

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CONTRACT NO. 93731

SHEET NO.	TITLE
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES, GENERAL NOTES & TYPICAL SECTIONS
3.	PLAN AND PROFILE SHEET
4.	CENTERLINE TIES & CONTROL POINTS
5.	SHOULDER AND GUARDRAIL DETAIL
6.	EROSION CONTROL PLAN
7-20.	BRIDGE PLANS
21-26.	STATION CROSS SECTIONS

SURFACE TRANSPORTATION PROGRAM BRIDGE

**CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
HANCOCK COUNTY**

PROJECT NO. PC58(943)

T.R. 175

C-96-206-15

STANDARDS

000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BRL 27-1	TRAFFIC BARRIER TERMINAL, TYPE 5A



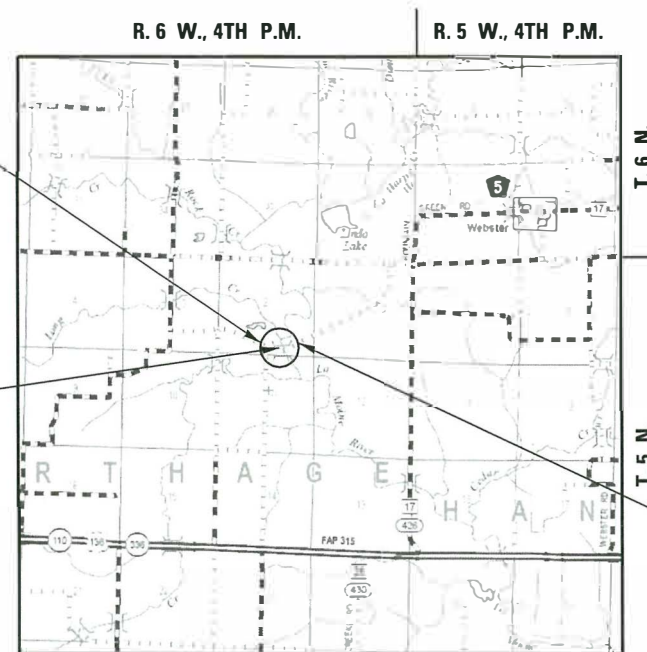
CLASSIFICATION: LOCAL ROAD (NON-URBAN)
DESIGN VOLUME: UNDER 250 ADT
CURRENT ADT: 25 (2015)
DESIGN SPEED: 30 MPH

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

PASSED	<u>2/24</u>	20 <u>19</u>
	<u>Dan Beldy</u>	
	ROAD DISTRICT COMMISSIONER	
APPROVED	<u>2/24</u>	20 <u>19</u>
	<u>Elgin Berry</u>	
	COUNTY ENGINEER	
PASSED	<u>5-22</u>	20 <u>19</u>
	<u>Chris J. Tabell</u>	
	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS	
RELEASED FOR BID BASED ON LIMITED REVIEW	<u>5-22</u>	20 <u>19</u>
	<u>Jeffrey P. Hymowitz</u>	
	REGISTERED PROFESSIONAL ENGINEER	
	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	

IMPROVEMENT BEGINS
STA. 11+00.00

STA. 15+26.43 - THREE SPAN P.P.C.
DECK BEAM BRIDGE (27" DEPTH);
3 SPANS @ 55'-0", 70'-0", 55'-0";
181'-9" BK. TO BK. ABUTS.;
27'-0" RDWY.; 0° SKEW
EXISTING S.N. 034-3814
PROPOSED S.N. 034-3815



LOCATION PLAN

GROSS LENGTH OF SECTION = 907.67 FEET = 0.172 MILES
NET LENGTH OF SECTION = 907.67 FEET = 0.172 MILES



FEHR GRAHAM

ENGINEERING & ENVIRONMENTAL
ILLINOIS IOWA WISCONSIN

ILLINOIS PROFESSIONAL DESIGN FIRM NUMBER: IB4003525



Gary J. Cartwright 2-20-19
ILLINOIS PROFESSIONAL NO. 43488
EXPIRES 11-30-19

UTILITIES

FRONTIER COMMUNICATIONS
MARK BURKS
217-854-2222

DALLAS RURAL WATER DIST.
DANA GNANN
217-337-3718

WESTERN ILLINOIS ELECTRIC COOP
TODD GROTTIS
217-357-3125

SCALES

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

SUMMARY OF QUANTITIES

CONSTRUCTION CODE: 0010

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	1.3
20200100	EARTH EXCAVATION	CU YD	899
20300100	CHANNEL EXCAVATION	CU YD	1500
20400800	FURNISHED EXCAVATION	CU YD	6456
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	147
28000305	TEMPORARY DITCH CHECKS	FOOT	140
28000400	PERIMETER EROSION BARRIER	FOOT	1823
28100207	STONE RIPRAP, CLASS A4	TON	758
28200200	FILTER FABRIC	SQ YD	1094
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	675
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	156.8
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	4860
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	16640
50900205	STEEL RAILING, TYPE S1	FOOT	360
51201600	FURNISHING STEEL PILES HP12X53	FOOT	678
51202305	DRIVING PILES	FOOT	222
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
67100100	MOBILIZATION	L SUM	1
72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	1.2
X2830495	AGGREGATE DITCH (SPECIAL)	TON	141
X5021510	COFFERDAMS (SPECIAL)	EACH	2
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Z0065000	SETTING PILES IN ROCK	EACH	12
Z0076000	TRAINEES	HR	500
Z0076000	TRAINEES TPG	HR	500

*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.

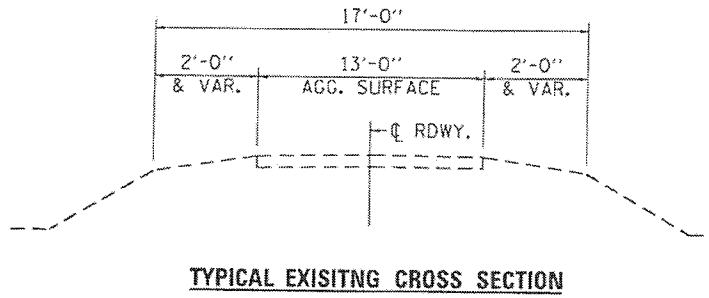
THE AREA TO BE SEEDDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

SEEDING, CLASS 2 (SPECIAL) = 1.2 ACRES

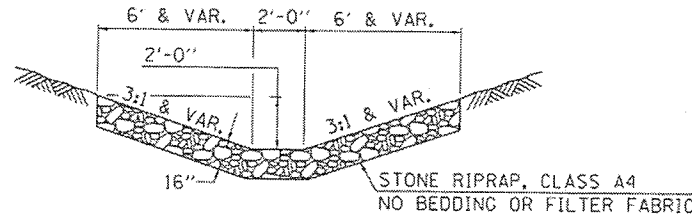
ALL TREES BETWEEN THE LIMITS SHOWN WHICH INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED ONLY AS DIRECTED BY THE ENGINEER.

LT. STA. 11+00 TO LT. STA. 15+10 = 0.4 ACRE
 RT. STA. 11+00 TO RT. STA. 15+08 = 0.25 ACRE
 LT. STA. 15+51 TO LT. STA. 18+00 = 0.25 ACRE
 RT. STA. 15+48 TO RT. STA. 20+07.67 = 0.4 ACRE

TREE REMOVAL, ACRES - 1.3 ACRES



TYPICAL EXISTING CROSS SECTION



AGGREGATE DITCH (SPECIAL)

RT. STA. 13+50 TO RT. STA. 14+68± = 141 TON
 TOTAL = 141 TON

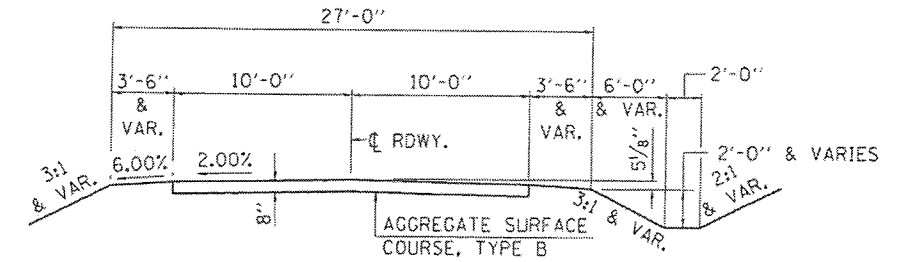
COMMITMENTS

- TREES WILL NOT BE CLEARED FROM APRIL 1 THROUGH SEPTEMBER 30.
- COMMITMENT TO PROPERTY OWNER TO PROVIDE ADJUSTED PROPOSED BERM TO REPLACE THE EXISTING BERM ADJACENT TO NORTHWEST DITCH FROM LEFT STATION 11+00 TO 14+50.

EARTHWORK SCHEDULE

STATION	CUT	CUT AFTER SHRINKAGE	CHANNEL EXCAVATION	CHANNELEX AFTER SHRINKAGE	EMBANKMENT FOR INFO ONLY	BALANCE WASTE (+) FURNISHED (-)
STA. 11+40 TO STA. 14+35.56	370	278			3003	(2,725)
STA. 16+17.31 TO STA. 20+07.67	529	397			4878	(4,481)
CHANNELEXCAVATION			1500	750		750
TOTAL	899				7881	(6,456)

CHANNEL EXCAVATION SHALL BE USED ON THE EMBANKMENT FORESLOPES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

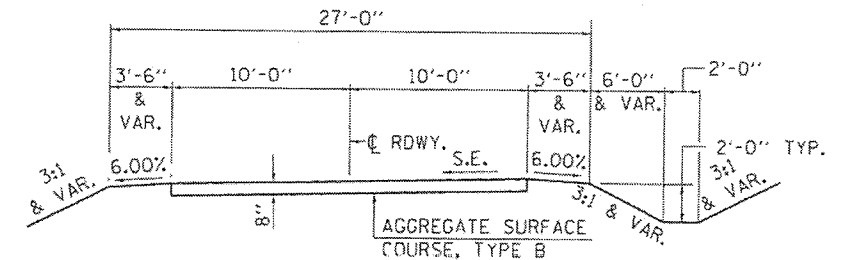


SUGGESTED FILL SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

STA. 11+90 TO STA. 11+58.24 AND
 STA. 17+41.27 TO STA. 19+50

TRANSITION FROM EXISTING ROADWAY WIDTH TO PROPOSED ROADWAY WIDTH TO BE CONSTRUCTED FROM STA. 11+40 TO STA. 11+90 AND FROM STA. 19+50 TO STA. 20+07.67.



SUGGESTED FILL SECTION
 CONSTRUCT AS SHOWN BY
 STATION CROSS SECTIONS

TYPICAL PROPOSED CROSS SECTION

SE TRANSITION (N.C. TO 3%)
 STA. 11+58.24 TO STA. 12+26.86
 SE = 3%

SE TRANSITION (3% TO 2%)
 STA. 14+04.77 TO STA. 14+18.49
 SE = 2%

SE TRANSITION (2% TO 3.5%)
 STA. 16+17.47 TO STA. 16+38.03
 SE = 3.5%

SE TRANSITION (3.5% TO N.C.)
 STA. 17+15.90 TO STA. 17+91.27

APPLICATION RATES USED IN QUANTITY CALCULATIONS

AGGREGATE SURFACE COURSE	2.05 TON/CU YD
STONE RIPRAP	1.65 TON/CU YD
AGGREGATE DITCH (SPECIAL)	1.65 TON/CU YD

NOTE: THE ABOVE NOTED APPLICATION RATES ARE FOR QUANTITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT.

FEHR GRAHAM

ENGINEERING & ENVIRONMENTAL

ILLINOIS IOWA WISCONSIN

ILLINOIS IOWA WISCONSIN

AGENCY: HANCOCK COUNTY HWY. DEPT. CARTHAGE ROAD DISTRICT

PROJECT: SECTION 14-04115-00-BR T.R. 175 OVER THE LA MOINE RIVER

DESIGNED: G. J. C.
 CHECKED: M. R. L.
 DRAWN: G. J. C.
 CHECKED: M. R. L.

REV. NO.	DESCRIPTION	DATE

DRAWING: SUMMARY OF QUANTITIES, GENERAL NOTES AND TYPICAL CROSS SECTIONS

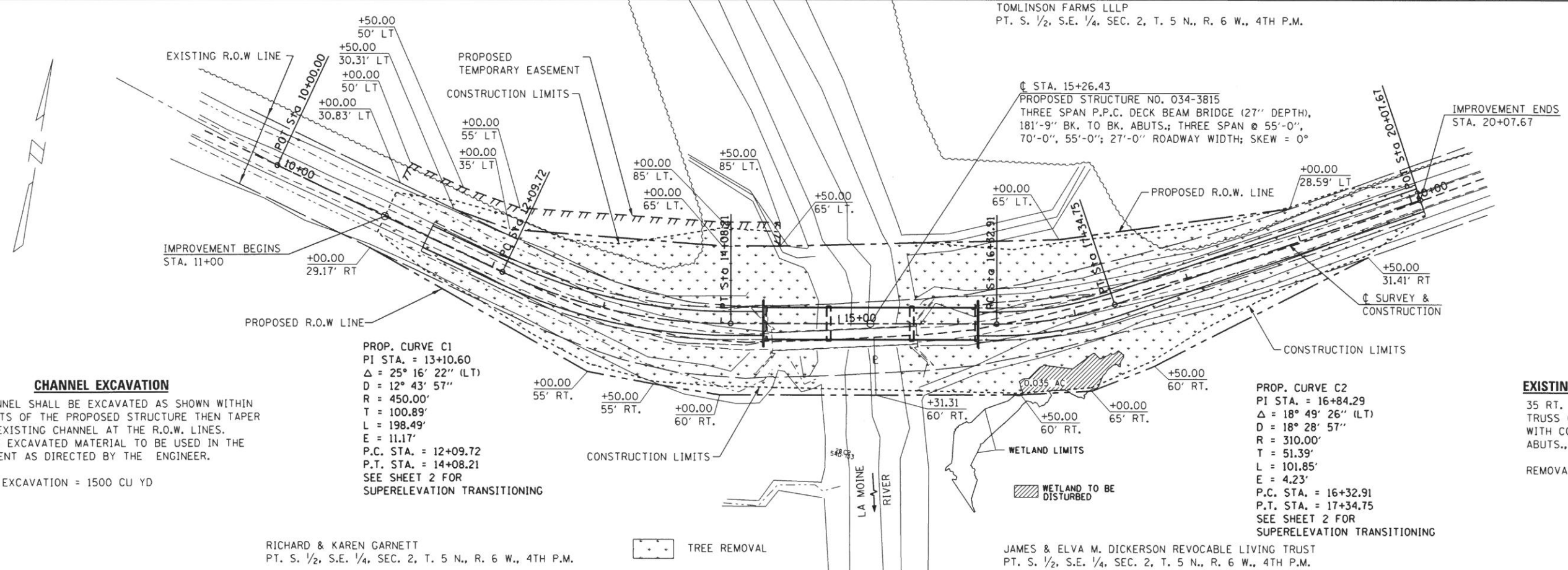
14-813-002-SUMTYP.dgn

JOB NUMBER: 14-813

SHEET NUMBER: 2 OF 26

CONTRACT NO. 93731

TOMLINSON FARMS LLLP
PT. S. 1/2, S.E. 1/4, SEC. 2, T. 5 N., R. 6 W., 4TH P.M.



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 = 1500 CU YD

PROP. CURVE C1
PI STA. = 13+10.60
 $\Delta = 25^\circ 16' 22''$ (LT)
D = 12° 43' 57"
R = 450.00'
T = 100.89'
L = 198.49'
E = 11.17'
P.C. STA. = 12+09.72
P.T. STA. = 14+08.21
SEE SHEET 2 FOR SUPERELEVATION TRANSITIONING

PROP. CURVE C2
PI STA. = 16+84.29
 $\Delta = 18^\circ 49' 26''$ (LT)
D = 18° 28' 57"
R = 310.00'
T = 51.39'
L = 101.85'
E = 4.23'
P.C. STA. = 16+32.91
P.T. STA. = 17+34.75
SEE SHEET 2 FOR SUPERELEVATION TRANSITIONING

EXISTING STRUCTURE NO. 034-3814

35 RT. STA. 15+00 - SINGLE SPAN THRU TRUSS ON CLOSED CONCRETE ABUTMENTS WITH CONCRETE DECK, 125'-0" BK. TO BK. ABUTS., 16'-0" O.-O., 0° SKEW.

REMOVAL OF EXISTING STRUCTURES 1 EACH

UTILITIES

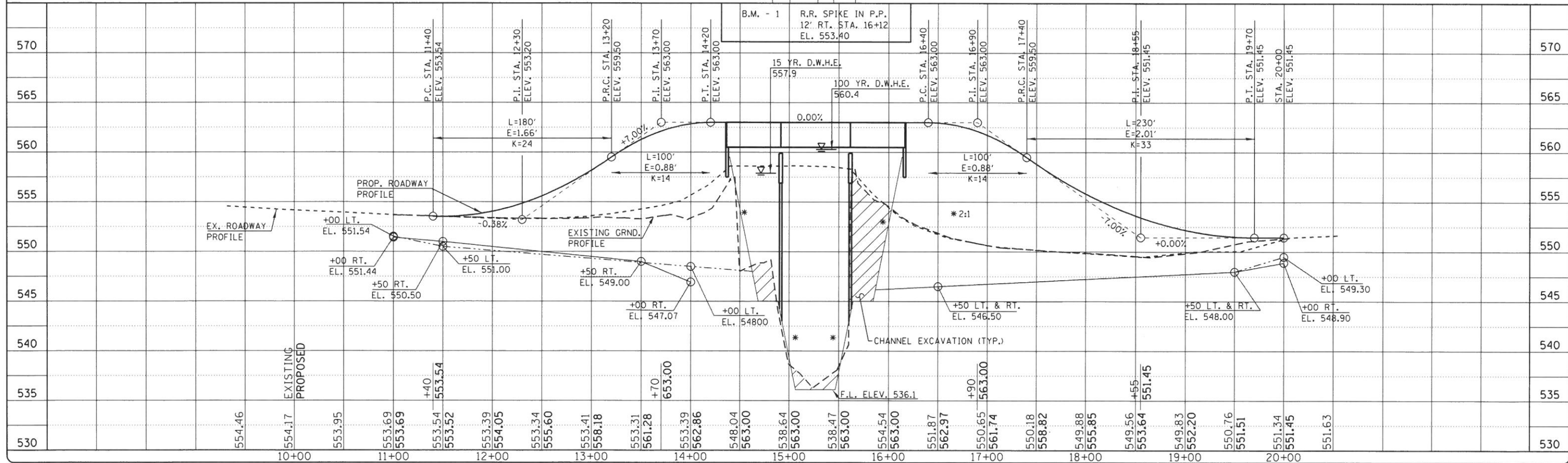
FRONTIER COMMUNICATIONS
MARK BURKS
217-854-2222

DALLAS RURAL WATER DIST.
DANA GNANN
309-337-3718

WESTERN ILLINOIS ELE. COOP.
TODD GROTTIS
217-357-3125

RICHARD & KAREN GARNETT
PT. S. 1/2, S.E. 1/4, SEC. 2, T. 5 N., R. 6 W., 4TH P.M.

JAMES & ELVA M. DICKERSON REVOCABLE LIVING TRUST
PT. S. 1/2, S.E. 1/4, SEC. 2, T. 5 N., R. 6 W., 4TH P.M.



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
CARTHAGE ROAD DISTRICT

PROJECT:
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: G. J. C.
CHECKED:
DRAWN: A. D. S.
CHECKED:

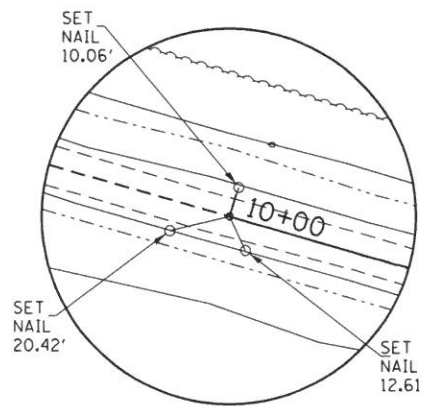
REV. NO.	DESCRIPTION	DATE

DRAWING:
PLAN & PROFILE

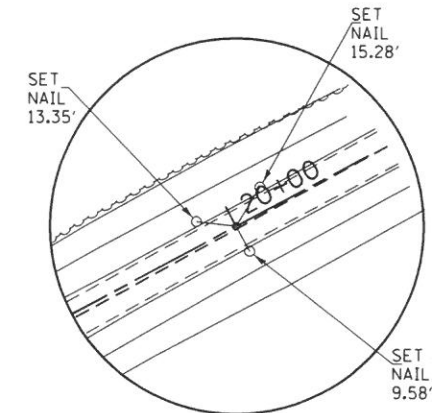
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14-813

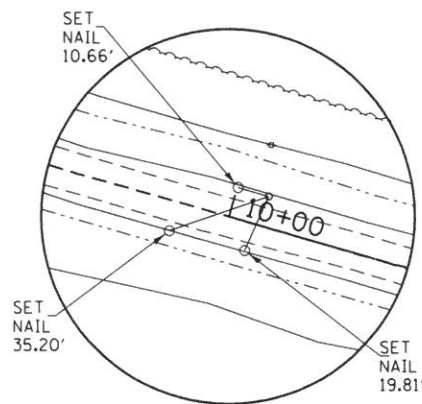
SHEET NUMBER
3 of 26



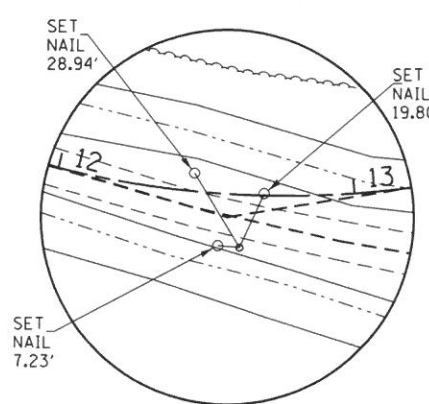
P.O.T. STA. 10+00.00
PT. # 200



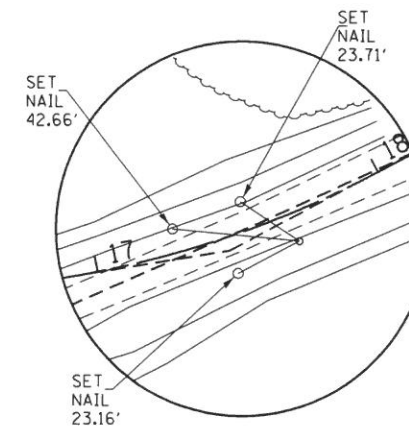
P.O.T. STA. 20+07.67
PT. # 207



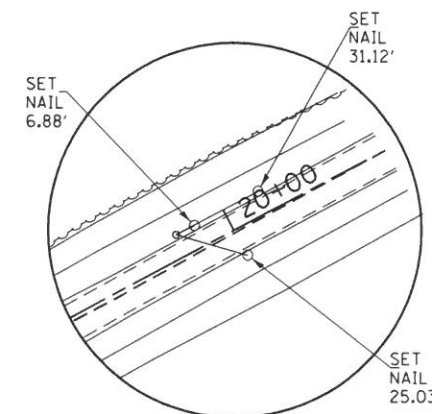
CONTROL POINT 6
10.15' LT. STA. 10+11.04
IRON PIN SET



CONTROL POINT 5
12.00' RT. STA. 12+64.40
IRON PIN SET



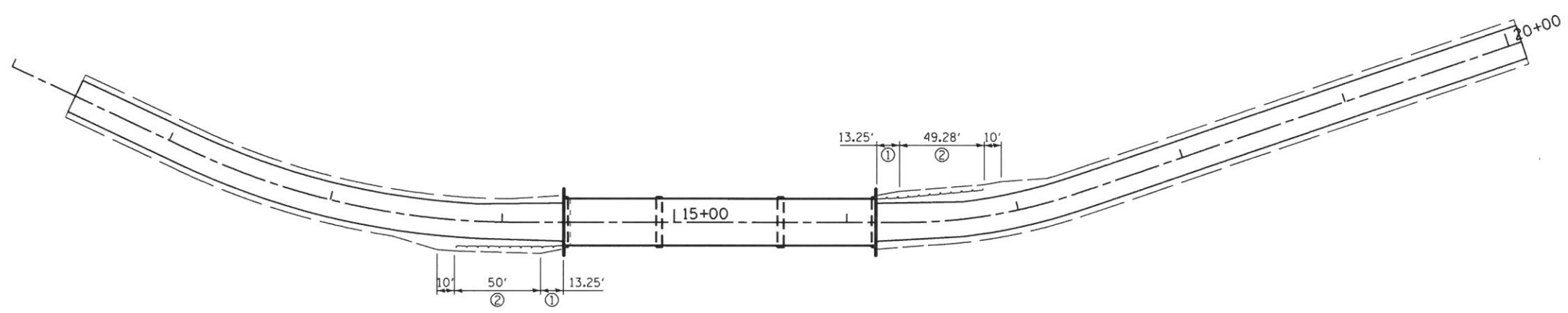
CONTROL POINT 2
8.11' RT. STA. 17+73.70
IRON PIN SET



CONTROL POINT 1
7.76' LT. STA. 19+89.77
IRON PIN SET

ALIGNMENT DATA		
ALIGNMENT STA.	NORTHING	EASTING
P. O. T. STA. 10+00.00	1377275.383	2050353.882
P. I. STA. 13+10.60	1377189.583	2050652.399
P. I. STA. 16+84.29	1377250.094	2051024.482
P. O. T. STA. 20+07.67	1377402.650	2051310.663

CONTROL POINTS			
POINT	NORTHING	EASTING	NOTE
CP 1	1377401.078	2051291.213	SEE TIES
CP 2	1377285.431	2051108.020	SEE TIES
CP 5	1377193.723	2050606.886	SEE TIES
CP 6	1377282.083	2050367.300	SEE TIES



GUARDRAIL & SHOULDER DETAIL

TRAFFIC BARRIER TERMINAL, TYPE 5A

14' RT. STA. 14+23.19 TO 13.5' RT. STA. 14+36.44
 13.5' LT. STA. 16+16.44 TO 14.00' LT. STA. 16+29.69

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL TANGENT)

15' RT. STA. 13+73.43 TO 14' RT. STA. 14+23.19
 14' LT. STA. 16+29.69 TO 15' LT. STA. 16+82.93

LEGEND

- ① TRAFFIC BARRIER TERMINAL, TYPE 5A
- ② TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
 IOWA
 WISCONSIN

AGENCY:
 HANCOCK COUNTY HWY. DEPT.
 CARTHAGE ROAD DISTRICT

PROJECT:
 SECTION 14-04115-00-BR
 T.R. 175 OVER THE
 LA MOINE RIVER

DESIGNED: G. J. C.
 CHECKED: M. R. L.
 DRAWN: G. J. C.
 CHECKED: M. R. L.

REV. NO.	DESCRIPTION	DATE

DRAWING:
 SHOULDER AND GUARDRAIL DETAIL

14-813-005-SHLDR.dgn

JOB NUMBER:
 14-813

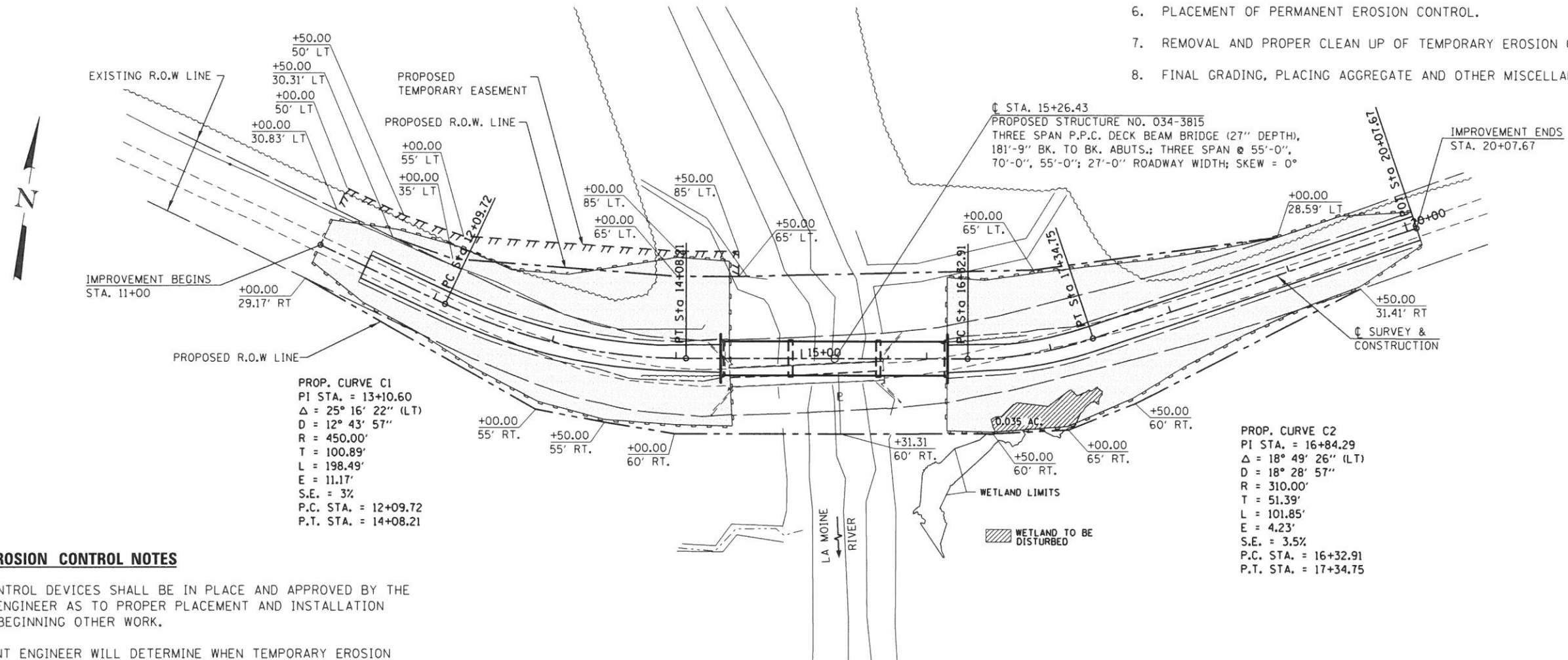
SHEET NUMBER
 5 OF 26

TEMPORARY DITCH CHECKS LEFT & RIGHT

RT. STA. 11+50	=	10 FOOT
LT. STA. 12+00	=	10 FOOT
RT. STA. 12+50	=	10 FOOT
LT. STA. 13+00	=	10 FOOT
RT. STA. 13+50	=	10 FOOT
RT. STA. 13+75	=	10 FOOT
LT. & RT. STA. 14+00	=	20 FOOT
LT. & RT. STA. 16+50	=	20 FOOT
LT. & RT. STA. 18+50	=	20 FOOT
RT. STA. 19+65	=	10 FOOT
LT. STA. 19+75	=	10 FOOT
TOTAL = 140 FOOT		

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. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
6. PLACEMENT OF PERMANENT EROSION CONTROL.
7. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
8. 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. 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.

BILL OF MATERIAL

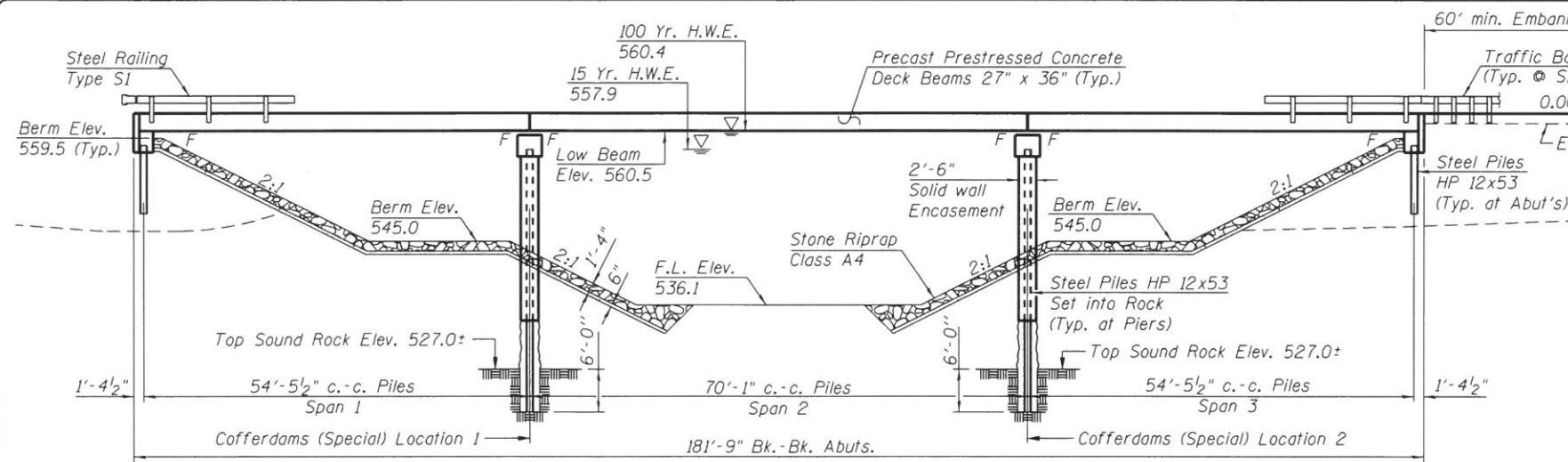
ITEM	UNIT	QUANTITY
TEMPORARY EROSION CONTROL SEEDING	POUND	147
PERIMETER EROSION BARRIER	FOOT	1823
TEMPORARY DITCH CHECK	FOOT	140

TEMPORARY EROSION CONTROL:

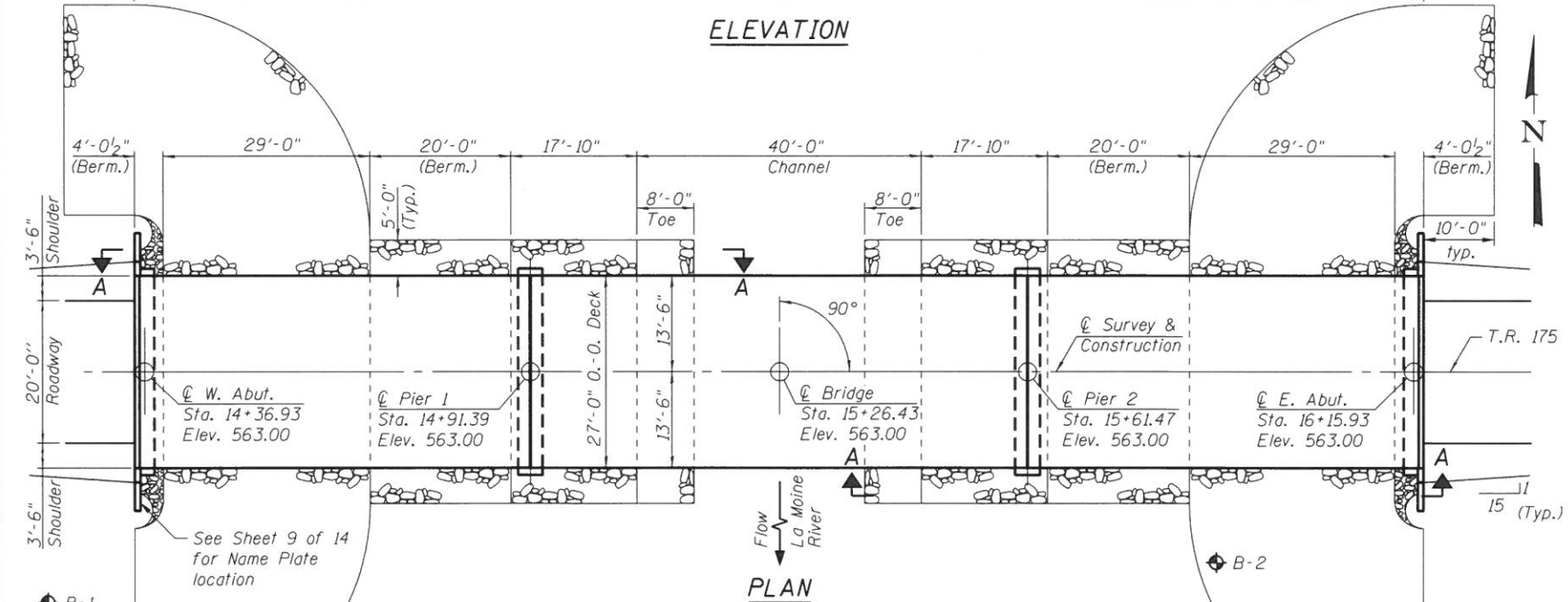
PERIMETER EROSION BARRIER

PERMANENT EROSION CONTROL:

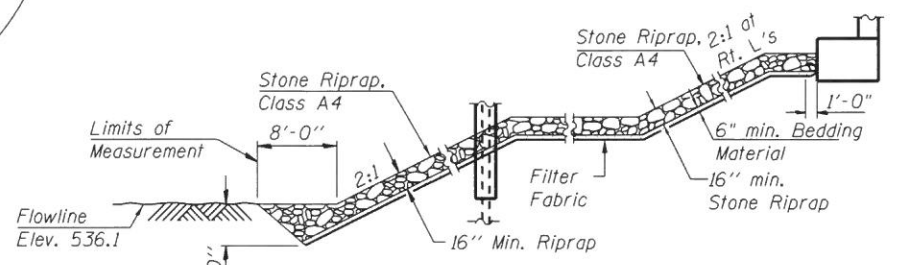
SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2



ELEVATION



PLAN



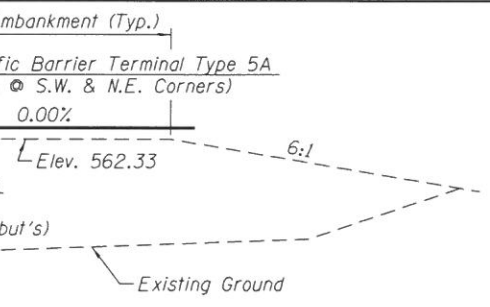
SECTION A-A RIPRAP PLACEMENT

WATERWAY INFORMATION

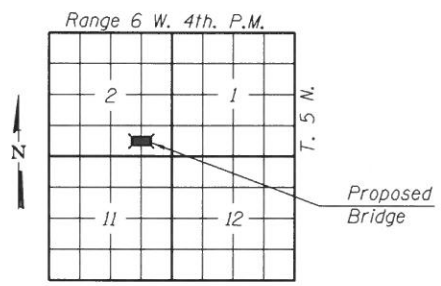
Drainage Area = 262.9 sq. mi.									
Flood Event	Freq. Yr.	Discharge Ft ³ /s	Waterway Opening - ft ²		Natural H.W.E. ft.	Head - ft.		Headwater Elevation ft.	
			Existing	Proposed		Existing	Proposed	Existing	Proposed
Design	15	14318	1802-Bridge 9631-Rdwy.	2307-Bridge 7106-Rdwy.	557.9	--	--	557.9	557.9
Base	100	23376	1881-Bridge 15285-Rdwy.	2677-Bridge 12182-Rdwy.	560.4	0.1'	--	560.5	560.4

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)				Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100		535.8	535.8		5
Q10		535.4	535.4		
Design	557.56	533.6	533.6	557.56	
Check	557.56	533.6	533.6	557.56	



PROPOSED PROFILE GRADE



LOCATION PLAN

GENERAL NOTES

The Contractor shall drive one steel HP12x53 test pile in a permanent location at the East abutment as directed by the Engineer, before ordering the remainder of piles.

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 that must be placed and compacted prior to construction of abutments.

Reinforcement bars designated (E) shall be epoxy coated.

Structure Excavation will not be measured for payment but shall be included in the unit price bid for "Concrete Structures" or "Concrete Encasement."

Exposed portions of concrete abutments and piers shall receive a rubbed finish in accordance with Article 503.15(b) of the standard specifications. Cost shall be included in the cost for Concrete Structures.

See Sheet 3 for Existing Structure Information.

DESIGN STRESSES

$f'_c = 6,000$ p.s.i. (Prestressed Beams)
 $f'_{ci} = 5,000$ p.s.i. (Prestressed Beams)
 $f'_s = 270,000$ p.s.i. (Prestressed Strands)
 $f'_{si} = 201,960$ p.s.i. (Prestressed Strands)
 $f'_c = 3,500$ p.s.i. (Concrete -- Field Units)
 $f'_c = 60,000$ p.s.i. (Reinf. Bars)
 LOADING HL-93
 Design Specifications: 2014 AASHTO LRFD & Interims
 50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.104 g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.151 g
 Soil Site Class = D

**LA MOINE RIVER
 BUILT 20-- BY
 CARTHAGE ROAD DISTRICT
 HANCOCK COUNTY
 SEC. 14-04115-00-BR
 STR. NO. 034-3815
 LOADING HL-93**

LETTERING FOR NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			1500
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	4860		4860
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		156.8	156.8
Reinforcement Bars, Epoxy Coated	Pound		16,640	16,640
Steel Railing, Type S1	Foot	360		360
Name Plates	Each		1	1
Furnishing Steel Piles HP12x53	Foot		678	678
Driving Piles	Foot		222	222
Test Pile Steel HP12x53	Each		1	1
Stone Riprap, Class A4	Ton		758	758
Filter Fabric	Sq. Yd.		1094	1094
Concrete Encasement	Cu. Yd.		2.8	2.8
Cofferdams (Special)	Each		2	2
Setting Piles in Rock	Each		12	12

GENERAL PLAN & ELEVATION

**T.R. 175
 SECTION 14-04115-00-BR
 HANCOCK COUNTY
 STATION 15+25
 S.N. 034-3815**



"I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the specified 'AASHTO LRFD Bridge Design Specifications'."

Mary Louise Blodgett 2/20/19
 ILLINOIS STRUCTURAL NO. 4859 (Expires 11/30/20)



ILLINOIS
 IOWA
 WISCONSIN

AGENCY:
 HANCOCK COUNTY HWY. DEPT.
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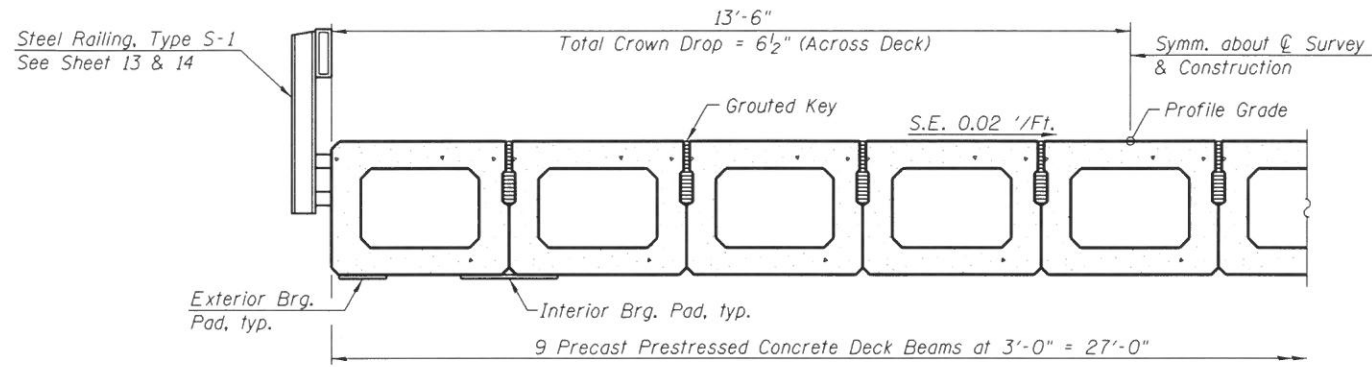
PROJECT:
 CARTHAGE ROAD DISTRICT
 SECTION 14-04115-00-BR
 T.R. 175 OVER THE
 LA MOINE RIVER

DESIGNED: GM
 CHECKED: JM
 DRAWN: GM/MY
 CHECKED: MCB

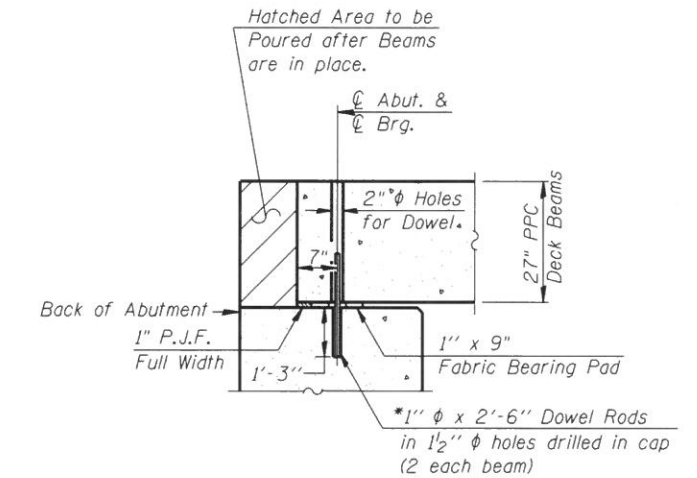
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
 GENERAL PLAN & ELEVATION

JOB NUMBER:
 14-813
 SHEET NUMBER:
 7 of 26

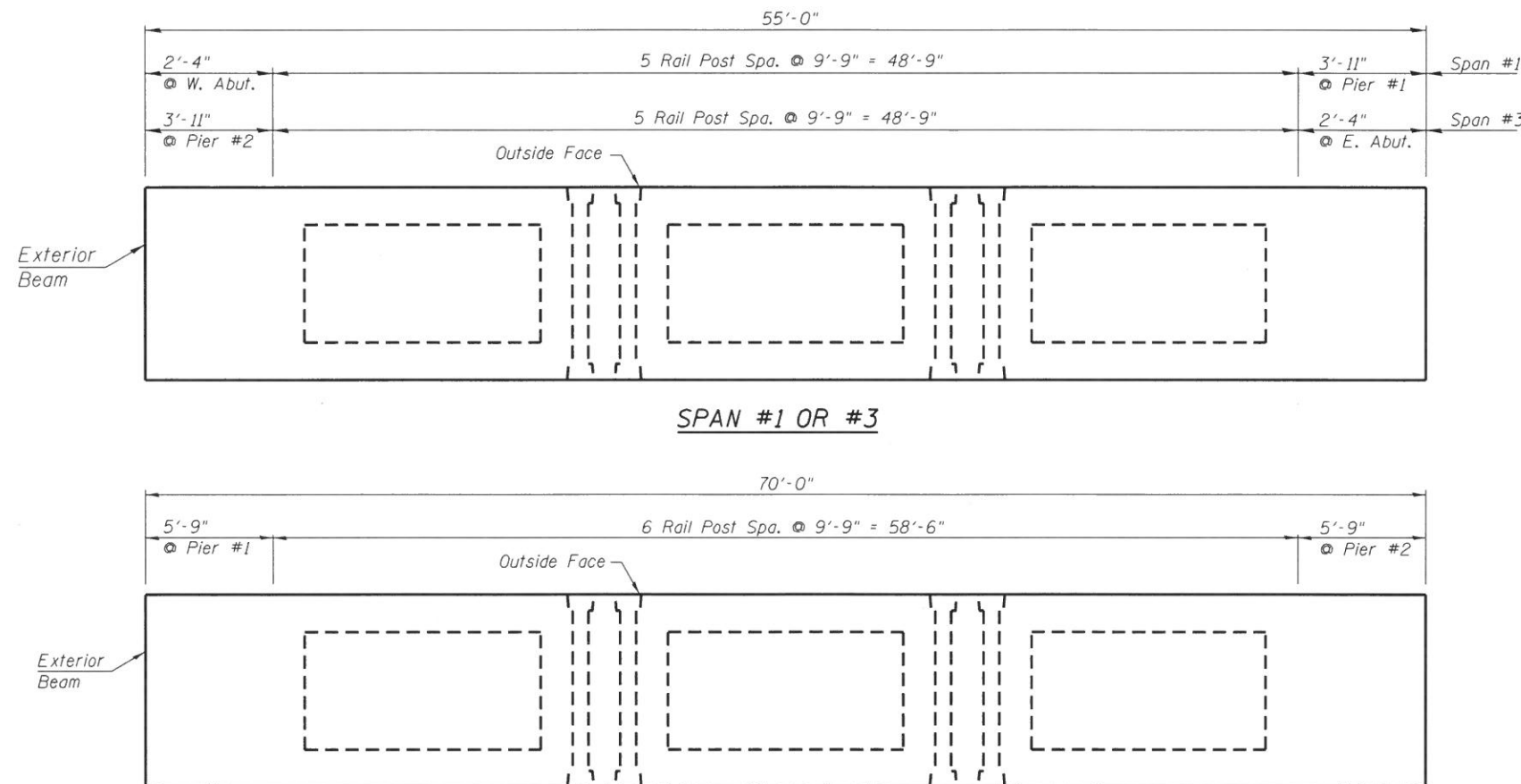


HALF CROSS SECTION

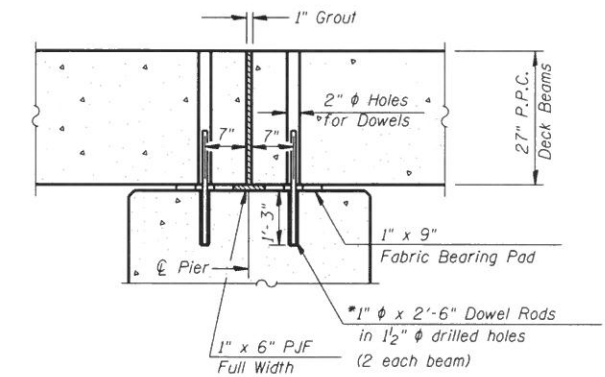


SEC. THRU ABUT.
(@ Rt. L's)

* Note: After beams are in place, 1 1/2" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.



SPAN #1 OR #3
SPAN #2
RAIL POST SPACING PLAN



SEC. AT PIER
(@ Rt. L's)

27-36.DGN

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HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
SUPERSTRUCTURE

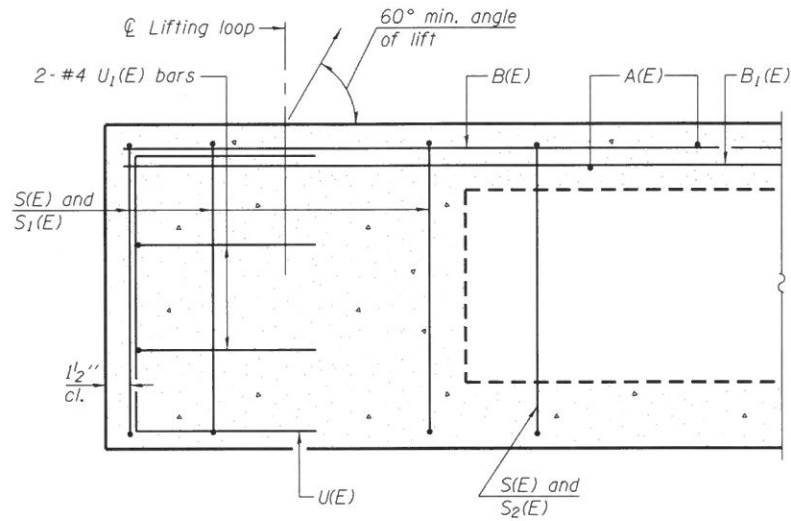
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JOB NUMBER:
14-813

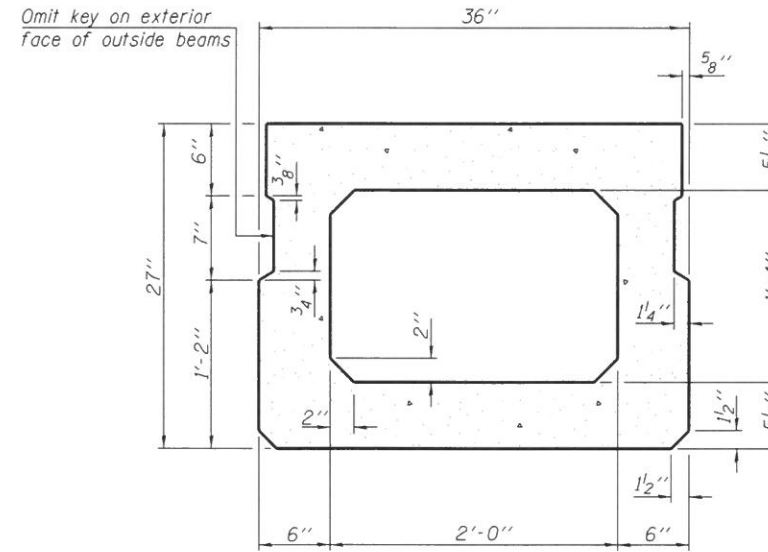
SHEET NUMBER:
8 of 26

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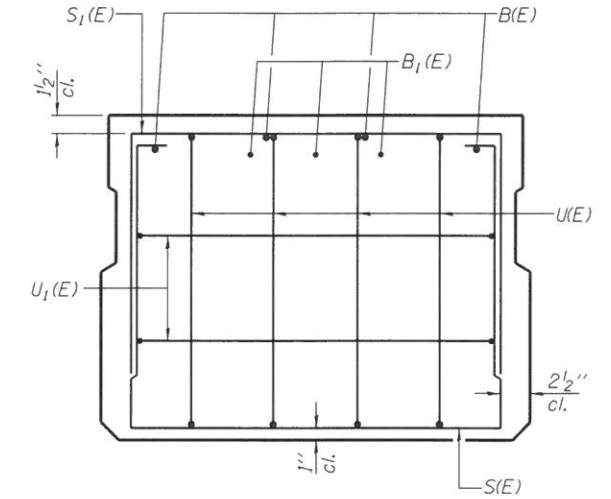
CONTRACT NO. 93731



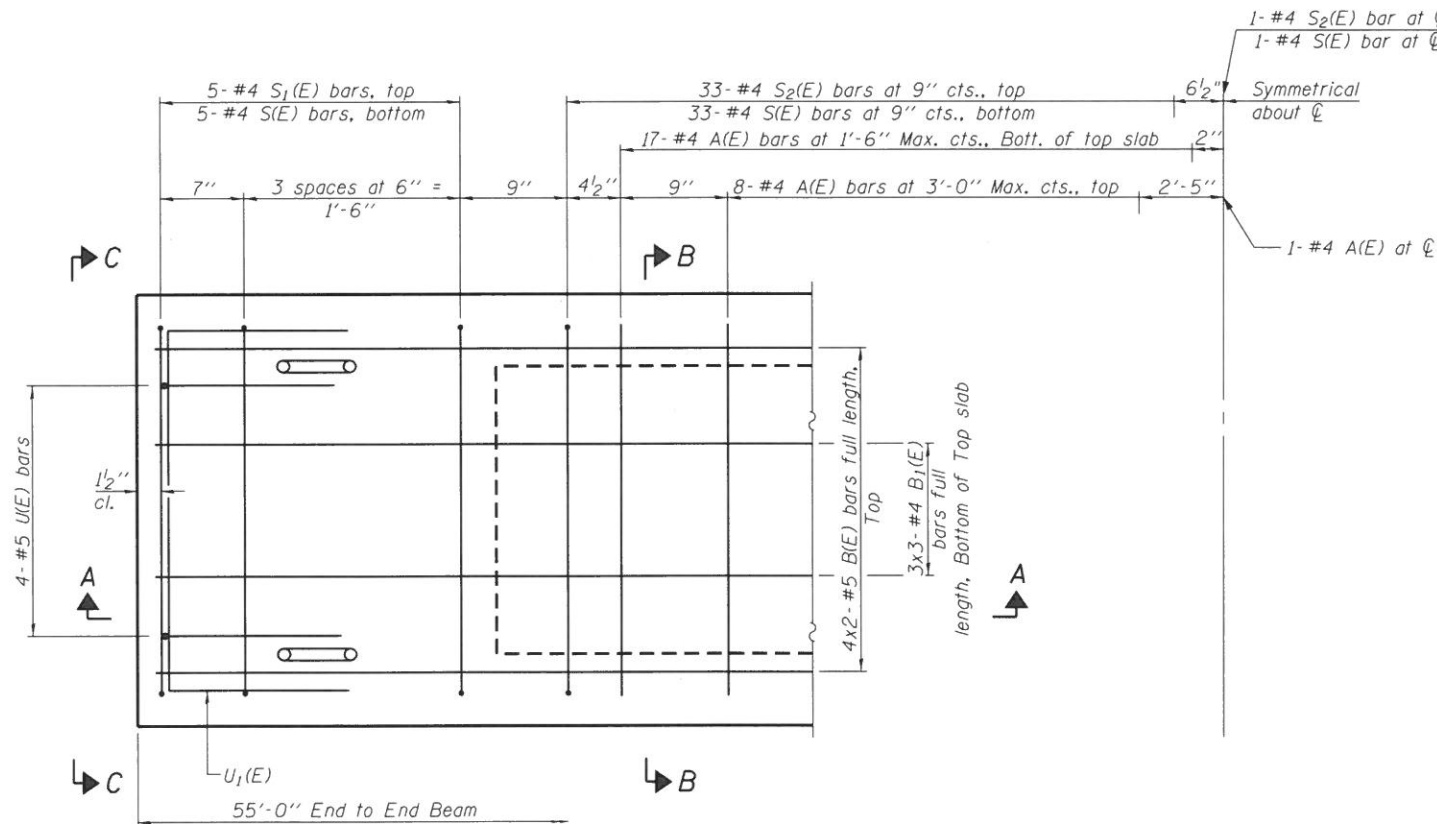
SECTION A-A



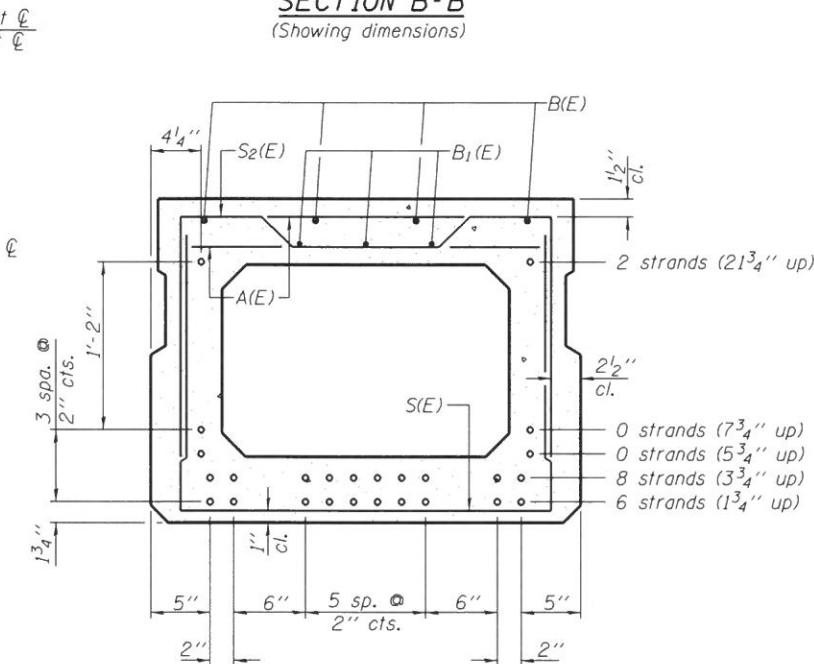
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	51	#4	2'-7"	—
B(E)	8	#5	28'-8"	—
B1(E)	9	#4	19'-7"	—
S(E)	77	#4	7'-5"	⌊
S1(E)	10	#4	5'-11"	⌊
S2(E)	67	#4	6'-2"	⌊
U(E)	8	#5	4'-6"	⌊
U1(E)	4	#4	5'-0"	⌊

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

Note: See sheet 10 of 26 for additional details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated.

Notes: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

#4 bar = 1'-11"
#5 bar = 2'-6"

27*36.DGN

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AGENCY:
HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

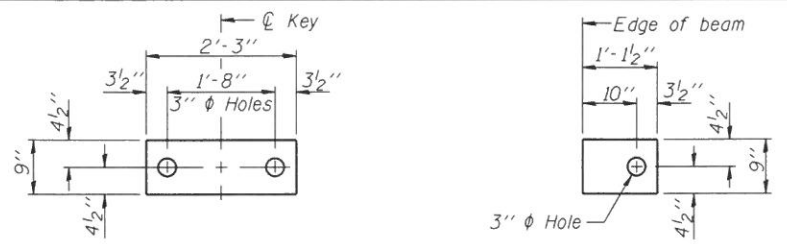
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
27" X 36" PPC DECK BEAM
SPANS 1 & 3

14-813-008-SUPER.dgn

JOB NUMBER:
14-813

SHEET NUMBER:
9 of 26



FABRIC BEARING PAD

(Interior)
(32 Required)

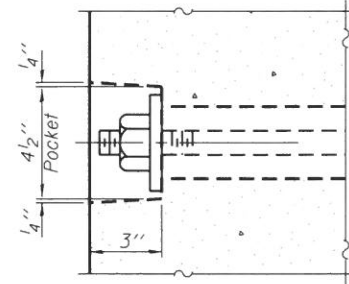
FABRIC BEARING PAD

(Exterior)
(8 Required)

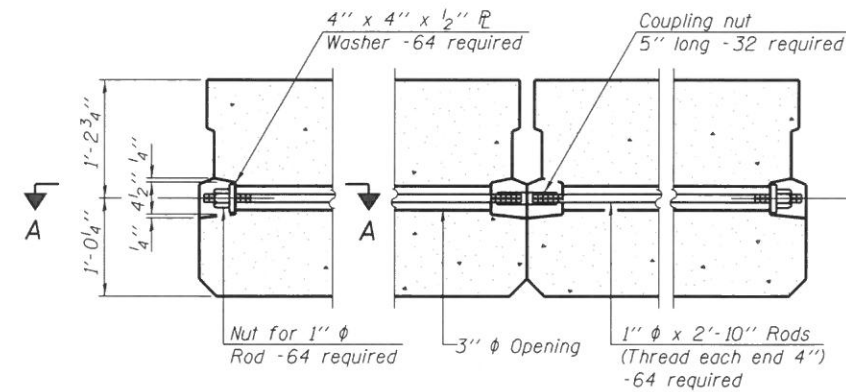
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Notes:

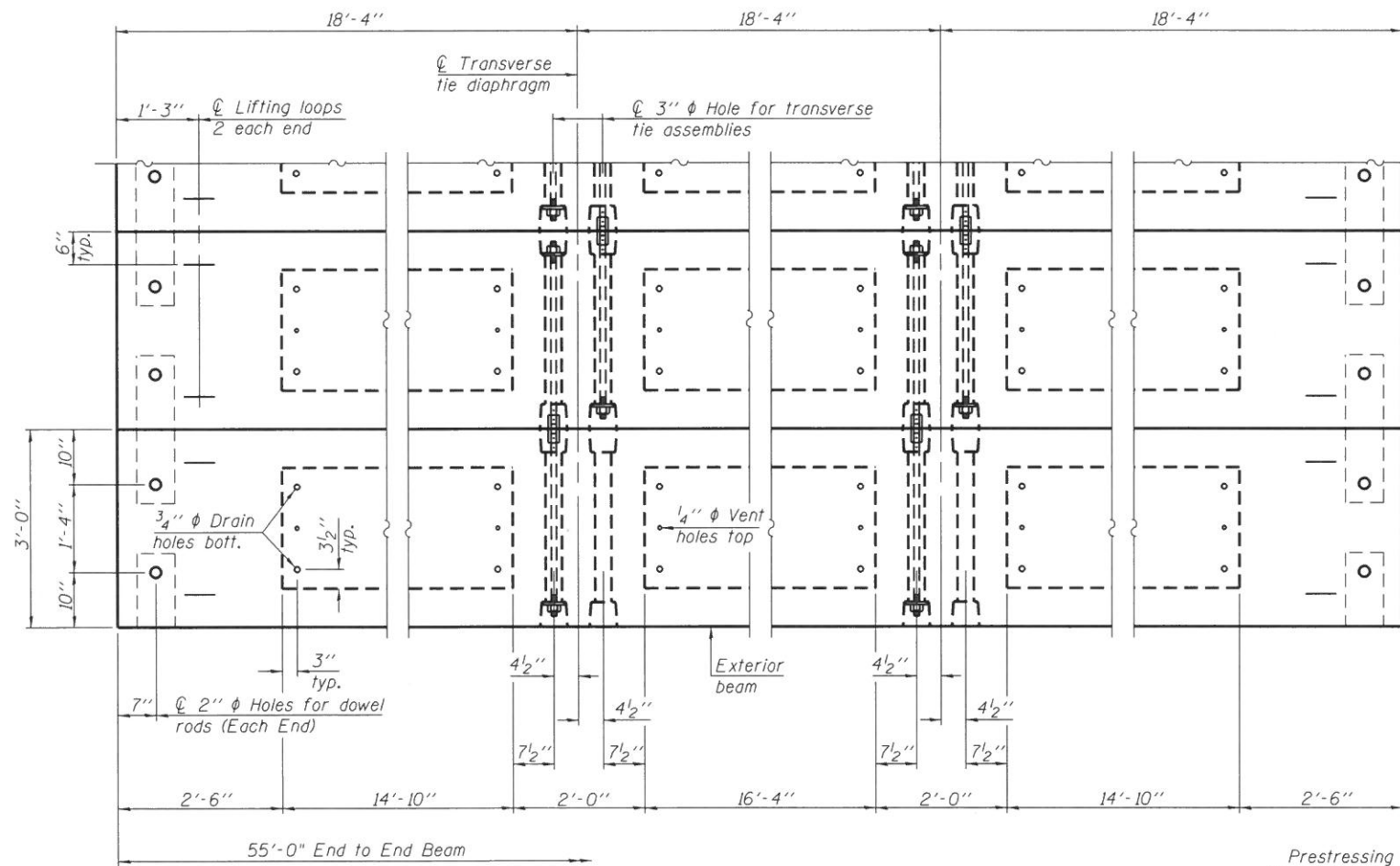
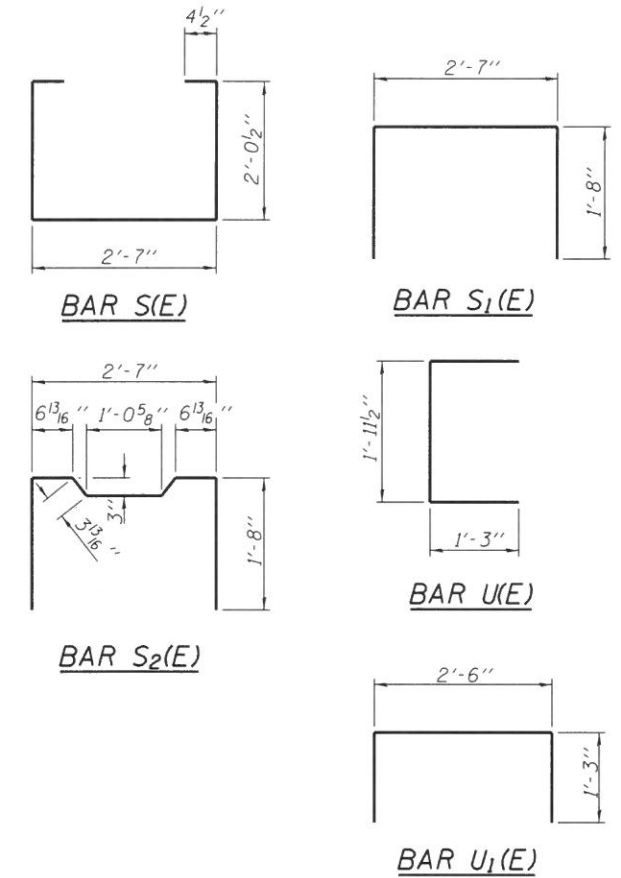
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

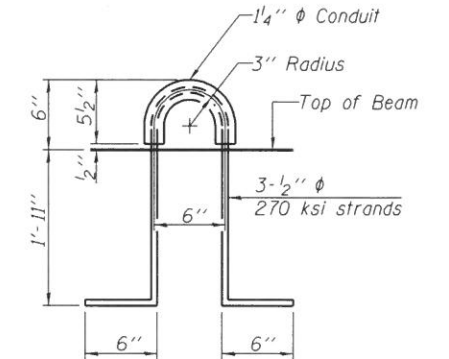


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

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.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (96 Required - Included in cost of P.P.C. Deck Beams of depth shown in plans)
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams.
See Special Provisions for review and distribution of shop drawings.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	2970
Estimated Total Weight (One Beam) = 38,010 Pounds		

27*36.DGN

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AGENCY:
HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

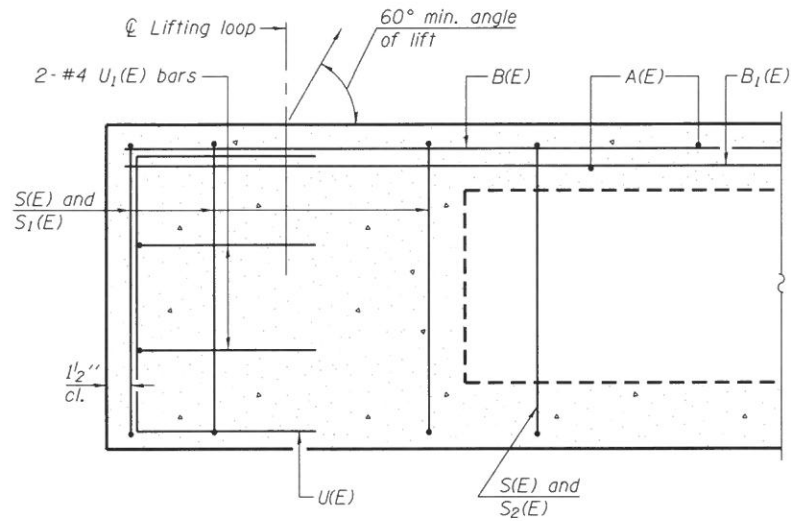
DRAWING:
27" X 36" PPC DECK BEAM DETAILS
SPANS 1 & 3

14-813-008-SUPER.dgn

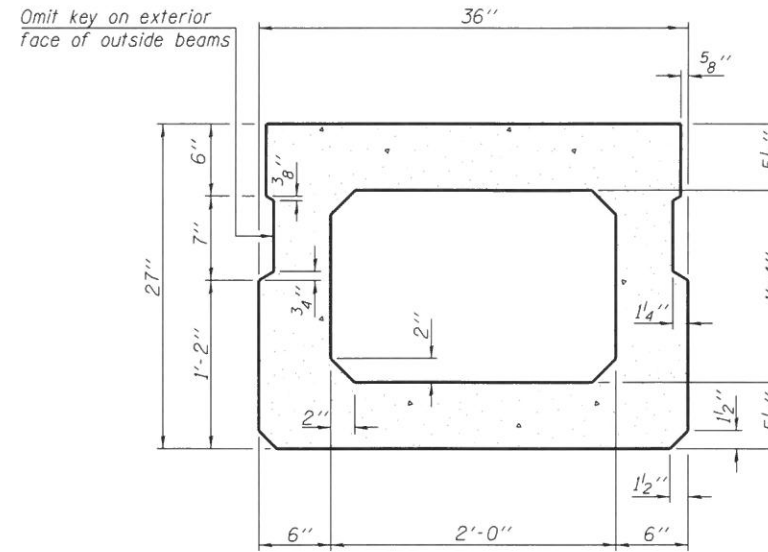
JOB NUMBER:
14-813

SHEET NUMBER:
10 of 26

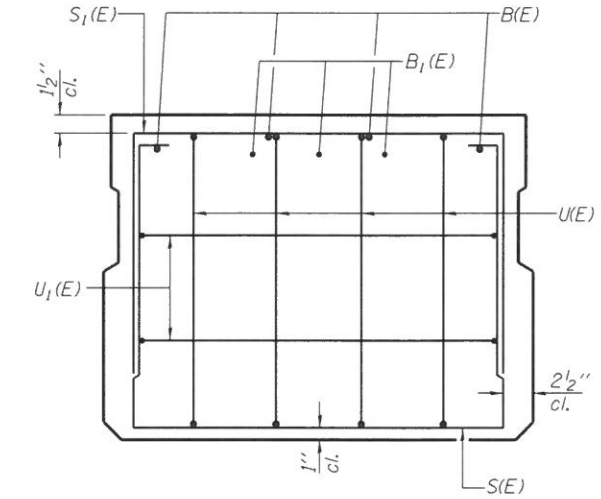
CONTRACT NO. 93731



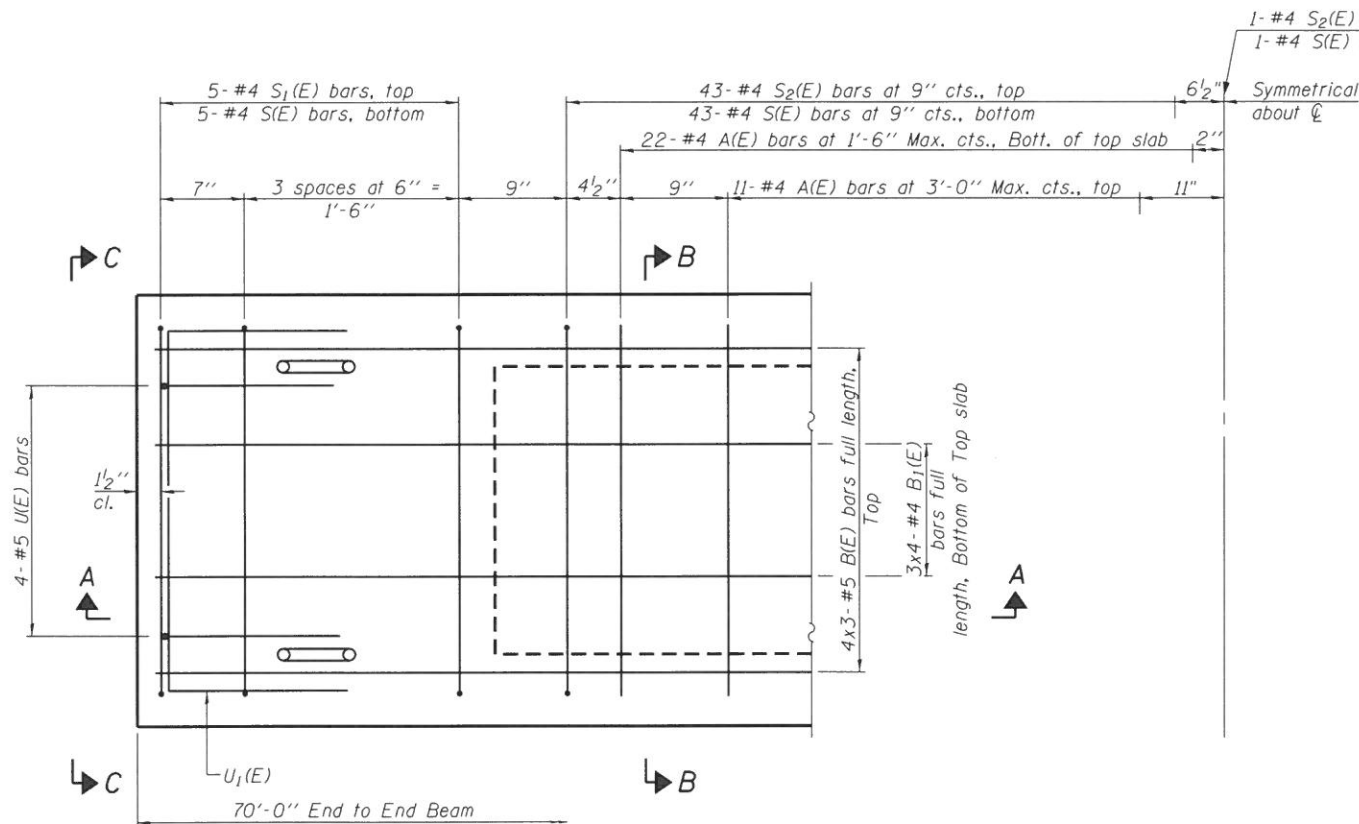
SECTION A-A



SECTION B-B
(Showing dimensions)



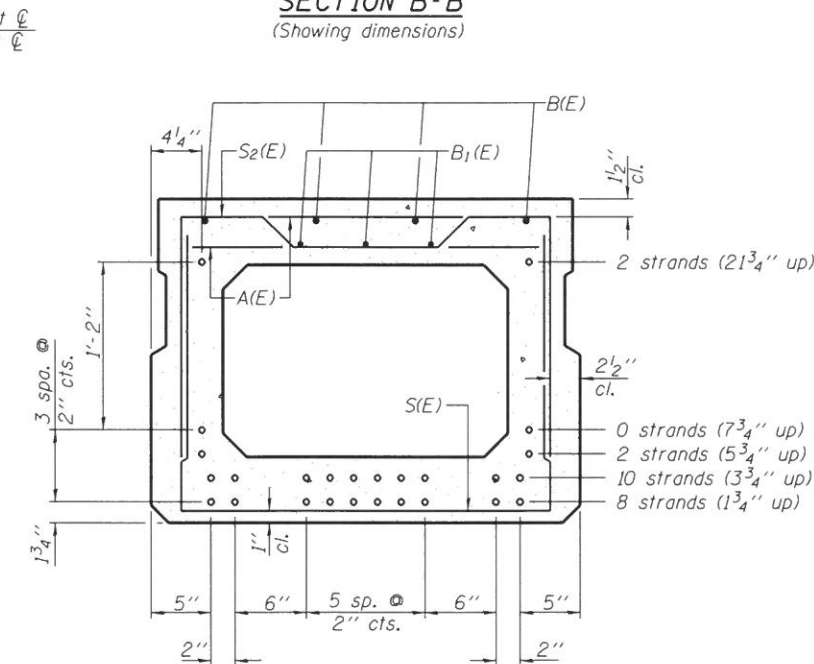
VIEW C-C



PLAN VIEW

Notes: Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.



Use 22-1/2" φ strands at the locations shown.

SECTION B-B

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	66	#4	2'-7"	—
B(E)	12	#5	24'-11"	—
B ₁ (E)	12	#4	19'-0"	—
S(E)	97	#4	7'-5"	⌈
S ₁ (E)	10	#4	5'-11"	⌈
S ₂ (E)	87	#4	6'-2"	⌈
U(E)	8	#5	4'-6"	⌈
U ₁ (E)	4	#4	5'-0"	⌈

Note: See sheet 12 of 26 for additional details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated.

MINIMUM BAR LAP

#4 bar = 1'-11"
#5 bar = 2'-6"

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101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

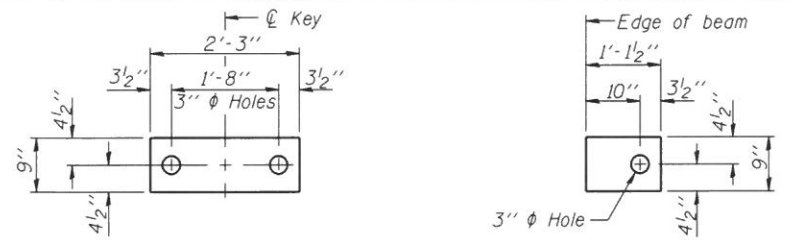
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
27" X 36" PPC DECK BEAM
SPAN 2

14-813-008-SUPER.dgn

JOB NUMBER:
14-813

SHEET NUMBER:
11 of 26



FABRIC BEARING PAD

(Interior)
(16 Required)

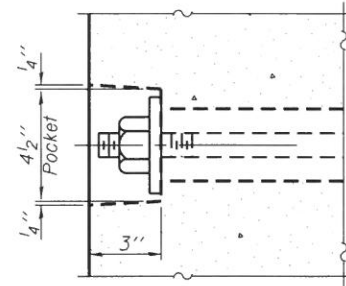
FABRIC BEARING PAD

(Exterior)
(4 Required)

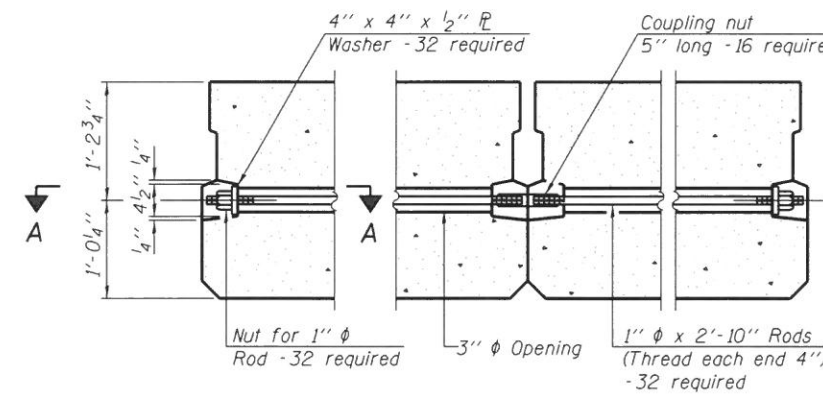
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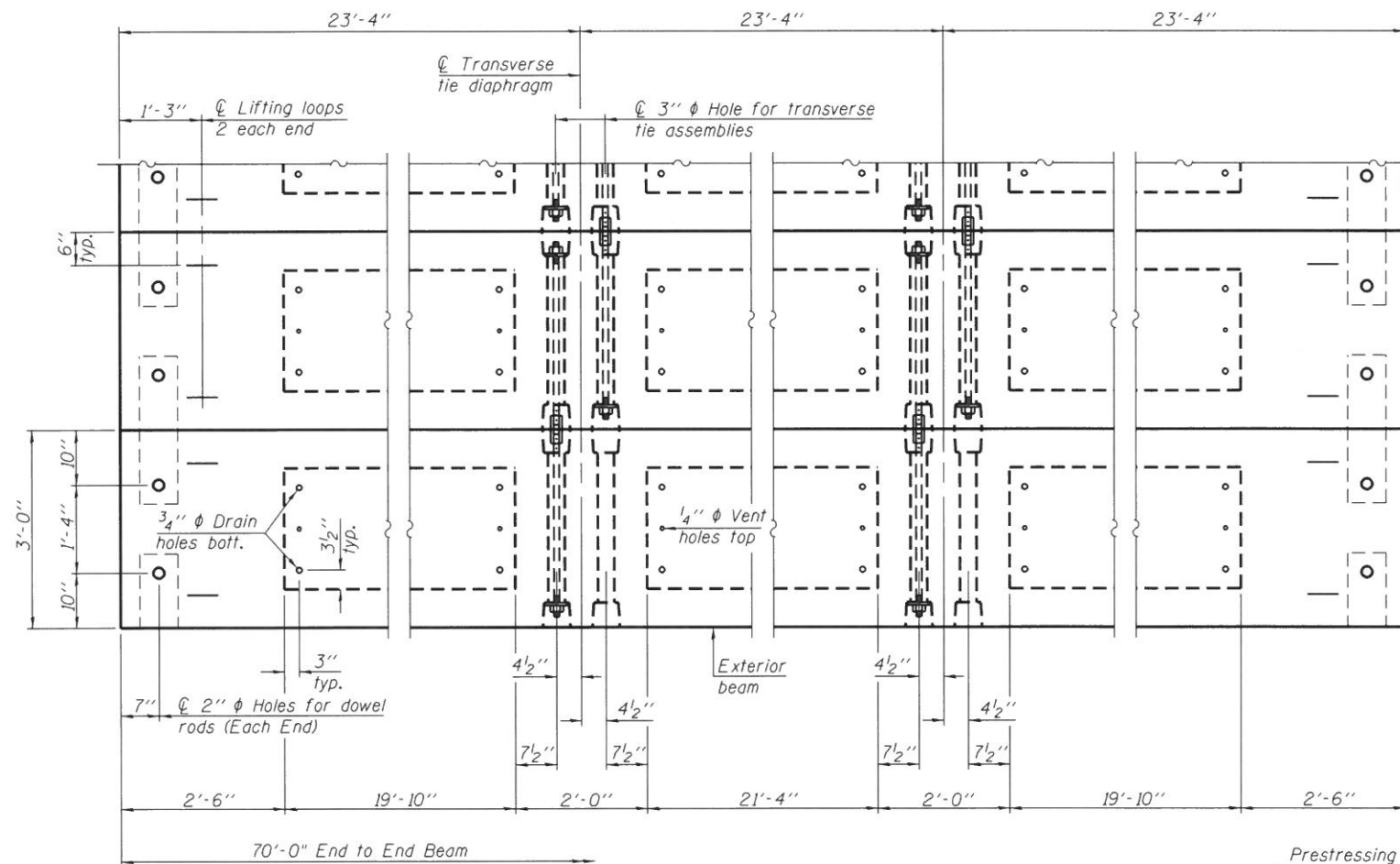
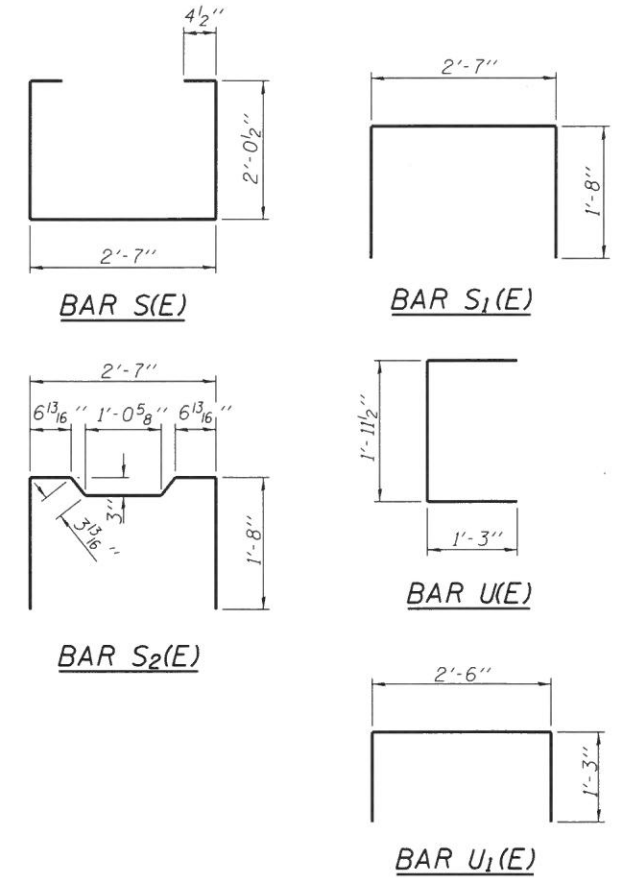
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

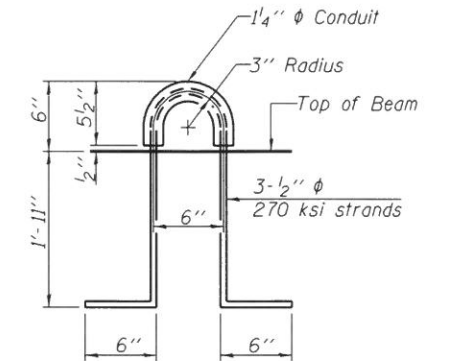


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

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. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (48 Required - Included in cost of P.P.C. Deck Beams of depth shown in plans) A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi. Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams. See Special Provisions for review and distribution of shop drawings.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1890
Estimated Total Weight (One Beam) = 47,360 Pounds		

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101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
27" X 36" PPC DECK BEAM DETAILS
SPAN 2

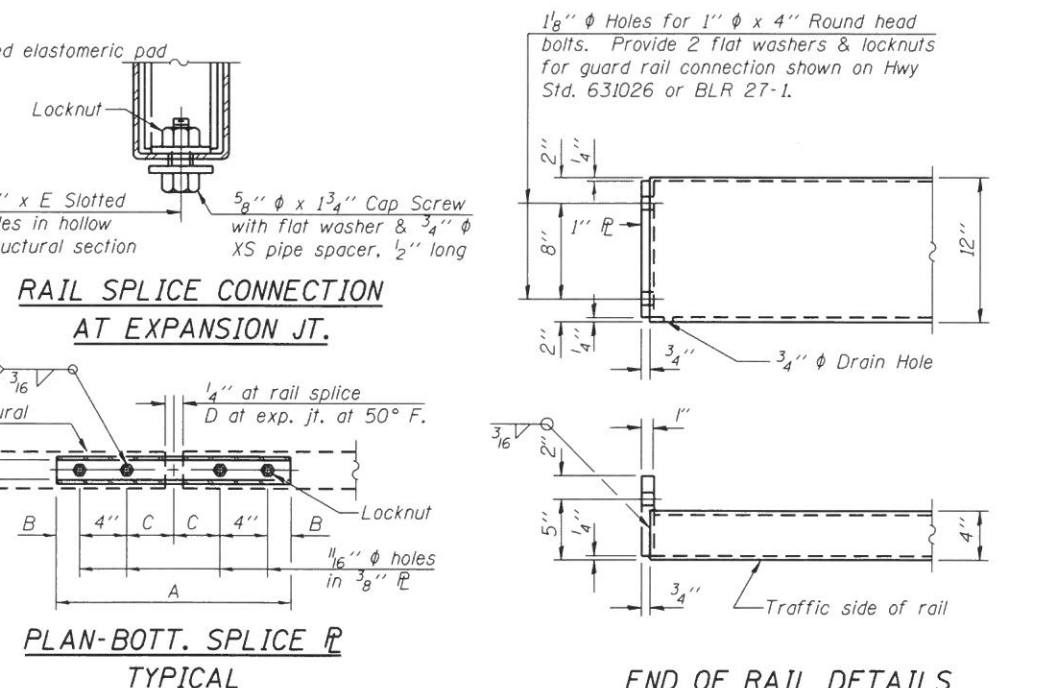
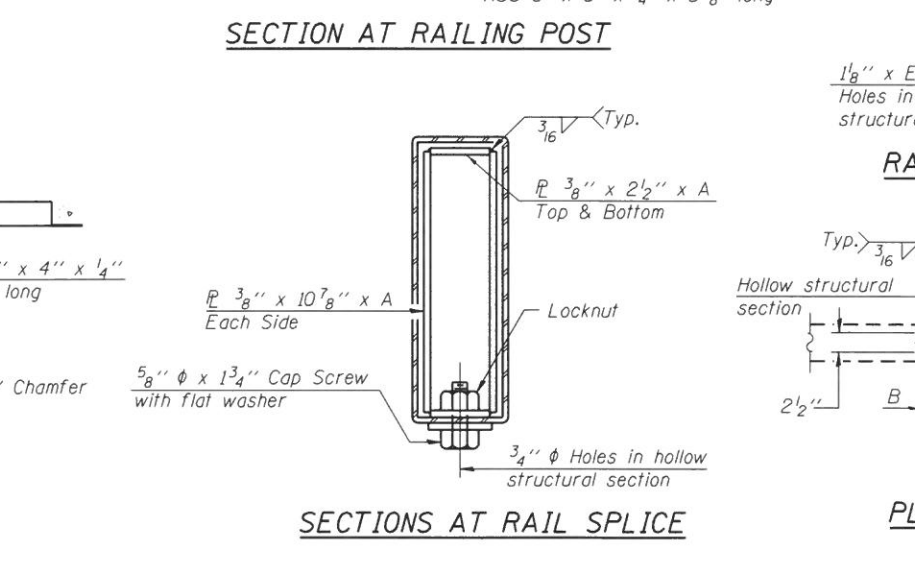
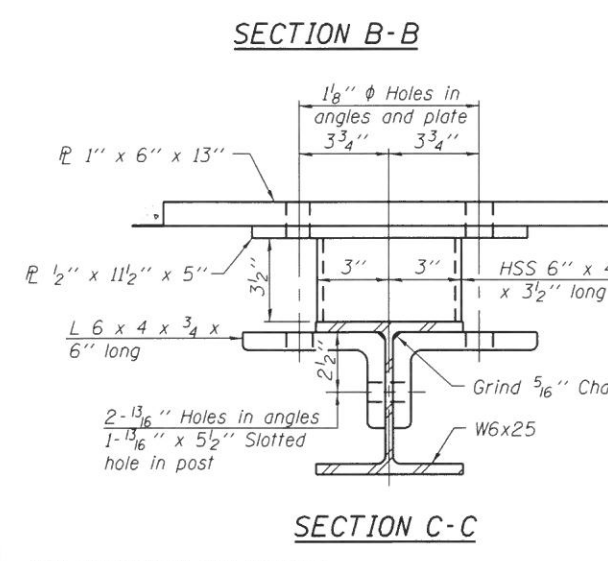
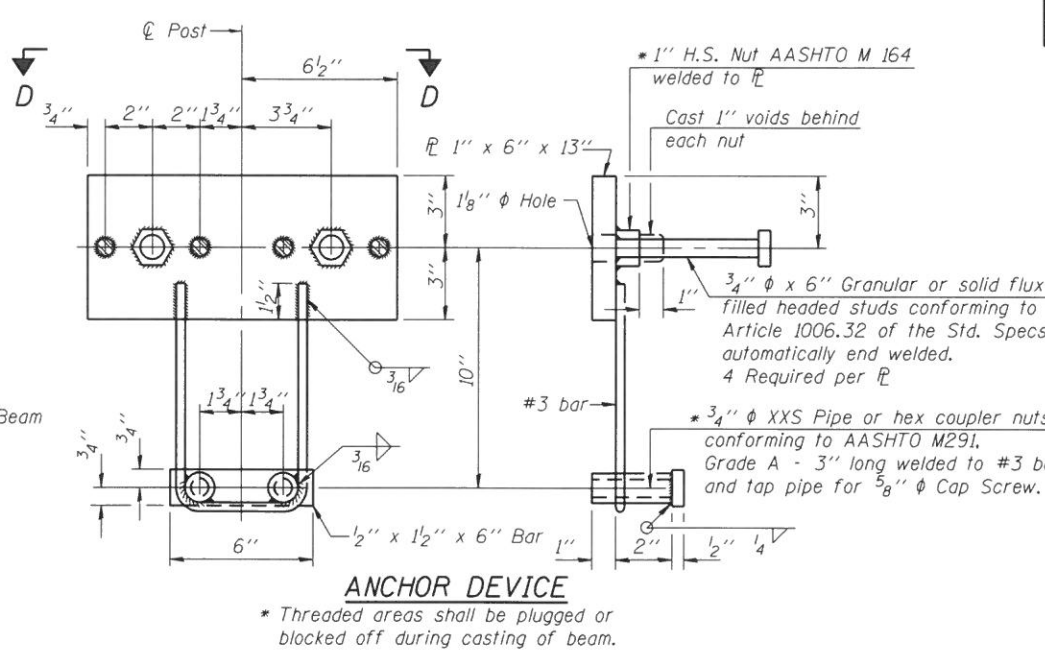
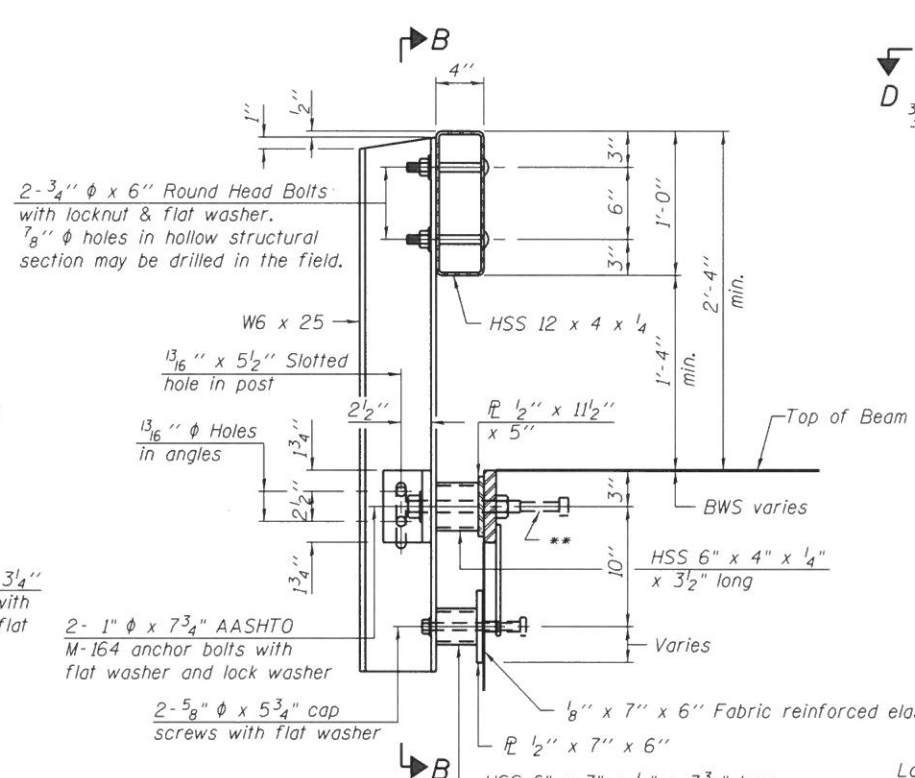
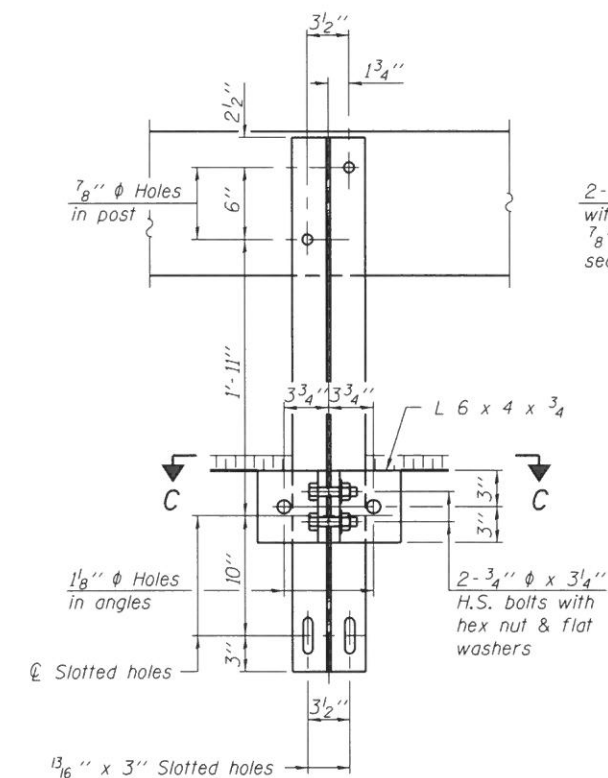
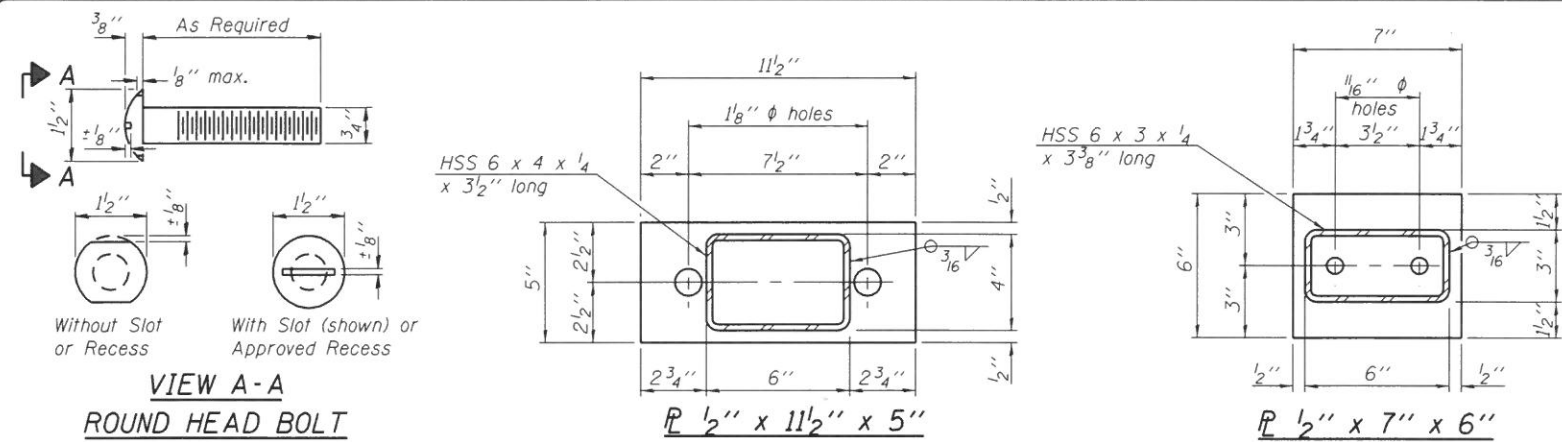
14-813-008-SUPER.dgn

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14-813

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SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1 1/4"	1'-8"	2"	4"	

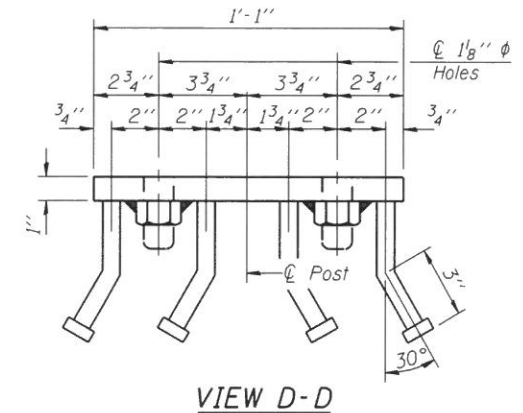
T = Total movement at expansion joint as shown on the design plans.

Notes:

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

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	360

See sheet 14 for Rail Post Spacing and Curled End Section Details.

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101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

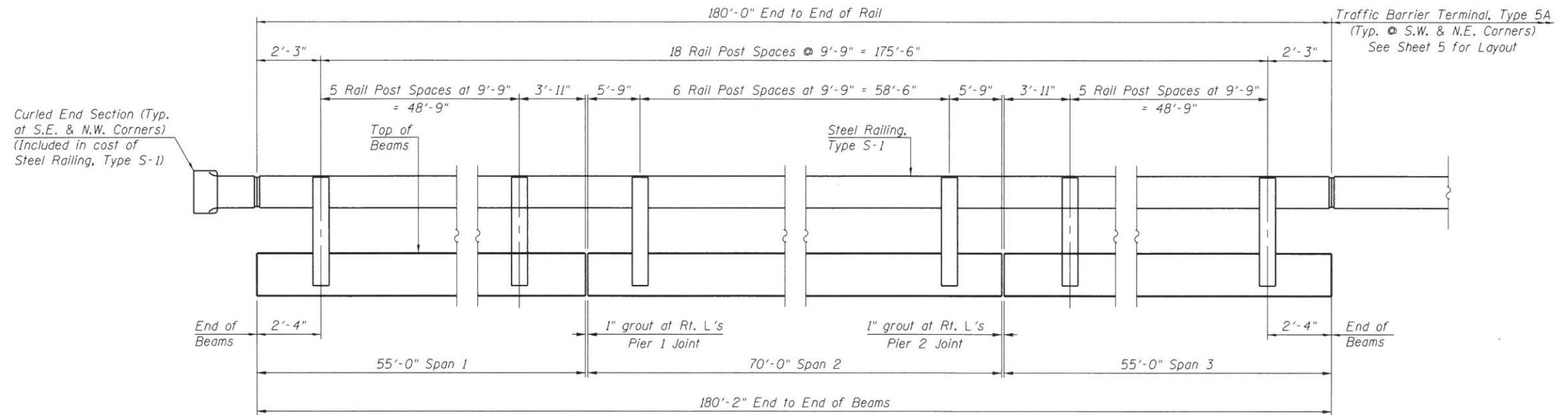
DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

REVISIONS

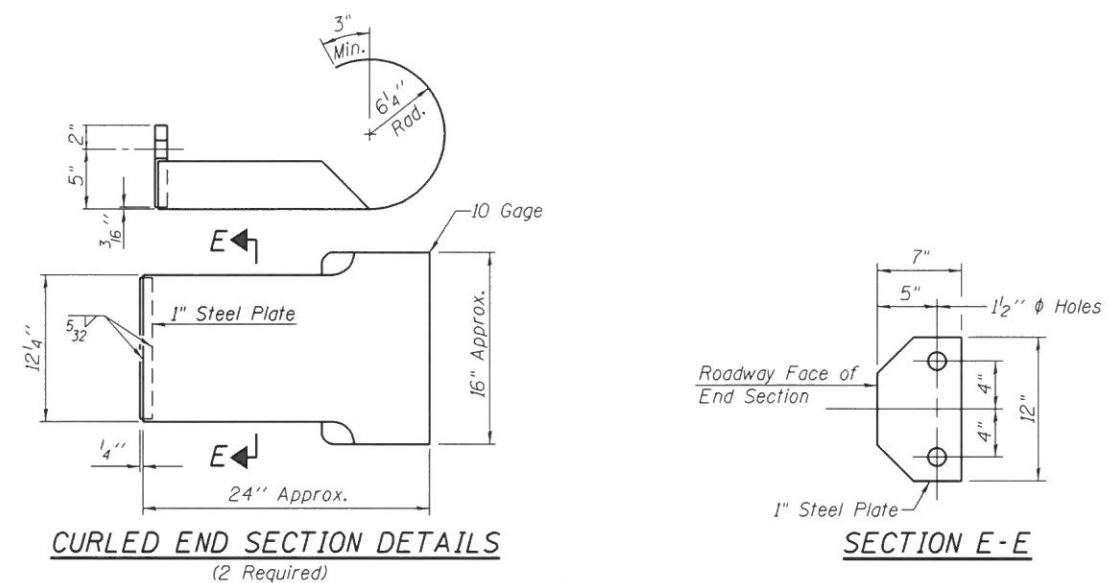
REV. NO.	DESCRIPTION	DATE

DRAWING:
STEEL RAILING, TYPE S-1
14-813-013-RAIL.dgn

JOB NUMBER:
14-813
SHEET NUMBER:
13 of 26



ELEVATION



CURLED END SECTION DETAILS
(2 Required)

SECTION E-E

See sheet 13 for Steel Railing Details.

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101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: CM
CHECKED: JM
DRAWN: CM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
STEEL RAILING, TYPE S-1

14-813-013-RAIL.dgn

JOB NUMBER:
14-813

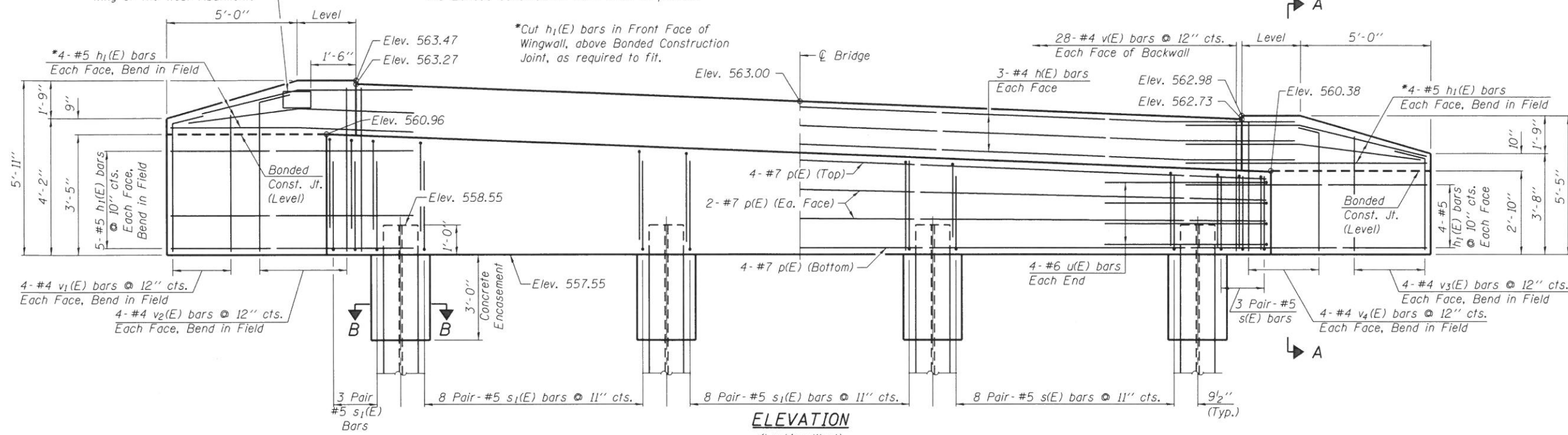
SHEET NUMBER:
14 of 26

CONTRACT NO. 93731

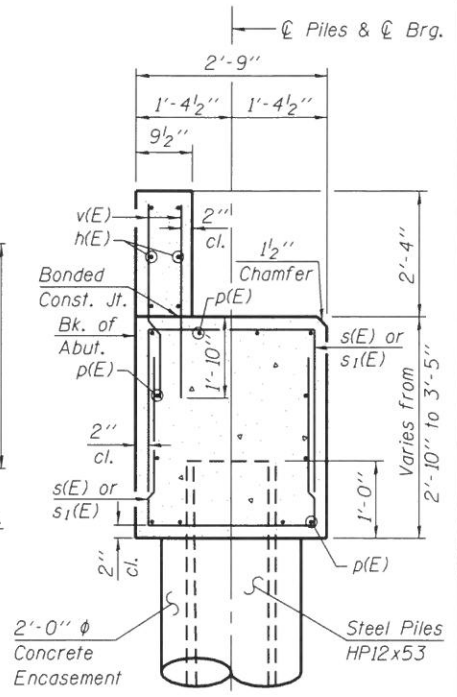
© 2013 FEHR-GRAHAM

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

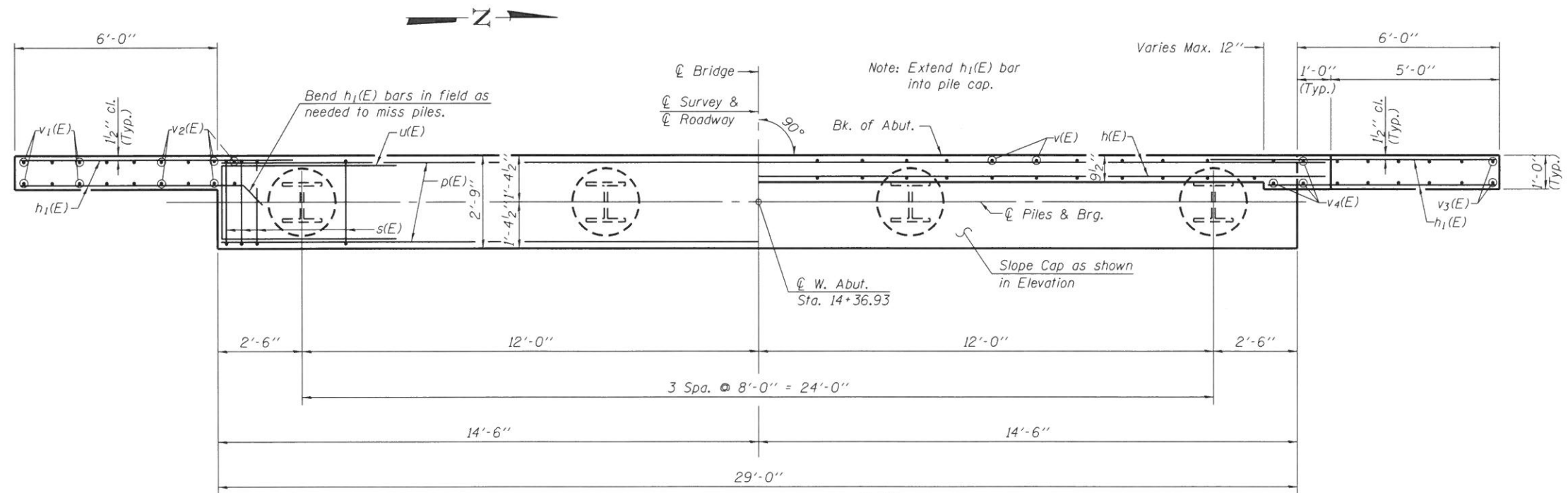
Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.



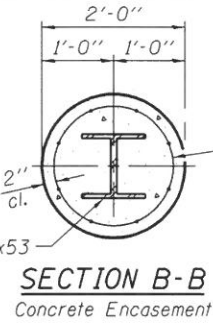
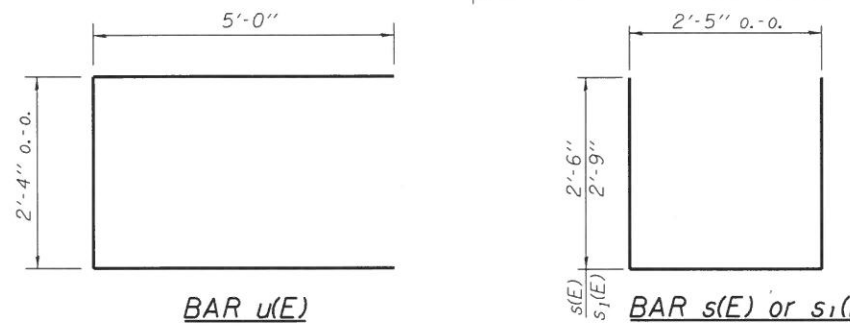
ELEVATION
(Looking West)



SECTION THRU ABUT.



PLAN



Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit. Extend welded wire fabric 1'-0\"/>

PILE DATA

Type & Size.....Steel HPI2x53
 No. Req'd.....4
 Nominal Required Bearing.....419 kips
 Factored Resistance Available.....165 kips
 Estimated Length.....30 ft.

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

SECTION A-A

BILL OF MATERIAL - W. ABUT.

Bar	No.	Size	Length	Shape
h(E)	6	#4	30'-8"	—
h1(E)	34	#5	8'-3"	—
p(E)	12	#7	28'-8"	—
s(E)	22	#5	7'-5"	U
s1(E)	38	#5	7'-11"	U
u(E)	8	#6	12'-4"	—
v(E)	56	#4	4'-0"	—
v1(E)	8	#4	4'-6"	—
v2(E)	8	#4	5'-7"	—
v3(E)	8	#4	4'-2"	—
v4(E)	8	#4	5'-2"	—
Concrete Structures	Cu. Yd.		13.5	
Reinforcement Bars, Epoxy Coated	Pound		2000	
Furnishing Steel Piles HPI2x53	Foot		120	
Concrete Encasement	Cu. Yd.		1.4	

See Sheet 18 of 26 for pile details.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: MCB
DRAWN: GM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
WEST ABUTMENT DETAILS

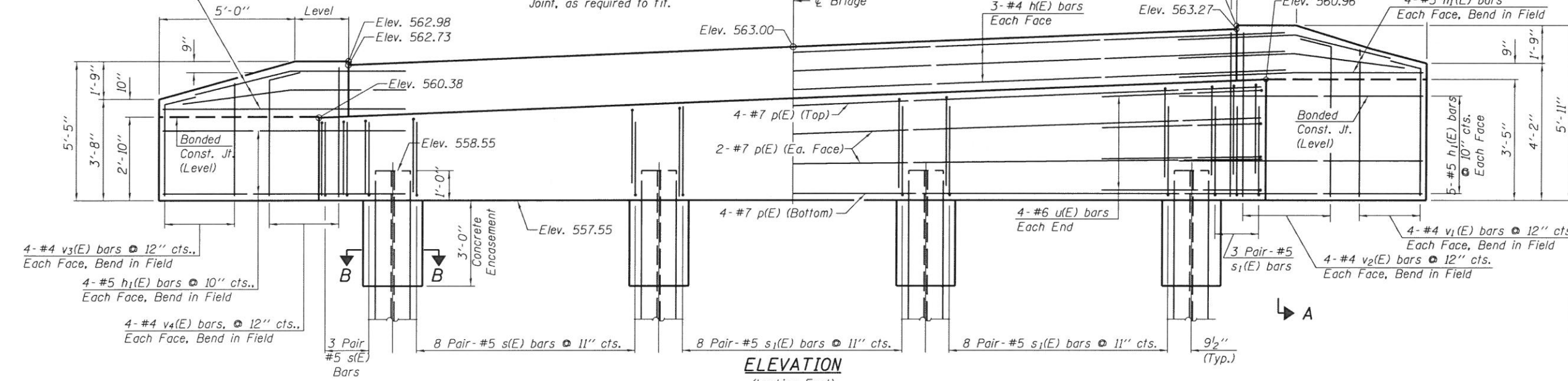
JOB NUMBER:
14-813

SHEET NUMBER:
15 of 26

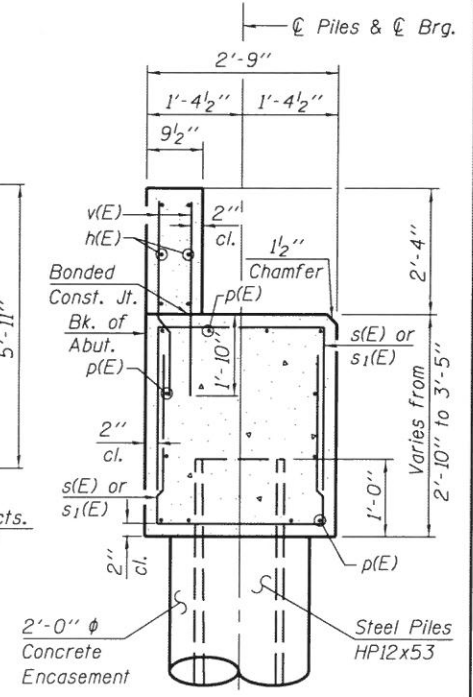
Note: After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be poured.

*4-#5 h₁(E) bars Each Face, Bend in Field

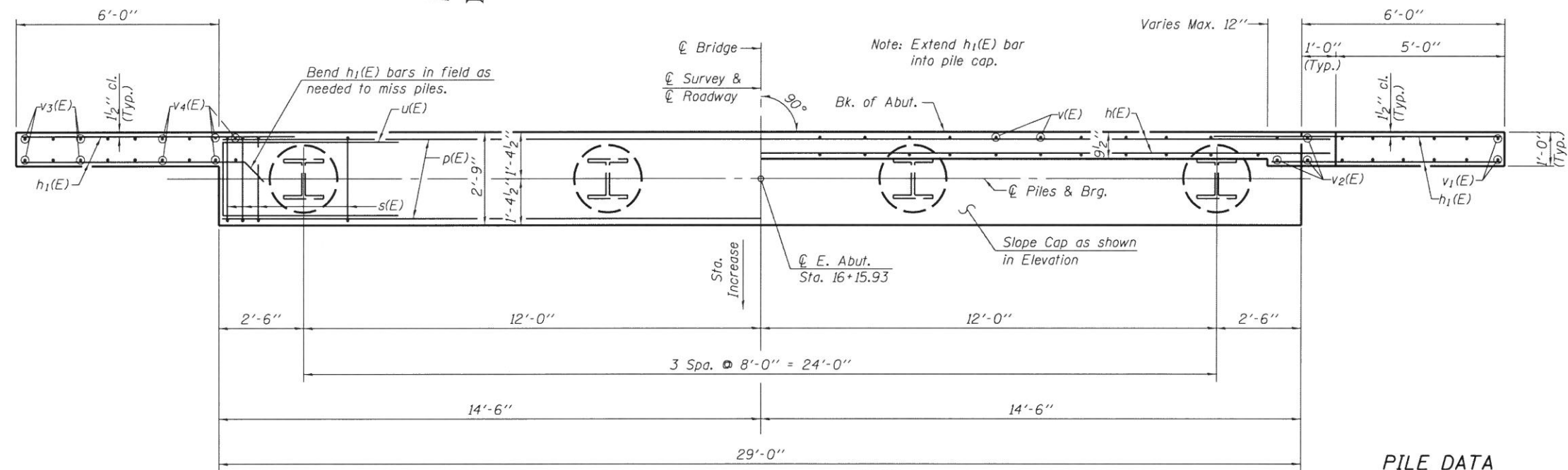
*Cut h₁(E) bars in Front Face of Wingwall, above Bonded Construction Joint, as required to fit.



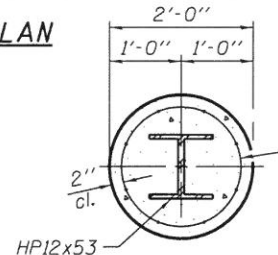
ELEVATION
(Looking East)



SECTION THRU ABUT.



PLAN



SECTION B-B
Concrete Encasement

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation, and Reinforcement is included with Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit. Extend welded wire fabric 1'-0" min. into Abutment Cap.

Type & Size..... Steel HP12x53
No. Req'd..... **4
Nominal Required Bearing..... 419 kips
Factored Resistance Available..... 165 kips
Estimated Length..... 34 ft.
** Includes 1 Test Pile to be driven in a permanent location at the East abutment.
Steel H-Piles shall be according to AASHTO M270 Grade 50.

SECTION A-A

BILL OF MATERIAL - E. ABUT.

Bar	No.	Size	Length	Shape
h(E)	6	#4	30'-8"	—
h ₁ (E)	34	#5	8'-3"	—
p(E)	12	#7	28'-8"	—
s(E)	22	#5	7'-5"	U
s ₁ (E)	38	#5	7'-11"	U
u(E)	8	#6	12'-4"	—
v(E)	56	#4	4'-0"	—
v ₁ (E)	8	#4	4'-6"	—
v ₂ (E)	8	#4	5'-7"	—
v ₃ (E)	8	#4	4'-2"	—
v ₄ (E)	8	#4	5'-2"	—
Concrete Structures		Cu. Yd.	13.5	
Reinforcement Bars, Epoxy Coated		Pound	2000	
Test Pile		Each	1	
Furnishing Steel Piles HP12x53		Foot	102	
Concrete Encasement		Cu. Yd.	1.4	

See Sheet 18 of 26 for pile details.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

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IOWA
WISCONSIN

AGENCY:
HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

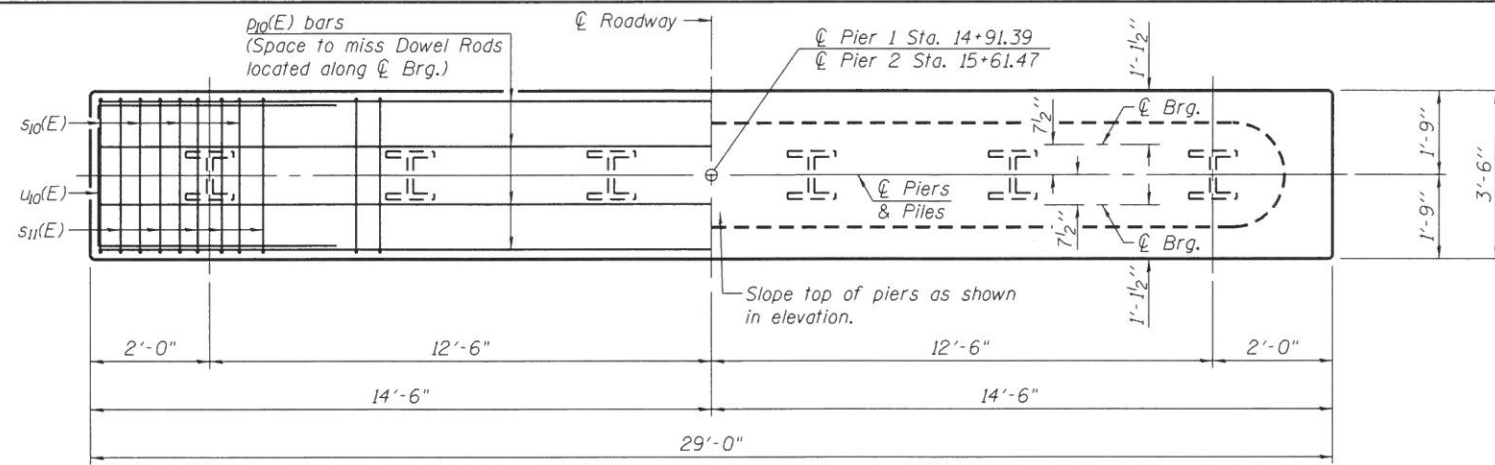
PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: MCB
DRAWN: GM/MY
CHECKED: MCB

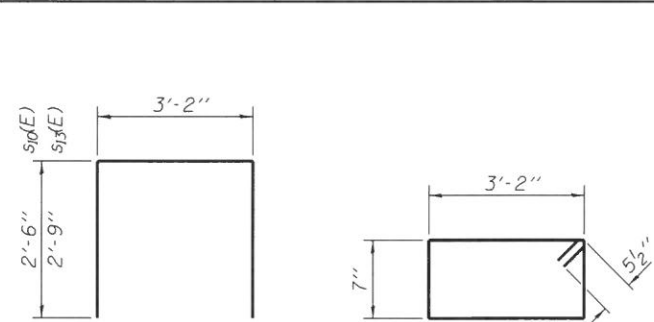
REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
EAST ABUTMENT DETAILS

JOB NUMBER:
14-813
SHEET NUMBER:
16 of 26

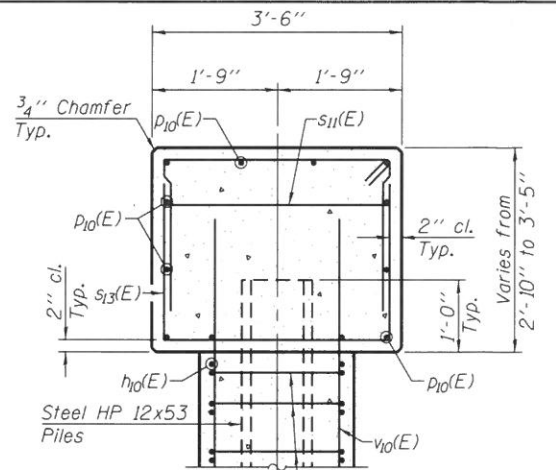


PLAN

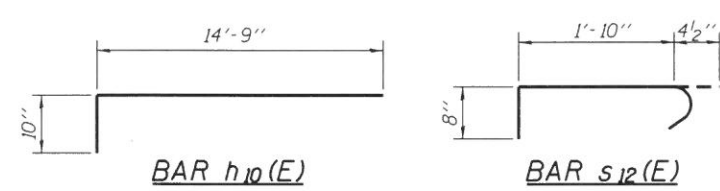


BAR s10(E)

BAR s11(E)

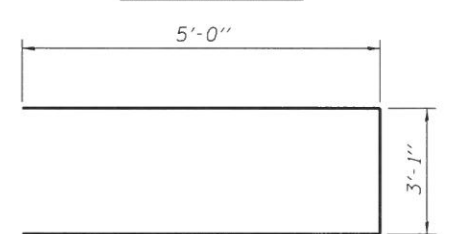


SECTION B-B

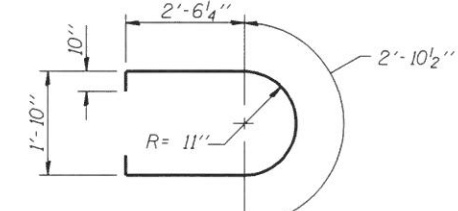


BAR h10(E)

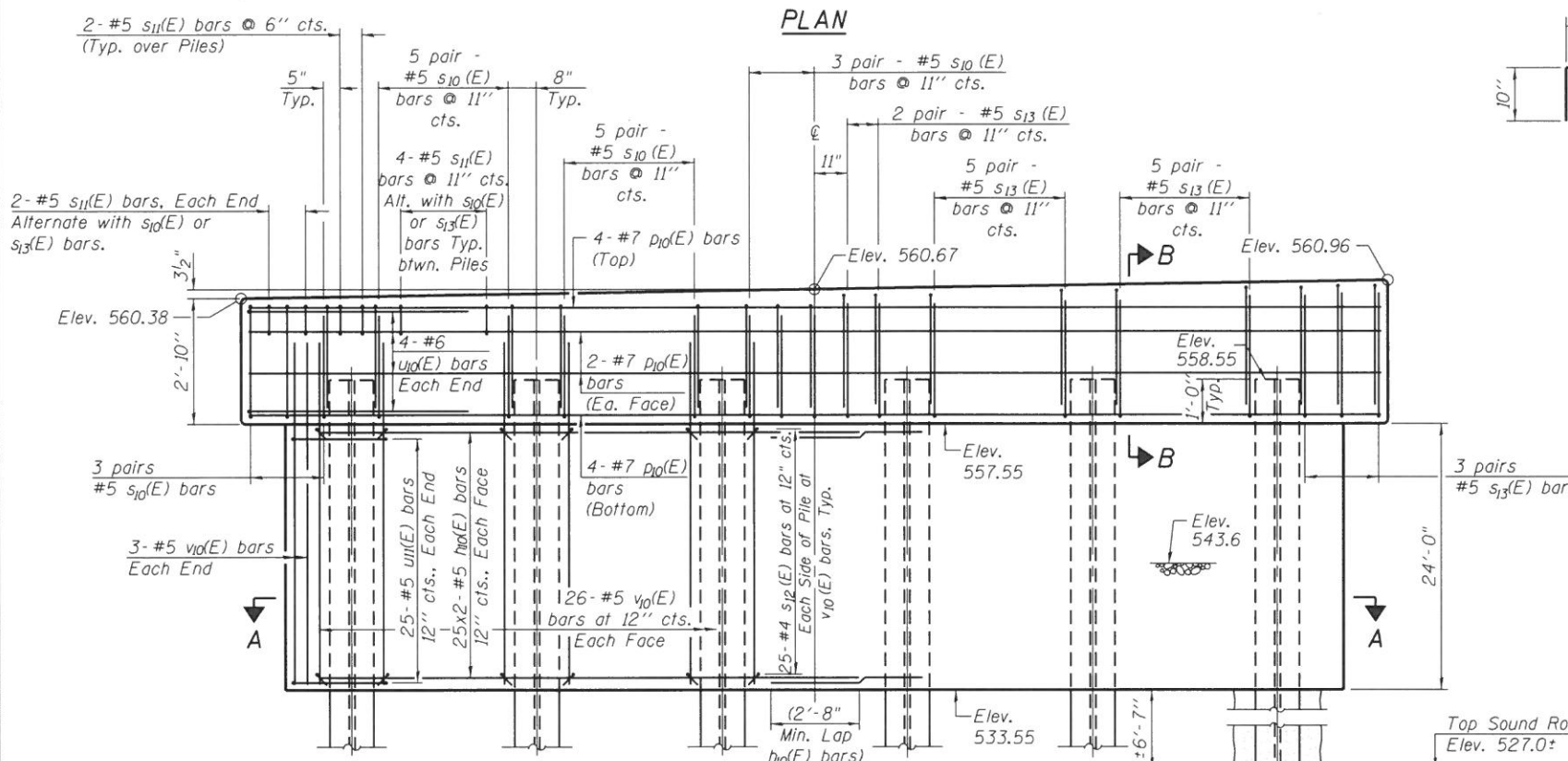
BAR s12(E)



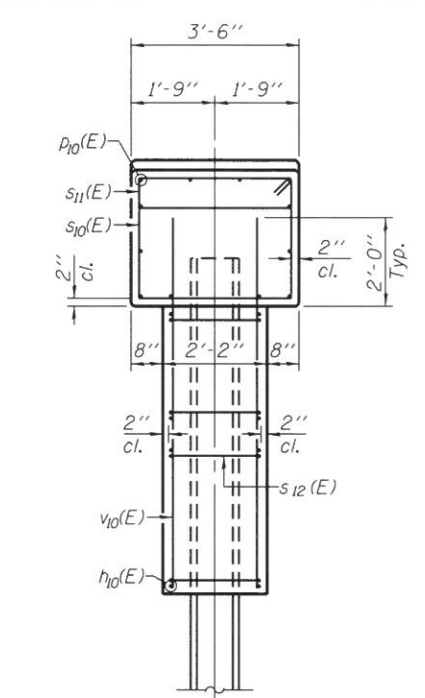
BAR u10(E)



BAR u11(E)

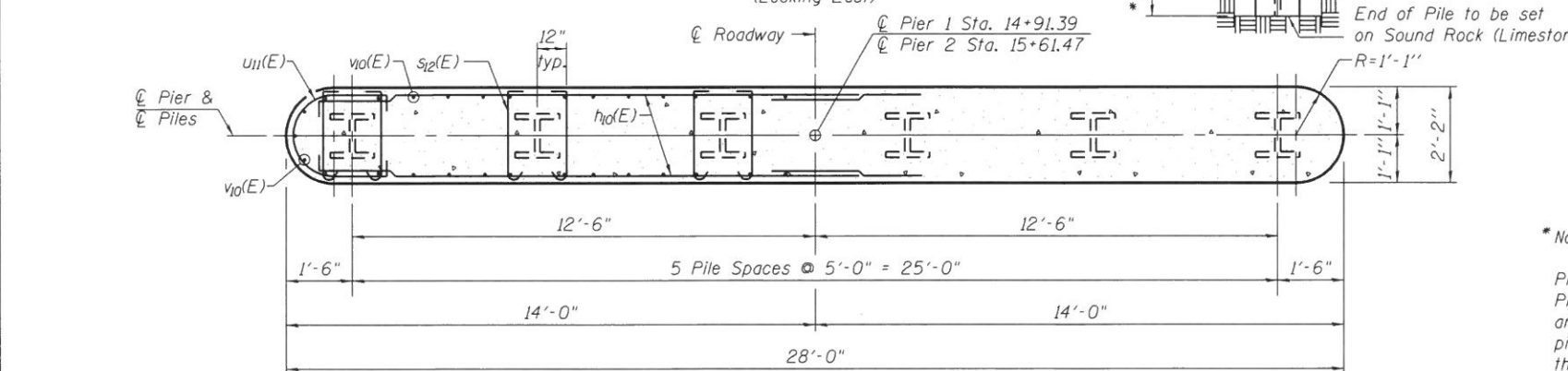


ELEVATION
(Looking East)



END VIEW

MIN. BAR LAP
#5 bar = 3'-8"



SECTION A-A

PILE DATA

Type & Size..... Steel HP 12x53
No. Req'd..... 12
Capacity..... Set in Rock
Estimated Length..... 38'

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

BILL OF MATERIAL - TWO PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
h10(E)	200	#5	15'-7"	┌
p10(E)	24	#7	28'-8"	—
s10(E)	64	#5	8'-2"	┌
s11(E)	72	#5	8'-5"	┌
s12(E)	600	#5	2'-11"	┌
s13(E)	60	#5	8'-8"	┌
u10(E)	16	#6	13'-1"	┌
u11(E)	100	#5	9'-7"	┌
v10(E)	116	#5	25'-10"	—
Concrete Structures			Cu. Yd.	129.8
Reinforcement Bars, Epoxy Coated			Pound	12,640
Furnishing Steel Piles HP 12x53			Foot	456
Setting Piles in Rock			Each	12
Cofferdams (Special)			Each	2

See Sheet 18 of 26 for Pile Details.

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

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AGENCY:
HANCOCK COUNTY HWY. DEPT.
101 SOUTH FIRST STREET
P.O. BOX 379
CARTHAGE, IL 62321

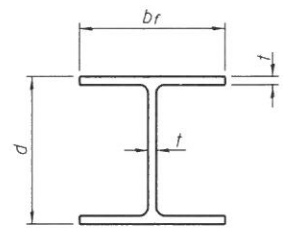
PROJECT:
CARTHAGE ROAD DISTRICT
SECTION 14-04115-00-BR
T.R. 175 OVER THE
LA MOINE RIVER

DESIGNED: GM
CHECKED: JM
DRAWN: GM/MY
CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

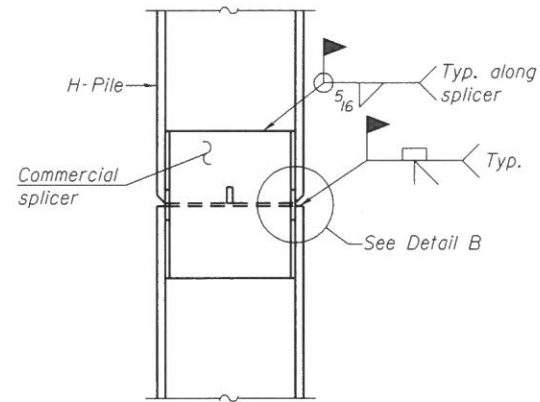
DRAWING:
PIER DETAILS

JOB NUMBER:
14-813
SHEET NUMBER:
17 of 26

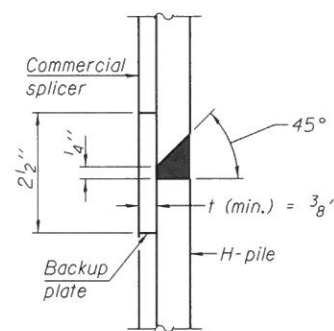


STEEL PILE TABLE

Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

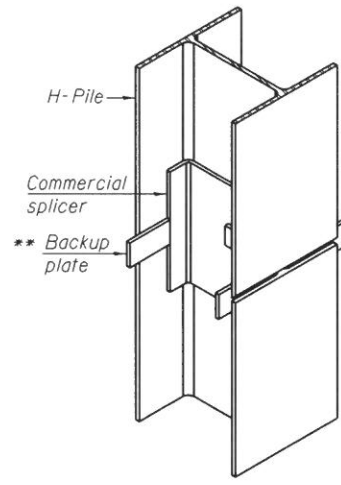


ELEVATION

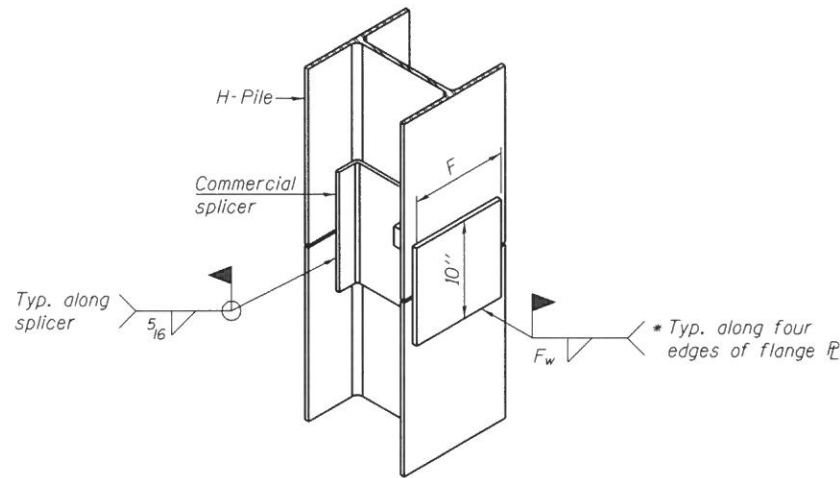


DETAIL "B"

WELDED COMMERCIAL SPLICE

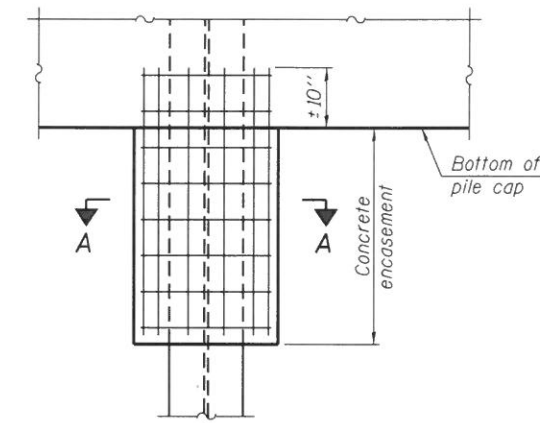


ISOMETRIC VIEW



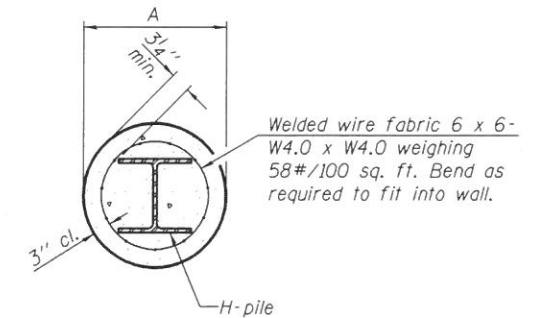
WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



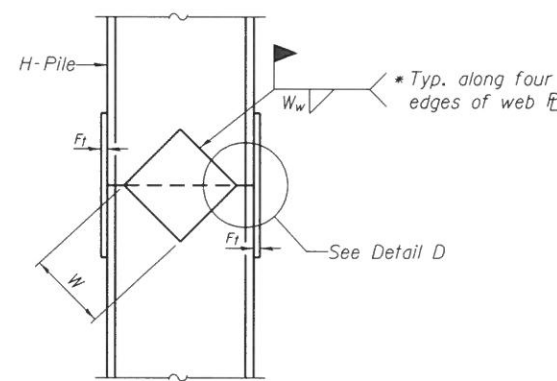
ELEVATION

PILE ENCASEMENT

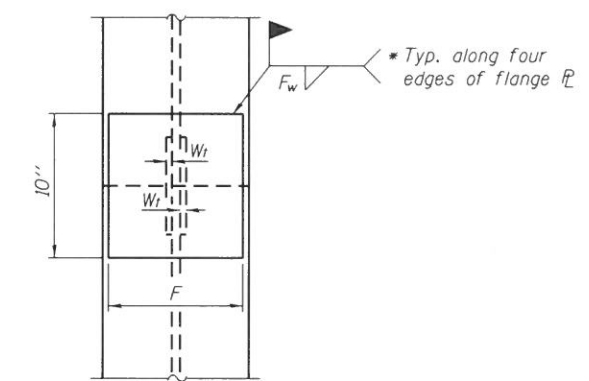


SECTION A-A

Note: Forms for encasement may be omitted when soil conditions permit.

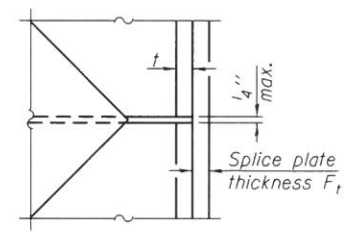


ELEVATION



END VIEW

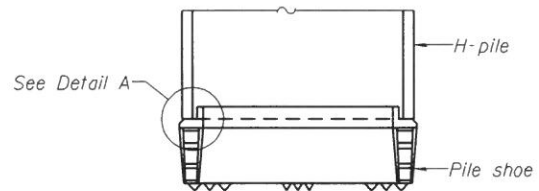
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"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



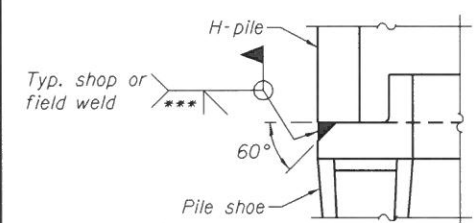
DETAIL D

WELDED PLATE FIELD SPLICE

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



ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT

F-HP 1-27-12

REVISIONS		
REV. NO.	DESCRIPTION	DATE

Midwest Testing Services, Inc.
 3705 Progress Blvd.
 Peru, IL 61354
BORING LOG
 Sheet 1 of 2
 Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: mts37@comcast.net

Client: Fehr-Graham
 Project Name: Section 14-04115-00-BR Carthage Rd. District
 Project Site: Hancock County, IL.

Boring No. B-1
 Surface Elev. 558.50
 Auger Depth 31' Rotary Depth NA
 Start Date 09/11/15 Finish Date 09/11/15

Location: 32' Right Station 14+00

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
558.50										Randy Safranski Diedrich D-50	
557.50			1								
556.50			2								
555.50	Stiff Brownish Gray Clay (Fill)		3	1	SS	1.6	11	S	13		
554.50			4								
553.50			5	2	SS	1.5	13	B	16		
552.50			6								
551.50			7								
550.50			8	3	SS	1.2	8	B	19		
549.50	Stiff Brown Silty Clay		9								
548.50			10	4	SS	1.4	8	B	21		
547.50			11								
546.50			12								
545.50			13	5	SS	1.6	9	B	20		
544.50			14								
543.50	Loose Brown Silt		15	6	SS	---	5	---	---		
542.50			16								
541.50			17								
540.50			18	7	SS	---	5	---	---		
539.50			19								
538.50			20	8	SS	---	4	---	---		

Groundwater Data: Static water level after auger removal - Elevation 542.5.
 Comments:

Midwest Testing Services, Inc.
 3705 Progress Blvd.
 Peru, IL 61354
BORING LOG
 Sheet 2 of 2
 Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: mts37@comcast.net

Client: Fehr-Graham
 Project Name: Section 14-04115-00-BR Carthage Rd. District
 Project Site: Hancock County, IL.

Boring No. B-1
 Surface Elev. 558.50
 Auger Depth 31' Rotary Depth NA
 Start Date 09/11/15 Finish Date 09/11/15

Location: 32' Right Station 14+00

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
537.50										Randy Safranski Diedrich D-50	
536.50	<i>FL</i>		22								
535.50	Loose Brown Silt		23	9	SS	---	7	---	---		
534.50			24								
533.50			25	10	SS	---	6	---	---		
532.50	Stiff Gray Clay With Limestone Fragments		26								
531.50			27								
530.50			28	11	SS	---	17	---	---		
529.50	Very Dense Yellowish Brown Limestone Extremely Difficult To Penetrate With Rock Bit		29								
528.50			30	12	SS	---	100	---	---		
527.50	Boring Terminated		31								
526.50			32								
525.50			33								
524.50			34								
523.50			35								
522.50			36								
521.50			37								
520.50			38								
519.50			39								
518.50			40								
517.50			41								

Groundwater Data: Static water level after auger removal - Elevation 542.5.
 Comments:



BORING LOG
 Sheet 1 of 2
 Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: mts37@comcast.net

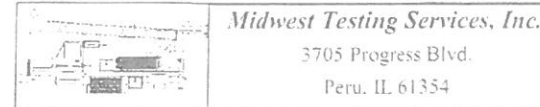
Client: Fehr-Graham
 Project Name: Section 14-04115-00-BR Carthage Rd. District
 Project Site: Hancock County, IL.

Boring No. B-2
 Surface Elev. 555.80
 Auger Depth 32.5' Rotary Depth NA
 Start Date 09/11/15 Finish Date 09/11/15

Location: 22' Right of Station 15+85

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
555.80										Randy Safranski Diedrich D-50	
554.80			1								
553.80			2								
552.80	Stiff Brownish Gray Clay (Fill)		3	1	SS	1.3	10	S	18		
551.80			4								
550.80			5								
549.80			6	2	SS	1.8	12	S	16		
548.80			7								
547.80			8	3	SS	1.5	10	S	18		
546.80	Stiff Brown Silty Clay		9								
545.80			10	4	SS	1.3	7	B	22		
544.80			11								
543.80	Stiff Black Silty Clay Loam		12								
542.80			13	5	SS	1.0	6	B	25		
541.80			14								
540.80	Medium Brown Silty Clay		15								
539.80			16	6	SS	0.8	6	B	28		
538.80			17								
537.80	Loose Brown Silt		18	7	SS	---	4	---	---		
536.80			19								
535.80			20	8	SS	---	4	---	---		

Groundwater Data: Static water level after auger removal - Elevation 542.5.
 Comments:



BORING LOG
 Sheet 2 of 2
 Phone: 815-223-6696
 Fax: 815-223-6659
 e-mail: mts37@comcast.net

Client: Fehr-Graham
 Project Name: Section 14-04115-00-BR Carthage Rd. District
 Project Site: Hancock County, IL.

Boring No. B-2
 Surface Elev. 555.80
 Auger Depth 32.5' Rotary Depth NA
 Start Date 09/11/15 Finish Date 09/11/15

Location: 22' Right of Station 15+85

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	SAMPLES						DRILLED BY	REMARKS
				Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)		
534.80										Randy Safranski Diedrich D-50	
533.80	Loose Brown Silt		22								
532.80			23	9	SS	0.8	5	B	26		
531.80	Medium To Stiff Brownish Gray Silty Clay		24								
530.80			25								
529.80			26	10	SS	1.1	6	B	23		
528.80			27								
527.80	Stiff Gray Clay With Limestone Fragments		28	11	SS	---	18	---	---		
526.80			29								
525.80			30	12	SS	---	100 1"	---	---		
524.80	Very Dense Yellowish Brown Limestone Extremely Difficult To Penetrate With Rock Bit		31								
523.80			32								
522.80	Boring Terminated		33								
521.80			34								
520.80			35								
519.80			36								
518.80			37								
517.80			38								
516.80			39								
515.80			40								
514.80			41								

Groundwater Data: Static water level after auger removal - Elevation 542.5.
 Comments:



ILLINOIS
 IOWA
 WISCONSIN

AGENCY:
 HANCOCK COUNTY HWY. DEPT.
 101 SOUTH FIRST STREET
 P.O. BOX 379
 CARTHAGE, IL 62321

PROJECT:
 CARTHAGE ROAD DISTRICT
 SECTION 14-04115-00-BR
 T.R. 175 OVER THE
 LA MOINE RIVER

DESIGNED: GM
 CHECKED: MCB
 DRAWN: GM/MY
 CHECKED: MCB

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING:
 SOIL BORINGS

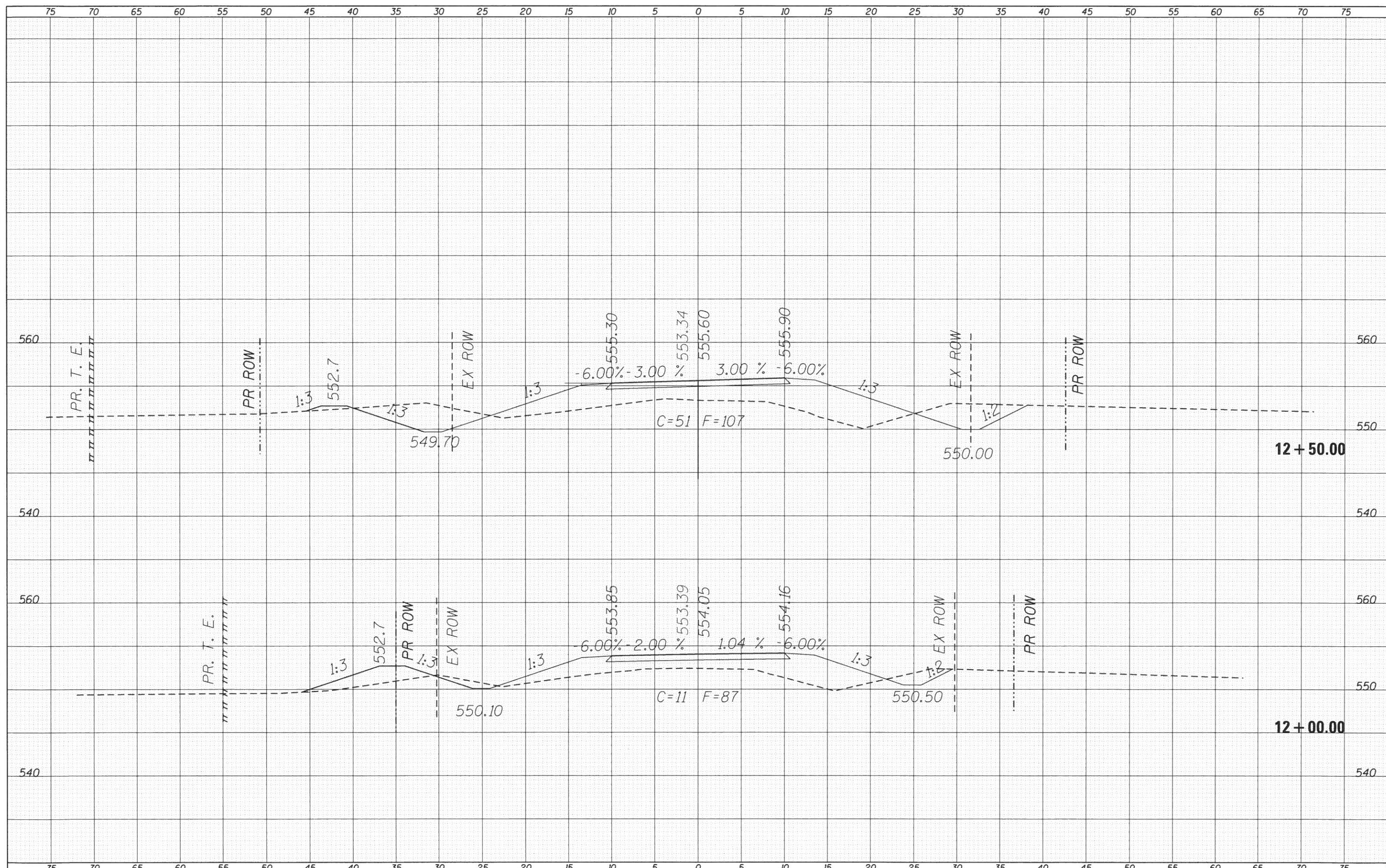
14-813-020-BORINGS-2.dgn

JOB NUMBER:
 14-813

SHEET NUMBER:
 20 of 26

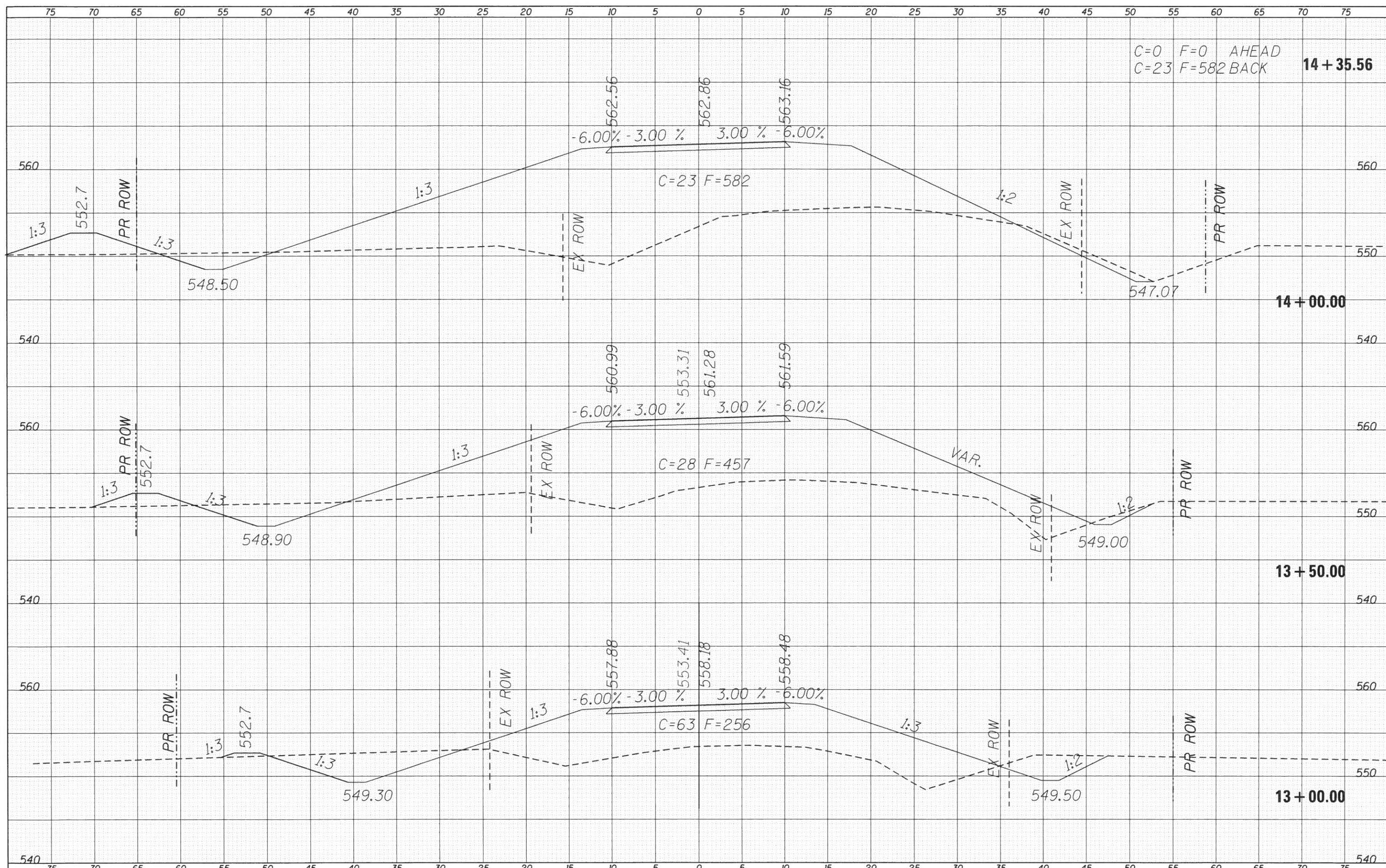
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BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

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



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

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



C=0 F=0 AHEAD
 C=23 F=582 BACK
14 + 35.56

14 + 00.00

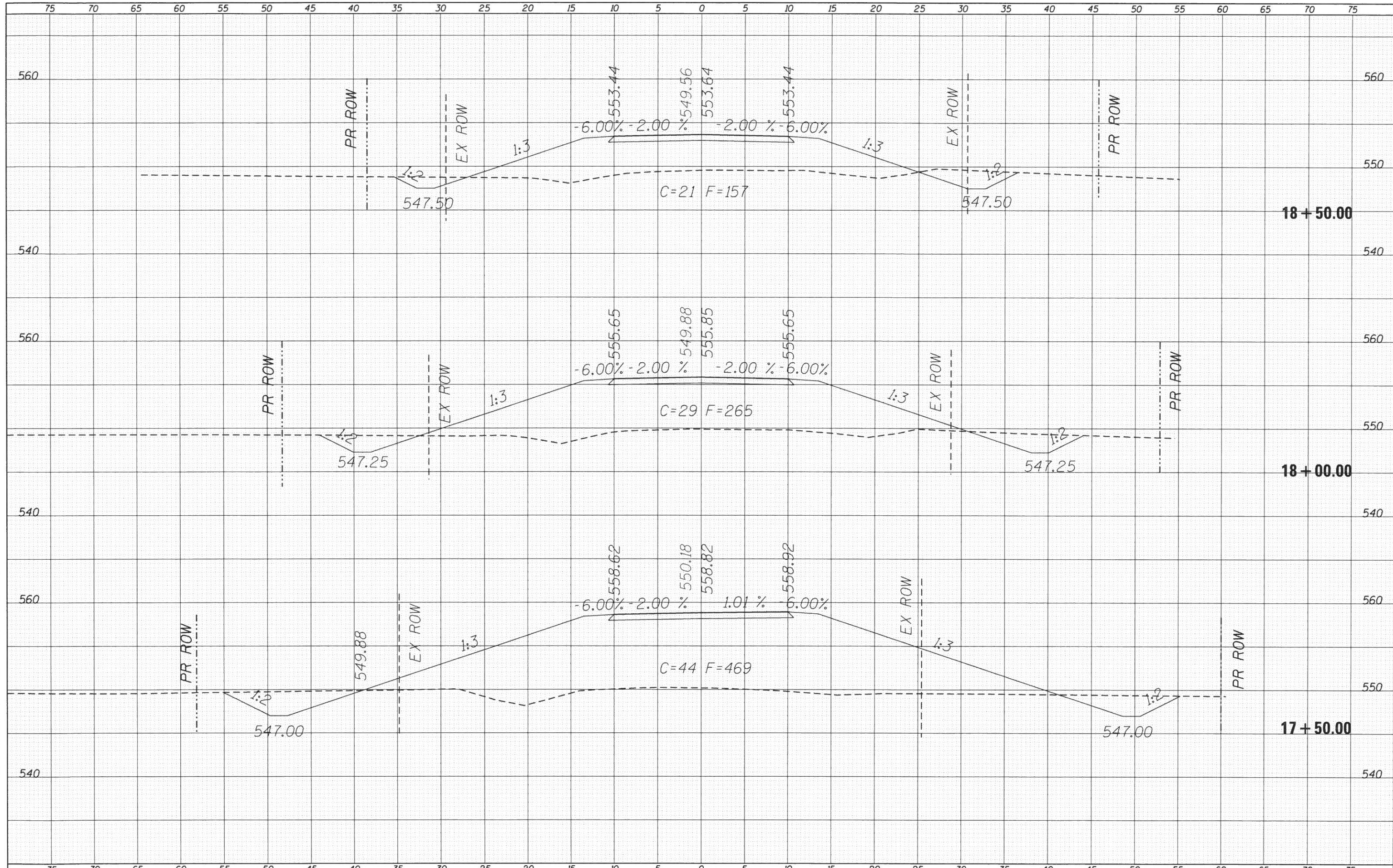
13 + 50.00

13 + 00.00

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Default	PLOT SCALE = 10.000000' / in.	DRAWN -	REVISIED -		SCALE:	SHEET	OF	SHEETS	STA. 13+00.00	TO STA.	HANCOCK	26	23
FEHR GRAHAM PROJECT NO 14-813	PLOT DATE = 2/5/2019	CHECKED -	REVISIED -								CONTRACT NO. 93731		
		DATE -	REVISIED -								ILLINOIS FED. AID PROJECT		

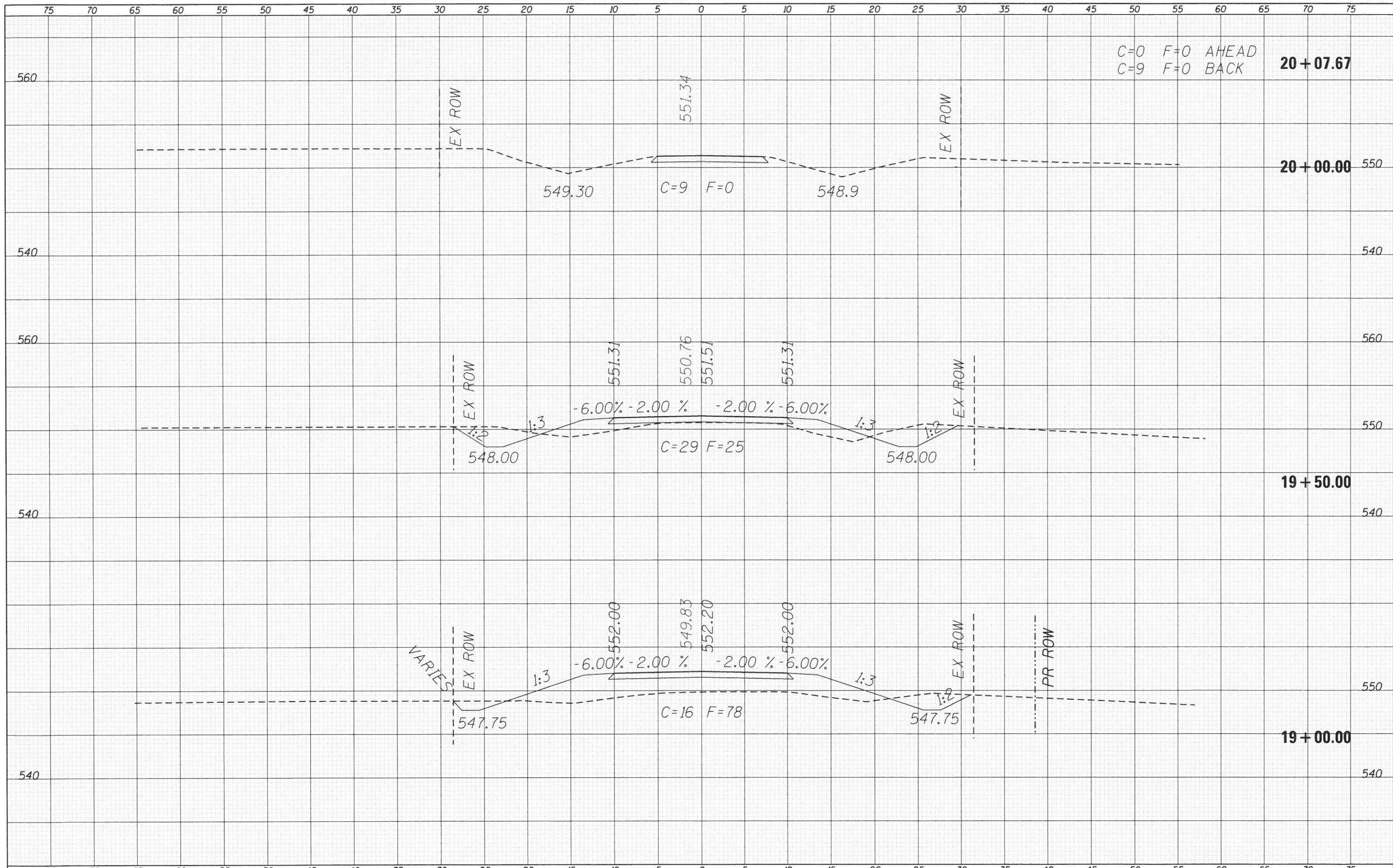
DATE	
BY	
FINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

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



DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
TEMPLATE	
NOTE BOOK	
AREAS CHECKED	
NO.	



C=0 F=0 AHEAD
C=9 F=0 BACK
20+07.67

20+00.00

19+50.00

19+00.00

FILE NAME =	USER NAME = cconnor	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STATION CROSS SECTION STA. 19+00 TO STA. 20+00			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
...working\GJC\ss-sheet.dgn		DRAWN -	REVISED -		14-04115-00-BR		26	26				
Default	PLOT SCALE = 10.000000' / in.	CHECKED -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.			CONTRACT NO. 93731				
FEHR GRAHAM PROJECT NO 14-813	PLOT DATE = 2/5/2019	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							