

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	11-00137-00-BR	JO DAVIESS	53	1
ROAD DIST.	ILLINOIS			

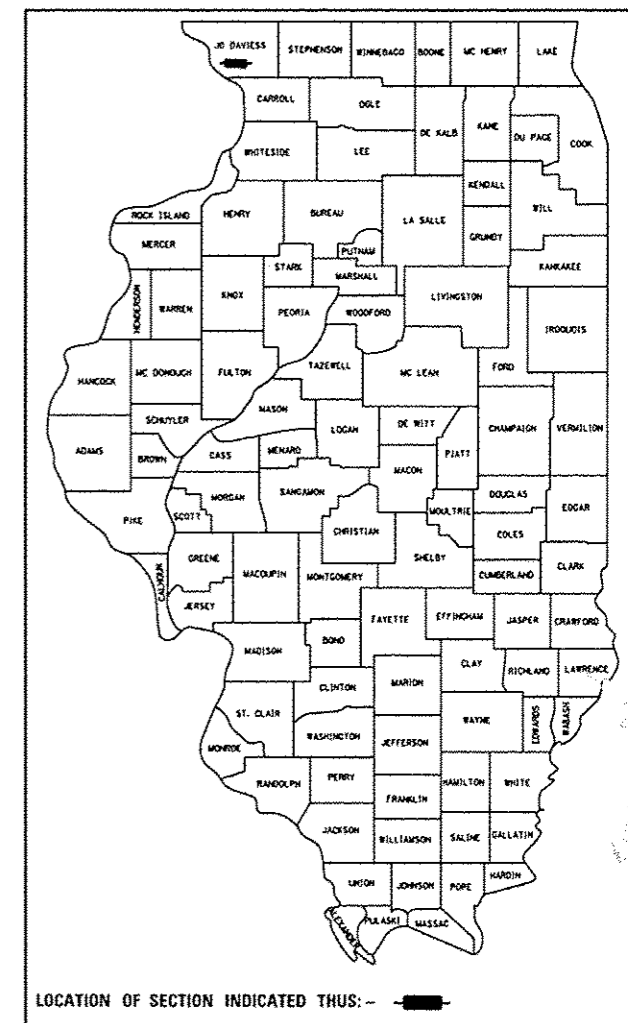
CONTRACT NO. 85586

INDEX OF SHEETS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
EMERGENCY RELIEF PROGRAM

SECTION 11-00137-00-BR
JO DAVIESS COUNTY
PROJECT NO. ER -0072(105)
C.H. 16 (F.A.S. 72) SOUTH BETHEL ROAD
JOB NO. C-92-045-12
CONTRACT NO. 85586

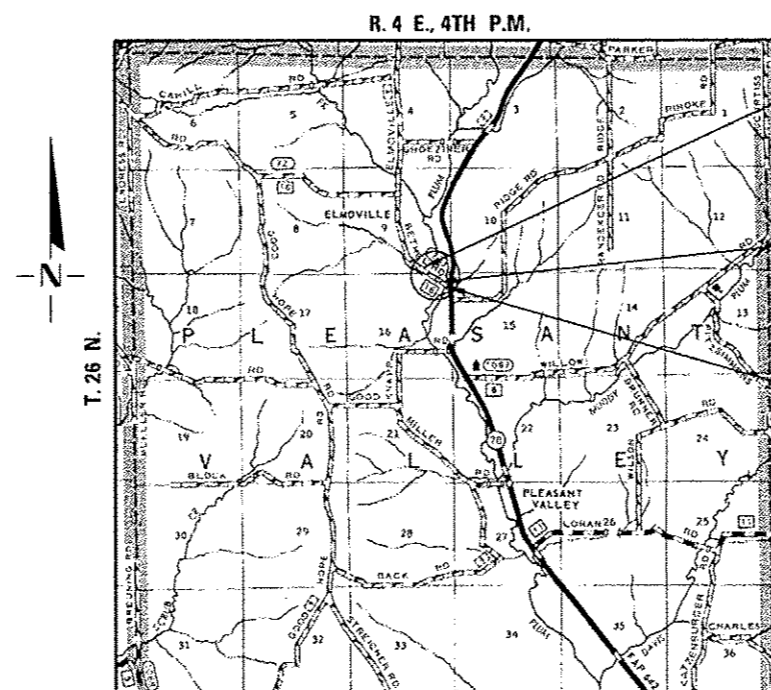


CLASSIFICATION: MAJOR COLLECTOR (NON URBAN)
DESIGN VOLUME: UNDER 400 ADT
CURRENT ADT: 100(2013)
DESIGN SPEED: 40 MPH

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

STANDARDS

280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420401-09	BRIDGE APPROACH PAVEMENT CONNECTOR
515001-03	NAME PLATE FOR BRIDGES
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
630001-10	STEEL PLATE BEAM GUARDRAIL
630301-06	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631032-08	TRAFFIC BARRIER TERMINAL, TYPE 6A
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKING AND MOUNTING DETAIL
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 M) AWAY
701006-04	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 M) TO 24" (600MM) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATION-DAY ONLY
701901-02	TRAFFIC CONTROL DEVICES
720011-01	METAL POSTS FOR SIGNS, MARKERS, AND DELINEATORS
728001-01	TELESCOPING STEEL SIGN SUPPORT
729001-01	APPLICATIONS OF TYPES A AND B METAL POSTS (FOR SIGNS AND MARKERS)
780001-03	TYPICAL PAVEMENT MARKINGS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO LANE, TWO WAY RURAL TRAFFIC)(ROAD CLOSED TO THRU TRAFFIC)



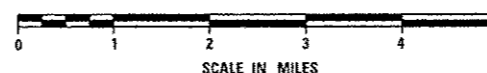
IMPROVEMENT BEGINS
STA. 73 + 50.00

STA. 87 + 20.00 SPECIAL BRIDGE DESIGN
FOUR-SPAN CONTINUOUS STEEL
COMPOSITE WIDE FLANGE BEAM
BRIDGE 42'-0", 60'-0", 60'-0",
42'-0", 206'-6" BK.-BK.
ABUTMENTS, 28'-0" ROADWAY
0° SKEW
EXISTING S.N. 043-3032
PROPOSED S.N. 043-3281

IMPROVEMENT ENDS
STA. 89 + 88.07

LOCATION PLAN

GROSS LENGTH OF SECTION = 1638.07 FEET = 0.310 MILES
 NET LENGTH OF SECTION = 1638.07 FEET = 0.310 MILES



SCALES

PLAN	0' 50' 100'
PROFILE HORIZ.	0' 50' 100'
PROFILE VERT.	0' 5' 10'
CROSS SECTIONS	0' 5' 10'



Gary J. Cartwright 3-25-13
 ILLINOIS PROFESSIONAL NO. 43408
 EXPIRES 11-30-13

APPROVED	20
3-26-13	3-26-13
PASSED	4-18 2013
DISTRICT TWO ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID	4-18 2013
BASED ON LIMITED REVIEW	
DEPUTY DIRECTOR OF HIGHWAYS, REGION TWO ENGINEER	
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

SUMMARY OF QUANTITIES

CODE NO.	ITEM CONSTRUCTION TYPE CODE: 0011	UNIT	TOTAL QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	22
20101000	TEMPORARY FENCE	FOOT	500
20200100	EARTH EXCAVATION	CU YD	5294
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	200
20300100	CHANNEL EXCAVATION	CU YD	1739
20400800	FURNISHED EXCAVATION	CU YD	2541
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	346
28000305	TEMPORARY DITCH CHECKS	FOOT	160
28000400	PERIMETER EROSION BARRIER	FOOT	4770
28000500	INLET AND PIPE PROTECTION	EACH	1
28100209	STONE RIPRAP, CLASS A5	TON	1331
28100211	STONE RIPRAP, CLASS A6	TON	396
28200200	FILTER FABRIC	SO YD	1697
31100200	SUBBASE GRANULAR MATERIAL, TYPE A	CU YD	200
35101400	AGGREGATE BASE COURSE, TYPE B	TON	2437
40200100	AGGREGATE SURFACE COURSE, TYPE A	TON	13
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	1471
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	411
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	274
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SO YD	331
44000161	HOT-MIX ASPHALT SURFACE REMOVAL 3"	SO YD	854
48101200	AGGREGATE SHOULDERS, TYPE B	TON	392
48203100	HOT-MIX ASPHALT SHOULDERS	TON	87
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	78
50300225	CONCRETE STRUCTURES	CU YD	83.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	262.9
50300260	BRIDGE DECK GROOVING	SO YD	766
50300280	CONCRETE ENCASEMENT	CU YD	24.6
50300300	PROTECTIVE COAT	SO YD	894
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	4815
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	80090
50901050	STEEL RAILING, TYPE SM	FOOT	471
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	680
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS, 1"	EACH	50
54200223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	38
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	48
63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4
67100100	MOBILIZATION	L SUM	1
72000100	SIGN PANEL - TYPE 1	SO FT	18
72900100	METAL POST - TYPE A	FOOT	23
78001110	PAINT PAVEMENT MARKING-LINE 4"	FOOT	6922
78001180	PAINT PAVEMENT MARKING-LINE 24"	FOOT	22
78200410	GUARDRAIL MARKERS, TYPE A	EACH	10
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	2.5
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	78
X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1
Z0022800	FENCE REMOVAL	FOOT	1040
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	108
Z0065000	SETTING PILES IN ROCK	EACH	25
XX006653	FENCE (SPECIAL)	FOOT	1360

*SEE SPECIAL PROVISIONS

Δ SPECIALTY ITEMS

SIGN SCHEDULE

SIGN	DESIGNATION	SIZE	NUMBER REQUIRED	SIGN PANEL -	METAL POST -
				TYPE 1	TYPE A
				SO FT	FOOT
STOP	R1-1	36"X 36"	1	9	11.5
STOP AHEAD	W3-10	36"X 36"	1	9	11.5
TOTAL			2	18	23

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 OR MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

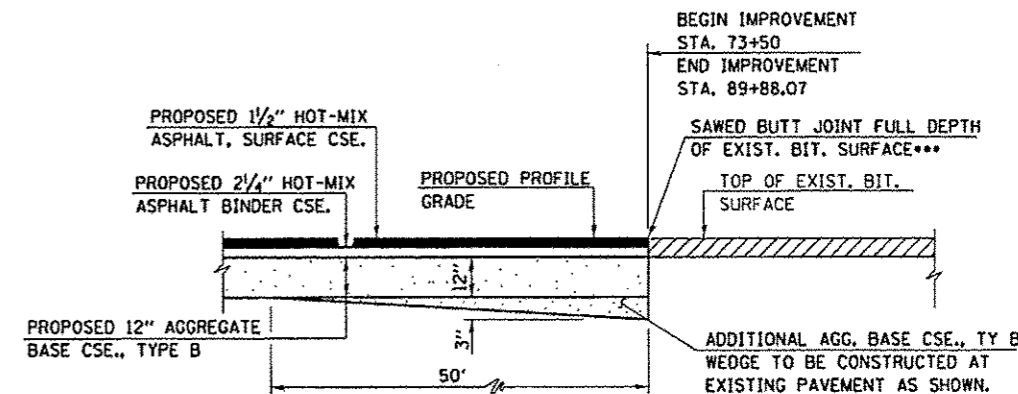
THE AREA TO BE SEEDDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 2.5 ACRE

APPLICATION RATES USED IN QUANTITY CALCULATIONS

STONE RIPRAP, CLASS A5	1.65 TON/CU YD
AGGREGATE DITCH (SPECIAL)	1.65 TON/CU YD
AGGREGATE BASE COURSE AND SURFACE COURSE	2.05 TON/CU YD
BITUMINOUS MATERIALS (PRIME COAT) - (AGG.)	0.35 GAL/SQ YD
BITUMINOUS MATERIALS (PRIME COAT) - (HMA)	0.10 GAL/SQ YD
HOT-MIX ASPHALT (BINDER & SURFACE COURSE)	112*/SQ YD/IN

THE ABOVE NOTED APPLICATION RATES FOR BITUMINOUS MATERIALS (PRIME COAT) ARE FOR QUANTITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT.



ELEVATION AT BEGINNING AND END OF IMPROVEMENT

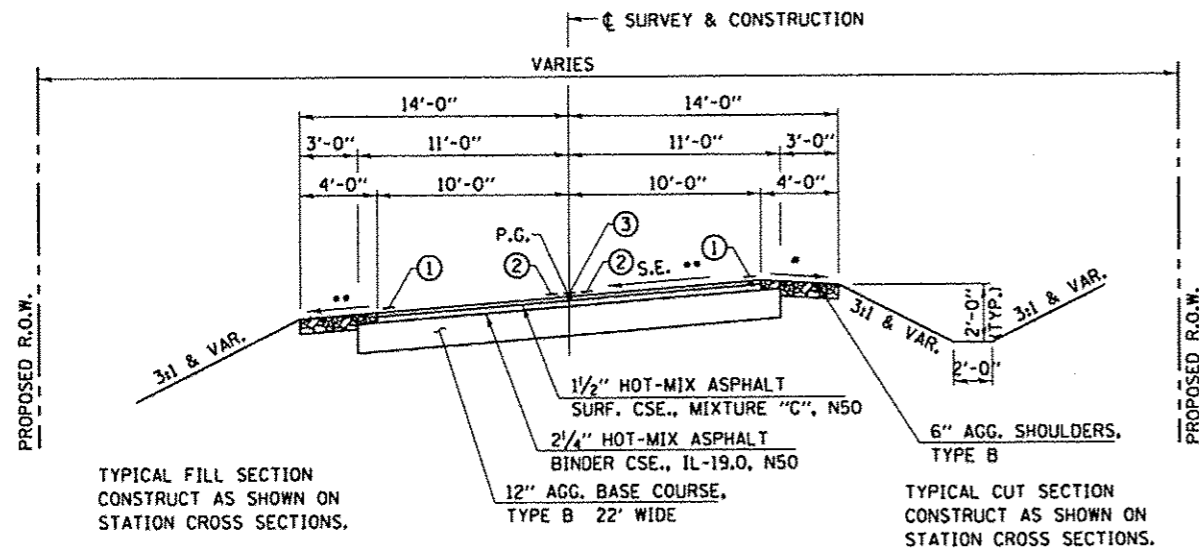
JOINT DETAILS

***COST INCLUDED IN "HMA SURFACE REMOVAL 3" **.

FENCING SCHEDULE

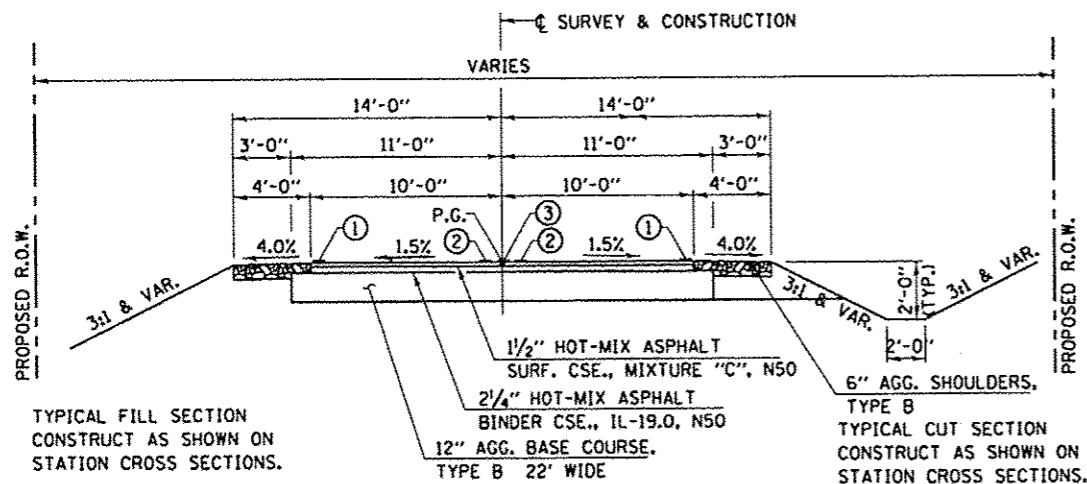
LOCATION	FENCE REMOVAL	FENCE (SPECIAL)
	FOOT	FOOT
RT. STA. 73+50 TO LT. STA. 83+06	917	
LT. STA. 86+87 TO RT. STA. 86+86	92	
RT. STA. 88+12 TO RT. STA. 88+42	32	
33' RT. STA. 73+50 TO 61.4' RT. STA. 86+86		1360
TOTAL	1041	1360

- ① SOLID WHITE PAINT PAVEMENT MARKING - LINE 4"
- ② SOLID YELLOW PAINT PAVEMENT MARKING - LINE 4"
- ③ SKIP-DASH YELLOW PAINT PAVEMENT MARKING - LINE 4"



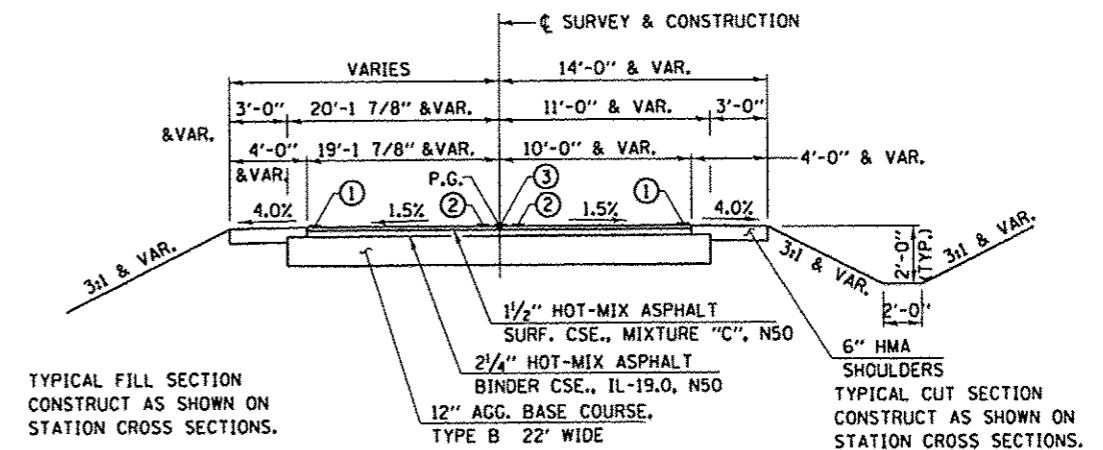
PROPOSED TYPICAL CROSS SECTION

- (CURVE 1 - LOOKING BACKSTATION)
(CURVE 2 - LOOKING UPSTATION)
- 2.0% STA. 76+12 TO STA. 77+51
 - 8.0% STA. 76+12 TO STA. 77+51
 - S.E. TRANSITION FROM STA. 74+48 TO STA. 76+12
AND FROM STA. 77+51 TO STA. 79+15
 - 2.0% STA. 80+79 TO STA. 84+34
 - 8.0% STA. 80+79 TO STA. 84+34
 - S.E. TRANSITION FROM STA. 79+15 TO STA. 80+79
AND FROM STA. 84+34 TO STA. 85+98



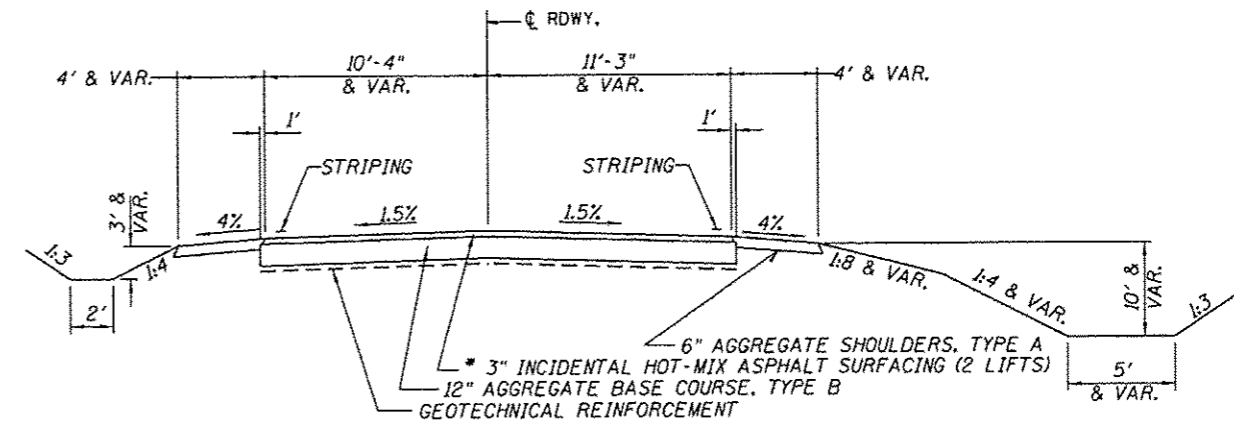
PROPOSED TYPICAL CROSS SECTION

STA. 73+50 TO STA. 74+48
STA. 79+15
TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY
STA. 73+50 TO STA. 74+48



PROPOSED TYPICAL CROSS SECTION

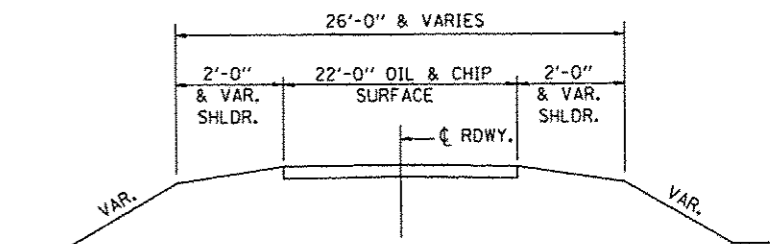
STA. 89+02.67 TO STA. 89+88.07



EXISTING TYPICAL CROSS SECTION

EAST OF PLUM RIVER

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
MIXTURE USE(S)	SURFACE	BINDER
PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	3.0 @ N50	3.0 @ N50
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 19.0
FRICTION AGGREGATE	C	N/A
20 YEAR ESAL	0.1	0.1
MIX UNIT WEIGHT	112 LBS/SY/IN	112 LBS/SY/IN



EXISTING TYPICAL CROSS SECTION

WEST OF PLUM RIVER

PAVEMENT DESIGN

Structural Design Traffic (S.D.T.) : Year 2022; P.V. = 100, S.U. = 1, M.U. = 1
Class IV Road

Minimum Soil Support: I.B.R. = 3.0 (Assumed) (> 3 k.s.l.)

Percent of S.D.T. In Design Lane: P = 50%, S = 50%, M = 50%
H.C.V. < 10

FILE NAME * 11618_SUMTYP.dgn	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com
USER NAME * r.fitznerko	DRAWN - A.D.S.	REVISED -	
PLOT SCALE * #SCALE#	CHECKED - R.J.C.	REVISED -	
PLOT DATE * 3/16/2013	DATE -	REVISED -	

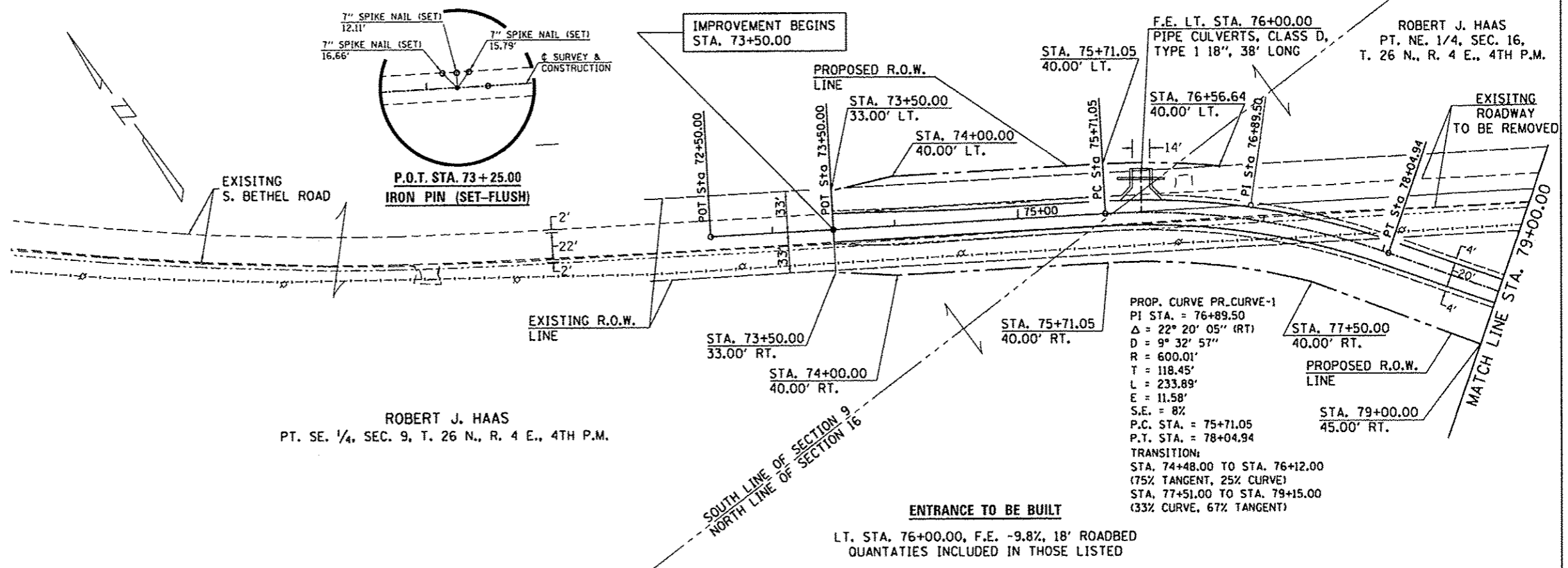
FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 181-002263

FREEMONT, IL ROCKFORD, IL
ROCHELLE, IL SPRINGFIELD, IL
MONROE, VI

TYPICAL CROSS SECTIONS		F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 3
SCALE: 1" = 20'	PROPOSED STRUCTURE @ STA. 87+20	ILLINOIS		CONTRACT NO. 85586		

DATE	
BY	
REVISION	
PLANNED	
ALIGNED	
GRADES CHECKED	
NOTE BOOK	
NO.	

DATE	
BY	
REVISION	
PLANNED	
ALIGNED	
GRADES CHECKED	
NOTE BOOK	
NO.	



ROBERT J. HAAS
PT. SE. 1/4, SEC. 9, T. 26 N., R. 4 E., 4TH P.M.

ROBERT J. HAAS
PT. NE. 1/4, SEC. 16,
T. 26 N., R. 4 E., 4TH P.M.

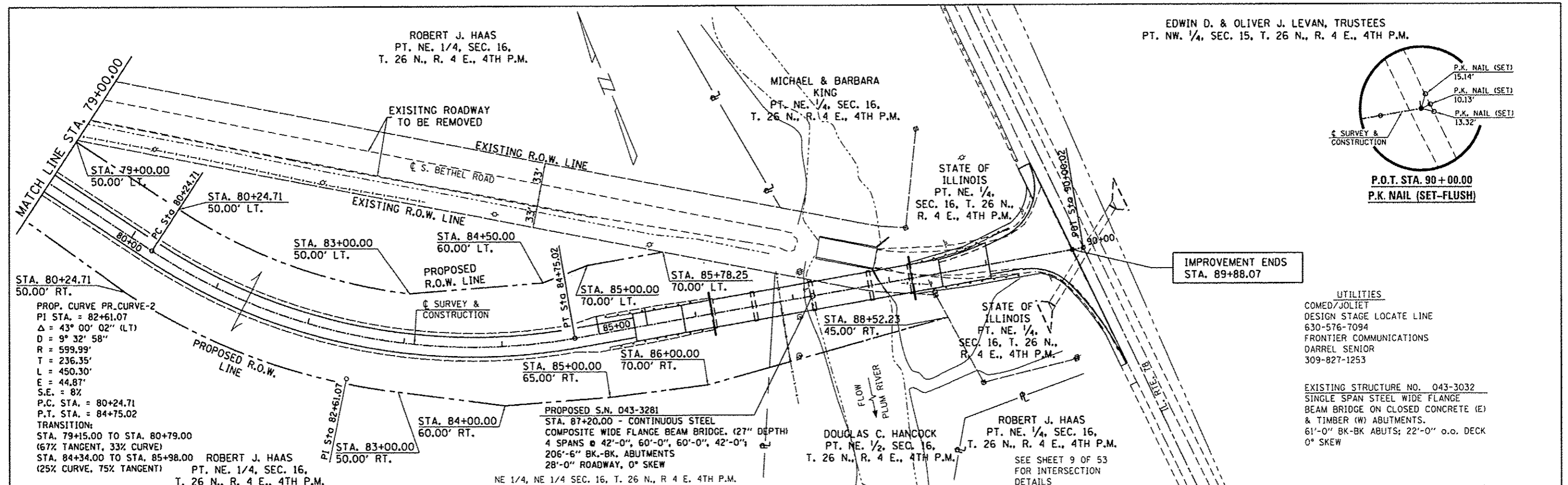
PROP. CURVE PR_CURVE-1
PI STA. = 76+89.50
Δ = 22° 20' 05" (RT)
D = 9° 32' 57"
R = 600.01'
T = 118.45'
L = 233.89'
E = 11.58'
S.E. = 8%
P.C. STA. = 75+71.05
P.T. STA. = 78+04.94
TRANSITION:
STA. 74+48.00 TO STA. 76+12.00
(75% TANGENT, 25% CURVE)
STA. 77+51.00 TO STA. 79+15.00
(33% CURVE, 67% TANGENT)



FILE NAME = 11-610.P&P.1	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 181-09225</small>	FREEPORT, IL	ROCKFORD, IL	PLAN & PROFILE - F.A.S. 72 SCALE:	F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 4
PLOTTED BY = R.J.C.	DRAWN - S.A.P.	REVISED -			ROCHELLE, IL	SPRINGFIELD, IL		STA. 72+50.00 TO STA. 79+00.00	ILLINOIS	CONTRACT NO. 85586		
CHECKED - R.J.C.	DATE - 06/13/12	REVISED -			MONROE, WI							
PLLOT DATE = 7/13/2012												

DATE	
BY	
REVISIONS	
NO.	
DESCRIPTION	
DATE	
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DATE	

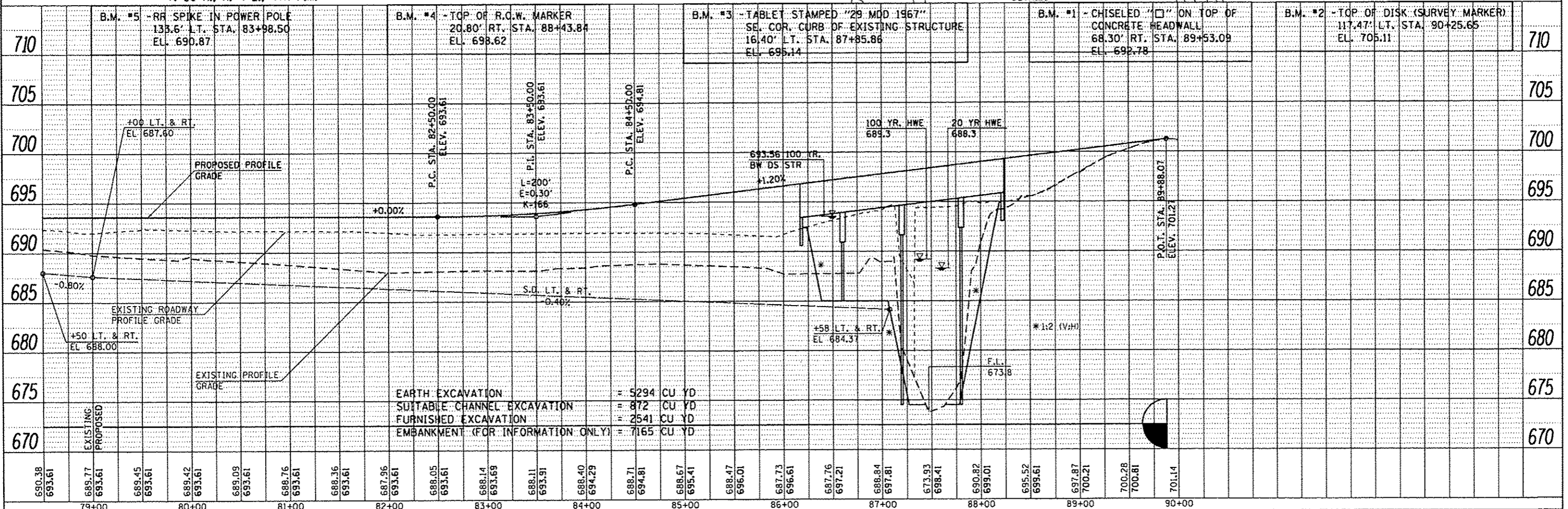
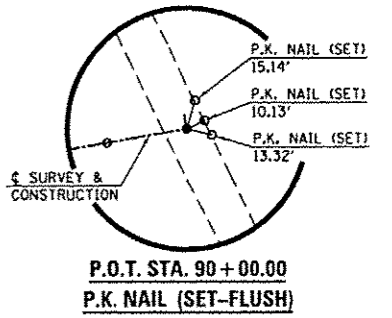
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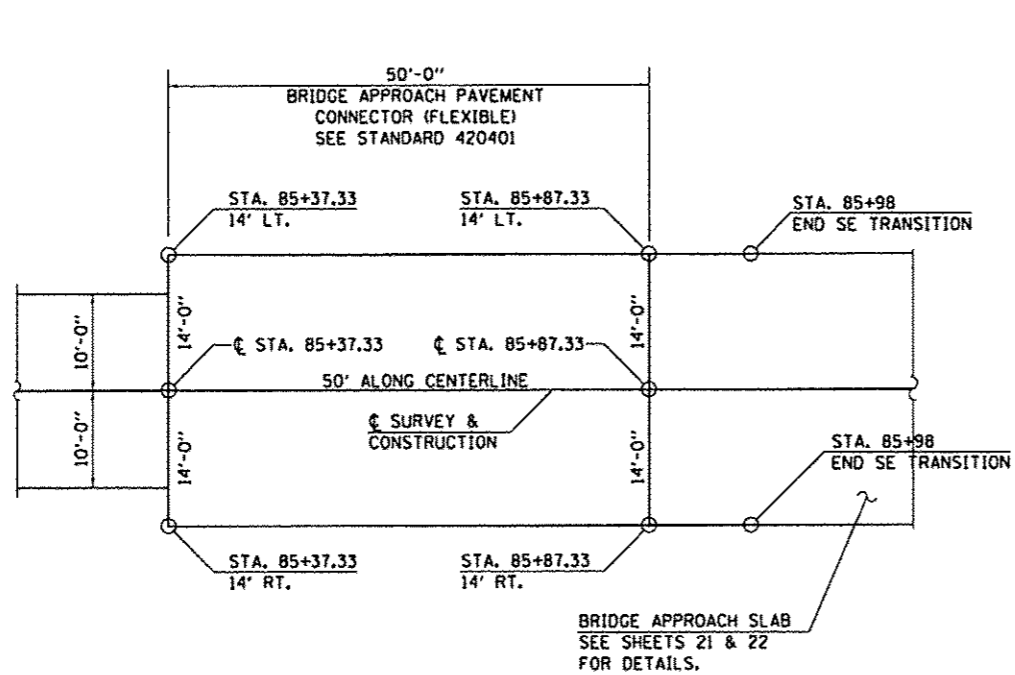
PROP. CURVE PR. CURVE-2
 P.I. STA. = 82+61.07
 $\Delta = 43^\circ 00' 02''$ (LT)
 $D = 9^\circ 32' 58''$
 $R = 599.99'$
 $T = 236.35'$
 $L = 450.30'$
 $E = 44.87'$
 $S.E. = 8\%$
 P.C. STA. = 80+24.71
 P.T. STA. = 84+75.02
 TRANSITION:
 STA. 79+15.00 TO STA. 80+79.00
 (67% TANGENT, 33% CURVE)
 STA. 84+34.00 TO STA. 85+98.00
 (25% CURVE, 75% TANGENT)

UTILITIES
 COMED/JOLIET
 DESIGN STAGE LOCATE LINE
 630-576-7094
 FRONTIER COMMUNICATIONS
 DARREL SENIOR
 309-827-1253

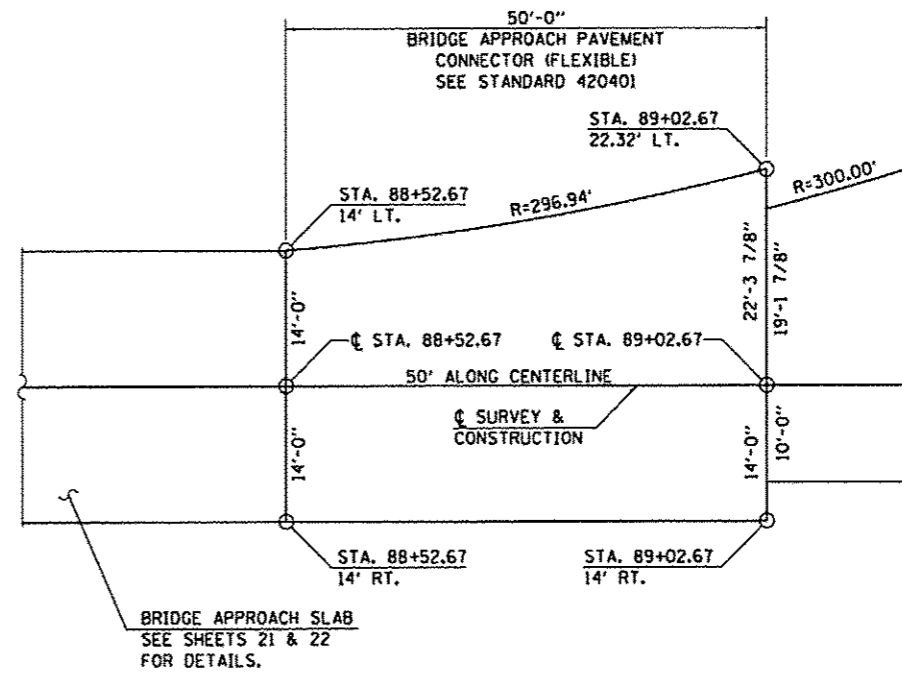
EXISTING STRUCTURE NO. 043-3032
 SINGLE SPAN STEEL WIDE FLANGE
 BEAM BRIDGE ON CLOSED CONCRETE (E)
 & TIMBER (W) ABUTMENTS.
 61'-0" BK-BK ABUTS; 22'-0" o.o. DECK
 0° SKEW



FILE NAME - 11-618.P&P	DESIGNED - C.J.C.	REVISED -	4440 ASH GROVE	FREEDPORT, IL	ROCKFORD, IL	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY - S.A.P.	DRAWN - S.A.P.	REVISED -	SPRINGFIELD, IL 62711	ROCHELLE, IL	SPRINGFIELD, IL	72	11-00137-00-BR	JO DAVIESS	53	5
CHECKED BY - R.J.C.	CHECKED - R.J.C.	REVISED -	(217) 793-8600	MGRNDR, WI						
PLOT DATE - 06/13/2012	DATE - 06/29/2012	REVISED -	www.fehr-graham.com	ILLINOIS DESIGN FIRM NO. 184-02353						
PLAN & PROFILE - F.A.S. 72						SCALE:	SHEET NO. 2 OF 2 SHEETS	STA. 79+00.00 TO STA. 90+00.00	CONTRACT NO. 85586	



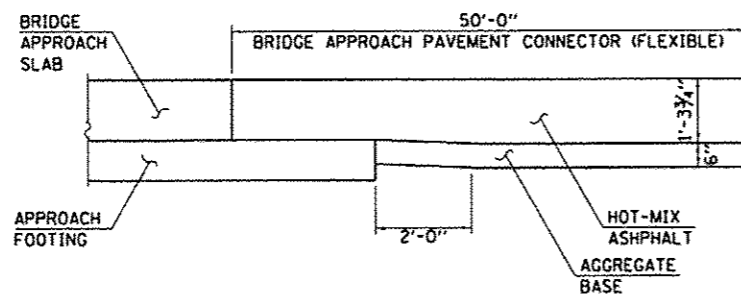
WEST APPROACH



EAST APPROACH

BRIDGE APPROACH PAVEMENT CONNECTOR

SEE SHEET 7 FOR SHOULDER AND GUARDRAIL DETAILS.

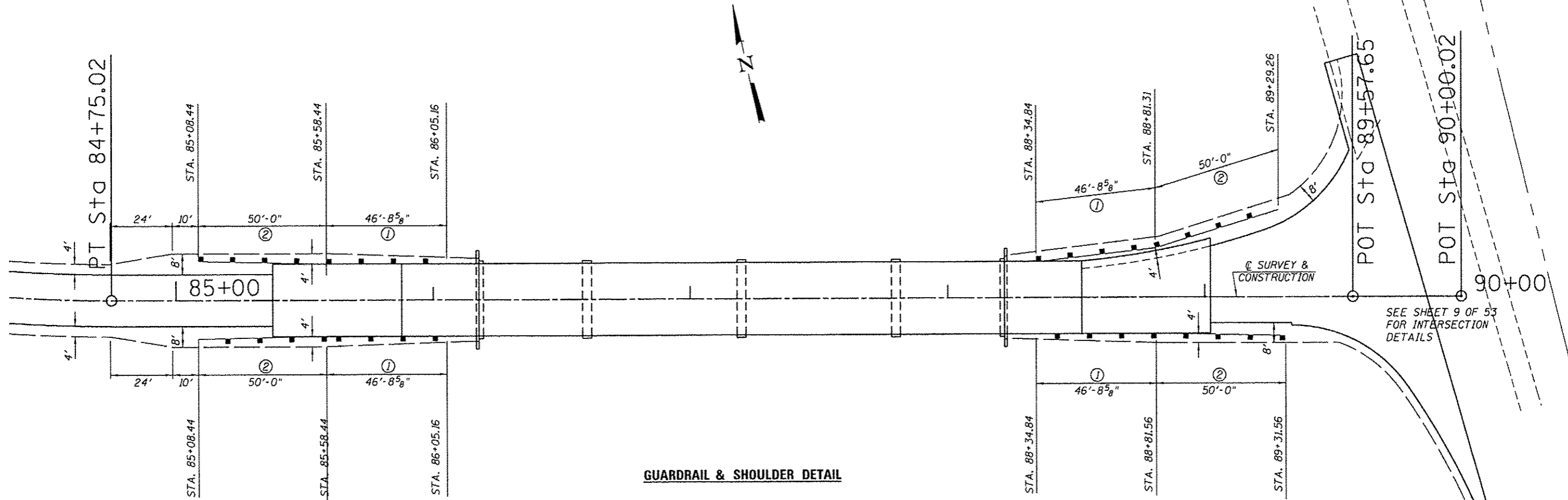


DETAIL

SEE STD. 420401 FOR DETAILS NOT SHOWN.

APPROACH PAVEMENT CONNECTOR SCHEDULE

LOCATION	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)
	SO. YD.
WEST APPROACH	156
EAST APPROACH	175
TOTAL	331



GUARDRAIL & SHOULDER DETAIL

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

15' LT. STA. 85+08.44 TO 14' LT. STA. 85+58.44	=	1 EACH
15' RT. STA. 85+08.44 TO 14' RT. STA. 85+58.44	=	1 EACH
18.64' LT. STA. 88+81.31 TO 32.82' LT. STA. 89+29.26	=	1 EACH
14' RT. STA. 88+81.56 TO 15' RT. STA. 89+31.56	=	1 EACH
TOTAL	=	4 EACH

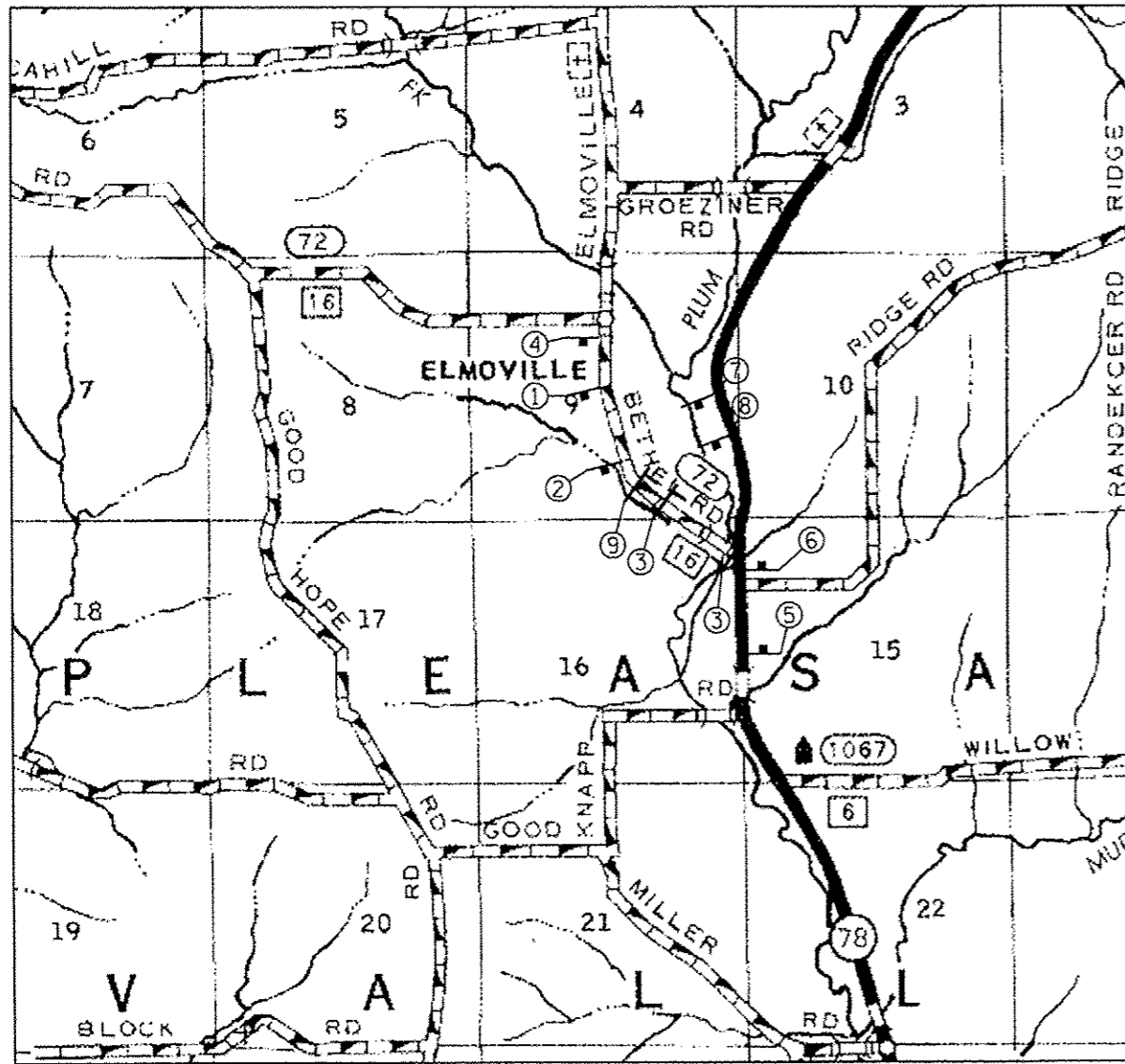
TRAFFIC BARRIER TERMINAL, TYPE 6A

14' LT. STA. 85+58.44 TO 14' LT. STA. 86+05.16	=	1 EACH
14' RT. STA. 85+58.44 TO 14' RT. STA. 86+05.16	=	1 EACH
14' LT. STA. 88+34.84 TO 18.64' LT. STA. 88+81.31	=	1 EACH
14' RT. STA. 88+34.84 TO 14' RT. STA. 88+81.56	=	1 EACH
TOTAL	=	4 EACH

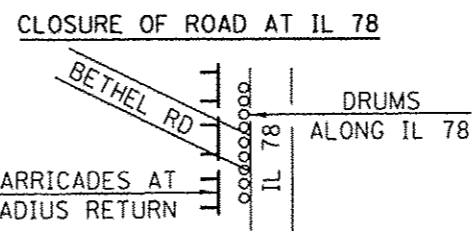
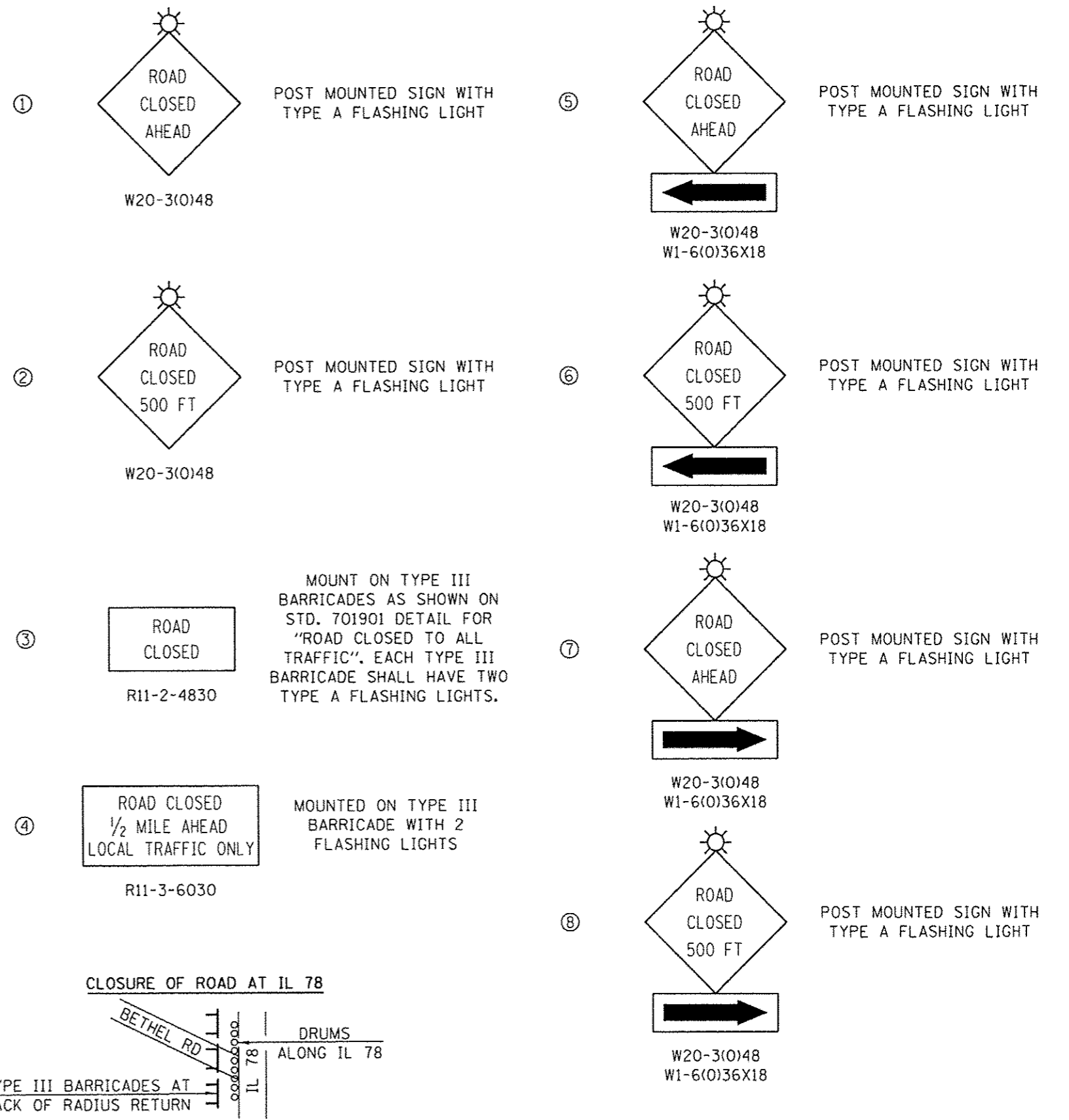
LEGEND

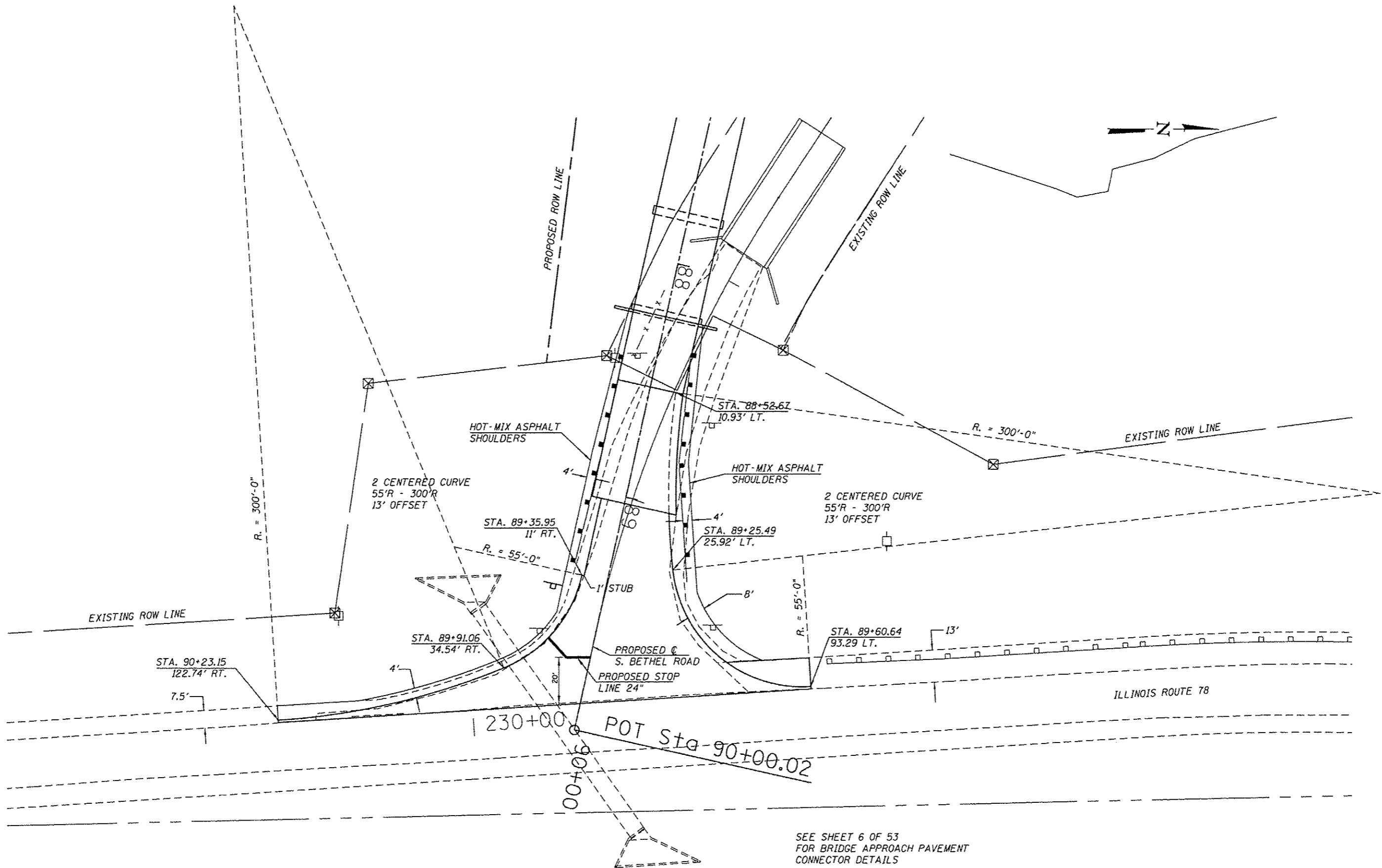
- ① TRAFFIC BARRIER TERMINAL, TYPE 6A
- ② TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

FILE NAME * 11618_SHLDR.dgn	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL, 62711 (217) 793-8500 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 181-007265</small>	FREEPORT, IL	ROCKFORD, IL	SHOULDER AND GUARDRAIL DETAIL	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME * r.f.tzank	DRAWN - A.D.S.	REVISED -			ROCHELLE, IL	SPRINGFIELD, IL		72	11-00137-00-BR	JO DAVIESS	53	7
PLOT SCALE * #SCALE#	CHECKED - R.J.C.	REVISED -			MONROE, WI					CONTRACT NO. 85586		
PLOT DATE * 3/18/2013	DATE -	REVISED -						SCALE:	SHEET NO. OF SHEETS	PROPOSED STRUCTURE @ STA. 87+20	ILLINOIS	



⑨ ROAD CLOSED TO THRU TRAFFIC MOUNTED ON EACH STAGGERED BARRICADE AS SHOWN ON 701901

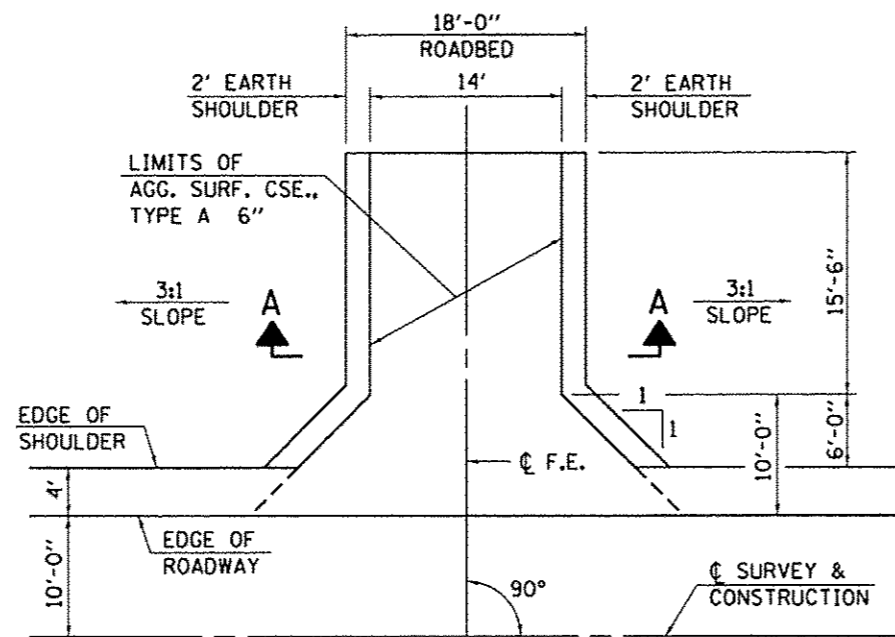




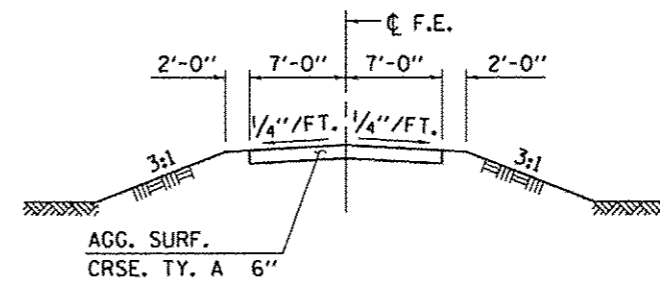
SEE SHEET 6 OF 53
FOR BRIDGE APPROACH PAVEMENT
CONNECTOR DETAILS

SEE SHEET 7 OF 53
FOR SHOULDER DETAILS

FILE NAME * I1818.INTERSECTION.dgn	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 18-000260</small>	FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	INTERSECTION DETAIL SCALE: PROPOSED STRUCTURE @ STA. 87+20	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME * rfitzanka	DRAWN - A.D.S.	REVISED -			72		11-00137-00-BR	JO DAVIESS	53	9	
PLOT SCALE * #SCALE#	CHECKED - R.J.C.	REVISED -			CONTRACT NO. 85586						
PLOT DATE * 3/19/2013	DATE -	REVISED -			[ILLINOIS]						



FIELD ENTRANCE DETAIL
F.E. LT. STA. 76+00



SECTION A-A

FILE NAME • 11618.ENTRANCE.dgn	DESIGNED - G.J.C.	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 184-000005	FRECPORT, IL	ROCKFORD, IL	ENTRANCE DETAILS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
USER NAME • #Fitzanko	DRAWN - A.D.S.	REVISED -			ROCHELLE, IL	SPRINGFIELD, IL		72	11-00137-00-BR	JO DAVIESS	53	10
PLOT SCALE • #SCALE#	CHECKED - R.J.C.	REVISED -			HONROE, VI			SCALE:	PROPOSED STRUCTURE @ STA. 87+20	CONTRACT NO. 85586		
PLOT DATE • 3/19/2013	DATE -	REVISED -								[ILLINOIS]		

GENERAL NOTES

Fasteners shall be high strength bolts (AASHTO M 164, Type 3). Bolts 7/8" φ, open holes 1 1/8" φ, unless otherwise noted.

Calculated weight of Structural Steel = 138,920 Pound

All structural steel shall be AASHTO M 270 Grade 50W.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required.

Anchor Bolts shall be set before bolting diaphragms over supports.

No field welding is permitted except as specified in the Contract documents.

Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

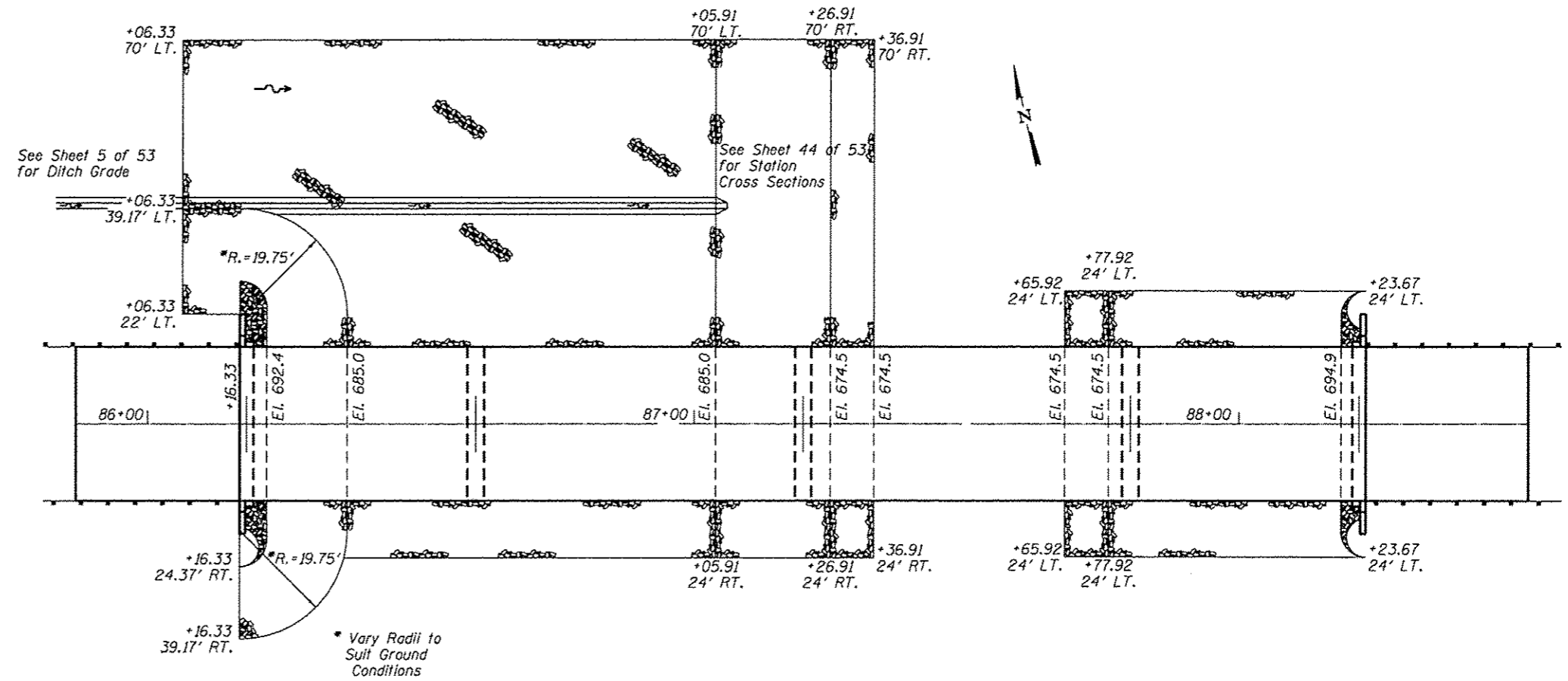
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 Inch. Adjustment shall be made either by grinding the surface or by shimming the bearing.

All exposed portions of abutments, wing walls, and piers shall receive a rubbed finish in accordance with Article 503.15 (b) of the Standard Specifications. Cost to be included in cost of Concrete Structures.

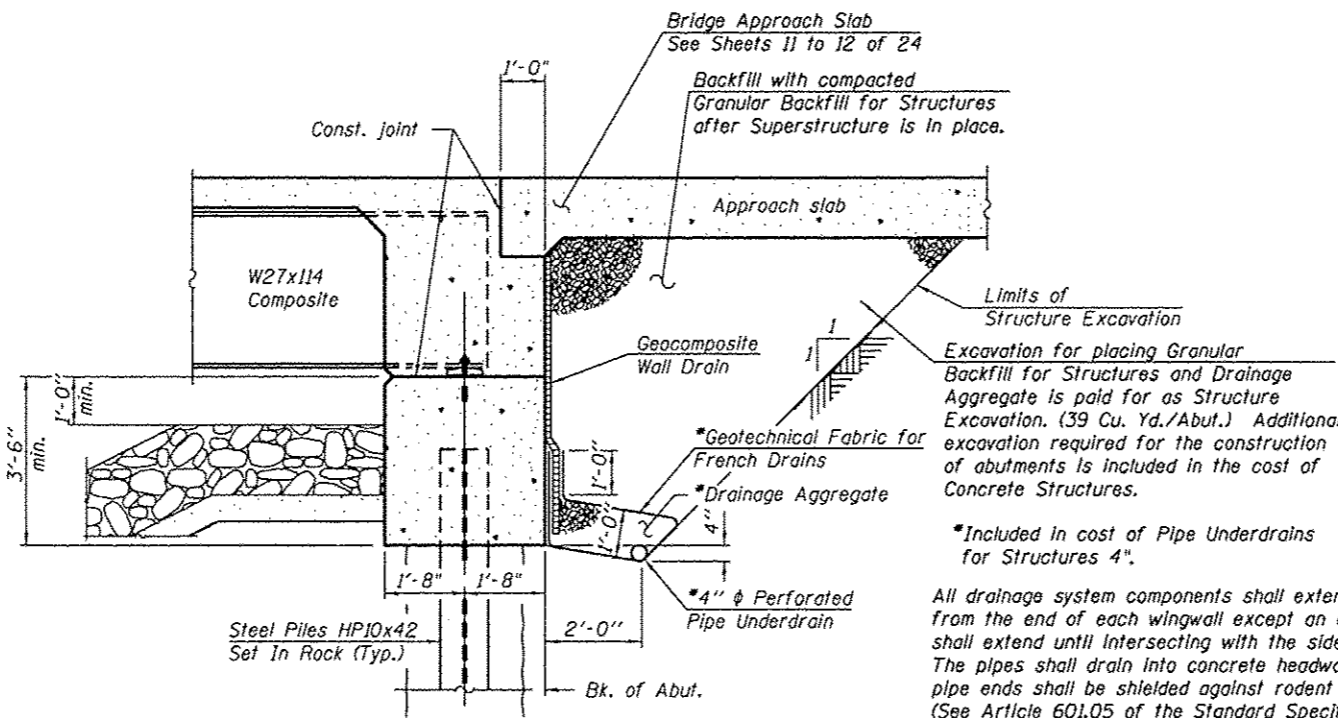
See Proposal Booklet for Soil Boring Data.



RIPRAP AND EMBANKMENT PLAN

PLUM RIVER
BUILT 20... BY
JO DAVIESS COUNTY
SEC. 11-00137-00-BR
F.A. PROJ. BRS-0072(105)
STR. NO. 043-3281
LOADING HL-93

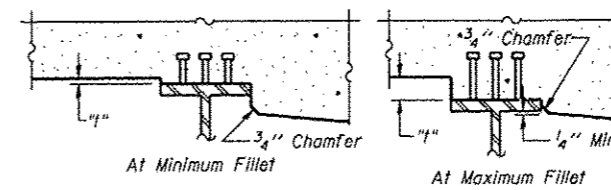
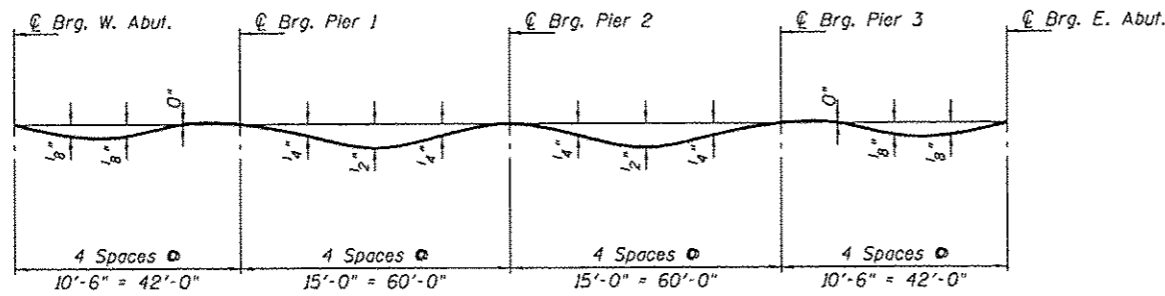
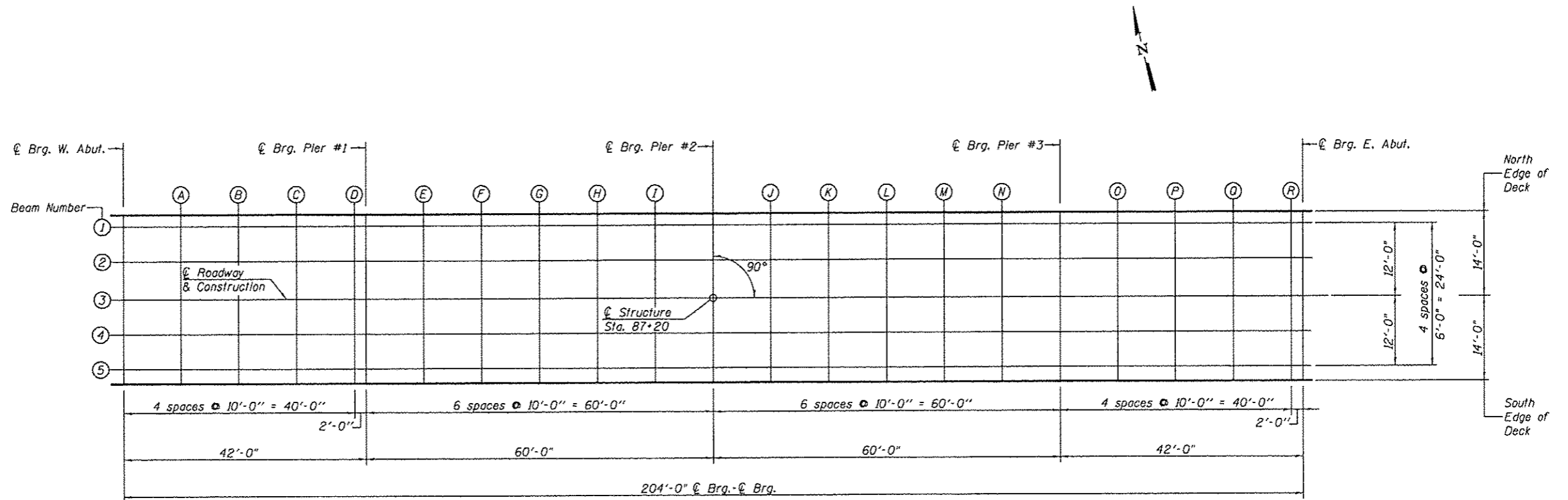
LETTERING FOR NAME PLATE
See Std. 515001



SECTION THRU INTEGRAL ABUTMENT
(Horiz. dim. @ Rt. L's)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	Cu. Yd.		83.6	83.6
Concrete Superstructure	Cu. Yd.	177.0	85.9	262.9
Reinforcement Bars, Epoxy Coated	Pound	69,970	10,120	80,090
Name Plates	Each		1	1
Furnishing Steel Piles HPI0x42	Foot		680	680
Setting Piles in Rock	Each		25	25
Stone Riprap, Class A5	Ton		1331	1331
Stone Riprap, Class A6	Ton		396	396
Filter Fabric	Sq. Yd.		1697	1697
Concrete Encasement	Cu. Yd.		24.6	24.6
Structure Excavation	Cu. Yd.		78	78
Removal of Existing Structures	Each	1		1
Protective Coat	Sq. Yd.	894		894
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4,815		4,815
Bridge Deck Grooving	Sq. Yd.	766		766
Pipe Underdrains for Structures 4"	Foot		108	108
Geocomposite Wall Drain	Sq. Yd.		48	48
Granular Backfill for Structures	Cu. Yd.		78	78
Anchor Bolts, 1"	Each	50		50
Steel Railing, Type SM	Foot	471		471



To determine "I": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4, 5 & 6 of 24, minus slab thickness, equals the fillet heights "I" above top flange of beams.

FILE NAME * 11610.SLAB.dgn	USER NAME * rfszanko	DESIGNED - J.A.M.	REVISD -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 184-003545	FREEPORT, IL	ROCKFORD, IL	TOP OF SLAB ELEVATIONS STRUCTURE NO. 043-3281 SHEET NO. 3 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - R.E.A.	REVISD -		ROCHELLE, IL	SPRINGFIELD, IL		16	11-00137-00-BR	JODAVIESS	53	13
		DRAWN - A.D.S.	REVISD -		MONROE, VI			CONTRACT NO. 85586		ILLINOISIFIED, AID PROJECT		
		CHECKED -	REVISD -									

NORTH EDGE OF DECK

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brg. W. Abut.	86+18.00	-14.000	696.607	696.607
A	86+28.00	-14.000	696.727	696.738
B	86+38.00	-14.000	696.847	696.859
C	86+48.00	-14.000	696.967	696.972
D	86+58.00	-14.000	697.087	697.088
☉ Brg. Pier 1	86+60.00	-14.000	697.111	697.111
E	86+70.00	-14.000	697.231	697.247
F	86+80.00	-14.000	697.351	697.380
G	86+90.00	-14.000	697.471	697.510
H	87+00.00	-14.000	697.591	697.618
I	87+10.00	-14.000	697.711	697.725
☉ Brg. Pier 2	87+20.00	-14.000	697.831	697.831
J	87+30.00	-14.000	697.951	697.965
K	87+40.00	-14.000	698.071	698.098
L	87+50.00	-14.000	698.191	698.230
M	87+60.00	-14.000	698.311	698.340
N	87+70.00	-14.000	698.431	698.447
☉ Brg. Pier 3	87+80.00	-14.000	698.551	698.551
O	87+90.00	-14.000	698.671	698.675
P	88+00.00	-14.000	698.791	698.802
Q	88+10.00	-14.000	698.911	698.922
R	88+20.00	-14.000	699.031	699.033
☉ Brg. E. Abut.	88+22.00	-14.000	699.055	699.055

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brg. W. Abut.	86+18.00	-12.000	696.638	696.638
A	86+28.00	-12.000	696.758	696.769
B	86+38.00	-12.000	696.878	696.890
C	86+48.00	-12.000	696.998	697.003
D	86+58.00	-12.000	697.118	697.119
☉ Brg. Pier 1	86+60.00	-12.000	697.142	697.142
E	86+70.00	-12.000	697.262	697.278
F	86+80.00	-12.000	697.382	697.411
G	86+90.00	-12.000	697.502	697.541
H	87+00.00	-12.000	697.622	697.649
I	87+10.00	-12.000	697.742	697.756
☉ Brg. Pier 2	87+20.00	-12.000	697.862	697.862
J	87+30.00	-12.000	697.982	697.996
K	87+40.00	-12.000	698.102	698.129
L	87+50.00	-12.000	698.222	698.261
M	87+60.00	-12.000	698.342	698.371
N	87+70.00	-12.000	698.462	698.478
☉ Brg. Pier 3	87+80.00	-12.000	698.582	698.582
O	87+90.00	-12.000	698.702	698.706
P	88+00.00	-12.000	698.822	698.834
Q	88+10.00	-12.000	698.942	698.953
R	88+20.00	-12.000	699.062	699.065
☉ Brg. E. Abut.	88+22.00	-12.000	699.086	699.086

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brg. W. Abut.	86+18.00	-6.000	696.732	696.732
A	86+28.00	-6.000	696.852	696.863
B	86+38.00	-6.000	696.972	696.984
C	86+48.00	-6.000	697.092	697.097
D	86+58.00	-6.000	697.212	697.213
☉ Brg. Pier 1	86+60.00	-6.000	697.236	697.236
E	86+70.00	-6.000	697.356	697.372
F	86+80.00	-6.000	697.476	697.505
G	86+90.00	-6.000	697.596	697.635
H	87+00.00	-6.000	697.716	697.743
I	87+10.00	-6.000	697.836	697.850
☉ Brg. Pier 2	87+20.00	-6.000	697.956	697.956
J	87+30.00	-6.000	698.076	698.090
K	87+40.00	-6.000	698.196	698.223
L	87+50.00	-6.000	698.316	698.355
M	87+60.00	-6.000	698.436	698.465
N	87+70.00	-6.000	698.556	698.572
☉ Brg. Pier 3	87+80.00	-6.000	698.676	698.676
O	87+90.00	-6.000	698.796	698.800
P	88+00.00	-6.000	698.916	698.927
Q	88+10.00	-6.000	699.036	699.047
R	88+20.00	-6.000	699.156	699.158
☉ Brg. E. Abut.	88+22.00	-6.000	699.180	699.180

BEAM 3 & C RDWY.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
C Brg. W. Abut.	86+18.00	0.00	696.826	696.826
A	86+28.00	0.000	696.946	696.956
B	86+38.00	0.000	697.066	697.078
C	86+48.00	0.000	697.186	697.191
D	86+58.00	0.000	697.306	697.307
C Brg. Pier 1	86+60.00	0.000	697.330	697.330
E	86+70.00	0.000	697.450	697.466
F	86+80.00	0.000	697.570	697.599
G	86+90.00	0.000	697.690	697.729
H	87+00.00	0.000	697.810	697.837
I	87+10.00	0.000	697.930	697.944
C Brg. Pier 2	87+20.00	0.000	698.050	698.050
J	87+30.00	0.000	698.170	698.184
K	87+40.00	0.000	698.290	698.317
L	87+50.00	0.000	698.410	698.449
M	87+60.00	0.000	698.530	698.559
N	87+70.00	0.000	698.650	698.666
C Brg. Pier 3	87+80.00	0.00	698.770	698.770
O	87+90.00	0.000	698.890	698.894
P	88+00.00	0.000	699.010	699.021
Q	88+10.00	0.000	699.130	699.141
R	88+20.00	0.000	699.250	699.252
C Brg. E. Abut.	88+22.00	0.000	699.274	699.274

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
C Brg. W. Abut.	86+18.00	6.000	696.732	696.732
A	86+28.00	6.000	696.852	696.863
B	86+38.00	6.000	696.972	696.984
C	86+48.00	6.000	697.092	697.097
D	86+58.00	6.000	697.212	697.213
C Brg. Pier 1	86+60.00	6.000	697.236	697.236
E	86+70.00	6.000	697.356	697.372
F	86+80.00	6.000	697.476	697.505
G	86+90.00	6.000	697.596	697.635
H	87+00.00	6.000	697.716	697.743
I	87+10.00	6.000	697.836	697.850
C Brg. Pier 2	87+20.00	6.000	697.956	697.956
J	87+30.00	6.000	698.076	698.090
K	87+40.00	6.000	698.196	698.223
L	87+50.00	6.000	698.316	698.355
M	87+60.00	6.000	698.436	698.465
N	87+70.00	6.000	698.556	698.572
C Brg. Pier 3	87+80.00	6.000	698.676	698.676
O	87+90.00	6.000	698.796	698.800
P	88+00.00	6.000	698.916	698.927
Q	88+10.00	6.000	699.036	699.047
R	88+20.00	6.000	699.156	699.158
C Brg. E. Abut.	88+22.00	6.000	699.180	699.180

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
C Brg. W. Abut.	86+18.00	12.000	696.638	696.638
A	86+28.00	12.000	696.758	696.769
B	86+38.00	12.000	696.878	696.890
C	86+48.00	12.000	696.998	697.003
D	86+58.00	12.000	697.118	697.119
C Brg. Pier 1	86+60.00	12.000	697.142	697.142
E	86+70.00	12.000	697.262	697.278
F	86+80.00	12.000	697.382	697.411
G	86+90.00	12.000	697.502	697.541
H	87+00.00	12.000	697.622	697.649
I	87+10.00	12.000	697.742	697.756
C Brg. Pier 2	87+20.00	12.000	697.862	697.862
J	87+30.00	12.000	697.982	697.996
K	87+40.00	12.000	698.102	698.129
L	87+50.00	12.000	698.222	698.261
M	87+60.00	12.000	698.342	698.371
N	87+70.00	12.000	698.462	698.478
C Brg. Pier 3	87+80.00	12.000	698.582	698.582
O	87+90.00	12.000	698.702	698.706
P	88+00.00	12.000	698.822	698.834
Q	88+10.00	12.000	698.942	698.953
R	88+20.00	12.000	699.062	699.065
C Brg. E. Abut.	88+22.00	12.000	699.086	699.086

SOUTH EDGE OF DECK

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
☉ Brg. W. Abut.	86+18.00	14.000	696.607	696.607
A	86+28.00	14.000	696.727	696.738
B	86+38.00	14.000	696.847	696.859
C	86+48.00	14.000	696.967	696.972
D	86+58.00	14.000	697.087	697.088
☉ Brg. Pier 1	86+60.00	14.000	697.111	697.111
E	86+70.00	14.000	697.231	697.247
F	86+80.00	14.000	697.351	697.380
G	86+90.00	14.000	697.471	697.510
H	87+00.00	14.000	697.591	697.618
I	87+10.00	14.000	697.711	697.725
☉ Brg. Pier 2	87+20.00	14.000	697.831	697.831
J	87+30.00	14.000	697.951	697.965
K	87+40.00	14.000	698.071	698.098
L	87+50.00	14.000	698.191	698.230
M	87+60.00	14.000	698.311	698.340
N	87+70.00	14.000	698.431	698.447
☉ Brg. Pier 3	87+80.00	14.000	698.551	698.551
O	87+90.00	14.000	698.671	698.675
P	88+00.00	14.000	698.791	698.802
Q	88+10.00	14.000	698.911	698.922
R	88+20.00	14.000	699.031	699.033
☉ Brg. E. Abut.	88+22.00	14.000	699.055	699.055

FILE NAME * 11610.SLAB.dgn	USER NAME * rfszanko	DESIGNED - J.A.M.	REVISED -	 ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-000003</small>	FREEPORT, IL ROCKFORD, IL	TOP OF SLAB ELEVATIONS STRUCTURE NO. 043-3281 SHEET NO. 6 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - R.E.A.	REVISED -		ROCHELLE, IL SPRINGFIELD, IL		16	11-00137-00-BR	JODAVIESS	53	16
		DRAWN - A.D.S.	REVISED -		MONROE, WI		CONTRACT NO. 85586				
		PLDT DATE * 3/19/2013	REVISED -				ILLINOIS FEH. AID PROJECT				

NORTH EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	85+87.33	-14.000	696.239
A1	85+97.33	-14.000	696.359
A2	86+07.33	-14.000	696.479
E. End of W. Approach Slab	86+17.33	-14.000	696.599

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	85+87.33	-10.000	696.302
A1	85+97.33	-10.000	696.422
A2	86+07.33	-10.000	696.542
E. End of W. Approach Slab	86+17.33	-10.000	696.662

☉ ROADWAY

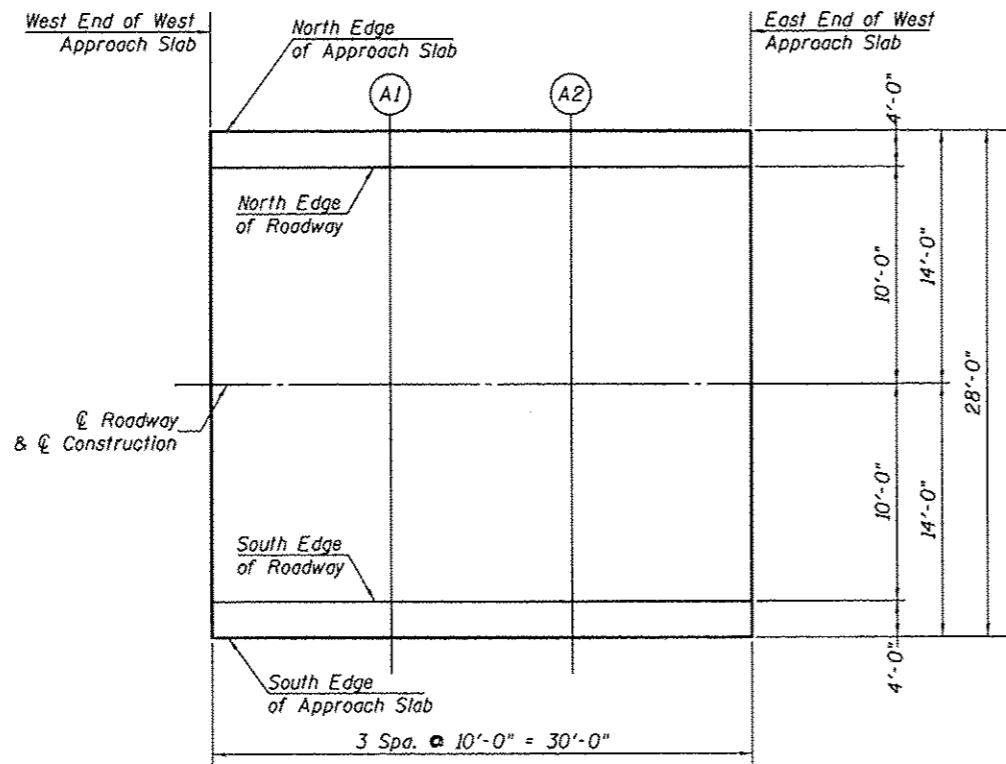
Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	85+87.33	0.000	696.458
A1	85+97.33	0.000	696.578
A2	86+07.33	0.000	696.698
E. End of W. Approach Slab	86+17.33	0.000	696.818

SOUTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	85+87.33	10.000	696.370
A1	85+97.33	10.000	696.432
A2	86+07.33	10.000	696.542
E. End of W. Approach Slab	86+17.33	10.000	696.662

SOUTH EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of W. Approach Slab	85+87.33	14.000	696.334
A1	85+97.33	14.000	696.373
A2	86+07.33	14.000	696.479
E. End of W. Approach Slab	86+17.33	14.000	696.599



PLAN

FILE NAME = 11610_APRCH-SLB.dgn

USER NAME = rfitzenko
 PLOT SCALE = *SCALE*
 PLOT DATE = 3/19/2013

DESIGNED - J.A.M.
 CHECKED - R.E.A.
 DRAWN - A.D.S.
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

TOP OF WEST APPROACH SLAB ELEVATIONS
 STRUCTURE NO. 043-3281
 SHEET NO. 7 OF 24 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	11-00137-00-BR	JO DAVIESS	53	17

CONTRACT NO. 85586
 ILLINOIS FED. AID PROJECT

NORTH EDGE OF APPROACH SLAB

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	88+22.67	-14.000	699.063
A3	88+32.67	-14.000	699.183
A4	88+42.67	-14.000	699.303
E. End of E. Approach Slab	88+52.67	-14.000	699.423

NORTH EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	88+22.67	-10.000	699.126
A3	88+32.67	-10.000	699.246
A4	88+42.67	-10.000	699.366
E. End of E. Approach Slab	88+52.67	-10.000	699.486

☉ ROADWAY

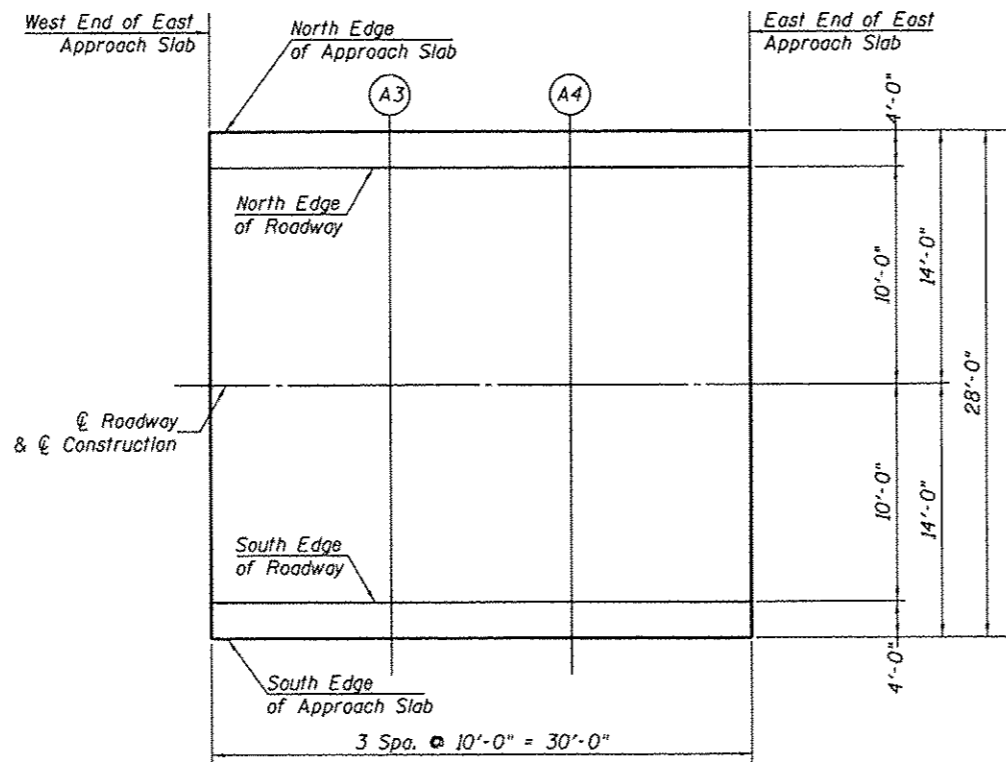
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	88+22.67	0.000	699.282
A3	88+32.67	0.000	699.402
A4	88+42.67	0.000	699.522
E. End of E. Approach Slab	88+52.67	0.000	699.642

SOUTH EDGE OF ROADWAY

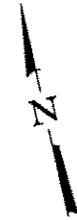
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	88+22.67	10.000	699.126
A3	88+32.67	10.000	699.246
A4	88+42.67	10.000	699.366
E. End of E. Approach Slab	88+52.67	10.000	699.486

SOUTH EDGE OF APPROACH SLAB

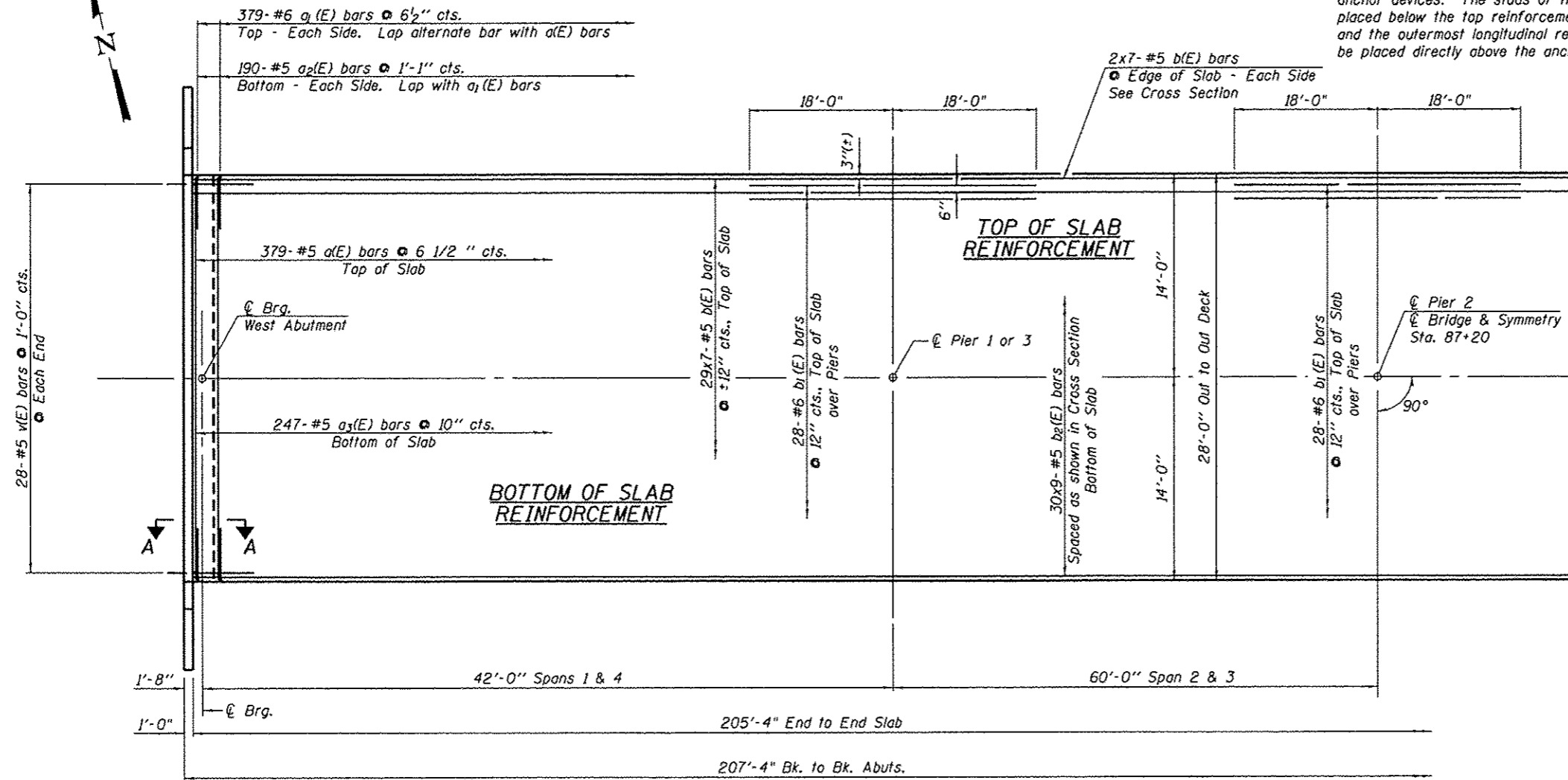
Location	Station	Offset	Theoretical Grade Elevations
W. End of E. Approach Slab	88+22.67	14.000	699.063
A3	88+32.67	14.000	699.183
A4	88+42.67	14.000	699.303
E. End of E. Approach Slab	88+52.67	14.000	699.423



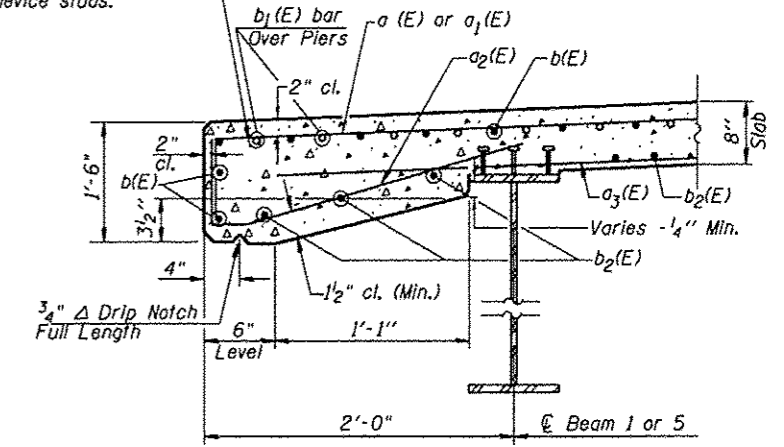
PLAN



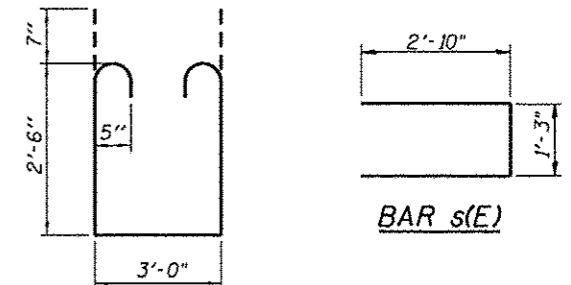
Reinforcement bars in the top of the deck shall be placed with a 2" minimum clearance in the area of the rail post anchor devices. The studs of the anchor device shall be placed below the top reinforcement bars a(E) and a₁(E) and the outermost longitudinal reinforcement bar b(E) shall be placed directly above the anchor device studs.



HALF PLAN



SECTION THRU EDGE OF SLAB



BAR s(E)

BAR s1(E)

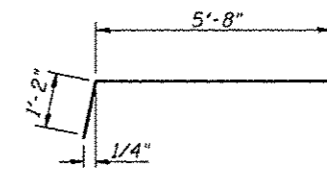
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	379	#5	27'-8"	—
a ₁ (E)	758	#6	6'-10"	—
a ₂ (E)	380	#5	3'-6"	✓
a ₃ (E)	247	#5	27'-4"	—
b(E)	231	#5	32'-3"	—
b ₁ (E)	84	#6	36'-0"	—
b ₂ (E)	270	#5	25'-9"	—
m(E)	6	#6	27'-8"	—
m ₁ (E)	24	#6	5'-7"	—
m ₂ (E)	12	#6	1'-7"	—
m ₃ (E)	20	#5	4'-0"	—
s(E)	60	#5	6'-11"	⌊
s ₁ (E)	60	#5	9'-2"	⌊
v(E)	56	#5	3'-3"	┌
Protective Coat		Sq. Yd.	707	
Conc. Superstructure		Cu. Yd.	177.0	
Reinforcement Bars, Epoxy Coated		Pound	48,430	
Bridge Deck Grooving		Sq. Yd.	593	

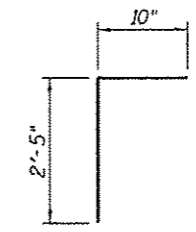
Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line. Section A-A Shown on Sheet 10 of 24.

MIN. BAR LAPS

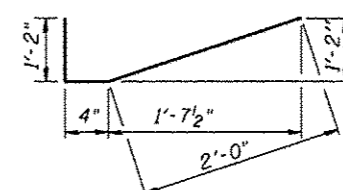
#5 3'-3"



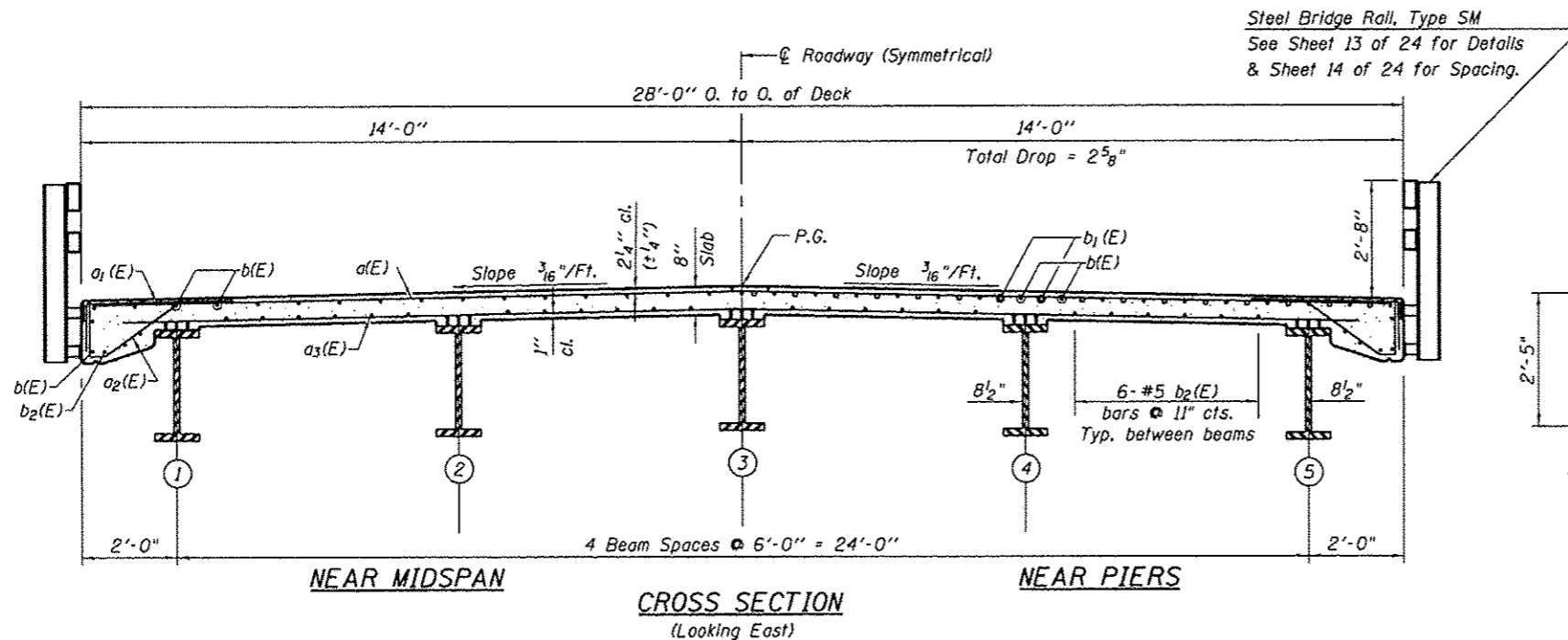
BAR a₁(E)



BAR v(E)



BAR a₂(E)



CROSS SECTION (Looking East)

Steel Bridge Rail, Type SM
See Sheet 13 of 24 for Details & Sheet 14 of 24 for Spacing.

FILE NAME * 11810_SUPER.dgn

USER NAME * rfitzanko
PLOT SCALE * #SCALE#
PLOT DATE * 3/19/2013

DESIGNED - J.A.M.
CHECKED - R.E.A.
DRAWN - A.D.S.
CHECKED -

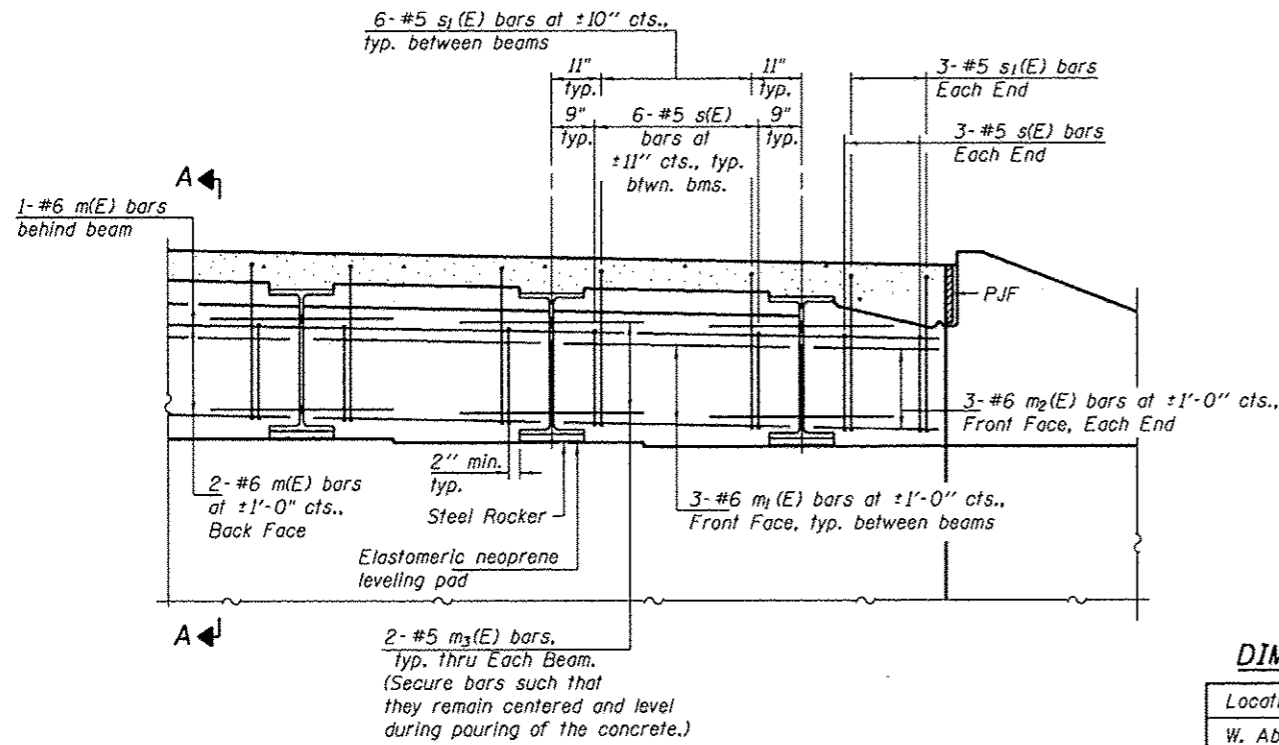
REVISED -
REVISED -
REVISED -
REVISED -

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-92282

FREEPORT, IL ROCKFORD, IL
ROCHELLE, IL SPRINGFIELD, IL
MONROE, VI

SUPERSTRUCTURE
STRUCTURE NO. 043-3281
SHEET NO. 9 OF 24 SHEETS

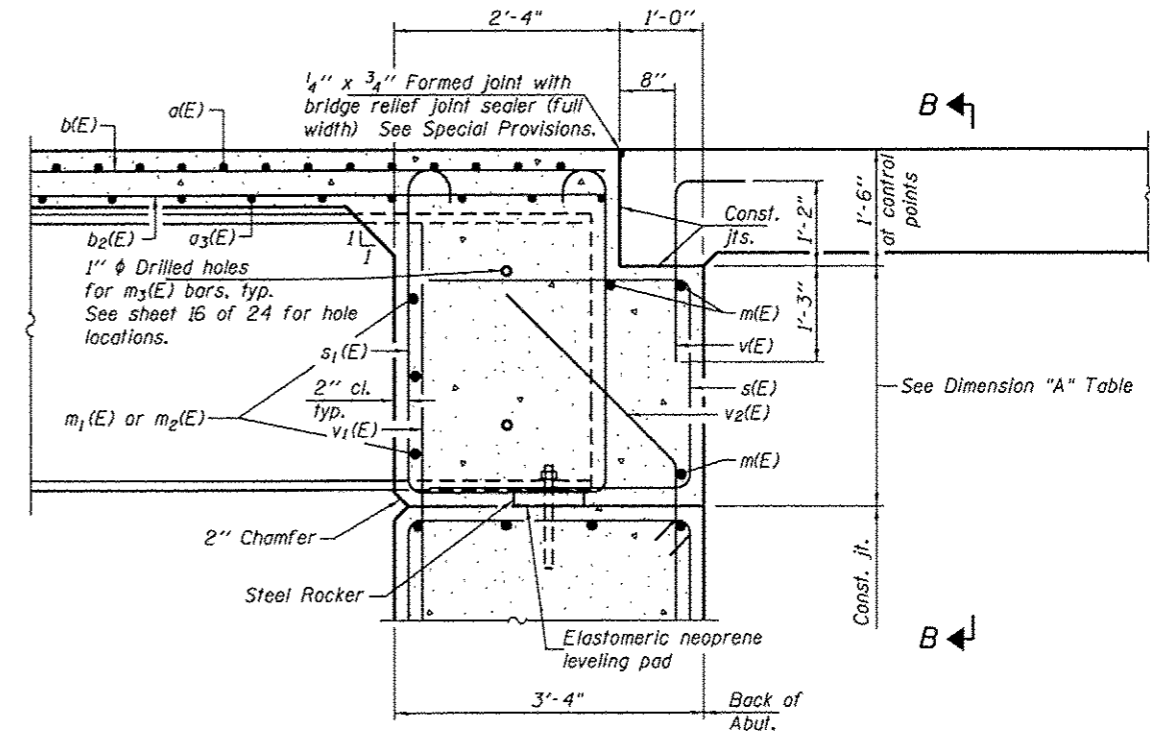
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	11-00137-00-BR	JODAVIESS	53	19
CONTRACT NO. 05586			ILLINOIS FED. AID PROJECT	



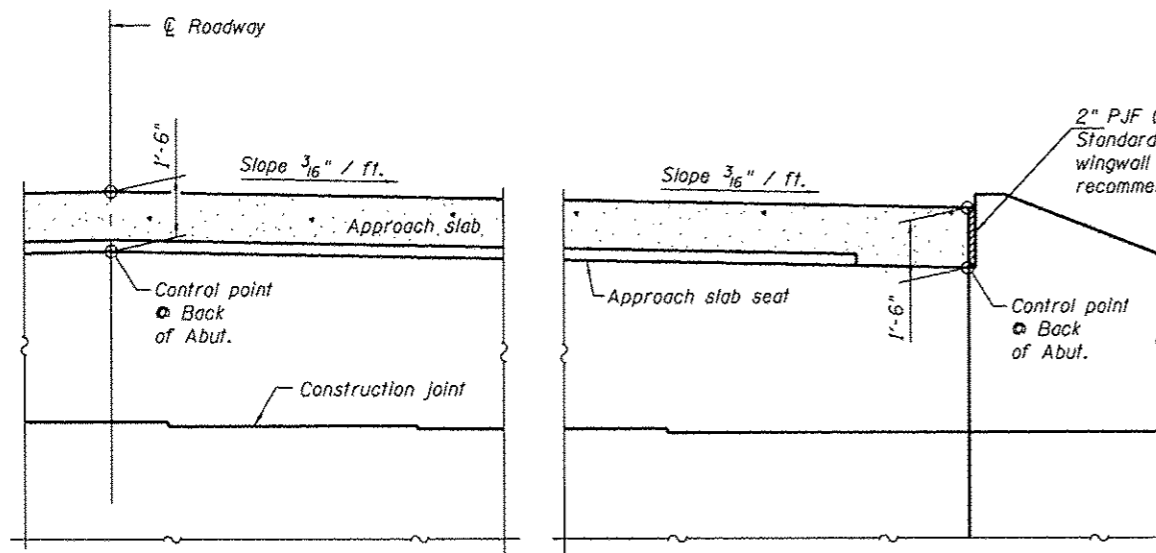
DIAPHRAGM ELEVATION AT ABUTMENT

DIMENSION "A" TABLE

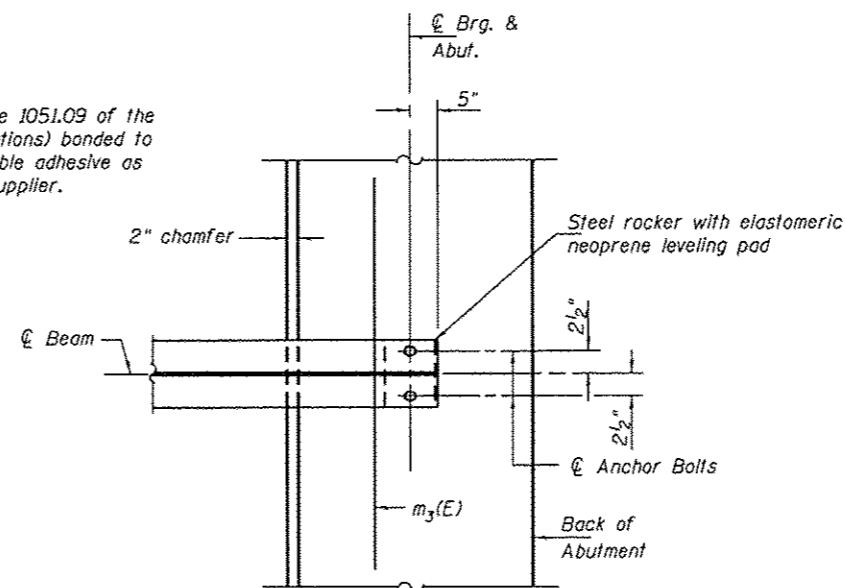
Location	℄ Rdwy.	End of Abut.
W. Abut.	1'-7 ⁵ / ₈ "	1'-7 ¹ / ₄ "
E. Abut.	1'-8 ¹ / ₈ "	1'-7 ³ / ₄ "



SECTION A-A



SECTION B-B



PARTIAL PLAN AT ABUTMENT
(Showing bottom flange of beam)

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 24.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 24.
 For details of bars s(E), s1(E) and v(E) see sheet 9 of 24.
 The approach slab seat shall have a constant slope determined from the control points shown.
 For bearing details see sheet 17 of 24.

DSI-2440-0

8-31-12

FILE NAME *	USER NAME *
11610_DIAPHRAGM.dgn	rfiszanko
DESIGNED -	REVISIONS -
J.A.M.	
CHECKED -	REVISIONS -
R.E.A.	
DRAWN -	REVISIONS -
A.D.S.	
PLOT DATE *	REVISIONS -
3/19/2013	

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-002825

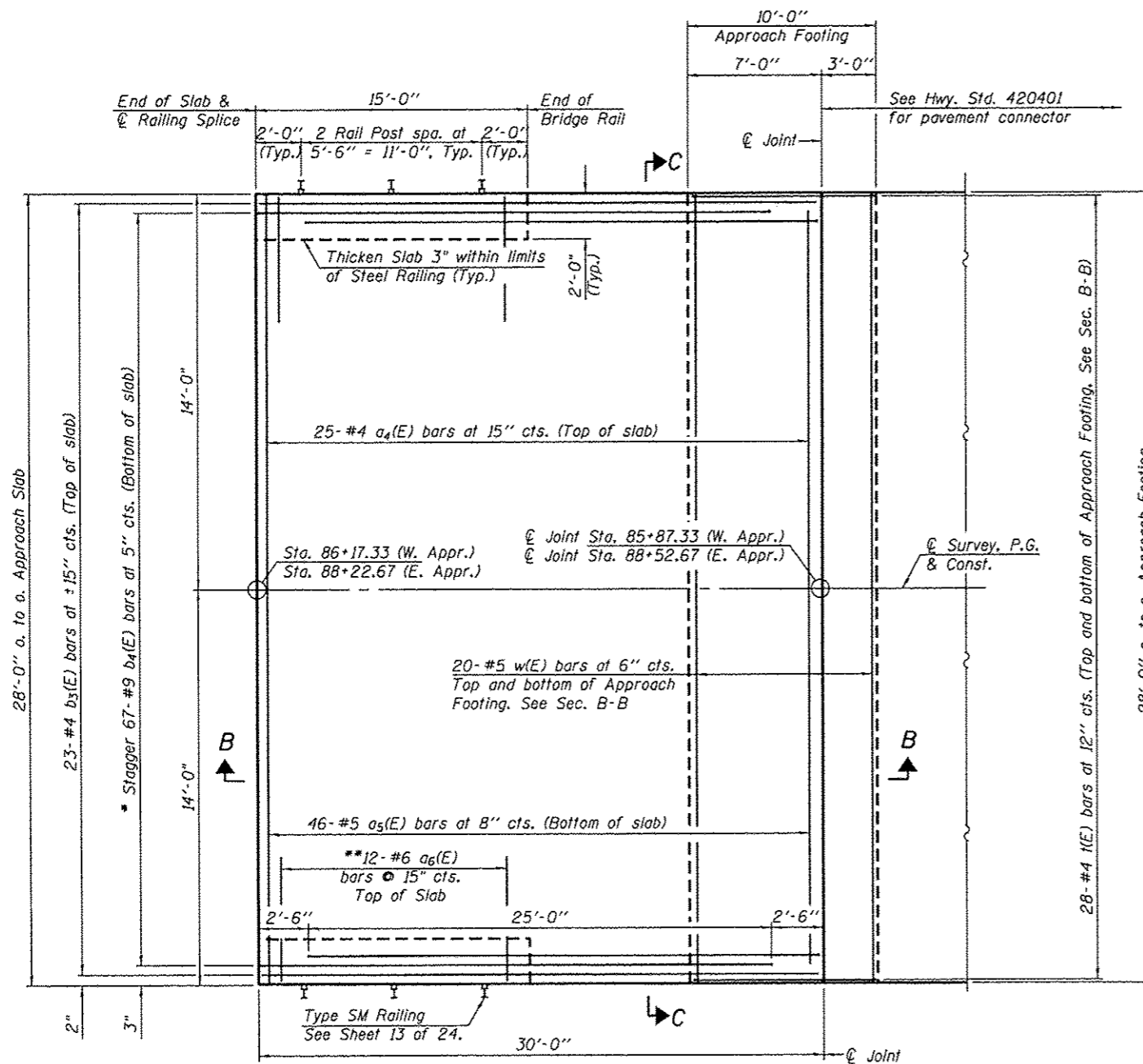
FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

DIAPHRAGM DETAILS
STRUCTURE NO. 043-3281
 SHEET NO. 10 OF 24 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	11-00137-00-BR	JODAVIESS	53	20

CONTRACT NO. 85586
 ILLINOIS FED. AID PROJECT

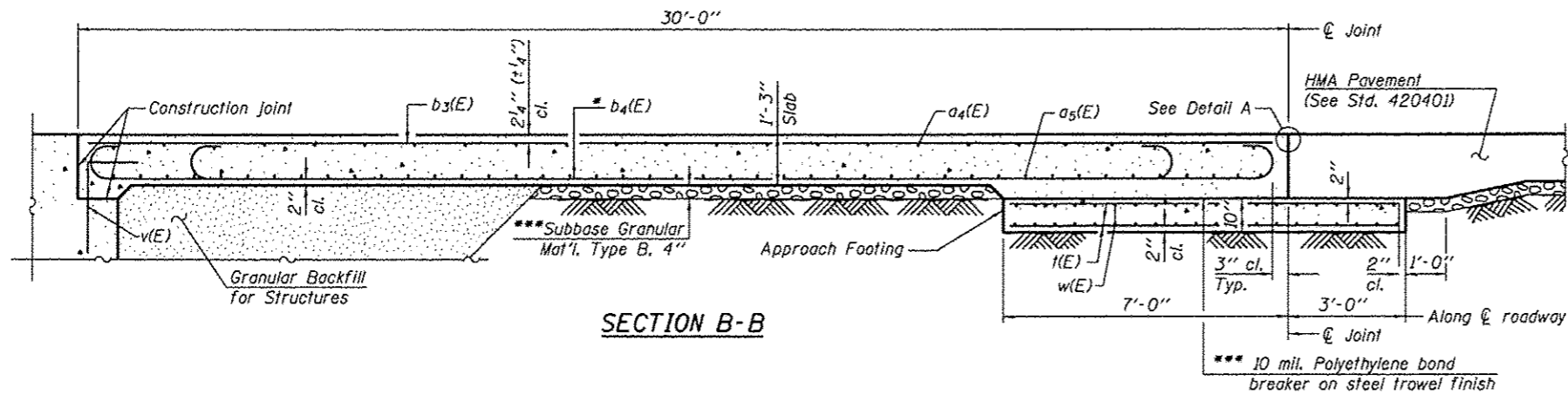
Notes:
 See Sheet 12 of 24 for Sections B-B & C-C, bar details and Bill of Materials.
 See Sheet 13 of 24 for Railing & Railing Connection Details.
 a₄(E), a₅(E), and w(E) bar spacings measured perpendicular to $\text{\textcircled{C}}$ Rdwy.



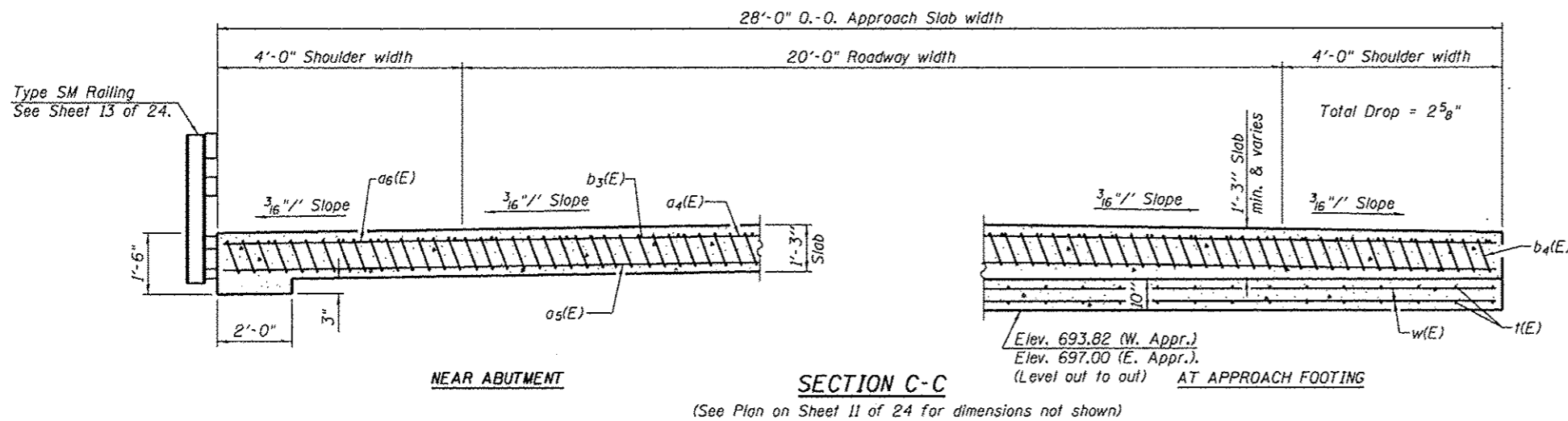
PLAN

- * Till #9 b₄(E) bars as required to maintain clearance.
- ** Space between a₄(E) bars, typ. each Bridge Rail section

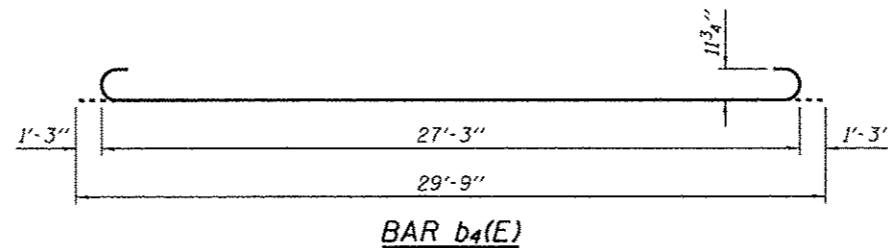
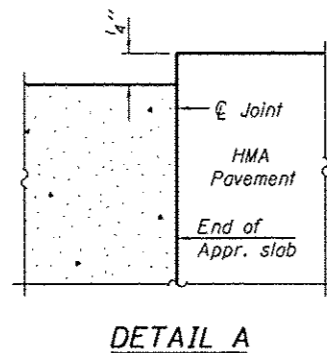
FILE NAME * 11G10.APPRCH-DTL.dgn	USER NAME * rfitzenko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 134-203229	FREEPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 043-3281		C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE * #SCALE#	CHECKED - R.E.A.	REVISED -					16	11-00137-00-BR	JO DAVIESS	53	21
	PLOT DATE * 3/19/2013	DRAWN - A.D.S.	REVISED -					CONTRACT NO. 85586				
	CHECKED -	REVISED -	SHEET NO. 11 OF 24 SHEETS									
								ILLINOIS FED. AID PROJECT				



Notes:
 Approach slab shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see Sheet 9 & 10 of 24.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see Sheet 2 of 24.

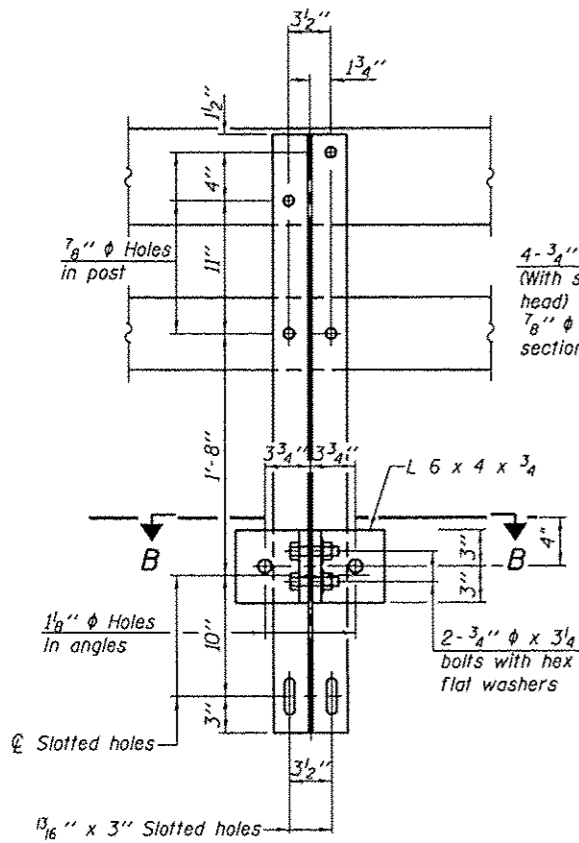


* Tilt #9 b4(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.

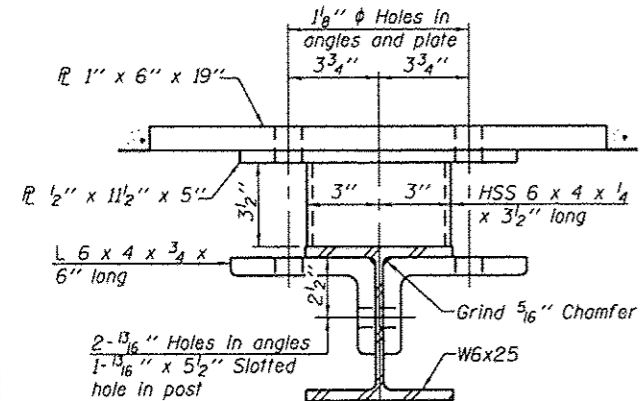


**TWO APPROACHES
 BILL OF MATERIAL**

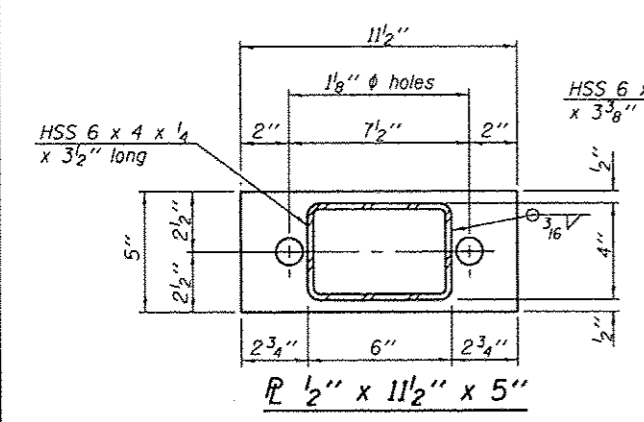
Bar	No.	Size	Length	Shape	
a4(E)	50	#4	27'-8"	—	
a5(E)	92	#5	27'-8"	—	
a6(E)	48	#6	6'-6"	—	
b3(E)	46	#4	29'-8"	—	
b4(E)	134	#9	29'-9"	—	
t(E)	112	#4	9'-8"	—	
w(E)	80	#5	27'-8"	—	
Concrete Superstructure				Cu. Yd.	85.9
Concrete Structures				Cu. Yd.	17.3
Reinforcement Bars, Epoxy Coated				Pound	21,540
Bridge Deck Grooving				Sq. Yd.	173
Protective Coat				Sq. Yd.	187



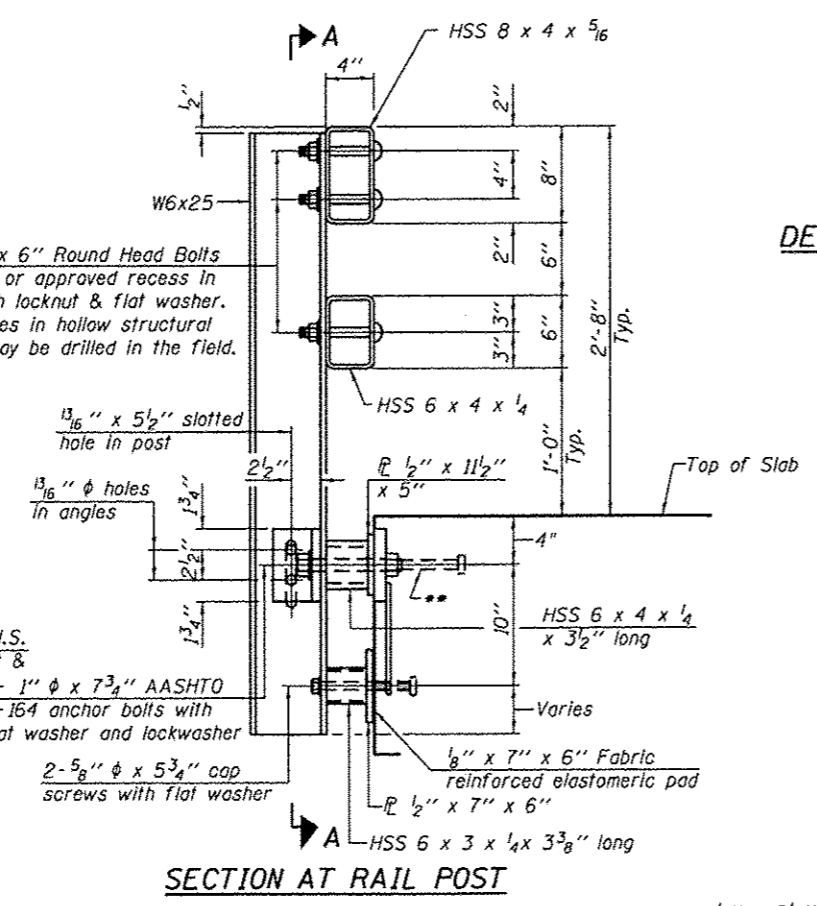
SECTION A-A



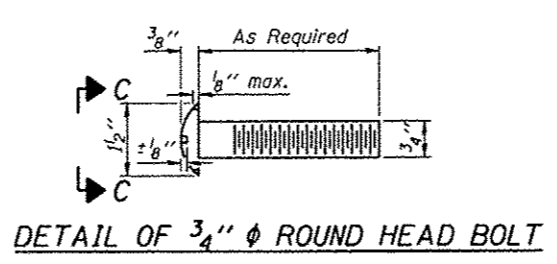
SECTION B-B



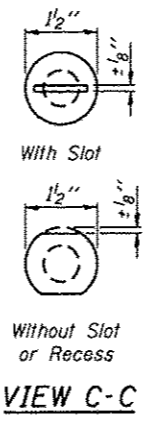
SECTION C-C



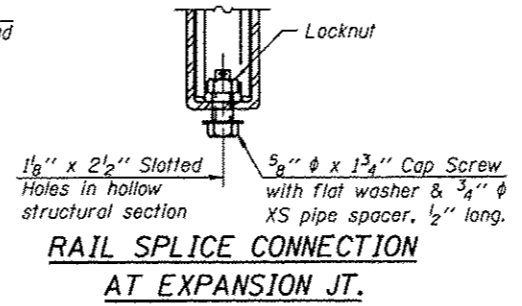
SECTION AT RAIL POST



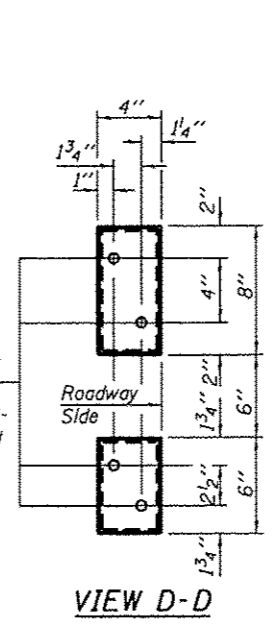
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



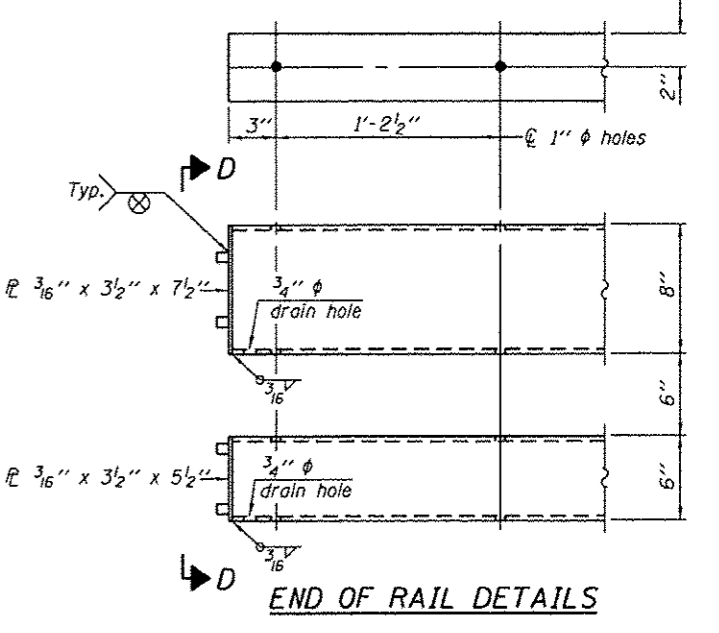
VIEW C-C



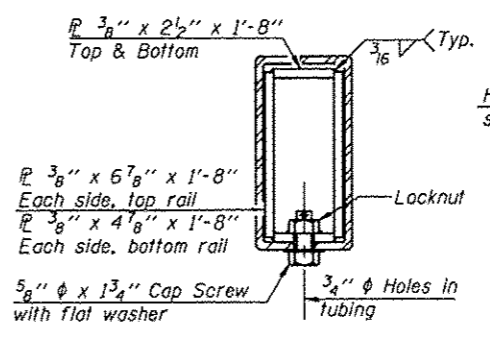
RAIL SPLICE CONNECTION AT EXPANSION JT.



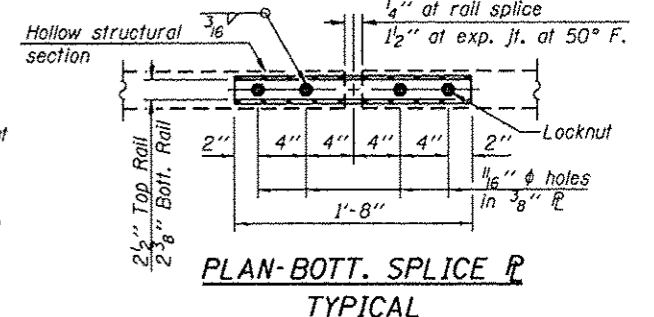
VIEW D-D



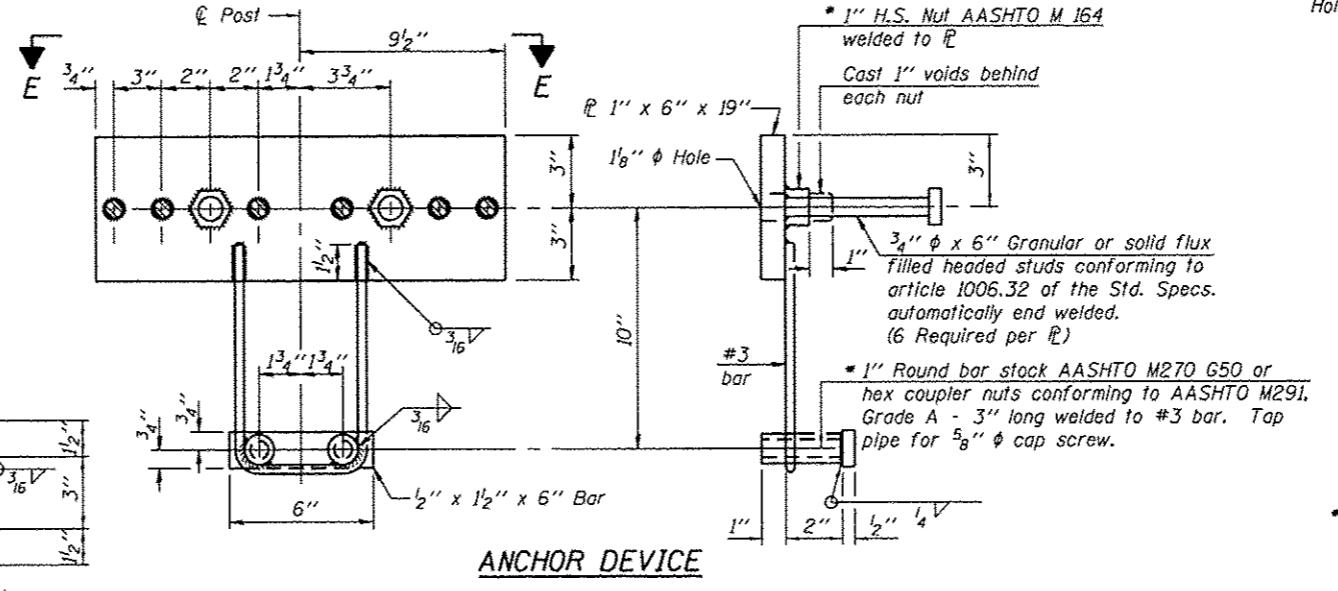
END OF RAIL DETAILS



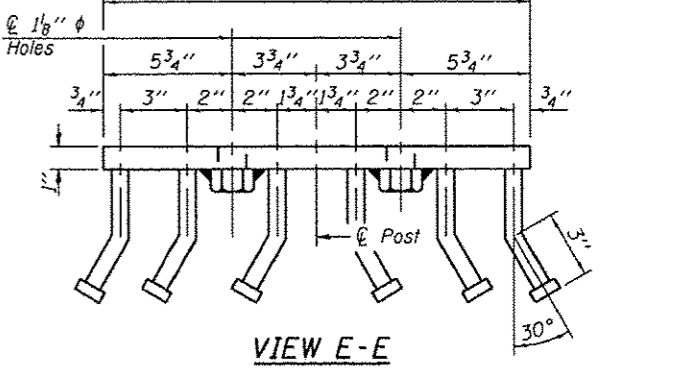
SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL



ANCHOR DEVICE



VIEW E-E

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
 * Threaded areas shall be plugged or blocked off during casting of slab. Galvanized after fabrication.
 ** 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.
 See Sheet 14 of 24 for Rail Post Spacing.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	471

(6'-3" Maximum Post Spacing)

FILE NAME • RAIL_SM-GADDN	USER NAME • ashw	DESIGNED - J.A.M.	REVISIONS -
11610.RAIL.dgn		CHECKED - R.E.A.	REVISIONS -
		DRAWN - A.D.S.	REVISIONS -
		CHECKED -	REVISIONS -
			REVISIONS -

PLOT SCALE • #SCALE#	
PLOT DATE • 3/22/2013	

DESIGNED - J.A.M.	REVISIONS -
CHECKED - R.E.A.	REVISIONS -
DRAWN - A.D.S.	REVISIONS -
CHECKED -	REVISIONS -
	REVISIONS -

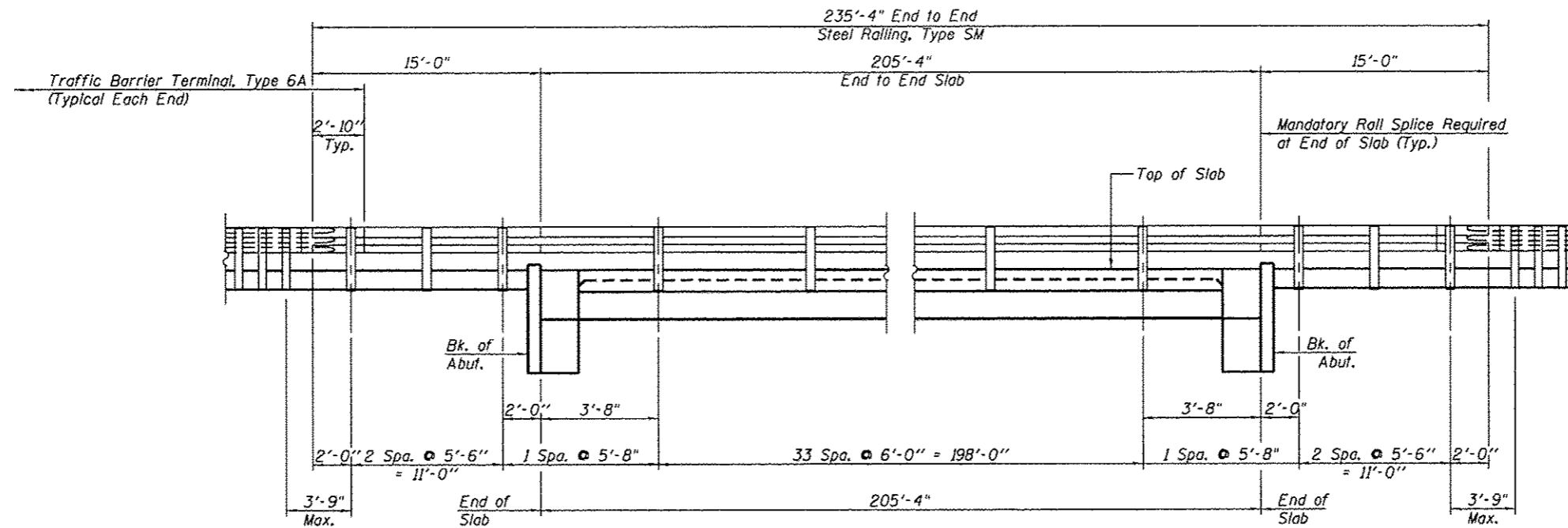
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-00265

FREPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, VT

STEEL RAILING, TYPE SM
STRUCTURE NO. 043-3281

SHEET NO. 13 OF 24 SHEETS

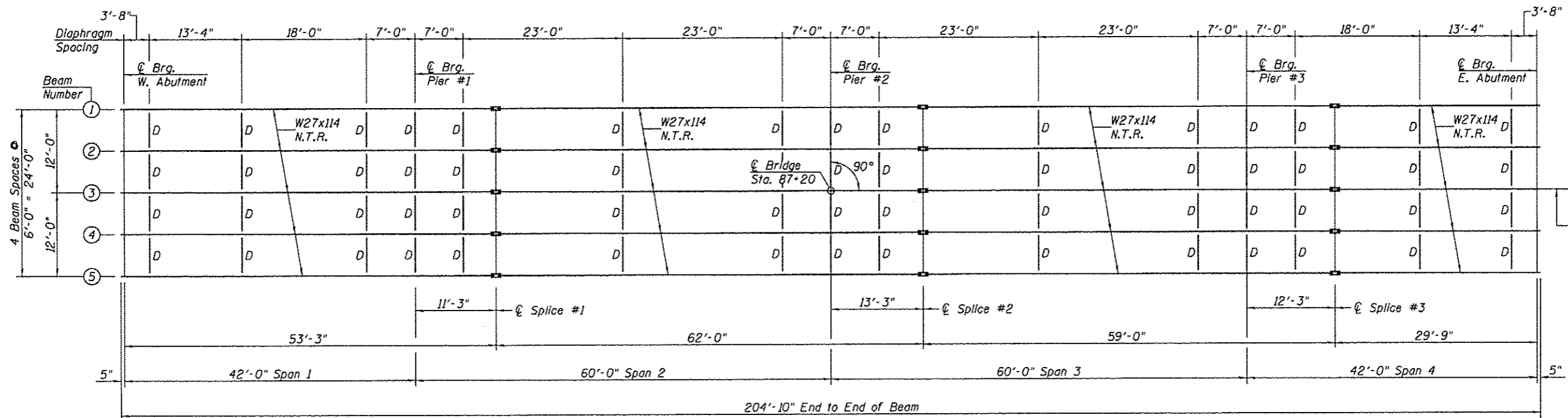
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16	11-00137-00-BR	JoDAVIESS	53	23
			CONTRACT NO.	B5586
ILLINOIS/FED. AID PROJECT				



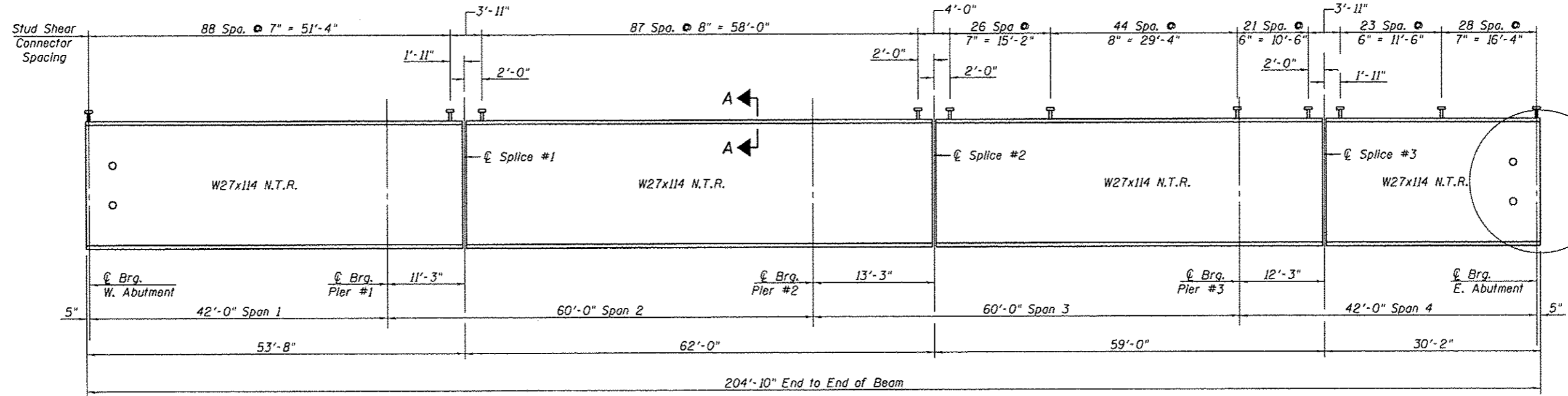
RAIL POST SPACING

See Sheet 13 of 24 for Steel Railing Details.

FILE NAME * RAIL_SM-GADGN 11610_RAIL.dgn	USER NAME * rfitzenko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-305263</small>	FRECPORT, IL ROCKFORD, IL	STEEL RAILING, TYPE SM STRUCTURE NO. 043-3281 SHEET NO. 14 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - R.E.A.	REVISED -		ROCHELLE, IL SPRINGFIELD, IL		16	11-00137-00-BR	JODAVIESS	53	24
		DRAWN - A.D.S.	REVISED -		MONROE, WI		CONTRACT NO. 85586		ILLINOIS FED. AID PROJECT		
		PLOT DATE * 3/19/2013	REVISED -								



FRAMING PLAN

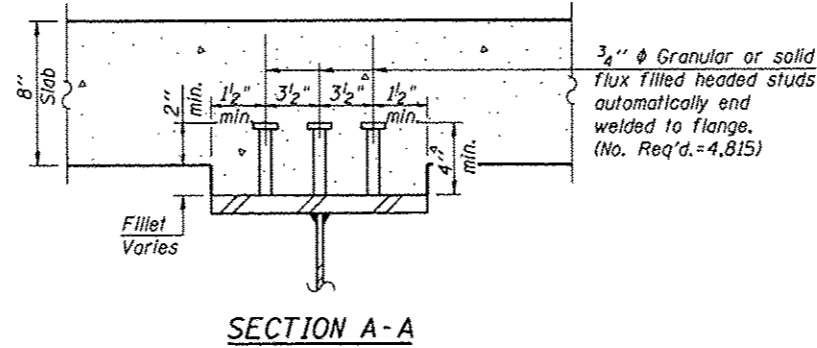


ELEVATION

Note: N.T.R. Indicates that Notch Toughness Requirements are applicable.

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

	Beam 1 or 5	Beam 2 or 4	Beam 3
☉ Brg. W. Abut.	695.93	696.03	696.12
☉ Brg. Pier #1	696.40	696.50	696.59
☉ Splice #1	696.52	696.62	696.71
☉ Brg. Pier #2	697.10	697.20	697.29
☉ Splice #2	697.26	697.36	697.45
☉ Brg. Pier #3	697.82	697.92	698.01
☉ Splice #3	697.97	698.07	698.16
☉ Brg. E. Abut.	698.38	698.48	698.57



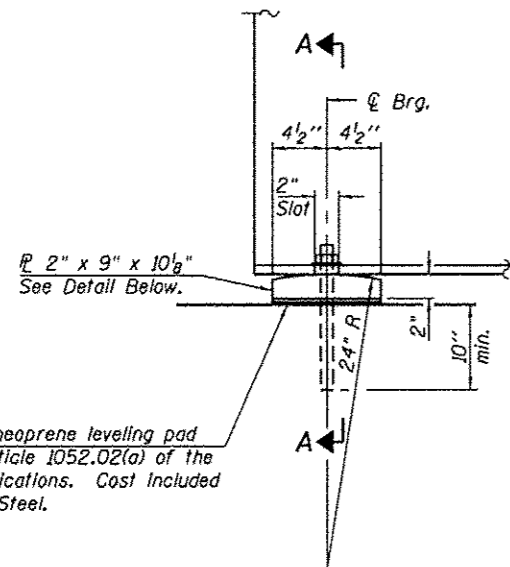
SECTION A-A

Note: See Sheet 16 of 24 for Splice Details.

Load carrying components designated "N.T.R." shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

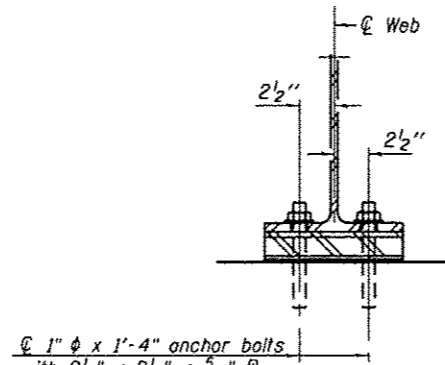
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Work this Sheet with Sheet 16 & 17 of 24



ELEVATION AT ABUTMENTS

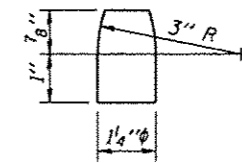
1/8" elastomeric neoprene leveling pad according to Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.



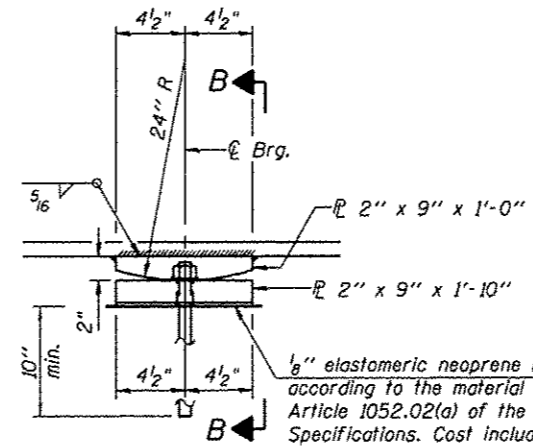
SECTION A-A

1" ϕ x 1'-4" anchor bolts with 2 1/4" x 2 1/4" x 5/16" R washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2" ϕ holes in bearing plate.

ABUTMENT BEARING
(10 Required)
Weight included with Structural Steel.

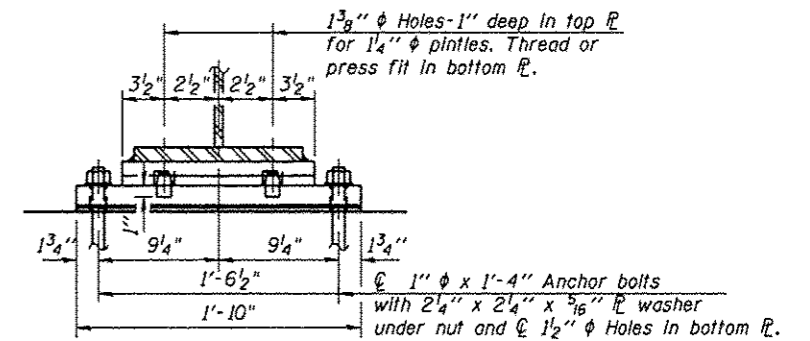


PINTLE



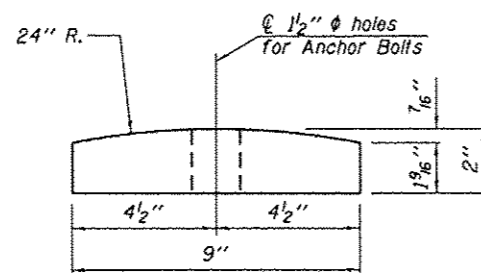
ELEVATION AT PIERS

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.



SECTION B-B

FIXED BEARING
(15 Required)
Weight included with Structural Steel.



BEARING PLATE DETAIL

Notes: Two 1/8" adjusting shims, of the dimension of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.
Anchor bolts shall be ASTM F1554 Grade 36, all-thread of the diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts at piers may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

BILL OF MATERIAL

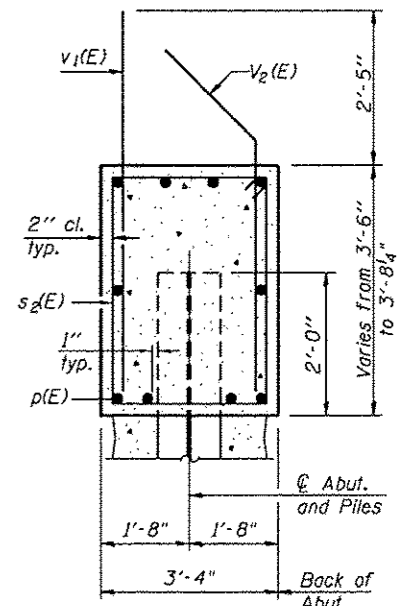
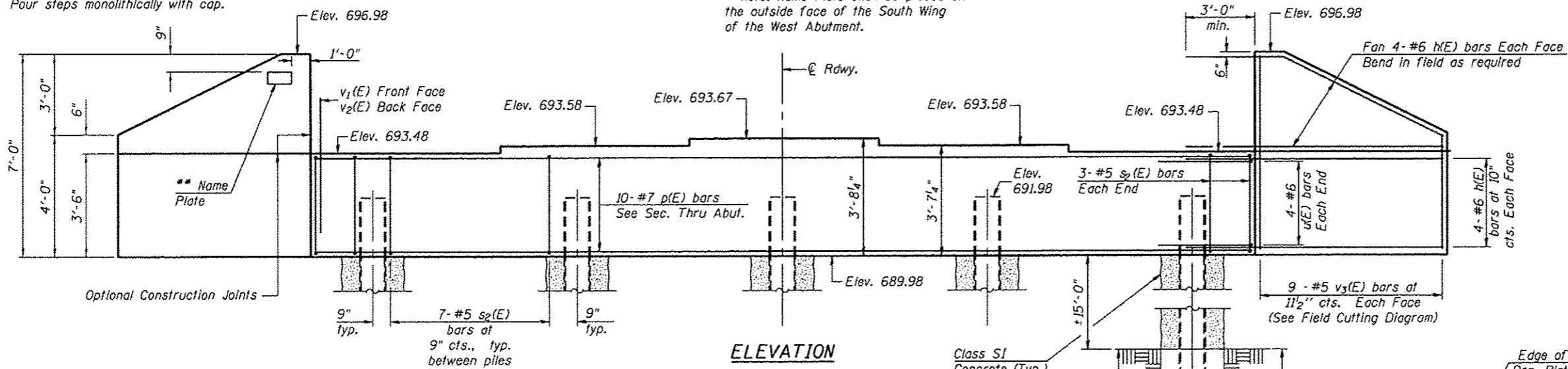
Item	Unit	Total
Anchor Bolts 1"	Each	50

Work this Sheet with Sheets 15 & 16 of 24.

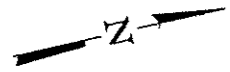
FILE NAME * 11E18-BEARING.dgn	USER NAME * rfszranko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FILE NO. 184-20052	FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	BEARING DETAILS STRUCTURE NO. 043-3281 SHEET NO. 17 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE * #SCALE#	DRAWN - A.D.S.	CHECKED - R.E.A.	REVISED -		16		11-00137-00-BR	JODAVIESS	53	27	
PLOT DATE * 3/19/2013	CHECKED -	REVISED -	REVISED -		CONTRACT NO. 85586						
ILLINOIS FED. AID PROJECT											

Notes:
Pour steps monolithically with cap.

**Note: Name Plate shall be placed on the outside face of the South Wing of the West Abutment.



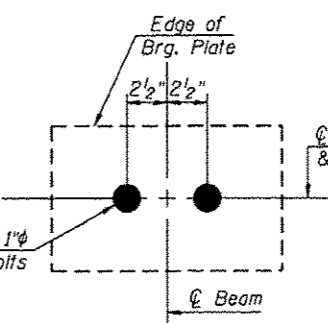
SEC. THRU ABUT.



ELEVATION

Class SI Concrete (Typ.)

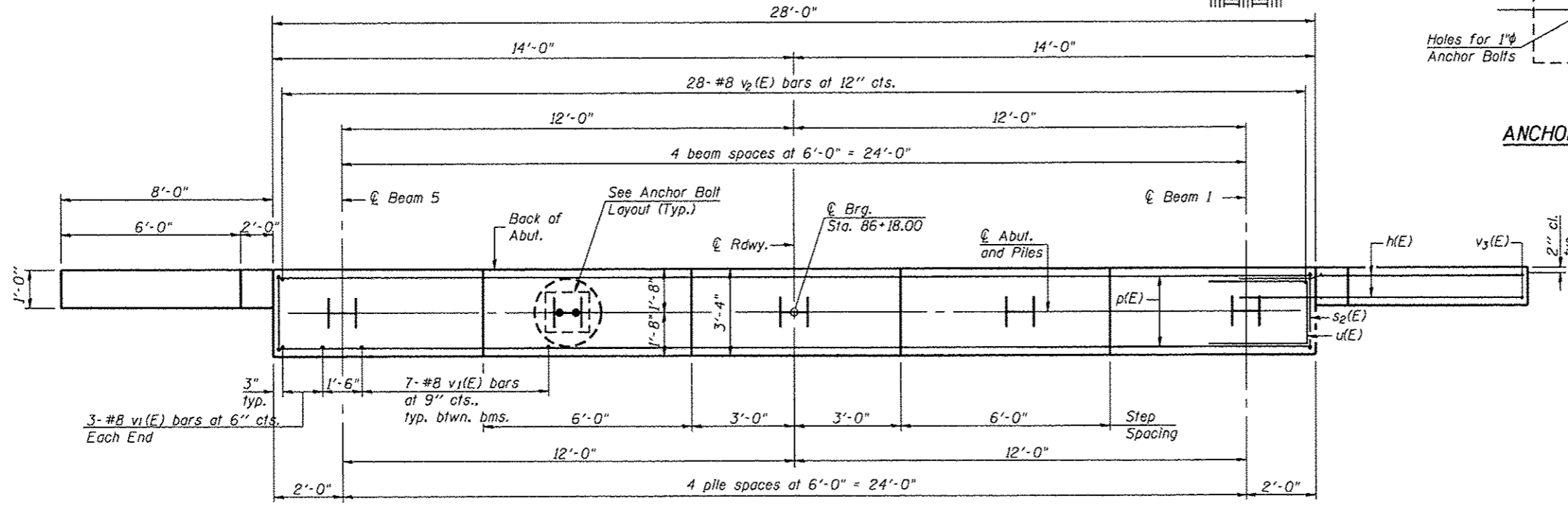
7'-0" min. into sound rock (Typ.)



ANCHOR BOLT LAYOUT

WEST ABUT.
BILL OF MATERIAL

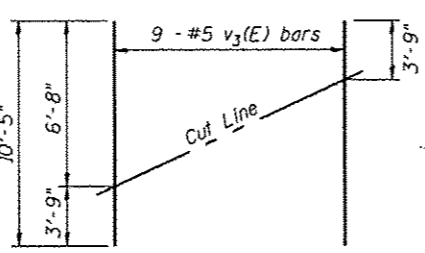
Bar No.	Size	Length	Shape
h(E)	#6	11'-9"	—
p(E)	#7	27'-8"	—
s2(E)	#5	13'-3"	□
u(E)	#6	12'-11"	—
v1(E)	#8	5'-9"	—
v2(E)	#8	5'-9"	—
v3(E)	#5	10'-5"	—
Structure Excavation			Cu. Yd. 39
Concrete Structures			Cu. Yd. 15.9
Reinforcement Bars, Epoxy Coated			Pound 2,900
Furnishing Steel Piles HPI0x42			Foot 120
Setting Piles in Rock			Each 5



PLAN

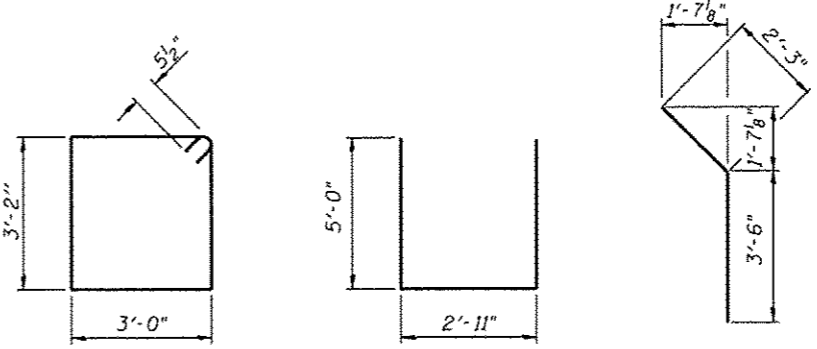
PILE DATA

Type: Steel HPI0x42
Nominal Required Bearing: Set in Rock
Est. Length: 24 Ft.
No. Production Piles: 5
The Steel Piles shall be according to AASHTO M270 Grade 50.



FIELD CUTTING DIAGRAM

Order v3(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s2(E)

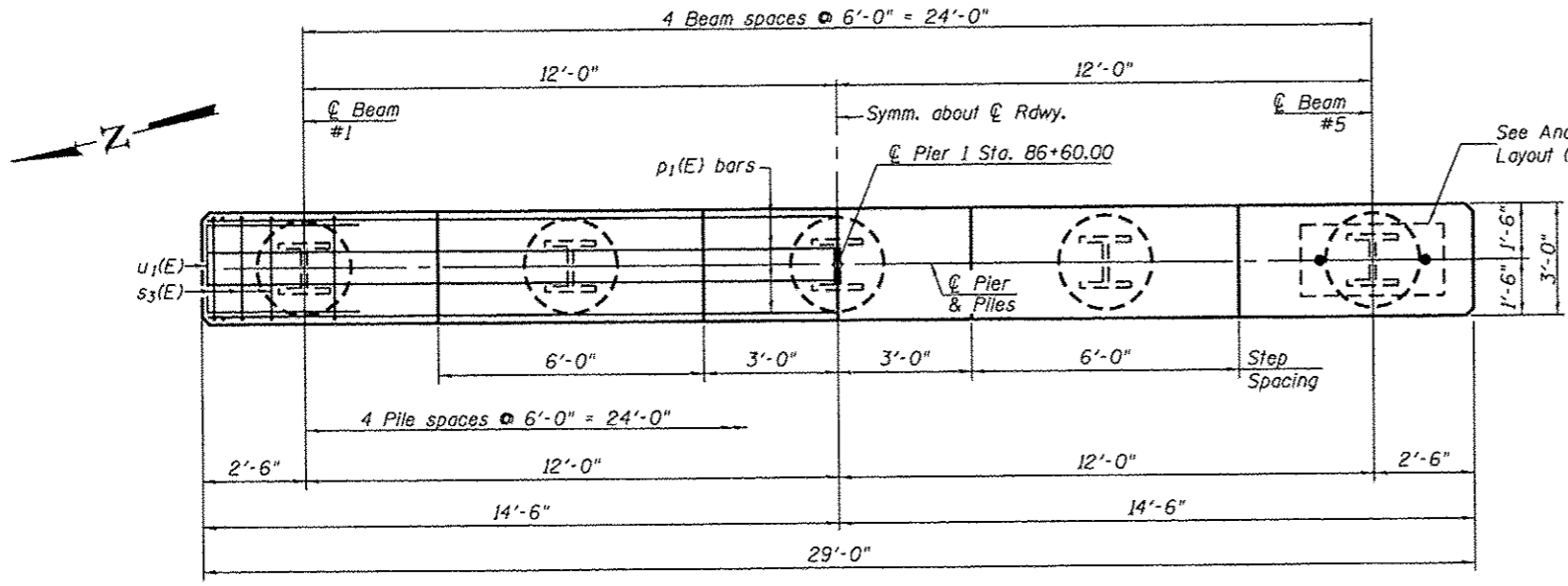
BAR u(E)

BAR v2(E)

See Sheet 23 of 24 for Pile Details

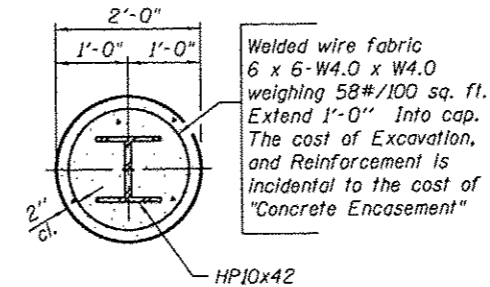
*Note A:
Precore through existing earth and rock as shown. Piles shall be grouted into the rock with Class SI Concrete. Precored holes shall be clean at time of placement and grouting. The Class SI Concrete used for grouting piles into rock and to fill cored holes is included in the price for "Setting Piles in Rock."
See Special Provisions

FILE NAME * 11610.ABUTS.dgn	USER NAME * rfitanko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 184-993295	FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	WEST ABUTMENT DETAILS STRUCTURE NO. 043-3281 SHEET NO. 18 OF 24 SHEETS	C.H. 16	SECTION 11-00137-00-BR	COUNTY JO DAVILESS	TOTAL SHEETS 53	SHEET NO. 28
PLOT SCALE * SCALE 1/8" = 1'-0"	SCALE * SCALE 1/8" = 1'-0"	CHECKED - R.E.A.	REVISED -		CONTRACT NO. 85586	ILLINOIS FED. AID PROJECT					
PLOT DATE * 3/19/2013	DATE * 3/19/2013	DRAWN - A.D.S.	REVISED -								
		CHECKED -	REVISED -								

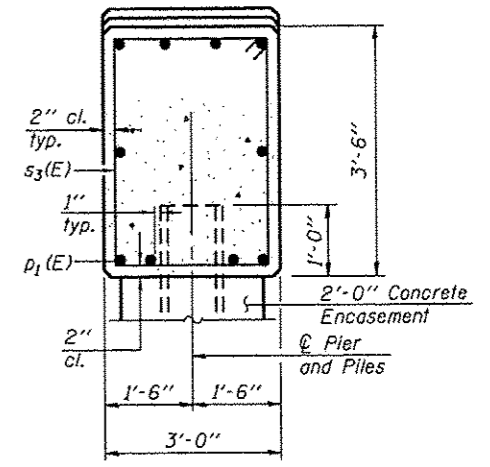


PLAN

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

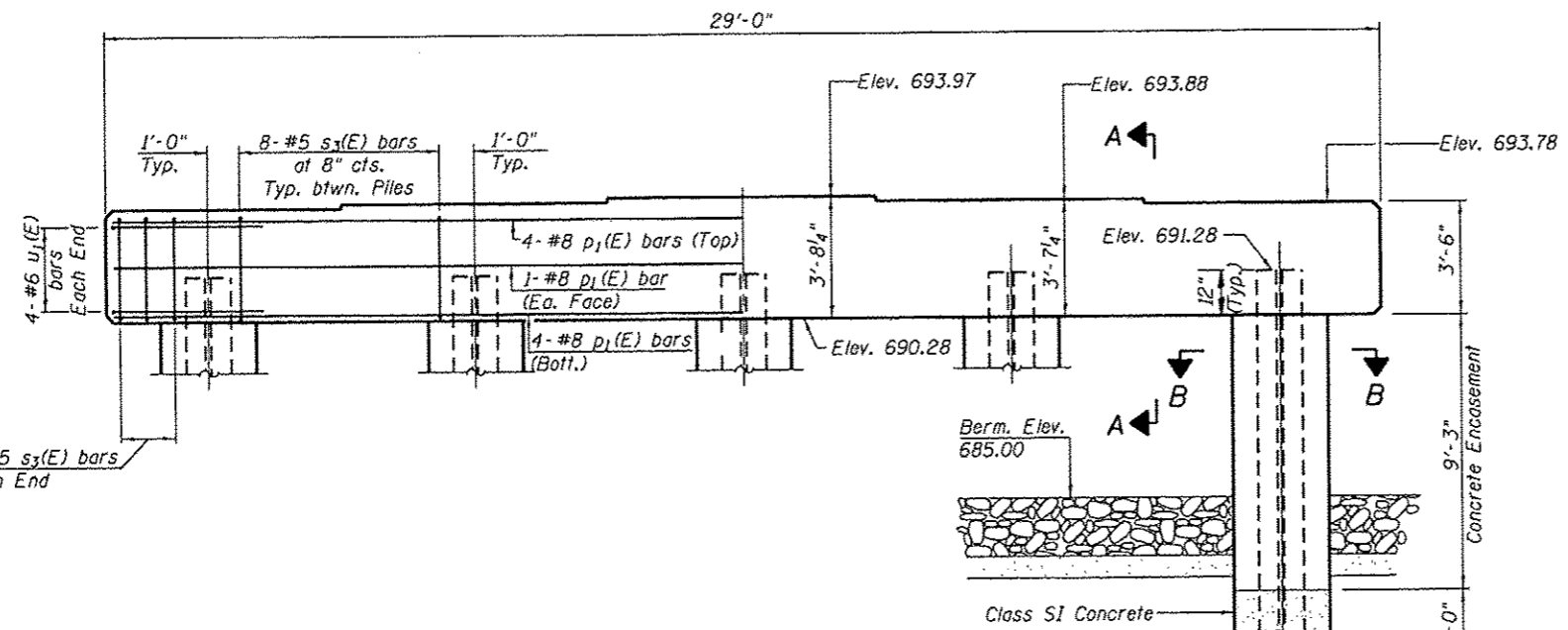


SECTION B-B



SECTION A-A

Note A:
Precore through existing earth and rock as shown. Piles shall be grouted into the rock with Class SI Concrete. Precored holes shall be clean at time of placement and grouting. The Class SI Concrete used for grouting piles into rock and to fill cored holes is included in the price for "Setting Piles In Rock."
See Special Provisions



ELEVATION
(Looking East)

PILE DATA

Type & Size.....Steel HP10x42
Nominal Required Bearing.....Set in Rock
Estimated Length.....28 ft.
No. Production Piles.....5

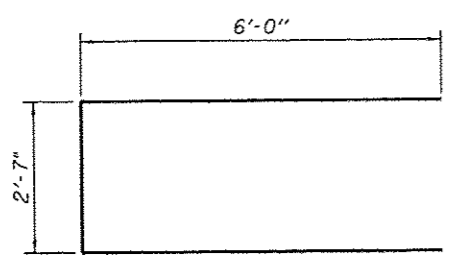
The Steel H-Piles shall be according to AASHTO M270 Grade 50.

See Sheet 23 of 24 for Pile Details.

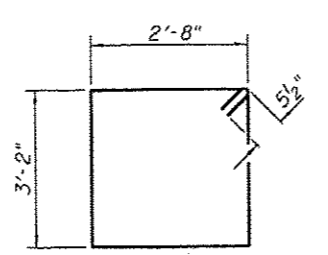
BILL OF MATERIAL - PIER 1

BAR	NO.	SIZE	LENGTH	SHAPE	
p ₁ (E)	10	#8	28'-8"	—	
s ₃ (E)	38	#5	12'-7"	□	
u ₁ (E)	8	#6	14'-7"	—	
Concrete Structures				Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated				Pound	1,440
Furnishing Steel Piles, HP10x42				Foot	140
Setting Piles in Rock				Each	5
Concrete Encasement				Cu. Yd.	5.4

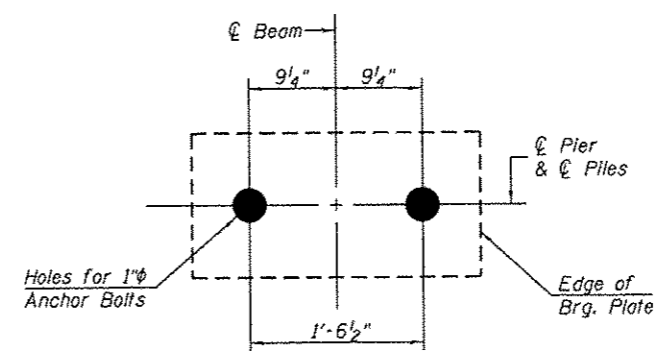
Note: All reinforcement bars shall be epoxy coated.



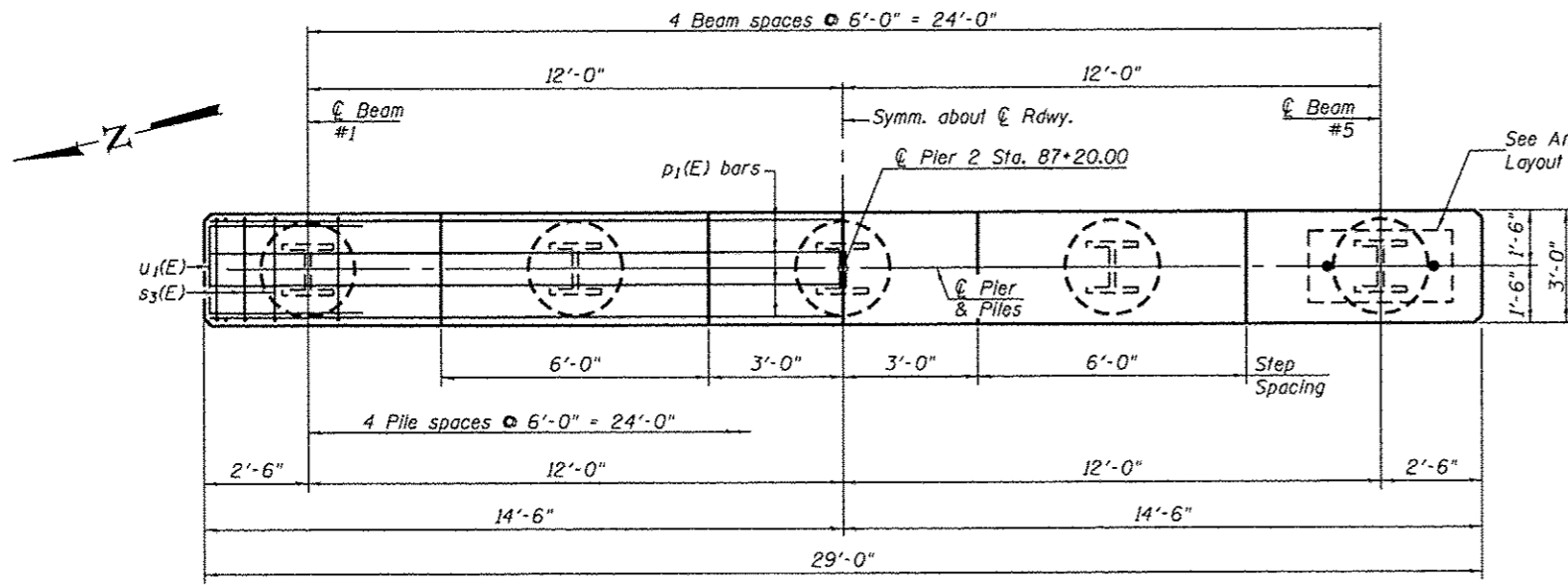
BAR u₁(E)



BAR s₃(E)



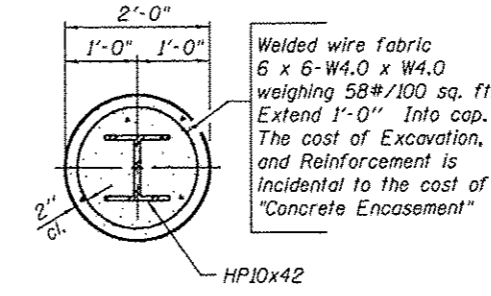
ANCHOR BOLT LAYOUT



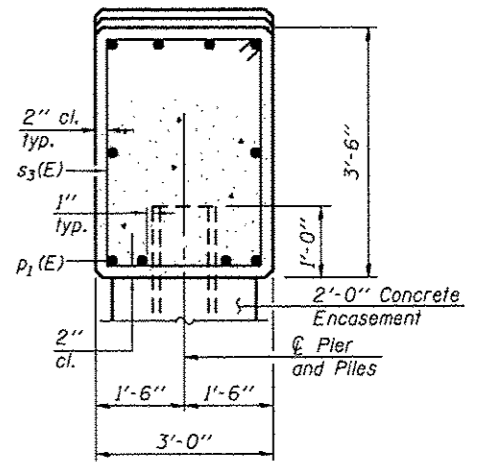
Note: All edges shall have standard 3/4" chamfer.

See Anchor Bolt Layout (Typ.)

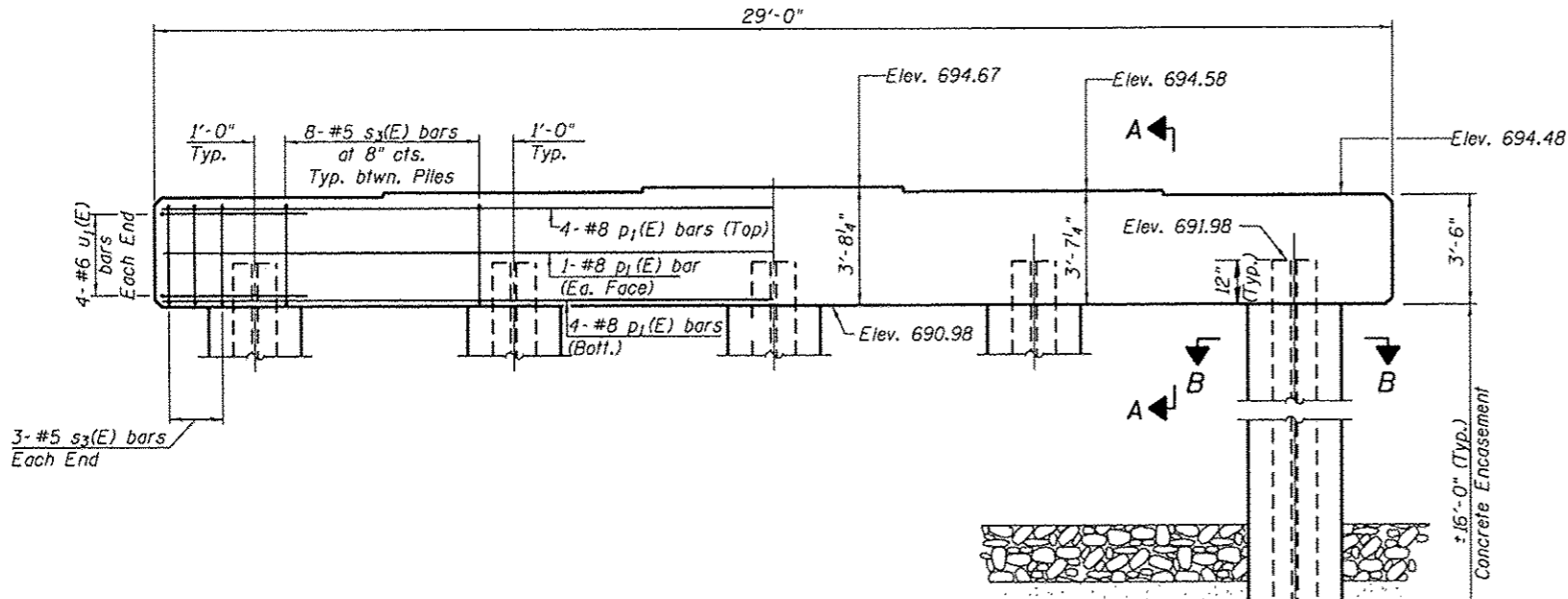
PLAN



SECTION B-B



SECTION A-A



ELEVATION
(Looking East)

PILE DATA

Type & Size	Steel HPI0x42
Nominal Required Bearing	Set in Rock
Estimated Length	28 ft.
No. Production Piles	5

The Steel H-Piles shall be according to AASHTO M270 Grade 50.

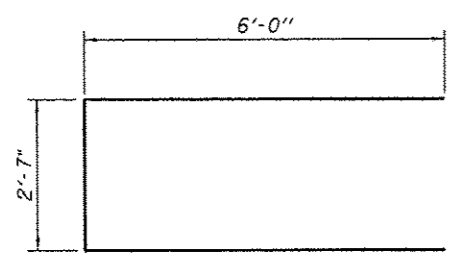
See Sheet 23 of 24 for Pile Details.

* Note A:
Precore through existing earth and rock as shown. Piles shall be grouted into the rock with Class SI Concrete. Precored holes shall be clean at time of placement and grouting. The Class SI Concrete used for grouting piles into rock is included in the price for "Setting Piles in Rock." See Special Provisions

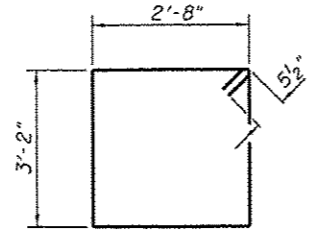
BILL OF MATERIAL - PIER 2

BAR	NO.	SIZE	LENGTH	SHAPE	
p ₁ (E)	10	#8	28'-8"	—	
s ₃ (E)	38	#5	12'-7"	□	
u ₁ (E)	8	#6	14'-7"	▭	
Concrete Structures				Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated				Pound	1,440
Furnishing Steel Piles, HPI0x42				Foot	140
Setting Piles in Rock				Each	5
Concrete Encasement				Cu. Yd.	9.3

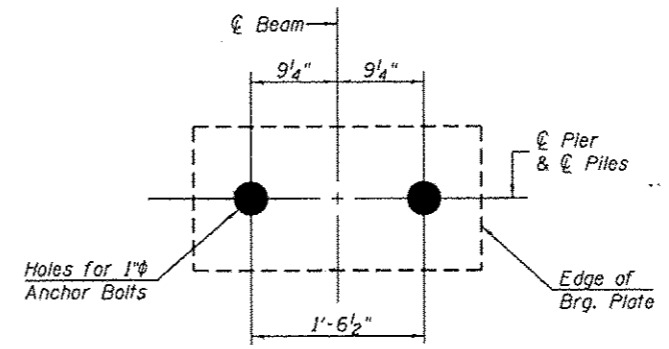
Note: All reinforcement bars shall be epoxy coated.



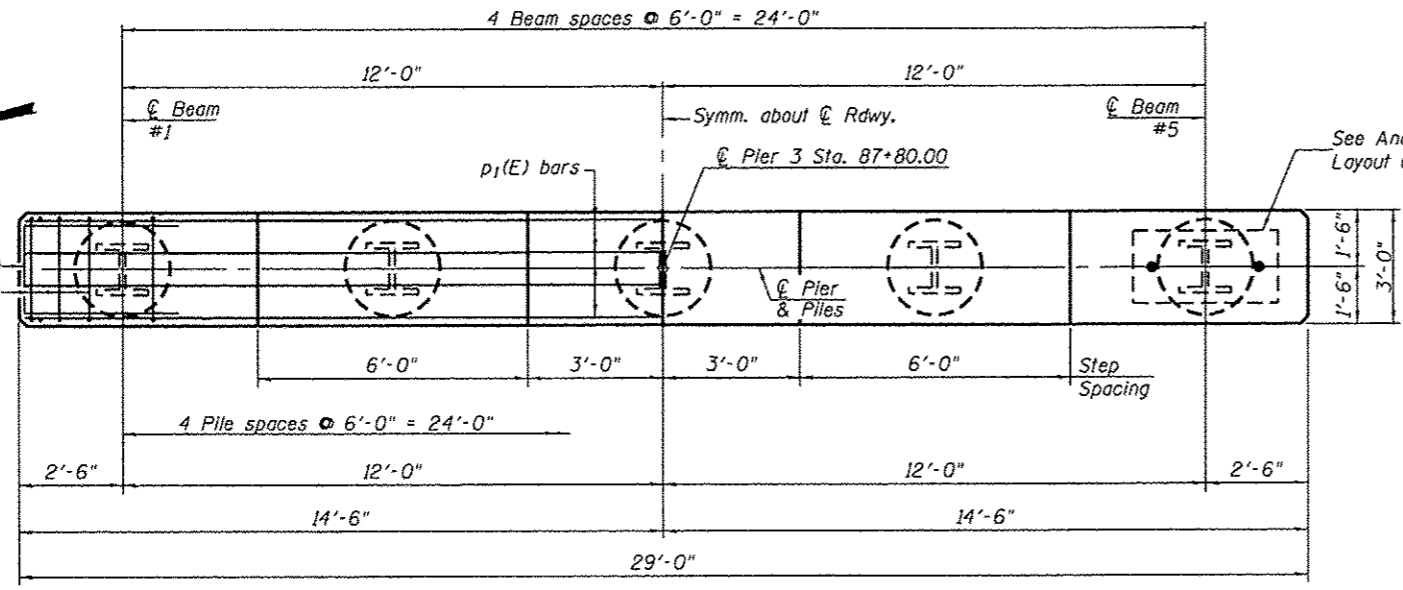
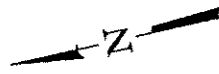
BAR u₁(E)



BAR s₃(E)



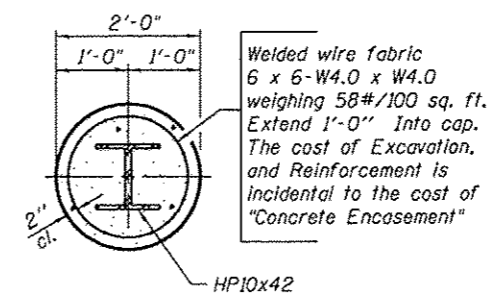
ANCHOR BOLT LAYOUT



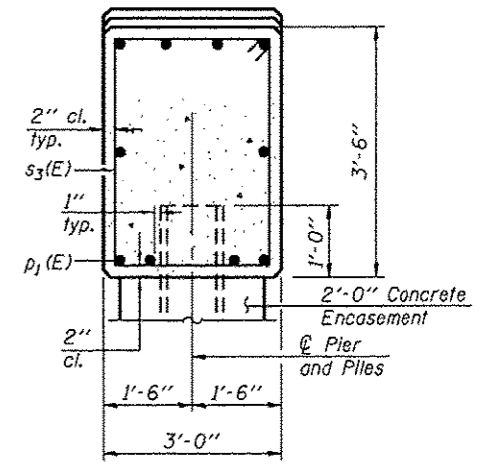
PLAN

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

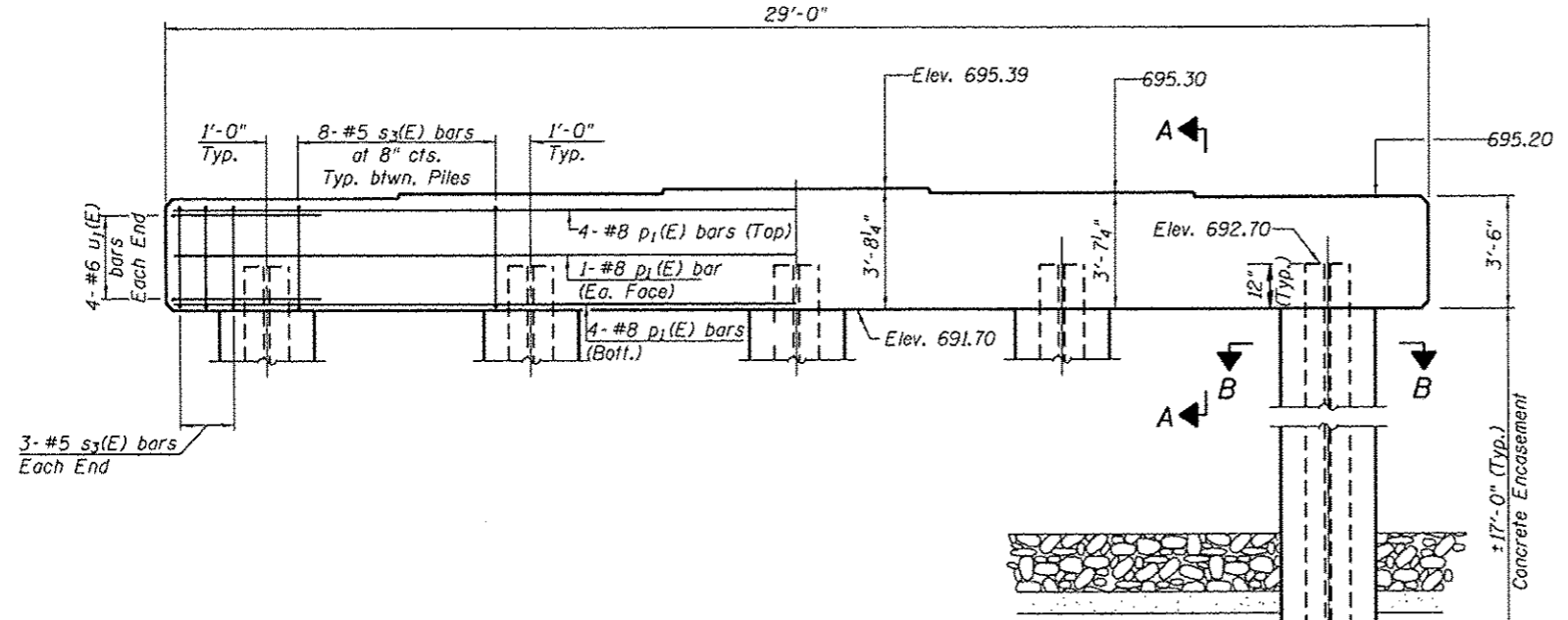
See Anchor Bolt Layout (Typ.)



SECTION B-B



SECTION A-A



ELEVATION
(Looking East)

PILE DATA

Type & Size	Steel HP10x42
Nominal Required Bearing	Set in Rock
Estimated Length	29 ft.
No. Production Piles	5

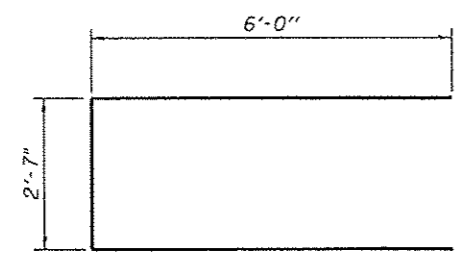
Note A:
Precure through existing earth and rock as shown. Piles shall be grouted into the rock with Class SI Concrete. Precored holes shall be clean at time of placement and grouting. The Class SI Concrete used for grouting piles into rock is included in the price for "Setting Piles In Rock." See Special Provisions

BILL OF MATERIAL - PIER 3

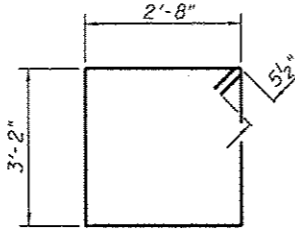
BAR	NO.	SIZE	LENGTH	SHAPE
p1(E)	10	#8	28'-8"	—
s3(E)	38	#5	12'-7"	□
u1(E)	8	#6	14'-7"	▭
Concrete Structures			Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated			Pound	1,440
Furnishing Steel Piles, HP10x42			Foot	145
Setting Piles in Rock			Each	5
Concrete Encasement			Cu. Yd.	9.9

The Steel H-Piles shall be according to AASHTO M270 Grade 50.

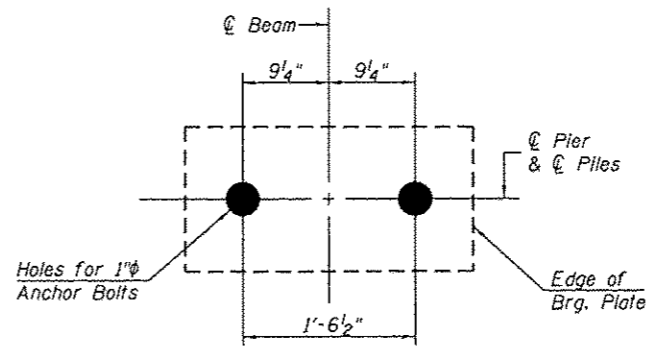
See Sheet 23 of 24 for Pile Details.



BAR u1(E)

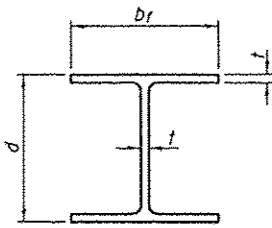


BAR s3(E)



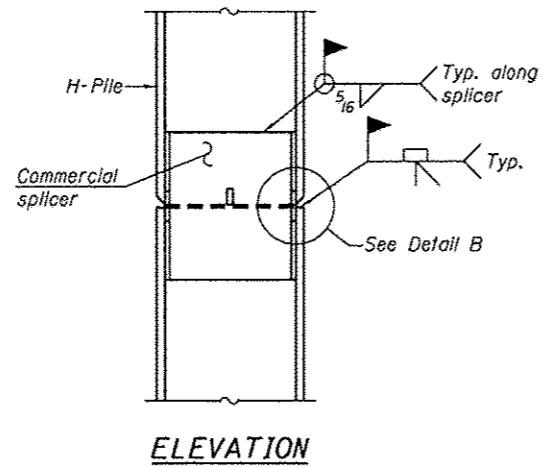
ANCHOR BOLT LAYOUT

Note: All reinforcement bars shall be epoxy coated.

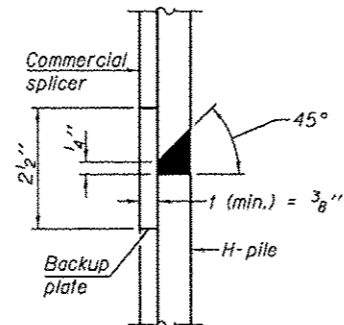


STEEL PILE TABLE

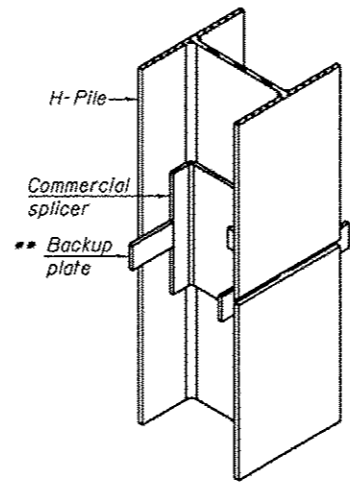
Designation	Depth d	Flange width b _f	Web and Flange thickness t
HP 14x117	14 1/4"	14 7/8"	13/16"
x102	14"	14 3/4"	11/16"
x89	13 7/8"	14 3/4"	5/8"
x73	13 5/8"	14 5/8"	1/2"
HP 12x84	12 1/4"	12 1/4"	11/16"
x74	12 1/8"	12 1/4"	5/8"
x63	12"	12 1/8"	1/2"
x53	11 3/4"	12"	7/16"
HP 10x57	10"	10 1/4"	9/16"
x42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



ELEVATION

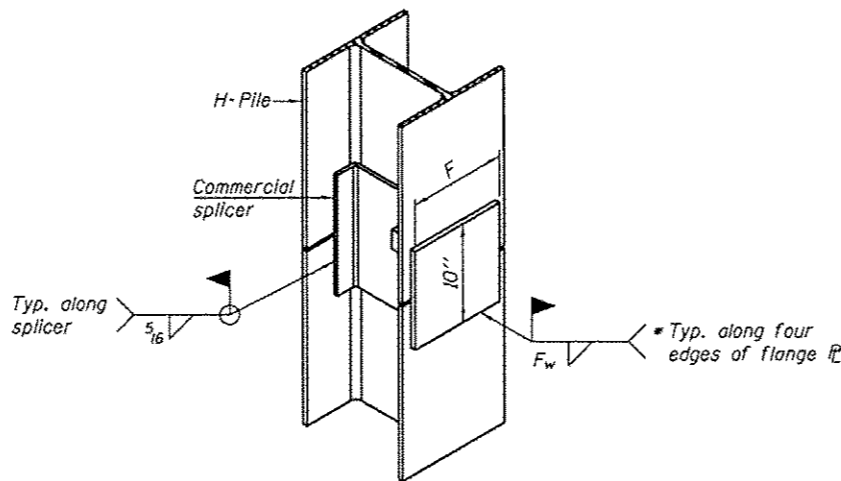


DETAIL "B"



ISOMETRIC VIEW

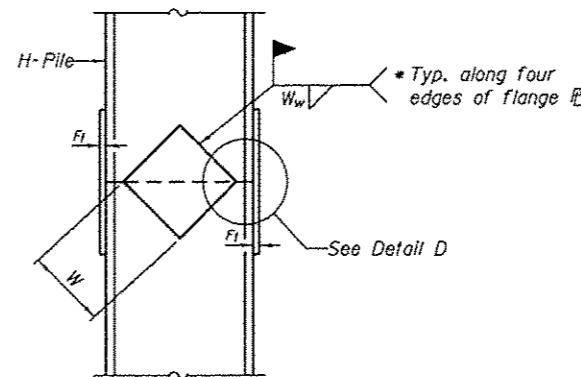
WELDED COMMERCIAL SPLICE



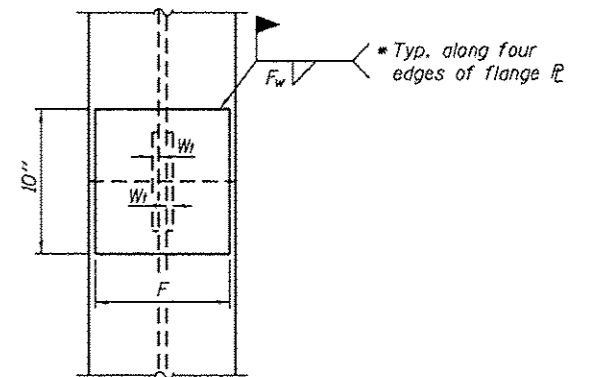
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

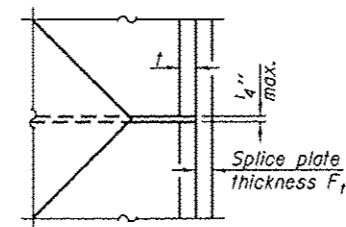
- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



ELEVATION



END VIEW



DETAIL D

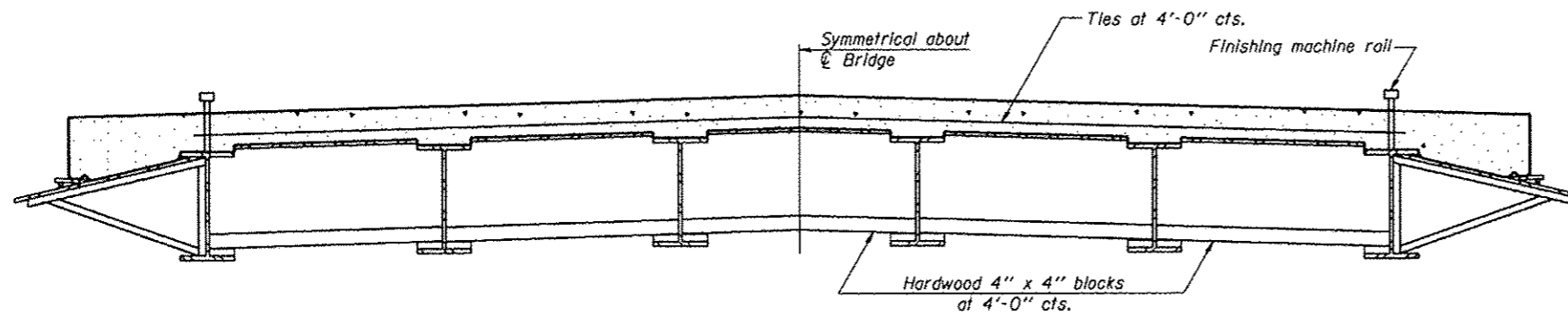
WELDED PLATE FIELD SPLICE

Designation	F	F ₁	F _w	W	W ₁	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

F-HP 7-1-10

FILE NAME * 11610_PILES.dgn	USER NAME * rfitzenko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 04-00320	FREEPORT, IL	ROCKFORD, IL	STEEL PILE SPLICING DETAILS STRUCTURE NO. 043-3281 SHEET NO. 23 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE * #SCALE#	CHECKED - R.E.A.	REVISED -		ROCHELLE, IL	SPRINGFIELD, IL		16	11-00137-00-BR	JO DAVIESS	53	33
	PLOT DATE * 3/19/2013	DRAWN - A.D.S.	REVISED -		MONROE, WI							
		CHECKED -	REVISED -									



**FORM BRACES FOR
STANDARD CONSTRUCTION**

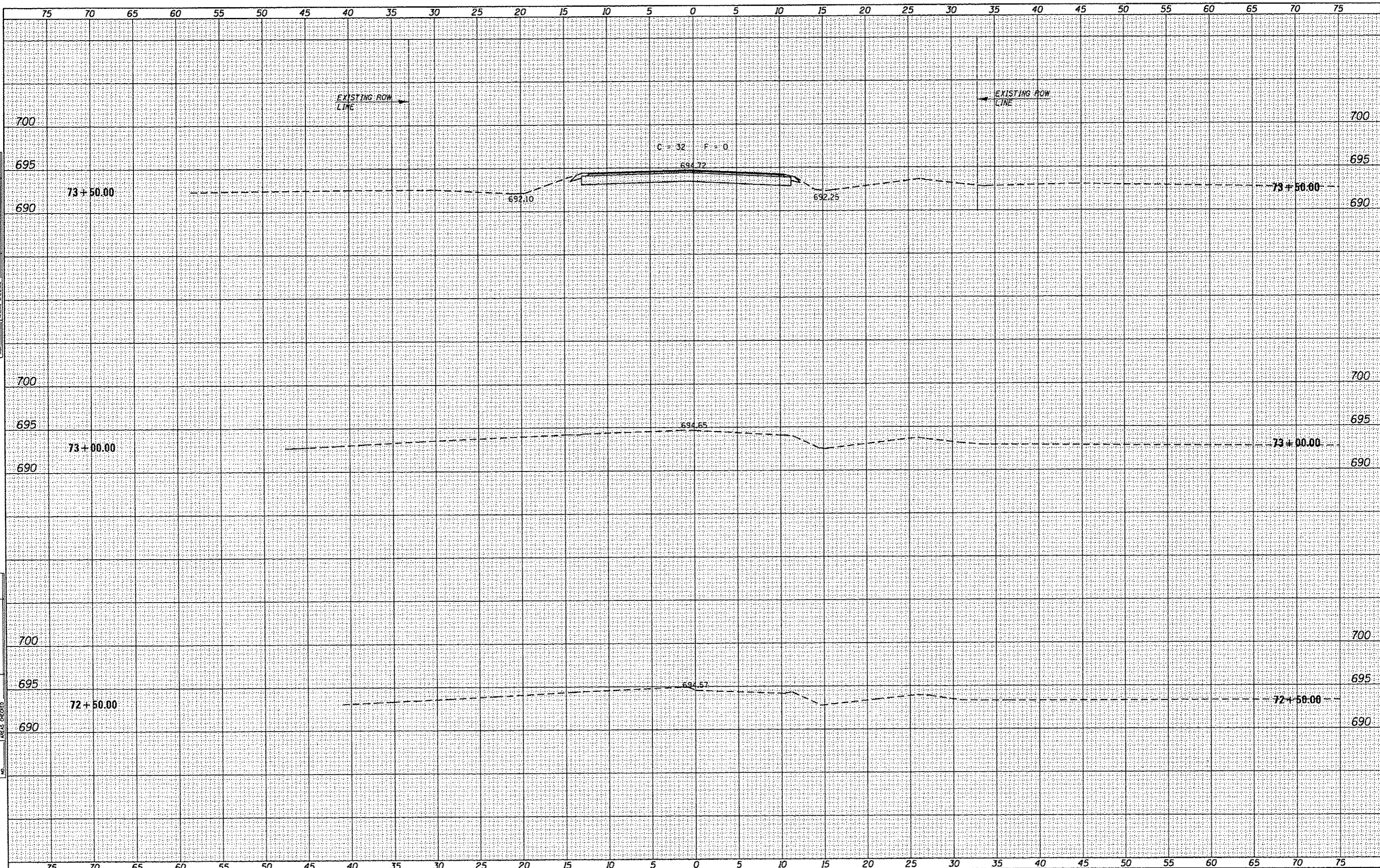
When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

FILE NAME * 11610.CANTILEVER.dgn	USER NAME * rfranko	DESIGNED - J.A.M.	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-002563</small>	FREEPORT, IL	ROCKFORD, IL	CANTILEVER FORMING BRACKETS STRUCTURE NO. 043-3281 SHEET NO. 24 OF 24 SHEETS	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE * #SCALE#	CHECKED - R.E.A.	REVISED -		ROCHELLE, IL	SPRINGFIELD, IL		16	11-00137-00-BR	JO DAVIESS	53	34
	PLOT DATE * 3/19/2013	DRAWN - A.D.S.	REVISED -		HONROE, VI	CONTRACT NO. 85586		ILLINOIS FED. AID PROJECT				



DATE	
BY	
FINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	
NOTE BOOK NO.	

DATE	
BY	
ORIGINAL SURVEY	
SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	
NOTE BOOK NO.	

FILE NAME * 11-610.XSPR-SHEETS.dgn
 PLOTTED BY * rfitzenko
 CHECKED BY *
 PLOT DATE * 3/26/2013

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

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

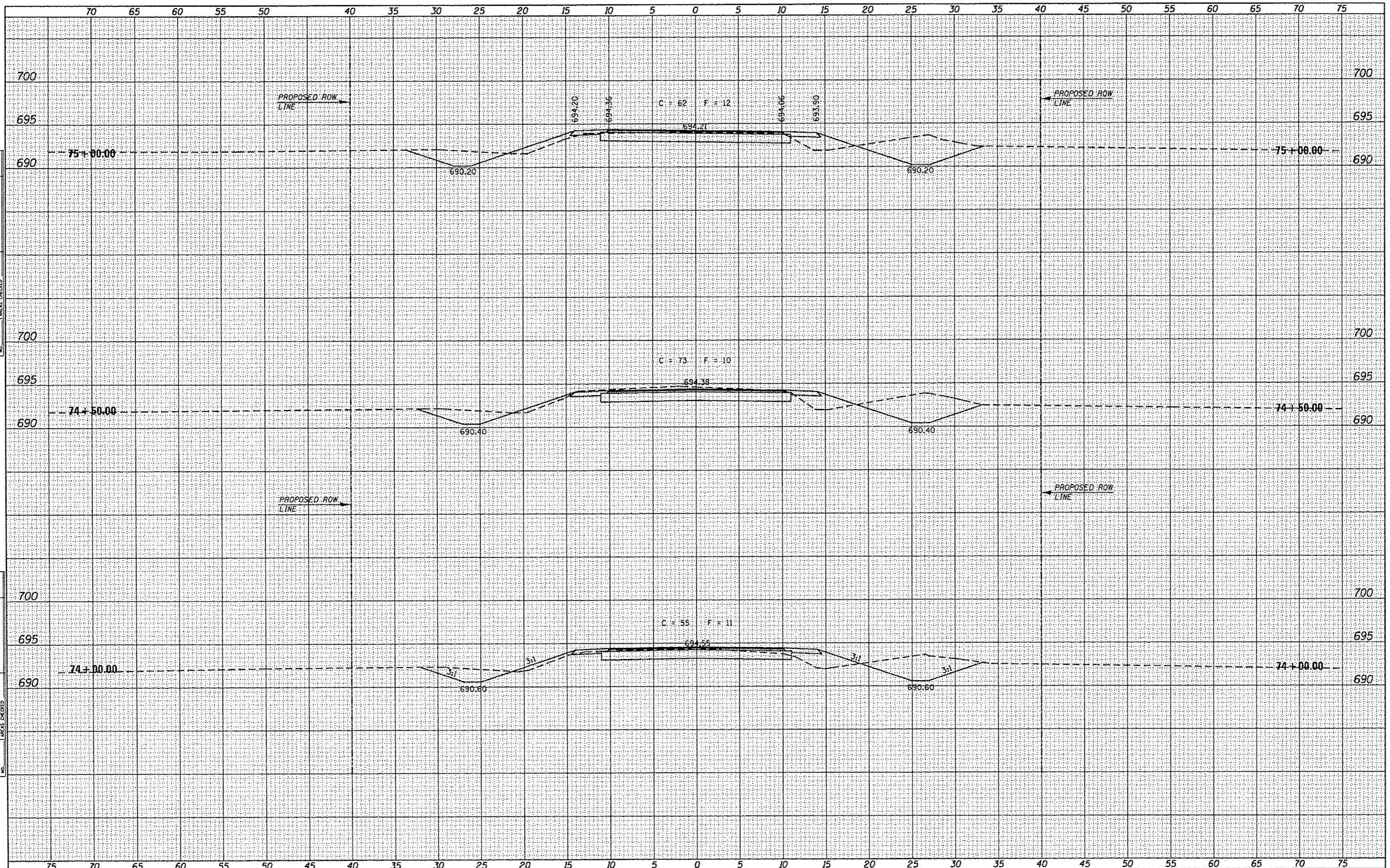
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS			
SCALE: *SCALES*	SHEET NO. OF SHEETS	STA. 72+50.00 TO STA. 73+50.00	

F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 35
CONTRACT NO. 85586			[ILLINOIS]	

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____



FILE NAME = 11-618.XSPR-SHEETS.dgn
 PLOTTED BY = rfitzanka
 CHECKED BY =
 PLOT DATE = 3/20/2013

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

4440 ASH GROVE
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 (217) 793-8600
 www.fehr-graham.com

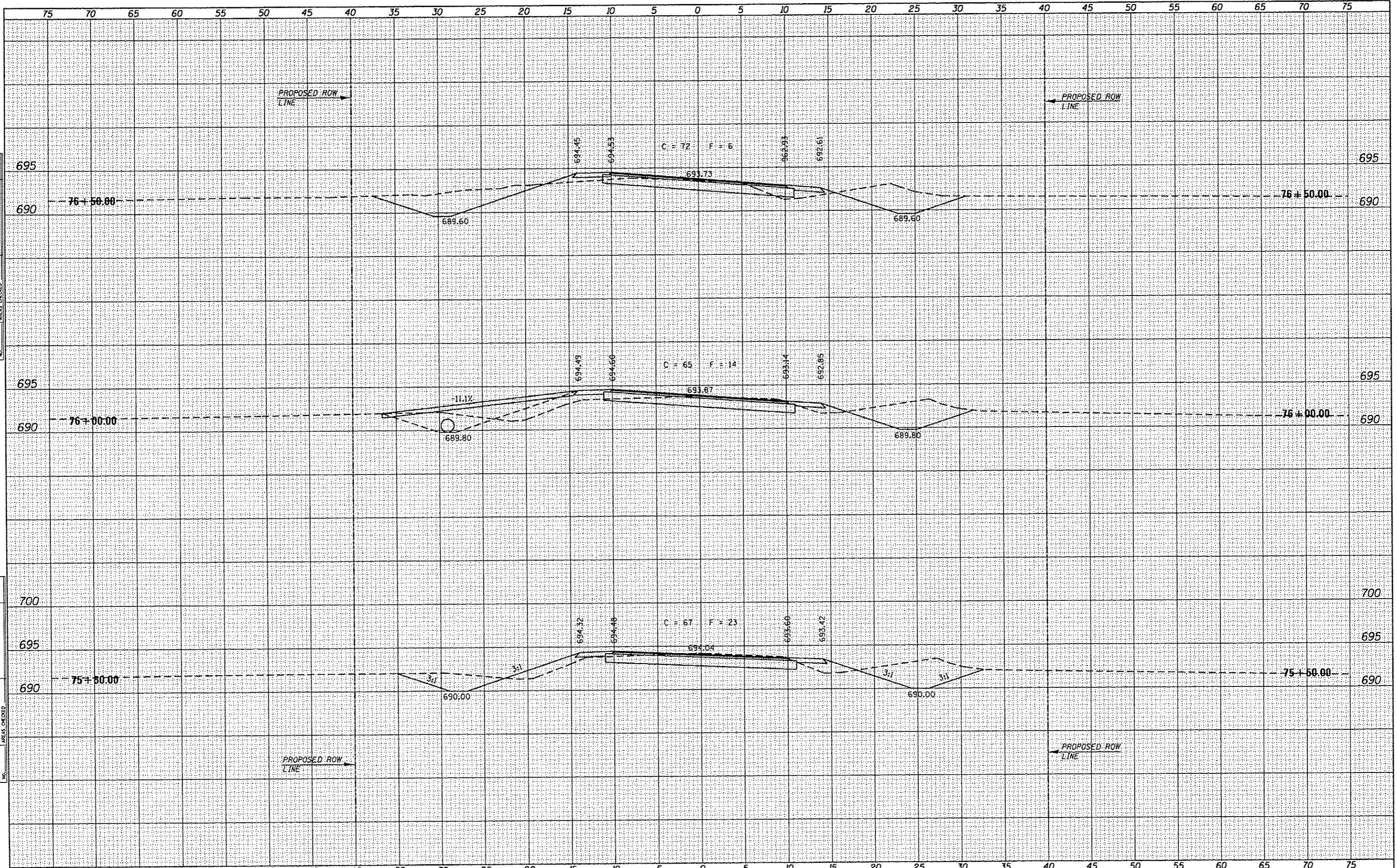
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FREEDPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS
 SCALE: #SCALES# SHEET NO. OF SHEETS STA. 74+00.00 TO STA. 75+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	36
[ILLINOIS]			CONTRACT NO. 85586	

DATE	
BY	
FINAL SURVEY	
SHEET PLOTTED	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
SHEET PLOTTED	
NOTE BOOK	
AREAS CHECKED	



FILE NAME = 11-610.XSPR-SHEETS.dgn
 PLOTTED BY = rfitzanko
 CHECKED BY =
 PLOT DATE = 3/28/2013

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

4440 ASH GROVE
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 (217) 793-8600
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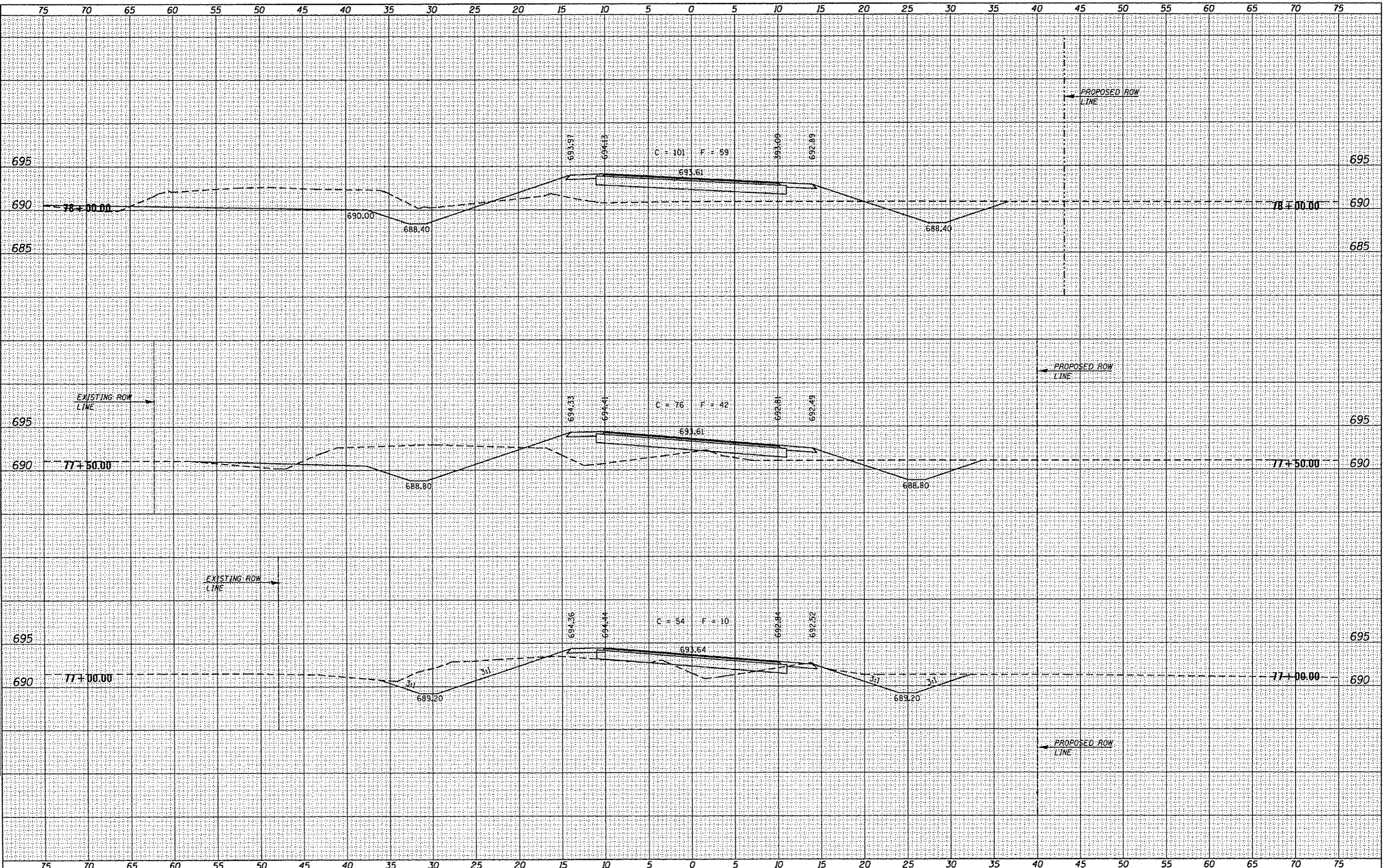
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FRECPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS
 SCALE: #SCALES# SHEET NO. OF SHEETS STA. 75+50.00 TO STA. 76+50.00

F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 37
CONTRACT NO. 85586			ILLINOIS	

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BY	
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DESIGNED	
DRAWN	
CHECKED	
DATE	



FILE NAME = 11-618.XSPR-SHEETS.dgn
 PLOTTED BY = goartwright
 CHECKED BY =
 PLOT DATE = 3/22/2013

DESIGNED -
 DRAWN -
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 DATE -

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4440 ASH GROVE
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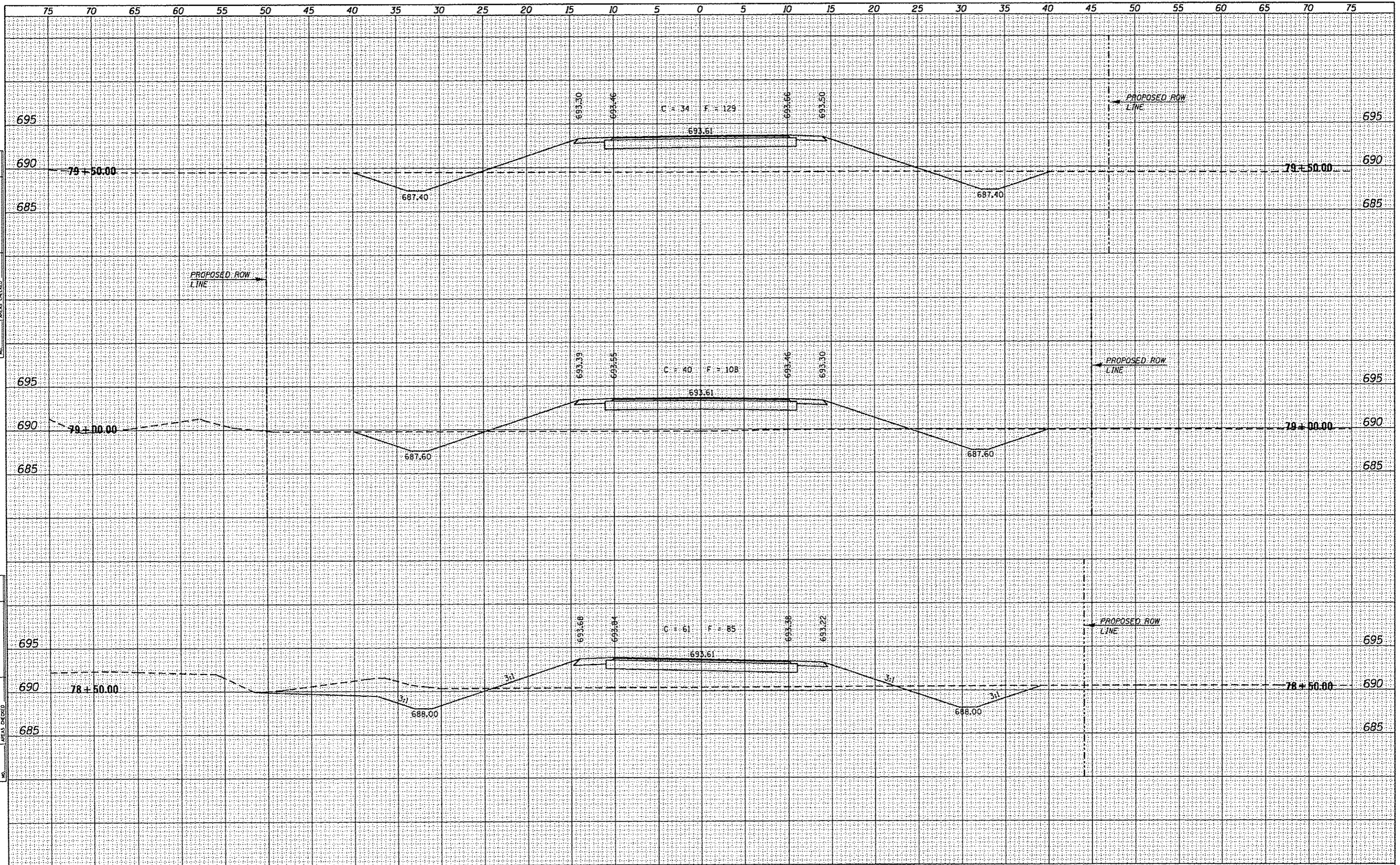
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 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS
 SCALE: *SCALES* SHEET NO. OF SHEETS STA. 77+00.00 TO STA. 78+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	38
CONTRACT NO. 85586			ILLINOIS	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

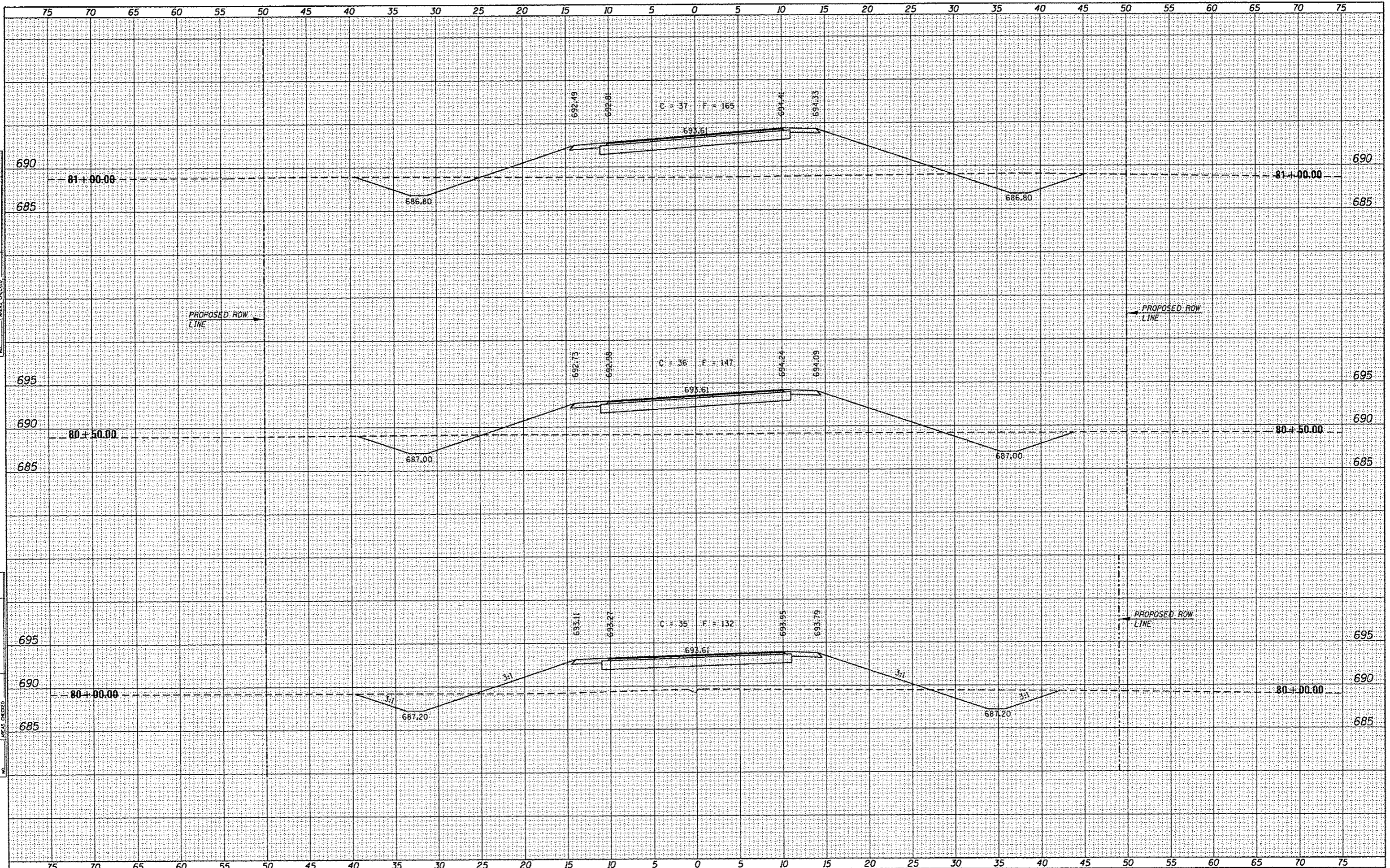
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BY	
ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	



FILE NAME = 11-618.XSPR-SHEETS.dgn	DESIGNED -	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-00029</small>	FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	ROADWAY CROSS SECTIONS				F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY = rFitzanka	DRAWN -	REVISED -								72	11-00137-00-8R	JO DAVIESS	53	39
CHECKED BY =	CHECKED -	REVISED -				SCALE: *SCALES* SHEET NO. OF SHEETS STA. 78+50.00 TO STA. 79+50.00				CONTRACT NO. 85586				
PLLOT DATE = 3/28/2013	DATE -	REVISED -								[ILLINOIS]				

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	



FILE NAME * 11-610.XSPR-SHEETS.dgn	DESIGNED -	REVISED -
PLOTTED BY * rfitzhenko	DRAWN -	REVISED -
CHECKED BY *	CHECKED -	REVISED -
PLOT DATE * 3/20/2013	DATE -	REVISED -

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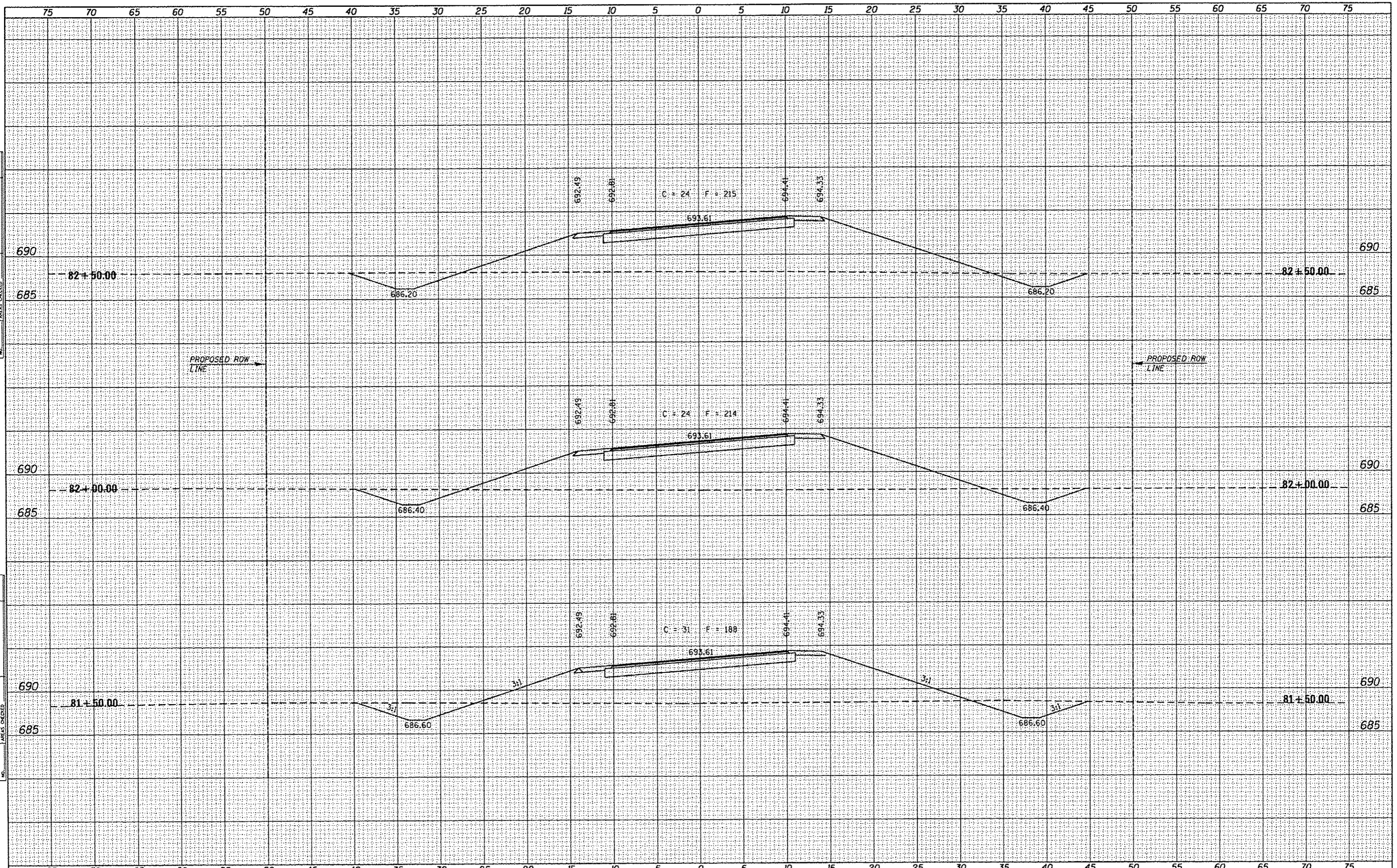
FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS			
SCALE: *SCALES*	SHEET NO. OF SHEETS	STA. 80+00.00 TO STA. 81+00.00	

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	40
CONTRACT NO. 85586			[ILLINOIS]	

DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____

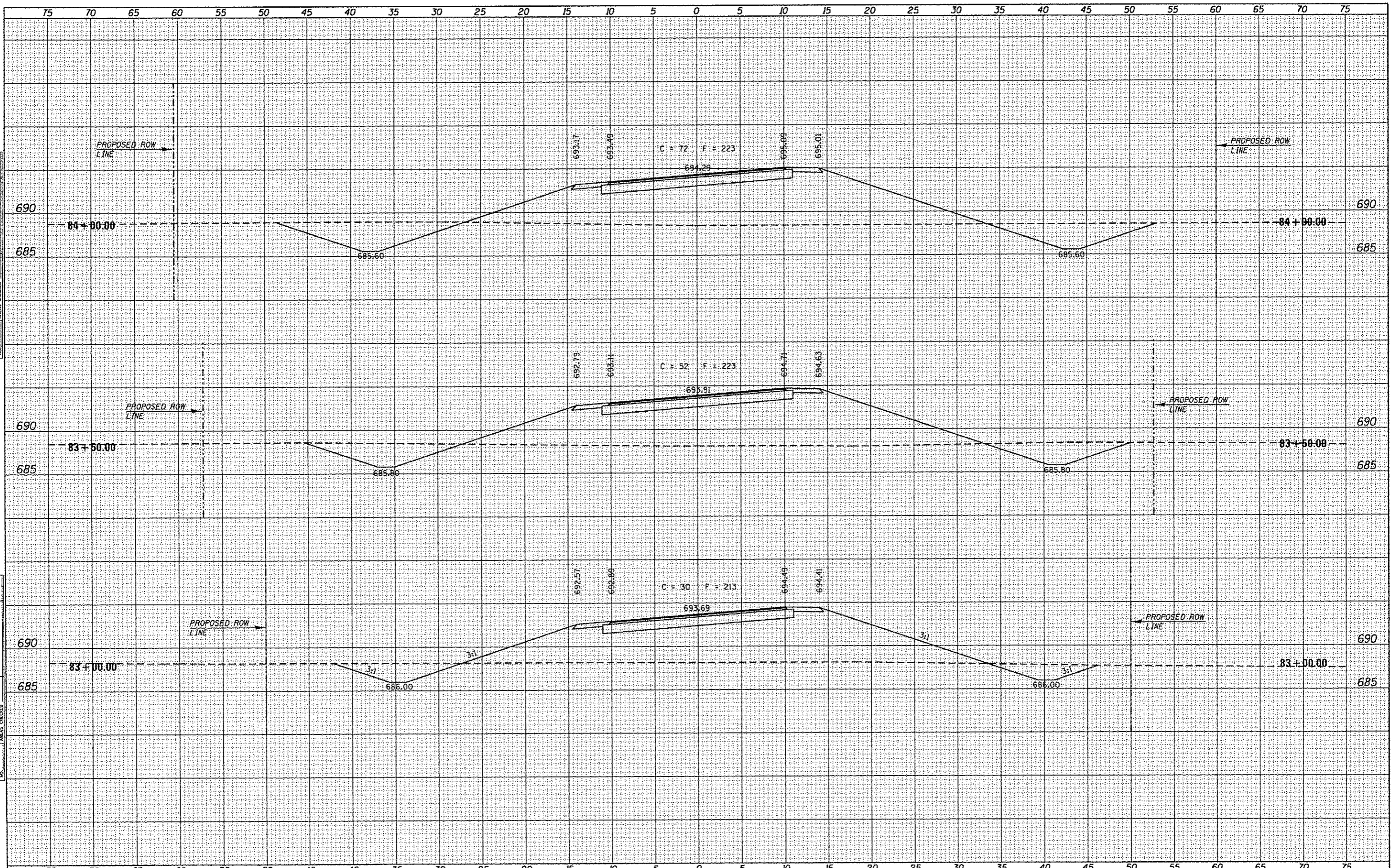
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 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 NOTE BOOK _____
 AREAS CHECKED _____



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PLOTTED BY • rfitzanko	DRAWN -	REVISED -			SCALE: #SCALES#				SHEET NO. OF SHEETS	STA. 81+50.00 TO STA. 82+50.00	ILLINOIS			
CHECKED BY •	DATE -	REVISED -			CONTRACT NO. 85586									
PLOT DATE • 3/20/2013														

DATE _____
 BY _____
 SUPERVISED _____
 PLOTTED _____
 NOTE BOOK _____
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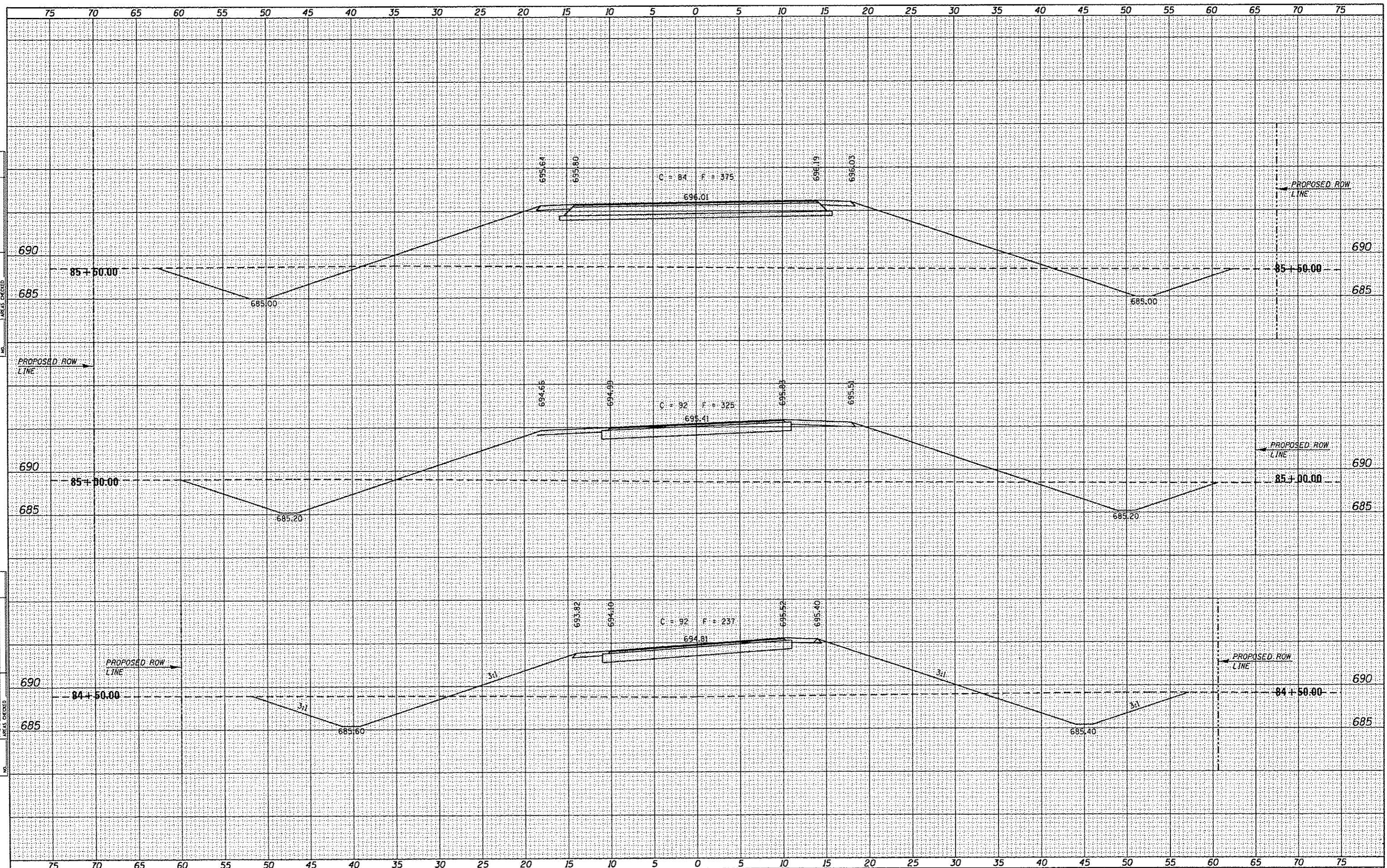
DATE _____
 BY _____
 SUPERVISED _____
 PLOTTED _____
 NOTE BOOK _____
 NO. _____



FILE NAME - 11-610_XSPR-SHEETS.dgn	DESIGNED -	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-099287</small>	FREEPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	ROADWAY CROSS SECTIONS SCALE: #SCALES# SHEET NO. OF SHEETS STA. 83+00.00 TO STA. 84+00.00			F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 42
PLOTTED BY - rfitzanko	DRAWN -	REVISED -		CONTRACT NO. 85586								
CHECKED BY -	CHECKED -	REVISED -		ILLINOIS								
PLOT DATE - 3/28/2013	DATE -	REVISED -										

DATE	
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FINAL SURVEY	
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TEMPLATE	
NOTE BOOK	
AREAS CHECKED	

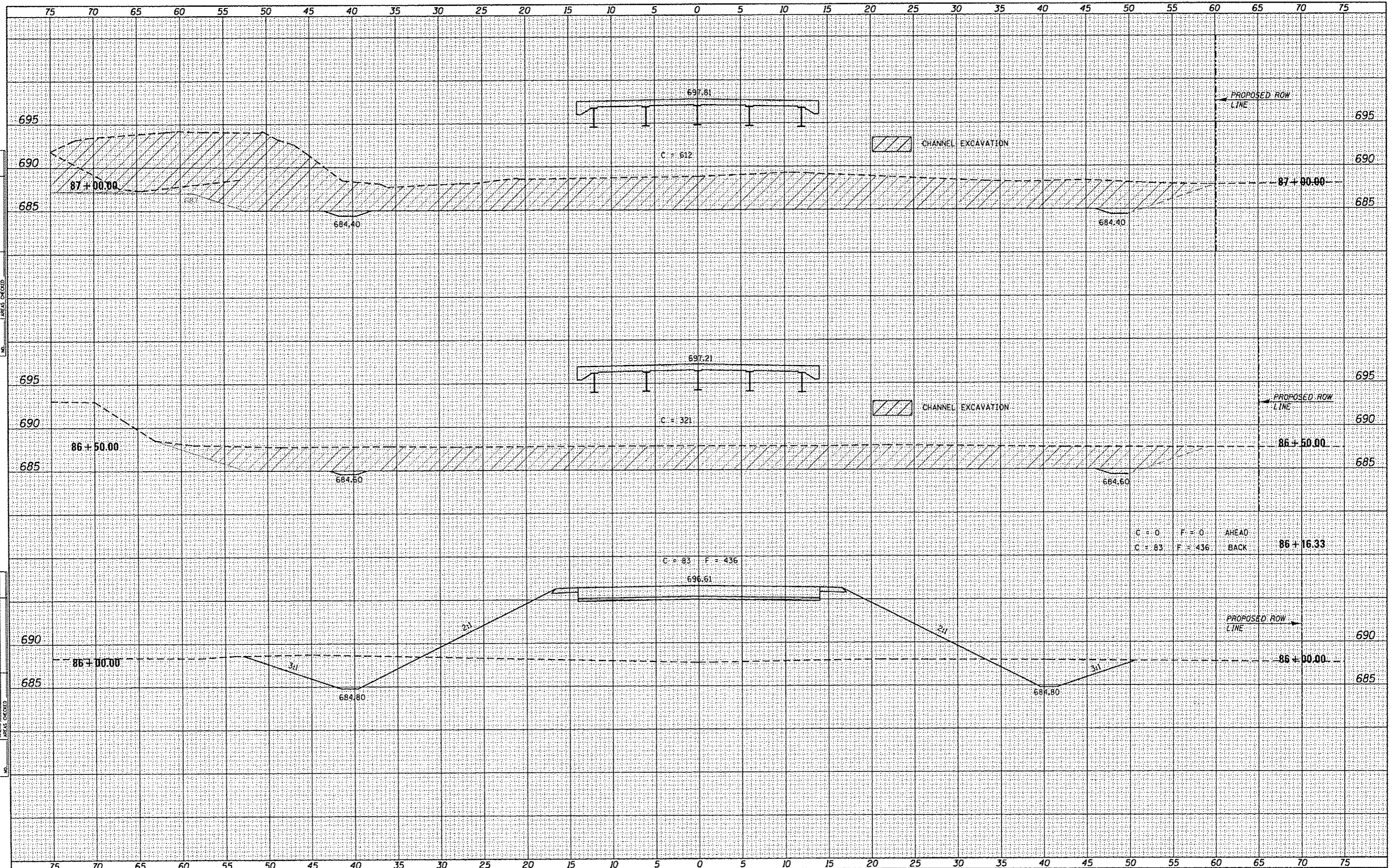
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PLOTTED	
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NOTE BOOK	
AREAS CHECKED	



FILE NAME = 11-BIB.XSPR-SHEETS.dgn	DESIGNED -	REVISED -	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL 4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FREEPORT, IL	ROCKFORD, IL	ROADWAY CROSS SECTIONS SCALE: *SCALES* SHEET NO. OF SHEETS STA. 84+50.00 TO STA. 85+50.00	F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 43
PLOTTED BY = rfitzenko	DRAWN -	REVISED -		ROCHELLE, IL	SPRINGFIELD, IL		CONTRACT NO. 85586				
CHECKED BY =	CHECKED -	REVISED -		HONROE, WI			ILLINOIS				
DATE = 3/28/2013	DATE -	REVISED -									

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DATE _____
 BY _____
 SURVEYED _____
 PLOTTED _____
 TEMPLATE _____
 AREAS CHECKED _____
 NO. _____



C = 0 F = 0 AHEAD
 C = 83 F = 436 BACK
 86 + 16.33

FILE NAME : 11-610.XSPR-SHEETS.dgn
 PLOTTED BY : rfitzmahe
 CHECKED BY :
 PLOT DATE : 3/20/2013

DESIGNED -
 DRAWN -
 CHECKED -
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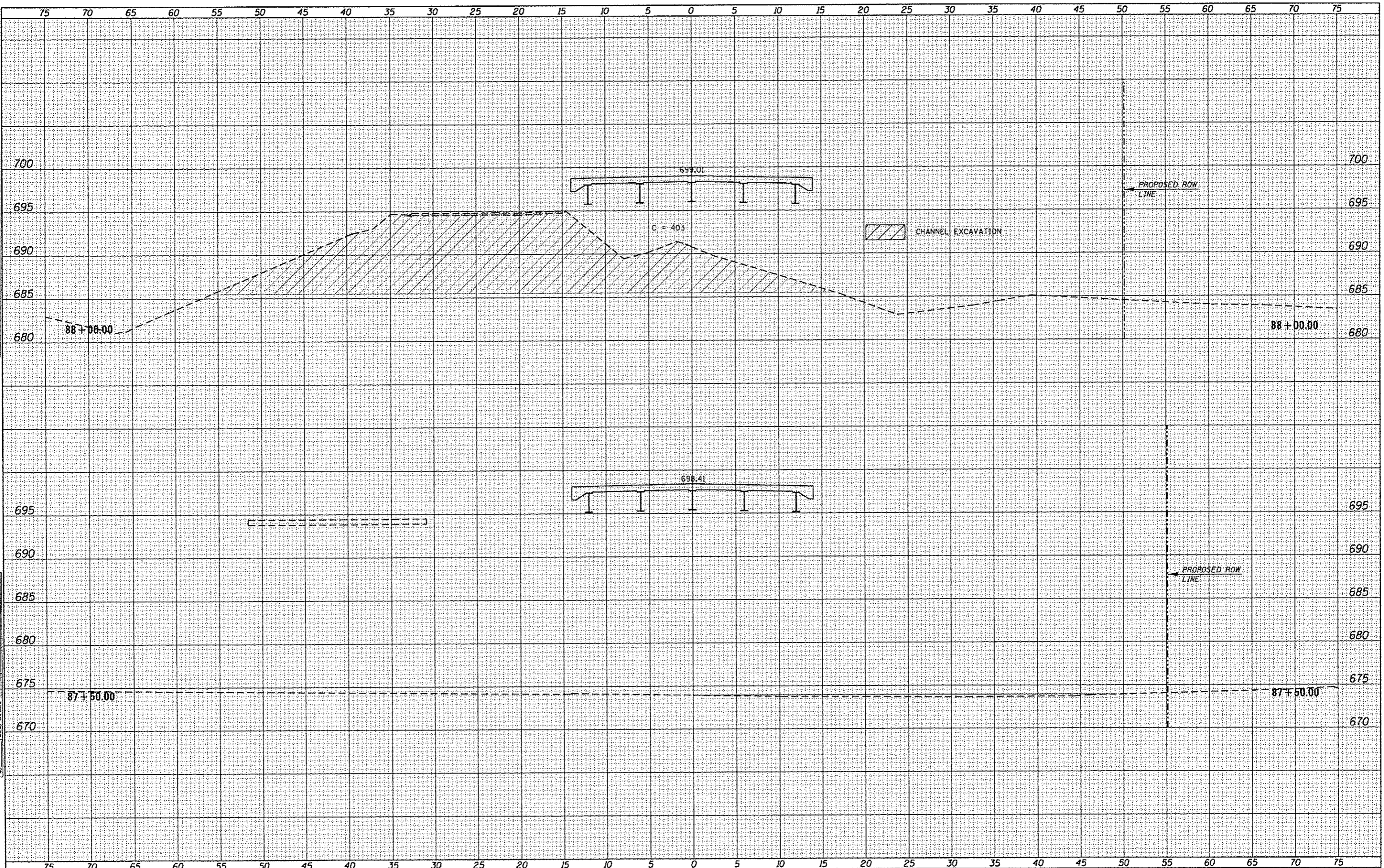
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 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS
 SCALE: *SCALES* SHEET NO. OF SHEETS STA. 86+00.00 TO STA. 87+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T2	11-00137-00-BR	JO DAVIESS	53	44
CONTRACT NO. 85596			[ILLINOIS]	

DATE	
BY	
FINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	



FILE NAME = 11-610.XSPR-SHEETS.dgn
 PLOTTED BY = rfitzenko
 CHECKED BY =
 PLOT DATE = 3/28/2013

DESIGNED -
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 CHECKED -
 DATE -

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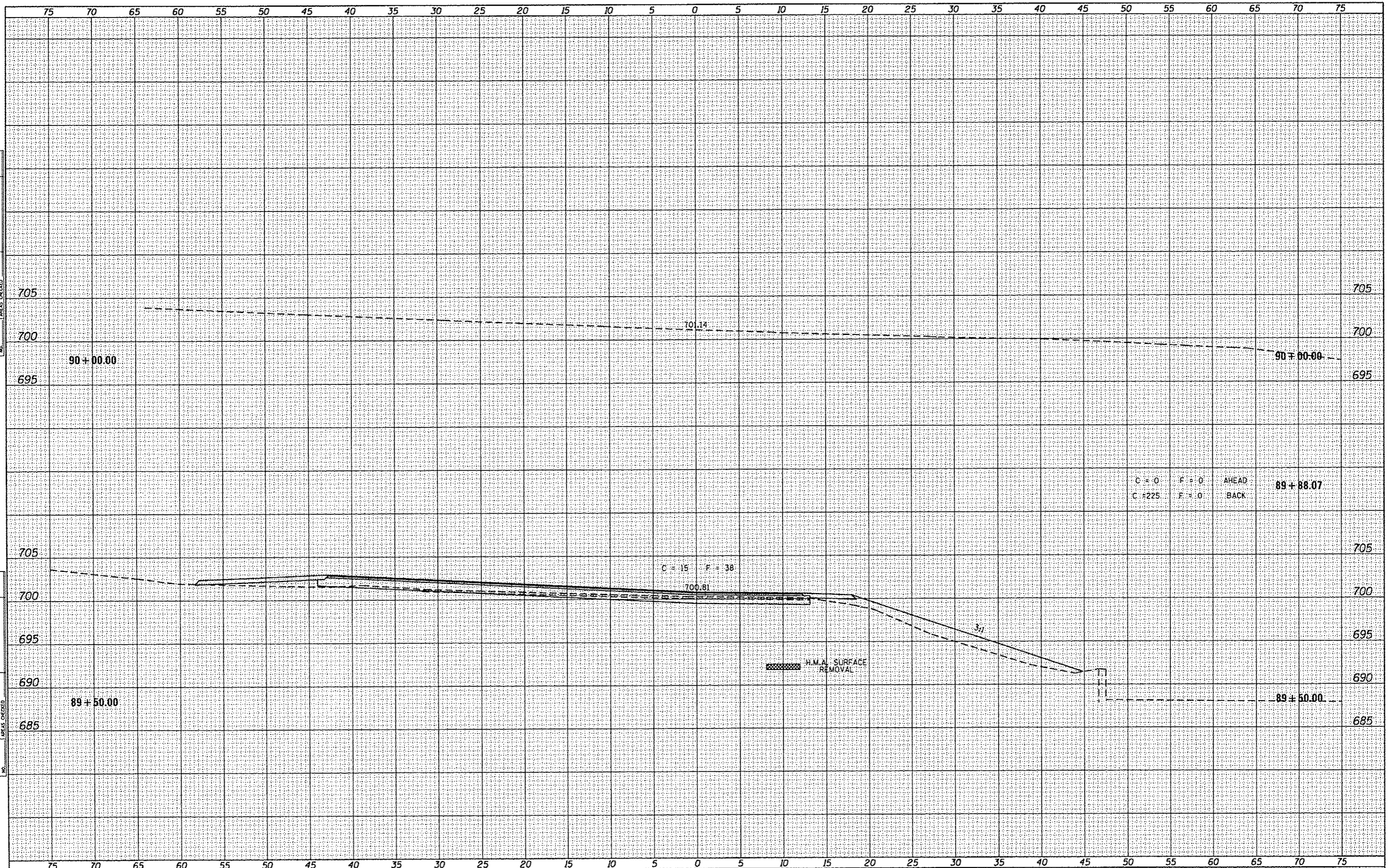
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 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

ROADWAY CROSS SECTIONS
 SCALE: # SCALES # SHEET NO. OF SHEETS STA. 87+50.00 TO STA. 88+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	45
CONTRACT NO. 85586			ILLINOIS	

DATE	
BY	
FINAL SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	

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ORIGINAL SURVEY PLOTTED	
NOTE BOOK	
AREAS CHECKED	



FILE NAME	11-610_XSPR-SHEETS.dgn
PLOTTED BY	rfitzanko
CHECKED BY	
PLOT DATE	3/28/2013

DESIGNED	-	REVISED	-
DRAWN	-	REVISED	-
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DATE	-	REVISED	-

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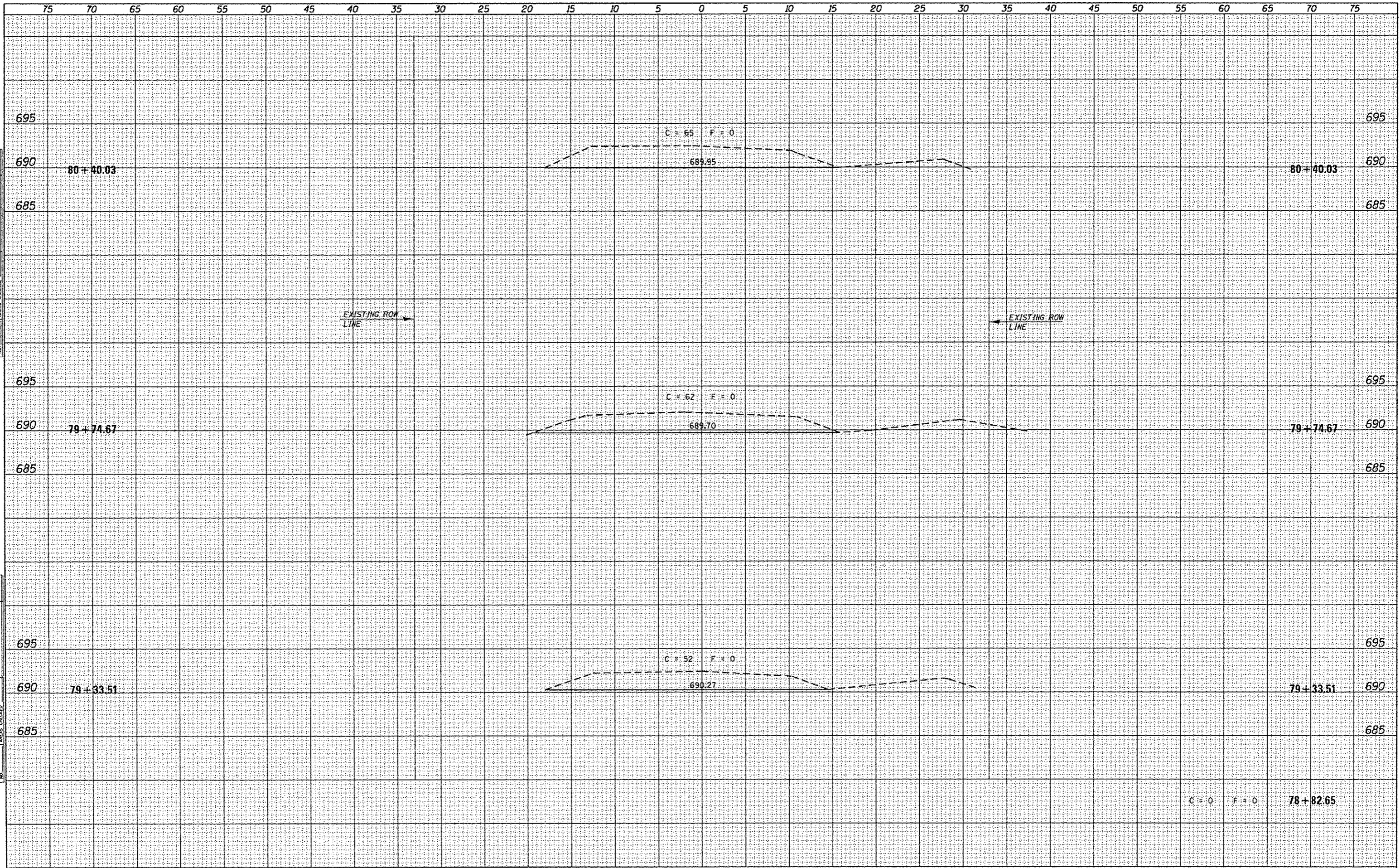
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 FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 HOWARD, WI

ROADWAY CROSS SECTIONS			
SCALE: *SCALES*	SHEET NO.	OF	SHEETS
			STA. 89+50.00 TO STA. 90+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	47
[ILLINOIS]			CONTRACT NO. 85586	

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NOTE BOOK	
AREAS CHECKED	

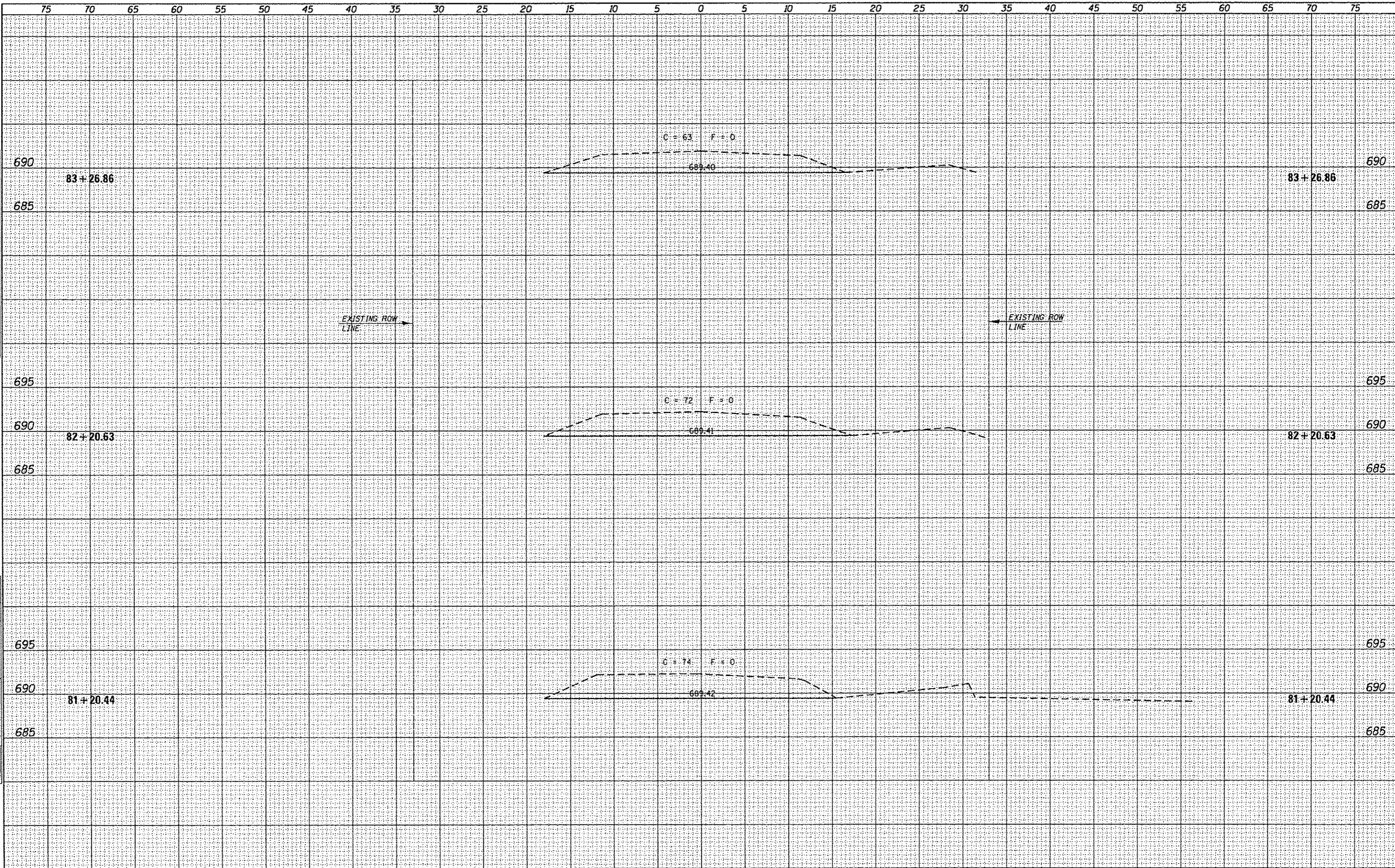
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ORIGINAL SURVEY	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	



FILE NAME = EX ROAD XS-SHEETS.dgn	DESIGNED -	REVISED -	4440 ASH GROVE	FREEPORT, IL	ROCKFORD, IL	ROADWAY CROSS SECTIONS (EXISTING ALIGNMENT)	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOTTED BY = rfitzenko	DRAWN -	REVISED -	SPRINGFIELD, IL. 62711	ROCHELLE, IL	SPRINGFIELD, IL		72	11-00137-00-BR	JO DAVIESS	53	48
CHECKED BY *	CHECKED -	REVISED -	(217) 793-8600	ENGINEERING & ENVIRONMENTAL		SCALE: *SCALES* SHEET NO. OF SHEETS	CONTRACT NO. 85586		[ILLINOIS]		
DATE	DATE -	REVISED -	www.fehr-graham.com	MONROE, WI			STA. 78+82.65 TO STA. 80+40.03				

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NOTE BOOK	
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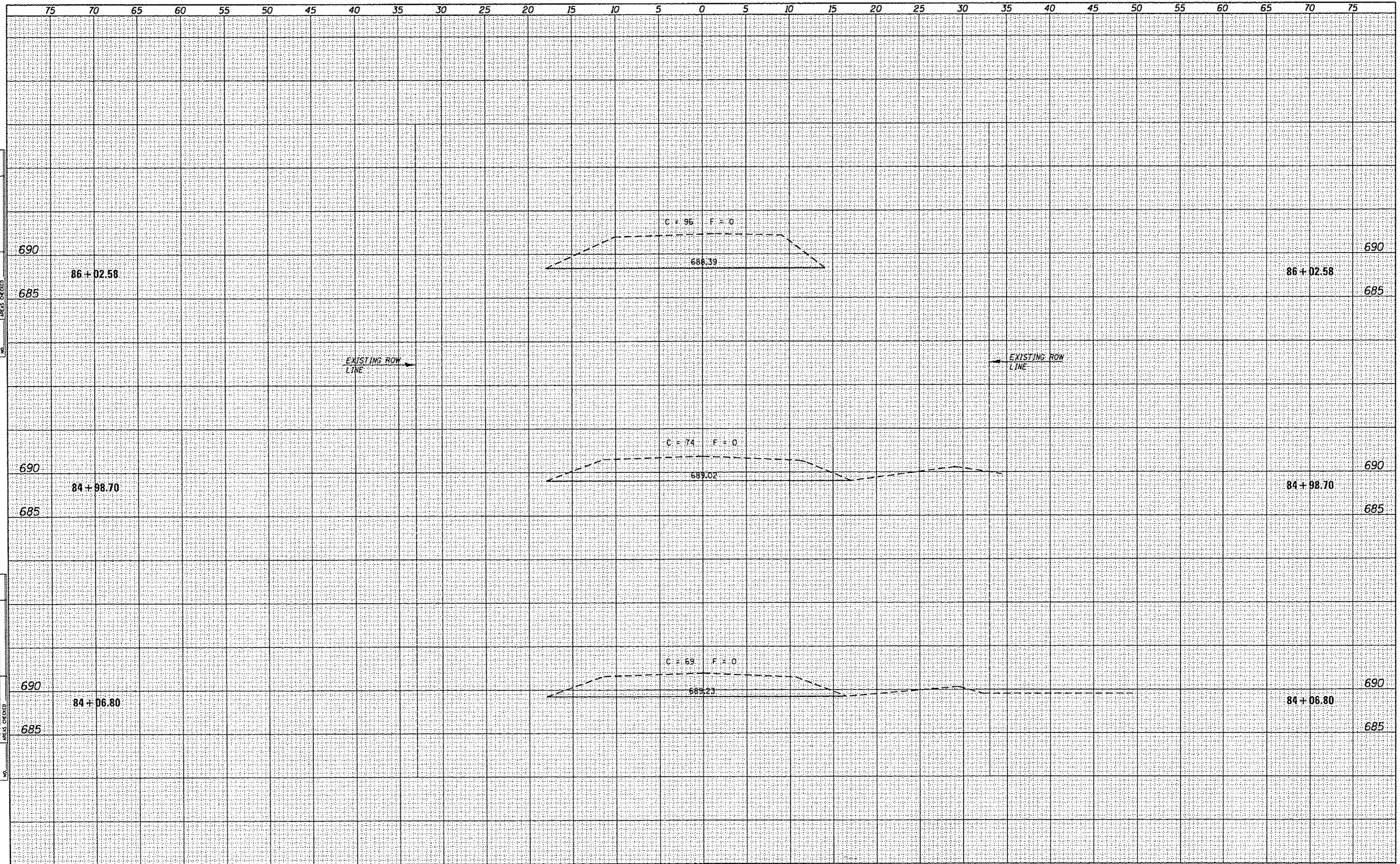
DATE	
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FILE NAME	
PLOTTED BY	
NOTE BOOK	
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FILE NAME * EX ROAD XS-SHEETS.dgn	DESIGNED -	REVISED -	4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-00223</small>	FREEPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI	ROADWAY CROSS SECTIONS (EXISTING ALIGNMENT)		F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 49	CONTRACT NO. 85586	
PLOTTED BY * rfitzanke	DRAWN -	REVISED -			SCALE: *SCALES*	SHEET NO. OF SHEETS	STA. 81+20.44 TO STA. 83+26.86	[ILLINOIS]						
CHECKED BY *	CHECKED -	REVISED -												
DATE * 3/28/2013	DATE -	REVISED -												

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FINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	

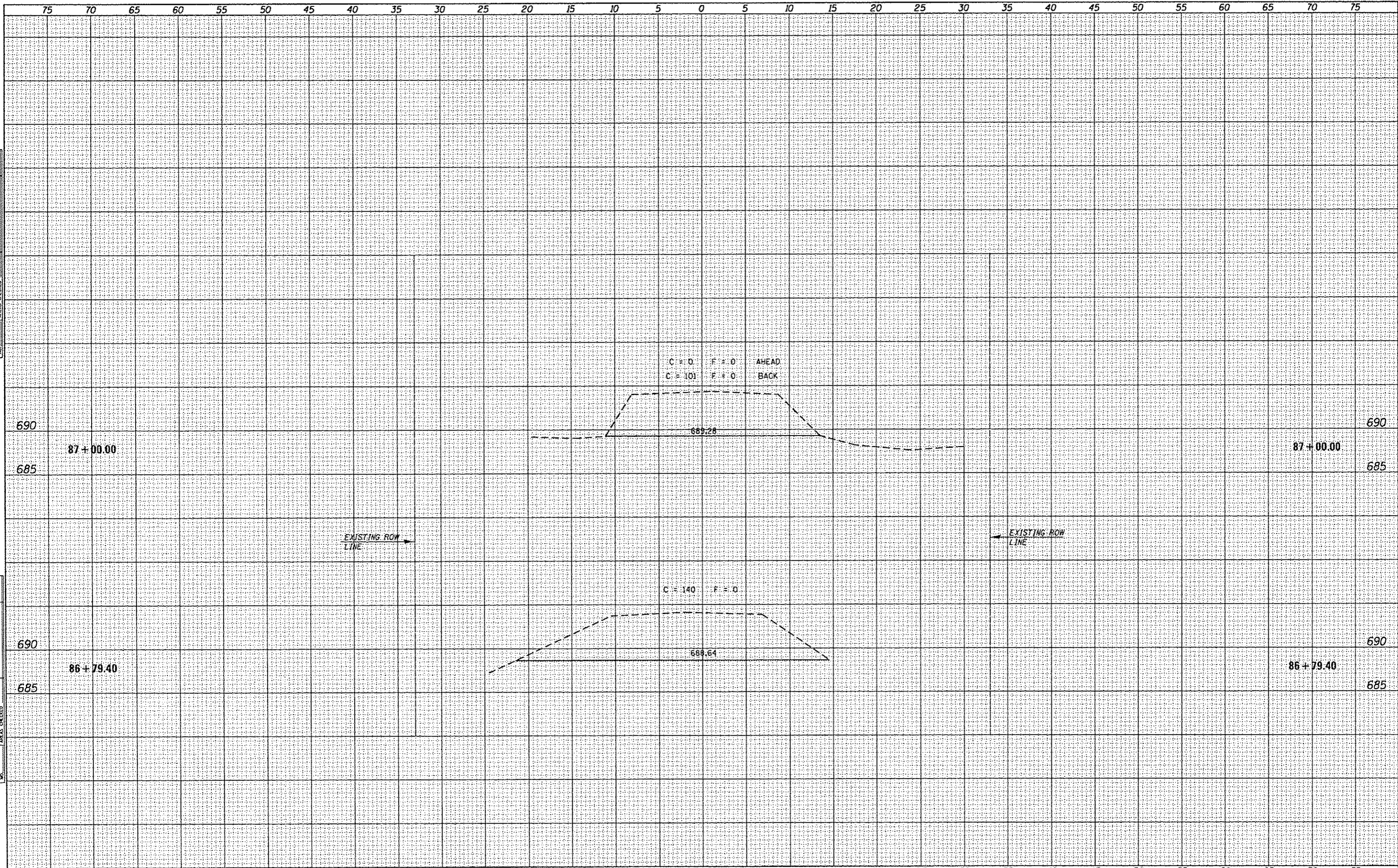
DATE	
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ORIGINAL SURVEY	
NOTE BOOK	
AREAS CHECKED	



FILE NAME = EX ROAD XS-SHEETS.dgn	DESIGNED -	REVISED -	4440 ASH GROVE SPRINGFIELD, IL 62711 (217) 793-8600 www.fehr-graham.com	FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS REGISTRATION NO. 194-00263</small>	FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MDNRDC, WI	ROADWAY CROSS SECTIONS (EXISTING ALIGNMENT)				F.A.S. RTE. 72	SECTION 11-00137-00-BR	COUNTY JO DAVIESS	TOTAL SHEETS 53	SHEET NO. 50
PLOTTED BY = rFitzenko	DRAWN -	REVISED -			SCALE: #SCALES#	SHEET NO. OF SHEETS	STA. 84+06.80 TO STA. 86+02.58	ILLINOIS	CONTRACT NO. 85586					
CHECKED BY =	CHECKED -	REVISED -												
PLOT DATE = 3/28/2013	DATE -	REVISED -												

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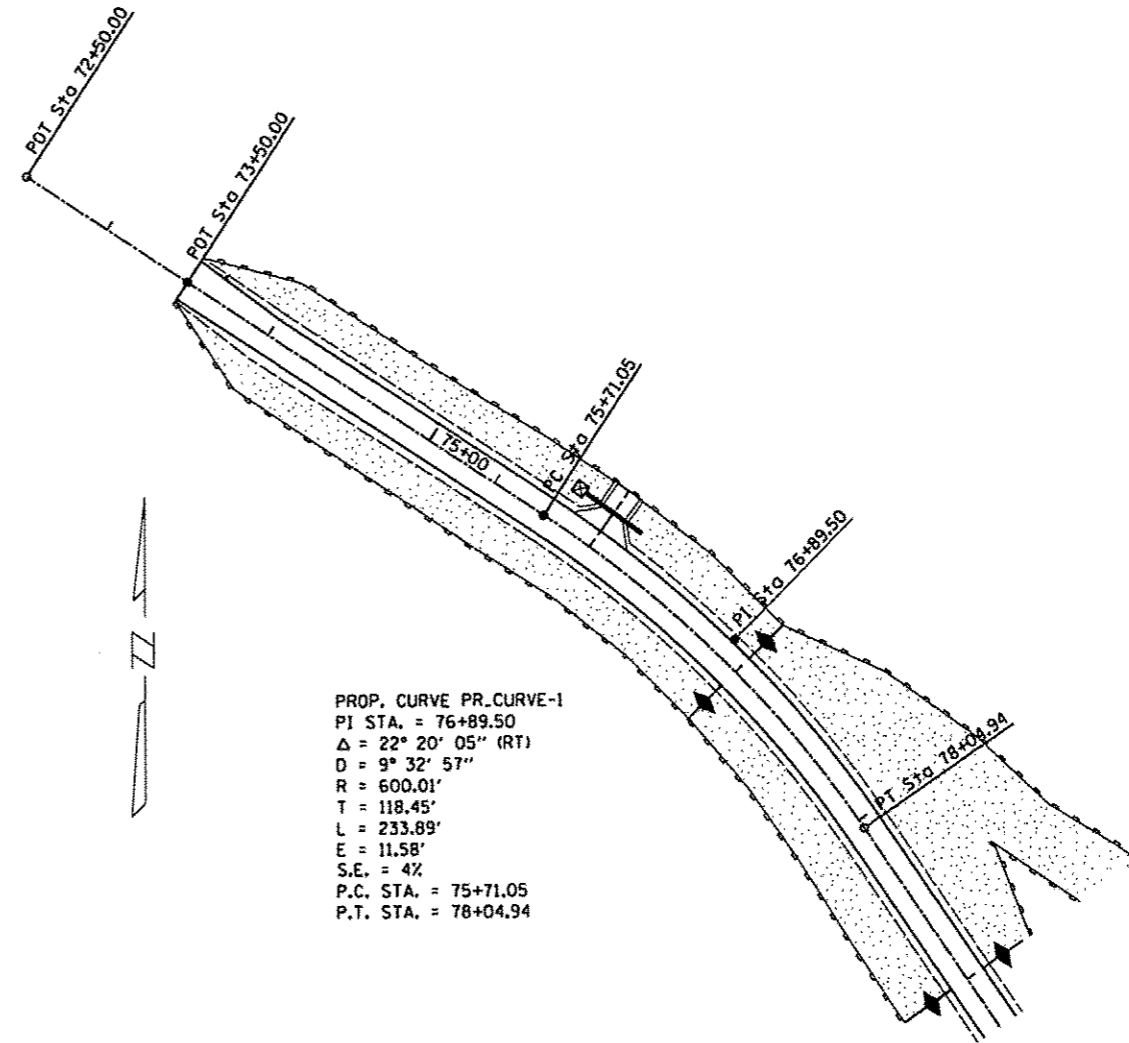
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PLOTTED BY = rfitzenko	DRAWN -	REVISD -	SPRINGFIELD, IL 62711	ROCHELLE, IL	SPRINGFIELD, IL		72	11-00137-00-BR	JO DAVIESS	53	51
CHECKED BY =	CHECKED -	REVISD -	(217) 793-8600	HONROE, WI		SCALE: *SCALE*	SHEET NO. OF SHEETS	STA. 86+79.40 TO STA. 87+00.00	CONTRACT NO. 85586		
PLOT DATE = 3/28/2013	DATE -	REVISD -	www.fehr-graham.com	ILLINOIS DESIGN FIRM NO. 181-002525		ILLINOIS			*11-610		

**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 RAISE THE ROADWAY TO THE PROPOSED GRADE.
5. DRAINAGE STRUCTURES, INCLUDING 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.

GENERAL EROSION CONTROL NOTES

1. EROSION CONTROL DEVICES SHALL BE IN PLACE AND APPROVED BY THE RESIDENT ENGINEER AS TO PROPER PLACEMENT AND INSTALLATION PRIOR TO BEGINNING OTHER WORK.
2. THE RESIDENT ENGINEER WILL DETERMINE WHEN TEMPORARY EROSION CONTROL SYSTEMS SHOWN ON THE PLAN MAY BE MOVED TO A DIFFERENT LOCATION OR DELETED.
3. IN THE EVENT OF HIGH WATER AND/OR HIGH FLOW RATES THAT DAMAGE THE PERIMETER EROSION AND SEDIMENT CONTROLS, THE CONTRACTOR SHALL RETRIEVE ANY CONTROLS THAT HAVE BEEN WASHED DOWNSTREAM.
4. STRAW BALES ARE NOT ALLOWED FOR ANY USE.
5. SILT FENCING IS NOT ALLOWED FOR USE IN DITCH CHECKS.
6. AFTER THE VEGETATION IS ESTABLISHED IN THE DISTURBED AREA, THE CONTRACTOR SHALL:
 - REMOVE THE REMAINING SEDIMENT CONTROL ITEMS AS DIRECTED BY THE RESIDENT ENGINEER.
 - RESTORE THE AREAS DISTURBED BY THE SEDIMENT CONTROL ITEMS BY PERMANENT SEEDING MEASURES.



PROP. CURVE PR_CURVE-1
 PI STA. = 76+89.50
 $\Delta = 22^\circ 20' 05''$ (RT)
 $D = 9^\circ 32' 57''$
 $R = 600.01'$
 $T = 118.45'$
 $L = 233.89'$
 $E = 11.58'$
 $S.E. = 4\%$
 P.C. STA. = 75+71.05
 P.T. STA. = 78+04.94

TEMPORARY EROSION CONTROL:

- PERIMETER EROSION BARRIER
- ◆ TEMPORARY DITCH CHECK
- ⊕ INLET AND PIPE PROTECTION

PERMANENT EROSION CONTROL:

- ▨ SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2

TEMPORARY DITCH CHECKS

LT. STA. 77+00	=	20 FOOT
RT. STA. 77+00	=	20 FOOT
LT. STA. 79+00	=	20 FOOT
RT. STA. 79+00	=	20 FOOT
LT. STA. 82+50	=	20 FOOT
RT. STA. 82+50	=	20 FOOT
LT. STA. 86+00	=	20 FOOT
RT. STA. 86+00	=	20 FOOT
TOTAL	=	160 FOOT

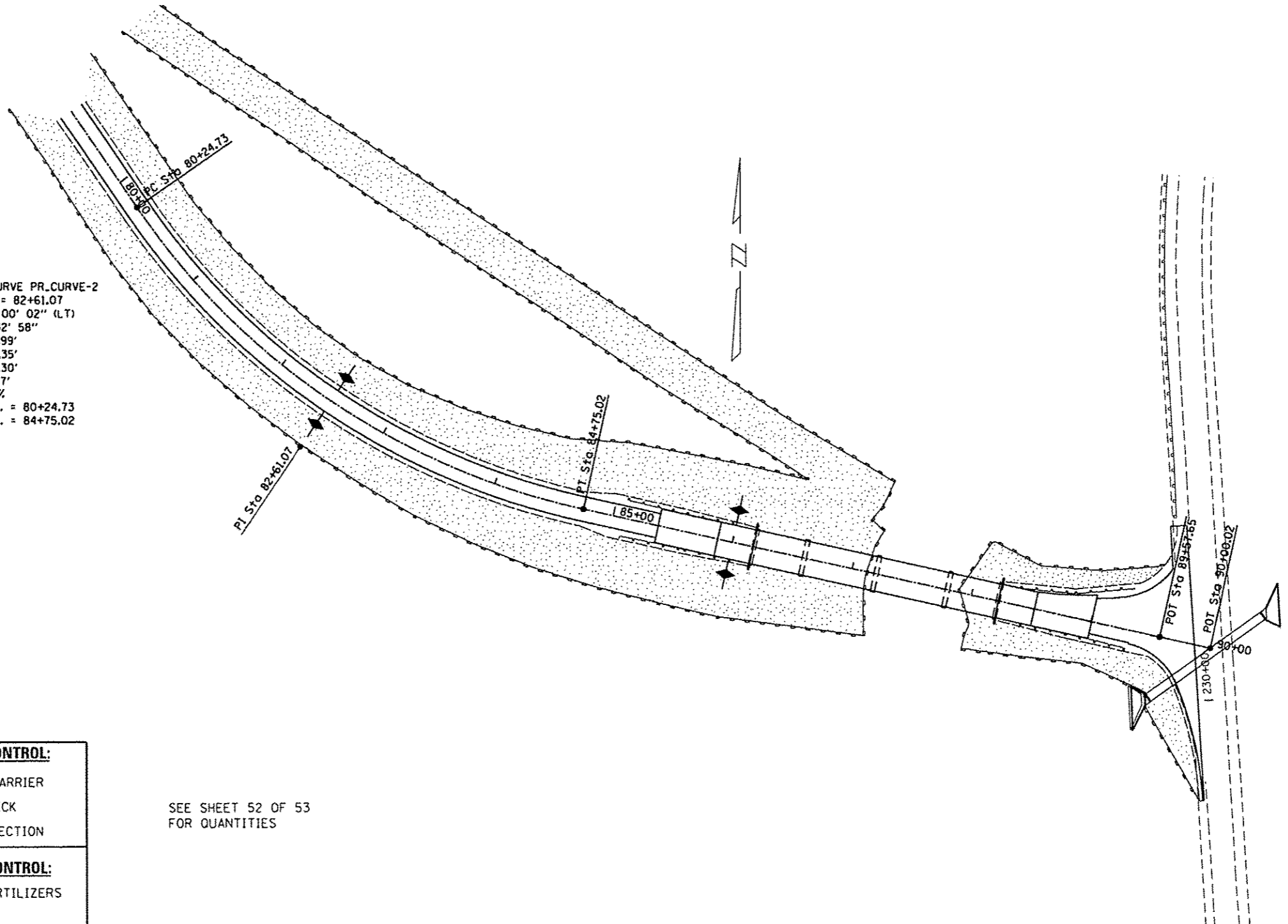
INLET AND PIPE PROTECTION

LT. STA. 75+81	=	1 EACH
TOTAL	=	1 EACH

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
TEMPORARY EROSION CONTROL SEEDING	POUND	346
TEMPORARY DITCH CHECKS	FOOT	160
PERIMETER EROSION BARRIER	FOOT	4770
INLET AND PIPE PROTECTION	EACH	1

PROP. CURVE PR_CURVE-2
 PI STA. = 82+61.07
 $\Delta = 43^\circ 00' 02''$ (L.T.)
 D = $9^\circ 32' 58''$
 R = 599.99'
 T = 236.35'
 L = 450.30'
 E = 44.87'
 S.E. = 4%
 P.C. STA. = 80+24.73
 P.T. STA. = 84+75.02



TEMPORARY EROSION CONTROL:	
	PERIMETER EROSION BARRIER
	TEMPORARY DITCH CHECK
	INLET AND PIPE PROTECTION
PERMANENT EROSION CONTROL:	
	SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2

SEE SHEET 52 OF 53
 FOR QUANTITIES

FILE NAME = 1161R_EROSION.dgn
 USER NAME = rfitzanko
 PLOT SCALE = #SCALE#
 PLOT DATE = 3/20/2013

DESIGNED - C.J.C.
 DRAWN - A.D.S.
 CHECKED - R.J.C.
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

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 ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 081-000009

FREERPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

EROSION CONTROL PLAN
 SCALE: PROPOSED STRUCTURE @ STA. 87+20

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	11-00137-00-BR	JO DAVIESS	53	53
ILLINOIS			CONTRACT NO. 85586	