6-11-10 Letting, Item 279

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 119	09-24104 -01-BR	LIVINGSTON	20	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 87453	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

PROJECT BROS-0105(049)
SECTION 09-24104-01-BR
ROOKS CREEK ROAD DISTRICT
LIVINGSTON COUNTY
T.R. 119
PROPOSED STRUCTURE NO. 053-4199
C-93-079-10

INDEX OF SHEETS

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 ON RURAL LOCAL HIGHWAYS
BLR 27-1	TRAFFIC BARRIER TERMINAL, TYPE 5A

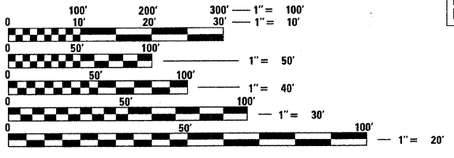
UTILITIES

COMMONWEALTH EDISON
1910 SOUTH BRIGGS STREET
JOLIET, ILLINOIS 60433-9599

FRONTIER COMMUNICATIONS
145 SOUTH HALL STREET
ROSEVILLE, ILLINOIS 61473

LOCATION OF SECTION INDICATED THUS: –■–

FUNCTIONAL CLASSIFICATION: LOCAL ROAD (250-400 ADT)
DESIGN SPEED: 40 MPH
DESIGN TRAFFIC: 325 ADT (2005)

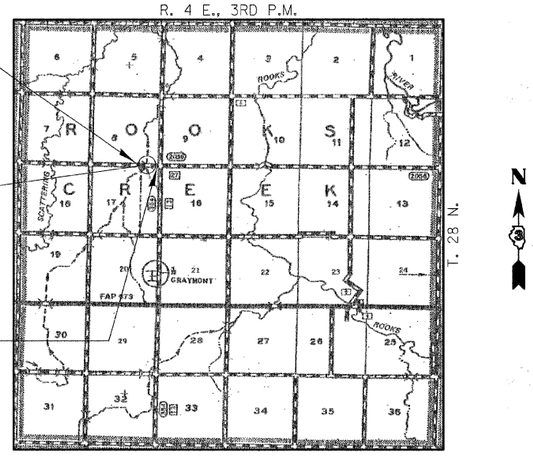


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

IMPROVEMENT BEGINS STATION 7+00

STA. 9+92
PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. SINGLE SPAN @ 83'-0"
28'-0" RDWY.; SKEW = 0°
EXISTING STRUCTURE NO. 053-3252
PROPOSED STRUCTURE NO. 053-4199

IMPROVEMENT ENDS STATION 12+60



LOCATION MAP

APPROXIMATE SCALE: 0 —— 1 MILE

NET LENGTH OF SECTION = 560 FEET = 0.106 MILES

WARNING
CALL JULIE TOLL FREE 1-800-892-0123
CALL 811 BEFORE YOU DIG

ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED 03/26 20 10
COUNTY ENGINEER

APPROVED 3-26 20 10
ROAD COMMISSIONER

PASSED 4-2 20 10
DISTRICT THREE IMPLEMENTATION ENGINEER

Releasing For Bid Based on Limited Review 4-2 20 10
DEPUTY DIRECTOR OF HIGHWAYS
REGION TWO ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 3/25/2010
LICENSED PROFESSIONAL ENGINEER — STEVEN W. MEGGINSON 062-50051 — ILLINOIS
EXPIRES: 11/30/2011

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: 09.0126.130 DATE: 03/25/10

CONTRACT NO. 87453

SUMMARY OF QUANTITIES

		ITEM	UNIT	TOTAL QUANTITY	SN 053-4199 X080
	20200100	EARTH EXCAVATION	CU YD	316	316
	20300100	CHANNEL EXCAVATION	CU YD	355	355
	20400800	FURNISHED EXCAVATION	CU YD	536	536
	20700110	POROUS GRANULAR EMBANKMENT	TON	170	170
^	25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4	0.4
	28100107	STONE RIPRAP, CLASS A4	SQ YD	360	360
	28200200	FILTER FABRIC	SQ YD	360	360
	35100100	AGGREGATE BASE COURSE, TYPE A	TON	795	795
	40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	407	407
	40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	135	135
	40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	98	98
	48101200	AGGREGATE SHOULDERS, TYBE B	TON	218	218
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
	50300225	CONCRETE STRUCTURES	CU YD	28.4	28.4
	50300280	CONCRETE ENCASEMENT	CU YD	3.4	3.4
	50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2324	2324
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2840	2840
*	50900205	STEEL RAILING, TYPE S1	FOOT	174	174
	51201600	FURNISHING STEEL PILES HP12X53	FOOT	405	405
	51202305	DRIVING PILES	FOOT	405	405
	51203600	TEST PILE STEEL HP12X53	EACH	1	1
	51500100	NAME PLATES	EACH	1	1
	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	310	310
^	60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	140	140
*	63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	4	4
* ^	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1(SPECIAL) TANGENT	EACH	4	4
^	67100100	MOBILIZATION	L SUM	1	1
^	70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1
* ^	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4

* SPECIALITY ITEM
^ SEE SPECIAL PROVISIONS

GENERAL NOTES

1) ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007", (HERE IN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2010; 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) 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.

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

4) 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.

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

6) THE CONTRACTOR SHALL CONSULT WITH THE ENGINEER IN REGARD TO THE EXACT LENGTH OF PIPE CULVERTS BEFORE ORDERING THIS ITEM

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

AGGREGATE BASE COURSE:	2.05 TON/CU.YD.
RIPRAP SPECIAL:	1.75 TON/CU.YD.
HMA SURFACE COURSE	112 LBS/INCH DEPTH/SQ. YD.
LEVELING BINDER	112 LBS/INCH DEPTH/SQ. YD.
BITUMINOUS MATERIALS (PRIME COAT)	0.35 GAL/SQ. YD.

8) 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) = **0.4 ACRES**

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

	HMA BINDER	HMA SURFACE
PG GRADE **	PG64-22	PG64-22
DESIGN AIR VOIDS	4% @ N50	4% @ N50
MIXTURE COMPOSITION	IL 19.0	IL 12.5 OR IL 9.5
FRICTION AGGREGATE		MIXTURE C
DENSITY TEST METHOD	CORES	CORES

** WHEN MORE THAN 20% RAP IS USED, A SOFTER ASPHALT BINDER (PG58-22) MAY BE REQUIRED AS DETERMINED BY THE ENGINEER

FILE NAME = 090126-sht-soq.dgn	USER NAME =	DESIGNED - S.W.M.	REVISED -
		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/29/2010	DATE - 03/25/10	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

HLR
SCALE:

SUMMARY OF QUANTITIES AND GENERAL NOTES
1900 N. ROAD

SHEET NO. OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	2
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-0105(049)	

ROADWAY SCHEDULE

LOCATION	AGGREGATE BASE COURSE TYPE A	AGGREGATE SHOULDERS TYPE B	BITUMINOUS MATERIALS (PRIME COAT)	HOT-MIX ASPHALT SURFACE COURSE MIX "C", N50 1.5"	HOT-MIX ASPHALT BINDER COURSE IL 19.0, N50 2.25"
	35100100	48101200	40600100	40603310	40603080
	TON	TON	GAL	TON	TON
TR 119					
STA 7+00 TO STA 9+49.83	417	114	214	52	71
STA 10+34.17 TO STA 12+60	377	104	193	47	64
TOTAL	795	218	407	98	135

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	TERMINAL MARKER DIRECT APPLIED
	63000002	63100075	63100167	78201000
	FOOT	EACH	EACH	EACH
TR 119				
RT. STA. 8+85.25 TO RT. STA.10+98.75		2	2	2
LT. STA. 8+85.25 TO LT. STA. 10+98.75		2	2	2
TOTAL	0	4	4	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
	20200100	20300100					
FAS 473/CH 22							
STA. 7+90 TO STA. 9+75.17	165		25.00%	100.00%	124	537	-413
STA. 10+24.84 To STA. 12+20	151		25.00%	100.00%	113	287	-174
FROM BRIDGE SUMMARY		355	25.00%	70.00%	186	0	186
ENTRANCES						135	-135
	316	355			423	959	-536
			20400800	FURNISHED EXCAVATION		536	CU.YD.

SEEDING SCHEDULE

LOCATION	SEEDING CLASS 2 SPECIAL 25001000
	ACRE
TR 119	
LT. STA. 7+00 TO LT. STA. 9+50	0.11
RT. STA. 7+00 TO RT. STA. 9+50	0.11
LT. STA. 10+34 TO LT. STA. 12+60	0.10
RT. STA. 10+34 TO RT. STA. 12+60	0.10
TOTAL	0.42
USE	0.40

542D0223 PIPE CULVERTS, CLASS D, TYPE 1 18"

LOCATION	FOOT
TR 119	
LT. STA. 8+46 TO LT. STA. 10+00	154
RT. STA. 8+46 TO RT. STA. 9+68	122
LT. STA. 11+80 TO LT. STA. 12+14	34
TOTAL	310

FILE NAME = Ø90126-sht-soq.dgn	USER NAME =	DESIGNED - S.W.M.	REVISED -
		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 03/25/10	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

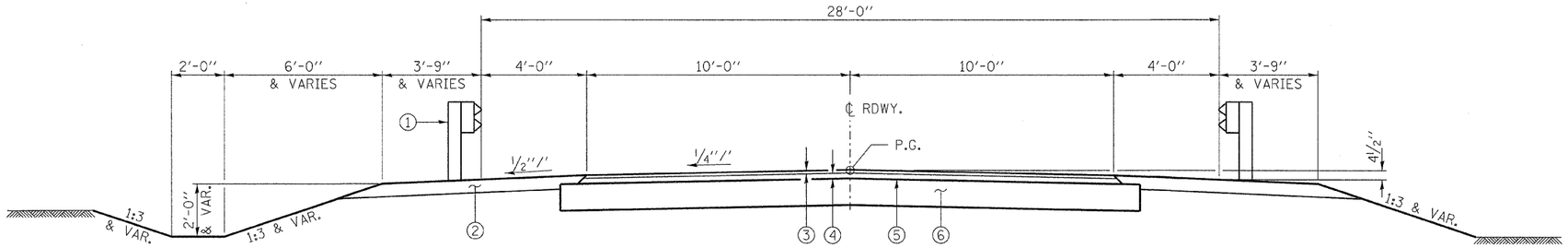
HLR

SCALE:

SCHEDULE OF QUANTITIES
1900 N. ROAD

SHEET NO. OF SHEETS | STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	3
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



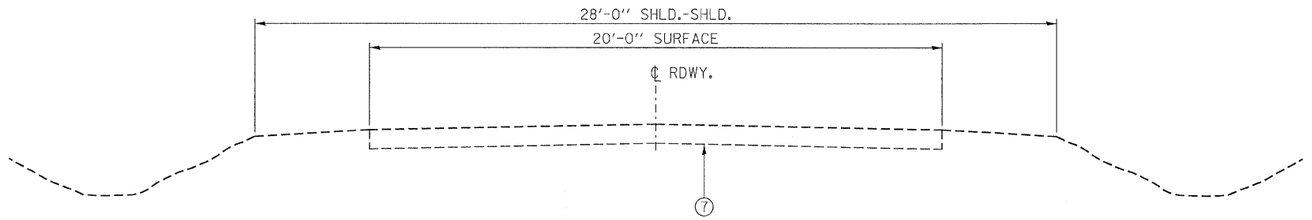
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TYPICAL CROSS SECTION

STA. 7+00 TO 12+60

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING ROADWAY IS TO BE CONSTRUCTED FROM STA. 7+00 TO 7+50 AND STA. 12+10 TO 12+60. SEE SHEET 10 FOR TRANSITION AT BRIDGE.

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS



EXISTING CROSS SECTION

STA. 7+00 TO STA. 12+60

LEGEND

① STEEL PLATE BEAM GUARD RAIL, TYPE A / TRAFFIC BARRIER TERMINAL, TYPE 5A OR TYPE 1, SPECIAL (TANGENT)

② AGGREGATE SHOULDERS, TYPE B (6" DEPTH)

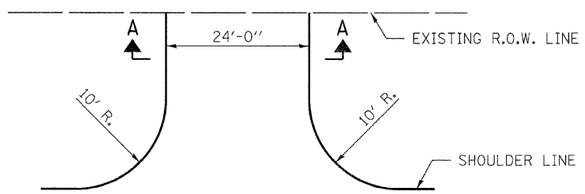
③ HMA SURFACE COURSE, MIX C, N50 (1 1/2" THICKNESS).

④ HMA BINDER COURSE, IL.-19, N50 (2 1/4" THICKNESS)

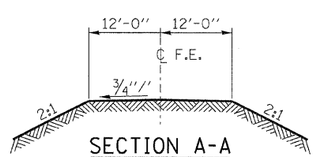
⑤ BITUMINOUS MATERIALS (PRIME COAT)

⑥ AGGREGATE BASE COURSE, TYPE A (12" THICKNESS)

⑦ EXISTING A-3 SURFACE ON AGGREGATE BASE



FIELD ENTRANCE DETAIL



SECTION A-A

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	PLOT SCALE =	CHECKED -	REVISED -
	PLOT DATE = 3/25/2010	DATE - 03/25/10	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

HLR

SCALE:

TYPICAL CROSS SECTIONS
1900 N. ROAD

SHEET NO. OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	4
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		

DONNA MORITZ
SE¼, SE¼, SEC 8, T. 28 N., R. 4 E., 3RD P.M.

BURIED CABLE BOX
NAIL IN POWER POLE
NAIL IN SIGN
SW¼, SW¼, SEC. 8, T. 28 N., R. 4 E., 3RD P.M.
N. 1,542,531.882
E. 856,221.046

I.R. W/CAP
RAN*3
PK NAIL IN POWER POLE
P.O.T. STA. 4+49.59
½"Ø IRON PIN (SET)
N. 1,542,523.635
E. 860,187.134

LT. STA. 8+66 F.E.
PIPE CULVERTS, CL. D, TY. 1, 18"
LENGTH = 154 FT.
27' LT. STA. 8+46 U.S.F.L. 634.95
23' LT. STA. 10+00 D.S.F.L. 633.80
EXISTING CMP TO BE REMOVED

STATION 9+92
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE, SINGLE SPAN @ 83'-0"
28'-0" RDWY.; SKEW = 0°
PROPOSED STRUCTURE NO. 053-4199

CREEK
PROPOSED R.O.W. LINE
CROPLAND
CONSTRUCTION LIMITS
℄ PROPOSED IMPROVEMENT
1900 N. / T.R. 119
25' R.O.W.
33' EXISTING
90°
NOT FOUND
36" CMP
66 F.E.
IMPROVEMENT BEGINS STATION 7+00
RT. STA. 8+66 F.E.
PIPE CULVERTS, CL. D, TY. 1, 18"
LENGTH = 122 FT.
30' RT. STA. 8+46 U.S.F.L. 634.20
24' RT. STA. 9+68 D.S.F.L. 633.08
EXISTING CMP & F.E. TO BE REMOVED
INDICATES TEMPORARY CONSTRUCTION EASEMENT
MOREHOUSE
USE IN PLACE
PROPOSED R.O.W. LINE
PROPOSED R.O.W. LINE
IMPROVEMENT ENDS STATION 12+60
SOUTH LINE SE¼, SEC. 8

I.R. W/CAP
RAN*2
PK NAIL IN POWER POLE
P.O.T. STA. 15+50.31
½"Ø IRON PIN (SET)
N. 1,542,518.835
E. 861,287.843

RT. STA. 11+97 F.E.
PIPE CULVERTS, CL. D, TY. 1, 18"
LENGTH = 34 FT.

PK NAIL IN STREET SIGN
PK NAIL IN STREET SIGN
PK NAIL IN POWER POLE
SE1*4, SE1*4, SEC. 8, T. 28 N., R. 4 E., 3RD P.M.
N. 1,542,513.913
E. 861,493.547

N
GRAPHIC SCALE 0 20' 40'

WILLIAM D. FORSYTH, JR.
NE¼, NE¼, SEC 17, T. 28 N., R. 4 E., 3RD P.M.

EXISTING STRUCTURE NO. 053-3252
STATION 10+00 - TWO SPAN CAST IN PLACE CONC. BRIDGE WITH CONCRETE PARAPETS ON CLOSED TIMBER & CONCRETE ABUTMENTS AND WINGWALLS.
40.85' FC.-FC. ABUTS; 28.30' o.-o. DECK

PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
ALIGNMENT, GRADES CHECKED
CADD FILE NAME

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
GRADES CHECKED
ALIGNMENT CHKD
STRUCTURE NOTATNS CHKD

BM*3 - SPIKE NAIL IN POWER POLE
30' RT., STA. 8+04
ELEV. 638.46

BM*2 - CHISELED "□" ON N.E. WINGWALL
15' LT., STA. 10+22
ELEV. 664.98

BM*1 - SPIKE NAIL IN POWER POLE
28' RT., STA. 11+27
ELEV. 639.89

P.C. VPI STA. 7+60 ELEV. 638.30 K = 72 120' V.C.
P.R.C. VPI STA. 8+80 ELEV. 641.30 K = 80 120' V.C.
P.R.C. VPI STA. 9+92 ELEV. 642.42 K = 52 104' V.C.
P.I. P.C. VPI STA. 11+90 ELEV. 640.44 K = 67 40' V.C.
P.T. 641.20

100 YEAR H.W. ELEV. 638.4
15 YEAR H.W. ELEV. 637.9
PROPOSED ℄ GRADE
EXISTING ℄ GRADE
+0.83% +2.50% +2.50% +1.00% +1.00% -1.00% -1.00% +1.08% +2.00% +1.00%
-0.40% -0.50%
635.60 LT. 635.00 RT.
SP. DITCH LT.
SP. DITCH RT.
635.00 LT. 634.25 RT.
CHANNEL EXCAVATION
RIPRAP, SPECIAL
* 2H:1V @ RT. ℄'S & VARIES
℄ ELEV. 628.6
635.00 RT.
635.50 RT.
SP. DITCH RT.
637.50 RT.

637.8	638.0	638.2	638.2	638.7	640.0	628.9	640.4	640.0	640.0	640.4	641.0	641.9
637.80	638.39	639.33	640.49	641.40	641.99	642.16	641.84	641.34	640.91	640.82	641.10	

7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00

665 660 655 650 645 640 635 630 625

FILE NAME =	USER NAME =	DESIGNED - A.S.L.	REVISED -
090126-sht-ppl.dgn		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

HLR
SCALE: 20H:5V

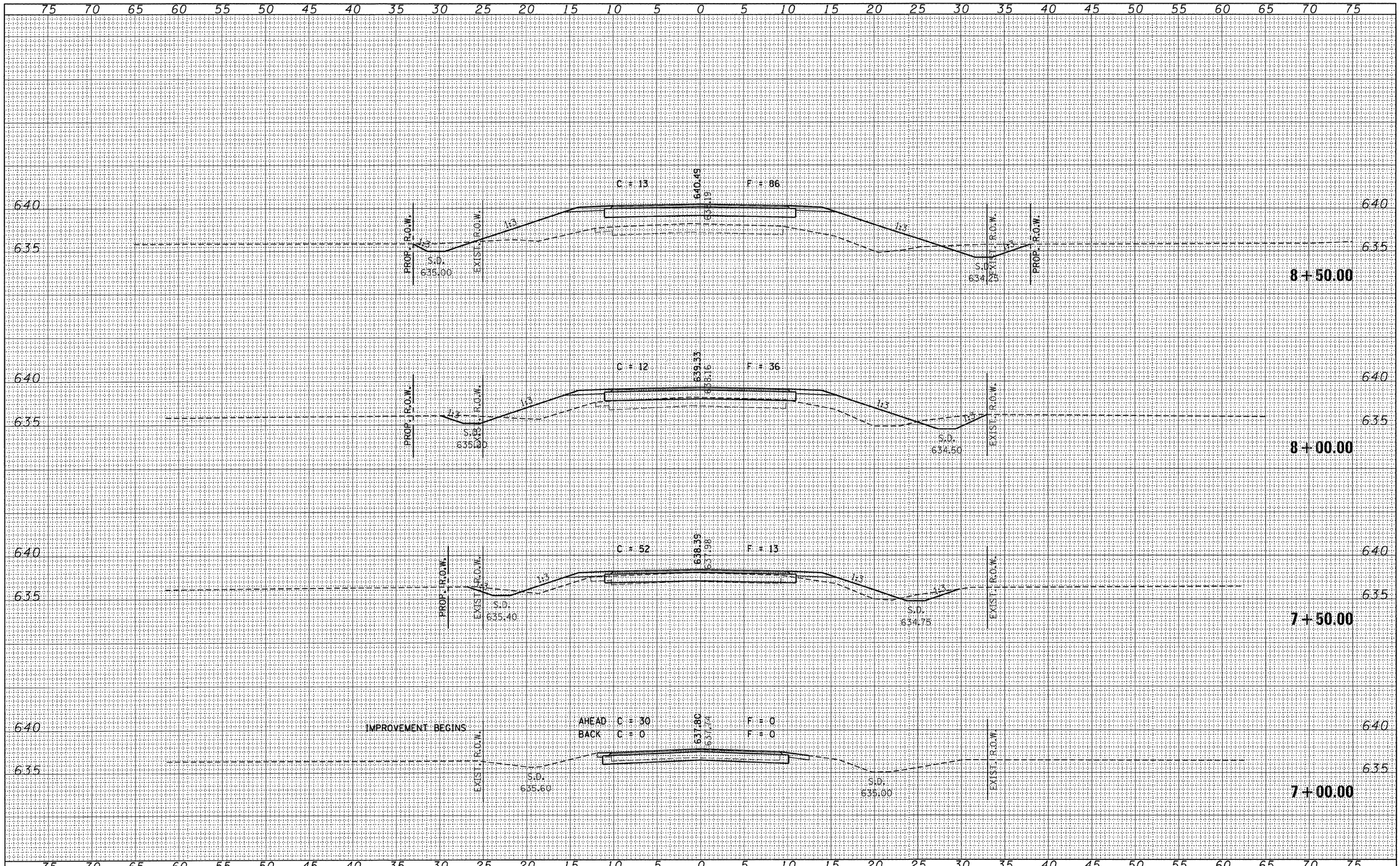
PLAN & PROFILE
1900 N. ROAD

SHEET NO. 1 OF 1 SHEETS | STA. 7+00 TO STA. 13+00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	5
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-0105(049)	

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

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



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Ø90126-sht-sxs.dgn		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

HLR
SCALE: 5H:5V

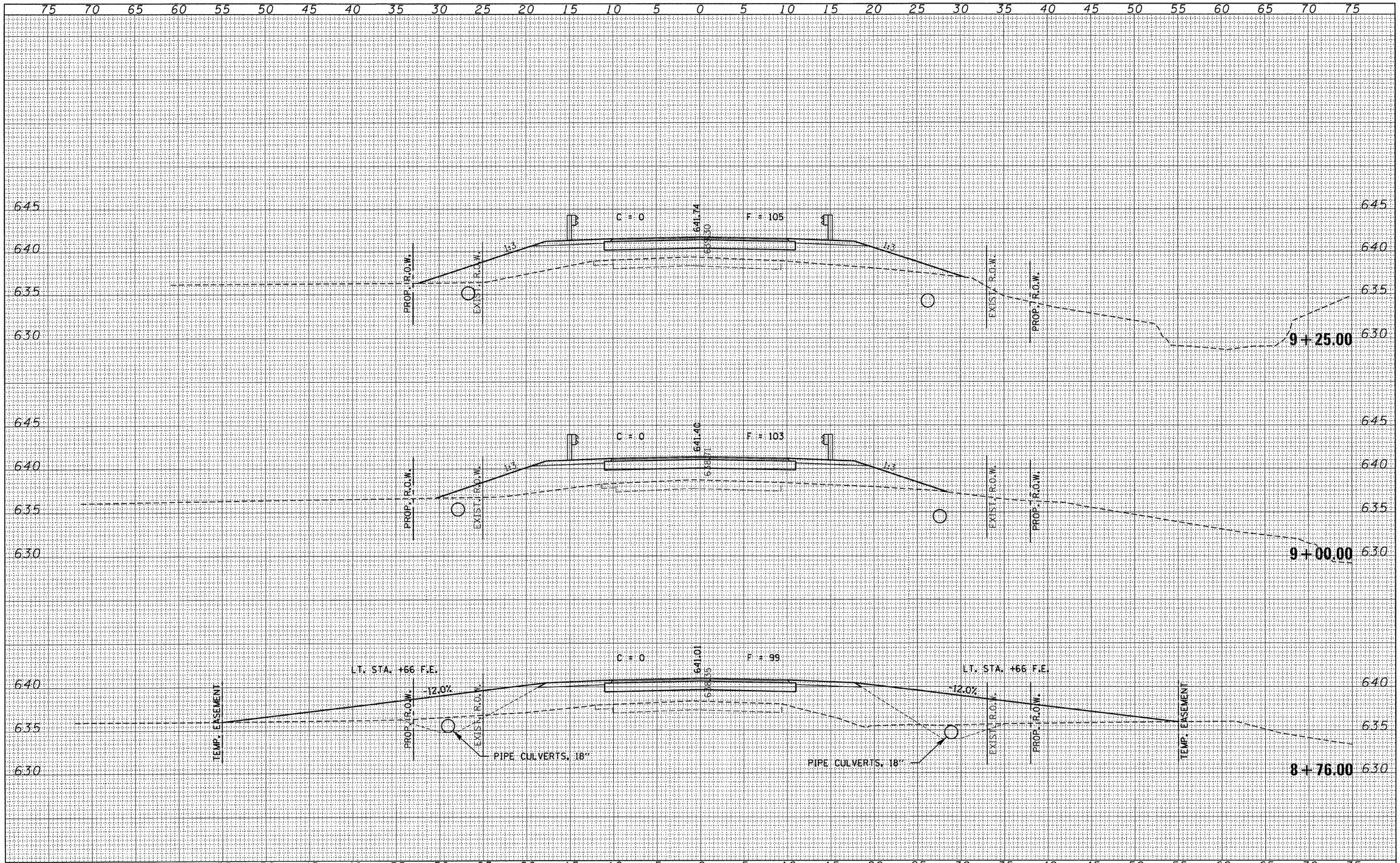
CROSS SECTIONS
1900 N. ROAD

SHEET NO. OF SHEETS STA. 7+00.00 TO STA. 8+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	6
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BR05-0105(049)	

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

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



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090126-sht-sxs.dgn		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

HLR

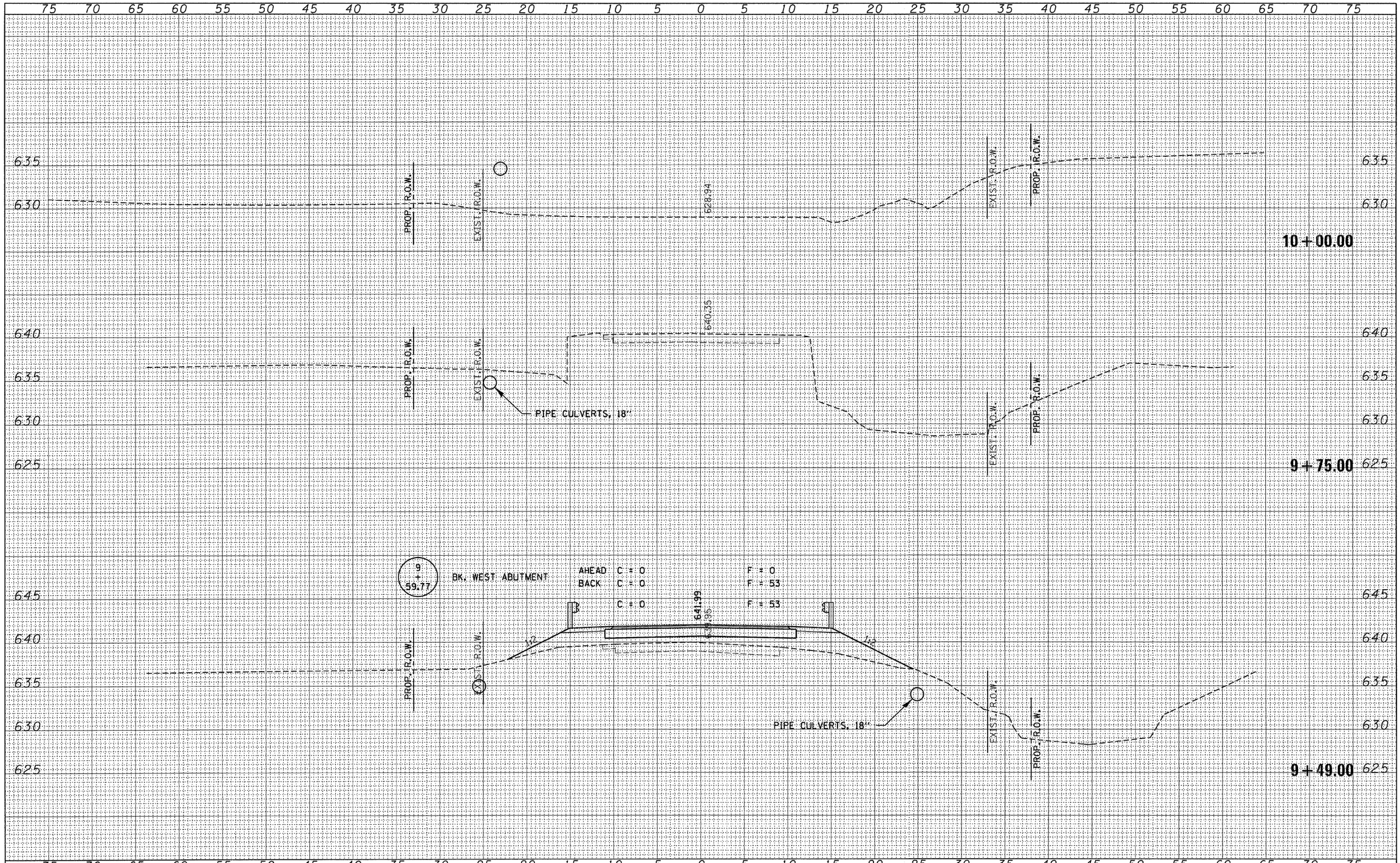
SCALE: 5H:5V

CROSS SECTIONS
1900 N. ROAD

SHEET NO. OF SHEETS | STA. 8+76.00 TO STA. 9+25.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	7
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-0105(049)	

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



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NOTE BOOK	PLOTTED		
	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

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		DRAWN - D.T.M.	REVISED -
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

FLR

SCALE: 5H:5V

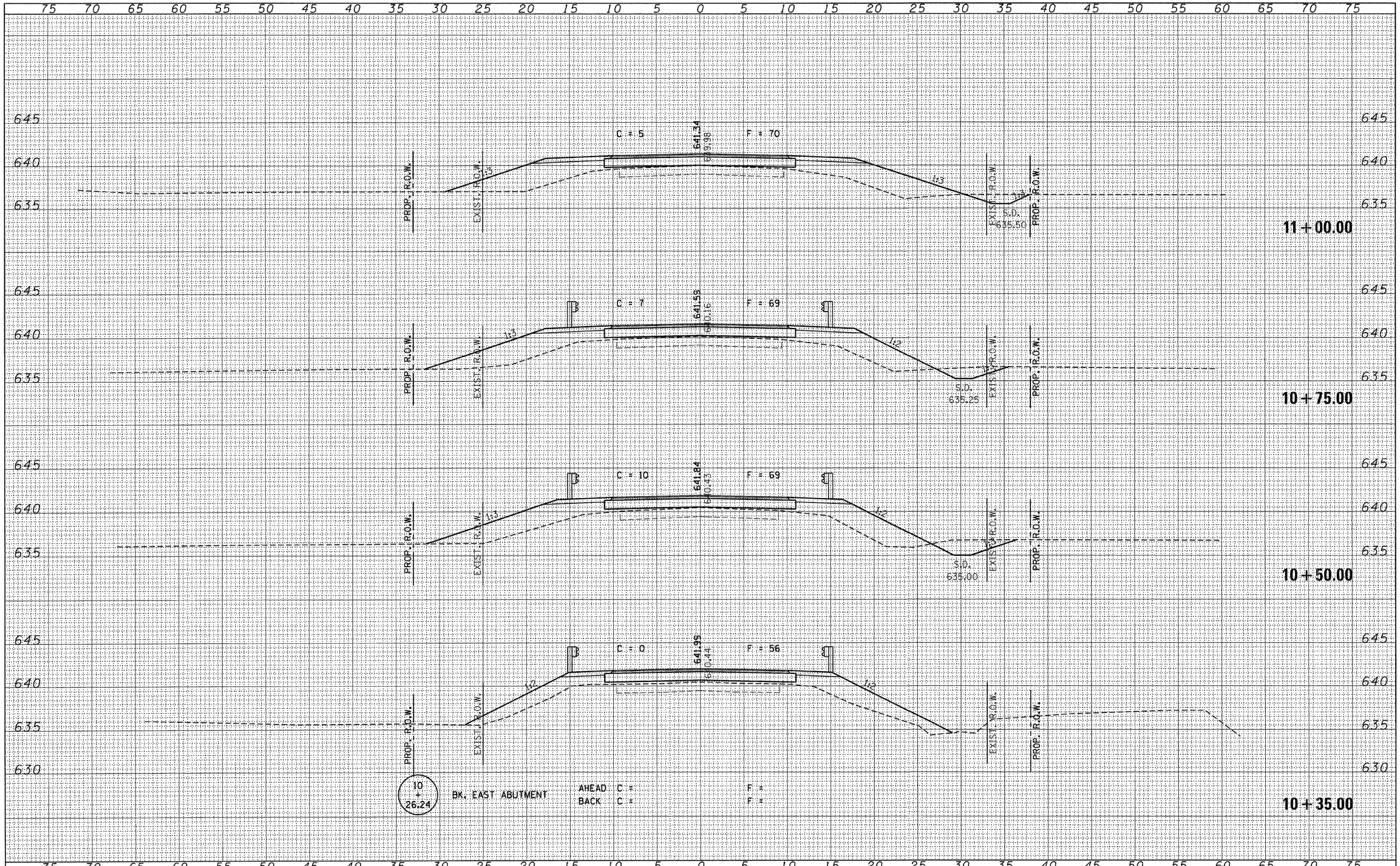
CROSS SECTIONS
1900 N. ROAD

SHEET NO. OF SHEETS STA. 9+49.00 TO STA. 10+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	8
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-0105(049)	

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

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



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		DRAWN - D.T.M.	REVISED -		
	PLOT SCALE =	CHECKED - S.W.M.	REVISED -		SCALE: 5H±5V
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -		SHEET NO. OF SHEETS STA. 10+35.00 TO STA. 11+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	9
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BR05-0105(049)	

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

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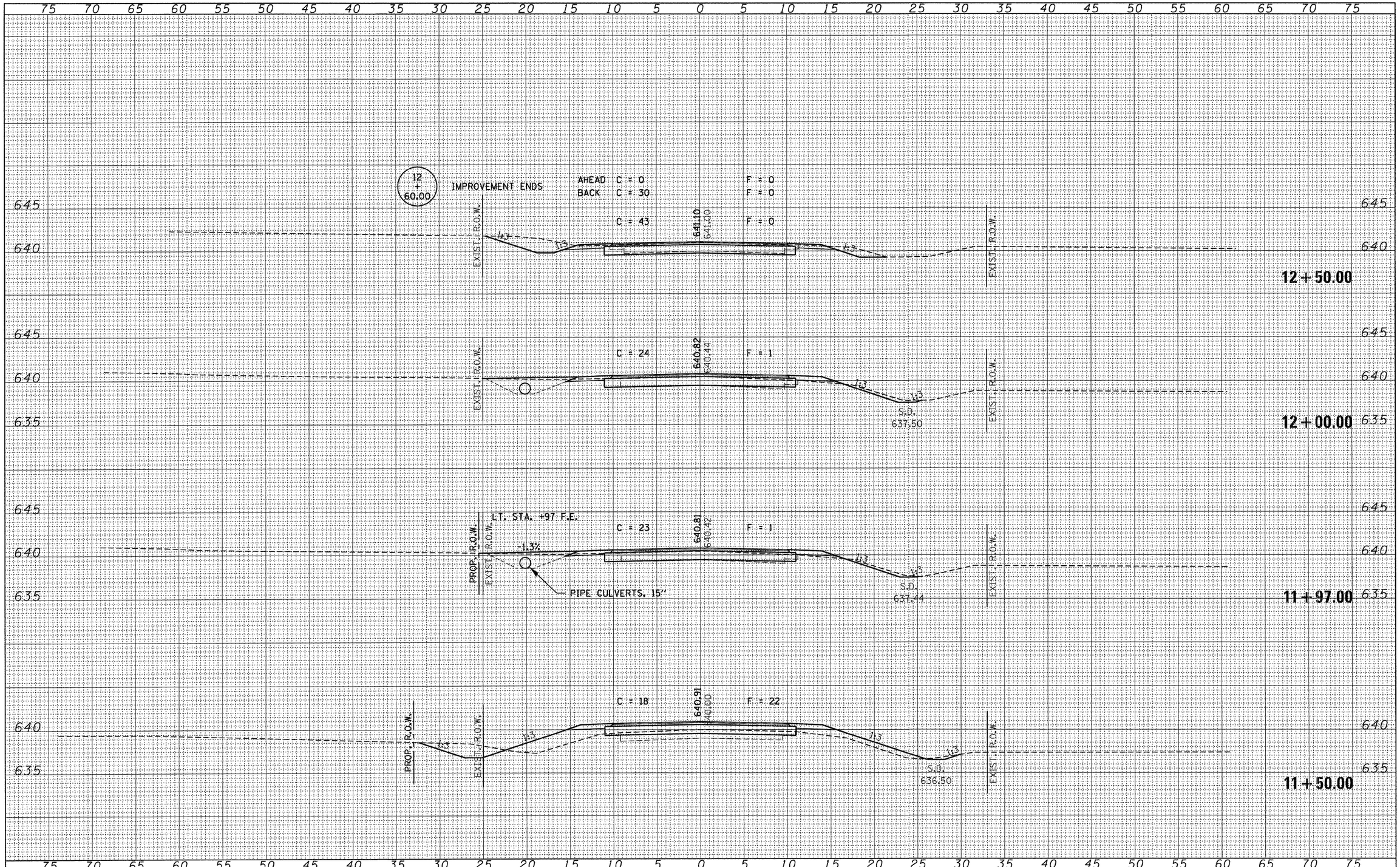
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		



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	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
	PLOT DATE = 3/25/2010	DATE - 09/17/09	REVISED -

STATE OF ILLINOIS
LIVINGSTON COUNTY HIGHWAY DEPARTMENT

FLR

SCALE: 5H:5V

CROSS SECTIONS
1900 N. ROAD

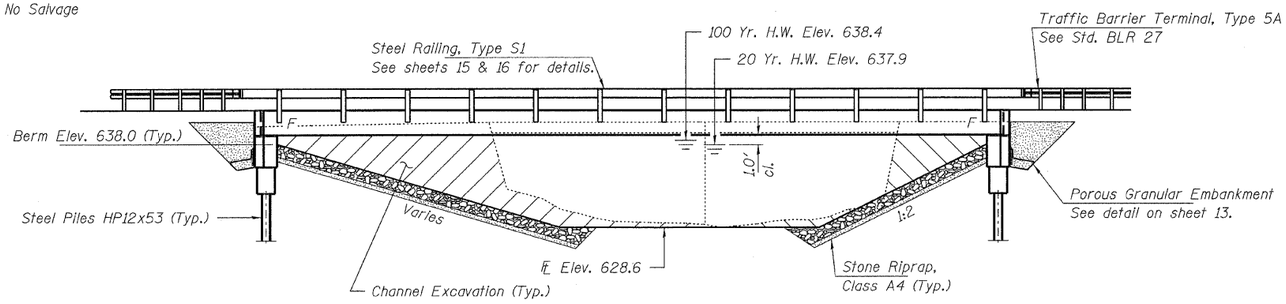
SHEET NO. OF SHEETS STA. 11+50.00 TO STA. 12+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	10
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	BROS-0105(049)	

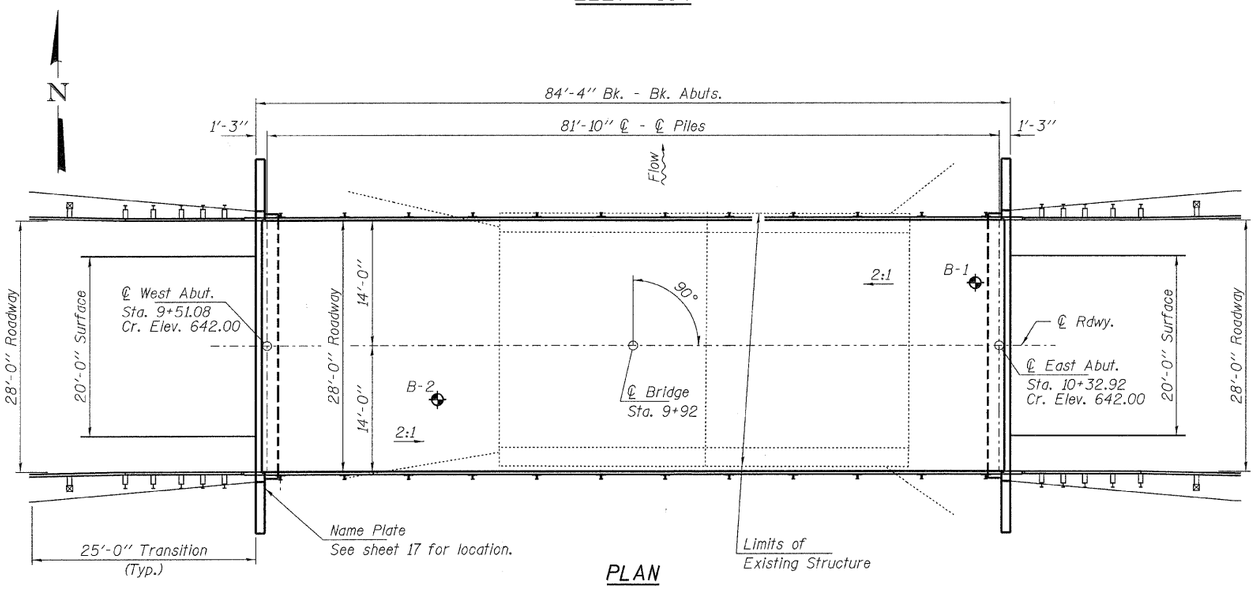
BENCHMARK: Chiseled "□" on NE wingwall. Sta. 10+22, 15' Lt., Elev. 664.98

EXISTING STRUCTURE: Two span cast in place concrete bridge with concrete parapets on closed timber and concrete abutments and wingwalls.
40.85' fc.-fc. abuts.; 28.30' o.-o. deck
Structure closed to traffic.

No Salvage



ELEVATION



PLAN

GENERAL NOTES

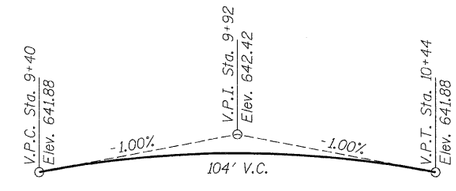
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
The Contractor shall drive test pile to 110% of the nominal required bearing specified in production locations at West Abutment or approved by the Engineer before ordering the remainder of piles.
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
All bars shall 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.

MOREHOUSE CREEK
BUILT 20__ BY
ROOKS CREEK ROAD DISTRICT
LIVINGSTON COUNTY
SEC. 09-24104-01-BR
STR. NO. 053-4199
LOADING HL-93

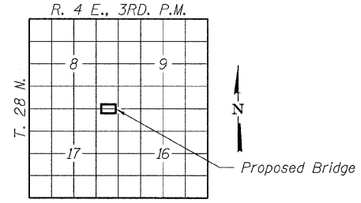
NAME PLATE

See Std. 515001

INDEX OF STRUCTURE SHEETS



PROFILE GRADE



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			355
Stone Riprap, Class A4	Sq. Yd.			360
Porous Granular Embankment	Ton			170
Filter Fabric	Sq. Yd.			360
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		28.4	28.4
Concrete Encasement	Cu. Yd.		3.4	3.4
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2,324		2,324
Reinforcement Bars, Epoxy Coated	Pound		2,840	2,840
Steel Railing, Type S1	Foot	174		174
Furnishing Steel Piles HP12x53	Foot		405	405
Driving Piles	Foot		405	405
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each		1	1
Pipe Underdrains for Structures, 4"	Foot			140

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"ϕ low lax. strands)
fpbt = 201,960 psi (½"ϕ low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.109g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.176g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 13.5 Sq. Mi. — Existing Low Grade Elev. 637.8 @ Sta. 7+00 — Proposed Low Grade Elev. 637.8 @ Sta. 7+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1530	240	470	637.49	0.47	0.61	637.96	638.10
Design	20	1920	250	490	637.80	0.57	0.47	638.37	638.27
Base	100	2860	260	530	638.37	0.52	0.27	638.89	638.61
Exist. Overtop	20	1920	250	-	637.80	0.57	-	638.37	-
Prop. Overtop	20	1920	-	530	637.80	-	0.47	-	638.27
Max. Calc.	500	3800	280	560	638.82	0.47	0.20	639.29	639.02

10 Year Velocity through Existing Bridge = 6.4 fps — 10 Year Velocity through Proposed Bridge = 3.3 fps

DESIGNED	M.G.B.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

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

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

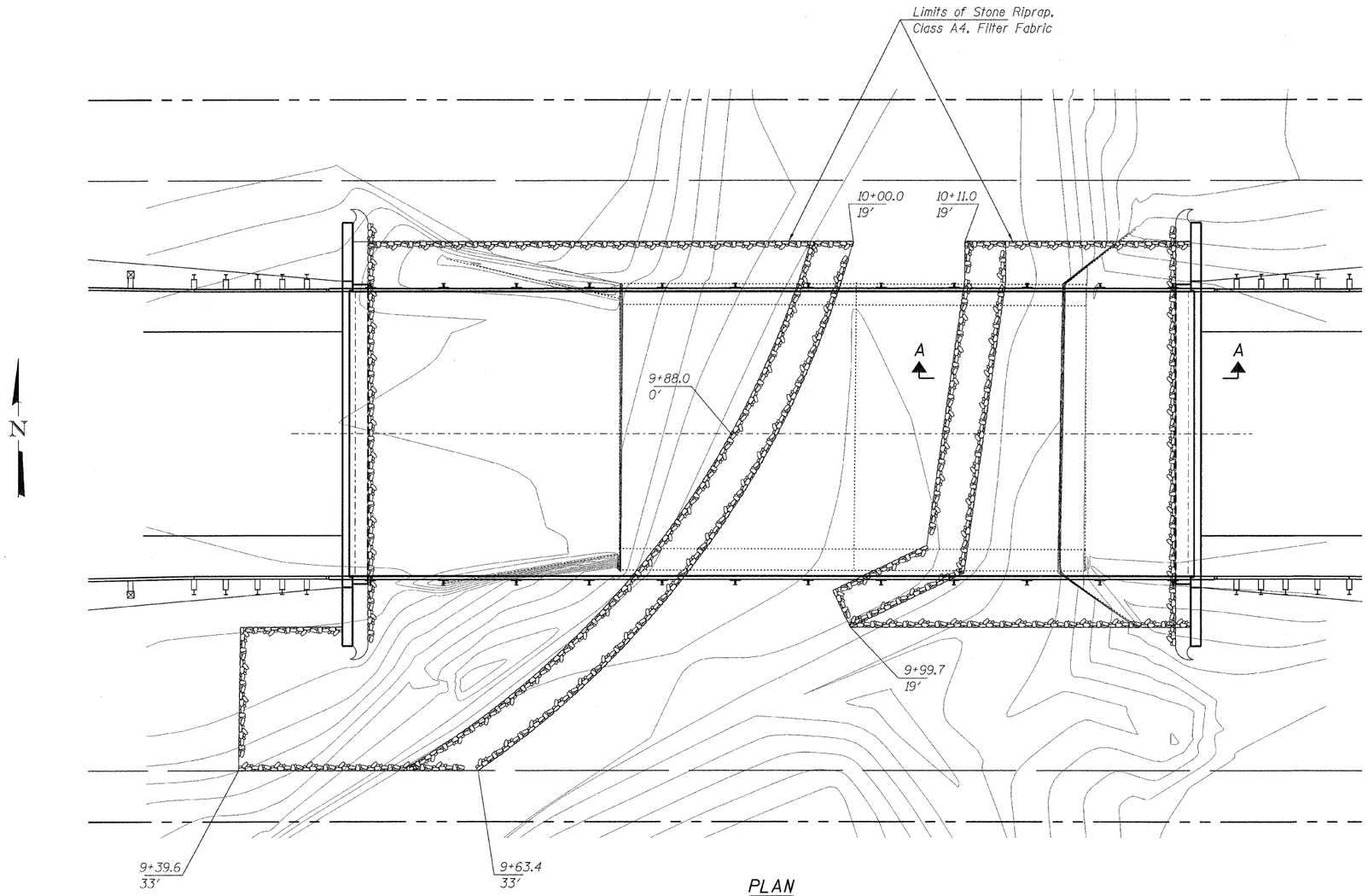
Expires 11-30-2010

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 053-4199

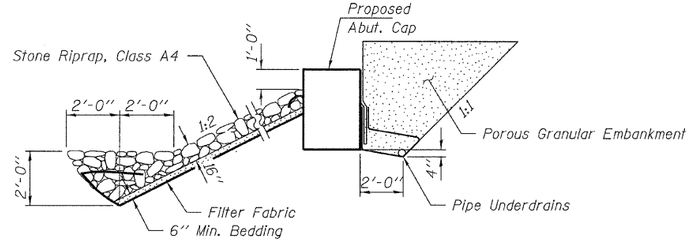
HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0126.130 | DATE: 03/25/10

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	11
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



PLAN



SECTION A-A

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

DESIGNED	M.G.B.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

RIPRAP DETAILS
STRUCTURE NO. 053-4199

HAMPTON, LENZINI AND RENWICK, INC.
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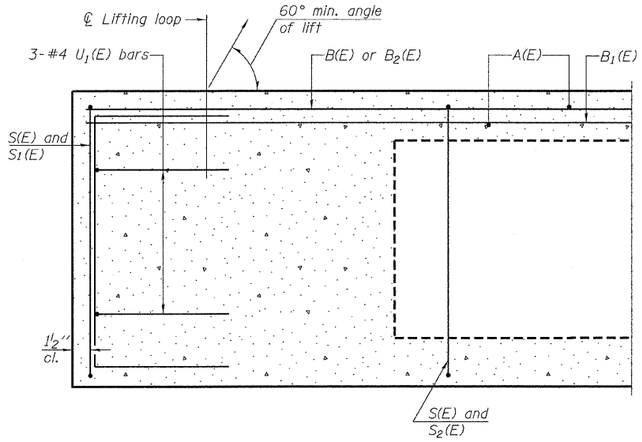
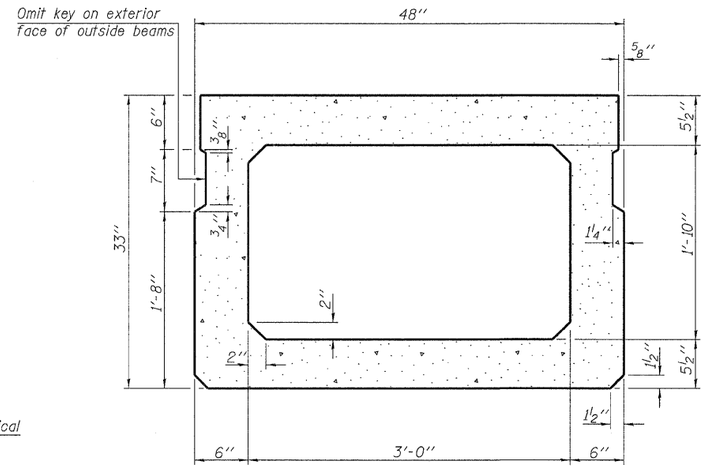
PROJECT NUMBER: 09.0126.130 | DATE: 03/25/10

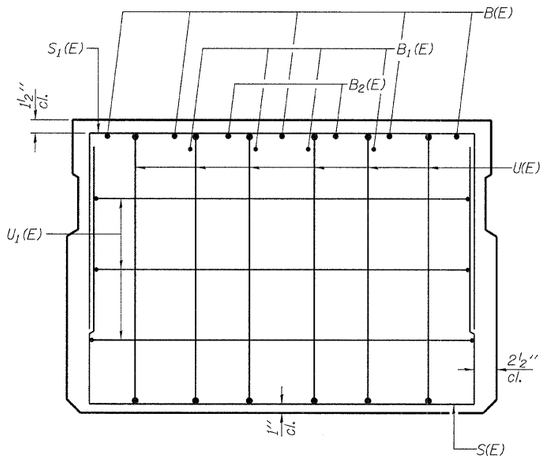
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	12
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



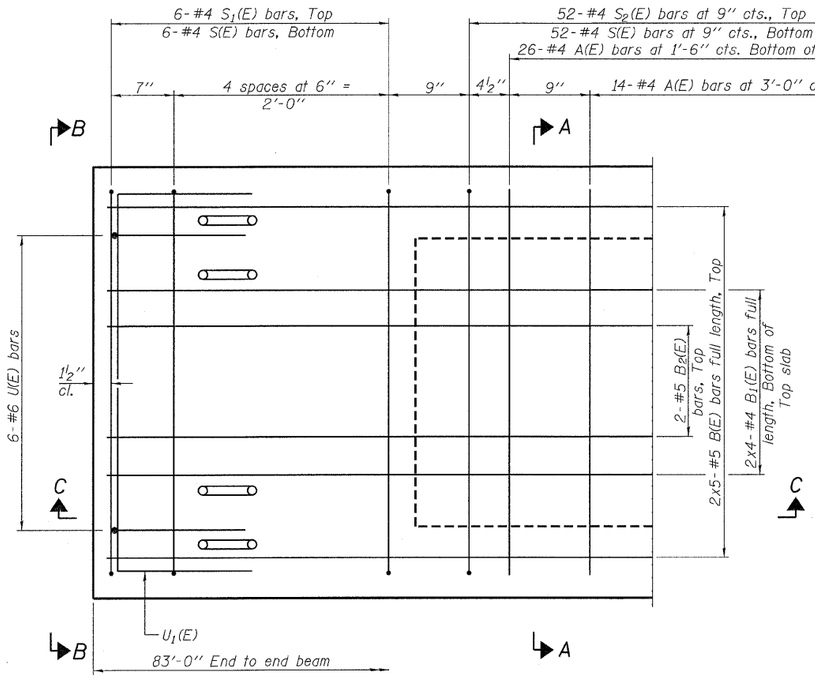
SECTION C-C



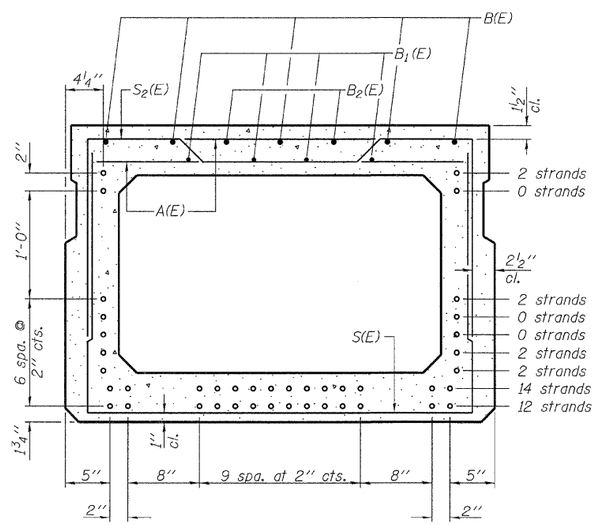
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



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

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	80	#4	3'-7"	—
B(E)	10	#5	42'-7"	—
$B_1(E)$	8	#4	42'-4"	—
$B_2(E)$	4	#5	10'-0"	—
S(E)	116	#4	8'-5"	⊔
$S_1(E)$	12	#4	7'-3"	⊓
$S_2(E)$	104	#4	7'-6"	⊓
U(E)	12	#6	5'-0"	⊏
$U_1(E)$	6	#4	6'-0"	⊐

Note: See sheets 13 & 14 for additional details and Bill of Material.

Note: Spacing of S(E) and $S_2(E)$ 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.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

SUPERSTRUCTURE
33" x 48" PPC DECK BEAM
STRUCTURE NO. 053-4199

DESIGNED -	M.G.B.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

PD-3348-0 11-1-09

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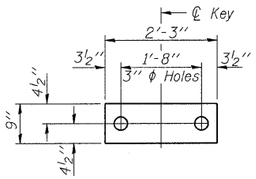
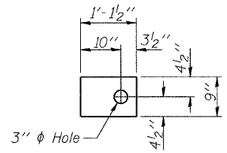
PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	13
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



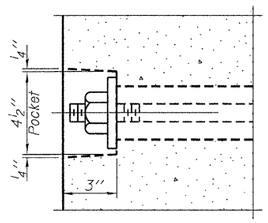
FABRIC BEARING PAD
(Interior - 10 Req'd.)



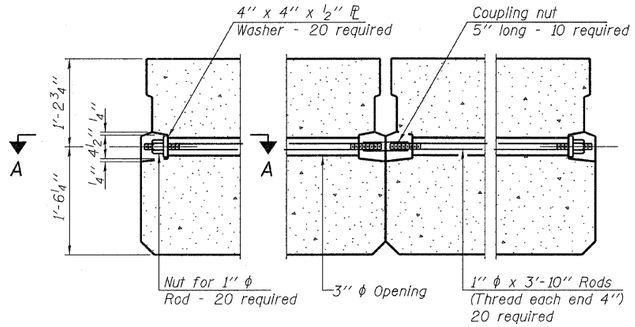
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

FIXED

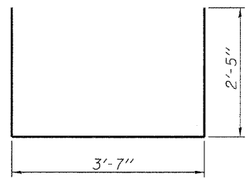
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



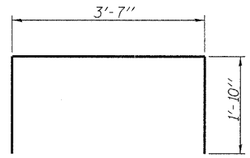
SECTION A-A



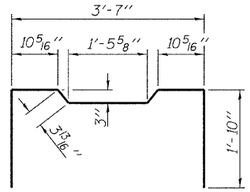
TYPICAL TRANSVERSE TIE ASSEMBLY



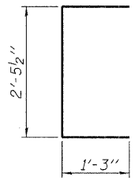
BAR S(E)



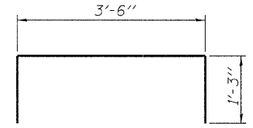
BAR S_1(E)



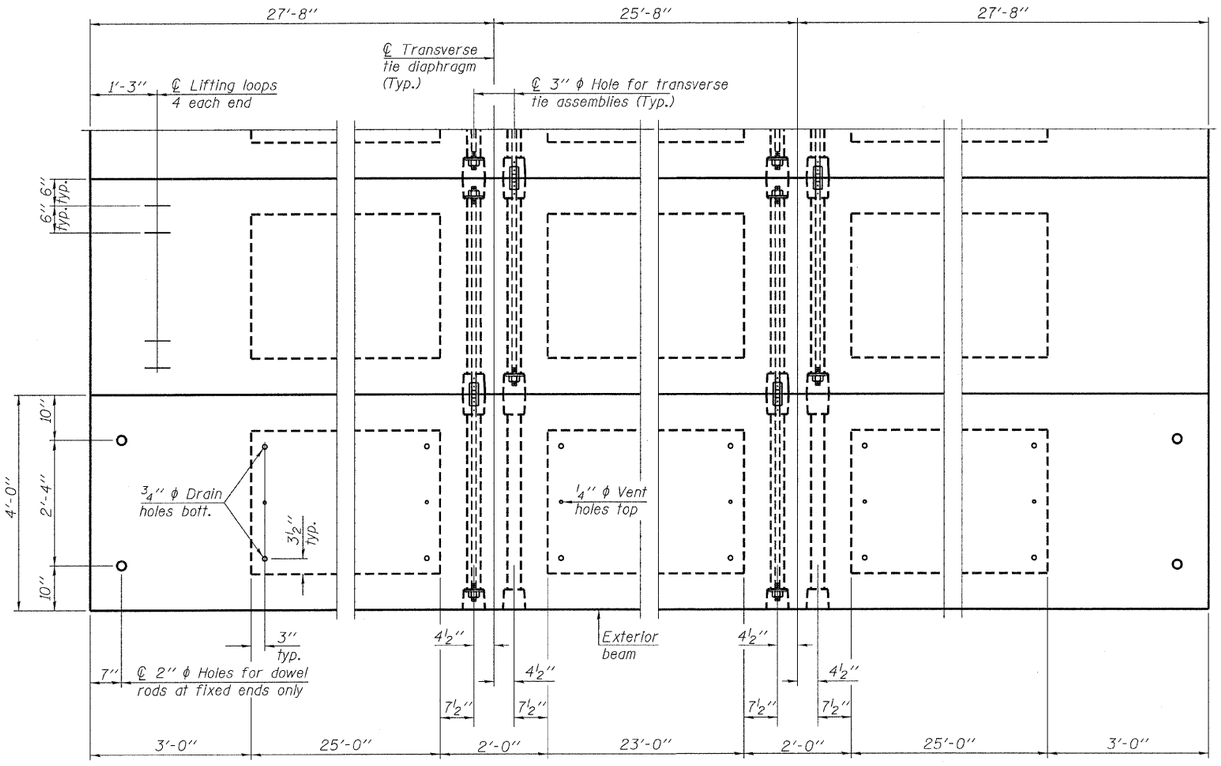
BAR S_2(E)



BAR U(E)

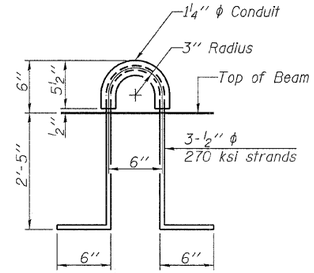


BAR U_1(E)



PLAN VIEW

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2,324

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

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

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

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

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

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

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

DESIGNED -	M.G.B.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

PD-3348-0D 11-1-09

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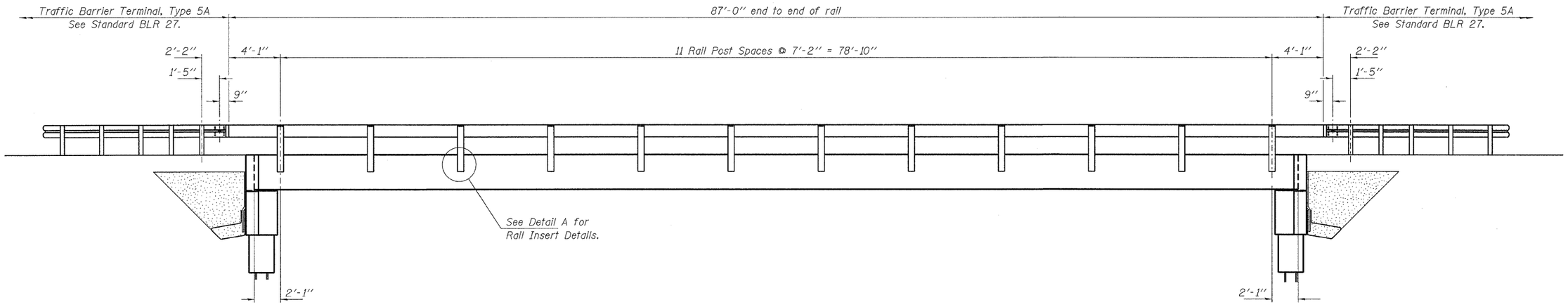
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

SUPERSTRUCTURE DETAILS
33" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 053-4199

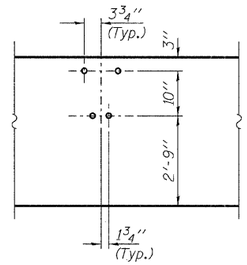
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	14
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



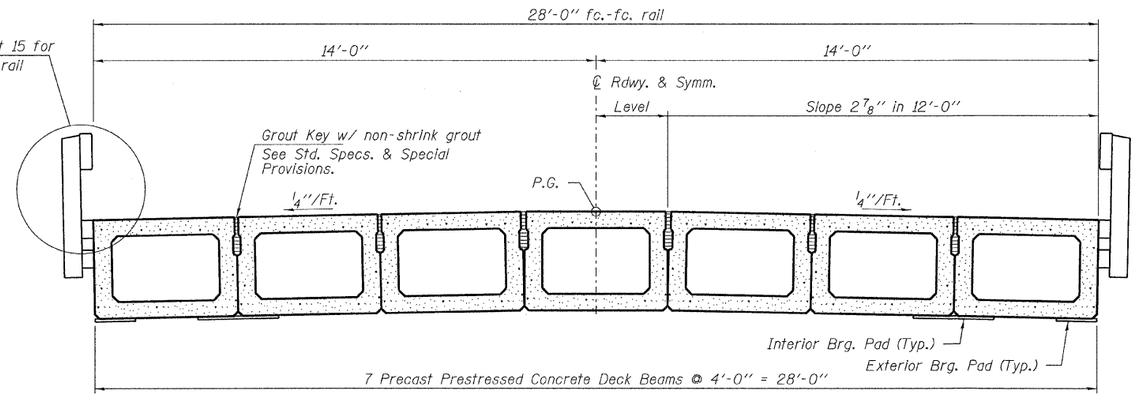
ELEVATION

Showing Rail Post Spaces

See sheet 15 for Railing Details.

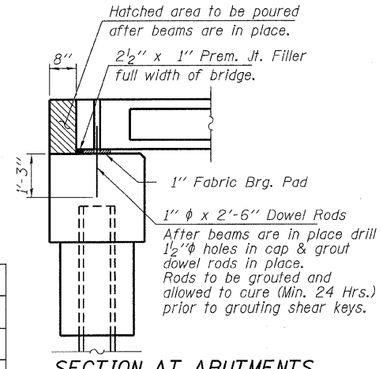


DETAIL A



CROSS SECTION

See sheets 12 & 13 for Superstructure.



SECTION AT ABUTMENTS

℄ Rt. L's

DESIGNED	M.G.B.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

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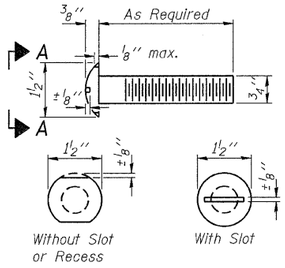
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

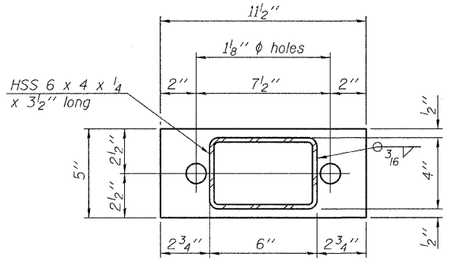
PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 053-4199

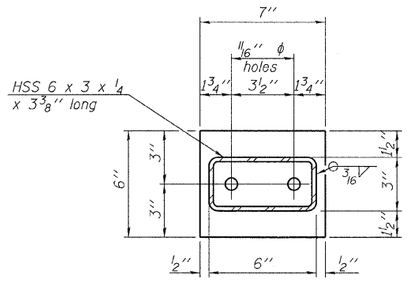
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	15
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		



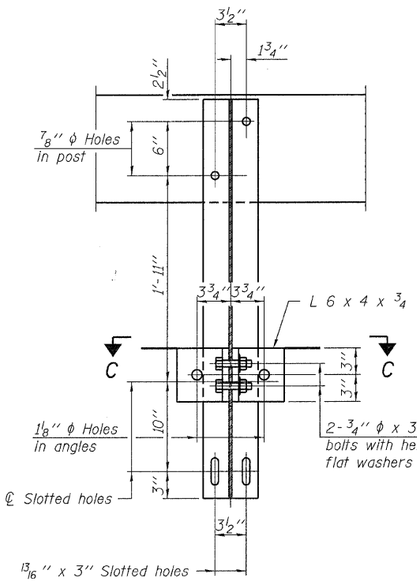
VIEW A-A
ROUND HEAD BOLT



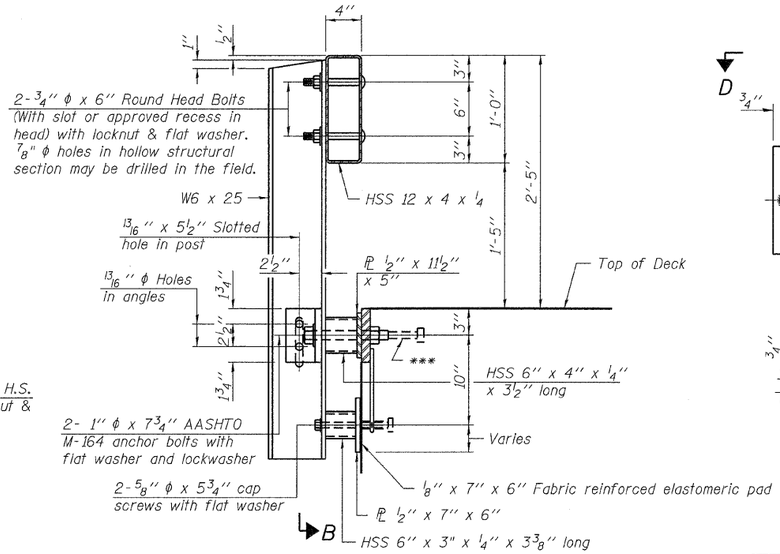
℄ 1/2" x 11 1/2" x 5"



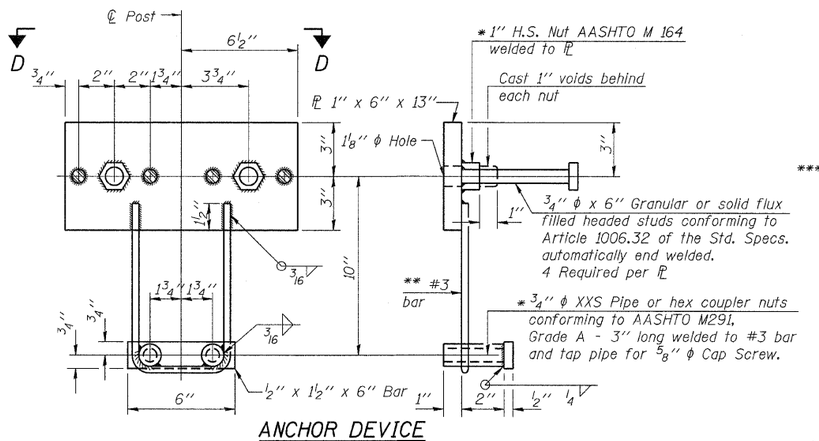
℄ 1/2" x 7" x 6"



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

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

* 1" H.S. Nut AASHTO M 164 welded to ℄

Cast 1" voids behind each nut

3/4" ϕ x 6" Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs. automatically end welded. 4 Required per ℄

* 3/4" ϕ XXS Pipe or hex coupler nuts conforming to AASHTO M291. Grade A - 3" long welded to #3 bar and tap pipe for 5/8" ϕ Cap Screw.

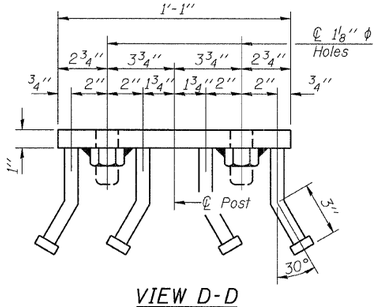
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

Notes:

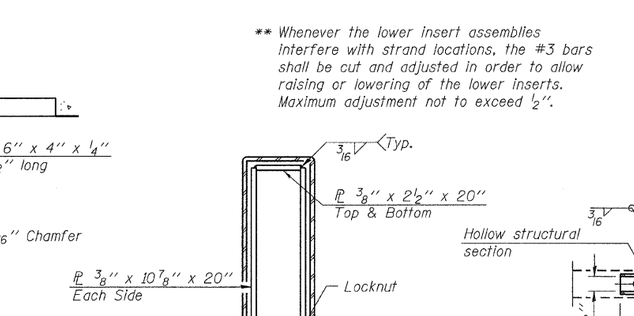
All field drilled holes shall be coated with an approved zinc rich paint before erection.

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

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

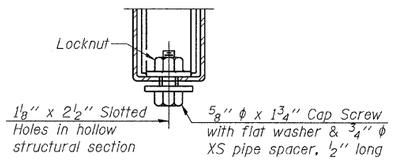


VIEW D-D

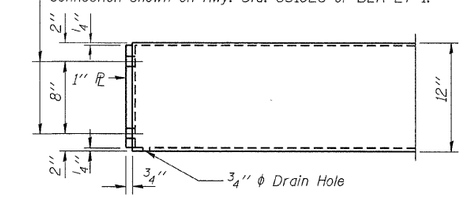


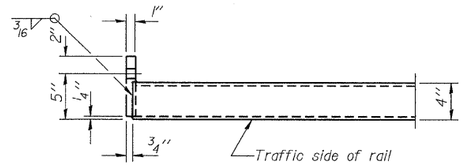
SECTION C-C

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



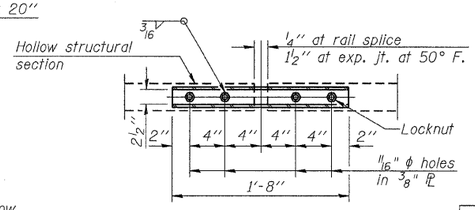
RAIL SPLICE CONNECTION AT EXPANSION JT.





END OF RAIL DETAILS

SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE ℄ TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	146

STEEL RAILING, TYPE S-1
STRUCTURE NO. 053-4199

DESIGNED -	M.G.B.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

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

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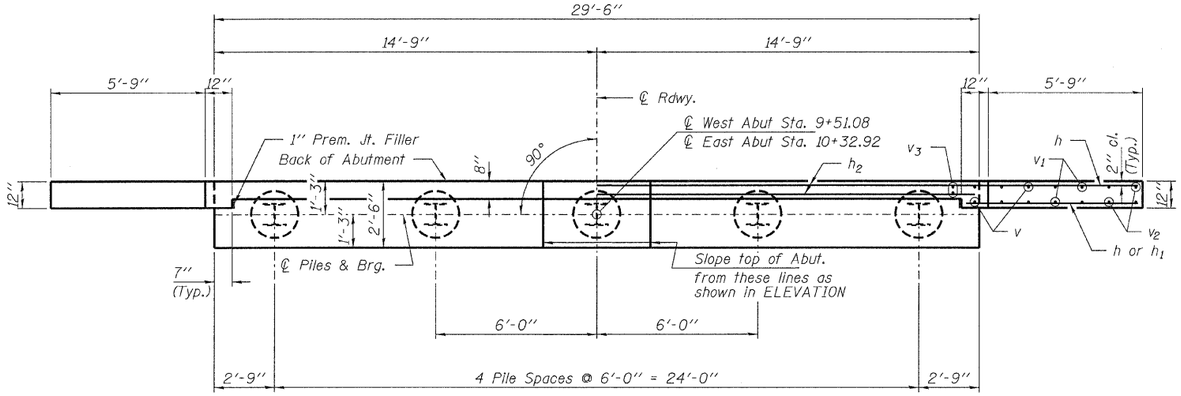
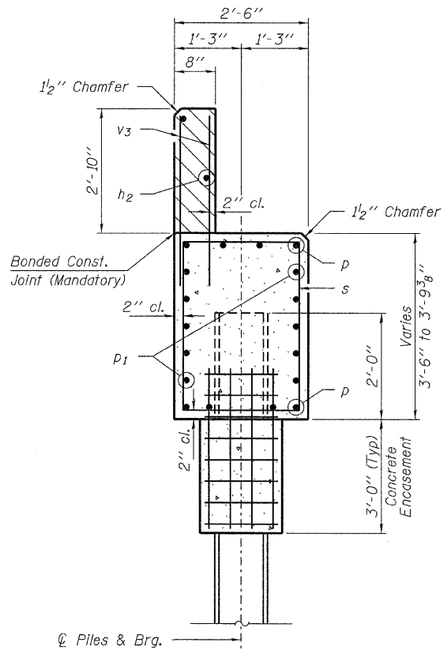
184.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	16
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		

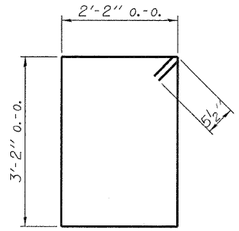


PLAN

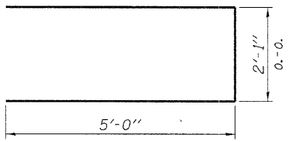


SECTION A-A

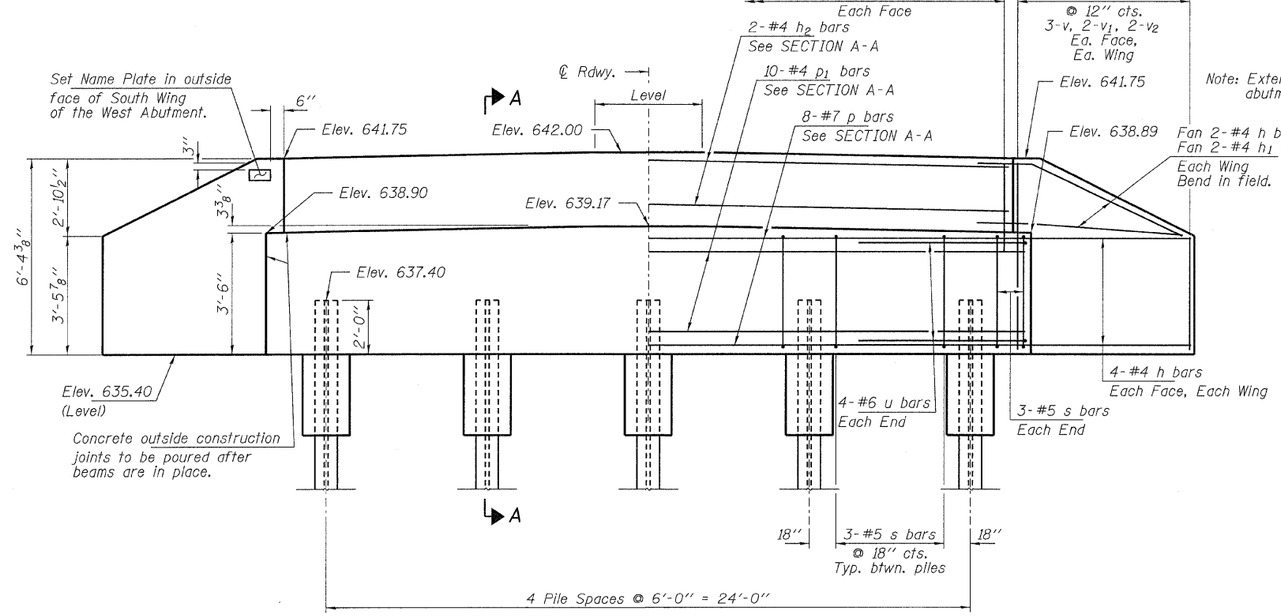
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	8'-0"	——
h_1	8	#4	6'-6"	——
h_2	4	#4	29'-2"	——
p	16	#7	29'-2"	——
p_1	20	#4	29'-2"	——
s	36	#5	11'-7"	□
u	16	#6	12'-1"	▭
v	24	#4	5'-3"	——
v_1	16	#4	4'-3"	——
v_2	16	#4	3'-3"	——
v_3	116	#4	3'-8"	——
Concrete Structures			Cu. Yd.	28.4
Concrete Encasement			Cu. Yd.	3.4
Reinforcement Bars, Epoxy Coated			Pound	2,840
Steel Piles HP12x53			Foot	405
Test Pile Steel HP12x53			Each	1
Name Plates			Each	1

All bars shall be Epoxy Coated.

PILE DATA

Type _____ Steel HP12x53
No. Req'd. (2 Abuts.) _____ *10
Factored Resistance Available (Rf) _____ 185 Kips/Pile
Nominal Required Bearing (Rn) _____ 370 Kips/Pile
Est. Length _____ 45 Ft/Pile

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

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

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

DESIGNED -	M.G.B.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

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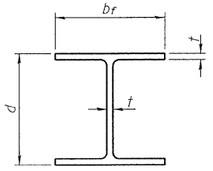
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0126.130 | DATE: 03/25/10

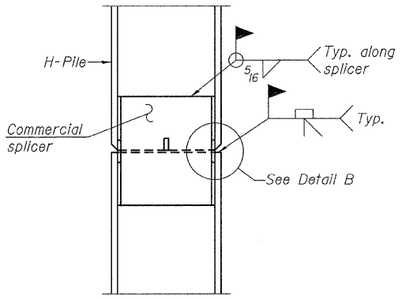
ABUTMENTS
STRUCTURE NO. 053-4199

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	17
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		

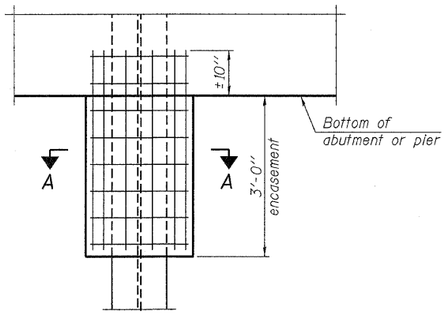


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



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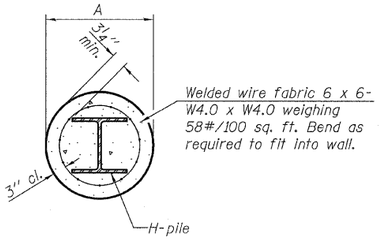
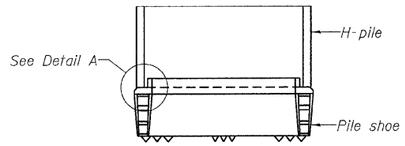


Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT



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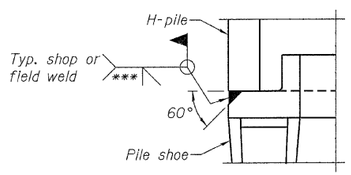
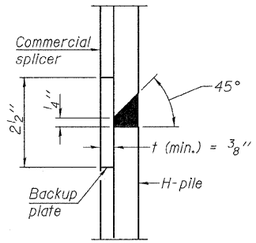
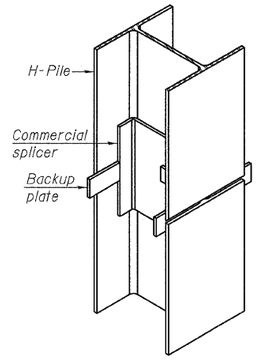


DETAIL A

H-PILE SHOE ATTACHMENT

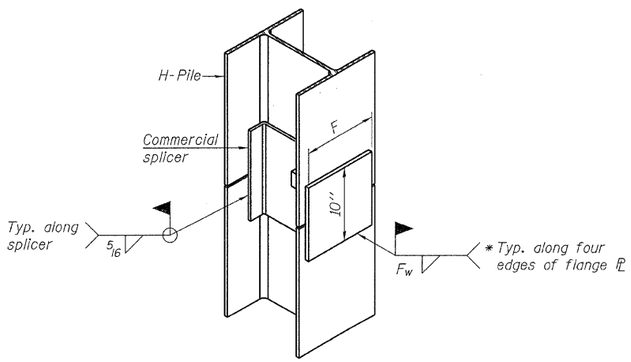


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



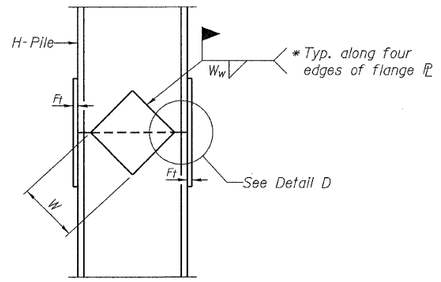
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

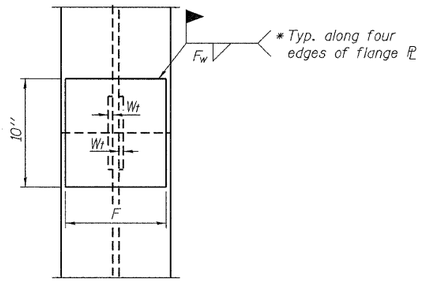
* Interrupt welds 1/4" from end of web and/or each flange.

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

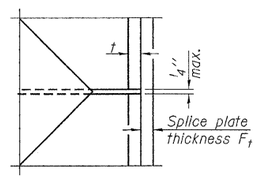
*** Weld size per pile shoe manufacturer (5/16" min.).



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

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

DESIGNED - M.G.B.	
CHECKED - S.W.M.	
DRAWN - D.A.B.	
CHECKED - S.W.M.	

F-HP 11-1-09

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ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

HP PILE DETAILS
STRUCTURE NO. 053-4199

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	18
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		

Midwest Testing Services, Inc.
3705 Progress Blvd.
Peru, IL 61354
Phone: 815-223-6696
Fax: 815-223-6659
e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-1
Surface Elev. 99.90 (640.3)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 7' North of centerline of roadway and 30' east of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) *ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
99.90										
98.90		1								
97.90		2								
96.90	Stiff Brown And Black Gravely Loam And Silty Clay (Fill)	3	1	SS	1.7	8	S	14		
95.90		4								
94.90		5	2	SS	1.5	7	B	21		
(634.3) 93.90		6								
92.90	Medium Black Silty Clay	7								
(631.3) 90.90		9	3	SS	0.8	6	B	24		
89.90		10								
88.90	Stiff Gray Silty Clay With Occasional Wood Fragments	11	4	SS	1.0	6	B	23		
87.90		12								
(626.3) 86.90		13	5	SS	1.1	6	B	23		
85.90		14								
84.90	Loose Gray Fine Sand	15								
(623.8) 83.90		16	6	SS	—	7	B	—		
82.90		17								
81.90	Very Stiff Gray Sandy Clay Till	18	7	SS	2.1	12	B	14		
80.90		19								
79.90		20	8	SS	3.2	20	B	12		

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

Midwest Testing Services, Inc.
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Peru, IL 61354
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BORING LOG

Sheet 2 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-1
Surface Elev. 99.90 (640.3)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 7' North of centerline of roadway and 30' east of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
78.90										
77.90		22								
76.90	Very Stiff Gray Sandy Clay Till	23	9	SS	3.3	18	B	13		
(616.3) 75.90		24								
74.90		25								
73.90		26	10	SS	5.4	33	S	14		
72.90		27								
71.90		28	11	SS	5.8	36	B	14		
70.90		29								
69.90		30								
68.90		31	12	SS	6.2	42	S	12		
67.90		32								
66.90	Hard Brownish Gray Silty Clay Till	33								
65.90		34								
64.90		35								
63.90		36	13	SS	7.8	38	B	12		
62.90		37								
61.90		38								
60.90		39								
59.90		40								
58.90		41	14	SS	6.2	34	S	13		

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

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BORING LOG

Sheet 3 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-1
Surface Elev. 99.90 (640.3)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 7' North of centerline of roadway and 30' east of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
57.90										
56.90		43								
55.90		44								
54.90		45	15	SS	6.4	46	S	11		
53.90		46								
52.90		47								
51.90		48								
50.90	Hard Brownish Gray Silty Clay Till	49								
49.90		50	16	SS	6.0	31	B	14		
48.90		51								
47.90		52								
46.90		53								
45.90		54								
44.90		55								
(584.3) 43.90	Bottom of Boring	56	17	SS	6.2	30	B	14		
42.90		57								
41.90		58								
40.90		59								
39.90		60								
38.90		61								
37.90		62								

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

BORING 1

DESIGNED	M.G.B.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

BORINGS
STRUCTURE NO. 053-4199

HAMPTON, LENZINI AND RENWICK, INC.
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SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000059
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
119	09-24104-01-BR	LIVINGSTON	20	19
ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-0105(049)		

Midwest Testing Services, Inc.
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Peru, IL 61354
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e-mail: mts37@comcast.net

BORING LOG

Sheet 1 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-2
Surface Elev. 99.80 (640.2)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 6' south of centerline of roadway and 30' west of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
99.80											
98.80			1								
97.80			2								
96.80	Stiff Brown And Black Gravely Loam And Silty Clay (Fill)		3	1	SS	1.7	9	S	16		
95.80			4								
94.80			5	2	SS	1.4	7	B	22		
93.80	(634.7)		6								
92.80			7								
91.80	Stiff Black Silty Clay		8	3	SS	1.2	7	B	23		
90.80	(631.2)		9								
89.80			10	4	SS	1.1	6	B	24		
88.80	Stiff Gray Silty Clay With Occasional Wood Fragments		11								
87.80			12								
86.80			13	5	SS	1.2	7	B	22		
85.80	(626.2)		14								
84.80	Loose Gray Fine Sand		15								
83.80			16	6	SS	---	6	---	---		
82.80	(623.2)		17								
81.80			18	7	SS	2.3	14	S	13		
80.80	Very Stiff Gray Sandy Clay Till		19								
79.80			20	8	SS	2.9	18	B	12		

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

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BORING LOG

Sheet 2 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-2
Surface Elev. 99.80 (640.2)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 6' south of centerline of roadway and 30' west of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
78.80			22								
77.80			23	9	SS	4.6	30	B	14		
76.80			24								
75.80			25								
74.80			26	10	SS	5.3	34	B	14		
73.80			27								
72.80			28								
71.80			29	11	SS	6.0	39	S	13		
70.80			30								
69.80	Hard Brownish Gray Silty Clay Till		31	12	SS	6.2	47	S	12		
68.80			32								
67.80			33								
66.80			34								
65.80			35								
64.80			36	13	SS	6.6	32	B	14		
63.80			37								
62.80			38								
61.80			39								
60.80			40								
59.80			41	14	SS	6.1	32	B	14		
58.80											

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

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BORING LOG

Sheet 3 of 3

Client: Hampton Linzini & Renwick, Inc.
Project Name: Section 09-24104-01-BR Rooks Creek Twp.
Project Site: Livingston County, Illinois

Boring No. B-2
Surface Elev. 99.80 (640.2)
Auger Depth 56' Rotary Depth NA
Start Date 08/15/09 Finish Date 08/15/09

Location: 6' south of centerline of roadway and 30' west of center of bridge

DRILLED BY: Randy Safranski, Diedrich D-120

(DEPTH) ELEV.	DESCRIPTION OF MATERIALS	Graphic Log	Depth in feet	Sample No.	Sample Type	Qu (TSF)	N Value (Blows)	Bulge / Shear	Moisture (%)	Dry Density (PCF)	REMARKS
57.80			43								
56.80			44								
55.80	Hard Brownish Gray Silty Clay Till		45								
54.80	(595.2)		46	15	SS	---	49	---	---		
53.80	Dense Brown Coarse Sand		47								
52.80	(593.2)		48								
51.80			49								
50.80			50								
49.80			51	16	SS	5.8	33	B	14		
48.80	Hard Brownish Gray Silty Clay Till		52								
47.80			53								
46.80			54								
45.80			55								
44.80			56	17	SS	6.0	32	B	14		
43.80	(584.2) Bottom of Boring		57								
42.80			58								
41.80			59								
40.80			60								
39.80			61								
38.80			62								
37.80											

Groundwater Data: Static water level after auger removal elevation 89.0.
Comments: ** Assumed center of existing bridge as elevation 100.0.*

BORING 2

DESIGNED	M.G.B.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

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PROJECT NUMBER: 09.0126.130 DATE: 03/25/10

BORINGS
STRUCTURE NO. 053-4199

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ROOKS CREEK ROAD DISTRICT		CONTRACT NO. 87453		
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