

08-03-12 LETTING ITEM 012

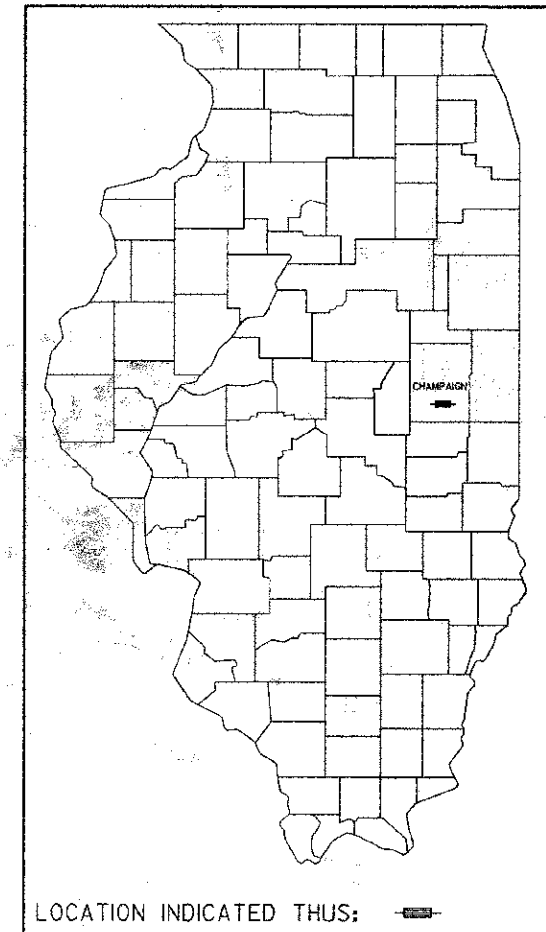
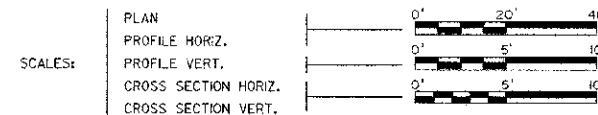
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
BRIDGE REPLACEMENT**

**CHAMPAIGN COUNTY
SECTION 07-00944-00-BR
PROJECT NO. BRS-0527(103)
JOB NO. C-95-301-12
COUNTY HIGHWAY 16
BRIDGE REPLACEMENT PROGRAM**

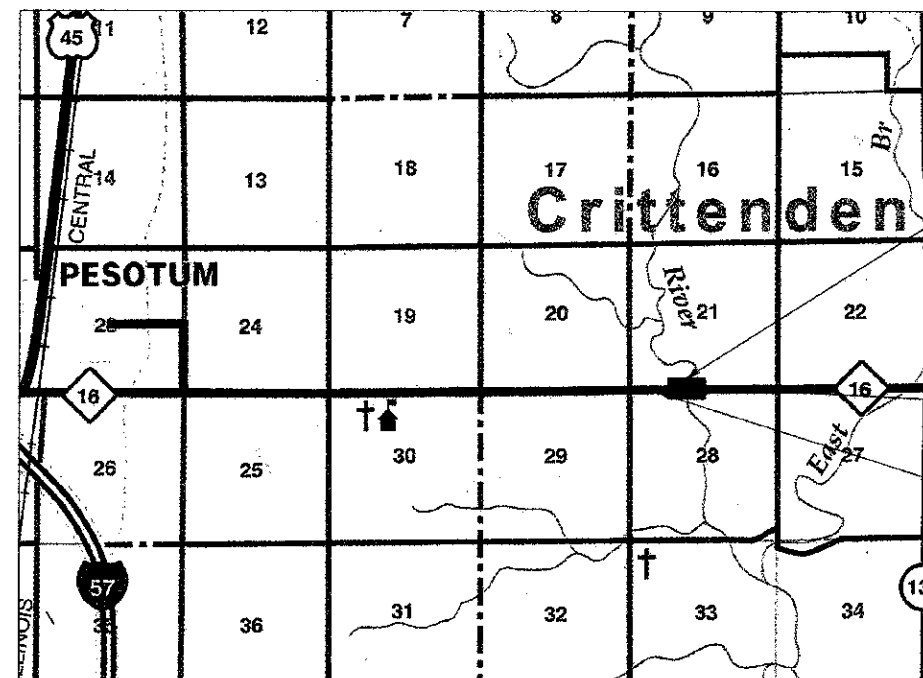
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ILLINOIS DEPT. OF TRANSPORTATION STANDARD DRAWINGS

STANDARD NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND A FOOT
280001-06	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
542401-01	METAL END SECTIONS FOR PIPE CULVERTS
609006-05	BRIDGE APPROACH PAVEMENT (DRAIN DETAIL)
630001-10	STEEL PLATE BEAM GUARDRAIL
631011-08	TRAFFIC BARRIER TERMINAL, TYPE 2
631026-05	TRAFFIC BARRIER TERMINAL, TYPE 5
631031-10	TRAFFIC BARRIER TERMINAL, TYPE 6
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEED > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS, DAY ONLY
701901-02	TRAFFIC CONTROL DEVICES
780001-03	TYPICAL PAVEMENT MARKINGS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

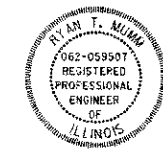


LOCATION MAP
NOT TO SCALE

NET LENGTH OF SECTION = 475 FEET = 0.09 MILES
 FUNCTIONAL CLASSIFICATION - RURAL TWO-WAY COLLECTOR
 CURRENT ADT = 1000
 FUTURE ADT = 1200

FOR JOINT UTILITY INFORMATION
 CALL J.U.L.I.E. 1-800-892-0123

Ryan T. Mumm 4/11/2012
 RYAN T. MUMM
 ILLINOIS REGISTERED PROFESSIONAL ENGINEER NO. 062-059507
 LICENSE EXPIRES 11-30-13



APPROVED *J. H. Baker* 4/11/2012
 CHAMPAIGN COUNTY ENGINEER

PASSED *D. M. S.* 4/24/2012
 DISTRICT FIVE ENGINEER OF LOCAL ROADS & STREETS

Released For Bid Based on Limited Review *Paul J. ...* 4/25/2012
 DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Sodemann and Associates, Inc.
 340 NORTH NEIL STREET
 POST OFFICE BOX 557
 CHAMPAIGN, ILLINOIS 61824-0557
 TEL 217 352-7688 FAX 217 352-7922
 ENGINEERING / ANALYSIS / MANAGEMENT



GENERAL NOTES

All elevations shown are referred to the U.S.G.S. datum.

Any reference standards throughout the plans shall be interpreted to be the latest standards of the department as shown on the schedule of standard drawings on the cover sheet.

English units of measurement shall govern over and supersede any metric units shown in this contract. Where included, metric units are for information only.

Utilities - these drawings illustrate the approximate location of all known underground utilities. The contractor may expect to find such utilities within approximately five feet of the position indicated on the drawings. But in every case the contractor shall locate and uncover such utilities, with the assistance of the respective utility companies, before any excavation is started.

Call J.U.L.I.E. 1-800-892-0123 for underground utility location marking prior to start of construction.

Utility companies may be adjusting their facilities at the time of construction of this project. The contractor shall cooperate with those organizations while they perform their work.

During construction the contractor may encounter various types of underground utilities that may not be shown on the plans. The contractor shall cooperate with the engineer and the owner of the utility while the utility company adjusts their facilities if necessary. If it is determined that the utility has been abandoned, the contractor will be directed to remove the utility lines that conflict with his work and cap or plug the lines as directed by the engineer. This work will not be paid for separately and will be considered as included in the contract.

The contractor shall notify all utility companies 48 hours prior to excavation operations.

The excavation for this project is classified as earth excavation in accordance with the Standard Specifications and as provided in the contract specifications. The earth excavation shall include the removal of the earth and unclassified materials. The contractor shall notify all utility companies 48 hours prior to excavation operations.

Grading shall be done by hand around light poles, utility poles, sign posts, shrubs, trees and other natural or man-made objects where shallow fills or cuts are adjacent to these items. It is the intent that items that do not need to be disturbed by the construction shall be preserved. The decision as to items to remain in place shall be as directed by the engineer. This work will not be paid for separately, but shall be considered included in the contract unit price per cubic yard of earth excavation and no additional compensation shall be allowed.

Seeding shall be done at locations shown on the plans where the existing earth has been disturbed, and at locations directed by the engineer. Any existing areas outside the limits of construction damaged by the contractor shall be seeded at his own expense and no additional compensation will be allowed.

Special attention is called to Article 250.07 regarding seeding dates.

When required by Article 420.19, a protective coat shall be applied to concrete pavement, gutter flags, curb surfaces and other concrete appurtenances adjacent to the pavement.

Before ordering pipe culverts, the contractor shall consult with the engineer as to the exact length and quantity required.

The material of the pipe culvert end sections shall match the material of the pipe culvert on which they are to be installed.

The contractor shall not begin any construction operations until all survey monuments have been sufficiently witnessed or referenced by the engineer. The contractor shall take all necessary precautions to preserve and not disturb the existing iron pipe monuments or right-of-way markers. Any iron pipe monuments or right-of-way markers so disturbed by the contractor shall be reset by a Registered Illinois Land Surveyor. The cost for resetting these monuments shall be paid for by the contractor.

The existing traffic signs and delineators which interfere with the construction operations shall be removed and reset as directed by the engineer. The cost for doing this work will be considered included in the contract and no additional compensation will be allowed.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	2
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS PROJECT		

GN 406H MIXTURE REQUIREMENTS		
Location	CH 16	CH 16
Mixture Use	Level Binder	Surface
AC/PG	PG 64-22	PG 64-22
RA ³ % (Max)	25	15
Design Air Voids	4.0% @ Ndes=50	4.0% @ Ndes=50
Mix Comp (Gradation)	IL 9.5	IL 9.5
Friction Aggregate	Mix C	Mix C

GENERAL NOTES
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

SUMMARY OF QUANTITIES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	3
STA.	TO STA.			
F.J.N.A. REC.	KLPDIS	PROJECT		

CODE #	ITEM NAME	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU YD	128.0
25000200	SEEDING, CLASS 2	ACRE	0.30
* 25000314	SEEDING, CLASS 4B	ACRE	0.30
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	27.0
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	27.0
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	27.0
25100115	MULCH METHOD 2	ACRE	0.30
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	350.0
* 28000305	TEMPORARY DITCH CHECKS	FOOT	32
28000400	PERIMETER EROSION BARRIER	FOOT	608
40600100	BITUMINOUS MATERIALS, PRIME COAT	GALLON	58.0
40600300	AGGREGATE, PRIME COAT	TON	0.8
40600625	LEVELING BINDER, MACHINE METHOD, N50	TON	12.8
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C" N50	TON	40.1
42001300	PROTECTIVE COAT	SQ YD	228.0
44000100	PAVEMENT REMOVAL	SQ YD	335.0
48101500	AGGREGATE SHOULDERS, TYPE B, 6"	SQ YD	226.7
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.0
50200100	STRUCTURE EXCAVATION	CU YD	256.0
50201101	COFFERDAM (TYPE 1) (LOCATION-1)	EACH	1.0
50201102	COFFERDAM (TYPE 1) (LOCATION-2)	EACH	1.0
50300100	FLOOR DRAINS	EACH	26.0
50300225	CONCRETE STRUCTURES	CU YD	107.7
50300255	CONCRETE SUPERSTRUCTURE	CU YD	348.6
50300260	BRIDGE DECK GROOVING	SQ YD	646.0
50300300	PROTECTIVE COAT	SQ YD	881.0
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1.0
50500505	STUD SHEAR CONNECTORS	EACH	3,870.0
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	90,760.0
50800515	BAR SPLICERS	EACH	68.0
51201400	FURNISHING STEEL PILES HP 10X42	FOOT	1,510.0
51202305	DRIVING PILES	FOOT	1,510.0
51203400	TEST PILE STEEL HP10X42	EACH	4.0
51204650	PILE SHOES	EACH	32.0
51500100	NAME PLATES	EACH	1.0
52100520	ANCHOR BOLTS, 1"	EACH	48.0
54213447	END SECTIONS 12"	EACH	2.0
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	74.0
60100945	PIPE DRAINS 12"	FOOT	80.0
60900140	TYPE B INLET BOX STANDARD 609006	EACH	2.0
60900515	CONCRETE THRUST BLOCKS	EACH	2.0
△ 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	150.0
△ 63100045	TRAFFIC BARRIER TERMINAL TYPE 2	EACH	2.0
△ 63100085	TRAFFIC BARRIER TERMINAL TYPE 6	EACH	4.0
△ 63100167	TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT	EACH	1.0
63200310	GUARDRAIL REMOVAL	FOOT	300.0
* △ 6330725	STEEL PLATE BEAM GUARDRAIL, (SHORT RADIUS)	FOOT	31.3
67100100	MOBILIZATION	L SUM	1.0
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1.0
△ 78008210	POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4"	FOOT	844.0
* X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	135.0
* X4401198	HOT-MIX SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	286.0
* XX004565	GROUTED RIPRAP	SQ YD	798.0
* XX004566	CONCRETE CUT-OFF WALL	CU YD	6.2
* Z0001400	ANTI-STRIP ADDITIVE	UNIT	32.0
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.0
* Z0046304	PIPE UNDERDRAINS FOR STRUCTURES, 4"	FOOT	240.0

*SEE SPECIAL PROVISIONS

△ SPECIALTY ITEMS

SCHEDULE OF QUANTITIES

28000305	
TEMPORARY DITCH CHECKS	
LOCATION	FOOT
9+20 RT	8
9+20 LT	8
10+80 RT	8
10+80 LT	8
TOTAL	32

63200310			
GUARDRAIL REMOVAL			
STATION TO STATION			FOOT
8+55	9+30.	LT	75.0
8+55	9+30.	RT	75.0
10+70.	11+45	LT	75.0
10+70.	11+45	RT	75.0
TOTAL			300.0

44000100			
PAVEMENT REMOVAL			
STATION TO STATION			SQ YD
8+66	9+32	LT	83.8
8+66	9+32	RT	83.8
10+68	11+34	LT	83.6
10+68	11+34	RT	83.6
TOTAL			335

28000400				
PERIMETER EROSION BARRIER				
STATION TO STATION		FOOT		
8+00	43' LT	8+82	50' LT	83.0
7+59	37' RT	8+82	50' RT	124.0
8+82	50' LT	8+82	23' LT	27.0
8+82	50' RT	8+82	23' RT	27.0
8+82	23' LT	8+92	23' LT	10.0
8+82	23' RT	8+92	23' RT	10.0
11+04	26' LT	11+24	26' LT	20.0
11+04	26' RT	11+24	26' RT	20.0
11+24	26' LT	11+24	60' LT	34.0
11+24	26' RT	11+24	60' RT	34.0
11+24	60' LT	12+50	45' LT	127.0
11+24	60' RT	12+15	45' RT	92.0
TOTAL				608.0

25000314			
SEEDING CLASS 4B			
STATION TO STATION			ACRE
8+30	9+33	LT	0.05
8+50	9+33	RT	0.05
10+67	11+57	RT	0.09
10+67	12+18	LT	0.11
TOTAL			0.30

25000200			
SEEDING CLASS 2 AND			
25100115			
MULCH METHOD 2			
STATION TO STATION			ACRE
8+30	9+33	LT	0.06
8+50	9+33	RT	0.08
10+67	11+57	RT	0.07
10+67	12+18	LT	0.09
TOTAL			0.30
NOTE: 90 LBS PER ACRE FOR EACH NUTRIENT; NITROGEN, PHOSPHORUS & POTASSIUM.			

EARTHWORK SCHEDULE	CU YD
EARTH EXCAVATION	128
STRUCTURE EXCAVATION	256
TOTAL CUT	384
EMBANKMENT	6
TOTAL FILL	6
BORROW = FURNISHED EXCAVATION =	0
WASTE = EXCAVATION - (FILL x 1.25) =	376
1.25 REPRESENTS 25% SHRINKAGE FACTOR	

SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
@ STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	4
STATION		TO STATION		
F.H.W.A. REG.		ILLINOIS PROJECT		

SCHEDULE OF QUANTITIES

60900140 TYPE B INLET BOX STANDARD 609006		
LOCATION		EACH
11+22	RT	1
11+22	LT	1
TOTAL		2

48101500 AGGREGATE SHOULDERS, TYPE B, 6"			
STATION TO STATION			SQ YD
8+00	8+66	LT	44.2
7+75	8+66	RT	60.8
11+34	12+50	LT	77.5
11+34	12+00	RT	44.2
TOTAL			226.7

78008210 POLYUREA PAVEMENT MARKING TYPE 1 - LINE 4"			
STATION TO STATION		FOOT	COLOR/TYPE
8+25	12+00	RT	375.0 WHITE/EDGE
8+25	12+00	LT	375.0 WHITE/EDGE
8+25	12+00	CL	93.8 YELLOW/CL
TOTAL			844

40600100 BITUMINOUS MATERIALS (PRIME COAT)	
ON THIS BASE	GALLON
MILLED SURFACE	29.0
LEVELING BINDER	29.0
TOTAL	58.0
NOTE: CALCULATED @ 0.1 GAL/SY	

40600625 LEVELING BINDER (MACHINE METHOD), N50						
STATION TO STATION		LENGTH FOOT	WIDTH FOOT	THICK INCHES	TON	
LT	8+25	8+66	41	12	3/4	2.3
RT	8+25	8+66	41	12	3/4	2.3
LT	11+34	12+00	66	12	3/4	3.7
RT	11+34	12+00	66	12	3/4	3.7
					CONTINGENCY	0.8
TOTAL					12.8	

60100945 PIPE DRAINS, 12"		
LOCATION		FOOT
11+22	RT	40
11+22	LT	40
TOTAL		80

63100085 TRAFFIC BARRIER TERMINAL, TYPE 6			
STATION TO STATION			EACH
8+38.10	8+81.25	LT	1
11+18.15	11+61.90	LT	1
8+38.10	8+81.25	RT	1
11+18.15	11+61.90	RT	1
TOTAL			4

63100167 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL)			
STATION TO STATION			EACH
11+99.40	12+49.40	LT	1
TOTAL			1

40600300 AGGREGATE (PRIME COAT)	
ON THIS BASE	TON
MILLED SURFACE	0.40
LEVELING BINDER	0.40
TOTAL	0.8
NOTE: CALCULATED @ 3LB/SY	

40603310 HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50						
STATION TO STATION		LENGTH FOOT	WIDTH FOOT	THICK INCHES	TON	
LT	8+25	8+66	41	12	1 1/2	9.1
RT	8+25	8+66	41	12	1 1/2	9.1
LT	11+34	12+00	66	12	1 1/2	9.9
RT	11+34	12+00	66	12	1 1/2	9.9
					CONTINGENCY	2.0
TOTAL					40.1	
NOTE: CALCULATIONS USED 112 LB/SY/INCH						

60900515 CONCRETE THRUST BLOCKS		
LOCATION		EACH
11+22	RT	1
11+22	LT	1
TOTAL		2

63100045 TRAFFIC BARRIER TERMINAL, TYPE 2			
STATION TO STATION			EACH
8+00.60	8+13.10	LT	1
11+86.90	11+99.40	RT	1
TOTAL			2

63300725 STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)			
STATION TO STATION			FOOT
7+58.60	7+75.60	RT	31.25
TOTAL			31.3

Z0001400 ANTI-STRIP ADDITIVE	
FOR THIS HMA	UNIT
LEVELING BINDER	8.0
SURFACE COURSE	24.0
TOTAL	32.0
NOTE: CALCD @ 0.59 LB / TON OF ASPHALT (1 UNIT=1 POUND)	

X4401198 HOT-MIX SURFACE REMOVAL, VARIABLE DEPTH					
STATION TO STATION		LENGTH FOOT	WIDTH FOOT	SQ YD	
LT	8+25	8+66	41	12	55.0
RT	8+25	8+66	41	12	55.0
LT	11+34	12+00	66	12	88.0
RT	11+34	12+00	66	12	88.0
TOTAL				286.0	

54213447 END SECTIONS 12"		
LOCATION		EACH
11+22	RT	1
11+22	LT	1
TOTAL		2

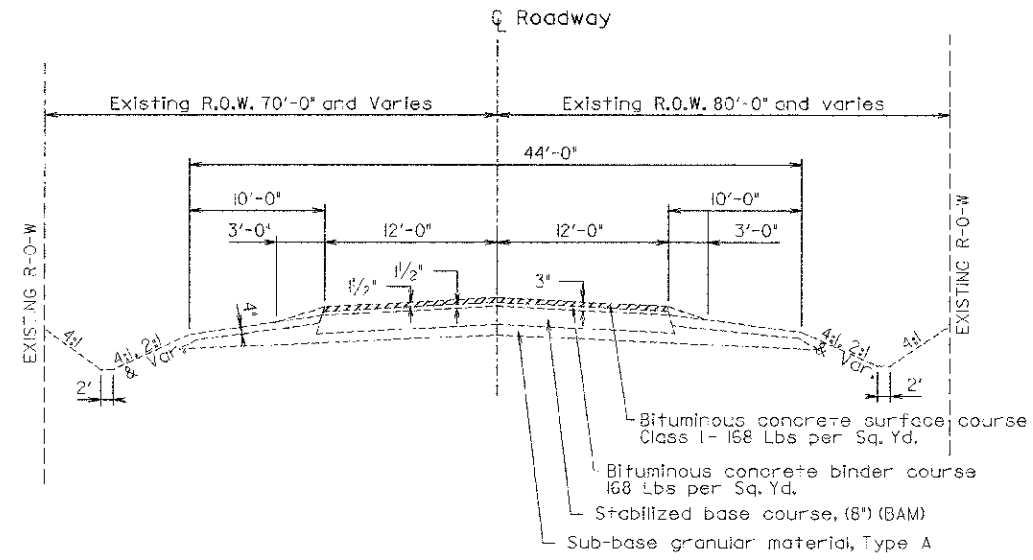
63000001 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS			
STATION TO STATION			FOOT
8+13.10	8+38.10	LT	25.0
7+75.60	8+38.10	RT	62.5
11+61.90	11+99.40	LT	37.5
11+61.90	11+86.90	RT	25.0
TOTAL			150.0

420001300 PROTECTIVE COAT			
STATION TO STATION			SQ YD
8+66	8+96		114.0
11+04	11+34		114.0
TOTAL			228.0

SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	5
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		

EXISTING TYPICAL PAVEMENT SECTION



EXISTING TYPICAL PAVEMENT

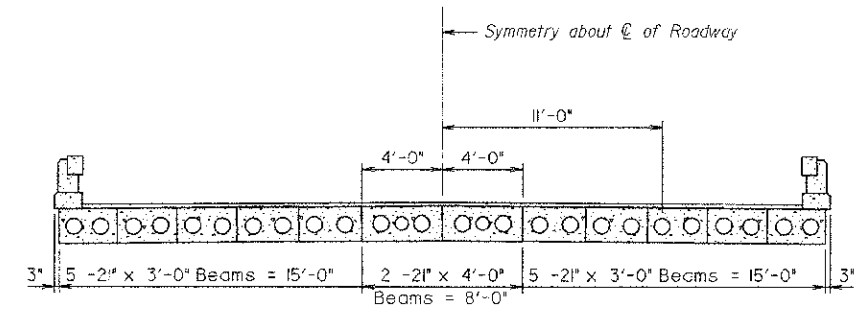
NOTES:

FUNCTIONAL CLASS - RURAL MAJOR COLLECTOR
CURRENT ADT = 1000

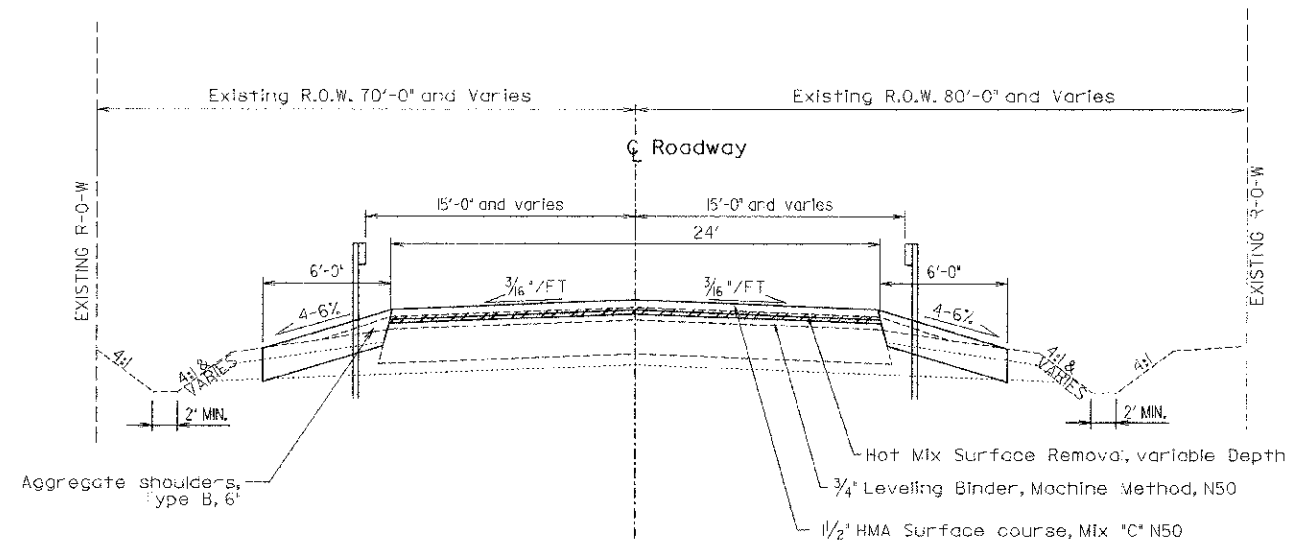
SEE PLAN AND PROFILE SHEETS FOR TAPERS.

BEGIN PROJECT STA. 7+75 TO STA. 9+29.88
STA. 10+70.13 TO STA. 12+50 END PROJECT

EXISTING BRIDGE SECTION



PROPOSED TYPICAL PAVEMENT SECTION



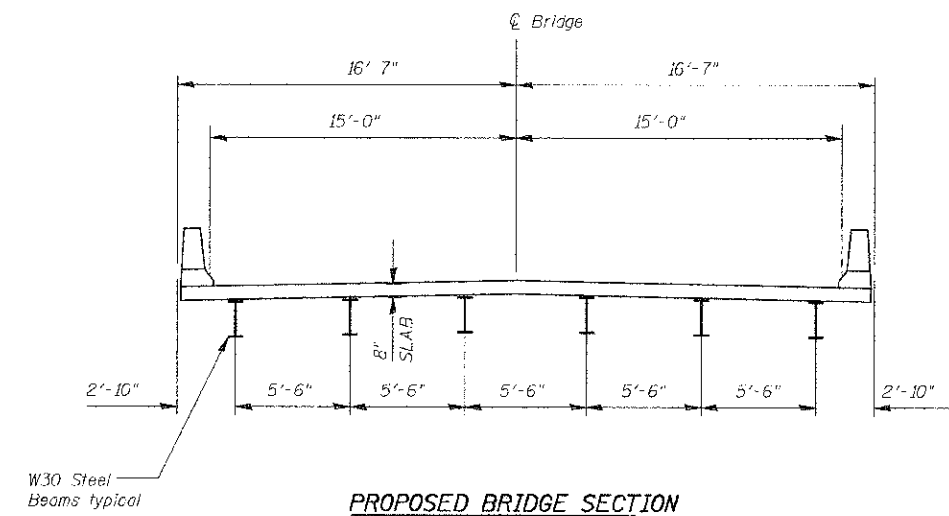
BEGIN PROJECT STA. 7+75 TO STA. 8+66.25
STA. 11+33.75 TO STA. 12+50 END OF PROJECT

NOTES:

FUNCTIONAL CLASS - RURAL COLLECTOR
CURRENT ADT = 1000

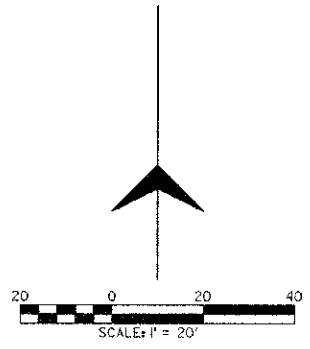
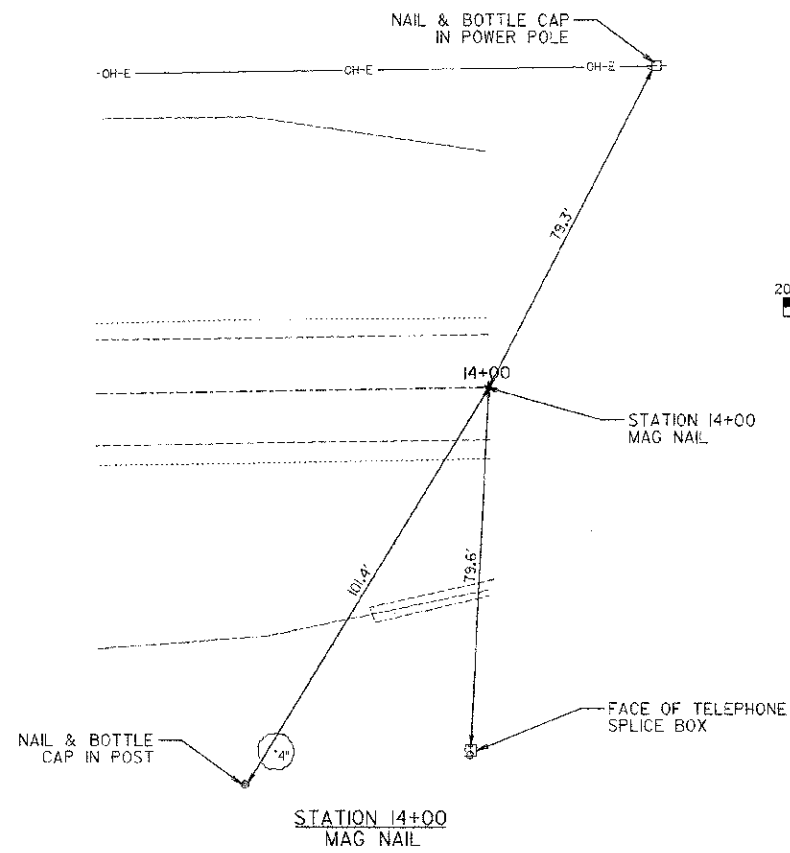
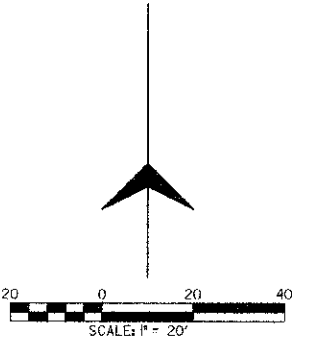
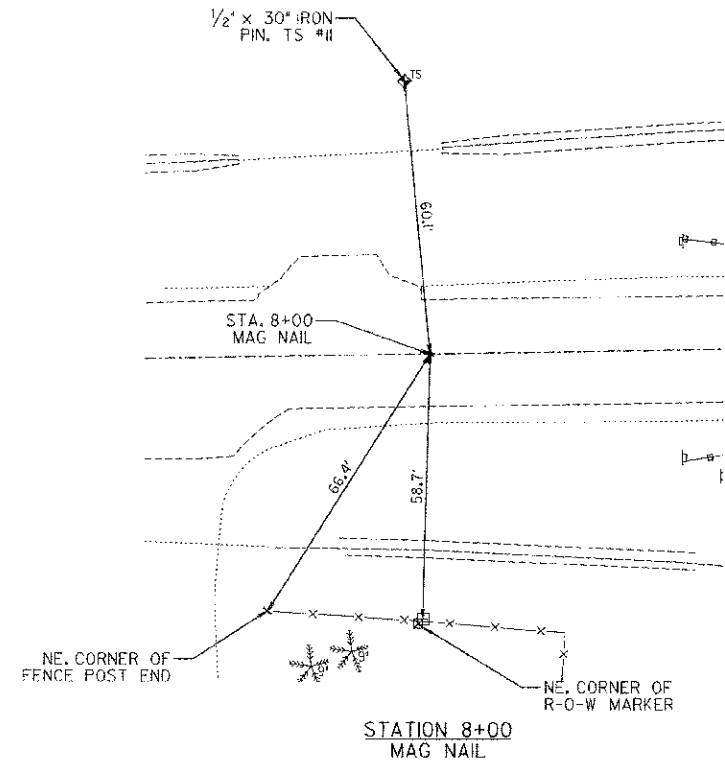
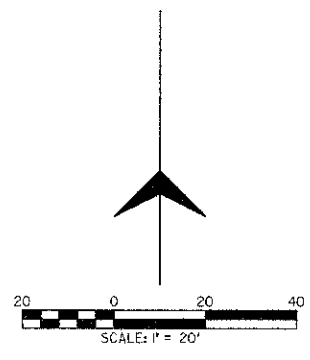
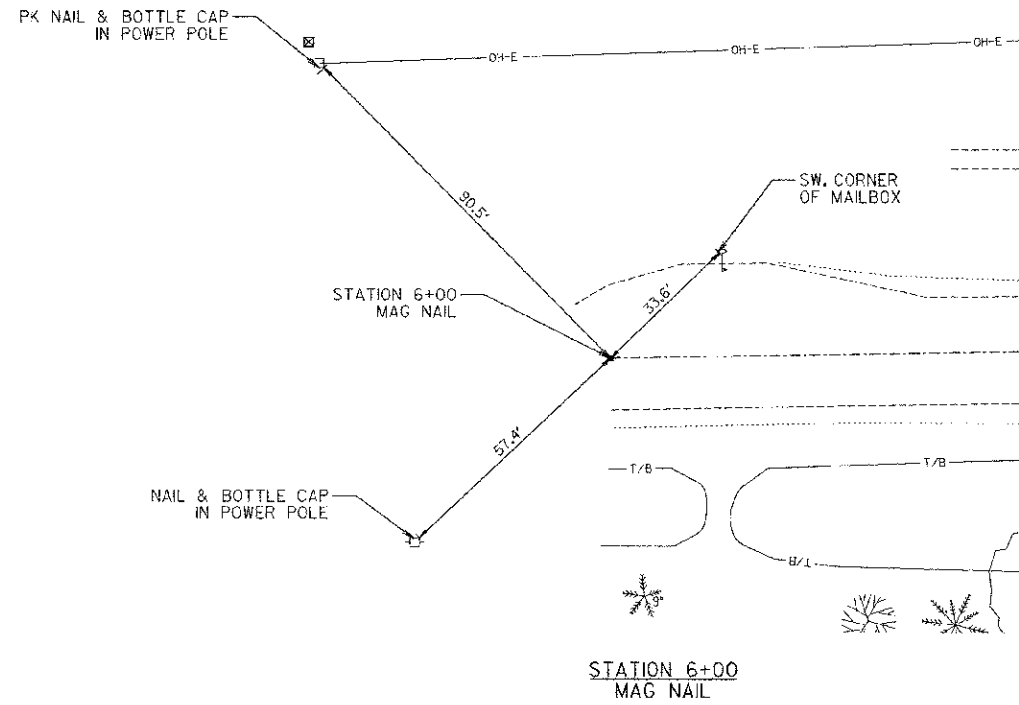
SEE PLAN AND PROFILE SHEETS FOR TAPERS.

PROPOSED BRIDGE SECTION



TYPICAL SECTIONS	
SECTION:	07-00944-00-BR
COUNTY:	CHAMPAIGN COUNTY
C STATION:	10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	6
STA.	TO STA.			
FAHWA REG.	ILLINOIS	PROJECT		



TIE POINTS	
SECTION:	07-00944-00-BR
COUNTY:	CHAMPAIGN COUNTY
Q. STATION:	10+00

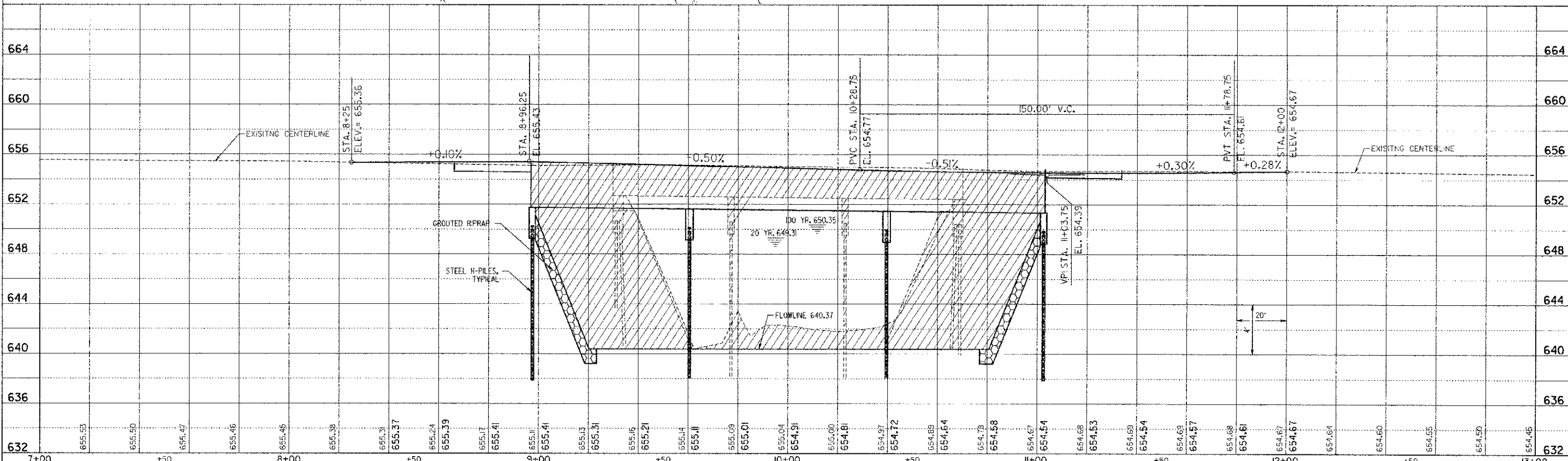
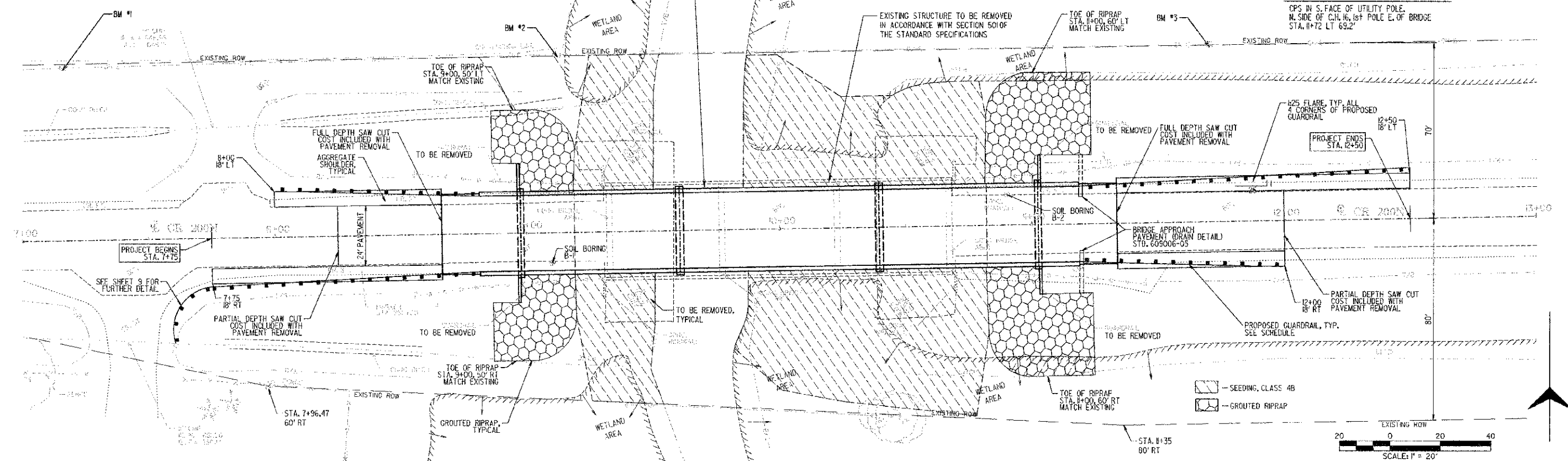
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	7

D.M. #1 ELEV. 655.25
SPIKE IN S. FACE OF UTILITY POLE.
N. SIDE OF C.H. 16, 2nd POLE W. OF BRIDGE
STA. 7+17 LT 67.5'

B.M. #2 ELEV. 648.94
CPS IN S. FACE OF UTILITY POLE.
N. SIDE OF C.H. 16, 1st POLE W. OF BRIDGE
STA. 9+13 LT 69.5'

B.M. #3 ELEV. 647.86
CPS IN S. FACE OF UTILITY POLE.
N. SIDE OF C.H. 16, 1st POLE E. OF BRIDGE
STA. 11+72 LT 69.2'

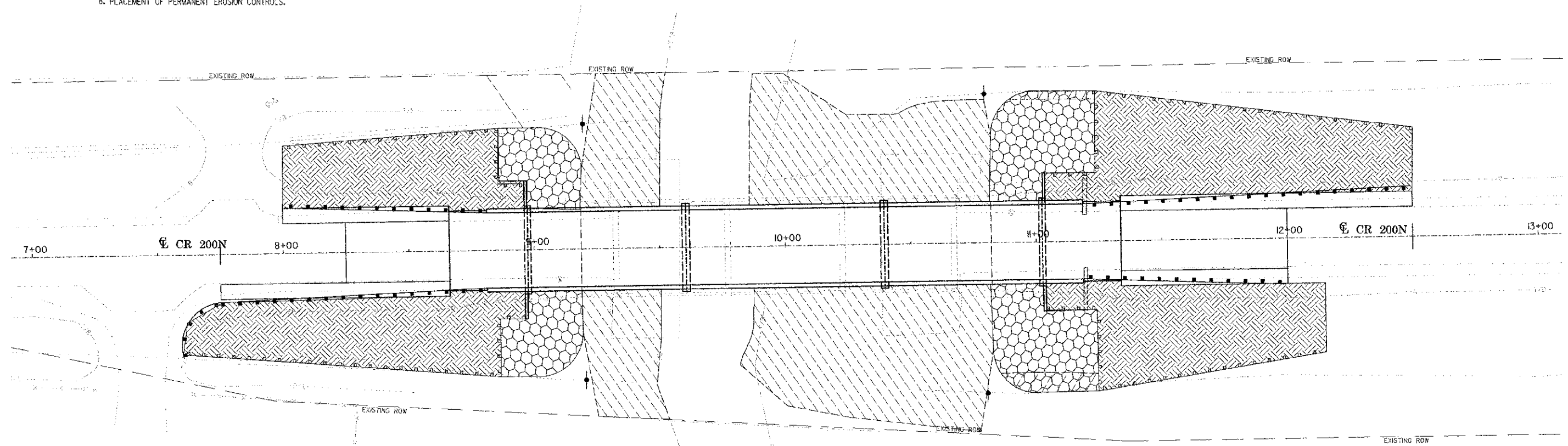
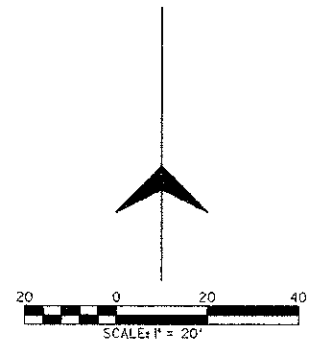
PROPOSED STRUCTURE STA. 10+00,
SKEW 0° THREE SPAN STEEL BEAM
CONCRETE DECK BRIDGE 202.50' W.
OF ABUTMENT 30' WIDE 7' F. PARAPET



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	8
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS PROJECT			

INTENDED SEQUENCE

1. PLACEMENT OF PERIMETER EROSION CONTROL BARRIER PRIOR TO COMMENCEMENT OF ANY WORK. SEE STANDARD 2800L.
2. REMOVAL OF THE EXISTING STRUCTURE.
3. CONSTRUCTION OF THE NEW SUB STRUCTURE.
4. CONSTRUCTION OF THE NEW SUPERSTRUCTURE.
5. THE PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROLS.
6. FINAL GRADING AND SHAPING INCLUDING PLACEMENT OF AGGREGATE BASE COURSE & BITUMINOUS SURFACE.
7. REMOVAL & PROPER CLEAN UP OF TEMPORARY EROSION CONTROLS.
8. PLACEMENT OF PERMANENT EROSION CONTROLS.



PERMANENT EROSION CONTROL

- GROUTED RIPRAP
- SEEDING, CLASS 2
- SEEDING, CLASS 4B

TEMPORARY EROSION CONTROL

- PERIMETER EROSION BARRIER
- TEMPORARY DITCH CHECK
- INLET AND PIPE PROTECTION

28000400 PERIMETER EROSION BARRIER					
STA	OFFSET	TO	STA	OFFSET	LENGTH
8+00	43' LT		8+82	50' LT	83 FT
7+59	37' RT		8+82	50' RT	124 FT
8+82	50' LT		8+82	23' LT	27 FT
8+82	50' RT		8+82	23' RT	27 FT
8+82	23' LT		8+92	23' LT	10 FT
8+82	23' RT		8+92	23' RT	10 FT
11+04	26' LT		11+24	26' LT	20 FT
11+04	26' RT		11+24	26' RT	20 FT
11+24	26' LT		11+24	60' LT	34 FT
11+24	26' RT		11+24	60' RT	34 FT
11+24	60' LT		12+50	45' LT	127 FT
11+24	60' RT		12+50	45' RT	92 FT
TOTAL					608 FT

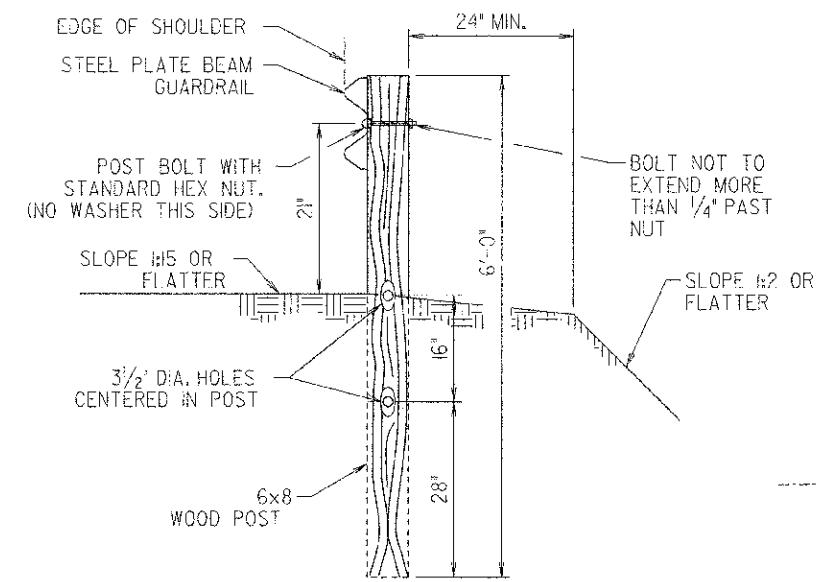
28000300 TEMPORARY DITCH CHECKS		
STA	OFFSET	QUANTITY
9+20	50' LT	8 FOOT
9+20	53' RT	8 FOOT
10+80	60' LT	8 FOOT
10+80	60' RT	8 FOOT
TOTAL		32 FOOT

TEMPORARY EROSION CONTROL
THE FOLLOWING QUANTITIES ARE ESTIMATES ONLY. ACTUAL QUANTITIES FOR EROSION CONTROL WILL BE DETERMINED BY THE ENGINEER IN THE FIELD, AND THERE WILL BE NO CHANGE IN PRICE DUE TO A CHANGE IN PLAN QUANTITY.

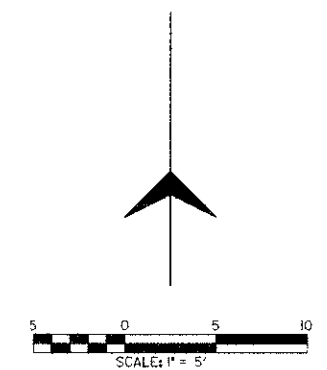
TEMPORARY EROSION CONTROL BILL OF MATERIALS		
ITEM	UNIT	TOTALS
TEMPORARY EROSION CONTROL SEEDING	POUND	350
PERIMETER EROSION BARRIER	FOOT	608
TEMPORARY DITCH CHECKS	FOOT	32

EROSION CONTROL PLAN
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
CR STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	9
SIA.		FO SIA.		
F.H.W.A. REG.		ILLINOIS PROJECT		



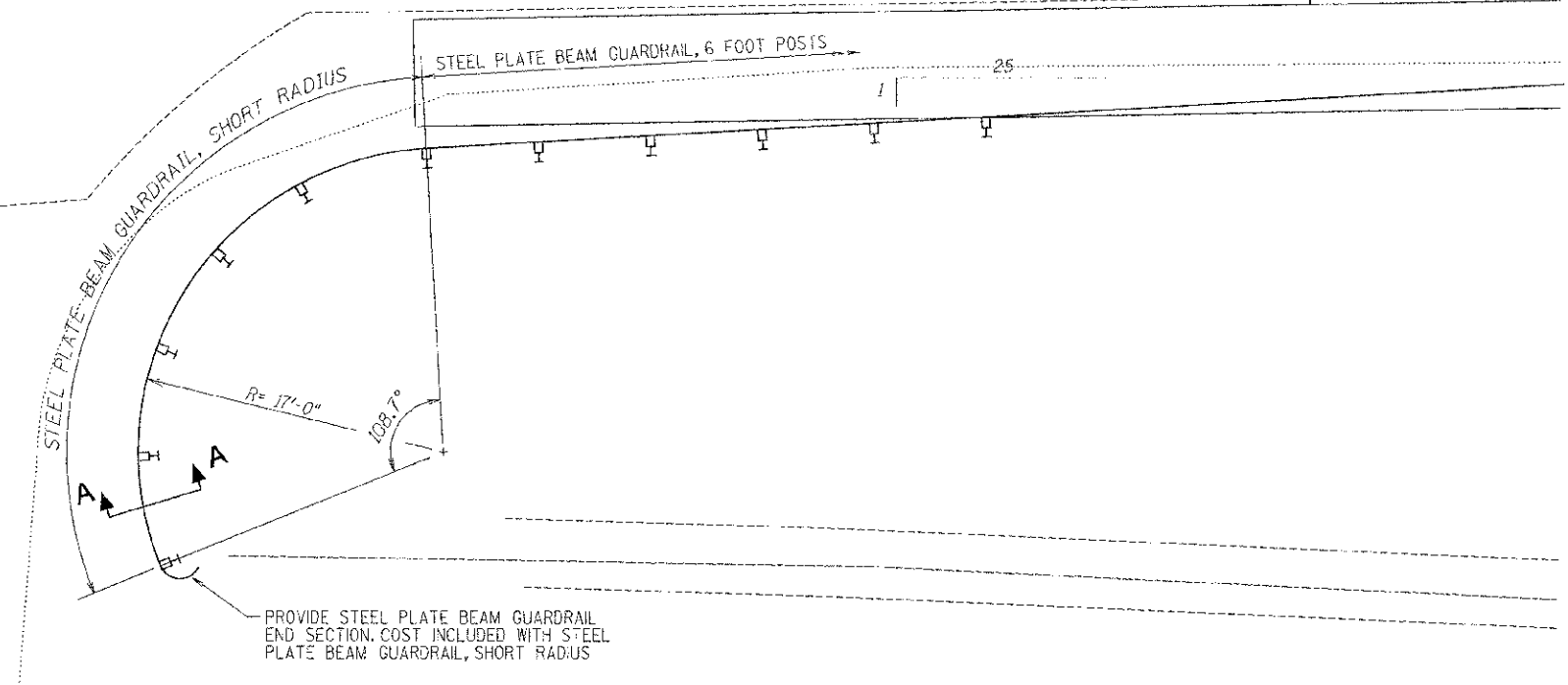
SECTION A-A
NOT TO SCALE



CL CR 200N

NOTES:

1. CONSTRUCT ACCORDING TO STANDARD 631011 FOR TRAFFIC BARRIER TERMINAL TYPE 2, EXCEPT DELETE END SECTION AND SPLICE INTO RADIUS GUARDRAIL.
2. FOR THE 8'-6" RADIUS, THE RAIL IS NOT BOLTED TO THE POST LOCATED AT THE MIDPOINT OF THE CURVE.



GUARDRAIL DETAIL

GUARDRAIL DETAILS
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
STATION 10+00

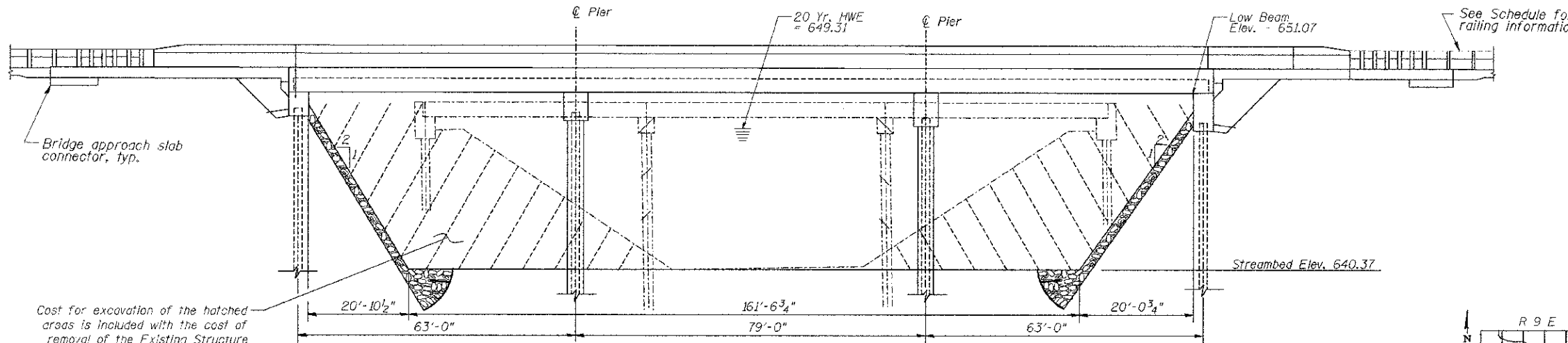
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	10
STA.	TO STA.			
I.L.W.A. REG.		ILLINOIS PROJECT		

BENCHMARK DATA:

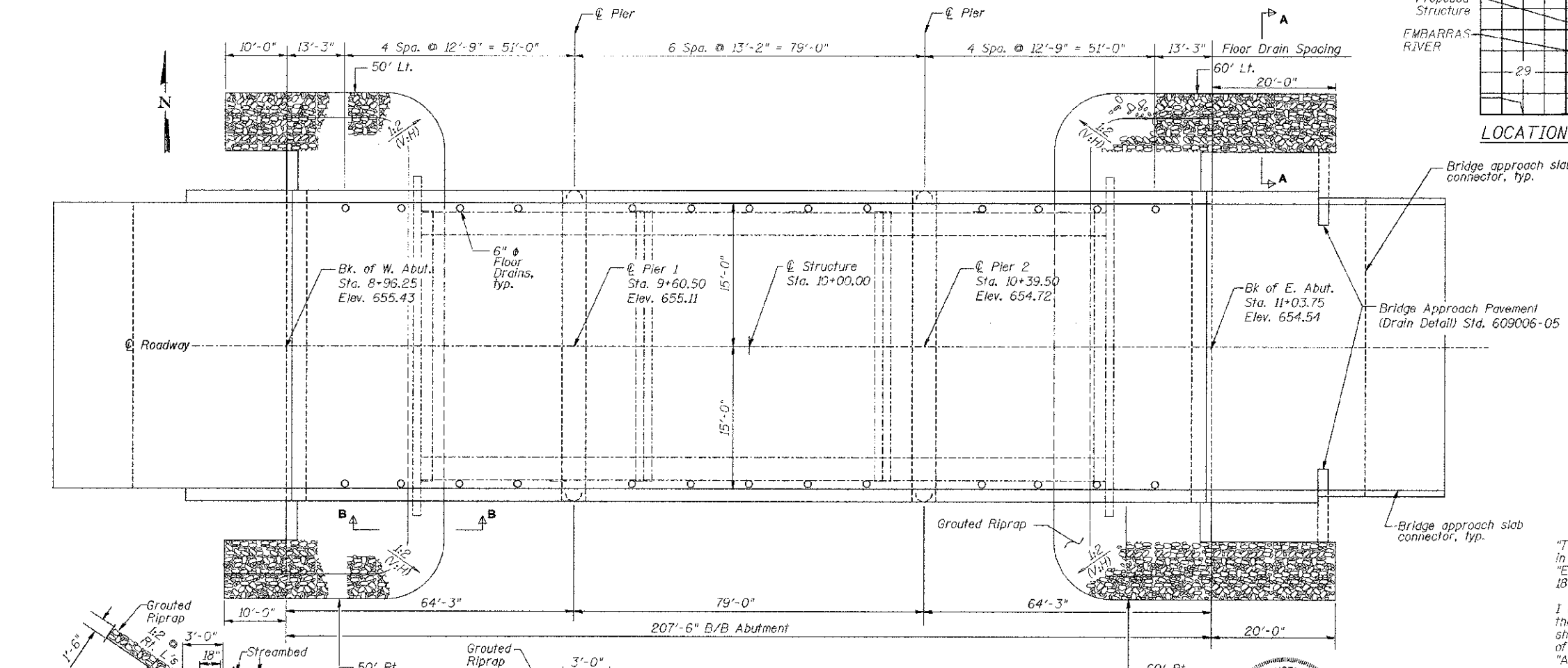
BM #1 - Spike in South face of utility pole North side of C.H. 16, 2nd pole West of bridge Sta. 7+17 67.5' Lt. Elev. 655.25
 BM #2 - CPS in South face of utility pole North side of C.H. 16, 1st pole West of bridge Sta. 9+13 69.5' Lt. Elev. 648.94
 BM #1 - CPS in South face of utility pole North side of C.H. 16, 1st pole E. of bridge Sta. 11+72, 69.2' Lt. Elev. 647.86

EXISTING STRUCTURE DESCRIPTION

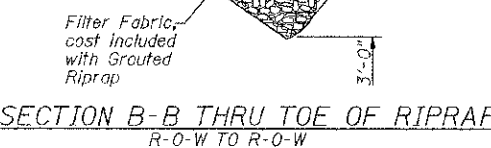
NO. 010-0117, three span 140'-3" long, back to back abutments, with a 36'-0" roadway surface, with precast concrete beams supported on concrete abutments and concrete piers supported by concrete piles. Built as Sec. 50BR at sta. 253+65 in 1969. The contractor shall remove the existing structure as required. The existing structure shall be replaced with a three span steel girder concrete deck bridge at a 0° Skew



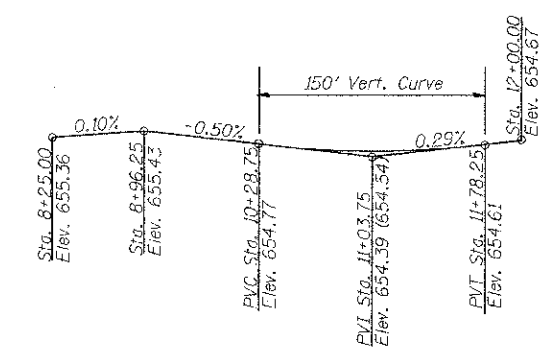
ELEVATION
(along \hat{Q} Roadway)



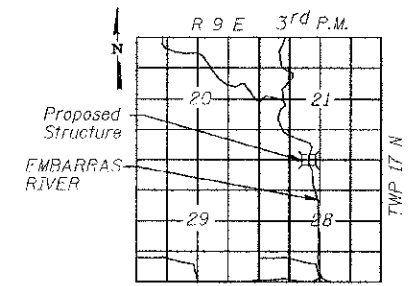
PLAN



SECTION A-A



PROFILE GRADE
(along \hat{Q} Roadway)



LOCATION SKETCH

STRUCTURE NO. 010-4548
 SEC. 07-00944-00-BR BUILT 20XX
 C.H. 16
 CHAMPAIGN COUNTY
 LOADING HL-93

NAME PLATE
 See Std. 515001

DESIGN LOADING
 HL 93 and Allowance for
 25 P.S.F. Future Wearing Surface

DESIGN STRESSES
 $f'_c = 3,500$ psi (Concrete)
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (M270 GRADE 50W)

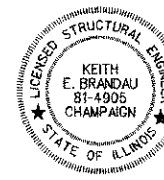
DESIGN SPECIFICATIONS
 2010 AASHTO LFRD 5th Edition

WATERWAY DATA

Drainage Area	47.56	Sq. Mi.
Existing Opening (20 Year)	697	Sq. Ft.
Required Opening (20 Year)	1204	Sq. Ft.
Proposed Opening (20 Year)	1127	Sq. Ft.
Design Discharge (20 Year)	1220	C.F.S.
Computed Discharge (100 Year)	4830	C.F.S.

"This structure has been designed to be stable for scour conditions in accordance with the FHWA Technical Advisory - T 5140.23, "Evaluating Scour at Bridges" and Hydraulic Engineering Circular 18 - Evaluating Scour at Bridges.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current "AASHTO Standard Specifications for Highway Bridges".



Keith E. Brandau 4/11/12
 KEITH E. BRANDAU DATE
 Illinois Licensed Structural Engineer Number 81-4905
 License Expires 11/30/12

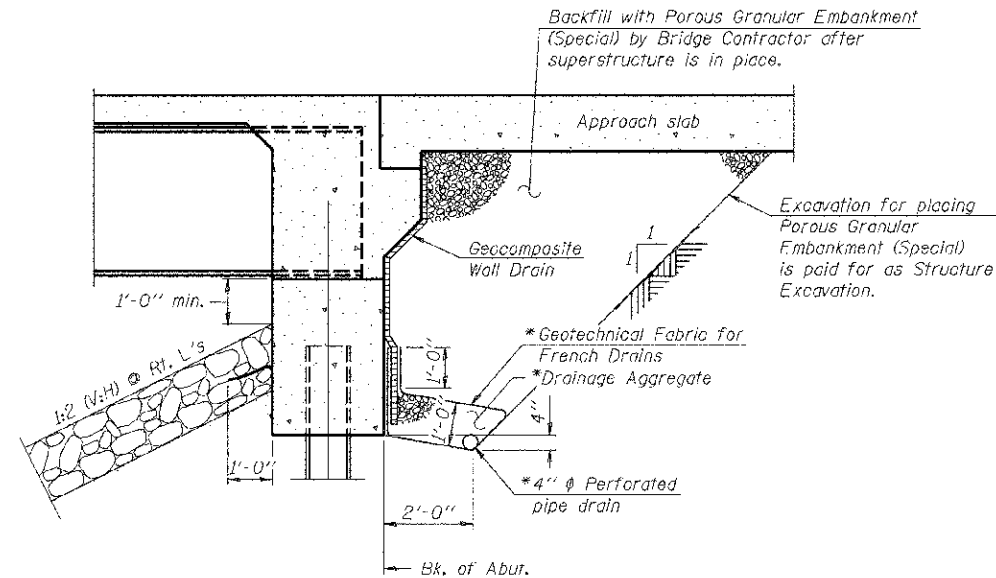
GENERAL PLAN AND ELEVATION
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 \hat{Q} STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	11
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS PROJECT			

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts 7/8" dia., nuts 5/8" dia., unless otherwise noted.
 Calculated weight of Structural Steel = 159,791 pounds.
 All structural steel shall be AASHTO M270 Grade 50W.

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 the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
 Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
 Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.



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

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

Note:
 All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

INDEX OF SHEETS

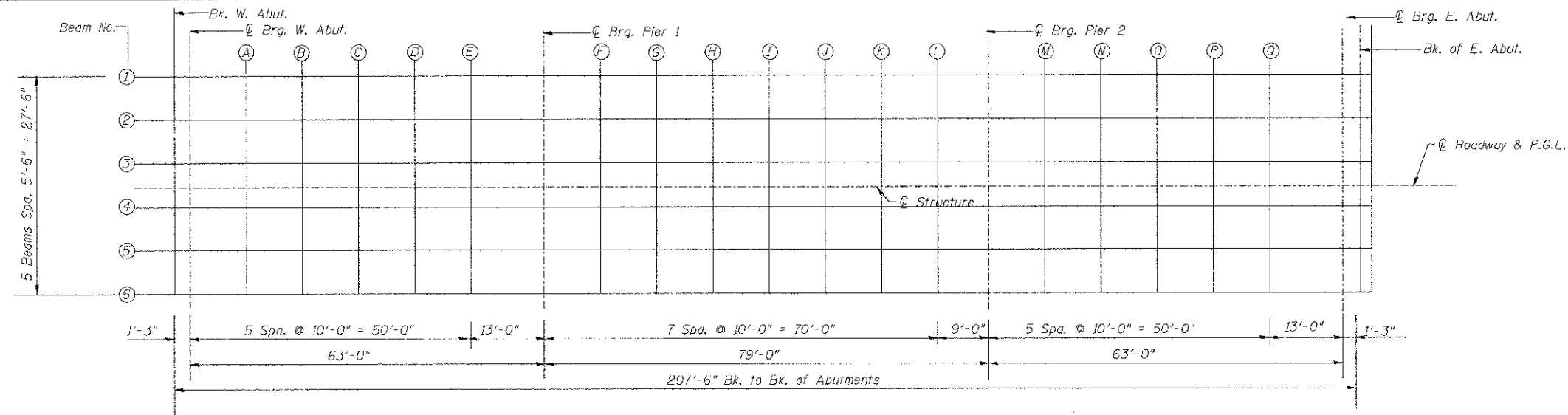
- 1 General Plan and Elevation
- 2 General Notes, Total Bill of Material, and Details
- 3-4 Top of Slab Elevations
- 5-6 Top of Approach Slab Elevations
- 7-8 Superstructure
- 9 Concrete Parapet Slipforming Option
- 10-11 Framing Plan & Beam Details
- 12 Diaphragm Details
- 13-14 Abutments
- 15 Piers
- 16-17 Bridge Approach Slab Details
- 18 Cantilever Forming Brackets
- 19 HP Pile Details
- 20 Bar Splicer Assembly Details
- 21 Soil Boring Logs

TOTAL BILL OF MATERIAL

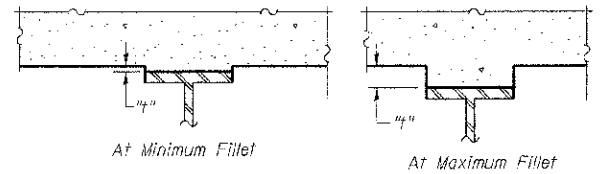
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each	1		1
Bridge Deck Grooving	Sq. Yd.	646		646
Concrete Superstructures	Cu. Yd.	348.6		348.6
Concrete Structures	Cu. Yd.		107.7	107.7
Reinforcement Bars, Epoxy Coated	Pound	81,120	9,640	90,760
Protective Coat	Sq. Yd.	881		881
Name Plates	Each	1		1
Structure Excavation	Cu. Yd.		256	256
Porous Granular Embankment, Special	Cu. Yd.		135	135
Stud Shear Connectors	Each	3870		3870
Furnishing and Erecting Structural Steel	L. Sum	1		1
Furnishing Steel Piles HP 10x42	Foot		1510	1510
Driving Piles	Foot		1510	1510
Pile Shoes	Each		32	32
Test Pile Steel HP 10x42	Each		4	4
Grouted Riprap	Sq. Yd.		798	798
Concrete Cut-Off Wall	Cu. Yd.		6.2	6.2
Floor Drains	Each	26		26
Cofferdam Type 1, Location 1	Each		1	1
Cofferdam Type 1, Location 2	Each		1	1
Bar Splicers	Each	68		68
Anchor Bolts, 1"	Each	48		48
Geocomposite Wall Drain	Sq. Yd.		74	74
Pipe Underdrains for Structures 4"	Foot		240	240

GENERAL PLAN AND ELEVATION
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	12
SIA.		TO STA.		
F.H.W.A. REG.		ILLINOIS PROJECT		



Note:
Concrete Fillet quantities are included in Concrete Superstructure Plan quantities



To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheets 3 & 4 of 21. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "f" above top flange of beams.

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 3 & 4 of 21.

FILLET HEIGHTS

BEAM 1

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	13.75	Lt.	655.03	655.03
Cl. W. Abut	8+97.50	13.75	Lt.	655.02	655.02
A	9+07.50	13.75	Lt.	655.00	655.04
B	9+17.50	13.75	Lt.	654.98	655.04
C	9+27.50	13.75	Lt.	654.96	655.02
D	9+37.50	13.75	Lt.	654.94	654.99
E	9+47.50	13.75	Lt.	654.92	654.94
Cl. Pier 1	9+60.50	13.75	Lt.	654.90	654.90
F	9+70.50	13.75	Lt.	654.88	654.89
G	9+80.50	13.75	Lt.	654.86	654.91
H	9+90.50	13.75	Lt.	654.84	654.91
I	10+00.50	13.75	Lt.	654.82	654.90
J	10+10.50	13.75	Lt.	654.79	654.87
K	10+20.50	13.75	Lt.	654.77	654.82
L	10+30.50	13.75	Lt.	654.75	654.77
Cl. Pier 2	10+39.50	13.75	Lt.	654.74	654.74
M	10+49.50	13.75	Lt.	654.72	654.73
N	10+59.50	13.75	Lt.	654.70	654.73
O	10+69.50	13.75	Lt.	654.68	654.73
P	10+79.50	13.75	Lt.	654.66	654.72
Q	10+89.50	13.75	Lt.	654.64	654.68
Cl. E. Abut	11+02.50	13.75	Lt.	654.61	654.61
Bk. Of E. Abut	11+03.75	13.75	Lt.	654.61	654.61

BEAM 2

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	8.25	Lt.	655.12	655.12
Cl. W. Abut	8+97.50	8.25	Lt.	655.12	655.12
A	9+07.50	8.25	Lt.	655.10	655.13
B	9+17.50	8.25	Lt.	655.08	655.14
C	9+27.50	8.25	Lt.	655.06	655.12
D	9+37.50	8.25	Lt.	655.04	655.08
E	9+47.50	8.25	Lt.	655.02	655.04
Cl. Pier 1	9+60.50	8.25	Lt.	654.99	654.99
F	9+70.50	8.25	Lt.	654.97	654.99
G	9+80.50	8.25	Lt.	654.95	655.00
H	9+90.50	8.25	Lt.	654.93	655.01
I	10+00.50	8.25	Lt.	654.91	655.00
J	10+10.50	8.25	Lt.	654.89	654.96
K	10+20.50	8.25	Lt.	654.87	654.92
L	10+30.50	8.25	Lt.	654.85	654.87
Cl. Pier 2	10+39.50	8.25	Lt.	654.83	654.83
M	10+49.50	8.25	Lt.	654.81	654.82
N	10+59.50	8.25	Lt.	654.79	654.83
O	10+69.50	8.25	Lt.	654.77	654.83
P	10+79.50	8.25	Lt.	654.75	654.81
Q	10+89.50	8.25	Lt.	654.73	654.77
Cl. E. Abut	11+02.50	8.25	Lt.	654.70	654.70
Bk. Of E. Abut	11+03.75	8.25	Lt.	654.70	654.70

BEAM 3

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	2.75	Lt.	655.21	655.21
Cl. W. Abut	8+97.50	2.75	Lt.	655.20	655.20
A	9+07.50	2.75	Lt.	655.18	655.22
B	9+17.50	2.75	Lt.	655.16	655.22
C	9+27.50	2.75	Lt.	655.14	655.20
D	9+37.50	2.75	Lt.	655.12	655.17
E	9+47.50	2.75	Lt.	655.10	655.12
Cl. Pier 1	9+60.50	2.75	Lt.	655.08	655.08
F	9+70.50	2.75	Lt.	655.06	655.07
G	9+80.50	2.75	Lt.	655.04	655.09
H	9+90.50	2.75	Lt.	655.02	655.09
I	10+00.50	2.75	Lt.	655.00	655.08
J	10+10.50	2.75	Lt.	654.98	655.05
K	10+20.50	2.75	Lt.	654.96	655.00
L	10+30.50	2.75	Lt.	654.94	654.95
Cl. Pier 2	10+39.50	2.75	Lt.	654.92	654.92
M	10+49.50	2.75	Lt.	654.90	654.91
N	10+59.50	2.75	Lt.	654.88	654.92
O	10+69.50	2.75	Lt.	654.86	654.92
P	10+79.50	2.75	Lt.	654.84	654.90
Q	10+89.50	2.75	Lt.	654.82	654.86
Cl. E. Abut	11+02.50	2.75	Lt.	654.79	654.79
Bk. Of E. Abut	11+03.75	2.75	Lt.	654.79	654.79

TOP OF SLAB ELEVATIONS I
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	13
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		

CL ROADWAY AND PGL

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	0	655.25	655.25
Cl. W. Abut	8+97.50	0	655.25	655.25
A	9+07.50	0	655.23	655.26
B	9+17.50	0	655.21	655.26
C	9+27.50	0	655.19	655.25
D	9+37.50	0	655.17	655.21
E	9+47.50	0	655.15	655.17
Cl. Pier 1	9+60.50	0	655.12	655.12
F	9+70.50	0	655.10	655.12
G	9+80.50	0	655.08	655.13
H	9+90.50	0	655.06	655.14
I	10+00.50	0	655.04	655.12
J	10+10.50	0	655.02	655.09
K	10+20.50	0	655.00	655.05
L	10+30.50	0	654.98	654.99
Cl. Pier 2	10+39.50	0	654.96	654.96
M	10+49.50	0	654.94	654.95
N	10+59.50	0	654.92	654.96
O	10+69.50	0	654.90	654.96
P	10+79.50	0	654.88	654.94
Q	10+89.50	0	654.86	654.90
Cl. E. Abut	11+02.50	0	654.83	654.83
Bk. Of E. Abut	11+03.75	0	654.83	654.83

BEAM 4

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	2.75	Rt.	655.21	655.21
Cl. W. Abut	8+97.50	2.75	Rt.	655.20	655.20
A	9+07.50	2.75	Rt.	655.18	655.22
B	9+17.50	2.75	Rt.	655.16	655.22
C	9+27.50	2.75	Rt.	655.14	655.20
D	9+37.50	2.75	Rt.	655.12	655.17
E	9+47.50	2.75	Rt.	655.10	655.12
Cl. Pier 1	9+60.50	2.75	Rt.	655.08	655.08
F	9+70.50	2.75	Rt.	655.06	655.07
G	9+80.50	2.75	Rt.	655.04	655.09
H	9+90.50	2.75	Rt.	655.02	655.09
I	10+00.50	2.75	Rt.	655.00	655.08
J	10+10.50	2.75	Rt.	654.98	655.05
K	10+20.50	2.75	Rt.	654.96	655.00
L	10+30.50	2.75	Rt.	654.94	654.95
Cl. Pier 2	10+39.50	2.75	Rt.	654.92	654.92
M	10+49.50	2.75	Rt.	654.90	654.91
N	10+59.50	2.75	Rt.	654.88	654.92
O	10+69.50	2.75	Rt.	654.86	654.92
P	10+79.50	2.75	Rt.	654.84	654.90
Q	10+89.50	2.75	Rt.	654.82	654.86
Cl. E. Abut	11+02.50	2.75	Rt.	654.79	654.79
Bk. Of E. Abut	11+03.75	2.75	Rt.	654.79	654.79

Sheet 4 of 21

BEAM 5

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	8.25	Rt.	655.12	655.12
Cl. W. Abut	8+97.50	8.25	Rt.	655.12	655.12
A	9+07.50	8.25	Rt.	655.10	655.13
B	9+17.50	8.25	Rt.	655.08	655.14
C	9+27.50	8.25	Rt.	655.06	655.12
D	9+37.50	8.25	Rt.	655.04	655.08
E	9+47.50	8.25	Rt.	655.02	655.04
Cl. Pier 1	9+60.50	8.25	Rt.	654.99	654.99
F	9+70.50	8.25	Rt.	654.97	654.99
G	9+80.50	8.25	Rt.	654.95	655.00
H	9+90.50	8.25	Rt.	654.93	655.01
I	10+00.50	8.25	Rt.	654.91	655.00
J	10+10.50	8.25	Rt.	654.89	654.96
K	10+20.50	8.25	Rt.	654.87	654.92
L	10+30.50	8.25	Rt.	654.85	654.87
Cl. Pier 2	10+39.50	8.25	Rt.	654.83	654.83
M	10+49.50	8.25	Rt.	654.81	654.82
N	10+59.50	8.25	Rt.	654.79	654.83
O	10+69.50	8.25	Rt.	654.77	654.83
P	10+79.50	8.25	Rt.	654.75	654.81
Q	10+89.50	8.25	Rt.	654.73	654.77
Cl. E. Abut	11+02.50	8.25	Rt.	654.70	654.70
Bk. Of E. Abut	11+03.75	8.25	Rt.	654.70	654.70

BEAM 6

LOCATION	STATION	OFFSET		THEORETICAL GRADE ELEVATIONS	THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. Of W. Abut	8+96.25	13.75	Rt.	655.03	655.03
Cl. W. Abut	8+97.50	13.75	Rt.	655.03	655.03
A	9+07.50	13.75	Rt.	655.01	655.05
B	9+17.50	13.75	Rt.	654.99	655.05
C	9+27.50	13.75	Rt.	654.97	655.03
D	9+37.50	13.75	Rt.	654.95	655.00
E	9+47.50	13.75	Rt.	654.93	654.95
Cl. Pier 1	9+60.50	13.75	Rt.	654.90	654.90
F	9+70.50	13.75	Rt.	654.88	654.90
G	9+80.50	13.75	Rt.	654.86	654.92
H	9+90.50	13.75	Rt.	654.84	654.92
I	10+00.50	13.75	Rt.	654.82	654.91
J	10+10.50	13.75	Rt.	654.80	654.88
K	10+20.50	13.75	Rt.	654.78	654.83
L	10+30.50	13.75	Rt.	654.76	654.78
Cl. Pier 2	10+39.50	13.75	Rt.	654.75	654.75
M	10+49.50	13.75	Rt.	654.73	654.74
N	10+59.50	13.75	Rt.	654.71	654.74
O	10+69.50	13.75	Rt.	654.68	654.74
P	10+79.50	13.75	Rt.	654.66	654.73
Q	10+89.50	13.75	Rt.	654.64	654.69
Cl. E. Abut	11+02.50	13.75	Rt.	654.62	654.62
Bk. Of E. Abut	11+03.75	13.75	Rt.	654.62	654.62

TOP OF SLAB ELEVATIONS 2
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	14
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS PROJECT		

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't.	8+66.25	15' LT	655.06
A	8+76.25	15' LT	655.04
B	8+86.25	15' LT	655.02
Bk. of W. Abut.	8+96.25	15' LT	655.00

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't.	8+66.25	12' LT	655.12
A	8+76.25	12' LT	655.10
B	8+86.25	12' LT	655.08
Bk. of W. Abut.	8+96.25	12' LT	655.06

☉ ROADWAY & P.G.L.

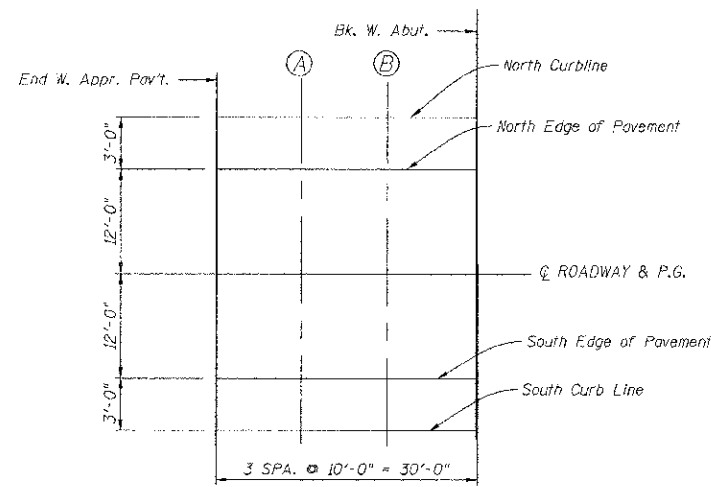
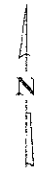
Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't.	8+66.25	0' LT	655.31
A	8+76.25	0' LT	655.29
B	8+86.25	0' LT	655.27
Bk. of W. Abut.	8+96.25	0' LT	655.25

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't.	8+66.25	12' RT	655.12
A	8+76.25	12' RT	655.10
B	8+86.25	12' RT	655.08
Bk. of W. Abut.	8+96.25	12' RT	655.06

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't.	8+66.25	15' RT	655.06
A	8+76.25	15' RT	655.04
B	8+86.25	15' RT	655.02
Bk. of W. Abut.	8+96.25	15' RT	655.00



PLAN

TOP OF WEST APPROACH SLAB ELEVATIONS

TOP OF WEST APPROACH SLAB ELEVATIONS

SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
☉ STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	15
STA.	TO STA.			
F.H.W.A. REC.	ILLINOIS	PROJECT		

NORTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. of E. Abut.	11+03.75	15' LT	654.75
A	11+13.75	15' LT	654.73
B	11+23.75	15' LT	654.71
End E. Appr. Pav't.	11+33.75	15' LT	654.69

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. of E. Abut.	11+03.75	12' LT	654.81
A	11+13.75	12' LT	654.79
B	11+23.75	12' LT	654.77
End E. Appr. Pav't.	11+33.75	12' LT	654.75

Q ROADWAY & P.G.L.

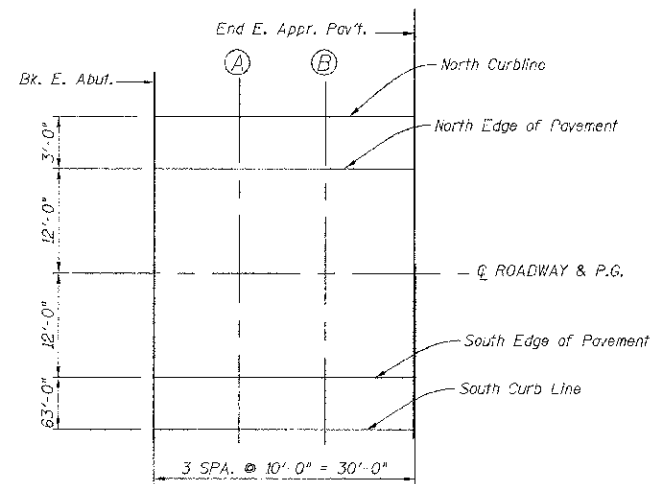
Location	Station	Offset	Theoretical Grade Elevations
Bk. of E. Abut.	11+03.75	0' LT	654.83
A	11+13.75	0' LT	654.81
B	11+23.75	0' LT	654.79
End E. Appr. Pav't.	11+33.75	0' LT	654.77

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
Bk. of E. Abut.	11+03.75	12' RT	654.81
A	11+13.75	12' RT	654.79
B	11+23.75	12' RT	654.77
End E. Appr. Pav't.	11+33.75	12' RT	654.75

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
Bk. of E. Abut.	11+03.75	15' RT	654.75
A	11+13.75	15' RT	654.73
B	11+23.75	15' RT	654.71
End E. Appr. Pav't.	11+33.75	15' RT	654.69



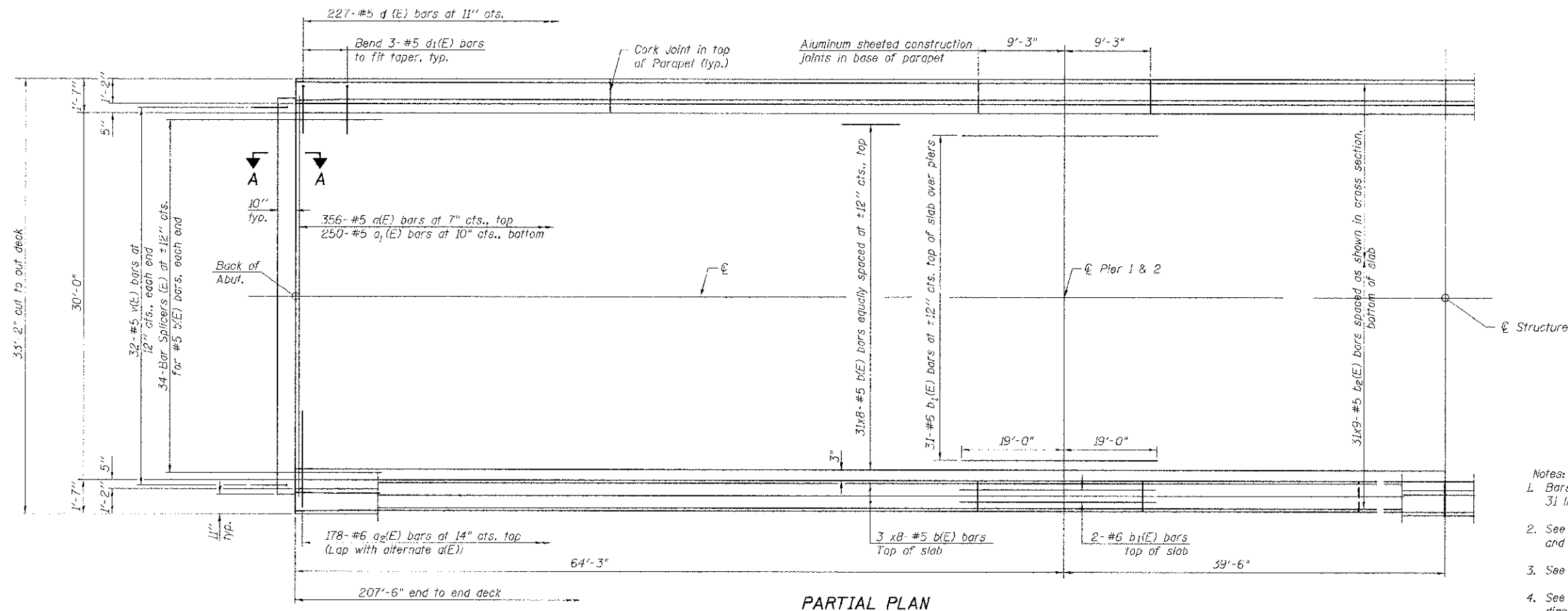
PLAN

TOP OF EAST APPROACH SLAB ELEVATIONS

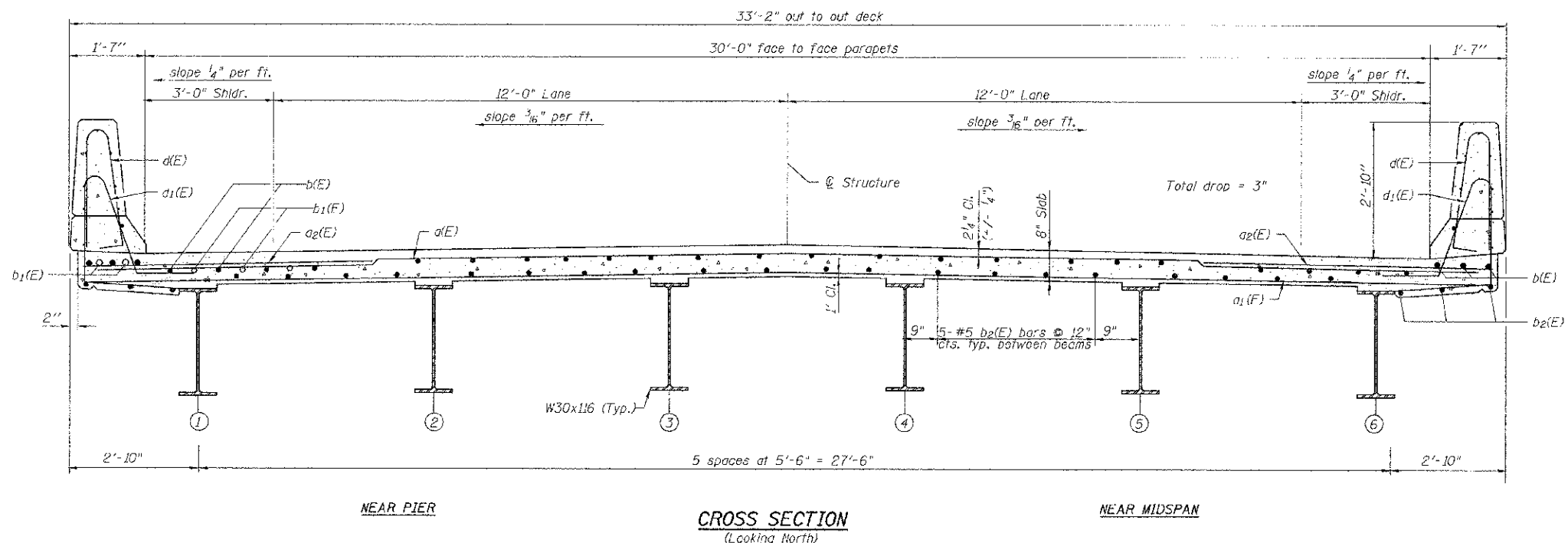
TOP OF EAST APPROACH SLAB ELEVATIONS

SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
F.W.A. REG.		ILLINOIS PROJECT		

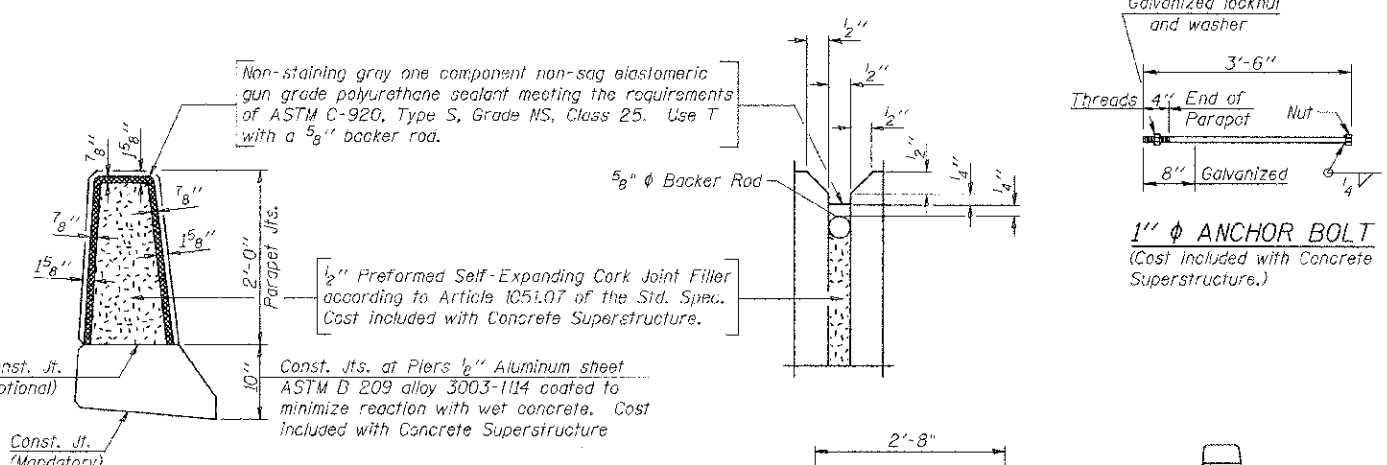
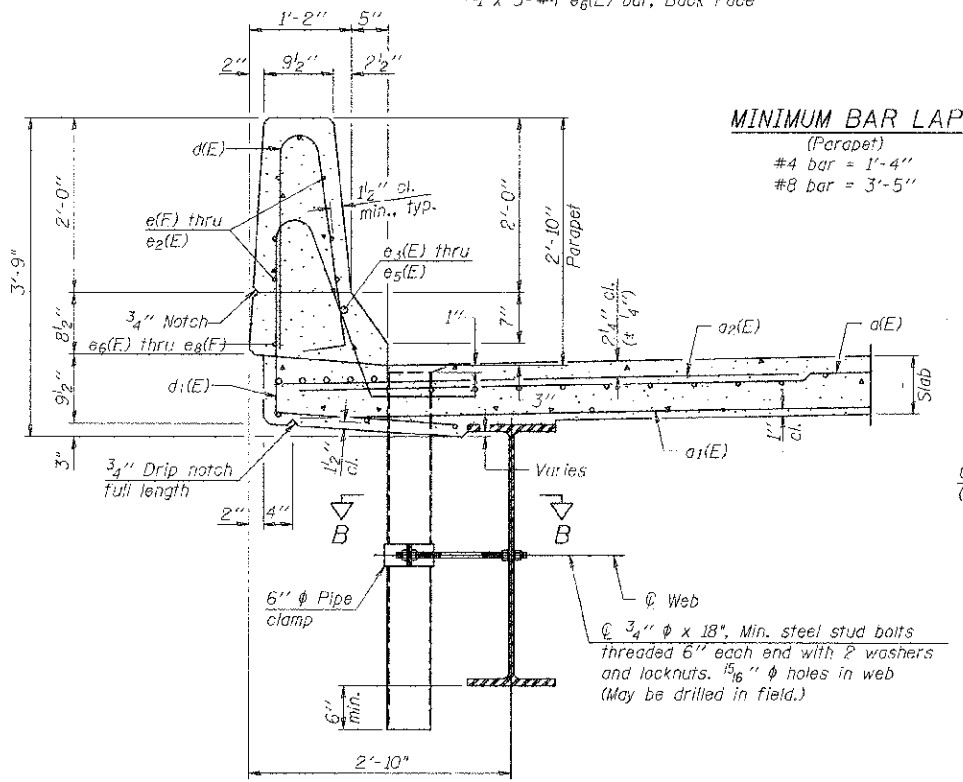
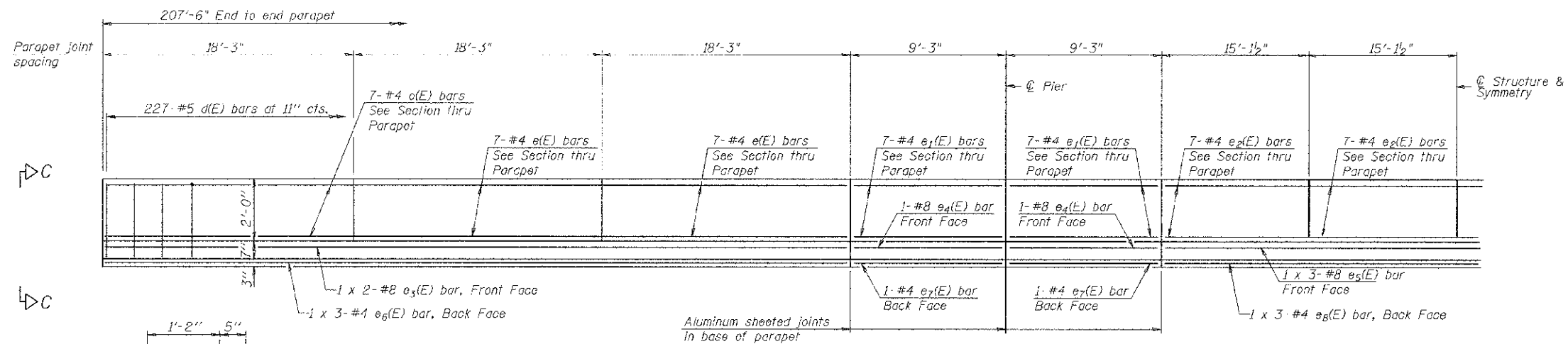


- Notes:
1. Bars indicated thus 31 x 8-#5 etc. indicates 31 lines of bars with 8 lengths per line.
 2. See Sheet 8 of 21 for superstructure details and Bill of Material.
 3. See Sheet 8 of 21 for parapet reinforcement.
 4. See Sheet 12 of 21 for Section A-A and diaphragm details.



SUPERSTRUCTURE
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
STATION 10+00

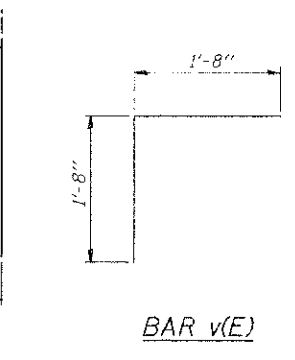
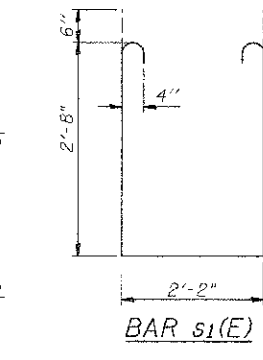
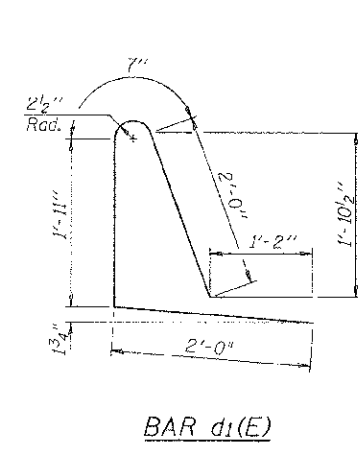
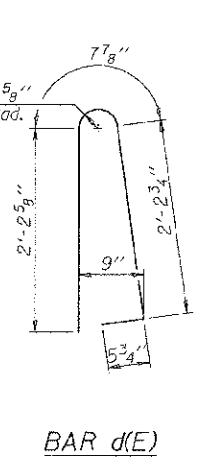
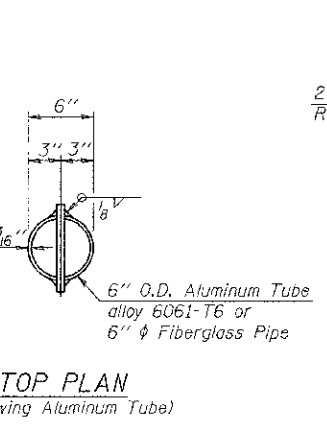
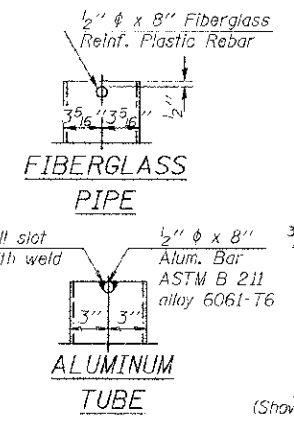
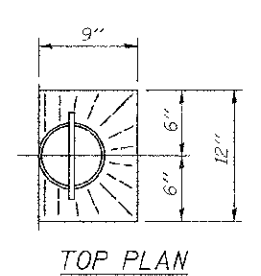
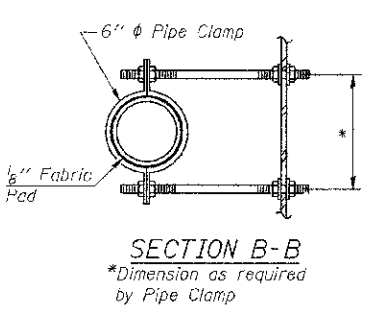
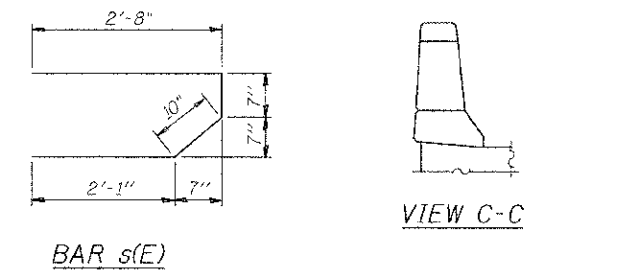
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	17
STA.	TO STA.			
FALWA. REG.	ILLINOIS	PROJECT		



SUPERSTRUCTURE BILL OF MATERIAL

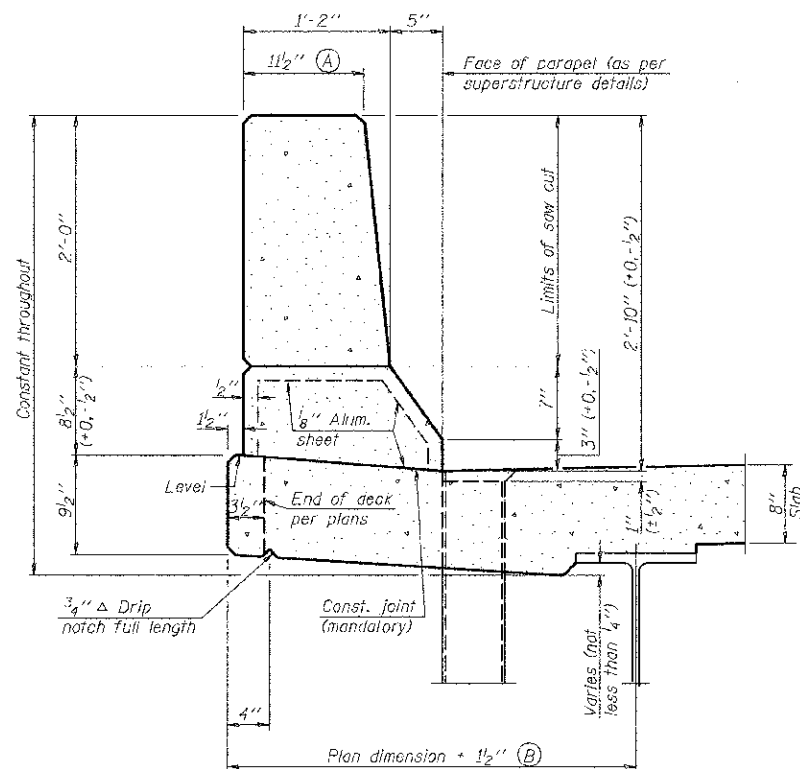
Bar	No.	Size	Length	Shape	
a(E)	356	#5	32'-6"	—	
a ₁ (E)	250	#5	32'-6"	—	
a ₂ (E)	356	#6	6'-0"	—	
b(E)	296	#5	28'-6"	—	
b ₁ (E)	70	#6	38'-0"	—	
b ₂ (E)	279	#5	25'-0"	—	
d(E)	454	#5	5'-7"	—	
d ₁ (E)	454	#5	7'-8"	—	
e(E)	84	#4	17'-11"	—	
e ₁ (E)	56	#4	8'-11"	—	
e ₂ (E)	56	#4	14'-9"	—	
e ₃ (E)	8	#8	29'-0"	—	
e ₄ (E)	8	#8	8'-11"	—	
e ₅ (E)	6	#8	22'-6"	—	
e ₆ (E)	12	#4	19'-3"	—	
e ₇ (E)	8	#4	8'-11"	—	
e ₈ (E)	6	#4	21'-0"	—	
m(E)	36	#6	7'-9"	—	
m ₁ (E)	10	#6	32'-6"	—	
s(E)	72	#5	6'-2"	—	
s ₁ (E)	72	#4	8'-6"	—	
v(E)	64	#5	3'-4"	—	
Reinforcement Bars, Epoxy Coated Concrete Superstructure				Pound	55,440
Concrete Superstructure				Cu. Yds.	243.1

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.

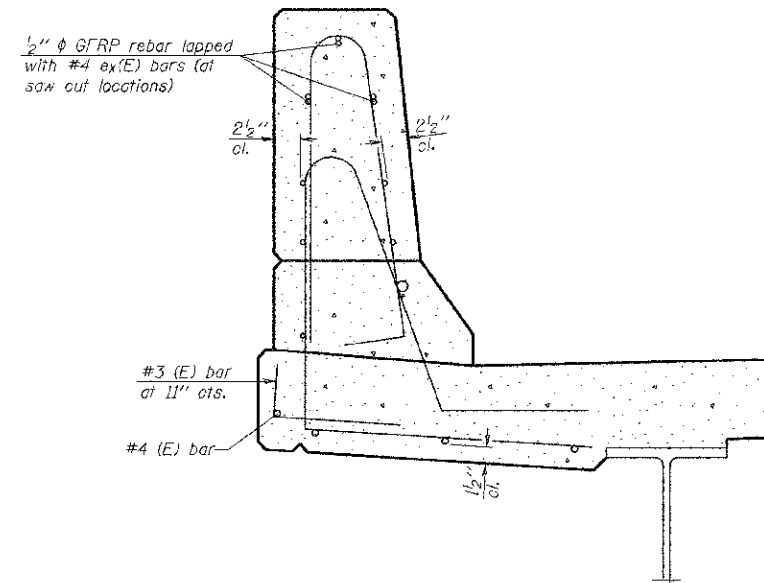


SUPERSTRUCTURE DETAILS
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 Q STATION 10+00

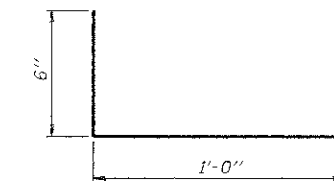
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		



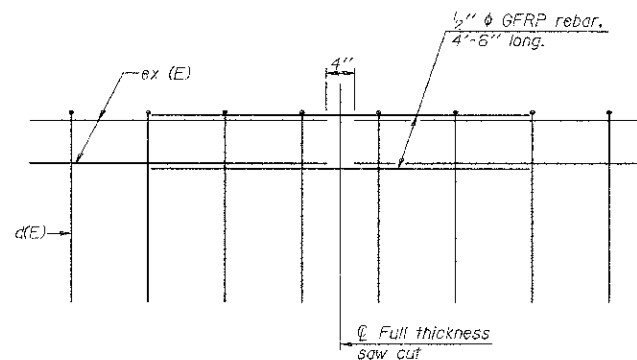
SECTION
(Showing dimensions)



SECTION
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



#3 (E) BAR



GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section at each parapet joint location.)

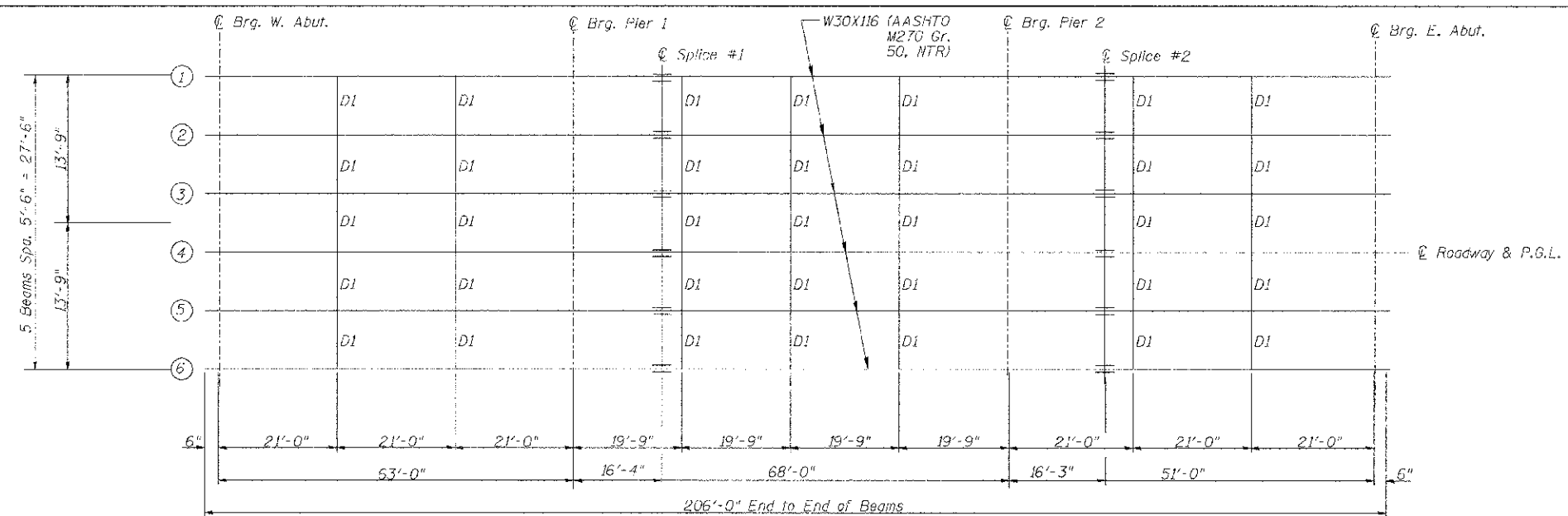
GENERAL NOTES
All dimensions shall remain the same as shown on contract plans, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. of parapet.
Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

**CONCRETE PARAPET
SLIPFORMING OPTION
STRUCTURE NO. 010-4548**

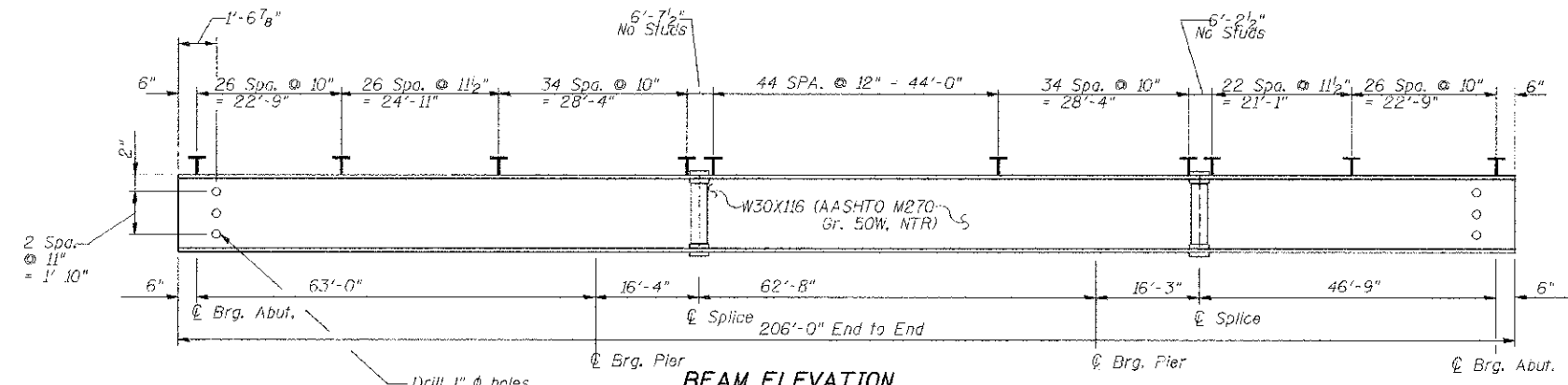
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	10 STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		

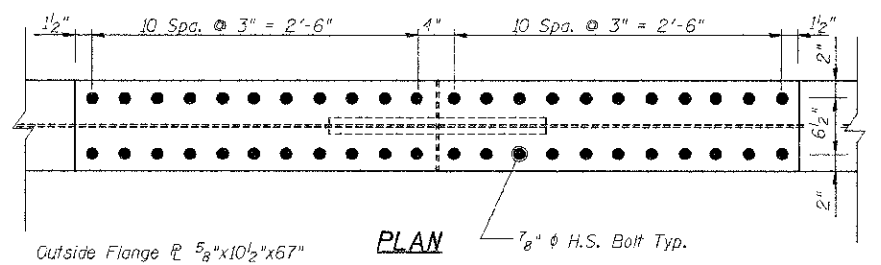
Sheet 10 of 21



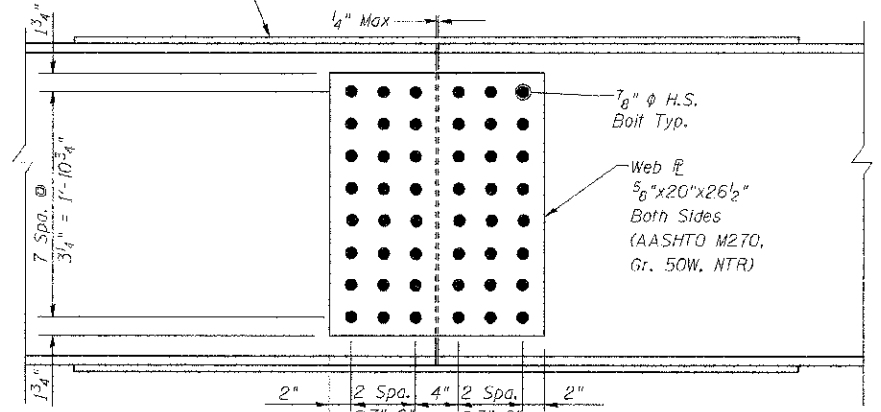
FRAMING PLAN



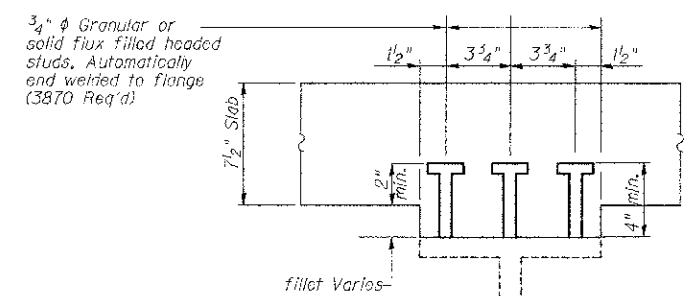
BEAM ELEVATION
(Looking West)



PLAN



ELEVATION SPLICE



SECTION A-A

TOP OF BEAM ELEVATIONS *

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
⊕ Brg. West Abut.	654.54	654.54	654.63	654.63	654.54	654.54
⊕ Brg. Pier 1	654.13	654.23	654.32	654.32	654.23	654.13
⊕ Splice 1	654.03	654.13	654.21	654.21	654.13	654.03
⊕ Brg. Pier 2	653.74	653.84	653.92	653.92	653.84	653.74
⊕ Splice 2	653.66	653.73	653.84	653.84	653.73	653.66
⊕ Brg. East Abut.	653.57	653.66	653.75	653.75	653.66	653.57

*For Fabrication Only

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

STEEL PLAN I
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
⊕ STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	20
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS PROJECT			

	0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
I_s	4,930	4,930	4,930
$I_c(n)$	13,339	13,339	13,339
$I_c(3n)$	9681	9681	9681
S_s	329	329	329
$S_c(n)$	487	487	487
$S_c(3n)$	437	437	437
$DC1$ (K/ft.)	0.695	0.695	0.695
M_{DC1} (K)	189.81	355.50	186.42
$DC2$ (K/ft.)	0.150	0.150	0.150
M_{DC2} (K)	10.99	76.76	40.25
DW (K/ft.)	0.275	0.275	0.275
M_{DW} (K)	75.14	140.73	73.80
$M_k + IM$ (K)	617.08	519.91	646.05
M_u (Strength I) (K)	1,481.10	1,661.26	1,524.63
$\phi_r M_n$ or M_{nc} (K)	2,295.98	1,979.67	2,295.98
$f_s DC1$ (k.s.i.)	6.92	12.97	6.80
$f_s DC2$ (k.s.i.)	1.13	2.11	1.11
$f_s DW$ (k.s.i.)	2.06	3.86	2.03
$f_s (M_k + IM)$ (k.s.i.)	19.77	16.65	20.69
f_s (Service II) (k.s.i.)	29.88	35.59	30.63
f_s (Total Strength I)	39.76	47.05	40.78
V_f (K)	40.3		42.0

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.).

M_{DC1} : Un-factored moment due to non-composite dead load (kip-ft.).

$DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2} : Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW} : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_k + Imp$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + Imp$

$\phi_r M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

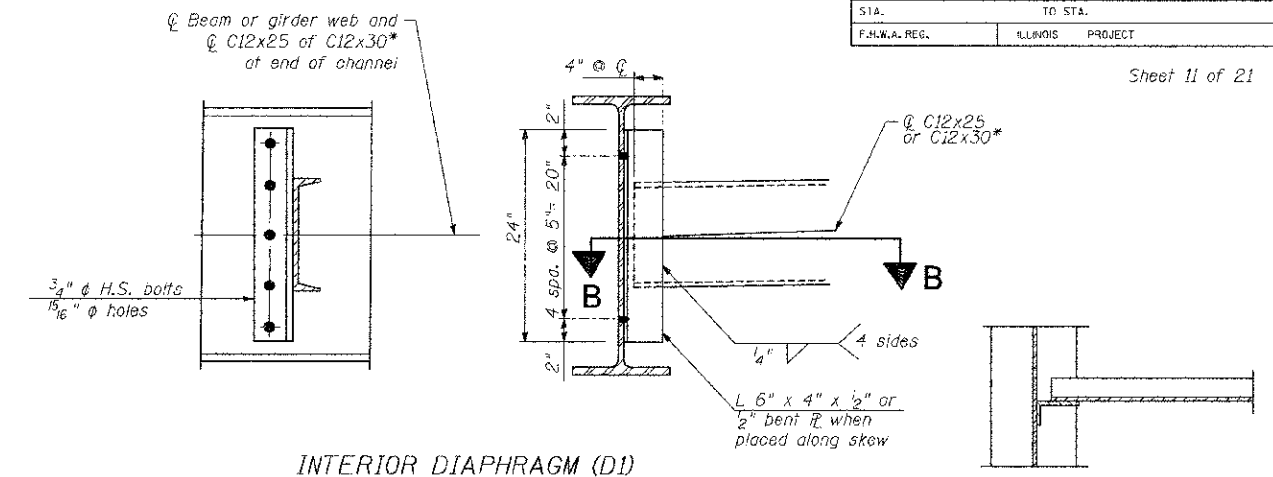
$\phi_r M_{nc}$: Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.5 M_k + Imp$

f_s (Total Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_k + Imp$

V_f : Factored shear range computed according to Article 6.10.10.

	Abuts.	Pier 1 or Pier 2
R_{DC1} (K)	16.24	54.96
R_{DC2} (K)	3.51	11.87
R_{DW} (K)	6.43	21.76
$R_{M_k + IM}$ (K)	61.37	72.36
R (Total) (K)	87.55	160.95



INTERIOR DIAPHRAGM (D1)
(35 Required)

SECTION B-B

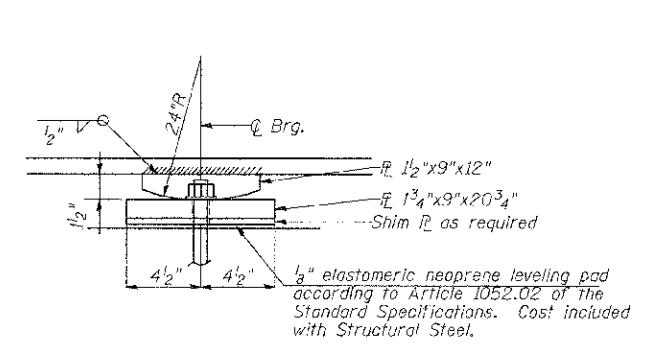
Notes:

Two hardened washers required for each set of oversized holes.

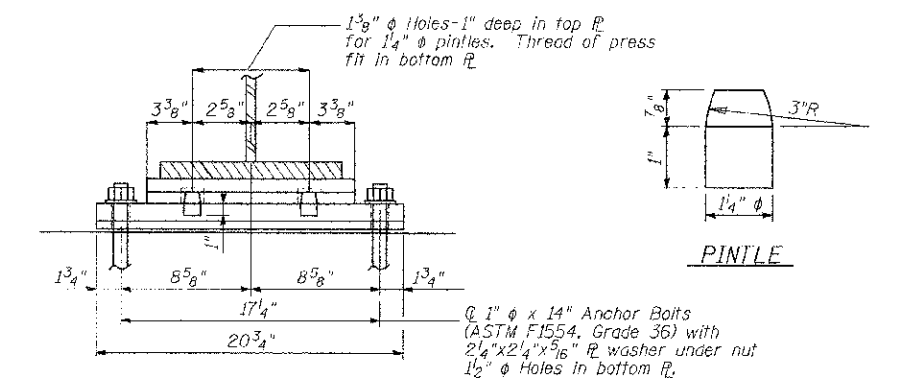
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

The alternate, if utilized, shall be provided at no extra cost to the contract.

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.



ELEVATION AT PIER



SECTION B-B

PINLE

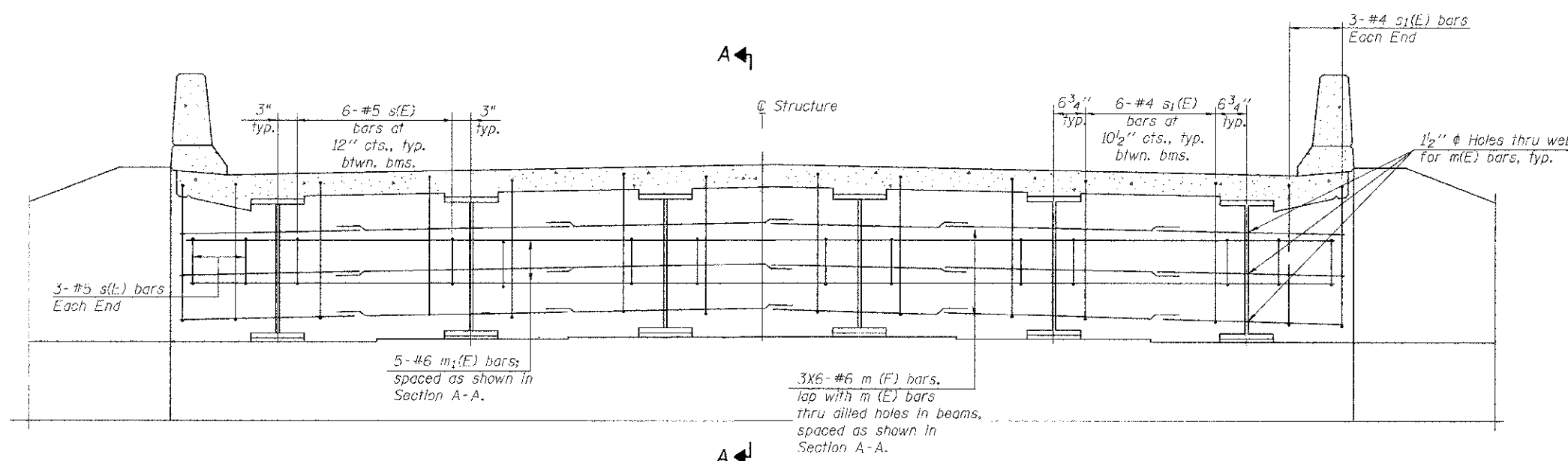
FIXED BEARING

- Notes:
- 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=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 - Anchor bolts of 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.
 - Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
 - The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270, Grade 50W.

FRAMING PLAN & BEAM DETAILS

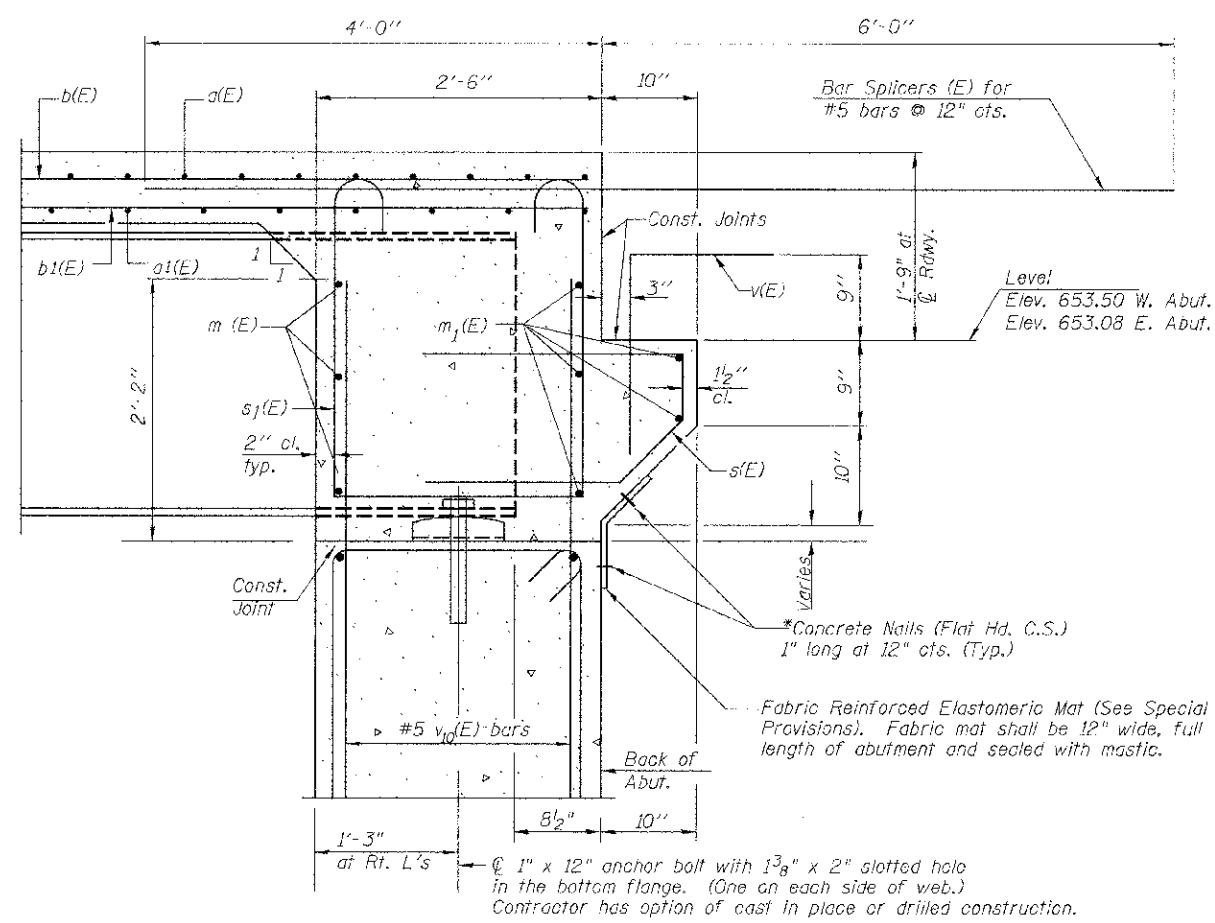
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	21
STA. TO STA.		ILLINOIS PROJECT		



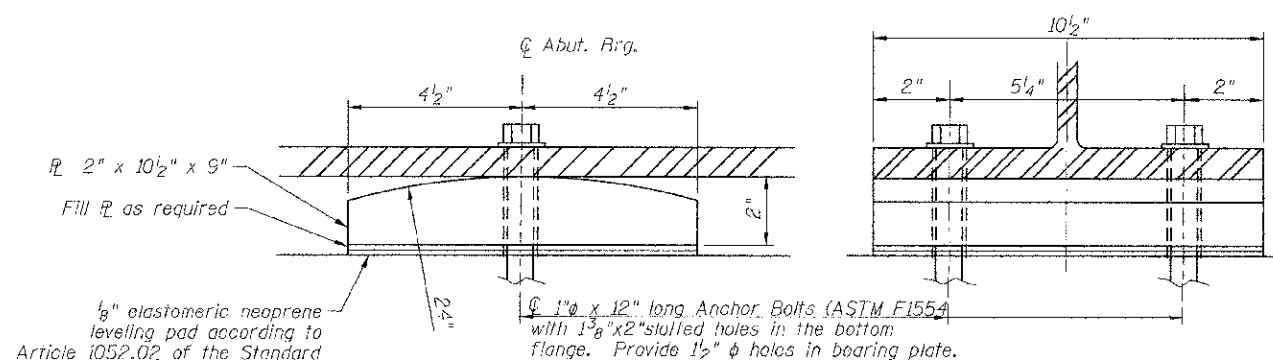
DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
 Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 21.
 Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 21.
 For details of bars s(E) and s1(E) see sheet 8 of 21.



SECTION A-A

Dimensions of right angles to abutment, except as shown.



ELEVATION AT ABUT

SECTION B-B

ROCKER PLATE DETAIL

12 REQUIRED

MIN. BAR LAP

#6 bar = 2'-9"

Notes:

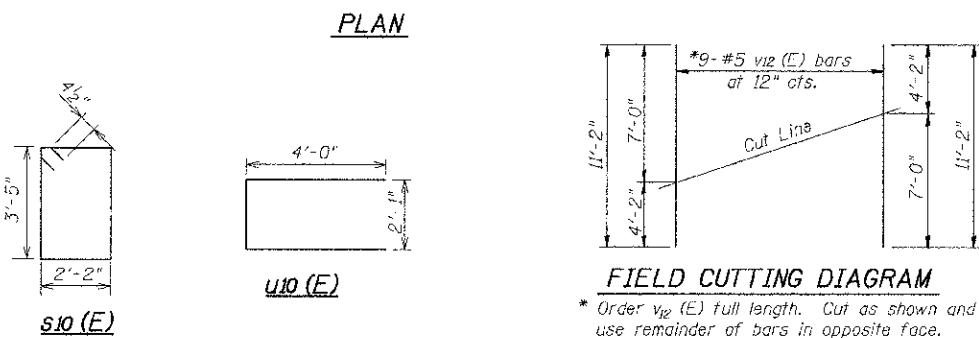
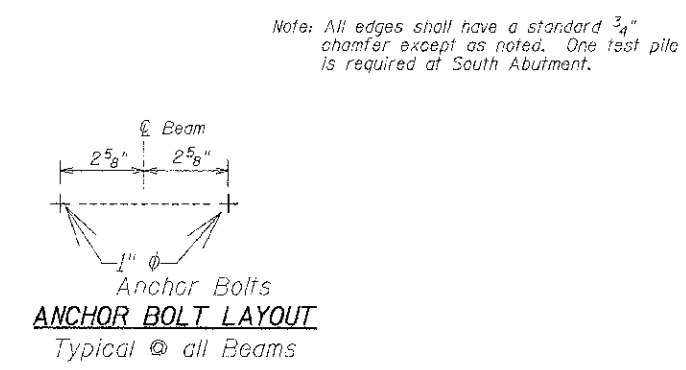
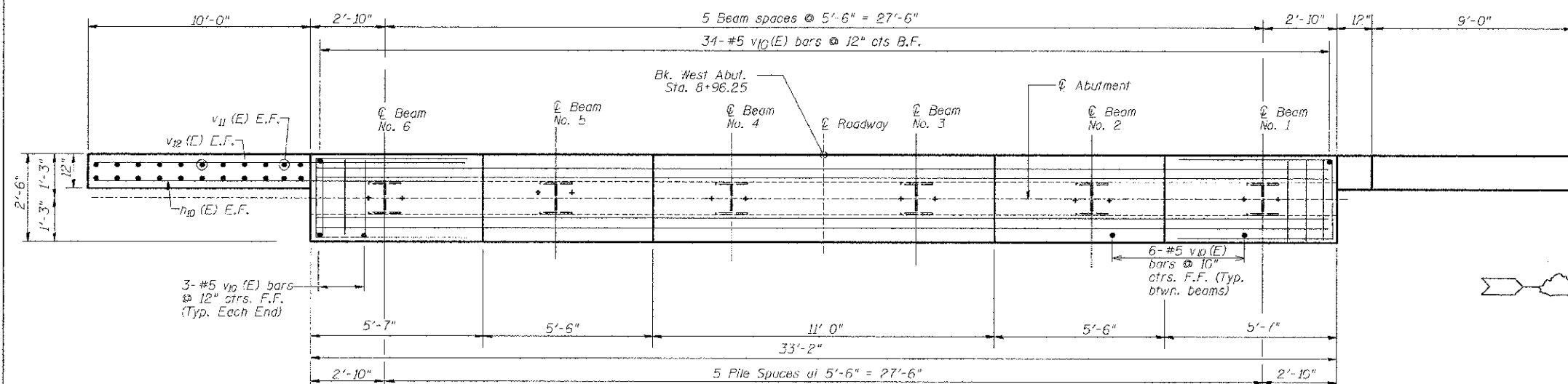
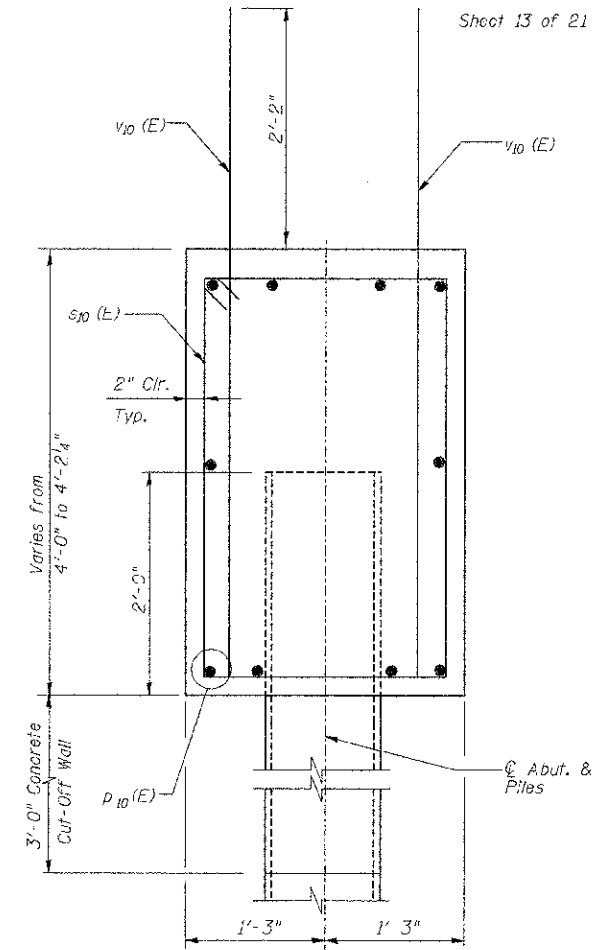
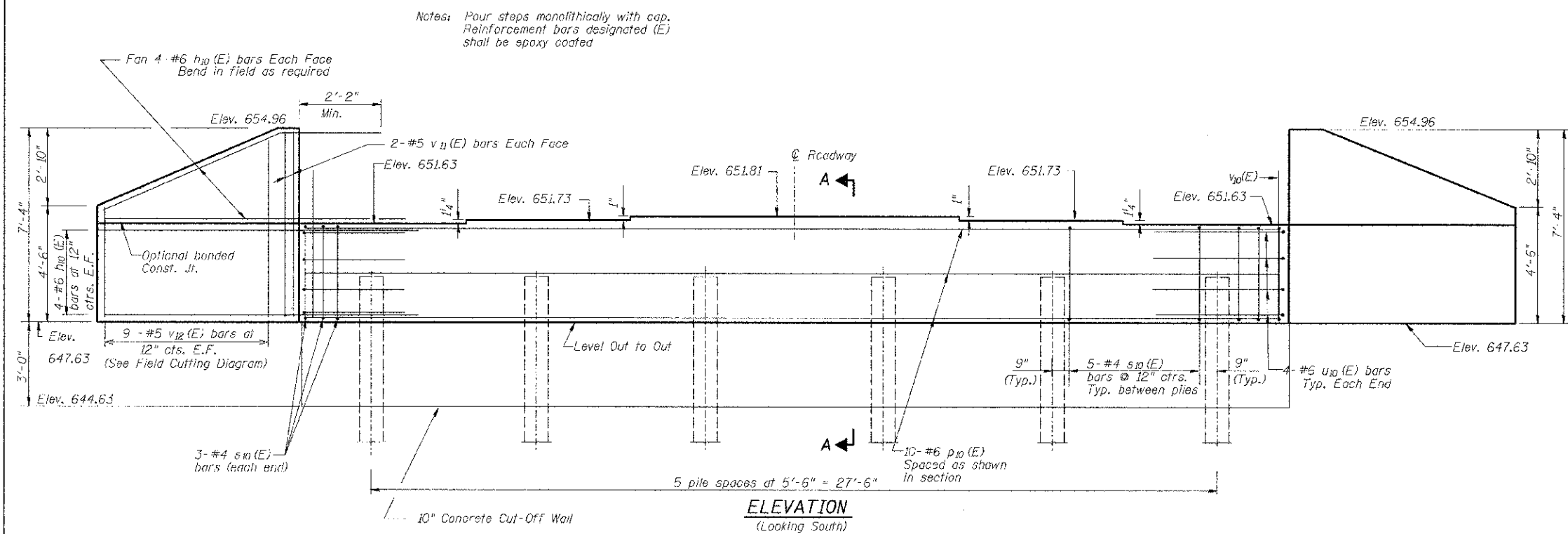
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Rocker Plates shall be AASHTO M270 Gr. 50W
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270, Grade 50W.

*Included in the cost of "Concrete Structures".

**Included in the cost of "Percus Granular Embankment".

DIAPHRAGM DETAILS	
SECTION: 07-00944-00-BR	
CHAMPAIGN COUNTY	
Q. STATION 10+00	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C-4.16	07-00944-00-BR	CHAMPAIGN	45	22
STA.	TO STA.			
F.H.R.A. REG.	ILLINOIS PROJECT			



PILE DATA
Type: Steel HP10X42
Nominal Req'd Bearing: 222 kips
Allowable Resistance Available: 74 kips
Est. Length: 40'
No. Required: 5
Test Pile: 1

BILL OF MATERIAL

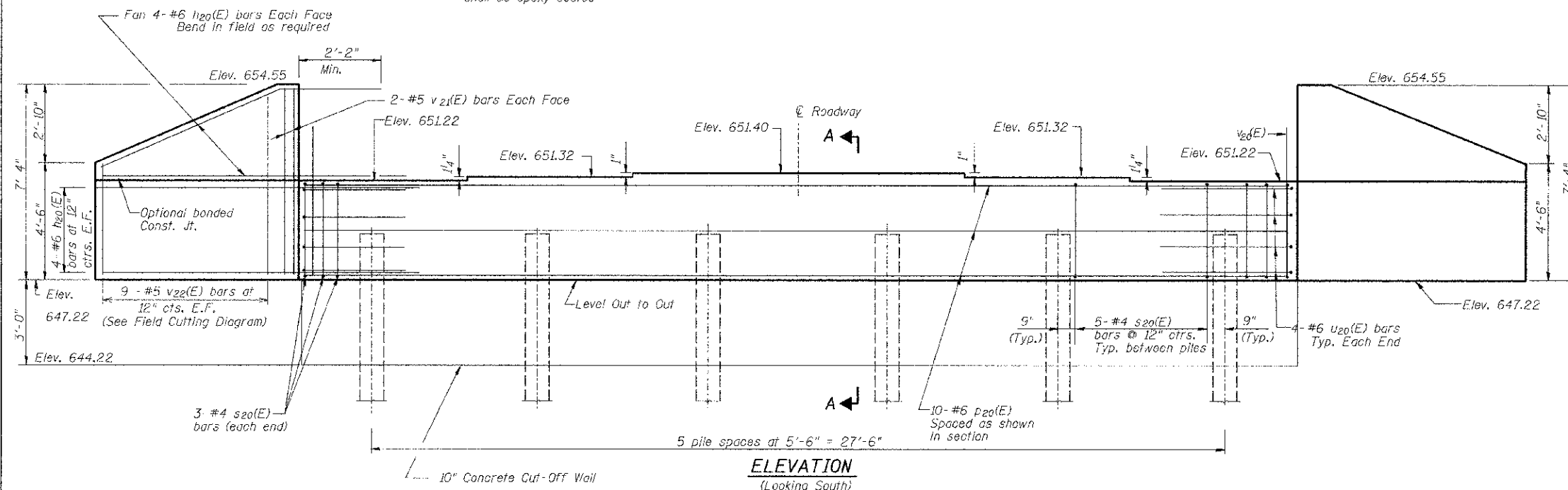
Bar No.	Size	Length	Shape
v10(E)	#6	12'-6"	—
p10(E)	#6	32'-10"	—
s10(E)	#4	11'-11"	□
u10(E)	#6	10'-1"	⊔
v10(F)	#5	6'-2"	—
v11(E)	#5	7'-0"	—
v12(E)	#5	11'-2"	—
Structure Excavation			Cu. Yd. 97
Concrete Structures			Cu. Yd. 17.1
Reinforcement Bars			Pound 2180
Epoxy Coated			
Furnishing Steel Piles HP10X42			Foot 200
Driving Piles			Foot 200
Concrete Cut-Off Wall			Cu. Yd. 3.1
Pile Shoes			Each 6
Test Pile HP10X42			Each 1

WEST ABUTMENT
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

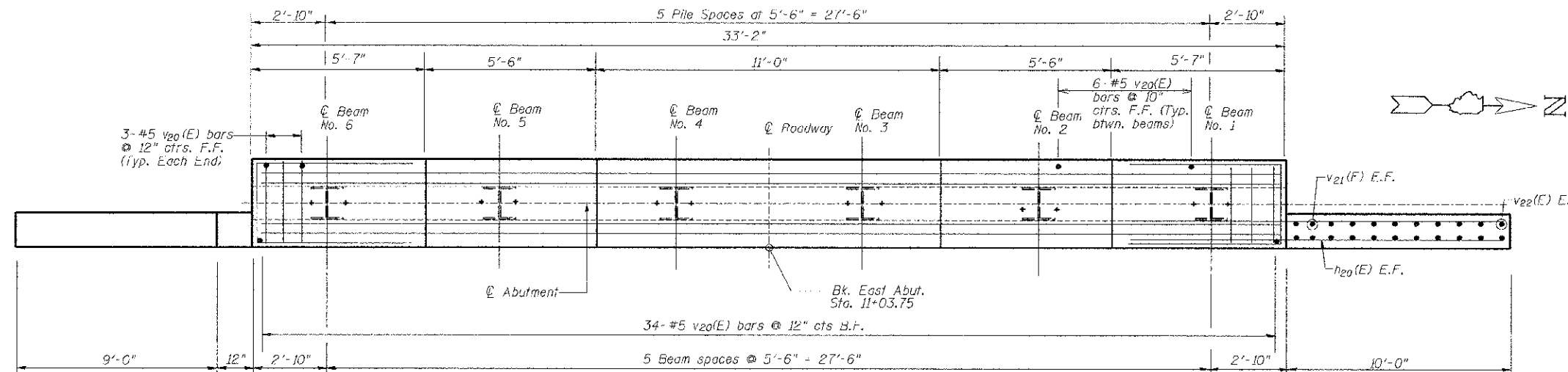
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	23
STA.		TO STA.		
F.H.W.A. REG.		ILLINOIS PROJECT		

Sheet 14 of 21

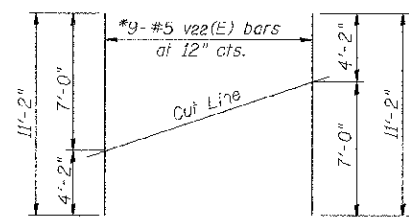
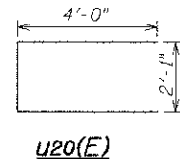
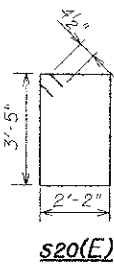
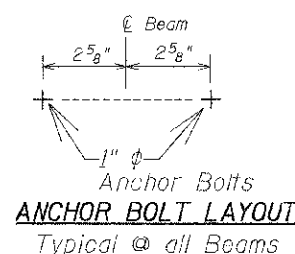
Notes: Pour steps monolithically with cap.
Reinforcement bars designated (F)
shall be epoxy coated



ELEVATION
(Looking South)



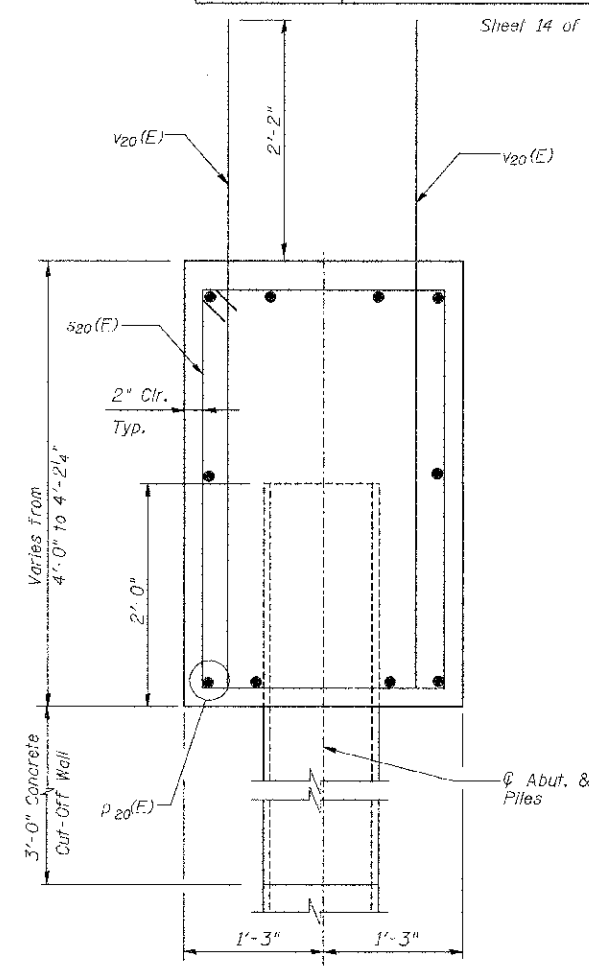
PLAN



FIELD CUTTING DIAGRAM

PILE DATA

Type : Steel HP10X42
Nominal Req'd Bearing : 222 kips
Allowable Resistance Available : 74 kips
Est. Length : 46'
No. Required : 5
Test Pile : i



SECTION A-A

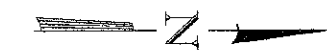
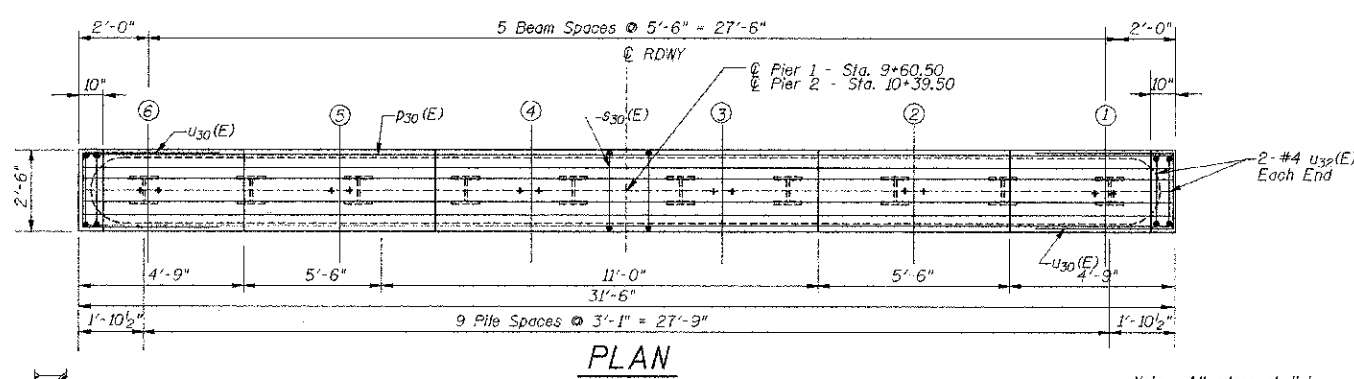
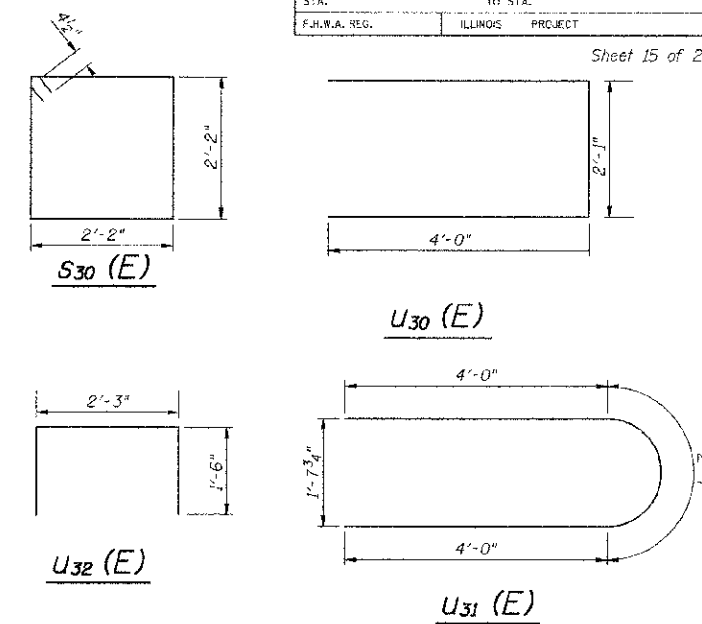
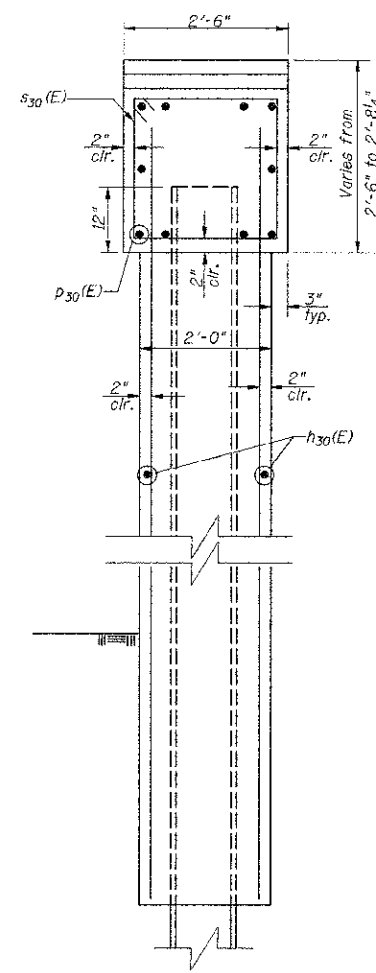
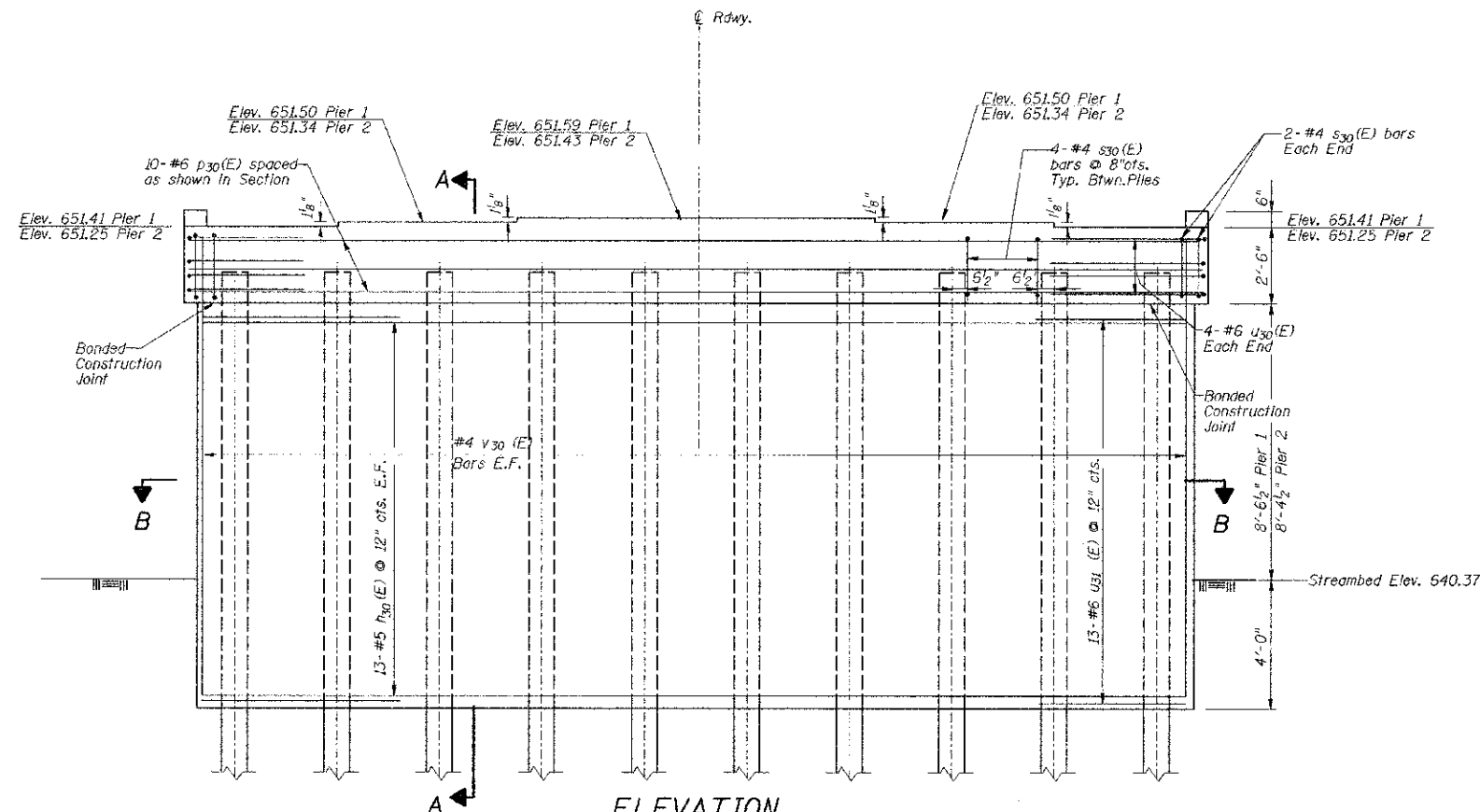
BILL OF MATERIAL

Bar No.	Size	Length	Shape
h20(E)	#6	12'-6"	—
p20(E)	#6	32'-10"	—
s20(E)	#4	11'-11"	□
u20(E)	#6	10'-1"	—
v20(E)	#5	6'-2"	—
v21(E)	#5	7'-0"	—
v22(E)	#5	11'-2"	—
Structure Excavation		Cu. Yd.	97
Concrete Structures		Cu. Yd.	17.1
Reinforcement Bars		Pounds	2180
Epoxy Coated			
Furnishing Steel Piles HP10X42		Foot	230
Driving Piles		Foot	230
Concrete Cut-Off Wall		Cu. Yd.	3.1
Pile Shoes		Each	6
Test Pile HP10X42		Each	1

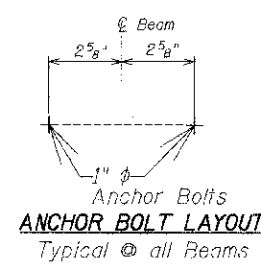
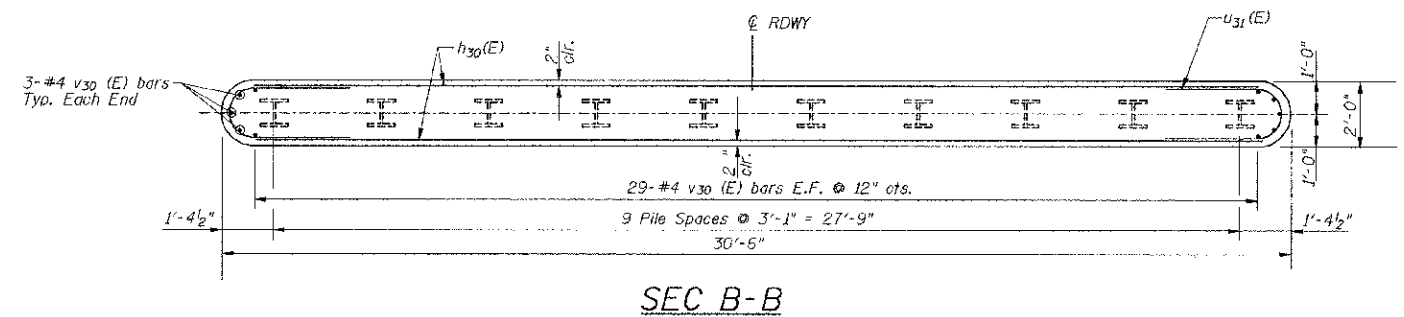
EAST ABUTMENT

SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.J.I. 16	07-00944-00-BR	CHAMPAIGN	45	24
STA. TO STA.		ILLINOIS PROJECT		



Note: All edges shall have a standard 3/4\"/>



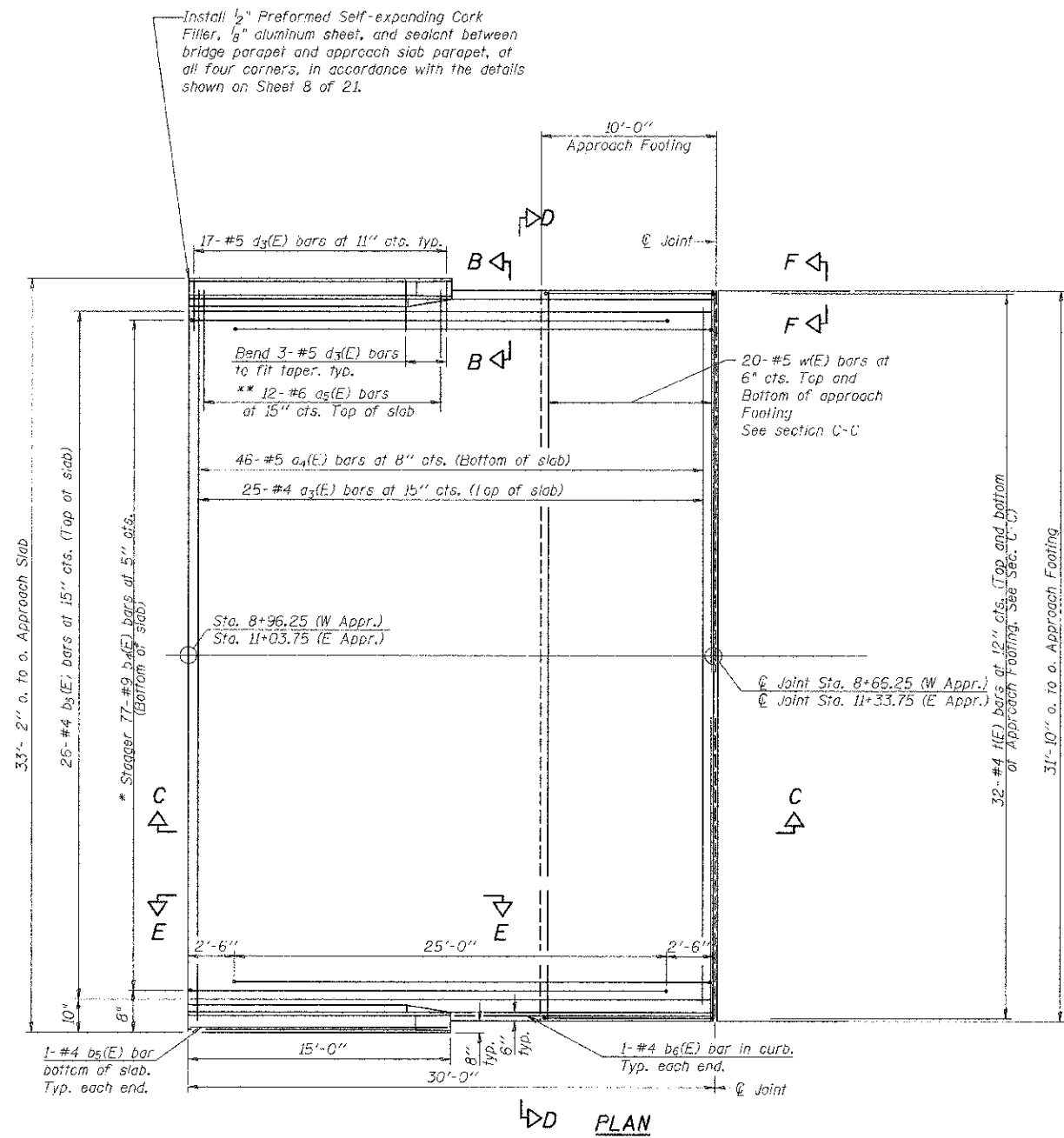
PILE DATA
 Type: Steel HP10X42
 Nominal Req'd Bearing: 270 kips
 Allowable Resistance Available: 90 kips
 Est. Length: 60'
 No. Required: 18
 Test Pile: 2, 1 @ Pier 1, 1 @ Pier 2

BILL OF MATERIAL (2 PIERS)

Bar	No.	Size	Length	Shape
h30(E)	52	#5	28'-6"	—
p30(E)	20	#6	31'-2"	—
s30(E)	80	#4	9'-5"	□
u30(E)	16	#6	10'-1"	⊏
u31(E)	52	#6	10'-7"	⊏
u32(E)	8	#4	5'-3"	⊏
v30(E)	128	#4	14'-0"	—
Concrete Structures			Cu. Yd.	73.7
Reinforcement Bars Epoxy Coated			Pound	5280
Furnishing Steel Piles HP 10x42			Foot	1080
Driving Piles			Foot	1080
Pile Shoes			Each	20
Structure Excavation			Cu. Yd.	62
Test Pile HP10X42			Each	2
Underwater Structure Excavation Protection - Location 1			Each	1
Underwater Structure Excavation Protection - Location 2			Each	1

PIER DETAILS
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 Q STATION 10+00

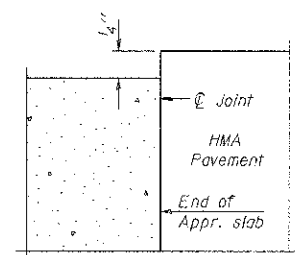
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C.H. 16	07-00944-00-BR	CHAMPAIGN	45	25
STA.	TO STA.			
F.R.M.A. REG.	ILLINOIS PROJECT			



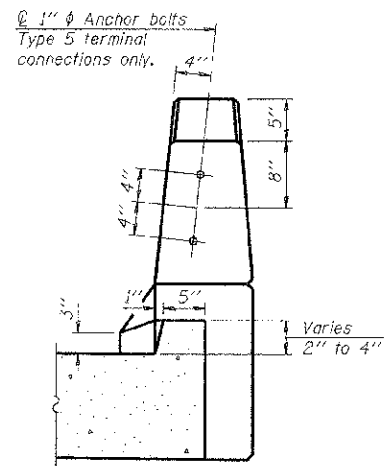
* Tilt #9 b₄(E) bars as required to maintain clearance.
** Alternate with a₃(E), typ. ea. parapet.

Notes:
See sheet 17 of 21 for Sections C-C & D-D and View E-E, a₃(E), a₄(E), a₅(E), a₆(E), and w(E) bar spacings measured perpendicular to ϕ Rdwy.

*** Cast included with Concrete Superstructure.



FLEXIBLE PAVEMENT
DETAIL A

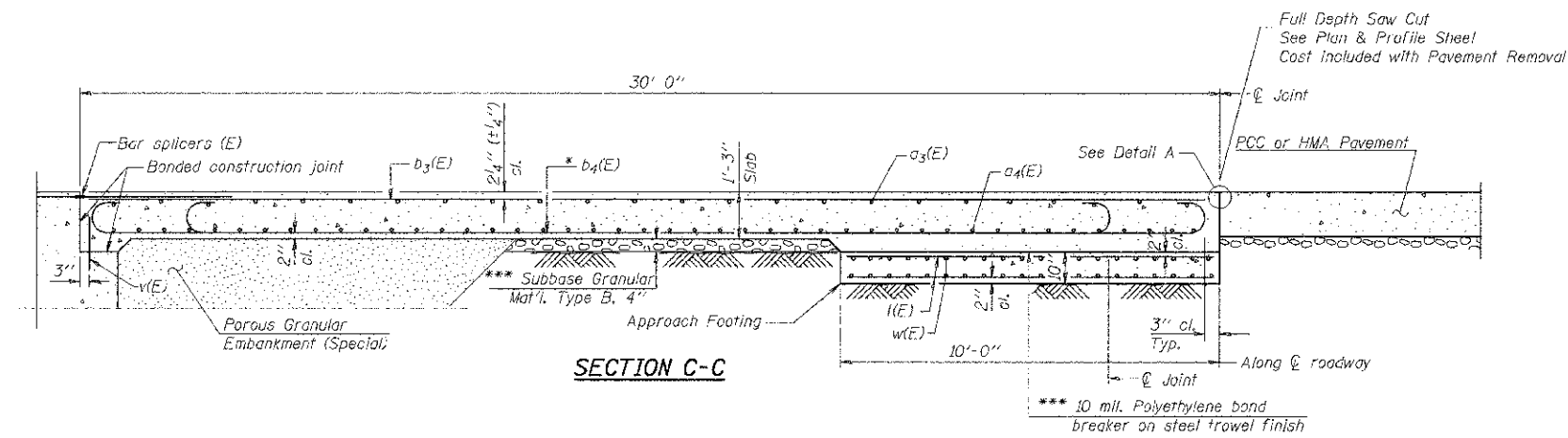


VIEW B-B

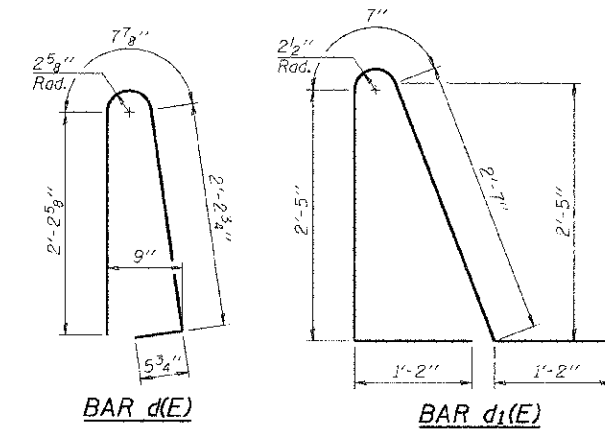
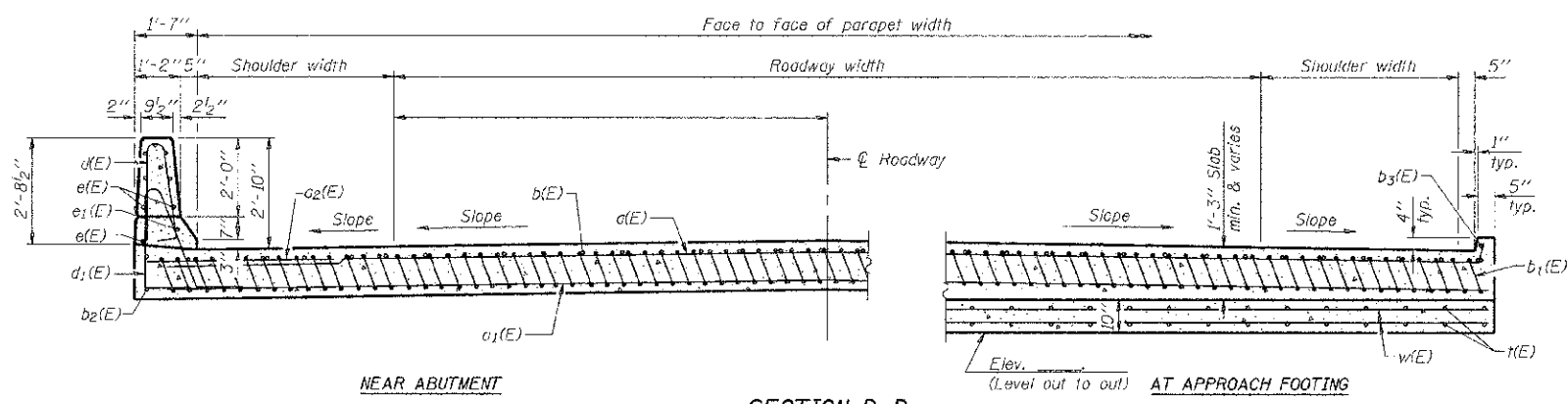
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-4548
(Sheet 1 of 2)

BRIDGE APPR. SLAB DETAILS
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
ϕ STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07 00944-00-BR	CHAMPAIGN	45	26
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		



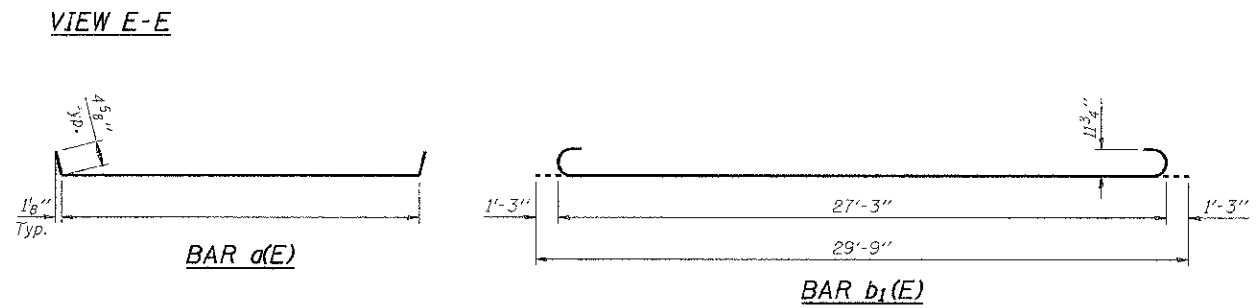
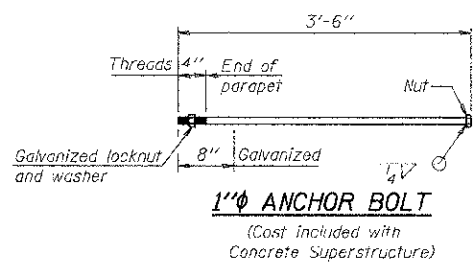
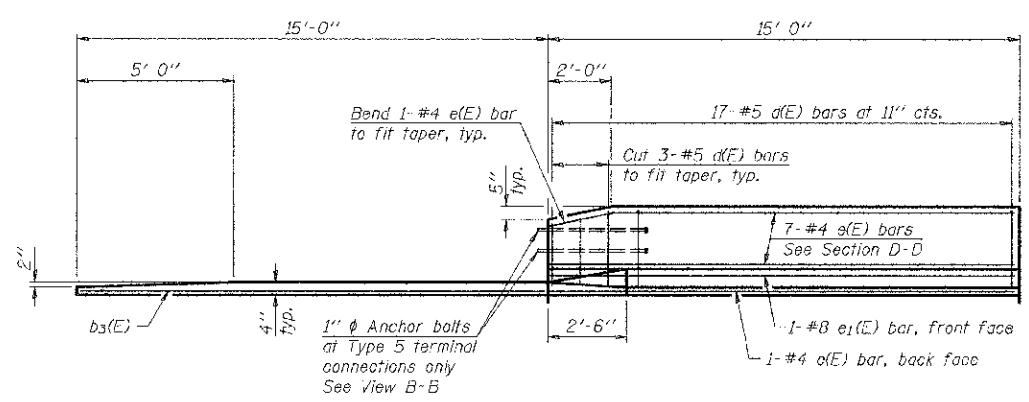
Notes:
 See sheet 16 of 21 for Detail A and view B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet 8 of 21.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet 20 of 21.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 21.



* Till #9 b1(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.

**TWO APPROACHES
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a3(E)	50	#4	32'-1"	—
a4(E)	92	#5	31'-6"	—
a5(E)	48	#6	6'-0"	—
b3(E)	52	#4	29'-8"	—
b4(E)	154	#9	29'-9"	—
b5(E)	4	#4	14'-8"	—
b6(E)	4	#4	14'-8"	—
d2(E)	68	#5	5'-7"	—
d3(E)	68	#5	7'-11"	—
e9(E)	32	#4	14'-8"	—
e10(E)	4	#8	14'-8"	—
i(E)	64	#4	9'-8"	—
w(E)	80	#5	31'-6"	—
Concrete Superstructure		Cu. Yd.	105.5	
Concrete Structures		Cu. Yd.	19.7	
Reinforcement Bars, Epoxy Coated		Pound	25,620	



**BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 010-4548
 (Sheet 2 of 2)**

BRIDGE APPR. SLAB DETAILS
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

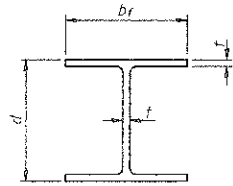
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	27
STA.		TO STA.		
F.A.W.A. REC.		ILLINOIS PROJECT		

Sheet 18 of 21

INTENTIONALLY
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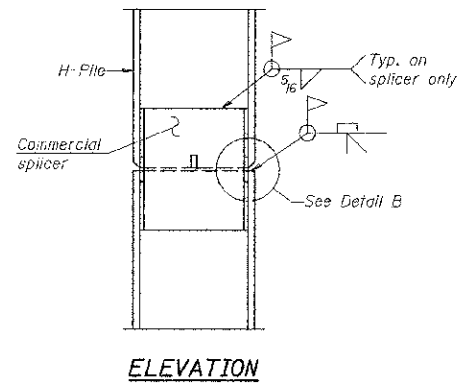
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	28
STA. TO STA.		PROJECT		
F.H.W.A. REG.		L.INDS		

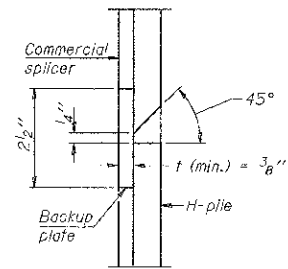


STEEL PILE TABLE

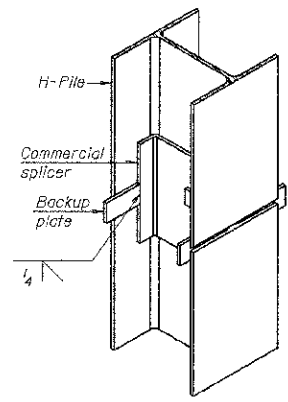
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 5/8"	30"
x102	14"	14 3/4"	1 1/8"	30"
x89	13 5/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/8"	24"
x74	12 9/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



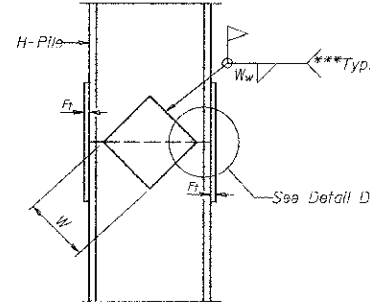
ELEVATION



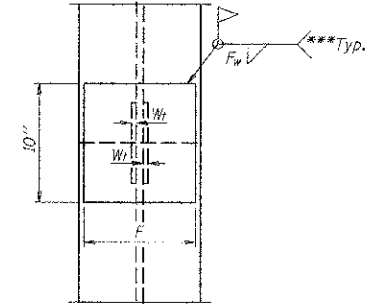
DETAIL "B"



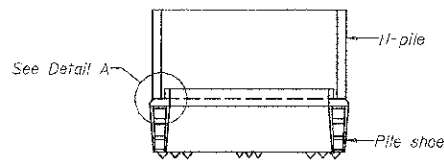
ISOMETRIC VIEW



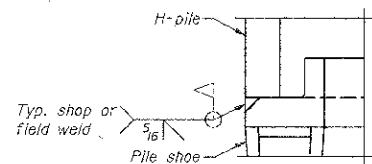
ELEVATION



END VIEW

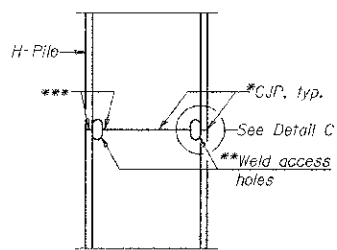


ELEVATION

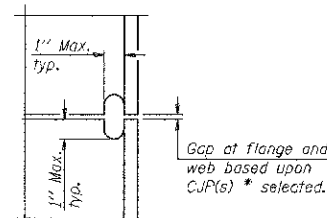


DETAIL A

H-PILE SHOE ATTACHMENT

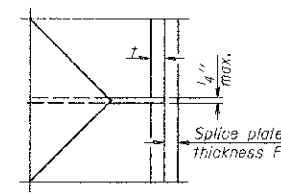


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

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

* 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.

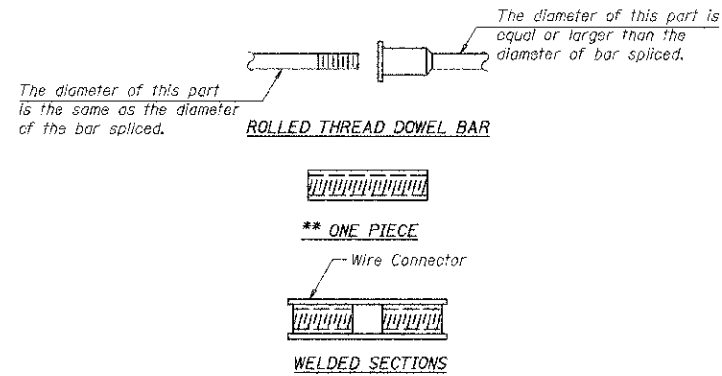
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	29
STA.	TO STA.			
F.H.W.A. REG.	ILLINOIS	PROJECT		

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:

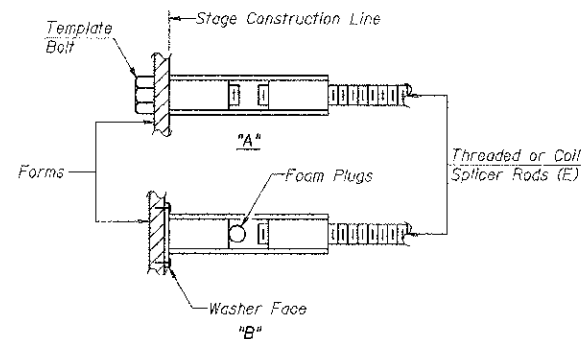
- ① Minimum Capacity - $1.25 \times f_y \times A_s$
(Tension in kips)
 - ② Minimum *Full-out Strength - $0.66 \times f_y \times A_s$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_s = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

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



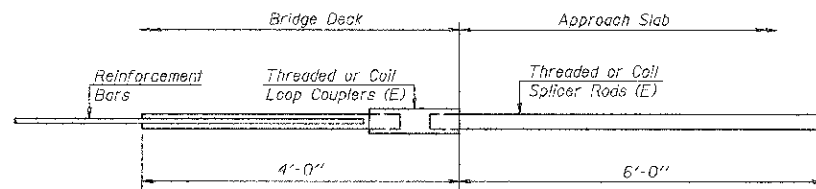
BAR SPLICER ASSEMBLY ALTERNATIVES

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

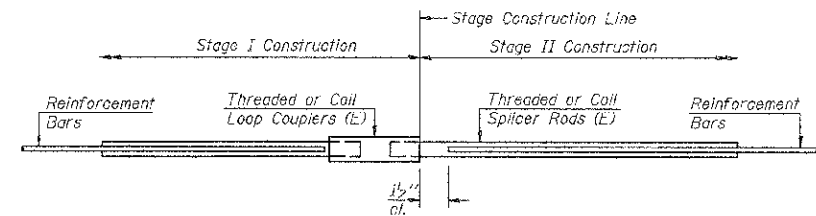


INSTALLATION AND SETTING METHODS

"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.



FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS



STANDARD

Bar Size	No. Assemblies Required	Location
#5	68	Approach Slabs

**BAR SPLICER ASSEMBLY DETAILS
 STRUCTURE NO. 010-4548**

BAR SPLICER ASSEMBLY DETAILS
 SECTION: 07-00944-00-BR
 CHAMPAIGN COUNTY
 Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00944-00-BR	CHAMPAIGN	45	30
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F.H.W.A. REG.		ILLINOIS PROJECT		

GENERAL NOTES

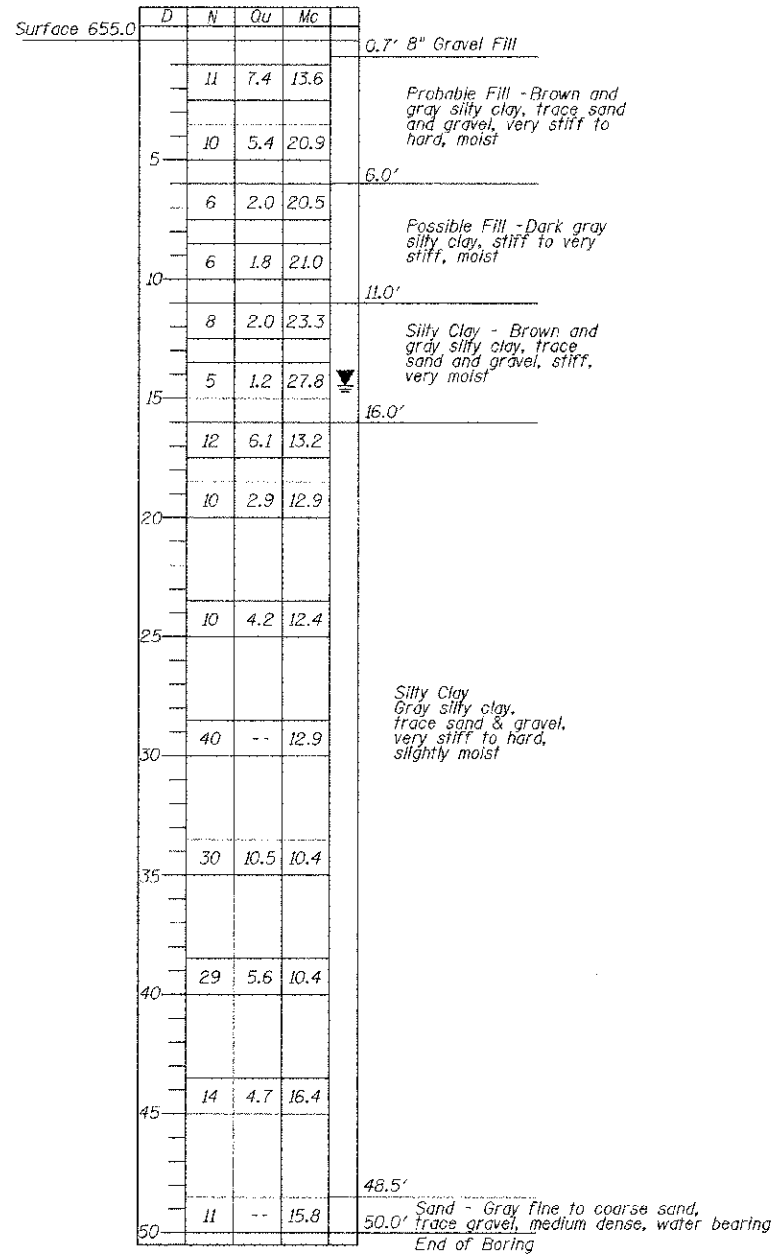
Boring Data is shown only as a guide to bidders in estimating soil conditions which may be encountered during construction.

The contractor shall drive 4 test piles in a permanent location, one at each abutment and one at each pier as directed by the Engineer before ordering the remainder of piles.

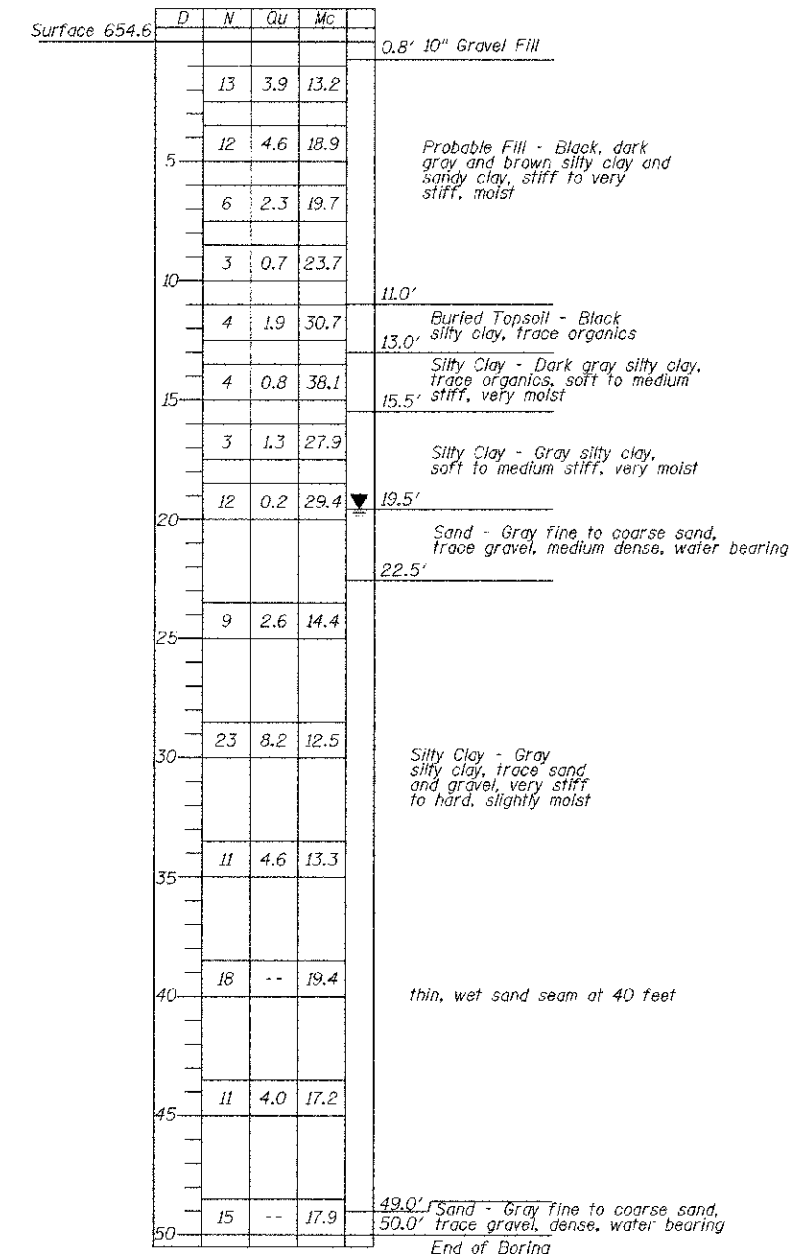
The contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at the substructures specified or approved by the Engineer before ordering the remainder of the piles.

BORING DATA

- N - Standard Penetration Test - Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with 140 lb. hammer falling 30"
- Qu - Unconfined Compression Strength - Tons/Sq.Ft.
- Mc - Water Content - Percentage of oven dry weight - %
- D - Depth
- P - Penetrometer
- B - Bulge Failure
- S - Shear Failure
- E - Estimated Value



BORING NO. B-1
Sta. 9+10, 12' Rt.



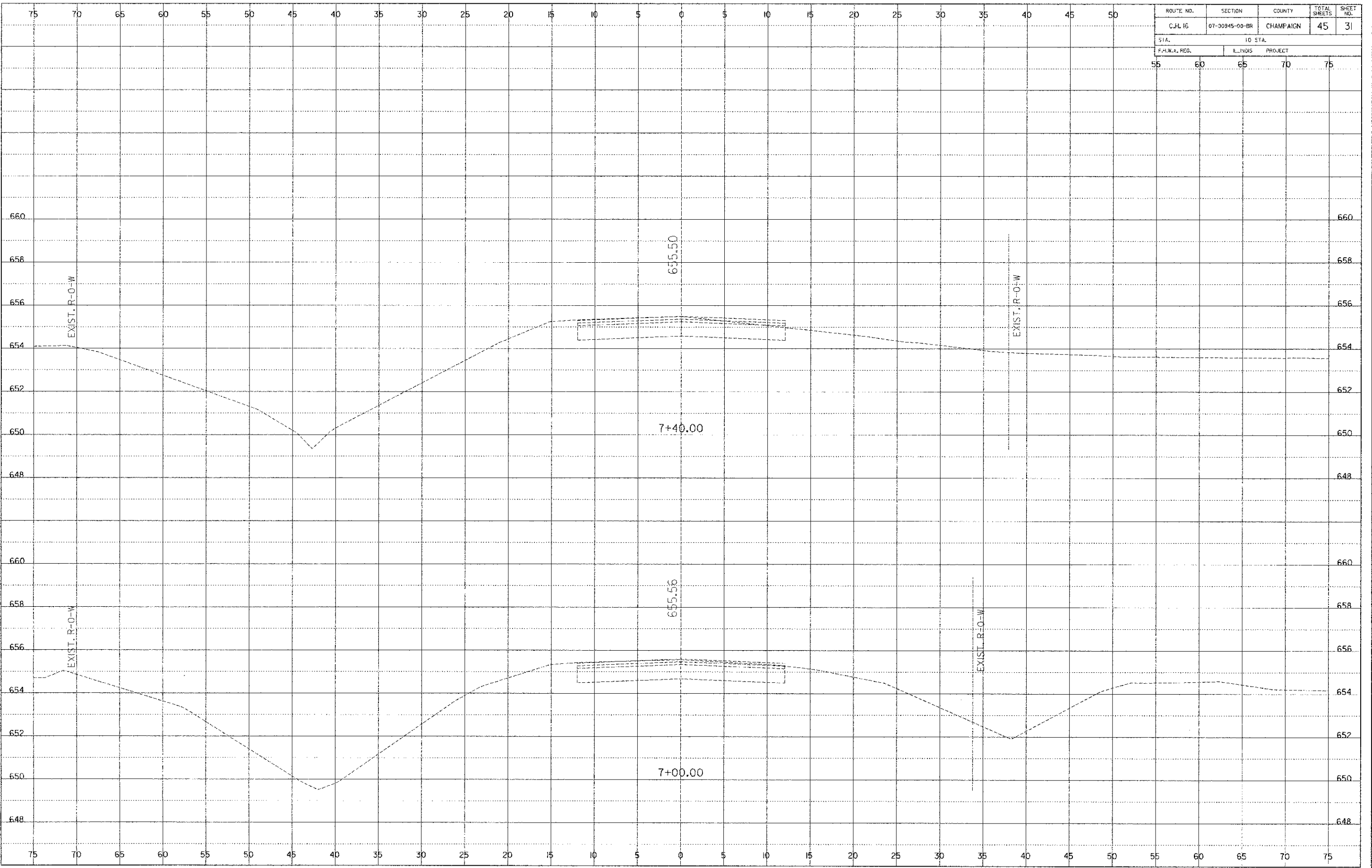
BORING NO. B-2
Sta. 10+90, 12' Lt.

BORING LOGS
SECTION: 07-00944-00-BR
CHAMPAIGN COUNTY
Q STATION 10+00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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55	60	65	70	75

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SECTION 07-00945-00-BR CHAMPAIGN COUNTY

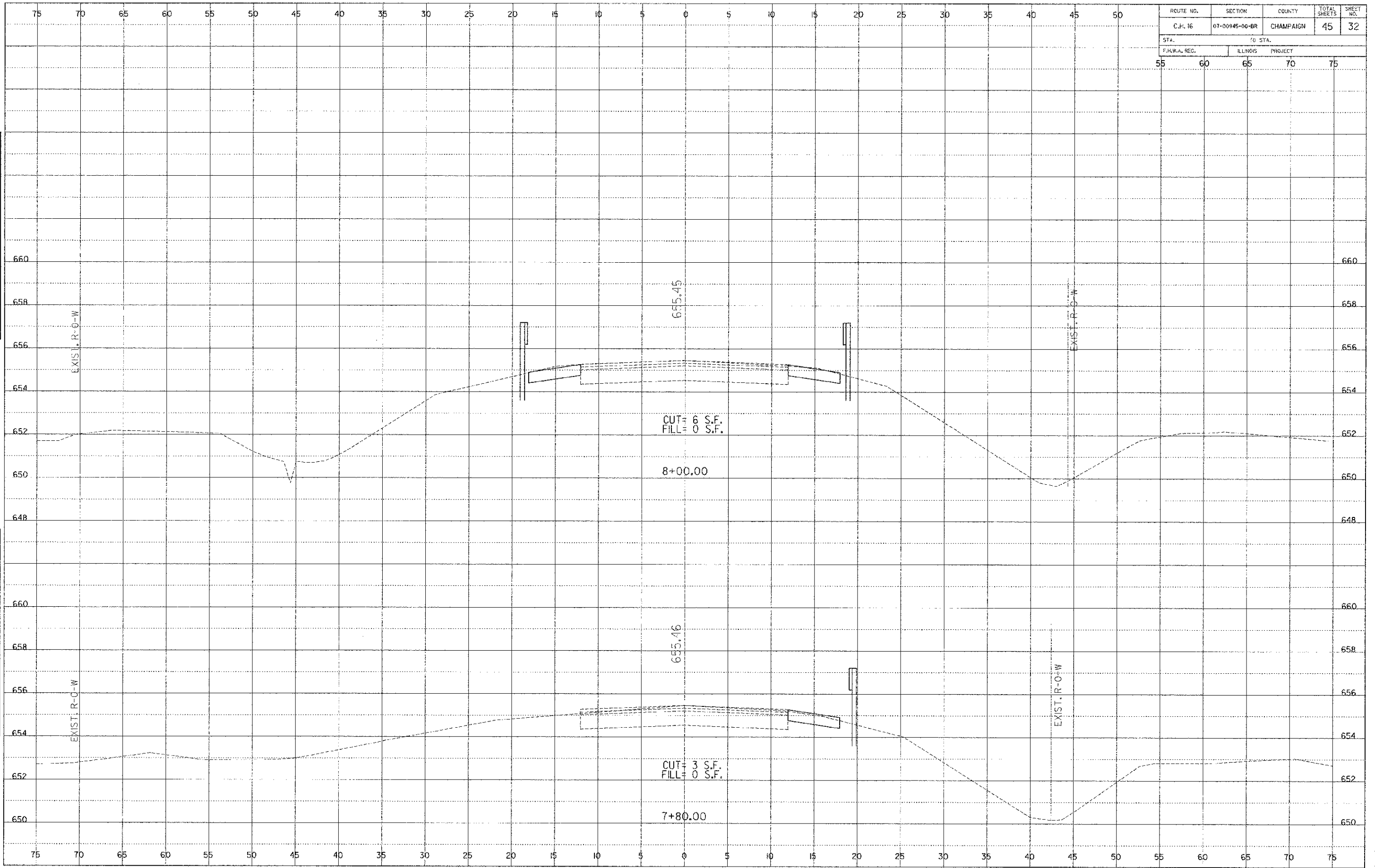
SHEET 31 OF 45 SHEETS 10072

372 Cross Section Sheets.dwg 2/13/2012 11:27:17 AM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.		TO STA.		
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F.H.W.A. REG.		ILLINOIS PROJECT		
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75		75		

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DATE	BY	REVISION

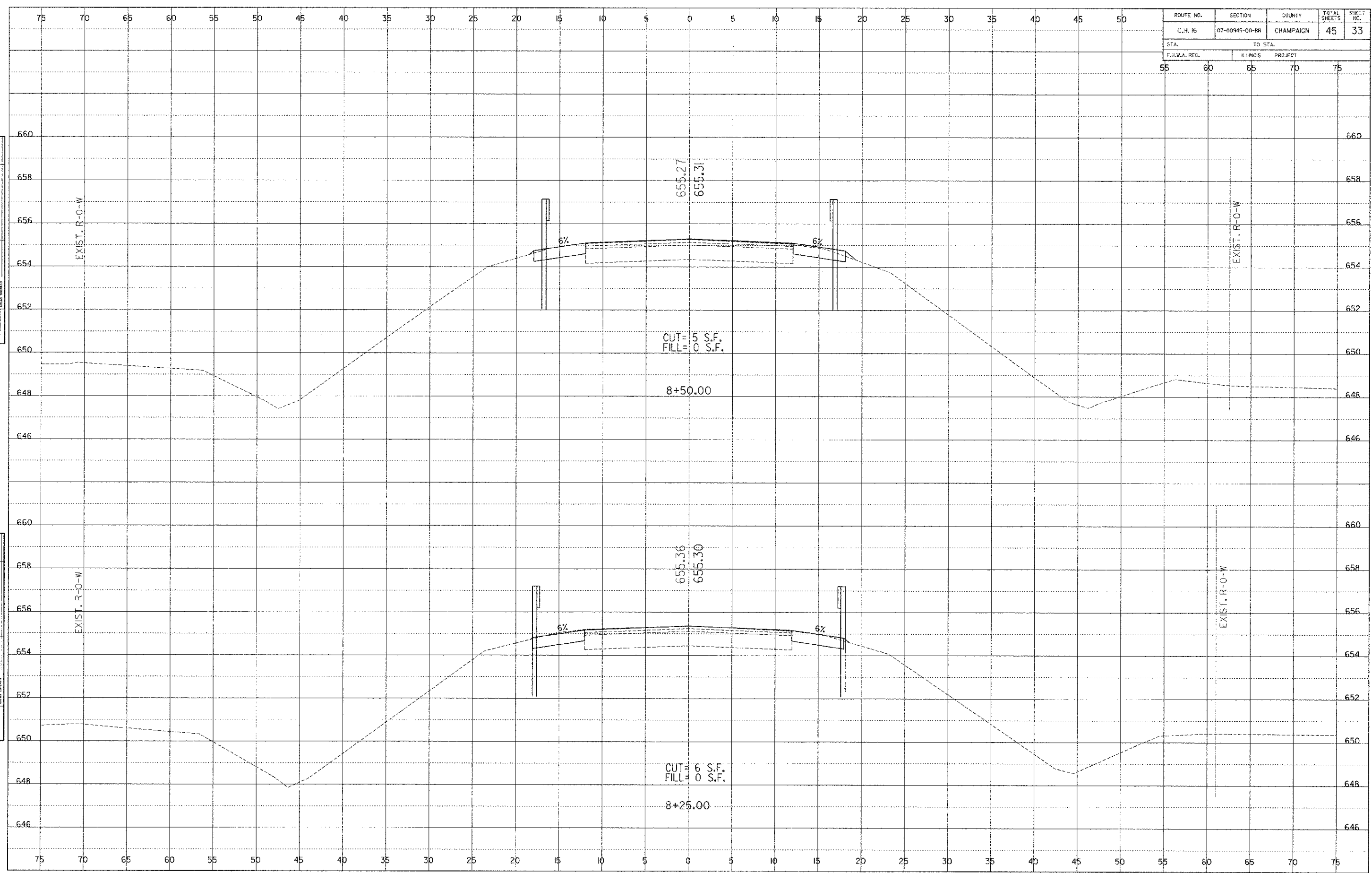


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STA.	TO STA.			
55	60	65	70	75
F.H.W.A. REG.	ILLINOIS	PROJECT		

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FINAL SURVEY	
NOTE BOOK	
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ORIGINAL SURVEY	
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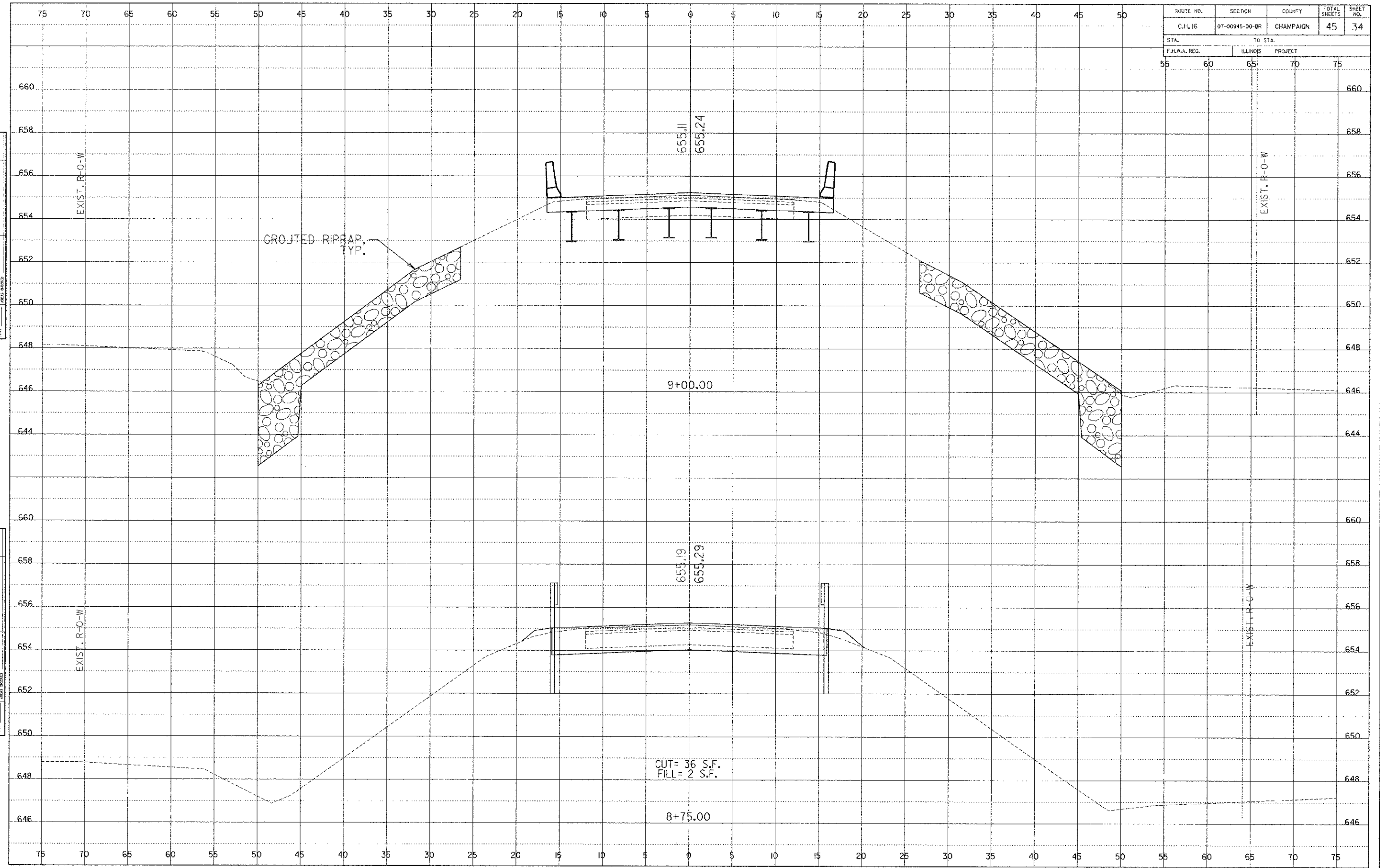


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F.H.W.A. REG.	ILLINOIS	PROJECT		

DATE	BY	REVISION

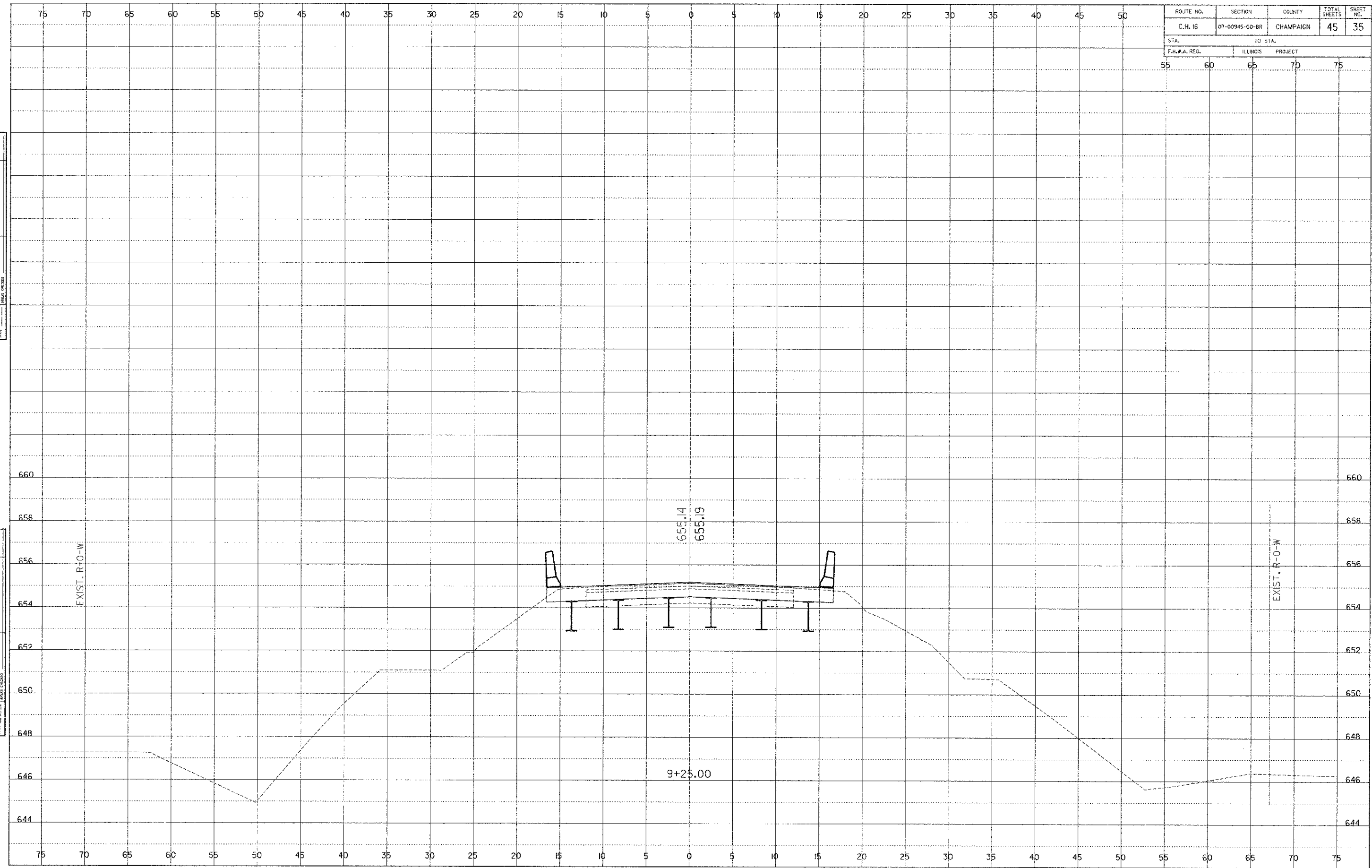
DATE	BY	REVISION



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STA.	TO STA.			
55	60	65	70	75
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DATE: _____

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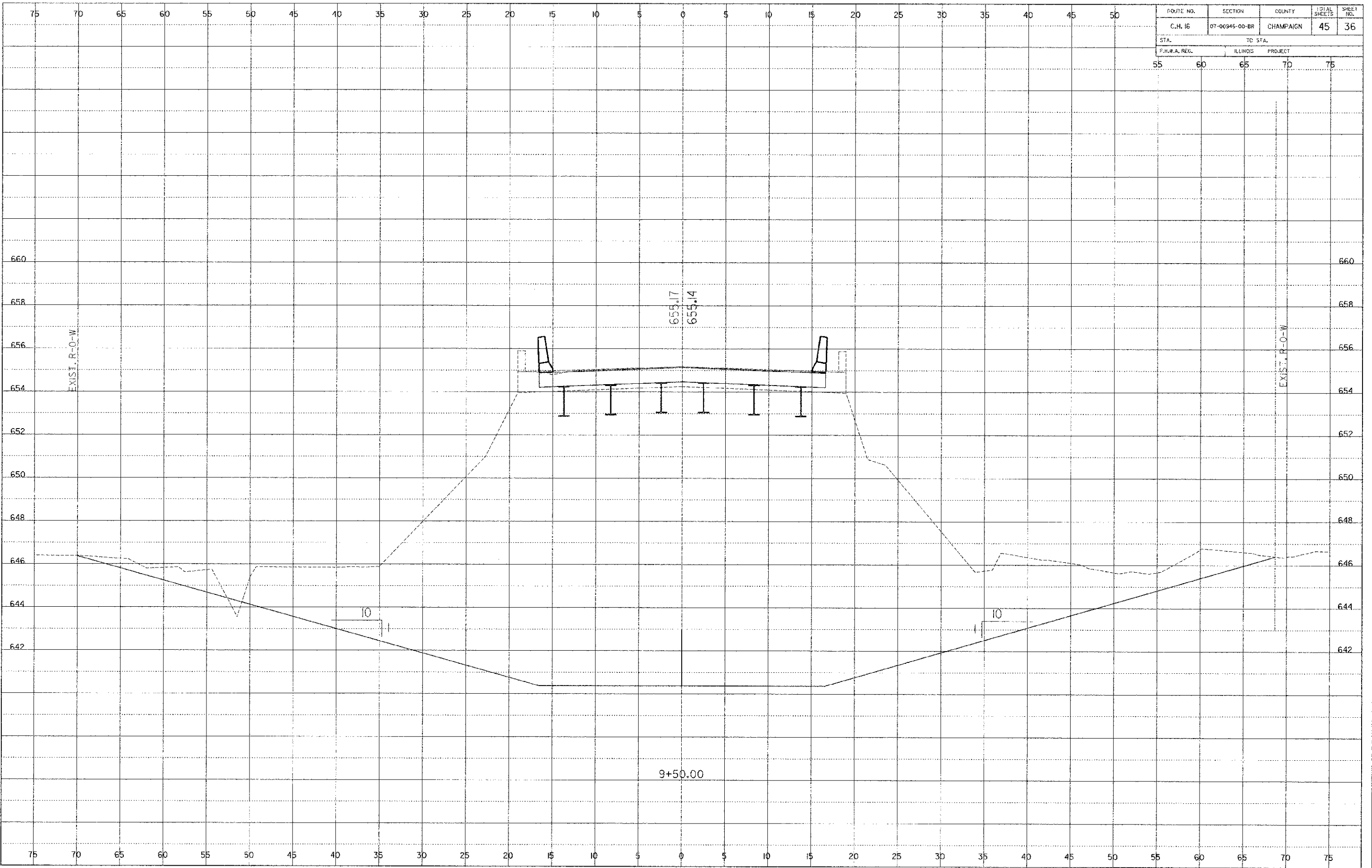


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F.H.W.A. REG.		ILLINOIS PROJECT		

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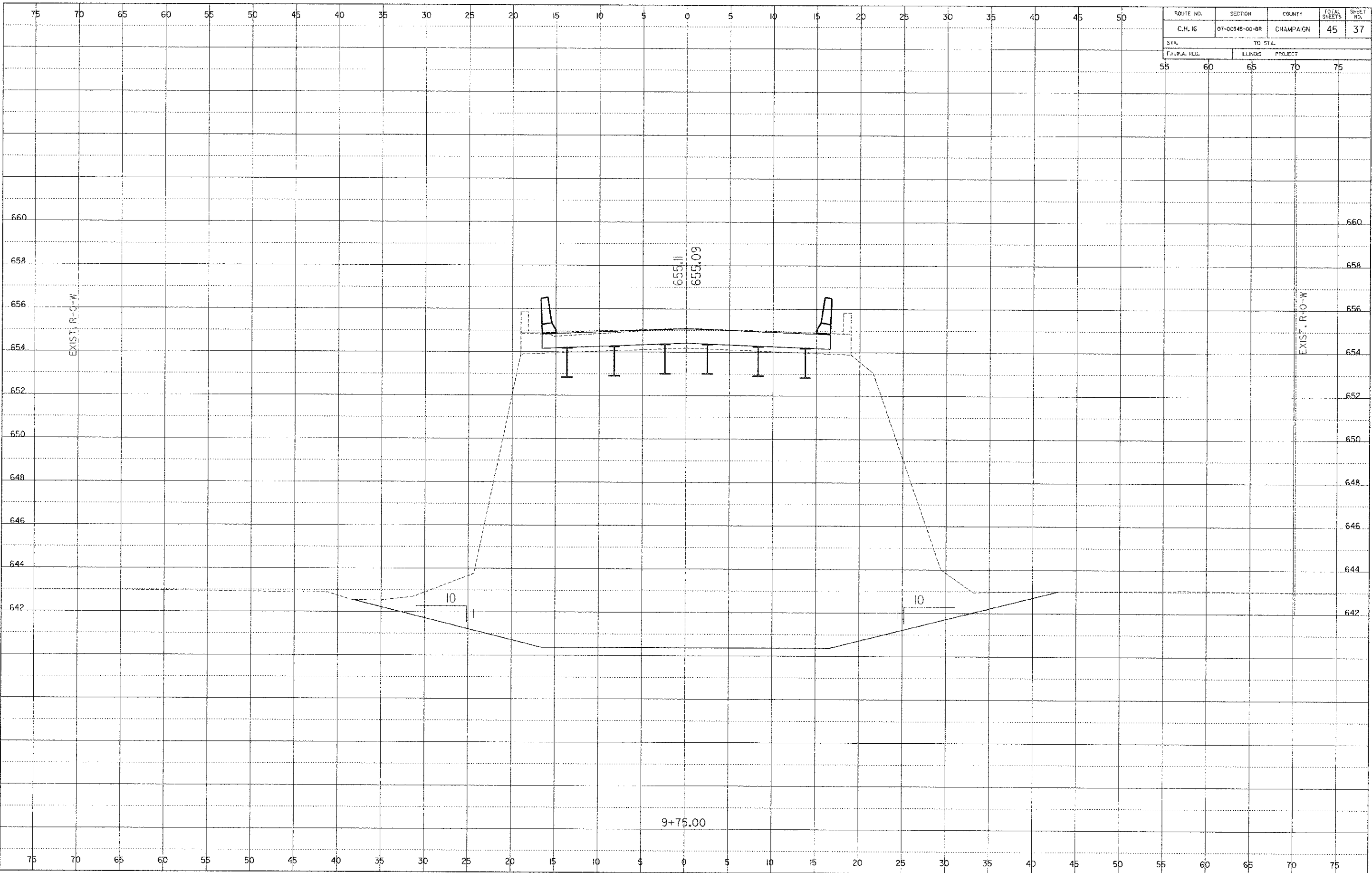
SECTION 07-00945-00-BR CHAMPAIGN COUNTY

SHEET 36 OF 45 SHEETS 10072

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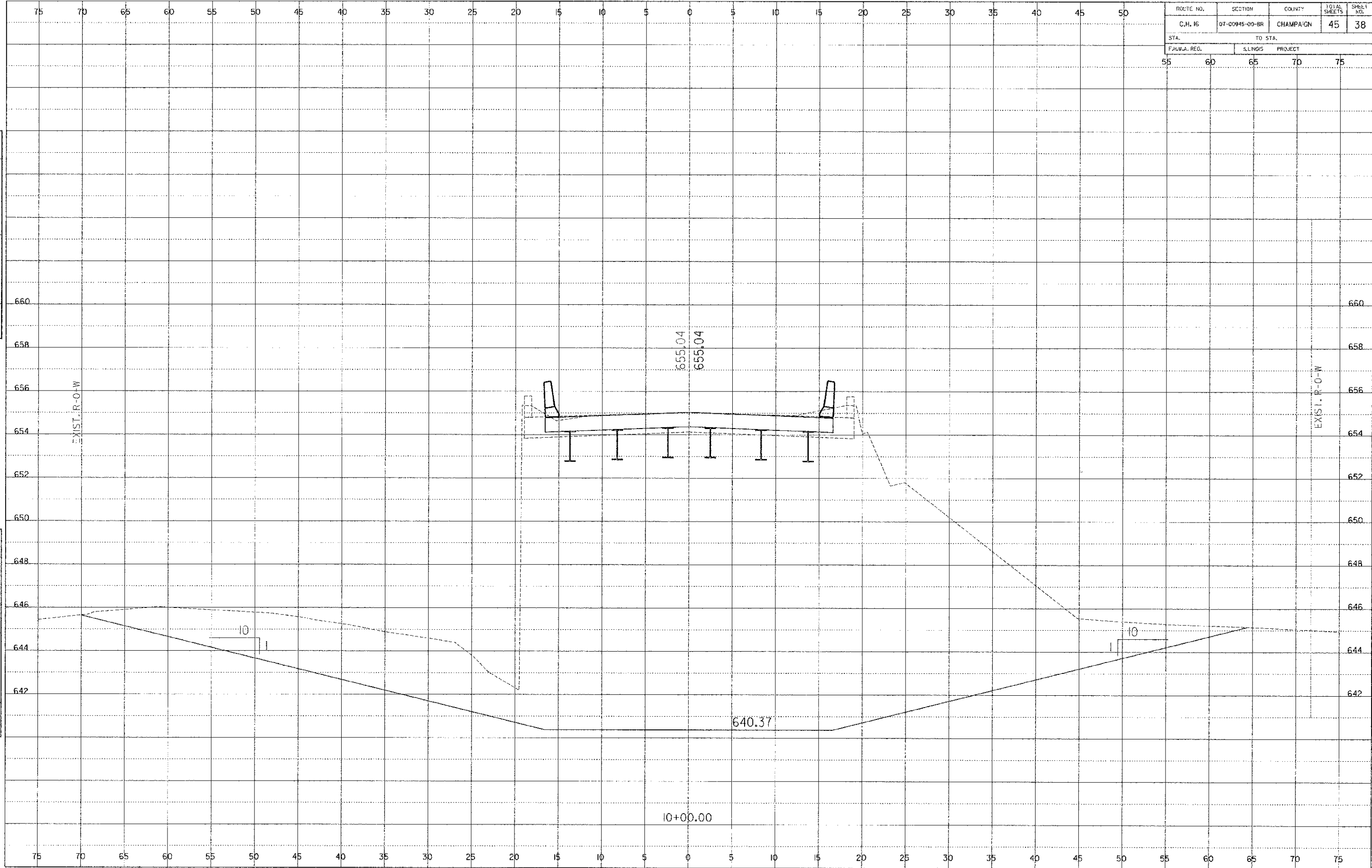
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STA.	TO STA.			
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I.L.A. REG.	ILLINOIS	PROJECT		



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00945-00-BR	CHAMPAIGN	45	38
STA. TO STA.		PROJECT		
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DATE	BY
ORIGINAL SURVEY	DATE
NOTE BOOK NO.	DATE



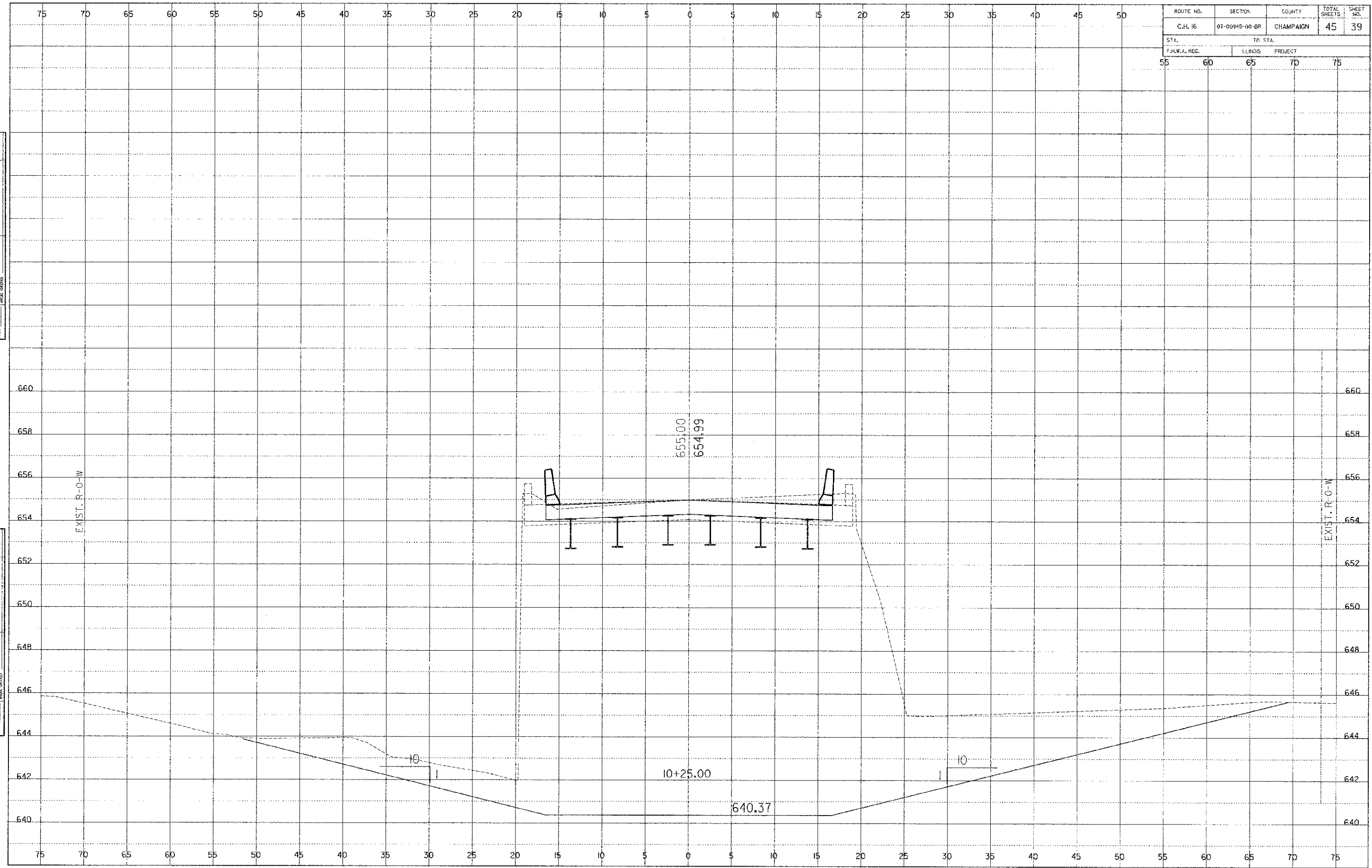
SECTION 07-00945-00-BR CHAMPAIGN COUNTY

SHEET 38 OF 45 SHEETS 10072

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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STA.	TO STA.			
55	60	65	70	75
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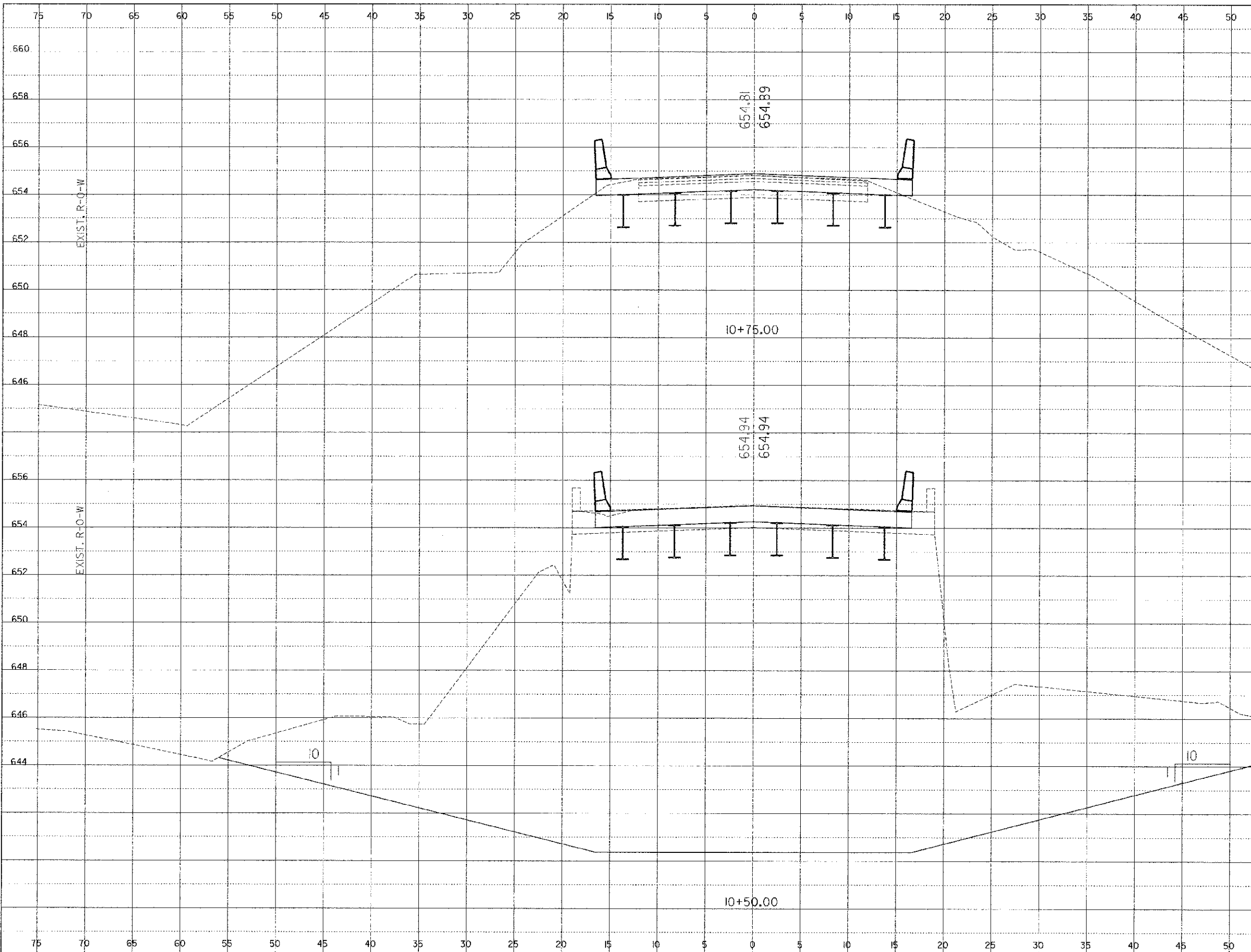


SECTION 07-00945-00-BR CHAMPAIGN COUNTY

SHEET 39 OF 45 SHEETS 10072

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00945-00-BR	CHAMPAIGN	45	40
STA.	10 STA.		660	
F.H.W.A. REG.	ILLINOIS	PROJECT		



FINAL SURVEY
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 NOTE BOOK NO.: _____
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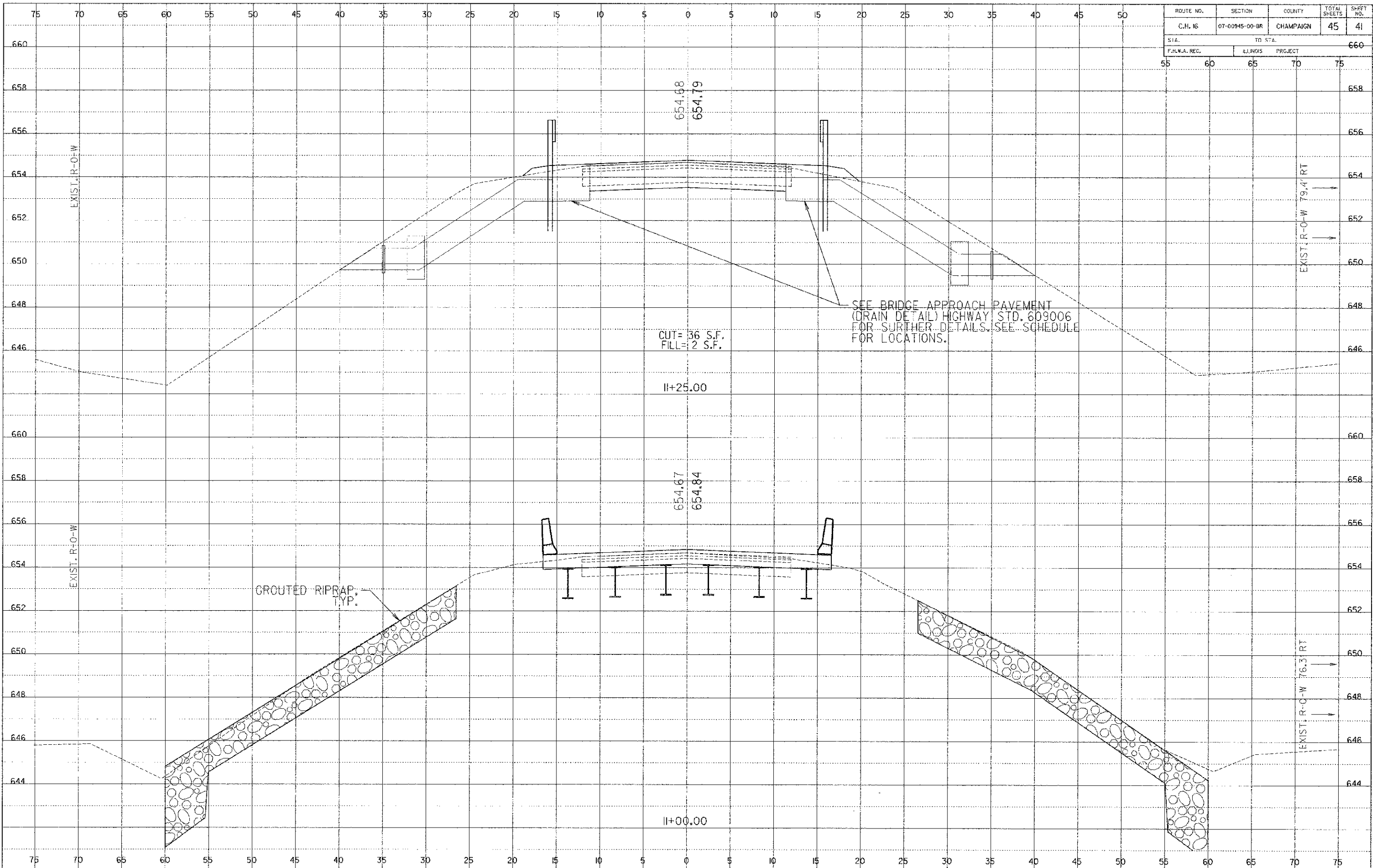
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 SURVEYED BY: _____
 DATE: _____
 NOTE BOOK NO.: _____
 AREA DRAWN: _____

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00945-00-BR	CHAMPAIGN	45	41
SIA. TO STA.			660	
F.H.W.A. REC. ALABAMA PROJECT				

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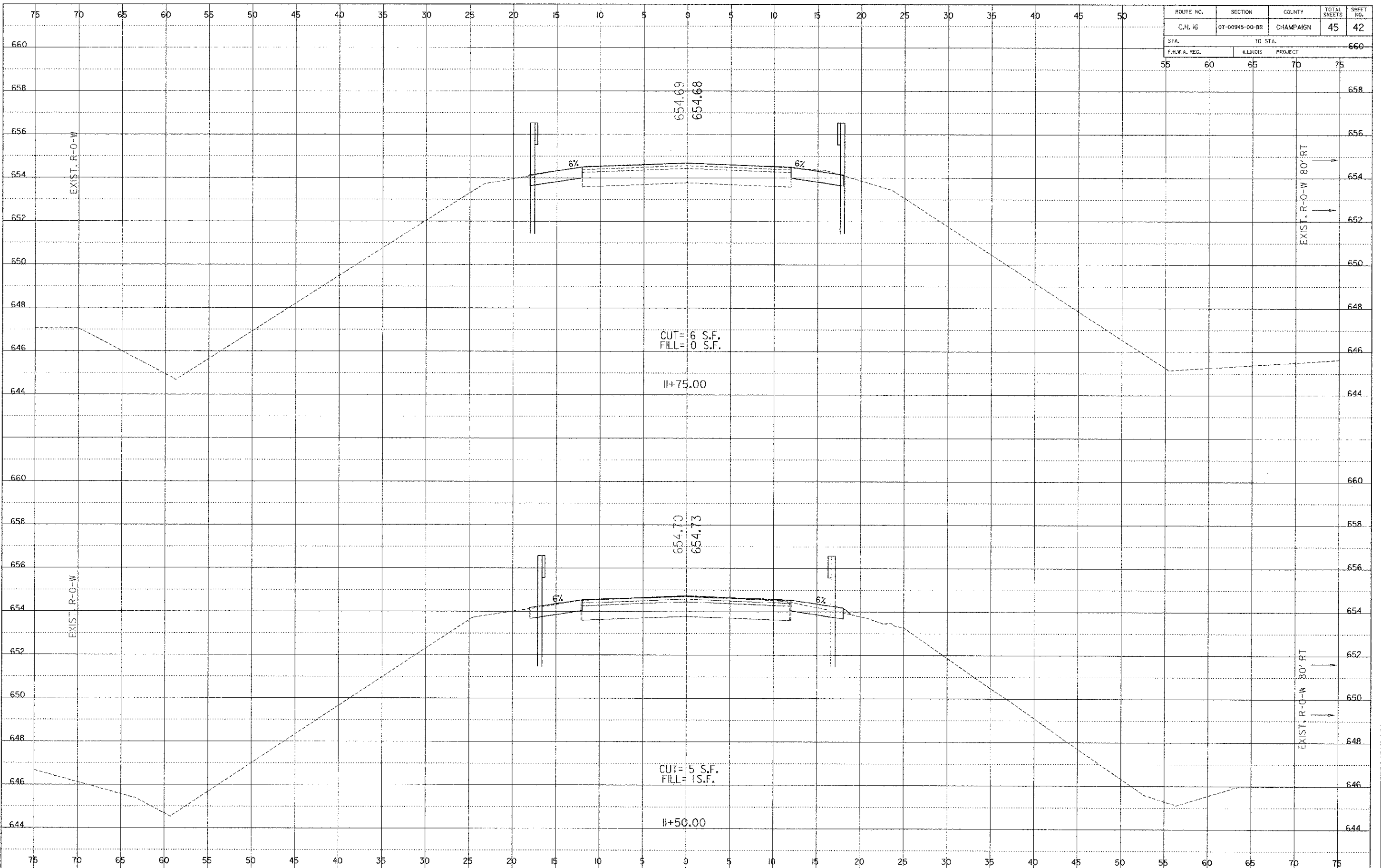


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C.H. 16	07-00945-00-BR	CHAMPAIGN	45	42
S.F.A. TO STA.			660	
F.H.W.A. REG. ILLINOIS PROJECT			55 60 65 70 75	

FINAL SURVEY	DATE	BY
NOTE BOOK NO.		

ORIGINAL SURVEY	DATE	BY
NOTE BOOK NO.		



CUT= 6 S.F.
FILL= 0 S.F.

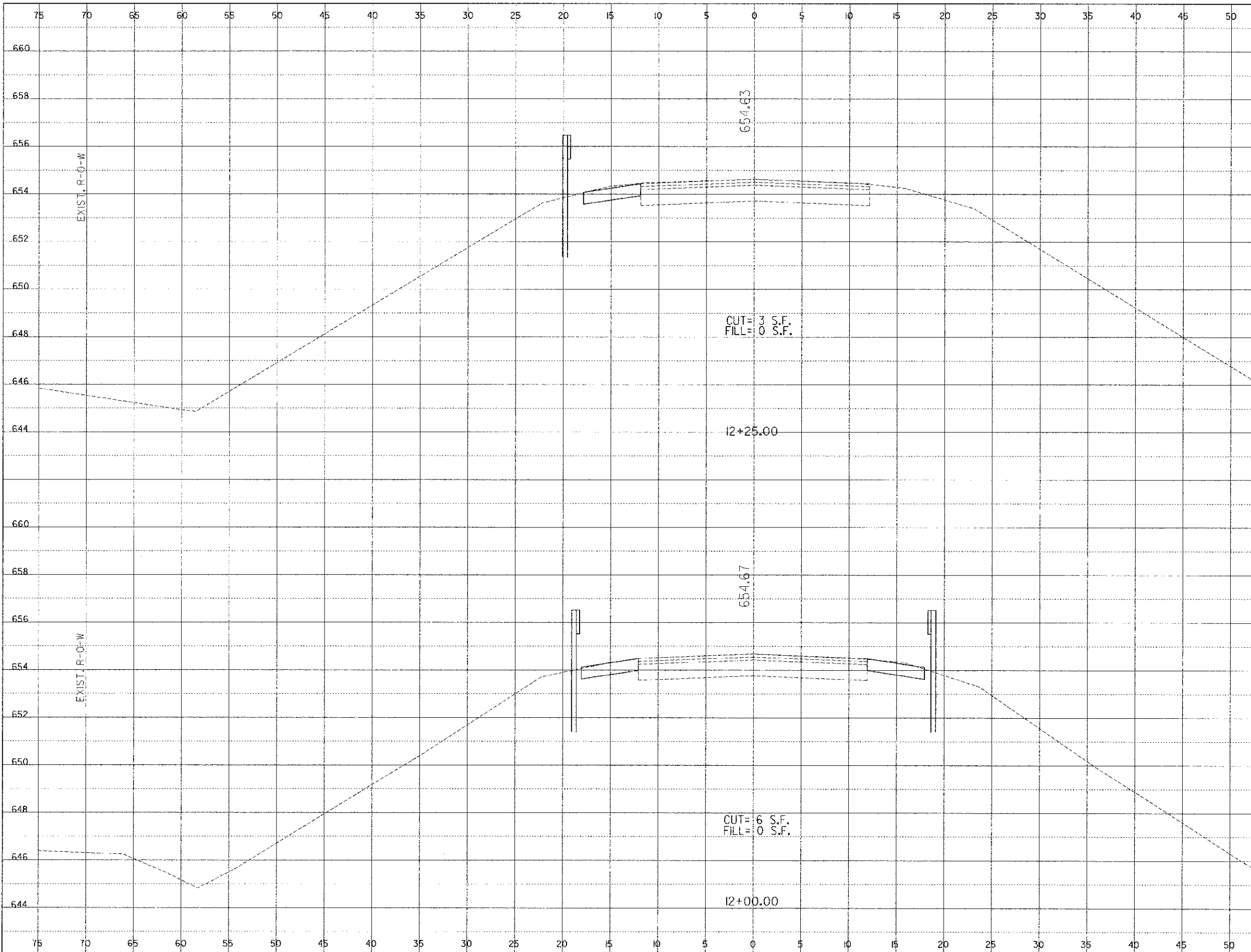
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FILL= 1 S.F.

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S.T.A. TO S.T.A.			660	
F.P.M.A. REG. ILLINOIS PROJECT			55 60 65 70 75	

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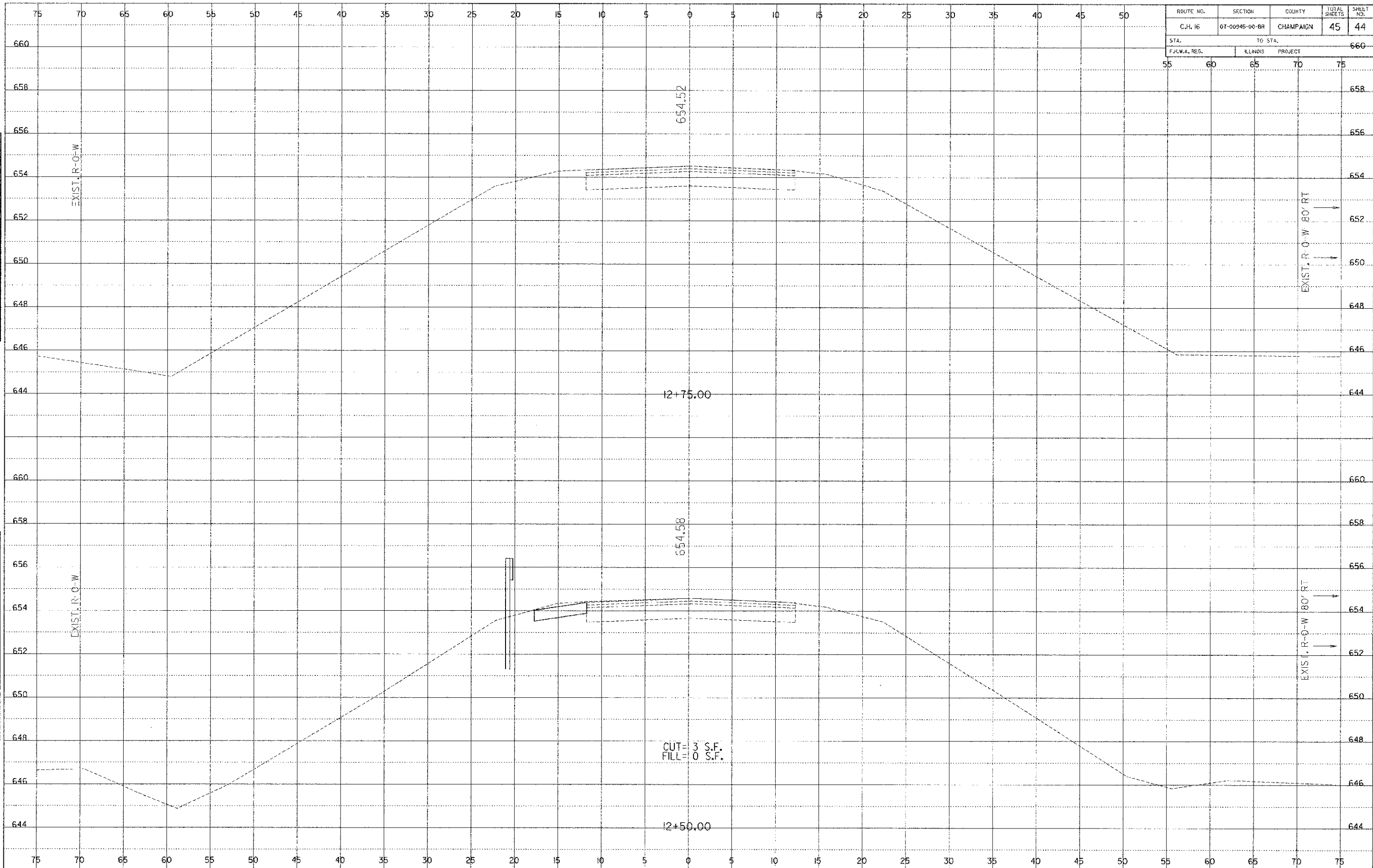


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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00945-00-BR	CHAMPAIGN	45	44
STA.	TO STA.		660	
F.A.W.A. REG.	ILLINOIS	PROJECT		
55	60	65	70	75

DATE	BY	CHKD.
FINAL SURVEY	REVISION	DATE
NOTE BOOK NO.	REVISION	DATE
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ORIGINAL SURVEY	REVISION	DATE
NOTE BOOK NO.	REVISION	DATE
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SECTION 07-00945-00-BR CHAMPAIGN COUNTY

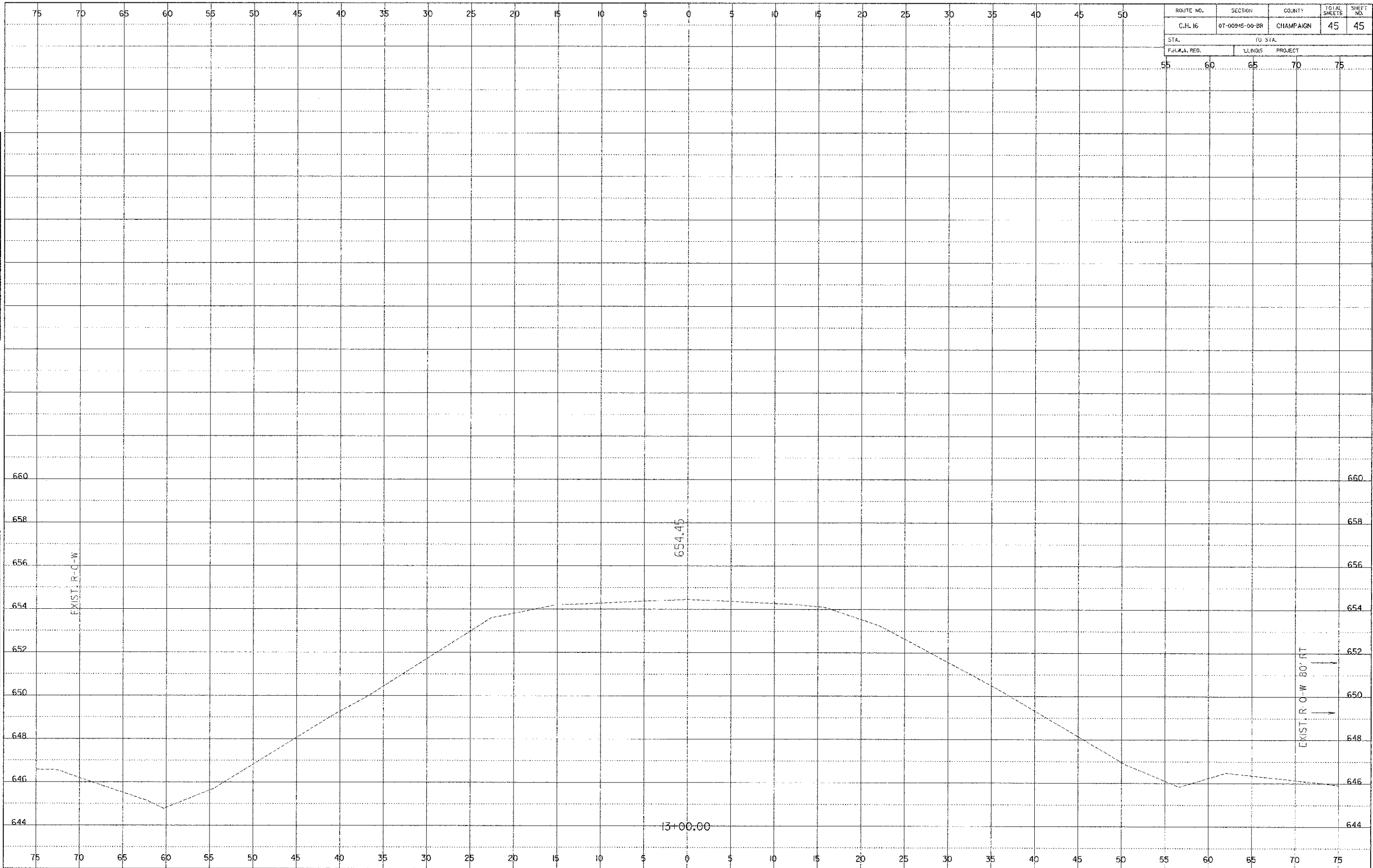
SHEET 44 OF 45 SHEETS 10072

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 16	07-00945-00-BR	CHAMPAIGN	45	45
STA.	TO STA.	F.I.L.A. REG. ILLINOIS PROJECT		
55	75			

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