

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
865	16B-2	PERRY	47	1
		ILLINOIS	CONTRACT NO. 78064	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

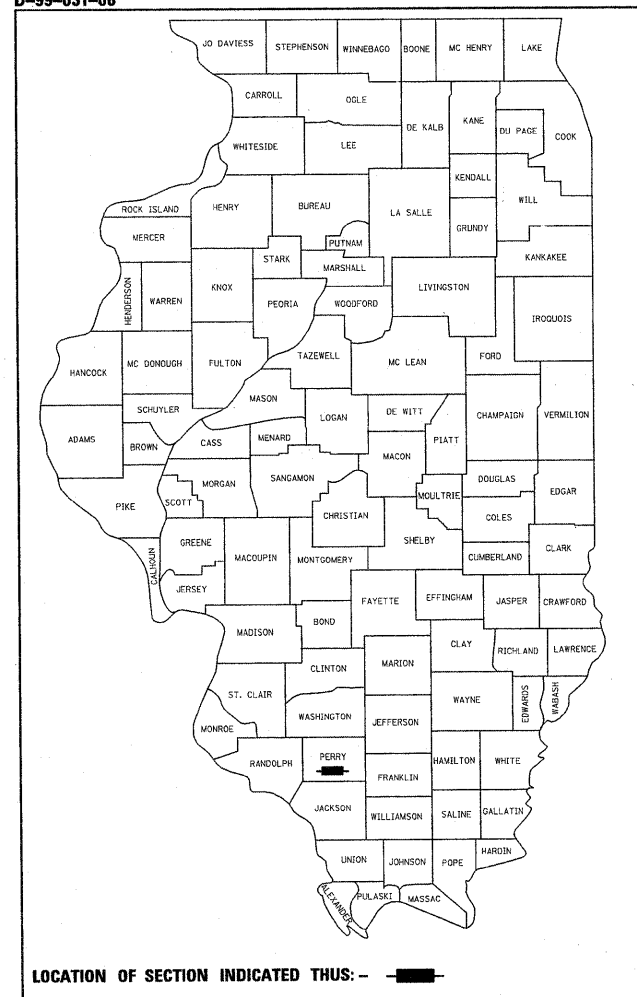
**PROPOSED
HIGHWAY PLANS**

FAP ROUTE 865 (IL 152)
SECTION 16B-2
STRUCTURE REPLACEMENT
OVER PANTHER CREEK
PERRY COUNTY

C-99-050-08

PROJECT: ACBRF-0865(006)

D-99-031-08

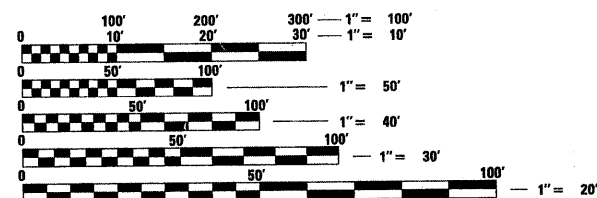


FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEETS NO. 3 AND 4

TRAFFIC DATA

2008 ADT = 2480
10.6% TRUCKS
POSTED SPEED 55 MPH

ROAD DISTRICT #06-2

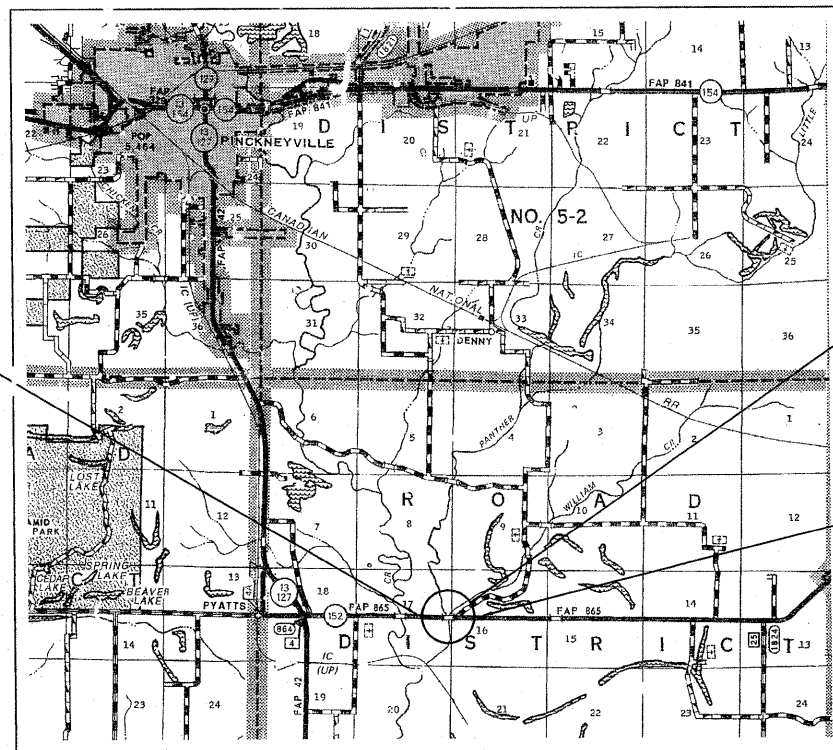


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER T. WAYNE HALSTEAD
PROJECT MANAGER DAVID SPENCER PICHE

CONTRACT NO. 78064



PROPOSED PROJECT ENDS
STA 879+13.00

PROPOSED BRIDGE OVER PANTHER CREEK
STRUCTURE NO. 073-0037
3 SPAN STEEL W27 BRIDGE;
158'-0" BK TO BK ABUTMENTS; 25° SKEW
@ STRUCTURE STA 875+28.00
EXISTING SN 073-0024

PROPOSED PROJECT BEGINS
STA 873+49.00

ROADWAY LENGTH = 406 FT
BRIDGE LENGTH = 158 FT
GROSS LENGTH = 564 FT
NET LENGTH = 564 FT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED June 23 2009

Mary C. Lamie
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 2, 20 09
Charles G. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

October 2, 20 09
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES

THE THICKNESS OF THE HOT MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT MIX ASPHALT MIXTURE IS PLACED.

FACTORS USED FOR QUANTITY CALCULATIONS ARE AS FOLLOWS:

ALL HOT MIX ASPHALT:	2.016 TONS/CU. YD.
HOT MIX ASPHALT MATERIALS ON PAVEMENT:	0.09 GAL./SQ. YD.
AGGREGATE (PRIME COAT)	0.0015 TONS/SQ. YD.
ALL AGGREGATE:	2.05 TONS/CU. YD.
RIPRAP	1.50 TONS/CU YD

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR, HOWEVER, WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK. CONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT 9 OFFICE.

IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECK AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.17 REGARDLESS IF TRACK MOUNTED OR WHEELED.

AT ALL LOCATIONS WHERE HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT SHALL BE INCLUDED IN THE TYPE OF PAVEMENT BEING CONSTRUCTED.

QUANTITIES SHOWN IN THE PLANS FOR BRIDGE DECK GROOVING AND PROTECTIVE COAT INCLUDE THE BRIDGE, THE BRIDGE APPROACH PAVEMENTS, AND THE BRIDGE APPROACH PAVEMENT CONNECTORS (PCC).

PROTECTIVE COAT SHALL BE APPLIED TO THE BRIDGE, THE BRIDGE APPROACH PAVEMENTS, AND THE BRIDGE APPROACH PAVEMENT CONNECTORS (PCC) IN ACCORDANCE WITH ARTICLE 503.19 OF THE STANDARD SPECIFICATIONS. THE PROTECTIVE COAT SHALL BE APPLIED REGARDLESS OF THE CURING METHOD USED. THE RATE OF APPLICATION FOR EACH COAT ON SAW CUT GROOVED AREAS SHALL BE 25 SQUARE YARDS PER GALLON OF MIXTURE.

REMOVAL OF EXISTING 13" THICK BRIDGE APPROACH PAVEMENTS ARE INCLUDED IN THE QUANTITY FOR PAVEMENT REMOVAL - 116 SQ YD.

TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CONSTRUCTION LIMITS, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.

IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY DEBRIS OR DIRT CAUSED BY CONSTRUCTION ACTIVITY THAT COVERS THE NEW RIPRAP AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE LEFT IN PLACE UNTIL REMOVAL IS REQUIRED TO CONSTRUCT FINAL GRADE LINES.

THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE BINDER COURSE AND THE SURFACE COURSE.

THE QUANTITY OF TEMPORARY PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION FOR THE SURFACE COURSE.

PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

COST OF REMOVING HOT MIX ASPHALT BASE COURSE WIDENING, 10" USED FOR STAGE I TRAFFIC IS INCLUDED IN "PAVED SHOULDER REMOVAL-SQ YD."

THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.

THE BARRIER WALL AND GUARDRAIL REFLECTORS AS SHOWN ON STANDARD 701321 SHALL BE INSTALLED PRIOR TO OPENING TO TRAFFIC.

ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SET TO FLASH ALL RED.

TRIM EDGES OF EXISTING HOT MIX ASPHALT SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.

THE HOT MIX ASPHALT BASE COURSE WIDENING, 10" CONSTRUCTED IN PRE-STAGE 1 MAY BE INCORPORATED INTO THE FINAL HOT MIX ASPHALT SHOULDERS, 8" DURING STAGE II CONSTRUCTION IF APPROVED BY THE ENGINEER. SUCH CHANGE WILL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION, BUT THE CONTRACTOR WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

COMMITMENTS: NONE AS OF JUNE 26, 2009, REFER TO COMMITMENT FILE FOR ANY COMMITMENTS AFTER THIS DATE.

HIGHWAY STANDARDS

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420401-07	BRIDGE APPROACH PAVEMENT
421001-02	REINFORCEMENT FOR CONTINUOUSLY REINFORCED PCC PAVEMENT
482006-03	HOT-MIX ASPHALT SHOULDER ADJACENT TO RIGID PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
630001-08	STEEL PLATE BEAM GUARDRAIL
630201-06	PCC/BITUMINOUS STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
630301-05	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-07	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER & MOUNTING DETAILS
701006-03	OFF-ROAD OPERATIONS, 2L 2W, 4.5 m (15') TO 600 mm (24") AWAY, FOR SPEEDS ≥ 45 MPH
701201-03	LANE CLOSURE, 2L 2W, DAY ONLY, ON-ROAD TO 600 mm (24") OFF-ROAD, FOR SPEEDS ≥ 45 MPH
701301-03	LANE CLOSURE, 2L 2W, SHORT TIME OPERATIONS, FOR SPEEDS ≥ 45 MPH
701321-10	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-03	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-05	TEMPORARY CONCRETE BARRIER
780001-02	TYPICAL PAVEMENT MARKINGS
BLR21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL ROADS
601101-01	

INDEX OF SHEETS

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17-22	CROSS SECTIONS
23-	STRUCTURE PLANS

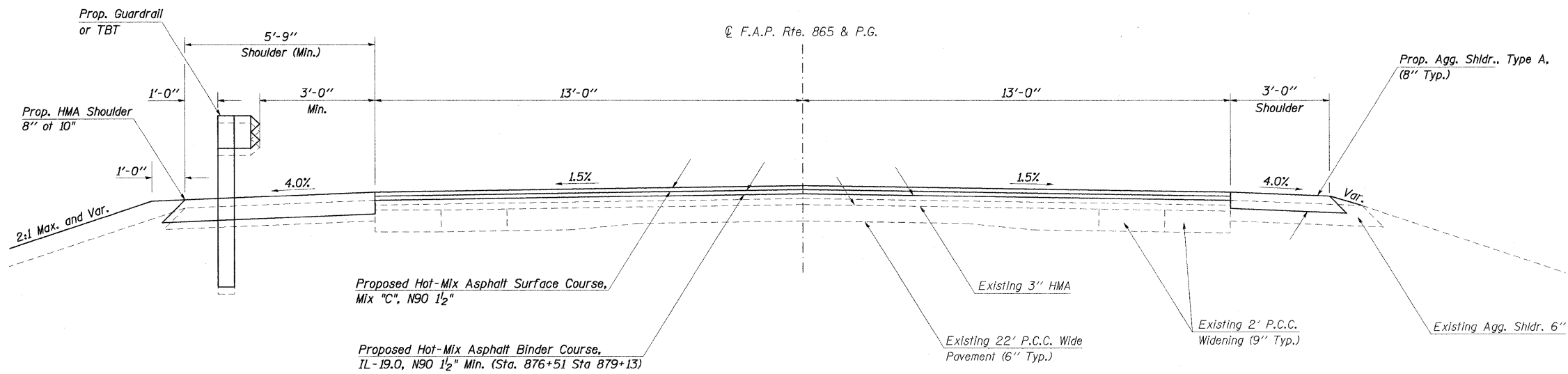
Prepared By:	<i>Dave Hillman</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>James Travis Emer</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>Cami Nelson</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>Scott Wiley</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>Jim Smutko</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT MATERIALS ENGINEER
Examined By:	<i>Jim Smutko</i> DISTRICT PROJECT IMPLEMENTATION ENGINEER
Examined By:	<i>[Signature]</i> ASSISTANT REGIONAL ENGINEER
Approved By:	<i>Mary C. Ranic</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
DATE	June 22 2009

SUMMARY OF QUANTITIES

RURAL - PERRY COUNTY HBP FUNDING 80% FEDERAL; 20% STATE CONSTRUCTION TYPE CODE X071-2A SN 073-0037			
CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	60
20300100	CHANNEL EXCAVATION	CU YD	180
20400100	BORROW EXCAVATION	CU YD	314
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	106
25000200	SEEDING, CLASS 2	ACRE	0.2
25000350	SEEDING, CLASS 7	ACRE	0.2
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	26
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	18
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	18
25000700	AGRICULTURAL GROUND LIMESTONE	TON	0.4
25100115	MULCH, METHOD 2	ACRE	0.33
25100630	EROSION CONTROL BLANKET	SQ YD	318
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	40
28000400	PERIMETER EROSION BARRIER	FOOT	941
28100107	STONE RIPRAP, CLASS A4	SQ YD	538
28200200	FILTER FABRIC	SQ YD	538
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	73
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	110
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	174
40600990	TEMPORARY RAMP	SQ YD	75
40603090	HOT - MIX ASPHALT BINDER COURSE, IL - 19.0, N90	TON	64
40603320	HOT - MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	110
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	223
42001300	PROTECTIVE COAT	SQ YD	102
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	102
44000100	PAVEMENT REMOVAL	SQ YD	249
44004250	PAVED SHOULDER REMOVAL	SQ YD	83
48100700	AGGREGATE SHOULDERS, TYPE A 8"	SQ YD	44
48203029	HOT - MIX ASPHALT SHOULDERS, 8"	SQ YD	265
48203037	HOT - MIX ASPHALT SHOULDERS, 10"	SQ YD	100
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1

RURAL - PERRY COUNTY HBP FUNDING 80% FEDERAL; 20% STATE CONSTRUCTION TYPE CODE X071-2A SN 073-0037			
CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
50200100	STRUCTURE EXCAVATION	CU YD	143
50300100	FLOOR DRAINS	EACH	22
50300225	CONCRETE STRUCTURES	CU YD	163.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	308
50300260	BRIDGE DECK GROOVING	SQ YD	727
50300280	CONCRETE ENCASEMENT	CU YD	12.2
50300300	PROTECTIVE COAT	SQ YD	950
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1
50500505	STUD SHEAR CONNECTORS	EACH	3078
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	90,860
50800515	BAR SPLICERS	EACH	853
51201700	FURNISHING STEEL PILES HP12X74	FOOT	770
51201800	FURNISHING STEEL PILES HP14X73	FOOT	610
51202305	DRIVING PILES	FOOT	1380
51203700	TEST PILE STEEL HP12X74	EACH	2
51203800	TEST PILE STEEL HP14X73	EACH	2
51205200	TEMPORARY SHEET PILING	SQ FT	575
51500100	NAME PLATES	EACH	1
52100520	ANCHOR BOLTS, 1"	EACH	48
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	63.2
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	156
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6' ^{FOOT} POSTS	FOOT	275
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	548
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	10
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1

*SPECIALTY ITEMS



SECTION WITHIN GUARDRAIL LIMITS

SECTION OUTSIDE GUARDRAIL LIMITS

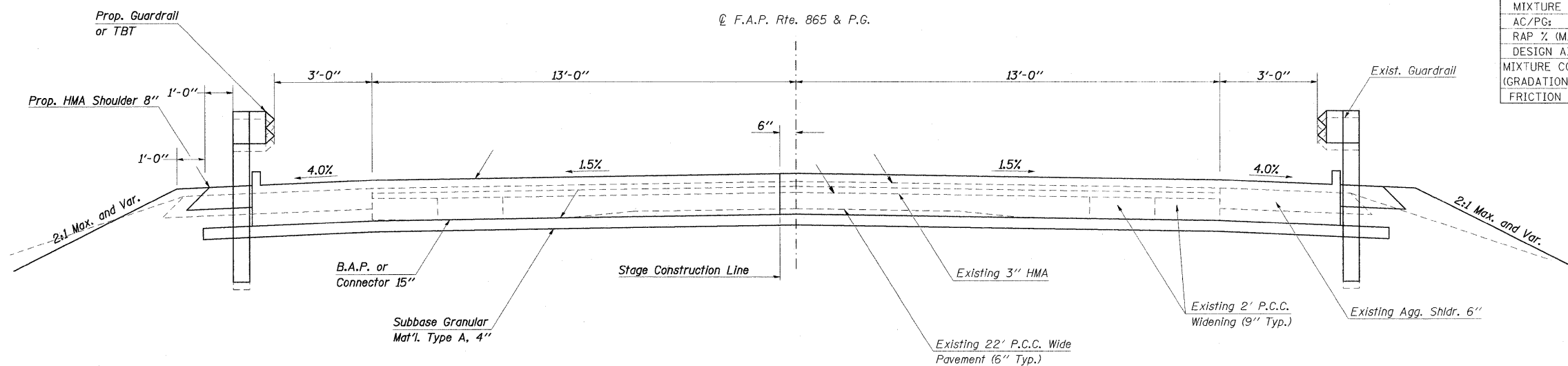
TYPICAL SECTION OUTSIDE PAVEMENT REMOVAL

HOT MIX ASPHALT MIXTURE REQUIREMENTS

LOCATION(S):	HOT-MIX ASPHALT SURFACE COURSE
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N90
AC/PG:	PG64-22
RAP % (MAX):	10
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5 mm OR IL 12.5 mm
FRICION AGGREGATE:	C SURFACE

LOCATION(S):	HOT-MIX ASPHALT BINDER COURSE & BASE COURSE WIDENING
MIXTURE USE(S):	HOT-MIX ASPHALT BINDER COURSE, N90, IL-19.0
AC/PG:	PG64-22
RAP % (MAX):	10
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-19.0 mm
FRICION AGGREGATE:	NONE

LOCATION(S):	HOT-MIX ASPHALT SHOULDERS
MIXTURE USE(S):	HOT-MIX ASPHALT SHOULDERS
AC/PG:	PG58-22
RAP % (MAX):	50
DESIGN AIR VOIDS:	2.0%, 30 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	HMA SHOULDERS
FRICION AGGREGATE:	NONE



TYPICAL SECTION WITHIN PAVEMENT REMOVAL

(Looking West)

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS AND MIXTURE REQUIREMENTS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\p\WIDOT\HALSTEADTW\dms49780	773-0224TYP.dgn	DRAWN -	REVISED -		865	16B-2	PERRY	47	5			
78064\CADDSHEETS\073-0024TYP.DGN	PLOT SCALE = 2.0000' / IN.	CHECKED -	REVISED -		CONTRACT NO. 78064							
	PLOT DATE = 6/11/2009	DATE -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

SCHEDULES

SHOULDER SCHEDULE

LOCATION STATION TO STATION	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	HOT-MIX ASPHALT SHOULDERS, 8"	HOT-MIX ASPHALT SHOULDERS, 10"	AGGREGATE SHOULDERS TYPE A, 8"
	SQ YD	SQ YD	TONS	SQ YD
873+19 TO 874+05 LT 874+05 TO 874+58 LT		9	54	
873+49 TO 874+41 RT 873+51 TO 873+33 RT	27	49		
876+14 TO 876+51 LT 876+51 TO 877+22 LT 877+22 TO 879+13 LT		6 121	46	
875+93 TO 877+29 RT 875+99 TO 877+84 RT 877+83 TO 879+13 RT	46	80		44
TOTALS	73	265	100	44

EROSION CONTROL

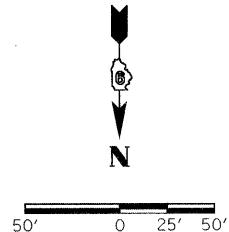
LOCATION STATION TO STATION	PERIMETER EROSION BARRIER	MULCH METHOD 2	EROSION CONTROL BLANKET
	FOOT	ACRES	SQ YD
NE QUAD	122	0.02	
SE QUAD	129	0.04	
NW QUAD	356	0.18	318
SW QUAD	334	0.16	
TOTALS	941	0.4	318

PAVEMENT REMOVAL AND MISCELLANEOUS SCHEDULE

LOCATION STATION TO STATION	PAVEMENT REMOVAL	HOT-MIX ASPHALT REMOVAL BUTT-JOINT	TEMPORARY RAMP	PAVED SHOULDER REMOVAL
	SQ YD	SQ YD	SQ YD	SQ YD
874+05 TO 874+33 875+93 TO 876+51	81 168			
873+19 TO 873+49 879+43 TO 879+73		87 87		
873+19 TO 873+24 874+00 TO 874+05 876+51 TO 876+61 879+68 TO 879+73			15 15 30 15	
873+19 TO 873+50 LT 873+51 TO 874+33 RT 875+93 TP 877+29 RT				10.33 27.33 45.33
TOTALS	249	174	75	83

HOT-MIX ASPHALT PAVEMENT SCHEDULE

LOCATION STATION TO STATION	HOT-MIX ASPHALT BINDER COURSE IL-19.0, N90	HOT-MIX ASPHALT SURFACE COURSE MIX C, N90	HOT-MIX ASPHALT MATERIALS (PRIME COAT)
	TON	TON	GALLON
873+13 TO 874+05 876+51 TO 879+13 879+13 TO 879+73		21 78 11	21 78 11
TOTAL	64	110	110

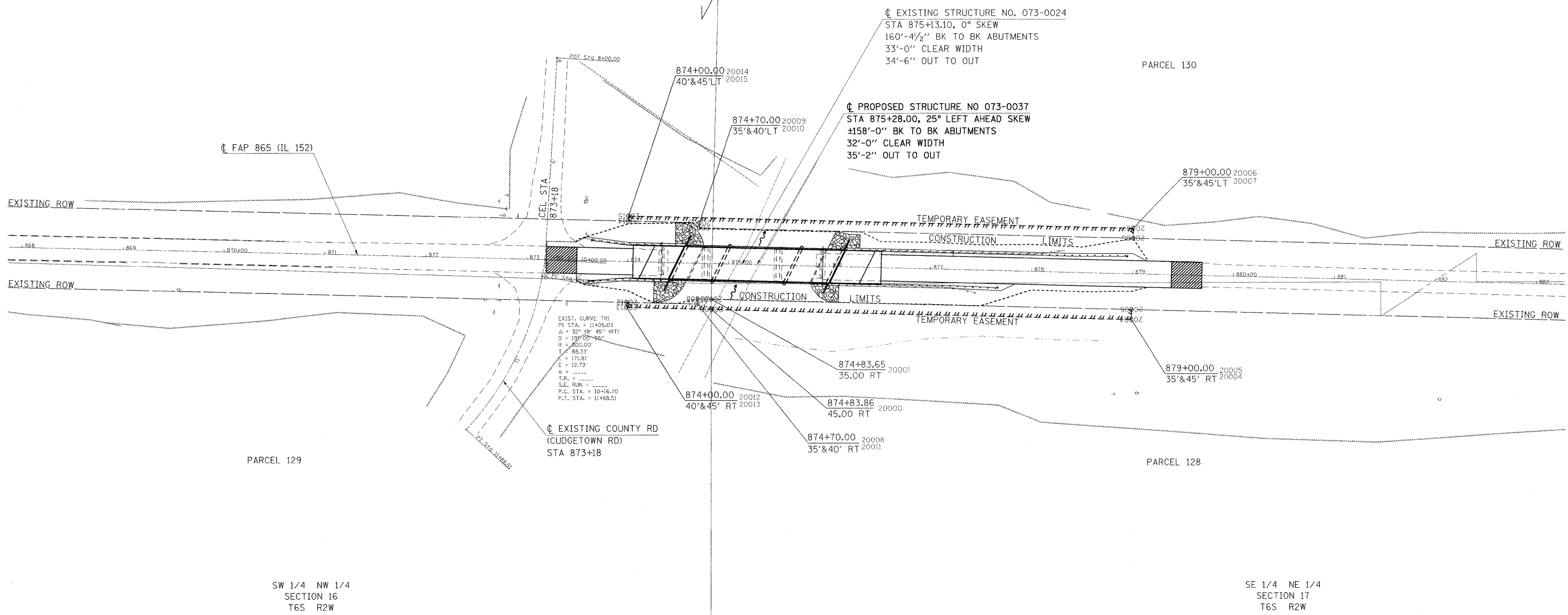


NW 1/4 SW 1/4
SECTION 16
T6S R2W

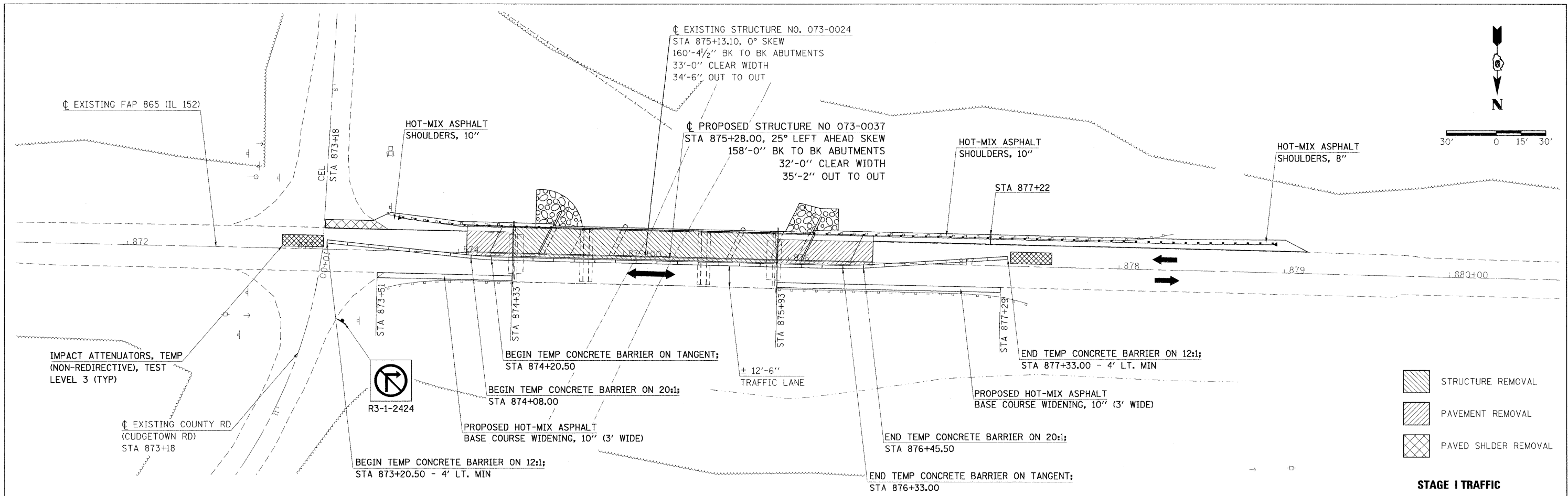
NE 1/4 SE 1/4
SECTION 17
T6S R2W

POINT COORDINATES		
PT 20000	N 487516.6149	E 2536176.1464
PT 20001	N 487506.6126	E 2536176.1152
PT 20004	N 487526.8414	E 2535760.1333
PT 20005	N 487516.8444	E 2535759.8875
PT 20006	N 487446.8656	E 2535758.1673
PT 20007	N 487436.8686	E 2535757.9215
PT 20008	N 487506.2772	E 2536189.7588
PT 20009	N 487431.2986	E 2536187.9132
PT 20010	N 487436.2984	E 2536188.0363
PT 20011	N 487511.2757	E 2536189.8805
PT 20012	N 487509.5555	E 2536259.8594
PT 20013	N 487514.5540	E 2536259.9823
PT 20014	N 487429.5797	E 2536257.8934
PT 20015	N 487424.5812	E 2536257.7705

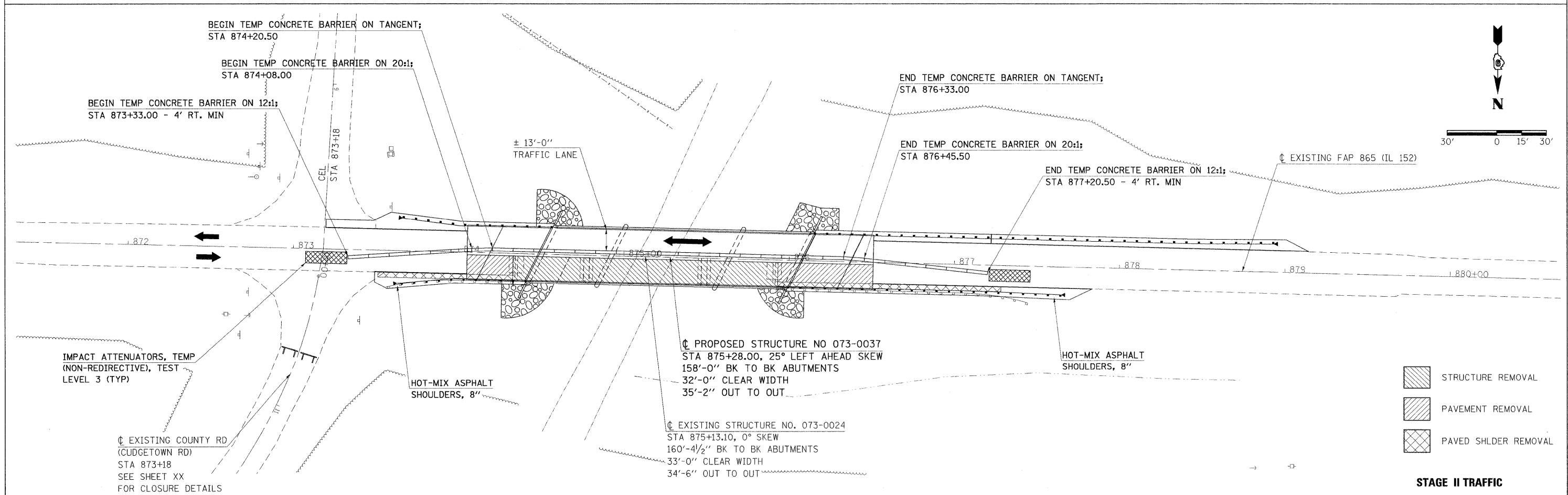
PARCEL NO.	NAME	PURPOSE	ACREAGE
128	RONI GREGORI TRUST	T.E.	0.119
129	PHILLIP ALVIS	T.E.	0.003
130	SPRINGFIELD COAL CO. LLC	T.E.	0.122



FILE NAME c:\pw_work\PWIDOT\HALSTEADT\dims49788\978064_sht_row.dgn	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RIGHT OF WAY PLAN		F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 9	
78064/CADD/SHEETS/0978064_SHT_ROW.DGN	PLOT SCALE = 50.0000 "/> IN.	CHECKED -	REVISED -		PROJECT SHEET NO. 1 OF 1 SHEETS	JOB NO. R99-017-09	STA. 226+00.00 TO STA. 238+00.00	CONTRACT NO. 78064				
	PLOT DATE = 6/23/2009	DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							



STAGE I TRAFFIC



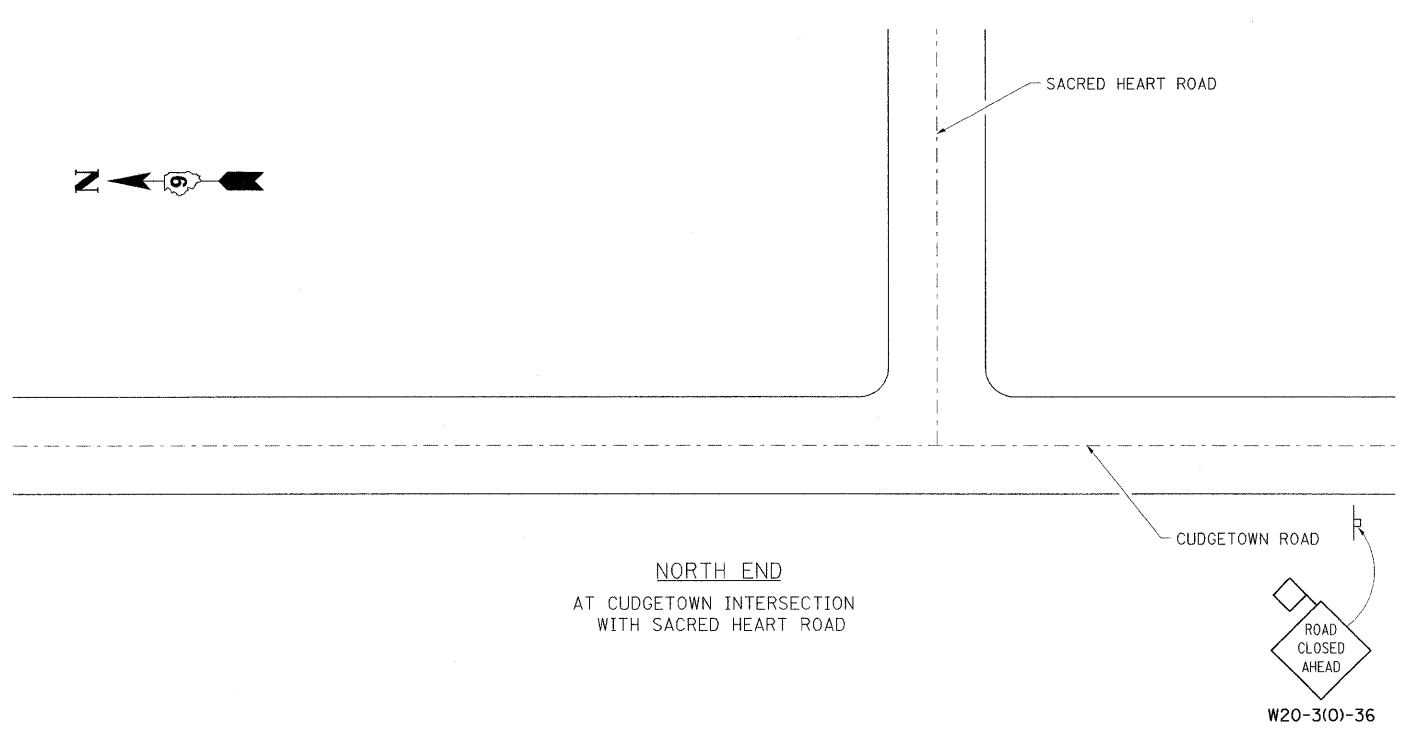
STAGE II TRAFFIC

FILE NAME =	USER NAME = halsteadw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION PLAN			F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 10
c:\pw\work\p1dot\halsteadw\dms49788\78864.sht.plnprf.dgn	78864.sht.plnprf.dgn	DRAWN -	REVISED -		SCALE: 1"=30'	SHEET NO.	OF	SHEETS	STA. 872+00.00 TO STA. 880+00.00	CONTRACT NO. 78064		
	PLOT SCALE = 30.0000' / IN.	CHECKED -	REVISED -							ILLINOIS FED. AID PROJECT		
78064/CADD/SHEETS/0978064_SHT_PLNPRF.DGN	PLOT DATE = 6/8/2009	DATE	REVISED -									

ROAD CLOSURE PLAN

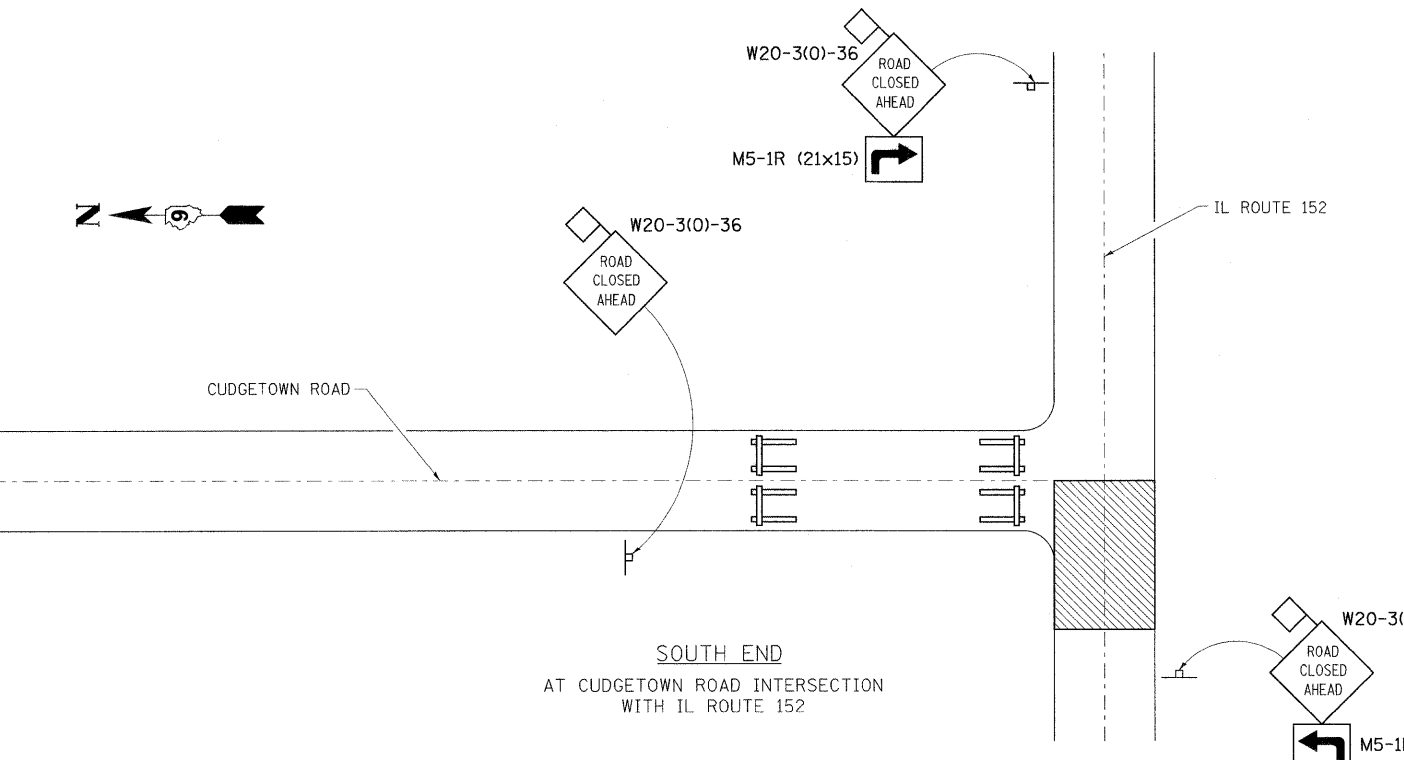
STAGE II ONLY

DETOUR SIGNING PLAN



NORTH END
AT CUDGETOWN INTERSECTION
WITH SACRED HEART ROAD

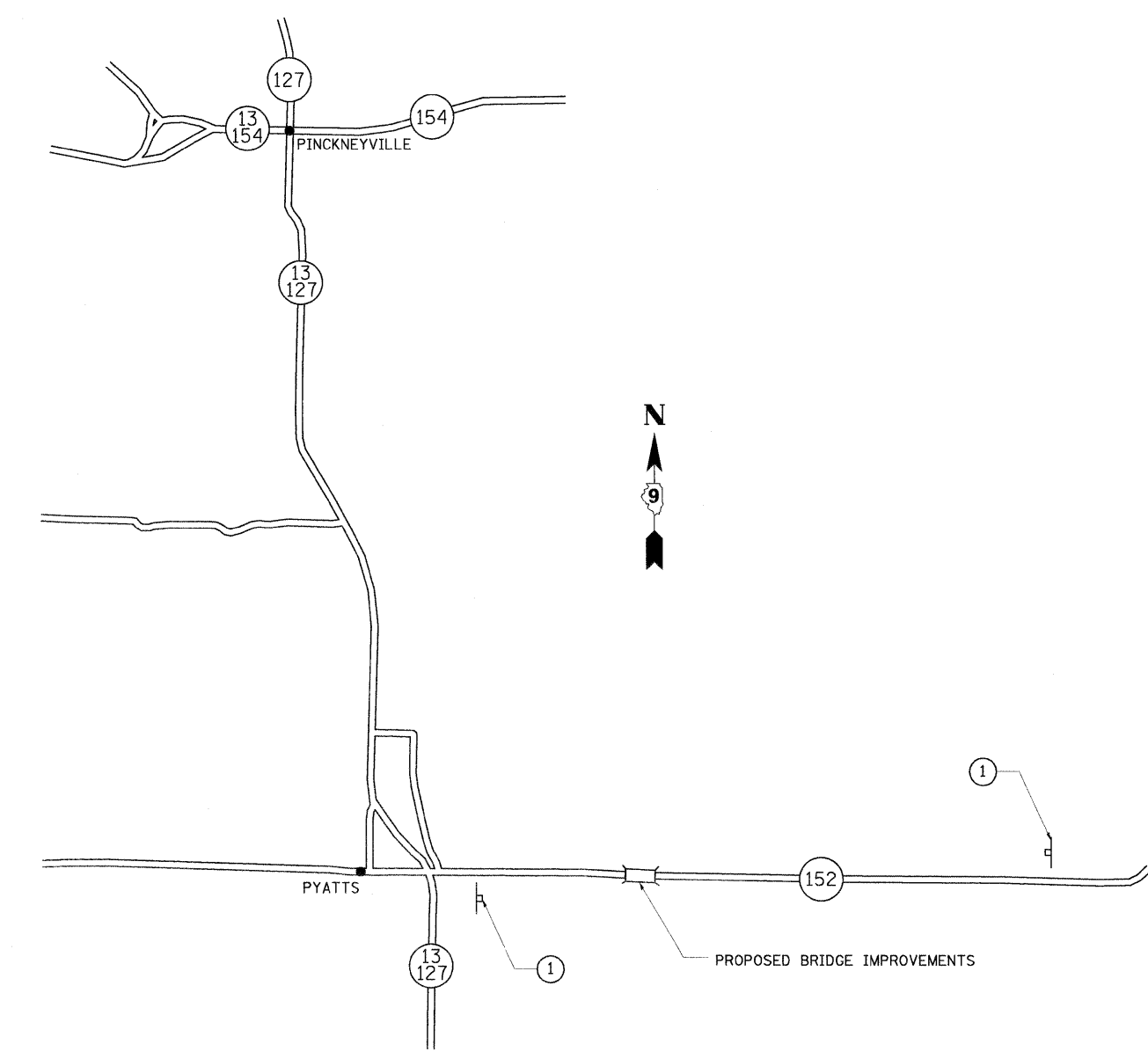
W20-3(O)-36



SOUTH END
AT CUDGETOWN ROAD INTERSECTION
WITH IL ROUTE 152

W20-3(O)-36




M5-1L (21x15)



PYATTS

PROPOSED BRIDGE IMPROVEMENTS

SYMBOLS

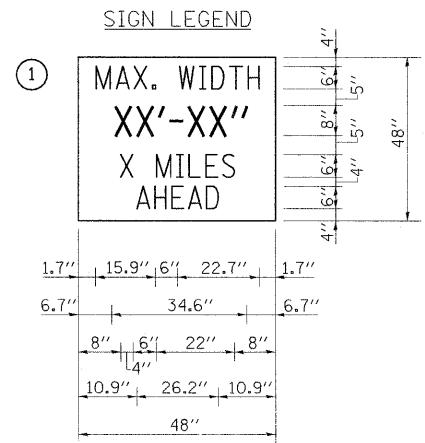
-  WORK AREA
-  TYPE III BARRICADE
-  SIGN WITH 18" BY 18" (MINIMUM) ORANGE FLAG ATTACHED

NOTES:

1. TRAFFIC CONTROL TO BE PROVIDED IN ACCORDANCE WITH HIGHWAY STANDARD B.L.R. 21-8 AND AS SPECIFIED HEREIN, AND SHALL BE PAID AT THE CONTRACT PRICE PER "LUMP SUM" FOR TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21 (SPECIAL).
2. SIGN LOCATIONS, INCLUDING PORTABLE CHANGEABLE MESSAGE SIGN, SHALL BE DETERMINED BY THE ENGINEER.
3. SEE HIGHWAY STANDARD B.L.R. 21-8 FOR DETAILS NOT SHOWN.

DETOUR NOTES

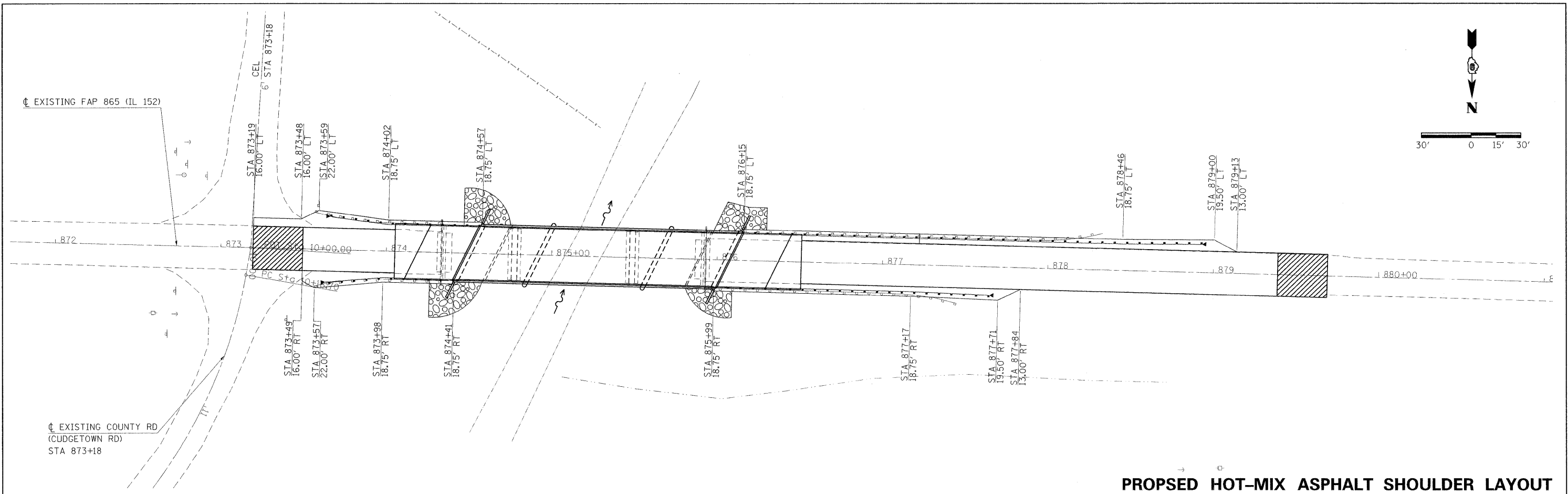
1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED
2. THE ABOVE NOTED WORK, INCLUDING SIGN, POSTS, HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STD 701321 AND NO OTHER COMPENSATION WILL BE ALLOWED.
3. THE WIDTH SHOWN ON THE W12-I103 SIGN SHALL BE 11'-0" FOR STAGE 1 AND 11'-6" FOR STAGE 2 OR AS DIRECTED BY THE ENGINEER. THE "X" MILES AHEAD WILL BE DETERMINED BY THE ENGINEER.



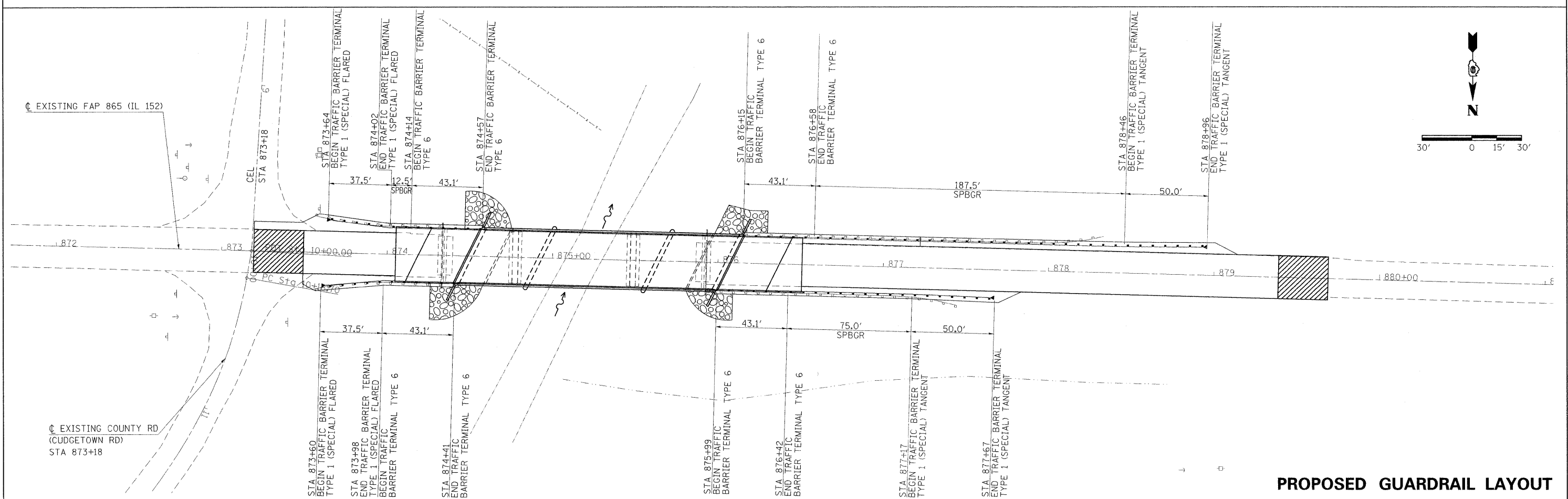
W12-I103

SERIES D ALPHABET. NO BORDER. BLACK ON WHITE.

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DETOUR SIGNING AND ROAD CLOSURE			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cs:\pw_work\p\WIDOT\HALSTEADTW\dms49780\978064_sht_misc.dgn	978064_sht_misc.dgn	DRAWN -	REVISED -		865	16B-2	PERRY	47	11			
	PLOT SCALE = 50,0000 ' / IN.	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 78064				
78064/CADDSHEETS/0978064_SHT_MISC.DGN	PLOT DATE = 6/8/2009	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

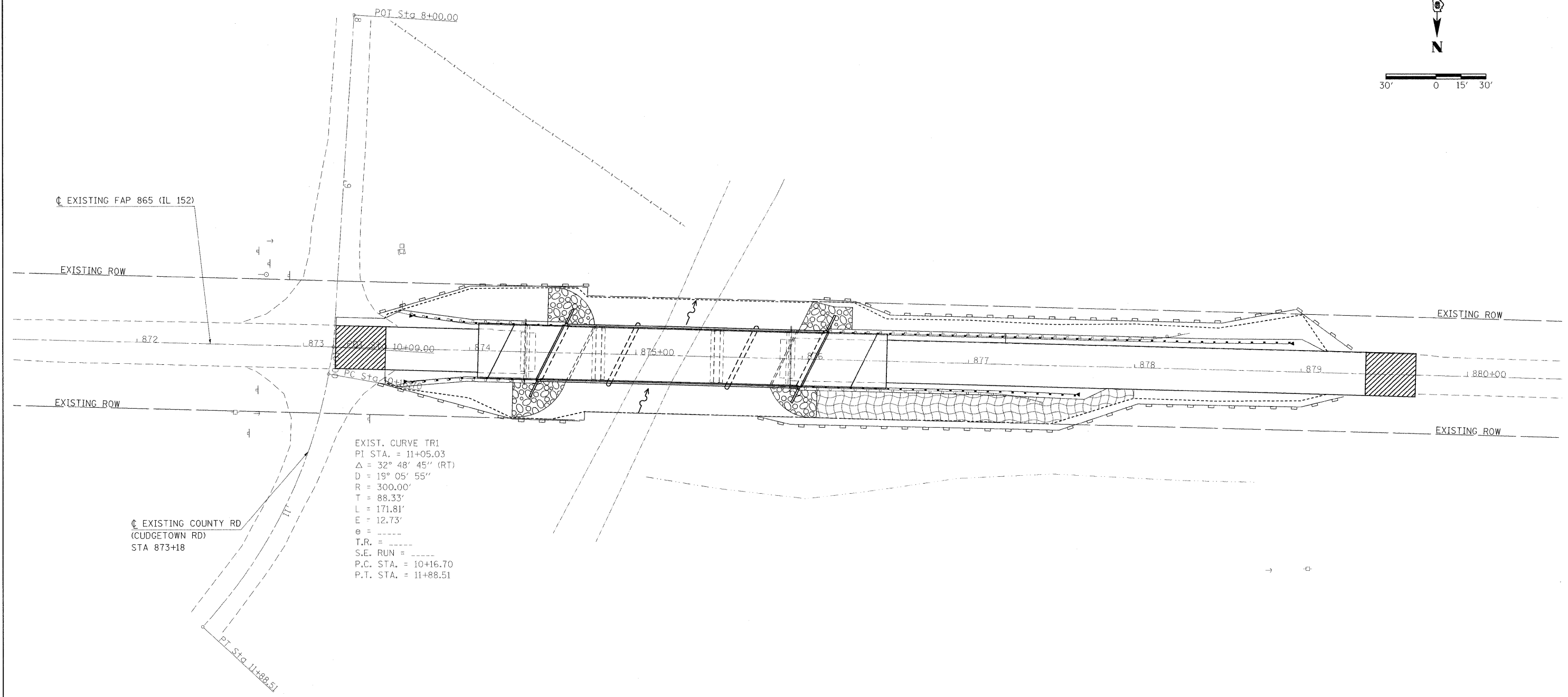
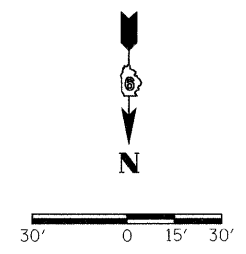





PROPOSED HOT-MIX ASPHALT SHOULDER LAYOUT



PROPOSED GUARDRAIL LAYOUT

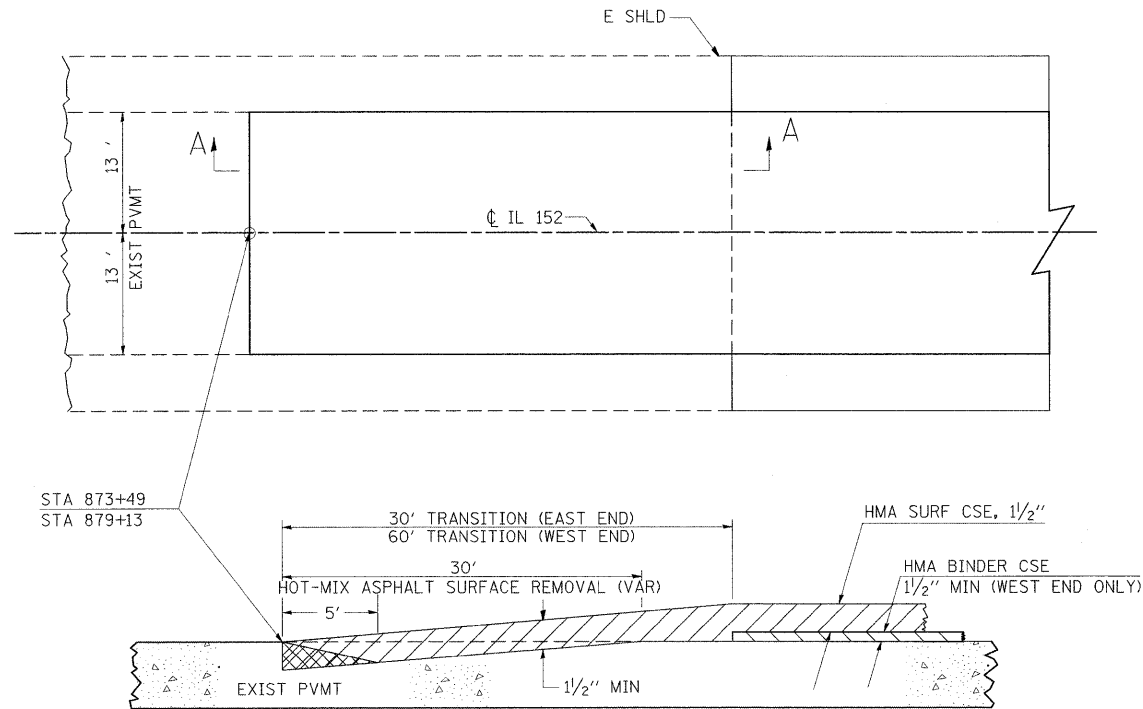
FILE NAME =	USER NAME = halsteadw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HOT-MIX ASPHALT SHOULDER PLAN AND GUARDRAIL PLAN			F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 12
78064\work\p\dot\halsteadw\dms49780\78064.sht.plnprf.dgn		DRAWN -	REVISED -		SCALE: 1"=30'	SHEET NO.	OF SHEETS	STA. 872+00.00 TO STA. 880+00.00	CONTRACT NO. 78064			
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
78064\CADD\SHEETS\0978064_SHT_PLNPRF.DGN		DATE	REVISED -									



-  PERIMETER EROSION BARRIER
-  STONE RIPRAP, CLASS A4
-  EROSION CONTROL BLANKET

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EROSION CONTROL PLAN	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pw_work\pwidot\halsteadtw\dms49780\78064.sht_plnprf.dgn	78064.sht_plnprf.dgn	DRAWN -	REVISED -			865	16B-2	PERRY	47	13	
78064/CADD/SHEETS/0978064.SHT_PLNPRF.DGN	PLOT SCALE = 30.0000' / IN.	CHECKED -	REVISED -			CONTRACT NO. 78064					
	PLOT DATE = 6/8/2009	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE: 1"=30'		SHEET NO. OF SHEETS		STA. 872+00.00 TO STA. 880+00.00			

BUTT JOINT



STA 873+49
STA 879+13

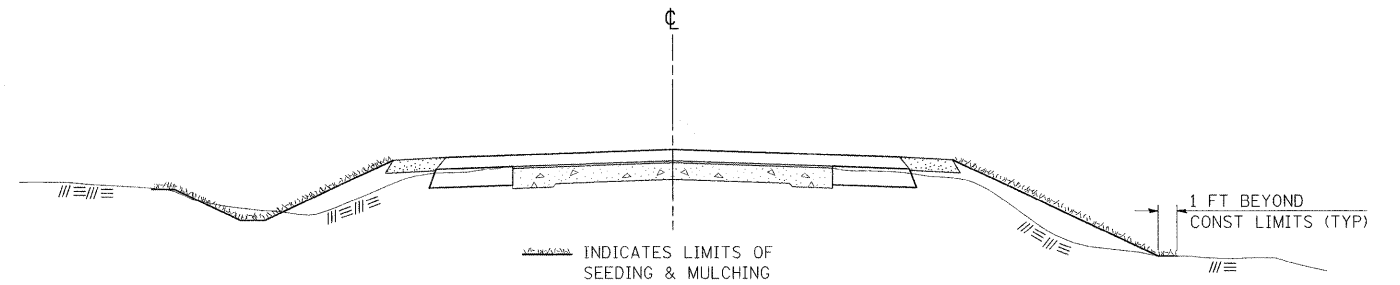
SECTION A-A



REVISIONS	
DRAWN	10-17-90
REVISED	01-11-07
REVISED	3-25-08

STD. 9-86

SEEDING & MULCHING



GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDDED AREAS.

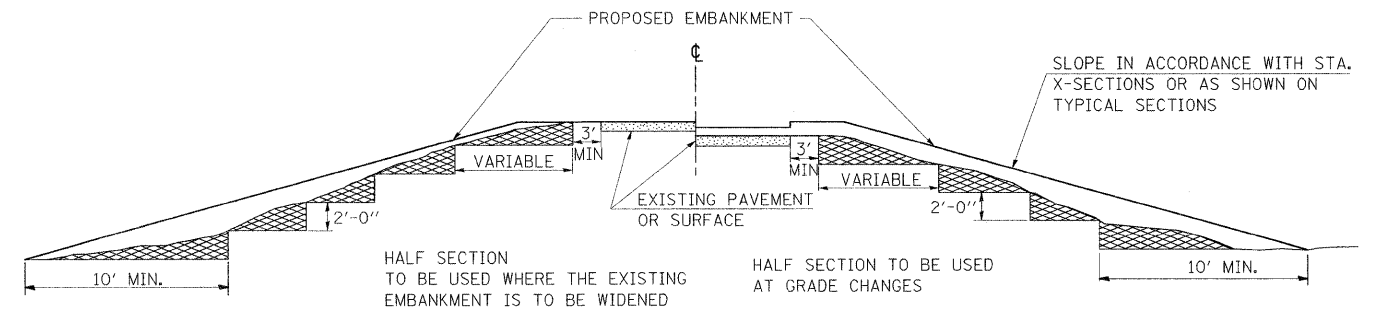
THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08

STD. 9-12

TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL



MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
CHECKED	6-3-99
REVISED	5-7-08

STD. 9-16

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -
ca\pwork\pwidot\HALSTEADTW\dms49780	978064_sht.msc.dgn	DRAWN -	REVISED -
	PLOT SCALE = 50.0000' / IN.	CHECKED -	REVISED -
	PLOT DATE = 6/8/2009	DATE -	REVISED -

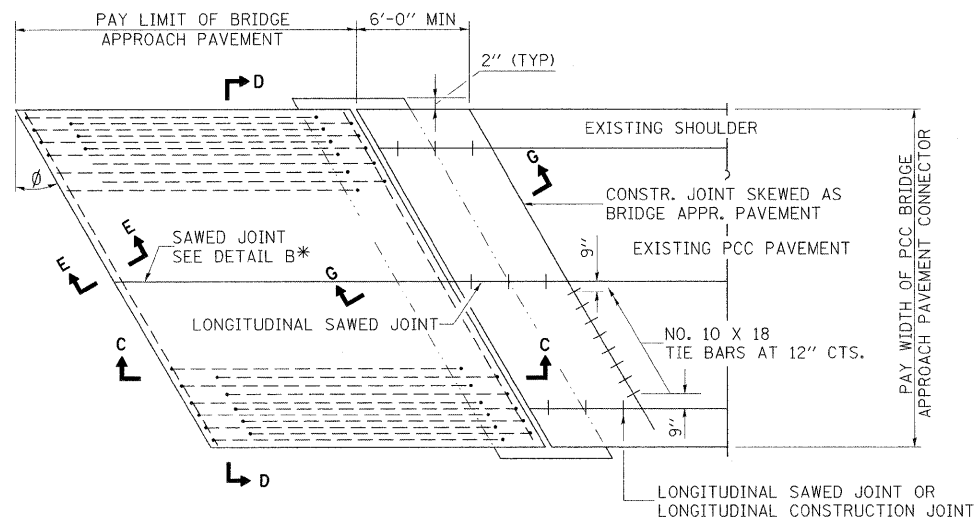
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BUTT JOINT, SEEDING & MULCHING
AND STEP CONSTRUCTION ON EXISTING FILL**

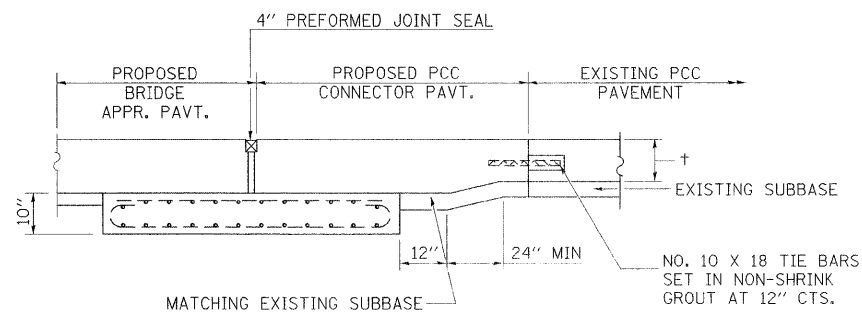
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
865	16B-2	PERRY	47	14
CONTRACT NO. 78064				

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

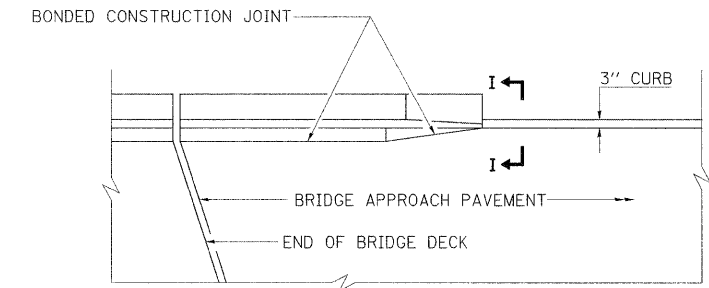
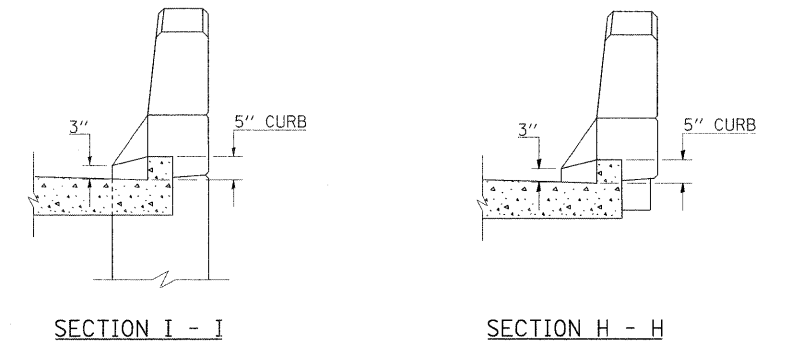
ILLINOIS FED. AID PROJECT



BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)

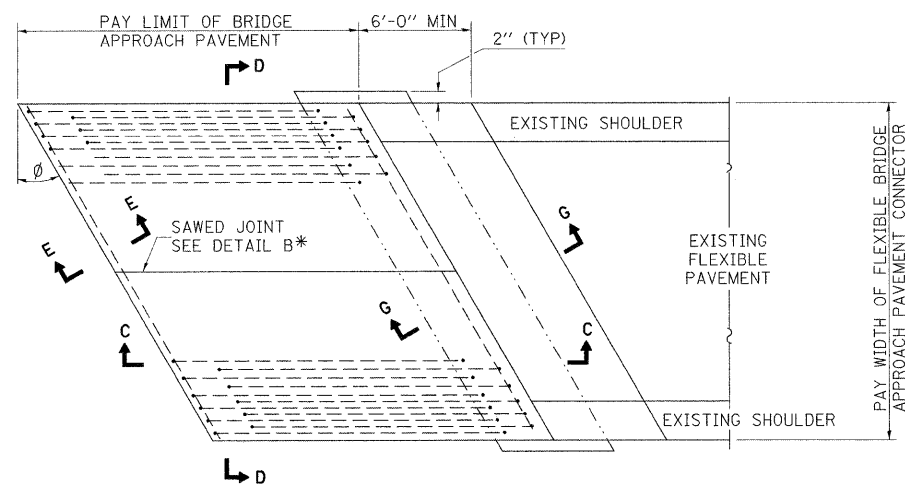


SECTION G-G - RIGID PAVEMENT

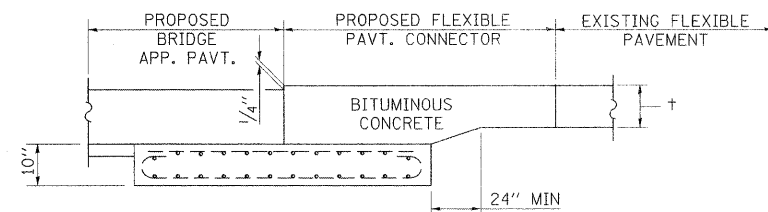


PARAPET TO CURB TRANSITION PILE BENT ABUTMENT

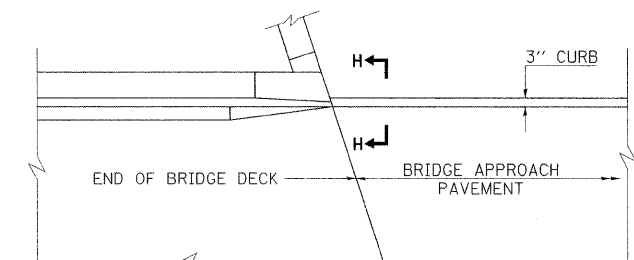
NOTE: SEE STANDARD 420401-07 FOR DETAILS ON PCC CONNECTOR PAVEMENT.



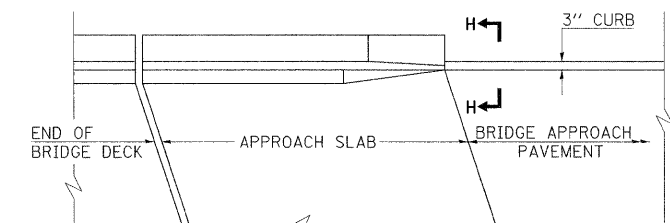
BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)



SECTION G-G - FLEXIBLE PAVEMENT



PARAPET TO CURB TRANSITION INTEGRAL ABUTMENT

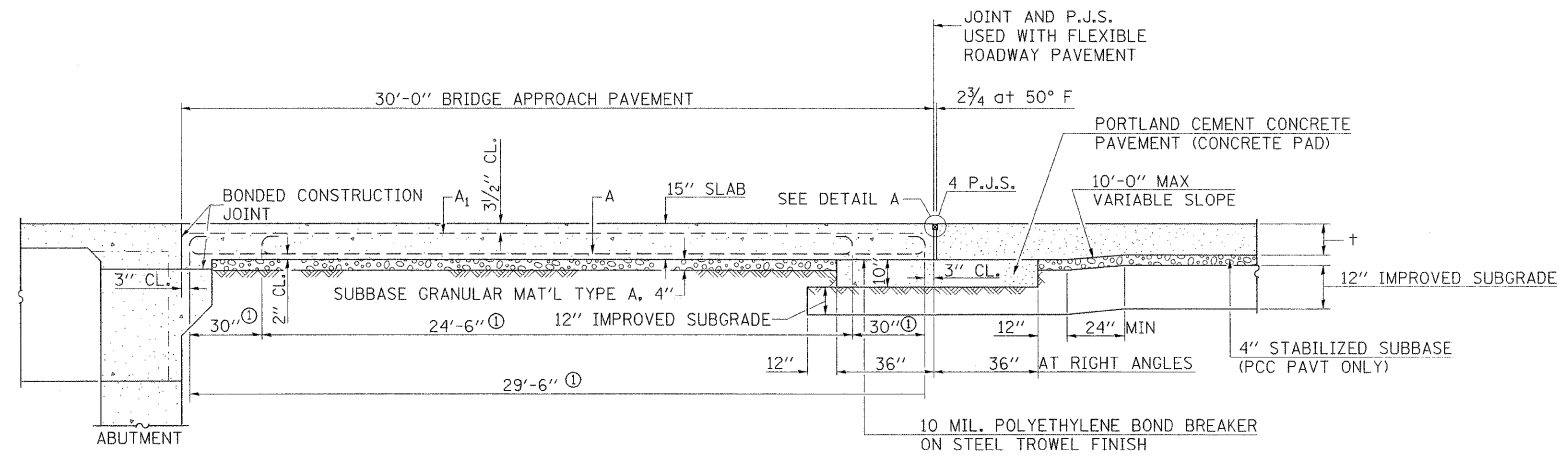


PARAPET TO CURB TRANSITION VAULTED ABUTMENT

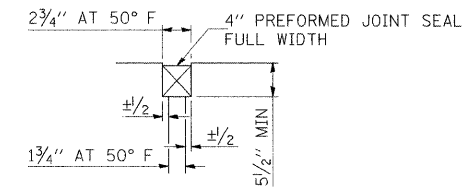
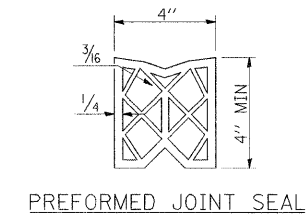
EXISTING CONSTRUCTION

**BRIDGE APPROACH PAVEMENT DETAIL
IL 152 OVER PANTHER CREEK
PERRY COUNTY
SN 073-0037**

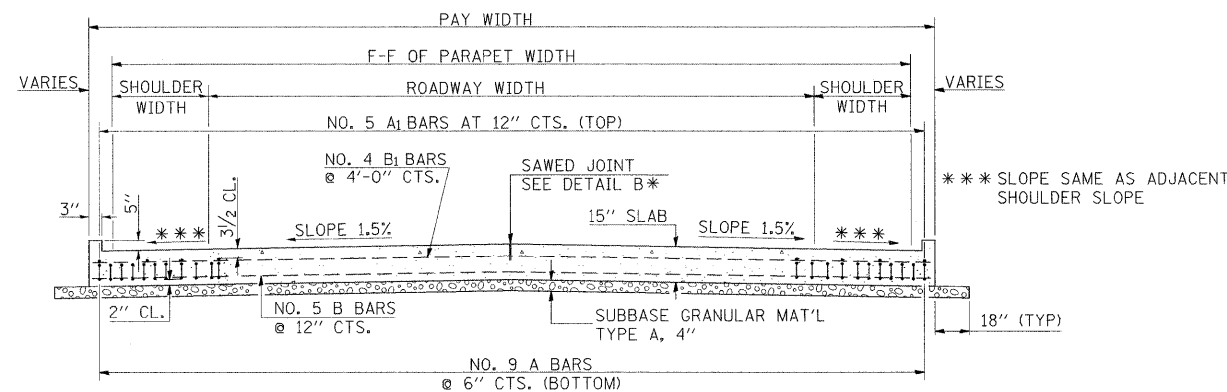
FILE NAME = c:\pw_work\VPWIDOT\HALSTEADTW\dms49780\	USER NAME = halsteadtw 978064_sht_misc.dgn	DESIGNED - --- DRAWN - ---	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH PAVEMENT DETAIL IL 152 OVER PANTHER CREEK				F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 15
78064/CADD/SHEETS/D978064_SHT_MISC.DGN	PLOT SCALE = 50,0000 / IN. PLOT DATE = 6/8/2009	CHECKED - --- DATE - 11/2008	REVISED - REVISED -		SCALE: N.T.S.	SHEET NO.	OF SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	CONTRACT NO. 78064	



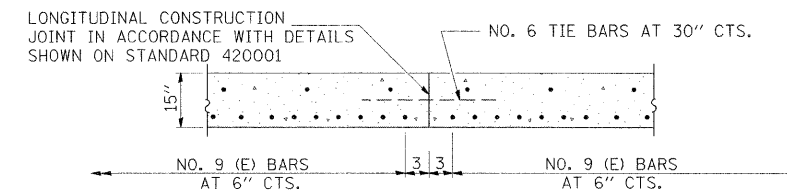
SECTION C-C
 Ⓛ STAGGER NO. 9 A BARS AS SHOWN ON PLAN - FULL WIDTH



DETAIL A

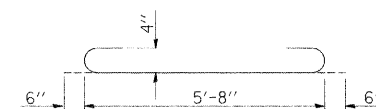


SECTION D-D
 (SEE PLAN FOR DIMENSIONS NOT SHOWN)

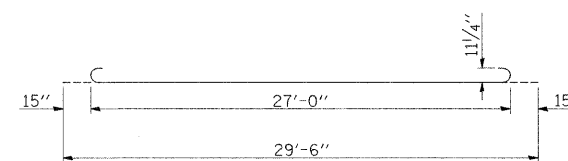


OPTIONAL LONGITUDINAL
 CONSTRUCTION JOINT

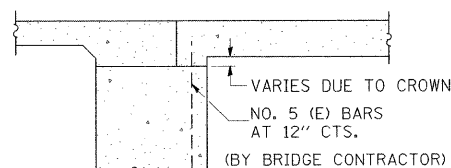
AS APPROVED BY THE ENGINEER, THE CONTRACTOR MAY ELECT TO REDUCE THE WIDTHS OF POUR BY USE OF THE OPTIONAL LONGITUDINAL CONSTRUCTION JOINT SHOWN. JOINTS SHALL BE LOCATED AT THE EDGE OF A TRAFFIC LANE



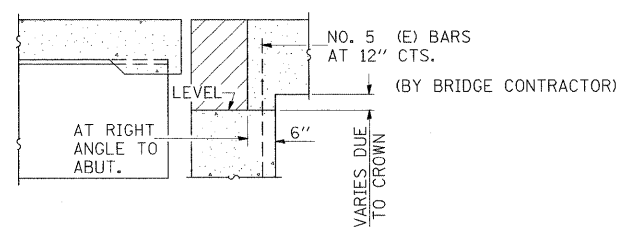
BAR a2



BAR a



SECTION E-E
 (INTEGRAL ABUTMENTS)



SECTION E-E
 (JOINTED ABUTMENTS)

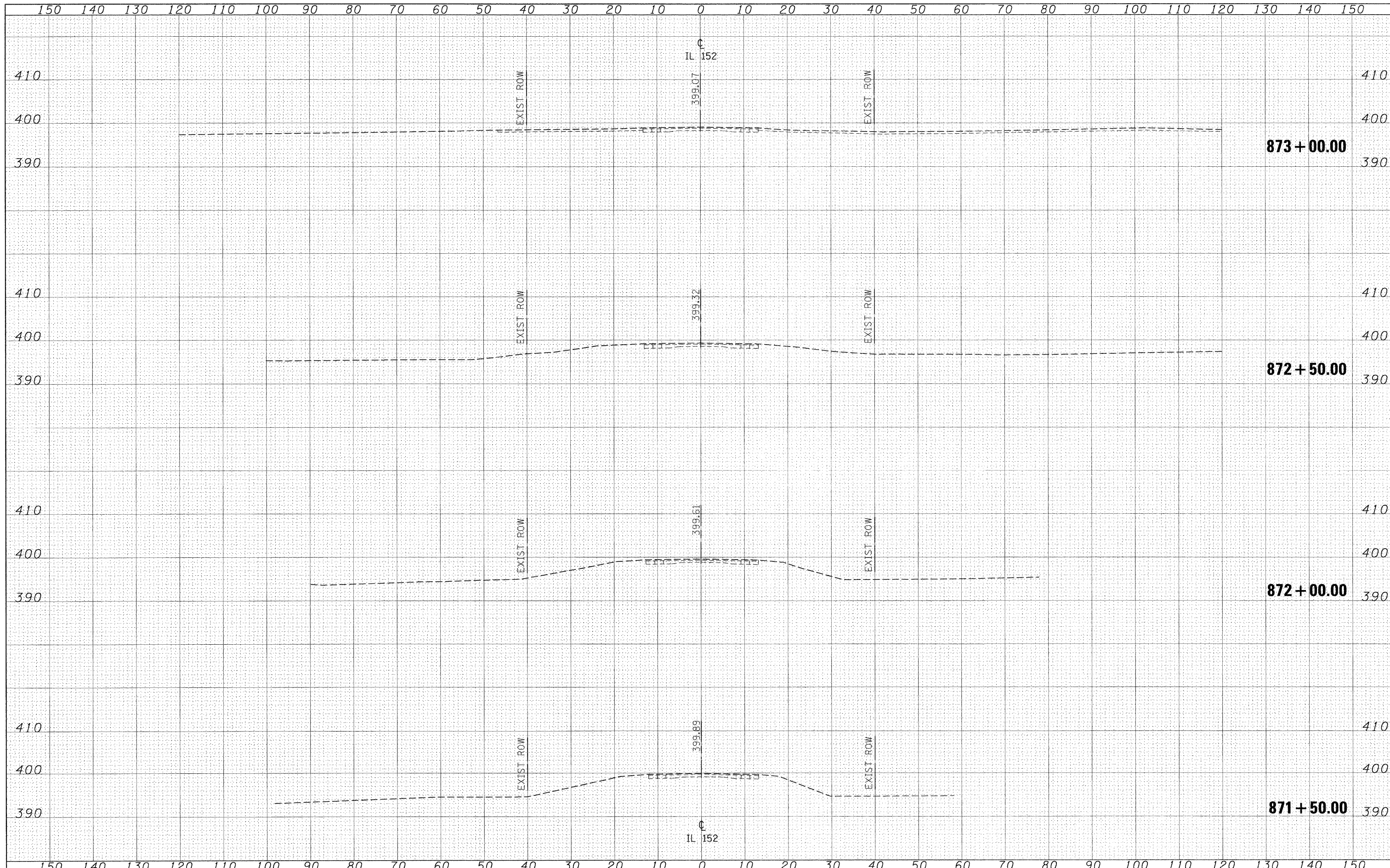
DESIGN STRESSES
 $f_y = 60,000$ P.S.I. (400 MPa)
 $f'_c = 3,500$ P.S.I. (24 MPa)
 $n = 8.5$

BRIDGE APPROACH PAVEMENT DETAIL
IL 152 OVER PANTHER CREEK
PERRY COUNTY
SN 073-0037

FILE NAME = c:\pwwork\p\w\1001\HALSTEADT\msc\dms49780	USER NAME = halsteadt 978064.sht_msc.dgn	DESIGNED - --- DRAWN - ---	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH PAVEMENT DETAIL IL 152 OVER PANTHER CREEK			F.A.P. RTE. 865	SECTION 168-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 16
78064/CADD/SHEETS/D978064_SHT_MISC.DGN	PLOT SCALE = 50.0000' / IN. PLOT DATE = 6/8/2009	CHECKED - --- DATE - 11/2008	REVISED - REVISED -		SCALE: N.T.S.	SHEET NO.	OF	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO.	[ILLINOIS] FED. AID PROJECT
CONTRACT NO. 78064												

FINAL SURVEY SURVEYED _____ DATE _____
 PLOTTED _____
 NOTE BOOK _____
 NO. _____

ORIGINAL SURVEY SURVEYED _____ DATE _____
 PLOTTED _____
 NOTE BOOK _____
 NO. _____



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USER NAME = halsteadtw
 DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISIED -
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 REVISIED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

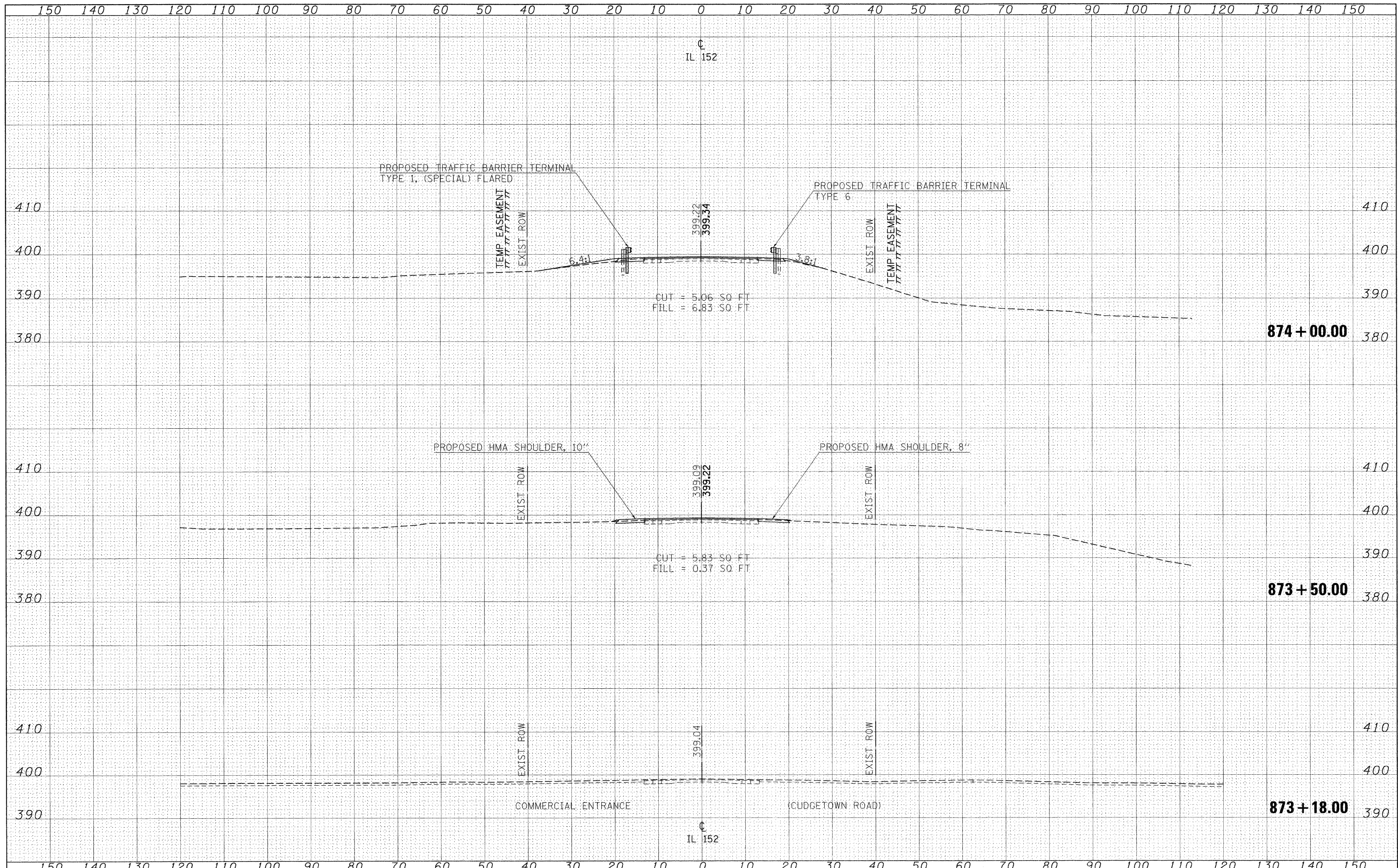
**CROSS SECTIONS
 IL 152**

SCALE: 1"=10' SHEET NO. OF SHEETS STA. 871+50.000 TO STA. 873+00.000

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
865	16B-2	PERRY	47	17
CONTRACT NO. 78064				
[ILLINOIS] FED. AID PROJECT				

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

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



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 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 6/8/2009

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
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 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

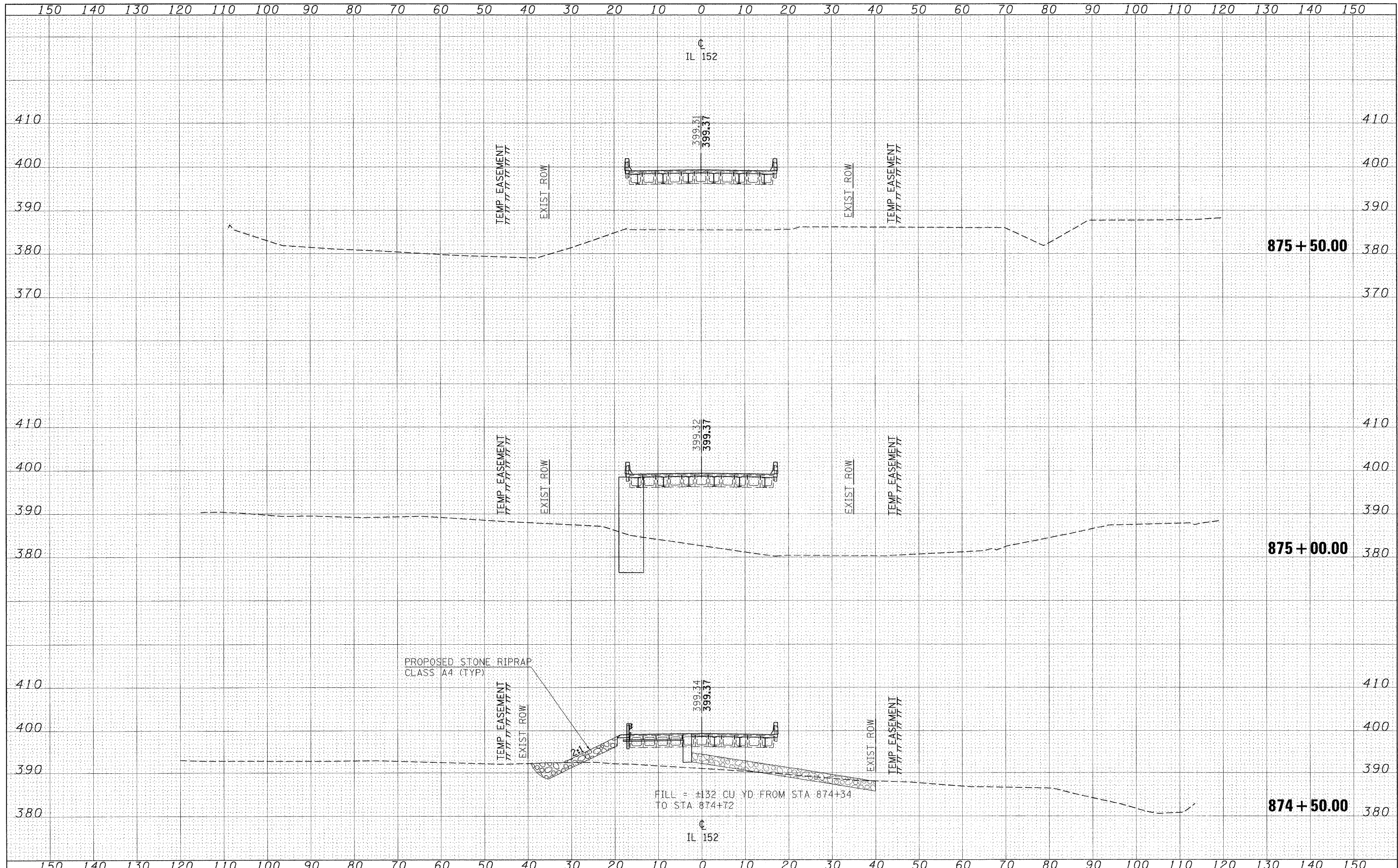
**CROSS SECTIONS
 IL 152**

SCALE: 1"=10' SHEET NO. OF SHEETS STA. 873+18.000 TO STA. 874+00.000

F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 18
CONTRACT NO. 78064				
ILLINOIS FED. AID PROJECT				

BY: _____ DATE: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

BY: _____ DATE: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____



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 PLDT SCALE = 10.0000' / IN.
 PLDT DATE = 6/8/2009

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

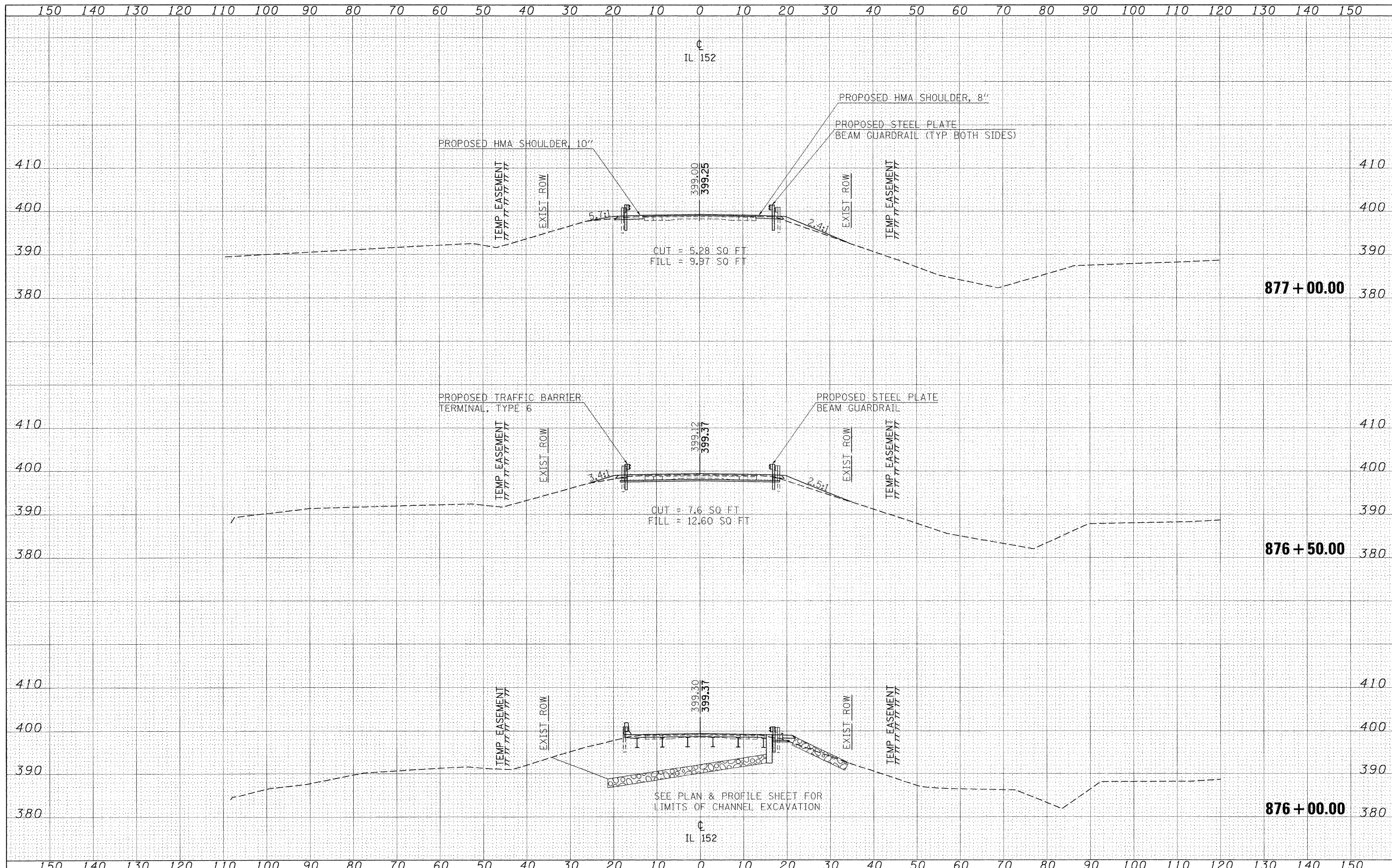
**CROSS SECTIONS
 IL 152**

SCALE: 1"=10' SHEET NO. OF SHEETS STA. 874+50.000 TO STA. 875+50.000

F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 19
CONTRACT NO. 78064				
ILLINOIS FED. AID PROJECT				

DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____

DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____
 NO. _____



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 USER NAME = halsteadtw
 PLOT SCALE = 18.0000' / IN.
 PLOT DATE = 6/8/2009

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

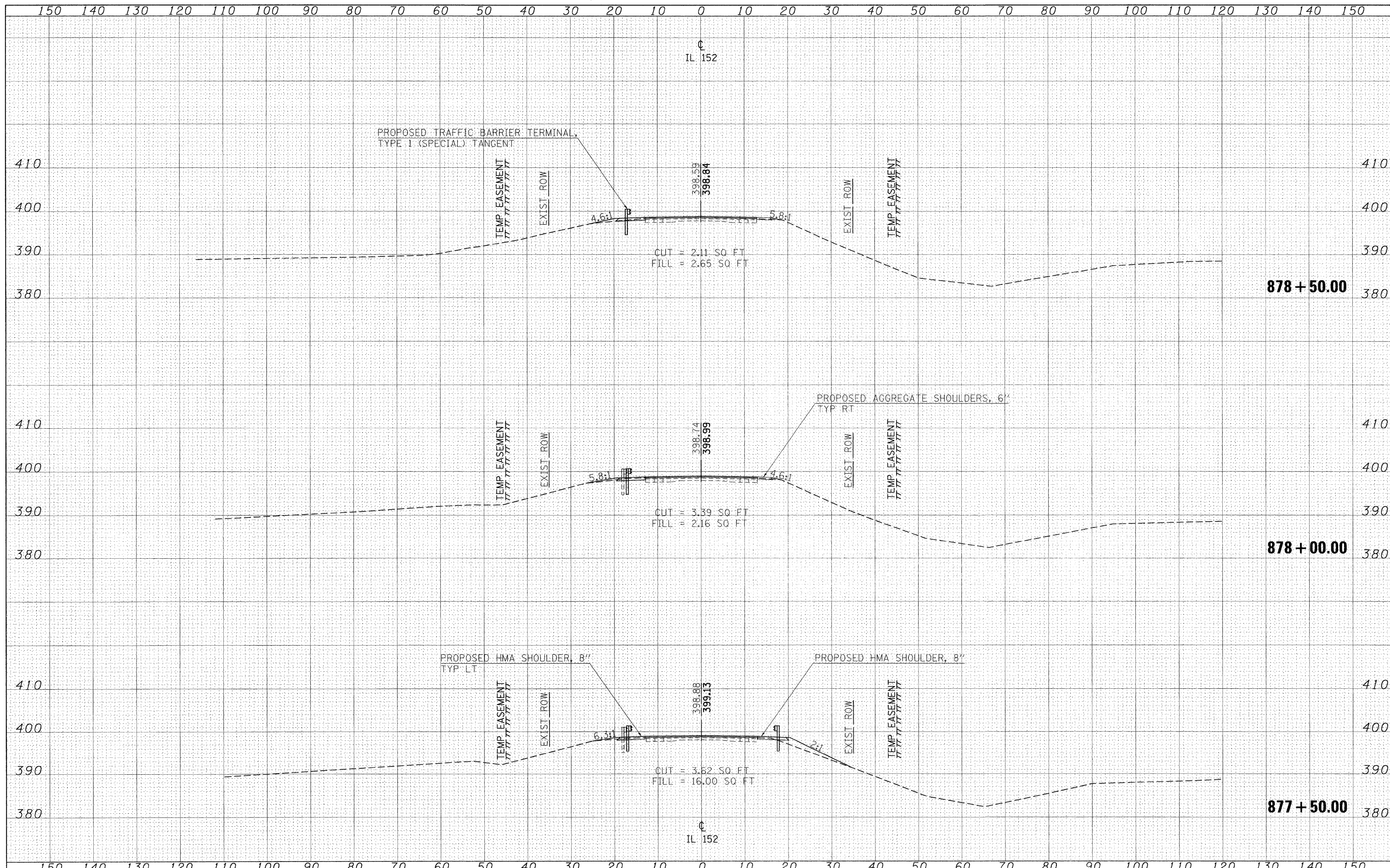
**CROSS SECTIONS
 IL 152**

SCALE: 1"=10' SHEET NO. OF SHEETS STA. 876+00.000 TO STA. 877+00.000

F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 20
CONTRACT NO. 78064				ILLINOIS FED. AID PROJECT

DATE: _____
 BY: _____
 SURVEYED: _____
 PLOTTED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____
 NO. _____

DATE: _____
 BY: _____
 SURVEYED: _____
 PLOTTED: _____
 NOTE BOOK: _____
 AREAS CHECKED: _____
 NO. _____



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 PLT SCALE = 10.0000' / IN.
 PLT DATE = 6/8/2009

DESIGNED -
 DRAWN -
 CHECKED -
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

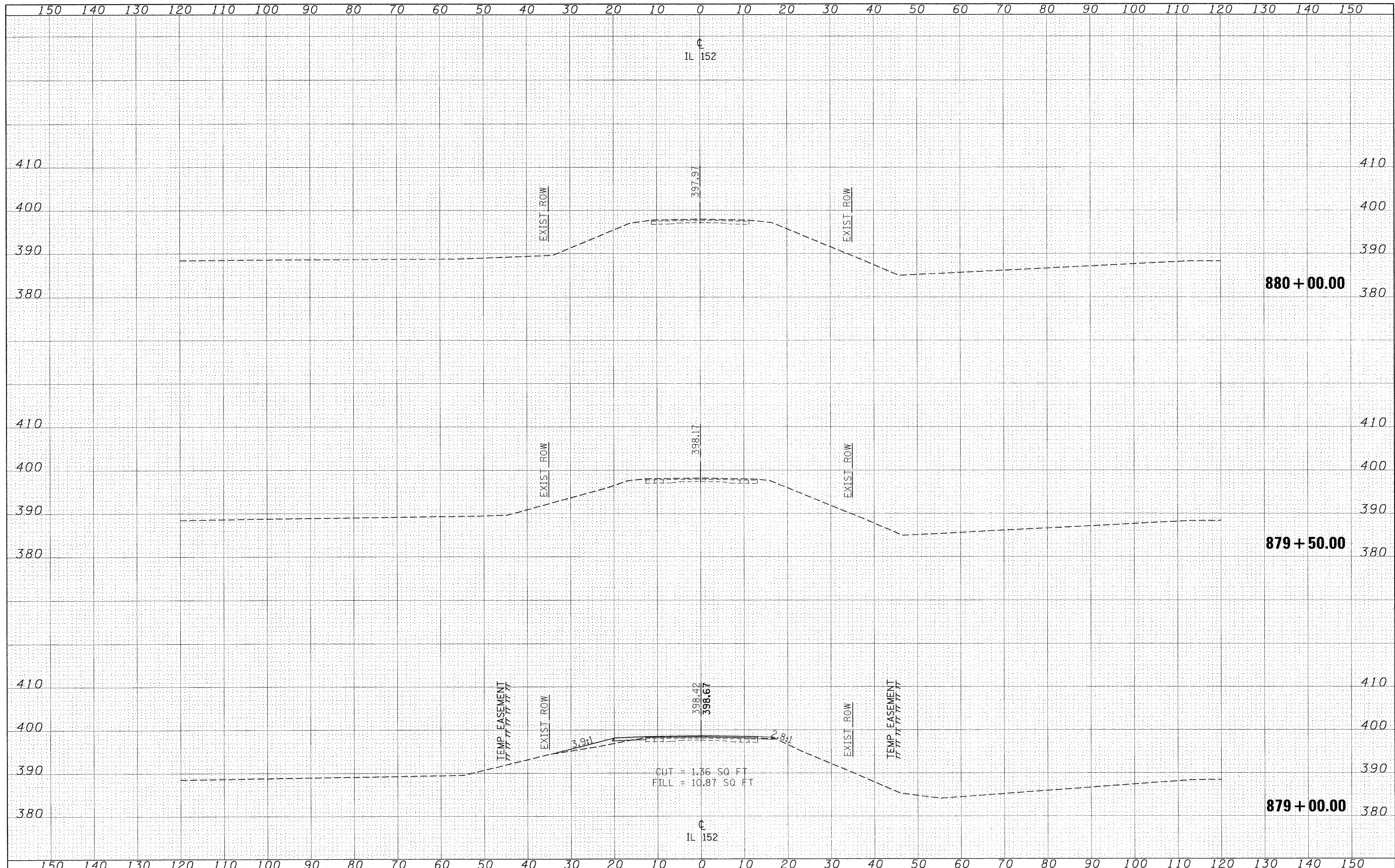
**CROSS SECTIONS
 IL 152**

SCALE: 1"=10' SHEET NO. OF SHEETS STA. 877+50.000 TO STA. 878+50.000

F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 21
CONTRACT NO. 78064				
[ILLINOIS] FED. AID PROJECT				

DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 NO. _____
 AREAS CHECKED _____

DATE: _____
 BY: _____
 SURVEYED _____
 PLOTTED _____
 NOTE BOOK _____
 NO. _____
 AREAS CHECKED _____



FILE NAME = c:\pwwork\pwwork\halstead\dm549780\87978064_sht_xssht.dgn
 USER NAME = halsteadtw

DESIGNED -
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PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 6/8/2009

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS
 IL 152**
 SCALE: 1"=10'
 SHEET NO. OF SHEETS STA. 879+00,000 TO STA. 880+00,000

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
865	16B-2	PERRY	47	22
CONTRACT NO. 78064				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark: Square cut in top of asphalt located at S.W. corner of Structure 073-0024 Elev. 399.036.

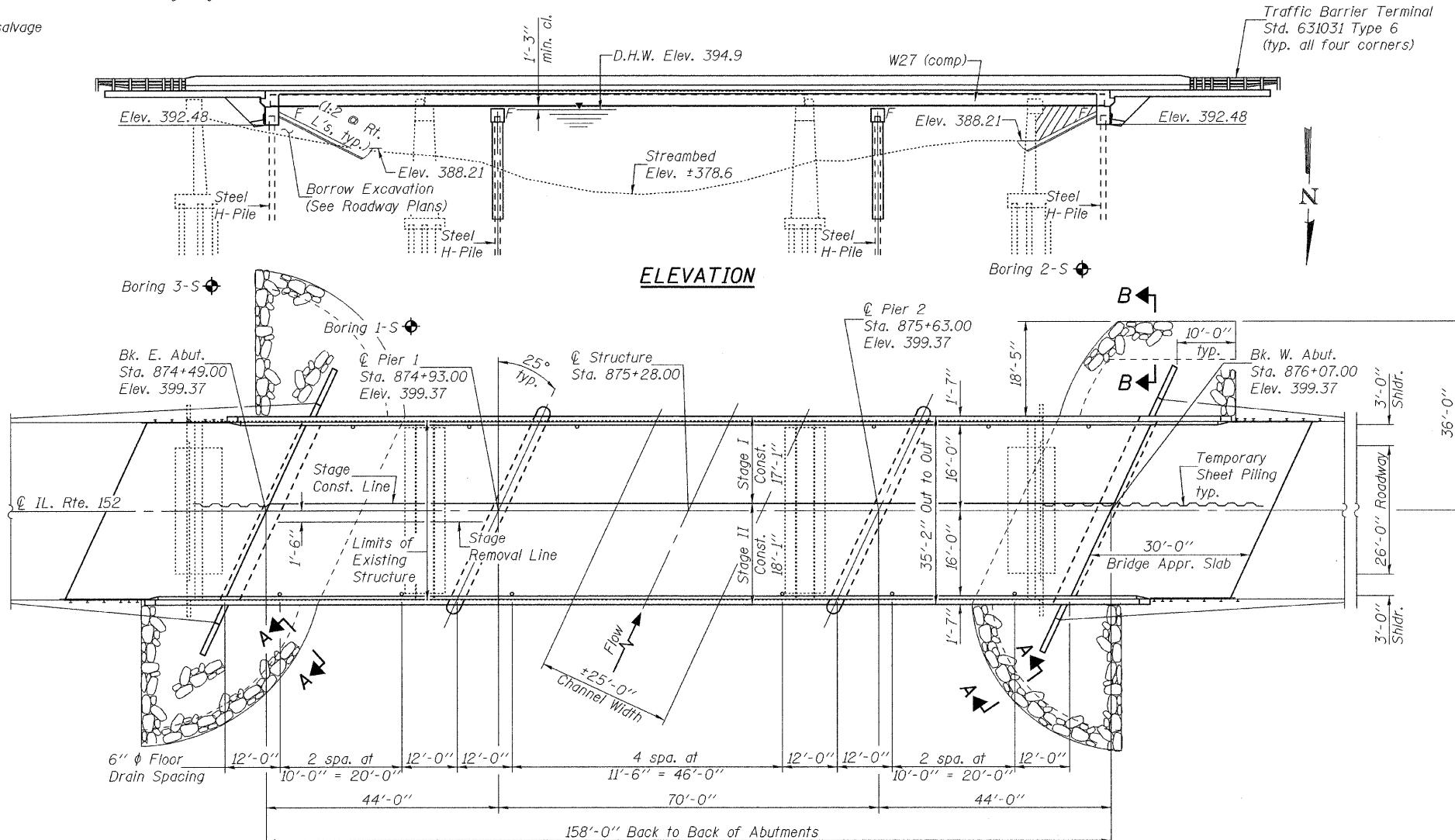
Existing Structure: S.N. 073-0024 built 1927 as SBI-Route 152, Section 104 A, B, C at Station 875+10.0 as a 3 span reinforced concrete T-beam bridge. 160'-4 1/2" Bk.-to-Bk. abutments supported on untreated timber piles. Superstructure replacement and widening to 33'-0" out to out in 1980 at Station 875+13.10 with Simple Span PPC deck beams and bituminous wearing surface. Existing bridge to be removed and replaced. Traffic maintained utilizing stage construction.

Note:
Hatched area indicates channel excavation.
(See Roadway Plans)

No salvage

INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 General Data
- 3 Stage Construction & Temporary Sheet Piling Details
- 4 Temporary Concrete Barrier for Stage Construction
- 5-7 Top of Slab Elevations
- 8 Top of East Approach Slab Elevation
- 9 Top of West Approach Slab Elevation
- 10 Superstructure
- 11 Superstructure Details
- 12 Diaphragm Details
- 13-15 Bridge Approach Slab Details
- 16 Structural Steel
- 17 Bearing & Structural Steel Details
- 18 East Abutment
- 19 West Abutment
- 20 Piers
- 21 Bar Splicer Assembly Details
- 22 Steel HP Pile Details
- 23-25 Soil Boring Logs



ELEVATION

PLAN

STATION 875+28.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 865 SEC. 16B-2
LOADING HL-93
STRUCTURE NO. 073-0037

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 Interims

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)
fy = 36,000 psi (M270 Grade 36)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.319 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.7429 g
Soil Site Classification = D

DESIGN SCOUR ELEVATION TABLE

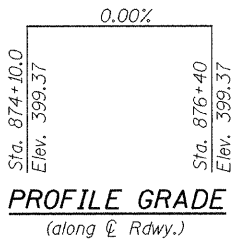
Design Scour Elevation (feet)	East Abut.	Pier 1	Pier 2	West Abut.
	392.48	367.56	367.56	392.48

WATERWAY INFORMATION

Exist. Low Grade Elev. 397.3 ft. @ Sta. 597+50
Drainage Area = 288.2 sq. mi. Prop. Low Grade Elev. 397.3 ft. @ Sta. 597+50

Freq. Yr.	Structure Number	Q (C.F.S.)		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
10	073-0023	10,420	9,460	2,833	2,833	393.1	0.5	0.4	393.6	393.5
	073-0024	3,860	4,820	823	1,051					
	Total	14,280	14,280	3,656	3,884					
Design 50	073-0023	16,440	14,830	3,825	3,825	394.9	0.6	0.5	395.5	395.4
	073-0024	5,180	6,790	993	1,284					
	Total	21,620	21,620	4,818	5,109					
Base 100	073-0023	18,990	17,830	4,156	4,156	395.5	0.6	0.6	396.1	396.1
	073-0024	6,140	7,520	1,050	1,364					
	Total	24,690	24,690	5,206	5,520					
Max. Calc. 500	073-0023	27,200	24,710	4,928	4,928	397.0	1.2	1.4	398.2	398.4
	073-0024	5,610	8,100	1,142	1,568					
	Total	32,810	32,810	6,070	6,496					

10 Year Velocity through Existing Bridge = 4.7 fps
10 Year Velocity through Prop. Bridge = 5.6 fps



PROFILE GRADE

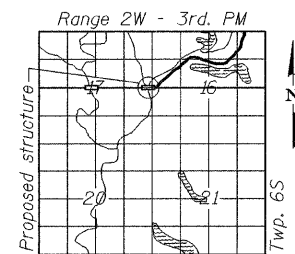
(along C. Rdwy.)

DESIGNED *Stephen Ryan*
CHECKED *Joy D. Edwards*
DRAWN *h.t. duong*
CHECKED *SMR / JDE*

EXAMINED *Thomas J. ...*
PASSED *Robert S. ...*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2010



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL. ROUTE 152 OVER PANTHER CREEK
F.A.P. ROUTE 865 - SECTION 16B-2
PERRY COUNTY
STATION 875+28.00
STRUCTURE NO. 073-0037

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	23
			CONTRACT NO. 78064		
			FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts.
Bolts $\frac{1}{2}$ " ϕ , holes $\frac{5}{16}$ " ϕ , unless otherwise noted.
Calculated weight of Structural Steel = 102,820 lbs. (AASHTO M270 Grade 50)
= 12,180 lbs. (AASHTO M270 Grade 36)
No field welding is permitted except as specified in the contract documents.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Reinforcement bars designated (E) shall be epoxy coated.
Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

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

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

Slipforming of the parapets is not allowed.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

The Contractor shall submit Structural Assessment Report(s) as required for the Contractor's Means and Methods of Construction. See Special Provisions.

Current Ratings on File for Existing Structure

Inventory: HS 17.2

Operating: HS 29.9

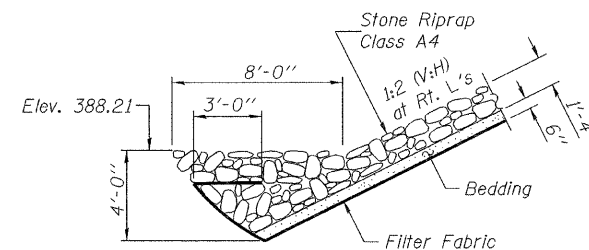
Live Load Restriction: No

Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

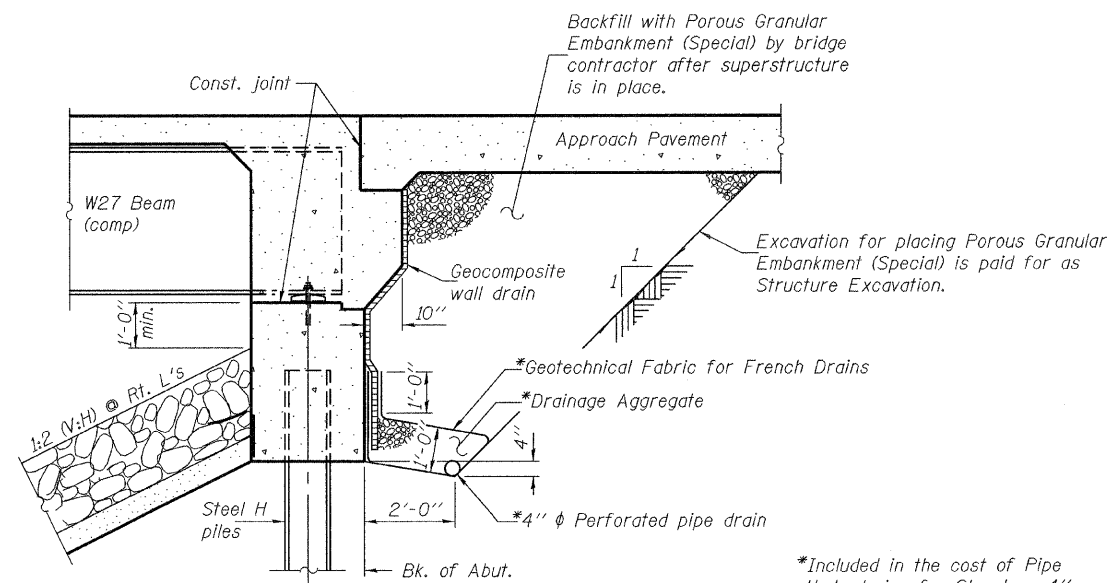
The Contractor is advised that the existing structure contains members that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal, or replacement of the structure. An Existing Structure Information Package is available upon request as noted in the special provisions.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		106	106
Stone Riprap, Class A4	Sq. Yd.		538	538
Filter Fabric	Sq. Yd.		538	538
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		143	143
Floor Drains	Each	22		22
Concrete Structures	Cu. Yd.		163.1	163.1
Concrete Superstructure	Cu. Yd.	308		308
Bridge Deck Grooving	Sq. Yd.	727		727
Concrete Encasement	Cu. Yd.		12.2	12.2
Protective Coat	Sq. Yd.	950		950
Furnishing and Erecting Structural Steel	L. Sum		1	1
Stud Shear Connectors	Each	3078		3078
Reinforcement Bars, Epoxy Coated	Pound	75950	14910	90860
Bar Splicers	Each	685	168	853
Furnishing Steel Piles HP12x74	Foot		770	770
Driving Piles	Foot		1380	1380
Test Pile Steel HP12x74	Each		2	2
Furnishing Steel Piles HP14x73	Foot		610	610
Test Pile Steel HP14x73	Each		2	2
Temporary Sheet Piling	Sq. Ft.		575	575
Name Plates	Each	1		1
Anchor Bolts 1"	Each	48		48
Geocomposite Wall Drain	Sq. Yd.		63.2	63.2
Pipe Underdrains for Structures, 4"	Foot		156	156
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1
Mechanical Splice	Each		72	72
Asbestos Bearing Pad Removal	Each		22	22

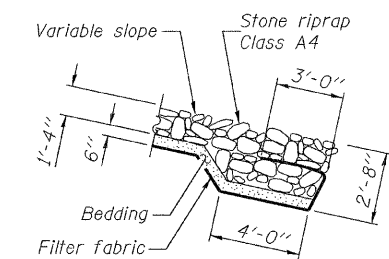


SECTION A-A



SECTION THRU INTEGRAL ABUTMENT

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



SECTION B-B
S.W. Riprap quadrant only.

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

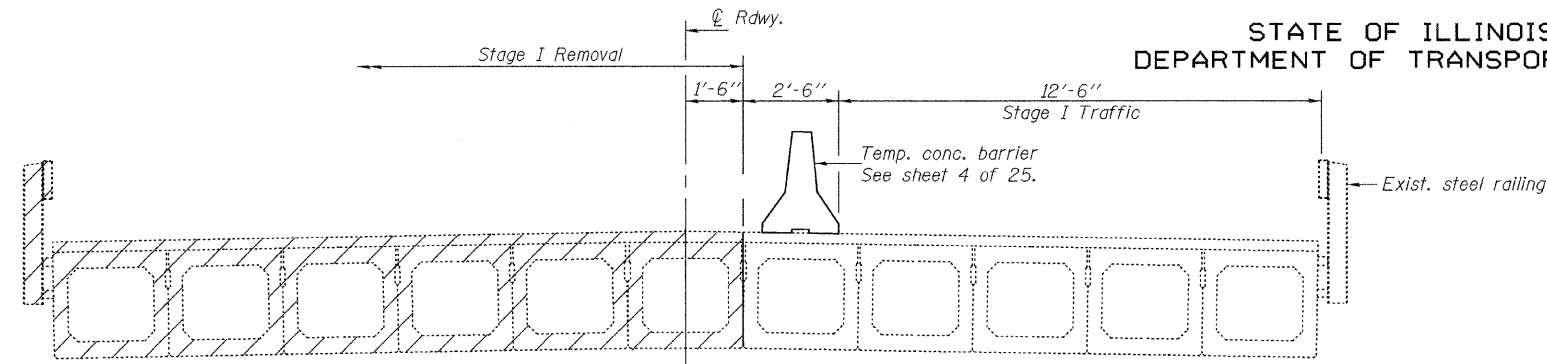
DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala	Sep. 30, 2009
PASSED	Ralph E. Anderson	

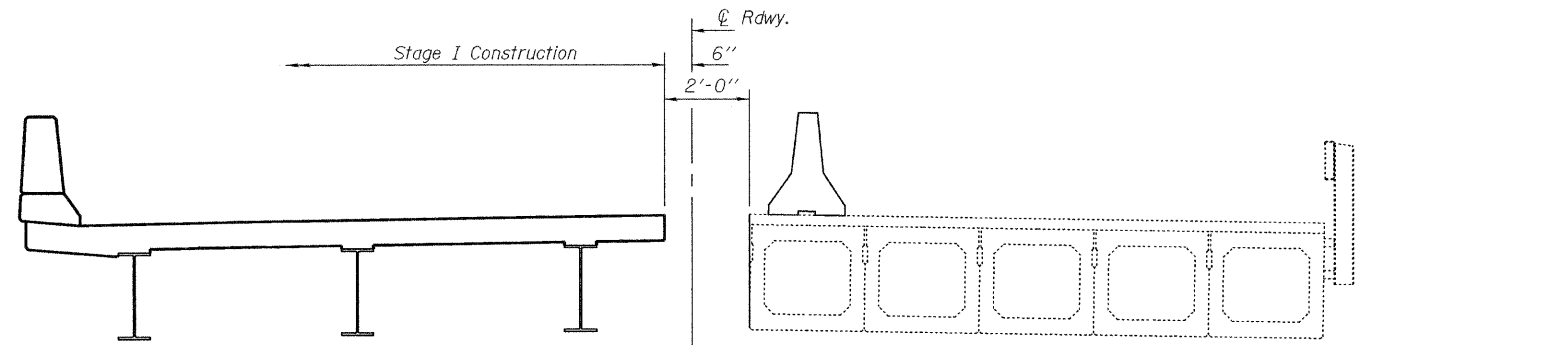
GENERAL DATA
STRUCTURE NO. 073-0037

SHEET NO. 2	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	24
25 SHEETS		CONTRACT NO. 78064			
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

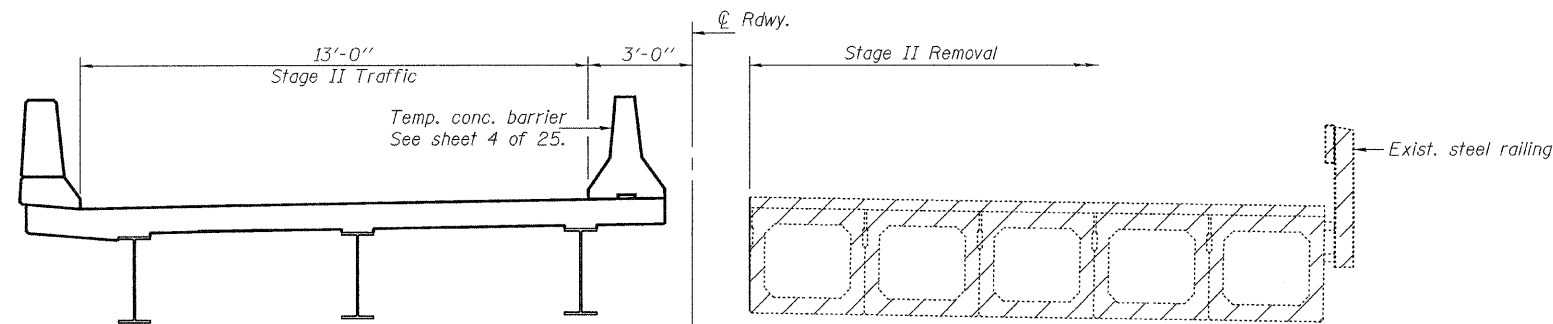
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



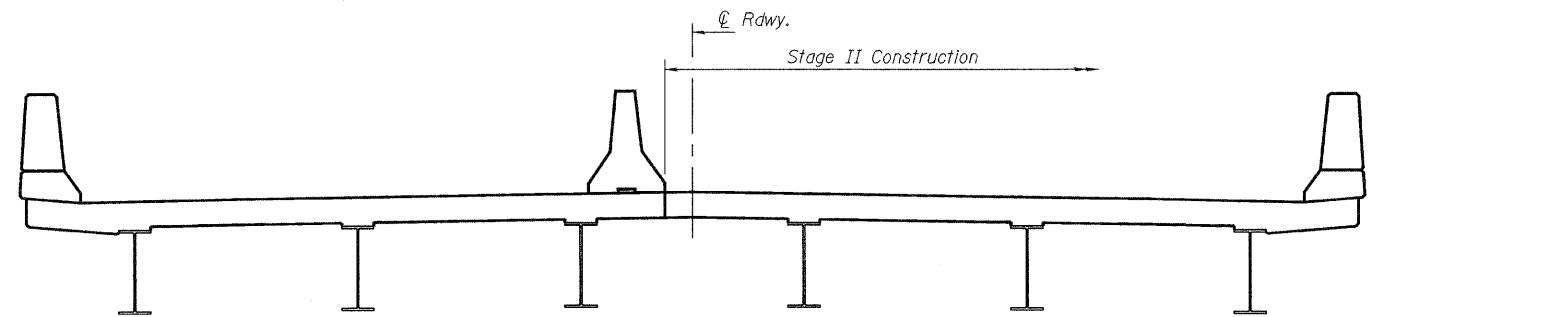
STAGE I REMOVAL



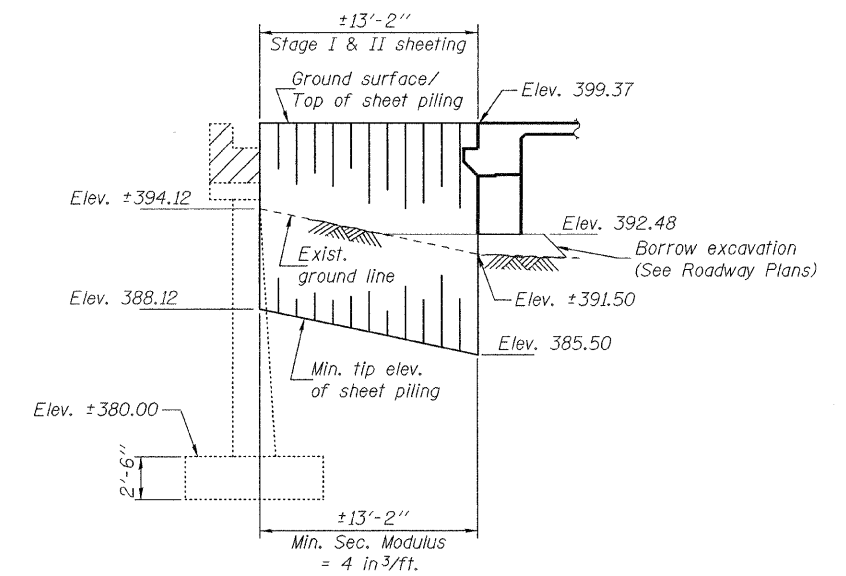
STAGE I CONSTRUCTION



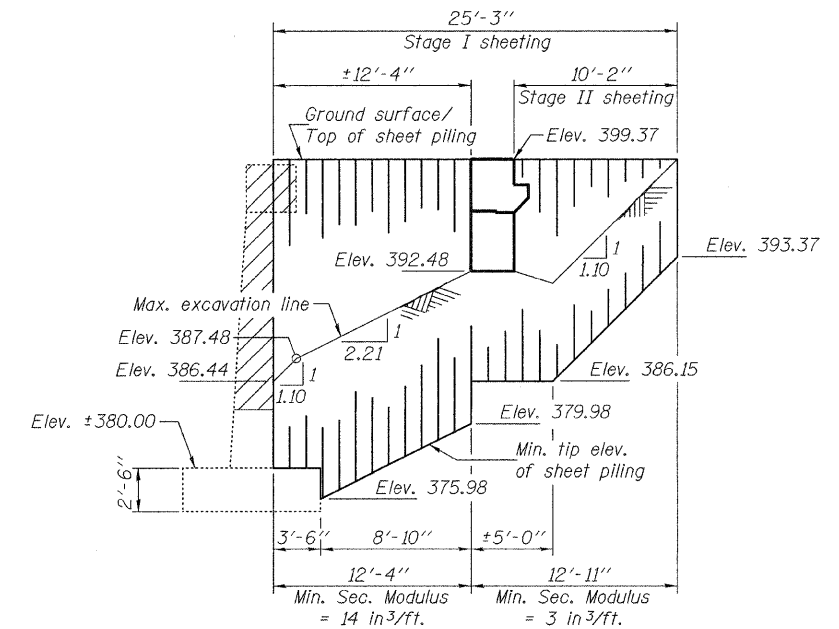
STAGE II REMOVAL



STAGE II CONSTRUCTION



TEMPORARY SHEET PILING AT EAST ABUT.



TEMPORARY SHEET PILING AT WEST ABUT.

Notes: If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer. The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

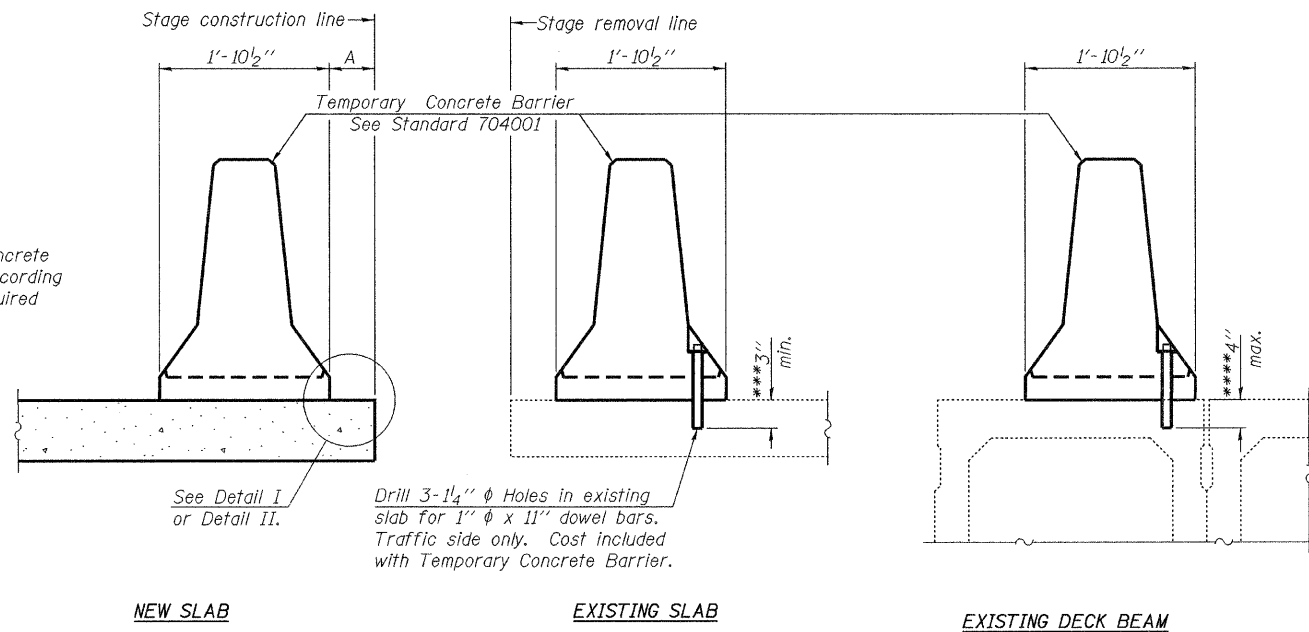
Notes: Hatched areas indicate removal of existing structures. For quantity of temporary concrete barrier, see Roadway Plans. All cross sections are looking west.

**STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 073-0037**

SHEET NO. 3	F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 25
25 SHEETS			CONTRACT NO. 78064		
FED. ROAD DIST. NO. _		ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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".



NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

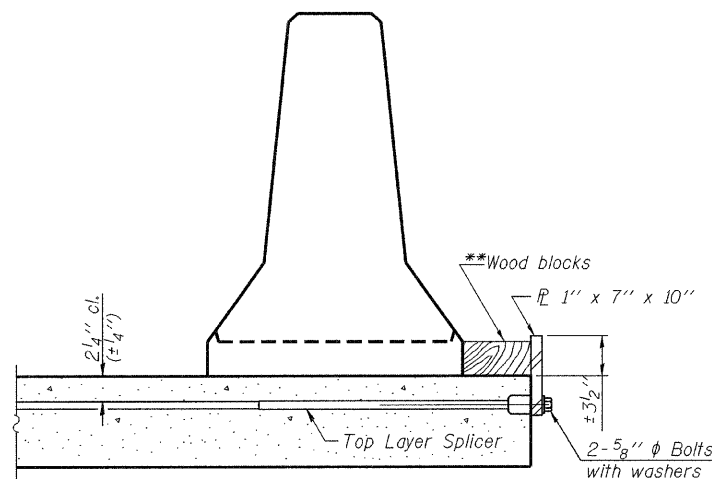
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" 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.

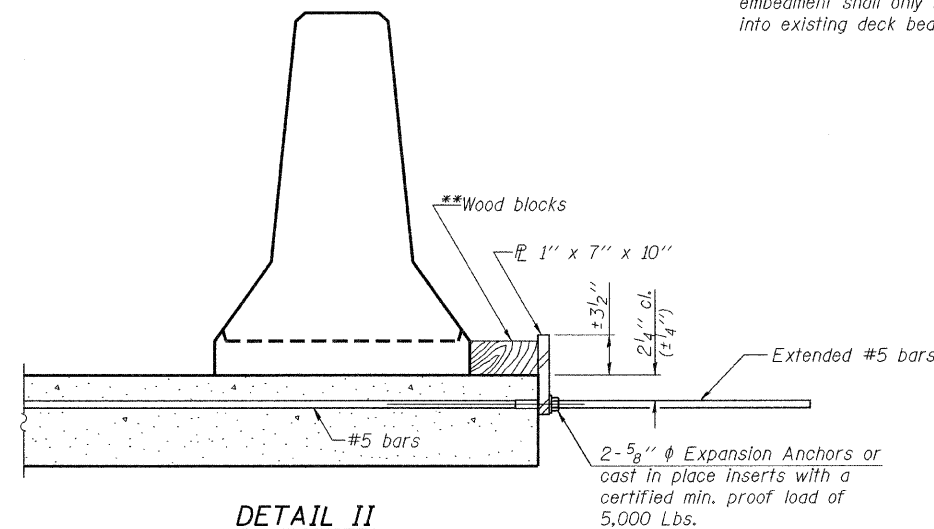
SECTIONS THRU SLAB OR DECK BEAM

*** 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.

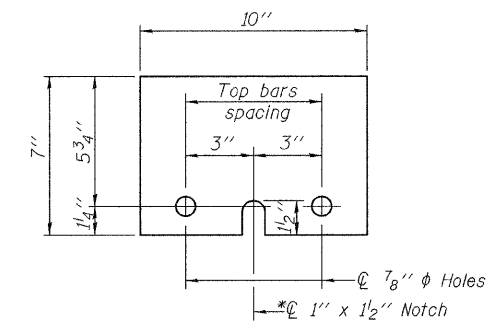
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER 1" x 7" x 10"

* Required only with Detail II

**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.

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

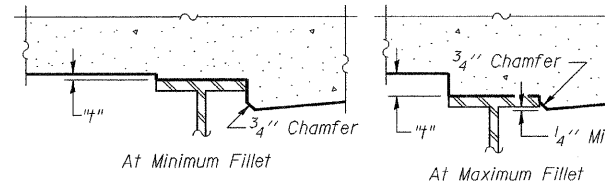
R-27

10-1-08

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
STRUCTURE NO. 073-0037**

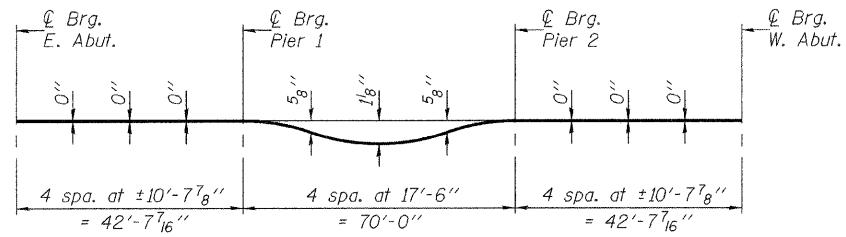
SHEET NO. 4 25 SHEETS	F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 26
	CONTRACT NO. 78064			FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6 & 7 of 25, minus slab thickness, equals the fillet heights "t" above top flange of beams.

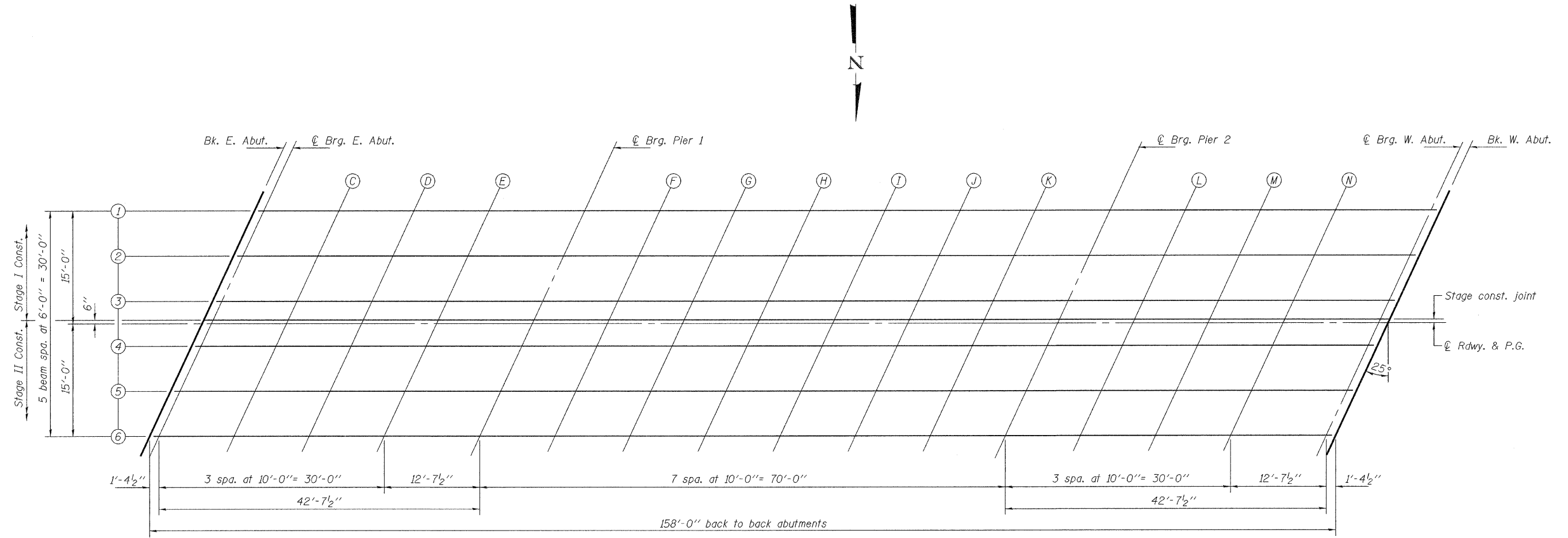
FILLET HEIGHTS



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6 & 7 of 25.



PLAN

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Domagala	Sep. 30, 2009
PASSED	Ralph E. Anderson	

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 073-0037

SHEET NO. 5 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	27
CONTRACT NO. 78064					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87455.99	-15.00	399.12	399.12
CL Brg. E. Abut.	87457.37	-15.00	399.12	399.12
C	87467.37	-15.00	399.12	399.13
D	87477.37	-15.00	399.12	399.12
E	87487.37	-15.00	399.12	399.12
CL Pier 1	87499.99	-15.00	399.12	399.12
F	87509.99	-15.00	399.12	399.15
G	87519.99	-15.00	399.12	399.18
H	87529.99	-15.00	399.12	399.20
I	87539.99	-15.00	399.12	399.20
J	87549.99	-15.00	399.12	399.18
K	87559.99	-15.00	399.12	399.15
CL Pier 2	87569.99	-15.00	399.12	399.12
L	87579.99	-15.00	399.12	399.12
M	87589.99	-15.00	399.12	399.12
N	87599.99	-15.00	399.12	399.13
CL Brg. W. Abut.	87612.62	-15.00	399.12	399.12
Bk. W. Abut.	87613.99	-15.00	399.12	399.12

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87453.20	-9.00	399.23	399.23
CL Brg. E. Abut.	87454.58	-9.00	399.23	399.23
C	87464.58	-9.00	399.23	399.23
D	87474.58	-9.00	399.23	399.23
E	87484.58	-9.00	399.23	399.23
CL Pier 1	87497.20	-9.00	399.23	399.23
F	87507.20	-9.00	399.23	399.26
G	87517.20	-9.00	399.23	399.29
H	87527.20	-9.00	399.23	399.31
I	87537.20	-9.00	399.23	399.31
J	87547.20	-9.00	399.23	399.29
K	87557.20	-9.00	399.23	399.26
CL Pier 2	87567.20	-9.00	399.23	399.23
L	87577.20	-9.00	399.23	399.23
M	87587.20	-9.00	399.23	399.23
N	87597.20	-9.00	399.23	399.23
CL Brg. W. Abut.	87609.82	-9.00	399.23	399.23
Bk. W. Abut.	87611.20	-9.00	399.23	399.23

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87450.40	-3.00	399.32	399.32
CL Brg. E. Abut.	87451.78	-3.00	399.32	399.32
C	87461.78	-3.00	399.32	399.33
D	87471.78	-3.00	399.32	399.33
E	87481.78	-3.00	399.32	399.32
CL Pier 1	87494.40	-3.00	399.32	399.32
F	87504.40	-3.00	399.32	399.36
G	87514.40	-3.00	399.32	399.38
H	87524.40	-3.00	399.32	399.40
I	87534.40	-3.00	399.32	399.40
J	87544.40	-3.00	399.32	399.38
K	87554.40	-3.00	399.32	399.36
CL Pier 2	87564.40	-3.00	399.32	399.32
L	87574.40	-3.00	399.32	399.32
M	87584.40	-3.00	399.32	399.33
N	87594.40	-3.00	399.32	399.33
CL Brg. W. Abut.	87607.02	-3.00	399.32	399.32
Bk. W. Abut.	87608.40	-3.00	399.32	399.32

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87449.23	-0.50	399.36	399.36
CL Brg. E. Abut.	87450.61	-0.50	399.36	399.36
C	87460.61	-0.50	399.36	399.37
D	87470.61	-0.50	399.36	399.37
E	87480.61	-0.50	399.36	399.36
CL Pier 1	87493.23	-0.50	399.36	399.36
F	87503.23	-0.50	399.36	399.39
G	87513.23	-0.50	399.36	399.42
H	87523.23	-0.50	399.36	399.44
I	87533.23	-0.50	399.36	399.44
J	87543.23	-0.50	399.36	399.42
K	87553.23	-0.50	399.36	399.39
CL Pier 2	87563.23	-0.50	399.36	399.36
L	87573.23	-0.50	399.36	399.36
M	87583.23	-0.50	399.36	399.36
N	87593.23	-0.50	399.36	399.37
CL Brg. W. Abut.	87605.85	-0.50	399.36	399.36
Bk. W. Abut.	87607.23	-0.50	399.36	399.36

**TOP OF SLAB ELEVATIONS
STRUCTURE NO. 073-0037**

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

Sep. 30, 2009
EXAMINED *Thomas J. Damagala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 6	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	23
25 SHEETS			CONTRACT NO. 78064		
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87449.00	0.00	399.37	399.37
CL Brg. E. Abut.	87450.38	0.00	399.37	399.37
C	87460.38	0.00	399.37	399.37
D	87470.38	0.00	399.37	399.37
E	87480.38	0.00	399.37	399.37
CL Pier 1	87493.00	0.00	399.37	399.37
F	87503.00	0.00	399.37	399.40
G	87513.00	0.00	399.37	399.43
H	87523.00	0.00	399.37	399.45
I	87533.00	0.00	399.37	399.45
J	87543.00	0.00	399.37	399.43
K	87553.00	0.00	399.37	399.40
CL Pier 2	87563.00	0.00	399.37	399.37
L	87573.00	0.00	399.37	399.37
M	87583.00	0.00	399.37	399.37
N	87593.00	0.00	399.37	399.37
CL Brg. W. Abut.	87605.62	0.00	399.37	399.37
Bk. W. Abut.	87607.00	0.00	399.37	399.37

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87447.60	3.00	399.32	399.32
CL Brg. E. Abut.	87448.98	3.00	399.32	399.32
C	87458.98	3.00	399.32	399.33
D	87468.98	3.00	399.32	399.33
E	87478.98	3.00	399.32	399.32
CL Pier 1	87491.60	3.00	399.32	399.32
F	87501.60	3.00	399.32	399.36
G	87511.60	3.00	399.32	399.38
H	87521.60	3.00	399.32	399.40
I	87531.60	3.00	399.32	399.40
J	87541.60	3.00	399.32	399.38
K	87551.60	3.00	399.32	399.36
CL Pier 2	87561.60	3.00	399.32	399.32
L	87571.60	3.00	399.32	399.32
M	87581.60	3.00	399.32	399.33
N	87591.60	3.00	399.32	399.33
CL Brg. W. Abut.	87604.22	3.00	399.32	399.32
Bk. W. Abut.	87605.60	3.00	399.32	399.32

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87444.80	9.00	399.23	399.23
CL Brg. E. Abut.	87446.18	9.00	399.23	399.23
C	87456.18	9.00	399.23	399.23
D	87466.18	9.00	399.23	399.23
E	87476.18	9.00	399.23	399.23
CL Pier 1	87488.80	9.00	399.23	399.23
F	87498.80	9.00	399.23	399.26
G	87508.80	9.00	399.23	399.29
H	87518.80	9.00	399.23	399.31
I	87528.80	9.00	399.23	399.31
J	87538.80	9.00	399.23	399.29
K	87548.80	9.00	399.23	399.26
CL Pier 2	87558.80	9.00	399.23	399.23
L	87568.80	9.00	399.23	399.23
M	87578.80	9.00	399.23	399.23
N	87588.80	9.00	399.23	399.23
CL Brg. W. Abut.	87601.42	9.00	399.23	399.23
Bk. W. Abut.	87602.80	9.00	399.23	399.23

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. E. Abut.	87442.01	15.00	399.12	399.12
CL Brg. E. Abut.	87443.38	15.00	399.12	399.12
C	87453.38	15.00	399.12	399.13
D	87463.38	15.00	399.12	399.12
E	87473.38	15.00	399.12	399.12
CL Pier 1	87486.01	15.00	399.12	399.12
F	87496.01	15.00	399.12	399.15
G	87506.01	15.00	399.12	399.18
H	87516.01	15.00	399.12	399.20
I	87526.01	15.00	399.12	399.20
J	87536.01	15.00	399.12	399.18
K	87546.01	15.00	399.12	399.15
CL Pier 2	87556.01	15.00	399.12	399.12
L	87566.01	15.00	399.12	399.12
M	87576.01	15.00	399.12	399.12
N	87586.01	15.00	399.12	399.13
CL Brg. W. Abut.	87598.63	15.00	399.12	399.12
Bk. W. Abut.	87600.01	15.00	399.12	399.12

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 073-0037

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

Sep. 30, 2009

EXAMINED	<i>Thomas J. Damagala</i>
PASSED	<i>Ralph E. Anderson</i>

ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 7	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	29
25 SHEETS	CONTRACT NO. 78064				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87426.46	-16.00	399.10
A	87436.46	-16.00	399.10
B	87446.46	-16.00	399.10
West End E. Appr. Slab	87456.46	-16.00	399.10

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87424.60	-12.00	399.18
A	87434.60	-12.00	399.18
B	87444.60	-12.00	399.18
West End E. Appr. Slab	87454.60	-12.00	399.18

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87419.23	-0.50	399.36
A	87429.23	-0.50	399.36
B	87439.23	-0.50	399.36
West End E. Appr. Slab	87449.23	-0.50	399.36

RDWY & PROFILE GRADE

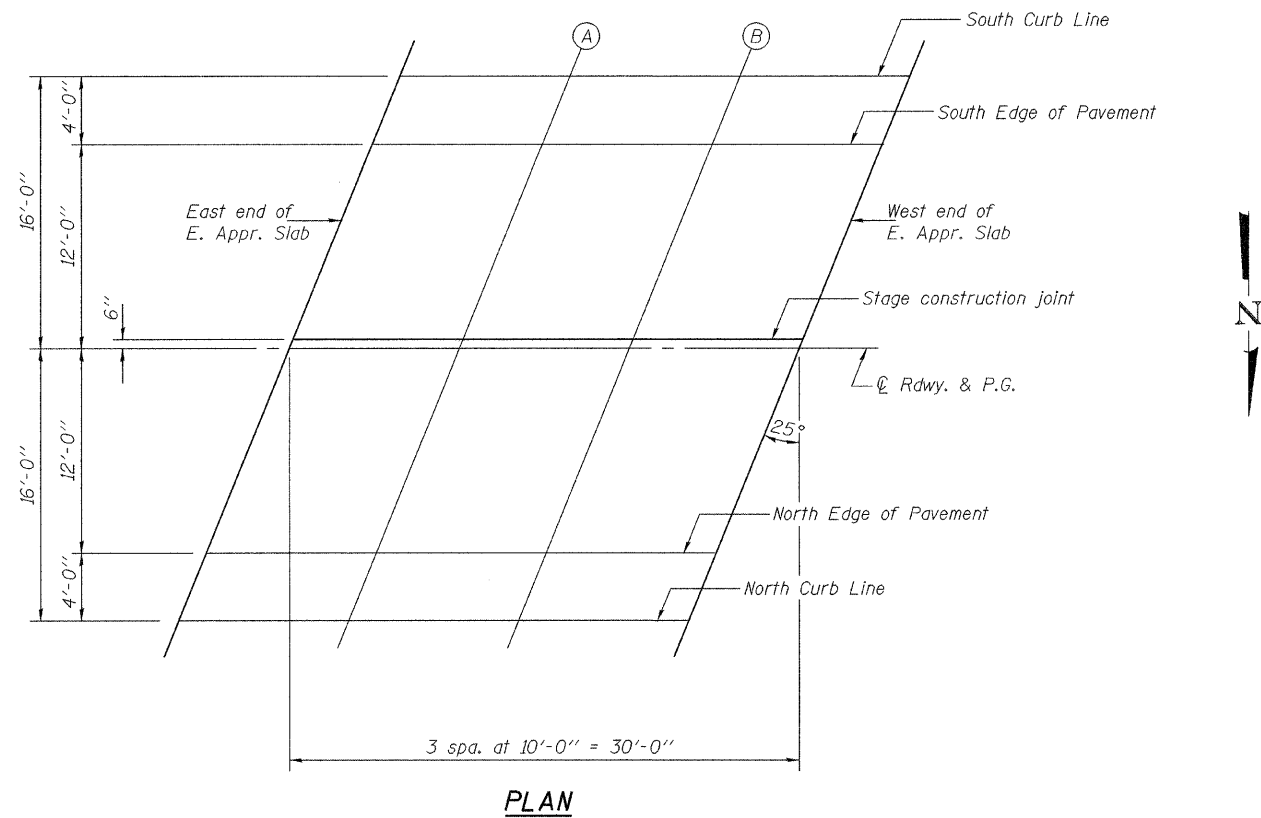
Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87419.00	0.00	399.37
A	87429.00	0.00	399.37
B	87439.00	0.00	399.37
West End E. Appr. Slab	87449.00	0.00	399.37

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87413.40	12.00	399.18
A	87423.40	12.00	399.18
B	87433.40	12.00	399.18
West End E. Appr. Slab	87443.40	12.00	399.18

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East End E. Appr. Slab	87411.54	16.00	399.10
A	87421.54	16.00	399.10
B	87431.54	16.00	399.10
West End E. Appr. Slab	87441.54	16.00	399.10



PLAN

TOP OF EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 073-0037

DESIGNED	Stephen M. Ryan
CHECKED	Joy D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Domagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 8	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	30
25 SHEETS	CONTRACT NO. 78064				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87614.46	-16.00	399.10
O	87624.46	-16.00	399.10
P	87634.46	-16.00	399.10
West End W. Appr. Slab	87644.46	-16.00	399.10

SOUTH EDGE OF PAVEMENT

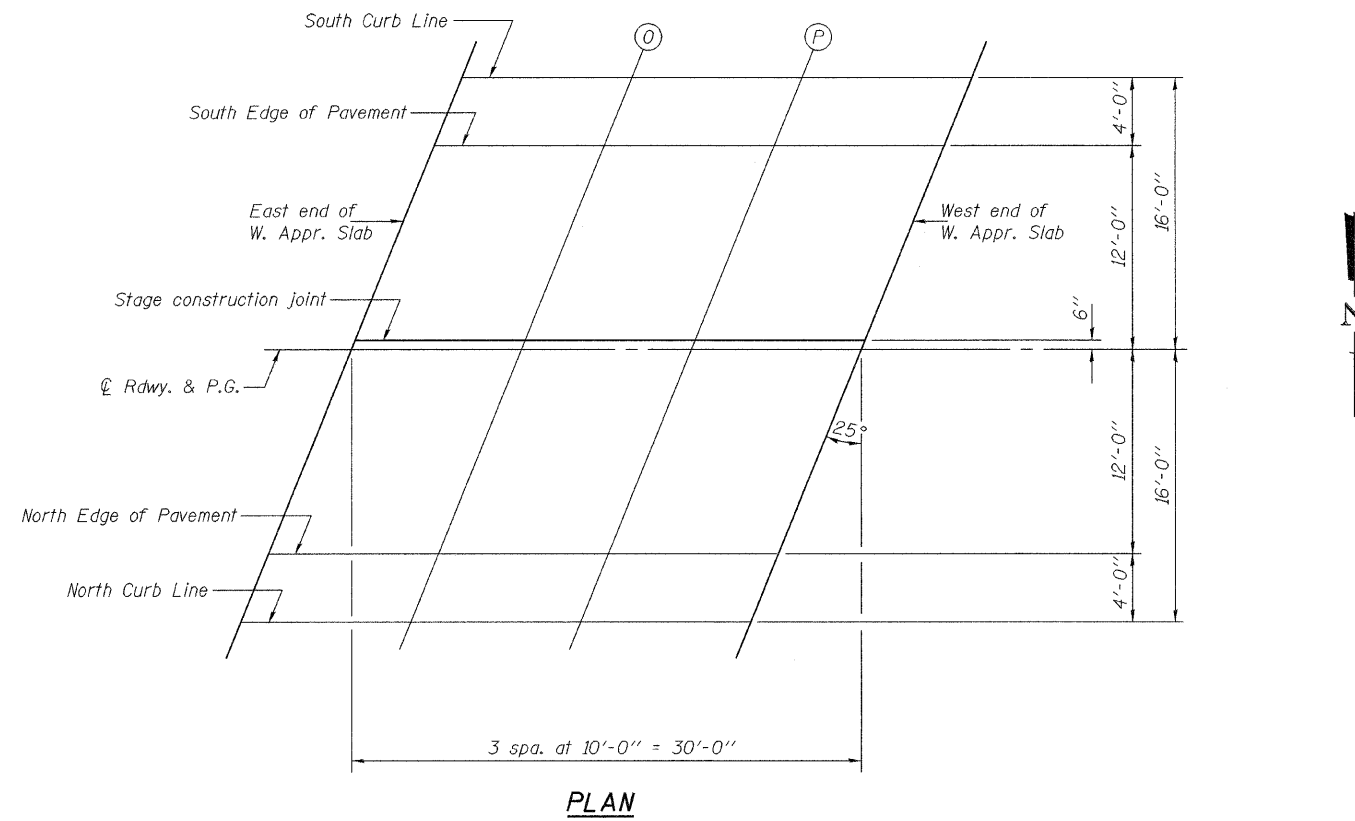
Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87612.60	-12.00	399.18
O	87622.60	-12.00	399.18
P	87632.60	-12.00	399.18
West End W. Appr. Slab	87642.60	-12.00	399.18

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87607.23	-0.50	399.36
O	87617.23	-0.50	399.36
P	87627.23	-0.50	399.36
West End W. Appr. Slab	87637.23	-0.50	399.36

☉ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87607.00	0.00	399.37
O	87617.00	0.00	399.37
P	87627.00	0.00	399.37
West End W. Appr. Slab	87637.00	0.00	399.37



NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87601.40	12.00	399.18
O	87611.40	12.00	399.18
P	87621.40	12.00	399.18
West End W. Appr. Slab	87631.40	12.00	399.18

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
East End W. Appr. Slab	87599.54	16.00	399.10
O	87609.54	16.00	399.10
P	87619.54	16.00	399.10
West End W. Appr. Slab	87629.54	16.00	399.10

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 073-0037

SHEET NO. 9	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	31
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

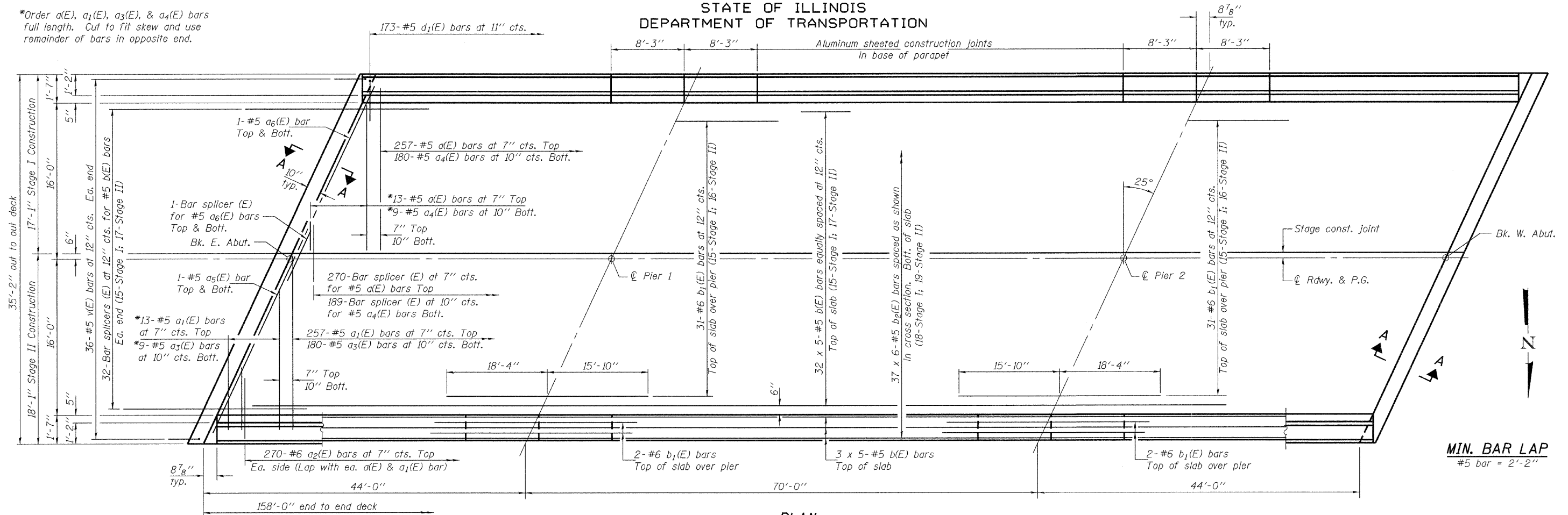
Sep. 30, 2009

EXAMINED	Thomas J. Damagala
PASSED	Ralph E. Anderson

ENGINEER OF BRIDGES AND STRUCTURES

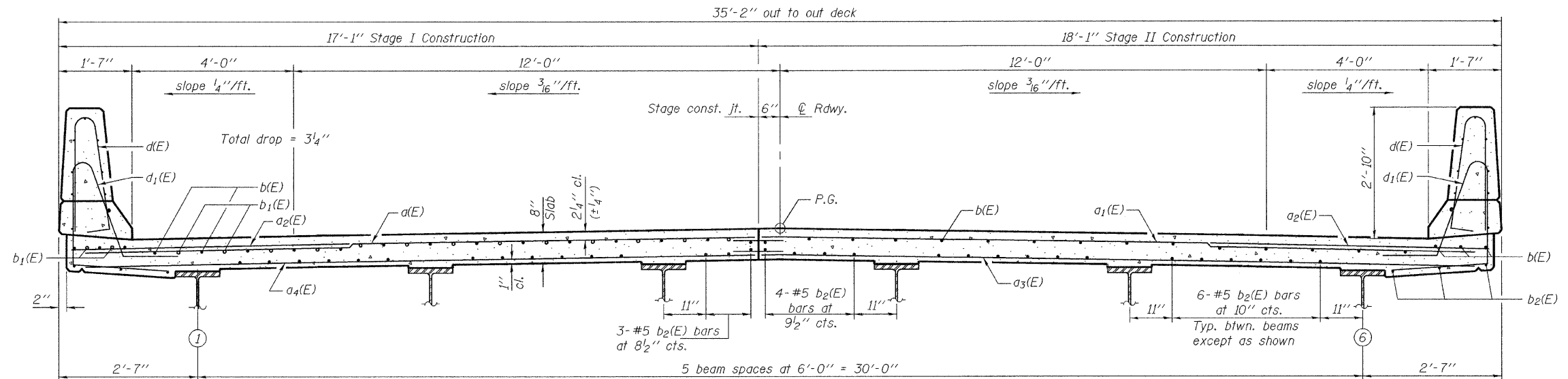
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

*Order a(E), a₁(E), a₃(E), & a₄(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



PLAN

Notes: See sheet 11 of 25 for superstructure details and Bill of Material.
Bars indicated thus 20 x 5-#5 etc. indicates 20 lines of bars with 5 lengths per line.
See sheet 11 of 25 for parapet reinforcement.
See sheet 12 of 25 for Section A-A.



CROSS SECTION
(Looking West)

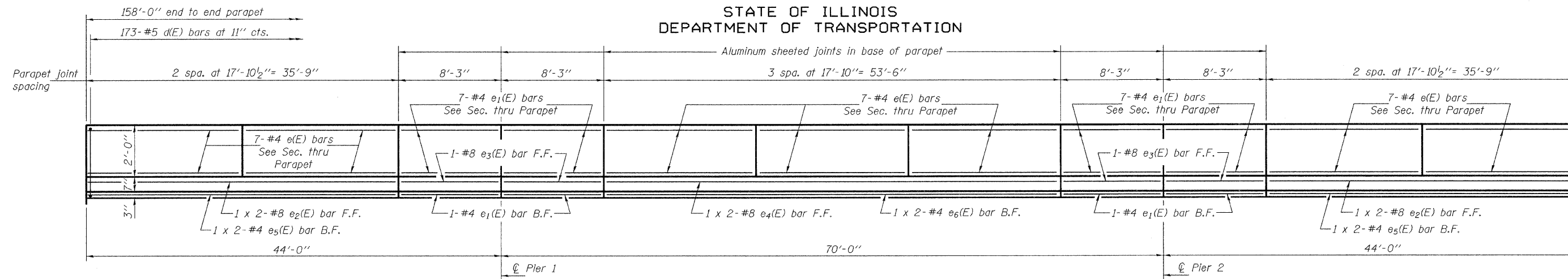
DESIGNED Stephen M. Ryan
CHECKED Jay D. Edwards
DRAWN h.t. duong
CHECKED SMR/JDE

EXAMINED *Thomas J. Damagala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGE DESIGN
ENGINEER OF BRIDGES AND STRUCTURES

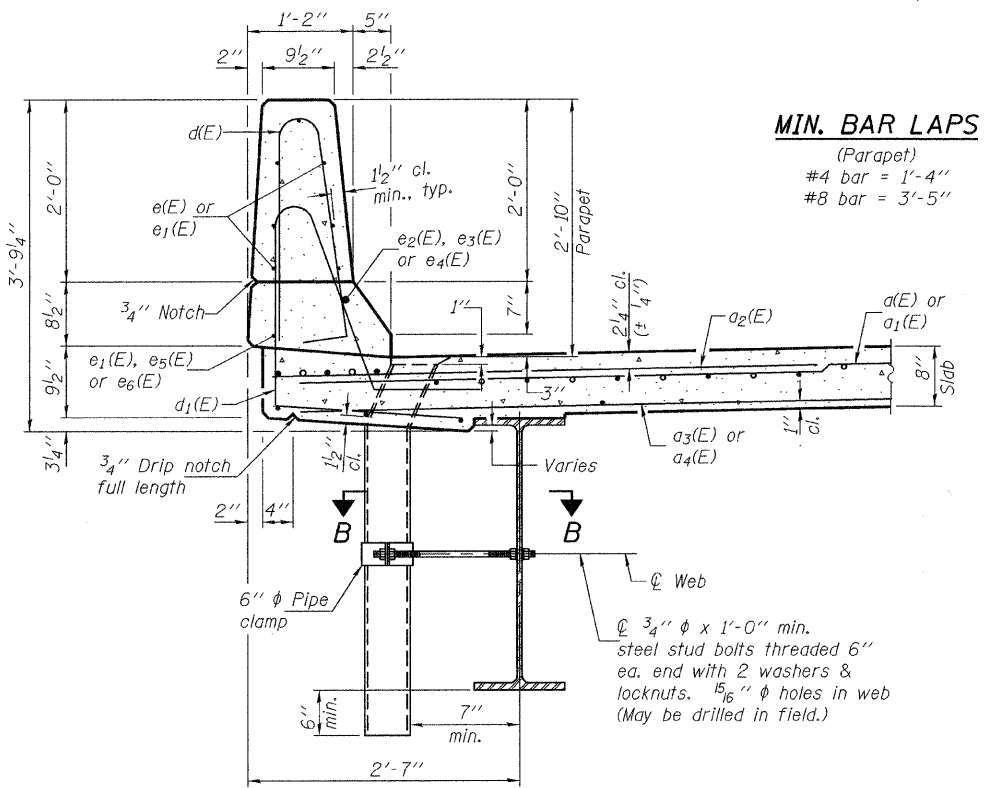
SUPERSTRUCTURE
STRUCTURE NO. 073-0037

SHEET NO. 10 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	32
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



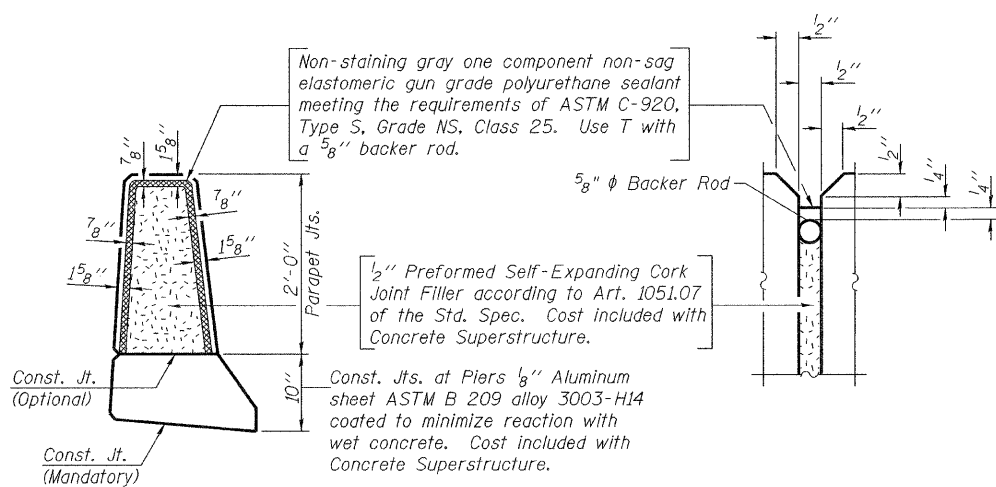
INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

MIN. BAR LAPS

(Parapet)
#4 bar = 1'-4"
#8 bar = 3'-5"



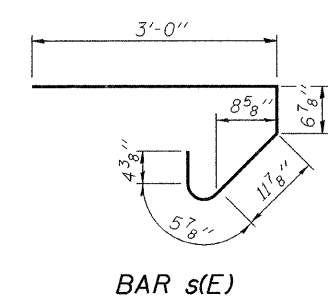
PARAPET JOINT DETAILS

Notes:
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

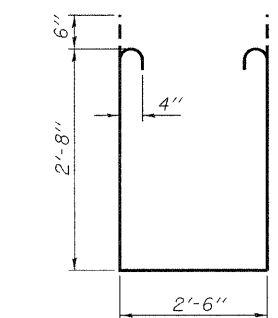
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	270	#5	16'-7"	—
a1(E)	270	#5	17'-7"	—
a2(E)	540	#6	6'-0"	—
a3(E)	189	#5	17'-1"	—
a4(E)	189	#5	16'-1"	—
a5(E)	4	#5	19'-4"	—
a6(E)	4	#5	18'-4"	—
b(E)	190	#5	33'-4"	—
b1(E)	70	#6	34'-2"	—
b2(E)	222	#5	28'-2"	—
d(E)	346	#5	5'-7"	—
d1(E)	346	#5	7'-5"	—
e(E)	98	#4	17'-6"	—
e1(E)	64	#4	7'-11"	—
e2(E)	8	#8	19'-5"	—
e3(E)	8	#8	7'-11"	—
e4(E)	4	#8	28'-4"	—
e5(E)	8	#4	18'-5"	—
e6(E)	8	#4	27'-3"	—
m(E)	4	#6	18'-7"	—
m1(E)	4	#6	19'-8"	—
m2(E)	6	#6	18'-7"	—
m3(E)	6	#6	19'-8"	—
m4(E)	12	#6	7'-11"	—
m5(E)	12	#6	8'-3"	—
m6(E)	4	#6	2'-6"	—
m7(E)	10	#6	6'-3"	—
s(E)	82	#5	5'-5"	—
s1(E)	92	#4	8'-10"	—
v(E)	72	#5	3'-4"	—
Reinforcement Bars, Epoxy Coated	Pound	47440		
Concrete Superstructure	Cu. Yds.	199.1		

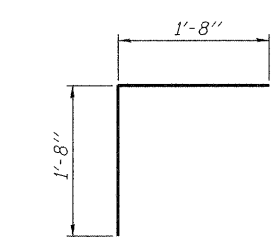
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



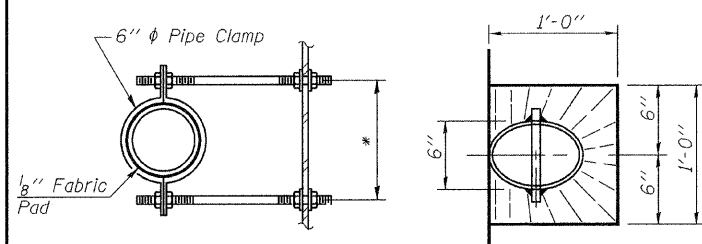
BAR s(E)



BAR s1(E)

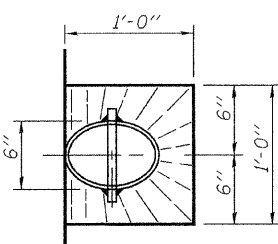


BAR v(E)



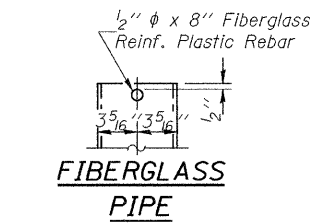
SECTION B-B

*Dimension as required by Pipe Clamp

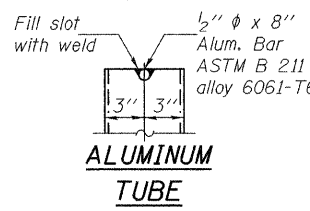


TOP PLAN

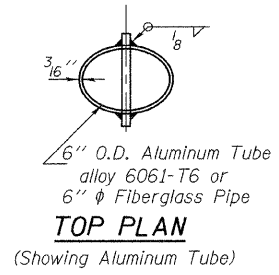
(Showing Tube Section)



FIBERGLASS PIPE

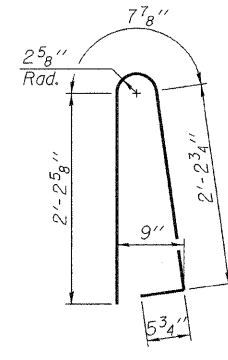


ALUMINUM TUBE

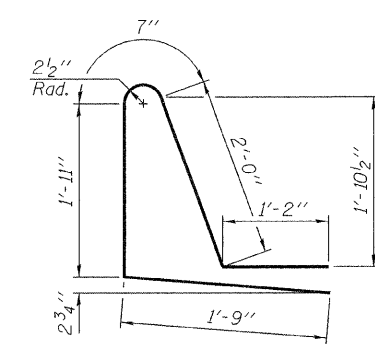


TOP PLAN

(Showing Aluminum Tube)



BAR d(E)



BAR d1(E)

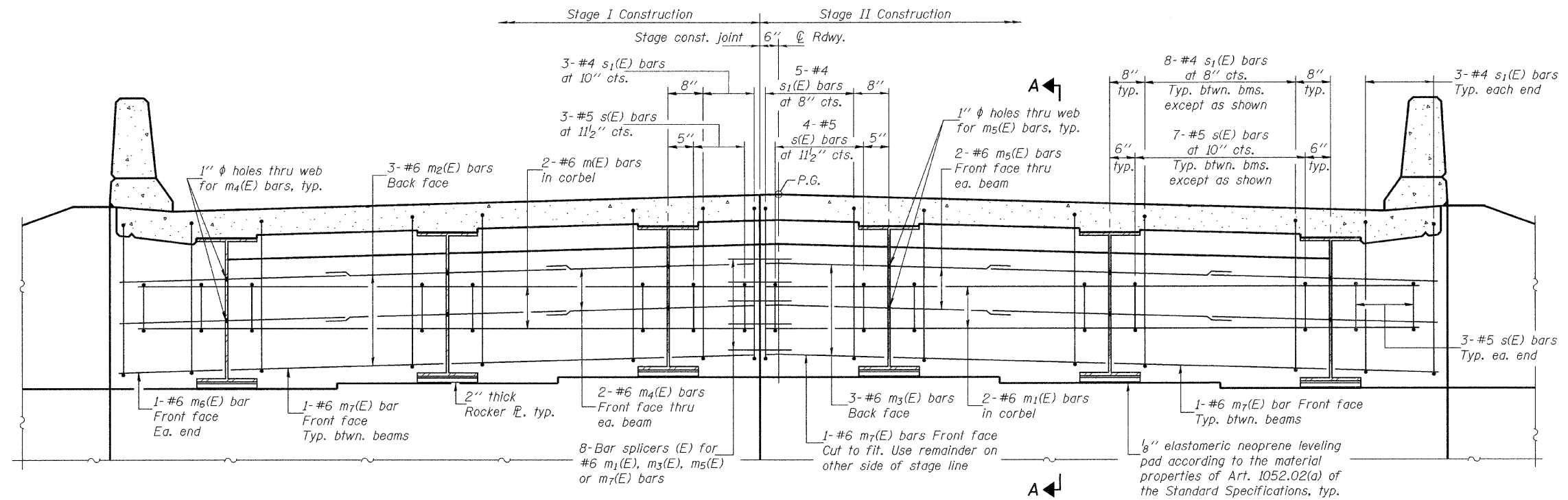
SUPERSTRUCTURE DETAILS
STRUCTURE NO. 073-0037

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas Damagala
PASSED	Ralph E. Anderson

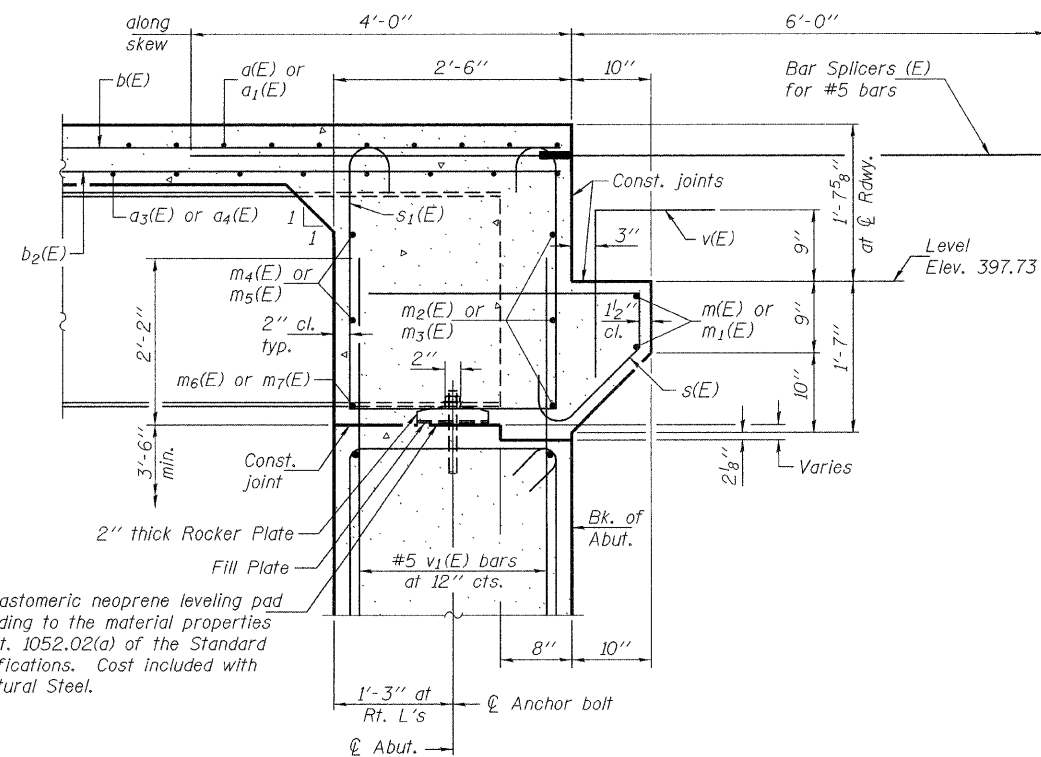
SHEET NO. 11 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	33
CONTRACT NO. 78064					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DIAPHRAGM ELEVATION AT WEST ABUTMENT
(Looking West - East Abutment similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 11 of 25.
Concrete in diaphragm is included with Concrete Superstructure on sheet 11 of 25.
For details of bars s(E) & s₁(E) see sheet 11 of 25.
The s(E) and s₁(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.



SECTION A-A

Dimensions at right angles to abutment, except as shown.

MIN. BAR LAP
#6 bar = 2'-7"

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

Sep. 30, 2009

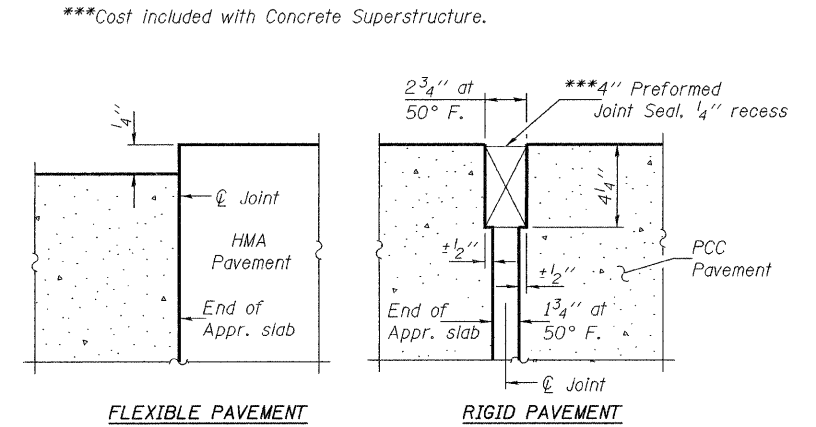
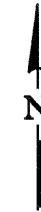
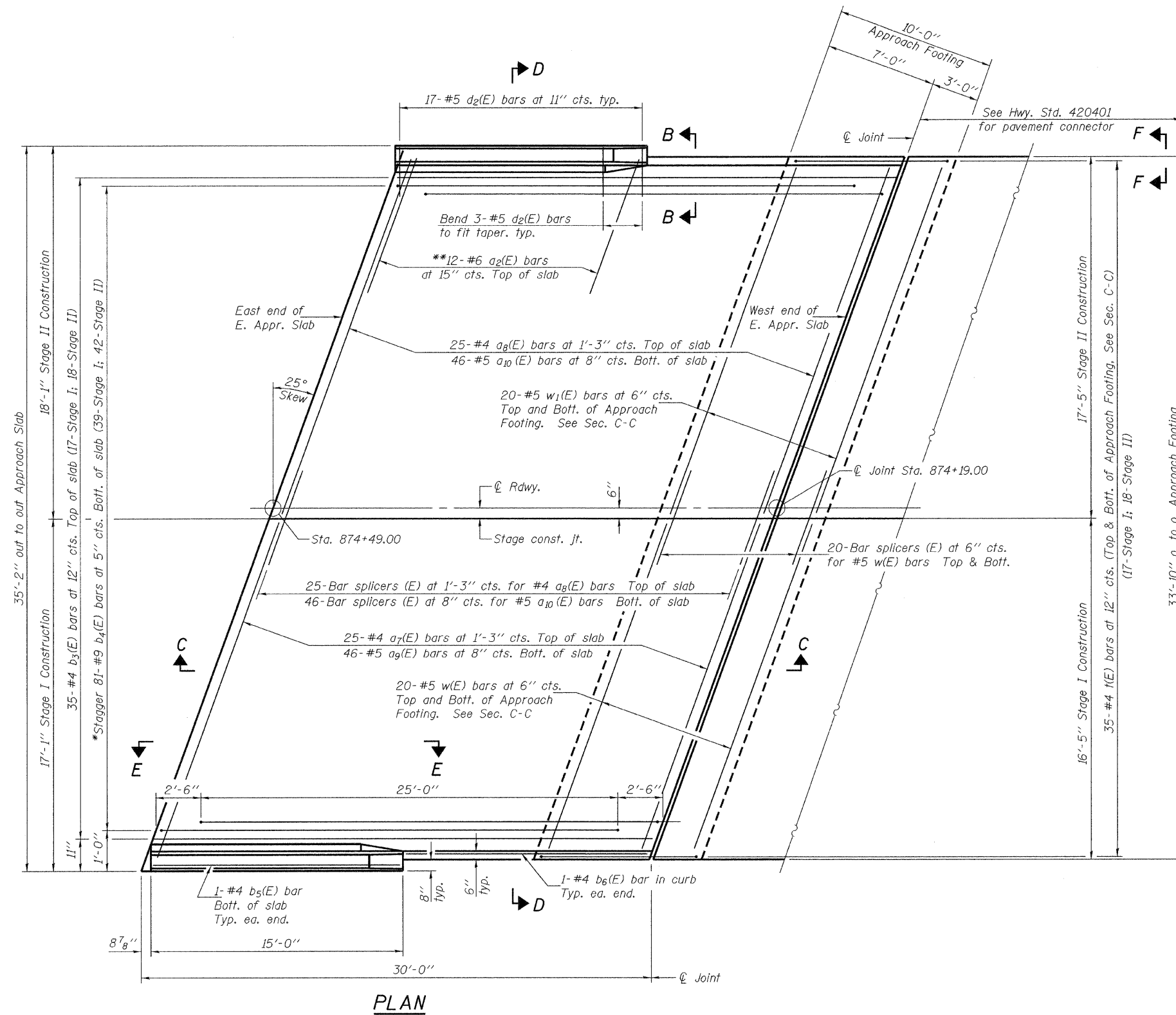
EXAMINED	Thomas J. Damagalki ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

DIAPHRAGM DETAILS
STRUCTURE NO. 073-0037

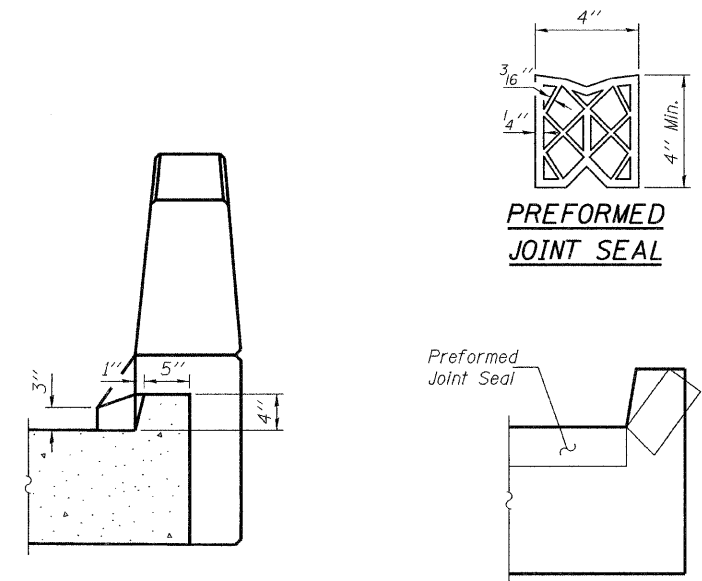
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	865	16B-2	PERRY	47	34
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 15 of 25 for Sections C-C & D-D and View E-E.
 $a_7(E)$, $a_8(E)$, $a_9(E)$, $a_{10}(E)$, $w(E)$ and $w_1(E)$ bar spacings measured parallel to ϕ Rdwy.



DETAIL A



VIEW B-B

VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.

PLAN

EAST BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 073-0037

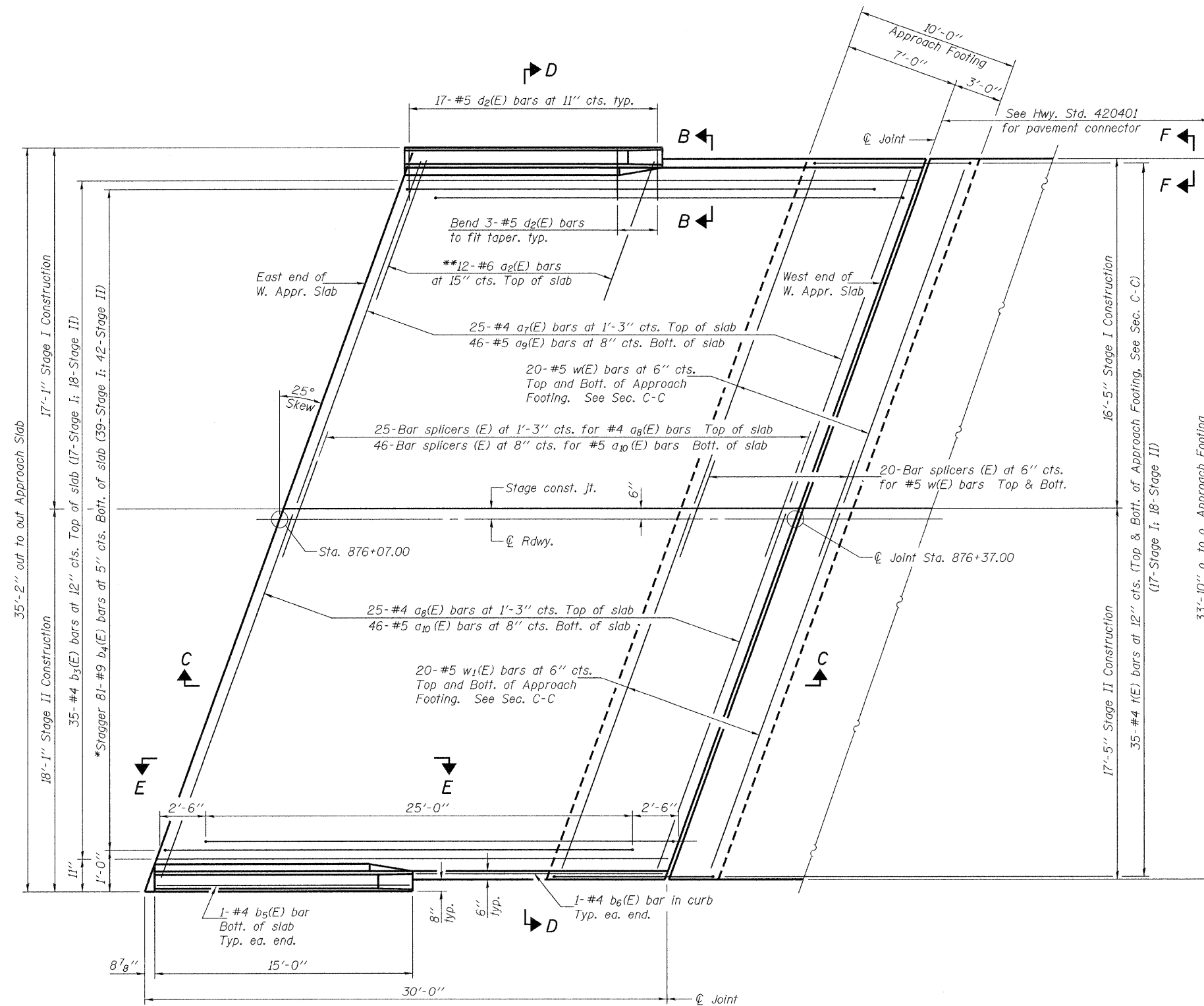
DESIGNED	Stephen M. Ryan
CHECKED	Joy D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

Sep. 30, 2009
EXAMINED *Thomas J. Domagalala*
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

*Tilt #9 $b_4(E)$ bars as required to maintain clearance.
**Alternate with $a_7(E)$ or $a_8(E)$ bars, typ. each parapet.

SHEET NO. 13 25 SHEETS	F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 35
	CONTRACT NO. 78064			ILLINOIS FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Notes:
See sheet 15 of 25 for Sections C-C & D-D and View E-E.
a₇(E), a₈(E), a₉(E), a₁₀(E), w(E) and w₁(E) bar spacings measured parallel to C.Rdwy.
See sheet 13 of 25 for Detail A, Preformed Joint Seal detail, Views B-B & F-F.

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

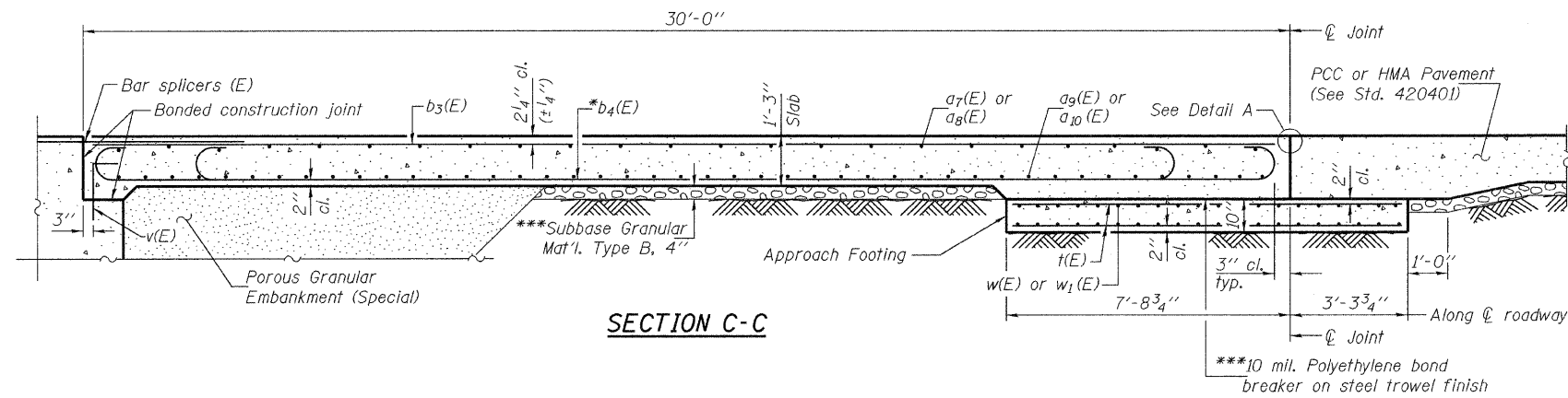
*Tilt #9 b₄(E) bars as required to maintain clearance.
**Alternate with a₇(E) or a₈(E) bars, typ. each parapet.

WEST BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 073-0037

SHEET NO. 14 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	36
CONTRACT NO. 78064					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

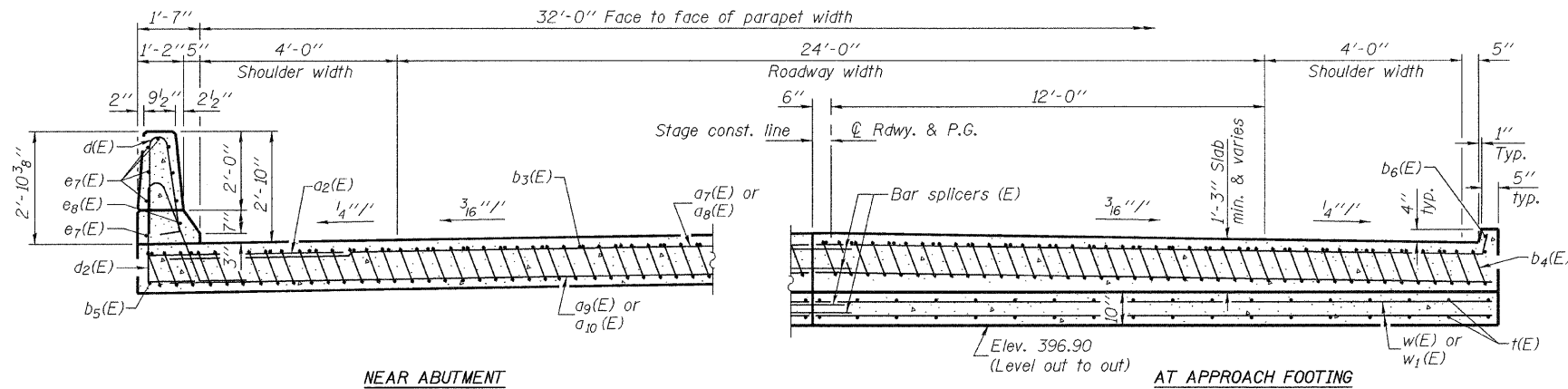
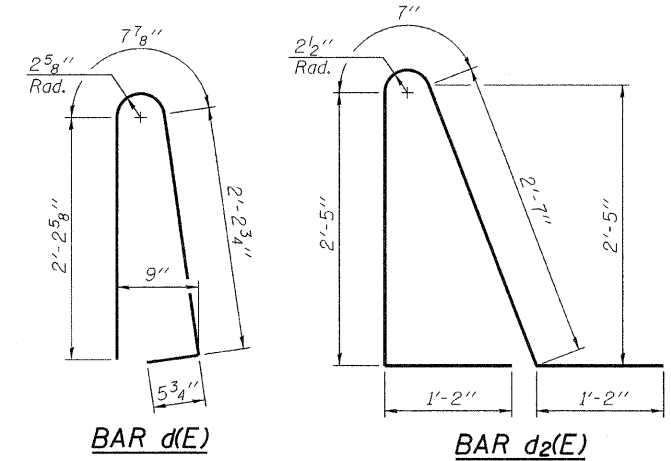
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 13 of 25 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 25.
The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
For bar splicer details, see sheet 21 of 25.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 25.



SECTION C-C

*Tilt #9 b₄(E) bars as required to maintain clearance.
***Cost included with Concrete Superstructure.



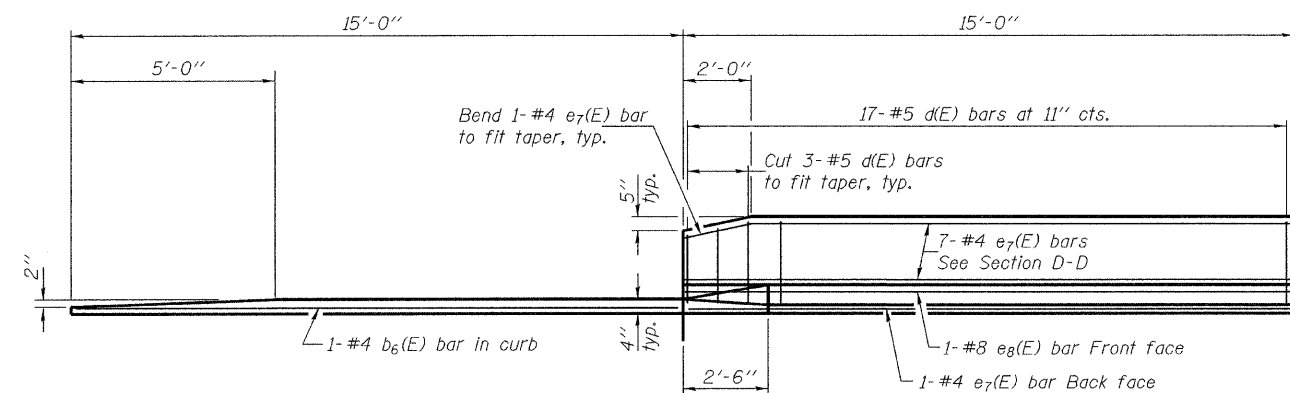
NEAR ABUTMENT

SECTION D-D
(See Plan for dimensions not shown)

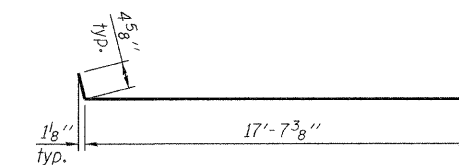
AT APPROACH FOOTING

TWO APPROACHES
BILL OF MATERIAL

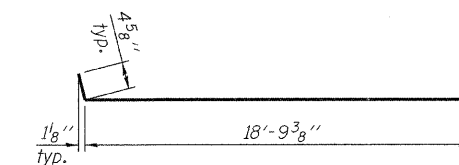
Bar	No.	Size	Length	Shape
a ₂ (E)	48	#6	6'-0"	—
a ₇ (E)	50	#4	18'-0"	—
a ₈ (E)	50	#4	19'-2"	—
a ₉ (E)	92	#5	17'-9"	—
a ₁₀ (E)	92	#5	18'-10"	—
b ₃ (E)	70	#4	29'-8"	—
b ₄ (E)	162	#9	29'-9"	—
b ₅ (E)	4	#4	14'-8"	—
b ₆ (E)	4	#4	14'-1"	—
d(E)	68	#5	5'-7"	U
d ₂ (E)	68	#5	7'-11"	U
e ₇ (E)	32	#4	14'-8"	—
e ₈ (E)	4	#8	14'-8"	—
t(E)	140	#4	10'-8"	—
w(E)	80	#5	17'-9"	—
w ₁ (E)	80	#5	18'-10"	—
Concrete Superstructure		Cu. Yd.	108.9	
Concrete Structures		Cu. Yd.	22.9	
Reinforcement Bars, Epoxy Coated		Pound	28510	



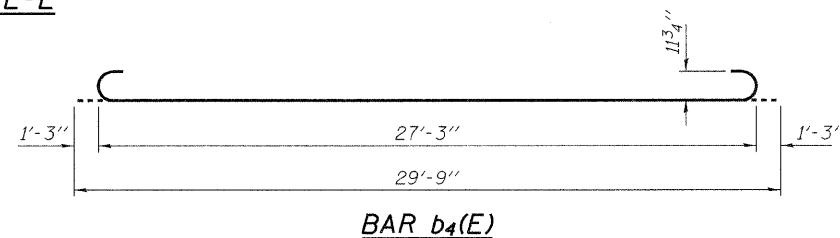
VIEW E-E



BAR a₇(E)
(For Stage I Construction)



BAR a₈(E)
(For Stage II Construction)



BAR b₄(E)

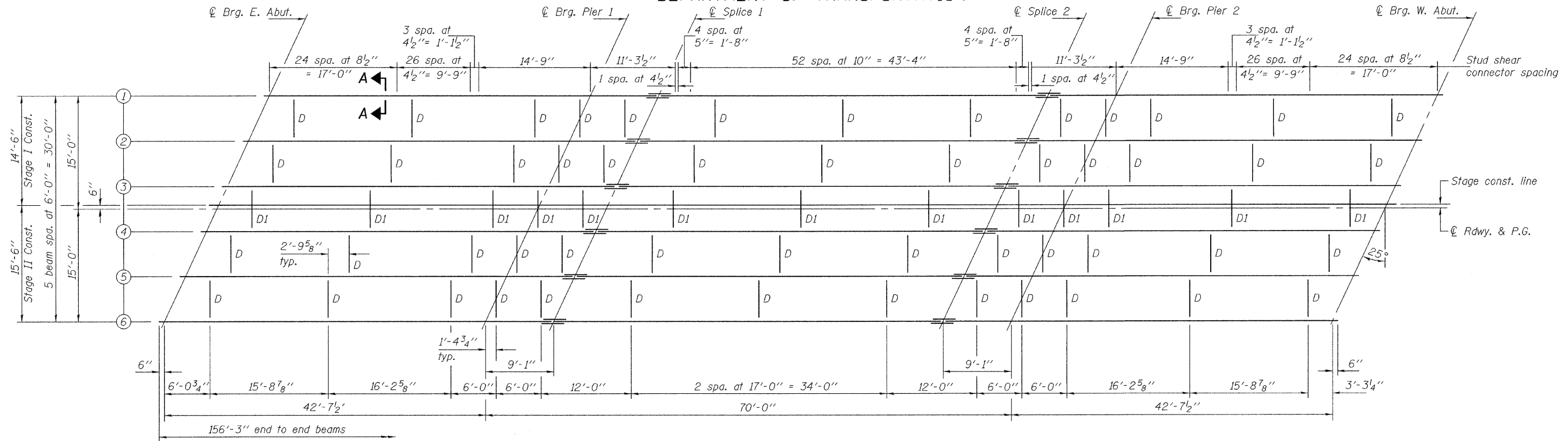
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 073-0037

DESIGNED	Stephen M. Ryan
CHECKED	Joy D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala
PASSED	Ralph E. Anderson

SHEET NO. 15	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	37
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

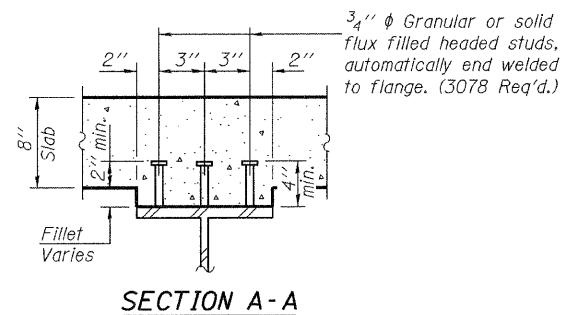
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



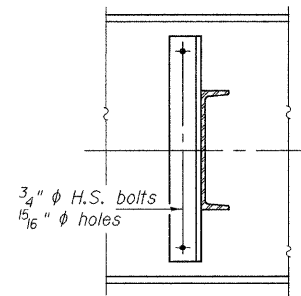
PLAN

(All beams are W27x102, NTR and AASHTO M 270 Grade 50)

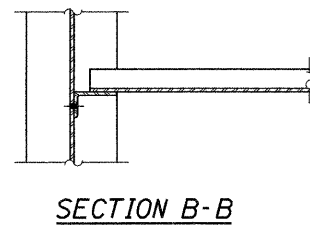
Notes: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods. Two hardened washers required for each set of oversized holes. See sheet 17 of 25 for diaphragm D1.



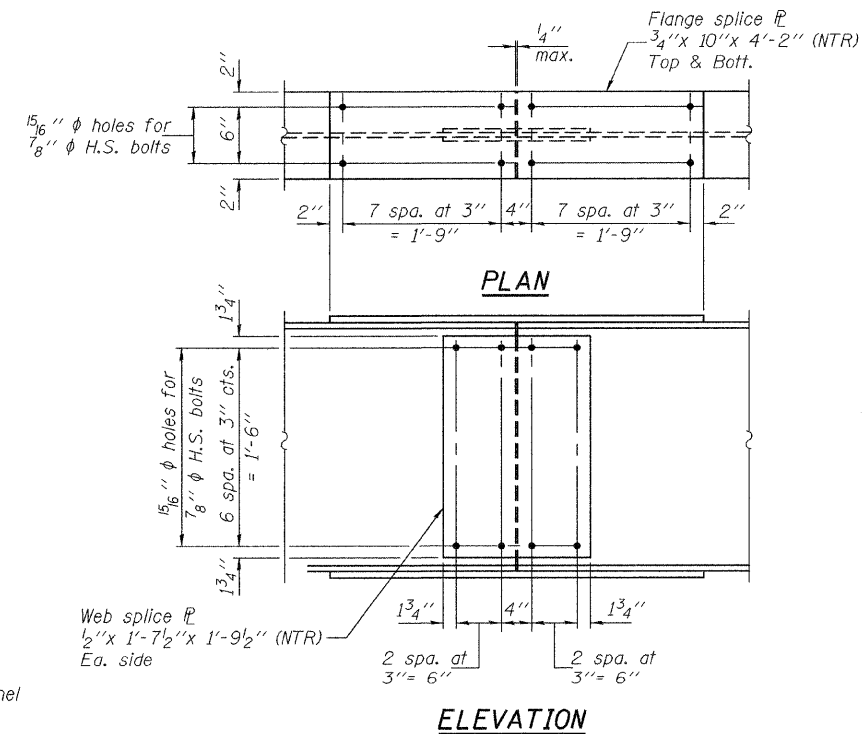
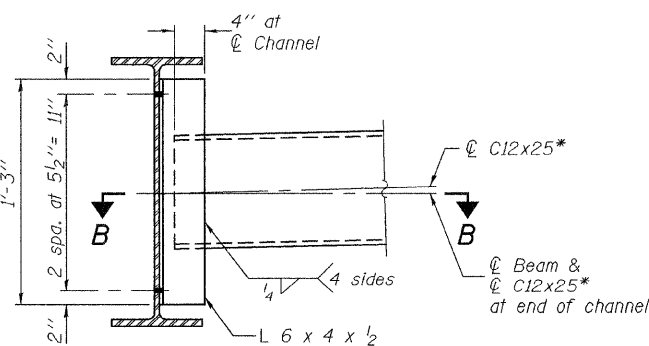
SECTION A-A



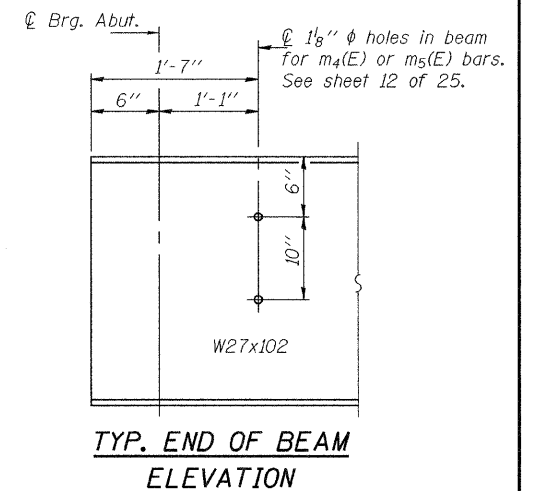
DIAPHRAGM D
(52 Required)



SECTION B-B



ELEVATION
SPlice DETAIL
(12 Required)



TYP. END OF BEAM
ELEVATION

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

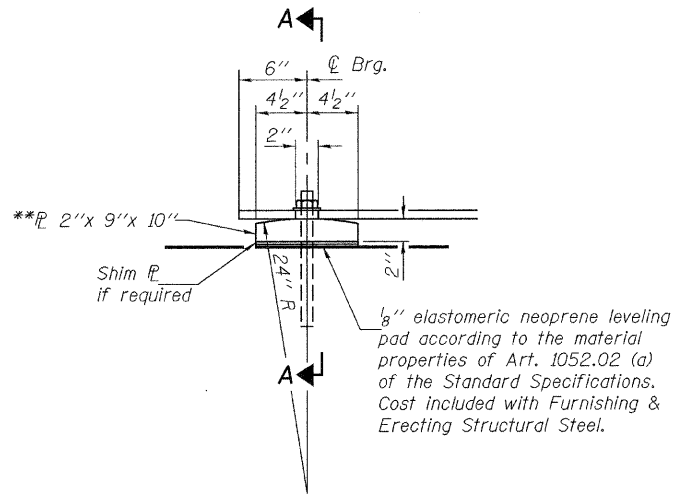
EXAMINED	Thomas J. Damagala
PASSED	Ralph E. Anderson

*Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

STRUCTURAL STEEL
STRUCTURE NO. 073-0037

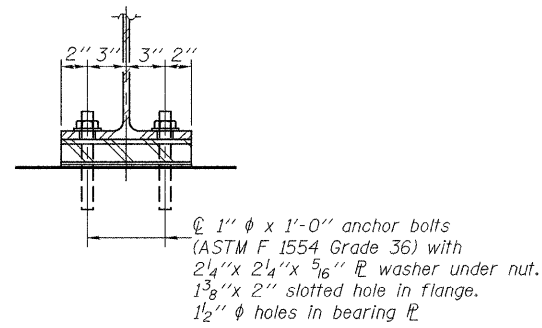
SHEET NO. 16 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	38
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT ABUTMENTS

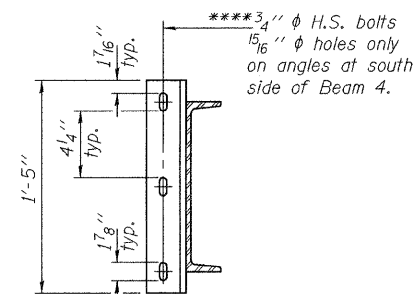
FIXED BEARING



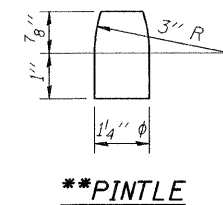
SECTION A-A

	0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴) 3620	3620	3620
$I_c(n)$	(in ⁴) 10616	—	10616
$I_c(3n)$	(in ⁴) 7796	—	7796
S_s	(in ³) 267	267	267
$S_c(n)$	(in ³) 411	—	411
$S_c(3n)$	(in ³) 370	—	370
DC1	(k/')	0.736	0.736
MDC1	(k)	56	189
DC2	(k/')	0.150	0.150
MDC2	(k)	17	52
DW	(k/')	0.300	0.300
MDW	(k)	34	104
$M\dot{k} + imp$	(k)	375	585
M_u (Strength I)	(k)	798	1482
$\phi_r M_n, \phi_r M_{nc}$	(k)	2054	2054
f_s DC1	(ksi)	2.5	8.5
f_s DC2	(ksi)	0.6	1.7
f_s DW	(ksi)	1.1	3.4
f_s 1.3(L+IM)	(ksi)	14.2	22.2
f_s (Service II)	(ksi)	18.4	35.8
V_r	(k)	21.6	19.9

	Abutments	Piers
R_{DC1}	(k) 9.5	47.6
R_{DC2}	(k) 2.3	9.4
R_{DW}	(k) 4.5	18.8
$R\dot{k} + imp$	(k) 63.5	88.6
R_{Total}	(k) 79.8	164.4



SECTION C-C



**PINTLE

**AASHTO M270 Grade 50.

- I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- DC1: Un-factored non-composite dead load (kips/ft.).
- MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M\dot{k} + imp$: Un-factored live load moment plus dynamic load allowance (Impact) (kip-ft.).
- M_u (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 $M\dot{k} + imp$
- $\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).
- $\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.3.3 (kip-ft.).
- f_s (Service II): Sum of stresses as computed from the moments below (ksi).
MDC1 + MDC2 + MDW + 1.3 $M\dot{k} + imp$
- V_r : Factored shear range in span computed according to Art. 6.10.10.

*TOP OF BEAM ELEVATIONS

Location	℄ Brg. E. Abut.	℄ Brg. Pier 1	℄ Brg. Pier 2	℄ Brg. W. Abut.
Beam 1	398.41	398.35	398.35	398.41
Beam 2	398.52	398.46	398.46	398.52
Beam 3	398.61	398.55	398.55	398.61
Beam 4	398.61	398.55	398.55	398.61
Beam 5	398.52	398.46	398.46	398.52
Beam 6	398.40	398.35	398.35	398.40

*For fabrication use only.

***Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

****Use 1 3/16" x 1 7/8" vertical slotted holes in connection angles 6 x 4 x 1/2 at south side of Beam 4 only. Provide 5/16" plate washers for slotted holes. The bolts for the slotted holes in angles on south side of Beam 4 shall be finger-tightened prior to the deck pour for Stage II Construction and then be fully tightened after completion of the deck pour for Stage II Construction.

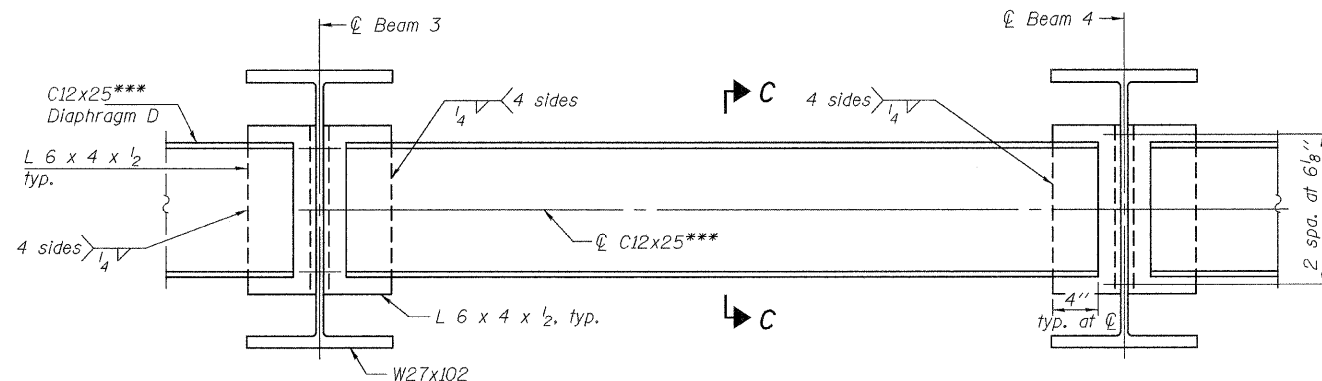
Notes: Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

All bearing plates and pintles shall be AASHTO M 270, Grade 50.

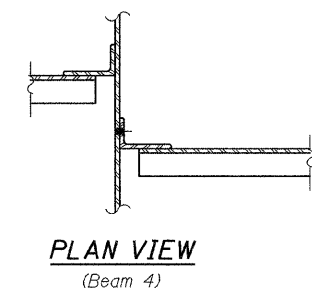
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36 ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.



DIAPHRAGM D1
(Looking West) (13 Required)



PLAN VIEW
(Beam 4)

BEARING & STRUCTURAL STEEL DETAILS
STRUCTURE NO. 073-0037

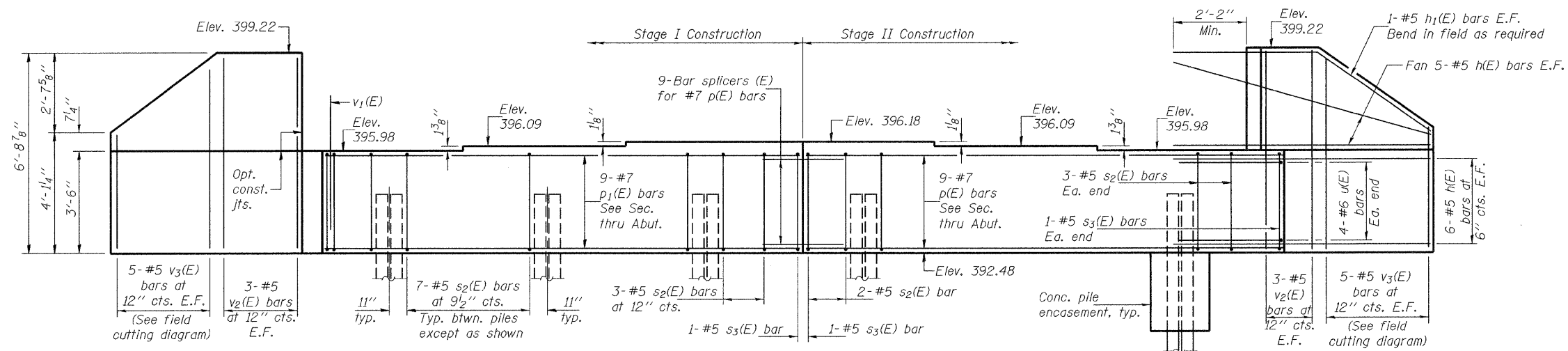
DESIGNED	Stephen M. Ryan
CHECKED	Joy D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Domagalicki ENGINEER OF BRIDGE DESIGN
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

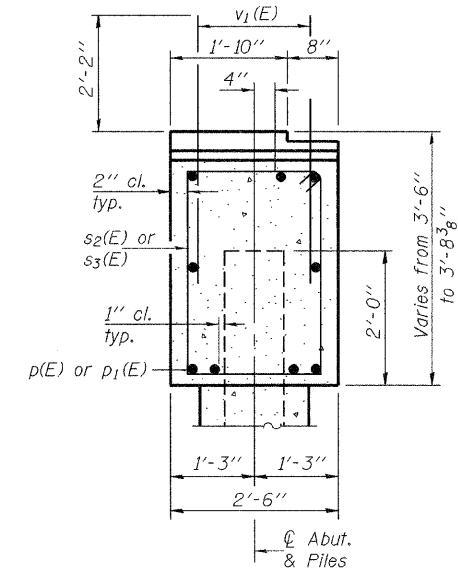
SHEET NO. 17	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	39
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes: Four steps monolithically with cap.
Space reinforcement in cap to miss anchor bolts.



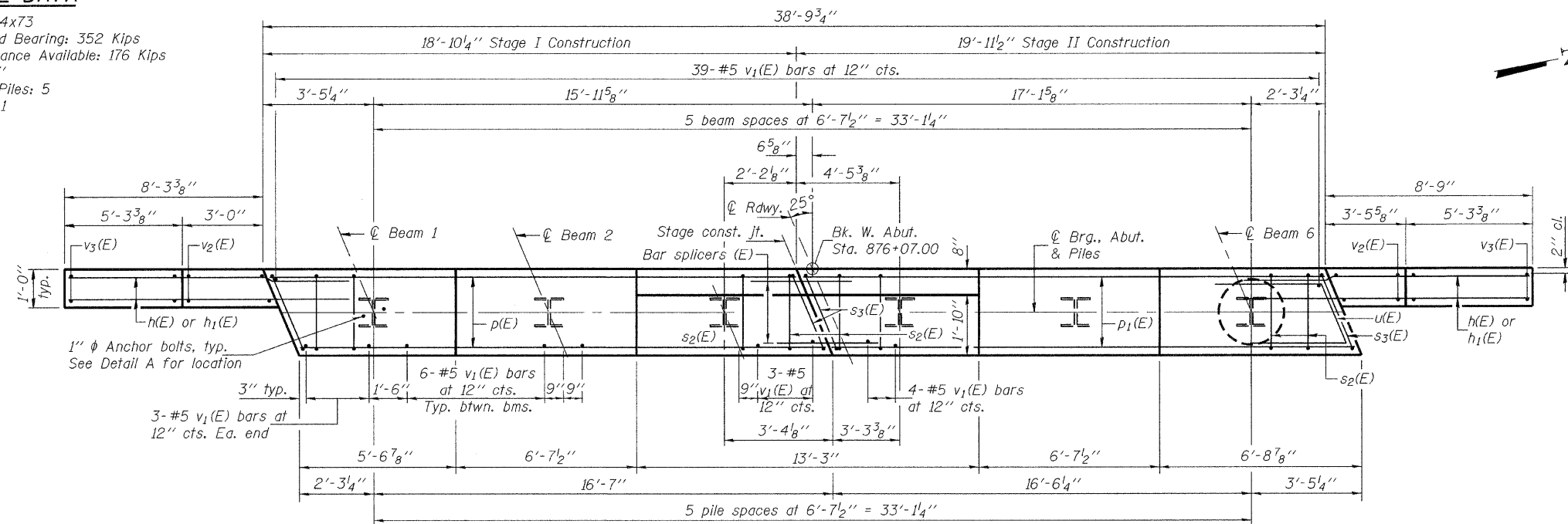
ELEVATION
(Looking west)



SEC. THRU ABUT.

PILE DATA

Type: Steel HP14x73
Nominal Required Bearing: 352 Kips
Factored Resistance Available: 176 Kips
Est. Length: 67'
No. Production Piles: 5
No. Test Piles: 1

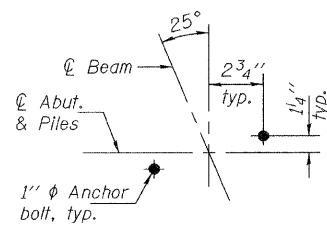


PLAN

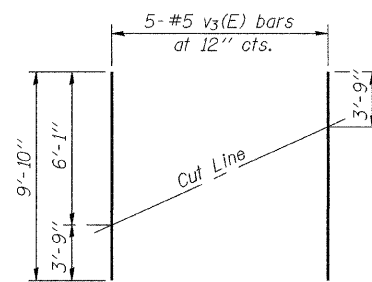
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	44	#5	10'-11"	—
h1(E)	4	#5	11'-8"	—
p(E)	9	#7	18'-6"	—
p1(E)	9	#7	19'-6"	—
s2(E)	39	#5	11'-5"	□
s3(E)	4	#5	11'-11"	□
u(E)	8	#6	7'-5"	∟
v1(E)	76	#5	4'-7"	—
v2(E)	12	#5	6'-5"	—
v3(E)	10	#5	9'-10"	—
Structure Excavation		Cu. Yd.	24.5	
Concrete Structures		Cu. Yd.	16.6	
Reinforcement Bars, Epoxy Coated		Pound	2400	
Furnishing Steel Piles HP14x73		Foot	335	
Driving Piles		Foot	335	
Test Pile Steel HP14x73		Each	1	
Concrete Encasement		Cu. Yd.	3.3	
Anchor Bolts, 1"		Each	12	

For details of bar splicers, see sheet 22 of 25.
For details of piles and concrete encasement, see sheet 23 of 25.

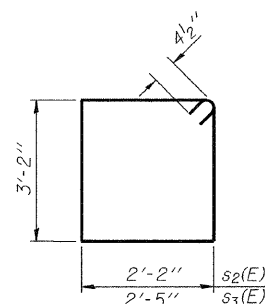


DETAIL A

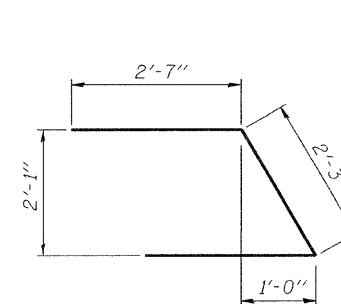


FIELD CUTTING DIAGRAM

Order v3(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s2(E) & s3(E)



BAR u(E)

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala	Sep. 30, 2009
PASSED	Ralph E. Anderson	

**WEST ABUTMENT
STRUCTURE NO. 073-0037**

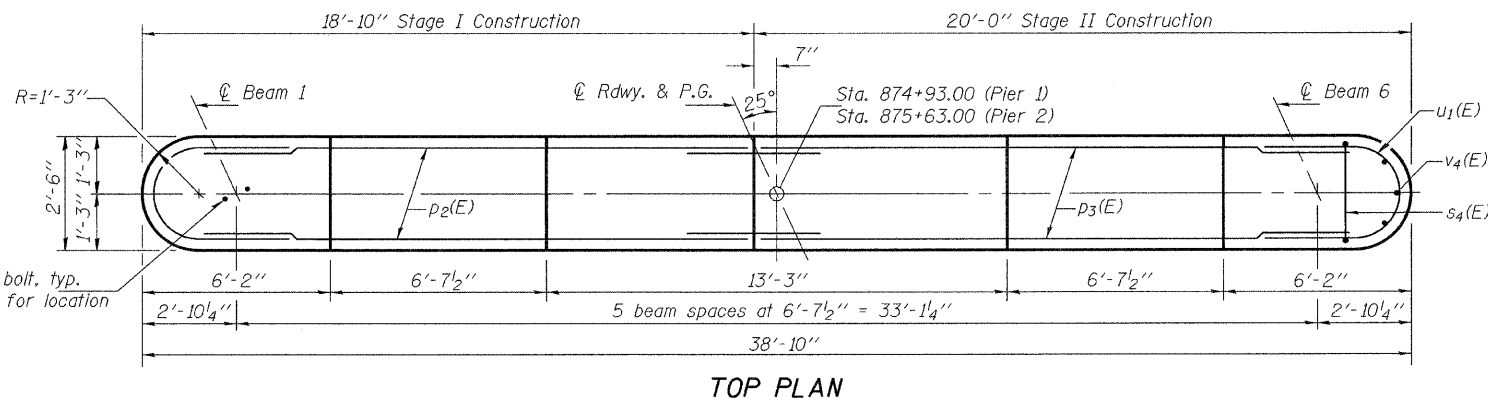
SHEET NO. 19 25 SHEETS	F.A.P. RTE. 865	SECTION 16B-2	COUNTY PERRY	TOTAL SHEETS 47	SHEET NO. 41
	CONTRACT NO. 78064				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

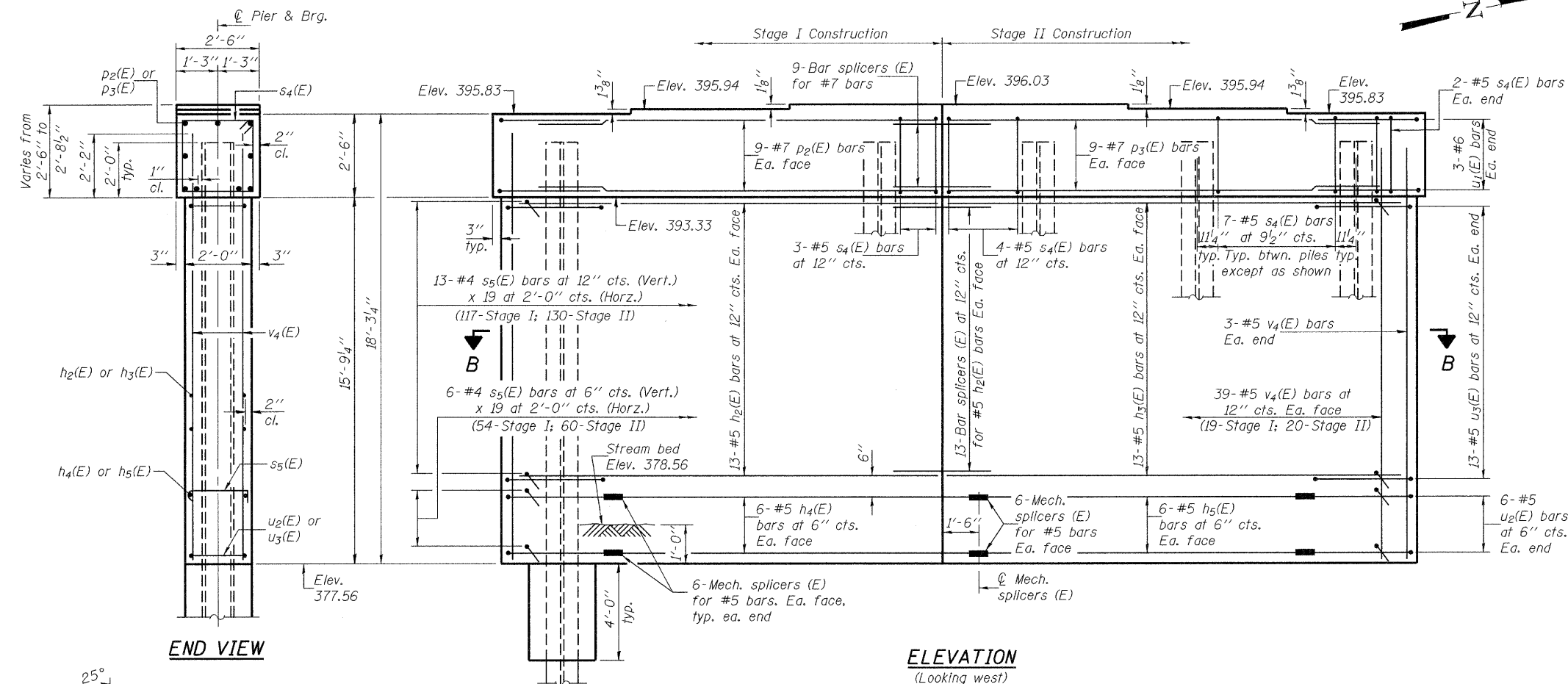
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 22 of 25.
If a portion of the pier wall or concrete encasement is under water, reinforcement may be placed underwater into forms. Concrete shall be tremied according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.

PILE DATA

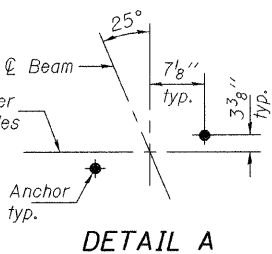
Type: Steel HP12x74
Nominal Required Bearing: 589 Kips
Factored Resistance Available: 294 Kips
Est. Length: 77'
No. Production Piles: 10
No. Test Piles: 2



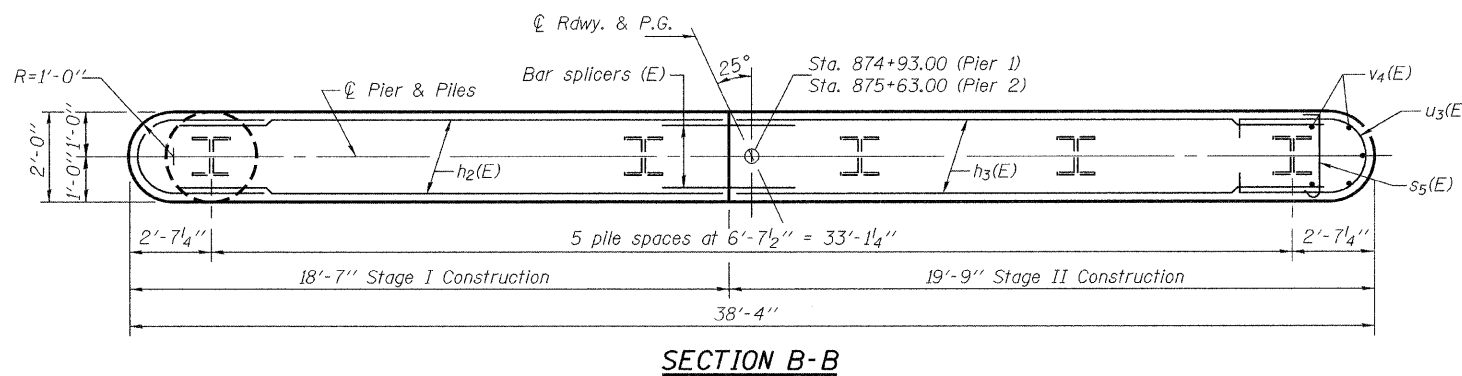
TOP PLAN



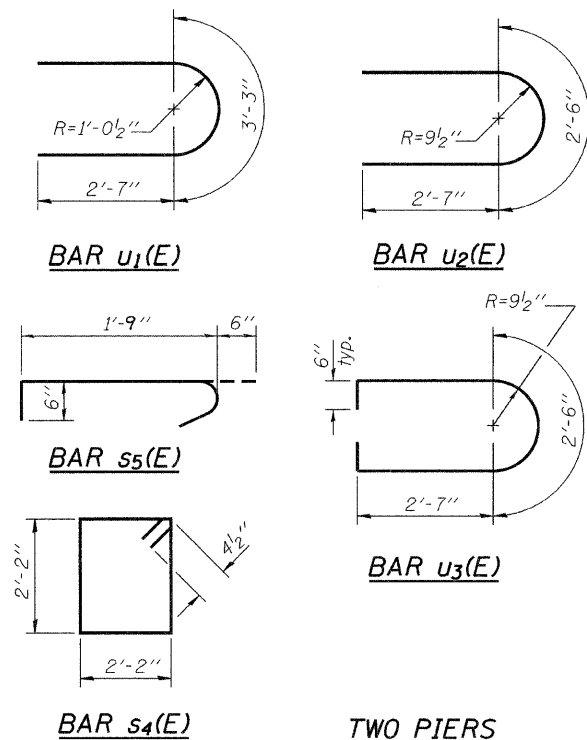
ELEVATION
(Looking west)



DETAIL A



SECTION B-B



**TWO PIERS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h ₂ (E)	52	#5	17'-5"	—
h ₃ (E)	52	#5	18'-7"	—
h ₄ (E)	24	#5	16'-6"	—
h ₅ (E)	24	#5	14'-8"	—
p ₂ (E)	18	#7	17'-5"	—
p ₃ (E)	18	#7	18'-7"	—
s ₄ (E)	78	#5	9'-5"	□
s ₅ (E)	722	#4	2'-9"	J
u ₁ (E)	12	#6	8'-5"	U
u ₂ (E)	24	#5	7'-8"	U
u ₃ (E)	52	#5	9'-4"	U
v ₄ (E)	168	#5	17'-9"	—
Structure Excavation		Cu. Yd.	94.0	
Concrete Structures		Cu. Yd.	107.0	
Reinforcement Bars, Epoxy Coated		Pound	10110	
Furnishing Steel Piles HP12x74		Foot	770	
Driving Piles		Foot	770	
Test Pile Steel HP12x74		Each	2	
Anchor Bolts, 1"		Each	24	
Concrete Encasement		Cu. Yd.	5.6	
Mechanical Splice		Each	72	
Underwater Structure Excavation Protection, Location 1		Each	1	
Underwater Structure Excavation Protection, Location 2		Each	1	

**PIERS 1 & 2
STRUCTURE NO. 073-0037**

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Romagosa
PASSED	Ralph E. Anderson

SHEET NO. 20	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	42
CONTRACT NO. 78064					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

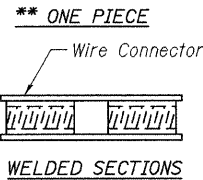
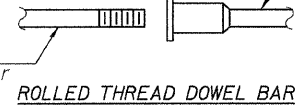
NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_t$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

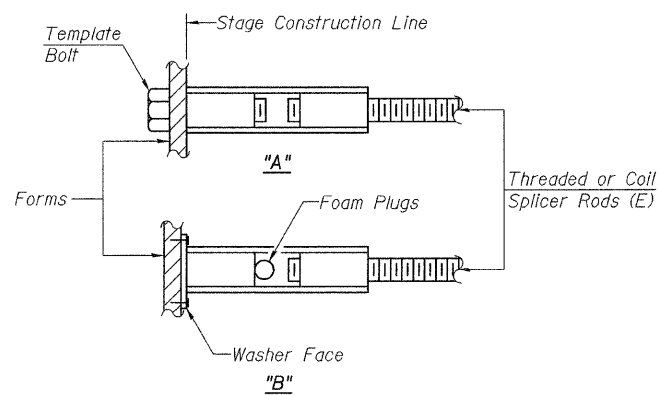
The diameter of this part is equal or larger than the diameter of bar spliced.

The diameter of this part is the same as the diameter of the bar spliced.



BAR SPLICER ASSEMBLY ALTERNATIVES

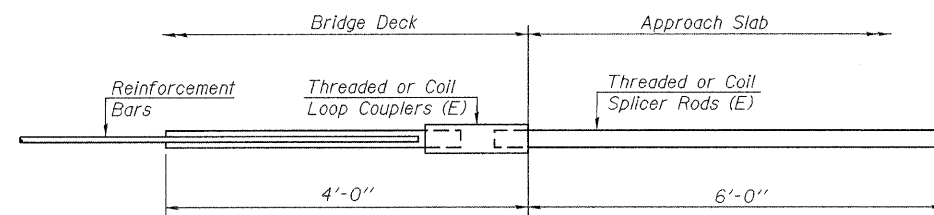
**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

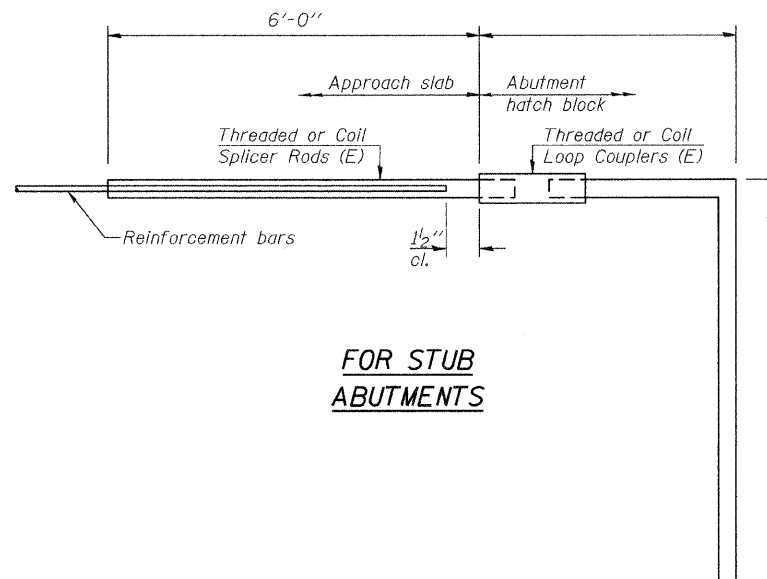
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



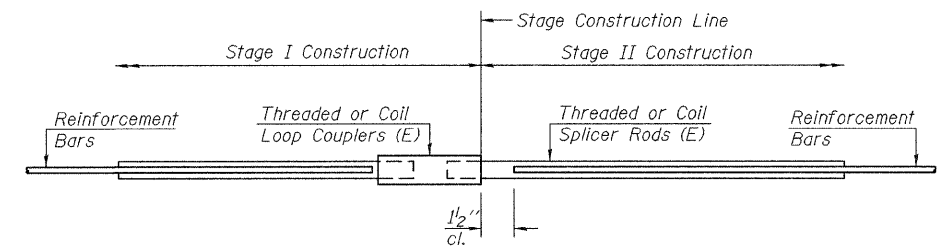
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 64



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#5	463	Deck
#6	16	Diaphragm
#7	18	Abutments
#7	18	Piers
#5	52	Piers Sub.
#4	50	Appr. Slabs
#5	172	Appr. Slabs

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 073-0037

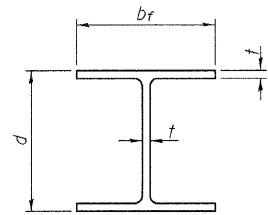
DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas J. Damagala	Sep. 30, 2009
PASSED	Ralph E. Anderson	

BSD-1 10-1-08

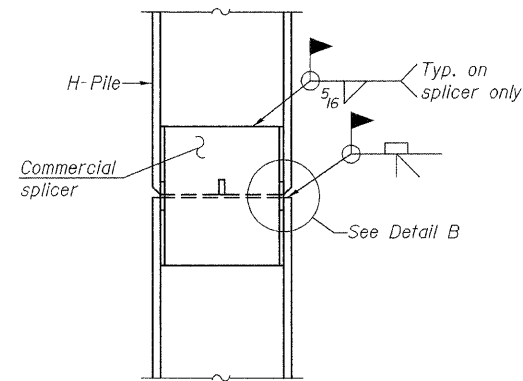
SHEET NO. 21	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
25 SHEETS	865	16B-2	PERRY	47	43
CONTRACT NO. 78064					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

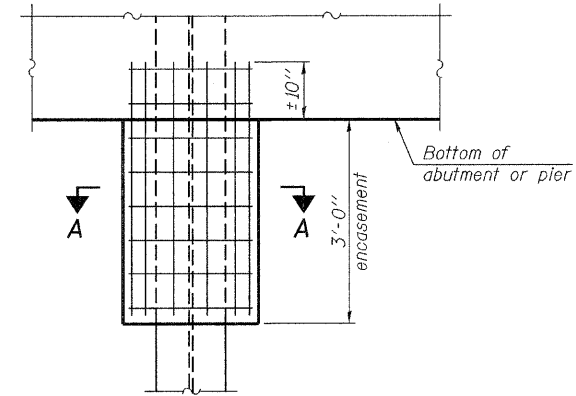


STEEL PILE TABLE

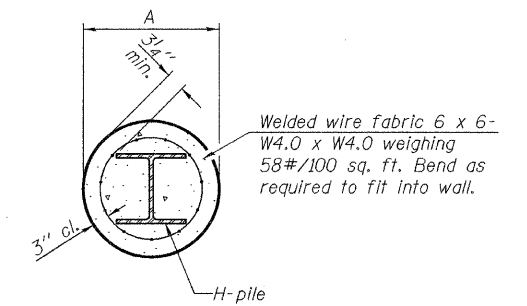
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/6"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/6"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION



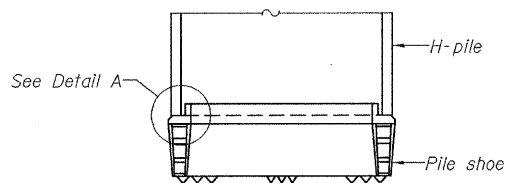
ELEVATION



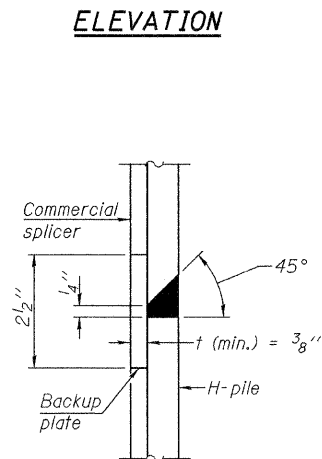
SECTION A-A

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

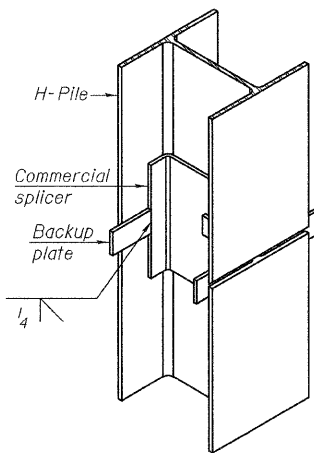
PILE ENCASEMENT



ELEVATION

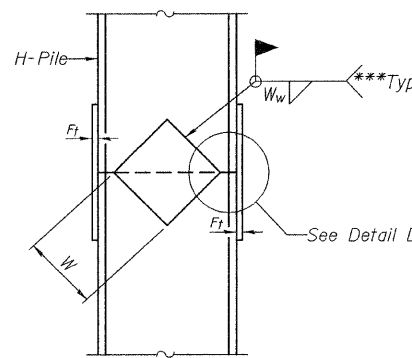


DETAIL "B"

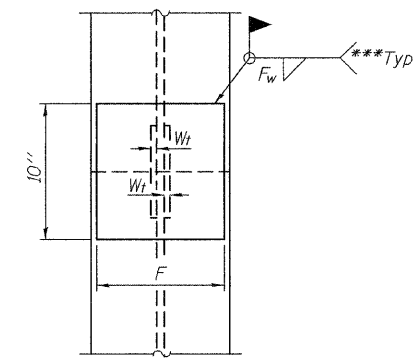


ISOMETRIC VIEW

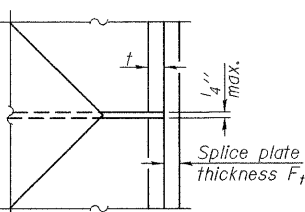
WELDED COMMERCIAL SPLICE



ELEVATION



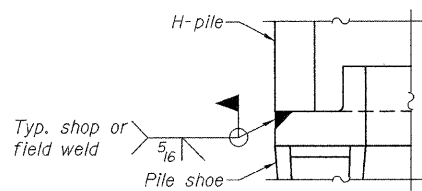
END VIEW



DETAIL D

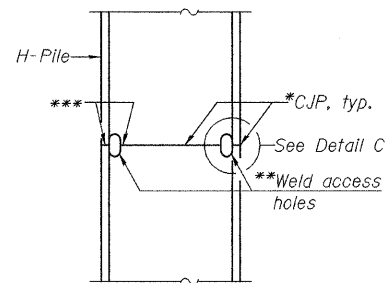
Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 8/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 8/8"	1/2"
x89	12 1/2"	3/4"	1/6"	7 3/4"	5 8/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 8/8"	1/2"
HP 12x84	10"	7/8"	1/6"	6 1/2"	5 8/8"	1/2"
x74	10"	7/8"	1/6"	6 1/2"	5 8/8"	1/2"
x63	10"	5/8"	1/2"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

WELDED PLATE FIELD SPLICE

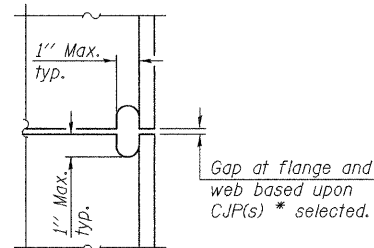


DETAIL A

H-PILE SHOE ATTACHMENT



ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

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

STEEL H-PILES
STRUCTURE NO. 073-0037

DESIGNED	Stephen M. Ryan
CHECKED	Jay D. Edwards
DRAWN	h.t. duong
CHECKED	SMR/JDE

EXAMINED	Thomas Damagala	Sep. 30, 2009
PASSED	Ralph E. Anderson	

SHEET NO. 22 25 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	865	16B-2	PERRY	47	44
CONTRACT NO. 78064					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG Page 1 of 3 Date 11/2/05

ROUTE IL 152 DESCRIPTION IL 152 over Panther Creek LOGGED BY Bryan Keller

SECTION 104BC-DR LOCATION 1.6 mi. E. IL 13, SEC. 16, TWP. 6S, RNG. 2W, 3 PM

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0024
Station 875+13.10

BORING NO. 2-S
Station 875+02
Offset 51.00ft LL
Ground Surface Elev. 392.0 ft

DEPTH (ft)	DRILLING METHOD	HAMMER TYPE	SOIL DESCRIPTION	DEPTH (ft)	DRILLING METHOD	HAMMER TYPE	SOIL DESCRIPTION
0			Surface Water Elev. 381.0 ft Stream Bed Elev. _____ ft	0			Surface Water Elev. 381.0 ft Stream Bed Elev. _____ ft
			Groundwater Elev.: First Encounter 365.0 ft Upon Completion _____ ft After 108 Hrs. 383.8 ft				Groundwater Elev.: First Encounter 365.0 ft Upon Completion _____ ft After 108 Hrs. 383.8 ft
0			Very stiff, moist, brown, Silty Clay A-6	0			Stiff, moist, brown Clay A7-6 (continued)
4				4			370.0
7			Stiff, very moist, grey mottled brown, Silty Clay A7-6	7			2
9				9			2
							1.2
							24
							367.5
3			Stiff, very moist, grey mottled brown, Clay A7-6	3			2
5				5			1.5
5				5			27
							365.0
1			Soft, very moist, grey mottled brown, Silty Clay Loam A-6	1			1
2				2			2.2
2				2			31
							362.5
10			Medium, wet, grey, Silty Clay Loam A-6 with Sand Seams	10			1
1				1			0.8
1				1			43
							360.0
1			Very soft, very moist to wet, grey, Silty Clay Loam A-6	1			1
0.5				0.5			0.4
28				28			38
							357.5
2			Medium, very moist, grey mottled brown, Clay A7-6	2			1
0.7				0.7			24
26				26			
							355.0
2			Very stiff, moist, brown mottled grey, Clay A7-6	2			1
2.2				2.2			0.4
23				23			43
							352.5
2			Stiff, moist, brown Clay A7-6	2			1
							40
							332.5
							2
							312.5
							80
							Bottom of hole = 79.5 ft.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208)

Illinois Department of Transportation
Division of Highways
District Nine Materials

SOIL BORING LOG Page 2 of 3 Date 11/2/05

ROUTE IL 152 DESCRIPTION IL 152 over Panther Creek LOGGED BY Bryan Keller

SECTION 104BC-DR LOCATION 1.6 mi. E. IL 13, SEC. 16, TWP. 6S, RNG. 2W, 3 PM

COUNTY Perry DRILLING METHOD HAMMER TYPE

STRUCT. NO. 073-0024
Station 875+13.10

BORING NO. 2-S
Station 875+02
Offset 51.00ft LL
Ground Surface Elev. 392.0 ft

DEPTH (ft)	DRILLING METHOD	HAMMER TYPE	SOIL DESCRIPTION	DEPTH (ft)	DRILLING METHOD	HAMMER TYPE	SOIL DESCRIPTION
4			Soft, wet, grey, Silty Clay A-6 (continued)	4			Hard, very moist, grey, Clay Loam A-6 with Sand Layers (continued)
4				4			17
							4.5
							20
							347.5
4			Very loose, wet, grey, fine to medium Silty Sand	4			327.5
4.5				4.5			4
							0.9
							22
							342.5
6			Medium, fine to coarse, wet, grey, Sand with some Gravel	6			Medium, wet, grey, fine Silty Sand with Sandy Gravel Layers
7				7			9
							11
							20
							322.5
7			Medium, wet, grey, Silty Clay Loam to Silt Loam A-6	7			3
2				2			5
							8
							22
							320.0
1			Soft, wet, grey, Silty Clay A-6 with Sand Layers	1			1
0.5				0.5			0.4
28				28			38
							317.5
4			Very loose, wet, grey, fine Silty Sand with Silty Clay Layers	4			75
5				5			100%
11				11			
							317.5
							75
							100%
							312.5
							80
							312.5
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