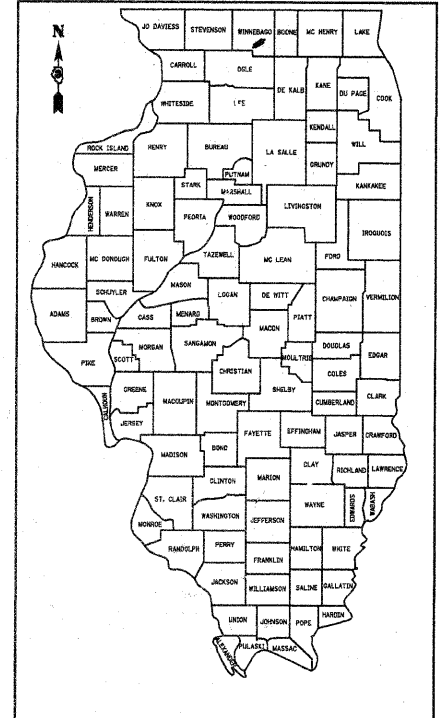
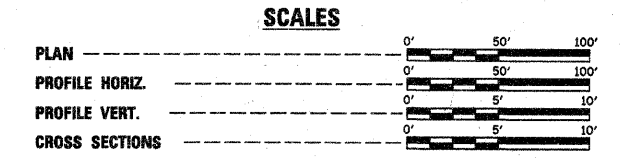


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 C.H. 11	07-00421 -00-BR	WINNEBAGO	18	1

ILLINOIS  
CONTRACT NO. 85451

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

**SECTION 07-00421-00-BR  
WINNEBAGO COUNTY  
PROJECT NO. BRS-1045(105)  
F.A.S. 1045 - C.H. 11  
C-92-064-08  
CONTRACT #85451**



LOCATION OF SECTION INDICATED THUS:   
**CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)**  
**DESIGN VOLUME: 750-2000 ADT**  
**CURRENT ADT: 734 (2008)**  
**DESIGN SPEED: 50 M.P.H.**

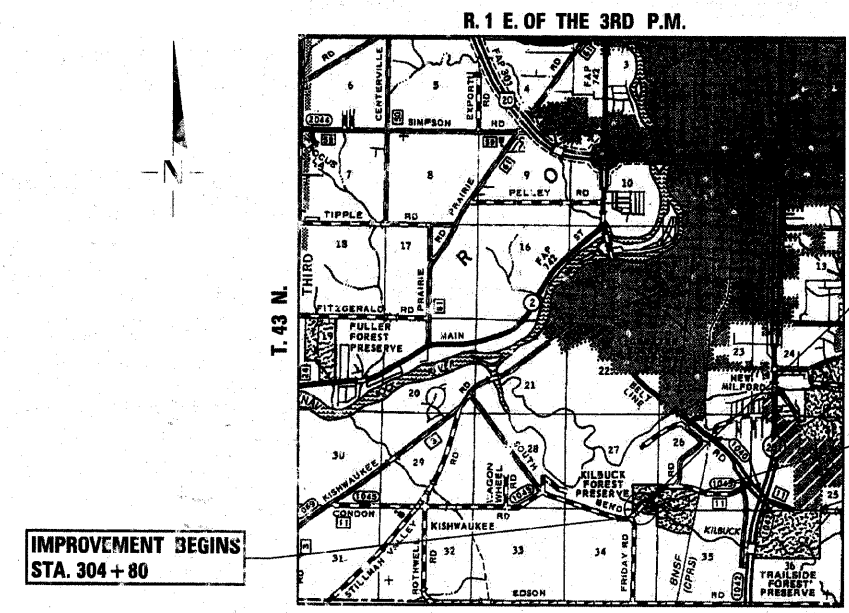
TOLL FREE JOINT UTILITY LOCATING  
 INFORMATION FOR EXCAVATORS (J.U.L.I.E.)  
 TELEPHONE NUMBER 1-800-892-0123

**INDEX OF SHEETS**

SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	SHOULDER AND GUARDRAIL DETAIL SHEET
5.-11.	BRIDGE PLANS
12.-17.	STATION CROSS SECTIONS
18.	EROSION CONTROL PLAN

**STANDARDS:**

280001-04	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-04	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 4.5 M (15') TO 600 MM (24') FROM PAVEMENT EDGE
701301-03	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701901-01	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS, AND DELINEATORS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A & B METAL POST (FOR SIGNS AND MARKERS)
780001-02	TYPICAL PAVEMENT MARKINGS
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

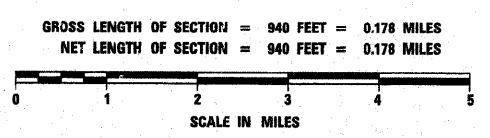


IMPROVEMENT BEGINS  
 STA. 304 + 80

IMPROVEMENT ENDS  
 STA. 314 + 20

STA. 310 + 19.92 - SPECIAL BRIDGE DESIGN  
 FOUR SPAN P.P.C. DECK BEAM BRIDGE (21" DEPTH);  
 FOUR SPANS @ 46'-0"; 186'-1 1/4" BK.-BK. ABUTS.;  
 30'-0" ROADWAY, 30° SKEW RT.  
 PROPOSED S.N. 101-3069  
 EXISTING S.N. 101-3070

**LOCATION PLAN**



*Cary J. Cartwright* 2-4-09  
 ILLINOIS PROFESSIONAL NO. 43408  
 EXPIRES 11-30-09

4440 ASH GROVE  
 SPRINGFIELD, IL 62711  
 (217) 798-8500  
 www.fehr-graham.com

**FEHR-GRAHAM & ASSOCIATES, LLC**  
 ENGINEERING AND SCIENCE CONSULTANTS  
PROFESSIONAL ENGINEERS & ARCHITECTS

APPROVED	<i>February 9 2009</i>
COUNTY ENGINEER	<i>[Signature]</i>
PASSED	<i>July 21 2009</i>
DISTRICT TWO ENGINEER OF LOCAL ROADS & STREETS	<i>[Signature]</i>
RELEASED FOR BID BASED ON LIMITED REVIEW	<i>July 21 2009</i>
DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER	<i>[Signature]</i>
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

**SUMMARY OF QUANTITIES**  
CONSTRUCTION TYPE CODE: X080-2A

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045	07-00421	WINNEBAGO	18	2
C.H. II	-00-BR	ILLINOIS		

CONTRACT NO. 85451

NUMBER	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	110
20300100	CHANNEL EXCAVATION	CU YD	210
20400800	FURNISHED EXCAVATION	CU YD	372
20700110	POROUS GRANULAR EMBANKMENT	TON	105
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.6
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	70
28000400	PERIMETER EROSION BARRIER	FOOT	1,175
28100207	STONE RIPRAP, CLASS A4	TON	426
28200200	FILTER FABRIC	SQ YD	640
35501320	HOT-MIX ASPHALT BASE COURSE, 9"	SQ YD	98
35600712	HOT-MIX ASPHALT BASE COURSE WIDENING, 9"	SQ YD	173
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	165
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	586
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	222
44000100	PAVEMENT REMOVAL	SQ YD	115
48101200	AGGREGATE SHOULDERS, TYPE B	TON	359
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50104650	SLOPE WALL REMOVAL	SQ YD	152
50200100	STRUCTURE EXCAVATION	CU YD	97
50300225	CONCRETE STRUCTURES	CU YD	199.3
50300280	CONCRETE ENCASEMENT	CU YD	3.5
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	5,520
50800105	REINFORCEMENT BARS	POUND	15,360
50901050	STEEL BRIDGE RAIL, TYPE SM	FOOT	369
51201600	FURNISHING STEEL PILES HP12X53	FOOT	2,188
51202305	DRIVING PILES	FOOT	2,188
51203600	TEST PILE STEEL HP12X53	EACH	3
51500100	NAME PLATES	EACH	1
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	629
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1,656
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
63200310	GUARDRAIL REMOVAL	FOOT	407
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3,060
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1
X5020503	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 3	EACH	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

\*SEE SPECIAL PROVISIONS

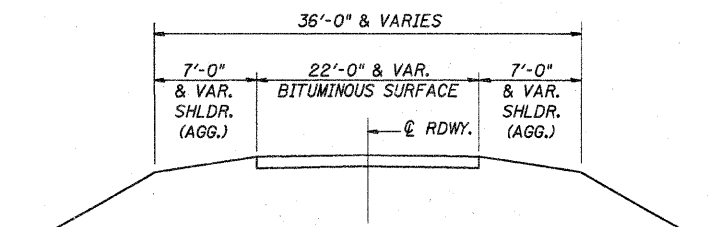
Δ SPECIALTY ITEMS

**GENERAL NOTES**

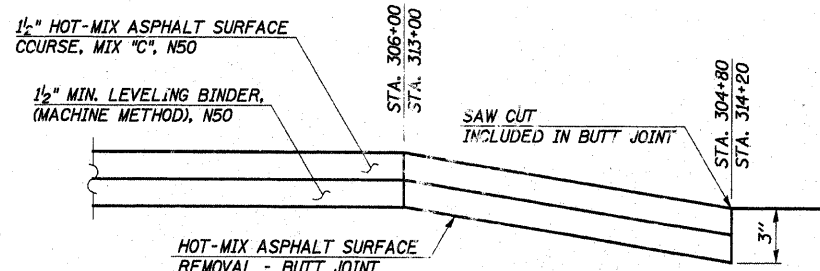
WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

THE AREA TO BE SEEDDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 0.6 ACRE

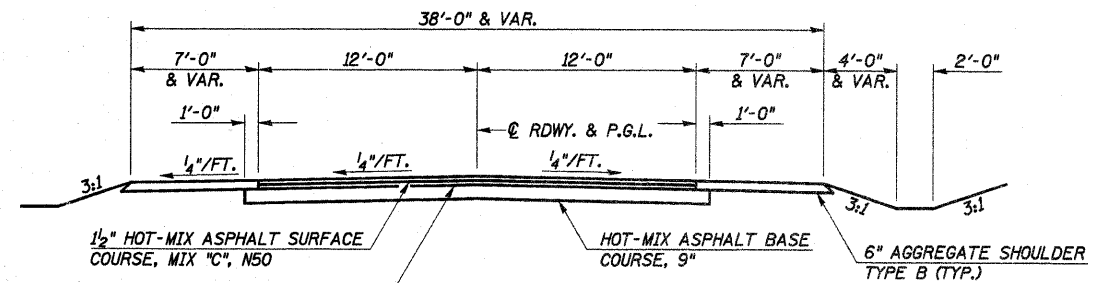


EXISTING TYPICAL CROSS SECTION



HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT DETAIL

HOT-MIX ASPHALT MIXTURE REQUIREMENTS			
MIXTURE USE(S)	SURFACE	LEVEL BINDER	BIT. BASE COURSE
PG:	PG 58-22	PG 58-22	PG 58-22
DESIGN AIR VOIDS:	3.0 @ N50	3.0 @ N50	2 @ N50
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 9.5	BAM
FRICTION AGGREGATE:	C	N/A	N/A
20 YEAR ESAL	0.0	0.0	N/A
MIX UNIT WEIGHT	112 LBS/SY/IN		

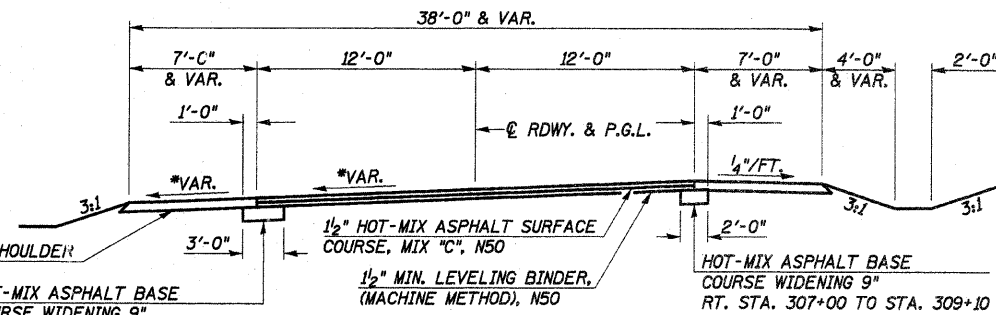


SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

**TYPICAL PROPOSED CROSS SECTION**

STA. 309+10 TO STA. 309+26.87  
STA. 311+12.97 TO STA. 311+30

SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

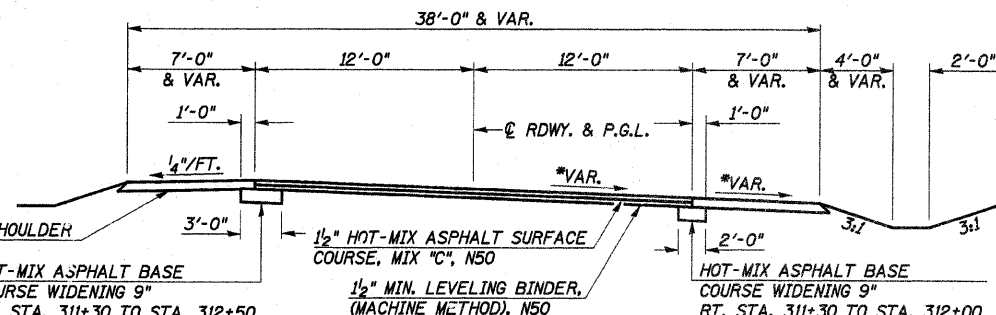


SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

**TYPICAL PROPOSED CROSS SECTION**

STA. 306+00 TO STA. 309+10

SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS



SUGGESTED FILL SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

**TYPICAL PROPOSED CROSS SECTION**

STA. 311+30 TO STA. 313+00

SUGGESTED CUT SECTION  
CONSTRUCT AS SHOWN BY  
STATION CROSS SECTIONS

**SUMMARY OF QUANTITIES, GENERAL NOTES  
AND TYPICAL CROSS SECTION**  
SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STATION 310+19.92

4440 ASH GROVE  
SPRINGFIELD, IL. 62711  
(217) 793-8600  
www.fehr-graham.com

**FEHR-GRAHAM & ASSOCIATES, LLC**  
ENGINEERING AND SCIENCE CONSULTANTS  
PROJECTS: CHICAGO, ILL. • ROCKFORD, ILL. • SPRINGFIELD, ILL.

DRAWN: S.A.P.  
DATE: 08/09/07

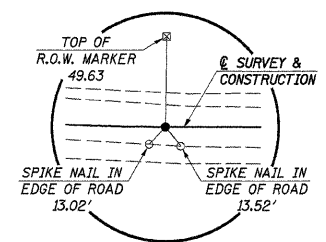
CHECKED: G.J.C.  
DATE: 08/15/07

JOB NO.: 46466  
FILE: SUMTYP.DGN  
DATE: 02/03/09

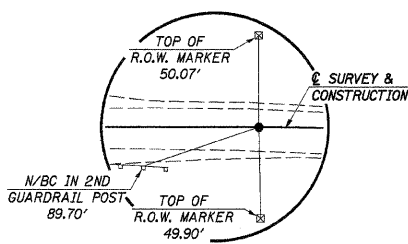
CONTRACT NO.				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
07	00421-00-BR	WINNEBAGO	18	3
STA. 302+00 TO STA. 317+00			ILLINOIS	
CONTRACT NO. 85451				

**EXISTING CURVE DATA**  
(FOR INFORMATION ONLY)

PI STA. = 303+00.64	PI STA. = 316+32.73
Δ = 29° 24'	Δ = 31° 53'
D = 5° 00'	D = 5° 00'
R = 1,146.00'	R = 1,146.28'
T = 300.64'	T = 327.32'
L = 588.00'	L = 637.66'
E = 38.70'	E = 45.84'



**P.O.T. STA. 305+88.03**  
**NAIL & BOTTLE CAP (FLUSH)**



**P.O.T. STA. 313+05.50**  
**NAIL AND BOTTLE CAP (FLUSH)**

**EXISTING STRUCTURE NO. 101-3070**

STA. 310+20 THREE SPAN PRESTRESSED CONCRETE DECK BEAM (27") BRIDGE ON R.C. PIERS AND PILE BENT ABUTMENTS WITH CONCRETE SLOPE WALL (6") BK.-BK. 173'-3 3/4", 0-0.33'-0", SKEW = 30°  
REMOVAL OF EXISTING STRUCTURES = 1 EACH

SEE SHEET 4 FOR GUARDRAIL AND SHOULDER DETAIL

**CHANNEL EXCAVATION**

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EXCAVATION = 210 CU. YD.

STA. 310+19.92 - SPECIAL BRIDGE DESIGN  
FOUR SPAN P.P.C. DECK BEAM (21" DEPTH)  
FOUR SPANS @ 46'-0", 186'-1 1/4" BK.-BK. ABUTS.  
30'-0" ROADWAY, 30° SKEW RT.  
PROPOSED S.N. 101-3069

**UTILITIES**

- SBC DAVE CONOVER 309-686-3314
- VERIZON NORTH, INC. JONNA FRICKE 309-663-3422
- COM ED TOM STUTZMAN 630-437-2236
- COMCAST COMMUNICATIONS MICHAEL OWENS 815-509-7876 SCOTT SCHROEDER 815-284-2257
- NICOR GAS UTILITY CONSULTANT G03W 630-388-2362

H.M.A. SURFACE REMOVAL - BUTT JOINT

PAVEMENT REMOVAL

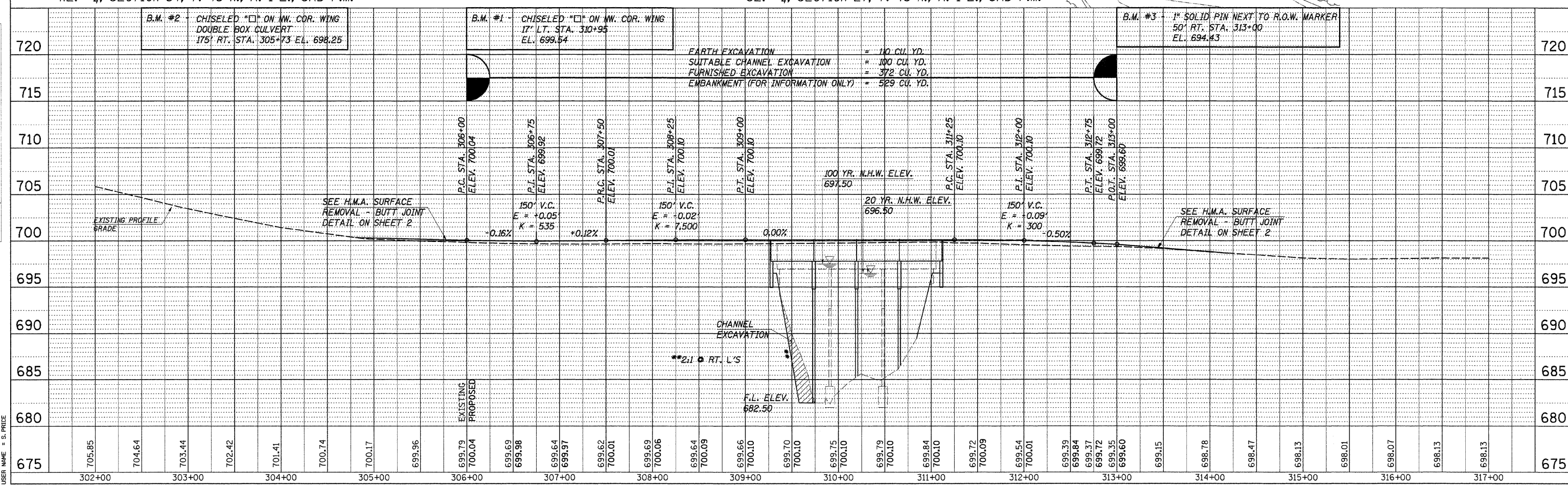
NE. 1/4, SECTION 34, T. 43 N., R. 1 E., 3RD P.M.

SE. 1/4, SECTION 27, T. 43 N., R. 1 E., 3RD P.M.

DATE	
BY	
PLAN	
NO.	

DATE	
BY	
PROFILE	
NO.	

PLOT DATE = 05/11/07  
FILE NAME = 46466P.PLOT  
PLOT SCALE = S. PRICE  
USER NAME = S. PRICE

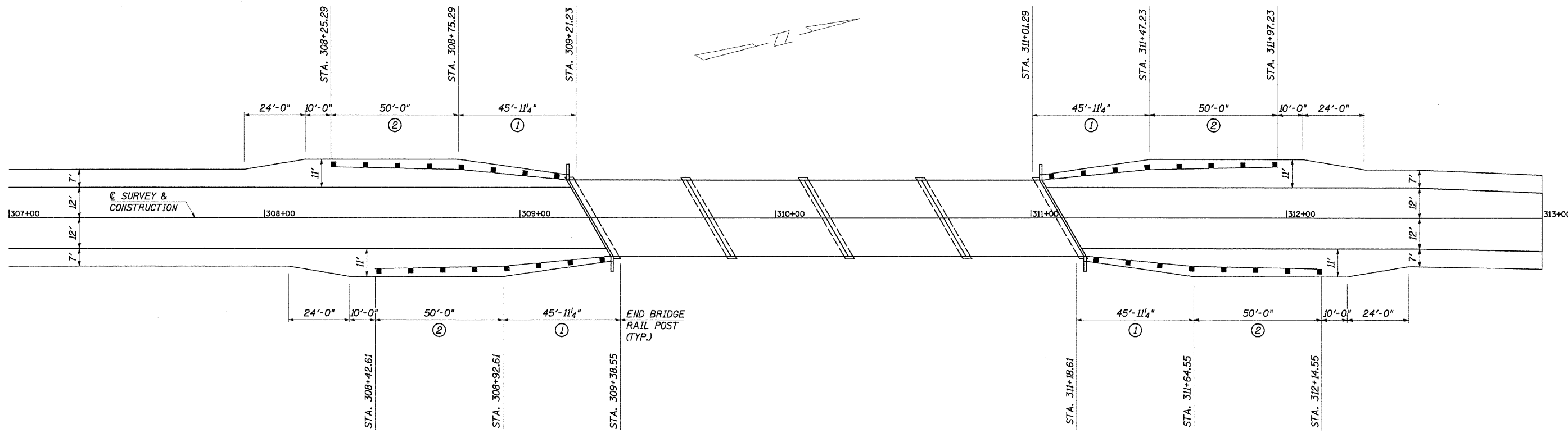


EARTH EXCAVATION = 110 CU. YD.  
SUITABLE CHANNEL EXCAVATION = 100 CU. YD.  
FURNISHED EXCAVATION = 372 CU. YD.  
EMBANKMENT (FOR INFORMATION ONLY) = 529 CU. YD.

CHANNEL EXCAVATION  
\*\*2:1 RT. L'S  
F.L. ELEV. 682.50

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045	07-00421	WINNEBAGO	18	4
C.H. 11	-00-BR			

ILLINOIS  
CONTRACT NO. 85451



SHOULDER AND GUARDRAIL DETAIL

TRAFFIC BARRIER TERMINAL, TYPE 6A

- 19' LT. STA. 308+75.29 TO 15' LT. STA. 309+21.23 = 1 EACH
- 19' RT. STA. 308+92.61 TO 15' RT. STA. 309+38.55 = 1 EACH
- 15' LT. STA. 311+01.29 TO 19' LT. STA. 311+47.23 = 1 EACH
- 15' RT. STA. 311+18.61 TO 19' RT. STA. 311+64.55 = 1 EACH
- TOTAL = 4 EACH

TRAFFIC BARRIER TERMINAL, TYPE 1, (SPECIAL) TANGENT

- 20' LT. STA. 308+25.29 TO 19' LT. STA. 308+75.29 = 1 EACH
- 20' RT. STA. 308+42.61 TO 19' RT. STA. 308+92.61 = 1 EACH
- 19' LT. STA. 311+47.23 TO 20' LT. STA. 311+97.23 = 1 EACH
- 19' RT. STA. 311+64.55 TO 20' RT. STA. 312+14.55 = 1 EACH
- TOTAL = 4 EACH

LEGEND

NOTE: ALL DIMENSIONS REFER TO FRONT FACE OF PROPOSED RAILING

- ① TRAFFIC BARRIER TERMINAL, TYPE 6A
- ② TRAFFIC BARRIER TERMINAL, TYPE 1, (SPECIAL) TANGENT

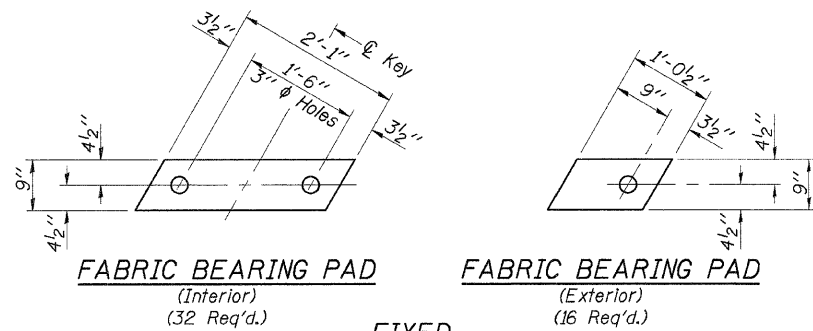
**SHOULDER AND GUARDRAIL DETAIL**  
SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STATION 310+19.92

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	<b>FEHR-GRAHAM &amp; ASSOCIATES, LLC</b> ENGINEERING AND SCIENCE CONSULTANTS REPORT, L. RODRIGUEZ, R. RODRIGUEZ, R. MONROE, W. SPRINGFIELD, IL	DRAWN: S.A.P. DATE: 08/09/07	CHECKED: G.J.C. DATE: 08/15/07	JOB NO.: 46466 FILE: 46466SHLDR.DGN DATE: 01/30/09
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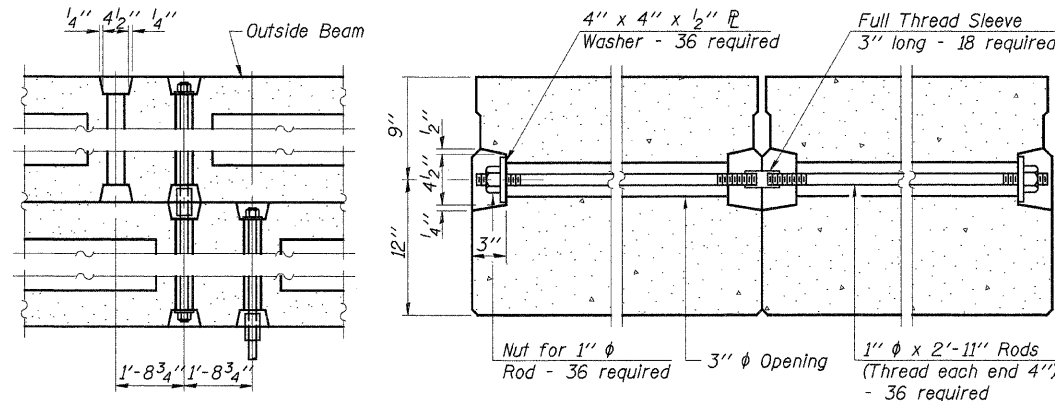




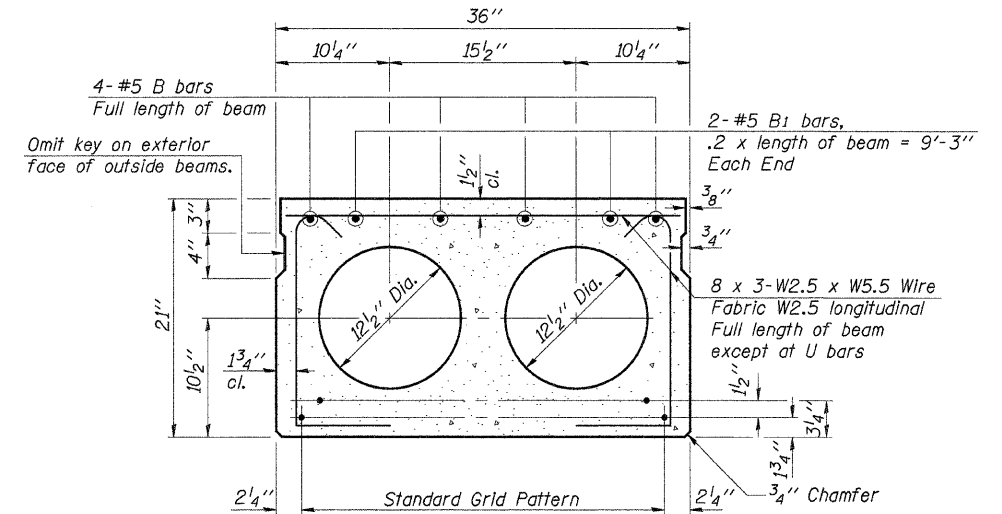
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 CH 11	07-00421 -00-BR	WINNEBAGO	18	6
ILLINOIS		CONTRACT NO. 85451		



**FIXED**



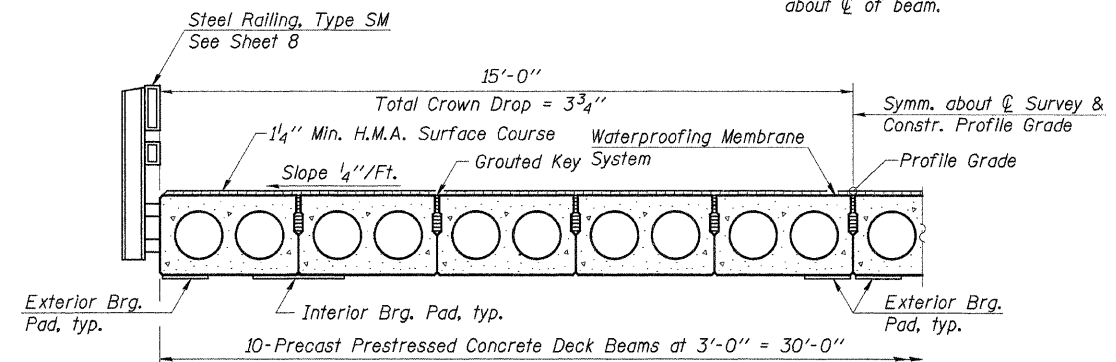
**TYPICAL TRANSVERSE TIE ASSEMBLY**



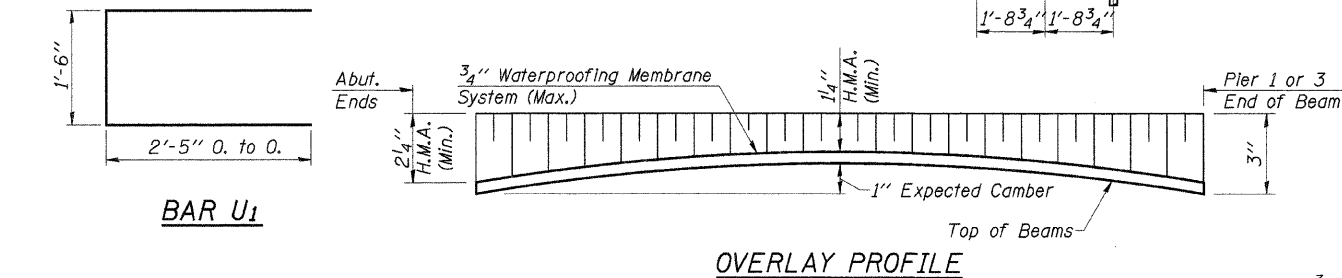
**TYPICAL SECTION**

12-1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
4-Strands 1 3/4" up, 8-Strands 3/4" up

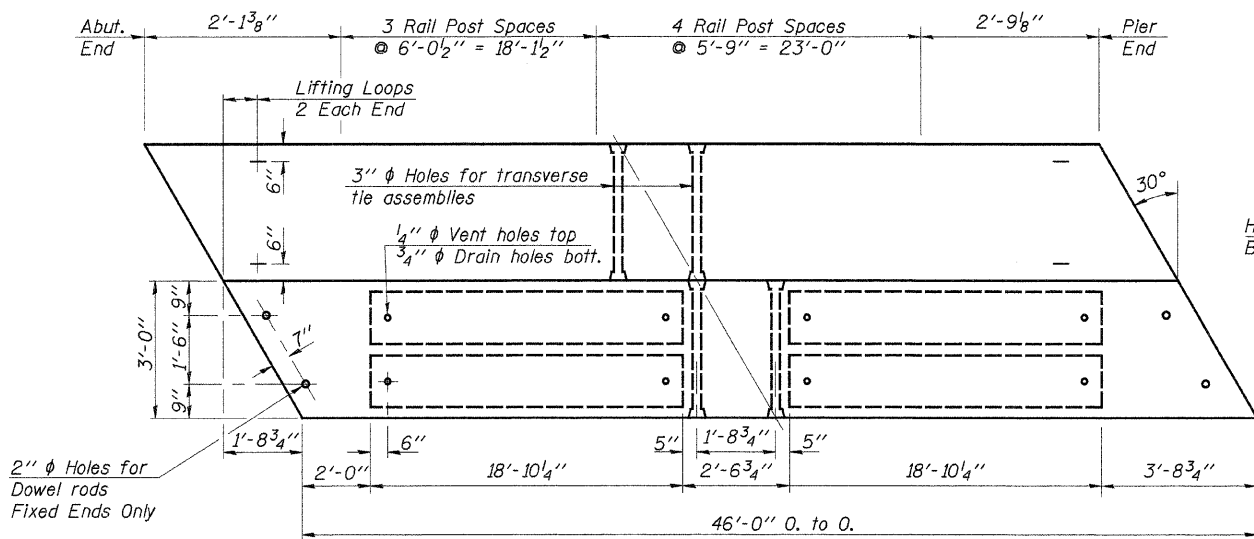
Note:  
Place strands symmetrically about  $\phi$  of beam.



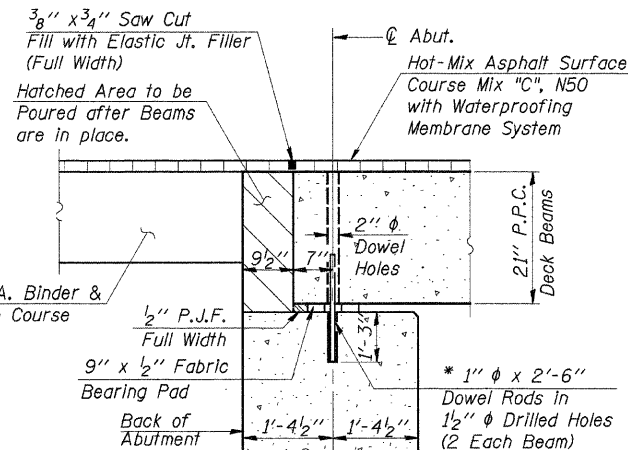
**HALF CROSS SECTION**



**OVERLAY PROFILE**



**PLAN**



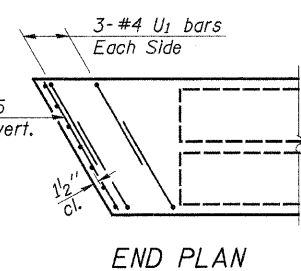
**SECTION THRU ABUTS.**

\*Dowel Rods to be grouted after beams are in place and allowed to cure (Min. 24 hrs.) prior to grouting shear keys.

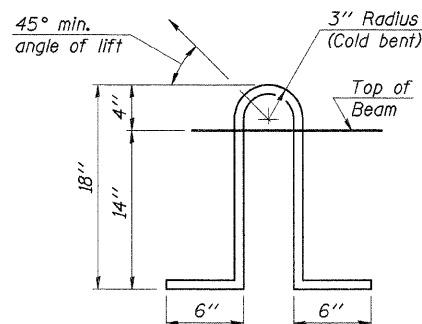
See Sheet 7 for SECTION THRU PIERS

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"  $\phi$ -270 ksi strands, as shown. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A706, Grade 60. 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. (96 Req'd.) 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, according to Art. 1020.05 (b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i. See Special Provisions for review and distribution of shop drawings. Rail post anchor devices shall be cast into outside beam as elsewhere specified.



**END PLAN**



**LIFTING LOOP DETAIL**

DESIGNED	A.R.K.
CHECKED	J.A.M.
DRAWN	S.A.P.
CHECKED	J.A.M. & A.R.K.

PD-3-R 9-1-03

**BILL OF MATERIAL**

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	2,760
P.C. Mortar Fairing Course	Foot	828
Hot-Mix Asphalt Surface Course Mix "C", N50	Ton	29
Waterproofing Membrane System	Sq. Yd.	318

Estimated Total Weight (One Beam) = 27,450 Pounds

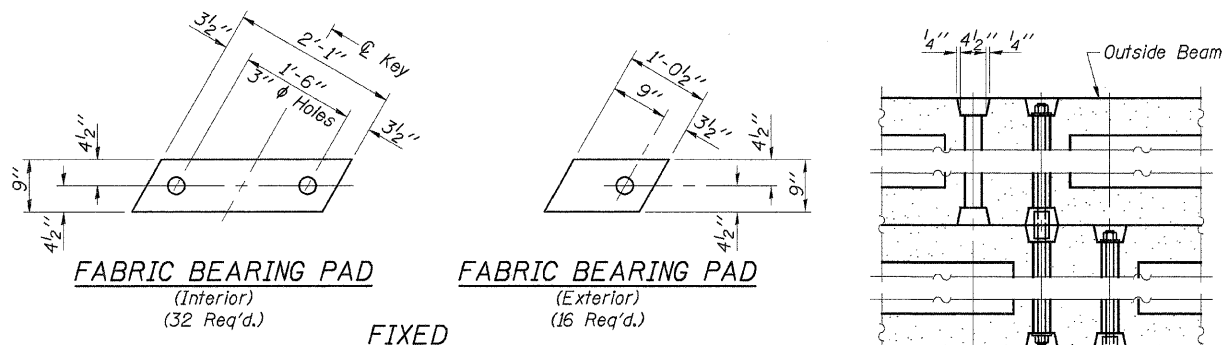
**SUPERSTRUCTURE  
SPANS 1 & 4  
SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STA. 310+19.92**

4440 ASH GROVE  
SPRINGFIELD, IL 62711  
(217) 793-8600  
www.fehr-graham.com

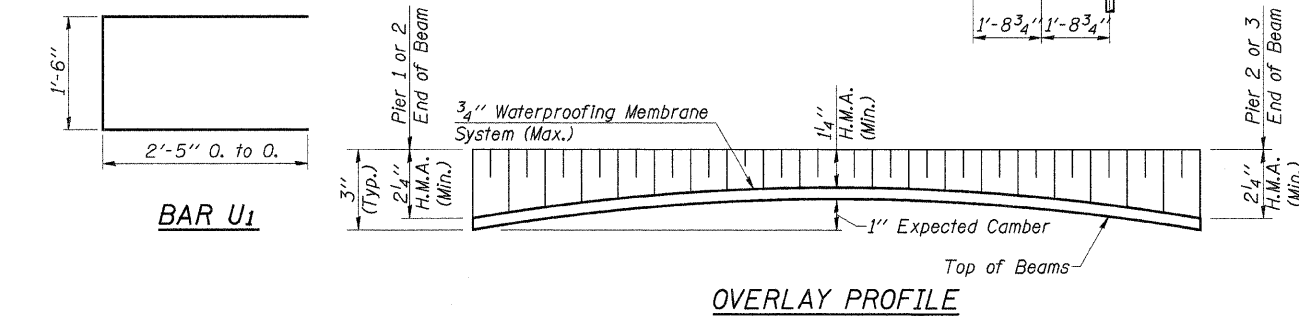
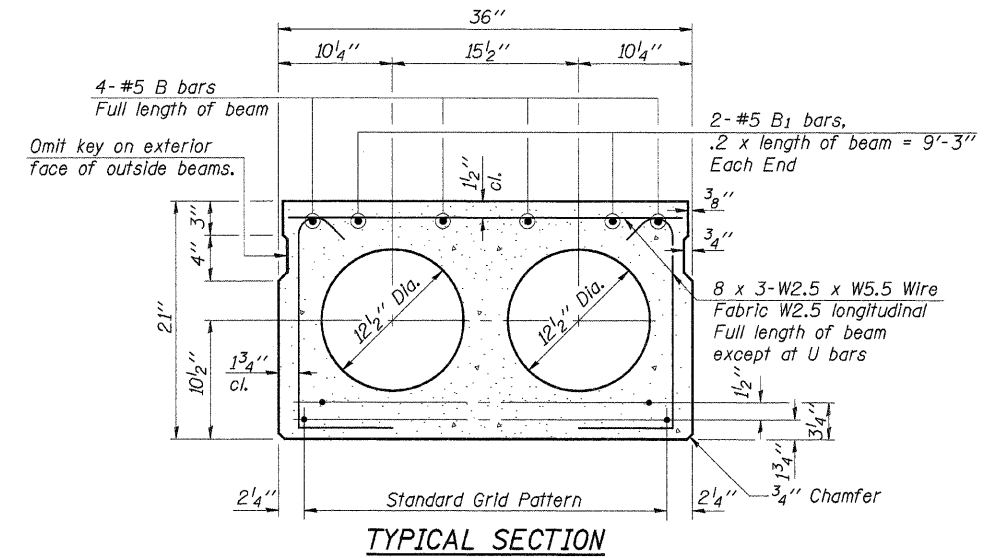
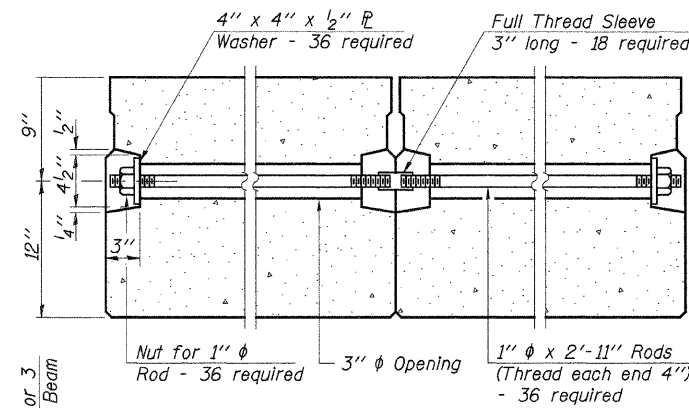
**FEHR-GRAHAM & ASSOCIATES, LLC**  
ENGINEERING AND SCIENCE CONSULTANTS  
PREPARED BY: ROCKFORD & ROCKFORD, L.L.C. MEMBER OF SPRINGFIELD, I.L.

JOB NO. 46466  
FILE: SUPER/DGN  
DATE: 01/30/09

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 CH 11	07-00421 -00-BR	WINNEBAGO	18	7
ILLINOIS		CONTRACT NO. 85451		

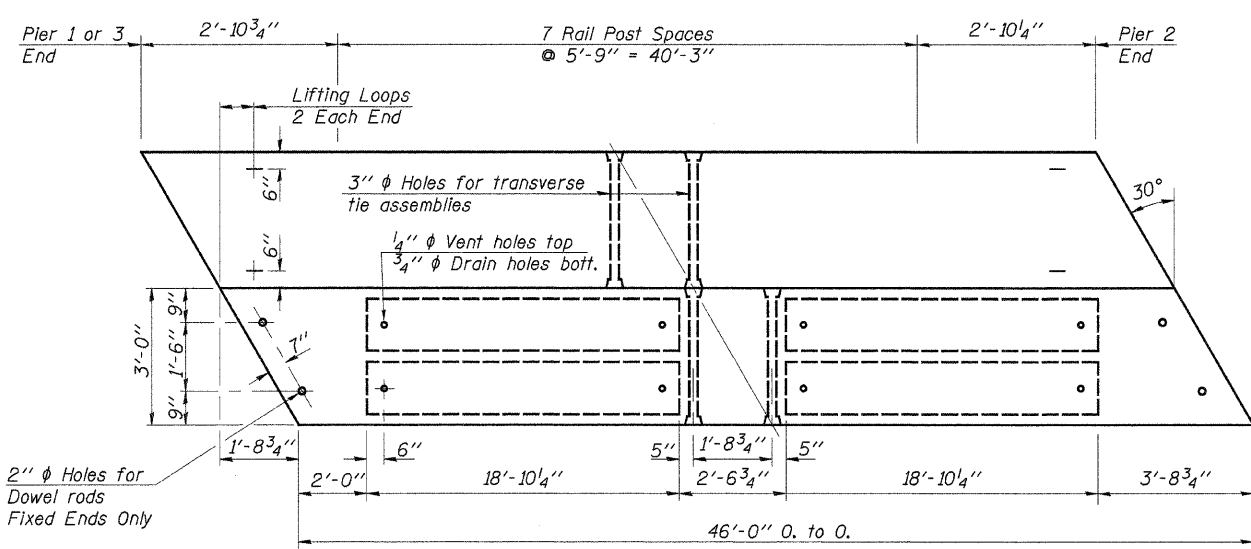
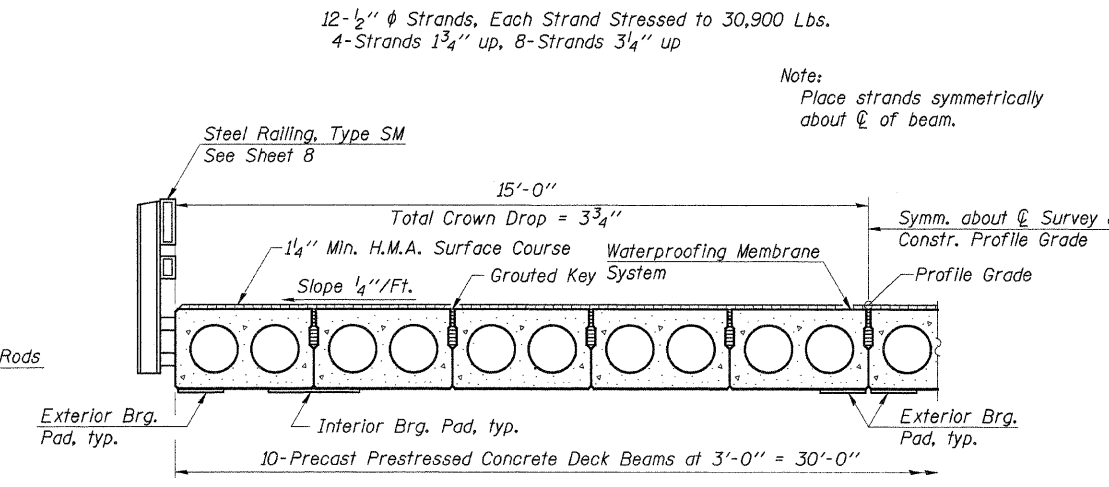
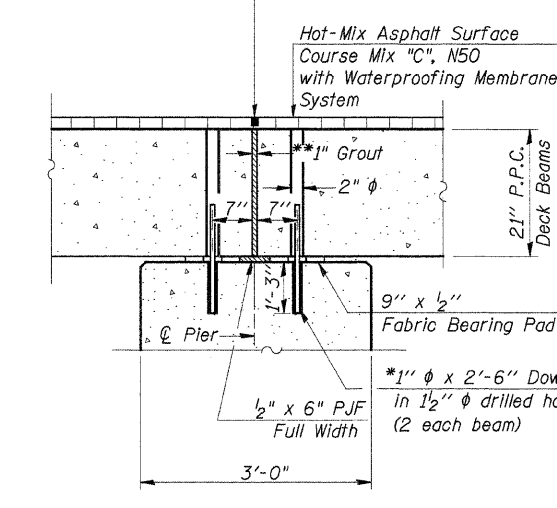


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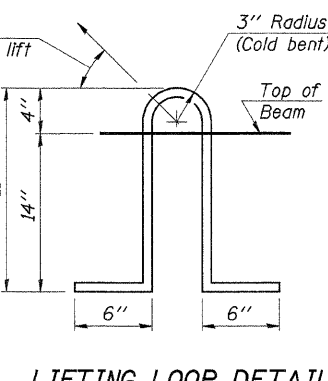
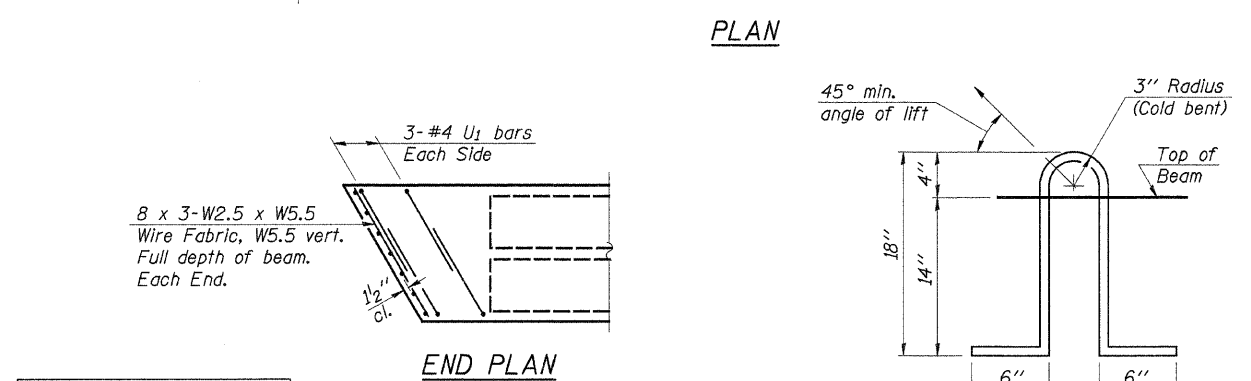


**TYPICAL TRANSVERSE TIE ASSEMBLY**

3/8" x 3/4" Saw Cut  
Fill with Elastic Jt. Filler (Full Width)



\* Dowel rods to be grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear keys.  
\*\* 1" dimension may vary plus or minus to accommodate tolerance in beam lengths.



**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" φ-270 ksi strands, as shown. The 1" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Non prestressing steel shall conform to ASTM A706, Grade 60. 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. (96 Req'd.) 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, according to Art. 1020.05 (b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength, f'ci, shall be 4,000 p.s.i. See Special Provisions for review and distribution of shop drawings. Rail post anchor devices shall be cast into outside beam as elsewhere specified.

**BILL OF MATERIAL**

Item	Unit	Quantity
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	2,760
P.C. Mortar Fairing Course	Foot	828
Hot-Mix Asphalt Surface Course Mix "C", N50	Ton	28
Waterproofing Membrane System	Sq. Yd.	311

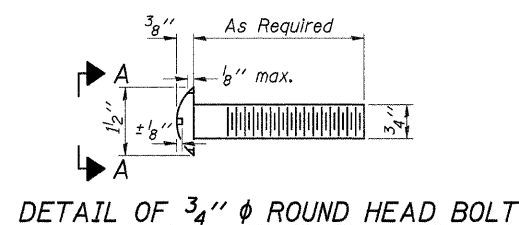
Estimated Total Weight (One Beam) = 27,450 Pounds

**SUPERSTRUCTURE SPANS 2 & 3**  
SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STA. 310+19.92

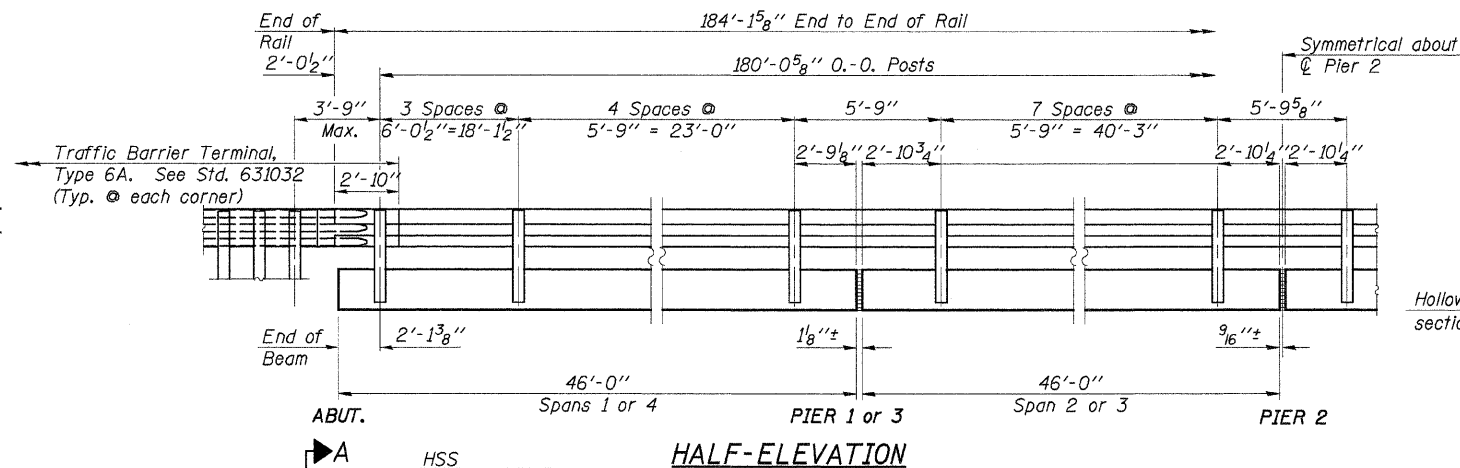
DESIGNED	A.R.K.
CHECKED	J.A.M.
DRAWN	S.A.P.
CHECKED	J.A.M. & A.R.K.

PD-3-R 9-1-03

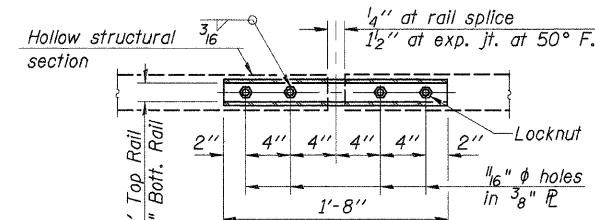
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 CH 11	07-00421 -00-BR	WINNEBAGO	18	8
ILLINOIS				
CONTRACT NO. 85451				



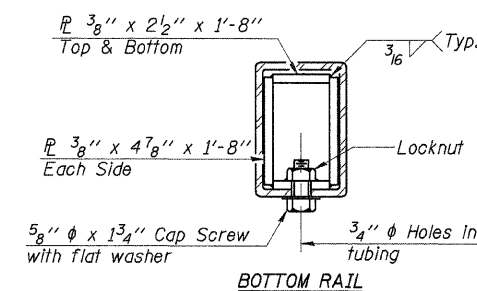
VIEW A-A



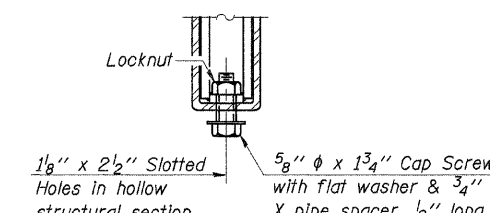
HALF-ELEVATION



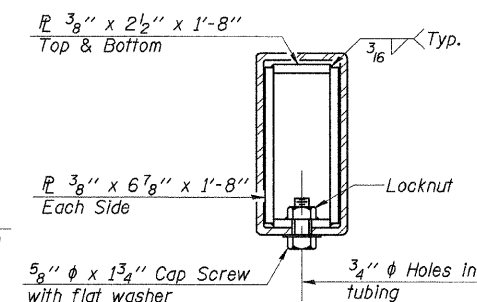
PLAN-BOTT. SPLICE R TYPICAL



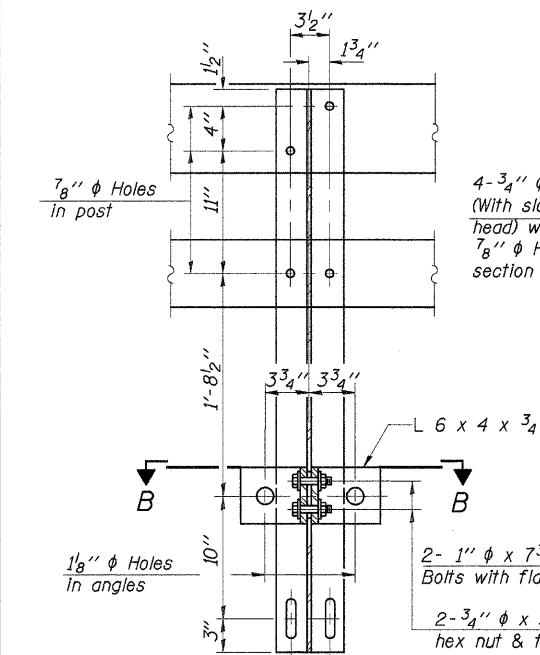
SECTION AT RAIL SPLICE



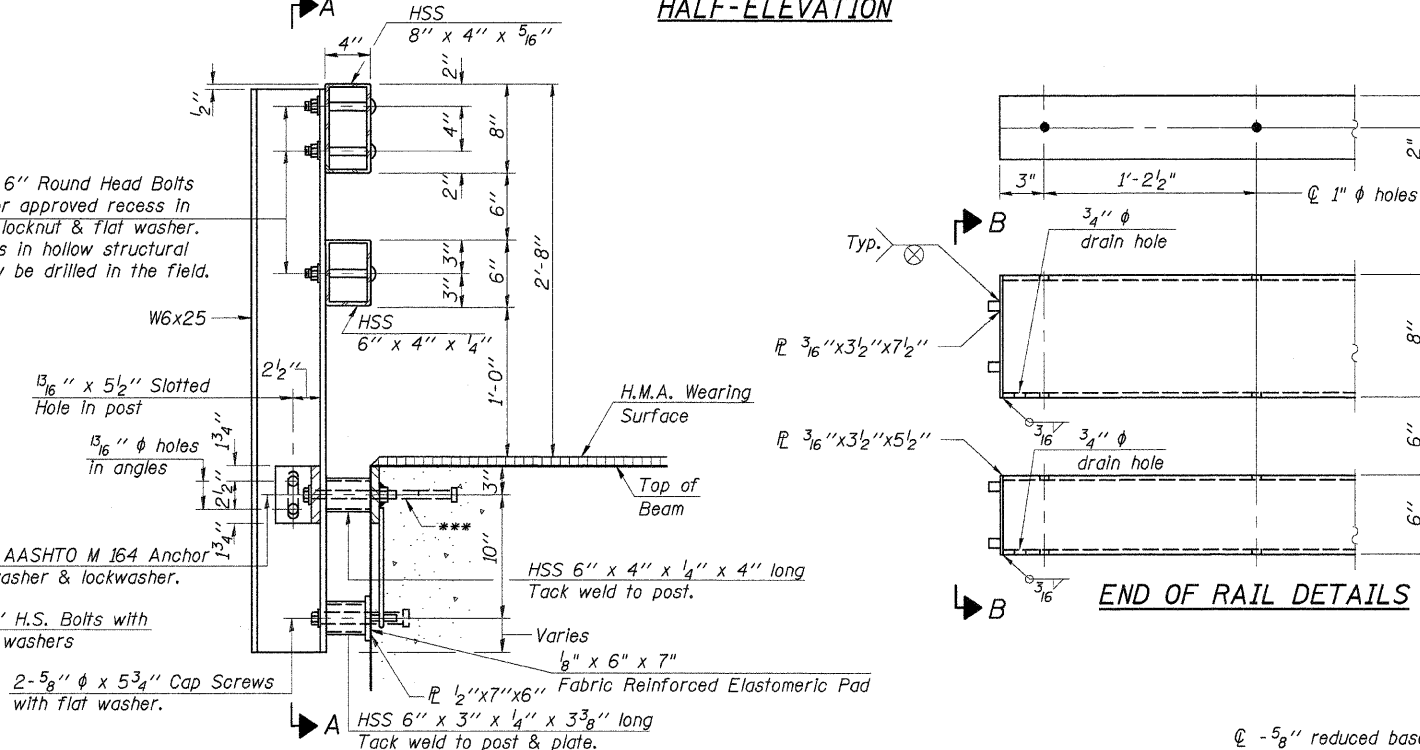
RAIL SPLICE CONNECTION AT EXPANSION JT.



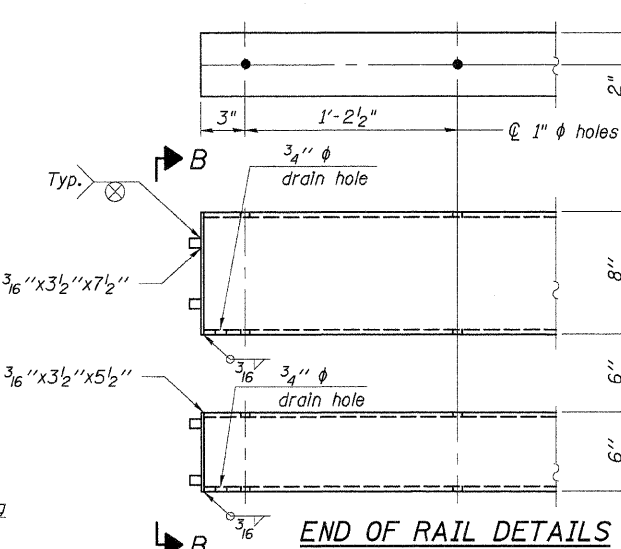
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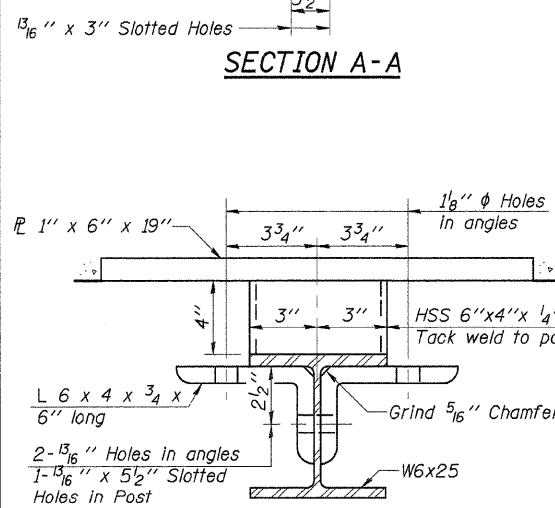
SECTION A-A



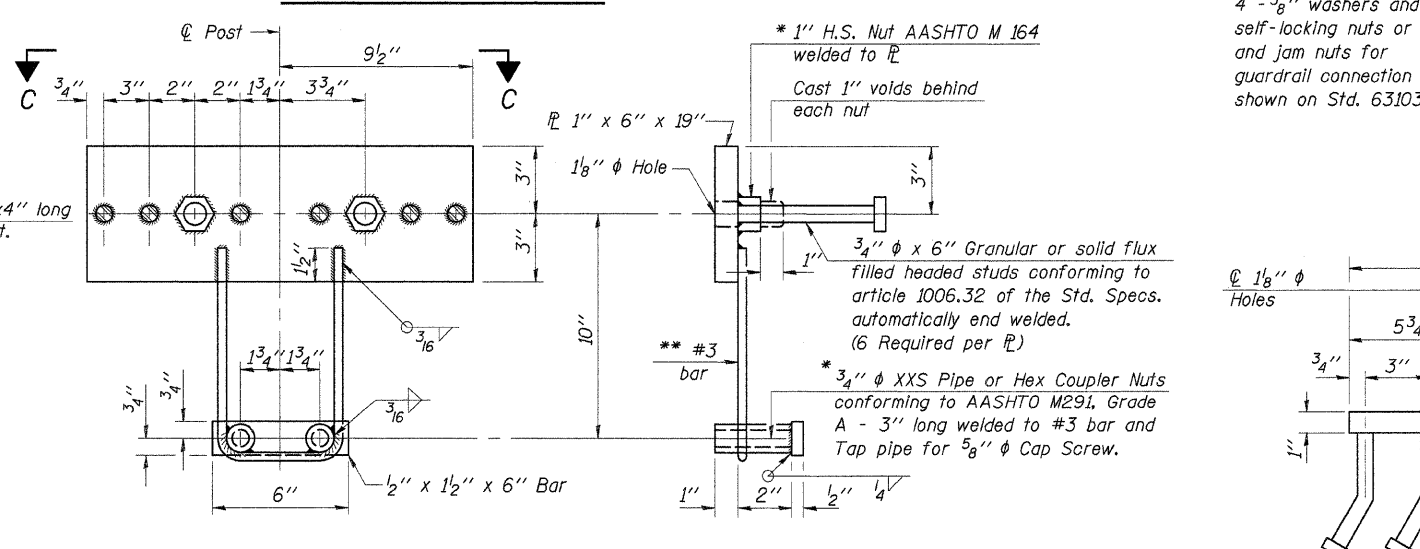
SECTION AT RAIL POST



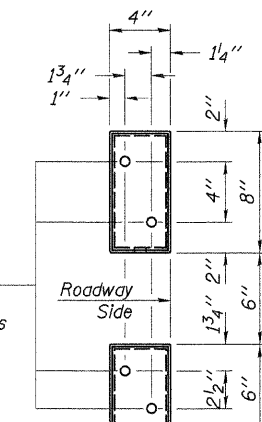
END OF RAIL DETAILS



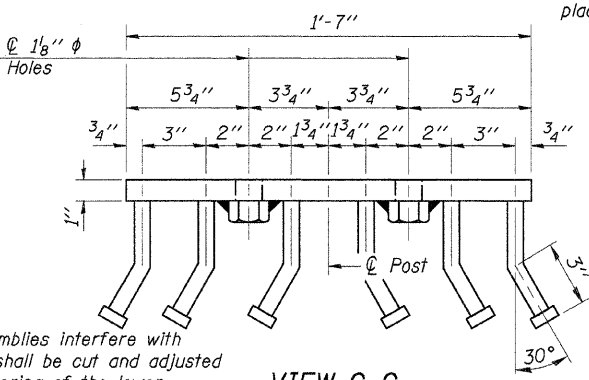
SECTION B-B



ANCHOR DEVICE



VIEW B-B



VIEW C-C

NOTES

All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications. In addition to the elements specified in Article 509.05, all angles and spacers are to be galvanized in accordance with AASHTO M-111, and all cap screws, washers, and lock washers are to be galvanized in accordance with AASHTO M-232.  
 The 3/4" (M20) diameter high strength bolts used to connect the 6x4x3/4" angles to the post shall be tightened in accordance with Article 504.04(F)(2) of the Standard Specifications. The 1" (M24) diameter high strength bolts connecting steel to concrete shall be brought to a snug tight condition and given an additional 1/2 turn. The 5/8" (M16) cap screws in the bottom of the posts shall be brought to a snug tight condition only.  
 For multi-span bridges, sufficient 1/2"x6"x1'-4" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 \*\*\* The studs for 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 Bridge Rail, Type SM	Foot	369

**STEEL BRIDGE RAIL, TYPE SM**  
 SECTION 07-00421-00-BR  
 F.A.S. ROUTE 1045 - C.H. 11  
 WINNEBAGO COUNTY  
 STA. 310+19.92

DESIGNED	A.R.K.
CHECKED	J.A.M.
DRAWN	S.A.P.
CHECKED	J.A.M. & A.R.K.

R-34 9-01-03 (6'-3" Maximum Post Spacing)

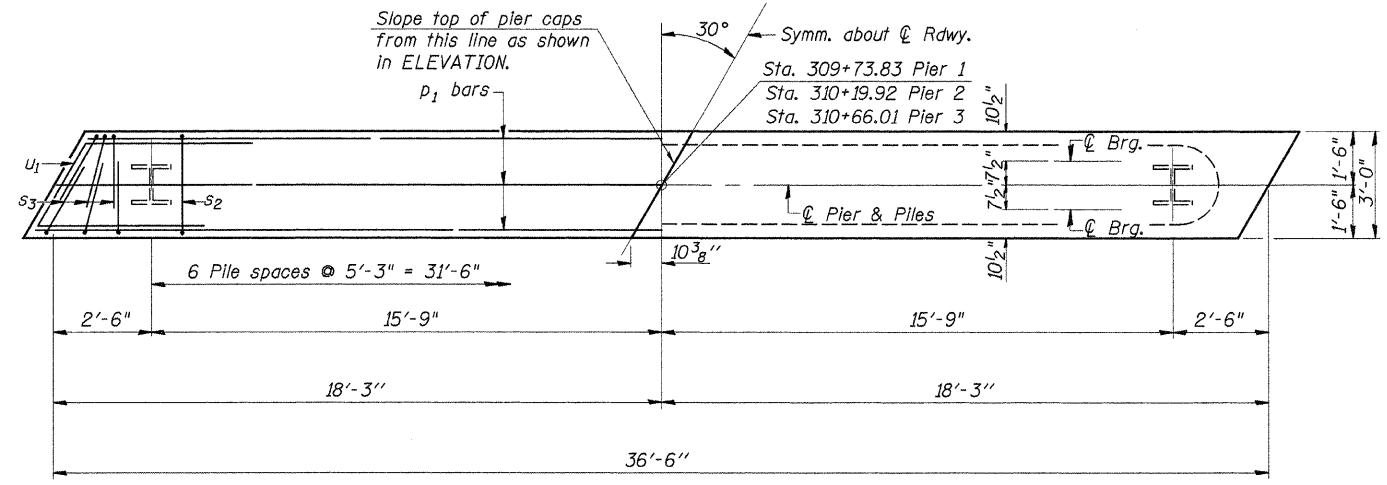
\* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

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



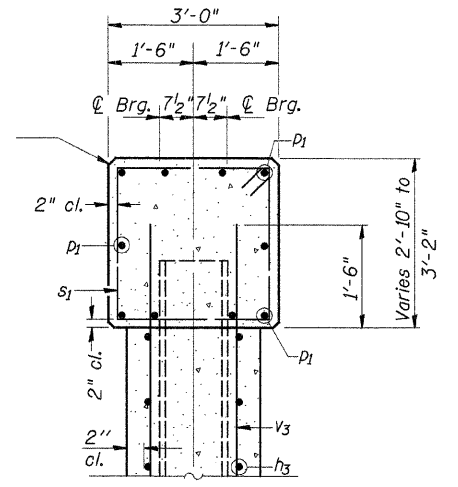
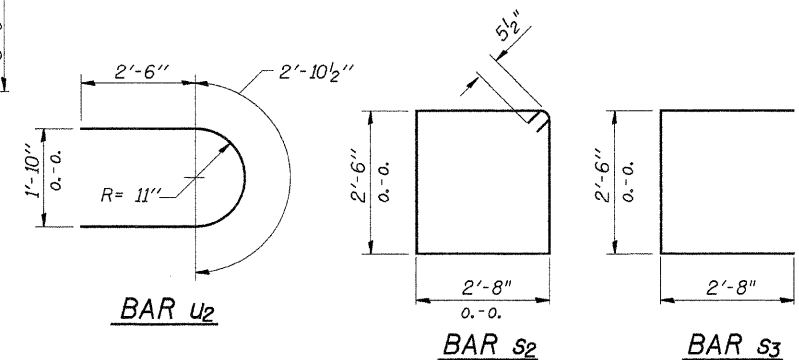


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 CH II	07-00421 -00-BR	WINNEBAGO	18	10
ILLINOIS		CONTRACT NO. 85451		

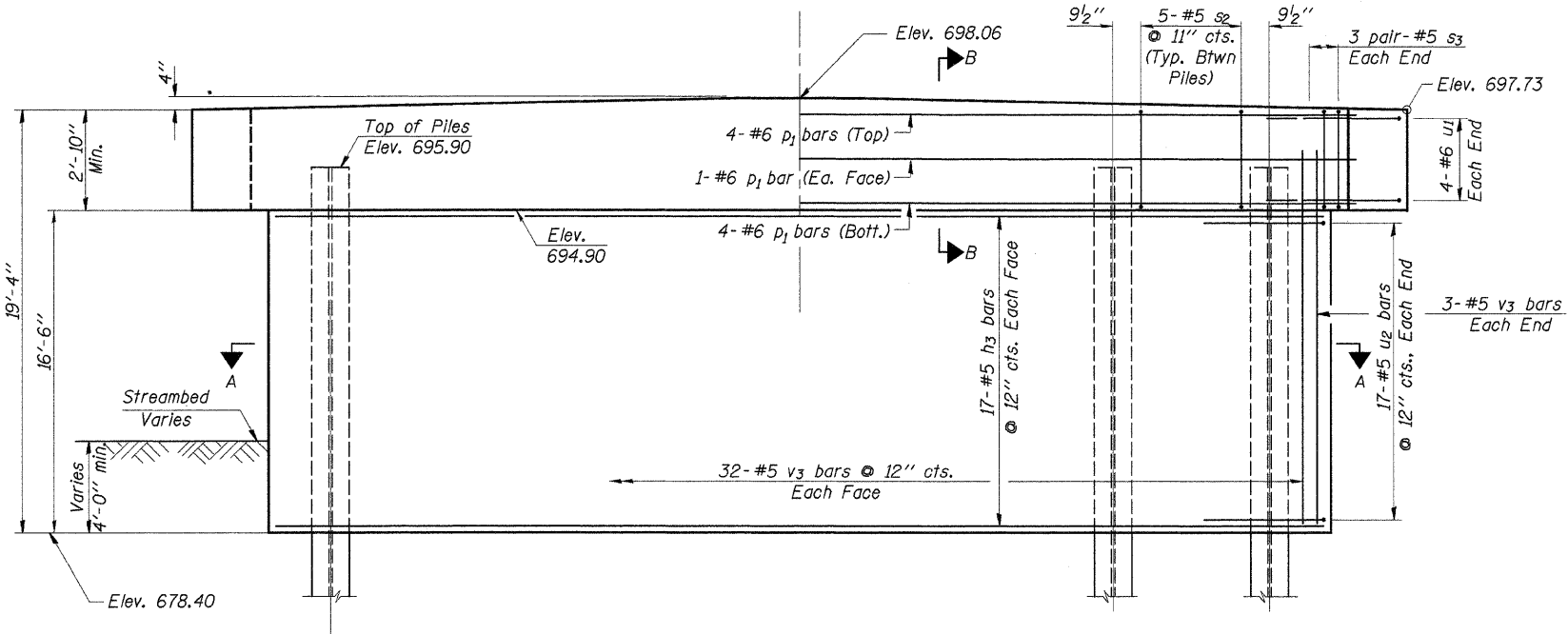


PLAN

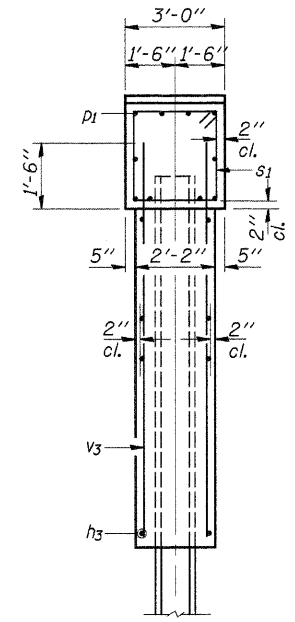
Note: All edges shall have standard 3/4" chamfer



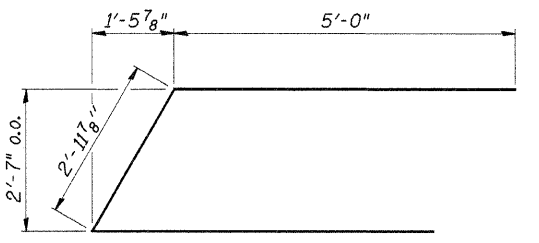
SECTION B-B



ELEVATION



END VIEW



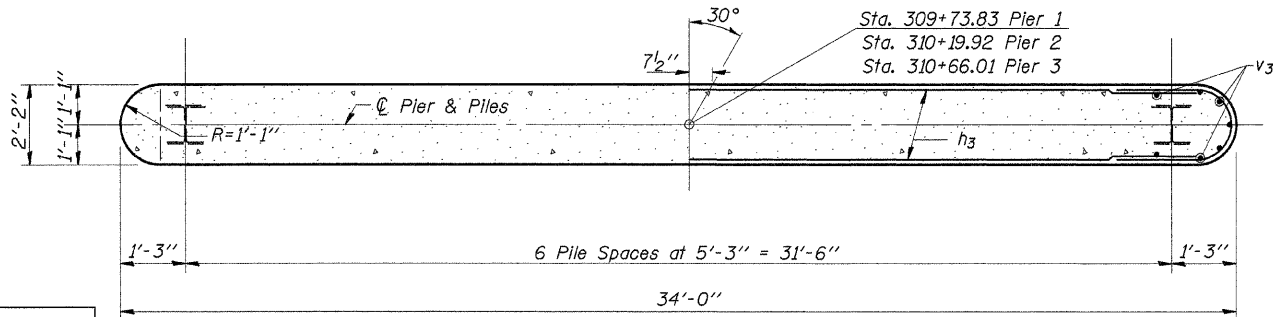
BAR u1

BILL OF MATERIAL - 3 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
h3	102	#5	32'-6"	—
p1	30	#6	36'-2"	—
s2	90	#5	11'-3"	□
s3	36	#5	7'-10"	□
u1	24	#6	13'-0"	U
u2	102	#5	7'-11"	U
v3	210	#5	17'-10"	—

Concrete Structures	Cu. Yd.	169.7
Reinforcement Bars	Pound	11,660
Furnishing Steel Piles HP12x53	Foot	1,700
Test Pile Steel HP12x53	Each	1
Underwater Structure Excavation Protection	Each	3
Driving Piles	Foot	1,700

Structure Excavation at Piers included with Cost of Concrete Structures.



SECTION A-A

PILE DATA

Type & Size.....Steel Piles HP12x53  
 No. Req'd.....\*21  
 Nominal Required Bearing.....330 kips  
 Allowable Resistance Available.....110 kips  
 Estimated Length.....85 Ft./Pile

\*Includes 1 Test Pile to be driven in a permanent location at the pier 2.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated above.

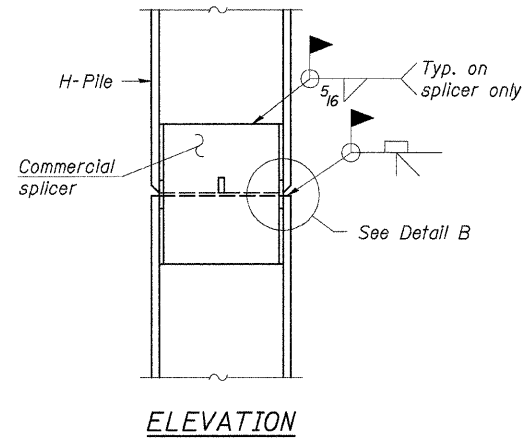
The Steel H-Piles shall be according to AASHTO M270 Grade 50. The Length of pile driven must be sufficient to place the pile tip at or below Elev. 625.0.

DESIGNED	A.R.K.
CHECKED	J.A.M.
DRAWN	S.A.P.
CHECKED	J.A.M. & A.R.K.

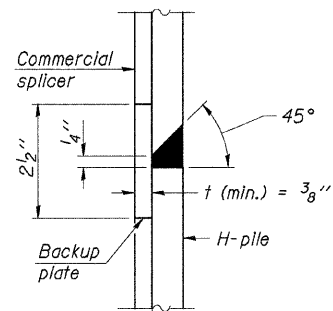
PIERS

SECTION 07-00421-00-BR  
 F.A.S. ROUTE 1045 - C.H. 11  
 WINNEBAGO COUNTY  
 STA. 310+19.92

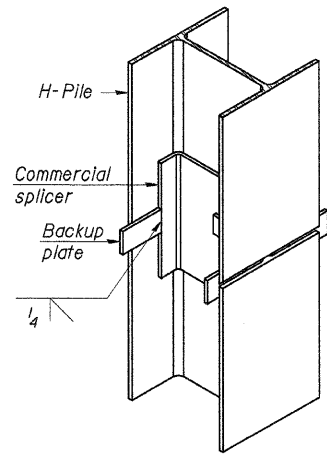
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 CH 11	07-00421 -00-BR	WINNEBAGO	18	11
ILLINOIS			CONTRACT NO. 85451	



ELEVATION

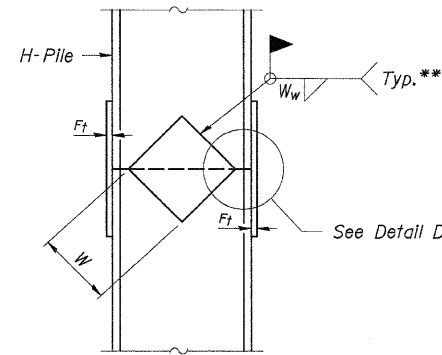


DETAIL "B"

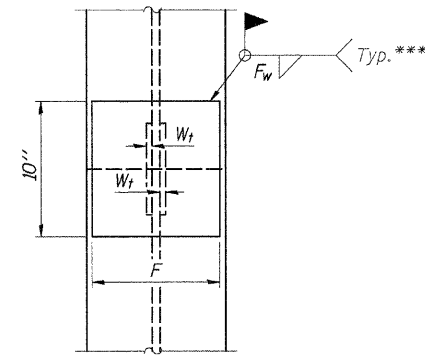


ISOMETRIC VIEW

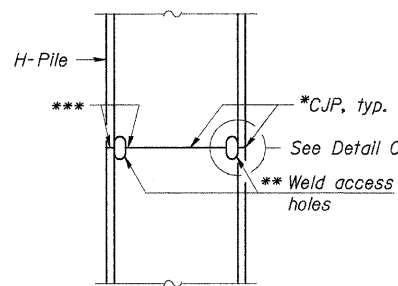
WELDED COMMERCIAL SPLICE



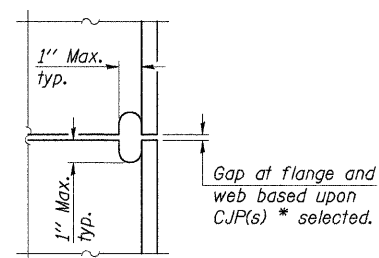
ELEVATION



END VIEW

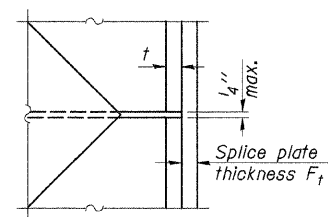


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/6"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/6"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/6"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

- \* Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- \*\* Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- \*\*\* Interrupt welds 1/4" from end of each pile.

DESIGNED	A.R.K.
CHECKED	J.A.M.
DRAWN	S.A.P.
CHECKED	J.A.M. & A.R.K.

F-HP 11-1-06

**STEEL PILE  
SPLICING DETAILS**  
SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STA. 310+19.92

4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	<b>FEHR-GRAHAM &amp; ASSOCIATES, LLC</b> ENGINEERING AND SCIENCE CONSULTANTS REPORT, RECORD, & RETAINING WALLS IN SPRINGFIELD, IL	JOB NO.: 46466 FILE: 46466PILES.DGN DATE: 01/30/09
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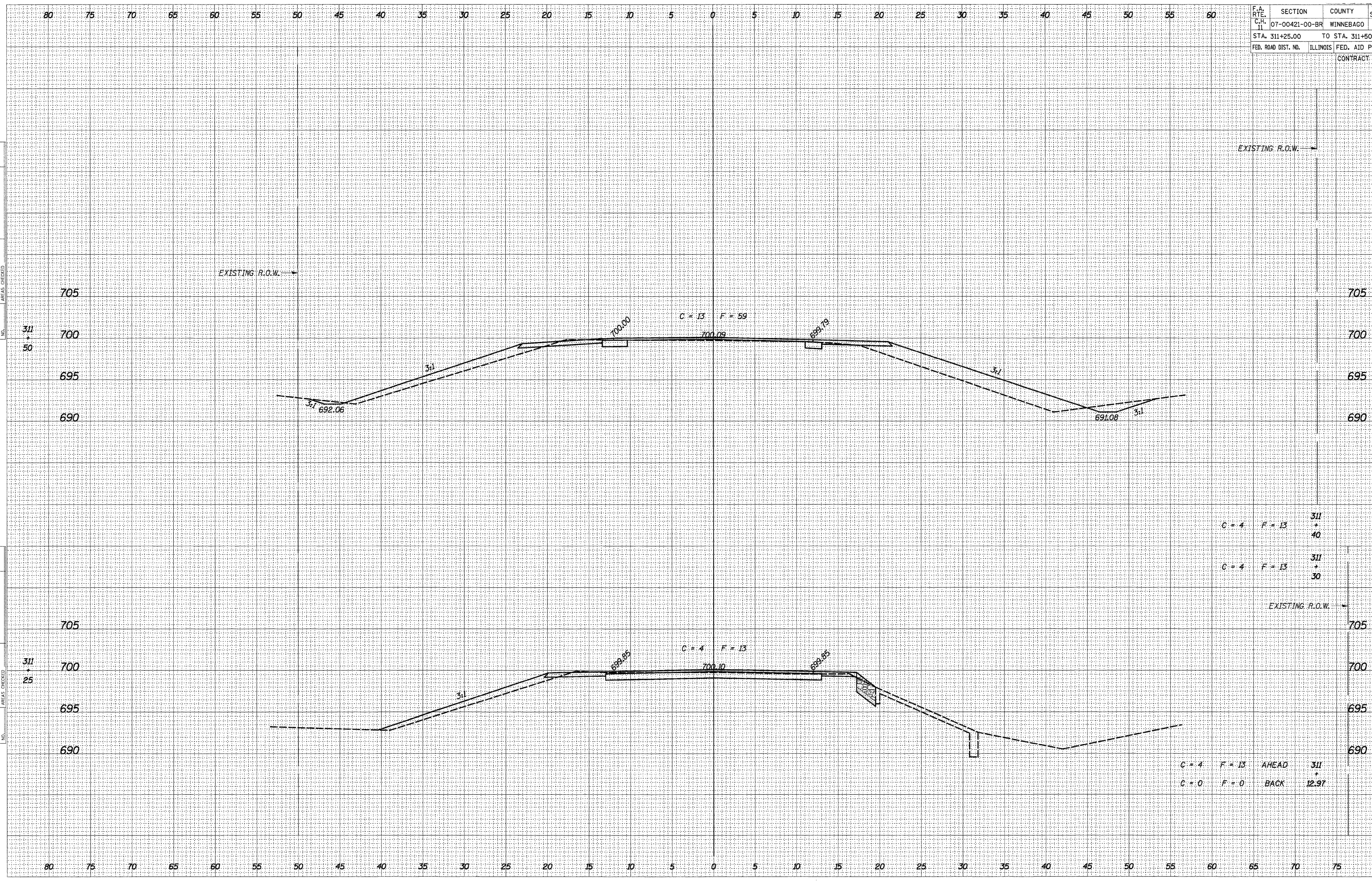


F.A. RTE. C.H. 11	SECTION 07-00421-00-BR	COUNTY WINNEBAGO	TOTAL SHEETS 18	SHEET NO. 15
STA. 311+25.00		TO STA. 311+50.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				
CONTRACT NO. 85451				

DATE	BY
REVIEWED	DATE
DESIGNED	DATE
PLOTTED	DATE
TEMPLATE	DATE
AREAS	DATE
CHECKED	DATE
NO.	

DATE	BY
REVIEWED	DATE
DESIGNED	DATE
PLOTTED	DATE
TEMPLATE	DATE
AREAS	DATE
CHECKED	DATE
NO.	

PLOT DATE = 05/11/07  
 FILE NAME = 4666SECTION SHEETS.DGN  
 PLOT SCALE = 50  
 USER NAME = S. PRICE



$C = 4$   $F = 13$  311 + 40  
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$C = 4$   $F = 13$  AHEAD 311 +  
 $C = 0$   $F = 0$  BACK 12.97





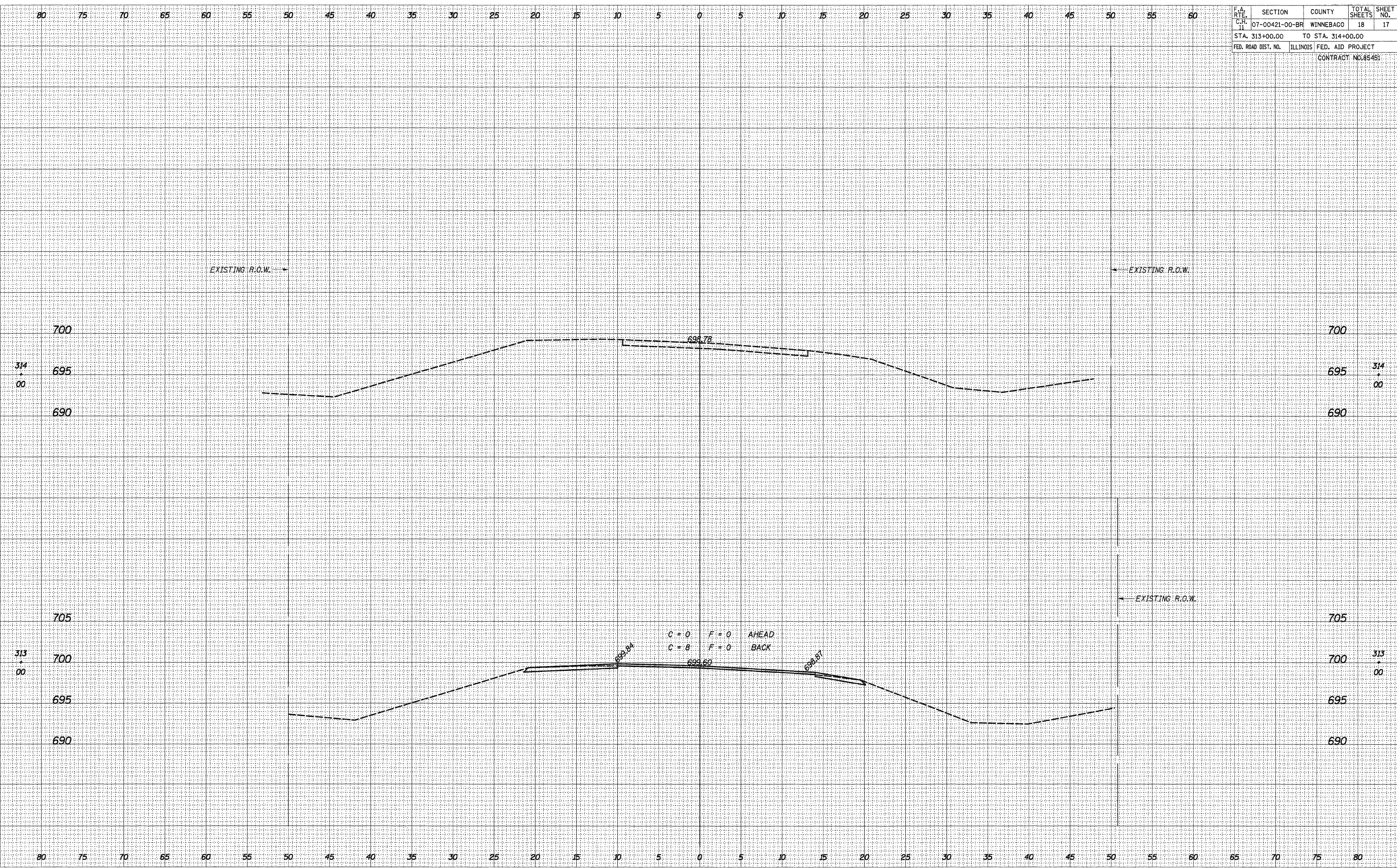


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
11	07-00421-00-BR	WINNEBAGO	18	17
STA. 313+00.00		TO STA. 314+00.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 85451				

FINAL SURVEY	DATE
NO. _____	_____
BY _____	_____
DESIGNED	DATE
PLOTTED	_____
TEMPLATE	_____
AREAS CHECKED	_____
AREAS CHECKED	_____

ORIGINAL SURVEY	DATE
NO. _____	_____
BY _____	_____
DESIGNED	DATE
PLOTTED	_____
TEMPLATE	_____
AREAS CHECKED	_____
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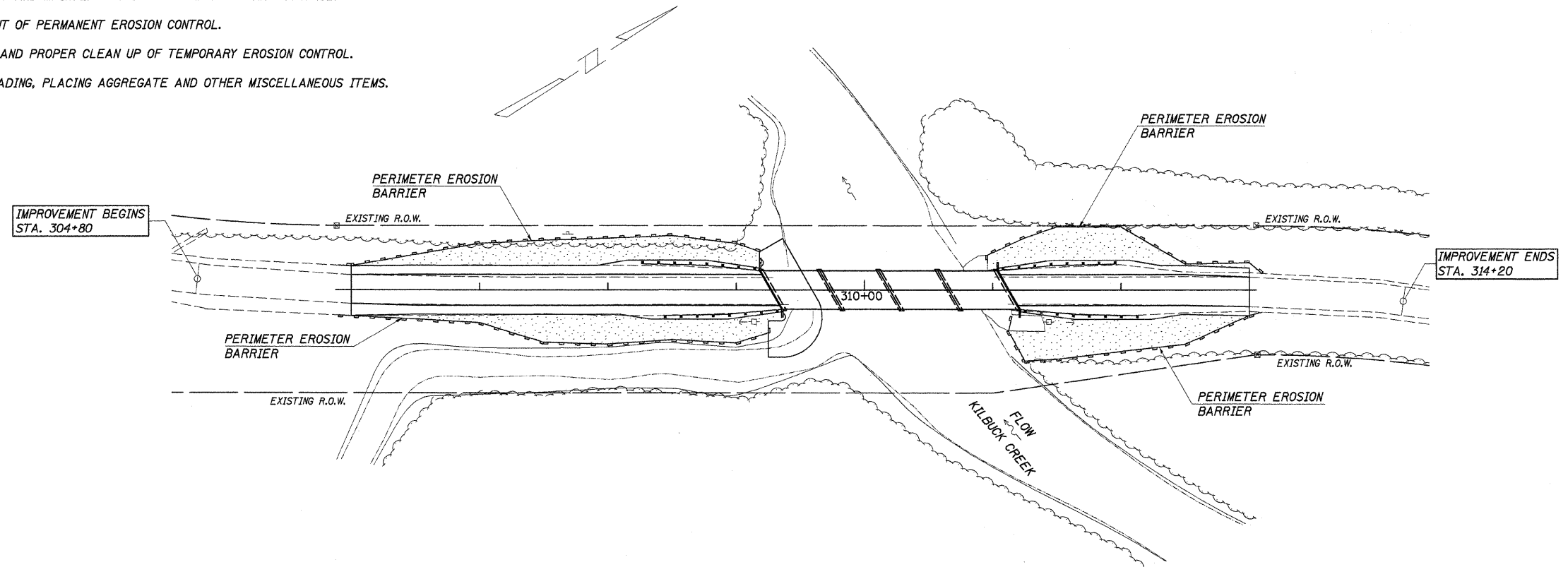


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 1045 C.H. 11	07-00421 -00-BR	WINNEBAGO	18	18
ILLINOIS				

CONTRACT NO. 85451

**DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:**

1. PLACEMENT OF PERIMETER EROSION CONTROL FENCE PRIOR TO THE COMMENCEMENT OF ANY ROAD OR BRIDGE WORK. SEE STD. 280001.
2. REMOVAL OF EXISTING STRUCTURE.
3. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
4. PLACEMENT OF ROADWAY EMBANKMENT TO ESTABLISH PROPOSED ROADWAY CROSS-SECTIONS AND PROFILE GRADE.
5. DRAINAGE DITCHES WILL BE INSTALLED BEFORE AND/OR DURING THE COMPLETION OF THE EMBANKMENT.
6. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
7. PLACEMENT OF PERMANENT EROSION CONTROL.
8. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
9. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.



<u>TEMPORARY EROSION CONTROL:</u>	
	PERIMETER EROSION BARRIER
<u>PERMANENT EROSION CONTROL:</u>	
	SEEDING CLASS 2, FERTILIZERS, & MULCH, METHOD 2

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
TEMPORARY EROSION CONTROL SEEDING	POUND	70
PERIMETER EROSION BARRIER	FOOT	1,175

**EROSION CONTROL PLAN**

SECTION 07-00421-00-BR  
F.A.S. ROUTE 1045 - C.H. 11  
WINNEBAGO COUNTY  
STATION 310+19.92

4440 ASH GROVE  
SPRINGFIELD, IL 62711  
(217) 793-8600  
www.fehr-graham.com

**FEHR-GRAHAM & ASSOCIATES, LLC**  
ENGINEERING AND SCIENCE CONSULTANTS  
P.O. BOX 1000, ROCKFORD, IL 61105

DRAWN: S.A.P.  
DATE: 08/16/07

CHECKED: G.J.C.  
DATE: 08/20/07

JOB NO.: 46466  
FILE: EROSION.DGN  
DATE: 01/30/09