

72993

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	106	1
			+ 5	
			= 111	

• (V,T)B-2

D-96-526-05

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE: 662 (IL 4)  
SECTION: (V,T)B-2  
PROJECT NO: ACF-0005(470)  
MACOUPIN COUNTY  
BRIDGE REMOVAL & REPLACEMENT  
C-96-515-06

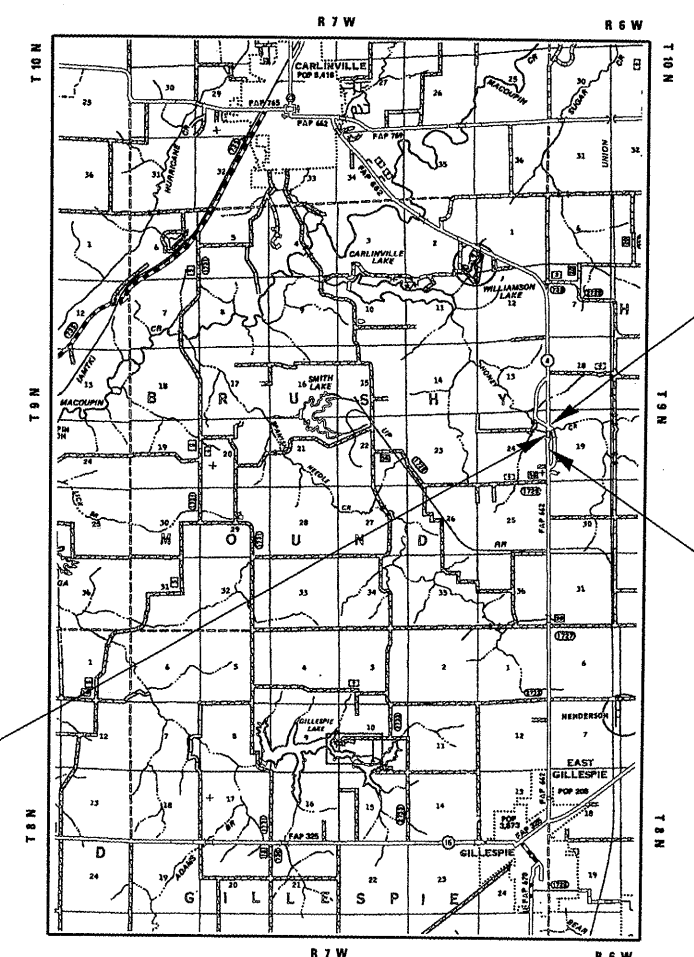


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**STANDARDS**

000001-04	701006-02
001001-01	701011-01
001006	701301-02
280001-03	701306-01
420401-05	701311-02
515001-02	701321-08
630001-07	702001-06
630301-04	704001-03
631032-03	780001-01
701001-01	781001-02
	701201-02



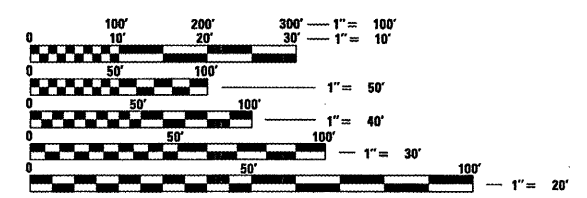
BEGIN PROJECT  
STA 441+00

END PROJECT  
STA 452+00

STA 447+03.80  
PROJECT INCLUDES  
BRIDGE REMOVAL AND  
REPLACEMENT  
OF SN 059-0008  
EX 3 - SPAN BRIDGE;  
108'-0" BK TO BK ABUT.  
33'-8" OUT TO OUT  
WITH PROP  
SN 059-0504 SINGLE  
SPAN 89'-0" BK TO BK  
39'-2" OUT TO OUT

AVERAGE DAILY TRAFFIC: 3150 (2005)  
SU: 150  
MU: 225

LAYOUT MAP  
GROSS LENGTH OF PROJECT = 1100 FT. = 0.208 MI.  
NET LENGTH OF PROJECT = 1100 FT. = 0.208 MI.



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

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

CONTRACT NO. 72993

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *Dec 19 2006*  
*Chris M. Reed*  
DISTRICT ENGINEER

*February 2, 2007*  
*Eric E. Hart*  
ENGINEER OF DESIGN AND ENVIRONMENT

*February 2, 2007*  
*Milton R. Seas P.E.*  
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

PROJECT ENGINEER: JOHN NEGANGARD (217) 782-6890  
SR. SQUAD LEADER: MARK DUST (217) 785-0597

Rev.

**GENERAL NOTES**

- 1 ALL ELEVATIONS SHOWN IN THE PLANS ARE U. S. G. S. MEAN SEA LEVEL DATUM.
- 2 ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERRUPTED TO BE THE LATEST STANDARDS OF THE DEPARTMENT AS SHOWN IN THE PLANS.
- 3 THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NORMAL THICKNESS. DEVIATIONS FROM THE NORMAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
- 4 SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET OR IN AN UNTILLABLE CONDITION. AREAS TO BE SEEDED SHALL BE DETERMINED BY THE ENGINEER.
- 5 EXISTING PAVEMENT DAMAGED DUE TO THE CONTRACTOR'S OPERATIONS, AND NOT OTHER WISE NECESSARY TO REPLACE, SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- 6 THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINE IN ARTICLE 107.26 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCED NOTICE IS REQUIRED.
- 7 THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL REPLACE THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 8 ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OUTSIDE THE LIMITS OF RIGHT-OF-WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARDS SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN TH COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 9 WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION IF THE ENGINEER DECIDES TO HAVE THE CONTRACTOR RESET THE MONUMENT, THIS WORK WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.
- 10 NO PASSING ZONES SHALL BE FIELD VERIFIED BY DAVE BERTETTO, DIST. 6, (217)785-0288, 14 DAYS PRIOR TO FINAL PAVEMENT MARKINGS.
- 11 THE FOLLOWING APPLICATION RATES WERE USED FOR QUANTITY CALCULATIONS.

BITUMINOUS SURFACE COURSE, _____	0.056 TON / SQ YD • IN
AGGREGATE SHOULDERS _____	2.05 TON / CU YD
BITUMINOUS MATERIAL (PRIME COAT) _____	0.00038 TON / SQ YD
NITROGEN _____	90 LBS / ACRE
PHOSPHOROUS _____	90 LBS / ACRE
POTASSIUM _____	90 LBS / ACRE
LIMESTONE _____	2 TON / ACRE
MULCH _____	2 TON / ACRE
TEMPORARY EROSION CONTROL SEEDING _____	100 LB / ACRE
RIPRAP _____	1.50 TON / CU YD

- 12 THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT.


MIXTURE USE	Hot Mix Surface 40603335	Level Binder 40600625	Hot Mix Shoulders 48203100	Incidental Hot Mix Surface 40800050
AC/PG	PG 64-22	PG 64-22	PG 58-22	PG 64-22
DESIGN AIR VOIDS	4.0 @ N Design = 50	4.0 @ N Design = 50	2.0 @ N design = 30	4.0 @ N design = 50
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 9.5	BAM Mix	IL 9.5 or 12.5
FRICTION AGGREGATE	Mix "D"	N/A	N/A	Mix "C"

**COMMITMENTS**


- THE FIELD/RESIDENT ENGINEER SHALL CONTACT STUDIES & PLANS CONCERNING ANY MAJOR PLAN CHANGES TO MAKE SURE NO PREVIOUS COMMITMENTS (NOT LISTED) WERE MADE AFFECTING THE DESIGN AND ALLOW AN IMPROVED DESIGN FOR FUTURE PROJECTS.


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN		2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

• (V,T) B-2

EXAMINED Dec 14 2006  
  
 PROGRAM IMPLEMENTATION ENGINEER

DISTRICT SIX

EXAMINED December 14 2006  
  
 OPERATIONS ENGINEER

EXAMINED December 15 2006  
  
 PROGRAM DEVELOPMENT ENGINEER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES & COMMITMENTS**

SCALE: VERT.  
HORIZ.  
DATE

DRAWN BY  
CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

(V,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE		CONSTR. CODE
PAY CODE NUMBER	PAY ITEM DESCRIPTION		80% FED. 20% STATE	RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE		IMPACT ATTEN. SFTY-3N 80% FED 20% STATE
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	138	138	-	-	
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	134	134	-	-	
<b>20200100</b>	<b>EARTH EXCAVATION</b>						
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	1526	1526		269	
25000200	SEEDING, CLASS 2	ACRE	0.7	0.7	-	-	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	67	67	-	-	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	67	67	-	-	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	67	67	-	-	
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1.5	1.5	-	-	
25100115	MULCH, METHOD 2	ACRE	0.7	0.7	-	-	
<b>25100635</b>	<b>HEAVY DUTY EROSION CONTRL BLANKET</b>						
28000250	TEMPORARY EROSION CONTROL SEEDING	SO YD	1600	1600	-	-	
28000400	PERIMETER EROSION BARRIER	FOOT	500	500	-	-	
28001000	AGGREGATE (EROSION CONTROL)	TON	10	10	-	-	
28100109	STONE RIPRAP, CLASS A5	SO YD	1,465			1465	
28200200	FILTER FABRIC	SO YD	1525			1525	
<b>28400100</b>	<b>GABIONS</b>						
		CU YD	30.7			30.7	
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	5	5	-	-	
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	1.2	1.2	-	-	
40600300	AGGREGATE (PRIME COAT)	TON	6	6	-	-	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SO YD	276	276	-	-	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: VERT. \_\_\_\_\_  
HORIZ. \_\_\_\_\_

DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_

PLOT DATE = 12/15/2006  
FILE NAME = c:\pwork\72993\72993.dgn  
PLOT SCALE = 1/8"=1'-0"  
USER NAME = hmagnum1

Rev.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	.	MACOUPIN	66	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE	CONSTR. CODE
			<i>80% FED. 20% STATE</i>			
PAY CODE NUMBER	PAY ITEM DESCRIPTION			RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE	IMPACT ATTEN. SFTY-3N 80% FED 20% STATE
40600990	TEMPORARY RAMP	SO YD	27	27	-	-
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	118	118	-	-
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	195	195	-	-
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	15		15	
42001165	BRIDGE APPROACH PAVEMENT	SO YD	216.7	216.7	-	-
44000100	PAVEMENT REMOVAL	SO YD	260	260	-	-
48101200	AGGREGATE SHOULDERS, TYPE B	TON	74	74	-	-
48203100	HOT-MIX ASPHALT SHOULDERS	TON	97		97	
<i>50100100</i>	<i>REMOVAL OF EXISTING STRUCTURES</i>	<i>EACH</i>	<i>1</i>	<i>-</i>	<i>1</i>	
50200100	STRUCTURE EXCAVATION	CU YD	<i>260</i>	-	<i>260</i>	-
50300225	CONCRETE STRUCTURES	CU YD	52.3	-	52.3	-
50300255	CONCRETE SUPERSTRUCTURES	CU YD	144.5	-	144.5	-
50300260	BRIDGE DECK GROOVING	SO YD	335	-	335	-
50300300	PROTECTIVE COAT	SO YD	431	-	431	-
50401105	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 54 IN.	FOOT	524.5		524.5	-
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	<i>32,120</i>	-	<i>32,120</i>	
50800515	BAR SPLICERS	EACH	<i>355</i>		<i>355</i>	
51201105	FURNISHING METAL PILE SHELLS 14"	FOOT	<i>931</i>		<i>931</i>	

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SUMMARY OF QUANTITIES  
 SCALE: VERT. DATE  
 HORIZ. DATE  
 DRAWN BY  
 CHECKED BY

Rev.

PLOT DATE: 11/19/2008  
 FILE NAME: c:\projects\652688\sketches\as.dgn  
 PLOT SCALE: 1/8"=1'-0" / IN.  
 USER NAME: f.dougherty



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	5
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

(V,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE	CONSTR. CODE
			80% FED. 20% STATE			
PAY CODE NUMBER	PAY ITEM DESCRIPTION			RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE	IMPACT ATTEN. SFTY-3N 80% FED 20% STATE
51207305	DRIVING PILES	FOOT	931	-	931	-
51203200	TEST PILE METAL SHELLS	EACH	2	-	2	-
51205200	TEMPORARY SHEET PILING	SO FT	595	-	595	-
51500100	NAME PLATES	EACH	1	-	1	-
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	113.0	-	113.0	-
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	176	-	176	-
* 63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	525	525	-	-
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	4	-	-
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	4	4	-	-
63200310	GUARDRAIL REMOVAL	FOOT	430	430	-	-
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1	-	-
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	-	-
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	-	-
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	-	1	-
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	220	220	-	-
70300230	TEMPORARY PAVEMENT MARKING - LINE 5"	FOOT	2,475	2,475	-	-
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	360	360	-	-
70400100	TEMPORARY CONCRETE BARRIER	FOOT	460	-	460	-
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	460	-	460	-
67100100	MOBILIZATION	L SUM	1	0.5	0.5	-

\*SPECIALTY ITEMS

Rev.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: VERT.  
DATE: HORIZ.

DRAWN BY  
CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	6
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

\* (V,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE	CONSTR. CODE
PAY CODE NUMBER	PAY ITEM DESCRIPTION		80% FED. 20% STATE	RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE	IMPACT ATTEN. SFTY-3N 80% FED 20% STATE
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	2,475	2,475	-	-
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	14	14	-	-
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	12	12	-	-
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	-	-
78300100	PAVEMENT MARKING REMOVAL	60 FT	800	800	-	-
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	14	14	-	-
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	-	1	-
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	-	-	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	-	-	2
Z0073100	TEMPORARY SHORING	EACH	2	-	2	-

\*SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SUMMARY OF QUANTITIES  
 SCALE: VERT. DATE  
 HORIZ. DATE  
 DRAWN BY  
 CHECKED BY

PLOT DATE : 12/19/2005  
 FILE NAME : c:\projects\4852685\ahatch\ahatch.dgn  
 PLOT SCALE : 1/8"=1'-0"  
 USER NAME : jgaughlin

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	7
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

• (V,T) B-2

TREE REMOVAL		
LOCATION	TREE REMOVAL 6" TO 15"	TREE REMOVAL > 15"
	UNIT	UNIT
RT STA 446+52.80		20
RT STA 446+54.54		25
RT STA 446+52.29	14	
RT STA 446+75.06		26
RT STA 446+92.48	11	
LT STA 446+31.80	6	
LT STA 446+32.10	6	
LT STA 446+32.30	6	
LT STA 446+33.38	6	
LT STA 446+90.63	10	
LT STA 447+07.14	7	
LT STA 447+06.51	6	
LT STA 447+06.95	12	
LT STA 447+10.05		23
LT STA 447+14.14	13	
LT STA 447+15.17	6	
LT STA 447+16.09	8	
LT STA 447+32.91	8	
LT STA 447+40.20 ( STUMP)		20
LT STA 447+39.78	9	
LT STA 447+42.39	10	
LT STA 447+40.99		20
TOTAL =	138	134

BITUMINOUS SHOULDERS					
LOCATION	LENGTH	BIT PAY WIDTH	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE (PRIME COAT)	HOT-MIX ASPHALT SHLDRS. (VAR. DEPTH)
	FOOT	FOOT	TON	TON	TON
LT STA 442+85.00 TO LT STA 446+20.10	335.10	6.0	0.07	0.37	26.1
LT STA 446+20.10 TO LT STA 448+00.10 - BRIDGE OMISSION					
LT STA 448+00.10 TO LT STA 450+71.08	270.98	6.0	0.06	0.30	21.1
LT STA 450+71.08 TO LT STA 450+95.07	23.99	6.0 TO 1.0	0.003	0.02	1.1
RT STA 442+67.00 TO RT STA 446+07.50	340.50	6.0	0.07	0.38	26.5
RT STA 446+07.50 TO RT STA 447+87.50 - BRIDGE OMISSION					
RT STA 447+87.50 TO RT STA 450+60.00	272.50	6.0	0.06	0.30	21.2
RT STA 450+60.00 TO RT STA 450+76.00	16.00	6.0 TO 1.0	0.002	0.01	0.7
TOTAL =			0	1.38	96.68

NOTE: SHOULDERS SHALL NOT CONTINUE THROUGH SIDE ROADS.

RESURFACING & BRIDGE APPROACH PAVEMENT							
LOCATION	LENGTH	WIDTH	PR BIT SURF CSE AREA	HOT-MIX ASPH SURF. REM. BUTT JOINT	TEMPORARY RAMPS	BITUMINOUS MATERIALS (PRIME COAT)	BRIDGE APPR PVT
	FOOT	FOOT	SQ YD	SQ YD	SQ YD	TON	SQ YD
STA 441+00.00 TO STA 441+50.00 (RAMP)	50.00	24.00	133.3	80.00	13.33	0.05	0.00
STA 441+50.00 TO STA 442+67.00	117.00	24.00	312.0	0.00	0.00	0.12	0.00
STA 442+67.00 TO STA 442+85.00	18.00	23.00	46.0	0.00	0.00	0.02	0.00
STA 442+85.00 TO STA 446+13.80	328.80	22.00	803.7	0.00	0.00	0.31	
STA 442+13.80 TO STA 446+19.80							
STA 446+19.80 TO STA 447+49.80 - BR APPR. PVT.							108.33
STA 447+49.80 TO STA 447+57.80 - BRIDGE							
STA 447+57.80 TO STA 447+87.80 - BR APPR. PVT.							108.33
STA 447+87.80 TO STA 447+93.80							
STA 447+93.80 TO STA 450+44.72	250.92	22.00	613.4	0.00	0.00	0.23	
STA 450+44.72 TO STA 450+74.00	29.28	23.00	74.8	0.00	0.00	0.03	0.00
STA 450+74.00 TO STA 451+50.00	76.00	24.00	202.7	0.00	0.00	0.08	0.00
STA 451+50.00 TO STA 452+00.00 (RAMP)	50.00	24.00	133.3	80.00	13.33	0.05	0.00
TOTAL =				160	26.7	0.88	216.67

PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\652685\shschedules\adgn  
 PLOT SCALE = 1/8"=1'-0" / IN.  
 USER NAME = laughlin-1

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: VERT. / HORIZ.  
DATE

DRAWN BY  
CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	8
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

AGGREGATE SHOULDERS

LOCATION	LENGTH	AGG WIDTH	AGGREGATE SHOULDERS
	FOOT	FOOT	TON
LT STA 441+00.00 TO LT STA 441+86.00	86.00	3.00	4.08
LT STA 442+85.00 TO LT STA 444+88.80	203.80	3.00	9.67
LT STA 444+88.80 TO LT STA 446+26.10	137.30	3.25	7.06
LT STA 446+26.10 TO LT STA 447+94.10 - BRIDGE OMISSION			
LT STA 447+94.10 TO LT STA 450+71.08	276.98	3.25	14.24
LT STA 450+20.40 TO LT STA 452+00.00	179.60	3.00	8.52
RT STA 441+00.00 TO RT STA 441+28.00	28.00	3.00	1.33
RT STA 442+67.00 TO RT STA 443+87.20	120.20	3.00	5.70
RT STA 443+87.20 TO RT STA 446+13.50	226.30	3.25	11.63
RT STA 446+13.50 TO RT STA 447+81.50 - BRIDGE OMISSION			
RT STA 447+81.50 TO RT STA 449+18.90	137.40	3.25	7.06
RT STA 449+18.90 TO RT STA 450+00.00	81.10	3.00	3.85
RT STA 450+76.00 TO RT STA 452+00.00	124.00	3.00	5.88
TOTAL =			73.15

ESTIMATED QUANTITIES

ITEMS	UNIT	TOTAL
THE FOLLOWING ITEMS INCLUDE ESTIMATED QUANTITIES FOR HANDLING TEMPORARY EROSION CONTROL (SEE SPECIAL PROVISIONS)		
AGGREGATE (EROSION CONTROL)	TON	10
TEMPORARY EROSION CONTROL SEEDING	LBS	200
PERIMETER EROSION CONTROL BARRIER	FOOT	500

SEEDING SCHEDULE

LOCATION	SEEDING, CLASS 2	NITROGEN FERTILIZER NUTRIENT	PHOSPHER. FERTILIZER NUTIRENT	POTASSIUM FERTILIZER NUTRIENT	AGRIC. GROUND LIMESTONE	MULCH METHOD 2	HEAVY DUTY EROSION CONTL BLANKET
	ACRE	POUND	POUND	POUND	TON	ACRE	SQ YD
NORTHWEST QUADRANT	0.35	31.5	31.5	31.5	0.7	0.35	1600
NORTHEAST QUADRANT	0.23	20.7	20.7	20.7	0.5	0.23	-
SOUTHWEST QUADRANT	0.02	1.8	1.8	1.8	0.04	0.02	-
SOUTHEAST QUADRANT	0.14	12.6	12.6	12.6	0.28	0.14	-
TOTAL	0.74	67	67	67	1.5	0.74	1,600.00

GUARDRAIL SCHEDULE

LOCATION	TBT T-1 SPL (TANGENT)	TERMINAL MARKER DIR. APPL.	TBT T-6	SPBGR T-A	GUARDRAIL MARKERS T-A	GUARDRAIL REMOVAL
	EACH	EACH	EACH	FOOT	EACH	FOOT
RT STA 443+86.09 TO RT STA 444+36.09	1	1			0	0
RT STA 444+36.09 TO RT STA 446+11.09				175.0	3	77.75
RT STA 446+11.09 TO RT STA 446+42.34			1		1	31.25
RT STA 447+50.34 TO RT STA 447+81.59			1		1	31.25
RT STA 447+81.59 TO RT STA 448+69.09				87.5	1	77.75
RT STA 448+69.09 TO RT STA 449+19.09	1	1			0	0
LT STA 444+88.51 TO LT STA 445+38.51	1	1			0	0
LT STA 445+38.51 TO LT STA 446+26.01				87.5	1	77.75
LT STA 446+26.01 TO LT STA 446+57.26			1		1	31.25
LT STA 447+65.26 TO LT STA 447+96.51			1		1	31.25
LT STA 447+96.51 TO LT STA 449+71.51				175.0	3	77.75
LT STA 449+71.51 TO LT STA 450+21.51	1	1			0	0
TOTAL =	4	4	4	525	12	436

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: VERT. HORIZ. DATE

DRAWN BY CHECKED BY

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	9
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T) B-2

PAVEMENT MARKING							
LOCATION	RAISED REFL PVT MK REMOVAL	PAINT PVT MK - LINE 5" SOLID WHITE	PAINT PVT MK - LINE 5" SD YELLOW	RAISED REFL PVT MARKERS	SHOT TERM PVT MK	WORK ZONE PVT MK REMOVAL	PAVEMENT MARKING REMOVAL
	EACH	FOOT	FOOT	EACH	FOOT	SO FT	SO FT
STA 441+00.00 TO STA 452+00.00 (PERMANENT)	14	2200	275	14	220	193	
REMOVAL BEFORE STAGE 1							342
REMOVAL BEFORE STAGE 2							458
REMOVAL ON BRIDGE AFTER STAGE 2						167	
(NOTE: TEMPORARY PAVEMENT MARKING IS NOT PAID FOR SEPARATELY FOR STAGE 1 AND 2, BUT INCLUDED IN THE STANDARD)							
TOTAL =	14	2200	275	14	220	360	800

ENTRANCE IMPROVEMENT SCHEDULE FOR PPP AND SMART PROJECTS														
LOCATION	TYPE OF ENTRANCE	EX MATERIAL TYPE	BACK WIDTH	OFFSET FROM "EDGE LINE"	BITUMINOUS SHOULDER WIDTH	BIT RESURF AREA	PR BIT CONC. THICKNESS	BIT SURF REM-BUTT JOINT	PCC SURF REM-BUTT JOINT	TEMPORARY RAMP	BIT MAT (PRIME COAT)	AGGREGATE (PRIME COAT)	INCIDENTAL BIT. SURF.	AGGREGATE SURFACE CSE, T-B
STATION	(PE/CE/MB/SR)	(AGG./BIT./PCC.)	(FT)	(FT)	(FT)	(SQ. YD)	(INCH)	(SQ. YD)	(SQ. YD)	(SQ YD)	(TON)	(TON)	(TON)	(TON)
442+30 RT - DEERFIELD RD	SR	BIT	24	10	0	57.8	1.875	57.8	-	-	0.02	0.12	6.1	-
442+30 LT - DEERFIELD RD	SR	BIT	24	10	0	57.8	1.875	57.8	-	-	0.02	0.12	6.1	-
450+16 RT	PE/MB	AGG	20	8	5	15.7	2.5	-	-	-	0.01	0.03	2.2	5
* ALL STATIONS AND BACK WIDTHS ARE APPROXIMATE VALUES.														
TOTAL =								115.6	0.0	0.0	0.05	0.3	14.3	5

PLOT DATE = 1/30/2007  
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 USER NAME = laughlin-1

REVISIONS	
NAME	DATE

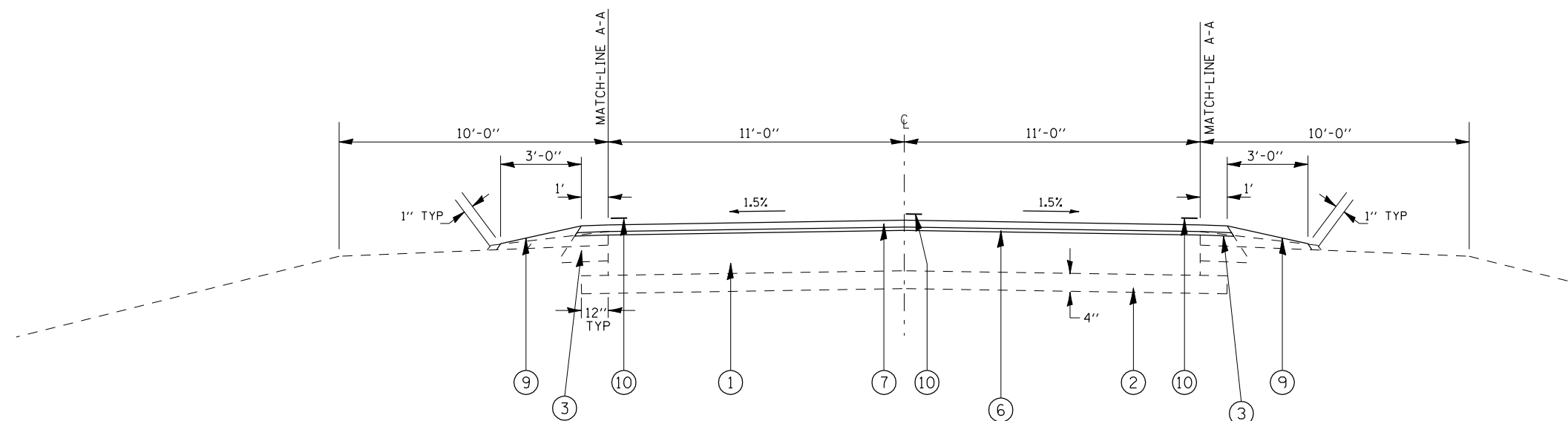
ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

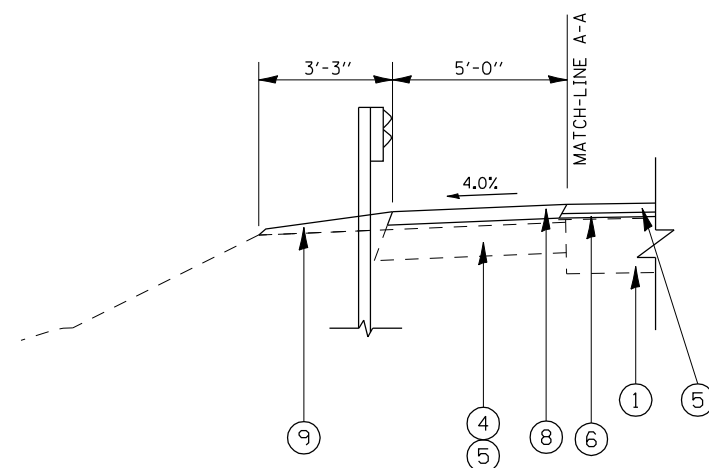
SCALE: VERT.      DRAWN BY  
 DATE      HORIZ.      CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	•	MACOUPIN	66	10
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

(V.1)B-2



-STA 441+00.00 TO STA 446+13.80  
 STA 446+13.80 TO STA 447+93.80 - PR BRIDGE APPR.  
 PAVT. (STD 420401)  
 & BRIDGE REPLACEMENT  
 (SEE DETAILS).  
 STA 447+93.80 TO STA 452+00.00



DETAIL

LEGEND

- ① EX PCC PAVEMENT, 9"
- ② EX SUB-BASE GRANULAR MATERIAL
- ③ EX BIT. SHLDRS.
- ④ EX EARTH EXCAVATION WIDENING
- ⑤ EX BIT. BASE COURSE WIDENING, SUPERPAVE, 10"
- ⑥ PR LEVELING BINDER (MACHINE METHOD), 1" AVG. (SEE BIT. MIXTURE TABLE)
- ⑦ PR. HOT MIX ASPHALT SURFACE COURSE, 1 1/2" (SEE BIT. MIXTURE TABLE)
- ⑧ PR HOT MIX ASPHALT SHLDRS. 2-1/2" (SEE BIT. MIXTURE TABLE)
- ⑨ PR AGG. SHLDRS., TYPE B
- ⑩ PR PAINT PAVEMENT MARKING, LINE - 5"

LT STA 442+85.00 TO LT STA 444+98.00 - NO PR GUARDRAIL

LT STA 444+88.51 TO LT STA 446+29.60

LT STA 446+29.60 TO LT STA 446+66.76 - PR APPROACH PAVEMENT/ CONN.

LT STA 446+66.76 TO LT STA 447+55.76 - PR BRIDGE (NO PR GUARDRAIL)

LT STA 447+55.76 TO LT STA 447+90.60 - PR APPROACH PAVEMENT/ CONN.

LT STA 447+90.60 TO LT STA 450+12.01

LT STA 450+12.01 TO LT STA 450+71.08 - NO PR GUARDRAIL

LT STA 450+71.08 TO LT STA 450+95.07 - TRANS. 6' BIT. SHLD. TO 1' BIT. SHLD.

RT STA 442+67.00 TO RT STA 443+95.60 - NO PR GUARDRAIL

RT STA 443+95.60 TO RT STA 446+17.00

RT STA 446+17.00 TO RT STA 446+51.84 - PR APPROACH PAVEMENT

RT STA 446+51.84 TO RT STA 447+40.84 - PR BRIDGE (NO PR GUARDRAIL)

RT STA 447+40.84 TO RT STA 447+78.00 - PR APPROACH PAVEMENT

RT STA 447+78.00 TO RT STA 449+09.60

RT STA 449+09.60 TO RT STA 450+60.00 - NO PR GUARDRAIL

RT STA 450+60.00 TO RT STA 450+76.00 - TRANS. 6' BIT. SHLD. TO 1' BIT. SHLD.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

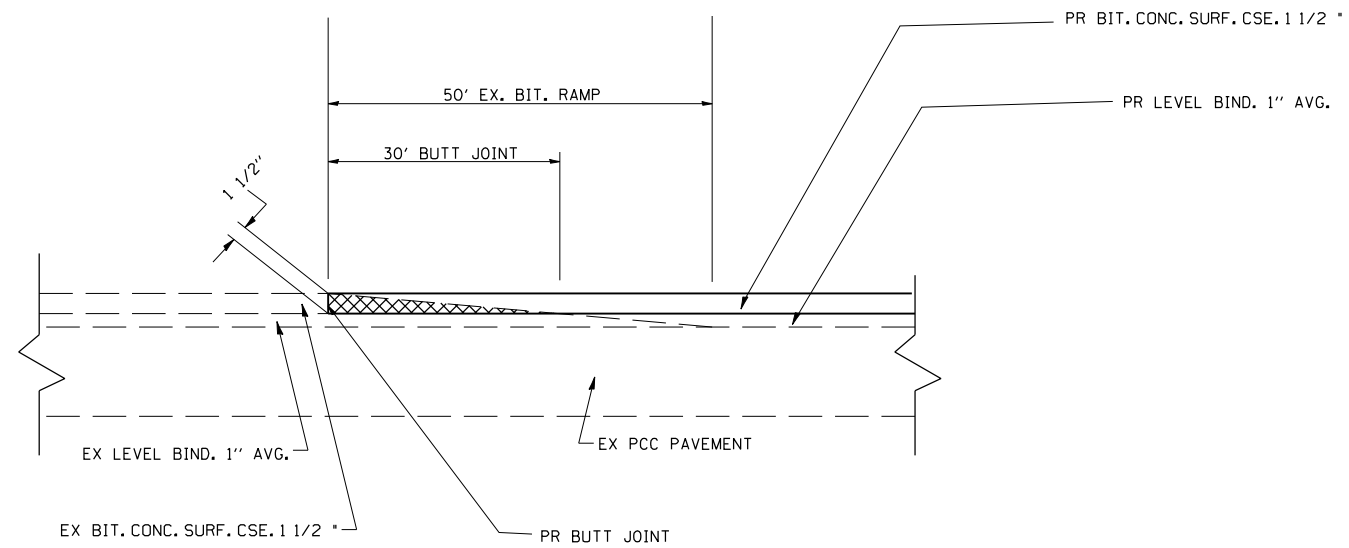
TYPICAL SECTIONS

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 HORIZ.  
 DATE 04-07-03

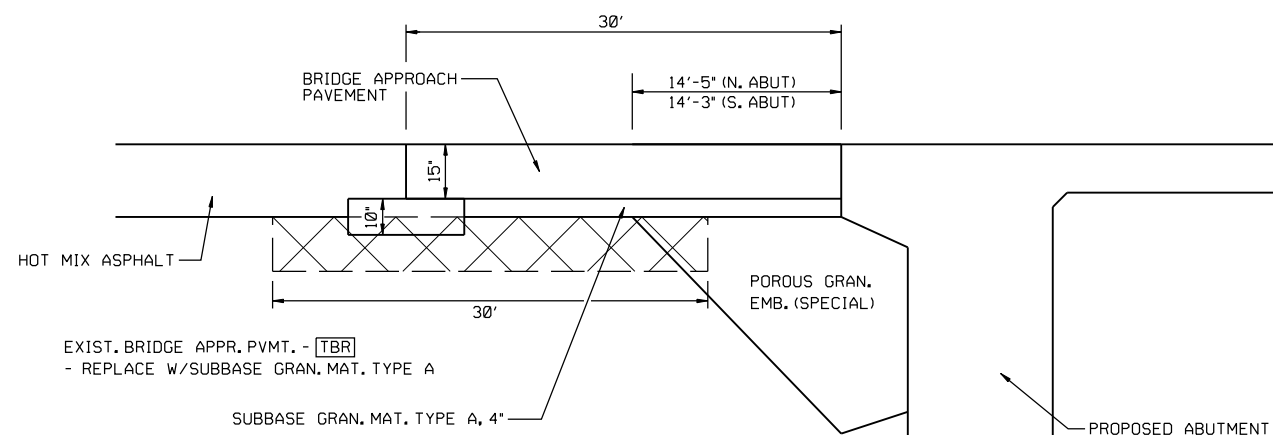
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 CHECKED BY

•DGN-SPEC•  
 •DATE-TIME•  
 •REF01

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	(V,T)B-2		66	10A
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



**BIT. RAMP DETAIL**  
 STA 441+00.00 TO STA 441+50.00  
 STA 451+50.00 TO STA 452+00.00



REVISIONS	
NAME	DATE

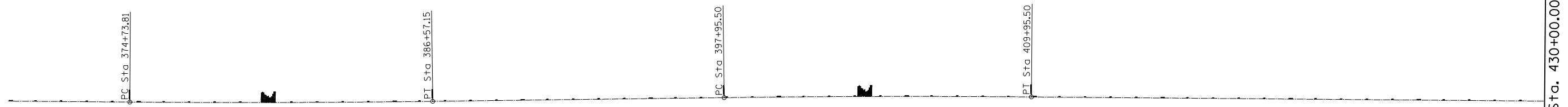
ILLINOIS DEPARTMENT OF TRANSPORTATION

**BUTT JOINT DETAILS**

SCALE: VERT. / HORIZ.  
 DATE / DRAWN BY / CHECKED BY

PLOT DATE : 2/22/2007  
 FILE NAME : c:\projects\652695\shdetail.dgn  
 PLOT SCALE : 1/8"=1'-0" / IN.  
 USER NAME : laughlin-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	(V,T)B-2		66	11
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



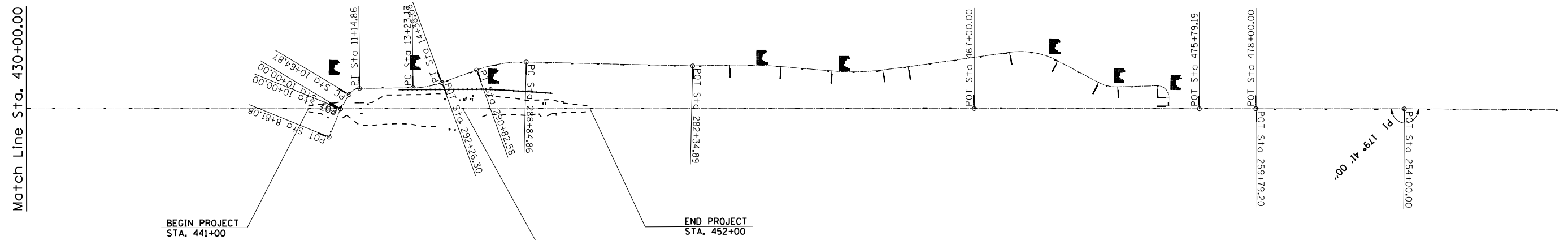
EXIST. CURVE 4001  
 PI STA. = 380+65.50  
 $\Delta$  = 1° 11' 00" (LT)  
 D = 0° 06' 00"  
 R = 57,296.10'  
 T = 591.69'  
 L = 1,183.34'  
 E = 3.06'  
 e = -----  
 T.R. = -----  
 S.E. RUN = -----  
 P.C. STA. = 374+73.81  
 P.T. STA. = 386+57.15  
 EX & PR SE = N.C.

EXIST. CURVE 4000  
 PI STA. = 403+95.52  
 $\Delta$  = 1° 12' 00" (RT)  
 D = 0° 06' 00"  
 R = 57,295.78'  
 T = 600.02'  
 L = 1,200.00'  
 E = 3.14'  
 e = -----  
 T.R. = -----  
 S.E. RUN = -----  
 P.C. STA. = 397+95.50  
 P.T. STA. = 409+95.50  
 EX & PR SE = N.C.

Match Line Sta. 430+00.00

EXIST. CURVE 5144 PI STA. = 10+92.29 $\Delta$ = 58° 27' 58" (RT) D = 116° 56' 44" R = 48.99' T = 27.42' L = 49.99' E = 7.15' e = ----- T.R. = ----- S.E. RUN = ----- P.C. STA. = 10+64.87 P.T. STA. = 11+14.86	EXIST. CURVE 143 PI STA. = 13+81.17 $\Delta$ = 19° 13' 40" (LT) D = 16° 43' 58" R = 342.41' T = 58.00' L = 114.91' E = 4.88' e = ----- T.R. = ----- S.E. RUN = ----- P.C. STA. = 13+23.17 P.T. STA. = 14+38.08	EXIST. CURVE 142 PI STA. = 289+84.86 $\Delta$ = 21° 11' 58" (LT) D = 10° 43' 20" R = 534.36' T = 100.00' L = 197.71' E = 9.28' e = ----- T.R. = ----- S.E. RUN = ----- P.C. STA. = 288+84.86 P.T. STA. = 290+82.58
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STA. 478+00.00 (BK) =  
 STA. 259+79.19 (BK)



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SURVEY ALIGNMENT

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_

DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

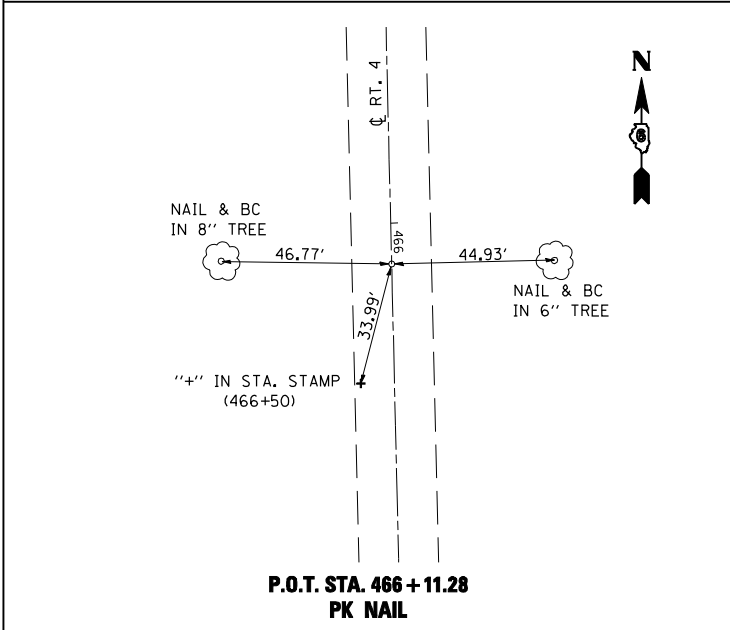
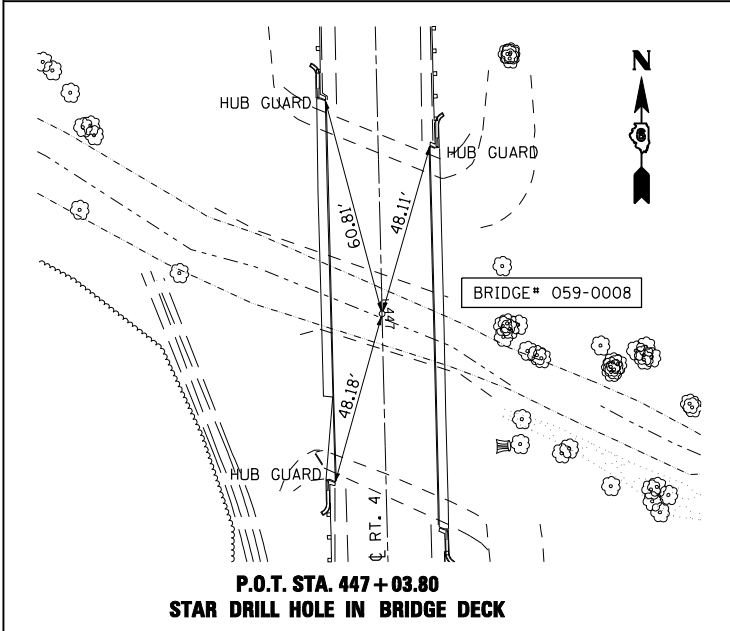
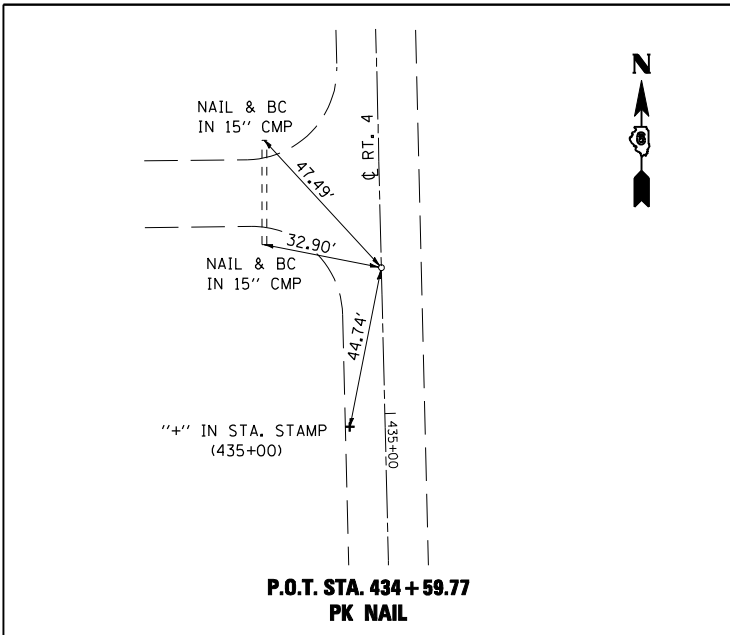
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 USER NAME = laughlin-1



F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	12
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T) B-2

BM #20A : TO REACH FROM INTERSECTION OF DEERFIELD RD. & OLD IL RTE 4,  
 PROCEED SOUTH 507' TO BRIDGE 059-0008 OVER HONEY CREEK,  
 BENCH IS LOCATED ON S.W. CORNER OF HUB GUARD.  
 STA. 447+50.11, 15.2' RT.  
 ELEV. = 602.96



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

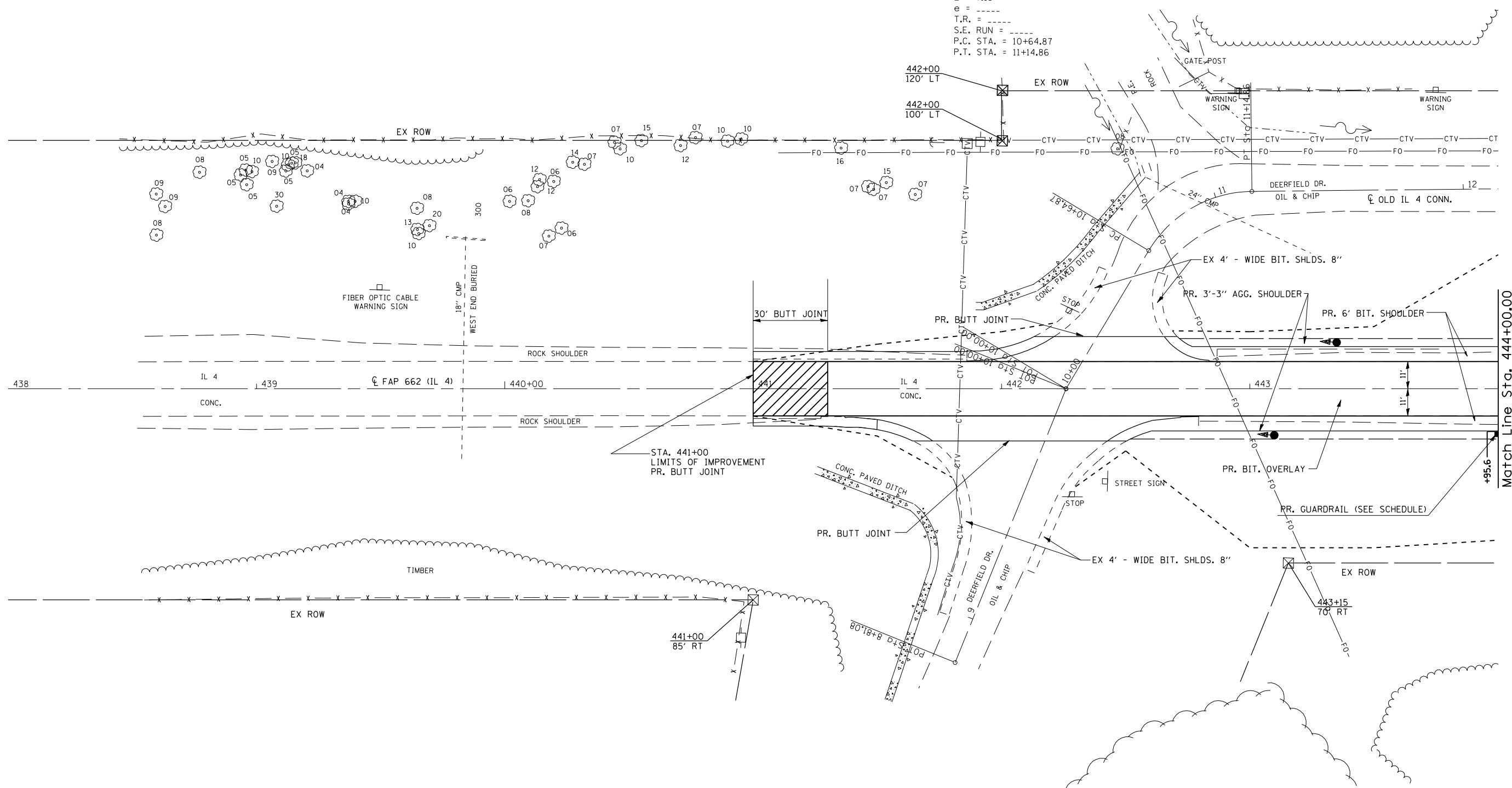
**BENCHMARKS & CROSS TIES**

SCALE: VERT.      DRAWN BY  
 HORIZ.              CHECKED BY  
 DATE

•DGN-SPEC•  
 •DATE-TIME•  
 •REF01

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	13
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
• (V,T) B-2				

EXIST. CURVE 5144  
 PI STA. = 10+92.29  
 $\Delta = 58^\circ 27' 58''$  (RT)  
 $D = 116^\circ 56' 44''$   
 $R = 48.99'$   
 $T = 27.42'$   
 $L = 49.99'$   
 $E = 7.15'$   
 $e = \text{---}$   
 $T.R. = \text{---}$   
 $S.E. \text{ RUN} = \text{---}$   
 $P.C. \text{ STA.} = 10+64.87$   
 $P.T. \text{ STA.} = 11+14.86$



Match Line Sta. 444+00.00

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## PLAN VIEW

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_

DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

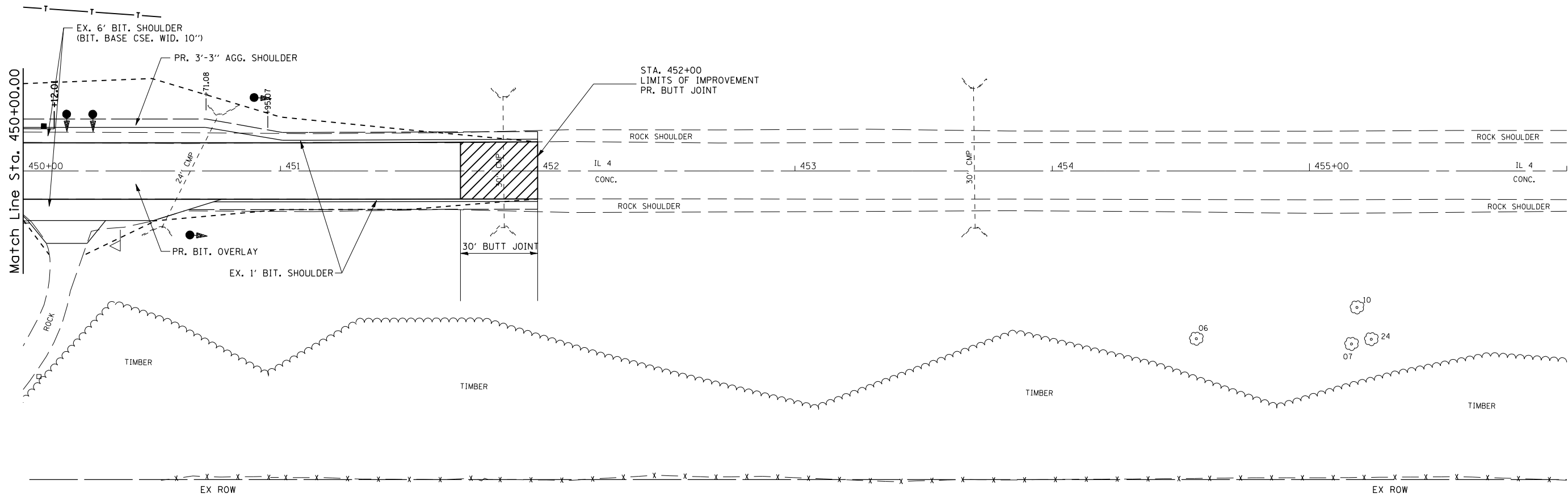
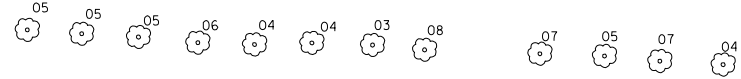
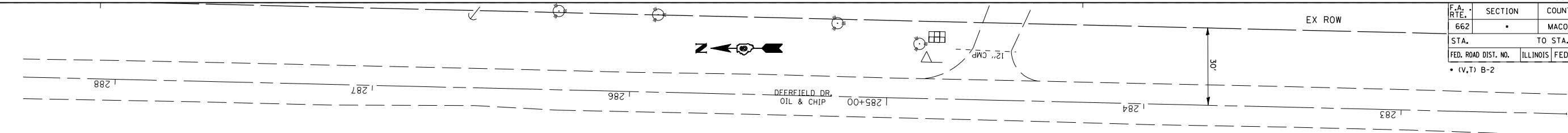
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 PLOT SCALE = 4.23525 / IN.  
 USER NAME = laughlin-1







F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	17
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
• (V,T) B-2				



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**PLAN VIEW**

SCALE: VERT. / HORIZ.

DATE: / /

DRAWN BY: / /

CHECKED BY: / /

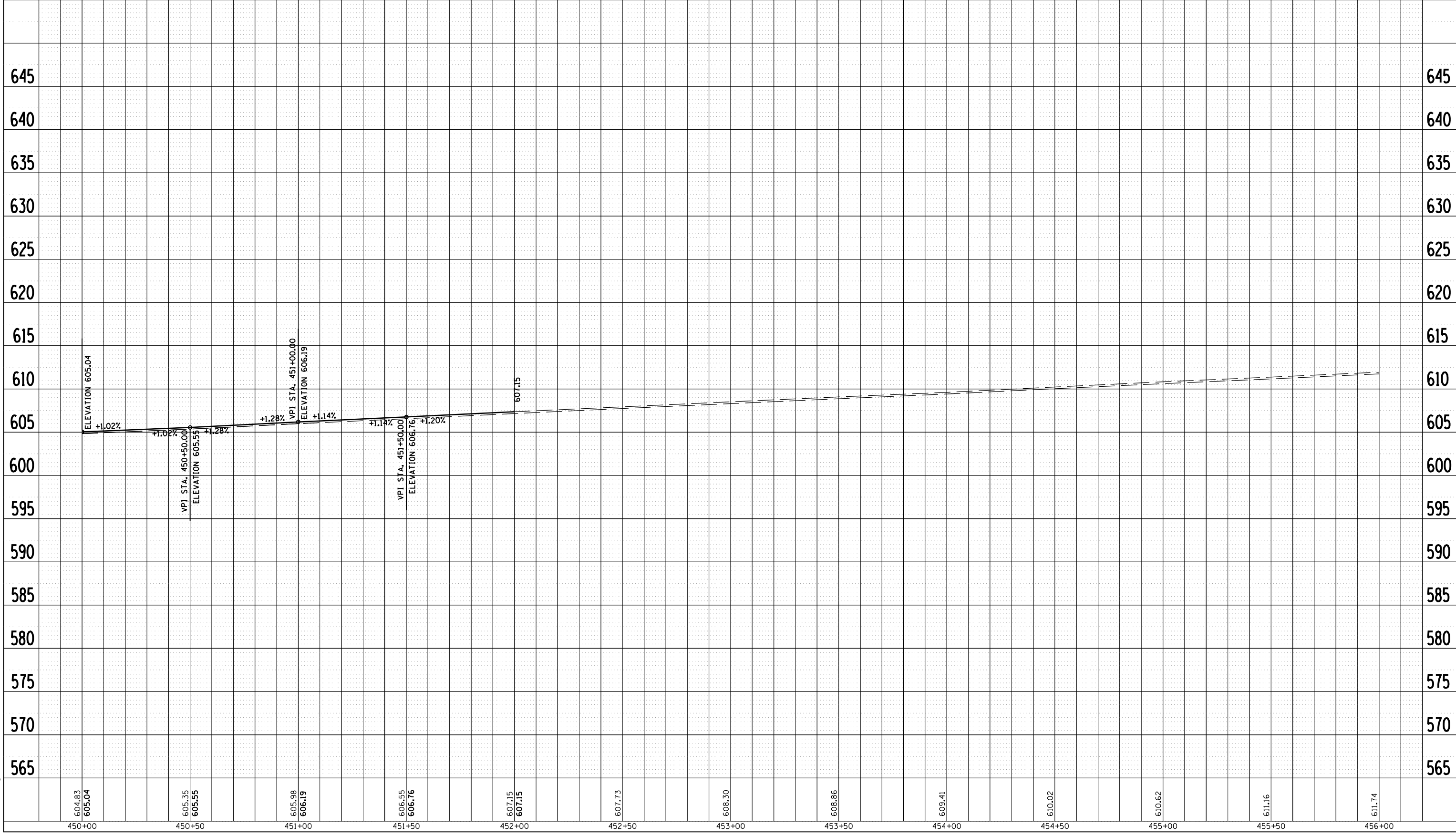
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 PLOT SCALE = 4.23525 / IN.  
 USER NAME = laughlin-1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	18
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
* (V,T) B-2				

PLAN	SURVEYED	BY	DATE
NOTE BOOK NO. _____	PLOTTED _____	_____	_____
_____	CHKD BY _____	_____	_____
_____	DATE _____	_____	_____

PROFILE	SURVEYED	BY	DATE
NOTE BOOK NO. _____	PLOTTED _____	_____	_____
_____	CHKD BY _____	_____	_____
_____	DATE _____	_____	_____

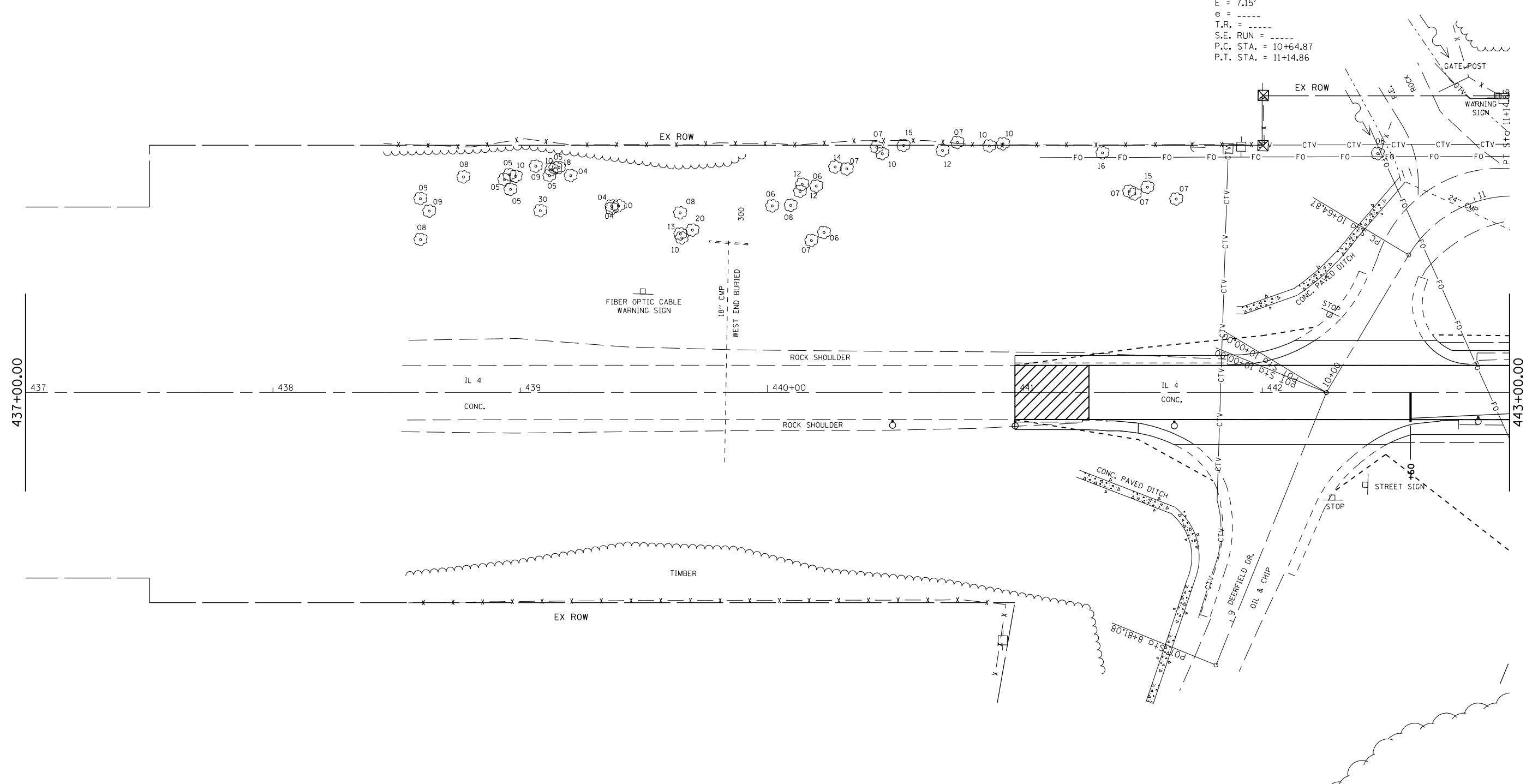
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 USER NAME = taugh1m-1



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	19
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EXIST. CURVE 5144  
 PI STA. = 10+92.29  
 $\Delta = 58^\circ 27' 58''$  (RT)  
 $D = 116^\circ 56' 44''$   
 $R = 48.99'$   
 $T = 27.42'$   
 $L = 49.99'$   
 $E = 7.15'$   
 $e = \text{-----}$   
 $T.R. = \text{-----}$   
 $S.E. \text{ RUN} = \text{-----}$   
 $P.C. \text{ STA.} = 10+64.87$   
 $P.T. \text{ STA.} = 11+14.86$

• (V,T) B-2



PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\662993\shots\stage1.dgn  
 PLOT SCALE = 42.3525' / IN.  
 REFERENCE = #REF#

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE 1**  
**PLAN VIEW**

SCALE: VERT.  
 HORIZ.  
 DATE

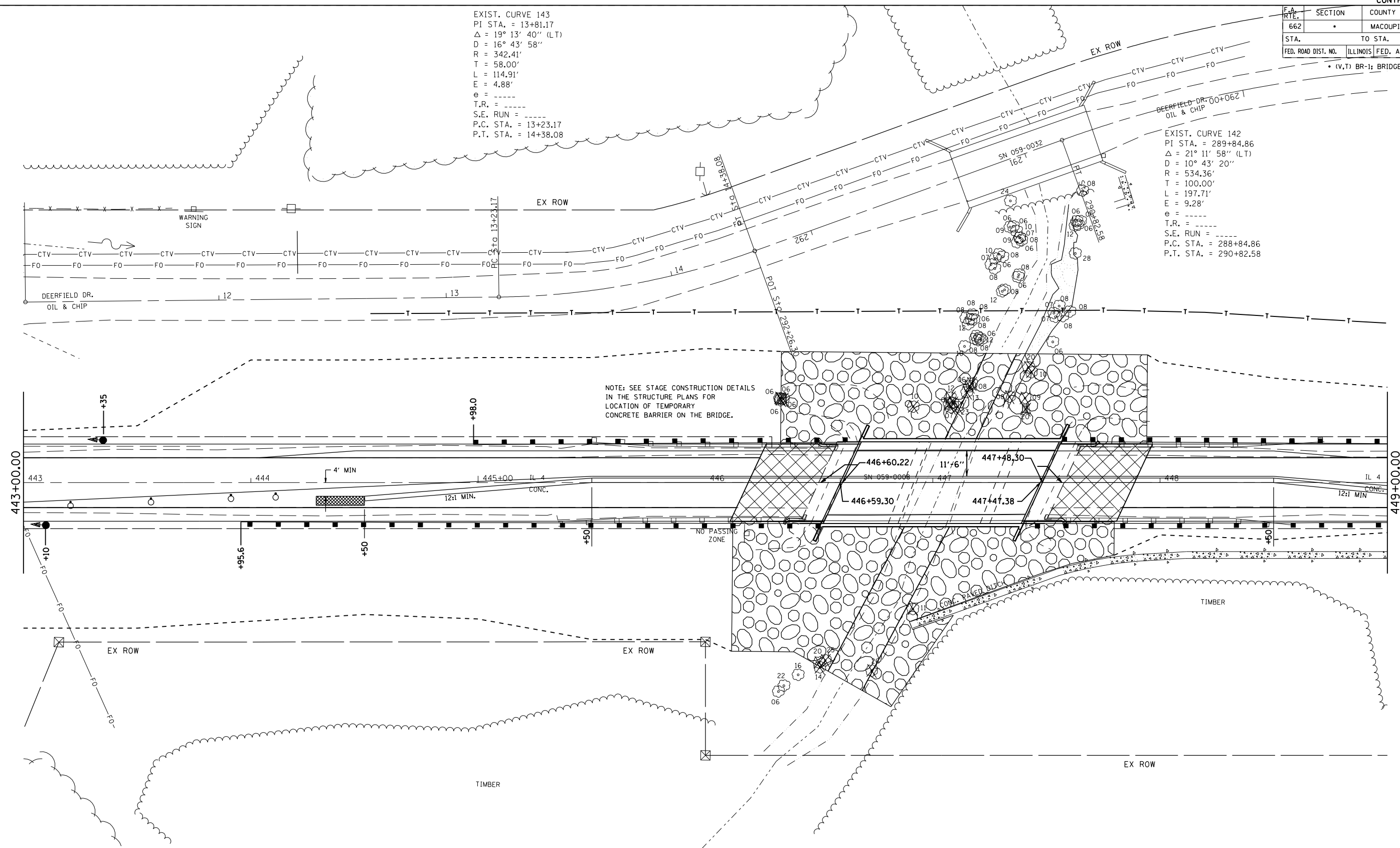
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 CHECKED BY JCN



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	20
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

EXIST. CURVE 143  
 PI STA. = 13+81.17  
 $\Delta = 19^\circ 13' 40''$  (LT)  
 $D = 16^\circ 43' 58''$   
 $R = 342.41'$   
 $T = 58.00'$   
 $L = 114.91'$   
 $E = 4.88'$   
 $e = \text{---}$   
 $T.R. = \text{---}$   
 $S.E. RUN = \text{---}$   
 $P.C. STA. = 13+23.17$   
 $P.T. STA. = 14+38.08$

EXIST. CURVE 142  
 PI STA. = 289+84.86  
 $\Delta = 21^\circ 11' 58''$  (LT)  
 $D = 10^\circ 43' 20''$   
 $R = 534.36'$   
 $T = 100.00'$   
 $L = 197.71'$   
 $E = 9.28'$   
 $e = \text{---}$   
 $T.R. = \text{---}$   
 $S.E. RUN = \text{---}$   
 $P.C. STA. = 288+84.86$   
 $P.T. STA. = 290+82.58$



NOTE: SEE STAGE CONSTRUCTION DETAILS IN THE STRUCTURE PLANS FOR LOCATION OF TEMPORARY CONCRETE BARRIER ON THE BRIDGE.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE 1  
 PLAN VIEW**

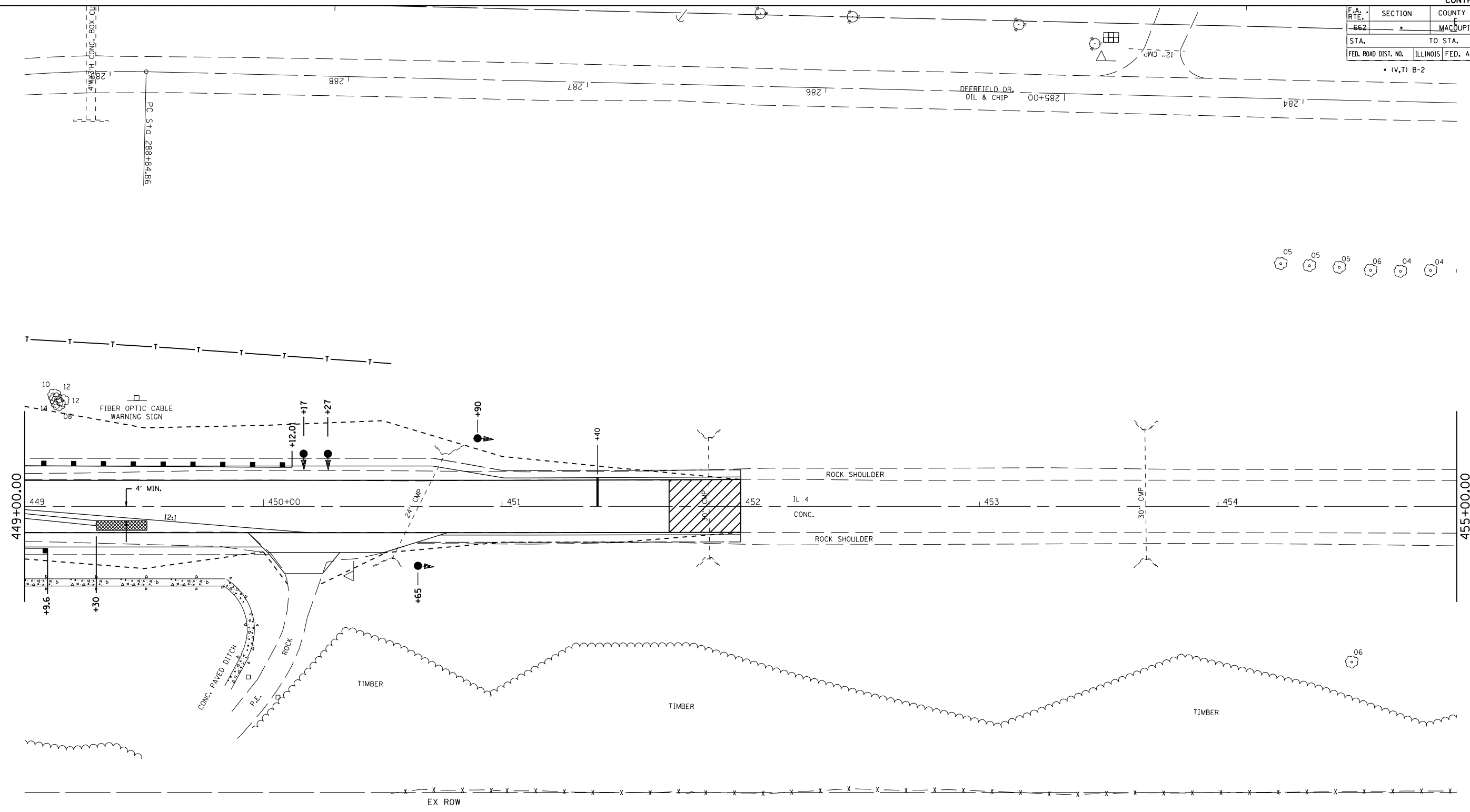
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 DATE

DRAWN BY: BOK  
 CHECKED BY: JCN

PLOT DATE = 1/30/2007  
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 REFERENCE = #REF#

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	21
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

(V,T) B-2



05 05 05 06 04 04

PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\6652685\shots\stage1.dgn  
 PLOT SCALE = 42.3525' / IN.  
 REFERENCE = #REF#

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE 1  
PLAN VIEW**

SCALE: VERT.  
HORIZ.

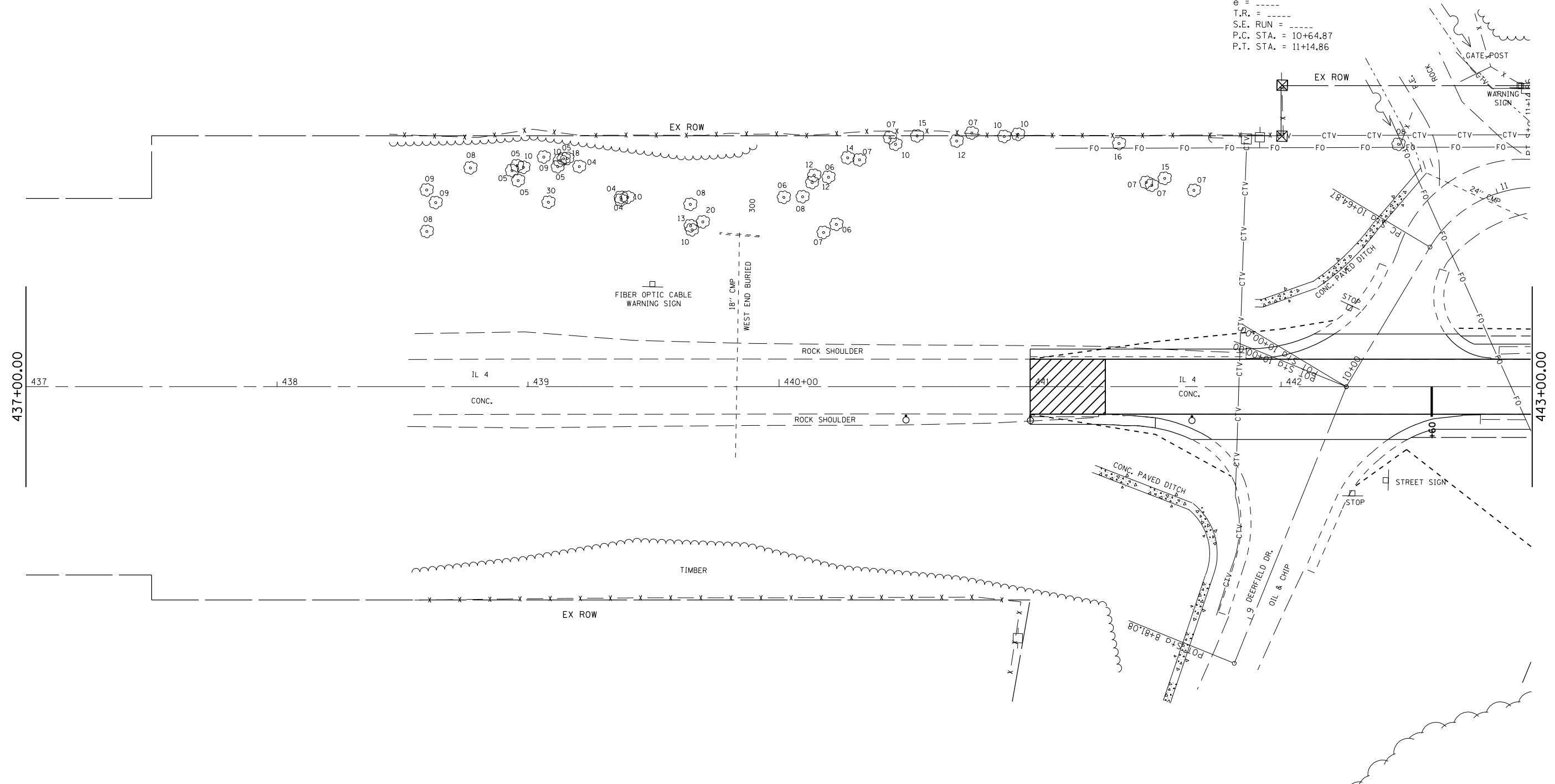
DATE

DRAWN BY BDK  
CHECKED BY JCN

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	22
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EXIST. CURVE 5144  
 PI STA. = 10+92.29  
 $\Delta = 58^\circ 27' 58''$  (RT)  
 $D = 116^\circ 56' 44''$   
 $R = 48.99'$   
 $T = 27.42'$   
 $L = 49.99'$   
 $E = 7.15'$   
 $e = \text{-----}$   
 $T.R. = \text{-----}$   
 $S.E. \text{ RUN} = \text{-----}$   
 $P.C. \text{ STA.} = 10+64.87$   
 $P.T. \text{ STA.} = 11+14.86$

• (V,T)B-2



PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\662993\shs\stage2.dgn  
 PLOT SCALE = 42.353' / IN.  
 REFERENCE = #REF#

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE 2**  
PLAN VIEW

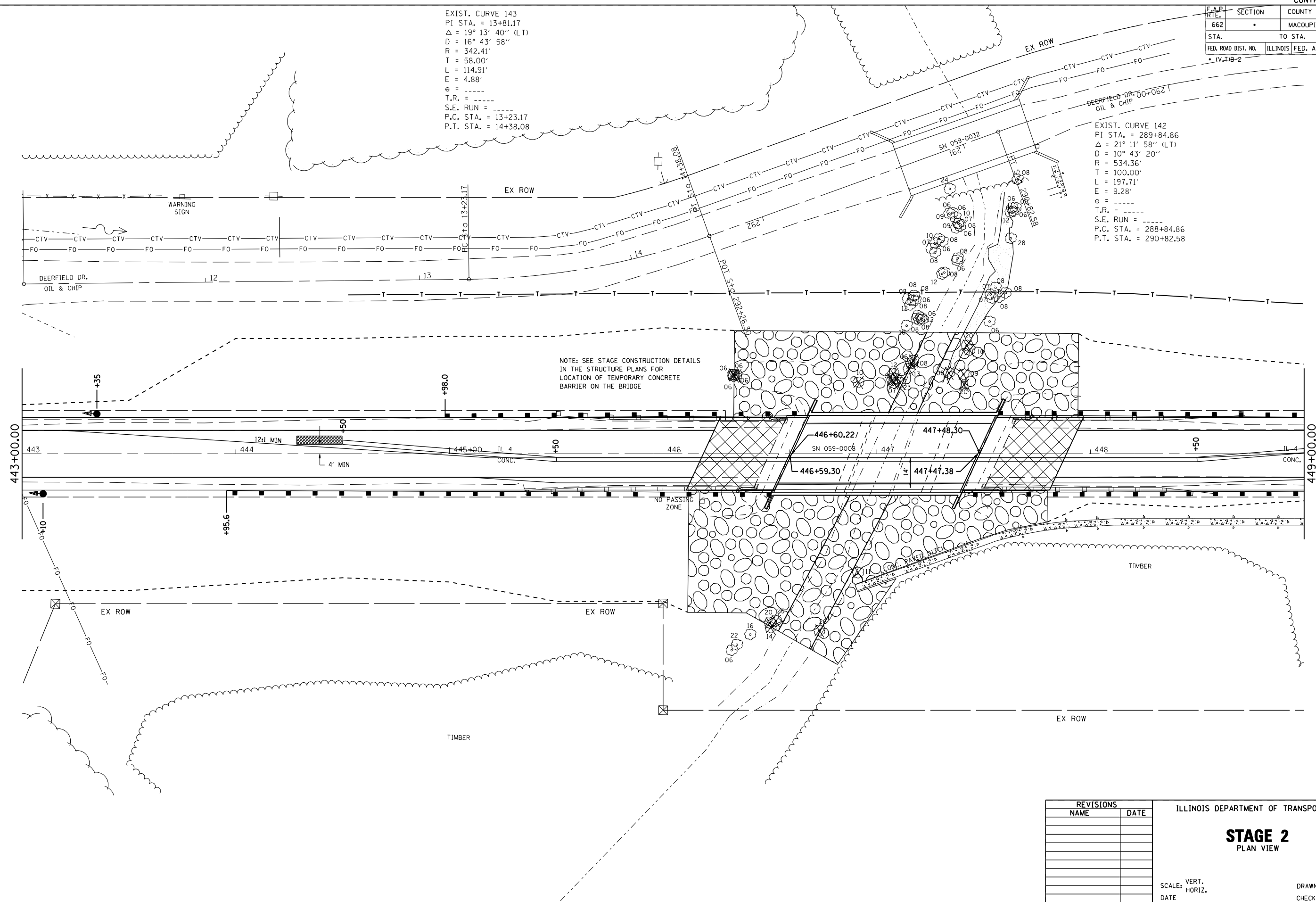
SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	23
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

EXIST. CURVE 143  
 PI STA. = 13+81.17  
 $\Delta = 19^\circ 13' 40''$  (LT)  
 $D = 16^\circ 43' 58''$   
 $R = 342.41'$   
 $T = 58.00'$   
 $L = 114.91'$   
 $E = 4.88'$   
 $e = \text{---}$   
 $T.R. = \text{---}$   
 $S.E. RUN = \text{---}$   
 $P.C. STA. = 13+23.17$   
 $P.T. STA. = 14+38.08$

EXIST. CURVE 142  
 PI STA. = 289+84.86  
 $\Delta = 21^\circ 11' 58''$  (LT)  
 $D = 10^\circ 43' 20''$   
 $R = 534.36'$   
 $T = 100.00'$   
 $L = 197.71'$   
 $E = 9.28'$   
 $e = \text{---}$   
 $T.R. = \text{---}$   
 $S.E. RUN = \text{---}$   
 $P.C. STA. = 288+84.86$   
 $P.T. STA. = 290+82.58$



NOTE: SEE STAGE CONSTRUCTION DETAILS IN THE STRUCTURE PLANS FOR LOCATION OF TEMPORARY CONCRETE BARRIER ON THE BRIDGE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**STAGE 2**  
 PLAN VIEW

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_

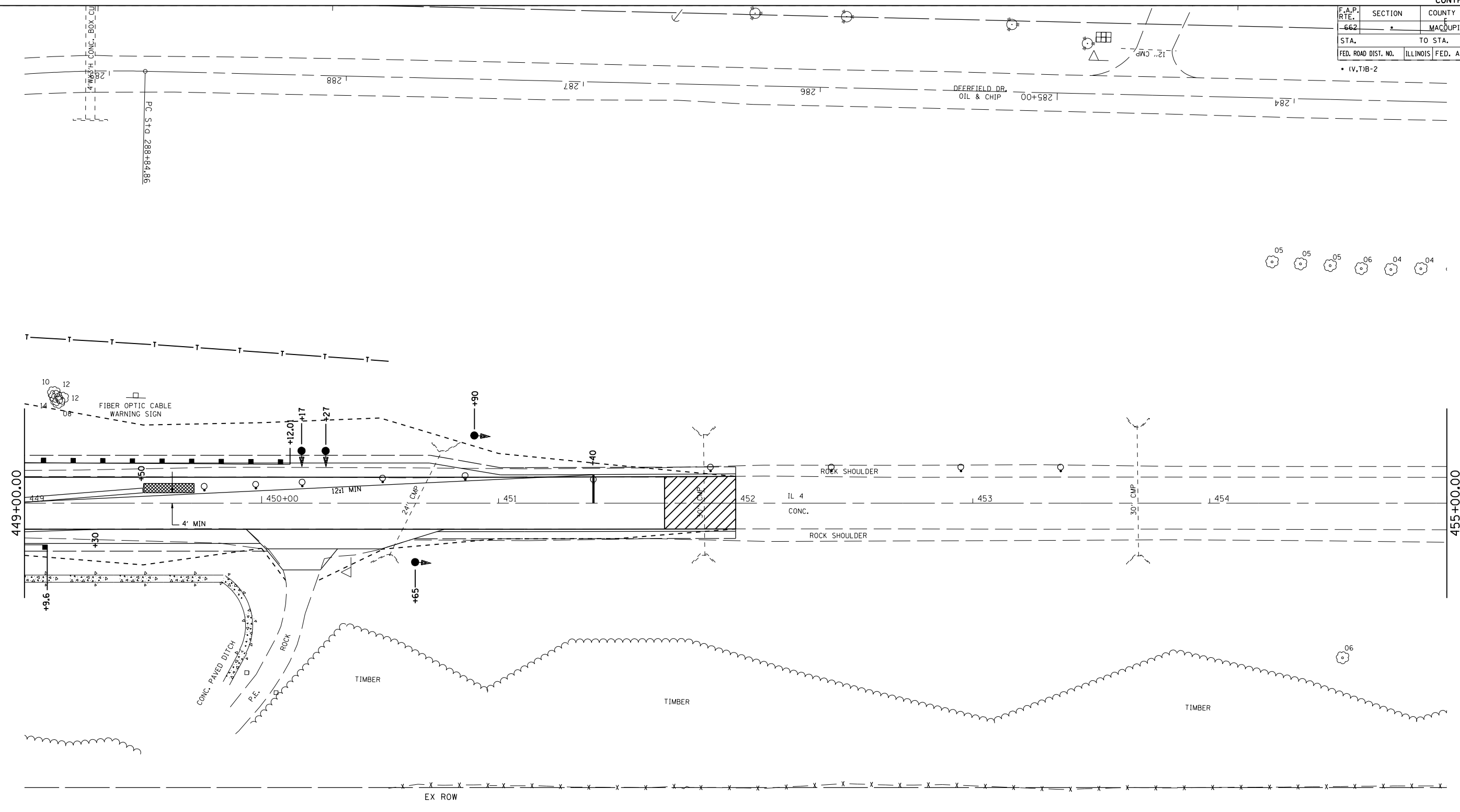
DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_

PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\662993\shs\stage2.dgn  
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 REFERENCE = #REF#

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	66	24
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

(V.TIB-2)



05 05 05 06 04 04

PLOT DATE = 1/30/2007  
 FILE NAME = c:\projects\652685\shots\stage2.dgn  
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 REFERENCE = #REF#

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

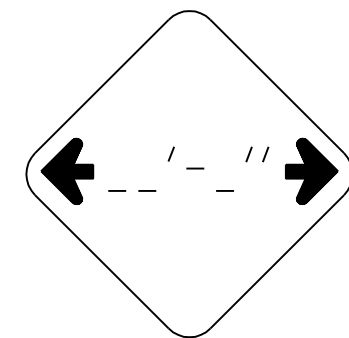
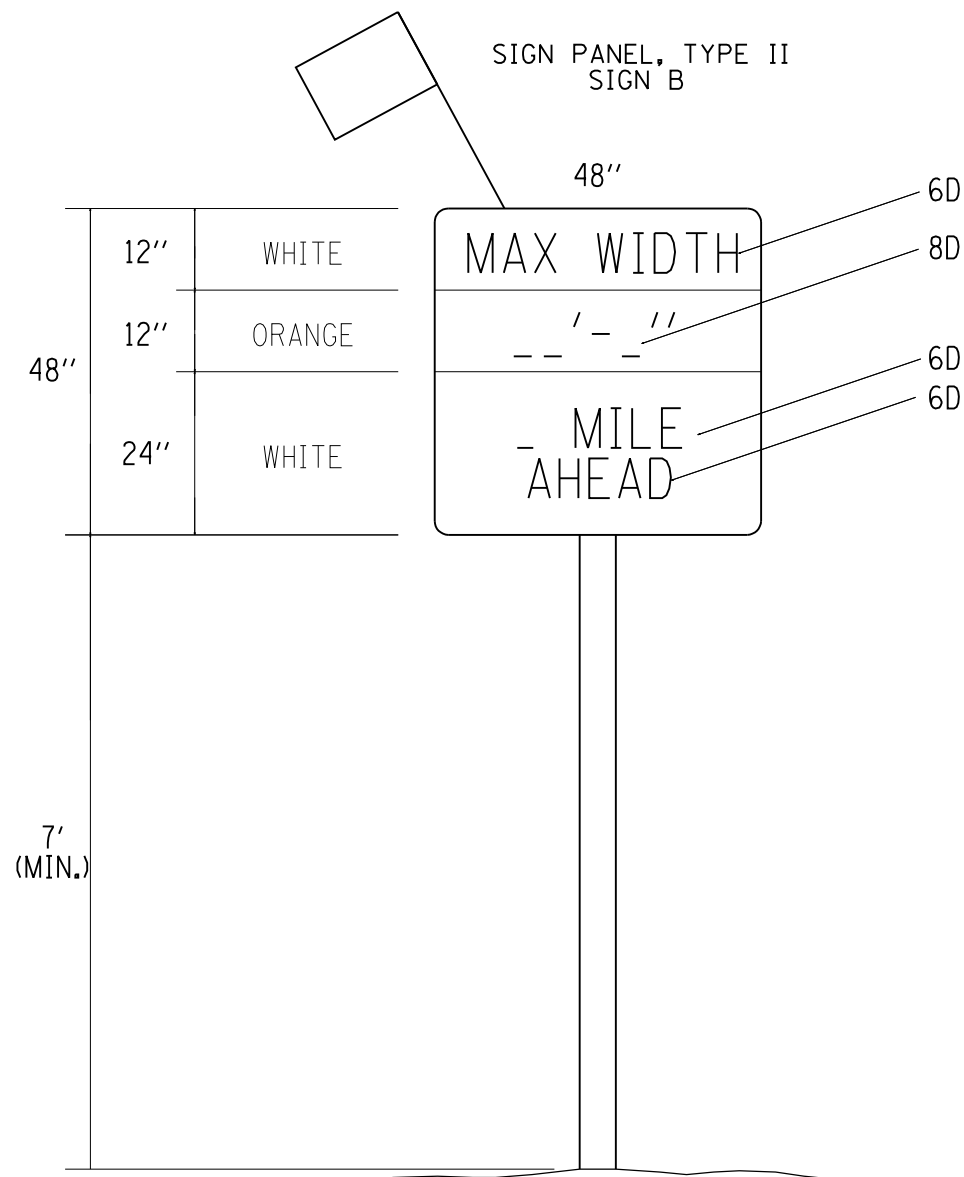
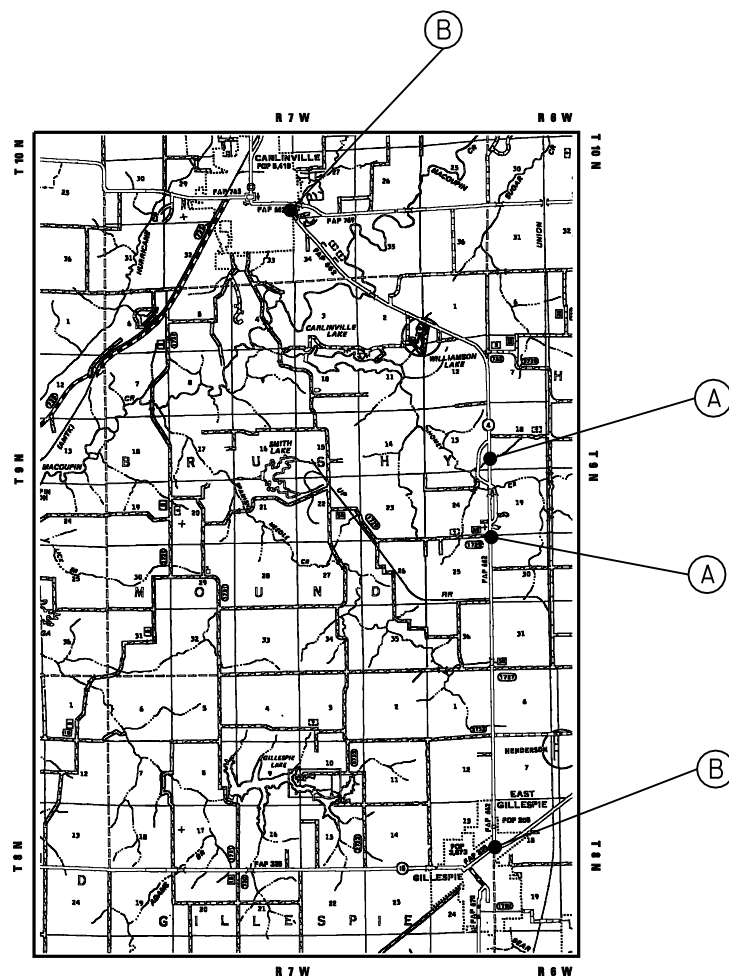
**STAGE 2**  
PLAN VIEW

SCALE: VERT.  
HORIZ.  
DATE

DRAWN BY  
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	25
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T)B-2



W12-2(O)-48  
SIGN A

SIGN A - 2 SIGNS - (W12-2(O)-48) ARE TO BE PLACED AT EACH END OF THE PROJECT JUST BEFORE SIGNING FOR TC&P STANDARD 701321 SIGNING.

SIGN B - TO BE PLACED AT THE JUNCTIONS OF IL 4 AND IL 16 IN GILLESPIE AND IL 4 AND IL 108 IN CARLINVILLE.

THESE SIGNS SHALL BE INSTALLED WITH FLAGS AND WILL BE PAID FOR AS PER LUMP SUM.

SIGNS SHALL BE PROVIDED BY THE DISTRICT 6 SIGN SHOP.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**WIDTH RESTRICTION SIGNAGE**

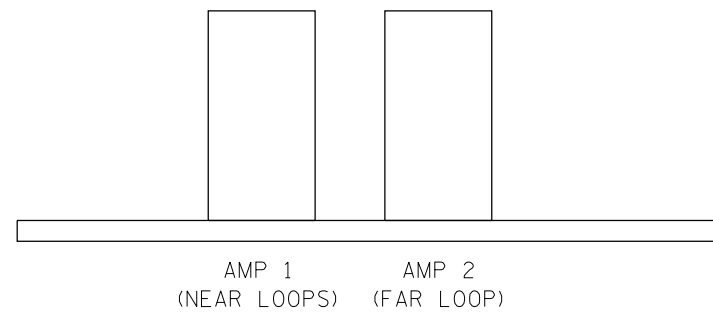
SCALE: VERT.  
HORIZ.  
DATE

DRAWN BY  
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	66	26
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T) B-2

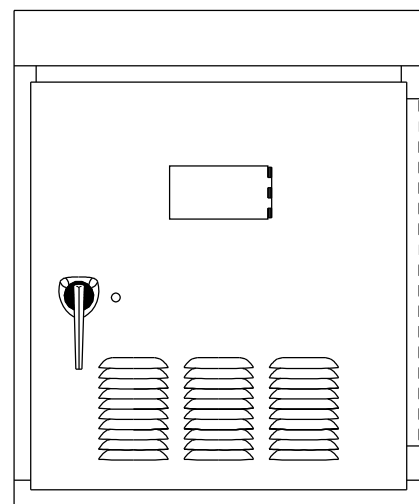
DETECTOR AMPLIFIER NOTES



AMP 1: DELAY = 8 SECONDS  
 DELAY SHALL BE INHIBITED DURING GREEN

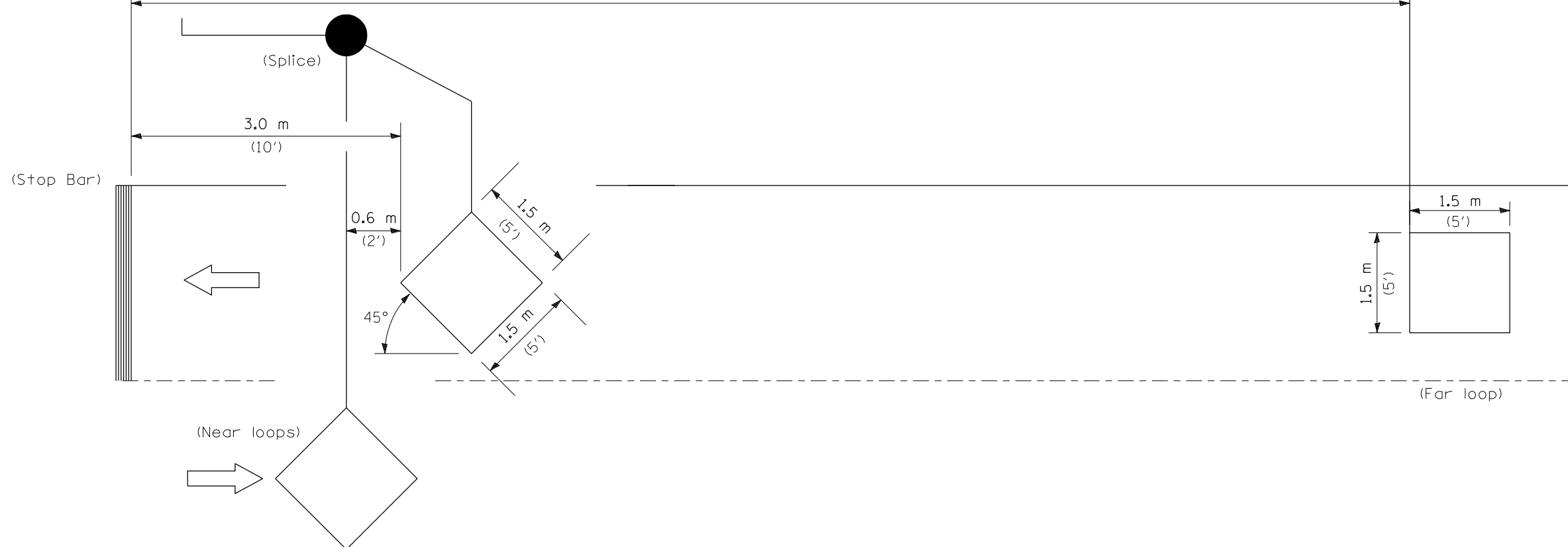
AMP 2: NO DELAY

FAR LOOP DISTANCE TABLE	
ADVISORY SPEED (MPH)	DISTANCE FROM STOP BAR (FT.)
30 OR LESS	220
35	260
40	300
45	330
50	370
55	400



Temporary Controller Cabinet

(See Distance Table)



NOTE: All loops centered in lane.

INDUCTION LOOP DETECTOR

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TEMPORARY BRIDGE TRAFFIC SIGNAL  
 LOOP PLACEMENT DETAIL SHEET**

SCALE: VERT. NONE  
 HORIZ. NONE  
 DATE: 06/16/04

DRAWN BY: KDA  
 CHECKED BY:

Bench Mark: IDOT BM#20A Chsd. "□" on SW corner of hub guard, S.N. 059-0008 Sta. 447+50, offset = 15.2' RT. NGVD  
29, Elev. 602.96

Existing Structure: S.N. 059-0008 built in 1961 as SBI Rte. 4, Section (V,T) B-1 at Sta. 447+03.8.  
The superstructure consists of a reinforced concrete deck on wide flange beams. The substructure consists of pile bent abutments and 2 single hammerhead piers supported on spread footings. The Bk. to Bk. Abut. dimension measures 108'-0" while the O.-O. deck width measures 33'-8". The structure is to be removed and replaced using stage construction.

No salvage

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

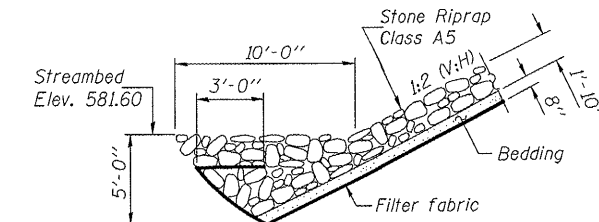
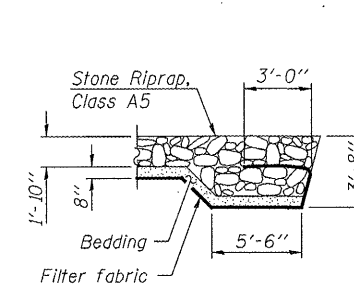
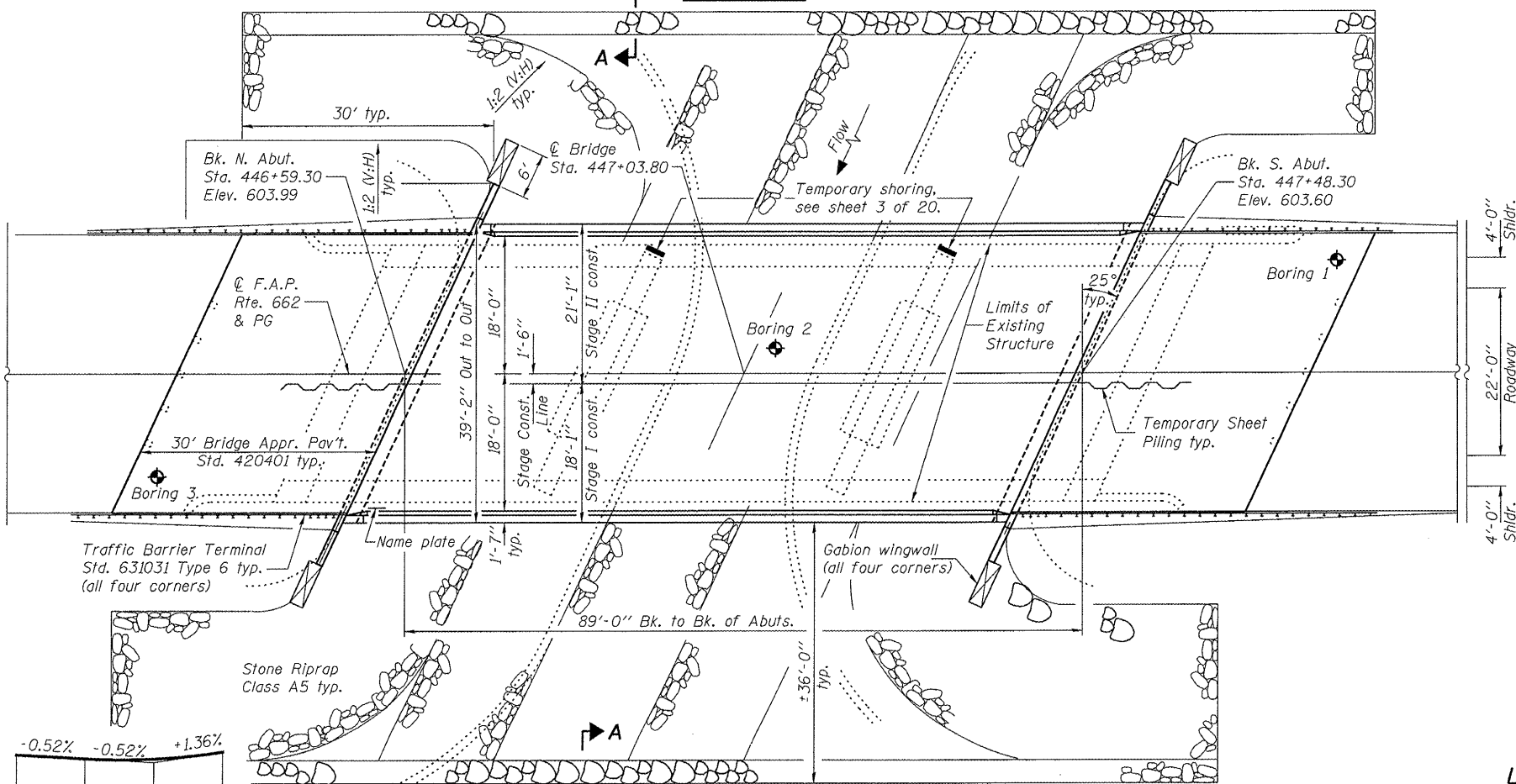
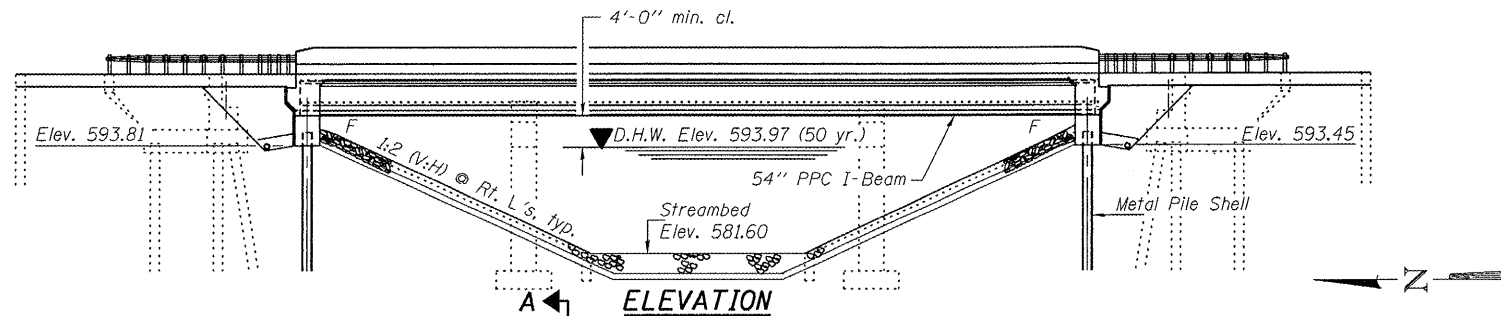
INDEX OF SHEETS

- 1 General Plan & Elevation
- 2 Stage Construction Details
- 3 Temporary Shoring Details at Existing Piers
- 4 Temporary Concrete Barrier Details
- 5-6 Top of Slab Elevations
- 7 Superstructure
- 8 Superstructure Details
- 9 Diaphragm Details
- 10 Framing Plan
- 11-12 Beam Details
- 13 North Abutment
- 14 South Abutment
- 15 Gabion Wingwall Details
- 16 Metal Shell Pile Details
- 17 Bar Splicer Details
- 18-20 Boring Logs

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.	SHEET NO. 1 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	66	27	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		Contract #72993

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified). See Special Provisions.  
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
Reinforcement bars designated (E) shall be epoxy coated.  
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.  
The Contractor shall drive test piles to 110% of the nominal required bearing specified in the production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.



STONE RIPRAP ANCHOR DETAIL

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		269.0	269.0
Stone Riprap, Class A5	Sq. Yd.		1465	1465
* Filter Fabric	Sq. Yd.		1525	1525
Removal of Existing Structures	Each	1		1
** Structure Excavation	Cu. Yd.		260	260
Concrete Structures	Cu. Yd.		52.3	52.3
Concrete Superstructure	Cu. Yd.	144.5		144.5
Bridge Deck Grooving	Sq. Yd.	335		335
Protective Coat	Sq. Yd.	431		431
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54"	Foot	524.5		524.5
Reinforcement Bars, Epoxy Coated	Pound	25920	6200	32120
Furnishing Metal Shell Piles 14"	Foot		931	931
Driving Piles	Foot		931	931
Test Pile Metal Shells	Each		2	2
Temporary Sheet Piling	Sq. Ft.		595	595
Name Plates	Each	1		1
Bar Splicers	Each	331	24	355
Gabions	Cu. Yd.		30.7	30.7
Pipe Underdrain for Structures, 4"	Foot		176	176
Geocomposite Wall Drain	Sq. Yd.		113	113
Temporary Shoring	Each		2	2

\* Includes filter fabric for riprap and gabion wingwalls.  
\*\* Includes excavation for structure and gabion wingwalls.

STATION 447+03.80  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RT. 662 SEC. (V,T)B-2  
LOADING HL93  
STRUCTURE NO. 059-0504

NAME PLATE  
See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 AASHTO LRFD with 2005 & 2006 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$  psi  
 $f'_ci = 5,000$  psi  
 $f'_s = 270,000$  psi ( $1/2$ "  $\phi$  low lax. strands)  
 $f_{si} = 201,960$  psi ( $1/2$ "  $\phi$  low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Bedrock Acceleration Coefficient (A) = 6.7%g  
Site Coefficient (S) = 1.5

WATERWAY INFORMATION

Exist. Low Grade Elev. 602.40 @ Sta. 447+08.8

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	10	2599	460	570	592.83	0.21	0.00	593.04	592.83
Base	50	4020	534	652	593.97	0.69	0.20	593.52	593.03
Overtopping	100	4629	562	682	594.37	0.92	0.34	593.75	593.17
Max. Calc.	500	6099	622	748	595.22	1.56	0.76	594.39	593.59

PROFILE GRADE

Sta. 446+00.00 Elev. 604.30	FC Sta. 447+00.00 Elev. 603.78	PI Sta. 448+50.00 Elev. 603.00	PT Sta. 450+00.00 Elev. 605.04
vc = 300'			
-0.52%   -0.52%   +1.36%			

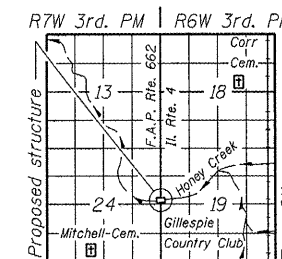
DESIGNED	<i>Phuoc P. Nguyen</i>
CHECKED	<i>h.t. duong</i>
DRAWN	<i>h.t. duong</i>
CHECKED	<i>DPN AIB</i>

EXAMINED *William J. Adams*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph G. Adams*  
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008

Note: Cost of removal of the existing slopewall is included in the pay item Removal of Existing Structures.



LOCATION SKETCH

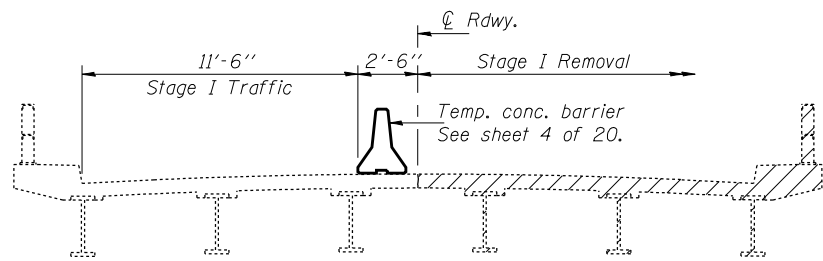
GENERAL PLAN & ELEVATION  
ILLINOIS ROUTE 4 OVER  
HONEY CREEK  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504



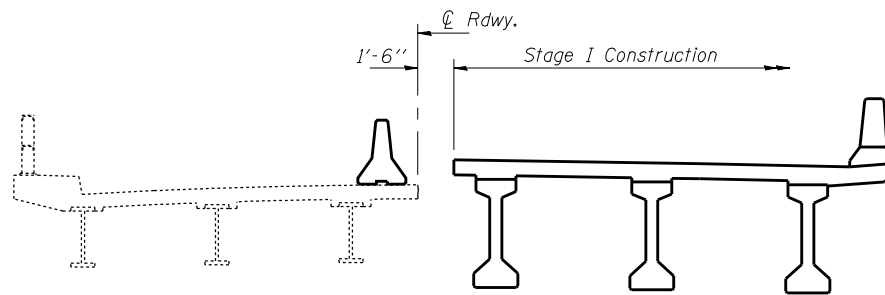
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 662	V.TJB-2	MACOUPIN	66	28	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

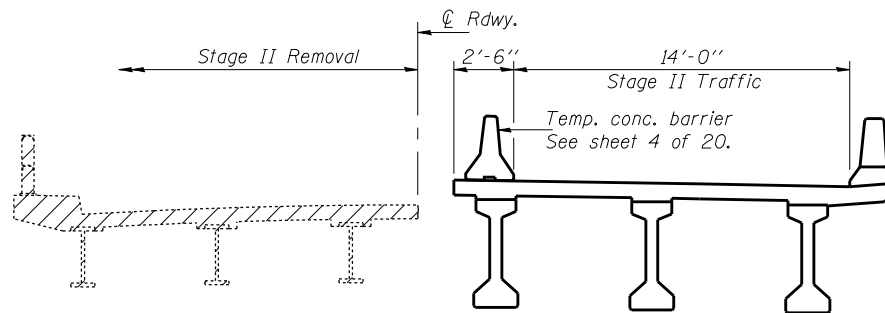
Contract #72993



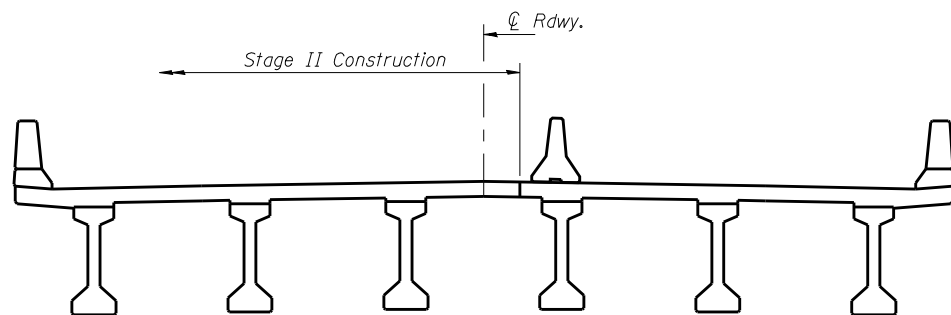
\*\*\*STAGE I REMOVAL



STAGE I CONSTRUCTION



\*\*\*STAGE II REMOVAL



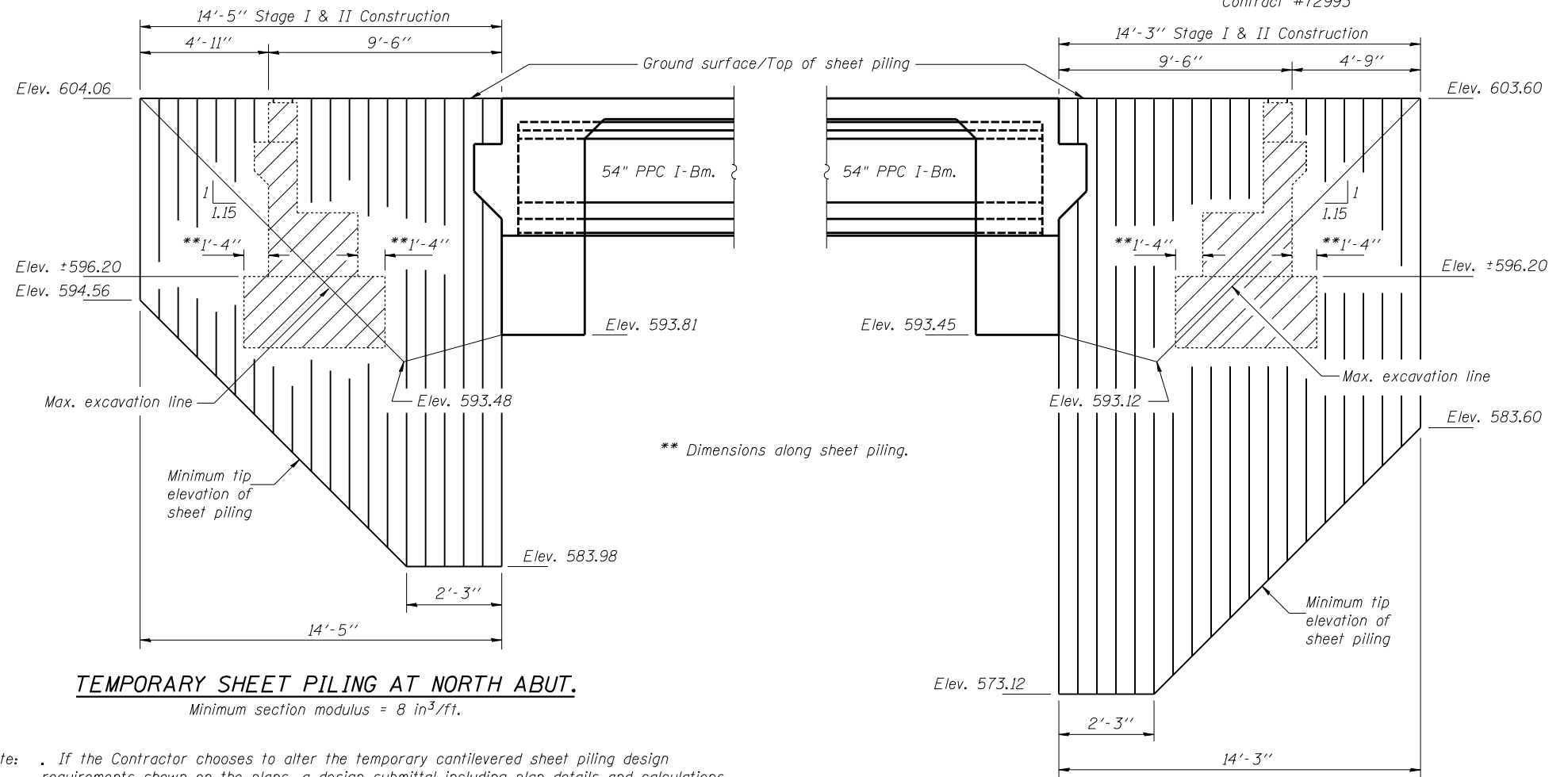
STAGE II CONSTRUCTION

\*\*\* Stage removal lines shown are for superstructure and abutments.  
Stage removal lines for existing piers are different, see sheet 3 of 20.

- Notes:
- Hatched area indicates Removal of Existing Structures.
  - For quantity of Temporary Concrete Barrier, see Roadway Plans.
  - All staging cross sections are looking south.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagalicki*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES



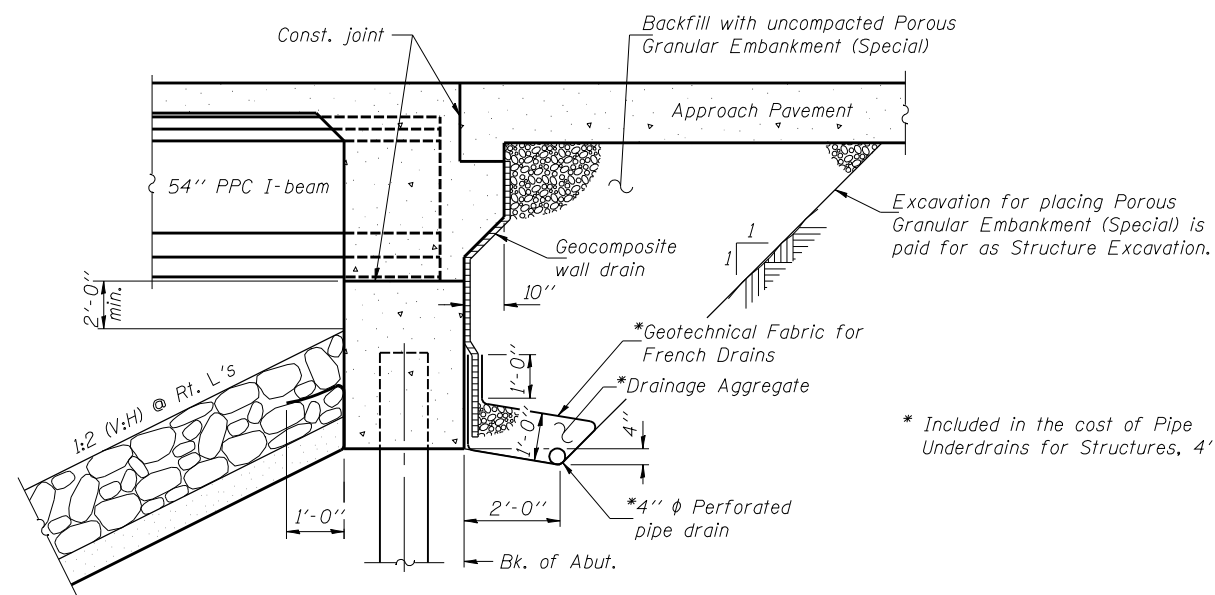
TEMPORARY SHEET PILING AT NORTH ABUT.

Minimum section modulus = 8 in<sup>3</sup>/ft.

TEMPORARY SHEET PILING AT SOUTH ABUT.

Minimum section modulus = 24 in<sup>3</sup>/ft.

Note: . If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.



SECTION THRU INTEGRAL ABUTMENT

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

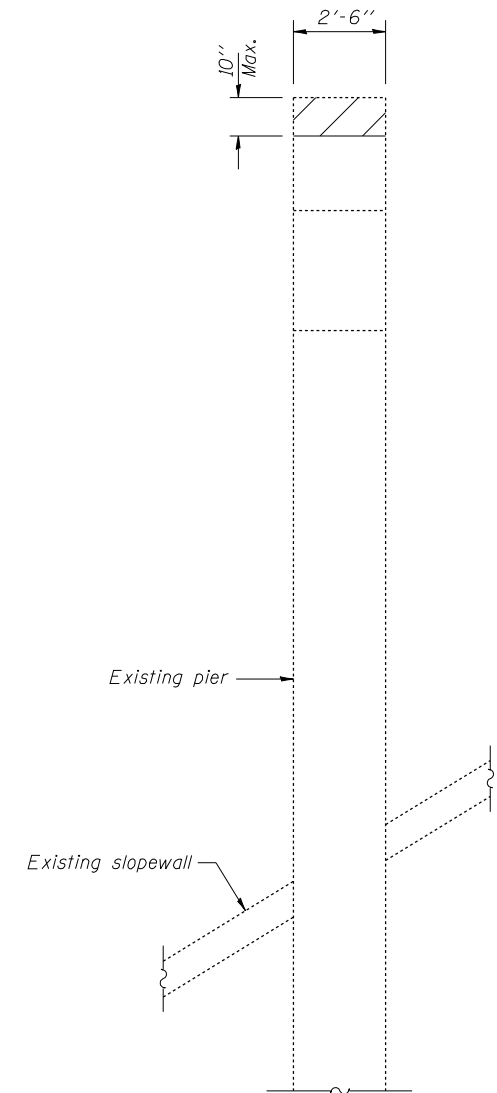
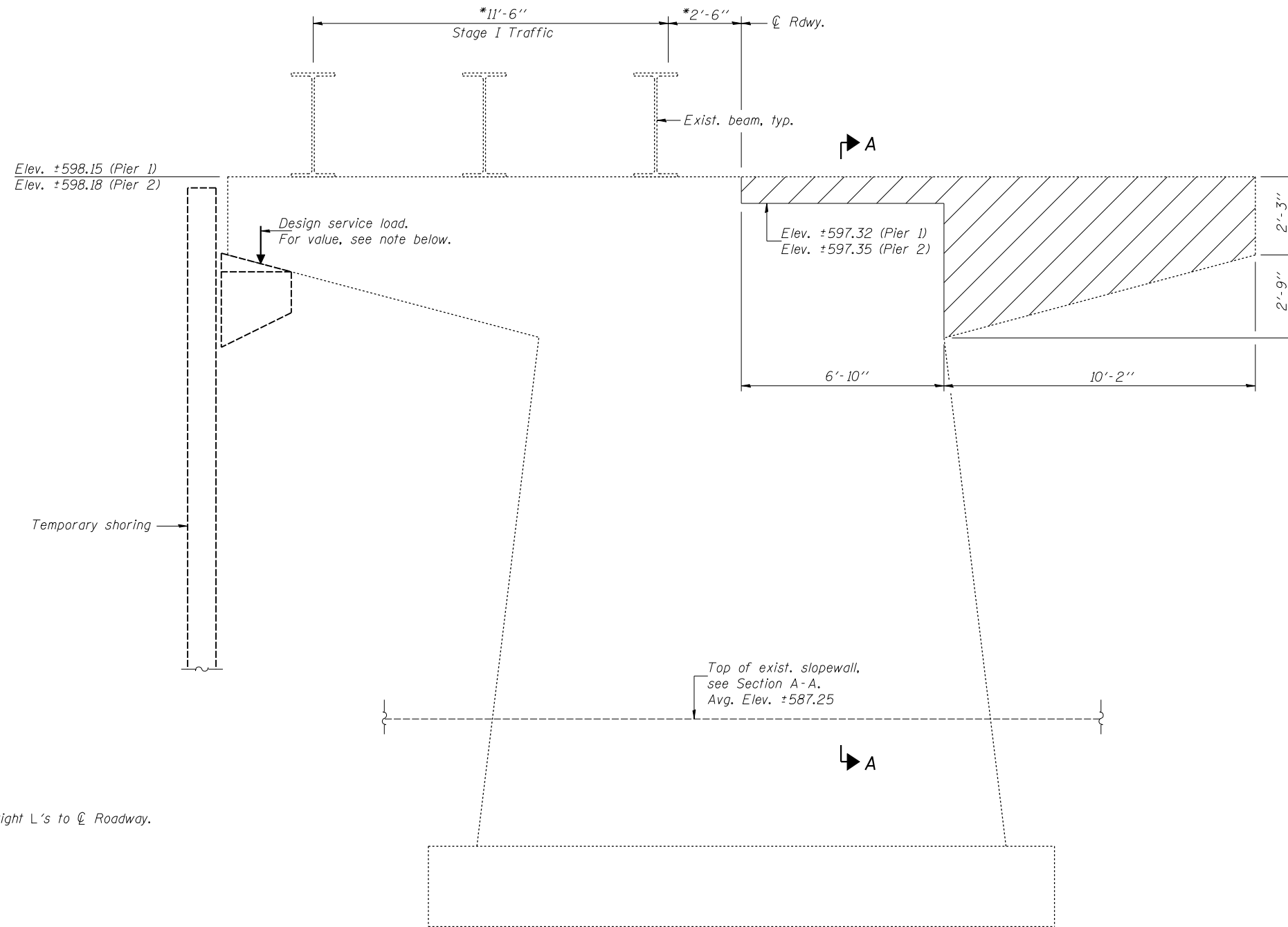
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Std. Spec's. and Highway Standard 601101).

STAGE CONSTRUCTION DETAILS  
F.A.P. RT. 662 SECTION (V.TJB)-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3
FAP 662	V.T)B-2	MACOUPIN	66	29	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993



SECTION A - A

**ELEVATION - EXISTING PIERS 1 & 2**  
(Looking south - Pier 1 shown; Pier 2 similar)

 Hatched area indicates the maximum portion of the existing pier that may be removed during Stage I Removal to allow Stage I Construction. Remaining portions of the existing pier that are to be removed shall be removed during Stage II Removal. Cost included with Removal of Existing Structures.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Shoring	Each	2

**TEMPORARY SHORING DETAILS  
AT EXISTING PIERS  
F.A.P. RT. 662 SECTION (V.T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504**

\* Dimensions at right L's to  $\varnothing$  Roadway.

- Notes:
- The existing piers shall be shored as shown on this sheet prior to beginning Stage I Removal. The temporary shoring shall remain in place until Stage Traffic has been moved to the Stage I Construction location. See Special Provision. (See sheet 2 of 20 for Stage Construction Details.)
  - Temporary shoring shall not be supported on any part of the pier, its footing or the existing slopewall.
  - Design service load at support contact as shown is 125 kips.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	AJB/DPN

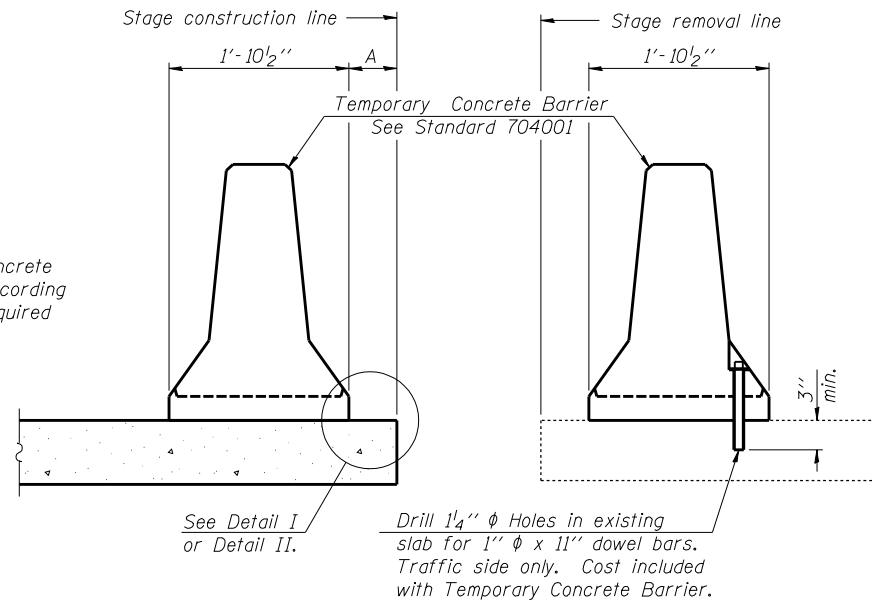
Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4
FAP 662	V.T)B-2	MACOUPIN	66	30	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

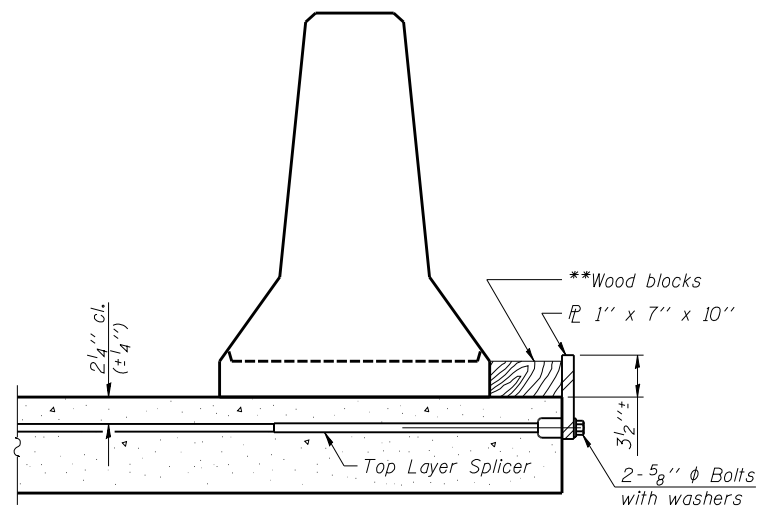
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



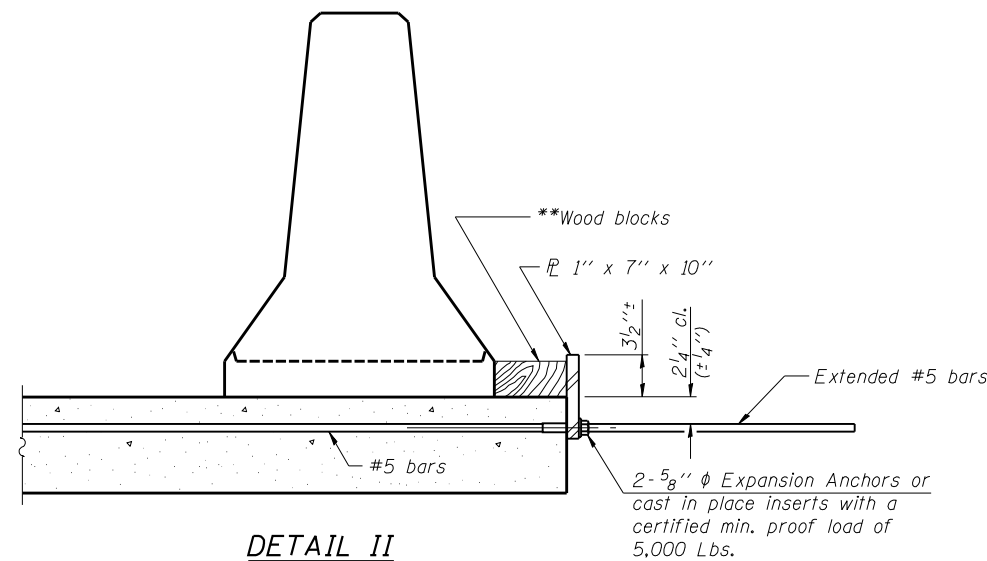
NEW SLAB

EXISTING SLAB

SECTIONS THRU SLAB



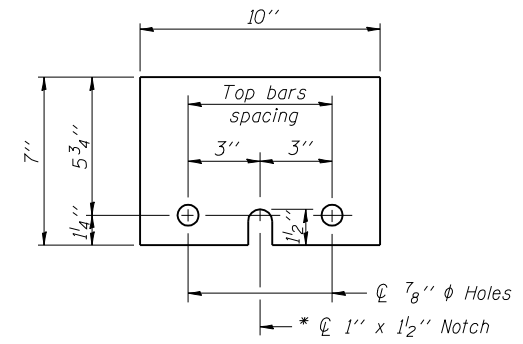
DETAIL I



DETAIL II

NOTES

- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



STEEL RETAINER  $\bar{P}$  1" x 7" x 10"

\* Required only with Detail II

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

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

R-27

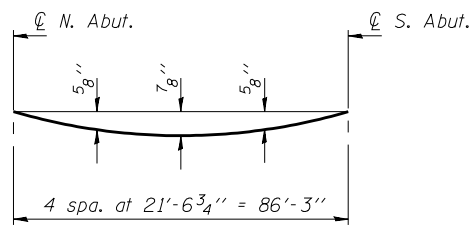
11-1-06

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
F.A.P. RT. 662 - SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5
FAP 662	V.T)B-2	MACOUPIN	66	31	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

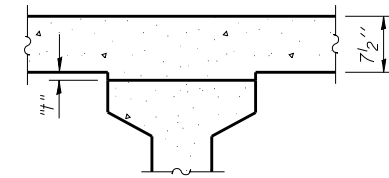
Contract #72993



**DEAD LOAD DEFLECTION DIAGRAM**

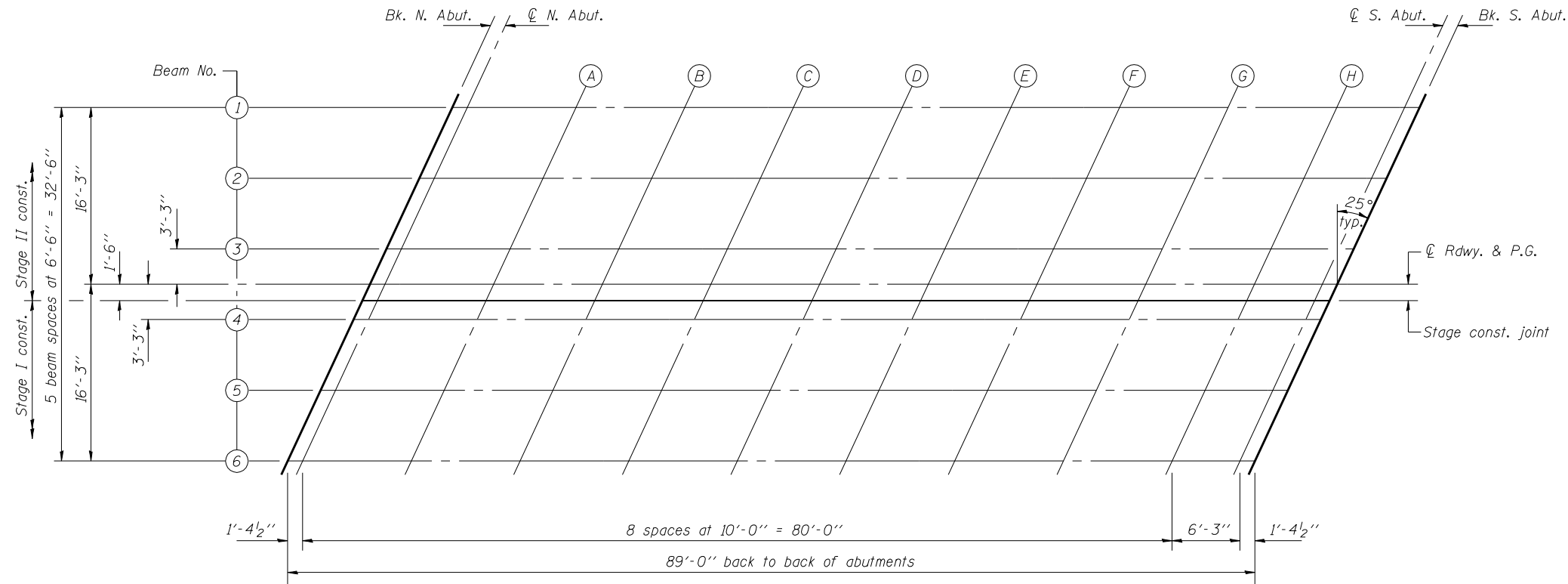
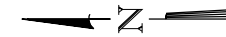
Includes weight of concrete, excluding beams

Notes: . 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 sheet 6 of 20.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**TOP OF SLAB ELEVATIONS**  
**F.A.P. RT. 662 SECTION (V.T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6 20 SHEETS
FAP 662	V,T)B-2	MACOUPIN	66	32	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #72993

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44666.88	-16.25	603.68	603.68
@ N. Abut.	44668.26	-16.25	603.67	603.67
A	44678.26	-16.25	603.62	603.64
B	44688.26	-16.25	603.57	603.61
C	44698.26	-16.25	603.51	603.57
D	44708.26	-16.25	603.46	603.53
E	44718.26	-16.25	603.42	603.48
F	44728.26	-16.25	603.38	603.44
G	44738.26	-16.25	603.35	603.39
H	44748.26	-16.25	603.33	603.34
@ S. Abut.	44754.5	-16.25	603.31	603.31
Bk. of S. Abut.	44755.88	-16.25	603.31	603.31

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44663.85	-9.75	603.82	603.82
@ N. Abut.	44665.23	-9.75	603.81	603.81
A	44675.23	-9.75	603.76	603.78
B	44685.23	-9.75	603.70	603.75
C	44695.23	-9.75	603.65	603.71
D	44705.23	-9.75	603.60	603.67
E	44715.23	-9.75	603.56	603.62
F	44725.23	-9.75	603.52	603.57
G	44735.23	-9.75	603.48	603.52
H	44745.23	-9.75	603.46	603.47
@ S. Abut.	44751.47	-9.75	603.44	603.44
Bk. of S. Abut.	44752.85	-9.75	603.44	603.44

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44660.82	-3.25	603.93	603.93
@ N. Abut.	44662.19	-3.25	603.93	603.93
A	44672.19	-3.25	603.87	603.90
B	44682.19	-3.25	603.82	603.87
C	44692.19	-3.25	603.77	603.83
D	44702.19	-3.25	603.72	603.79
E	44712.19	-3.25	603.67	603.74
F	44722.19	-3.25	603.63	603.69
G	44732.19	-3.25	603.59	603.63
H	44742.19	-3.25	603.57	603.58
@ S. Abut.	44748.44	-3.25	603.55	603.55
Bk. of S. Abut.	44749.82	-3.25	603.55	603.55

**@ ROADWAY & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44659.30	0	603.99	603.99
@ N. Abut.	44660.68	0	603.98	603.98
A	44670.68	0	603.93	603.96
B	44680.68	0	603.88	603.93
C	44690.68	0	603.83	603.89
D	44700.68	0	603.78	603.85
E	44710.68	0	603.73	603.79
F	44720.68	0	603.69	603.74
G	44730.68	0	603.65	603.69
H	44740.68	0	603.62	603.64
@ S. Abut.	44746.92	0	603.60	603.60
Bk. of S. Abut.	44748.30	0	603.60	603.60

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44658.60	1.50	603.97	603.97
@ N. Abut.	44659.98	1.50	603.96	603.96
A	44669.98	1.50	603.91	603.94
B	44679.98	1.50	603.86	603.91
C	44689.98	1.50	603.81	603.87
D	44699.98	1.50	603.76	603.83
E	44709.98	1.50	603.71	603.77
F	44719.98	1.50	603.67	603.72
G	44729.98	1.50	603.63	603.67
H	44739.98	1.50	603.60	603.61
@ S. Abut.	44746.22	1.50	603.58	603.58
Bk. of S. Abut.	44747.60	1.50	603.58	603.58

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44657.78	3.25	603.95	603.95
@ N. Abut.	44659.16	3.25	603.94	603.94
A	44669.16	3.25	603.89	603.91
B	44679.16	3.25	603.84	603.89
C	44689.16	3.25	603.79	603.85
D	44699.16	3.25	603.73	603.80
E	44709.16	3.25	603.68	603.75
F	44719.16	3.25	603.64	603.70
G	44729.16	3.25	603.60	603.64
H	44739.16	3.25	603.57	603.59
@ S. Abut.	44745.41	3.25	603.56	603.56
Bk. of S. Abut.	44746.78	3.25	603.55	603.55

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44654.75	9.75	603.86	603.86
@ N. Abut.	44656.13	9.75	603.86	603.86
A	44666.13	9.75	603.80	603.83
B	44676.13	9.75	603.75	603.80
C	44686.13	9.75	603.70	603.76
D	44696.13	9.75	603.65	603.72
E	44706.13	9.75	603.60	603.66
F	44716.13	9.75	603.55	603.61
G	44726.13	9.75	603.51	603.55
H	44736.13	9.75	603.48	603.50
@ S. Abut.	44742.37	9.75	603.46	603.46
Bk. of S. Abut.	44743.75	9.75	603.46	603.46

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44651.72	16.25	603.76	603.76
@ N. Abut.	44653.10	16.25	603.75	603.75
A	44663.10	16.25	603.70	603.72
B	44673.10	16.25	603.64	603.69
C	44683.10	16.25	603.59	603.65
D	44693.10	16.25	603.54	603.61
E	44703.10	16.25	603.49	603.55
F	44713.10	16.25	603.44	603.50
G	44723.10	16.25	603.40	603.44
H	44733.10	16.25	603.37	603.38
@ S. Abut.	44739.34	16.25	603.35	603.35
Bk. of S. Abut.	44740.72	16.25	603.34	603.34

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
 EXAMINED *Thomas J. Domagala*  
 ENGINEER OF BRIDGE DESIGN  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

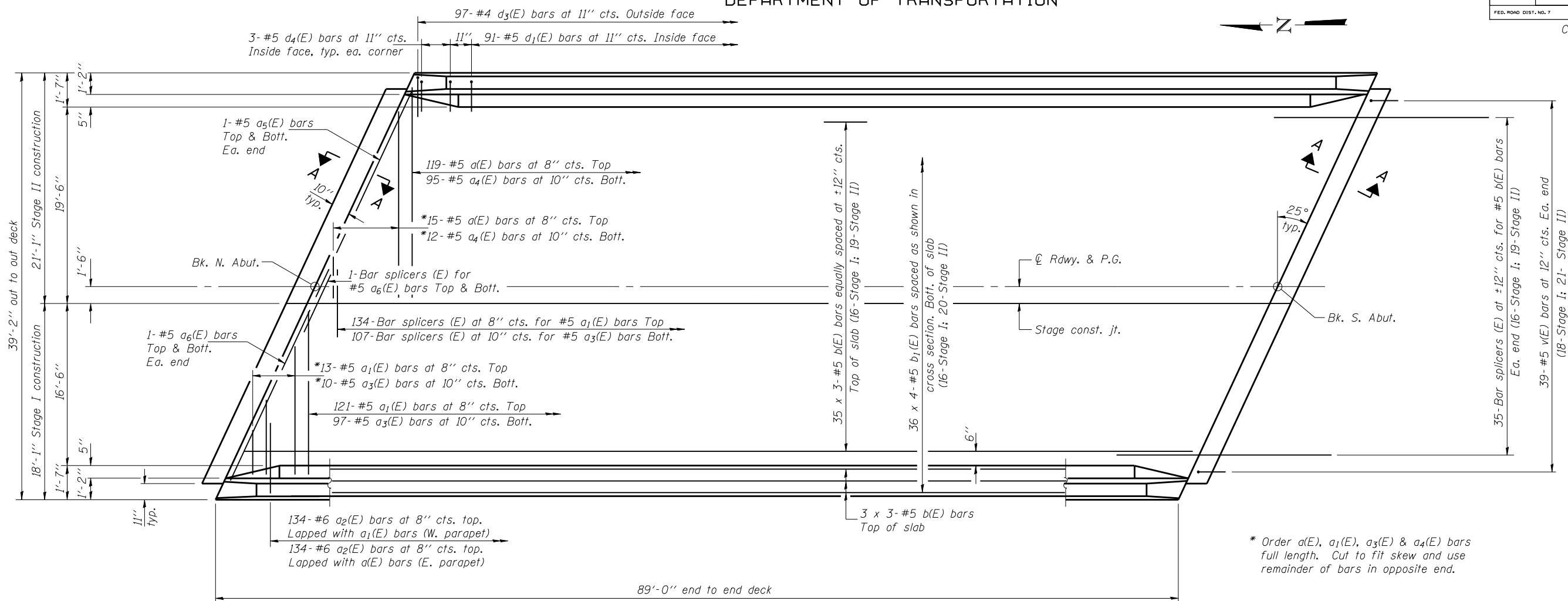
**TOP OF SLAB ELEVATIONS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 662	V,T)B-2	MACOUPIN	66	33
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7  
20 SHEETS

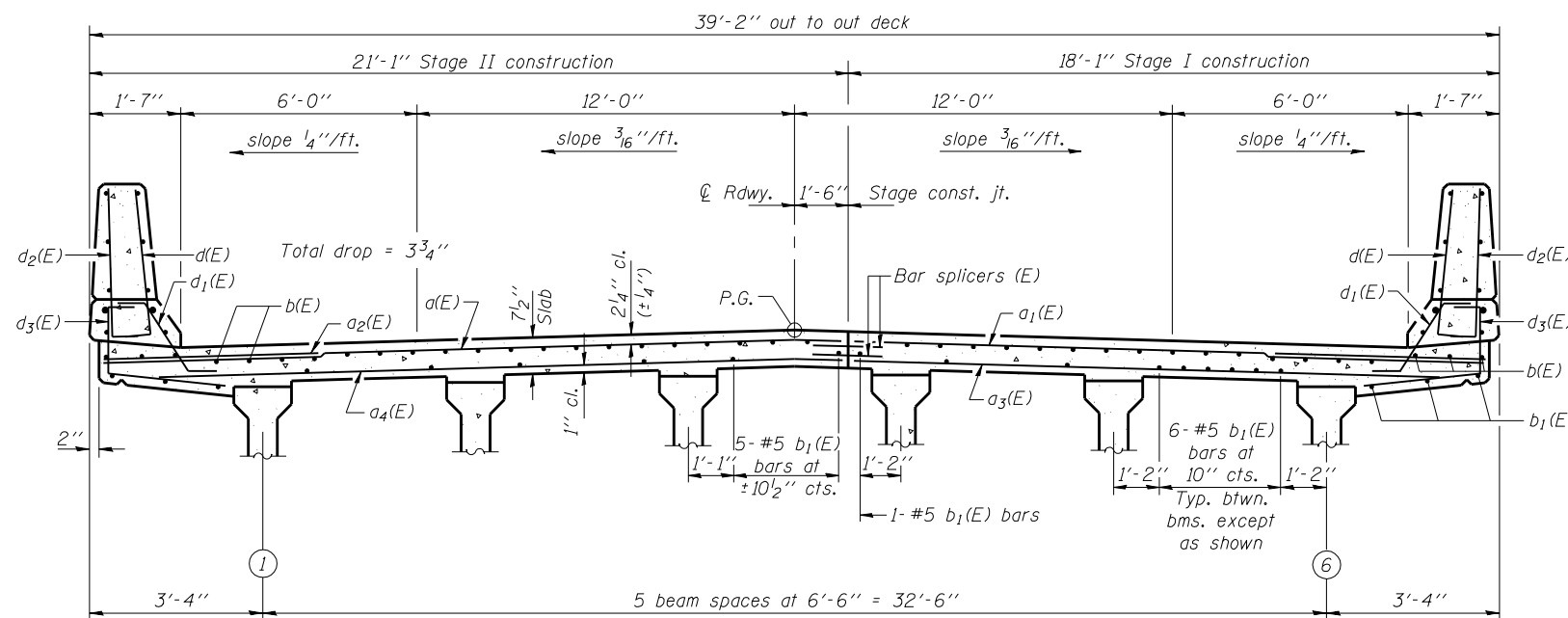
Contract #72993



\* Order a(E), a<sub>1</sub>(E), a<sub>3</sub>(E) & a<sub>4</sub>(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

PLAN

- Notes:
- See sheet 8 of 20 for superstructure details and Bill of Material.
  - Bars indicated thus 36 x 4-#5 etc. indicates 36 lines of bars with 4 lengths per line.
  - See sheet 8 of 20 for parapet reinforcement.
  - For Section A-A and diaphragm details, see sheet 9 of 20.



CROSS SECTION  
(Looking south)

MIN. BAR LAP

#5 bar = 1'-8"

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

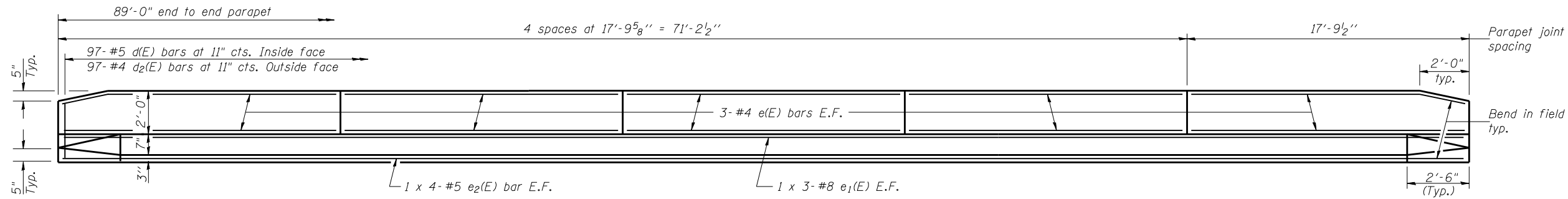
Jan 23, 2007  
EXAMINED *Thomas J. Domagalick*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 8
FAP 662	V.TJB-2	MACOUPIN	66	34	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993



INSIDE ELEVATION OF PARAPET

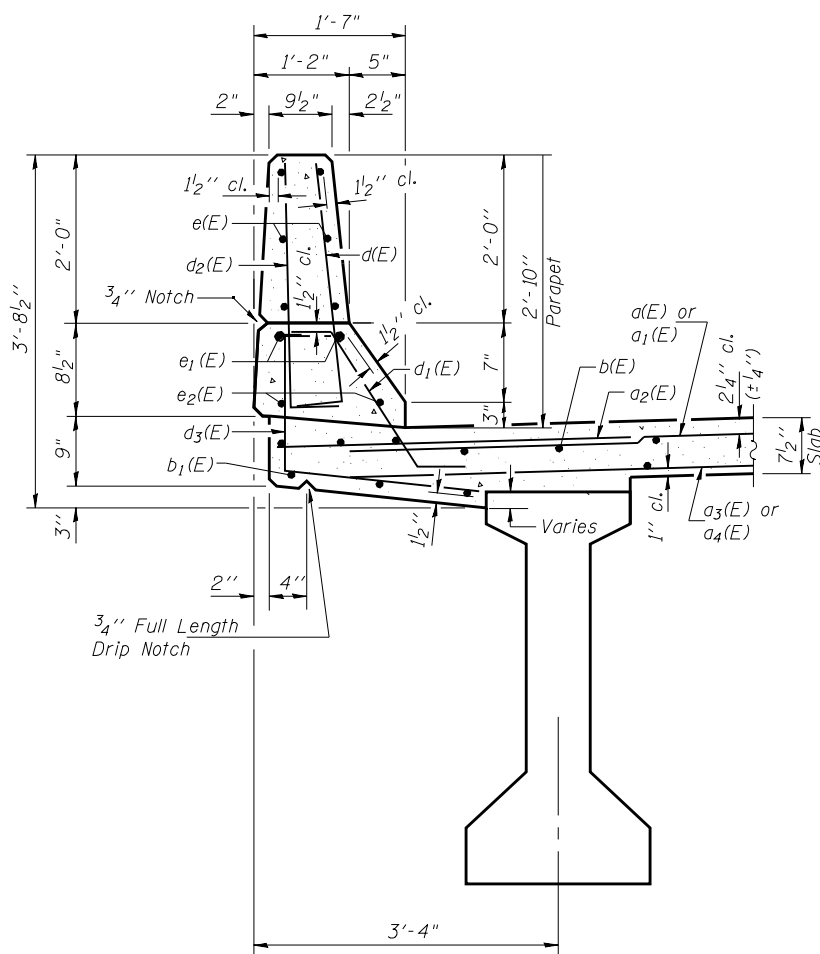
**MIN. BAR LAPS**

#5 bar = 1'-8"  
#8 bar = 3'-5"

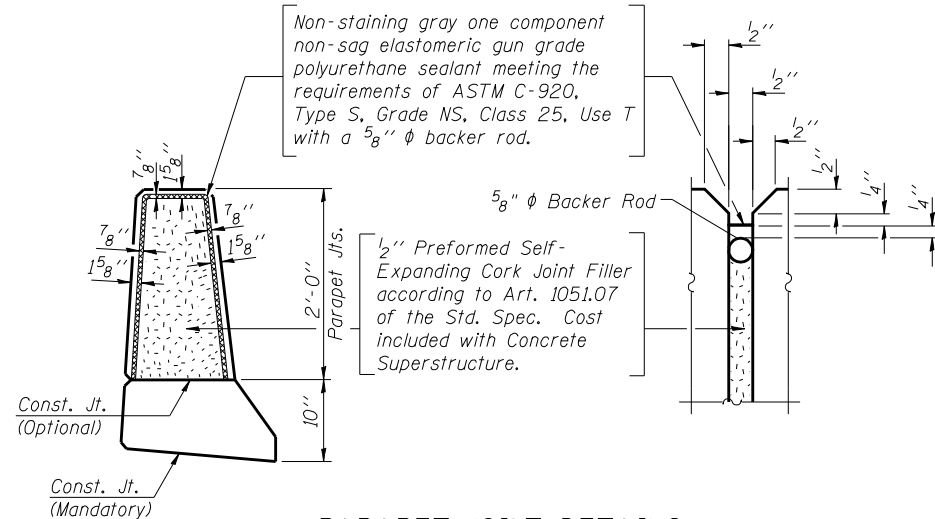
**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	134	#5	20'-7"	—
a1(E)	134	#5	17'-7"	—
a2(E)	268	#6	6'-0"	—
a3(E)	107	#5	16'-9"	—
a4(E)	107	#5	19'-9"	—
a5(E)	4	#5	22'-1"	—
a6(E)	4	#5	18'-9"	—
b(E)	123	#5	30'-8"	—
b1(E)	144	#5	23'-5"	—
d(E)	194	#5	3'-0"	┌
d1(E)	182	#5	2'-5"	└
d2(E)	194	#4	3'-0"	┌
d3(E)	194	#4	3'-8"	└
d4(E)	12	#5	2'-2"	└
e(E)	60	#4	17'-6"	—
e1(E)	12	#8	31'-10"	—
e2(E)	16	#5	23'-5"	—
m(E)	4	#6	18'-7"	—
m1(E)	4	#6	21'-11"	—
m2(E)	6	#6	19'-7"	—
m3(E)	6	#6	22'-11"	—
m4(E)	16	#6	9'-11"	—
m5(E)	8	#6	4'-9"	—
m6(E)	4	#6	2'-4"	—
m7(E)	2	#6	3'-10"	—
m8(E)	4	#6	6'-9"	—
m9(E)	4	#6	10'-1"	—
s(E)	62	#4	12'-11"	┌
s1(E)	78	#5	6'-10"	└
v(E)	78	#5	3'-4"	└
Reinforcement Bars, Epoxy Coated		Lbs.		25920
Concrete Superstructure		Cu. Yds.		144.5

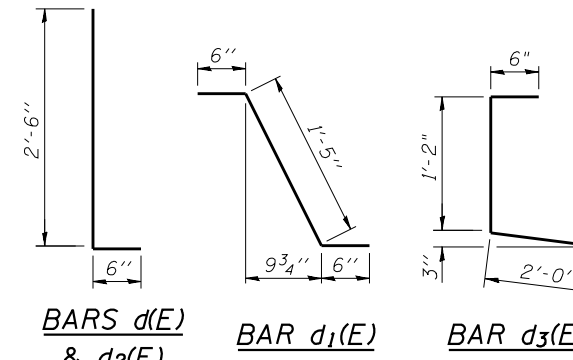
Bars indicated thus 1 x 3-#8 etc. indicates 1 line of bar with 3 lengths per line.



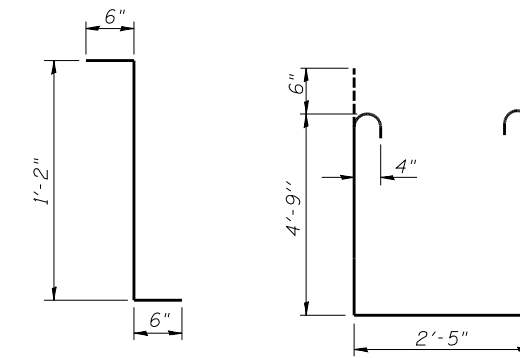
SECTION THRU PARAPET



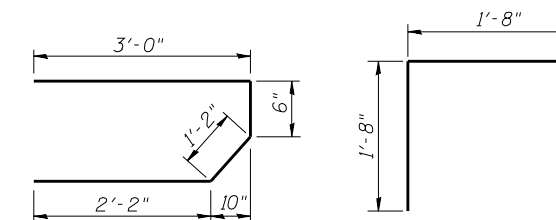
PARAPET JOINT DETAILS



BARS d(E) & d2(E)      BAR d1(E)      BAR d3(E)



BAR d4(E)      BAR s(E)



BAR s1(E)      BAR v(E)

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

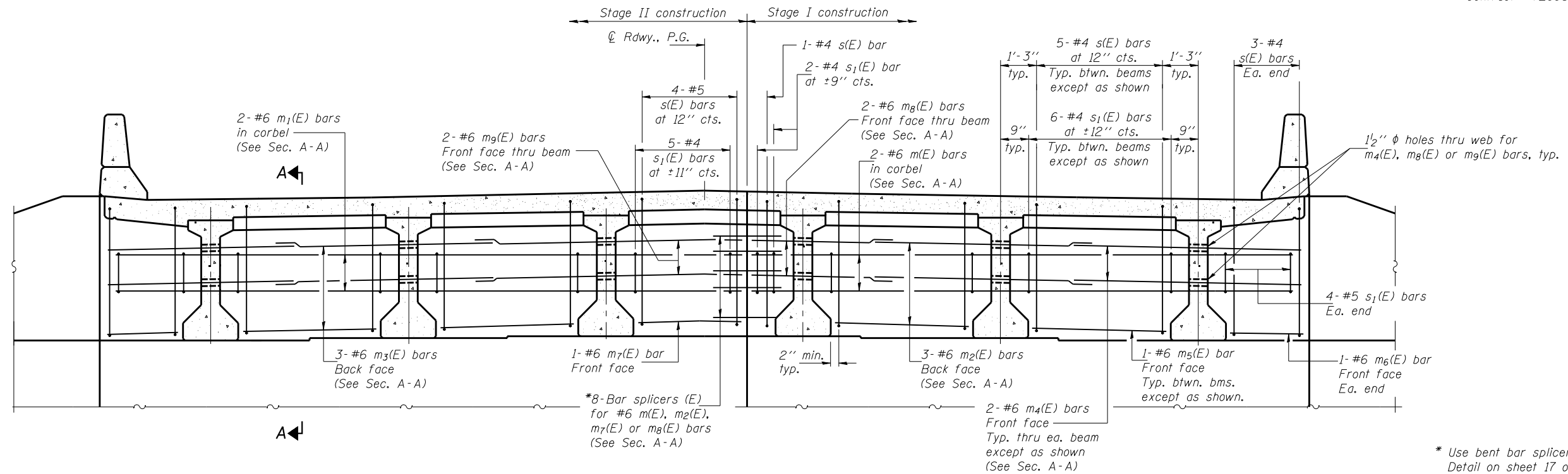
Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**SUPERSTRUCTURE DETAILS**  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9
FAP 662	(V,T)B-2	MACOUPIN	66	35	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

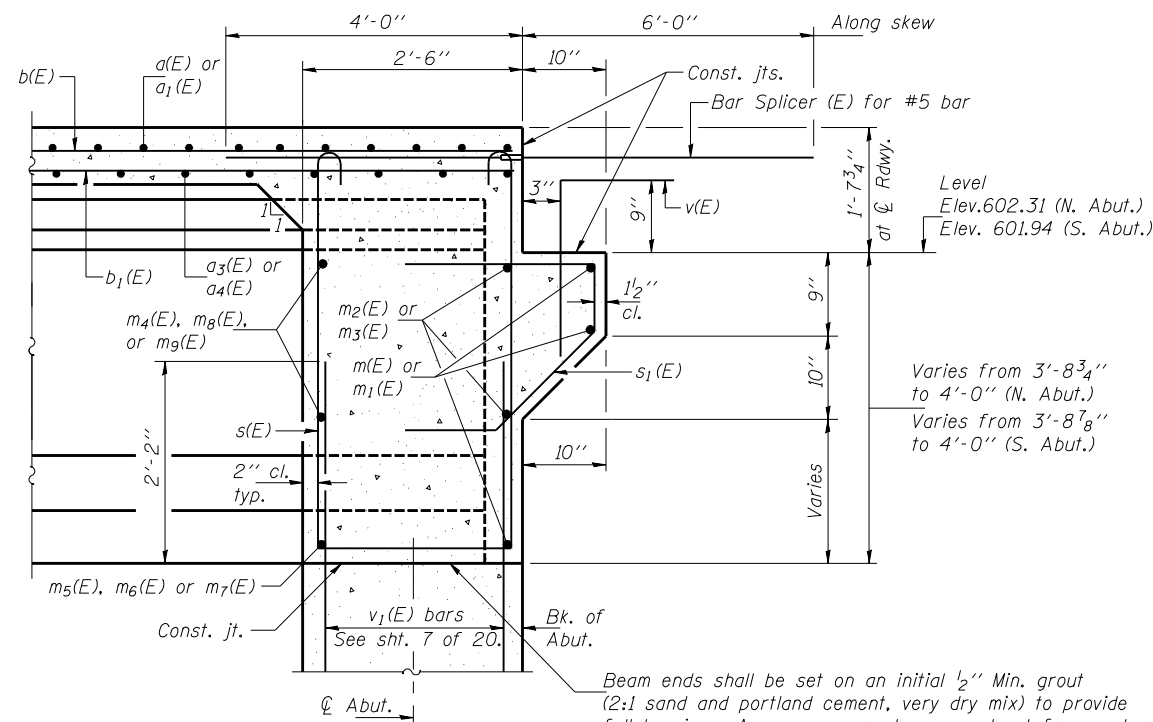
Contract #72993



**DIAPHRAGM ELEVATION AT SOUTH ABUTMENT**

(Looking south - North Abut. similar)

\* Use bent bar splicers in front face. Detail on sheet 17 of 20.



**SECTION A-A**

Dimensions are at right L's to abutments, except as shown.

Beam ends shall be set on an initial 1/2" Min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

**MIN. BAR LAPS**

#6 bars = 2'-9"

- Notes:
- Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 20.
  - Concrete in diaphragm is included with concrete superstructure on sheet 8 of 20.
  - For details of bar splicers, see sheet 17 of 20.
  - For details of bars s(E) and s1(E) see sheet 8 of 20.
  - The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

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**DIAPHRAGM DETAILS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	66	36
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 10  
20 SHEETS

Contract #72993



**FRAMING PLAN**

INTERIOR BEAM MOMENT TABLE	
	0.5 Span
I	(in <sup>4</sup> ) 213715
I'	(in <sup>4</sup> ) 507830
S <sub>b</sub>	(in <sup>3</sup> ) 8559
S <sub>b</sub> '	(in <sup>3</sup> ) 12888
S <sub>t</sub>	(in <sup>3</sup> ) 7362
S <sub>t</sub> '	(in <sup>3</sup> ) 34788
DC1	(k/ft.) 1.254
M DC1	('k) 1166.0
DC2	(k/ft.) 0.15
M DC2	('k) 139.5
DW	(k/ft.) .325
M DW	('k) 302.2
M <sub>L</sub> + Imp	('k) 1365.5

INTERIOR BEAM REACTION TABLE	
HL93 LOADING	
	Abut.
R DC1	(k) 54.1
R DC2	(k) 6.5
R DW	(k) 14.0
R $\frac{L}{4}$	(k) 65.6
R (Imp)	(k) 23.7
R (Total)	(k) 163.9

- I: Non-composite moment of inertia of beam section (in.<sup>4</sup>).
- I': Composite moment of inertia of beam section (in.<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in.<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: 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<sub>DC2</sub>: 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<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>L</sub> + Imp: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

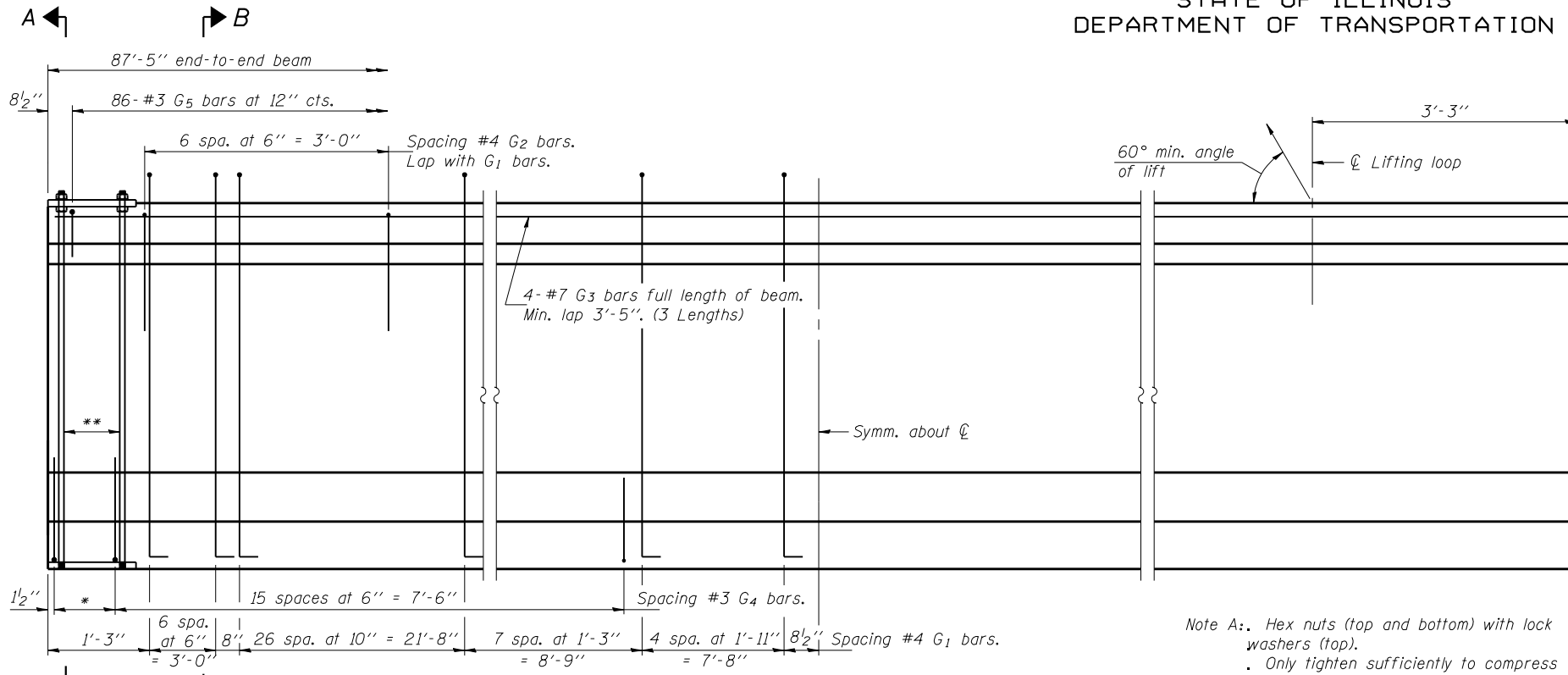
Jan 23, 2007  
 EXAMINED *Thomas J. Domagala*  
 ENGINEER OF BRIDGE DESIGN  
 PASSED *Ralph E. Anderson*  
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**FRAMING PLAN**  
**F.A.P. RT. 662 - SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 11
FAP 662	V.T.B-2	MACOUPIN	66	37	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

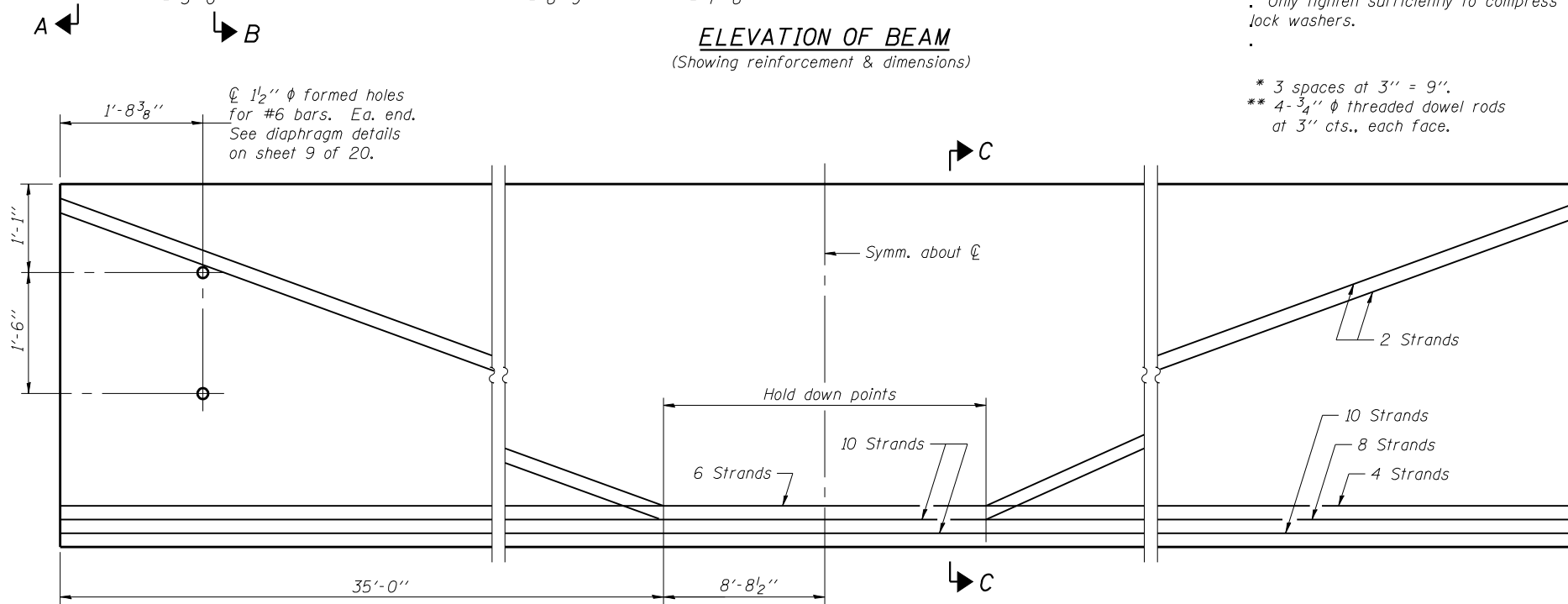
Contract #72993



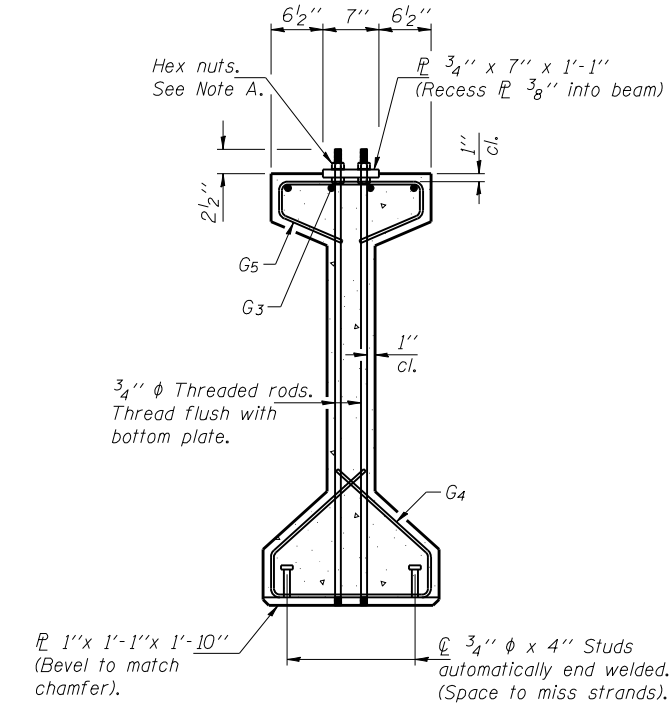
**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

Note A.: Hex nuts (top and bottom) with lock washers (top).  
Only tighten sufficiently to compress lock washers.

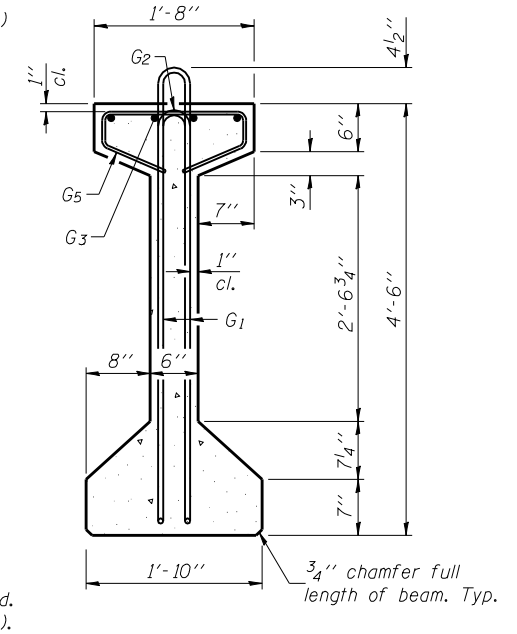
\* 3 spaces at 3" = 9".  
\*\* 4-3/4" threaded dowel rods at 3" cts., each face.



**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION A-A**



**SECTION B-B**

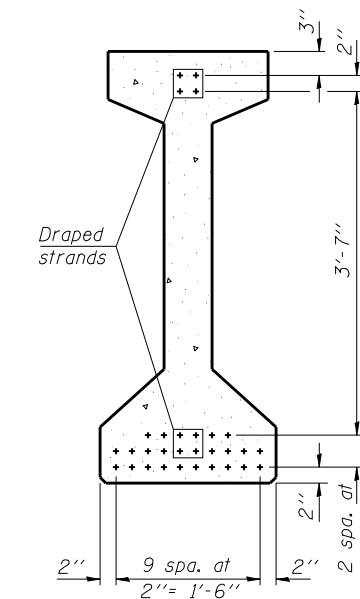
1" x 1" x 1" x 10" Stud (Bevel to match chamfer).  
3/4" x 4" Studs automatically end welded. (Space to miss strands).

**\*\*\*BAR LIST  
ONE BEAM ONLY**

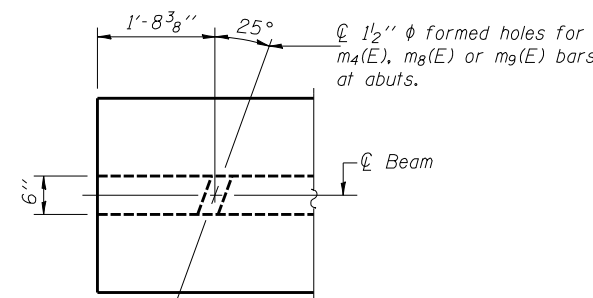
Bar	No.	Size	Length	Shape
G1	90	#4	10'-5"	NL
G2	14	#4	5'-4"	N
G3	12	#7	31'-4"	—
G4	38	#3	4'-11"	—
G5	86	#3	3'-5"	—

\*\*\*For information only.

Notes: . See sheet 12 of 20 for additional details and Bill of Material.  
. Required release strength, f'ci, shall be 5000 psi.



**SECTION C-C**



**END OF BEAM-PLAN**

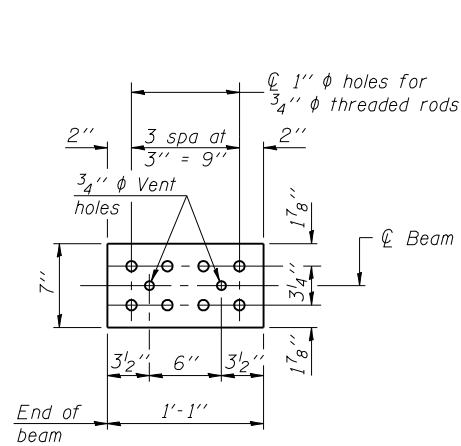
DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

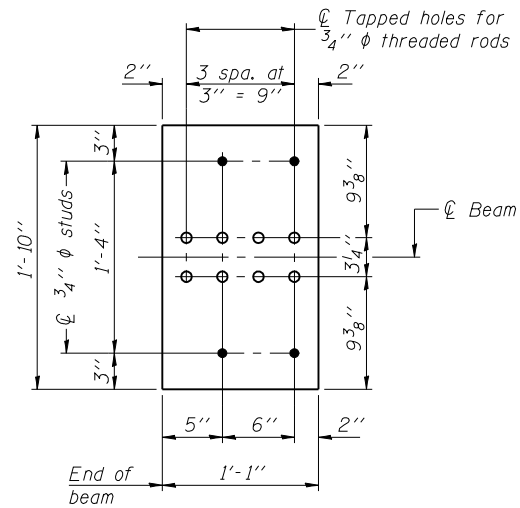
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 12
FAP 662	V.T)B-2	MACOUPIN	66	38	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

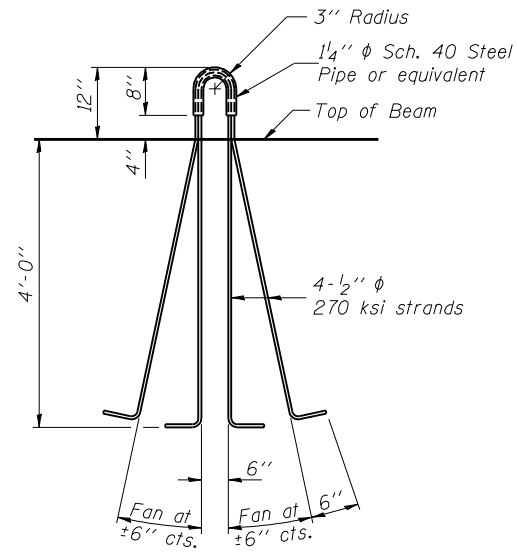
Contract #72993



**TOP PLATE**



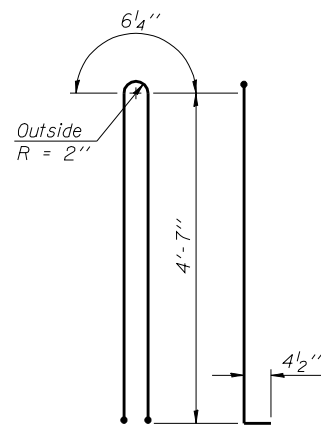
**BOTTOM PLATE**



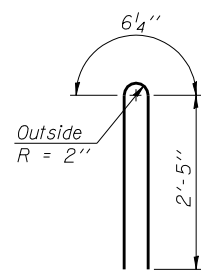
**LIFTING LOOP DETAIL**

**NOTES**

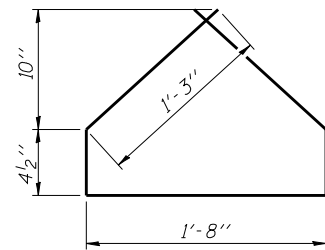
Inserts for 3/4"  $\phi$  threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.  
 Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.  
 The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.  
 Non-prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.  
 A minimum 2 1/2"  $\phi$  lifting pin shall be used to engage the lifting loops during handling.  
 The bottom plates and studs shall be galvanized according to AASHTO M 111.  
 Threaded rods shall be ASTM F 1554 Grade 55.  
 The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 54 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.



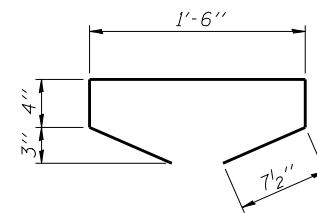
**BAR G1**



**BAR G2**



**BAR G4**



**BAR G5**

**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54"	Ft.	524.5

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
 EXAMINED *Thomas J. Domagala*  
 ENGINEER OF BRIDGE DESIGN  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

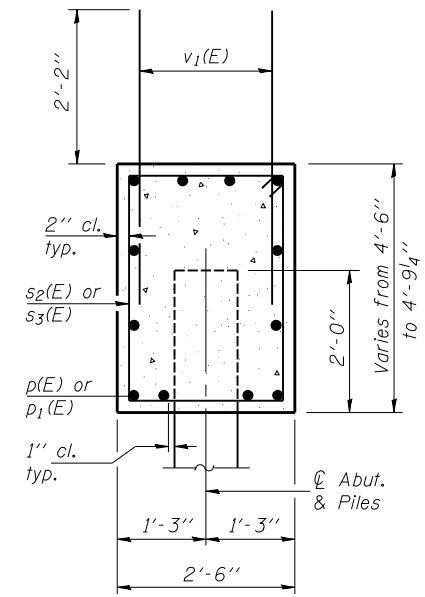
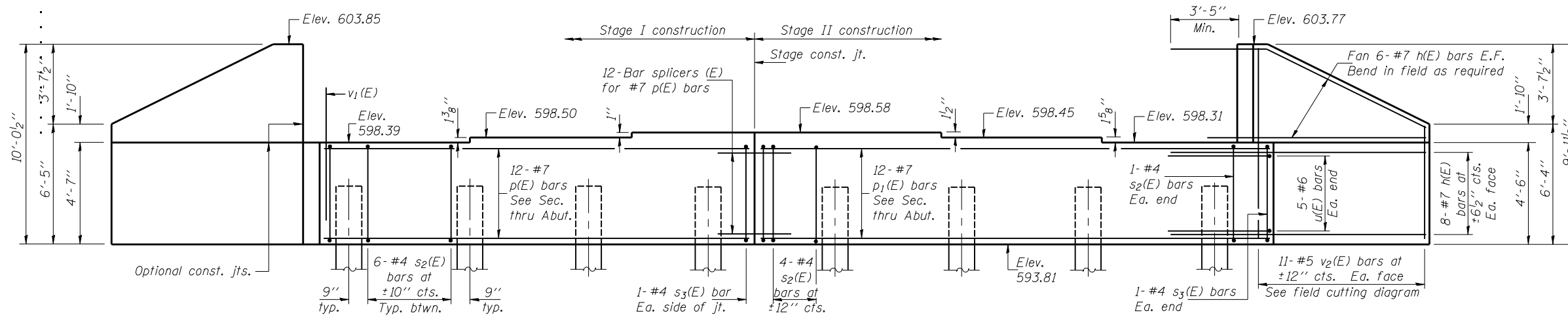
**54" PPC I-BEAM DETAILS**  
**F.A.P. RT. 662 SECTION (V.T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

Notes: . Pour steps monolithically with cap.  
 . For details of bar splicers, see sheet 17 of 20.  
 . For details of piles, see sheet 16 of 20.

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 13 20 SHEETS
FAP 662	V.TIB-2	MACOUPIN	66	39	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #72993



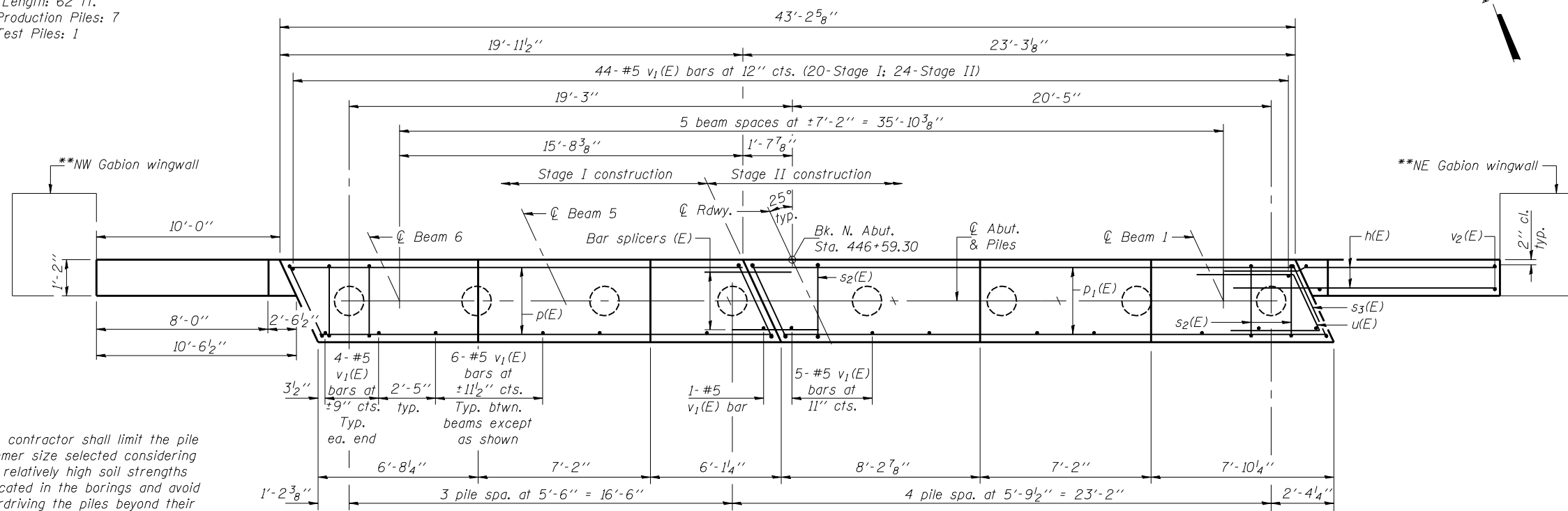
SECTION THRU ABUT.

**\*PILE DATA**

Type: Metal Pile Shell-14"  $\phi$  x 1/4" wall  
 Nominal Required Bearing: 398 kips  
 Factored Resistance Available: 199 kips  
 Est. Length: 62 ft.  
 No. Production Piles: 7  
 No. Test Piles: 1

**ELEVATION**

(Looking north)



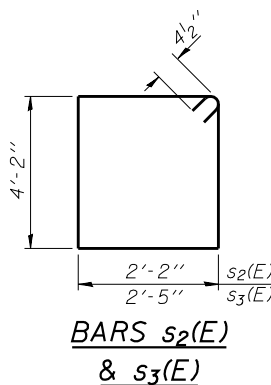
PLAN

\*The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their required bearing to prevent pile damage during driving.

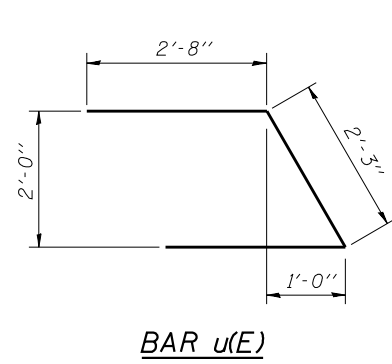
\*\*For gabion wingwall details, see sheet 15 of 20.

**BILL OF MATERIAL**

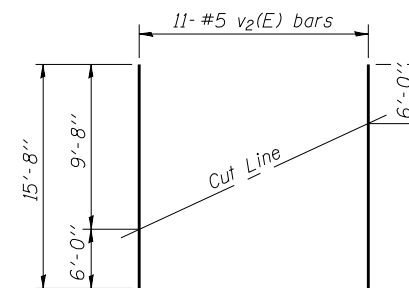
Bar	No.	Size	Length	Shape
h(E)	28	#7	14'-0"	—
p(E)	12	#7	19'-8"	—
p1(E)	12	#7	22'-11"	—
s2(E)	42	#4	13'-5"	□
s3(E)	4	#4	13'-11"	□
u(E)	10	#6	7'-7"	⌒
v1(E)	82	#5	4'-4"	—
v2(E)	22	#5	15'-8"	—
Concrete Structures			Cu. Yd.	26.2
Reinforcement Bars, Epoxy Coated			Pound	3100
Structure Excavation			Cu. Yd.	106.5
Furnishing Metal Shell Piles 14"			Foot	434
Driving Piles			Foot	434
Test Pile Metal Shells			Each	1



BARS s2(E) & s3(E)



BAR u(E)



FIELD CUTTING DIAGRAM

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
 EXAMINED *Thomas J. Domagala*  
 ENGINEER OF BRIDGE DESIGN  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

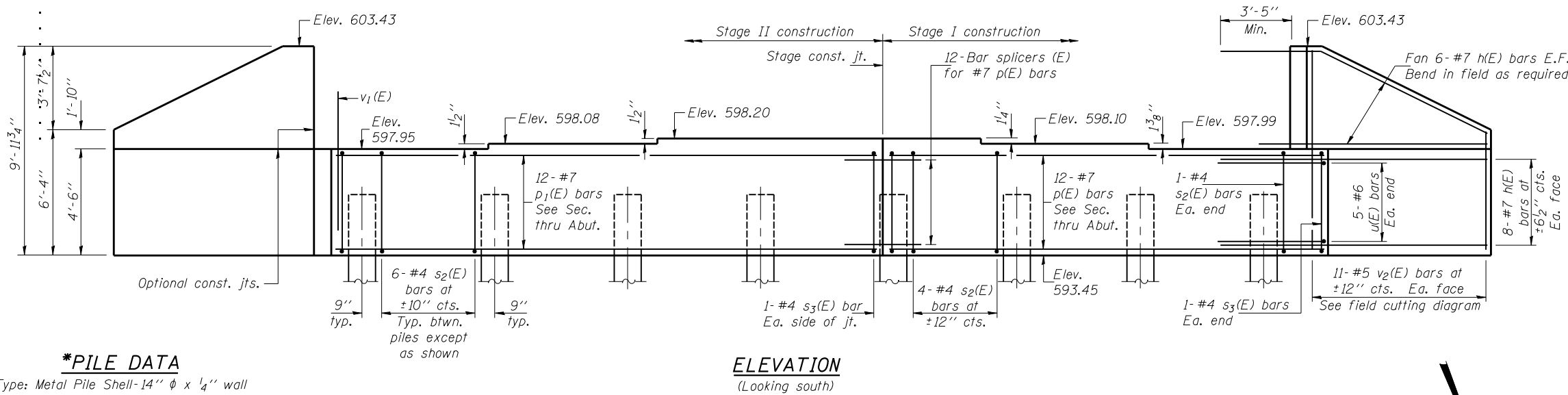
NORTH ABUTMENT  
 F.A.P. RT. 662 - SECTION (V,T)B-2  
 MACOUPIN COUNTY  
 STATION 447+03.80  
 STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 14 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	66	40	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

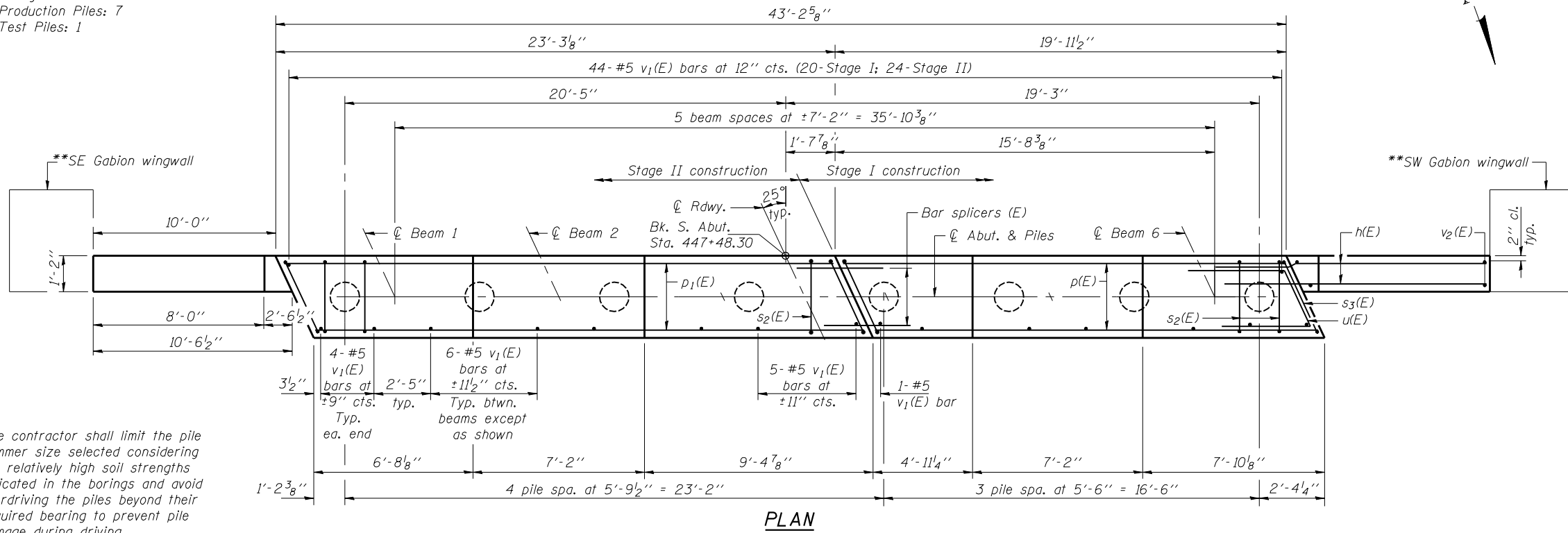
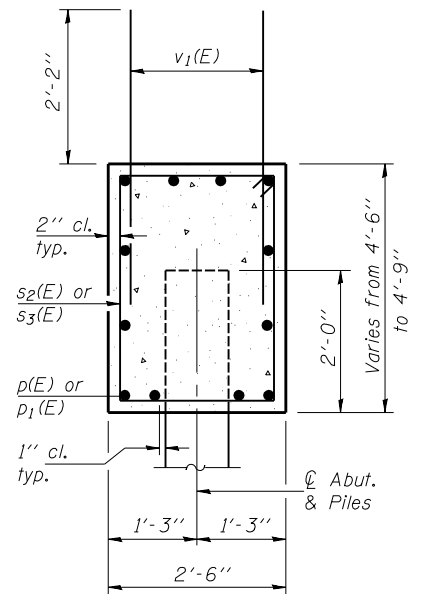
Contract #72993

Notes: . Pour steps monolithically with cap.  
. For details of bar splicers, see sheet 17 of 20.  
. For details of piles, see sheet 16 of 20.



**\*PILE DATA**

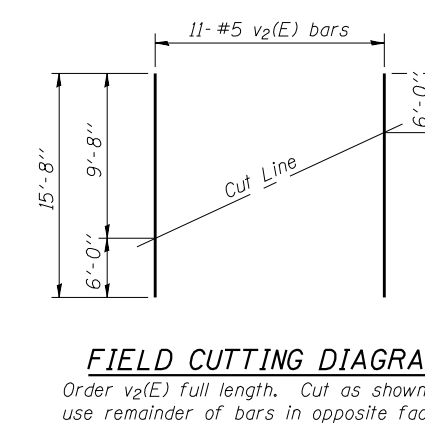
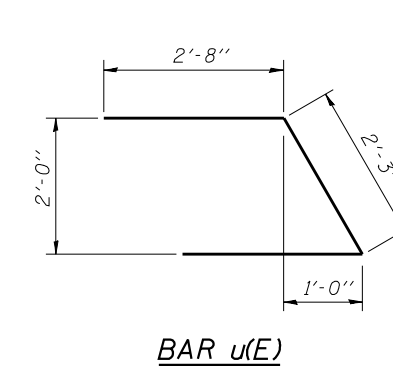
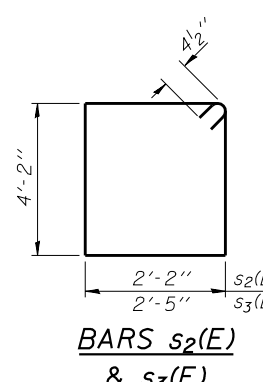
Type: Metal Pile Shell-14" φ x 1/4" wall  
Nominal Required Bearing: 398 kips  
Factored Resistance Available: 199 kips  
Est. Length: 71 ft.  
No. Production Piles: 7  
No. Test Piles: 1



\*The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their required bearing to prevent pile damage during driving.  
\*\*For gabion wingwall details, see sheet 15 of 20.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#7	14'-0"	—
p(E)	12	#7	19'-8"	—
p <sub>1</sub> (E)	12	#7	22'-11"	—
s <sub>2</sub> (E)	42	#4	13'-5"	□
s <sub>3</sub> (E)	4	#4	13'-11"	□
u(E)	10	#6	7'-7"	⌒
v <sub>1</sub> (E)	82	#5	4'-4"	—
v <sub>2</sub> (E)	22	#5	15'-8"	—
Concrete Structures				Cu. Yd. 26.1
Reinforcement Bars, Epoxy Coated				Pound 3100
Structure Excavation				Cu. Yd. 106.5
Furnishing Metal Shell Piles 14"				Foot 497
Driving Piles				Foot 497
Test Pile Metal Shells				Each 1



DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

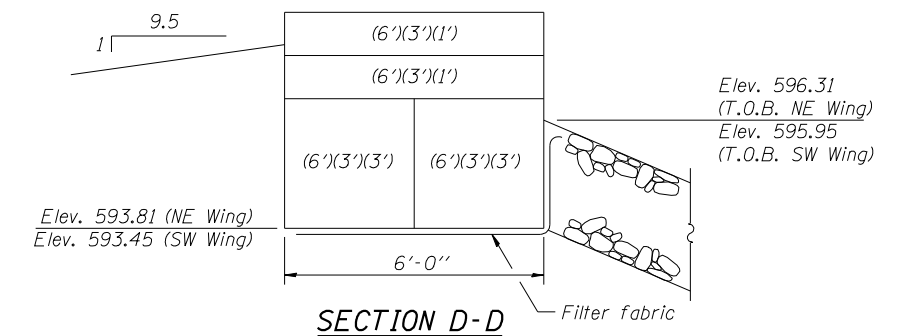
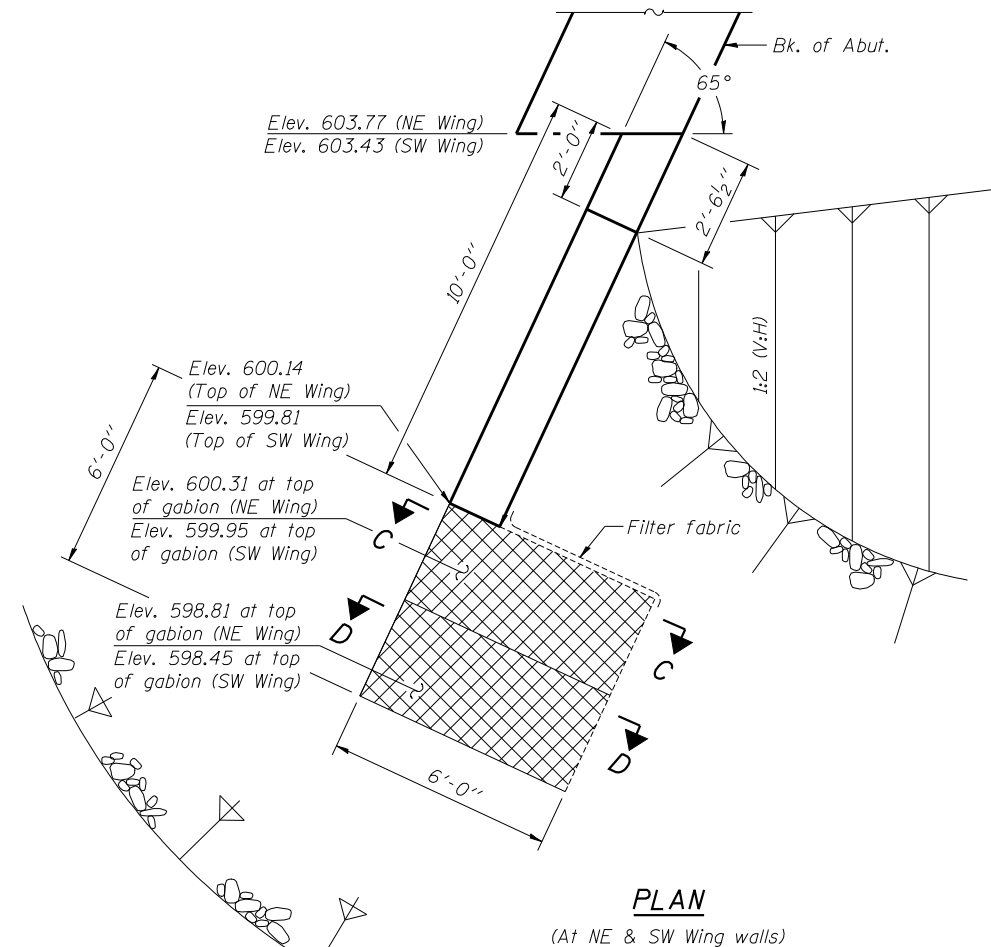
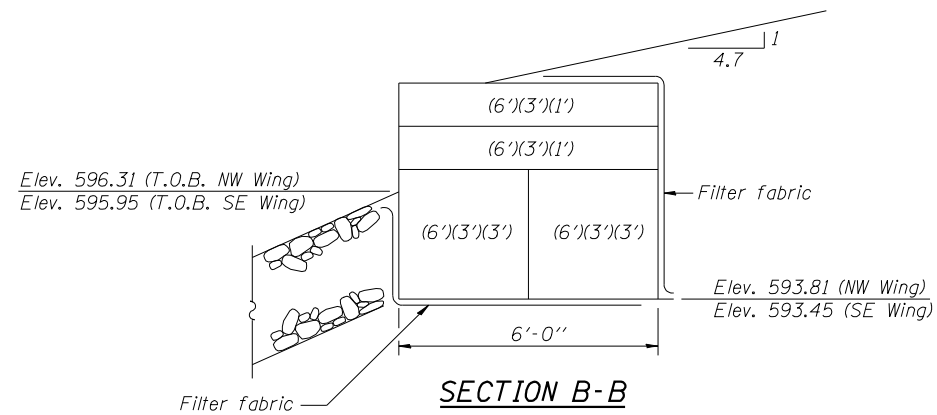
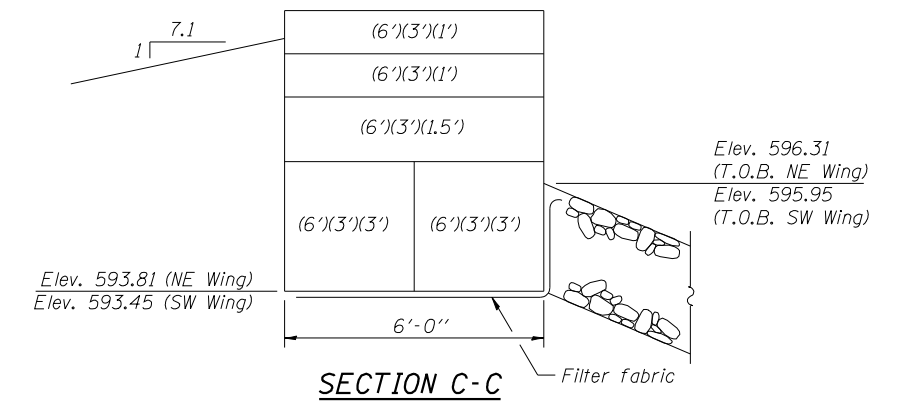
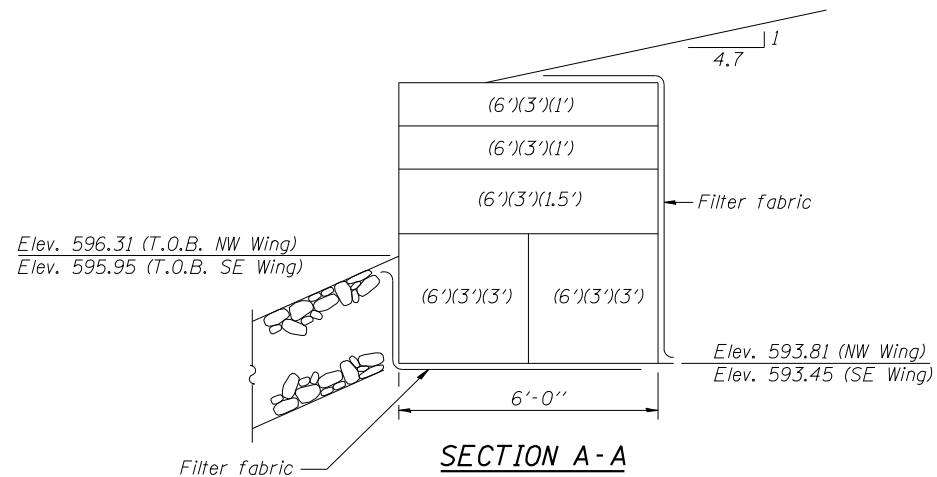
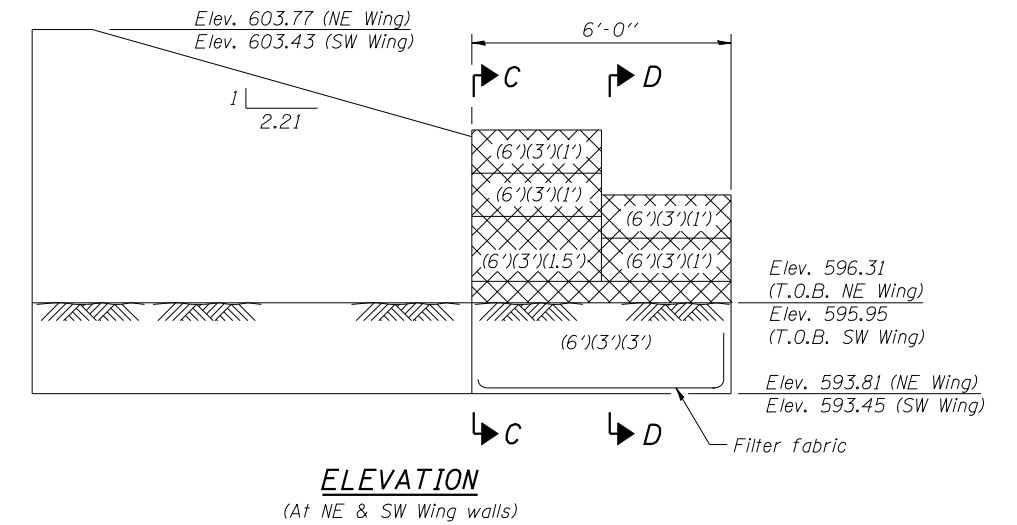
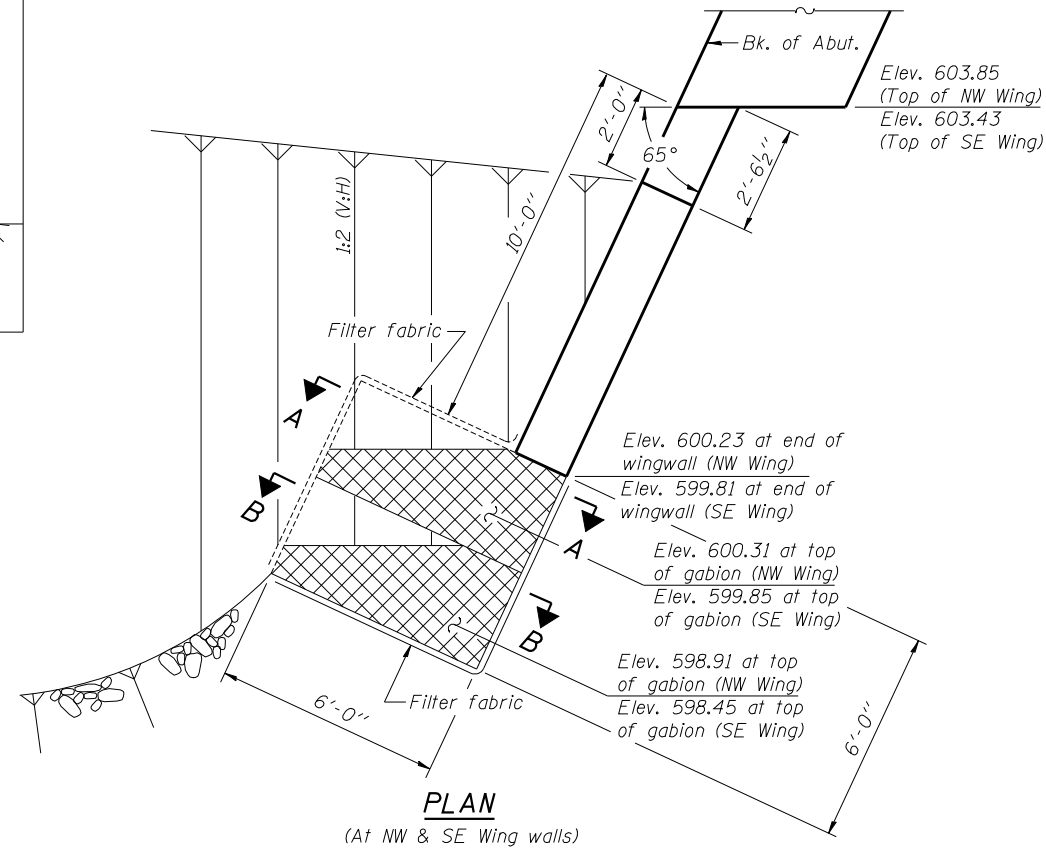
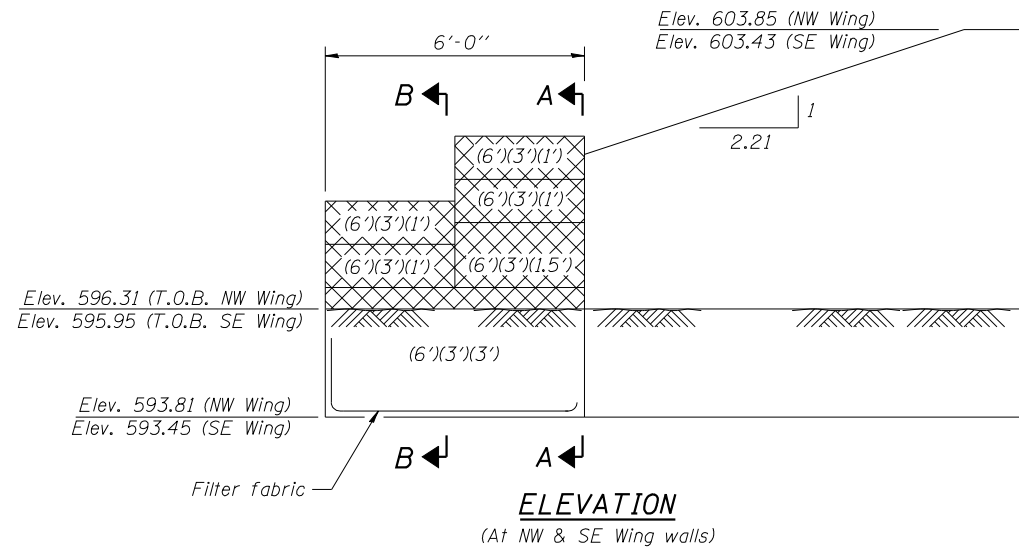
Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**SOUTH ABUTMENT**  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	66	41	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

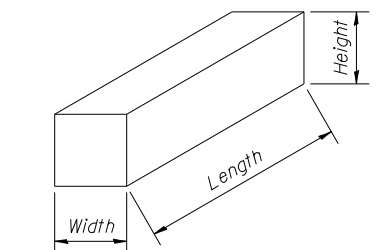
Contract #72993



Denotes exposed gabion  
T.O.B. denotes Top of Berm.

DESIGNED	NHB
CHECKED	DPN
DRAWN	h.t. duong
CHECKED	NHB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES



Dimensions are Length x Width x Height  
(in feet)

**4 GABION WINGWALLS  
BILL OF MATERIAL**

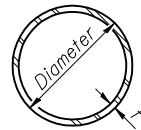
Item	Unit	Total
Gabions	Cu. Yd.	30.7
Filter Fabric	Sq. Yd.	60
Structure Excavation	Cu. Yd.	47.0

**GABION WINGWALL DETAILS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

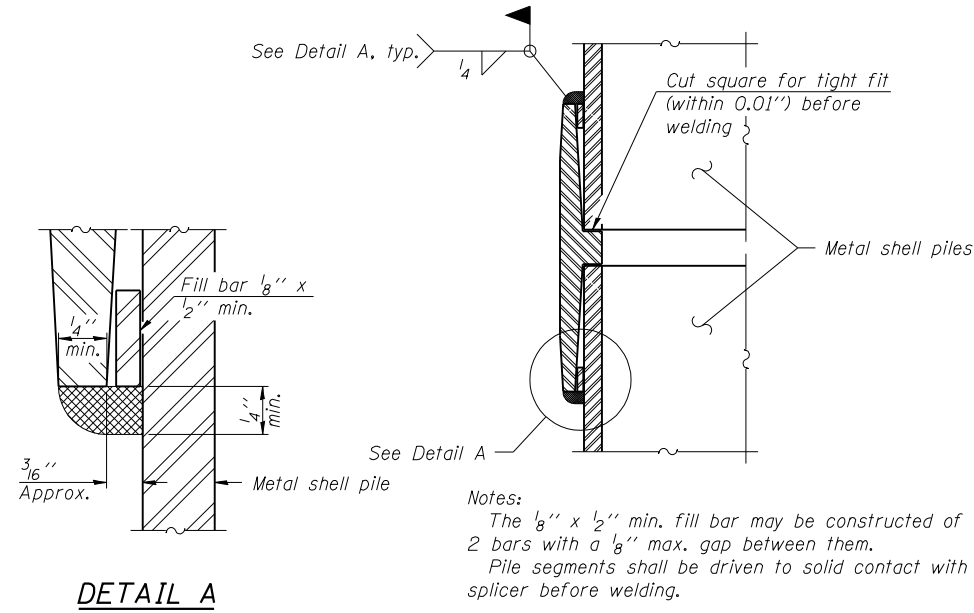
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 16 20 SHEETS
FAP 662	V.T)B-2	MACOUPIN	66	42	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993



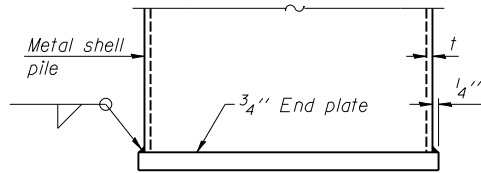
METAL SHELL PILE TABLE

Designation	Wall thickness <i>t</i>	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)	Encasement diameter <i>A</i>
PP12	0.179"	22.60	0.0274	30"
PP12	0.250"	31.37	0.0267	30"
PP14	0.250"	36.71	0.0368	30"
PP14	0.312"	45.61	0.0361	30"

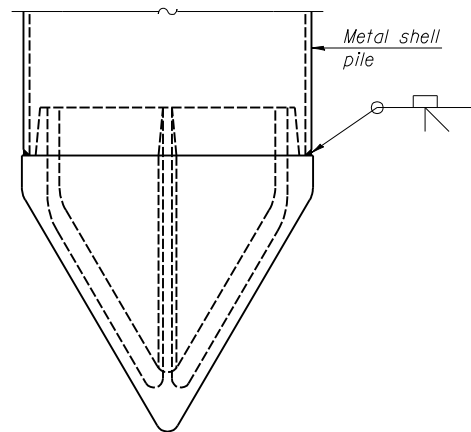


DETAIL A

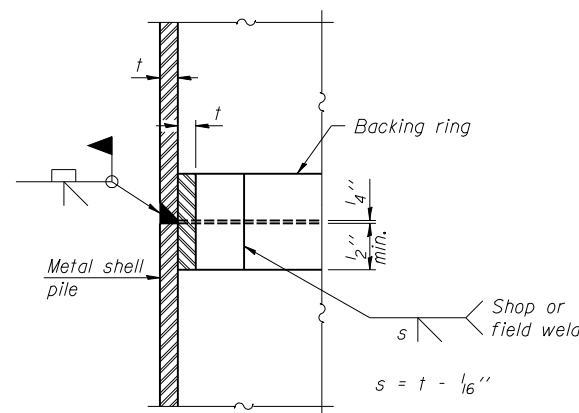
WELDED COMMERCIAL SPLICE



END PLATE ATTACHMENT

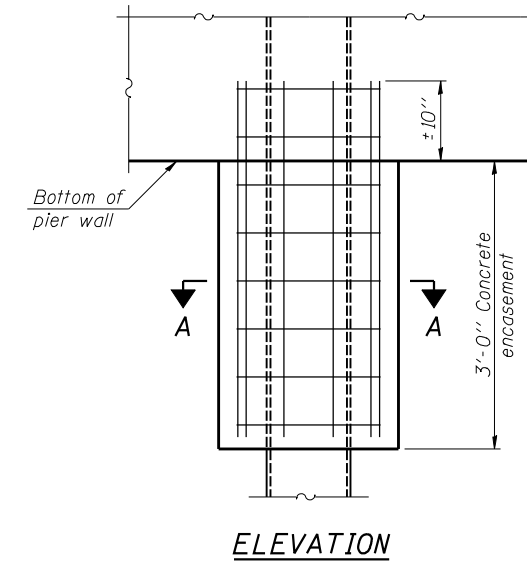


METAL SHELL PILE SHOE ATTACHMENT



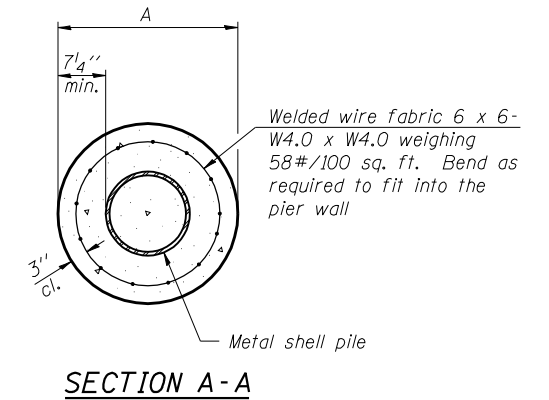
COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

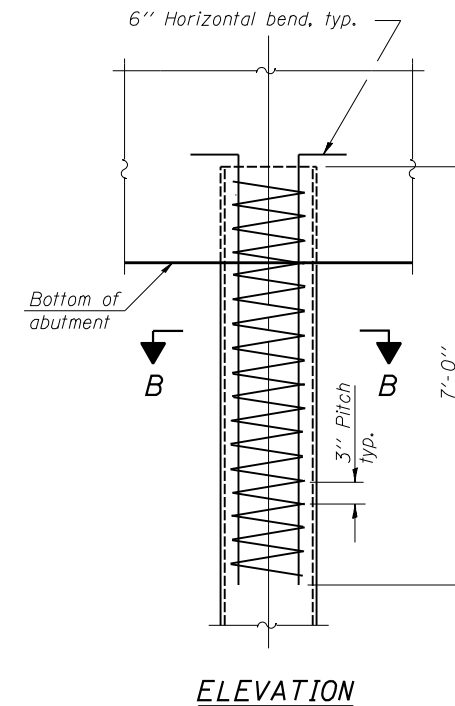


ELEVATION

CONCRETE ENCASEMENT AT PIERS

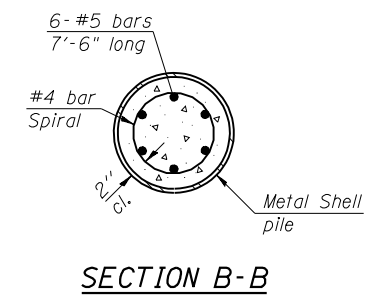


Notes:  
See Metal Shell Pile Table for dimension "A".  
Forms for encasement may be omitted when soil conditions permit.



ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS



DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007

EXAMINED *Thomas J. Domagala*  
ENGINEER OF BRIDGE DESIGN

PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

F-MS

11-1-06

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

METAL SHELL PILE DETAILS  
F.A.P. RT. 662 SECTION (V.T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 17
FAP 662	(V.T)B-2	MACOUPIN	66	43	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

**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 (Tension in kips) =  $1.25 \times f_y \times A_t$
- ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_t$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
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'-0"	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

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

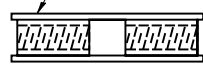
The diameter of this part is the same as the diameter of the bar spliced.

**ROLLED THREAD DOWEL BAR**



\*\* ONE PIECE

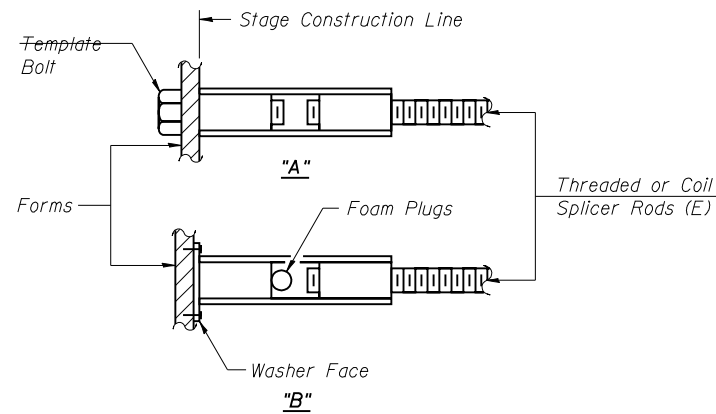
Wire Connector



**WELDED SECTIONS**

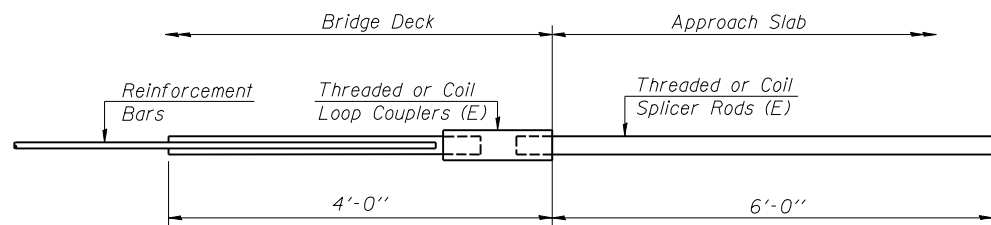
**BAR SPLICER ASSEMBLY ALTERNATIVES**

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



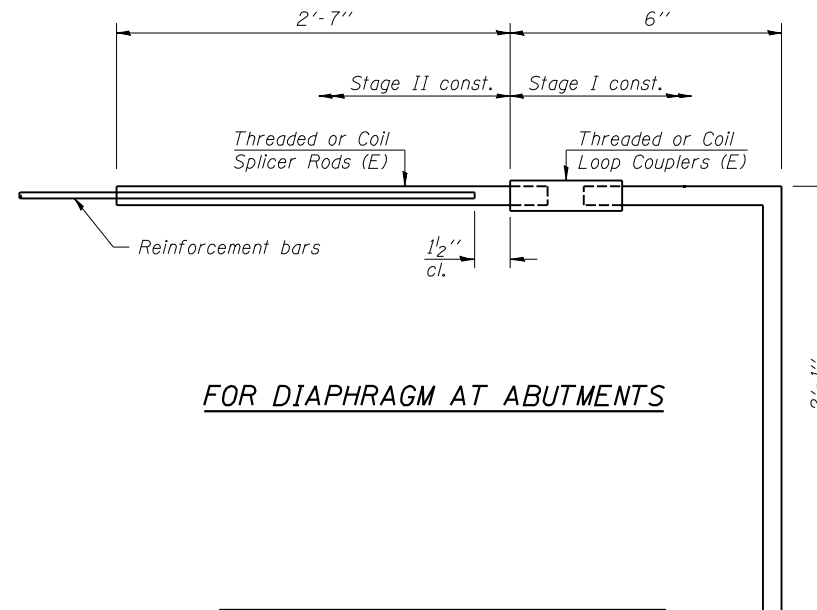
**INSTALLATION AND SETTING METHODS**

"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.



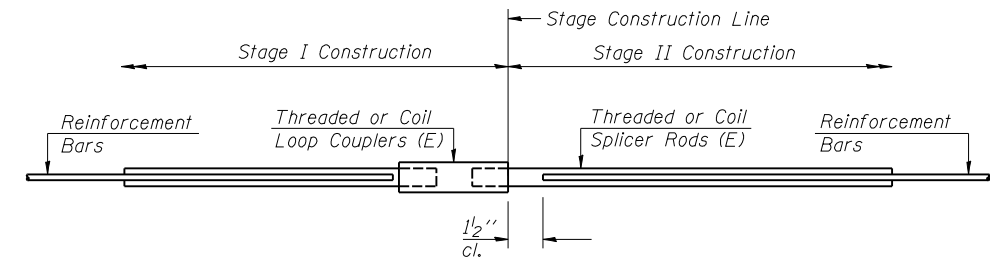
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 70



**FOR DIAPHRAGM AT ABUTMENTS**

Bar Splicer for #6 bar
Min. Capacity = 33.1 kips - tension
Min. Pull-out Strength = 17.4 kips - tension
No. Required = 6



**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	245	Slab
#6	10	Diaphragm
#7	24	Abutment cap

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Domagalick*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BAR SPLICER ASSEMBLY DETAILS**  
**F.A.P. RT. 662 SECTION (V.T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**











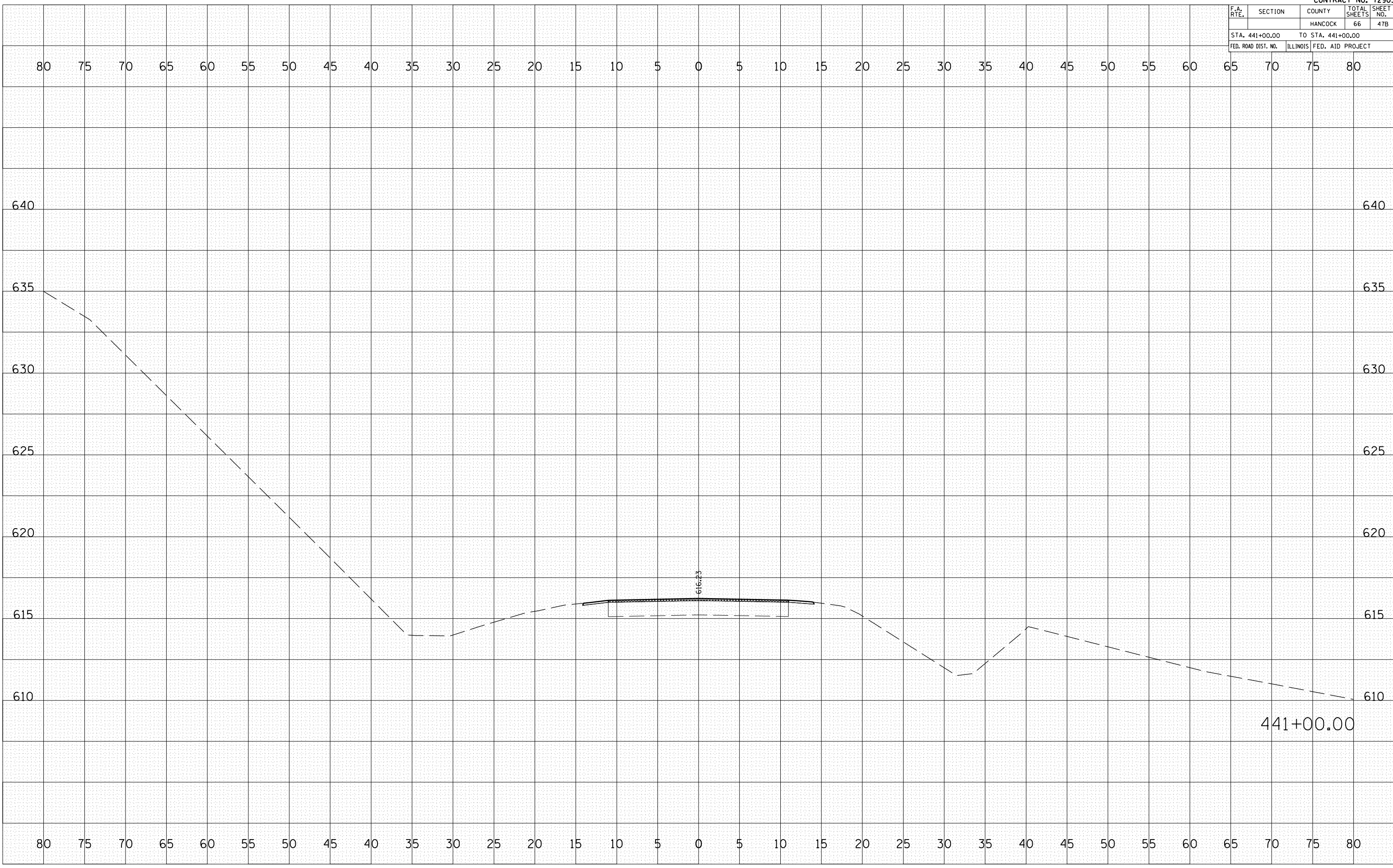


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	47B
STA. 441+00.00		TO STA. 441+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

PLOT DATE = 2/22/2007  
 FILE NAME = \\s101\proj\441\441+00.00\441+00.00.dwg  
 PLOT SCALE = 10.0000 / IN.  
 USER NAME = laughlin-1





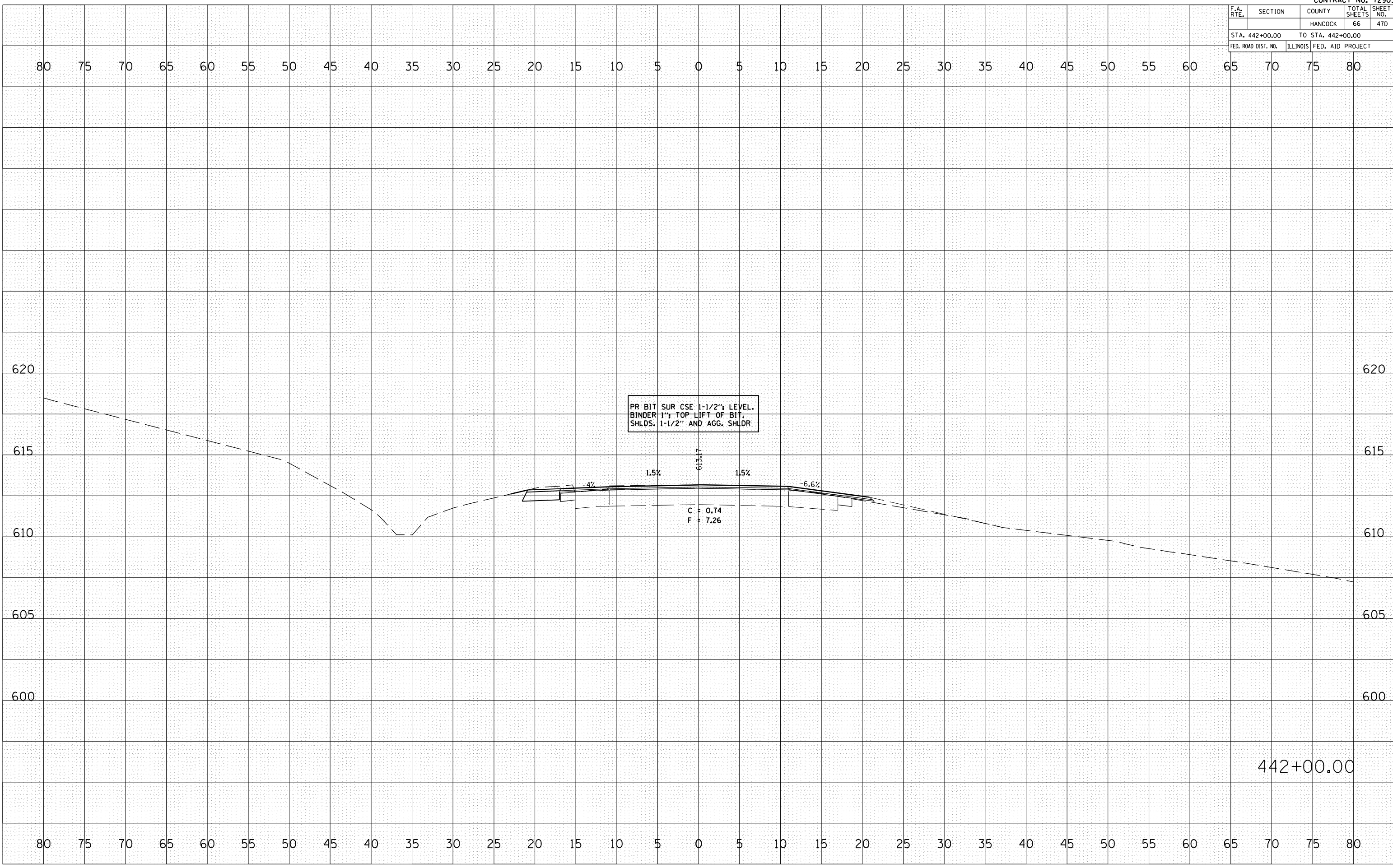


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	47D
STA. 442+00.00		TO STA. 442+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BY	DATE

BY	DATE

PLOT DATE = 2/22/2007  
 FILE NAME = I:\105882\105882.dwg  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = laughlin-l







F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	49
STA. 443+00.00		TO STA. 443+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BY	DATE

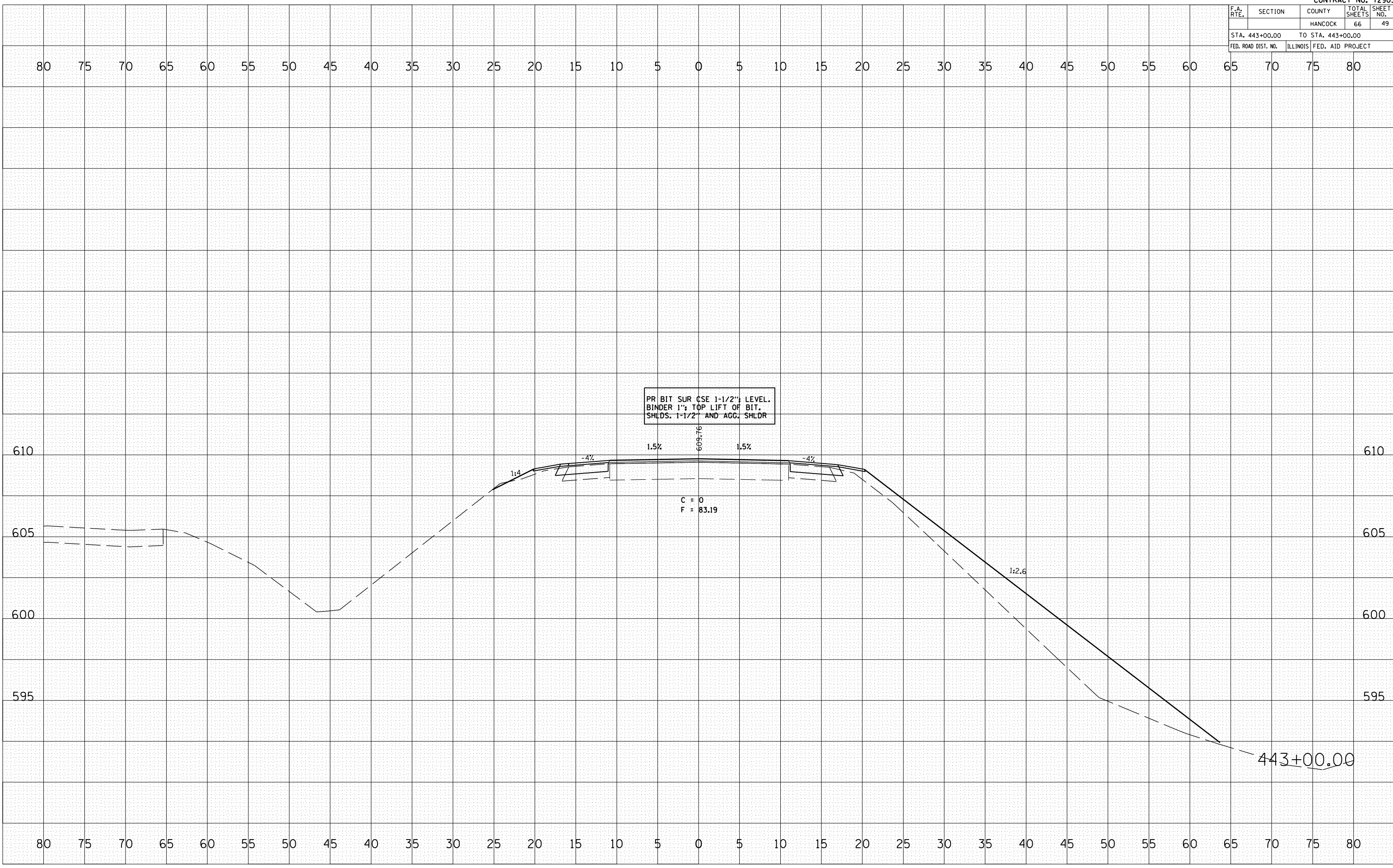
FINAL SURVEY	SURVEYED	PLOTTED	DATE
NO. BOOK	AREAS	CHECKED	
NO.			

BY	DATE

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

PLOT DATE = 2/22/2007  
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 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = laughlin-1

















F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	55
STA. 446+00.00		TO STA. 446+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BY	DATE

FINAL SURVEY	SURVEYED	PLOTTED	DATE

NO.	AREAS CHECKED

BY	DATE

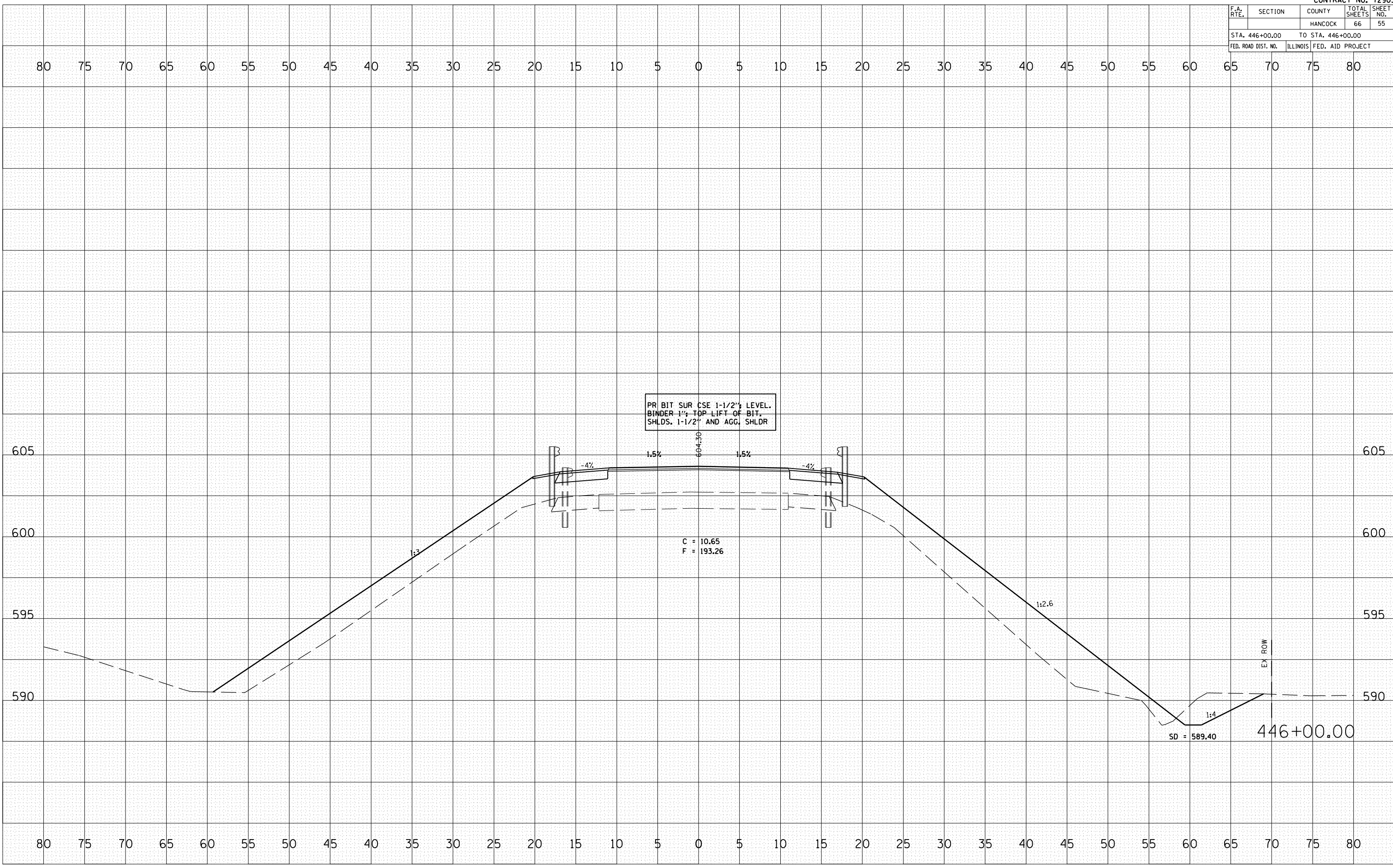
  

ORIGINAL SURVEY	SURVEYED	PLOTTED	DATE

NO.	AREAS CHECKED

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605 605

600 600

595 595

590 590

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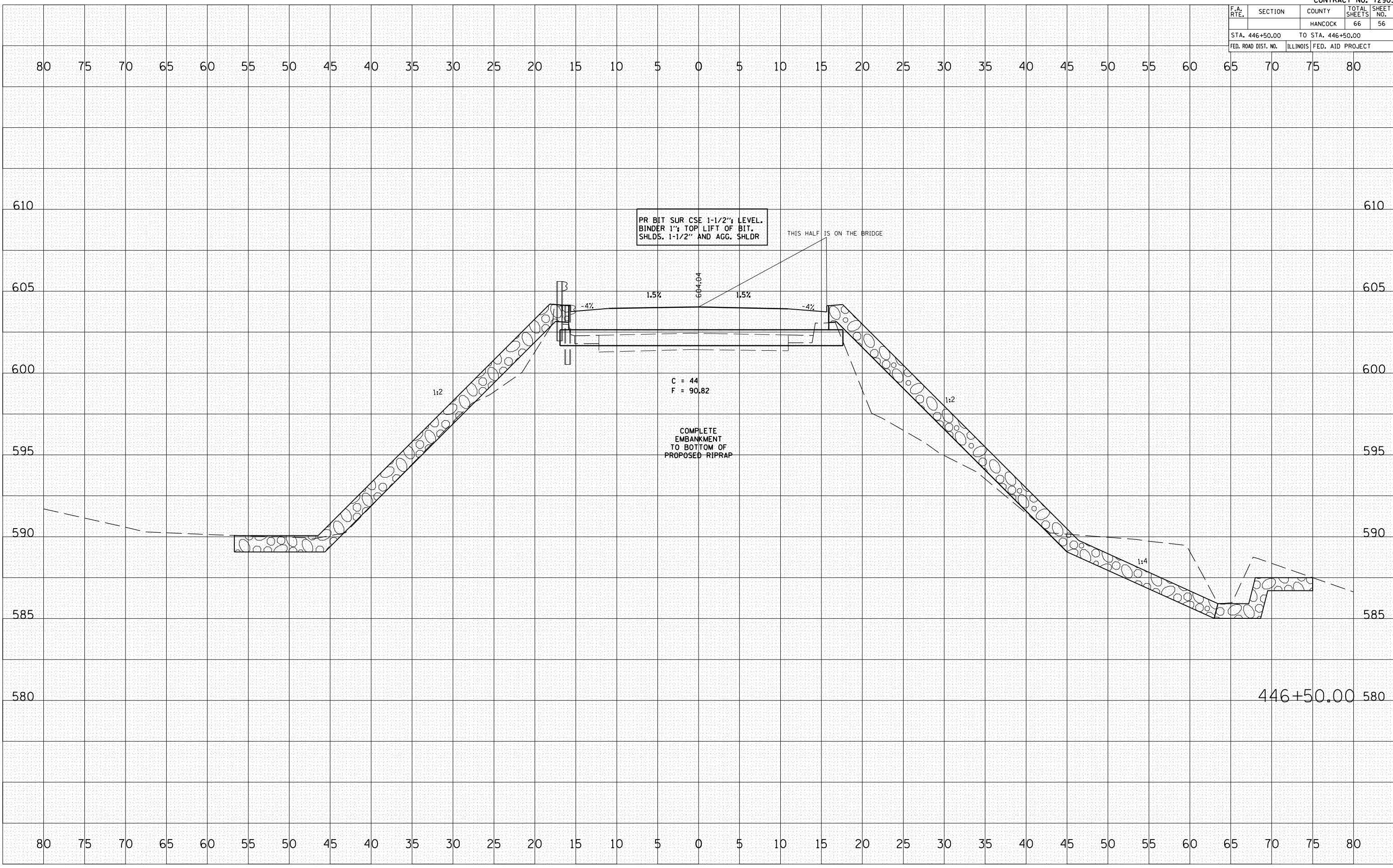


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	56
STA. 446+50.00		TO STA. 446+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BY	DATE
SURVEYED	PLOTTED
NO. BOOK	NO. DATE
AREAS CHECKED	

BY	DATE
SURVEYED	PLOTTED
NO. BOOK	NO. DATE
AREAS CHECKED	

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 USER NAME = laughlin-1



446+50.00 580











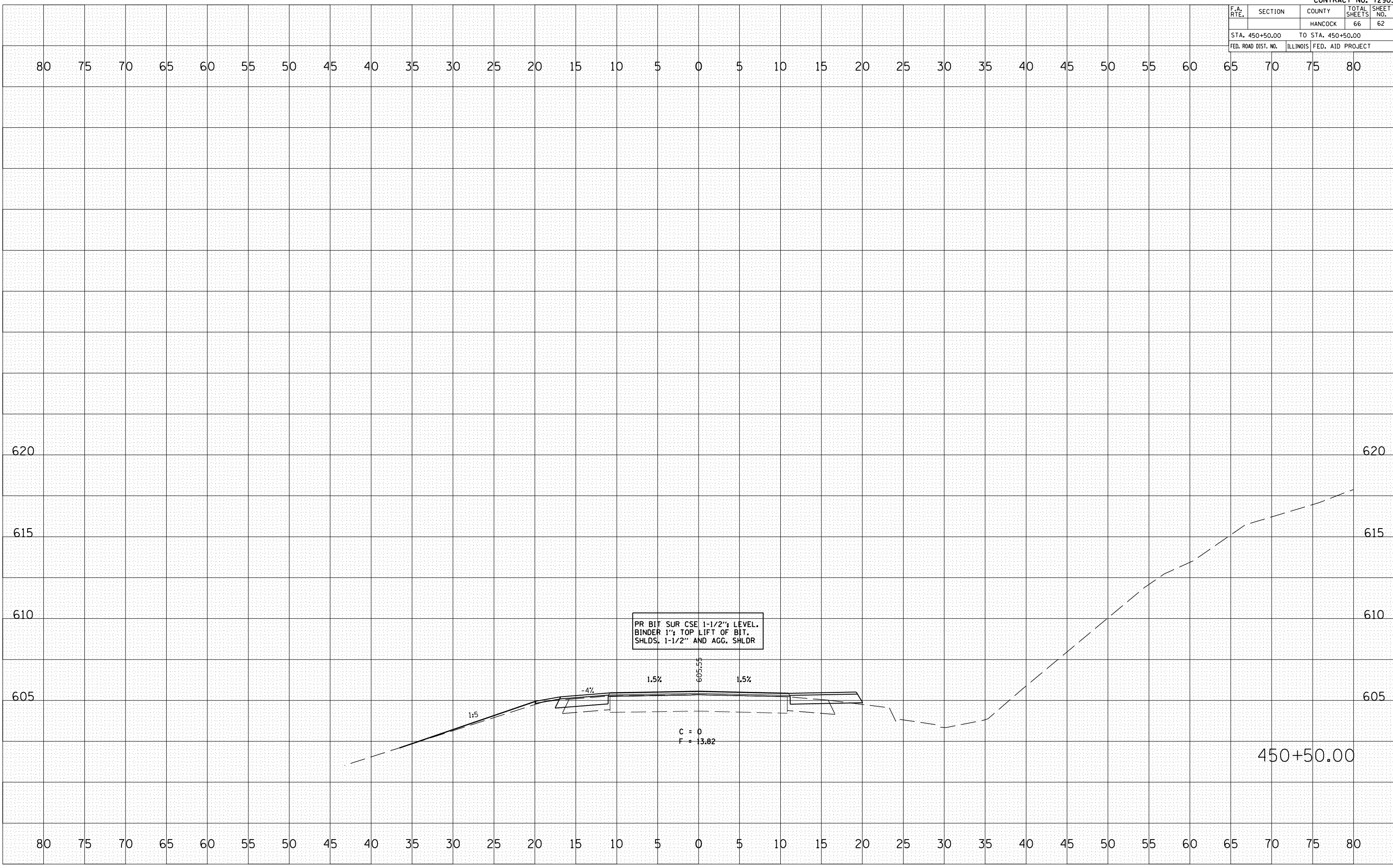


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	62
STA. 450+50.00		TO STA. 450+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

PLOT DATE = 2/22/2007  
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USER NAME = laughlin-1



450+50.00







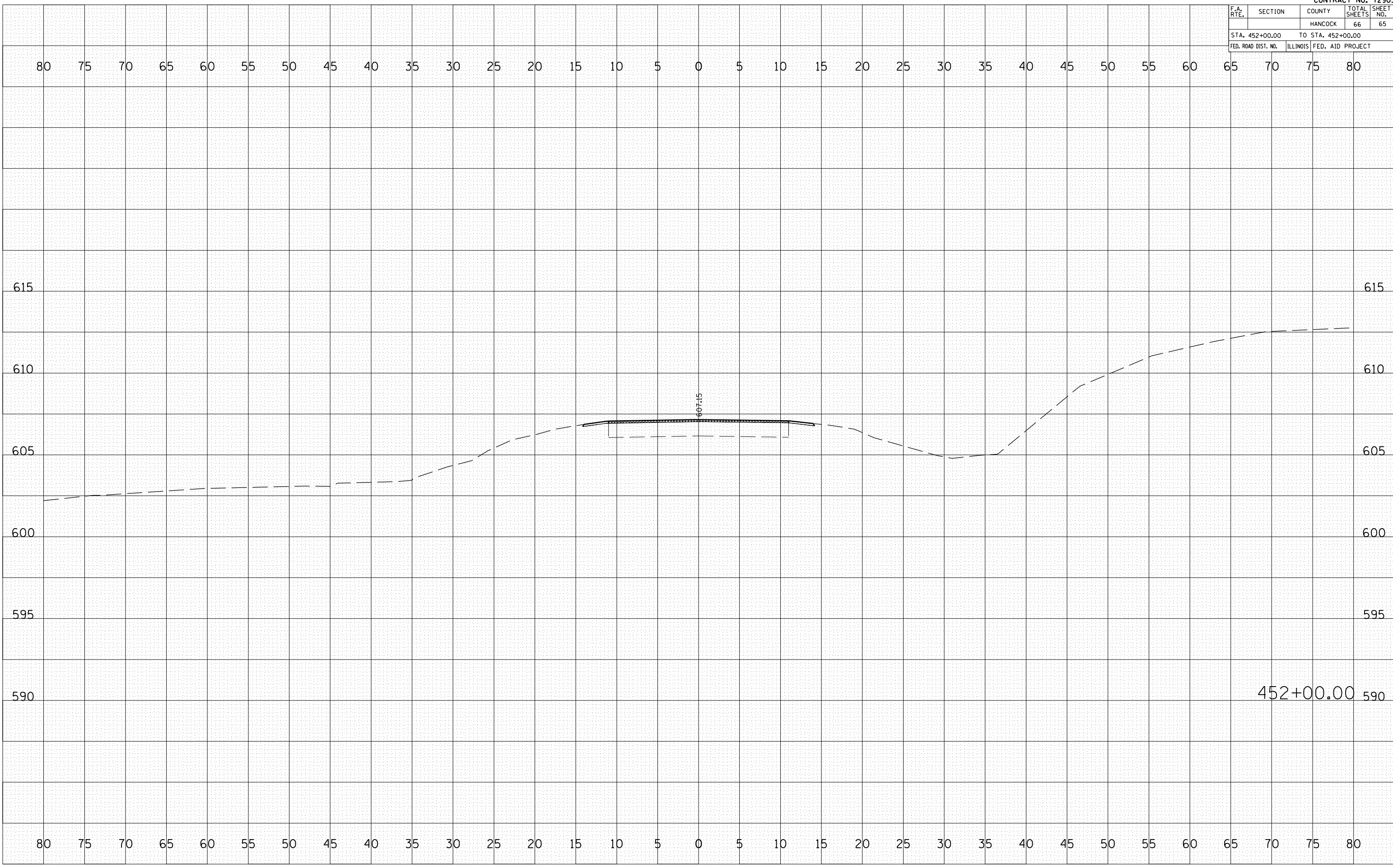


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	65
STA. 452+00.00		TO STA. 452+00.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

PLOT DATE = 2/22/2007  
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 PLOT SCALE = 10.0000 / IN.  
 USER NAME = laughlin-1



F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		HANCOCK	66	66
STA. 452+50.00		TO STA. 452+50.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

PLOT DATE = 2/22/2007  
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 USER NAME = laughlin-1

