

CONSULTANT: RJN: BRANDON L. BUZZELL (630) 682-4700

PROJECT ENGINEER: MASOOD AHMAD

DISTRICT TWO - BUREAU OF DESIGN  
SENIOR SQUAD LEADER: SAM ABDULLAH (615) 284-5902

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1, 102BR-2, 102BR-3) D	WINNEBAGO	52	1

CONTRACT NO. 64C93

**D-92-031-07**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

# PROPOSED HIGHWAY PLANS

FAS ROUTE 55 (IL 70)  
SECTION (102BR-1, 102BR-2, 102BR-3) D  
PROJECT BHS- 0055 (104)  
WINNEBAGO COUNTY  
C-92-026-07

### INDEX SHEETS

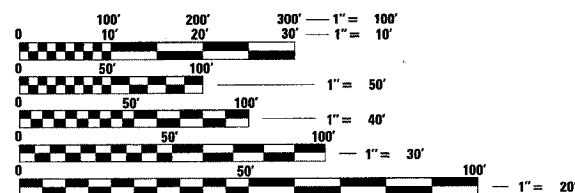
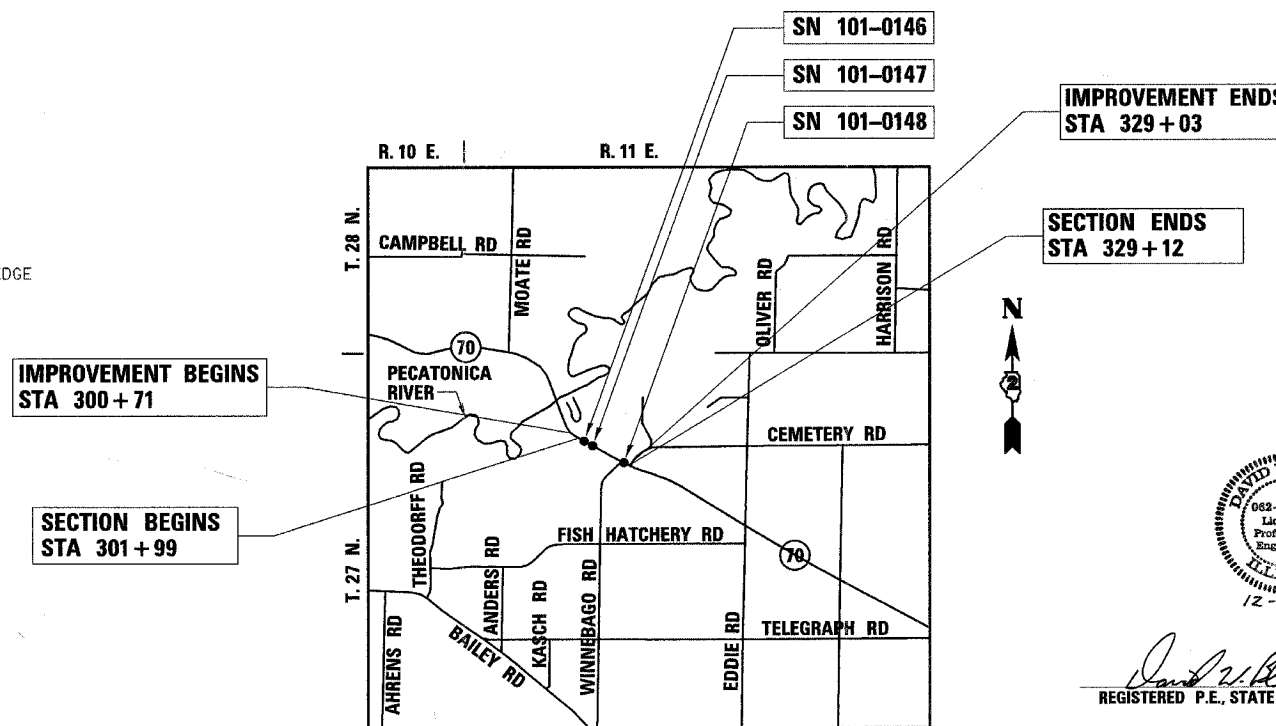
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- 25-36 BRIDGE PLANS SN 101 - 0147
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- 49-52 DISTRICT 2 STANDARDS

### DISTRICT 2 STANDARDS

SHEET NO.	TITLE
23.4	DETAIL OF BITUMINOUS SHOULDER AT GUARDRAIL
39.4	INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)
89.4	LETTERING FOR NAME PLATE
99.4	STOP LINE SIGN FOR TEMPORARY SIGNALS
75.2	ENTRANCE SIGN FOR USE WITH TEMPORARY SIGNALS
41.1	TYPICAL PAVEMENT MARKINGS

### STATE STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-01	AREAS OF REINFORCEMENT BARS
515001-02	NAME PLATE FOR BRIDGES
630001-07	STEEL PLATE BEAM GUARDRAIL
630201-04	PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
631032-03	TRAFFIC BARRIER TERMINAL, TYPE 6A
631051-01	TRAFFIC BARRIER TERMINAL, TYPE 11
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-01	REFLECTOR MARKER AND MOUNTING DETAILS
701001-01	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 4.5 m (15') AWAY
701006-02	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 m (15') TO 600mm (24") FROM PAVEMENT EDGE
701011-01	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-02	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-02	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-02	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-08	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
702001-06	TRAFFIC CONTROL DEVICES
704001-03	TEMPORARY CONCRETE BARRIER
720011	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
728001	TELESCOPING STEEL SIGN SUPPORT
729001	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)
781001-02	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS



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

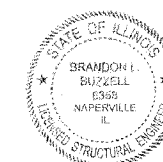
BURRITT TOWNSHIP SECTIONS 5 AND 8

**CONTRACT NO. 64C93**

SN 101-0146 NET LENGTH = 158 FT = 0.03 MILES  
 SN 101-0147 NET LENGTH = 158 FT = 0.03 MILES  
 SN 101-0148 NET LENGTH = 158 FT = 0.03 MILES  
 GROSS LENGTH = 2,713 FT = 0.51 MILES  
 OMISSION LENGTH = 2,239 FT = 0.42 MILES  
 NET LENGTH = 474 FT = 0.09 MILES



*David W. Bluge*  
REGISTERED P.E., STATE OF ILLINOIS 11-30-07 EXPIRES



*Brandon L. Buzzell*  
REGISTERED S.E., STATE OF ILLINOIS 11/30/08 EXPIRES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *December 13, 2007*  
*Frank E. Cowan*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER  
*February 2, 2007*  
*Eve E. Haran*  
ENGINEER OF DESIGN AND ENVIRONMENT  
*February 2, 2007*  
*Milton R. See, P.E.*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**rjngroup**  
Excellence through Ownership  
 RJN GROUP, INC.  
CONSULTING ENGINEERS  
200 W FRONT STREET  
WHEATON, IL 60187  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 184-000813  
EXPIRES 4/30/2007

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

F.A.S. RTE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1,102BR-2, 102BR-3) D	WINNEBAGO	52	2
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS		FED. AID PROJECT	

CONTRACT NO. 64C93

GENERAL NOTES

AT THE LOCATIONS WHERE EXCAVATION QUANTITIES ON THE PLANS ARE INDICATED AS HAVING BEEN ESTIMATED, THE ENGINEER WILL OBTAIN ORIGINAL AND FINAL CROSS SECTIONS TO DETERMINE PAY QUANTITIES.

THE FINAL TOP 100 mm (FOUR INCHES) OF SOIL IN ANY RIGHT-OF-WAY AREA DISTURBED BY THE CONTRACTOR MUST BE CAPABLE OF SUPPORTING VEGETATION. THE SOIL MUST BE FROM THE A HORIZON (ZERO TO 2' DEEP) OF SOIL PROFILES OF LOCAL SOILS. THIS WORK WILL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC METER (CUBIC YARD) FOR EARTH EXCAVATION.

THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS. SEEDING CLASS 4 OR 2A SHALL BE USED, EXCEPT IN FRONT OF PROPERTIES WHERE THE GRASS WILL BE MOWED, THEN USE SEEDING, CLASS 1. CLASS 2A SHALL BE USED ON FRONT SLOPES AND DITCH BOTTOMS. CLASS 4 SHALL BE USED BEHIND TYPE A GUTTER, ON ALL BACKSLOPES AND AREAS BEHIND THE BACKSLOPE, AND BEYOND THE TOE OF FRONT SLOPE ON FILL SECTIONS WITHOUT DITCHES. (INCLUDE THE FOLLOWING SENTENCE, "ONLY IF SEEDING IS LESS THAN 0.2 HECTARES (0.5 AC.) THIS WORK WILL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC METER (CUBIC YARD) FOR EARTH EXCAVATION.

FERTILIZER SHALL BE APPLIED TO ALL DISTURBED AREAS AND INCORPORATED INTO THE SEEDBED PRIOR TO SEEDING OR PLACEMENT OF SOD AT THE RATE SPECIFIED IN SECTIONS 250 AND 252 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

MULCH METHOD II SHALL BE APPLIED OVER ALL SEEDED AREAS. THIS SHALL BE INCLUDED IN THE COST OF THE EARTH EXCAVATION.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

MIXTURE USE(S):	SURFACE	SHOULDER BOTTOM LIFT
PG:	PG 64-22	PG 58-22
DESIGN AIR Voids	4.2 @ N50	2.0 @ N50
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5 OR 12.5	BAM
FRICTION AGGREGATE	D	N/A
20 YEAR ESAL	1.3	N/A

INSTALL A "TO ACTIVATE SIGNAL" SIGN FOR THE TRAFFIC SIGNAL DETECTOR LOOPS. THE DETAIL OF THIS SIGN IS INCLUDED IN THE PLANS. THIS WORK WILL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

BITUMINOUS AND AGGREGATE PRIME COAT SHALL BE PLACED IN ACCORDANCE WITH SECTION 406 OF THE STANDARD SPECIFICATIONS. THE COST OF THE PRIME COATS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50.

THESE STRUCTURES WILL RETAIN THE SAME NUMBERS:  
SN 101-0146  
SN 101-0147  
SN 101-0148

THE CONTRACTOR SHALL SUBMIT FOUR COPIES OF THE REQUIRED SHOP DRAWINGS FOR REVIEW AND APPROVAL TO THE BUREAU OF BRIDGES AND STRUCTURES, 2300 SOUTH DIRKSEN

CONTRACTOR SHALL SUBMIT ONE SET OF SHOP DRAWINGS TO DAVE LIPPERT, ENGINEER OF MATERIALS, 126 EAST ASH STREET, SPRINGFIELD, IL 62706, AND EIGHT (8) SETS OF SHOP DRAWINGS TO BE DISTRIBUTED TO:

- DISTRICT 2 DISTRICT ENGINEER (1)
- FABRICATOR (1)
- CONTRACTOR (2)
- RESIDENT ENGINEER (2)
- DISTRICT 2 BUREAU OF MATERIALS (2)

CULVERT & BRIDGE FLOWS MUST BE MAINTAINED THROUGHOUT THE PROJECT. NORMAL FLOWS SHALL BE ALLOWED TO PASS AT THE RATE IT ENTERS THE JOBSITE. HIGH FLOWS SHALL BE ALLOWED TO PASS WITHOUT CAUSING DAMAGE TO UPSTREAM PROPERTIES.

PAVEMENT MARKING SHALL BE DONE ACCORDING TO STANDARD 780001, EXCEPT AS FOLLOWS:

- ALL WORDS, SUCH AS ONLY, SHALL BE 8 FEET HIGH.
- ALL NON-FREEWAY ARROWS SHALL BE THE LARGE SIZE.
- THE DISTANCE BETWEEN YELLOW NO-PASSING LINES SHALL BE 8", NOT 7" AS SHOWN IN THE DETAIL OF TYPICAL LANE AND EDGE LINES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY DURING CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED FOR NON-EMERGENCY WORK. THE JULIE NUMBER IS 800-892-0123. THE FOLLOWING LISTED UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS ARE MEMBERS OF JULIE:

MR. DAVE SCHACHT  
COM ED  
123 ENERGY AVE.  
ROCKFORD, IL 61109  
(630) 437-2129

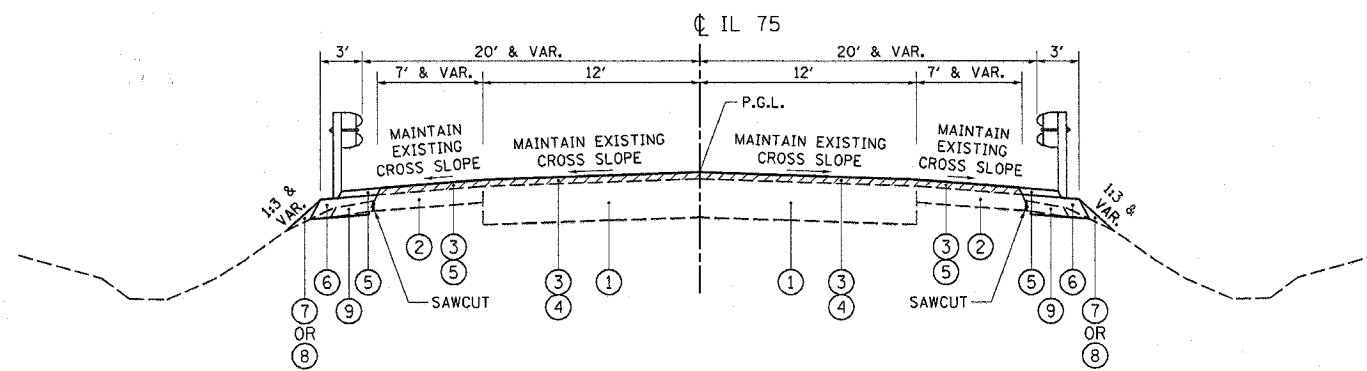
MR. JEREMY SCHNACK  
AT&T  
635 - 18TH STREET  
ROCK ISLAND, IL 61201  
(309) 793-4456

FOLLOWING ARE THE KNOWN UTILITIES LOCATED WITHIN THE PROJECT LIMITS OR IMMEDIATELY ADJACENT TO THE PROJECT CONSTRUCTION LIMITS WHICH ARE NOT MEMBERS OF JULIE AND SHOULD BE NOTIFIED INDIVIDUALLY BY THE CONTRACTOR:

CADD DATA WILL BE AVAILABLE TO CONTRACTORS AND CONSULTANTS WORKING ON THIS PROJECT. THIS INFORMATION WILL BE PROVIDED UPON REQUEST AS MICROSTATION CADD FILES AND GEOPAK COORDINATE GEOMETRY FILES ONLY. IF DATA IS REQUIRED IN OTHER FORMATS IT WILL BE YOUR RESPONSIBILITY TO MAKE THESE CONVERSIONS. IF ANY DISCREPANCY OR INCONSISTENCY ARISES BETWEEN THE ELECTRONIC DATA AND THE INFORMATION ON THE HARD COPY, THE INFORMATION ON THE HARD COPY SHOULD BE USED. CONTACT THE DISTRICT'S PROJECT ENGINEER TO REQUEST THESE FILES.

THE CONTRACTOR SHALL SALVAGE THE EXISTING FLEXIBLE DELINEATORS AT ALL THREE STRUCTURES AND RETURN THEM TO THE R.E. PRIOR TO SETTING UP TRAFFIC CONTROL STAGING.

THE CONTRACTOR SHALL NOT BE ALLOWED TO WORK IN OR FROM WATERWAYS BELOW THE BRIDGES. CONSTRUCTION EQUIPMENT SHALL BE STAGED ON PAVED SURFACES.



NOTE:  
SAWCUT ALONG EDGE OF SHOULDER TO REMAIN PRIOR TO REMOVING PAVED SHOULDER (WORK INCLUDED IN THE CONTRACT PRICE PER SQUARE YARD FOR PAVED SHOULDER REMOVAL).

- LEGEND**
- ① EXISTING PAVEMENT
  - ② EXISTING SHOULDER
  - ③ HOT-MIX ASPHALT SURFACE REMOVAL, 2"
  - ④ 2", HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50
  - ⑤ 2", HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
  - ⑥ HOT-MIX ASPHALT SHOULDERS, 6"
  - ⑦ AGGREGATE SHOULDERS, TYPE B
  - ⑧ STONE DUMPED RIPRAP, CLASS A4
  - ⑨ PAVED SHOULDER REMOVAL

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.S. ROUTE 55 (INTERSTATE 70)
NAME	DATE	
		<b>GENERAL NOTES &amp; TYPICAL SECTION</b>  SCALE: VERT. NONE HORIZ. NONE DATE: DECEMBER 15, 2006

DRAWN BY: JMC  
CHECKED BY: DWB

DATE	BY

DATE	BY

PLOT SCALE: 52-4017 - 1/4 IN.  
PLOT DATE: Mon, Dec 18 07:37:54 2006  
PLOT FILE: C:\PROJECTS\64C93\64C93.DWG  
PLOTTER: HP-GL/PS  
#FILE#  
MODEL NAME: #MODEL#



F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1, 102BR-2, 102BR-3) D	WINNEBAGO	52	4
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 64C93				

TEMPORARY TRAFFIC SIGNAL		TEMPORARY BRIDGE TRAFFIC SIGNALS 70106500
LOCATION	EACH	
1 SN 101-0146 WEST	1	
2 SN 101-0146 EAST		
3 SN 101-0147 WEST		
4 SN 101-0147 EAST		
5 SN 101-0148 WEST		
6 SN 101-0148 EAST		
TOTAL	2	

TEMPORARY RUMBLE STRIP 70106700		
LOCATION	EACH	
1 SN 101-0146 WEST	3	
2 SN 101-0146 EAST	0	
3 SN 101-0147 WEST	0	
4 SN 101-0147 EAST	2	
5 SN 101-0148 WEST	2	
6 SN 101-0148 EAST	3	
TOTAL	10	

TEMPORARY TRAFFIC CONTROL						
LOCATION	FOOT	EACH	FOOT	FOOT	EACH	EACH
1 SN 101-0146 WEST	87.5	1	337.5	287.5	2	1
2 SN 101-0146 EAST		1			1	
3 SN 101-0147 WEST	87.5	1	337.5	287.5	2	1
4 SN 101-0147 EAST		1			1	
5 SN 101-0148 WEST	87.5	1	250.0	262.5	2 *	1
6 SN 101-0148 EAST		1			1	
TOTAL	262.5	6	925.0	837.5	12	6

\* THE TEMPORARY IMPACT ATTENUATOR AT THE SOUTHWEST CORNER OF SN 101-0148 SHALL BE TYPE "ABSORB 350".

TEMPORARY PAVEMENT MARKINGS				
LOCATION	FOOT	FOOT	FOOT	SQ FT
1 SN 101-0146 WEST	140	1,408	24	564
2 SN 101-0146 EAST	89	1,088	0	392
3 SN 101-0147 WEST	62	1,092	0	385
4 SN 101-0147 EAST	77	1,270	24	497
5 SN 101-0148 WEST	214	2,071	54	870
6 SN 101-0148 EAST	112	1,327	24	528
TOTAL	694	8,256	126	3,236

PAVEMENT						
LOCATION	TON	TON	SQ YD	FOOT	SQ YD	SQ YD
1 SN 101-0146 WEST	12.4	12.0	142	25	92.0	122.7
2 SN 101-0146 EAST	13.0	12.0	142	25	96.1	128.0
3 SN 101-0147 WEST	12.2	12.0	142	25	89.3	119.2
4 SN 101-0147 EAST	12.2	12.0	142	25	89.3	119.2
5 SN 101-0148 WEST	12.2	13.0	152	13	89.3	119.2
6 SN 101-0148 EAST	13.0	12.0	148	0	89.0	118.7
TOTAL	75	73	868	113	545	727

PAVEMENT MARKINGS						
LOCATION	FOOT	FOOT	EACH	EACH	SQ FT	EACH
1 SN 101-0146 WEST	1,712	1,070			928	1
2 SN 101-0146 EAST	1,088	680	1	1	590	1
3 SN 101-0147 WEST	1,092	137			410	1
4 SN 101-0147 EAST	1,364	171	1	1	512	1
5 SN 101-0148 WEST	3,332	933			1,422	1
6 SN 101-0148 EAST	1,368	855	1	1	741	1
TOTAL	9,956	3,845	3	3	4,603	6

GUARDRAIL				
LOCATION	FOOT	EACH	FOOT	EACH
1 SN 101-0146 WEST	187.5	2	276	8
2 SN 101-0146 EAST	200.0	2	288	8
3 SN 101-0147 WEST	187.5	2	276	8
4 SN 101-0147 EAST	187.5	2	276	8
5 SN 101-0148 WEST	100.0	2	188	8
6 SN 101-0148 EAST	150.0	2	238	8
TOTAL	1012.5	12	1,542	48

EROSION CONTROL	
LOCATION	SQ YD
1 SN 101-0146 WEST	0
2 SN 101-0146 EAST	0
3 SN 101-0147 WEST	16
4 SN 101-0147 EAST	14
5 SN 101-0148 WEST	0
6 SN 101-0148 EAST	0
TOTAL	30

CODE #	PAY ITEM	APPLICATION RATES
40600200	BITUMINOUS MATERIALS (PRIME COAT)	0.000286 TON / SY
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX C, NSO	112 LB / SY • IN
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX D, NSO	112 LB / SY • IN

PAY ITEMS NOT SCHEDULED			
20200100	EARTH EXCAVATION	60 CU YD	ESTIMATED QUANTITY TO CUT FOR PROPOSED HOT-MIX ASPHALT SHOULDER AS NEEDED
48101200	AGGREGATE SHOULDERS, TYPE B	20 TON	ESTIMATED QUANTITY FOR SPOT PLACEMENT ALONG EDGE OF HOT-MIX ASPHALT SHOULDERS AS NEEDED

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.S. ROUTE 55 (INTERSTATE 70)
NAME	DATE	
		<b>SCHEDULES OF QUANTITIES</b>  SCALE: VERT. NONE HORIZ. NONE DATE: DECEMBER 15, 2006 DRAWN BY: JMC CHECKED BY: DWB

PLAN	DATE
BY	
REVIEWED	
DATE	
NOTED	
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PROFILE	DATE
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REVIEWED	
DATE	
NOTED	
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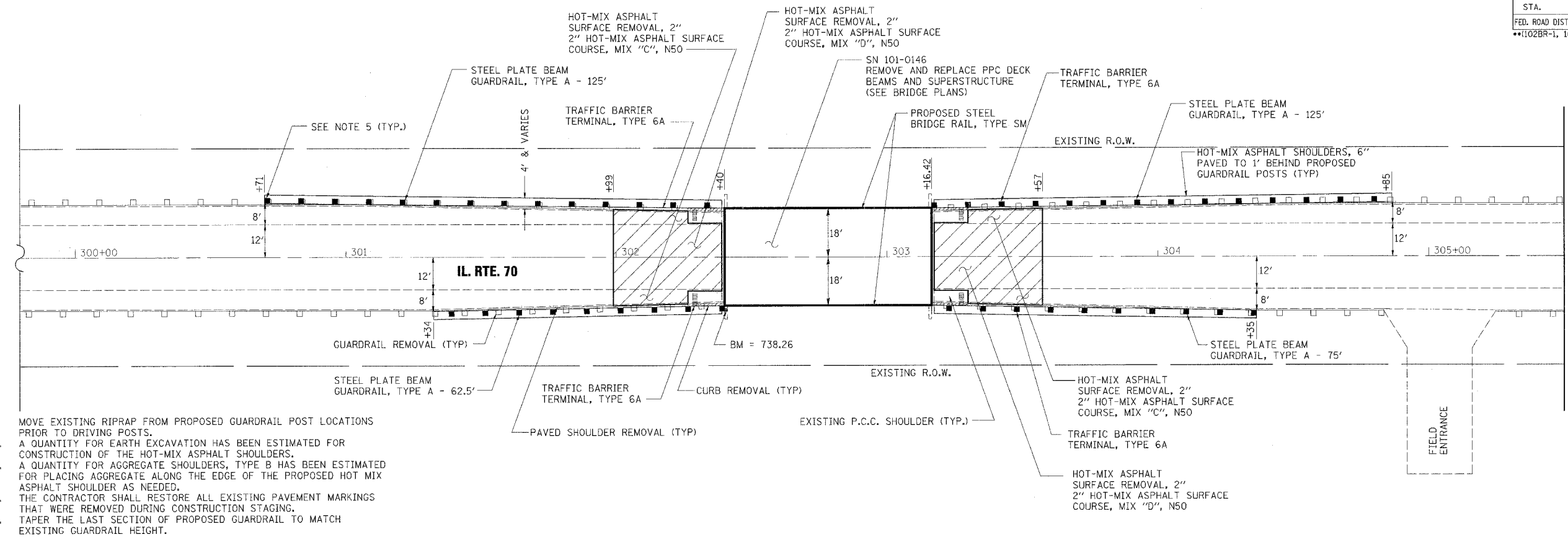
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	**	WINNEBAGO	52	5
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
**102BR-1, 102BR-2, 102BR-3D		CONTRACT NO. 64C93		

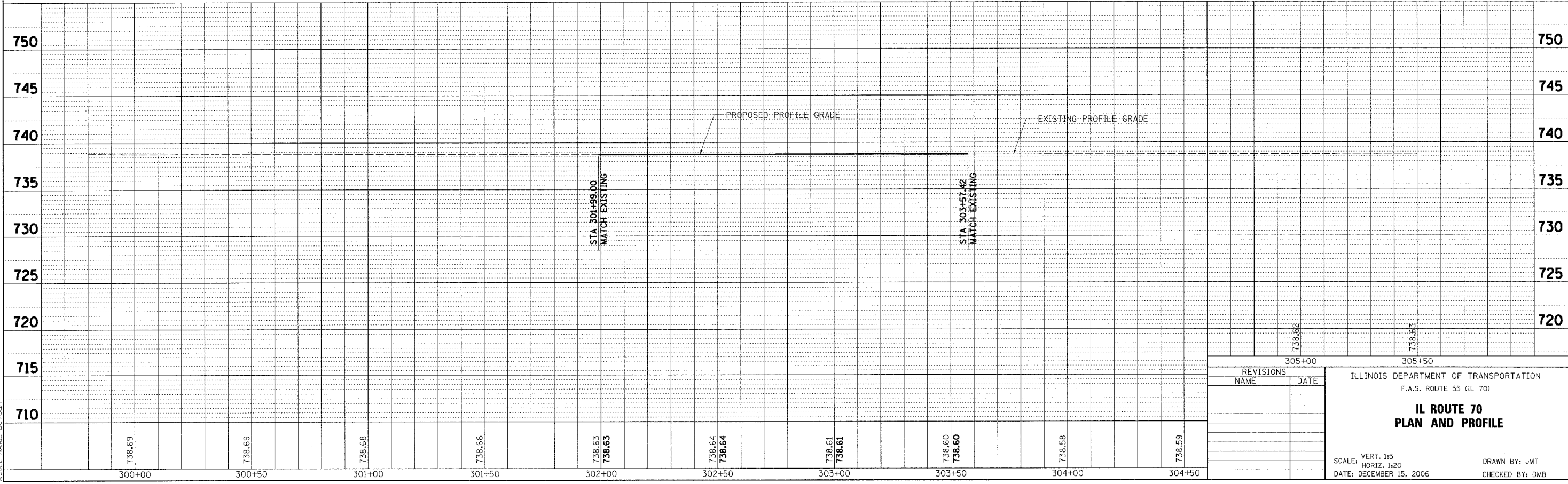
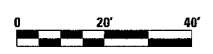
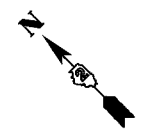
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	BY		
	STRUCTURE NOTATIONS CHRD		

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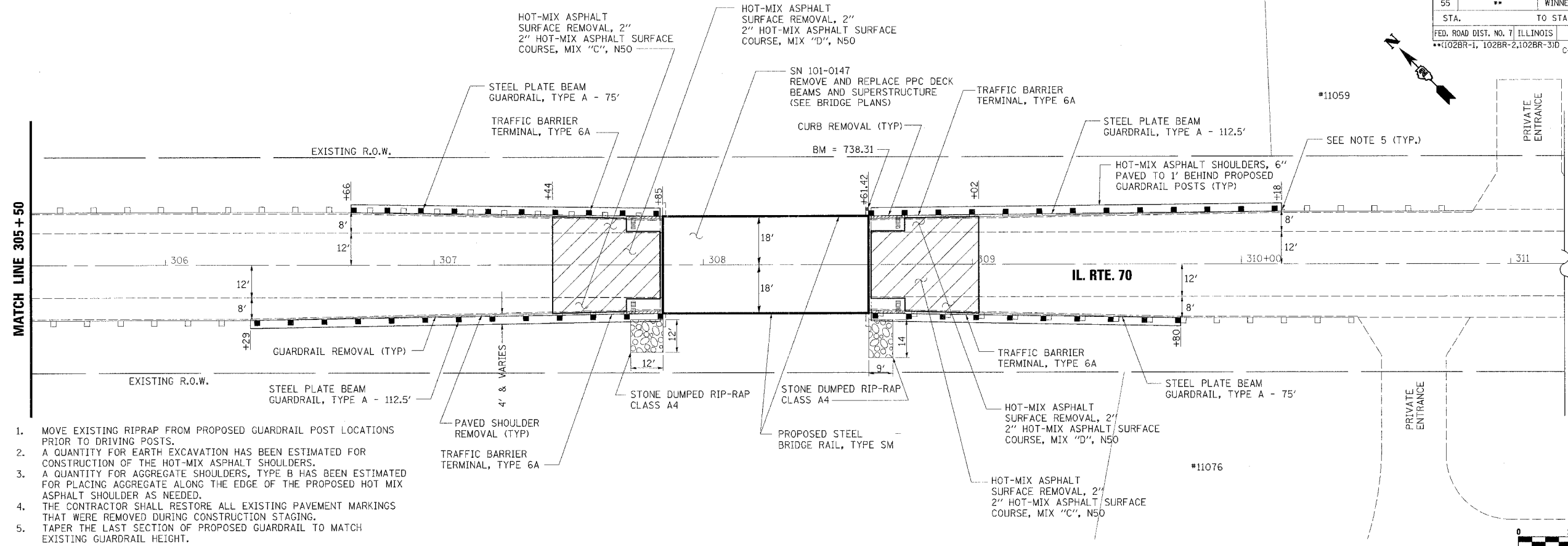
- NOTES:
1. MOVE EXISTING RIPRAP FROM PROPOSED GUARDRAIL POST LOCATIONS PRIOR TO DRIVING POSTS.
  2. A QUANTITY FOR EARTH EXCAVATION HAS BEEN ESTIMATED FOR CONSTRUCTION OF THE HOT-MIX ASPHALT SHOULDERS.
  3. A QUANTITY FOR AGGREGATE SHOULDERS, TYPE B HAS BEEN ESTIMATED FOR PLACING AGGREGATE ALONG THE EDGE OF THE PROPOSED HOT MIX ASPHALT SHOULDER AS NEEDED.
  4. THE CONTRACTOR SHALL RESTORE ALL EXISTING PAVEMENT MARKINGS THAT WERE REMOVED DURING CONSTRUCTION STAGING.
  5. TAPER THE LAST SECTION OF PROPOSED GUARDRAIL TO MATCH EXISTING GUARDRAIL HEIGHT.



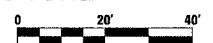
REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.S. ROUTE 55 (IL 70)  
**IL ROUTE 70**  
**PLAN AND PROFILE**  
 SCALE: VERT. 1:5  
 HORIZ. 1:20  
 DATE: DECEMBER 15, 2006  
 DRAWN BY: JMT  
 CHECKED BY: DMB

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	**	WINNEBAGO	52	6
STA.		TO STA.		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
**102BR-1, 102BR-2, 102BR-3D		CONTRACT NO. 64C93		

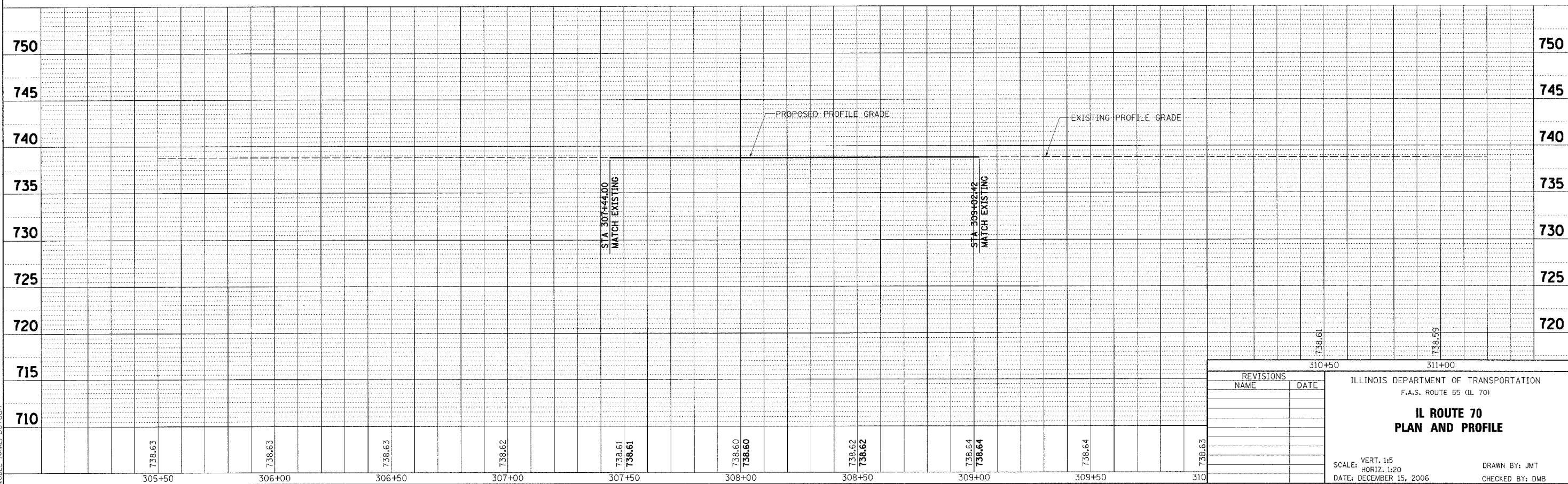


- NOTES:
1. MOVE EXISTING RIPRAP FROM PROPOSED GUARDRAIL POST LOCATIONS PRIOR TO DRIVING POSTS.
  2. A QUANTITY FOR EARTH EXCAVATION HAS BEEN ESTIMATED FOR CONSTRUCTION OF THE HOT-MIX ASPHALT SHOULDERS.
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  5. TAPER THE LAST SECTION OF PROPOSED GUARDRAIL TO MATCH EXISTING GUARDRAIL HEIGHT.



PLAN	SURVEYED	BY	DATE
NOTE BOOK	ADJUSTED		
NO.	NO.		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	ADJUSTED		
NO.	NO.		



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.S. ROUTE 55 (IL 70)  
**IL ROUTE 70  
 PLAN AND PROFILE**  
 SCALE: VERT. 1:5  
 HORIZ. 1:20  
 DATE: DECEMBER 15, 2006  
 DRAWN BY: JMT  
 CHECKED BY: DMB

PLOT SCALE: 1:20  
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PLAN	DATE
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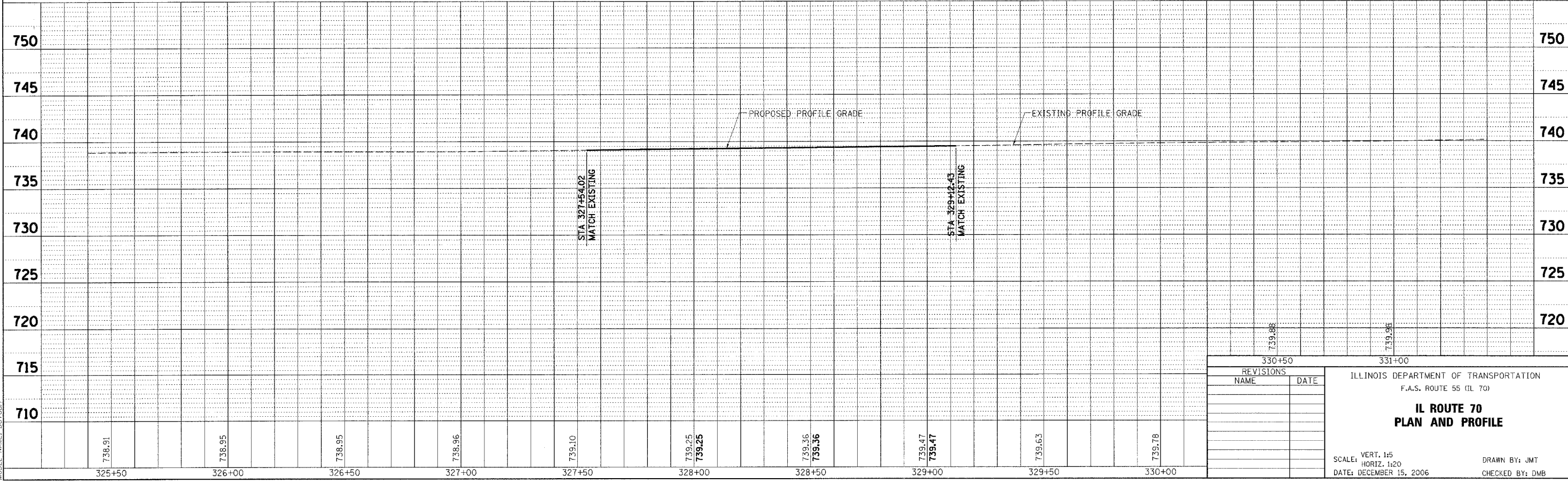
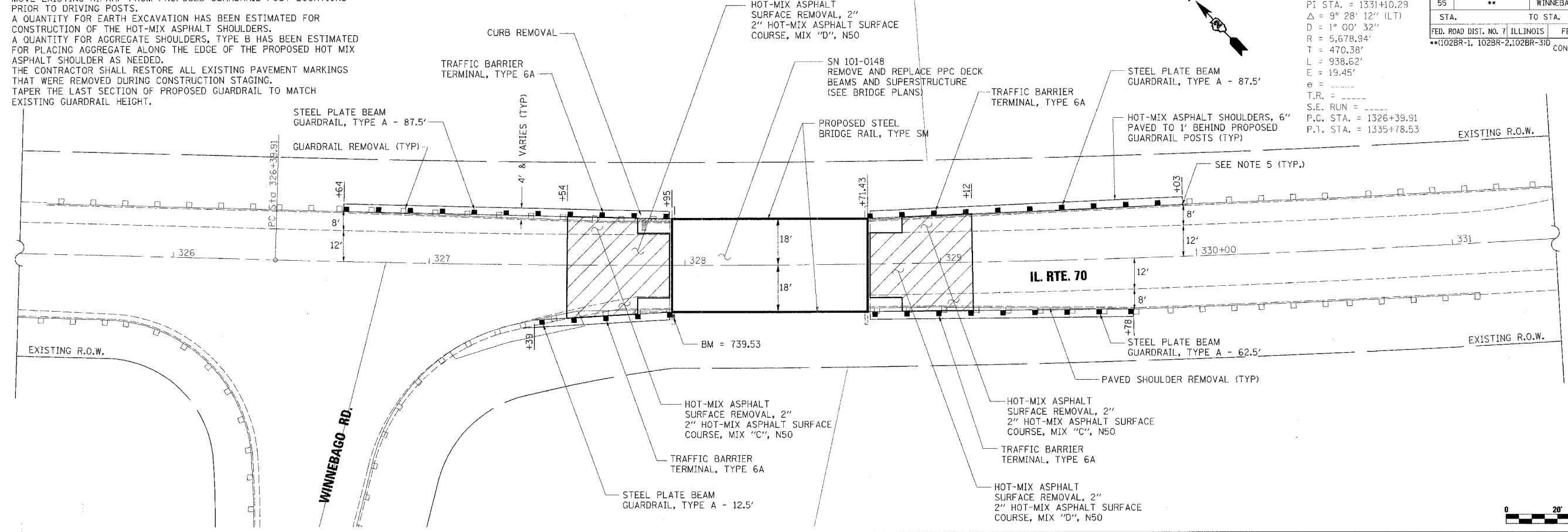
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NO.	
DATE	

PLOT SCALE: 1/20  
 PLOT DATE: 12/14/2006  
 PLOT TIME: 10:55:18 PM  
 PLOT BY: AVI/752/CAC/DW/0408/12/14/2006  
 MODEL NAME: Der.Cout

- NOTES:
1. MOVE EXISTING RIPRAP FROM PROPOSED GUARDRAIL POST LOCATIONS PRIOR TO DRIVING POSTS.
  2. A QUANTITY FOR EARTH EXCAVATION HAS BEEN ESTIMATED FOR CONSTRUCTION OF THE HOT-MIX ASPHALT SHOULDERS.
  3. A QUANTITY FOR AGGREGATE SHOULDERS, TYPE B HAS BEEN ESTIMATED FOR PLACING AGGREGATE ALONG THE EDGE OF THE PROPOSED HOT MIX ASPHALT SHOULDER AS NEEDED.
  4. THE CONTRACTOR SHALL RESTORE ALL EXISTING PAVEMENT MARKINGS THAT WERE REMOVED DURING CONSTRUCTION STAGING.
  5. TAPER THE LAST SECTION OF PROPOSED GUARDRAIL TO MATCH EXISTING GUARDRAIL HEIGHT.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	**	WINNEBAGO	52	7
STA.	TO STA.			
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
**102BR-1, 102BR-2, 102BR-3D		CONTRACT NO. 64C93		

EXIST. CURVE CL-IL70-2  
 P.I. STA. = 1331+10.29  
 $\Delta = 9^\circ 28' 12''$  (LT)  
 $D = 1^\circ 00' 32''$   
 $R = 5,678.94'$   
 $T = 470.38'$   
 $L = 938.62'$   
 $E = 19.45'$   
 $e =$   
 $T.R. =$   
 $S.E. RUN =$   
 $P.C. STA. = 1326+39.91$   
 $P.T. STA. = 1335+78.53$

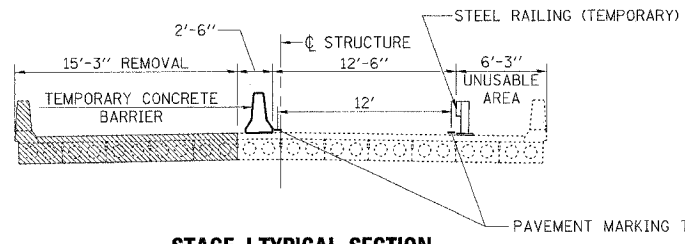


REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.S. ROUTE 55 (IL 70)  
**IL ROUTE 70  
 PLAN AND PROFILE**  
 SCALE: VERT. 1/5  
 HORIZ. 1/20  
 DATE: DECEMBER 15, 2006  
 DRAWN BY: JMT  
 CHECKED BY: DMB

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1,102BR-2, 102BR-3) D	WINNEBAGO	52	8
STA.		TO STA.		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT
CONTRACT NO. 64C93				

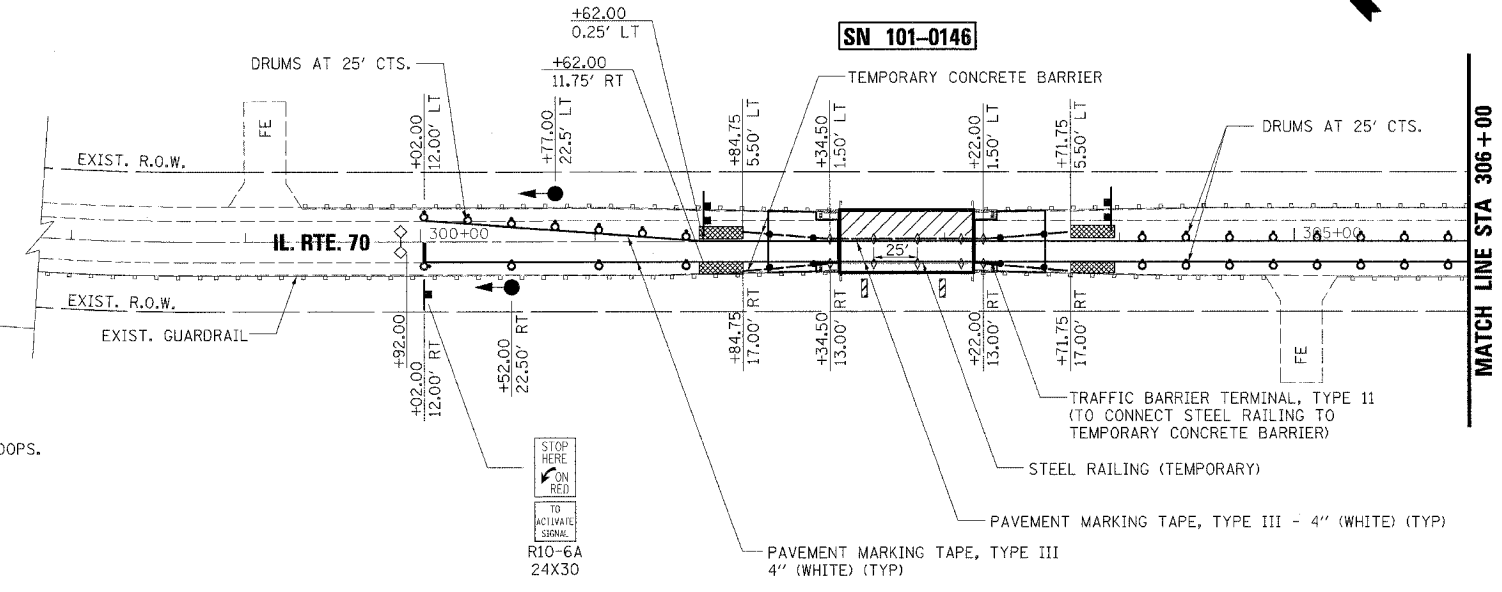
# STAGE 1



**STAGE I TYPICAL SECTION**

TO BE SIGNED PER STANDARD 701321

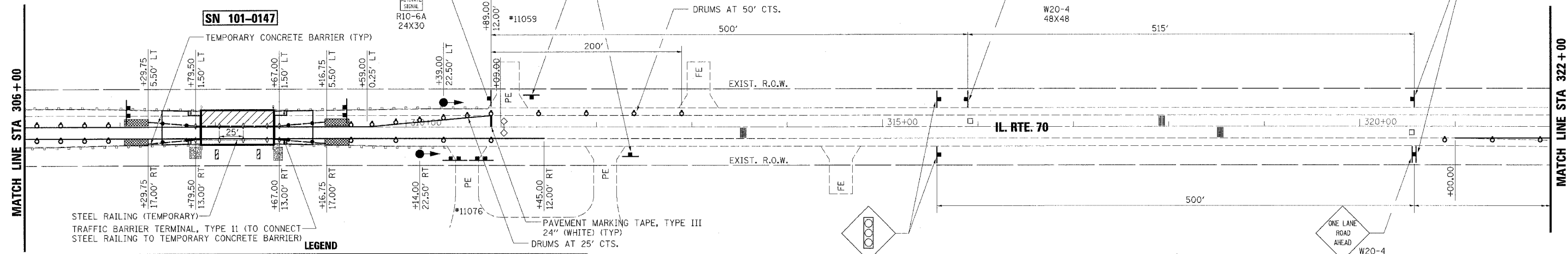
INSTALL FAR LOOP DETECTOR 500' IN ADVANCE OF NEAR LOOPS.



SEQUENCE OF OPERATIONS						
PHASE	A	B				
INTERVAL	1	2	3	4	5	6
EASTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1300+02	G	Y	R	R	R	R
WESTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1310+89	R	R	R	G	Y	R

NOTES: 1. TRAFFIC SIGNALS AT SN 101-0146 AND SN 101-0147 SHALL OPERATE AS ONE SIGNAL.

2. CALL KRISTIE NYDEREK WITH DISTRICT 2 TRAFFIC AT (815) 284-5474 2 WEEKS BEFORE INSTALLING TEMPORARY SIGNAL.



	WORK ZONE		DOUBLE VERTICAL PANEL
	SIGN		TYPE C BIDIRECTIONAL REFLECTOR
	DRUM WITH STEADY BURNING LIGHT		TEMPORARY CONCRETE BARRIER
	TRAFFIC SIGNAL		IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
	INDUCTION LOOP DETECTOR		STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
	TYPE III BARRICADE		STEEL RAILING (TEMPORARY)
	DOUBLE VERTICAL PANEL		TEMPORARY RUMBLE STRIP

REVISIONS		DATE
NAME		

ILLINOIS DEPARTMENT OF TRANSPORTATION  
F.A.S. ROUTE 55 (INTERSTATE 70)

**IL ROUTE 70  
TRAFFIC CONTROL  
CONSTRUCTION STAGING**

SCALE: VERT. NONE      DRAWN BY: JMC  
HORIZ. 1"=50'      CHECKED BY: DWB  
DATE: DECEMBER 15, 2006

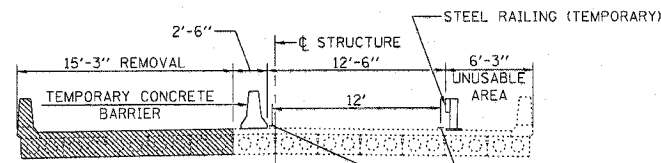
PLAN	DATE
BY	
CHECKED	
DATE	
NO.	

PROFILE	DATE
BY	
CHECKED	
DATE	
NO.	

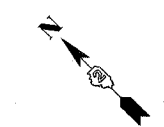
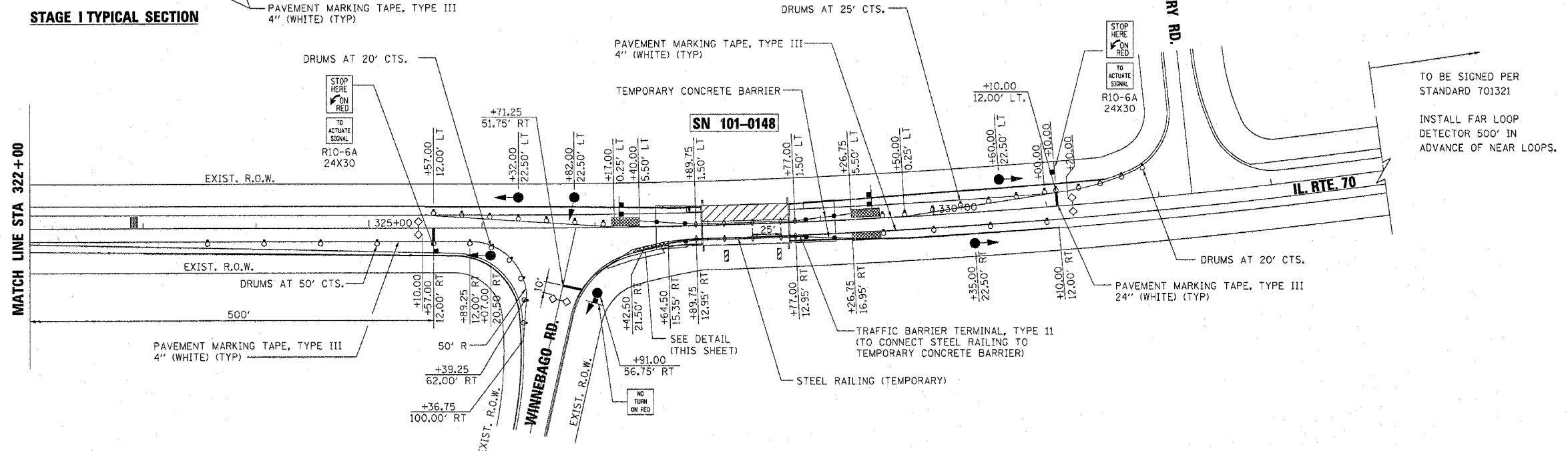
PLOT SCALE: 1:50  
PLOT DATE: 12/14/2006  
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PLOTTER: HP  
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MODEL NAME: Default



# STAGE 1



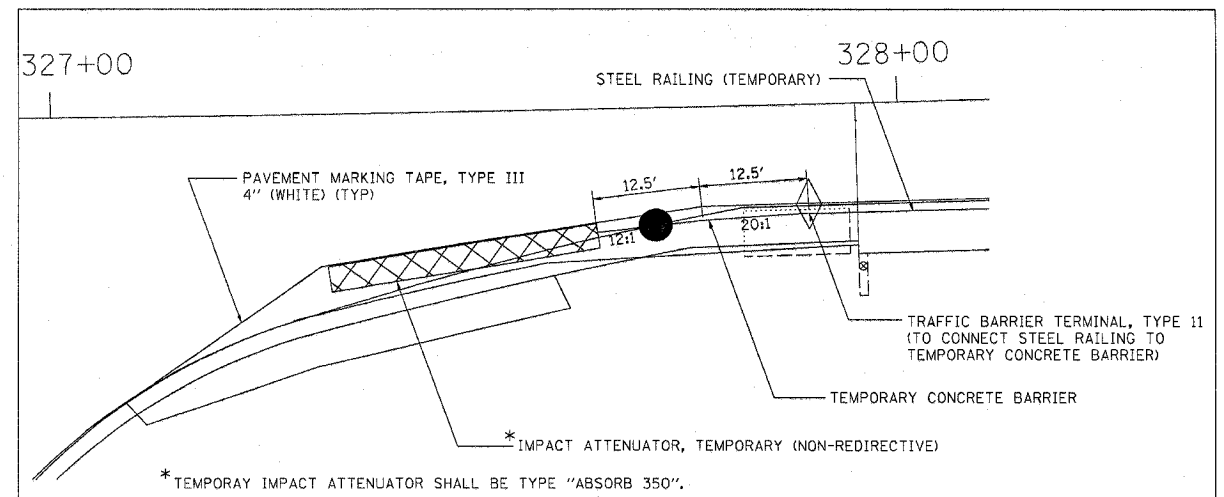
**STAGE I TYPICAL SECTION**



TO BE SIGNED PER STANDARD 701321  
 INSTALL FAR LOOP DETECTOR 500' IN ADVANCE OF NEAR LOOPS.

SEQUENCE OF OPERATIONS									
PHASE	A		B		C				
INTERVAL	1	2	3	4	5	6	7	8	9
EASTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1325+57	G	Y	R	R	R	R	R	R	R
WESTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1331+10	R	R	R	G	Y	R	R	R	R
NORTHBOUND WINNEBAGO RD FAR LEFT SIGNAL AND NEAR RIGHT SIGNAL	R	R	R	R	R	R	← G	Y	R

NOTES: 1. CALL KRISTIE NYDEREK WITH DISTRICT 2 TRAFFIC AT (815) 284-5474 2 WEEKS BEFORE INSTALLING TEMPORARY SIGNAL.



**DETAIL**

LEGEND	
WORK ZONE	DOUBLE VERTICAL PANEL
SIGN	TYPE C BIDIRECTIONAL REFLECTOR
DRUM WITH STEADY BURNING LIGHT	TEMPORARY CONCRETE BARRIER
TRAFFIC SIGNAL	IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE)
INDUCTION LOOP DETECTOR	TEST LEVEL 3
TYPE III BARRICADE	STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
DOUBLE VERTICAL PANEL	STEEL RAILING (TEMPORARY)
	TEMPORARY RUMBLE STRIP

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 F.A.S. ROUTE 55 (INTERSTATE 70)  
**IL ROUTE 70 TRAFFIC CONTROL CONSTRUCTION STAGING**  
 SCALE: VERT. NONE  
 HORIZ. 1"=50'  
 DATE: DECEMBER 15, 2006

DRAWN BY: JMC  
 CHECKED BY: DWB

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

REVIEWED: \_\_\_\_\_ PLANNING CHECKED: \_\_\_\_\_

NOTE BOOK NO. \_\_\_\_\_ PLOTTED BY: \_\_\_\_\_

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

PROFILE SURVEY: \_\_\_\_\_

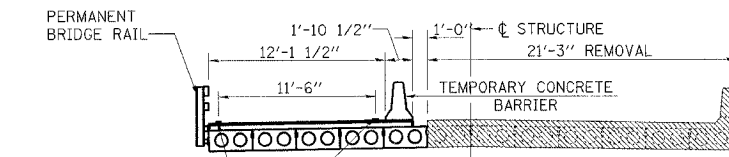
NOTE BOOK NO. \_\_\_\_\_

STRUCTURE NOTATIONS CHECKED: \_\_\_\_\_

PLOT SCALE: 52.4017' / IN.  
 PLOT DATE: 12/15/06  
 PLOT TIME: 10:13:13 2006  
 PLOTTED BY: JUSERNAME\$  
 FILE: \$MODEL\$.DWG

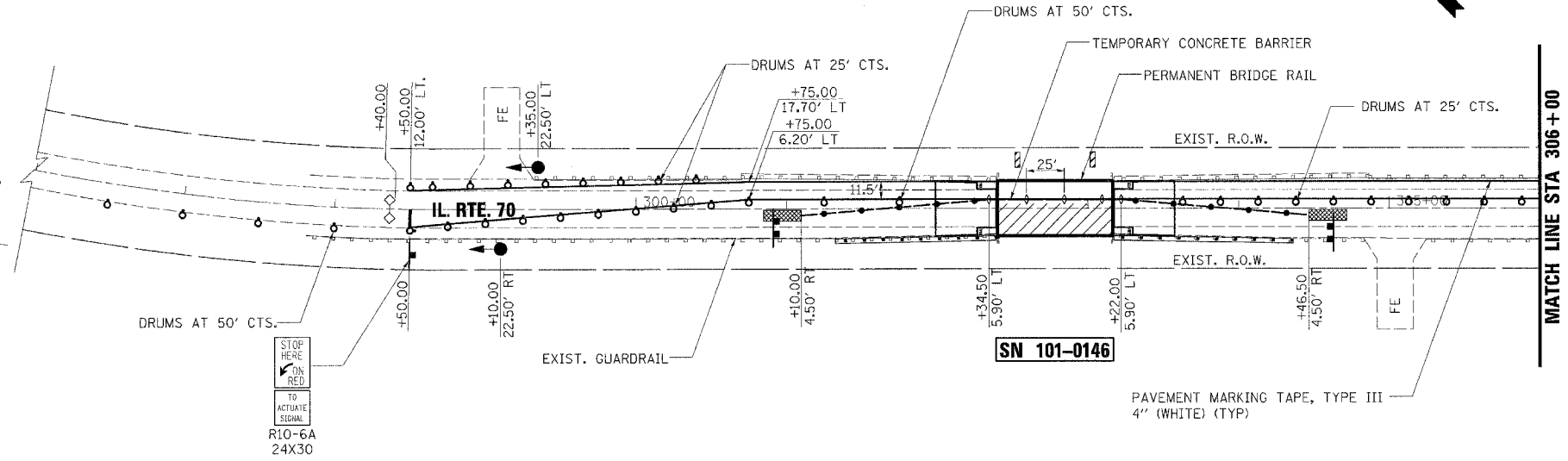
F.A.S. RTE. 55	SECTION (102BR-1, 102BR-2, 102BR-3) D	COUNTY WINNEBAGO	TOTAL SHEETS 52	SHEET NO. 10
STA. TO STA.		FED. AID PROJECT		
FED. ROAD DIST. NO. 7 ILLINOIS		CONTRACT NO. 64C93		

## STAGE 2



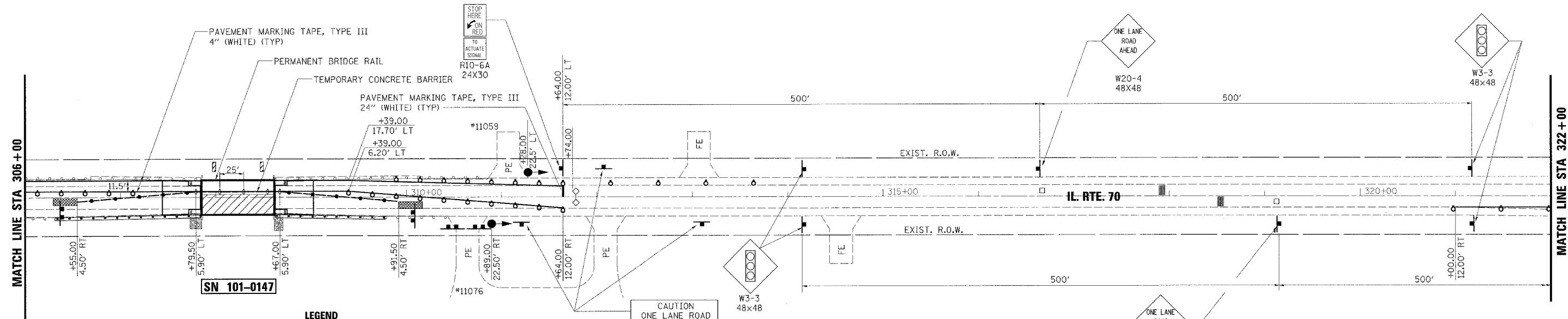
TO BE SIGNED PER STANDARD 701321

INSTALL FAR LOOP DETECTOR 500' IN ADVANCE OF NEAR LOOPS.



SEQUENCE OF OPERATIONS						
PHASE	A	B				
INTERVAL	1	2	3	4	5	6
EASTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1300+02	G	Y	R	R	R	R
WESTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1310+89	R	R	R	G	Y	R

NOTE: TRAFFIC SIGNALS AT SN 101-0146 AND SN 101-0147 SHALL OPERATE AS ONE SIGNAL.



**LEGEND**

	WORK ZONE		DOUBLE VERTICAL PANEL
	SIGN		TYPE C BIDIRECTIONAL REFLECTOR
	DRUM WITH STEADY BURNING LIGHT		TEMPORARY CONCRETE BARRIER
	TRAFFIC SIGNAL		IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
	INDUCTION LOOP DETECTOR		STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
	TYPE III BARRICADE		STEEL RAILING (TEMPORARY)
	DOUBLE VERTICAL PANEL		TEMPORARY RUMBLE STRIP

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.S. ROUTE 55 (INTERSTATE 70)
NAME	DATE	
		<b>IL ROUTE 70 TRAFFIC CONTROL CONSTRUCTION STAGING</b>
SCALE: VERT. NONE HORIZ. 1"=50' DATE: DECEMBER 15, 2006		DRAWN BY: JMC CHECKED BY: DWB

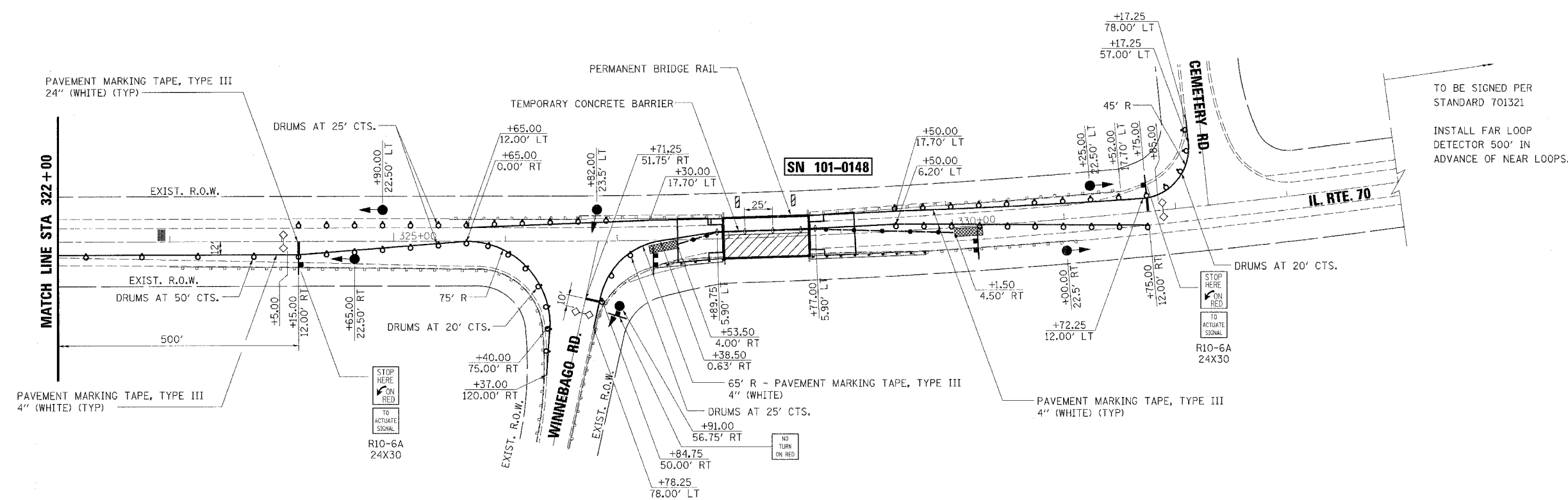
PLAN	DATE
BY	
CHECKED	
DATE	
NO.	

PROFILE	DATE
BY	
CHECKED	
DATE	
NO.	

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 PLOT DATE: 12/14/2006  
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 PLOT USER: jmc  
 MODEL NAME: DetOut

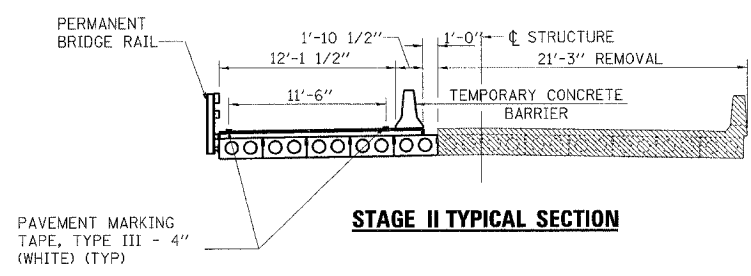
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1,102BR-2, 102BR-3) D	WINNEBAGO	52	11
STA.		TO STA.		
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
CONTRACT NO. 64C93				

# STAGE 2



TO BE SIGNED PER STANDARD 701321  
 INSTALL FAR LOOP DETECTOR 500' IN ADVANCE OF NEAR LOOPS.

SEQUENCE OF OPERATIONS									
PHASE	A			B			C		
INTERVAL	1	2	3	4	5	6	7	8	9
EASTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1325+57	G	Y	R	R	R	R	R	R	R
WESTBOUND IL RTE 70 LEFT SIGNAL AND RIGHT SIGNAL AT STA. 1331+10	R	R	R	G	Y	R	R	R	R
NORTHBOUND WINNEBAGO RD FAR LEFT SIGNAL AND NEAR RIGHT SIGNAL	R	R	R	R	R	R	R	G	Y



### LEGEND

- WORK ZONE
- SIGN
- DRUM WITH STEADY BURNING LIGHT
- TRAFFIC SIGNAL
- INDUCTION LOOP DETECTOR
- TYPE III BARRICADE
- DOUBLE VERTICAL PANEL
- DOUBLE VERTICAL PANEL
- TYPE C BIDIRECTIONAL REFLECTOR
- TEMPORARY CONCRETE BARRIER
- IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
- STEADY BURNING LIGHTS AND DOUBLE VERTICAL PANELS
- STEEL RAILING (TEMPORARY)
- TEMPORARY RUMBLE STRIP

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.S. ROUTE 55 (INTERSTATE 70)
NAME	DATE	
		<b>IL ROUTE 70 TRAFFIC CONTROL CONSTRUCTION STAGING</b>
SCALE: VERT. NONE HORIZ. 1"=50' DATE: DECEMBER 15, 2006		DRAWN BY: JMC CHECKED BY: DWB

PLAN	SURVEYED	DATE

PROFILE	SURVEYED	DATE

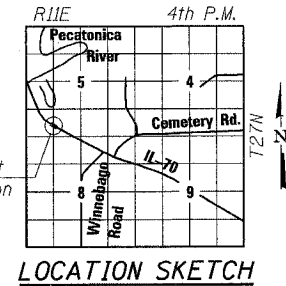
PLOT SCALE: 1/8"=10'  
 PLOT DATE: 12/14/2006  
 PLOT TIME: 11:57:58 PM  
 PLOT BY: JMC  
 MODEL NAME: D:\cscout

Existing Structure: Structure number 101-0146, station 302+76.80. The existing structure is a two-span PPC deck beam bridge built in 1982. The back to back abutment length is 80'-8 1/2" and the out to out bridge width is ±36'-6". In 2002 a 5" reinforced concrete wearing surface was added to the existing deck beams. The existing superstructure is to be removed and replaced with one lane of traffic maintained utilizing staged construction.

No Salvage

**INDEX OF SHEETS**

1. General Plan and Elevation
2. Steel Railing, Type SM with Concrete Wearing Surface
3. Superstructure and Stage Construction
4. Superstructure Details I
5. Superstructure Details II
6. Preformed Joint Strip Seal Details
7. Concrete Removal
8. Abutments
9. Pier
10. Pier Repairs
11. Bar Splicer Assembly Details
12. Temporary Concrete Barrier for Stage Construction
13. Steel Railing (Temporary)



PROJECT NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	12	52	13 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		5.1	5.1
Concrete Structures	Cu. Yd.		5.1	5.1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2784		2784
Reinforcement Bars, Epoxy Coated	Pound	3840	640	4480
Bar Splicers	Each	78	12	90
Concrete Wearing Surface, 5"	Sq. Yd.	310		310
Bridge Deck Grooving	Sq. Yd.	310		310
Protective Coat	Sq. Yd.	310		310
Concrete Sealer	Sq. Ft.		184	184
Steel Railing, Type SM	Foot	155		155
Name Plates	Each	1		1
Structural Repair of Concrete (Depth Equal To or Less Than 5")	Sq. Ft.		25	25
Preformed Joint Strip Seal	Foot	72		72
Asbestos Bearing Pad Removal	Each		52	52

**GENERAL NOTES**

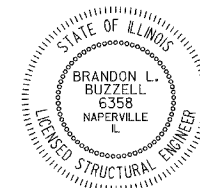
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction 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.

Concrete Sealer shall be applied to the seat area of the Abutments. All Construction joints shall be bonded. The contractor is advised that the existing PPC 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. The existing name plate shall be cleaned and relocated adjacent to the new name plate. Cost included with Name Plates. 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 the 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 beams.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the profile grade and beam camber. See roadway plans for profile grade information. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated. No in-stream work will be allowed on this project. Repair of the pier cap shall be completed prior to placement of the new deck beams. 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 shall be applied before corrosion appears and allowed to dry according to the manufactures 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.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Brandon L. Buzzell*  
ENGINEER OF BRIDGES AND STRUCTURES



*Brandon L. Buzzell* 12/15/08  
Expires 11-30-08

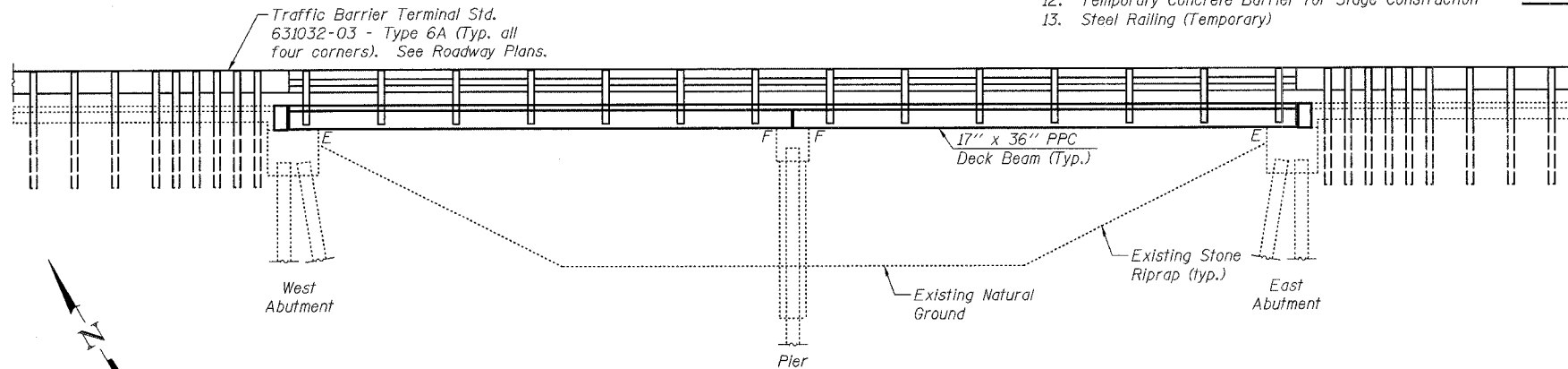
**rjngroup**

Excellence through Ownership

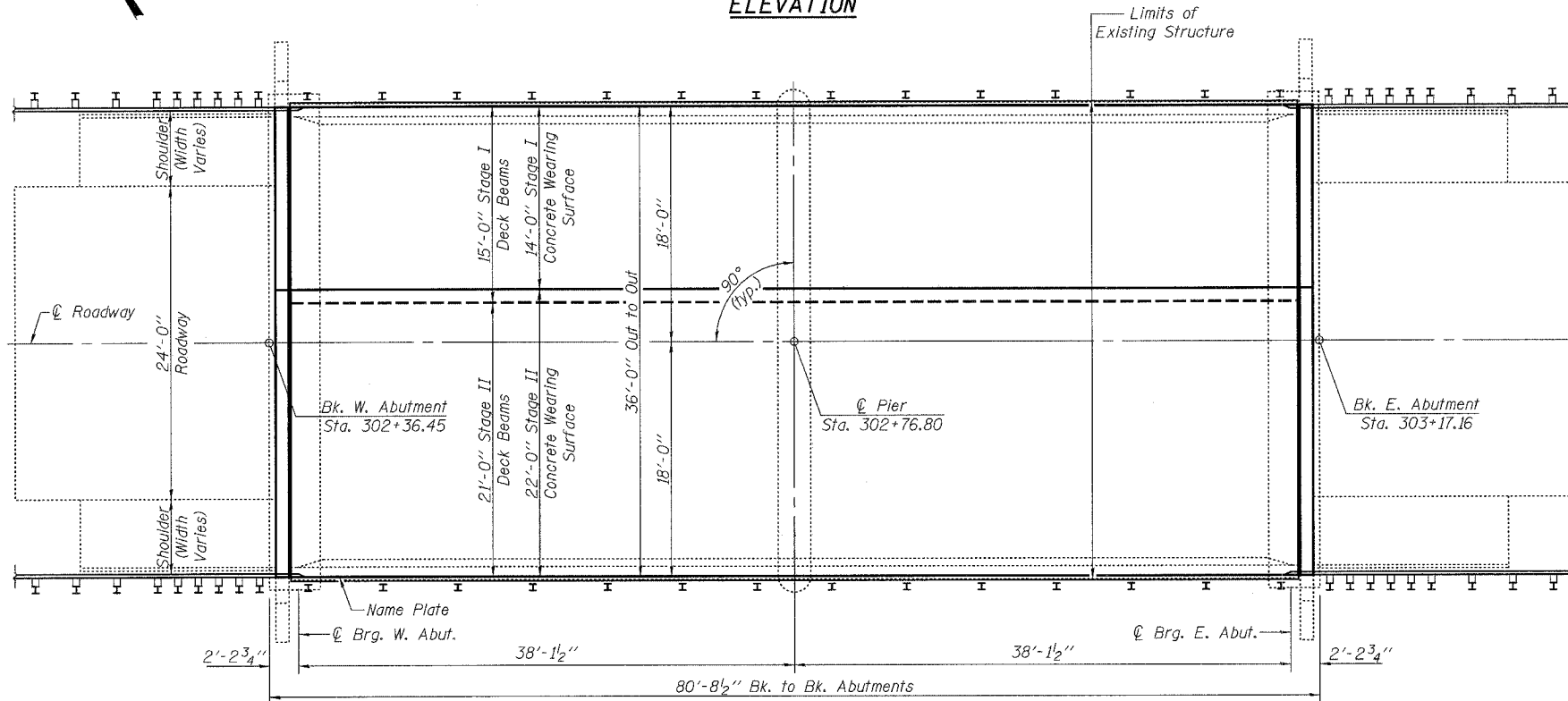
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN AND ELEVATION  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146

DATE: 12/15/2006 DRAWN BY LCM  
CHECKED BY BLB



**ELEVATION**



**PLAN**

STATION 302+76.80  
BUILT 2007 BY  
STATE OF ILLINOIS  
F.A.S. RT. 55 SEC. (102 BR-1,  
102 BR-2, 102 BR-3)D  
LOADING HS20  
STR. NO. 101-0146

**NAME PLATE**  
See Std. 515001

**LOADING HS20-44**

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

**DESIGN SPECIFICATIONS**

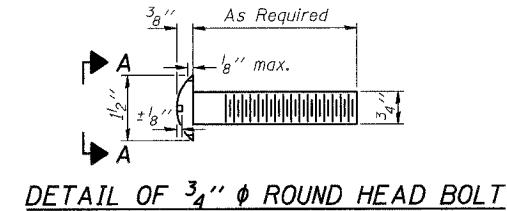
2002 AASHTO Standard Specifications - 17th ed.

**DESIGN STRESSES**

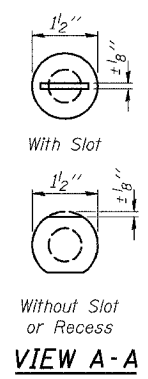
NEW & EXISTING CONSTRUCTION PRECAST PRESTRESSED UNITS

<b>FIELD UNITS</b>	$f'_c = 5,000$ psi
$f'_c = 3,500$ psi	$f'_{ci} = 4,000$ psi
$f_y = 60,000$ psi (reinforcement)	$f'_s = 270,000$ psi (1/2" $\phi$ low relax strands)
	$f'_{sl} = 201,960$ psi (1/2" $\phi$ low relax strands)

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

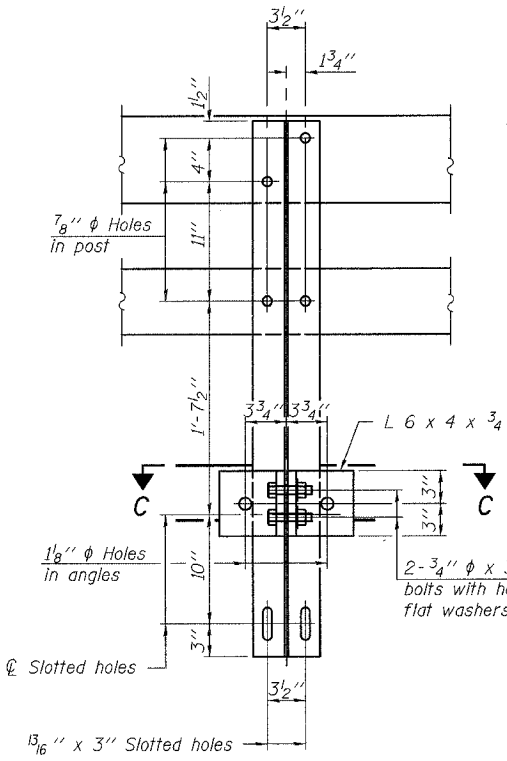


DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT

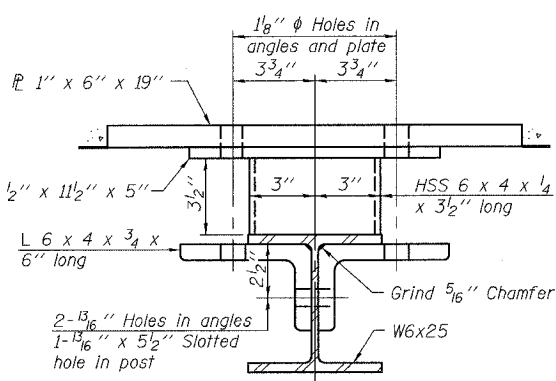


VIEW A-A

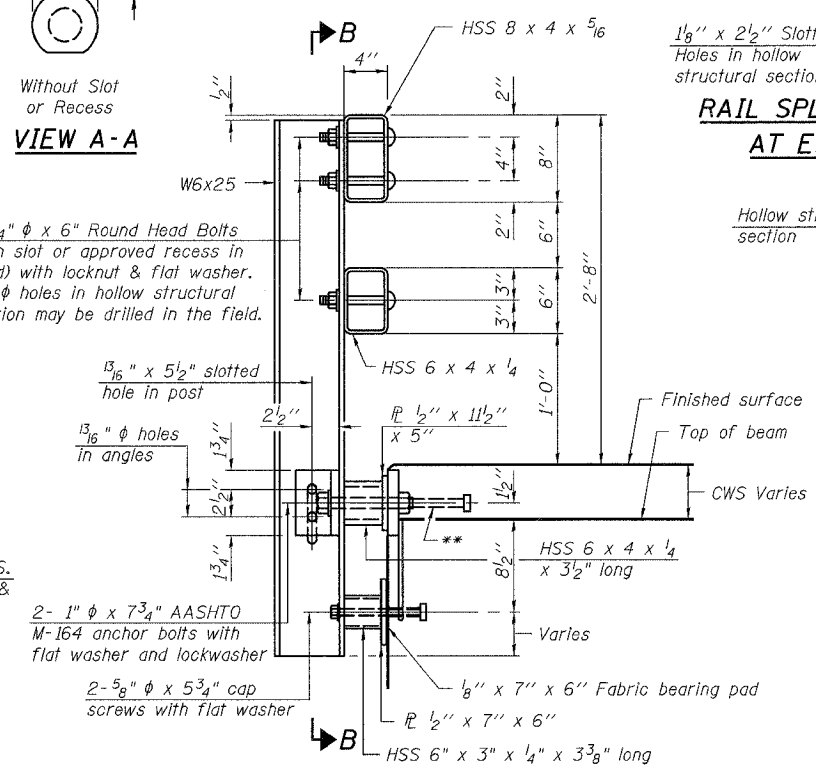
4-3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



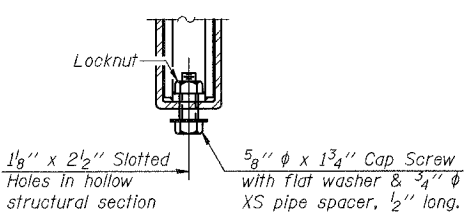
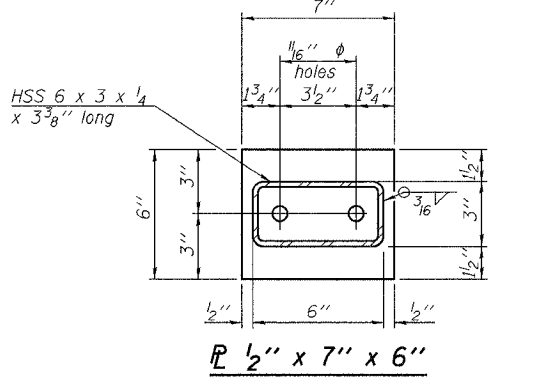
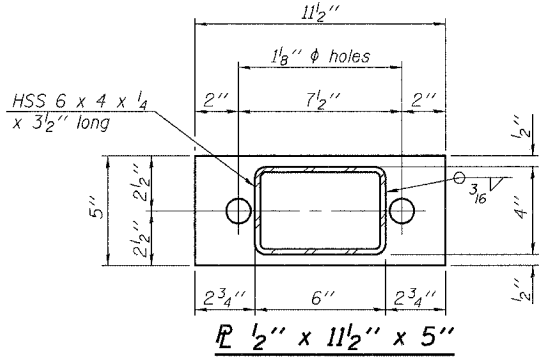
SECTION B-B



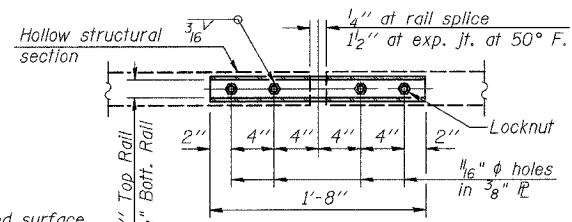
SECTION C-C



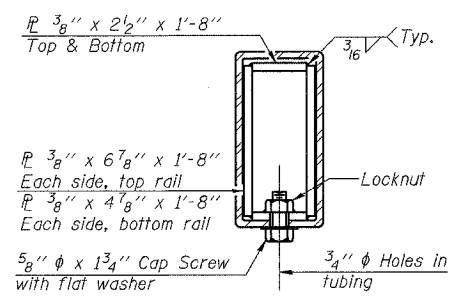
SECTION AT RAIL POST



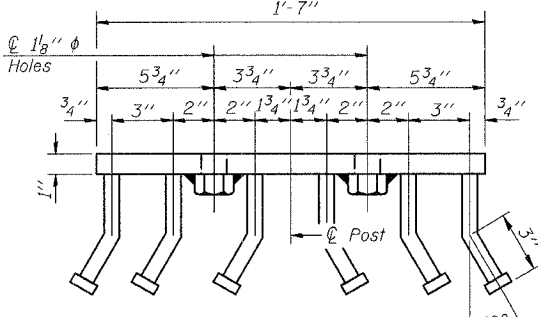
RAIL SPLICE CONNECTION AT EXPANSION JT.



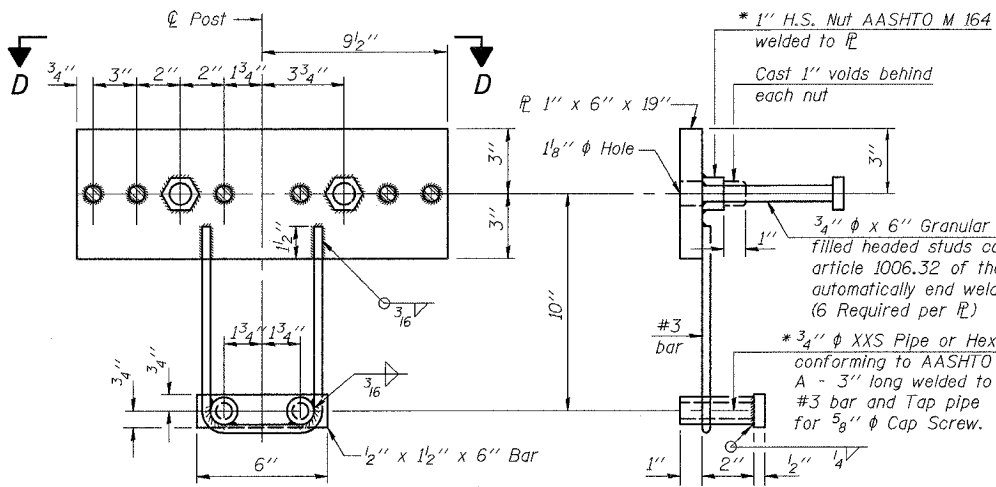
PLAN-BOTT. SPLICE R TYPICAL



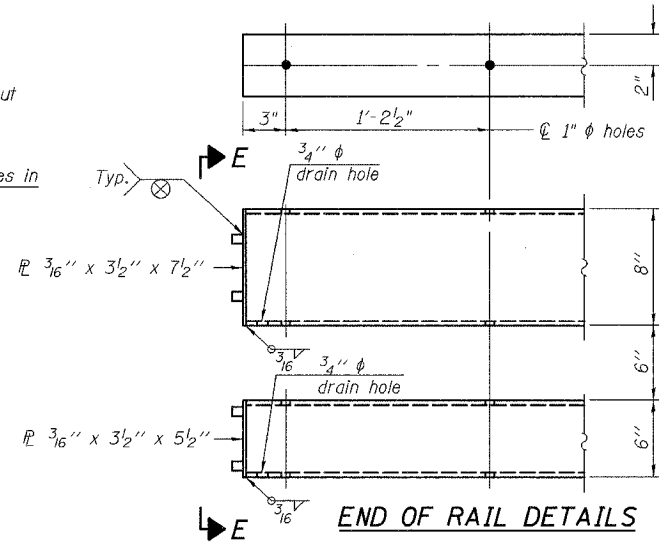
SECTION AT RAIL SPLICE



VIEW D-D



ANCHOR DEVICE



END OF RAIL DETAILS

Notes:  
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 Railing, Type SM.  
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	155

**rjngroup**  
Excellence through Ownership  
200 West Front Street  
Wheaton, IL 60187

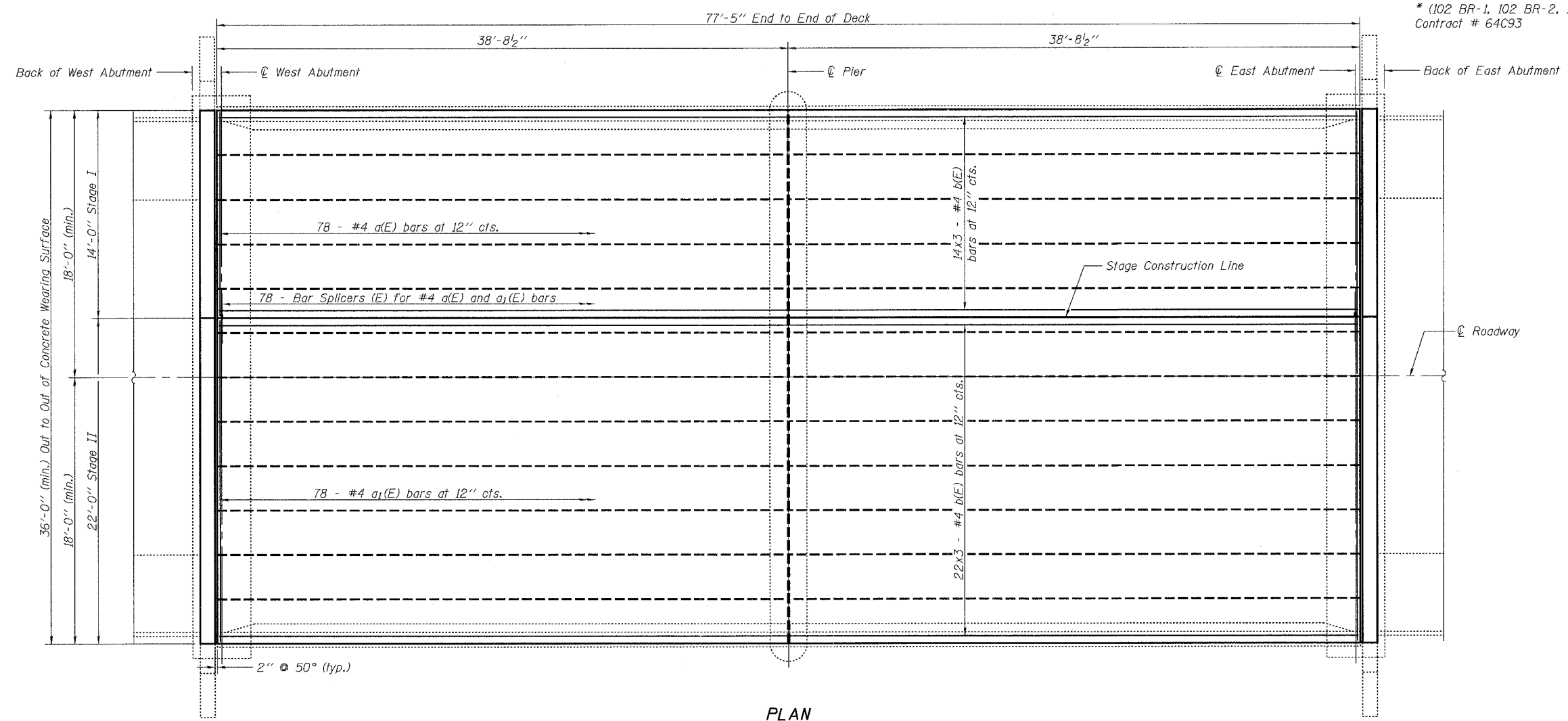
ILLINOIS DEPARTMENT OF TRANSPORTATION  
STEEL RAILING, TYPE SM WITH  
CONCRETE WEARING SURFACE  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY - STATION 302+76.80  
STRUCTURE NO. 101-0146  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

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

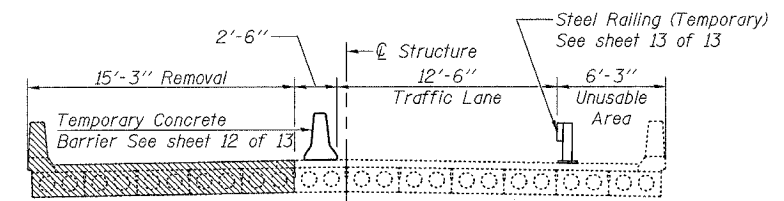
12/14/2006 I:\1179212\structures\BR-0146.dgn

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
FAS 55	*	WINNEBAGO	14	52	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

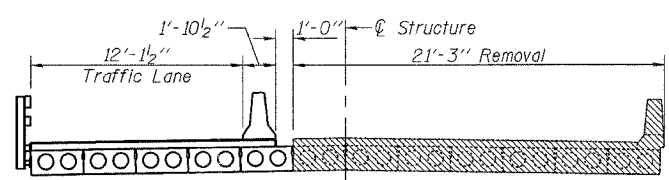
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



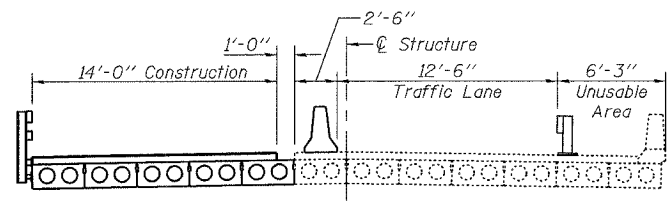
PLAN



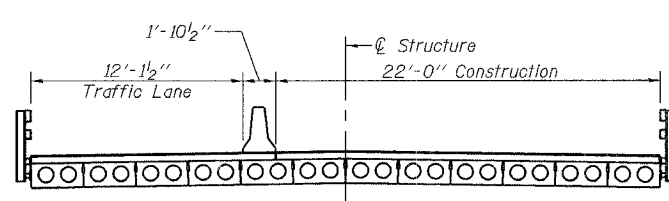
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

STAGE CONSTRUCTION DETAILS  
Looking East

MIN. BAR LAP  
#4 - 1'-8"

NOTES

For Superstructure Details, See Sheets 4 of 13, 5 of 13, and 6 of 13.  
For details of bar splicers see sheet 11 of 13.  
Bars indicated thus 14 x 3-#4 etc. indicates 14 lines of bars with 3 lengths per line.

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION SUPERSTRUCTURE AND STAGE CONSTRUCTION IL-70 OVER TRIBUTARY TO PECATONICA RIVER FAS RTE 55 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D WINNEBAGO COUNTY STATION 302+76.80 STRUCTURE NO. 101-0146</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET TOTAL	SHEET NO.
FAS 55	*	WINNEBAGO	15	52	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

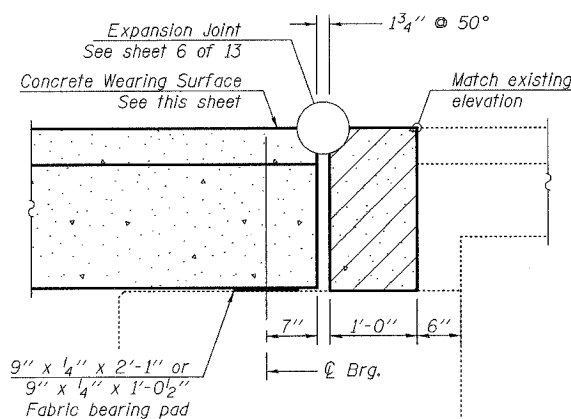
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

**NOTES:**

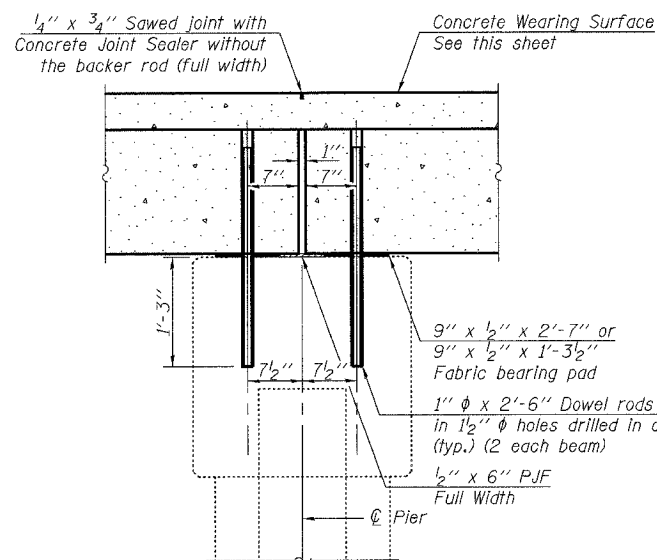
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hours prior to grouting the shear keys.  
Ends of beams shall be aligned at the expansion joints. Any lined variation in the beam lengths shall be placed at the fixed joint.  
See sheet 5 of 13 for bearing pad details.

Concrete wearing surface to be poured after grouting of shear keys.

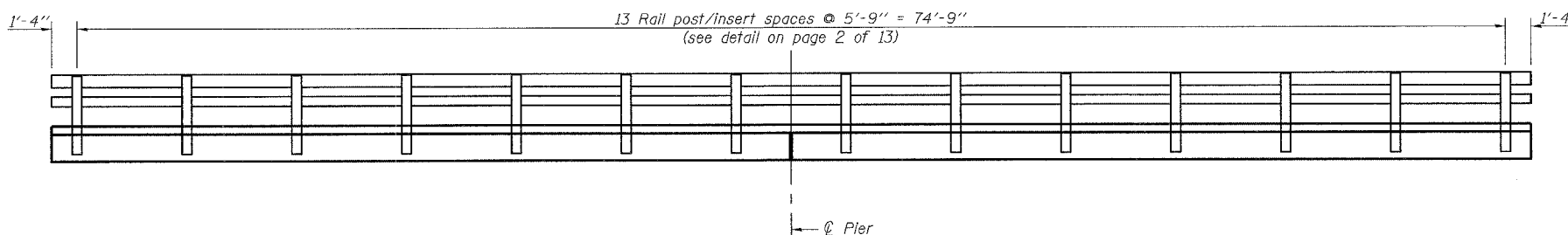
Hatched area to be poured after concrete wearing surface is in place. Quantity included with Concrete Structures on sheet 8 of 13.  
Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (17" depth). All horizontal dimensions are at right angles to beam ends.



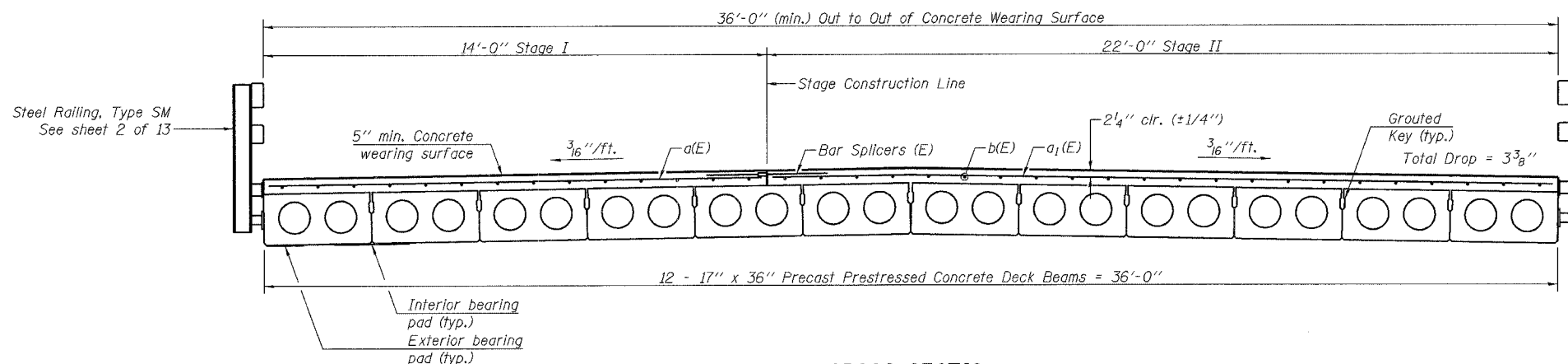
**SECTION THRU ABUTMENTS**



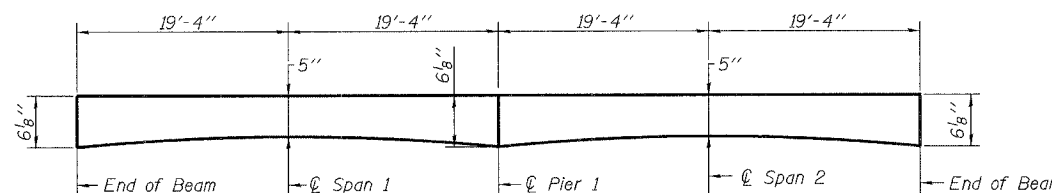
**SECTION THRU FIXED PIER**



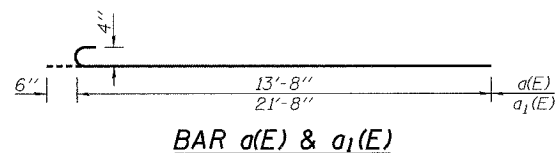
**RAIL POST SPACING**



**CROSS SECTION**



**REINFORCED CONCRETE WEARING SURFACE PROFILE**



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	78	#4	14'-2"	C
a <sub>1</sub> (E)	78	#4	22'-2"	C
b(E)	108	#4	26'-11"	—
Reinforcement Bars, Epoxy Coated		Pound		3840
Precast Prestressed Conc. Deck Bms. (17")		Sq. Ft.		2784
Concrete Wearing Surface, 5"		Sq. Yd.		310
Bar Splicers		Each		78

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Excellence through Ownership

200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUPERSTRUCTURE DETAILS I

IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55

SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY

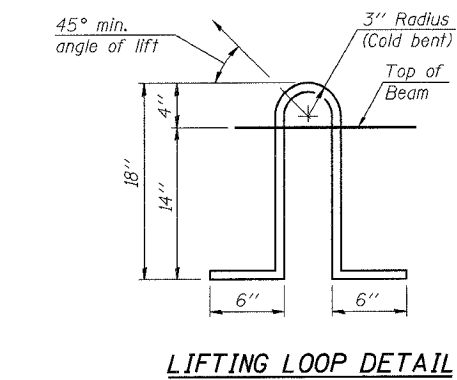
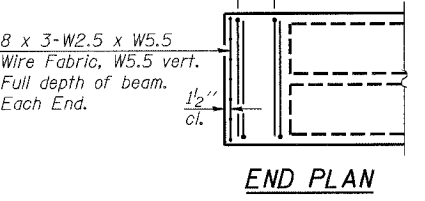
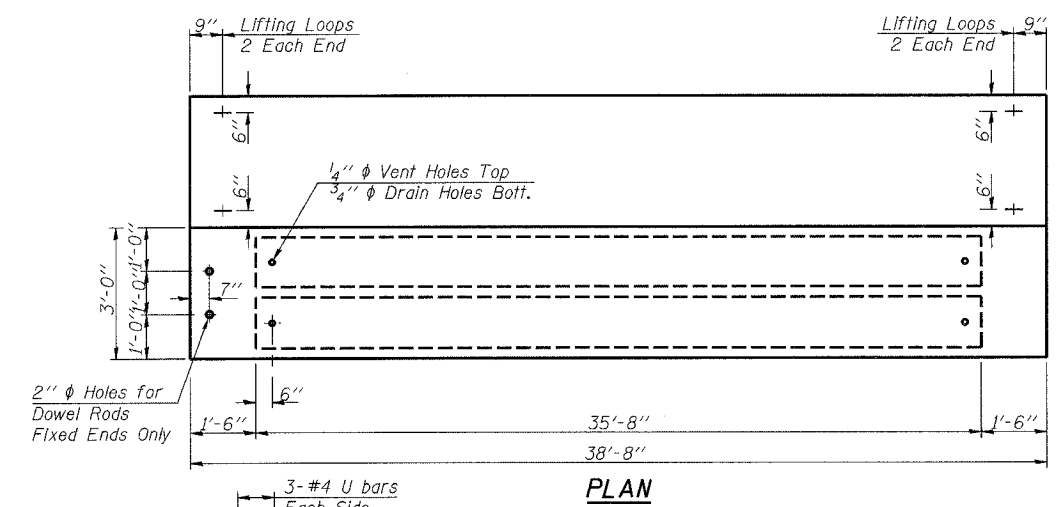
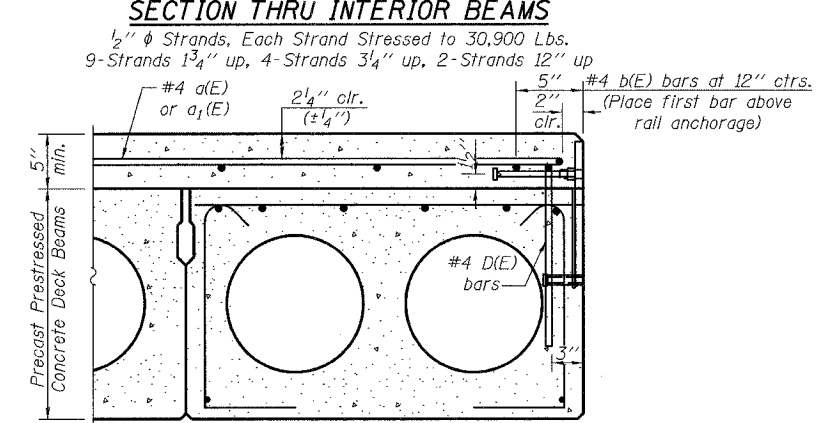
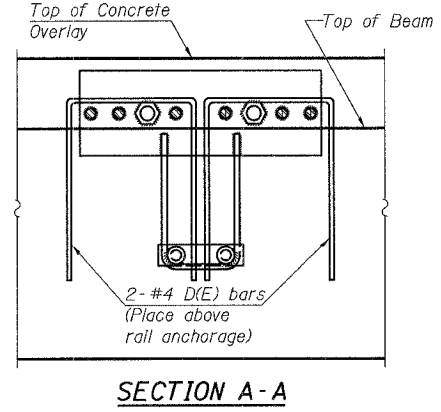
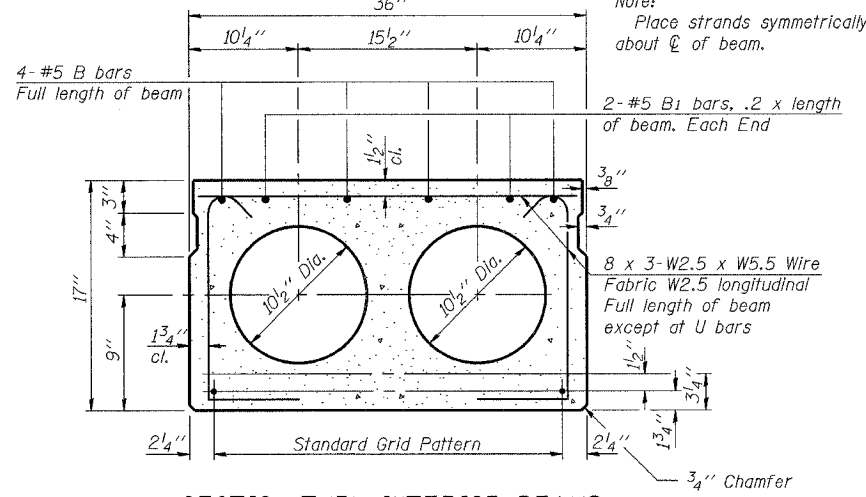
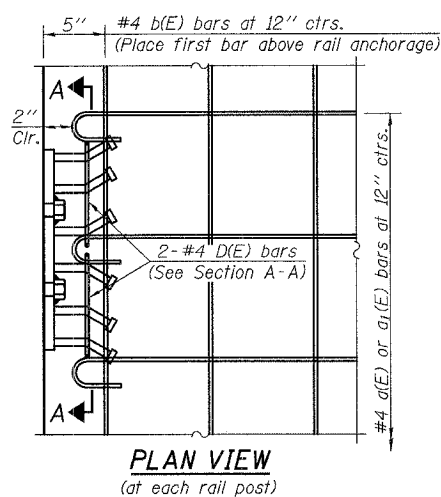
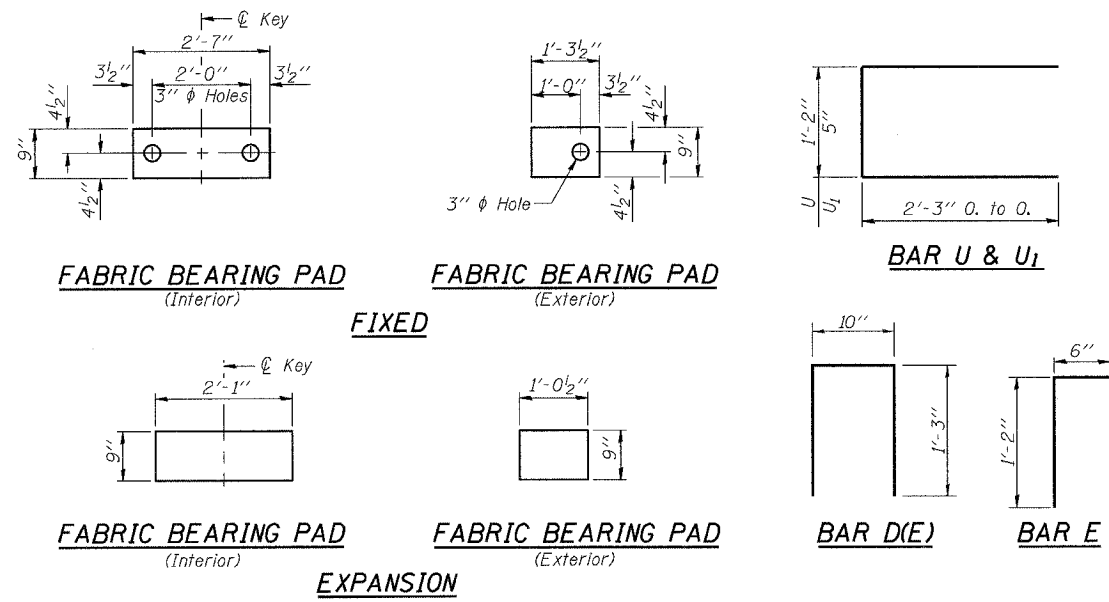
STATION 302+76.80  
STRUCTURE NO. 101-0146

DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAS 55	*	WINNEBAGO	16	52
13 SHEETS				

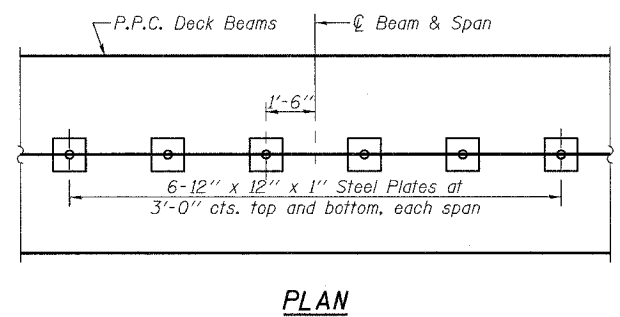
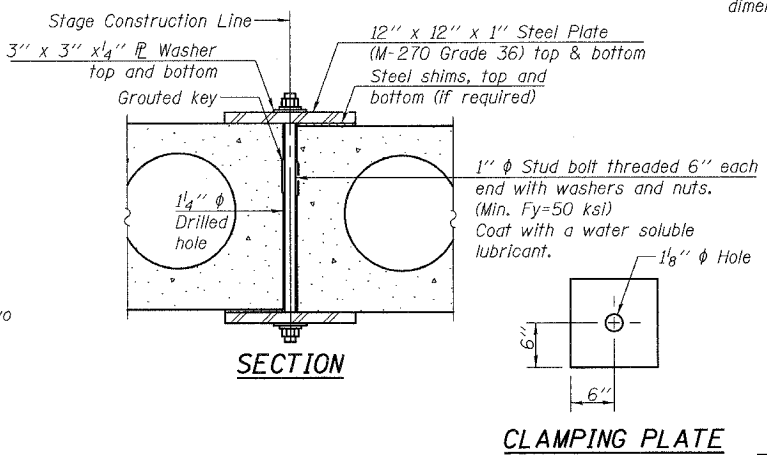
(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

Note:  
Place strands symmetrically about  $\bar{C}$  of beam.



**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. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" 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 section 1020.05(b)(12) and 1021.06 of the Standard Specification, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'cl, shall be 4000 p.s.i. Bridge rail inserts shall be cast in precast beams. See Sheet 4 of 13 for location of rail inserts. The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.



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

Refer to Article 504.06(d) of the Standard Specifications.  
Cost Included with Precast Prestressed Concrete Deck Beams (17" Depth).  
See Stage Construction Details for traffic lanes, Sheet 3 of 13.

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200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUPERSTRUCTURE DETAILS II  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

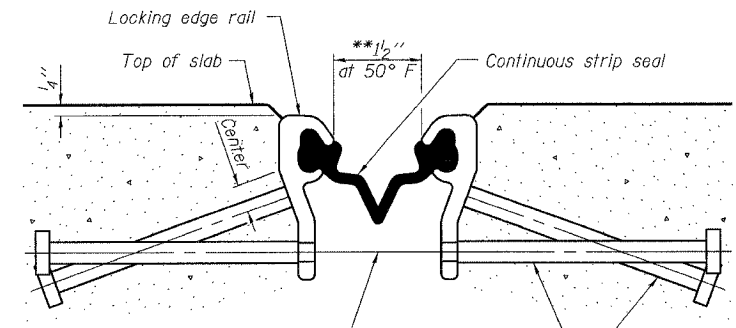


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FAS 55	*	WINNEBAGO	17	52	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

\* Omit weld at seal opening.

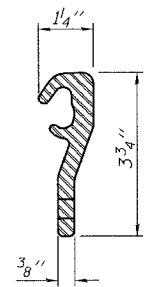
\*\* When joint is fixed, dimension is set at 1 1/2".



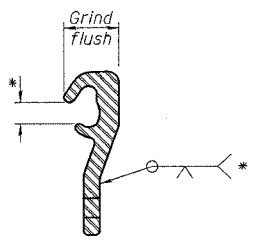
7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2"  $\phi$  x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

**SECTION THRU STRIP SEAL JOINT FOR OVERLAY OVER DECK BEAMS**



**LOCKING EDGE RAIL**



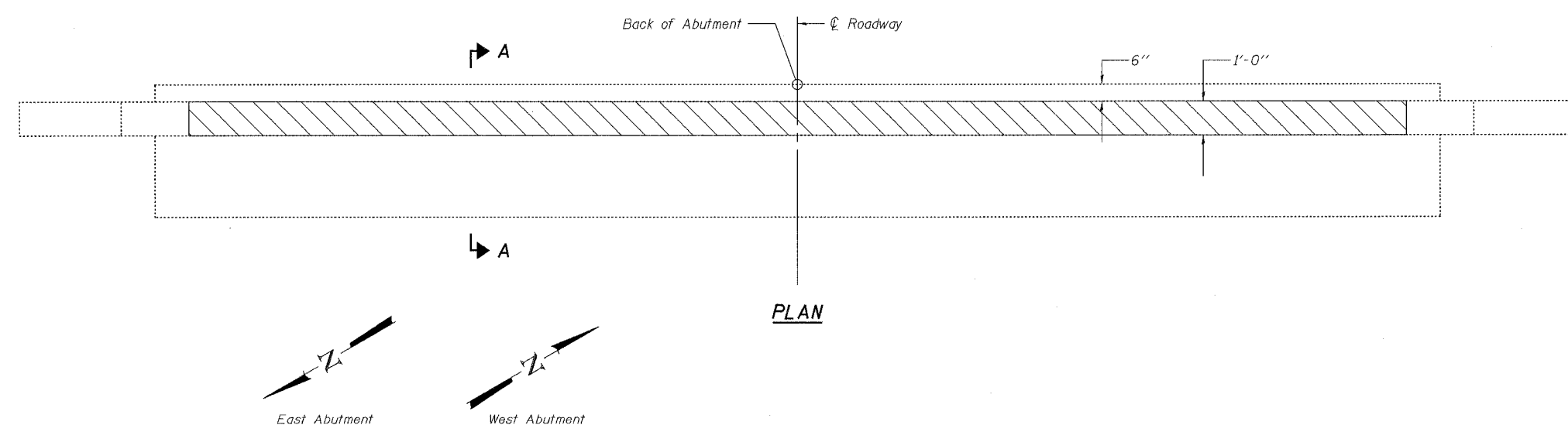
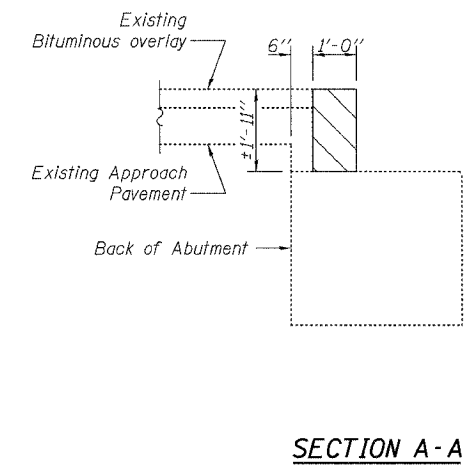
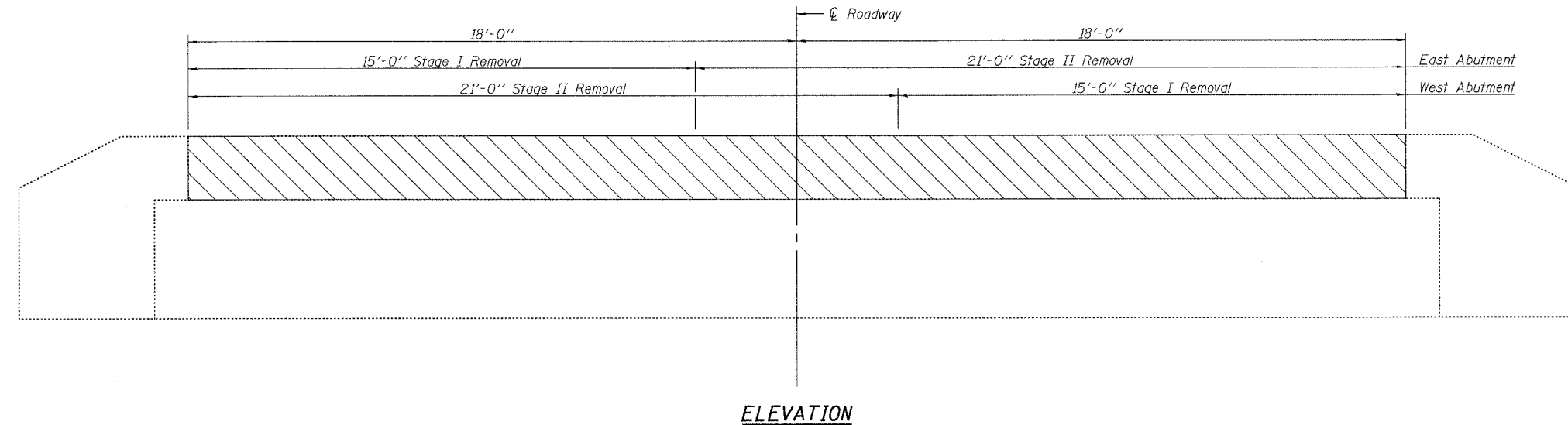
**LOCKING EDGE RAIL SPLICE**

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.  
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.  
The inside of the Locking Edge Rail groove shall be free of weld residue.  
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.  
The manufacturer's recommended installation methods shall be followed.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	72

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION PREFORMED JOINT STRIP SEAL DETAIL IL-70 OVER TRIBUTARY TO PECATONICA RIVER FAS RTE 55 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D WINNEBAGO COUNTY STATION 302+76.80 STRUCTURE NO. 101-0146</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>



**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	5.1

**NOTES**

Care shall be taken not to damage existing approach slab during concrete removal.  
Hatched areas indicate concrete removal.  
Existing reinforcement extending into new construction shall be cut off flush except where shown on Typical Section Thru Abutments on sheet 8 of 13. Cost included with Concrete Removal.

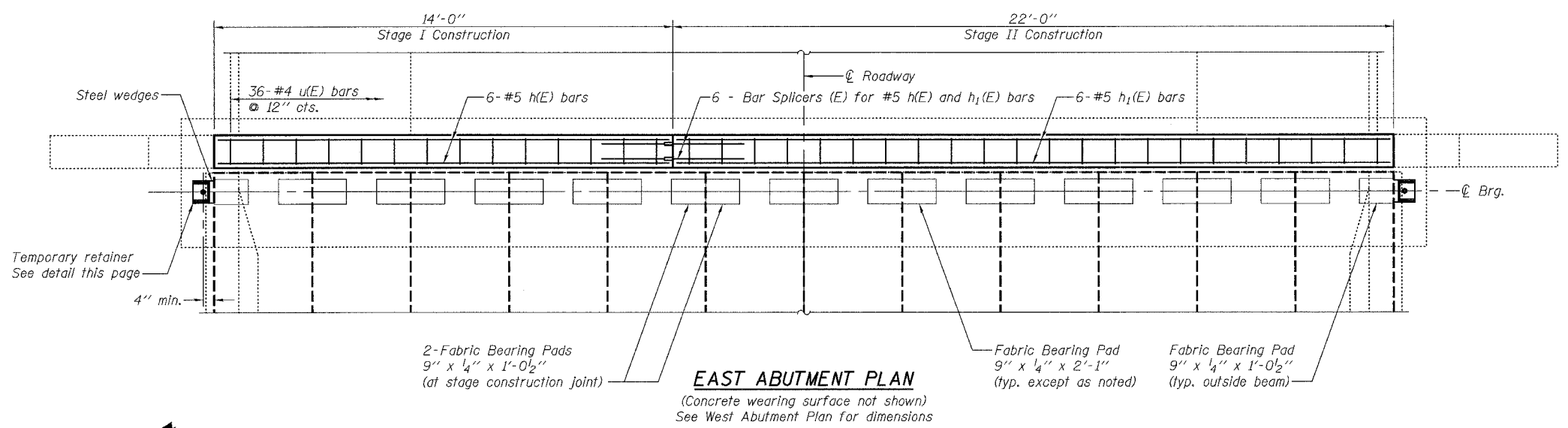
**rjngroup**  
Excellence through Ownership  
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
CONCRETE REMOVAL  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146  
DATE: 12/15/2006  
DRAWN BY LCM  
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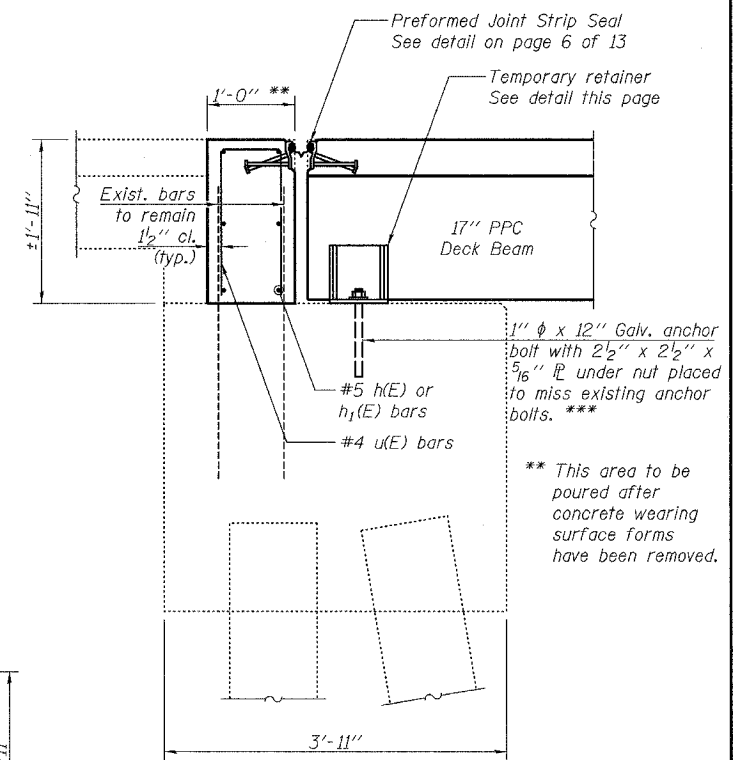
ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	19	52	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract # 64C93  
 (102 BR-1, 102 BR-2, 102 BR-3D)

\*\*\*Anchor bolts or approved threaded rod shall be placed in drilled holes and grouted in place in accordance with Article 584 of the Standard Specifications. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.

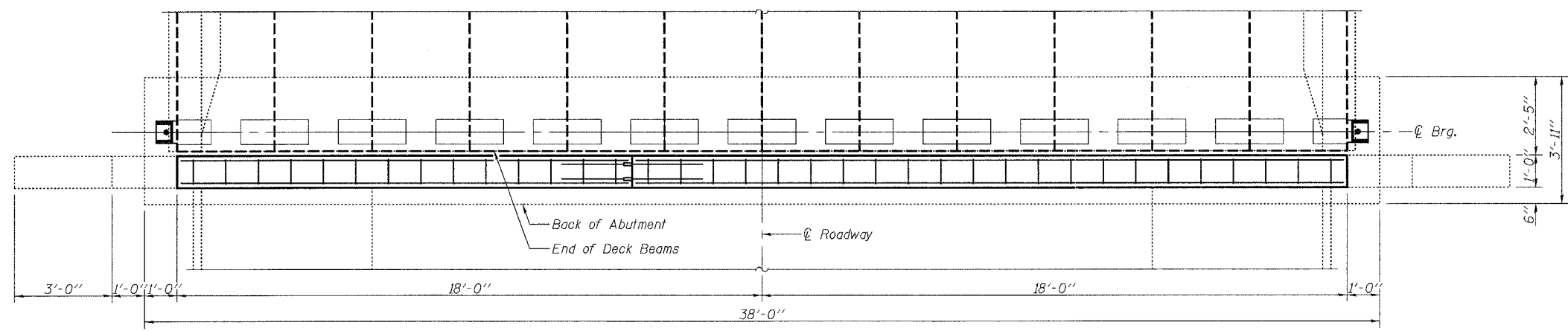


**EAST ABUTMENT PLAN**  
 (Concrete wearing surface not shown)  
 See West Abutment Plan for dimensions

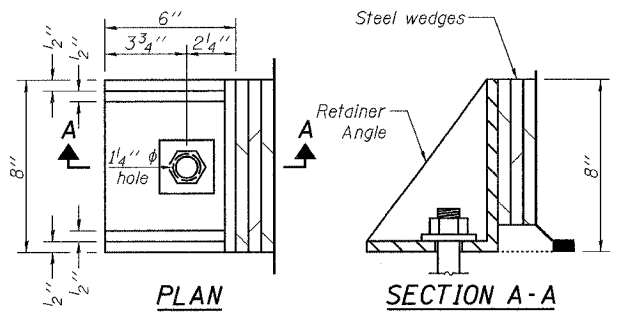


**TYPICAL SECTION THRU ABUTMENTS**

\*\* This area to be poured after concrete wearing surface forms have been removed.



**WEST ABUTMENT PLAN**  
 (Concrete wearing surface not shown)  
 See East Abutment Plan for reinforcement



**TEMPORARY RETAINER DETAIL**

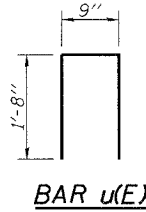
**NOTES**

Existing Reinforcement Bars extending into the removal area shall be blast cleaned to gray metal and straightened. Blast cleaning and straightening shall be included with the cost of Removal of Existing Superstructures.  
 Existing reinforcement bars which have lost 25% or more of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnished and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.  
 The side retainers shall be galvanized after shop fabrication according to AASHTO M111 and ASTM A 385.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with the cost of Removal of Existing Superstructures.  
 Install side retainers at each end before grouting the shear keys. After the concrete wearing surface is poured and cured the retainer angles shall be removed. Anchor bolts may be left in place.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	12	#5	13'-9"	—
h1(E)	12	#5	21'-9"	—
u(E)	72	#4	4'-1"	Π
Reinforcement Bars, Epoxy Coated		Pound	640	
Bar Splicers	Each	12		
Concrete Structures	Cu. Yd.	5.1		

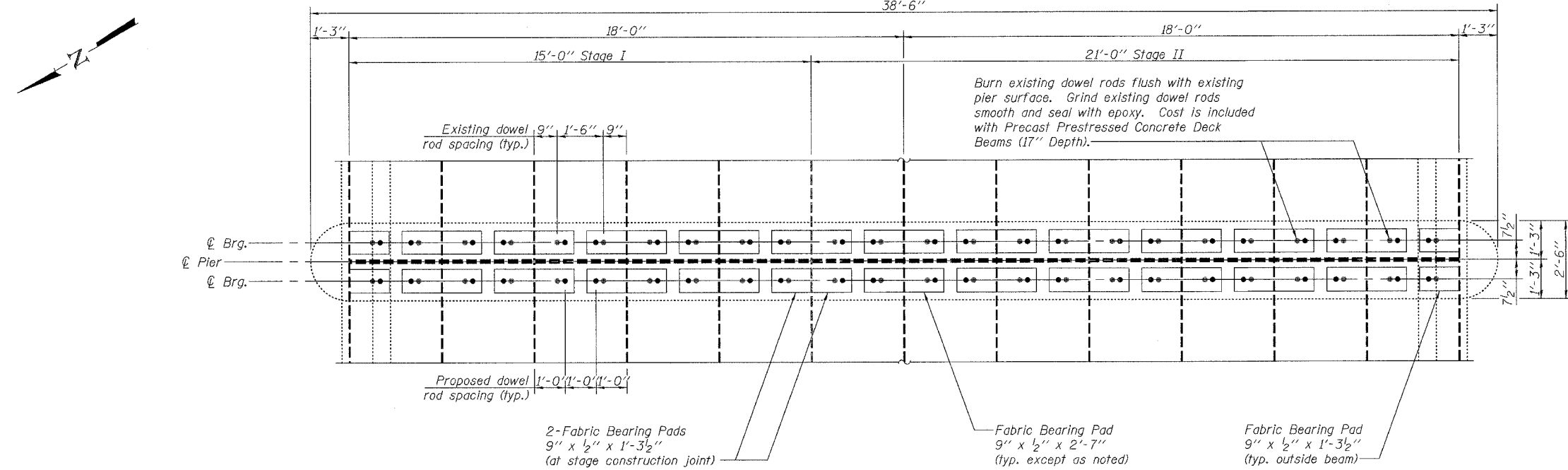


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 200 West Front Street  
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
 ABUTMENTS  
 IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
 FAS RTE 55  
 SECTION (102 BR-1, 102 BR-2, 102 BR-3D)  
 WINNEBAGO COUNTY  
 STATION 302+76.80  
 STRUCTURE NO. 101-0146  
 DATE: 12/15/2006  
 DRAWN BY LCM  
 CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAS 55	*	WINNEBAGO	20	52	13 SHEETS
FED. ROAD DIST. NO. 7	DIVISION	FED. AID PROJECT-			

\*(102 BR-1, 102 BR-2, 102 BR-3)  
Contract # 64C93



**PIER PLAN**

(Concrete Wearing Surface not shown)



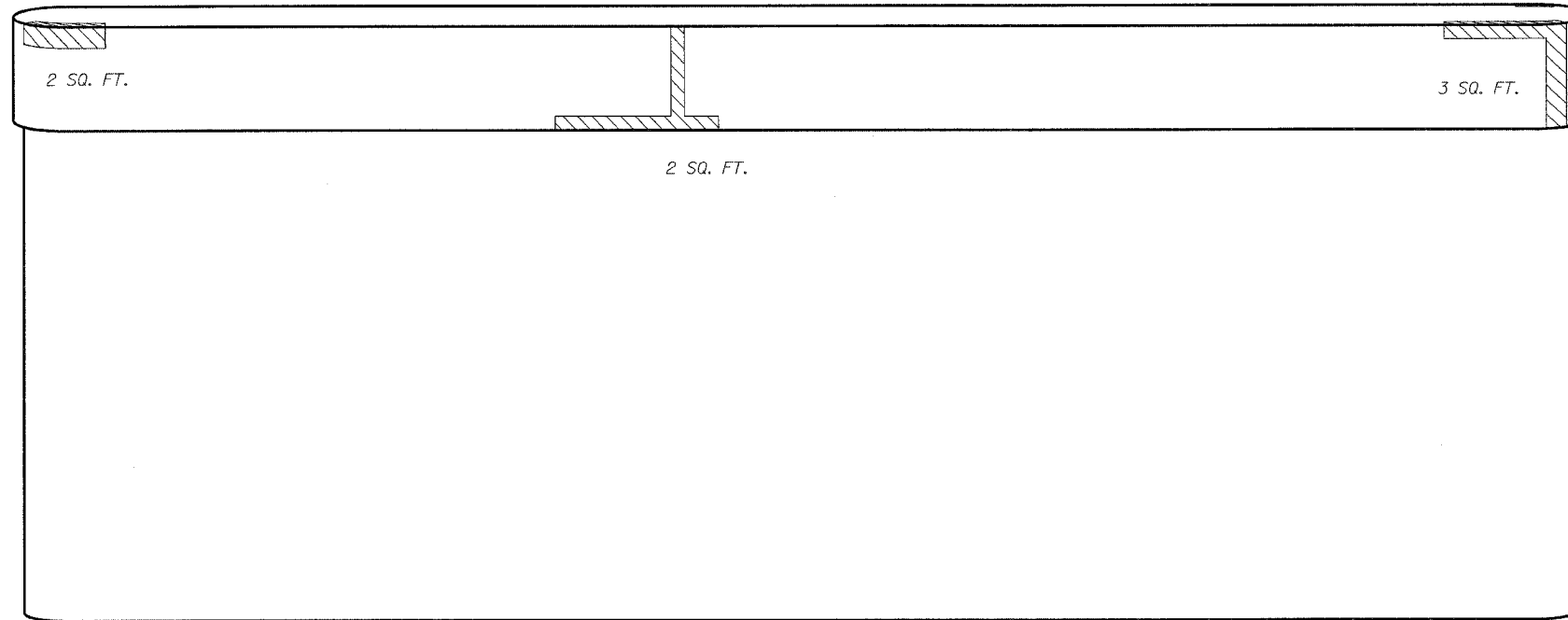
Excellence through Ownership  
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
PIER  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146

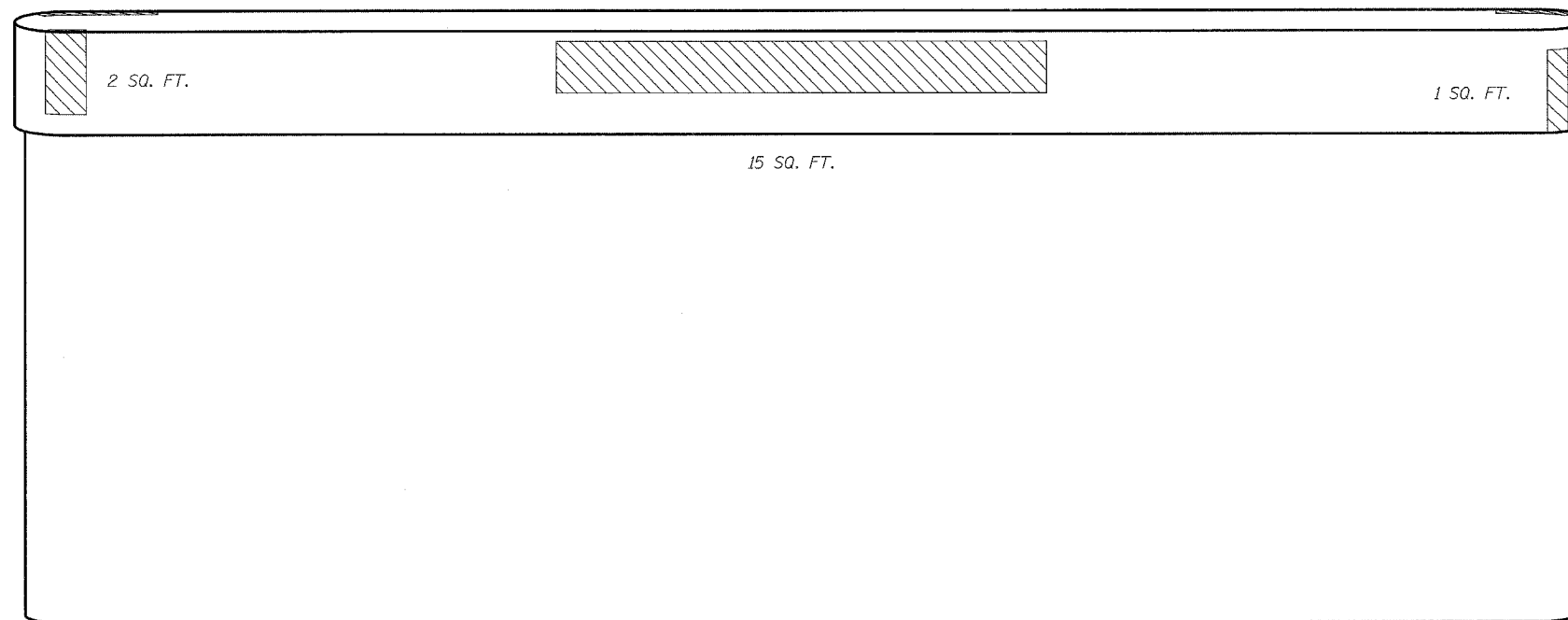
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 10
FAS 55	*	WINNEBAGO	21	52	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\* (102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



LOOKING EAST



LOOKING WEST

**LEGEND**



Structural Repair of  
Concrete (Depth Equal  
To or Less Than 5')

**NOTE**

Repair of the pier caps shall be  
completed prior to placement of  
the new deck beams.

**BILL OF MATERIAL**

Item	Unit	Total
Structural Repair of Concrete (Depth Equal To or Less Than 5')	Sq. Ft.	25

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Excellence through Ownership

200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
PIER REPAIRS  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

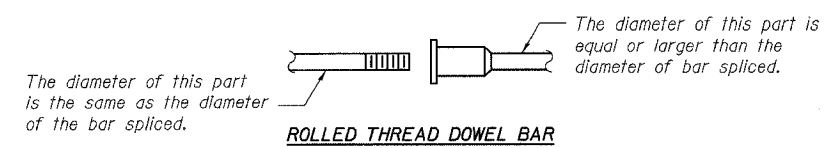
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

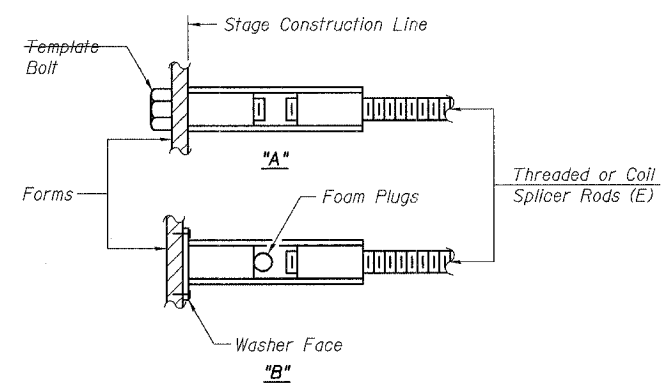
Wire Connector



**WELDED SECTIONS**

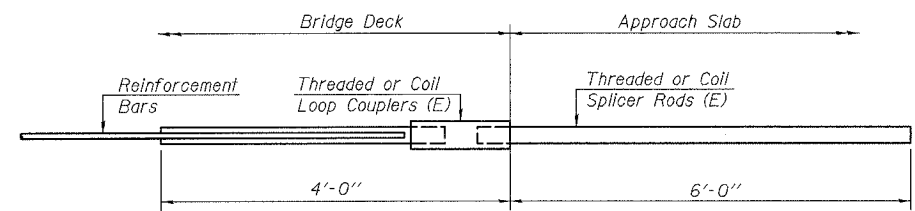
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



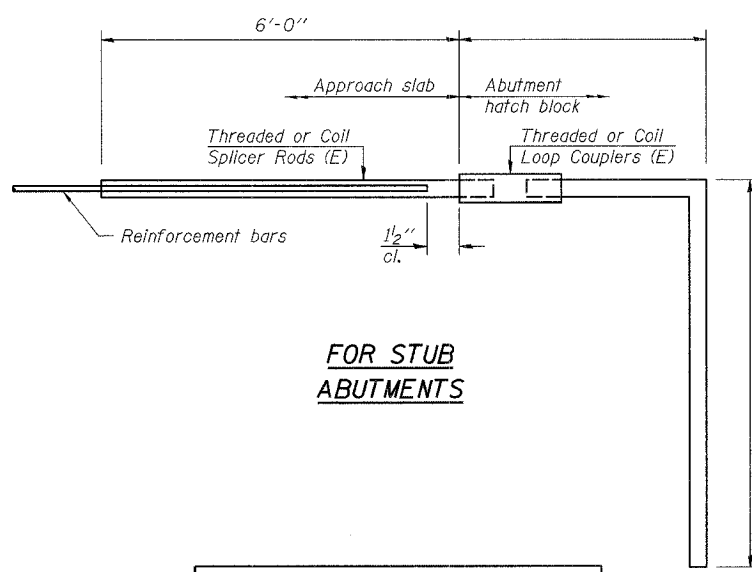
**INSTALLATION AND SETTING METHODS**

"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.



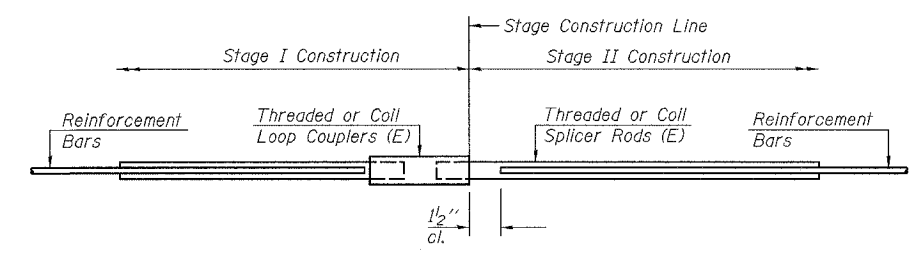
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	78	Wearing Surface
#5	12	Abutments

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Wheaton, IL 60187

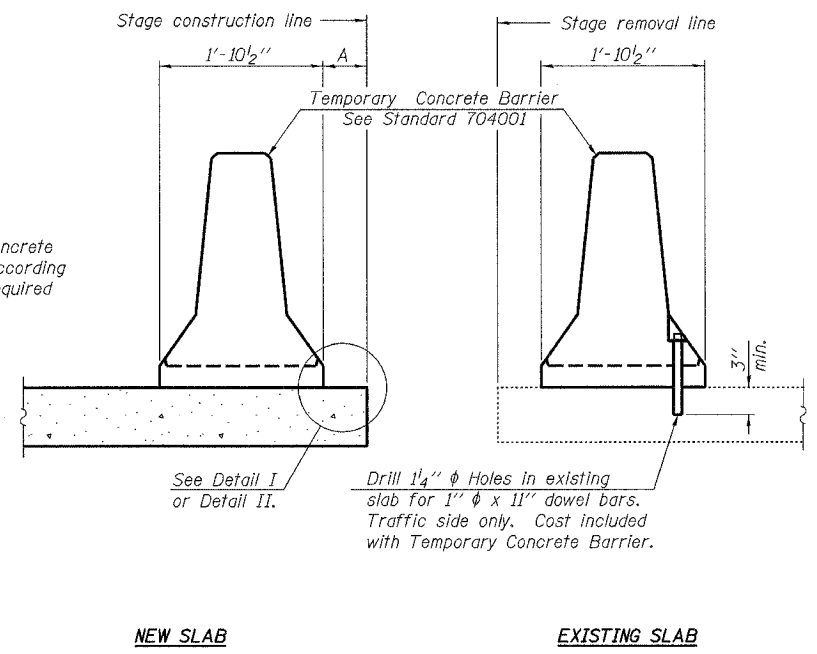
ILLINOIS DEPARTMENT OF TRANSPORTATION  
BAR SPLICER ASSEMBLY DETAILS  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 302+76.80  
STRUCTURE NO. 101-0146  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
FAS 55	*	WINNEBAGO	23	52
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

SHEET NO. 12  
13 SHEETS

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



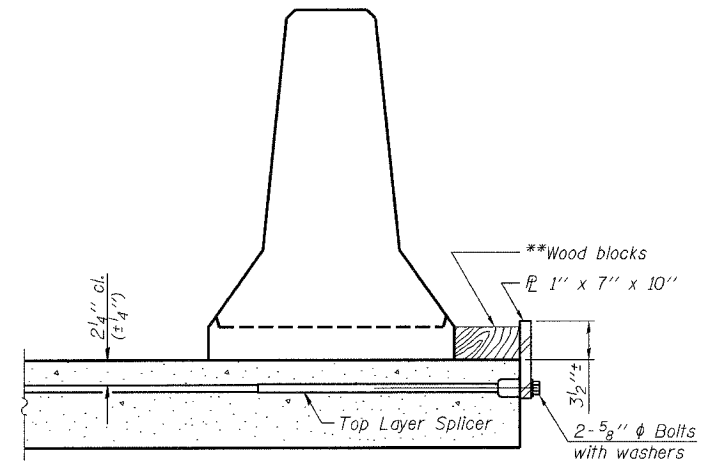
**SECTIONS THRU SLAB**

**NOTES**

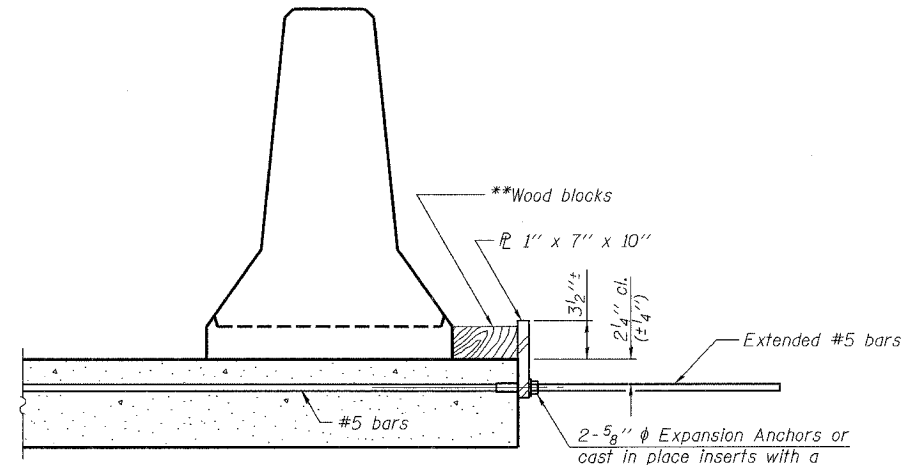
**Detail I - With Bar Splicer or Couplers:**  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\phi$  of each barrier panel.

**Detail II - With Extended Reinforcement Bars:**  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\phi$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

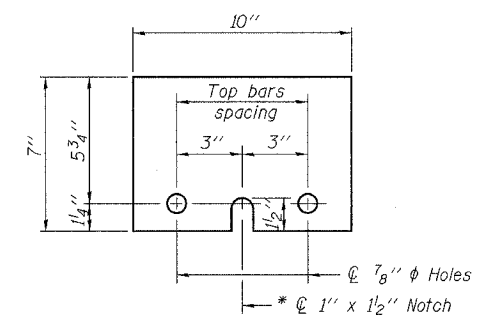


**DETAIL I**



**DETAIL II**

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



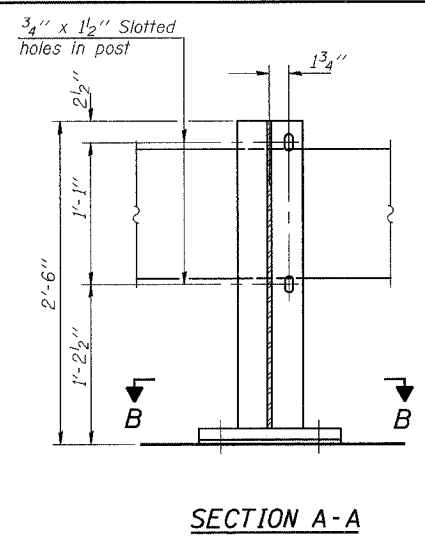
**STEEL RETAINER  $\bar{P}$  1" x 7" x 10"**

\* Required only with Detail II

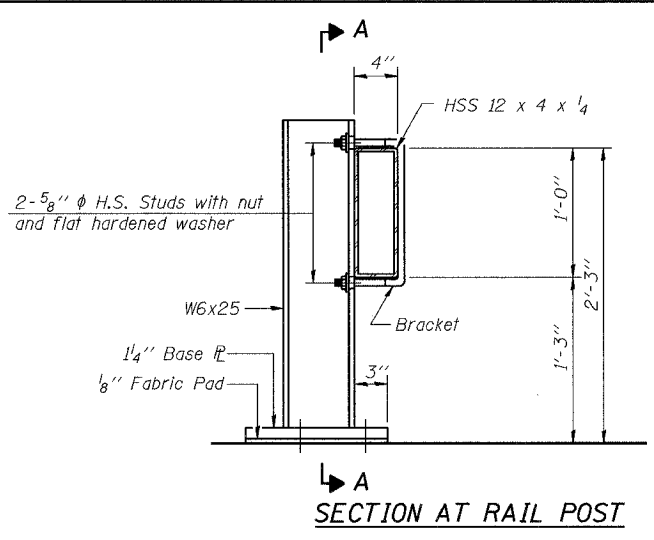
<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION IL-70 OVER TRIBUTARY TO PECATONICA RIVER FAS RTE 55 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D WINNEBAGO COUNTY - STATION 302+76.80 STRUCTURE NO. 101-0146</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAS 55	*	WINNEBAGO	24	52
SHEET NO. 13				
13 SHEETS				

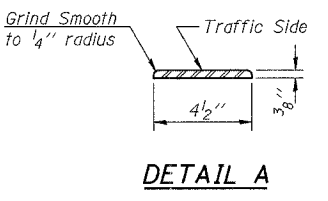
\* (102 BR-1, 102 BR-2, 102 BR-3)D  
 Contract # 64C93



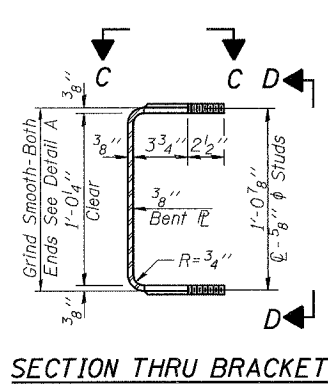
SECTION A-A



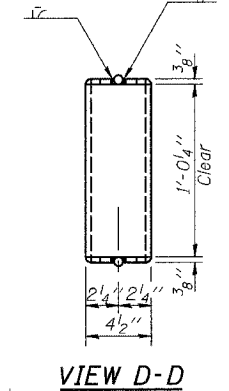
SECTION AT RAIL POST



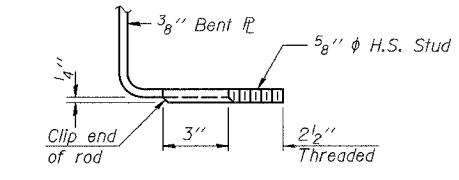
DETAIL A



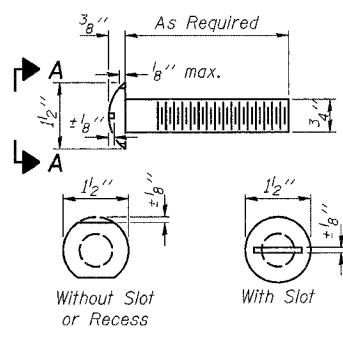
SECTION THRU BRACKET



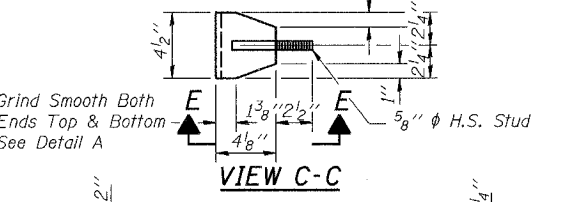
VIEW D-D



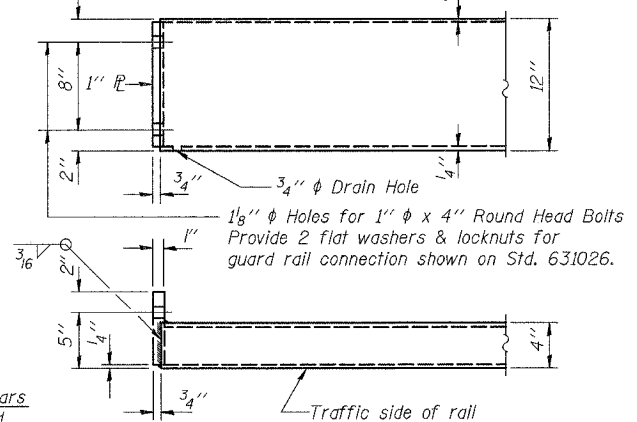
VIEW E-E



VIEW A-A ROUND HEAD BOLT

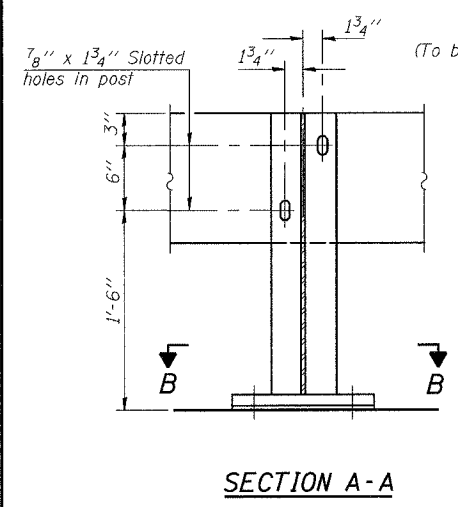


VIEW C-C

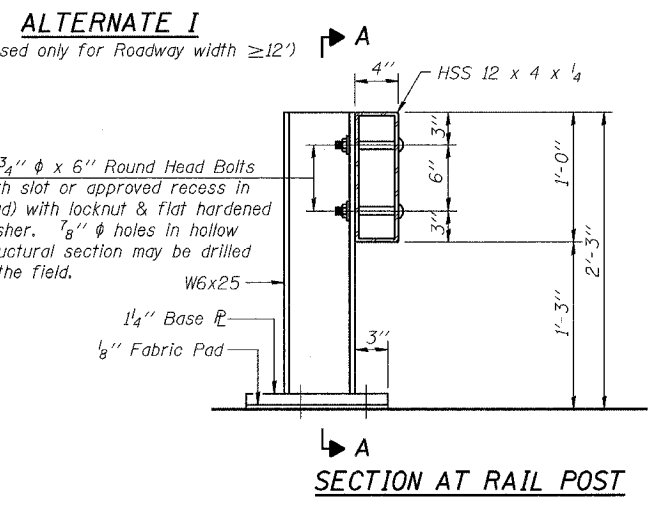


END OF RAIL DETAILS

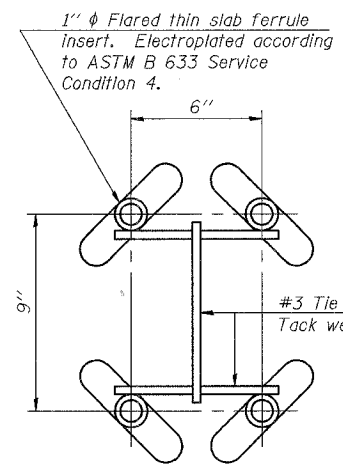
Notes:  
 The contact surfaces between post flange, rail and inside face of bracket for Alternate I shall be free of all lubricants.  
 The nut for 5/8 inch high strength studs used in Alternate I to connect bracket to post shall be tightened to a snug fit and given an additional one half turn.  
 See Roadway plans for locations and quantity.



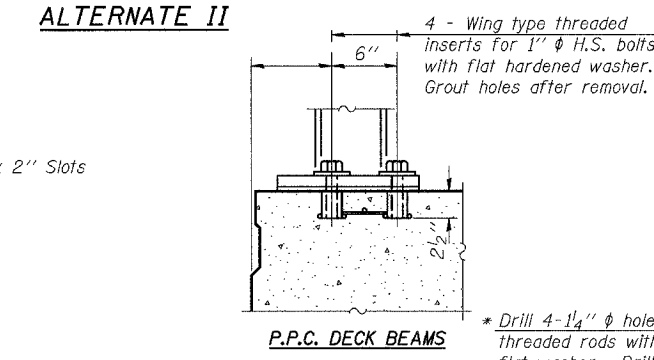
SECTION A-A



SECTION AT RAIL POST

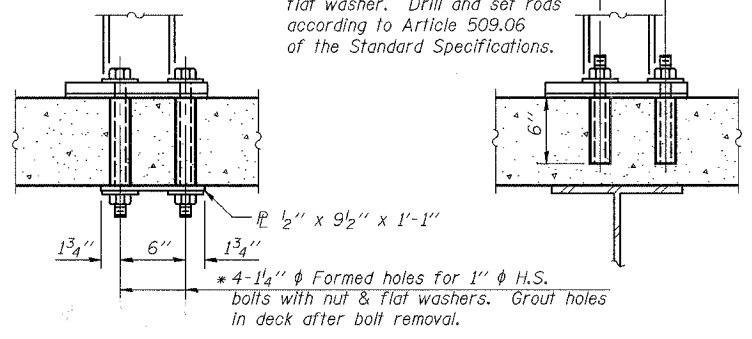


INSERT DETAIL

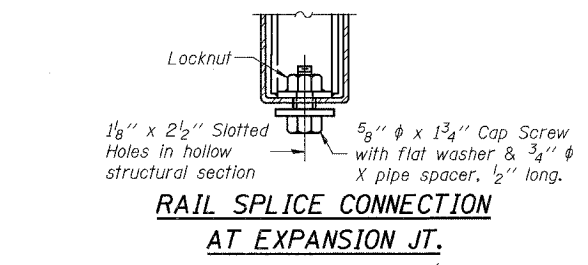


P.P.C. DECK BEAMS

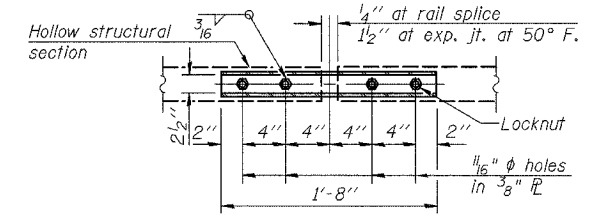
\* Drill 4-1 1/4 inch diameter holes for 1 inch threaded rods with hex nut and flat washer. Drill and set rods according to Article 509.06 of the Standard Specifications.



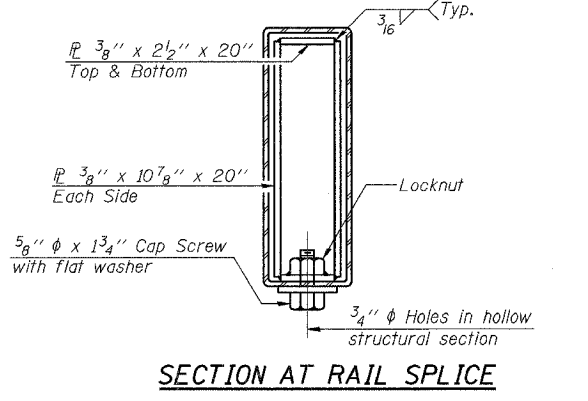
NEW & EXISTING DECKS ANCHORAGE DETAILS



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



SECTION AT RAIL SPLICE

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	ILLINOIS DEPARTMENT OF TRANSPORTATION
	STEEL RAILING (TEMPORARY)
	IL-70 OVER TRIBUTARY TO PECATONICA RIVER
	FAS RTE 55
	SECTION (102 BR-1, 102 BR-2, 102 BR-3)D
	WINNEBAGO COUNTY
	STATION 302+76.80
	STRUCTURE NO. 101-0146
	DATE: 12/15/2006
	DRAWN BY LCM
	CHECKED BY BLB

12/14/2006 I:\11179212\structures\111-0146.dgn

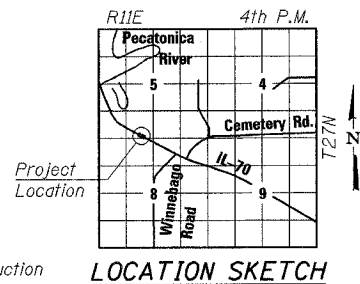


Existing Structure: Structure number 101-0147, station 308+27.00. The existing structure is a two-span PPC deck beam bridge built in 1982. The back to back abutment length is 80'-8 1/2" and the out to out bridge width is 36'-6". In 2002 a 5" reinforced concrete wearing surface was added to the existing deck beams. The existing superstructure is to be removed and replaced with one lane of traffic maintained utilizing staged construction.

No Salvage

### INDEX OF SHEETS

1. General Plan and Elevation
2. Steel Railing, Type SM with Concrete Wearing Surface
3. Superstructure and Stage Construction
4. Superstructure Details I
5. Superstructure Details II
6. Preformed Joint Strip Seal Details
7. Concrete Removal
8. Abutments
9. Pier
10. Bar Splicer Assembly Details
11. Temporary Concrete Barrier for Stage Construction
12. Steel Railing (Temporary)



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	25	52	12 SHEETS

\* (102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

### TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		5.1	5.1
Concrete Structures	Cu. Yd.		5.1	5.1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2784		2784
Reinforcement Bars, Epoxy Coated	Pound	3840	640	4480
Bar Splicers	Each	78	12	90
Concrete Wearing Surface, 5"	Sq. Yd.	310		310
Bridge Deck Grooving	Sq. Yd.	310		310
Protective Coat	Sq. Yd.	310		310
Concrete Sealer	Sq. Ft.		184	184
Steel Railing, Type SM	Foot	155		155
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	72		72
Asbestos Bearing Pad Removal	Each		52	52

### GENERAL NOTES

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.

Concrete Sealer shall be applied to the seat area of the Abutments.  
All Construction joints shall be bonded.

The contractor is advised that the existing PPC 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.

The existing name plate shall be cleaned and relocated adjacent to the new name plate. Cost included with Name Plates.

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 the 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 beams.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the profile grade and beam camber.

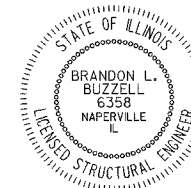
See roadway plans for profile grade information.  
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.  
No in-stream work will be allowed on this project.

Repair of the pier cap shall be completed prior to placement of the new deck beams.  
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 shall be applied before corrosion appears and allowed to dry according to the manufacturers 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.

**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Brandon L. Buzzell*  
ENGINEER OF BRIDGES AND STRUCTURES



*Brandon L. Buzzell*  
Expires 11-30-08

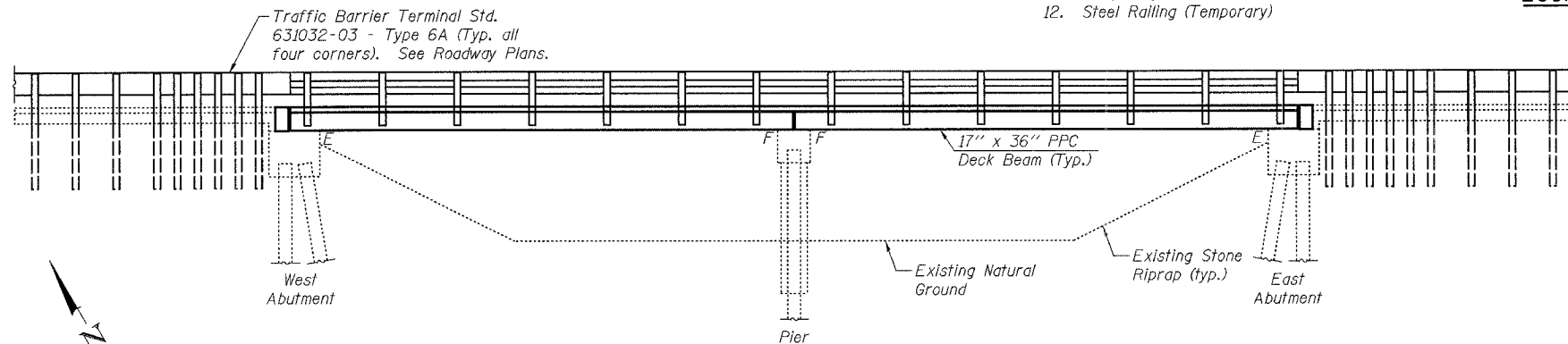
**rjngroup**

Excellence through Ownership

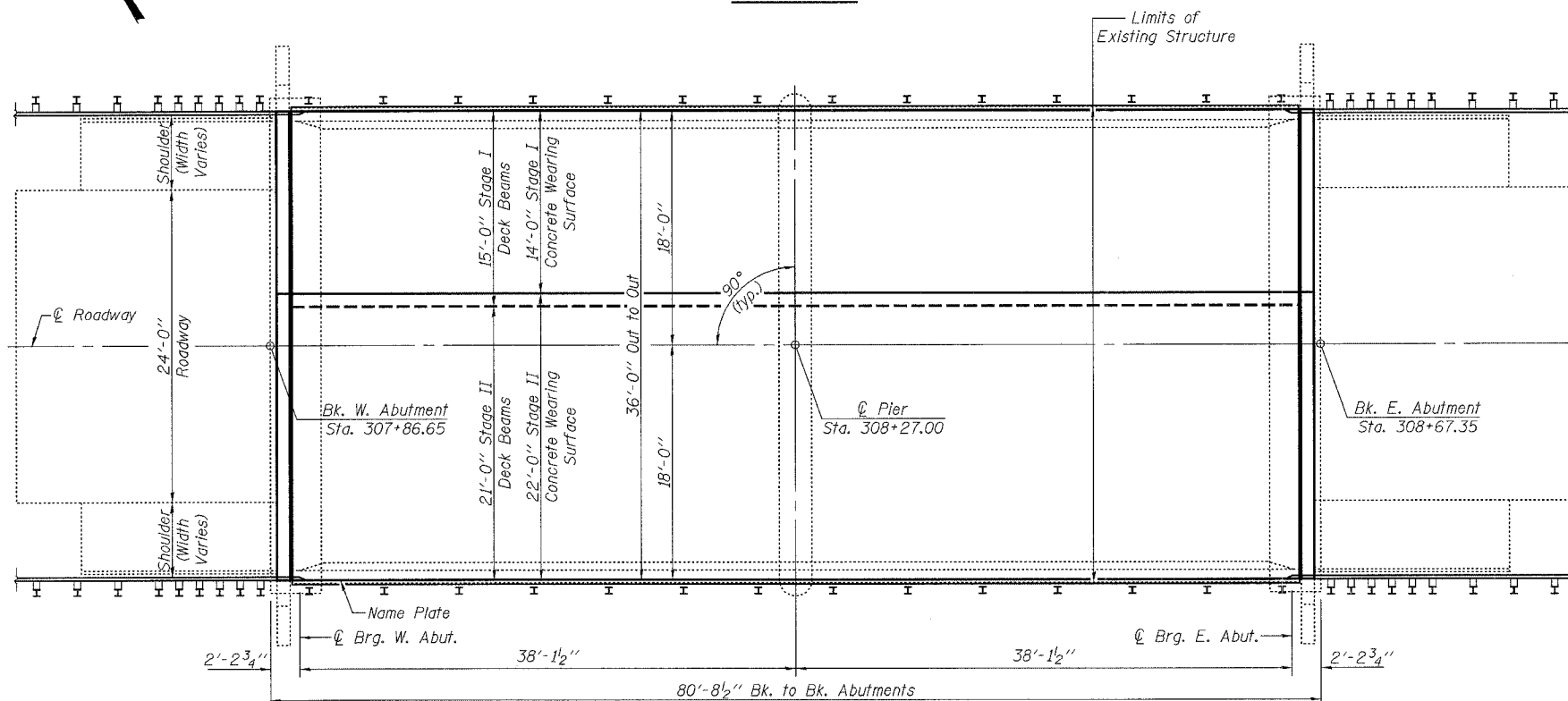
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN AND ELEVATION  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 308+27.00  
STRUCTURE NO. 101-0147

DATE: 12/15/2006  
DRAWN BY: LCM  
CHECKED BY: BLB



### ELEVATION



### PLAN

### LOADING HS20-44

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

### DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications - 17th ed.

### DESIGN STRESSES

NEW & EXISTING CONSTRUCTION

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

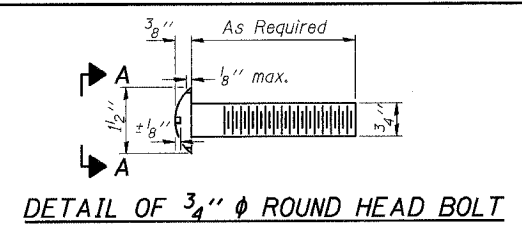
$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi (1/2"  $\phi$  low relax strands)  
 $f_{si} = 201,960$  psi (1/2"  $\phi$  low relax strands)

STATION 308+27.00  
BUILT 2007 BY  
STATE OF ILLINOIS  
F.A.S. RT. 55 SEC. (102 BR-1,  
102 BR-2, 102 BR-3)D  
LOADING HS20  
STR. NO. 101-0147

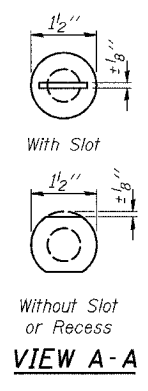
### NAME PLATE

See Std. 515001

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

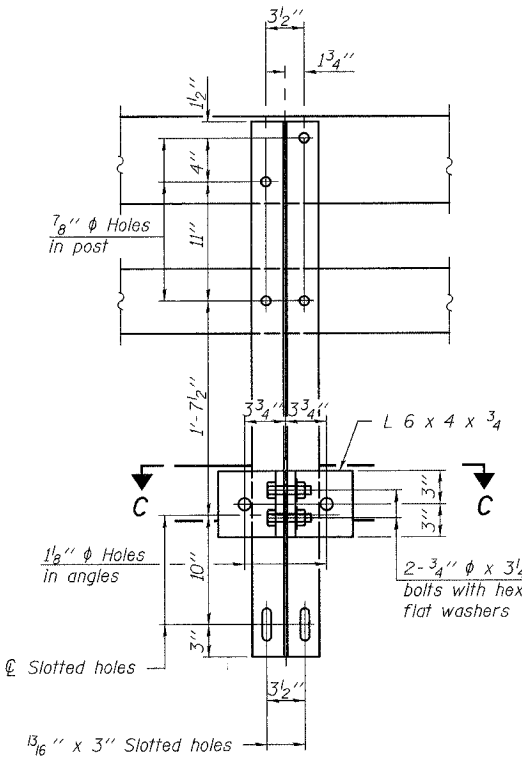


DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT

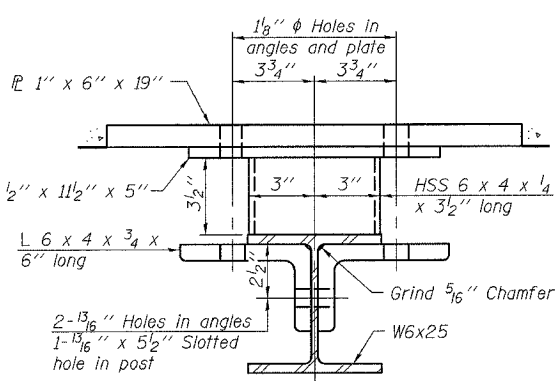


VIEW A-A

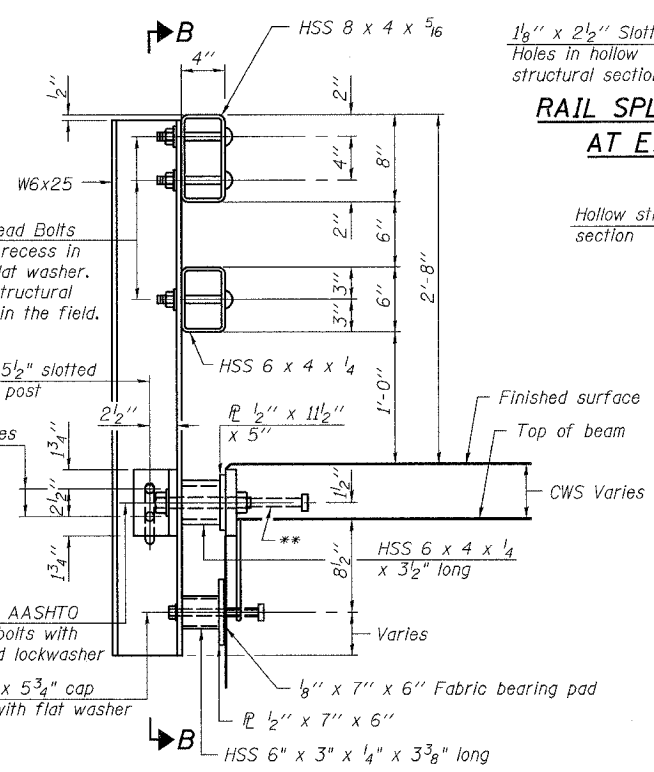
4-3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



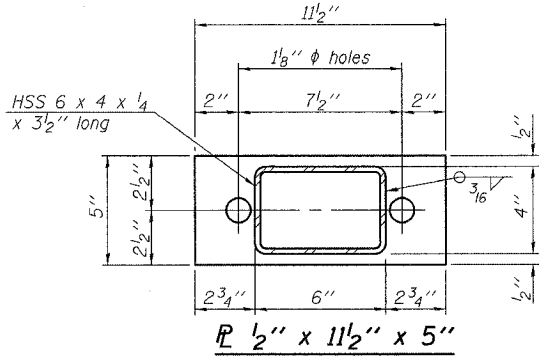
SECTION B-B



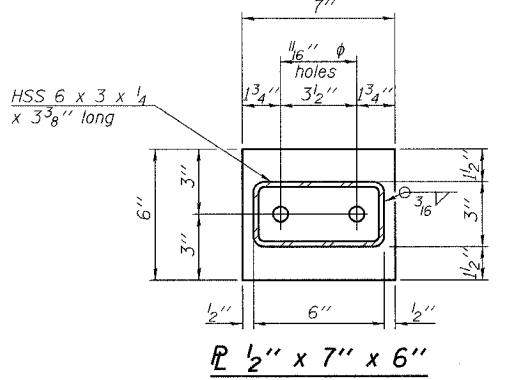
SECTION C-C



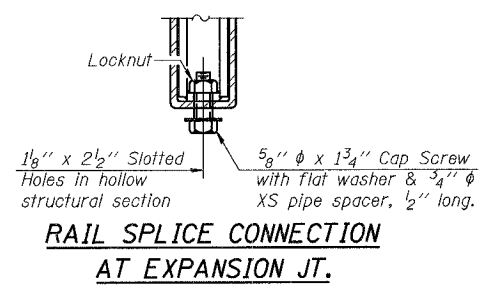
SECTION AT RAIL POST



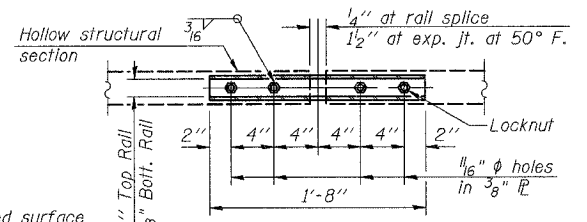
PLAN-BOTT. SPLICE P TYPICAL



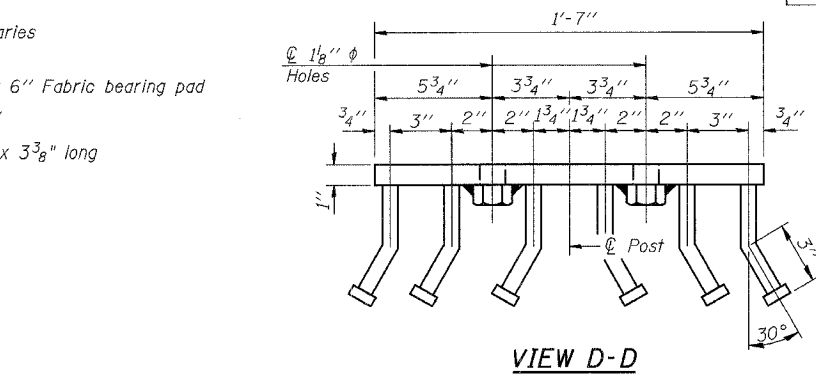
ANCHOR DEVICE



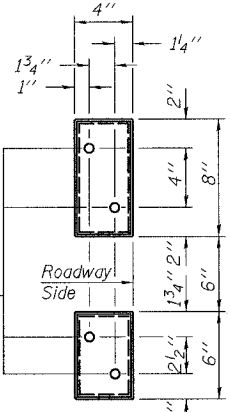
RAIL SPLICE CONNECTION AT EXPANSION JT.



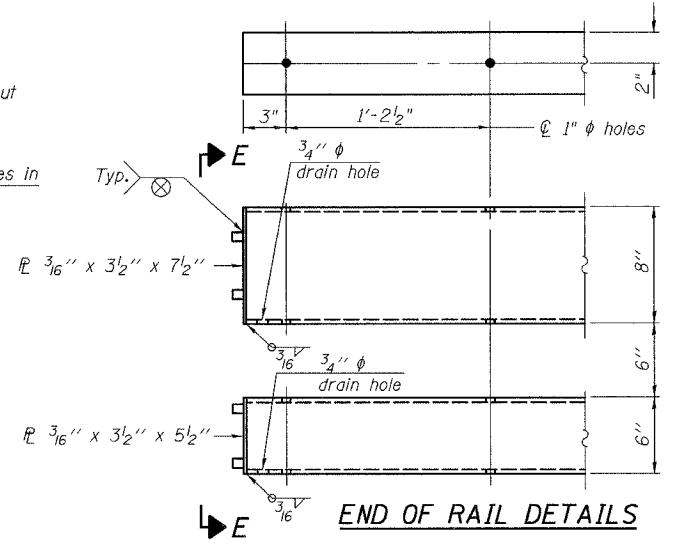
SECTION AT RAIL SPLICE



VIEW D-D



VIEW E-E



END OF RAIL DETAILS

Notes:  
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 Railing, Type SM.  
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	155

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Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
STEEL RAILING, TYPE SM WITH CONCRETE WEARING SURFACE  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY - STATION 308+27.00  
STRUCTURE NO. 101-0147

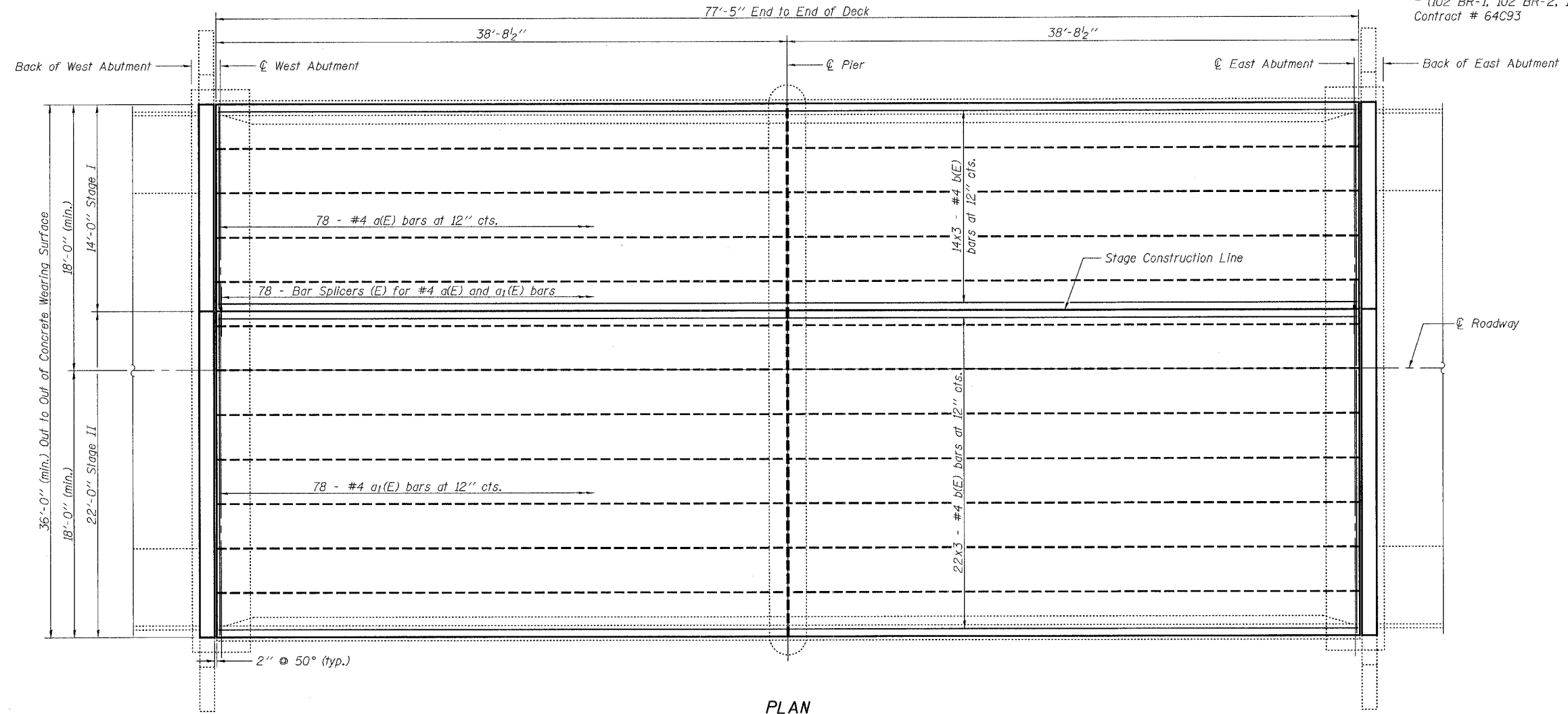
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

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

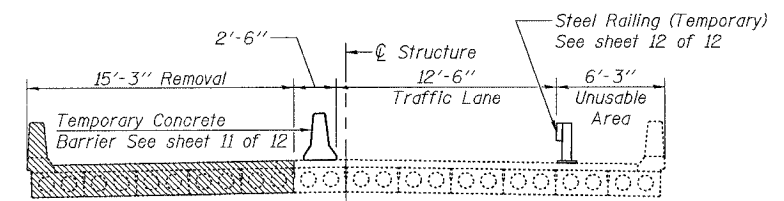
R-34CWS 11-1-06 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	27	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

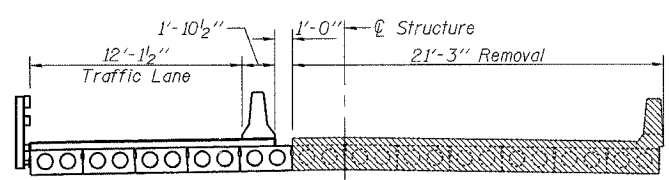
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



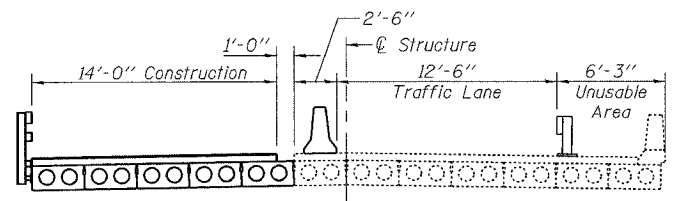
PLAN



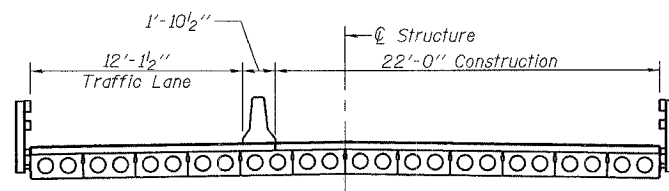
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

STAGE CONSTRUCTION DETAILS  
Looking East

MIN. BAR LAP  
#4 - 1'-8"

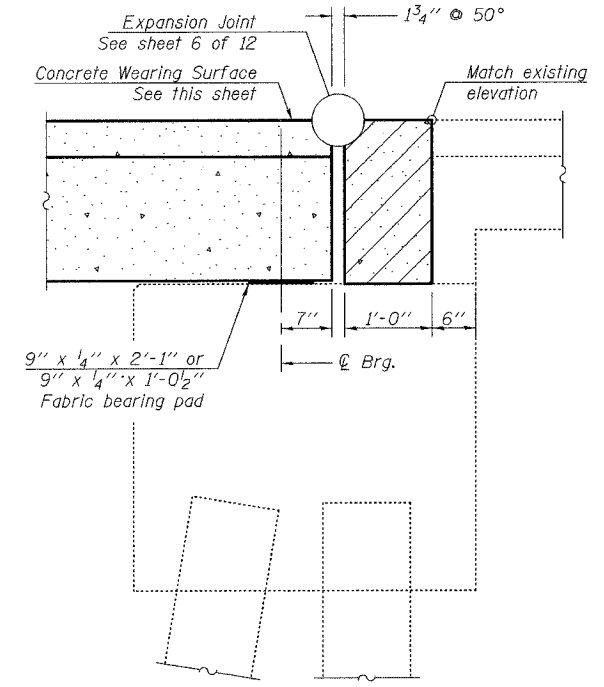
NOTES

For Superstructure Details, See Sheets 4 of 12, 5 of 12, and 6 of 12.  
For details of Bar Splicers see sheet 10 of 12.  
Bars Indicated thus 14 x 3-#4 etc. indicates 14 lines of bars with 3 lengths per line.

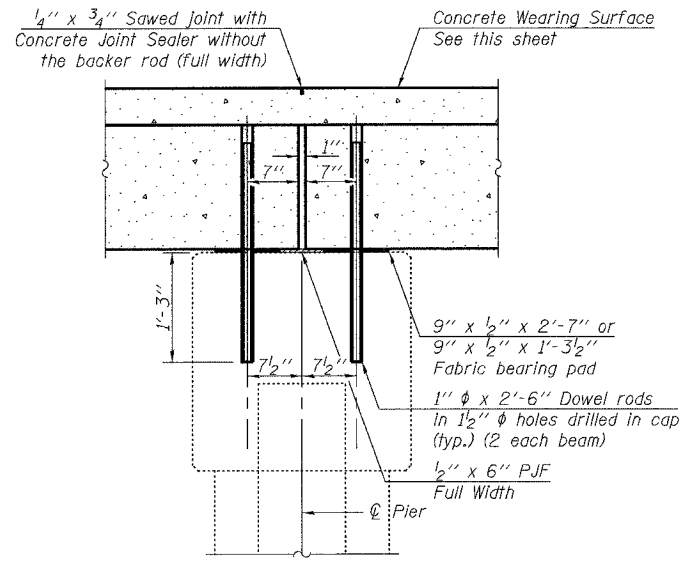
<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION SUPERSTRUCTURE AND STAGE CONSTRUCTION IL-70 OVER TRIBUTARY TO PECATONICA RIVER FAS RTE 55 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D WINNEBAGO COUNTY STATION 308+27.00 STRUCTURE NO. 101-0147</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

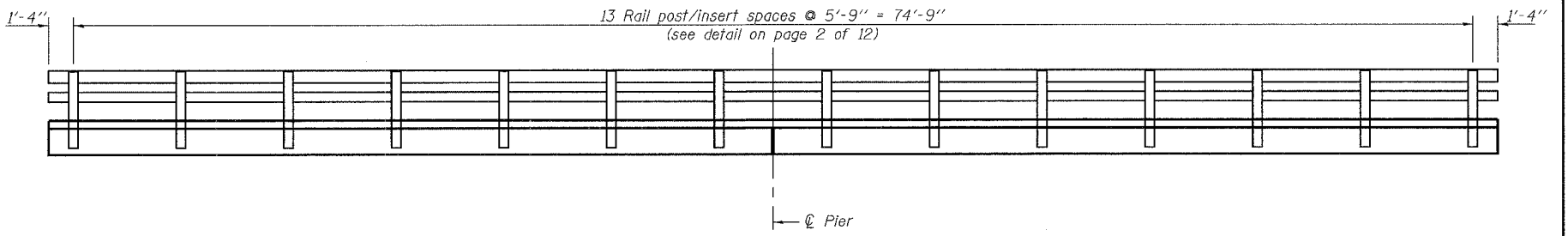
**NOTES:**  
 After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hours prior to grouting the shear keys.  
 Ends of beams shall be aligned at the expansion joints. Any lined variation in the beam lengths shall be placed at the fixed joint.  
 See sheet 5 of 12 for bearing pad details.  
 Concrete wearing surface to be poured after grouting of shear keys.  
 Hatched area to be poured after concrete wearing surface is in place. Quantity included with Concrete Structures on sheet 8 of 12.  
 Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (17" depth).  
 All horizontal dimensions are at right angles to beam ends.



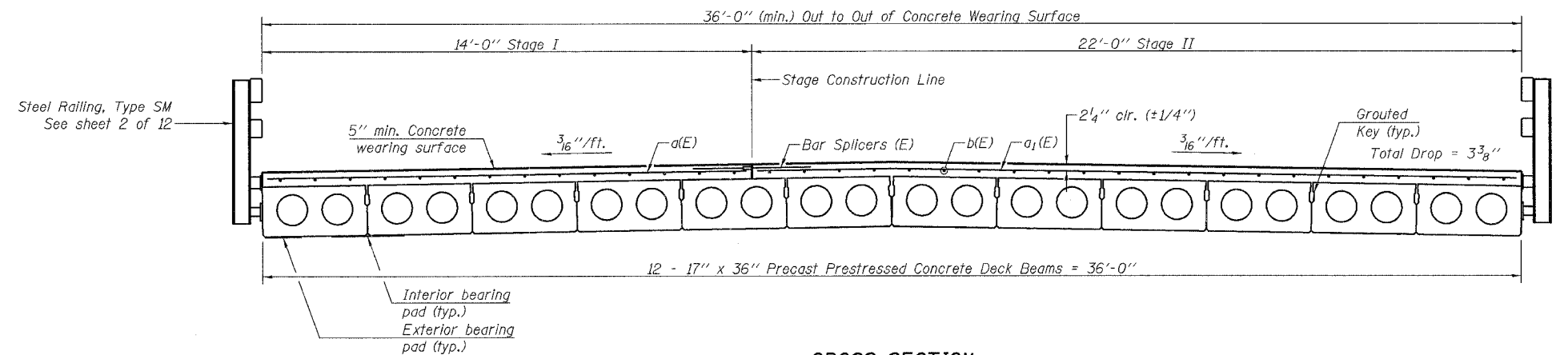
**SECTION THRU ABUTMENTS**



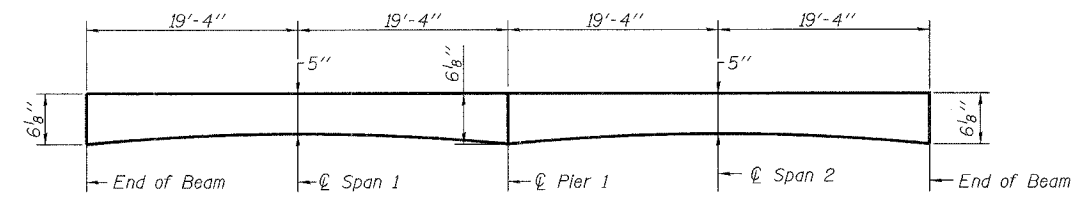
**SECTION THRU FIXED PIER**



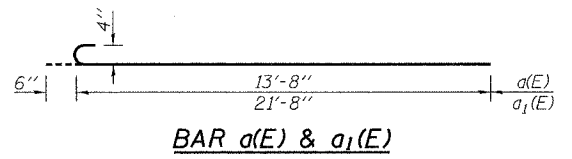
**RAIL POST SPACING**



**CROSS SECTION**



**REINFORCED CONCRETE WEARING SURFACE PROFILE**



**BAR a(E) & a1(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	78	#4	14'-2"	C
a1(E)	78	#4	22'-2"	C
b(E)	108	#4	26'-11"	—
Reinforcement Bars, Epoxy Coated			Pound	3840
Precast Prestressed Conc. Deck Bms. (17")			Sq. Ft.	2784
Concrete Wearing Surface, 5"			Sq. Yd.	310
Bar Splicers			Each	78

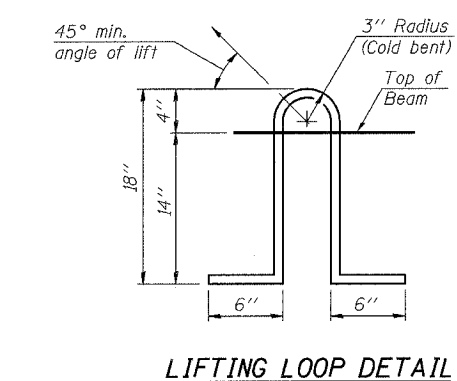
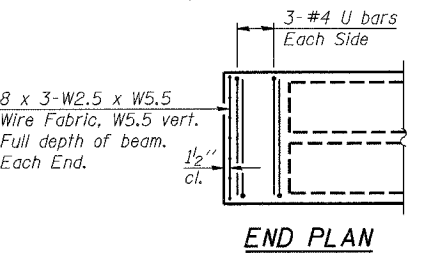
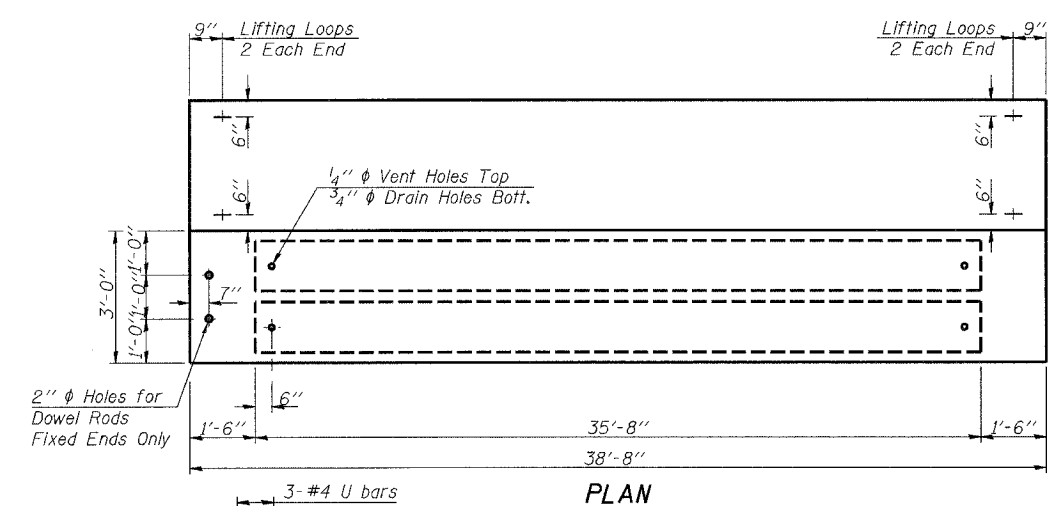
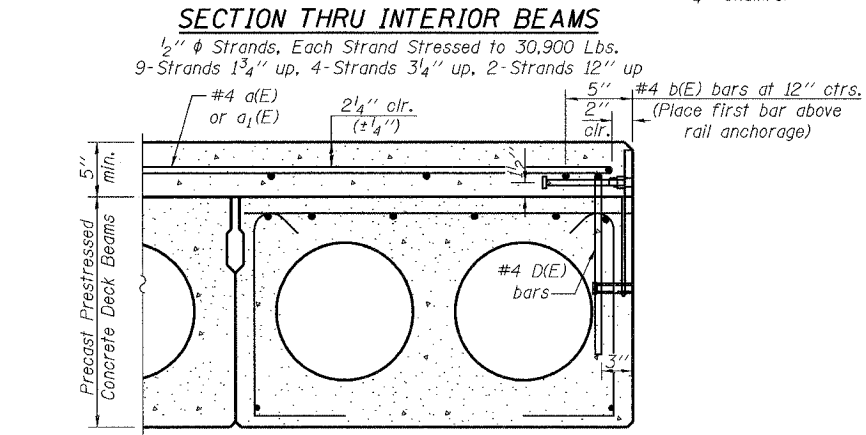
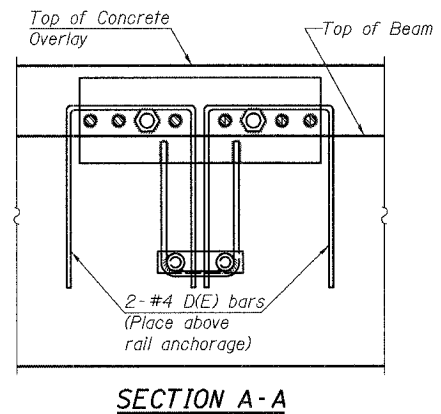
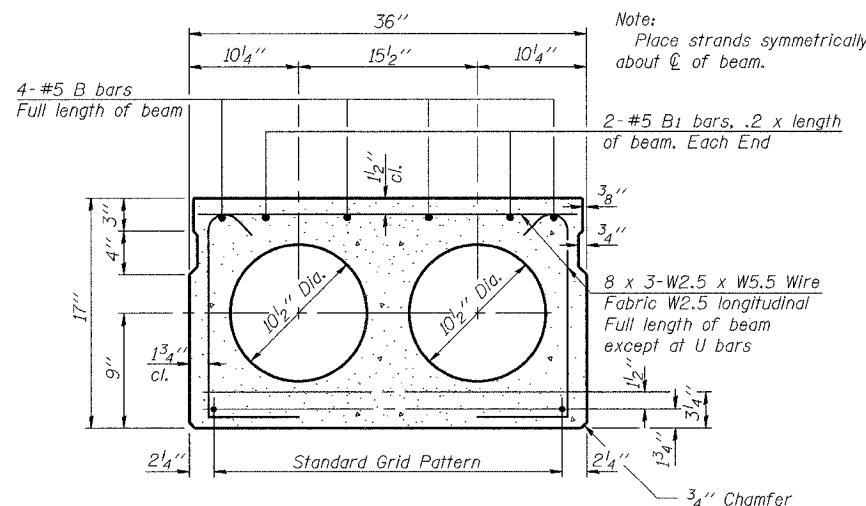
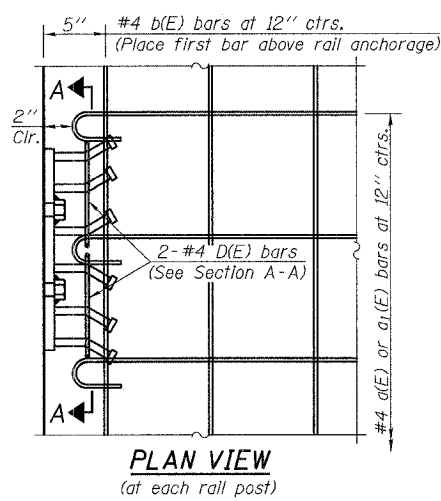
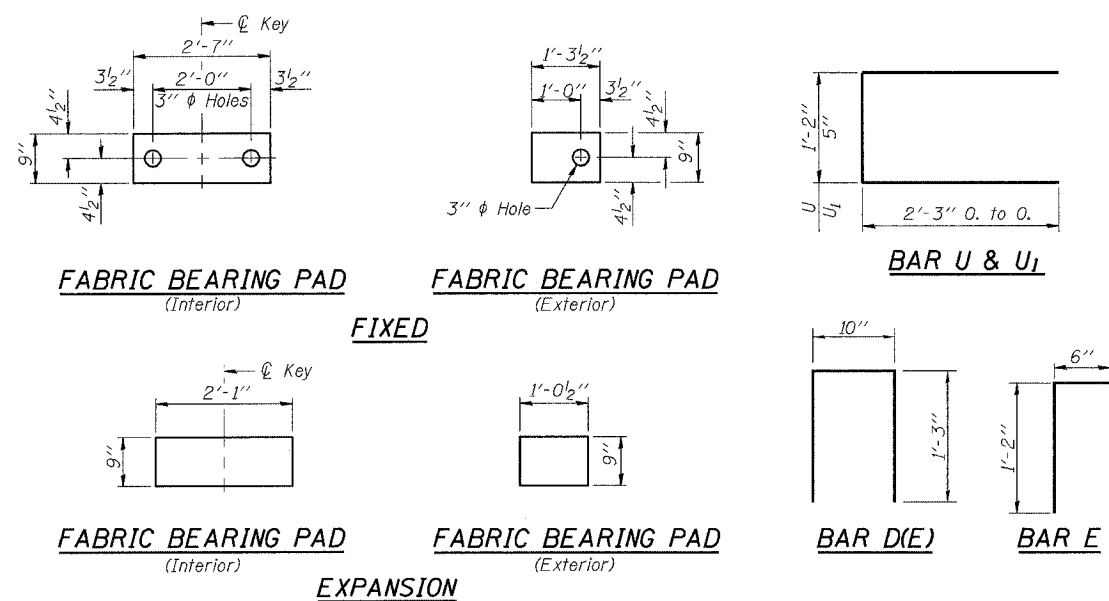
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 200 West Front Street  
 Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SUPERSTRUCTURE DETAILS I  
 IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
 FAS RTE 55  
 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
 WINNEBAGO COUNTY  
 STATION 308+27.00  
 STRUCTURE NO. 101-0147  
 DATE: 12/15/2006  
 DRAWN BY LCM  
 CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	DATE SHEETS	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	29	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

Note:  
Place strands symmetrically about  $\bar{C}$  of beam.



**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.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

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.

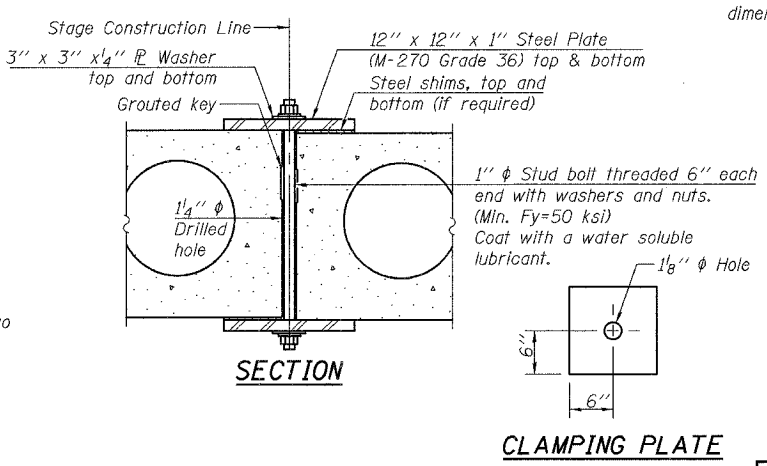
Corrosion Inhibitor, as covered in section 1020.05(b)(12) and 1021.06 of the Standard Specification, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength,  $f'_{ci}$ , shall be 4000 p.s.i.

Bridge rail inserts shall be cast in precast beams.

See Sheet 4 of 12 for location of rail inserts.

The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

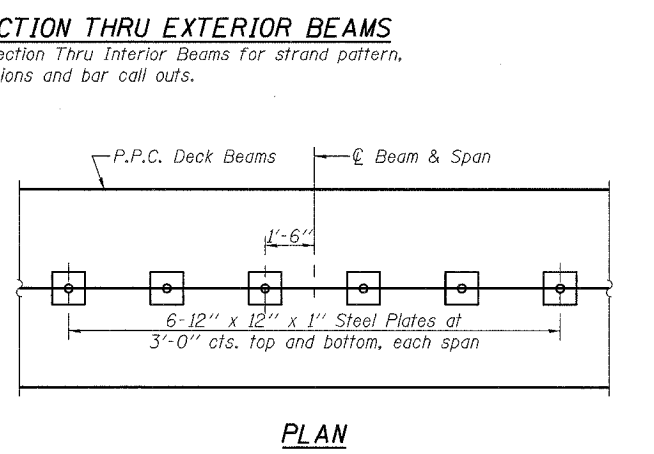


**SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.**

Refer to Article 504.06(d) of the Standard Specifications.

Cost included with Precast Prestressed Concrete Deck Beams (17" Depth).

See Stage Construction Details for traffic lanes, Sheet 3 of 12.



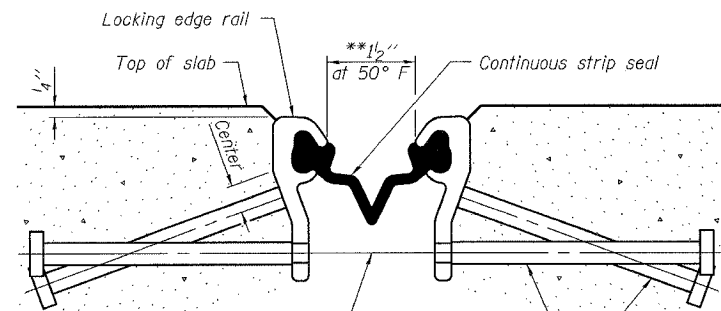
<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	ILLINOIS DEPARTMENT OF TRANSPORTATION
	SUPERSTRUCTURE DETAILS II
	IL-70 OVER TRIBUTARY TO PECATONICA RIVER
	FAS RTE 55
	SECTION (102 BR-1, 102 BR-2, 102 BR-3)D
	WINNEBAGO COUNTY
	STATION 308+27.00
	STRUCTURE NO. 101-0147
	DATE: 12/15/2006
	DRAWN BY LCM
	CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FAS 55	*	WINNEBAGO	30	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

\* Omit weld at seal opening.

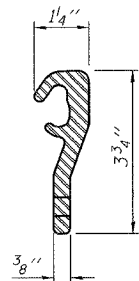
\*\* When joint is fixed, dimension is set at 1 1/2".



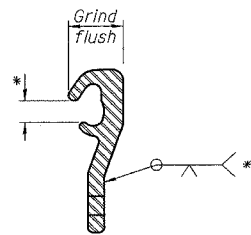
7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2"  $\phi$  x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

**SECTION THRU STRIP SEAL JOINT FOR OVERLAY OVER DECK BEAMS**



**LOCKING EDGE RAIL**



**LOCKING EDGE RAIL SPLICE**

**Notes:**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

The inside of the Locking Edge Rail groove shall be free of weld residue.

Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	72

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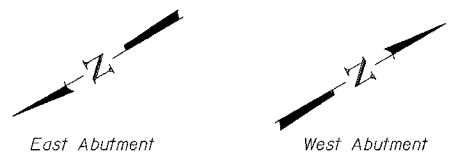
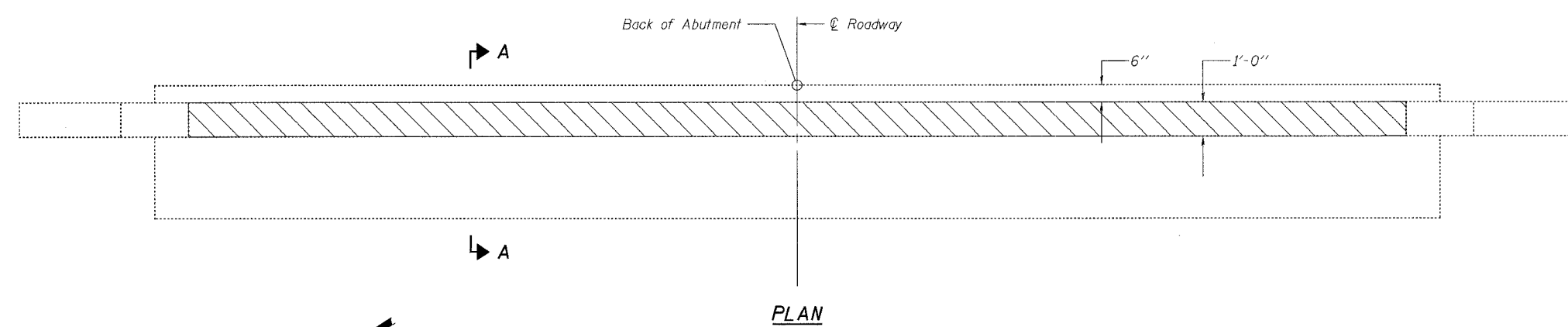
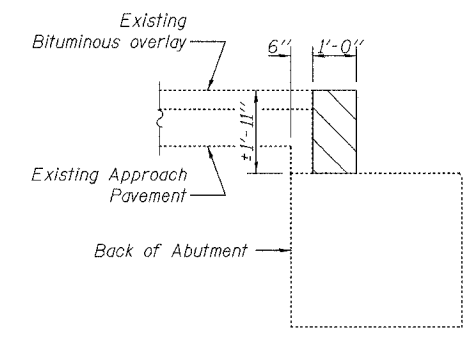
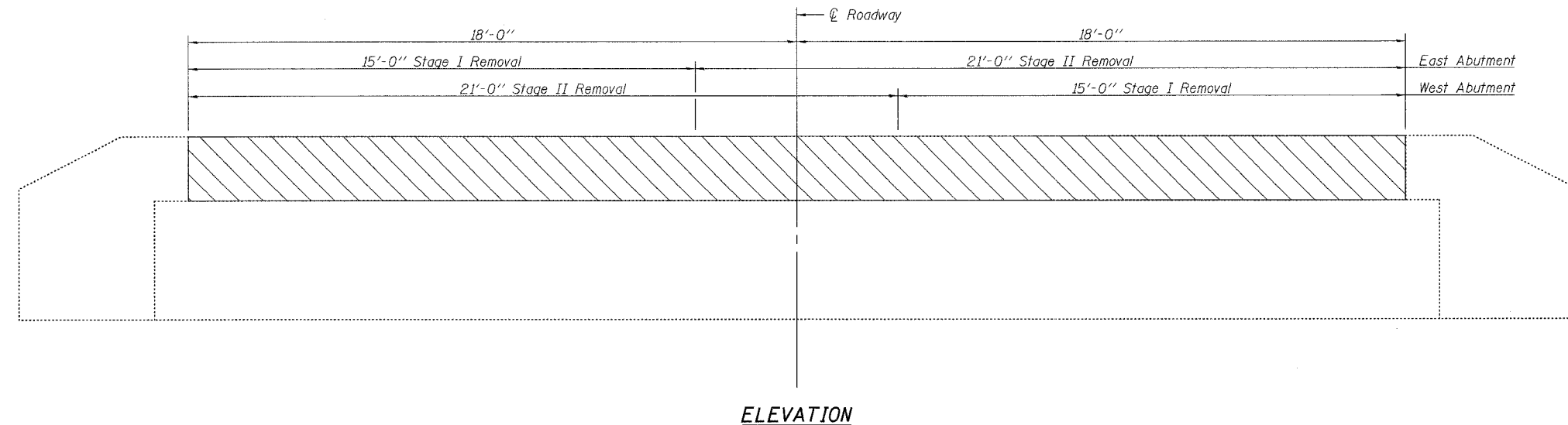
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Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
PREFORMED JOINT STRIP SEAL DETAIL  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 308+27.00  
STRUCTURE NO. 101-0147

DATE: 12/15/2006

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**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	5.1

**NOTES**

Care shall be taken not to damage existing approach slab during concrete removal.

Hatched areas indicate Concrete Removal.

Existing reinforcement extending into new construction shall be cut off flush except where shown on Typical Section Thru Abutments on sheet 8 of 12. Cost included with Concrete Removal.

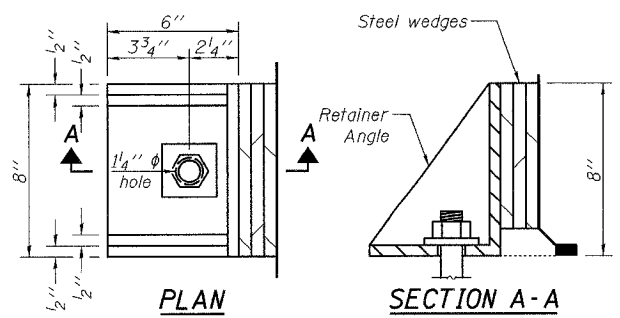
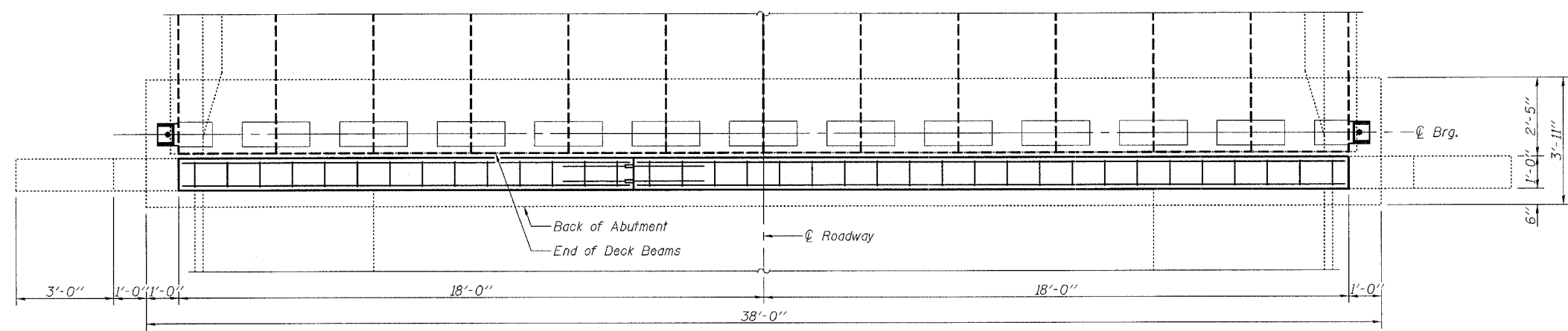
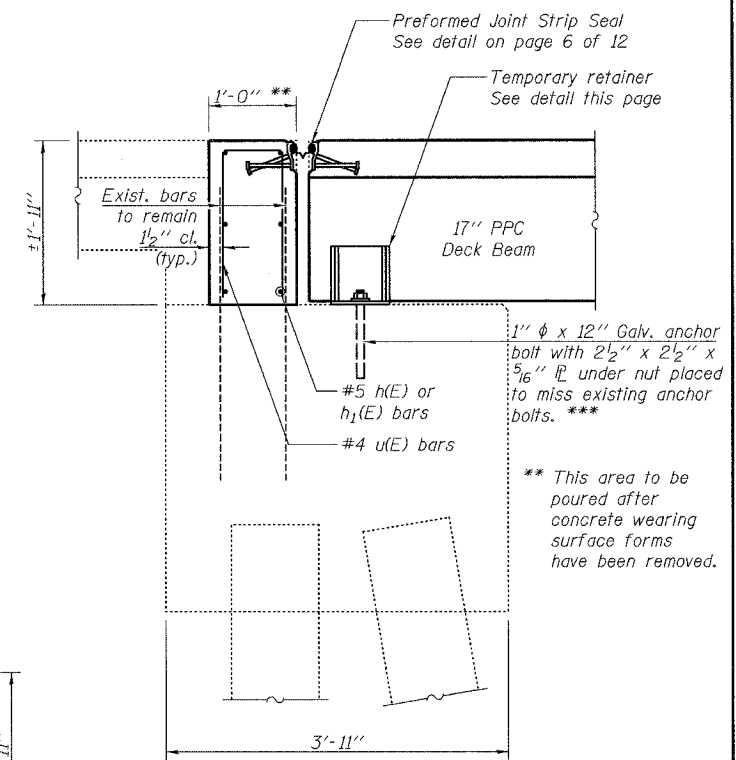
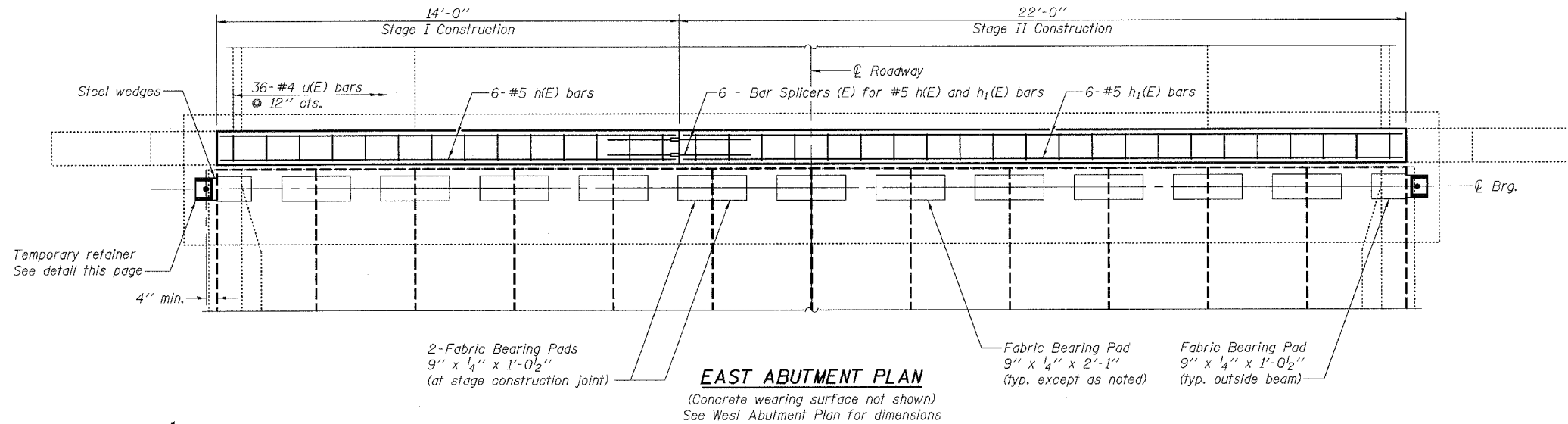
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Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
CONCRETE REMOVAL  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 308+27.00  
STRUCTURE NO. 101-0147  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8 12 SHEETS
FAS 55	*	WINNEBAGO	32	52	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*(102 BR-1, 102 BR-2, 102 BR-3)  
Contract # 64C93

\*\*\*Anchor bolts or approved threaded rod shall be placed in drilled holes and grouted in place in accordance with Article 584 of the Standard Specifications. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.



**WEST ABUTMENT PLAN**  
(Concrete wearing surface not shown)  
See East Abutment Plan for reinforcement

**NOTES**

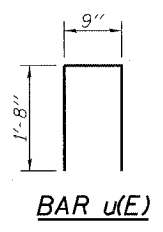
Existing Reinforcement Bars extending into the removal area shall be blast cleaned to gray metal and straightened. Blast cleaning and straightening shall be included with the cost of Removal of Existing Superstructures.

Existing reinforcement bars which have lost 25% or more of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnished and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.

The side retainers shall be galvanized after shop fabrication according to AASHTO M111 and ASTM A 385.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with the cost of Removal of Existing Superstructures.

Install side retainers at each end before grouting the shear keys. After the concrete wearing surface is poured and cured the retainer angles shall be removed. Anchor bolts may be left in place.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	12	#5	13'-9"	—
h <sub>1</sub> (E)	12	#5	21'-9"	—
u(E)	72	#4	4'-1"	□
Reinforcement Bars, Epoxy Coated		Pound	640	
Bar Splicers		Each	12	
Concrete Structures		Cu. Yd.	5.1	

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Wheaton, IL 60187

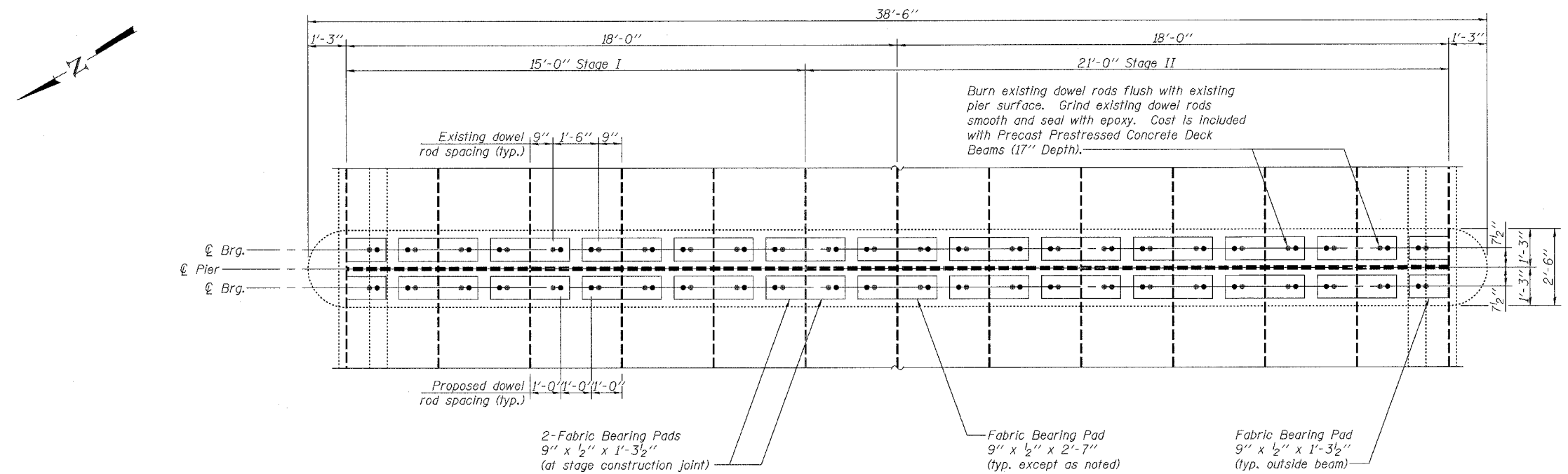
ILLINOIS DEPARTMENT OF TRANSPORTATION  
ABUTMENTS  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)  
WINNEBAGO COUNTY  
STATION 308+27.00  
STRUCTURE NO. 101-0147

DATE: 12/15/2006  
DRAWN BY: LCM  
CHECKED BY: BLB



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
FAS 55	*	WINNEBAGO	33	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



**PIER PLAN**

(Concrete Wearing Surface not shown)

12/14/2006 H:\1179212\structures\BE\_0147.dgn

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION</p> <p>PIER</p> <p>IL-70 OVER TRIBUTARY TO PECATONICA RIVER</p> <p>FAS RTE 55</p> <p>SECTION (102 BR-1, 102 BR-2, 102 BR-3)D</p> <p>WINNEBAGO COUNTY</p> <p>STATION 308+27.00</p> <p>STRUCTURE NO. 101-0147</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

Contract # 64C93  
\* (102 BR-1, 102 BR-2, 102 BR-3)D

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
(Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
(Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

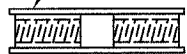
The diameter of this part is equal or larger than the diameter of bar spliced.  
The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

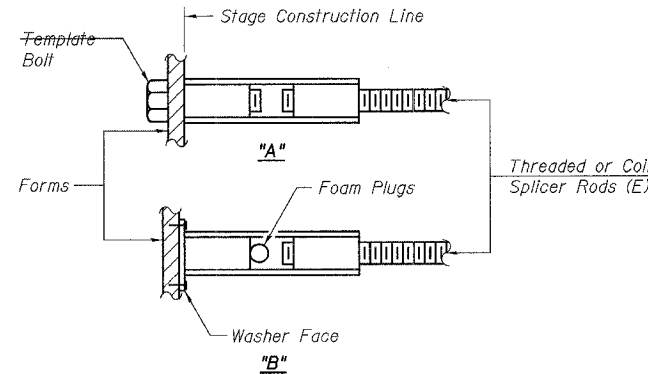
Wire Connector



**WELDED SECTIONS**

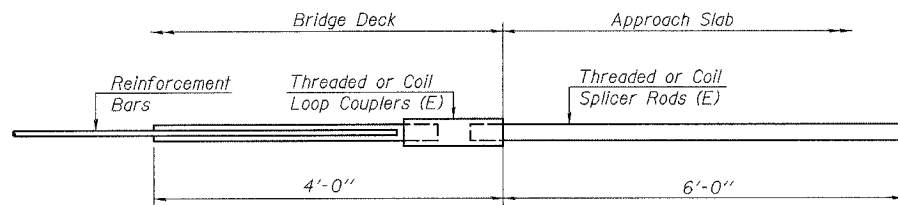
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



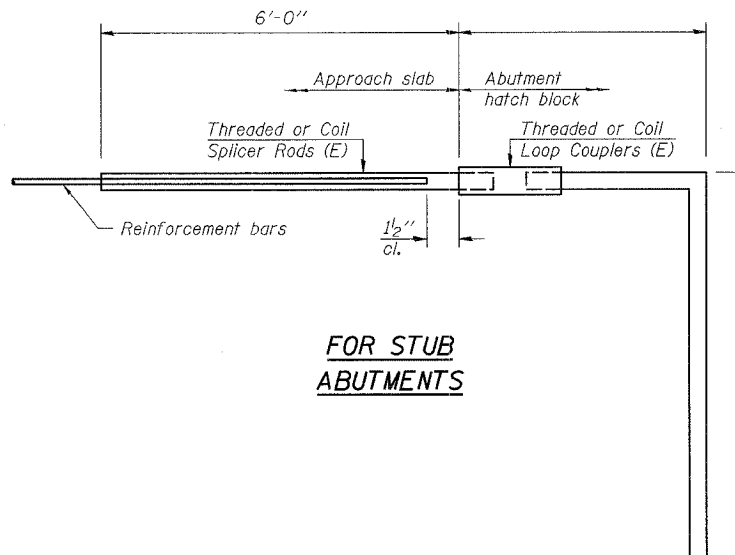
**INSTALLATION AND SETTING METHODS**

"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.



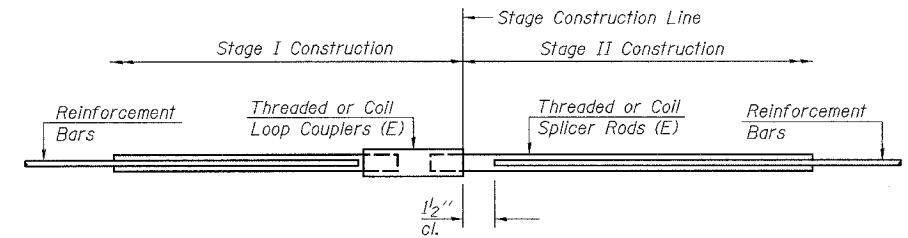
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	78	Wearing Surface
#5	12	Abutments

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200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
BAR SPLICER ASSEMBLY DETAILS  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 308+27.00  
STRUCTURE NO. 101-0147

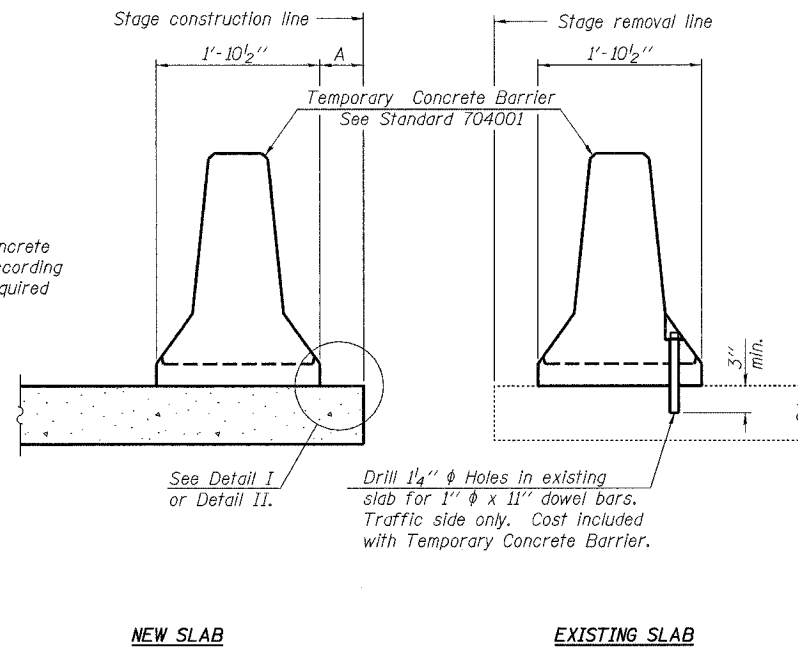
DATE: 12/15/2006

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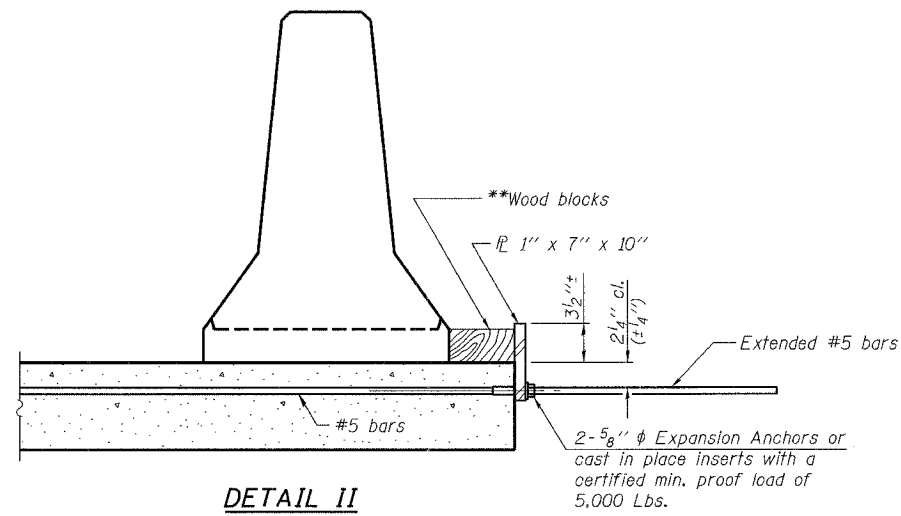
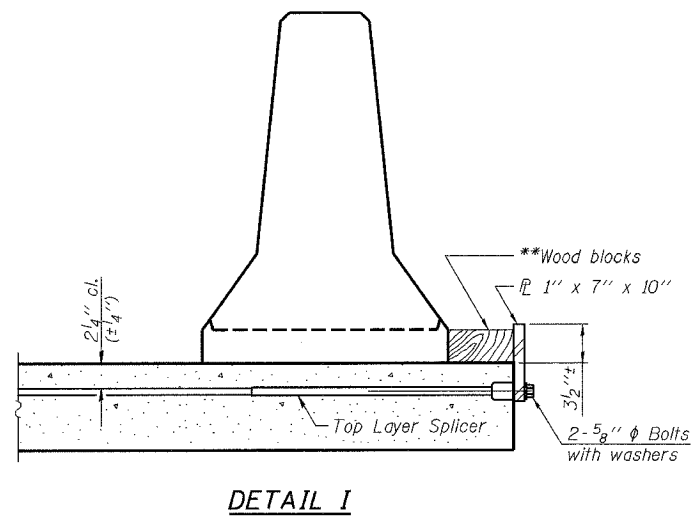
ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS	SHEET NO.
FAS 55	*	WINNEBAGO	35	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



**SECTIONS THRU SLAB**



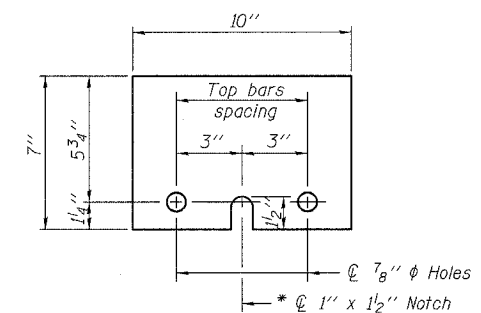
\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

**NOTES**

**Detail I - With Bar Splicer or Couplers:**  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

**Detail II - With Extended Reinforcement Bars:**  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



\* Required only with Detail II

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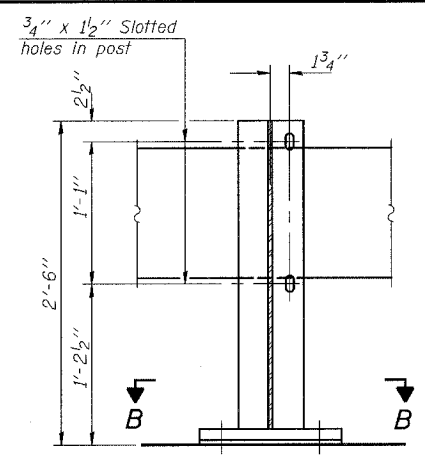
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY - STATION 308+27.00  
STRUCTURE NO. 101-0147

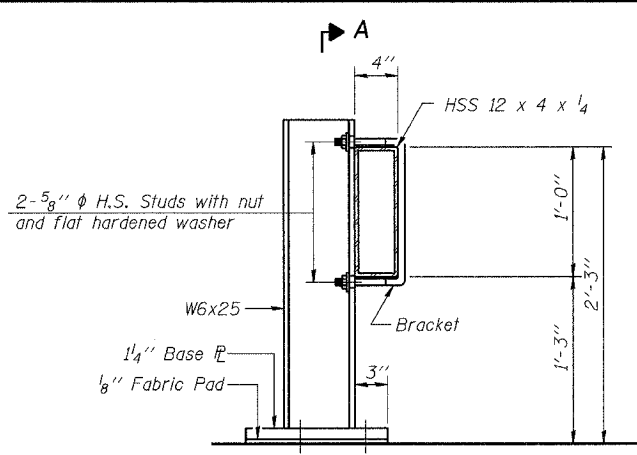
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO.
FAS 55	*	WINNEBAGO	36	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. PROJ. NO.			

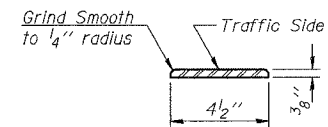
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



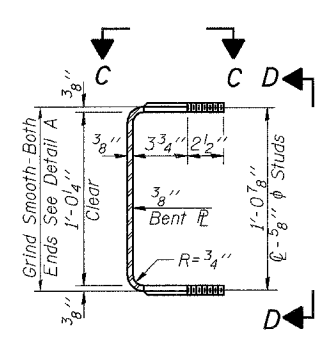
SECTION A-A



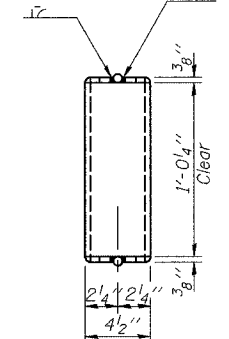
SECTION AT RAIL POST



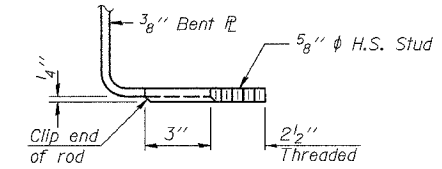
DETAIL A



SECTION THRU BRACKET

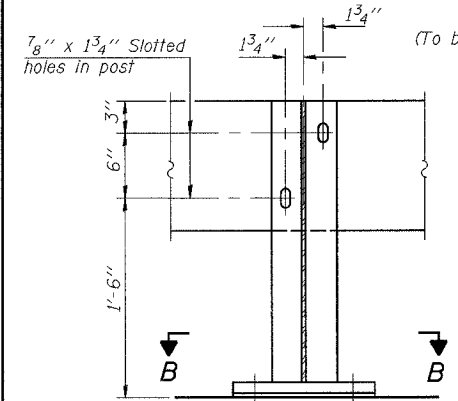


VIEW D-D



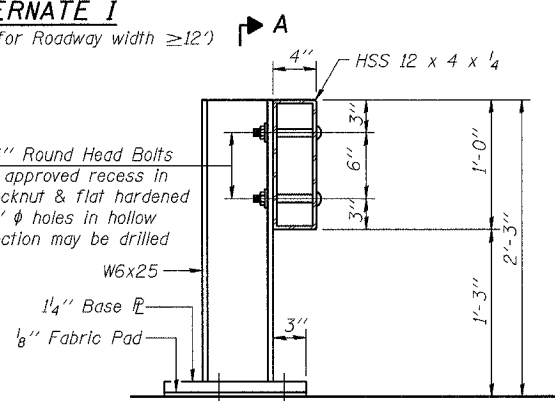
VIEW E-E

**ALTERNATE I**  
(To be used only for Roadway width  $\geq 12'$ )

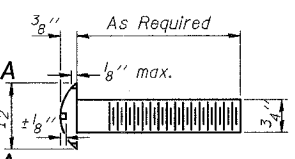


SECTION A-A

2-3/4 inch diameter x 6 inch Round Head Bolts (With slot or approved recess in head) with locknut & flat hardened washer. 7/8 inch diameter holes in hollow structural section may be drilled in the field.

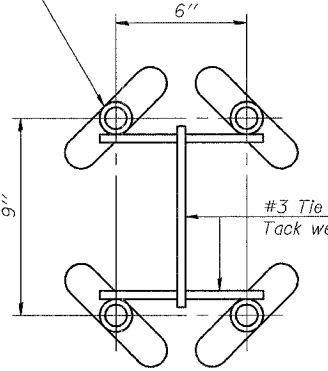


SECTION AT RAIL POST

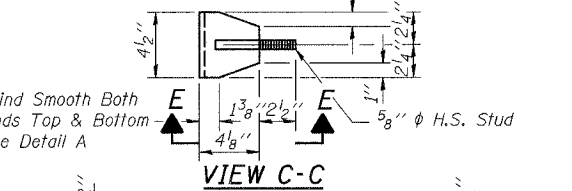


VIEW A-A  
ROUND HEAD BOLT

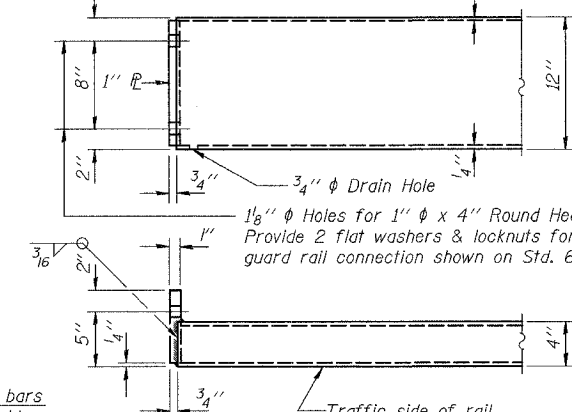
1 inch diameter Flared thin slab ferrule insert. Electroplated according to ASTM B 633 Service Condition 4.



INSERT DETAIL



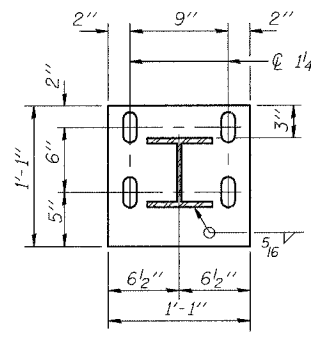
VIEW C-C



END OF RAIL DETAILS

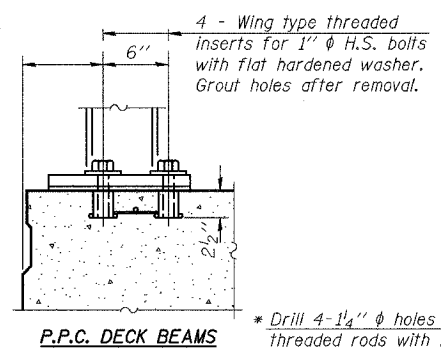
Notes:  
The contact surfaces between post flange, rail and inside face of bracket for Alternate I shall be free of all lubricants.  
The nut for 5/8 inch diameter high strength studs used in Alternate I to connect bracket to post shall be tightened to a snug fit and given an additional one half turn.  
See Roadway plans for locations and quantity.

**ALTERNATE II**

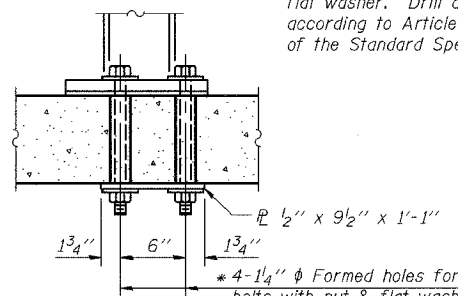


SECTION B-B

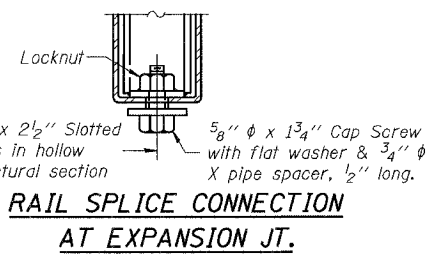
\* Drilled holes for existing deck.



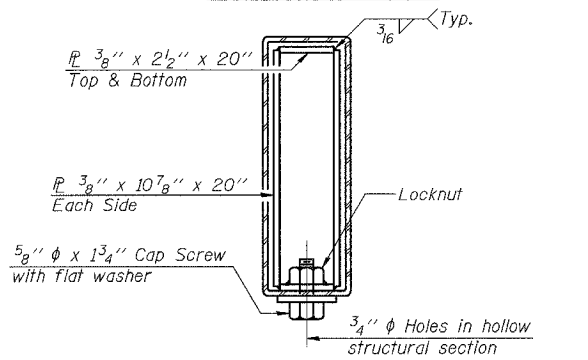
P.P.C. DECK BEAMS



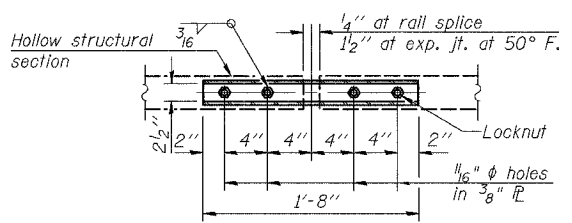
NEW & EXISTING DECKS  
ANCHORAGE DETAILS



RAIL SPLICE CONNECTION  
AT EXPANSION JT.



SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE P  
TYPICAL

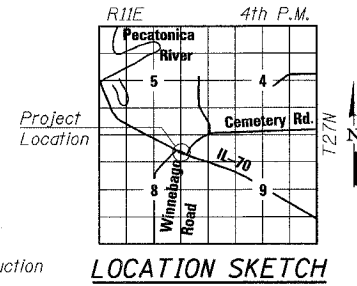
<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	ILLINOIS DEPARTMENT OF TRANSPORTATION
	STEEL RAILING (TEMPORARY)
	IL-70 OVER TRIBUTARY TO PECATONICA RIVER
	FAS RTE 55
	SECTION (102 BR-1, 102 BR-2, 102 BR-3)D
	WINNEBAGO COUNTY
	STATION 308+27.00
	STRUCTURE NO. 101-0147
	DATE: 12/15/2006
	DRAWN BY LCM
	CHECKED BY BLB

Existing Structure: Structure number 101-0148, station 328+36.90. The existing structure is a two-span PPC deck beam bridge built in 1982. The back to back abutment length is 80'-8 1/2" and the out to out bridge width is ±36'-6". In 2002 a 5" reinforced concrete wearing surface was added to the existing deck beams. The existing superstructure is to be removed and replaced with one lane of traffic maintained utilizing staged construction.

No Salvage

**INDEX OF SHEETS**

1. General Plan and Elevation
2. Steel Railing, Type SM with Concrete Wearing Surface
3. Superstructure and Stage Construction
4. Superstructure Details I
5. Superstructure Details II
6. Preformed Joint Strip Seal Details
7. Concrete Removal
8. Abutments
9. Pier
10. Bar Splicer Assembly Details
11. Temporary Concrete Barrier for Stage Construction
12. Steel Railing (Temporary)



ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 1
FAS 55	*	WINNEBAGO	37	52	12 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		
* (102 BR-1, 102 BR-2, 102 BR-3)D Contract # 64C93					

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Superstructures	Each	1		1
Concrete Removal	Cu. Yd.		5.1	5.1
Concrete Structures	Cu. Yd.		5.1	5.1
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2784		2784
Reinforcement Bars, Epoxy Coated	Pound	3840	640	4480
Bar Splicers	Each	78	12	90
Concrete Wearing Surface, 5"	Sq. Yd.	310		310
Bridge Deck Grooving	Sq. Yd.	310		310
Protective Coat	Sq. Yd.	310		310
Concrete Sealer	Sq. Ft.		184	184
Steel Railing, Type SM	Foot	155		155
Name Plates	Each	1		1
Preformed Joint Strip Seal	Foot	72		72
Asbestos Bearing Pad Removal	Each		52	52

**GENERAL NOTES**

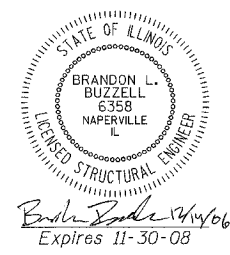
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction 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.

Concrete Sealer shall be applied to the seat area of the Abutments. All Construction joints shall be bonded. The contractor is advised that the existing PPC 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. The existing name plate shall be cleaned and relocated adjacent to the new name plate. Cost included with Name Plates. 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 the 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 beams.

The minimum thickness of the Concrete overlay shall be 5" and varies as required to adjust for the profile grade and beam camber. See roadway plans for profile grade information. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated. No in-stream work will be allowed on this project. Repair of the pier cap shall be completed prior to placement of the new deck beams. 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 shall be applied before corrosion appears and allowed to dry according to the manufacturers 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.

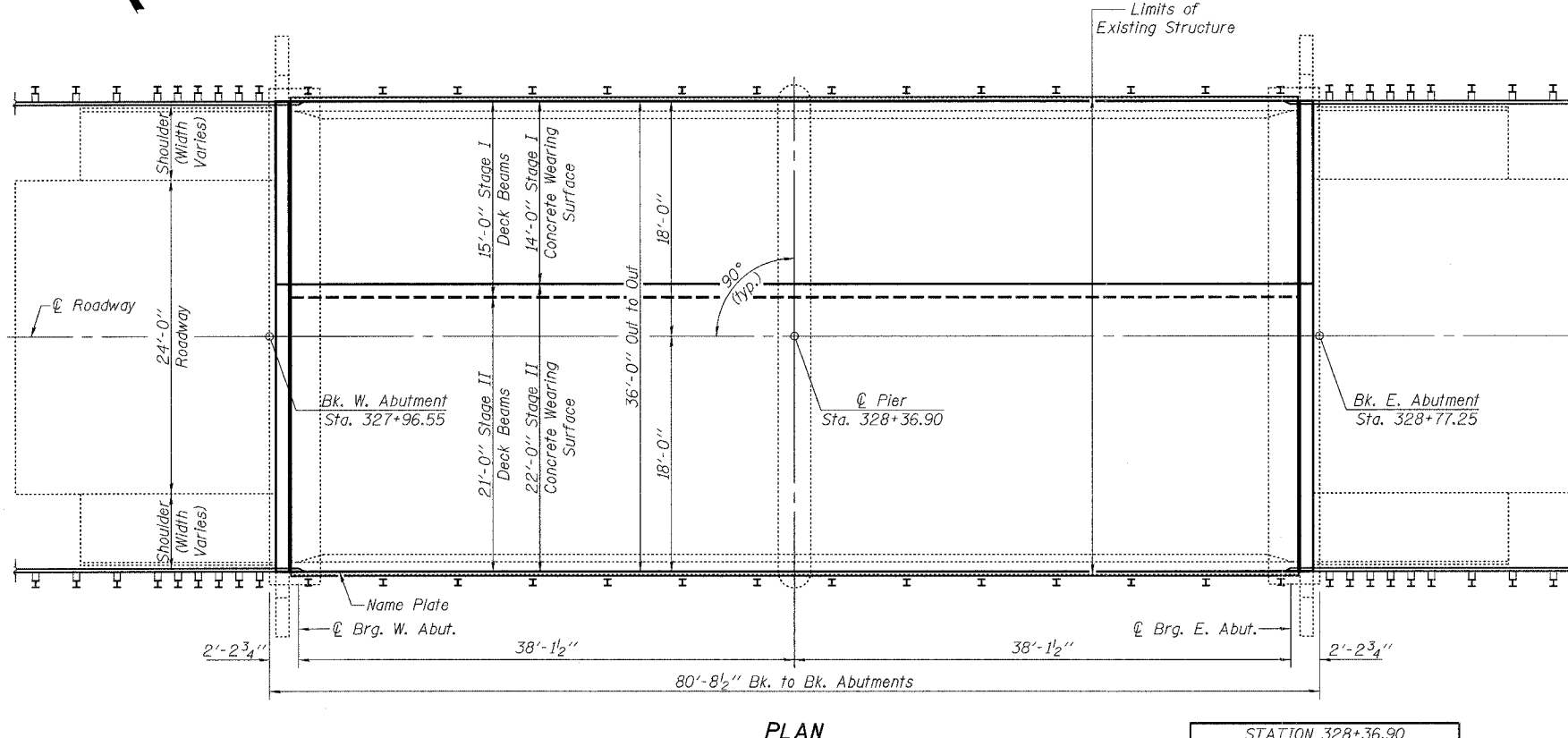
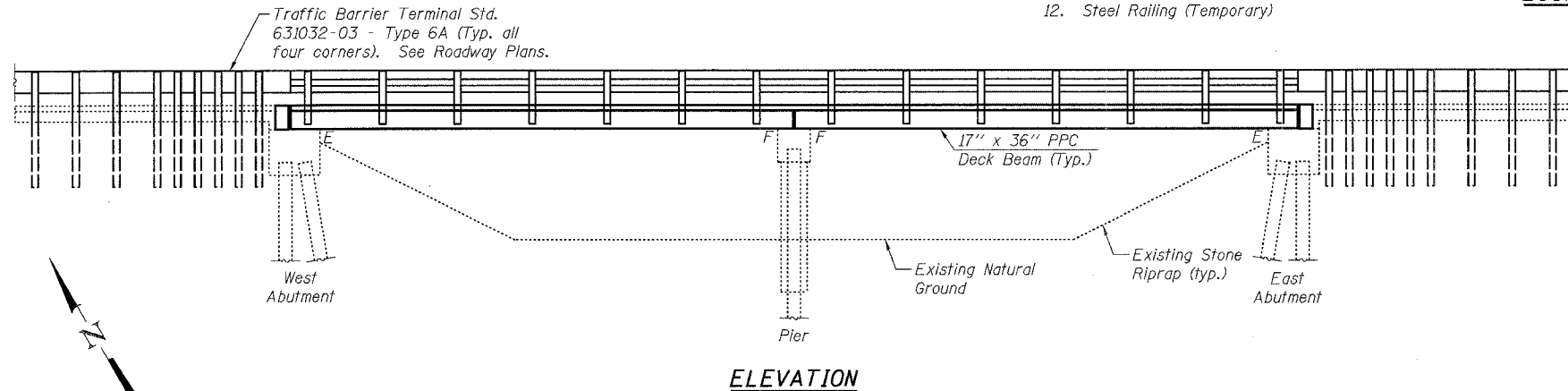
**APPROVED**  
FOR STRUCTURAL ADEQUACY ONLY

*Brandon L. Buzzell*  
ENGINEER OF BRIDGES AND STRUCTURES



**rjngroup**  
Excellence through Ownership  
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
GENERAL PLAN AND ELEVATION  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB



**PLAN**

STATION 328+36.90  
BUILT 2007 BY  
STATE OF ILLINOIS  
F.A.S. RT. 55 SEC. (102 BR-1,  
102 BR-2, 102 BR-3)D  
LOADING HS20  
STR. NO. 101-0148

**NAME PLATE**  
See Std. 515001

**LOADING HS20-44**

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

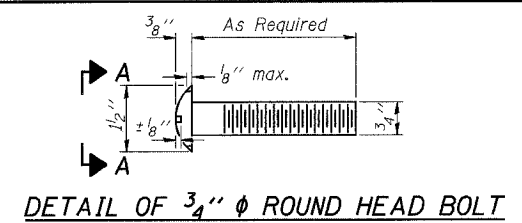
**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specifications - 17th ed.

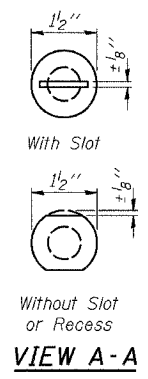
**DESIGN STRESSES**

<b>NEW &amp; EXISTING CONSTRUCTION</b>	<b>PRECAST PRESTRESSED UNITS</b>
<b>FIELD UNITS</b>	
$f'_c = 3,500$ psi	$f'_c = 5,000$ psi
$f_y = 60,000$ psi (reinforcement)	$f'_{ci} = 4,000$ psi
	$f'_s = 270,000$ psi (1/2" $\phi$ low relax strands)
	$f'_{sl} = 201,960$ psi (1/2" $\phi$ low relax strands)

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

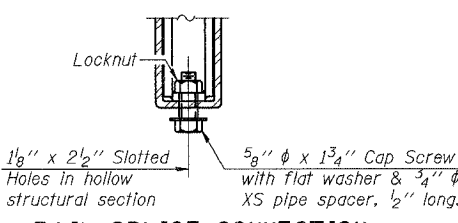


DETAIL OF 3/4"  $\phi$  ROUND HEAD BOLT

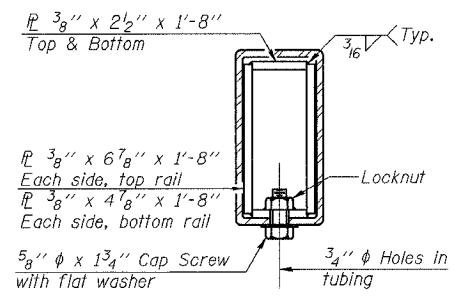


VIEW A-A

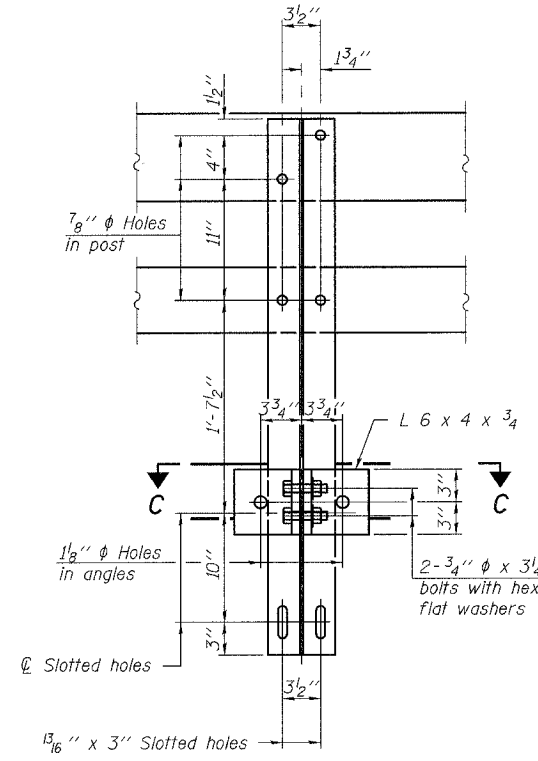
4-3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8"  $\phi$  holes in hollow structural section may be drilled in the field.



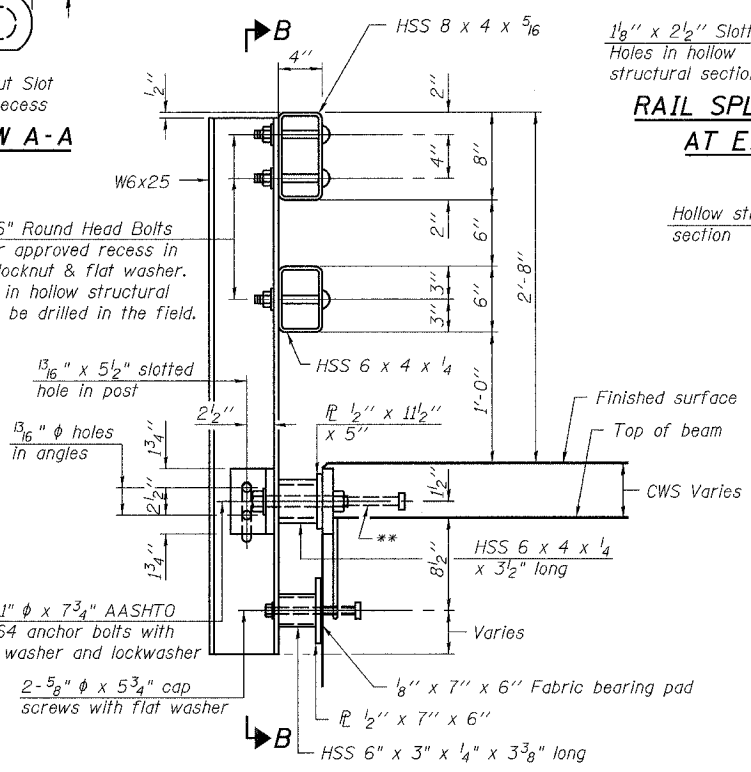
RAIL SPLICE CONNECTION AT EXPANSION JT.



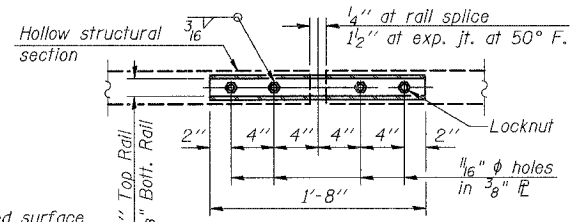
SECTION AT RAIL SPLICE



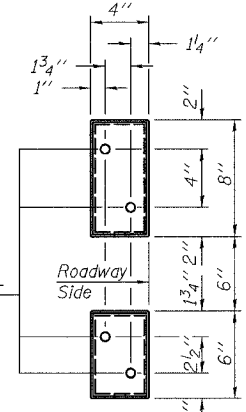
SECTION B-B



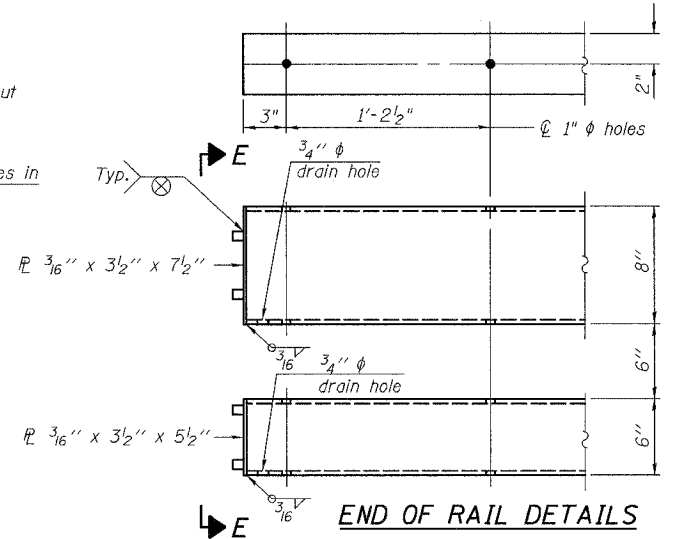
SECTION AT RAIL POST



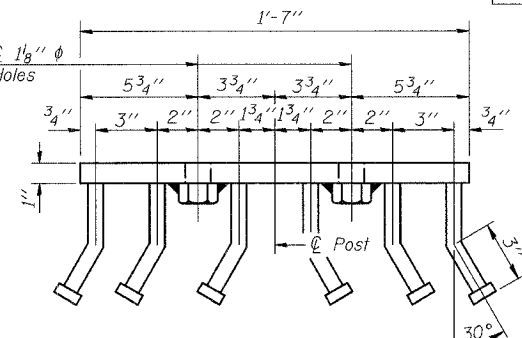
PLAN-BOTT. SPLICE P TYPICAL



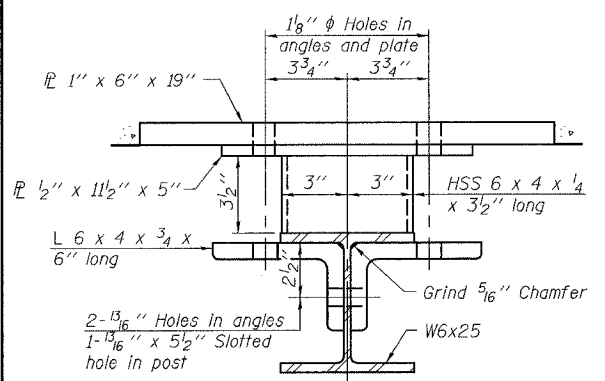
VIEW E-E



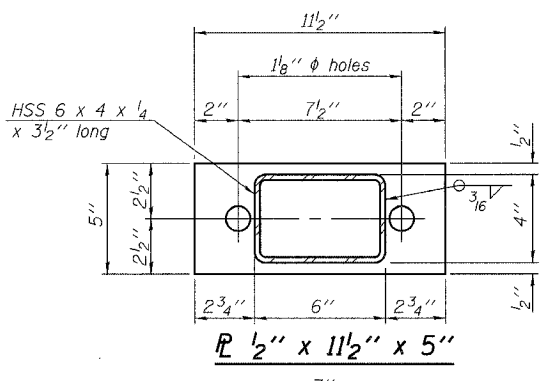
END OF RAIL DETAILS



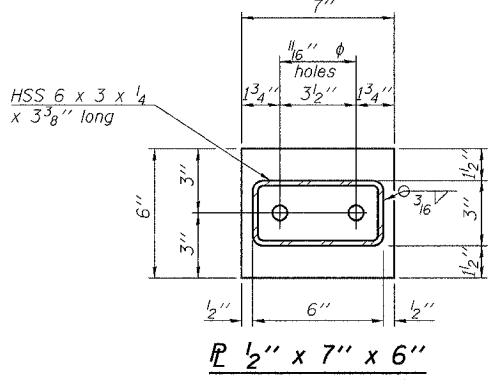
VIEW D-D



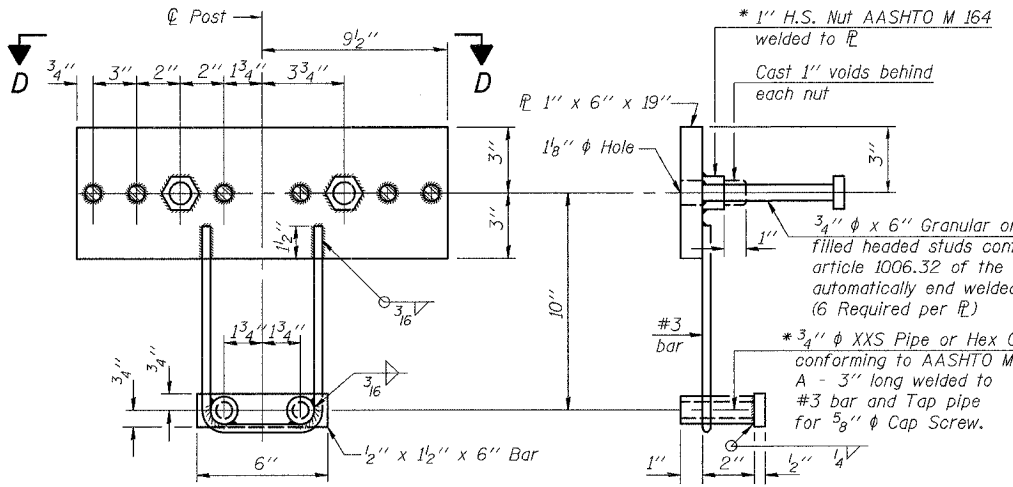
SECTION C-C



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



1/2" x 7" x 6"



ANCHOR DEVICE

Notes:  
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 Railing, Type SM.  
Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	155

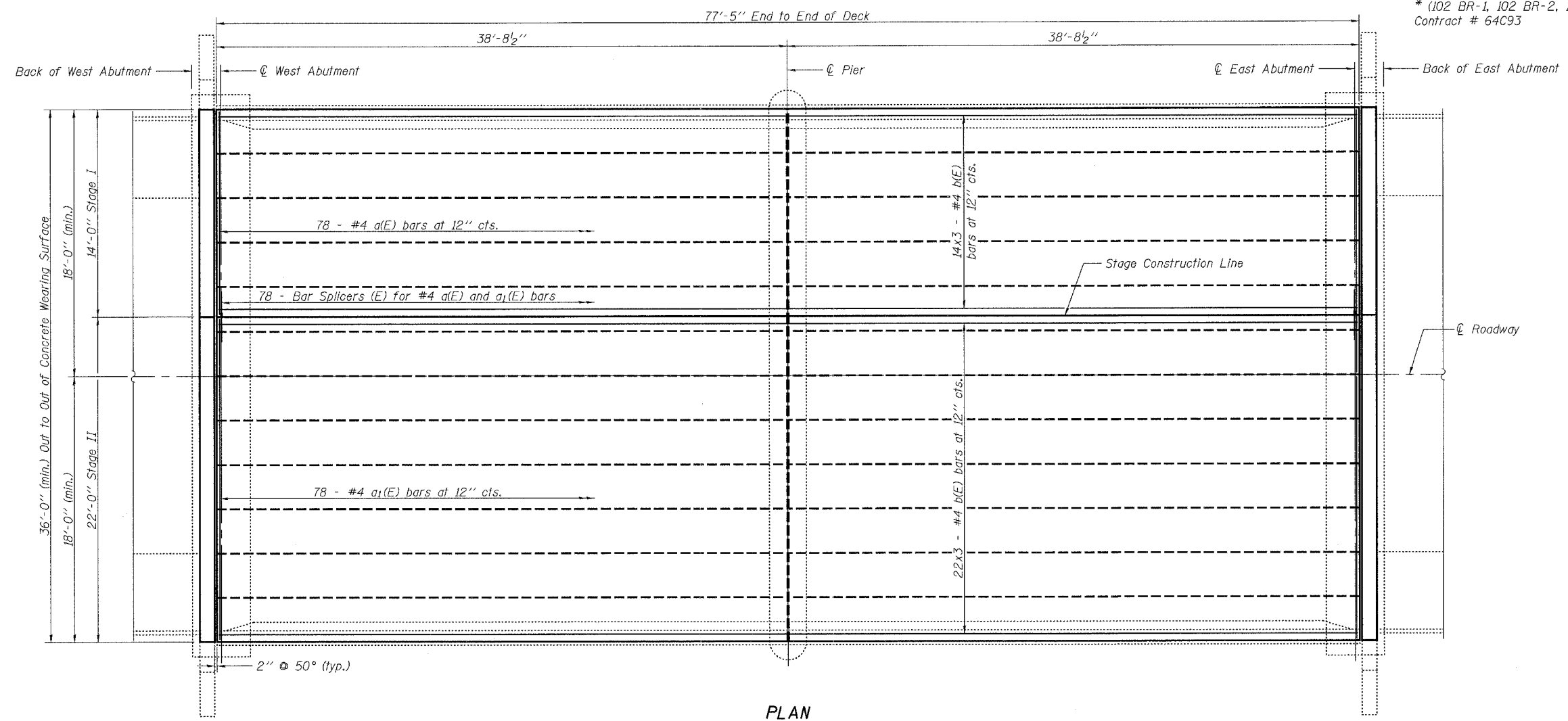
**rjngroup**  
Excellence through Ownership  
200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
STEEL RAILING, TYPE SM WITH  
CONCRETE WEARING SURFACE  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY - STATION 328+36.90  
STRUCTURE NO. 101-0148  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

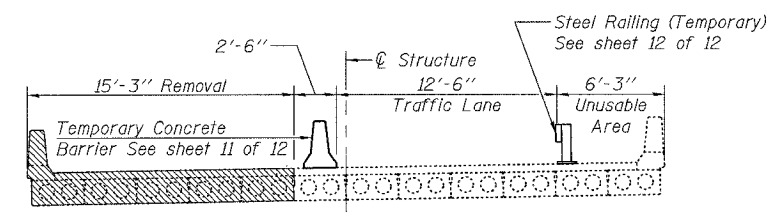
\* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
FAS 55	*	WINNEBAGO	39	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

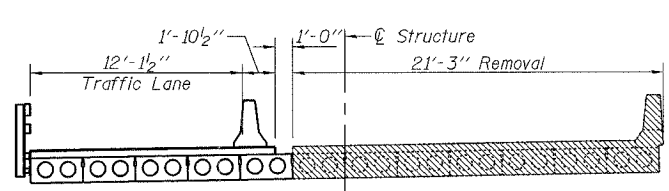
\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



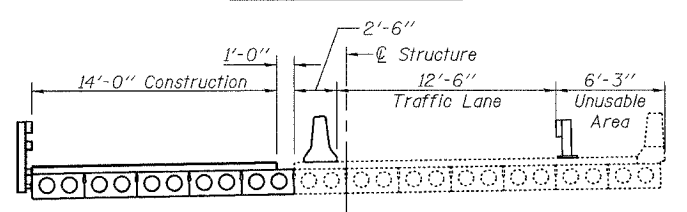
PLAN



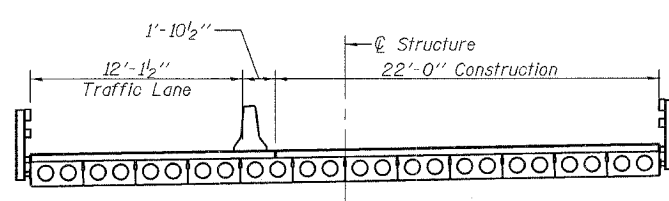
STAGE I REMOVAL



STAGE II REMOVAL



STAGE I CONSTRUCTION



STAGE II CONSTRUCTION

STAGE CONSTRUCTION DETAILS  
Looking East

**MIN. BAR LAP**  
#4 - 1'-8"

**NOTES**

For Superstructure Details, See Sheets 4 of 12, 5 of 12, and 6 of 12.  
For details of Bar Splicers see sheet 10 of 12.  
Bars Indicated thus 14 x 3-#4 etc. indicates 14 lines of bars with 3 lengths per line.

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION SUPERSTRUCTURE AND STAGE CONSTRUCTION IL-70 OVER TRIBUTARY TO PECATONICA RIVER FAS RTE 55 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D WINNEBAGO COUNTY STATION 328+36.90 STRUCTURE NO. 101-0148</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

12/14/2006 I:\111792\2\structures\101-0148.dgn

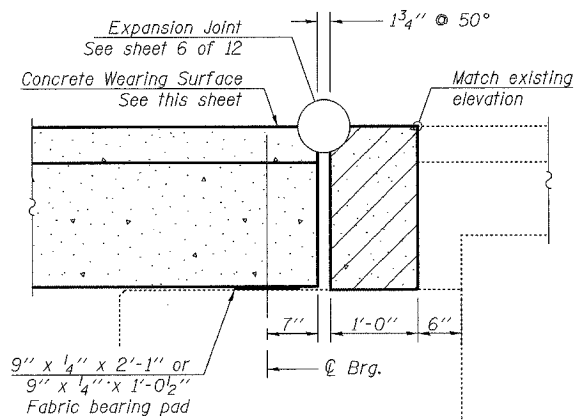
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	*SHEET NO.	SHEET NO.
FAS 55	*	WINNEBAGO	40	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

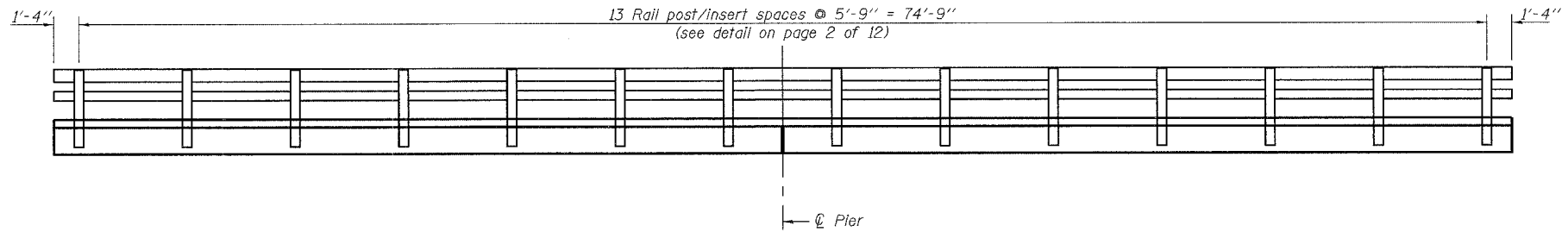
**NOTES:**

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 hours prior to grouting the shear keys.  
Ends of beams shall be aligned at the expansion joints. Any lined variation in the beam lengths shall be placed at the fixed joint.  
See sheet 5 of 12 for bearing pad details.

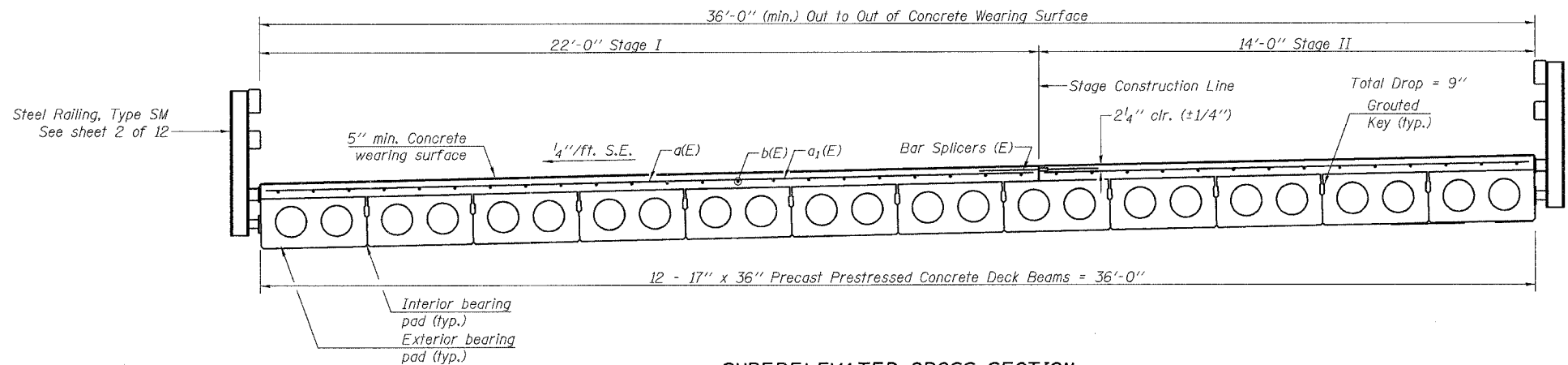
Concrete wearing surface to be poured after grouting of shear keys.  
Hatched area to be poured after concrete wearing surface is in place. Quantity included with Concrete Structures on sheet 8 of 12.  
Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (17" depth).  
All horizontal dimensions are at right angles to beam ends.



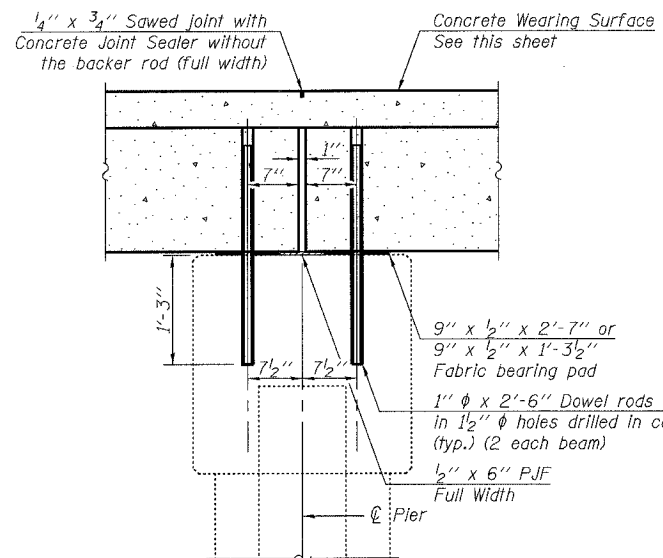
**SECTION THRU ABUTMENTS**



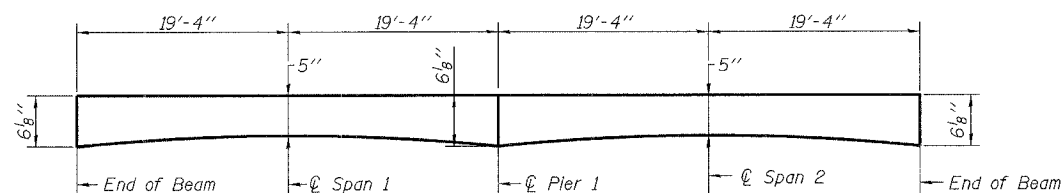
**RAIL POST SPACING**



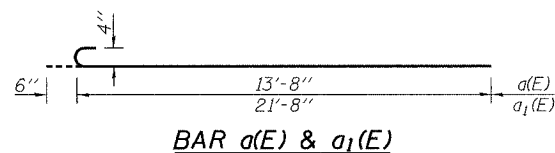
**SUPERELEVATED CROSS SECTION**



**SECTION THRU FIXED PIER**



**REINFORCED CONCRETE WEARING SURFACE PROFILE**



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	78	#4	14'-2"	
a <sub>1</sub> (E)	78	#4	22'-2"	
b(E)	108	#4	26'-11"	
Reinforcement Bars, Epoxy Coated		Pound	3840	
Precast Prestressed Conc. Deck Bms. (17")		Sq. Ft.	2784	
Concrete Wearing Surface, 5"		Sq. Yd.	310	
Bar Splicers		Each	78	

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Wheaton, IL 60187

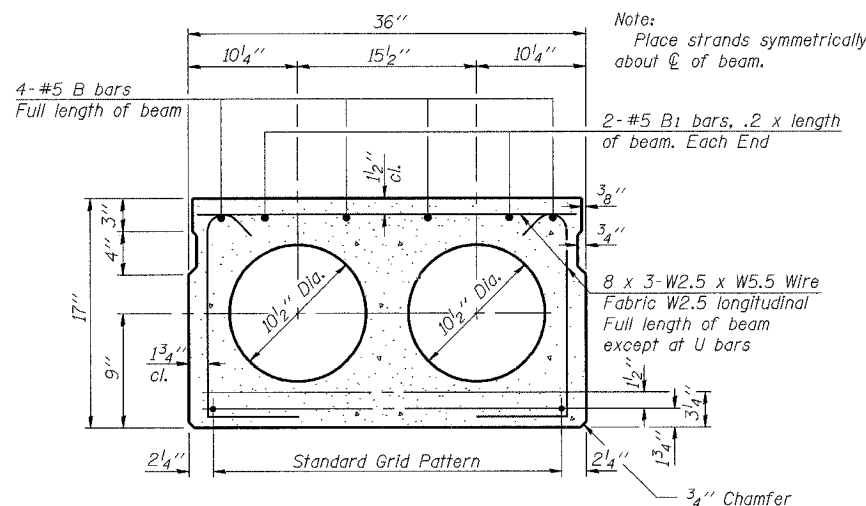
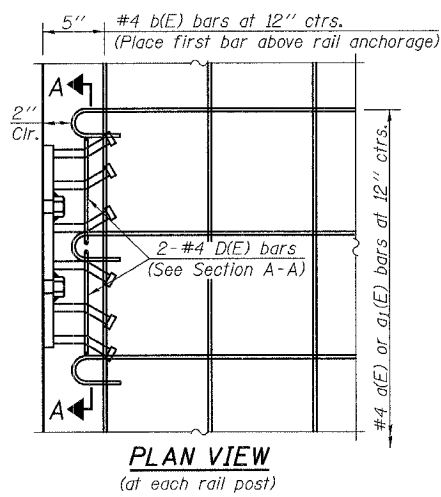
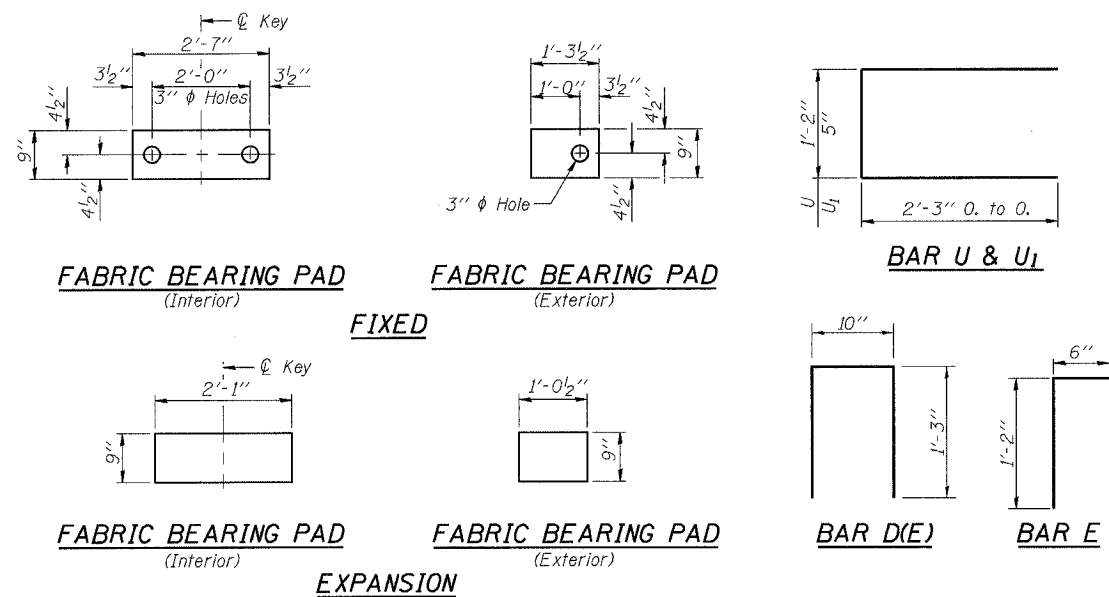
ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUPERSTRUCTURE DETAILS I  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB



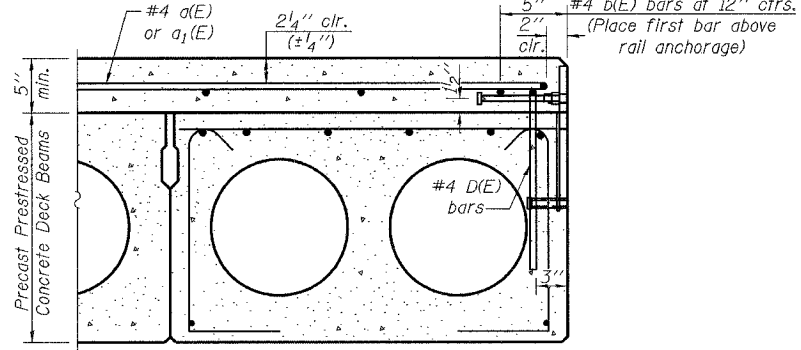
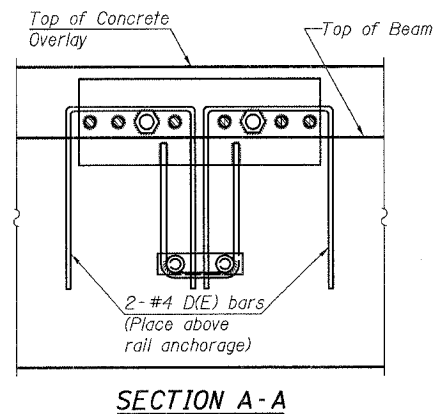
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAS 55	*	WINNEBAGO	41	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

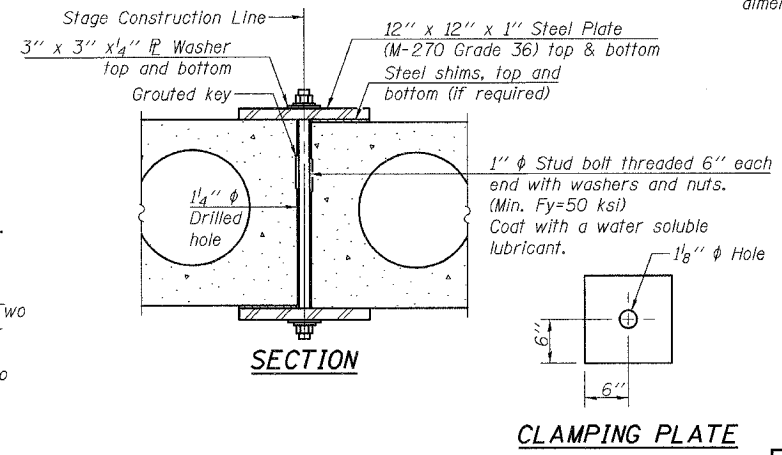
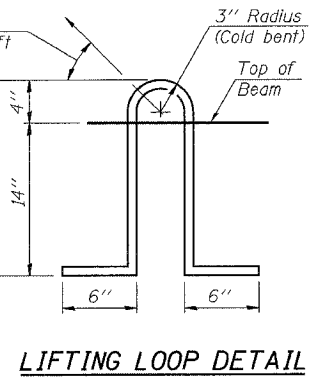
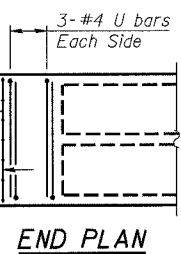
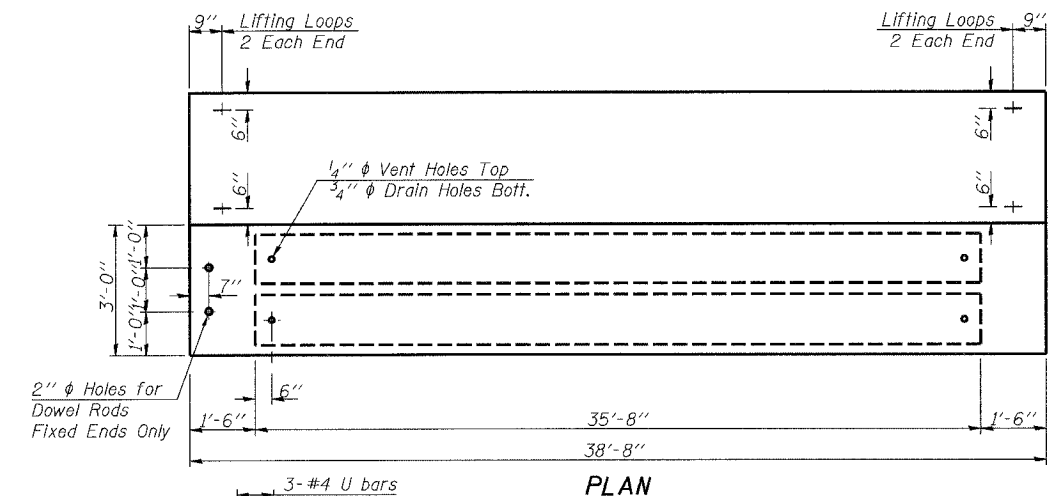
Note:  
Place strands symmetrically about  $\bar{C}$  of beam.



SECTION THRU INTERIOR BEAMS  
1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
9-Strands 1 3/4" up, 4-Strands 3/4" up, 2-Strands 12" up

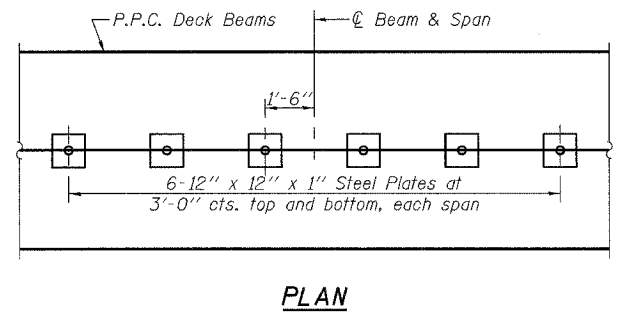


SECTION THRU EXTERIOR BEAMS  
See Section Thru Interior Beams for strand pattern, dimensions and bar call outs.



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

Refer to Article 504.06(d) of the Standard Specifications.  
Cost included with Precast Prestressed Concrete Deck Beams (17" Depth).  
See Stage Construction Details for traffic lanes, Sheet 3 of 12.



**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.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

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 section 1020.05(b)(12) and 1021.06 of the Standard Specification, shall be used in the concrete for precast prestressed concrete deck beams.

Required Release Strength, f'cl, shall be 4000 p.s.i.

Bridge rail inserts shall be cast in precast beams. See Sheet 4 of 12 for location of rail inserts.

The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field. Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

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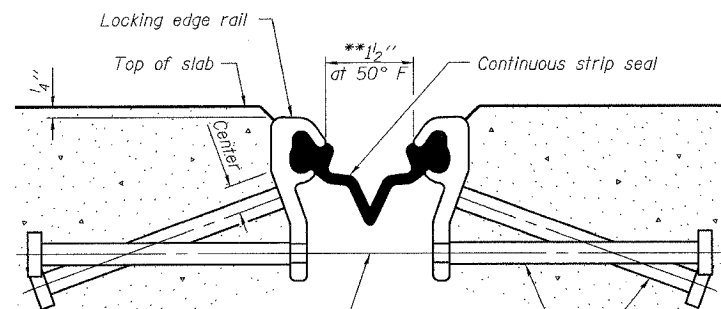
ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUPERSTRUCTURE DETAILS II  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FAS 55	*	WINNEBAGO	42	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

\* Omit weld at seal opening.

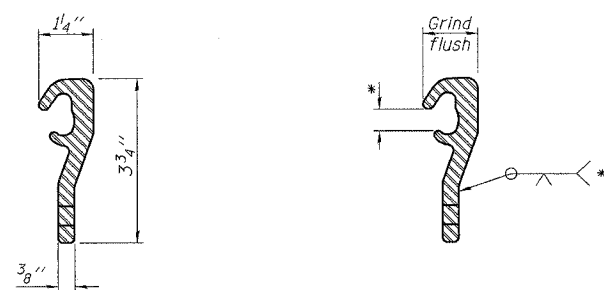
\*\* When joint is fixed, dimension is set at 1 1/2".



7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

Place 1/2"  $\phi$  x 6" granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded at 1'-0" alt. cts.

**SECTION THRU STRIP SEAL JOINT FOR OVERLAY OVER DECK BEAMS**



**LOCKING EDGE RAIL**

**LOCKING EDGE RAIL SPLICE**

**Notes:**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	72

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Wheaton, IL 60187

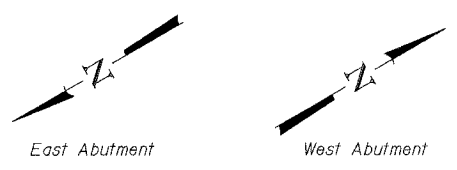
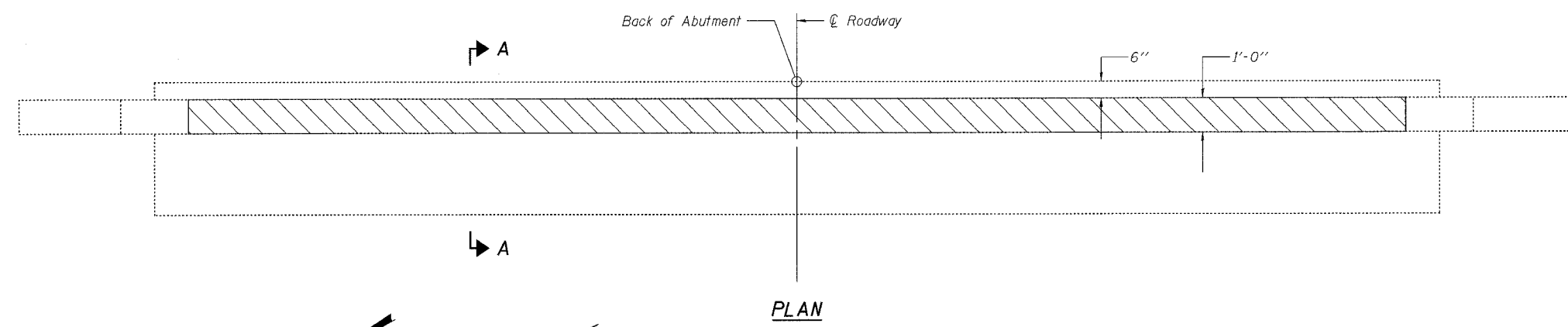
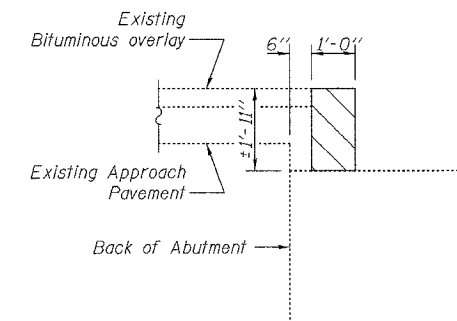
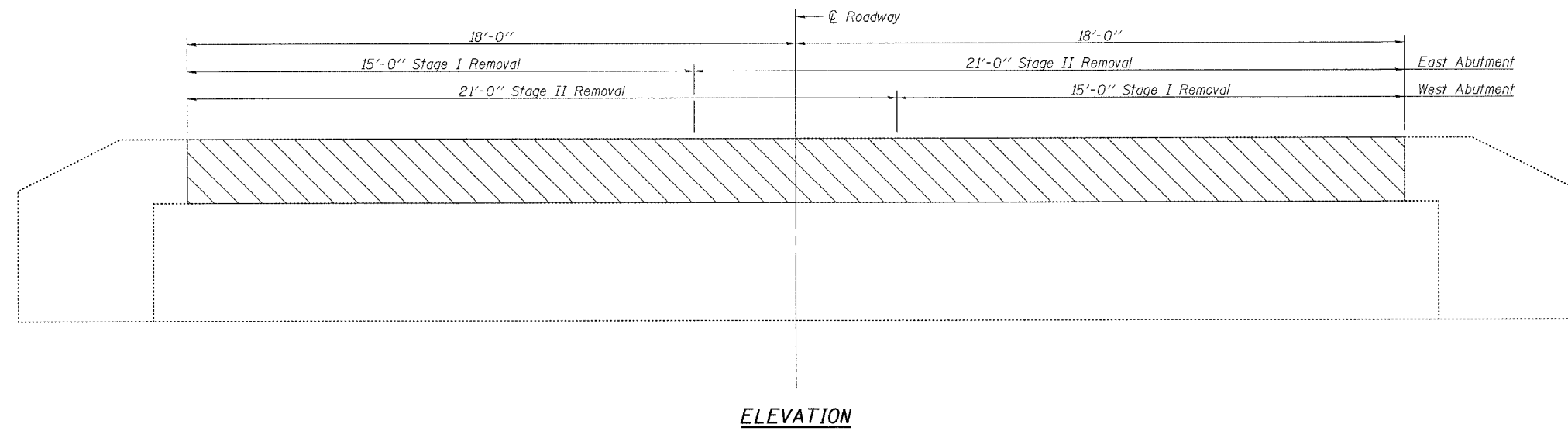
ILLINOIS DEPARTMENT OF TRANSPORTATION  
PREFORMED JOINT STRIP SEAL DETAIL  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148

DATE: 12/15/2006

DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7 12 SHEETS
FAS 55	*	WINNEBAGO	43	52	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



**BILL OF MATERIAL**

Item	Unit	Total
Concrete Removal	Cu. Yd.	5.1

**NOTES**

Care shall be taken not to damage existing approach slab during concrete removal.  
Hatched areas indicate Concrete Removal.  
Existing reinforcement extending into new construction shall be cut off flush except where shown on Typical Section Thru Abutments on sheet 8 of 12. Cost included with Concrete Removal.

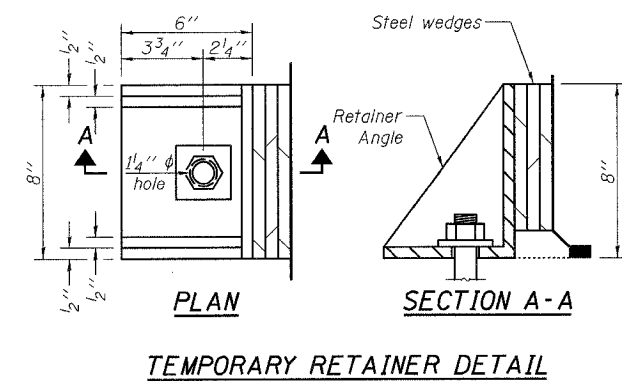
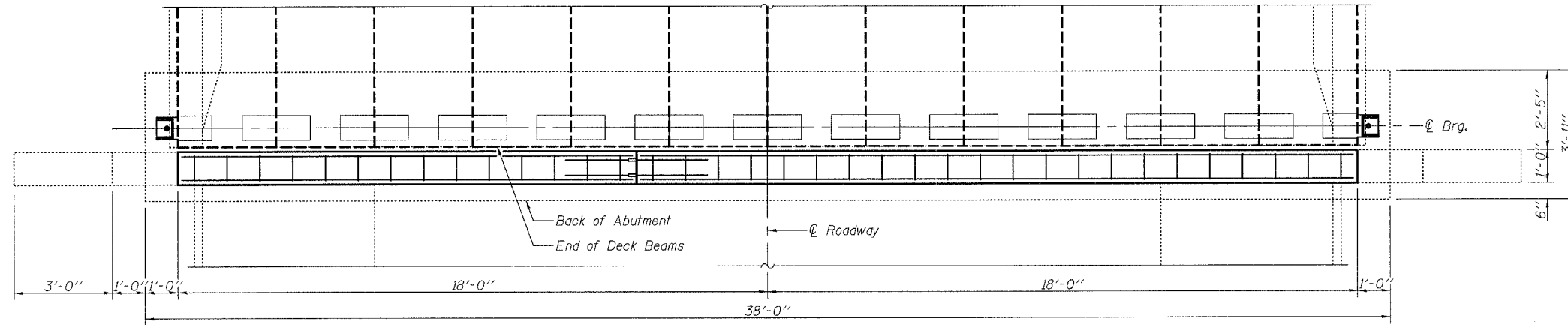
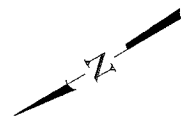
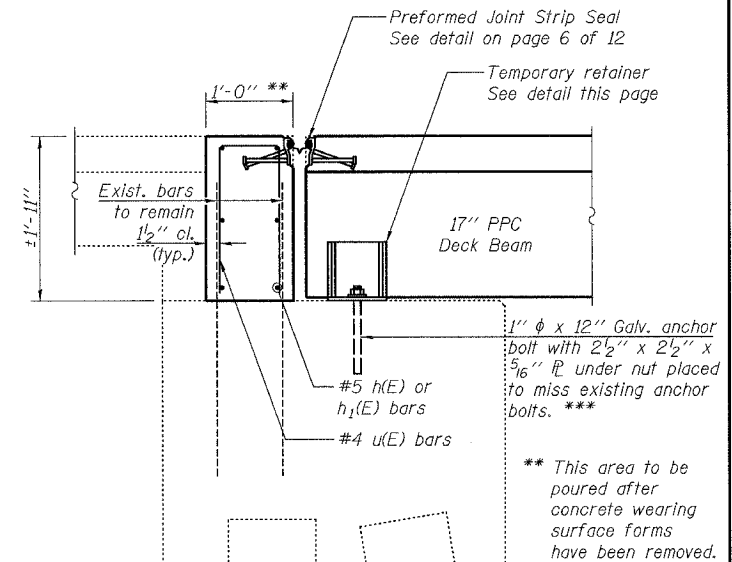
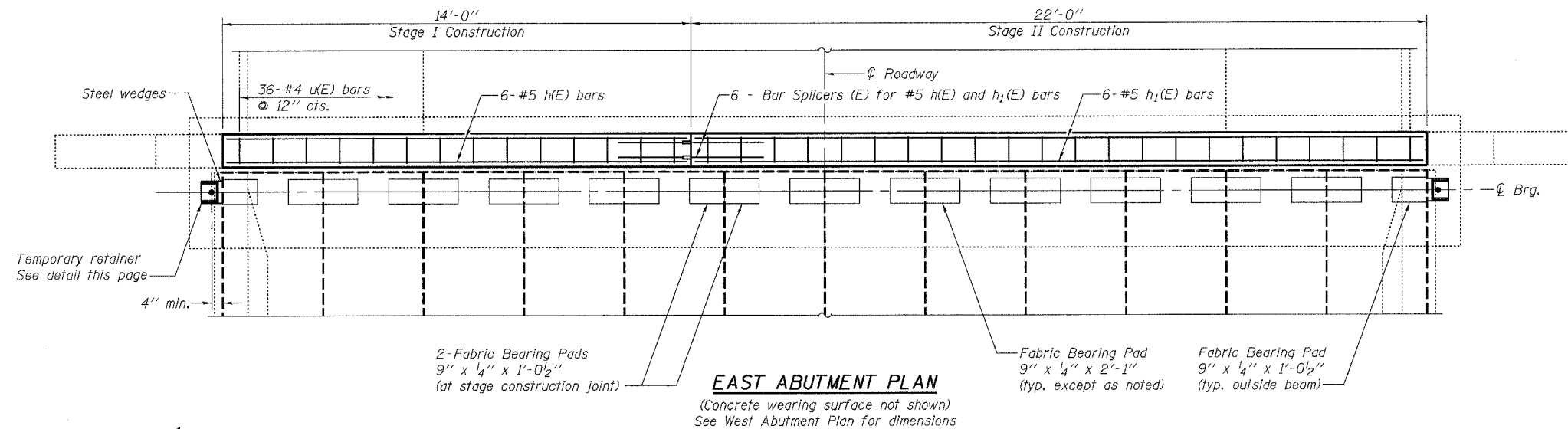
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200 West Front Street  
Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
CONCRETE REMOVAL  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148  
DATE: 12/15/2006  
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FAS 55	*	WINNEBAGO	44	52	12 SHEETS
FED. ROAD DIST. NO. 7	BUILDINGS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

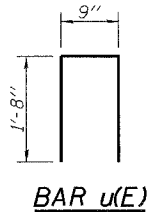
\*\*\*Anchor bolts or approved threaded rod shall be placed in drilled holes and grouted in place in accordance with Article 584 of the Standard Specifications. Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.



**WEST ABUTMENT PLAN**  
(Concrete wearing surface not shown)  
See East Abutment Plan for reinforcement

**NOTES**  
Existing Reinforcement Bars extending into the removal area shall be blast cleaned to gray metal and straightened. Blast cleaning and straightening shall be included with the cost of Removal of Existing Superstructures.  
Existing reinforcement bars which have lost 25% or more of their original diameter shall be supplemented by new epoxy coated bars of the same diameter, spliced in place. Furnished and placing supplemental epoxy coated reinforcement bars shall be included with the cost of Reinforcement Bars, Epoxy Coated.  
The side retainers shall be galvanized after shop fabrication according to AASHTO M111 and ASTM A 385.

Care shall be exercised by the contractor during and following removal operations to ensure that the existing rebar remaining in place are not damaged. All protruding rebar shall be cleaned, straightened, and properly positioned prior to concrete placement. Any rebar damaged during concrete removal shall be repaired or replaced using an approved Bar Splicer or Mechanical System. Cost included with the cost of Removal of Existing Superstructures.  
Install side retainers at each end before grouting the shear keys. After the concrete wearing surface is poured and cured the retainer angles shall be removed. Anchor bolts may be left in place.



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	12	#5	13'-9"	—
h1(E)	12	#5	21'-9"	—
u(E)	72	#4	4'-1"	Π
Reinforcement Bars, Epoxy Coated		Pound	640	
Bar Splicers		Each	12	
Concrete Structures		Cu. Yd.	5.1	

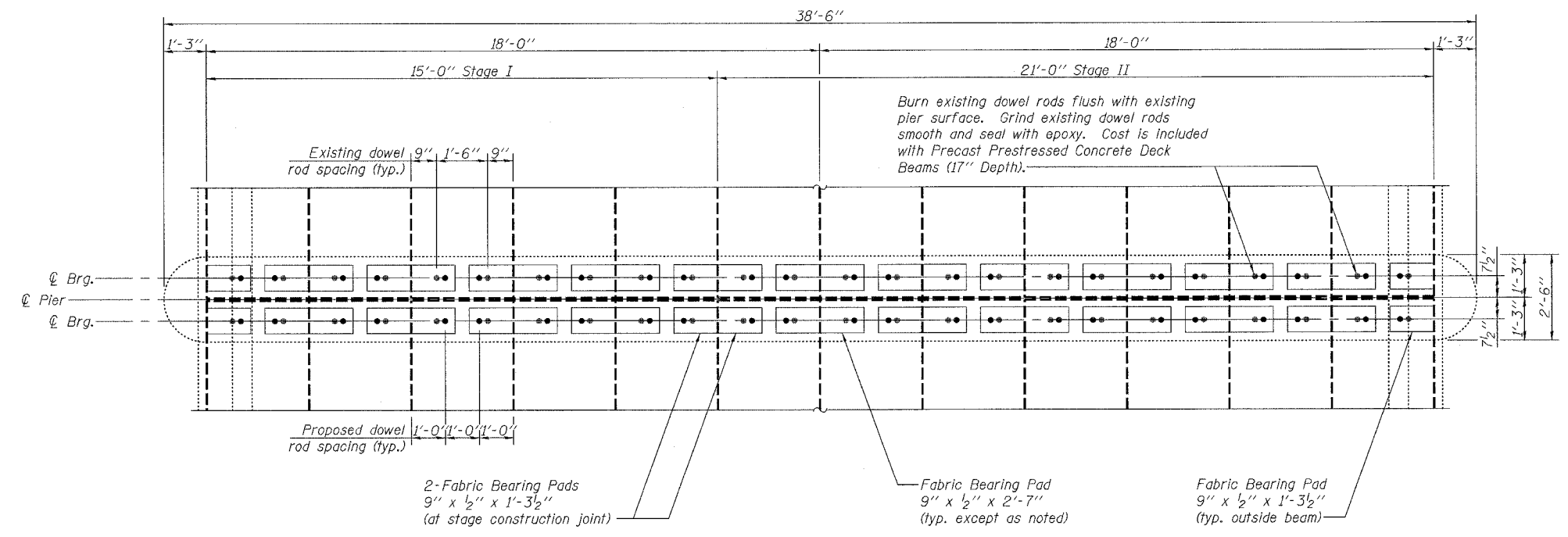
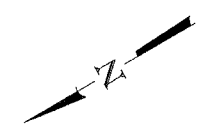
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
ABUTMENTS  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY  
STATION 328+36.90  
STRUCTURE NO. 101-0148  
DRAWN BY LCM  
CHECKED BY BLB

DATE: 12/15/2006

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 12 SHEETS
FAS 55	*	WINNEBAGO	45	52	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\* (102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93



**PIER PLAN**

(Concrete Wearing Surface not shown)

<p>Excellence through Ownership</p> <p>200 West Front Street Wheaton, IL 60187</p>	<p>ILLINOIS DEPARTMENT OF TRANSPORTATION</p> <p>PIER</p> <p>IL-70 OVER TRIBUTARY TO PECATONICA RIVER</p> <p>FAS RTE 55</p> <p>SECTION (102 BR-1, 102 BR-2, 102 BR-3)D</p> <p>WINNEBAGO COUNTY</p> <p>STATION 328+36.90</p> <p>STRUCTURE NO. 101-0148</p>
	<p>DATE: 12/15/2006</p> <p>DRAWN BY LCM CHECKED BY BLB</p>

12/14/2006 K:\11179212\structure.dwg:0148.dgn

Contract # 64C93  
 \* (102 BR-1, 102 BR-2, 102 BR-3)D

**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
 Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
 All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
 Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity =  $1.25 \times f_y \times A_t$   
 (Tension in kips)
  - ② Minimum \*Pull-out Strength =  $0.66 \times f_y \times A_t$   
 (Tension in kips)
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
 \* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

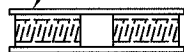
The diameter of this part is equal or larger than the diameter of bar spliced.  
 The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

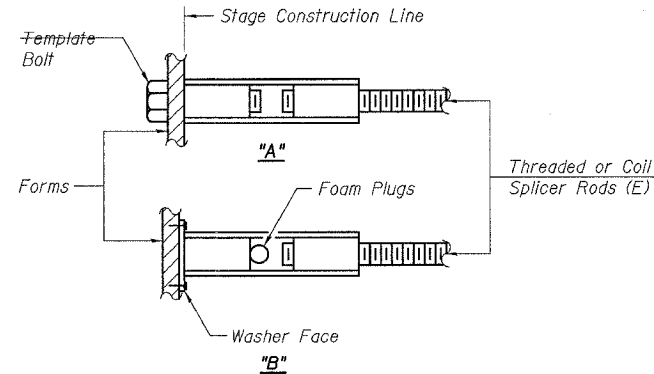
Wire Connector



**WELDED SECTIONS**

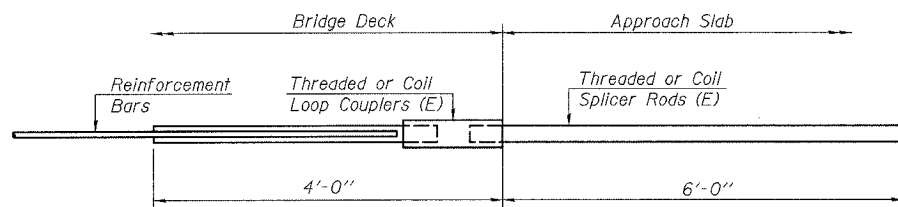
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



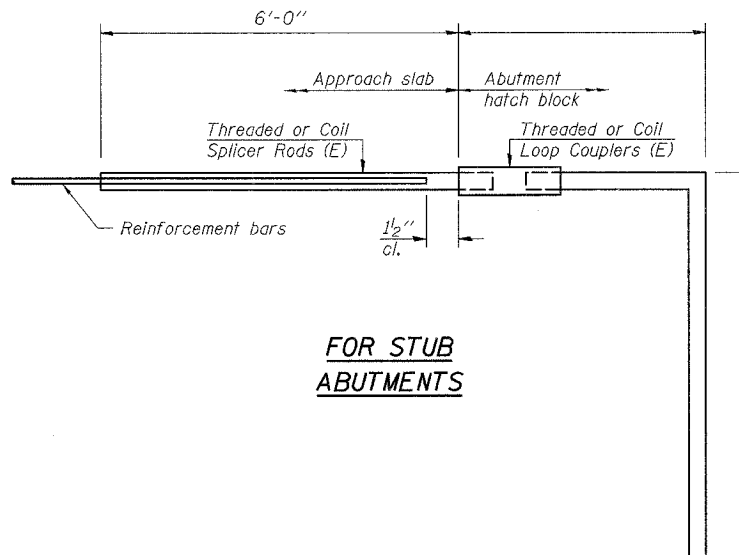
**INSTALLATION AND SETTING METHODS**

"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.



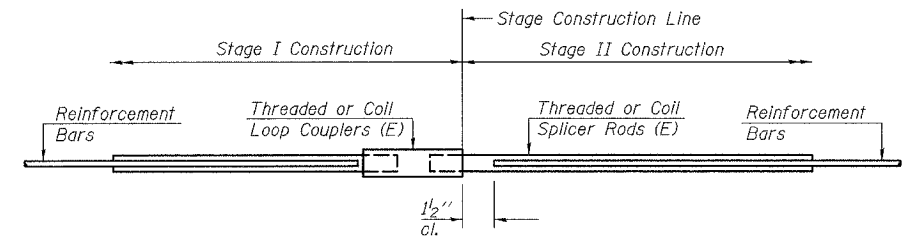
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**FOR STUB ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



**STANDARD**

Bar Size	No. Assemblies Required	Location
#4	78	Wearing Surface
#5	12	Abutments

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 Wheaton, IL 60187

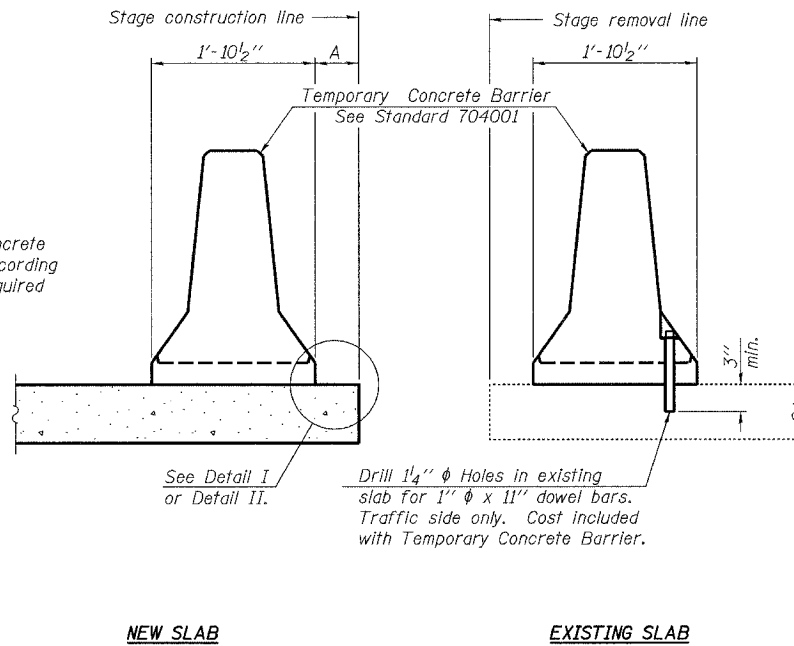
ILLINOIS DEPARTMENT OF TRANSPORTATION  
 BAR SPLICER ASSEMBLY DETAILS  
 IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
 FAS RTE 55  
 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
 WINNEBAGO COUNTY  
 STATION 328+36.90  
 STRUCTURE NO. 101-0148

DATE: 12/15/2006  
 DRAWN BY LCM  
 CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11
FAS 55	*	WINNEBAGO	47	52	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

\*(102 BR-1, 102 BR-2, 102 BR-3)D  
Contract # 64C93

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

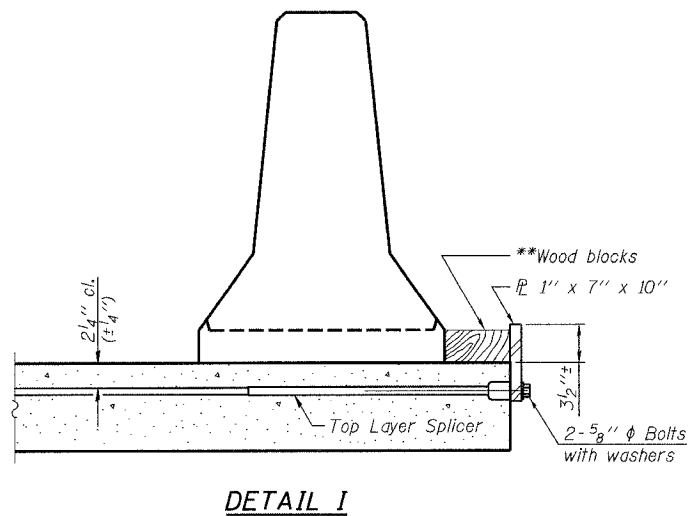
**SECTIONS THRU SLAB**

**NOTES**

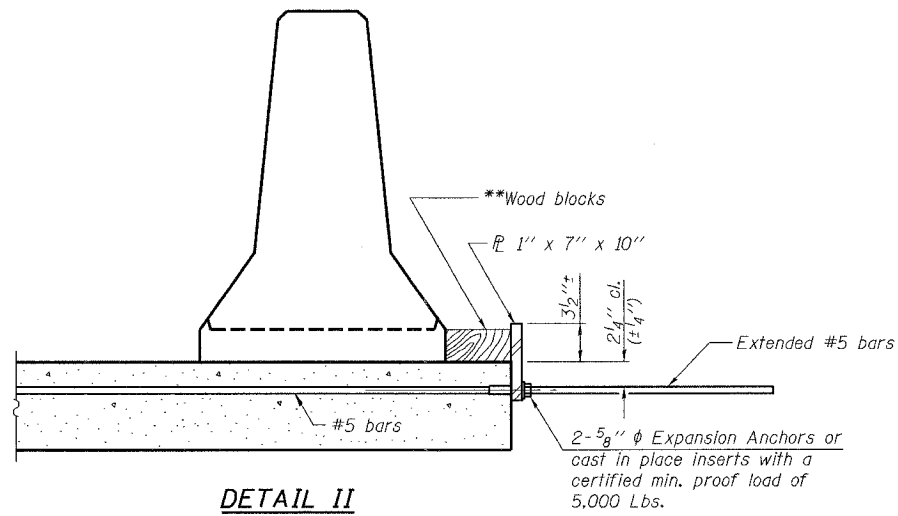
**Detail I - With Bar Splicer or Couplers:**  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

**Detail II - With Extended Reinforcement Bars:**  
Connect one (1) 1"x7"x10" steel PL to the concrete slab with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

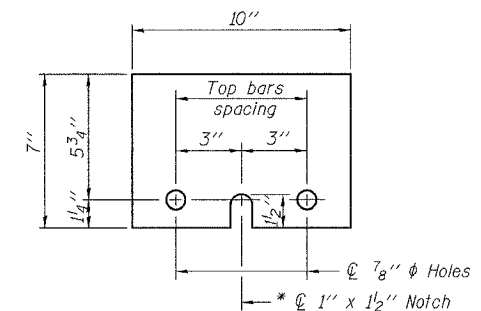


**DETAIL I**



**DETAIL II**

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



**STEEL RETAINER PL 1" x 7" x 10"**

\* Required only with Detail II

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Wheaton, IL 60187

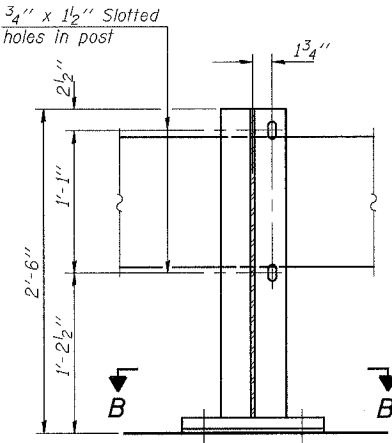
ILLINOIS DEPARTMENT OF TRANSPORTATION  
TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
FAS RTE 55  
SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
WINNEBAGO COUNTY - STATION 328+36.90  
STRUCTURE NO. 101-0148

DATE: 12/15/2006

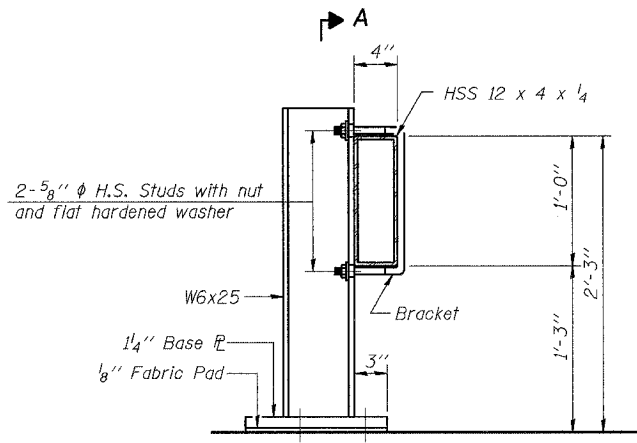
DRAWN BY LCM  
CHECKED BY BLB

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAS 55	*	WINNEBAGO	48	52
SHEET NO. 12				
12 SHEETS				

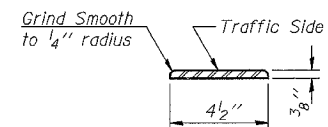
\* (102 BR-1, 102 BR-2, 102 BR-3)D  
 Contract # 64C93



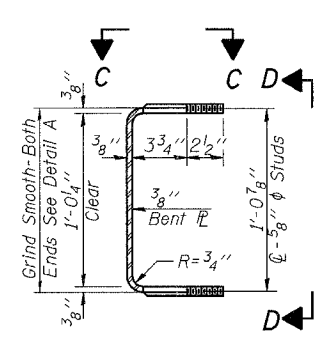
**SECTION A-A**



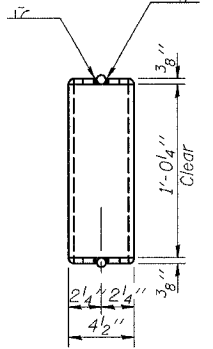
**SECTION AT RAIL POST**



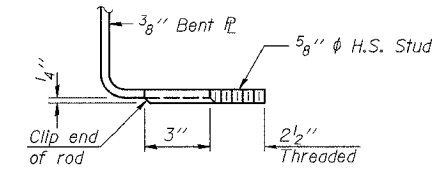
**DETAIL A**



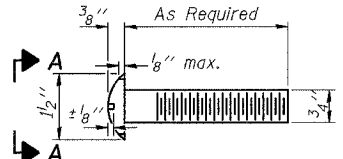
**SECTION THRU BRACKET**



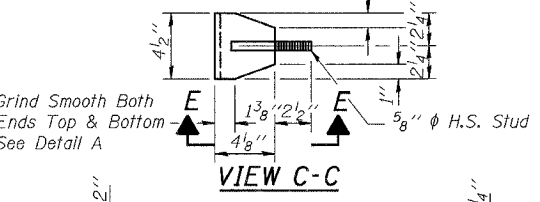
**VIEW D-D**



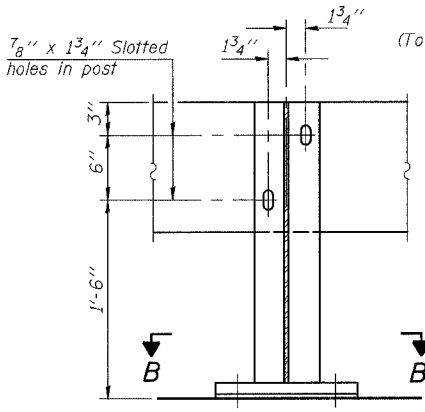
**VIEW E-E**



**VIEW A-A ROUND HEAD BOLT**

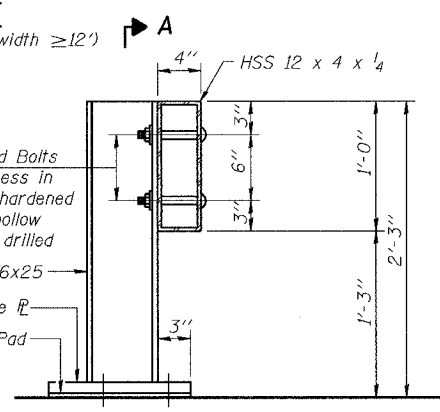


**VIEW C-C**



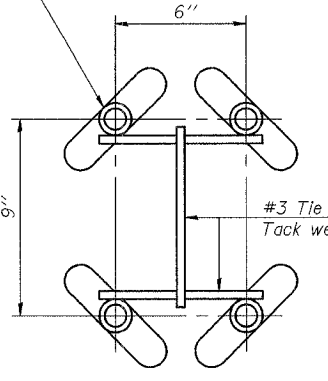
**SECTION A-A**

**ALTERNATE I**  
(To be used only for Roadway width  $\geq 12'$ )

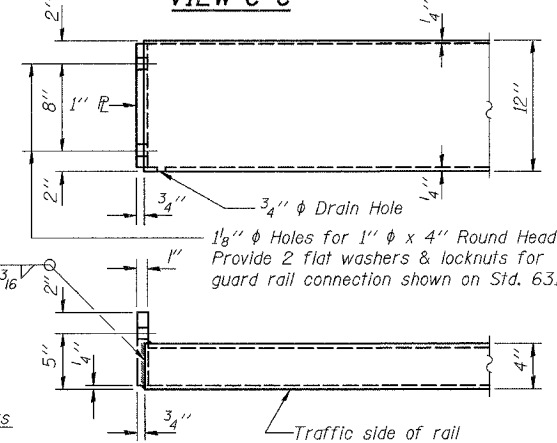


**SECTION AT RAIL POST**

1"  $\phi$  Flared thin slab ferrule insert. Electroplated according to ASTM B 633 Service Condition 4.

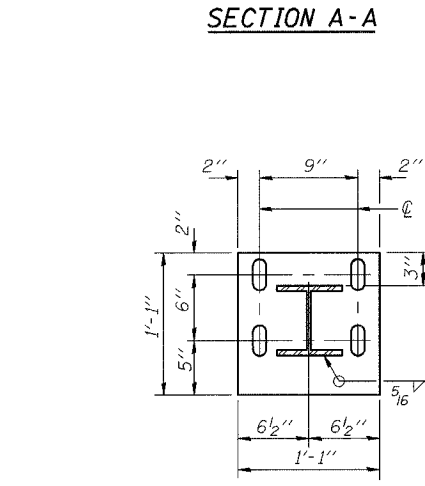


**INSERT DETAIL**



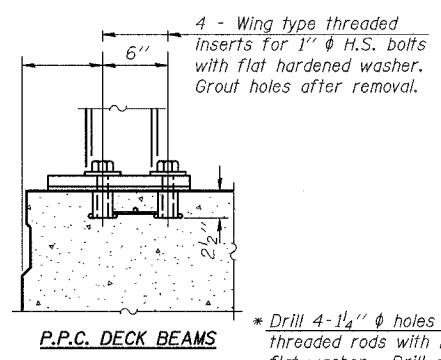
**END OF RAIL DETAILS**

**Notes:**  
 The contact surfaces between post flange, rail and inside face of bracket for Alternate I shall be free of all lubricants.  
 The nut for 5/8"  $\phi$  high strength studs used in Alternate I to connect bracket to post shall be tightened to a snug fit and given an additional one half turn.  
 See Roadway plans for locations and quantity.



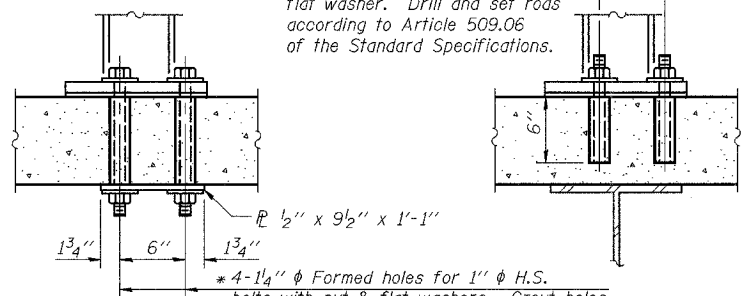
**SECTION B-B**

**ALTERNATE II**

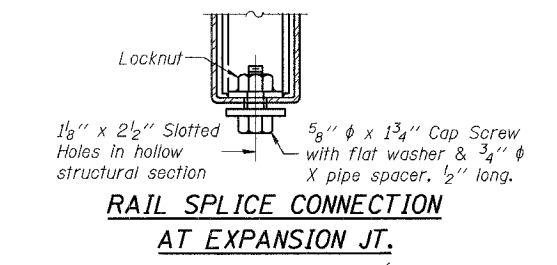


**P.P.C. DECK BEAMS**

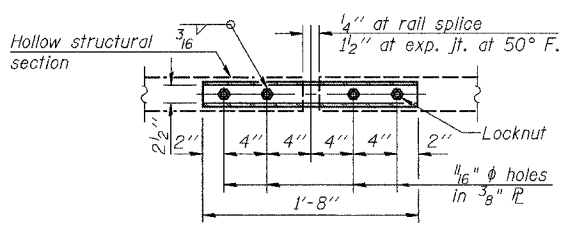
\* Drill 4-1 1/4"  $\phi$  holes for 1"  $\phi$  threaded rods with hex nut and flat washer. Drill and set rods according to Article 509.06 of the Standard Specifications.



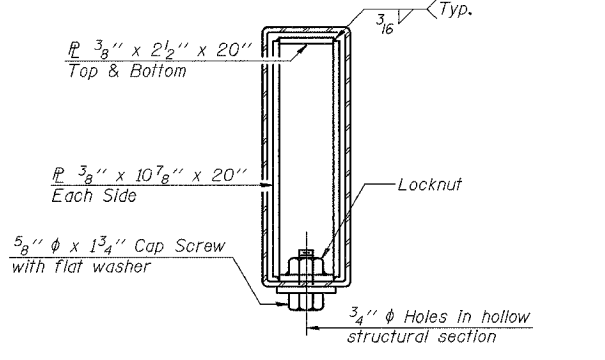
**NEW & EXISTING DECKS ANCHORAGE DETAILS**



**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**PLAN-BOTT. SPLICE P. TYPICAL**



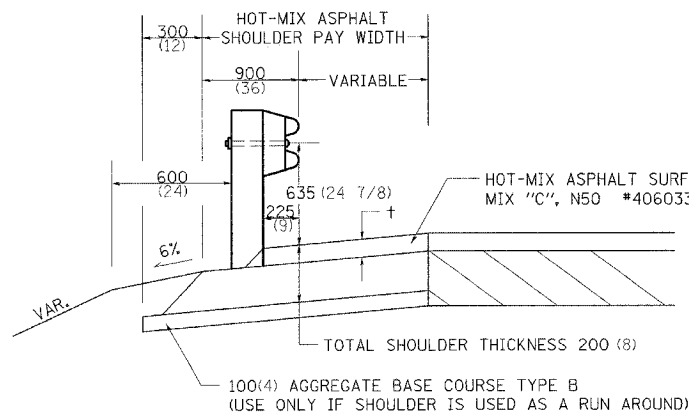
**SECTION AT RAIL SPLICE**

**rjngroup**  
 Excellence through Ownership  
 200 West Front Street  
 Wheaton, IL 60187

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 STEEL RAILING (TEMPORARY)  
 IL-70 OVER TRIBUTARY TO PECATONICA RIVER  
 FAS RTE 55  
 SECTION (102 BR-1, 102 BR-2, 102 BR-3)D  
 WINNEBAGO COUNTY  
 STATION 328+36.90  
 STRUCTURE NO. 101-0148  
 DATE: 12/15/2006  
 DRAWN BY LCM  
 CHECKED BY BLB



# DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARD RAIL



+ = SEE TYPICAL SECTIONS FOR THICKNESS

### GENERAL NOTES

THE TOP LIFT SHALL NOT BE PLACED BEHIND THE GUARDRAIL POSTS. WHEN PLACING THE TOP LIFT THE RAIL MUST BE REMOVED FROM THE POSTS. THE POST SHALL NOT BE REMOVED.

THE HEIGHT OF THE GUARD RAIL SHALL BE SET 525 (21) FROM THE FINISHED SURFACE.

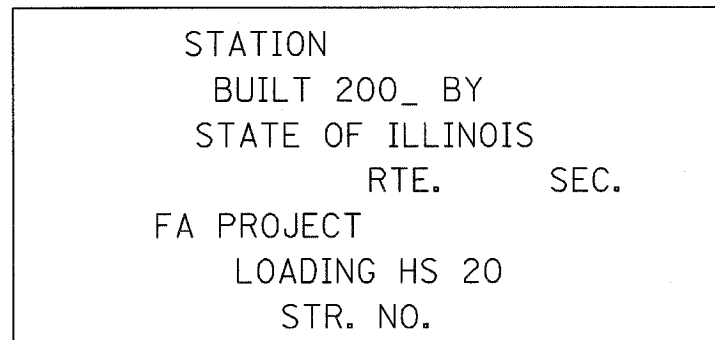
THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIXTURE C, N50. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIXTURE "C", N50 AND SQUARE METER (SQUARE YARD) FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED. THE REMOVAL & REINSTALLATION OF THE GUARDRAIL WILL BE INCLUDED IN THE COST OF THE HOT-MIX ASPHALT SURFACE COURSE, MIXTURE C, N50.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

**DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARD RAIL 23.4**

REVISED 10-06-06

# LETTERING FOR NAME PLATE



SEE STD. 515001

### DESIGNERS NOTE

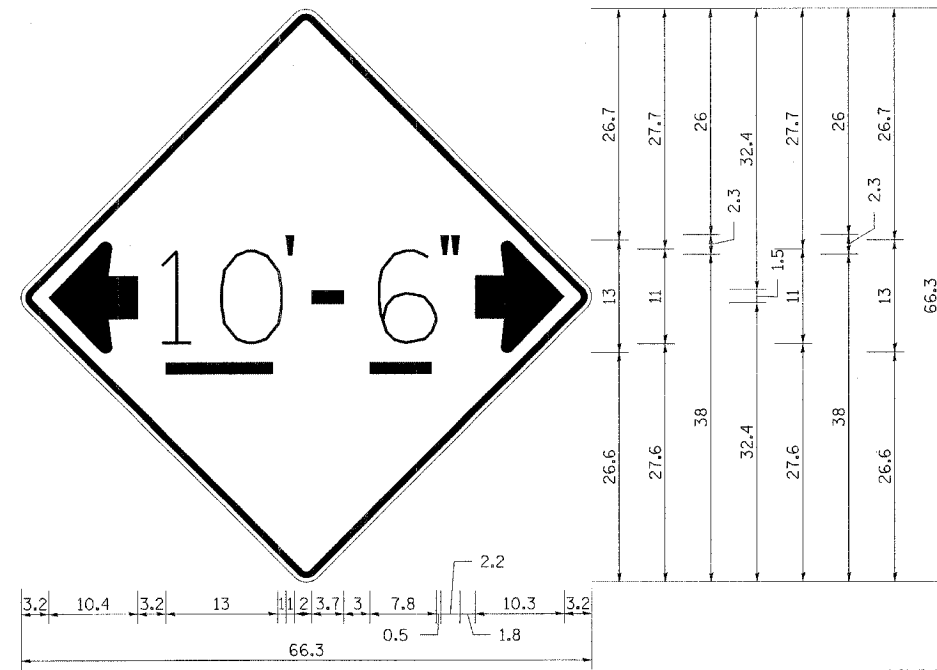
WHEN USING A DOUBLE BOX CULVERT GET A STRUCTURE NUMBER AND SHOW IT ON THE GENERAL NOTES. IF THE DOUBLE BOX CULVERT IS EQUAL TO OR GREATER THAN 6.1m (20 FT) WIDE INCLUDE A PAY ITEM FOR NAME PLATES AND INCLUDE THIS DETAIL IN THE PLANS.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

**LETTERING FOR NAME PLATE 89.4**

REVISED 10-15-04

# INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES)



ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

**INFORMATIONAL WARNING SIGN (FOR NARROW TRAVEL LANES) 39.4**

REVISED 6-29-05

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	**	WINNEBAGO	52	49
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
**102BR-1, 102BR-2, 102BR-3D		CONTRACT NO. 64C93		

### NOTES

W12-2 - Horizontal Clearance Sign  
48.0" across sides, 1.9" Radius,  
0.8" Border, 0.5" Indent, Black on  
Orange; Standard Arrow Custom  
10.4" X 8.1" 180° Black 11 Inch  
D Series Lettering; Standard Arrow  
Custom 10.4" X 8.1" 0°

All work to furnish and install these signs shall be included in the cost of the Traffic Control Standards and shall not be paid for separately.

# STOP LINE SIGN FOR TEMPORARY SIGNALS



SIZE: 600(24) x 450(18)

100(4) CAPITAL LETTERS - BLACK

13 (1/2) BORDER - BLACK

WHITE REFLECTIVE - TYPE B  
ENGINEERING GRADE SHEETING

### GENERAL NOTE:

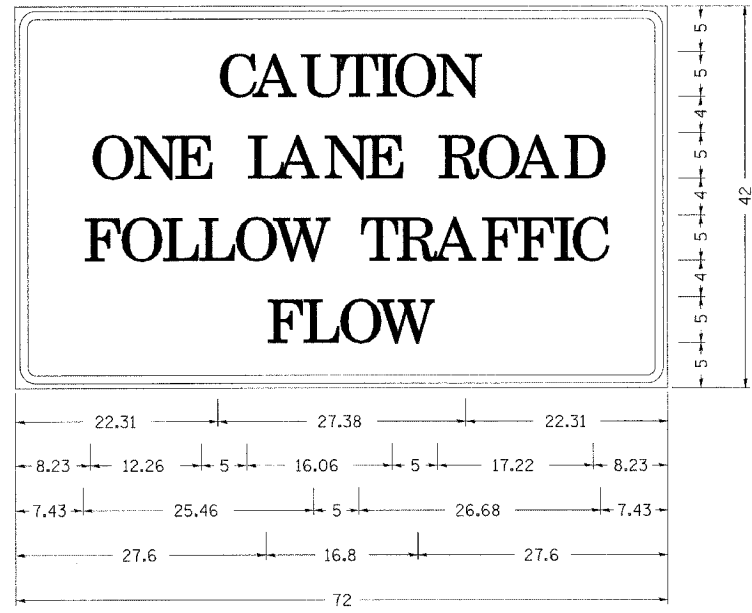
THIS SIGN SHALL BE INSTALLED AT THE STOP LINE AS DIRECTED BY ENGINEER.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

**STOP LINE SIGN FOR TEMPORARY SIGNALS 99.4**

REVISED 10-10-06

# ENTRANCE SIGN FOR USE WITH TEMPORARY SIGNALS



Type AA Fluorescent Orange Sheeting ;  
 2.25" Radius, 0.88" Border, 0.50" Indent, Black on Orange;  
 [CAUTION] D; [ONE LANE ROAD] D;  
 [FOLLOW TRAFFIC] D; [FLOW] D

Table Of Widths And Spaces

22.31	C	3.36	0.62	A	4.18	0.94	U	3.36	0.94	T	3.04	0.94	I	0.78	1.17	O	3.52	1.17	N	3.36	22.31
8.23	O	3.51	1.17	N	3.36	1.18	E	3.04													
5.00	L	3.05	0.31	A	4.18	0.94	N	3.36	1.17	E	3.05										
5.00	R	3.36	0.93	O	3.52	0.94	A	4.18	0.93	D	3.36	8.23									
7.43	F	3.04	0.94	O	3.52	1.17	L	3.04	0.94	L	3.05	0.94	O	3.51	0.94	W	4.37				
5.00	T	3.05	0.94	R	3.36	0.94	A	4.18	0.93	F	3.05	0.94	F	3.04	0.94	I	0.78	1.18	C	3.35	7.43
27.60	F	3.05	0.94	L	3.04	0.94	O	3.52	0.93	W	4.38	27.60									

## GENERAL NOTES

THIS SIGN SHALL BE INSTALLED AT ENTRANCES LOCATED BETWEEN THE TEMPORARY SIGNALS AS DIRECTED BY THE ENGINEER.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

THE COST TO FURNISH, INSTALL AND REMOVE THIS SIGN AT THE REQUIRED LOCATIONS SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

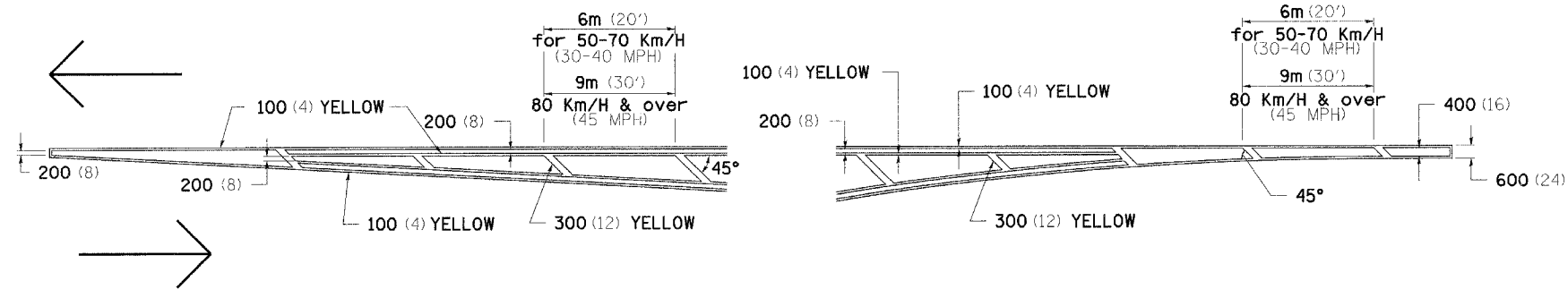
ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

PLOT DATE = 12/14/2006  
 FILE NAME = #FILEL#  
 PLOT SCALE = 1:50  
 REFERENCE = #REF#

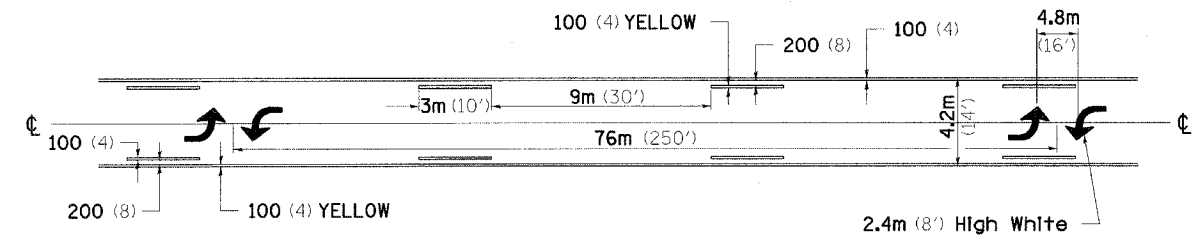
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	(102BR-1, 102BR-2, 102BR-3) D	WINNEBAGO	52	51
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 64C93				

# TYPICAL PAVEMENT MARKINGS

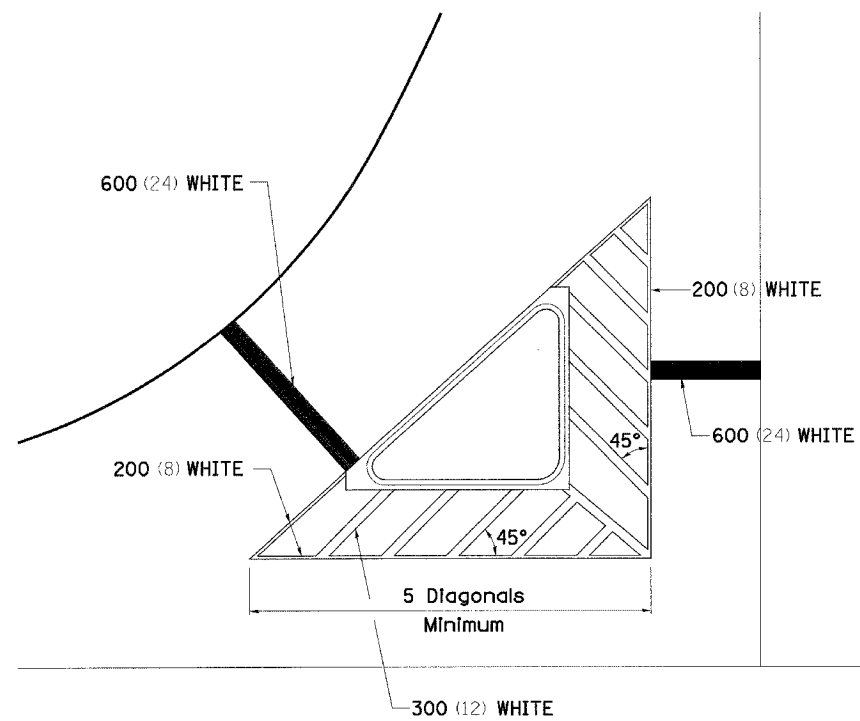
## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN AT LEFT TURN LANE



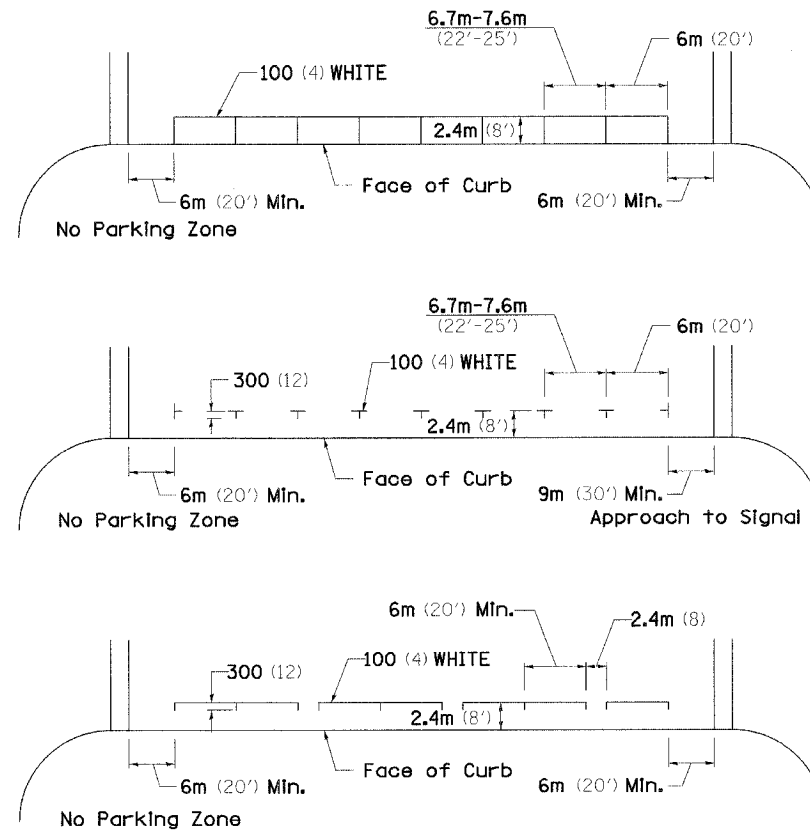
## MEDIAN PAVEMENT MARKING



## TYPICAL ISLAND OFFSET SHOULDER WIDTH



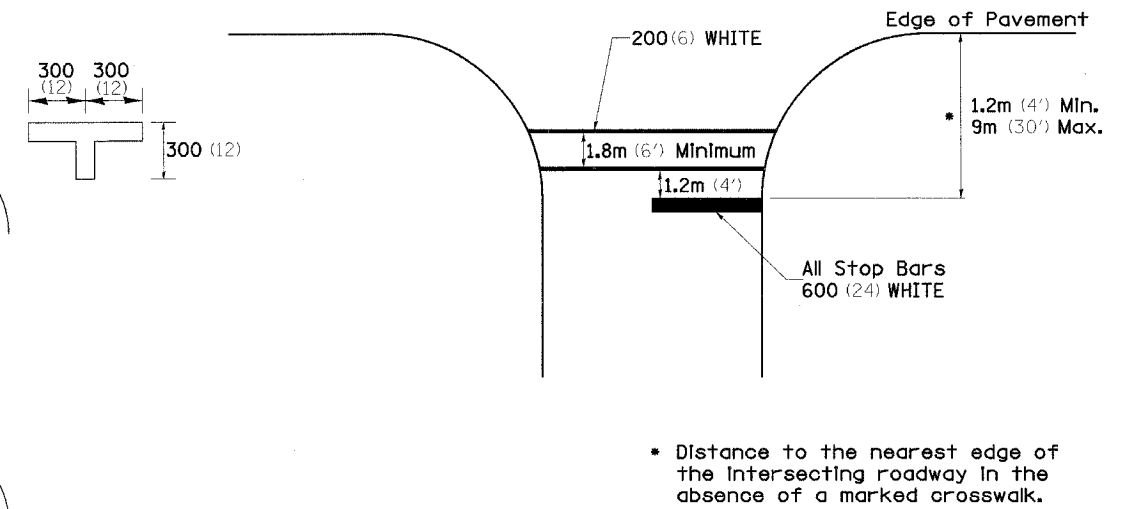
## TYPICAL PARKING SPACING



•• ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

## STANDARD CROSSWALK MARKING

See Schedules for Locations

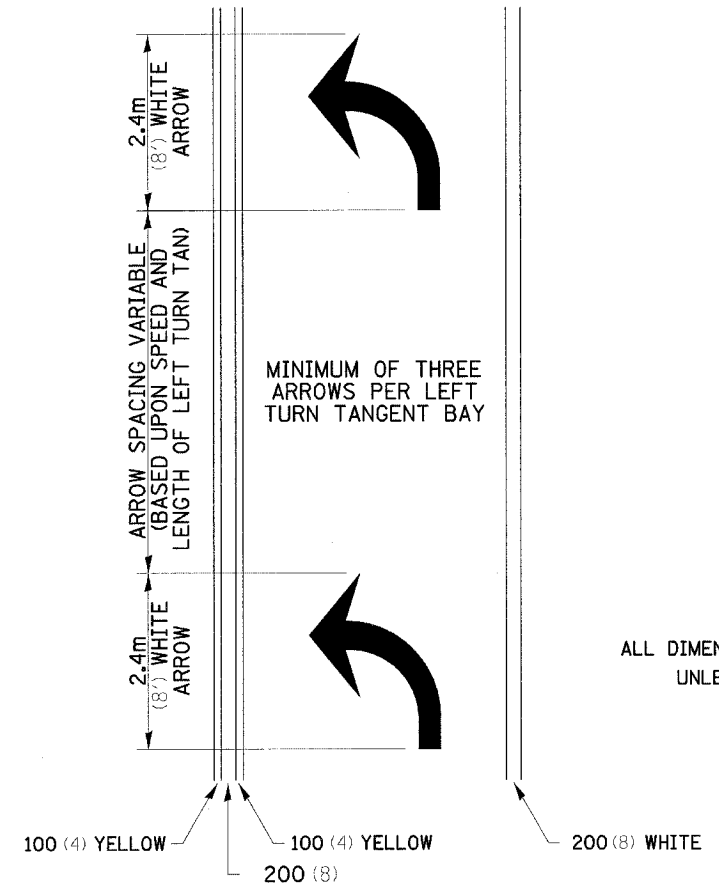


• Distance to the nearest edge of the intersecting roadway in the absence of a marked crosswalk.

PLOT DATE = 12/14/2006  
FILE NAME = 8FILE1.D  
PLOT SCALE = 1:50  
REFERENCE = #REF#

# TYPICAL PAVEMENT MARKINGS

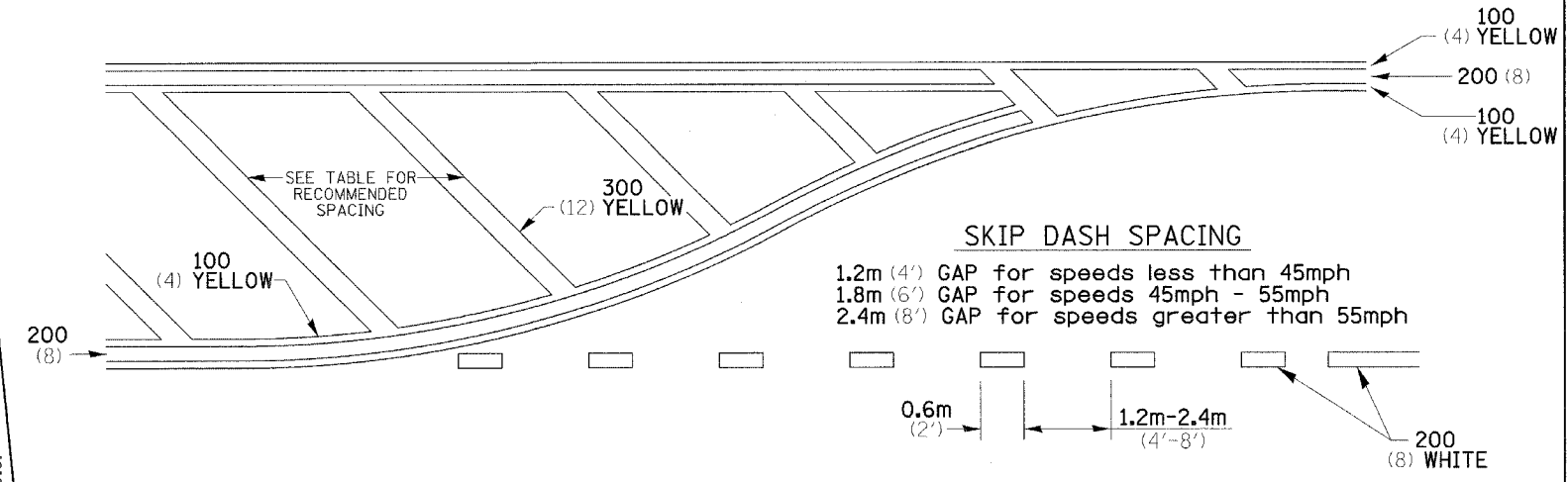
## ARROW LAYOUT



- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER
- ◀ TWO-WAY AMBER MARKER

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE NOTED.

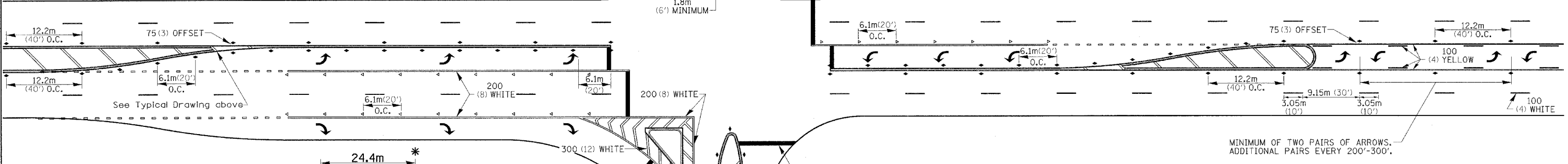
## TYPICAL PAVEMENT MARKING FOR FLUSH MEDIAN



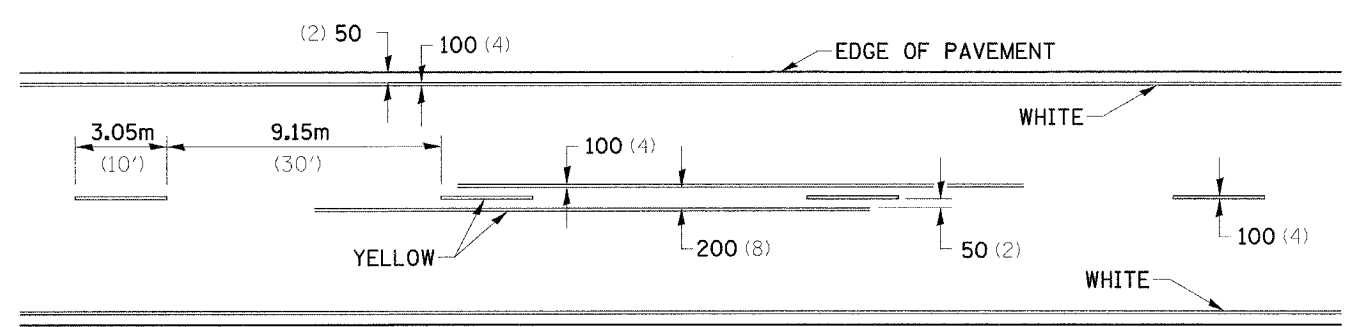
## RECOMMENDED SPACING BETWEEN DIAGONALS (IN FEET)

Speed Limit Range	Continuous Median Area	Intersection Channelization	Objects (Islands)
less than 50Km/H (30MPH)	15.3m (50')	4.53m (15')	3.05m (10')
50-60Km/H (30-40MPH)	22.9m (75')	6.1m (20')	4.53m (15')
70Km/H (45MPH) & over	22.9m (75')	9.05m (30')	6.1m (20')

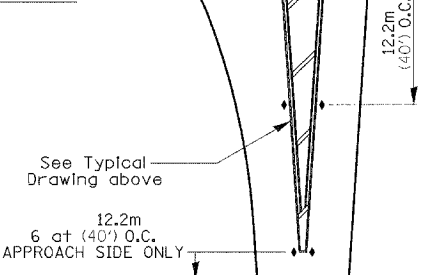
NOTE: if the spacing recommended in the Table does not permit at least five diagonal lines in the area being marked, the spacing from the next lowest speed range should be used. The recommended spacing is measured parallel to the pavement center line.



## TYPICAL PAVEMENT MARKING FOR TWO LANE SECTION - NO PASSING ZONES



## SYMBOLS



- \* REDUCE TO 12.2m (40') O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 15Km/H (10MPH) LOWER THAN POSTED SPEEDS.
- \*\* USE DOUBLE MARKERS WHEN ADT ≥ 25,000

## MULTI-LANE / UNDIVIDED

PLOT DATE = 12/14/2006  
FILE NAME = 87FILEL8  
PLOT SCALE = 1:50  
REFERENCE = 8REF\*