

INDEX OF SHEETS

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UTILITIES

AMEREN IP (NORTH) 618-236-6281  
 DALLAS RURAL WATER DIST. 309-337-3718  
 LA HARPE TELEPHONE CO. 217-659-7721  
 WIEC 217-357-3125

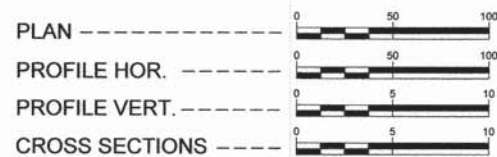
TOLL FREE JOINT UTILITY LOCATING  
 INFORMATION FOR EXCAVATORS (J.U.L.I.E.)  
 TELEPHONE NUMBER 1-800-892-0123

STA. 14+60 - SPECIAL BRIDGE DESIGN  
 THREE-SPAN PRECAST PRESTRESSED  
 CONCRETE DECK BEAM BRIDGE  
 (21" DEPTH), 27'-0" ROADWAY,  
 102' BK.-BK. ABUTS., 0° SKEW  
 EXISTING S.N. 034-3142  
 PROPOSED S.N. 034-4104

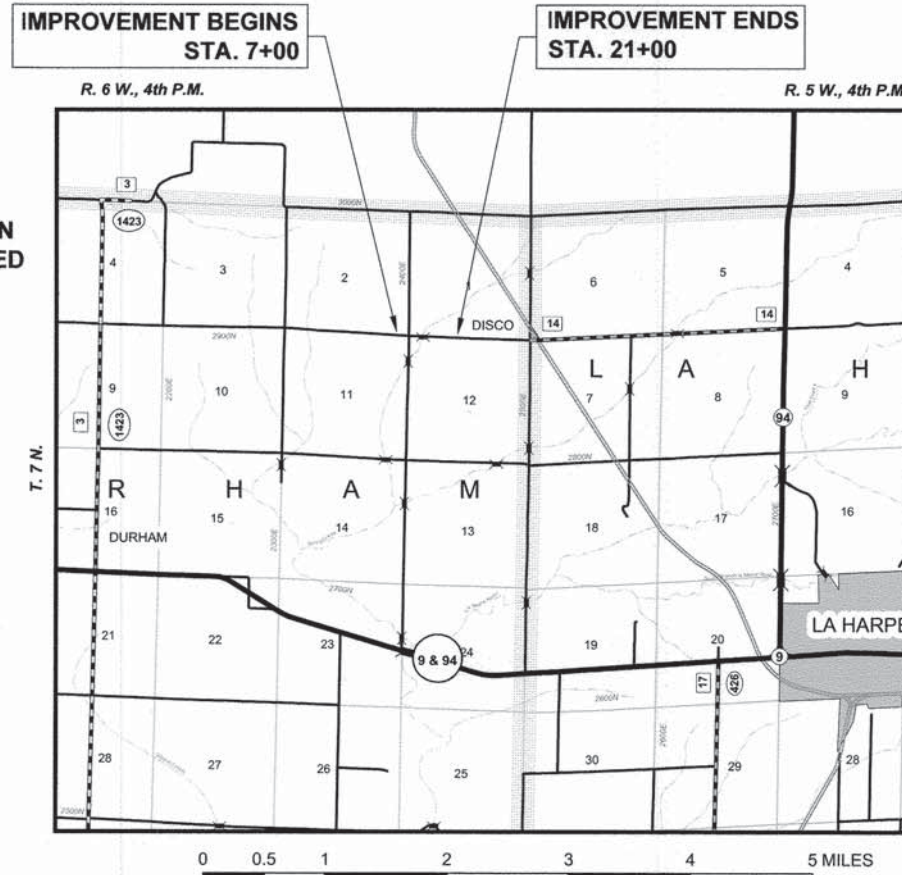
HIGHWAY STANDARDS

- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-02 TRAFFIC CONTROL DEVICES
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES  
FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 23-4 TRAFFIC BARRIER TERMINAL TYPE 1
- BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A
- BLR 26-3 STEEL PLATE BEAM GUARDRAIL 29 IN HEIGHT

SCALES



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
**PLANS FOR PROPOSED  
 HIGHWAY BRIDGE PROGRAM**  
 HANCOCK COUNTY  
 DURHAM ROAD DISTRICT  
 T.R. 7  
 SECTION 04-07117-00-BR  
 JOB NO. C-96-217-12  
 PROJECT NO. BROS-0067(146)



GROSS & NET LENGTH OF SECTION = 1,400.00 FEET = 0.265 MILES

HIGHWAY CLASS: LOCAL ROAD (NON-URBAN)

DESIGN GUIDELINES: RURAL TWO-LANE LOCAL ROAD

DESIGN SPEED: 30 MPH

CURRENT ADT: 175

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	1
ROAD DISTRICT		ILLINOIS	DURHAM	

CONTRACT: 93594



APPROVED	11/30	20 12
	<i>Elgin Berry</i>	COUNTY ENGINEER
APPROVED	11-30	20 12
	<i>David Anderson</i>	ROAD DISTRICT COMMISSIONER
PASSED	January 8,	20 13
	<i>Terrence H. Fountain</i>	DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS
PASSED	January 8,	20 13
	<i>Ken Duhamel</i>	DISTRICT SIX ENGINEER OF CONSTRUCTION
Releasing For Bid Based on Limited Review	January 8,	20 13
	<i>Roger L. Driskell</i>	DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE LAWS OF THE STATE OF ILLINOIS.  
*Elgin Berry* 11/30/2012  
 ELGIN L. BERRY LICENSE # 062-057924 EXPIRES 11/30/2013

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	2
ROAD DISTRICT		ILLINOIS	DURHAM	

### SUMMARY OF QUANTITIES

CODE	ITEM	UNIT	QUANTITY
* 20200100	EARTH EXCAVATION	CU YD	10,531
20300100	CHANNEL EXCAVATION	CU YD	342
25000100	SEEDING, CLASS 1	ACRE	0.2
25000200	SEEDING, CLASS 2	ACRE	1.8
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	180
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	180
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	180
25000700	AGRICULTURAL GROUND LIMESTONE	TON	4.0
25100115	MULCH, METHOD 2	ACRE	2.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	400
28000305	TEMPORARY DITCH CHECKS	FOOT	820
28000400	PERIMETER EROSION BARRIER	FOOT	553
28000500	INLET AND PIPE PROTECTION	EACH	3
28100207	STONE RIPRAP, CLASS A4	TON	308
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	1,100
28200200	FILTER FABRIC	SQ YD	420
35100100	AGGREGATE BASE COURSE, TYPE A	TON	2,505
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	133
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	1,649
40300300	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	2,566
40300500	COVER COAT AGGREGATE	TON	46
40300600	SEAL COAT AGGREGATE	TON	46
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	39
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	42.8
50300280	CONCRETE ENCASEMENT	CU YD	15.0
* 50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2,700
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4,300
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	201
51201400	FURNISHING STEEL PILES HP10x42	FOOT	810
51202305	DRIVING PILES	FOOT	810
51203400	TEST PILE STEEL HP10x42	EACH	1
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1, 15"	FOOT	168
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	301
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
67100100	MOBILIZATION	L SUM	1
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	2
Δ LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2
* X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

\* SEE SPECIAL PROVISIONS  
 Δ SPECIALTY ITEMS

CONSTRUCTION TYPE CODE: 0011  
 BRIDGE TYPE: X080

### GENERAL NOTES

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR, OR AGENT, HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.

ALL EROSION PROTECTION TO BE PLACED AS DIRECTED BY THE ENGINEER.

ALL ELEVATIONS SHOWN REFER TO AN U.S.G.S MEAN SEA LEVEL DATUM.

THE REMOVAL OF EXISTING ENTRANCE CULVERTS SHALL BE INCIDENTAL TO THE COST OF EARTH EXCAVATION AND NO ADDITIONAL PAYMENT WILL BE ALLOWED.

THE REMOVAL OF EXISTING TREES OR BRUSH SHALL BE INCIDENTAL TO THE COST OF EARTH EXCAVATION AND NO ADDITIONAL PAYMENT WILL BE ALLOWED.

THE REMOVAL OF EXISTING ROADWAY WHICH MAY BE NECESSARY FOR THE CONSTRUCTION OF THE NEW BRIDGE AND APPROACHES SHALL BE REMOVED AS EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL EXISTING ROAD SIGNS THAT CONFLICT WITH THE PROPOSED WORK ZONE TRAFFIC CONTROL MEASURES SHALL BE REMOVED OR COVERED AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS PART OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

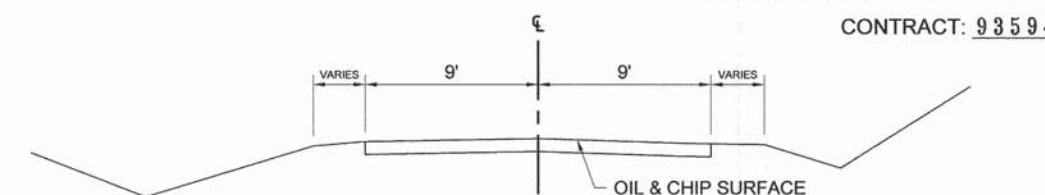
ALL EXISTING PRIVATELY OWNED UTILITIES REQUIRING ADJUSTMENT WILL BE MADE BY THE UTILITY COMPANY INVOLVED. WHERE NO PROVISIONS HAVE BEEN MADE FOR ADJUSTMENTS ON THE PLANS, NO ADDITIONAL COMPENSATION WILL BE ALLOWED DUE TO DELAYS OR INCONVENIENCES CAUSED BY THE SAID UTILITY ADJUSTMENTS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS REPRESENTS THE BEST KNOWLEDGE OF THE COUNTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF UNDERGROUND INSTALLATIONS BEFORE STARTING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL INDEMNIFY THE COUNTY, ITS OFFICERS AND EMPLOYEES AGAINST ALL CLAIMS DUE TO DAMAGE TO CORPORATE OR PRIVATE PROPERTY RESULTING FROM HIS CONSTRUCTION OPERATIONS AS DESCRIBED IN ARTICLES 107.2 AND 107.26 OF THE STANDARD SPECIFICATIONS.

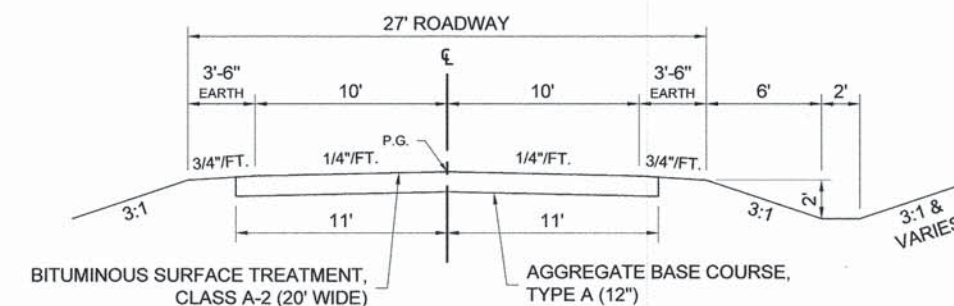
THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ANY UTILITY ADJUSTMENTS OR REMOVAL HAS BEEN COMPLETED PRIOR TO THE BEGINNING OF CONSTRUCTION.

THE NOTED APPLICATION RATES ARE FOR QUANTITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT.

ALL WASTE OR UNDESIRABLE MATERIALS AS IDENTIFIED BY THE ENGINEER SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES, REGULATIONS AND ORDINANCES PERTAINING TO WASTE DISPOSAL.

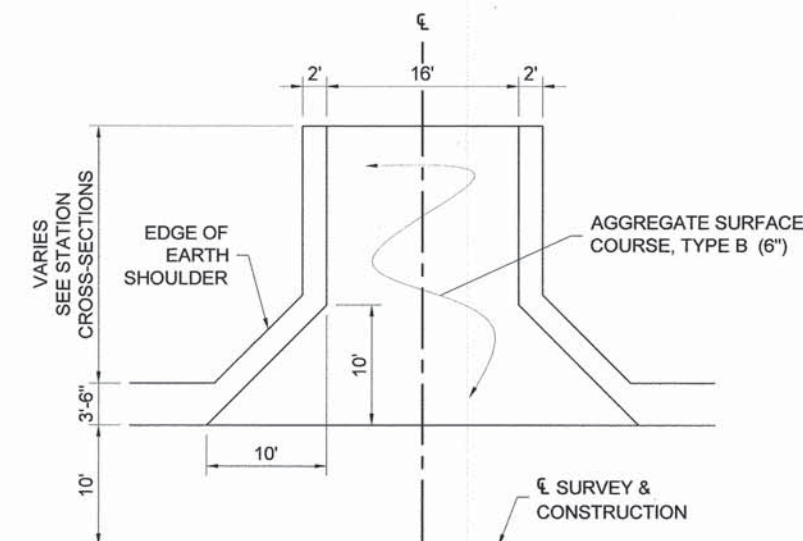


EXISTING TYPICAL SECTION



PROPOSED TYPICAL SECTION

STA. 7+00 TO STA. 21+00  
 STA. 60+00 TO STA. 62+00  
 STA. 70+00 TO STA. 71+50



ENTRANCE DETAIL

RT. STA. 10+50 F.E. RT. STA. 17+00 F.E.  
 RT. STA. 61+04 F.E. RT. STA. 61+82 P.E.  
 RT. STA. 70+50 P.E.

### CULVERT SCHEDULE

SIDE	LOCATION	PIPE CULVERT CLASS D TYPE 1, 15"
		FOOT
RT.	STA. 10+50	38
RT.	STA. 17+00	60
RT.	STA. 61+04	40
RT.	STA. 61+82	30
	TOTAL	168

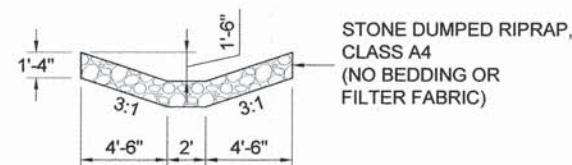
### HOT-MIX ASPHALT MIXTURE REQUIREMENTS

ITEM	AGGREGATE COMPOSITION	ASPHALT GRADE	DESIGN AIR VOIDS
HMA SURFACE CSE	IL - 9.5 Mix "C"	PG 64-22	4.0% @ N50

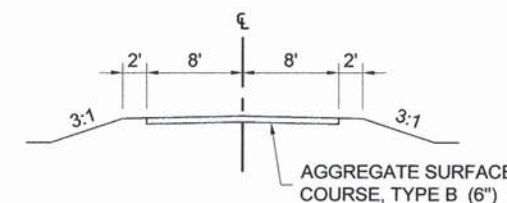
HOT-MIX ASPHALT QUANTITIES BASED ON 112 LBS. / SY / INCH

### APPLICATION RATES USED IN QUANTITY CALCULATIONS

STONE RIPRAP, CLASS A4 = 1.65 TON / CY  
 AGGREGATE BASE AND SURFACE COURSES = 2.05 TON / CY  
 BITUMINOUS MATERIALS (PRIME COAT) = 0.40 to 0.50 GAL. / SY  
 BITUMINOUS MATERIALS (COVER AND SEAL COATS) = 0.30 to 0.40 GAL. / SY  
 COVER AND SEAL COAT AGGREGATES = 25 LBS. / SY



STONE RIPRAP DITCH



ENTRANCE TYPICAL SECTION

SUMMARY OF QUANTITIES, GENERAL NOTES, & TYPICAL SECTIONS  
 SECTION 04-07117-00-BR  
 DURHAM ROAD DISTRICT  
 HANCOCK COUNTY

101 S. FIRST ST. (P.O. BOX 379)  
 CARTHAGE, IL 62321  
 (217) 357-3155

HANCOCK COUNTY  
 HIGHWAY DEPARTMENT

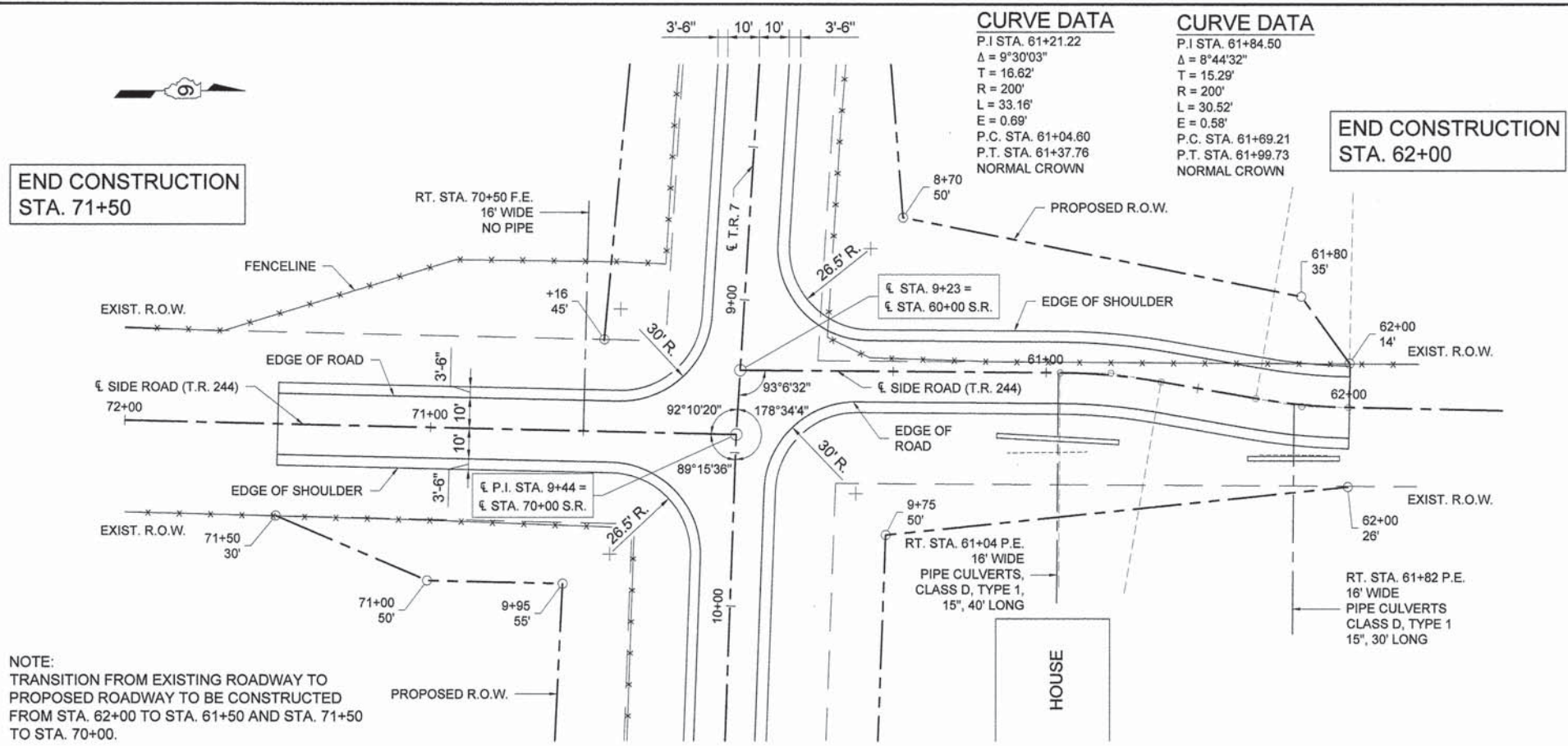
CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	3
ROAD DISTRICT		ILLINOIS	DURHAM	

CONTRACT: 93594

END CONSTRUCTION  
STA. 71+50

END CONSTRUCTION  
STA. 62+00

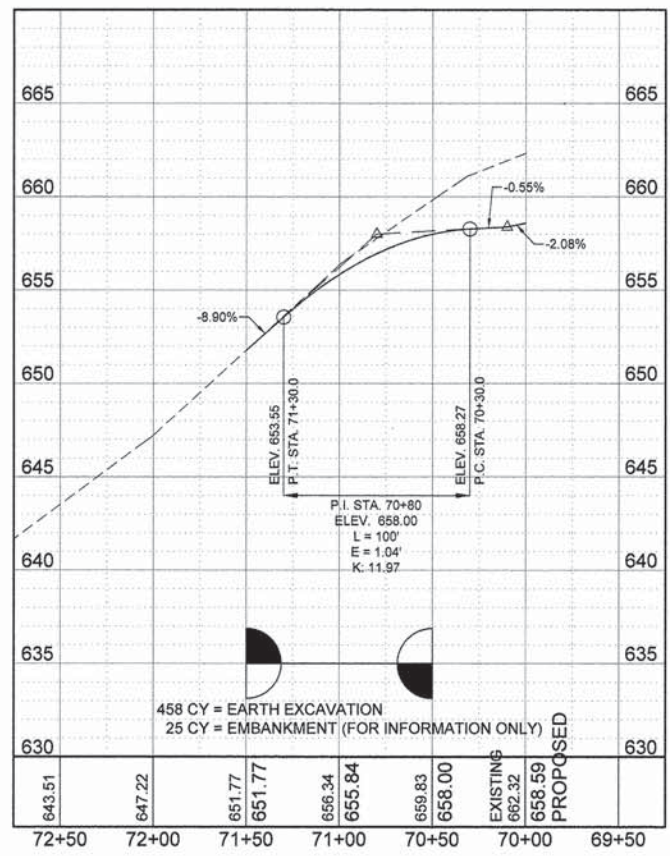


NOTE:  
TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 62+00 TO STA. 61+50 AND STA. 71+50 TO STA. 70+00.

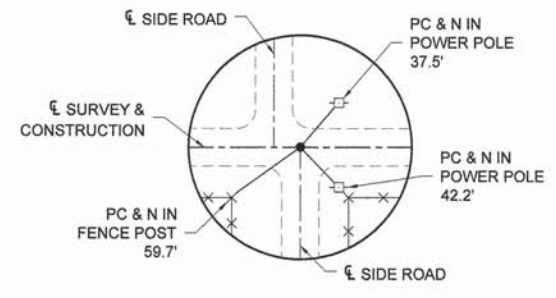
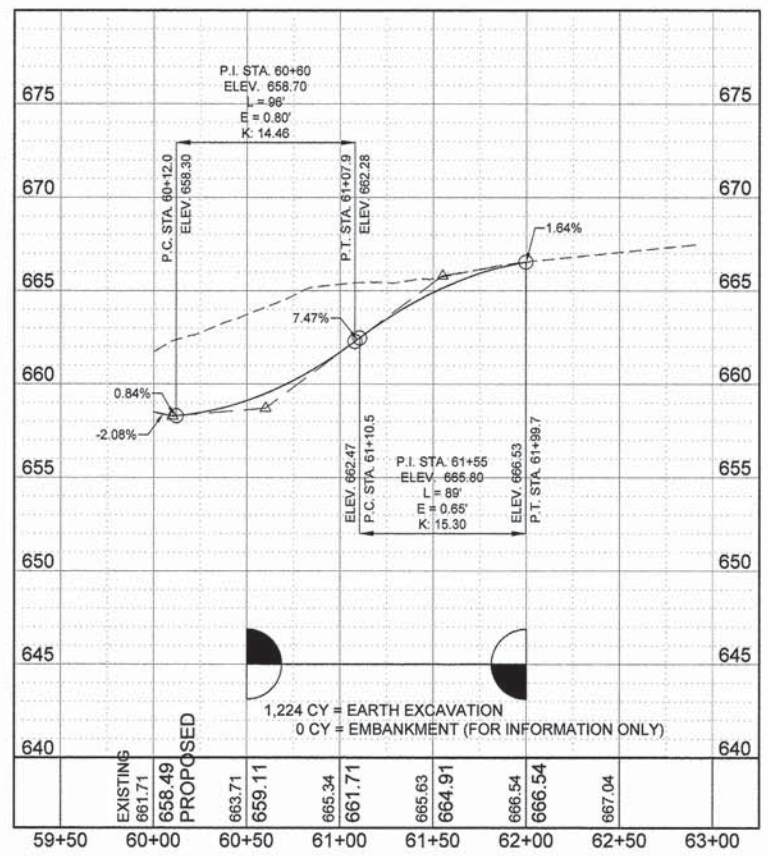
GUARDRAIL SCHEDULE

SIDE	LOCATION	TRAFFIC BARRIER TERMINAL, TYPE 1	TRAFFIC BARRIER TERMINAL, TYPE 5A	TERMINAL MARKER DIRECT APPLIED
		EACH	EACH	EACH
RT.	STA. 13+71.47 TO STA. 14+09.92	1	1	1
LT.	STA. 15+10.08 TO STA. 15+48.33	1	1	1
TOTAL		2	2	2

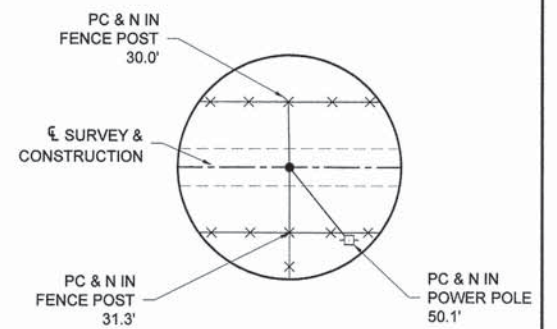
SIDE ROAD - SOUTH



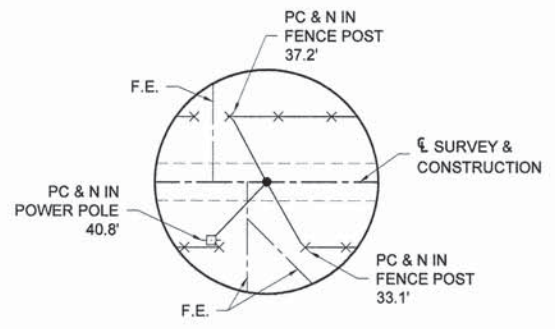
SIDE ROAD - NORTH



**P.I. STA. 9+44**  
P.K. NAIL (FLUSH)  
E: 2,053,862.53  
N: 1,441,151.50  
ELEV. 662.32



**P.O.T. STA. 22+52**  
P.K. NAIL (FLUSH)  
E: 2,055,169.79  
N: 1,441,104.37  
ELEV. 651.14



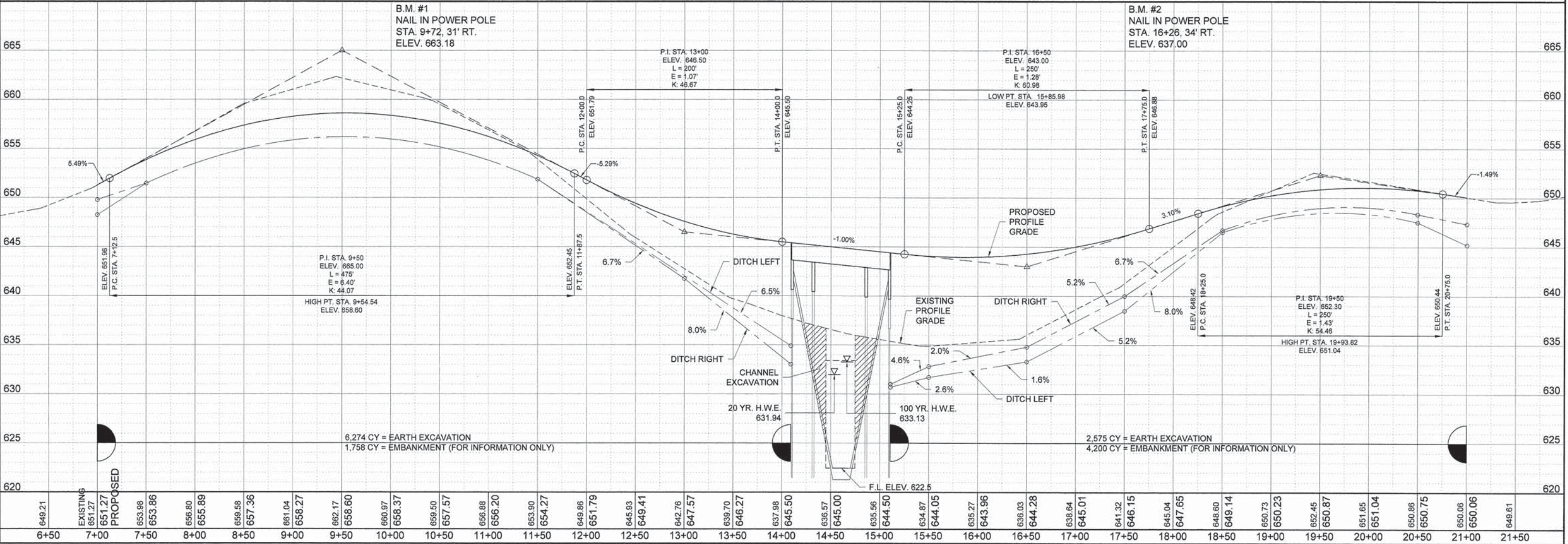
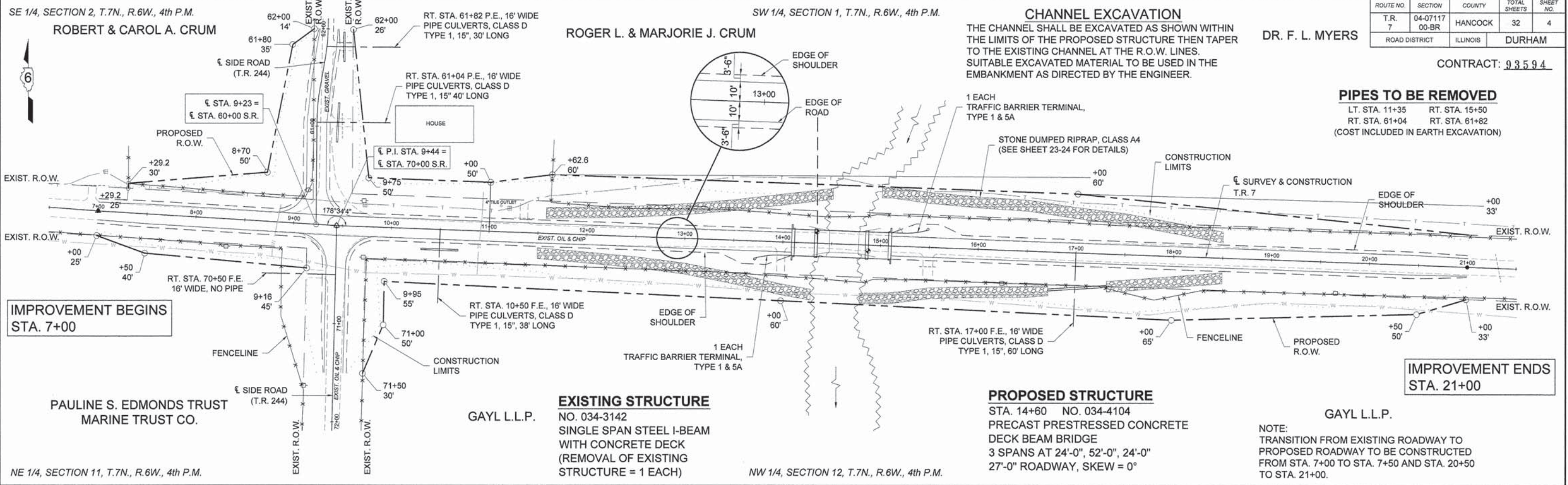
**P.O.T. STA. 0+00**  
P.K. NAIL (FLUSH)  
E: 2,052,921.03  
N: 1,441,218.18  
ELEV. 663.80

INTERSECTION & SIDE ROAD DETAILS  
GUARDRAIL SCHEDULE, REFERENCE TIES

SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

101 S. FIRST ST. (P.O. BOX 379)  
CARTHAGE, IL 62321  
(217) 357-3155

HANCOCK COUNTY  
HIGHWAY DEPARTMENT



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	4
ROAD DISTRICT		ILLINOIS	DURHAM	

**CHANNEL EXCAVATION**  
 THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATED MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

**PIPES TO BE REMOVED**  
 LT. STA. 11+35 RT. STA. 15+50  
 RT. STA. 61+04 RT. STA. 61+82  
 (COST INCLUDED IN EARTH EXCAVATION)

CONTRACT: 93594

DR. F. L. MYERS

**EXISTING STRUCTURE**  
 NO. 034-3142  
 SINGLE SPAN STEEL I-BEAM WITH CONCRETE DECK  
 (REMOVAL OF EXISTING STRUCTURE = 1 EACH)

**PROPOSED STRUCTURE**  
 STA. 14+60 NO. 034-4104  
 PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE  
 3 SPANS AT 24'-0", 52'-0", 24'-0"  
 27'-0" ROADWAY, SKEW = 0°

NOTE:  
 TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY TO BE CONSTRUCTED FROM STA. 7+00 TO STA. 7+50 AND STA. 20+50 TO STA. 21+00.

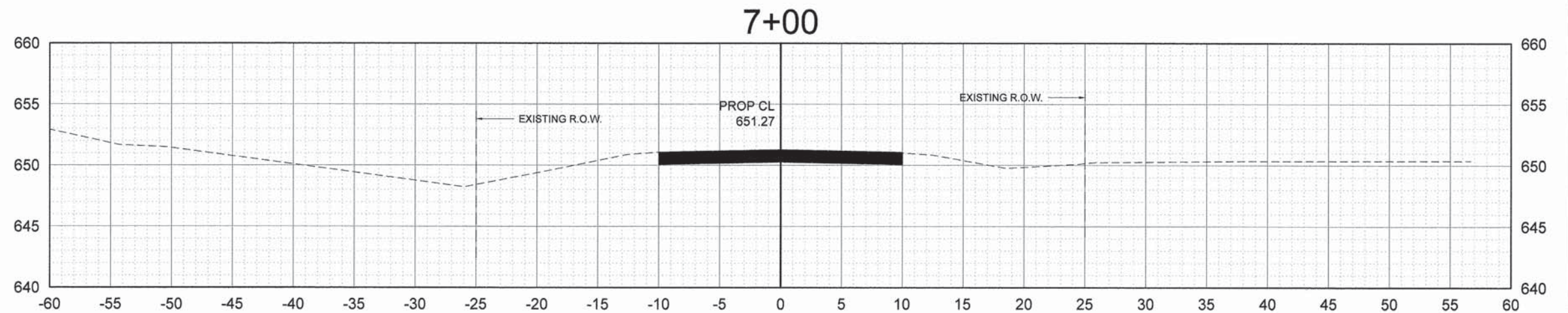
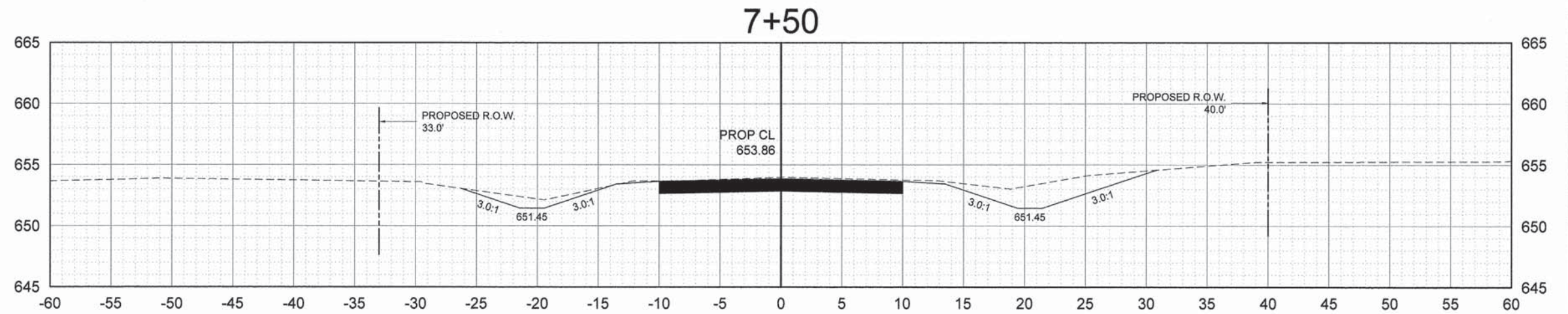
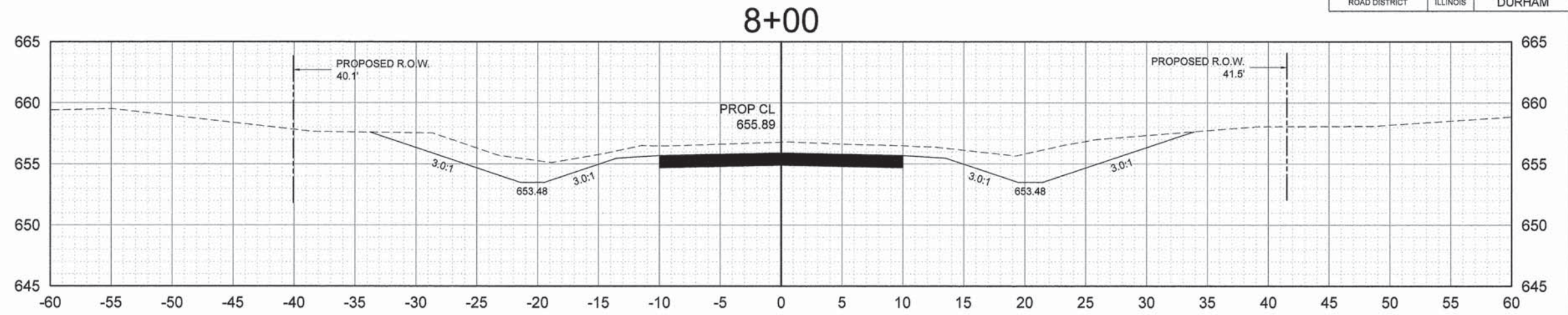
6,274 CY = EARTH EXCAVATION  
 1,758 CY = EMBANKMENT (FOR INFORMATION ONLY)

2,575 CY = EARTH EXCAVATION  
 4,200 CY = EMBANKMENT (FOR INFORMATION ONLY)

CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	5
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

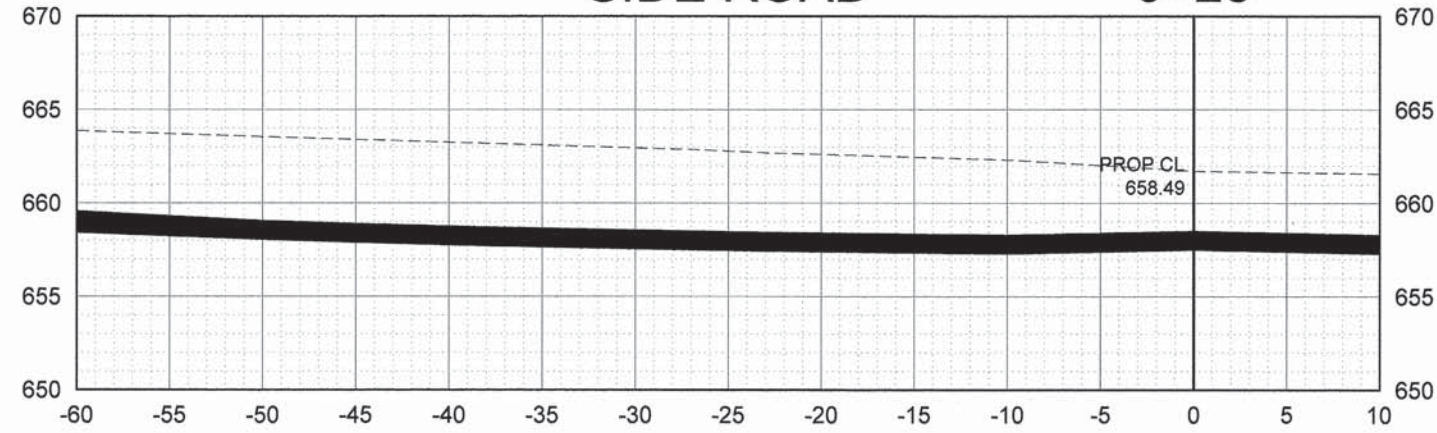


CONTRACT: 93594

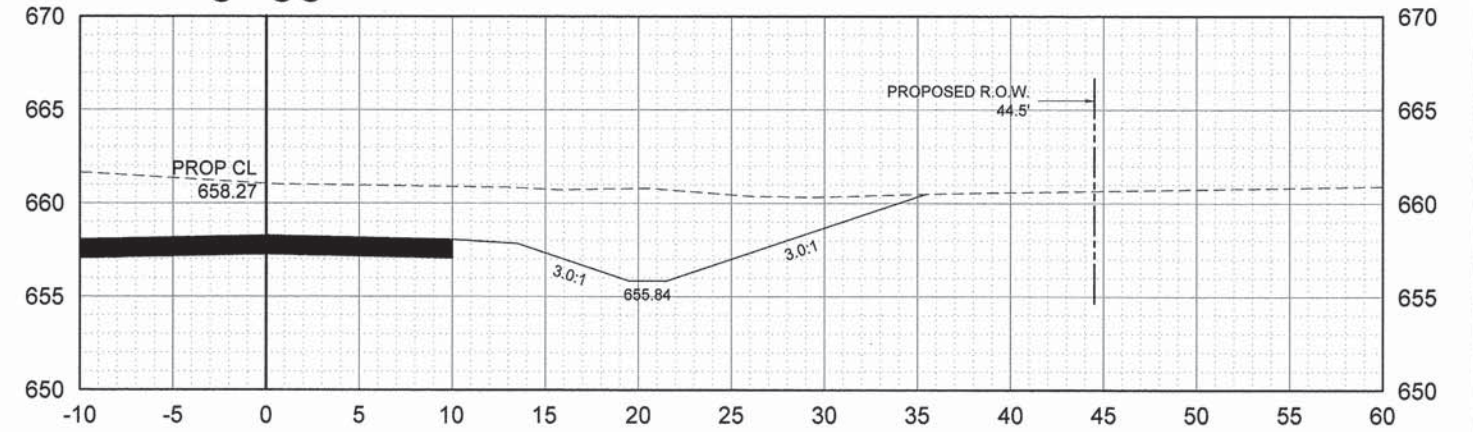
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	6
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
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13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

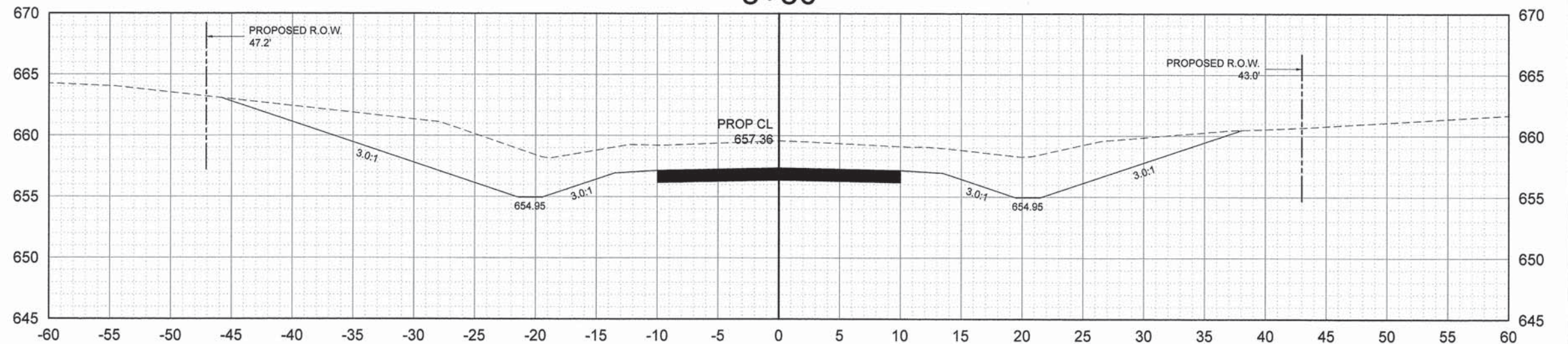
## SIDE ROAD 9+23



## 9+00



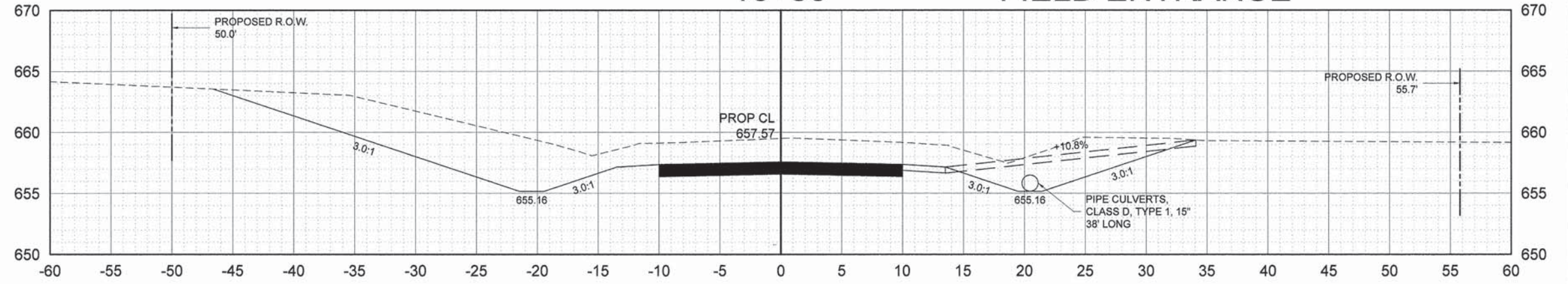
## 8+50



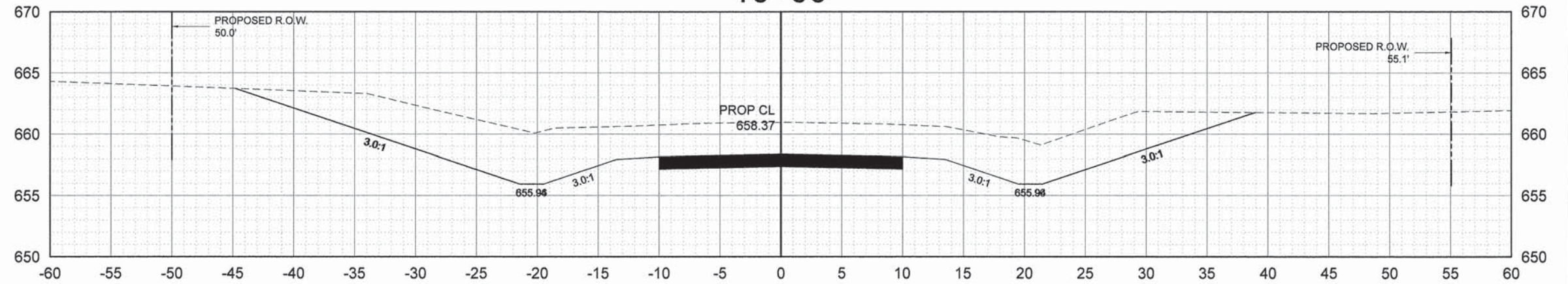
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	7
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

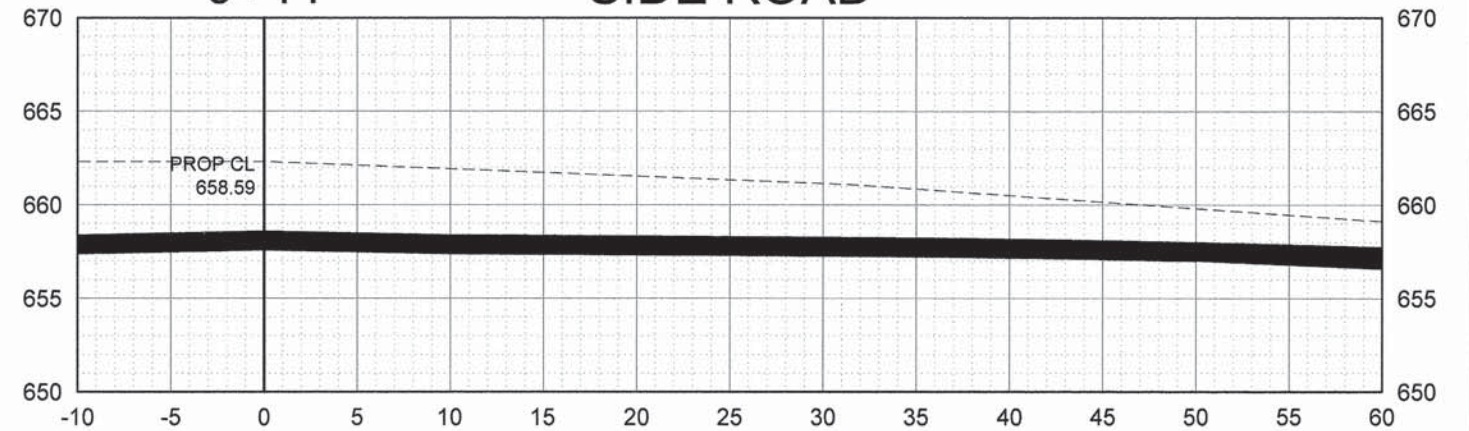
### 10+50 FIELD ENTRANCE



### 10+00



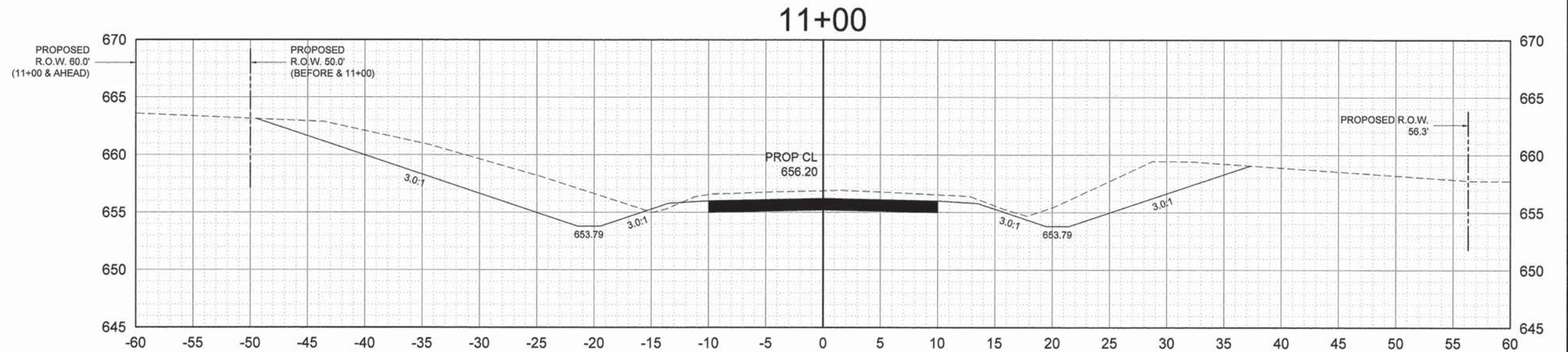
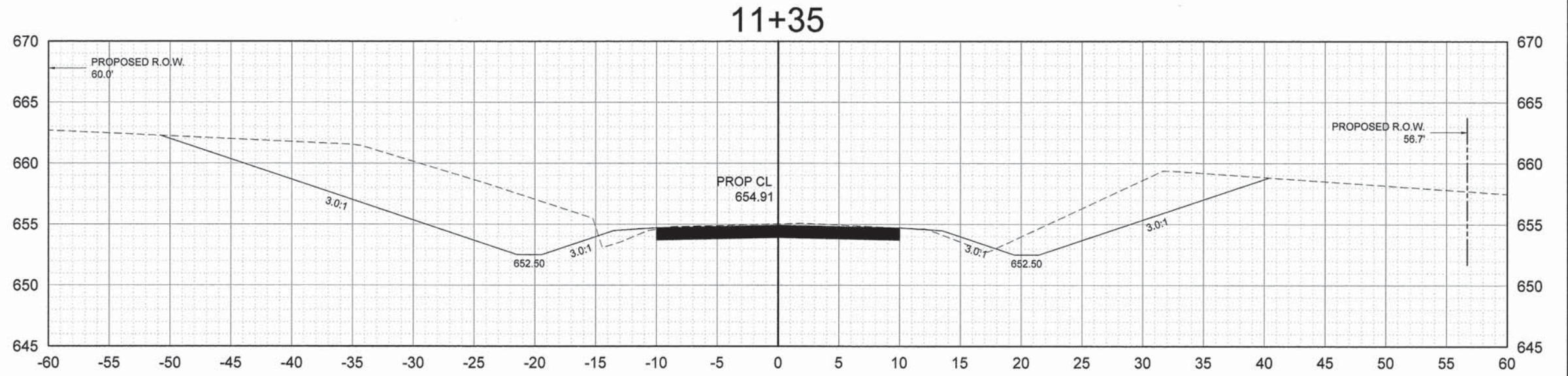
### 9+44 SIDE ROAD



CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	8
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

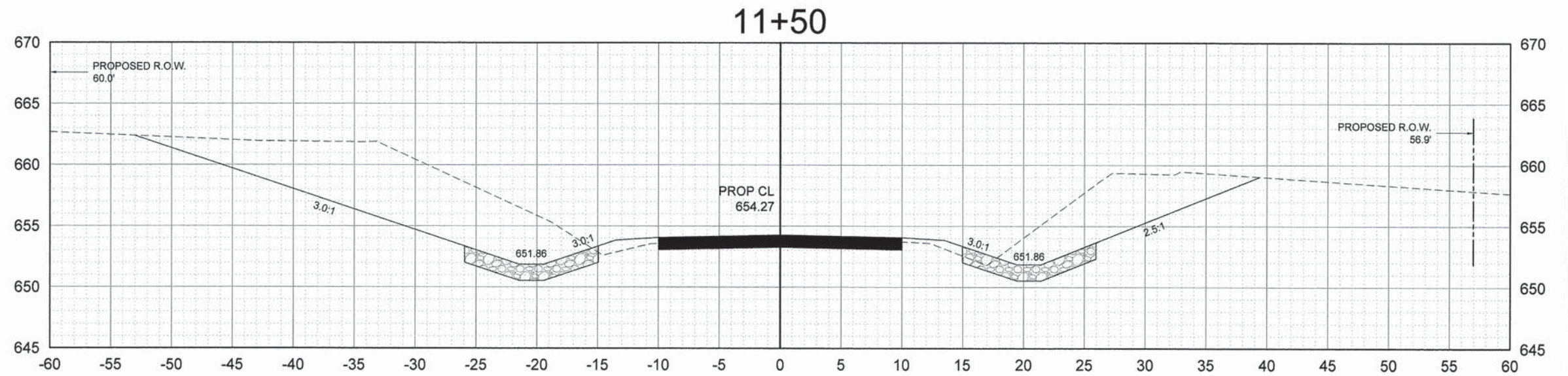
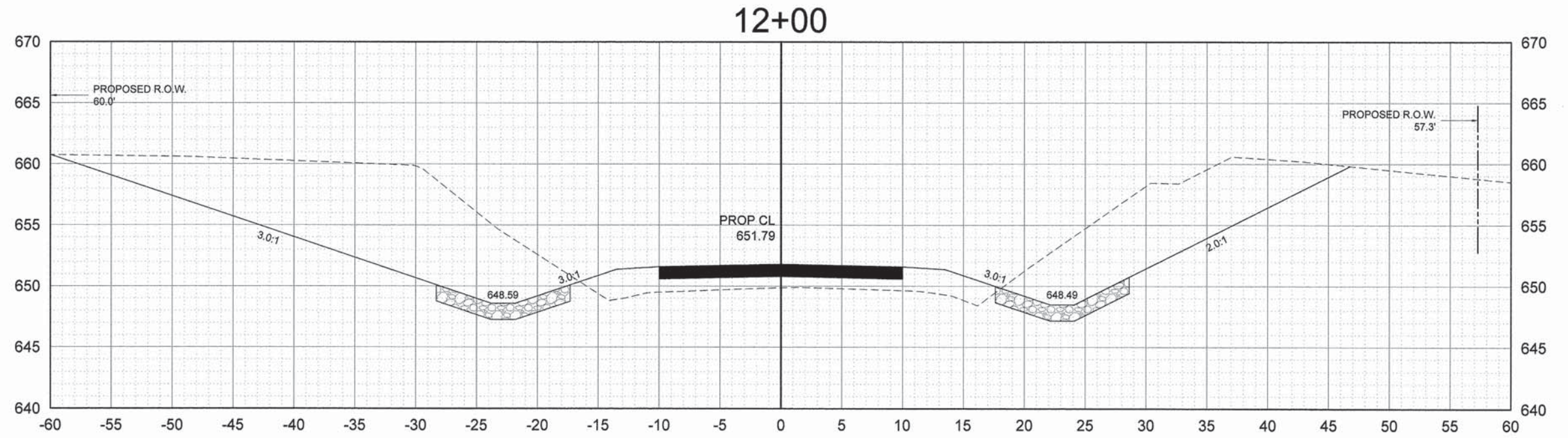




CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	9
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

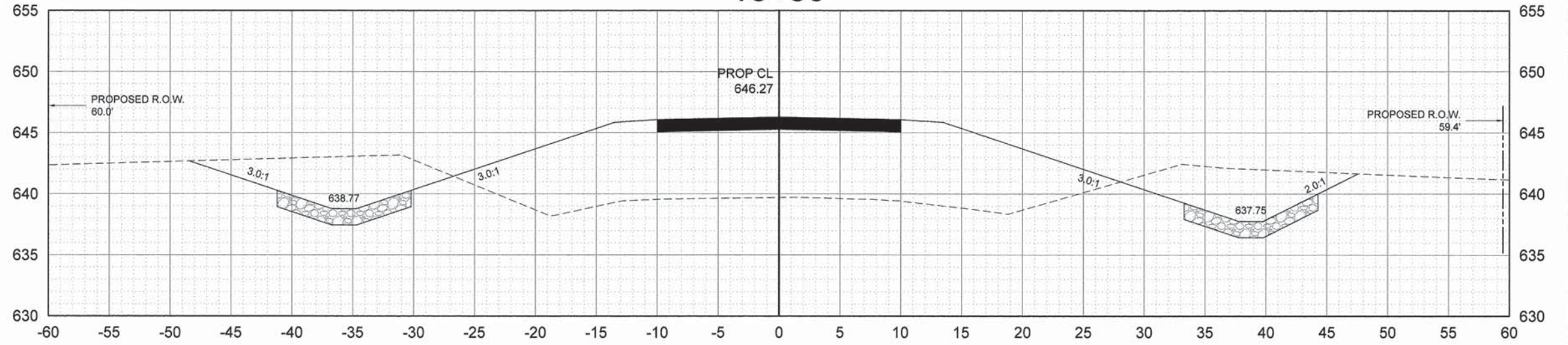


CONTRACT: 93594

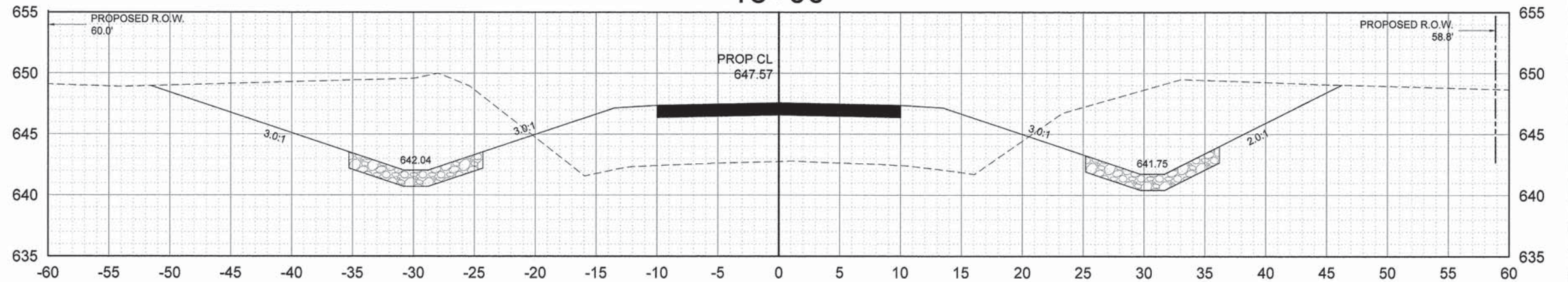
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	10
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758

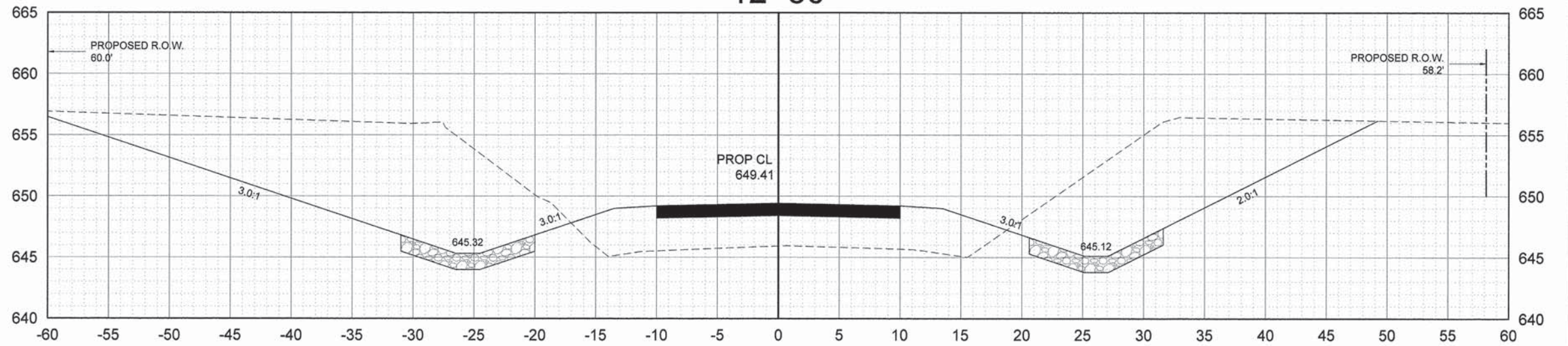
### 13+50



### 13+00

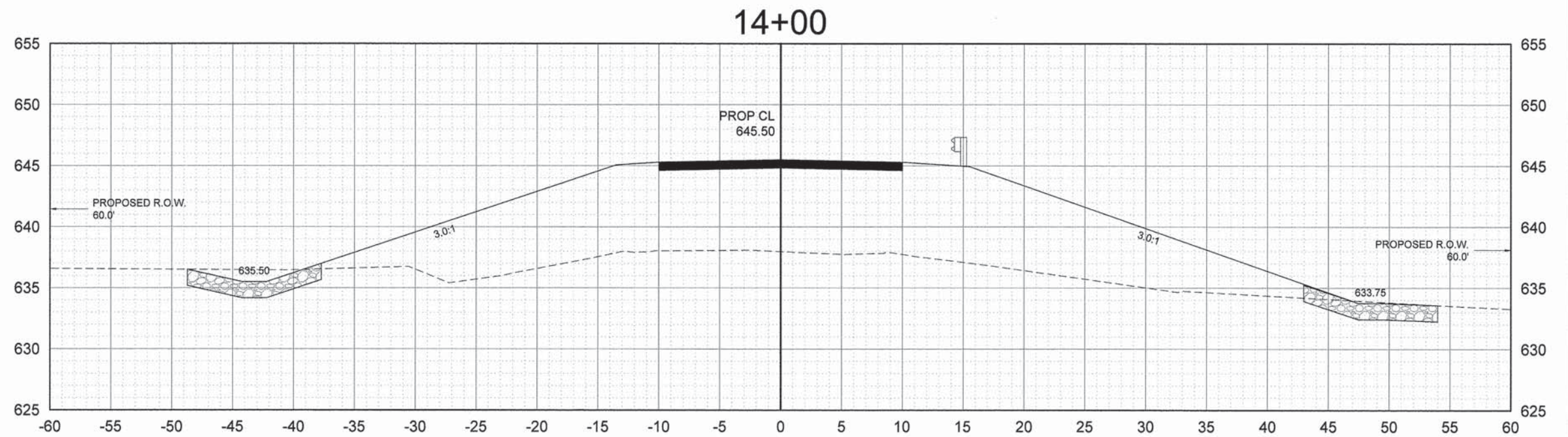
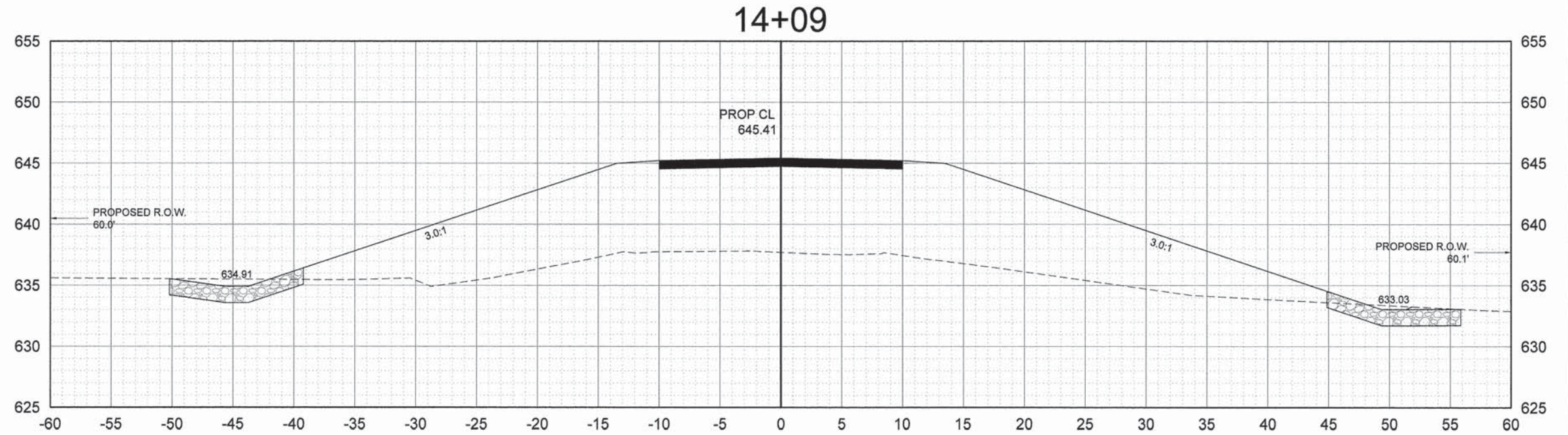


### 12+50



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	11
ROAD DISTRICT		ILLINOIS	DURHAM	

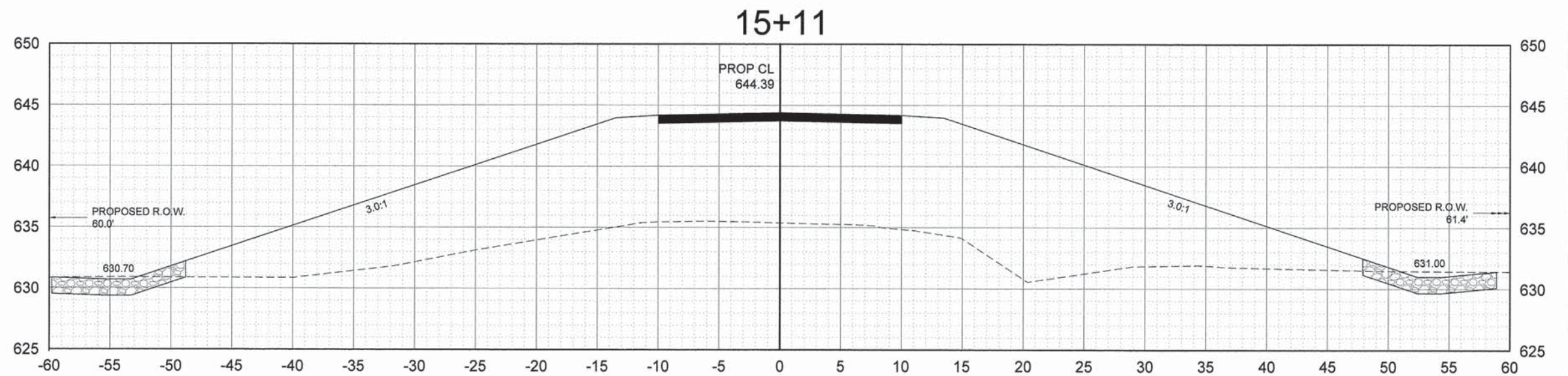
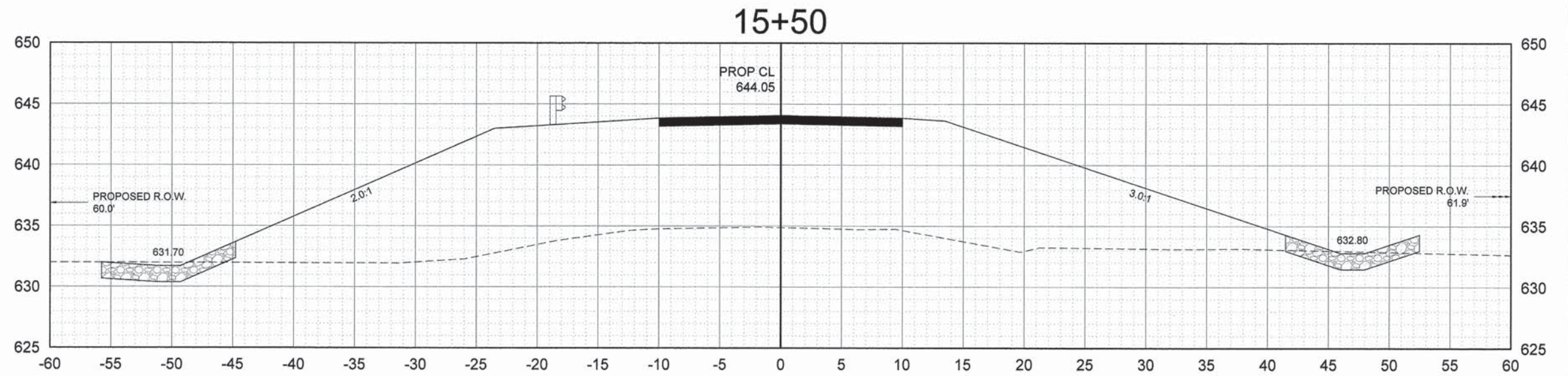
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
7+00	25	1	0	0	0	0
7+50	48	0	67	1	67	1
8+00	101	0	138	0	205	1
8+50	226	0	302	0	508	1
9+00	494	0	666	0	1174	1
9+23	568	0	452	0	1627	1
9+44	612	0	452	0	2079	1
10+00	253	1	897	1	2975	2
10+50	212	30	430	29	3405	31
11+00	157	29	341	55	3747	86
11+35	195	24	228	34	3974	120
11+50	218	21	115	12	4089	133
12+00	341	45	518	61	4607	194
12+50	385	96	672	131	5279	325
13+00	237	156	576	234	5855	559
13+50	104	273	316	398	6171	956
14+00	5	432	101	653	6273	1609
14+09	3	462	1	149	6274	1758



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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	12
ROAD DISTRICT		ILLINOIS	DURHAM	

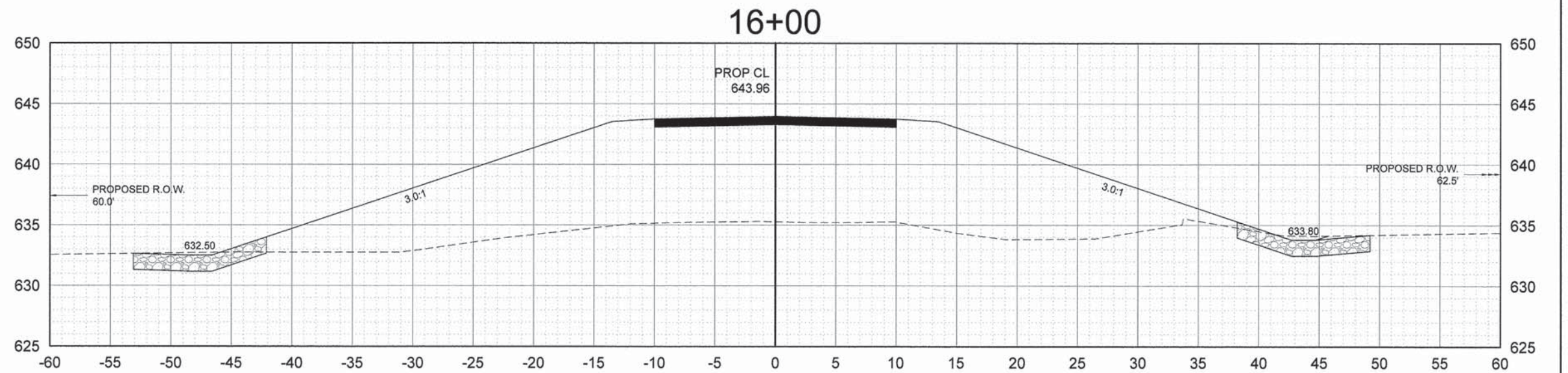
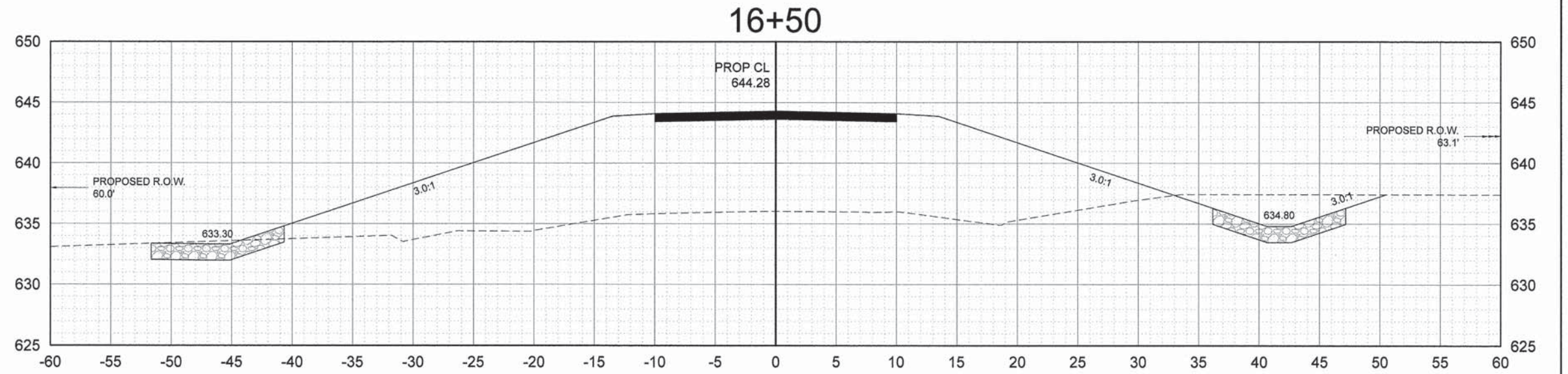
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200



CONTRACT: 93594

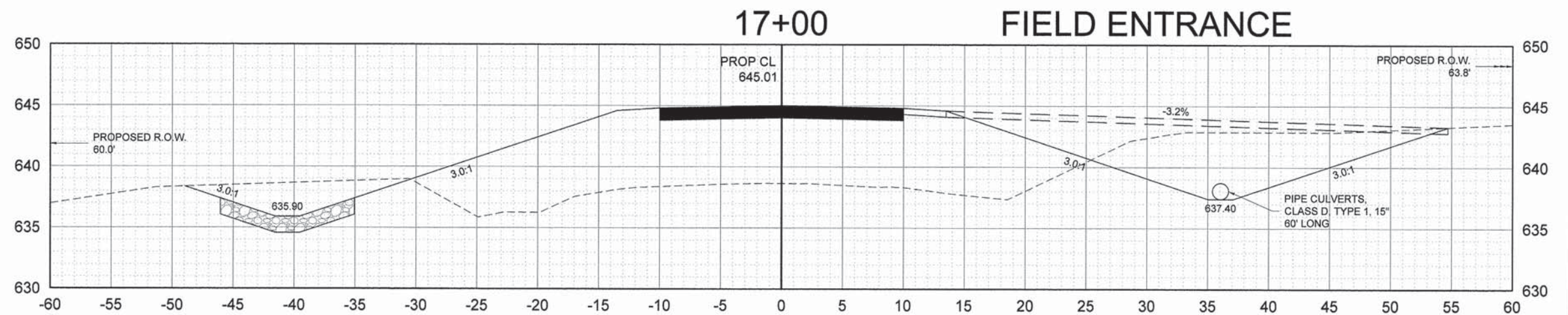
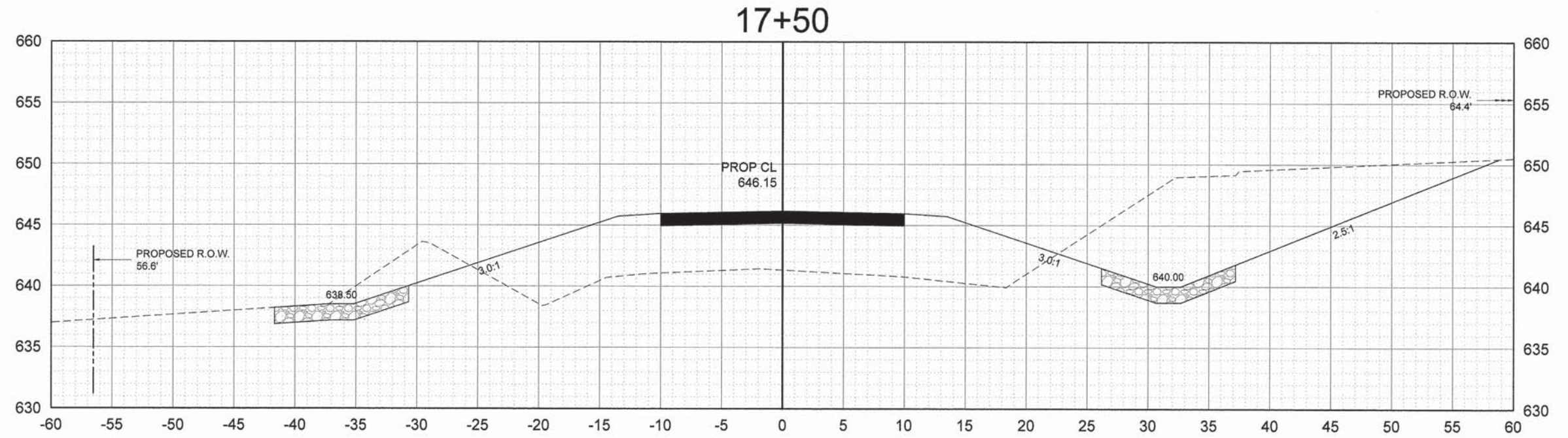
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	13
ROAD DISTRICT		ILLINOIS	DURHAM	

Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	14
ROAD DISTRICT		ILLINOIS	DURHAM	

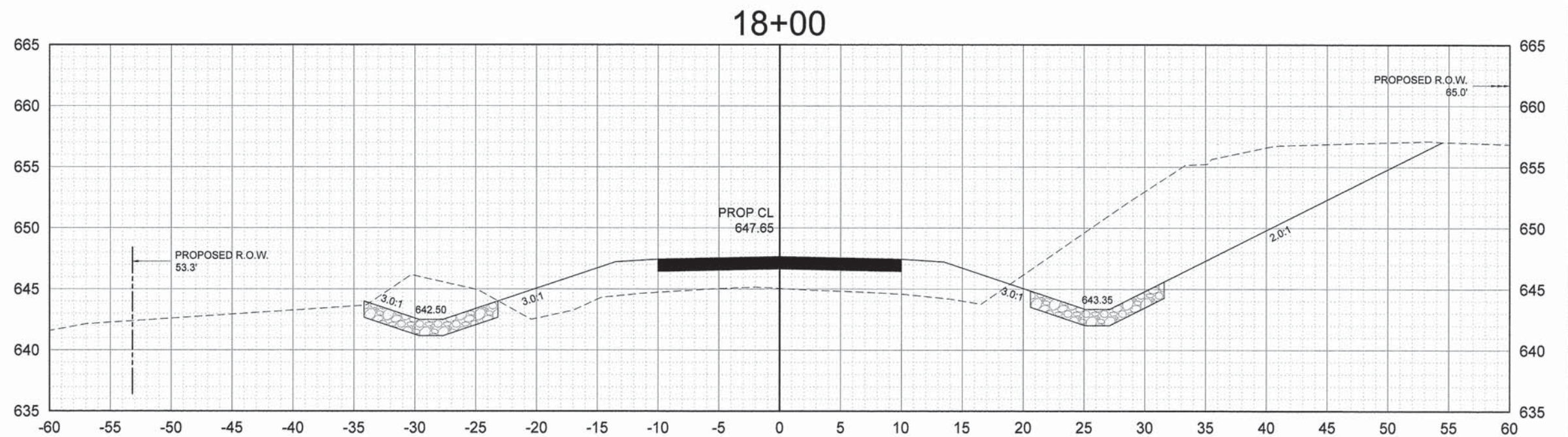
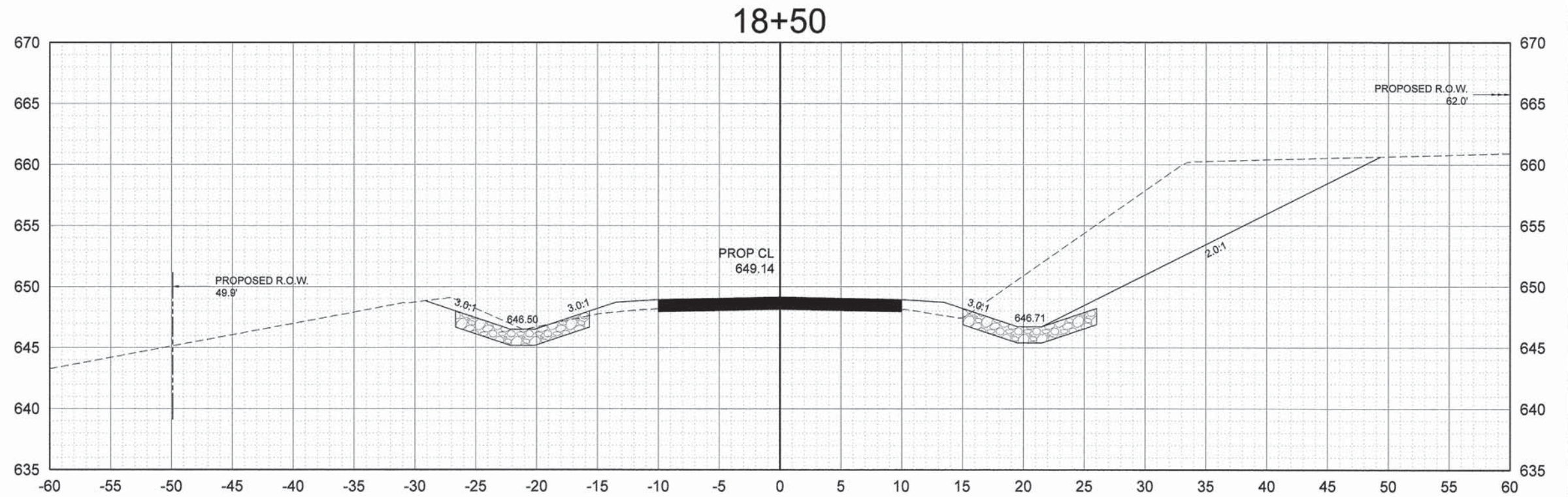
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200



CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	15
ROAD DISTRICT		ILLINOIS	DURHAM	

TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200

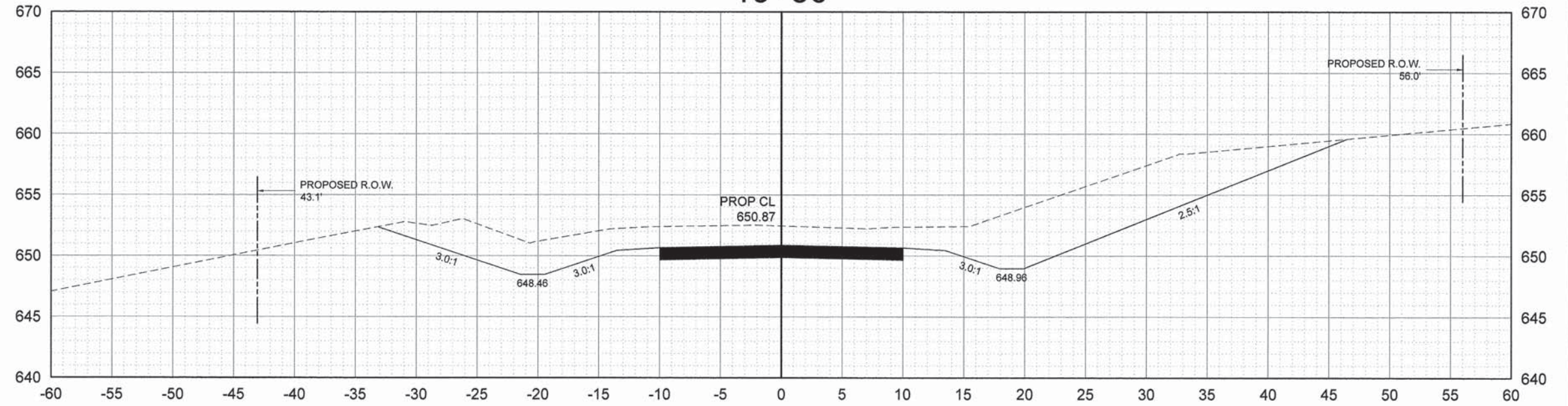


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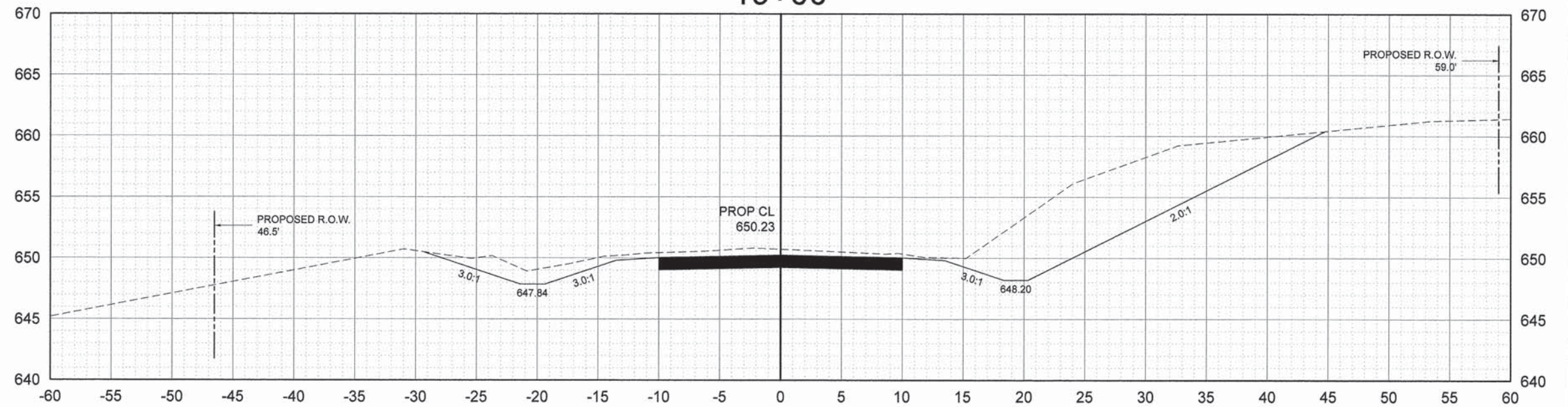
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	16
ROAD DISTRICT		ILLINOIS	DURHAM	

Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200

### 19+50



### 19+00

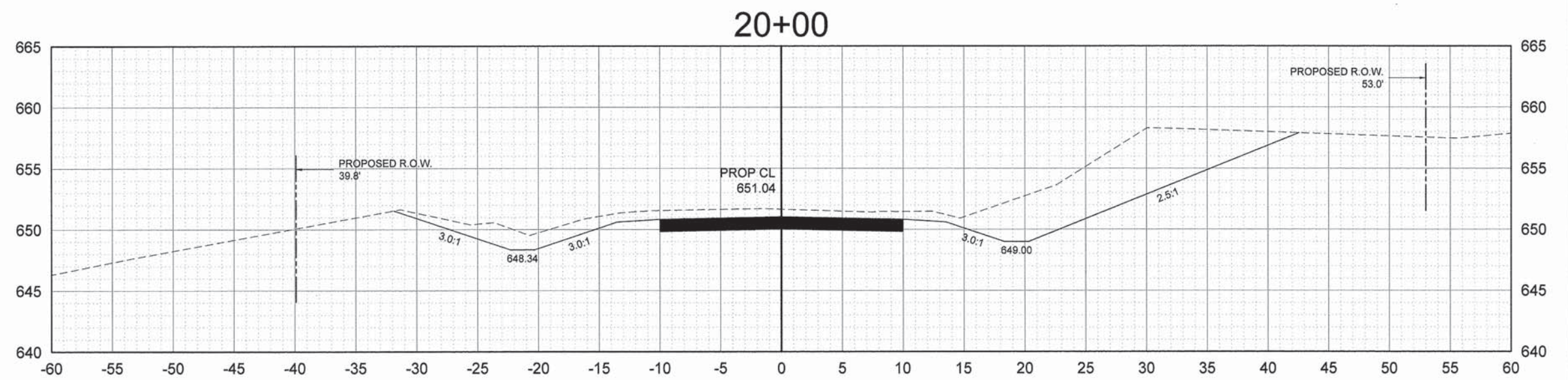
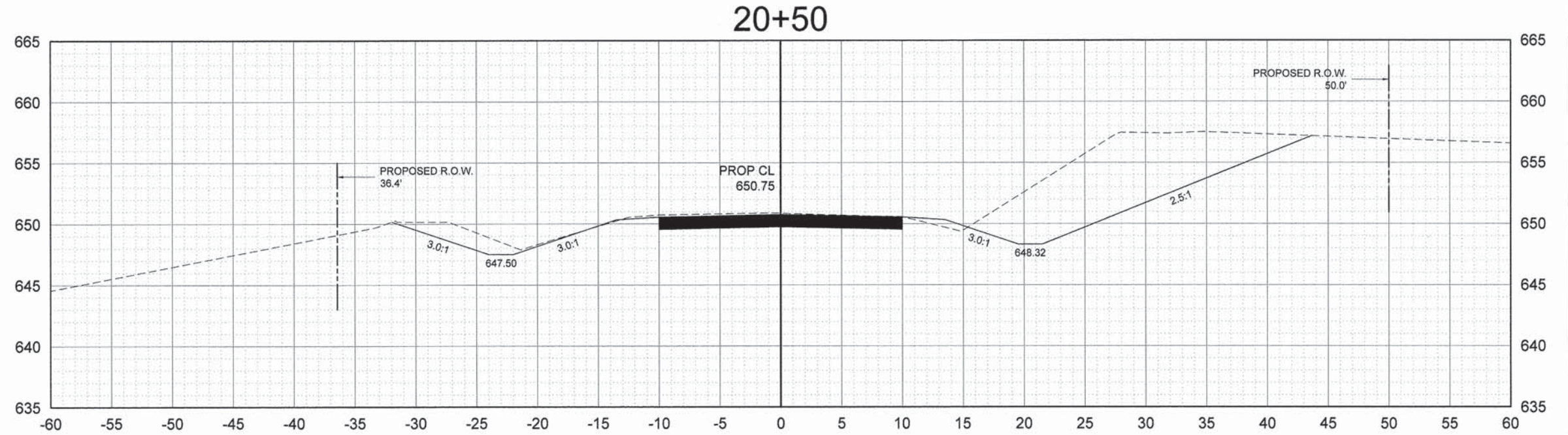




CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	17
ROAD DISTRICT		ILLINOIS	DURHAM	

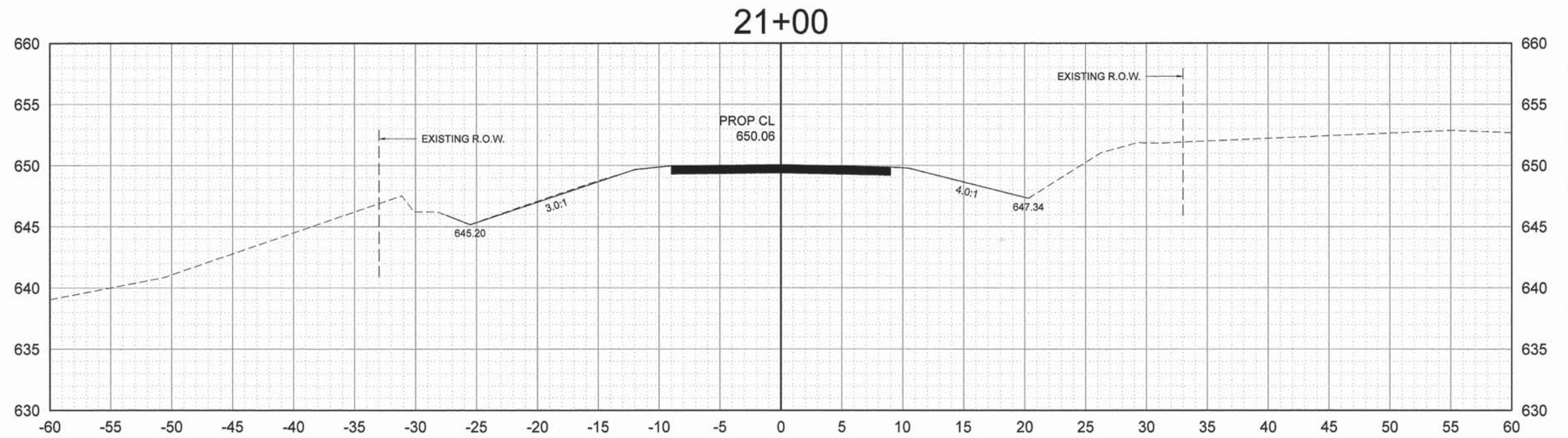
TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200



CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	18
ROAD DISTRICT		ILLINOIS	DURHAM	

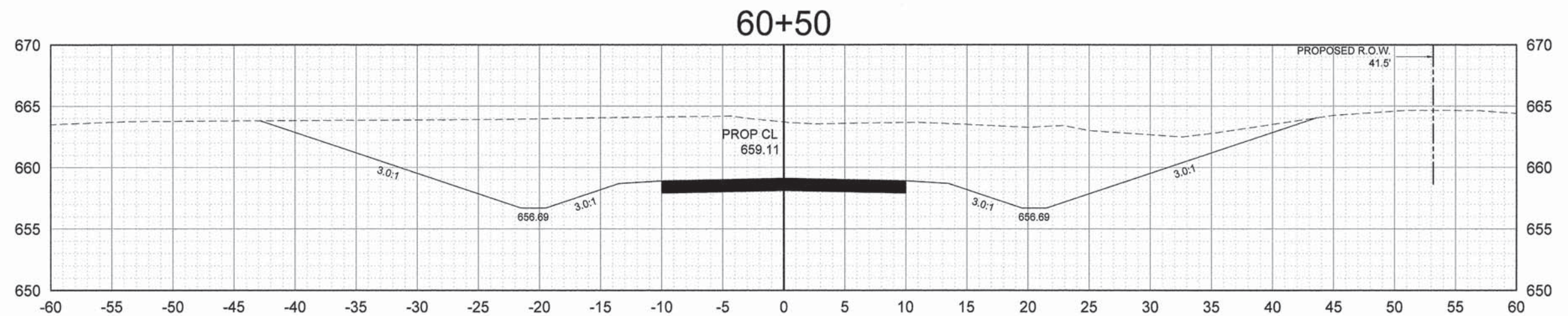
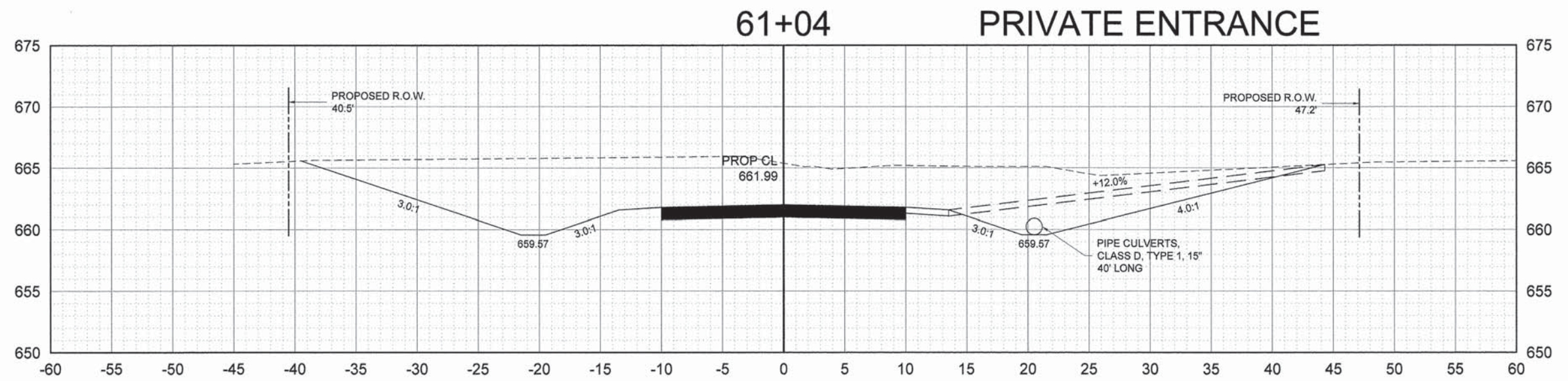
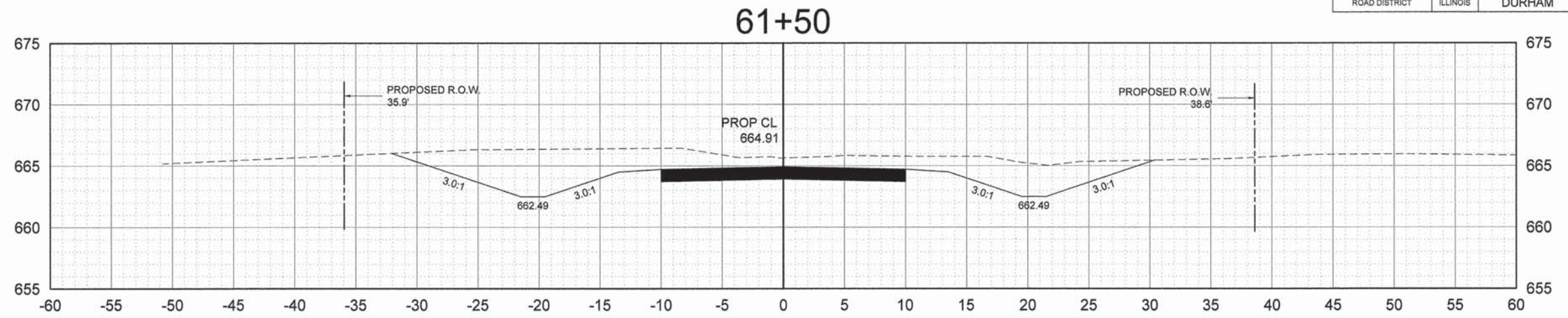
TOTAL VOLUME TABLE						
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
15+11	2	651	0	0	0	0
15+50	1	575	2	886	2	886
16+00	2	493	3	989	5	1875
16+50	27	431	26	855	31	2730
17+00	117	283	133	661	164	3391
17+50	189	198	283	446	447	3837
18+00	209	85	368	262	815	4099
18+50	165	10	346	88	1161	4187
19+00	162	0	303	9	1464	4196
19+50	219	0	353	0	1817	4196
20+00	148	0	340	0	2158	4196
20+50	142	2	268	2	2426	4198
21+00	19	0	149	2	2575	4200



CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	19
ROAD DISTRICT		ILLINOIS	DURHAM	

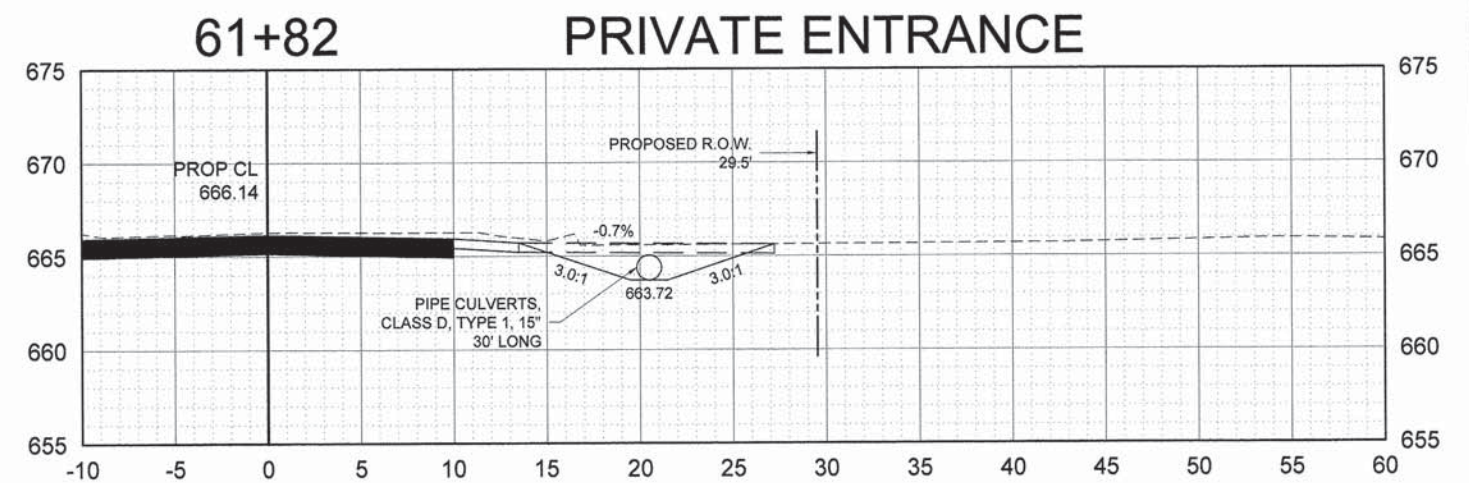
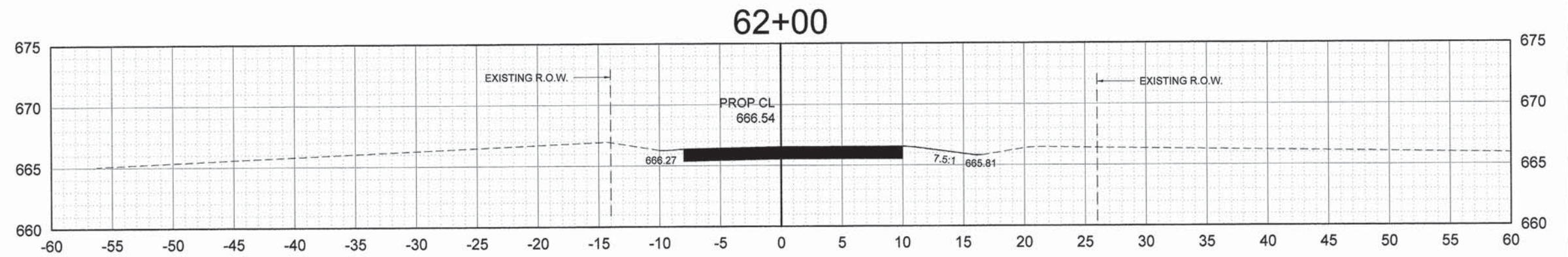
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
60+50	390	0	0	0	0	0
61+04	311	0	701	0	701	0
61+50	128	0	376	0	1077	0
61+82	72	0	118	0	1194	0
62+00	18	0	29	0	1224	0



CONTRACT: 93594

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	20
ROAD DISTRICT		ILLINOIS	DURHAM	

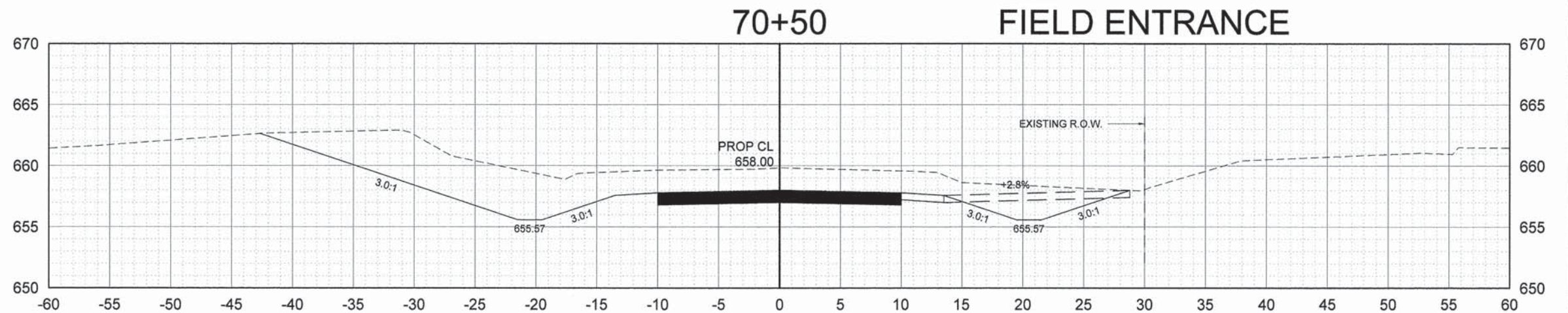
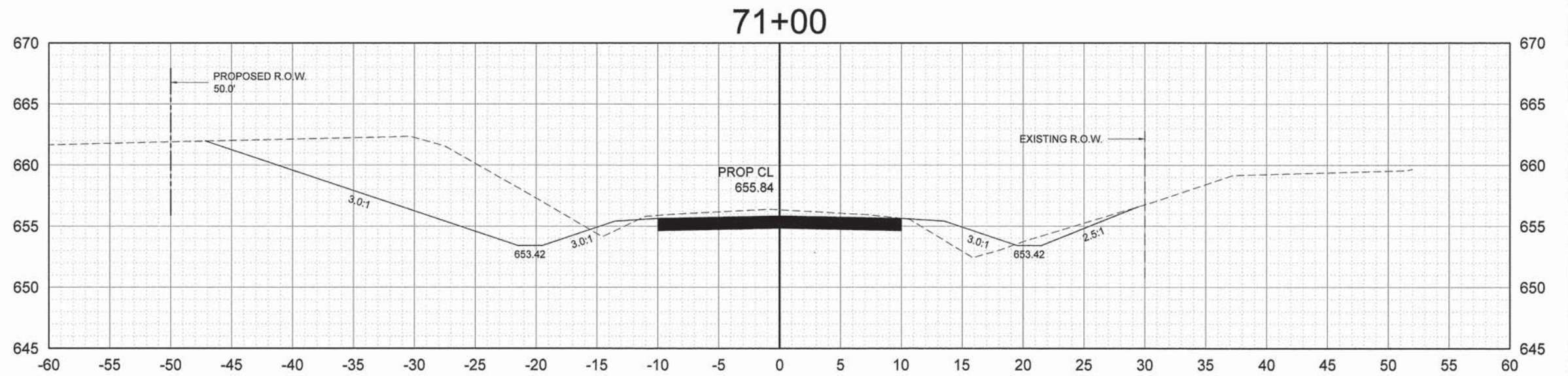
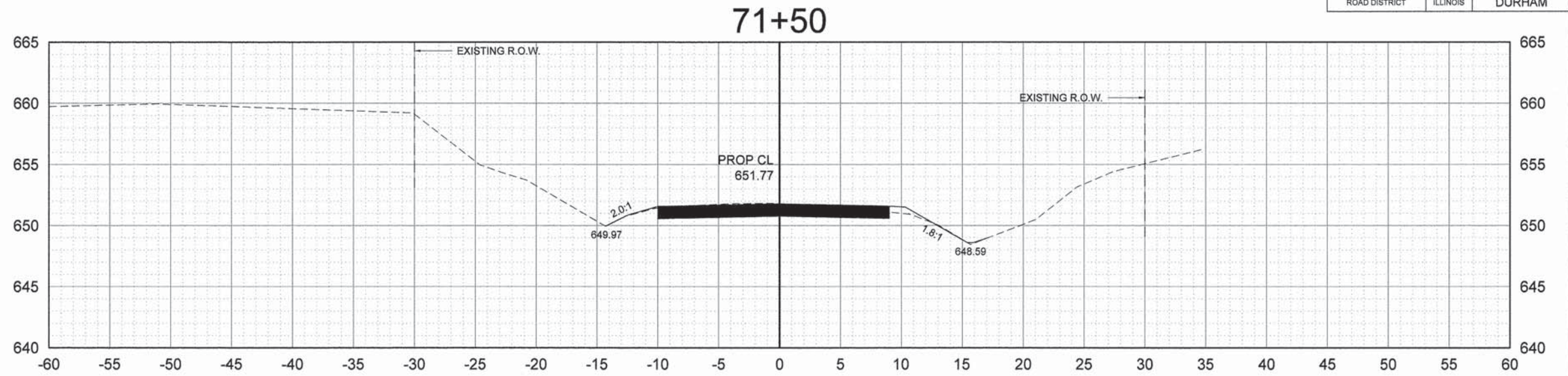
Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
60+50	390	0	0	0	0	0
61+04	311	0	701	0	701	0
61+50	128	0	376	0	1077	0
61+82	72	0	118	0	1194	0
62+00	18	0	29	0	1224	0



CONTRACT: 93594

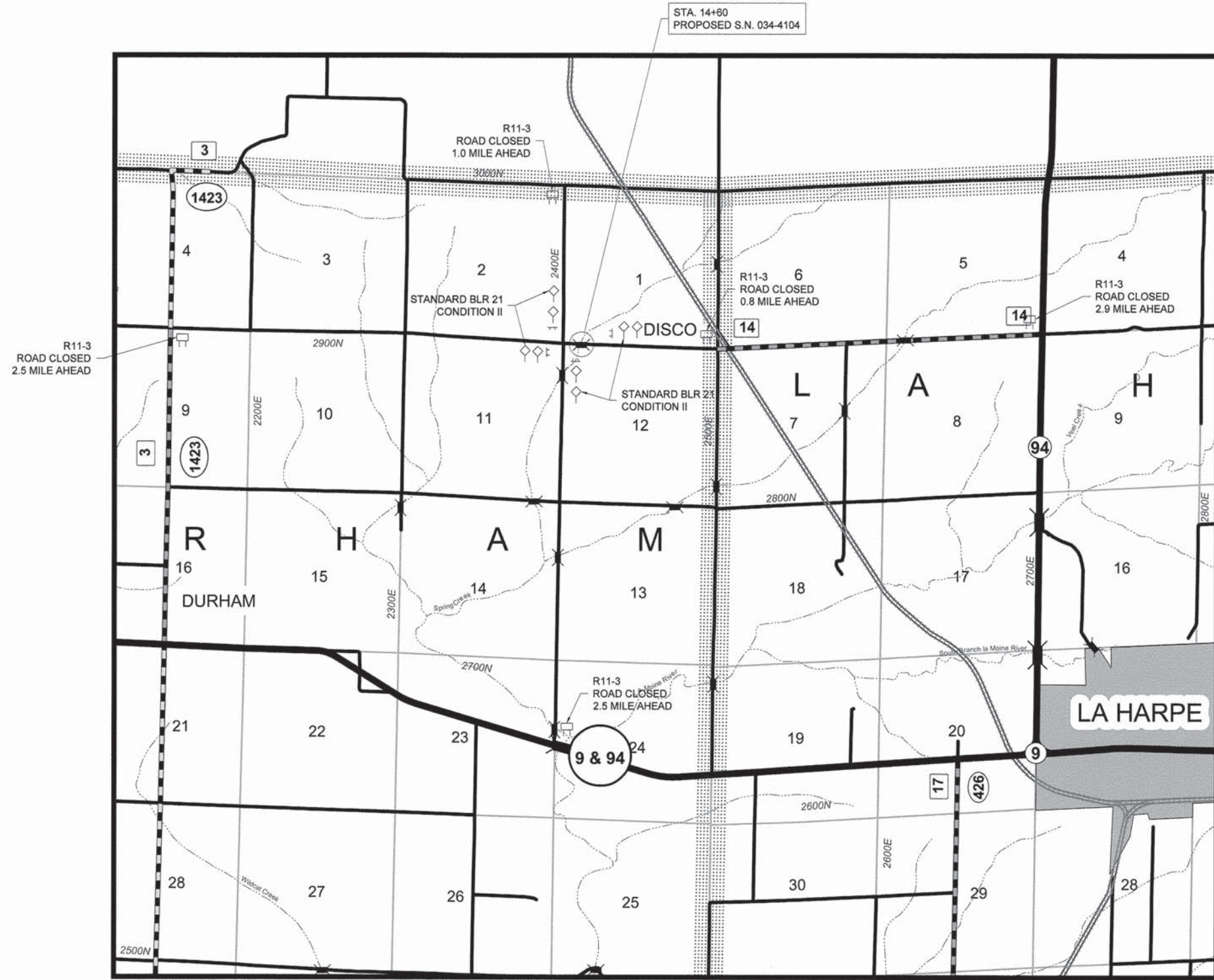
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	21
ROAD DISTRICT		ILLINOIS	DURHAM	

Station	Cut Area	Fill Area	Cut Vol	Fill Vol	Cum Cut Vol	Cum Fill Vol
70+50	182	0	0	0	0	0
71+00	148	13	305	12	305	12
71+50	17	1	153	13	458	25



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	22
ROAD DISTRICT		ILLINOIS	DURHAM	

CONTRACT: 93594



**GENERAL NOTES**

IN ORDER TO MINIMIZE THE INCONVENIENCE TO RESIDENTS NEAR THE INTERSECTION OF 2400E / 2900N, THE INTERSECTION MAY BE CLOSED TO COMPLETE EARTHWORK, GRADING OPERATIONS, AND INSTALL AGGREGATE BASE COURSE ON THE NORTH, WEST, AND SOUTH LEGS OF THE INTERSECTION FOR A MAXIMUM OF TEN CALENDER DAYS FOR ALL THREE LEGS. THE CONTRACTOR SHALL BE CHARGED LIQUIDATED DAMAGES AT THE SAME RATE SHOWN IN THE CONTRACT SPECIAL PROVISIONS FOR EACH CALENDER DAY AFTER THE 10th DAY THAT THE INTERSECTION REMAINS CLOSED.

TWO PERMANENT "HILL" SIGNS WITH 40 MPH PLACARDS ON THE APPROACHING EAST AND WEST ROADS TO BE INSTALLED BY OTHERS BEFORE THE ROAD IS OPEN TO TRAFFIC.

TWO STOP SIGNS AND A RURAL REFERENCE SIGN TO BE REMOVED AND RELOCATED BY OTHERS BEFORE THE ROAD IS OPEN TO TRAFFIC.

TRAFFIC CONTROL PLAN

**TRAFFIC CONTROL PLAN**  
 SECTION 04-07117-00-BR  
 DURHAM ROAD DISTRICT  
 HANCOCK COUNTY

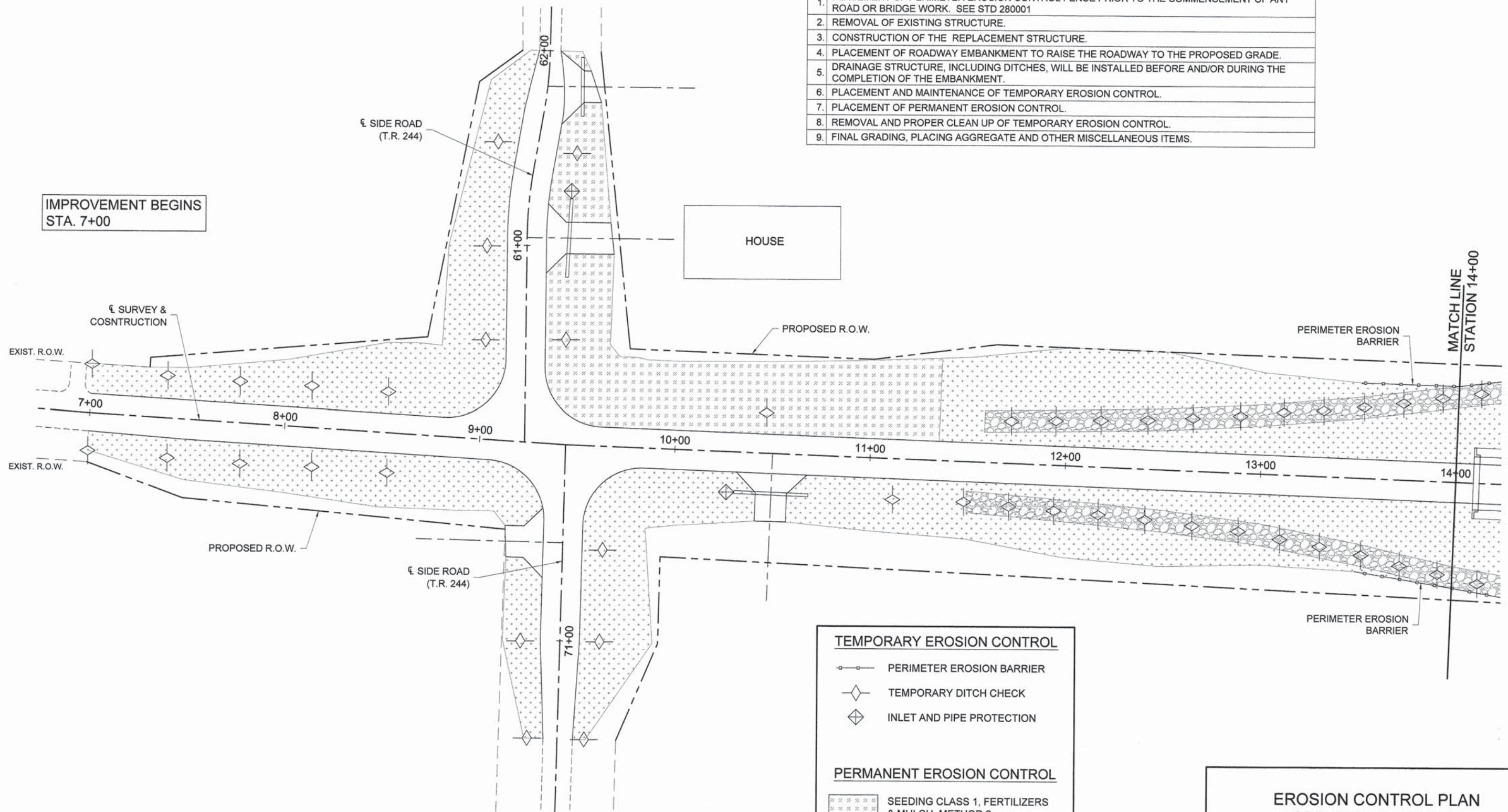
101 S. FIRST ST. (P.O. BOX 379) CARTHAGE, IL 62321 (217) 357-3155	<b>HANCOCK COUNTY</b> <b>HIGHWAY DEPARTMENT</b>
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	23
ROAD DISTRICT		ILLINOIS	DURHAM	

CONTRACT: 93594

**DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:**

1. PLACEMENT OF PERIMETER EROSION CONTROL FENCE PRIOR TO THE COMMENCEMENT OF ANY ROAD OR BRIDGE WORK. SEE STD 280001
2. REMOVAL OF EXISTING STRUCTURE.
3. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
4. PLACEMENT OF ROADWAY EMBANKMENT TO RAISE THE ROADWAY TO THE PROPOSED GRADE.
5. DRAINAGE STRUCTURE, INCLUDING DITCHES, WILL BE INSTALLED BEFORE AND/OR DURING THE COMPLETION OF THE EMBANKMENT.
6. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
7. PLACEMENT OF PERMANENT EROSION CONTROL.
8. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
9. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.



IMPROVEMENT BEGINS STA. 7+00

- TEMPORARY EROSION CONTROL**
- PERIMETER EROSION BARRIER
  - ◇ TEMPORARY DITCH CHECK
  - ◇ INLET AND PIPE PROTECTION
- PERMANENT EROSION CONTROL**
- SEEDING CLASS 1, FERTILIZERS & MULCH, METHOD 2
  - SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2
  - STONE DUMPED RIPRAP, CLASS A4

**EROSION CONTROL PLAN**  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

101 S. FIRST ST. (P.O. BOX 379)  
CARTHAGE, IL 62321  
(217) 357-3155

**HANCOCK COUNTY**  
HIGHWAY DEPARTMENT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	24
ROAD DISTRICT		ILLINOIS	DURHAM	

CONTRACT: 93594

**STONE DUMPED RIPRAP, CLASS A4**

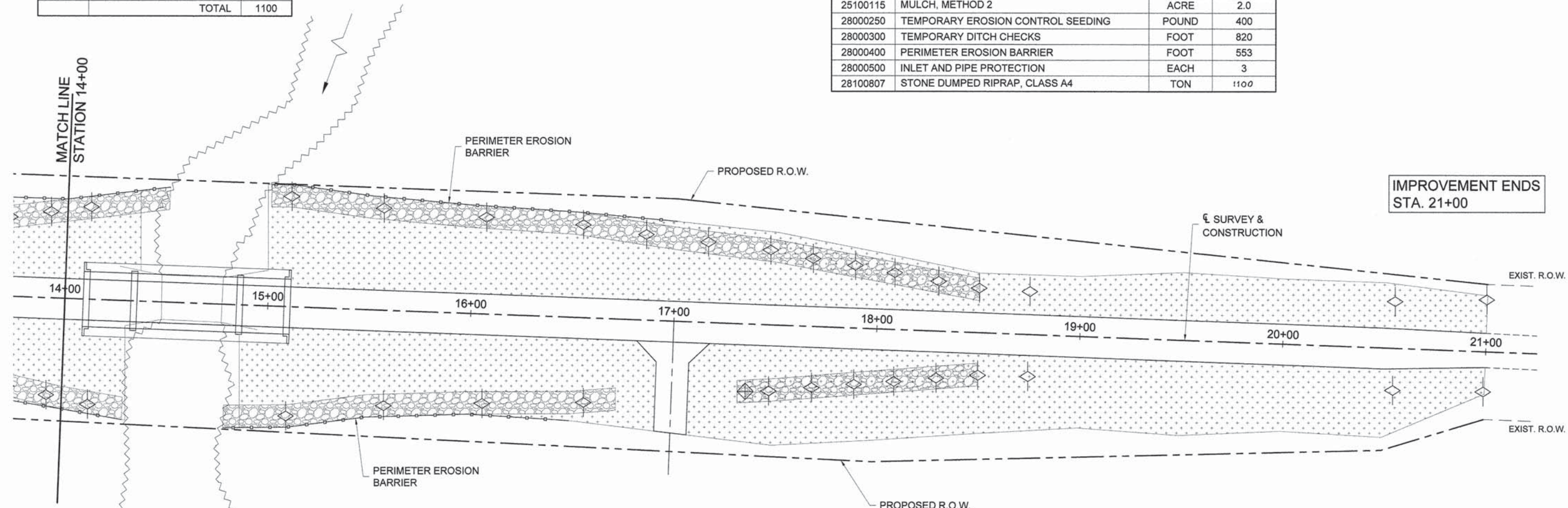
SIDE	LOCATION	TON
LT.	STA. 11+60 TO STA. 14+50	260
RT.	STA. 11+50 TO STA. 14+30	250
LT.	STA. 15+00 TO STA. 18+50	313
RT.	STA. 14+80 TO STA. 16+70	170
RT.	STA. 17+30 TO STA. 18+50	107
TOTAL		1100

**INLET AND PIPE PROTECTION**

SIDE	STATION
RT.	10+31
RT.	17+30
RT.	60+84

**BILL OF MATERIAL**

CODE	ITEM	UNIT	QUANTITY
25000100	SEEDING, CLASS 1	ACRE	0.2
25000200	SEEDING, CLASS 2	ACRE	1.8
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	180
25000500	PHOSPHOROUS FERTILIZER NUTRIENT	POUND	180
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	180
25000700	AGRICULTURE GROUND LIMESTONE	TON	4.0
25100115	MULCH, METHOD 2	ACRE	2.0
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	400
28000300	TEMPORARY DITCH CHECKS	FOOT	820
28000400	PERIMETER EROSION BARRIER	FOOT	553
28000500	INLET AND PIPE PROTECTION	EACH	3
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	1100



IMPROVEMENT ENDS STA. 21+00

**TEMPORARY DITCH CHECKS (LT. & RT.)**

STATION		
7+00	13+12	17+89
7+41	13+32	18+09
7+78	13+53	18+30
8+16	13+73	18+50
8+54	13+93	18+75
10+49	14+13	20+55
11+12	15+10	21+00
11+50	15+60	60+50
11+73	16+09	61+00
11+96	16+57	61+50
12+19	16+88	70+50
12+43	17+18	71+00
12+66	17+48	71+50
12+90	17+69	
41 LOCATIONS X 20 FT. = 820 FT.		

**PERIMETER EROSION BARRIER**

SIDE	LOCATION	FOOT
LT.	STA. 13+50 TO STA. 14+50	101
RT.	STA. 13+50 TO STA. 14+30	81
LT.	STA. 15+00 TO STA. 17+00	200
RT.	STA. 14+80 TO STA. 16+50	171
TOTAL		553

**TEMPORARY EROSION CONTROL**

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

**PERMANENT EROSION CONTROL**

- SEEDING CLASS 1, FERTILIZERS & MULCH, METHOD 2
- SEEDING CLASS 2, FERTILIZERS & MULCH, METHOD 2
- STONE DUMPED RIPRAP, CLASS A4

**EROSION CONTROL PLAN**  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

101 S. FIRST ST. (P.O. BOX 379)  
CARTHAGE, IL 62321  
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**HANCOCK COUNTY**  
HIGHWAY DEPARTMENT



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	25
ROAD DISTRICT		ILLINOIS	DURHAM	

SHEET NO. 1 OF 8 SHEETS  
93594

**GENERAL NOTES**

- SEE SPECIAL PROVISIONS FOR BORING LOGS.
- WATERPROOFING MEMBRANE SYSTEM SHALL BE REQUIRED ON THIS PROJECT.
- ALL GROUT ON THIS PROJECT SHALL BE NON-SHRINK.
- STONE RIPRAP SHALL BE PLACED TO THE DIMENSIONS SHOWN OVER A GEOTECHNICAL FABRIC IN ACCORDANCE WITH THE RIPRAP PLACEMENT DETAIL AND APPLICABLE SPECIAL PROVISIONS.
- THE ENGINEER RESERVES THE RIGHT TO ALTER THE RIPRAP PLACEMENT DETAIL AND/OR ADJUST QUANTITIES TO FIT FIELD CONDITIONS.
- REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706, GRADE 60.
- CALCIUM NITRITE CORROSION INHIBITOR WILL BE REQUIRED ON THIS PROJECT.
- REINFORCEMENT BARS DESIGNATED (E) TO BE EPOXY COATED

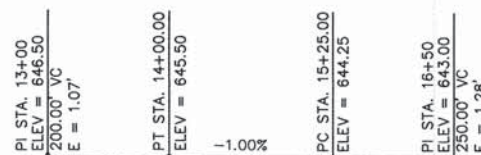
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUBSTRUCTURE		TOTAL
			PIER	ABUT.	
CHANNEL EXCAVATION	CU. YD.		342		342
STONE RIPRAP, CLASS A4	TON			308	308
FILTER FABRIC	SQ. YD.			420	420
HOT-MIX ASPHALT SURFACE CSE., MIX "C", N50	TON	39			39
REMOVAL OF EXISTING STRUCTURES	EACH				1
CONCRETE STRUCTURES	CU. YD.		16.4	26.4	42.8
P.P. CONCRETE DECK BEAMS 21" DEPTH	SQ. FT.	2,700			2,700
REINFORCEMENT BARS, EPOXY COATED	POUND		1,320	2,980	4,300
STEEL RAILING, TYPE S1	FOOT	201			201
FURNISHING STEEL PILES HP10x42	FOOT		516	294	810
DRIVING PILES	FOOT		516	294	810
TEST PILE STEEL HP10x42	EACH			1	1
CONCRETE ENCASEMENT	CU. YD.		13.4	1.6	15.0
NAME PLATES	EACH				1
WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	301			301

EXISTING STRUCTURE - SINGLE SPAN STEEL I-BEAM WITH CONCRETE DECK, 21' WIDE X 30' LONG  
APPROX. QTYS:  
16 CY REINFORCED CONCRETE  
8 TONS STRUCTURAL STEEL

SALVAGE - NONE

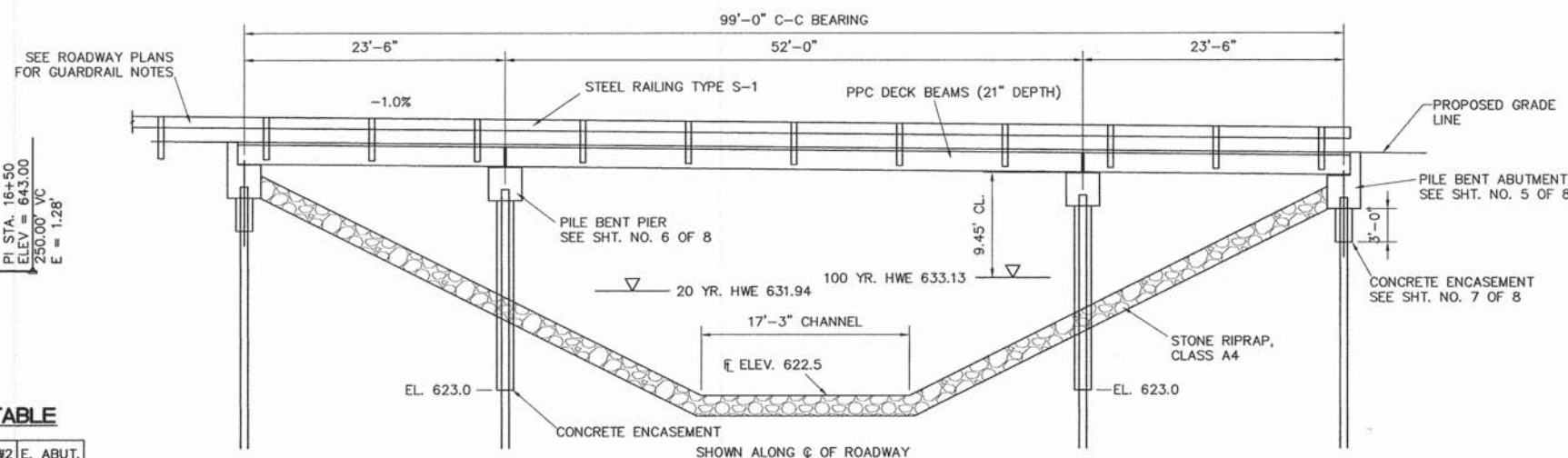
BM #2 - NAIL IN POWER POLE  
STA. 16+26, 34' RT.  
ELEV.=637.00



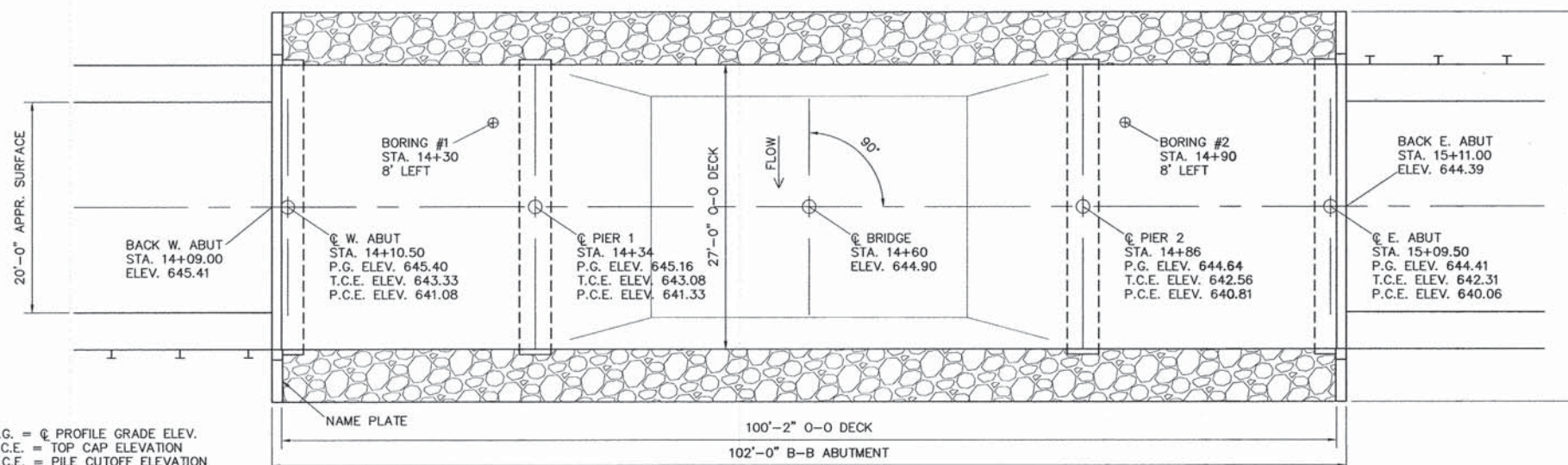
**PROFILE**

**DESIGN SCOUR ELEVATION TABLE**

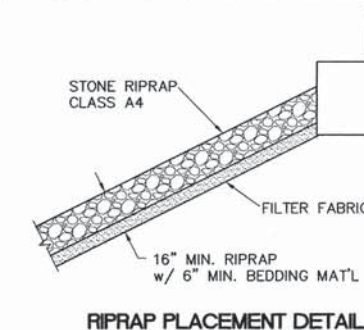
DESIGN SCOUR ELEVATION (FT.)	W. ABUT	BENT #1	BENT #2	E. ABUT.
	642.00	623.00	623.00	635.70



**ELEVATION**



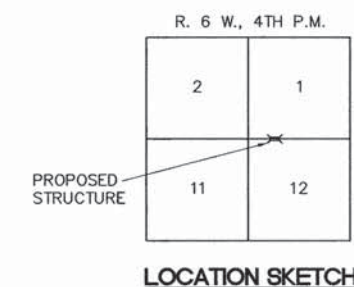
**PLAN**



**RIPRAP PLACEMENT DETAIL**

**INDEX OF SHEETS**

- GENERAL PLAN AND ELEVATION
- PPC DECK BEAM SUPERSTRUCTURE
- 21"x36" PPC DECK BEAM
- 21"x36" PPC DECK BEAM DETAILS
- ABUTMENT DETAILS
- PIER DETAILS
- HP PILE DETAILS
- STEEL RAILING, TYPE S-1



**LOCATION SKETCH**

TRIBUTARY TO SPRING CREEK  
BUILT 20\_\_\_\_ BY  
HANCOCK COUNTY  
SECTION 04-07117-00-BR  
PROJECT BROS-0067 (146)  
STATION 14+60  
STR. NO. 034-4104 LOADING HL-93

**LETTERING FOR NAME PLATE**  
LOCATE NAME PLATE AT SOUTHWEST WING OF BRIDGE (SEE STD. 515001)



I Certify That to the Best of my Knowledge, Information and Belief, the Revised Standard Detail Sheets and/or Special Component Sheets Included with the Standard Bridge Detail Sheets are Structurally Adequate for the Design Loading Shown on the Plans and Comply with the Requirements of the Current AASHTO Standard Specifications for Highway Bridges.

*D.S. Poland* 7-19-12  
David S. Poland  
Licensed Structural Engineer  
State of Illinois No. 81-005124  
expires 11/30/2012

I Certify That to the Best of my Knowledge, Information and Belief, the Bridge Plans and, if Included, Revised or Special Non-Standard Detail Sheets Incorporated with the Standard Plans are Structurally Adequate for the Seismic Design Loadings Shown on the Plans and Specified by the Current AASHTO Standard Specifications for Highway Bridges.

*D.S. Poland* 7-19-12  
David S. Poland  
Licensed Structural Engineer  
State of Illinois No. 81-005124  
expires 11/30/2012

**DESIGN SPECIFICATIONS**

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - 6th ED. WITH 2012 INTERIMS.

THIS DESIGN COMPLIES WITH ALL REQUIREMENTS OF THE CURRENT AASHTO GUIDE SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES

**SEISMIC DATA**

SEISMIC PERFORMANCE ZONE (SPZ) = 1  
DESIGN SPECTRAL ACCELERATION AT 1.0 SEC. = 0.045  
DESIGN SPECTRAL ACCELERATION AT 0.2 SEC = 0.10  
SOIL SITE CLASS = C

**LOADING HL-93**

ALLOW 50#/SQ.FT. FOR FUTURE WEARING SURFACE

**DESIGN STRESSES**

(PRESTRESSED UNITS) (FIELD UNITS)  
f<sub>ci</sub> = 5.0 KSI f<sub>c</sub> = 3.5 KSI  
f<sub>c</sub> = 6.0 KSI f<sub>y</sub> = 60 KSI  
f<sub>y</sub> = 60 KSI

**PILE DATA (2 ABUTMENTS)**

TYPE HP 10x42 PILE  
NOMINAL REQUIRED BEARING 160 kips  
ALLOWABLE RESISTANCE AVAIL. 88 kips  
ESTIMATED LENGTH W. ABUT. - 42 FEET  
E. ABUT. - 42 FEET  
NUMBER REQUIRED- 8 (INCLUDES 1 TEST PILE IN E. ABUT.)

THE TEST PILE(S) SHALL BE DRIVEN TO 110% OF THE NOMINAL REQUIRED BEARING INDICATED IN THE PILE INFORMATION DATA.

**PILE DATA (2 PIERS)**

TYPE HP 10x42 PILE  
NOMINAL REQUIRED BEARING 238 kips  
ALLOWABLE RESISTANCE AVAIL. 131 kips  
ESTIMATED LENGTH BENT #1- 43 FEET  
BENT #2- 43 FEET  
NUMBER REQUIRED- 12

**WATERWAY INFORMATION**

FLOOD	FREQUENCY (YEAR)	FLOOD VOLUME (CFS)	OPENING SQ. FT.		NATURAL H.W.E.	HEAD - FT.		HEADWATER ELEV.	
			EXISTING	PROPOSED		EXISTING	PROPOSED	EXISTING	PROPOSED
DESIGN	20	1,073	190	241	631.94	0.15	0.03	632.09	631.97
BASE	100	1,652	218	300	633.13	0.40	0.13	633.53	633.26
OVERTOPPING									
MAX. CALC	500	2,222	229	334	633.88	0.73	0.27	634.61	634.15

THE 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 ENGINEER CIRCULAR 18 - EVALUATING SCOUR AT BRIDGES.

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www.psba.com email: psba@psba.com

**GENERAL PLAN AND ELEVATION**  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

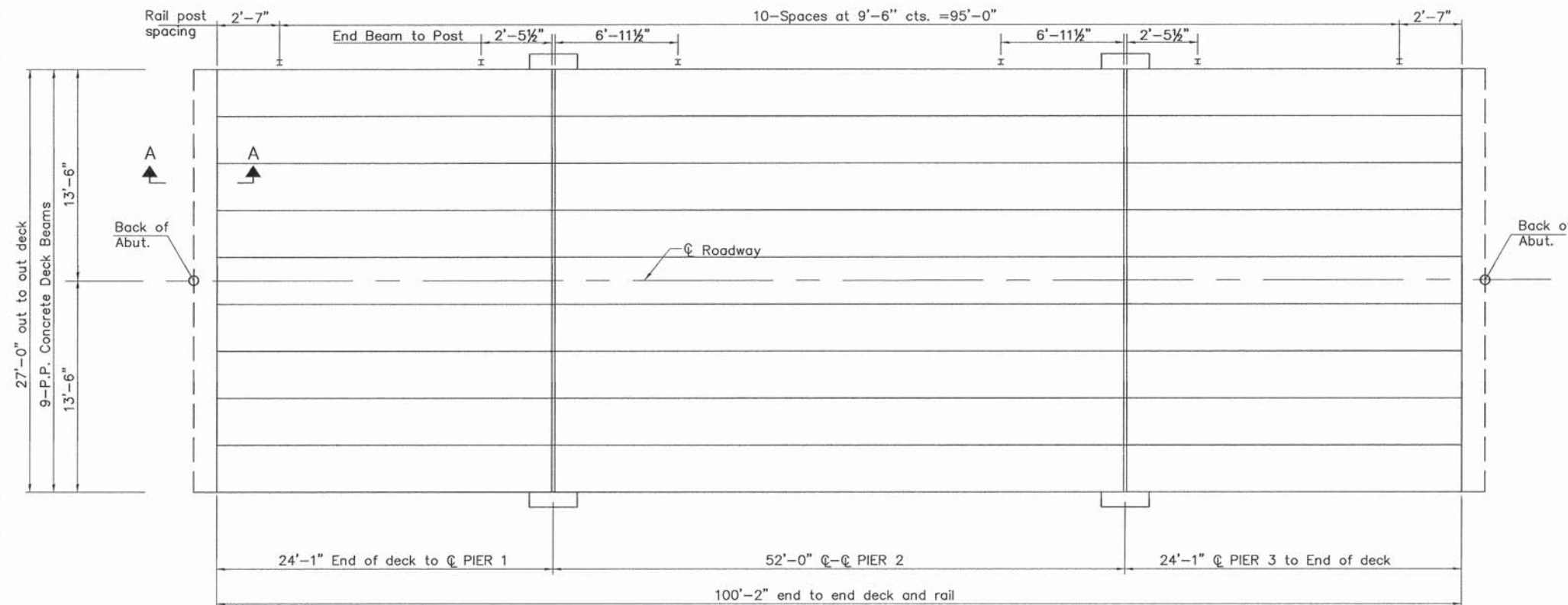
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HANCOCK COUNTY  
HIGHWAY DEPARTMENT

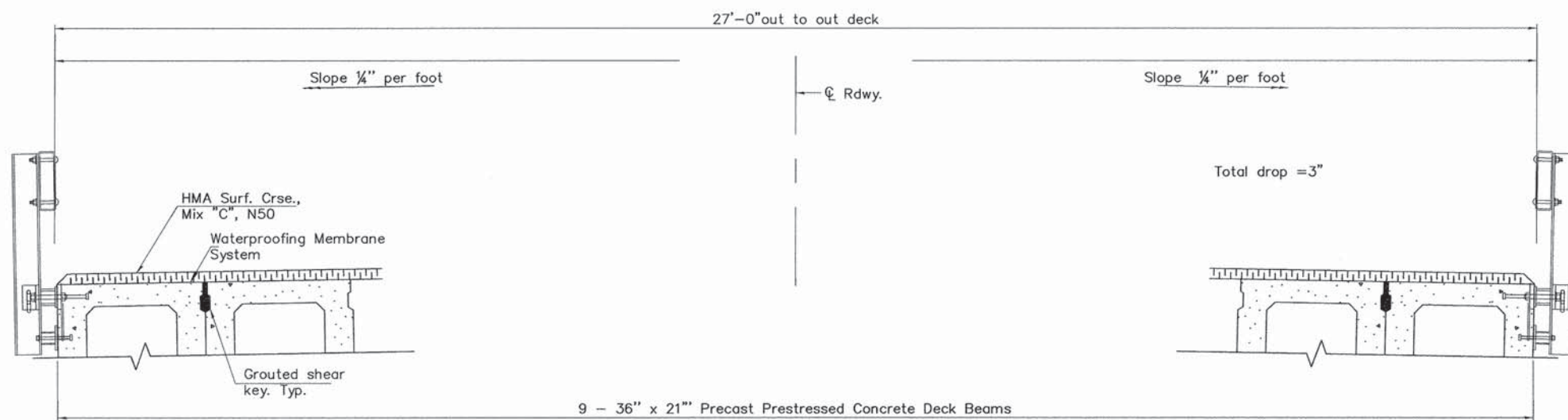
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	26
ROAD DISTRICT		ILLINOIS	DURHAM	

SHEET NO. 2 OF 8 SHEETS

93594



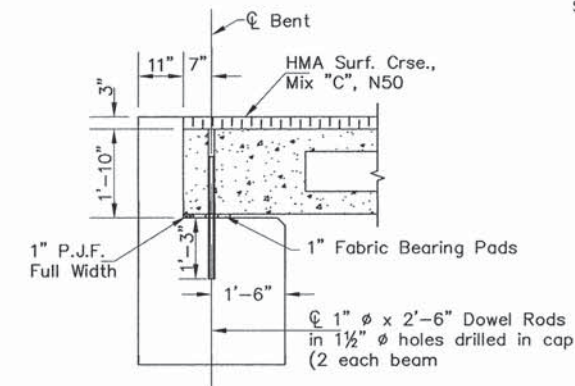
PLAN



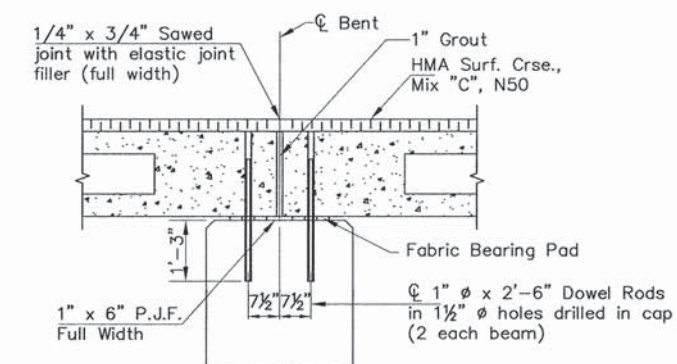
CROSS SECTION  
(Looking East)

Notes:  
See sheet 3 of 8 for Superstructure Details and Bill of Material.  
Bars indicated thus 20 x 2-#4 etc. indicates 20 lines of bars with 2 lengths per line.  
After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.

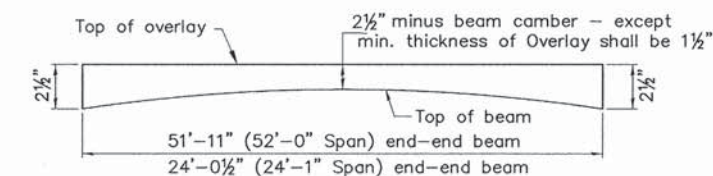
MINIMUM BAR LAP  
#4 bar = 2'-7"



SECTION A-A  
See sheet 4 of 7 for fabric bearing pad details.



SECTION THRU PIER  
See sheet 4 of 7 for fabric bearing pad details.



ANTICIPATED HMA WEARING SURFACE PROFILE  
(For information only)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Waterproofing Membrane System	Sq. Yds.	301
HMA Surf. Crse, Mix "C", N50	Ton	39
Portland Cement Mortar Fairing Crse.	As Necessary	

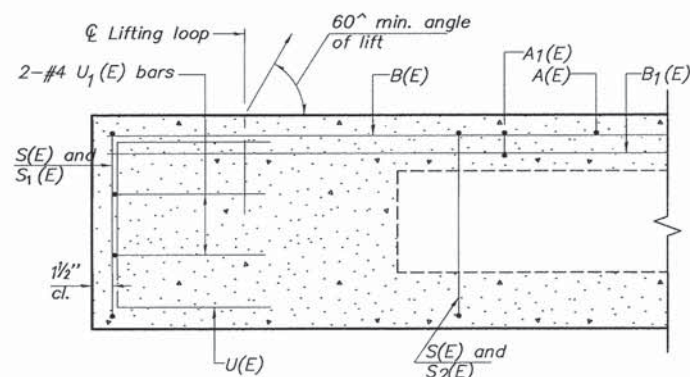
\*See Special Provisions

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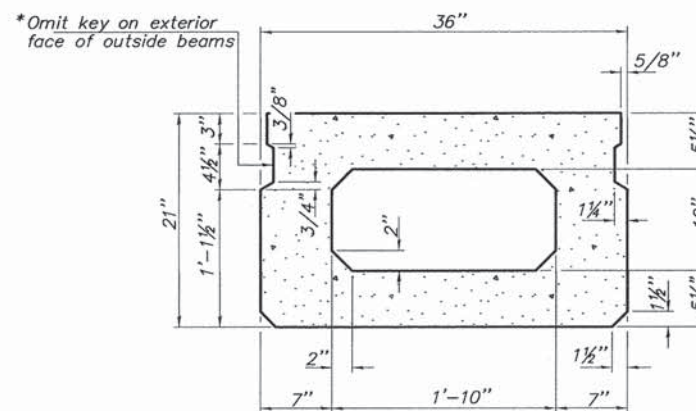
PPC DECK BEAM  
SUPERSTRUCTURE  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

101 S. FIRST ST. (P.O. BOX 379)  
CARTHAGE, IL 62321  
(217) 357-3155

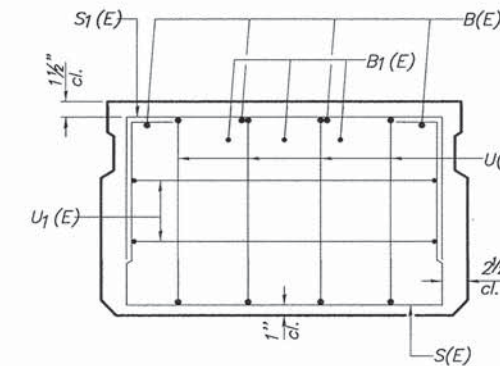
HANCOCK COUNTY  
HIGHWAY DEPARTMENT



SECTION A-A

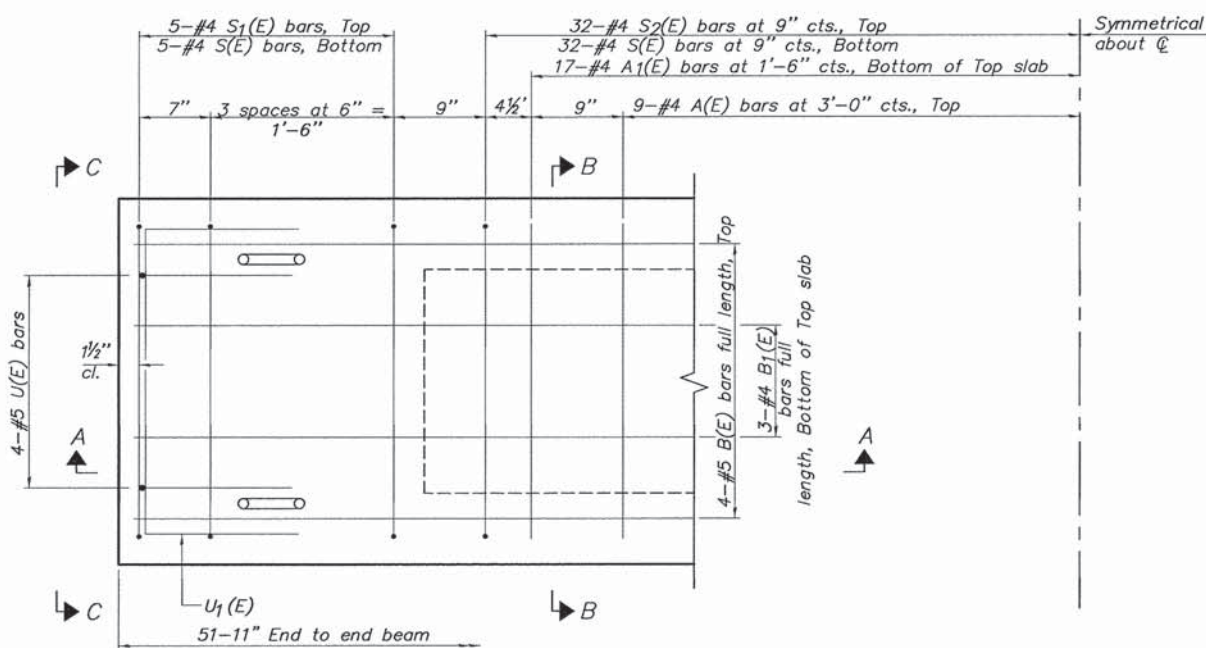


SECTION B-B  
(Showing dimensions)

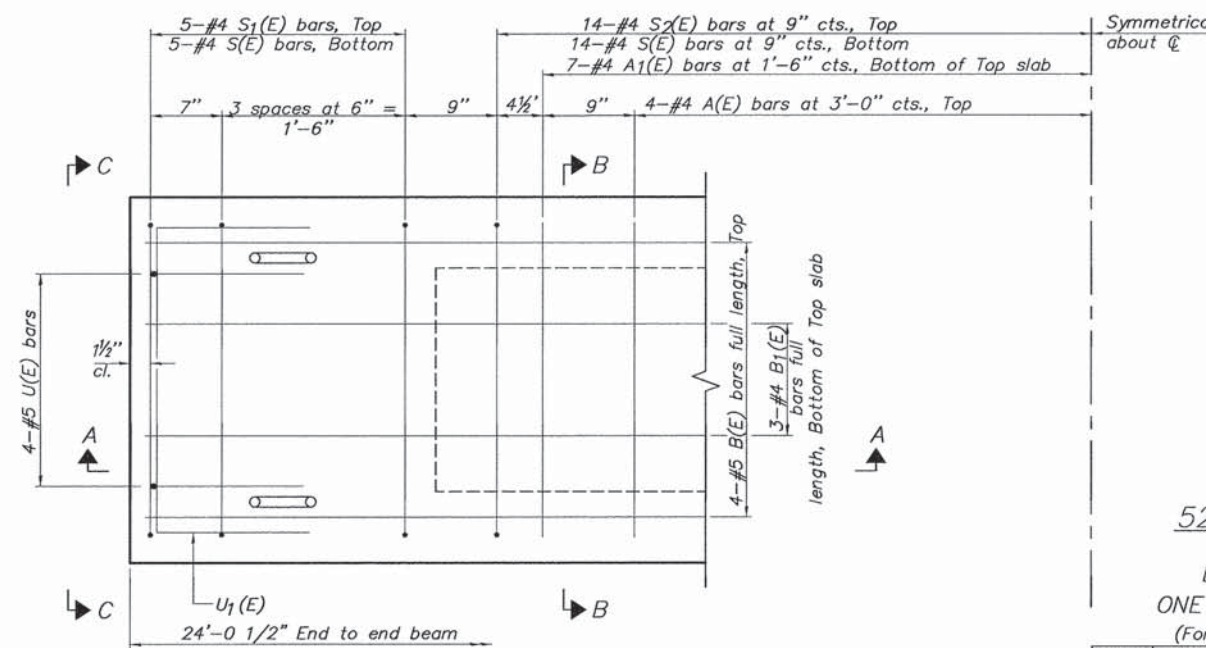


VIEW C-C

\*Rail Post Anchor Devices (Sht. 8 of 8.)  
To Be Cast Into Exterior Face Of Outside Beams



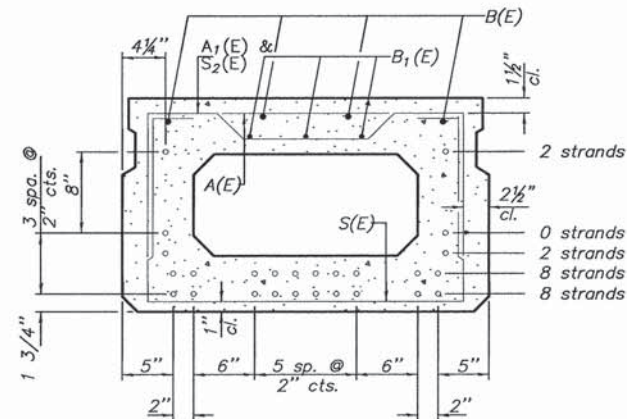
PLAN VIEW - 52' SPAN



PLAN VIEW - 24'-1" SPAN

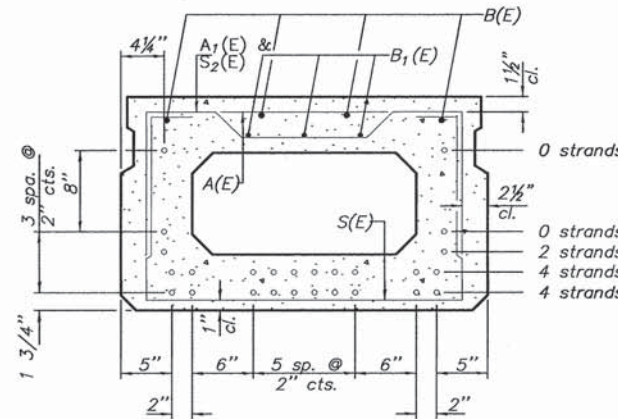
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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



SECTION B-B - 52' SPAN  
(Showing reinforcement and permissible strand locations)

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



SECTION B-B - 24'-1" SPAN  
(Showing reinforcement and permissible strand locations)

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

52' SPAN

24'-1" SPAN

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	9	#4	2'-7"	—
A1(E)	17	#4	2'-10"	—
B(E)	4	#5	51'-7"	—
B1(E)	3	#4	51'-7"	—
S(E)	74	#4	6'-5"	□
S1(E)	10	#4	4'-11"	□
S2(E)	64	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

BAR LIST  
ONE BEAM ONLY  
(For information only)

Bar	No.	Size	Length	Shape
A(E)	4	#4	2'-7"	—
A1(E)	7	#4	2'-10"	—
B(E)	4	#5	23'-8"	—
B1(E)	3	#4	23'-8"	—
S(E)	38	#4	6'-5"	□
S1(E)	10	#4	4'-11"	□
S2(E)	28	#4	5'-2"	□
U(E)	8	#5	4'-0"	□
U1(E)	4	#4	5'-0"	□

Note: See sheet 4 of 8 for additional details and Bill of Material.

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www.psbainc.com email: psba@psbainc.com

21"x36" PPC DECK BEAM

SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

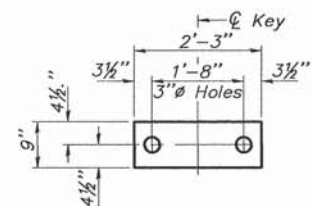
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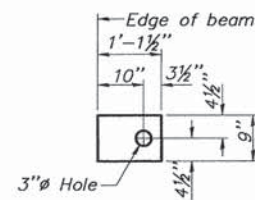
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117 00-BR	HANCOCK	32	28
ROAD DISTRICT		ILLINOIS	DURHAM	

SHEET NO. 4 OF 8 SHEETS

93594



**FABRIC BEARING PAD**  
(Interior) 48 Req'd

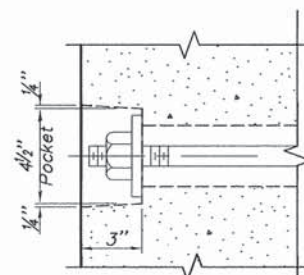


**FABRIC BEARING PAD**  
(Exterior) 12 Req'd

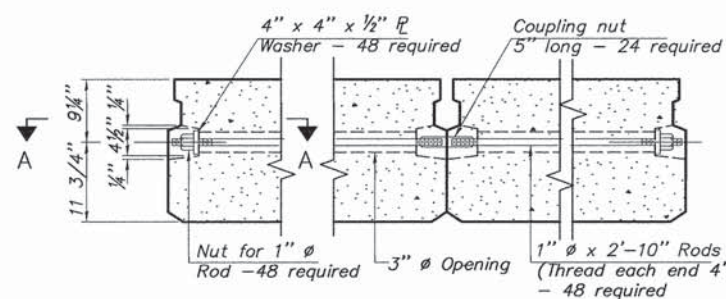
**FIXED**

**Notes:**

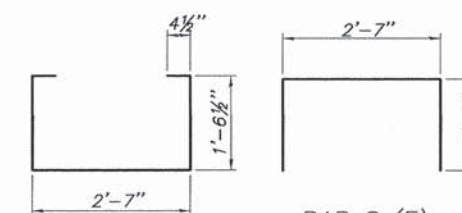
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

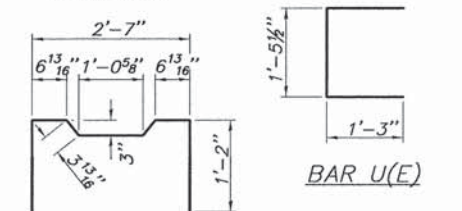


**TYPICAL TRANSVERSE TIE ASSEMBLY**



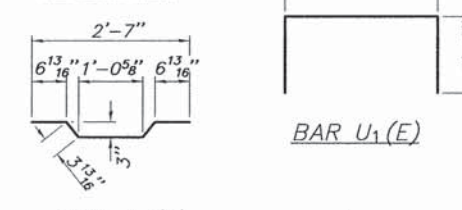
**BAR S<sub>1</sub>(E)**

**BAR S(E)**



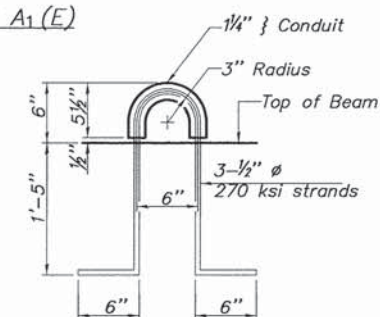
**BAR U(E)**

**BAR S<sub>2</sub>(E)**

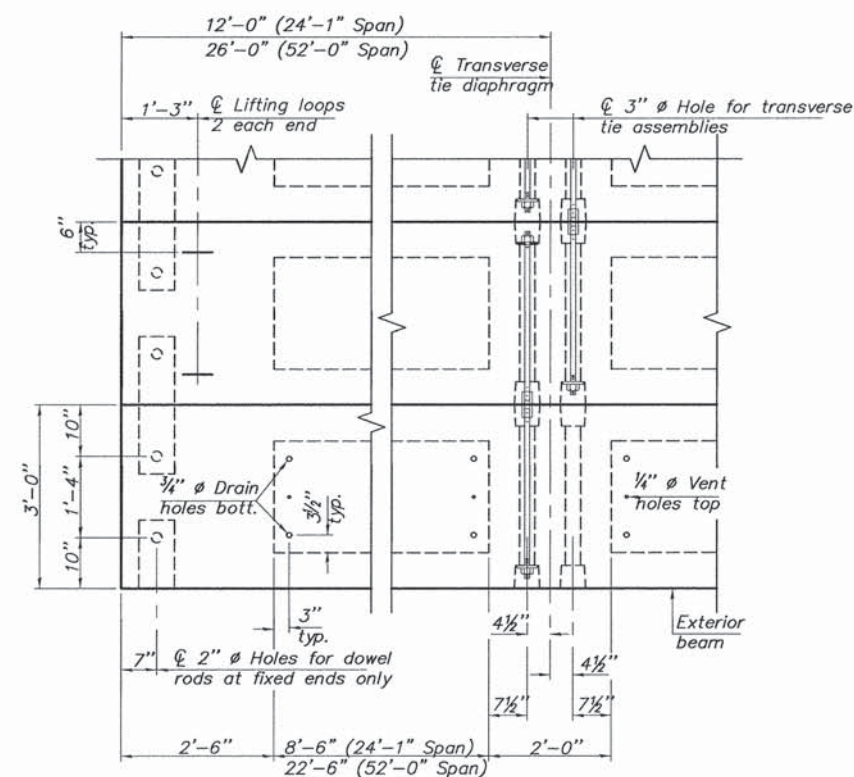


**BAR U<sub>1</sub>(E)**

**BAR A<sub>1</sub>(E)**



**LIFTING LOOP DETAIL**



**PLAN VIEW**

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

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Reinforcement bars shall conform to ASTM A 706, Grade 60.  
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'<sub>c</sub>, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'<sub>ci</sub>, shall be 5000 psi.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	2,700
---	---------	-------

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**21"x36" PPC DECK BEAM  
DETAILS**  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

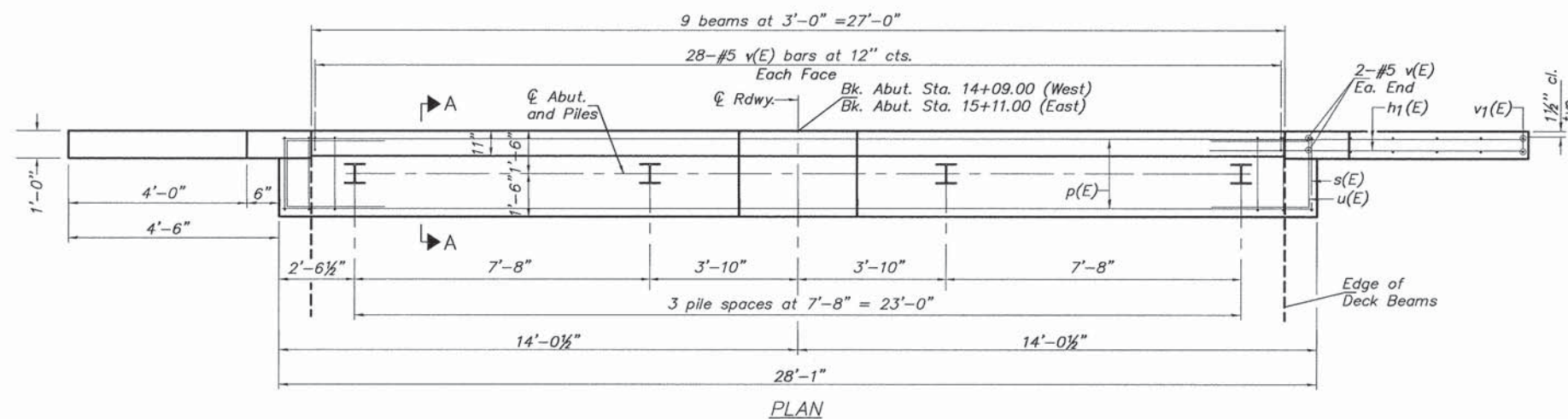
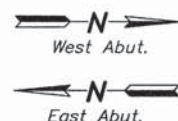
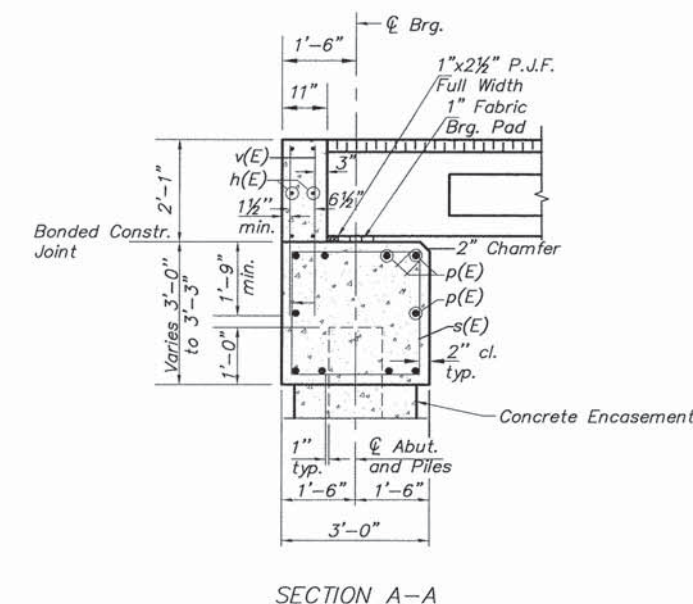
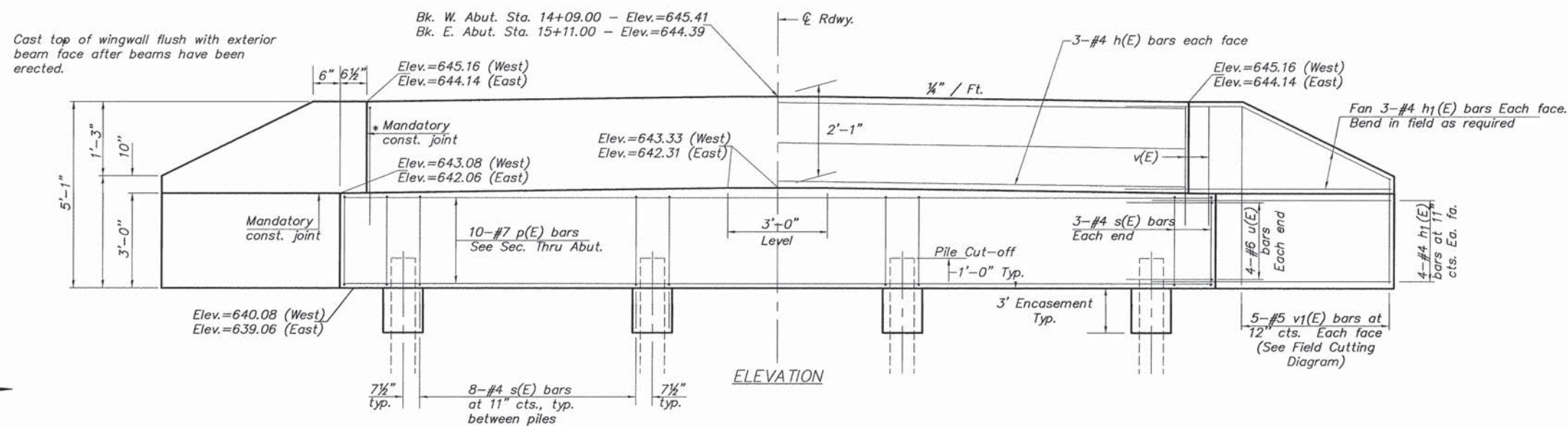
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HIGHWAY DEPARTMENT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	29
ROAD DISTRICT	ILLINOIS		DURHAM	

SHEET NO. 5 OF 8 SHEETS

93594



**BILL OF MATERIAL  
ONE ABUTMENT**

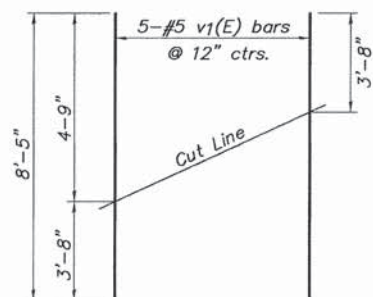
Bar	No.	Size	Length	Shape
h(E)	6	#4	26'-9"	
h1(E)	28	#4	6'-6"	
p(E)	10	#7	27'-9"	
s(E)	30	#4	11'-5"	
u(E)	8	#6	11'-7"	
v(E)	60	#5	3'-9"	
v1(E)	10	#5	8'-5"	
Concrete Structures	Cu. Yd.	13.2		
Reinforcement Bars, Epoxy Coated	Pound	1490		
Furnishing Steel Piles HP 10x42	Foot	168 (West) 126 (East)		
Driving Piles	Foot	168 (West) 126 (East)		
Test Pile HP 10x42	Each	1		
Concrete Encasement	Cu. Yd.	0.8		

For details of piles see sheet 7 of 8.

**PILE DATA**

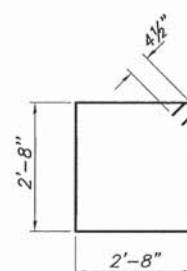
Type: HP 10x42  
 Nominal Required Bearing: 160 kips  
 Factored Resistance Available: 88 kips  
 Est. Length: West Abut. - 42 Ft.  
 East Abut. - 42 Ft.  
 No. Production Piles: 8 (Includes Test Pile)  
 No. Test Piles: 1 (East Abut.)\*

\* Driven to 110% NRB

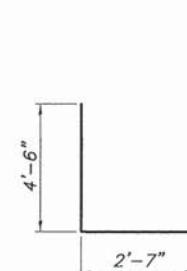


**FIELD CUTTING DIAGRAM**

Order v1(E) bars full length. Cut as shown and use remainder of bars in opposite face.



**BAR s(E)**



**BAR u(E)**

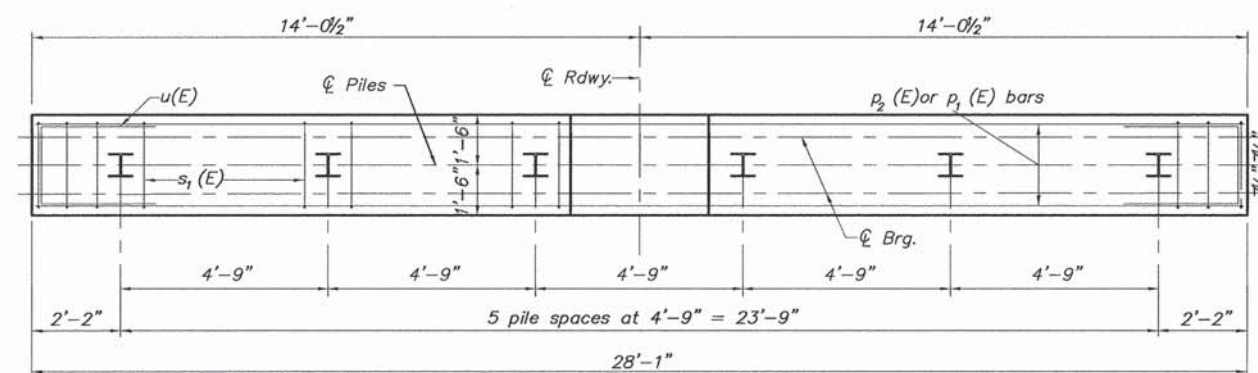
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**ABUTMENT DETAILS**

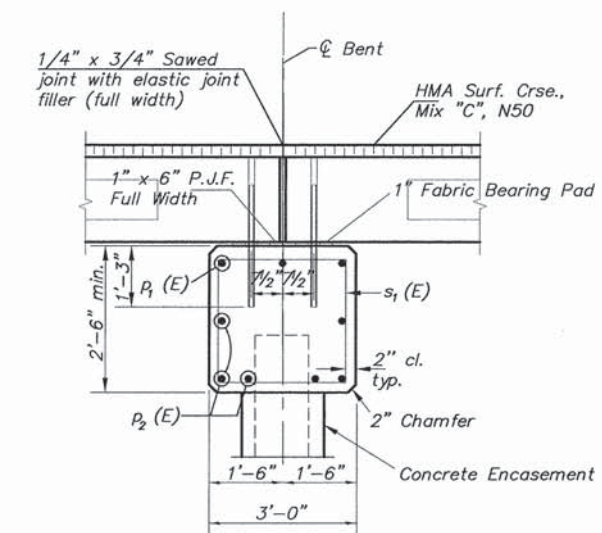
SECTION 04-07117-00-BR  
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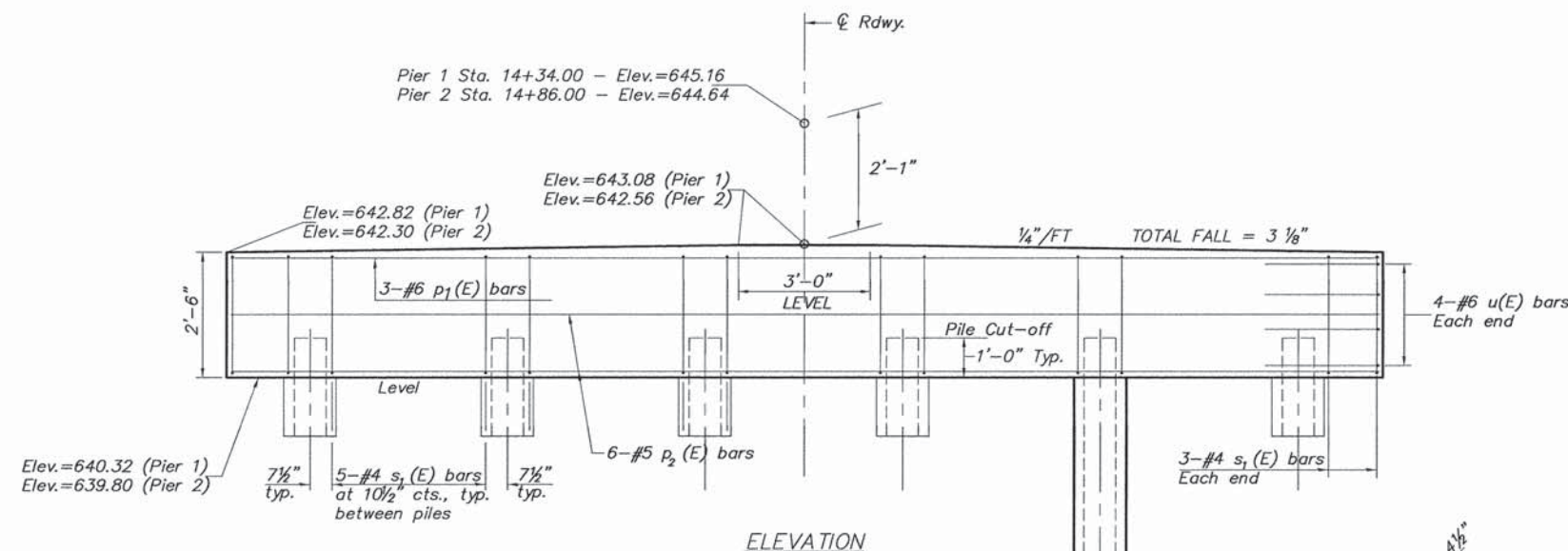


PLAN



SECTION THRU PIER

See sheet 4 of 7 for fabric bearing pad details.



ELEVATION

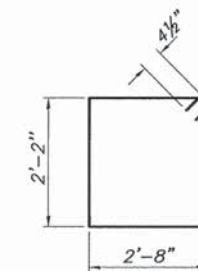
BILL OF MATERIAL ONE PIER

Bar No.	Size	Length	Shape
P1(E)	#6	27'-9"	—
P2(E)	#5	27'-9"	—
s1(E)	#4	10'-5"	□
u(E)	#6	11'-7"	□
Concrete Structures	Cu. Yd.	8.2	
Reinforcement Bars, Epoxy Coated	Pound	660	
Furnishing Steel Piles HP 10x42	Foot	258	
Driving Piles	Foot	258	
Concrete Encasement	Cu. Yd.	6.8 (Pier 1) 6.6 (Pier 2)	

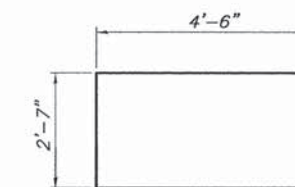
For details of piles see sheet 7 of 8.

PILE DATA

Type: HP 10x42  
 Nominal Required Bearing: 238 kips  
 Factored Resistance Available: 131 kips  
 Est. Length: Pier 1 - 43 Ft.  
 Pier 2 - 43 Ft.  
 No. Production Piles: 12



BAR s1(E)



BAR u(E)

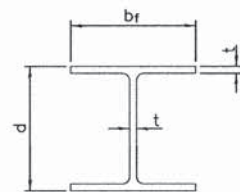
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PIER DETAILS

SECTION 04-07117-00-BR  
 DURHAM ROAD DISTRICT  
 HANCOCK COUNTY

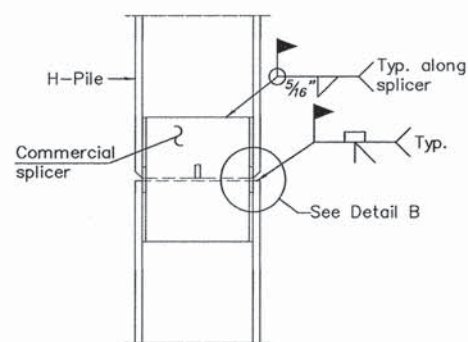
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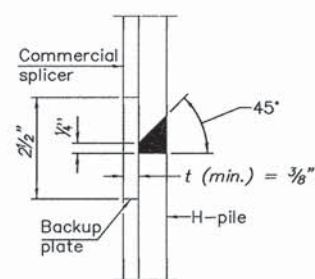


STEEL PILE TABLE

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

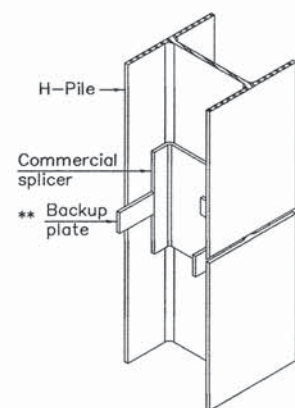


ELEVATION

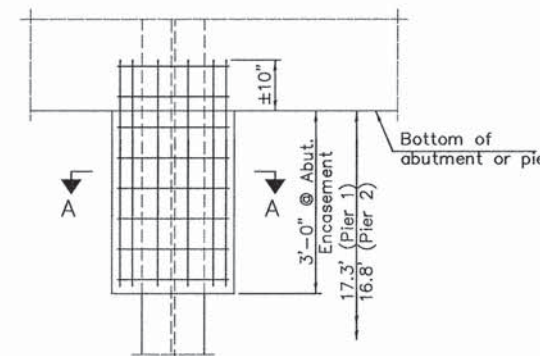


DETAIL "B"

WELDED COMMERCIAL SPLICE

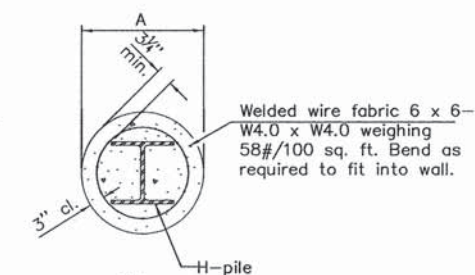


ISOMETRIC VIEW



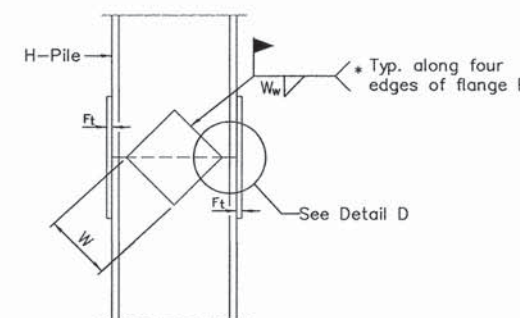
ELEVATION

PILE ENCASEMENT

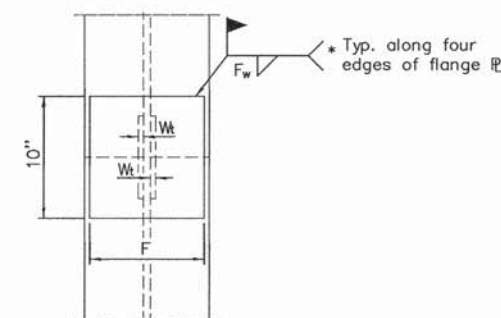


SECTION A-A

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

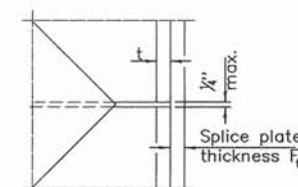


ELEVATION



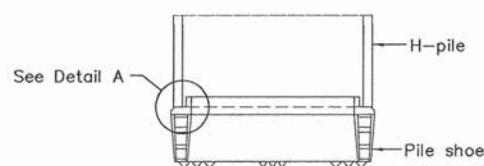
END VIEW

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

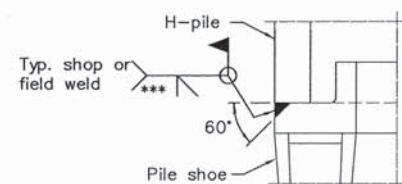


DETAIL D

WELDED PLATE FIELD SPLICE

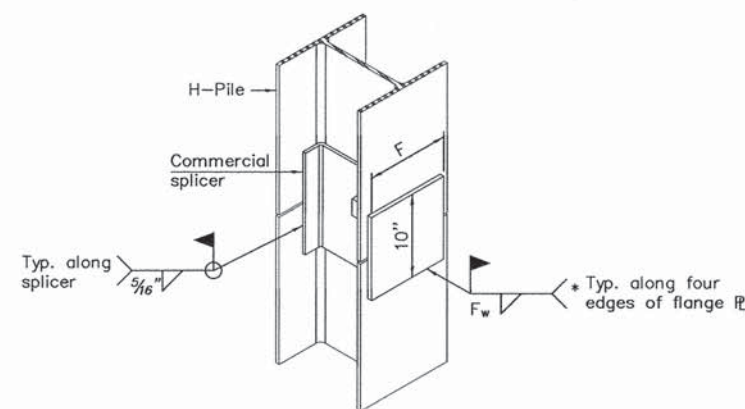


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (3/16" min.).

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

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HP PILE DETAILS

SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

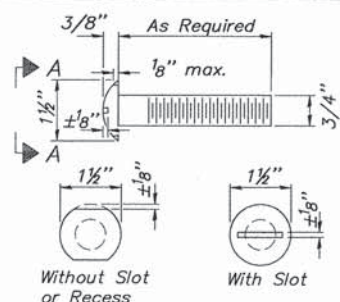
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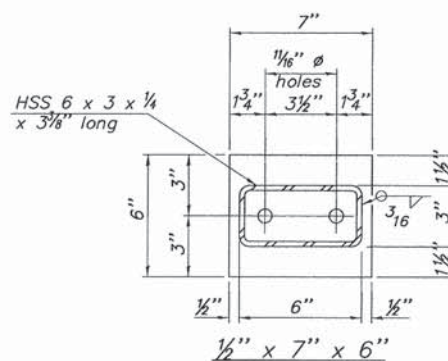
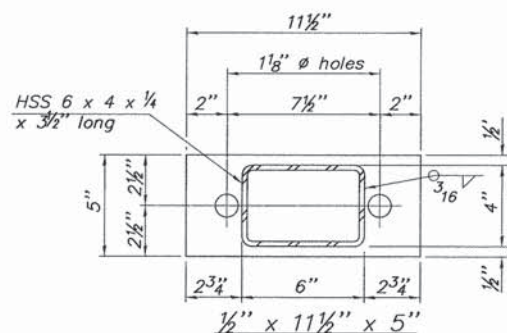
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 7	04-07117-00-BR	HANCOCK	32	32
ROAD DISTRICT		ILLINOIS	DURHAM	

SHEET NO. 8 OF 8 SHEETS

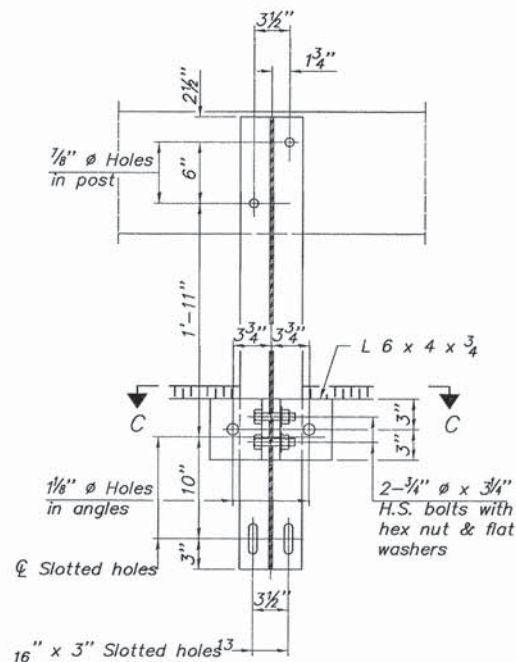
93594



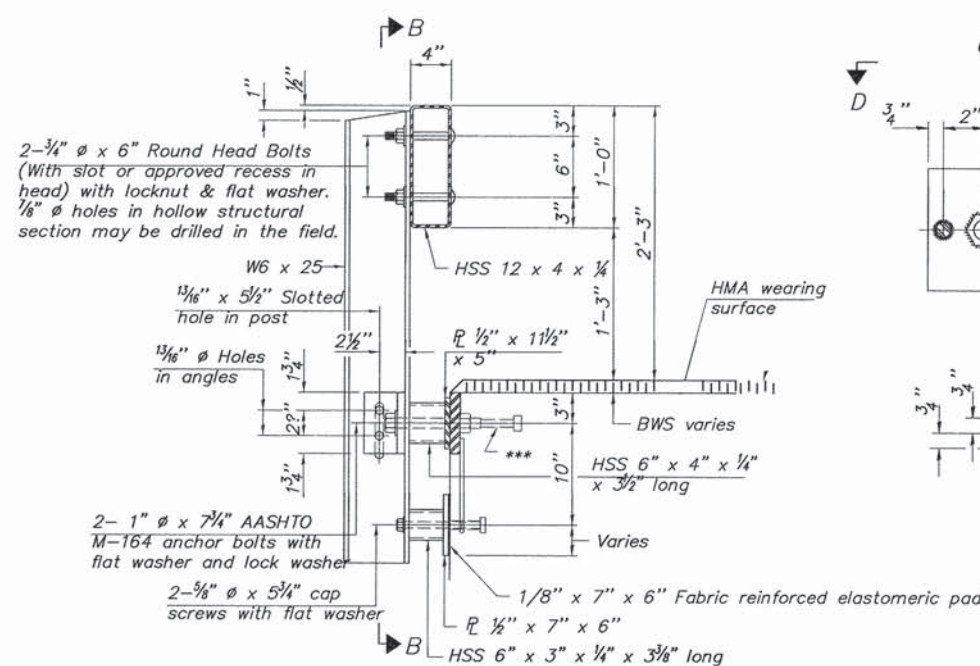
VIEW A-A  
ROUND HEAD BOLT



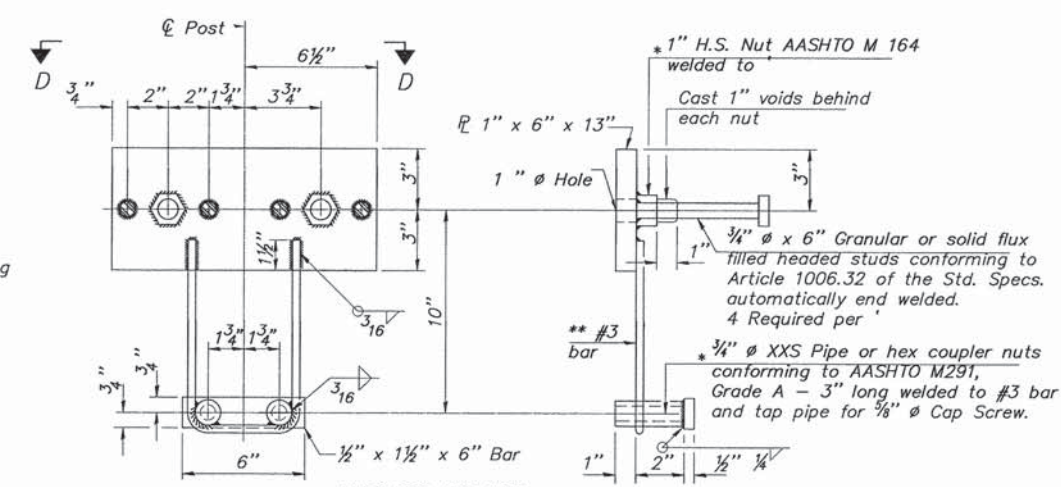
ANCHOR DEVICE  
\* Threaded areas shall be plugged or blocked off during casting of beam.



SECTION B-B



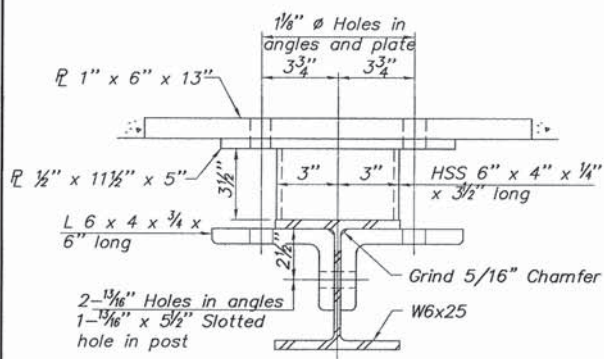
SECTION AT RAILING POST



Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

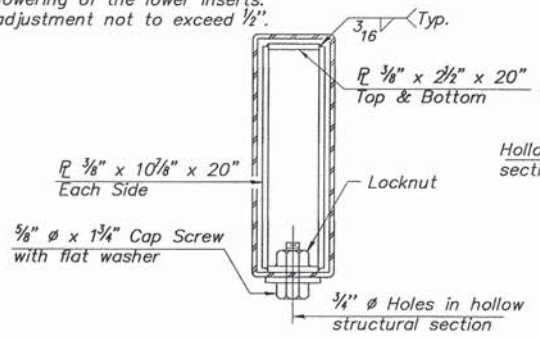
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	201

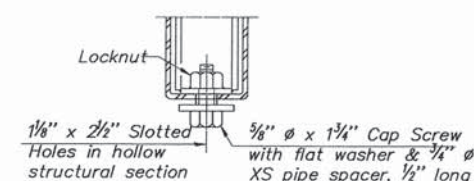


SECTION C-C

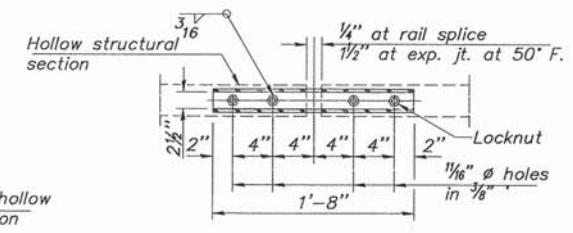
\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2\".



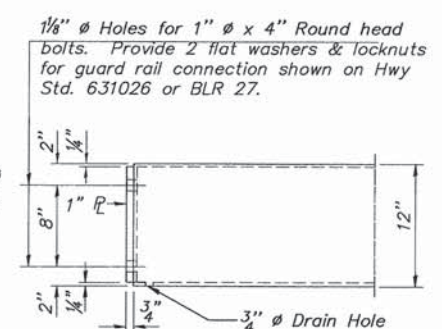
SECTIONS AT RAIL SPLICE



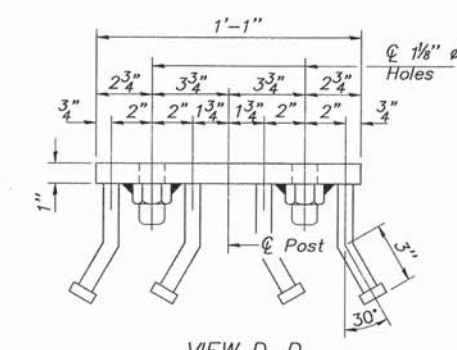
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



END OF RAIL DETAILS



VIEW D-D

(10'-9" Maximum Post Spacing)

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STEEL RAILING,  
TYPE S-1 DETAILS  
SECTION 04-07117-00-BR  
DURHAM ROAD DISTRICT  
HANCOCK COUNTY

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