

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106 (B1, B2)	MONTGOMERY	61	1

D - 96 - 559 - 98

+ 2
63

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**

FAP 42 ILLINOIS ROUTE 127
SECTION: 106 (B-1, B-2)
STRUCTURES OVER BEARCAT CREEK
2.3 & 2.1 MILES NORTH OF BOND COUNTY LINE
MONTGOMERY COUNTY, IL

C-96-506-08 PROJ. ACBRF-ACF-0042(099)

INDEX OF SHEETS

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- * WIA TRAFFIC BARRIER TERMINAL, TYPE 2 DETAIL

HIGHWAY STANDARDS

000001-04	631031-06	701306-01
280001-03	701326-02	701311-02
420401-05	635006-02	701321-08
482001-01	635011-01	702001-06
515001-02	701006-02	704001-03
630001-07	701011-01	720011
630301-04	701201-02	780001-01
631011-03	701301-02	781001-02

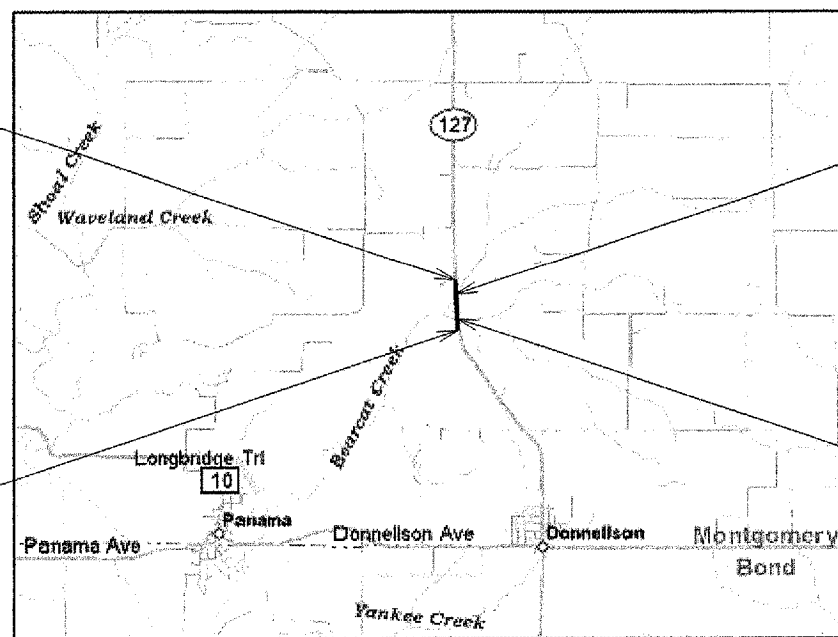
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ENGINEERING PLAN SUBMITTAL	
THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY	
<input type="checkbox"/>	PRELIMINARY PLAN REVIEW NO. 1
<input type="checkbox"/>	PRE FINAL PLAN REVIEW
<input checked="" type="checkbox"/>	FINAL PLAN REVIEW NO. 1
<input type="checkbox"/>	PERMIT APPLICATION
<input type="checkbox"/>	BIDDING
<input type="checkbox"/>	CONSTRUCTION

DATE: 08-07-07

PROJECT ENDS
STA 130 + 70

PROJECT BEGINS
STATION 112 + 50

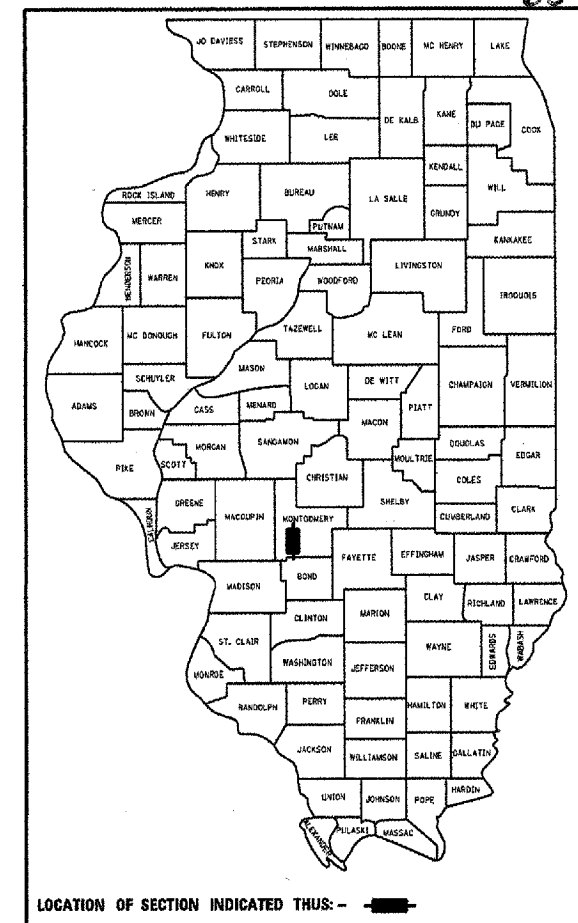


LOCATION MAP

GROSS AND NET LENGTH OF PROJECT = 1820 FEET = 0.34 MILES
HIGHWAY CLASSIFICATION = MINOR ARTERIAL (RURAL)
IL RTE. 127 ADT = 2500 (2005)
IL RTE. 127 ADT = 3050 (2023)

K+ K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1900
WWW.K-PLUSENGINEERING.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

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LOCATION OF SECTION INDICATED THUS: -

PROPOSED STRUCTURE
REPLACEMENT OVER
BEARCAT CREEK
STATION 126 + 58.45
SN: 068-0506

PROPOSED STRUCTURE
REPLACEMENT
LITTLE BEARCAT CREEK
STATION 115 + 99.00
SN 068-0507

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Aug 15, 2007
Eric E. Harms
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 12, 2007
Eric E. Harms
ENGINEER OF DESIGN AND ENVIRONMENT

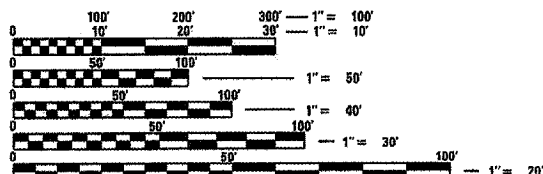
October 12, 2007
Matthew R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER



David L. Clark 8/7/07
Date
David L. Clark
Licensed Professional Engineer
State of Illinois No. 62-42199

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OF THE STATE OF ILLINOIS**

PROJECT ENGINEER: SAL MADONIA (217) 782-4761
SQUAD LEADER: KEN ANDERSON (217) 524-7546



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. 72150

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	2
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

GENERAL CONSTRUCTION NOTES

- ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM U.S.G.S. MEAN SEA LEVEL DATUM.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND/OR MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED, OR REFERENCED THEIR LOCATION. THE CONTRACTOR WILL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E AT, 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.
- THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH ALL UTILITIES WITHIN THE PROJECT LIMITS.
- ACCESS TO ALL ENTRANCES AND SIDE ROADS SHALL BE MAINTAINED AT ALL TIMES.
- ALL REFERENCES TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUB-NUMBERS LISTED IN THE INDEX OF SHEETS, OR THE COPY OF STANDARDS INCLUDED IN THESE PLANS.
- IN ADDITION TO FIELD SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS AND FIELD CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION DUE TO A CHANGE IN THE SCOPE OF WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR QUANTITIES ACTUALLY FURNISHED AND PLACED AT THE CONTRACT UNIT BID PRICE FOR THE WORK.
- THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION WILL BE REMOVED OR 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 SEPARATELY, BUT BE CONSIDERED INCLUDED IN THE CONTRACT, AND NO COMPENSATION WILL BE ALLOWED.
- THE THICKNESS OF BITUMINOUS CONCRETE OVERLAY SHOWN ON THE PLANS IS THE NOMINAL THICKNESS FOR THE OVERLAY. DEVIATIONS FROM THE NOMINAL THICKNESS WILL ONLY BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE ON WHICH THE OVERLAY IS PLACED.
- 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 AND SEEDED AS SOON AS POSSIBLE.
- ALL SAW CUTS, NECESSARY TO COMPLETE THE WORK DETAILED IN THESE PLANS, SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAY ITEMS INVOLVED. THE MINIMUM SAW CUT DEPTH IN THE PAVEMENT SHALL BE 2" UNLESS OTHERWISE SPECIFIED IN A DETAIL SHOWN IN THE PLANS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY-PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 800-892-0123, A MINIMUM OF FORTY-EIGHT HOURS ADVANCE NOTICE IS REQUIRED.
- THE DISTRICT BUREAU OF OPERATIONS SHALL BE NOTIFIED AT LEAST 14 DAYS PRIOR TO PLACEMENT OF FINAL PAVEMENT MARKING (PH: 217-785-5312)
- NO COMMITMENTS MADE.

MIXTURE REQUIREMENTS

LOCATION(S): SURFACE
 MIXTURE USE(S): PG 64-22
 DESIGN AIR VOIDS: 4.0% @ N DESIGN = 50
 MIXTURE COMPOSITION: IL 9.5 OR 12.5
 (GRADATION MIXTURE)
 FRICTION AGGREGATE: MIX "C"

LOCATION(S): INCIDENTAL SURFACE
 MIXTURE USE(S): PG 64-22
 DESIGN AIR VOIDS: 4.0% @ N DESIGN = 50
 MIXTURE COMPOSITION: IL 9.5 OR 12.5
 (GRADATION MIXTURE)
 FRICTION AGGREGATE: MIX "C"

APPLICATION RATES

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED TO CALCULATE THE PLAN QUANTITIES:

- BITUMINOUS MATERIALS (PRIME COAT) - 0.00038 TON/SOYD (ON PAVEMENT)
- BITUMINOUS MATERIALS (PRIME COAT) - 0.001425 TON/SOYD (ON AGGREGATE)
- AGGREGATE PRIME COAT - 0.002 TON/SOYD
- HOT-MIX ASPHALT SURFACE / BINDER - 0.056 TONS/SOYD/IN
- AGGREGATE MATERIAL - 2.05 TON/CUYD
- RIPRAP - 1.75 TON/CUYD
- MULCH METHOD - 2.0 TON/ACRE
- AGRICULTURE GROUND LIMESTONE - 2.0 TON/ACRE
- NITROGEN FERTILIZER NUTRIENT - 90 LB/ACRE
- PHOSPHOROUS FERTILIZER NUTRIENT - 90 LB/ACRE
- POTASSIUM FERTILIZER NUTRIENT - 90 LB/ACRE

DISTRICT SIX	
EXAMINED	July 18 20 07
<i>David J. Hanks</i>	
OPERATIONS ENGINEER	
EXAMINED	July 27 20 07
<i>W.B. Fry</i>	
PROGRAM IMPLEMENTATION ENGINEER	
EXAMINED	July 11 20 07
<i>W.B. Fry</i>	
PROGRAM DEVELOPMENT ENGINEER	

PLOT DATE = DATE
 FILE NAME = FILEL
 PLOT SCALE = SCALE
 USER NAME = USER

K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 548-1900
 WWW.K-PLUSENGINEERING.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-002895

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 GENERAL NOTES

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

DATE 8-07-07
 DRAWN BY ADG
 CHECKED BY DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	3
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES

ACF ACBRF ACF

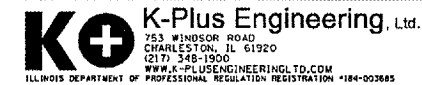
ACF ACBRF ACF

PAY CODE	ITEM	UNITS	TOTAL QUANTITY	CONSTRUCTION CODE TYPES		
				IL RT 127 ROADWAY 80% FEDERAL 20% STATE	SN 068-0506 80% FEDERAL 20% STATE	SN 068-0507 80% FEDERAL 20% STATE
20300100	CHANNEL EXCAVATION	CU YD	1228		624	604
20400800	FURNISHED EXCAVATION	CU YD	400	400		
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	345		163	182
25000210	SEEDING, CLASS 2A	ACRE	0.75	0.75		
25000400	NITROGEN FERTILIZER, NUTRIENT	POUND	68	68		
25000500	PHOSPHORUS FERTILIZER, NUTRIENT	POUND	68	68		
25000600	POTASSIUM FERTILIZER, NUTRIENT	POUND	68	68		
25100120	MULCH, METHOD 2	TON	2	2		
25100630	EROSION CONTROL BLANKET	SQ YD	783	783		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	75	75		
28000300	TEMPORARY DITCH CHECKS	EACH	10	10		
28000400	PERIMETER EROSION BARRIER	FOOT	830	830		
28000500	INLET AND PIPE PROTECTION	EACH	1	1		
28100107	STONE RIPRAP, CLASS A4	SQ YD	767		345	422
28100707	STONE DUMPED RIPRAP, CLASS A4	SQ YD	407		407	
28200200	FILTER FABRIC	SQ YD	1173		751	422
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	2.2	2.2		
40600300	AGGREGATE (PRIME COAT)	TON	12	12		
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	214	214		
40600990	TEMPORARY RAMP	SQ YD	274	274		
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	601	601		
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	8	8		
42001165	BRIDGE APPROACH PAVEMENT	SQ YD	480	480		
42001430	BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)	SQ YD	96	96		
44000100	PAVEMENT REMOVAL	SQ YD	675	675		
44000198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	5098	5098		
44000920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQ YD	1430	1430		
48101200	AGGREGATE SHOULDERS, TYPE B	TON	57	57		
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1		1	
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1		1	
50200100	STRUCTURE EXCAVATION	CU YD	809		578	231
50300100	FLOOR DRAINS	EACH	18		14	4
50300225	CONCRETE STRUCTURES	CU YD	275.3		238.1	36.2
50300255	CONCRETE SUPERSTRUCTURE	CU YD	376.0		264.6	111.4
50300260	BRIDGE DECK GROOVING	SQ YD	1515		984	531

PAY CODE	ITEM	UNITS	TOTAL QUANTITY	CONSTRUCTION CODE TYPES		
				IL RT 127 ROADWAY 80% FEDERAL 20% STATE	SN 068-0506 80% FEDERAL 20% STATE	SN 068-0507 80% FEDERAL 20% STATE
50300260	CONCRETE ENGASEMENT	CU YD	23.1		17.6	5.6
50300300	PROTECTIVE COAT	SQ YD	1870		1233	637
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		0.7	0.3
50500505	STUD SHEAR CONNECTORS	EACH	4824		3546	1278
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	105310		77600	27710
50800515	BAR SPLICERS	EACH	1028		702	326
51201400	FURNISHING STEEL PILES HP10X42	FOOT	1414		1414	
51201800	FURNISHING STEEL PILES HP12X63	FOOT	1980		1224	756
51202305	DRIVING PILES	FOOT	3394		2638	756
51203400	TEST PILE STEEL HP10X42	EACH	2		2	
51203600	TEST PILE STEEL HP12X63	EACH	4		2	2
51205200	TEMPORARY SHEET PILING	SQ FT	2614		2614	
51500100	NAME PLATES	EACH	2		1	1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	134		134	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12		12	
52100520	ANCHOR BOLTS, 1"	EACH	72		48	24
58700300	CONCRETE SEALER	SQ FT	828		828	
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	192		111	81
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	245		142	103
* 63000000	STEEL PLATE BEAM GUARD RAIL, TYPE A	FOOT	543.75	543.75		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2	2		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	8	8		
* 63100167	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT)	EACH	3	3		
* 63100169	TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (FLARED)	EACH	1	1		
* 63200310	GUARD RAIL REMOVAL	FOOT	1370	1370		
* 63300725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	150.0	150.0		
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	4	4		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	16	2	8	6
67100100	MOBILIZATION	L SUM	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70101205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	2		1	1

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*SPECIALTY ITEMS



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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SUMMARY OF QUANTITIES

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT.
 HORIZ.
 DATE 8-07-07

DRAWN BY AGC
 CHECKED BY DC

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	1061B-1, B-2)	MONTGOMERY	61	4
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

ACF ACBRF ACF

PAY CODE	ITEM	UNITS	TOTAL QUANTITY	CONSTRUCTION CODE TYPES		
				000-2A	X071-2A	X0711-2A
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	10	10		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2		1	1
70106700	TEMPORARY RUMBLE STRIP	EACH	12		6	6
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	16	2	6	6
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	676	676		
70300280	TEMPORARY PAVEMENT MARKING - LINE 5'	FOOT	4228	4228		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1988	1988		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	525		200	325
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1112.5		800	312.5
* 78001120	PAINT PAVEMENT MARKING - LINE 5'	FOOT	4228	4228		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	19	19		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	14	14		
* 78200520	BARRIER WALL MARKERS, TYPE B	EACH	16	16		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
78300105	PAVEMENT MARKING REMOVAL	FOOT	2479	2479		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	23	23		
X0323988	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	463			463
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1		1	
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1		1	
X6051401	FURNISHING AND ERECTING STRUCTURAL STEEL BRIDGE NO. 1	L-SUM	1		1	
X6051402	FURNISHING AND ERECTING STRUCTURAL STEEL BRIDGE NO. 2	L-SUM	1		1	
X7200201	WIDTH RESTRICTION SIGNING	L-SUM	1		0.5	0.5
X2030260	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2			2
Z0001800	ASBESTOS BEARING PAD REMOVAL	EACH	90		90	
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	6		4	2

*SPECIALTY ITEM

Rev.

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K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1900
 WWW.K-PLUSENGINEERING.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #104-003885

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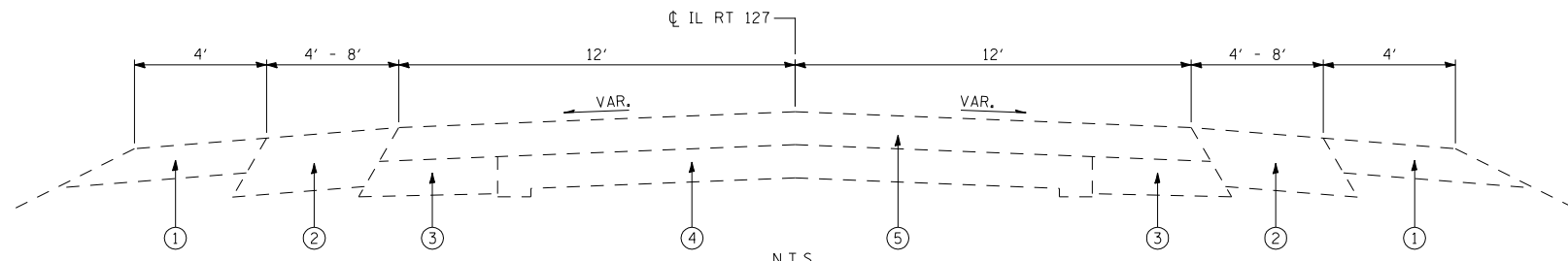
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SUMMARY OF QUANTITIES

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

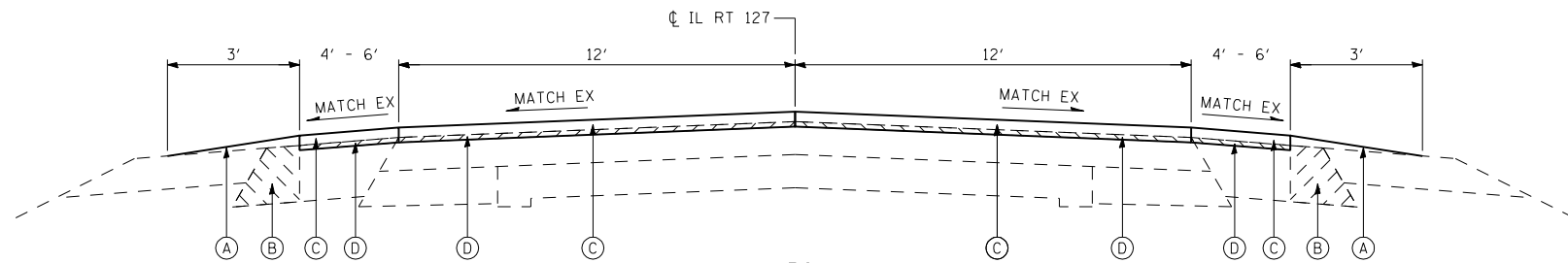
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 HORIZ. CHECKED BY: DC
 DATE: 8-07-07

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	5
STA. 112+50.00 TO STA. 130+70.00		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		



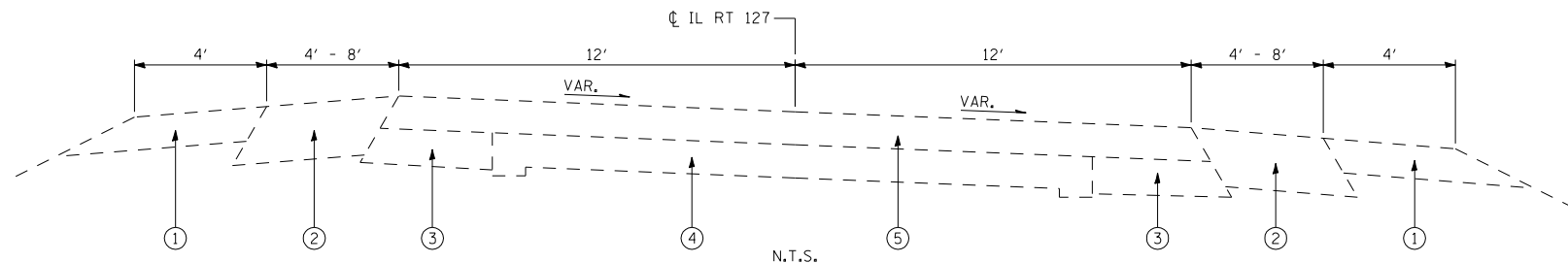
EXISTING TYPICAL SECTION

N.T.S.
 IL ROUTE 127
 STA 112+50.00 TO 114+82.52
 STA 125+13.87 TO 125+25.62
 BRIDGE OMISSION, SN 068-0506
 STA 127+91.28 TO 130+70.00



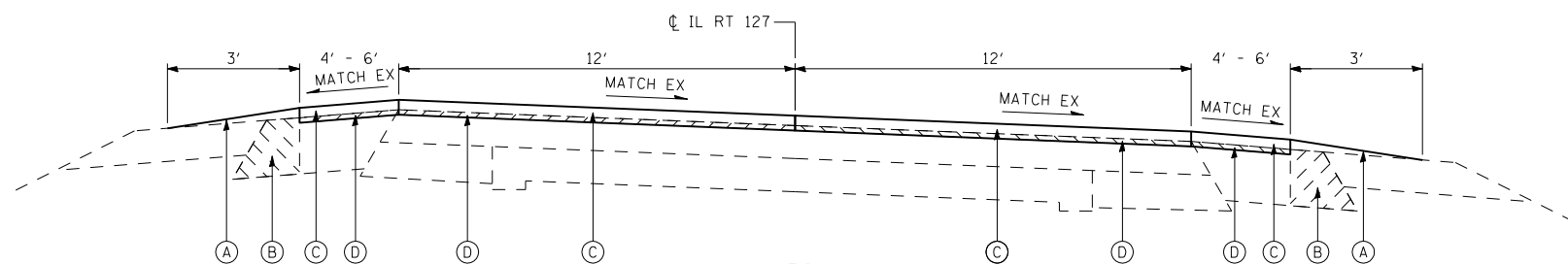
PROPOSED TYPICAL SECTION

N.T.S.
 IL ROUTE 127
 STA 112+50.00 TO 114+82.52
 STA 125+13.87 TO 125+25.62
 BRIDGE OMISSION, SN 068-0506
 STA 127+91.28 TO 130+70.00



EXISTING TYPICAL SECTION

N.T.S.
 IL ROUTE 127
 STA 114+82.52 TO 115+29.46
 BRIDGE OMISSION, SN 068-0507
 STA 116+68.50 TO 125+13.87



PROPOSED TYPICAL SECTION

N.T.S.
 IL ROUTE 127
 STA 114+82.52 TO 115+29.46
 BRIDGE OMISSION, SN 068-0507
 STA 116+68.50 TO 125+13.87

LEGEND

- ① EXISTING AGG SHOULDERS
- ② EXISTING BITUMINOUS SHOULDERS (±14" THICK)
- ③ EXISTING BITUMINOUS BASE COURSE WIDENING
- ④ EXISTING PCC PAVEMENT
- ⑤ EXISTING 6 1/4" BITUMINOUS CONCRETE
- (A) PROPOSED AGGREGATE SHOULDERS, TYPE B
- (B) PROPOSED BITUMINOUS CONCRETE SHOULDER REMOVAL WIDER THAN 6", FULL DEPTH, REPLACED WITH FURNISHED EXCAVATION
- (C) PROPOSED 2" HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
- (D) PROPOSED HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH (1/2" @ ± WITH VARIABLE CROSS SLOPE)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 EXISTING / PROPOSED
 ROADWAY TYPICAL SECTIONS

FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07

DRAWN BY ADG
 CHECKED BY DC

K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1500
 WWW.K-PLUSENGINEERING.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

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 USER NAME = laughlin-1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	6
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CHANNEL EXCAVATION

STATION TO STATION	LT/RT	LENGTH (FT)	AREA (CU YD)
115+62.0 - 115+76.6		15	302
116+20.0 - 116+36.0		16	302
125+63.3 - 125+91.2		28	263
126+62.8 - 126+98.9		37	98
127+26.3 - 127+53.6		28	263
TOTAL : 1228 CU YD			

BITUMINOUS CONCRETE SHOULDER REMOVAL

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
SHOULDER LT				
113+31.81 - 115+76.71	LT	245	6.3 (AVE)	173
OMISSION FOR SN 068-0507				
116+20.10 - 119+17.95	LT	298	4.9 (AVE)	162
123+41.34 - 125+73.29	LT	232		170
OMISSION FOR SN 068-0506				
126+92.65 - 130+02.15	LT	310	6.7 (AVE)	233
SHOULDER RT				
113+50.00 - 115+76.41	RT	227	7.3 (AVE)	184
OMISSION FOR SN 068-0507				
116+20.17 - 117+38.62	RT	119	9.4 (AVE)	125
123+17.41 - 126+25.53	RT	309	6.5 (AVE)	224
OMISSION FOR SN 068-0506				
127+44.75 - 129+85.88	RT	242	5.9 (AVE)	159
TOTAL : 1430 SQ YD				

PAVEMENT REMOVAL

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
115+23.46 - 115+76.59		54	24.0	144
OMISSION FOR SN 068-0507				
116+20.01 - 116+74.50		55	24.0	147
OMISSION FOR SN 068-0506				
125+19.62 - 125+91.17		72	24.0	192
OMISSION FOR SN 068-0506				
127+26.27 - 127+97.28		72	24.0	192
TOTAL : 675 SQ YD				

HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
112+50.00 - 112+80.00		30	32. (AVE)	107
130+40.00 - 130+70.00		30	32. (AVE)	107
TOTAL : 214 SQ YD				

HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	THICKNESS (IN)	AREA (SQ YD)	TON (TON)
MAINLINE IL 127						
112+50.00 - 115+23.46		274	24.4 (AVE)	2	744	83.4
OMISSION FOR SN 068-0507						
116+74.50 - 125+19.62		846	24.2 (AVE)	2	2278	255.2
OMISSION FOR SN 068-0506						
127+97.28 - 130+70.00		273	24.3 (AVE)	2	737	82.6
SHOULDER LT						
112+50.00 - 112+86.95	LT	37	3.4 (AVE)	2	14	1.6
112+86.95 - 113+31.81	LT	45	4.7 (AVE)	2	24	2.7
113+31.81 - 115+26.25	LT	195	6.0 (AVE)	2	130	14.6
OMISSION FOR SN 068-0507						
116+77.03 - 118+28.24	LT	152	6.0 (AVE)	2	102	11.5
118+28.24 - 119+49.90	LT	122	4.7 (AVE)	2	65	7.3
119+49.90 - 122+99.74	LT	350	4.0 (AVE)	2	156	17.5
122+99.74 - 123+41.34	LT	42	5.0 (AVE)	2	24	2.7
123+41.34 - 124+96.65	LT	156	6.0 (AVE)	2	104	11.7
OMISSION FOR SN 068-0506						
127+74.68 - 130+02.15	LT	228	6.0 (AVE)	2	152	17.1
130+02.15 - 130+70.00	LT	68	4.9 (AVE)	2	37	4.2
SHOULDER RT						
112+50.00 - 112+99.17	RT	50	3.9 (AVE)	2	22	2.5
112+99.17 - 113+82.47	RT	84	5.0 (AVE)	2	47	5.3
113+82.47 - 115+20.62	RT	139	6.0 (AVE)	2	93	10.5
OMISSION FOR SN 068-0507						
116+72.02 - 117+34.37	RT	63	6.0 (AVE)	2	42	4.8
117+34.37 - 118+20.71	RT	87	5.0 (AVE)	2	49	5.5
118+20.71 - 122+56.99	RT	437	4.0 (AVE)	2	192	21.6
122+56.99 - 123+17.42	RT	61	5.0 (AVE)	2	35	4.0
123+17.42 - 125+42.35	RT	225	6.0 (AVE)	2	150	16.8
OMISSION FOR SN 068-0506						
128+20.17 - 129+85.88	RT	166	6.0 (AVE)	2	110	12.4
129+85.88 - 130+70.00	RT	85	4.9 (AVE)	2	47	5.3
TOTALS :						5354 SQ YD 601 TON

BITUMINOUS MATERIALS PRIME COAT

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)	TON (TON)
MAINLINE IL 127					
112+50.00 - 115+23.46		274	24.4 (AVE)	744	0.29
OMISSION FOR SN 068-0507					
116+74.50 - 125+19.62		846	24.2 (AVE)	2278	0.87
OMISSION FOR SN 068-0506					
127+97.28 - 130+70.00		273	24.3 (AVE)	737	0.29
SHOULDER LT					
112+50.00 - 112+86.95	LT	37	3.4 (AVE)	14	0.01
112+86.95 - 113+31.81	LT	45	4.7 (AVE)	24	0.01
113+31.81 - 115+26.25	LT	195	6.0 (AVE)	130	0.05
OMISSION FOR SN 068-0507					
116+77.03 - 118+28.24	LT	152	6.0 (AVE)	102	0.04
118+28.24 - 119+49.90	LT	122	4.7 (AVE)	65	0.03
119+49.90 - 122+99.74	LT	350	4.0 (AVE)	156	0.06
122+99.74 - 123+41.34	LT	42	5.0 (AVE)	24	0.01
123+41.34 - 124+96.65	LT	156	6.0 (AVE)	104	0.04
OMISSION FOR SN 068-0506					
127+74.68 - 130+02.15	LT	228	6.0 (AVE)	152	0.06
130+02.15 - 130+70.00	LT	68	4.9 (AVE)	37	0.02
SHOULDER RT					
112+50.00 - 112+99.17	RT	50	3.9 (AVE)	22	0.01
112+99.17 - 113+82.47	RT	84	5.0 (AVE)	47	0.02
113+82.47 - 115+20.62	RT	139	6.0 (AVE)	93	0.04
OMISSION FOR SN 068-0507					
116+72.02 - 117+34.37	RT	63	6.0 (AVE)	42	0.02
117+34.37 - 118+20.71	RT	87	5.0 (AVE)	49	0.02
118+20.71 - 122+56.99	RT	437	4.0 (AVE)	192	0.08
122+56.99 - 123+17.42	RT	61	5.0 (AVE)	35	0.02
123+17.42 - 125+42.35	RT	225	6.0 (AVE)	150	0.06
OMISSION FOR SN 068-0506					
128+20.17 - 129+85.88	RT	166	6.0 (AVE)	110	0.05
129+85.88 - 130+70.00	RT	85	4.9 (AVE)	47	0.02
TOTALS :					5354 SQ YD 2.2 TON

HOT-MIX ASPHALT SURFACE REMOVAL - VARIABLE DEPTH

STATION TO STATION	LT/RT	LENGTH (FT)	WIDTH (FT)	AREA (SQ YD)
MAINLINE IL 127				
112+80.00 - 115+23.46		244	24.0	651
OMISSION FOR SN 068-0507				
116+74.50 - 125+19.62		846	24.0	2256
OMISSION FOR SN 068-0506				
127+97.28 - 130+40.00		243	24.0	648
SHOULDER LT				
112+80.00 - 112+86.95	LT	7	3.5 (AVE)	3
112+86.95 - 113+31.81	LT	45	4.7 (AVE)	24
113+31.81 - 115+26.25	LT	195	6.0 (AVE)	130
OMISSION FOR SN 068-0507				
116+77.03 - 118+28.24	LT	152	6.0 (AVE)	102
118+28.24 - 119+49.90	LT	122	4.7 (AVE)	65
119+49.90 - 122+99.74	LT	350	4.0 (AVE)	156
122+99.74 - 123+41.34	LT	42	5.0 (AVE)	24
123+41.34 - 124+96.65	LT	156	6.0 (AVE)	104
OMISSION FOR SN 068-0506				
127+74.68 - 130+02.15	LT	228	6.0 (AVE)	152
130+02.15 - 130+40.00	LT	38	5.3 (AVE)	23
SHOULDER RT				
112+80.00 - 112+99.17	RT	20	3.9 (AVE)	9
112+99.17 - 113+82.47	RT	84	5.0 (AVE)	47
113+82.47 - 115+20.62	RT	139	6.0 (AVE)	93
OMISSION FOR SN 068-0507				
116+72.02 - 117+34.37	RT	63	6.0 (AVE)	42
117+34.37 - 118+20.71	RT	87	5.0 (AVE)	49
118+20.71 - 122+56.99	RT	437	4.0 (AVE)	192
122+56.99 - 123+17.42	RT	61	5.0 (AVE)	35
123+17.42 - 125+42.35	RT	225	6.0 (AVE)	150
OMISSION FOR SN 068-0506				
128+20.17 - 129+85.88	RT	166	6.0 (AVE)	110
129+85.88 - 130+40.00	RT	55	5.3 (AVE)	33
TOTAL : 5098 SQ YD				

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION SCHEDULE AND QUANTITIES

FAP 42 (IL RTE, 127) SECTION 106 (B-1, B-2) MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07
 DRAWN BY ADG
 CHECKED BY DC

K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1500
 WWW.K-PLUSENGINEERING.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	7
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

GUARDRAIL INSTALLATION SCHEDULE

STATION TO STATION	LT/RT	STEEL PLATE BEAM GUARD RAIL, TYPE A (FT)	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS) (FT)	TRAFFIC BARRIER TERMINAL, TYPE 1 SP TANGENT (EACH)	TRAFFIC BARRIER TERMINAL, TYPE 1 SP FLARED (EACH)	TRAFFIC BARRIER TERMINAL, TYPE 2 (EACH)	TRAFFIC BARRIER TERMINAL, TYPE 6 (EACH)	TERMINAL MARKER DIRECT APPLIED (EACH)
SOUTH SIDE OF SN 068-0507								
115+19.65 - 115+63.40	LT						1	
115+19.65 - 115+19.65	LT	0.00						
114+69.65 - 115+19.65	LT				1			1
115+12.97 - 115+56.72	RT						1	
114+19.22 - 115+12.97	RT	93.75 *						
113+98.22 - 114+19.22	RT		37.5			1		
NORTH SIDE OF SN 068-0507								
116+41.05 - 116+84.80	LT						1	
116+84.80 - 117+34.80	LT	50.00						
117+34.80 - 117+55.80	LT		37.5			1		
116+34.75 - 116+78.50	RT						1	
116+78.50 - 117+16.00	RT	37.50						
117+16.00 - 117+37.00	RT		37.5			1		
SOUTH SIDE OF SN 068-0506								
124+76.49 - 125+20.24	LT						1	
124+13.99 - 124+76.49	LT	62.50						
123+63.99 - 124+13.99	LT			1				1
125+30.88 - 125+74.63	RT						1	
124+43.38 - 125+30.88	RT	87.50						
124+22.38 - 124+43.38	RT		37.5			1		
NORTH SIDE OF SN 068-0506								
127+42.27 - 127+86.02	LT						1	
127+86.02 - 129+36.02	LT	150.00						
129+36.02 - 129+86.02	LT			1				1
127+96.66 - 128+40.41	RT						1	
128+40.41 - 129+02.91	RT	62.50						
129+02.91 - 129+52.91	RT			1				1
TOTALS :		543.75	150.0	3	1	4	8	4

* HALF PANEL NEEDS TO BE USED TO KEEP RADIUS NEXT TO ENTRANCE.

TRAFFIC CONTROL

ITEM	UNIT	CONSTRUCTION STAGE				MIN QUANTITY NEEDED (FOR PROJECT)
		1	2	3	4	
TEMPORARY CONCRETE BARRIER	FOOT	312.5	12.5	200		525 ***
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT		312.5	325	475	1112.5
IMPACT ATTENUATOR, TEMPORARY (NON REDIRECTIVE, NARROW) TEST LEVEL III	EACH	2				2 ***
IMPACT ATTENUATOR, RELOCATE (NON REDIRECTIVE) TEST LEVEL III	EACH		2	2	2	6
RUMBLE STRIPS	EACH	6		6		12
PAVEMENT MARKING REMOVAL	FOOT	575	484	760	660	2479
DOUBLE VERTICAL PANEL **	EACH	12	12	15	15	15 ***
DRUM (STEADY BURNING LIGHT) **	EACH	18	17	18	18	18 ***
TYPE III BARRICADE **	EACH	11	10	10	10	11 ***
TEMPORARY STAGING PAVEMENT MARKING **	FOOT	1204	1191	1565	1546	5506

** THESE QUANTITIES ARE INCLUDED IN LUMP SUM PAY ITEMS FOR TC&P STANDARDS. THEY ARE INCLUDED IN THE SCHEDULE FOR THE CONVENIENCE OF BIDDERS. THEY ARE SUBJECT TO CHANGE DUE TO FIELD CONDITIONS AND JUDGMENT OF THE RESIDENT ENGINEER.

*** THESE ARE THE MINIMUM QUANTITIES NEEDED FOR TRAFFIC CONTROL IMPLEMENTATION. THESE ITEMS MAYBE REUSED AND RELOCATED FOR VARIOUS STAGES.

GUARDRAIL REMOVAL SCHEDULE

STATION TO STATION	LT/RT	STEEL PLATE BEAM GUARD RAIL REMOVAL (FT)
SOUTH SIDE OF SN 068-0507		
114+48.55 - 115+79.80	LT	131.3
113+90.05 - 115+79.80	RT	200.0
NORTH SIDE OF SN 068-0507		
116+17.85 - 117+49.10	LT	131.3
116+17.85 - 117+11.60	RT	93.8
SOUTH SIDE OF SN 068-0506		
124+25.42 - 125+56.67	LT	131.3
124+24.73 - 126+26.98	RT	218.8
NORTH SIDE OF SN 068-0506		
126+90.32 - 129+21.57	LT	231.3
126+60.33 - 128+91.58	RT	231.3
TOTAL :		1370

ROW MARKERS

STATION	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS (EACH)
124+50.00 39.74' LT	1
125+00.00 60.00' LT	1
127+60.00 60.00' LT	1
128+00.00 39.95' LT	1
TOTAL :	4

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K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1900
WWW.K-PLUSENGINEERING.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

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REVISIONS	
NAME	DATE

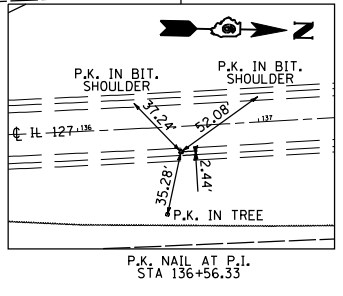
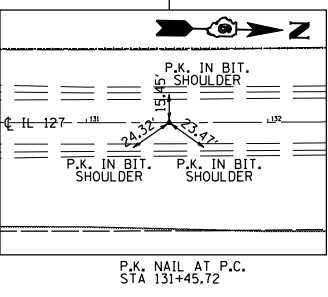
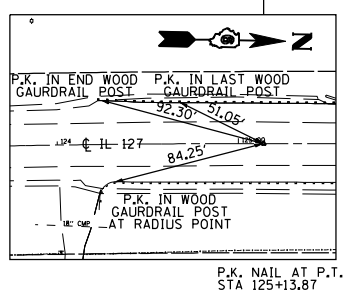
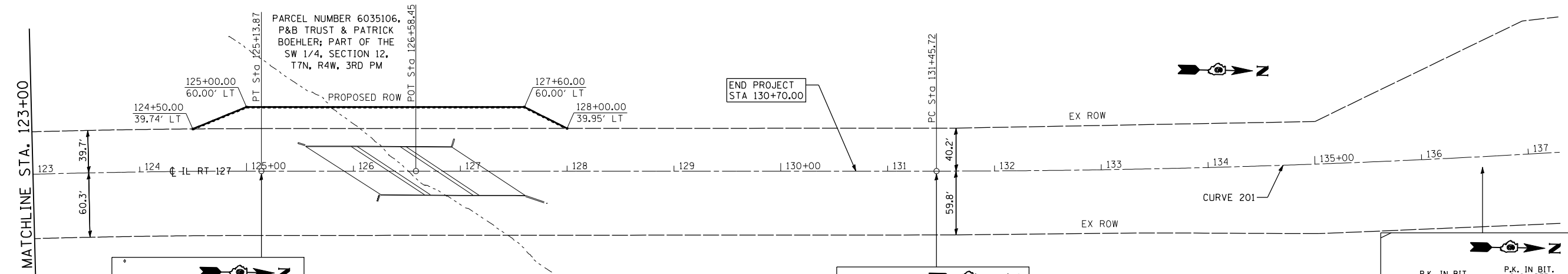
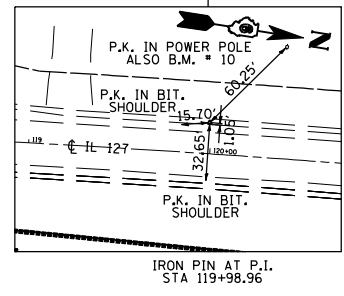
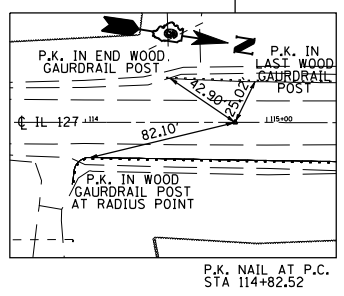
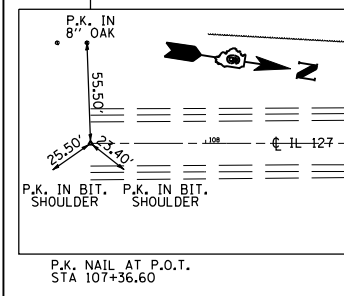
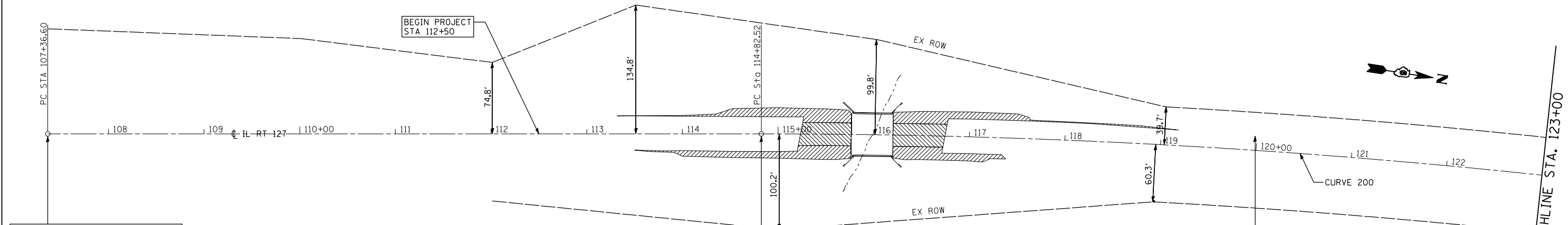
ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE AND QUANTITIES

FAP 42 (IL RTE. 127)
SECTION 106 (B-1, B-2)
MONTGOMERY COUNTY

SCALE: VERT.
HORIZ.
DATE 8-07-07

DRAWN BY ADG
CHECKED BY DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	8
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



<p>EXISTING CURVE 200</p> <p>P.I. STA= 119+98.96 Δ= 7° 39' 05" (RT) D= 0° 44' 31" R= 7,722.91' T= 516.44' L= 1,031.35' E= 17.25' e= ----- T.R.= ----- S.E. RUN= ----- P.C. STA= 114+82.52 P.T. STA= 125+13.87</p>	<p>EXISTING CURVE 201</p> <p>P.I. STA= 136+56.33 Δ= 6° 03' 41" (LT) D= 0° 35' 39" R= 9,644.25' T= 510.62' L= 1,020.28' E= 13.51' e= ----- T.R.= ----- S.E. RUN= ----- P.C. STA= 131+45.72 P.T. STA= 141+66.00</p>
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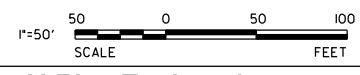
BENCHMARKS

B.M. # 10
SPIKE NAIL IN POWER POLE
62' LT, STA 120+39
ELEVATION 560.27

B.M. # 10A
CHISLED \square ON WING WALL NE
CORNER OF STRUCTURE # 068-0024
25' RT, STA 116+20.5
ELEVATION 563.69

B.M. # 10B
CHISLED \square ON WING WALL SW
CORNER OF STRUCTURE # 068-0023
23.5' LT, STA 125+55
ELEVATION 564.12

B.M. # 12
SPIKE NAIL IN POWER POLE FROM
PLANS, JUST SOUTH OF ROCK PE TO
PRAIRIE CHICKEN SPORTING CLAYS
125' LT, STA 134+32
ELEVATION 560.85



K+ K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1500
WWW.K-PLUSENGINEERING.LTD.COM
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REVISIONS

NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**ALIGNMENT, BENCHMARK,
ROW AND TIES**

FAP 42 (IL RTE, 127)
SECTION 106 (B-1, B-2)
MONTGOMERY COUNTY

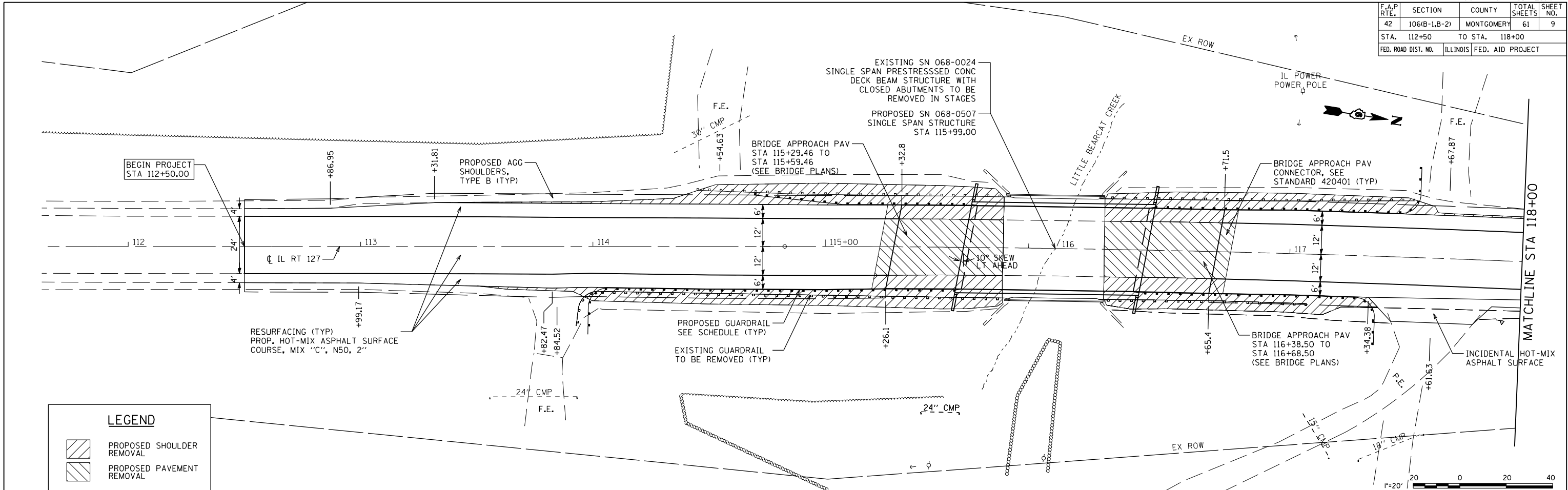
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HORIZ. 8-07-07

DRAWN BY ADG
CHECKED BY DC

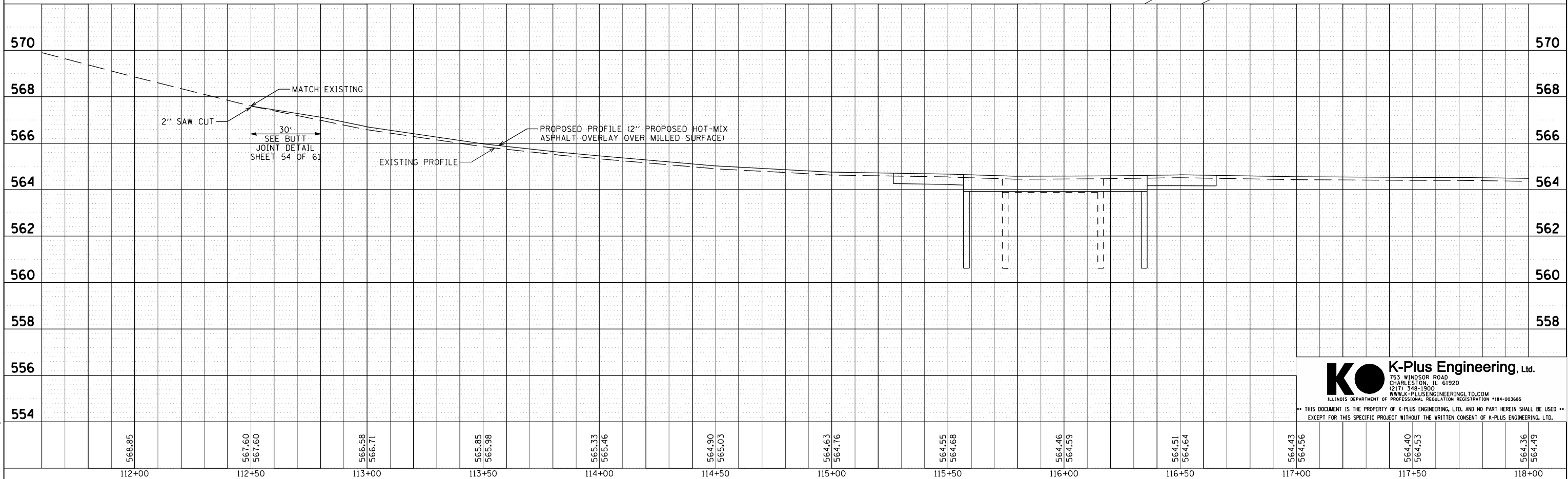
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	9
STA. 112+50		TO STA. 118+00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

PLAN	SURVEYED	BY	DATE
NO. _____	PLOTTED		
	NOTED		
	PI. OF WAY CHECKED		
	CADD FILE NAME		



PROFILE	SURVEYED	BY	DATE
NO. _____	PLOTTED		
	NOTED		
	STRUCTURE NOTATIONS CHECKED		



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 PLOT SCALE = 42,3624 / IN.
 USER NAME = laughlin-1

K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1900
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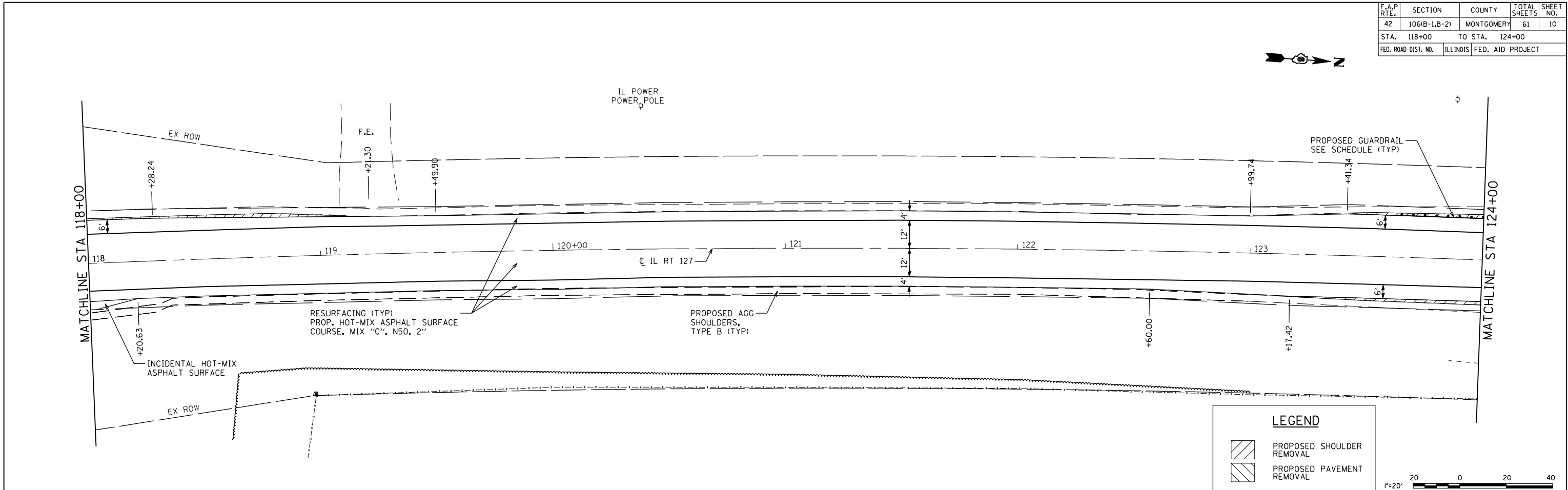
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42	106(B-1,B-2)	MONTGOMERY	61	10
STA. 118+00		TO STA. 124+00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



PLAN	SURVEYED	BY	DATE
NO. _____	PLOTTED		
	CHECKED		
	BY		
	NO. _____		
	DATE		

PROFILE	SURVEYED	BY	DATE
NO. _____	PLOTTED		
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	BY		
	NO. _____		
	DATE		

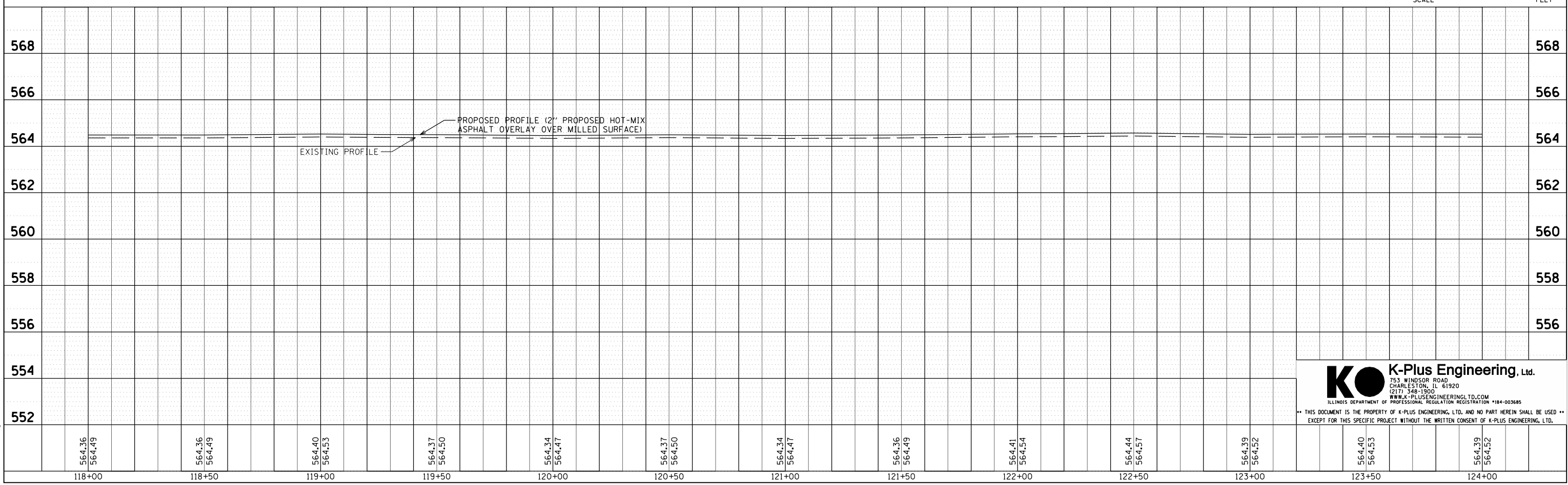
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 USER NAME = laughlin-1



LEGEND

- PROPOSED SHOULDER REMOVAL
- PROPOSED PAVEMENT REMOVAL

1"=20'
SCALE
20 0 20 40
FEET



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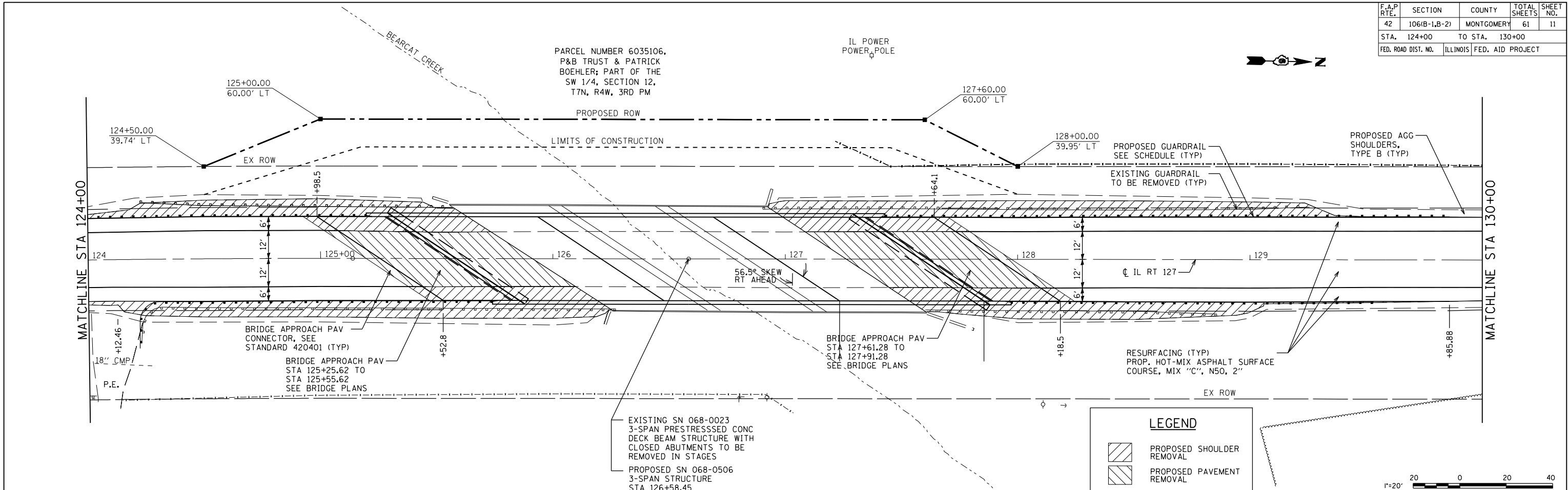
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	11
STA. 124+00		TO STA. 130+00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

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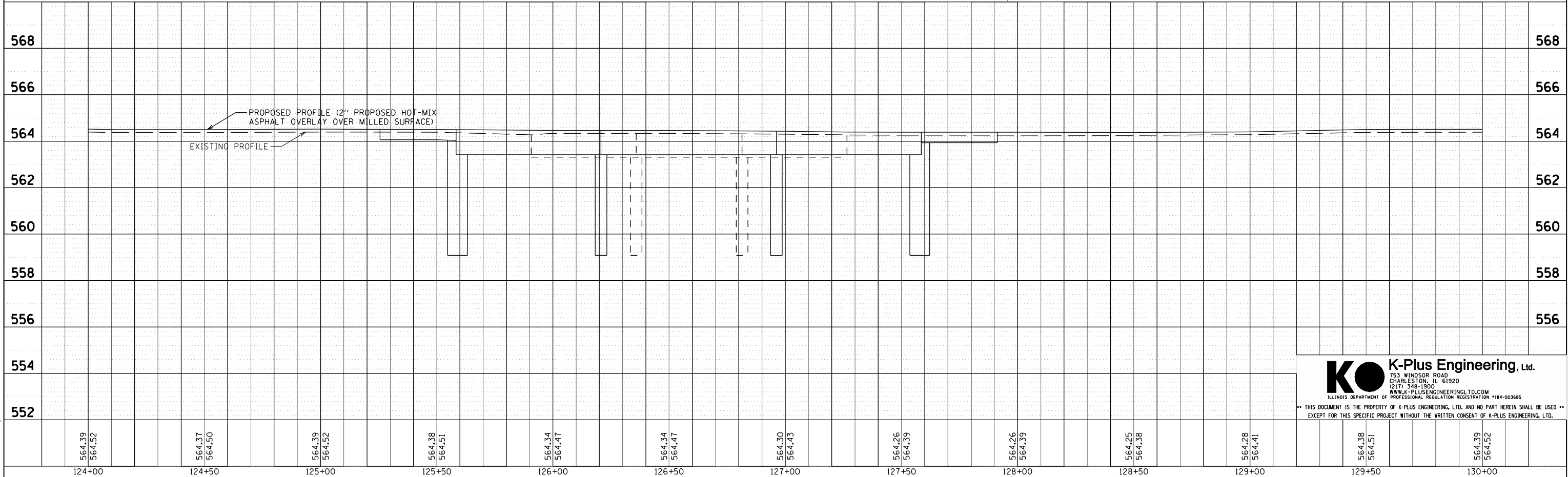
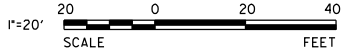
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	PLOTTED		
	CHECKED		
	BY, NOTED		
	STRUCTURE NOTATIONS CHRD		

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 PLOT SCALE = 42,3528 / IN.
 USER NAME = laughlin-1



LEGEND

- PROPOSED SHOULDER REMOVAL
- PROPOSED PAVEMENT REMOVAL



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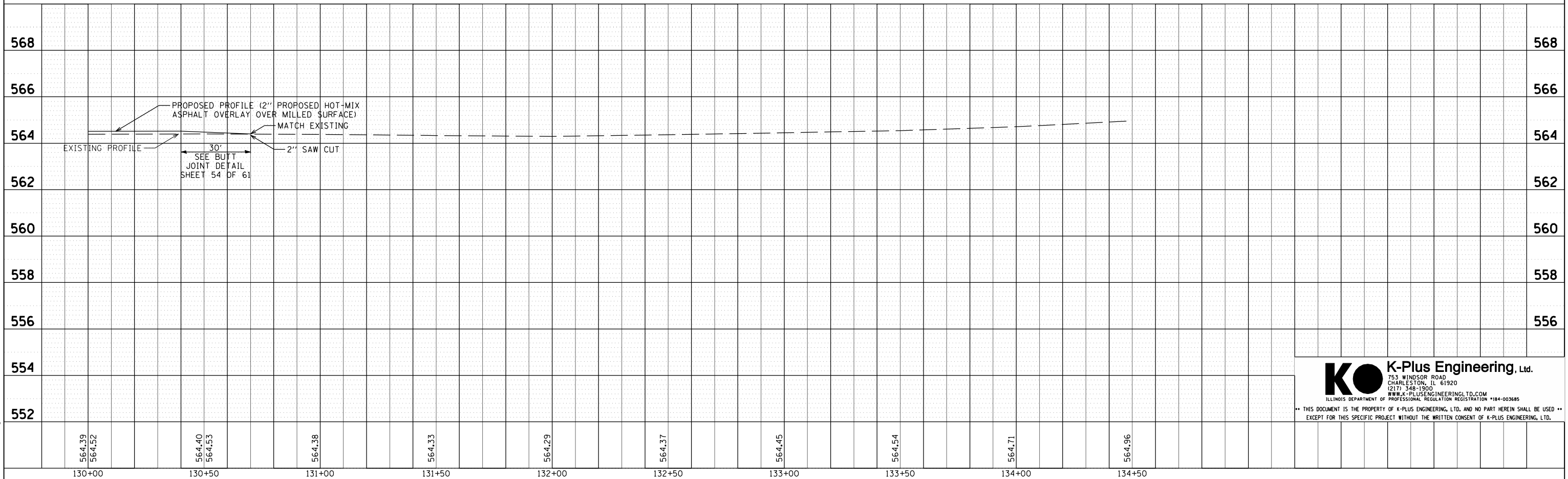
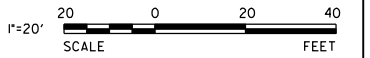
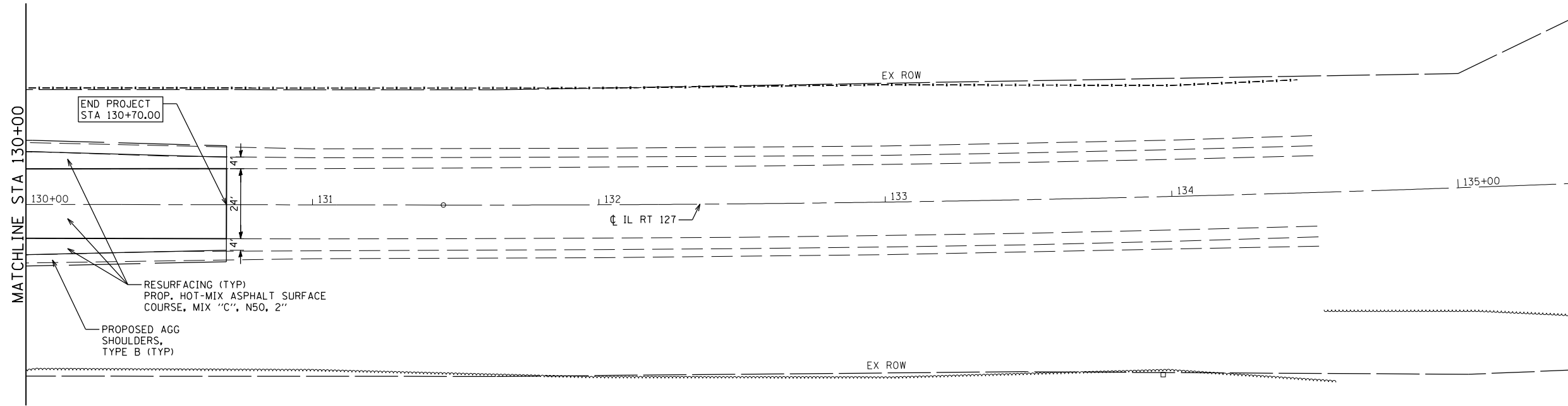
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42	106(B-1,B-2)	MONTGOMERY	61	12
STA. 130+00		TO STA. 130+70		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

PLAN	SURVEYED	BY	DATE
	PLOTTED		
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	NO. OF WAYS CHECKED		
	CADD FILE NAME		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	BY		
	NO. OF WAYS CHECKED		
	STRUCTURE NOTATIONS CHORD		
	NO.		

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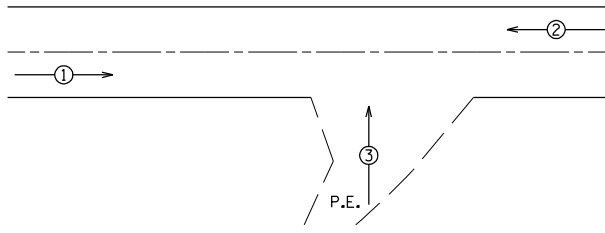
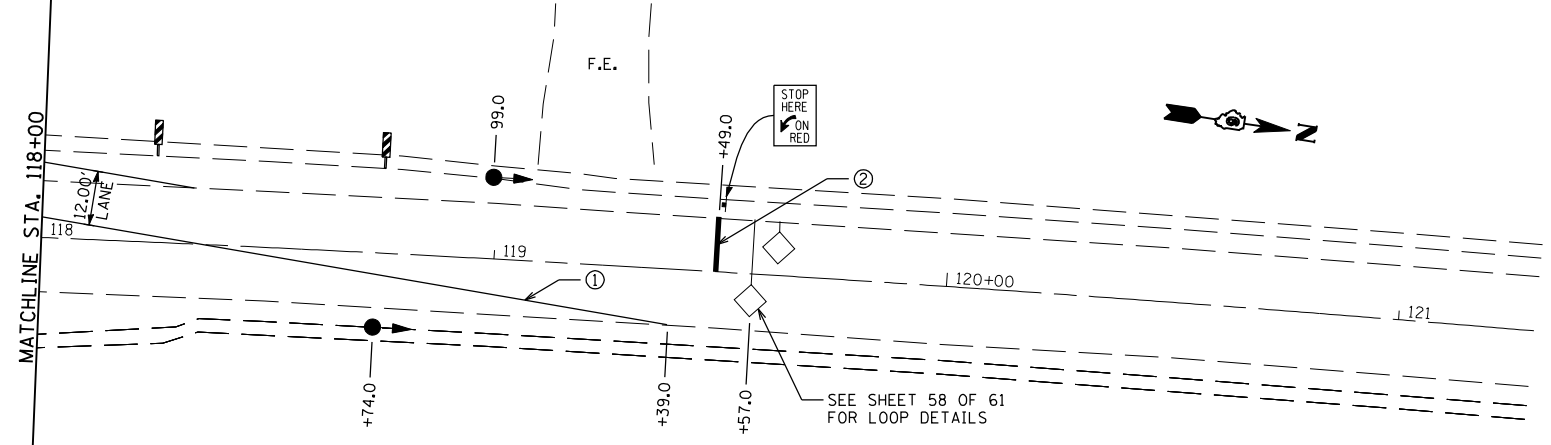
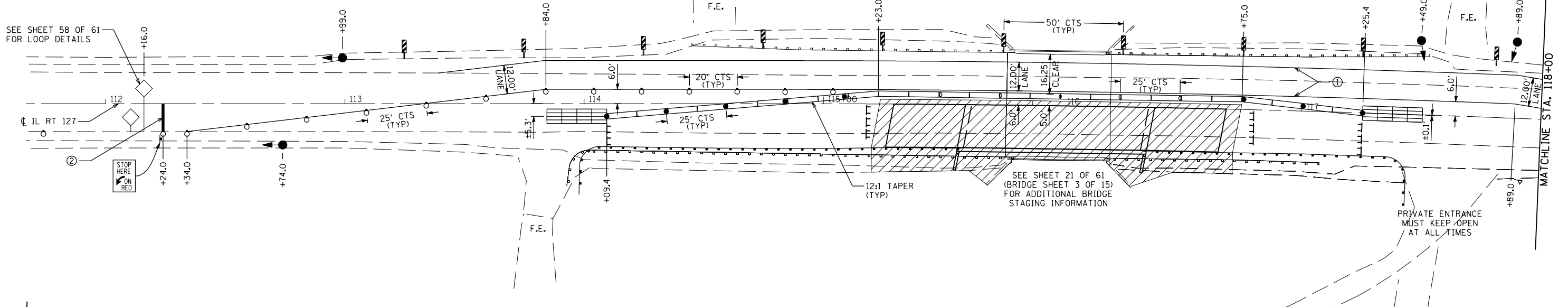
IL POWER
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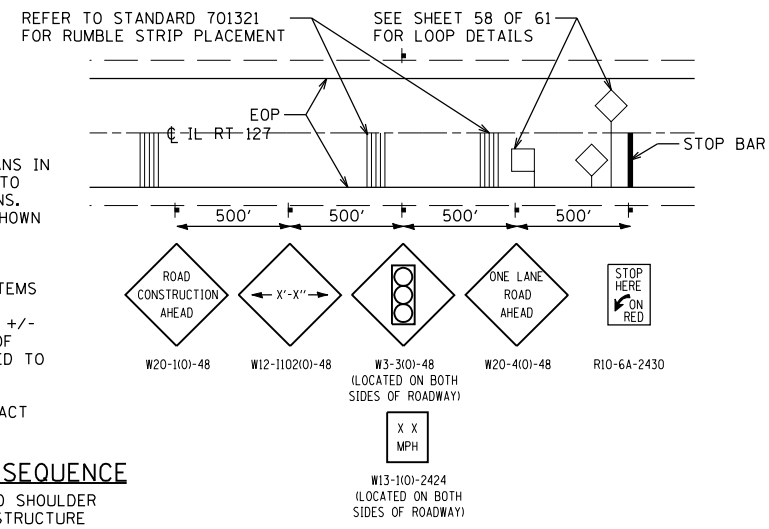
K-Plus Engineering, Ltd.
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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION *184-003685

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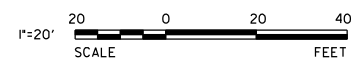
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	13
STA. 112+50		TO STA. 121+30		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TEMPORARY PHASE DESIGNATION DIAGRAM



MAXIMUM WIDTH SIGNING (TYP)



TRAFFIC STAGING NOTES

1. THIS TRAFFIC CONTROL PLAN SHALL BE USED IN CONJUNCTION WITH STANDARD 701321 AND AS DIRECTED BY THE ENGINEER.
2. SIGNS STATING "SIGNALS AHEAD" SHALL BE ERECTED DURING STAGE CONSTRUCTION BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. COST OF SIGNS SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL & PROTECTION STANDARD 701321 (SPECIAL).
3. DURING STAGE CONSTRUCTION ADDITIONAL FLAGGERS ARE NECESSARY FOR BRIDGE DECK PAVING OPERATIONS.
4. ALL WORK REQUIRED TO SET UP, MAINTAIN, AND REMOVE TRAFFIC CONTROL AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE COST FOR "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)."
5. THE CONTRACTOR MUST PLACE MAXIMUM WIDTH SIGNS PRIOR TO IMPLEMENTING ANY STAGES TRAFFIC CONTROL. THESE SIGNS SHALL BE INCLUDED IN THE COST OF "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)." REFER TO PAGE 13 AND 54 OF 61 FOR MAXIMUM WIDTH SIGN DETAILS.
6. TEMPORARY SIGNING AND TEMPORARY WALL BARRIER REFLECTORS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 701321, OR AS DIRECTED BY THE ENGINEER.
7. THE CONTRACTOR SHALL NOTIFY THE DISTRICT 6 TRAFFIC SECTION OF THE BUREAU OF OPERATIONS (PH: 785-5836) AT LEAST ONE WEEK PRIOR TO IMPLEMENTING STAGE TRAFFIC CONTROL AND WHEN EVER A SWITCH IN STAGING IS MADE.
8. THE CONTRACTOR MUST NOTIFY THE DISTRICT 6 TRAFFIC SECTION OF THE BUREAU OF OPERATIONS AT LEAST THREE (3) DAYS PRIOR TO ACTIVATING THE TEMPORARY TRAFFIC SIGNALS. PLEASE REFER TO THE DISTRICT 6 SPECIAL PROVISION FOR TEMPORARY BRIDGE TRAFFIC SIGNALS FOR CONTACT INFORMATION.
9. THE FIRST AND LAST SECTION OF EVERY RUN OF TEMPORARY CONCRETE BARRIER WALL SHALL BE SECURED TO THE PAVEMENT WITH PINS IN ACCORDANCE WITH SECTION 704.04 OF THE STANDARD SPECIFICATIONS.
10. SAW CUTS FOR PROPOSED PAVEMENT AND SHOULDER REMOVAL SHALL BE INCLUDED IN THE COSTS FOR "PAVEMENT REMOVAL" AND "BITUMINOUS CONCRETE SHOULDER REMOVAL."
11. ACCESS MUST BE PROVIDED TO ALL F.E. AS REQUIRED BY THE PROPERTY OWNER. NO SIGNALS WILL BE REQUIRED FOR THEM.
12. EXISTING PAVEMENT MARKING THAT CONFLICTS WITH THE REVISED STAGE TRAFFIC PATTERNS DURING ALL PHASES OF STAGE CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS "PAVEMENT MARKING REMOVAL".
13. THE COST TO INSTALL TEMPORARY PAVEMENT MARKINGS DETAILED ON THESE SHEETS SHALL BE INCLUDED IN THE COST OF "TRAFFIC CONTROL & PROTECTION STANDARD 701321, SPECIAL".

PRELIMINARY STAGE - SUGGESTED CONSTRUCTION SEQUENCE

1. SET UP STAGE I TRAFFIC CONTROL UTILIZING THESE PLANS IN CONJUNCTION WITH HIGHWAY STANDARD 701321. BE SURE TO USE THE LATEST REVISION AS INCLUDED WITH THESE PLANS.
2. PLACE MAXIMUM WIDTH SIGNING AT THE LOCATIONS AS SHOWN IN THESE PLANS ON PAGE 13 AND 54 OF 61.
3. PLACE TEMPORARY CONCRETE BARRIER AND PAVEMENT MARKINGS IN ACCORDANCE WITH THESE PLANS.
4. INSTALL TEMPORARY SIGNALIZATION AND DETECTION SYSTEMS AT THE LOCATIONS CALLED OUT IN THESE PLANS. FOR STRUCTURE (S.N. 068-0507 THE ENTRANCE AT STA 117+45 +/- RT MUST REMAIN OPEN AT TIMES DURING CONSTRUCTION OF THIS STRUCTURE. A SEPARATE SIGNAL HEAD WILL BE USED TO CONTROL THIS INTERMEDIATE SIDE ENTRANCE.
5. ALL SIGNALS ARE TO BE ACTUATED.
6. PROVIDE TWO MESSAGE BOARDS FOR DURATION OF CONTRACT AND ADJUST AS DIRECTED BY THE ENGINEER.

STAGE I - SUGGESTED CONSTRUCTION SEQUENCE

1. PERFORM STAGE I STRUCTURE, GUARDRAIL, PAVEMENT AND SHOULDER REMOVAL FOR CONSTRUCTION OF LITTLE BEARCAT CREEK STRUCTURE (S.N.068-0507).
2. DRIVE SHEET PILING PRIOR TO ANY EXCAVATION.
3. PERFORM ALL EXCAVATION WORK FOR STRUCTURE (S.N. 068-0507).
4. PERFORM ALL CONSTRUCTION WORK FOR STRUCTURE (S.N. 068-0507).
5. INSTALL PERMANENT GUARDRAIL AS SHOWN IN THESE PLANS FOR STAGE II TRAFFIC.
6. INSTALL TEMPORARY RAMPS AT EACH END OF STRUCTURE (S.N. 068-0507) FOR STAGE II TRAFFIC.
7. REMOVE TEMPORARY PAVEMENT MARKINGS.
8. ALL FINAL RESURFACING WILL BE COMPLETED ONCE ALL FOUR STAGES ARE COMPLETED.

LEGEND

- ⊕ SIGN
- ⊥ TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND VERTICAL PANELS
- ◀◀ TEMPORARY TRAFFIC SIGNAL
- ▬ DOUBLE VERTICAL PANEL
- ◻ INDUCTION LOOP DETECTOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ IMPACT ATTENUATOR
- ① TEMPORARY PAVEMENT MARKING, LINE 5" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE 24" WHITE
- ▨ WORK ZONE

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC & STAGING PLANS
 PRELIMINARY AND STAGE I
 FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07

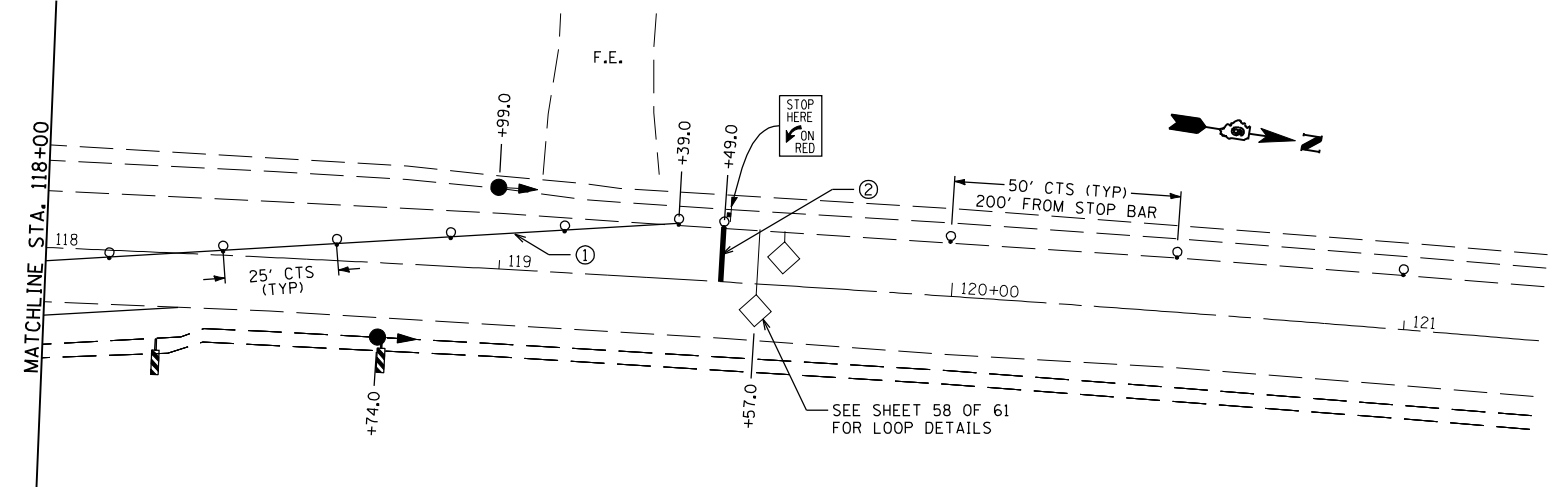
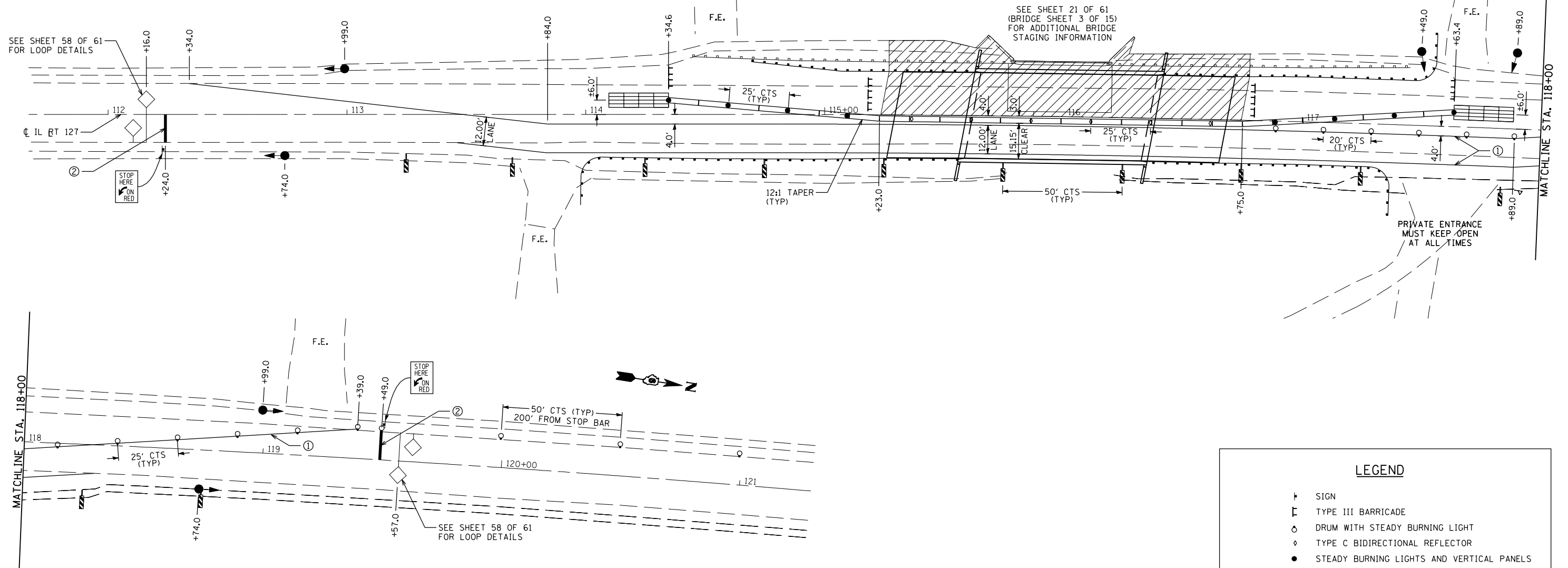
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 CHECKED BY: DC

K+ K-Plus Engineering, Ltd.
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 (217) 348-1500
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 USER NAME = laughlinr1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	14
STA. 112+50		TO STA. 121+30		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

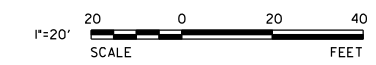


STAGE II - SUGGESTED CONSTRUCTION SEQUENCE

- FOLLOWING COMPLETION OF STAGE I CONSTRUCTION:
1. ADJUST MAXIMUM WIDTH SIGNING WIDTHS TO MATCH THE NEW WIDTH RESTRICTION FOR THIS STAGE AT THE LOCATIONS AS SHOWN IN THESE PLANS ON PAGE 13 AND 54 OF 61.
 2. RELOCATE THE TEMPORARY CONCRETE BARRIER WALL AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH THESE PLANS.
 3. PERFORM STAGE II STRUCTURE, GUARDRAIL, PAVEMENT AND SHOULDER REMOVAL FOR THE LITTLE BEARCAT CREEK STRUCTURE (S.N. 068-0507).
 4. PERFORM ALL EXCAVATION WORK FOR STRUCTURE (S.N. 068-0507).
 5. PERFORM ALL CONSTRUCTION WORK FOR STRUCTURE (S.N. 068-0507).
 6. INSTALL PERMANENT GUARDRAIL AS DETAILED IN THESE PLANS.
 7. INSTALL TEMPORARY RAMPS AT EACH END OF STRUCTURE (S.N. 068-0507).
 8. REMOVE TEMPORARY PAVEMENT MARKINGS FOR STAGE CONSTRUCTION AND PLACE TEMPORARY PAVEMENT MARKINGS FOR TWO-WAY TRAFFIC.

LEGEND

- † SIGN
- T TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND VERTICAL PANELS
- ▲ TEMPORARY TRAFFIC SIGNAL
- ▬ DOUBLE VERTICAL PANEL
- INDUCTION LOOP DETECTOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ IMPACT ATTENUATOR
- ① TEMPORARY PAVEMENT MARKING, LINE 5" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE 24" WHITE
- ▨ WORK ZONE



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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
MAINTENANCE OF TRAFFIC & STAGING PLANS
STAGE II
 FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

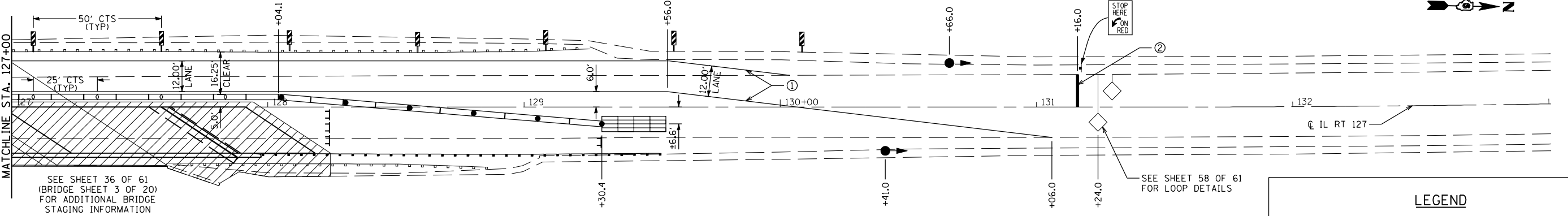
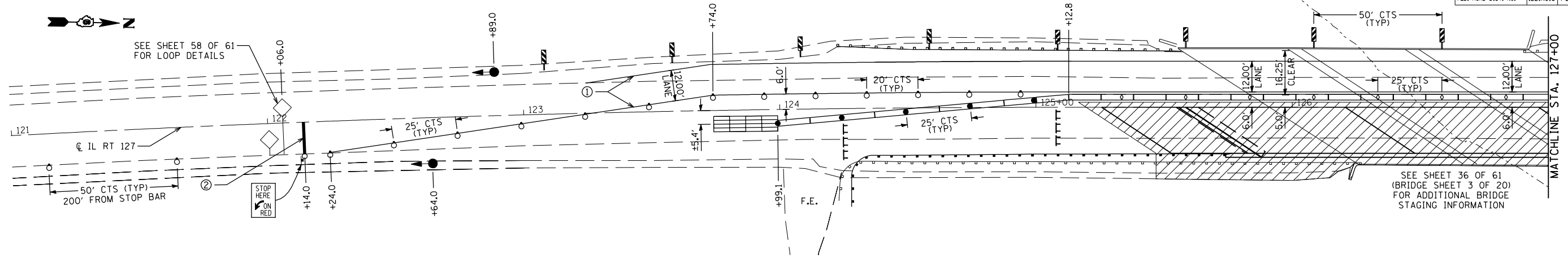
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 HORIZ. 8-07-07

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 PLOT SCALE = 42,352% / IN.
 USER NAME = laughlin-1

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	15
STA. 121+00		TO STA. 130+70		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



LEGEND

- † SIGN
- ⌈ TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND VERTICAL PANELS
- ◀◀ TEMPORARY TRAFFIC SIGNAL
- ▬ DOUBLE VERTICAL PANEL
- INDUCTION LOOP DETECTOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ IMPACT ATTENUATOR
- ① TEMPORARY PAVEMENT MARKING, LINE 5" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE 24" WHITE
- ▨ WORK ZONE

TRAFFIC STAGING NOTES

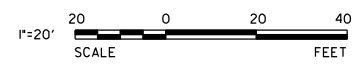
- THIS TRAFFIC CONTROL PLAN SHALL BE USED IN CONJUNCTION WITH STANDARD 701321 AND AS DIRECTED BY THE ENGINEER.
- SIGNS STATING "SIGNALS AHEAD" SHALL BE ERECTED DURING STAGE CONSTRUCTION BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. COST OF SIGNS SHALL BE INCLUDED IN THE COST FOR TRAFFIC CONTROL & PROTECTION STANDARD 701321 (SPECIAL).
- DURING STAGE CONSTRUCTION ADDITIONAL FLAGGERS ARE NECESSARY FOR BRIDGE DECK PAVING OPERATIONS.
- ALL WORK REQUIRED TO SET UP, MAINTAIN, AND REMOVE TRAFFIC CONTROL AS DETAILED IN THESE PLANS SHALL BE INCLUDED IN THE COST FOR "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)."
- THE CONTRACTOR MUST PLACE MAXIMUM WIDTH SIGNS PRIOR TO IMPLEMENTING ANY STAGES TRAFFIC CONTROL. THESE SIGNS SHALL BE INCLUDED IN THE COST OF "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)." REFER TO PAGE 13 AND 54 OF 61 FOR MAXIMUM WIDTH SIGN DETAILS.
- TEMPORARY SIGNING AND TEMPORARY WALL BARRIER REFLECTORS SHALL BE PLACED IN ACCORDANCE WITH STANDARD 701321, OR AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE DISTRICT 6 TRAFFIC SECTION OF THE BUREAU OF OPERATIONS (PH: 785-5836) AT LEAST ONE WEEK PRIOR TO IMPLEMENTING STAGE TRAFFIC CONTROL AND WHEN EVER A SWITCH IN STAGING IS MADE.
- THE CONTRACTOR MUST NOTIFY THE DISTRICT 6 TRAFFIC SECTION OF THE BUREAU OF OPERATIONS AT LEAST THREE (3) DAYS PRIOR TO ACTIVATING THE TEMPORARY TRAFFIC SIGNALS. PLEASE REFER TO THE DISTRICT 6 SPECIAL PROVISION FOR TEMPORARY BRIDGE TRAFFIC SIGNALS FOR CONTACT INFORMATION.
- THE FIRST AND LAST SECTION OF EVERY RUN OF TEMPORARY CONCRETE BARRIER WALL SHALL BE SECURED TO THE PAVEMENT WITH PINS IN ACCORDANCE WITH SECTION 704.04 OF THE STANDARD SPECIFICATIONS.
- SAW CUTS FOR PROPOSED PAVEMENT AND SHOULDER REMOVAL SHALL BE INCLUDED IN THE COSTS FOR "PAVEMENT REMOVAL" AND "BITUMINOUS CONCRETE SHOULDER REMOVAL."
- ACCESS MUST BE PROVIDED TO ALL F.E. AS REQUIRED BY THE PROPERTY OWNER. NO SIGNALS WILL BE REQUIRED FOR THEM.
- EXISTING PAVEMENT MARKING THAT CONFLICTS WITH THE REVISED STAGE TRAFFIC PATTERNS DURING ALL PHASES OF STAGE CONSTRUCTION SHALL BE REMOVED AS SPECIFIED IN SECTION 783 OF THE STANDARD SPECIFICATIONS AND PAID FOR AS "PAVEMENT MARKING REMOVAL."
- THE COST TO INSTALL TEMPORARY PAVEMENT MARKINGS DETAILED ON THESE SHEETS SHALL BE INCLUDED IN THE COST OF "TRAFFIC CONTROL & PROTECTION STANDARD 701321, SPECIAL."

PRELIMINARY STAGE III - SUGGESTED CONSTRUCTION SEQUENCE

- SET UP STAGE III TRAFFIC CONTROL UTILIZING THESE PLANS IN CONJUNCTION WITH HIGHWAY STANDARD 701321. BE SURE TO USE THE LATEST REVISION AS INCLUDED WITH THESE PLANS.
- PLACE NEW MAXIMUM WIDTH SIGNING AT THE LOCATIONS AS SHOWN IN THESE PLANS ON PAGE 13 AND 54 OF 61.
- PLACE TEMPORARY CONCRETE BARRIER AND PAVEMENT MARKINGS IN ACCORDANCE WITH THESE PLANS.
- INSTALL TEMPORARY SIGNALIZATION AND DETECTION SYSTEMS AT THE LOCATIONS CALLED OUT IN THESE PLANS.
- ALL SIGNALS ARE TO BE ACTUATED.
- PROVIDE TWO MESSAGE BOARDS FOR DURATION OF CONTRACT AND ADJUST AS DIRECTED BY THE ENGINEER.

STAGE III - SUGGESTED CONSTRUCTION SEQUENCE

- PERFORM STAGE III STRUCTURE, GUARDRAIL, PAVEMENT AND SHOULDER REMOVAL FOR CONSTRUCTION OF BEARCAT CREEK STRUCTURE (S.N.068-0506).
- DRIVE SHEET PILING PRIOR TO ANY EXCAVATION.
- PERFORM ALL EXCAVATION WORK FOR STRUCTURE (S.N. 068-0506).
- PERFORM ALL CONSTRUCTION WORK FOR STRUCTURE (S.N. 068-0506).
- INSTALL PERMANENT GUARDRAIL AS SHOWN IN THESE PLANS FOR STAGE IV TRAFFIC.
- INSTALL TEMPORARY RAMPS AT EACH END OF STRUCTURE (S.N. 068-0506) FOR STAGE IV TRAFFIC.
- REMOVE TEMPORARY PAVEMENT MARKINGS.
- ALL FINAL RESURFACING WILL BE COMPLETED ONCE ALL FOUR STAGES ARE COMPLETED.



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 753 WINDSOR ROAD
 CHARLESTON, IL 61920
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REVISIONS	
NAME	DATE

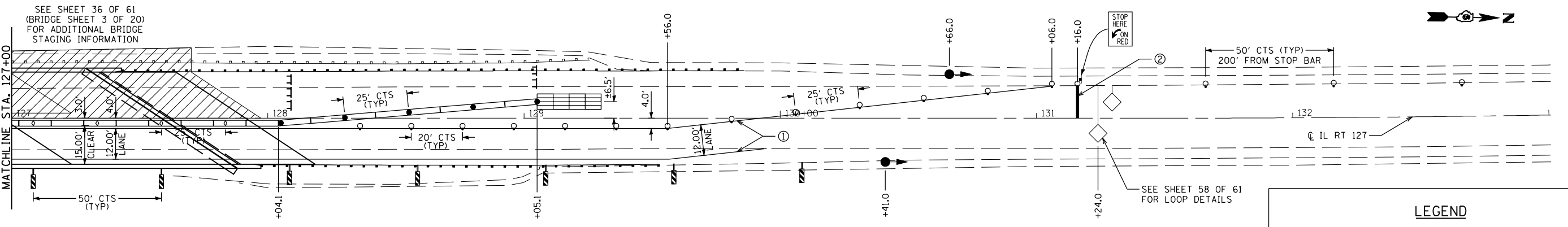
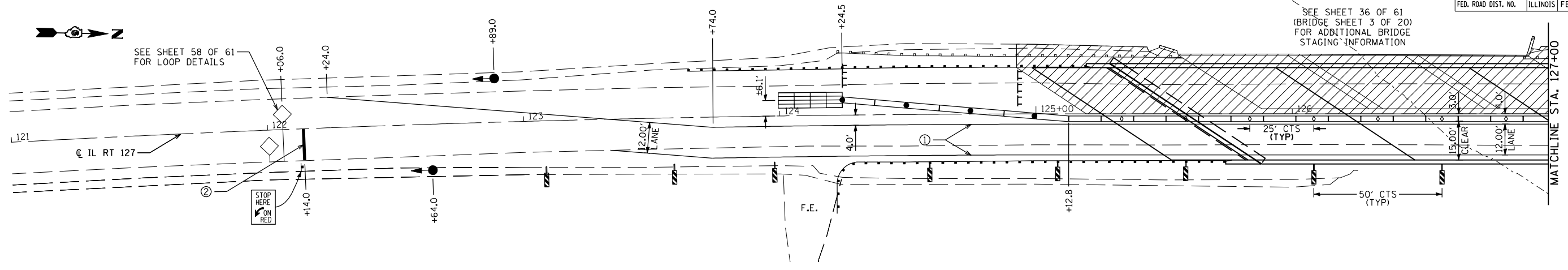
ILLINOIS DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC &
 STAGING PLANS
 STAGE III
 FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07

DRAWN BY: ADG
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 USER NAME = laughlinr1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	16
STA. 121+00		TO STA. 130+70		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

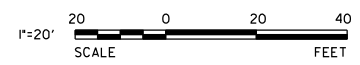
- † SIGN
- ⌈ TYPE III BARRICADE
- DRUM WITH STEADY BURNING LIGHT
- ◇ TYPE C BIDIRECTIONAL REFLECTOR
- STEADY BURNING LIGHTS AND VERTICAL PANELS
- ◀ TEMPORARY TRAFFIC SIGNAL
- ▬ DOUBLE VERTICAL PANEL
- INDUCTION LOOP DETECTOR
- ▬ TEMPORARY CONCRETE BARRIER
- ▬ IMPACT ATTENUATOR
- ① TEMPORARY PAVEMENT MARKING, LINE 5" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE 24" WHITE
- ▨ WORK ZONE

STAGE IV - SUGGESTED CONSTRUCTION SEQUENCING

- FOLLOWING COMPLETION OF STAGE III CONSTRUCTION:
1. ADJUST MAXIMUM WIDTH SIGNING WIDTHS TO MATCH THE NEW WIDTH RESTRICTION FOR THIS STAGE AT THE LOCATIONS AS SHOWN IN THESE PLANS ON PAGE 13 AND 54 OF 61.
 2. RELOCATE THE TEMPORARY CONCRETE BARRIER WALL AND PLACE TEMPORARY PAVEMENT MARKINGS IN ACCORDANCE WITH THESE PLANS.
 3. PERFORM STAGE IV STRUCTURE, GUARDRAIL, PAVEMENT AND SHOULDER REMOVAL FOR THE LITTLE BEARCAT CREEK STRUCTURE (S.N. 068-0506).
 4. PERFORM ALL EXCAVATION WORK FOR STAGE IV OF STRUCTURE (S.N. 068-0506).
 5. PERFORM ALL CONSTRUCTION WORK FOR STRUCTURE (S.N. 068-0506).
 6. INSTALL PERMANENT GUARDRAIL AS DETAILED IN THESE PLANS.
 7. INSTALL TEMPORARY RAMPS AT EACH END OF STRUCTURE (S.N. 068-0506).

STAGE V - SUGGESTED CONSTRUCTION SEQUENCE

1. FOLLOWING THE COMPLETION OF STAGE IV CONSTRUCTION, REMOVE ALL TEMPORARY CONCRETE BARRIER, TEMPORARY SIGNALS AND OTHER TRAFFIC CONTROL DEVICES USED FOR STAGE CONSTRUCTION.
2. REMOVE TEMPORARY PAVEMENT MARKINGS FOR STAGE CONSTRUCTION AND PLACE TEMPORARY PAVEMENT MARKINGS FOR TWO-WAY TRAFFIC.
3. PERFORM ALL IL 127 ROADWAY WORK BY MILLING AND PAVING 2" BITUMINOUS CONCRETE SURFACE COURSE OVER THE EXISTING ROADWAY AND SHOULDERS AS SHOWN IN THESE PLANS.
4. UTILIZE ALL THE APPROPRIATE HIGHWAY TRAFFIC CONTROL STANDARDS WHEN PLACING THE PROPOSED SURFACE AND OTHER FINAL PAY ITEMS.
5. IF UNEVEN LANES WILL BE OPEN TO OVERNIGHT TRAFFIC FLOW, INCLUDE "UNEVEN LANES" SIGN WB-11(O)(4B). SIGNS TO BE INCLUDED IN THE CONTRACT UNIT PRICES FOR CONSTRUCTION ITEMS INVOLVED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.



K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1500
 WWW.K-PLUSENGINEERING.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

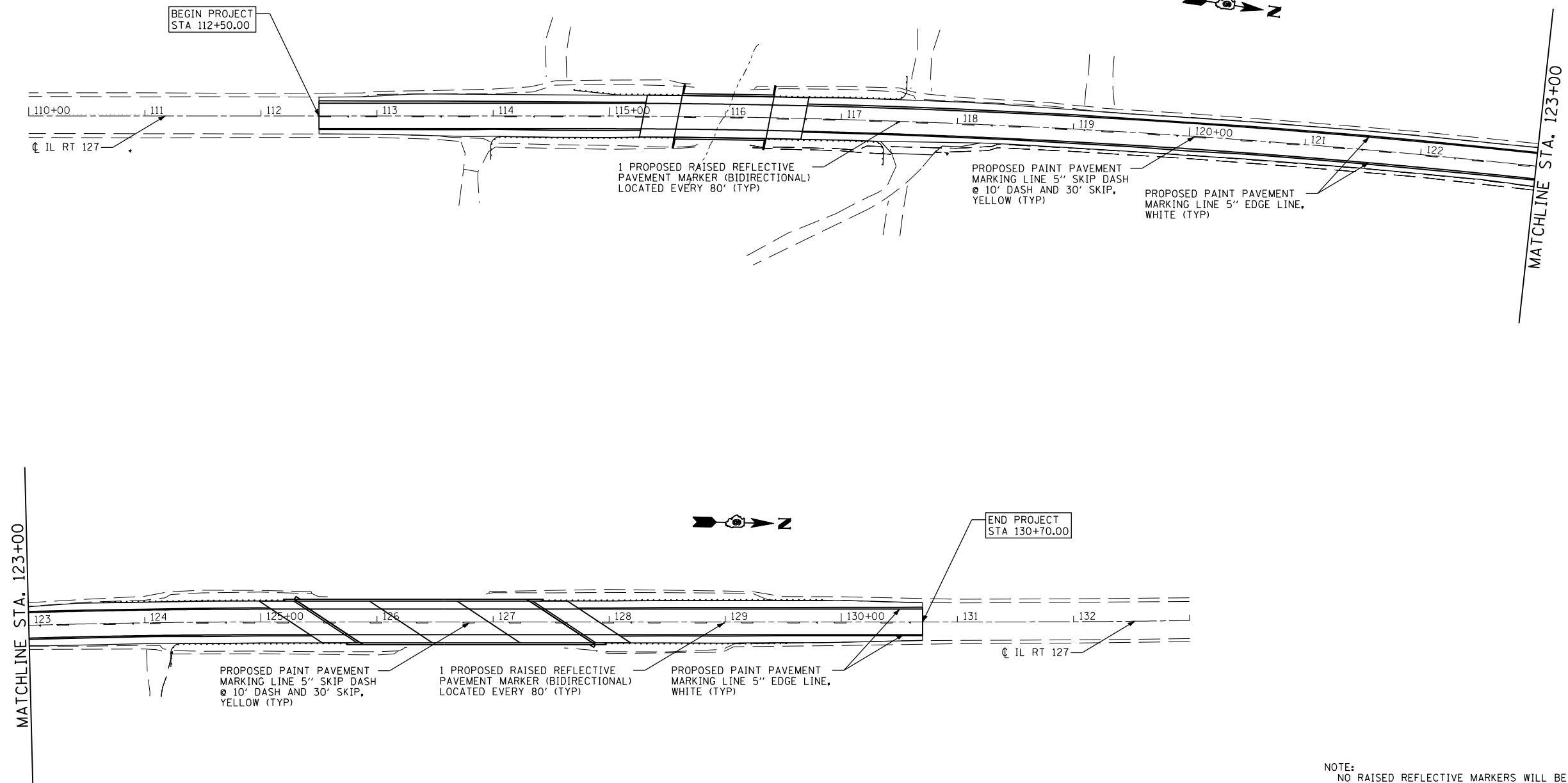
ILLINOIS DEPARTMENT OF TRANSPORTATION
 MAINTENANCE OF TRAFFIC &
 STAGING PLANS
 STAGE IV AND V
 FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

REVISIONS	
NAME	DATE

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07
 DRAWN BY ADG
 CHECKED BY DC

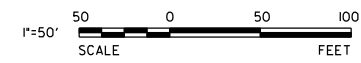
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 USER NAME = laughlin-1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	17
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTE:
NO RAISED REFLECTIVE MARKERS WILL BE PLACED ON BRIDGE SURFACES

PLOT DATE : Aug-16-2007 02:47:01PM
 FILE NAME : c:\projects\6555918\kpluseng-f.m\17.plt
 PLOT SCALE : 1/8"=1'-0" / IN.
 USER NAME : laughlin-1



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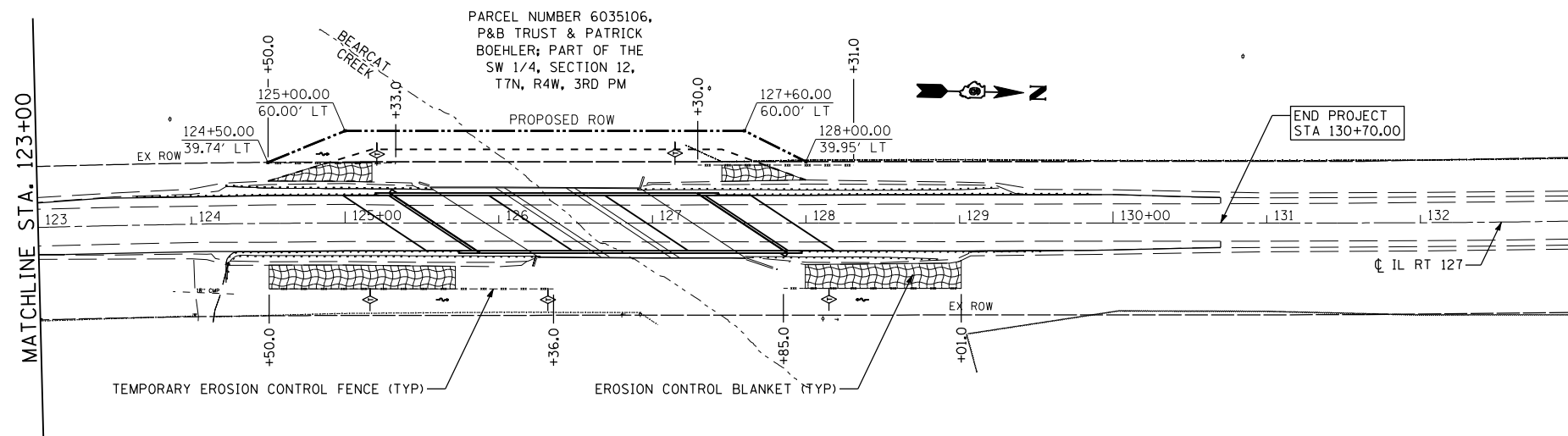
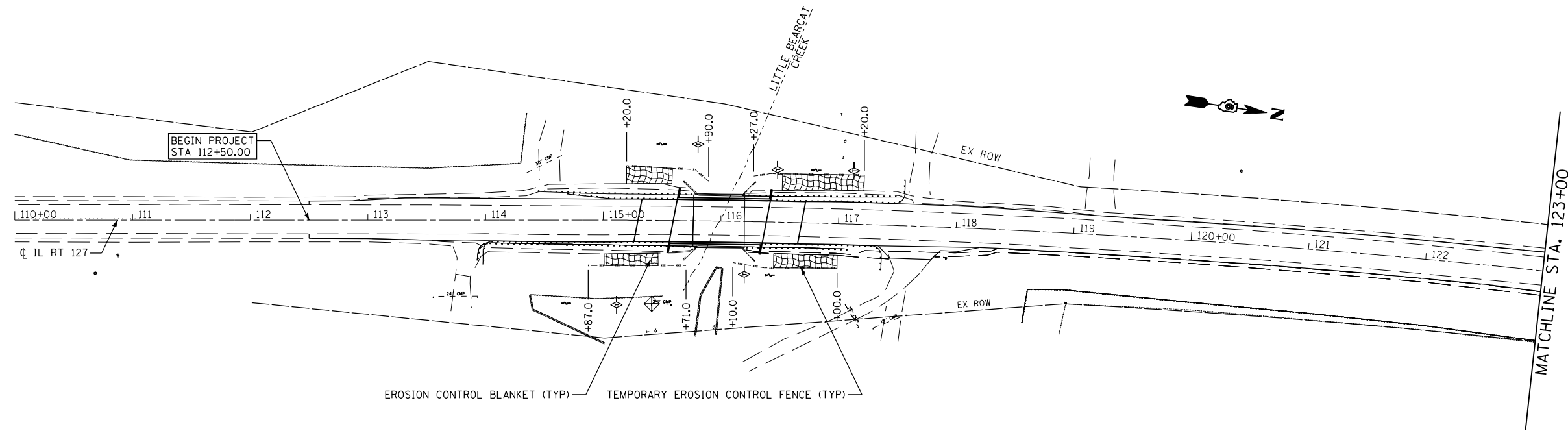
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
PROPOSED PAVEMENT MARKING PLAN

FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ.
 DRAWN BY ADG
 CHECKED BY DC

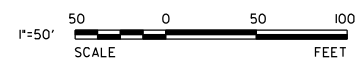
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	18
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



LEGEND

- xxx - TEMPORARY EROSION CONTROL FENCE
- ⊕ TEMPORARY DITCH CHECK
- ⊕ TEMPORARY INLET PROTECTION
- DIRECTION OF DITCH FLOW
- [Hatched Box] EROSION CONTROL BLANKET

NOTE:
EROSION CONTROL BLANKET TO BE USED ON SLOPES GREATER THAN 3:1 (H:V) OR AS DIRECTED BY THE ENGINEER.



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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STORM WATER POLLUTION PREVENTION PLAN

FAP 42 (IL RTE, 127)
SECTION 106 (B-1, B-2)
MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
HORIZ. 8-07-07

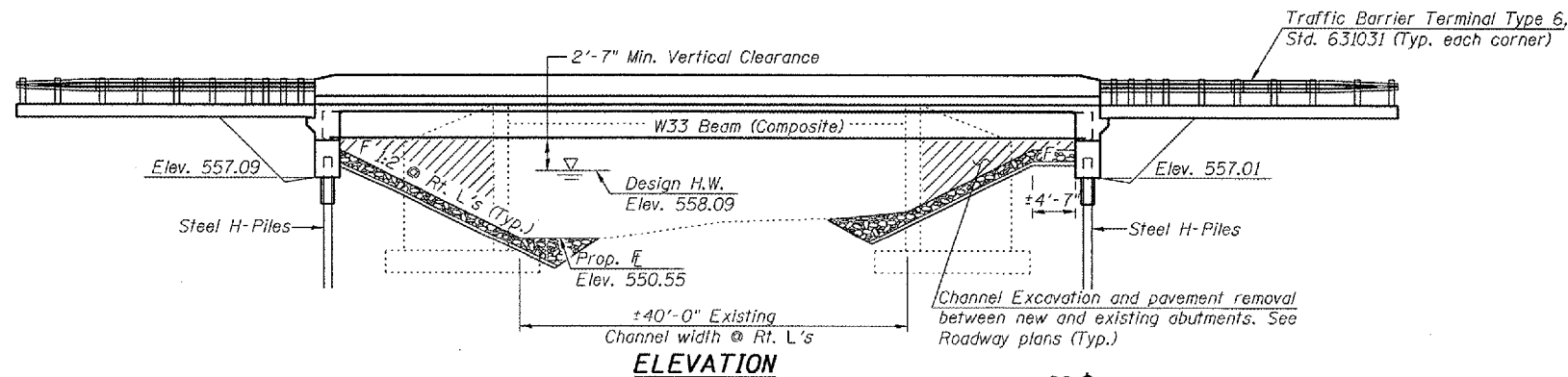
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CHECKED BY DC

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 PLOT SCALE : 1/8"=1'-0" / IN.
 USER NAME : laughlin-1

Bench Mark: #10A - chiseled "C" on N.E. wingwall of S.N. 068-0024. Elev. 563.69

Existing Structure:
S.N. 068-0024 built in 1928 as SBI Rte. 127, Section 106-B. Superstructure and substructure widened in 1959 as SBI Rte. 127, Section 106BY. Superstructure replaced in 1976 as FA Rte. 42, Section 106BR-2. Existing structure is a single span PPC deck beam bridge on closed abutments, 43'-0" bk. to bk. abutments, 46'-0" out to out, with no skew. The Contractor shall remove and replace the existing structure. Staged Construction shall be utilized to maintain one lane of traffic during construction.

No salvage.



INDEX OF SHEETS

1. General Plan
2. General Notes & Details
3. Stage Construction Details
4. Deck Elevations
5. Approach Pavement Elevations
6. Superstructure
7. Superstructure Details
8. Concrete End Diaphragms
9. Framing Plan & Steel Details
10. North Abutment
11. South Abutment
12. Temporary Concrete Barrier
13. Bar Splicer Assembly Details
14. Steel Pile Details
15. Soil Borings

DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel, M270 Gr. 50W)

LOADING HS20-44

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

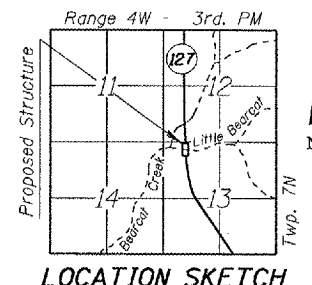
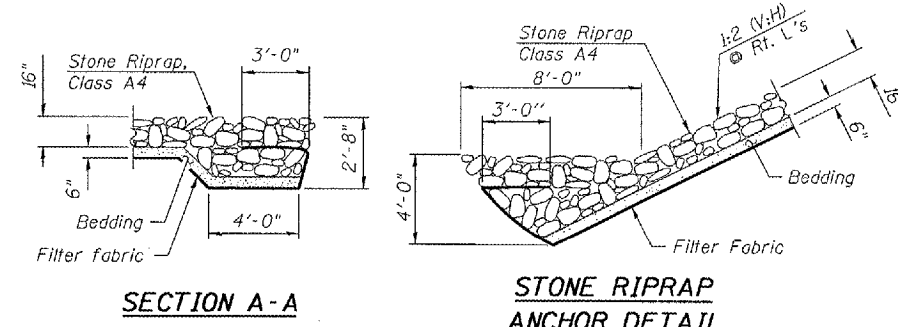
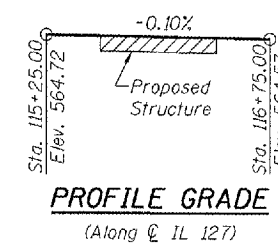
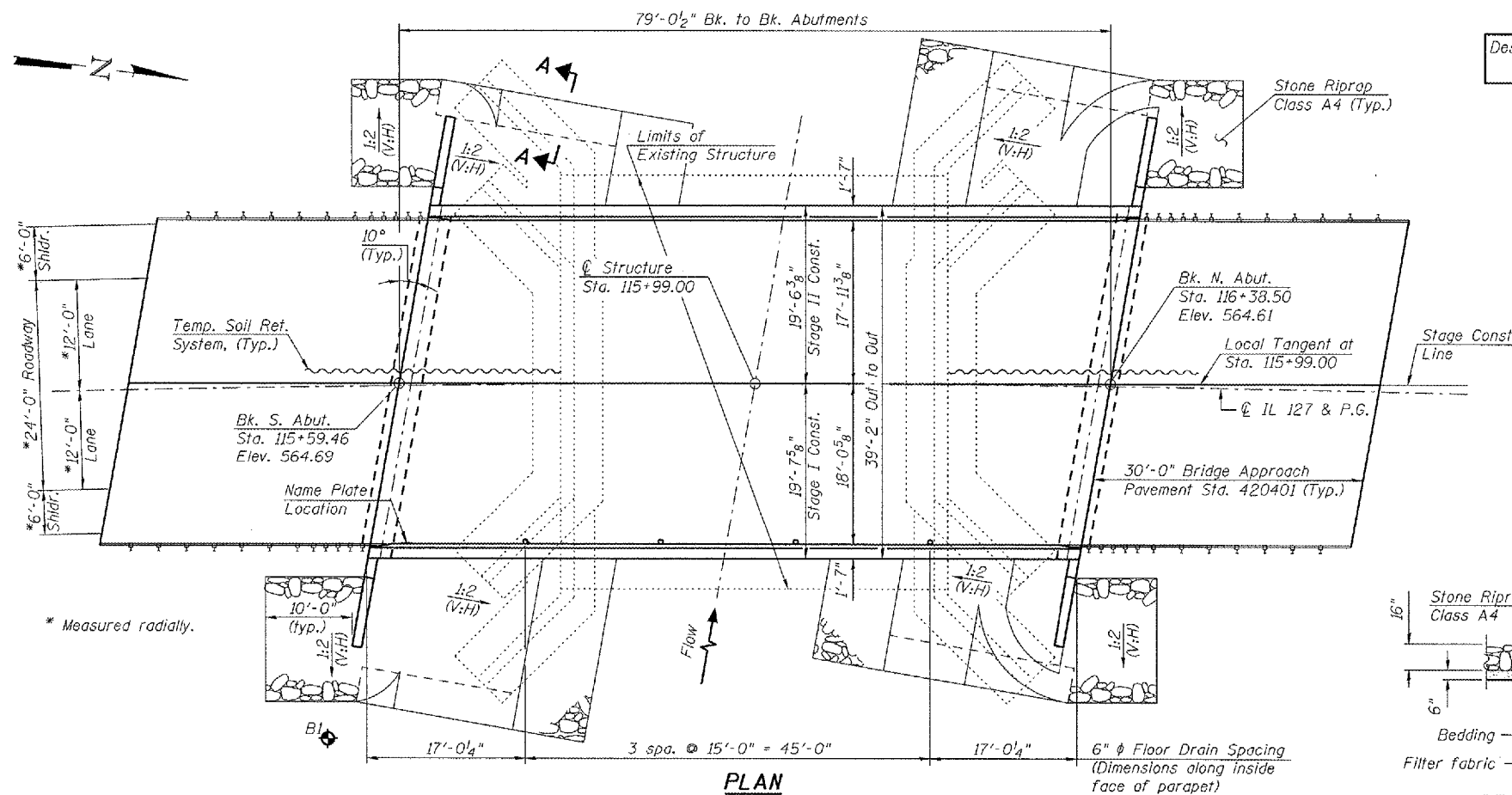
SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.075g
 Site Coefficient (S) = 1.0

CURVE DATA

(Existing Curve 200)
 $\Delta = 7^\circ 39' 05''$ Rt.
 $D = 0^\circ 44' 31''$
 $T = 516.44'$
 $L = 1031.35'$
 $E = 17.25'$
 $R = 7722.91'$
 $S.E. = 0.0251'$
 P.C. = Sta. 114+82.52
 P.T. = Sta. 125+13.87
 P.I. = Sta. 119+98.96
 SE Attained - Match Existing
 SE Removed Sta. 124+25.00 to Sta. 125+28.00

Design Scour Elevation (feet)	S. Abut.	N. Abut.
	557.09	557.01



WATERWAY INFORMATION

Drainage Area = 2.84 sq. mi. Exist. Low Grade Elev. 564.36 @ Sta. 118+00

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	10	1085	152	290	557.41	0.83	0.50	558.24	557.91
Base	50	1695	176	332	558.09	1.41	0.93	559.50	559.02
Overtopping	100	1957	184	347	558.31	1.63	1.01	559.94	559.32
Max. Calc.	500	2588	200	337	558.76	2.65	1.21	561.41	559.97

10 Year Velocity through Exist. Bridge = 6.10 fps 10 Year Velocity through Prop. Bridge = 3.62 fps

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Andersen
ENGINEER OF BRIDGES AND STRUCTURES



Michael J. Haley 8-9-07
Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2008

LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois
Designed By: RCM
Checked By: MTH
Date: 04/07
Drawn By: AJF
File: 068-0507.DWG

REVISIONS	
NAME	DATE

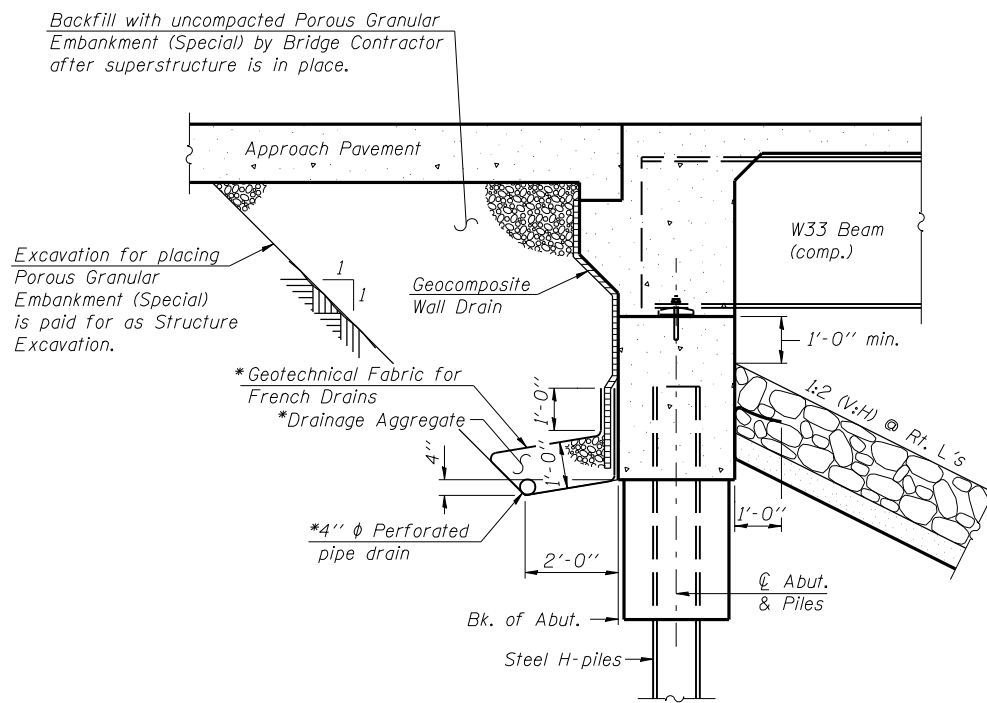
ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
 ILLINOIS ROUTE 127 OVER
 LITTLE BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-2)
 MONTGOMERY COUNTY
 STATION 115+99.00
 STRUCTURE NO. 068-0507

10:07:58 AM 8/9/2007 ...\\068-0507\Plans\068-0507.dgn

Contract #72150

GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 3, mechanically galvanized bolts. Bolts $\frac{3}{4}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 74810 lbs. (AASHTO M270, Grade 50W)
- All structural steel shall be AASHTO M270 Grade 50W.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
- Reinforcement bars designated (E) shall be epoxy coated.
- Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Those areas shall be primed in the shop with a Department approved zinc rich primer. No field painting shall be required. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel."
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive test piles to 110 percent of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.



SECTION THRU SOUTH INTEGRAL ABUTMENT

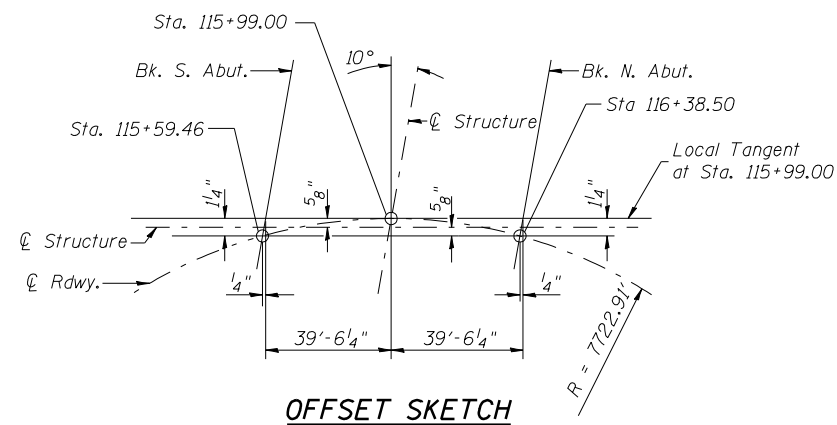
(Horizontal dimensions @ Rt. L's) (North Abutment similar)

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	-	182	182
Stone Riprap Class A4	Sq. Yd.	-	422	422
Filter Fabric	Sq. Yd.	-	422	422
Removal of Existing Structures #2	Each	1	-	1
Structure Excavation	Cu. Yd.	-	231	231
Concrete Structures	Cu. Yd.	-	36.2	36.2
Concrete Superstructure	Cu. Yd.	111.4	-	111.4
**Bridge Deck Grooving	Sq. Yd.	531	-	531
**Protective Coat	Sq. Yd.	637	-	637
Furnishing and Erecting Structural Steel	Lump Sum	0.3	-	0.3
Stud Shear Connectors	Each	1278	-	1278
Reinforcement Bars, Epoxy coated	Pound	21960	5750	27710
Furnishing Steel Piles HP12x53	Foot	-	756	756
Driving Piles	Foot	-	756	756
Test Pile Steel HP12x53	Each	-	2	2
Name Plates	Each	1	-	1
Floor Drains	Each	4	-	4
Temporary Soil Retention System	Sq. Ft.	-	463	463
Bar Splicers	Each	306	20	326
Concrete Encasement	Cu. Yd.	-	5.6	5.6
Anchor Bolts, 1"	Each	-	24	24
Geocomposite Wall Drain	Sq. Yd.	-	81	81
Pipe Underdrains for Structures 4"	Foot	-	103	103

** Quantity Includes Approach Pavement



STATION 115+99.00
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 42 SEC. 106 (B-2)
LOADING HS20
STR. NO. 068-0507

NAME PLATE
See Std. 515001

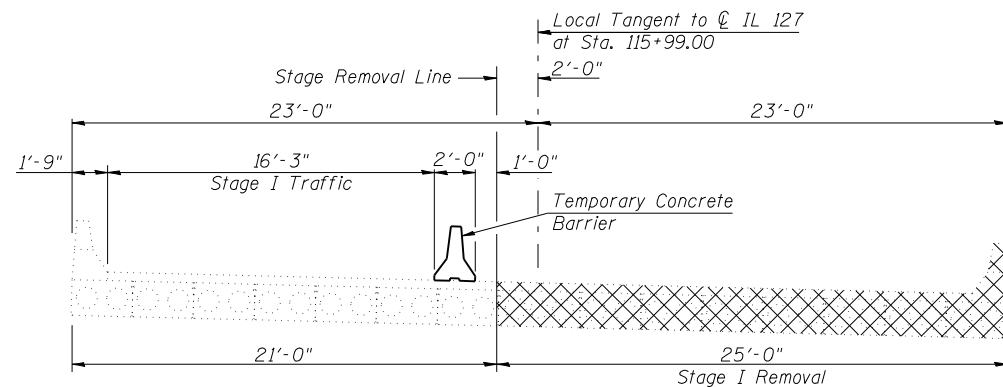
ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL NOTES & DETAILS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

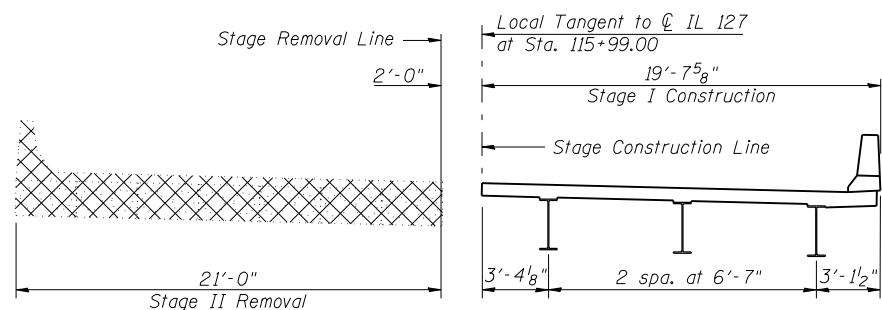
REVISIONS	
NAME	DATE

Designed By: RKM
Checked By: MTH
Date: 04/07

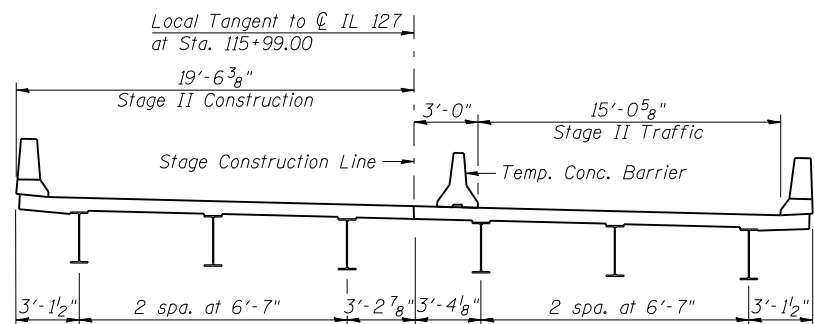
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File: 068-0507.DGN



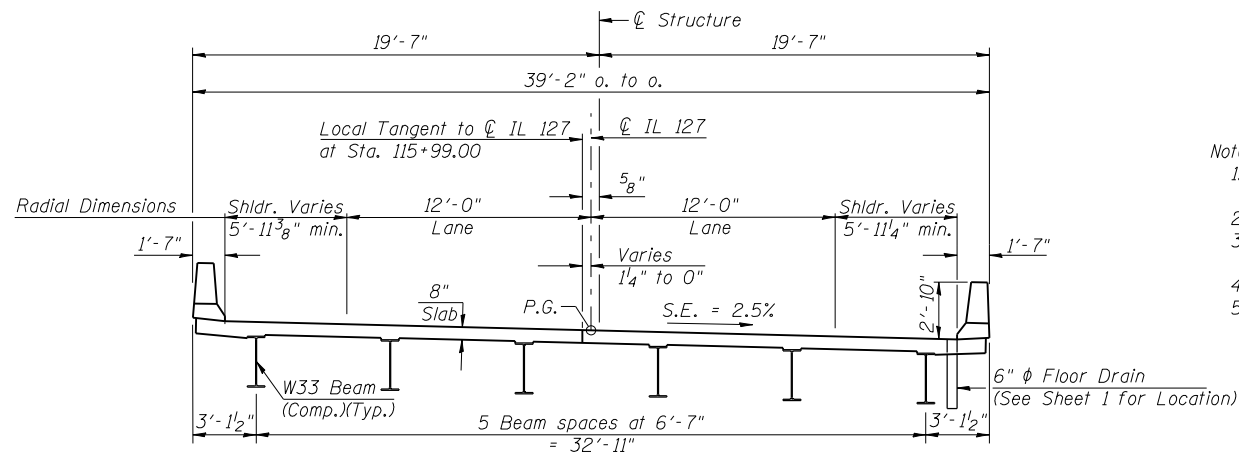
STAGE I REMOVAL & TRAFFIC
(Looking North)



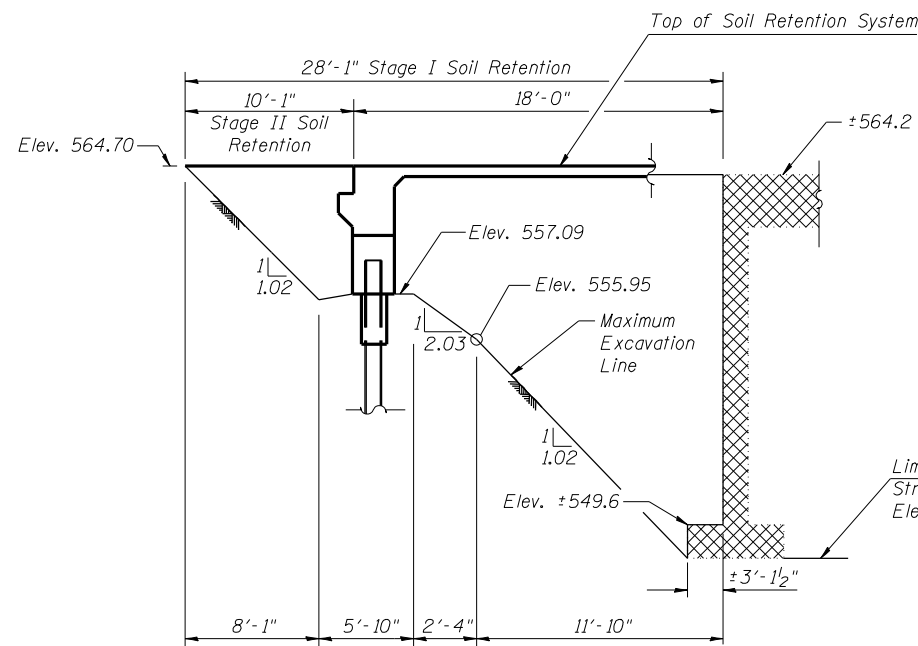
STAGE I CONSTRUCTION & STAGE II REMOVAL
(Looking North)



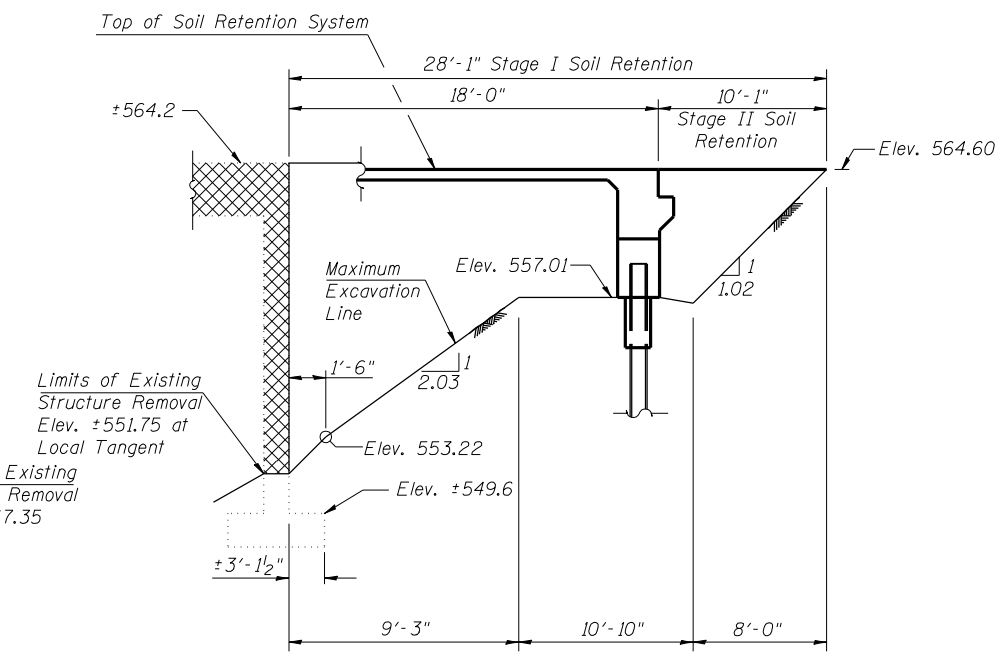
STAGE II CONSTRUCTION & TRAFFIC
(Looking North)



PROPOSED CROSS SECTION
(Looking North)



TEMPORARY SOIL RETENTION SYSTEM AT SOUTH ABUT.



TEMPORARY SOIL RETENTION SYSTEM AT NORTH ABUT.

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

- Notes:
1. All horizontal dimensions are measured perpendicular to Local Tangent at Sta. 115+99.00, unless noted otherwise.
 2. Cross Hatched areas indicate removal of existing structure.
 3. Location of Stage Removal & Construction lines is also applicable to existing abutments.
 4. See roadway plans for quantity of Temporary Concrete Barrier.
 5. See sheet 12 of 15 for details of Temporary Concrete Barrier.

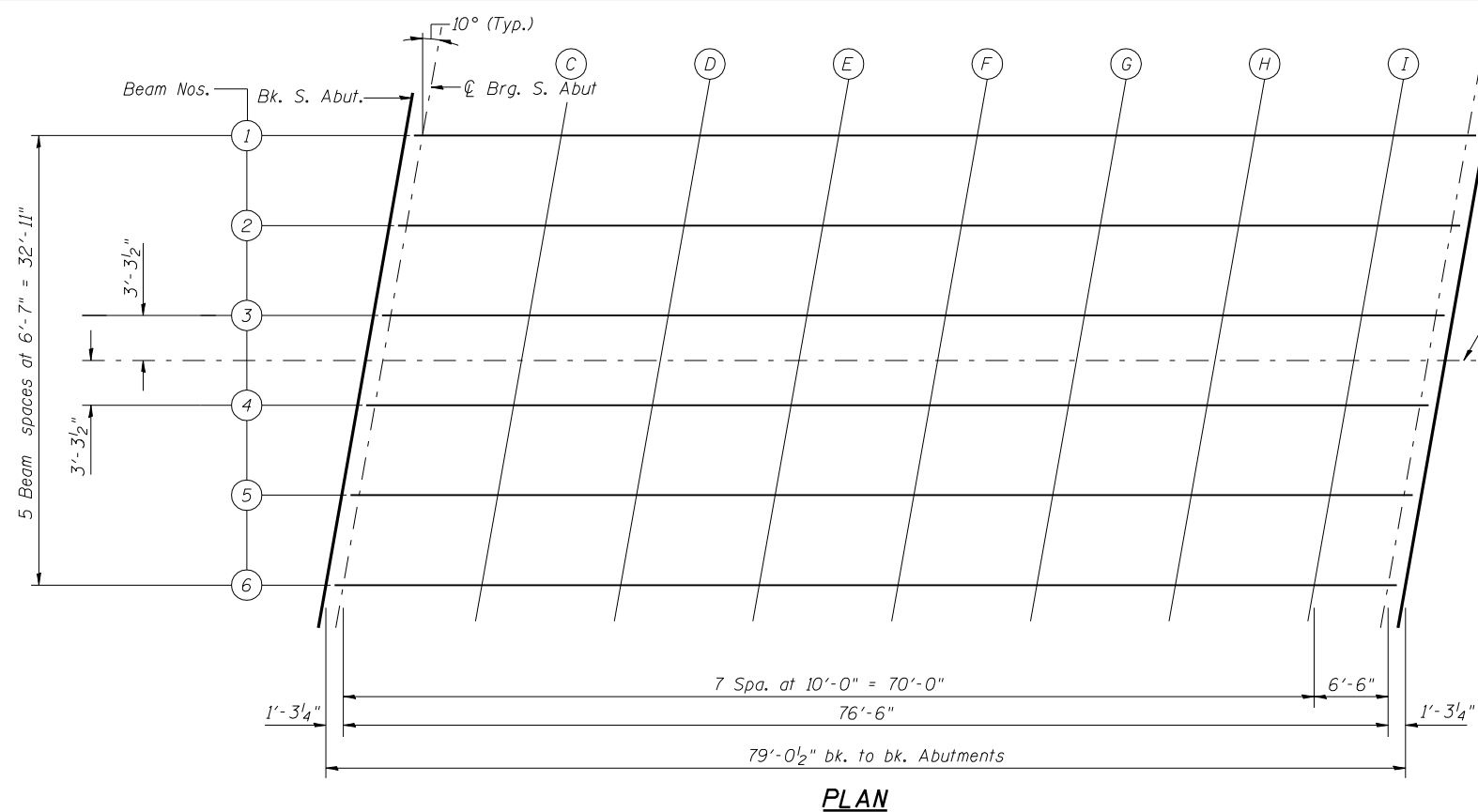
Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
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File: 068-0507.DGN

REVISIONS	
NAME	DATE

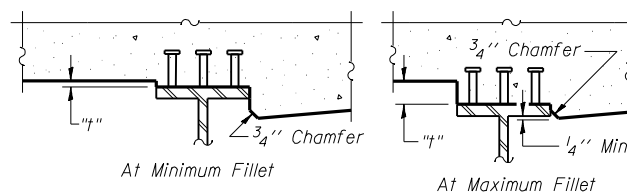
ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION DETAILS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507



PLAN

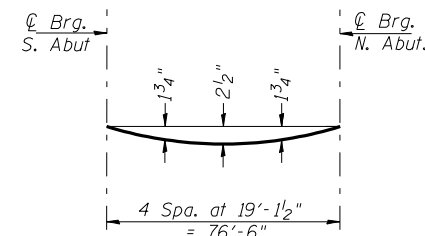
Note:
All offsets are measured radially from \varnothing Roadway

Local Tangent at Sta. 115+99.00 & Stage Construction Line



FILLET HEIGHTS

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



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

LOCAL TANGENT AT STA. 115+99.00 & STAGE CONSTRUCTION LINE

BEAM 1				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+62.45	-16.49	565.09	565.09
\varnothing Brg. S. Abut.	115+63.72	-16.49	565.09	565.09
C	115+73.70	-16.45	565.08	565.17
D	115+83.67	-16.42	565.07	565.22
E	115+93.65	-16.41	565.06	565.25
F	116+03.63	-16.41	565.05	565.26
G	116+13.61	-16.42	565.04	565.22
H	116+23.59	-16.45	565.03	565.16
I	116+33.57	-16.48	565.02	565.08
\varnothing Brg. N. Abut.	116+40.06	-16.52	565.02	565.02
Bk. of N. Abut.	116+41.32	-16.52	565.02	565.02

BEAM 2				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+61.26	-9.92	564.93	564.93
\varnothing Brg. S. Abut.	115+62.53	-9.91	564.93	564.93
C	115+72.51	-9.87	564.92	565.00
D	115+82.50	-9.84	564.91	565.06
E	115+92.49	-9.83	564.90	565.09
F	116+02.48	-9.82	564.89	565.09
G	116+12.46	-9.84	564.88	565.06
H	116+22.45	-9.86	564.87	565.00
I	116+32.44	-9.90	564.86	564.91
\varnothing Brg. N. Abut.	116+38.93	-9.93	564.85	564.85
Bk. of N. Abut.	116+40.20	-9.93	564.85	564.85

BEAM 3				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+60.07	-3.34	564.77	564.77
\varnothing Brg. S. Abut.	115+61.34	-3.33	564.77	564.77
C	115+71.33	-3.29	564.76	564.84
D	115+81.33	-3.26	564.75	564.89
E	115+91.32	-3.24	564.73	564.93
F	116+01.32	-3.24	564.72	564.93
G	116+11.32	-3.25	564.71	564.90
H	116+21.31	-3.27	564.71	564.83
I	116+31.31	-3.31	564.70	564.75
\varnothing Brg. N. Abut.	116+37.81	-3.34	564.69	564.69
Bk. of N. Abut.	116+39.08	-3.34	564.69	564.69

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+59.48	-0.10	564.69	564.69
\varnothing Brg. S. Abut.	115+60.75	-0.10	564.69	564.69
C	115+70.75	-0.05	564.68	564.76
D	115+80.75	-0.02	564.66	564.81
E	115+90.75	0.00	564.65	564.85
F	116+00.75	0.00	564.64	564.85
G	116+10.75	-0.01	564.63	564.82
H	116+20.75	-0.03	564.63	564.75
I	116+30.75	-0.07	564.62	564.67
\varnothing Brg. N. Abut.	116+37.25	-0.10	564.61	564.61
Bk. of N. Abut.	116+38.52	-0.10	564.61	564.61

BEAM 4				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+58.87	3.24	564.61	564.61
\varnothing Brg. S. Abut.	115+60.14	3.25	564.60	564.60
C	115+70.15	3.29	564.59	564.68
D	115+80.15	3.32	564.58	564.73
E	115+90.16	3.34	564.57	564.76
F	116+00.16	3.34	564.56	564.76
G	116+10.16	3.34	564.55	564.73
H	116+20.17	3.32	564.54	564.67
I	116+30.17	3.28	564.53	564.59
\varnothing Brg. N. Abut.	116+36.68	3.25	564.53	564.53
Bk. of N. Abut.	116+37.95	3.25	564.53	564.53

BEAM 5				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+57.68	9.82	564.44	564.44
\varnothing Brg. S. Abut.	115+58.95	9.82	564.44	564.44
C	115+68.96	9.87	564.43	564.51
D	115+78.97	9.90	564.42	564.57
E	115+88.99	9.92	564.41	564.60
F	115+99.00	9.93	564.40	564.60
G	116+09.01	9.92	564.39	564.57
H	116+19.02	9.90	564.38	564.51
I	116+29.04	9.87	564.37	564.42
\varnothing Brg. N. Abut.	116+35.55	9.84	564.36	564.36
Bk. of N. Abut.	116+36.82	9.84	564.36	564.36

BEAM 6				
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of S. Abut.	115+56.48	16.39	564.28	564.28
\varnothing Brg. S. Abut.	115+57.75	16.40	564.28	564.28
C	115+67.77	16.45	564.27	564.35
D	115+77.79	16.48	564.26	564.40
E	115+87.81	16.50	564.24	564.44
F	115+97.84	16.51	564.23	564.44
G	116+07.86	16.51	564.22	564.41
H	116+17.88	16.49	564.21	564.34
I	116+27.90	16.46	564.21	564.26
\varnothing Brg. N. Abut.	116+34.42	16.43	564.20	564.20
Bk. of N. Abut.	116+35.69	16.42	564.20	564.20

REVISIONS	
NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Checked By: MTH
Date: 04/07

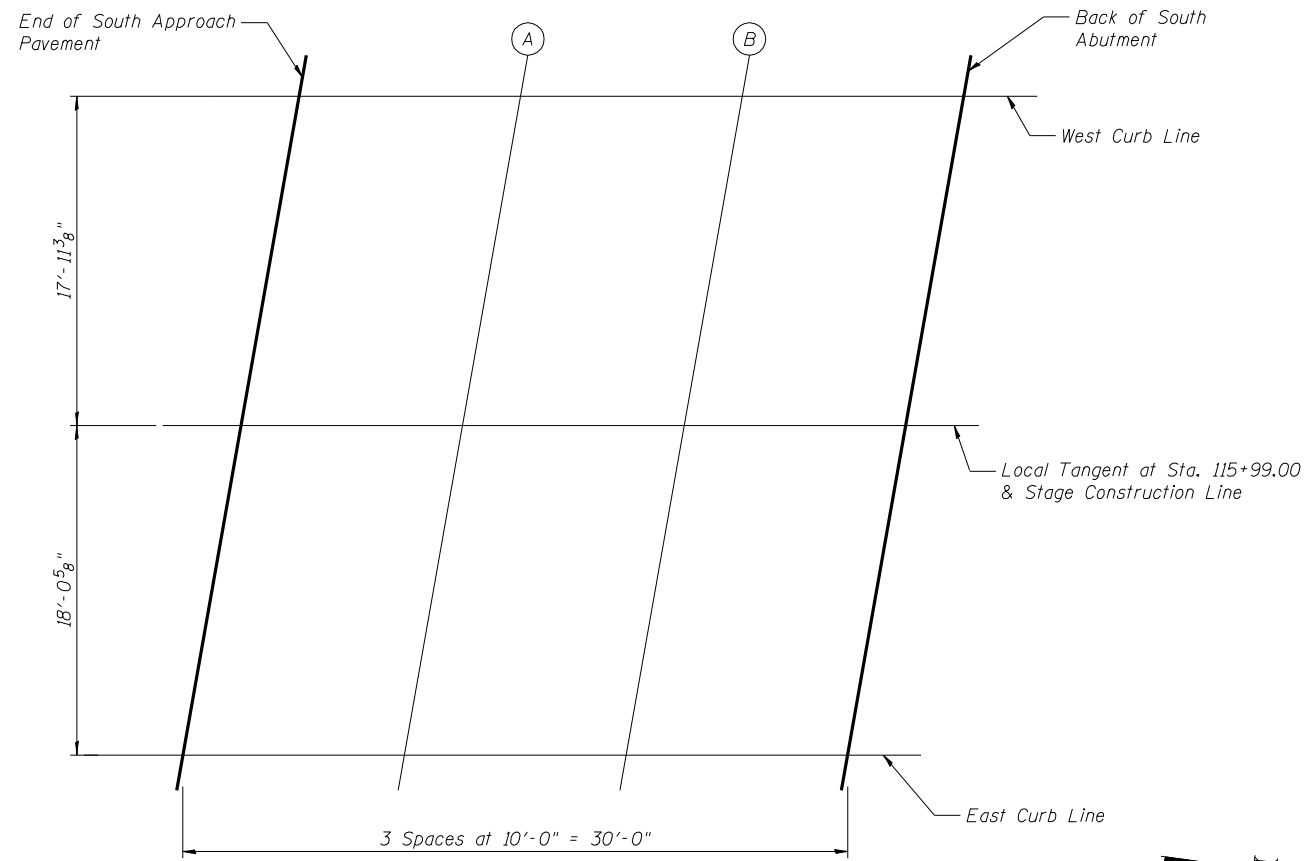
Drawn By: AUF
File: 068-0507.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

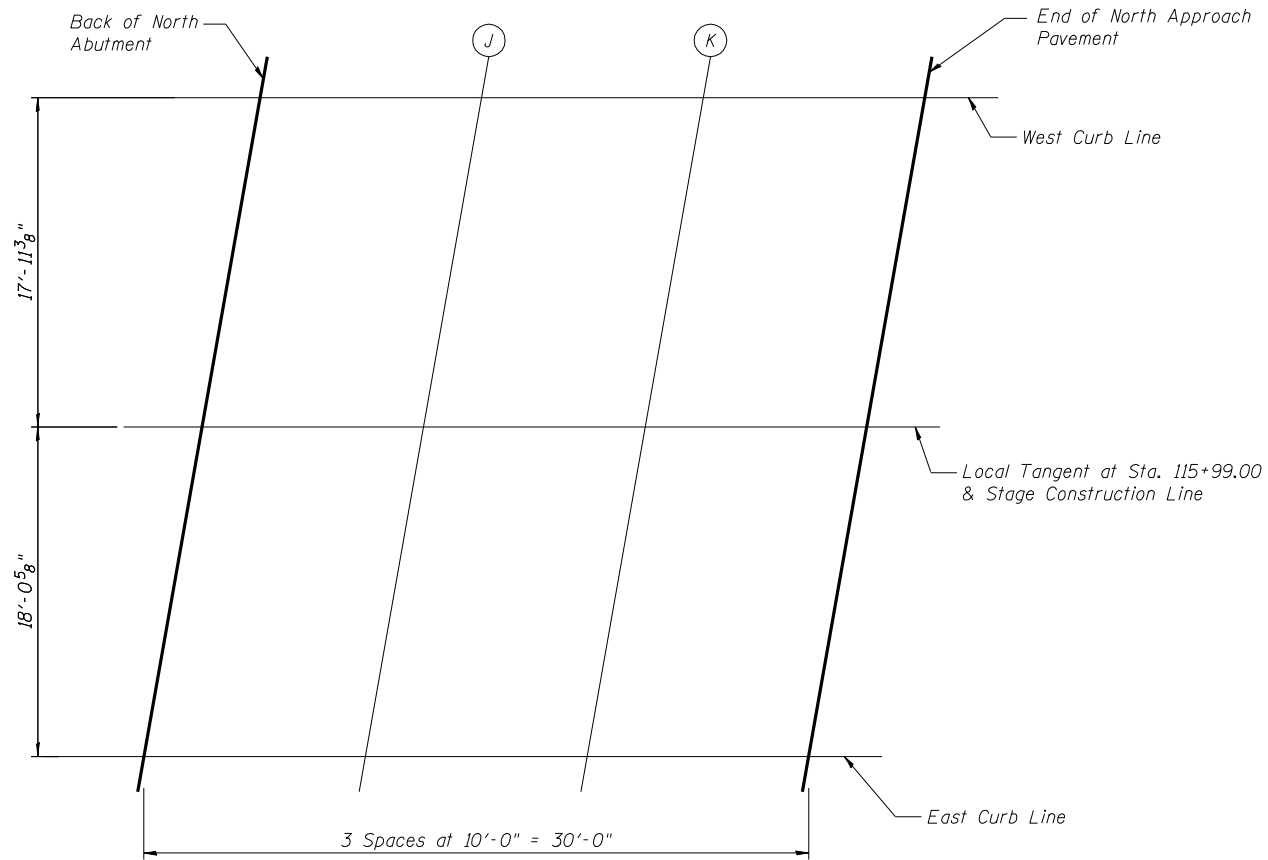
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-2)	Montgomery	61	23
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
15 SHEETS

Contract #72150



PLAN - SOUTH APPROACH



PLAN - NORTH APPROACH

WEST CURB LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	115+32.80	-18.23	565.17
A	115+42.78	-18.15	565.16
B	115+52.75	-18.09	565.14
Bk. S. Abut.	115+62.73	-18.03	565.13
Bk. N. Abut.	116+41.59	-18.07	565.06
J	116+51.56	-18.13	565.05
K	116+61.54	-18.20	565.04
End N. Appr. Pav't	116+71.52	-18.29	565.03

LOCAL TANGENT AT STA. 115+99.00 & STAGE CONSTRUCTION LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	115+29.48	-0.31	564.72
A	115+39.48	-0.23	564.71
B	115+49.48	-0.16	564.70
Bk. S. Abut.	115+59.48	-0.10	564.69
Bk. N. Abut.	116+38.52	-0.10	564.61
J	116+48.52	-0.16	564.60
K	116+58.52	-0.23	564.59
End N. Appr. Pav't	116+68.52	-0.31	564.58

EAST CURB LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	115+26.13	17.71	564.28
A	115+36.15	17.80	564.26
B	115+46.17	17.87	564.25
Bk. S. Abut.	115+56.20	17.93	564.24
Bk. N. Abut.	116+35.42	17.97	564.16
J	116+45.45	17.90	564.15
K	116+55.47	17.85	564.14
End N. Appr. Pav't	116+65.49	17.77	564.14

Note:
Offsets are measured radially from \varnothing Roadway.

ILLINOIS DEPARTMENT OF TRANSPORTATION
APPROACH PAVEMENT ELEVATIONS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/07 File: 068-0507.DGN

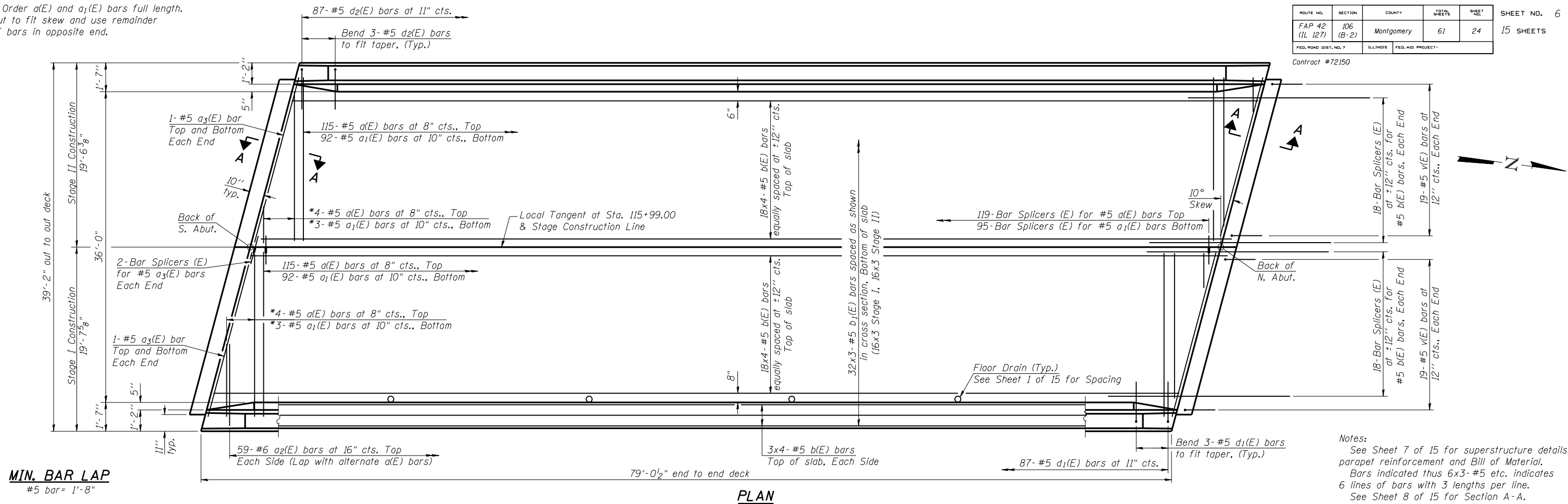
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* Order a(E) and a₁(E) bars full length.
Cut to fit skew and use remainder
of bars in opposite end.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-2)	Montgomery	61	24
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
15 SHEETS

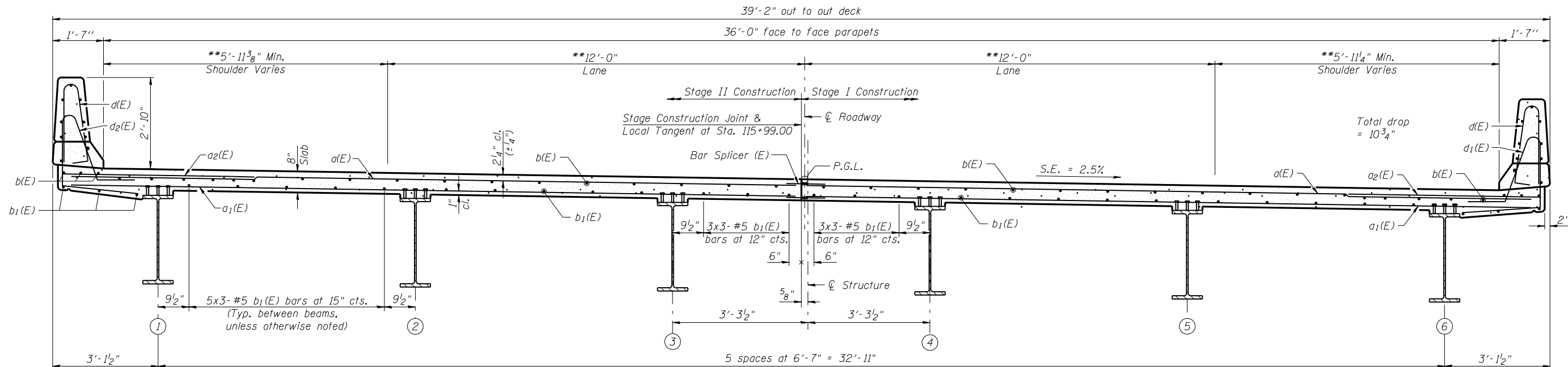
Contract #72150



MIN. BAR LAP
#5 bar = 1'-8"

Notes:
See Sheet 7 of 15 for superstructure details, parapet reinforcement and Bill of Material.
Bars indicated thus 6x3-#5 etc. indicates 6 lines of bars with 3 lengths per line.
See Sheet 8 of 15 for Section A-A.
See Sheet 13 of 15 for Bar Splicer Details.

PLAN



CROSS SECTION
(Looking North)

**Measured radially from ϕ Roadway

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

REVISIONS

NAME	DATE

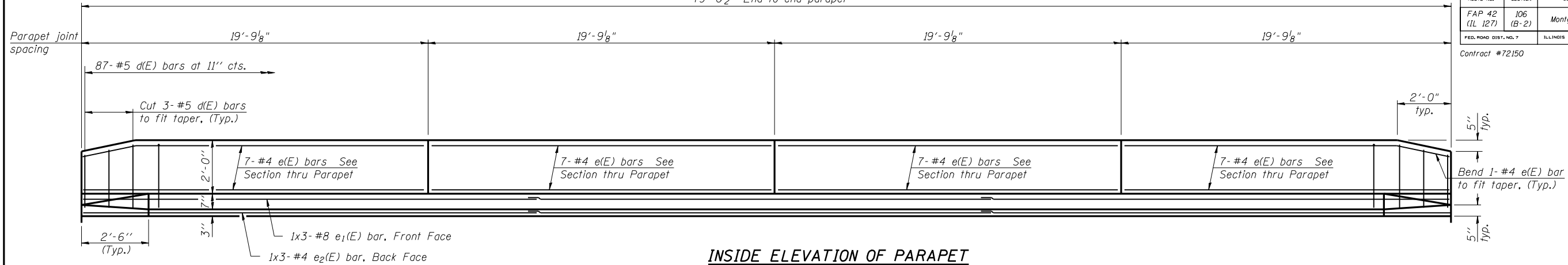
Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/07 File: 068-0507.DGN

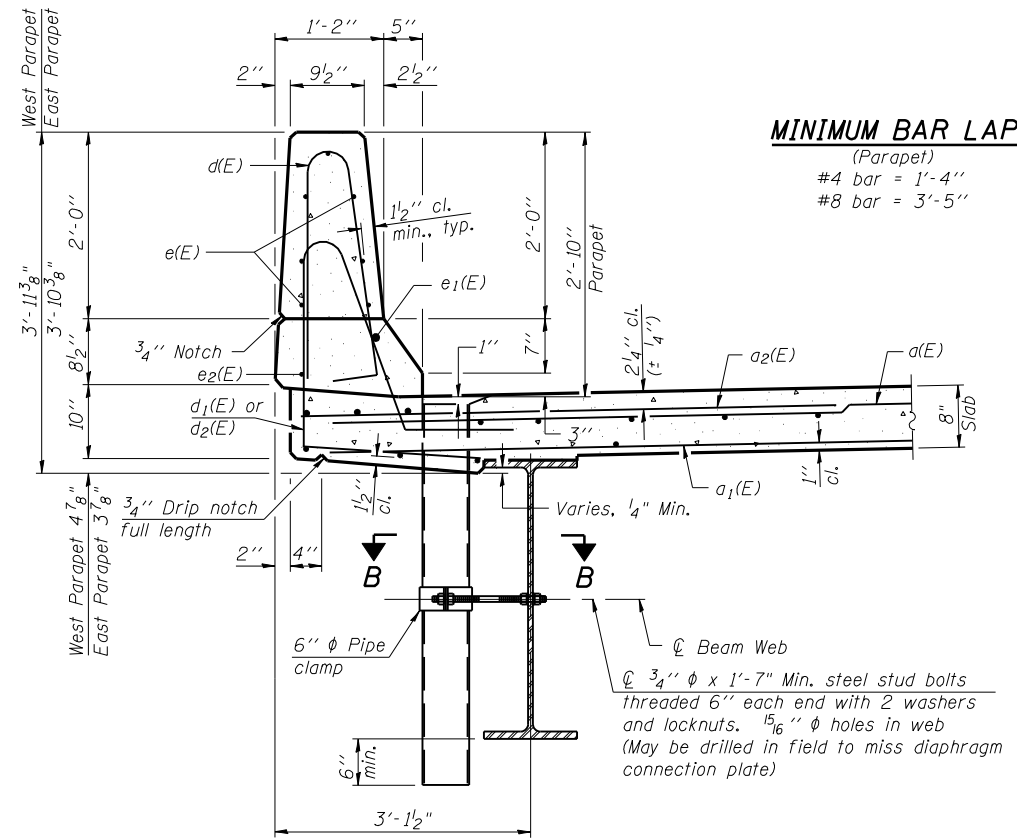
79'-0 1/2" End to end parapet

ROUTE NO. FAP 42 (IL 127)	SECTION 106 (B-2)	COUNTY Montgomery	SHEET NO. 61	SHEET NO. 25	SHEET NO. 7 15 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-		

Contract #72150

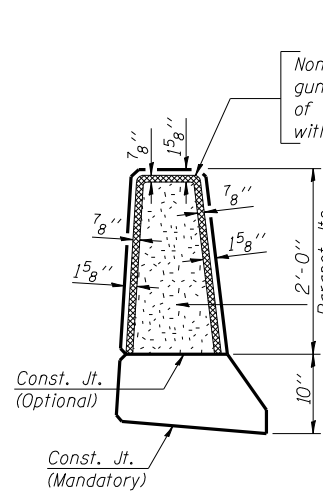


INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET
(East Parapet Shown)

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



PARAPET JOINT DETAILS

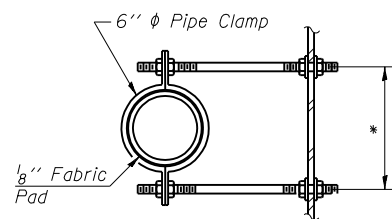
Notes:
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

**SUPERSTRUCTURE
BILL OF MATERIAL**

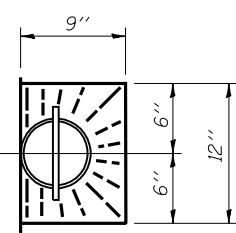
Bar	No.	Size	Length	Shape
a(E)	238	#5	19'-0"	—
a1(E)	190	#5	18'-8"	—
a2(E)	118	#6	6'-0"	—
a3(E)	8	#5	19'-4"	—
b(E)	168	#5	20'-11"	—
b1(E)	96	#5	27'-4"	—
d(E)	174	#5	5'-7"	⌋
d1(E)	87	#5	7'-10"	⌋
d2(E)	87	#5	7'-10"	⌋
e(E)	56	#4	19'-5"	—
e1(E)	6	#8	28'-6"	—
e2(E)	6	#4	27'-3"	—
m(E)	8	#6	18'-6"	—
m1(E)	24	#6	8'-9"	—
m2(E)	12	#6	19'-9"	—
m3(E)	8	#6	5'-8"	—
m4(E)	8	#6	2'-4"	—
s(E)	80	#5	5'-8"	⌋
s1(E)	72	#4	9'-6"	⌋
v(E)	76	#5	3'-4"	⌋
Reinforcement Bars, Epoxy Coated			Pound	21960
Concrete Superstructure			Cu. Yds.	111.4
Floor Drains			Each	4

Bars indicated thus 1x3-#5 etc. indicates 1 line of bars with 3 lengths per line.

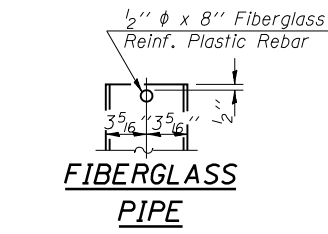
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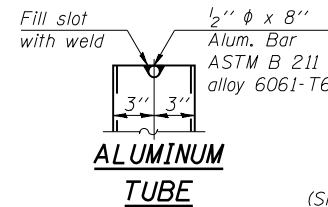
SECTION B-B
* Dimension as required by Pipe Clamp



TOP PLAN



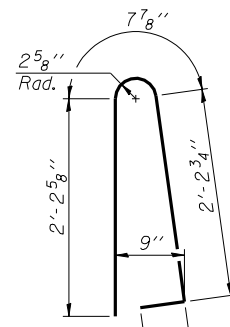
FIBERGLASS PIPE



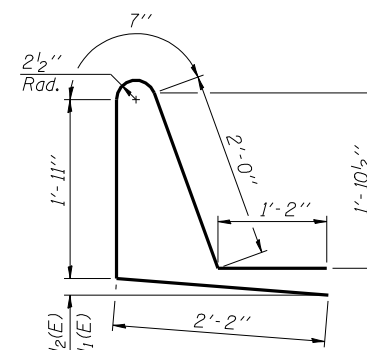
ALUMINUM TUBE



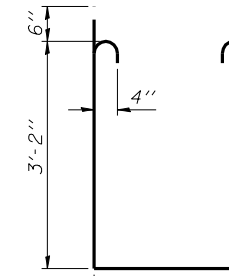
TOP PLAN
(Showing Aluminum Tube)



BAR d(E)



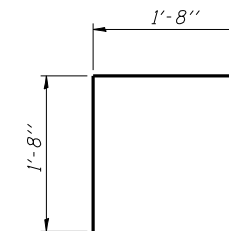
BARS d1(E) & d2(E)



BAR s(E)



BAR s1(E)



BAR v(E)

REVISIONS

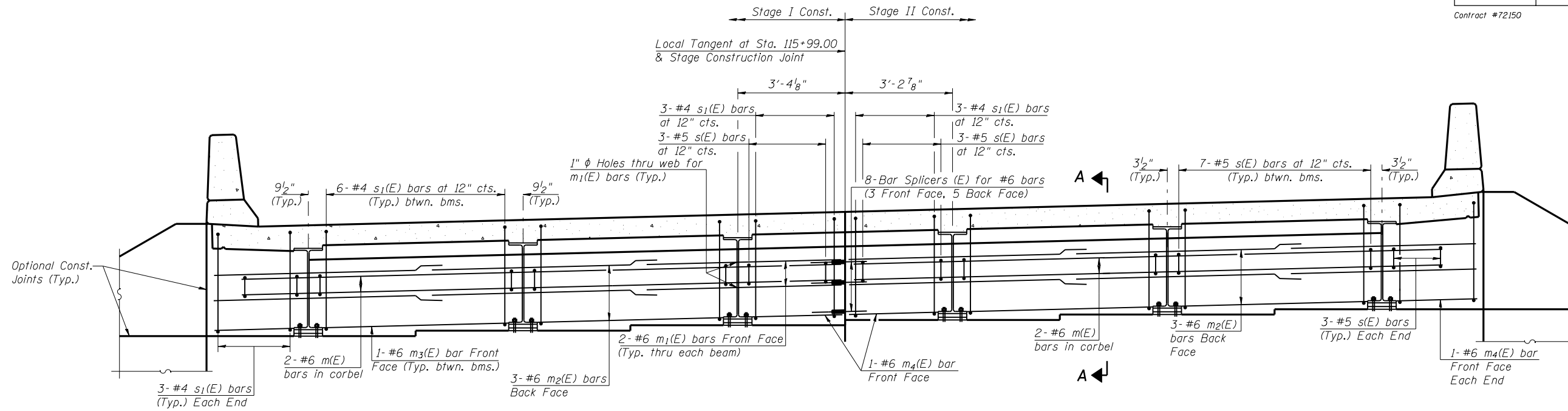
NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/07 File: 068-0507.DGN

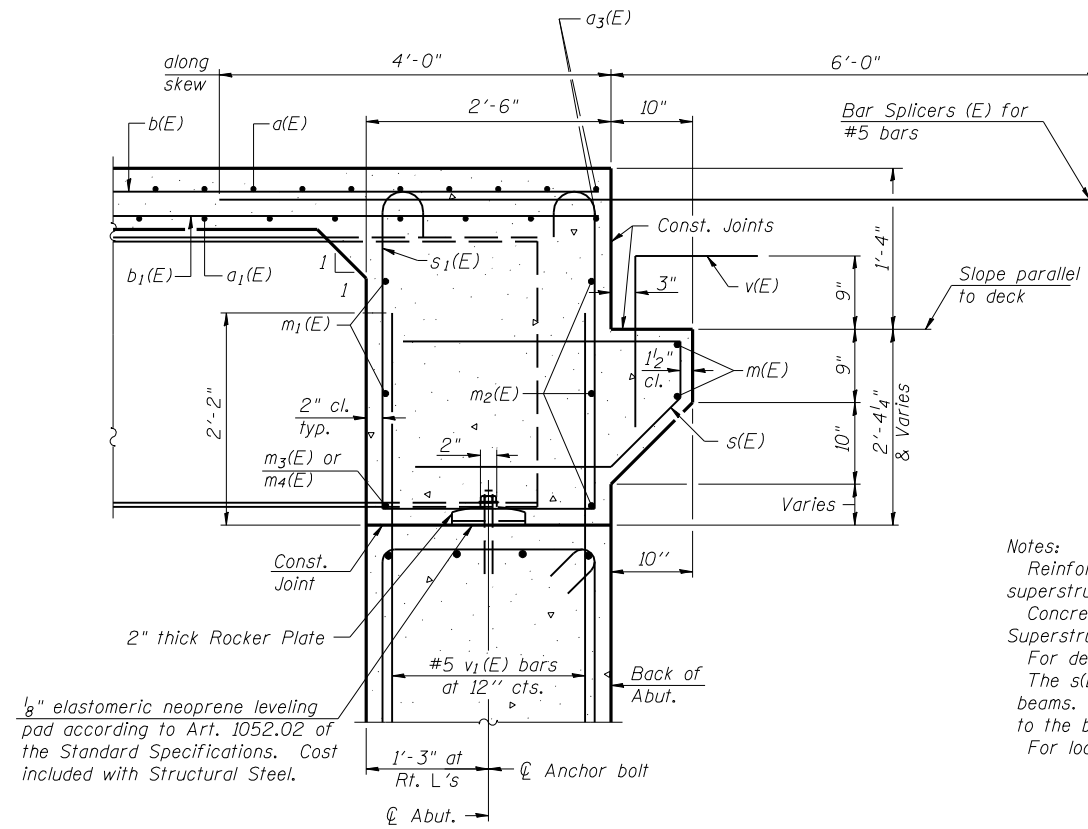
ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

Contract #72150



DIAPHRAGM ELEVATION AT SOUTH ABUTMENT

(Looking South)
(North Abut. mirrored about Local Tangent)



SECTION A-A

(Dim. at Rt. L's except as noted)

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 7 of 15.
Concrete in diaphragm is included with Concrete Superstructure on sheet 7 of 15.
For details of bars s(E) & s1(E) see sheet 7 of 15.
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.
For location of holes thru web, see sheet 9 of 15.

MIN. BAR LAP

#6 bar = 2'-9"

ILLINOIS DEPARTMENT OF TRANSPORTATION
CONCRETE END DIAPHRAGMS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Checked By: MTH
Date: 04/07

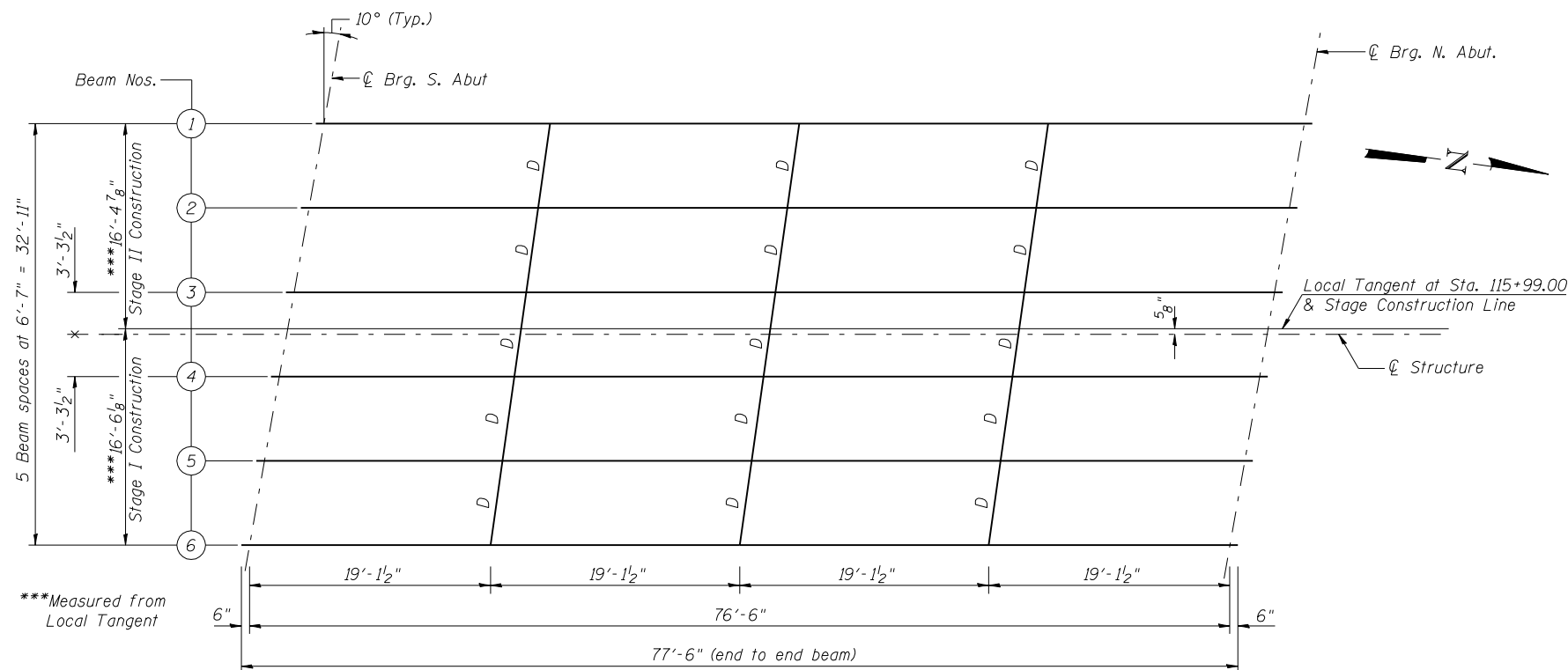
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REVISIONS	
NAME	DATE

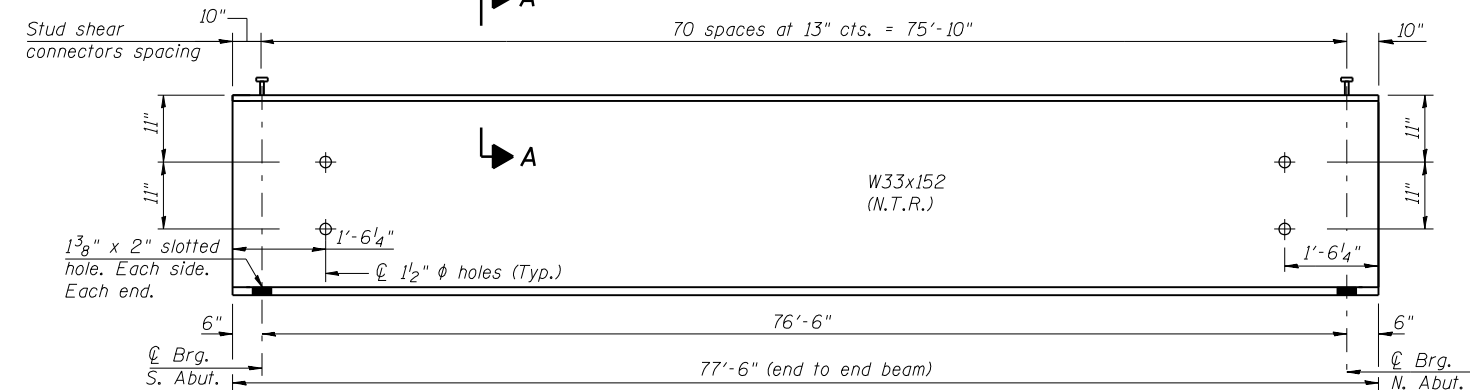
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Contract #72150

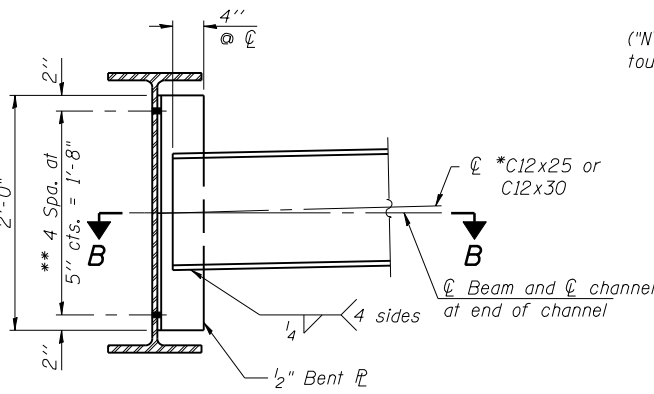


FRAMING PLAN



BEAM ELEVATION

("NTR" denotes members to which notch toughness requirements are applicable)



DIAPHRAGM D
(15 Required)

Note:
Two hardened washers required for each set of oversized holes and 5/16" plate washer over slotted holes.

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

** 3/4" ϕ HS bolts, 15/16" ϕ holes. For diaphragms at stage construction provide 13/16" x 1 7/8" vertical slotted holes at east side of beam 3 in bent plate and for west side of beam 4 provide oversize holes in bent plate and beam. Bolts in slotted holes shall be finger tightened prior to the deck slab pouring and then fully tightened after completion of the pour.

TOP OF BEAM ELEVATIONS

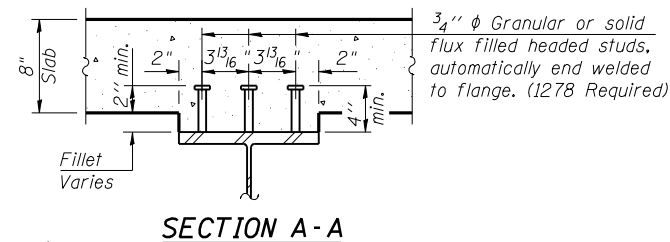
(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
Brig. S. Abut.	564.37	564.21	564.05	563.88	563.72	563.56
Brig. N. Abut.	564.30	564.13	563.97	563.81	563.64	563.48

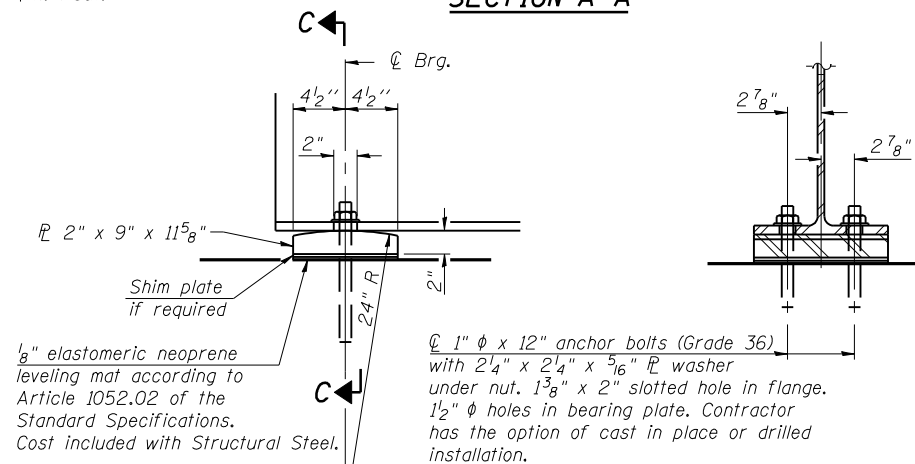
	0.5 Span
I_s	(in ⁴) 8160
$I_c(n)$	(in ⁴) 21450
$I_c(3n)$	(in ⁴) 15549
S_s	(in ³) 487
$S_c(n)$	(in ³) 714
$S_c(3n)$	(in ³) 642
ρ	(k/')
$M \rho$	(k)
$s \rho$	(k/')
$M_s \rho$	(k)
$M \ddot{L}$	(k)
M_{Imp}	(k)
$s_3 [M \ddot{L} + M_{Imp}]$	(k)
M_o	(k)
M_u	(k)
$f_s \rho$ non-comp	(ksi)
$f_s \rho$ (comp)	(ksi)
$f_s s_3 [M \ddot{L} + M_{Imp}]$	(ksi)
f_s (Overload)	(ksi)
VR	(k)

	Abut.
$R \rho$	(k) 49.8
$R \ddot{L}$	(k) 37.8
$Imp.$	(k) 9.4
R_{Total}	(k) 97.0

⊙ Compact section



SECTION A-A



ELEVATION AT ABUTMENT

SECTION C-C

FIXED BEARING

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M \ddot{L}$: Un-factored live load moment (kip-ft.).

M_{Imp} : Un-factored moment due to impact (kip-ft.).

M_o : Factored design moment (kip-ft.).

M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).

VR : Maximum \ddot{L} + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

NOTES:

- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.
- Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN & STEEL DETAILS
 ILLINOIS ROUTE 127 OVER
 LITTLE BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-2)
 MONTGOMERY COUNTY
 STATION 115+99.00
 STRUCTURE NO. 068-0507

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
 Consulting Engineers
 Chatham, Illinois

Designed By: RKM
 Checked By: MTH
 Date: 04/07

Files: 068-0507.DGN
 Drawn By: AUF

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

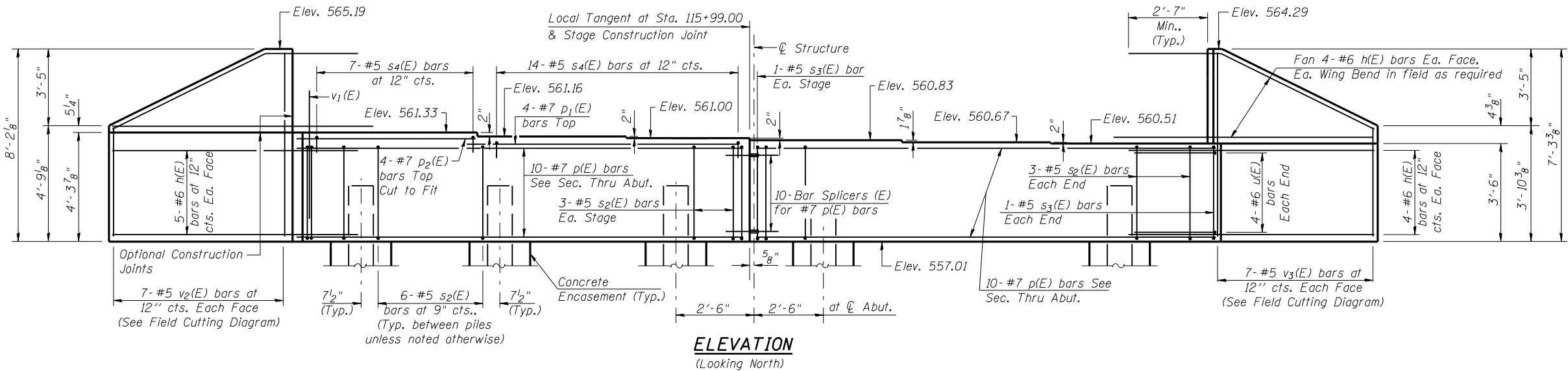
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10 15 SHEETS
FAP 42 (L 127)	106 (B-2)	Montgomery	61	28	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72150

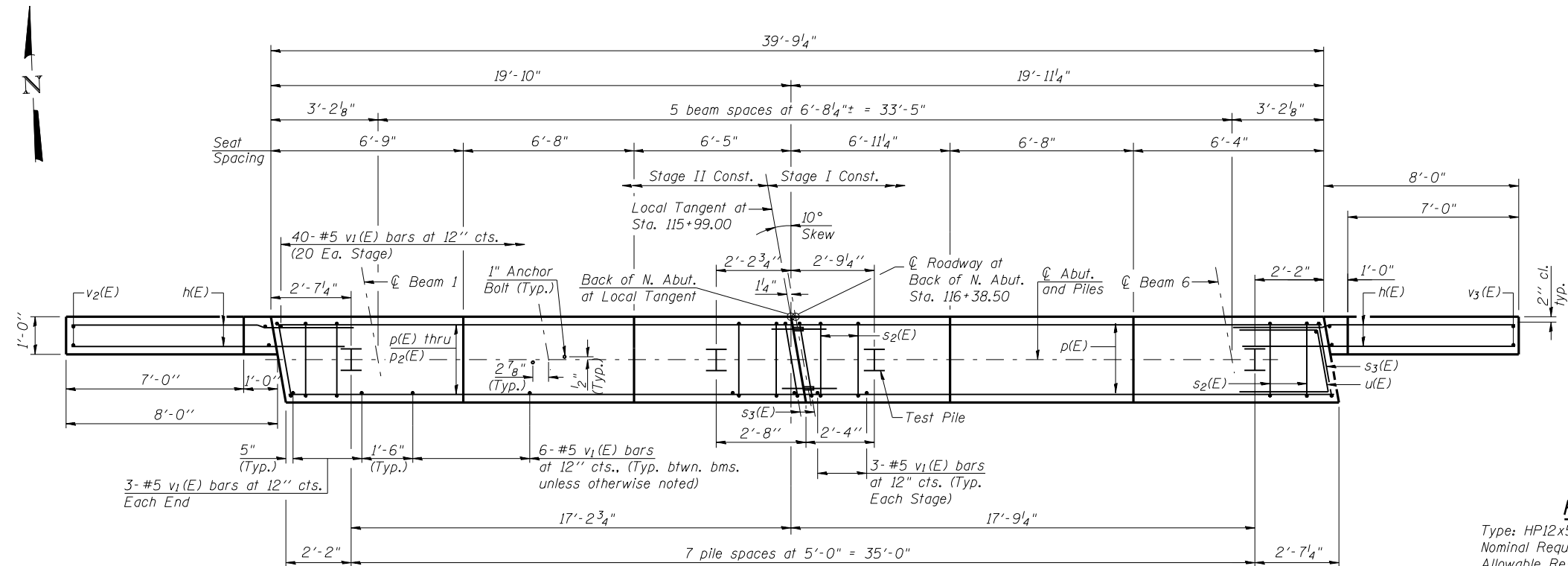
BILL OF MATERIAL
(North Abutment)

Bar	No.	Size	Length	Shape
h(E)	34	#6	10'-7"	—
p(E)	20	#7	19'-6"	—
p ₁ (E)	4	#7	15'-6"	—
p ₂ (E)	4	#7	6'-5"	—
s ₂ (E)	48	#5	11'-7"	□
s ₃ (E)	4	#5	11'-9"	□
s ₄ (E)	21	#5	6'-6"	□
u(E)	8	#6	7'-3"	—
v ₁ (E)	76	#5	4'-4"	—
v ₂ (E)	7	#5	12'-3"	—
v ₃ (E)	7	#5	10'-5"	—
Structure Excavation			Cu. Yd.	116
Concrete Structures			Cu. Yd.	18.1
Reinforcement Bars, Epoxy Coated			Pound	2890
Furnishing Steel Piles, HP12x53			Foot	392
Driving Piles			Foot	392
Test Pile, Steel HP12x53			Each	1
Concrete Encasement			Cu. Yd.	2.8
Anchor Bolts 1" φ			Each	12

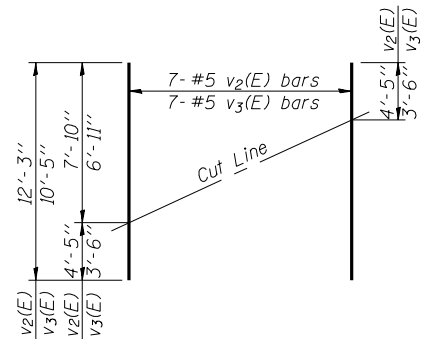
For details of Bar Splicers, see sheet 13 of 15.
For details of piles and Concrete Encasement, see sheet 14 of 15.
For details of Integral Abutment Bearing, see sheet 9 of 15.
For drainage details, see Section Thru Integral Abutment on sheet 2 of 15.



ELEVATION
(Looking North)

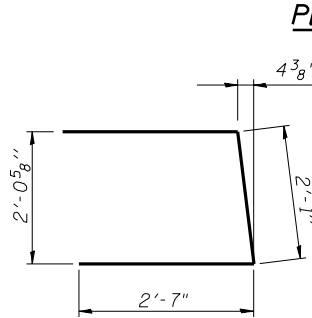


PLAN

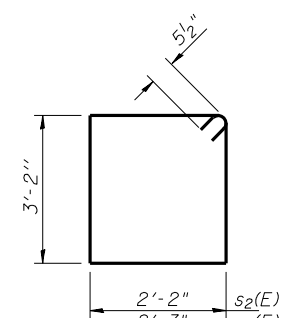


FIELD CUTTING DIAGRAM

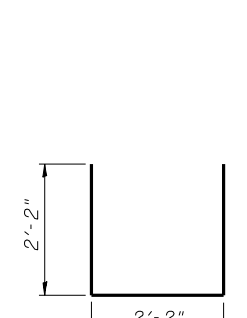
Order v₂(E) and v₃(E) Full length. Cut as shown and use remainder of bars in opposite face.



BAR u(E)



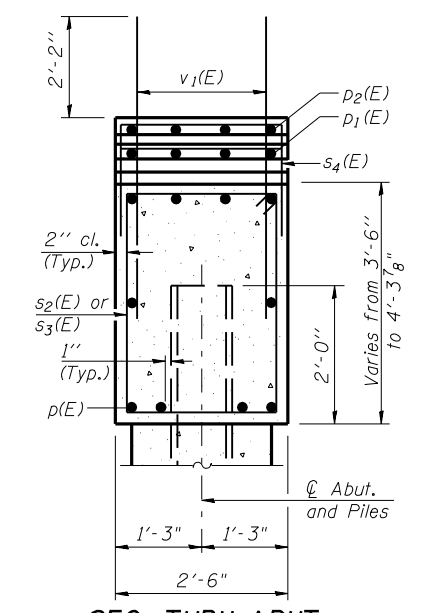
BARS s₂(E) & s₃(E)



BAR s₄(E)

PILE DATA

Type: HP12x53
Nominal Required Bearing: 345 kips
Allowable Resistance Available: 115kips
Est. Length: 56 ft
No. Production Piles: 7
No. Test Piles: 1



SEC. THRU ABUT.
(Dimensions at Rt. L's)

ILLINOIS DEPARTMENT OF TRANSPORTATION
NORTH ABUTMENT
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/07 File: 068-0507.DGN

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

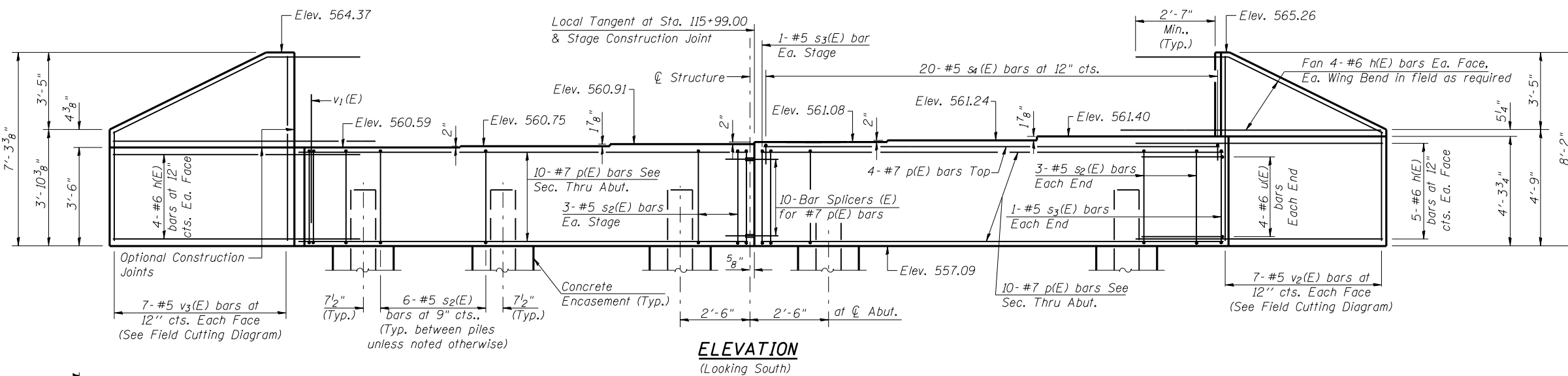
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAP 42 (IL 127)	106 (B-2)	Montgomery	61	29	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			15 SHEETS

Contract #72150

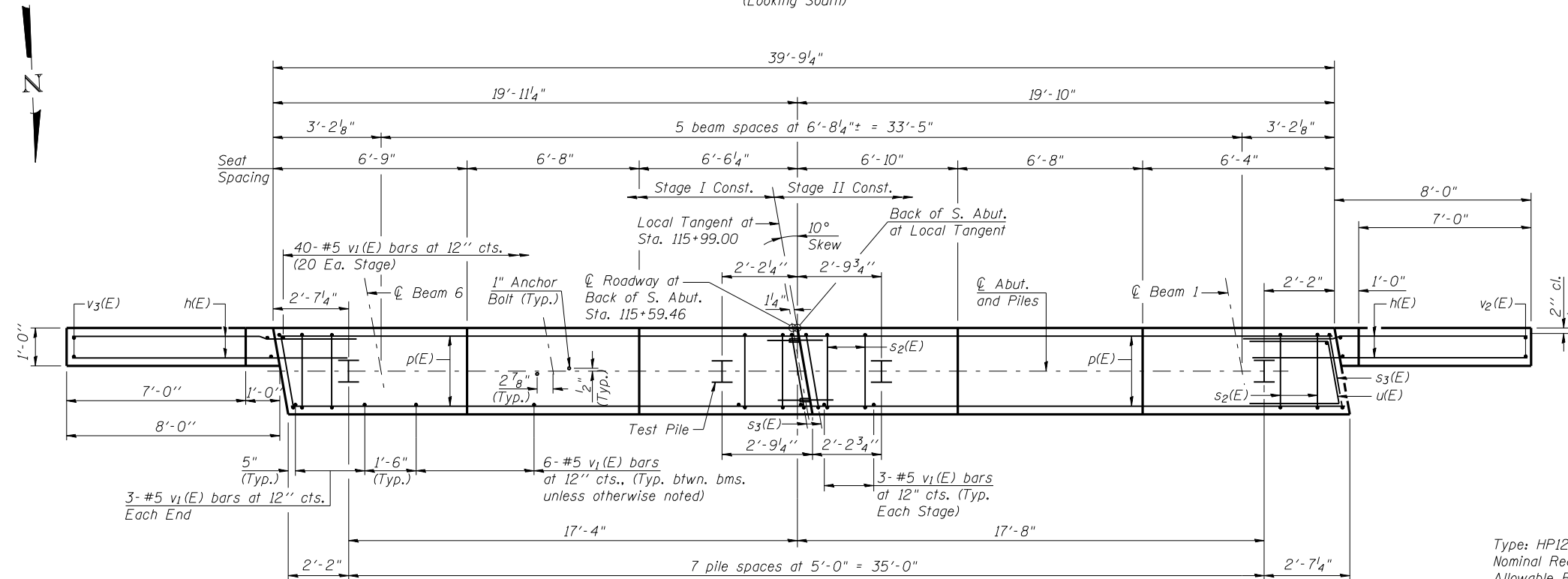
BILL OF MATERIAL
(South Abutment)

Bar	No.	Size	Length	Shape
h(E)	34	#6	10'-7"	—
p(E)	24	#7	19'-6"	—
s ₂ (E)	48	#5	11'-7"	□
s ₃ (E)	4	#5	11'-9"	□
s ₄ (E)	20	#5	6'-6"	□
u(E)	8	#6	7'-3"	—
v ₁ (E)	76	#5	4'-4"	—
v ₂ (E)	7	#5	12'-3"	—
v ₃ (E)	7	#5	10'-5"	—
Structure Excavation		Cu. Yd.	115	
Concrete Structures		Cu. Yd.	18.1	
Reinforcement Bars, Epoxy Coated		Pound	2860	
Furnishing Steel Piles, HP12x53		Foot	364	
Driving Piles		Foot	364	
Test Pile, Steel HP12x53		Each	1	
Concrete Encasement		Cu. Yd.	2.8	
Anchor Bolts 1" φ		Each	12	

For details of Bar Splicers, see sheet 13 of 15.
For details of piles and Concrete Encasement, see sheet 14 of 15.
For details of Integral Abutment Bearing, see sheet 9 of 15.
For drainage details, see Section Thru Integral Abutment on sheet 2 of 15.



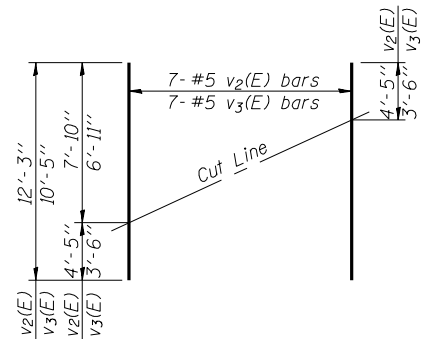
ELEVATION
(Looking South)



PLAN

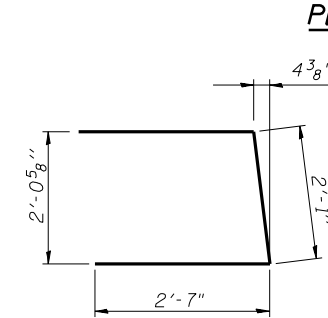
PILE DATA

Type: HP12x53
Nominal Required Bearing: 345 kips
Allowable Resistance Available: 115kips
Est. Length: 52 ft
No. Production Piles: 7
No. Test Piles: 1

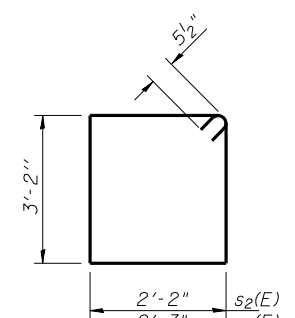


FIELD CUTTING DIAGRAM

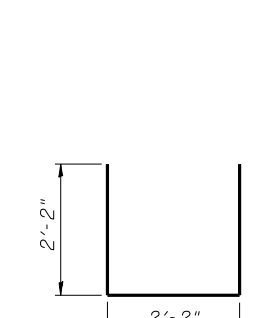
Order v₂(E) and v₃(E) Full length. Cut as shown and use remainder of bars in opposite face.



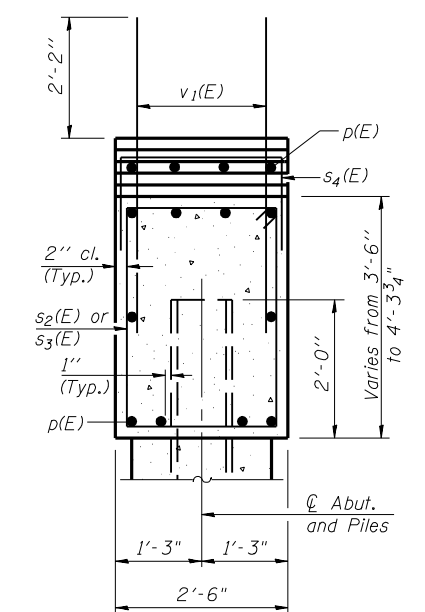
BAR u(E)



BARS s₂(E) & s₃(E)



BAR s₄(E)



SEC. THRU ABUT.

(Dimensions at Rt. L's)

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOUTH ABUTMENT
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/07 File: 068-0507.DGN

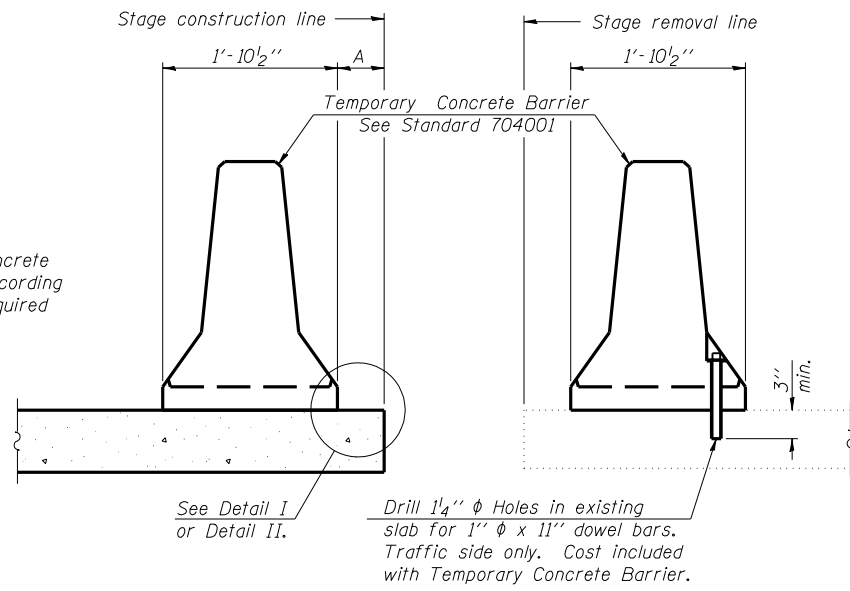
Aug-16-2007 11:20:30AM:20:30 AM \$FILEABBREV\$

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-2)	Montgomery	61	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
15 SHEETS

Contract #72150

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

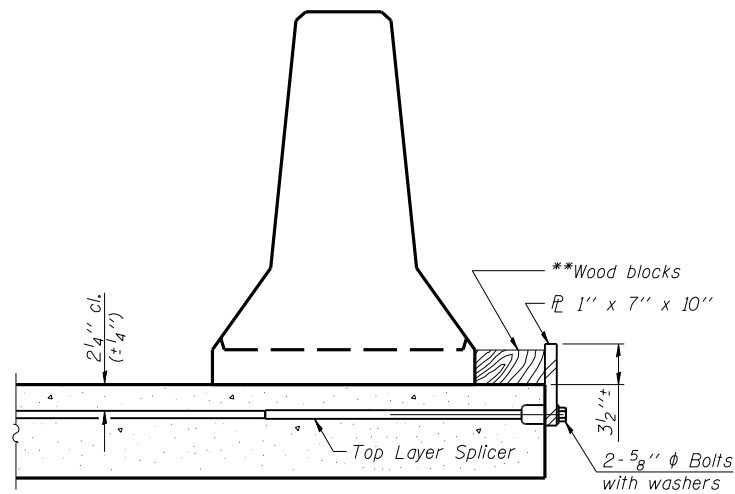
SECTIONS THRU SLAB

NOTES

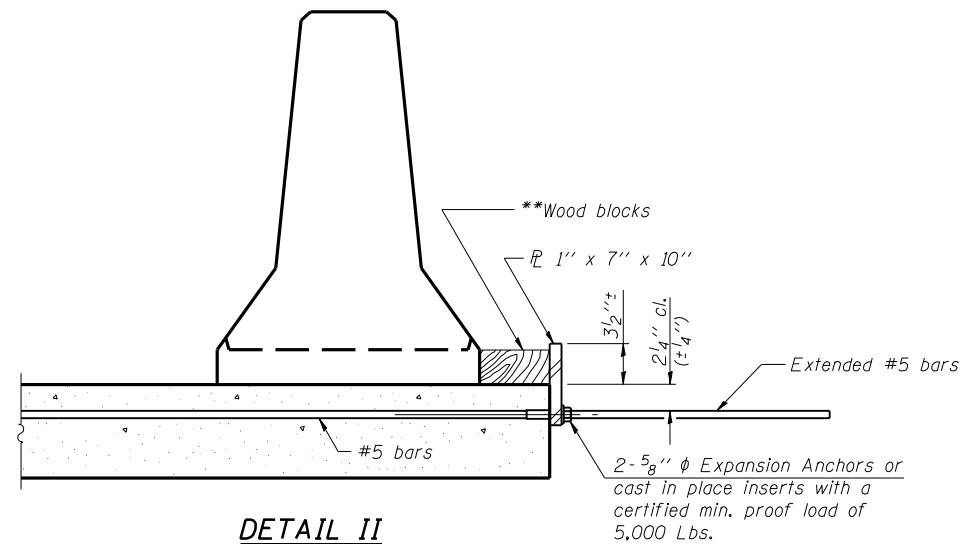
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" phi bolts screwed to coupler at approximate CL of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel PL 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 CL 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.

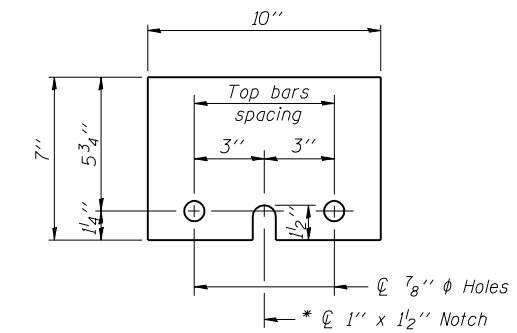


DETAIL I



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.



STEEL RETAINER PL 1" x 7" x 10"

* Required only with Detail II

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R-27

11-1-06

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/07 File: 068-0507.DGN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY CONCRETE BARRIER
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

Contract #72150

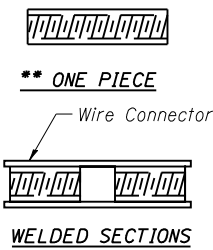
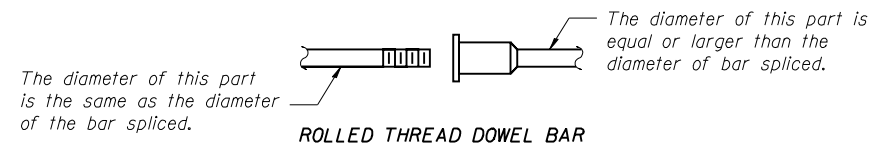
NOTES

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) = $1.25 \times f_y \times A_1$
- ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_1$

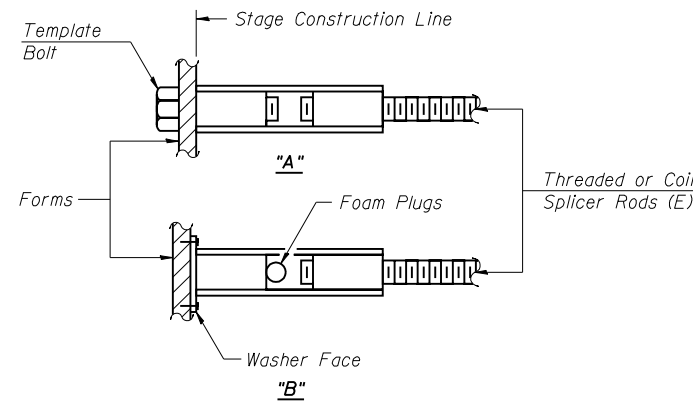
Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_1 = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-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



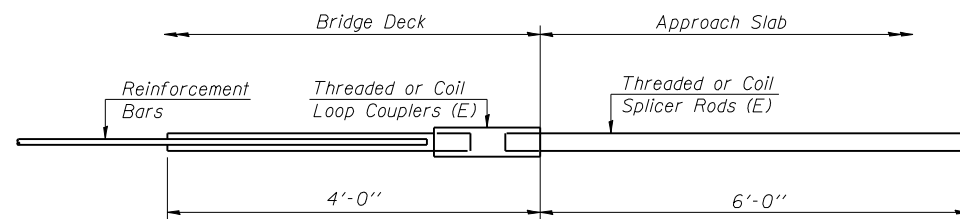
BAR SPLICER ASSEMBLY ALTERNATIVES

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



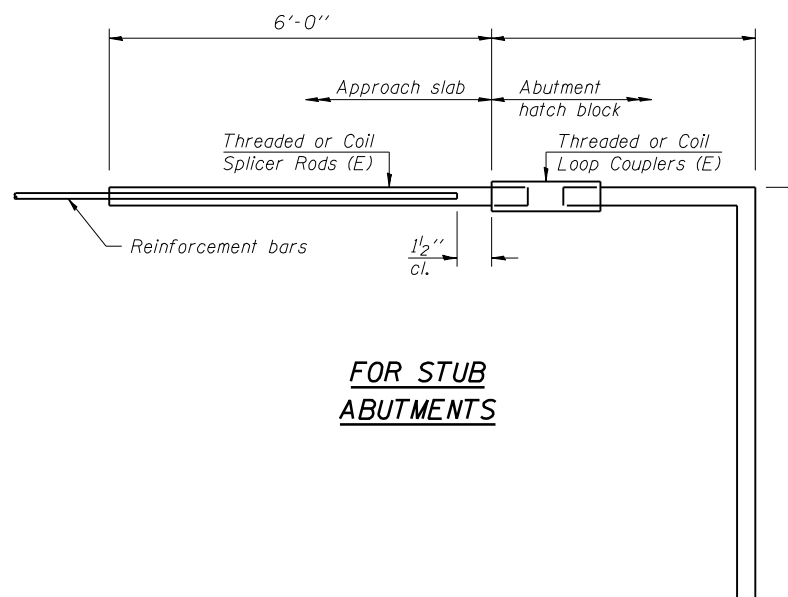
INSTALLATION AND SETTING METHODS

"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.



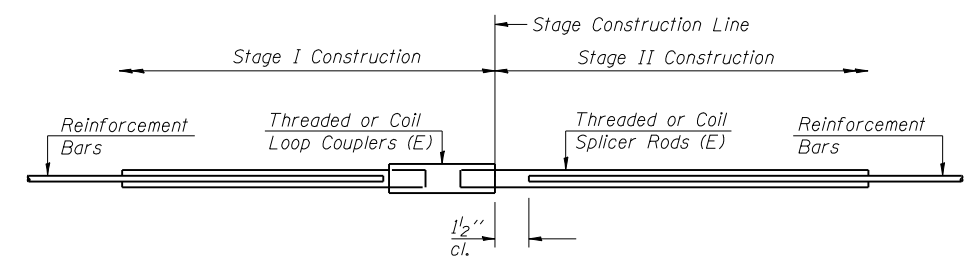
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 72



FOR STUB ABUTMENTS

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



STANDARD

Bar Size	No. Assemblies Required	Location
#5	218	Deck
#6	16	Diaphragms
#7	20	Abutments

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

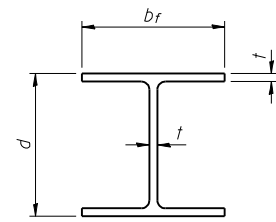
REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

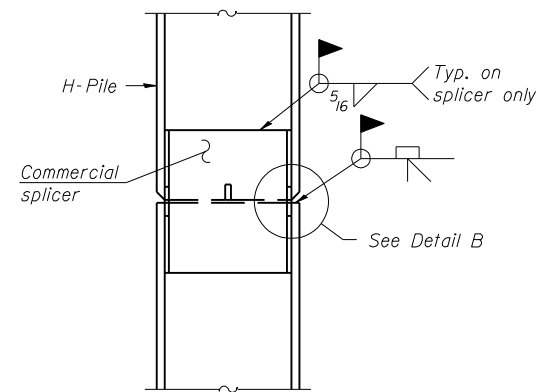
Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/07 File: 068-0507.DGN

Aug-16-2007 11:20:40AM:20:40 AM \$FILEABBREV\$

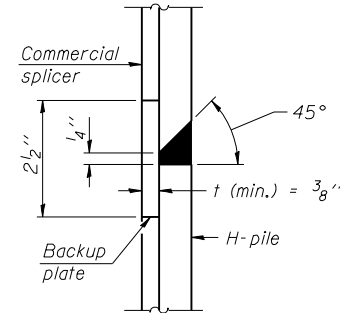


STEEL PILE TABLE

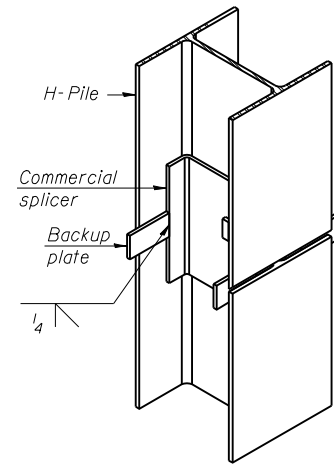
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



ELEVATION

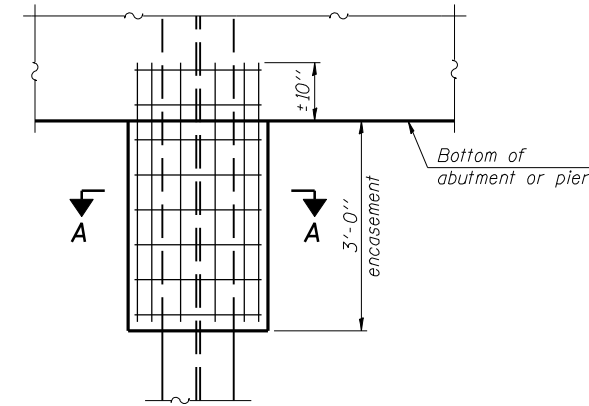


DETAIL "B"



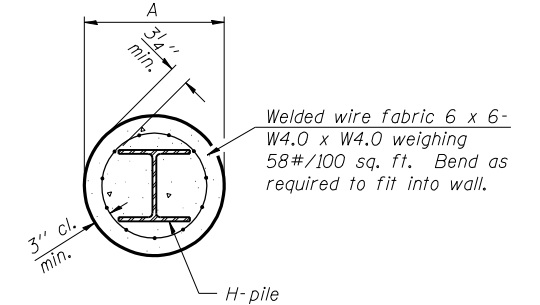
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



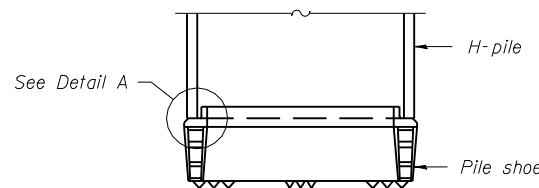
ELEVATION

PILE ENCASEMENT



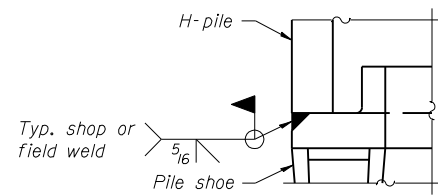
SECTION A-A

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

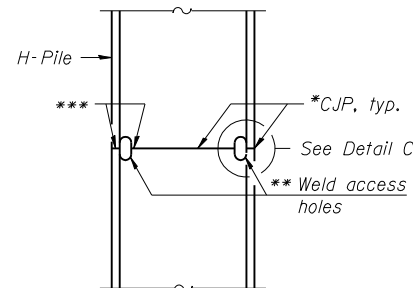


ELEVATION

H-PILE SHOE ATTACHMENT

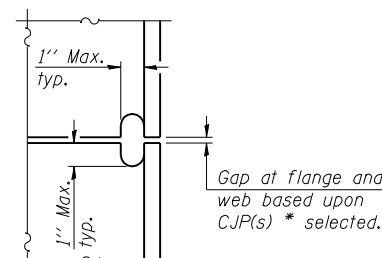


DETAIL A

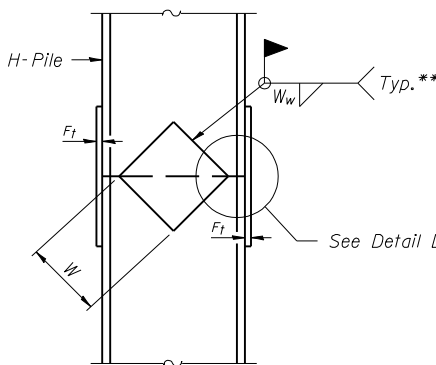


ELEVATION

COMPLETE PENETRATION WELD SPLICE

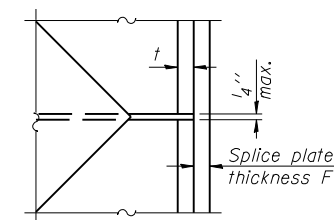


DETAIL C



ELEVATION

WELDED PLATE FIELD SPLICE



DETAIL D

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

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

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

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Checked By: MTH
Date: 04/07

Drawn By: AUF
File: 068-0507.DGN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL PILE DETAILS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507



Illinois Department
of Transportation
Date of Report
DOT 1509

SOIL BORING LOG

Page 1 of 3

ROUTE		DESCRIPTION		LOGGED BY	
FAP 42		IL 127 over Little Bearcat Creek		M. Tappan	
SECTION	LOCATION				
106B-2	NW 14, SEC. 12, TWP. 7N, RING. 4W, S. PM				
COUNTY	DRIILLING METHOD	BSA	HAMMER TYPE	140 lb Anvil	
Montgomery	088-0007 Fr				
STROUT. NO.	STATION	D	B	U	M
088-0004 Rk 128+00		E	L	C	O
		P	O	S	I
		T	W	S	S
		H	S	Q	T
BOHRING NO.	STATION	Groundwater Elev.:			
1 S. Abct. 128+81		∇ First Encounter			
		∇ Upon Completion			
		Washed R			
		∇ After 28 Days Hrs.			
Offset	Ground Surface Elev.	(ft)	(in)	(ft)	(in)
37.68 RT	559.9				
LI Brown & Grey Moist SILTY CLAY (SH)					
		0 1.3 14			
		1 5.1 13			
		2 6 13			
		3 1 13			
		4 4.9 13			
		5 10 13			
Dark Grey Wet Silty to Fine Sand Fine Water					
		1 1 13			
		2 4.9 13			
		3 10 13			
Dark Grey V. Moist LOAM with Medium Sand Some					
		1 1 13			
		2 6.3 20			
		3 10 13			
Dark Grey V. Moist SILTY CLAY with Loam Some					
		1 1 13			
		2 6.3 22			
		3 10 13			
with Woody Fibers					
		1 6.5 27			
		2 1 13			
		3 6.5 28			
		4 1 13			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Depts, S-Stress, P-Permeometer, S-Settlement)
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Seating
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1586, from 127 (Rev. 5-85))



Illinois Department
of Transportation
Date of Report
DOT 1509

SOIL BORING LOG

Page 2 of 3

ROUTE		DESCRIPTION		LOGGED BY	
FAP 42		IL 127 over Little Bearcat Creek		M. Tappan	
SECTION	LOCATION				
106B-2	NW 14, SEC. 12, TWP. 7N, RING. 4W, S. PM				
COUNTY	DRIILLING METHOD	BSA	HAMMER TYPE	140 lb Anvil	
Montgomery	088-0007 Fr				
STROUT. NO.	STATION	D	B	U	M
088-0004 Rk 128+00		E	L	C	O
		P	O	S	I
		T	W	S	S
		H	S	Q	T
BOHRING NO.	STATION	Groundwater Elev.:			
1 S. Abct. 128+81		∇ First Encounter			
		∇ Upon Completion			
		Washed R			
		∇ After 28 Days Hrs.			
Offset	Ground Surface Elev.	(ft)	(in)	(ft)	(in)
37.68 RT	559.9				
LI Brown and Grey Moist CLAY LOAM (SH) (continued)					
		1 1 13			
		2 4.9 13			
		3 10 13			
		4 1 13			
		5 4.9 13			
		6 10 13			
Grey Medium Dirty Sandy Gravel					
		1 4 13			
		2 13 28			
		3 15 28			
		4 15 48			
Grey Moist CLAY LOAM (SH) Defined Shift at 9'					
		1 8 14			
		2 11 14			
		3 11 14			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Depts, S-Stress, P-Permeometer, S-Settlement)
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Seating
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1586, from 127 (Rev. 5-85))



Illinois Department
of Transportation
Date of Report
DOT 1509

SOIL BORING LOG

Page 1 of 3

ROUTE		DESCRIPTION		LOGGED BY	
FAP 42		IL 127 over Little Bearcat Creek		M. Tappan	
SECTION	LOCATION				
106B-2	NW 14, SEC. 12, TWP. 7N, RING. 4W, S. PM				
COUNTY	DRIILLING METHOD	BSA	HAMMER TYPE	140 lb Anvil	
Montgomery	088-0007 Fr				
STROUT. NO.	STATION	D	B	U	M
088-0004 Rk 128+00		E	L	C	O
		P	O	S	I
		T	W	S	S
		H	S	Q	T
BOHRING NO.	STATION	Groundwater Elev.:			
3 N. Abct. 128+87		∇ First Encounter			
		∇ Upon Completion			
		Washed R			
		∇ After 7 Days Hrs.			
Offset	Ground Surface Elev.	(ft)	(in)	(ft)	(in)
45.08 LT	558.6				
Grey Moist Medium SANDY GRAVEL with Cl. Some					
		1 1 13			
		2 1 13			
		3 1 13			
		4 4 13			
		5 1.3 14			
		6 3 14			
Old Broken Concrete					
		1 2 13			
		2 1 13			
Grey Wet Sand Loam to Fine Sand					
		1 1 13			
		2 6.3 20			
		3 10 13			
Brown Fine to Medium SAND					
		1 1 13			
		2 1 13			
		3 1 13			
Brown Medium SANDY GRAVEL Washed					
		1 3 13			
		2 6 11 13			
		3 11 13			
Grey Washed					
		1 1 13			
		2 1 13			
		3 1 13			
Washed					
		1 1 13			
		2 7 4.9 13			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Depts, S-Stress, P-Permeometer, S-Settlement)
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Seating
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1586, from 127 (Rev. 5-85))



Illinois Department
of Transportation
Date of Report
DOT 1509

SOIL BORING LOG

Page 2 of 3

ROUTE		DESCRIPTION		LOGGED BY	
FAP 42		IL 127 over Little Bearcat Creek		M. Tappan	
SECTION	LOCATION				
106B-2	NW 14, SEC. 12, TWP. 7N, RING. 4W, S. PM				
COUNTY	DRIILLING METHOD	BSA	HAMMER TYPE	140 lb Anvil	
Montgomery	088-0007 Fr				
STROUT. NO.	STATION	D	B	U	M
088-0004 Rk 128+00		E	L	C	O
		P	O	S	I
		T	W	S	S
		H	S	Q	T
BOHRING NO.	STATION	Groundwater Elev.:			
3 N. Abct. 128+87		∇ First Encounter			
		∇ Upon Completion			
		Washed R			
		∇ After 7 Days Hrs.			
Offset	Ground Surface Elev.	(ft)	(in)	(ft)	(in)
45.08 LT	558.6				
Olive Brown Moist CLAY LOAM (SH) (continued)					
		1 8 14			
		2 4.1 13			
		3 9 13			
		4 10 13			
		5 1 13			
		6 5 13 15			
		7 7 15			
Grey Fossil Indurated Argillaceous LIMESTONE Interspersed with Dark Grey Moist Clayey Shale					
		1 48.00 200"			
Angular Natural					
		1 48.00 200"			
		2 13 8.4 14			
		3 13 8.4 14			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Depts, S-Stress, P-Permeometer, S-Settlement)
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Seating
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1586, from 127 (Rev. 5-85))

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-2)	Montgomery	61	33
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT -

SHEET NO. 15
15 SHEETS

Contract #72150

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E LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois
Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/07 File: 068-0507.DGN

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOIL BORINGS
ILLINOIS ROUTE 127 OVER
LITTLE BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-2)
MONTGOMERY COUNTY
STATION 115+99.00
STRUCTURE NO. 068-0507

Bench Mark: #10B - chiseled "□" on the S.W. wingwall of existing S.N. 068-0023. Elevation 564.12

Existing Structure:
S.N. 068-0023 built in 1928 as SBI Rte. 127, Section 106-B. Superstructure and substructure widened in 1959 as SBI Rte. 127, Section 106BY. Superstructure replaced in 1976 as FA Rte. 42, Section 106BR-2. Existing structure is a three span PPC deck beam bridge with closed abutments and solid wall piers. 136'-3" bk. to bk. abutments, 46'-0" out to out and a skew of 56°-30'. The Contractor shall remove and replace the existing structure. Staged Construction shall be utilized to maintain one lane of traffic during construction.

No Salvage

ROUTE NO. FAP 42 (IL 127)	SECTION 106 (B-1)	COUNTY Montgomery	SHEET 61	SHEET 34	SHEET NO. 1 20 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

Contract #72150

INDEX OF SHEETS

1. General Plan
2. General Notes & Details
3. Stage Construction Details
4. Deck Elevations-1
5. Deck Elevations-2
6. Approach Pavement Elevations
7. Superstructure
8. Superstructure Details
9. Preformed Joint Strip Seal
10. Framing Plan & Steel Details
11. Bearing Details
12. North Abutment
13. South Abutment
14. Pile Bent Abutment Details
15. Piers 1 & 2
16. Temporary Concrete Barrier
17. Bar Splicer Assembly Details
18. Steel Pile Details
19. Soil Borings-1
20. Soil Borings-2

LOADING HS20-44

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

DESIGN SPECIFICATIONS
2002 AASHTO

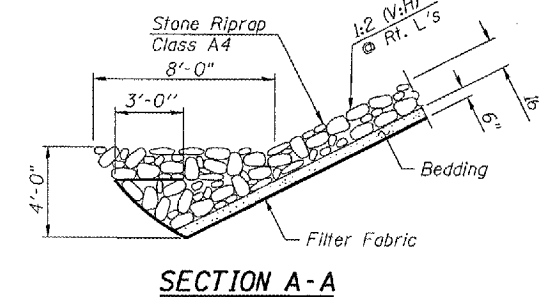
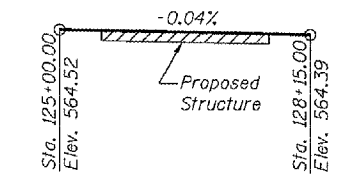
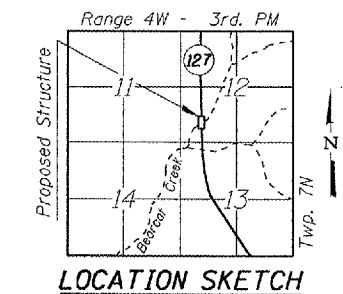
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel, M270 Gr. 50W)

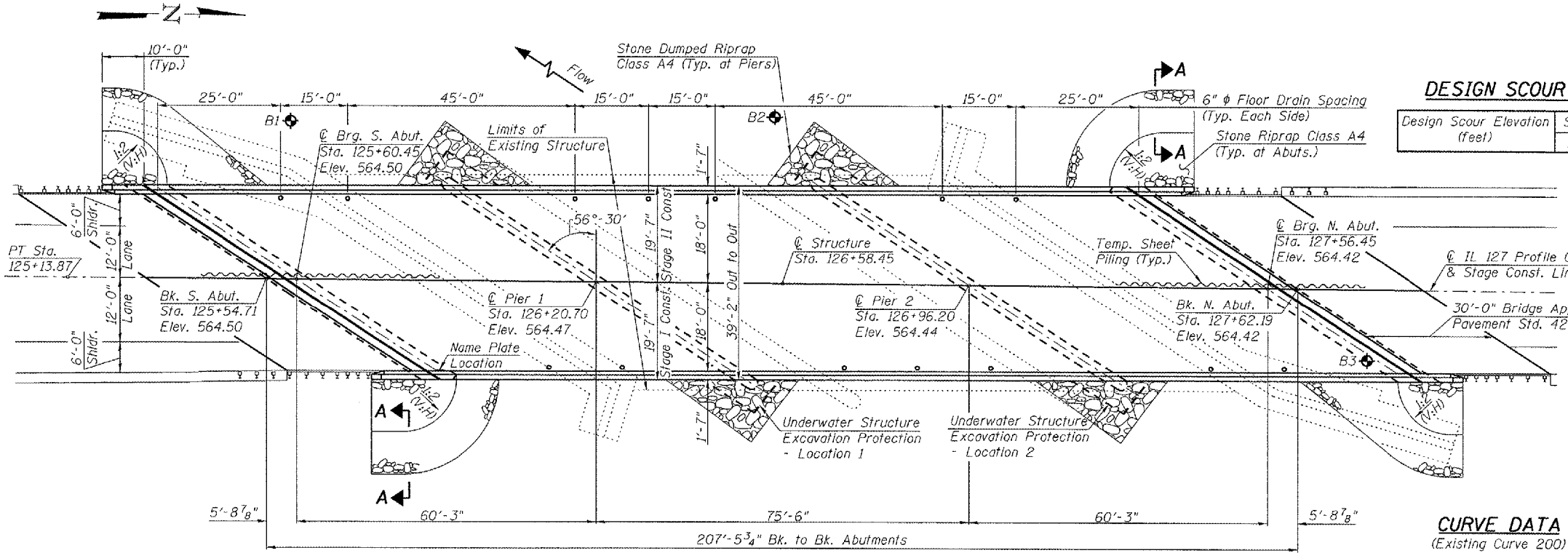
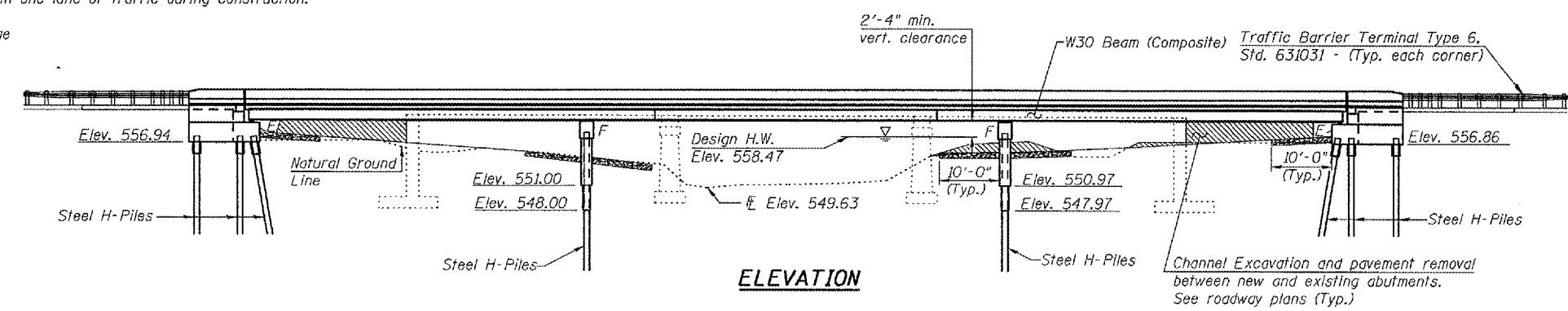
SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.075g
Site Coefficient (S) = 1.5



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	S. Abut.	Pier 1	Pier 2	N. Abut.
	556.94	551.00	550.97	556.86



PLAN

CURVE DATA
(Existing Curve 200)

$\Delta = 7^\circ 39' 05''$ Rt.
 $D = 0^\circ 44' 31''$
 $T = 516.44'$
 $L = 1,031.35'$
 $E = 17.25'$
 $R = 7,722.91'$
 $S.E. = 0.025''$
P.C. = Sta. 114+82.52
P.T. = Sta. 125+13.87
P.I. = Sta. 119+98.96
SE Attained - Match Existing
SE Removed Sta. 124+24.53 to Sta. 125+27.53

WATERWAY INFORMATION

Drainage Area = 7.74 mi ²		Exist. Low Grade Elev. 564.25 @ Sta. 129+00					
Flood Yr.	Q	Opening Sq. Ft.		Head - Ft.		Headwater El.	
		Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist. Prop.
10	1637	284	396	557.78	0.86	0.86	558.64 558.64
Design	50	2536	327	463	558.47	0.37	0.22 558.84 558.69
Base	100	2920	342	486	558.71	0.41	0.19 559.12 558.90
Overlapping							
Max. Calc.	500	3841	375	539	559.25	0.65	0.36 559.90 559.61

10 Year Velocity through Exist. Bridge = 3.26 fps 10 Year Velocity through Prop. Bridge = 2.95 fps

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph W. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

Michael J. Haley 8-9-07
Date

Michael T. Haley
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2008



LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL PLAN
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

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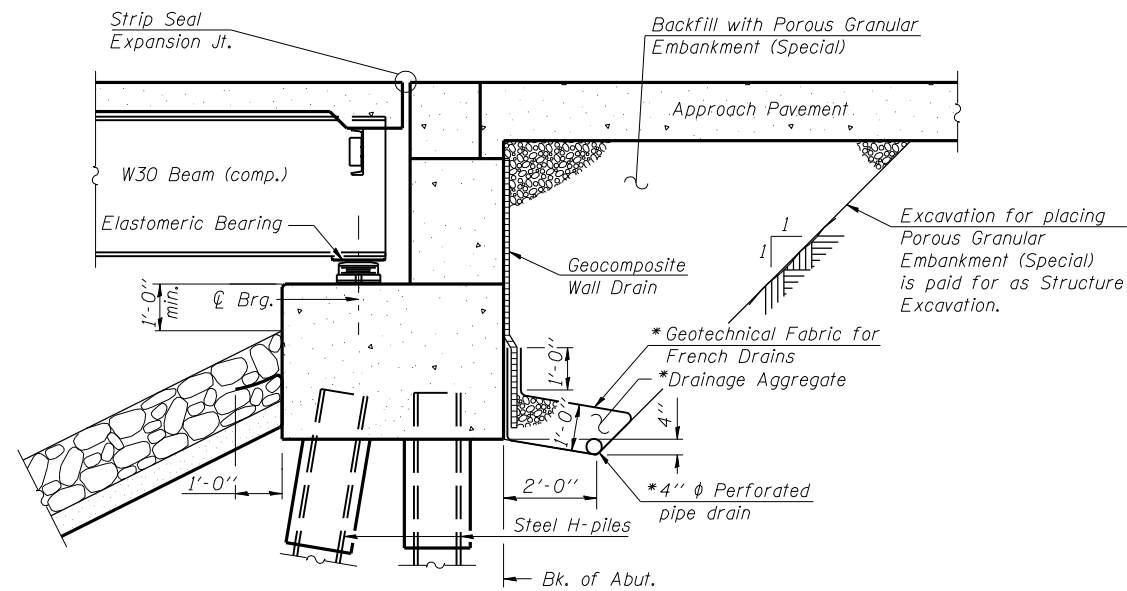
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-1)	Montgomery	61	35
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 2
20 SHEETS

Contract #72150

GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 179,670 lbs. (AASHTO M270, Grade 50W)
- All structural steel shall be AASHTO M 270 Grade 50W except expansion joints which shall be AASHTO M 270 Grade 36.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to all exposed surface areas of the Abutments.
- Structural steel shall only be painted for a distance of 8 ft. from the deck joints. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- All exposed structural steel of the Elastomeric bearings shall be cleaned and shop painted as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
- The Contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.



SECTION THRU PILE SUPPORTED STUB ABUTMENT

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

* Included in the cost of Pipe Underdrains for Structures.

Note:

All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 60110).

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.	-	163	163
Stone Riprap Class A4	Sq. Yd.	-	345	345
Stone Dumped Riprap Class A4	Sq. Yd.	-	407	407
Filter Fabric	Sq. Yd.	-	751	751
Removal of Existing Structures #1	Each	-	1	1
Structure Excavation	Cu. Yd.	-	578	578
Floor Drains	Each	14	-	14
Concrete Structures	Cu. Yd.	-	239.1	239.1
Concrete Superstructure	Cu. Yd.	264.6	-	264.6
**Bridge Deck Grooving	Sq. Yd.	984	-	984
Concrete Encasement	Cu. Yd.	-	17.5	17.5
**Protective Coat	Sq. Yd.	1233	-	1233
Furnishing and Erecting Structural Steel	Lump Sum	0.7	-	0.7
Stud Shear Connectors	Each	3546	-	3546
Reinforcement Bars, Epoxy coated	Pound	57300	20300	77600
Bar Splicers	Each	618	84	702
Furnishing Steel Piles HPI0x42	Foot	-	1414	1414
Furnishing Steel Piles HPI2x53	Foot	-	1224	1224
Driving Piles	Foot	-	2638	2638
Test Pile Steel HPI0x42	Each	-	2	2
Test Pile Steel HPI2x53	Each	-	2	2
Temporary Sheet Piling	Sq. Ft.	-	2614	2614
Name Plates	Each	1	-	1
Preformed Joint Strip Seal	Foot	134	-	134
Elastomeric Bearing Assembly Type II	Each	-	12	12
Anchor Bolts, 1"	Each	-	48	48
Concrete Sealer	Sq. Ft.	-	828	828
Geocomposite Wall Drain	Sq. Yd.	-	111	111
Pipe Underdrains for Structures 4"	Foot	-	142	142
Underwater Structure Excavation Protection - Location 1	Each	-	1	1
Underwater Structure Excavation Protection - Location 2	Each	-	1	1
Asbestos Bearing Pad Removal	Each	90	-	90

** Quantity Includes Approach Pavement

STATION 126+58.45
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 42 SEC. 106(B-1)
LOADING HS20
STR. NO. 068-0506

NAME PLATE

See Std. 515001

ILLINOIS DEPARTMENT OF TRANSPORTATION
GENERAL NOTES & DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

E LIN ENGINEERING, LTD.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Date: 04/2007

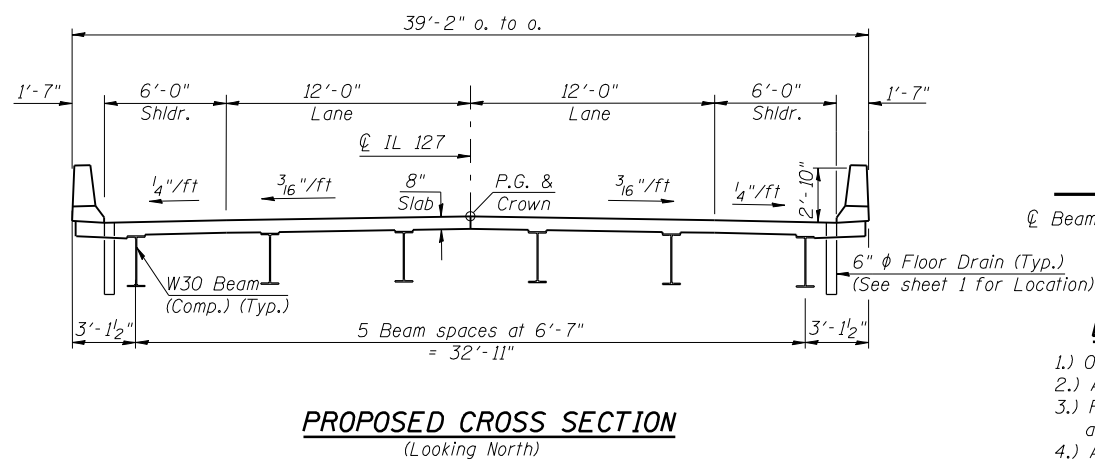
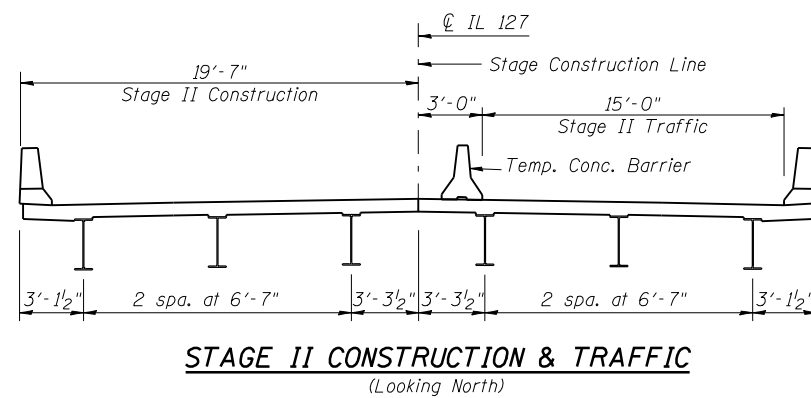
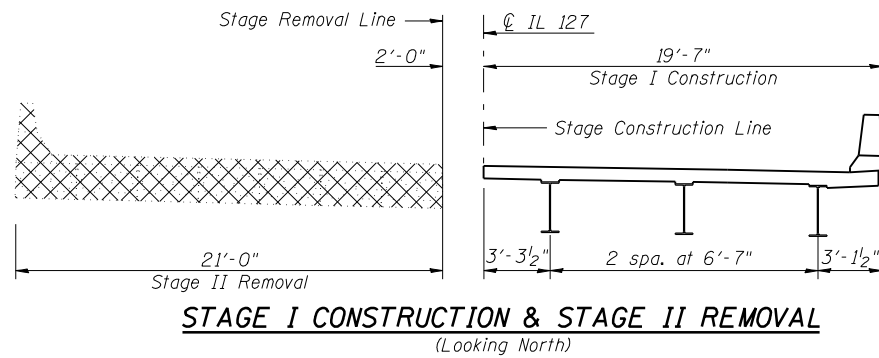
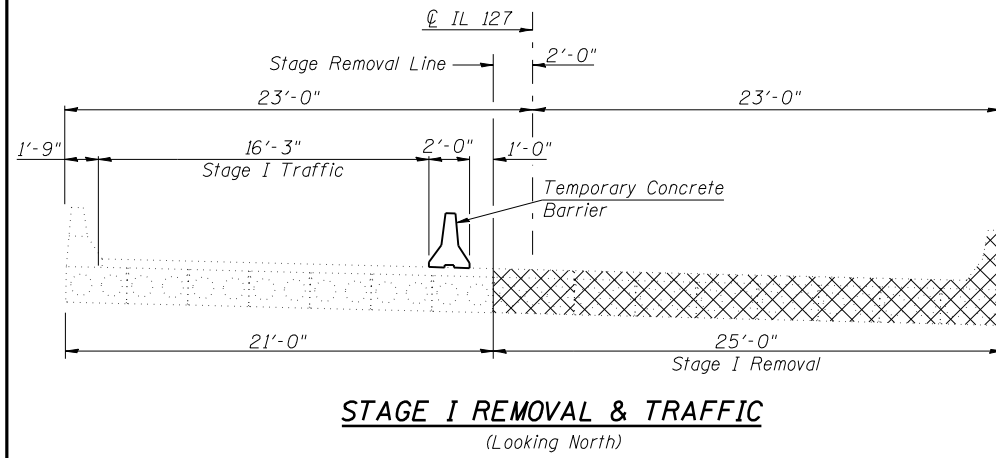
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Drawn By: AJP

REVISIONS	
NAME	DATE

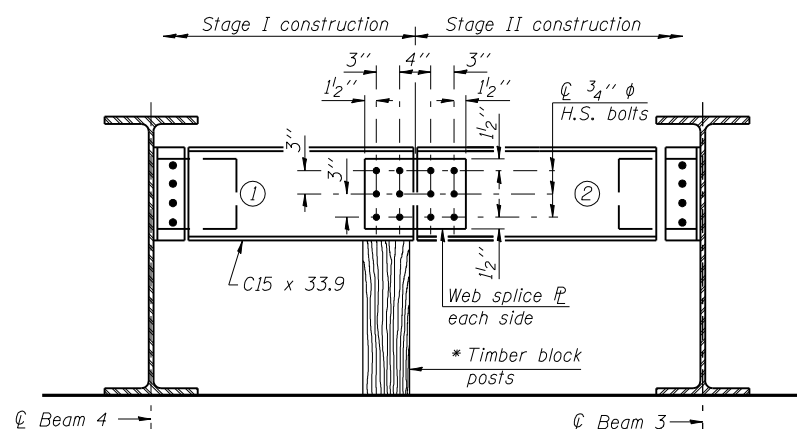
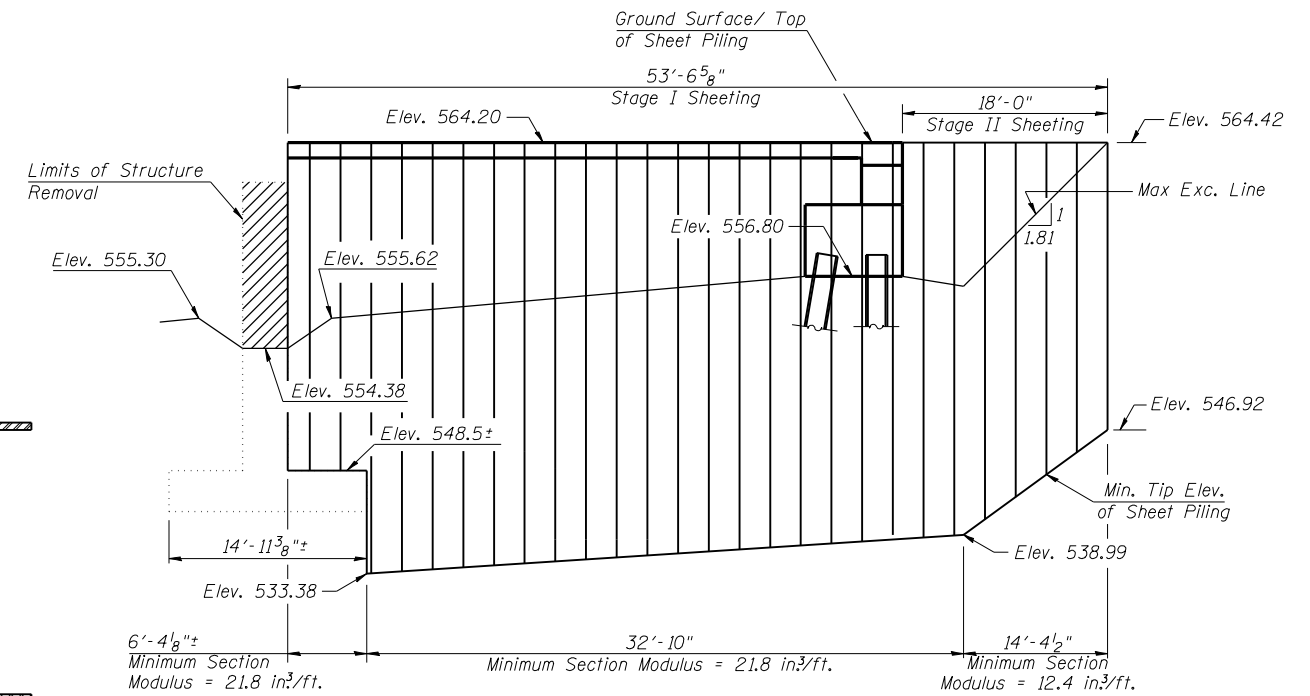
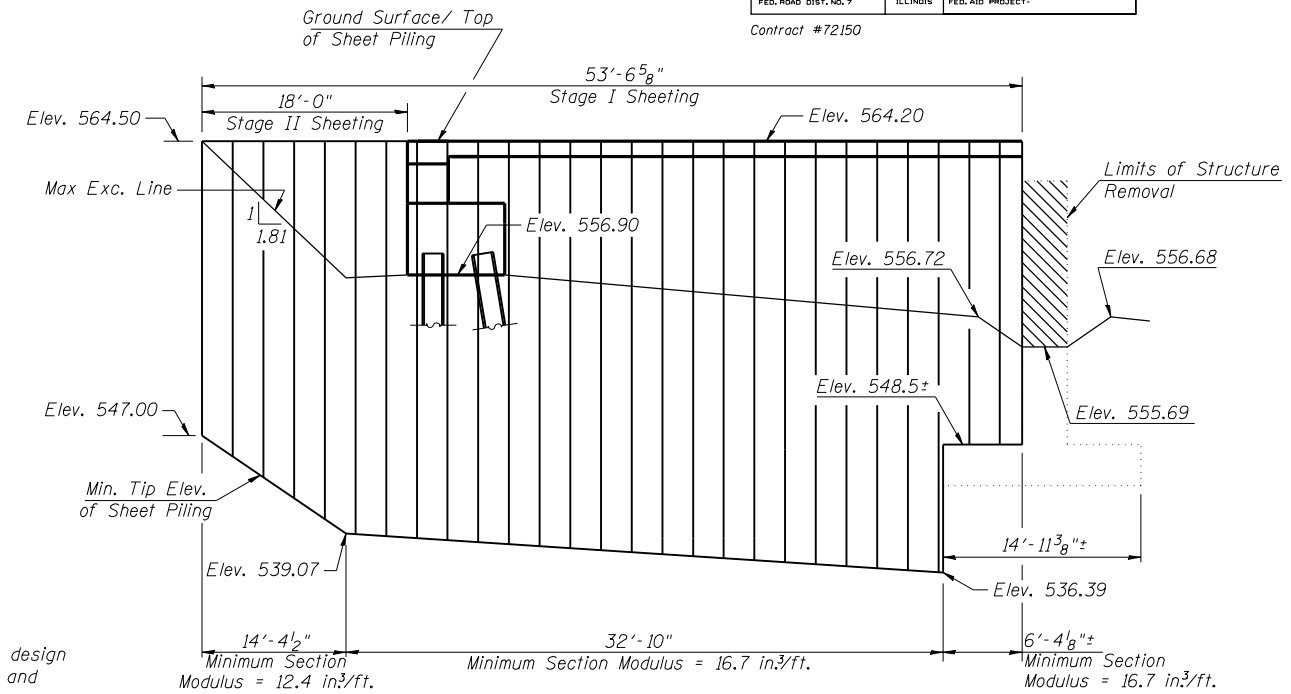
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- Notes:
1. Cross Hatched areas indicate removal of existing structure.
 2. Location of Stage Removal & Construction lines is also applicable to existing abutments.
 3. See roadway plans for quantity of Temporary Concrete Barrier.
 4. See sheet 16 of 20 for details of Temporary Concrete Barrier.

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



END DIAPHRAGM STAGE CONST. SEQUENCE

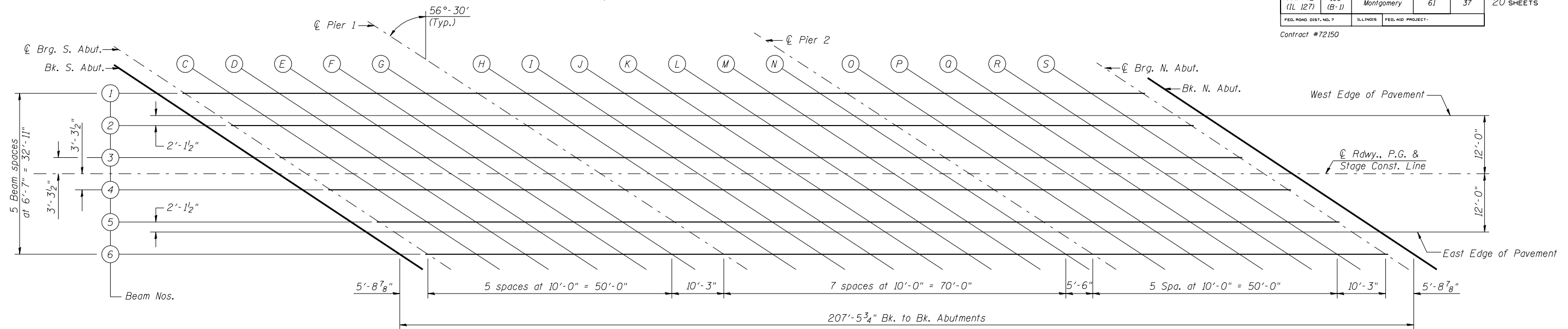
- 1.) Order diaphragm in two sections.
- 2.) Attach section ① of diaphragm to Beam 4.
- 3.) Place Timber Block Posts between section ① of diaphragm and abutment bearing section.
- 4.) Attach section ② of diaphragm to both Beam 3 and section ① of diaphragm during Stage II Construction with splice plates.
- 5.) Remove Timber Block Posts.

* Cost of Timber Block Posts is included with Structural Steel.

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
STAGE CONSTRUCTION DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506



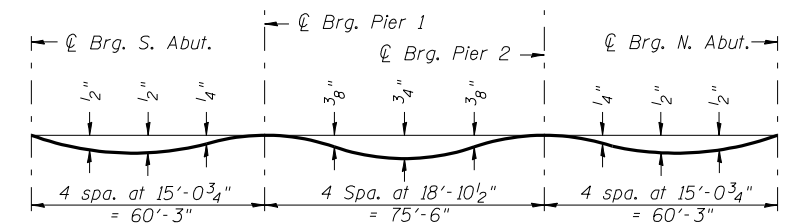
PLAN

BEAM 1

Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	125+29.84	-16.46	564.23	564.23
☉ Brg. S. Abut.	125+35.58	-16.46	564.23	564.23
C	125+45.58	-16.46	564.22	564.25
D	125+55.58	-16.46	564.22	564.26
E	125+65.58	-16.46	564.21	564.26
F	125+75.58	-16.46	564.21	564.24
G	125+85.58	-16.46	564.21	564.22
☉ Pier 1	125+95.83	-16.46	564.20	564.20
H	126+05.83	-16.46	564.20	564.21
I	126+15.83	-16.46	564.19	564.23
J	126+25.83	-16.46	564.19	564.24
K	126+35.83	-16.46	564.19	564.25
L	126+45.83	-16.46	564.18	564.23
M	126+55.83	-16.46	564.18	564.20
N	126+65.83	-16.46	564.17	564.18
☉ Pier 2	126+71.33	-16.46	564.17	564.17
O	126+81.33	-16.46	564.17	564.18
P	126+91.33	-16.46	564.16	564.19
Q	127+01.33	-16.46	564.16	564.20
R	127+11.33	-16.46	564.16	564.20
S	127+21.33	-16.46	564.15	564.18
☉ Brg. N. Abut.	127+31.58	-16.46	564.15	564.15
Bk. N. Abut.	127+37.32	-16.46	564.14	564.14

WEST EDGE OF PAVEMENT

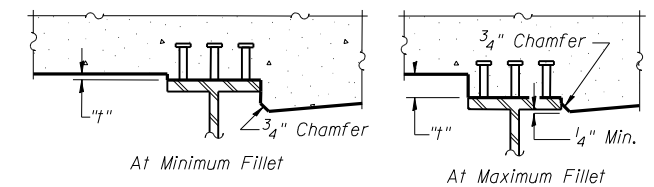
Location	Station	Offset (ft)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. S. Abut.	125+36.58	-12.00	564.32	564.32
☉ Brg. S. Abut.	125+42.32	-12.00	564.32	564.32
C	125+52.32	-12.00	564.31	564.34
D	125+62.32	-12.00	564.31	564.35
E	125+72.32	-12.00	564.30	564.35
F	125+82.32	-12.00	564.30	564.33
G	125+92.32	-12.00	564.30	564.31
☉ Pier 1	126+02.57	-12.00	564.29	564.29
H	126+12.57	-12.00	564.29	564.30
I	126+22.57	-12.00	564.28	564.32
J	126+32.57	-12.00	564.28	564.33
K	126+42.57	-12.00	564.28	564.34
L	126+52.57	-12.00	564.27	564.32
M	126+62.57	-12.00	564.27	564.29
N	126+72.57	-12.00	564.26	564.27
☉ Pier 2	126+78.07	-12.00	564.26	564.26
O	126+88.07	-12.00	564.26	564.27
P	126+98.07	-12.00	564.25	564.28
Q	127+08.07	-12.00	564.25	564.29
R	127+18.07	-12.00	564.25	564.29
S	127+28.07	-12.00	564.24	564.27
☉ Brg. N. Abut.	127+38.32	-12.00	564.24	564.24
Bk. N. Abut.	127+44.06	-12.00	564.23	564.24



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on this sheet and on sheet 5 of 20.



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

FILLET HEIGHTS

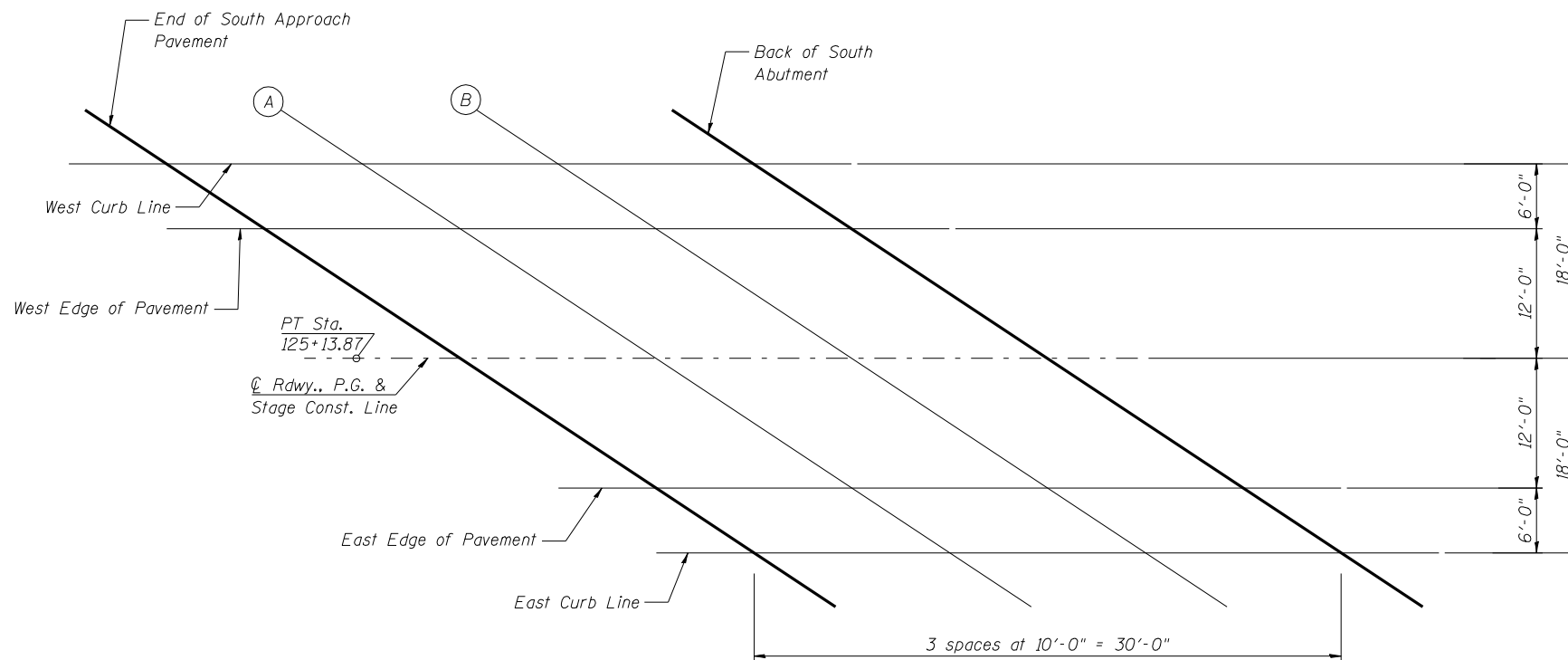
ILLINOIS DEPARTMENT OF TRANSPORTATION
DECK ELEVATIONS-1
 ILLINOIS ROUTE 127 OVER
 BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-1)
 MONTGOMERY COUNTY
 STA. 126+58.45
 STRUCTURE NO. 068-0506

REVISIONS

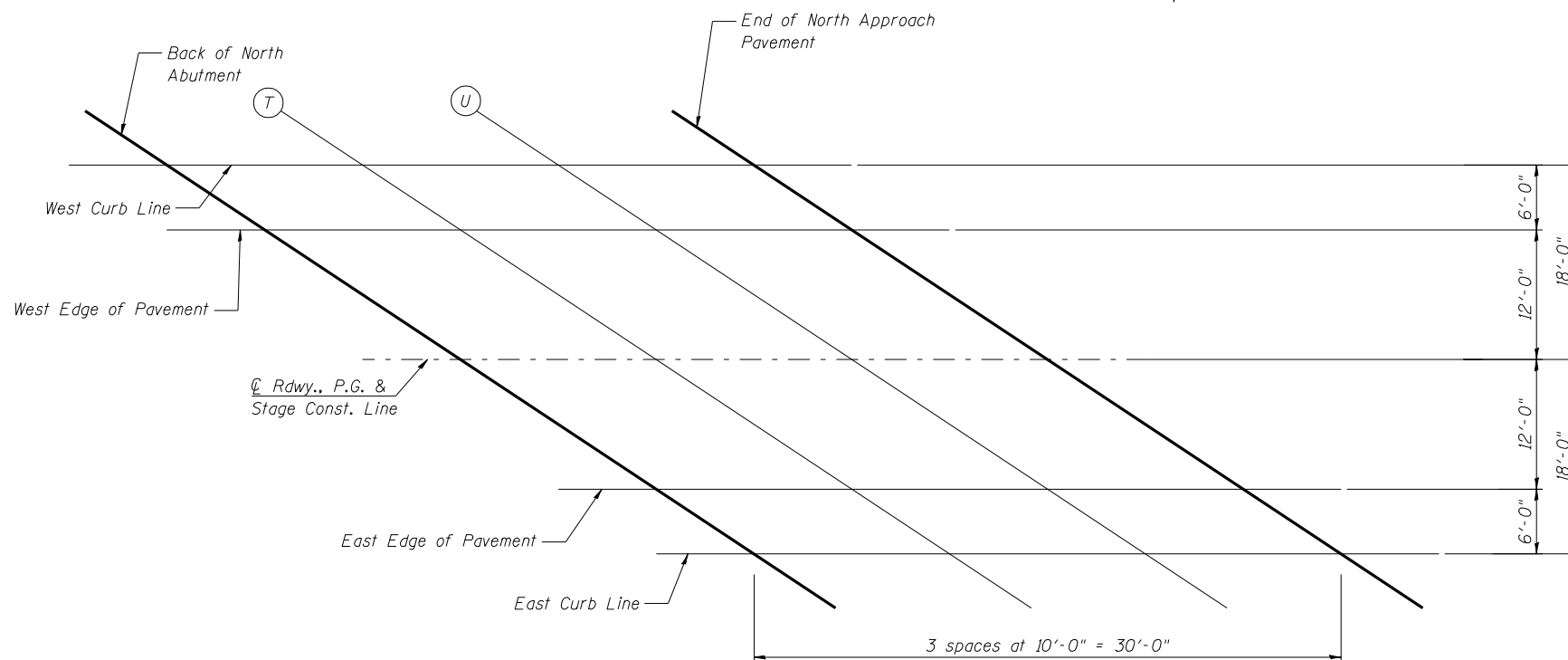
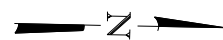
NAME	DATE

Lin Engineering, Ltd.
 Consulting Engineers
 Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
 Date: 04/2007 File: 068-0506.DGN



PLAN-SOUTH APPROACH



PLAN-NORTH APPROACH

WEST CURB LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	124+97.55*	-18.02*	564.43
A	125+07.53*	-18.00*	564.35
B	125+17.52	-18.00	564.28
Bk. S. Abut.	125+27.52	-18.00	564.20
Bk. N. Abut.	127+34.99	-18.00	564.11
T	127+44.99	-18.00	564.11
U	127+54.99	-18.00	564.11
End N. Appr. Pav't	127+64.99	-18.00	564.10

WEST EDGE OF PAVEMENT

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	125+06.59*	-12.00*	564.43
A	125+16.58	-12.00	564.38
B	125+26.58	-12.00	564.33
Bk. S. Abut.	125+36.58	-12.00	564.32
Bk. N. Abut.	127+44.06	-12.00	564.23
T	127+54.06	-12.00	564.23
U	127+64.06	-12.00	564.23
End N. Appr. Pav't	127+74.06	-12.00	564.22

RDWY., P.G. & STAGE CONST. LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	125+24.71	0.00	564.51
A	125+34.71	0.00	564.51
B	125+44.71	0.00	564.50
Bk. S. Abut.	125+54.71	0.00	564.50
Bk. N. Abut.	127+62.19	0.00	564.42
T	127+72.19	0.00	564.41
U	127+82.19	0.00	564.41
End N. Appr. Pav't	127+92.19	0.00	564.40

EAST EDGE OF PAVEMENT

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	125+42.84	12.00	564.32
A	125+52.84	12.00	564.31
B	125+62.84	12.00	564.31
Bk. S. Abut.	125+72.84	12.00	564.30
Bk. N. Abut.	127+80.32	12.00	564.22
T	127+90.32	12.00	564.22
U	128+00.32	12.00	564.21
End N. Appr. Pav't	128+10.32	12.00	564.21

EAST CURB LINE

Location	Station	Offset (ft)	Theoretical Grade Elevations
End S. Appr. Pav't.	125+51.91	18.00	564.19
A	125+61.91	18.00	564.18
B	125+71.91	18.00	564.18
Bk. S. Abut.	125+81.91	18.00	564.17
Bk. N. Abut.	127+89.38	18.00	564.09
T	127+99.38	18.00	564.09
U	128+09.38	18.00	564.08
End N. Appr. Pav't	128+19.39	18.00	564.08

*Measured radially from R roadway.

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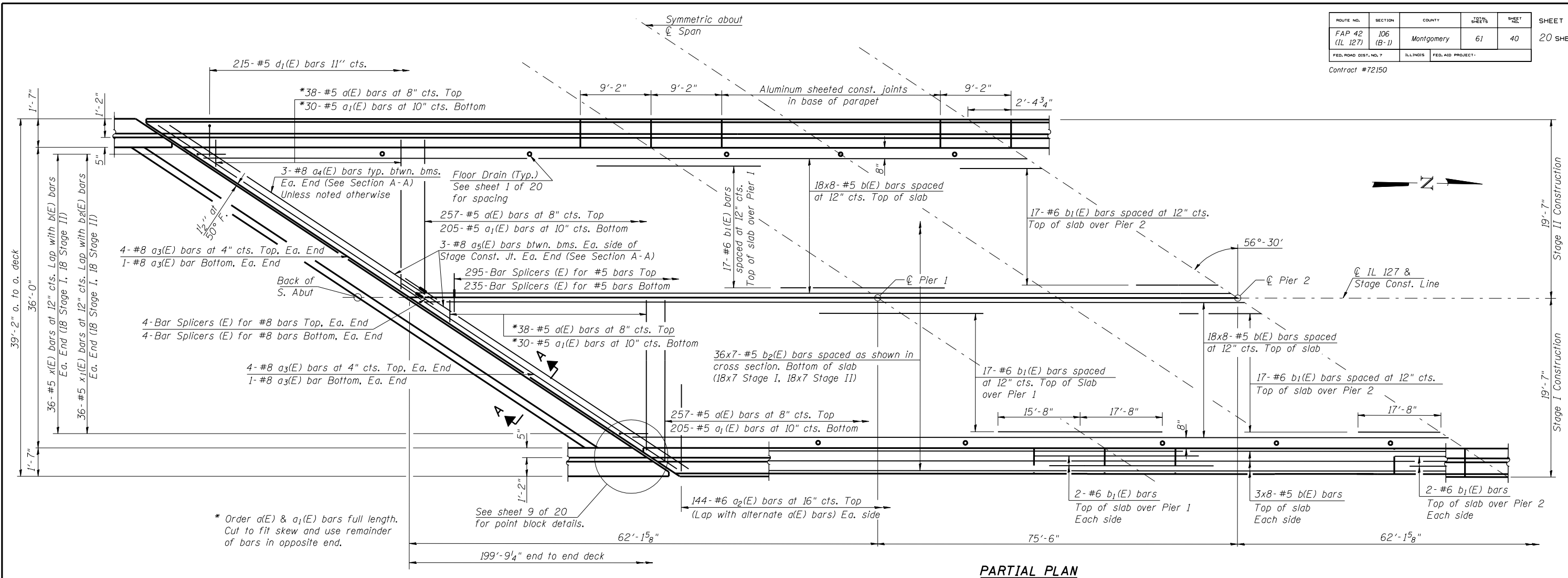
Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/2007 File: 068-0506.DGN

REVISIONS	
NAME	DATE

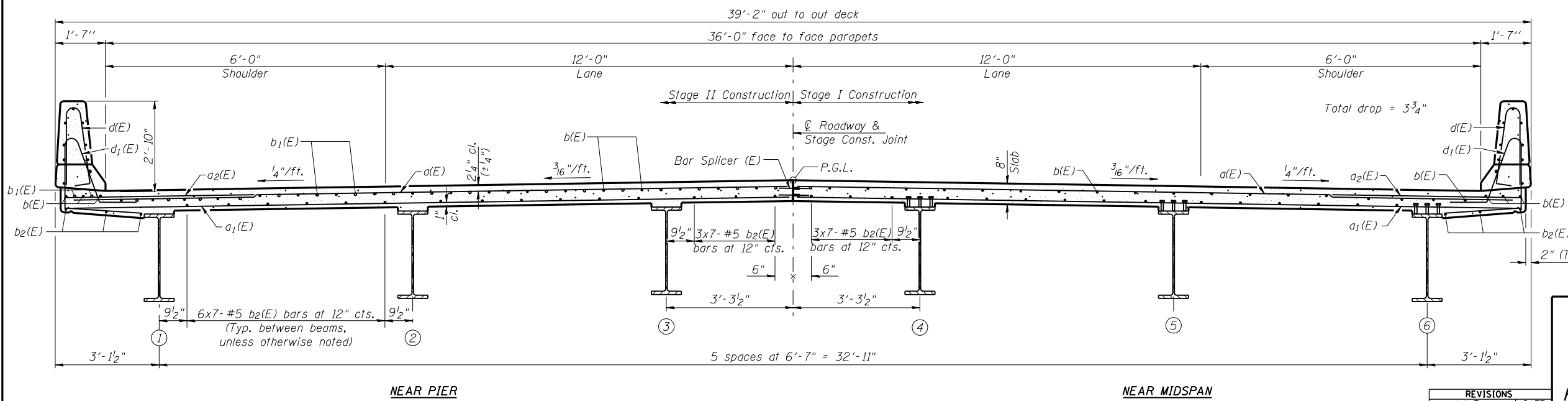
ILLINOIS DEPARTMENT OF TRANSPORTATION
APPROACH PAVEMENT ELEVATIONS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

Contract #72150



PARTIAL PLAN

Notes:
 The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
 See sheets 8 of 20 for superstructure details and Bill of Material.
 Bars indicated thus 36x7- #5 etc. indicates 36 lines of bars with 7 lengths per line.
 See sheet 8 of 20 for parapet reinforcement.
 See sheet 8 of 20 for Section A-A.
 See sheet 17 of 20 for Bar Splicer Details.



CROSS SECTION
(Looking North)

MIN. BAR LAP
#5 bar = 1'-8"

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE
 ILLINOIS ROUTE 127 OVER
 BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-1)
 MONTGOMERY COUNTY
 STA. 126+58.45
 STRUCTURE NO. 068-0506

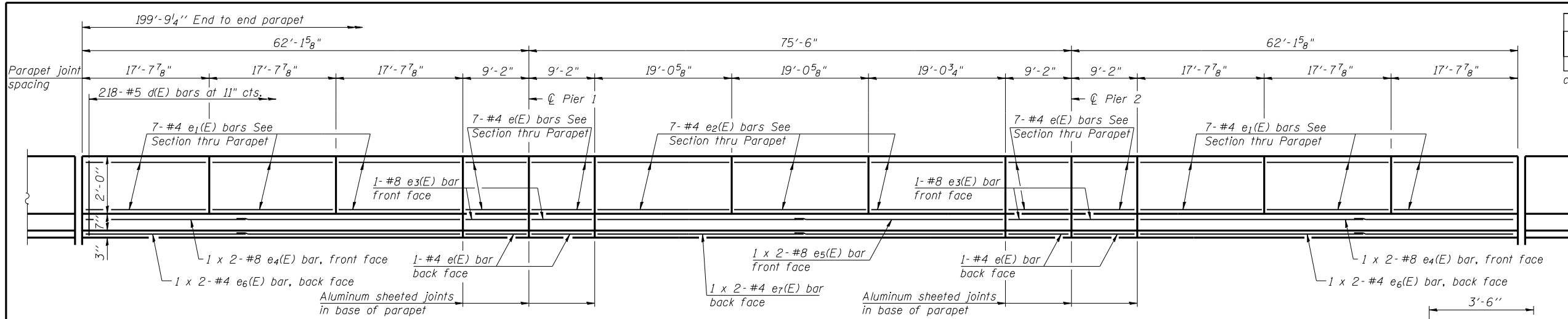
REVISIONS

NAME	DATE

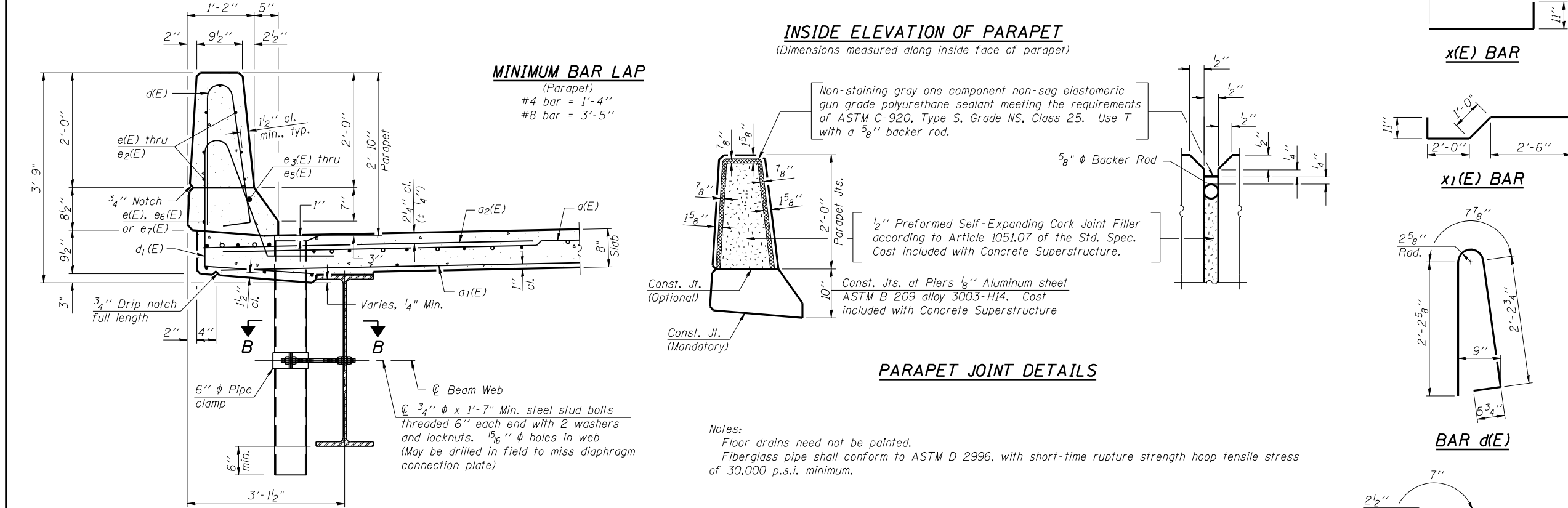
Lin Engineering, Ltd.
 Consulting Engineers
 Chatham, Illinois

Designed By: RKM
 Checked By: MTH
 Dates: 04/2007
 File: 068-0506.DGN
 Drawn By: AUF

Aug-16-2007 11:22:05AM 1:22:05 AM \$FILEABBREV\$



INSIDE ELEVATION OF PARAPET
(Dimensions measured along inside face of parapet)



SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	590	#5	19'-0"	—
a1(E)	470	#5	18'-4"	—
a2(E)	288	#6	6'-0"	—
a3(E)	20	#8	34'-6"	—
a4(E)	24	#8	13'-6"	—
a5(E)	12	#8	6'-7"	—
b(E)	336	#5	26'-5"	—
b1(E)	76	#6	33'-4"	—
b2(E)	252	#5	30'-0"	—
d(E)	436	#5	5'-7"	—
d1(E)	430	#5	8'-0"	—
e(E)	64	#4	8'-10"	—
e1(E)	84	#4	17'-4"	—
e2(E)	42	#4	18'-9"	—
e3(E)	8	#8	8'-10"	—
e4(E)	8	#8	28'-1"	—
e5(E)	4	#8	30'-2"	—
e6(E)	8	#4	27'-0"	—
e7(E)	4	#4	29'-2"	—
x(E)	72	#5	4'-5"	—
x1(E)	72	#5	6'-5"	—
Reinforcement Bars, Epoxy Coated		Pound	57300	
Concrete Superstructure		Cu. Yds.	264.6	
Floor Drains		Each	14	

Bars indicated thus 1 x 2-#4 etc. indicates 1 line of bars with 2 lengths per line.

x(E) BAR

x1(E) BAR

BAR d(E)

BAR d1(E)

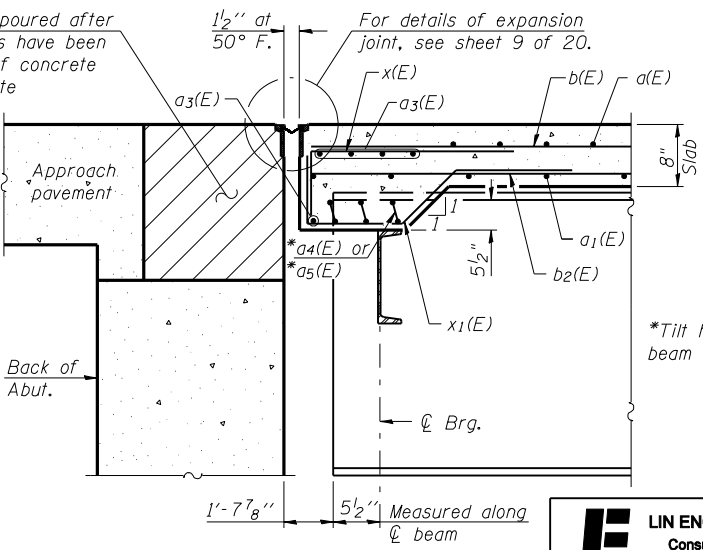
a4(E) BAR

a5(E) BAR

PARAPET JOINT DETAILS

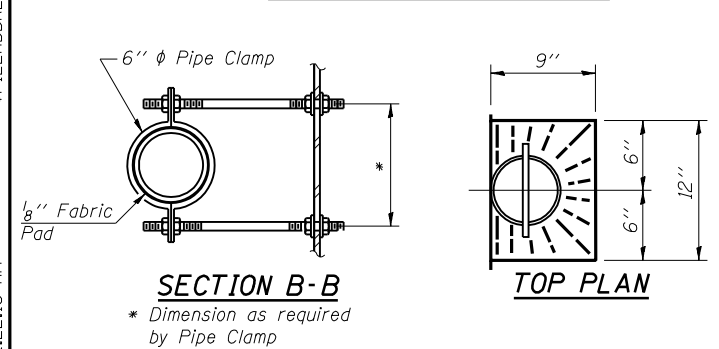
Notes:
Floor drains need not be painted.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
For details of expansion joint, see sheet 9 of 20.



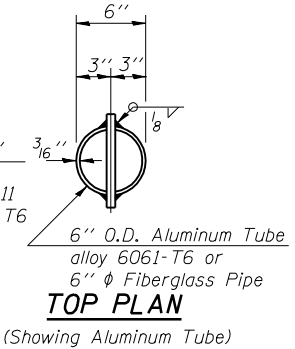
SECTION A-A

SECTION THRU PARAPET



FIBERGLASS PIPE

ALUMINUM TUBE



REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AJP
Date: 04/2007 File: 068-0506.DGN

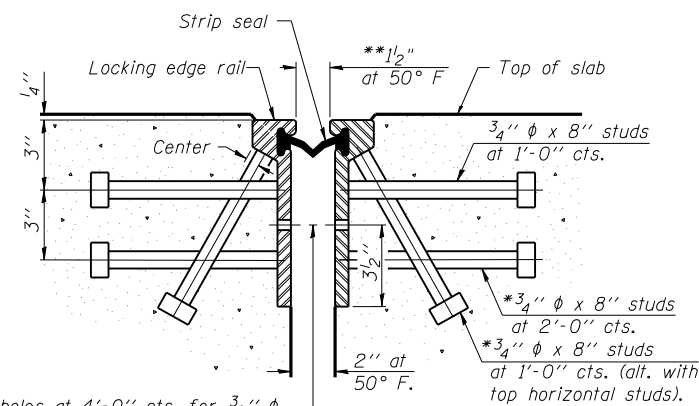
ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERSTRUCTURE DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-1)	Montgomery	61	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
20 SHEETS

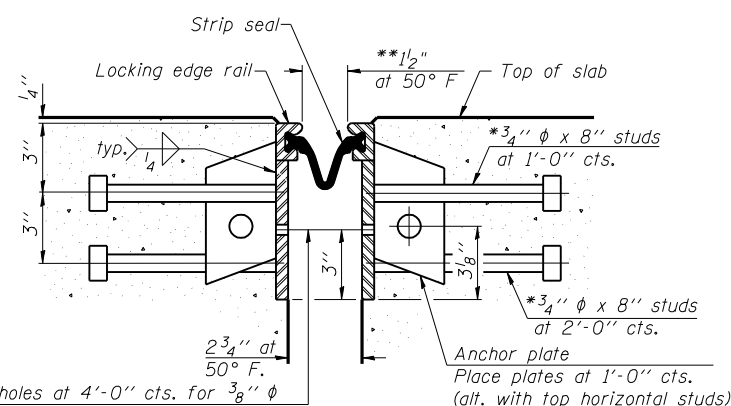
Contract #72150

*Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.
**When joint is fixed, dimension is set at 1 1/2".



7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

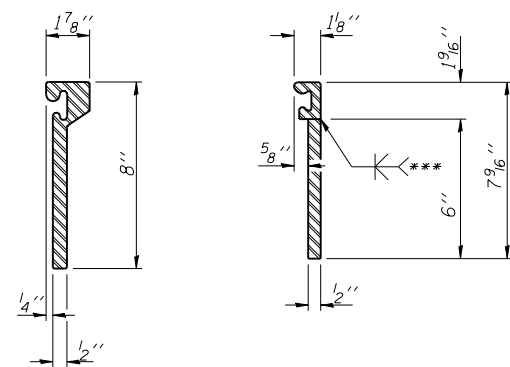


7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

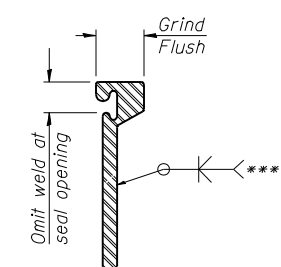
SECTION THRU WELDED RAIL JOINT

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.



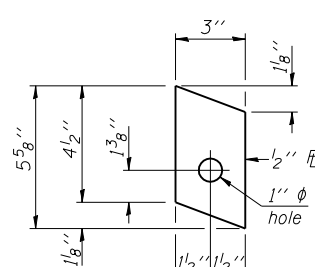
ROLLED (EXTRUDED) RAIL WELDED RAIL



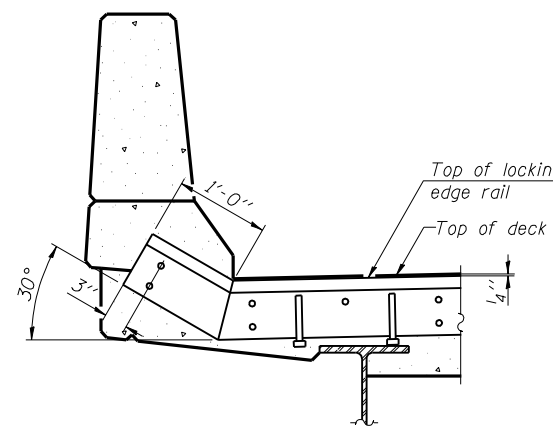
***Back gauge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

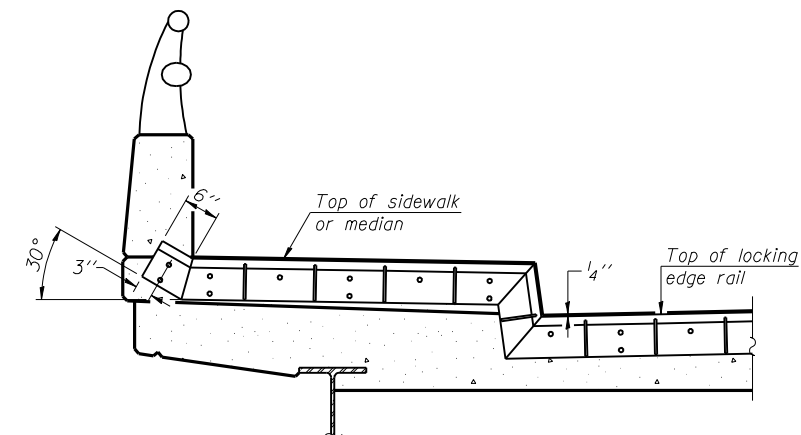
The inside of the locking edge rail groove shall be free of weld residue.



ANCHOR PLATE (for welded rail)



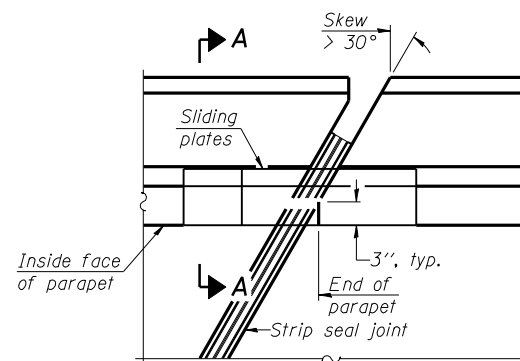
AT PARAPET



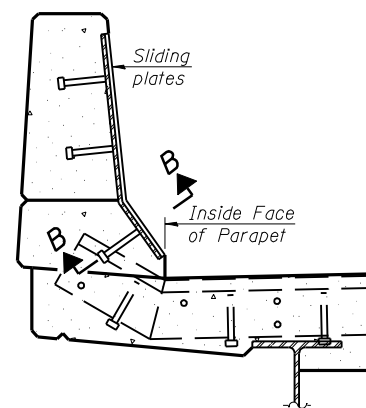
AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

LOCKING EDGE RAILS



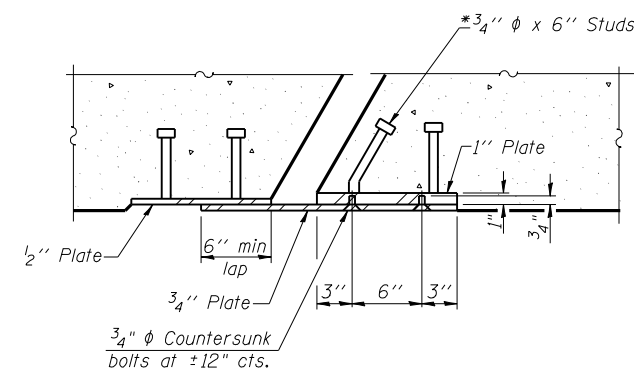
PLAN



SECTION A-A

POINT BLOCK DETAILS (for skews > 30°)

TYPICAL END TREATMENTS



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	134

ILLINOIS DEPARTMENT OF TRANSPORTATION
PREFORMED JOINT STRIP SEAL
ILLINOIS ROUTE 127 OVER BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

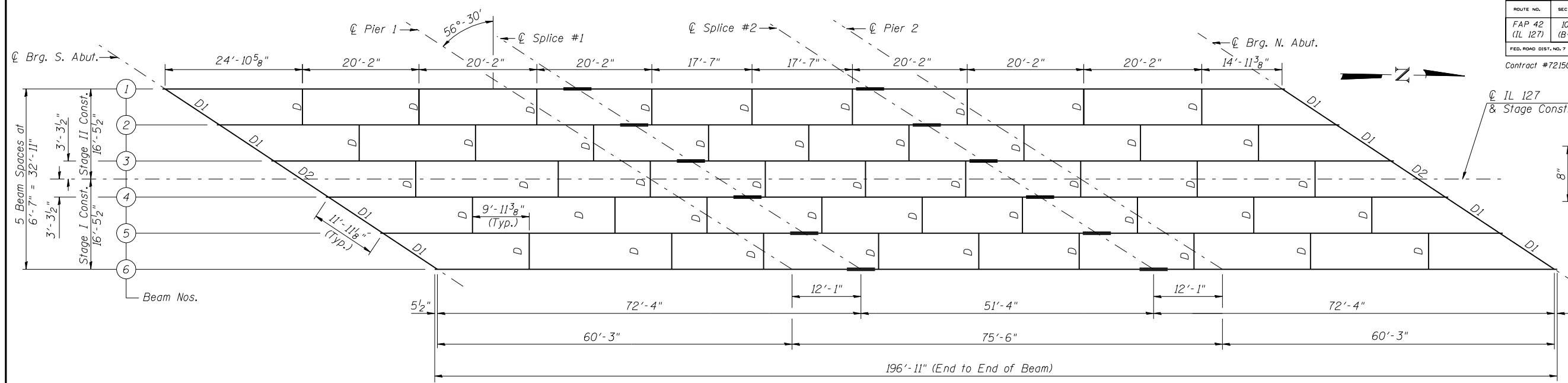
Designed By: RKM
Checked By: MTH
Date: 04/2007

Drawn By: AJP
File: 068-0506.DGN

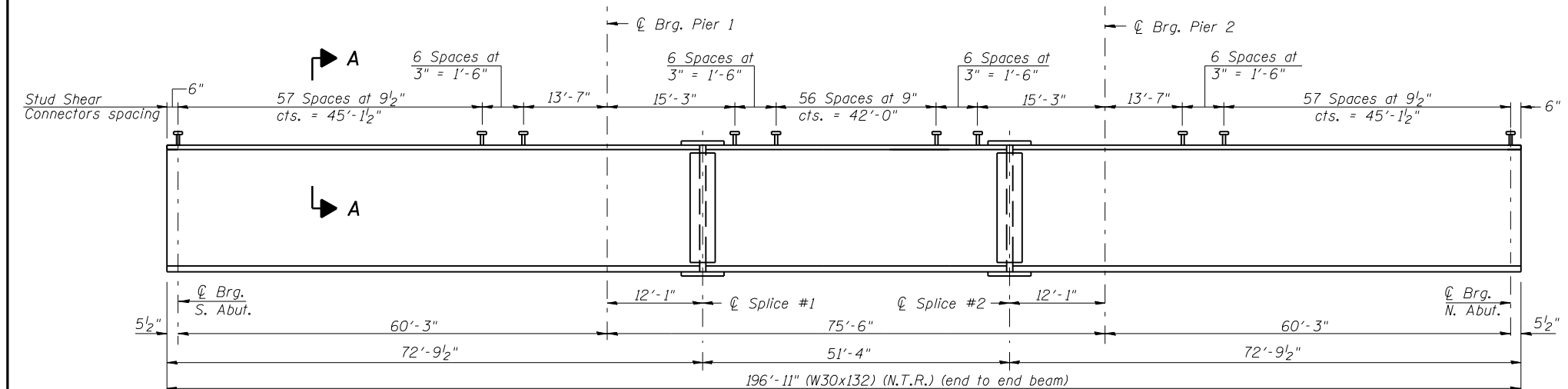
Sep-13-2007 09:05:40 AM \$FILEABBREV\$ EJ-SSJ 9-3-07

Contract #72150

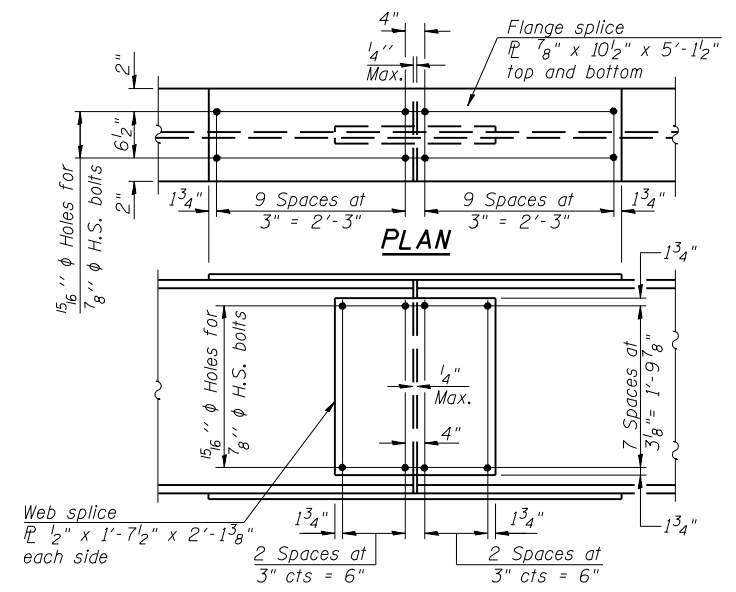
3/4" φ Granular or solid Flux filled headed studs, automatically end welded to flange. (3546 Required)



FRAMING PLAN



BEAM ELEVATION



ELEVATION SPLICE DETAIL
(12 Required)

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

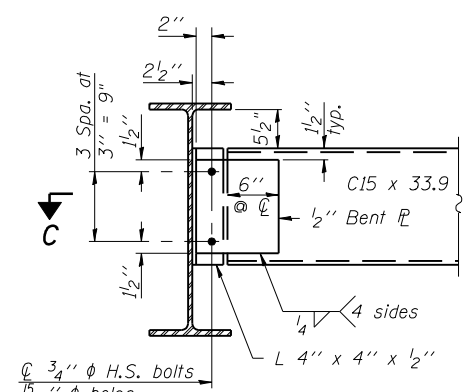
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
⊕ Brg. S. Abut.	563.52	563.64	563.74	563.73	563.63	563.50
⊕ Brg. Pier 1	563.45	563.57	563.67	563.67	563.56	563.43
⊕ Splice #1	563.44	563.56	563.66	563.65	563.55	563.42
⊕ Splice #2	563.42	563.54	563.64	563.63	563.53	563.40
⊕ Brg. Pier 2	563.42	563.54	563.64	563.64	563.53	563.40
⊕ Brg. N. Abut.	563.44	563.56	563.66	563.66	563.55	563.42

NOTES:

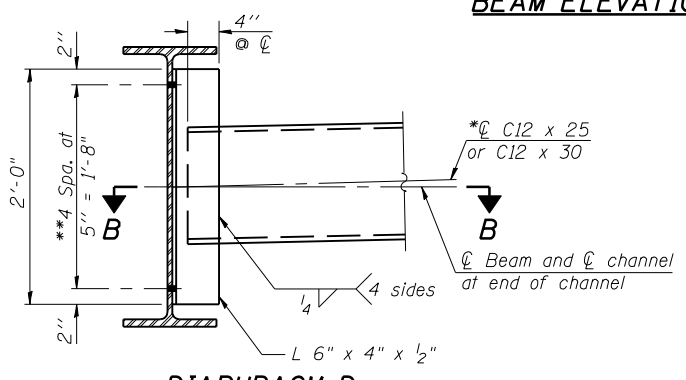
1. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
2. All splice plates shall be AASHTO M270 Grade 50W (N.T.R.).
3. All diaphragms between beams shall be installed as steel is erected with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
4. See sheet 3 of 20 for details of End Diaphragm D2.

Note:
Two hardened washers required for each set of oversized holes.

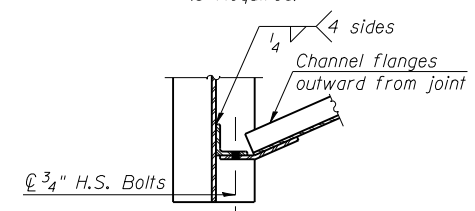
* Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
** 3/4" φ H.S. bolts, 1 5/16" φ holes. For diaphragms at stage construction provide 1 3/16" x 1 7/8" vertical slotted holes at east side of beam 3 in angle and for west side of beam 4 provide oversize holes in angle and beam. Bolts in slotted holes shall be finger tightened prior to the deck slab pouring and then fully tightened after completion of the pour.



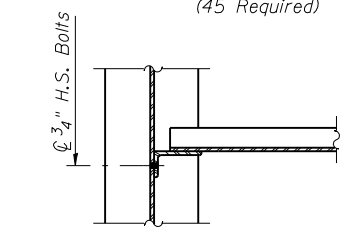
DIAPHRAGM D1
(8 Required)



DIAPHRAGM D
(45 Required)



SECTION C-C



SECTION B-B

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

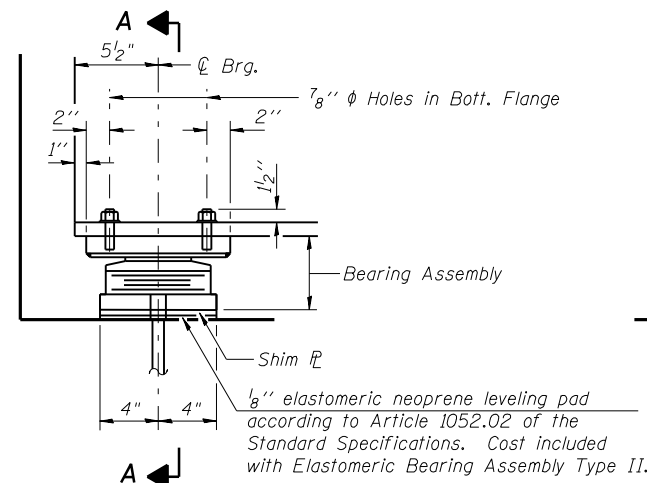
Designed By: RKM
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Date: 04/2007

Drawn By: AUF
File: 068-0506.DGN

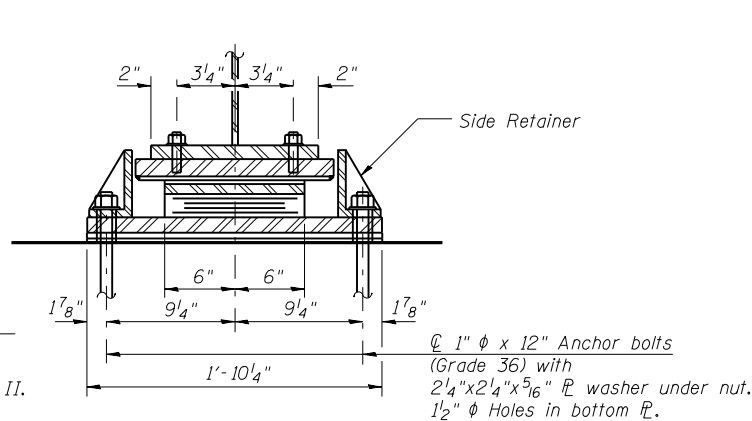
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
FRAMING PLAN & STEEL DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

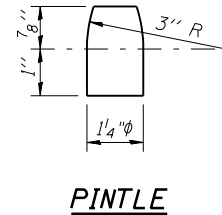
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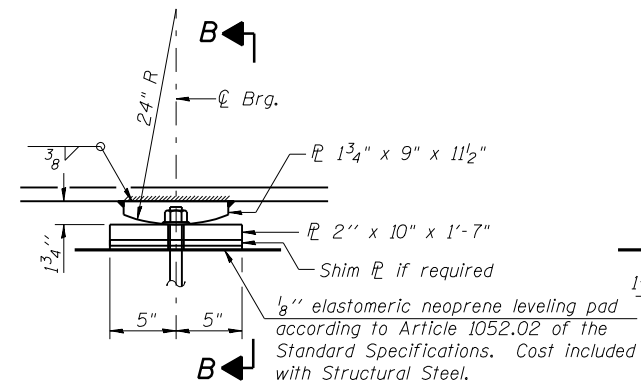
ELEVATION AT ABUTMENTS



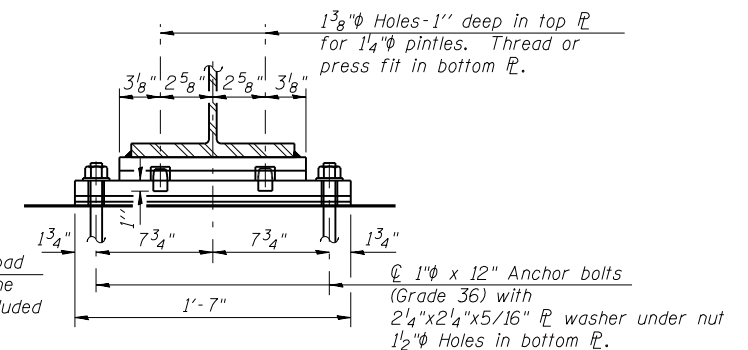
SECTION A-A



PINTLE



ELEVATION AT PIERS



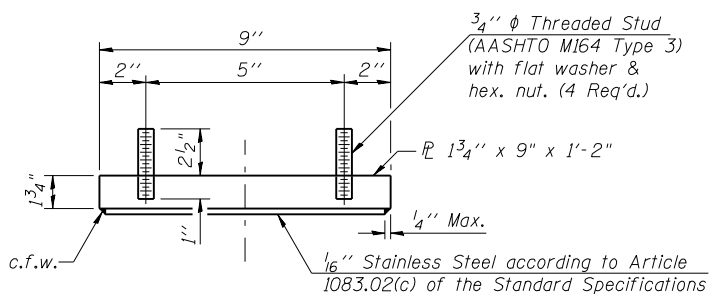
SECTION B-B

TYPE II ELASTOMERIC EXP. BRG.

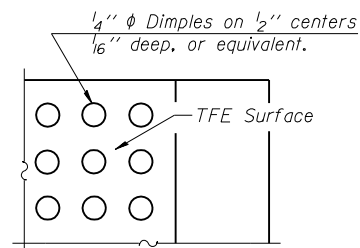
SHIM PLATES

	Beam 3
South Abut.	1/8"

FIXED BEARING



TOP BEARING ASSEMBLY



PLAN-TFE SURFACE

Notes:
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.

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

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

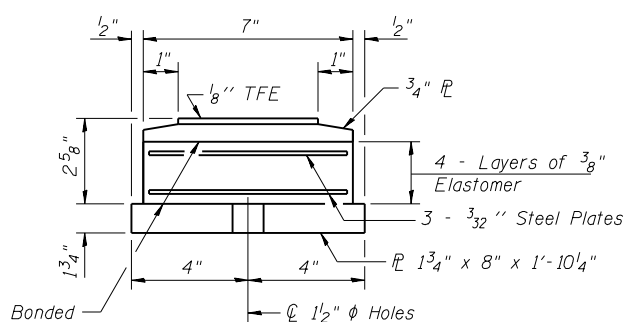
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

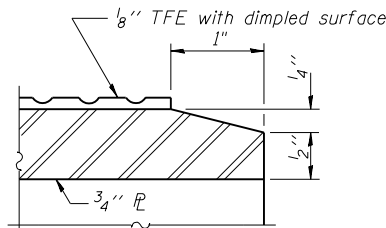
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

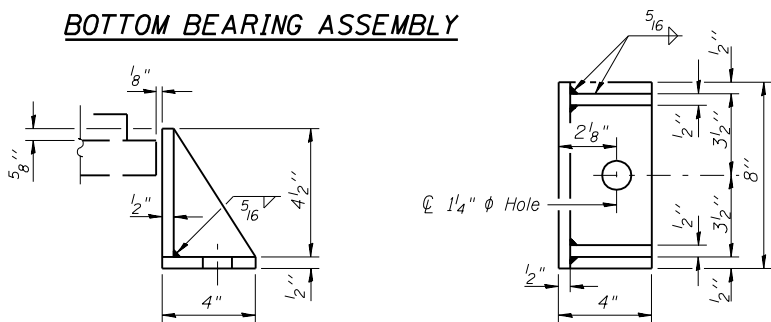
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



BOTTOM BEARING ASSEMBLY

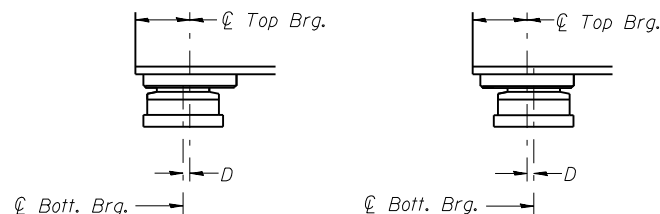


SECTION THRU TFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.

ABOVE 50°F.

(Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in ⁴) 5770	5770	5770
$I_c(n)$	(in ⁴) 16313	-	16313
$I_c(3n)$	(in ⁴) 11831	-	11831
S_s	(in ³) 380	380	380
$S_c(n)$	(in ³) 580	-	580
$S_c(3n)$	(in ³) 520	-	520
ρ	(k/')	0.828	1.278
$M \rho$	(k)	206	563
$s \rho$	(k/')	0.450	-
$M_s \rho$	(k)	126	-
$M \zeta$	(k)	420	242
M_{imp}	(k)	113	63
$5/3 [M \zeta + M_{imp}]$	(k)	889	508
M_a	(k)	1586	1392
M_u	(k)	2540	-
$f_s \rho$ non-comp	(ksi)	6.50	17.78
$f_s \rho$ (comp)	(ksi)	2.90	-
$f_s 5/3 [M \zeta + M_{imp}]$	(ksi)	18.39	16.04
f_s (Overload)	(ksi)	27.79	33.82
f_s (Total)	(ksi)	-	43.97
VR	(k)	49.9	43.1

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in⁴ and in³).

$I_c(3n), S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in⁴ and in³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M \zeta$: Un-factored live load moment (kip-ft.).

M_{imp} : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).

M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi). $M \rho + M_s \rho + 5/3 (M \zeta + M_{imp})$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.3 [M \rho + M_s \rho + 5/3 (M \zeta + M_{imp})]$

VR: Maximum ζ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

	Abut.	Pier
$R \rho$	(k) 29.2	96.1
$R \zeta$	(k) 35.5	45.0
Imp.	(k) 9.6	8.6
R_{Total}	(k) 74.3	149.7

* Compact section
** Braced non-compact and partially braced section

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Anchor Bolts 1" φ	Each	48

ILLINOIS DEPARTMENT OF TRANSPORTATION
BEARING DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

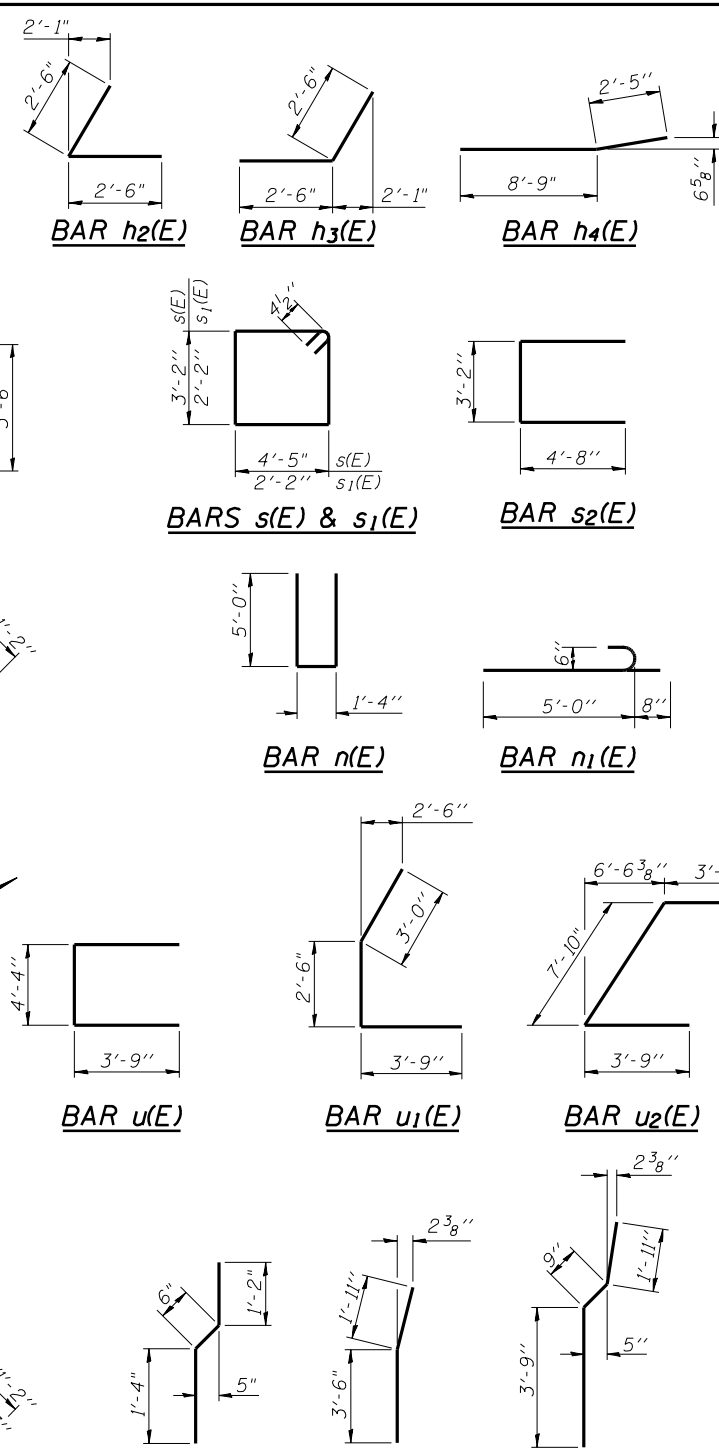
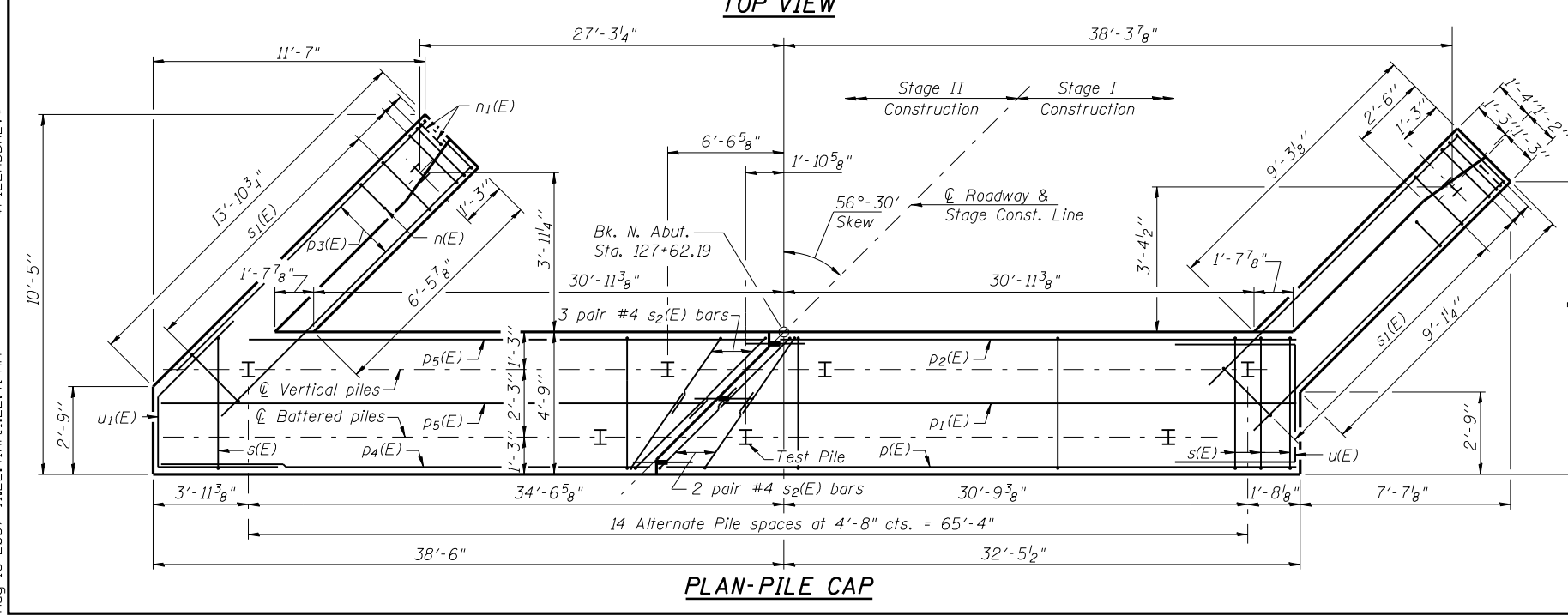
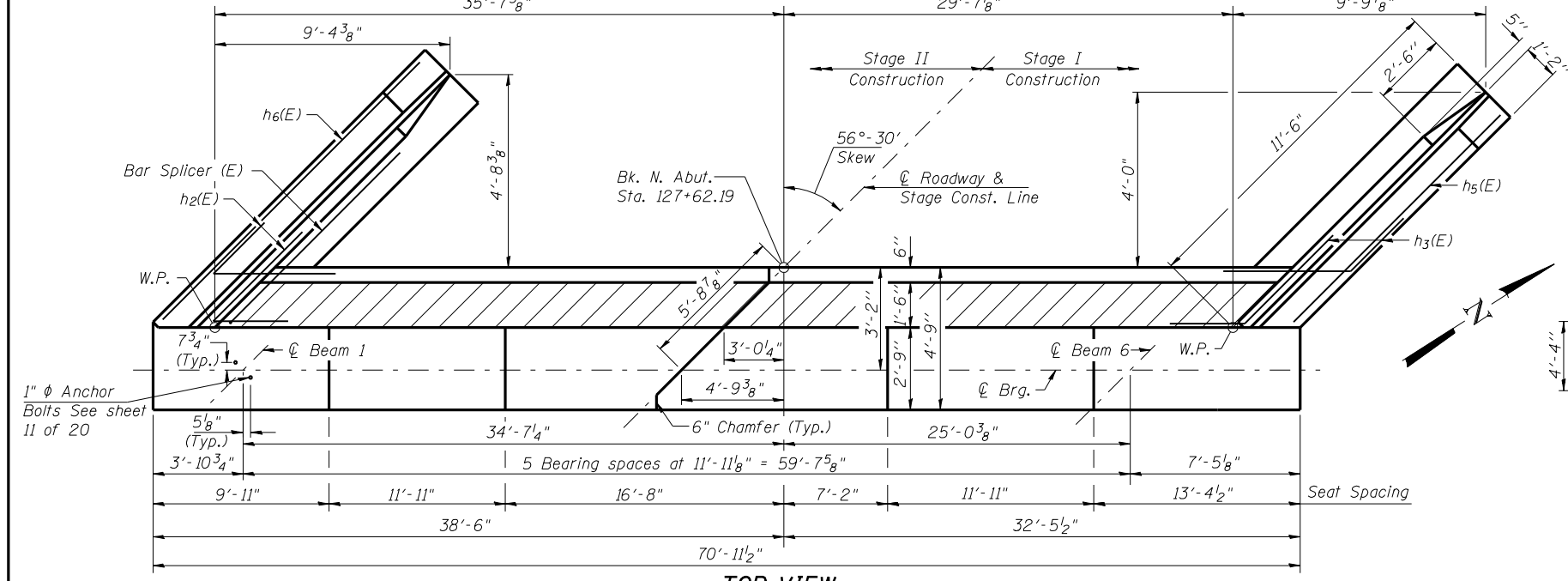
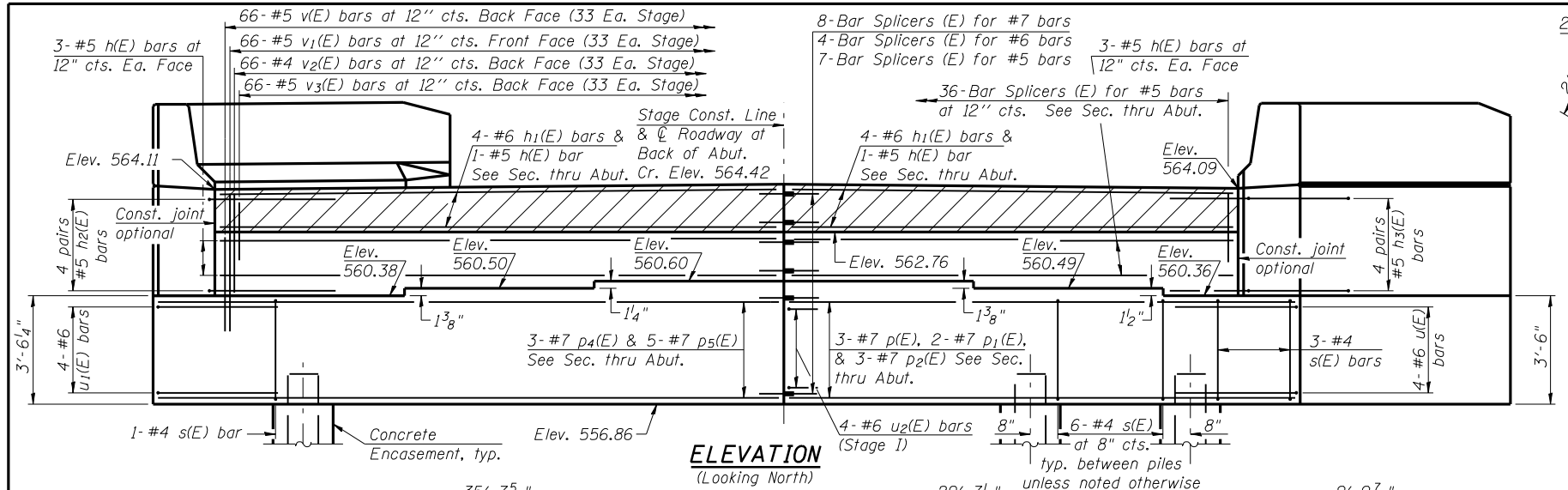
REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Checked By: MTH
Date: 04/2007
File: 068-0506.DGN

Drawn By: AJP



**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	14	#5	32'-3"	
h ₁ (E)	8	#6	32'-3"	
h ₂ (E)	8	#5	5'-0"	
h ₃ (E)	8	#5	5'-0"	
h ₄ (E)	14	#4	11'-2"	
h ₅ (E)	11	#4	8'-9"	
h ₆ (E)	11	#4	13'-6"	
n(E)	18	#6	11'-4"	
n ₁ (E)	12	#6	5'-8"	
p(E)	3	#7	38'-3"	
p ₁ (E)	2	#7	35'-7"	
p ₂ (E)	3	#7	32'-10"	
p ₃ (E)	12	#7	13'-0"	
p ₄ (E)	3	#7	31'-8"	
p ₅ (E)	5	#7	34'-0"	
s(E)	80	#4	15'-11"	
s ₁ (E)	30	#4	9'-5"	
s ₂ (E)	10	#4	12'-6"	
u(E)	4	#6	11'-10"	
u ₁ (E)	4	#6	9'-3"	
u ₂ (E)	4	#6	15'-4"	
v(E)	66	#5	4'-7"	
v ₁ (E)	66	#5	5'-9"	
v ₂ (E)	66	#4	3'-0"	
v ₃ (E)	66	#5	3'-4"	
v ₄ (E)	6	#6	5'-5"	
v ₅ (E)	18	#6	6'-5"	
v ₆ (E)	24	#6	6'-3"	
Structure Excavation		Cu. Yd.	240	
Concrete Structures		Cu. Yd.	64.8	
Reinforcement Bars, Epoxy Coated		Pound	5700	
Furnishing Steel Piles, HP 10x42		Foot	672	
Driving Piles		Foot	672	
Test Pile Steel, HP 10x42		Each	1	
Concrete Encasement		Cu. Yd.	5.2	
Concrete Sealer		Sq. Ft.	414	

For details of Bar Splicers, see sheet 17 of 20.
 For details of piles and Concrete Encasement, see sheet 18 of 20.
 For drainage details see sheet 2 of 20.

PILE DATA

Type: Steel HP10x42
 Nominal Required Bearing: 213 kips
 Allowable Resistance Available: 71 kips
 Est. Length: 48 Ft.
 No. Production Piles: 14
 No. Test Piles: 1

Notes:
 Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.

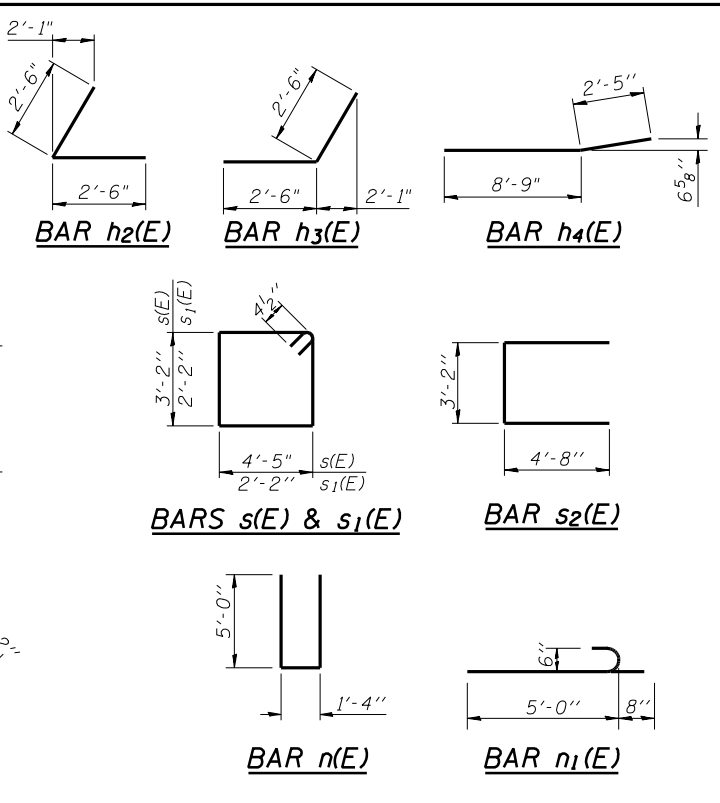
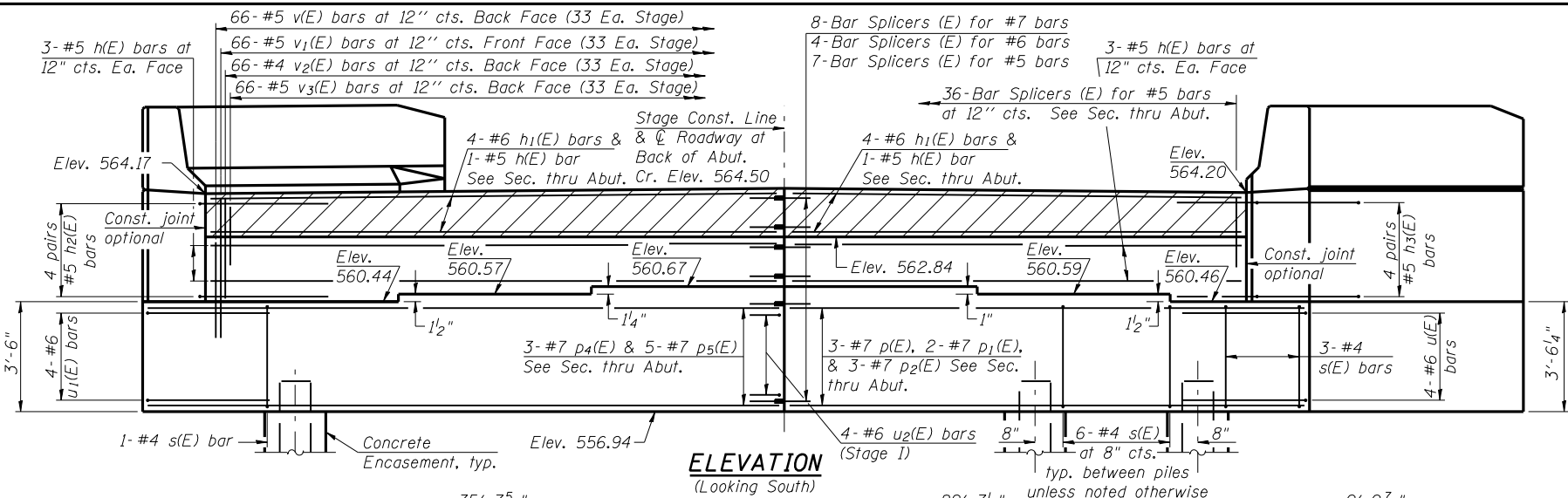
ILLINOIS DEPARTMENT OF TRANSPORTATION
NORTH ABUTMENT
 ILLINOIS ROUTE 127 OVER
 BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-1)
 MONTGOMERY COUNTY
 STA. 126+58.45
 STRUCTURE NO. 068-0506

REVISIONS

NAME	DATE

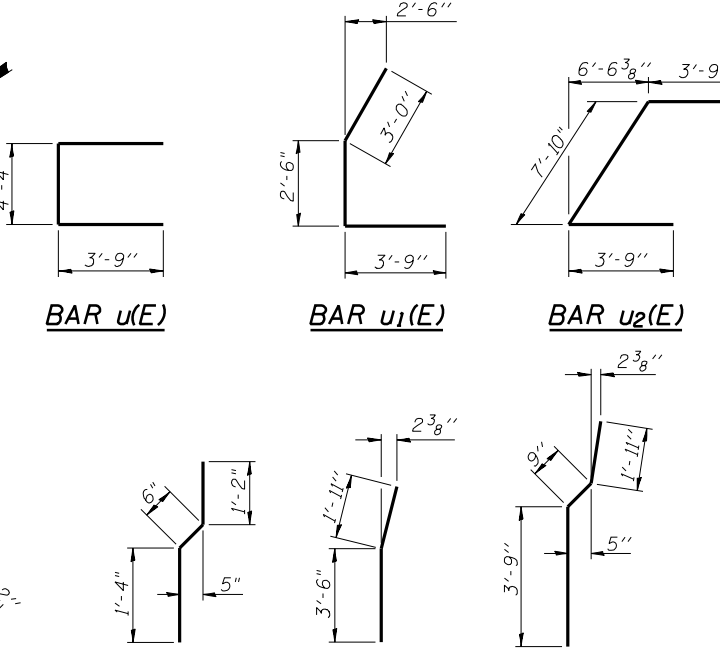
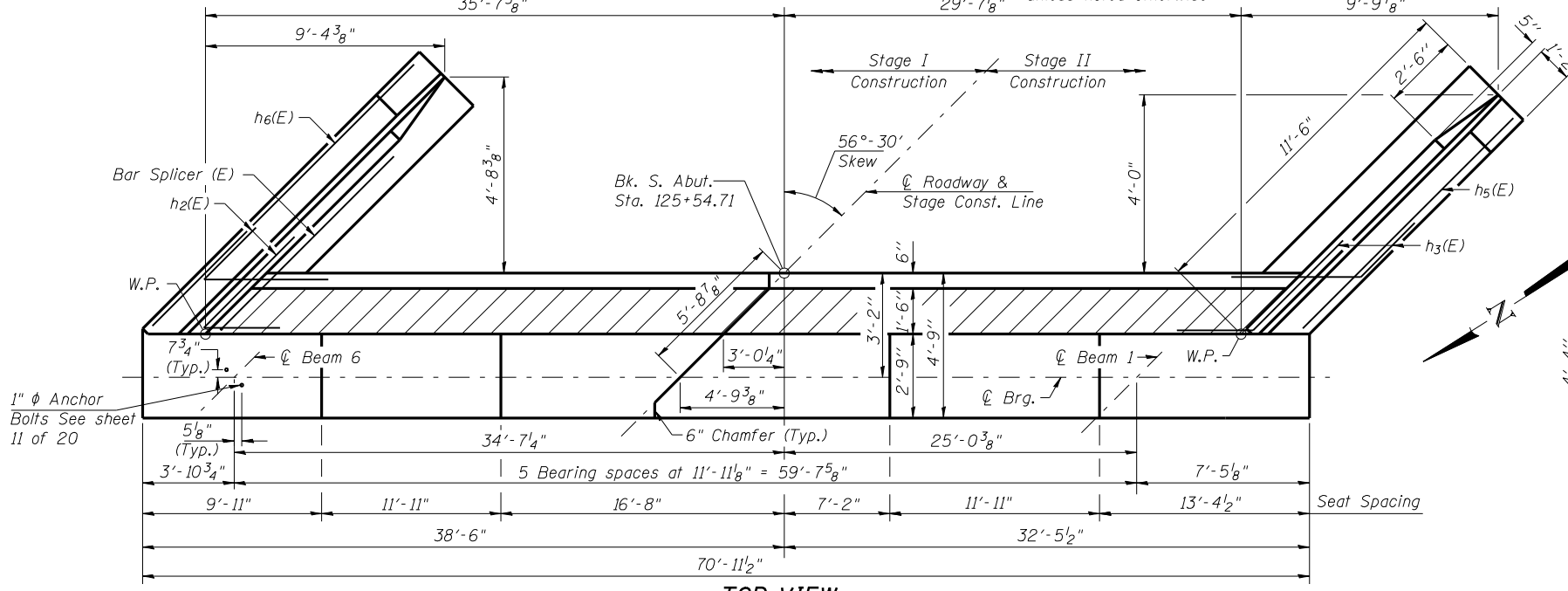
DESIGNED BY: RKM
DATE: 04/2007
CHECKED BY: MTH
FILE: 068-0506.DGN
DRAWN BY: AUF

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**SOUTH ABUTMENT
BILL OF MATERIAL**

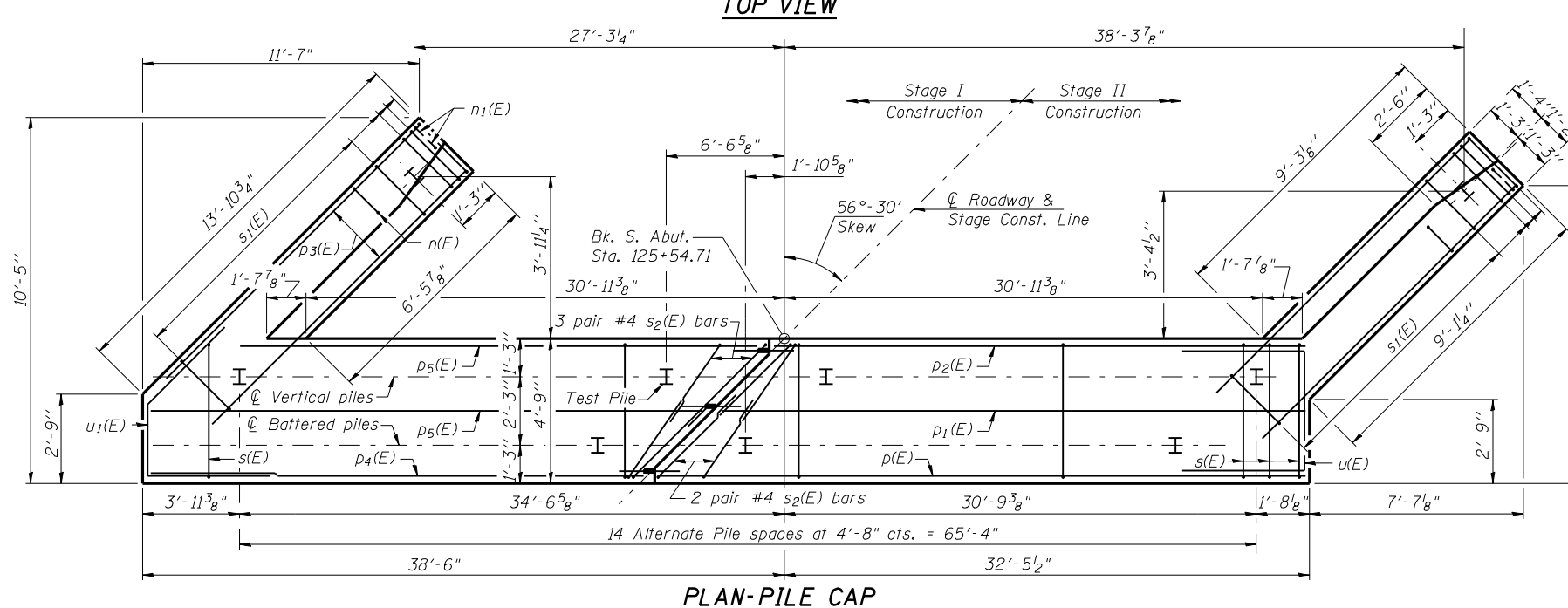
Bar	No.	Size	Length	Shape
h(E)	14	#5	32'-3"	—
h1(E)	8	#6	32'-3"	—
h2(E)	8	#5	5'-0"	—
h3(E)	8	#5	5'-0"	—
h4(E)	14	#4	11'-2"	—
h5(E)	11	#4	8'-9"	—
h6(E)	11	#4	13'-6"	—
n(E)	18	#6	11'-4"	—
n1(E)	12	#6	5'-8"	—
p(E)	3	#7	38'-3"	—
p1(E)	2	#7	35'-7"	—
p2(E)	3	#7	32'-10"	—
p3(E)	12	#7	13'-0"	—
p4(E)	3	#7	31'-8"	—
p5(E)	5	#7	34'-0"	—
s(E)	80	#4	15'-11"	—
s1(E)	30	#4	9'-5"	—
s2(E)	10	#4	12'-6"	—
u(E)	4	#6	11'-10"	—
u1(E)	4	#6	9'-3"	—
u2(E)	4	#6	15'-4"	—
v(E)	66	#5	4'-7"	—
v1(E)	66	#5	5'-9"	—
v2(E)	66	#4	3'-0"	—
v3(E)	66	#5	3'-4"	—
v4(E)	6	#6	5'-5"	—
v5(E)	18	#6	6'-5"	—
v6(E)	24	#6	6'-3"	—
Structure Excavation		Cu. Yd.	238	
Concrete Structures		Cu. Yd.	64.8	
Reinforcement Bars, Epoxy Coated		Pound	5700	
Furnishing Steel Piles, HP 10x42		Foot	742	
Driving Piles		Foot	742	
Test Pile Steel, HP 10x42		Each	1	
Concrete Encasement		Cu. Yd.	5.2	
Concrete Sealer		Sq. Ft.	414	



For details of Bar Splicers, see sheet 17 of 20.
For details of piles and Concrete Encasement, see sheet 18 of 20.
For drainage details see sheet 2 of 20.

PILE DATA

Type: Steel HP10x42
Nominal Required Bearing: 213 kips
Allowable Resistance Available: 71 kips
Est. Length: 53 Ft.
No. Production Piles: 14
No. Test Piles: 1



Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Four steps monolithically with cap.

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

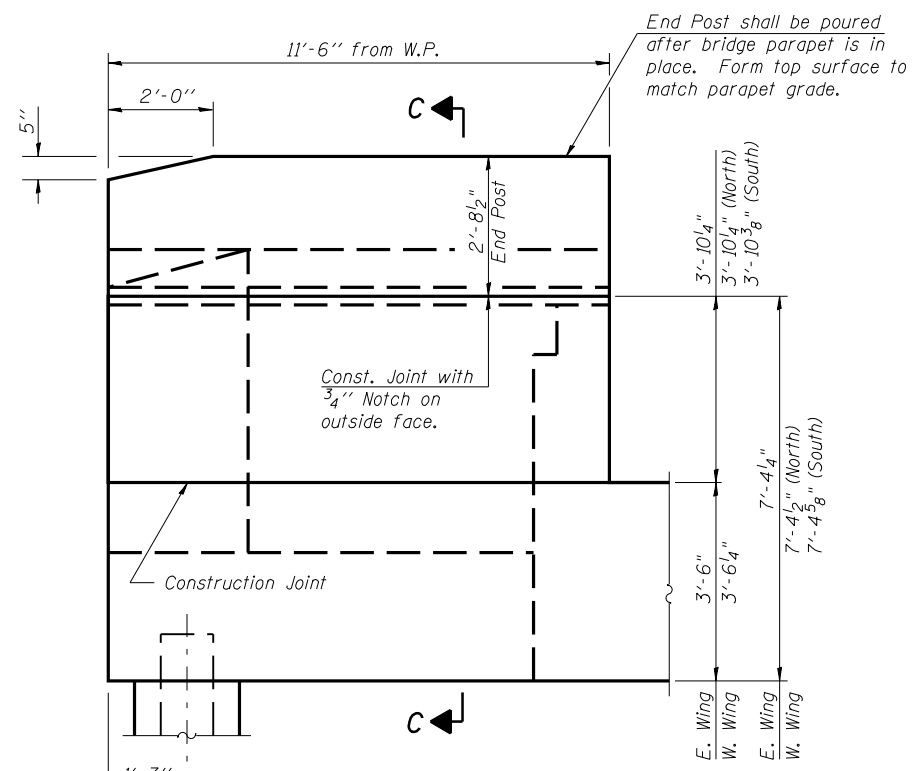
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Date: 04/2007

Checked By: MTH
File: 068-0506.DGN

Drawn By: AJP

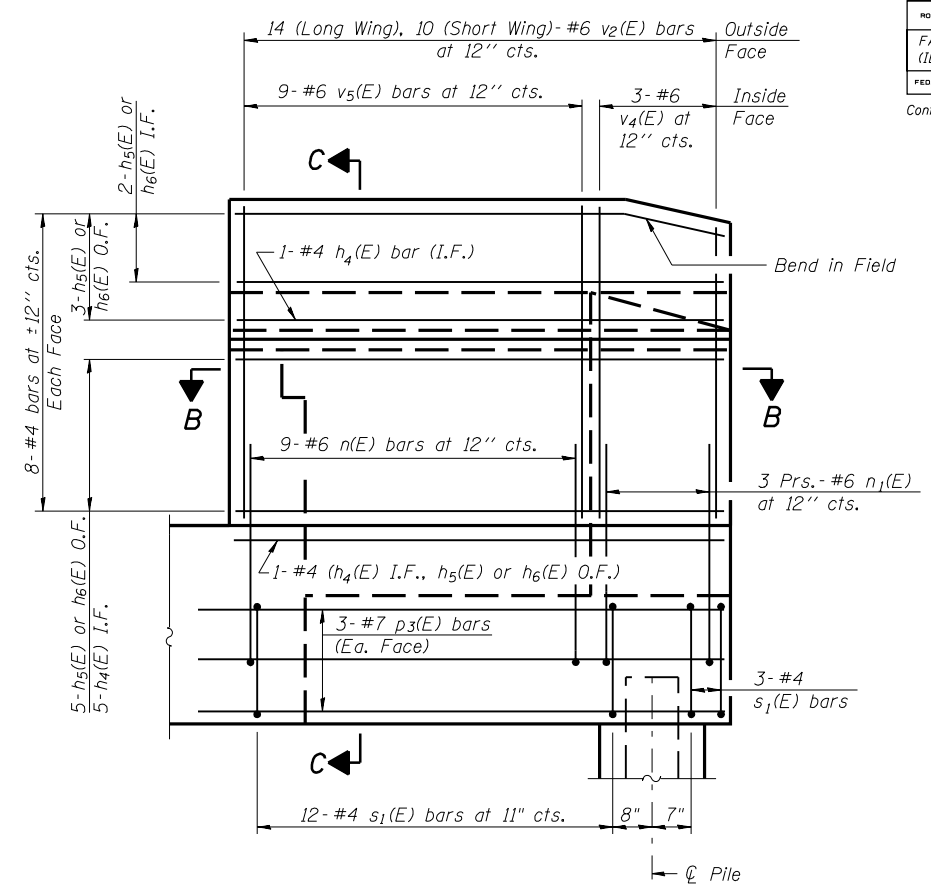
ILLINOIS DEPARTMENT OF TRANSPORTATION
SOUTH ABUTMENT
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

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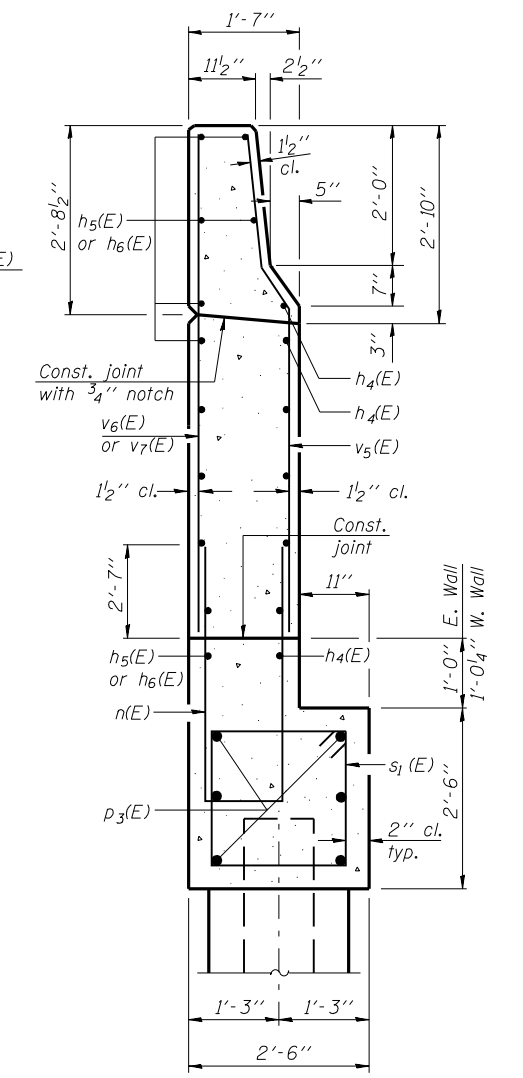


WING WALL ELEVATION
Showing Dimensions

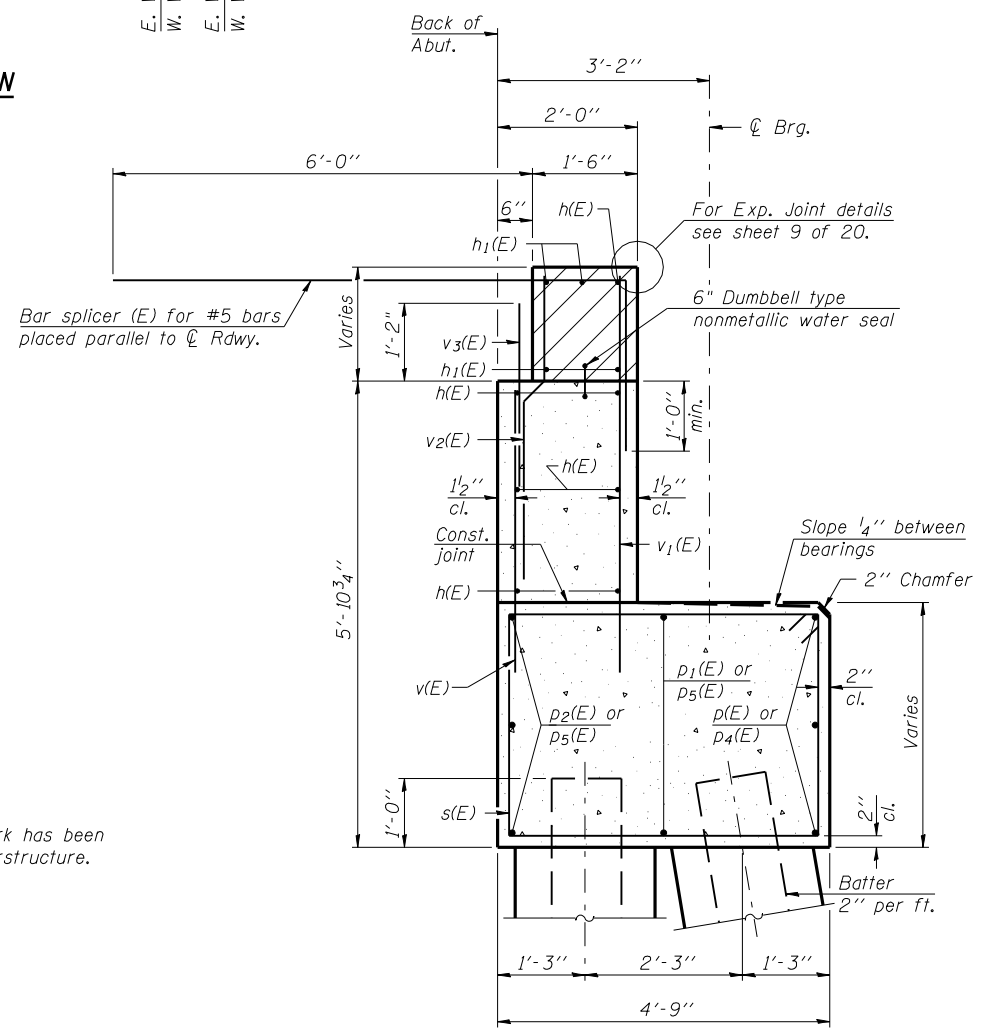
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



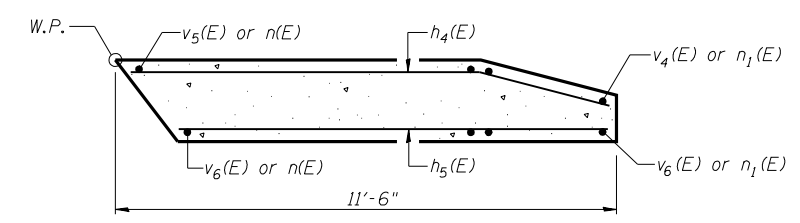
WING WALL ELEVATION
Showing Reinforcement



SECTION C-C



SEC. THRU ABUT.



SECTION B-B
(Short wing shown, long wing similar)

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure. Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap. Quantity of concrete in end post included with Concrete Superstructure on sheet 8 of 20. For Concrete Encasement details, see sheet 18 of 20.

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM
Checked By: MTH
Date: 04/2007

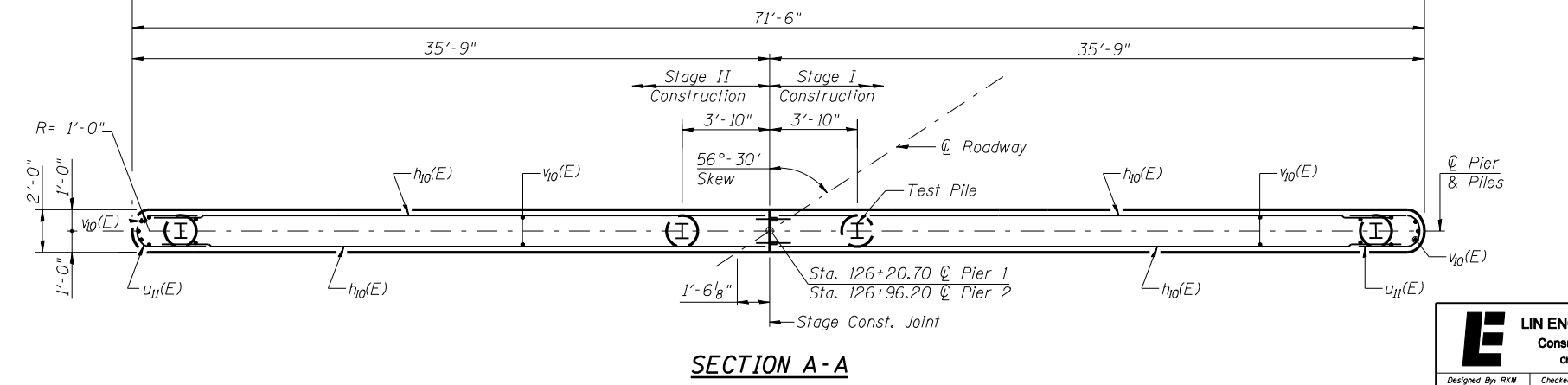
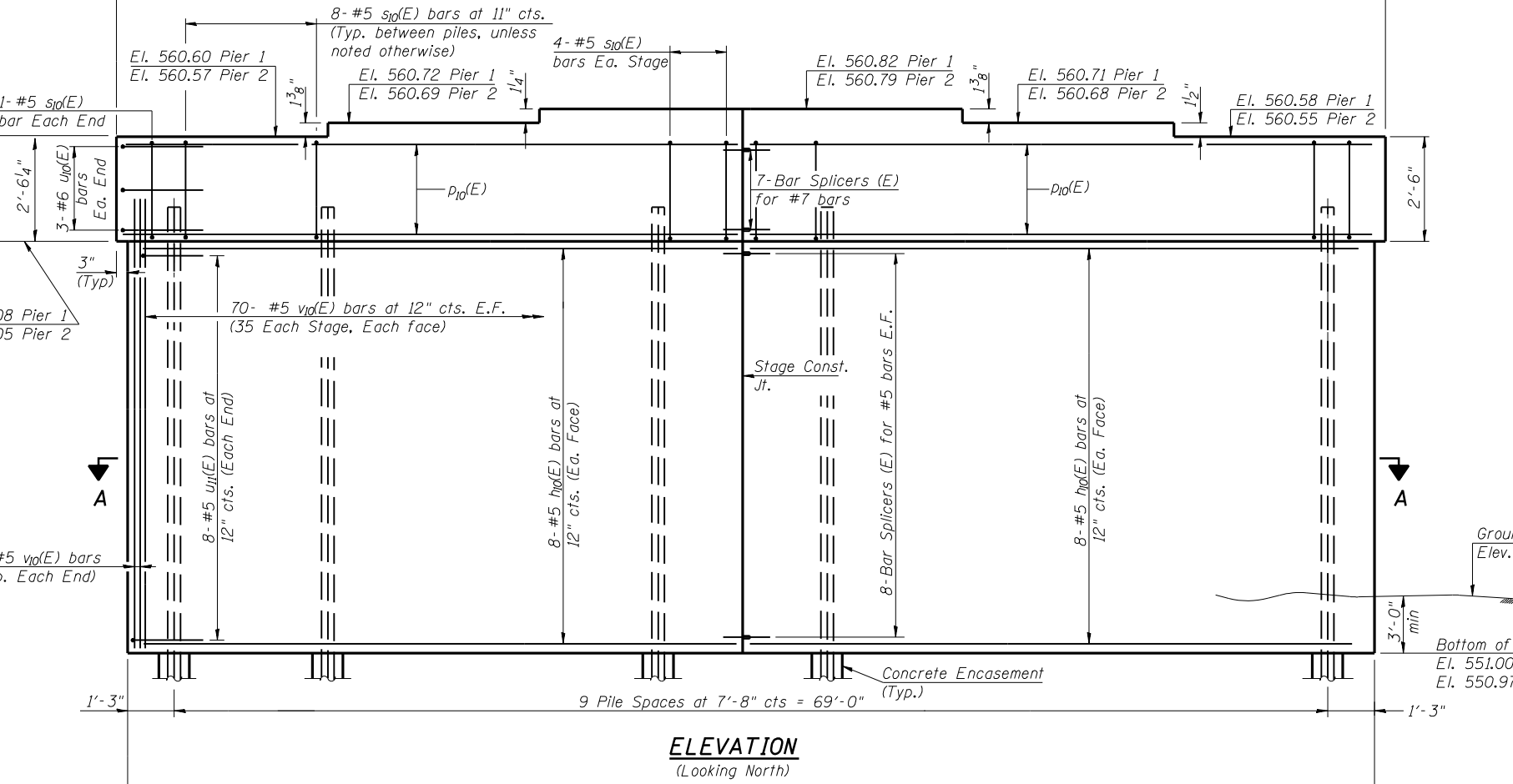
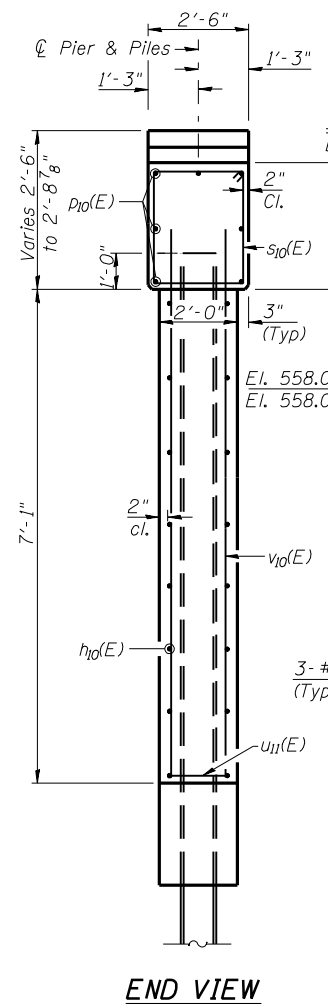
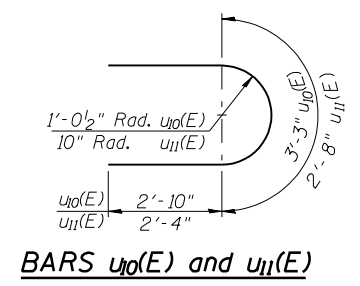
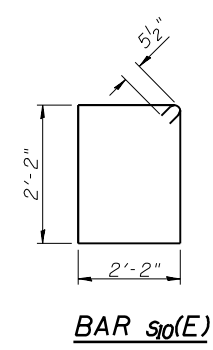
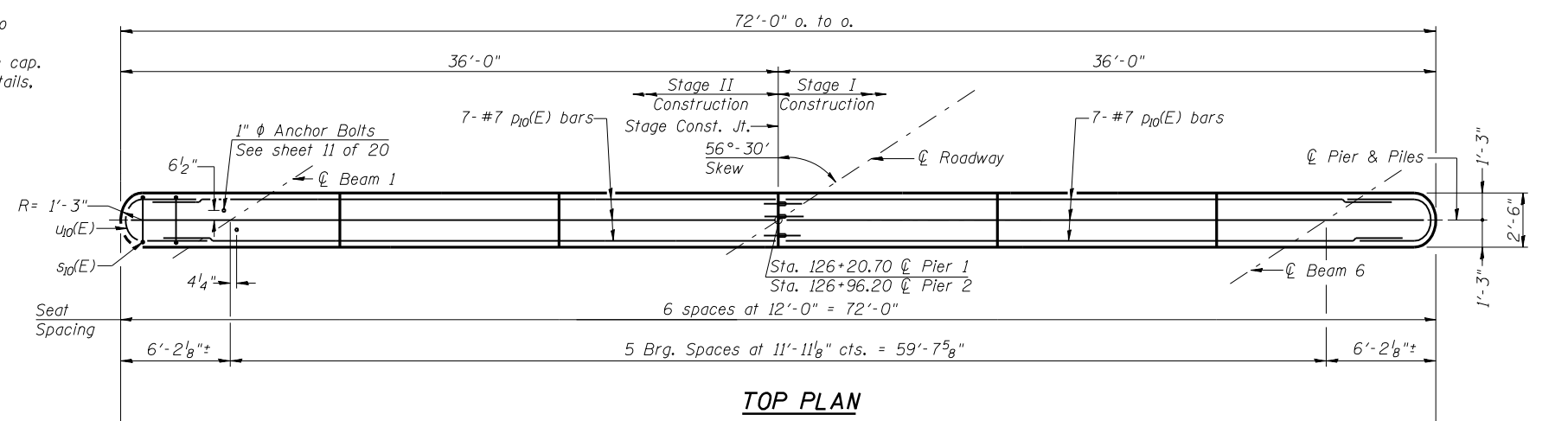
Drawn By: AUF
File: 068-0506.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
PILE BENT ABUTMENT DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

- Notes:
1. Space reinforcement in cap to miss anchor bolts.
 2. Pour steps monolithically with cap.
 3. For Concrete Encasement details, see sheet 18 of 20.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 15 20 SHEETS
FAP 42 (IL 127)	106 (B-1)	Montgomery	61	48	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract #72150



PILE DATA

Type: Steel HP 12x53
 Nominal Required Bearing: 345 kips
 Allowable Resistance Available: 115 kips
 Est. Length: 69 Ft. (Pier 1), 67 Ft. (Pier 2)
 No. Production Piles: 9 (Pier 1), 9 (Pier 2)
 No. Test Piles: 1 (Pier 1), 1 (Pier 2)

BILL OF MATERIAL
(Two Piers)

Bar	No.	Size	Length	Shape
h10(E)	64	#5	34'-6"	—
p10(E)	28	#7	34'-5"	—
s10(E)	148	#5	9'-7"	□
u10(E)	12	#6	8'-11"	U
u11(E)	32	#5	7'-4"	U
v10(E)	292	#5	9'-0"	—
Concrete Structures			Cu. Yd.	109.6
Concrete Encasement			Cu. Yd.	7.0
Reinforcement Bars, Epoxy Coated			Pound	8900
Structure Excavation			Cu. Yd.	99
Furnishing Steel Piles, HP 12x53			Foot	1224
Driving Piles			Foot	1224
Test Pile Steel, HP 12x53			Each	2
Underwater Structure Excavation Protection - Location 1			Each	1
Underwater Structure Excavation Protection - Location 2			Each	1

ILLINOIS DEPARTMENT OF TRANSPORTATION
PIERS 1 & 2
 ILLINOIS ROUTE 127 OVER
 BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-1)
 MONTGOMERY COUNTY
 STA. 126+58.45
 STRUCTURE NO. 068-0506

Lin Engineering, Ltd.
 Consulting Engineers
 Chatham, Illinois

REVISIONS	
NAME	DATE

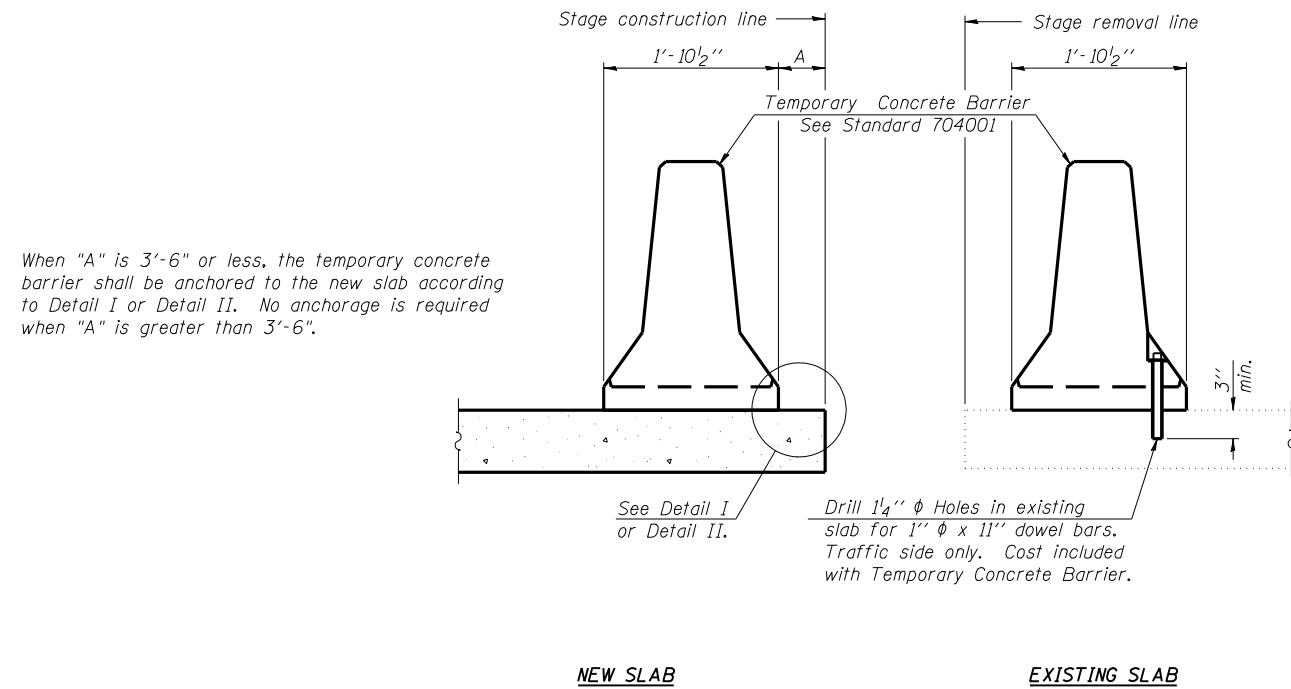
Designed By: RKM
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 Date: 04/2007
 Files: 068-0506.DGN
 Drawn By: AJP

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (IL 127)	106 (B-1)	Montgomery	61	49
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 16
20 SHEETS

Contract #72150



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".

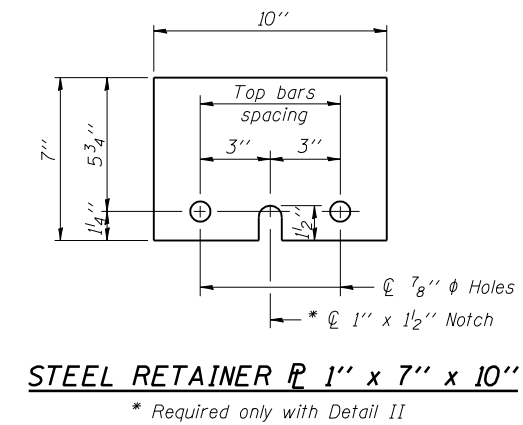
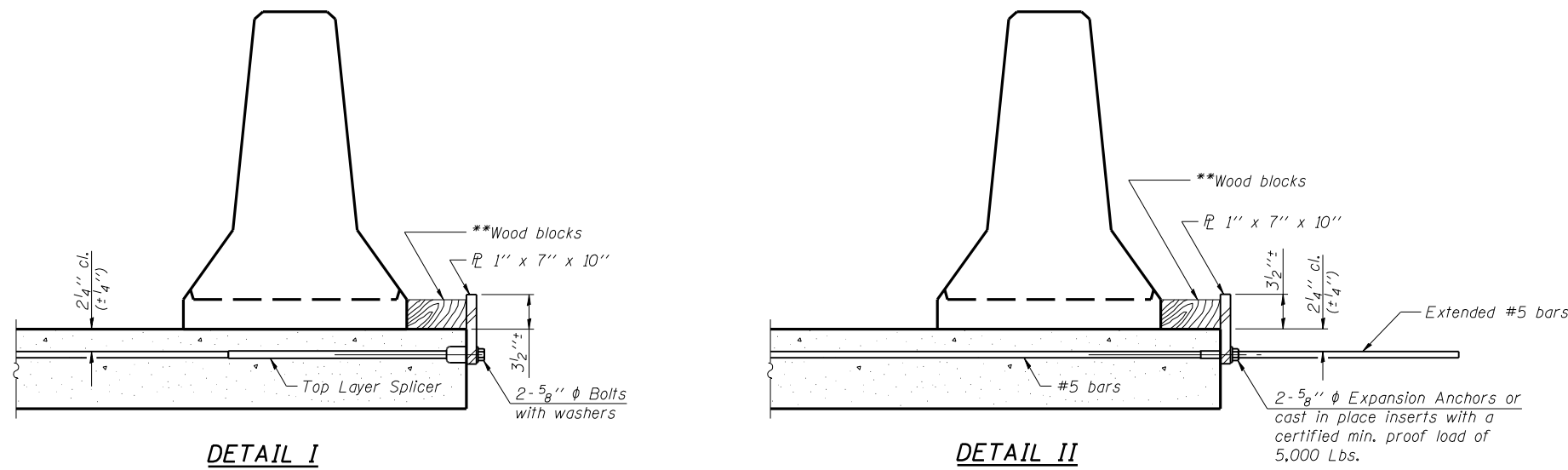
SECTIONS THRU SLAB

NOTES

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

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel PL to the concrete slab with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate CL 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.



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

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Chatham, Illinois

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Date: 04/2007

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NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TEMPORARY CONCRETE BARRIER
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

Contract #72150

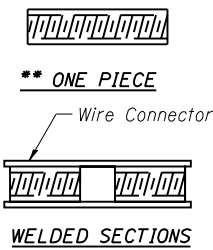
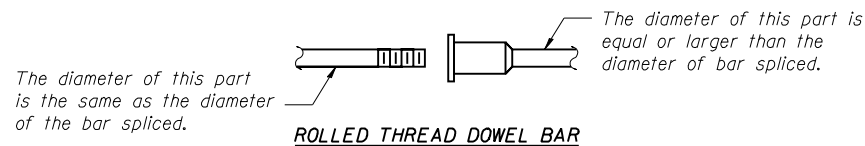
NOTES

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

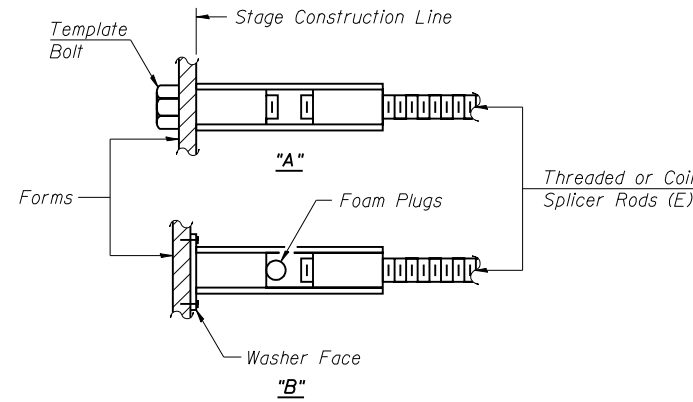
Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_l = Tensile stress area of lapped reinforcement bars.
 * = 28 day concrete

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



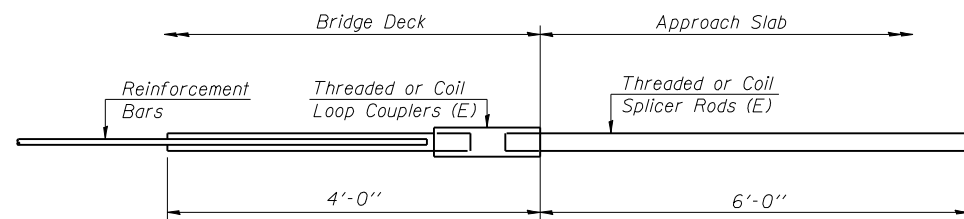
BAR SPLICER ASSEMBLY ALTERNATIVES

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



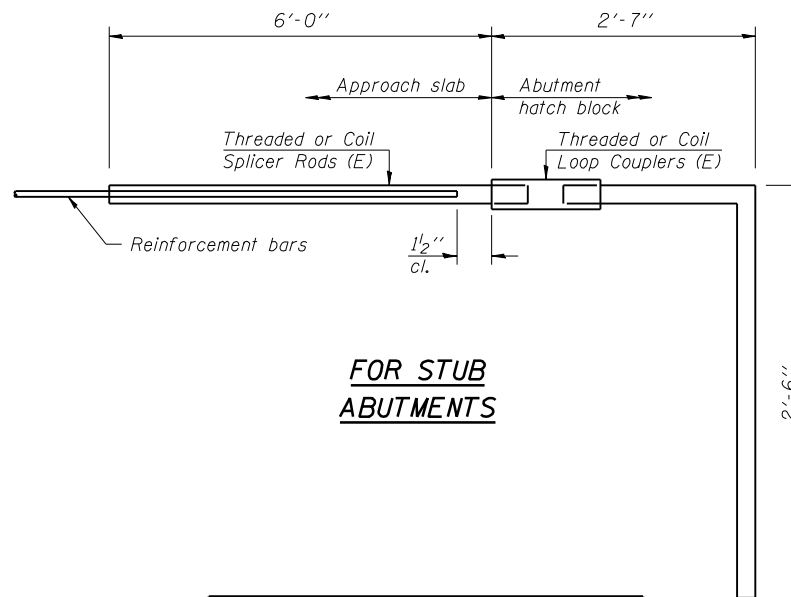
INSTALLATION AND SETTING METHODS

"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.



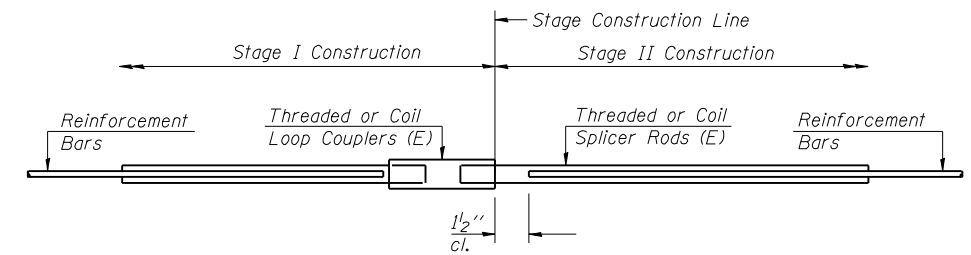
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

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



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 72



STANDARD

Bar Size	No. Assemblies Required	Location
#5	530	Deck
#8	16	Deck
#5	14	Abuts.
#6	8	Abuts.
#7	16	Abuts.
#5	32	Piers
#7	14	Piers

ILLINOIS DEPARTMENT OF TRANSPORTATION
BAR SPLICER ASSEMBLY DETAILS
 ILLINOIS ROUTE 127 OVER
 BEARCAT CREEK
 F.A.P. ROUTE 42 - SECTION 106 (B-1)
 MONTGOMERY COUNTY
 STA. 126+58.45
 STRUCTURE NO. 068-0506

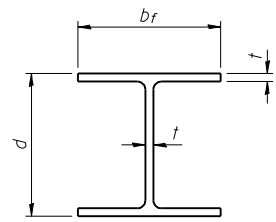
Lin Engineering, Ltd.
 Consulting Engineers
 Chatham, Illinois

Designed By: RKM
 Checked By: MTH
 Date: 04/2007

Drawn By: AJP
 File: 068-0506.DGN

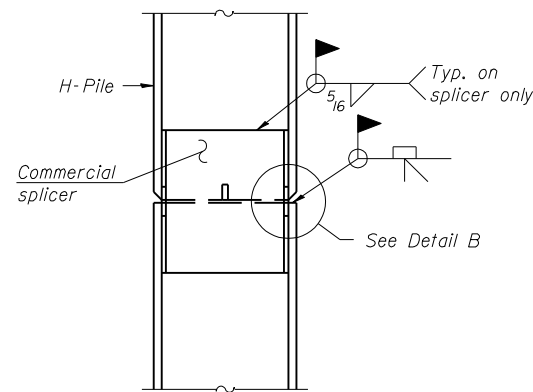
REVISIONS	
NAME	DATE

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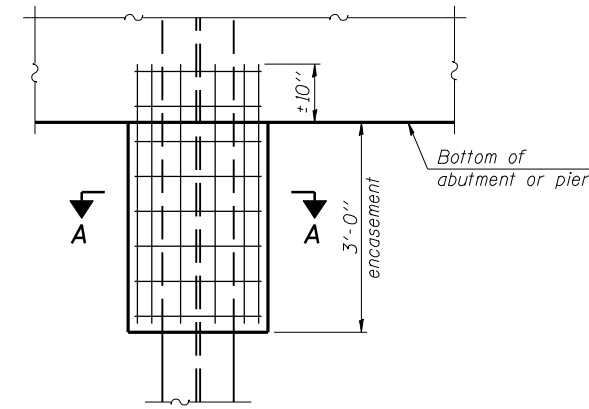


STEEL PILE TABLE

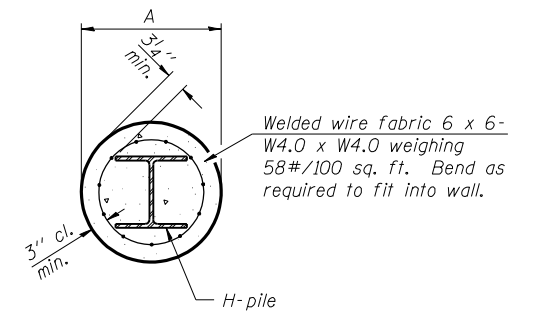
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



ELEVATION



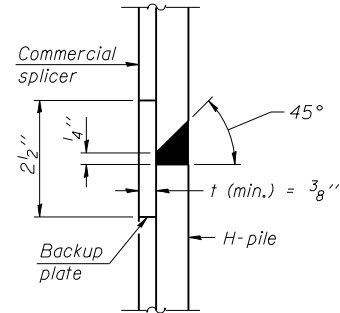
ELEVATION



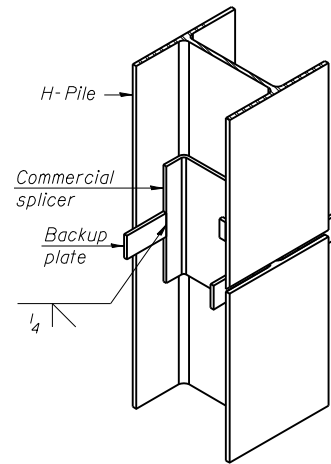
SECTION A-A

PILE ENCASEMENT

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

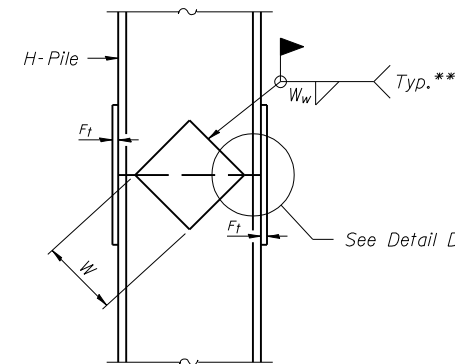


DETAIL "B"

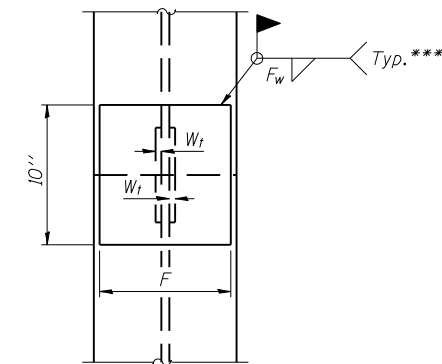


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ELEVATION



END VIEW

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

WELDED PLATE FIELD SPLICE

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

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/2007 File: 068-0506.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL PILE DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

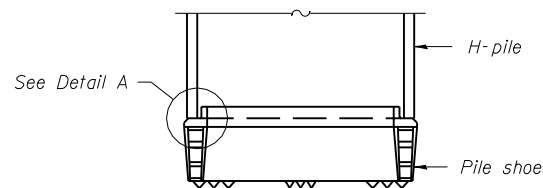
ELEVATION

DETAIL C

COMPLETE PENETRATION WELD SPLICE

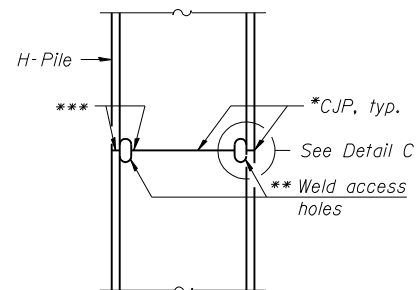
DETAIL D

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



ELEVATION

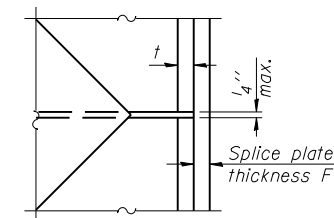
H-PILE SHOE ATTACHMENT



ELEVATION

DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

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

REVISIONS

NAME	DATE

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois

Designed By: RKM Checked By: MTH Drawn By: AUF
Date: 04/2007 File: 068-0506.DGN

ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL PILE DETAILS
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506



Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

ROUTE FAP 42 (IL 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm

SECTION 106 (B-1) LOCATION SW 14 SEC 23 T2P 7N R9E S 8 PM

Table with columns for STUDY NO., BORING NO., SOIL DESCRIPTION, and test results (D, B, U, M, O, I, S, T, W, H, S, Q, T, etc.).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Point, etc.



Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

ROUTE FAP 42 (IL 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm

SECTION 106 (B-1) LOCATION SW 14 SEC 23 T2P 7N R9E S 8 PM

Table with columns for STUDY NO., BORING NO., SOIL DESCRIPTION, and test results (D, B, U, M, O, I, S, T, W, H, S, Q, T, etc.).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Point, etc.

Table with columns: ROUTE NO., SECTION, COUNTY, TOTAL SHEETS, SHEET NO.

SHEET NO. 19, 20 SHEETS

Contract #72150



Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

ROUTE FAP 42 (IL 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm

SECTION 106 (B-1) LOCATION SW 14 SEC 23 T2P 7N R9E S 8 PM

Table with columns for STUDY NO., BORING NO., SOIL DESCRIPTION, and test results (D, B, U, M, O, I, S, T, W, H, S, Q, T, etc.).

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Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

ROUTE FAP 42 (IL 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm

SECTION 106 (B-1) LOCATION SW 14 SEC 23 T2P 7N R9E S 8 PM

Table with columns for STUDY NO., BORING NO., SOIL DESCRIPTION, and test results (D, B, U, M, O, I, S, T, W, H, S, Q, T, etc.).

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Point, etc.

Aug-16-2007 11:23:26AM:1:23:26 AM \$FILEABBREV\$

ILLINOIS DEPARTMENT OF TRANSPORTATION SOIL BORINGS - 1 ILLINOIS ROUTE 127 OVER BEARCAT CREEK F.A.P. ROUTE 42 - SECTION 106 (B-1) MONTGOMERY COUNTY STA. 126+58.45 STRUCTURE NO. 068-0506

LIN ENGINEERING, LTD. Consulting Engineers Chatham, Illinois. Includes a REVISIONS table and design information.



Illinois Department of Transportation
State of Illinois
DOT logo

SOIL BORING LOG

Page 2 of 3
Date 1/2/08

ROUTE FAP 42 (L 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm
SECTION 106 (B-1) LOCATION SW 14, SEC. 12, T2P. 7N, R9E, 4W, S. PM
COUNTY Montgomery DRILLING METHOD HSA HAMMER TYPE 140# Auto

STUDY NO. 088-0028 R. 088-0028 Pr. Station 126+85	D	B	U	M	SURFACE WATER Elev. Stream Bed Elev.	GROUNDWATER Elev. 1st Encounter Upon Completion After	HSA	HAMMER TYPE 140# Auto	LOGGED BY M. Tamm	SPT (N)		MOISTURE		COMPRESSIVE STRENGTH (q)	
										Blows/ft	(3)	(4)	(1)	(2)	(3)
BORING NO. 3 N ARVY Station 127+78 Obst. 106.87 Ground Surface Elev. 583.7	D	B	U	M	Surface Water Elev. 548.9	2									
	L	O	S	I	Stream Bed Elev. 548.9										
	T	W	S	Q _a		Groundwater Elev. 545.5 541.2	H	S	Q _a	T					

Dr. Grey Mott Clay SHALE (continued)
Boring Completed 428.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Fracture, E-Stratified.
Abbreviations W.O.B. - Sampler Advanced By Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Sealing
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1585, from 127 (Rev. 5-99))



Illinois Department of Transportation
State of Illinois
DOT logo

SOIL BORING LOG

Page 1 of 3
Date 1/2/08

ROUTE FAP 42 (L 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm
SECTION 106 (B-1) LOCATION SW 14, SEC. 12, T2P. 7N, R9E, 4W, S. PM
COUNTY Montgomery DRILLING METHOD HSA HAMMER TYPE 140# Auto

STUDY NO. 088-0028 R. 088-0028 Pr. Station 126+85	D	B	U	M	SURFACE WATER Elev. Stream Bed Elev.	GROUNDWATER Elev. 1st Encounter Upon Completion After	HSA	HAMMER TYPE 140# Auto	LOGGED BY M. Tamm	SPT (N)		MOISTURE		COMPRESSIVE STRENGTH (q)	
										Blows/ft	(3)	(4)	(1)	(2)	(3)
BORING NO. 3 N ARVY Station 127+78 Obst. 106.87 Ground Surface Elev. 583.7	D	B	U	M	Surface Water Elev. 548.9	2									
	L	O	S	I	Stream Bed Elev. 548.9										
	T	W	S	Q _a		Groundwater Elev. 545.5 541.2	H	S	Q _a	T					

Dr. Grey Mott SILTY CLAY LOAM (F10)
Dr. Grey Mott SILTY CLAY LOAM (F10)
Grey Mott SANDY GRAVEL (Washed)
Grey Mott SILTY CLAY (Washed)
Grey Mott FINE SAND (Washed)
Grey Coarse SAND (Washed)
Grey and Olive Brown Mott SILTY CLAY LOAM (F10)
Grey Mott SAND
Grey Mott SAND

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Fracture, E-Stratified.
Abbreviations W.O.B. - Sampler Advanced By Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Sealing
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Illinois Department of Transportation
State of Illinois
DOT logo

SOIL BORING LOG

Page 2 of 3
Date 1/2/08

ROUTE FAP 42 (L 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm
SECTION 106 (B-1) LOCATION SW 14, SEC. 12, T2P. 7N, R9E, 4W, S. PM
COUNTY Montgomery DRILLING METHOD HSA HAMMER TYPE 140# Auto

STUDY NO. 088-0028 R. 088-0028 Pr. Station 126+85	D	B	U	M	SURFACE WATER Elev. Stream Bed Elev.	GROUNDWATER Elev. 1st Encounter Upon Completion After	HSA	HAMMER TYPE 140# Auto	LOGGED BY M. Tamm	SPT (N)		MOISTURE		COMPRESSIVE STRENGTH (q)	
										Blows/ft	(3)	(4)	(1)	(2)	(3)
BORING NO. 3 N ARVY Station 127+78 Obst. 106.87 Ground Surface Elev. 583.7	D	B	U	M	Surface Water Elev. 548.9	2									
	L	O	S	I	Stream Bed Elev. 548.9										
	T	W	S	Q _a		Groundwater Elev. 545.5 541.2	H	S	Q _a	T					

Grey and Olive Brown Mott SILTY CLAY LOAM (F10)
Grey Mott CLAY LOAM (F10)
Grey Mott CLAY LOAM (F10)
w/Grey Coarse Sand Stone
Grey Mott CLAY LOAM (F10)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Fracture, E-Stratified.
Abbreviations W.O.B. - Sampler Advanced By Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Sealing
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1585, from 127 (Rev. 5-99))



Illinois Department of Transportation
State of Illinois
DOT logo

SOIL BORING LOG

Page 1 of 3
Date 1/2/08

ROUTE FAP 42 (L 127) DESCRIPTION IL 127 over Bearcat Creek LOGGED BY M. Tamm
SECTION 106 (B-1) LOCATION SW 14, SEC. 12, T2P. 7N, R9E, 4W, S. PM
COUNTY Montgomery DRILLING METHOD HSA HAMMER TYPE 140# Auto

STUDY NO. 088-0028 R. 088-0028 Pr. Station 126+85	D	B	U	M	SURFACE WATER Elev. Stream Bed Elev.	GROUNDWATER Elev. 1st Encounter Upon Completion After	HSA	HAMMER TYPE 140# Auto	LOGGED BY M. Tamm	SPT (N)		MOISTURE		COMPRESSIVE STRENGTH (q)	
										Blows/ft	(3)	(4)	(1)	(2)	(3)
BORING NO. 3 N ARVY Station 127+78 Obst. 106.87 Ground Surface Elev. 583.7	D	B	U	M	Surface Water Elev. 548.9	2									
	L	O	S	I	Stream Bed Elev. 548.9										
	T	W	S	Q _a		Groundwater Elev. 545.5 541.2	H	S	Q _a	T					

Blue Grey and Olive Brown Mott Silty CLAY Bedrock (continued)
Grey Mott Clayey SHALE
Grey Mott Clayey SHALE
Boring Completed 428.50

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (S-Du), S-Shear, P-Fracture, E-Stratified.
Abbreviations W.O.B. - Sampler Advanced By Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, R.S. - Before Sealing
The SPT (N) value is the sum of the last two blow values in each sampling zone (ASTM D 1585, from 127 (Rev. 5-99))

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 42 (L 127)	106 (B-1)	Montgomery	61	53

SHEET NO. 20
20 SHEETS
Contract #72150

Aug-16-2007 11:24:09AM 1:24:09 AM \$FILEABBREV\$

Lin Engineering, Ltd.
Consulting Engineers
Chatham, Illinois
Designed By: RKM
Checked By: MTH
Dates: 04/2007
Files: 068-0506.DGN
Drawn By: AJF

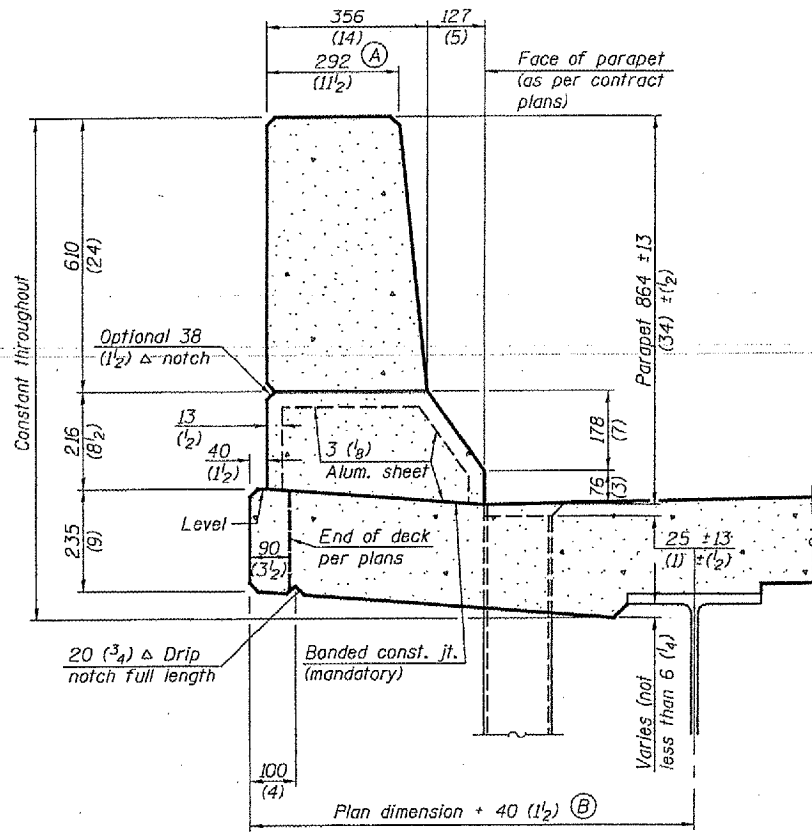
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SOIL BORINGS - 2
ILLINOIS ROUTE 127 OVER
BEARCAT CREEK
F.A.P. ROUTE 42 - SECTION 106 (B-1)
MONTGOMERY COUNTY
STA. 126+58.45
STRUCTURE NO. 068-0506

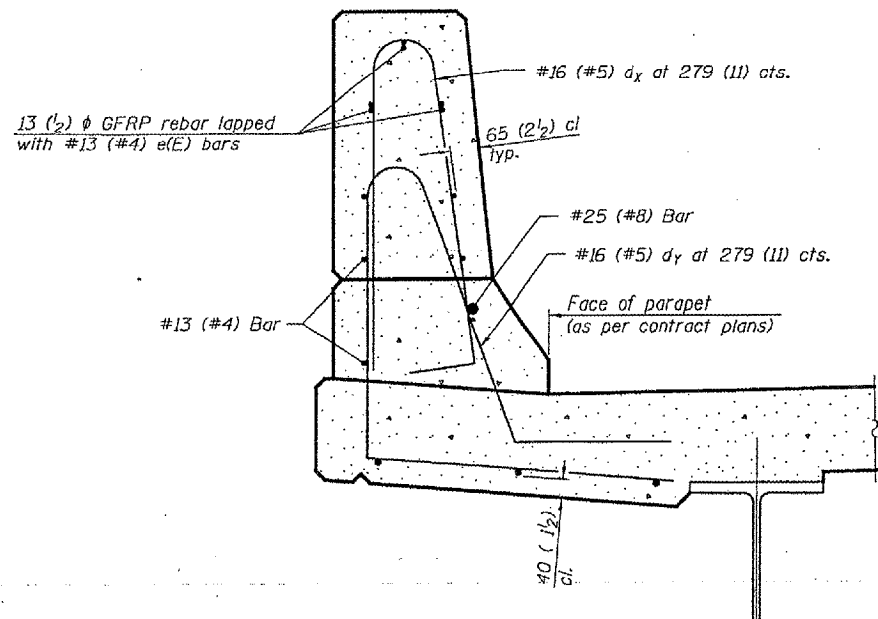
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	CONTRACT	DATE	SHEET NO.
FAP 106 42	101	Montgomery 61		53A
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		SHEETS

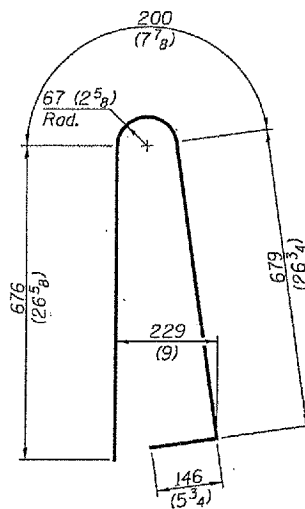
Contract # 72150



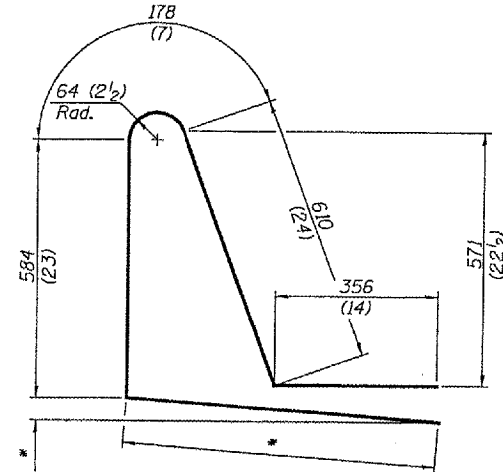
SECTION
(Showing dimensions)



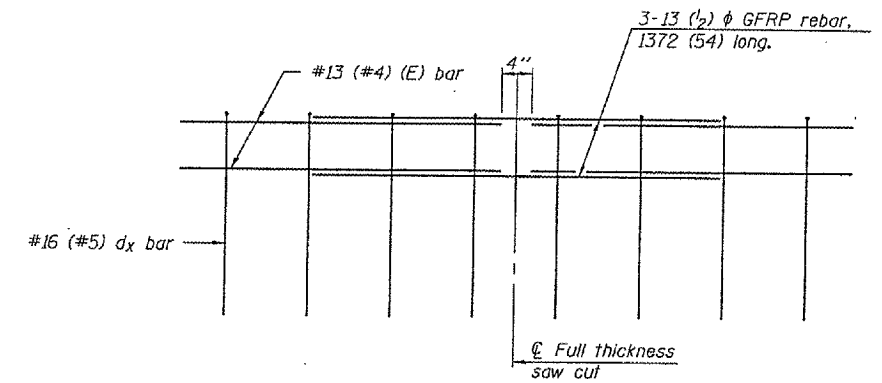
SECTION
(Showing required reinforcement)



BAR dx(ø)



BAR dy(ø)
* Per contract plans



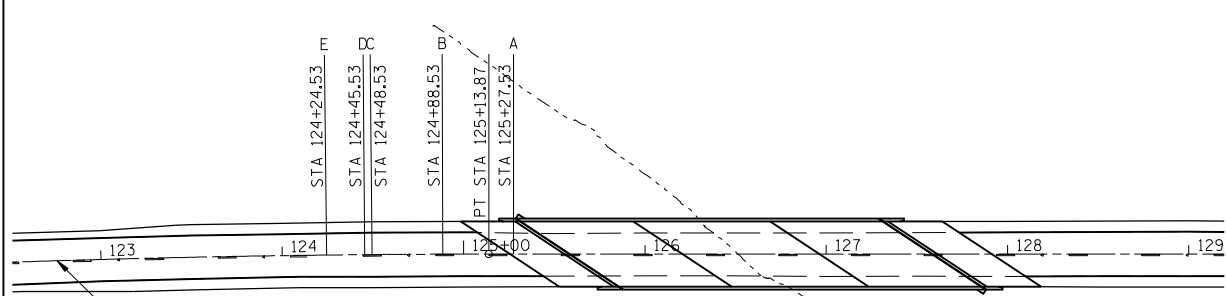
GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section)

GENERAL NOTES

All dimensions shall remain the same as shown on contract plans, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0422 m³/m (.0165 cu. yds./ft.) of parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all other locations. Adjust/add joint locations to maintain 3 to 6 meter (10 to 20 foot) spacing.

**CONCRETE PARAPET
SLIPFORMING OPTION**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	54
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

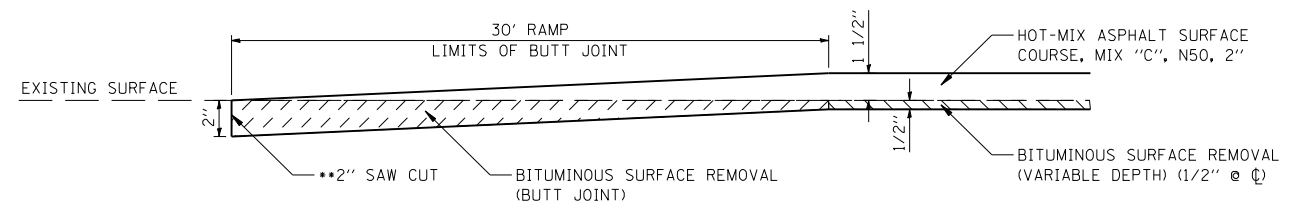


EXIST. CURVE 200
 PI STA. = 119+98.96
 $\Delta = 7^\circ 39' 05''$ (RT)
 $D = 0^\circ 44' 31''$
 $R = 7,722.91'$
 $T = 516.44'$
 $L = 1,031.35'$
 $E = 17.25'$
 $e = \text{-----}$
 $T.R. = \text{-----}$
 $S.E. \text{ RUN} = \text{-----}$
 $P.C. \text{ STA.} = 114+82.52$
 $P.T. \text{ STA.} = 125+13.87$

WEST EDGE OF PAVEMENT	Q AND PROFILE GRADE LINE	EAST EDGE OF PAVEMENT
2.5%	E	2.5%
1.7%	D	1.7%
1.5%	C	1.5%
0.0%	B	1.5%
1.5%	A	1.5%
12'		12'

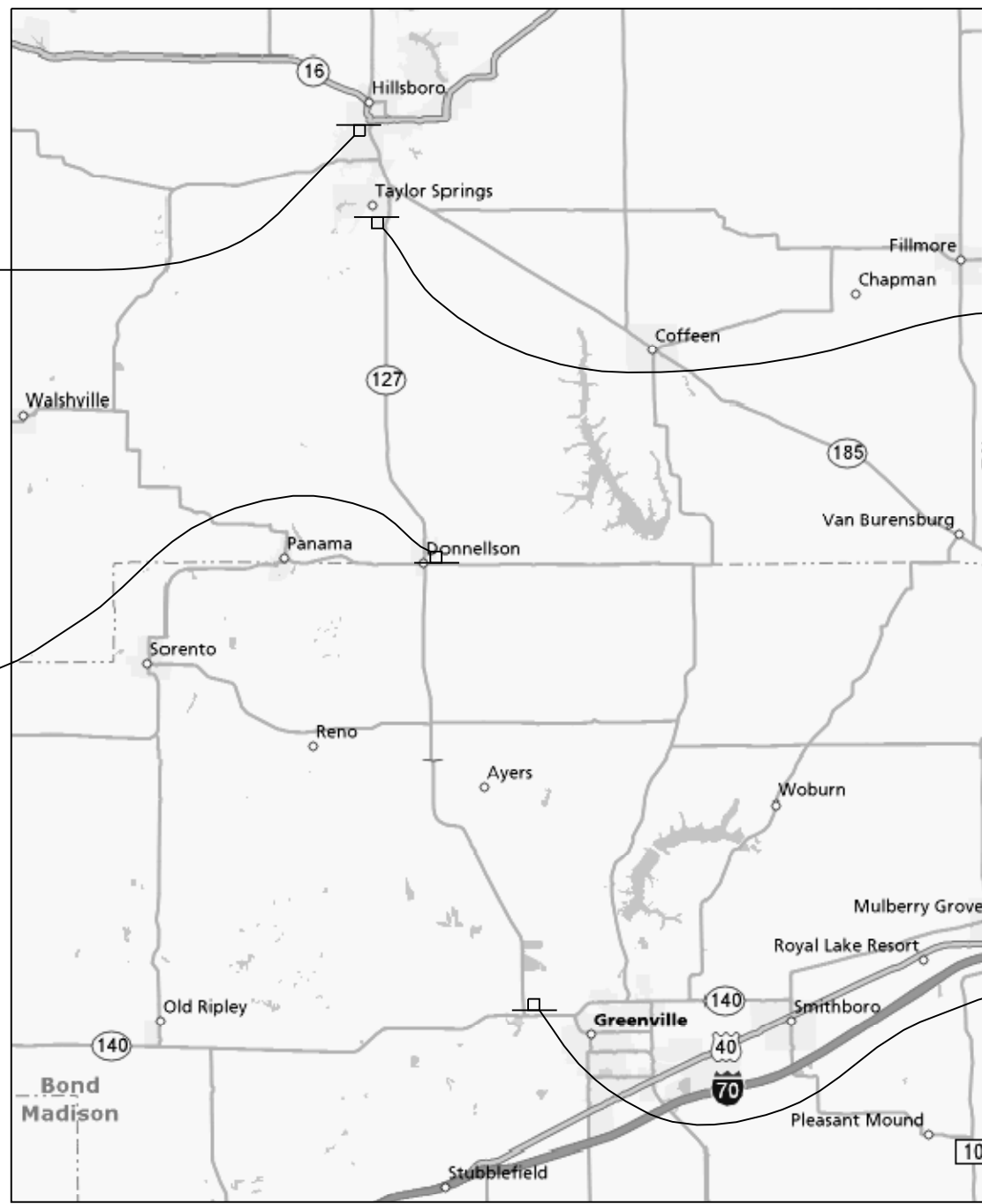
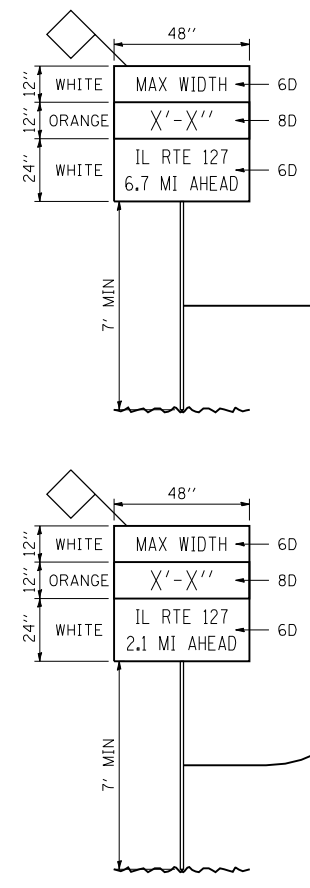
*NOTE - ON ALL OTHER SUPER TRANSITIONS MATCH EXISTING TRANSITIONS

SUPERELEVATION DETAIL



BUTT JOINT DETAIL

**SAW CUT IS INCLUDED IN THE COST OF THE BUTT JOINT AND WILL NOT BE PAID FOR SEPARATELY



NOTE:
 ACTUAL MAX WIDTHS ARE TO BE MEASURED BY THE ENGINEER AFTER TEMPORARY CONCRETE BARRIER WALL IS PLACED FOR STAGE I. WIDTH SHALL BE REMEASURED AND SIGNS UPDATED FOR STAGE II.

MAX WIDTH SIGNS SHALL BE PAID FOR AS ONE LUMP SUM UNDER "WIDTH RESTRICTION SIGNING" (PAY CODE # X7200201)

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
SUPERELEVATION, BUTT JOINT & MAXIMUM WIDTH CONSTRUCTION DETAILS
 FAP 42 (IL RTE, 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

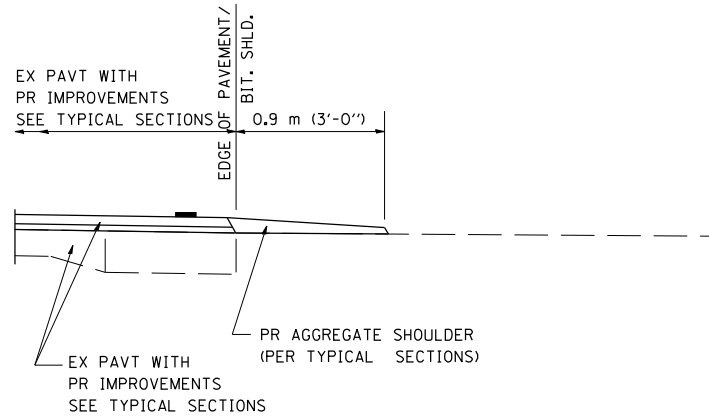
K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
 (217) 348-1500
 WWW.K-PLUSENGINEERING.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

** THIS DOCUMENT IS THE PROPERTY OF K-PLUS ENGINEERING, LTD. AND NO PART HEREIN SHALL BE USED **
 EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF K-PLUS ENGINEERING, LTD.

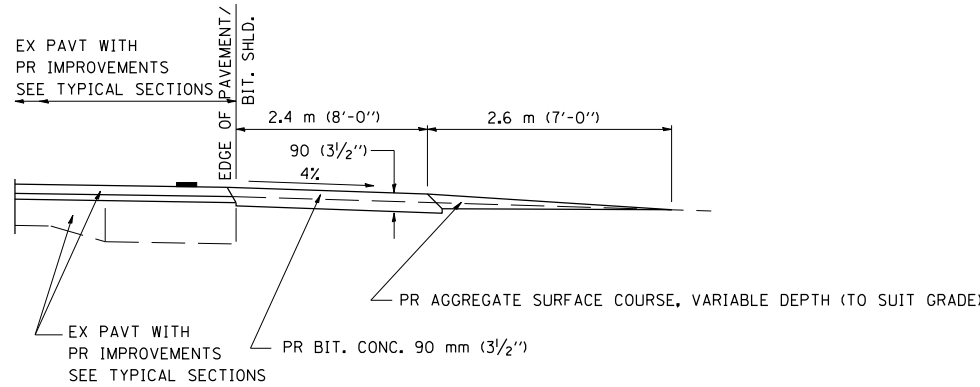
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 HORIZ. 8-07-07
 DRAWN BY: ADG
 CHECKED BY: DC

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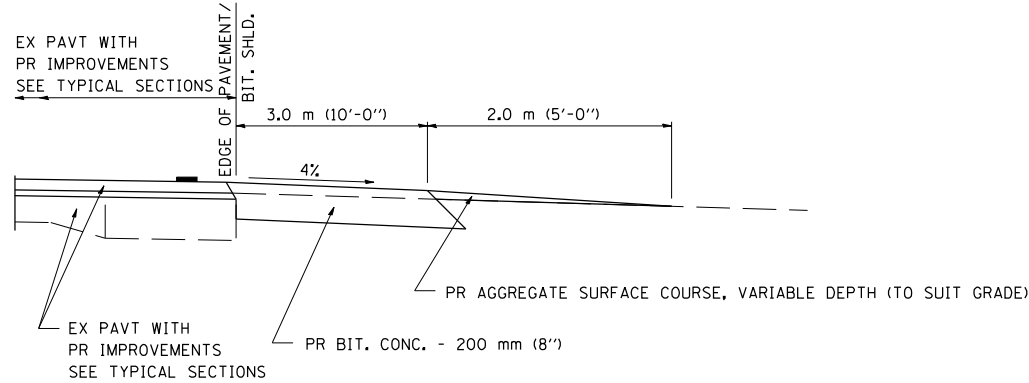
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	55
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



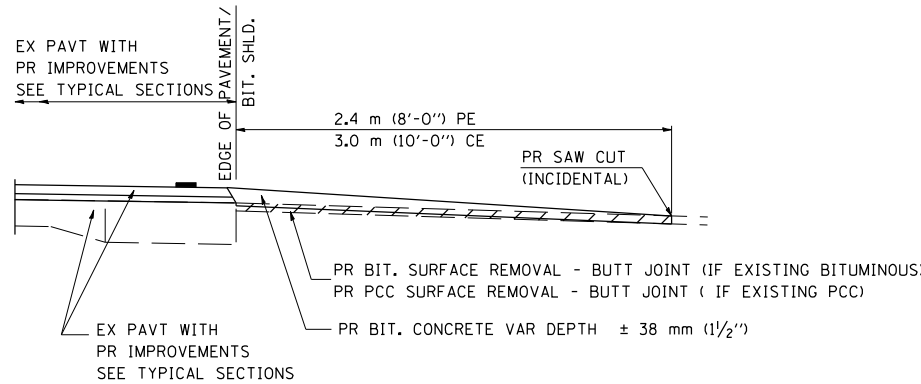
SECTION A-A FOR EX EARTH/AGGREGATE FE



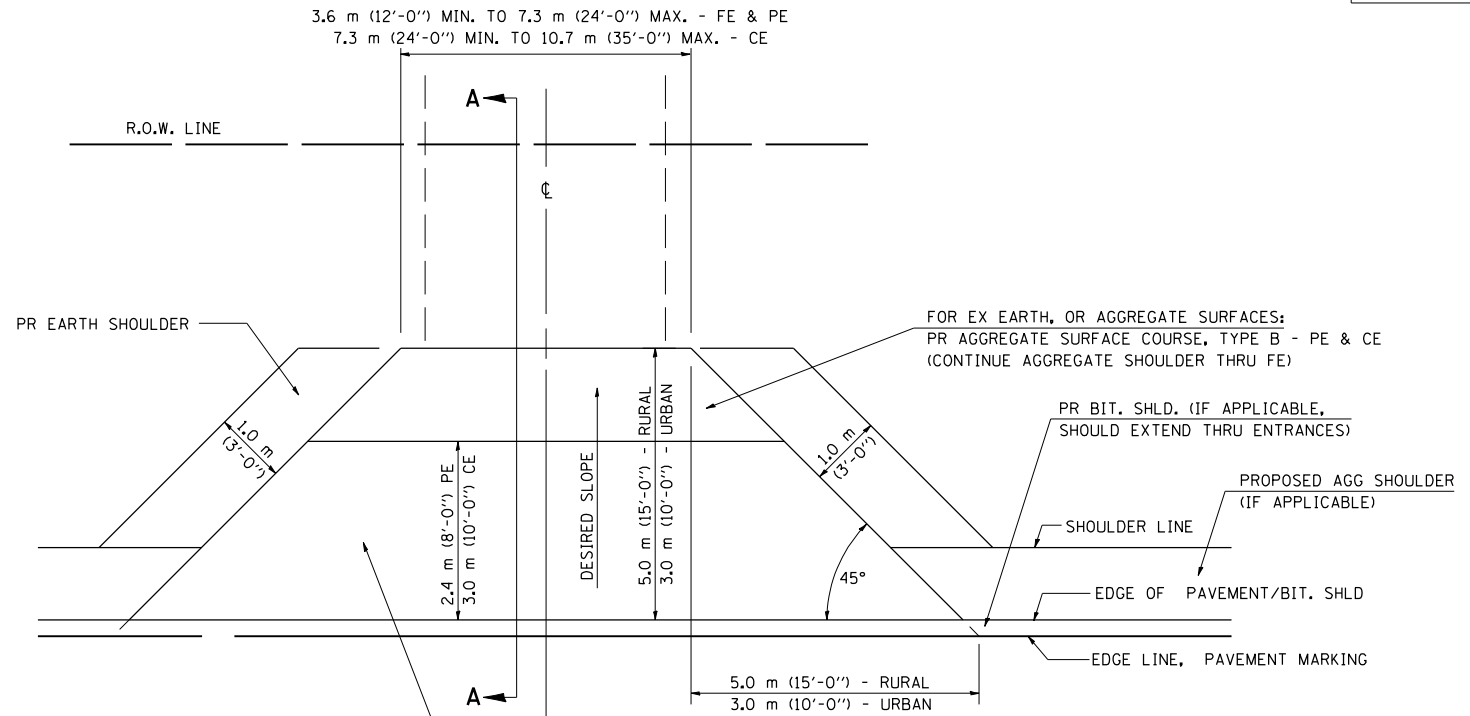
SECTION A-A FOR EX EARTH/AGGREGATE PE



SECTION A-A FOR EX EARTH/AGGREGATE CE & SIDE ROAD



SECTION A-A FOR EX BITUMINOUS/ PC CONCRETE PE, CE & SIDE ROAD



FOR EX EARTH OR AGGREGATE SURFACES:
 PR BIT SURFACE REMOVAL (IF APPLICABLE)
 PR AGGREGATE SHOULDER THRU - FE
 PR BITUMINOUS CONCRETE 90 mm (3 1/2") - PE
 PR BITUMINOUS CONCRETE 200mm (8") - CE

FOR EX BITUMINOUS CONCRETE SURFACES:
 PR BITUMINOUS SURFACE REMOVAL-BUTT JOINT

FOR EX PCC SURFACES:
 PR PCC SURFACE REMOVAL-BUTT JOINT

GENERAL NOTES:

THE RESIDENT ENGINEER WILL DETERMINE THE EXACT TYPE OF IMPROVEMENT TO BE COMPLETED FOR ALL ENTRANCES, SIDEROADS AND MAILBOX TURNOUTS ON THIS PROJECT.

THE PLAN DETAILS AND SCHEDULES SHOULD BE USED AS A GUIDE FOR THE ENGINEER TO IMPLEMENT THE FINAL DESIGN. THE ENGINEER MAY DECIDE TO SALVAGE PORTIONS OF THE EXISTING ENTRANCE PAVEMENT STRUCTURE; THEREFORE, REDUCING PAY ITEM QUANTITIES. NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR THIS REDUCTION IN QUANTITIES.

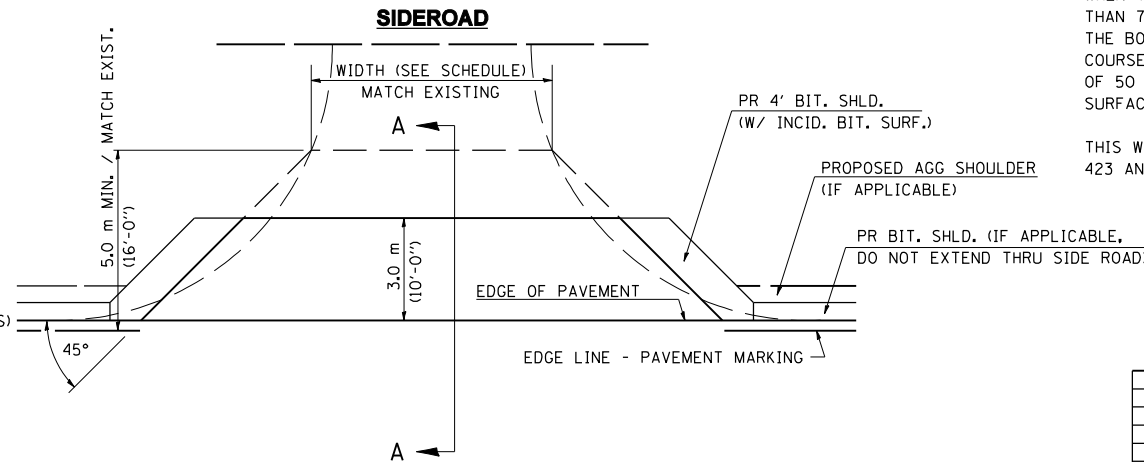
ANY WORK THE ENGINEER REQUIRES WHICH IS NOT COVERED BY A PAY ITEM CONTAINED IN THE PLANS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.

BITUMINOUS CONCRETE REQUIRED TO CONSTRUCT THE ENTRANCES SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 406 AND 408 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

WHEN THE BITUMINOUS CONCRETE PROPOSED FOR THE IMPROVEMENT IS THICKER THAN 75 mm (3 INCHES) AND REQUIRE PLACEMENT IN MORE THAN ONE LIFT. THE BOTTOM LIFT(S) SHALL MEET THE REQUIREMENTS OF BITUMINOUS BASE COURSE IN SECTION 406 OF THE STANDARD SPECIFICATIONS AND THE TOP LIFT OF 50 mm (2 INCHES) SHALL MEET THE REQUIREMENTS OF BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE.

THIS WORK WILL BE PAID FOR IN ACCORDANCE WITH SECTIONS 351, 358, 408, 423 AND 440 OF THE STANDARD SPECIFICATIONS.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.



NOTE : IF BIT. SHLDS ARE PROPOSED THEY SHOULD NOT EXTEND THROUGH SIDEROADS

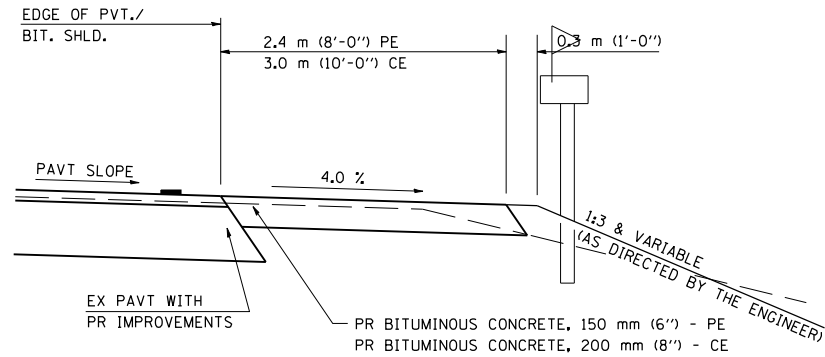
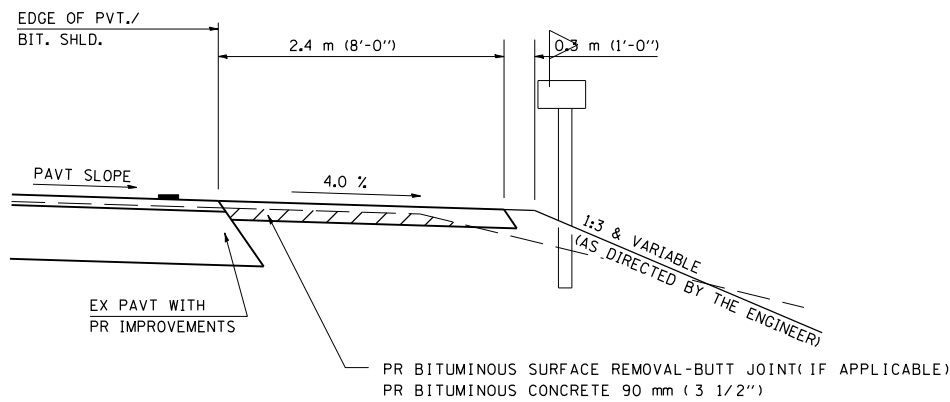
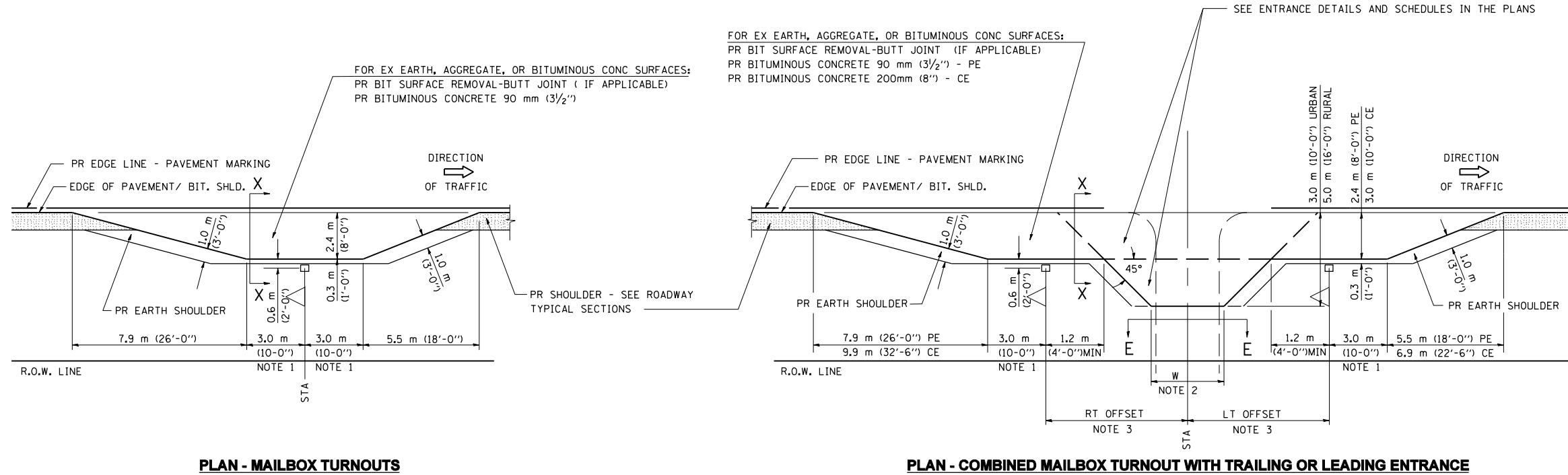
REVISIONS	
NAME	DATE
JCN	2/19/03
JCN	4/01/04

SHEET 1 OF 3
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT SIX DETAILS FOR RURAL / URBAN ENTRANCE, MAILBOX TURNOUT & SIDEROADS W/O CONC. GUTTER(PPP - PROJECTS)

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY
 SCALE: VERT. / HORIZ.
 DATE: FEBRUARY 23, 1999
 DRAWN BY CADD
 CHECKED BY JCN

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	56
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

DETAILS OF MAILBOX TURNOUTS



- NOTE 1 IF MORE THAN ONE MAILBOX IS PRESENT, DIMENSION FROM CENTER OF END MAILBOX.
- NOTE 2 FOR ENTRANCE LAYOUT DIMENSIONS AND SECTIONS A-A & E-E REFER TO THE SCHEDULES IN THE PLANS.
- NOTE 3 BOTH LT OR RT OFFSETS FOR MAILBOX SHOWN USE OFFSET DIMENSION PER SCHEDULE AND REFER TO LAYOUT SHOWN ON THE PLAN.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)
 UNLESS OTHERWISE SHOWN.

SHEET 2 OF 3

REVISIONS	
NAME	DATE
JCN	2/19/03
JCN	4/01/04

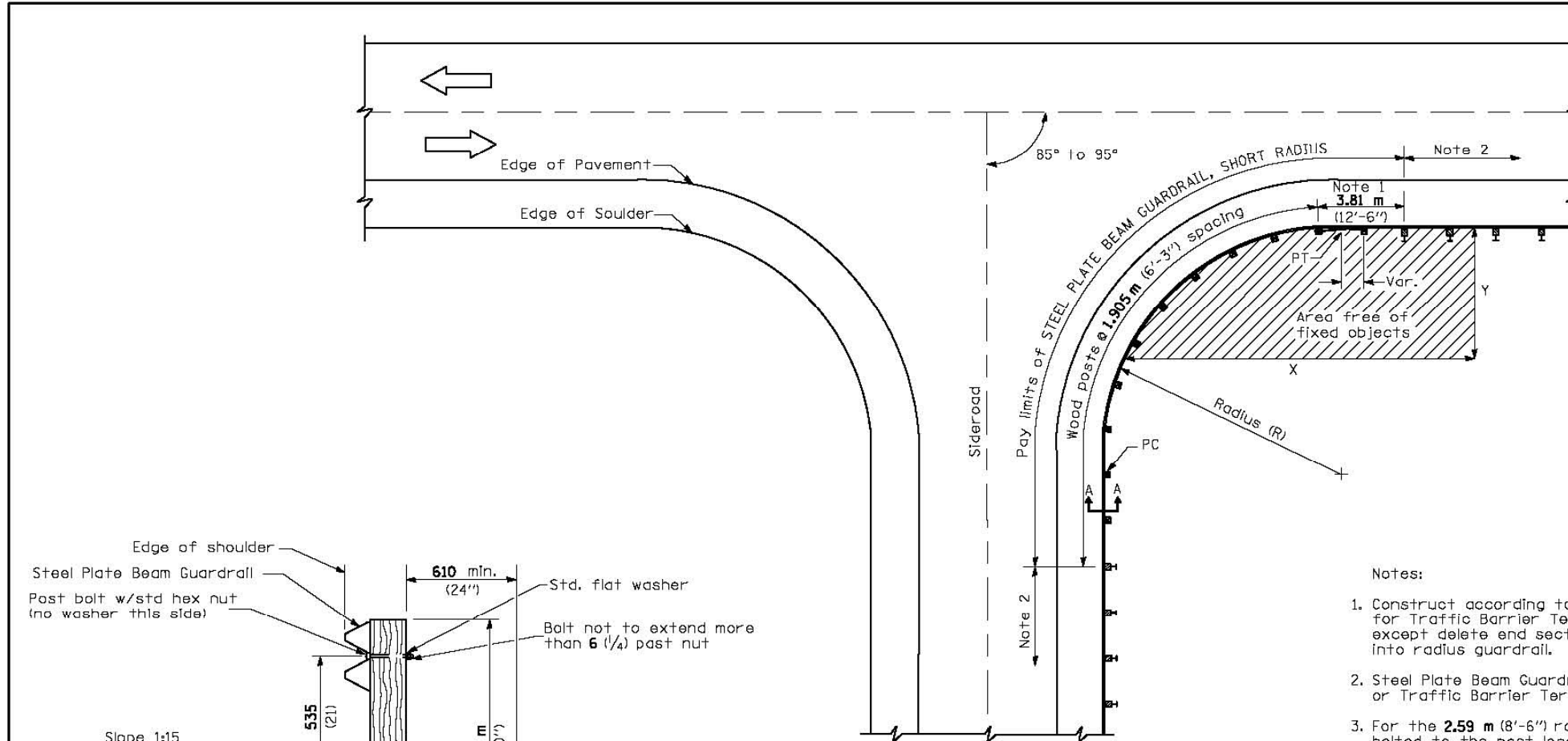
ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT SIX DETAILS FOR RURAL / URBAN ENTRANCE, MAILBOX TURNOUT & SIDEROADS W/O CONC. GUTTER(PPP - PROJECTS)

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

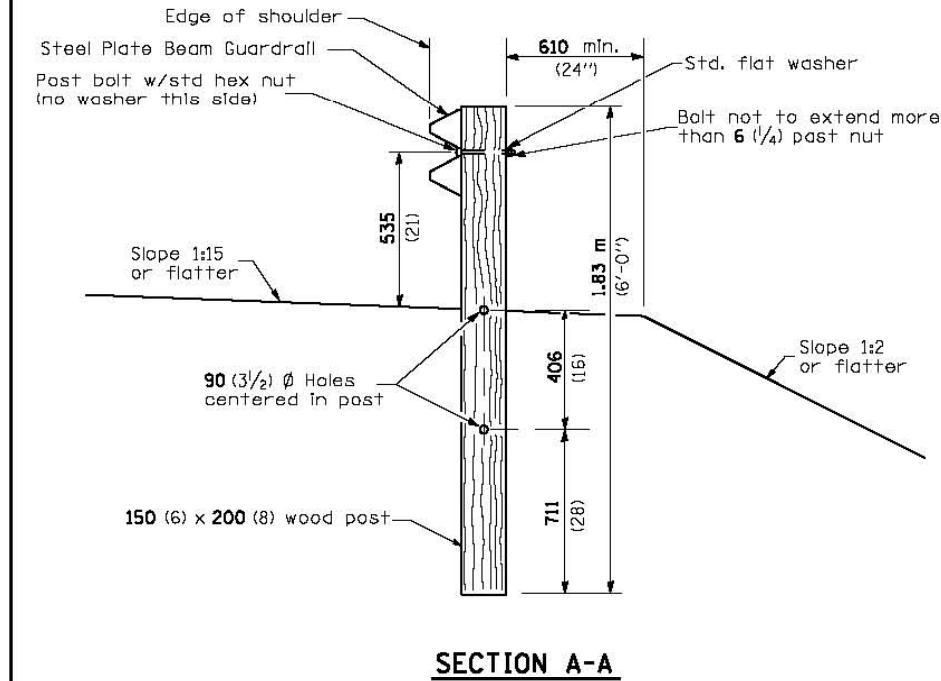
SCALE: VERT. DRAWN BY CADD
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 DATE: FEBRUARY 23, 1999

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 USER NAME = laughlin-1

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	57
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PLAN



SECTION A-A

- Notes:
1. Construct according to Standard 631011 for Traffic Barrier Terminal Type 2, except delete end section and splice into radius guardrail.
 2. Steel Plate Beam Guardrail Type A, Type B, or Traffic Barrier Terminal as specified.
 3. For the 2.59 m (8'-6") radius, the rail is not bolted to the post located at the midpoint of the curve.

INSTALLATION CHARACTERISTICS PER DESIGN RADIUS (R)

R	NO. OF WOOD POSTS	X	Y
2.59 (8'-6")	5 (Note 3)	7.6 m (25')	4.6 (15')
5.18 (17'-0")	6	9.1 m (30')	4.6 (15')
7.77 (25'-6")	8	12.2 m (40')	6.1 (20')
10.67 (35'-0")	11	15.2 m (50')	6.1 (20')

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
All dimensions are in millimeters (inches) unless otherwise shown.

DATE	REVISIONS

STEEL PLATE BEAM GUARDRAIL, SHORT RADIUS
BDE Memo 36-03 Attachment A

REVISIONS	
NAME	DATE

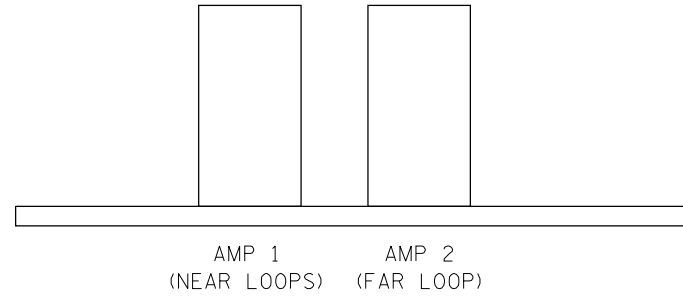
ILLINOIS DEPARTMENT OF TRANSPORTATION
STEEL PLATE BEAM GUARDRAIL, SHORT RADIUS
FAP 42 (IL RTE, 127)
SECTION 106 (B-1, B-2)
MONTGOMERY COUNTY
SCALE: VERT. 8-07-07
HORIZ. 8-07-07
DRAWN BY: ADG
CHECKED BY: DC

K+ K-Plus Engineering, Ltd.
753 WINDSOR ROAD
CHARLESTON, IL 61920
(217) 348-1500
WWW.K-PLUSENGINEERING.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	58
STA. 112+50.00		TO STA. 130+70.00		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

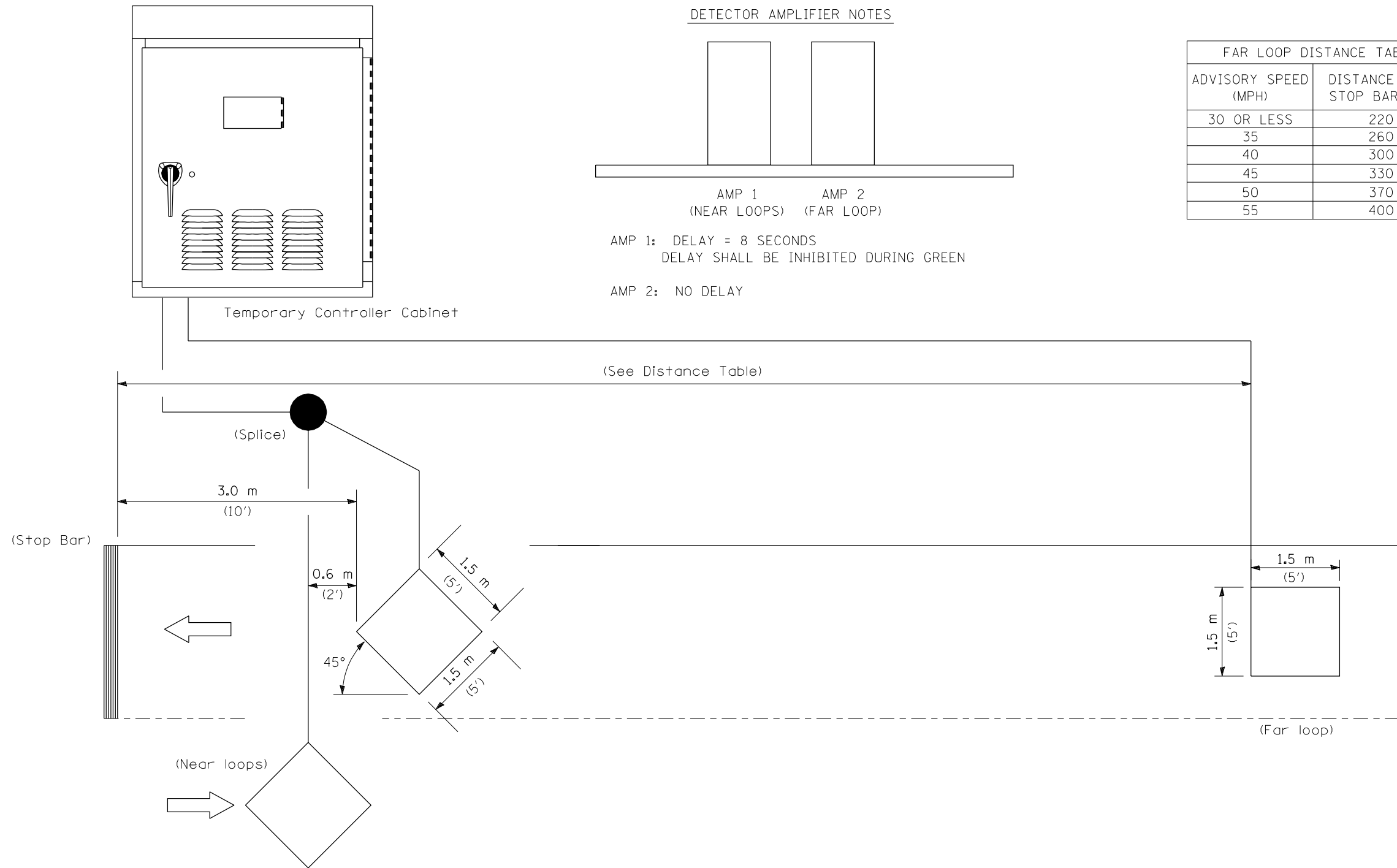
DETECTOR AMPLIFIER NOTES



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

AMP 2: NO DELAY

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



NOTE: All loops centered in lane.

INDUCTION LOOP DETECTOR

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 USER NAME = laughlin-1

K+ K-Plus Engineering, Ltd.
 753 WINDSOR ROAD
 CHARLESTON, IL 61920
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REVISIONS	
NAME	DATE

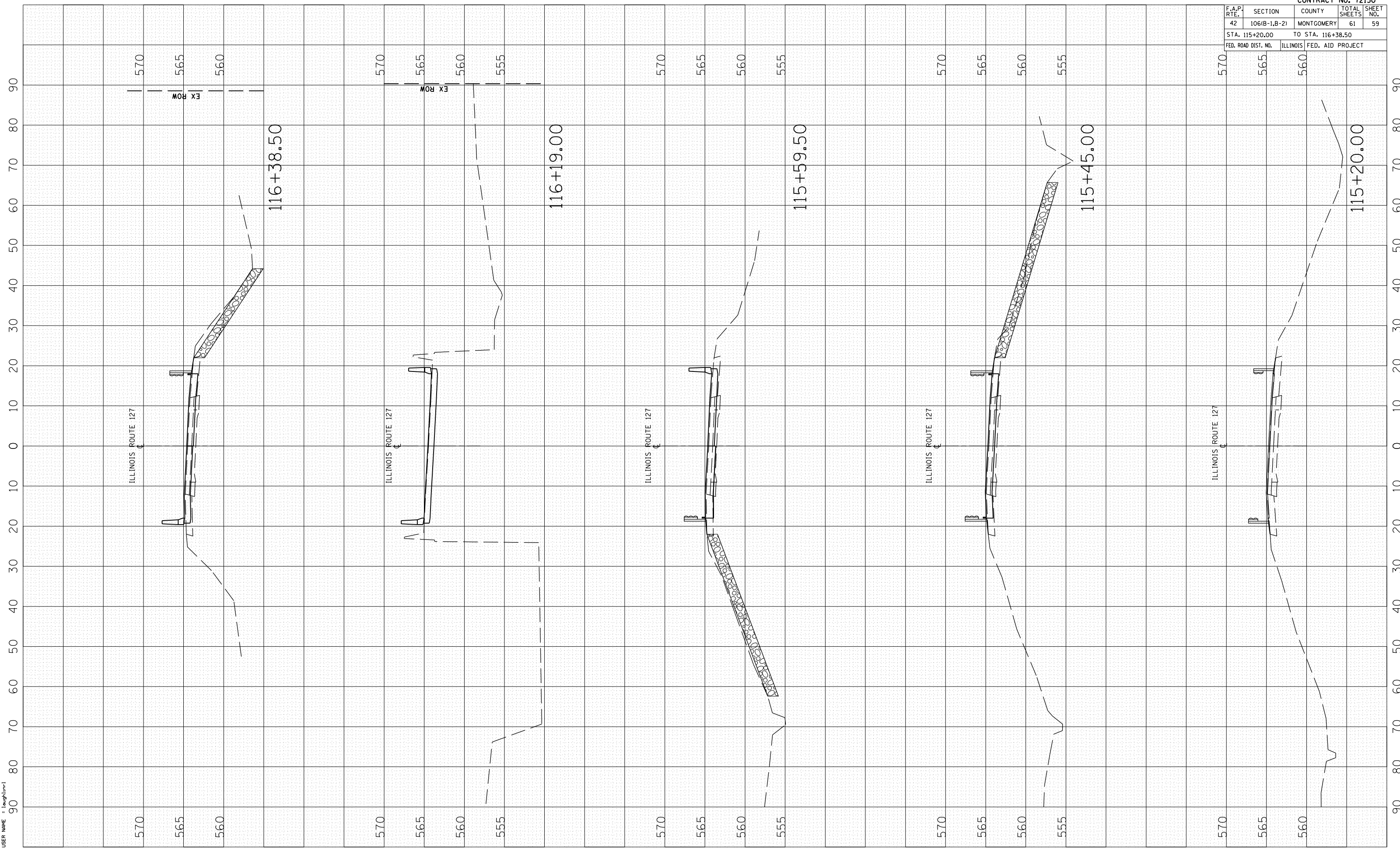
ILLINOIS DEPARTMENT OF TRANSPORTATION
 TEMPORARY BRIDGE TRAFFIC SIGNAL
 LOOP PLACEMENT DETAIL SHEET

FAP 42 (IL RTE. 127)
 SECTION 106 (B-1, B-2)
 MONTGOMERY COUNTY

SCALE: VERT. 8-07-07
 HORIZ. 8-07-07

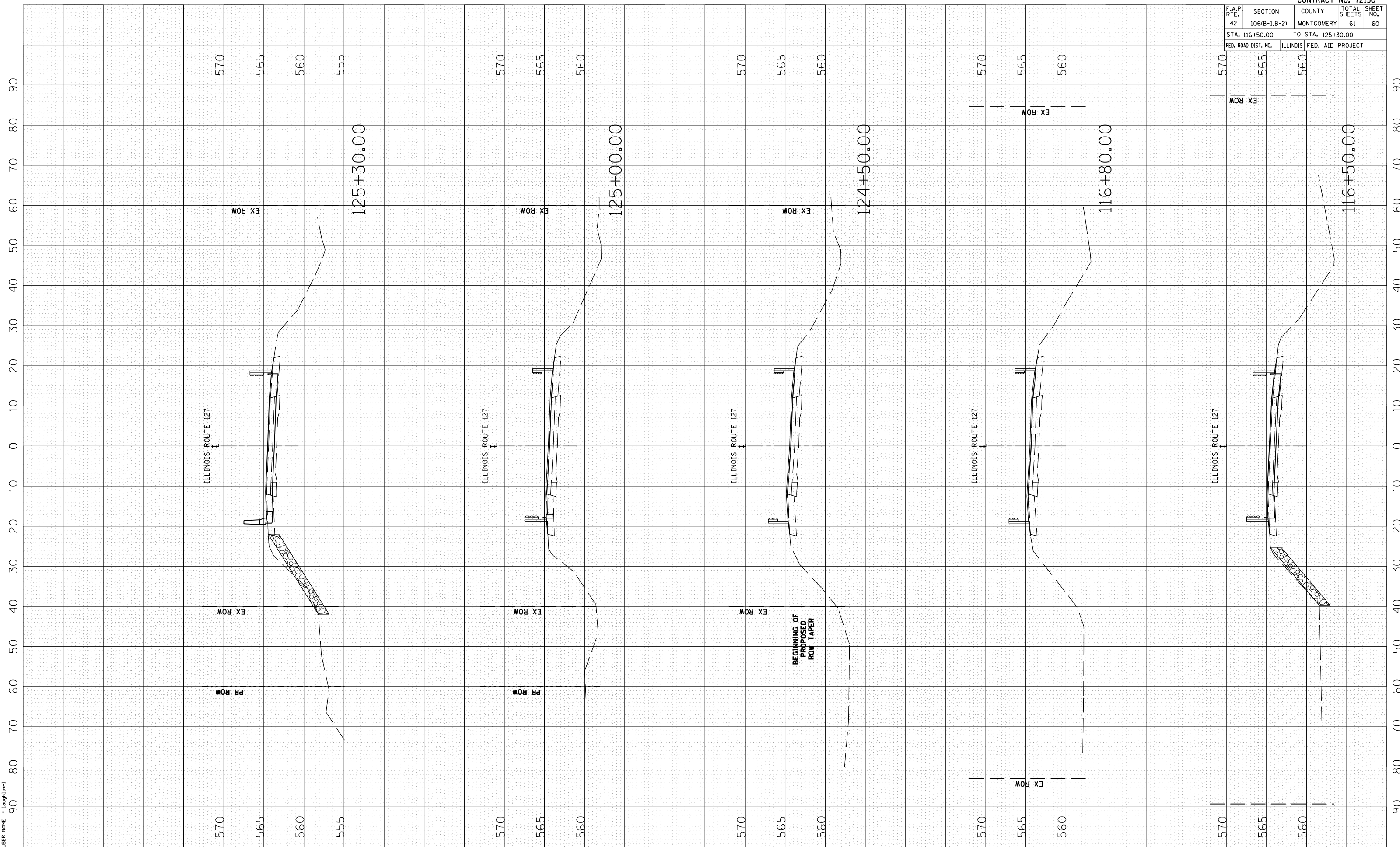
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 CHECKED BY DC

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	106(B-1,B-2)	MONTGOMERY	61	59
STA. 115+20.00		TO STA. 116+38.50		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



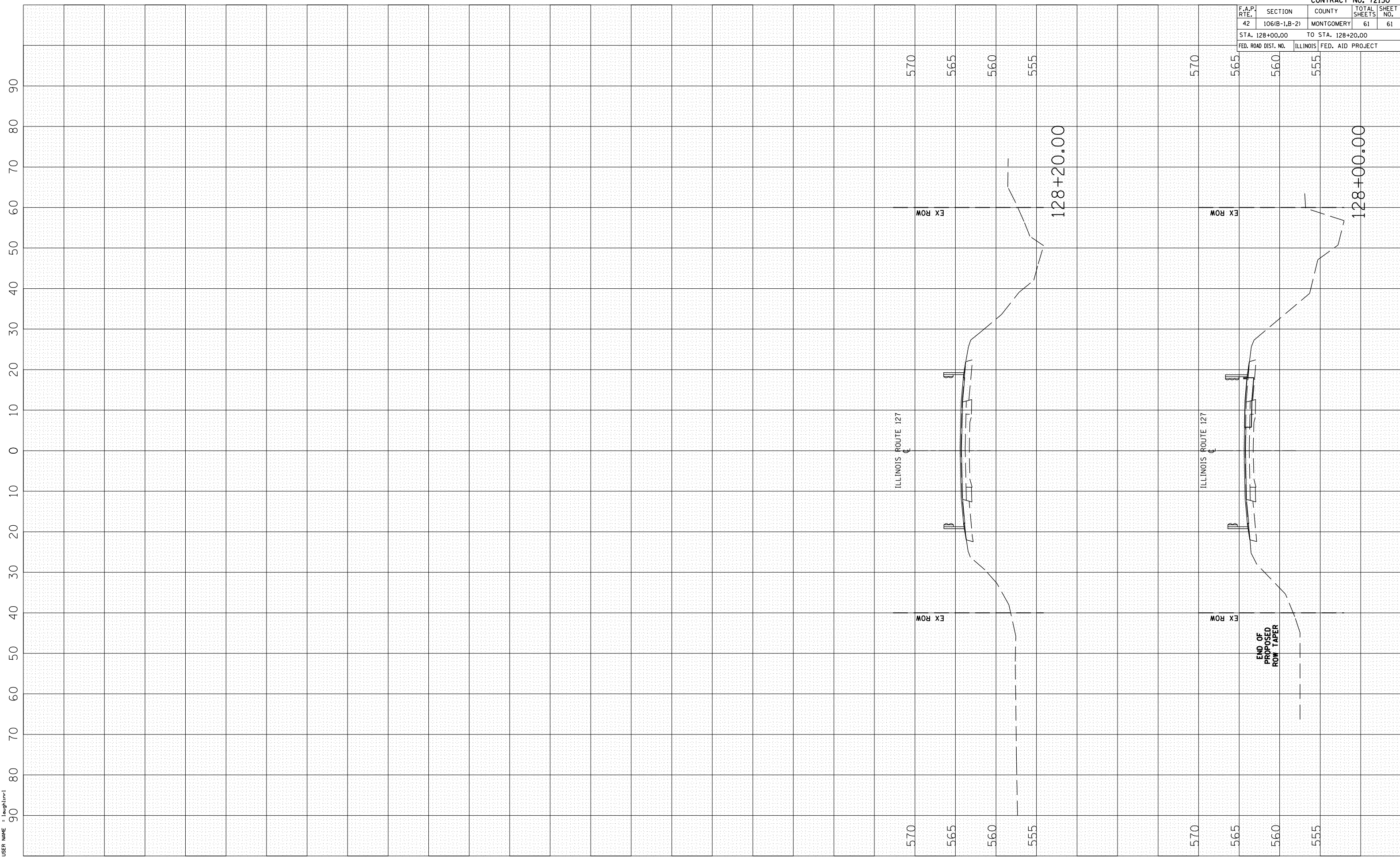
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42	106(B-1,B-2)	MONTGOMERY	61	60
STA. 116+50.00		TO STA. 125+30.00		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



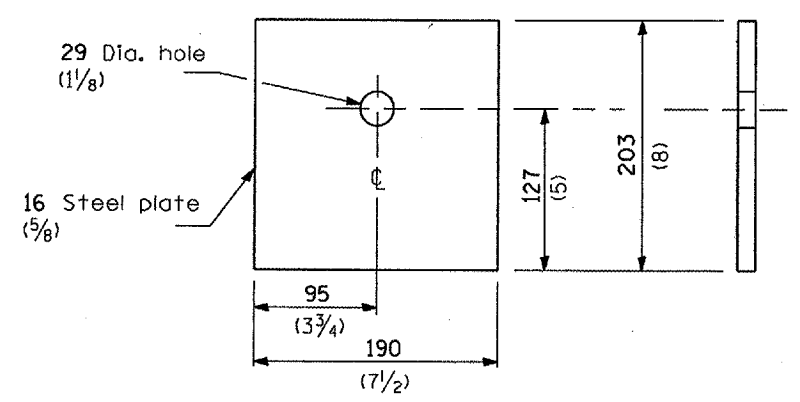
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STA. 128+00.00 TO STA. 128+20.00			ILLINOIS FED. AID PROJECT	

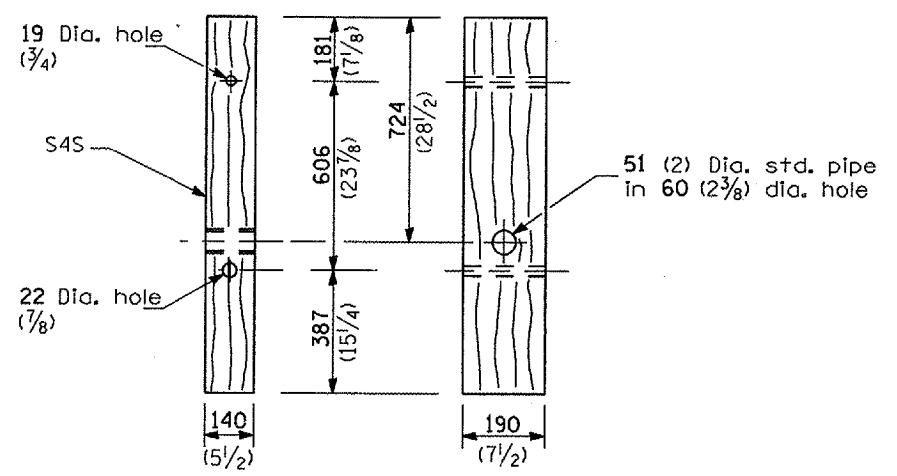


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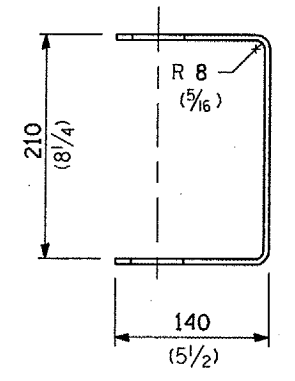
F.A.D. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.		ILLINOIS		FED. AID PROJECT



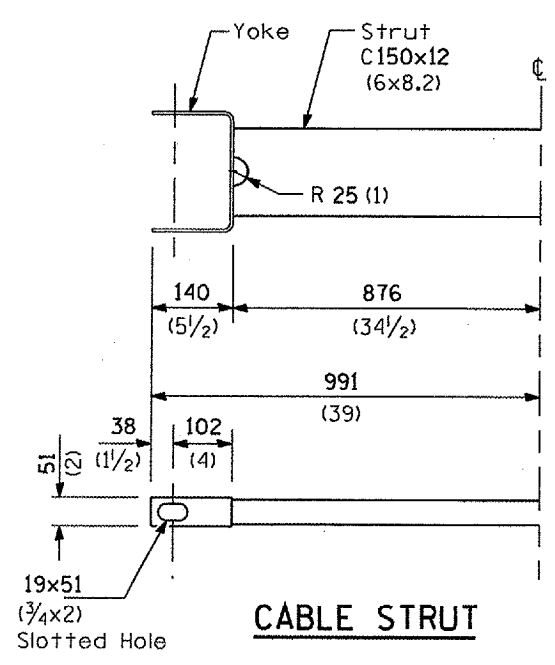
BEARING PLATE K



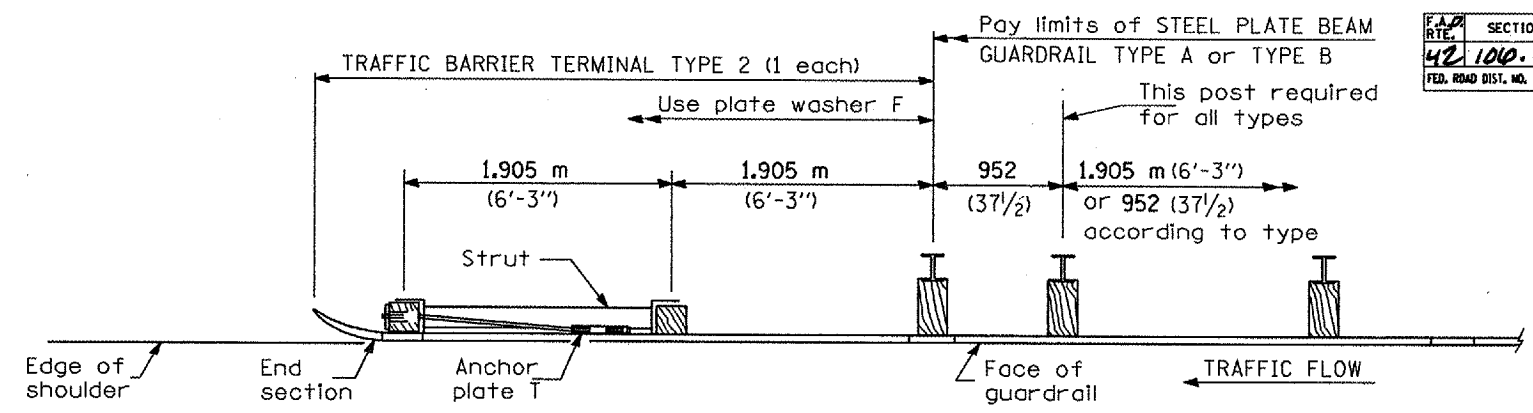
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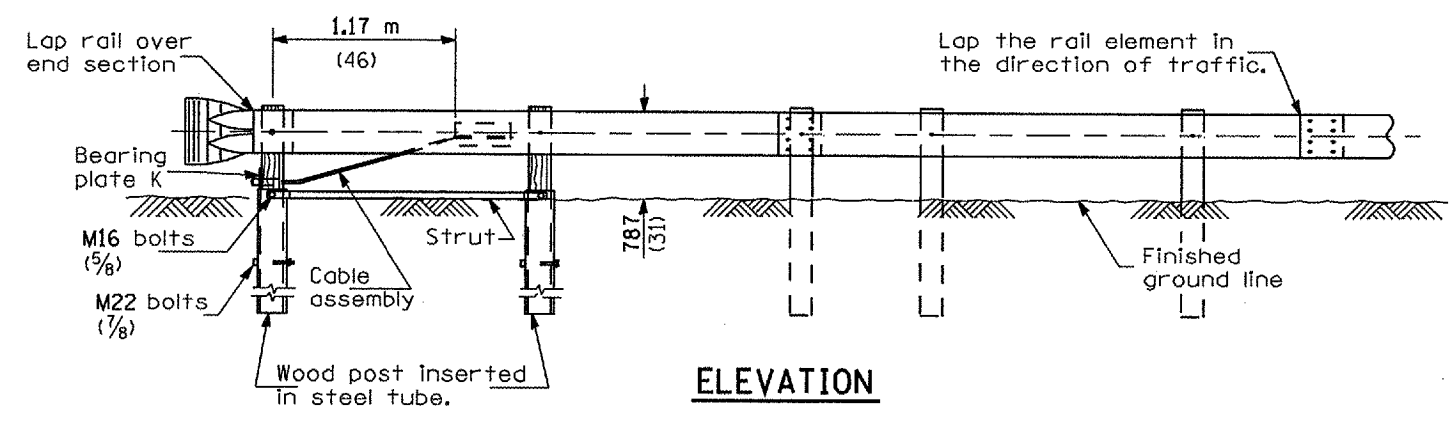
YOKE
5 (3/16) thick steel



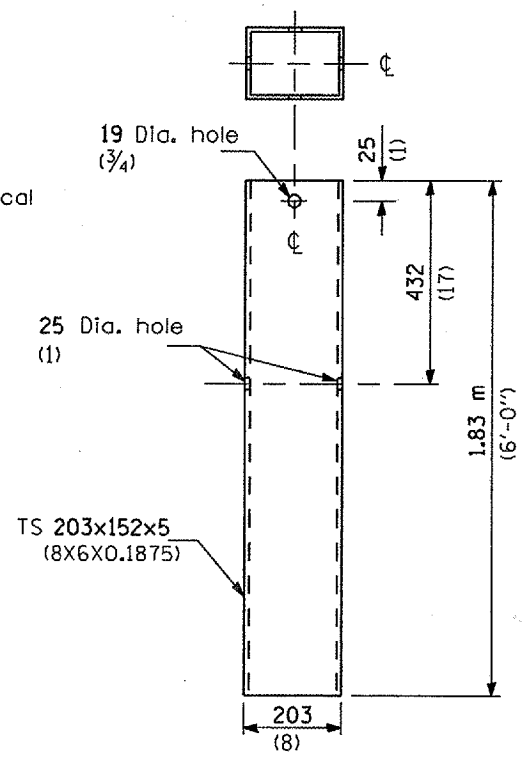
CABLE STRUT



PLAN



ELEVATION



STEEL TUBE

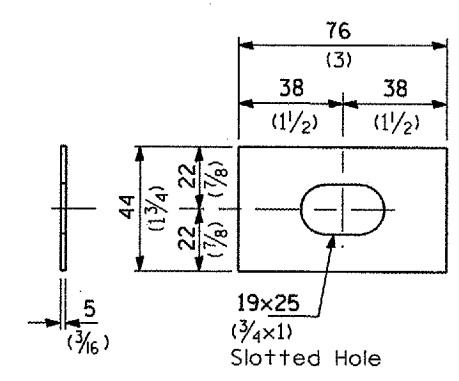


PLATE WASHER F

GENERAL NOTES

See Standard 630001 for details of guardrail not shown.

The bearing plate K shall be held in position by (2) two eight penny nails driven into the post and bent over the top of the plate.

All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC BARRIER TERMINAL, TYPE 2

DETAIL