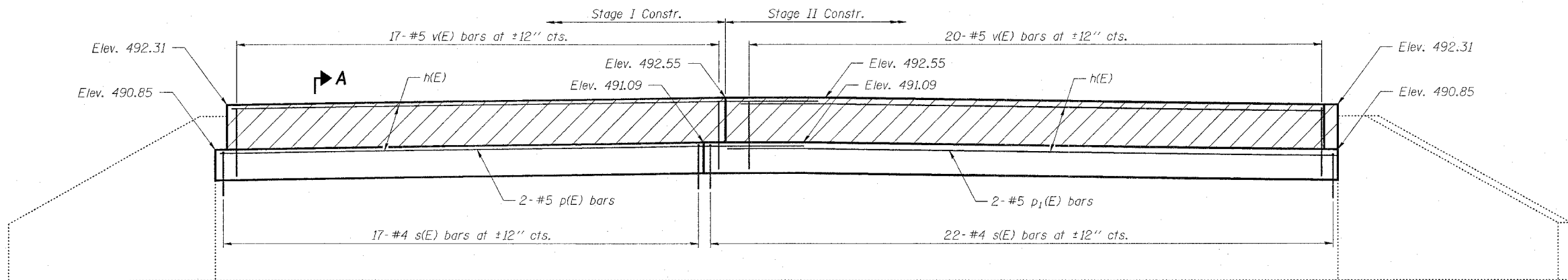


**SECTION A-A**

(Deck beams, bearings and approach slab not shown)  
(Bituminous concrete surface course not shown)



**BAR s(E)**



**ELEVATION**

(Looking West)  
(Deck beams and bearings not shown)  
(Bituminous concrete surface course not shown)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	6	#5	19'-4"	—
p(E)	2	#5	19'-6"	—
p <sub>1</sub> (E)	2	#5	20'-1"	—
s(E)	39	#4	3'-1"	└
v(E)	37	#5	2'-3"	—
Concrete Structures			Cu. Yd.	4.5
Reinforcement Bars, Epoxy Coated			Pound	370

Reinforcement Bars designated (E) shall be epoxy coated.  
Provide 2" chamfer to edge of beamseat.

Note:  
Hatched area to be poured after beams are in place.  
For Abutment "Concrete Removal" details, see sheet 10 of 12.  
For Abutment Repair details, see sheet 12 of 12.

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

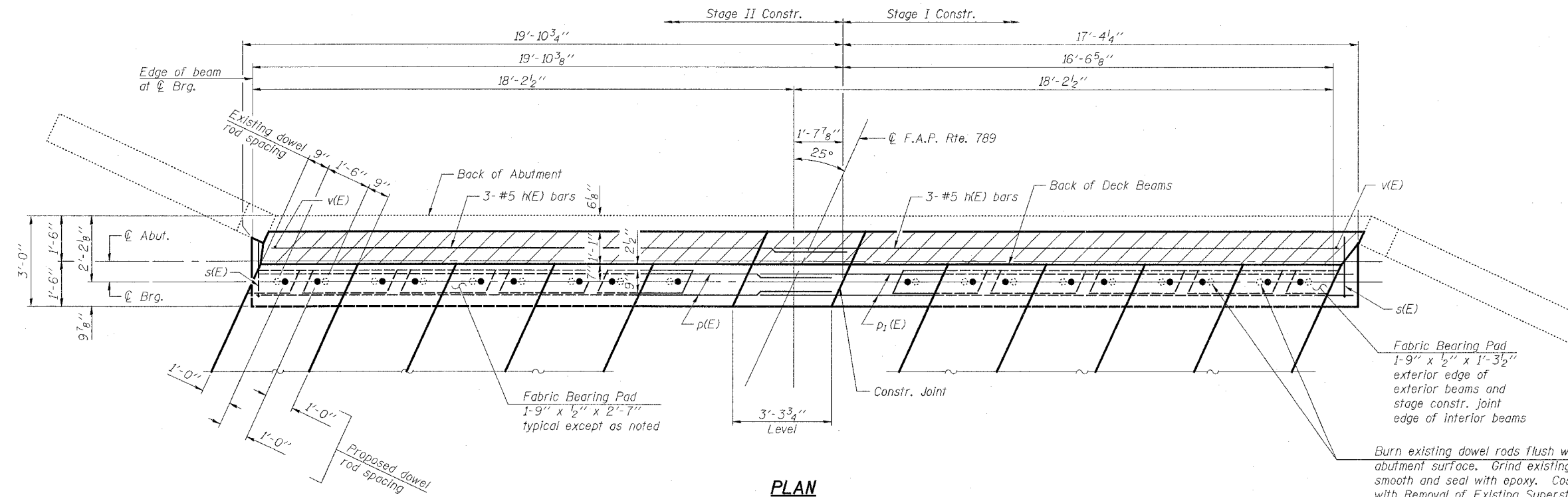
**WEST ABUTMENT**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

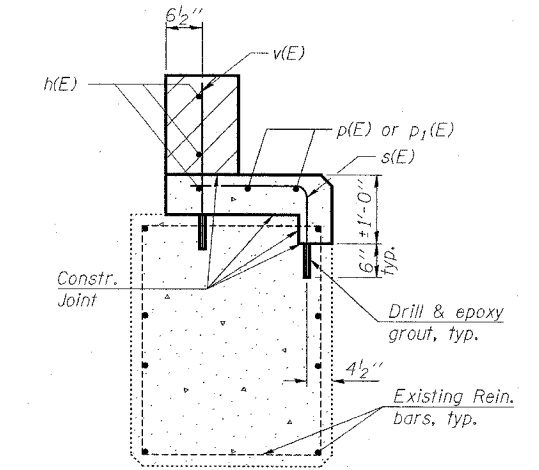
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789	68-BR-1	MADISON	18	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9  
12 SHEETS

Contract #76896

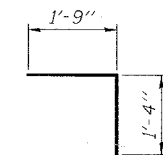


**PLAN**  
(Not all deck beams and bearings are shown)  
(Bituminous concrete surface course not shown)

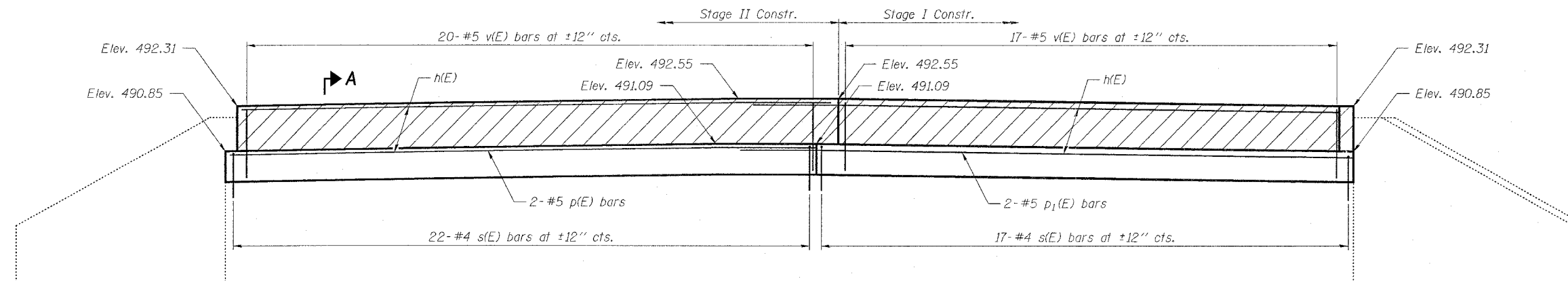


**SECTION A-A**  
(Deck beams, bearings and approach slab not shown)  
(Bituminous concrete surface course not shown)

Burn existing dowel rods flush with existing abutment surface. Grind existing dowel rods smooth and seal with epoxy. Cost is included with Removal of Existing Superstructures.



**BAR s(E)**



**ELEVATION**  
(Looking East)  
(Deck beams and bearings not shown)  
(Bituminous concrete surface course not shown)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	6	#5	19'-4"	
p(E)	2	#5	19'-6"	
p <sub>1</sub> (E)	2	#5	20'-1"	
s(E)	39	#4	3'-1"	└
v(E)	37	#5	2'-3"	
Concrete Structures			Cu. Yd.	4.4
Reinforcement Bars, Epoxy Coated			Pound	370

Reinforcement Bars designated (E) shall be epoxy coated.  
Provide 2" chamfer to edge of beamseat.

Note:  
Hatched area to be poured after beams are in place.  
For Abutment "Concrete Removal" details, see sheet 10 of 12.  
For Abutment Repair details, see sheet 12 of 12.

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

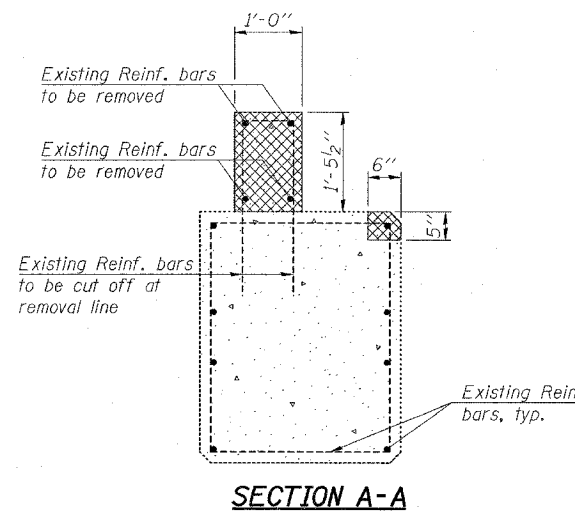
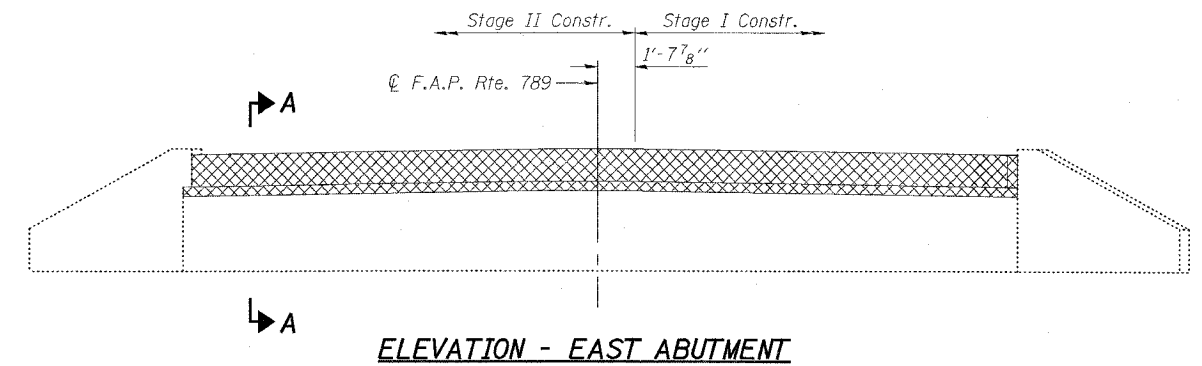
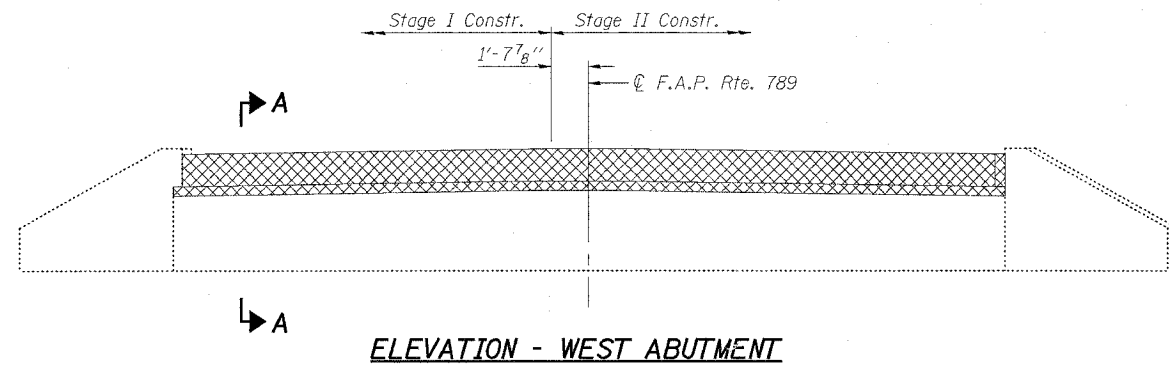
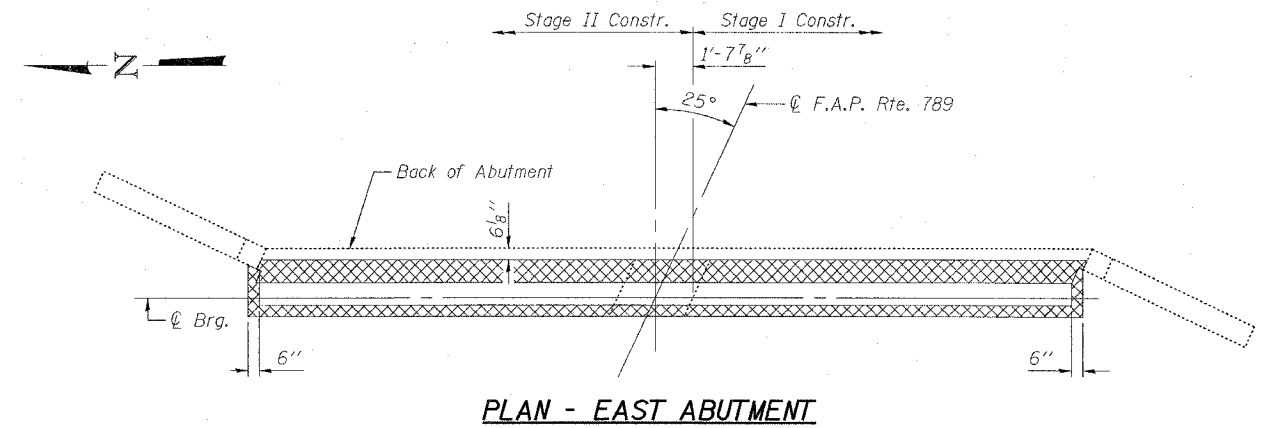
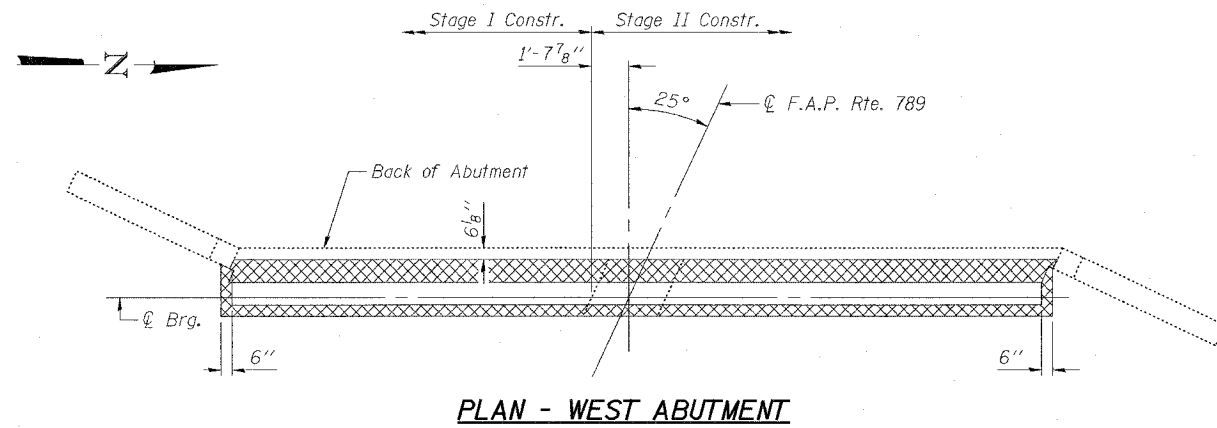
**HORNER & SHIFRIN, INC.**  
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**EAST ABUTMENT**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 789-68-BR-1		MADISON	12	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

Contract #76896



BILL OF MATERIAL

Item	Unit	Total
Concrete Removal	Cu. Yd.	4.6

Note:  
Hatched area indicates "Concrete Removal".  
Reinforcement extending into removed area shall be cleaned and incorporated into the new construction, except as noted.  
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".  
Concrete Removal shall occur during its respective stage construction.  
For West Abutment details, see sheet 8 of 12.  
For East Abutment details, see sheet 9 of 12.

ABUTMENT CONCRETE REMOVAL DETAILS  
F.A.P. ROUTE 789 - SECTION 68-BR-1  
MADISON COUNTY  
STATION 98+33.25  
STRUCTURE NO. 060-0150

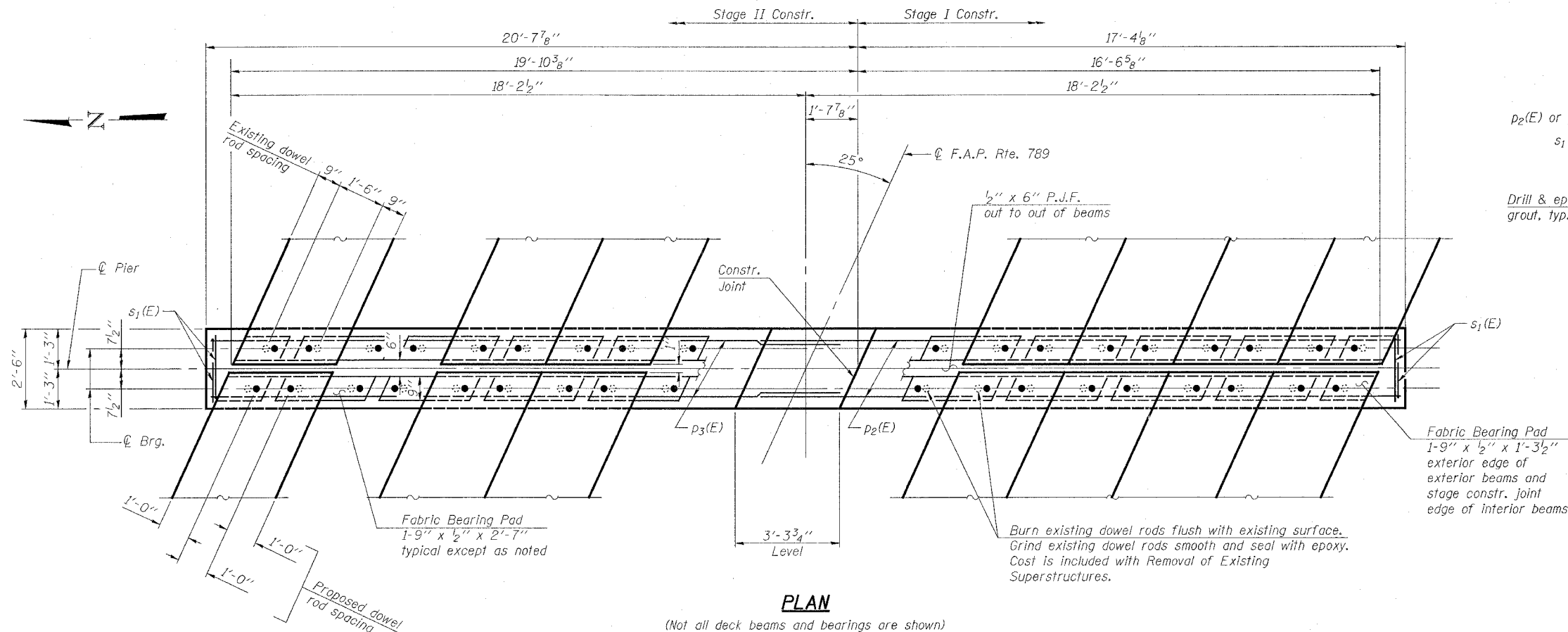
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CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

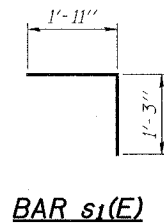
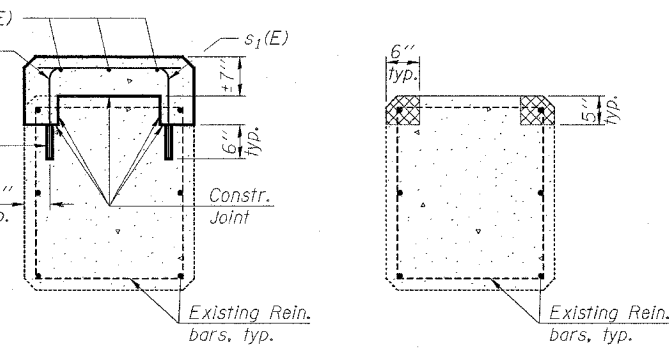
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
F.A.P. 789	68-BR-1	MADISON	20	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #76896



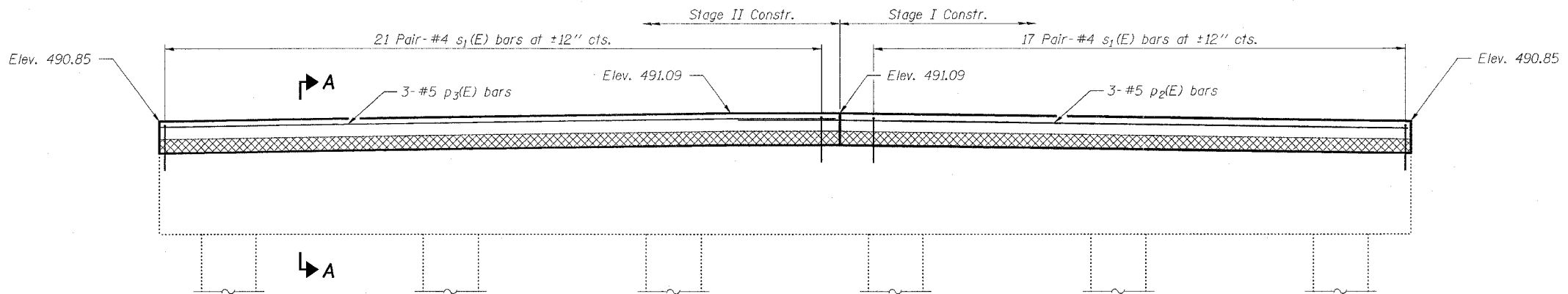
**PLAN**  
(Not all deck beams and bearings are shown)  
(Bituminous concrete surface course not shown)



**BILL OF MATERIAL  
(PER PIER BENT)**

Bar	No.	Size	Length	Shape
p <sub>2</sub> (E)	3	#5	20'-3"	—
p <sub>3</sub> (E)	3	#5	20'-0"	—
s <sub>1</sub> (E)	76	#4	3'-2"	└
Concrete Removal			Cu. Yd.	0.6
Concrete Structures			Cu. Yd.	2.5
Reinforcement Bars, Epoxy Coated			Pound	290

Reinforcement Bars designated (E) shall be epoxy coated.  
Provide 2" chamfer to edge of beamseat.



**ELEVATION**  
(Looking East)

Note:  
Hatched area indicates "Concrete Removal".  
Reinforcement extending into removed area shall be cleaned and incorporated into the new construction.  
Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to "Concrete Removal".  
Concrete Removal shall occur during its respective stage construction.  
For Pier Bent repair details, see sheet 11 of 12.

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

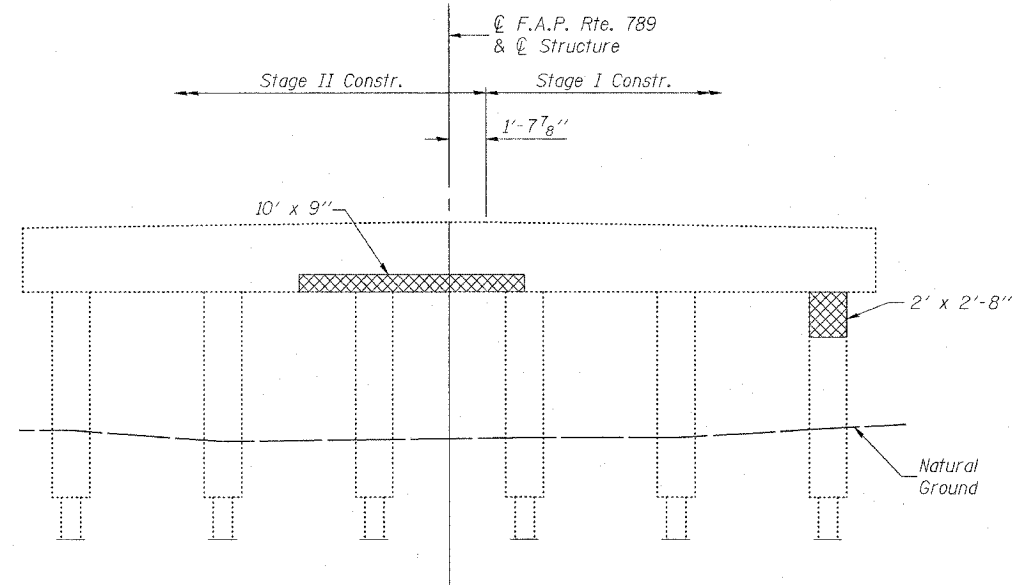
**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

**PIER BENTS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**

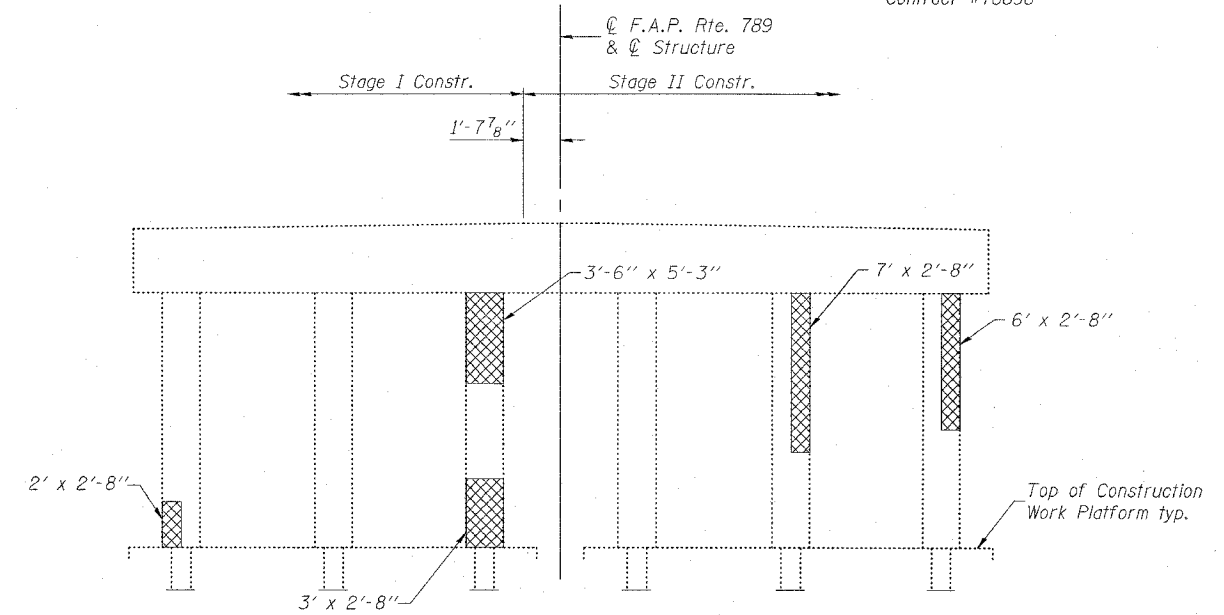
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
F.A.P. 789	68-BR-1	MADISON		21	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

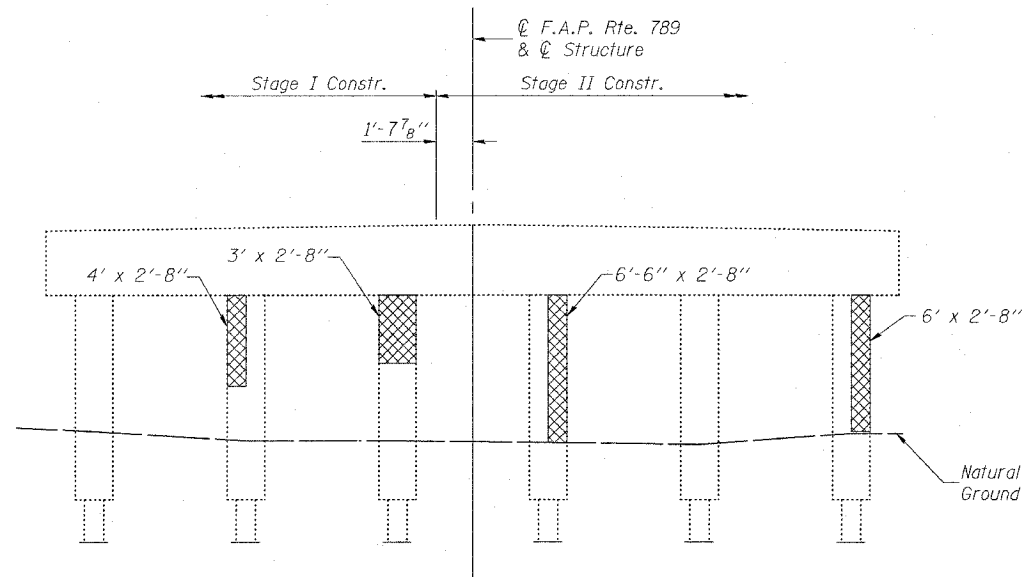
Contract #76896



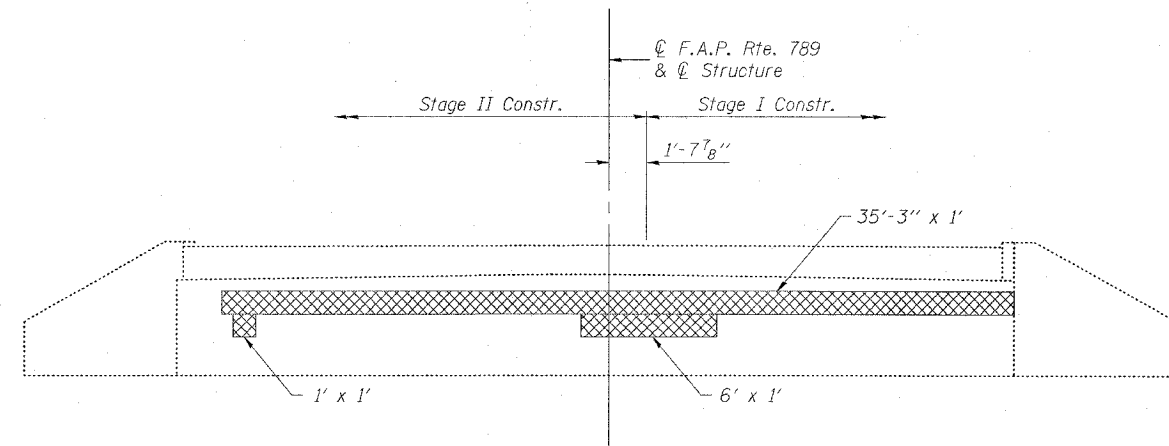
**ELEVATION-PIER BENT 2**  
(Looking East)



**ELEVATION-PIER BENT 3**  
(Looking West)



**ELEVATION-PIER BENT 2**  
(Looking West)



**ELEVATION-EAST ABUTMENT**  
(Looking East)

Notes:  
Structural Repair of Concrete shall occur during its respective stage construction.  
See Special Provisions for Structural Repair of Concrete.

**LEGEND**

▣ Structural Repair of Concrete

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal to or less than 5")	Sq. Ft.	173.5

DESIGNED	EML
CHECKED	NJM
DRAWN	EML
CHECKED	NJM

**HORNER & SHIFRIN, INC.**  
ENGINEERS ■ ARCHITECTS ■ PLANNERS

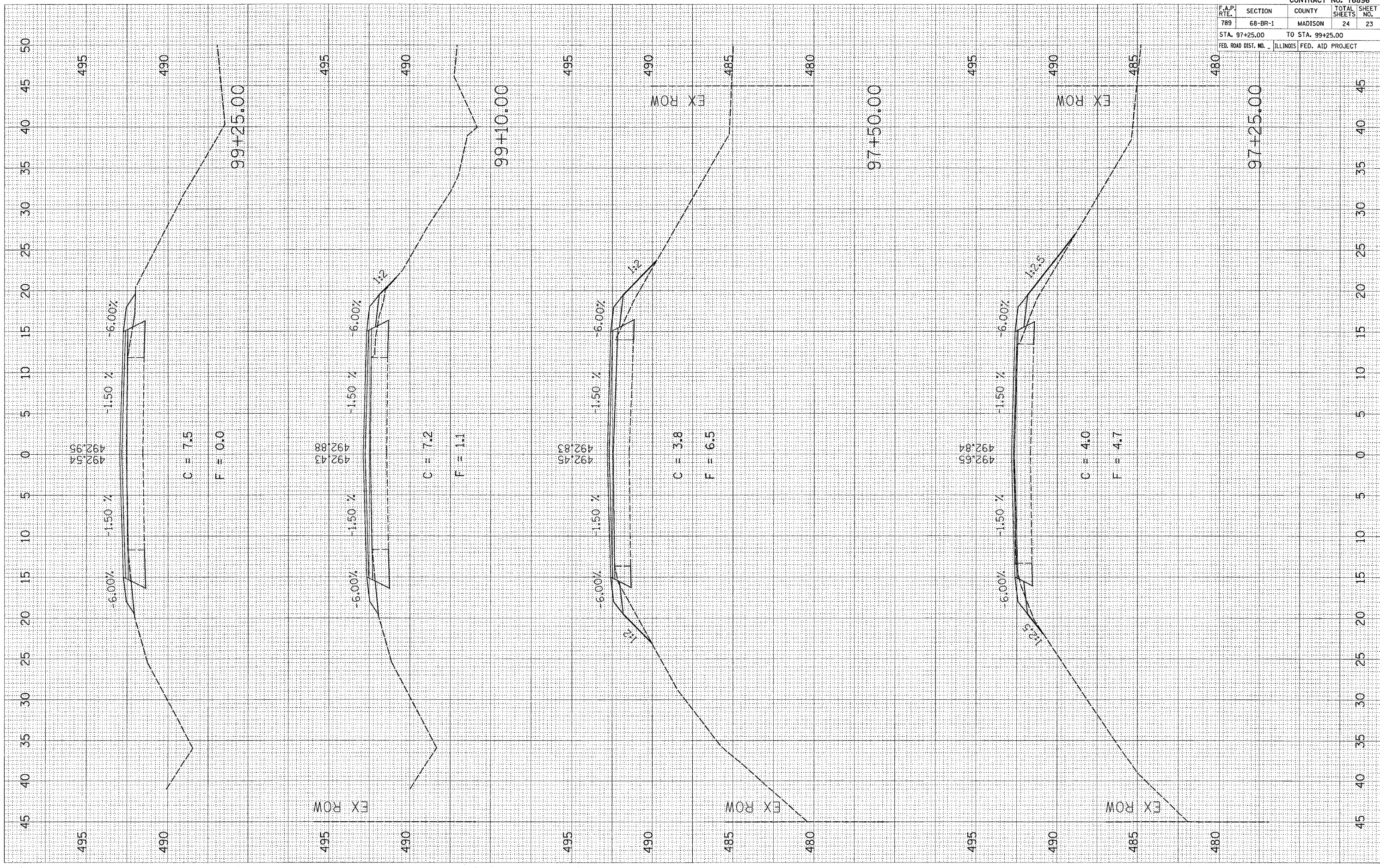
**SUBSTRUCTURE REPAIR DETAILS**  
**F.A.P. ROUTE 789 - SECTION 68-BR-1**  
**MADISON COUNTY**  
**STATION 98+33.25**  
**STRUCTURE NO. 060-0150**



PLOT DATE = 5/15/2006  
 PLOT SCALE = 1" = 40'  
 USER NAME = gauru

ORIGINAL SURVEYED  
 COPY PLOTTED  
 NO. DATE  
 TEMPL. AREAS CHECKED

FINAL SURVEYED  
 COPY PLOTTED  
 NO. DATE  
 TEMPL. AREAS CHECKED



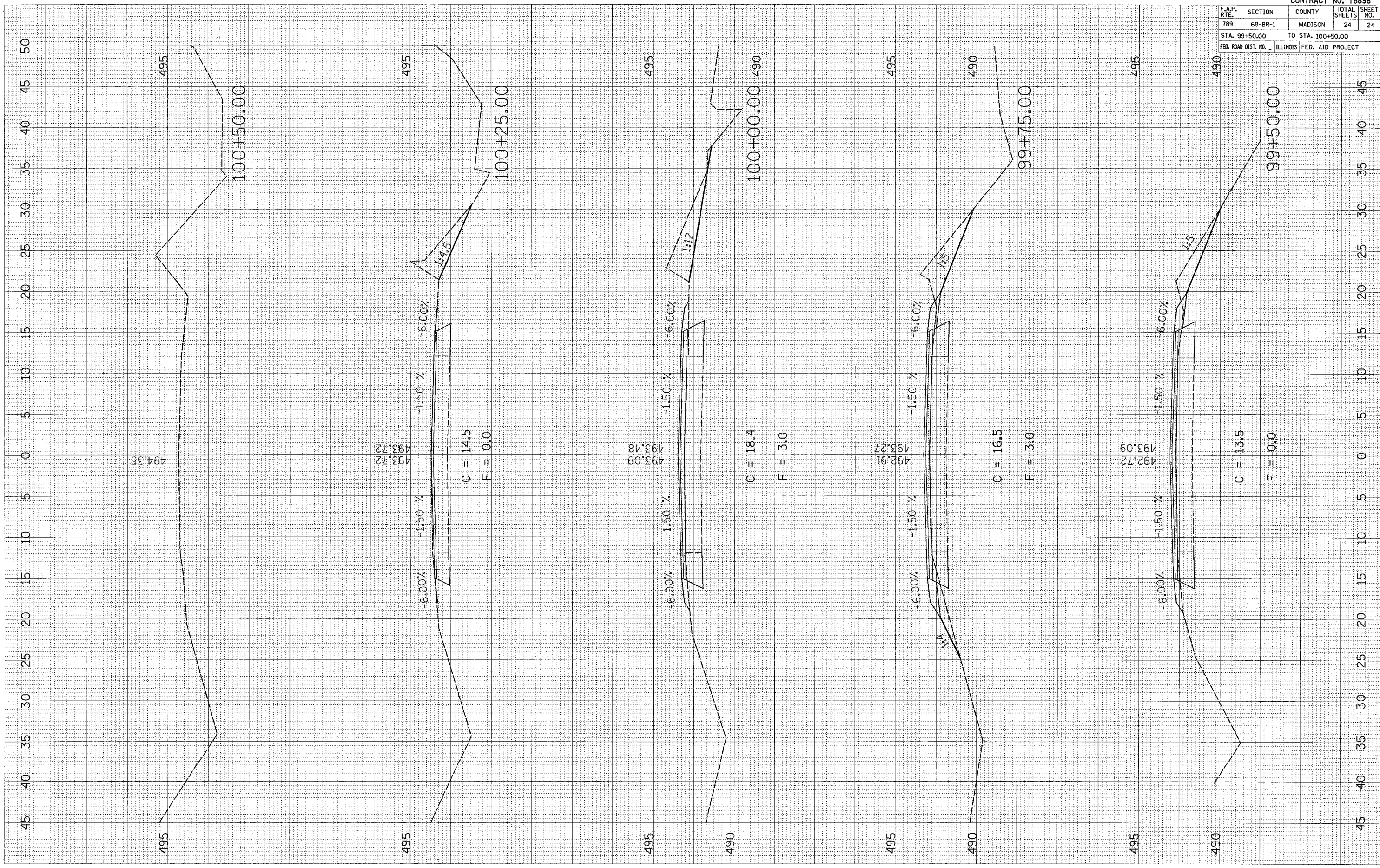
CONTRACT NO. 76896				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	23
STA. 97+25.00 TO STA. 99+25.00				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

PLOT DATE = 5/15/2006  
 PLOT SCALE = 1" = 40' / IN.  
 USER NAME = galish

ORIGINAL SURVEY  
 SURVEY PLOTTED  
 NOTE BOOK TEMPLATE  
 NO. AREAS CHECKED

FINAL SURVEY  
 SURVEY PLOTTED  
 NOTE BOOK TEMPLATE  
 NO. AREAS CHECKED

BY \_\_\_\_\_  
 DATE \_\_\_\_\_



CONTRACT NO. 76896				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
789	68-BR-1	MADISON	24	24
STA. 99+50.00		TO STA. 100+50.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				