03-09-12 LETTING ITEM 042

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	1
		ILLINOIS	CONTRACT NO. 70582	

FOR INDEX OF SHEETS
SEE SHEET NO. 2

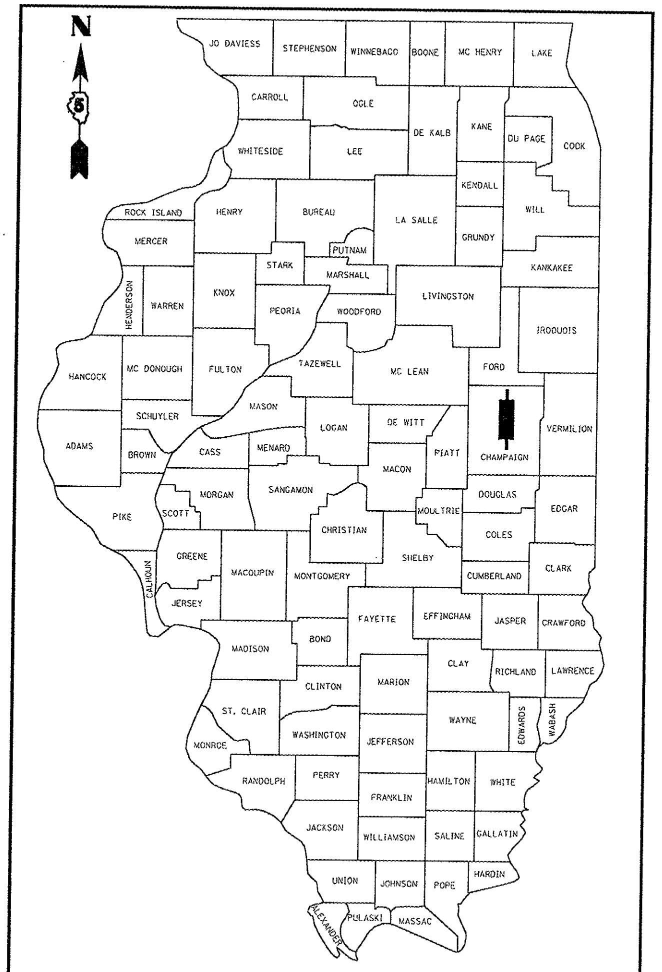
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAP ROUTE 808 (IL RTE 130)
SECTION 94BR-1
PROJECT ACF-0808(038)
BRIDGE REPLACEMENT
CHAMPAIGN COUNTY

C-95-101-06
EAST BRANCH EMBARRAS RIVER
3.5 MILES S. OF PHILO

D-95-101-06



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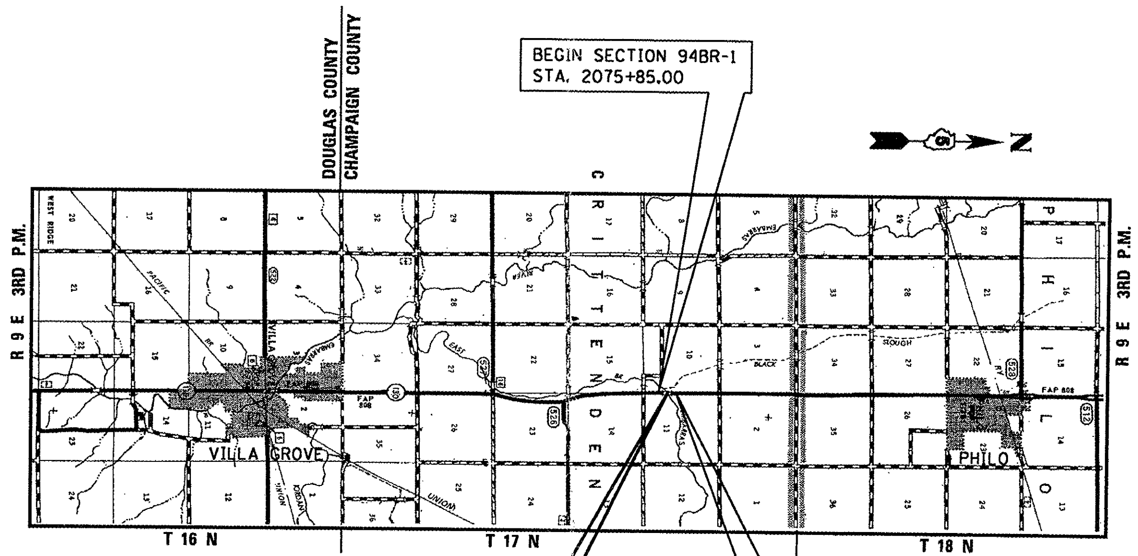

BEGIN SECTION 94BR-1
STA. 2075+85.00

END SECTION 94BR-1
STA. 2083+15.00

SECTION 94BR-1
PROPOSED S.N. 010-0286
EXISTING S.N. 010-0113
IL 130 ℄ STATION 2079+82.00
3 SPAN CIP CONCRETE SLAB
122'-0" BK. TO BK. ABUT
39° RT FWD. SKEW
CLEAR WIDTH = 36'-0"

LOCATION MAP

0 1 2 3 4 5 MILES

GROSS LENGTH = 730.00 FT. = 0.138 MILE
NET LENGTH = 730.00 FT. = 0.138 MILE

DESIGN DESIGNATION
FAP RTE 808
SPEED LIMIT: 55 MPH
ADT = 4000 (2008) 4600 (2018) 5200 (2028)
PV = 94.8%
SU = 3.4%
MU = 1.8%

HIGHWAY CLASSIFICATION
RURAL MINOR ARTERIAL

0 10' 20' 30' — 1"= 10'
100' 200' 300' — 1"= 100'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811
CRITTENDEN TOWNSHIP

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212

HR HURST-ROSCHE ENGINEERS, INC.

PROJECT ENGINEER: JASON W. STULTS
SQUAD LEADER: RUSTIN KEYS 217-465-4181

CONTRACT NO. 70582

MARK A. REITZ
062-047531
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
SEAL

5/16/11
MARK A. REITZ P.E.#062-047531 DATE
EXPIRES: 11/30/2011
HURST-ROSCHE ENGINEERS, INC.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 10/12 20 11
DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER
Feb 3 20 12
John D. Baranzelli, P.E. /a acting ENGINEER OF DESIGN AND ENVIRONMENT
Feb 3 20 12
William R. Frey /a acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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INDEX OF SHEETS

STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREA OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND A FOOT
280001-06	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420401-08	BRIDGE APPROACH PAVEMENT CONNECTOR
482011-03	HMA SHLD. STRIPS/SHLDS. WITH RESURFACING OR WIDENING AND RESURFACING PROJECTS
515001-03	NAME PLATE FOR BRIDGES
542401-01	METAL END SECTION FOR PIPE CULVERTS
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
630001-10	STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-08	TRAFFIC BARRIER TERMINAL, TYPE 2
631031-10	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
667101-02	PERMANENT SURVEY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS-DAY ONLY
701321-12	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701901-02	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
780001-03	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATION RAISED REFLECTIVE PAVEMENT MARKERS
886001-01	DETECTOR LOOP INSTALLATIONS
886006-01	TYPICAL LAYOUT FOR DETECTION LOOPS

RATES OF APPLICATION

THE FOLLOWING FACTORS WERE USED FOR ESTIMATING PLAN QUANTITIES AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES.

HOT - MIX ASPHALT LEVEL BINDER	0.056 TON/SQ YD/IN
HOT - MIX ASPHALT SURFACE COURSE	0.056 TON/SQ YD/IN
AGGREGATE (SURFACE, BASE AND BACK FILL)	1.80 TON/CU YD
PRIME COAT FOR HOT - MIX ASPHALT:	
ON PAVEMENT	0.08 GALLONS/SQ YD
FOG COAT ON NEW BINDER	0.05 GALLONS/SQ YD
AGGREGATE (PRIME COAT):	
ON EXISTING PAVEMENT	0.002 TON/SQ YD
FOG COAT ON NEW BINDER	0.001 TON/SQ YD

COMMITMENTS: **NONE**

GENERAL NOTES

G.N.-100
ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

G.N.-100A
ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE TO THE CONTRACTOR.

G.N.-105.09A
ALL ELEVATIONS SHOWN IN THE PLANS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. (NAVD 88)

G.N.-107.37
UTILITY LINES WERE PLOTTED FROM INFORMATION FURNISHED BY THE VARIOUS UTILITY COMPANIES INVOLVED (QUALITY LEVEL C &/OR QUALITY LEVEL D) AND THE ACCURACY SHOULD BE CONSIDERED APPROXIMATE ONLY.
UTLILITY COMPANIES MAY BE ADJUSTING THEIR FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COOPERATE WITH THESE ORGANIZATIONS WHILE THESE ADJUSTMENTS ARE BEING PREFORMED.
J.U.L.I.E. - JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS SYSTEM
(800)892-0123 OR 811.

G.N.-280
TEMPORARY EROSION CONTROL SEEDING IS INCLUDED IN THIS CONTRACT TO SEED DISTURBED EARTH DURING TIME PERIODS WHEN PERMANENT SEEDING IS NOT ALLOWED. SOME OR ALL OF THE TEMPORARY EROSION CONTROL SEEDING WILL BE DELETED IF IT IS POSSIBLE TO PLACE PERMANENT SEEDING ON EARTH AT THE TIME OF THEIR COMPLETION.

G.N.-406
THE QUANTITIES INCLUDED IN THE PLANS FOR HOT- MIX ASPHALT RESURFACING ARE INTENDED TO GIVE THE COVERAGE SHOWN ON THE TYPICAL CROSS SECTIONS. IT IS NOT INTENDED TO INCREASE THE THICKNESS OF THE HOT-MIX ASPHALT MIXTURE IN ORDER TO USE ALL OF THE QUANTITIES INCLUDED IN THE CONTRACT.

G.N.-406.05B
ALL LEVELING BINDER OR BINDER SHALL BE GIVEN A FOG COAT OF PRIME BEFORE THE SURFACE COURSE IS PLACED WHEN DIRECTED BY THE ENGINEER.

THE FOG COAT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER GALLON FOR BITUMINOUS MATERIAL (PRIME COAT) AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

G.N.-406H

MIXTURE USE	SURFACE COURSE, LEVEL BINDER, & TOP 2 1/4" HMA SHLD.	BASE COURSE OPTION (HMA), FLEXIBLE CONNECTOR, & BOTTOM LIFT HMA SHLD.
AC/PG	PG 64-22	PG 64-22
RAP%(MAX)	15%	25%
DESIGN AIR VOIDS	4.0% @ N DESIGN =50	4.0% @ N DESIGN =50
MIX COMPOSITION (GRADIATION MIXTURE)	IL 9.5	IL 19.0
FRICTION AGG	MIXTURE C	N/A

G.N.-542
BEFORE ORDERING PIPE CULVERTS, THE CONTRACTOR SHALL CONSULT THE ENGINEER FOR THE EXACT LENGTHS.

G.N.-542.07
AT LOCATIONS WHERE END SECTIONS ARE SPECIFIED, CAST-IN-PLACE CONCRETE HEADWALLS WILL NOT BE ALLOWED.

G.N.-542B
ALL THE ENTRANCE CULVERTS LENGTHS SHOWN IN THE PLANS WERE CALCULATED WITH THE ASSUMPTION THAT METAL PIPES AND METAL END SECTION WOULD BE USED.

G.N.-631
IF THE CONTRACTOR ELECTS TO USE THE ALTERNATE MOUNTING METHOD OF THRU DRILLING THE MOUNTING HOLES FOR THE TRAFFIC BARRIER TERMINALS, TYPE 6, THE HOLES SHALL BE DRILLED USING A CORE DRILL. A HAMMER DRILL WILL NOT BE ALLOWED.

G.N.-703A
SHORT TERM PAVEMENT MARKING SHALL BE APPLIED TO THE PAVEMENT AFTER ANY OF THE FOLLOWING: COLD MILLING AND/OR PLACING BITUMINOUS MATERIALS (PRIME COAT), LEVELING BINDER (MACHINE METHOD), BINDER AND SURFACE COURSES. SHORT TERM PAVEMENT MARKING PLACED ON THE SURFACE, SHALL COINCIDE WITH THE FINAL PAVEMENT STRIPING. SHORT TERM PAVEMENT MARKING PLACED PRIOR TO THE SURFACE SHALL COINCIDE WITH THE EXISTING PAVEMENT MARKINGS. USE 4 FEET PER 40 FEET (OR 10% PER STATION).

G.N.-781
RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 781001, AND THE DETAILS SHOWN IN THE PLANS. IF THERE IS ANY DISCREPANCY BETWEEN THE STANDARD AND THE DETAILS IN THE PLANS, THE DETAILS IN THE PLANS SHALL GOVERN. THE FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING THE RAISED REFLECTIVE PAVEMENT MARKERS AND THE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED MIDWAY IN THE 30 FOOT (9 m) SPACE BETWEEN THE DASHED CENTERLINE STRIPES (WHEN APPLICABLE).

G.N.-1004.01
COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

G.N.-Z0038
AN ALUMINUM TABLET OF THE TYPE SHOWN ON STANDARD 667101 SHALL BE PLACED ON THE PROPOSED STRUCTURE AS DIRECTED BY THE ENGINEER. THE BENCH MARK ELEVATION WILL BE ESTABLISHED AND MARKED BY THE DEPARTMENT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR PERMANENT BENCH MARKS.

THE REMOVAL OF UNSUITABLE MATERIAL CONSISTING OF BRICKS AND BROKEN CONCRETE IS INCLUDED IN THE EARTH EXCAVATION QUANTITY FOR THE REMOVAL OF THE EXISING DEBRIS PILE NEAR THE SOUTH ABUTMENT.

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HURST-ROSCHE ENGINEERS, INC.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, HIGHWAY STANDARDS AND INDEX OF SHEETS

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	2
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

FAP 808
RURAL 2-LANE
80% FEDERAL
20% STATE

CODE NO.		ITEM	UNIT	TOTAL	0011
20200100		EARTH EXCAVATION	CU YD	100	100
20300100		CHANNEL EXCAVATION	CU YD	1052	1052
20400800		FURNISHED EXCAVATION	CU YD	1030	1030
25000210	X	SEEDING, CLASS 2A	ACRE	0.75	0.75
25000400	X	NITROGEN FERTILIZER NUTRIENT	POUND	68	68
25000500	X	PHOSPHORUS FERTILIZER NUTRIENT	POUND	68	68
25000600	X	POTASSIUM FERTILIZER NUTRIENT	POUND	68	68
25100115	X	MULCH, METHOD 2	ACRE	0.25	0.25
25100630	X	EROSION CONTROL BLANKET	SQ YD	2279	2279
28000250		TEMPORARY EROSION CONTROL SEEDING	POUND	150	150
28000305		TEMPORARY DITCH CHECKS	FOOT	28	28
28000400		PERIMETER EROSION BARRIER	FOOT	1124	1124
28000500		INLET AND PIPE PROTECTION	EACH	1	1
28100107		STONE RIPRAP, CLASS A4	SQ YD	845	845
28200200		FILTER FABRIC	SQ YD	845	845
40200800		AGGREGATE SURFACE COURSE, TYPE B	TON	35	35
40600100		BITUMINOUS MATERIALS (PRIME COAT)	GALLON	203	203
40600300		AGGREGATE (PRIME COAT)	TON	4.7	4.7
40600625		LEVELING BINDER (MACHINE METHOD), N50	TON	66	66
40600982		HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	100	100
40600990		TEMPORARY RAMP	SQ YD	104	104
40603310		HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	130	130
42001430		BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	62	62
44000100		PAVEMENT REMOVAL	SQ YD	240	240
44000155		HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	1930	1930
44004250		PAVED SHOULDER REMOVAL	SQ YD	82	82
48101200		AGGREGATE SHOULDERS, TYPE B	TON	97	97
48203100		HOT-MIX ASPHALT SHOULDERS	TON	82	82
50100100		REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50105220		PIPE CULVERT REMOVAL	FOOT	50	50
50200100		STRUCTURE EXCAVATION	CU YD	110	110
50200300		COFFERDAM EXCAVATION	CUYD	137	137
50201101		COFFERDAM(TYPE I)(LOCATION-1)	EACH	1	1
50201102		COFFERDAM(TYPE I)(LOCATION-2)	EACH	1	1
50300100		FLOOR DRAINS	EACH	12	12
50300225		CONCRETE STRUCTURES	CU YD	207.9	207.9
50300255		CONCRETE SUPERSTRUCTURE	CU YD	459.4	459.4
50300260		BRIDGE DECK GROOVING	SQ YD	683	683
50300280		CONCRETE ENCASEMENT	CU YD	10.2	10.2

SUMMARY OF QUANTITIES

FAP 808
RURAL 2-LANE
80% FEDERAL
20% STATE

CODE NO.		ITEM	UNIT	TOTAL	0011
50300300		PROTECTIVE COAT	SQ YD	877	877
50800205		REINFORCEMENT BARS, EPOXY COATED	POUND	116890	116890
50800530		MECHANICAL SPLICERS	EACH	72	72
50800515		BAR SPLICERS	EACH	528	528
51200959		FURNISHING METAL SHELL PILES 14" X 0.312"	FOOT	1912	1912
51202305		DRIVING PILES	FOOT	1912	1912
51203200		TEST PILE METAL SHELLS	EACH	2	2
51204650		PILE SHOES	EACH	40	40
51500100		NAME PLATES	EACH	1	1
54200223		PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	55	55
54213453		END SECTIONS 18"	EACH	2	2
59100100		GEOCOMPOSITE WALL DRAIN	SQ YD	54	54
63000001	*	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	562.5	562.5
63100085	*	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
63100169	*	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	3	3
63200310		GUARDRAIL REMOVAL	FOOT	505	505
63300725	*	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	25.0	25.0
67000500		ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	8	8
67100100		MOBILIZATION	L SUM	1	1
70100405		TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450		TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70106500		TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70300100		SHORT-TERM PAVEMENT MARKING	FOOT	105	105
70300220		TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1643	1643
70301000		WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	582	582
70400100		TEMPORARY CONCRETE BARRIER	FOOT	487.5	487.5
70400200		RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	462.5	462.5
78001110	*	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1643	1643
78100100	X	RAISED REFLECTIVE PAVEMENT MARKER	EACH	8	8
78100105	X	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2
78200410	*	GUARDRAIL MARKERS, TYPE A	EACH	12	12
78200530	*	BARRIER WALL MARKERS, TYPE C	EACH	3	3
78201000		TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
78300100		PAVEMENT MARKING REMOVAL	SQ FT	547	547
78300200		RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	8	8
X2070304		POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	92	92

*SPECIALTY ITEM

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR HURST-ROSCHE ENGINEERS, INC.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: 1:50 | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	3
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

FAP 808
RURAL 2-LANE
80% FEDERAL
20% STATE

CODE NO.		ITEM	UNIT	TOTAL	0011
X6310176	•	TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)	EACH	1	1
X7200201		WIDTH RESTRICTION SIGNING	L SUM	1	1
Z0001900		ASBESTOS BEARING PAD REMOVAL	EACH	44	44
Z0002900		BASE COURSE (OPTION)	SQ YD	325	325
Z0004552		APPROACH SLAB REMOVAL	SQ YD	184	184
Z0013798	•	CONSTRUCTION LAYOUT	L SUM	1	1
Z0029090		DIAMOND GRINDING (BRIDGE SECTION)	SQ YD	645	645
Z0030250	•	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0030350	•	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0038700		PERMANENT BENCH MARKS	EACH	1	1
Z0046304		PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	162	162
Z0073002		TEMPORARY SOIL RETENTION SYSTEM	SQ FT	852	852

• SPECIALTY ITEM

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212

HR HURST-ROSCHE ENGINEERS, INC.

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	PLOT DATE = 6/2/2011	CHECKED - MAR	REVISED -
		DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

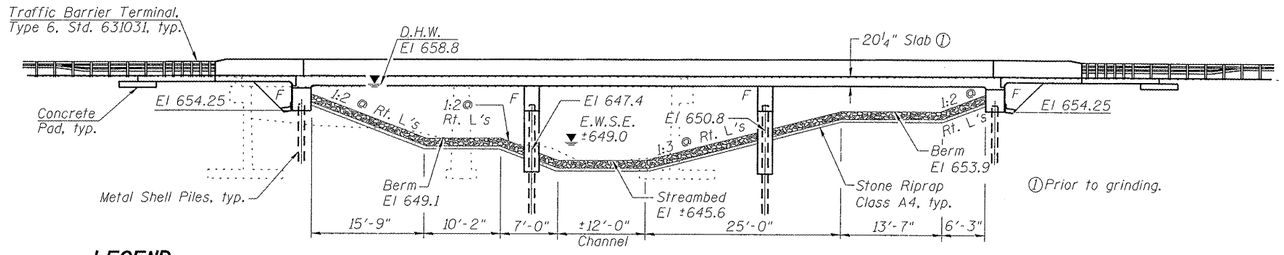
SCALE: 1:50 | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	4
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

Bench Mark: 4800-1 Chiseled square on top of the Northwest wingwall of structure number 010-0113, Station 2079+78.29, 17.78' Lt., Elevation = 657.97.

Existing Structure: S.N. 010-0113 was built in 1939 as S.A. Route 15, Section 94B, Station 79+50. In 1979, the R.C. Deck Girder Bridge was widened and the 2-span superstructure reconstructed with simple span PPC Deck Beams as F.A. Route 808, Section 94BR, Station 79+50. The substructure consists of a solid wall pier and closed abutments, all of which are on spread footings. The back to back abutment length is 78'-6" and the structure width is 33'-0" out to out deck. The existing bituminous wearing surface with waterproofing membrane is approximately $2\frac{3}{4}$" thick. The bridge is fitted with Type S steel bridge railing and is skewed 38°51' right forward to FAP 808. Existing structure to be removed and replaced. Traffic to be maintained using stage construction.

No Salvage



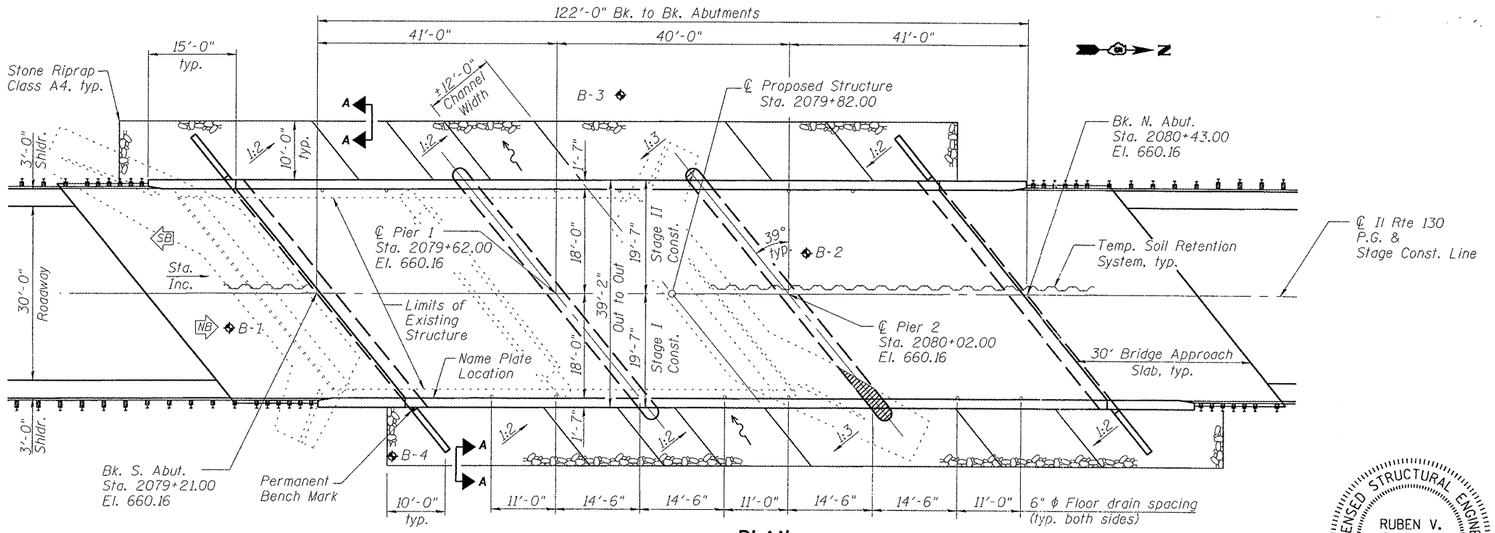
① Prior to grinding.

ELEVATION

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

LEGEND

Indicates portions of Existing Foundations to be Removed to facilitate Proposed Pier Installation.



PLAN

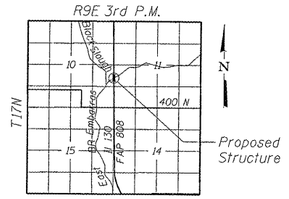
Notes: See sheet 2 of 19 for Section A-A.
Up to ¼ inch will be ground off the bridge slab and the bridge approach pavements.
Temporary Soil Retention System must fit within 18 inch gap between Stage I removal and construction.

APPROVED
For Structural Adequacy Only
Carl Puzy (TED)
Engineer of Bridges & Structures

STATION 2079+82.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 808 SEC. 94BR-1
LOADING HL-93
STRUCTURE NO. 010-0286

NAME PLATE

See Std. 515001



LOCATION SKETCH

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.146g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.272g
Soil Site Class = D

DESIGN STRESSES

FIELD UNITS

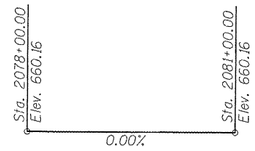
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

LOADING HL-93

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



PROFILE GRADE

(Along ℄ of Rdwy.)

The profile grade shows the final elevations after grinding.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	654.25	633.6	635.3	654.25

WATERWAY INFORMATION

Drainage Area = 37.6 sq. mi.
Exist. Low Grade Elev. 659.97 ft @ Sta. 2079+50.00
Prop. Low Grade Elev. 660.16 ft @ Sta. 2079+67.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2001	459	592	657.5	0.4	0.3	657.9	657.8
Design	50	3121	484	660	658.8	1.0	0.5	659.8	659.3
Overtopping (Ex.)	87	3550	484		659.3	1.3		660.6	
Base	100	3607	484	660	659.4	1.3	0.6	660.7	660.0
Overtopping (Pr.)	135	3725		660	659.5		0.7		660.2
Max. Calc.	500	4775	484	660	660.5	0.9	0.7	661.4	661.2

10 yr. Velocity = 4.3 ft/sec. (E) & 3.4 ft/sec. (P)

LICENSED STRUCTURAL ENGINEER
RUBEN V. BOEHLER
081-5880
STATE OF ILLINOIS

5-16-2011

RUBEN V. BOEHLER, S.E.
ILLINOIS STRUCTURAL NO. 5880
EXPIRES: NOVEMBER 30, 2012

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 130 OVER
E. BRANCH EMBARRAS RIVER
F.A.P. RTE. 808 - SEC. 94BR-1
CHAMPAIGN COUNTY
STATION 2079+82.00
STRUCTURE NO. 010-0286

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR JOB # 190-1580

HURST-ROSCHE ENGINEERS, INC.

FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
		CHECKED - CJC	REVISED -
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 010-0286
SHEET NO. 1 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	14
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

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INDEX OF SHEETS

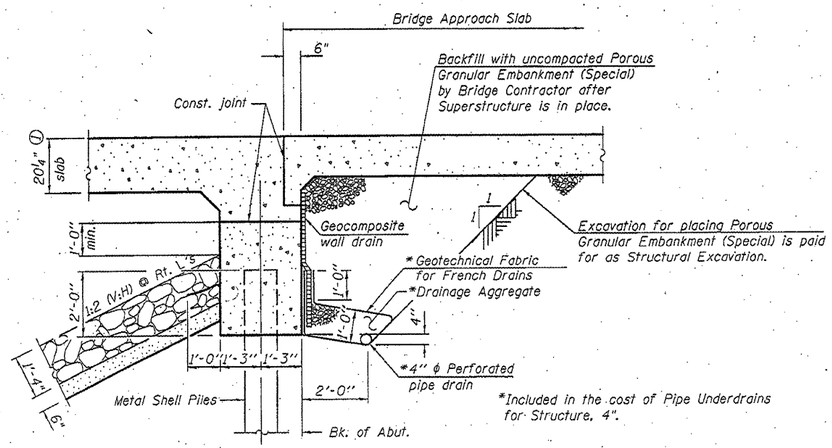
General Notes

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
5. The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the conditions of the beams when developing construction procedures for removal and replacement of the superstructure.
6. Slipforming of the parapet is not allowed.

TOTAL BILL OF MATERIAL

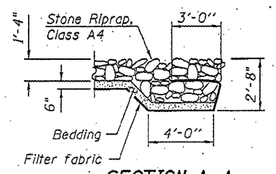
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		845	845
Filter Fabric	Sq. Yd.		845	845
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		110	110
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		207.9	207.9
Concrete Superstructure	Cu. Yd.	459.4		459.4
Bridge Deck Grooving	Sq. Yd.	683		683
Concrete Encasement	Cu. Yd.		10.2	10.2
Protective Coat	Sq. Yd.	877		877
Reinforcement Bars, Epoxy Coated	Pound	95,540	21,350	116,890
Bar Splicers	Each	380	148	528
Furnishing Metal Shell Piles 14" x 0.312"	Foot		1912	1912
Driving Piles	Foot		1912	1912
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		40	40
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		54	54
Porous Granular Embankment, Special	Cu. Yd.		92	92
Cofferdam (Type 1) (Location-1)	Each		1	1
Cofferdam (Type 1) (Location-2)	Each		1	1
Mechanical Splicers	Each		72	72
Asbestos Bearing Pad Removal	Each		44	44
Diamond Grinding (Bridge Section)	Sq. Yd.	645		645
Pipe Underdrains for Structures 4"	Foot		162	162
Temporary Soil Retention System	Sq. Ft.		852	852
Cofferdam Excavation	Cu. Yd.		137	137

① Prior to grinding.



*Included in the cost of Pipe Underdrains for Structure, 4".

SECTION THRU ABUTMENT
(Horiz. dim. ℄ Rt. L's)



SECTION A-A

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. The cost of concrete headwalls are included in the cost of Pipe Underdrains for Structures, 4". (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR JOB # 190-1580

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		CHECKED - CJC	REVISED -
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	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 010-0286
SHEET NO. 2 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	15
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

PIPE CULVERT REMOVAL			
IL 130			*FOOT*
Station	Side	Size	
2077+30.00	Rt	18" ADS	50
		Total	50

PIPE CULVERTS, CLASS D, TYPE 1 18"				
IL 130				*FOOT*
2077+08.00	to	2077+63.00		55
			Total	55

END SECTIONS 18"		
IL 130		*EACH*
2077+08.00	Rt	1
2077+63.00	Rt	1
	Total	2

TEMPORARY BRIDGE TRAFFIC SIGNALS	
IL 130	*EACH*
Stage 1	0.5
Stage 2	0.5
Total	1

SHORT-TERM PAVEMENT MARKING						
IL 130 Station		Station	Edge Lines	Center Lines		FOOT
2075+85.00	to	2083+15.00	32	73		105
					Total	105

TEMPORARY PAVEMENT MARKING - LINE 4"					
IL 130 Station		Station	CL	EDGE	FOOT
2075+85.00	to	2083+15.00	183	1460	1643
				Total	1643

WORK ZONE PAVEMENT MARKING REMOVAL						
IL 130 Station		Station		Length	Width	SQ FT
2075+85.00	to	2083+15.00	*Short-Term*	105	0.33	35.0
2075+85.00	to	2083+15.00	*Temporary*	1643	0.33	547.0
					Total	582

TEMPORARY CONCRETE BARRIER			
IL 130			*FOOT*
2077+60.00	to 2082+22.50	Stage 1	462.5
2077+30.00	to 2077+55.00	Stage 2	25.0
		Total	487.5

RELOCATE TEMPORARY CONCRETE BARRIER			
IL 130			*FOOT*
2077+55.00	to 2082+17.50	Stage 2	462.5
		Total	462.5

STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS				
IL 130				
Station		Station	Side	FOOT
2077+23.27	to	2078+48.27	Lt	125.0
2077+77.43	to	2078+77.43	Rt	100.0
2080+86.57	to	2082+99.07	Lt	212.5
2081+15.73	to	2082+40.73	Rt	125.0
			Total	562.5

TRAFFIC BARRIER TERMINAL, TYPE 6				
IL 130				
Station		Station	Side	EACH
2078+48.27	to	2078+92.07	Lt	1
2078+77.43	to	2079+21.22	Rt	1
2080+42.78	to	2080+86.57	Lt	1
2080+71.94	to	2081+15.73	Rt	1
			Total	4

TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED				
IL 130				
Station		Station	Side	EACH
2076+73.27	to	2077+23.27	Lt	1
2082+40.73	to	2082+90.73	Rt	1
2082+99.07	to	2083+49.07	Lt	1
			Total	3

RAISED REFLECTIVE PAVEMENT MARKER					
IL 130			*@ 80' c/c*	*Two-Way Amber*	*EACH*
2075+85.00	to	2079+21.00		4	4
2080+43.00	to	2083+15.00		4	4
				Total	8

• Double Markers spaced @ 80' centers in accordance with Highway Standard 781001

RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
IL 130	*EACH*
Estimated Quantity	8
Total	8

RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)					
IL 130			*@ 80' c/c*	*Two-Way Amber*	*EACH*
2079+21.00	to	2080+43.00		2	2
				Total	2

TERMINAL MARKER - DIRECT APPLIED		
IL 130		
Station	Side	EACH
2076+73.27	Lt	1
2077+51.93	Rt	1
2082+90.73	Rt	1
2083+49.07	Lt	1
	Total	4

PAVEMENT MARKING REMOVAL				
IL 130				*SQ FT*
Station		Station		
2075+85.00	to	2083+15.00	CL	61
2075+85.00	to	2083+15.00	Rt	243
2075+85.00	to	2083+15.00	Lt	243
			Total	547

PAINT PAVEMENT MARKING - LINE 4"				
IL 130				
Station		Station		FOOT
2075+85.00	to	2083+15.00	CL	183
2075+85.00	to	2083+15.00	Rt	730
2075+85.00	to	2083+15.00	Lt	730
			Total	1643

STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)			
IL 130			*FOOT*
2077+57.62	to 2077+77.43	Rt	25.0
		Total	25.0

GUARDRAIL REMOVAL				
IL 130				
Station		Station	Side	FOOT
2077+77.00	to	2079+26.00	Rt	149.0
2077+95.00	to	2078+99.00	Lt	104.0
2079+75.00	to	2081+23.00	Lt	148.0
2080+01.00	to	2081+05.00	Rt	104.0
			Total	505

PERMANENT BENCH MARKS	
IL 130	*EACH*
See Bridge Plans for Location	1
TOTAL	1

BASE COURSE (OPTION)					
IL 130					
Station		Station	Side	Width (ft)	SQ YD
2076+95.00	to	2078+98.50	Rt	5	113.1
2077+50.00	to	2079+03.73	Lt	3	51.2
2080+90.60	to	2082+22.50	Rt	5	73.3
2079+72.74	to	2082+35.50	Lt	3	87.6
				Total	325

APPROACH SLAB REMOVAL			
IL 130			
Station		Station	SQ YD
2078+90.00	to	2079+10.00	77.8
2079+90.00	to	2080+10.00	77.8
•Northwest Quadrant		Precast Concrete Slab	3.3
•Northeast Quadrant			10.8
•Southwest Quadrant			10.8
•Southeast Quadrant			3.3
		Total	184

IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3		
IL 130		*EACH*
2077+16.00		1
2082+22.50		1
	Total	2

IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3		
IL 130		*EACH*
2077+30.00		1
2082+17.50		1
	Total	2

GUARDRAIL & BARRIER WALL MARKER SCHEDULE				
ROUTE	IL 130		IL 130	
LOCATION	RT SHOULDER		LT SHOULDER	
SPACING•	80'		80'	
	STA	TYPE	STA	TYPE
	2077+80.00	GRS	2082+90.73	GRS
	2078+60.00	GRS	2082+10.73	GRS
	2079+40.00	BWS	2081+30.73	GRS
	2080+20.00	BWS	2080+50.73	GRS
	2081+00.00	GRS	2079+70.73	BWS
	2081+80.00	GRS	2078+90.73	GRS
	2082+60.00	GRS	2078+10.73	GRS
			2077+30.73	GRS
TOTAL GR	5	S	7	S
TOTAL BW	2	S	1	S

• AFTER INTIAL 400' FROM STD 635001 & STD 635006, CONTINUE TO USE 80' SPACING.

LEGEND

GR	GUARDRAIL MARKER, TYPE A
BW	BARRIER WALL MARKER, TYPE C
S	SILVER COLOR

TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)				
IL 130				*EACH*
2077+51.93	to	2077+57.62	Rt	1.0
			Total	1.0

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR HURST - ROSCHE ENGINEERS, INC.

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		DRAWN - TWC	REVISED -
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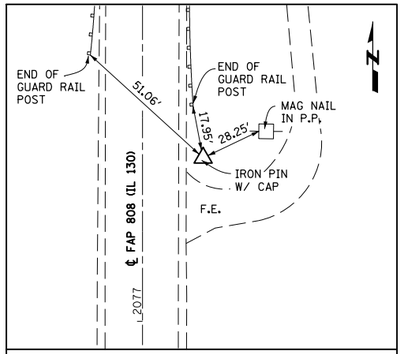
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

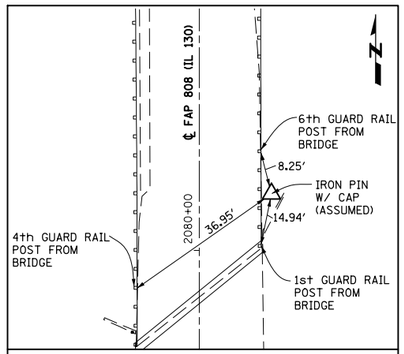
SCHEDULES OF QUANTITIES

SCALE: NONE | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

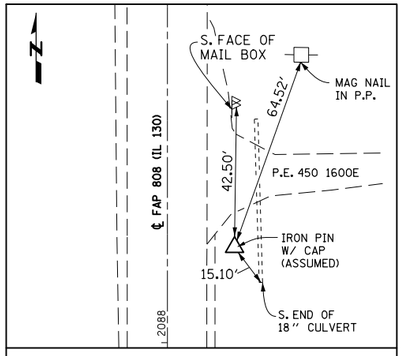
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	7
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



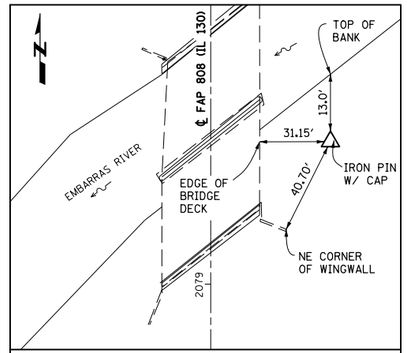
TS #400 STA. 2077 + 60.16, 17.02' RT
N. 1192969.66, E. 1032617.63



TS #401 STA. 2080 + 24.50, 19.58' RT
N. 1193234.02, E. 1032617.39

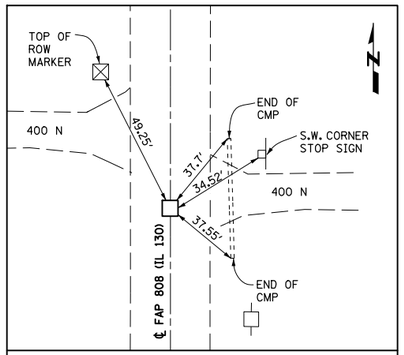


TS #402 STA. 2088 + 70.67, 23.66' RT
N. 1194080.18, E. 1032612.52

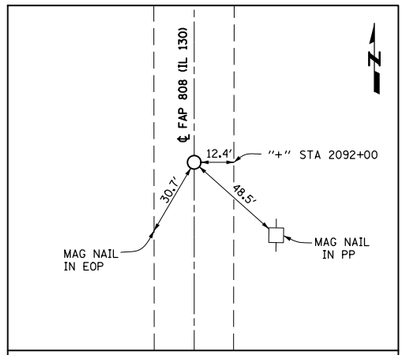


GPS #500 STA. 2079 + 53.79, 47.40' RT
N. 1193163.61, E. 1032645.96

BM #4800-1
CHISELED SQUARE ON TOP OF THE NORTHWEST
ABUTMENT OF STRUCTURE NO. 010-0113
STA 2079+78.29, 17.78' LT ELEV = 657.97



POT STA. 2062 + 70.76, ("M" VAULT)
N. 1191480.17, E. 1032616.35



POT STA. 2091 + 97.80 (MAG NAIL)
N. 1194407.04, E. 1032585.40

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HURST-ROSCHE ENGINEERS, INC.

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		DRAWN - UJ	REVISED -
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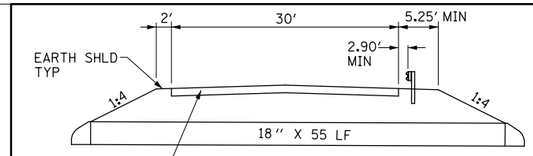
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES & BENCHMARKS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	8
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

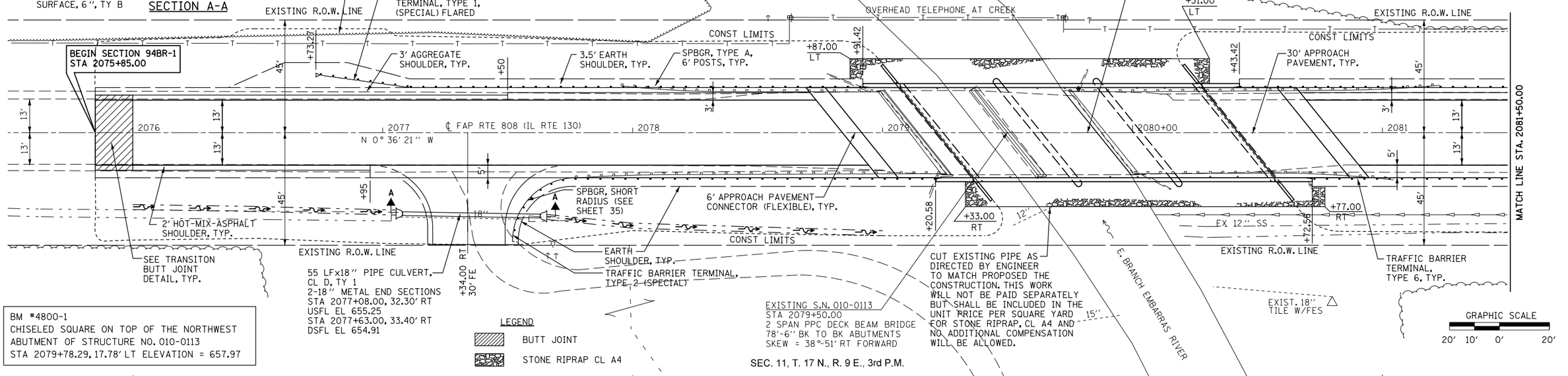


SECTION A-A

SAVE TREES ON THIS PARCEL THAT ARE GREATER THAN 6" DIAMETER. THIS WORK WILL NOT BE PAID SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE PER CUBIC YARD FOR EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

SEC. 10, T. 17 N., R. 9 E., 3rd P.M.

PROPOSED S.N. 010-0286
STA 2079+82.00
3 SPAN CIP CONCRETE SLAB BRIDGE
122'-0" BK TO BK ABUTMENTS, 36' CLEAR
SKEW = 39° RT FORWARD



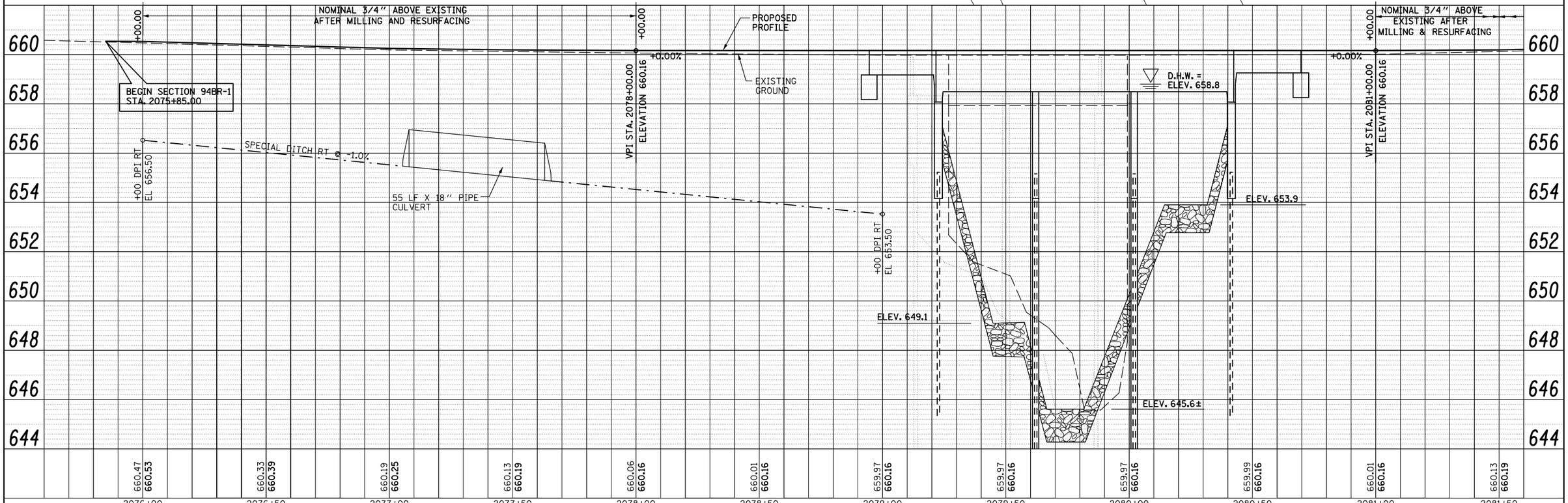
EXISTING S.N. 010-0113
STA 2079+50.00
2 SPAN PPC DECK BEAM BRIDGE
78'-6" BK TO BK ABUTMENTS
SKEW = 38°-51' RT FORWARD

SEC. 11, T. 17 N., R. 9 E., 3rd P.M.

BM #4800-1
CHISELED SQUARE ON TOP OF THE NORTHWEST ABUTMENT OF STRUCTURE NO. 010-0113
STA 2079+78.29, 17.78' LT ELEVATION = 657.97

LEGEND
- BUTT JOINT
- STONE RIPRAP CL A4

GRAPHIC SCALE
20' 10' 0' 20'



PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

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

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR
HURST-ROSCHE ENGINEERS, INC.

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE SHEET

SCALE: 1" = 20' | SHEET NO. 1 OF 2 SHEETS | STA. 2075+50 TO STA. 2081+50

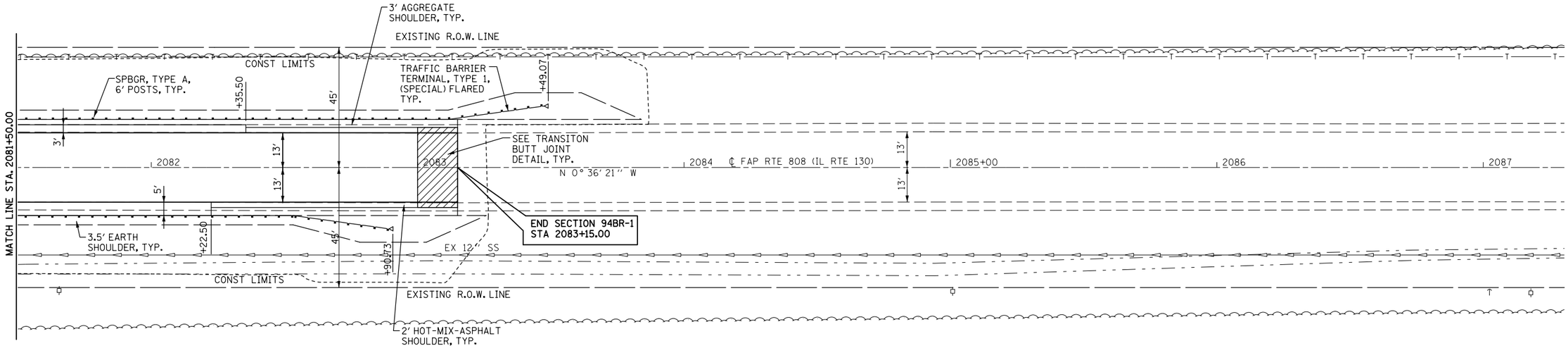
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	9
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

SEC. 10, T. 17 N., R. 9 E., 3rd P.M.

N

LEGEND

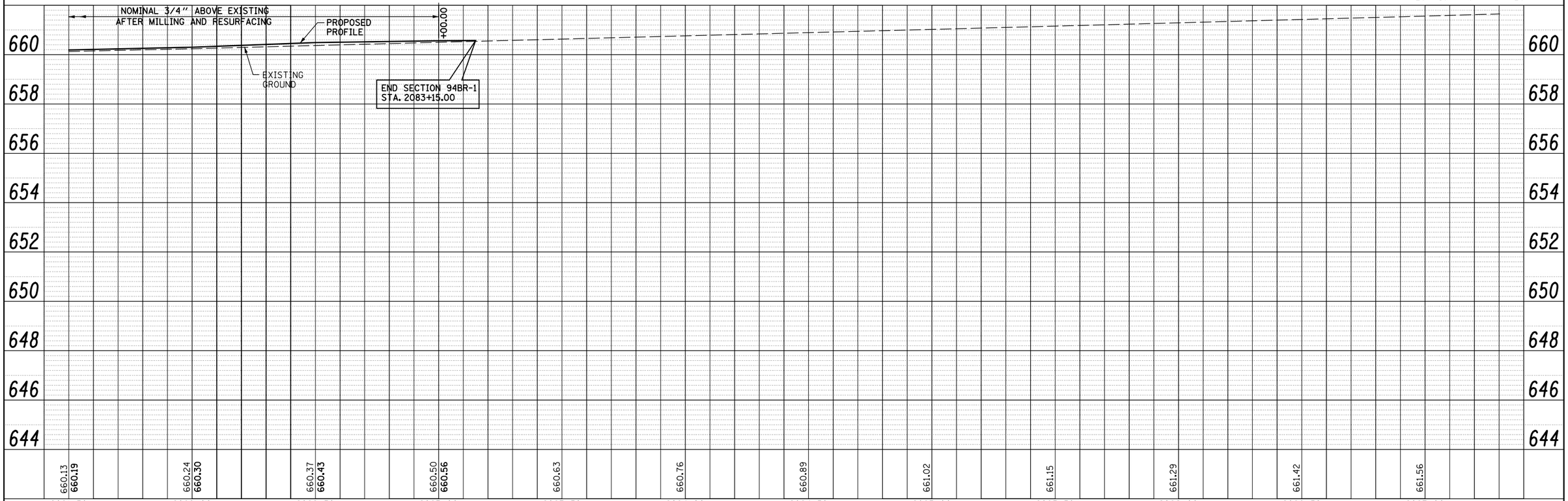
BUTT JOINT



SEC. 11, T. 17 N., R. 9 E., 3rd P.M.

GRAPHIC SCALE

20' 10' 0' 20'



PLAN

DATE | BY | SURVEYED | PLOTTED | DRAWN | ALIGNMENT CHECKED | RT. OF WAY CHECKED | CADD FILE NAME | NOTE BOOK | NO.

PROFILE

DATE | BY | SURVEYED | PLOTTED | DRAWN | CROSS CHECKED | BM. NOTED | STRUCTURE NOTATNS CHKD | NOTE BOOK | NO.

HURST-ROSCHE ENGINEERS, INC.
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HR HURST-ROSCHE ENGINEERS, INC.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE SHEET

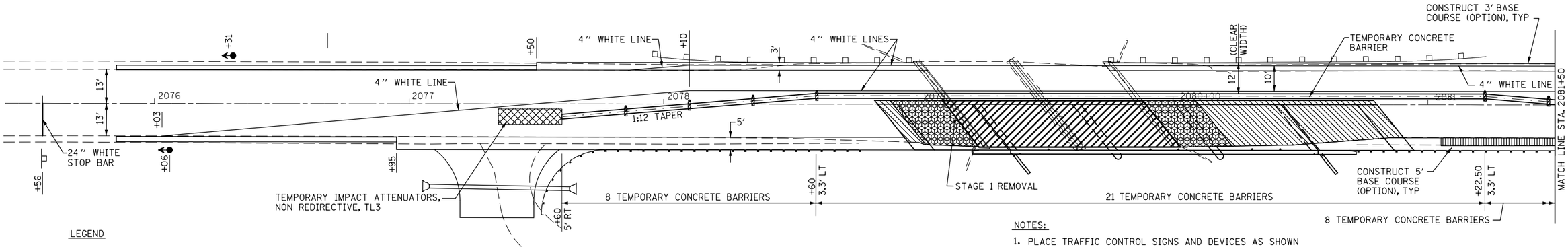
SCALE: 1'' = 20' | SHEET NO. 2 OF 2 SHEETS | STA. 2081+50 TO STA. 2087+50

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	10
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

STAGE 1

PRIOR TO STAGE 1 CONSTRUCTION

1. PLACE PERIMETER EROSION BARRIER ON DISTURBED SLOPES AS SHOWN ON EROSION CONTROL PLANS.
2. INSTALL PROPOSED BASE COURSE (OPTION) AND PRE-STAGE 6" HMA SHOULDER ON THE WEST SIDE FROM EDGE OF PAVEMENT TO EXISTING GUARDRAIL, USING TRAFFIC CONTROL STANDARD 701201.



LEGEND

- (4) VERTICAL PANELS W/LIGHTS @ 25' CENTERS ON TCB FOR THE LAST 100' OF TAPER PRIOR TO TANGENT
- PAVEMENT REMOVAL
- STRUCTURE REMOVAL
- PAVED SHOULDER REMOVAL
- APPROACH SLAB REMOVAL

STAGE 1 CONSTRUCTION OF EAST SIDE

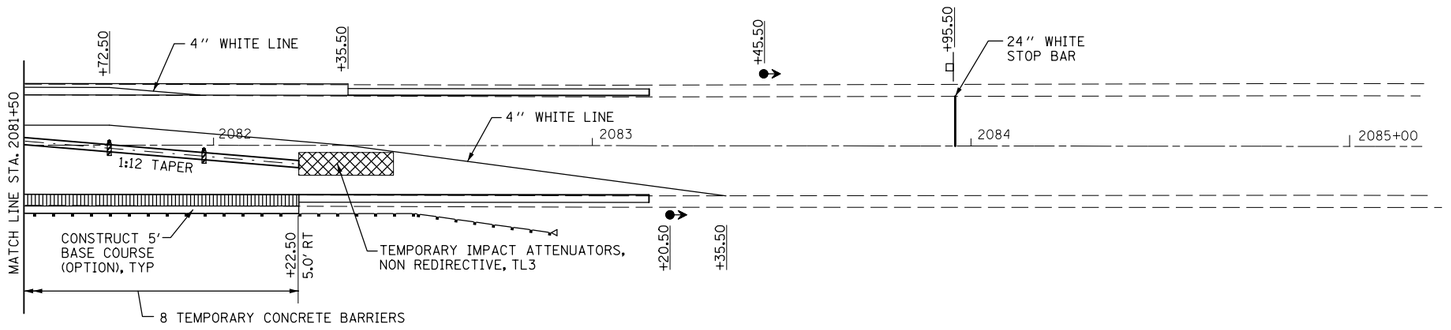
1. INSTALL BARRICADES SIGNS, TRAFFIC SIGNALS AND TEMPORARY MARKINGS AS DETAILED ON TRAFFIC CONTROL AND PROTECTION STANDARD 701321.
2. PLACE TEMPORARY CONCRETE BARRIERS. ANCHORS WILL BE REQUIRED.
3. EXISTING GUARD RAIL ON WEST SIDE TO REMAIN IN PLACE DURING STAGE 1 CONSTRUCTION.
4. INSTALL TEMPORARY SOIL RETENTION SYSTEM AS SHOWN ON SHEET 16 S.N. 010-0286 STRUCTURAL PLANS.
5. REMOVE GUARDRAIL, APPROACH PAVEMENT AND EAST SIDE OF EXISTING STRUCTURE. CONSTRUCT PROPOSED STRUCTURE, APPROACH PAVEMENT, APPROACH PAVEMENT CONNECTORS, HMA SHOULDER SECTION, GUARDRAIL AND ALL OTHER COLLATERAL WORK FOR EAST SIDE OF THE ROADWAY AS SHOWN.

NOTES:

1. PLACE TRAFFIC CONTROL SIGNS AND DEVICES AS SHOWN IN STANDARD 701321.
2. ALL TEMPORARY BRIDGE TRAFFIC SIGNALS FOR STAGE 1 AND STAGE 2 SHALL BE CONSIDERED AS ONE UNIT.
3. BARRIER OFFSETS ARE FROM THE CENTER OF THE BARRIER. TEMPORARY PAVEMENT MARKINGS INCLUDED IN COST OF TRAFFIC CONTROL AND PROTECTION 701321.
4. EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH THE STAGED TRAFFIC PATTERNS DURING ALL PHASES OF STAGE CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS "PAVEMENT MARKING REMOVAL".
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PRIVATE AND COMMERCIAL PROPERTIES DURING ALL PHASES OF CONSTRUCTION.

PLAN GRAPHIC SCALE

20' 10' 0' 20'



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PROFILE — SURVEYED, PLOTTED, CROSS CHECKED, BM. NOTED, STRUCTURE NOTATNS CHKD, NOTE BOOK, NO., BY, DATE

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

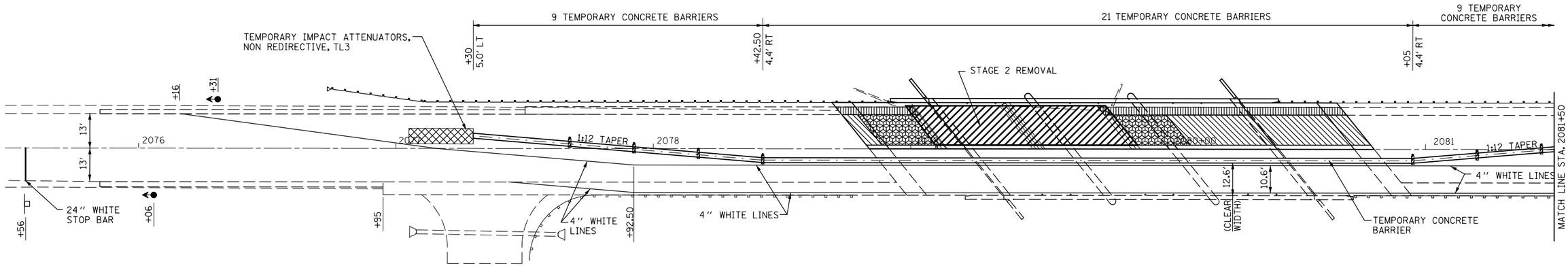
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 CONSTRUCTION PLAN

SCALE: 1"=20' | SHEET NO. 1 OF 2 SHEETS | STA. 2077+00 TO STA. 2083+00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	11
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

STAGE 2



LEGEND

- (4) VERTICAL PANELS W/LIGHTS @ 25' CENTERS ON TCB FOR THE LAST 100' OF TAPER PRIOR TO TANGENT
- PAVEMENT REMOVAL
- PAVED SHOULDER REMOVAL
- STRUCTURE REMOVAL
- APPROACH SLAB REMOVAL

STAGE 2 CONSTRUCTION OF WEST SIDE

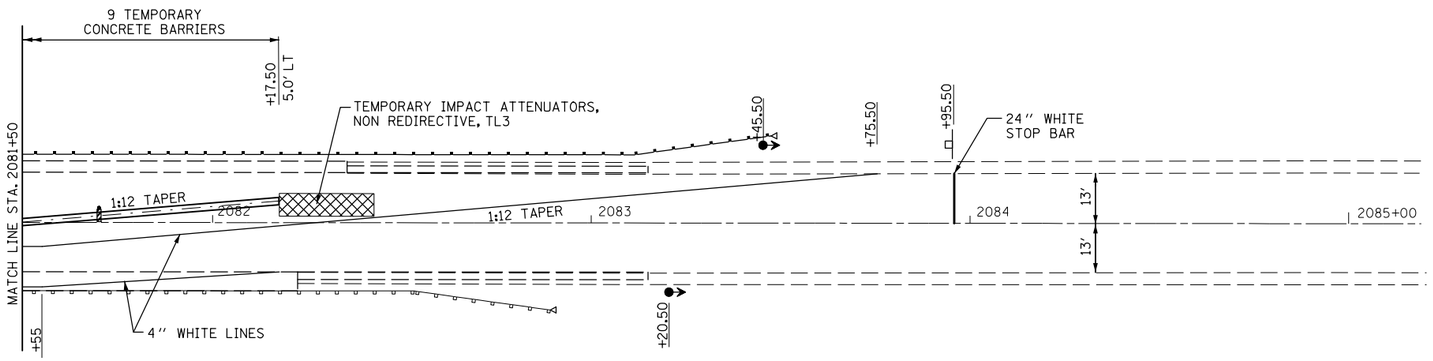
1. RELOCATE TEMPORARY CONCRETE BARRIERS, TEMPORARY IMPACT ATTENUATORS AND TEMPORARY MARKINGS AS DETAILED ON TRAFFIC CONTROL AND PROTECTION STANDARD 701321.
2. REMOVE GUARDRAIL, APPROACH PAVEMENT AND REMAINING STRUCTURE FOR WEST SIDE AS, INCLUDING SECTIONS OF TEMPORARY SOIL RETENTION SYSTEM DESIGNATED TO BE REMOVED AFTER STAGE 1 CONSTRUCTION.
3. CONSTRUCT PROPOSED STRUCTURE, APPROACH PAVEMENT, APPROACH PAVEMENT CONNECTORS, GUARDRAIL AND ALL OTHER COLLATERAL WORK FOR WEST SIDE OF ROADWAY AS SHOWN.
4. REMOVE TRAFFIC CONTROL PAVEMENT MARKINGS, TEMPORARY CONCRETE BARRIERS AND TEMPORARY SIGNALS. COST IS INCLUDED IN TRAFFIC CONTROL AND PROTECTION STANDARD 701321.
5. MILL AND RESURFACE PAVEMENT INCLUDING WIDENING FROM STA 2075+70 TO STA 2078+84 & STA 2080+80 TO STA 2083+30. USE TRAFFIC CONTROL AS DETAILED ON STANDARD 701201.
6. FINAL PAVEMENT MARKINGS WILL BE PLACED AFTER COMPLETION OF STAGE 2.

NOTES:

1. PLACE TRAFFIC CONTROL SIGNS AND DEVICES AS SHOWN IN STANDARD 701321.
2. ALL TEMPORARY BRIDGE TRAFFIC SIGNALS FOR STAGE 1 AND STAGE 2 SHALL BE CONSIDERED AS ONE UNIT.
3. BARRIER OFFSETS ARE FROM THE CENTER OF THE BARRIER.

PLAN GRAPHIC SCALE

20' 10' 0' 20'



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CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
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CROSS CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE

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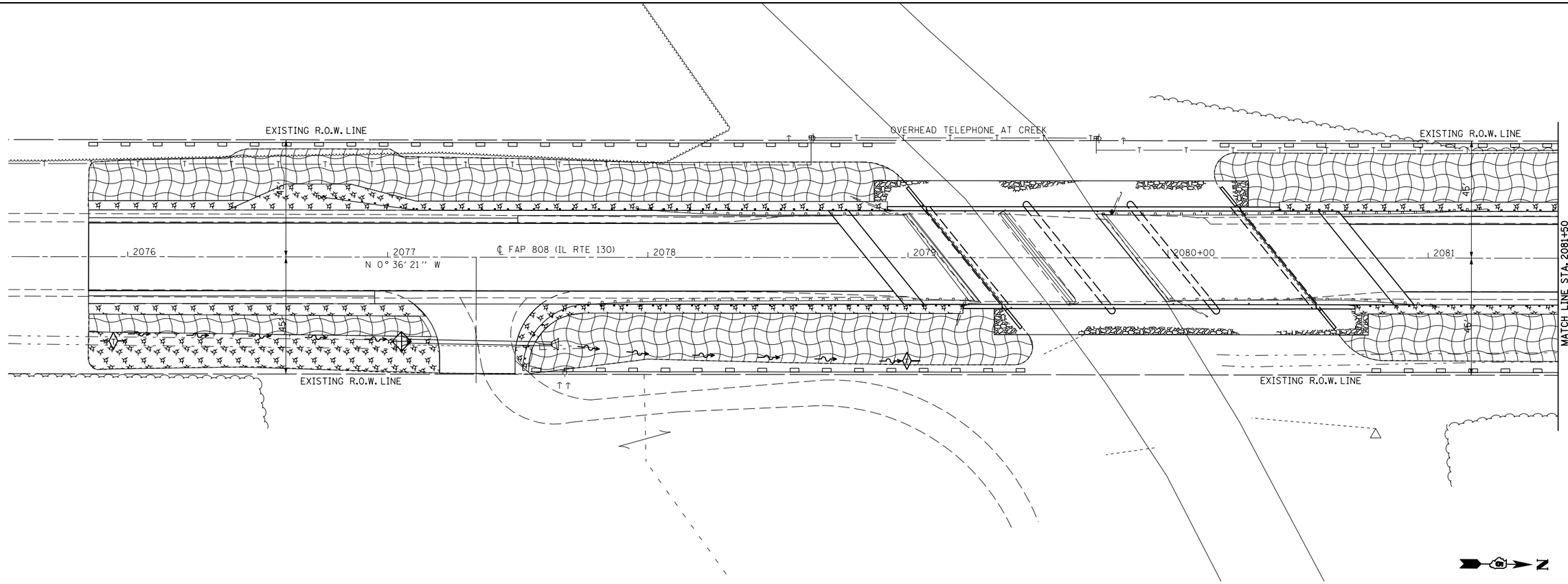
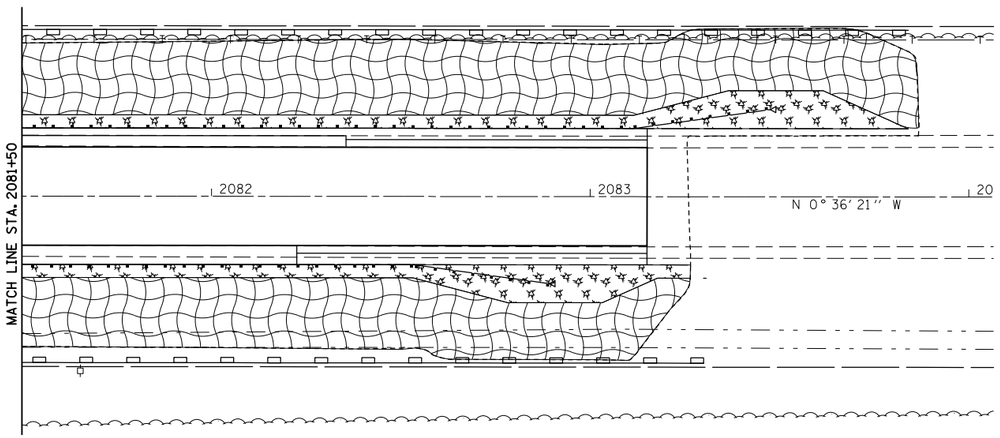
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2 CONSTRUCTION PLAN

SCALE: 1"=20' | SHEET NO. 2 OF 2 SHEETS | STA. 2077+00 TO STA. 2083+00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	12
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		





PLAN GRAPHIC SCALE

20′ 10′ 0′ 20′

LEGEND

- TEMPORARY DITCH CHECKS
- INLET AND PIPE PROTECTION
- SEEDING CL 2A WITH EROSION CONTROL BLANKET
- SEEDING CL 2A WITH MULCH METHOD 2 STABILIZED
- PERIMETER EROSION BARRIER

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL PLAN

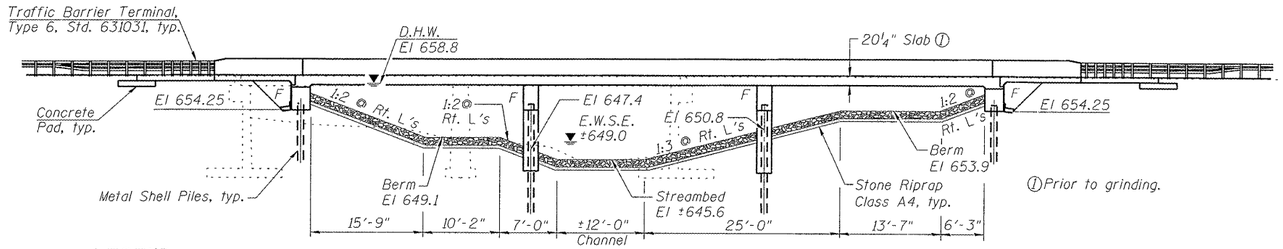
SCALE: 1″=20′ | SHEET NO. 1 OF 1 SHEETS | STA. 2077+00 TO STA. 2083+00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	13
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

Bench Mark: 4800-1 Chiseled square on top of the Northwest wingwall of structure number 010-0113, Station 2079+78.29, 17.78' Lt., Elevation = 657.97.

Existing Structure: S.N. 010-0113 was built in 1939 as S.A. Route 15, Section 94B, Station 79+50. In 1979, the R.C. Deck Girder Bridge was widened and the 2-span superstructure reconstructed with simple span PPC Deck Beams as F.A. Route 808, Section 94BR, Station 79+50. The substructure consists of a solid wall pier and closed abutments, all of which are on spread footings. The back to back abutment length is 78'-6" and the structure width is 33'-0" out to out deck. The existing bituminous wearing surface with waterproofing membrane is approximately $2\frac{3}{4}$" thick. The bridge is fitted with Type S steel bridge railing and is skewed 38°51' right forward to FAP 808. Existing structure to be removed and replaced. Traffic to be maintained using stage construction.

No Salvage



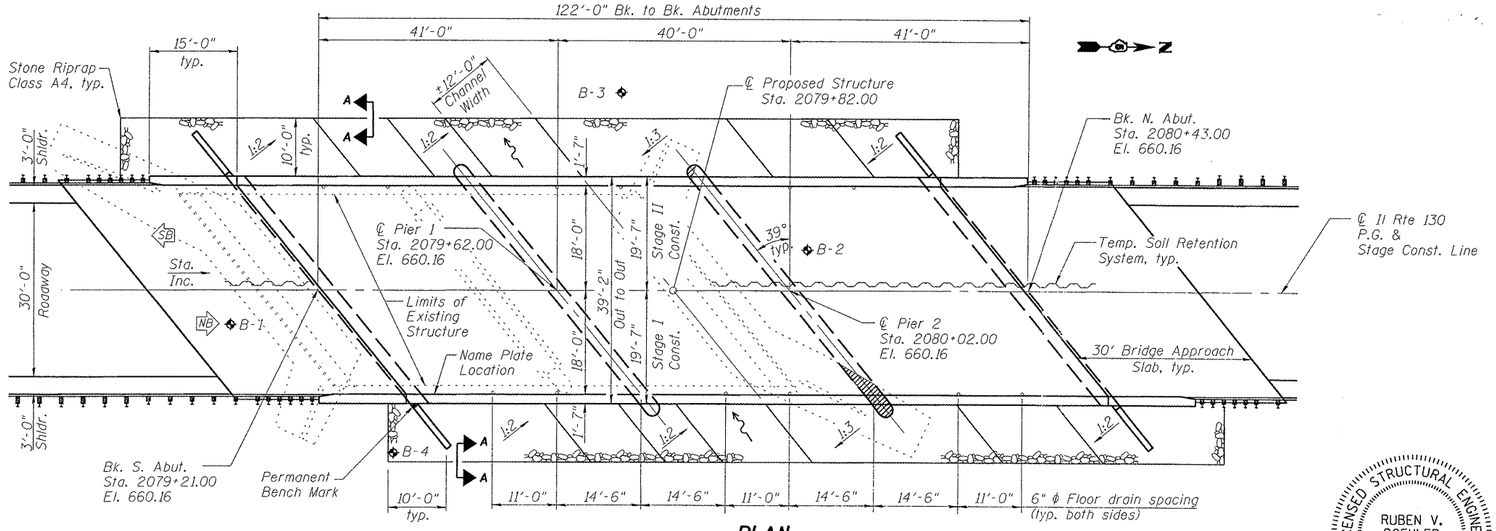
① Prior to grinding.

ELEVATION

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

LEGEND

Indicates portions of Existing Foundations to be Removed to Facilitate Proposed Pier Installation.



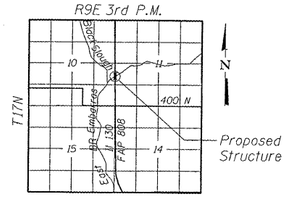
PLAN

Notes: See sheet 2 of 19 for Section A-A.
Up to ¼ inch will be ground off the bridge slab and the bridge approach pavements.
Temporary Soil Retention System must fit within 18 inch gap between Stage I removal and construction.

STATION 2079+82.00
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 808 SEC. 94BR-1
LOADING HL-93
STRUCTURE NO. 010-0286

NAME PLATE

See Std. 515001



LOCATION SKETCH

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.146g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.272g
Soil Site Class = D

DESIGN STRESSES

FIELD UNITS

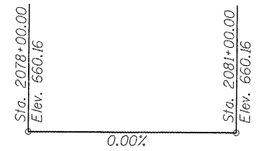
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications

LOADING HL-93

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



PROFILE GRADE

(Along ℄ of Rdwy.)

The profile grade shows the final elevations after grinding.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	Pier 1	Pier 2	N. Abut.
	654.25	633.6	635.3	654.25

WATERWAY INFORMATION

Drainage Area = 37.6 sq. mi.
Exist. Low Grade Elev. 659.97 ft @ Sta. 2079+50.00
Prop. Low Grade Elev. 660.16 ft @ Sta. 2079+67.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	2001	459	592	657.5	0.4	0.3	657.9	657.8
Design	50	3121	484	660	658.8	1.0	0.5	659.8	659.3
Overtopping (Ex.)	87	3550	484		659.3	1.3		660.6	
Base	100	3607	484	660	659.4	1.3	0.6	660.7	660.0
Overtopping (Pr.)	135	3725		660	659.5		0.7		660.2
Max. Calc.	500	4775	484	660	660.5	0.9	0.7	661.4	661.2

10 yr. Velocity = 4.3 ft/sec. (E) & 3.4 ft/sec. (P)

APPROVED
For Structural Adequacy Only
Carl Puzy (TED)
Engineer of Bridges & Structures

LICENSED STRUCTURAL ENGINEER
RUBEN V. BOEHLER
081-5880
STATE OF ILLINOIS

5-16-2011

RUBEN V. BOEHLER, S.E.
ILLINOIS STRUCTURAL NO. 5880
EXPIRES: NOVEMBER 30, 2012

GENERAL PLAN AND ELEVATION
ILLINOIS ROUTE 130 OVER
E. BRANCH EMBARRAS RIVER
F.A.P. RTE. 808 - SEC. 94BR-1
CHAMPAIGN COUNTY
STATION 2079+82.00
STRUCTURE NO. 010-0286

HURST-ROSCHE ENGINEERS, INC.
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HR JOB # 190-1580

HR HURST-ROSCHE ENGINEERS, INC.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 010-0286
SHEET NO. 1 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	14
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

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INDEX OF SHEETS

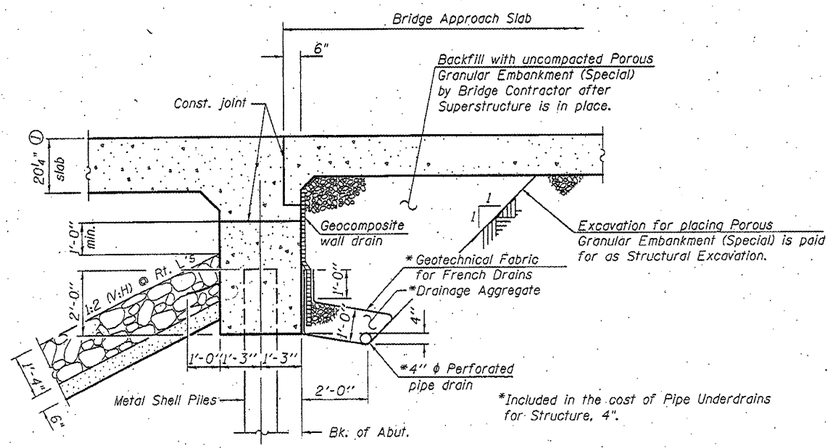
General Notes

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
5. The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the conditions of the beams when developing construction procedures for removal and replacement of the superstructure.
6. Slipforming of the parapet is not allowed.

TOTAL BILL OF MATERIAL

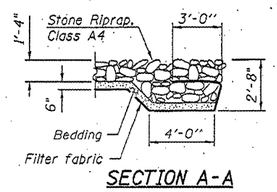
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		845	845
Filter Fabric	Sq. Yd.		845	845
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		110	110
Floor Drains	Each	12		12
Concrete Structures	Cu. Yd.		207.9	207.9
Concrete Superstructure	Cu. Yd.	459.4		459.4
Bridge Deck Grooving	Sq. Yd.	683		683
Concrete Encasement	Cu. Yd.		10.2	10.2
Protective Coat	Sq. Yd.	877		877
Reinforcement Bars, Epoxy Coated	Pound	95,540	21,350	116,890
Bar Splicers	Each	380	148	528
Furnishing Metal Shell Piles 14" x 0.312"	Foot		1912	1912
Driving Piles	Foot		1912	1912
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		40	40
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		54	54
Porous Granular Embankment, Special	Cu. Yd.		92	92
Cofferdam (Type 1) (Location-1)	Each		1	1
Cofferdam (Type 1) (Location-2)	Each		1	1
Mechanical Splicers	Each		72	72
Asbestos Bearing Pad Removal	Each		44	44
Diamond Grinding (Bridge Section)	Sq. Yd.	645		645
Pipe Underdrains for Structures 4"	Foot		162	162
Temporary Soil Retention System	Sq. Ft.		852	852
Cofferdam Excavation	Cu. Yd.		137	137

① Prior to grinding.



*Included in the cost of Pipe Underdrains for Structure, 4".

SECTION THRU ABUTMENT
(Horiz. dim. @ Pt. L's)



SECTION A-A

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. The cost of concrete headwalls are included in the cost of Pipe Underdrains for Structures, 4". (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 010-0286
SHEET NO. 2 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	15
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

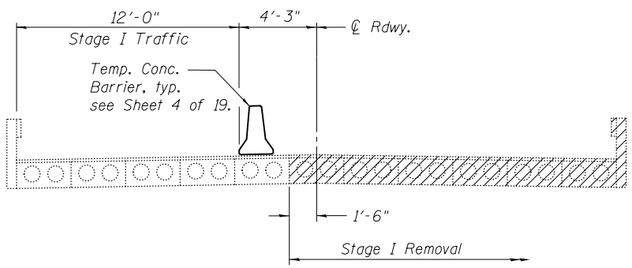
Notes:

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

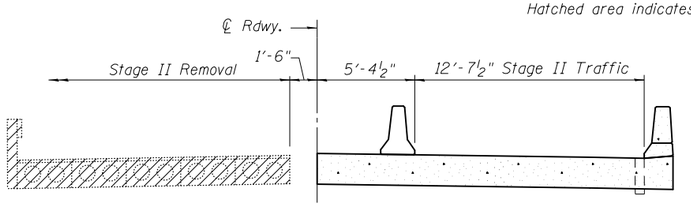
All Staging Cross Sections are looking north.

For Quantity of Temporary Concrete Barrier, see Roadway plans.

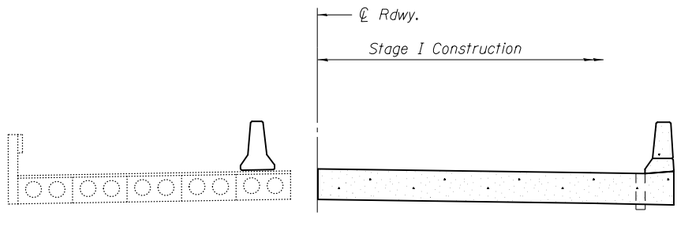
Hatched area indicates Removal of Existing Structures.



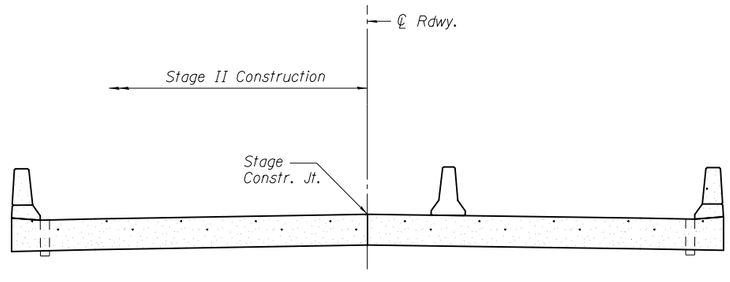
STAGE I REMOVAL



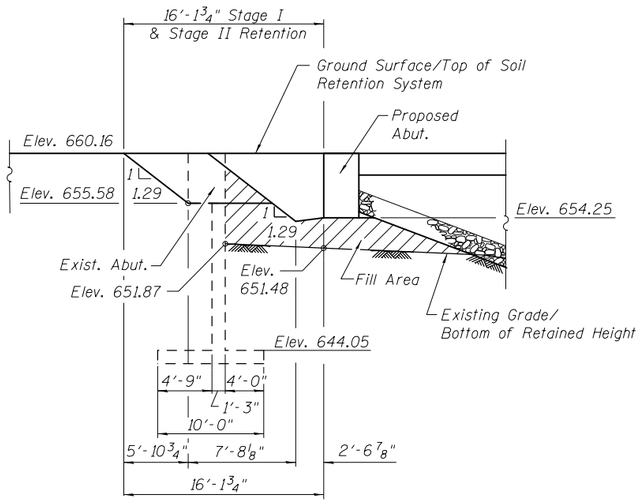
STAGE II REMOVAL



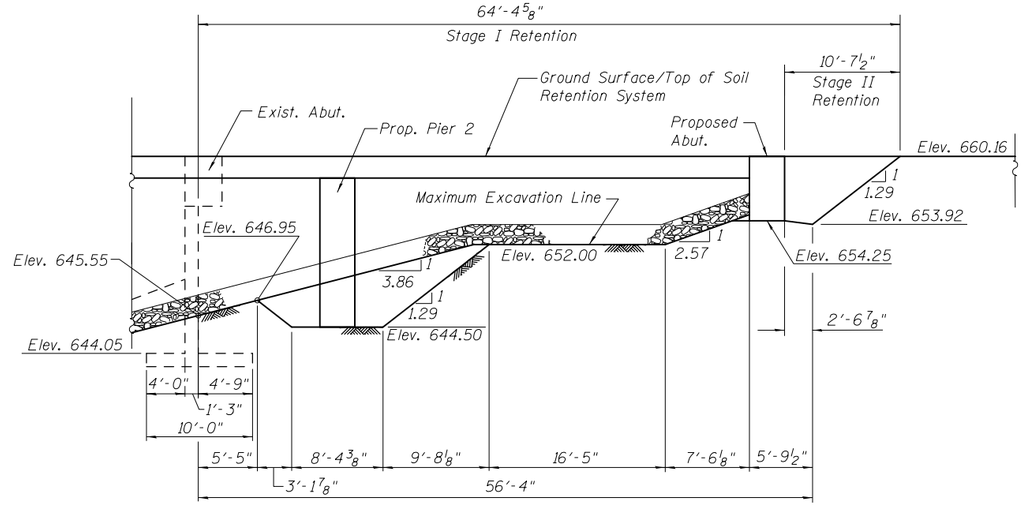
STAGE I CONSTRUCTION



STAGE II CONSTRUCTION



South Approach



North Approach

TEMPORARY SOIL RETENTION SYSTEM

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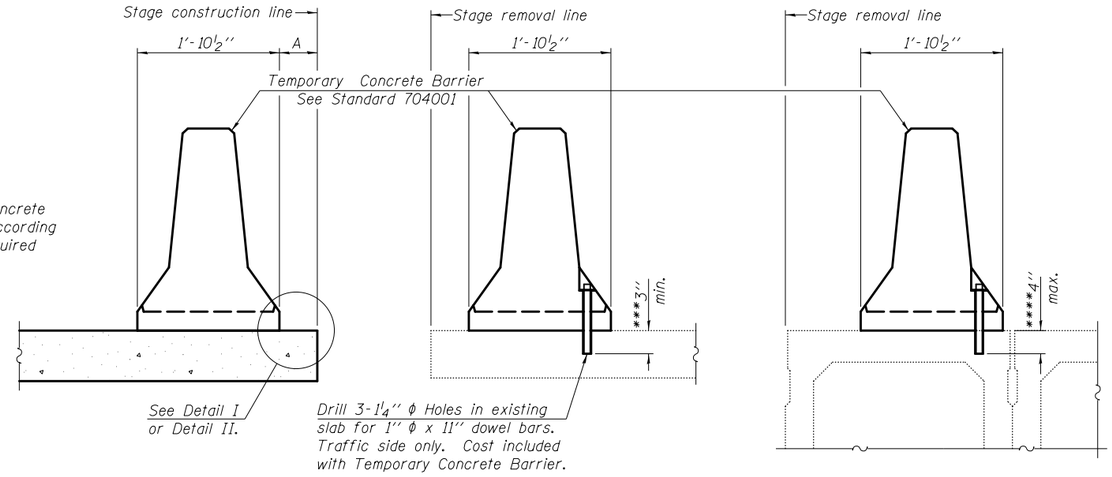
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION PLAN
STRUCTURE NO. 010-0286
SHEET NO. 3 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	16
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 8½" x 1'-9" steel ℙ to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 8½'' x 1'-9" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

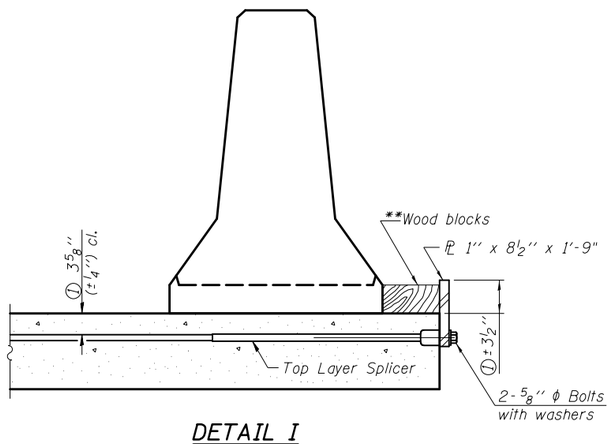
Cost of anchorage is included with Temporary Concrete Barrier.

The 1'' x 8½'' x 1'-9" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

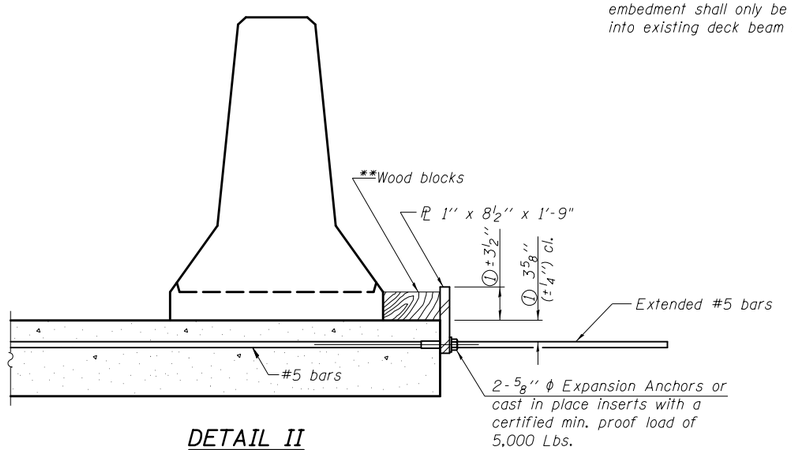
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

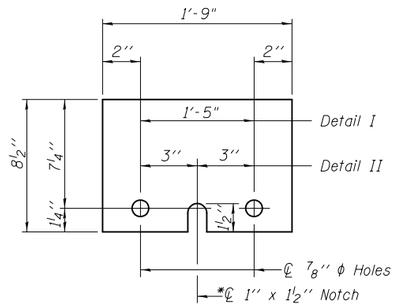
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 1'' x 8½'' x 1'-9"

* Required only with Detail II

① Prior to grinding.

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

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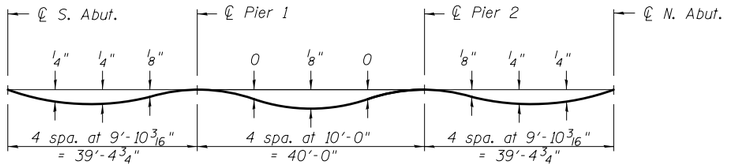
DEPARTMENT OF TRANSPORTATION

MODIFIED TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 010-0286
SHEET NO. 4 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	17
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			



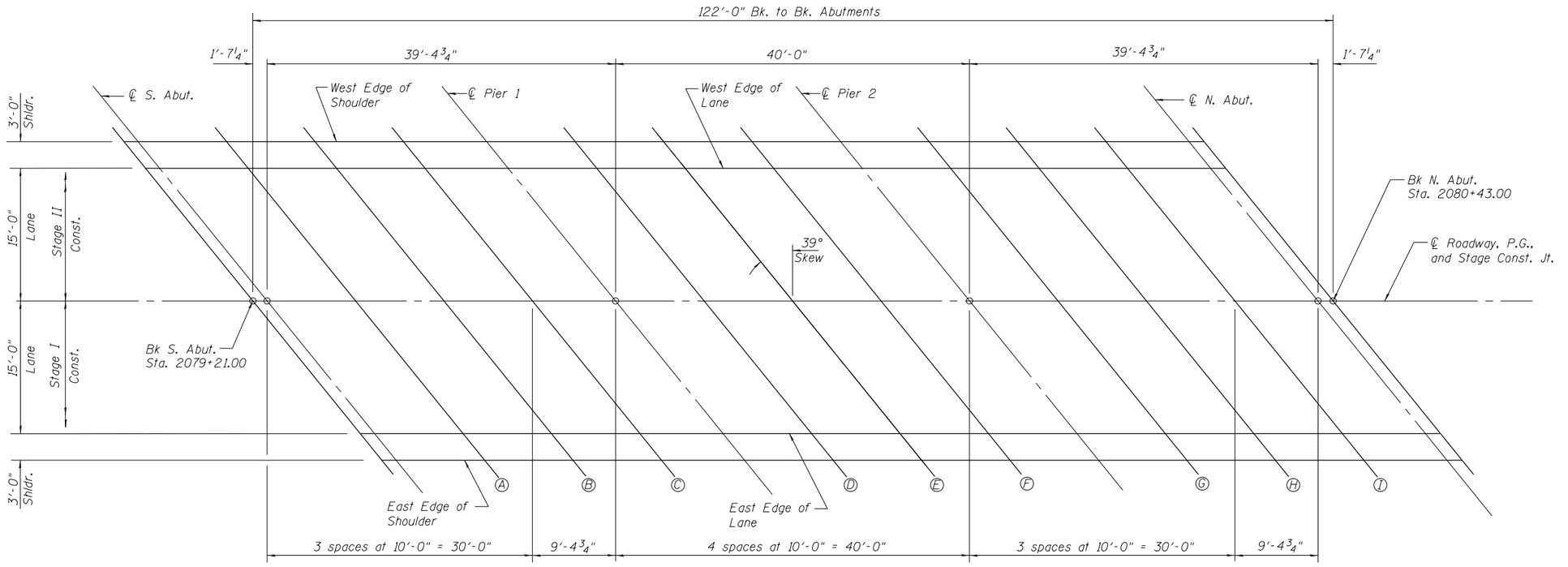
DEAD LOAD DEFLECTION DIAGRAM

(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 and grinding as shown on sheet 6 of 19.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheets 6 thru 8 of 19. For grinding the deck, see Special Provisions.

N



PLAN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION PLAN
STRUCTURE NO. 010-0286
SHEET NO. 5 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	18
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	2079+06.42	-18.00	659.86	659.88
℄ S. Abut.	2079+08.03	-18.00	659.86	659.88
A	2079+18.03	-18.00	659.86	659.90
B	2079+28.03	-18.00	659.86	659.90
C	2079+38.03	-18.00	659.86	659.89
℄ Pier 1	2079+47.42	-18.00	659.86	659.88
D	2079+57.42	-18.00	659.86	659.88
E	2079+67.42	-18.00	659.86	659.89
F	2079+77.42	-18.00	659.86	659.88
℄ Pier 2	2079+87.42	-18.00	659.86	659.88
G	2079+97.42	-18.00	659.86	659.89
H	2080+07.42	-18.00	659.86	659.90
I	2080+17.42	-18.00	659.86	659.90
℄ N. Abut.	2080+26.82	-18.00	659.86	659.88
Bk. N. Abut.	2080+28.42	-18.00	659.86	659.88

WEST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	2079+08.85	-15.00	659.93	659.95
℄ S. Abut.	2079+10.46	-15.00	659.93	659.95
A	2079+20.46	-15.00	659.93	659.96
B	2079+30.46	-15.00	659.93	659.97
C	2079+40.46	-15.00	659.93	659.96
℄ Pier 1	2079+49.85	-15.00	659.93	659.95
D	2079+59.85	-15.00	659.93	659.95
E	2079+69.85	-15.00	659.93	659.95
F	2079+79.85	-15.00	659.93	659.95
℄ Pier 2	2079+89.85	-15.00	659.93	659.95
G	2079+99.85	-15.00	659.93	659.96
H	2080+09.85	-15.00	659.93	659.97
I	2080+19.85	-15.00	659.93	659.96
℄ N. Abut.	2080+29.24	-15.00	659.93	659.95
Bk. N. Abut.	2080+30.85	-15.00	659.93	659.95

℄ ROADWAY, PROFILE GRADE & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	2079+21.00	0.00	660.16	660.18
℄ S. Abut.	2079+22.61	0.00	660.16	660.18
A	2079+32.61	0.00	660.16	660.20
B	2079+42.61	0.00	660.16	660.20
C	2079+52.61	0.00	660.16	660.19
℄ Pier 1	2079+62.00	0.00	660.16	660.18
D	2079+72.00	0.00	660.16	660.18
E	2079+82.00	0.00	660.16	660.19
F	2079+92.00	0.00	660.16	660.18
℄ Pier 2	2080+02.00	0.00	660.16	660.18
G	2080+12.00	0.00	660.16	660.19
H	2080+22.00	0.00	660.16	660.20
I	2080+32.00	0.00	660.16	660.20
℄ N. Abut.	2080+41.39	0.00	660.16	660.18
Bk. N. Abut.	2080+43.00	0.00	660.16	660.18

EAST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	2079+33.15	15.00	659.93	659.95
℄ S. Abut.	2079+34.76	15.00	659.93	659.95
A	2079+44.76	15.00	659.93	659.96
B	2079+54.76	15.00	659.93	659.97
C	2079+64.76	15.00	659.93	659.96
℄ Pier 1	2079+74.15	15.00	659.93	659.95
D	2079+84.15	15.00	659.93	659.95
E	2079+94.15	15.00	659.93	659.95
F	2080+04.15	15.00	659.93	659.95
℄ Pier 2	2080+14.15	15.00	659.93	659.95
G	2080+24.15	15.00	659.93	659.96
H	2080+34.15	15.00	659.93	659.97
I	2080+44.15	15.00	659.93	659.96
℄ N. Abut.	2080+53.54	15.00	659.93	659.95
Bk. N. Abut.	2080+55.15	15.00	659.93	659.95

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	2079+35.58	18.00	659.86	659.88
℄ S. Abut.	2079+37.18	18.00	659.86	659.88
A	2079+47.18	18.00	659.86	659.90
B	2079+57.18	18.00	659.86	659.90
C	2079+67.18	18.00	659.86	659.89
℄ Pier 1	2079+76.58	18.00	659.86	659.88
D	2079+86.58	18.00	659.86	659.88
E	2079+96.58	18.00	659.86	659.89
F	2080+06.58	18.00	659.86	659.88
℄ Pier 2	2080+16.58	18.00	659.86	659.88
G	2080+26.58	18.00	659.86	659.89
H	2080+36.58	18.00	659.86	659.90
I	2080+46.58	18.00	659.86	659.90
℄ N. Abut.	2080+55.97	18.00	659.86	659.88
Bk. N. Abut.	2080+57.58	18.00	659.86	659.88

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 010-0286
SHEET NO. 6 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	19
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		

WEST EDGE OF SHOULDER

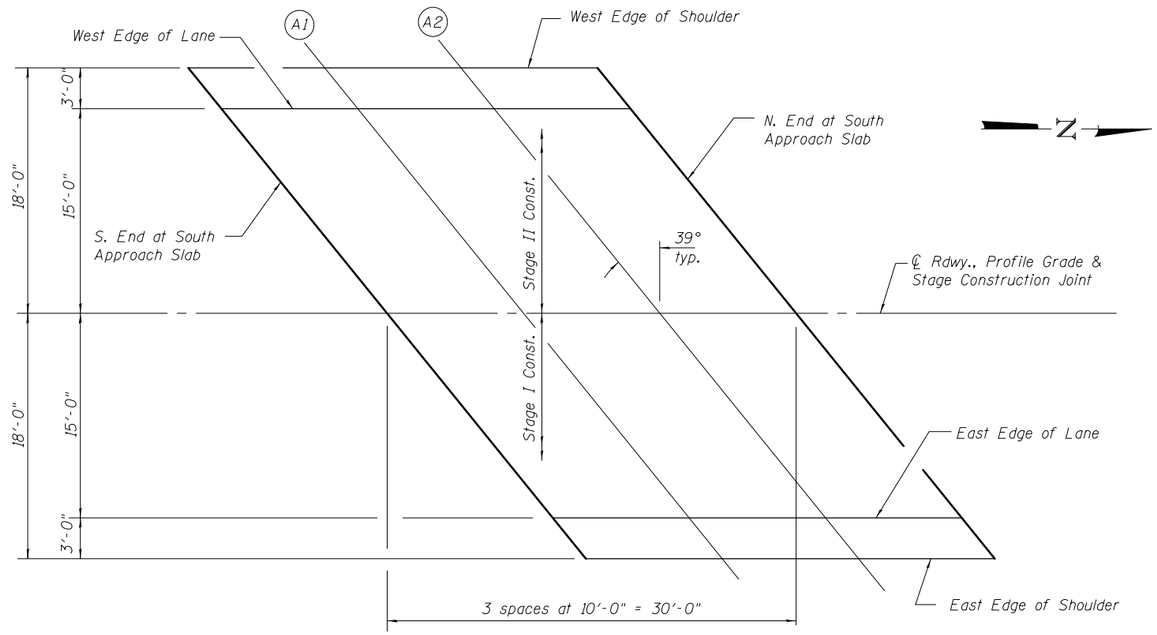
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	2078+77.07	-18.00	659.86	659.88
A1	2078+87.07	-18.00	659.86	659.88
A2	2078+97.07	-18.00	659.86	659.88
N. End of S. Appr. Slab	2079+07.07	-18.00	659.86	659.88

WEST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	2078+79.50	-15.00	659.93	659.95
A1	2078+89.90	-15.00	659.93	659.95
A2	2078+99.50	-15.00	659.93	659.95
N. End of S. Appr. Slab	2079+09.50	-15.00	659.93	659.95

℄ ROADWAY, PROFILE GRADE, & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	2078+91.64	0.00	660.16	660.18
A1	2079+01.64	0.00	660.16	660.18
A2	2079+11.64	0.00	660.16	660.18
N. End of S. Appr. Slab	2079+21.64	0.00	660.16	660.18



PLAN
South Approach

EAST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	2079+03.79	15.00	659.93	659.95
A1	2079+13.79	15.00	659.93	659.95
A2	2079+23.79	15.00	659.93	659.95
N. End of S. Appr. Slab	2079+33.79	15.00	659.93	659.95

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of S. Appr. Slab	2079+06.22	18.00	659.86	659.88
A1	2079+16.22	18.00	659.86	659.88
A2	2079+26.22	18.00	659.86	659.88
N. End of S. Appr. Slab	2079+36.22	18.00	659.86	659.88

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DEPARTMENT OF TRANSPORTATION

TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-0286
SHEET NO. 7 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	20
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		

WEST EDGE OF SHOULDER

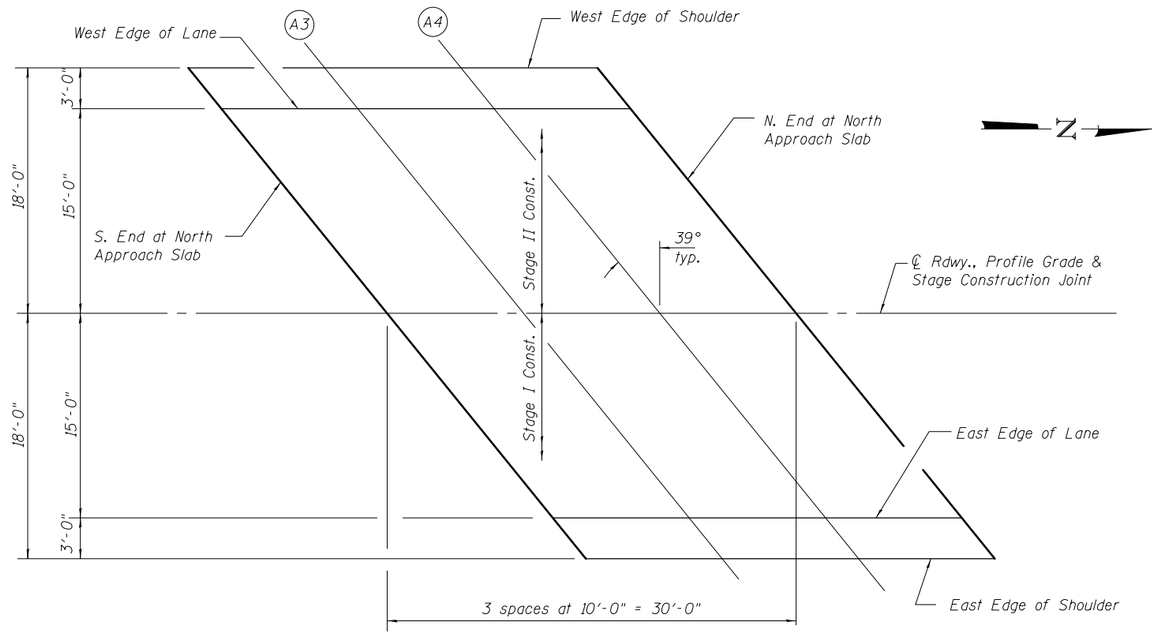
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	2080+27.78	18.00	659.86	659.88
A3	2080+37.78	18.00	659.86	659.88
A4	2080+47.78	18.00	659.86	659.88
N. End of N. Appr. Slab	2080+57.78	18.00	659.86	659.88

WEST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	2080+30.21	15.00	659.93	659.95
A3	2080+40.21	15.00	659.93	659.95
A4	2080+50.21	15.00	659.93	659.95
N. End of N. Appr. Slab	2080+60.21	15.00	659.93	659.95

℄ ROADWAY, PROFILE GRADE, & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	2080+42.36	0.00	660.16	660.18
A3	2080+52.36	0.00	660.16	660.18
A4	2080+62.36	0.00	660.16	660.18
N. End of N. Appr. Slab	2080+72.36	0.00	660.16	660.18



PLAN
North Approach

EAST EDGE OF LANE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
N. End of N. Appr. Slab	2080+54.50	15.00	659.93	659.95
A3	2080+64.50	15.00	659.93	659.95
A4	2080+74.50	15.00	659.93	659.95
S. End of N. Appr. Slab	2080+84.50	15.00	659.93	659.95

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Grinding
S. End of N. Appr. Slab	2080+56.93	18.00	659.86	659.88
A3	2080+66.93	18.00	659.86	659.88
A4	2080+76.93	18.00	659.86	659.88
N. End of N. Appr. Slab	2080+86.93	18.00	659.86	659.88

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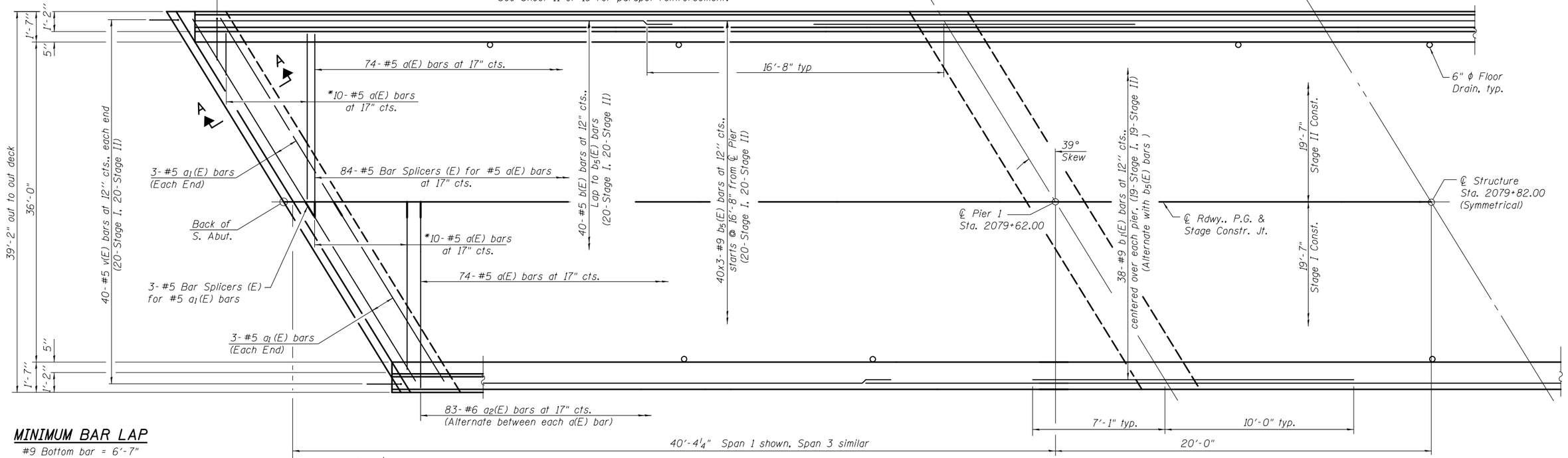
TOP OF NORTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-0286
SHEET NO. 8 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	21
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

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

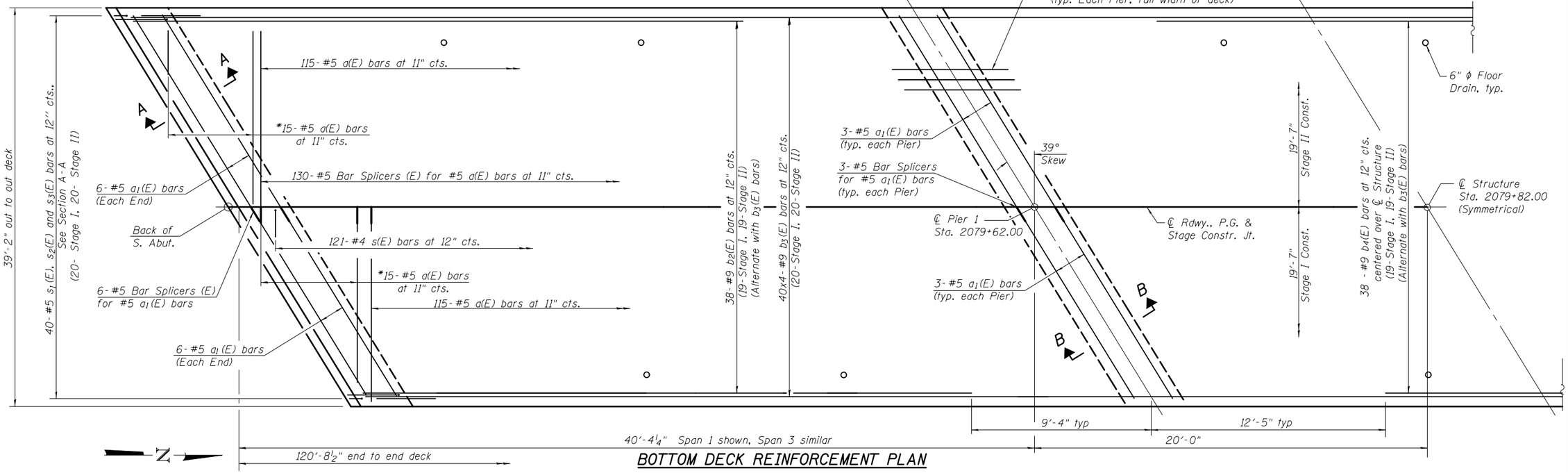
Notes:
See Sheet 10 & 11 of 19 for superstructure details and Bill of Material.
Bars indicated thus 40 x 4-#9 etc. indicates 40 lines of bars with 4 lengths per line.
See Sheet 11 of 19 for parapet reinforcement.



MINIMUM BAR LAP

#9 Bottom bar = 6'-7"
#9 Top bar= 7'-5"
#5 Top bar lapped
with #9 Top bar = 7'-1"

TOP DECK REINFORCEMENT PLAN



BOTTOM DECK REINFORCEMENT PLAN

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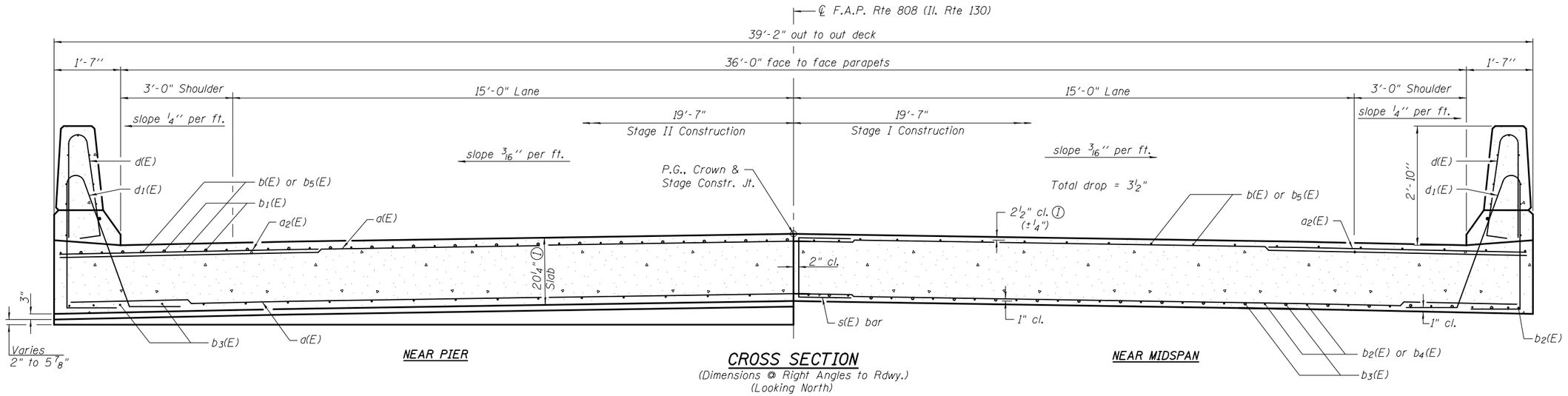
SUPERSTRUCTURE
STRUCTURE NO. 010-0286
SHEET NO. 9 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	22
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

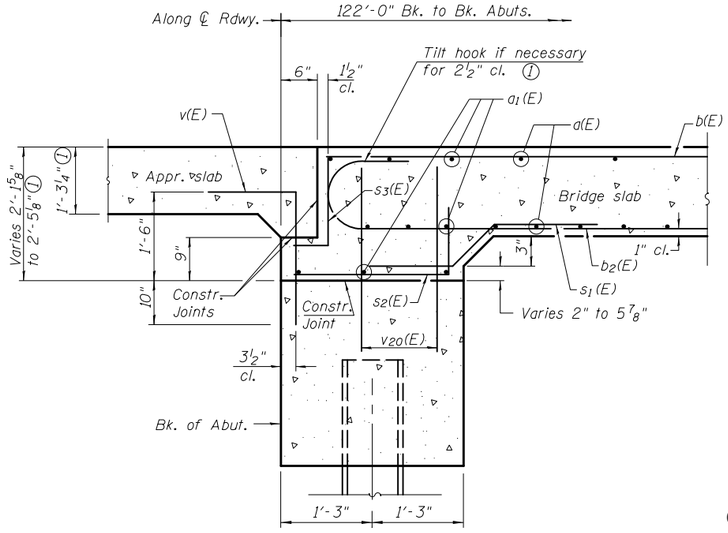


NEAR PIER

NEAR MIDSPAN

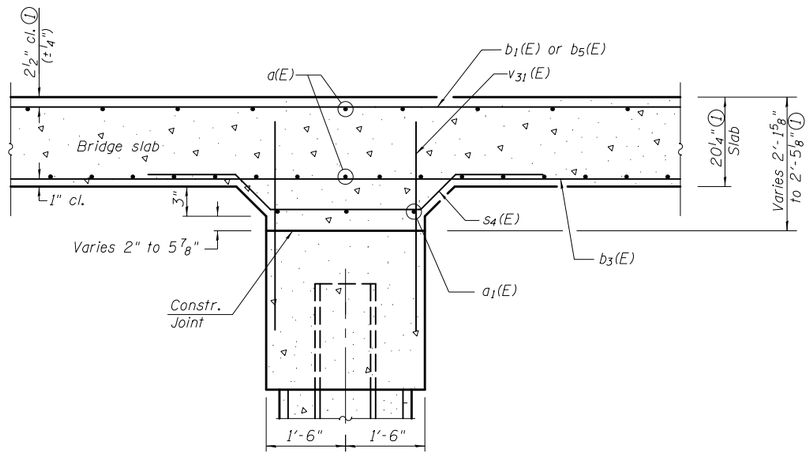
CROSS SECTION

(Dimensions @ Right Angles to Rdwy.)
(Looking North)



SECTION A-A

(Dimensions @ Right Angles to Abutment, unless noted otherwise.)



SECTION B-B

(Dimensions @ Right Angles to Pier, unless noted otherwise.)

(1) Prior to grinding

Notes:
See Sheet 11 of 19 for superstructure details and Bill of Material.
See Sheet 11 of 19 for parapet reinforcement.
V_{20}(E) bars are billed with Abutments on Sheets 14 and 15 of 19.
V_{31}(E) bars are billed with Piers on Sheet 16 of 19.

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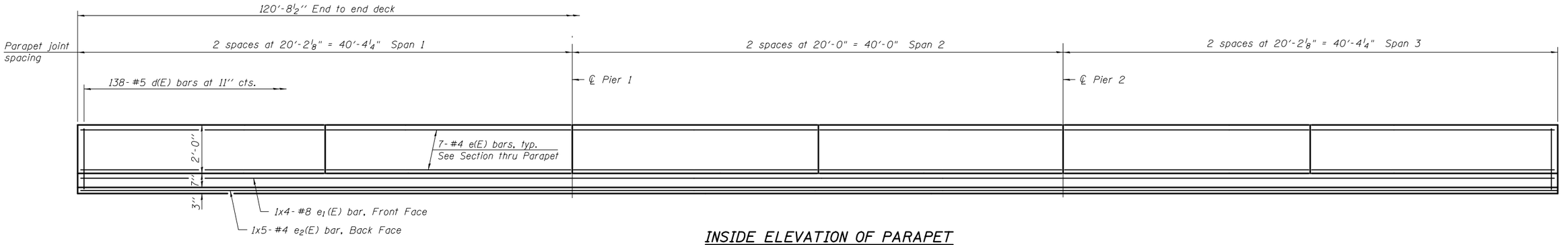
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

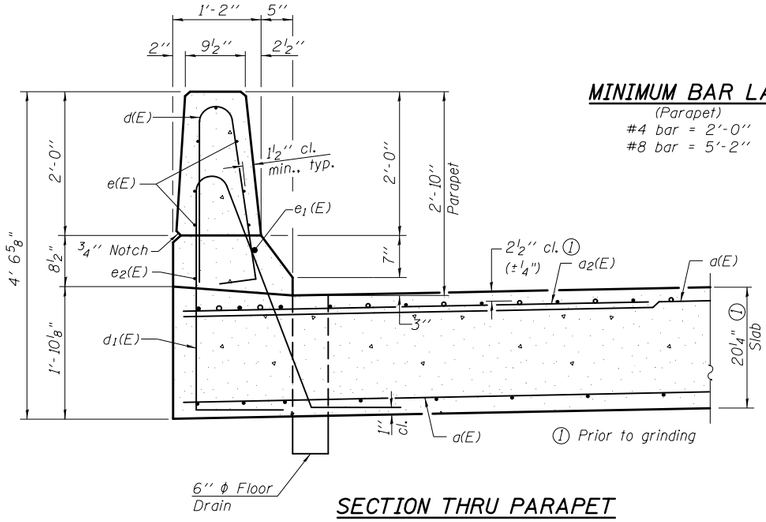
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 010-0286
SHEET NO. 10 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	23
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			



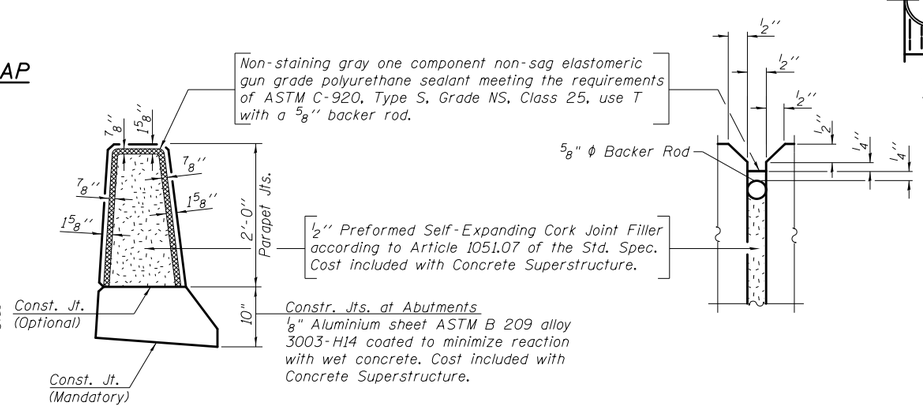
INSIDE ELEVATION OF PARAPET



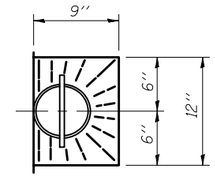
SECTION THRU PARAPET

MINIMUM BAR LAP

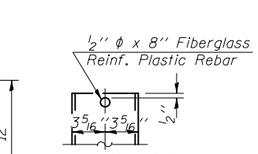
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



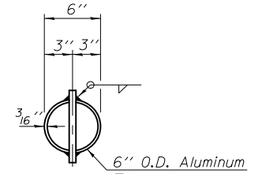
PARAPET JOINT DETAILS



TOP PLAN

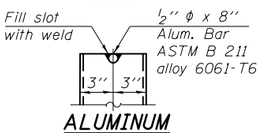


FIBERGLASS PIPE



TOP PLAN

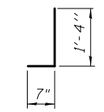
(Showing Aluminum Tube)



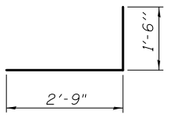
ALUMINUM TUBE

SUPERSTRUCTURE BILL OF MATERIAL

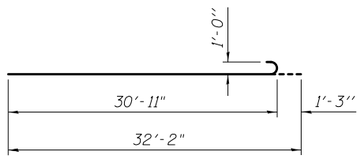
Bar	No.	Size	Length	Shape
d(E)	428	#5	19'-2"	
a1(E)	48	#5	24'-9"	
a2(E)	166	#6	6'-6"	
b(E)	80	#5	30'-8"	
b1(E)	76	#9	17'-1"	
b2(E)	76	#9	32'-2"	
b3(E)	160	#9	35'-1"	
b4(E)	38	#9	15'-2"	
b5(E)	120	#9	29'-5"	
d(E)	276	#5	5'-7"	
d1(E)	264	#5	9'-1"	
e(E)	84	#4	19'-9"	
e1(E)	8	#8	34'-0"	
e2(E)	10	#4	25'-9"	
s(E)	121	#4	3'-8"	
s1(E)	80	#5	2'-10"	
s2(E)	80	#5	4'-3"	
s3(E)	80	#5	1'-11"	
s4(E)	80	#5	7'-2"	
v(E)	80	#5	4'-3"	
Reinforcement Bars, Epoxy Coated			Pound	67,865
Concrete Superstructure			Cu. Yds.	336.0



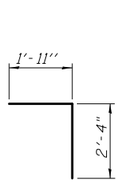
BAR s3(E)



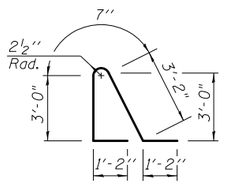
BAR s2(E)



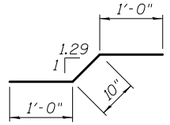
BAR b2(E)



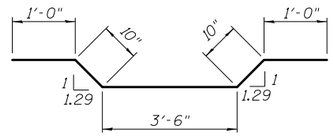
BAR v(E)



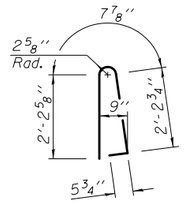
BAR d1(E)



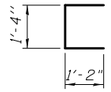
BAR s1(E)



BAR s4(E)



BAR d(E)



BAR s(E)

Notes:
The exterior surfaces of the floor drains shall be coated or pigmented by the Manufacturer with a color that matches the concrete..
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Bars indicated thus 1 x 4-#8 etc. indicates 1 line of bars with 4 lengths per line.

HURST-ROSCHE ENGINEERS, INC.
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HR JOB # 190-1580

HR HURST - ROSCHE ENGINEERS, INC.

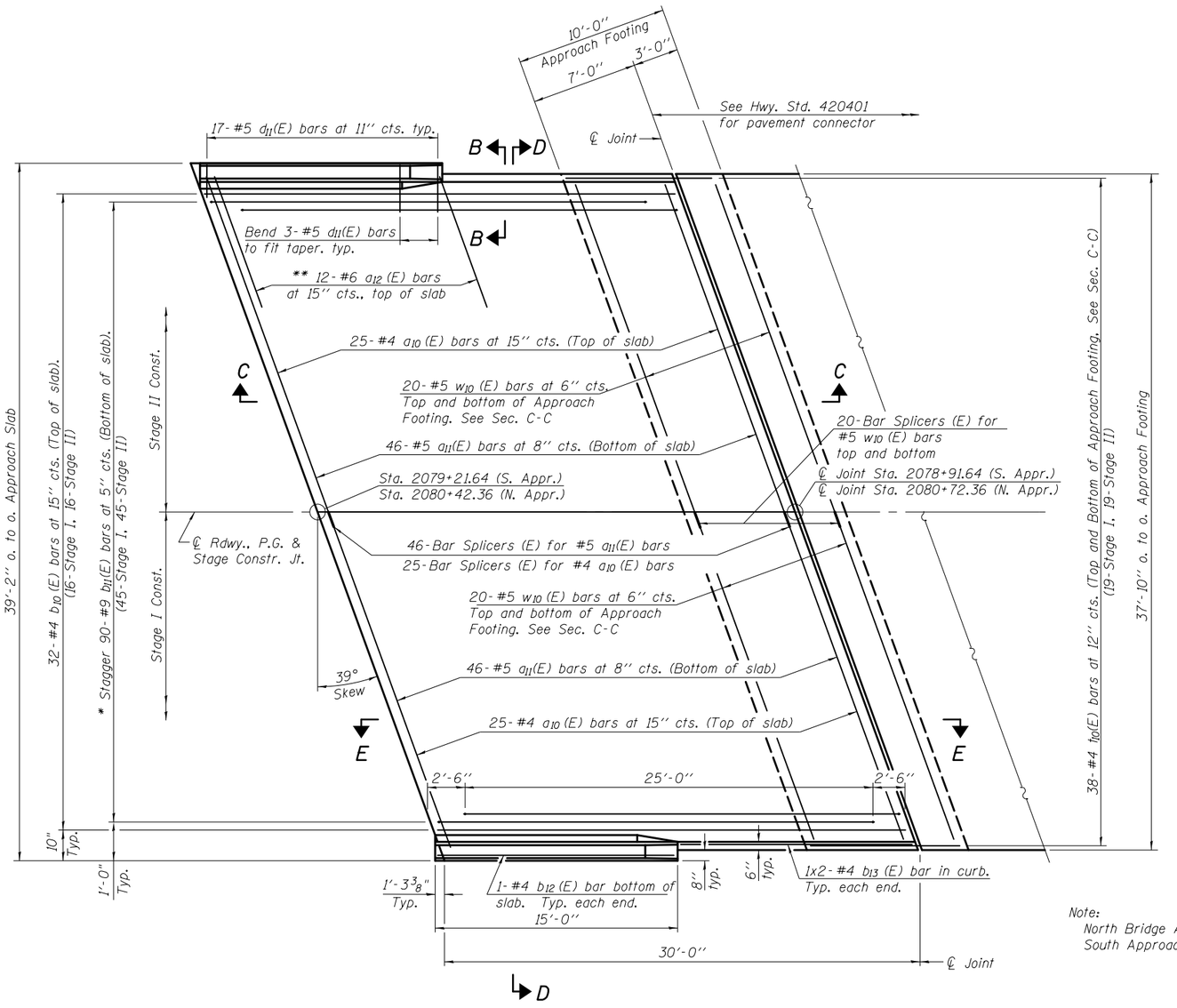
FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
		CHECKED - CJC	REVISED -
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 010-0286
SHEET NO. 11 OF 19 SHEETS

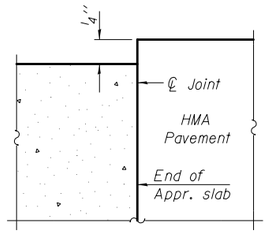
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	24
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		

Notes:
See sheet 13 of 19 for Sections C-C & D-D and View E-E.
a_{10} (E) and a_{11}(E) bar spacings measured along ℄ Rdwy.
Bars indicated 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.



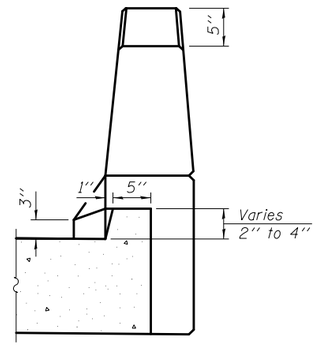
PLAN

* Tilt #9 b_{11} (E) bars as required to maintain clearance.
** Space between a_{10}(E) bars, typ. each parapet.



FLEXIBLE PAVEMENT

DETAIL A



VIEW B-B

Note:
North Bridge Approach Slab shown.
South Approach similar.

MINIMUM BAR LAP

#4 bar = 2'-1"

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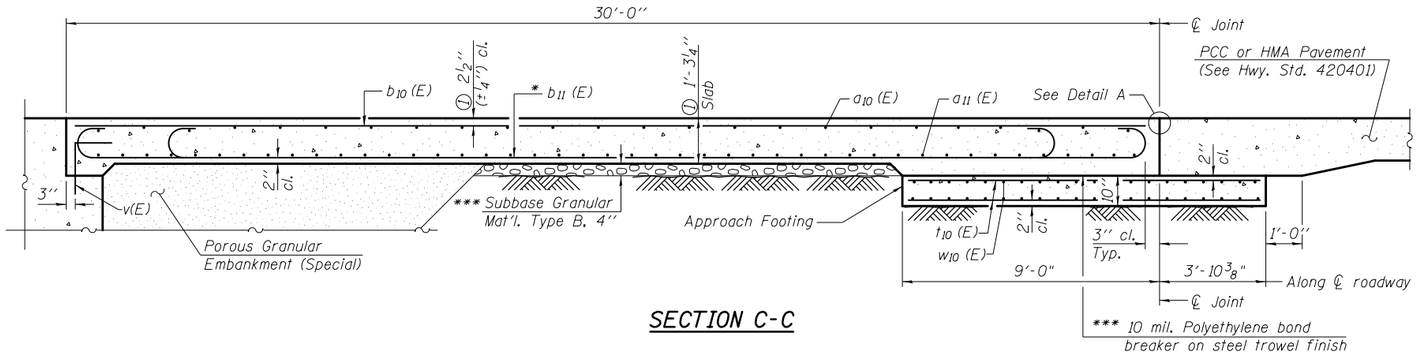
HR JOB # 190-1580

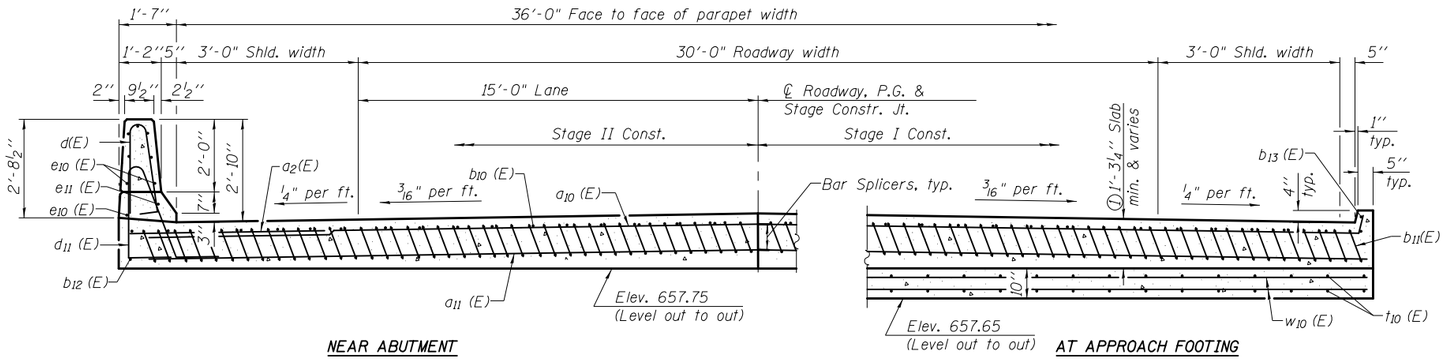
BA-R 7-1-10

(Sheet 1 of 2)

FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 010-0286	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - CJC	REVISED -			808	94BR-1	CHAMPAIGN	50	25
	PLOT SCALE =	DRAWN - UJ	REVISED -					CONTRACT NO. 70582		
	PLOT DATE =	CHECKED - RVB	REVISED -		SHEET NO. 12 OF 19 SHEETS			ILLINOIS FED. AID PROJECT		



SECTION C-C

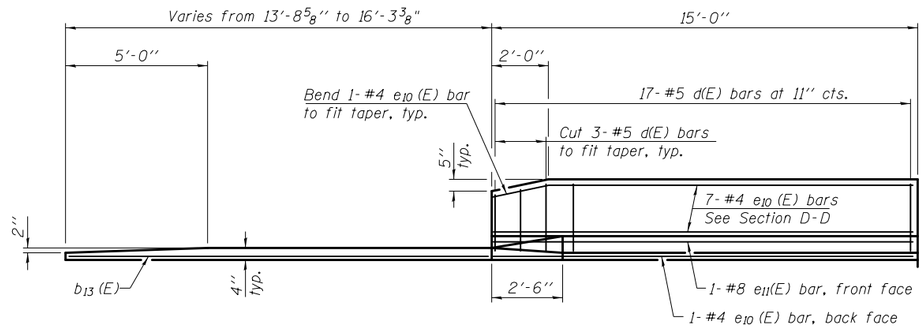


NEAR ABUTMENT

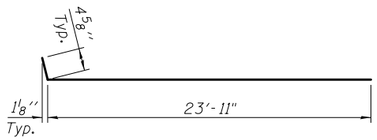
AT APPROACH FOOTING

SECTION D-D

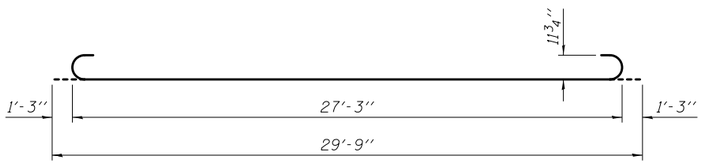
(See Plan for dimensions not shown)



VIEW E-E



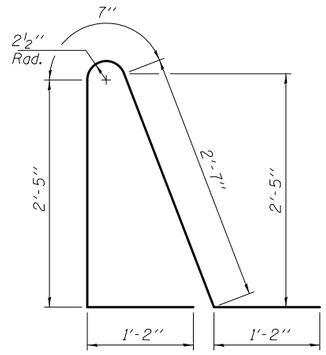
BAR a10 (E)



BAR b11(E)

① Prior to grinding.

Notes:
See sheet 12 of 19 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 11 of 19.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 18 of 19.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 19.
For additional parapet details, and d(E) bar details see sheet 11 of 19.



BAR d11(E)

* Tilt #9 b11(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES
BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	a10 (E)	100	#4	24'-4"	
	a11 (E)	184	#5	23'-11"	
	a12 (E)	48	#6	6'-6"	
	b10 (E)	64	#4	29'-8"	
	b11 (E)	180	#9	29'-9"	
	b12 (E)	4	#4	14'-8"	
	b13 (E)	8	#4	9'-0"	
	d(E)	68	#5	5'-7"	
	d11(E)	68	#5	7'-11"	
	e10 (E)	32	#4	14'-8"	
	e11(E)	4	#8	14'-8"	
	t10 (E)	152	#4	12'-6"	
	w10 (E)	160	#5	23'-11"	
	Concrete Superstructure			Cu. Yd.	123.4
	Concrete Structures			Cu. Yd.	30.1
**	Reinforcement Bars, Epoxy Coated			Pound	32,940

**Reinforcement Bars, Epoxy Coated:
Superstructure= 27,675 lbs.
Substructure= 5,265 lbs.

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HR HURST-ROSCHE ENGINEERS, INC.

BA-R 7-1-10

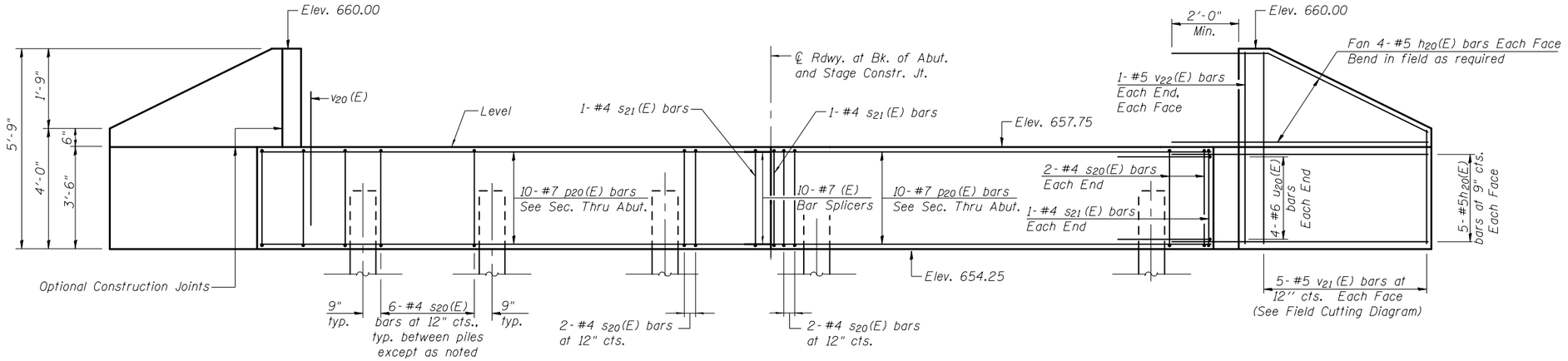
(Sheet 2 of 2)

FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
		CHECKED - CJC	REVISED -
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

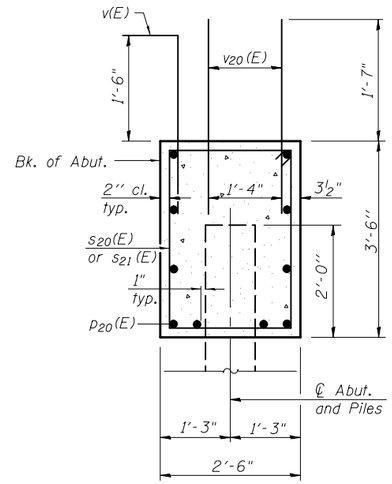
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-0286
SHEET NO. 13 OF 19 SHEETS

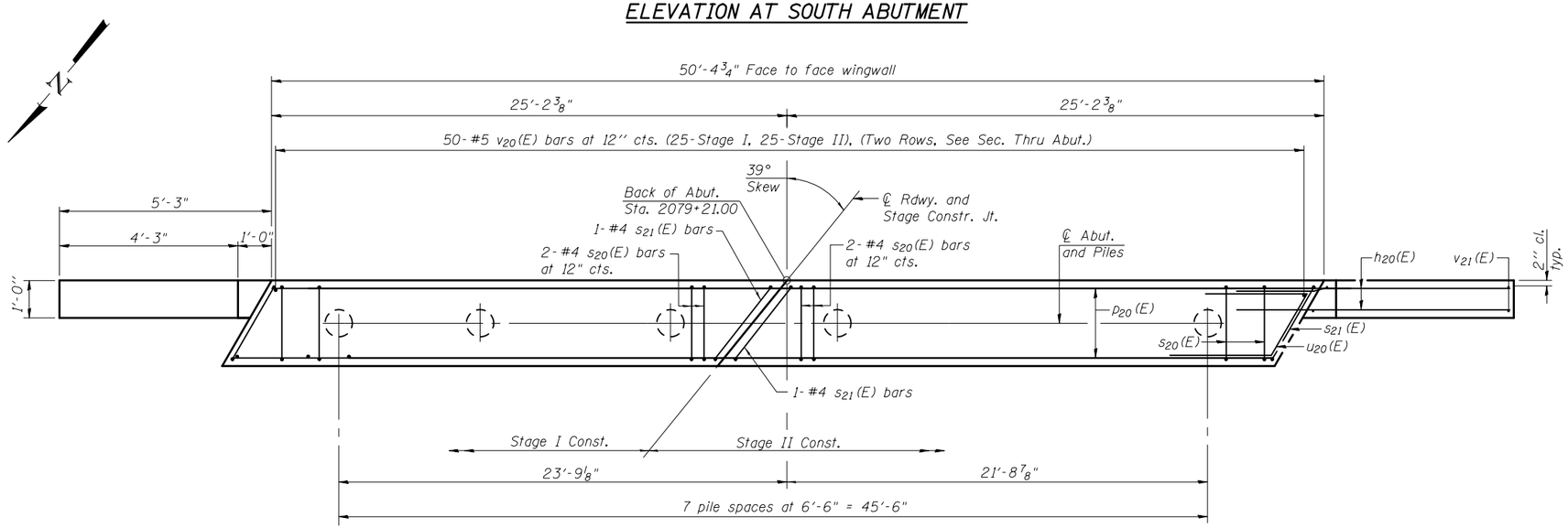
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	26
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			



ELEVATION AT SOUTH ABUTMENT



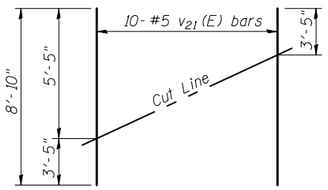
SEC. THRU ABUT.



PLAN

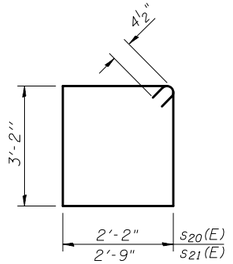
PILE DATA

Type: Metal Shell Piles 14" dia. x 0.312" walls with pile shoes
Nominal Required Bearing: 335 kips
Factored Resistance Available: 140 kips
Est. Length: 46'
No. Production Piles: 8
No. Test Piles: 0

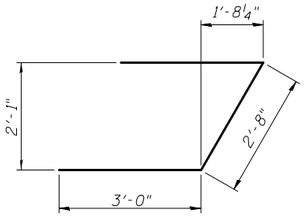


FIELD CUTTING DIAGRAM

Order v21(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s20(E) & s21(E)



BAR u20(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	36	#5	7'-9"	
p20(E)	20	#7	24'-10"	
s20(E)	44	#4	11'-5"	
s21(E)	4	#4	12'-7"	
u20(E)	8	#6	8'-8"	
v20(E)	100	#5	3'-7"	
v21(E)	10	#5	8'-10"	
v22(E)	4	#5	5'-5"	
Concrete Structures		Cu. Yd.	18.3	
Reinforcement Bars, Epoxy Coated		Pound	2,270	
Furnishing Metal Shell Piles 14" x 0.312"		Foot	368	
Driving Piles		Foot	368	
Pile Shoes		Each	8	

For details of Bar Splicers, see sheet 18 of 19.
For details of piles, see sheet 17 of 19.
For v(E) bar details, see sheets 9 thru 11 of 19.

HURST-ROSCHE ENGINEERS, INC.
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FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
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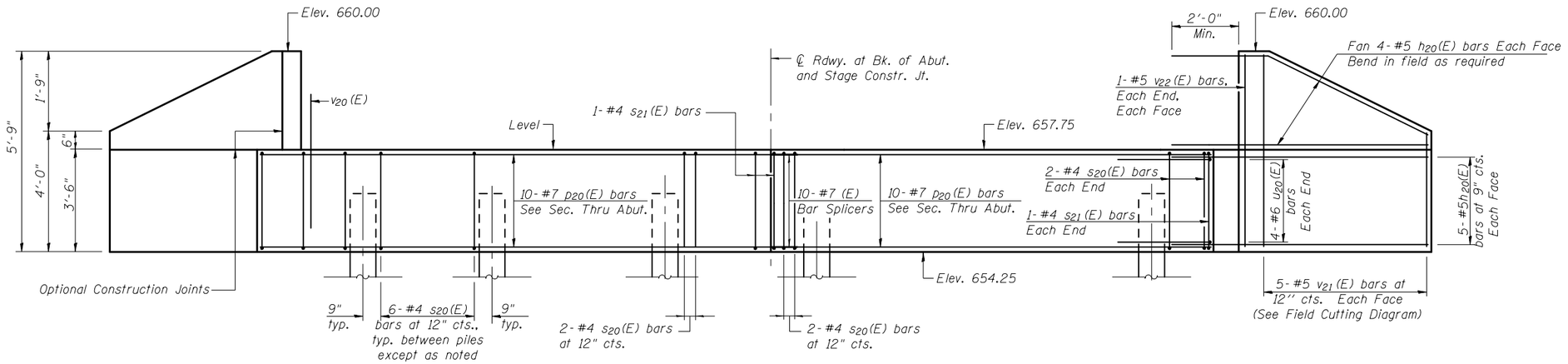
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

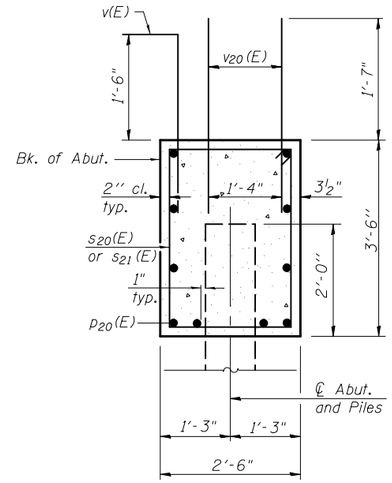
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
STRUCTURE NO. 010-0286
SHEET NO. 14 OF 19 SHEETS

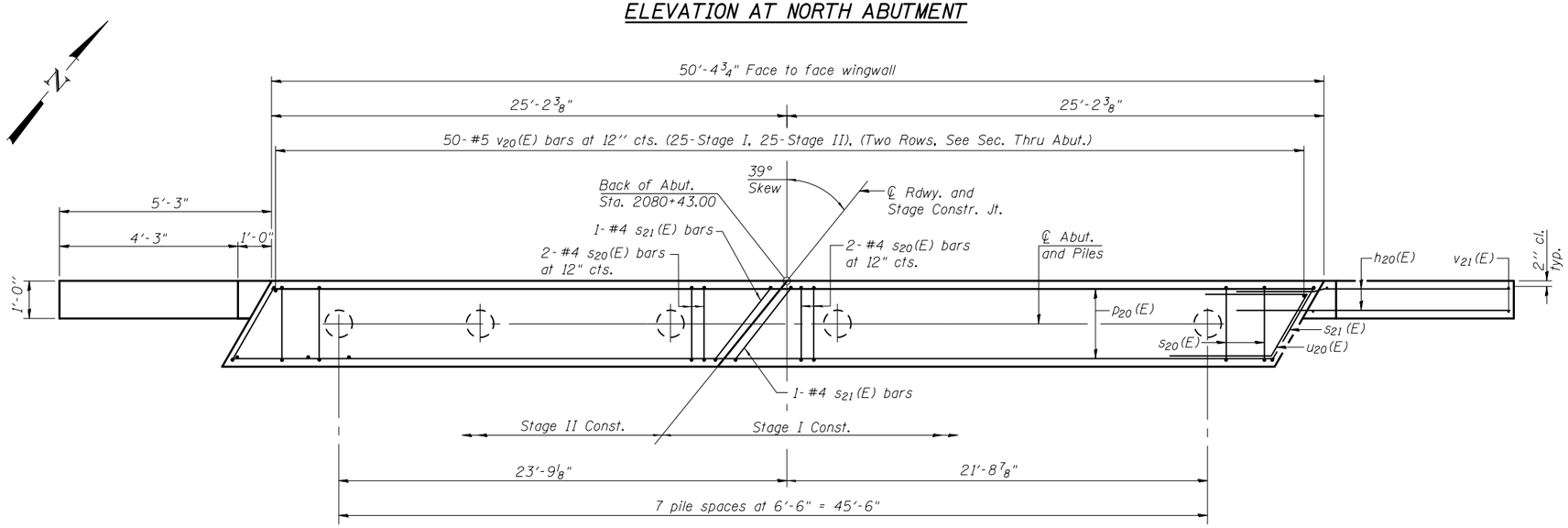
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	27
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		



ELEVATION AT NORTH ABUTMENT



SEC. THRU ABUT.



PLAN

BILL OF MATERIAL

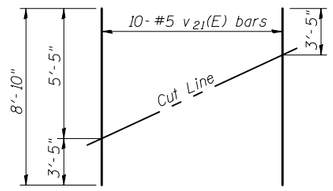
	Bar	No.	Size	Length	Shape
	$h_{20}(E)$	36	#5	7'-9"	———
	$p_{20}(E)$	20	#7	24'-10"	———
	$s_{20}(E)$	44	#4	11'-5"	⌐¬
	$s_{21}(E)$	4	#4	12'-7"	⌐¬
	$u_{20}(E)$	8	#6	8'-8"	⌐⌐
	$v_{20}(E)$	100	#5	3'-7"	———
	$v_{21}(E)$	10	#5	8'-10"	———
	$v_{22}(E)$	4	#5	5'-5"	———
*	Structure Excavation		Cu. Yd.	110	
	Concrete Structures		Cu. Yd.	18.3	
	Reinforcement Bars, Epoxy Coated		Pound	2,270	
	Furnishing Metal Shell Piles 14" x 0.312"		Foot	266	
	Driving Piles		Foot	266	
	Test Pile Metal Shells		Each	1	
	Pile Shoes		Each	8	

For details of Bar Splicers, see sheet 18 of 19.
For details of piles, see sheet 17 of 19.
For v(E) bar details, see sheets 9 thru 11 of 19.

*Includes 46 Cu. Yd. Structure Excavation for Porous Granular Embankment, Special.

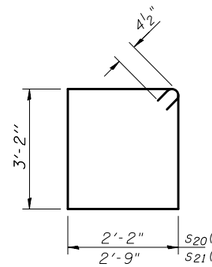
PILE DATA

Type: Metal Shell Piles 14" dia. x 0.312" walls with pile shoes
Nominal Required Bearing: 281 kips
Factored Resistance Available: 140 kips
Est. Length: 38'
No. Production Piles: 7
No. Test Piles: 1

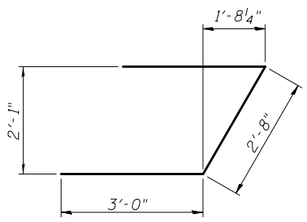


FIELD CUTTING DIAGRAM

Order $v_{21}(E)$ full length. Cut as shown and use remainder of bars in opposite face.



BARS $s_{20}(E)$ & $s_{21}(E)$



BAR $u_{20}(E)$

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HR JOB # 190-1580

HURST-ROSCHE ENGINEERS, INC.

AI-R 7-1-10

FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
		CHECKED - CJC	REVISED -
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
STRUCTURE NO. 010-0286
SHEET NO. 15 OF 19 SHEETS

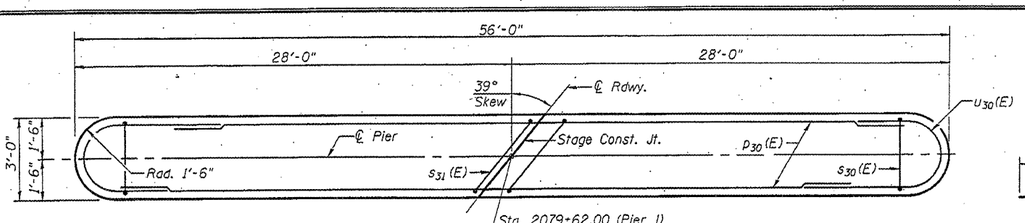
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	28
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

PIER 1 PILE DATA

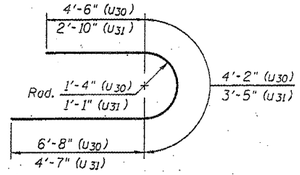
Type: Metal Shell Piles 14" dia. x .312" walls with pile shoes
Nominal Required Bearing: 427 kips
Factored Resistance Available: 163 kips
Est. Length: 54'
No. Production Piles: 11
No. Test Piles: 1

PIER 2 PILE DATA

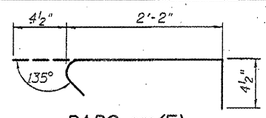
Type: Metal Shell Piles 14" dia. x .312" walls with pile shoes
Nominal Required Bearing: 376 kips
Factored Resistance Available: 162 kips
Est. Length: 57'
No. Production Piles: 12
No. Test Piles: 0



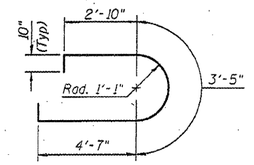
TOP PLAN



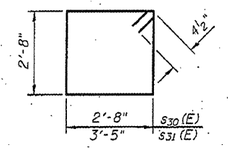
BARS u_{30}(E) & u_{31}(E)



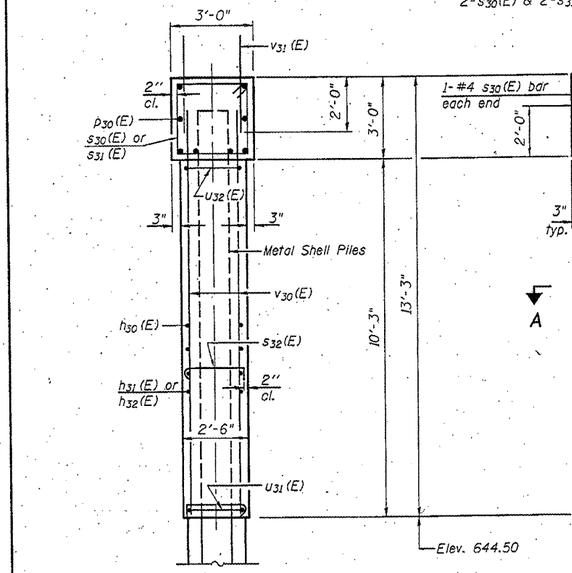
BARS s_{32}(E)



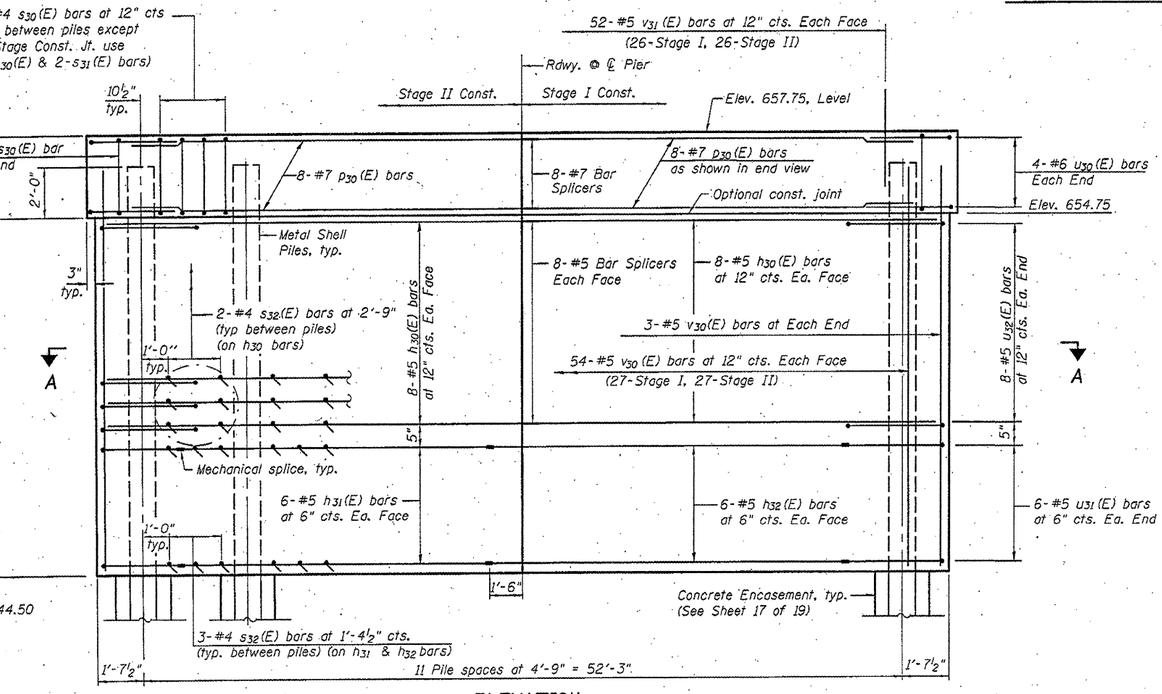
BARS u_{32}(E)



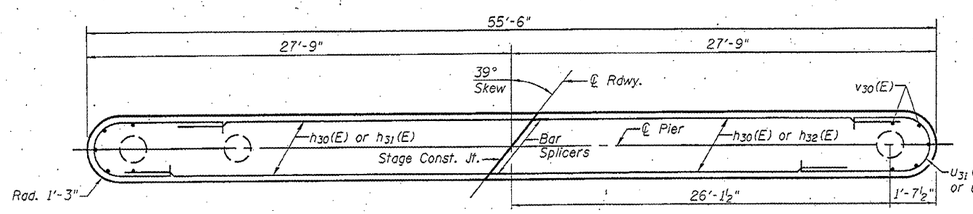
BAR s_{30}(E) & s_{31}(E)



END VIEW



ELEVATION
(Looking North)



SECTION A-A

BILL OF MATERIAL (TWO PIERS)

Bar	No.	Size	Length	Shape
h_{30}(E)	64	#5	27'-5"	——
h_{31}(E)	24	#5	21'-4"	——
h_{32}(E)	24	#5	24'-3"	——
p_{30}(E)	32	#7	25'-5"	——
s_{30}(E)	88	#4	11'-5"	□
s_{31}(E)	4	#4	12'-11"	□
s_{32}(E)	748	#4	2'-11"	⌐
u_{30}(E)	16	#6	15'-4"	
u_{31}(E)	24	#5	10'-10"	
u_{32}(E)	32	#5	12'-6"	
v_{30}(E)	228	#5	12'-3"	——
v_{31}(E)	208	#5	3'-7"	——

Cofferdam Excavation	Cu. Yd.	137
Concrete Structures	Cu. Yd.	141.2
Concrete Encasement	Cu. Yd.	10.2
Reinforcement Bars, Epoxy Coated	Pound	11,545
Furnishing Metal Shell Piles 14" x 0.312"	Foot	1,278
Driving Piles	Foot	1,278
Test Pile Metal Shells	Each	1
Pile Shoes	Each	24
Cofferdam (Type 1) -Locations 1 & 2	Each	2
Mechanical Splicers	Each	72

Notes:
If a portion of the concrete encasement is underwater, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.
For details of piles, see sheet 17 of 19.

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HR JOB # 190-1580
HR HURST-ROSCHE ENGINEERS, INC.

PC-1 7-1-10
FILE NAME = | USER NAME = | PLOT SCALE = | PLOT DATE =
DESIGNED - JSP | CHECKED - CJC | DRAWN - UJ | CHECKED - RVB
REVISED - | REVISED - | REVISED ✓ | REVISED -

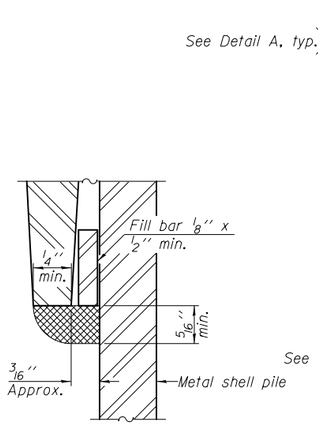
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS
STRUCTURE NO. 010-0286
SHEET NO. 16 OF 19 SHEETS

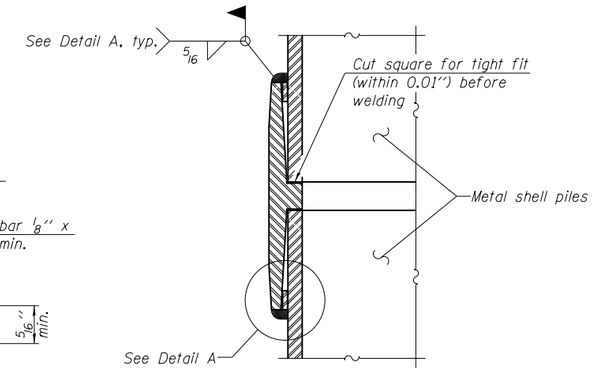
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	29
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$ /ft.)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361

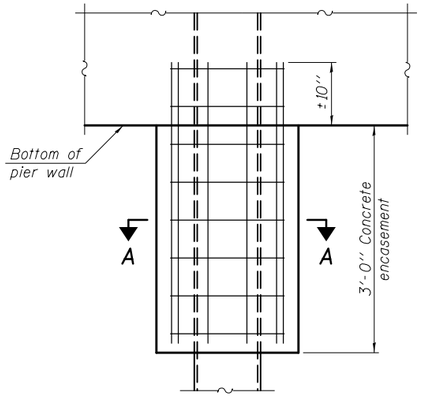


DETAIL A

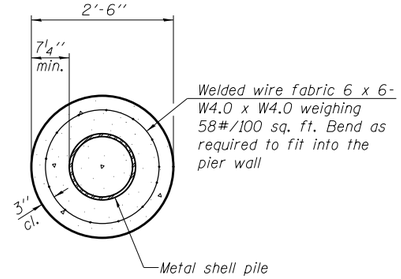


Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



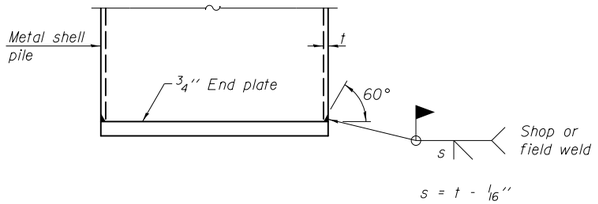
ELEVATION



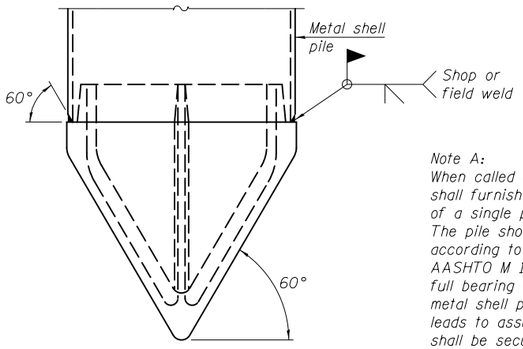
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



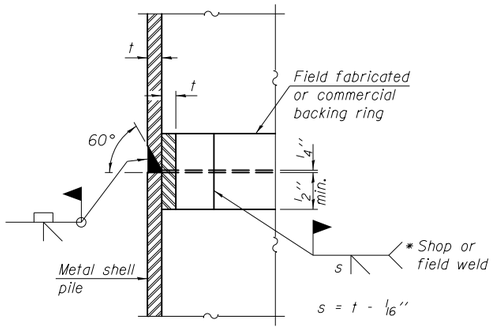
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

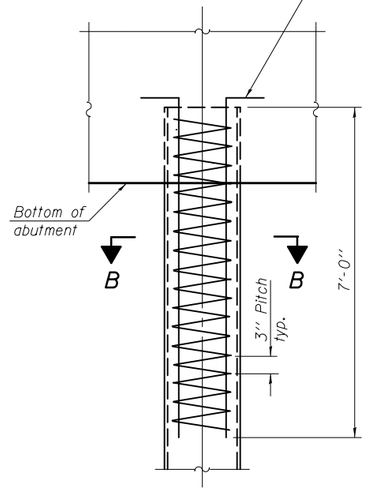
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

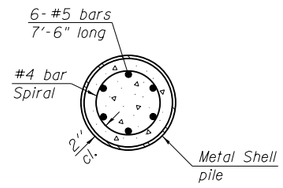


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

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HR JOB # 190-1580

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FILE NAME =	USER NAME =	DESIGNED - JSP	REVISED -
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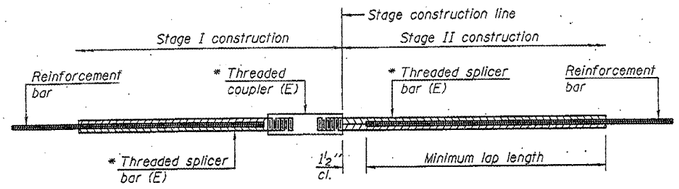
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 010-0286
SHEET NO. 17 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	30
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

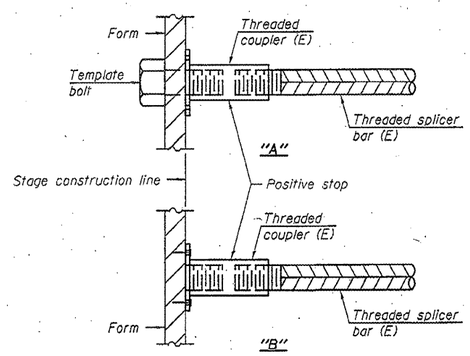
Bar size to be spliced	Minimum Lap Lengths				
	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

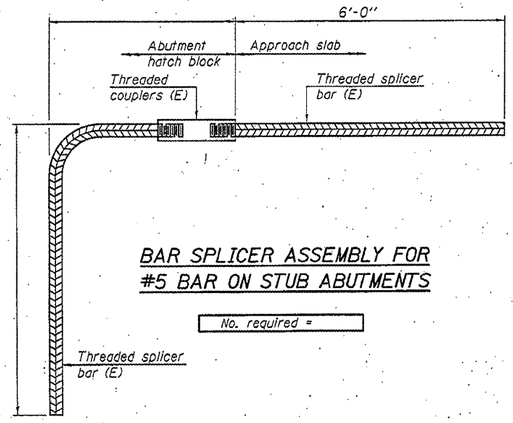
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Main Deck	#5	238	Table 3
Appr. Slab	#4	50	Table 3
Appr. Slab	#5	92	Table 3
Appr. Slab Footing	#5	80	Table 3
North Abut.	#7	10	Table 4
South Abut.	#7	10	Table 4
Pier #1	#5	16	Table 4
Pier #1	#7	8	Table 4
Pier #2	#5	16	Table 4
Pier #2	#7	8	Table 4



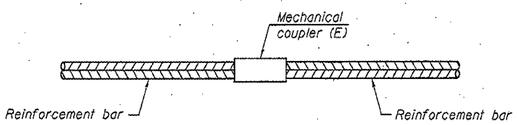
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



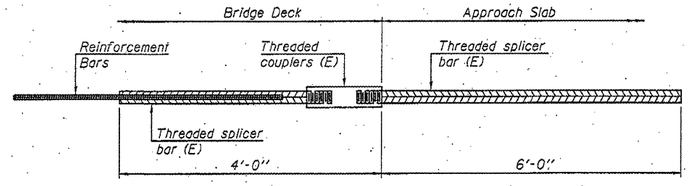
BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier #1	#5	36
Pier #2	#5	36



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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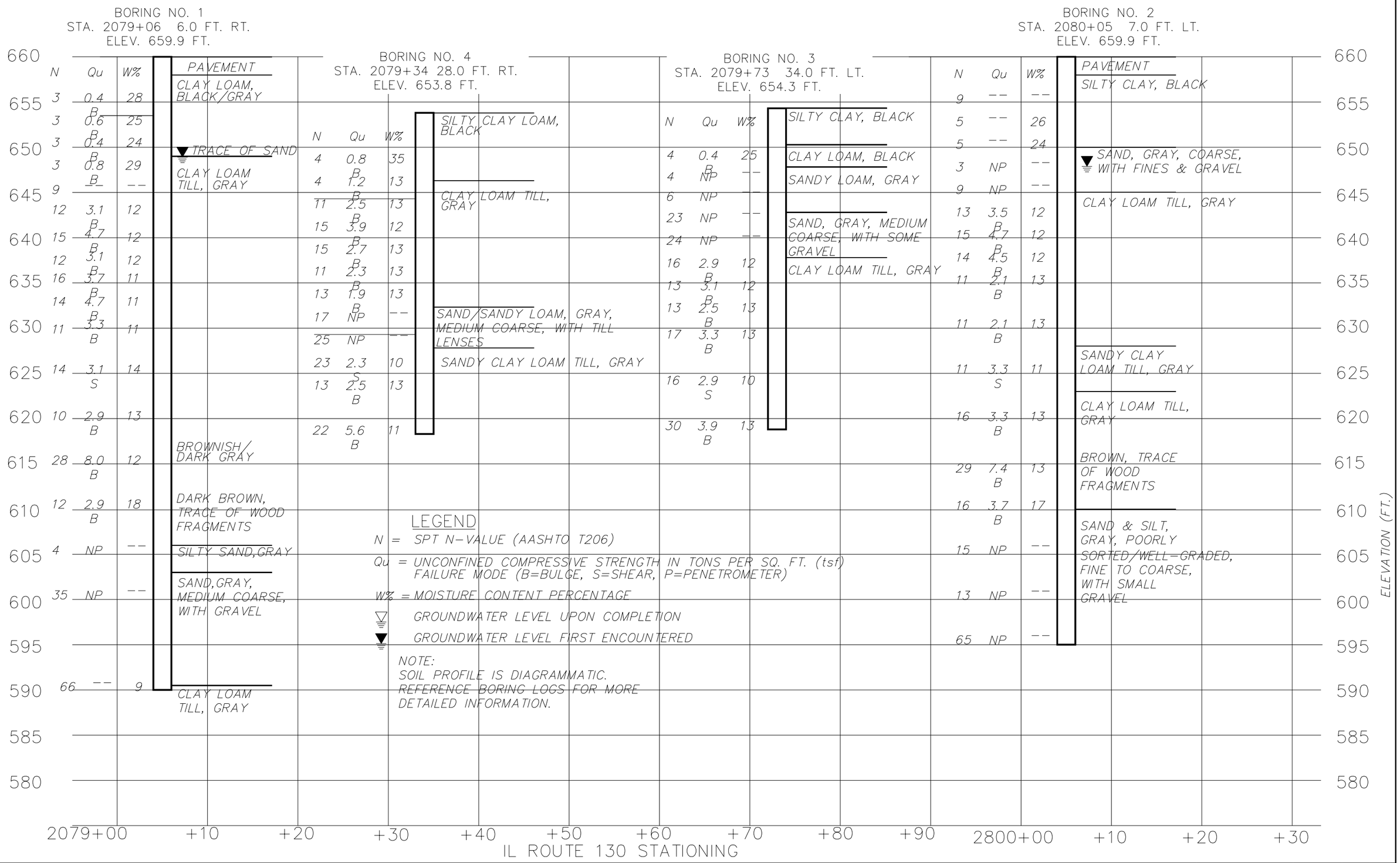
		CHECKED - CJC	REVISED -
	PLOT SCALE =	DRAWN - UJ	REVISED -
	PLOT DATE =	CHECKED - RVB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 010-0286
SHEET NO. 18 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	31
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		



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HR JOB # 190-1580

HR HURST-ROSCHE ENGINEERS, INC.

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		CHECKED - MEE	REVISED -
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	PLOT DATE =	CHECKED - DHK	REVISED -

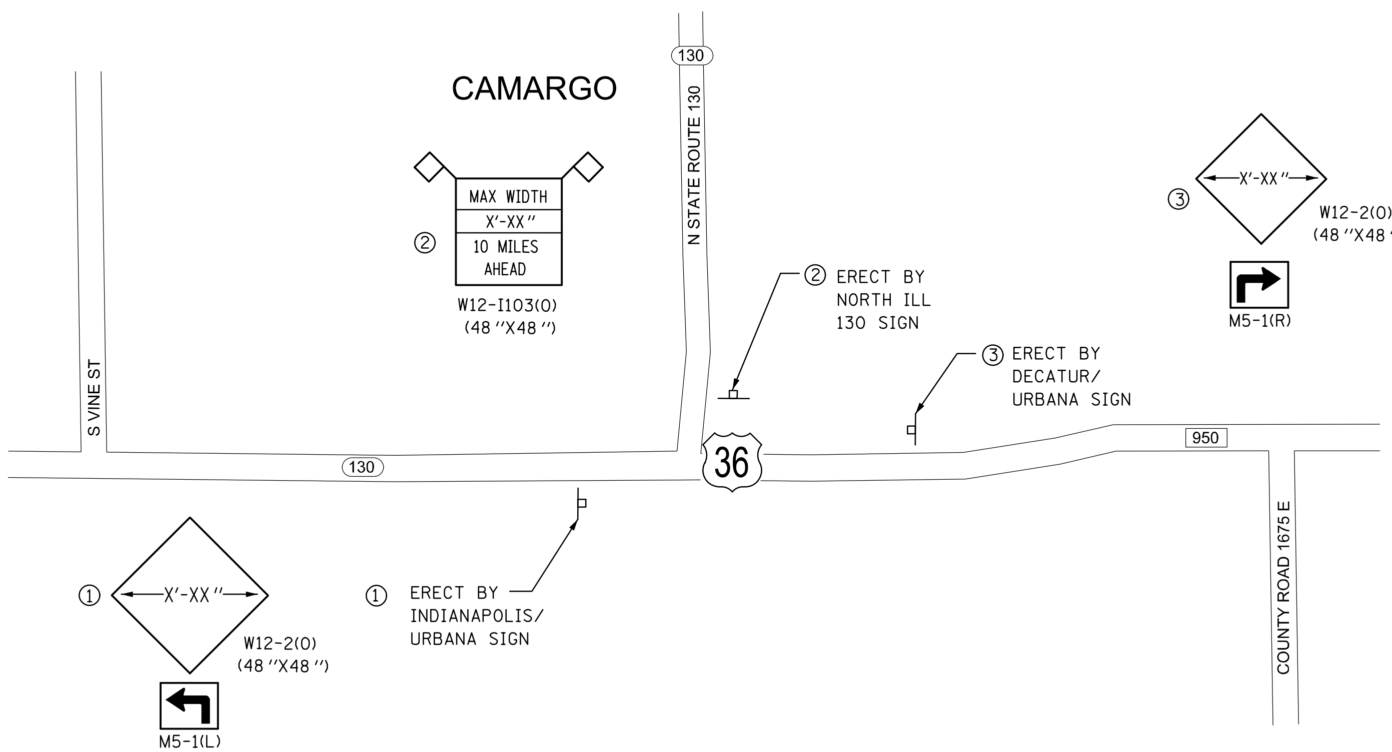
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

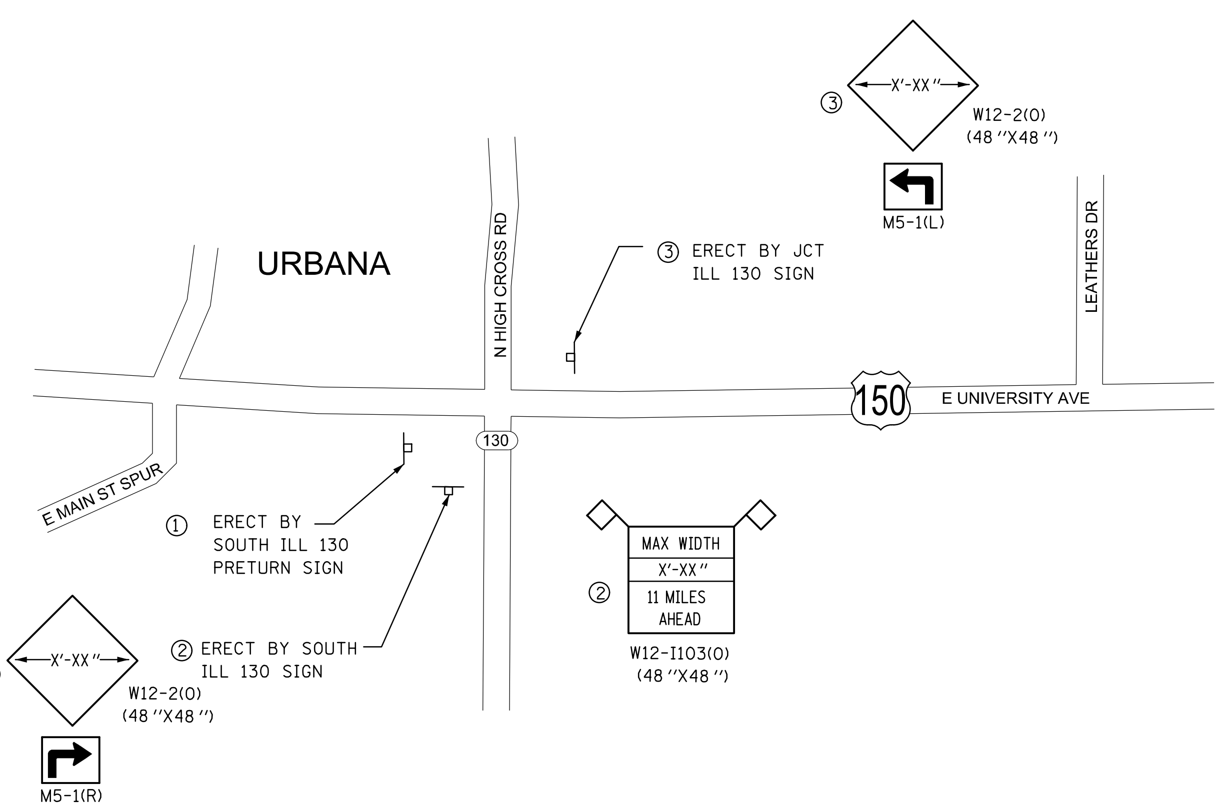
SUBSURFACE DATA PROFILE
STRUCTURE NO. 010-0286
SHEET NO. 19 OF 19 SHEETS

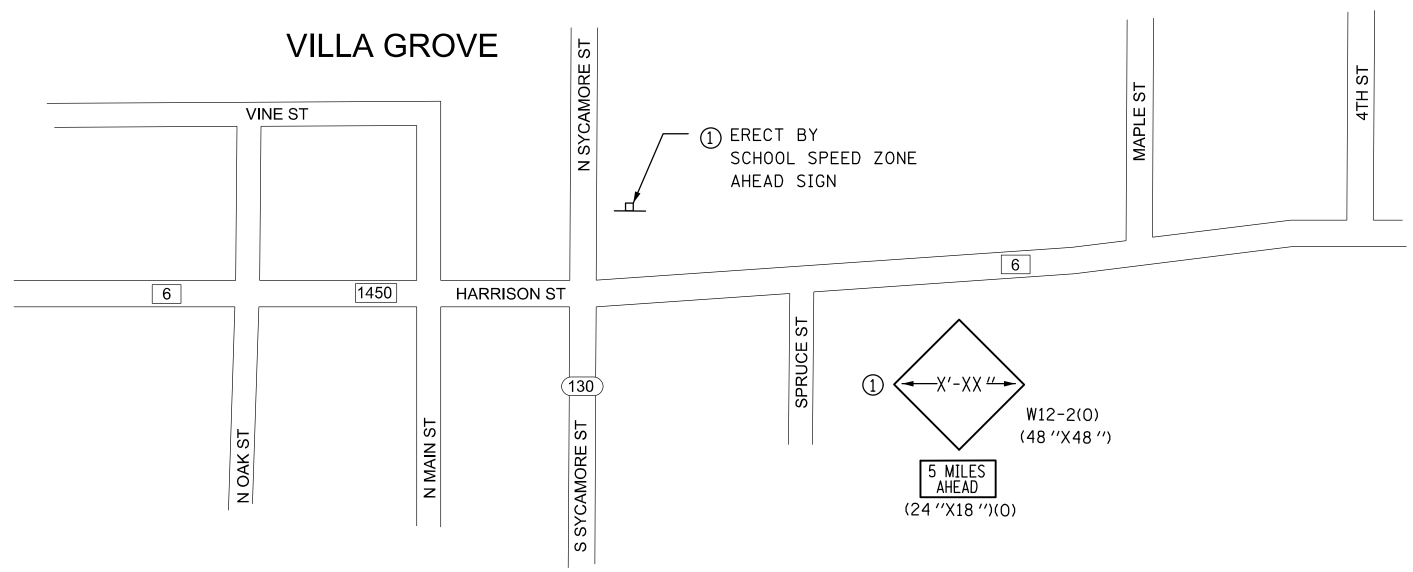
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	32
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

WIDTH RESTRICTION SIGNING DETAILS

NO SCALE







NOTES:

1. STAGE I SHALL BE POSTED A MAXIMUM WIDTH OF 10'-6".
2. STAGE II SHALL BE POSTED A MAXIMUM WIDTH OF 11'-0".
3. REFER TO SHEET #34 FOR ADDITIONAL INFORMATION.

HR HURST-ROSCHE ENGINEERS, INC.
HURST-ROSCHE ENGINEERS, INC.
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(217)532-3959 FAX (217)532-3212

FILE NAME =	USER NAME = keysrb	DESIGNED - JJC	REVISED -
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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

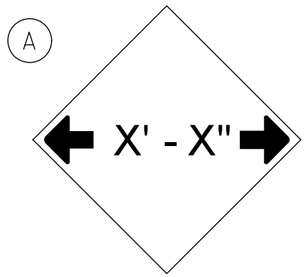
WIDTH RESTRICTION SIGNING–LOCATION DETAIL

SCALE: NONE | SHEET NO. 1 OF 2 SHEETS | STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	33

CONTRACT NO. 70582

FED. ROAD DIST. NO. 5 | ILLINOIS | FED. AID PROJECT

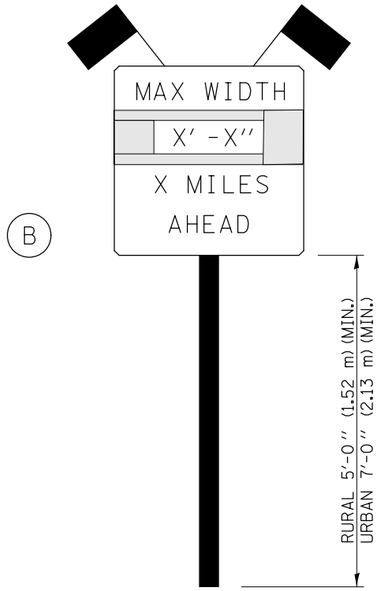


W12-2(0)-48"x48"(1200x1200)

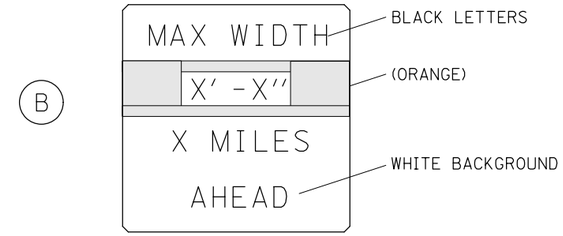
STAGE I, 10'-6"
STAGE II, 11'-0"

SIGN (A) 2 SIGNS - W12-2(0)-48"x48"(1200x1200) ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

SIGN (B) 2 SIGNS - (SIGN PANEL, TYPE II) AS SHOWN ARE TO BE PLACED AS SHOWN IN THE PLANS OR AS DIRECTED BY THE ENGINEER.



SIGN PANEL, TYPE II



W12-I103(0)-48"x48"(1200x1200)
"D" LETTERS/NUMBERS

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.
2. ALL (B) SIGNS SHALL HAVE FLAGS INSTALLED UNLESS OTHERWISE DIRECTED.
3. LOCATIONS OF TRAFFIC CONTROL DEVICES MAY BE ADJUSTED BY THE ENGINEER.
4. ALL TRAFFIC CONTROL SHOWN ON THIS SHEET SHALL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR WIDTH RESTRICTION SIGNING.
5. ALL SIGNS SHALL BE POST MOUNTED UNLESS OTHERWISE DIRECTED.
6. ALL SIGNS SHOWN ORANGE (O) SHALL BE FLUORESCENT ORANGE.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. X7200201

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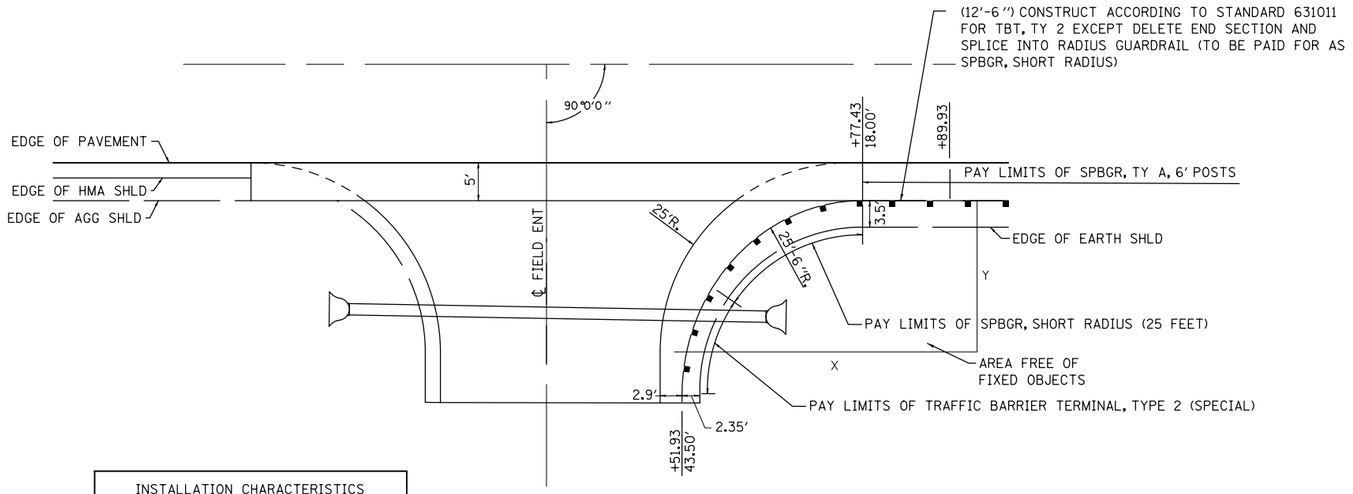
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED - 7/09 - KJT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WIDTH RESTRICTION SIGNING

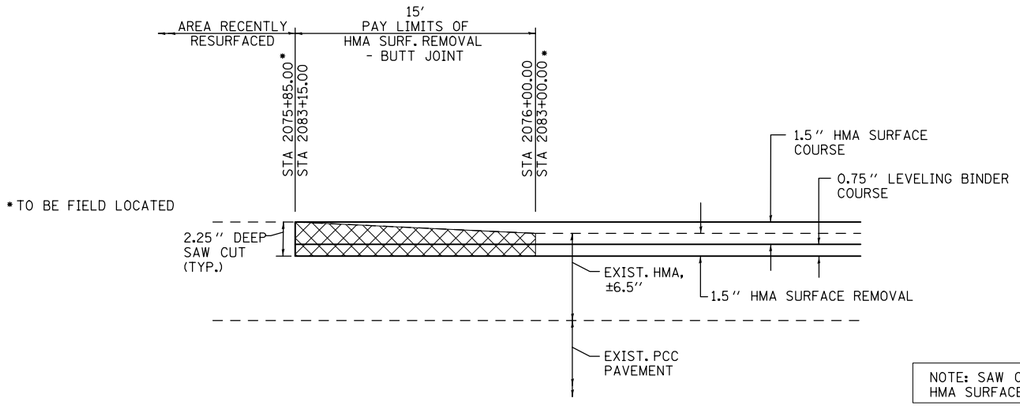
SCALE: | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	34
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



INSTALLATION CHARACTERISTICS PER DESIGN RADIUS (R)			
R	NO. POSTS	X	Y
25'-6"	8	40'	20'

STEEL PLATE BEAM GUARDRAIL, SHORT RADIUS



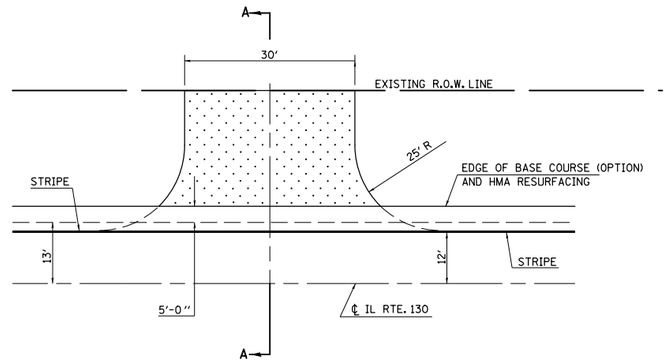
NOTE: SAW CUT IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT.

BUTT JOINT DETAIL

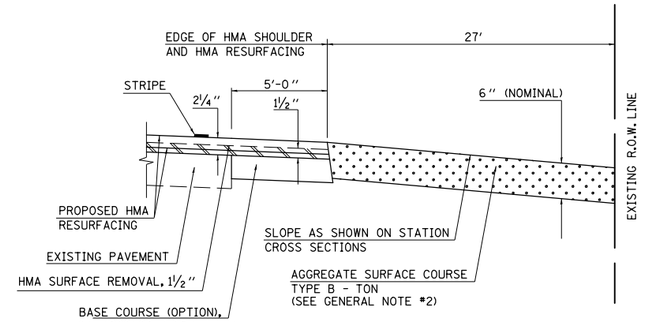
F.A.P. 808 (IL RTE 130)
STA. 2075+85.00 TO STA. 2076+00.00
STA. 2083+00.00 TO STA. 2083+15.00

TYPICAL DETAIL OF RURAL FIELD ENTRANCES

(ADJACENT TO IL RTE. 130)
STA. 2077+34



PLAN



PROFILE
(SECTION A-A)

GENERAL NOTES

1) THE EXISTING SURFACE SHALL BE PREPARED IN ACCORDANCE WITH SECTION 402 OF THE STANDARD SPECIFICATIONS.

2) EARTH EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE AGGREGATE SURFACE COURSE SHALL BE INCLUDED IN THE COST OF AGGREGATE SURFACE COURSE, TYPE B.

3) THE ENTRANCE SHOULDER WIDTH SHALL BE 2 FT. THE ENTRANCE SHOULDER SLOPE SHALL BE 4%. THE ENTRANCE SIDESLOPES SHALL BE 1:4 (FT).

4) EXISTING FIELD ENTRANCES OF AGGREGATE OR EARTH WITH NO HMA APRON SHALL NOT RECEIVE A NEW HMA APRON WITHOUT PROPER APPROVAL THROUGH THE BUREAU OF OPERATIONS "POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS".

5) TO ASSURE APPROPRIATE ACCESS POLICIES ARE FOLLOWED, ALL NEW ACCESS SHALL BE APPLIED FOR THROUGH THE BUREAU OF OPERATIONS PERMIT APPLICATION PROCESS. PLAN PREPARATION MEMORANDUMS 40-09 AND 40-11 ALONG WITH DISTRICT CONSTRUCTION MEMORANDUM 03/14 DISCUSS THIS PROCEDURE.

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR HURST-ROSCHE ENGINEERS, INC.

FILE NAME = c:\pw_work\pwidot\keysrb\d0101443\D570582-sht-DETAILS.dgn	USER NAME = keysrb	DESIGNED - JJC	REVISED -
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	PLOT DATE = 6/2/2011	CHECKED - MAR	REVISED -
		DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT, RADIUS GUARDRAIL & FIELD ENTRANCE DETAILS

SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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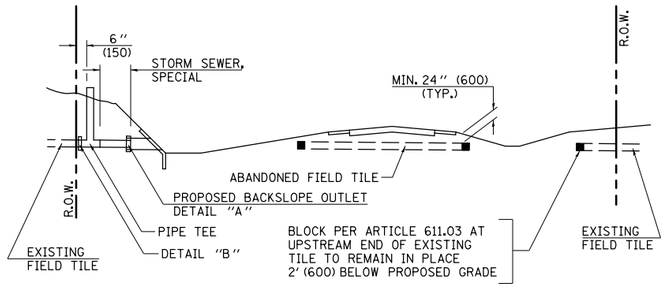
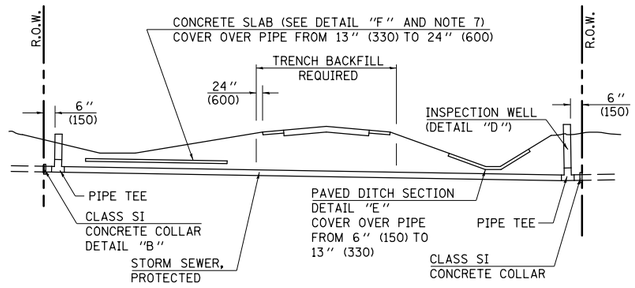
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



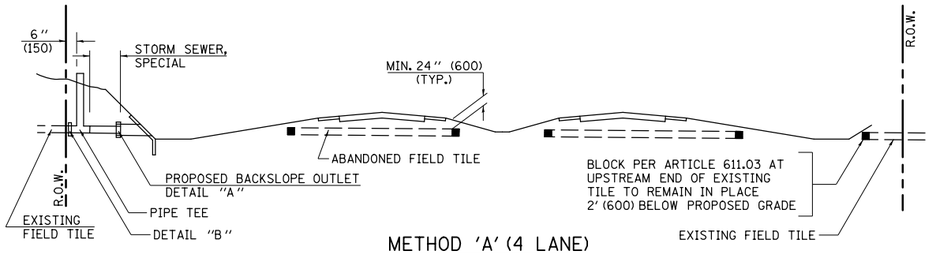
METHOD 'A' (2 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE



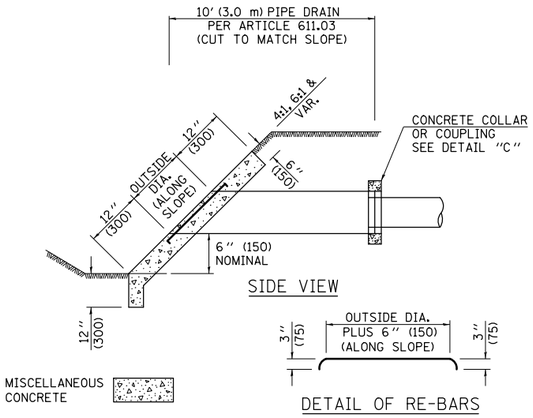
METHOD 'B' (2 LANE)

STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENT AND PAVED DITCH

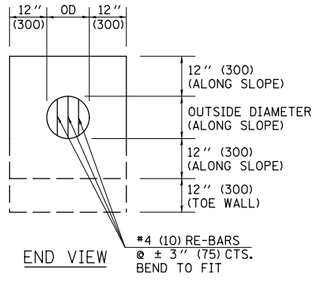


METHOD 'A' (4 LANE)

STORM SEWER FLOW LINE ABOVE PROPOSED DITCH FLOW LINE

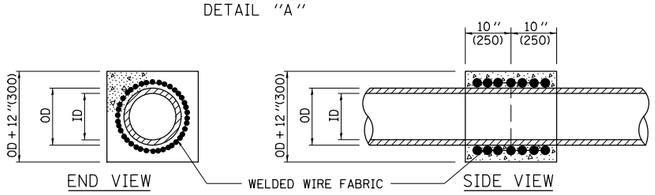


DETAIL OF RE-BARS



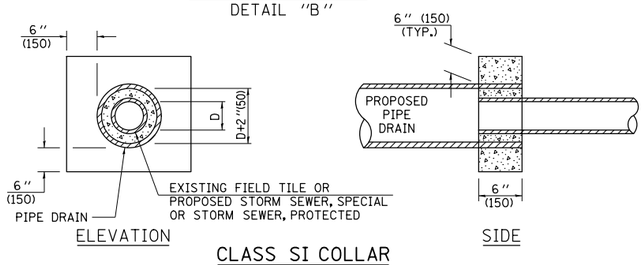
HEADWALL FOR BACKSLOPE OUTLET

DETAIL "A"



CONCRETE COLLAR

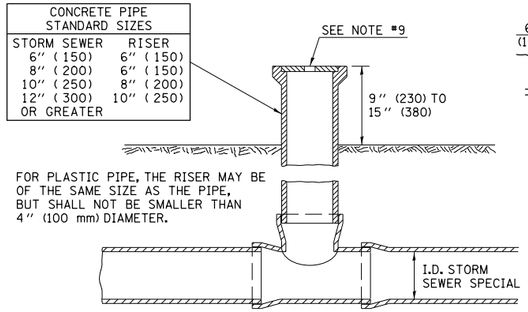
DETAIL "B"



CLASS SI COLLAR

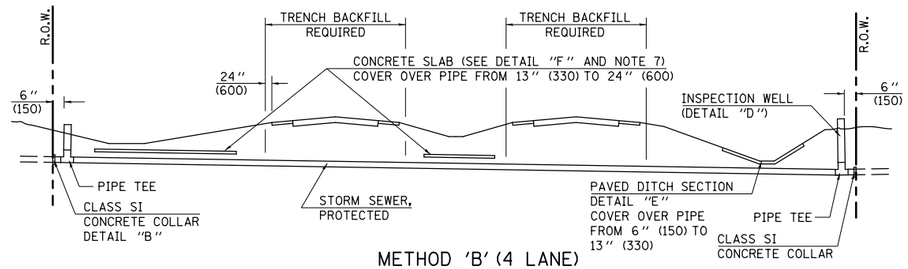
DETAIL "C"

CONCRETE PIPE STANDARD SIZES	
STORM SEWER	RISER
6" (150)	6" (150)
8" (200)	6" (150)
10" (250)	8" (200)
12" (300)	10" (250)
OR GREATER	



INSPECTION WELL

DETAIL "D"

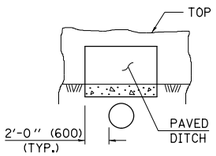


METHOD 'B' (4 LANE)

STORM SEWER LESS THAN 2' (600 mm) BELOW DITCH FLOW LINE AND STORM SEWERS CROSSING UNDER PAVEMENTS AND PAVED DITCHES

GENERAL NOTES

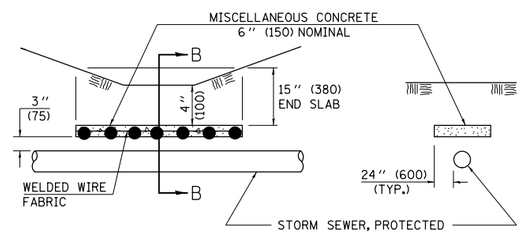
1. EXISTING FIELD TILE ENCOUNTERED BY EXPLORATION TRENCH SHALL BE INSPECTED BY THE ENGINEER FOR UNOBSTRUCTED FLOW WITHIN THE LIMITS OF THE RIGHT-OF-WAY.
2. ONLY FIELD TILE THAT DOES NOT HAVE SATISFACTORY FLOW AND OR HAS VISIBLE SIGNS OF DETERIORATION (SINK HOLES, ETC.) SHALL BE REPLACED WITHIN THE LIMITS OF THE RIGHT-OF-WAY IN ACCORDANCE WITH METHOD "B".
3. INSPECTION WELLS SHALL BE CONSTRUCTED APPROXIMATELY 6" (150 mm) INSIDE OF BOTH RIGHT-OF-WAY LINES AT ALL FIELD TILE LOCATIONS.
4. EXISTING FIELD TILE ABANDONED UNDER EXISTING PAVEMENTS OR PAVED SHOULDERS SHALL BE FILLED WITH FLOWABLE GROUT AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR ACCORDING TO ARTICLE 109.04.
5. NON-CIRCULAR FIELD TILE SHALL BE REPLACED WITH STORM SEWER, SPECIAL OF AT LEAST THE SAME CROSS SECTIONAL AREA. ALL EXISTING FIELD TILE SHALL BE REPLACED WITH STORM SEWER OF THE TYPE REQUIRED FOR THE MINIMUM DEPTH OF COVER.
6. THE 6" (150 mm) CONCRETE SLAB OR DITCH LINING SHALL BE POURED THE LENGTH OF THE TRENCH AT ALL DITCH FLOW LINE LOCATIONS WITHIN THE RIGHT-OF-WAY WITH LESS THAN 2' (600 mm) OF EARTH COVER. MISCELLANEOUS CONCRETE SHALL BE USED ACCORDING TO SECTION 611.
7. ALL MISCELLANEOUS SLABS, APRONS AND DITCH LININGS SHALL BE REINFORCED WITH WELDED WIRE FABRIC AS SHOWN FOR PAVED DITCH IN STANDARD 606401.
8. HEADWALL FOR BACKSLOPE OUTLET MAY BE USED FOR PIPE DRAIN DIAMETERS UP TO 10" (250 mm). SPECIAL DESIGNS WILL BE REQUIRED FOR LARGER SIZES.
9. THE INSPECTION WELL LID FOR P.C.C. PIPE SHALL BE CONSTRUCTED OF 3/8" (10 mm) CAST IRON AND PROVIDED WITH A 1" (25 mm) DIAMETER HOLE IN CENTER. THE LID FOR THE OTHER PIPE MATERIALS SHALL BE A GRATE ASSEMBLY PREFABRICATED FOR AND COMPATIBLE WITH THE PIPE SYSTEM.



SECTION C-C

PAVED DITCH

DETAIL "E"

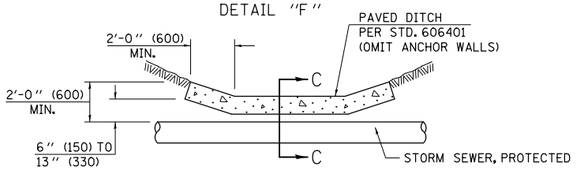


SLAB ELEVATION

SECTION B-B

CONCRETE SLAB

DETAIL "F"



PAVED DITCH ELEVATION

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 61101011A

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIELD TILE SYSTEMS (TREATMENT OF EXISTING)

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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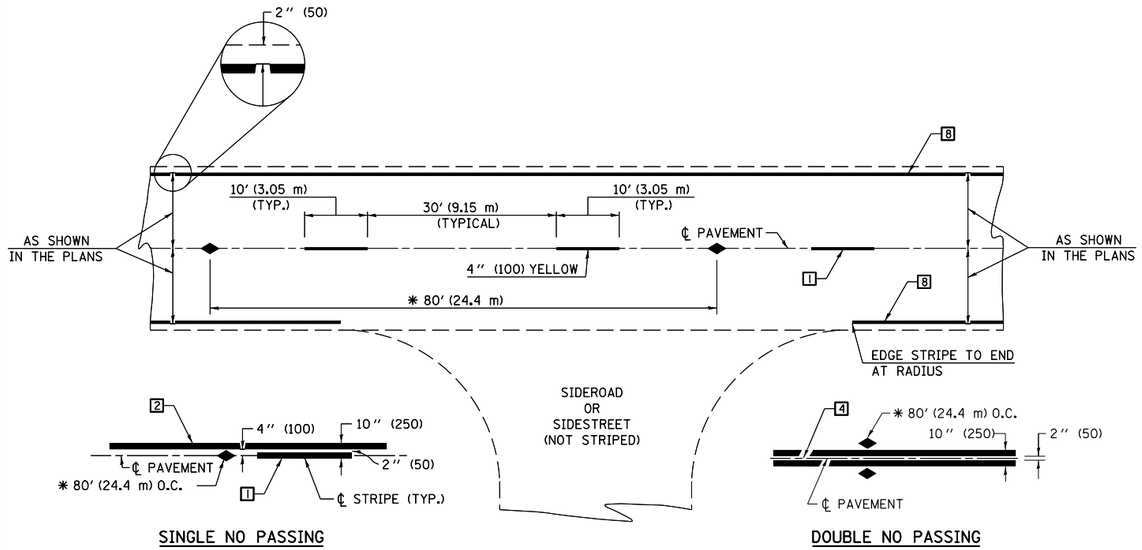
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



SINGLE NO PASSING

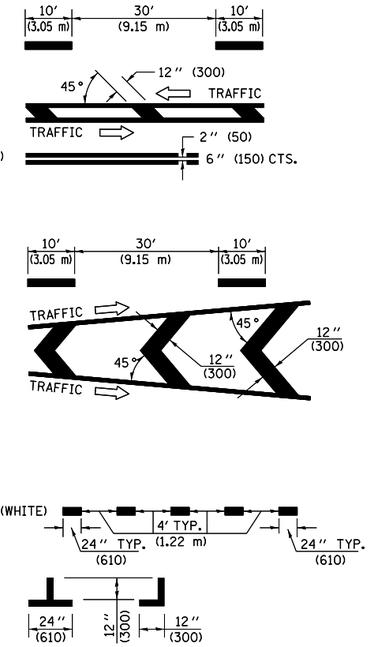
DOUBLE NO PASSING

✱ REDUCE TO 40′ (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

TWO LANE/TWO WAY

TYPICAL PAVEMENT MARKING LEGEND

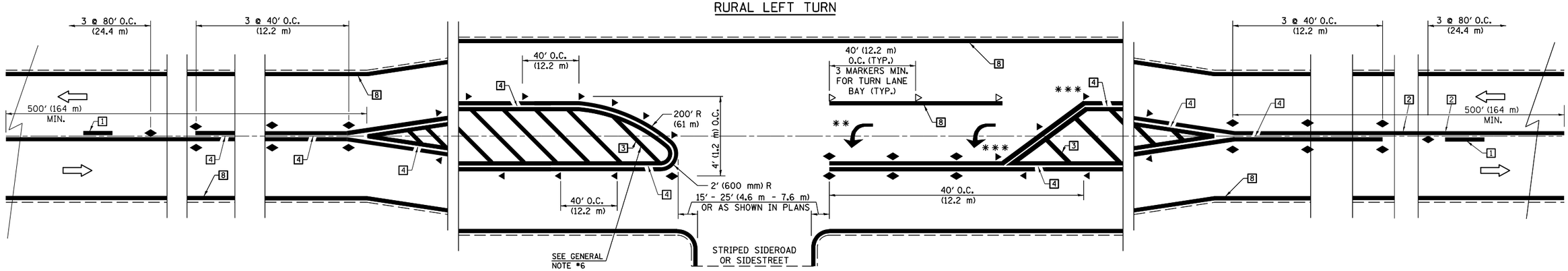
1. 4″ (100) SKIP-DASH (YELLOW)
2. 4″ (100) SOLID (YELLOW)
3. 12″ (300) DIAGONAL (YELLOW)
4. 4″ (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 4″ (100) SKIP-DASH (WHITE)
8. 4″ (100) SOLID (WHITE)
9. 12″ (300) DIAGONAL (WHITE)
10. 6″ (150) SOLID (WHITE)
11. 24″ (600) STOP BAR (WHITE)
12. 8″ (200) SOLID (WHITE)
13. 4″ (100) LANE LINE EXTENSIONS (WHITE)
14. 4″ (100) PARKING WHITE



TYPICAL PAVEMENT MARKERS LEGEND

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

RURAL LEFT TURN



✱✱✱ REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

✱✱ TURN ARROWS SHALL BE PLACED AS SHOWN ON SHEET ✱2.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

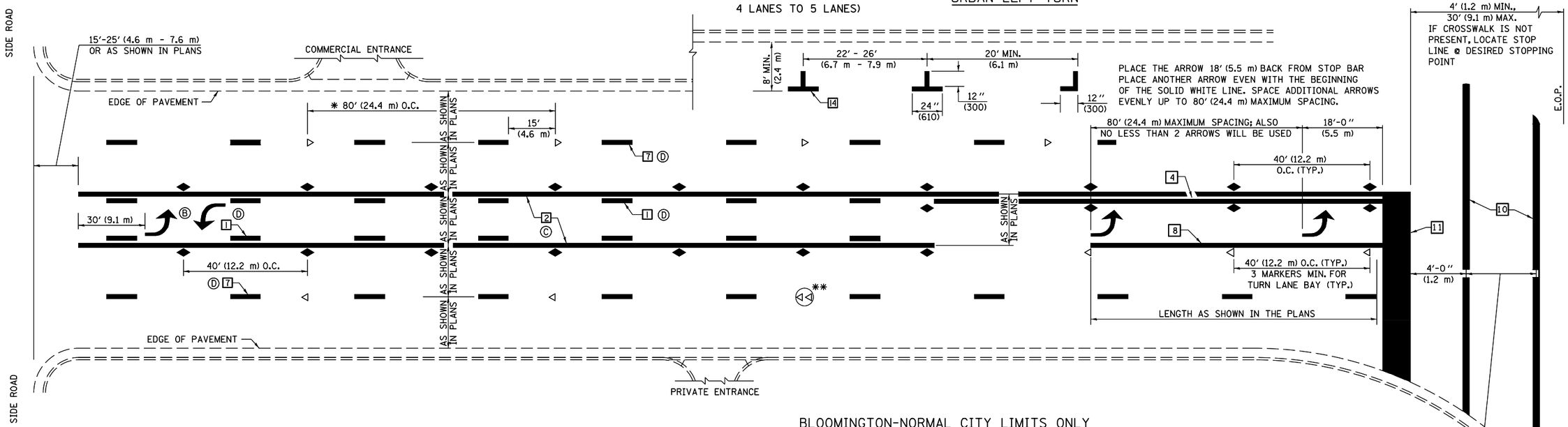
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	37
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

URBAN LEFT TURN



* REDUCE TO 40 FEET (12.2 METERS) ON CENTER ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

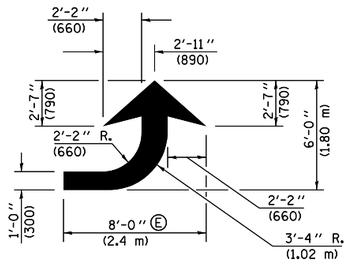
GENERAL NOTES:

Ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE.

Ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.

Ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER. SEE EXAMPLE ON SHEET 2 OF 3.

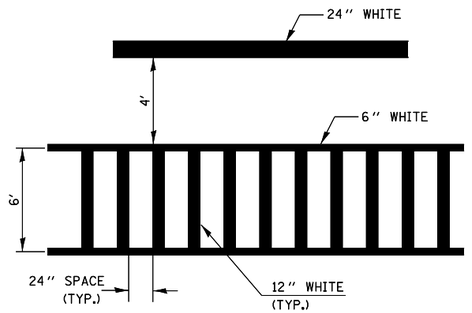
Ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)



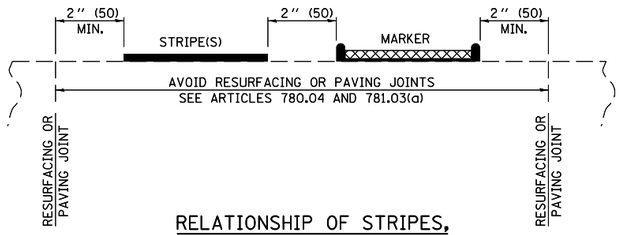
LEFT ARROW

REVERSE FOR RIGHT ARROW
AREA = 15.6 SQ. FT. (1.47 m 2)
(WHITE)

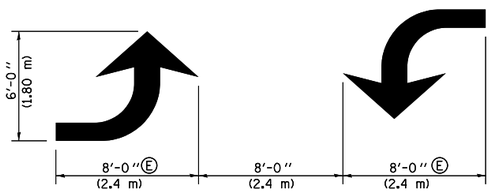
BLOOMINGTON-NORMAL CITY LIMITS ONLY



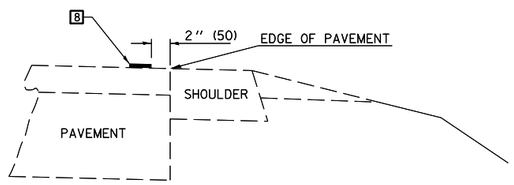
TYPICAL SPACING FOR
CROSSWALKS & STOP BARS



RELATIONSHIP OF STRIPES,
MARKERS AND JOINTS



TYPICAL DOUBLE
TURN ARROWS (WHITE)



RELATIONSHIP OF EDGE LINE TO EDGE OF PAVEMENT

(SAFETY SHOULDER OR PAVED SURFACE)
SEE ARTICLE 780.04

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

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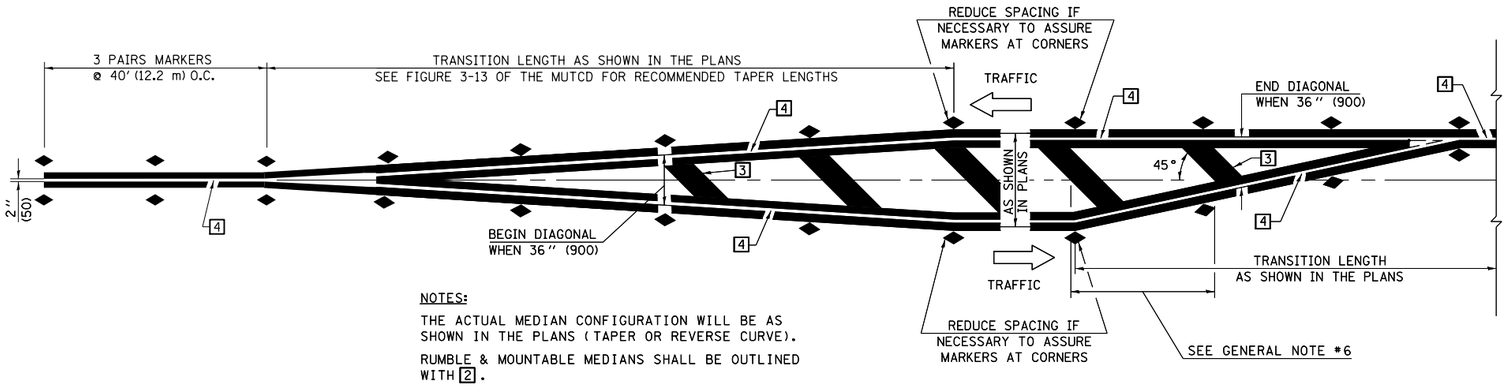
		DRAWN -	REVISED - 09/2009 - KJT			808	94BR-1	CHAMPAIGN	50	38
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -					CONTRACT NO. 70582		
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -		SCALE: SHEET NO. 2 OF 4 SHEETS STA. TO STA.	FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



NOTES:

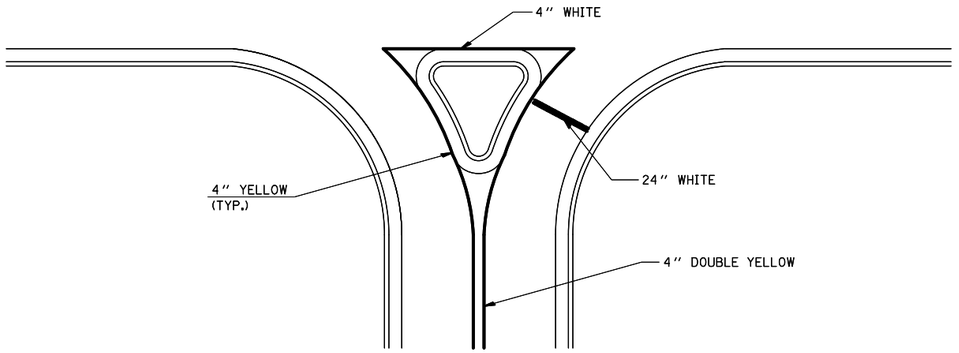
THE ACTUAL MEDIAN CONFIGURATION WILL BE AS SHOWN IN THE PLANS (TAPER OR REVERSE CURVE).

RUMBLE & MOUNTABLE MEDIANS SHALL BE OUTLINED WITH [2].

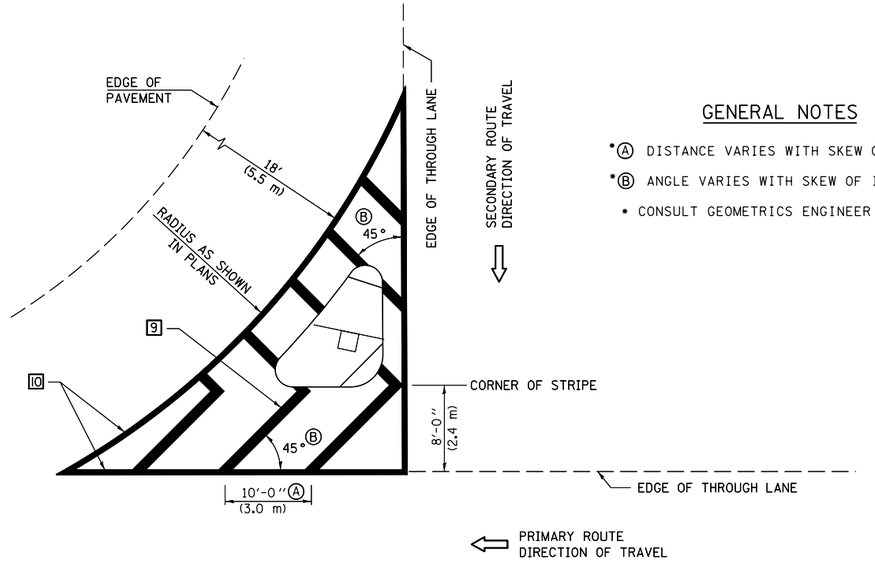
TYPICAL MEDIAN TRANSITIONS

GENERAL NOTES

1. WHEN MEDIANS ARE PRESENT, PAVEMENT MARKINGS ARE TO BE PLACED ADJACENT TO MEDIANS.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. A STRIPING KEY IS AVAILABLE ELSEWHERE AND SHALL BE SHOWN WHERE THE QUANTITIES ARE LISTED.
5. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
6. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING,
   <30 MPH USE 15' (<50 km/h USE 4.5 m)
   30-45 MPH USE 20' (50-75 km/h USE 6.0 m)
   >45 MPH USE 30' (>75 km/h USE 9.0 m)



RIGHT IN - RIGHT OUT ACCESS



GENERAL NOTES

*Ⓐ DISTANCE VARIES WITH SKEW OF INTERSECTION.

*Ⓑ ANGLE VARIES WITH SKEW OF INTERSECTION.

• CONSULT GEOMETRICS ENGINEER

ISLAND

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

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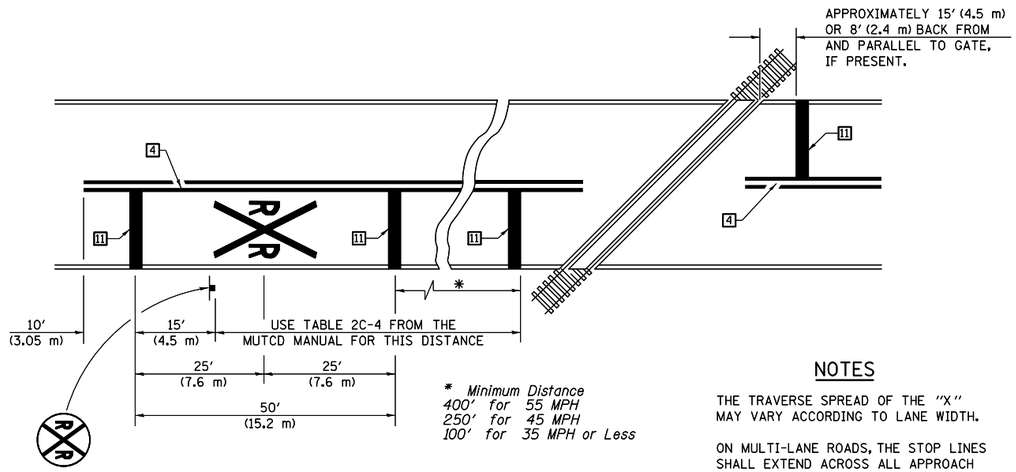
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	39
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		



PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING

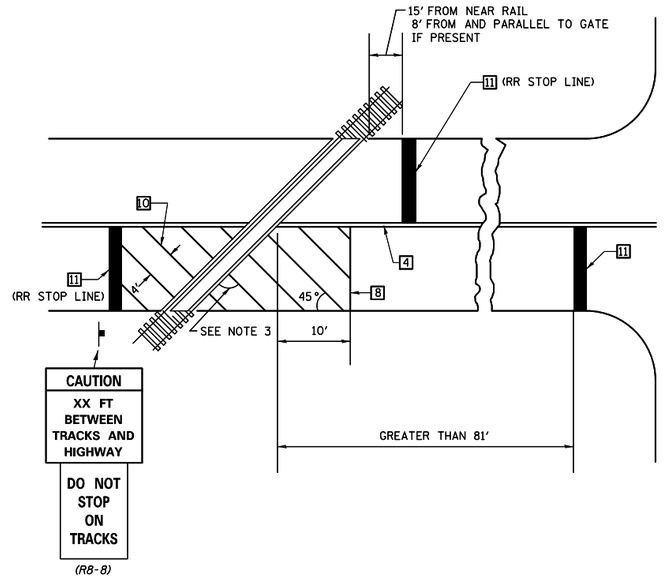
NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

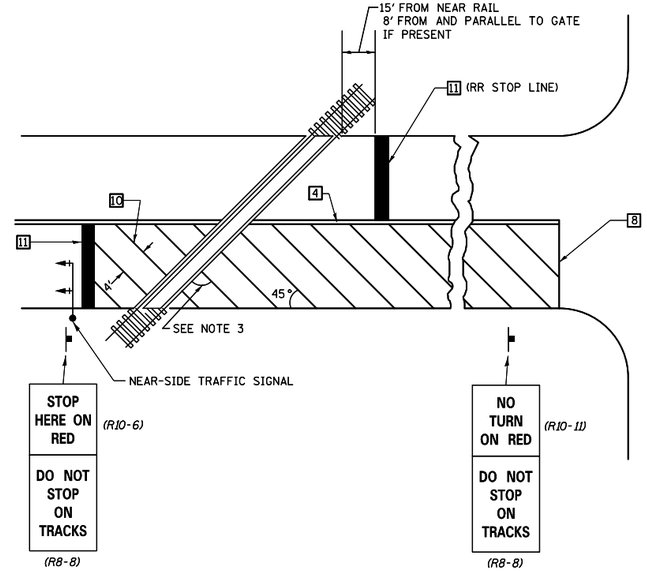
ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

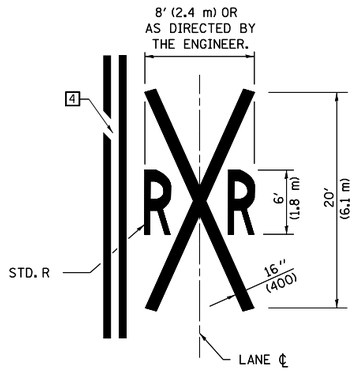
RAILROAD CROSSING WITH INTERCONNECT ONLY



RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING



GENERAL NOTES

1. SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
2. EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
3. WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. 7800AAAA

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		DRAWN -	REVISED - 09/2009 - KJT
	PLOT SCALE = 40.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 4 OF 4 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	40
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

FOR INFORMATION ONLY

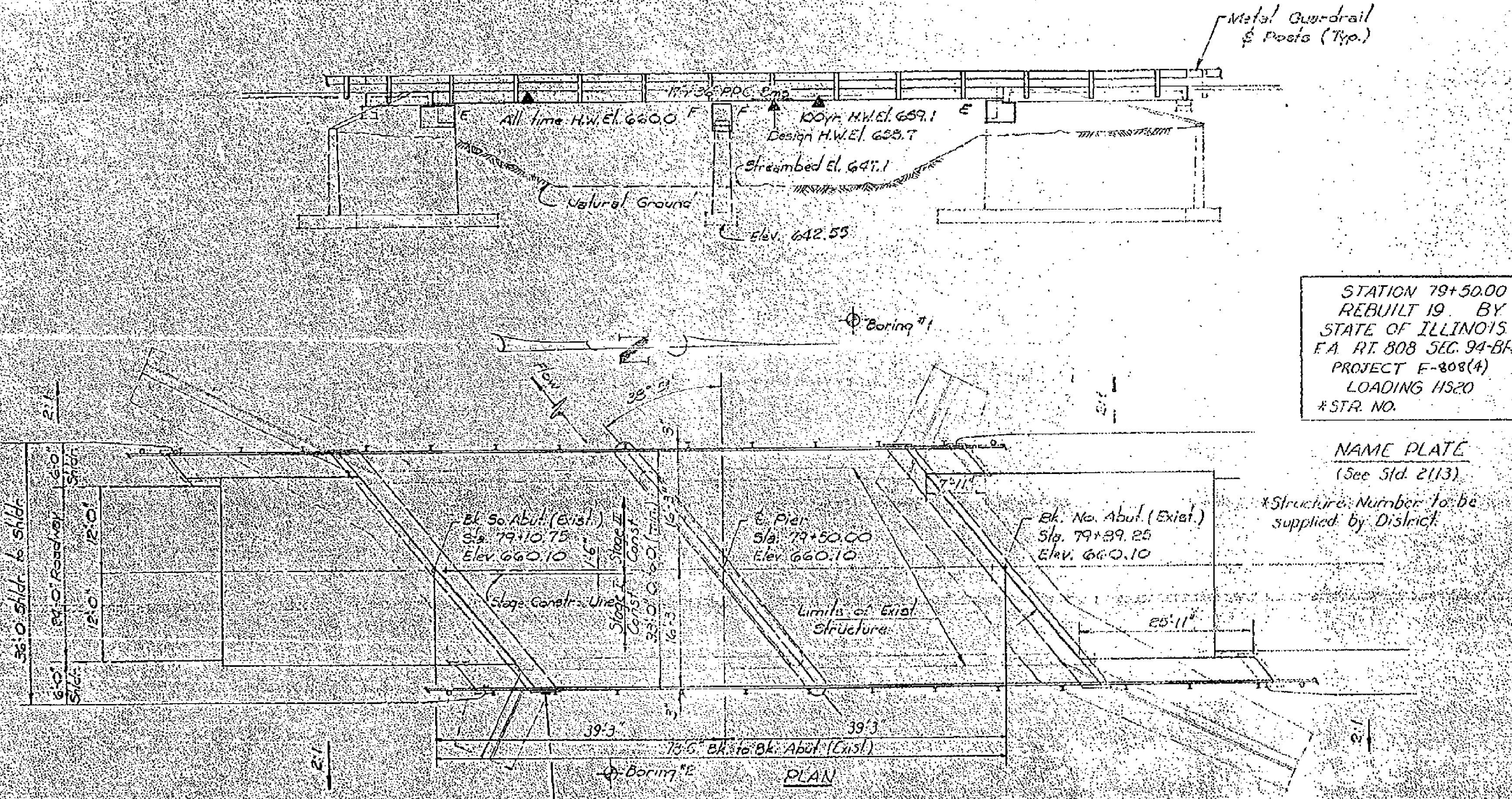
B.M. Chiseled "□" on top of North Abutment West side of bridge at station 79+50 Elev. 660.14

Existing Structure No. 010-0113 Built as S.A. Rte. 15 Section 94-B-15D at Station 79+50 in 1959. The existing R.C. Deck on steel I Beams Superstructure shall be removed and replaced with a new PPC Deck Beams Superstructure. The closed abutments and solid pier substructure shall be rebuilt to accomodate the new widened superstructure. Stage Construction shall be utilized so as to maintain one way traffic. Width of existing structure = 27'-4".

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 808	94BR	Champaign	20	9

SHEET NO. 1
10 SHEETS



GENERAL NOTES

Reinforcement bars in the substructure shall conform to the requirements of AASHTO M 31 or M53, Grade 60.

All structural steel shall be shop painted with two coats of basic lead silico chromate paint.

Expansion guards which are not cast in the precast unit shall be fabricated and erected in accordance with Article 503.07(c) of the Standard Specifications and are included in quantity of structural steel.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

The top surface of the beams shall be finished in accordance with Article 505.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners.

Limits of Waterproofing Membrane System shall be end to end and out to out of deck.

Shoulder transition to wingwall shall be shaped with broken concrete. Cost incidental.

Traffic shall be maintained by utilizing stage construction and temporary bridge rail.

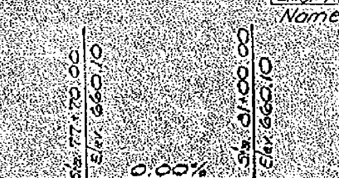
STATION 79+50.00
REBUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 808 SEC. 94-BR
PROJECT F-808(4)
LOADING HS20
*STR. NO.

NAME PLATE
(See Std. 2113)

*Structure Number to be supplied by District.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Removal of Existing Superstructures	Each			1
Concrete Removal	Cu.Yd.		22	22
Bituminous Concrete Surface Course, Class I	Tons	35		35
Precast Concrete Bridge Slab	Sq.Ft.	253		253
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq.Ft.	2467		2467
Portland Cement Mortar Fairing Course	Lin.Ft.	747		747
Class X Concrete	Cu.Yd.	7.7	38.4	46.1
Reinforcement Bars	Pound	280	5110	5390
Waterproofing Membrane System	Sq.Yd.	282		282
Structural Steel	Pound	6020		6020
Steel Railing, Type "S"	Lin.Ft.	223		223
Preformed Joint Sealer (2½")	Lin.Ft.	86		86
Temporary Bridge Rail	Lin.Ft.	79		79
Name Plates	Each		1	1



PROFILE GRADE FA. Rte. 808

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

f'c = 5,000 psi
f'ci = 4,000 psi
f's = 270,000 psi (½" ϕ Strands)
fsi = 189,000 psi (½" ϕ Strands)

FIELD UNITS

f'c = 3,500 psi
fs = 60,000 psi

PRECAST UNITS

f'c = 4,500 psi fc = 1,800 psi
fs = 20,000 psi

LOADING HS 20-44 (Superstructure)

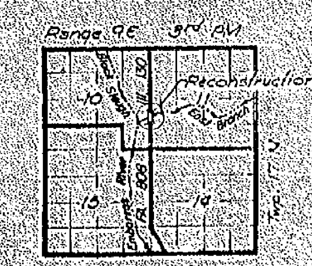
Design Specifications 1977 AASHTO, 1978 Interim Specifications.

Allow 25#/sq.ft. for future wearing surface.

WATERWAY INFORMATION

Drainage Area	= 40 sq. miles
Design Discharge (50 yr.)	= 2892 c.f.s.
Existing Opening (Below 50 yr. H.W.E.)	= 472 sq. ft.
Required Opening	= 472 sq. ft.
Proposed Opening	= 472 sq. ft.
Created Head for Design Flood	= 0.29'
100 yr. Discharge	= 3232 c.f.s.
Design H.W.Elev. = 658.7 100 yr. H.W.Elev. = 659.1	
All time H.W.Elev. = 660.0	
Created Head For 100 yr. Flood	= 0.30'

DESIGNED M.J. RYANN
CHECKED
DRAWN R. Doty
CHECKED
EXAMINED February 9 19
PASSED
APPROVED



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A. Rte. 808 OVER EAST BRANCH EMBARRAS RIVER
F.A. Rte. 808 SECTION 94-BR
CHAMPAIGN COUNTY
Sta. 79+50.00

STATE OF ILLINOIS 2207 STRUCTURAL ENGINEER

Revised 4-2-79

HR HURST-ROSCHE ENGINEERS, INC.
HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212

FILE NAME =	USER NAME = keysrb	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLAN	F.A.P. RTE. 808	SECTION 94BR-1	COUNTY CHAMPAIGN	TOTAL SHEETS 50	SHEET NO. 41
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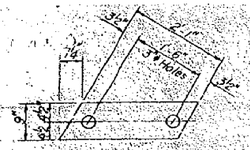
	PLOT DATE = 6/2/2011	CHECKED -	REVISED -		SCALE: NONE SHEET NO. 1 OF 4 SHEETS STA. TO STA.	CONTRACT NO. 70582				
		DATE - 5-13-11	REVISED -			FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

FOR INFORMATION ONLY

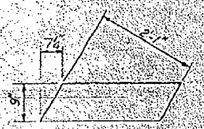
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 808	94BR	Champaign	20	11

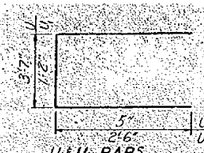
SHEET NO. 3
10 SHEETS



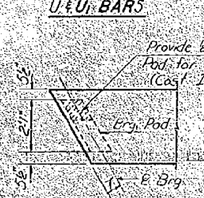
FABRIC BEARING PAD



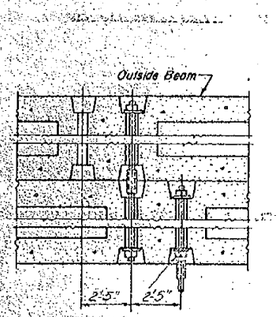
GRAPHITED ASBESTOS BEARING PAD



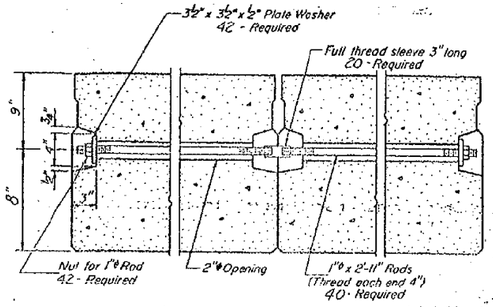
U & U1 BARS



BRG PAD DETAIL

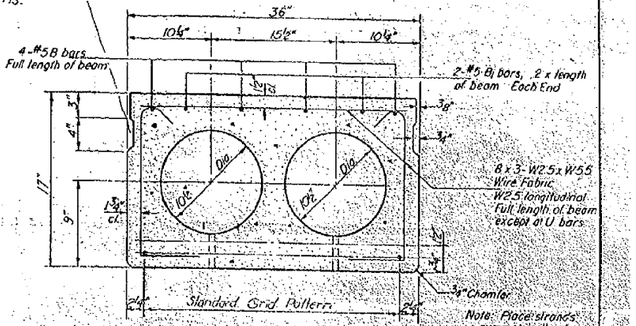


Nut & washer of Stage I Constr. Line only.



TYPICAL TRANSVERSE TIE ASSEMBLY

Omit key on exterior face of outside beams.

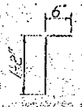


TYPICAL SECTION

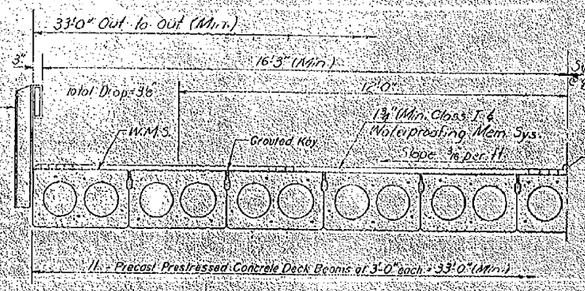
9 - 1/2" ℄ Strands, Each Strand Stressed to 28,900 Lbs.
7 - Strands 3/4" up, 2 - Strands 3/4" up.

Note: Place strands symmetrically about ℄ of beam. Place 1/2" ℄ dowel rods.

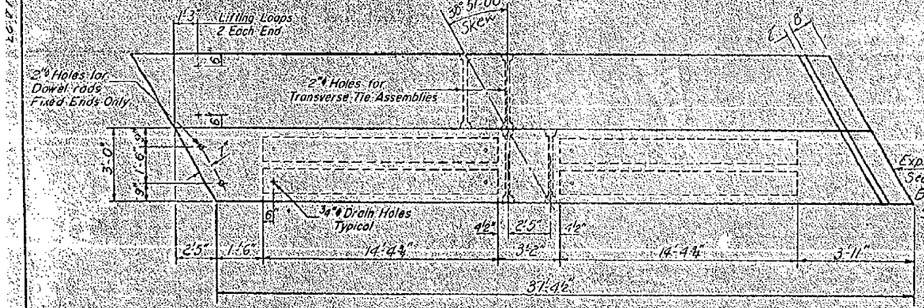
ELEVATION
(East Rail Looking West)
(West Rail Looking East)



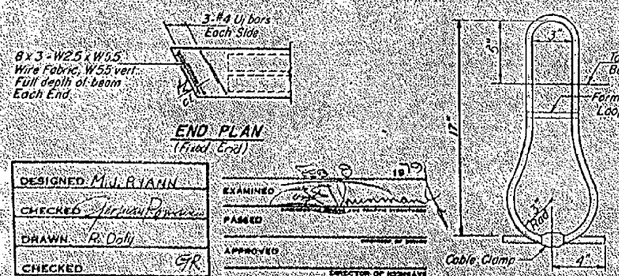
BAR D
For location see sheet #4



HALF CROSS SECTION



PLAN



LIFTING LOOP DETAIL

DESIGNED M.J. RYANN
CHECKED Herman Powers
DRAWN R. Doll
CHECKED GR
EXAMINED
PASSED
APPROVED
DIRECTOR OF HIGHWAYS
ENGINEER OF BRIDGES

PD-3-R 9-1-78

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

Lifting loops shall be 1/2" ℄ diameter, 6 x 25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 12,000 lbs.

The 1" ℄ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Longitudinal shear keys shall be packed with a very dry mix of 2:1 sand and P.C. mortar.

After beams have been erected, holes for the dowel anchors shall be drilled into the substructure and the anchor dowels shall be grouted in place.

Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60.

Cost of reinforcement and accessories cast into the beam, of bearing pads, of dowel rods, and of grouting longitudinal shear keys is included in unit price bid for "Precast Prestressed Concrete Deck Beams."

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b	6	#3	20'-10"	
b1	6	#3	23'-3"	
Precast Prestressed Concrete Deck Beams (17" Depth)		Sq. Ft.		2467
Class "X" Concrete		Cu. Yd.		61
Reinforcement Bars		Pound		280

SUPERSTRUCTURE
F.A. RT. 808 SEC. 94-BR
CHAMPAIGN COUNTY
STA. 79+50.00

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212

HR HURST - ROSCHE ENGINEERS, INC.

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

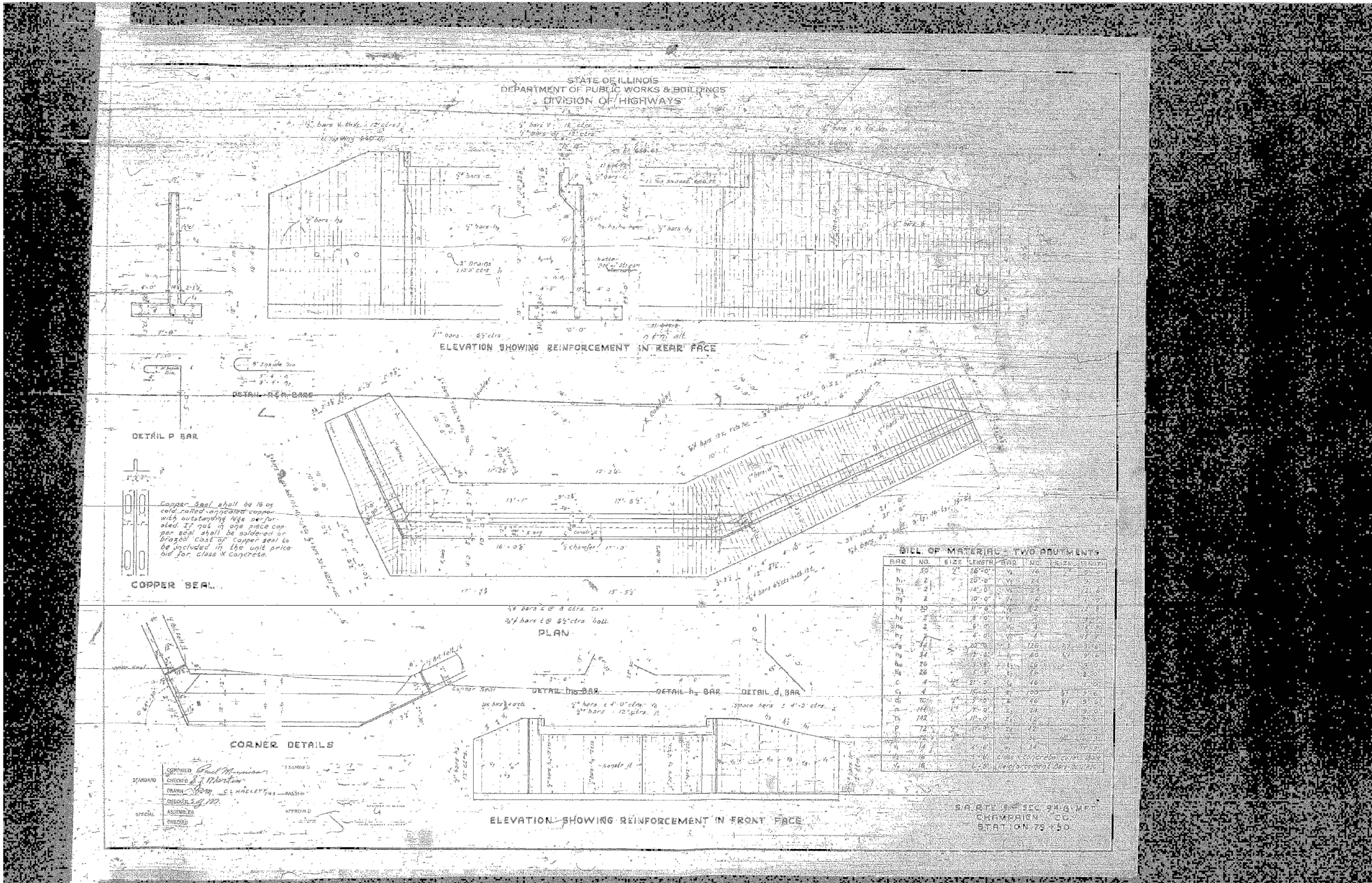
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLAN

SCALE: NONE | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	42
		CONTRACT NO. 70582		
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

FOR INFORMATION ONLY



STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
ELEVATION SHOWING REINFORCEMENT IN REAR FACE
DETAIL REAR BARS
DETAIL P BAR
Copper Seal shall be 16 oz cold rolled annealed copper with outstanding legs perforated. If not in one piece copper seal shall be soldered or brazed. Cost of copper seal to be included in the unit price bid for class X concrete.
COPPER SEAL
PLAN
BILL OF MATERIAL - TWO ABUTMENTS
CORNER DETAILS
DETAIL h_8 BAR
DETAIL h_9 BAR
DETAIL d_1 BAR
ELEVATION SHOWING REINFORCEMENT IN FRONT FACE
CHAMPAIGN CO.
STATION 79+50

HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212
HR HURST-ROSCHE ENGINEERS, INC.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE DETAILS

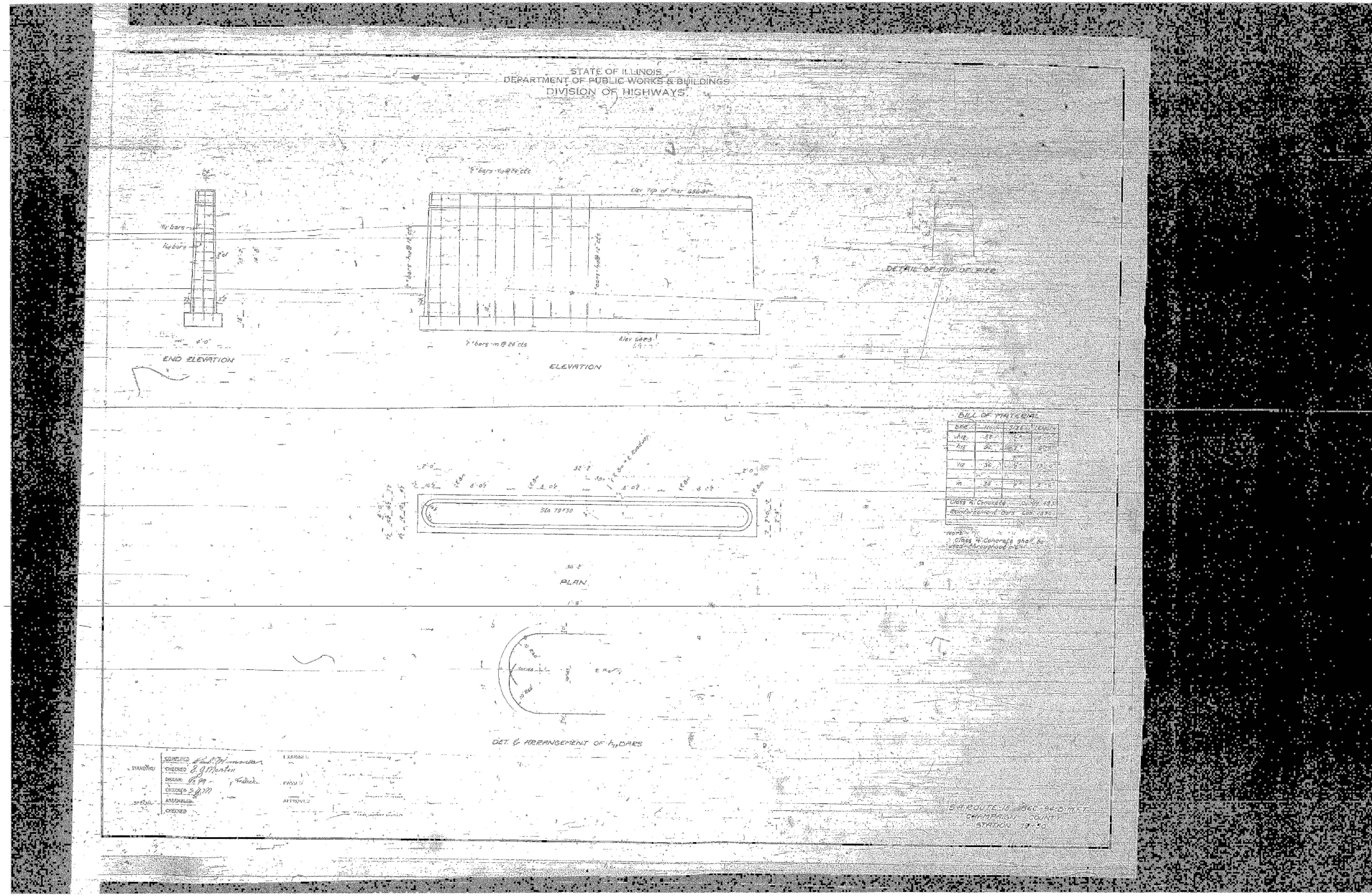
SCALE: NONE | SHEET NO. 3 OF 4 SHEETS | STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	43

CONTRACT NO. 70582

FED. ROAD DIST. NO. 5 | ILLINOIS | FED. AID PROJECT

FOR INFORMATION ONLY



HURST-ROSCHE ENGINEERS, INC.
HILLSBORO, ILLINOIS 62049
(217)532-3959 FAX (217)532-3212

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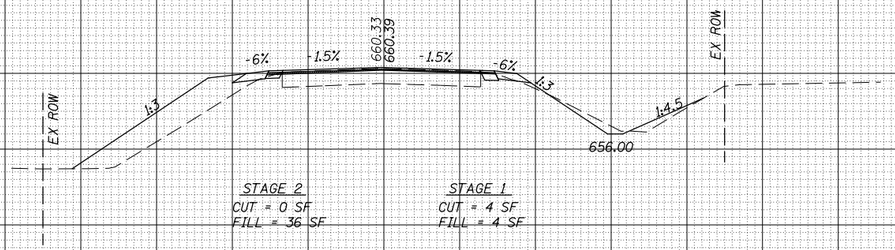
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	44

CONTRACT NO. 70582

FED. ROAD DIST. NO. 5 | ILLINOIS | FED. AID PROJECT

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

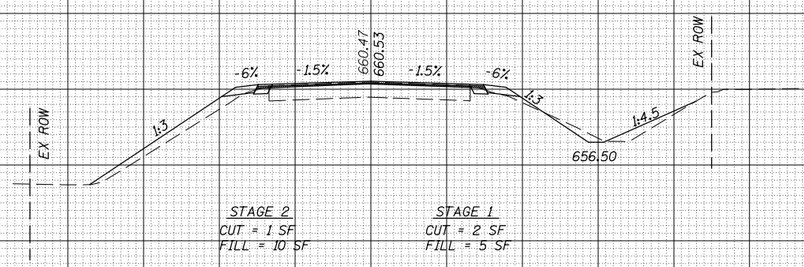
660
655
650



STAGE 2
CUT = 0 SF
FILL = 36 SF

STAGE 1
CUT = 4 SF
FILL = 4 SF

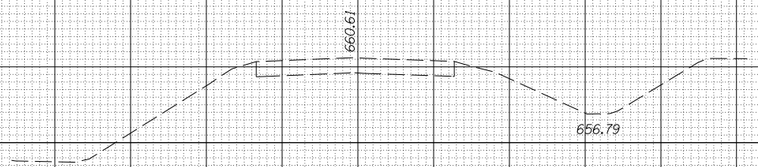
2076 + 50.00



STAGE 2
CUT = 1 SF
FILL = 10 SF

STAGE 1
CUT = 2 SF
FILL = 5 SF

2076 + 00.00



BEGIN EARTHWORK
STA 2075+85.00

2075 + 50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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

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

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

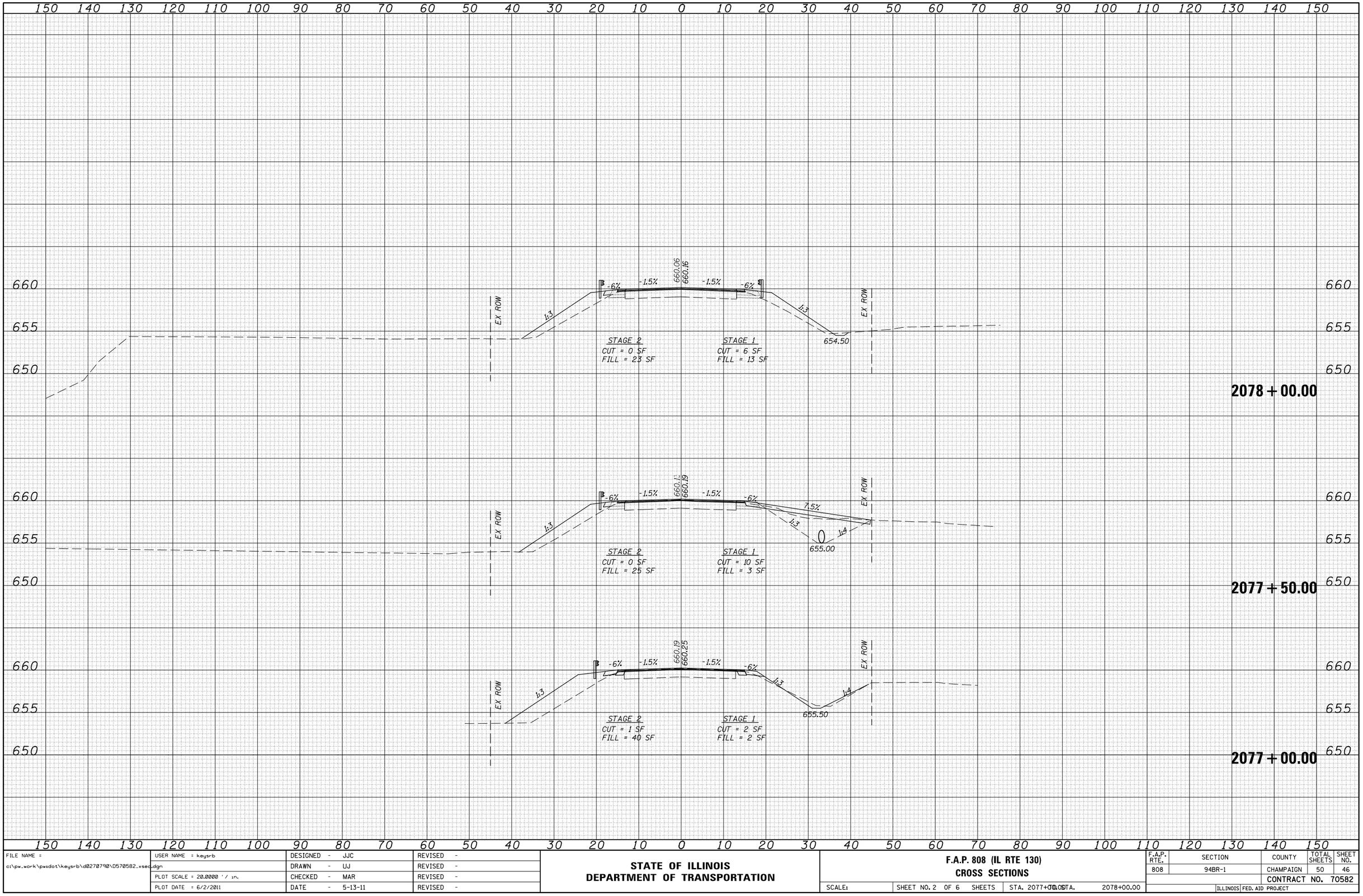
F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 1 OF 6 SHEETS | STA. 2075+50.00 | STA. 2076+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	45
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		

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

BY	DATE



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

BY	DATE

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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 2 OF 6 SHEETS | STA. 2077+00.00 TO STA. 2078+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	46
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

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

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

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

660 655 650 645

-1.5% 659.97 660.16 -1.5%

EX ROW

EX ROW

BRIDGE OMISSION
STA 2079+50 TO 2080+43

2079 + 50.00

660 655 650 645

-1.5% 659.97 660.16 -1.5% -6% 1:3

EX ROW

EX ROW

STAGE 2
CUT = 0 SF
FILL = 0 SF

STAGE 1
CUT = 1 SF
FILL = 67 SF

653.50

2079 + 00.00

660 655 650

-6% -1.5% 660.01 660.16 -1.5% -6% 1:3 1:3

EX ROW

EX ROW

STAGE 2
CUT = 0 SF
FILL = 29 SF

STAGE 1
CUT = 4 SF
FILL = 25 SF

654.00

2078 + 50.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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		DRAWN - UJ	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - MAR	REVISED -
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

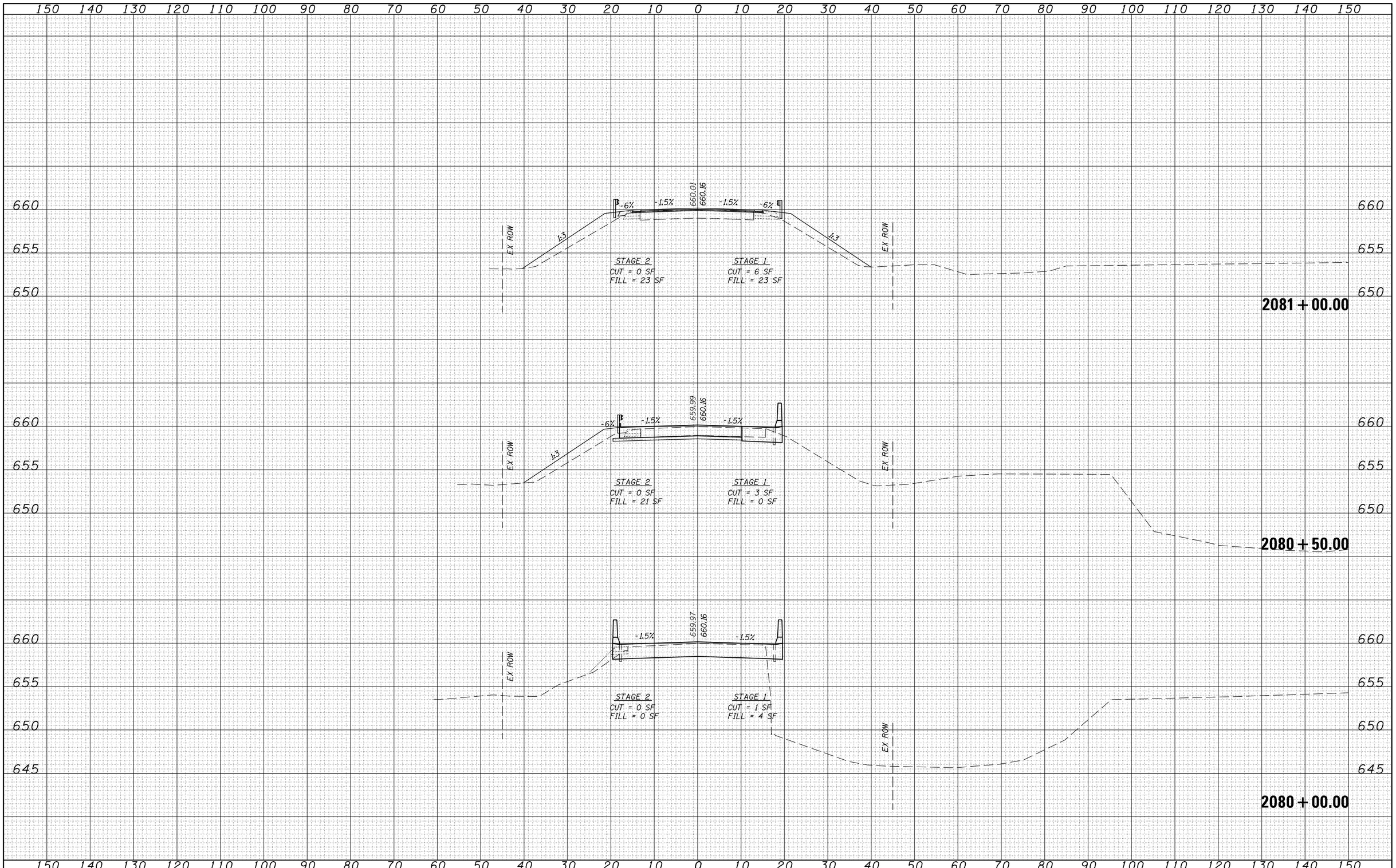
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 3 OF 6 SHEETS | STA. 2078+50.00 STA. 2079+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	47
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

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



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

FILE NAME = c:\pw_work\pwidot\keysrb\d0270790\D570582_xsec.dgn	USER NAME = keysrb	DESIGNED - JJC	REVISED -
		DRAWN - UJ	REVISED -
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	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

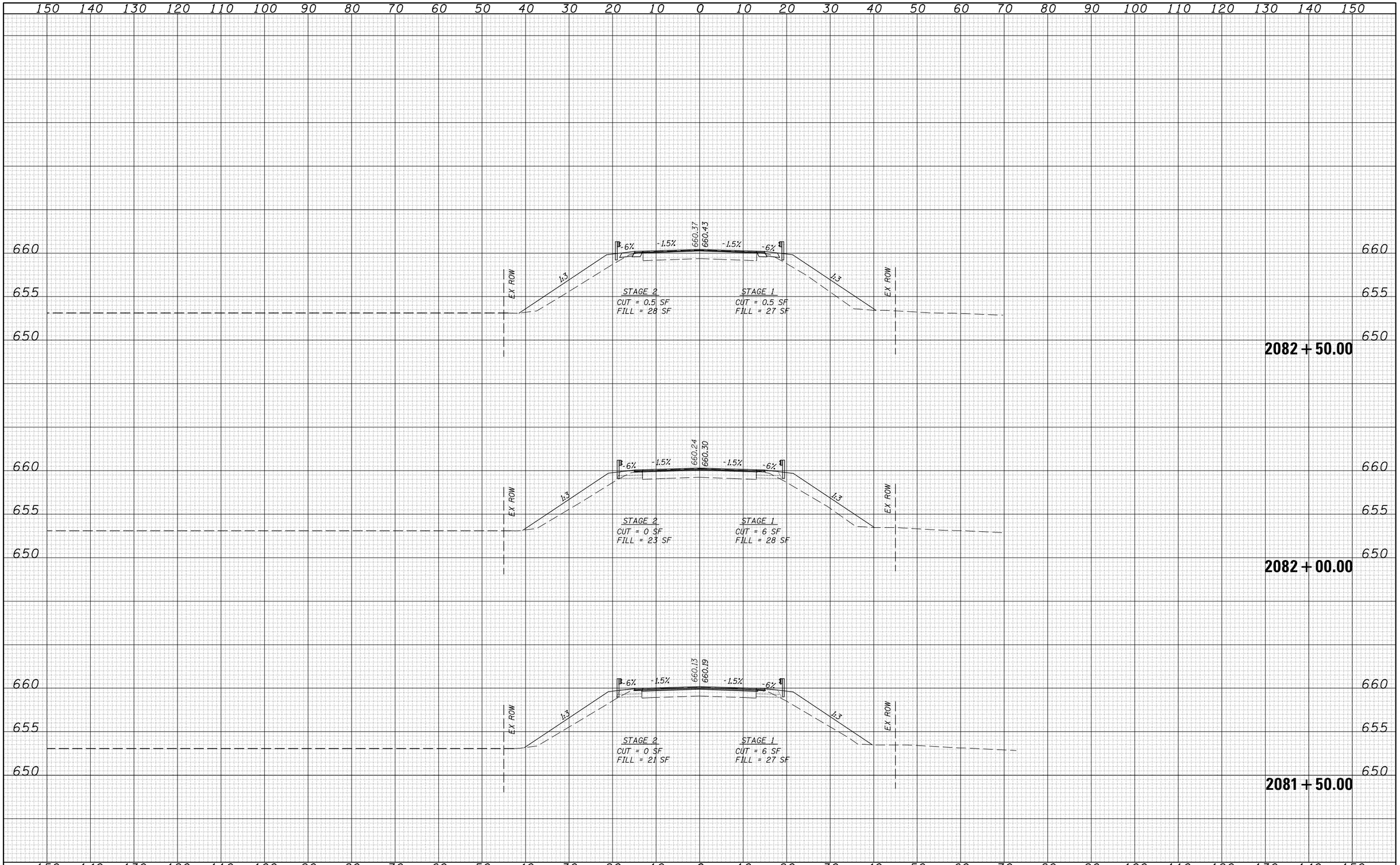
F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 4 OF 6 SHEETS | STA. 2080+00.00 | STA. 2081+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	48
		CONTRACT NO. 70582		
	ILLINOIS FED. AID PROJECT			

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

BY	DATE



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

BY	DATE

FILE NAME = c:\pw_work\pwidot\keysrb\d0270790\D570582_xsec.dgn	USER NAME = keysrb	DESIGNED - JJC	REVISED -
		DRAWN - UJ	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - MAR	REVISED -
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 5 OF 6 SHEETS | STA. 2081+50.00 STA. 2082+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	49
		CONTRACT NO. 70582		
		ILLINOIS FED. AID PROJECT		

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

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

660
655

END EARTHWORK
STA 2083+85.00 LT

660.63
-6%
1:3
EX ROW
STAGE 2
CUT = 0 SF
FILL = 47 SF
STAGE 1
CUT = 0 SF
FILL = 0 SF
EX ROW

2083+50.00

END EARTHWORK
STA 2083+30.00 RT

660
655
650

660.50
660.56
-6%
1.5%
-1.5%
-6%
1:3
1:2.5
EX ROW
STAGE 2
CUT = 0 SF
FILL = 29 SF
STAGE 1
CUT = 1 SF
FILL = 56 SF
EX ROW

2083+00.00

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

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FILE NAME = c:\pw_work\pwidot\keysrb\d0270790\D570582_xsec.dgn	USER NAME = keysrb	DESIGNED - JJC	REVISED -
		DRAWN - UJ	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - MAR	REVISED -
	PLOT DATE = 6/2/2011	DATE - 5-13-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. 808 (IL RTE 130)
CROSS SECTIONS

SCALE: | SHEET NO. 6 OF 6 SHEETS | STA. 2083+00.00 STA. 2083+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
808	94BR-1	CHAMPAIGN	50	50
		CONTRACT NO. 70582		
	ILLINOIS	FED. AID PROJECT		