

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 22	08-00161-01-BR	LIVINGSTON	23	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO.	87452	

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES AND GENERAL NOTES
3.	SCHEDULE OF QUANTITIES
4.	TYPICAL CROSS SECTIONS
5.	PLAN AND PROFILE
6.-11.	STATION CROSS SECTIONS
12.-20.	BRIDGE PLANS
21.-23.	EXISTING BRIDGE PLANS

**HIGHWAY STANDARDS:**

000001-05	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
515001-03	NAME PLATE FOR BRIDGES
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION OF RURAL LOCAL HIGHWAYS
BLR 23-3	TRAFFIC BARRIER TERMINAL TYPE 1
BLR 26-2	STEEL PLATE BEAM GUARDRAIL 700MM (27 1/2") HEIGHT
BLR 27-1	TRAFFIC BARRIER TERMINAL, TYPE 5A

**UTILITIES**

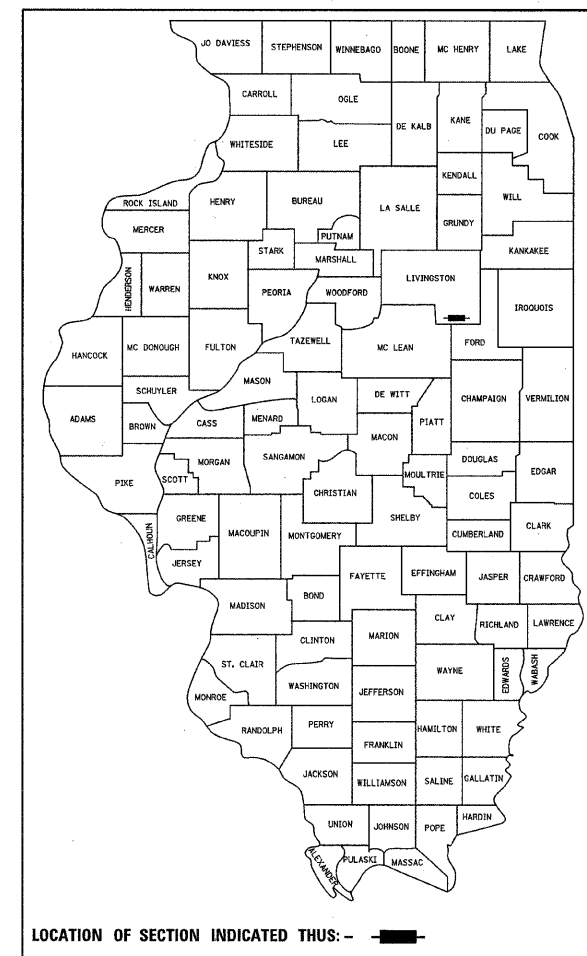
VERIZON NORTH  
MARY RUTH WILLIS  
110 E MONROE  
BLOOMINGTON, IL 61701-2675  
(MAIL CODE) ILLLBON

EASTERN ILLINI ELECTRIC  
330 W OTTAWA ST  
P.O. BOX 96  
PAXTON, IL 60957  
ATTN ALAN SCHWEIGHART 217-379-2131-17

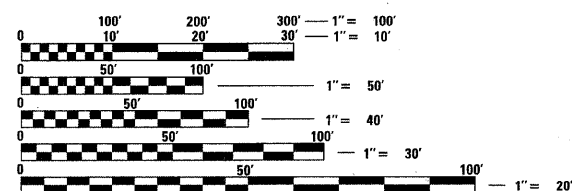
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS**

**PLANS FOR PROPOSED  
HIGHWAY BRIDGE PROGRAM**

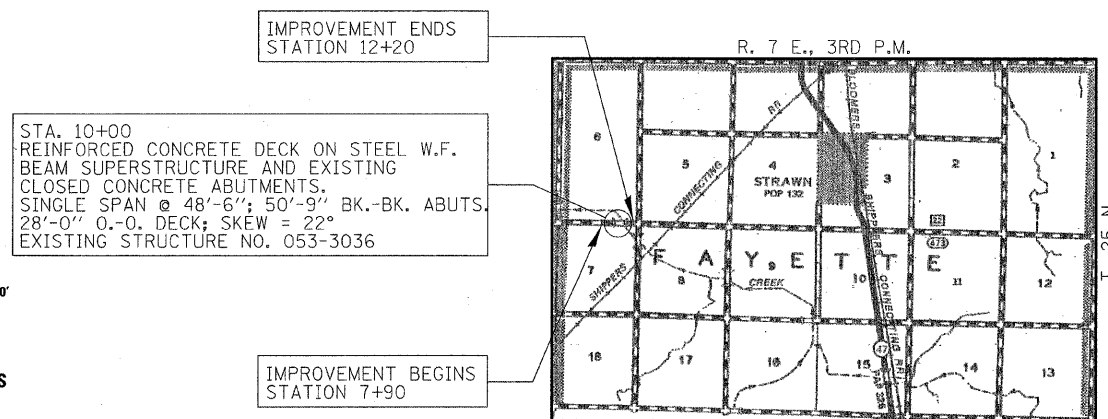
**PROJECT BRS-0473(108)  
SECTION 08-00161-01-BR  
F.A.S. 473 / C.H. 22 OVER INDIAN CREEK  
LIVINGSTON COUNTY  
STRUCTURE NO. 053-3036  
C-93-078-10**



**FUNCTIONAL CLASSIFICATION:** RURAL COLLECTOR (<400 ADT)  
**DESIGN SPEED:** 40 MPH  
**DESIGN TRAFFIC:** 250 ADT (2005)



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.

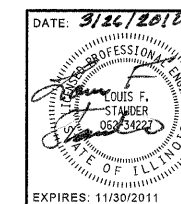


**LOCATION MAP**

APPROXIMATE SCALE: 0 1 MILE  
NET LENGTH OF SECTION = 430 FEET = 0.081 MILES



ILLINOIS DEPARTMENT OF TRANSPORTATION	
APPROVED	03/26/2010 <i>[Signature]</i> COUNTY ENGINEER
APPROVED	_____ ROAD COMMISSIONER
PASSED	4-2 2010 <i>[Signature]</i> DISTRICT THREE IMPLEMENTATION ENGINEER
Releasing For Bid Based on Limited Review	4-2 2010 <i>[Signature]</i> DEPUTY DIRECTOR OF HIGHWAYS REGION TWO ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



**HAMPTON, LENZINI AND RENWICK, INC.**  
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
217.546.3400 www.hrenwicks.com

**CONTRACT NO. 87452**

EXPIRES: 11/30/2011

PROJECT NUMBER: 08.0125.130

DATE: 10/29/09



GUARDRAIL SCHEDULE						
LOCATION	STEEL PLATE BEAM GUARD RAIL TYPE A 6.75 FOOT POSTS	TRAFFIC BARRIER TERMINAL TYPE 5A	TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT	TRAFFIC BARRIER TERMINAL TYPE 1	GUARDRAIL MARKERS	TERMINAL MARKER DIRECT APPLIED
	63000002	63100075	63100167	LR631020	78200405	78201000
	FOOT	EACH	EACH	EACH	EACH	EACH
FAS 473/CH 22						
RT. STA. 8+67.58 TO RT. STA.10+93.75	50	2	2		4	2
LT. STA. 9+30.05 TO LT. STA. 11+32.43	50	2	1	1	3	2
TOTAL	100	4	3	1	7	4

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE( 25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD			CUBIC YARD	CUBIC YARD	CUBIC YARD
FAS 473/CH 22	20200100	20300100					
STA 7+90 TO STA 9+75.17	25		25.00%	100.00%	19	240	-221
STA. 10+24.84 To STA. 12+20	29		25.00%	100.00%	22	266	-244
FROM BRIDGE SUMMARY		90	25.00%	75.00%	51	0	51
	54	90			92	506	-414
20400800 FURNISHED EXCAVATION						414	CU.YD.

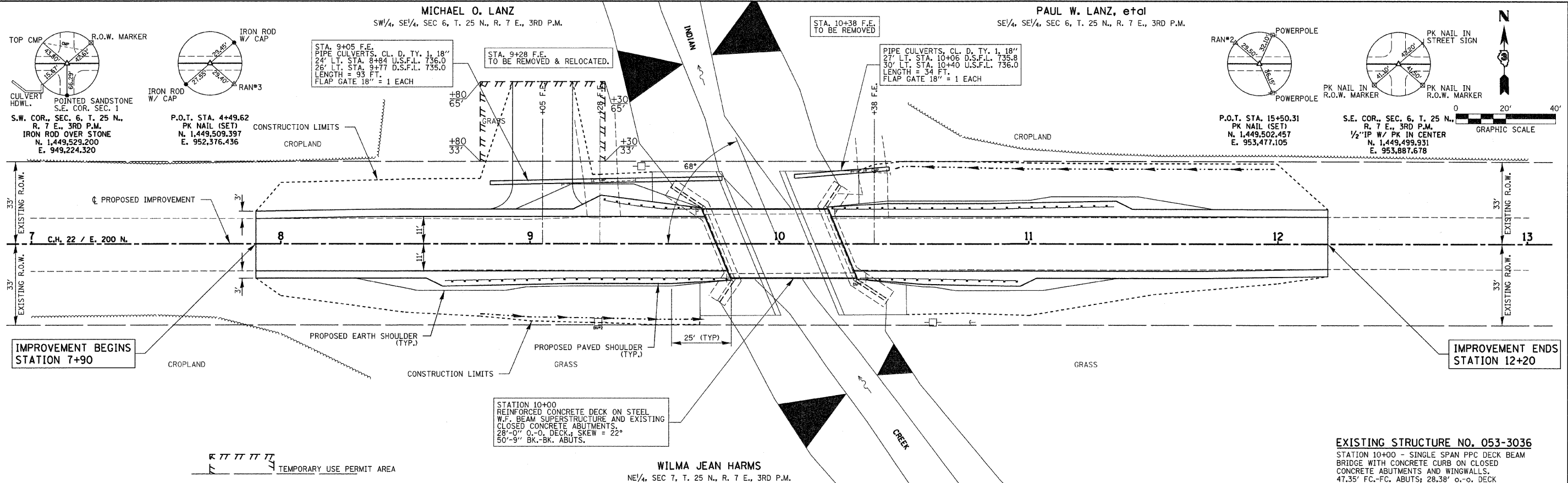
ROADWAY SCHEDULE				
LOCATION	AGGREGATE BASE COURSE TYPE A	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE MIX "C", N50 1.5"	LEVELING BINDER (MACHINE METHOD) N50
	35100100	40600100	40603310	40600625
	TON	GAL	TON	TON
FAS 473/CH 22				
STA 7+80 TO STA 9+75.17	97	219	55	175
STA 10+24.84 TO STA 12+20	99	227	55	96
TOTAL	196	446	110	271

SEEDING SCHEDULE	
LOCATION	SEEDING CLASS 2 SPECIAL 25001000 ACRE
FAS 473/CH 22	
LT. STA 7+90 TO LT. STA.9+70	0.11
RT. STA 7+90 TO RT. STA. 9+80	0.08
LT. STA 10+20 TO LT. STA 12+20	0.11
RT. STA 10+30 TO RT. STA 12+20	0.08
TOTAL	0.38
USE	0.40

60801018 FLAP GATE 18"	
LOCATION	EACH
FAS 473/CH 22	
LT. STA 9+67	1
LT. STA 10+06	1
TOTAL	2

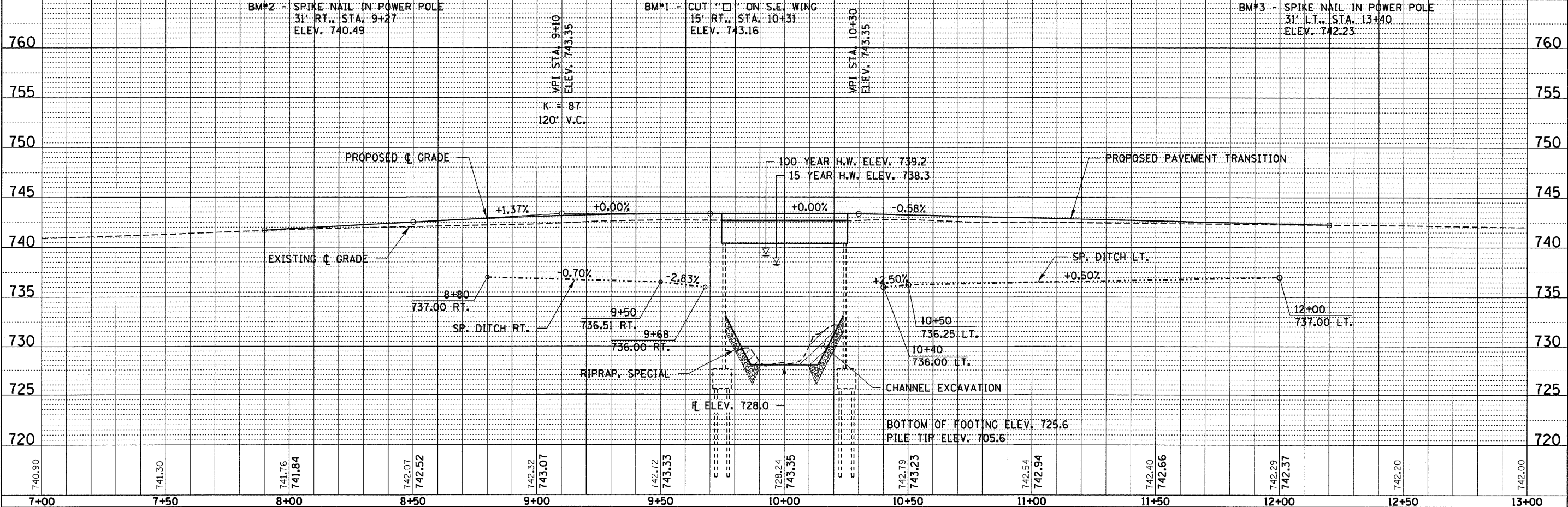
542D0223 PIPE CULVERTS, CLASS D, TYPE 1 18"	
LOCATION	FOOT
FAS 473/CH 22	
LT. STA 8+84 TO LT. STA 9+77	93
LT. STA 10+06 TO LT. STA 10+40	34
TOTAL	127





PLAN	DATE
BY	
REVISIONS	
NO.	

PROFILE	DATE
BY	
REVISIONS	
NO.	

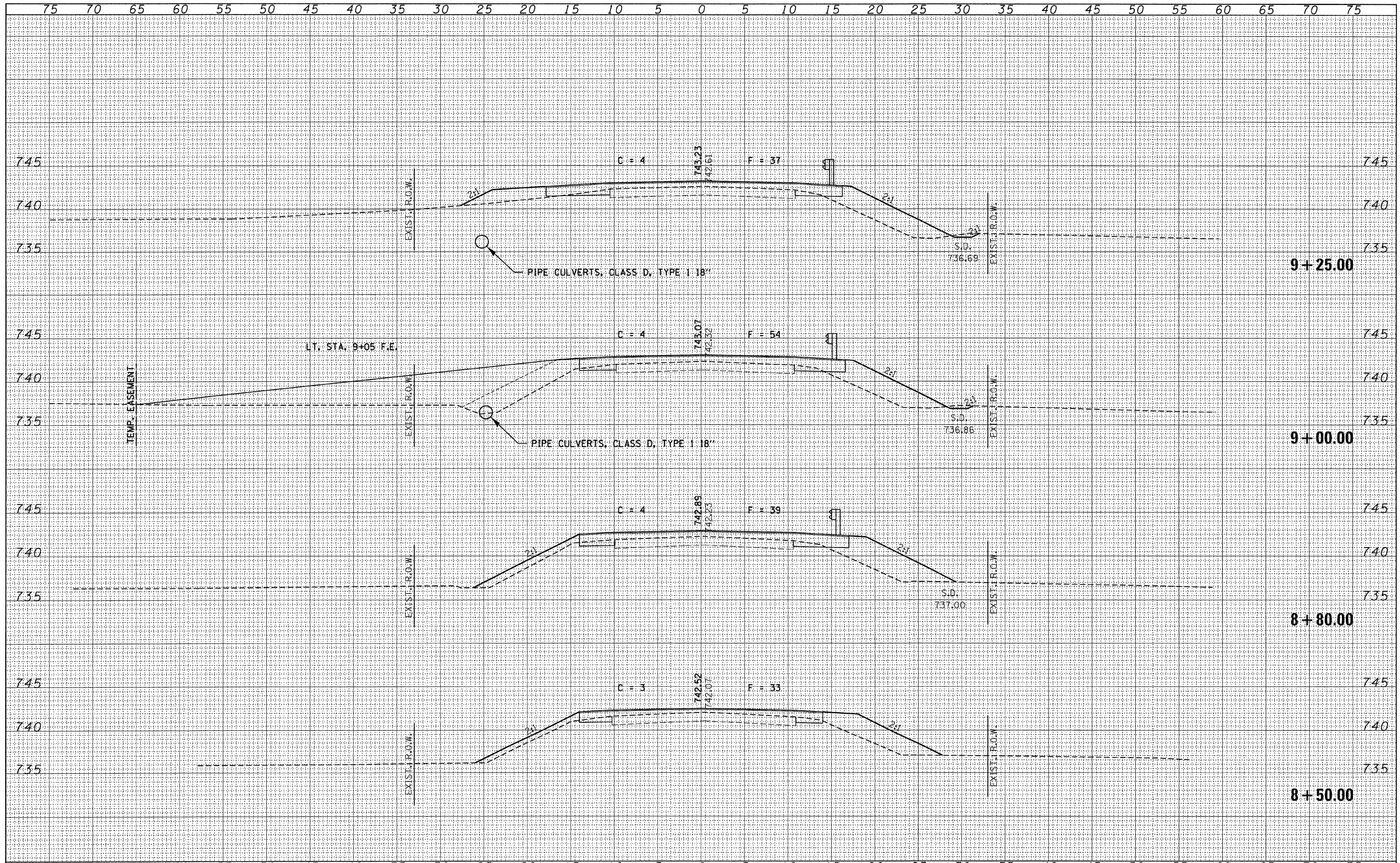


FILE NAME = 090125-shr-pp1.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>LIVINGSTON COUNTY HIGHWAY DEPARTMENT</b> 	<b>PLAN &amp; PROFILE</b> <b>F.A.S. 473 / C.H. 22</b> SCALE: 20H:5V SHEET NO. 1 OF 1 SHEETS STA. 7+00.00 TO STA. 13+00.00	F.A.S. 473	SECTION 08-00161-00-BR	COUNTY LIVINGSTON	TOTAL SHEETS 23	SHEET NO. 5
PLOT SCALE =	CHECKED - S.W.M.	REVISED -	FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	BRS-0473(108)			
PLOT DATE = 3/26/2018	DATE = 09/14/09	REVISED -	CONTRACT NO. 87452							



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

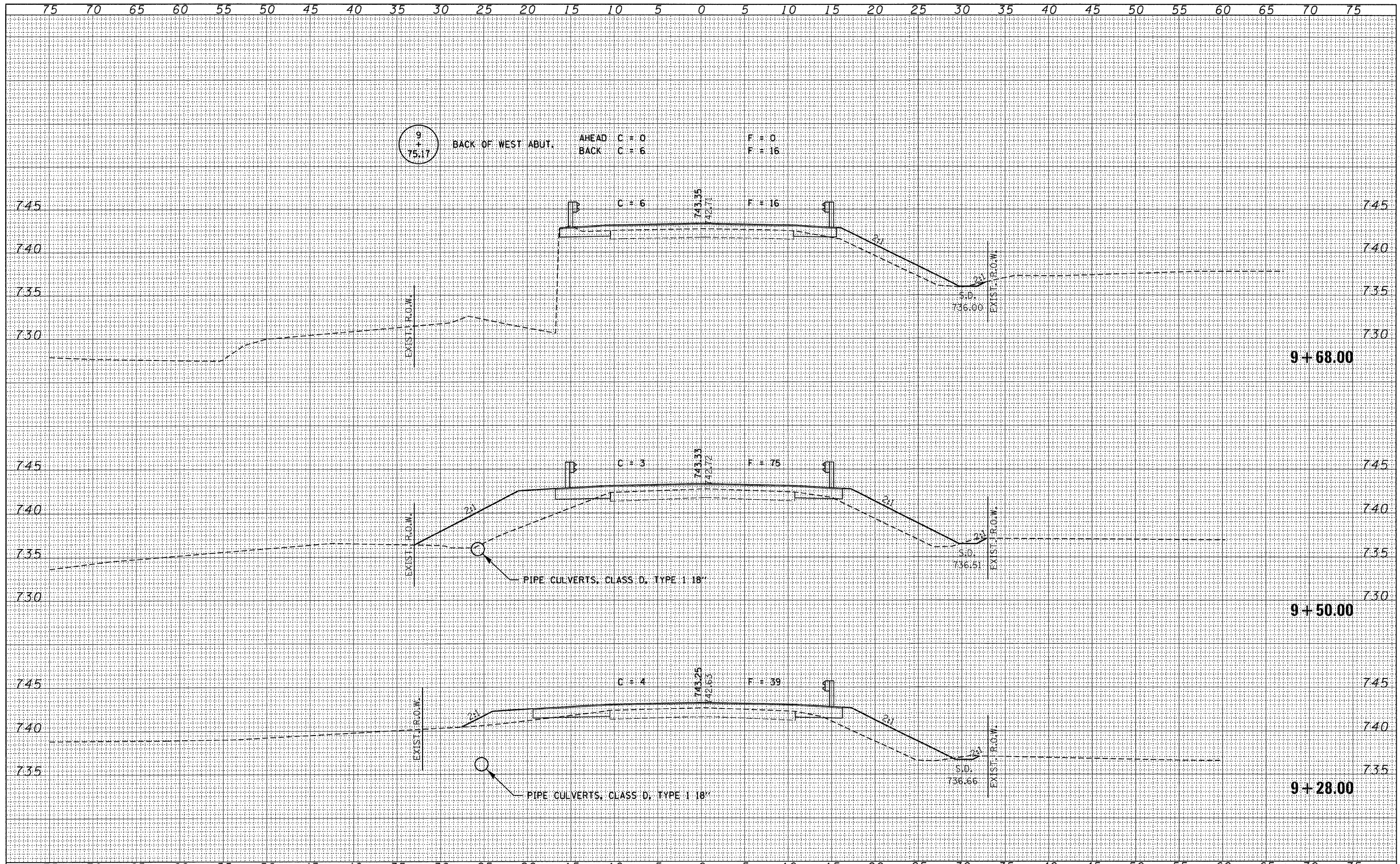
BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK NO.	PLOTTED
	TEMPLATE
	AREAS CHECKED




FILE NAME = 090125-sht-exs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>LIVINGSTON COUNTY HIGHWAY DEPARTMENT</b>		<b>CROSS SECTIONS</b>		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE =	DRAWN - D.T.M.	REVISED -			473	08-00161-00-BR	LIVINGSTON	23	7		
	PLOT DATE = 3/25/2018	CHECKED - S.W.M.	REVISED -			CONTRACT NO. 87452						
		DATE - 09/11/09	REVISED -			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BR5-0473108						

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

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



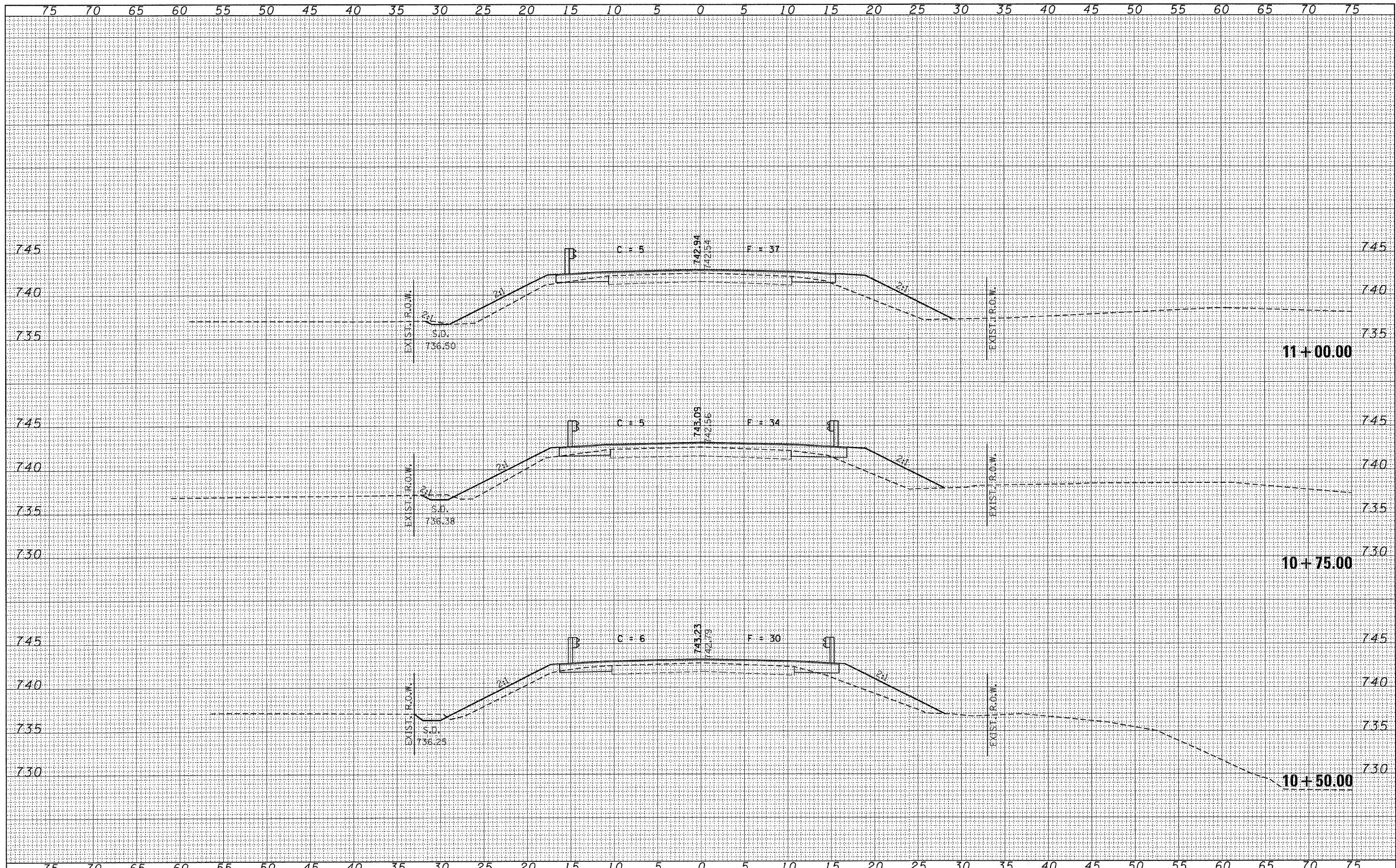
FILE NAME = 090125-sht-axs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>LIVINGSTON COUNTY HIGHWAY DEPARTMENT</b> 	<b>CROSS SECTIONS</b> <b>F.A.S. 473 / C.H. 22</b>		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - D.T.M.	REVISED -		473	08-00161-00-BR	LIVINGSTON	23	8	CONTRACT NO. 87452		
		CHECKED - S.W.M.	REVISED -		SCALE: 5H:5V		SHEET NO. OF SHEETS		STA. 9+28.00 TO STA. 9+68.00		FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT BRS-0473(108)	
		DATE - 09/11/09	REVISED -									





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

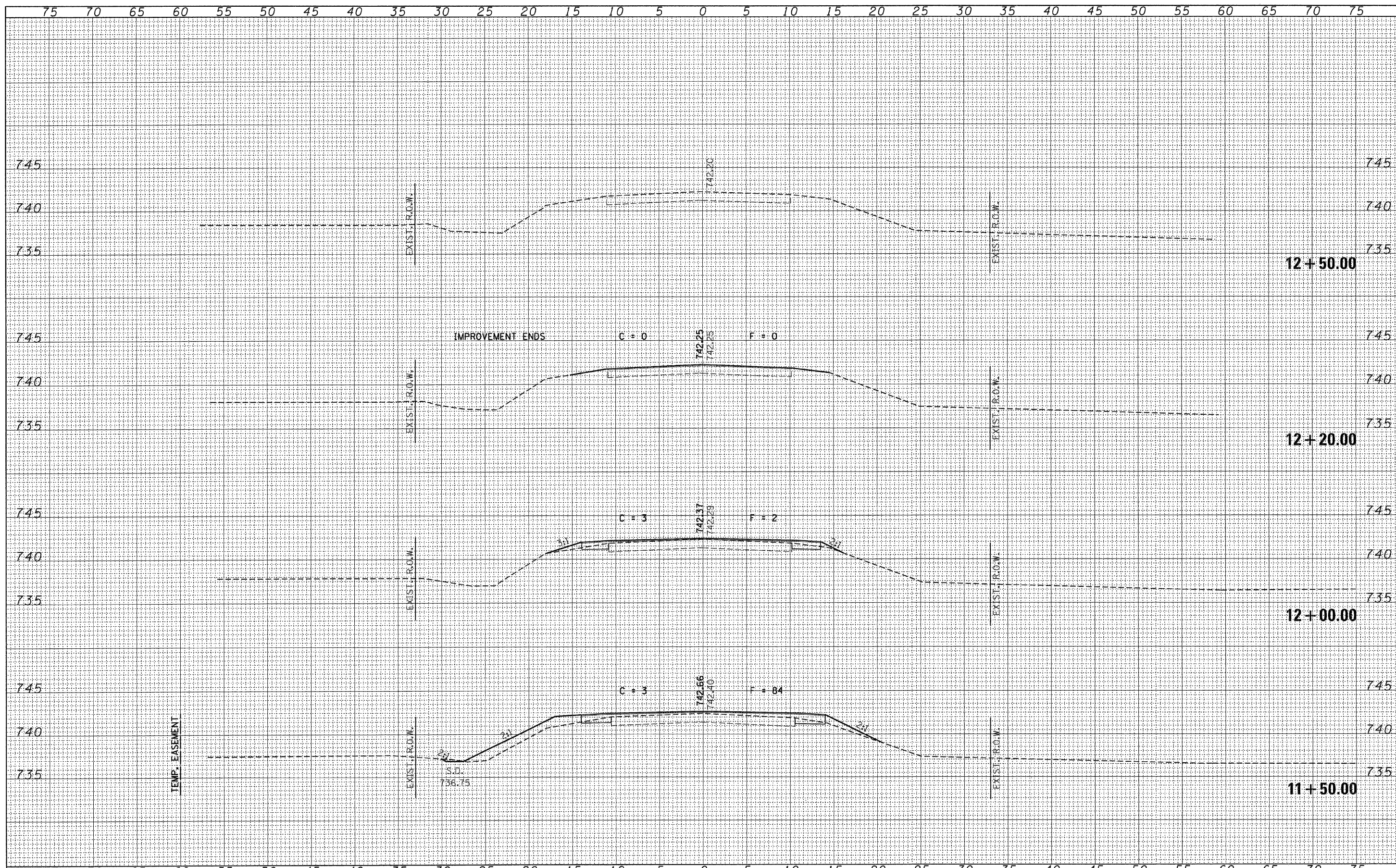
ORIGINAL SURVEY	DATE
SAWKEED	BY
PLOTTED	
TEMPLATE	
NOTE BOOK	
NO.	
AREAS CHECKED	



FILE NAME = 090125-ah-t-axs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>LIVINGSTON COUNTY HIGHWAY DEPARTMENT</b>		<b>CROSS SECTIONS</b>		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - D.T.M.	REVISED -			473	08-00161-00-BR	LIVINGSTON	23	10		
		CHECKED - S.W.M.	REVISED -			CONTRACT NO. 87452						
		DATE - 09/11/09	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT BRS-04731081						
	PLOT SCALE =			SCALE: 5H:5V		SHEET NO. OF	SHEETS	STA. 10+50.00	TO STA. 11+00.00			

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

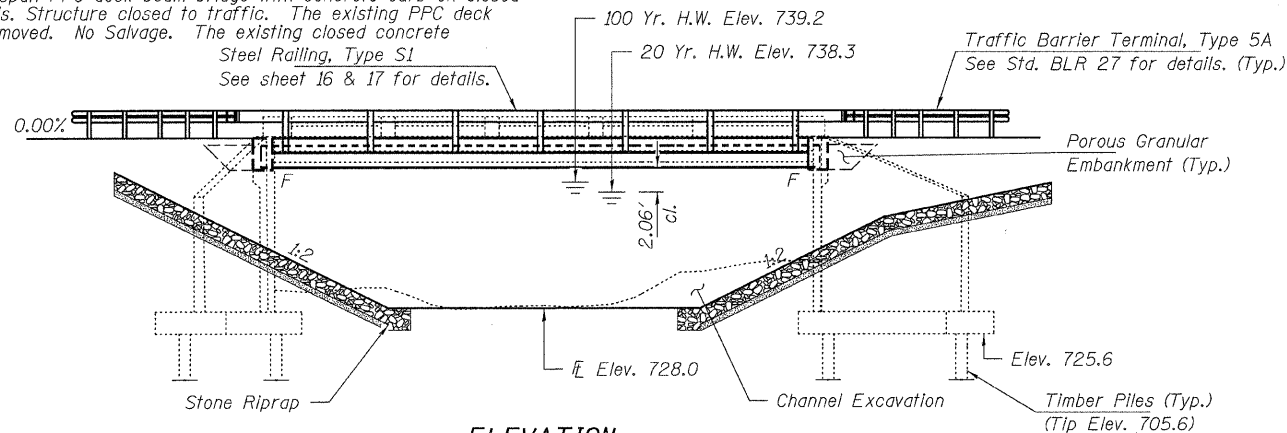
BY	DATE
ORIGINAL SURVEY	SURVEYED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED



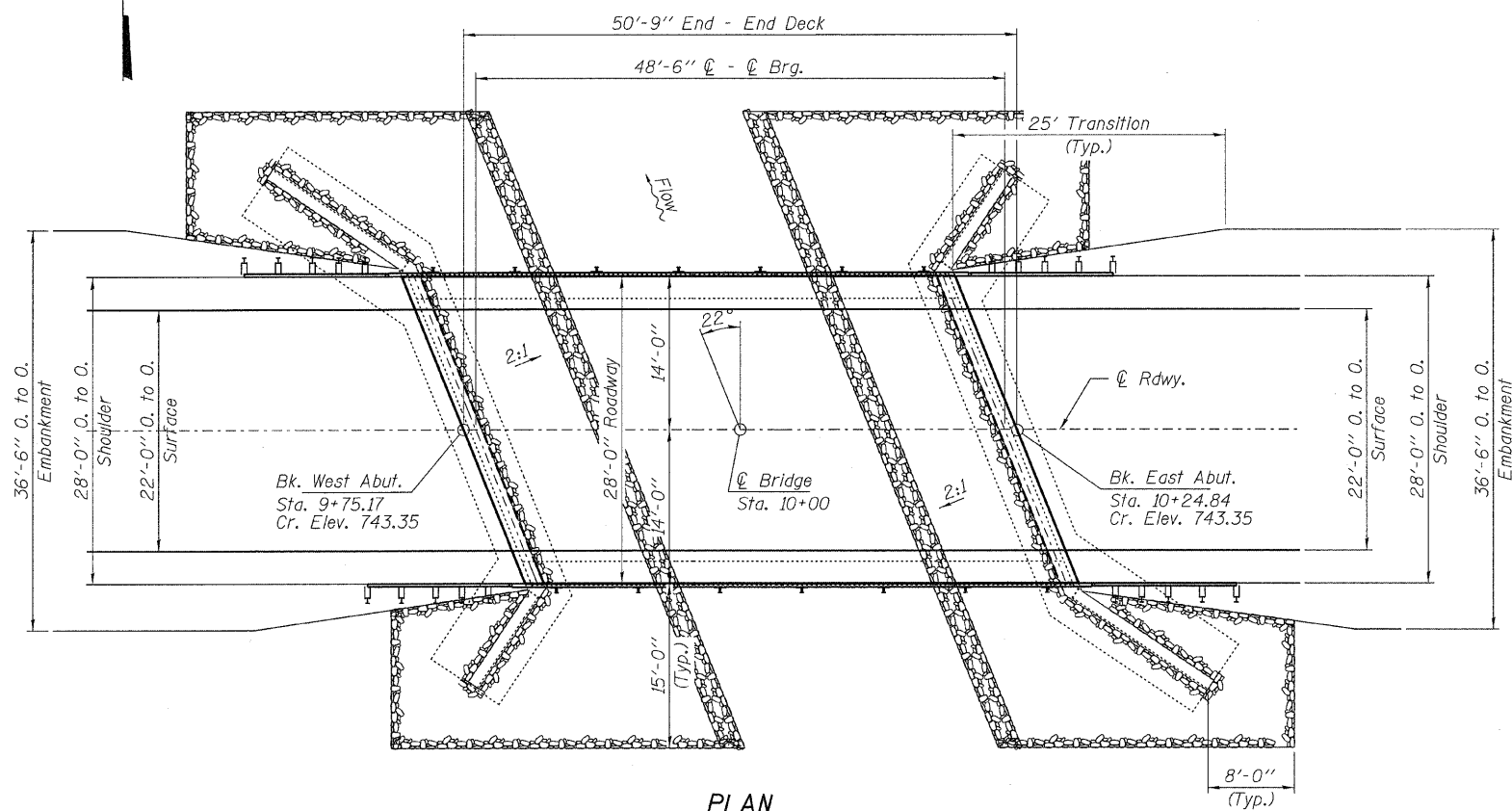
FILE NAME = 090125-sh1-exs.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	<b>STATE OF ILLINOIS</b> <b>LIVINGSTON COUNTY HIGHWAY DEPARTMENT</b>		<b>CROSS SECTIONS</b>		F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - D.T.M.	REVISED -			473	08-00161-00-BR	LIVINGSTON	23	11		
		CHECKED - S.W.M.	REVISED -			CONTRACT NO. 87452						
		DATE - 09/11/09	REVISED -			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT BR5-0473(108)						
PLOT SCALE =		PLOT DATE = 3/25/2010		SCALE: 5H:5V		SHEET NO. OF SHEETS		STA. 11+50.00 TO STA. 12+50.00				

BENCHMARK: Cut "□" on SE Wingwall. 15, Rt., Sta. 10+31, Elev. 743.16

EXISTING STRUCTURE: Single span PPC deck beam bridge with concrete curb on closed concrete abutments and wingwalls. Structure closed to traffic. The existing PPC deck beam superstructure shall be removed. No Salvage. The existing closed concrete abutments shall be used in place.



ELEVATION



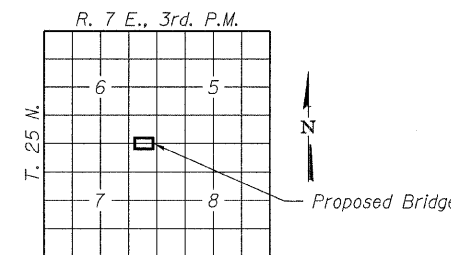
PLAN

GENERAL NOTES

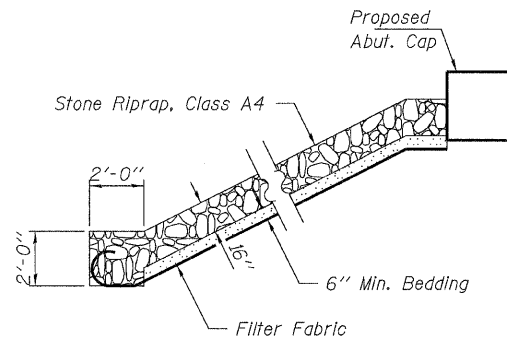
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.  
 Fasteners shall be AASHTO M164 Type 3. Bolts 3/4 in. φ, holes 15/16 in. φ, unless otherwise noted.  
 Calculated weight of Structural Steel = 24,720  
 No field welding is permitted except as specified in the contract documents.  
 Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cpa plus 3 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.  
 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.

INDIAN CREEK  
 BUILT 20... BY  
 LIVINGSTON COUNTY  
 SEC. 08-00161-01-BR  
 C.H. 22 / FAS 473  
 STR. NO. 053-3036  
 LOADING HL-93

NAME PLATE  
 See Std. 515001



LOCATION SKETCH



SECTION A-A

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			90
Porous Granular Embankment	Ton			24
Stone Riprap, Class A4	Sq. Yd.		320	320
Filter Fabric	Sq. Yd.		320	320
Concrete Structures	Cu. Yd.		0.9	0.9
Removal of Existing Super Structures	Each			1
Concrete Removal	Cu. Yd.		1.8	1.8
Concrete Superstructures	Cu. Yd.	48.1		48.1
Bridge Deck Grooving	Sq. Yd.	147		147
Protective Coat	Sq. Yd.	173		173
Stud Shear Connectors	Each	1,260		1,260
Reinforcement Bars, Epoxy Coated	Pound	9,910		9,910
Steel Railing, Type S1	Foot	107		107
Name Plates	Each	1		1
Furnishing & Erecting Structural Steel	L. Sum	1		1

EXISTING DESIGN STRESSES

f<sub>c</sub> = 1,000 psi  
 f<sub>s</sub> = 20,000 psi (Reinf.)  
 Loading HS15 (Substructure)

DESIGN STRESSES

FIELD UNITS  
 f'c = 3,500 psi  
 f<sub>y</sub> = 60,000 psi (Reinf.)  
 f<sub>y</sub> = 50,000 psi (Struct.)

LOADING HL-93 (SUPER)

Design Specifications: 2007 AASHTO LRFD with all applicable Interims.  
 50#/Sq. Ft. included in dead load for future wearing surface.

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.045g  
 Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.056g  
 Soil Site Class = D

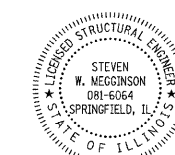
WATERWAY INFORMATION

		Existing Low Grade Elev. 740.9 @ Sta. 7+00		Proposed Low Grade Elev. 740.9 @ Sta. 7+00		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.
			Exist. Prop.	Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	1910	370 370	737.83	0.41 0.41	738.24 738.24
Base	20	2400	390 390	738.32	0.71 0.71	739.03 739.03
Max. Calc.	100	3600	430 430	739.18	1.26 1.26	740.44 740.44
	500	4900	470 470	739.93	1.92 1.92	741.85 741.85

10 Year Velocity through Existing Bridge = 5.2 fps      10 Year Velocity through Proposed Bridge = 5.2 fps

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. Morrison 3/25/2010  
 ILLINOIS STRUCTURAL NO. 081-6064

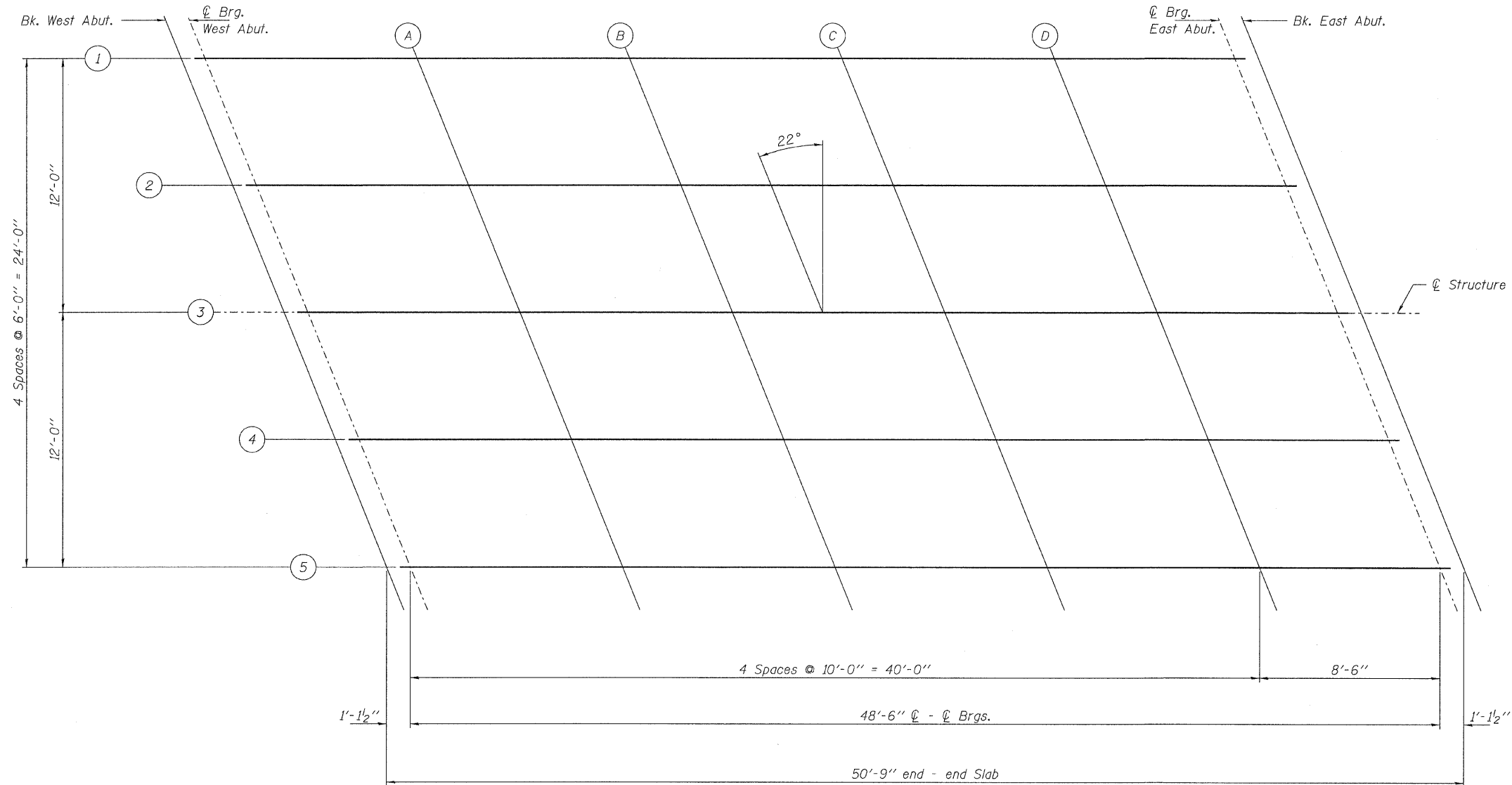


Expires 11-30-2010

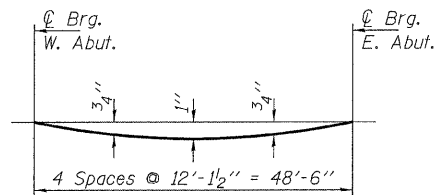
GENERAL PLAN AND ELEVATION  
 STRUCTURE NO. 053-3036

PROJECT NUMBER: 09.0125.130	DATE: 03/25/10	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		22	08-00161-01-BR	LIVINGSTON	23	12
				CONTRACT NO. 87452		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)				

**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

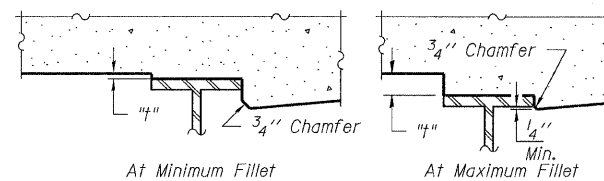


PLAN



**DEAD LOAD DEFLECTION DIAGRAM**  
(Includes weight of concrete only)

Note: The above 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 on Sheet 14.



To determine "4": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations, subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 14, minus slab thickness, equals the fillet heights "4" above top flange of beams.

**FILLET HEIGHTS**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

**SLAB ELEVATIONS**  
**STRUCTURE NO. 053-3036**

<b>HAMPTON, LENZINI AND RENWICK, INC.</b> CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrenwrick.com <small>194.000589 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION</small>	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	22	08-00161-01-BR	LIVINGSTON	23	13
CONTRACT NO. 87452					
PROJECT NUMBER: 09.0125.130	DATE: 03/25/10	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0473(108)			

**BEAM 1**

	Bk. of W. Abut.	C of W. Abut.	Span 1				C of E. Abut.	Bk. of E. Abut.
			A	B	C	D		
Theoretical Grade Elevation	743.100	743.100	743.100	743.100	743.100	743.100	743.100	743.100
Theoretical Grade Elevation Adjusted for D.L. Deflection	743.100	743.100	743.152	743.181	743.178	743.145	743.100	743.100
Bottom of Slab Elevation	742.433	742.433	742.485	742.514	742.512	742.478	742.433	742.433
Top of Steel								
Fillet Height "t"								

**BEAM 2**

	Bk. of W. Abut.	C of W. Abut.	Span 1				C of E. Abut.	Bk. of E. Abut.
			A	B	C	D		
Theoretical Grade Elevation	743.225	743.225	743.225	743.225	743.225	743.225	743.225	743.225
Theoretical Grade Elevation Adjusted for D.L. Deflection	743.225	743.225	743.277	743.306	743.303	743.270	743.225	743.225
Bottom of Slab Elevation	742.558	742.558	742.610	742.639	742.637	742.603	742.558	742.558
Top of Steel								
Fillet Height "t"								

**BEAM 3 & C STRUCTURE**

	Bk. of W. Abut.	C of W. Abut.	Span 1				C of E. Abut.	Bk. of E. Abut.
			A	B	C	D		
Theoretical Grade Elevation	743.350	743.350	743.350	743.350	743.350	743.350	743.350	743.350
Theoretical Grade Elevation Adjusted for D.L. Deflection	743.350	743.350	743.402	743.431	743.428	746.395	746.350	746.350
Bottom of Slab Elevation	742.683	742.683	742.735	742.764	742.762	742.728	742.683	742.683
Top of Steel								
Fillet Height "t"								

**BEAM 4**

	Bk. of W. Abut.	C of W. Abut.	Span 1				C of E. Abut.	Bk. of E. Abut.
			A	B	C	D		
Theoretical Grade Elevation	743.225	743.225	743.225	743.225	743.225	743.225	743.225	743.225
Theoretical Grade Elevation Adjusted for D.L. Deflection	743.225	743.225	743.277	743.306	743.303	743.270	743.225	743.225
Bottom of Slab Elevation	742.558	742.558	742.610	742.639	742.637	742.603	742.558	742.558
Top of Steel								
Fillet Height "t"								

**BEAM 5**

	Bk. of W. Abut.	C of W. Abut.	Span 1				C of E. Abut.	Bk. of E. Abut.
			A	B	C	D		
Theoretical Grade Elevation	743.100	743.100	743.100	743.100	743.100	743.100	743.100	743.100
Theoretical Grade Elevation Adjusted for D.L. Deflection	743.100	743.100	743.152	743.181	743.178	743.145	743.100	743.100
Bottom of Slab Elevation	742.433	742.433	742.485	742.514	742.512	742.478	742.433	742.433
Top of Steel								
Fillet Height "t"								

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

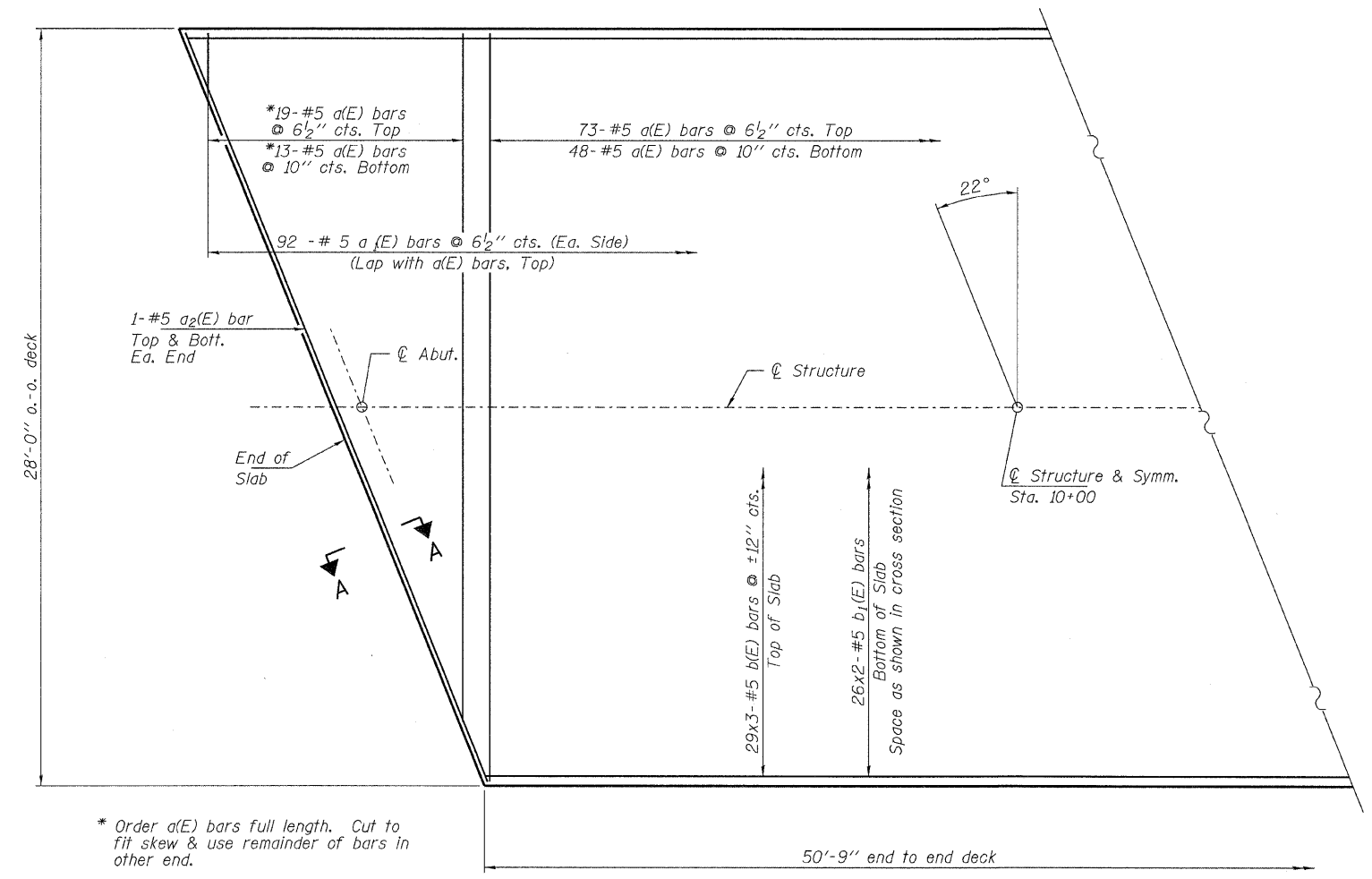
**SLAB ELEVATIONS  
STRUCTURE NO. 053-3036**

**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

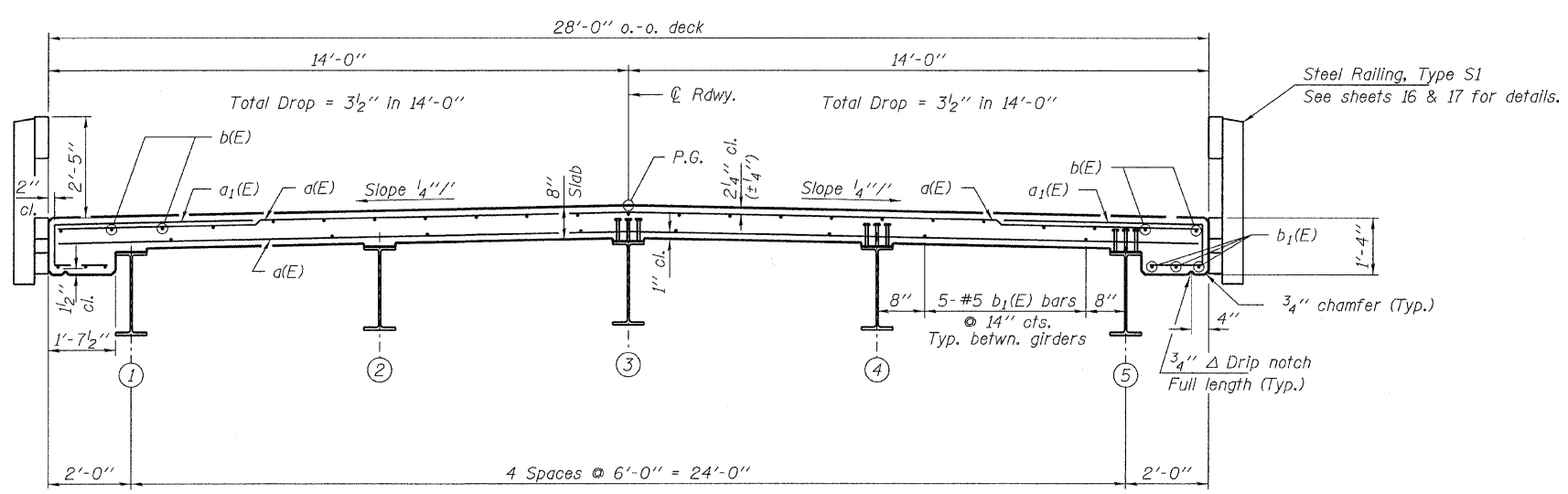
184.00069  
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0125.130      DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	14
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT BRS-0473(108)	
CONTRACT NO. 87452				



PLAN



CROSS SECTION  
(Looking East)

Notes:  
Bars indicated thus 26x2-#5 etc. indicates 26 lines of bars with 2 lengths per line. See Sheet 16 for Section A-A.

MIN. BAR LAPS  
#5 bars = 3'-3"  
#6 bars = 3'-1"

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

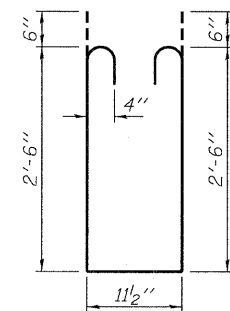
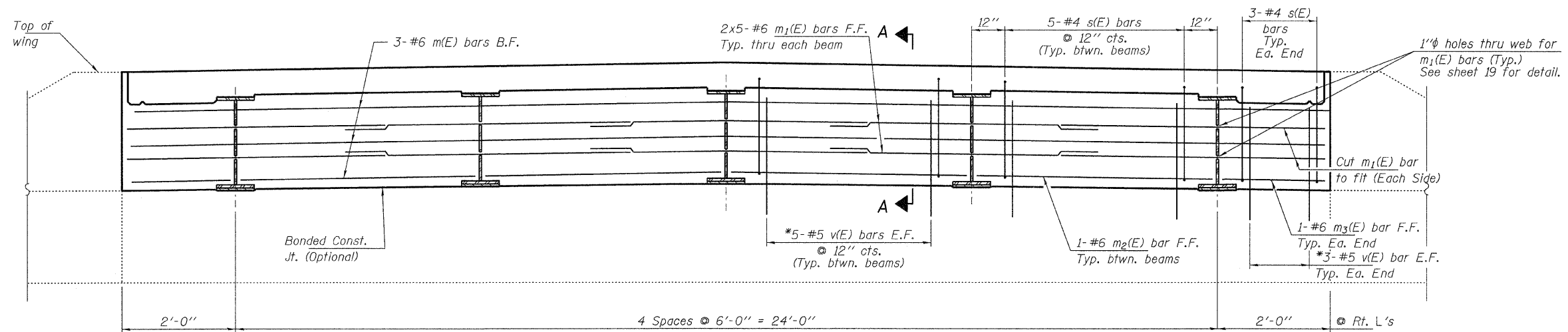
**HAMPTON, LENZINI AND RENWICK, INC.**  
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.546.3400 www.hlrengineering.com

184.000659  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

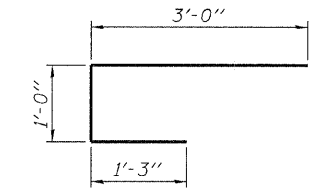
PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	15
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		

**SUPERSTRUCTURE  
STRUCTURE NO. 053-3036**



BAR s(E)



BAR a1(E)

**DIAPHRAGM AT ABUTMENTS**

South Abut. (Looking South)  
 North Abut. (Looking North)  
 F.F. - Front Face  
 B.F. - Back Face

**MIN. BAR LAPS**

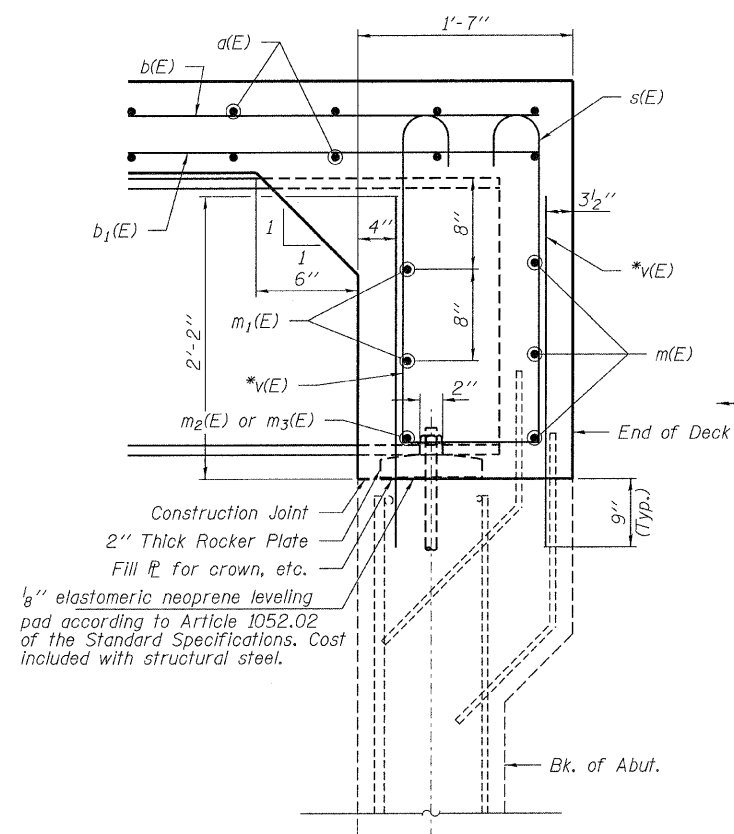
#6 bars = 2'-9"

\* Epoxy grout v(E) bars into drilled 7/8" x 9" deep holes. The epoxy grout and method of application shall be in accordance with Sec. 584 of the Standard Specifications

**BILL OF MATERIAL**

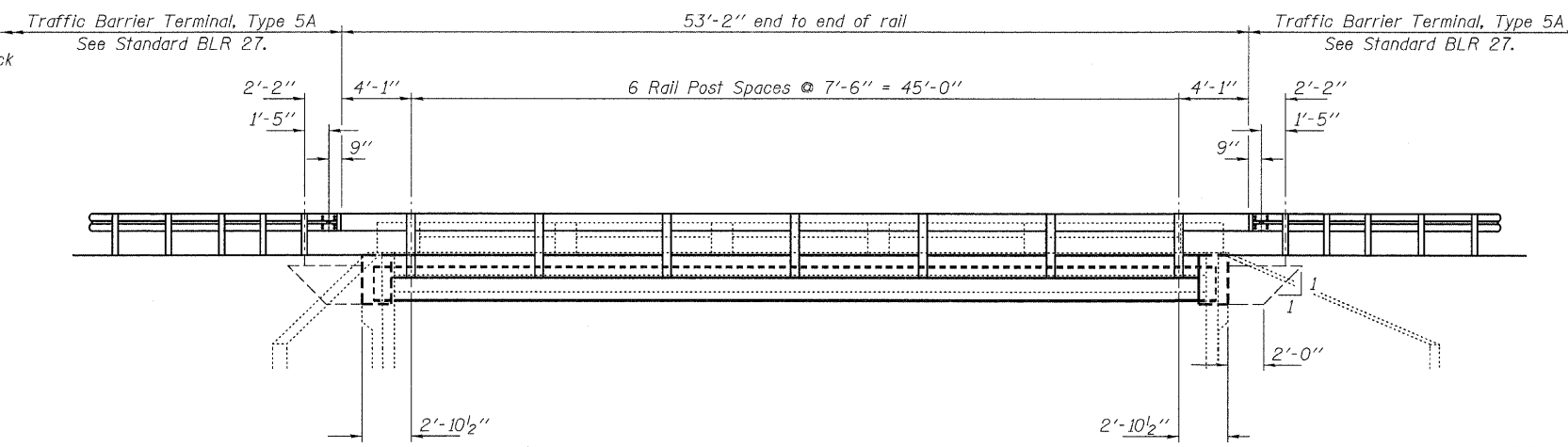
BAR	NO.	SIZE	LENGTH	SHAPE
a(E)	153	#5	27'-8"	—
a1(E)	184	#5	5'-3"	┌
a2(E)	4	#5	29'-10"	—
b(E)	87	#5	18'-11"	—
b1(E)	52	#5	26'-9"	—
m(E)	6	#6	29'-10"	—
m1(E)	20	#6	9'-7"	—
m2(E)	8	#6	5'-8"	—
m3(E)	4	#6	1'-8"	—
s(E)	52	#4	6'-11 1/2"	⊓
v(E)	104	#5	2'-11"	—
Reinforcement Bars, Epoxy Coated			Pound	9,910
Concrete Superstructures			Cu. Yd.	48.1
Bridge Deck Grooving			Sq. Yd.	147
Protective Coat			Sq. Yd.	173

Reinforcement bars designated (E) shall be epoxy coated.



**SECTION A-A**

(Dimensions at Right L's except as noted)  
 \*\* Cost included with "Concrete Superstructure".



**ELEVATION**

Showing Rail Post Spaces  
 See sheet 17 for Railing Details.

**NOTES**

Reinforcement bars in the top of the deck may be placed with a 1/2" minimum clearance in the area of the rail post anchor devices. 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.  
 Reinforcement bars in diaphragms are billed with superstructure. Concrete in diaphragms is included with "Concrete Superstructure." For anchor bolt details see sheet 19.

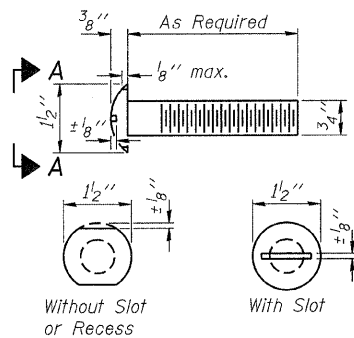
DESIGNED	- A.S.L.
CHECKED	- M.G.B.
DRAWN	- D.T.M.
CHECKED	- D.A.B.

**SUPERSTRUCTURE DETAILS  
 STRUCTURE NO. 053-3036**

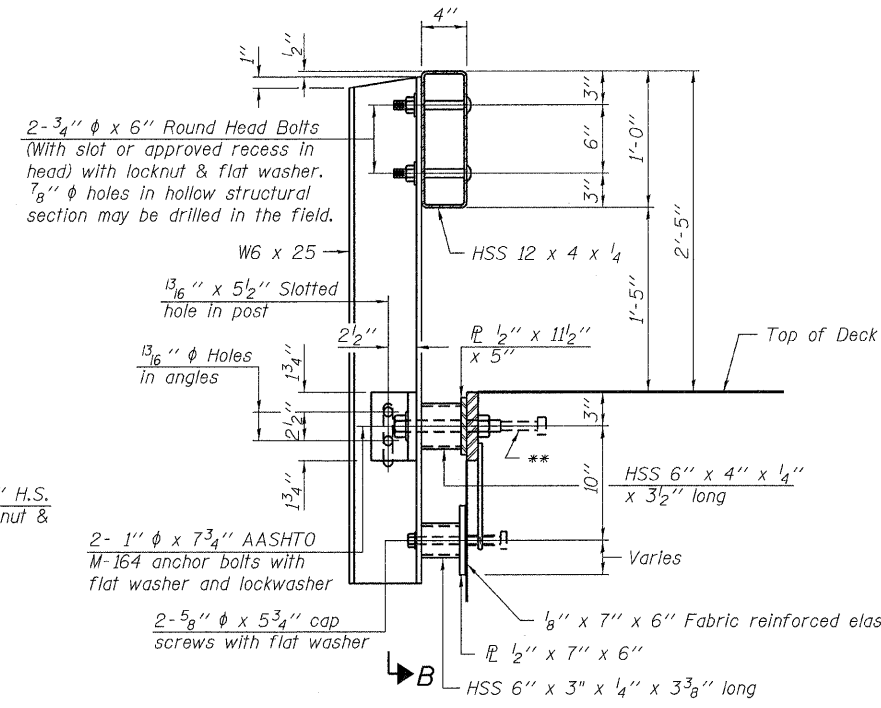
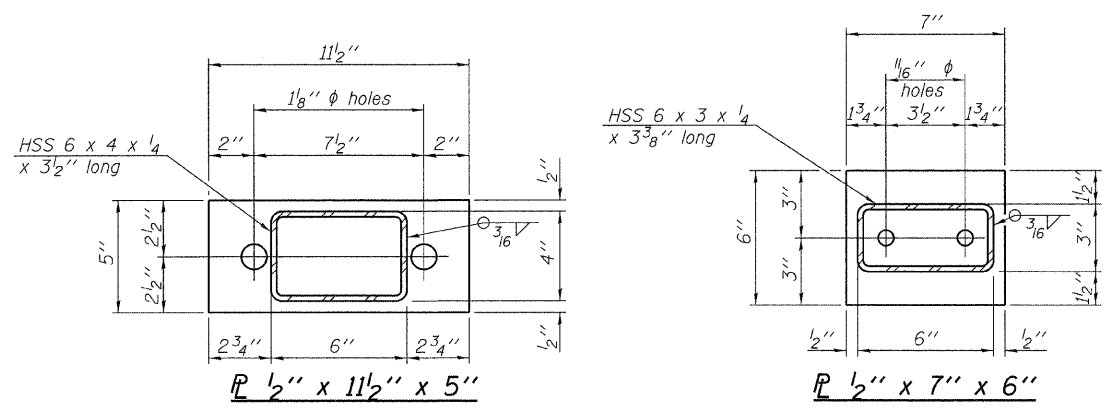
**HAMPTON, LENZINI AND RENWICK, INC.**  
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.546.3400 www.hirengineering.com  
 184.002859  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION  
 PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	16
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		

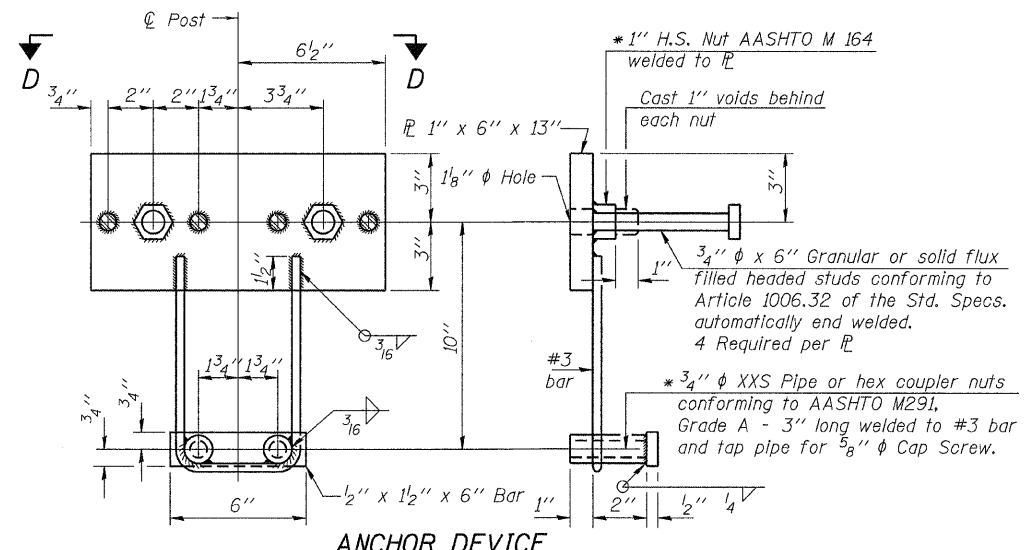




**VIEW A-A  
ROUND HEAD BOLT**

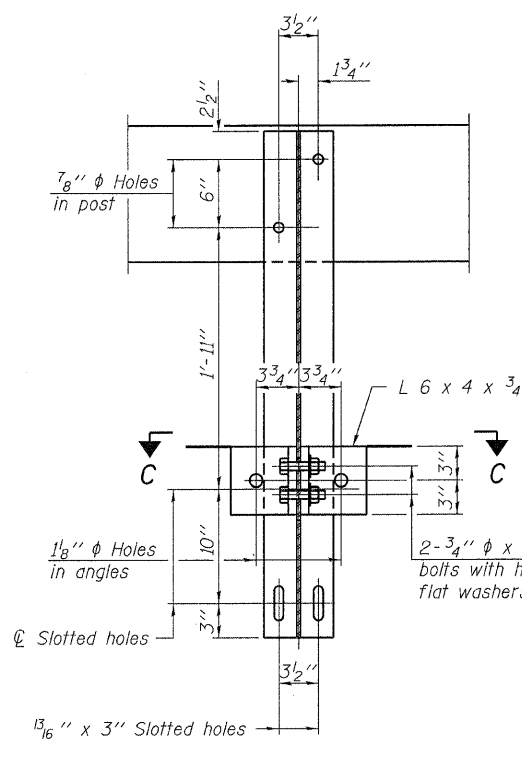


**SECTION AT RAILING POST**

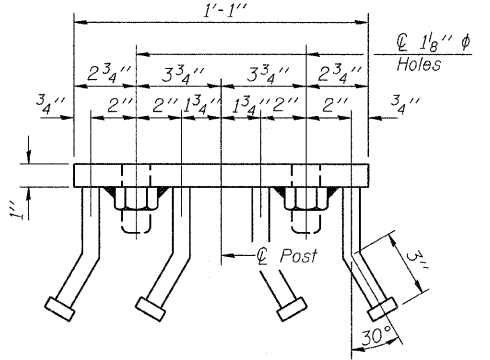


**ANCHOR DEVICE**

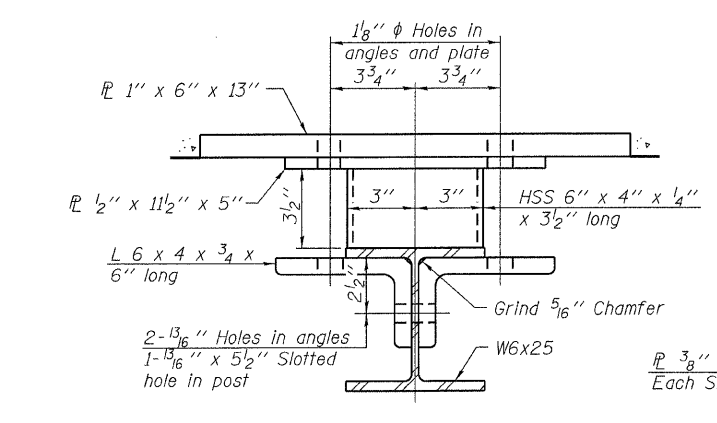
**Notes:**  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
 All 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.



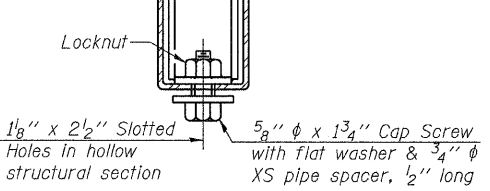
**SECTION B-B**



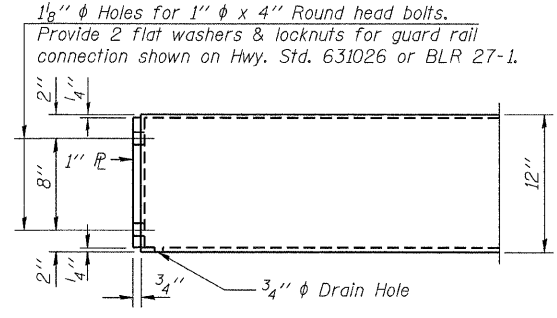
**VIEW D-D**



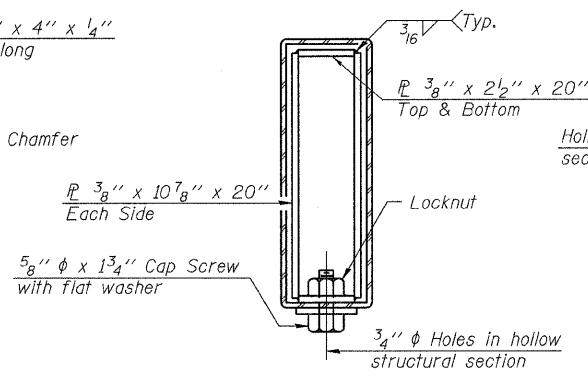
**SECTION C-C**



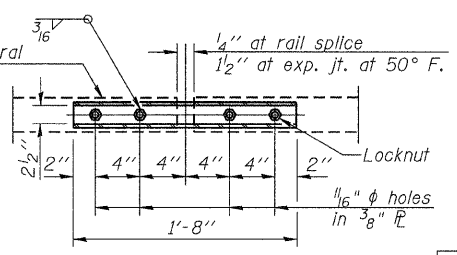
**RAIL SPLICE CONNECTION  
AT EXPANSION JT.**



**END OF RAIL DETAILS**



**SECTIONS AT RAIL SPLICE**



**PLAN-BOTT. SPLICE  
TYPICAL**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	107

**STEEL RAILING, TYPE S-1  
STRUCTURE NO. 053-3036**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

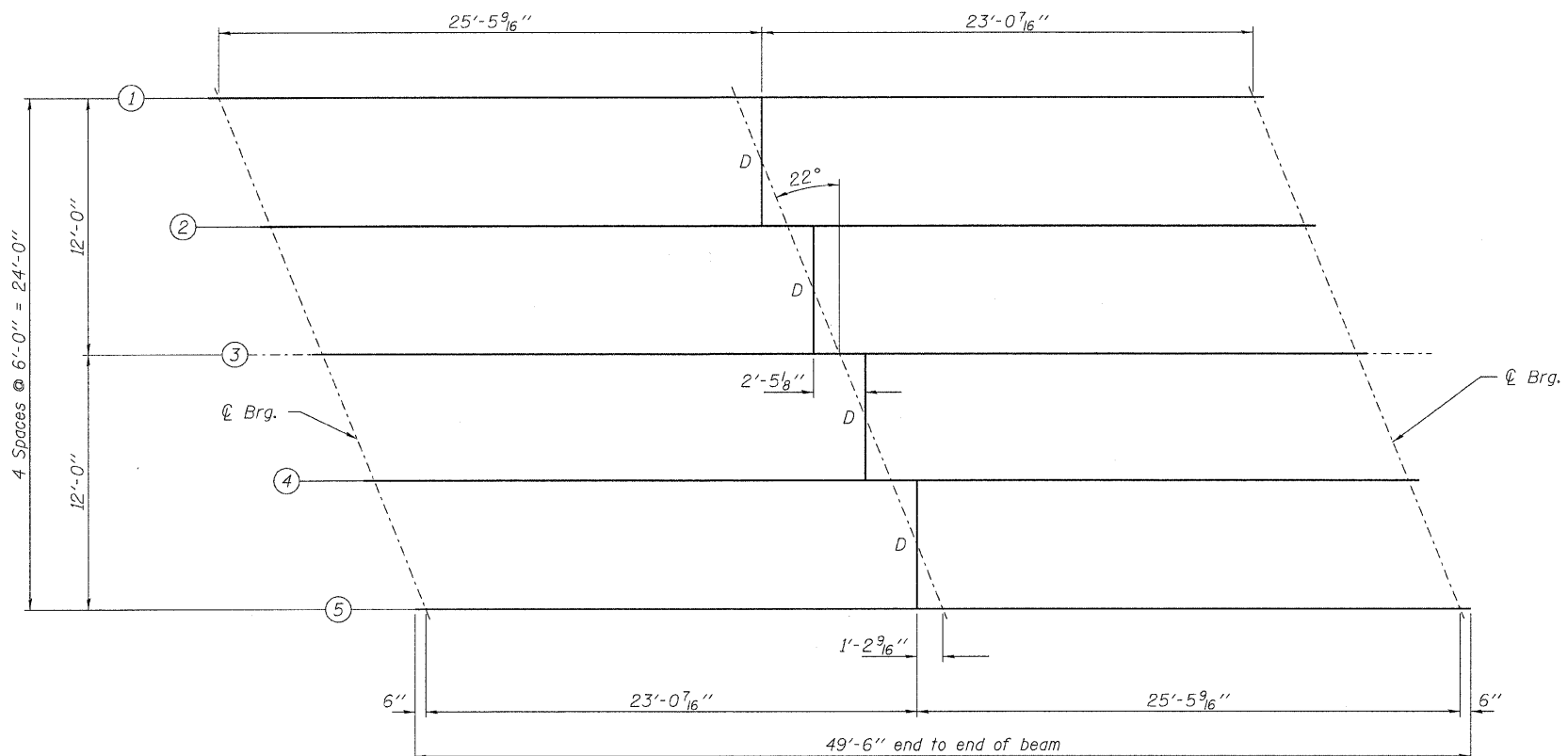
R-23A 11-1-09 (10'-9" Maximum Post Spacing)

**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

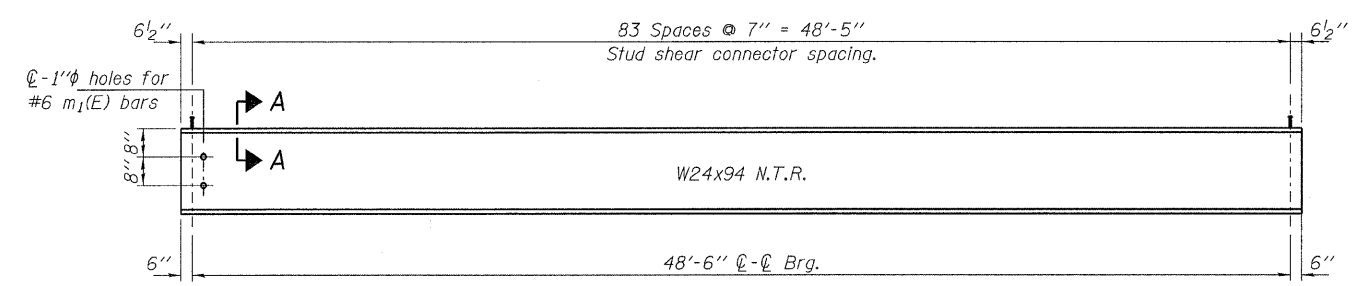
184.000993  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	17
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		

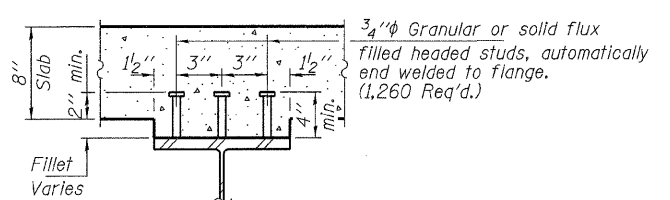


**PLAN**



**ELEVATION**

Notes:  
 N.T.R. indicates Notch Toughness Requirements, Zone 2.  
 All structural steel shall be M270 Grade 50 W. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".  
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



**SECTION A-A**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

Location	@ Brg. W. Abut.	@ Brg. E. Abut.
BEAM 1	742.39	742.39
BEAM 2	742.52	742.52
BEAM 3	742.64	742.64
BEAM 4	742.52	742.52
BEAM 5	742.39	742.39

**TOP OF BEAM ELEVATIONS**  
 (For Fabrication only)  
 (Does not include Dead Load Deflections)

INTERIOR GIRDER MOMENT TABLE		
0.5 Sp. 1		
$I_s$	(in <sup>4</sup> )	2700
$I_c(n)$	(in <sup>4</sup> )	8949.5
$I_c(3n)$	(in <sup>4</sup> )	6589.3
$S_s$	(in <sup>3</sup> )	222.13
$S_c(n)$	(in <sup>3</sup> )	365.18
$S_c(3n)$	(in <sup>3</sup> )	328.26
DC1	(k/')	0.749
$M_{DC1}$	(k)	220.23
DC2	(k/')	0.030
$M_{DC2}$	(k)	8.82
DW	(k/')	0.300
$M_{DW}$	(k)	88.21
$M_k + IM$	(k)	508.62
$M_u$ (Strength I)	(k)	1308.72
$\phi_r M_n$	(k)	1812.4
$f_s$ DC1	(ksi)	11.90
$f_s$ DC2	(ksi)	0.33
$f_s$ DW	(ksi)	3.23
$f_s$ 1.3(L+IM)	(ksi)	21.73
$f_s$ (Service II)	(ksi)	37.19
$V_r$	(k)	44.88

INTERIOR GIRDER REACTION TABLE		
	W. Abut.	E. Abut.
$R_{DC1}$	(k) 18.16	18.16
$R_{DC2}$	(k) 0.73	0.73
$R_{DW}$	(k) 7.28	7.28
$R_k + IM$	(k) 69.57	69.57
$R_{Total}$	(k) 95.74	95.74

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).  
 $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).  
 $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).  
 DC1: Un-factored non-composite dead load (kips/ft.).  
 $M_{DC1}$ : Un-factored moment due to non-composite dead load (kip-ft.).  
 DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
 $M_{DC2}$ : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
 DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
 $M_{DW}$ : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
 $M_k + IM$ : Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).  
 $M_u$  (Strength I): Factored design moment (kip-ft.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + IM$   
 $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).  
 $f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_k + IM$   
 $V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

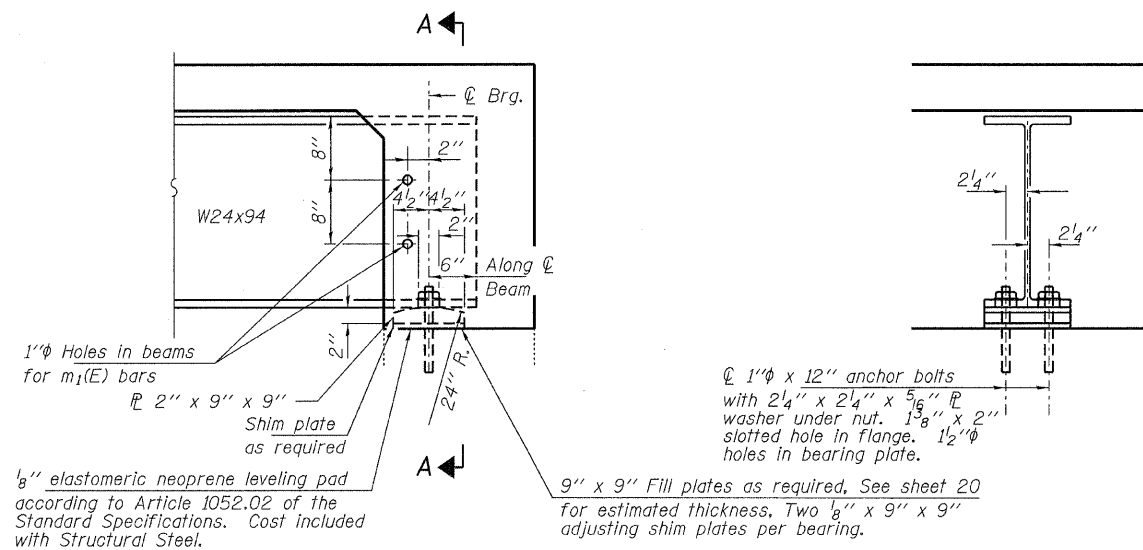
**STRUCTURAL STEEL  
 STRUCTURE NO. 053-3036**

**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

**HLR**  
 184.00089  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	18
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		



**ELEVATION AT ABUTMENT**

**SECTION A-A**

**BEARING AT ABUTMENT**

(10 Required)

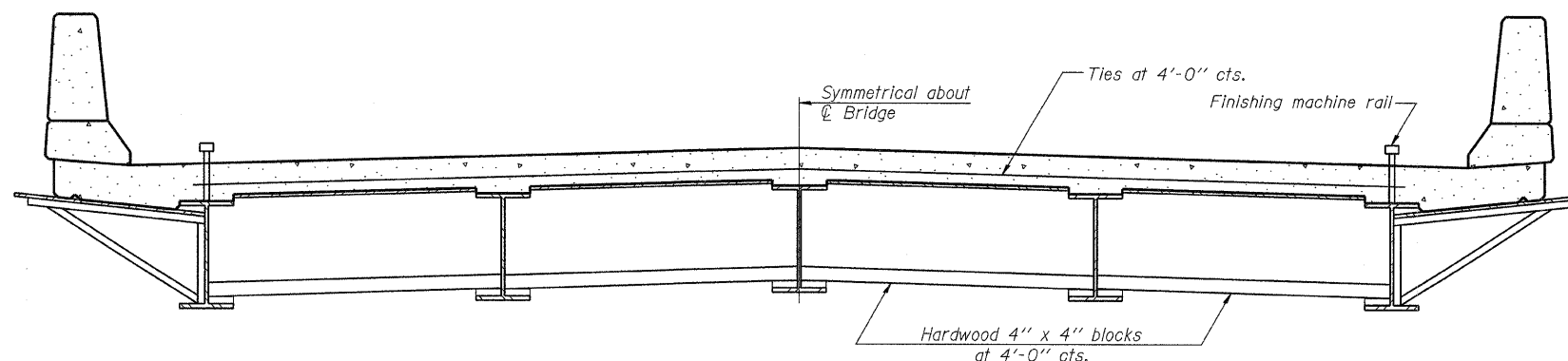
Notes:  
Anchor bolts at bearings may be built into the masonry.

**INTERIOR DIAPHRAGM (D)**

4 Required

Note:  
Two hardened washers required for each set of oversized holes.

\*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.



**FORM BRACES FOR STANDARD CONSTRUCTION**

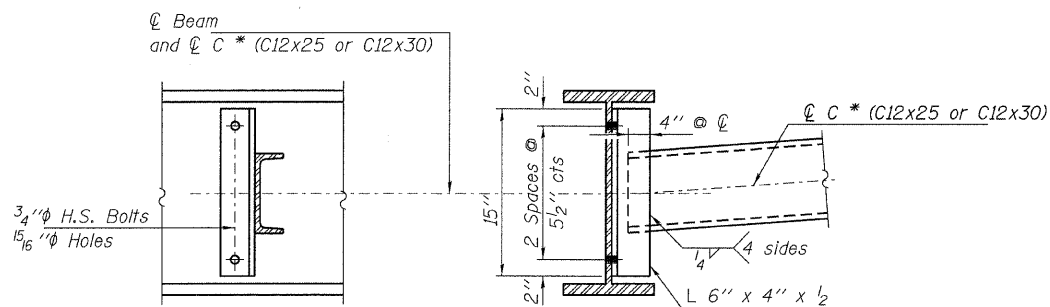
When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

Note: This standard detail does not depict actual deck cross section. See sheet 15 for superstructure details.

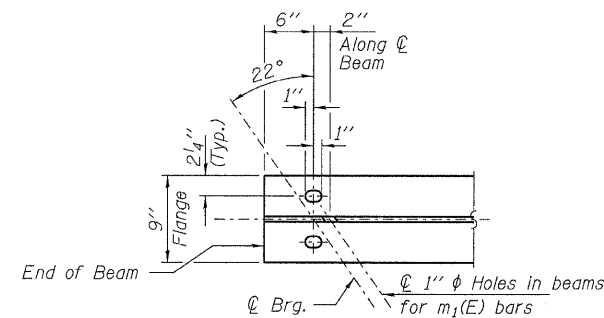


**INTERIOR DIAPHRAGM (D)**

4 Required

Note:  
Two hardened washers required for each set of oversized holes.

\*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

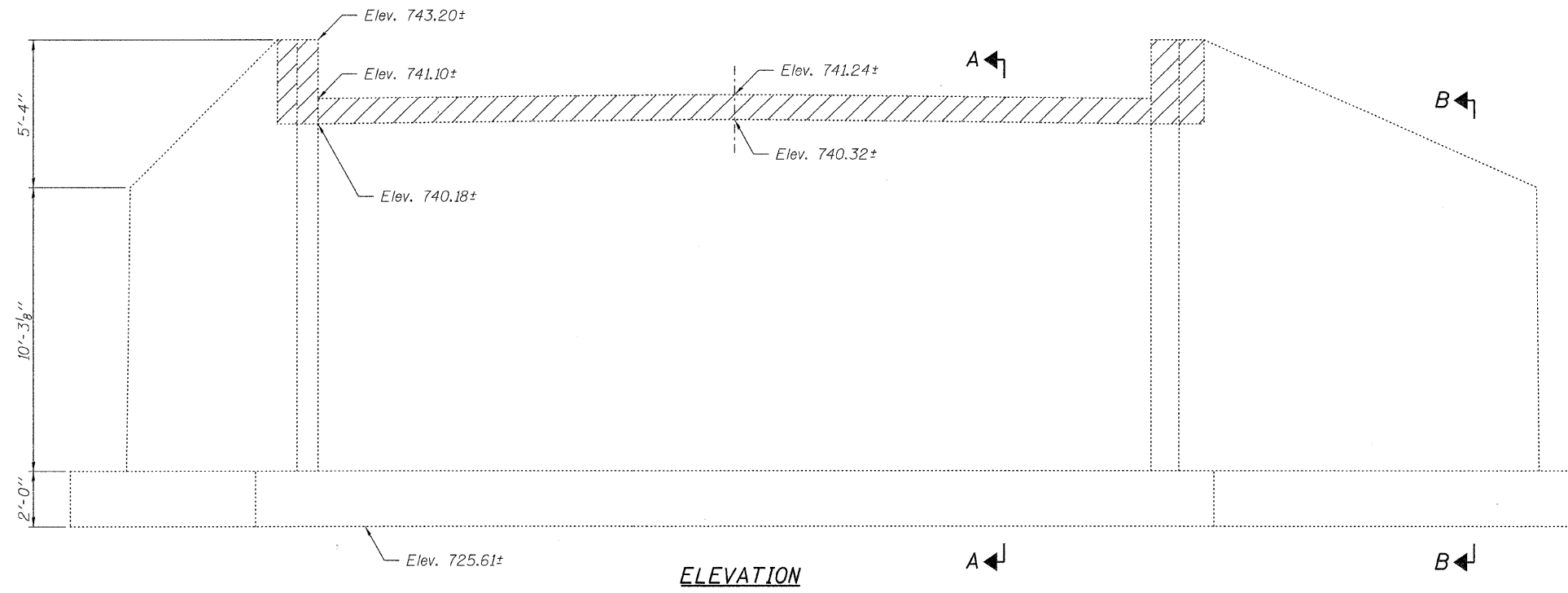


**END OF BEAM DETAILS**

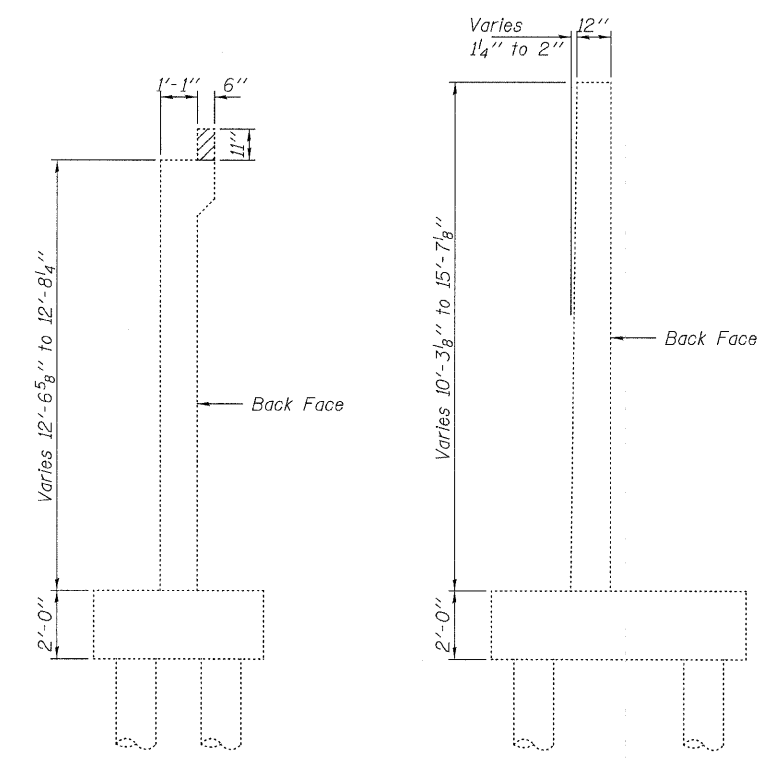
DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

**CANTILEVER FORMING BRACKETS  
STRUCTURAL STEEL DETAILS  
STRUCTURE NO. 053-3036**

<b>HAMPTON, LENZINI AND RENWICK, INC.</b> CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS <b>HLR</b> 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrenr.com 184.000688 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION	C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	22	08-00161-01-BR	LIVINGSTON	23	19
CONTRACT NO. 87452					
PROJECT NUMBER: 09.0125.130	DATE: 03/25/10		FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BRS-0473(108)	

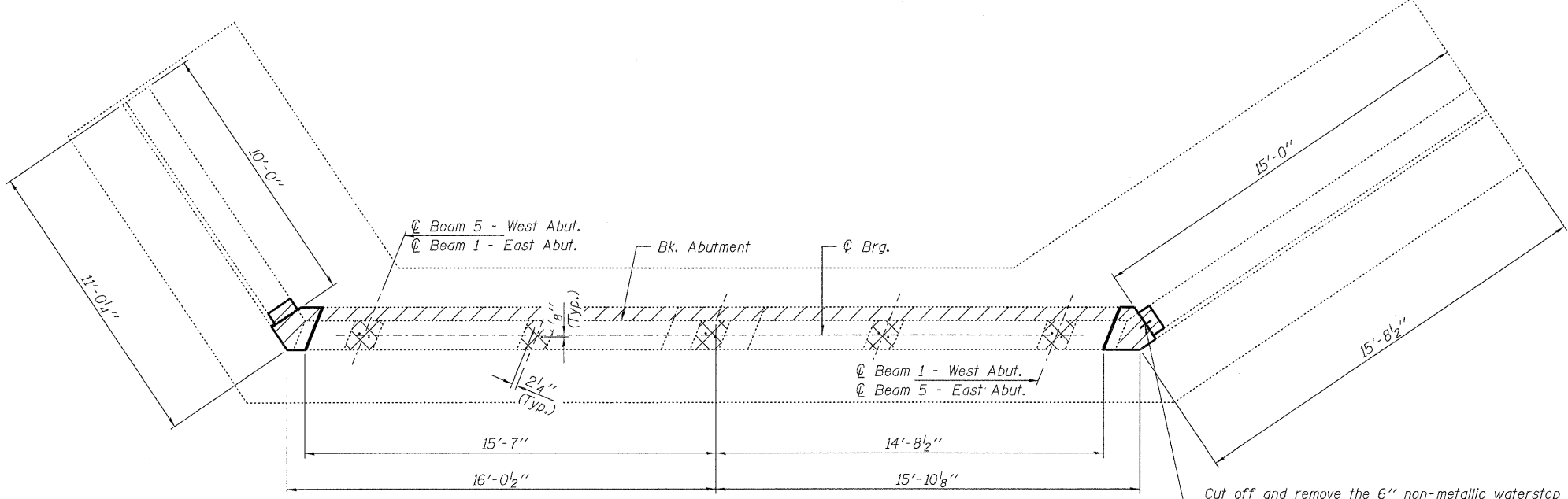


**ELEVATION**



**SECTION A-A**

**SECTION B-B**



**PLAN**

▨▨▨ Indicates Concrete Removal. The Contractor shall remove the existing concrete backwall as shown. The existing wingwall corners shall be removed and reconstructed as shown and as directed by the Engineer after the superstructure has been poured.

▨▨ Existing bearing seat concrete must be ground level in the area of the bearing plates. Cost included with Concrete Removal.

Notes: Backfill shall be placed behind the abutment after the superstructure has been poured and falsework removed. See Article 502.10 of the Standard Specifications.

**BILL OF MATERIAL**

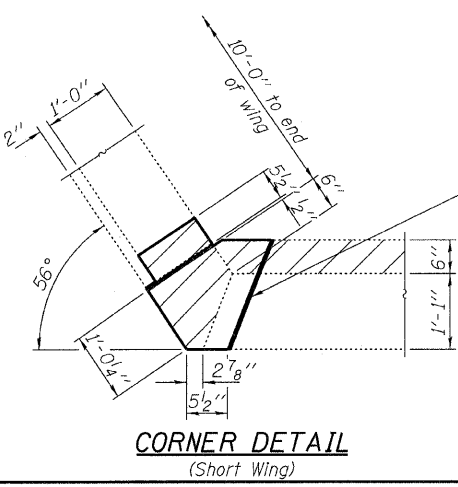
Item	Unit	Quantity
Concrete Removal	Cu. Yd.	1.8
Concrete Structures	Cu. Yd.	0.9

**ESTIMATED GRIND DEPTH (-)  
OR FILL PLATE THICKNESS (+)**

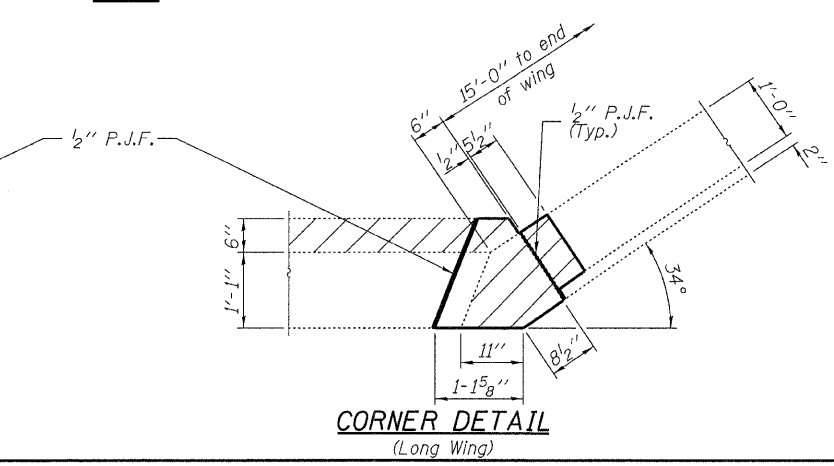
Abutment	Bm, 1	Bm, 2	Bm, 3	Bm, 4	Bm, 5
West Abutment	-5/8"	1/8" R	1/8" R	3/8" R	-5/16"
East Abutment	1/8" R	7/8" R	1 5/8" R	5/8" R	-1/8"

**ABUTMENTS - CONCRETE REMOVAL  
STRUCTURE NO. 053-3036**

DESIGNED - A.S.L.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.



**CORNER DETAIL  
(Short Wing)**



**CORNER DETAIL  
(Long Wing)**

**HAMPTON, LENZINI AND RENWICK, INC.**  
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.546.3400 www.hlrenr.com

184.00089  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

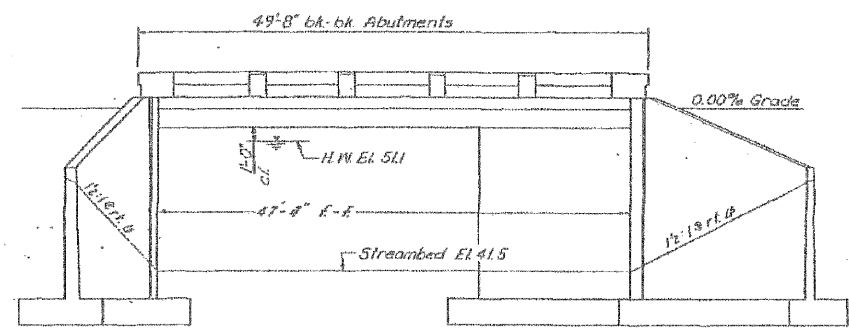
PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	20
CONTRACT NO. 87452				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BRS-0473(108)		

B.M. - Spike in right pole of NW corner of bridge. EL = 50.00.  
 Existing Structure - I-beam, 2 spans - 1 @ 18'-0" and 1 @ 16'-6", 16'-0" roadway, timber floor.  
 Substructure - Closed timber abutments. Contractor shall remove existing bridge when new construction begins. Salvage I-beams and floor planks to remain property of Fayette Road District.

ABUT STAKES - FACE OF ABUT.  
 15.5  
 15.5  
 15.5

REMOVE BRIDGE - ELEVATION  
 BRIDGE NO. 161-B-1  
 PROJECT NO. 053-3036  
 DATE OF PLAN 7-15-62  
 DATE OF BRIDGE 1-1-43  
 DATE OF REMOVAL 7-15-62  
 DATE OF DESIGN 7-15-62  
 DATE OF APPROVAL 7-15-62  
 DATE OF SETTING 7-15-62  
 DATE OF CONSTRUCTION 7-15-62  
 DATE OF COMPLETION 7-15-62  
 DATE OF AS-BUILT 7-15-62  
 DATE OF REVISION 7-15-62  
 DATE OF CLOSURE 7-15-62  
 DATE OF RE-OPENING 7-15-62  
 DATE OF DEMOLITION 7-15-62  
 DATE OF RECONSTRUCTION 7-15-62  
 DATE OF FINAL INSPECTION 7-15-62  
 DATE OF FINAL REPORT 7-15-62  
 DATE OF FINAL DRAWING 7-15-62  
 DATE OF FINAL APPROVAL 7-15-62  
 DATE OF FINAL SETTING 7-15-62  
 DATE OF FINAL CONSTRUCTION 7-15-62  
 DATE OF FINAL COMPLETION 7-15-62  
 DATE OF FINAL AS-BUILT 7-15-62  
 DATE OF FINAL DEMOLITION 7-15-62  
 DATE OF FINAL RECONSTRUCTION 7-15-62  
 DATE OF FINAL RE-OPENING 7-15-62  
 DATE OF FINAL CLOSURE 7-15-62  
 DATE OF FINAL REVISION 7-15-62

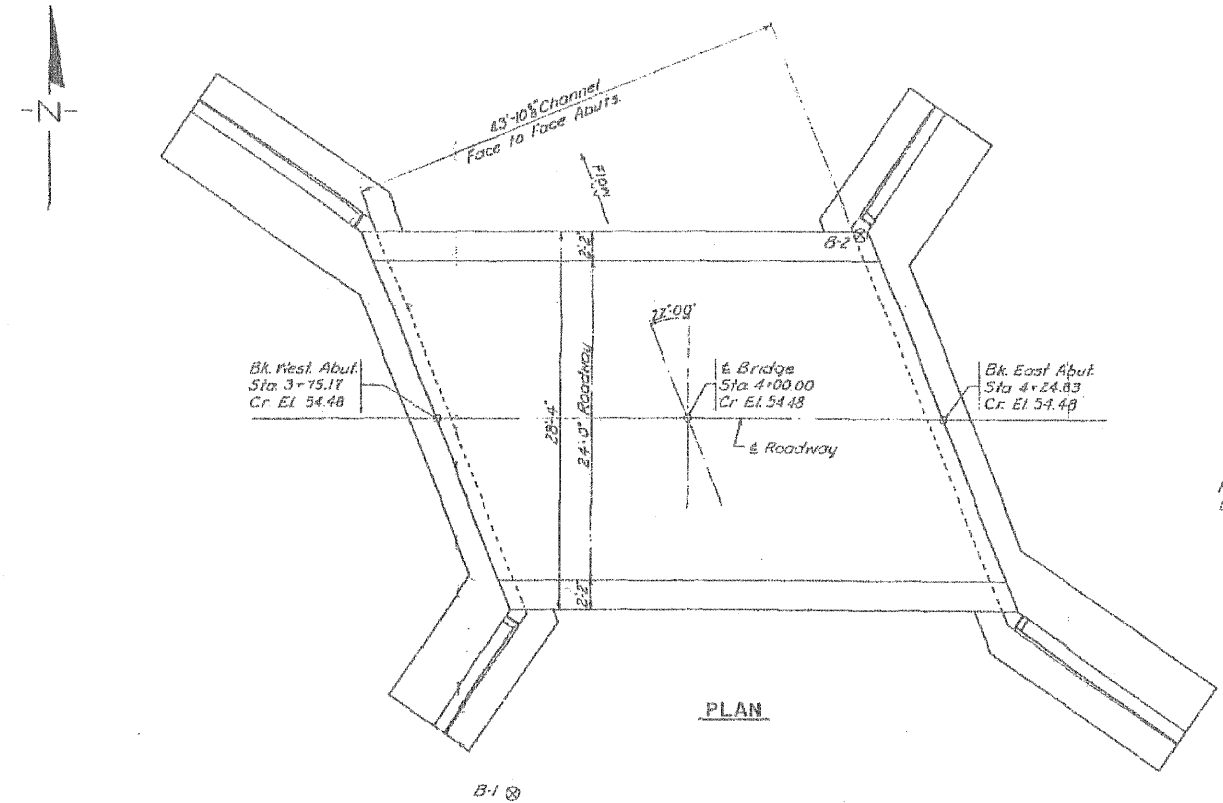


ELEVATION  
 Untreated timber pile foundation see Sheet 3 of 3 for details.

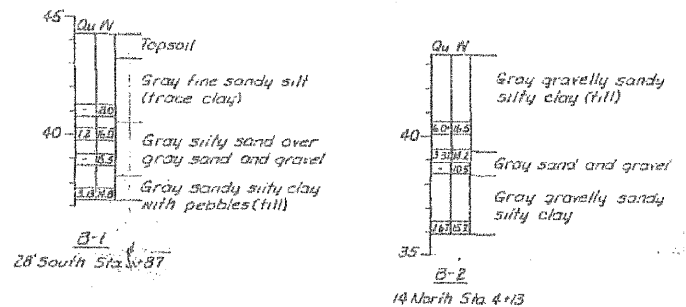
PROJECT NO.	053-3036
SECTION	08-00161-01-BR
COUNTY	LIVINGSTON
TOTAL SHEETS	23
SHEET NO.	1 OF 3

GENERAL NOTES

Class X Concrete shall be used in the abutments and curbs. Handrail Concrete shall be used in the handrails. The backs of the abutments and wingwalls shall be waterproofed. See Article 51.21 of the Standard Specifications. For backfill behind abutments' field of the top by superstructure, see Article 50.10 of the Standard Specifications. The Contractor shall drive one timber test pile as directed by the Engineer before ordering the remainder of the piles. Excavation for structures shall be considered as incidental to the contract unit price for Class X Concrete.

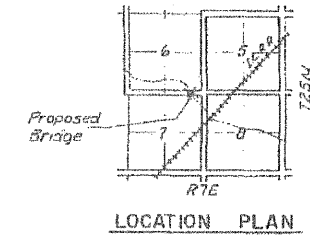


PLAN



BORING DATA

Qu = Unconfined compressive strength of the soil in tons per sq ft.  
 W = Water content, % of dry weight.



TOTAL BILL OF MATERIAL

ITEM	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	-	1
Precast Prestressed Concrete			
Bridge Deck	Sq. Ft.	1341	1341
Handrail Concrete	Cu Yds.	2.3	2.3
Class X Concrete	Cu Yds.	6.5	114.3
Reinforcement Bars	Lbs.	1360	9840
Furnishing Untreated Piles up to 30'	Lin. Ft.	648	648
Test Piles (timber)	Each	1	1
Driving timber Piles	Lin. Ft.	648	648
None Plates	Each	1	1

SEC. 161-B-M.F.T.  
 BUILT 1963 BY  
 LIVINGSTON COUNTY  
 LOADINGS H15-512  
 LETTERING FOR NAME PLATE  
 Locate Name Plate at Southwest corner of bridge. See S'cd. 2113

WATERWAY DATA

Drainage Area	11,200 Acres
Present Opening	308 Sq. Ft.
Required Opening (10yr)	420 Sq. Ft.
Proposed Opening	420 Sq. Ft.

DESIGN STRESSES  
 Is = 20,000 p.s.i. (reinft)  
 Is = 2,000 p.s.i. (super)  
 Is = 1,000 p.s.i. (sub)  
 Is = 14,000 #/strand (prestress cables)  
 n = 10 (sub)  
 v = 75 p.s.i. (boltings)  
 Loading H15-512-44

Walter E. Hanson  
 III Structural # 2586



053-3036  
 GENERAL PLAN & ELEVATION  
 KESSLER BRIDGE SEC. 161-B-M.F.T.  
 FAYETTE ROAD DISTRICT  
 LIVINGSTON COUNTY  
 STATION 4+00  
 WALTER E. HANSON & COMPANY  
 ENGINEERS-CONSULTANTS  
 DATE: June 7, 1962 62-17c

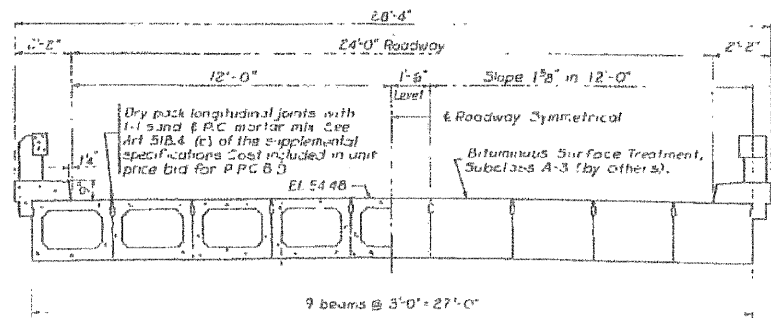
DESIGNED	A.S.L.
CHECKED	M.G.B.
DRAWN	D.T.M.
CHECKED	D.A.B.

EXISTING PLANS  
 STRUCTURE NO. 053-3036

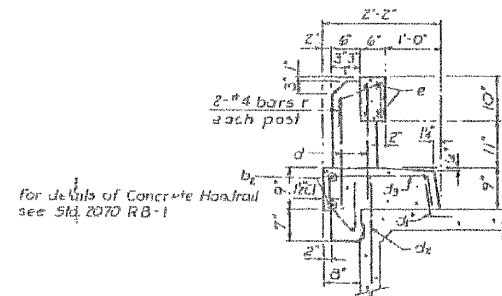
HAMPTON, LENZINI AND RENWICK, INC.  
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.546.3400 www.hlrengineering.com  
 104.00959  
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION  
 PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	21
CONTRACT NO. 87452				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BRS-0473(108)			

PROJECT NO.	CONTRACT	TOTAL SHEETS	SHEET NO.
Livingston			2 OF 3
SHEET 2 OF 3			



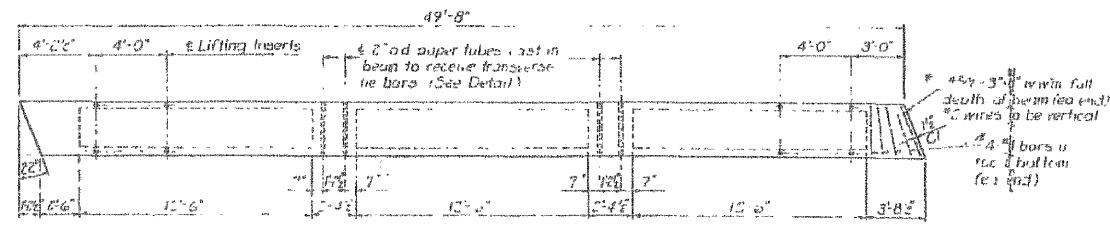
HALF CROSS SECTION      HALF END ELEVATION



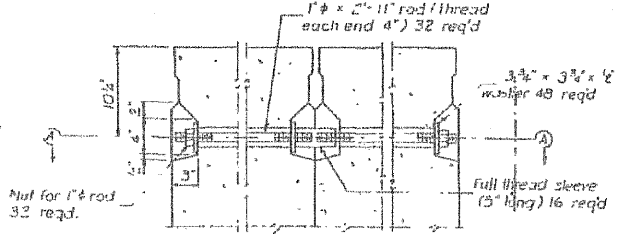
HANDRAIL & CURB DETAILS

Curbs are not to be cast with beams. Curbs to be poured after beams are set in final position. Curbs to be paid for as Class X Concrete.

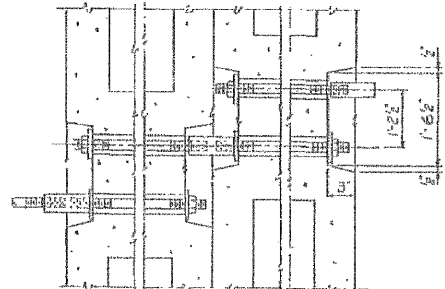
Note: Pockets that receive transverse tie bar or outside beams shall be filled with grout after transverse tie assembly is in place. Provide expansion holes and vent holes in each end of each void. Vent holes shall be filled with grout before applying the roadway surfacing.



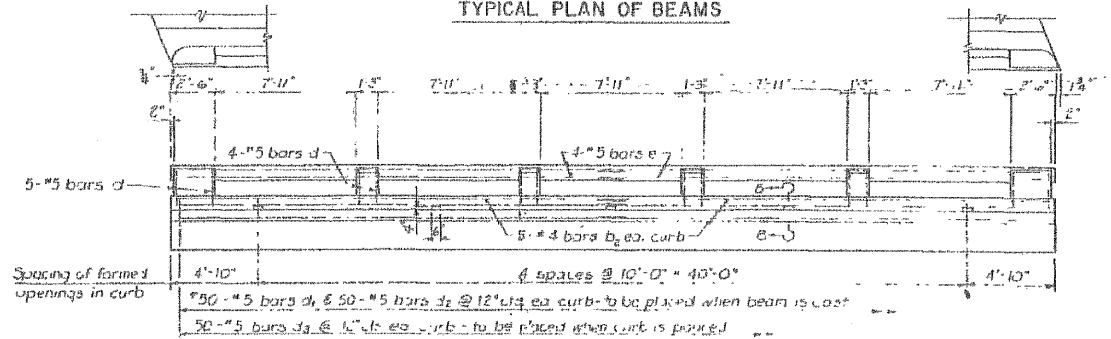
TYPICAL PLAN OF BEAMS



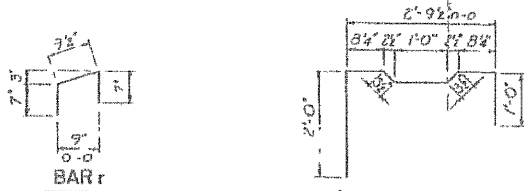
TYPICAL TRANSVERSE TIE ASSEMBLY



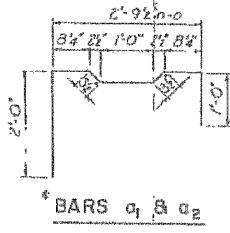
SECTION A-A



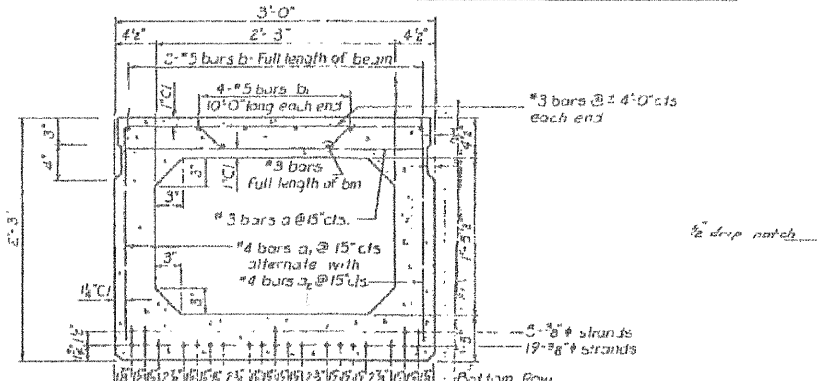
ELEVATION OF OUTSIDE BEAMS



BAR r



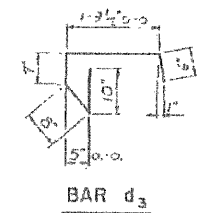
BARS d1 & d2



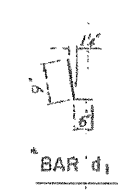
TYPICAL SECTION THRU BEAMS

SECTION B-B

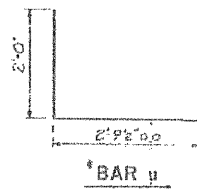
Note: 24 - 7 wire strands. Stress each strand to 14,000 lbs.



BAR d3



BAR d1



BAR u

BILL OF MATERIAL  
SUPERSTRUCTURE

BAR	NO	SIZE	LENGTH	SHAPE
b2	20	#4	25'6"	
d	52	#5	2'2"	
d1	100	#5	4'-5"	
e	16	#5	24'4"	
r	24	#4	2'-0"	

Precast Prestressed Concrete Bridge Deck	39 FT	1341
Handrail Concrete	Cu. Yds.	2.3
Class X Concrete	Cu. Yds.	0.9
Reinforcement Bars	Lbs.	1350

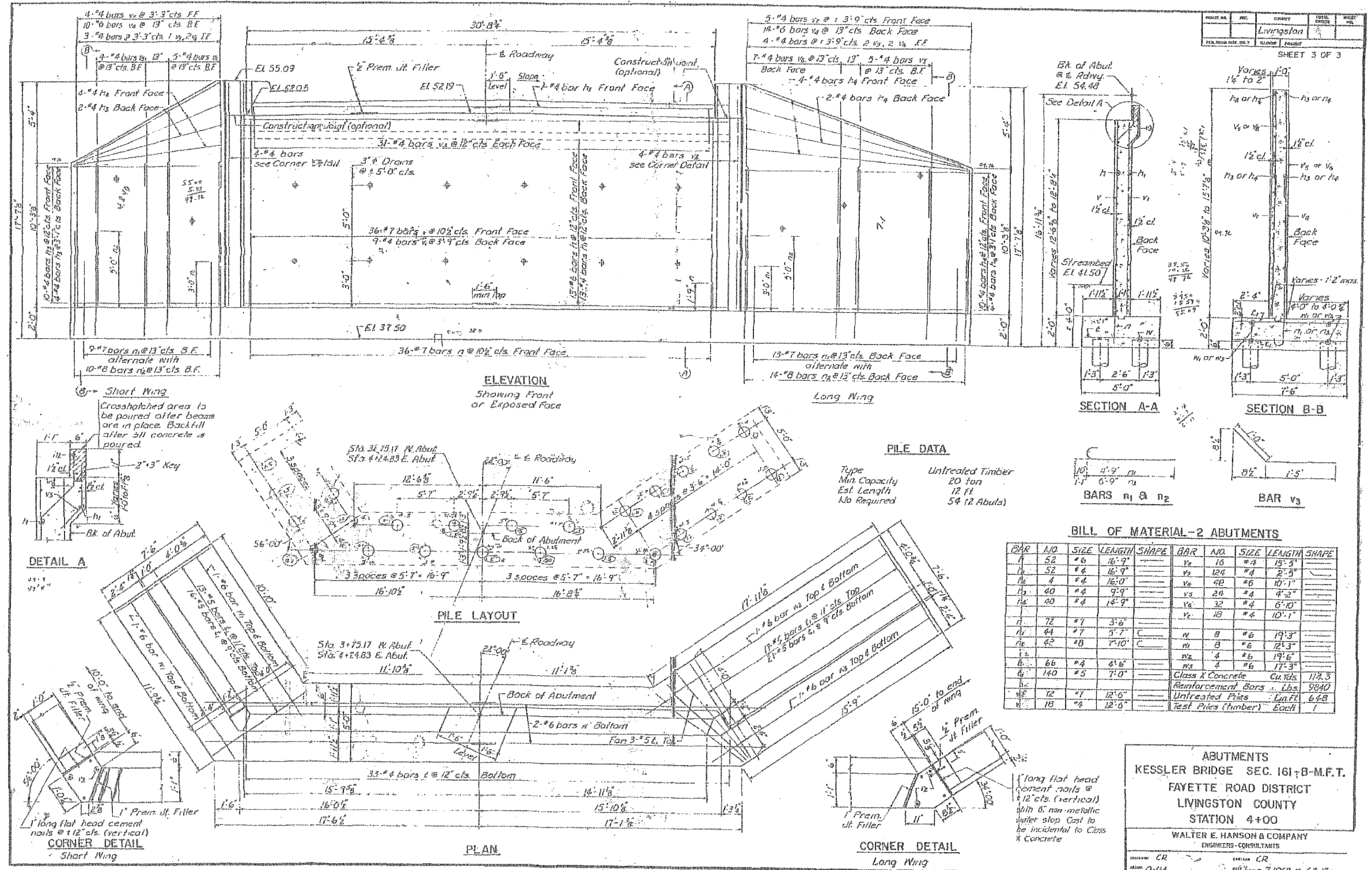
SUPERSTRUCTURE  
KESSLER BRIDGE SEC. 161-B-M.F.T.  
FAYETTE ROAD DISTRICT  
LIVINGSTON COUNTY  
STATION 4 + 00  
WALTER E. HANSON & COMPANY  
ENGINEERS - CONSULTANTS  
DESIGNED: H.E.O.      CHECKED: F.E.C.  
DATE: 11.2.      DATE: 12-26-64      52-170

DESIGNED	- A.S.L.
CHECKED	- M.G.B.
DRAWN	- D.T.M.
CHECKED	- D.A.B.

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  
194.00299  
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION  
PROJECT NUMBER: 09.0125.130      DATE: 03/25/10

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22	08-00161-01-BR	LIVINGSTON	23	22
CONTRACT NO. 87452				
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT BRS-0473(108)			

EXISTING PLANS  
STRUCTURE NO. 053-3036



DESIGNED - A.S.L.  
CHECKED - M.G.B.  
DRAWN - D.T.M.  
CHECKED - D.A.B.

**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  
PROJECT NUMBER: 09.0125.130 DATE: 03/25/10

C.H. SECTION COUNTY TOTAL SHEETS SHEET NO.  
22 08-00161-01-BR LIVINGSTON 23 23  
CONTRACT NO. 87452  
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT BRS-0473(108)

**EXISTING PLANS**  
**STRUCTURE NO. 053-3036**