

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	1
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
PROJECT # BROS-047(034)		CONTRACT # 95652		
LEC JOB # H01005ED		DRAINAGE DITCH		

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LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
DATE
4-13-11
11-33-11
EXPIRES

DRAINAGE DITCH
TOWNSHIP ROUTE 122
EDWARDS COUNTY, ILLINOIS

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID - H.B.P. PROJECT

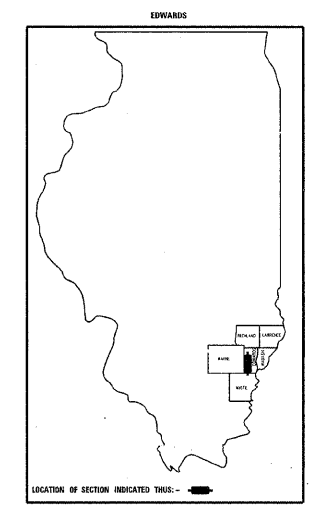
T.R. 122 EDWARDS COUNTY SECTION 09-05109-00-BR

PROJECT NO. BROS-047(034) JOB NO. C-97-058-11

CONTRACT #95652 DRAINAGE DITCH

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE RIPRAP DITCH DESIGN
3-4	ROADWAY CROSS SECTIONS
5-13	BRIDGE DESIGN



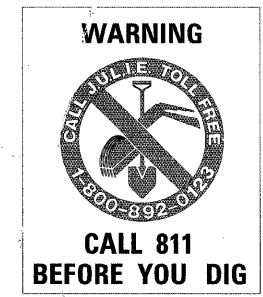
HIGHWAY STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS (8 SHEETS)
280001-05	TEMPORARY EROSION CONTROL SYSTEMS (2 SHEETS)
515001-03	NAME PLATE FOR BRIDGES (2 SHEETS)
542401-01	METAL END SECTION FOR PIPE CULVERTS
701901-01	TRAFFIC CONTROL DEVICES (3 SHEETS)
B.L.R. 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

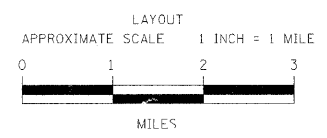
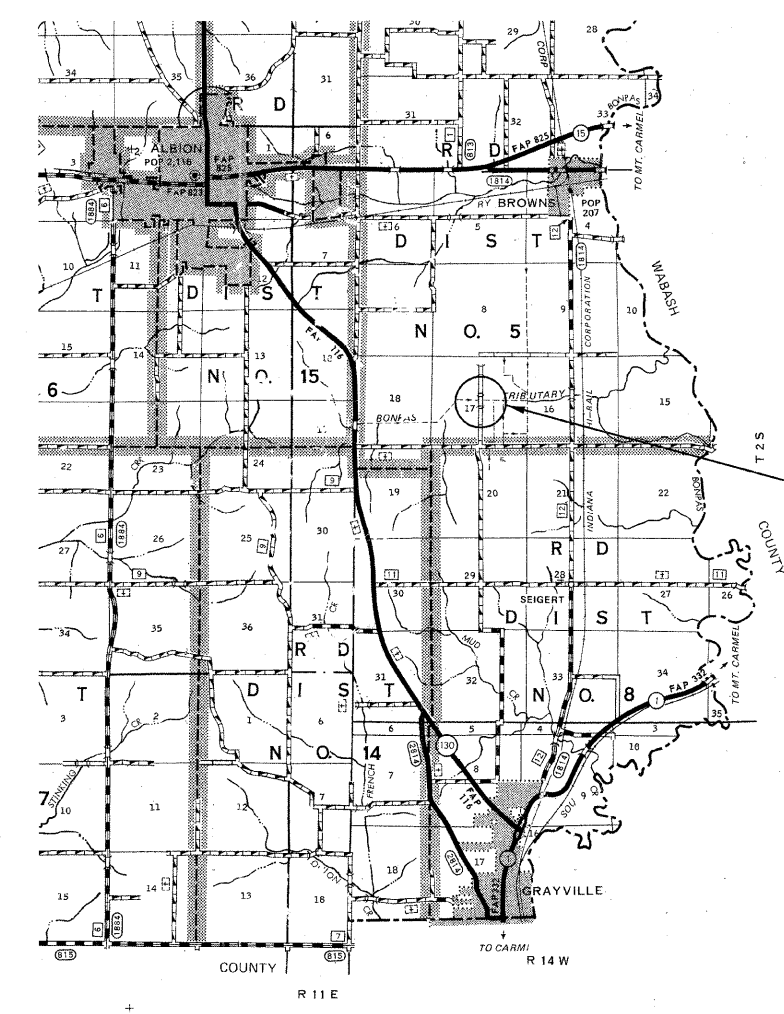
SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEM	CODE NO.
266.00	CU YD	EARTH EXCAVATION	20200100
203.00	CU YD	CHANNEL EXCAVATION	20300100
407.00	CU YD	FURNISHED EXCAVATION	20400800
21.00	FOOT	TEMPORARY DITCH CHECKS	28000305
9.00	TON	AGGREGATE (EROSION CONTROL)	28001000
453.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
375.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
22.00	CU YD	CONCRETE STRUCTURES	50300225
2.80	CU YD	CONCRETE ENCASEMENT	50300280
1320.00	SO FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
2420.00	POUND	REINFORCEMENT BARS	50800105
109.00	FOOT	STEEL RAILING, TYPE S1	50900205 *
365.00	FOOT	FURNISHING STEEL PILES HP10X42	51201400
365.00	FOOT	DRIVING PILES	51202305
1.00	EACH	TEST PILE STEEL HP10X42	51203400
1.00	EACH	NAME PLATES	51500100
45.00	FOOT	PIPE CULVERTS, CLASS C, TYPE 1 18"	54200223
50.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 42"	54200247
2.00	EACH	ALUMINUM END SECTIONS 18"	54214083
2.00	EACH	ALUMINUM END SECTIONS 42"	54214107
1.00	L SUM	MOBILIZATION	67100100
0.40	ACRE	SEEDING, CLASS 2 (SPECIAL)	X2501000
27.00	TON	STONE LINED DITCH	Z0068900

* SPECIALTY ITEMS



DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 024-3052
PROPOSED STRUCTURE NO.: 024-3140
CURRENT A.D.T. = 50
CONTRACT NO. 95652



GROSS LENGTH	500.00 FT	0.095 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	500.00 FT	0.095 MILES

SECTION 09-05109-00-BR
BEGINS STATION 2+50

STATION 5+00, STRUCTURE NO. 024-3140
A 55' LONG SINGLE SPAN PRECAST
PRESTRESSED CONCRETE DECK BEAM BRIDGE
(21" DEPTH, 24' ROADWAY, 0° SKEW.

SECTION 09-05109-00-BR
ENDS STATION 7+50

PLAN	1" = 50'	0 50' 100'
PROFILE	1" = 50'	0 50' 100'
PROFILE VERT.	1" = 5'	0 5' 10'

APPROVED April 13th 20 11
David J. Bl...
COUNTY ENGINEER

PASSED 4-18 20 11
Mouss...
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS & STREETS

Releasing For
Bid Based on
Limited Review 4-18 20 11
Page L. Dinkel...
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET TITLE:	
TITLE SHEET	
SCALE:	W/PRES
BY:	AMM
DATE:	4/11
REV:	
1	OF 13
SHEETS	
SHEET NO. 1	

GENERAL NOTES:

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

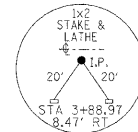
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 55 FOOT LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

THE QUANTITY SHOWN IN THE SUMMARY OF QUANTITIES FOR STONE DUMPED RIPRAP, CLASS A4 ALLOWS 153 TONS FOR THE SOUTHWEST ROADSIDE DITCH AND 300 TONS FOR THE BRIDGE.

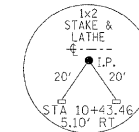
NOTE: CONSTRUCTION TRANSITIONS
STA. 2+50 TO STA. 3+00
STA. 7+00 TO STA. 7+50
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



STOUT REVOCABLE TRUST

P.I. STA= 5+38.93
Δ= 00°17'36" LT

MARY MESSMAN



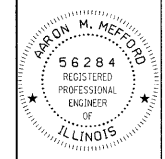
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	2
FED. ROAD DIST. NO. 7 ILLINOIS		DRAINAGE DITCH:		
PROJECT # BR08-04710341		CONTRACT # 95652		
LEC JOB # H01005ED				

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AARON M. MEFFORD
NAME
SIGNATURE
DATE
11-30-11
EXPIRES

DRAINAGE DITCH
TOWNSHIP ROUTE 122
EDWARDS COUNTY, ILLINOIS

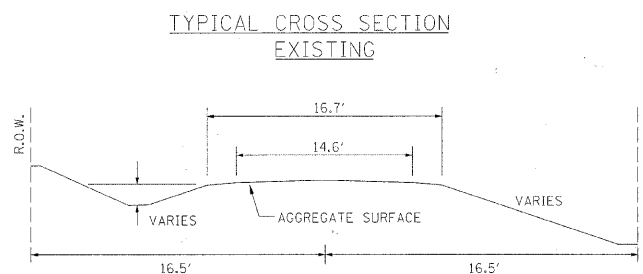
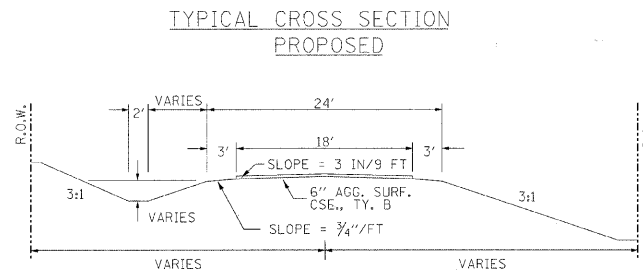
SHEET TITLE:
PLAN & PROFILE

SCALE: VARS

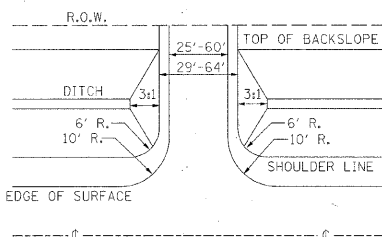
BY: AMM
DATE: 4/11
REV:

2 OF 13 SHEETS

SHEET NO.
2



FIELD ENTRANCE DETAIL



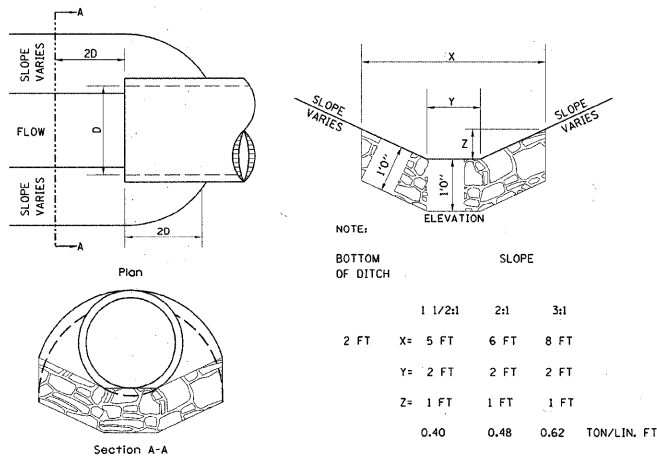
UTILITIES:
J.U.L.I.E. 1-800-892-0123

NOTE: CONSTRUCT SPECIAL DITCH
STA 2+75 TO STA 4+30 LT
STA 2+50 TO STA 3+94.3 RT
STA 6+15 TO STA 7+50 LT
STA 6+00 TO STA 7+50 RT

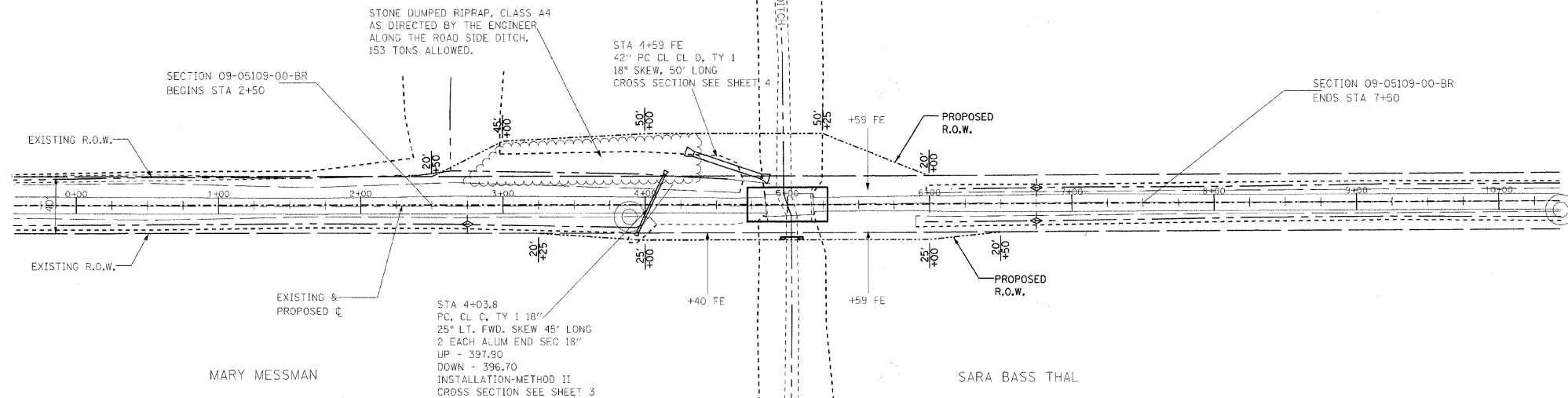
NOTE: CONSTRUCT STONE LINED DITCH
STA 3+50 TO STA 3+94.3 RT (0.62 TON/LIN FT)
27 TON STONE LINED DITCH ALLOWED IN PROPOSAL.

SEE STONE LINED DITCH DETAIL.

STONE LINED DITCH DESIGN



NOTE: FOR PLACEMENT, QUALITY GRADATION AND OTHER MISCELLANEOUS REQUIREMENTS FOR STONE LINED DITCH-SEE SPECIAL PROVISIONS.



EXISTING BRIDGE STA 5+01.4; STRUCTURE NUMBER: 024-3052
A 32.7' LONG SINGLE SPAN BRIDGE WITH 3" WOOD DECK ON
2-15" C-CHANNELS AND 5-15" I-BEAMS WITH 14-6"x3" H-PILE,
STEEL PLATE MUD WALLS AND CORRUGATED METAL WINDWALLS.

ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

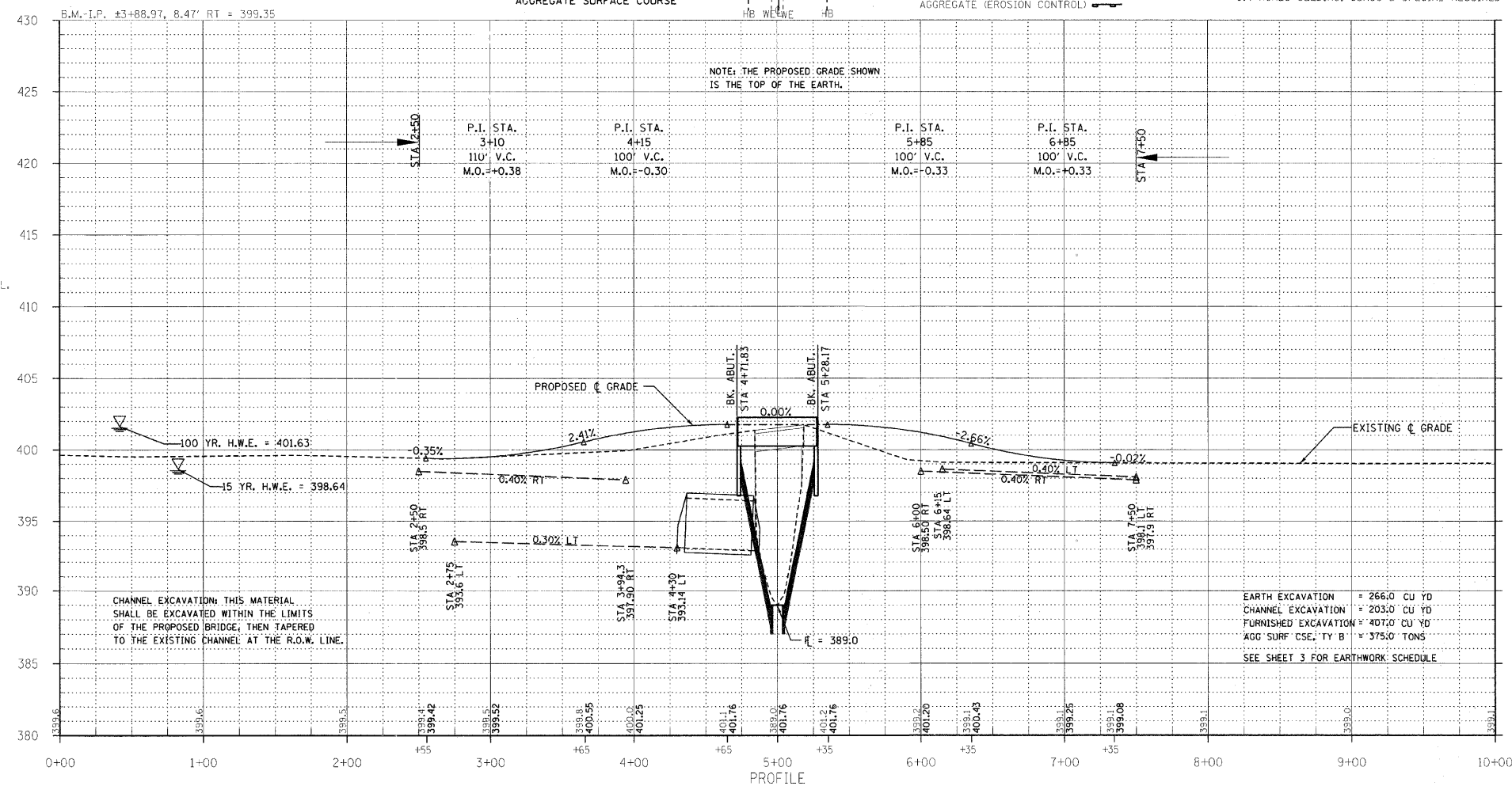
NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

TEMPORARY DITCH CHECKS
AGGREGATE (EROSION CONTROL)

PROPOSED STRUCTURE: NO. 024-3140, STA 5+00.
A 55' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH
21" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS,
24' WIDTH, 0% GRADE, 0° SKEW.

SEE SHEETS 5-12 FOR THE DESIGN AND BILL OF MATERIALS.

21.0 FOOT TEMPORARY DITCH CHECKS
9.0 TONS AGGREGATE (EROSION CONTROL)
0.4 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED



CHANNEL EXCAVATION: THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

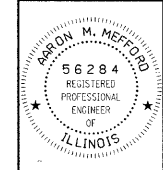
EARTH EXCAVATION = 266.0 CU YD
CHANNEL EXCAVATION = 203.0 CU YD
FURNISHED EXCAVATION = 407.0 CU YD
AGG SURF CSE, TY B = 375.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	3
FED. ROAD DIST. NO. 7 ILLINOIS		DRAINAGE DITCH		
PROJECT • BR05-0470340		CONTRACT • 95652		
LEC JOB # H0100505D				

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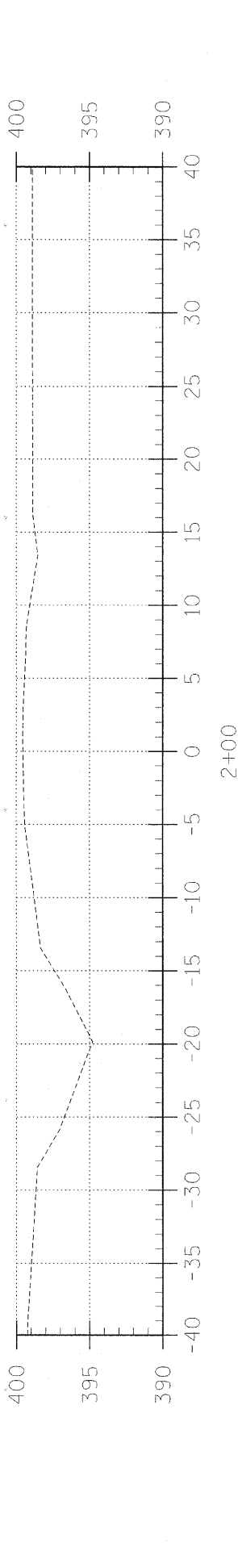
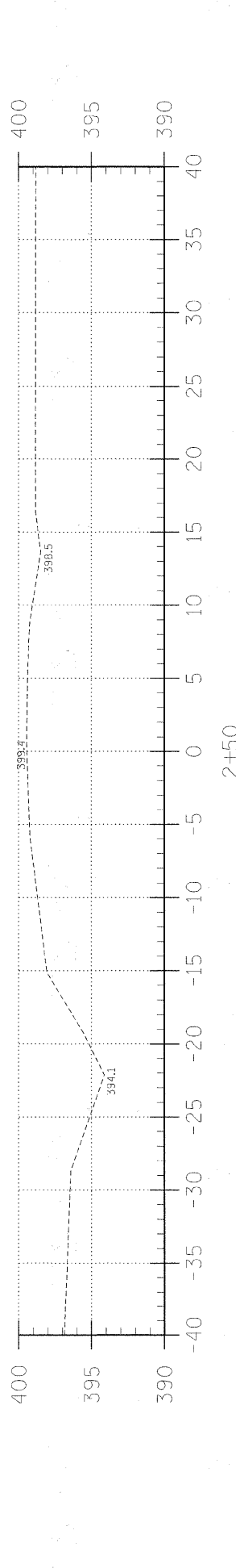
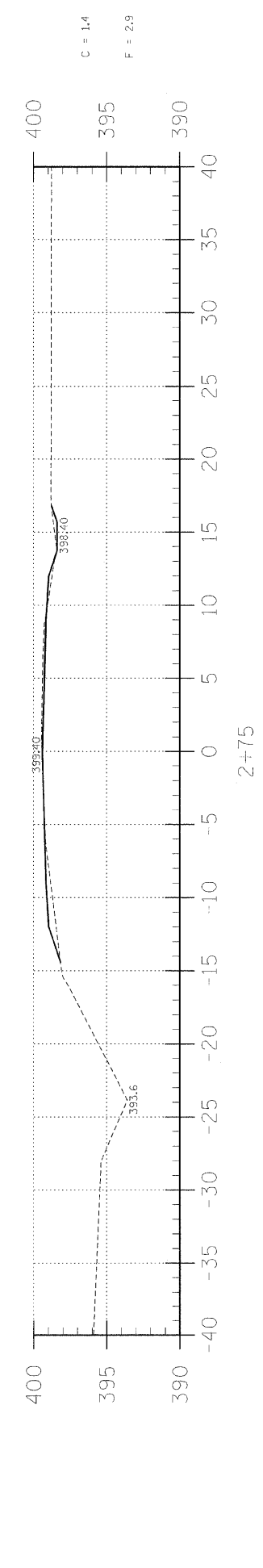
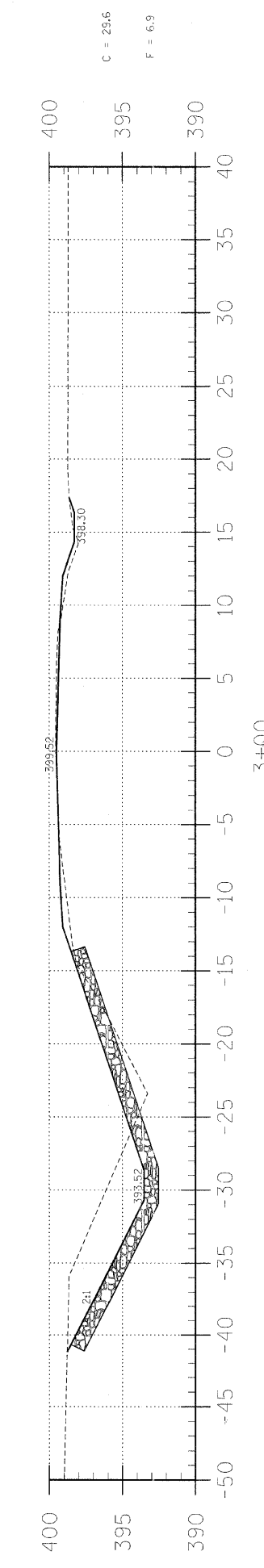
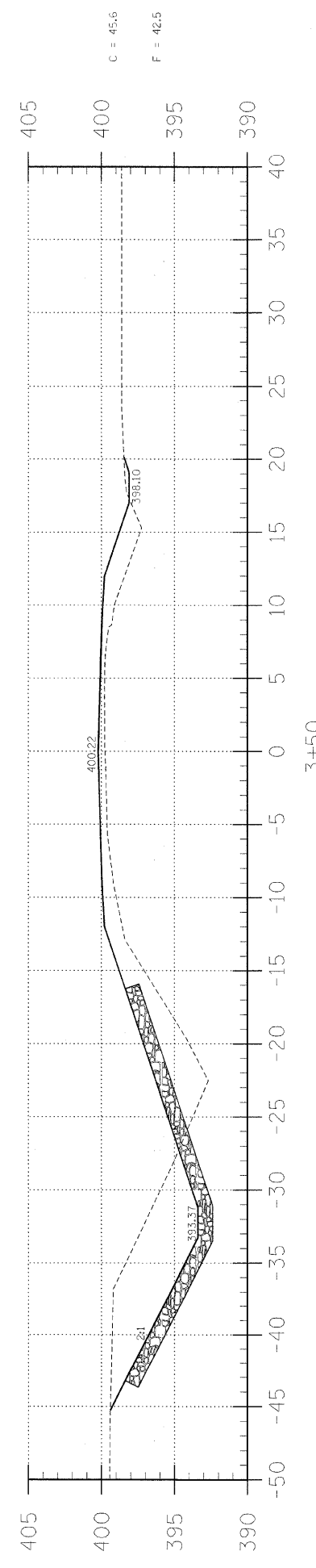
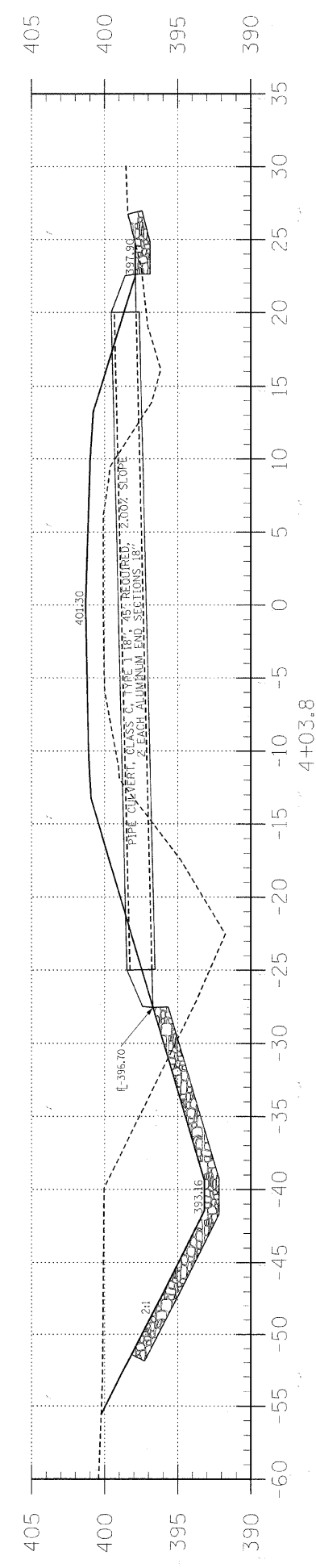
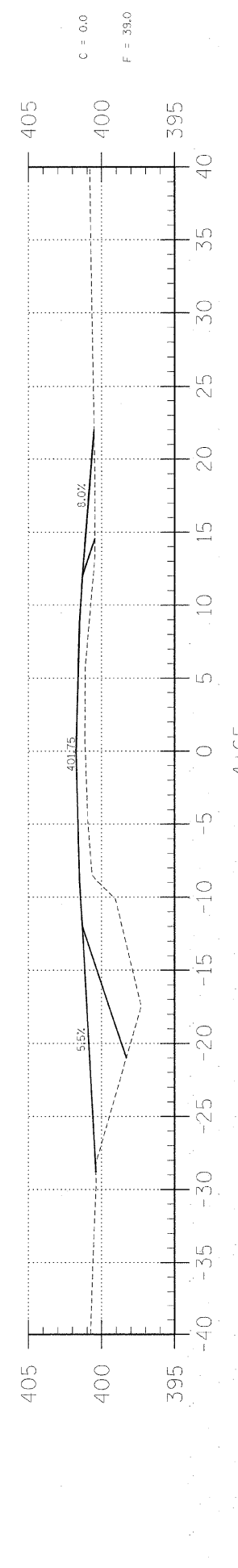
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CORPORATION
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AARON M. MEFFORD
NAME
SIGNATURE
4-13-11
DATE
11-30-11
EXPIRES

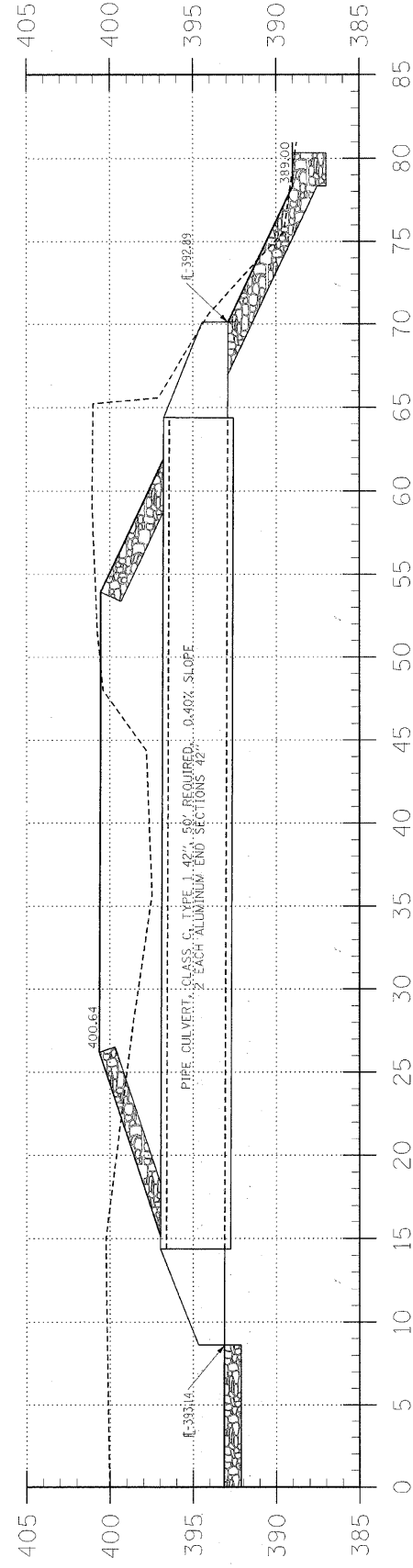
DRAINAGE DITCH
TOWNSHIP ROUTE 122
EDWARDS COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS
SCALE: 1" = 5'
BY: AMM
DATE: 4/3/11
REV:
3 OF 13 SHEETS
SHEET NO. 3

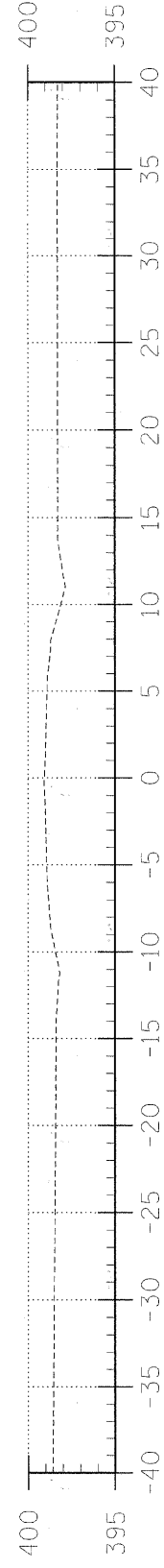


EARTHWORK SCHEDULE

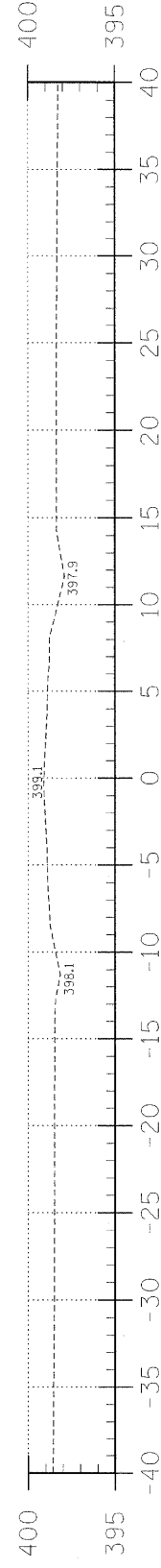
LOCATION	EARTH EXCAVATION		CHANNEL EXCAVATION		ESTIMATED UNSUITABLE MATERIAL		SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE		EMBANKMENT		EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+71.8	260.2	0.0	0.0	0.0	0.0	195.2	195.2	417.6	417.6	0.0	-222.4	
STA 4+71.8 TO 5+28.2	0.0	203.0	203.0	101.5	101.5	76.1	76.1	0.0	0.0	216.1	76.1	
STA 5+28.2 TO 10+00	6.1	0.0	0.0	0.0	0.0	4.6	4.6	216.1	216.1	48.8	-211.5	
4 FIELD ENTRANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8	48.8	-48.8	-48.8	
TOTAL	266.3	203.0	203.0	101.5	101.5	275.9	275.9	682.5	682.5	-406.6	-406.6	



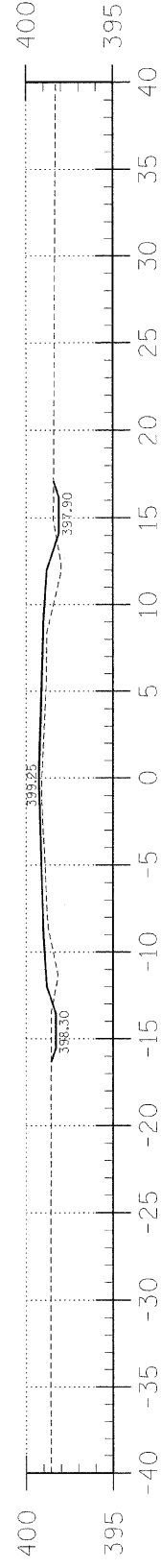
STA. 4+58.5 FE LT



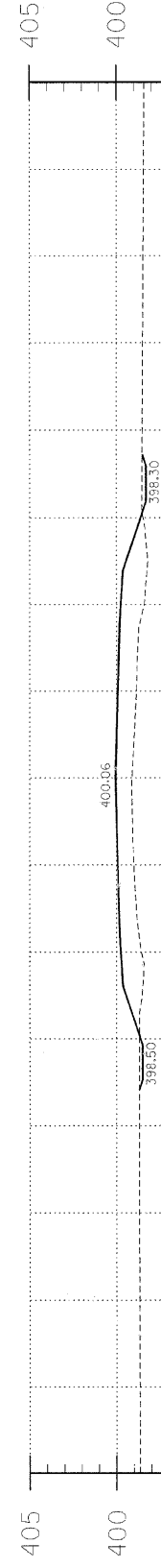
8+00



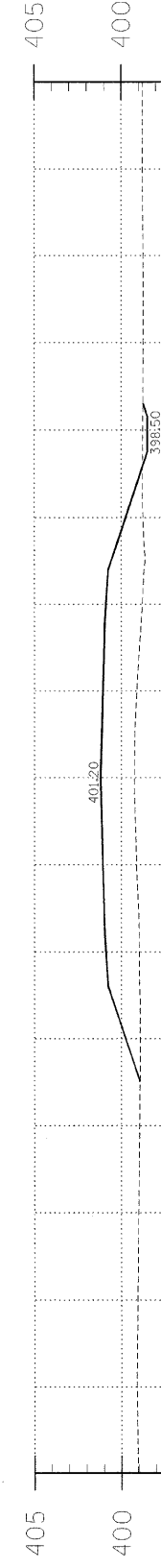
7+50



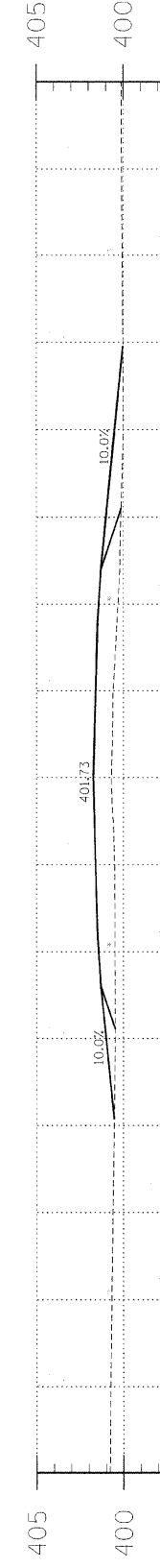
7+00



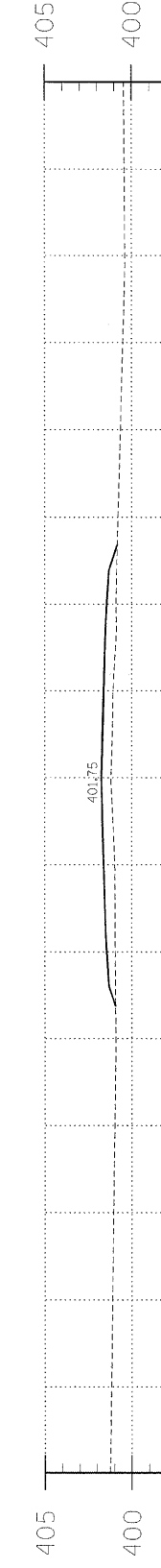
6+50



6+00



5+50



5+35

C = 1.5
F = 8.4

C = 1.1
F = 29.5

C = 0.7
F = 58.5

C = 0.0
F = 28.0

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	4
FED. ROAD DIST. NO. 7		ILLINOIS	DRAINAGE DITCH	
PROJECT = BR05-047034		CONTRACT = 95652		

LEC JOB # H10L005ED

323 W. 3RD ST.
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62863

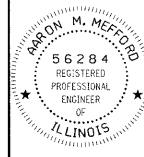
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4-13-11
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11-30-11 EXPIRES

DRAINAGE DITCH
TOWNSHIP ROUTE 122
EDWARDS COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

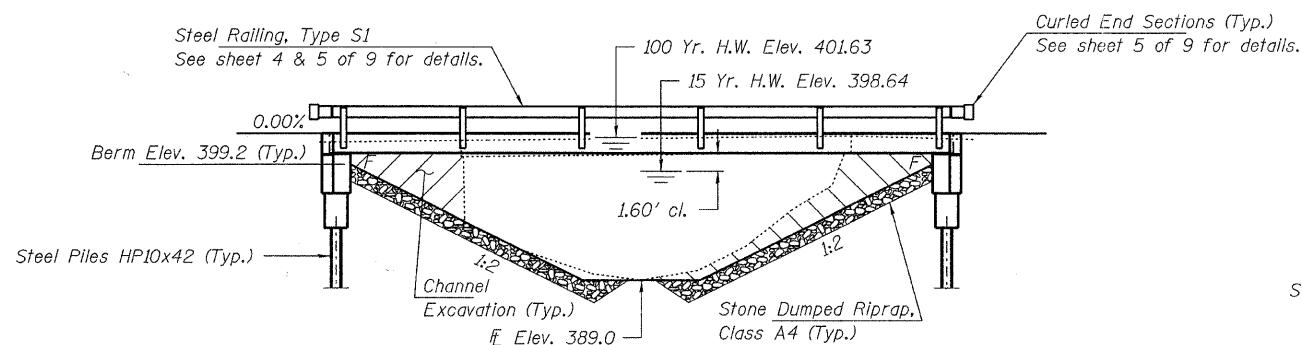
SCALE: 1" = 5'
BY: AMM
DATE: 4/11
REV:

4 OF 13 SHEETS

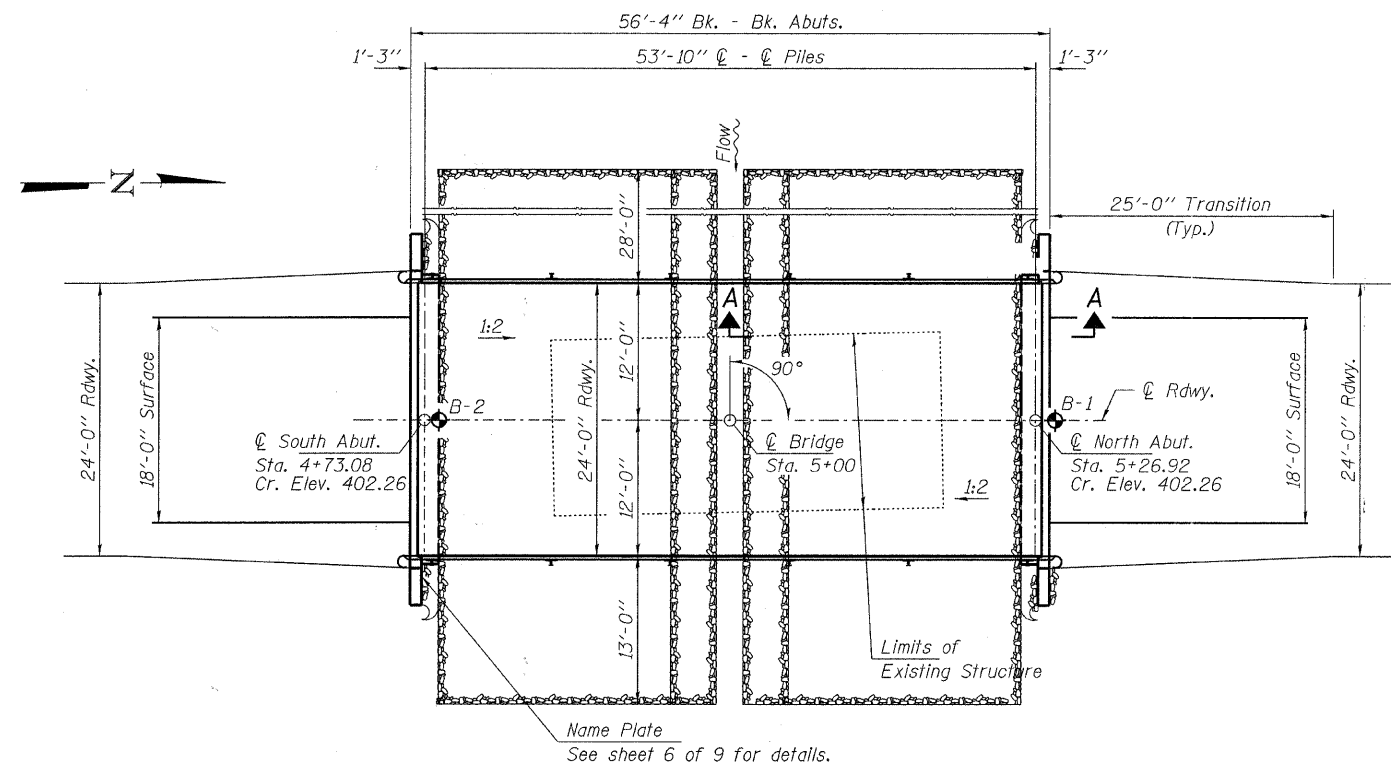
SHEET NO. 4

BENCHMARK: Iron Pin, Sta. 3+88.97, 8.47' Rt., Elev. 399.35

EXISTING STRUCTURE NO. 024-3052: 32.7' long single span bridge with 3" wood decking on 2-15" C-channels and 5-15" I-beams on steel piles, with steel plate mud walls on corrugated metal wingwalls. Structure closed to traffic.



ELEVATION



PLAN

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pb} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

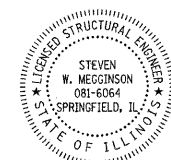
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.270g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.644g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 4.3 Sq. Mi.		Existing Low Grade Elev. 399.0 @ Sta. 9+00		Proposed Low Grade Elev. 399.0 @ Sta. 9+00			
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Natural Prop. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Design	15	1570	227	285	398.64	0.06	398.7
Base	100	2750	273	367	401.63	0.05	401.7
Max. Calc.	500						

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 current "AASHTO LRFD Specifications."

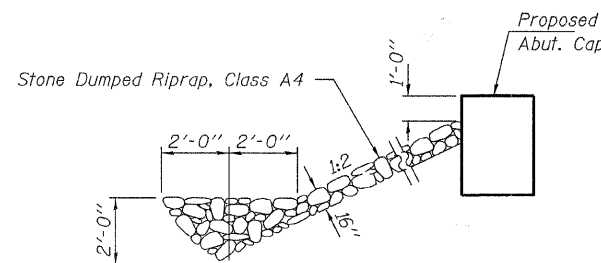
Steven W. Megginson
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2012

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The Contractor shall drive test pile to 110% of the nominal required bearing specified in production locations at North Abutment or approved by the Engineer before ordering the remainder of piles. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

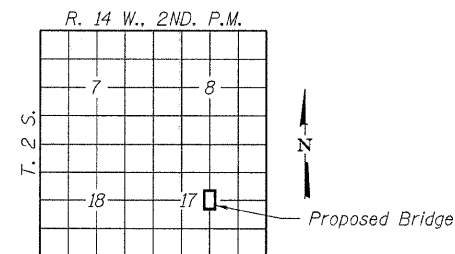


SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. Superstructure
- 3.-4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8.-9. Borings



LOCATION SKETCH

BUILT 201 BY
EDWARDS COUNTY
SEC. 09-05109-00-BR
ROAD DISTRICT #5
STR. NO. 024-3140
LOADING HL-93

NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			203
Stone Dumped Riprap, Class A4	Ton			300
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.0	22.0
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,320		1,320
Reinforcement Bars	Pound		2,420	2,420
Steel Railing, Type S1	Foot	109		109
Furnishing Steel Piles HP10x42	Foot		365	365
Driving Piles	Foot		365	365
Test Pile HP10x42	Each		1	1
Name Plates	Each		1	1

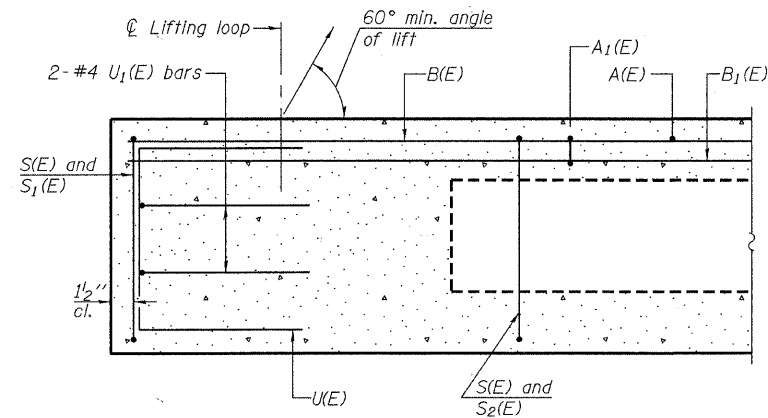
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ILLINOIS PROFESSIONAL DESIGN FIRM L2 / P.E. / REG. CORP. / 184-000059	PLOT DATE = 4/12/2011	DRAWN - D.A.B.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

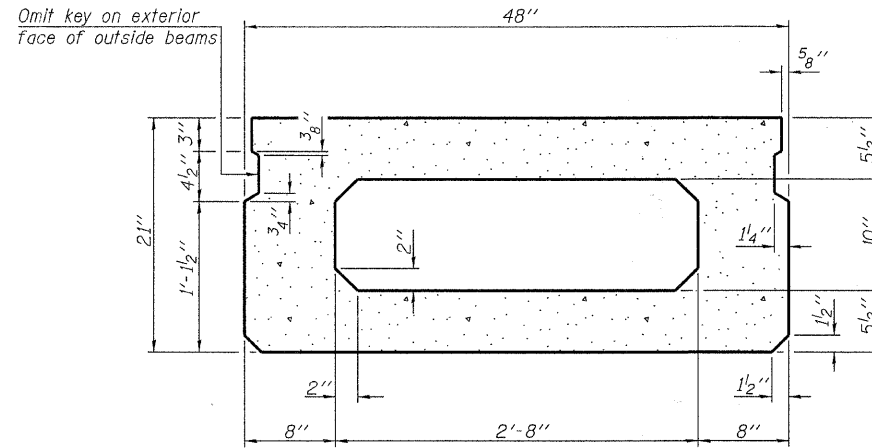
GENERAL PLAN & ELEVATION
STRUCTURE NO. 024-3140

SHEET NO. 1 OF 9 SHEETS

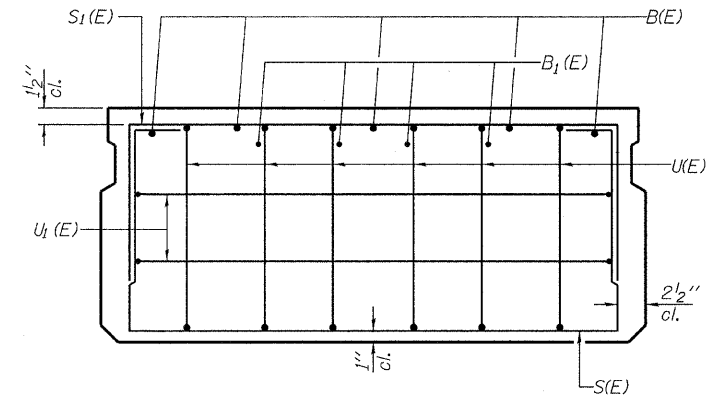
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	5
ROAD DISTRICT #5			CONTRACT NO. 95652	
ILLINOIS FED. AID PROJECT				



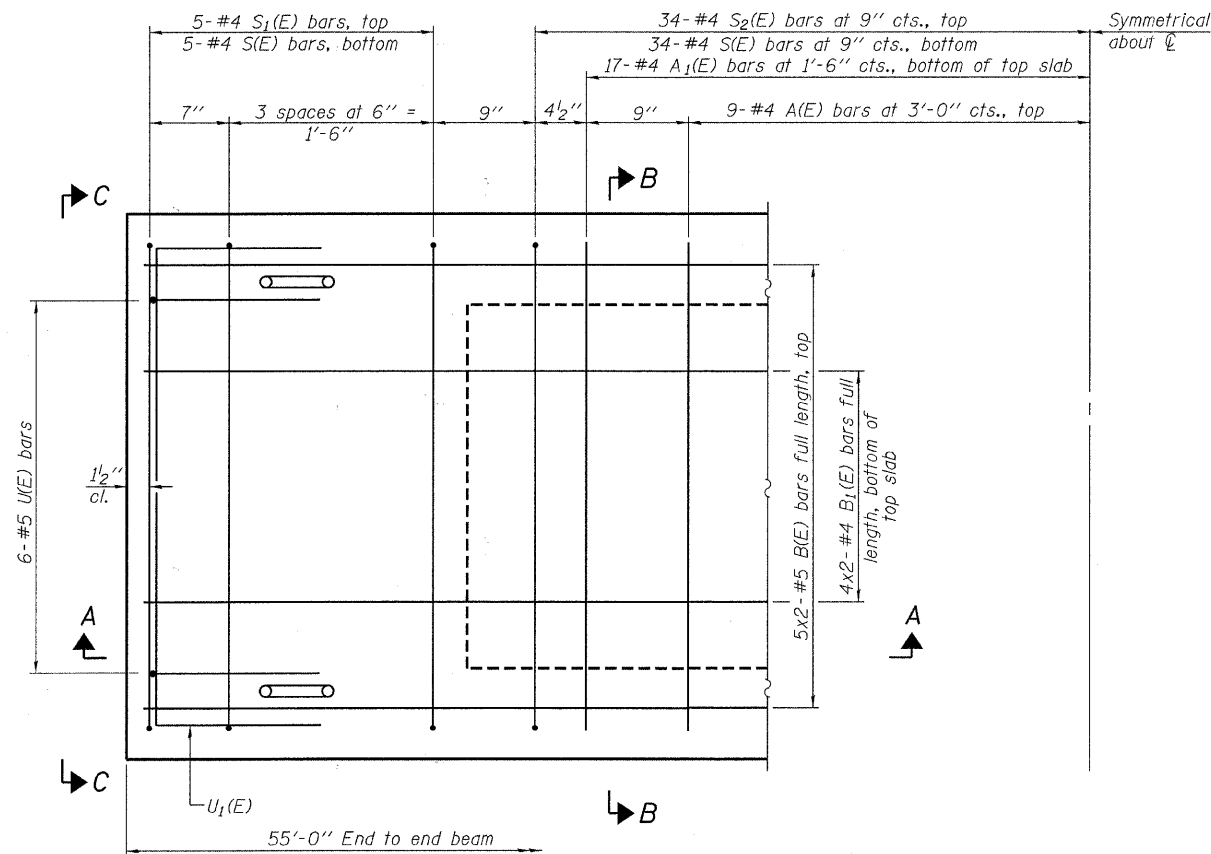
SECTION A-A



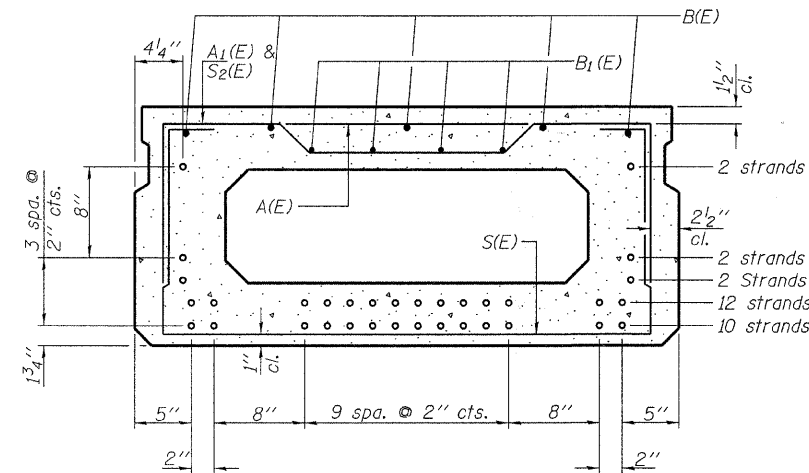
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



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)	18	#4	3'-7"	—
A1(E)	34	#4	3'-10"	—
B(E)	10	#5	28'-8"	—
B1(E)	8	#4	28'-5"	—
S(E)	78	#4	7'-5"	⌈
S1(E)	10	#4	5'-11"	⌈
S2(E)	68	#4	6'-2"	⌈
U(E)	12	#5	4'-0"	⌈
U1(E)	4	#4	6'-0"	⌈

Note: See sheets 3 and 4 of 9 for additional details and Bill of Material.

Note:
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 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

PD-2148-0

7-1-10

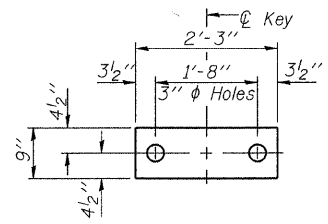
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STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

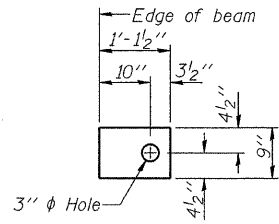
21" x 48" PPC DECK BEAM
STRUCTURE NO. 024-3140

SHEET NO. 2 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	6
ROAD DISTRICT #5			CONTRACT NO. 95652	
ILLINOIS FED. AID PROJECT				



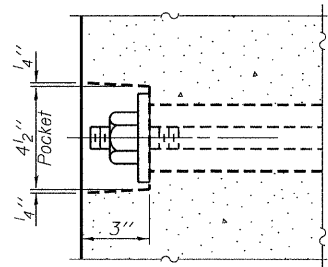
FABRIC BEARING PAD
(Interior - 10 Req'd.)



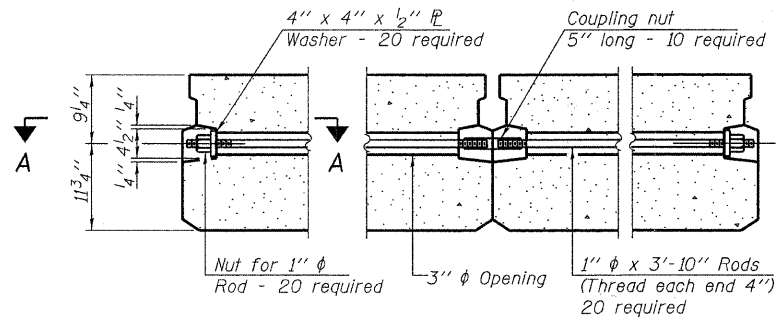
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

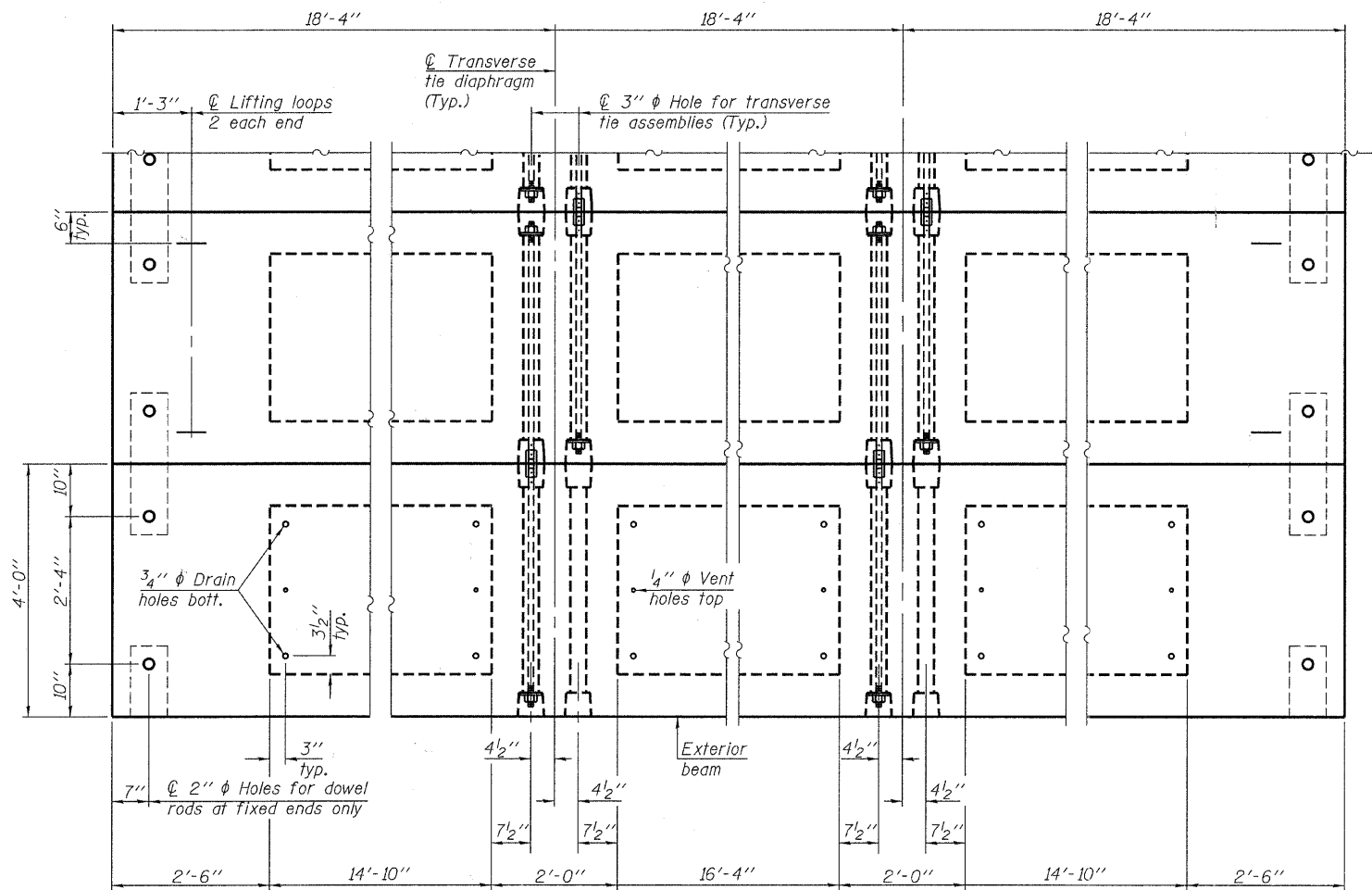
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

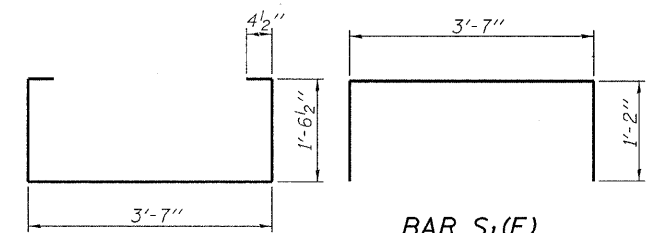


TYPICAL TRANSVERSE TIE ASSEMBLY

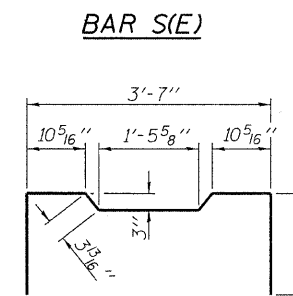


PLAN VIEW

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

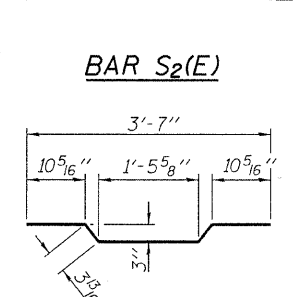


BAR S₁(E)



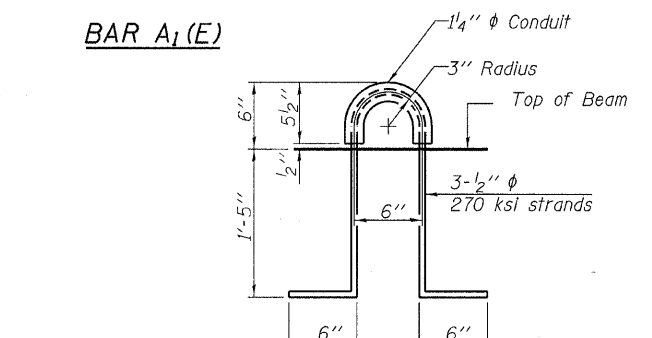
BAR S(E)

BAR U(E)



BAR S₂(E)

BAR U₁(E)



BAR A₁(E)

LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
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.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 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'cl, shall be 5000 psi.
All reinforcement shall be epoxy coated.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,320
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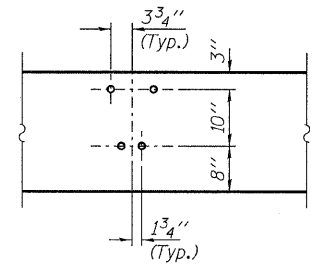
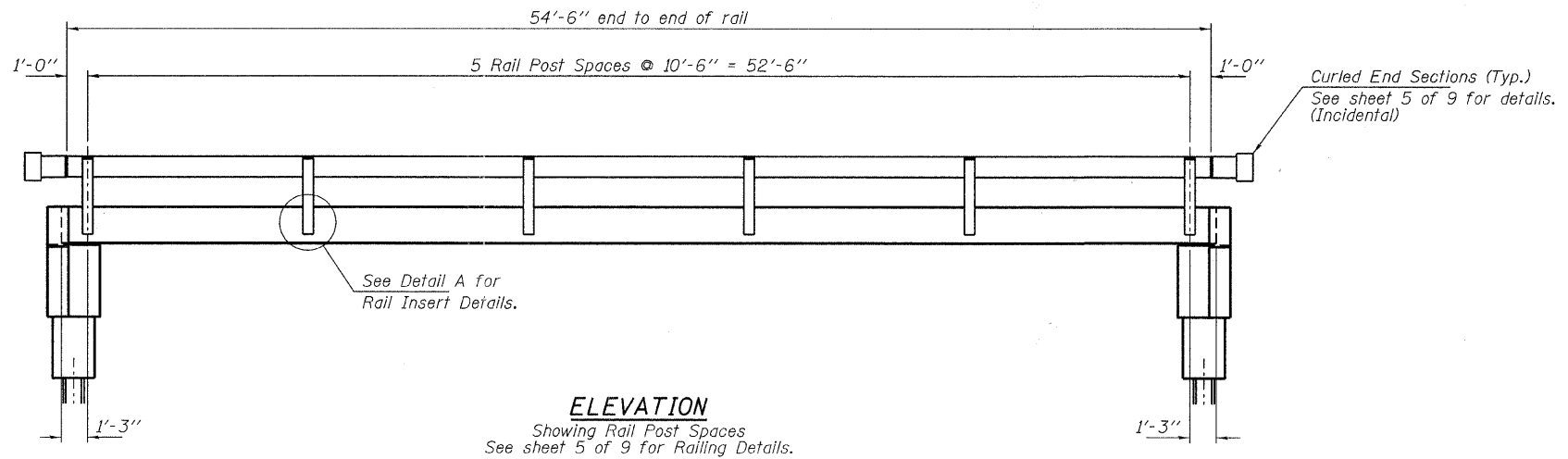
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3065 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62703	PLLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM	PLLOT DATE = 4/12/2011		
LS/PE/SE CORP. 104-000009			

STATE OF ILLINOIS
EDWARDS COUNTY HIGHWAY DEPARTMENT

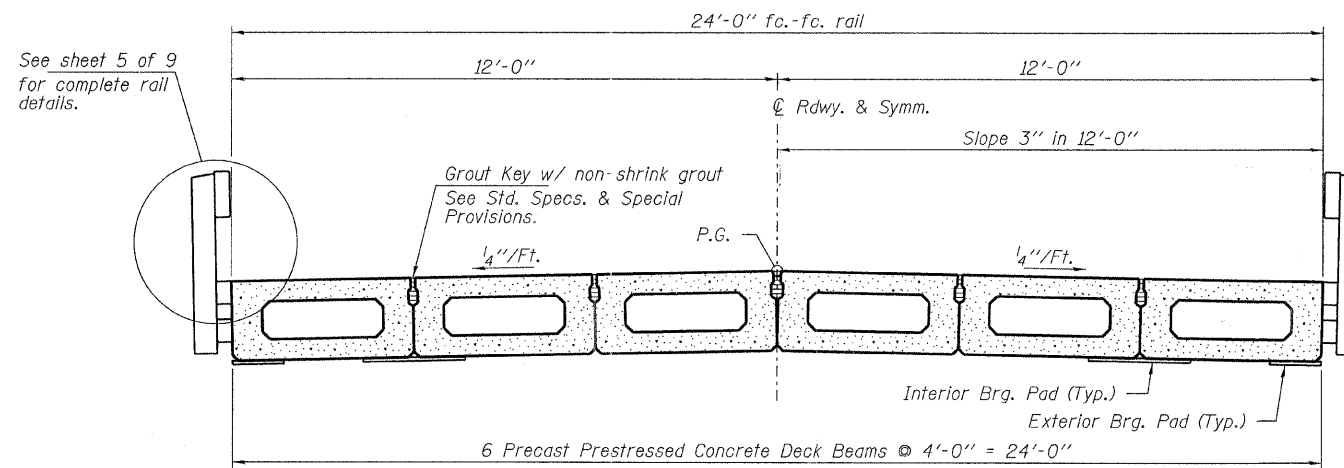
21" x 48" PPC DECK BEAM
STRUCTURE NO. 024-3140

SHEET NO. 3 OF 9 SHEETS

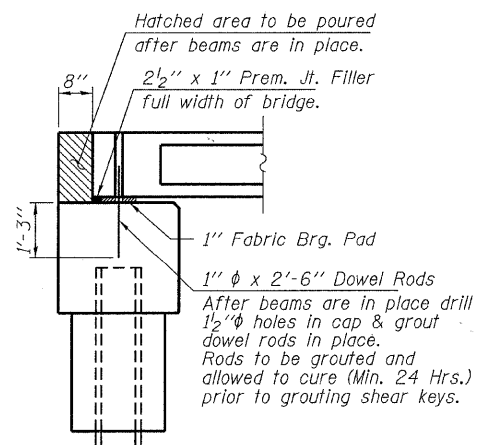
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	7
ROAD DISTRICT #5		CONTRACT NO. 95652		
ILLINOIS FED. AID PROJECT				



DETAIL A

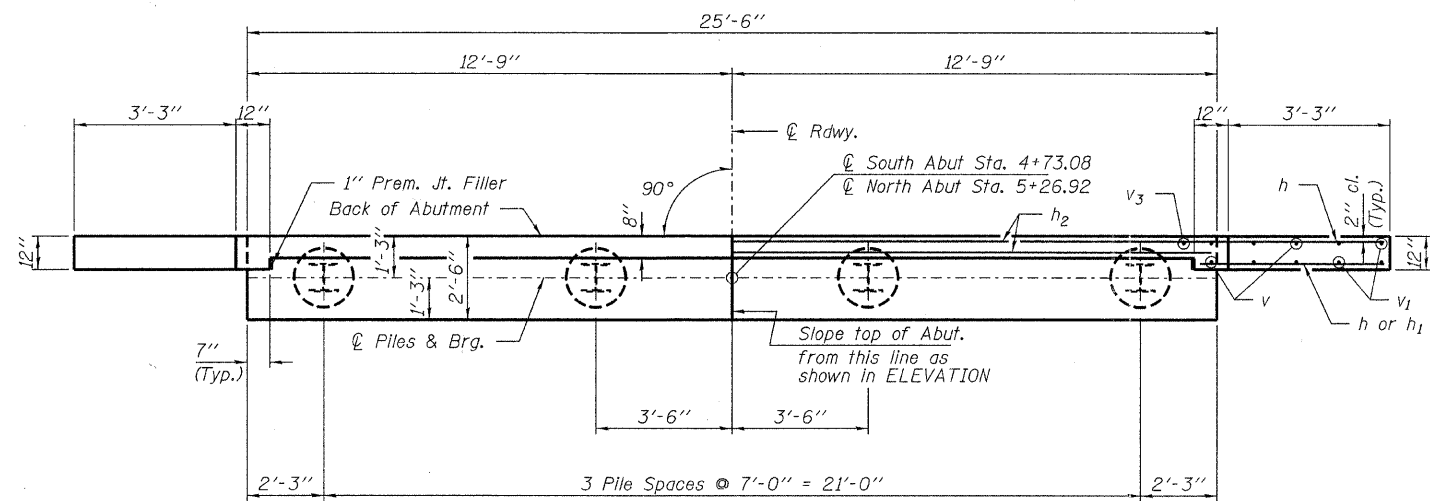


CROSS SECTION
See sheets 2 & 3 of 9 for Superstructure.

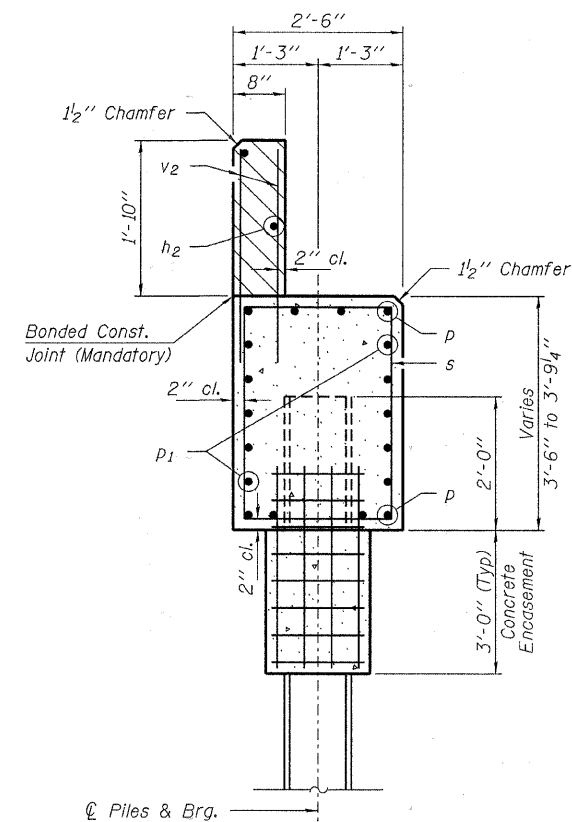


SECTION AT ABUTMENTS
© Rt. L's

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HLR ILLINOIS PROFESSIONAL DESIGN FIRM L.S./P.E./S.E. CORP. 184-000008	PLOT DATE = 4/12/2011	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #5		CONTRACT NO. 95652		
		CHECKED - S.W.M.	REVISED -			SHEET NO. 4 OF 9 SHEETS		ILLINOIS FED. AID PROJECT		

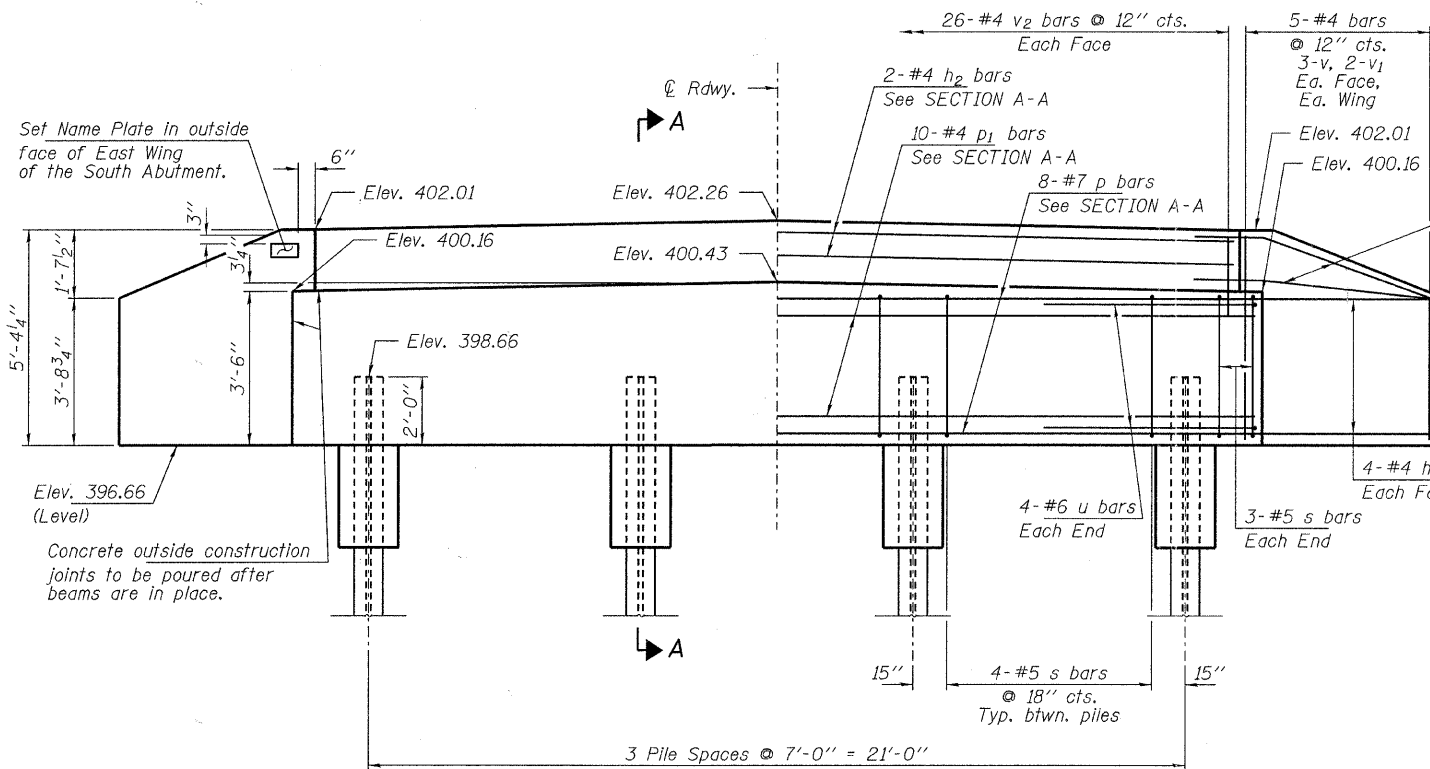


PLAN



SECTION A-A

Hatched area to be poured after beams are in place.



ELEVATION

Note: Extend h bars into abutment cap.

Fan 2-#4 h bars (B.F.)
Fan 2-#4 h1 bars (F.F.)
Each Wing
Bend in field.

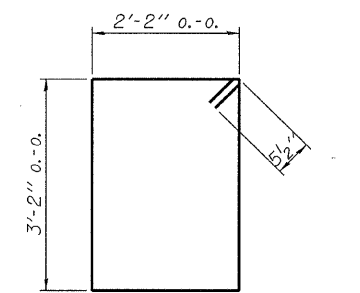
PILE DATA

Type ----- Steel HP10x42
No. Req'd. (2 Abuts.) ----- *8
Factored Resistance Available (Rf) ----- 156 Kips/Pile
Nominal Required Bearing (Rn) ----- 312 Kips/Pile
Est. Length ----- 55 Ft/Pile - N. Abut.
50 Ft/Pile - S. Abut.

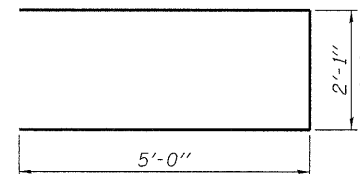
Notes: * Includes one test pile to be driven in permanent location at the North Abutment.

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

The test piles shall be driven to 110 percent of the Nominal Required Bearing Indicated in the pile data information.



BAR s



BAR u

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	5'-6"	—
h1	8	#4	4'-0"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	36	#5	11'-7"	□
u	16	#6	12'-1"	—
v	24	#4	4'-6"	—
v1	16	#4	3'-6"	—
v2	104	#4	2'-8"	—
Concrete Structures			Cu. Yd.	22.0
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,420
Steel Piles HP10x42			Foot	365
Test Pile HP10x42			Each	1
Name Plates			Each	1

FILE NAME = 100060-shr-bridge.dgn
 USER NAME =
 DESIGNED - A.S.L.
 CHECKED - D.W.T.
 DRAWN - D.A.B.
 CHECKED - S.W.M.
 PLOT SCALE =
 PLOT DATE = 4/12/2011

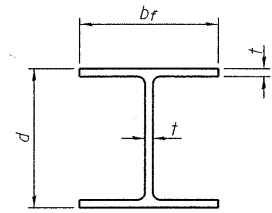
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 CHECKED - D.W.T.
 DRAWN - D.A.B.
 CHECKED - S.W.M.
 REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 EDWARDS COUNTY HIGHWAY DEPARTMENT

ABUTMENTS
 STRUCTURE NO. 024-3140

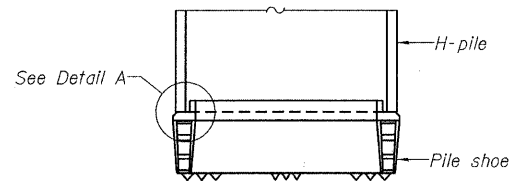
SHEET NO. 6 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
122	09-05109-00-BR	EDWARDS	13	10
ROAD DISTRICT #5			CONTRACT NO. 95652	
ILLINOIS FED. AID PROJECT				

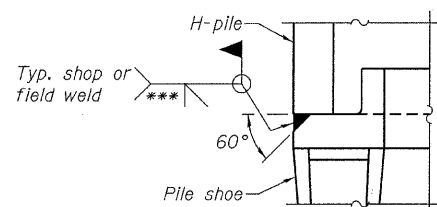


STEEL PILE TABLE

Designation	Depth d	Flange width bf	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 3/8"	12 1/4"	5/8"	24"
x63	12"	12 3/8"	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 3/8"	7/16"	24"
HP 8x36	8"	8 3/8"	7/16"	18"

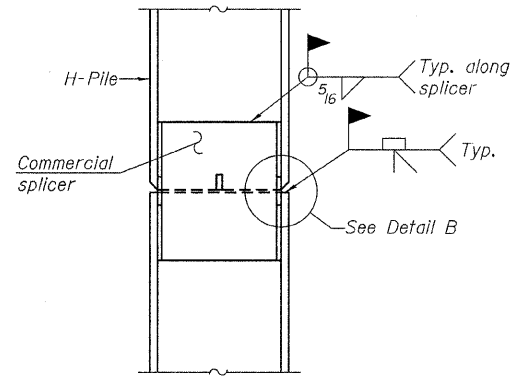


ELEVATION

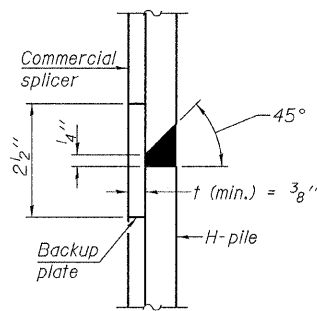


DETAIL A

H-PILE SHOE ATTACHMENT

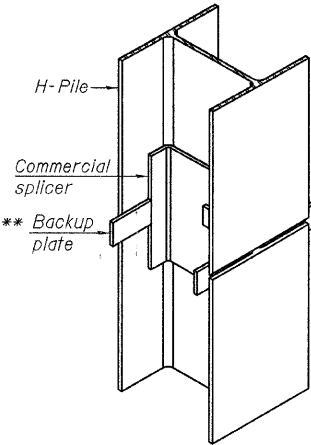


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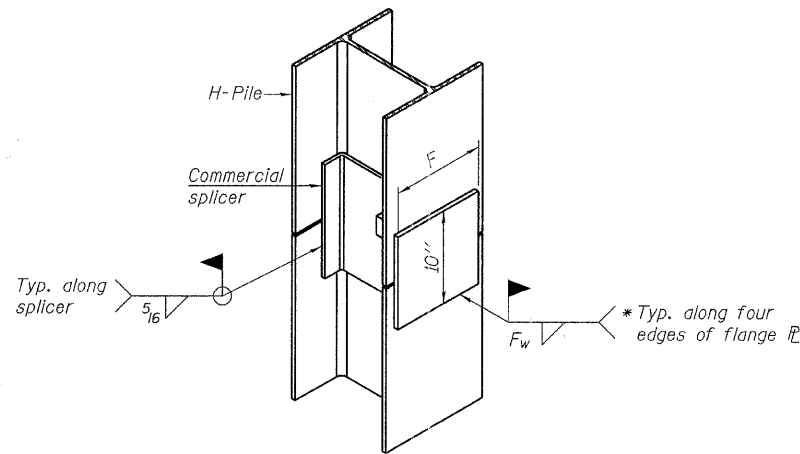


DETAIL "B"

WELDED COMMERCIAL SPLICE



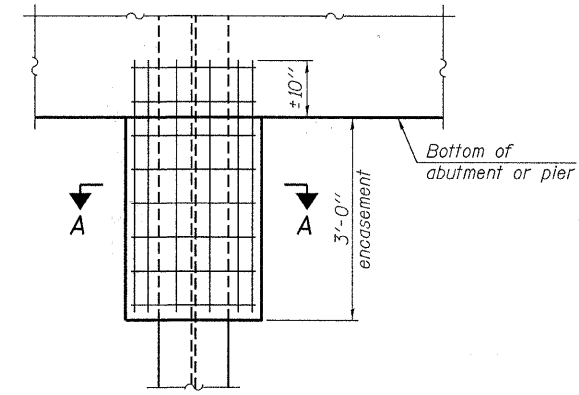
ISOMETRIC VIEW



ISOMETRIC VIEW

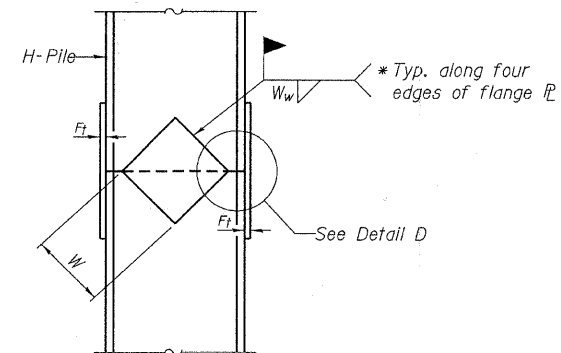
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

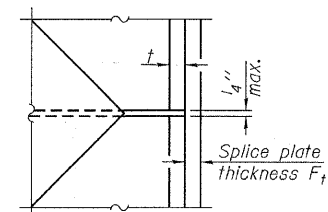


ELEVATION

PILE ENCASEMENT

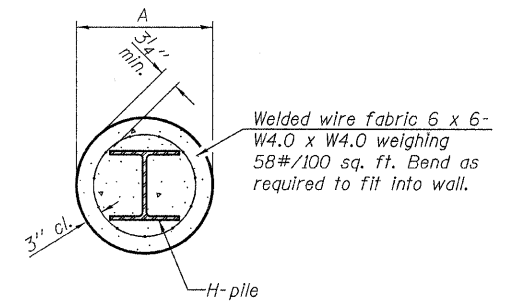


ELEVATION



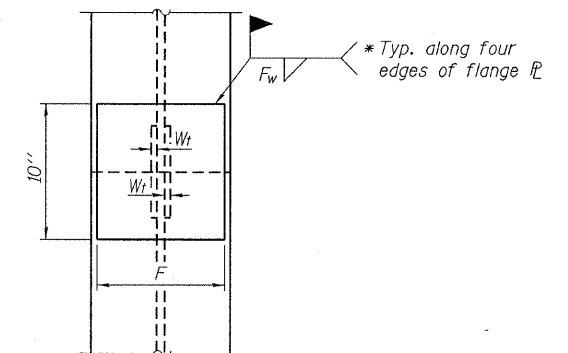
DETAIL D

WELDED PLATE FIELD SPLICE



SECTION A-A

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



END VIEW

Designation	F	Ft	Fw	W	Wt	Ww
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"	1/16"	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"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	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 = 100060-shr-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 024-3140	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 330 S. EVERSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	DESIGNED - D.W.T.	REVISED -	122			09-05109-00-BR	EDWARDS	13	11	
ILLINOIS PROFESSIONAL DESIGN FIRM L.S. PRE/ISE CORP. 184-00096A	DRAWN - D.A.B.	REVISED -	ROAD DISTRICT #5			CONTRACT NO. 95652				
PLOT SCALE =	CHECKED - S.W.M.	REVISED -				ILLINOIS FED. AID PROJECT				
PLOT DATE = 4/12/2011										

