ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 108	15-09116 -06-BR	LIVINGSTON	18	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 87707	

03-08-2019 LETTING ITEM 171

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM – BRIDGE

PROJECT KW2Y(406)
SECTION 15–09116–06–BR
ESMEN ROAD DISTRICT
LIVINGSTON COUNTY
T.R. 108 / 1300 E. ROAD
PROPOSED STRUCTURE NO. 053–4220
C–93–001–20
SHAY BRIDGE

INDEX OF SHEETS

HIGHWAY STANDARDS:

000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
701901-08	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

UTILITIES

COMMONWEALTH EDISON
1910 S. BRIGGS STREET
JOLIET, IL 60433

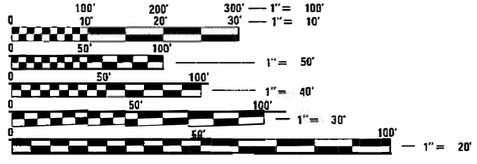
FRONTIER COMMUNICATIONS
112 W. ELM ST.
SYCAMORE, IL 60178

NICOR GAS
1305 MARTIN LUTHER KING DR.
BLOOMINGTON, IL 61701

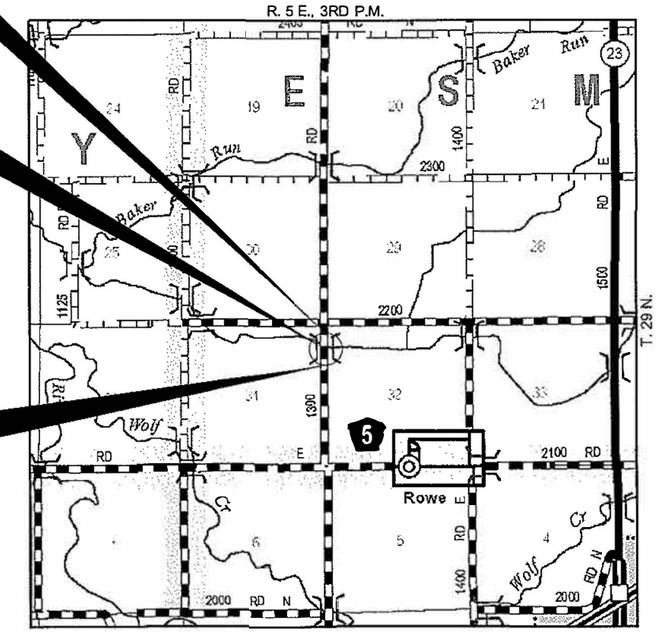
IMPROVEMENT ENDS STATION 11+50

STA. 10+00
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN @ 50'-0"
27'-0" RDWY.; SKEW = 10°
EXISTING STRUCTURE NO. 053-3230
PROPOSED STRUCTURE NO. 053-4220

IMPROVEMENT BEGINS STATION 8+00



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

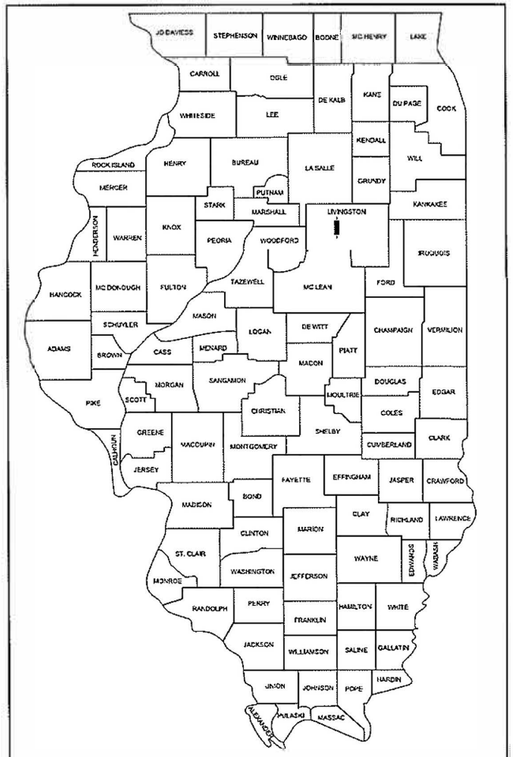


LOCATION MAP

APPROXIMATE SCALE: 0 ½ MILE

NET LENGTH OF SECTION = 350 FEET = 0.066 MILES

FUNCTIONAL CLASSIFICATION:	LOCAL ROAD
DESIGN SPEED:	30 MPH
DESIGN TRAFFIC:	225 ADT



LOCATION OF SECTION INDICATED THUS:–

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 12/20 2018
COUNTY ENGINEER

APPROVED 12/20 2018
TOWNSHIP COMMISSIONER

PASSED 1/3 2019
DISTRICT THREE ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 1/3 2019
REGION TWO ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WARNING
CALL J.U.L.I.E. TOLL FREE 1-800-892-0123
CALL 811 BEFORE YOU DIG
DIG NO: A1700812

DATE: 12/18/2018
LICENSED PROFESSIONAL ENGINEER — STATE OF ILLINOIS — STEVEN W. NIGGEMANN — 062-50005
EXPIRES: 11/30/2019

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 18.0140.130 DATE: 12/18/18

CONTRACT NO. 87707 PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

	ITEM NO.	ITEM	CONSTRUCTION TYPE CODE 0010 UNIT	TOTAL
^	20200100	EARTH EXCAVATION	CU YD	245
	20300100	CHANNEL EXCAVATION	CU YD	120
	28100107	STONE RIPRAP, CLASS A4	SQ YD	292
	28200200	FILTER FABRIC	SQ YD	292
	35100100	AGGREGATE BASE COURSE, TYPE A	TON	517
	40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	1,530
	40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	151
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	94
	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	56
	48101200	AGGREGATE SHOULDERS, TYPE B	TON	91
^	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50300225	CONCRETE STRUCTURES	CU YD	22.4
^	50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,350
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,820
*	50900205	STEEL RAILING, TYPE S1	FOOT	96
	51201400	FURNISHING STEEL PILES HP10X42	FOOT	315
	51202305	DRIVING PILES	FOOT	315
	51203400	TEST PILE STEEL HP10X42	EACH	1
	51500100	NAME PLATES	EACH	1
^	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	80
	60100955	PIPE DRAINS 15"	FOOT	40
	60710010	MOBILIZATION	LSUM	1
*	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
^	X2070302	POROUS GRANULAR EMBANKMENT, SPECIAL	TON	80
^	X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3
^	Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	100

^ SEE SPECIAL PROVISIONS

* SPECIALTY ITEMS

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU.YD.	CHANNEL EXCAVATION CU.YD.	SHRINKAGE FACTOR	PERCENT USED	EXCAVATION ADJUSTED FOR SHRINKAGE CU.YD.	EMBANKMENT REQUIRED CU.YD.	EARTHWORK BALANCE CU.YD.
TR 108 / 1300E Road							
STA. 8+00 TO STA. 9+74.32	150		25.00%	100.00%	113	42	71
STA. 9+74.32 TO STA. 10+25.68		120	25.00%	70.00%	63		63
STA. 10+25.68 TO STA. 11+50	94		25.00%	100.00%	70	40	30
TOTAL	244	120			246	82	164
USE	245	120					165

WASTE 165 CU YDS

GENERAL NOTES

1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED APRIL 1, 2016", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2019; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.

2) ALL CLEARING, GRUBBING, FENCE REMOVAL, PAVEMENT REMOVAL, AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION. ALL BITUMINOUS MATERIAL SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR IN A METHOD APPROVED BY THE ENGINEER. REMOVAL AND DISPOSAL OF BITUMINOUS MATERIAL SHALL BE INCLUDED INCLUDED IN THE COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

3) WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

4) ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.

5) THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.

6) THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.

7) THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES

AGGREGATE BASE COURSE AND SHOULDERS	**2.05 TON/CU YD**
HOT MIX ASPHALT	**112 LBS/SQ YD./INCH THICKNESS**
POROUS GRANULAR EMBANKMENT	**2.0 TON/CU YD**

BITUMINOUS MATERIALS RATES

SURFACE TYPE	RESIDUAL RATE
AGGREGATE BASE	0.250 LB/SQ FT
MILLED HMA OR PCC (TACK COAT)	0.050 LB/SQ FT
EXISTING PAVEMENT (TACK COAT)	0.050 LB/SQ FT
TACK COAT (BETWEEN LIFTS)	0.025 LB/SQ FT

8) THE FINAL SURFACE OF ALL EMBANKMENT AREAS SHALL BE SEEDED. THE TOP 4 INCHES OF THE SEEDED AREAS SHALL BE TOPSOIL SUBJECT TO THE APPROVAL OF THE ENGINEER. THE COST OF SHAPING THE SLOPES AND PROVIDING TOP SOIL WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

9) THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER. SEEDING, CLASS 2 (SPECIAL) = **0.3 ACRES**

10) ALL WASTE MATERIAL FROM EXCAVATIONS SHALL BE DISPOSED OF BY THE CONTRACTOR. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

11) COMMITMENTS:
NONE

ROADWAY SCHEDULE

LOCATION	AGGREGATE BASE COURSE TYPE A	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (TACK COAT)	HOT-MIX ASPHALT BINDER COURSE IL 19.0, N50	HOT-MIX ASPHALT SURFACE COURSE MIX "C", N50	AGGREGATE SHOULDERS, TYPE B	POROUS GRANULAR EMBANKMENT, SPECIAL
TR 108 / 1300E Road	35100100	40600275	40600290	40603080	40603310	48101200	72501000
	TON	POUND	POUND	TON	TON	TON	TON
STA. 8+00 TO STA. 9+74.32	309	893	88	55	33	53	40
STA. 10+25.68 TO STA. 11+50	208	637	63	39	24	38	40
TOTAL	517	1530	151	94	56	91	80

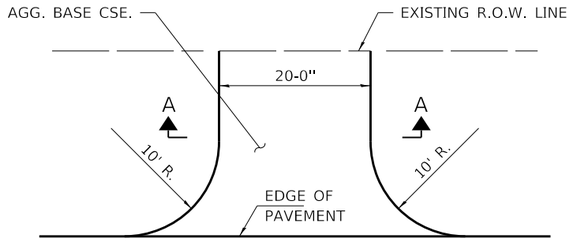
FILE NAME = 180140-sht-summary.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -	
HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		DRAWN - M.M.P.	REVISED -	
H&LR ILLINOIS PROFESSIONAL DESIGN FIRM LD / PE / SE CORP. 184.000959	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -	
	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -	

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

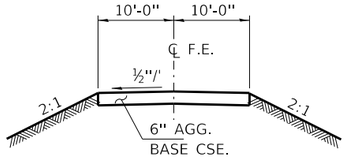
SUMMARY OF QUANTITIES AND GENERAL NOTES

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

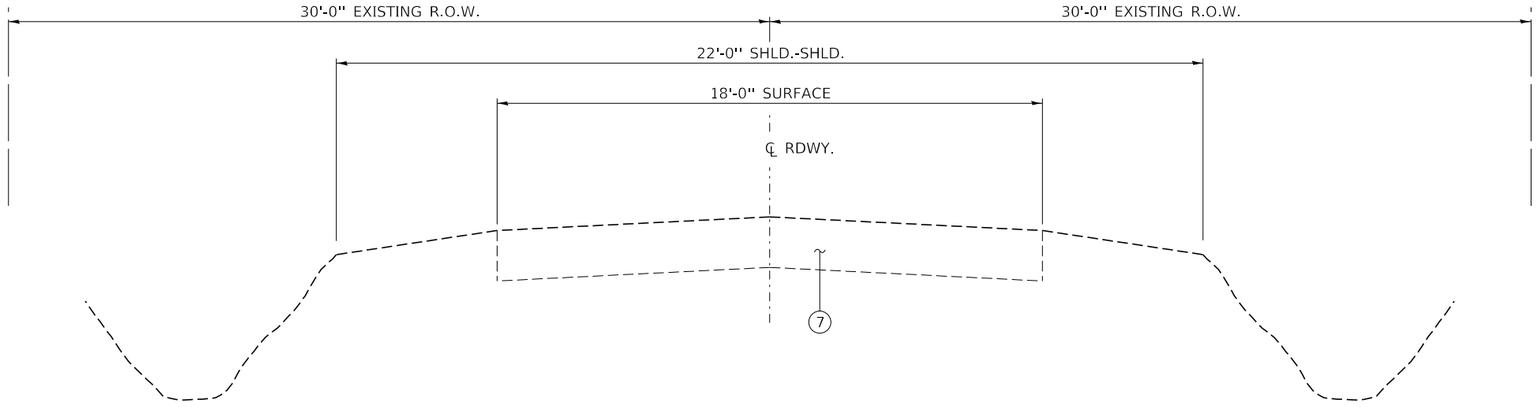
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09166-06-BR	LIVINGSTON	18	2
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)		



FIELD ENTRANCE DETAIL

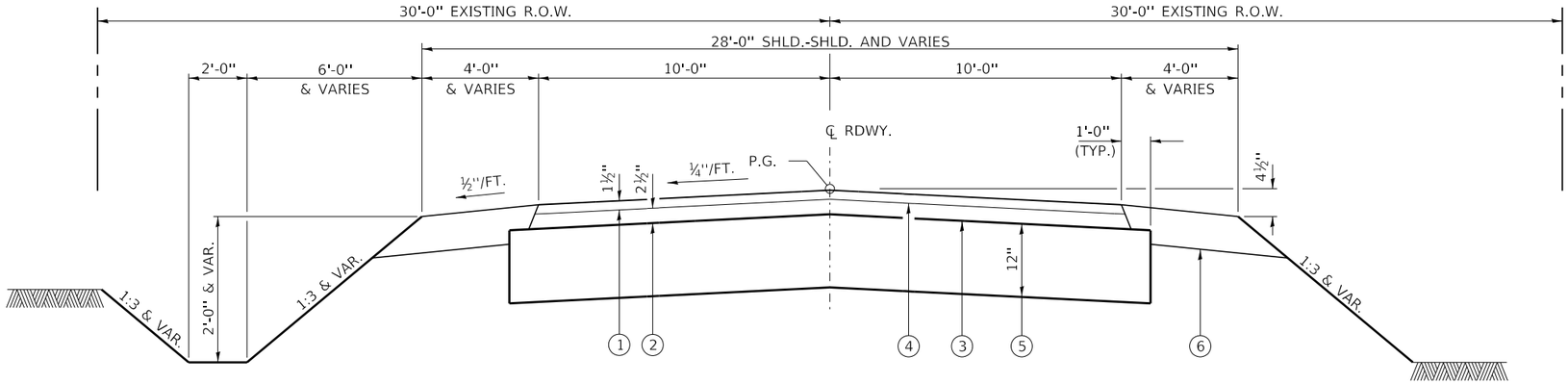


SECTION A-A



EXISTING TYPICAL CROSS SECTION

STA. 8+00 TO 11+50



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

PROPOSED TYPICAL CROSS SECTION

STA. 8+00 TO 11+50

TRANSITIONS FROM THE PROPOSED SHOULDERS TO THE EXISTING SHOULDERS ARE TO BE CONSTRUCTED FROM STA. 8+00 TO 8+50 AND STA. 11+00 TO STA. 11+50.
SEE SHEET 5 FOR TRANSITION AT BRIDGE.

LEGEND

1. HMA SURFACE COURSE, MIX C, N50 (1½" THICKNESS)
2. HMA BINDER COURSE, IL.-9.5, N50 (2½" THICKNESS)
3. BITUMINOUS MATERIALS (PRIME COAT)
4. BITUMINOUS MATERIALS (TACK COAT)
5. AGGREGATE BASE COURSE, TYPE A (12")
6. AGGREGATE SHOULDERS, TYPE B 6"
7. EXISTING OIL & CHIP SURFACE ON AGGREGATE BASE

HOT-MIX ASPHALT MIXTURE REQUIREMENTS		
LOCATIONS(S)	TR 108 / 1300E Road	TR 108 / 1300E Road
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE	HOT-MIX ASPHALT BINDER COURSE
PG:	PG 64-22	PG 64-22
DESIGN AIR VOIDS:	4% @ 50 Gyr.	4% @ 50 Gyr.
MIXTURE COMPOSITION: (MIXTURE GRADATION)	IL 9.5	IL 19.0
FRICTION AGGREGATE:	MIXTURE C	NONE
DENSITY TEST METHOD	CORES	CORES
MIXTURE WEIGHT:	112 LBS \ SY \ INCH THICKNESS	112 LBS \ SY \ INCH THICKNESS
QUALITY MANAGEMENT PROGRAM	QC/QA	QC/QA

FILE NAME = 180140-sht-typsections.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		DRAWN - M.M.P.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.009959	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

TYPICAL CROSS SECTIONS

SCALE: | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	3
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)		

RANDALL SHAY
NE¼, SEC 31, T. 29 N., R. 5 E., 3RD P.M.

W¼ COR. SEC 32
FOUND ¾ Ø IP
N. 1556152.611
E. 887872.278

BM#2
SET BOLT IN CMP
P.O.T. STA. 6+50.02
MAG NAIL (SET)
N. 1557522.878
E. 887876.634

STA. 9+25
CONSTRUCT 20' F.E.
PIPE CULVERTS, CLD, TY1, 18"
LENGTH = 80 FOOT
24' LT. STA. 9+08 U.S.F.L. 629.7
22' LT. STA. 9+88 D.S.F.L. 627.5
EXISTING CMP TO BE REMOVED

CROPS
GRASS
℄ PROPOSED IMPROVEMENT
+23 F.E.
18" CMP
CP1
TRIBUTARY
STA. 10+00
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE
SINGLE SPAN @ 50'-0"; 27'-0" RDWY; SKEW = 10°
PROPOSED SN 053-4220
6°
80°
30' R.O.W.
WEST LINE
NW ¼ 32-29-5
1300E ROAD
OIL AND CHIP SURFACE
30' EXIST.
7 8 9 10 11 12 13
BM#3
BM#1
12" PVC
10" PVC
10+00.00
30.00' RT
10+50.00
30.00' RT
10+00.00
40.00' RT
10+50.00
40.00' RT
BAKER RUN
STA. 9+70
PIPE DRAINS 15"
LENGTH = 20 FOOT
CONNECT TO
EXIST. PVC
STA. 10+20
PIPE DRAINS 15"
LENGTH = 20 FOOT
CONNECT TO
EXIST. PVC
TEMPORARY
USE PERMIT
IMPROVEMENT BEGINS
STATION 8+00
IMPROVEMENT ENDS
STATION 11+50

CP2
BM#2
BOLT IN CMP
P.O.T. STA. 13+49.83
MAG NAIL (SET)
N. 1558222.683
E. 887878.429

POWER POLE
TEL PED
SIGN POST
1300E
NW COR. SEC 32
FOUND ¾Ø IP
N. 1558801.560
E. 887876.115

0 20' 40'
GRAPHIC SCALE

FIRST FINANCIAL LAND TRUST 2343-38
NW¼, SEC 32, T. 29 N., R. 5 E., 3RD P.M.

EXISTING STRUCTURE NO. 053-3230
STATION 10+00 - SINGLE SPAN DECK BEAM BRIDGE.
WITH CONCRETE CAPS ON CLOSED
TIMBER ABUTMENTS AND WINGWALLS.
32.6' BK.-BK. ABUTS; 26.2' o.-o. DECK

PLAN
SURVEYED
PLOTTED
PLANS CHECKED
R.O.W. AGREEMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PLANS CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

BM#3 - BENCH TIE IN POWER POLE
26' RT., STA. 8+97
ELEV. 631.60

BM#1 - CROSS NOTCH ON BRIDGE CURB
13' RT., STA. 10+10
ELEV. 633.42

BM#2 - BENCH TIE IN POWER POLE
25' RT., STA. 12+75
ELEV. 631.37

VPI STA. 8+45
ELEV. 632.35
K = 61
90' V.C.

VPI STA. 9+35
ELEV. 633.75
K = 58
90' V.C.

VPI STA. 10+70
ELEV. 633.75
K = 57
90' V.C.

VPI STA. 11+60
ELEV. 632.32
K = 86
90' V.C.

100 YEAR H.W. ELEV. 632.2
15 YEAR H.W. ELEV. 630.7

PROPOSED ℄ GRADE
+0.09%
+1.56%
+0.00%
-1.59%
-0.55%
+0.80%
+0.50%
+1.00%
-1.60%
-0.60%
-0.50%
EXISTING ℄ GRADE
631.00 RT.
630.40 LT.
SPECIAL DITCH LT.
630.20 RT.
629.80 LT.
SPECIAL DITCH RT.
629.70 RT.
CHANNEL EXCAVATION
630.20 LT.
629.75 RT.
SPECIAL DITCH RT.
SPECIAL DITCH LT.
630.60 LT.
630.00 RT.
630.50 RT.
STONE RIPRAP, CLASS A4
℄ ELEV. 621.9
* - 1V:2H @ RT ∠'s

650 645 640 635 630 625 620 615 610

632.52
632.31 632.31
632.37 632.56
632.55 633.20
632.64 633.67
632.80 633.75
632.74 633.69
632.77 633.25
632.55 632.55
632.10 632.10
631.85

7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50

FILE NAME = 180140-sht-planprf.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3065 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000969	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

PLAN & PROFILE
SHAY BRIDGE

SCALE: 20H:5V | SHEET NO. 1 OF 1 SHEETS | STA. 7+00 TO STA. 13+00

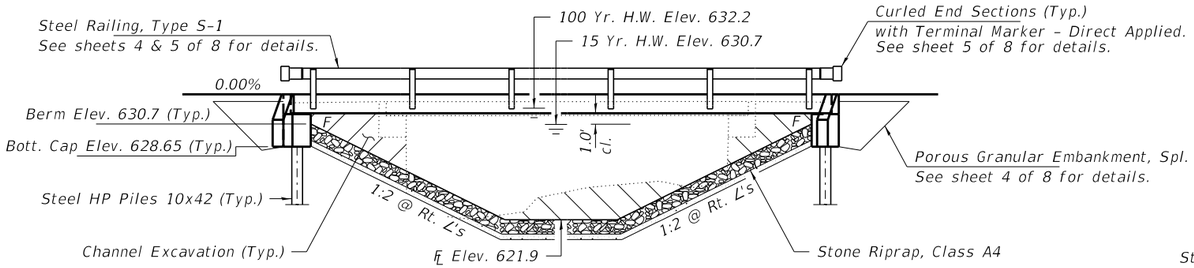
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	4
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS FED. AID PROJECT BROS-KW2Y(406)			

BENCHMARK: Cross Notch on Bridge Curb, 13' Rt., Sta. 10+10, Elev. 633.42

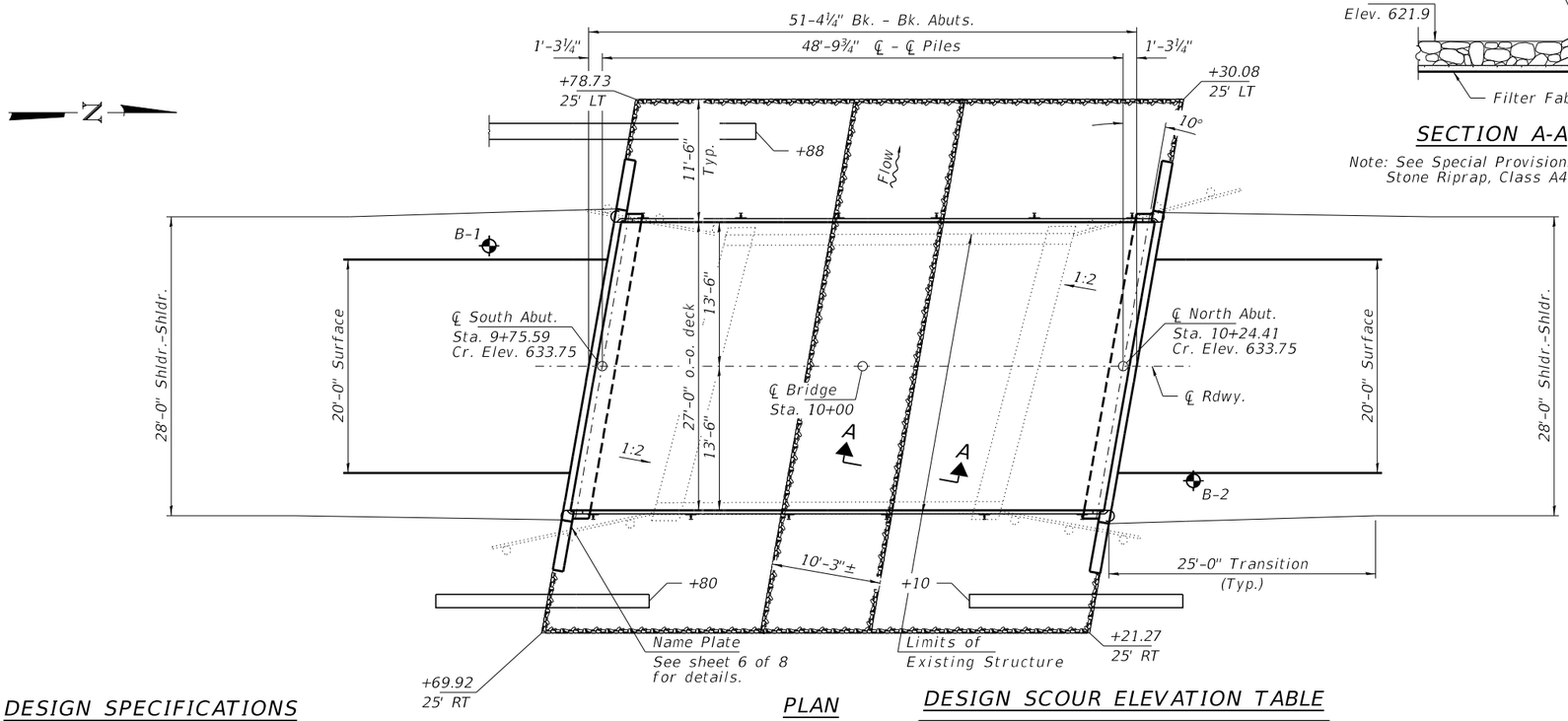
EXISTING STRUCTURE NO. 053-3230: Sta. 10+00 – Single span deck beam bridge with concrete caps on closed timber abutments and wingwalls. 32.6' bk.-bk. abuts.; 26.2 o.-o. deck

Structure closed to traffic during construction.

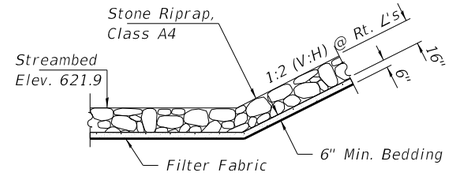
No Salvage



ELEVATION



PLAN



SECTION A-A

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

GENERAL NOTES

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

The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at North Abutment or approved by the Engineer before ordering the remainder of piles.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

All bars to be epoxy coated.

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

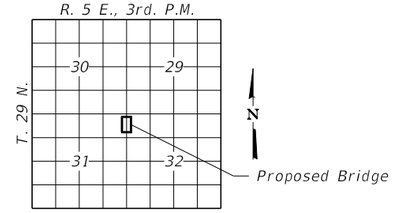
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

BUILT 201_ BY
LIVINGSTON COUNTY
SEC. 15-09116-06-BR
ESMEN ROAD DISTRICT
STR. NO. 053-4220
LOADING HL-93

NAME PLATE

See Std. 515001



LOCATION SKETCH

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition with all interims.

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (½"Ø low lax. strands)
fpbt = 201,960 psi (½"Ø low lax. strands)
fy = 60,000 psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.108g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.175g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 6.8 Sq. Mi.
Existing Low Grade Elev. 631.9 @ Sta. 12+50
Proposed Low Grade Elev. 631.9 @ Sta. 12+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head – Ft. Exist.	Head – Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Exist Overtop	10	1200	170	220	630.14	0.47	0.14	630.61	630.28
Design	15	1380	180	250	630.72	0.45	0.02	631.17	630.74
Base	100	2290	200	290	632.21	0.70	0.55	632.91	632.76
Scour Check	200	2620	200	290	632.42	0.63	0.53	633.05	632.95
Max. Calc.	500	3110	200	290	632.70	0.53	0.49	633.23	633.19

10 Year Velocity through Existing Bridge = 7.1 fps
10 Year Velocity through Proposed Bridge = 5.5 fps

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elev. (ft.) N. Abut.	Design Scour Elev. (ft.) S. Abut.	Item 113
Q100	628.7	628.7	8
Q200	628.7	628.7	
Design	628.7	628.7	
Check	628.7	628.7	

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 12/18/2018
ILLINOIS STRUCTURAL ENGR. NO. 081-6064

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

Expires 11-30-2020

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			120
Stone Riprap, Class A4	Sq. Yd.			292
Filter Fabric	Sq. Yd.			292
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.4	22.4
Precast Prestressed Conc. Deck Beams (21" Depth)	Sq. Ft.	1,350		1,350
Reinforcement Bars, Epoxy Coated	Pound		2,820	2,820
Steel Railing, Type S-1	Foot	96		96
Furnishing Steel Piles HP10x42	Foot		315	315
Driving Piles	Foot		315	315
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1
Terminal Marker - Direct Applied	Each	4		4
Porous Granular Embankment, Special	Ton		80	80
Pipe Underdrains for Structures 4"	Foot		100	100

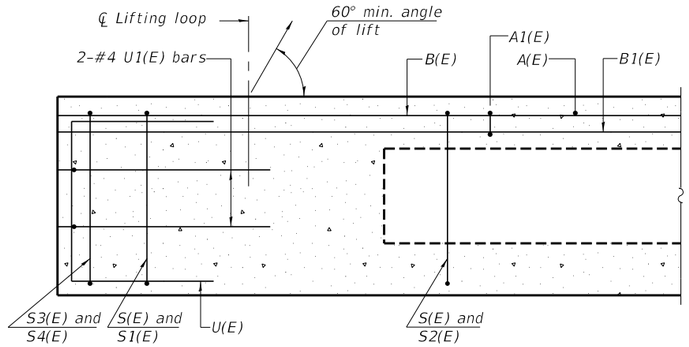
FILE NAME = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -

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

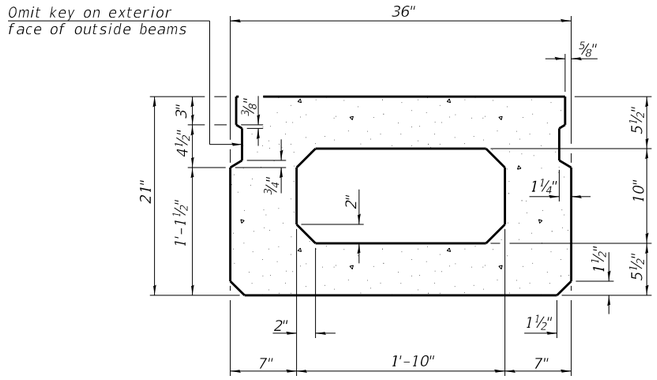
STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 053-4220
SHEET NO. 1 OF 8 SHEETS

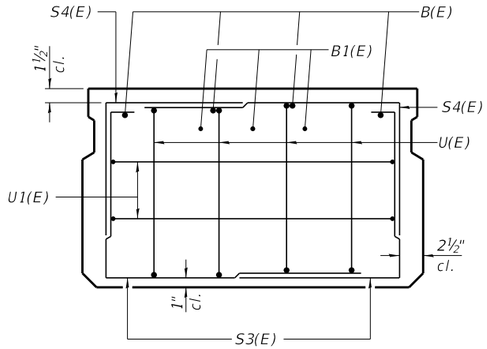
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	5
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS FED. AID PROJECT BROS-KW2Y(406)			



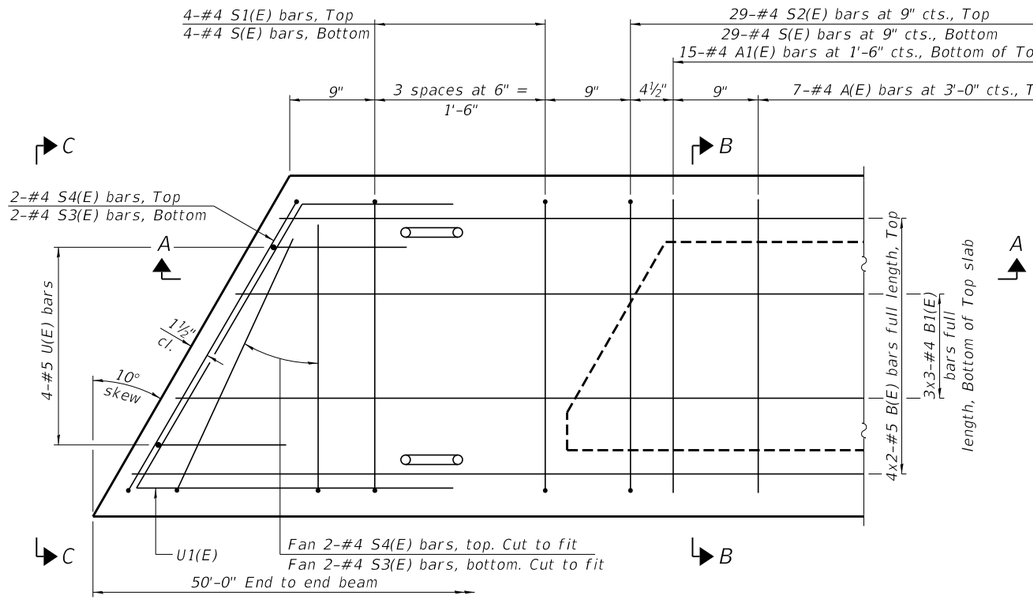
SECTION A-A



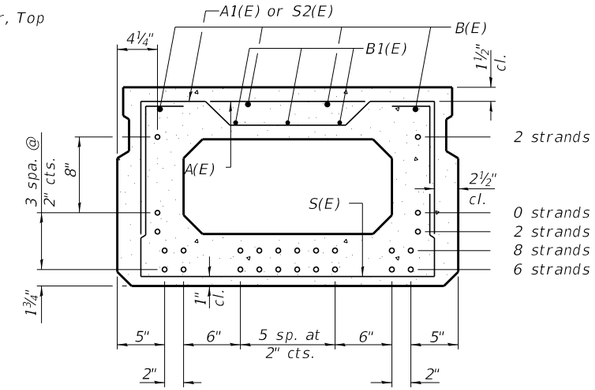
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



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

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

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

Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

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

BAR LIST
ONE BEAM ONLY
(For information only)

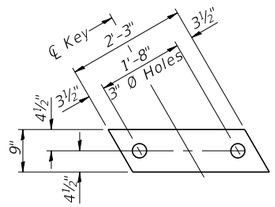
Bar	No.	Size	Length	Shape
A(E)	15	#4	2'-7"	—
A1(E)	30	#4	2'-10"	~
B(E)	8	#5	26'-2"	—
B1(E)	9	#4	17'-10"	—
S(E)	67	#4	6'-5"	⊔
S1(E)	8	#4	4'-11"	⊓
S2(E)	59	#4	5'-2"	⊓
S3(E)	8	#4	4'-3"	⊐
S4(E)	8	#4	4'-6"	⊔
U(E)	8	#5	4'-0"	⊏
U1(E)	4	#4	5'-6"	⊂

Note:
See sheet 3 & 4 of 8 for additional details and Bill of Material.

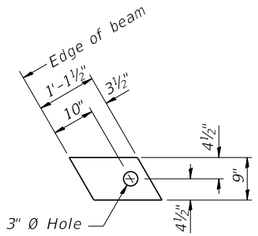
PD-2136-L 2-17-2017

FILE NAME = 180140-shl-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	21" x 36" PPC DECK BEAM STRUCTURE NO. 053-4220
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -		SHEET NO. 2 OF 8 SHEETS
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	6
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS FED. AID PROJECT BROS-KW2Y(406)			



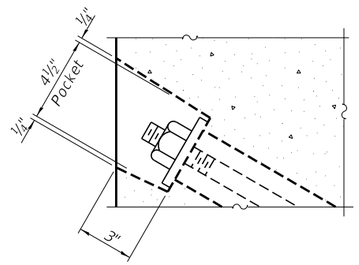
FABRIC BEARING PAD
(Interior - 16 Req'd.)



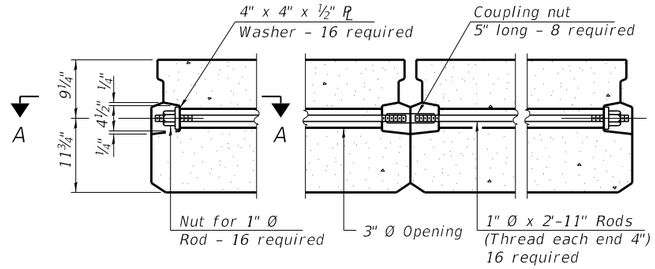
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

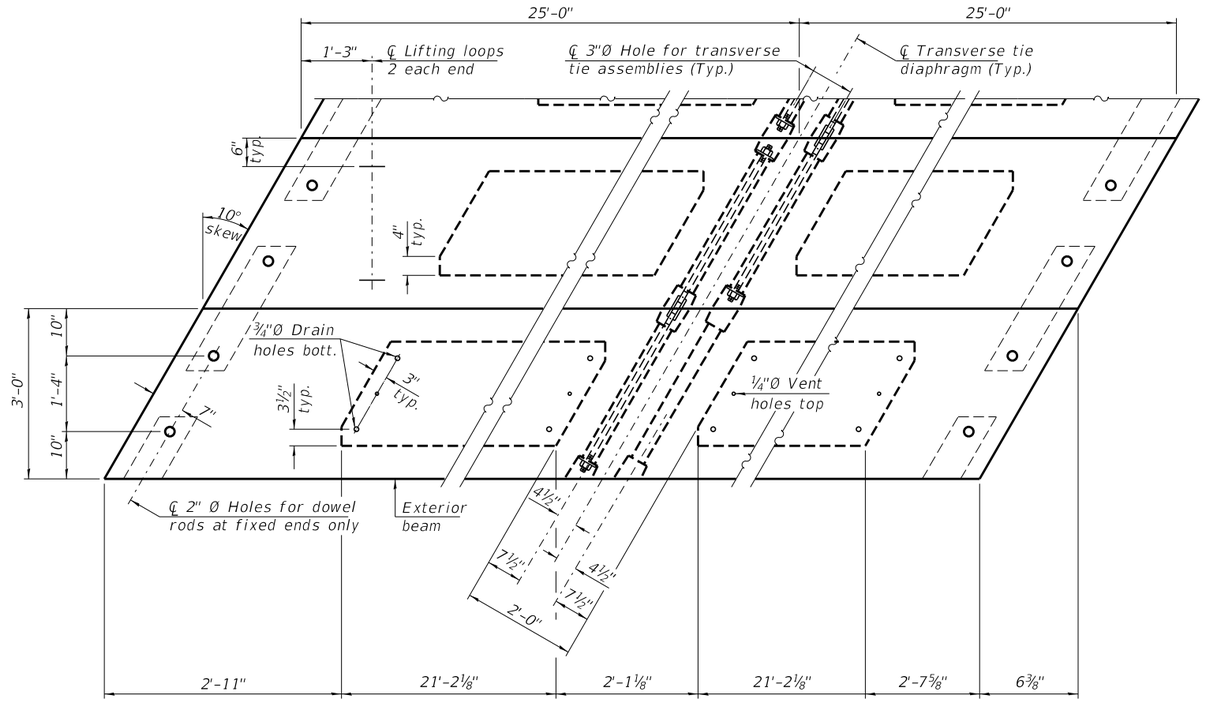
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



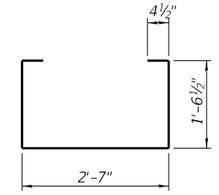
SECTION A-A



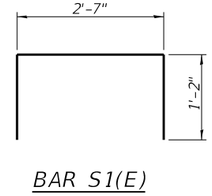
TYPICAL TRANSVERSE TIE ASSEMBLY



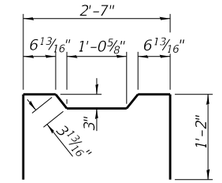
Note:
Connect beams in pairs with the transverse tie configuration shown.



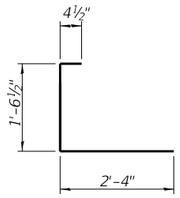
BAR S(E)



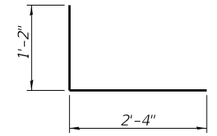
BAR S1(E)



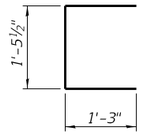
BAR S2(E)



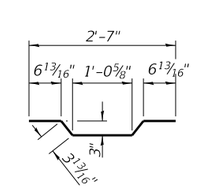
BAR S3(E)



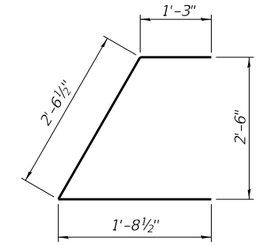
BAR S4(E)



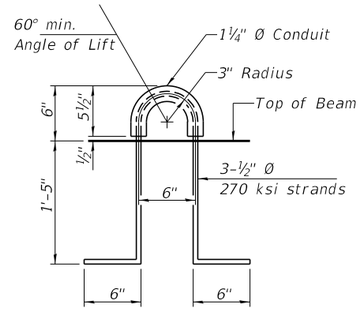
BAR U(E)



BAR A1(E)



BAR U1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" Ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

All reinforcement designtated (E) shall be epoxy coated.

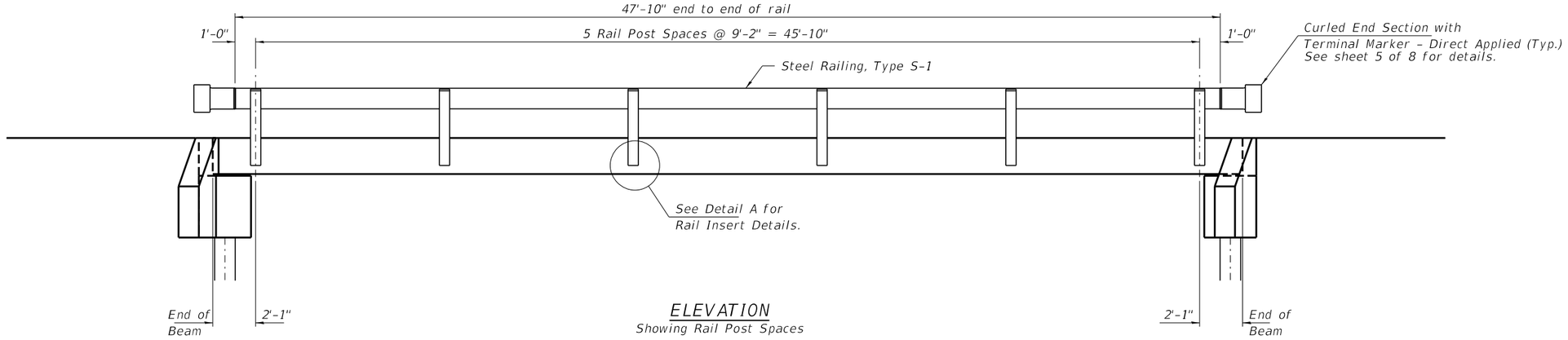
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,350

PD-2136-LD 2-17-2017

FILE NAME = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	21" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 053-4220 SHEET NO. 3 OF 8 SHEETS
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -		
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -		

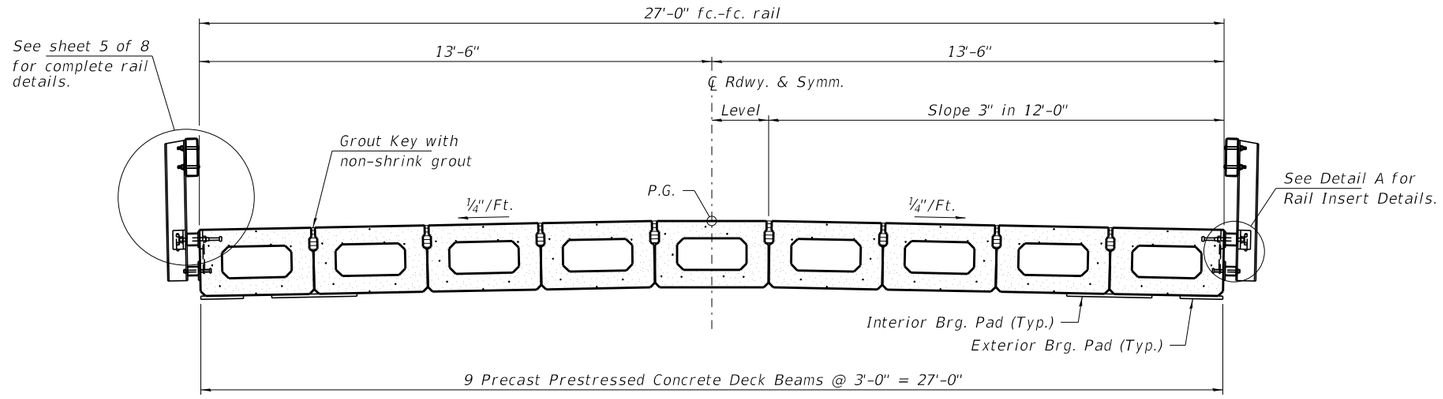
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	7
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS FED. AID PROJECT BROS-KW2Y(406)			



ELEVATION

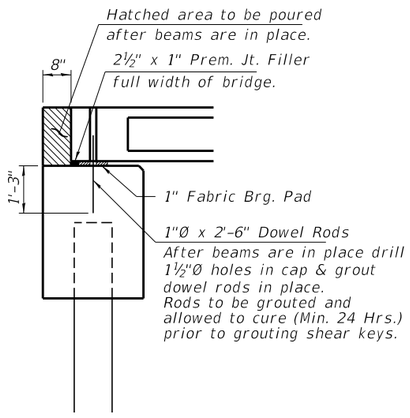
Showing Rail Post Spaces

See sheet 5 of 8 for Railing Details.



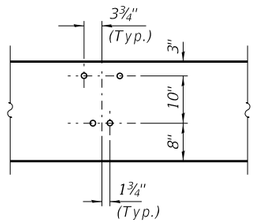
CROSS SECTION

See sheets 2 & 3 of 8 for Superstructure.

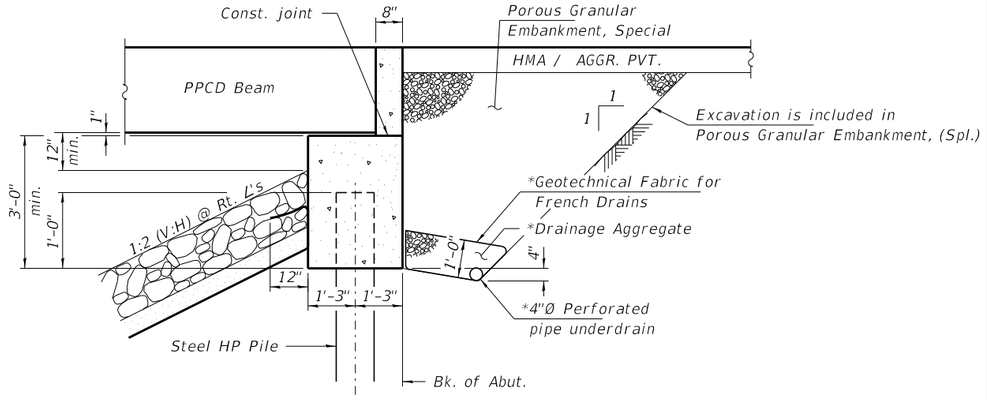


SECTION AT ABUTMENTS

@ Rt. ℄s



DETAIL A



SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. ℄s)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

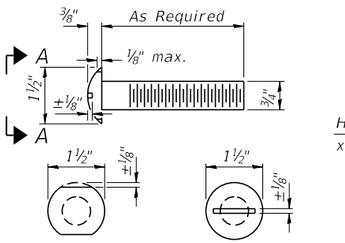
Note:
Outlet pipe underdrains to the West only as directed by the Engineer.

FILE NAME = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3365 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 053-4220
SHEET NO. 4 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	8
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)		

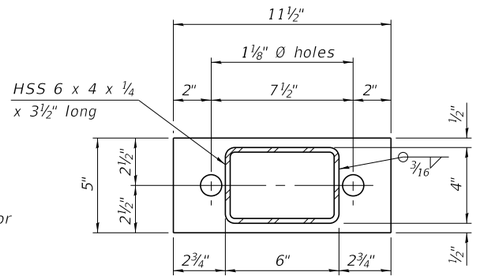


Without Slot or Recess

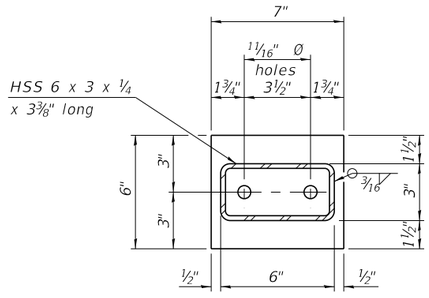
With Slot (shown) or Approved Recess

VIEW A-A

ROUND HEAD BOLT

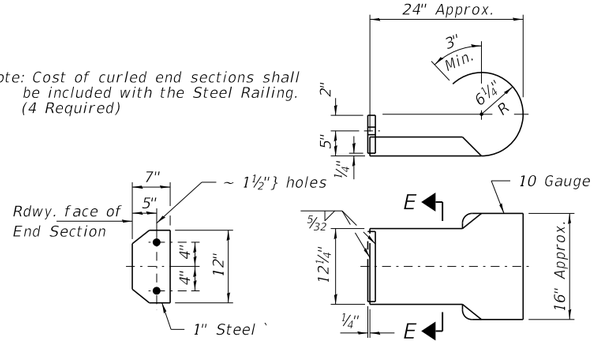


PL 1/2" x 11 1/2" x 5"



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

SPLICE DIMENSIONS

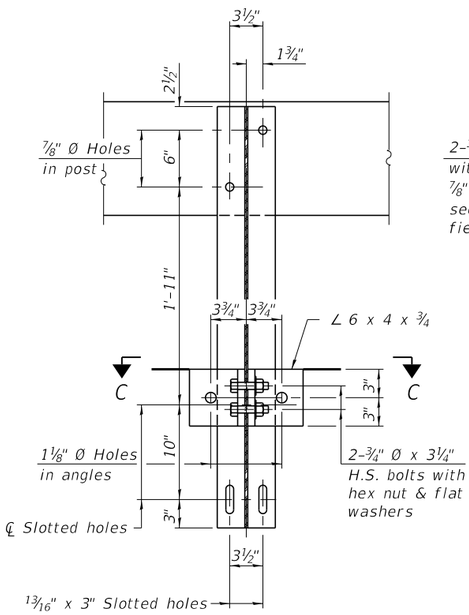
T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	——

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

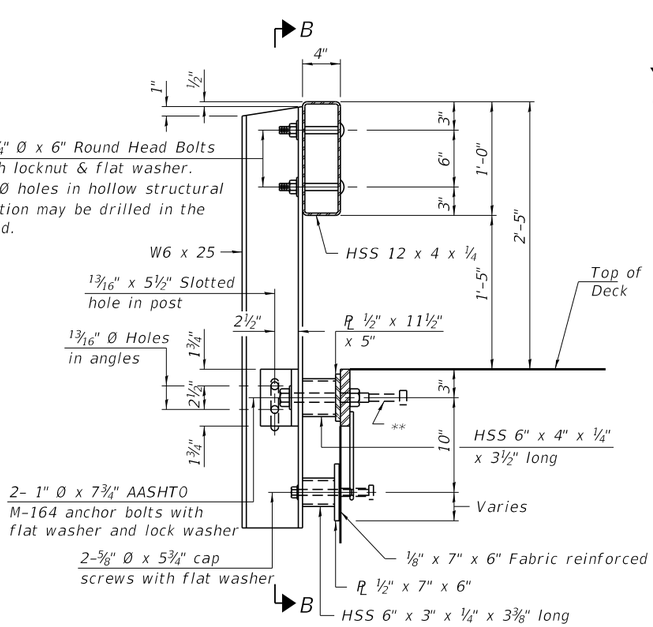
Notes:

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.

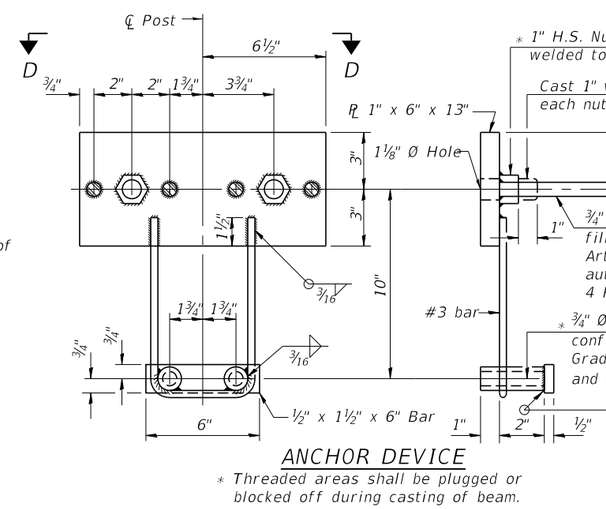
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



SECTION B-B

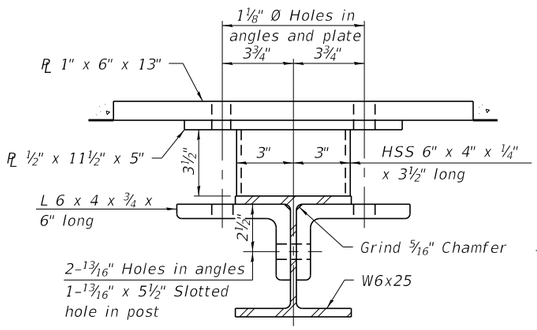


SECTION AT RAILING POST

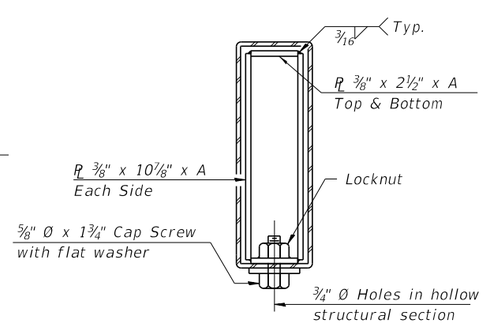


ANCHOR DEVICE

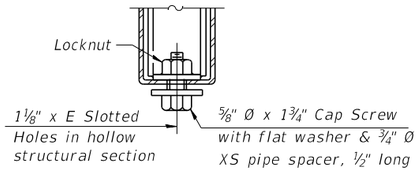
* Threaded areas shall be plugged or blocked off during casting of beam.



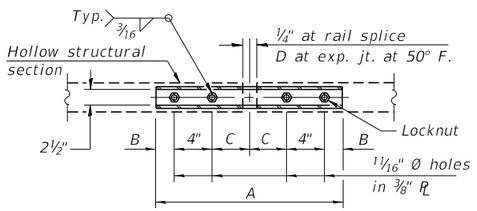
SECTION C-C



SECTIONS AT RAIL SPLICE



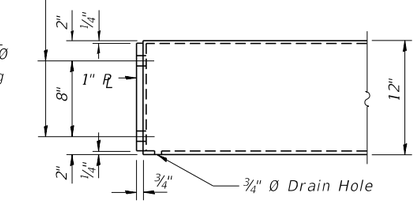
RAIL SPLICE CONNECTION AT EXPANSION JT.

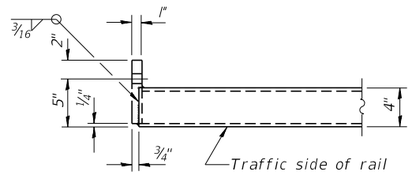


PLAN-BOTT. SPLICE PL

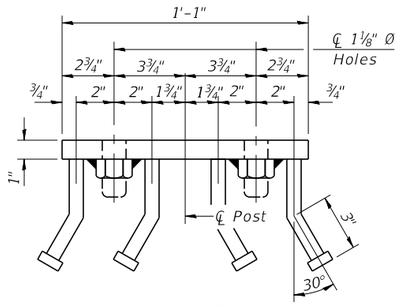
TYPICAL

1 1/8" 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

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	96

** 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.

R-23A

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

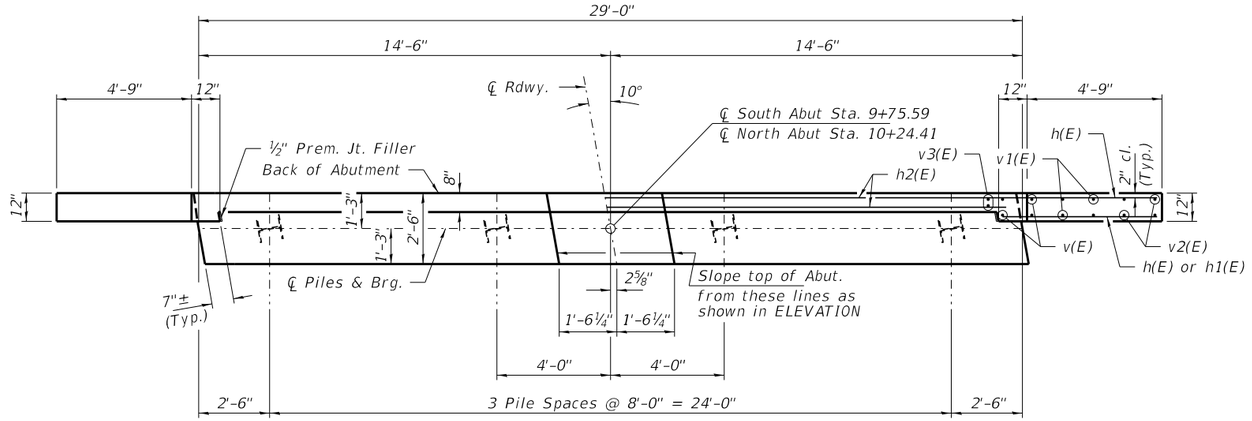
FILE NAME = 180140-sht-bridge.dgn | USER NAME = mosick | DESIGNED - J.W.F. | REVISED -
CHECKED - S.W.M. | REVISED -
PLOT SCALE = | DRAWN - M.M.P. | REVISED -
PLOT DATE = 12/18/2018 | CHECKED - S.W.M. | REVISED -

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

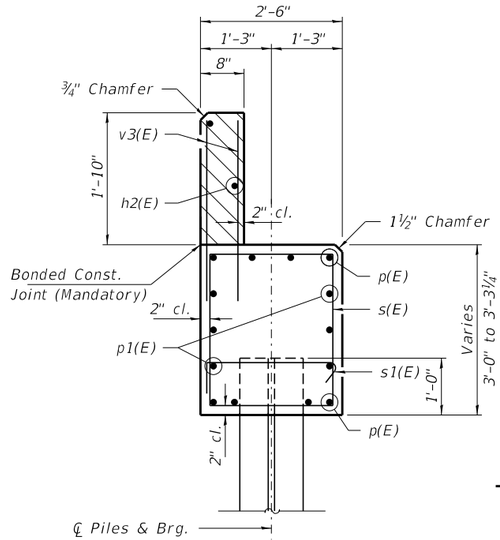
STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 053-4220
SHEET NO. 5 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	9
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)		



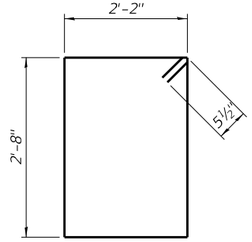
PLAN



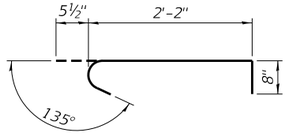
SECTION A-A

Hatched area to be poured after beams are in place.

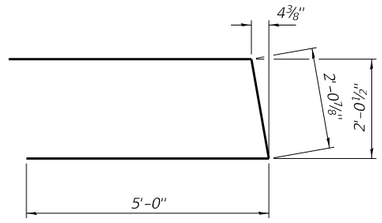
Cast top of wingwall flush with exterior beam face after beams have been erected.



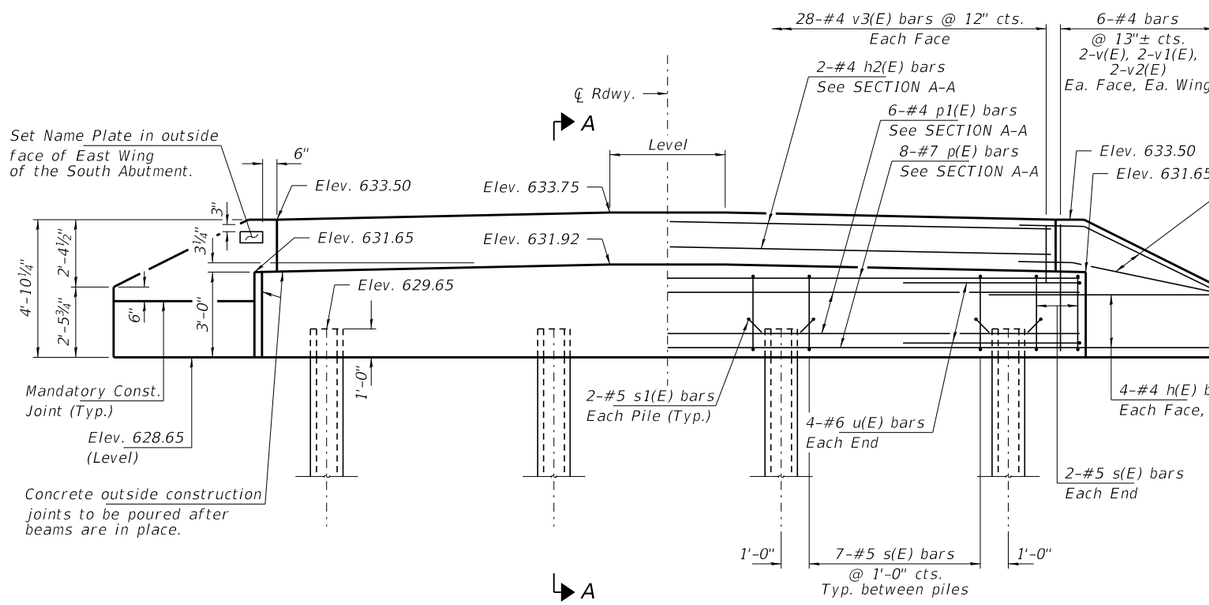
BARS s(E)



BAR s1(E)



BAR u(E)



ELEVATION

PILE DATA

Type _____ Steel HP 10x42
No. Req'd. (2 Abuts.) _____ *8
Factored Resistance Available (Rf) _____ 184 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 North Abutment.

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

BILL OF MATERIAL - 2 ABUTS.

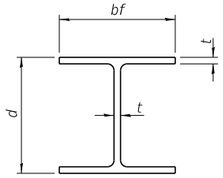
BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	40	#4	7'-0"	———
h1(E)	8	#4	5'-6"	———
h2(E)	4	#4	28'-8"	———
p(E)	16	#7	28'-8"	———
p1(E)	12	#4	28'-8"	———
s(E)	50	#5	10'-7"	□
s1(E)	16	#5	3'-4"	⌒
u(E)	16	#6	12'-1"	▱
v(E)	16	#4	4'-4"	———
v1(E)	16	#4	3'-3"	———
v2(E)	16	#4	2'-2"	———
v3(E)	112	#4	2'-8"	———
Concrete Structures			Cu. Yd.	22.4
Reinf. Bars, Epoxy Coated			Pound	2,820
Steel Piles HP10X42			Foot	315
Test Pile Steel HP10X42			Each	1
Name Plates			Each	1

FILE NAME = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	DRAWN - M.M.P.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

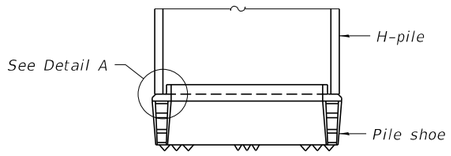
ABUTMENTS
STRUCTURE NO. 053-4220
SHEET NO. 6 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	10
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			

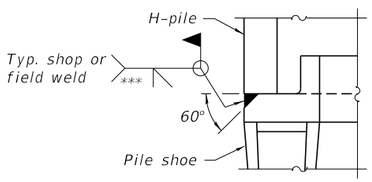


STEEL PILE TABLE

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"



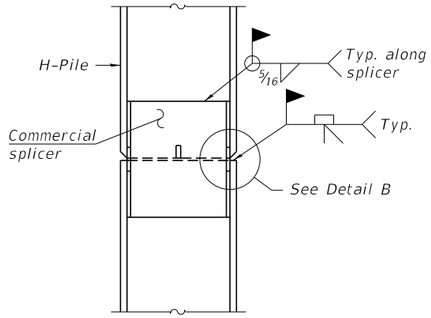
ELEVATION



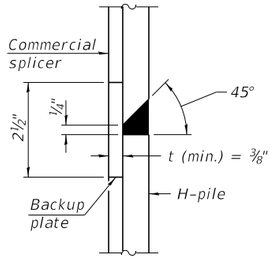
DETAIL A

SHOE ATTACHMENT

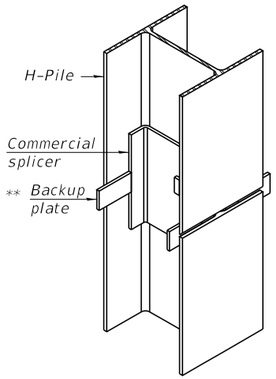
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

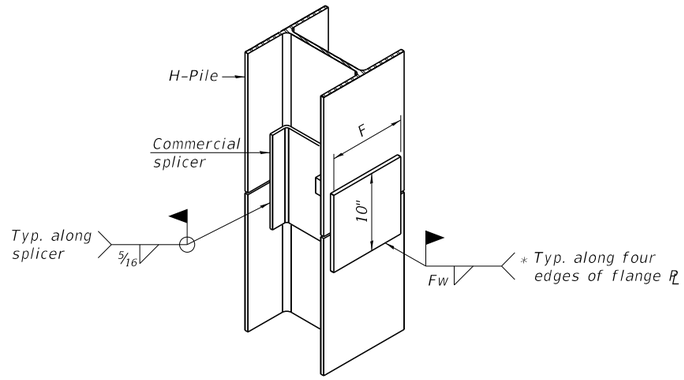


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



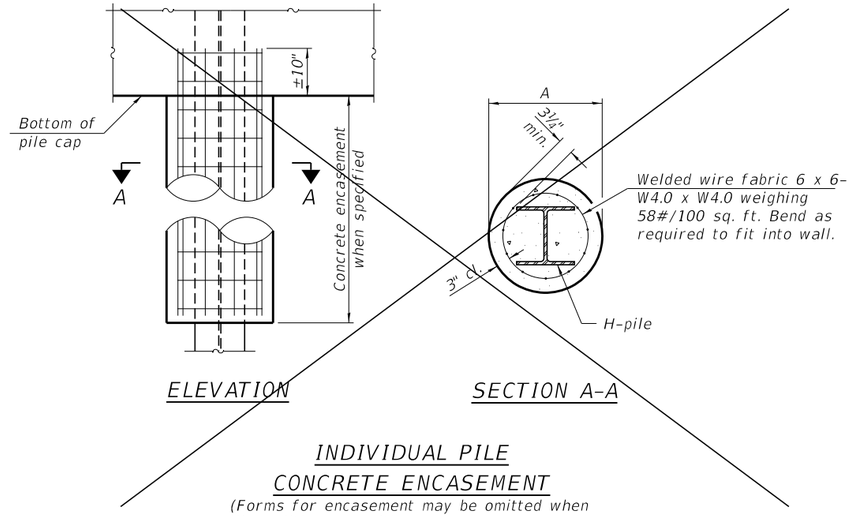
ISOMETRIC VIEW

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.

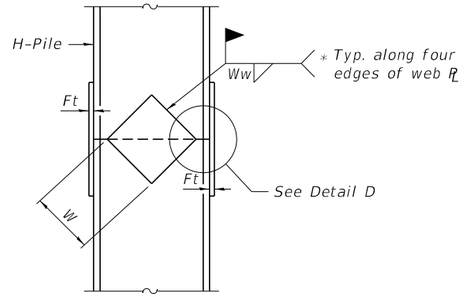
*** Weld size per pile shoe manufacturer (5/16" min.).



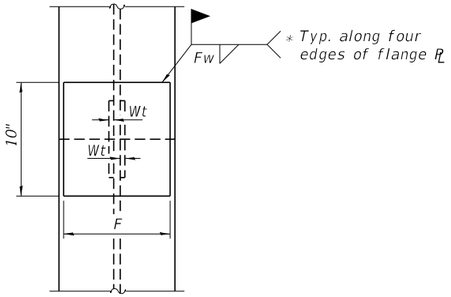
ELEVATION SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

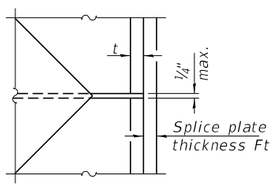
(Forms for encasement may be omitted when soil conditions permit).
(Not Required)



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 = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 053-4220	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		CHECKED - S.W.M.	REVISED -			108	15-09116-06-BR	LIVINGSTON	18	11
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -			ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -		SHEET NO. 7 OF 8 SHEETS			ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)	

ILLINOIS DEPARTMENT OF TRANSPORTATION
Ramsey Geotechnical Engineering
STRUCTURE BORING LOG

Page 1 of 1
Date 3/9/18

ROUTE N 1300 E Road DESCRIPTION Esmen Township Bridge

SECT. _____ STRUCT. NO. 3230 DRILLED BY B. Williamson

COUNTY Livingston LOCATION Esmen Township S31/32, TWP. 29N, RNG. 5E

Boring No. B-1 South Abutment
Station 9+65
Offset 12.00ft LT
Surface Elev. 632.50 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 625.5
at Completion 622.5
after _____ Hrs. _____

DEPTH	Description	BLOWS		Qu tsf	W %
	Stiff dark brown-brown SILTY CLAY LOAM	3 4 3	P	1.5	18
		3 4 4	B	1.39	24
-5					
626.50	Loose brown-gray SANDY LOAM	3 3 3			19
624.50	Hard gray SILTY LOAM	4 4 4	B	4.02	21
-10					
621.50	Loose gray SILT	4 4 5			25
		2 3 3			25
-15					
616.50	Stiff to very stiff gray SILTY LOAM	3 4 5	B	1.76	15
		4 4 5	B	3.24	16
-20					
		4 6 6	B	2.30	13
		3 5 7	P	3.75	13
-25					
	Very stiff gray SILTY LOAM	4 5 8	S	2.20	15
604.50					
	Medium dense gray SILT	6 9 10			19
-30					
600.50	Very dense gray weathered SHALE	14 50/3"			15
-35					
		16 28 40	P	4.5+	17
-40					
		37 50/3"			10
-45					
	End of Boring at 50' - Auger Refusal	50/5"			10
582.50					
-50					

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING B-1

ILLINOIS DEPARTMENT OF TRANSPORTATION
Ramsey Geotechnical Engineering
STRUCTURE BORING LOG

Page 1 of 1
Date 3/9/18

ROUTE N 1300 E Road DESCRIPTION Esmen Township Bridge

SECT. _____ STRUCT. NO. 3230 DRILLED BY B. Williamson

COUNTY Livingston LOCATION Esmen Township S31/32, TWP. 29N, RNG. 5E

Boring No. B-2 North Abutment
Station 10+31
Offset 10.00ft RT
Surface Elev. 632.40 ft

Surface Water Elev. _____
Groundwater Elev.:
when drilling 626.4
at Completion _____
after _____ Hrs. _____

DEPTH	Description	BLOWS		Qu tsf	W %
	Stiff dark brown-brown SILTY CLAY LOAM	3 3 4	P	1.5	20
629.40					
	Medium stiff brown SILTY LOAM	2 2 2	S	0.90	23
-5					
626.40	Very loose brown SANDY LOAM	1 2 2			24
624.40	Very stiff gray SILTY LOAM	3 4 5	B	2.58	23
-10					
621.40	Loose gray SILT	2 3 3			24
619.40	Very stiff to stiff gray SILTY LOAM	3 4 4	B	3.94	15
-15					
		4 4 4	B	2.01	17
		3 4 4	B	2.46	15
-20					
		3 4 4	P	1.5	20
		3 3 4	P	1.5	17
607.40					
-25					
	Medium stiff gray SILTY LOAM	3 3 3	P	0.75	14
-30					
		3 2 3	P	0.75	14
599.40					
	Medium dense gray SILT	4 12 12			25
-35					
596.40	Dense to very dense gray weathered SHALE	5 14 17	S	5.80	12
-40					
		19 28 39			10
-45					
	End of Boring at 50' - Auger Refusal	50/5"			7
582.40					
-50					

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

BORING B-2

FILE NAME = 180140-sht-bridge.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -	STATE OF ILLINOIS LIVINGSTON COUNTY HIGHWAY DEPARTMENT	BORINGS STRUCTURE NO. 053-4220 SHEET NO. 8 OF 8 SHEETS
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP: 184.000959		CHECKED - S.W.M.	REVISED -		
	PLOT SCALE =	DRAWN - M.M.P.	REVISED -		
	PLOT DATE = 12/18/2018	CHECKED - S.W.M.	REVISED -		

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	12
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
	ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)		

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

636 634 632 630

C = 33 F = 1

632.56 632.37

EXIST. R.O.W. 1:3 1:3 1:3 1:3 EXIST. R.O.W.

S.D. 630.10 S.D. 630.20

8 + 50.00

IMPROVEMENT BEGINS

AHEAD C = 32 F = 1

BACK C = 0 F = 0

632.31 632.31

EXIST. R.O.W. EXIST. R.O.W.

S.D. 630.40 S.D. 631.00

8 + 00.00

632.52

EXIST. R.O.W. EXIST. R.O.W.

7 + 50.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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

FILE NAME = 180140-sht-xssheets.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959		DRAWN - T.W.K.	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V | SHEET NO. 1 OF 6 SHEETS | STA. 7+50.00 TO STA. 8+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	13
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			

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

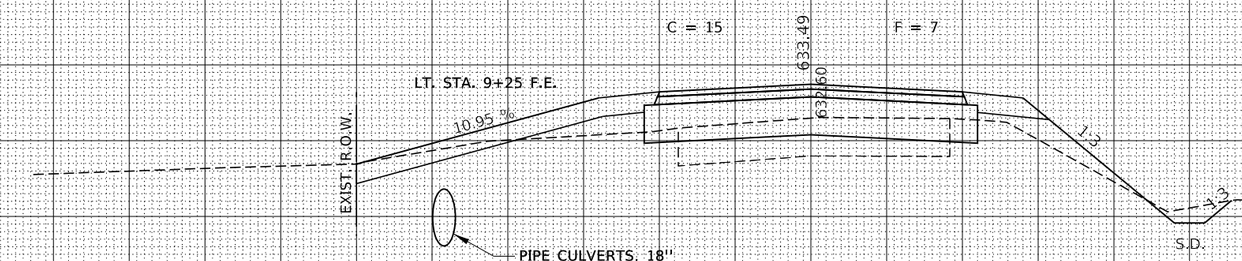
BY	DATE

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

BY	DATE

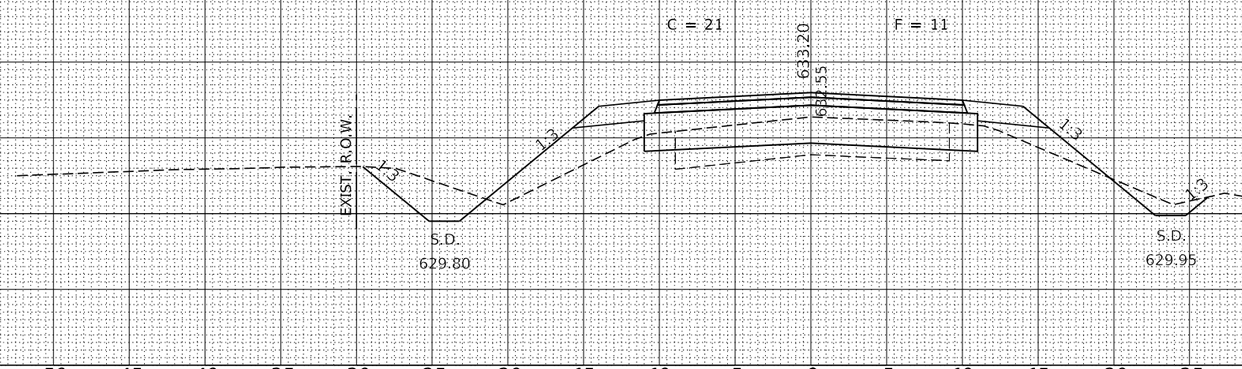
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

636
634
632
630



9+25.00

636
634
632
630



9+00.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

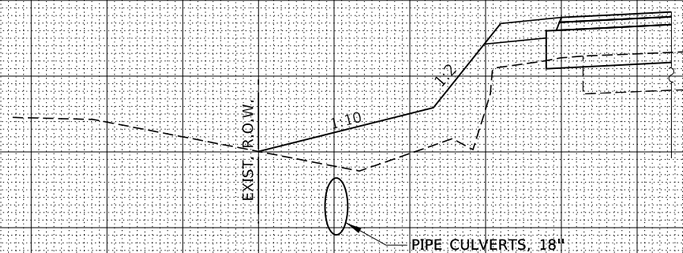
SCALE: 5H:2V | SHEET NO. 2 OF 6 SHEETS | STA. 9+00.00 TO STA. 9+25.00

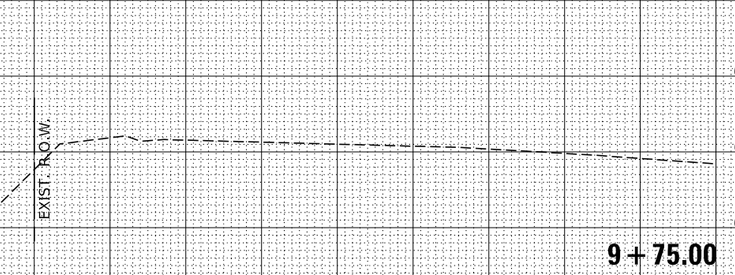
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	14
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

636 634 632 630 628





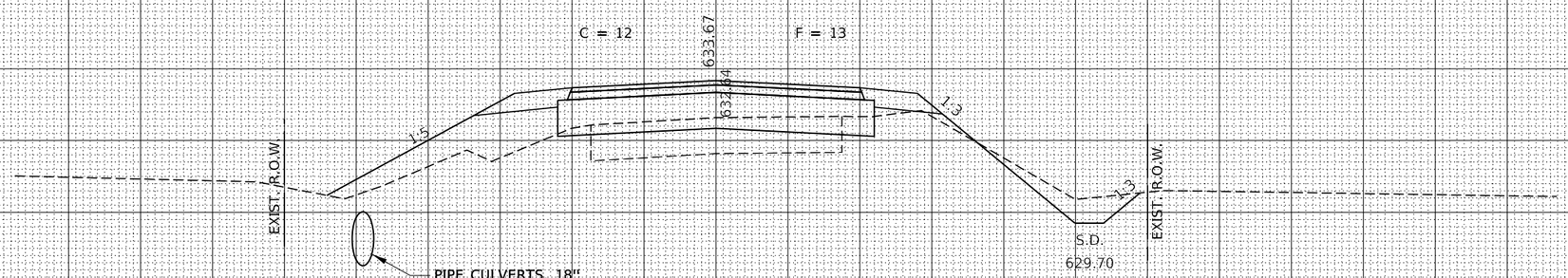
9 + 75.00

9 + 74.32 BK. SOUTH ABUT.

AHEAD C = 0 F = 0
BACK C = 12 F = 13

TRANSITION TO 2:1 SLOPES AT BACK OF ABUTMENT IN 25 FT.

C = 12 F = 13



9 + 50.00

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

636 634 632 630 628

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	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

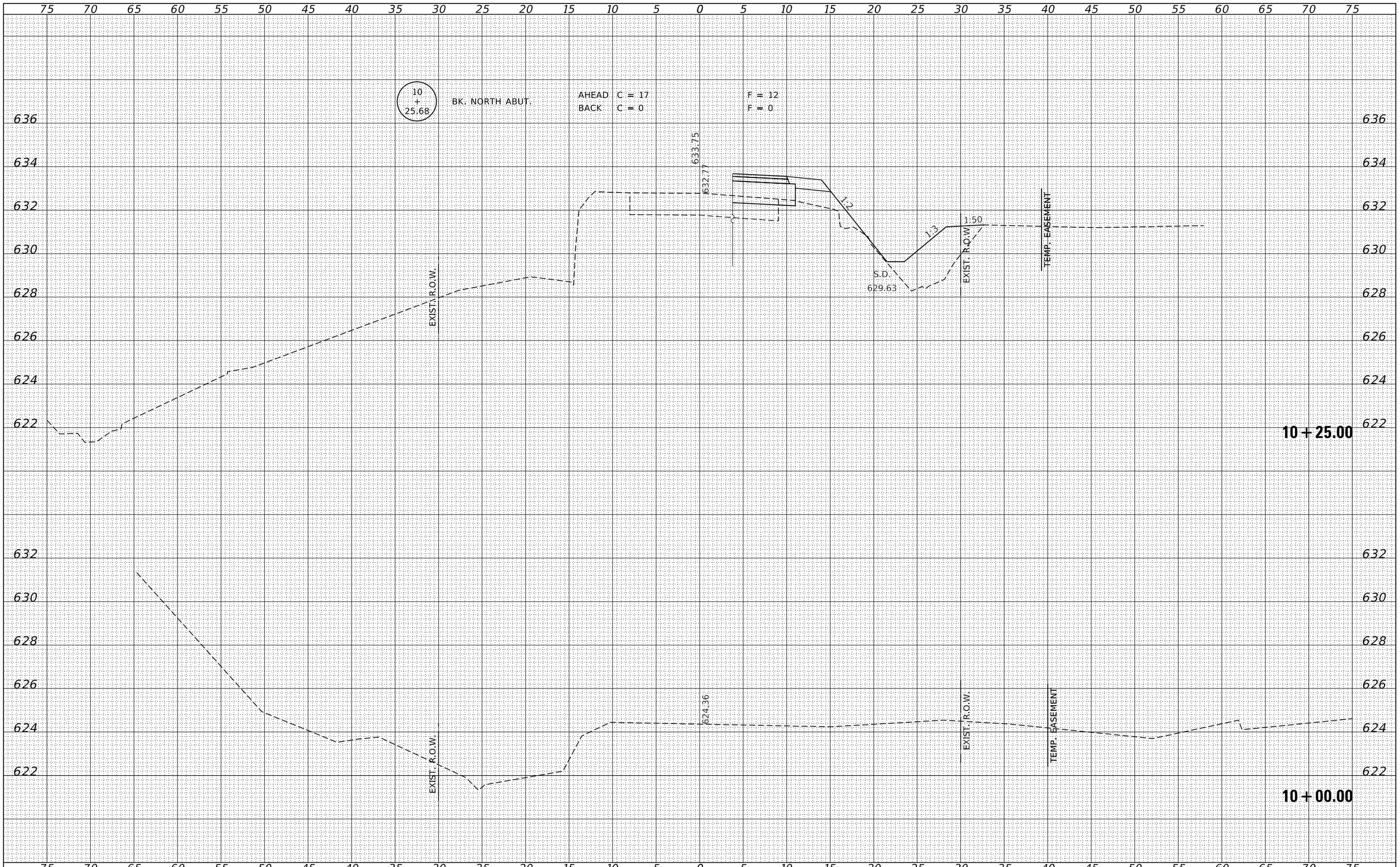
HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
LS / PE / SE CORP. 184.000959

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V | SHEET NO. 3 OF 6 SHEETS | STA. 9+50.00 TO STA. 9+75.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	15
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			



FINAL SURVEY

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

ORIGINAL SURVEY

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

FILE NAME = 180140-sht-xssheets.dgn	USER NAME = rhoslck	DESIGNED - J.W.F.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		DRAWN - T.W.K.	REVISED -
3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000959	PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

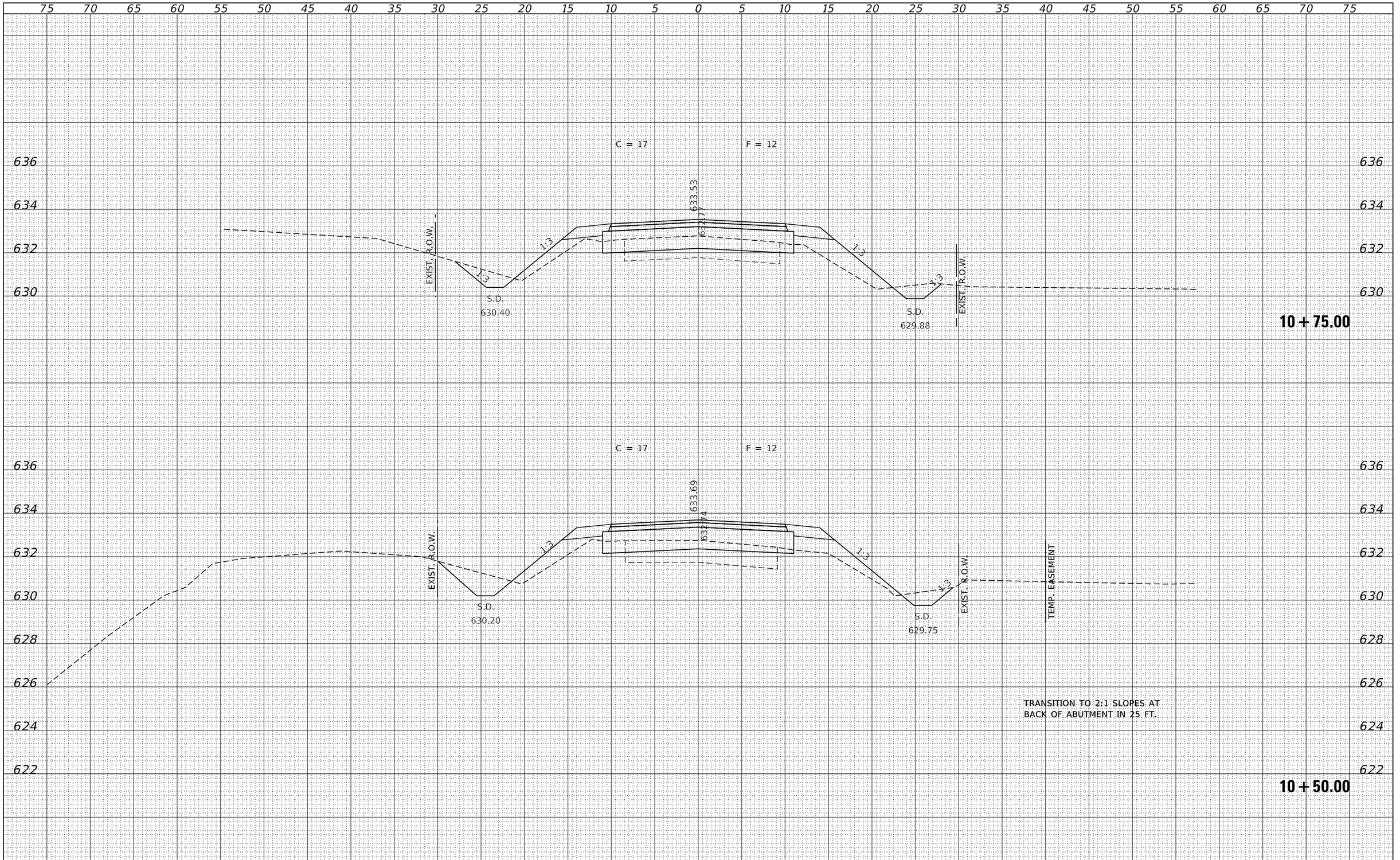
STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V | SHEET NO. 4 OF 6 SHEETS | STA. 10+00.00 TO STA. 10+25.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	16
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			

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



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

FILE NAME = 180140-sht-xssheets.dgn	USER NAME = rhosick	DESIGNED - J.W.F.	REVISED -
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		PLOT SCALE = $SCALE$	CHECKED - S.W.M.	REVISED -
		PLOT DATE = 12/18/2018	DATE - 12/18/18	REVISED -

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
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V | SHEET NO. 5 OF 6 SHEETS | STA. 10+50.00 TO STA. 10+75.00

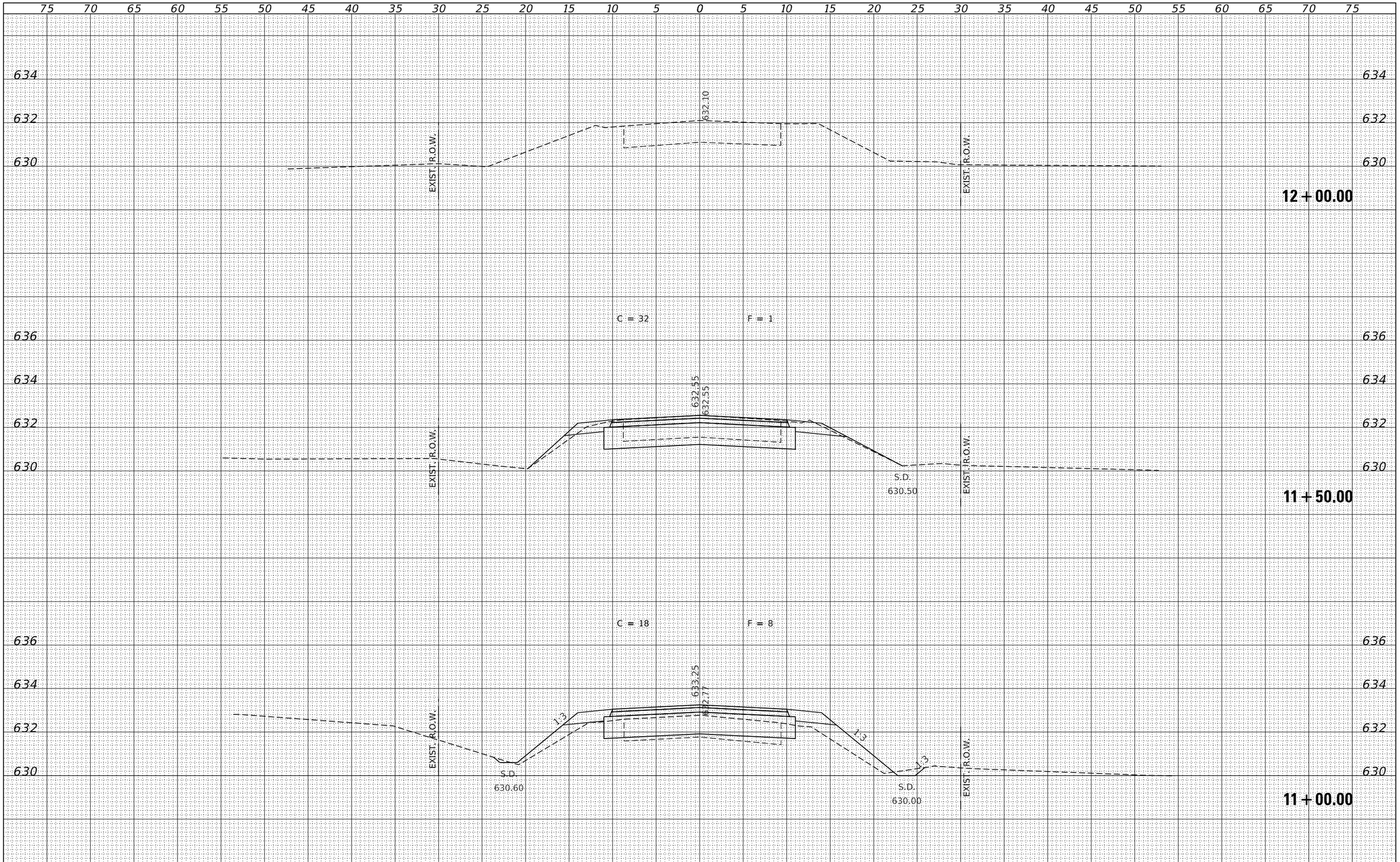
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	17
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			

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

BY	DATE

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

BY	DATE



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		CHECKED - S.W.M.	REVISED -
		DATE - 12/18/18	REVISED -

HAMPTON, LENZINI AND RENWICK, INC.
3085 STEVENSON DRIVE, SUITE 201
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PLOT SCALE = $SCALE$
PLOT DATE = 12/18/2018

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS

SCALE: 5H:2V | SHEET NO. 6 OF 6 SHEETS | STA. 11+00.00 TO STA. 12+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
108	15-09116-06-BR	LIVINGSTON	18	18
ESMEN ROAD DISTRICT		CONTRACT NO. 87707		
ILLINOIS	FED. AID PROJECT BROS-KW2Y(406)			