06-15-2018 LETTING ITEM 206

INDEX OF SHEETS

STANDARDS:
280001-07 – EROSION CONTROL
515001-03 – NAME PLATES
725001-01 – REFLECTOR & TERMINAL MARKER PLACEMENT
701901-07 – TRAFFIC
BLR 21-9 – TRAFFIC

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEM	CODE NO.
1	L SUM	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	X7010216
36	UNITS	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	20100110
52	UNITS	TREE REMOVAL (OVER 15 UNITS DIAMETER)	20100210
0.1	ACRE	TREE REMOVAL, ACRES	20100500
304	CU YD	EARTH EXCAVATION	20200100
240	CU YD	CHANNEL EXCAVATION	20300100
1,146	CU YD	FURNISHED EXCAVATION	20400800
239	TON	POROUS GRANULAR EMBANKMENT	20700110
120	FOOT	PERIMETER EROSION BARRIER	28000400
580	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
351	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1	EACH	REMOVAL OF EXISTING STRUCTURES NO. 1	50100300
1	EACH	REMOVAL OF EXISTING STRUCTURES NO. 2	50100400
85.8	CU YD	CONCRETE STRUCTURES	50300225
175.7	CU YD	CONCRETE SUPERSTRUCTURE	50300255
19.1	CU YD	CONCRETE ENCASEMENT	50300280
478	SQ YD	PROTECTIVE COAT	50300300
87,710	POUND	REINFORCEMENT BARS, EPOXY COATED	50800205
255	FOOT	STEEL RAILING, TYPE S1	50900205 Δ
1,350	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
1,350	FOOT	DRIVING PILES	51202305
4	EACH	TEST PILES STEEL HP 10X42	51203400
2	EACH	NAME PLATES	51500100
72	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 15"	542D0220
1	L SUM	MOBILIZATION	67100100
8	EACH	TERMINAL MARKER – DIRECT APPLIED	72501000 Δ

Δ SPECIALTY ITEMS

FUNCTIONAL CLASS: RURAL LOCAL ROAD
ADT = 75
DESIGN SPEED = 30 MPH

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NO. 1-800-892-0123

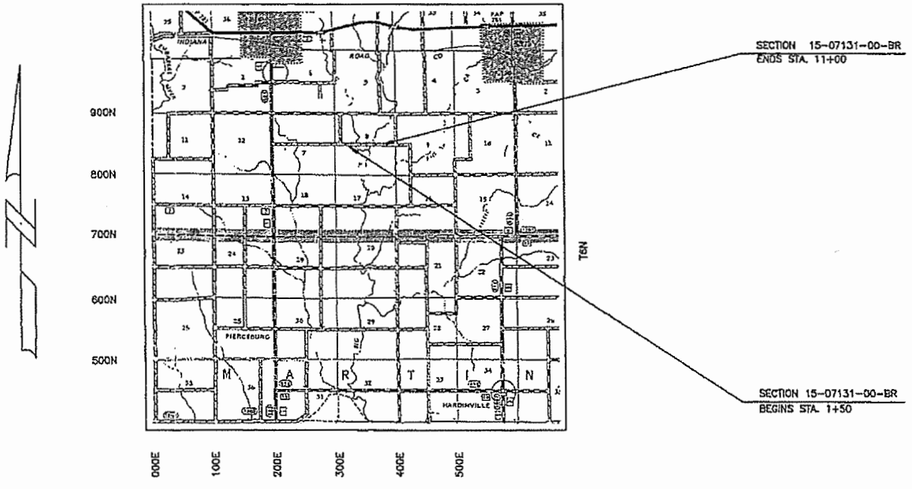
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM–OFF SYSTEM BRIDGE

CRAWFORD COUNTY
SECTION 15-07131-00-BR
STRUCTURE NO. 017-3754
TR 193 OVER DOGWOOD CREEK
STRUCTURE NO. 017-3755
TR 193 OVER BRUSH CREEK
PROJECT NO. V985(178)
JOB NO. C-97-052-18

SCALES

PLAN	1 INCH = 50 FEET
PROFILE HORZ.	1 INCH = 50 FEET
PROFILE VERT.	1 INCH = 10 FEET



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 950.00 FT. = 0.18 MILES

JOHN A. STONE
062-055012
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

05/12/2018

ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 55012
LICENSE EXPIRES NOVEMBER 30, 2019
PROFESSIONAL DESIGN FIRM #184-000832

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED: March 12, 2018
CRAWFORD COUNTY ENGINEER

PASSED: April 3, 2018
DISTRICT SEVEN ENGINEER
OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW April 3, 2018
REGION FOUR ENGINEER

SECTION	15-07131-00-BR	TOTAL SHEETS	SHEET NO.
COUNTY	CRAWFORD	25	2
ROAD DIST.	OBLONG		
STA. 0+00	TO STA. 13+19.20		

CONTRACT 95839

P.O.T. STA. 0+00

SUR. C–LINE — I. PIN

26.45' — 25.35'

TOP OF PIPE POST — TOP OF PIPE POST

PARCEL NO. 1
LAURA AND TOM HILL TRUST

STA. 3+25 – SPECIAL BRIDGE DESIGN
PROPOSED CONTINUOUS REINFORCED CONCRETE
SLAB BRIDGE. 3 SPANS @ 23'–6", 30'–0", 23'–6"
28' RDWY, SKEW = 40° R.F.
PROPOSED STR. NO. 017–3754

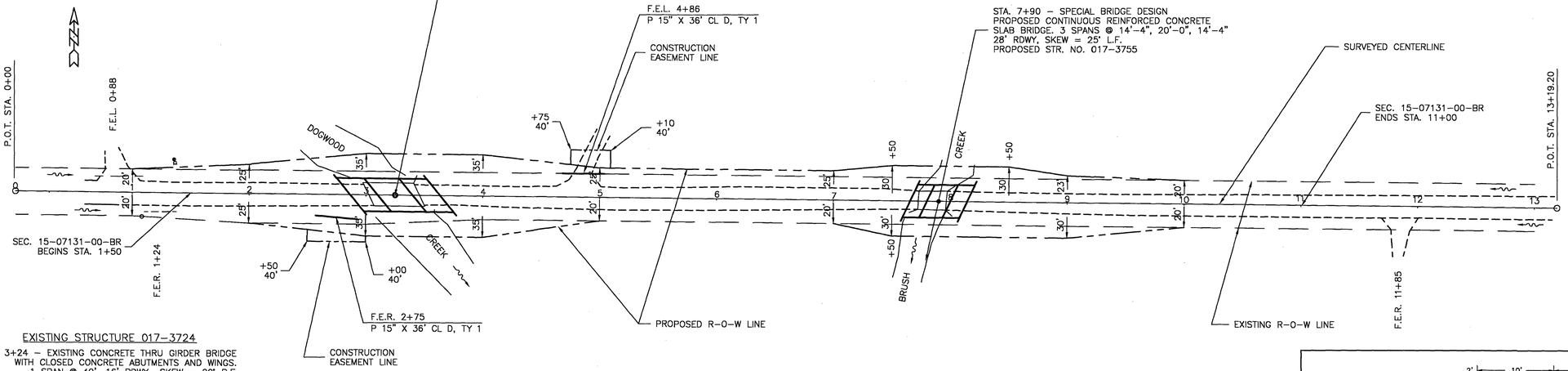
STA. 7+90 – SPECIAL BRIDGE DESIGN
PROPOSED CONTINUOUS REINFORCED CONCRETE
SLAB BRIDGE. 3 SPANS @ 14'–4", 20'–0", 14'–4"
28' RDWY, SKEW = 25° L.F.
PROPOSED STR. NO. 017–3755

P.O.T. STA. 13+19.20

SUR. C–LINE — I. PIN

18.50' — 19.00'

I. PIN — I. PIN



EXISTING STRUCTURE 017–3724

STA. 3+24 – EXISTING CONCRETE THRU GIRDER BRIDGE
WITH CLOSED CONCRETE ABUTMENTS AND WINGS.
1 SPAN @ 40', 16' RDWY., SKEW = 20° R.F.
1 EACH REMOVAL OF EXISTING STRUCTURES NO. 1

EXISTING STRUCTURE 017–3725

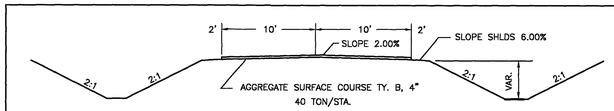
STA. 7+84.5 – EXISTING CONCRETE ARCH BRIDGE
WITH CLOSED CONCRETE ABUTMENTS AND WINGS.
1 SPAN @ 24', 14' RDWY., SKEW = 0°
1 EACH REMOVAL OF EXISTING STRUCTURES NO. 2

SCALES:
1" = 50' HOR
1" = 10' VER

PARCEL NO. 2
JIM R. JAYNE

3+84.89

PARCEL NO. 3
NEYKA LYNN WALDROP TRUST



TYPICAL CROSS SECTION OF PROPOSED IMPROVEMENT

CONSTRUCT TRANSITIONS
FROM EXITING RDWY TO PROPOSED 24' RDWY
FROM STA 1+50 TO STA 2+00 &
FROM STA 10+50 TO STA 11+00
FROM PROPOSED 24' RDWY TO 28' BRIDGE
FROM STA 2+61 TO STA 2+86 &
FROM STA 3+64 TO STA 3+89
FROM STA 7+41 TO STA 7+66 &
FROM STA 8+14 TO STA 8+39
QUANTITIES INCLUDED IN THOSE LISTED

EARTHWORK SCHEDULE

304	CU YD	EARTH EXCAVATION
228	CU YD	EARTH EXCAVATION ADJUSTED 25%
1554	CU YD	EMBANKMENT
240	CU YD	CHANNEL EXCAVATION
180	CU YD	CHANNEL EXCAVATION ADJUSTED 25%
1146	CU YD	FURNISHED EXCAVATION

AGGREGATE SURFACE COURSE TYPE B
STA. 1+50 TO STA. 2+86 = 55 TON
STA. 3+64 TO STA. 7+66 = 161 TON
STA. 8+14 TO STA. 11+00 = 161 TON
2 ENT. @ 10 TONS EACH = 20 TON
TOTAL = 351 TON

SEEDING TO BE DONE BY OTHERS

PERIMETER EROSION BARRIER
15 FEET ON TOE OF SLOPE @ EACH CORNER BRIDGES = 120 FEET

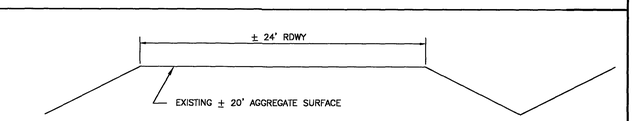
POROUS GRANULAR EMBANKMENT
A.R. STA. 3+25 W. ABUT. = 70 TON
A.R. STA. 3+25 E. ABUT. = 70 TON
A.R. STA. 7+90 W. ABUT. = 49.5 TON
A.R. STA. 7+90 E. ABUT. = 49.5 TON
TOTAL = 239 TON

BENCHMARK ELEV. 450.77
IRON PIN – C.P. #2
12.6' RT. STA. 4+96

TREE REMOVAL (6–15 UNITS DIAMETER)
24' LT. STA. 3+21 = 18 UNITS
29' LT. STA. 3+21 = 12 UNITS
29' LT. STA. 3+22 = 12 UNITS
TOTAL = 36 UNITS

TREE REMOVAL (OVER 15 UNITS DIAMETER)
29' LT. STA. 3+20 = 12 UNITS
24' LT. STA. 3+26 = 40 UNITS
TOTAL = 52 UNITS

TREE REMOVAL ACRES
LT. STA. 7+30 TO STA. 8+74 = 0.1 ACRES



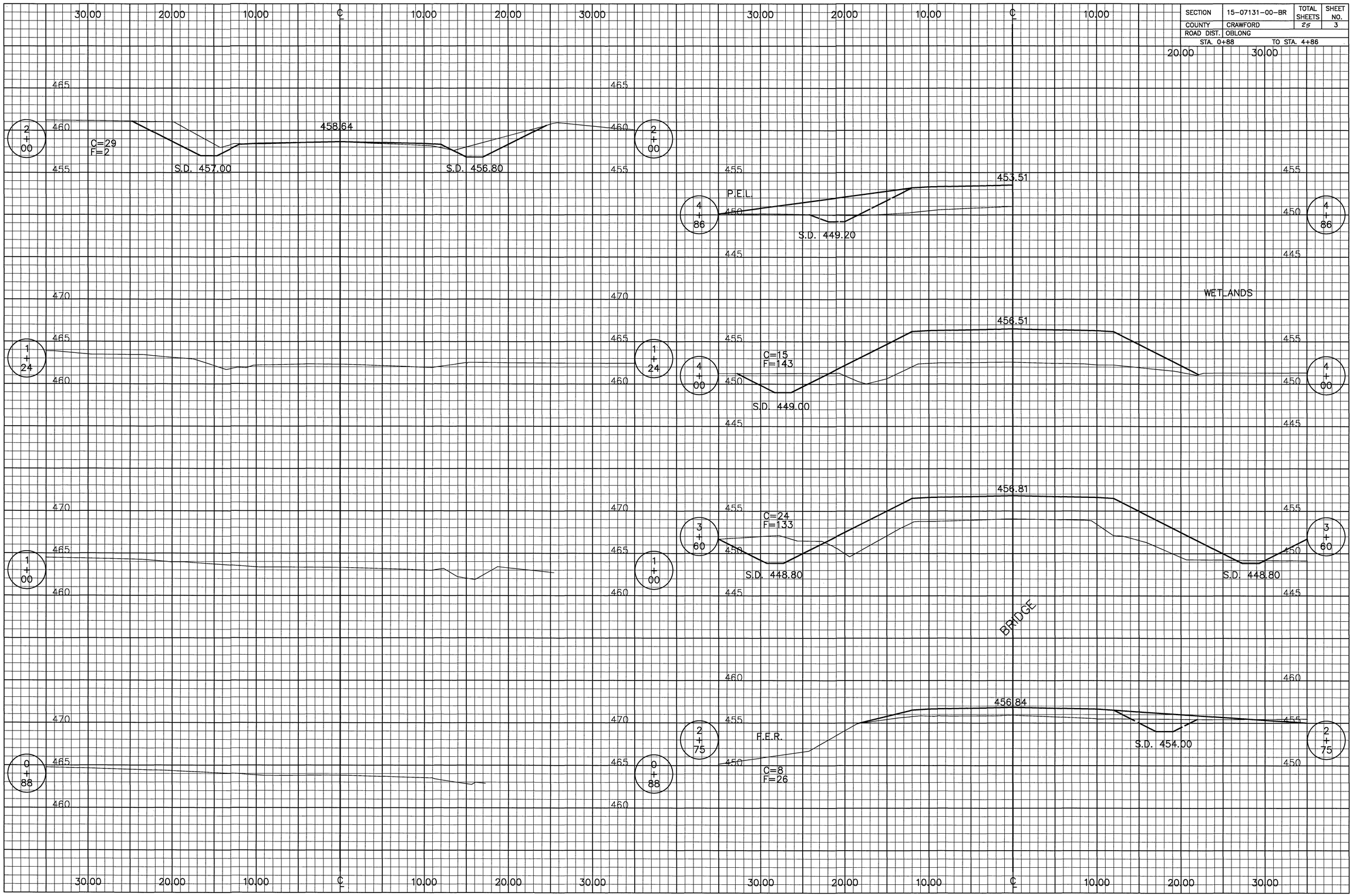
TYPICAL CROSS SECTION OF EXISTING ROADWAY

NOTE: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE CRAWFORD COUNTY HIGHWAY DEPARTMENT AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER.

DETAIL OF ENTRANCE

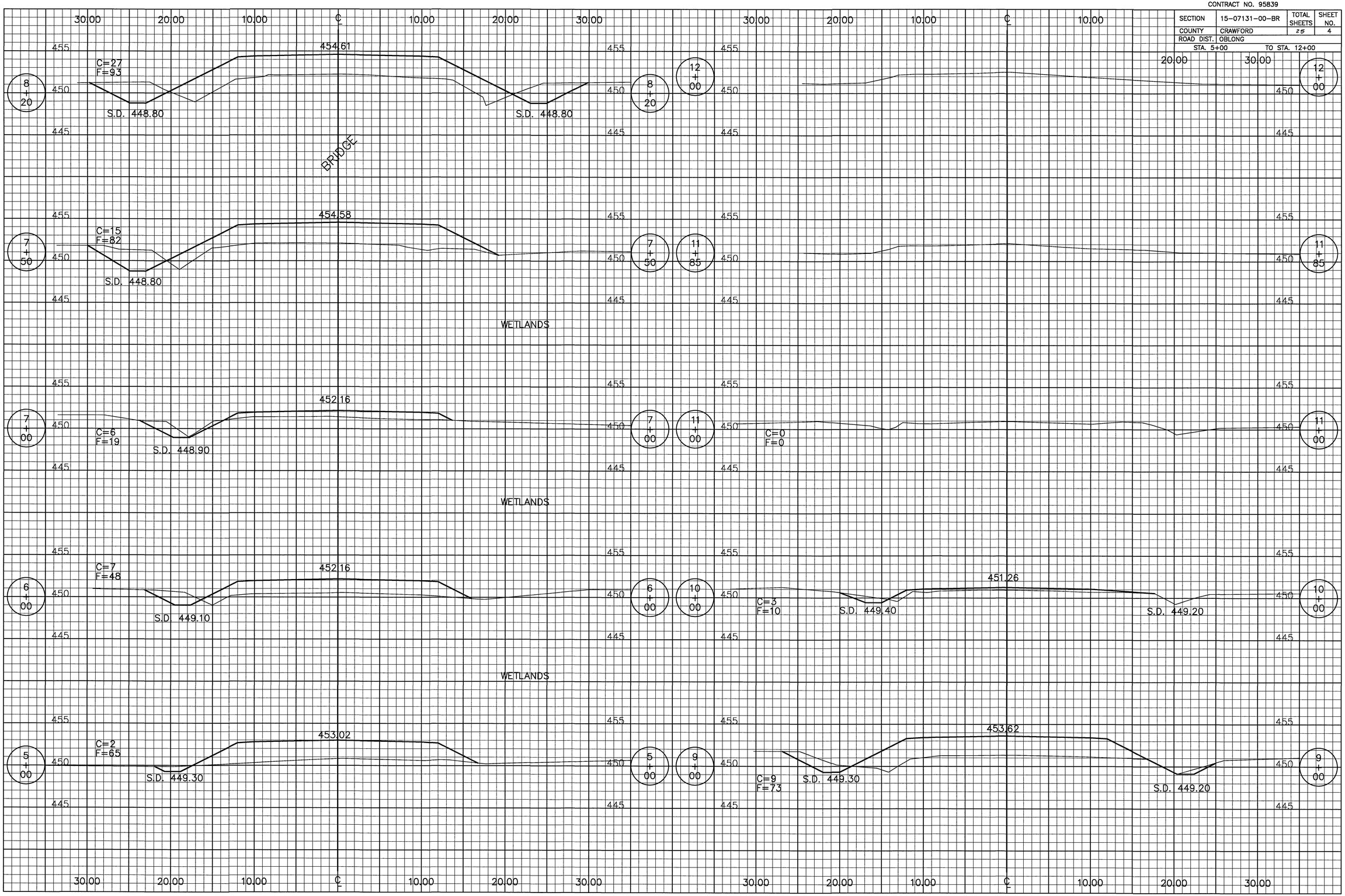
CONTRACT NO. 95839

SECTION	15-07131-00-BR	TOTAL SHEETS	SHEET NO.
COUNTY	CRAWFORD	25	3
ROAD DIST.	OBLONG		
STA. 0+88	TO STA. 4+86		



CONTRACT NO. 95839

SECTION	15-07131-00-BR	TOTAL SHEETS	SHEET NO.
COUNTY	CRAWFORD	25	4
ROAD DIST.	OBLONG		
STA. 5+00	TO STA. 12+00		

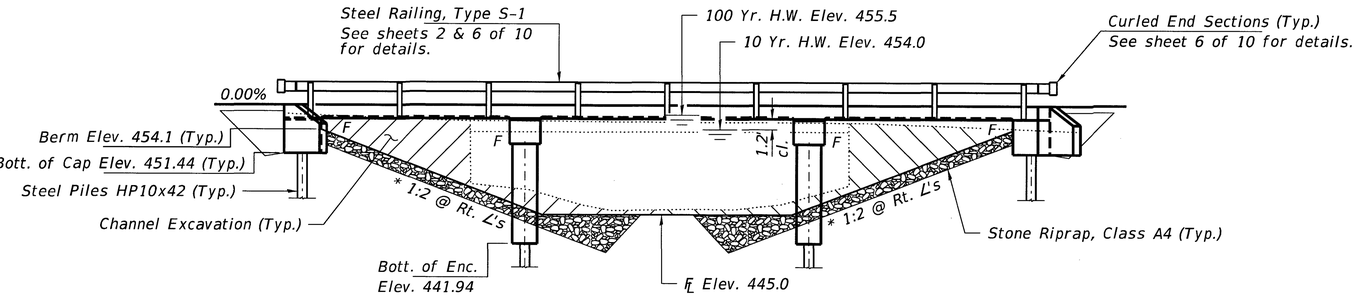


BENCHMARK:

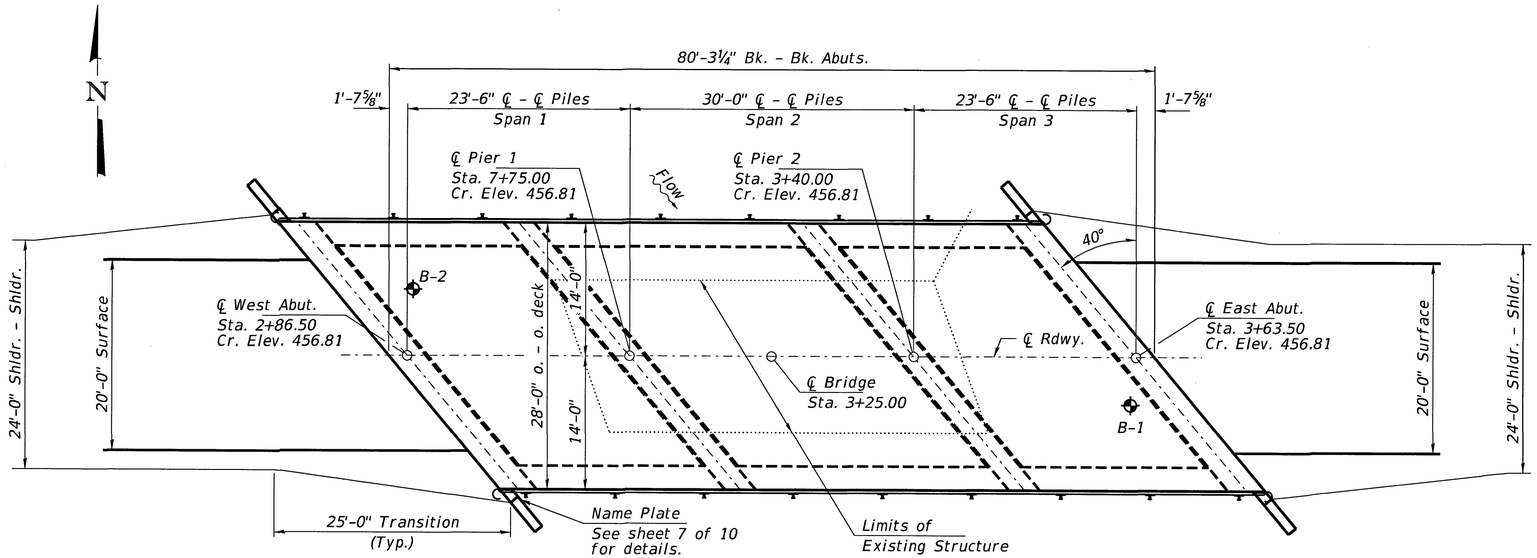
EXISTING STRUCTURE NO. 017-3724: Single span concrete thru girder bridge with closed concrete abutments and wingwalls. 40.0 fc. - fc. abuts. and 16.0' o. - o. deck.

Structure closed to traffic during construction.

No Salvage



ELEVATION



PLAN

GENERAL NOTES

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

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 Contractor shall make allowance for the deflection of forms, shrinkage, and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

Protective Coat shall be applied to the top surface and the sides of the concrete deck and wingwalls.

Reinforcement bars designated (E) shall be epoxy coated.

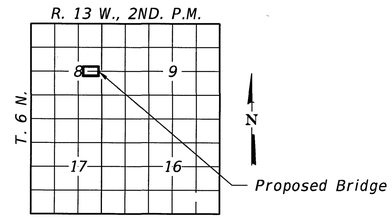
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Excavation required to construct the Abutments and Piers shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation or Cofferdam Excavation.

INDEX OF STRUCTURE SHEETS

DOGWOOD CREEK
BUILT 201_ BY
CRAWFORD COUNTY
SEC. 15-07131-00-BR
STATION 3+25
STR. NO. 017-3754
LOADING HL-93

NAME PLATE
See Std. 515001



LOCATION SKETCH

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.150g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.375g
Soil Site Class = C

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinf.)
fy = 50,000 psi (Steel H-Pile) (M270 Gr. 50)

WATERWAY INFORMATION

Drainage Area = 13.9 Mi²
Existing Low Grade Elev. 450.50 @ Sta. 6+00
Proposed Low Grade Elev. 452.16 @ Sta. 6+00

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	10	2040	271	310	454.0	0.2	0.4	454.2	454.4
Base	100	3760	271	371*	455.5	0.2	0.6	455.7	456.1

* Low water approach to remain

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.) W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
Q100	451.4	438.6	438.6	451.4	8
Q200	451.4	438.6	438.6	451.4	
Design	451.4	438.6	438.6	451.4	
Check	451.4	438.6	438.6	451.4	

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 03/27/2018
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON
081-6064
SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-2018

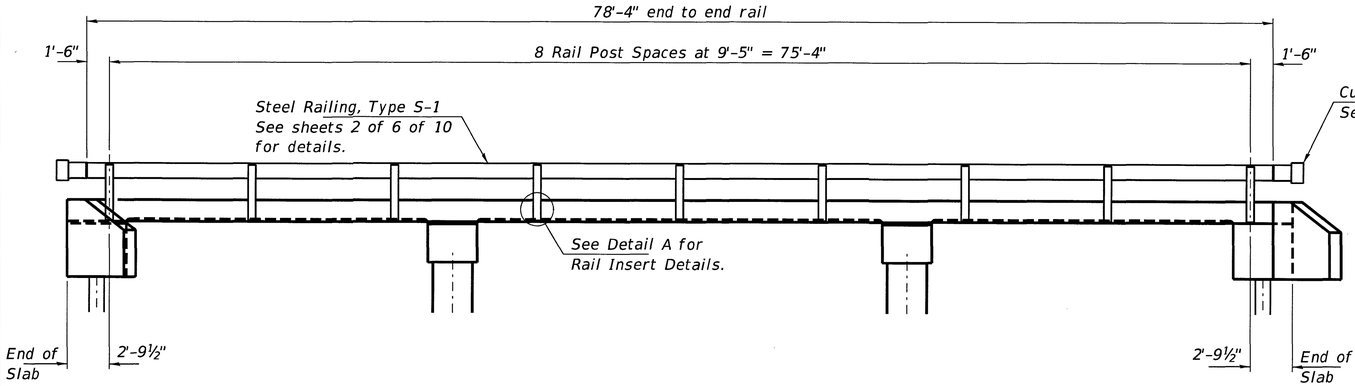
GENERAL PLAN & ELEVATION
T.R. 193
OVER DOGWOOD CREEK
SECTION 15-07131-00-BR
CRAWFORD COUNTY
STATION 3+25.00
STRUCTURE NO. 017-3754

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = #SCALE#	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

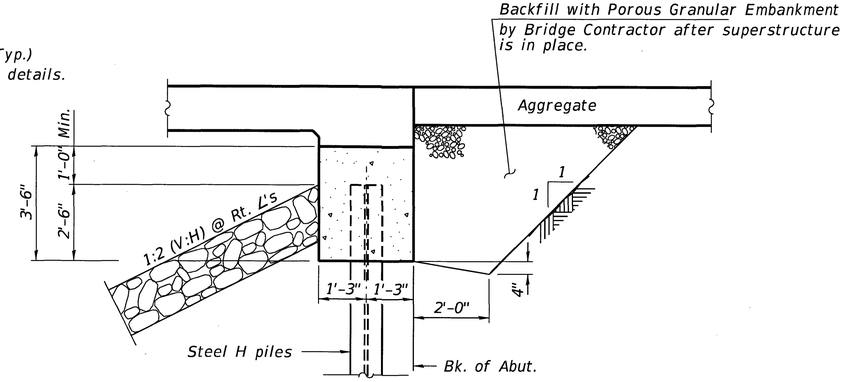
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 017-3754
SHEET NO. 1 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	5
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

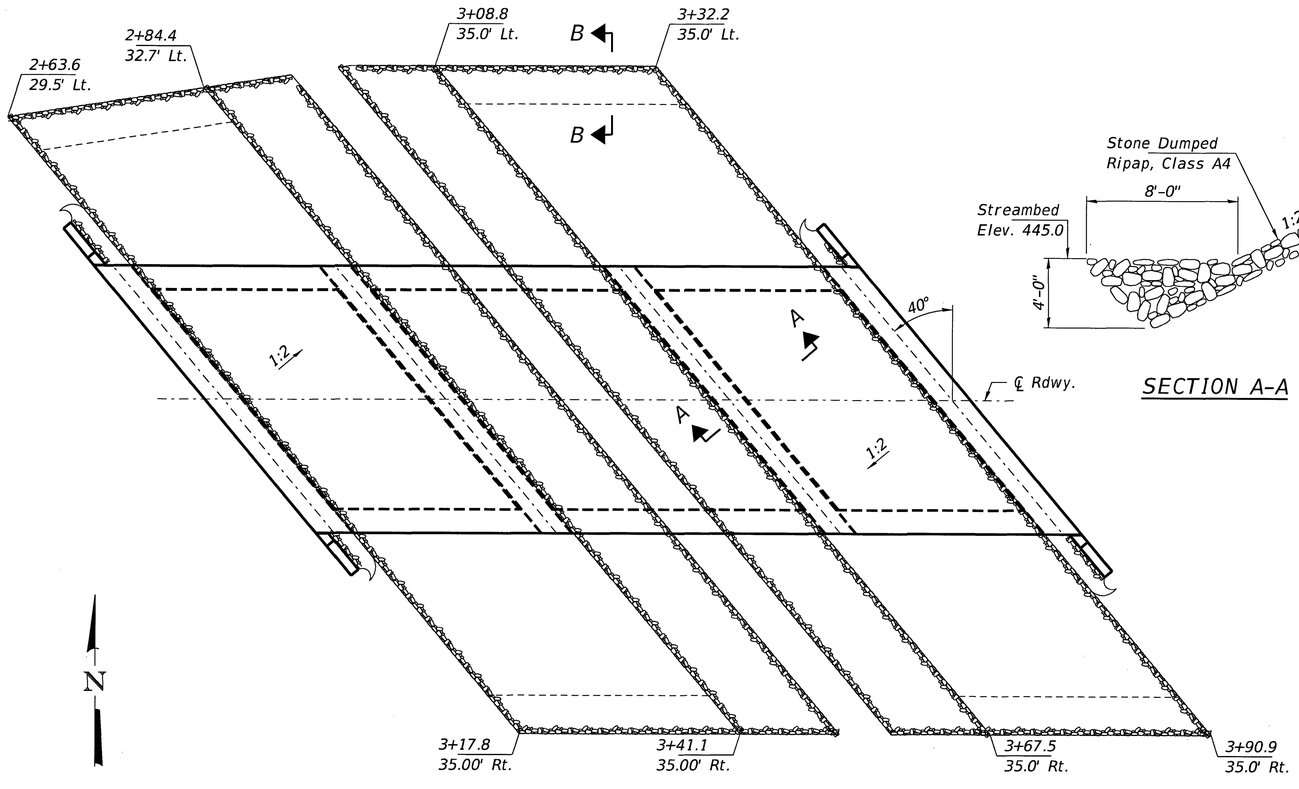


RAILING ELEVATION



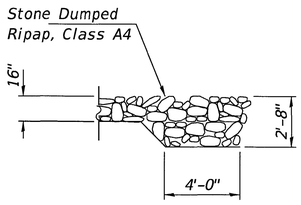
SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. ℄'s)

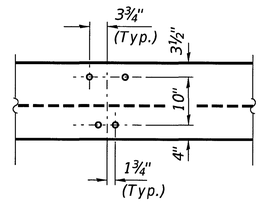


RIPRAP PLAN

SECTION A-A



SECTION B-B



DETAIL A

TOTAL BILL OF MATERIAL

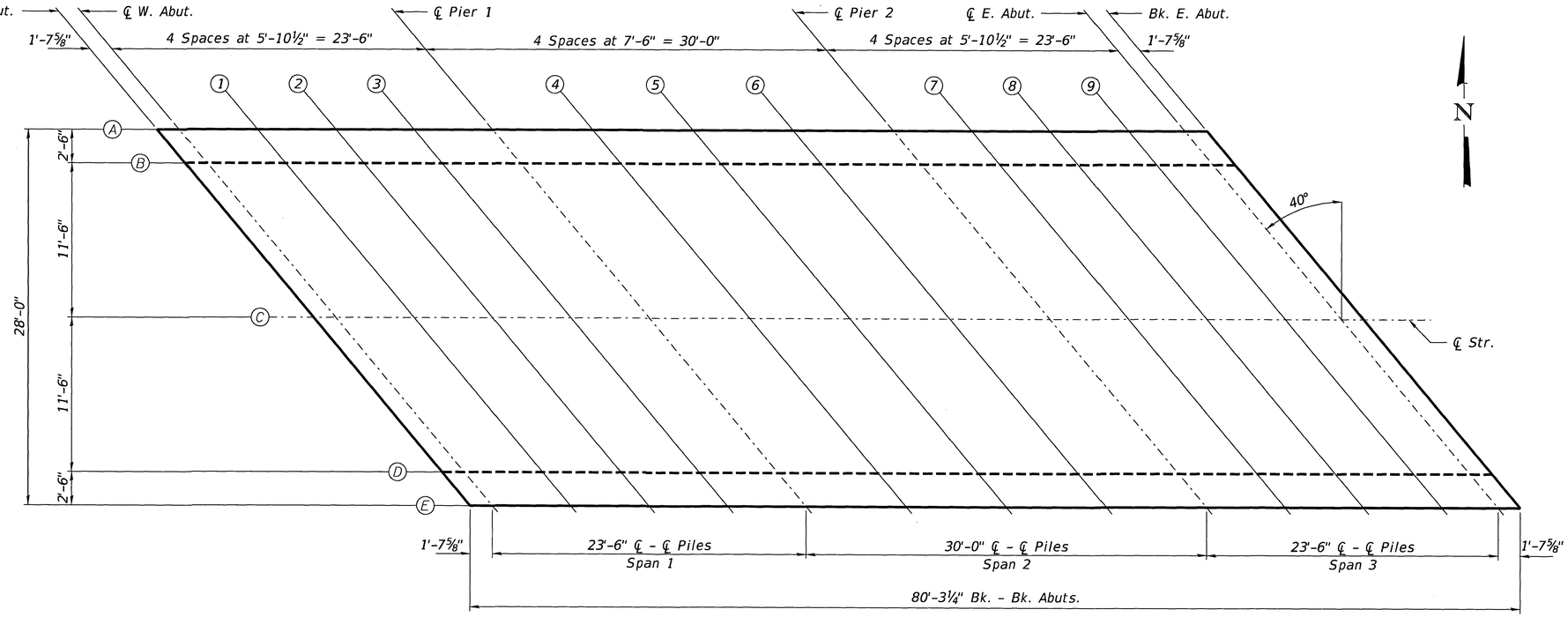
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			165
Porous Granular Embankment	Ton			140
Stone Dumped Riprap, Class A4	Ton			390
Protective Coat	Sq. Yd.	275	13	288
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		44.1	44.1
Concrete Superstructure	Cu. Yd.	108.0		108.0
Concrete Encasement	Cu. Yd.		11.9	11.9
Reinforcement Bars, Epoxy Coated	Pound	51,300	6,550	57,850
Steel Railing, Type S1	Foot	157		157
Furnishing Steel Piles HP10x42	Foot		720	720
Driving Piles	Foot		720	720
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each	1		1
Terminal Marker - Direct Applied	Each	4		4

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959	PLOT SCALE = *SCALE*	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

GENERAL DETAILS
STRUCTURE NO. 017-3754
SHEET NO. 2 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	6
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



PLAN

LOCATION		BK. W. ABUT.	CL W. ABUT.	SPAN 1			CL PIER 1	SPAN 2			CL PIER 2	SPAN 3			CL E. ABUT.	BK. E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518
A	ADJ.	456.518	456.518	456.522	456.522	456.518	456.518	456.522	456.525	456.522	456.518	456.518	456.522	456.522	456.518	456.518
* Bott. of Slab		455.102	455.102	455.105	455.105	455.102	455.102	455.105	455.108	455.105	455.102	455.102	455.105	455.105	455.102	455.102

LOCATION		BK. W. ABUT.	CL W. ABUT.	SPAN 1			CL PIER 1	SPAN 2			CL PIER 2	SPAN 3			CL E. ABUT.	BK. E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570
B	ADJ.	456.570	456.570	456.574	456.574	456.570	456.570	456.574	456.577	456.574	456.570	456.570	456.574	456.574	456.570	456.570
Bott. of Slab		455.404	455.404	455.407	455.407	455.404	455.404	455.407	455.410	455.407	455.404	455.404	455.407	455.407	455.404	455.404

LOCATION		BK. W. ABUT.	CL W. ABUT.	SPAN 1			CL PIER 1	SPAN 2			CL PIER 2	SPAN 3			CL E. ABUT.	BK. E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810	456.810
C	ADJ.	456.810	456.810	456.813	456.813	456.810	456.810	456.813	456.817	456.813	456.810	456.810	456.813	456.813	456.810	456.810
Bott. of Slab		455.643	455.643	455.647	455.647	455.643	455.643	455.647	455.650	455.647	455.643	455.643	455.647	455.647	455.643	455.643

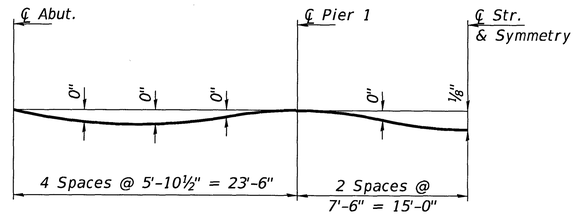
LOCATION		BK. W. ABUT.	CL W. ABUT.	SPAN 1			CL PIER 1	SPAN 2			CL PIER 2	SPAN 3			CL E. ABUT.	BK. E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570	456.570
D	ADJ.	456.570	456.570	456.574	456.574	456.570	456.570	456.574	456.577	456.574	456.570	456.570	456.574	456.574	456.570	456.570
Bott. of Slab		455.404	455.404	455.407	455.407	455.404	455.404	455.407	455.410	455.407	455.404	455.404	455.407	455.407	455.404	455.404

LOCATION		BK. W. ABUT.	CL W. ABUT.	SPAN 1			CL PIER 1	SPAN 2			CL PIER 2	SPAN 3			CL E. ABUT.	BK. E. ABUT.
				1	2	3		4	5	6		7	8	9		
LINE	T.	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518	456.518
E	ADJ.	456.518	456.518	456.522	456.522	456.518	456.518	456.522	456.525	456.522	456.518	456.518	456.522	456.522	456.518	456.518
* Bott. of Slab		455.102	455.102	455.105	455.105	455.102	455.102	455.105	455.108	455.105	455.102	455.102	455.105	455.105	455.102	455.102

T. - Theoretical elevation at top of slab

Adj. - T adjusted for dead load deflection

* *Bottom of slab elevation equals bottom of edge beam*



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:

The deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown.

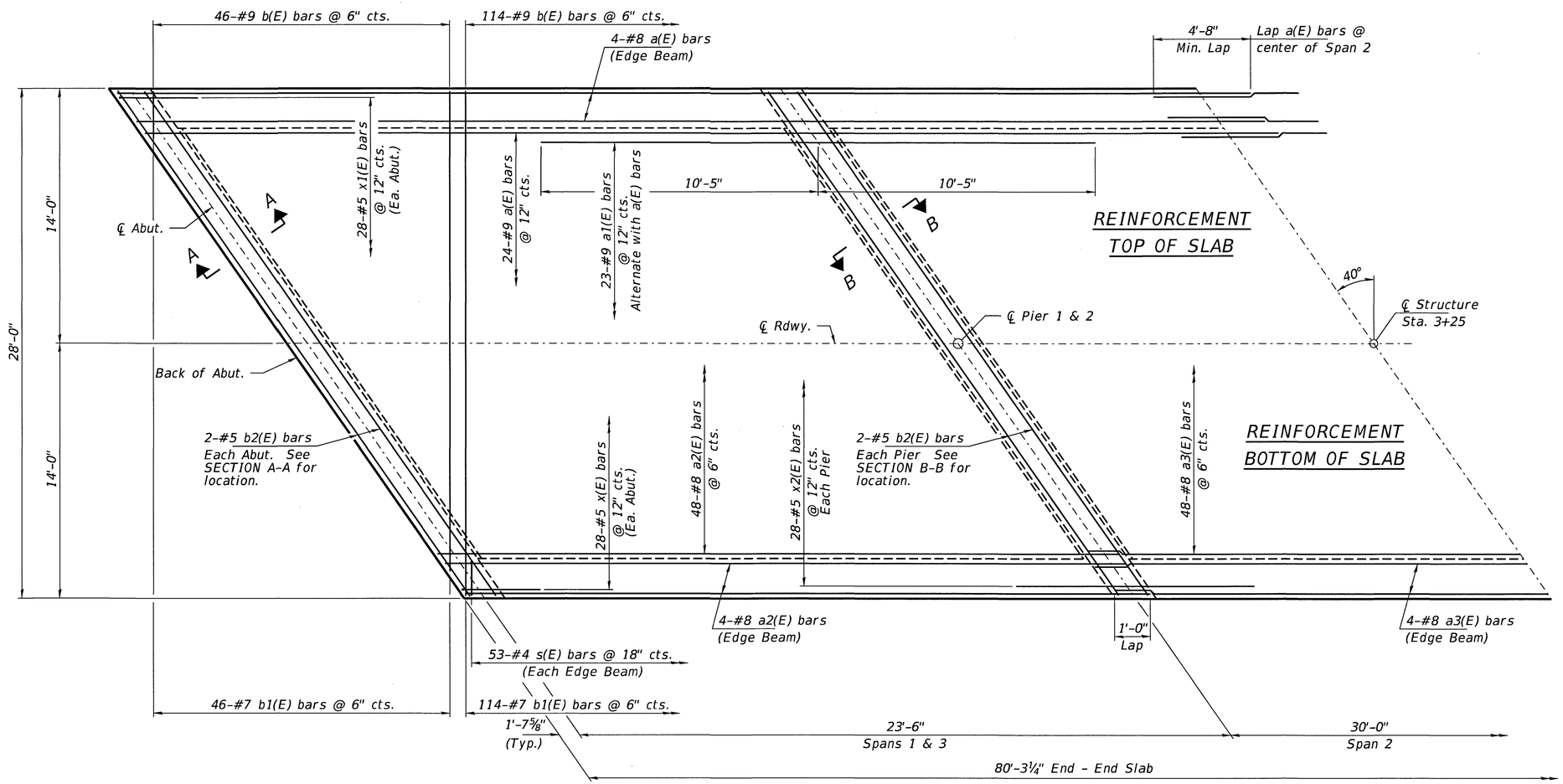
The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework in addition to allowance for dead load deflection.

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = *SCALE*	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

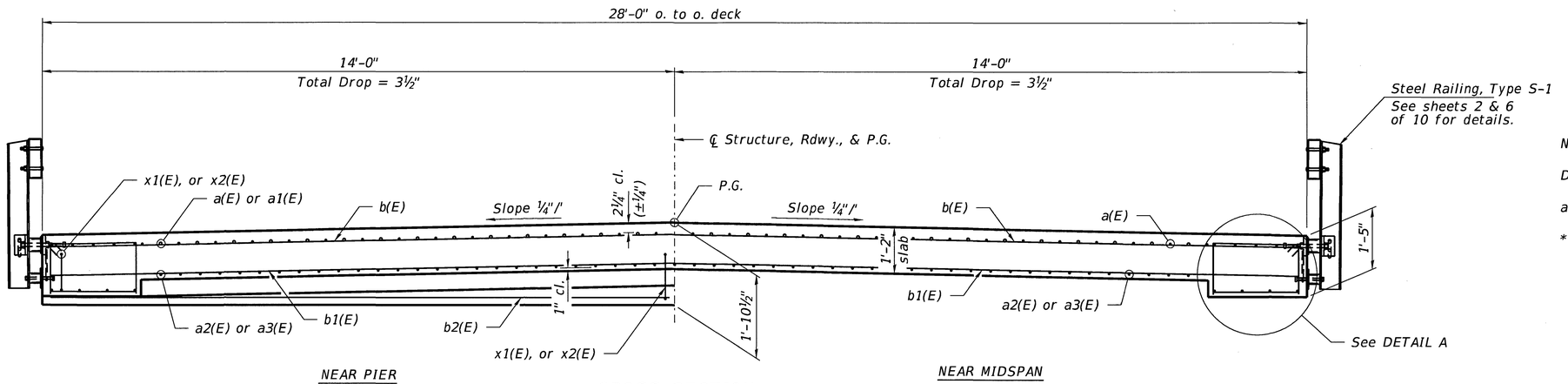
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

SLAB ELEVATIONS
STRUCTURE NO. 017-3754
SHEET NO. 3 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	7
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



PLAN



CROSS SECTION
(Looking East)

Notes:
See sheets 5 of 10 for Superstructure Details and Bill of Material.
See sheet 5 of 10 for SECTION A-A, SECTION B-B and DETAIL A.

* Order b(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

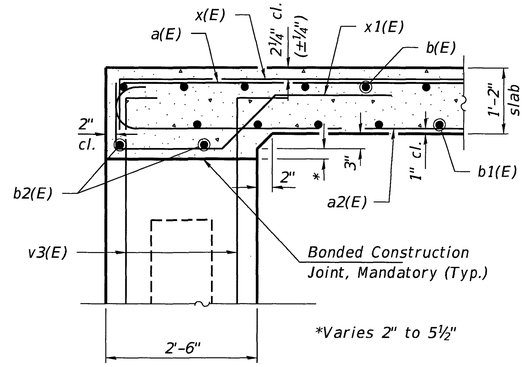
MIN. BAR LAP
#5 = 4'-8"

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959	PLOT SCALE = #SCALE#	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

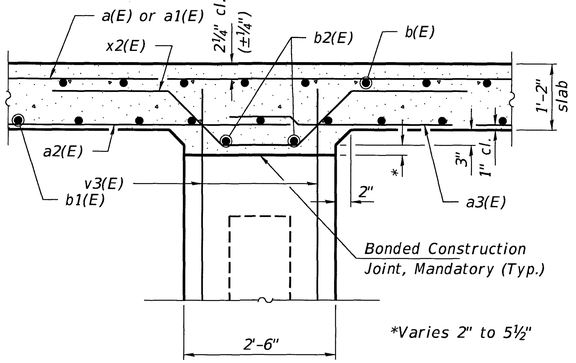
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE
STRUCTURE NO. 017-3754
SHEET NO. 4 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	8
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

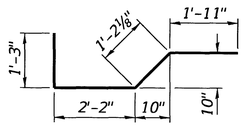


SECTION A-A

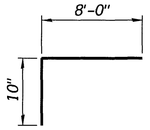


SECTION B-B

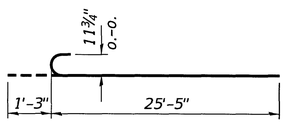
DETAIL A



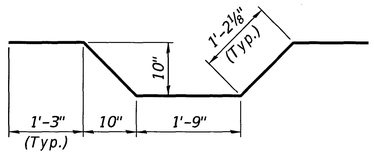
BAR x1(E)



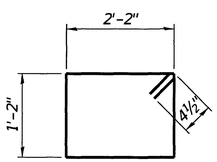
BAR x(E)



BAR a2(E)



BAR x2(E)



BAR s(E)

SUPERSTRUCTURE BILL OF MATERIAL

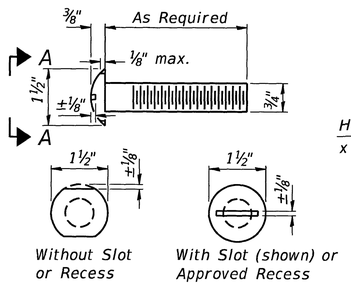
BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	64	#9	42'-3"	
a1(E)	46	#9	20'-10"	
a2(E)	112	#8	26'-8"	
a3(E)	56	#8	31'-0"	
b(E)	160	#9	27'-8"	
b1(E)	160	#7	27'-8"	
b2(E)	8	#5	36'-2"	
s(E)	106	#4	7'-5"	
x(E)	56	#5	8'-10"	
x1(E)	56	#5	6'-6"	
x2(E)	56	#5	7'-1"	
Protective Coat			Sq. Yd.	275
Concrete Superstructure			Cu. Yd.	108.0
Reinforcment Bars, Epoxy Coated			Pound	51,300
Name Plates			Each	1

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

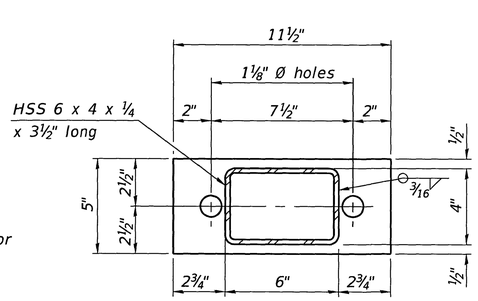
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 017-3754
SHEET NO. 5 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	9
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
	ILLINOIS	FED. AID PROJECT		

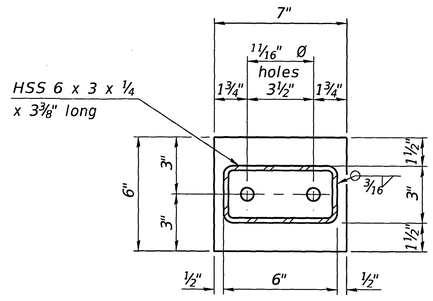


VIEW A-A

ROUND HEAD BOLT

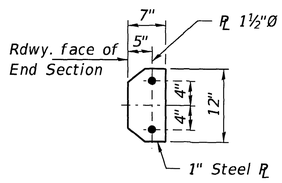


PL 1/2" x 11 1/2" x 5"

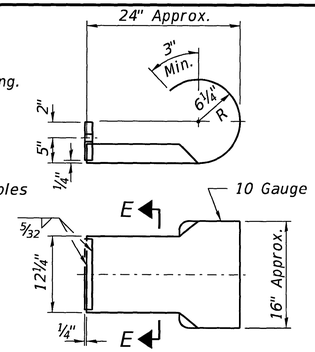


PL 1/2" x 7" x 6"

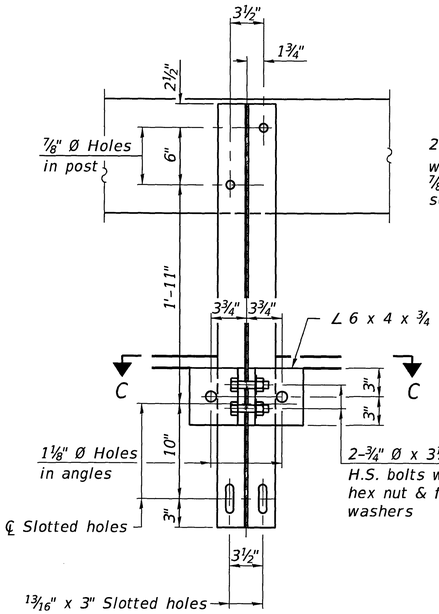
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



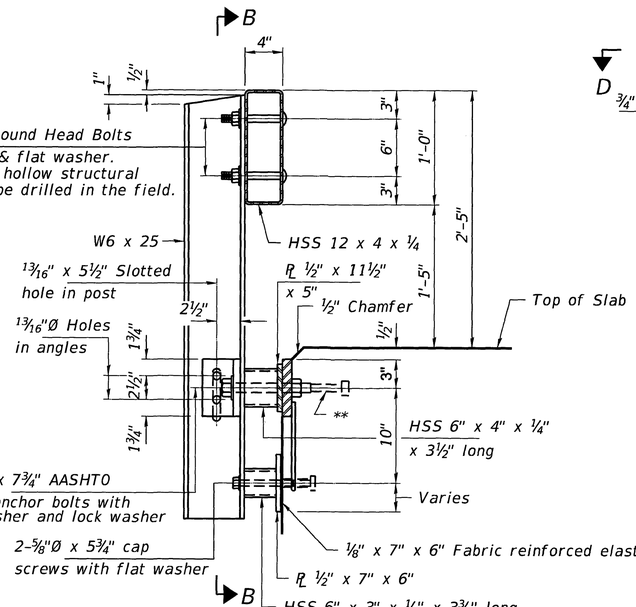
SECTION E-E



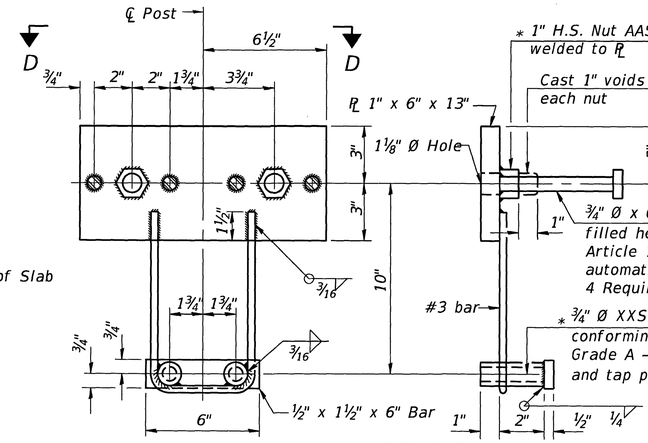
CURLED END SECTION DETAILS



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

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	1/4"	1'-8"	2"	4"	———

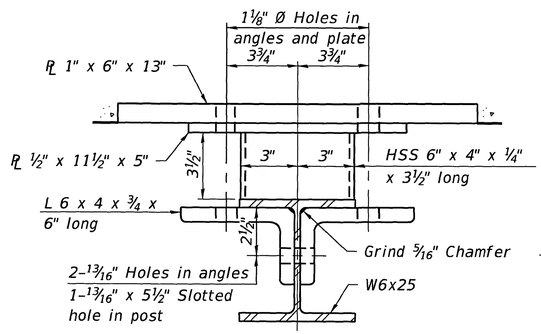
T = Total movement at expansion joint as shown on the design plans.

Notes:

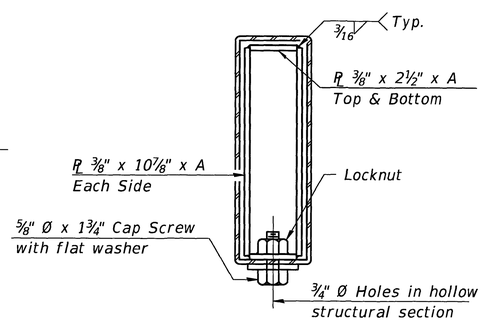
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.

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

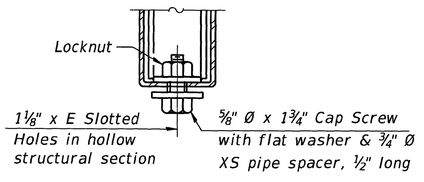
** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.



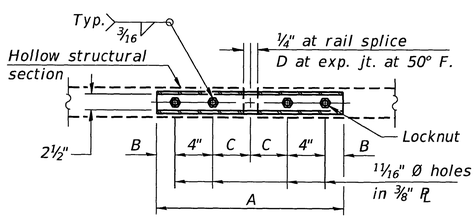
SECTION C-C



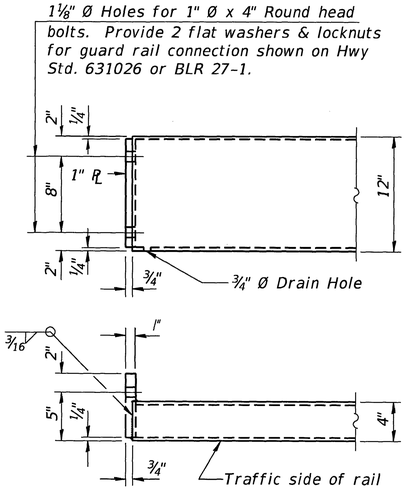
SECTIONS AT RAIL SPLICE



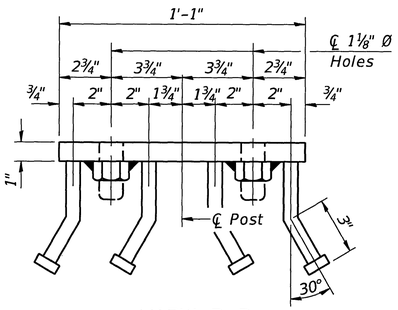
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE PL TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	157

R-23A

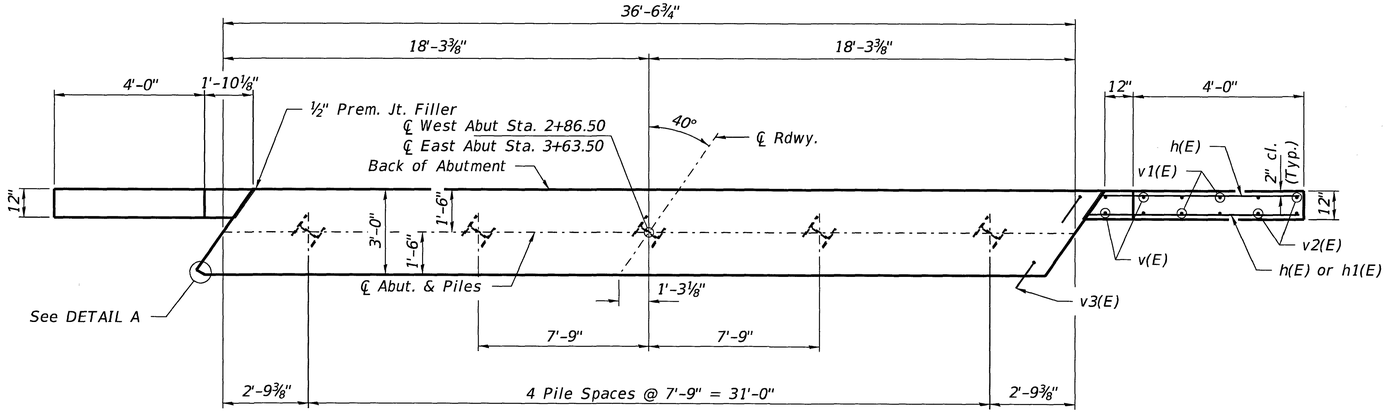
8-11-2017 (10'-9" Maximum Post Spacing)

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

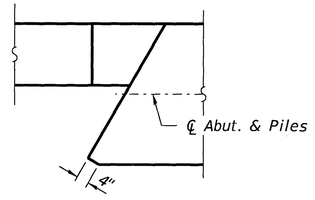
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 017-3754
SHEET NO. 6 OF 10 SHEETS

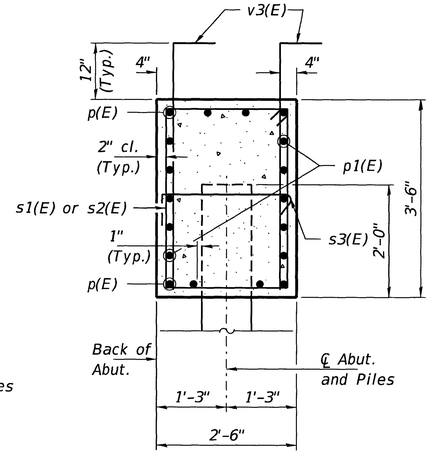
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	10
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



PLAN



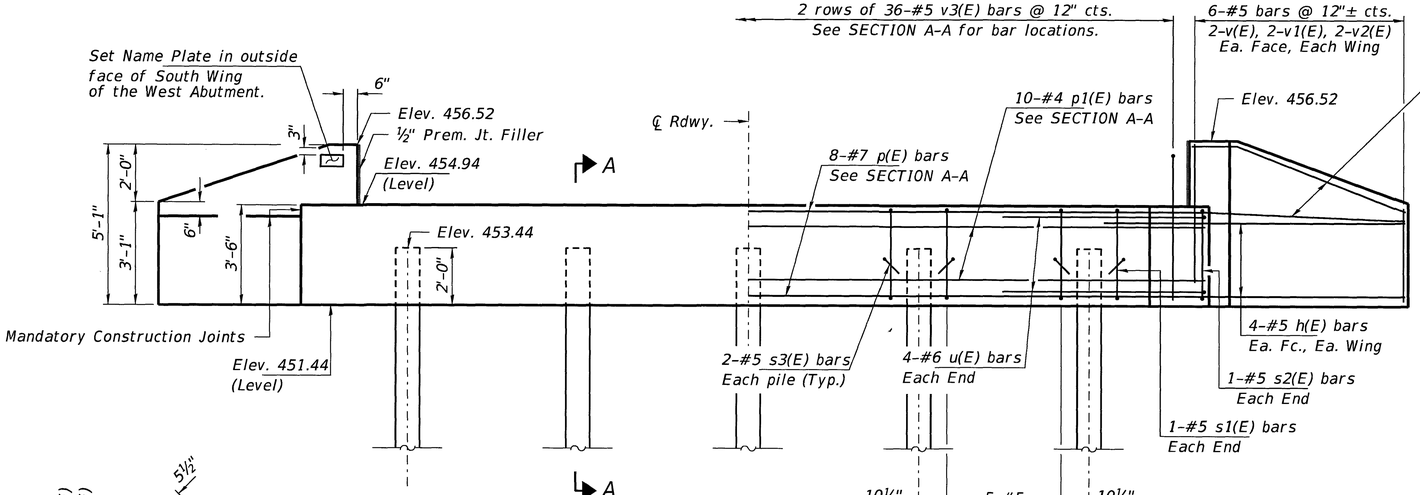
DETAIL A



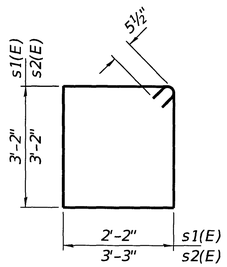
SECTION A-A

Dimensions at right angles to abutment.

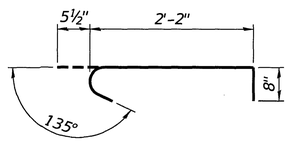
Note: Extend h1(E) bars into abutment cap and superstructure.



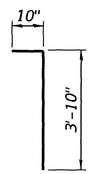
ELEVATION



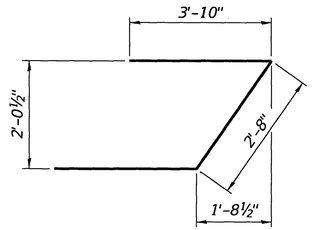
BAR s1(E) & s2(E)



BAR s3(E)



BAR v3(E)



BAR u(E)

PILE DATA

Type _____ Steel HP10x42
No. Req'd. (2 Abuts.) _____ *10
Factored Resistance Available (Rf) _____ 167 Kips/Pile
Nominal Required Bearing (Rn) _____ 335 Kips/Pile
Est. Length _____ 40 Ft/Pile

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

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	32	#5	6'-3"	
h1(E)	24	#5	4'-9"	
p(E)	16	#7	36'-2"	
p1(E)	20	#4	36'-2"	
s1(E)	44	#5	11'-7"	
s2(E)	4	#5	13'-9"	
s3(E)	20	#5	3'-4"	
u(E)	16	#6	10'-4"	
v(E)	16	#5	4'-8"	
v1(E)	16	#5	3'-9"	
v2(E)	16	#5	2'-9"	
v3(E)	144	#5	4'-8"	
Protective Coat		Sq. Yd.	13	
Concrete Structures		Cu. Yd.	27.2	
Reinforcment Bars, Epoxy Coated		Pound	3,790	
Furnishing Steel Piles HP10x42		Foot	360	
Driving Piles		Foot	360	
Test Pile Steel HP10x42		Each	1	

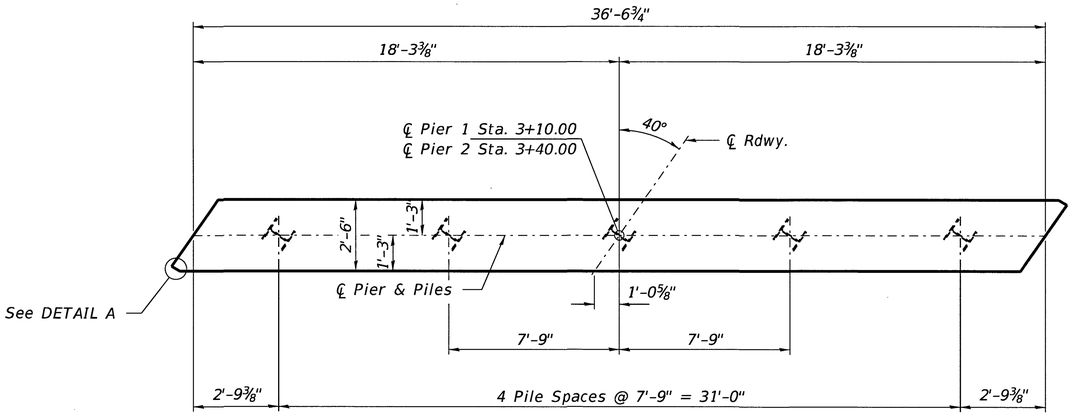
Notes:
For details of piles, see sheet 9 of 10.
Bottom of wing shall be poured monolithic with the abutment cap. Entire quantity included with Concrete Structures.
Extend h(E) bars into abutment cap.

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = @SCALE@	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

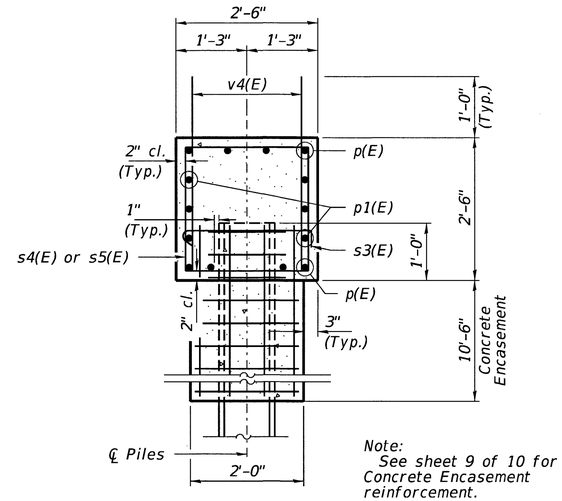
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

ABUTMENTS
STRUCTURE NO. 017-3754
SHEET NO. 7 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	11
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

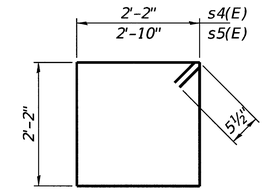


PLAN

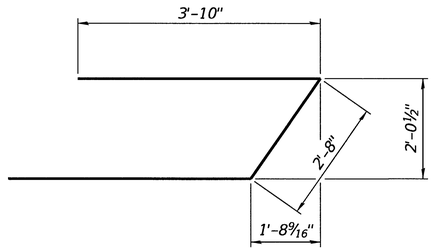


Note:
See sheet 9 of 10 for Concrete Encasement reinforcement.

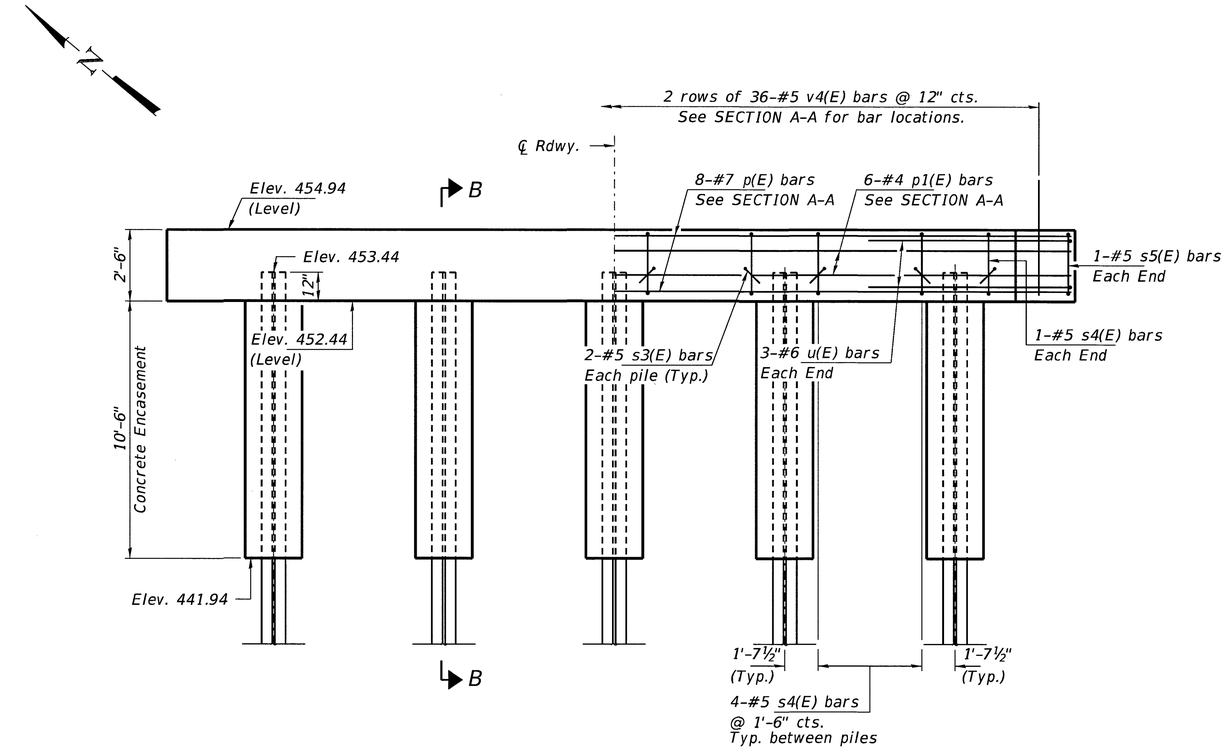
SECTION B-B
Dimensions at right ℄'s to Pier.



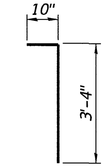
BARS s4(E) & s54(E)



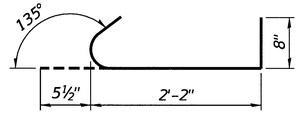
BAR u(E)



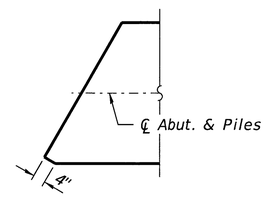
ELEVATION
(Looking East)



BAR v4(E)



BAR s3(E)



DETAIL A

PILE DATA

Type	Steel HP10x42
No. Req'd. (2 Piers)	*10
Factored Resistance Available (Rf)	167 Kips/Pile
Nominal Required Bearing (Rn)	335 Kips/Pile
Est. Length	40 Ft/Pile

Notes: *Includes one test pile to be driven in a permanent location at Pier 1.

BILL OF MATERIAL - 2 PIERS

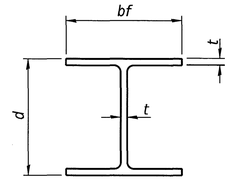
BAR	NO.	SIZE	LENGTH	SHAPE
p(E)	16	#7	36'-2"	
p1(E)	12	#4	36'-2"	
s3(E)	20	#5	3'-4"	
s4(E)	36	#5	9'-7"	
s5(E)	4	#5	10'-11"	
u(E)	12	#6	10'-4"	
v4(E)	144	#5	4'-2"	
Concrete Structures		Cu. Yd.	16.9	
Concrete Encasement		Cu. Yd.	11.9	
Reinforcment Bars, Epoxy Coated		Pound	2,760	
Furnishing Steel Piles HP10x42		Foot	360	
Driving Piles		Foot	360	
Test Pile Steel HP10x42		Each	1	

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

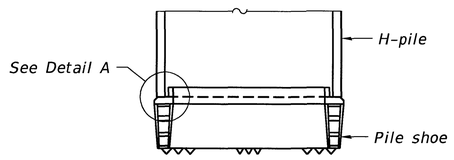
PIERS
STRUCTURE NO. 017-3754
SHEET NO. 8 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	12
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



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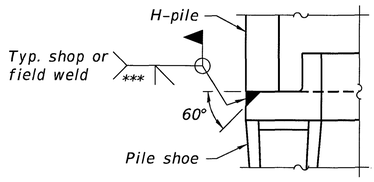
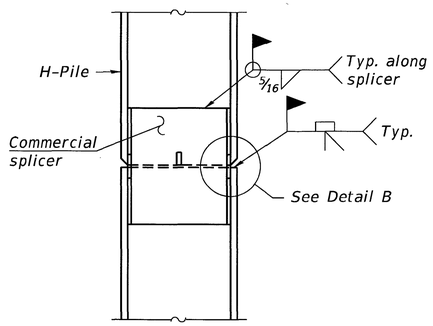


DETAIL A

SHOE ATTACHMENT

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



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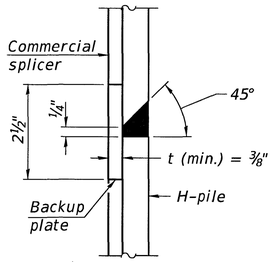
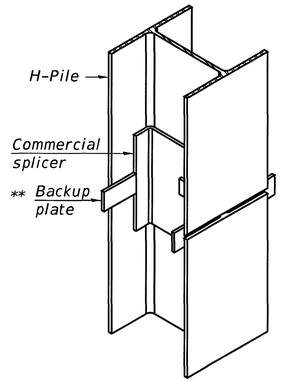
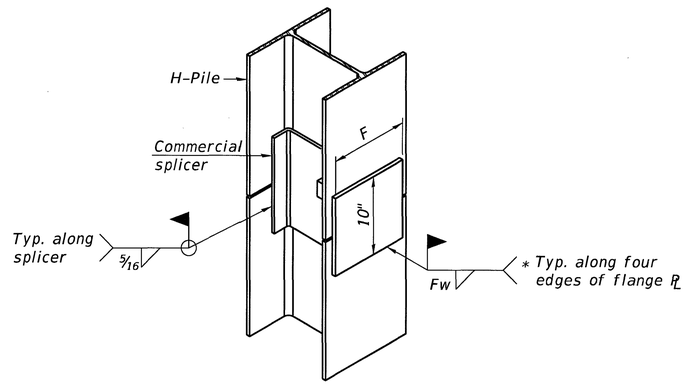


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



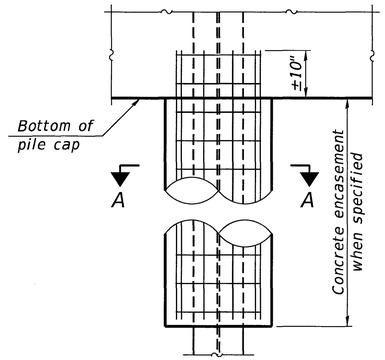
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

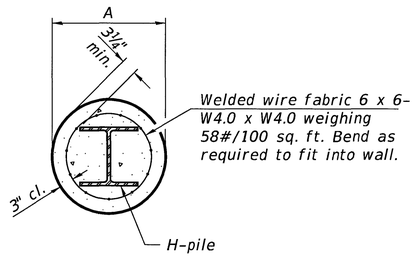
* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



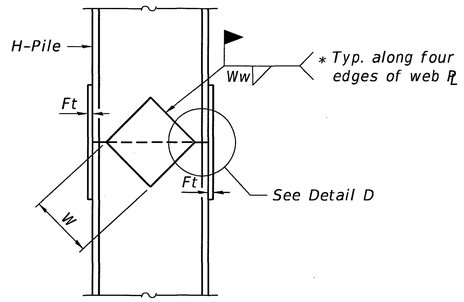
ELEVATION



SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

(Forms for encasement may be omitted when soil conditions permit).



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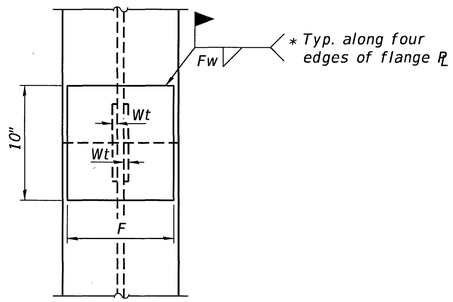
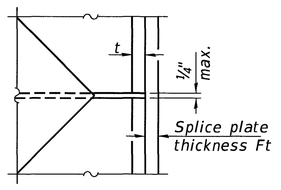


END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

F-HP 8-11-2017

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 017-3754
SHEET NO. 9 OF 10 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	13
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Page 1 of 1

Bridge Foundation Boring Log

Project: H-15248
Section: 15-07131-00-BR
Structure: 017-3724
County: Crawford
Bridge TR-193 Over Big Creek
Station 3+24
Date: 11/20/15
Bored by: J. Carter
Checked by: T. Holcomb

Boring No: 1
Station: 3+61
Offset: 5' RT
Surface Water Elev.
Ground Water Elev. During Drilling 440.5
Upon Completion dry

Description	Elevation	N	Qu tsf	w %
Ground Surface	454.0 (0)			
3" Crushed Stone				
Brown Silty CLAY (A-6)		6	0.1B	30
	(-5)	3	0.3B	33
	448.0			
Gray Silty CLAY (A-6)		2	0.1B	32
	445.5			
Gray Sandy CLAY (A-6)		1	--	27
	(-10) 443.0			
Brown Silty CLAY (A-6) with sand and pebbles		9	1.2B	16
	(-15)	39	--	-
		22	4.6B	11
	(-20)	27	8.3B	11
	432.5			
Gray Sandy CLAY (A-6)		18	2.3S	18
sandy clay (continued)				
	(-25)	17	2.6S	14
	428.0			
Gray Weathered SHALE		25	1.8B	17
	(-30)	28	1.7B	17
		70	5.3S	9
	(-35) 415.0	100/6"	--	7
Gray SHALE	(-40)	100/4"	--	8
		100/4"	--	7
	410.0			
End of Boring @ -44.0'				

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING-1

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Page 1 of 1

Bridge Foundation Boring Log

Project: H-15248
Section:
Structure: 017-3724
County: Crawford
Bridge TR-193 Over Big Creek
Station 3+24
Date: 11/20/15
Bored by: J. Carter
Checked by: T. Holcomb

Boring No: 2
Station: 2+87
Offset: 6' LT
Surface Water Elev.
Ground Water Elev. During Drilling dry
Upon Completion dry

Description	Elevation	N	Qu tsf	w %
Ground Surface	455.7 (0)			
3" Crushed Stone				
Brown Mottled Gray Silty CLAY (A-6)		7	0.9B	20
	(-5)	13	2.1S	18
		9	1.4S	21
	447.2			
Brown Sandy CLAY (A-6)	(-10)	7	1.0B	16
	444.7			
Brown Silty CLAY (A-6) with sand and pebbles		34	7.7B	8
	(-15)	33	5.6B	8
	417.2			
Gray SHALE		43	4.9B	8
	(-20)	42	6.8S	8
	411.7			
End of Boring @ -44.0'		44	7.5S	7
silty clay (continued)				
	432.2			
Gray Silty CLAY (A-6) with sand and pebbles	(-25)	35	5.8B	8
		37	5.5B	9
	427.2			
Gray Weathered SHALE		19	2.8S	14
	(-30)			
		66	7.3S	11
	(-35)	100/4"	--	7
	(-40)	100/3"	--	7
		100/3"	--	8

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft.
w-Water Content-percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING-2

FILE NAME = 170205-sht-bridge-3754.dgn	USER NAME = dburdell	DESIGNED - WTA	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3366 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

BORINGS
STRUCTURE NO. 017-3754
SHEET NO. 10 OF 10 SHEETS

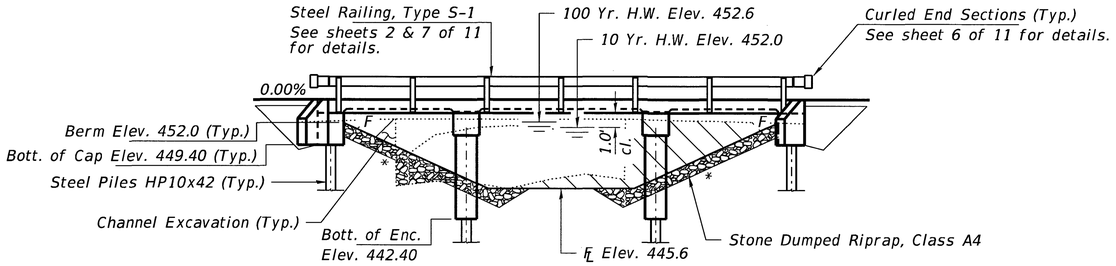
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	14
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

BENCHMARK:

EXISTING STRUCTURE NO. 017-3725; Sta. 7+84.50; Single span concrete arch bridge with closed concrete abutments and wingwalls. 24.0" fc. - fc. abuts. and 14.0' o. - o. deck.

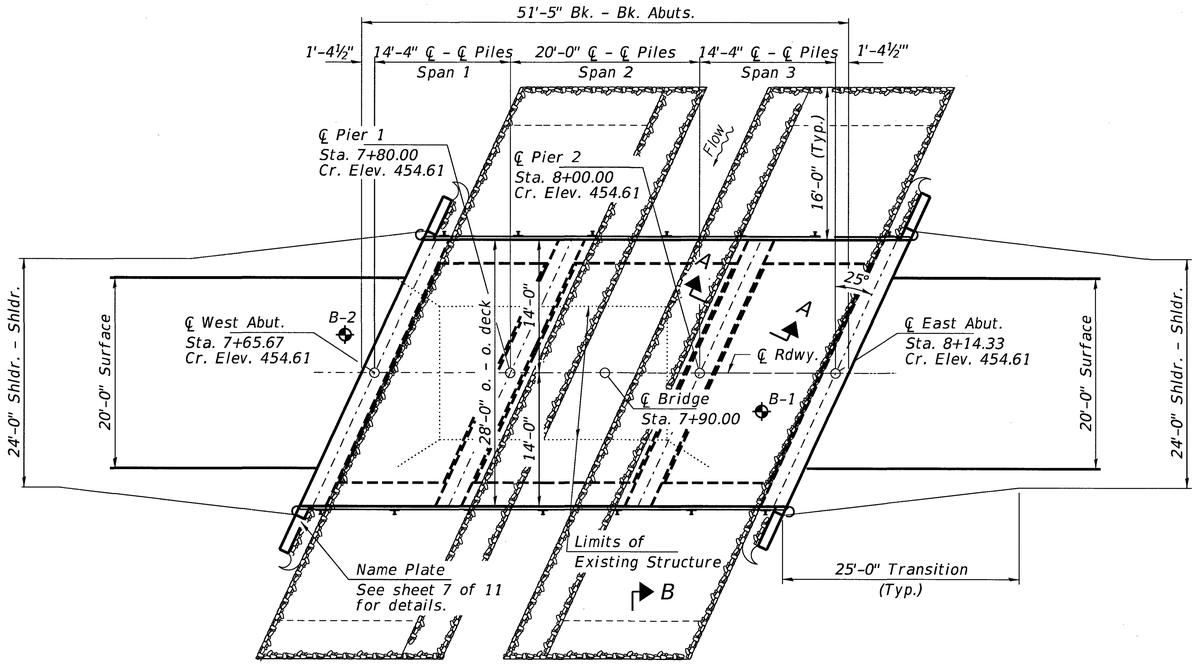
Structure closed to traffic during construction.

No Salvage



ELEVATION

* 1:2 @ Rt. ∠'s



PLAN

GENERAL NOTES

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

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 Contractor shall make allowance for the deflection of forms, shrinkage, and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

Protective Coat shall be applied to the top surface and the sides of the concrete deck and wingwalls.

Reinforcement bars designated (E) shall be epoxy coated.

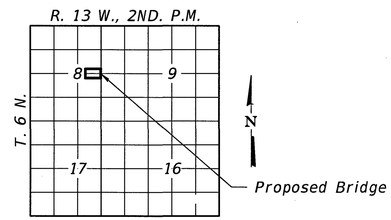
Excavation required to construct the Abutments and Piers shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation or Cofferdam Excavation.

INDEX OF STRUCTURE SHEETS

BRUSH CREEK
BUILT 201_ BY
CRAWFORD COUNTY
SEC. 15-07131-00-BR
STATION 7+90
STR. NO. 017-3755
LOADING HL-93

NAME PLATE

See Std. 515001



LOCATION SKETCH

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.150g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.375g
Soil Site Class = C

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Superstructure)
f'c = 3,500 psi (Substructure)
fy = 60,000 psi (Reinf.)
fy = 50,000 psi (Steel H-Pile) (M270 Gr. 50)

WATERWAY INFORMATION

Drainage Area = 7.1 Mi²

Existing Low Grade Elev. 450.50 @ Sta. 6+00
Proposed Low Grade Elev. 452.16 @ Sta. 6+00

Flood	Freq. Yr.	Q C.F.S.	Opening Ft² Exist.	Opening Ft² Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	10	1530	108	170	452.0	0.1	0.4	452.1	452.4
Base	100	2900	108	200*	452.6	0.0	0.6	452.6	453.2

* Low water approach to remain

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.) W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
Q100	449.4	440.1	440.1	449.4	8
Q200	449.4	440.1	440.1	449.4	
Design	449.4	440.1	440.1	449.4	
Check	449.4	440.1	440.1	449.4	

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 03/27/2018
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

LICENSED STRUCTURAL ENGINEER
STEVEN W. MEGGINSON 081-6064 SPRINGFIELD, IL
STATE OF ILLINOIS

Expires 11-30-2018

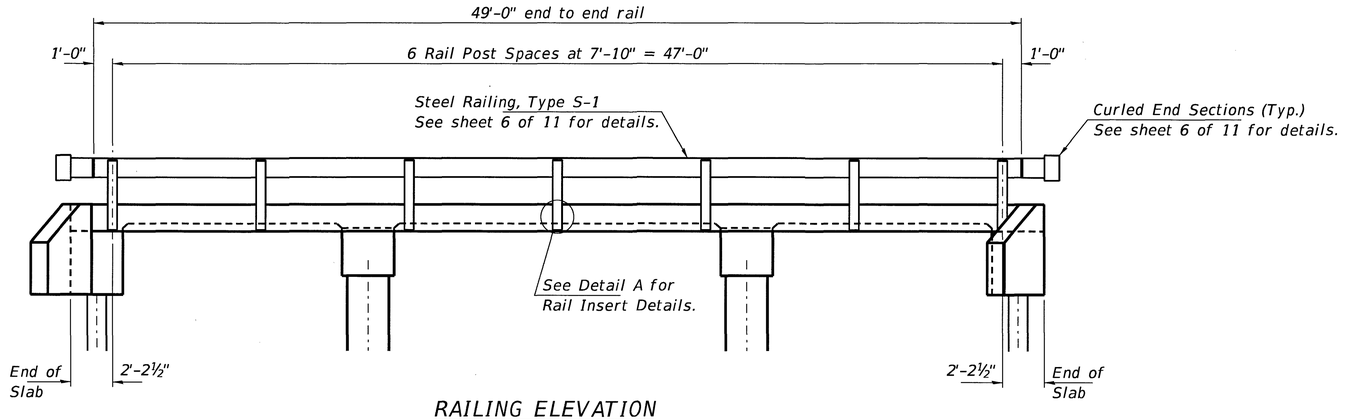
GENERAL PLAN & ELEVATION
T.R. 193
OVER BRUSH CREEK
SECTION 15-07131-00-BR
CRAWFORD COUNTY
STATION 7+90.00
STRUCTURE NO. 017-3755

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = @SCALE@	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

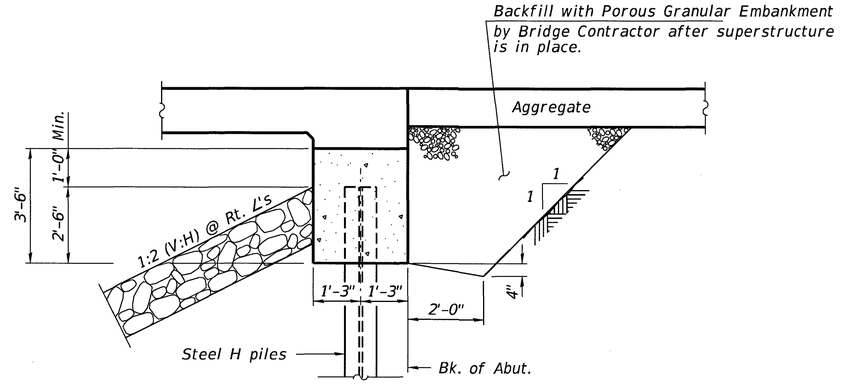
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 017-3755
SHEET NO. 1 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	15
OBLONG ROAD DISTRICT		.CONTRACT NO. 95839		
	ILLINOIS	FED. AID PROJECT		

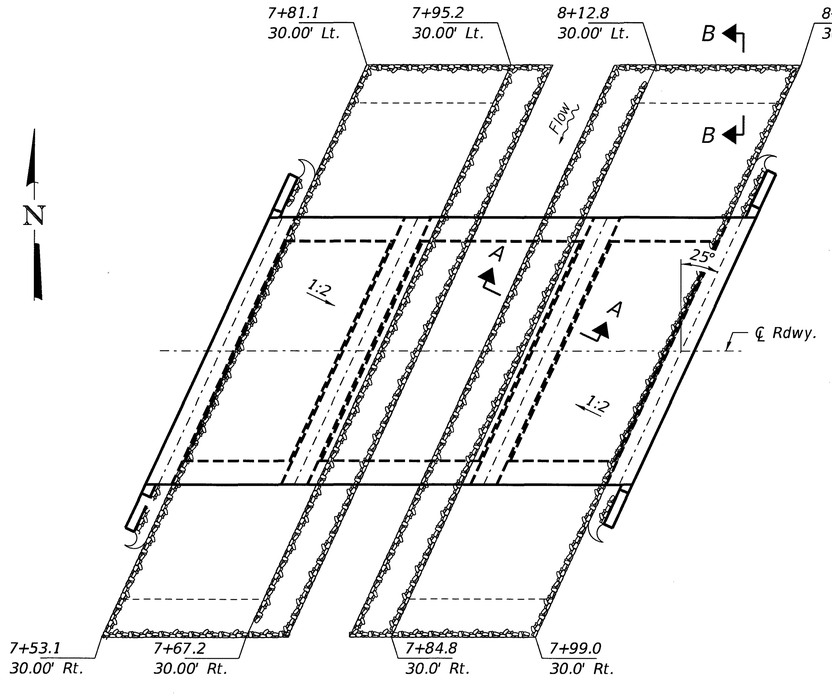


RAILING ELEVATION

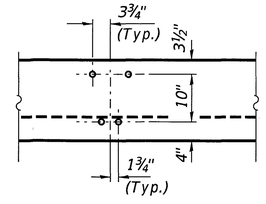


SECTION THRU INTEGRAL ABUTMENT

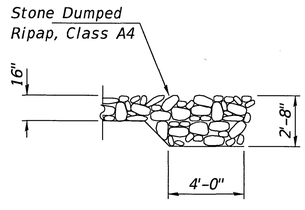
(Horiz. dim. @ Rt. L's)



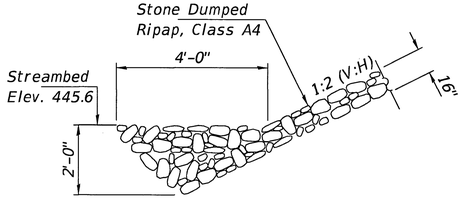
RIPRAP PLAN



DETAIL A



SECTION B-B



SECTION A-A

TOTAL BILL OF MATERIAL

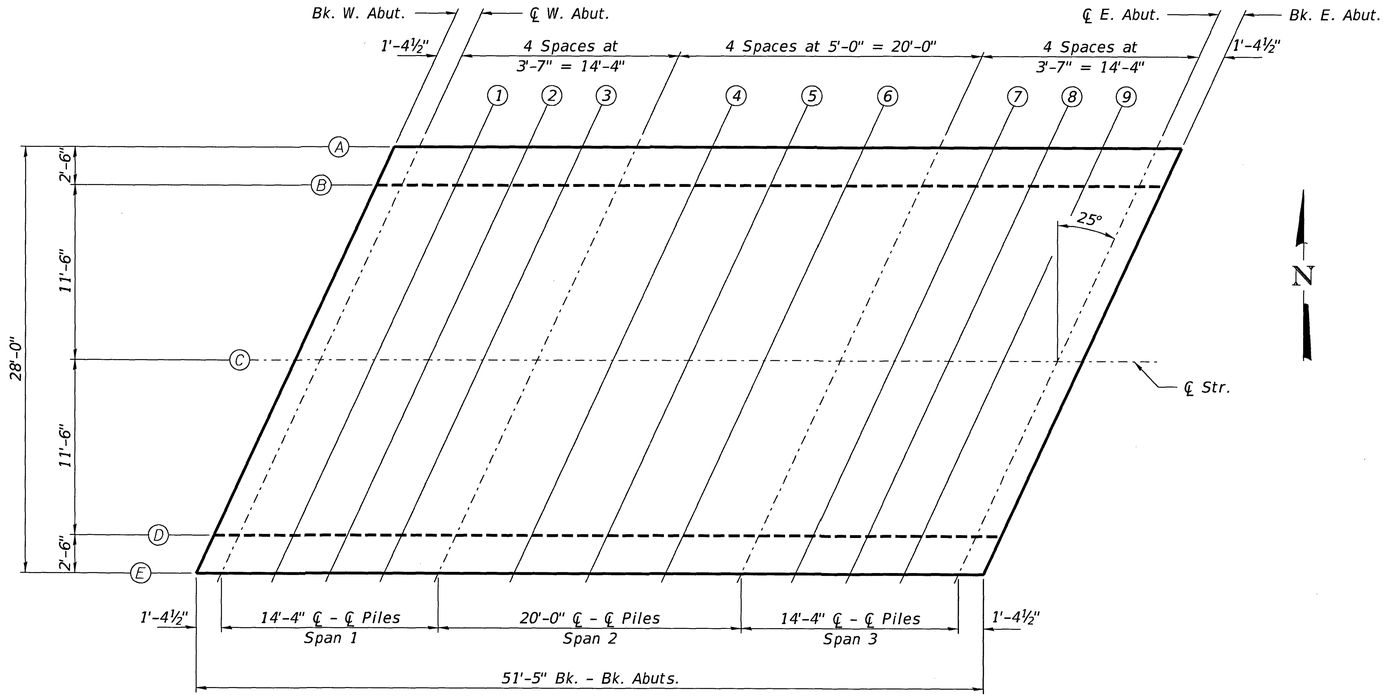
ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			75
Porous Granular Embankment	Ton			99
Stone Dumped Riprap, Class A4	Ton			190
Protective Coat	Sq. Yd.	177	13	190
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		41.7	41.7
Concrete Superstructure	Cu. Yd.	67.7		67.7
Concrete Encasement	Cu. Yd.		7.2	7.2
Reinforcement Bars, Epoxy Coated	Pound	23,250	6,610	29,860
Steel Railing, Type S1	Foot	98		98
Furnishing Steel Piles HP10x42	Foot		630	630
Driving Piles	Foot		630	630
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each	1		1
Terminal Marker - Direct Applied	Each	4		4

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = #SCALE#	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

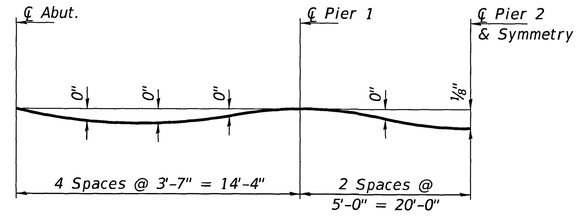
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

GENERAL DETAILS
STRUCTURE NO. 017-3755
SHEET NO. 2 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	16
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:

The deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework in addition to allowance for dead load deflection.

LOCATION		BK. W.	CL W.	SPAN 1			CL	SPAN 2			CL	SPAN 3			CL E.	BK. E.
		ABUT.	ABUT.	1	2	3	PIER 1	4	5	6	PIER 2	7	8	9	ABUT.	ABUT.
LINE	T.	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318
A	ADJ.	454.318	454.318	454.322	454.322	454.318	454.318	454.322	454.325	454.322	454.318	454.318	454.322	454.322	454.318	454.318
* Bott. of Slab		452.902	452.902	452.905	452.905	452.902	452.902	452.905	452.908	452.905	452.902	452.902	452.905	452.905	452.902	452.902

LOCATION		BK. W.	CL W.	SPAN 1			CL	SPAN 2			CL	SPAN 3			CL E.	BK. E.
		ABUT.	ABUT.	1	2	3	PIER 1	4	5	6	PIER 2	7	8	9	ABUT.	ABUT.
LINE	T.	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370
B	ADJ.	454.370	454.370	454.374	454.374	454.370	454.370	454.374	454.377	454.374	454.370	454.370	454.374	454.374	454.370	454.370
Bott. of Slab		453.370	453.370	453.374	453.374	453.370	453.370	453.374	453.377	453.374	453.370	453.370	453.374	453.374	453.370	453.370

LOCATION		BK. W.	CL W.	SPAN 1			CL	SPAN 2			CL	SPAN 3			CL E.	BK. E.
		ABUT.	ABUT.	1	2	3	PIER 1	4	5	6	PIER 2	7	8	9	ABUT.	ABUT.
LINE	T.	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610	454.610
C	ADJ.	454.610	454.610	454.613	454.613	454.610	454.610	454.613	454.617	454.613	454.610	454.610	454.613	454.613	454.610	454.610
Bott. of Slab		453.610	453.610	453.613	453.613	453.610	453.610	453.613	453.617	453.613	453.610	453.610	453.613	453.613	453.610	453.610

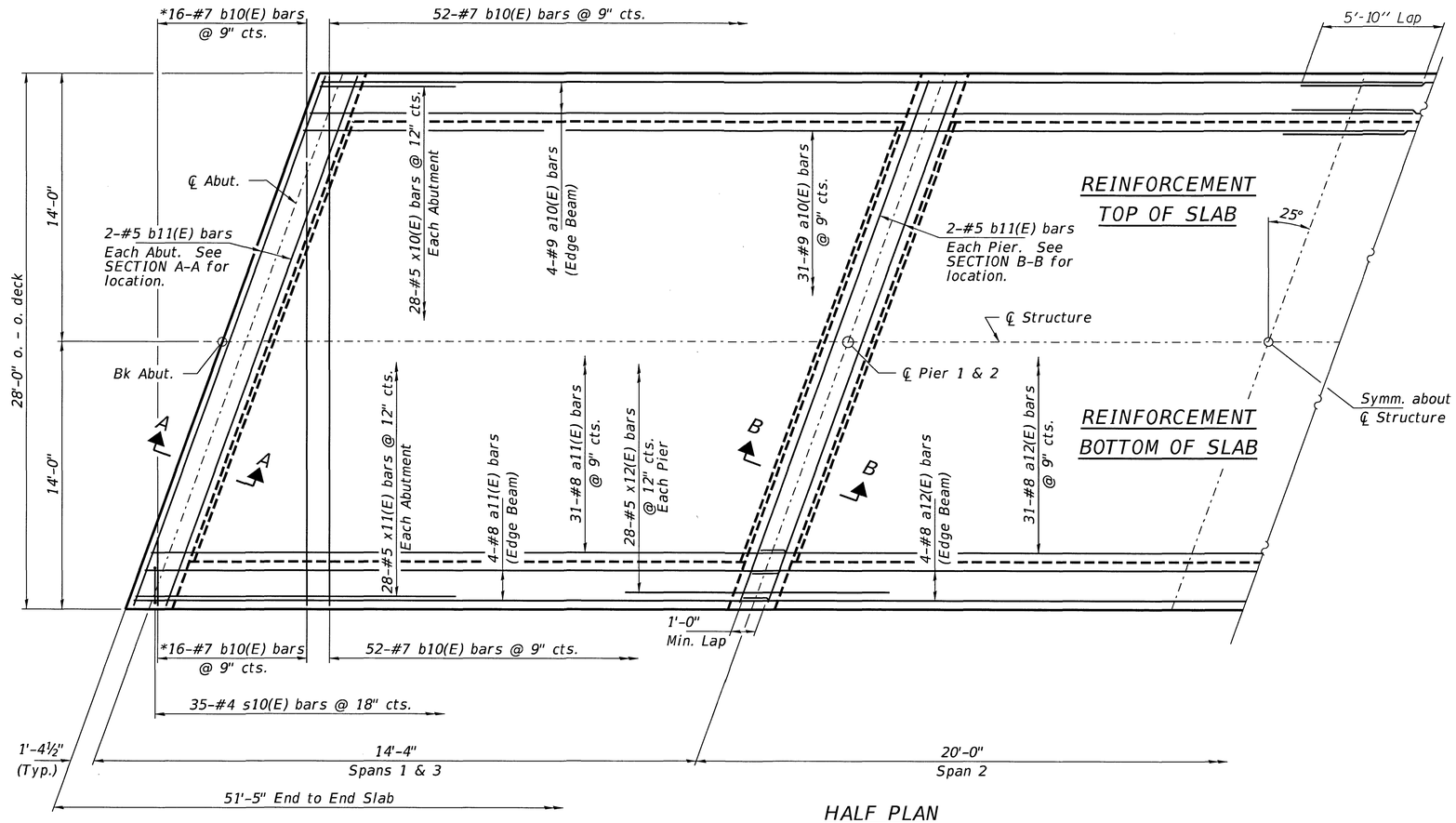
LOCATION		BK. W.	CL W.	SPAN 1			CL	SPAN 2			CL	SPAN 3			CL E.	BK. E.
		ABUT.	ABUT.	1	2	3	PIER 1	4	5	6	PIER 2	7	8	9	ABUT.	ABUT.
LINE	T.	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370	454.370
D	ADJ.	454.370	454.370	454.374	454.374	454.370	454.370	454.374	454.377	454.374	454.370	454.370	454.374	454.374	454.370	454.370
Bott. of Slab		453.370	453.370	453.374	453.374	453.370	453.370	453.374	453.377	453.374	453.370	453.370	453.374	453.374	453.370	453.370

LOCATION		BK. W.	CL W.	SPAN 1			CL	SPAN 2			CL	SPAN 3			CL E.	BK. E.
		ABUT.	ABUT.	1	2	3	PIER 1	4	5	6	PIER 2	7	8	9	ABUT.	ABUT.
LINE	T.	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318	454.318
E	ADJ.	454.318	454.318	454.322	454.322	454.318	454.318	454.322	454.325	454.322	454.318	454.318	454.322	454.322	454.318	454.318
* Bott. of Slab		452.902	452.902	452.905	452.905	452.902	452.902	452.905	452.908	452.905	452.902	452.902	452.905	452.905	452.902	452.902

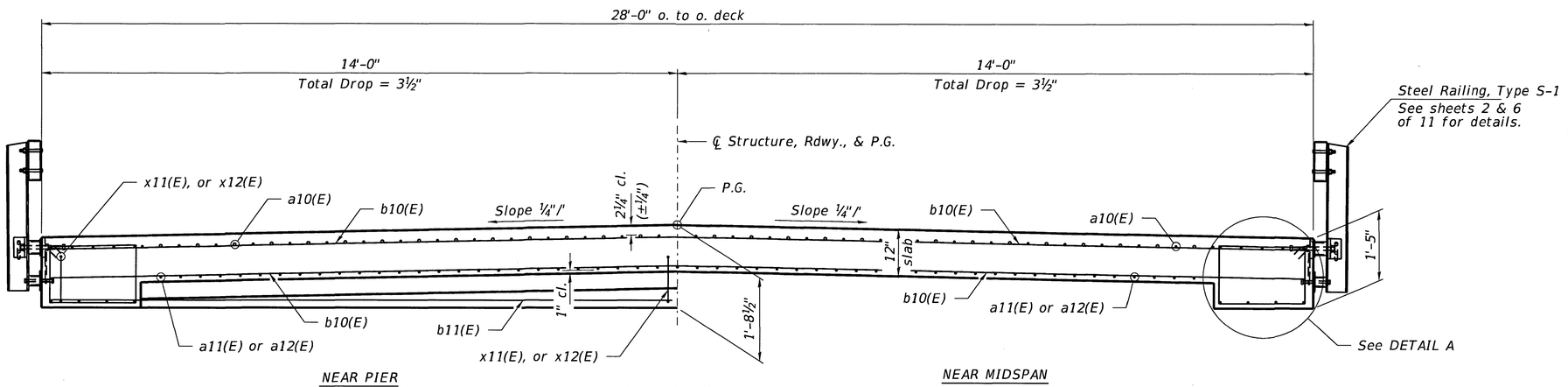
T. - Theoretical elevation at top of slab

Adj. - T adjusted for dead load deflection

* *Bottom of slab elevation equals bottom of edge beam*



HALF PLAN



CROSS SECTION
(Looking East)

Notes:
See sheets 5 of 11 for Superstructure Details and Bill of Material.
See sheet 5 of 11 for SECTION A-A, SECTION B-B and DETAIL A.
Bars indicated thus 35x2-#9 etc. indicates 35 lines of bars with 2 lengths per line.

* Order a10(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

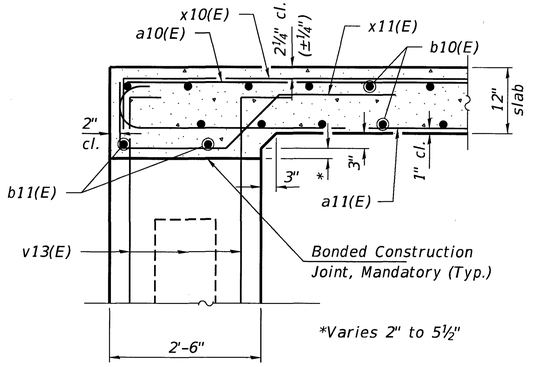
MIN. BAR LAP
#9 = 5'-10"

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959	PLOT SCALE = @SCALE@	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

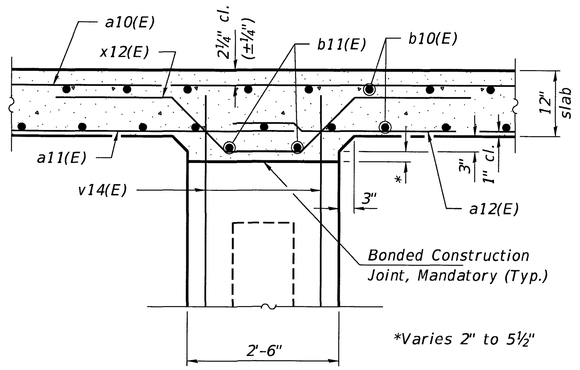
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE
STRUCTURE NO. 017-3755
SHEET NO. 4 OF 11 SHEETS

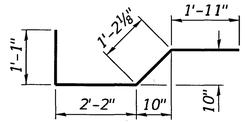
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	18
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



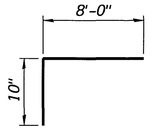
SECTION A-A



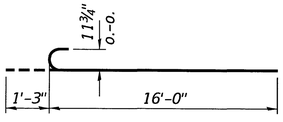
SECTION B-B



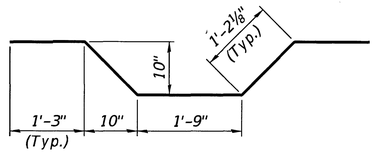
BAR x11(E)



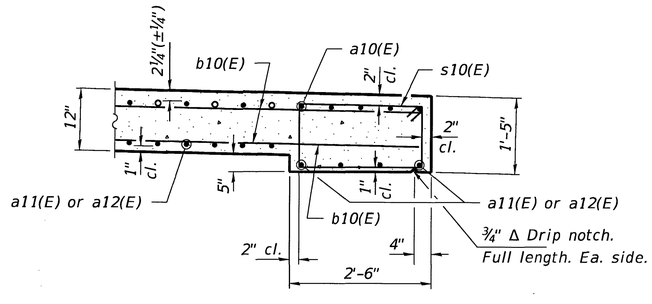
BAR x10(E)



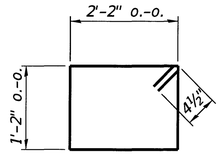
BAR a11(E)



BAR x12(E)



DETAIL A



BAR s10(E)

SUPERSTRUCTURE BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
a10(E)	78	#9	28'-9"	
a11(E)	78	#8	17'-3"	
a12(E)	39	#8	21'-0"	
b10(E)	136	#7	27'-8"	
b11(E)	8	#7	30'-6"	
s10(E)	70	#4	7'-5"	
x10(E)	56	#5	8'-10"	
x11(E)	56	#5	6'-9"	
x12(E)	56	#5	6'-6"	
Protective Coat			Sq. Yd.	177
Concrete Superstructure			Cu. Yd.	67.7
Reinforcment Bars, Epoxy Coated			Pound	23,250
Name Plates			Each	1

FILE NAME = 170205-sht-bridge-3755.dgn
USER NAME = dburdell
PLOT SCALE = *SCALE*
PLOT DATE = 3/27/2018

DESIGNED - JRB
CHECKED - SWM
DRAWN - DAB
CHECKED - SWM

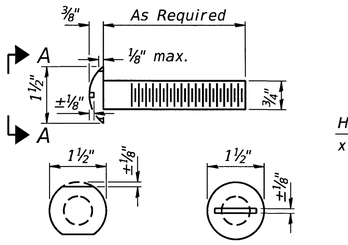
REVISED -
REVISED -
REVISED -
REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3065 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

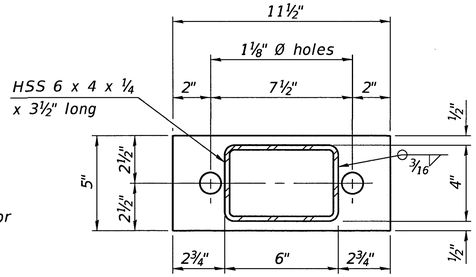
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 017-3755
SHEET NO. 5 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	19
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

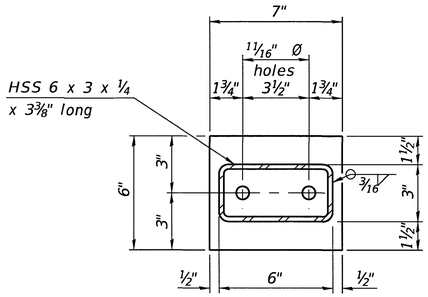


VIEW A-A

ROUND HEAD BOLT

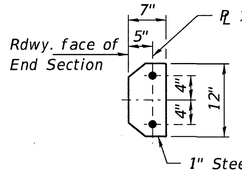


PL ½" x 11½" x 5"

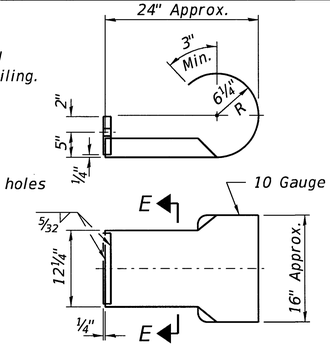


PL ½" x 7" x 6"

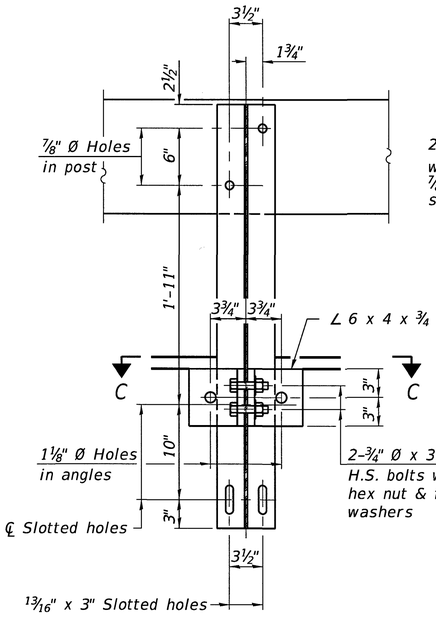
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



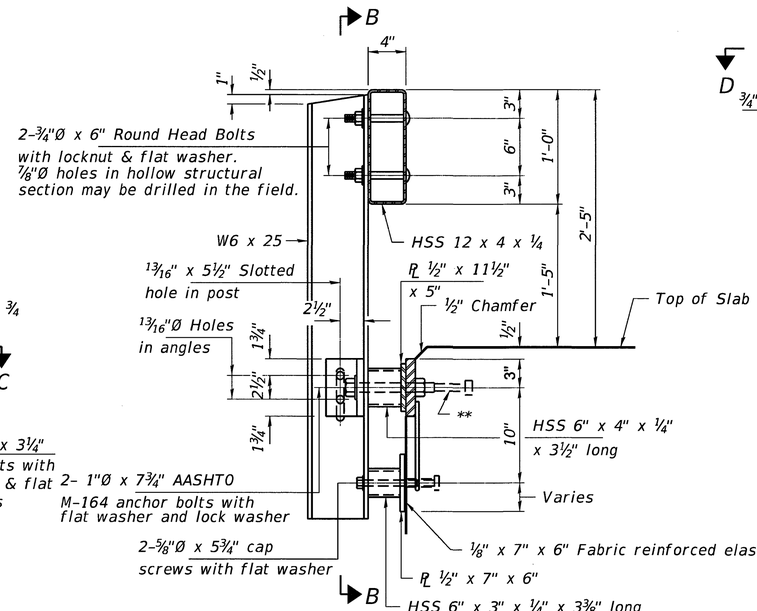
SECTION E-E



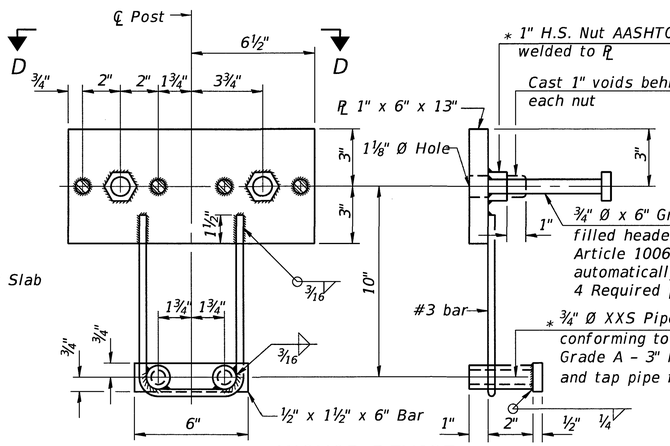
CURLED END SECTION DETAILS



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

SPLICE DIMENSIONS

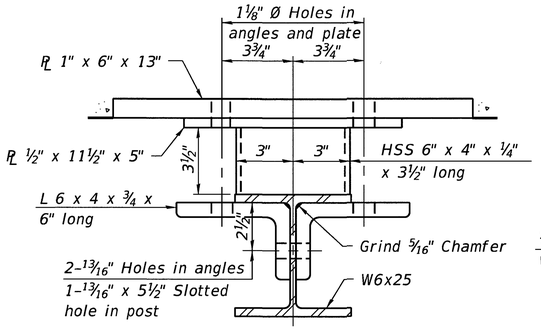
T	D	A	B	C	E
≤ 4"	2½"	1'-8"	2"	4"	2½"
> 4" ≤ 6½"	3¾"	2'-0"	2½"	5½"	3½"
> 6½" ≤ 9"	5"	2'-4"	3½"	6½"	9"
> 9" ≤ 13"	7"	2'-10"	4½"	8½"	11"
Rail Splice	¼"	1'-8"	2"	4"	—

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

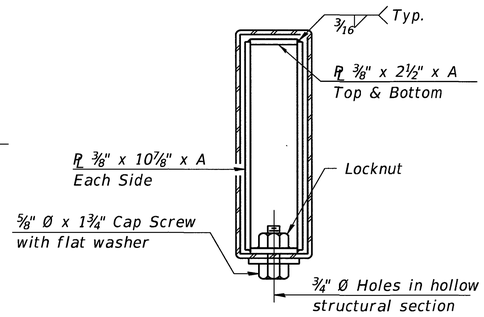
Notes:

For multi-span bridges, sufficient ¼" 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.

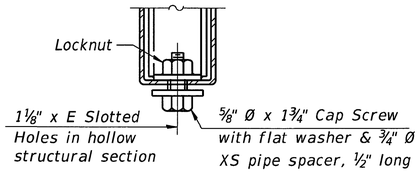
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



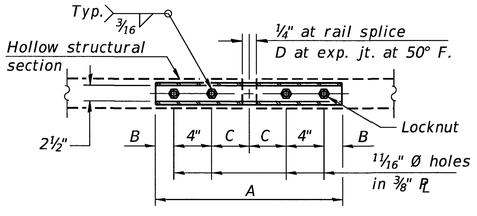
SECTION C-C



SECTIONS AT RAIL SPLICE

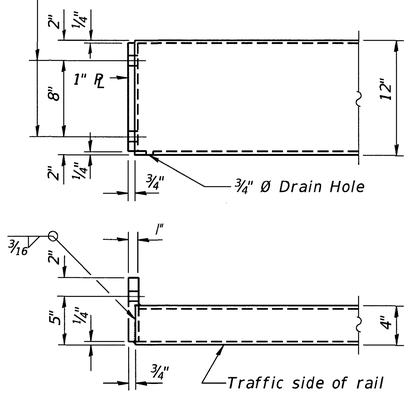


RAIL SPLICE CONNECTION AT EXPANSION JT.

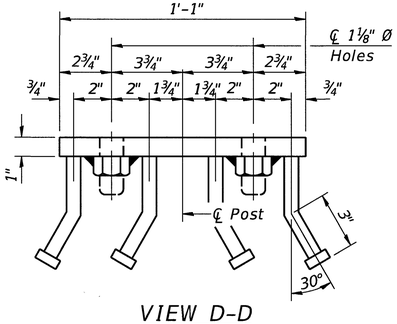


PLAN-BOTT. SPLICE PL TYPICAL

1⅛" Ø Holes for 1" Ø x 4" Round head bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Hwy Std. 631026 or BLR 27-1.



END OF RAIL DETAILS



VIEW D-D

** 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 ½" to accommodate the top reinforcement bar placement.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	98
Terminal Marker - Direct Applied	Each	4

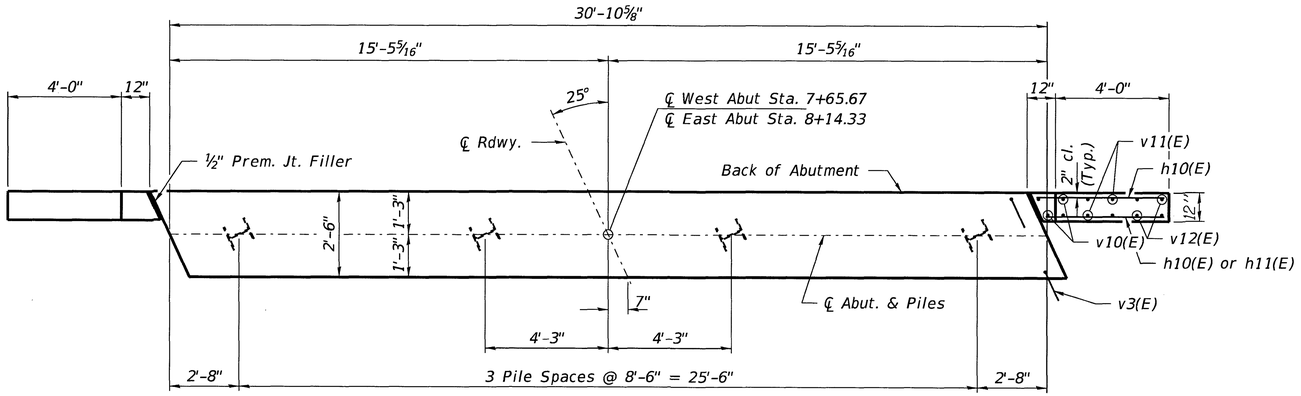
8-11-2017 (10'-9" Maximum Post Spacing)

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LB / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

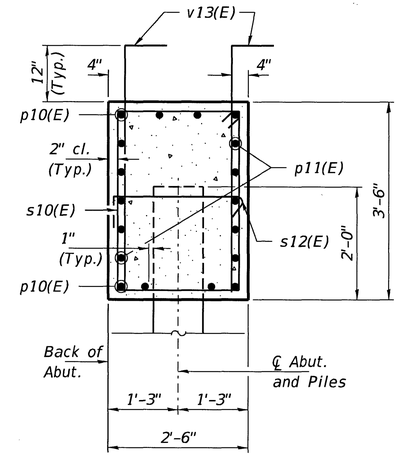
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 017-3755
SHEET NO. 6 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	20
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

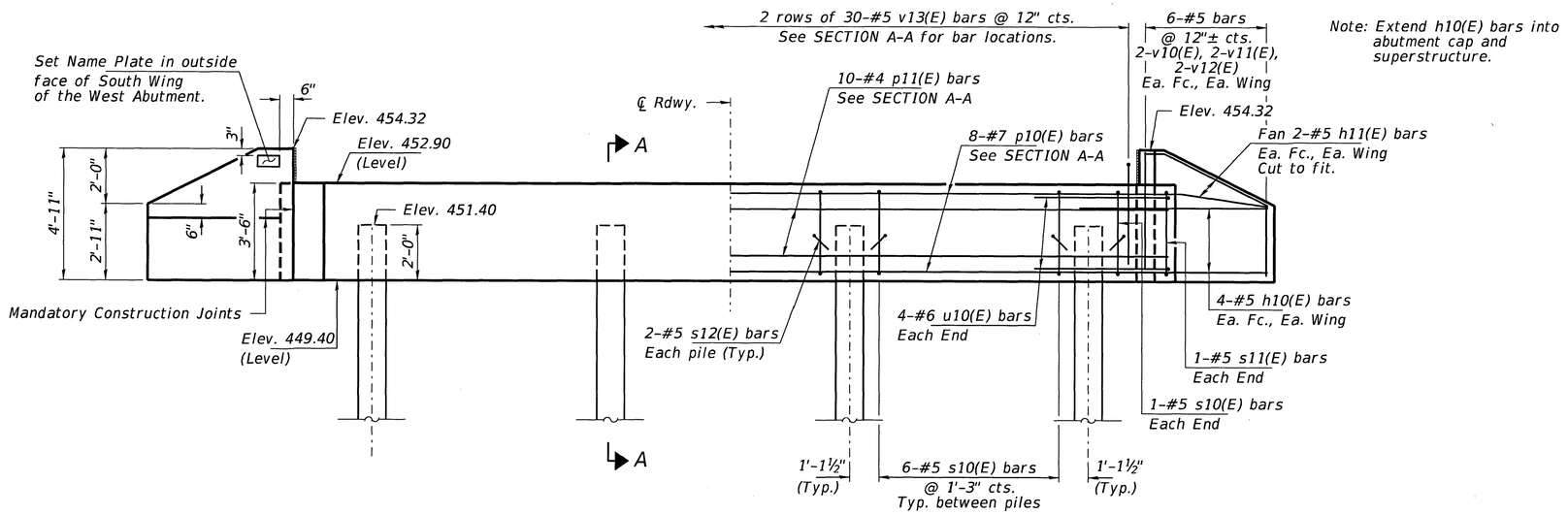


PLAN



SECTION A-A

Dimensions at right angles to abutment.



ELEVATION

Note: Extend h10(E) bars into abutment cap and superstructure.

BILL OF MATERIAL - 2 ABUTS.

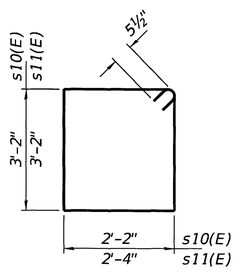
BAR	NO.	SIZE	LENGTH	SHAPE
h10(E)	32	#5	6'-3"	
h11(E)	16	#5	4'-9"	
p10(E)	16	#7	30'-7"	
p11(E)	20	#4	30'-7"	
s10(E)	40	#5	11'-7"	
s11(E)	4	#5	9'-11"	
s12(E)	16	#5	3'-4"	
u10(E)	16	#6	9'-11"	
v10(E)	16	#5	4'-6"	
v11(E)	16	#5	3'-7"	
v12(E)	16	#5	2'-8"	
v13(E)	120	#5	4'-8"	
Protective Coat		Sq. Yd.	13	
Concrete Structures		Cu. Yd.	27.4	
Reinforcment Bars, Epoxy Coated		Pound	3,190	
Furnishing Steel Piles HP10x42		Foot	315	
Driving Piles		Foot	315	
Test Pile Steel HP10x42		Each	1	

PILE DATA

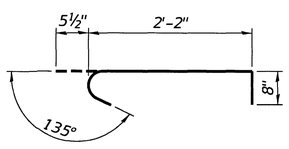
Type _____ Steel HP10x42
No. Req'd. (2 Abuts.) _____ *8
Factored Resistance Available (Rf) _____ 167 Kips/Pile
Nominal Required Bearing (Rn) _____ 335 Kips/Pile
Est. Length _____ 45 Ft/Pile

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

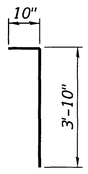
Notes:
For details of piles, see sheet 9 of 11.
Bottom of wing shall be poured monolithic with the abutment cap. Entire quantity included with Concrete Structures.
Extend h10(E) bars into abutment cap.



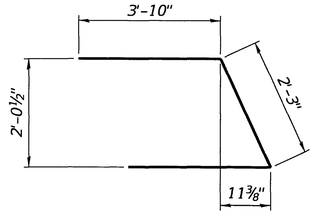
BAR s10(E) & s11(E)



BAR s12(E)



BAR v13(E)



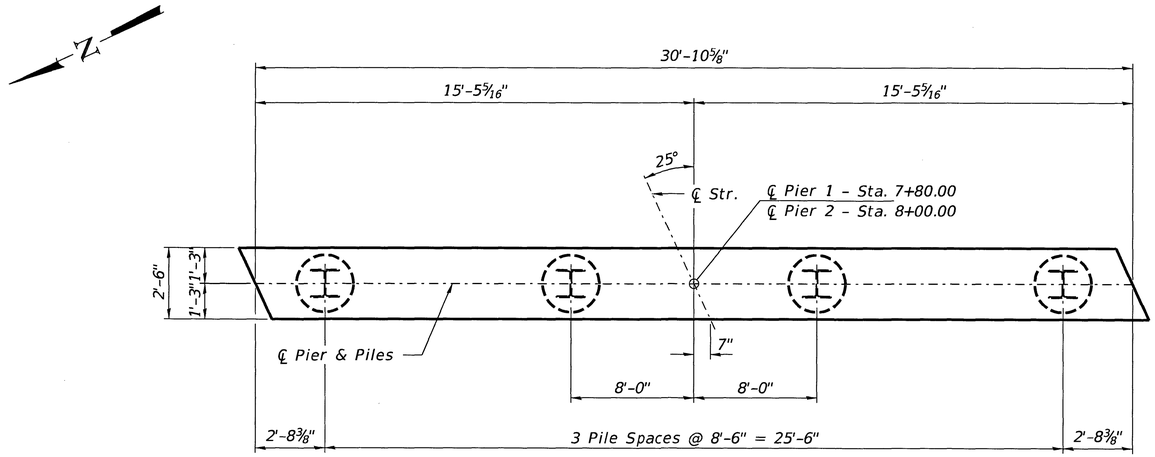
BAR u10(E)

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

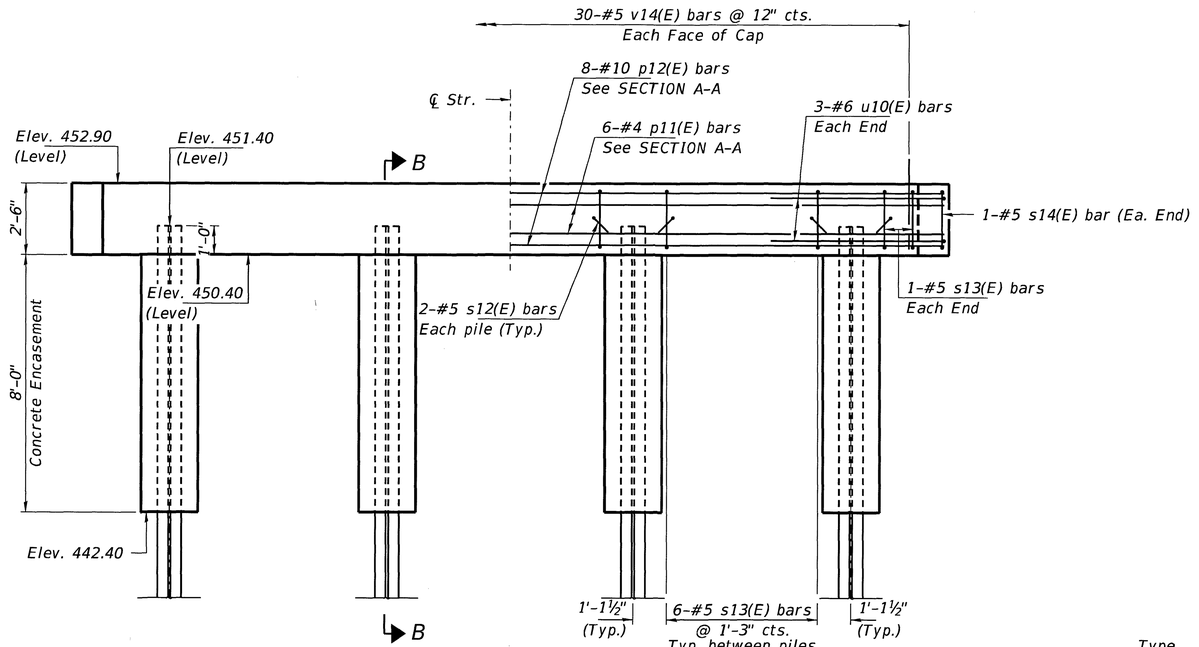
STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

ABUTMENTS
STRUCTURE NO. 017-3755
SHEET NO. 7 OF 11 SHEETS

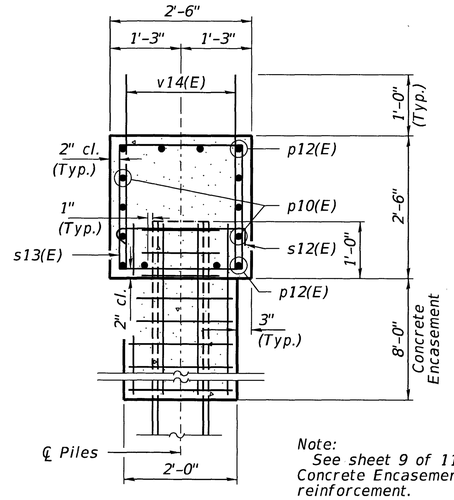
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	21
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		



PLAN

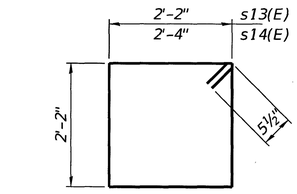


ELEVATION
(Looking East)

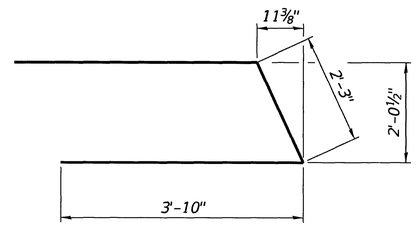


Note:
See sheet 9 of 11 for Concrete Encasement reinforcement.

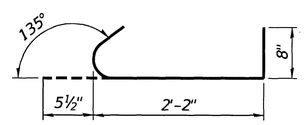
SECTION B-B
Dimensions at right ℄'s to Pier.



BARS s13(E) & s14(E)



BAR u10(E)



BAR s12(E)

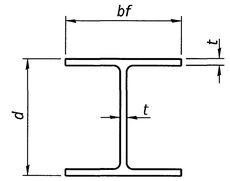
PILE DATA

Type _____ Steel HP10x42
No. Req'd. (2 Piers) _____ *8
Factored Resistance Available (Rf) __ 167 Kips/Pile
Nominal Required Bearing (Rn) _____ 335 Kips/Pile
Est. Length _____ 45 Ft/Pile

Notes: *Includes one test pile to be driven in a permanent location at Pier 2.

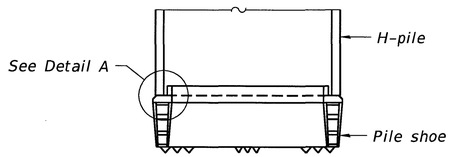
BILL OF MATERIAL - 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
p11(E)	16	#4	30'-7"	
p12(E)	12	#10	30'-7"	
s12(E)	20	#5	3'-4"	
s13(E)	36	#5	9'-7"	
s14(E)	4	#5	9'-11"	
u10(E)	12	#6	9'-11"	
v14(E)	120	#5	3'-4"	
Concrete Structures			Cu. Yd.	14.3
Concrete Encasement			Cu. Yd.	7.2
Reinforcment Bars, Epoxy Coated			Pound	3,420
Furnishing Steel Piles HP10x42			Foot	315
Driving Piles			Foot	315
Test Pile Steel HP10x42			Each	1

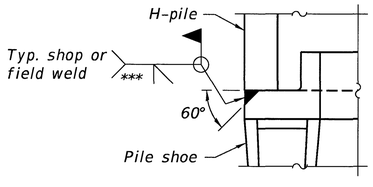


STEEL PILE TABLE

Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14¼"	14⅞"	13/16"	30"
x102	14"	14¾"	11/16"	30"
x89	13⅞"	14¾"	⅝"	30"
x73	13⅝"	14⅝"	½"	30"
HP 12x84	12¼"	12¼"	11/16"	24"
x74	12⅛"	12¼"	⅝"	24"
x63	12"	12⅛"	½"	24"
x53	11¾"	12"	7/16"	24"
HP 10x57	10"	10¼"	9/16"	24"
x42	9¾"	10⅛"	7/16"	24"
HP 8x36	8"	8⅛"	7/16"	18"



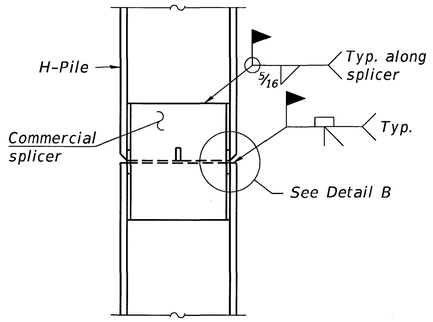
ELEVATION



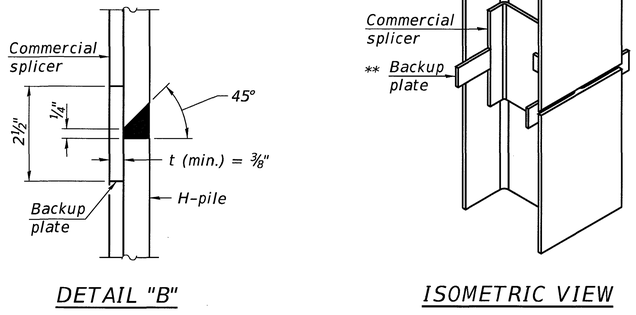
DETAIL A

SHOE ATTACHMENT

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



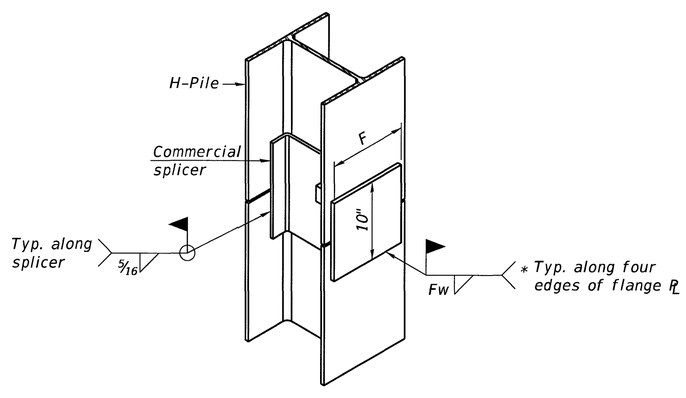
ELEVATION



DETAIL "B"

ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



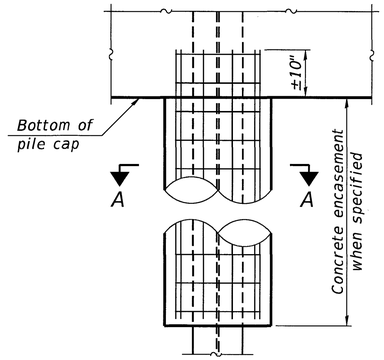
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

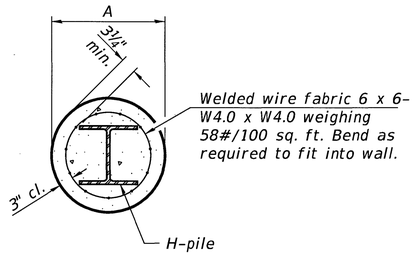
* Interrupt welds ¼" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



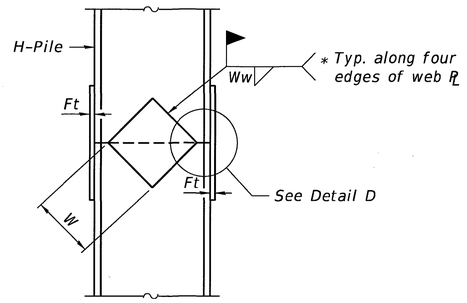
ELEVATION



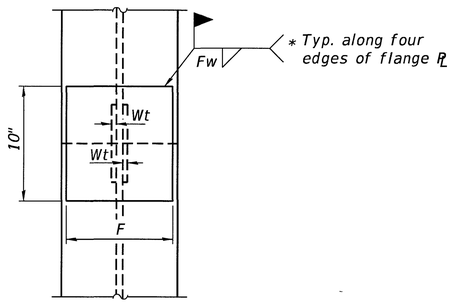
SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

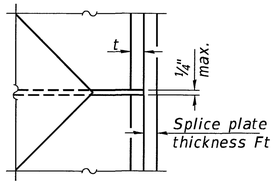
(Forms for encasement may be omitted when soil conditions permit).



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12½"	1"	⅞"	7¾"	⅝"	½"
x102	12½"	⅞"	¾"	7¾"	⅝"	½"
x89	12½"	¾"	11/16"	7¾"	⅝"	½"
x73	12½"	⅝"	9/16"	7¾"	⅝"	½"
HP 12x84	10"	⅞"	11/16"	6½"	⅝"	½"
x74	10"	⅞"	11/16"	6½"	⅝"	½"
x63	10"	⅝"	½"	6½"	½"	⅜"
x53	10"	⅝"	½"	6½"	½"	⅜"
HP 10x57	8"	¾"	9/16"	5¼"	½"	⅜"
x42	8"	⅝"	9/16"	5¼"	½"	⅜"
HP 8x36	7"	⅝"	7/16"	4¼"	½"	⅜"

WELDED PLATE FIELD SPLICE

F-HP 8-11-2017

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - SWM	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 017-3755
SHEET NO. 9 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	23
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-15249 Bridge TR-193 Over Creek Date: 11/18/15
Section: 15-07123-00-BR Station 7+84.5 Bored by: J. Carter
Structure: 017-3725 Checked by: T. Holcomb
County: Crawford

Boring No: 1
Station: 8+06
Offset: 4' RT

Surface Water Elev.
Ground Water Elev. During Drilling 423.9
Upon Completion 436.4

	Elevation	N	Qu tsf	w %
Ground Surface 442.4 0				
6" Crushed Stone				
Gray Mottled Brown Silty CLAY (A-6)		8	1.1B	20
	-5	3	0.1B	29
		6	2.0B	22
	-10	6	1.0B	25
428.9				
Gray Mottled Brown Silty CLAY (A-6) with sand		4	0.4B	23
	-15			
426.4				
Gray Sandy CLAY (A-6)		8	0.9B	21
423.9				
Gray-Brown SAND (A-2-4) with gravel	-20	18	--	19
421.4				
Gray Silty CLAY (A-6)		4	0.4B	25
clay (continued)	-25	2	0.1B	20
416.4				
Gray Sandy CLAY (A-6)		21	--	23
413.9				
Gray Fine to Medium SAND (A-2-4) with gravel	-30	21	--	13
408.4				
Gray Silty CLAY (A-6) with sand and pebbles	-35	62	2.2B	12
	-40	38	--	13
398.4				
Gray SHALE				

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft. w-Water Content-percentage of oven dry weight-%
B = Bulge Failure S = Shear Failure E = Estimated Value P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-15249 Bridge TR-193 Over Creek Date: 11/18/15
Section: 15-07131-00-BR Station 7+84.5 Bored by: J. Carter
Structure: 017-3725 Checked By: T. Holcomb
County: Crawford

Boring No: 1
Station: 8+06
Offset: 4' RT

Surface Water Elev.
Ground Water Elev. During Drilling 423.9
Upon Completion 436.4

	Elevation	N	Qu tsf	w %
shale (continued)	-45	120	---	16
		100/4"	2.5B	14
393.4		100/3"	---	13
End of Boring @ -49.0'	-50			
	-55			
	-60			
	-65			
	-70			
	-75			
	-80			
	-85			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu-Unconfined Compressive Strength in tons/sq.ft. w-Water Content-percentage of oven dry weight-%
B = Bulge Failure S = Shear Failure E = Estimated Value P = Penetrometer

BORING 1

FILE NAME = 170205-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -
	PLOT SCALE = $SCALE$	DRAWN - DAB	REVISED -
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -

STATE OF ILLINOIS
CRAWFORD COUNTY HIGHWAY DEPARTMENT

BORINGS
STRUCTURE NO. 017-3755
SHEET NO. 10 OF 11 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	24
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-15249
Section: 15-07131-00-BR
Structure: 017-3725
County: Crawford
Bridge TR-193 Over Creek
Station 7+84.5
Date: 11/18/15
Bored by: J. Carter
Checked by: T. Holcomb

Boring No: 2
Station: 7+62
Offset: 4' LT

Surface Water Elev.
Ground Water Elev. During Drilling 426.5
Upon Completion 438.5

	Elevation	N	Qu tsf	w %
Ground Surface 442.5	0			
6" Crushed Stone				
Brown Silty CLAY (A-6)		6	0.5B	17
	-5	3	0.5B	26
436.5				
Gray Mottled Brown Silty CLAY (A-6) with sand		6	0.9B	21
	-10	5	0.5B	22
		4	0.6S	25
	-15	5	0.2B	21
426.0				
Brown Fine to Medium SAND (A-2-4) with gravel		10	--	22
	-20	23	--	16
421.5				
Brown Silty CLAY (A-6)		3	0.6B	36
clay (continued) 419.0				
Gray Silty CLAY (A-6)	-25	2	0.1B	23
		3	0.1B	23
414.0				
Gray Fine to Medium SAND (A-2-4) trace clay 412.5	-30	18	--	20
Gray Sandy CLAY (A-6) 408.5				
Gray Silty CLAY (A-6) with gravel	-35	50	4.4B	13
404.0				
Gray Silty CLAY (A-6) with sand and pebbles	-40	65	0.6S	27
398.5				
Gray SHALE				

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"

Qu-Unconfined Compressive Strength in tons/sq.ft. w-Water Content-percentage of oven dry weight-%

B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-15249
Section: 15-07131-00-BR
Structure: 017-3725
County: Crawford
Bridge TR-193 Over Creek
Station 7+84.5
Date: 11/18/15
Bored by: J. Carter
Checked By: T. Holcomb

Boring No: 2
Station: 7+62
Offset: 4' LT

Surface Water Elev.
Ground Water Elev. During Drilling 426.5
Upon Completion 438.5

	Elevation	N	Qu tsf	w %
shale (continued)	-45	122	--	14
		100/3"	--	14
		100/3"	--	18
393.5				
End of Boring @ -49.0'	-50			

Elevation
-70
-75
-80
-85
-60
-65
-55

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"

Qu-Unconfined Compressive Strength in tons/sq.ft. w-Water Content-percentage of oven dry weight-%

B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING 2

FILE NAME = 170225-sht-bridge-3755.dgn	USER NAME = dburdell	DESIGNED - JRB	REVISED -	STATE OF ILLINOIS CRAWFORD COUNTY HIGHWAY DEPARTMENT	BORINGS STRUCTURE NO. 017-3755
HAMPTON, LENZINI AND RENWICK, INC. 3048 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - SWM	REVISED -		SHEET NO. 11 OF 11 SHEETS
	PLOT SCALE = @SCALE@	DRAWN - DAB	REVISED -		
	PLOT DATE = 3/27/2018	CHECKED - SWM	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
193	15-07131-00-BR	CRAWFORD	25	25
OBLONG ROAD DISTRICT		CONTRACT NO. 95839		
ILLINOIS		FED. AID PROJECT		