

INDEX OF SHEETS

SHEET NO.	TITLE
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8	Soil Borings
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EXISTING STRUCTURE NO. 053-3060
 PROPOSED STRUCTURE NO. 053-4211

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM-BRIDGE

GUARDRAIL SCHEDULE

TRAFFIC TERMINAL, TY. 5A

LT. STA. 9+45.31 TO 9+58.56	= 1 EACH
RT. STA. 9+38.27 TO 9+51.52	= 1 EACH
LT. STA. 10+48.48 TO 10+61.73	= 1 EACH
RT. STA. 10+41.44 TO 10+54.69	= 1 EACH
TOTAL	= 4 EACH

TRAFFIC BARRIER TERMINAL, TY. 1 TANGENT (SPECIAL)

LT. STA. 8+95.31 TO 9+45.31	= 1 EACH
RT. STA. 8+88.27 TO 9+38.27	= 1 EACH
LT. STA. 10+61.73 TO 11+11.73	= 1 EACH
RT. STA. 10+54.69 TO 11+04.69	= 1 EACH
TOTAL	= 4 EACH

STANDARDS

280001-07	701901-03
515001-03	B.L.R. 21-9
630301-06	B.L.R. 27-1
635006-03	

LONG POINT ROAD DISTRICT
SECTION 11-14111-04-BR
LIVINGSTON COUNTY
T.R. 61
PROJECT BROS-0105(056)
C-93-064-13

ROAD CLASSIFICATION: LOCAL A.D.T. : 250-400
 3R GUIDELINES
 R 3 E, 3rd PM

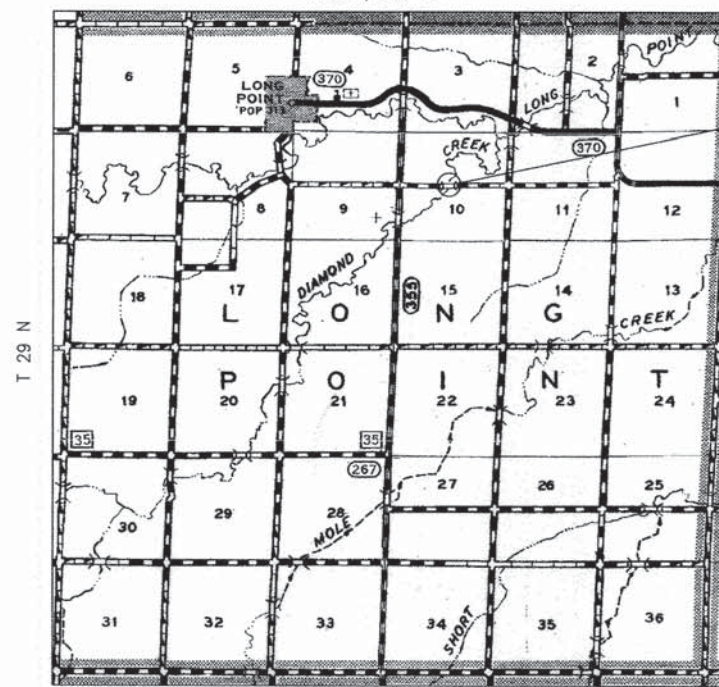
EARTHWORK SCHEDULE						
LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE* EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 7+50 TO STA. 9+54.09	115	25%	100%	86	362	276
STA. 9+54.09 TO STA. 10+45.91	0	25%	100%	0	0	0
STA. 10+45.91 TO STA. 11+50	45	25%	100%	34	60	26
CHANNEL EXCAVATION	680	25%	70%	357		-357
ENTRANCES					26	26
TOTAL	840			477	448	-29
USE:	840				450	-30

* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED

SUMMARY OF QUANTITIES CONSTRUCTION CODE 0011			
ITEM	UNIT	QUANTITY	
20200100	EARTH EXCAVATION	CU. YD.	160
20300100	CHANNEL EXCAVATION	CU. YD.	680
20400800	* FURNISHED EXCAVATION	CU. YD.	330
20700110	POROUS GRANULAR EMBANKMENT	TON	64
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100107	STONE RIPRAP, CLASS A4	SQ. YD.	753
28200200	FILTER FABRIC	SQ. YD.	753
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	336
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	61
50300225	* CONCRETE STRUCTURES	CU. YD.	32.2
50300280	CONCRETE ENCASEMENT	CU. YD.	14.9
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ. FT.	2,356
50800105	REINFORCEMENT BARS	POUND	4,050
50900205	STEEL RAILING TYPE S1	FOOT	180
51201400	FURNISHING STEEL PILES, HP 10X42	FOOT	348
51202305	DRIVING PILES	FOOT	348
51203400	TEST PILE, STEEL HP 10X42	EACH	2
51500100	NAME PLATES	EACH	1
54200220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	68
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	4
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	* SEEDING CLASS 2 (SPECIAL)	ACRE	0.40
Z0046304	* PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	124

* SEE SPECIAL PROVISIONS Δ SPECIALTY ITEMS

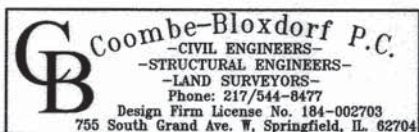
CONTRACT NO. 87560



LOCATION MAP

APPROXIMATE SCALE = 0 1 MILE

NET LENGTH OF SECTION = 430 FEET = 0.081 MILES



Mary H. Bloxdorf
 Illinois Professional No. 43208
 (expires 11-30-15)
 Date: 02-04-14

SCALES

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

Scales are for full size plans

UTILITIES

J.U.L.I.E. System - Toll free telephone number for Joint Utility Location Information for Excavators is: 1-800-892-0123.

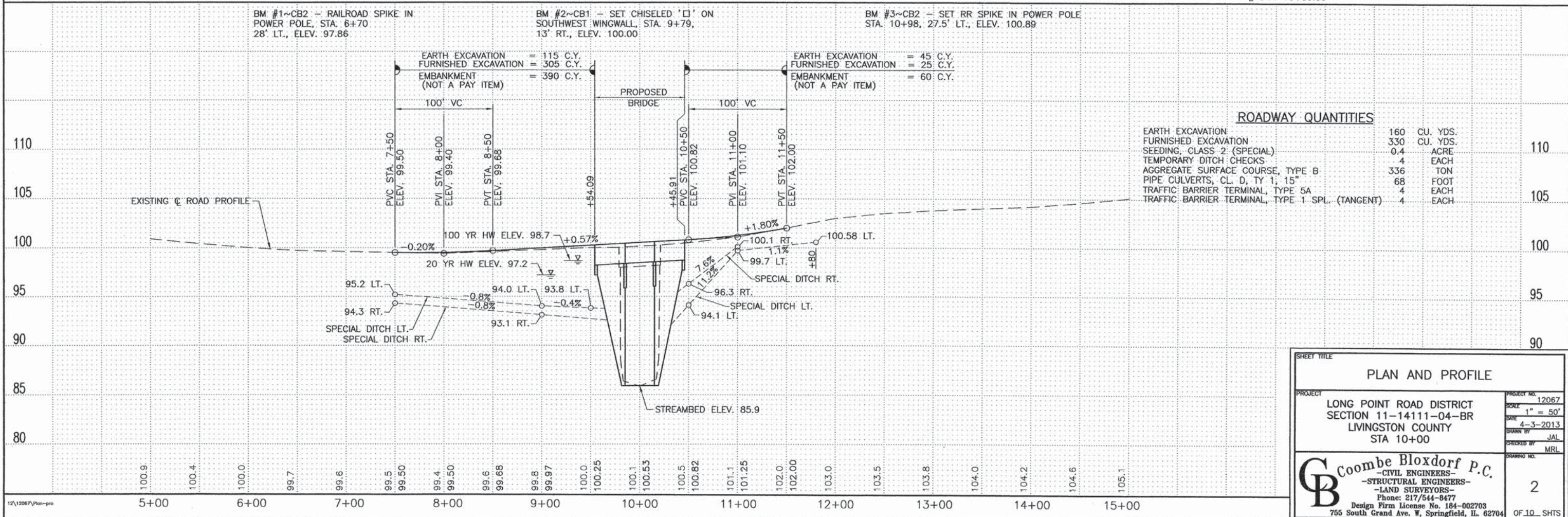
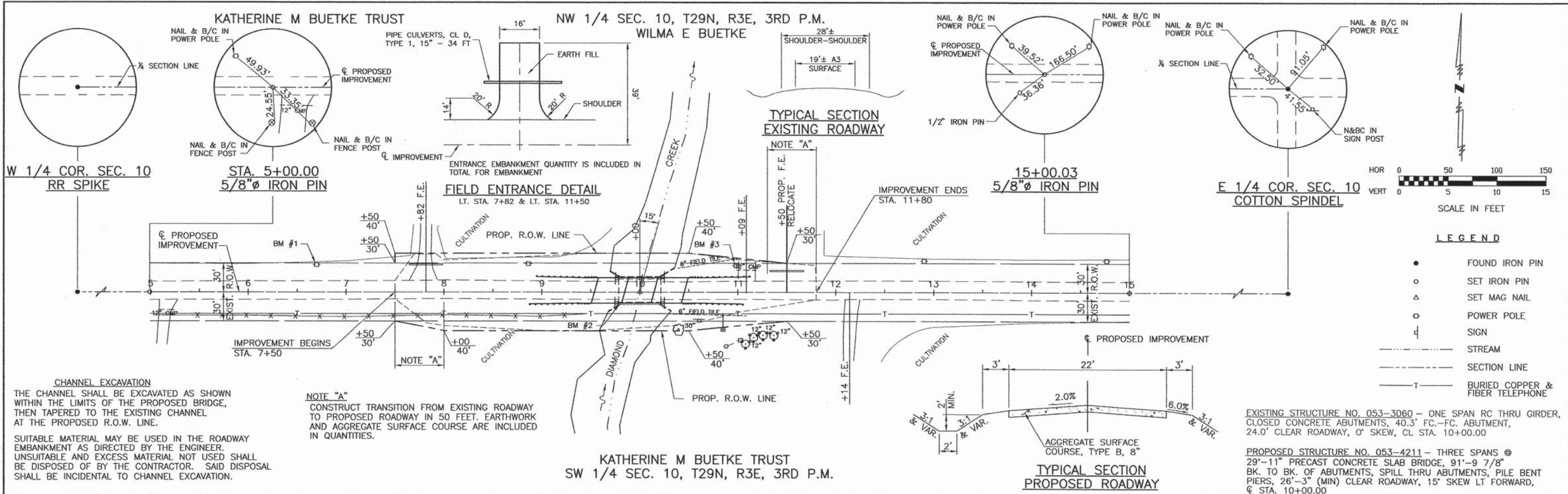
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS

APPROVED _____ 2/10 _____ 2014
 Daniel Spada
 TOWNSHIP COMMISSIONER OF HIGHWAYS

APPROVED _____ 02/10 _____ 2014
 Dick White
 LOCAL AGENCY OFFICIAL

PASSED _____ 2/18 _____ 2014
 David R. E...
 DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

Releasing for Bid Based on Limited Review
 _____ 2/18 _____ 2014
 Paul A. Coit
 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION TWO ENGINEER



SHEET TITLE

PLAN AND PROFILE

PROJECT: LONG POINT ROAD DISTRICT SECTION 11-14111-04-BR LIVINGSTON COUNTY STA 10+00

PRODUCT NO. 12067
SCALE 1" = 50'
DATE 4-3-2013
DRAWN BY JAL
CHECKED BY MRL

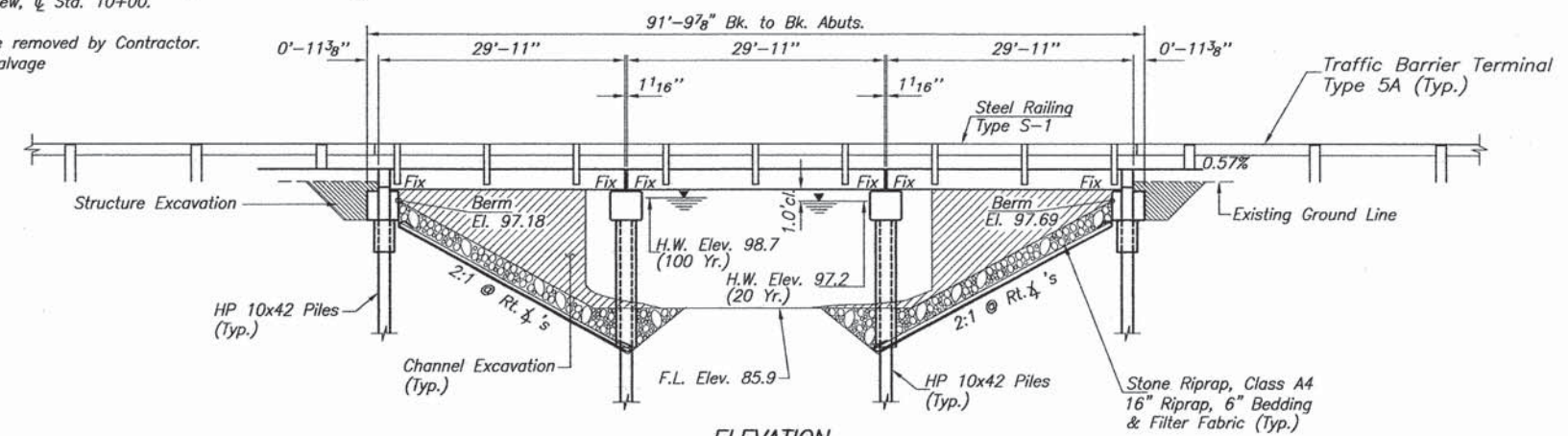
Coombe Bloxdorf P.C.
CIVIL ENGINEERS-
STRUCTURAL ENGINEERS-
LAND SURVEYORS
Phone: 217/544-8477
Design Firm License No. 184-002703
755 South Grand Ave. W, Springfield, IL 62704

2 OF 10 SHTS

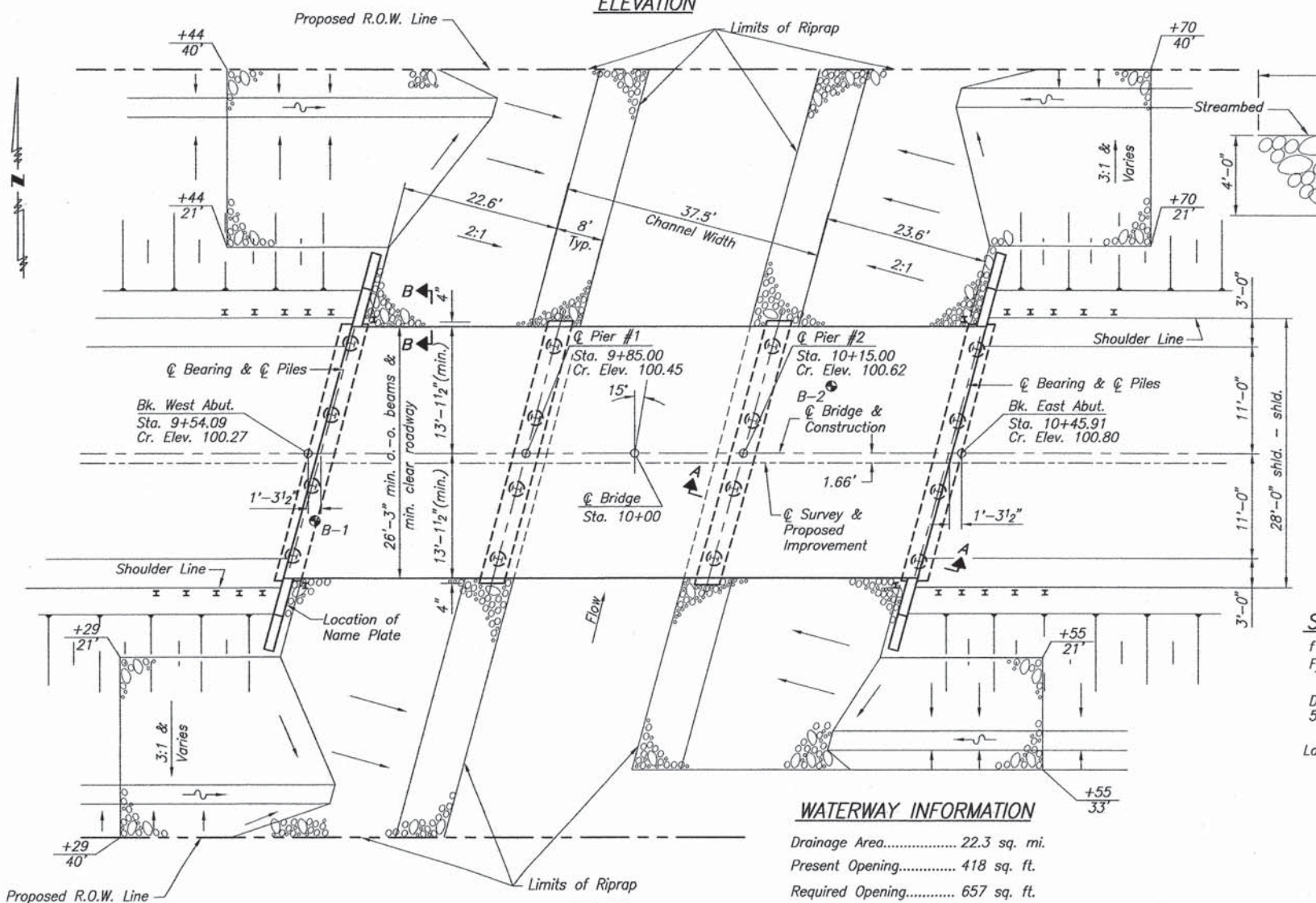
B.M. #1 (B.M. CB-#2) - RR Spike in Power Pole
Sta. 6+70, 28' Lt., Elev. 97.86
B.M. #2 (B.M. CB-#1) - Chiseled Square on SW Wingwall SN 053-3060
Sta. 9+79, 13' Rt., Elev. 100.00 (assumed)
B.M. #3 (B.M. CB-#2) - RR Spike in Power Pole
Sta. 12+90, 32' Lt., Elev. 100.89

Existing Structure: S.N. 053-3060
One span RC thru girder, closed concrete abutments,
40.3' face to face abutment, 24.0' clear roadway,
0' Skew, @ Sta. 10+00.

To be removed by Contractor.
No Salvage



ELEVATION



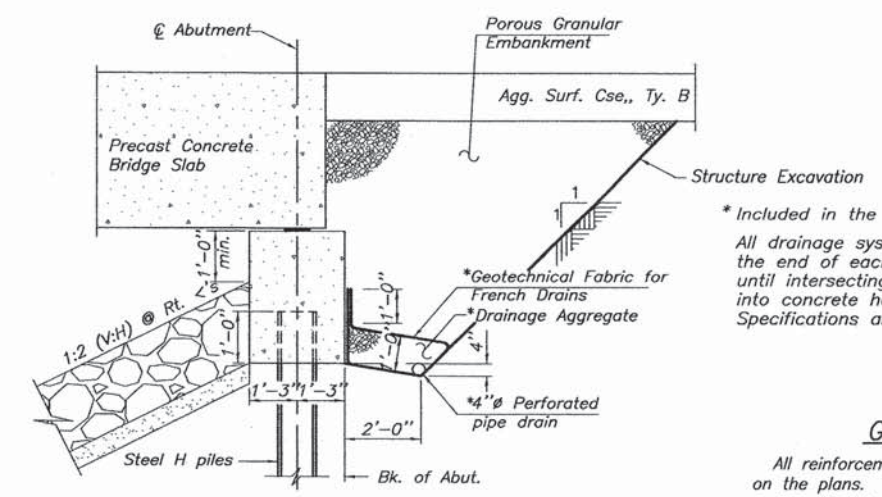
PLAN

WATERWAY INFORMATION

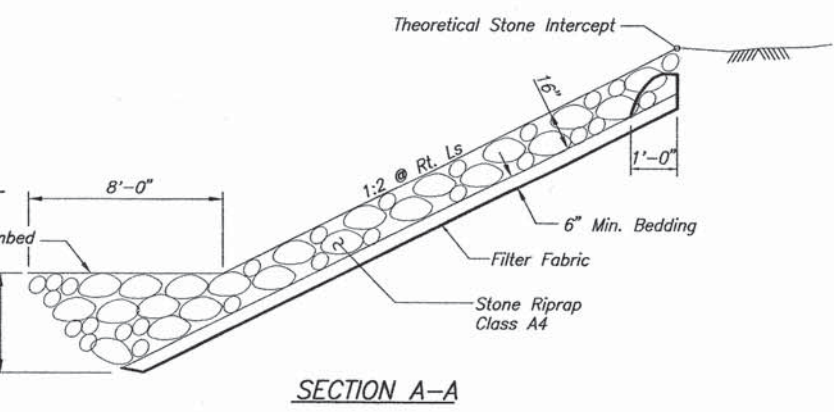
Drainage Area.....	22.3 sq. mi.
Present Opening.....	418 sq. ft.
Required Opening.....	657 sq. ft.
Proposed Opening.....	657 sq. ft.
Design Discharge.....	2500 cfs (20 yr.)
Created Head.....	< 1.0 ft.
100 Yr. Discharge.....	3980 cfs
Created Head.....	< 1.0 ft.

DESIGN SCOUR ELEVATION TABLE

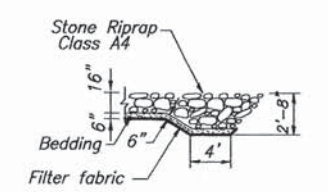
	W. Abut.	Pier #1	Pier #2	E. Abut.
Design Scour Elevation (ft.)	95.68	82.6	82.6	96.19



SECTION THRU ABUTMENT
(Horiz. dim. @ Rt. < s)



SECTION A-A



SECTION B-B

DESIGN STRESSES

SUPERSTRUCTURE

f'c = 4,500 p.s.i.
Fy = 60,000 p.s.i. (reinf.)

SUBSTRUCTURE

f'c = 3,500 p.s.i.
Fy = 60,000 p.s.i. (reinf.)

Design provides for future wearing surface of 50 pounds per square foot.

Loading HL 93

I certify 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 the requirements of the current AASHTO Standard Specifications for Highway Bridges.



Mary Coombe Bloxdorf, 02-06-14
Illinois Structure No. 4859
(expires 11-30-14)

* Included in the cost of Pipe Underdrains for Structures.
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

GENERAL NOTES

All reinforcement bars shall be lapped as shown on the plans.
One steel test pile HP 10x42 shall be driven in a permanent location at Pier #1 and E. Abut. as directed by the Engineer before ordering the remainder of the piles.
The Standard Specifications adopted by the Department of Transportation January 1, 2012 and Supplemental Specifications and Recurring Special Provisions adopted January 1, 2014 shall apply to this work.
Layout of slope protection system may be varied in the field to better suit ground conditions as directed by the Engineer.
Pier piles shall be driven a minimum of 15 feet below streambed elevation.

BUILT 201_ BY
LONG POINT ROAD DISTRICT
LIVINGSTON COUNTY
SECTION 11-14111-04-BR
LOADING HL 93
STR. NO. 053-4211

LETTERING FOR NAME PLATE

SEE STANDARD 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			680
Structure Excavation	Cu. Yd.			61
Porous Granular Embankment	Ton		64	64
Stone Riprap, Class A4	Sq. Yd.			753
Filter Fabric	Sq. Yd.			753
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		32.2	32.2
Precast Concrete Bridge Slab	Sq. Ft.	2,356		2,356
Reinforcement Bars	Pound		4,050	4,050
Furnishing Steel Piles, HP 10X42	Foot		348	348
Driving Steel Piles	Foot		348	348
Test Pile, Steel HP 10X42	Each		2	2
Steel Railing, Type S1	Foot	180		180
Concrete Encasement	Cu. Yd.		14.9	14.9
Name Plates	Each			1
Pipe Underdrain for Structures 4"	Foot		124	124

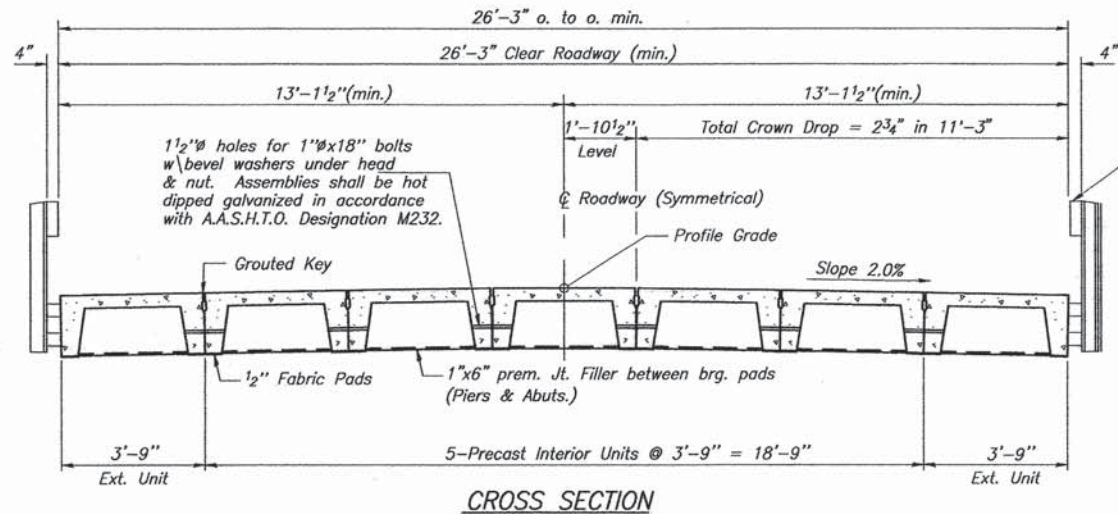
SHEET TITLE
GENERAL PLAN & ELEVATION

PROJECT
SECTION 11-14111-04-BR
LONG POINT ROAD DISTRICT
LIVINGSTON COUNTY
STA. 10+00

PROJECT NO. 12067
SCALE
DATE 2/3/2014
DRAWN BY MMY
CHECKED BY CME
DESIGNED BY

Coombe-Bloxdorf P.C.
- CIVIL ENGINEERS -
- STRUCTURAL ENGINEERS -
- LAND SURVEYORS -
Phone: 217/544-8477
Design Firm License No. 184-002703
755 South Grand Ave. W, Springfield, IL 62704

3
OF 10 SHEETS

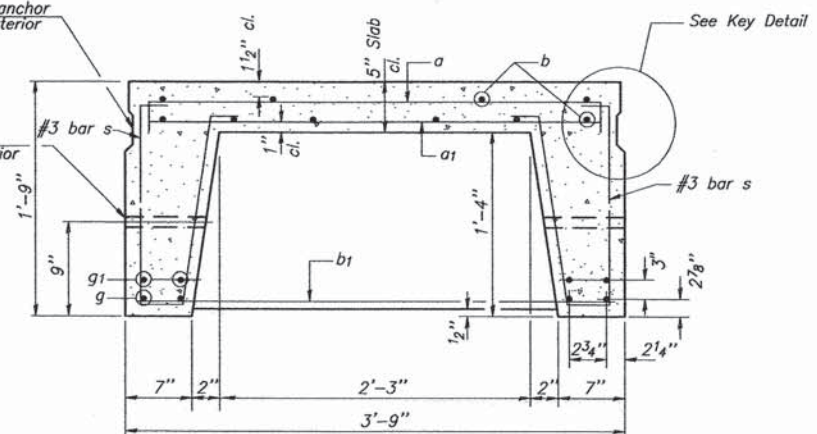


CROSS SECTION

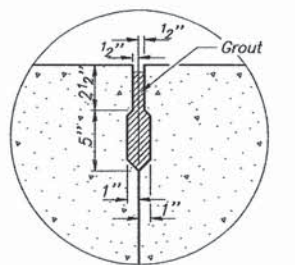
Steel Railing Type S1, See Sheet 6 for Rail Post Spacing and Railing Details

Omit key and add rail post anchor device on outside face of exterior beams.

Omit 1 1/2" hole thru outside stem of exterior beams.

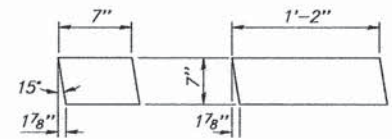


SECTION THRU UNIT

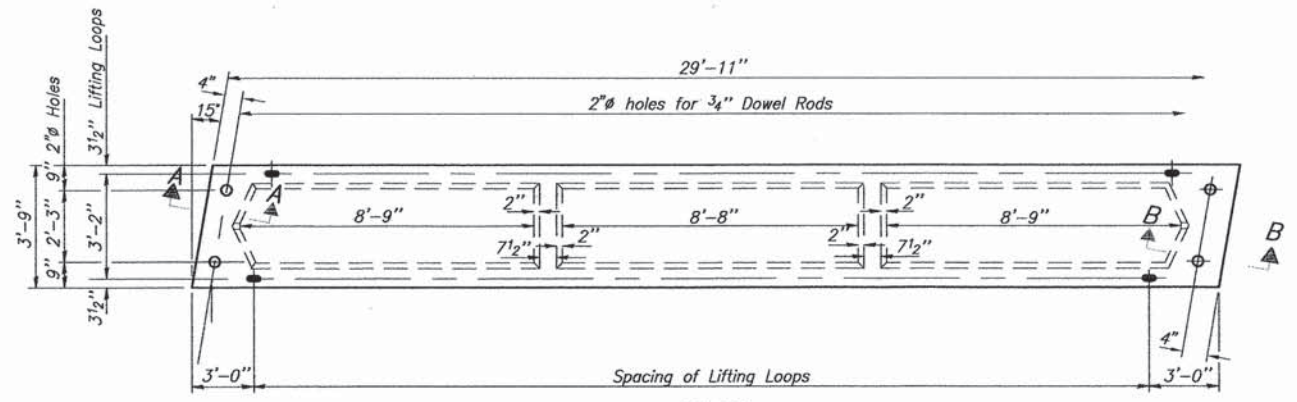


KEY DETAIL
Longitudinal shear keys shall be packed with a flowable, non-shrink, non-metallic grout.

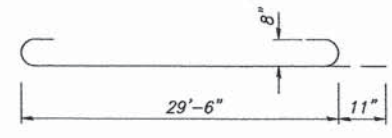
Note: Tack welding of stirrups to the bottom longitudinal rebars will not be permitted except as otherwise authorized in writing by the Engineer.



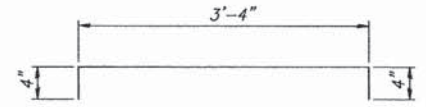
EXTERIOR INTERIOR
FABRIC BEARING PADS
1/2" Thick Fabric Pads



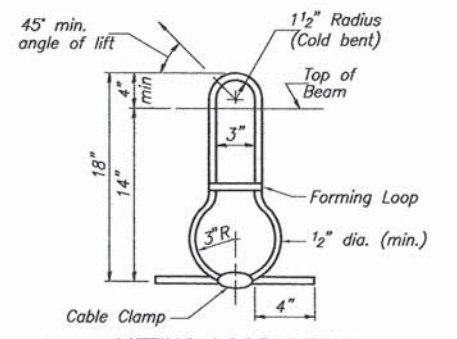
PLAN



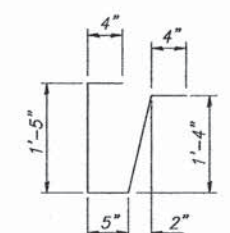
BAR g



BAR a



LIFTING LOOP DETAIL



BAR s

Note: Lifting Loops shall be 6x25 class wire rope with fiber core. Min. ultimate tensile strength shall be 21,000 lbs. Loops shall be burned off after beams have been erected.

BILL OF MATERIAL - PRECAST SLAB

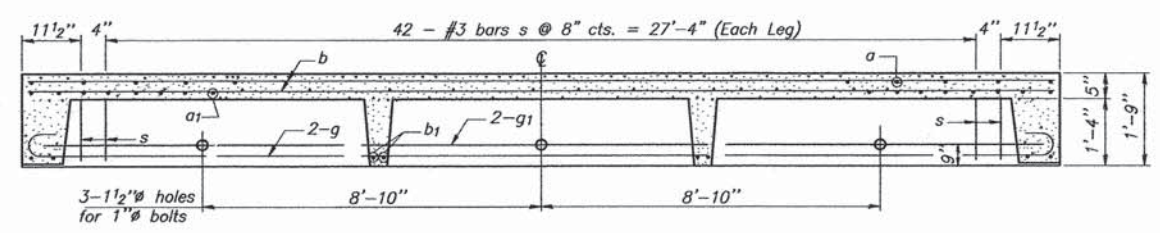
For information of supplier of precast slab units only.

BAR	NO.	SIZE	LENGTH	SHAPE
a	39	#4	4'-0"	—
a1	79	#4	3'-3"	—
b	10	#4	29'-6"	—
b1	8	#4	3'-6"	—
g	4	#8	31'-4"	U
g1	4	#8	29'-6"	—
s	88	#3	3'-10"	U
Class PC Concrete			Cu. Yd.	4.1
Reinforcement Bars			Pound	1270

Note:
Cost of reinforcement and accessories cast into slab unit, of bearing pads, furnishing, drilling for, placing and grouting anchor dowels and of grouting longitudinal and transverse shear keys is included in Unit bid price for "Precast Concrete Bridge Slab."
The surface of the member shall not deviate more than 1/1200 of the full length of the member from a straight line connecting the two end points on the member surface.
The units shall remain on the bottom supporting forms until the concrete has attained a compressive strength of not less than 3,500 psi.

BILL OF MATERIAL

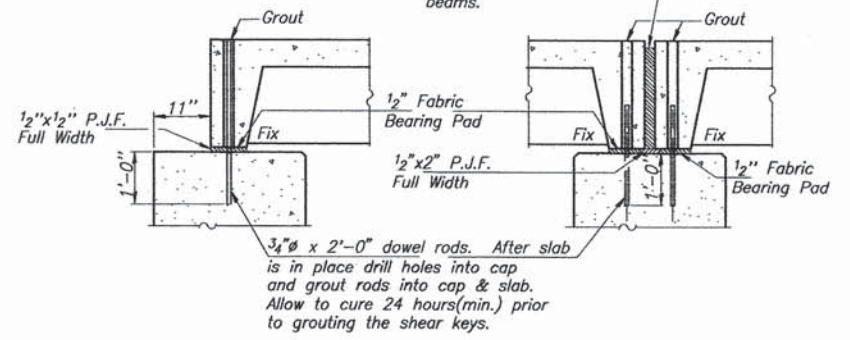
ITEM	UNIT	QUAN.
Precast Concrete Bridge Slab	Sq. Ft.	2356



SECTION ALONG C OF BEAM

Longitudinal shear keys shall be packed with a flowable, non-shrink, non-metallic grout.

1" Joint shall be packed with a flowable, non-shrink, non-metallic grout. Use 1"x6" P.J.F. full height along outside of exterior beams.

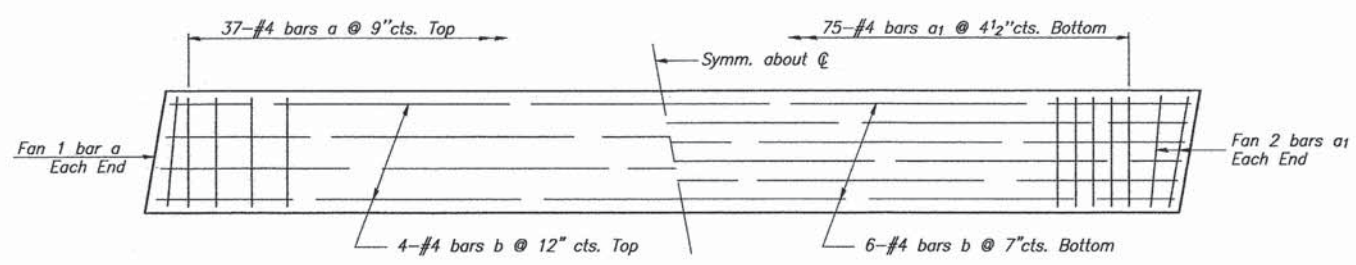


SEC. A-A (AT ABUTS.)

SEC. B-B (AT PIER)

@ Right Angles

@ Right Angles



PLAN SHOWING SLAB REINFORCEMENT

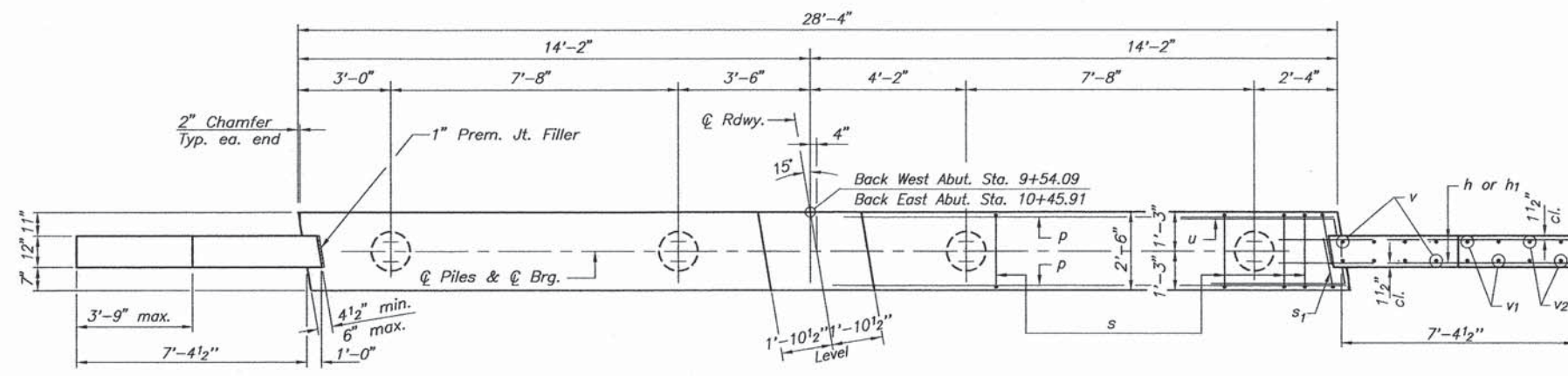
SHEET TITLE: SUPERSTRUCTURE

PROJECT: SECTION 11-14111-04-BR LONG POINT ROAD DISTRICT LIVINGSTON COUNTY STA. 10+00.00

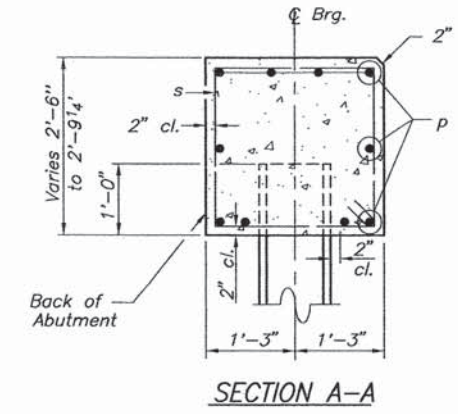
PROJECT NO. 12067
SCALE
DATE 2/3/2014
DRAWN BY MMY
CHECKED BY CME
DRAWING NO. 4

CB Coombe-Bloxdorf P.C.
- CIVIL ENGINEERS -
- STRUCTURAL ENGINEERS -
- LAND SURVEYORS -
Phone: 217/544-8477
Design Firm License No. 184-002703
755 South Grand Ave. W, Springfield, IL 62704

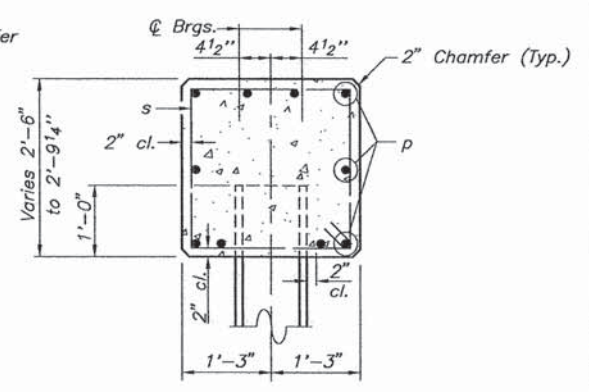
OF 10 SHTS



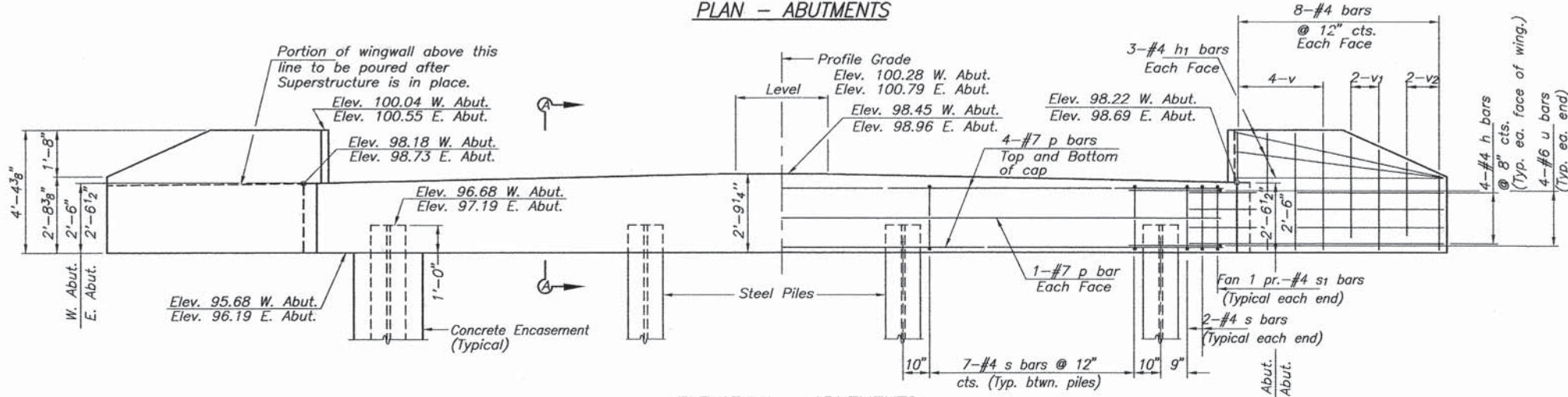
PLAN - ABUTMENTS



SECTION A-A

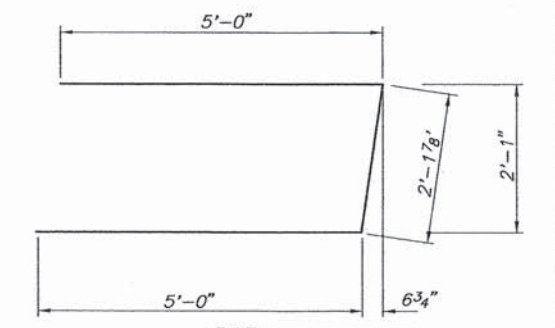


SECTION B-B

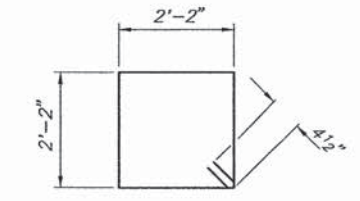


ELEVATION - ABUTMENTS

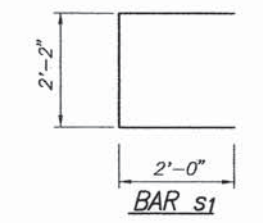
Looking West at W. Abut., Looking East at E. Abut.



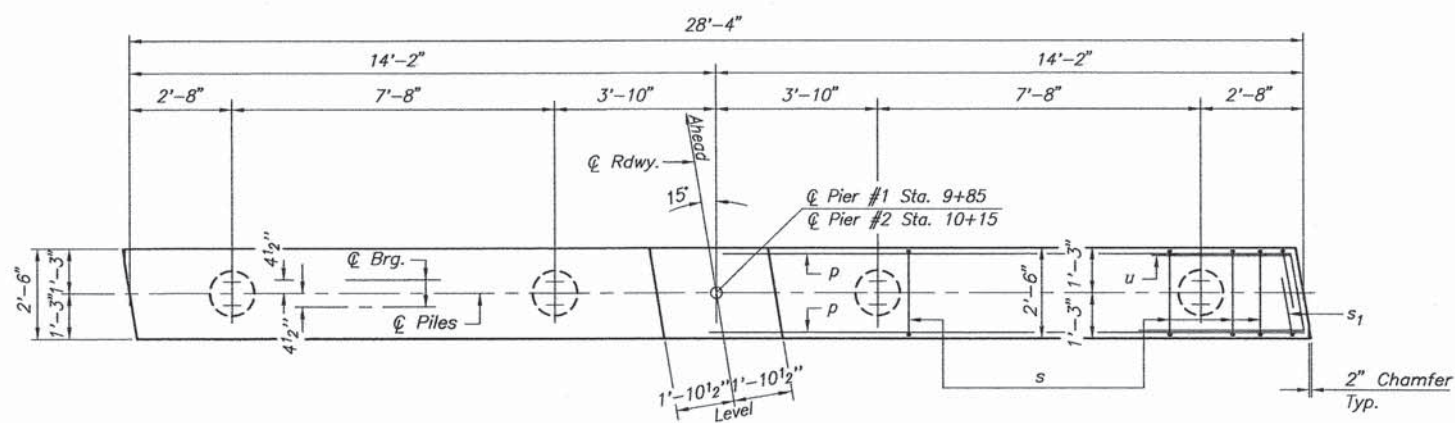
BAR u



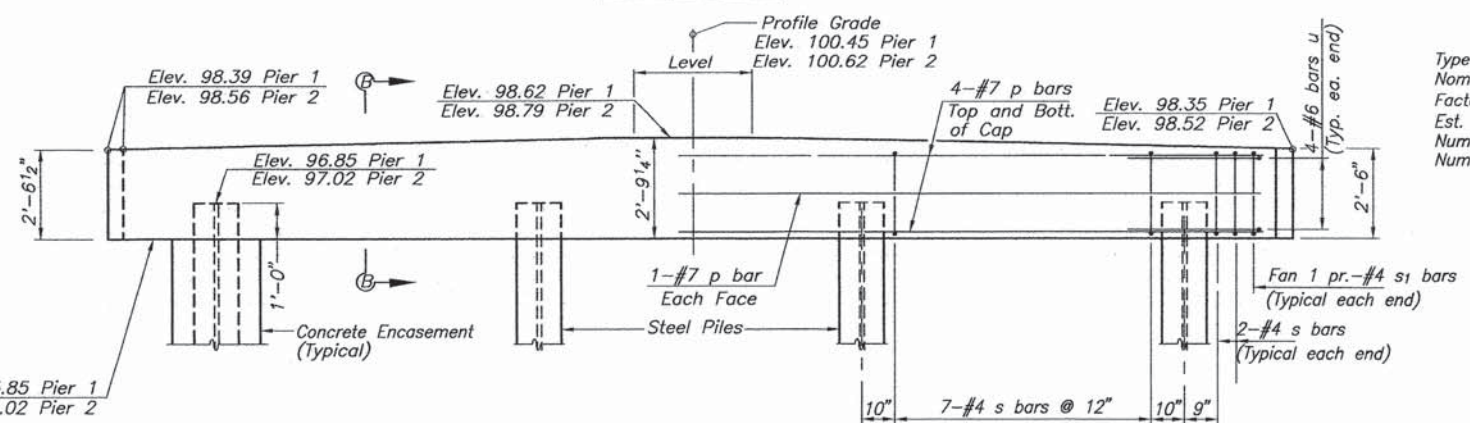
BAR s



BAR s1



PLAN - PIERS



ELEVATION - PIERS

Looking East

BILL OF MATERIAL - 2 ABUTS. & 2 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
h	32	#4	9'-5"	—
h1	24	#4	7'-6"	—
p	40	#7	28'-0"	—
s	100	#4	9'-5"	□
s1	16	#4	6'-2"	□
u	32	#6	12'-2"	—
v	32	#4	4'-1"	—
v1	16	#4	3'-6"	—
v2	16	#4	2'-7"	—
** Concrete Structures			Cu. Yd.	32.2
Reinforcement Bars			Pound	4,050
Steel Piles, HP 10X42			Foot	348
Test Pile, Steel HP 10X42			Each	2
*** Concrete Encasement			Cu. Yd.	14.9

PILE DATA

Type	W. Abut.	PIER #1	PIER #2	E. Abut.
Nom. Req'd Bearing	HP 10X42	HP 10X42	HP 10X42	HP 10X42
Factored Resist. Avail.	335 kip	335 kip	335 kip	335 kip
Est. Length	184 kip	184 kip	184 kip	184 kip
Number of Production Piles	21 ft.	27 ft.	27 ft.	25 ft.
Number of Test Piles	4	3	4	3
	0	1	0	1

Refer to sheet 7 of 10 for Pile Details.

Steel H piles shall be according to AASHTO M270 Grade 50.

SHEET TITLE

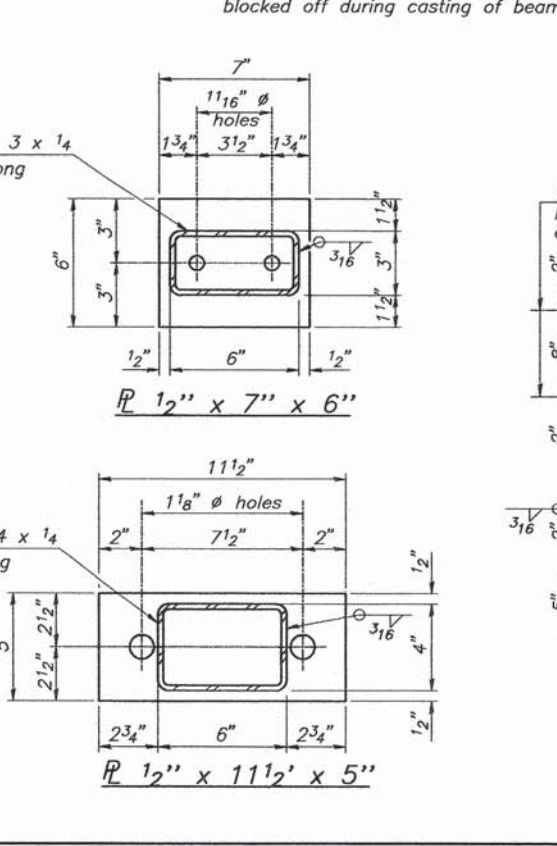
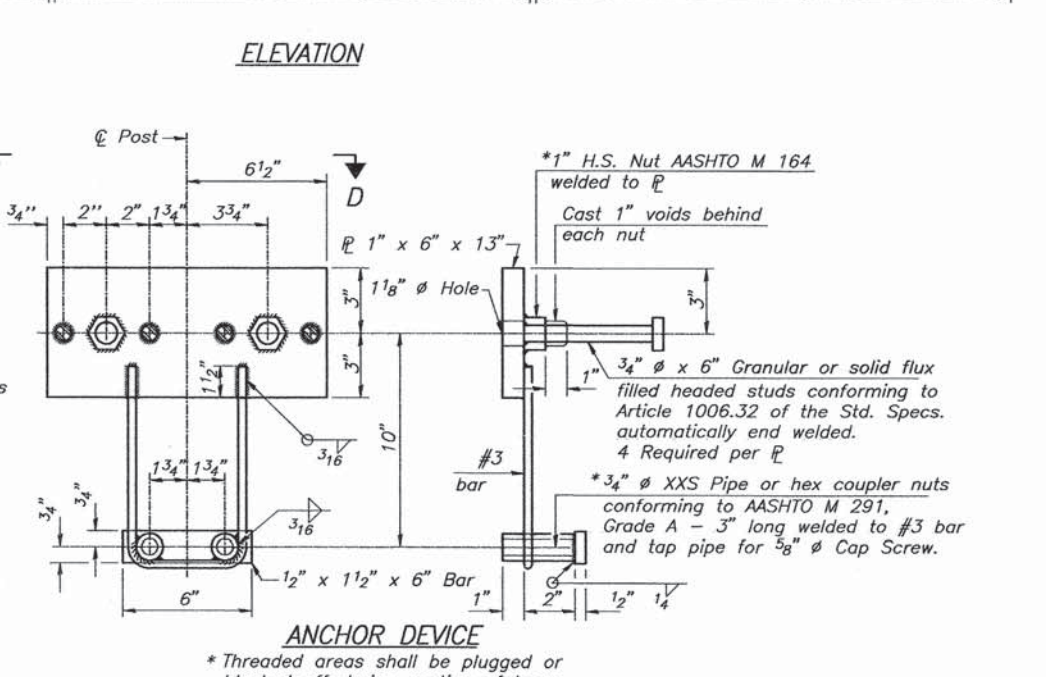
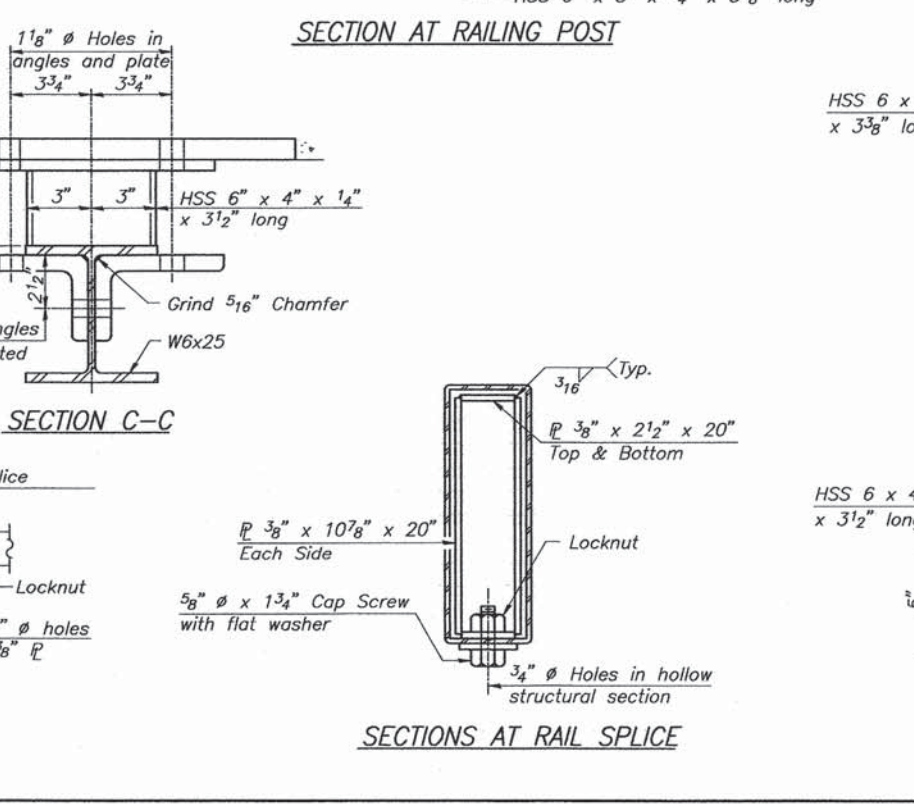
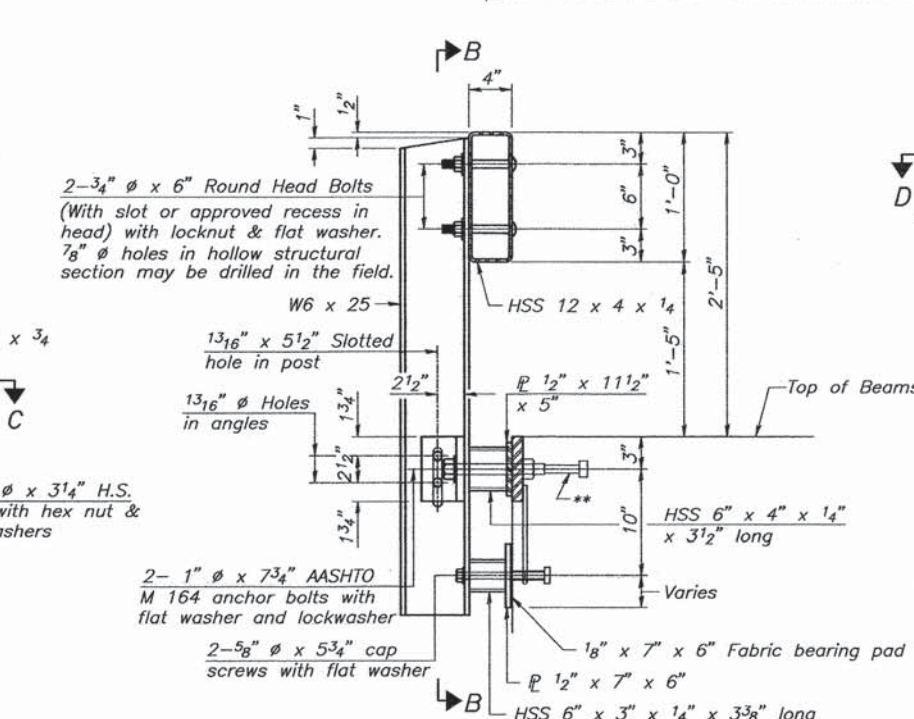
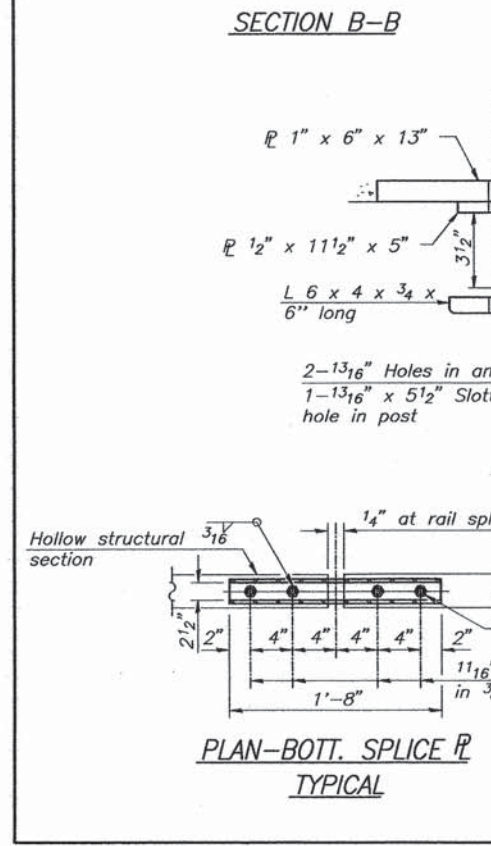
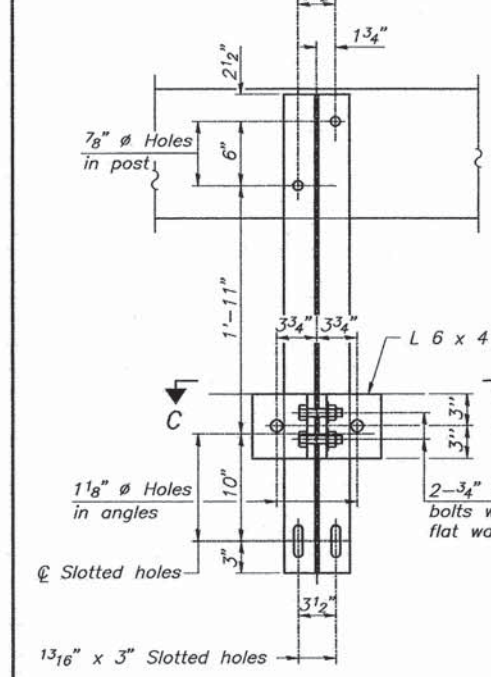
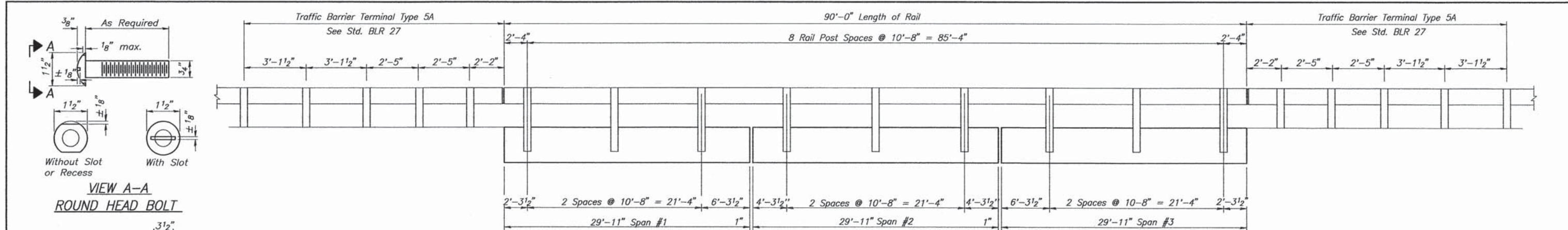
SUBSTRUCTURE

PROJECT: SECTION 11-14111-04-BR
LONG POINT ROAD DISTRICT
LIVINGSTON COUNTY
STA. 10+00.00

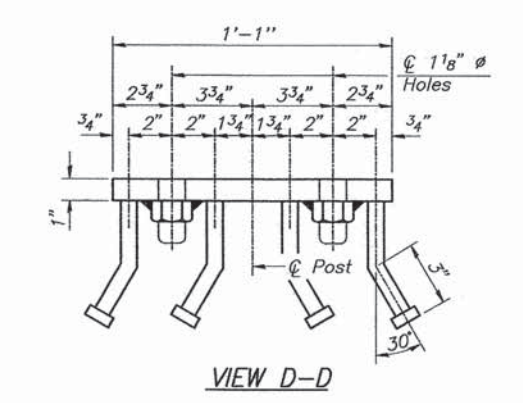
PROJECT NO. 12067
SCALE
DATE 2/3/2014
DRAWN BY MMY
CHECKED BY CME
DRAWING NO.

C Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Phone: 217/544-8477
Design Firm License No. 104-002703
755 South Grand Ave. W. Springfield, IL 62704

5
OF 10 SHTS



Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 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.



BILL OF MATERIAL

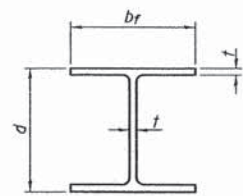
Item	Unit	Quantity
Steel Railing, Type S1	Foot	180

STEEL RAILING, TYPE S1

SECTION 11-14111-04-BR
 LONG POINT ROAD DISTRICT
 LIVINGSTON COUNTY
 STA. 10+00.00

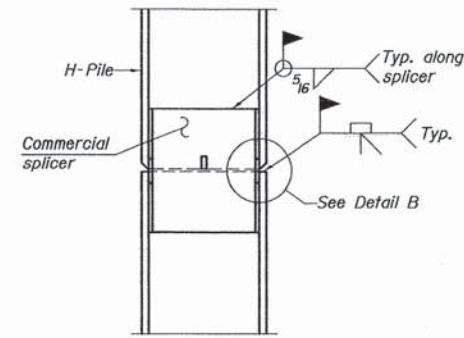
PROJECT NO. 12067
 DATE 2/3/2014
 DRAWN BY MMY
 CHECKED BY CME
 SHEET NO. 6

Coombe-Bloxdorf P.C.
 -CIVIL ENGINEERS-
 -STRUCTURAL ENGINEERS-
 -LAND SURVEYORS-
 Phone: 217/544-8477
 Design Firm License No. 184-002703
 755 South Grand Ave. W. Springfield, IL 62704

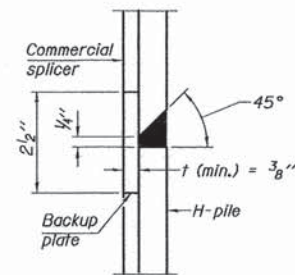


STEEL PILE TABLE

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

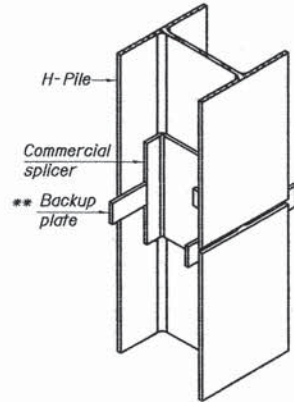


ELEVATION

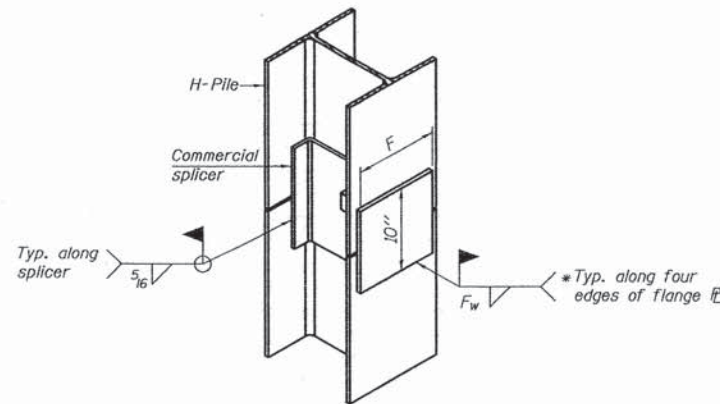


DETAIL "B"

WELDED COMMERCIAL SPLICE



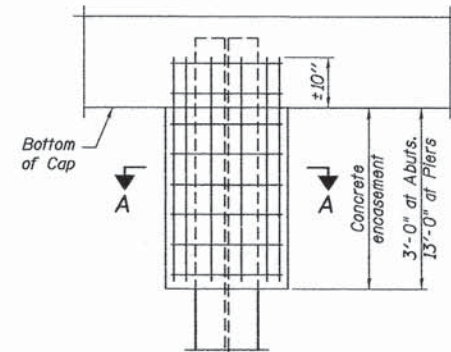
ISOMETRIC VIEW



ISOMETRIC VIEW

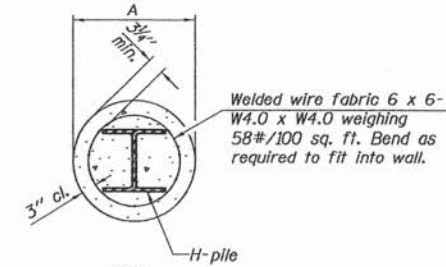
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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 (3/16" min.).



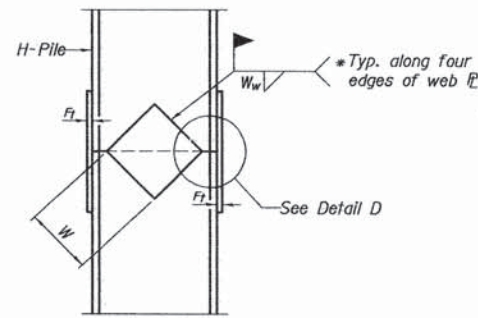
ELEVATION

PILE ENCASEMENT

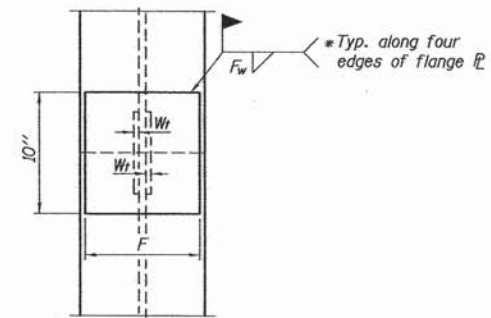


SECTION A-A

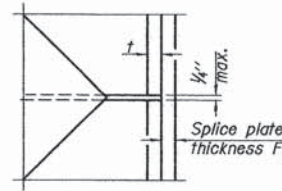
Note: Forms for encasement may be omitted when soil conditions permit.



ELEVATION



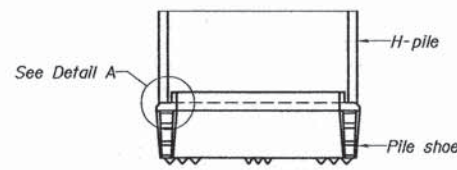
END VIEW



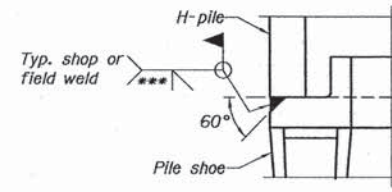
DETAIL D

WELDED PLATE FIELD SPLICE

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"



ELEVATION

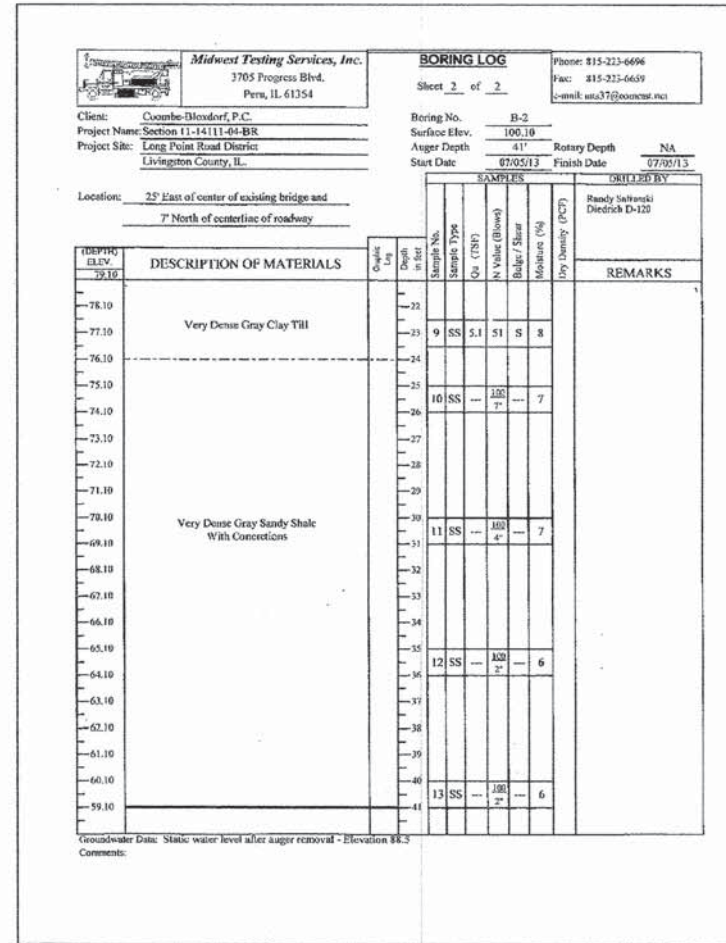
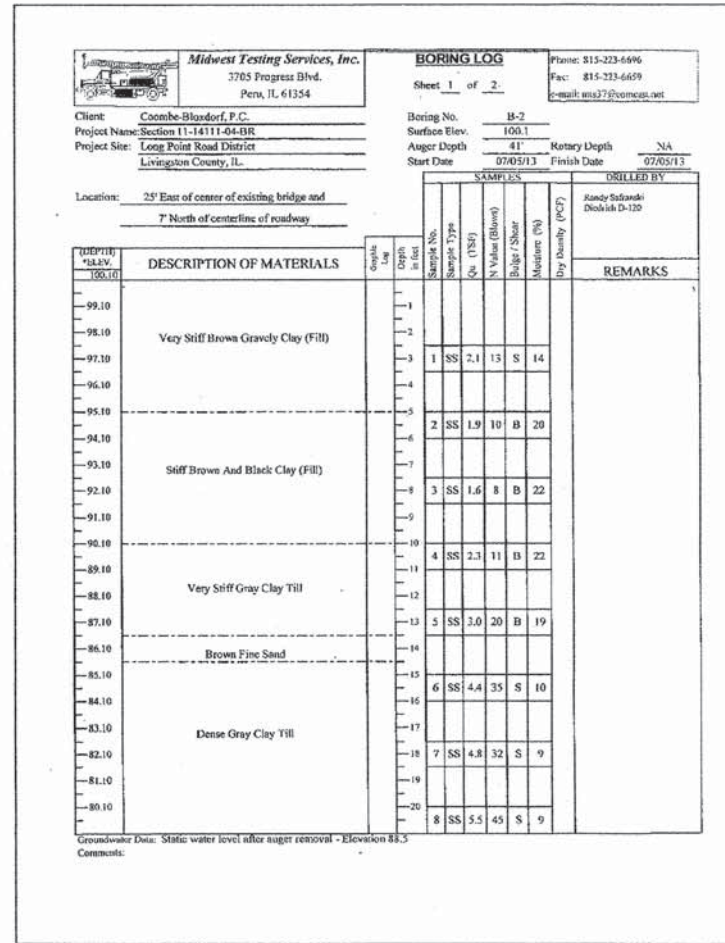
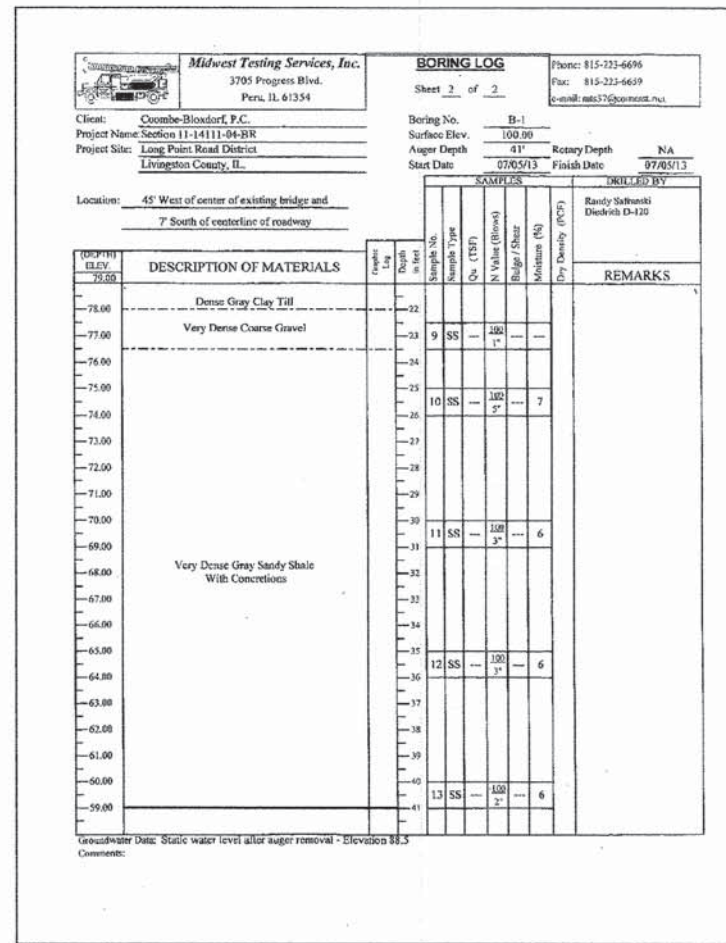
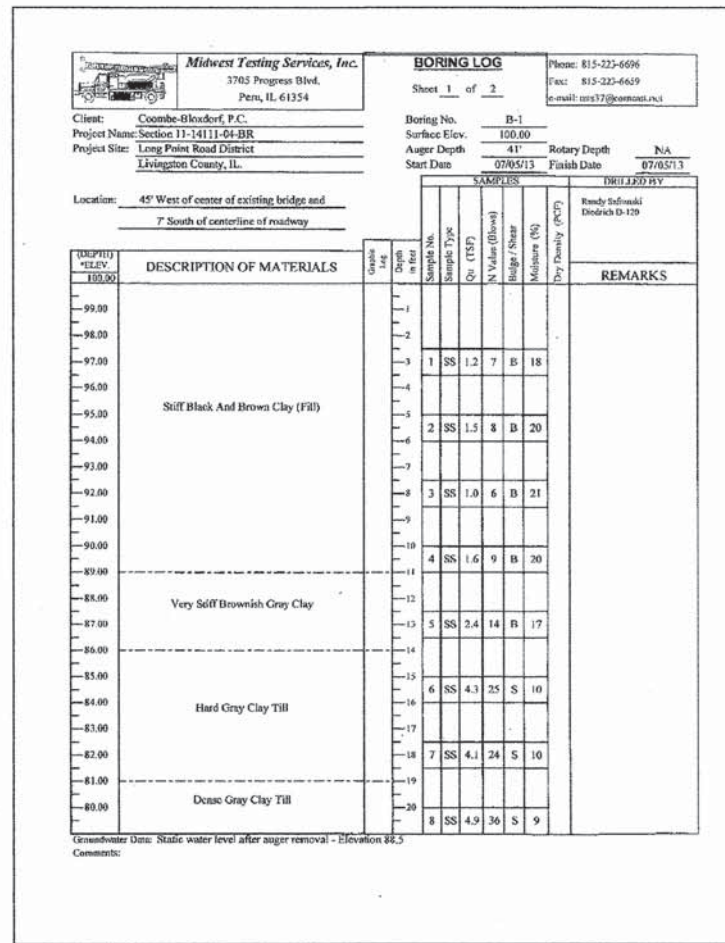


DETAIL A

H-PILE SHOE ATTACHMENT

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

SHEET TITLE		HP PILE DETAILS	
PROJECT	SECTION 11-14111-04-BR LONG POINT ROAD DISTRICT LIVINGSTON COUNTY STATION 10+00	PROJECT NO.	12067
SCALE		DATE	2-3-14
DRAWN BY	MRL	CHECKED BY	CME
Coombe-Bloxdorf P.C. -CIVIL ENGINEERS- -STRUCTURAL ENGINEERS- -LAND SURVEYORS- Phone: 217/544-8477 Design Firm License No. 184-002703 755 South Grand Ave. W. Springfield, IL 62704		DRAWING NO.	7
		OF 10	SHTS



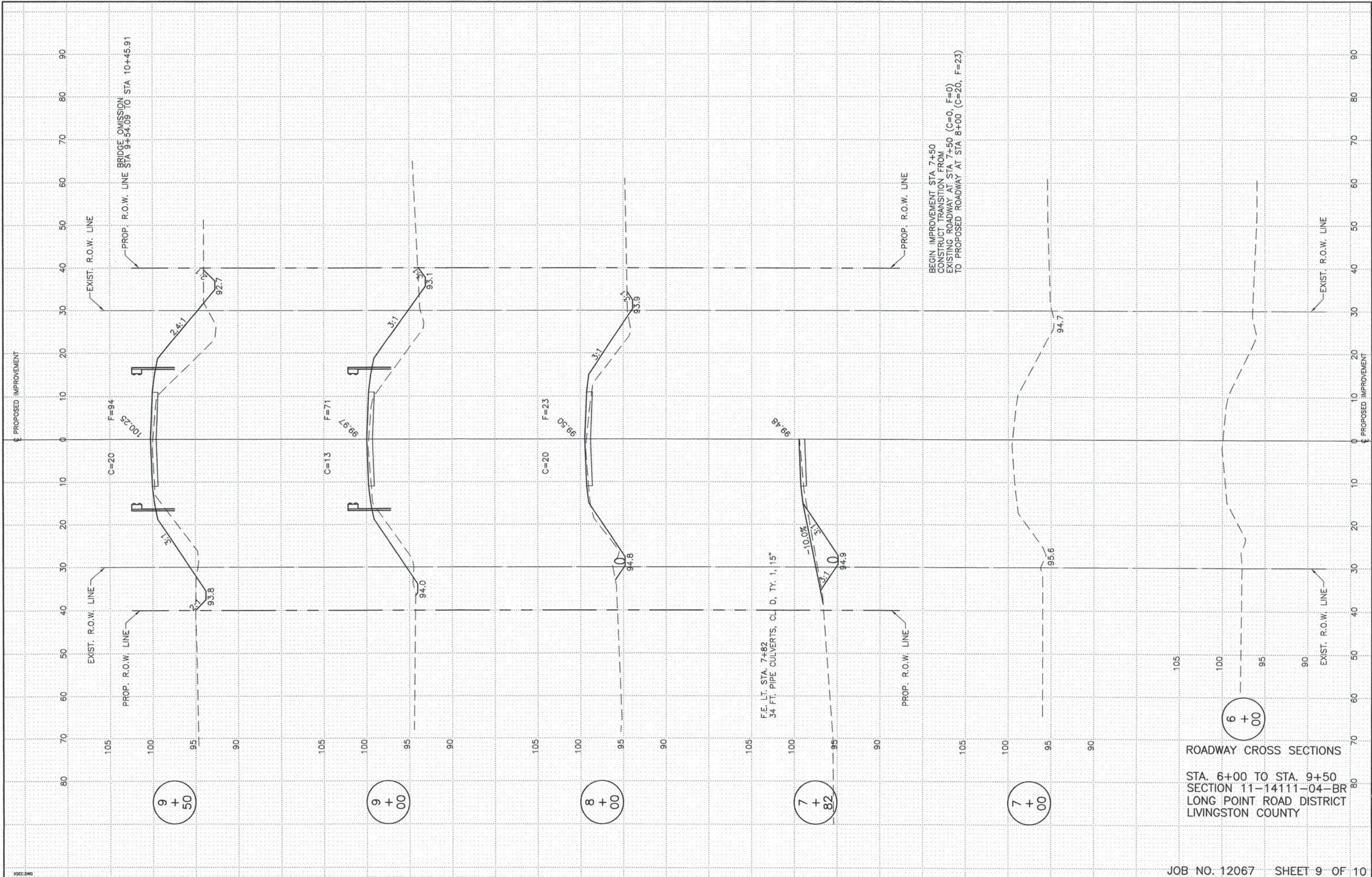
SHEET TITLE: BORING LOGS

PROJECT: SECTION 11-14111-04-BR
LONG POINT ROAD DISTRICT
LIVINGSTON COUNTY
STA. 10+00.00

PROJECT NO. 12067
SCALE
DATE 2/3/2014
DRAWN BY MMY
CHECKED BY CME
DRAWING NO. 8

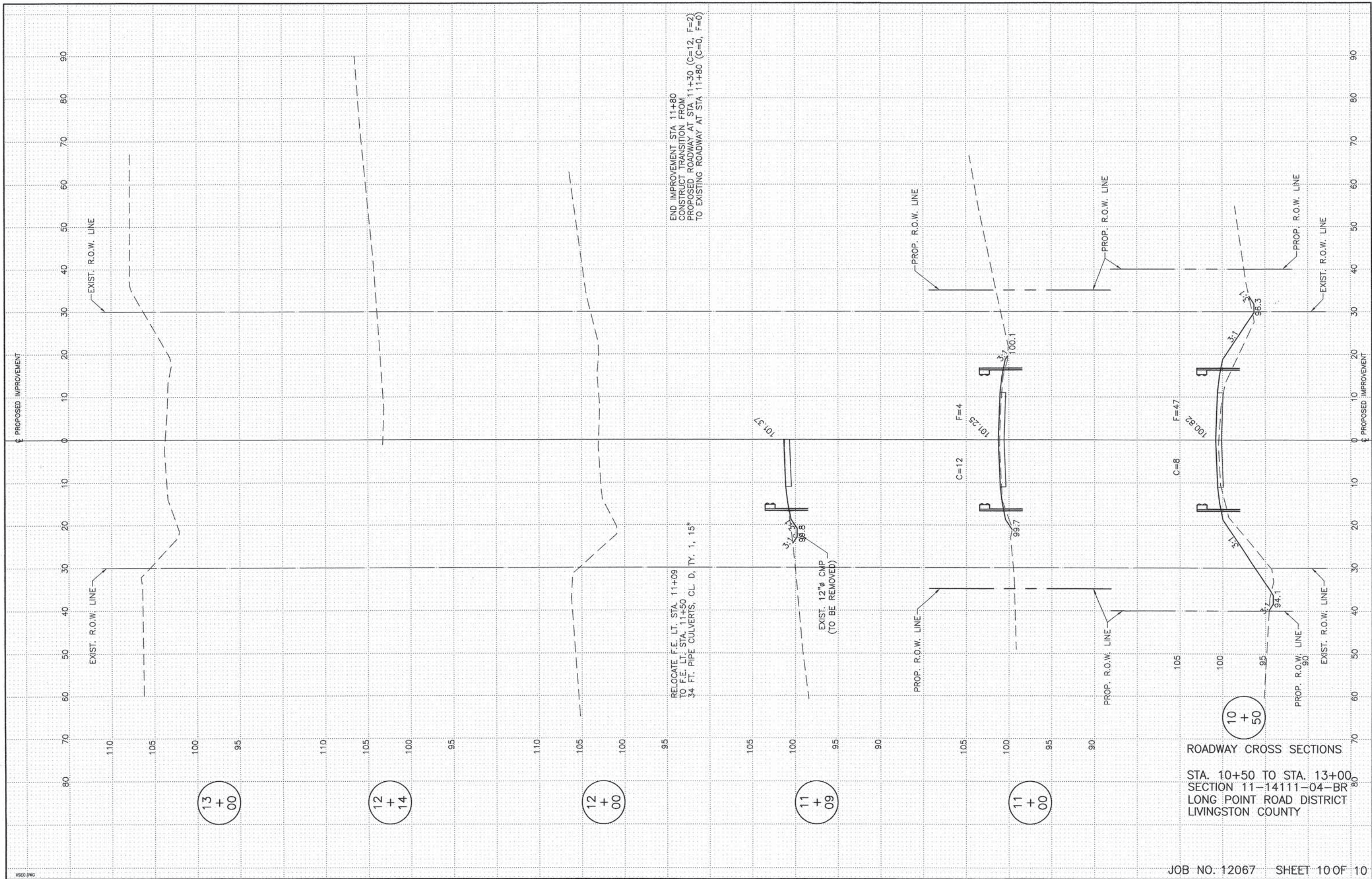
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Phone: 217/544-8477
Design Firm License No. 184-002703
755 South Grand Ave. W, Springfield, IL 62704

OF 10 -SHTS



ROADWAY CROSS SECTIONS

STA. 6+00 TO STA. 9+50
SECTION 11-14111-04-BR
LONG POINT ROAD DISTRICT
LIVINGSTON COUNTY



XSEC.DWG