11-9-12 LETTING ITEM 039

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	1
	ILLINOIS	CONTRACT NO. 74466		

* (18-47-VB)K,(18-47B,18-47HB)BR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

F.A.I. ROUTE 70 (I-70)
SECTION (18–47–VB)K,(18–47B,18–47HB)BR
PROJECT ACIM-070-4(142)120
BRIDGE REMOVAL–DEMOLITION
CUMBERLAND COUNTY

C–97–108–10

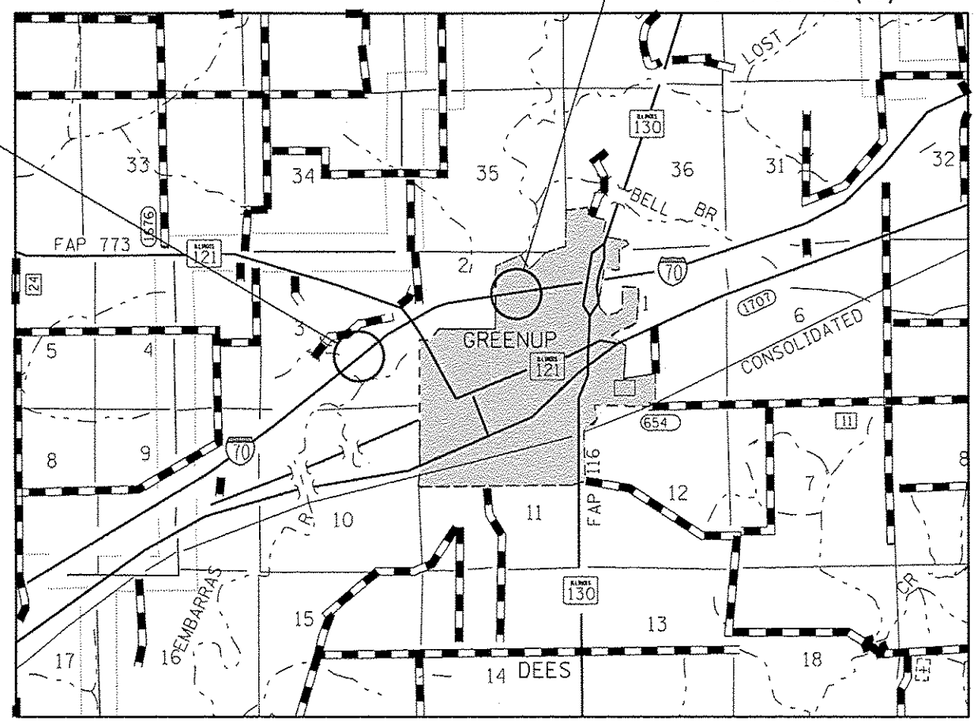
FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATION EQUATION:
STA. 575 + 54.38 (BK) = STA. 80 + 00.00 (AH)

ADT = 19,000 (2012)
51% TRUCKS

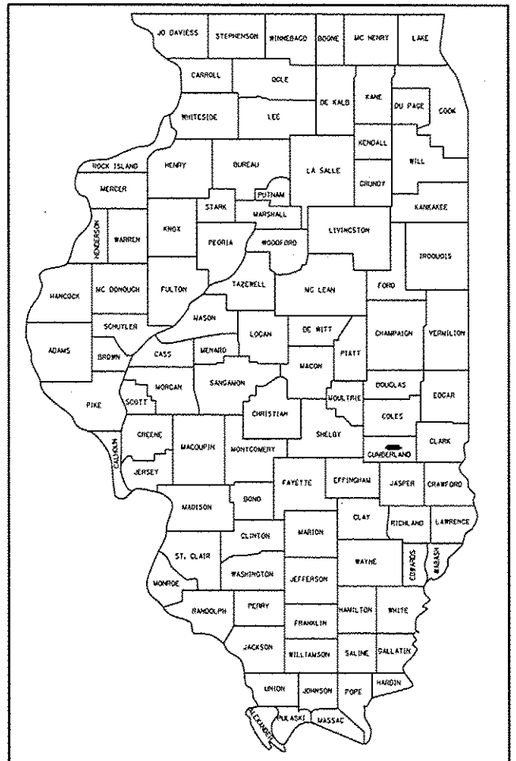
F.A.I. ROUTE 70
SECTION (18–47–VB)K,(18–47B,18–47HB)BR
BEGINS STA. 118 + 00 (WB)
STA. 119 + 00 (EB)

F.A.I. ROUTE 70
SECTION (18–47–VB)K,(18–47B,18–47HB)BR
ENDS STA. 166 + 00 (WB)
STA. 166 + 00 (EB)



GROSS LENGTH = 4,800 FT. = 0.91 MILE
NET LENGTH = 2,725 FT. = 0.52 MILE

D–97–049–10



LOCATION OF SECTION INDICATED THUS: –

100' 200' 300' — 1" = 100'
10' 20' 30' — 1" = 10'
50' 100' — 1" = 50'
50' 100' — 1" = 40'
50' 100' — 1" = 30'
50' 100' — 1" = 20'

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

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

PROJECT ENGINEER: TOM RONAN (217)–342–8320
PROJECT MANAGER: BRETT WALKER (217) 342–8314

CONTRACT NO. 74466

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 17 20 12
Roger L. Duskill /mgr
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
October 5 20 12
John D. Baranzelli, P.E. /by
authority ENGINEER OF DESIGN AND ENVIRONMENT
October 5 20 12
William R. Frey /by
authority DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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INDEX OF SHEETS

THE FOLLOWING STANDARDS ARE PART OF THESE PLANS AND ARE
INCLUDED AFTER SHEET NO. :147

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	2
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2012 AND THE "SPECIAL PROVISIONS" INCLUDED IN THE PROPOSAL.

THIS PROJECT IS LOCATED ON F.A.I. ROUTE 70 IN CUMBERLAND COUNTY. THIS PROJECT IS LOCATED AT EXISTING STRUCTURE NUMBERS 018-0045, 018-0046, 018-0047, 018-0048, 018-0049, AND 018-0050 WHICH ALL CARRY FAI 70 TRAFFIC NORTHWEST OF GREENUP.

THE WORK INCLUDED IN SECTION (18-47-VB)K,(18-47B,18-47HB)BR CONSISTS OF SUPERSTRUCTURE REPLACEMENT ON FOUR STRUCTURES. CONSTRUCTION OF A BOX CULVERT, REMOVING TWO STRUCTURES AND REPLACING WITH EARTHWORK AND HMA PAVEMENT, EARTHWORK, HOT-MIX ASPHALT SHOULDERS, MILLING AND RESURFACING OF EXISTING PAVEMENT, GUARDRAIL, PAVEMENT MARKING, AND ANY OTHER WORK NECESSARY TO COMPLETE THE SECTION. THIS WORK WILL BE COMPLETED UTILIZING EXISTING MEDIAN CROSSOVERS.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

THE EXISTING STRUCTURAL STEEL COATING ON STRUCTURES 018-0045 AND 018-0046 CONTAINS LEAD. THE CONTRACTOR SHALL TAKE APPROPRIATE PRECAUTIONS IN DISPOSING OF THE STRUCTURAL STEEL AND BEARINGS COATED WITH LEAD PAINT.

THE SUBBASE USED UNDER THE PCC BRIDGE APPROACH PAVEMENT CONNECTOR SHALL BE SUBBASE GRANULAR MATERIAL TYPE B, 4" AND THE COST IS INCLUDED WITH THE PAY ITEM.

THE MATERIAL USED FOR SUBBASE GRANULAR MATERIAL, TYPE B 12", SHALL BE CRUSHED STONE OR CRUSHED CONCRETE, AND HAVE A CA-6 GRADATION.

THE MATERIAL USED FOR AGGREGATE SHOULDERS, TYPE B 6" SHALL BE CRUSHED STONE OR CRUSHED CONCRETE.

THE EXISTING 9' X 6' BOX CULVERT LOCATED BENEATH THE WEST SLOPEWALLS OF STRUCTURES 018-0045 AND 018-0046 SHALL BE FILLED IN ITS ENTIRETY WITH CONTROLLED LOW-STRENGTH MATERIAL. A QUANTITY OF 536 CUBIC YARDS OF CONTROLLED LOW-STRENGTH MATERIAL HAS BEEN INCLUDED FOR THIS WORK.

LONGITUDINAL REINFORCEMENT FOR CLASS A PATCHES SHALL BE #6 BARS.

THE 6' WHITE PINE TREES TO BE PLANTED WILL BE DELIVERED TO THE GREENUP MAINTENANCE YARD LOCATED ON U.S. ROUTE 40 NEAR THE WEST EDGE OF GREENUP. THE 6' WHITE PINE TREES WILL BE PLANTED OFF SITE BY STATE MAINTENANCE PERSONNEL. THE CONTRACTOR WILL BE REQUIRED TO DELIVER REQUESTED TREES WITHIN 30 CALENDAR DAYS OF WHEN THEY ARE REQUESTED BY THE RESIDENT ENGINEER. THE RESIDENT ENGINEER SHALL CONTACT PHIL NOSBISCH, THE DISTRICT 7 ROADSIDE MAINTENANCE TECHNICIAN, AT 217-342-8281 TO NOTIFY HIM OF THE ANTICIPATED DELIVERY DATE OF TREES. THE RESIDENT ENGINEER SHALL ALSO CONTACT ROB COX, MAINTENANCE FIELD TECHNICIAN, AT 217-994-1205 TO NOTIFY HIM OF THE ANTICIPATED DELIVERY DATE OF TREES. THE DISTRICT 7 ROADSIDE MAINTENANCE TECHNICIAN SHALL INSPECT ALL TREES WITHIN 48 HOURS AFTER THEY ARE DELIVERED TO THE GREENUP MAINTENANCE YARD. THE DISTRICT 7 ROADSIDE MAINTENANCE TECHNICIAN SHALL NOTIFY THE CONTRACTOR IN WRITING, WITHIN 24 HOURS AFTER COMPLETING INSPECTION OF THE TREES , AS TO THE ACCEPTANCE OF THE TREES. UPON RECEIVING WRITTEN ACCEPTANCE FROM THE DISTRICT 7 ROADSIDE MAINTENANCE TECHNICIAN THE CONTRACTOR IS RELIEVED OF ALL RESPONSIBILITY AND CLAIMS RELATING TO THE 6' WHITE PINE TREES.

THE REMAINING TREES WILL BE PLANTED ONSITE AND SHALL BE APPROVED AND HAND PLANTED AT LOCATIONS AS DIRECTED BY THE ROADSIDE MAINTENANCE TECHNICIAN, PHIL NOSBISH, (217) 342-8270. THE CONTRACTOR SHALL BE REQUIRED TO GIVE TWO WEEKS NOTICE TO SCHEDULE A TIME FOR THE LOCATIONS TO BE STAKED AND ON THE SAME DAY THE TREES SHALL BE DELIVERED TO THE JOBSITE FOR ACCEPTANCE OF THE PLANTING MATERIAL BY THE ROADSIDE MAINTENANCE TECHNICIAN.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

HMA BASE COURSE WIDENING 14" AND HMA BASE COURSE 14":

1ST LIFT (6"):
MIXTURE USE: HMA BASE COURSE WIDENING 14" AND HMA BASE COURSE 14"
APPLICATION: HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL-19.0
FRICTION AGGREGATE: N/A

2ND LIFT (5 1/2"):
MIXTURE USE: HMA BASE COURSE WIDENING 14" AND HMA BASE COURSE 14"
APPLICATION: HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL-19.0
FRICTION AGGREGATE: N/A

TOP LIFT (2 1/2"):
MIXTURE USE: HMA BASE COURSE WIDENING 14" AND HMA BASE COURSE 14"
APPLICATION: HOT-MIX ASPHALT SURFACE COURSE MIX "D" N90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL-9.5
FRICTION AGGREGATE: MIXTURE D

16 1/4" FULL-DEPTH HMA SECTION:

TOP LIFT OF SURFACE (2")
APPLICATION: POLYMERIZED HOT MIX ASPHALT SURFACE COURSE, MIX D, N105
PG GRADE: SBS PG 70-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 105
MIXTURE COMPOSITION: IL-9.5
FRICTION AGGREGATE: MIX D

TOP BINDER COURSE LIFT (2 1/2 ")
APPLICATION: POLYMERIZED HOT MIX ASPHALT BINDER COURSE, IL-19.0FG N105
PG GRADE: SBS PG 70-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 105
MIXTURE COMPOSITION: IL- 19.0FG
FRICTION AGGREGATE: N/A

BINDER COURSE LIFT #3 (3")
APPLICATION: HOT MIX ASPHALT BINDER COURSE, IL-19.0 N 90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL- 19.0
FRICTION AGGREGATE: N/A

BINDER COURSE LIFT #2 (4")
APPLICATION: HOT MIX ASPHALT BINDER COURSE, IL-19.0 N 90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL- 19.0
FRICTION AGGREGATE: N/A

BINDER COURSE LIFT #1 (4 3/4")
APPLICATION: HOT MIX ASPHALT BINDER COURSE, IL-19.0 N 90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL- 19.0
FRICTION AGGREGATE: N/A

HMA SHOULDERS (8"):

BOTTOM SHOULDER LIFT (6")
APPLICATION: HOT MIX ASPHALT BINDER COURSE, IL-19.0 N 70
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 70
MIXTURE COMPOSITION: IL-19.0
FRICTION AGGREGATE: N/A

TOP SHOULDER LIFT (2")
APPLICATION: HOT MIX ASPHALT SURFACE COURSE, IL-9.5L N 30
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 30
MIXTURE COMPOSITION: IL- 9.5L
FRICTION AGGREGATE: N/A

SURFACE APPROACHES TO BRIDGES AND NEW PAVEMENT:

APPLICATION: POLYMERIZED HOT MIX ASPHALT SURFACE COURSE, MIX D, N105
PG GRADE: SBS PG 70-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 105
MIXTURE COMPOSITION: IL-9.5
FRICTION AGGREGATE: MIX D

DECK SLAB REPAIR AND PARTIAL DEPTH PATCHING

APPLICATION: HOT MIX ASPHALT BINDER COURSE, IL-19.0 N 90
PG GRADE: PG 64-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL- 19.0
FRICTION AGGREGATE: N/A

PRE-STAGE I BRIDGE OVERLAYS AND INLAY:

SURFACE MIX (2")
APPLICATION: POLYMERIZED HOT MIX ASPHALT SURFACE COURSE, MIX D, N90
PG GRADE: SBS PG 70-22
DESIGN AIR VOIDS: 4.0% @ NDESIGN = 90
MIXTURE COMPOSITION: IL-9.5
FRICTION AGGREGATE: MIX D

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:

AGGREGATE SHOULDERS, TYPE B	2.05 TONS/CU YD
BITUMINOUS MATERIALS (PRIME COAT)	0.10 GAL/SQ YD
HOT-MIX ASPHALT	112 LBS/SQ YD/INCH

* (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	3
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
X0327488	TEMPORARY BARRIER GATE SYSTEM	EACH	2	2		
X0327489	RELOCATE TEMPORARY BARRIER GATE SYSTEM	EACH	2	2		
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	421	421		
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	192	192		
20100500	TREE REMOVAL, ACRES	ACRE	1.25	1.25		
20200100	EARTH EXCAVATION	CU YD	2451	2451		
20400800	FURNISHED EXCAVATION	CU YD	38464	38182	148	134
21001000	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	374	374		
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	1559	1559		
* 25000200	SEEDING, CLASS 2	ACRE	3.5	3	0.25	0.25
* 25000350	SEEDING, CLASS 7	ACRE	0.25	0.25		
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND	315	270	23	22
* 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	315	270	23	22
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	315	270	23	22

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
25000700	AGRICULTURAL GROUND LIMESTONE	TON	7	6	0.5	0.5
25100115	MULCH, METHOD 2	ACRE	3.5	3	0.25	0.25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	1050	900	75	75
28000305	TEMPORARY DITCH CHECKS	FOOT	60	60		
28000400	PERIMETER EROSION BARRIER	FOOT	3470	3470		
28100107	STONE RIPRAP, CLASS A4	SQ YD	464	464		
28100109	STONE RIPRAP, CLASS A5	SQ YD	177	177		
28200200	FILTER FABRIC	SQ YD	641	641		
31101810	SUBBASE GRANULAR MATERIAL, TYPE B 12"	SQ YD	2064	2064		
31101900	SUBBASE GRANULAR MATERIAL, TYPE C	TON	279	279		
35101400	AGGREGATE BASE COURSE, TYPE B	TON	212	212		
35501340	HOT-MIX ASPHALT BASE COURSE, 14"	SQ YD	2543	240	1166	1137
35600732	HOT-MIX ASPHALT BASE COURSE WIDENING, 14"	SQ YD	12541	12541		
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	1749	321	664	764

* SPECIALTY ITEM

• (18-47-VBIK,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	4
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	1018		534	484
40603545	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	532	78	129	325
40603550	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N105	TON	1499	282	640	577
40702006	HOT-MIX ASPHALT PAVEMENT (FULL-DEPTH), 16 1/4"	SQ YD	1152	1152		
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	208		106.7	101.3
44000100	PAVEMENT REMOVAL	SQ YD	208		106.7	101.3
44004250	PAVED SHOULDER REMOVAL	SQ YD	13430	12275	732	423
44200616	CLASS A PATCHES, TYPE I, 14 INCH	SQ YD	8	8		
44200620	CLASS A PATCHES, TYPE II, 14 INCH	SQ YD	67	67		
44200624	CLASS A PATCHES, TYPE III, 14 INCH	SQ YD	37	37		
44200628	CLASS A PATCHES, TYPE IV, 14 INCH	SQ YD	227	227		
44213000	PATCHING REINFORCEMENT	SQ YD	338	338		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
44213200	SAW CUTS	FOOT	1164	1164		
44213204	TIE BARS 3/4"	EACH	146	146		
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	698	96	312	290
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	98		53	45
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	528	528		
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1	1		
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1	1		
50102400	CONCRETE REMOVAL	CU YD	127.8		68.5	59.3
50104650	SLOPE WALL REMOVAL	SQ YD	2297	2215	55	27
50104701	REMOVAL OF EXISTING CONCRETE DECK NO. 1	EACH	1		1	
50104702	REMOVAL OF EXISTING CONCRETE DECK NO. 2	EACH	1		1	
50104703	REMOVAL OF EXISTING CONCRETE DECK NO. 3	EACH	1			1
50104704	REMOVAL OF EXISTING CONCRETE DECK NO. 4	EACH	1			1
50157300	PROTECTIVE SHIELD	SQ YD	484		484	

• (18-47-VBIK,18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	5
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE: SN 018-0045 SN 018-0046	SN 018-0047 SN 018-0048	SN 018-0049 SN 018-0050
				0004	0014	0014
50200100	STRUCTURE EXCAVATION	CU YD	648		393	255
50300225	CONCRETE STRUCTURES	CU YD	202.7		104.6	98.1
50300255	CONCRETE SUPERSTRUCTURE	CU YD	2734.7		687.4	2047.3
50300260	BRIDGE DECK GROOVING	SQ YD	7200		1711	5489
50300300	PROTECTIVE COAT	SQ YD	16029		2048	13981
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1			1
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4320		4320	
50500505	STUD SHEAR CONNECTORS	EACH	23895		7047	16848
50800105	REINFORCEMENT BARS	POUND	176402	176402		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	620290	730	162440	457120
50800515	BAR SPLICERS	EACH	336		180	156
51100100	SLOPE WALL 4 INCH	SQ YD	108		108	
51100300	SLOPE WALL 6 INCH	SQ YD	27			27
51500100	NAME PLATES	EACH	4		2	2

PH

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE: SN 018-0045 SN 018-0046	SN 018-0047 SN 018-0048	SN 018-0049 SN 018-0050
				0004	0014	0014
52000110	PREFORMED JOINT STRIP SEAL	FOOT	152			152
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	35		35	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	48			48
52100505	ANCHOR BOLTS, 5/8"	EACH	192			192
52100520	ANCHOR BOLTS, 1"	EACH	84		84	
54003000	CONCRETE BOX CULVERTS	CU YD	595	595		
5421A024	PIPE CULVERTS, CLASS A, TYPE 1 24" (TEMPORARY)	FOOT	40	40		
58700300	CONCRETE SEALER	SQ FT	1359			1359
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	346		231	115
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	536	536		
60100905	PIPE DRAINS 4"	FOOT	1040		500	540
60107700	PIPE UNDERDRAINS 6"	FOOT	864	864		
60108200	PIPE UNDERDRAINS 6" (SPECIAL)	FOOT	80	80		

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• (18-47-VBIK,(18-47B,18-47HBIBR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	6
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	6	6		
60900240	TYPE C INLET BOX, STANDARD 609006	EACH	1			1
*63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	1800		940	860
*63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	900	550	200	150
*63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	12		6	6
*63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4		2	2
63200310	GUARDRAIL REMOVAL	FOOT	1487	387	510	590
63801200	MODULAR GLARE SCREEN SYSTEM	FOOT	8900	8900		
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	21364	21364		
66101150	HOT-MIX ASPHALT SHOULDER CURB	FOOT	900	500	100	300
*66500105	WOVEN WIRE FENCE, 4'	FOOT	1118	889	119	110
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	2	2		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	21	7	7	7
67000600	ENGINEER'S FIELD LABORATORY	CAL MO	21	7	7	7
67100100	MOBILIZATION	L SUM	1	0.33	0.34	0.33
70100410	TRAFFIC CONTROL AND PROTECTION, STANDARD 701416	EACH	2	0.67	0.66	0.67
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1		1	
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	0.34	0.33	0.33
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	20	20		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	9473	9473		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	9473	9473		
*70500100	TEMPORARY STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	2030	910	560	560
*70500625	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1	1		

*SPECIALTY ITEM

* (18-47-VBJK,18-47B,18-47HBJBR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 4 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	7
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
* 70500665	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	3	1	1	1
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	51309	51309		
* 78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	6414	6414		
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	88	28	32	28
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	52		12	40
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	174	50	62	62
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	10	2	4	4
78300100	PAVEMENT MARKING REMOVAL	SQ FT	17317	17317		
* A2001016	TREE, ACER RUBRUM (RED MAPLE), 2" CALIPER, BALLED AND BURLAPPED	EACH	25	25		
* A2001716	TREE, ACER SACCHARUM (SUGAR MAPLE), 2" CALIPER, BALLED AND BURLAPPED	EACH	25	25		
* A2002476	TREE, BETULA NIGRA HERITAGE (HERITAGE RIVER BIRCH), 12' HEIGHT, CLUMP FORM, BALLED AND BURLAPPED	EACH	25	25		

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
* A2006516	TREE, QUERCUS BICOLOR (SWAMP WHITE OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	25	25		
* A2006916	TREE, QUERCUS PALUSTRIS (PIN OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	25	25		
* A2007116	TREE, QUERCUS RUBRA (RED OAK), 2" CALIPER, BALLED AND BURLAPPED	EACH	25	25		
* B2001116	TREE, CERCIS CANADENSIS (EASTERN REDBUD), 2" CALIPER, TREE FORM, BALLED AND BURLAPPED	EACH	25	25		
* D2002972	EVERGREEN, PINUS STROBUS (EASTERN WHITE PINE), 6' HEIGHT, BALLED AND BURLAPPED	EACH	175	175		
X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	635		397	238
● X2503000	MAINTENANCE MOWING	ACRE	84.8	84.8		
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	12750	2524	5479	4747
X4421000	PARTIAL DEPTH PATCHING	TON	56	56		
X4422000	PARTIAL DEPTH REMOVAL (VARIABLE DEPTH)	SQ YD	147	147		
X6050310	FILLING INLETS, SPECIAL	EACH	11	4	4	3

● 100% STATE

* (18-47-VBIK,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	8
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE: SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
X6650202	WOVEN WIRE FENCE REMOVAL	FOOT	850	850		
X7050167	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	EACH	6	2	2	2
X7270008	BREAKAWAY SIGN SUPPORT COUPLER	EACH	36	36		
X7810400	TEMPORARY RAISED PAVEMENT MARKER	EACH	688	688		
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	66		42	24
Z0001904	STRUCTURAL STEEL REMOVAL	L SUM	1			1
Z0001905	STRUCTURAL STEEL REPAIR	POUND	1330			1330
Z0004552	APPROACH SLAB REMOVAL	SQ YD	1546	533	533	480
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	693	693		
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	462		6	456
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	7			7
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	65	3	21	41

90% FED
10% STATE

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE: SN 018-0045 SN 018-0046 0004	SN 018-0047 SN 018-0048 0014	SN 018-0049 SN 018-0050 0014
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	130	6	42	82
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	257	11	84	162
Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	14		2	12
Z0024478	FLEXIBLE DELINEATORS	EACH	36	36		
Z0031200	JACKING AND CRIBBING	EACH	24			24
Z0032300	JACKING EXISTING SUPERSTRUCTURE	L SUM	1		1	
Z0034390	MODULAR EXPANSION JOINT 6"	FOOT	76			76
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	483		268	215
Z0065730	SLOPE WALL SLURRY PUMPING	CU YD	57		57	
◆ Z0076600	TRAINEES	HOUR	1000	333	334	333
◆ Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	1000	333	334	333

* SPECIALTY ITEM ◆ 0042

• (18-47-V8)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

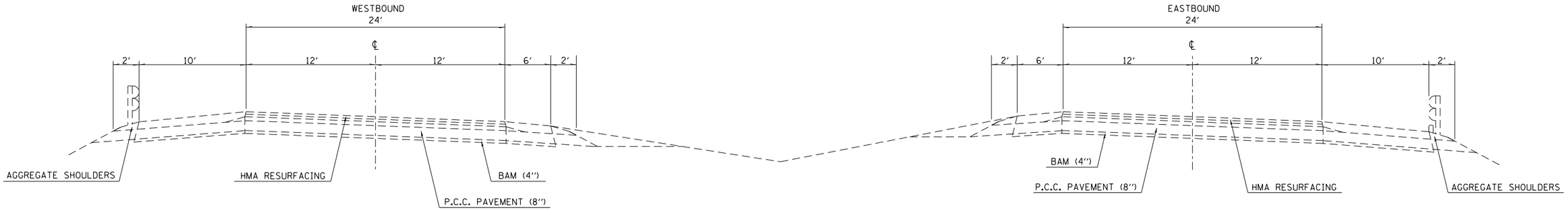
SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CUMBERLAND	147	9
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

EXISTING TYPICAL CROSS SECTION

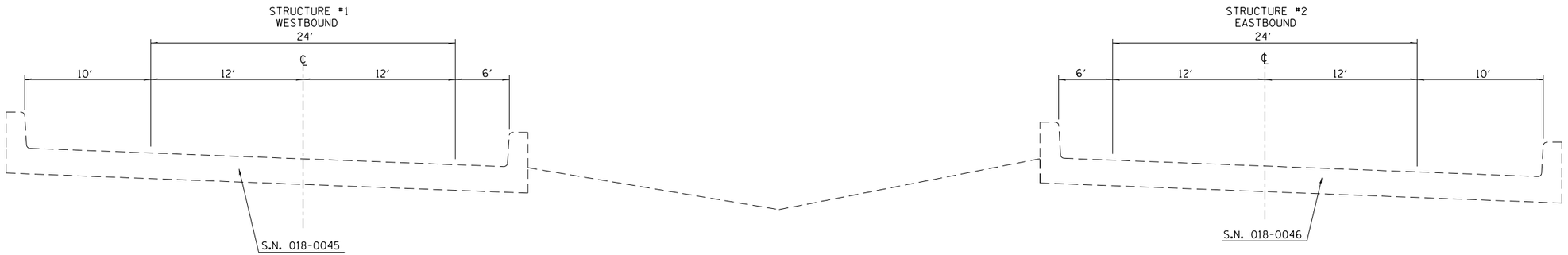
STATION 118+00.00 TO STATION 120+15.00 (WB) STATION 122+31.00 TO STATION 123+00.00 (WB)	R.R.	STATION 119+00.00 TO STATION 120+55.00 (EB) STATION 122+71.00 TO STATION 124+00.00 (EB)
STATION 139+25.00 TO STATION 141+66.89 (WB) STATION 143+73.53 TO STATION 146+75.00 (WB)	IL. 121	STATION 138+50.00 TO STATION 141+66.89 (EB) STATION 144+18.54 TO STATION 147+50.00 (EB)
STATION 152+75.00 TO STATION 154+51.50 (WB) STATION 161+92.50 TO STATION 166+00.00 (WB)	EMBARRASS RIVER	STATION 153+75.00 TO STATION 154+51.50 (EB) STATION 161+92.50 TO STATION 166+00.00 (EB)



NOTE: NOT TO SCALE

EXISTING TYPICAL CROSS SECTION

STATION 120+15.00 TO STATION 122+31.00 (WB)
STATION 120+55.00 TO STATION 122+71.00 (EB)



NOTE: NOT TO SCALE

• (18-47-VB)K,(18-47B,18-47HB)BR

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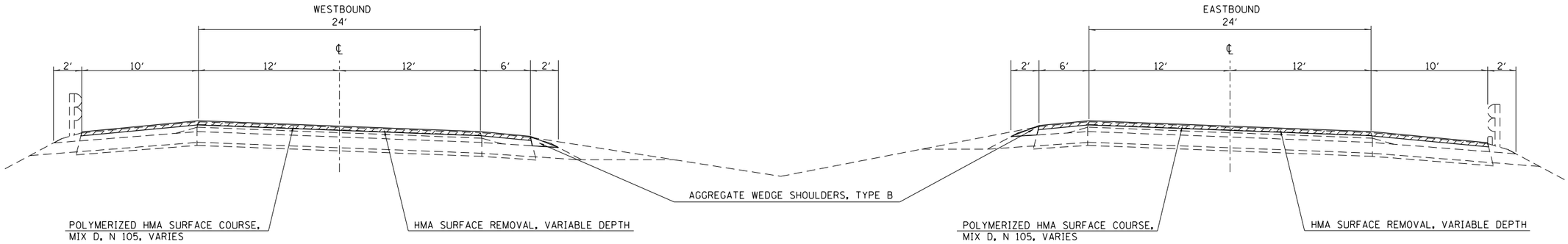
	PLOT SCALE = 100.0000 ' / in.	DRAWN -	REVISED -					70	•	CUMBERLAND	147	10
	PLOT DATE = 8/20/2012	CHECKED -	REVISED -							CONTRACT NO. 74466		
		DATE -	REVISED -		SCALE: NA	SHEET NO. 1 OF 2 SHEETS	STA. TO STA.			ILLINOIS	FED. AID PROJECT	

PROPOSED TYPICAL CROSS SECTION

STATION 118+00.00 TO STATION 120+15.00 (WB) STATION 122+31.00 TO STATION 123+00.00 (WB)	R.R.	STATION 119+00.00 TO STATION 120+55.00 (EB) STATION 122+71.00 TO STATION 124+00.00 (EB)
STATION 139+25.00 TO STATION 141+66.89 (WB) STATION 143+73.53 TO STATION 146+75.00 (WB)	IL. 121	STATION 138+50.00 TO STATION 141+66.89 (EB) STATION 144+18.54 TO STATION 147+50.00 (EB)
STATION 152+75.00 TO STATION 154+51.50 (WB) STATION 161+92.50 TO STATION 166+00.00 (WB)	EMBARRASS RIVER	STATION 153+75.00 TO STATION 154+51.50 (EB) STATION 161+92.50 TO STATION 166+00.00 (EB)



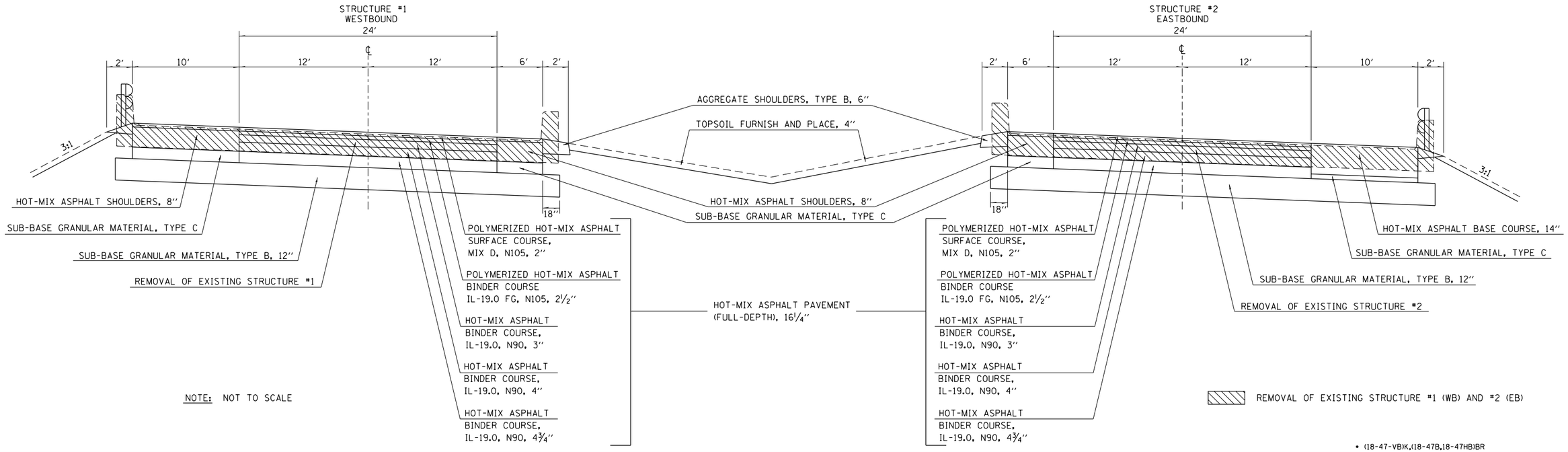
NOTE: NOT TO SCALE

HMA SURFACE REMOVAL, VARIABLE DEPTH

PROPOSED TYPICAL CROSS SECTION

STATION 120+15.00 TO STATION 122+31.00 (WB)

STATION 120+55.00 TO STATION 122+71.00 (EB)



NOTE: NOT TO SCALE

REMOVAL OF EXISTING STRUCTURE #1 (WB) AND #2 (EB)

• (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED TYPICAL CROSS SECTIONS

SCALE: NA | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	11
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

EARTHWORK SCHEDULE

STATION TO STATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EARTH FILL (LEFT)	EARTH FILL (RIGHT)	EARTHWORK BALANCE, WASTE (+) OR SHORTAGE (-)	TOPSOIL FURNISH AND PLACE, 4" (LEFT)	TOPSOIL FURNISH AND PLACE, 4" (RIGHT)
	CU YD	CU YD	CU YD	CU YD	CU YD	SQ YD	SQ YD
MAINLINE							
115+00 TO 115+50	4.0	3.0	4.1	0.0	-1.1	6.1	0.0
115+50 TO 116+00	4.0	3.0	69.7	0.0	-66.7	20.0	0.0
116+00 TO 116+50	0.0	0.0	191.9	0.0	-191.9	31.6	0.0
116+50 TO 117+00	0.0	0.0	324.1	0.0	-324.1	39.9	0.0
117+00 TO 117+50	14.4	10.8	480.4	0.0	-469.6	50.2	0.0
117+50 TO 118+00	40.9	30.7	656.2	0.0	-625.5	58.8	0.0
118+00 TO 118+50	59.3	44.4	880.2	0.0	-835.8	68.6	0.0
118+50 TO 119+00	60.0	45.0	923.5	0.0	-878.6	66.3	0.0
119+00 TO 119+50	82.9	62.2	1013.3	0.0	-951.1	70.3	0.0
119+50 TO 120+00	50.9	38.2	1124.2	82.8	-1168.8	75.1	22.9
120+00 TO 120+50	0.0	0.0	1252.6	296.7	-1549.3	72.2	60.7
120+50 TO 120+91	0.0	0.0	2751.2	439.2	-3190.5	55.8	63.2
120+91 TO 121+00	0.0	0.0	1011.4	261.6	-1272.9	13.2	14.8
121+00 TO 121+42	0.0	0.0	5035.3	3698.3	-8733.6	62.1	67.9
121+42 TO 121+50	0.0	0.0	921.0	1065.9	-1986.9	12.3	13.0
121+50 TO 121+95	0.0	0.0	2698.0	5607.2	-8305.3	71.0	70.4
121+95 TO 122+00	0.0	0.0	93.2	503.6	-596.9	7.2	6.7
122+00 TO 122+50	0.0	0.0	875.8	3208.1	-4083.9	68.5	67.0
122+50 TO 123+00	0.0	0.0	562.5	905.5	-1468.1	55.7	60.1
123+00 TO 123+50	0.0	0.0	269.8	566.8	-836.5	47.6	54.5
123+50 TO 124+00	0.0	0.0	70.2	359.2	-429.4	25.5	48.1
124+00 TO 124+50	0.0	0.0	2.7	128.1	-130.8	4.6	24.4
124+50 TO 125+00	0.0	0.0	0.0	0.0	0.0	0.0	2.3
MAINLINE TOTALS	316.0	237.0	21211.0	17123.0	-38097.0	983.0	576.0

EARTHWORK SCHEDULE (CONT.)

STATION TO STATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EARTH FILL (LEFT)	EARTH FILL (RIGHT)	EARTHWORK BALANCE, WASTE (+) OR SHORTAGE (-)
	CU YD	CU YD	CU YD	CU YD	CU YD
DITCH REALIGNMENT					
12+07 TO 12+50	124.7	93.5	33.0	21.6	38.9
12+50 TO 13+00	317.6	238.2	95.0	69.5	73.7
13+00 TO 13+50	370.5	277.8	142.9	118.2	16.8
13+50 TO 14+00	477.8	358.3	183.6	113.8	60.9
14+00 TO 14+45	449.5	337.1	87.8	218.2	31.1
AT NEW CULVERT	0.0	0.0	0.0	0.0	0.0
18+00 TO 18+50	156.3	117.2	0.0	159.1	-41.9
18+50 TO 19+00	80.4	60.3	0.0	127.1	-66.8
19+00 TO 19+50	110.8	83.1	0.0	103.4	-20.3
19+50 TO 20+00	47.0	35.2	0.0	82.3	-47.0
DITCH TOTALS	2135.0	1601.0	542.0	1013.0	45.0
TEMP CONSTRUCTION					
ACCESS 149+20	0.0	0.0	0.0	130.0	-130.0
GUARDRAIL				282.0	-282.0
PROJECT TOTALS	2451.0	1838.0	21753.0	18548.0	-38464.0

• (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	12
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

EXISTING PAVED SHOULDER DEPTHS

FOR INFORMATION ONLY

CORE NUMBER	LOCATION	STATION	DEPTH OF PAVED SHOULDER (INCHES)	MATERIAL TYPE
1	EB	101+38	14.0	Asphalt
2	EB	119+45	6.5	Asphalt
3	EB	129+00	6.5	Asphalt
4	EB	147+75	6.0	Asphalt
5	EB	163+79	6.5	Asphalt
6	WB	169+13	4.0	Asphalt
7	WB	149+15	5.0	Asphalt
8	WB	134+10	5.0	Asphalt
9	WB	114+50	4.0	Asphalt
10	WB	96+48	7.0	Asphalt

NOTE: SCHEDULE SHOWS DEPTHS OF PAVED SHOULDER THAT IS TO BE REMOVED FOR CONSTRUCTION OF HMA BASE COURSE WIDENING. DEPTHS OBTAINED BY CUTTING CORES. ALL CORES TAKEN ON OUTSIDE 10 FOOT SHOULDER DISTANCE FROM EDGE OF PAVEMENT VARIED FROM 2' TO 5'.

FILLING INLETS, SPECIAL

STATION	LOCATION	QUANTITY
		EACH
109+00	EB-OUTSIDE SHOULDER	1
114+00	EB-OUTSIDE SHOULDER	1
118+25	EB-OUTSIDE SHOULDER	1
126+90	EB-OUTSIDE SHOULDER	1
130+95	EB-OUTSIDE SHOULDER	1
134+90	EB-OUTSIDE SHOULDER	1
139+05	EB-OUTSIDE SHOULDER	1
141+35	EB-OUTSIDE SHOULDER	1
147+50	EB-OUTSIDE SHOULDER	1
150+75	EB-OUTSIDE SHOULDER	1
154+70	EB-OUTSIDE SHOULDER	1
TOTAL		11

FENCE SCHEDULE

	WOVEN WIRE FENCE, 4'	WOVEN WIRE FENCE REMOVAL
ABANDONDED RR	FOOT	FOOT
SW QUADRANT	154.0	80
SE QUADRANT	112.0	150
NW QUADRANT	485.0	480
NE QUADRANT	138.0	140
BETWEEN BRIDGES		
018-0047 & 018-0048		
EAST END	59.5	
WEST END	59.5	
018-0049 & 018-0050		
EAST END	55.0	
WEST END	55.0	
TOTAL	1118	850

R.O.W. MARKERS

	STATION	OFFSET	
EXISTING, TO REMAIN	111+00.00	195.00	LT
NEW	116+50.00	170.04	LT
* TO BE RE REMOVED	117+61.09	165.00	LT
* TO BE RE REMOVED	120+27.38	165.00	LT
NEW	120+25.00	225.00	LT
EXISTING, TO REMAIN	120+81.64	200.00	LT
EXISTING, TO REMAIN	128+15.00	160.00	LT
EXISTING, TO REMAIN	117+61.09	180.00	RT
EXISTING, TO REMAIN	121+74.58	180.00	RT
EXISTING, TO REMAIN	122+59.51	230.00	RT
EXISTING, TO REMAIN	125+00.00	165.00	RT

* COST INCLUDED IN EARTHWORK

STAGING SCHEDULE

STAGING SCHEDULE	PAVED SHOULDER REMOVAL	HMA BASE COURSE WIDENING, 14"	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	MODULAR GLARE SCREEN SYSTEM	TEMPORARY RAISED PAVEMENT MARKER(AMBER)	TEMPORARY RAISED PAVEMENT MARKER(WHITE)	HMA BASE COURSE, 14" (DECELERATION LANES)
LOCATION	SQ YD	SQ YD	FOOT	FOOT	FOOT	EACH	EACH	SQ YD
STAGE I	6851.5	6386.5	9473.0		8900.0	169.0	169.0	1166.3
STAGE II	6577.6	6154.3		9473.0		175.0	175.0	1136.7
TOTALS	13430	12541	9473	9473	8900	344	344	2303.0

RIPRIP SCHEDULE

LOCATION	FILTER FABRIC	STONE RIPRAP, CLASS A4	STONE RIPRAP, CLASS A5
	SQ YD	SQ YD	SQ YD
DITCH AT NORTH SLOPE OF RR BRIDGE	463.6	463.6	
NORTH END OF NEW CULVERT AT RR BRIDGE	92.4		92.4
SOUTH END OF NEW CULVERT AT RR BRIDGE	84.6		84.6
TOTALS	640.6	463.6	177.1

• (18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	13

CONTRACT NO. 74466

ILLINOIS FED. AID PROJECT

PAVING SCHEDULE

STATION TO STATION	LENGTH	COMMENT	WIDTH OF RESURFACING (PAVEMENT PLUS HMA SHOULDERS)	HOT-MIX ASPHALT PAVEMENT(FULL DEPTH), 16 1/4"	SUBBASE GRANULAR MATERIAL, TYPE B 12"	HOT-MIX ASPHALT SHOULDERS, 8"	AGGREGATE SHOULDERS, TYPE B, 6"	HOT-MIX BASE COURSE, 14"	SUBBASE GRANULAR MATERIAL, TYPE C	POLYMERIZED HMA SURFACE, MIX "D", N105	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	BITUMINOUS MATERIALS (PRIME COAT)	AGGREGATE WEDGE SHOULDER, TYPE B
LOCATION	FOOT		FOOT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	TON	TON	SQ YD	GALLON	TON
ABANDONED RR													
WESTBOUND													
118+00.00 TO 120+15.00	215.00		40.0							107	956	96	
120+15.00 TO 122+31.00	216.00	OLD BRIDGE	•	576	1032	384	48		180				
122+31.00 TO 123+00.00	69.00		40.0							34	307	31	
EASTBOUND													
119+00.00 TO 120+55.00	155.00		40.0							77	689	69	
120+55.00 TO 122+71.00	216.00	OLD BRIDGE	•	576	1032	144	48	240	98				
122+71.00 TO 124+00.00	129.00		40.0							64	573	57	
I-121 BRIDGES													
WESTBOUND													
139+25.00 TO 141+66.89	241.89		40.0							120	1075	108	11
141+66.89 TO 143+73.53	206.64	BRIDGE	40.0										
143+73.53 TO 146+75.00	301.47		40.0							150	1340	134	13
EASTBOUND													
138+50.00 TO 142+08.00	358.00		40.0							196	1591	159	15
142+08.00 TO 144+18.54	210.54	BRIDGE	40.0										
144+18.54 TO 147+50.00	331.46		40.0							173	1473	147	14
EMBARRAS RIVER BRIDGES													
WESTBOUND													
152+75.00 TO 154+51.50	176.50		40.0							92	784	78	8
154+51.50 TO 161+92.50	741.00	BRIDGE	40.0										
161+92.50 TO 166+00.00	407.50		40.0							240	1811	181	17
EASTBOUND													
153+75.00 TO 154+51.50	76.50		40.0							41	340	34	3
154+51.50 TO 161+92.50	741.00	BRIDGE	40.0										
161+92.50 TO 166+00.00	407.50		40.0							204	1811	181	17
TOTALS	1650			1152	2064	528	96	240	279	1499	12750	1275	98

• (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	14
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

BRIDGE APPROACH SCHEDULE

STATION TO STATION	WIDTH	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	PAVEMENT REMOVAL*	APPROACH SLAB REMOVAL *	PIPE DRAINS 4"
	FOOT	SQ YD	SQ YD	SQ YD	FOOT
ABANDONED RR BRIDGES					
WESTBOUND					
120+15.00 TO 120+45.00	40.00			133.3	
122+01.00 TO 122+31.00	40.00			133.3	
EASTBOUND					
120+55.00 TO 120+85.00	40.00			133.3	
122+41.00 TO 122+71.00	40.00			133.3	
I I 121 BRIDGES					
WESTBOUND					
141+66.89 TO 141+72.89	40.00	26.7	26.7	133.3	125.0
143+67.53 TO 143+73.53	40.00	26.7	26.7	133.3	125.0
EASTBOUND					
142+08.00 TO 142+14.00	40.00	26.7	26.7	133.3	125.0
144+12.54 TO 144+18.54	40.00	26.7	26.7	133.3	125.0
EMBARRAS RIVER BRIDGES					
WESTBOUND					
154+51.50 TO 154+57.50	38.00	25.3	25.3	120.0	135.0
161+86.50 TO 161+92.50	38.00	25.3	25.3	120.0	135.0
EASTBOUND					
154+51.50 TO 154+57.50	38.00	25.3	25.3	120.0	135.0
161+86.50 TO 161+92.50	38.00	25.3	25.3	120.0	135.0
TOTALS		208.0	208.0	1546.4	1040.0

• APPROACH SLAB THICKNESS IS 16.25". PAVEMENT THICKNESS IS 13.5"

SEEDING SCHEDULE

LOCATION	SEEDING, CLASS 2	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	AGRICULTURAL GROUND LIMESTONE	MULCH, METHOD 2	TEMPORARY EROSION CONTROL SEEDING	SEEDING, CLASS 7
	ACRE	POUND	POUND	POUND	TON	ACRE	POUND	ACRE
ABANDONED RR-NORTH SLOPE	1.90	171	171	171	3.80	1.90	570	
ABANDONED RR-SOUTH SLOPE	1.10	99	99	99	2.20	1.10	330	
ABANDONED RR-MEDIAN: STAGE 1								0.25
TEMP CONSTR ACCESS REMOVAL	0.50	45	45	45	1.00	0.50	150	
TOTALS	3.5	315.0	315.0	315.0	7.0	3.5	1050.0	0.25

MOWING SCHEDULE

STATION TO STATION	LENGTH	WIDTH(APPROX)	MAINTENANCE MOWING
	FEET	FEET	ACRE
MEDIAN			
573+00 TO 575+54	254.38	60	0.4
80+00 TO 181+50	10150.00	60	14.1
EASTBOUND			
162+00 TO 180+00	1800.00	40	1.7
WESTBOUND			
573+00 TO 575+55	254.80	40	0.2
80+00 TO 115+00	3500.00	40	3.2
162+00 TO 180+00	1800.00	40	1.7
		SUB TOTAL	21.2
TOTAL AREA TO BE MOWED FOUR TIMES		TOTAL	84.8

• (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 4 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	15
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

GUARDRAIL SCHEDULE

LOCATION	GUARDRAIL REMOVAL	TEMPORARY STEEL PLATE BEAM GUARDRAIL, TYPE A	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL, TANGENT	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 2	TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 6	SPBGR TYPE A, 9 FOOT POSTS	SPBGR TYPE A, 6 FOOT POSTS	TRAFFIC BARRIER TERMINAL, TYPE 1 TANGENT	TRAFFIC BARRIER TERMINAL, TYPE 6	TERMINAL MARKER-DIRECT APPLIED	GUARDRAIL MARKERS, TYPE A	FURNISH EXCAVATION	AGGREGATE SHOULDERS, TYPE B, 6"	HOT MIX ASPHALT SHOULDER CURB **
	FOOT	FOOT	EACH	EACH	EACH	FOOT	FOOT	EACH	EACH	EACH	EACH	CU YD	SQ YD	FOOT
SN 018-0045 SW CORNER		200	1		1					1				
SN 018-0045 SE CORNER	202													
SN 018-0045: STA 120+00 TO STA 122+50						250					25			250
SN 018-0046 NW CORNER	185													
SN 018-0046(STAGE 2)		625	1	1						1				
SN 018-0046: STA 120+25 TO STA 122+75						250					25			250
SN 018-0047 NW CORNER	25					25			1		3			25
SN 018-0047 NE CORNER	25					25			1		3			25
SN 018-0047 SW CORNER		20	1		1					1				
SN 018-0047 SE CORNER	205						250	1	1	1	25	74	156	
SN 018-0048 NW CORNER	205						250	1	1	1	25	74	156	
SN 018-0048 NE CORNER		200	1							1				
SN 018-0048 SW CORNER	25					25			1		3			25
SN 018-0048 SE CORNER	25					25			1		3			25
SN 018-0049 NW CORNER	75					75			1		8			75
SN 018-0049 NE CORNER	75					75			1		8			75
SN 018-0049 SW CORNER		200	1		1					1				
SN 018-0049 SE CORNER	160						225	1	1	1	23	67	145	
SN 018-0050 NW CORNER	130						225	1	1	1	23	67	145	
SN 018-0050 NE CORNER		200	1							1				
SN 018-0050 SW CORNER	75					75			1					75
SN 018-0050 SE CORNER	75					75			1					75
TOTAL	1487	1445	6		3	900	950	4	12	10	174	282	602	900

** INCLUDES COST TO REMOVE EXISTING CURB

• (18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	16
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

PAVEMENT MARKING SCHEDULE

STATION TO STATION			LENGTH	PAVEMENT MARKING REMOVAL	PAINT PAVEMENT MARKING - LINE 4"	PAINT PAVEMENT MARKING - LINE 6"	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER(BRIDGE)
			FOOT	SQ FT	FOOT	FOOT	EACH	EACH
WESTBOUND								
81+00.00	TO	118+00.00	3700.00	2929	7400	925		
118+00.00	TO	120+15.00	215.00	170	860	108	6	
120+15.00	TO	122+31.00	216.00	171	864	108	6	
122+31.00	TO	123+00.00	69.00	55	276	35	2	
123+00.00	TO	139+25.00	1625.00	1286	3250	406		
139+25.00	TO	141+66.89	241.89	191	968	121	6	
141+66.89	TO	143+73.53	206.64	164	827	103		6
143+73.53	TO	146+75.00	301.47	239	1206	151	8	
146+75.00	TO	152+75.00	600.00	475	1200	150		
152+75.00	TO	154+51.50	176.50	140	706	88	6	
154+51.50	TO	161+92.50	741.00	587	2964	371		20
161+92.50	TO	166+00.00	407.50	323	1630	204	10	
166+00.00	TO	183+00.00	1700.00	1346	3400	425		
EASTBOUND								
571+00.00	TO	575+54.38	454.38	360	909	114		
80+00.00	TO	119+00.00	3900.00	3169	7800	975		
119+00.00	TO	120+55.00	155.00	129	620	78	4	
120+55.00	TO	122+71.00	216.00	185	864	108	6	
122+71.00	TO	124+00.00	129.00	113	516	65	4	
124+00.00	TO	138+50.00	1450.00	1299	2900	363		
138+50.00	TO	142+08.00	358.00	328	1432	179	10	
142+08.00	TO	144+18.54	210.54	197	842	105		6
144+18.54	TO	147+50.00	331.46	318	1326	166	8	
147+50.00	TO	153+75.00	625.00	612	1250	156		
153+75.00	TO	154+51.50	76.50	77	306	38	2	
154+51.50	TO	161+92.50	741.00	756	2964	371		20
161+92.50	TO	166+00.00	407.50	424	1630	204	10	
166+00.00	TO	178+00.00	1200.00	1275	2400	300		
		TOTALS		17317	51309	6414	88	52

PAVEMENT PATCHING SCHEDULE

LOCATION	PAVEMENT PATCHING, TYPE I 14 INCH	PAVEMENT PATCHING, TYPE II 14 INCH	PAVEMENT PATCHING, TYPE III 14 INCH	PAVEMENT PATCHING, TYPE IV 14 INCH	PARTIAL DEPTH REMOVAL (VARIABLE DEPTH)	PARTIAL DEPTH PATCHING
	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	TON
WESTBOUND	6	51	28	170	110	42
EASTBOUND	2	16	9	57	37	14
TOTALS	8	67	37	227	147	56

PIPE UNDERDRAIN SCHEDULE

LOCATION	PIPE UNDERDRAINS, 6"	PIPE UNDERDRAINS, 6" (SPECIAL)	CLASS SI CONCRETE (OUTLET)	REINFORCEMENT BARS
	FOOT	FOOT	CU YD	POUND
120+55 TO 122+71 (EASTBOUND)	432.00	40	3	71
120+15 TO 122+31 (WESTBOUND)	432.00	40	3	71
TOTAL	864.0	80.0	6.0	142.4

• (18-47-VB)K,(18-47B,18-47HB)BR

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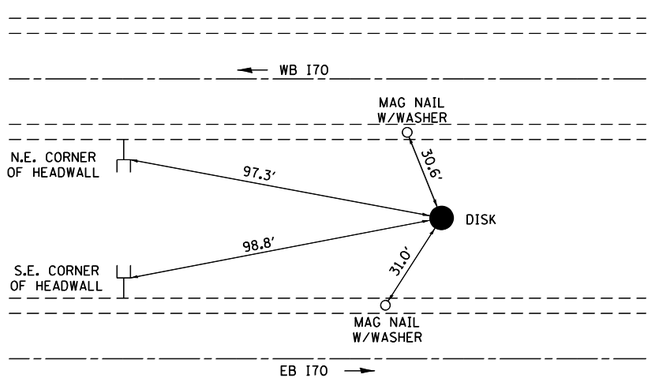
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.

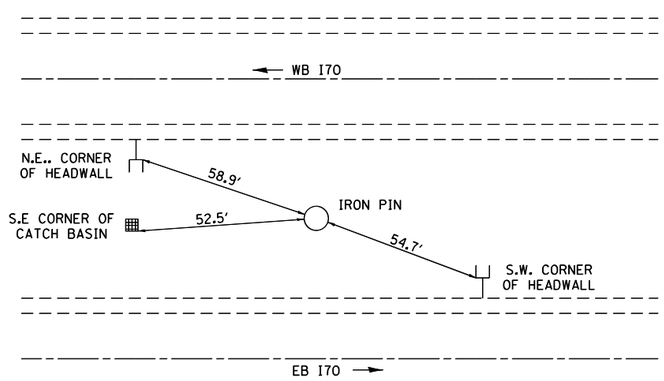
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	17
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

DISK #306
STA. 565+96.02



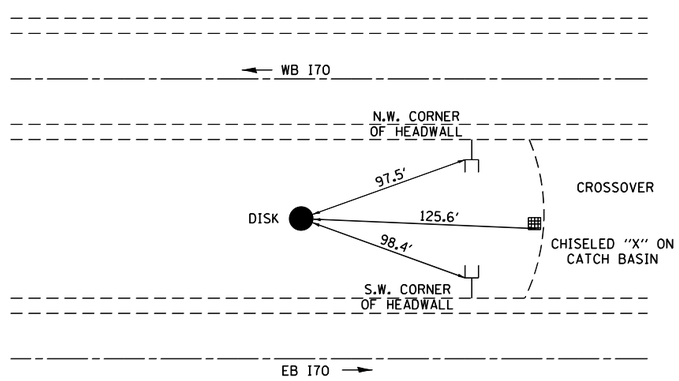
NOTE: NOT DRAWN TO SPECIFIC SCALE

STATION EQUATION:
STA. 575+54.38 BK =
STA. 80+00.00 AH



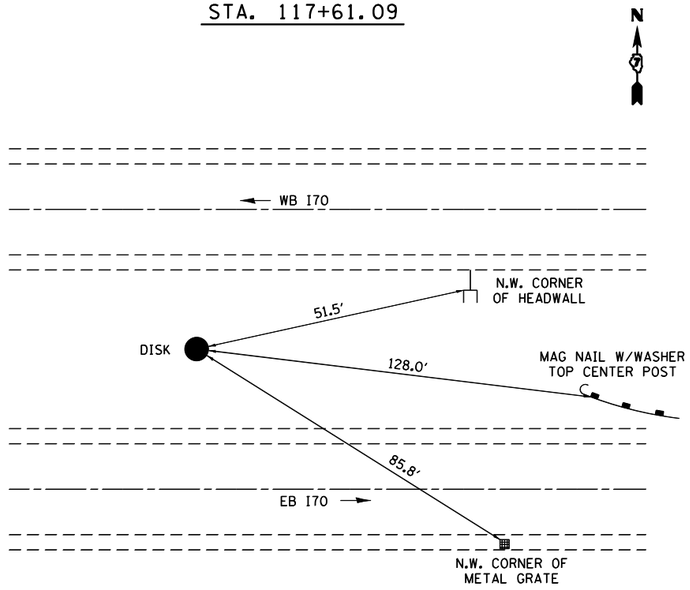
NOTE: NOT DRAWN TO SPECIFIC SCALE

DISK #305
STA. 98+50.30 (KINK)



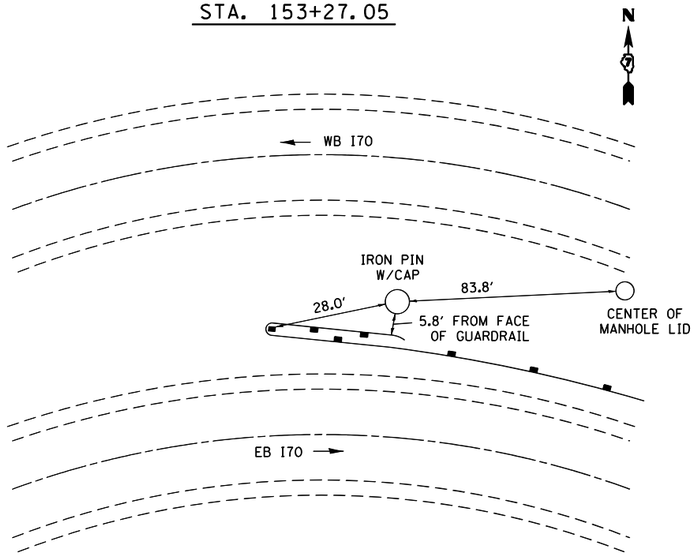
NOTE: NOT DRAWN TO SPECIFIC SCALE

DISK #304
STA. 117+61.09



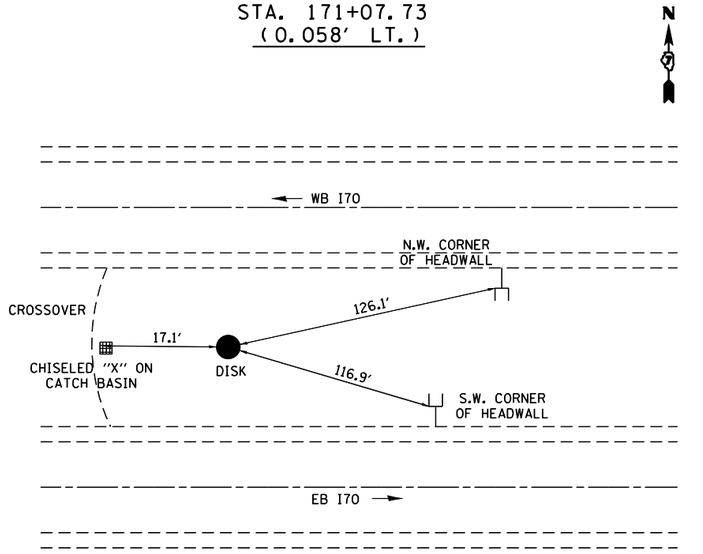
NOTE: NOT DRAWN TO SPECIFIC SCALE

P.T.
STA. 153+27.05



NOTE: NOT DRAWN TO SPECIFIC SCALE

DISK #303
STA. 171+07.73
(0.058' LT.)



NOTE: NOT DRAWN TO SPECIFIC SCALE

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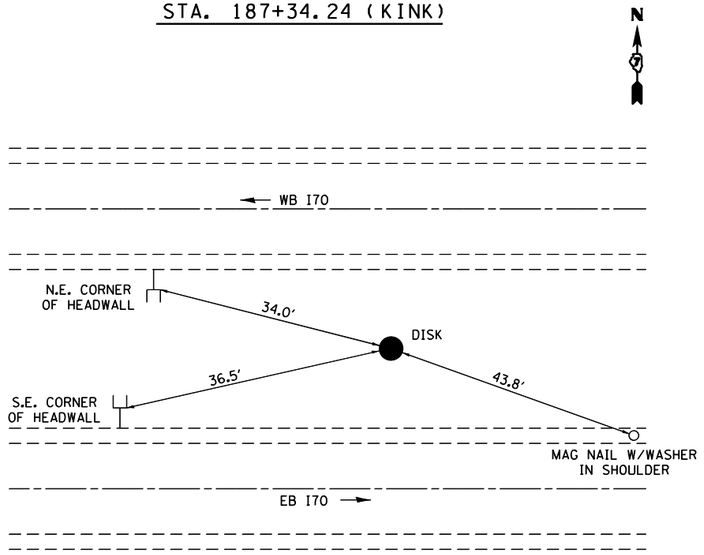
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TIE POINTS

SCALE: NA | SHEET NO. 1 OF 3 SHEETS | STA. | TO STA.

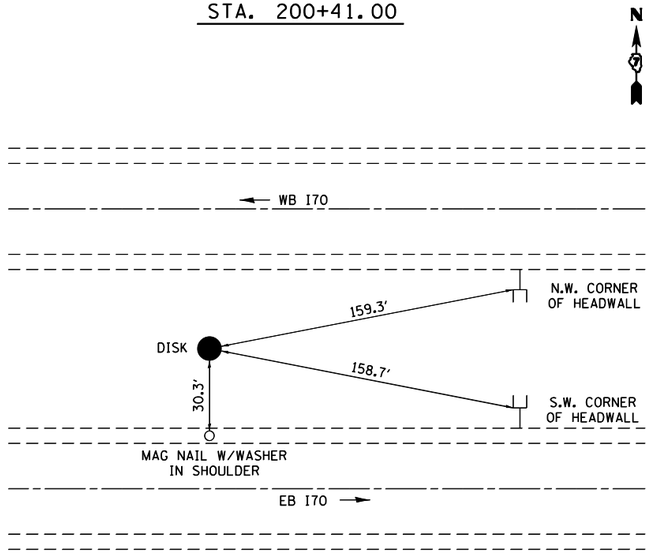
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	18
		CONTRACT NO. 74481		
		ILLINOIS FED. AID PROJECT		

DISK #302
STA. 187+34.24 (KINK)



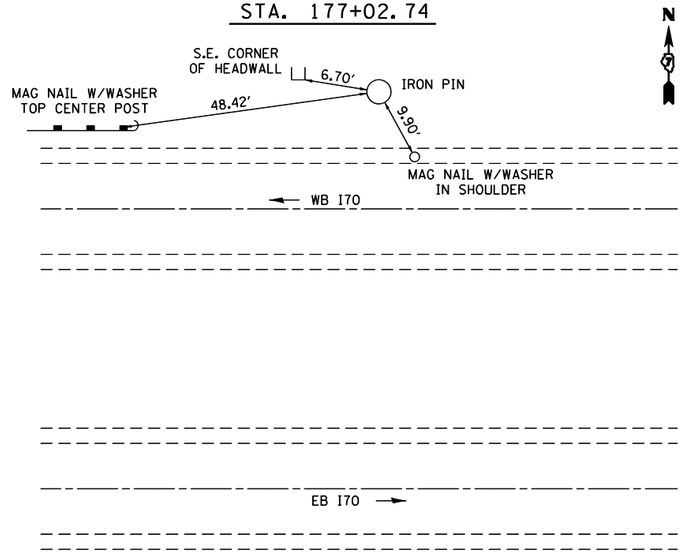
NOTE: NOT DRAWN TO SPECIFIC SCALE

DISK #301
STA. 200+41.00



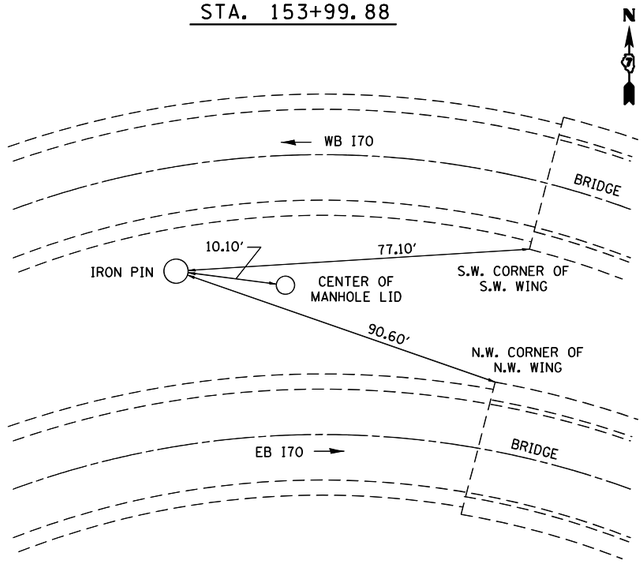
NOTE: NOT DRAWN TO SPECIFIC SCALE

TRAV. #100
STA. 177+02.74



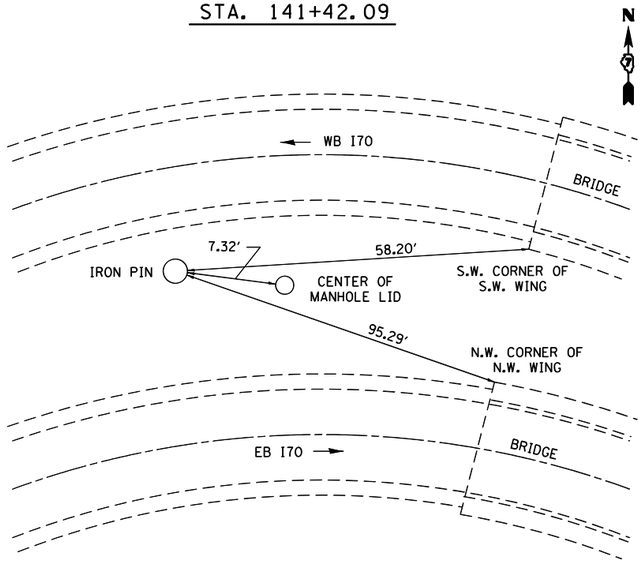
NOTE: NOT DRAWN TO SPECIFIC SCALE

TRAV. #101
STA. 153+99.88



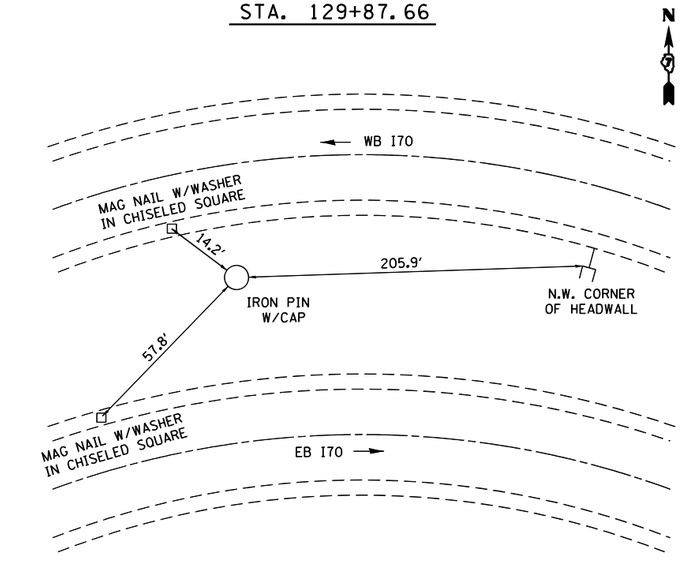
NOTE: NOT DRAWN TO SPECIFIC SCALE

TRAV. #102
STA. 141+42.09



NOTE: NOT DRAWN TO SPECIFIC SCALE

TRAV. #103
STA. 129+87.66



NOTE: NOT DRAWN TO SPECIFIC SCALE

• (18-47-VB)K,(18-47B,18-47-HB)BR

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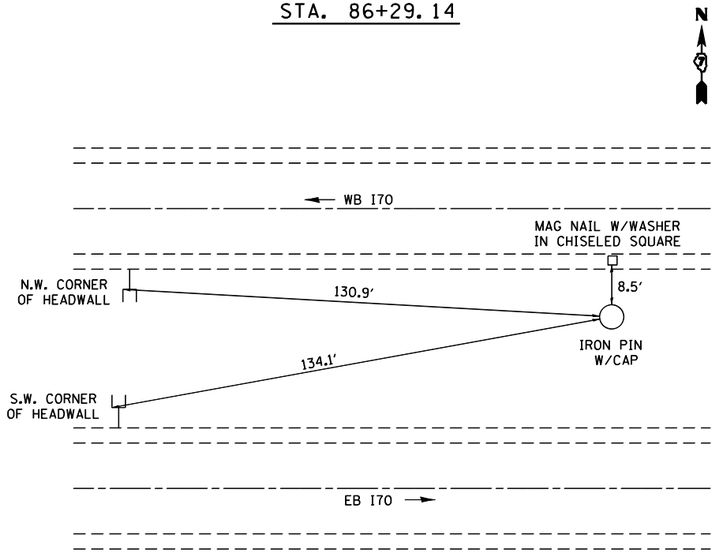
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TIE POINTS

SCALE: NA | SHEET NO. 2 OF 3 SHEETS | STA. | TO STA.

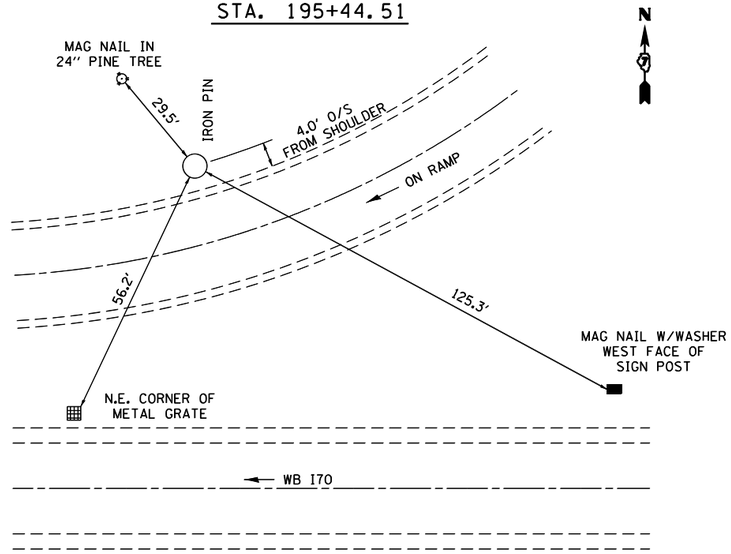
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	19
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

TRAV. #104
STA. 86+29.14



NOTE: NOT DRAWN TO SPECIFIC SCALE

TRAV. #105
STA. 195+44.51



NOTE: NOT DRAWN TO SPECIFIC SCALE

BENCHMARKS

BENCHMARK	ELEVATION	DESCRIPTION
20	542.445	CHSL SQUARE SE WING ON WB BR OVER EMBARRASS
21	548.303	CHSL SQUARE SW WING ON WB BR OVER EMBARRASS
22	556.860	CHIS SQUARE SE WING ON WB BR OVER 121
23	557.532	CHIS SQUARE SW WING ON WB BR OVER 121
24	563.500	CHIS SQUARE SE WING ON WB BR OVER ABANDONED RR
25	563.349	CHIS SQUARE SW WING ON WB BR OVER ABANDONED RR

• (18-47-VB)K,(18-47B,18-47-HB)BR

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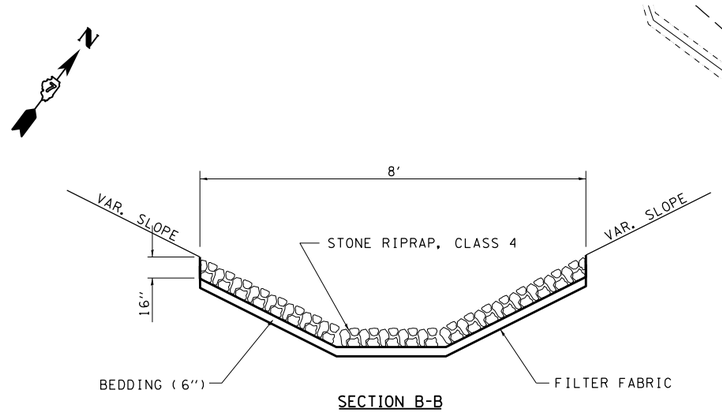
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TIE POINTS

SCALE: NA | SHEET NO. 3 OF 3 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	20
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



SECTION B-B

SECTION A-A

• (18-47-VB)K,(18-47B,18-47HB)BR

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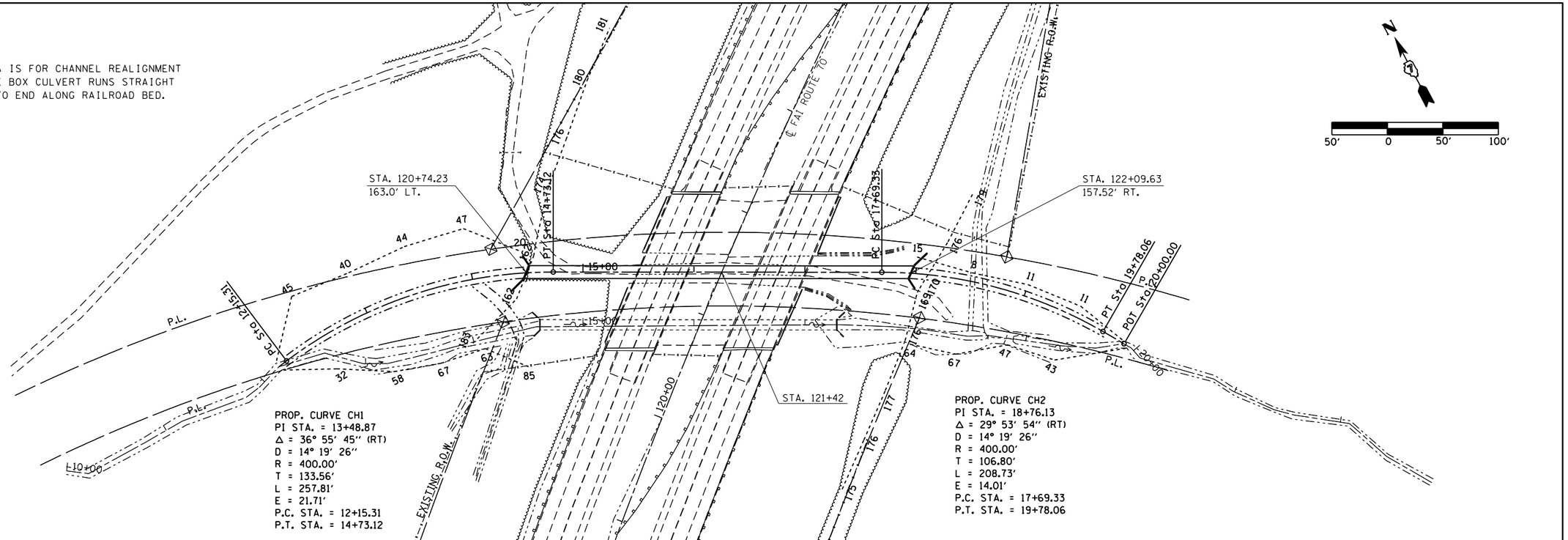
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 018-0045 & 018-0046
PLAN

SCALE: 50 | SHEET NO. 1 OF 1 SHEETS | STA. 113+00 | TO STA. 128+00

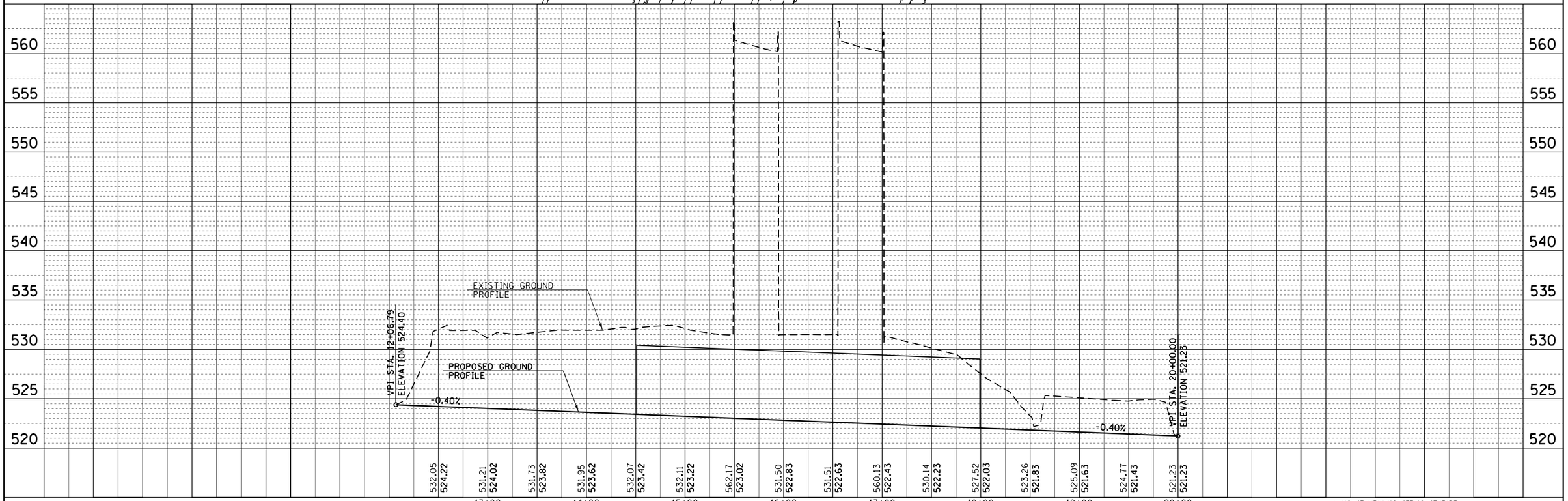
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	21
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

NOTE: CURVE DATA IS FOR CHANNEL REALIGNMENT ONLY. THE BOX CULVERT RUNS STRAIGHT FROM END TO END ALONG RAILROAD BED.



PROP. CURVE CH1
PI STA. = 13+48.87
Δ = 36° 55' 45" (RT)
D = 14° 19' 26"
R = 400.00'
T = 133.56'
L = 257.81'
E = 21.71'
P.C. STA. = 12+15.31
P.T. STA. = 14+73.12

PROP. CURVE CH2
PI STA. = 18+76.13
Δ = 29° 53' 54" (RT)
D = 14° 19' 26"
R = 400.00'
T = 106.80'
L = 208.73'
E = 14.01'
P.C. STA. = 17+69.33
P.T. STA. = 19+78.06



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PROFILE — SURVEYED — PLOTTED — GRADE CHECKED — BM. NOTED — STRUCTURE NOTATNS CHKD — NOTE BOOK — NO. — BY — DATE

• (18-47-VB)K,(18-47B,18-47HB)BR

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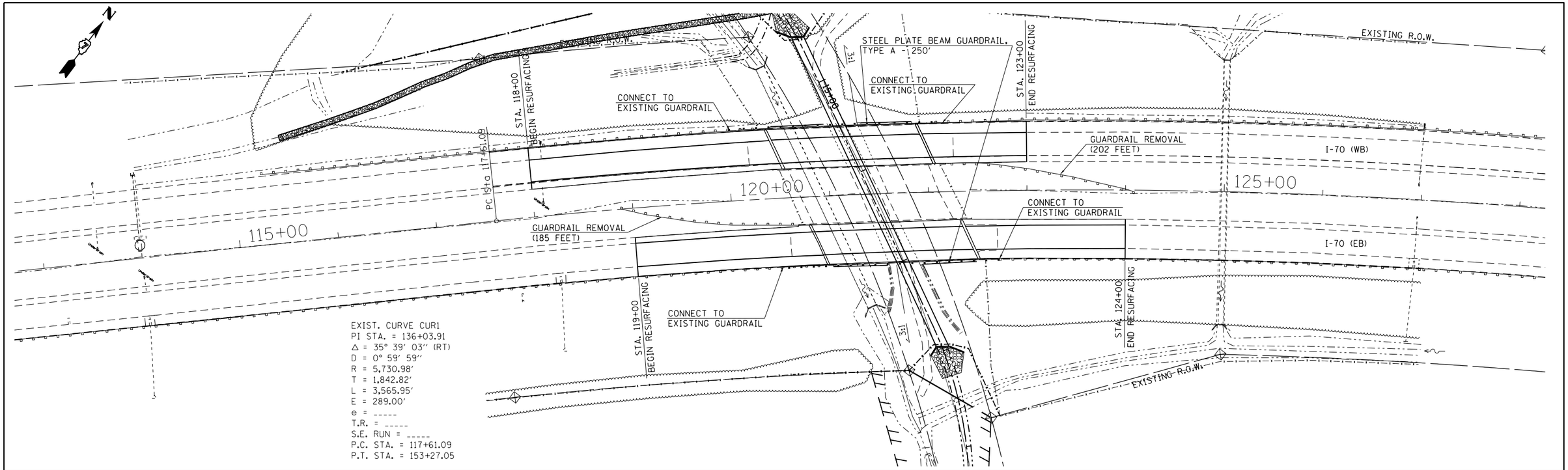
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED CHANNEL
PLAN & PROFILE

SCALE: 50 | SHEET NO. 1 OF 1 SHEETS | STA. 119+00 TO STA. 124+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	22
		CONTRACT NO.		
		ILLINOIS FED. AID PROJECT		



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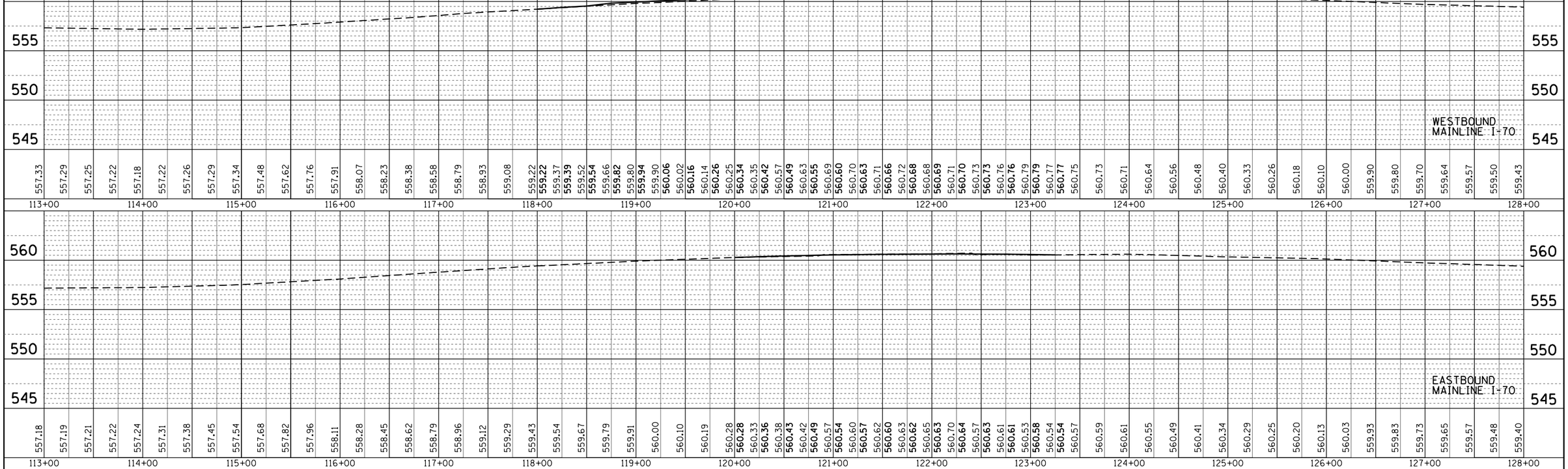
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE

PROFILE
SURVEYED
PLOTTED
PROFILE CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE



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	PLOT DATE = 8/20/2012	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 018-0045 & 018-0046
PLAN & PROFILE

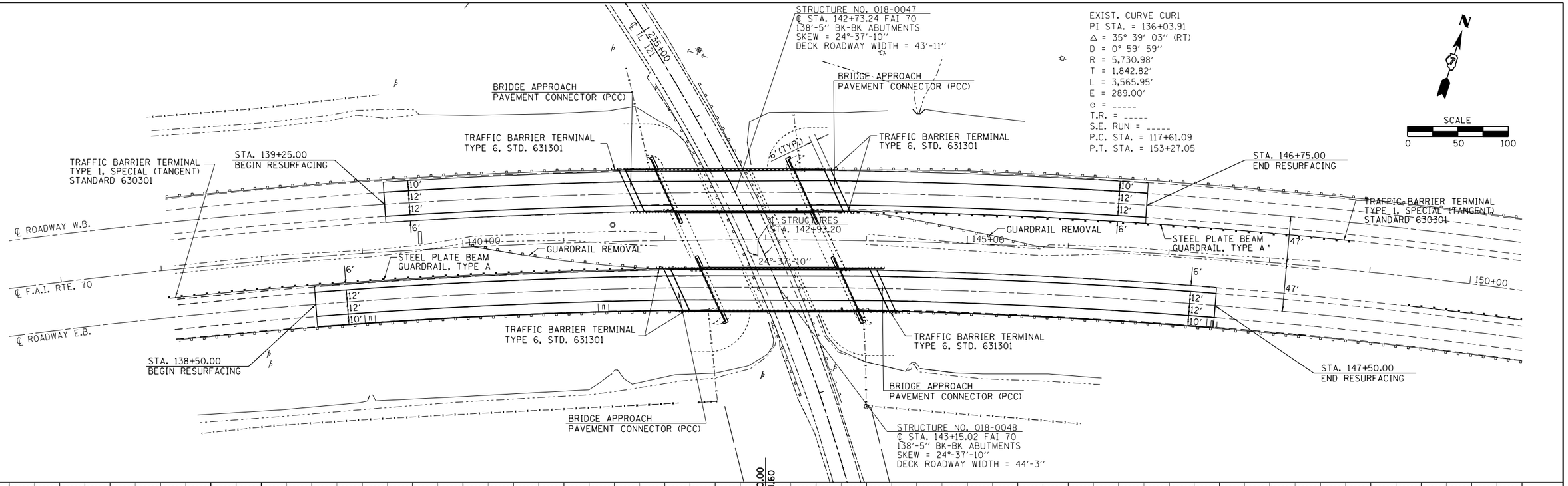
SCALE: 50 | SHEET 1 OF 1 SHEETS | STA. 113+00 TO STA. 128+00

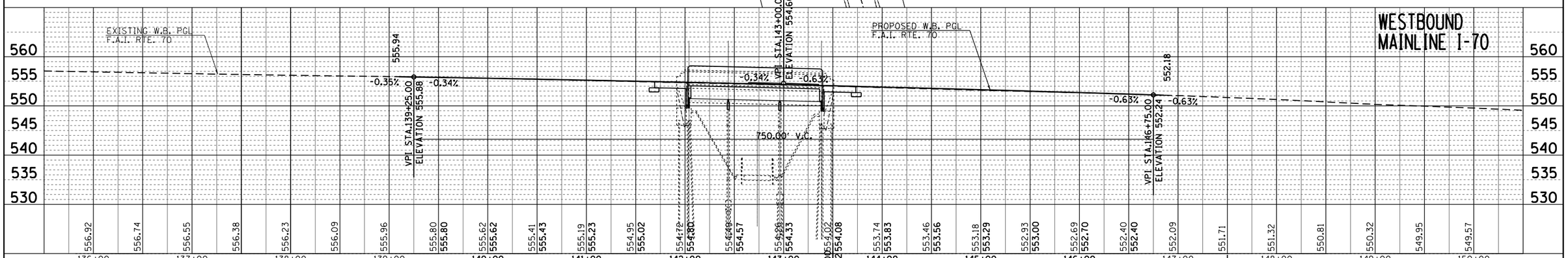
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	23
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

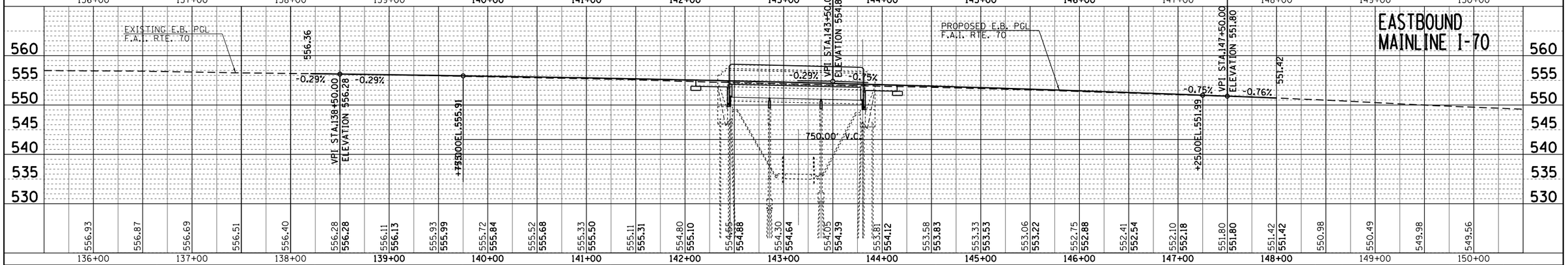
• (18-47-VB)K,(18-47B,18-47HB)BR

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
DATE
BY

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
BM. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
DATE
BY







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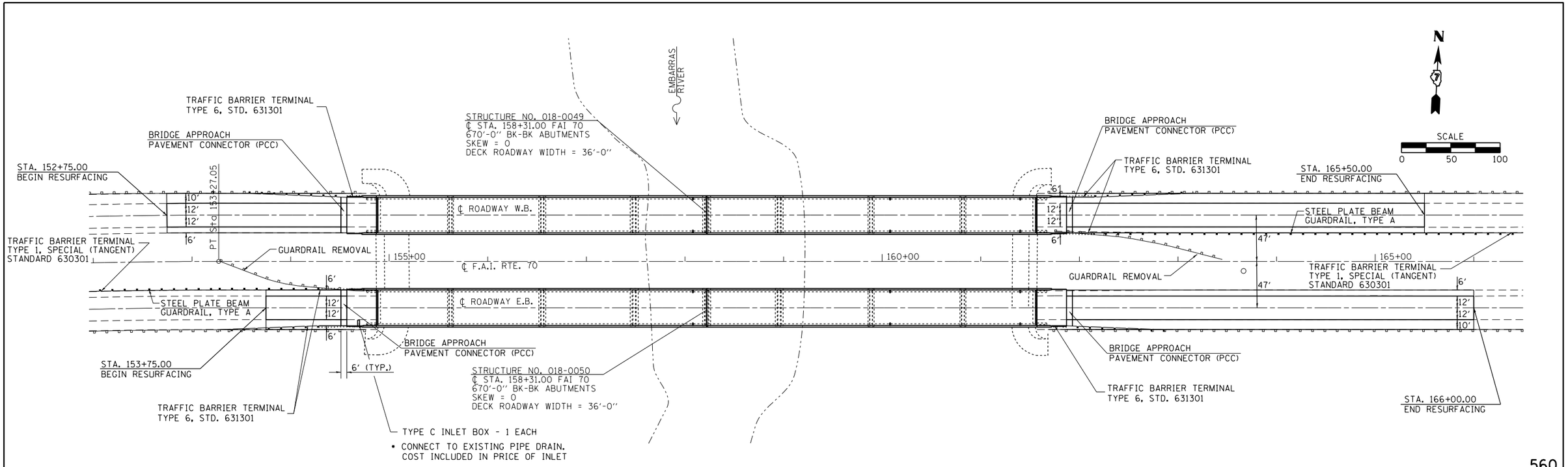
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 018-0047 & 018-0048
PLAN AND PROFILE

SCALE: 50 | SHEET NO. 1 OF 1 SHEETS | STA. 136+00.00 TO STA. 150+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	24
• (18-47-VB)K,(18-47B,18-47HB)BR		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE



PROFILE
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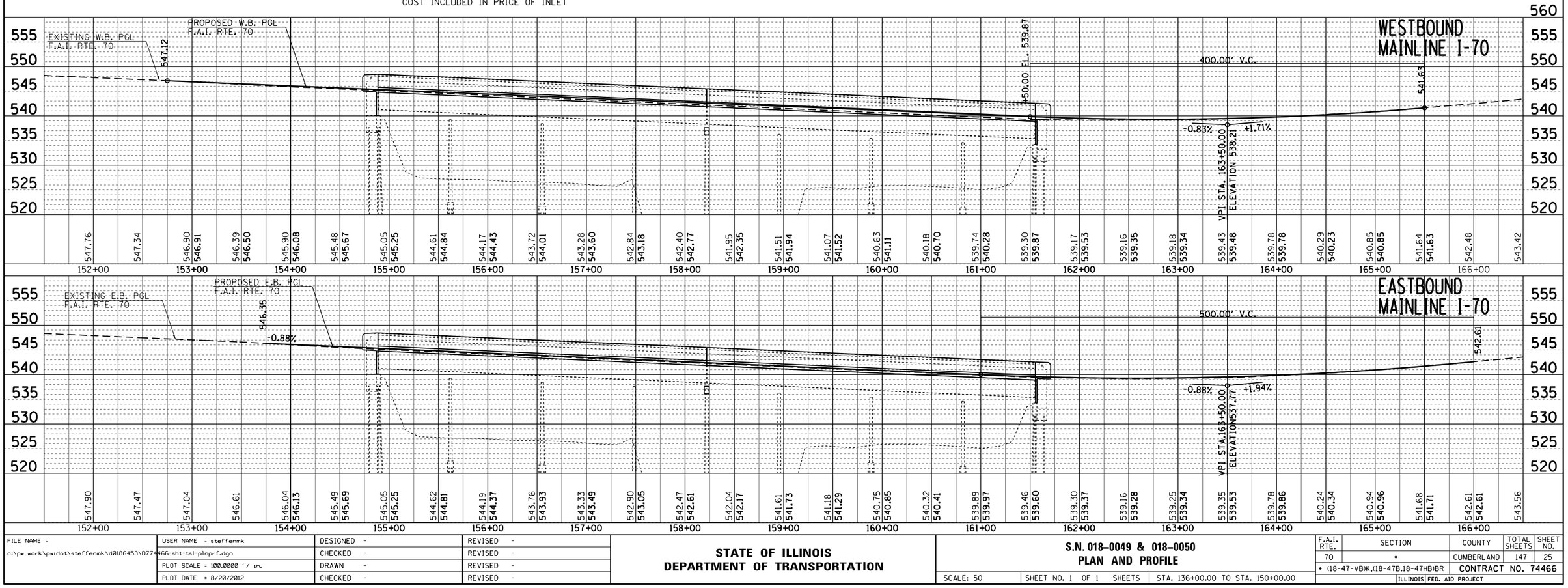
PLOTTED
CROSS SECTIONS CHECKED
B.M. NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK
NO.
BY
DATE



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 018-0049 & 018-0050
PLAN AND PROFILE

SCALE: 50 | SHEET NO. 1 OF 1 SHEETS | STA. 136+00.00 TO STA. 150+00.00

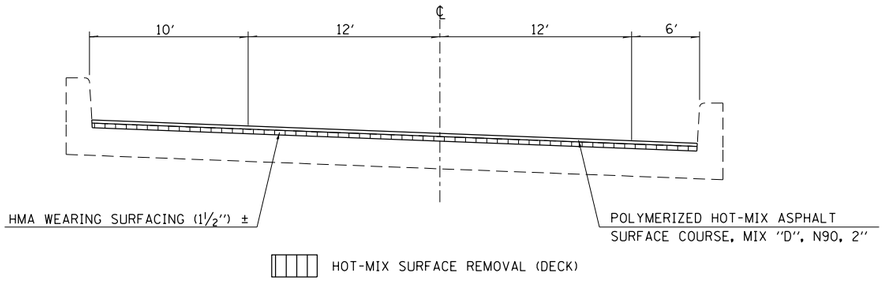
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	25
• (18-47-VB)K,(18-47B,18-47HB)BR		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

TYPICAL CROSS SECTION

STATION 120+45 TO STATION 122+01

S.N. 018-0045 (W.B.)

R.R.

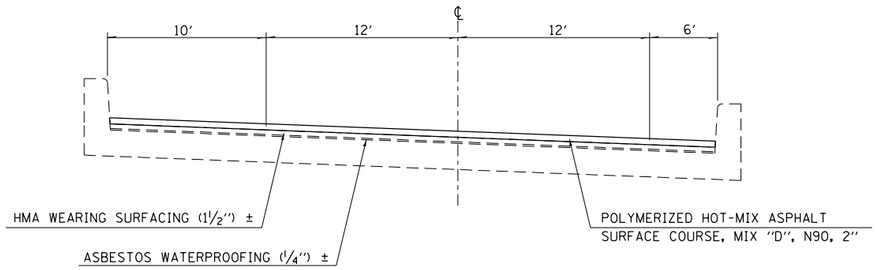


TYPICAL CROSS SECTION

STATION 142+01 TO STATION 143+38

S.N. 018-0047 (W.B.)

IL. RTE. 121

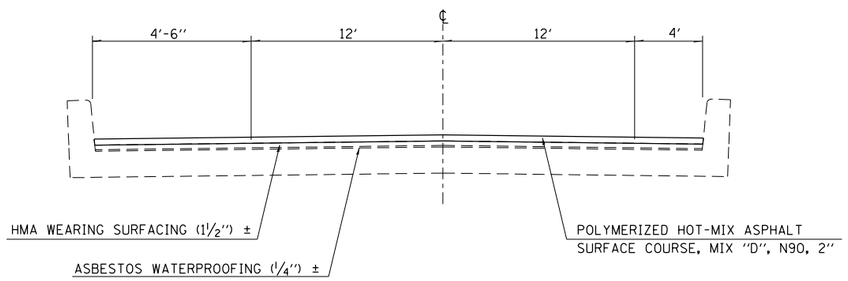


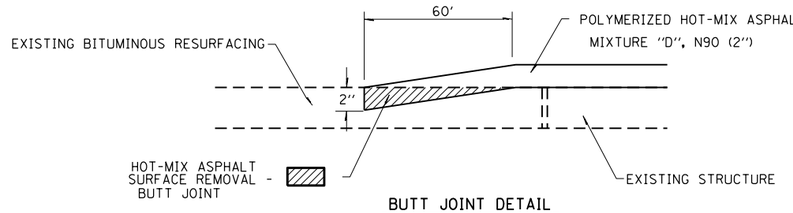
TYPICAL CROSS SECTION

STATION 154+87 TO STATION 161+57

S.N. 018-0049 (W.B.)

EMBARRASS RIVER





BUTT JOINT DETAIL

AT IL 121 BRIDGE
STA 141+41 TO STA 142+01
STA 143+38 TO STA 143+98

AT EMBARRASS RIVER BRIDGE
STA 154+27 TO STA 154+87
STA 161+57 TO STA 162+17

PRE-STAGE 1 BRIDGE WORK

STATION TO STATION	LENGTH	WIDTH OF RESURFACING (BRIDGE WIDTH/PAVEMENT PLUS HMA SHOULDERS)	HOT-MIX SURFACE REMOVAL (DECK)	HOT-MIX SURFACE REMOVAL-BUTT JOINT	DECK SLAB REPAIR(PARTIAL)	DECK SLAB REPAIR(FULL DEPTH TYPE I)	DECK SLAB REPAIR(FULL DEPTH TYPE II)	POLYMERIZED HMA SURFACE, MIX "D", N90	BITUMINOUS MATERIALS (PRIME COAT)
	FOOT	FOOT	SQ YD	SQ YD	SQ YD	SQ YD	SQ YD	TON	GALLON
ABANDONED RR BRIDGE									
SN 018-0045 (W.B.)									
120+45 TO 122+01	156.0	40.0	693		11	3	6	78	69
I 121 BRIDGE									
SN 018-0047 (W.B.)									
141+41 TO 142+01	60.0	40.0		267				30	27
142+01 TO 143+38	138.5	40.0			84	21	42	69	62
143+38 TO 143+98	60.0	40.0		267				30	27
EMBARRAS RIVER BRIDGE									
SN 018-0049 (W.B.)									
154+27 TO 154+87	60.0	32.5-40		242				27	24
154+87 TO 161+57	670.0	32.5			162	41	81	271	241
161+57 TO 162+17	60.0	32.5-40		242				27	24
TOTALS			693	1018	257	65	130	532	474

NOTES: WORK SHALL BE COMPLETED IN DRIVING LANE FIRST
SN 018-0045: TRAFFIC SHALL NOT BE ALLOWED ON BARE CONCRETE DECK.
SN 018-0047: PROTECTIVE SHIELD WILL BE REQUIRED AND PAID FOR IN THIS STAGE. PROTECTIVE SHIELD WILL NOT BE PAID FOR AGAIN IF CONTRACTOR ELECTS TO REMOVE SHIELD PRIOR TO STAGE 2.

NOTE: NOT TO SCALE

• (18-47-VB)K,(18-47B,18-47HB)BR

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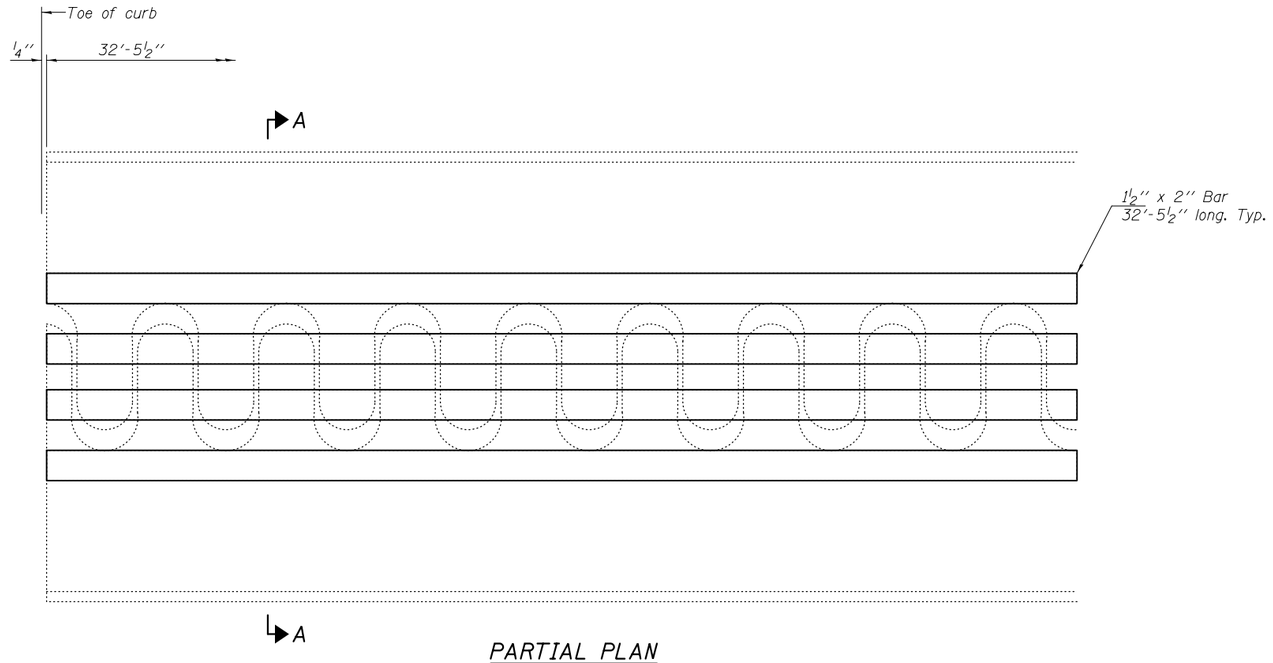
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

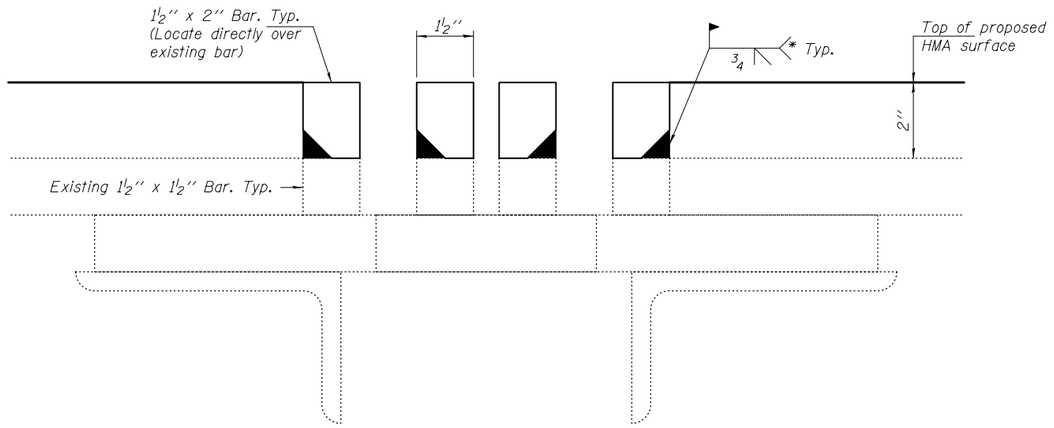
PRE-STAGE 1 DETAILS

SCALE: NA | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	26
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



PARTIAL PLAN



SECTION A-A

* 2.5'' long at 12'' cts.

NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.

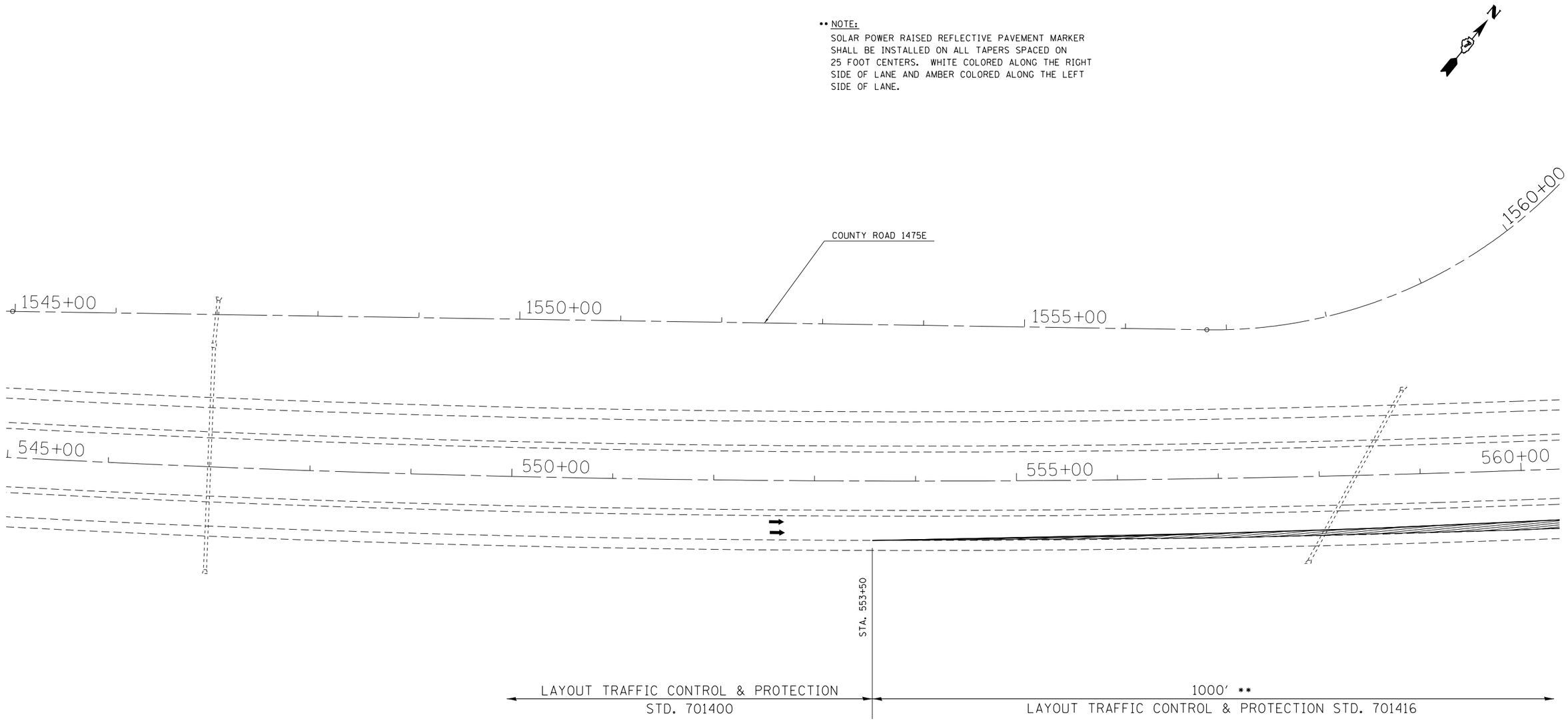
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Steel Repair	Lbs.	1330

DESIGNED DAB	EXAMINED Timothy A. Sandgat ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - OCTOBER 9, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FINGER PLATE ADJUSTMENT DETAILS SN 018–0049	F.A.I. RTE. 70	SECTION
CHECKED VHV						
DRAWN baliva	PASSED A Carl Puzey ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 1 OF 1 SHEETS		
CHECKED DAB VHV						

COUNTY	TOTAL SHEETS	SHEET NO.
CUMBERLAND	147	27
CONTRACT NO. 74466		
ILLINOIS FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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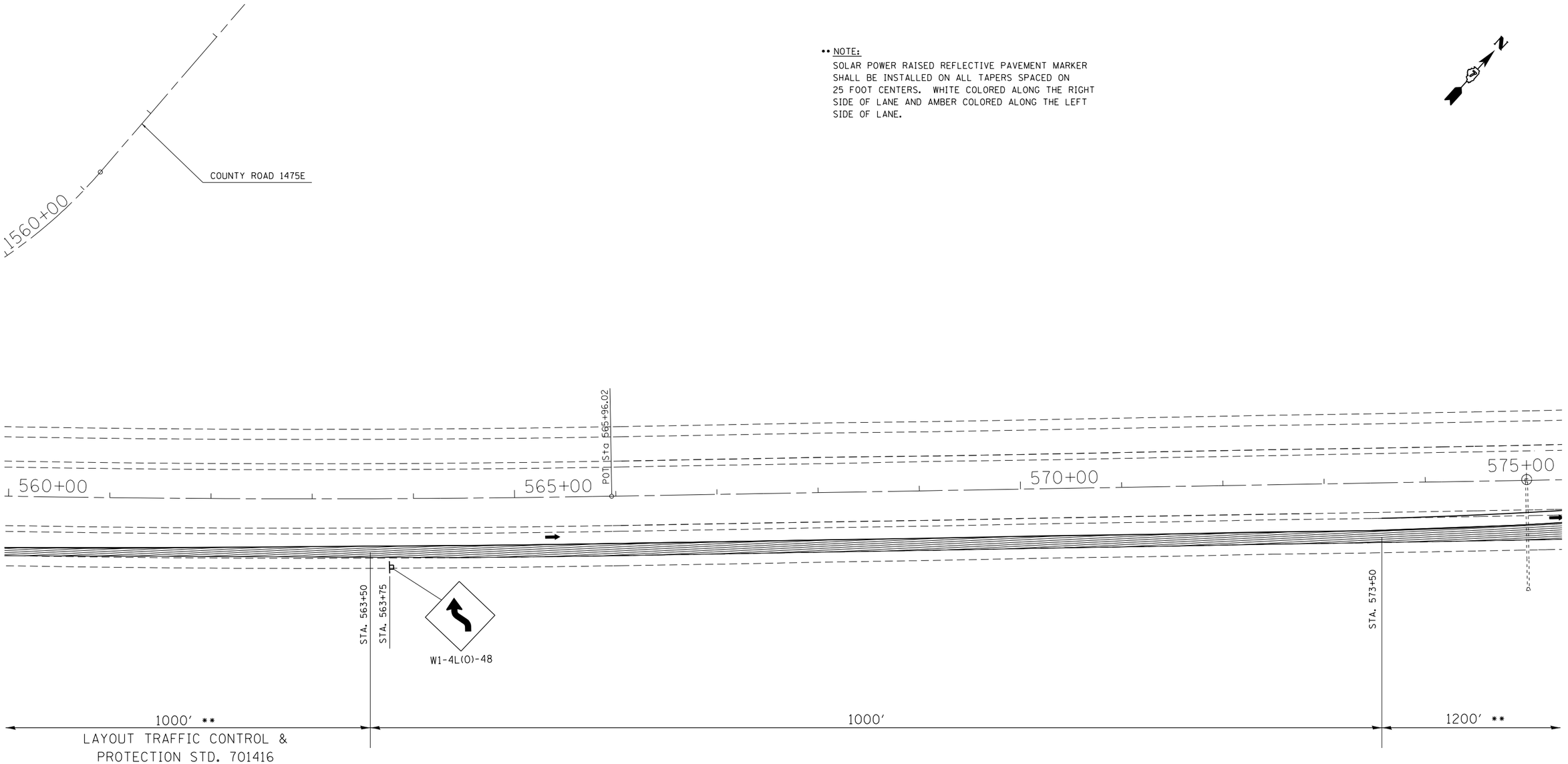
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 1 OF 12 SHEETS | STA. 545+00 TO STA. 560+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	28
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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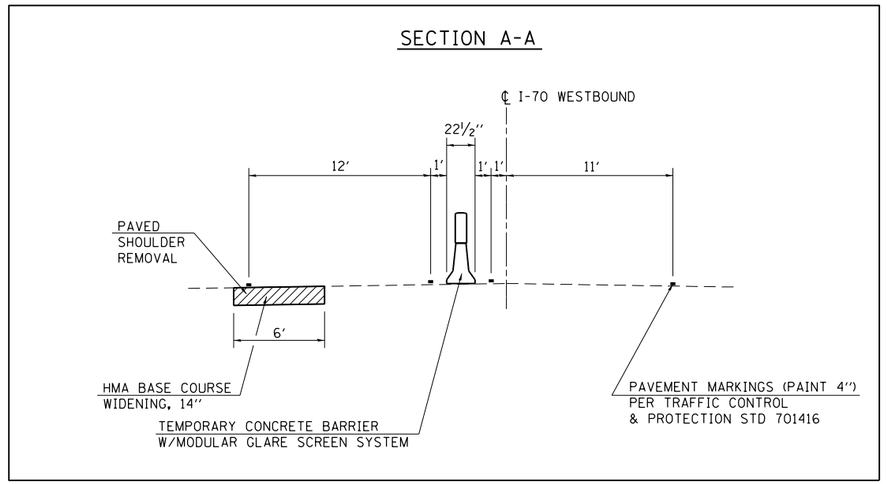
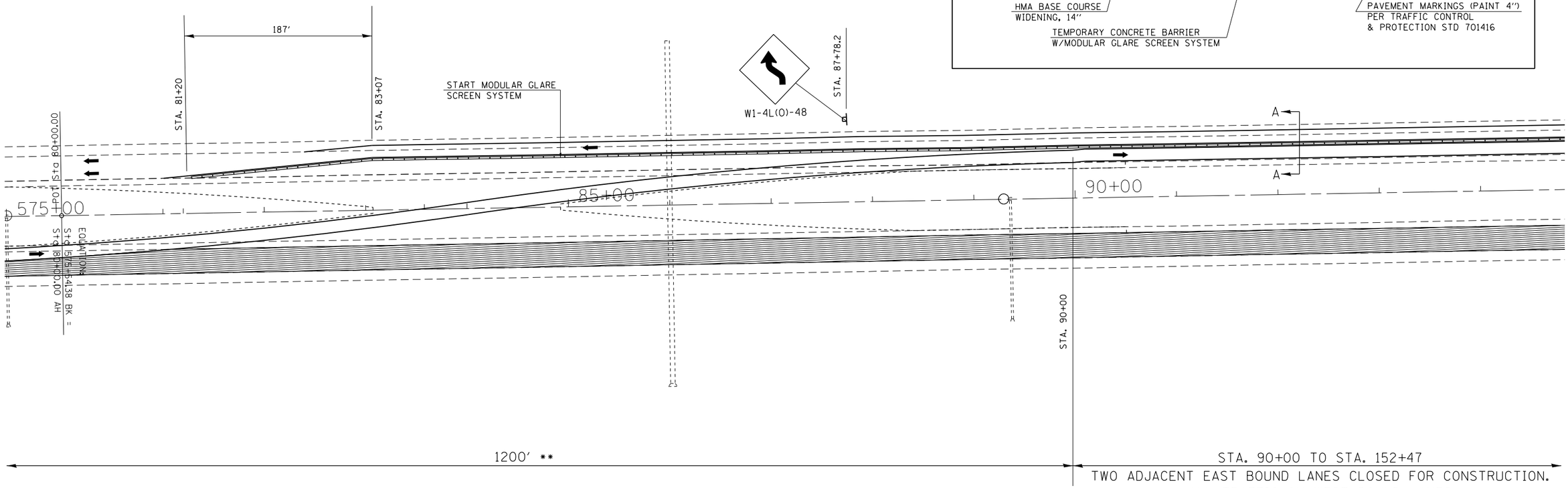
	DRAWN -	REVISED -				70	•	CUMBERLAND	147	29
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -					CONTRACT NO. 74466		
	PLOT DATE = 8/20/2012	DATE -	REVISED -		SCALE: 50 | SHEET NO. 2 OF 12 SHEETS | STA. 560+00 TO STA. 575+00			ILLINOIS FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.





LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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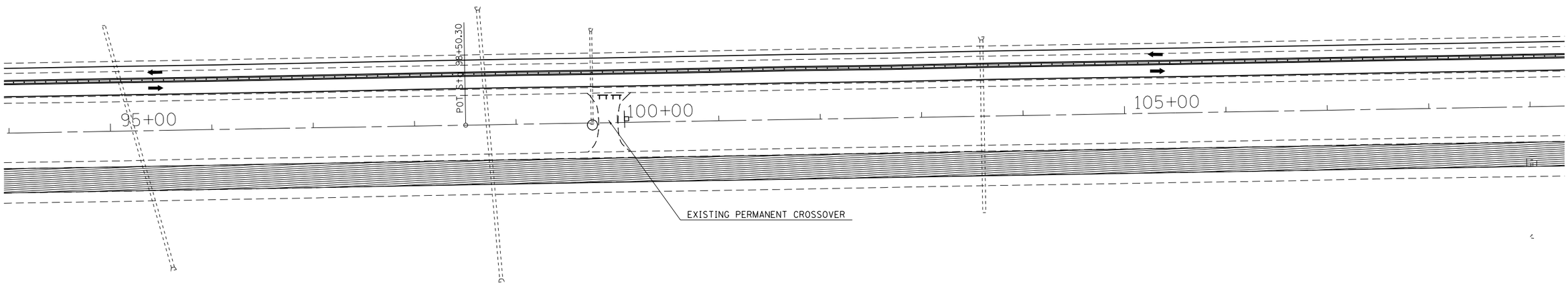
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 3 OF 12 SHEETS | STA. 575+00 | TO STA. 94+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	30
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



STA. 90+00 TO STA. 152+47

TWO ADJACENT EAST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON WEST BOUND LANES

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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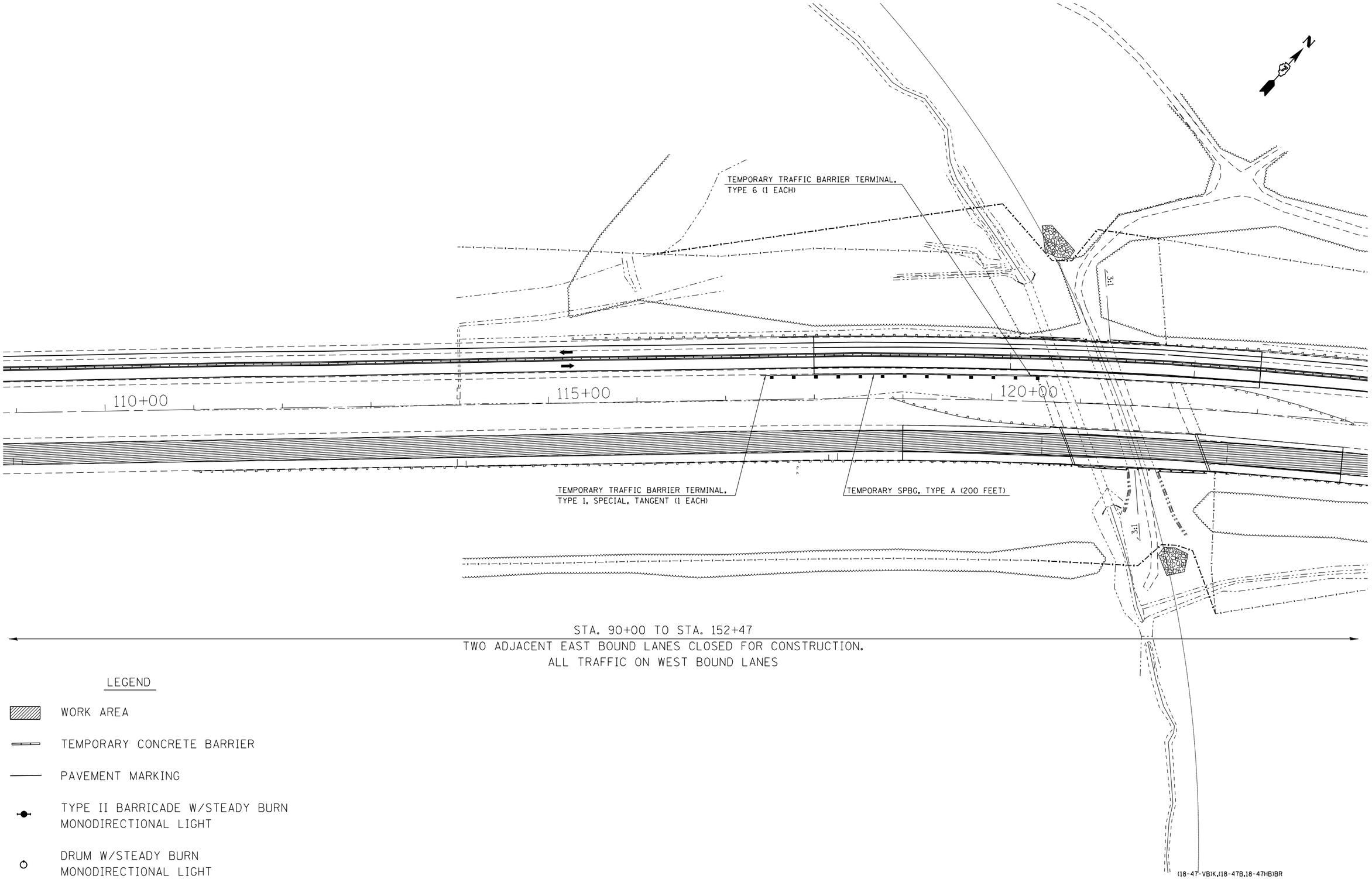
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 4 OF 12 SHEETS | STA. 94+00 | TO STA. 109+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	31
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



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	PLOT DATE = 8/20/2012	DATE -	REVISED -

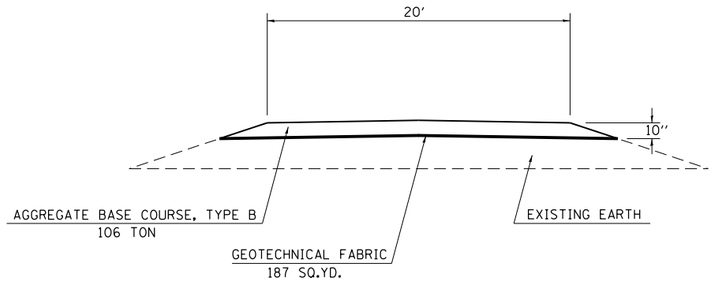
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 5 OF 12 SHEETS | STA. 109+00 TO STA. 124+00

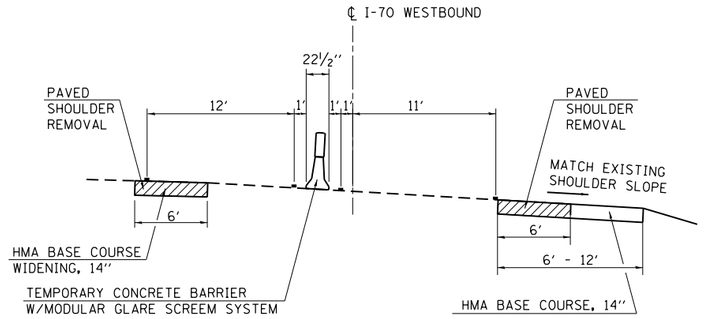
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	32
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

SECTION C-C

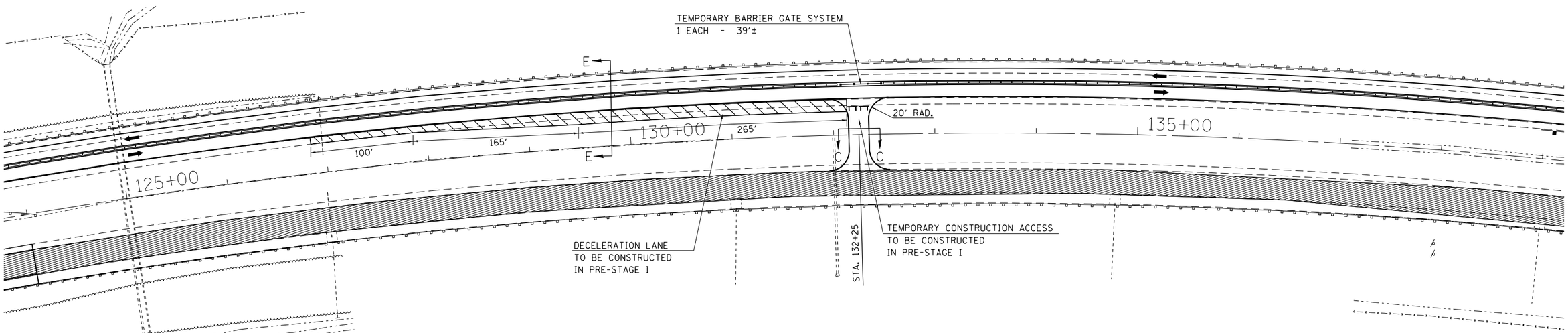


TEMPORARY CONSTRUCTION ACCESS

SECTION E-E



DECELERATION LANE



STA. 90+00 TO STA. 152+47

TWO ADJACENT EAST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON WEST BOUND LANES

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

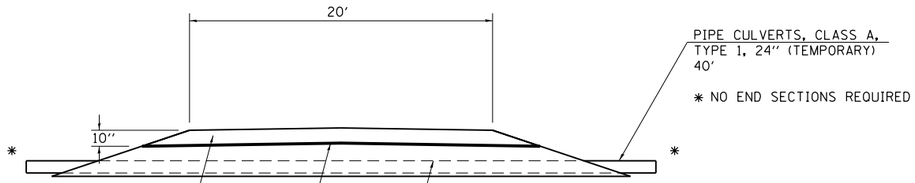
SCALE: 50 | SHEET NO. 6 OF 12 SHEETS | STA. 124+00 TO STA. 139+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	33
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•NOTE: LANES APPROACHING AND DEPARTING THE EMBARRAS RIVER SHIFT TO ACHIEVE WIDTH CLEARANCE. BARRIER TO BE LOCATED ON THE CENTERLINE OF THE BRIDGE.

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.

SECTION D-D



PIPE CULVERTS, CLASS A, TYPE 1, 24" (TEMPORARY)
40'
* NO END SECTIONS REQUIRED

AGGREGATE BASE COURSE, TYPE B
106 TON

GEOTECHNICAL FABRIC
187 SQ.YD.

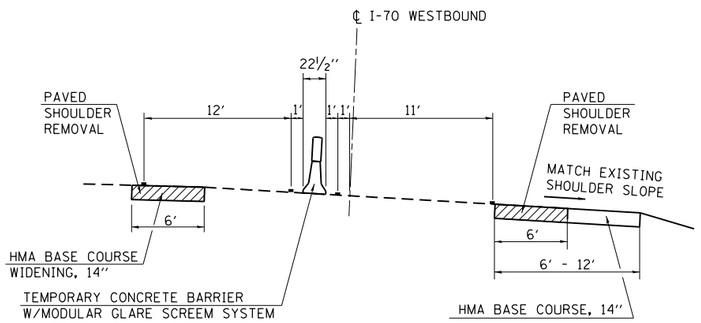
FURNISHED EXCAVATION
120 CU.YD.

TEMPORARY CONSTRUCTION ACCESS

STA. 90+00 TO STA. 152+47
TWO ADJACENT EAST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON WEST BOUND LANES

LANE SHIFT **
TAPER 200'

SECTION E-E



DECELERATION LANE

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

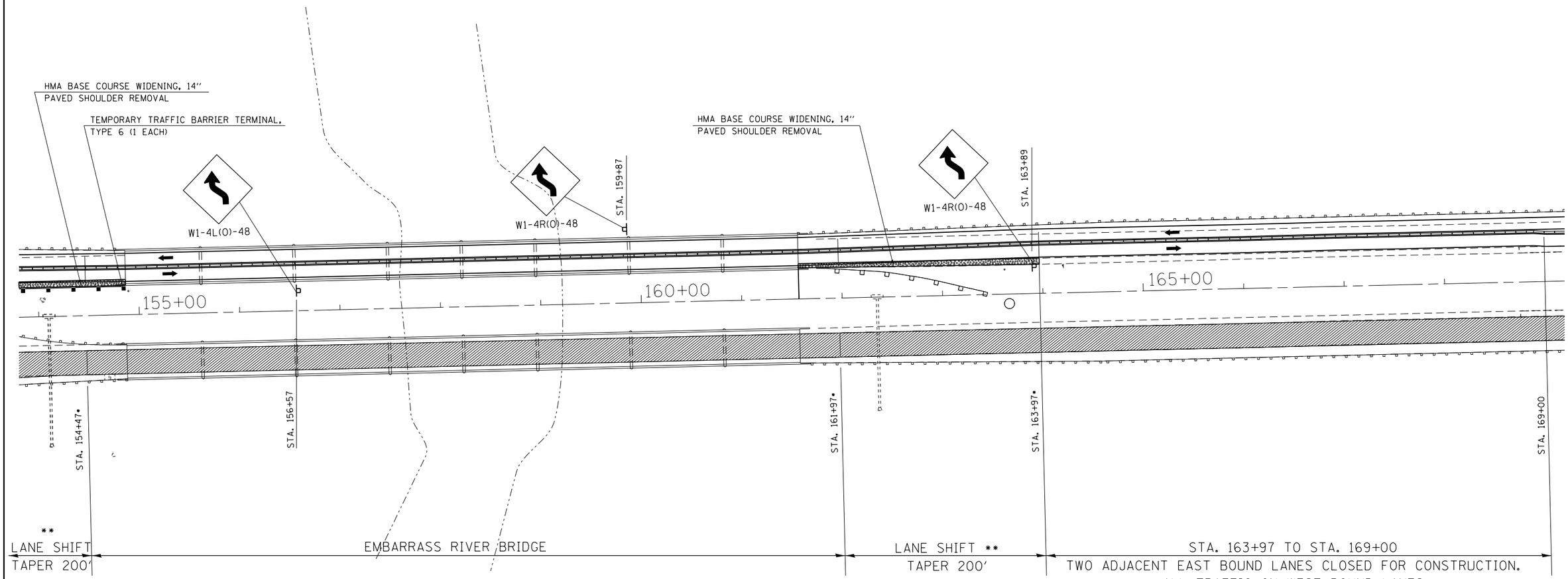
STAGE 1

SCALE: 50 | SHEET NO. 7 OF 12 SHEETS | STA. 139+00 TO STA. 154+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	34
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•NOTE: LANES APPROACHING AND DEPARTING THE EMBARRAS RIVER SHIFT TO ACHIEVE WIDTH CLEARANCE. BARRIER TO BE LOCATED ON THE CENTERLINE OF THE BRIDGE.

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

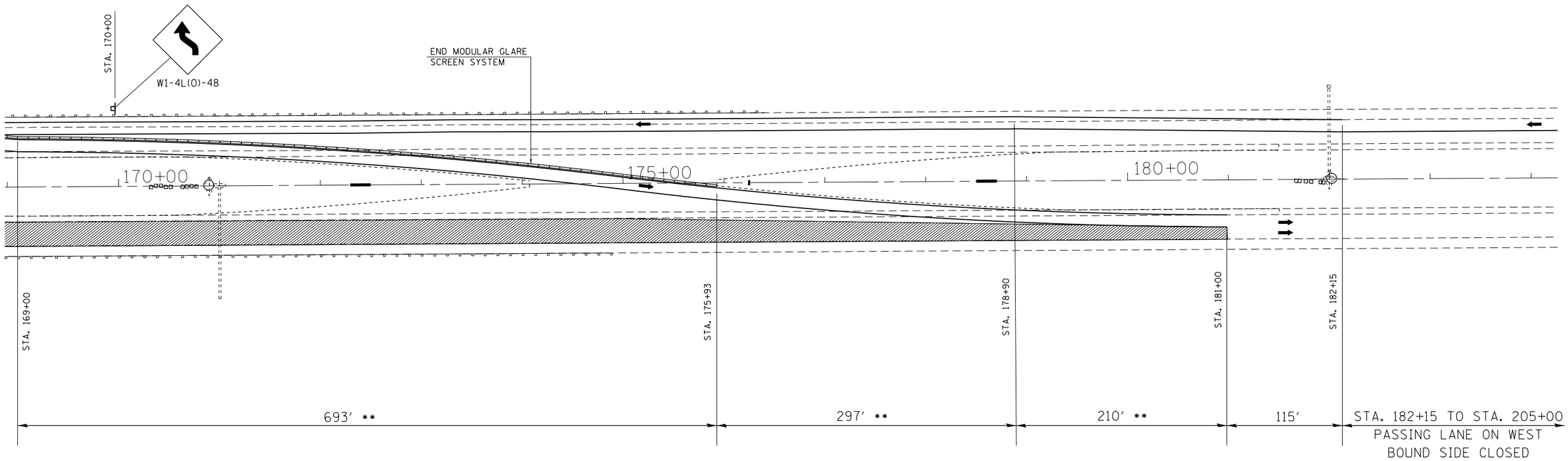
STAGE 1

SCALE: 50 | SHEET NO. 8 OF 12 SHEETS | STA. 154+00 | TO STA. 169+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	35
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.

N



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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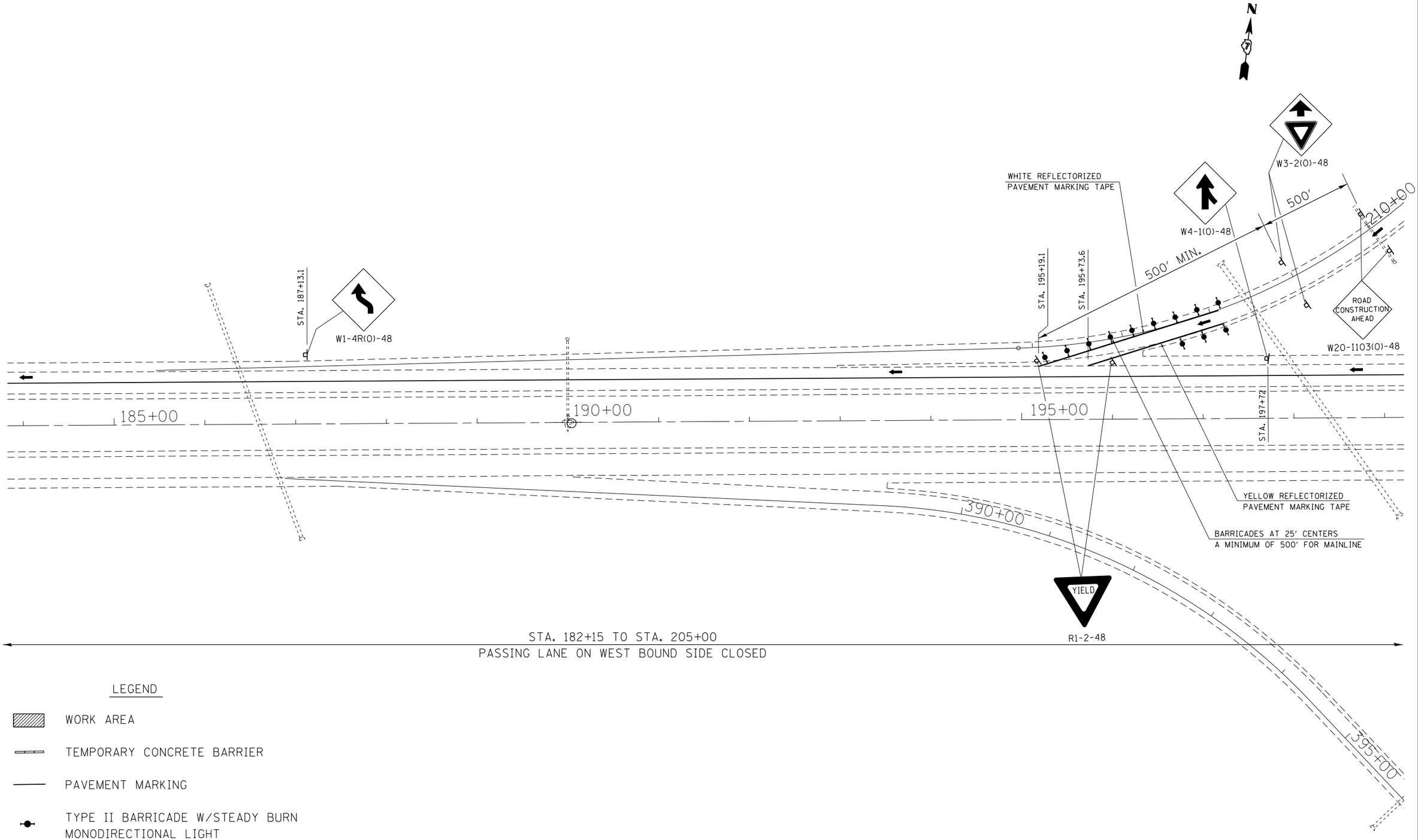
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 9 OF 12 SHEETS | STA. 169+00 | TO STA. 184+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	36
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



STA. 182+15 TO STA. 205+00
PASSING LANE ON WEST BOUND SIDE CLOSED

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

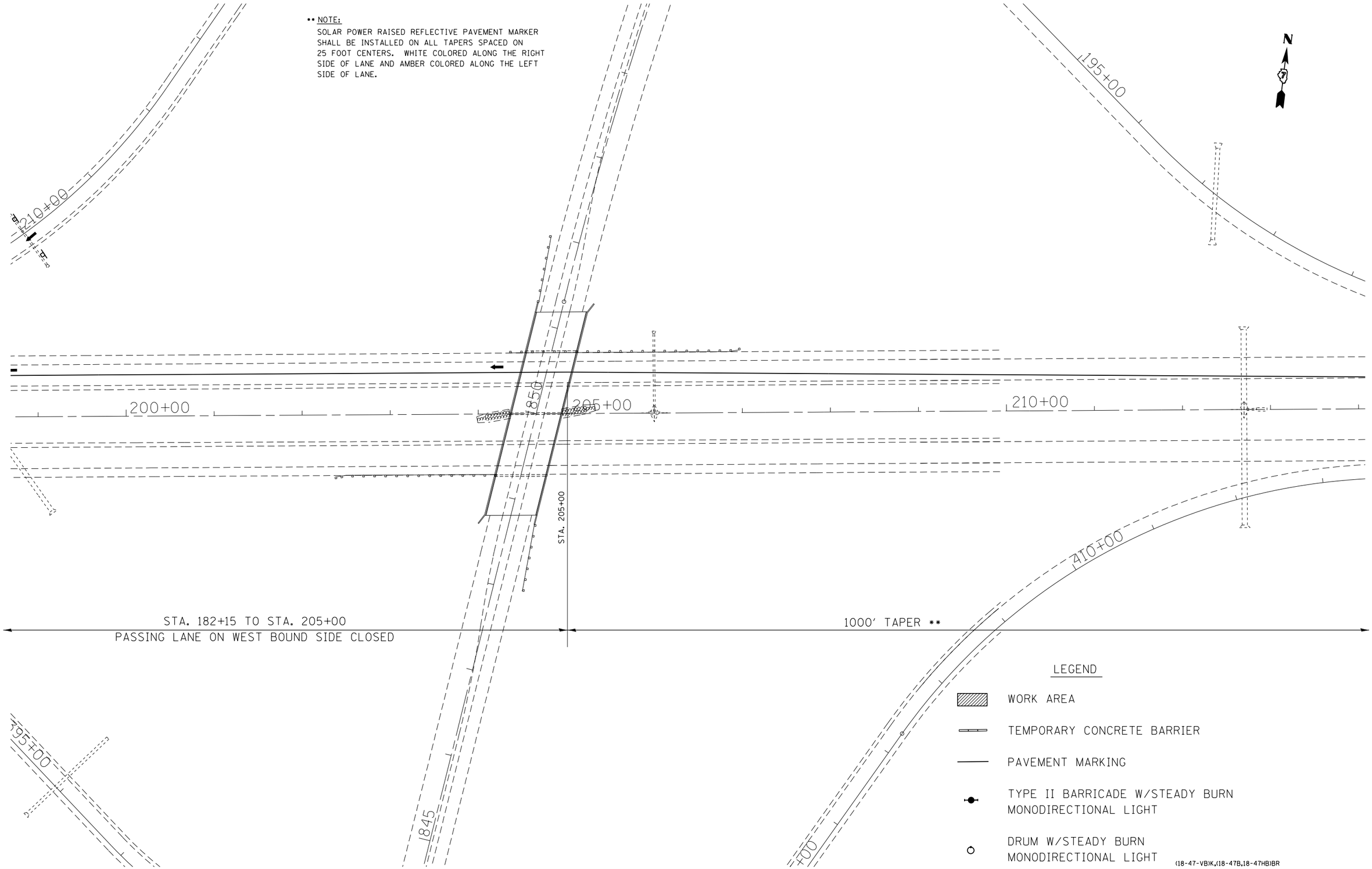
SCALE: 50 | SHEET NO. 10 OF 12 SHEETS | STA. 184+00 TO STA. 199+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	37

CONTRACT NO. 74466

ILLINOIS FED. AID PROJECT

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

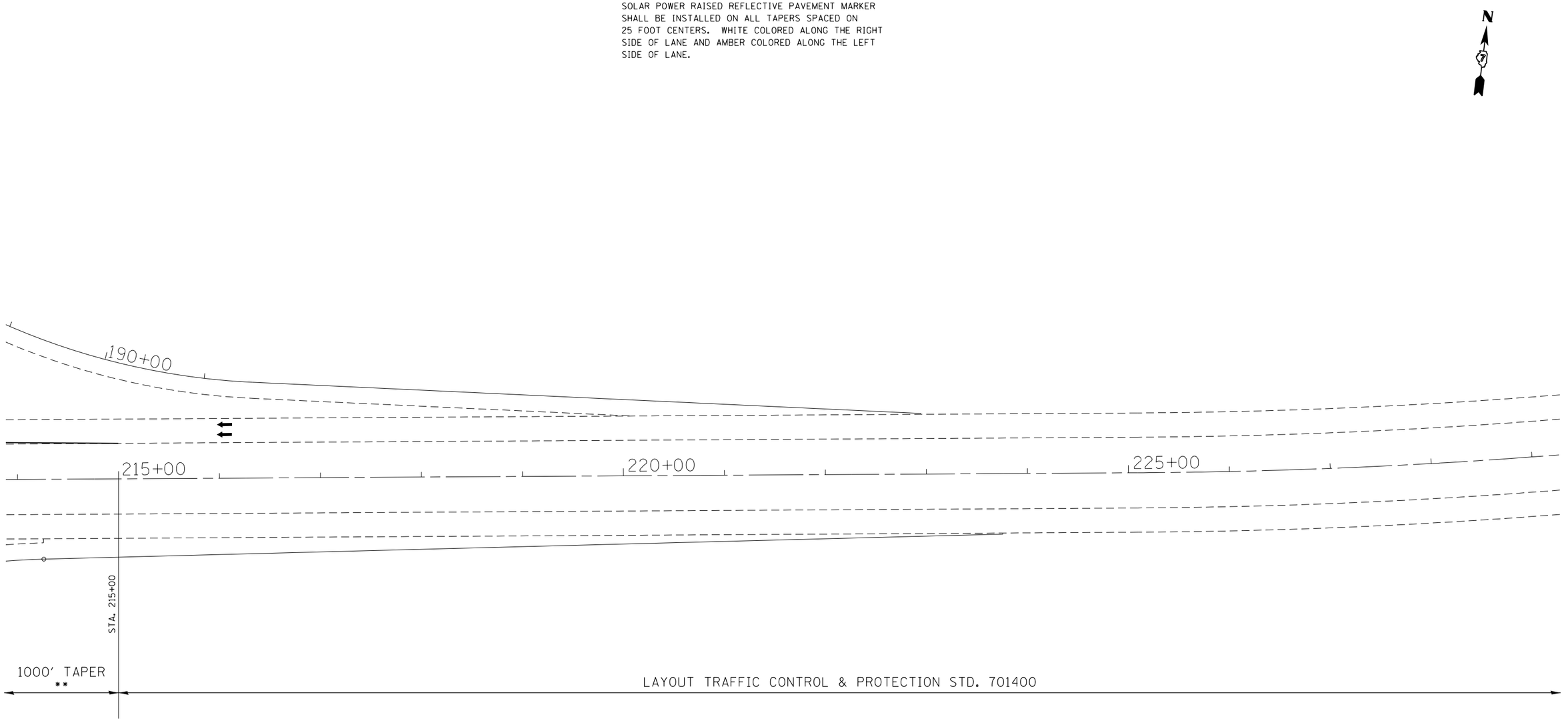
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 11 OF 12 SHEETS | STA. 199+00 TO STA. 214+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	38
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

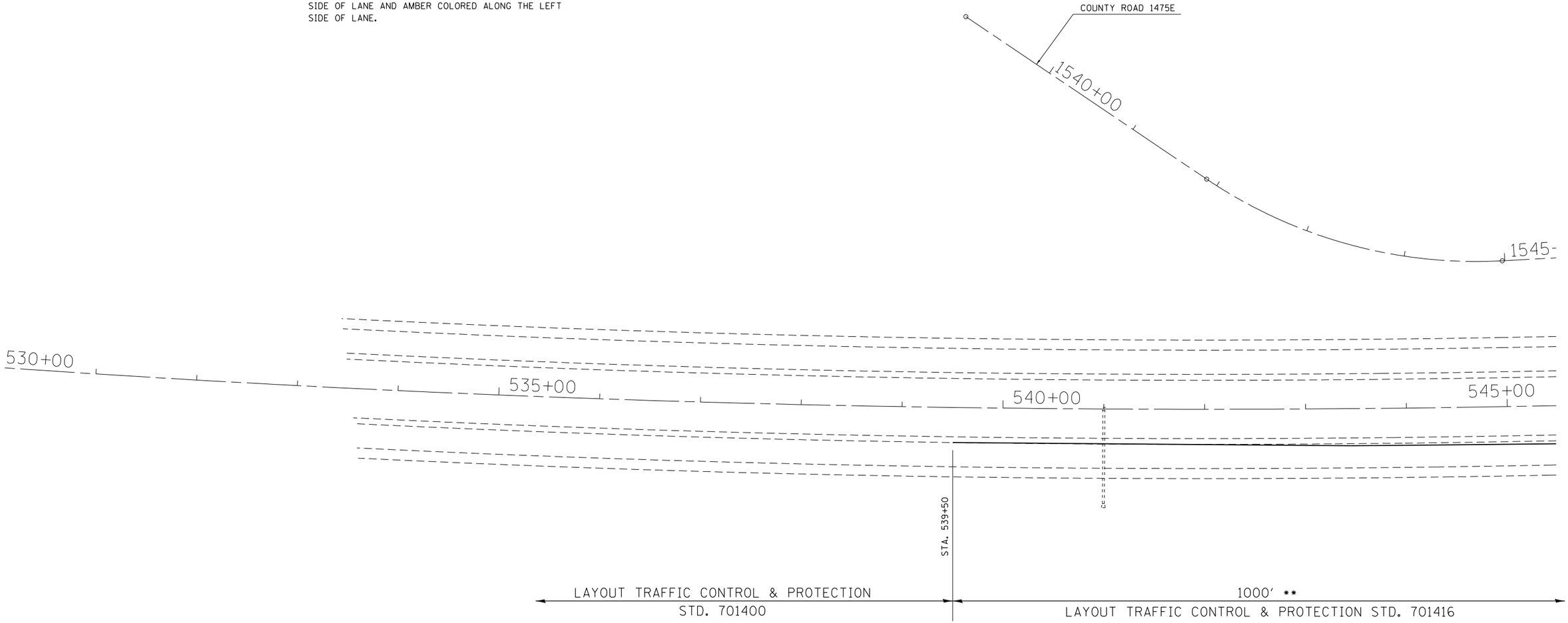
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1

SCALE: 50 | SHEET NO. 12 OF 12 SHEETS | STA. 214+00 | TO STA. 229+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	39
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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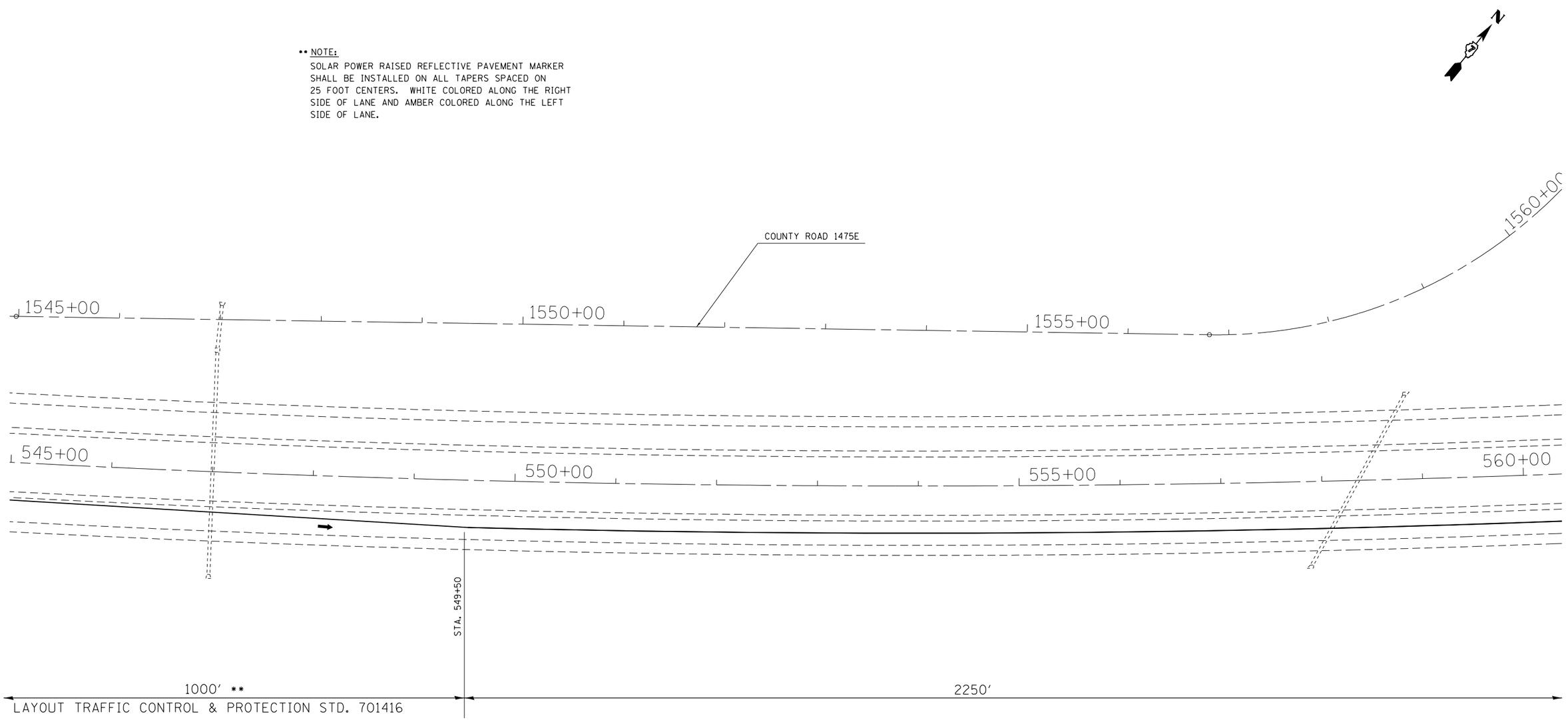
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 1 OF 12 SHEETS | STA. 534+00 TO STA. 545+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	40
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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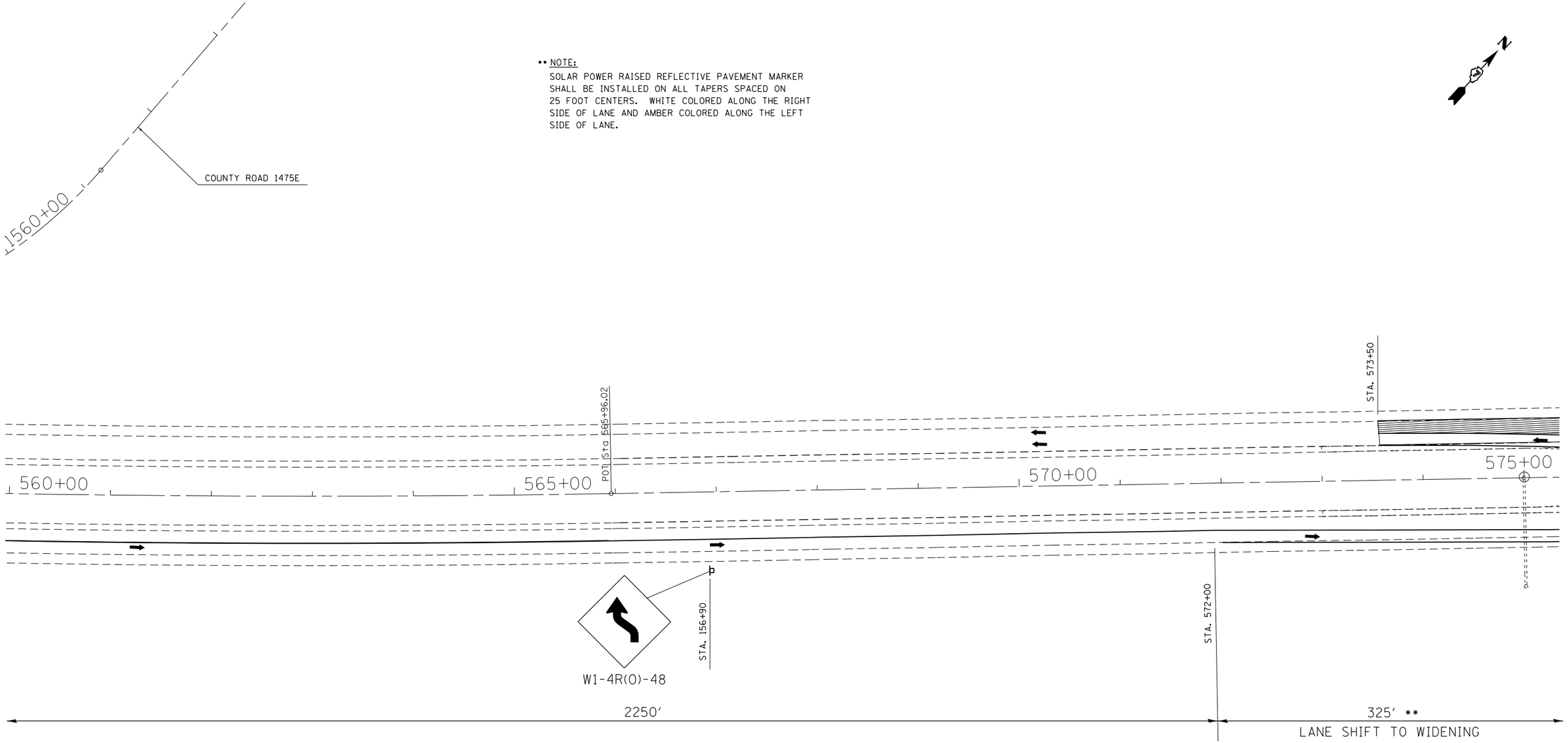
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 2 OF 12 SHEETS | STA. 545+00 TO STA. 560+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	41
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

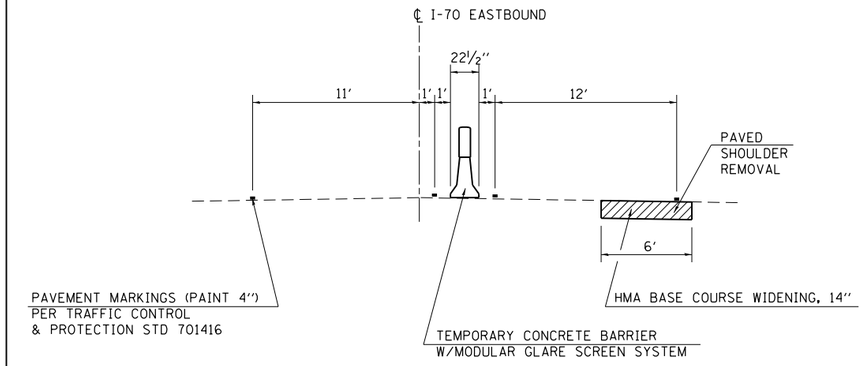
STAGE 2

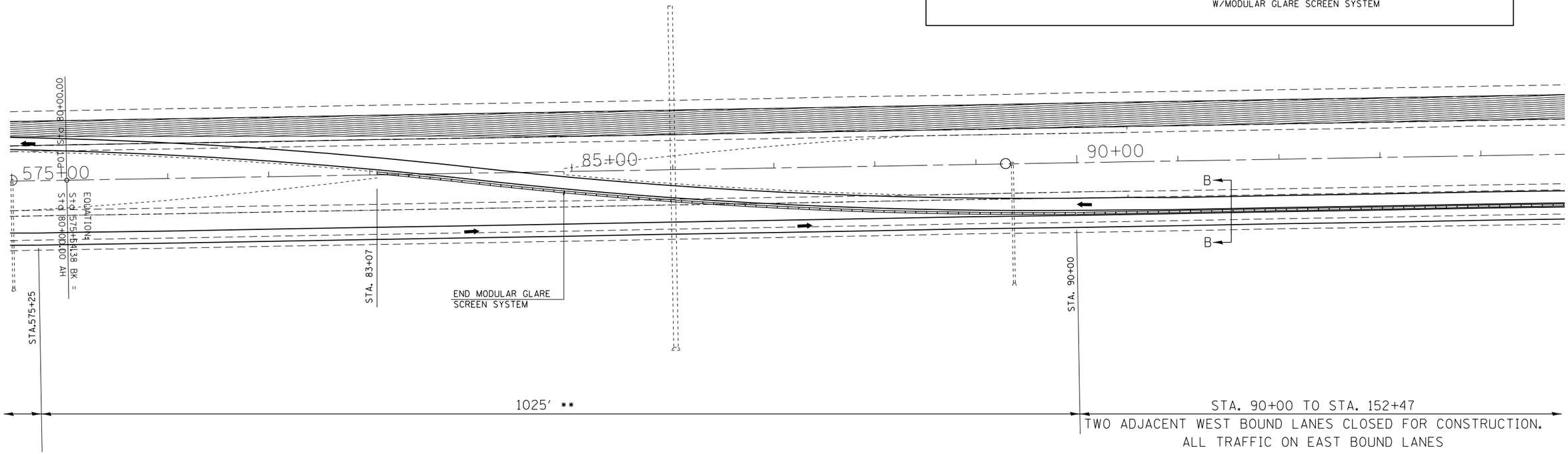
SCALE: 50 | SHEET NO. 3 OF 12 SHEETS | STA. 560+00 | TO STA. 575+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	42
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.

SECTION B-B





LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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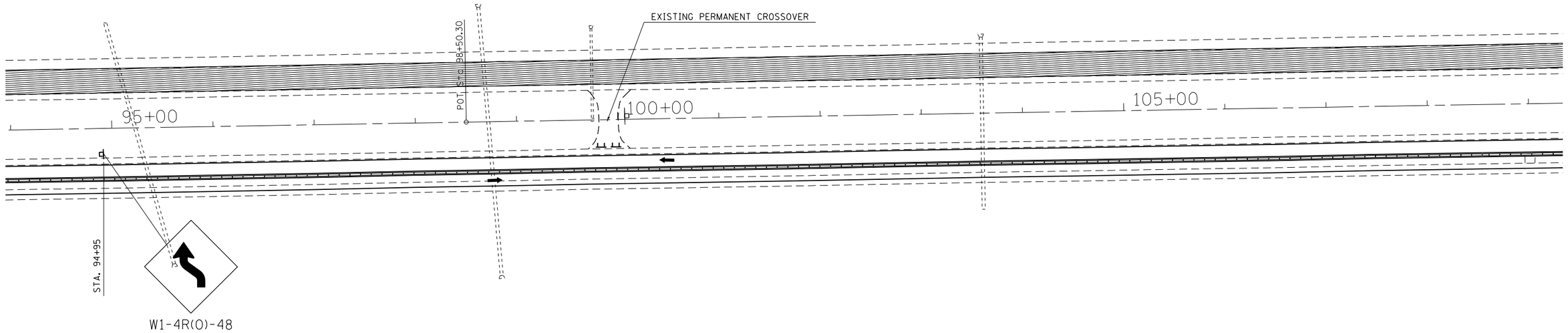
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 4 OF 12 SHEETS | STA. 575+00 | TO STA. 94+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	43
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



STA. 90+00 TO STA. 152+47

TWO ADJACENT WEST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON EAST BOUND LANES

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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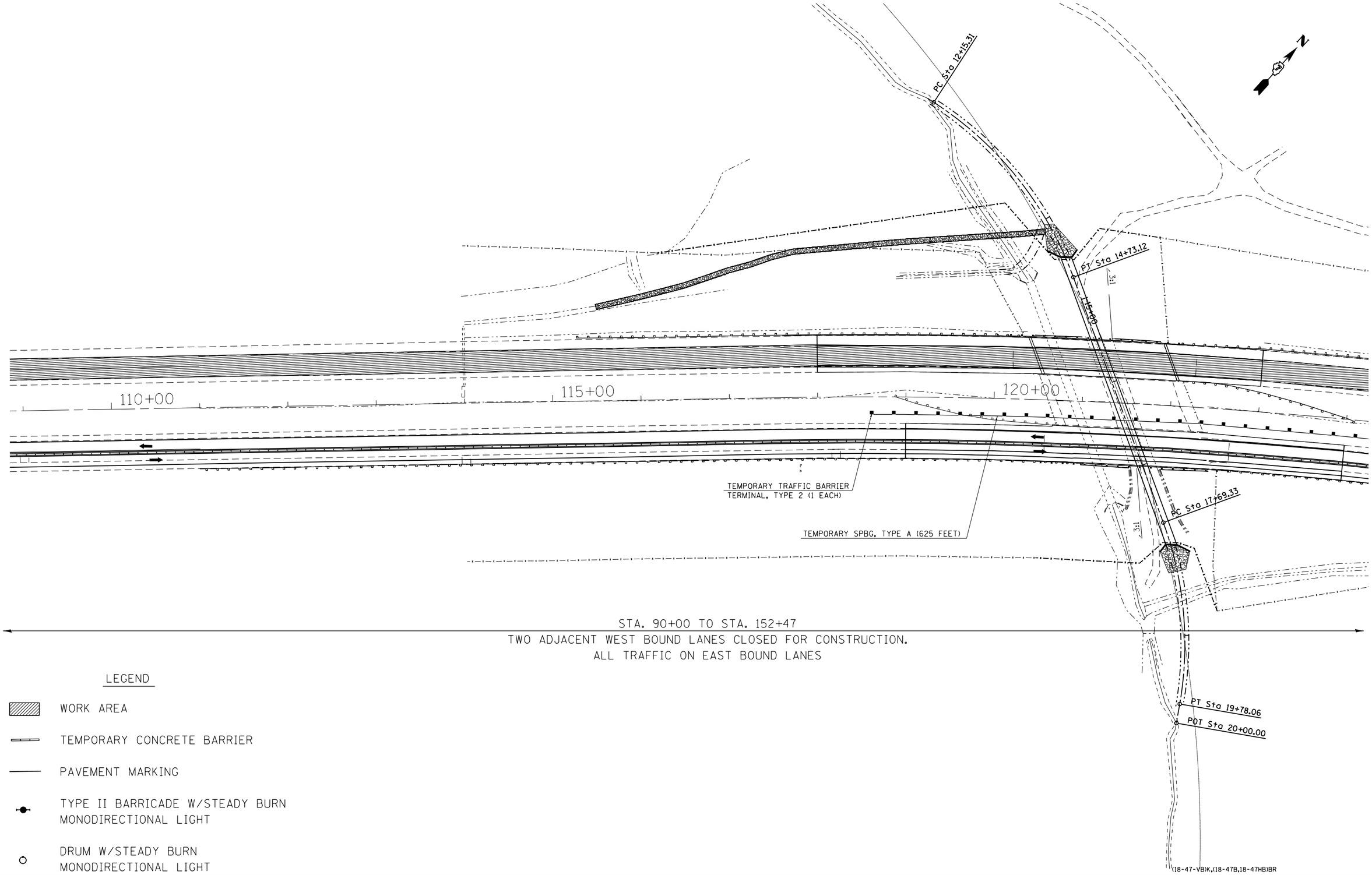
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 5 OF 12 SHEETS | STA. 94+00 | TO STA. 109+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	44
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



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	PLOT DATE = 8/20/2012	DATE -	REVISED -

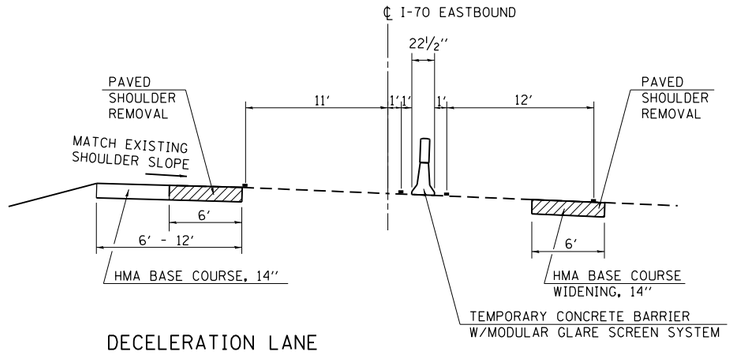
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

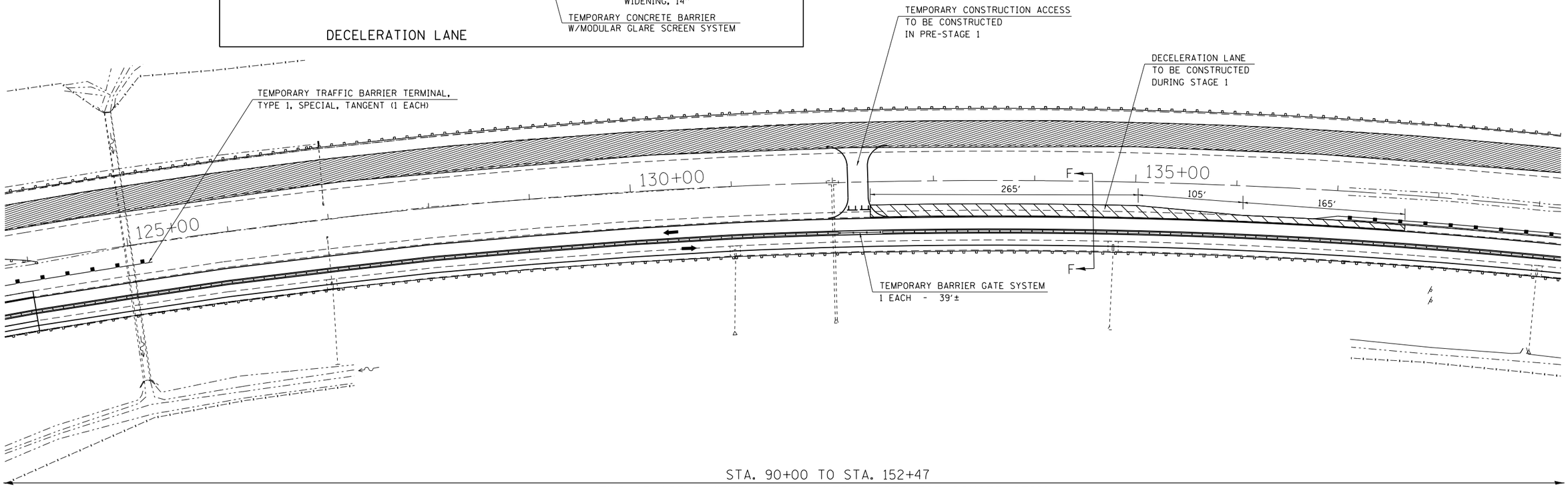
SCALE: 50 | SHEET NO. 6 OF 12 SHEETS | STA. 109+00 | TO STA. 124+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	45
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

SECTION F-F



DECELERATION LANE



STA. 90+00 TO STA. 152+47

TWO ADJACENT WEST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON EAST BOUND LANES

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 7 OF 12 SHEETS | STA. 124+00 TO STA. 139+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	46
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

•NOTE: LANES APPROACHING AND DEPARTING THE EMBARRAS RIVER SHIFT TO ACHIEVE WIDTH CLEARANCE. BARRIER TO BE LOCATED ON THE CENTERLINE OF THE BRIDGE.

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.

N

TEMPORARY TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL, TANGENT (1 EACH)

TEMPORARY CONSTRUCTION ACCESS TO BE CONSTRUCTED IN PRE-STAGE 1

TEMPORARY SPBG, TYPE A (200 FEET)

DECELERATION LANE TO BE CONSTRUCTED DURING STAGE 1

655+00

145+00

150+00

140+00

265′

105′

165′

F

F

121

R. T. & L.

STA. 157+47

STA. 152+47•

TEMPORARY BARRIER GATE SYSTEM
1 EACH - 39′±

W1-4L(O)-48

STA. 90+00 TO STA. 152+47
TWO ADJACENT WEST BOUND LANES CLOSED FOR CONSTRUCTION.
ALL TRAFFIC ON EAST BOUND LANES

LANE SHIFT **
TAPER 200′

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

SECTION F-F

℄ I-70 EASTBOUND

22½″

PAVED SHOULDER REMOVAL

MATCH EXISTING SHOULDER SLOPE

11′ 1′ 1′ 12′

PAVED SHOULDER REMOVAL

6′

6′ - 12′

6′

HMA BASE COURSE, 14″

HMA BASE COURSE WIDENING, 14″

TEMPORARY CONCRETE BARRIER W/MODULAR GLARE SCREEN SYSTEM

DECELERATION LANE

(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

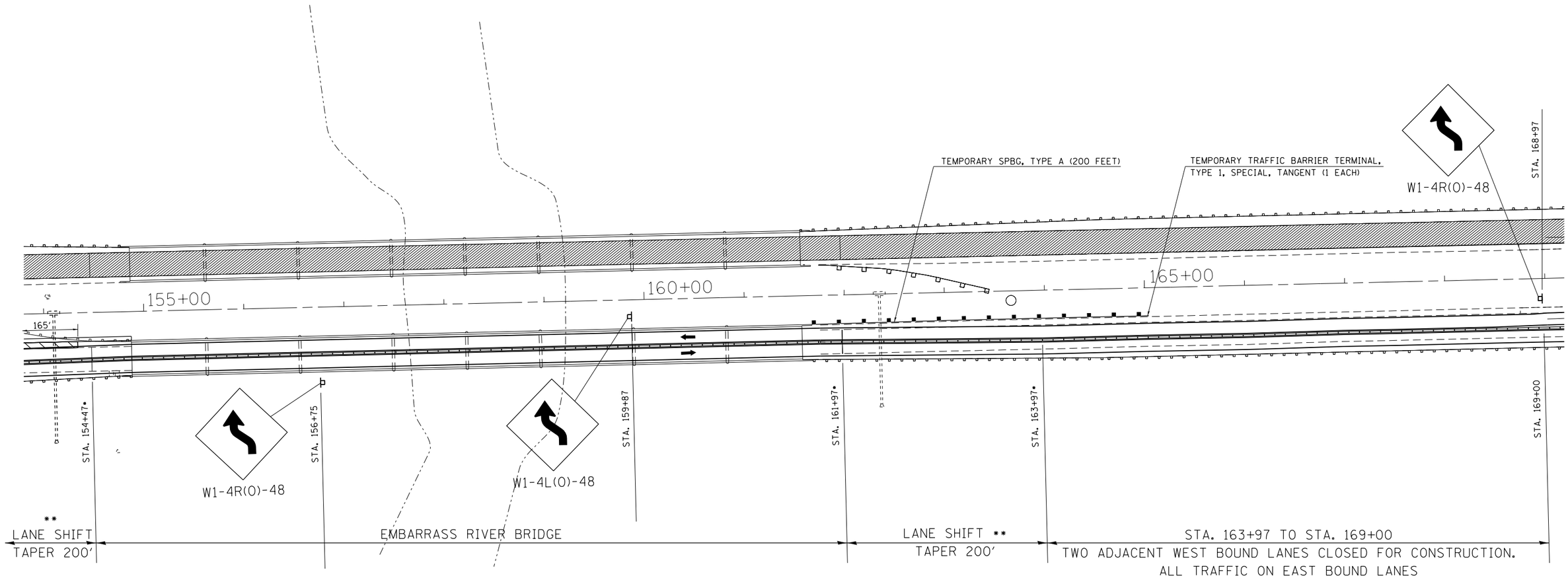
SCALE: 50 | SHEET NO. 8 OF 12 SHEETS | STA. 139+00 TO STA. 154+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	47
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

•NOTE: LANES APPROACHING AND DEPARTING THE EMBARRAS RIVER SHIFT TO ACHIEVE WIDTH CLEARANCE. BARRIER TO BE LOCATED ON THE CENTERLINE OF THE BRIDGE.

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.

N



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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	PLOT DATE = 8/20/2012	DATE -	REVISED -

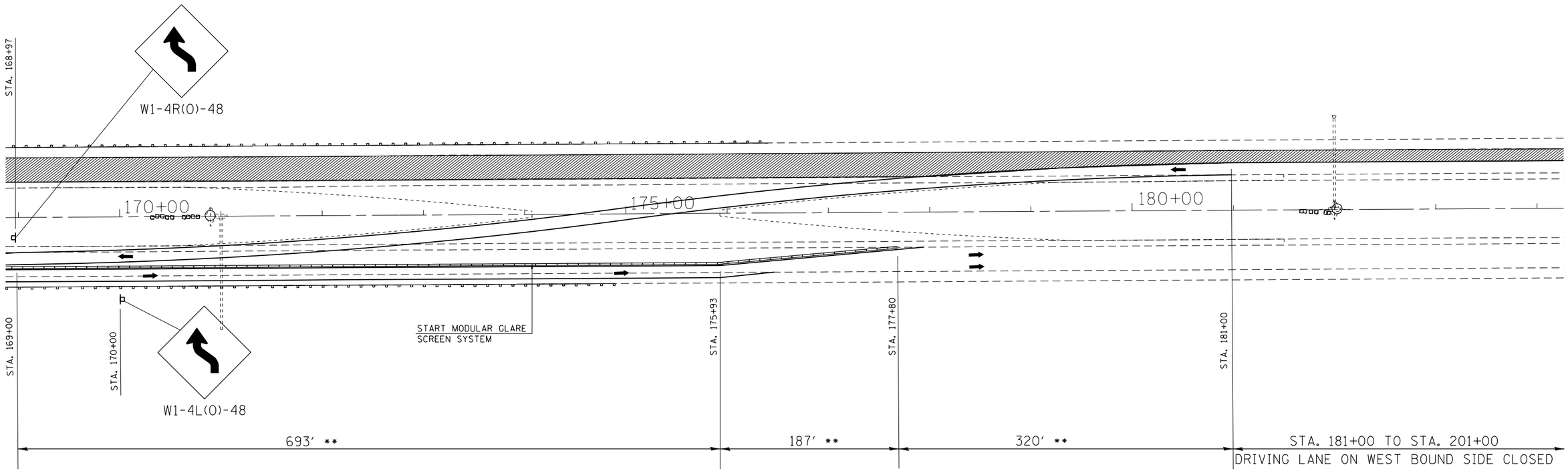
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 9 OF 12 SHEETS | STA. 154+00 TO STA. 169+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	48
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

•• NOTE:
SOLAR POWER RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ON ALL TAPERS SPACED ON 25 FOOT CENTERS. WHITE COLORED ALONG THE RIGHT SIDE OF LANE AND AMBER COLORED ALONG THE LEFT SIDE OF LANE.



LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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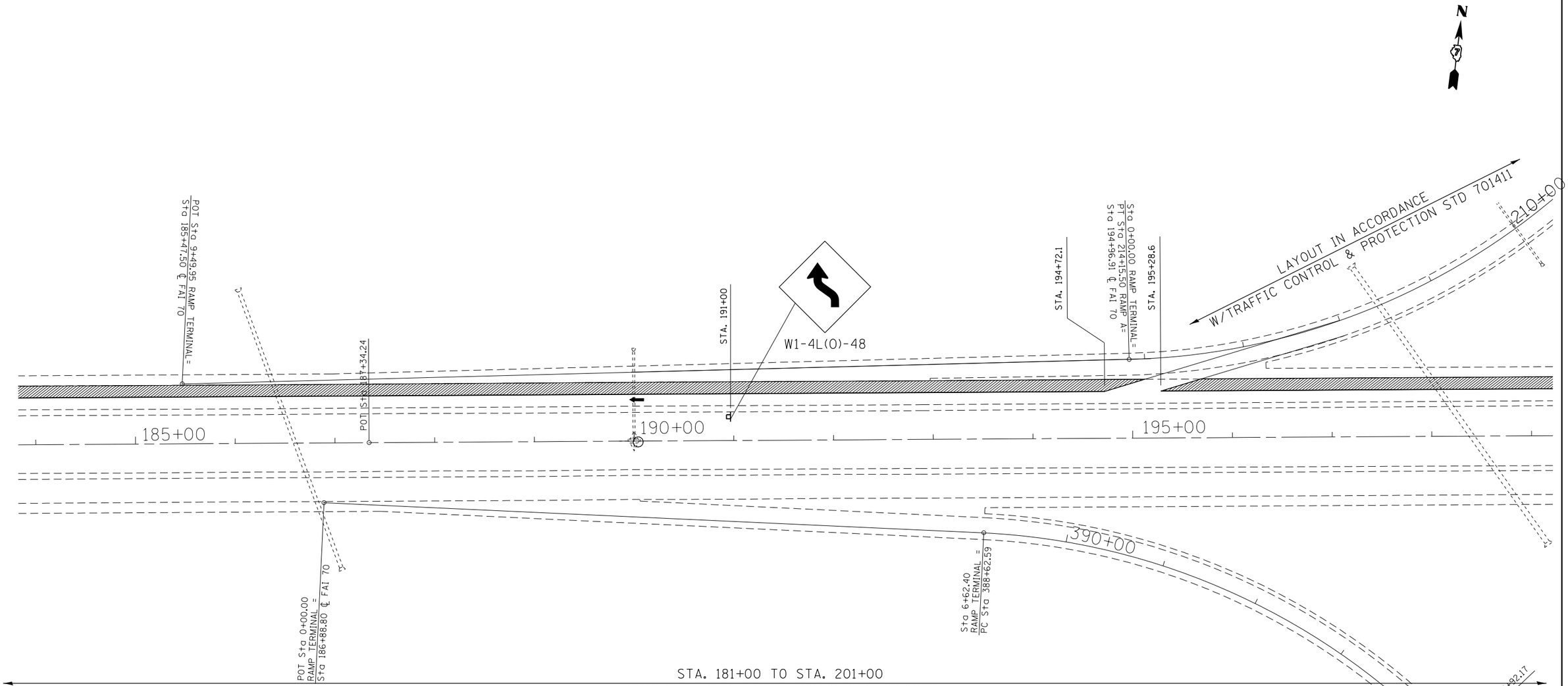
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 10 OF 12 SHEETS | STA. 169+00 TO STA. 184+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	49
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



STA. 181+00 TO STA. 201+00
DRIVING LANE ON WEST BOUND SIDE CLOSED

LEGEND

- WORK AREA
- TEMPORARY CONCRETE BARRIER
- PAVEMENT MARKING
- TYPE II BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- DRUM W/STEADY BURN MONODIRECTIONAL LIGHT

(18-47-VB)K,(18-47B,18-47HB)BR

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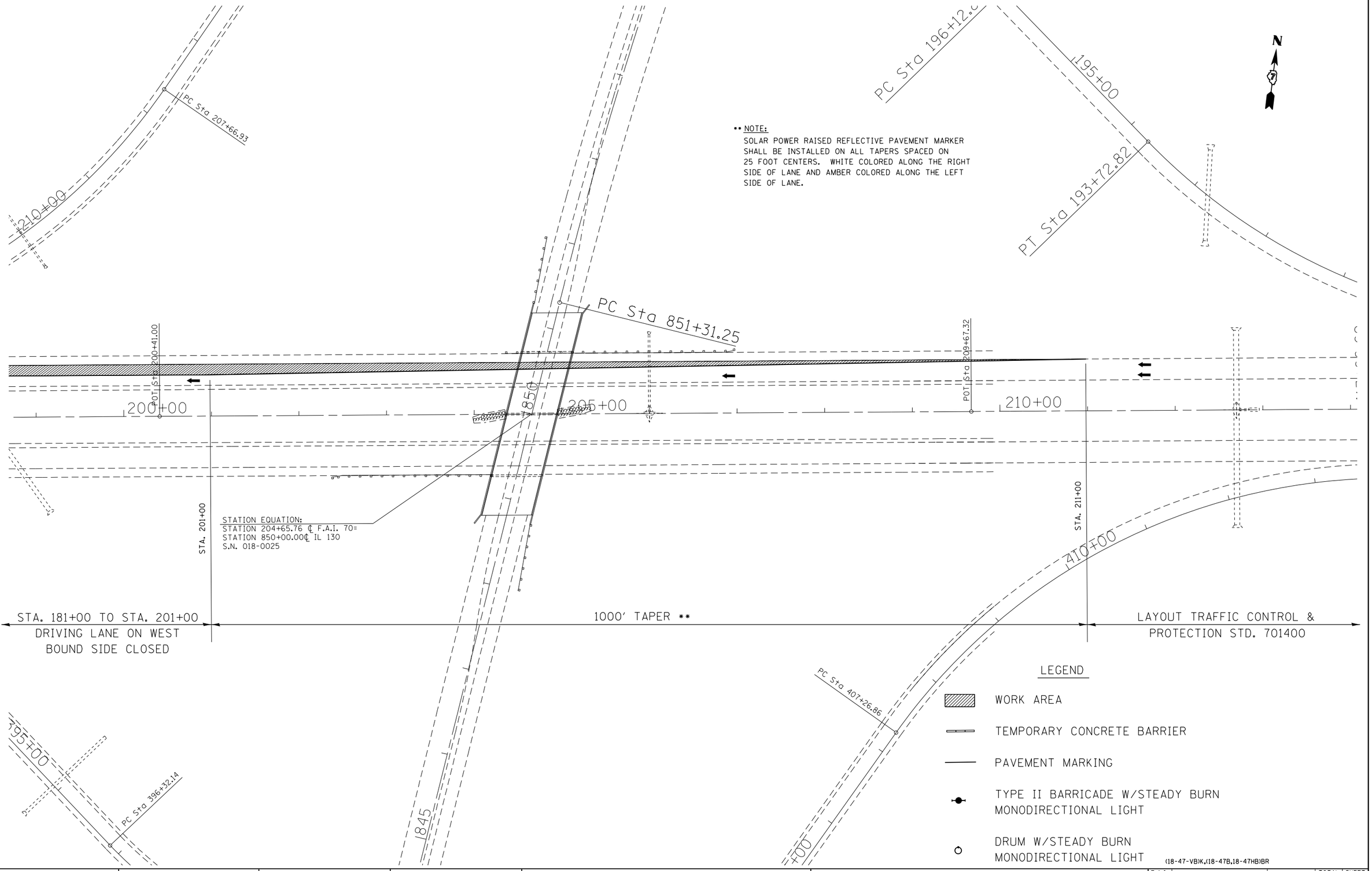
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 11 OF 12 SHEETS | STA. 184+00 TO STA. 199+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	50
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



(18-47-VB)K,(18-47B,18-47HB)BR

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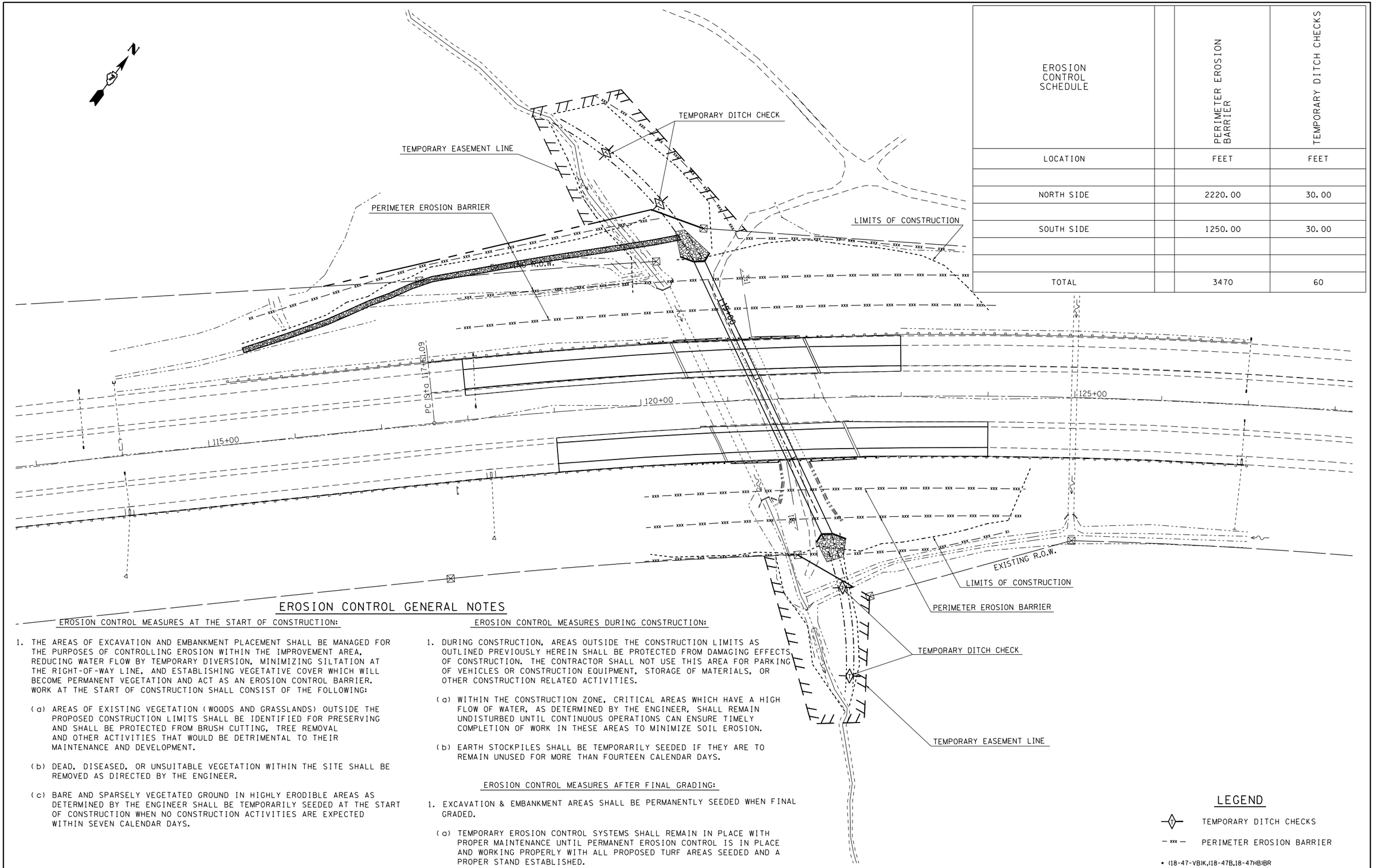
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 2

SCALE: 50 | SHEET NO. 12 OF 12 SHEETS | STA. 199+00 TO STA. 209+67.32

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	51
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



EROSION CONTROL SCHEDULE		PERIMETER EROSION BARRIER	TEMPORARY DITCH CHECKS
LOCATION		FEET	FEET
NORTH SIDE		2220.00	30.00
SOUTH SIDE		1250.00	30.00
TOTAL		3470	60

EROSION CONTROL GENERAL NOTES

EROSION CONTROL MEASURES AT THE START OF CONSTRUCTION:

1. THE AREAS OF EXCAVATION AND EMBANKMENT PLACEMENT SHALL BE MANAGED FOR THE PURPOSES OF CONTROLLING EROSION WITHIN THE IMPROVEMENT AREA, REDUCING WATER FLOW BY TEMPORARY DIVERSION, MINIMIZING SILTATION AT THE RIGHT-OF-WAY LINE, AND ESTABLISHING VEGETATIVE COVER WHICH WILL BECOME PERMANENT VEGETATION AND ACT AS AN EROSION CONTROL BARRIER. WORK AT THE START OF CONSTRUCTION SHALL CONSIST OF THE FOLLOWING:

   (a) AREAS OF EXISTING VEGETATION (WOODS AND GRASSLANDS) OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE IDENTIFIED FOR PRESERVING AND SHALL BE PROTECTED FROM BRUSH CUTTING, TREE REMOVAL AND OTHER ACTIVITIES THAT WOULD BE DETRIMENTAL TO THEIR MAINTENANCE AND DEVELOPMENT.

   (b) DEAD, DISEASED, OR UNSUITABLE VEGETATION WITHIN THE SITE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.

   (c) BARE AND SPARSELY VEGETATED GROUND IN HIGHLY ERODIBLE AREAS AS DETERMINED BY THE ENGINEER SHALL BE TEMPORARILY SEEDED AT THE START OF CONSTRUCTION WHEN NO CONSTRUCTION ACTIVITIES ARE EXPECTED WITHIN SEVEN CALENDAR DAYS.

EROSION CONTROL MEASURES DURING CONSTRUCTION:

1. DURING CONSTRUCTION, AREAS OUTSIDE THE CONSTRUCTION LIMITS AS OUTLINED PREVIOUSLY HEREIN SHALL BE PROTECTED FROM DAMAGING EFFECTS OF CONSTRUCTION. THE CONTRACTOR SHALL NOT USE THIS AREA FOR PARKING OF VEHICLES OR CONSTRUCTION EQUIPMENT, STORAGE OF MATERIALS, OR OTHER CONSTRUCTION RELATED ACTIVITIES.

   (a) WITHIN THE CONSTRUCTION ZONE, CRITICAL AREAS WHICH HAVE A HIGH FLOW OF WATER, AS DETERMINED BY THE ENGINEER, SHALL REMAIN UNDISTURBED UNTIL CONTINUOUS OPERATIONS CAN ENSURE TIMELY COMPLETION OF WORK IN THESE AREAS TO MINIMIZE SOIL EROSION.

   (b) EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN CALENDAR DAYS.

EROSION CONTROL MEASURES AFTER FINAL GRADING:

1. EXCAVATION & EMBANKMENT AREAS SHALL BE PERMANENTLY SEEDED WHEN FINAL GRADED.

   (a) TEMPORARY EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE WITH PROPER MAINTENANCE UNTIL PERMANENT EROSION CONTROL IS IN PLACE AND WORKING PROPERLY WITH ALL PROPOSED TURF AREAS SEEDED AND A PROPER STAND ESTABLISHED.

LEGEND

TEMPORARY DITCH CHECKS

— xxx — PERIMETER EROSION BARRIER

• (18-47-VB)K,(18-47B,18-47HB)BR

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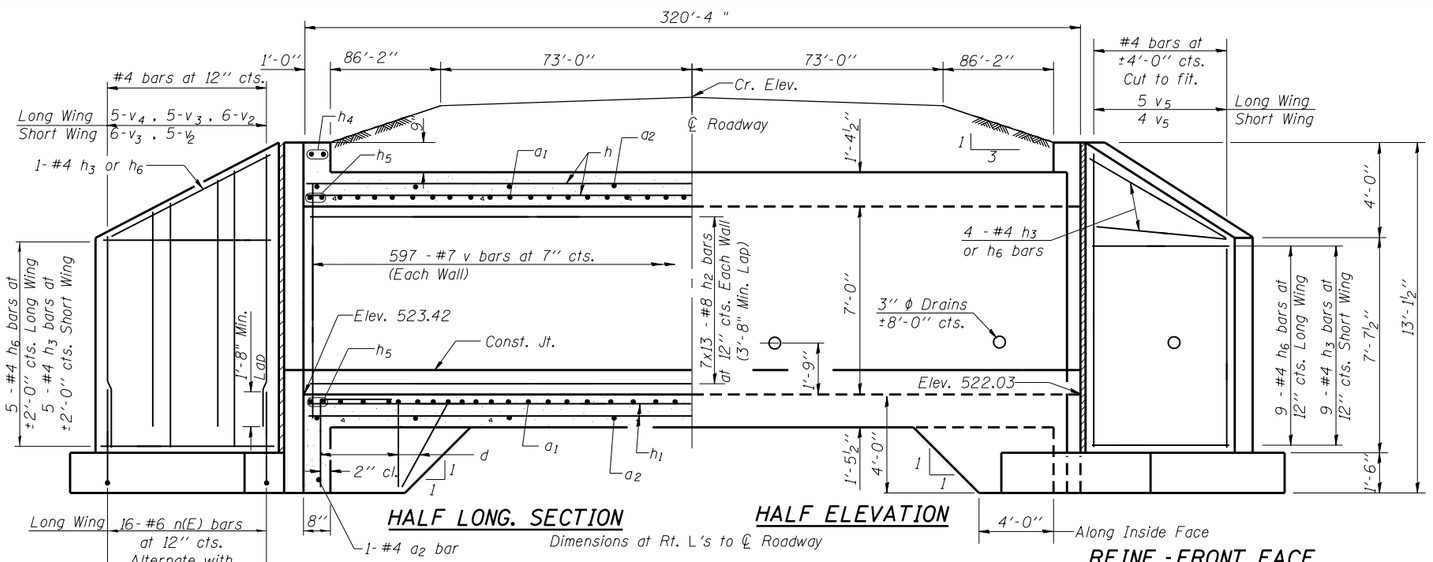
	PLOT SCALE = 100.0000 ' / in.	DATE -	REVISED -					CONTRACT NO. 74466		
Default	PLOT DATE = 8/20/2012		REVISED -		SCALE: 50 SHEET 1 OF 1 SHEETS STA. 113+00 TO STA. 128+00		ILLINOIS	FED. AID PROJECT		



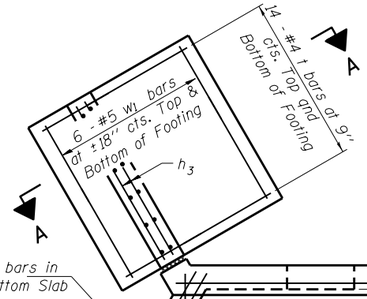
HALF LONG. SECTION

HALF ELEVATION

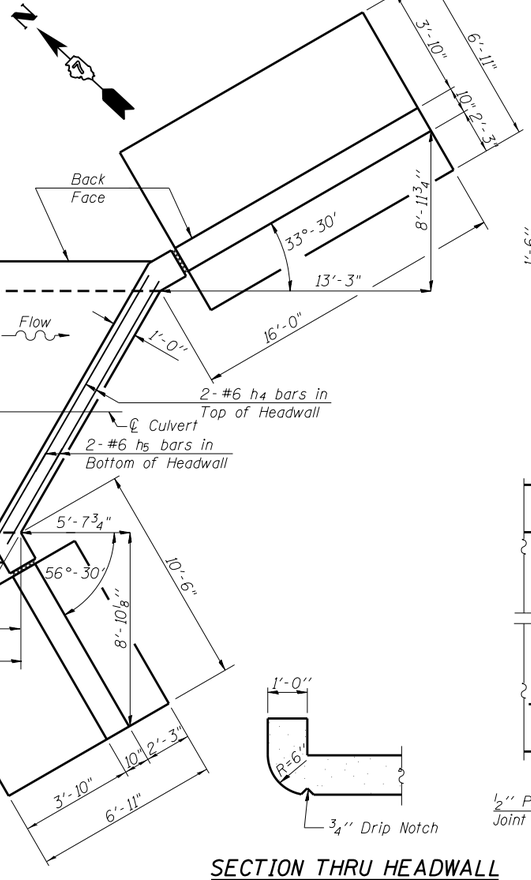
Dimensions at Rt. L's to ℄ Roadway

REINF.-FRONT FACE

REINF.-BACK FACE



* a bars in skew portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.



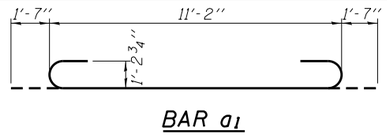
SHOWING REINFORCEMENT

PLAN

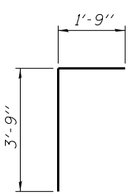
SHOWING OUTLINES

SECTION THRU HEADWALL

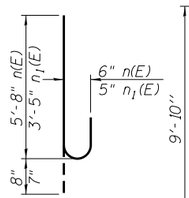
(Up Stream End Only)



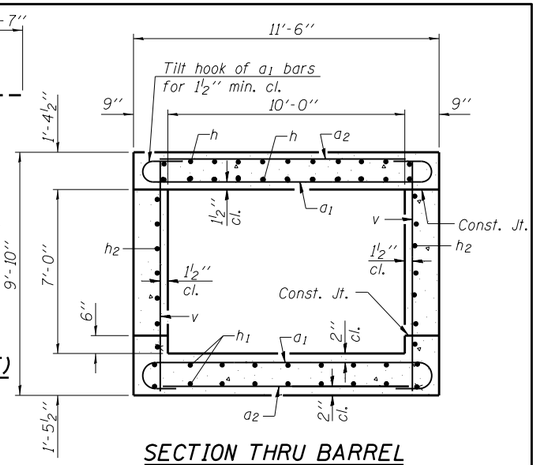
BAR a_1



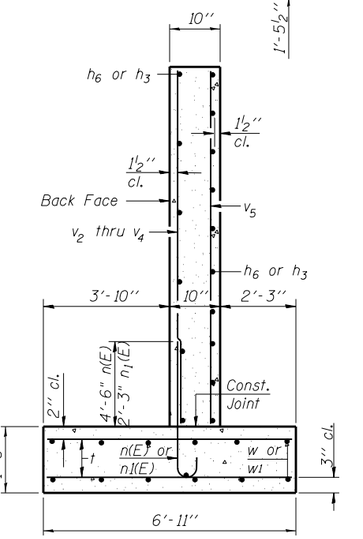
BAR d



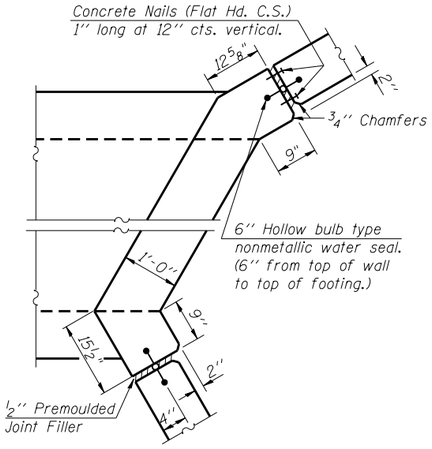
BAR n(E) and n_1(E)



SECTION THRU BARREL



SECTION A-A



CORNER DETAIL

DESIGN STRESSES

fy = 60,000 psi

f'c = 3,500 psi

Max. Soil Pressure under footing 3175 psf

LOADING HS 20-44 & ALT.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_1	1280	#11	14'-4"	
a_2	350	#4	10'-3"	
d	50	#4	5'-6"	
h	264	#7	31'-6"	
h_1	234	#8	30'-2"	
h_2	182	#8	30'-3"	
h_3	38	#4	9'-6"	
h_4	4	#6	11'-5"	
h_5	8	#6	12'-2"	
h_6	38	#4	15'-0"	
n(E)	54	#6	6'-4"	
n_1(E)	50	#5	4'-0"	
t	140	#4	6'-8"	
v	1194	#7	9'-6"	
v_2	22	#4	8'-8"	
v_3	22	#4	7'-1"	
v_4	10	#4	5'-9"	
v_5	18	#4	11'-4"	
w	24	#5	14'-10"	
w_1	24	#5	9'-4"	
Concrete Box Culverts			Cu. Yd.	595
Reinforcement Bars, Epoxy Coated			Pound	730
Reinforcement Bars			Pound	176,260

NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Bars indicated thus 11 x 12-#7 etc. indicates 11 lines of bars with 12 lengths per line.

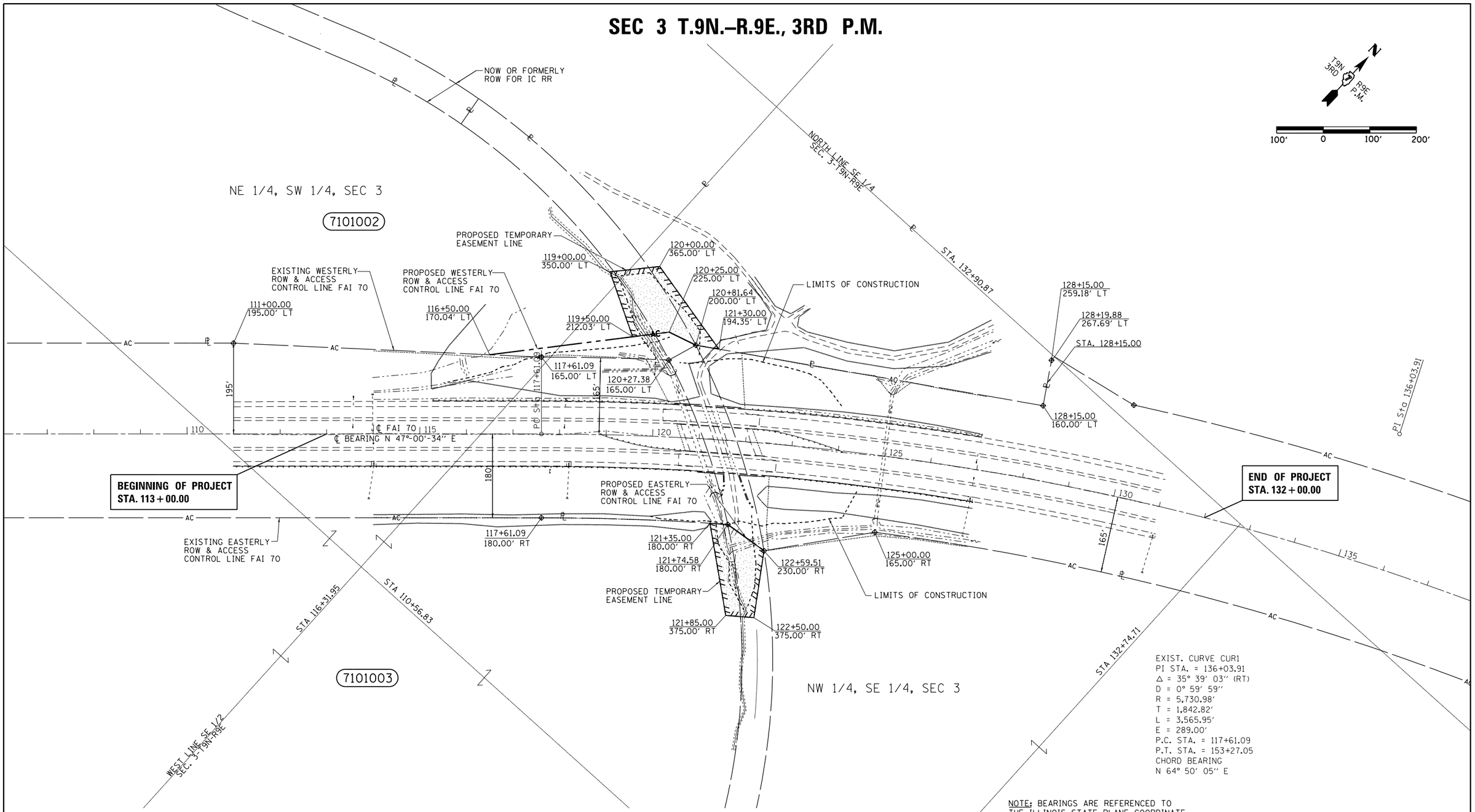
Reinforcement bars designated (E) shall be epoxy coated.

• (18-47-VB)K,(18-47B,18-47HB)BR

FILE NAME =	USER NAME =	DESIGNED - RMD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	10'-0" X 7'-0" CULVERT PLAN	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - PBB	REVISED -			70	•	CUMBERLAND	147	53
	PLOT SCALE =	DRAWN - RLC	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED - PBB	REVISED -		SHEET NO. 1 OF 1 SHEETS			ILLINOIS FED. AID PROJECT		

BLANK WESSELINK COOK & ASSOCIATES DECATUR ILLINOIS

SEC 3 T.9N.–R.9E., 3RD P.M.



EXIST. CURVE CUR1
PI STA. = 136+03.91
Δ = 35° 39' 03" (RT)
D = 0° 59' 59"
R = 5,730.98'
T = 1,842.82'
L = 3,565.95'
E = 289.00'
P.C. STA. = 117+61.09
P.T. STA. = 153+27.05
CHORD BEARING
N 64° 50' 05" E

NOTE: BEARINGS ARE REFERENCED TO THE ILLINOIS STATE PLANE COORDINATE SYSTEM EAST ZONE DATUM OF 1983.

TEMPORARY EASEMENT TO IMPROVE DRAINAGE AND AS A WORK AREA.

TEMPORARY EASEMENT

PARCEL	OWNER	AREA TAKEN		TEMPORARY EASEMENT	REM. AREA	INST	RECORDED					EXCESS	
		ADD	EXIST.				MICRO FILM NO		DATE	BOOK	PAGE	AREA	SOLD
7101002	DALE A. ESTES	0.306 AC	-	0.481 AC	30.794 AC								
7101003	RAYMOND PARKER HOUSER JR. AND TERESA MAE HOUSER TRUSTEE	0.639 AC	-	0.364 AC	122.125 AC								

FILE NAME	USER NAME = steffenmk	DESIGNED -	REVISED - 08-08-2011
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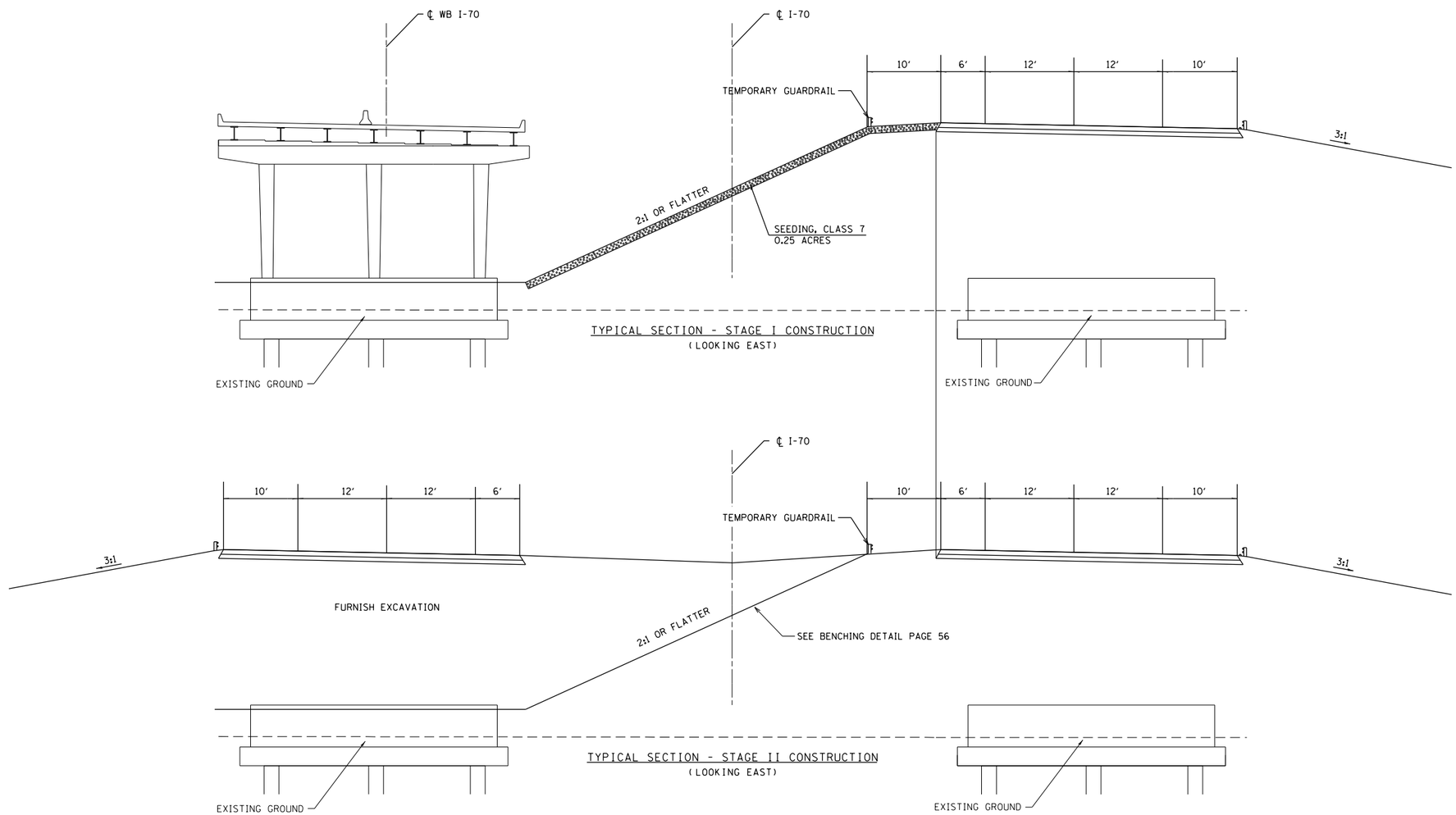
	PLOT DATE = 8/20/2012	DATE - 7-19-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY PLANS

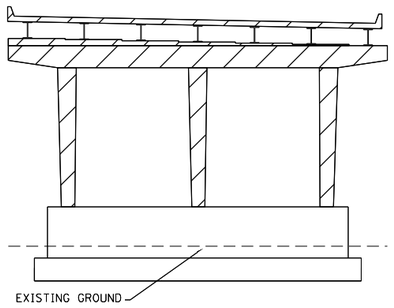
	PROJECT	JOB NO. R-97-001-11
SCALE: 1" = 100'	SHEET NO. 1 OF 1 SHEETS	STA. 113+00.00 TO STA. 132+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	54
•(18-47-VB)K,(18-47B,18-47HB)BR		CONTRACT NO. 74466		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

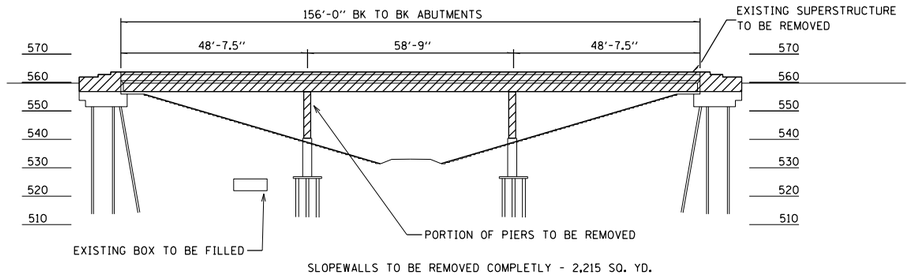


TYPICAL SECTION - STAGE I CONSTRUCTION
(LOOKING EAST)

TYPICAL SECTION - STAGE II CONSTRUCTION
(LOOKING EAST)



TYPICAL SECTION - STRUCTURE REMOVAL
(LOOKING EAST)



SLOPEWALLS TO BE REMOVED COMPLETLY - 2,215 SQ. YD.

ELEVATION

REMOVAL OF EXISTING
STRUCTURE NO. 1
S.N. 018-0045 1 EACH

REMOVAL OF EXISTING
STRUCTURE NO. 2
S.N. 018-0046 1 EACH

NOT TO SCALE

•(18-47-VB)K,(18-47B,18-47HB)BR

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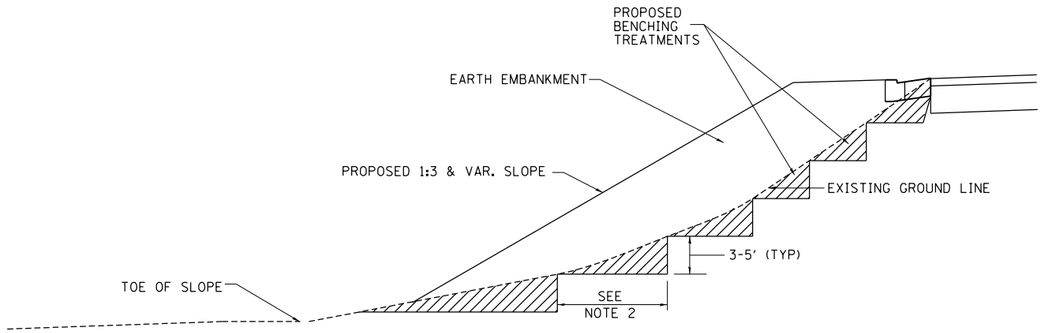
	PLOT SCALE = 100.0000 ′ / in.	CHECKED -	REVISED -
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURE REMOVAL DETAIL

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	55
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

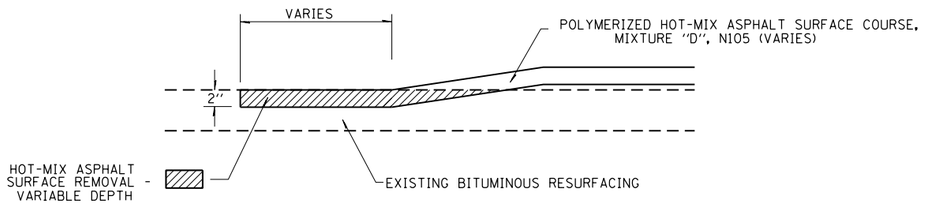


TYPICAL CROSS SECTION

GENERAL NOTES:

1. SLOPE STEPS WILL BE REQUIRED FOR ALL 12'' THICKNESS "SLIVER FILLS" AND ON ALL FILLS WITH A HEIGHT OF 10' OR GREATER.
2. THE STEP WIDTH SHALL BE TWICE THE STEP DEPTH BUT NOT LESS THEN 6'.
3. REFER TO ARTICLE 205.03 FOR EMBANKMENT TO BE CONSTRUCTED ON HILLSIDE OR SLOPES, OR IF EXISTING EMBANKMENTS ARE TO BE WIDENED.
4. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION, AND THEIR CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICES FOR THESE ITEMS.

NOT TO SCALE

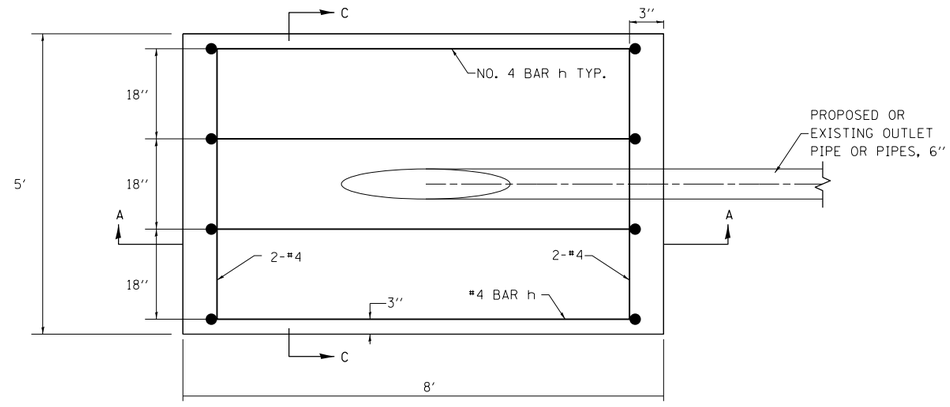


MILLING AND PAVING DETAIL

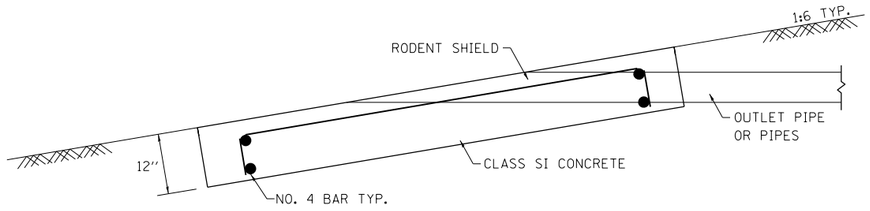
STA. 118+00 (WB)	AT RR BRIDGES	STA. 119+00 (EB)
•STA. 123+00 (WB)		•STA. 124+00 (EB)
STA. 139+25 (WB)	AT IL 121 BRIDGES	STA. 138+50 (EB)
•STA. 146+75 (WB)		•STA. 147+50 (EB)
STA. 152+75 (WB)	AT EMBARRASS RIVER BRIDGES	STA. 153+75 (EB)
•STA. 166+00 (WB)		•STA. 166+00 (EB)

NOT TO SCALE

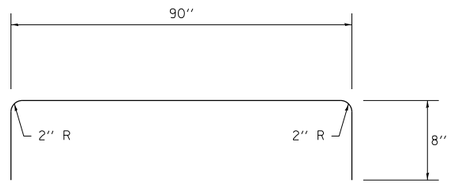
OUTLET PROTECTION DETAIL



PLAN VIEW



SECTION A-A



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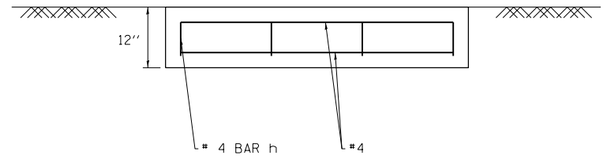

SECTION C-C

APPROXIMATE OUTLET PROTECTOR QUANTITIES FOR EACH OUTLET PROTECTOR	
CONCRETE, CLASS SI	REINFORCING STEEL
CU YD 1.5	LB 35.6

NOTES

See Standard 601101 for details of rodent shields.

The outlet pipe or pipes shall be located as close as possible to the center of the outlet protector.

The last 10' of outlet pipe shall be schedule 40 PVC.

The rebars may be cut or relocated to accomodate pipe.

Cut outlet pipe on a bevel to match finished surface of surrounding PCC.

NOT TO SCALE

•(18-47-VB)K,(18-47B,18-47HB)BR

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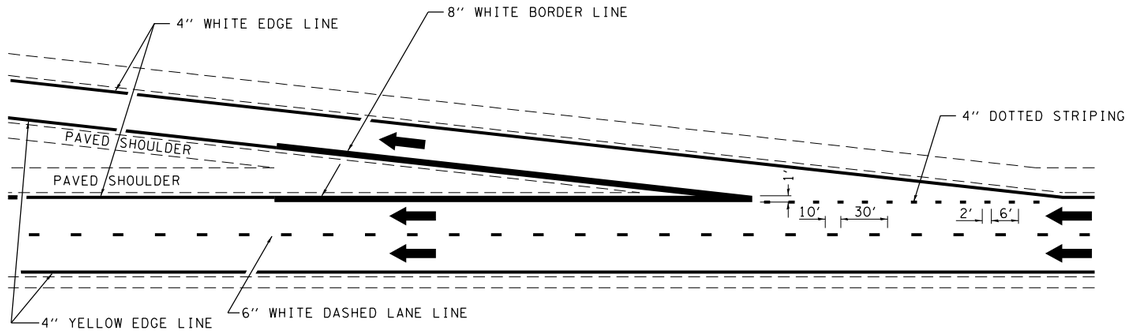
	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

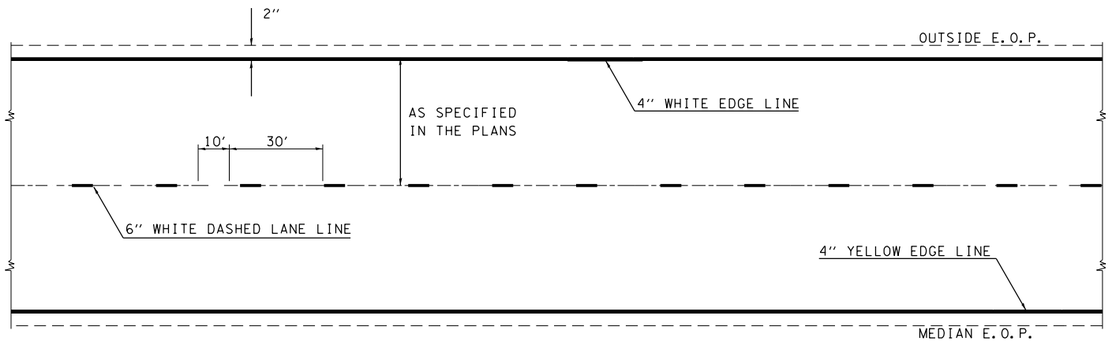
BENCHING DETAIL, OUTLET PROTECTOR DETAIL AND MILLING AND PAVING DETAIL

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

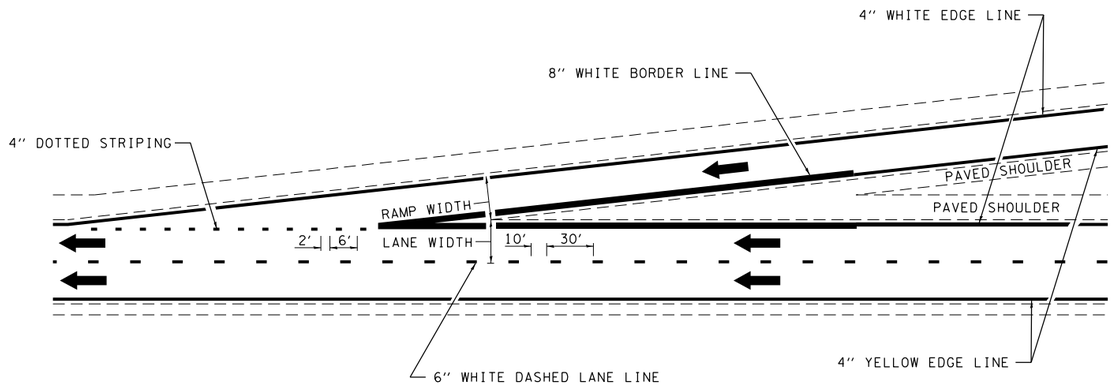
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	56
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

NOT TO SCALE

•(18-47-VB)K,(18-47B,18-47HB)BR

DISTRICT 7 DETAIL NO. 78000002

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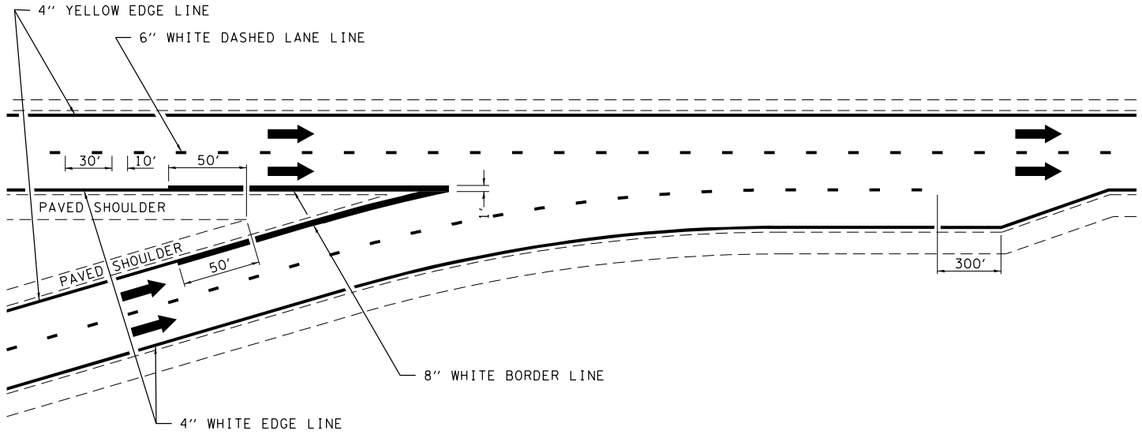
	PLOT DATE = 8/20/2012	DATE -	REVISED - DRM 12-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

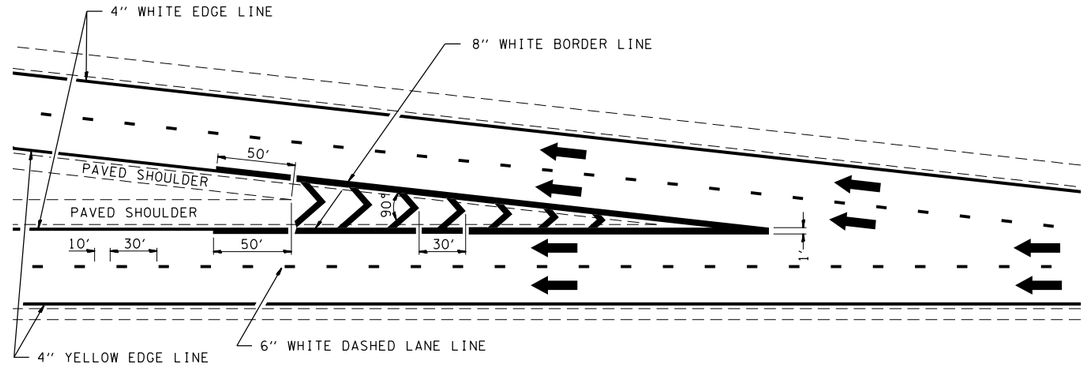
TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING

SCALE: NA | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	57
		CONTRACT NO. 74466		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



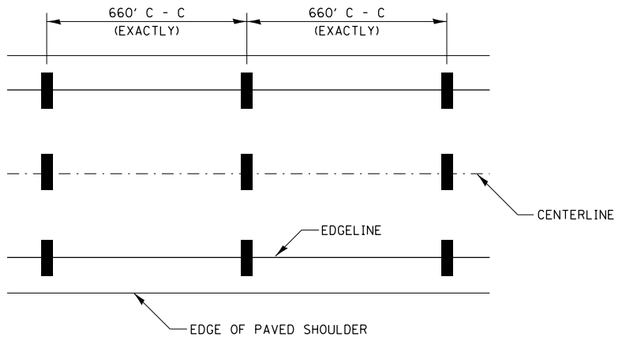
TYPICAL CONVERGENCE MARKING



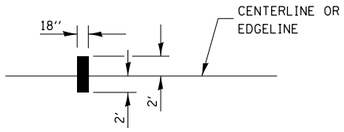
TYPICAL DIVERGENCE MARKING

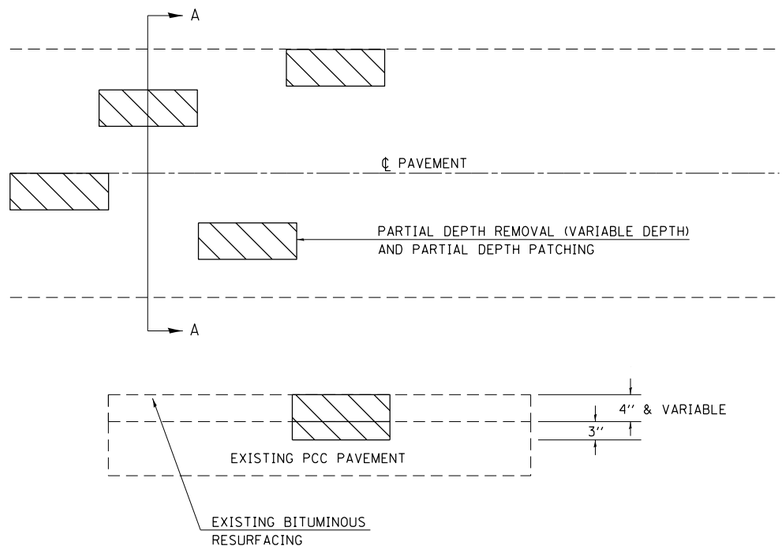
NOT TO SCALE

AERIAL SPEED CHECK ZONES



IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF MEASUREMENT CAN BE ATTESTED TO IN COURT.





SECTION A-A

PARTIAL DEPTH PATCHING DETAIL

NOT TO SCALE

•(18-47-VB)K,(18-47B,18-47HB)BR

DISTRICT 7 DETAIL NO. 78000002

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING, AERIAL SPEED CHECK ZONES AND PARTIAL DEPTH PATCHING DETAILS

SCALE: NA | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

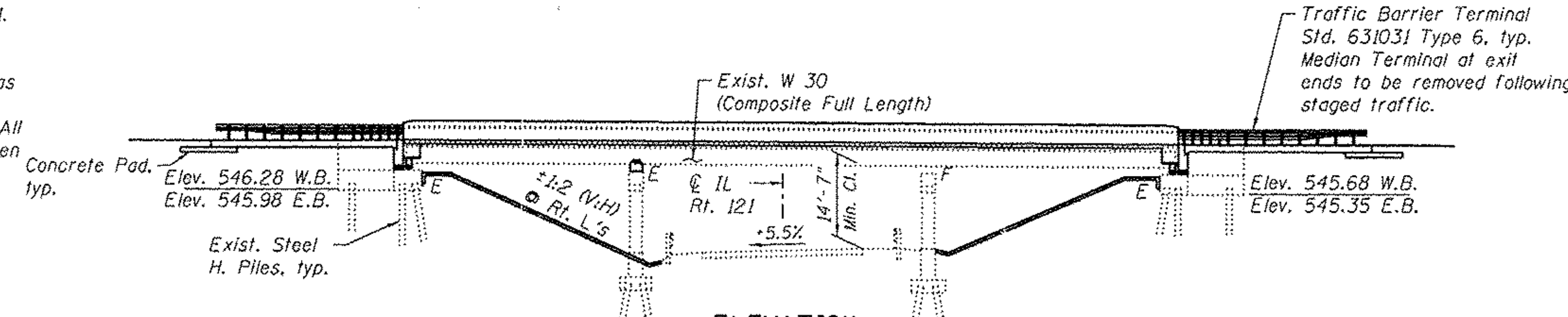
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CUMBERLAND	147	58
		CONTRACT NO. 74466		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bench Mark: Chiseled square on the SE wingwall on the W.B. Structure over IL Rte. 121. Elevation = 556.86.

Existing Structure: S.N. 018-0047 (Westbound) and 018-0048 (Eastbound) built in 1969 as F.A.I. Rt. 70 Section 18-47HB at Station 142+93.20. The superstructure consists of superelevated three span continuous steel beams with a reinforced concrete deck slab. All substructure units are supported off of steel H-piling. The substructure consists of open abutments and grade separation piers on piled footings. The structure length measures 138'-5" bk-to-bk of abutments and 42'-0" out-to-out of deck with a 24°37'10" skew. Spans 1, 2, & 3 are 39'-8", 51'-9", and 41'-8" respectively. Existing concrete decks, approach slabs, abutment backwalls and abutment bearings to be removed and replaced. Slopewalls to be repaired.

Traffic to be maintained using cross-overs.

No Salvage



ELEVATION

SCOPE OF WORK:

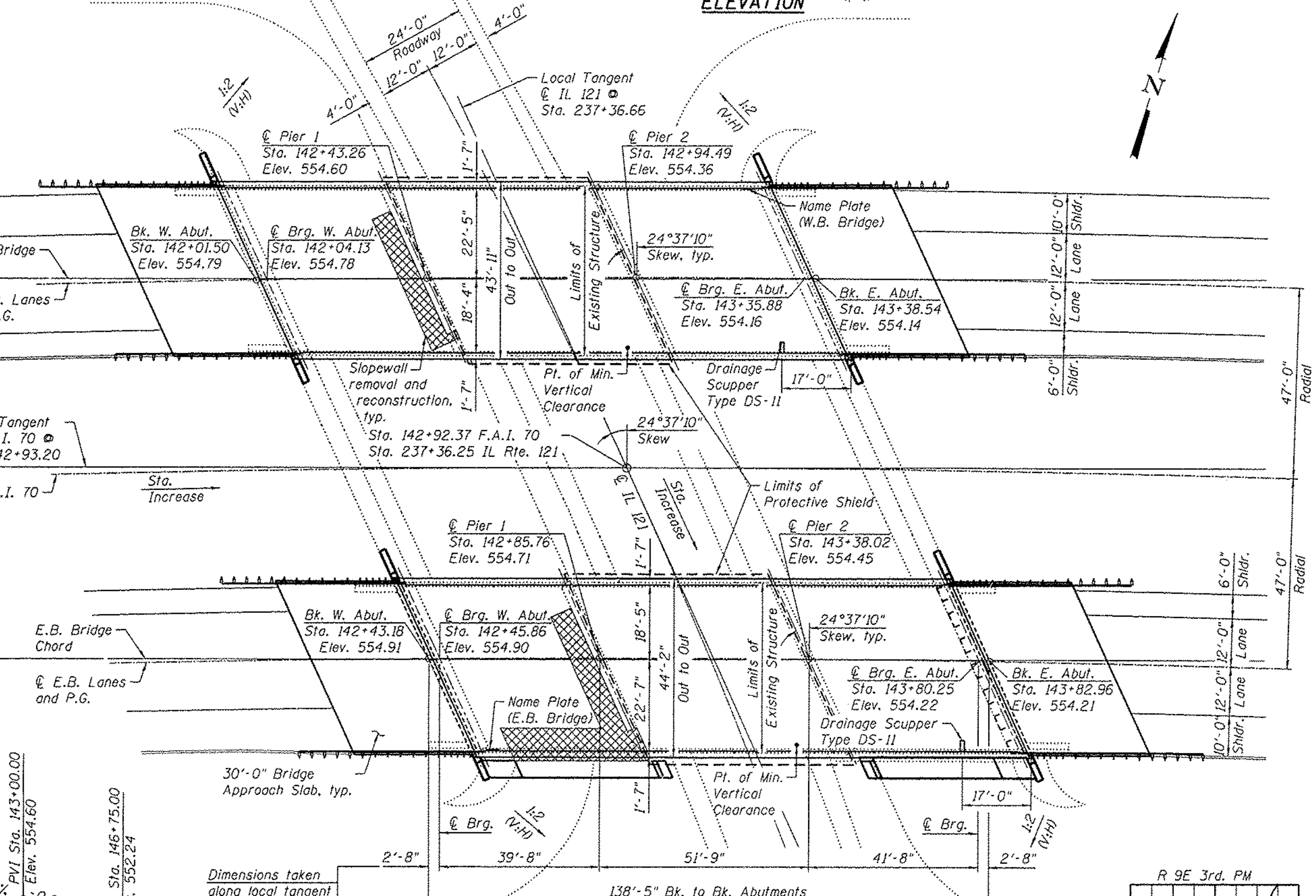
Repair concrete slopewall.
Remove existing concrete deck, approach slabs and abutment backwalls.
Jack and raise the existing beams $3^{7}/_{8}$".
Install concrete pedestals and new bearings at the piers and abutments at SN. 018-0048 (E.B.).
Install new abutment bearings and steel extensions at SN. 018-0047 (W.B.).
Construct new backwalls.
Construct new deck, approach slabs and install expansion joints.

℄ FAI 70 CURVE DATA

Δ = 35°-39'-03"
D = 0° -59'-59"
T = 1842.82
L = 3565.95'
E = 289.00'
R = 5730.98'
S.E. = 0.028 ft/ft
P.C. = Sta. 117+61.09
P.T. = Sta. 153+27.05
P.I. = Sta. 136+03.91

℄ IL 121 CURVE DATA

Δ = 39°-52'-32"
D = 3° -27' -28"'
T = 601.08
L = 1,153.24'
E = 105.65'
R = 1,657.04'
S.E. = ±0.055 ft/ft
P.C. = Sta. 228+87.80
P.T. = Sta. 240+41.04
P.I. = Sta. 234+88.88



PLAN

LOADING HS20-44 & ALT.

Allow 25#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications

SEISMIC DATA

Seismic Performance Category (SPC)=A
Bedrock acceleration coefficient (A) = 0.067
Site Coefficient (S) = 1.0

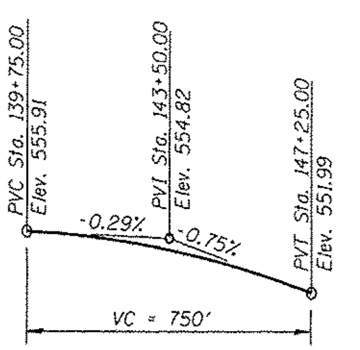
DESIGN STRESSES

FIELD UNITS (NEW CONSTRUCTION)

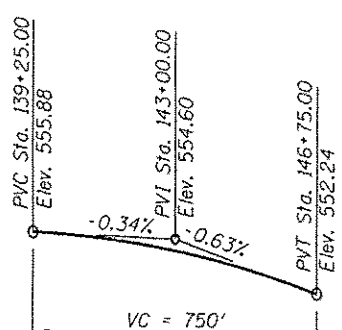
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (EXIST. CONSTRUCTION)

fy = 36,000 psi (Structural Steel)
f'c = 3,500 psi (Substructure)
fy = 40,000 psi (Reinforcement)



PROFILE GRADE
F.A.I. RTE. 70 EASTBOUND
Along ℄ Roadway



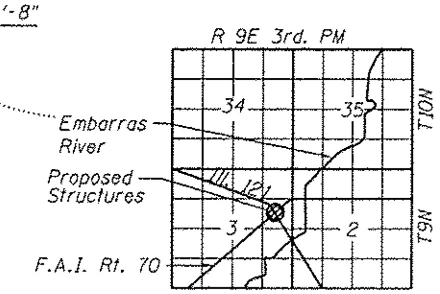
PROFILE GRADE
F.A.I. RTE. 70 WESTBOUND
Along ℄ Roadway

APPROVED
For Structural Adequacy Only
[illegible]
Engineer of Bridges & Structures

[illegible]

STATE OF ILLINOIS
BRETT W.
SAUTER
081-006844
LICENSED STRUCTURAL ENGINEER

DATE: 8/14/2012
SEAL EXPIRES: 11/30/2012



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.I. 70
OVER ILL ROUTE 121
SEC. (18-47B, 18-47HB)BR
CUMBERLAND COUNTY
STATION 142+93.20
STRUCTURE NO.
018-0047 (W.B.) & 018-0048 (E.B.)

Ciorba Group, Inc. CONSULTING ENGINEERS	USER NAME = bsauter	DESIGNED - BWS	REVISED -
		CHECKED - DL	REVISED -
	PLOT SCALE = 33:4 '/' / in.	DRAWN - RD	REVISED -
	PLOT DATE = 8/14/2012	CHECKED - DL	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	59
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

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GENERAL NOTES:

1. Reinforcement bars designated (E) shall be epoxy coated.

2. No field welding is permitted except as specified in the contract documents.

3. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.
   As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that cannot be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

4. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

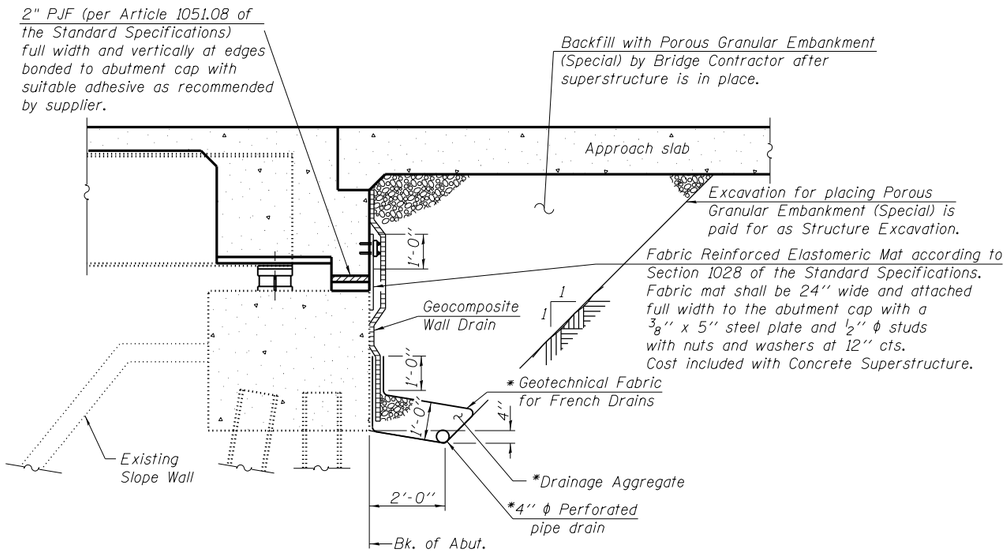
5. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

6. Slip forming of parapets is not allowed.

7. Cleaning and field painting of structural steel shall be done under a separate painting contract.

8. The existing deck overlay contains asbestos. The Contractor shall take appropriate precautions to deal with the presence of asbestos on this project.

INDEX OF SHEETS



SECTION THRU W.B. ABUTMENTS

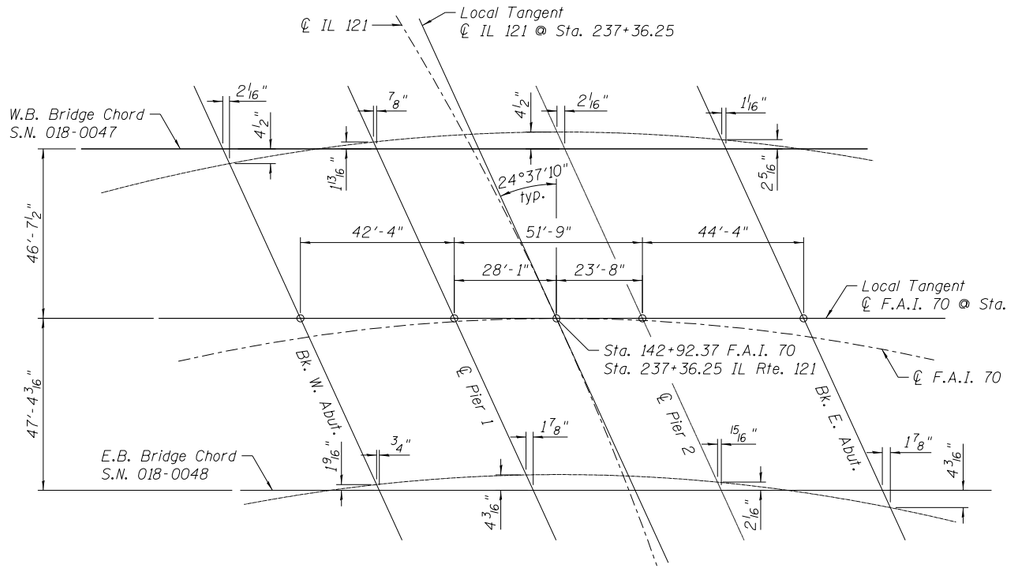
(Similar for E.B. Abutments)
(Horiz. dim. @ Rt. L's)

*Included in the cost of Pipe Underdrains for Structures.

NOTES:

1. All drainage system components shall run under the wingwall footings and shall extend to 2'-0'' from the face of each wingwall except an outlet pipe shall connect with a 4" pipe drain. The pipe drain shall extend to the toe of slope where it shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

2. Porous Granular Embankment and Pipe Underdrains for Structures are billed with the abutments on sheets S-25 thru S-28.



OFFSET SKETCH

STATION 142+92.37
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.I. RT. 70 SEC. (18-47B, 18-47HB)BR
LOADING HS20-44 & ALT.
STRUCTURE NO. 018-0047

NAME PLATE (W.B. BRIDGE)

See Std. 515001

STATION 142+92.37
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.I. RT. 70 SEC. (18-47B, 18-47HB)BR
LOADING HS20-44 & ALT.
STRUCTURE NO. 018-0048

NAME PLATE (E.B. BRIDGE)

See Std. 515001

Existing name plates shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

TOTAL BILL OF MATERIAL

ITEM	UNIT	(E.B.) SUB	(E.B.) SUPER	(W.B.) SUB	(W.B.) SUPER	TOTAL
Concrete Removal	Cu. Yd.	34.3		34.2		68.5
Slope Wall Removal	Sq. Yd.	32		23		55
Removal Of Existing Concrete Deck No. 1	Each		1			1
Removal Of Existing Concrete Deck No. 2	Each				1	1
Protective Shield	Sq. Yd.		242		242	484
Structure Excavation	Cu. Yd.	194		199		393
Concrete Structures	Cu. Yd.	58.9		45.7		104.6
Concrete Superstructure	Cu. Yd.		344.3		343.1	687.4
Bridge Deck Grooving	Sq. Yd.		858		853	1,711
Protective Coat	Sq. Yd.		1,027		1,021	2,048
Furnishing And Erecting Structural Steel	Pound		1,830		2,490	4,320
Stud Shear Connectors	Each		3,624		3,423	7,047
Reinforcement Bars, Epoxy Coated	Pound	9,020	72,980	7,460	72,980	162,440
Bar Splicers	Each		90		90	180
Slope Wall 4 Inch	Sq. Yd.	85		23		108
Name Plates	Each		1		1	2
Elastomeric Bearing Assembly, Type I	Each		21		14	35
Anchor Bolts, 1"	Each		56		28	84
Geocomposite Wall Drain	Sq. Yd.	118		113		231
Pipe Drains 4"	Foot	250		250		500
Porous Granular Embankment, Special	Cu. Yd.	206		191		397
Jack And Remove Existing Bearings	Each		28		14	42
Structural Repair Of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq. Ft.	3		3		6
Drainage Scuppers, DS-11	Each		1		1	2
Jacking Existing Superstructure	L. Sum		1			1
Pipe Underdrains For Structures 4"	Foot	134		134		268
Slope Wall Slurry Pumping	Cu. Yd.	10		47		57

Clorba Group, Inc.
CONSULTING ENGINEERS
Suite 402 Cumberland Avenue,
Chicago, Illinois 60656
Tel 773.775.4005
Fax 773.775.4014
Email dMcaig@clorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -	
	CHECKED - DL	REVISED -	
PLOT SCALE = 0:2.0000 ' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 10/2/2012	CHECKED - DL	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS AND BILL OF MATERIAL
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-2 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	60
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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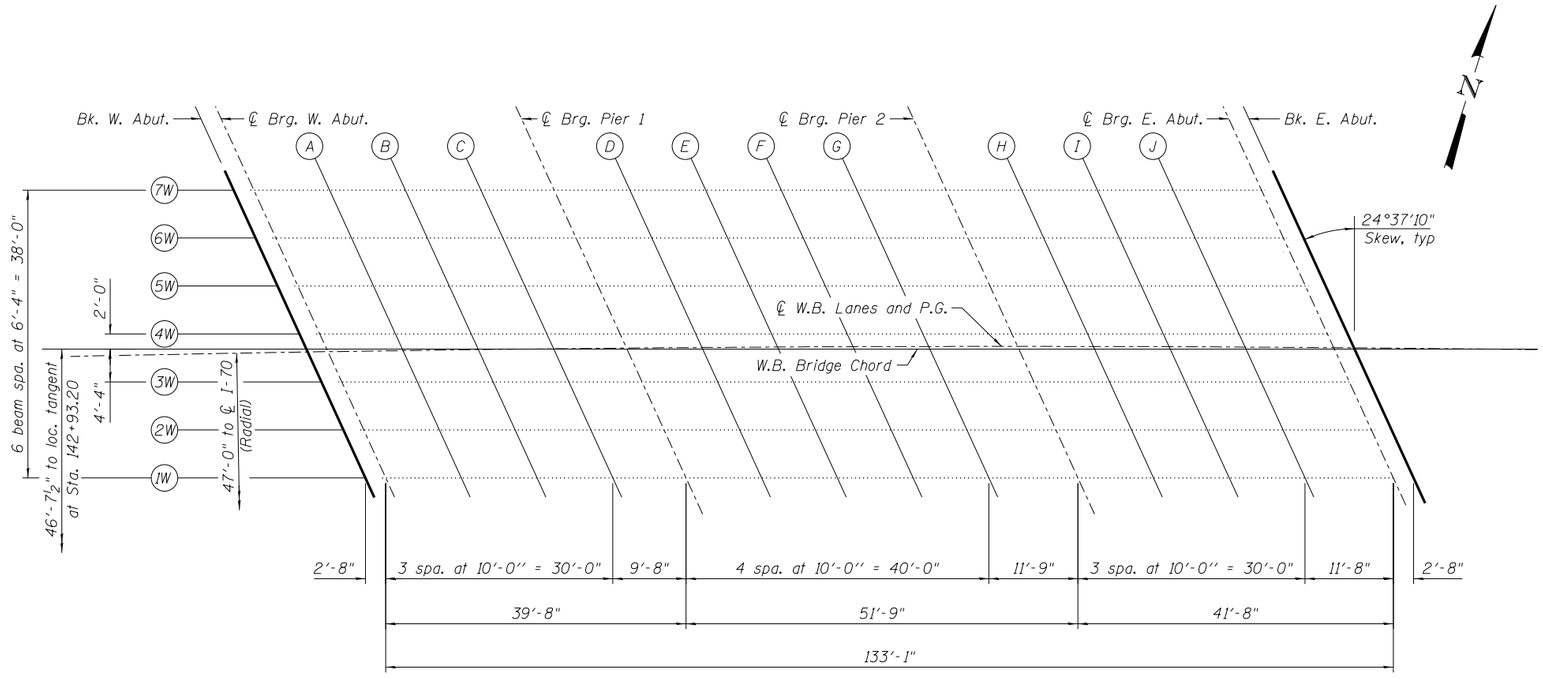
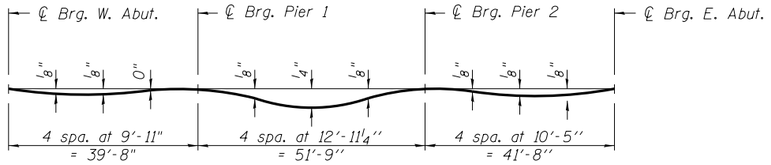


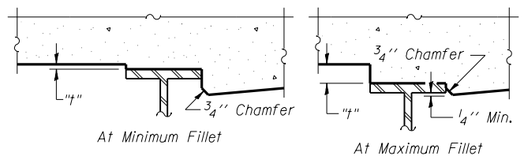
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S-3 and S-4.



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" shown on sheets S-3 and S-4, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 7W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	141+92.16	68.53 Lt.	555.43	555.43
CL. Brg. W. Abut.	141+94.80	68.48 Lt.	555.42	555.42
A	142+04.68	68.32 Lt.	555.37	555.38
B	142+14.56	68.17 Lt.	555.32	555.33
C	142+24.45	68.04 Lt.	555.27	555.28
CL. Pier 1	142+34.0	67.93 Lt.	555.23	555.23
D	142+43.88	67.84 Lt.	555.18	555.19
E	142+53.76	67.76 Lt.	555.13	555.15
F	142+63.64	67.70 Lt.	555.08	555.10
G	142+73.53	67.66 Lt.	555.04	555.05
CL. Pier 2	142+85.14	67.63 Lt.	554.98	554.98
H	142+95.02	67.63 Lt.	554.93	554.94
I	143+04.91	67.64 Lt.	554.88	554.90
J	143+14.79	67.67 Lt.	554.84	554.85
CL Brg. E. Abut.	143+26.32	67.72 Lt.	554.78	554.78
Bk. E. Abut.	143+28.96	67.74 Lt.	554.77	554.77

BEAM 6W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	141+94.92	62.14 Lt.	555.24	555.24
CL. Brg. W. Abut.	141+97.57	62.10 Lt.	555.23	555.23
A	142+07.46	61.94 Lt.	555.18	555.19
B	142+17.35	61.80 Lt.	555.13	555.14
C	142+27.24	61.68 Lt.	555.08	555.09
CL. Pier 1	142+36.80	61.57 Lt.	555.04	555.04
D	142+46.70	61.48 Lt.	554.99	555.00
E	142+56.59	61.41 Lt.	554.94	554.96
F	142+66.48	61.35 Lt.	554.89	554.91
G	142+76.38	61.32 Lt.	554.84	554.85
CL. Pier 2	142+88.0	61.29 Lt.	554.79	554.79
H	142+97.90	61.29 Lt.	554.74	554.75
I	143+07.79	61.31 Lt.	554.69	554.71
J	143+17.68	61.34 Lt.	554.65	554.66
CL Brg. E. Abut.	143+29.22	61.41 Lt.	554.59	554.59
Bk. E. Abut.	143+31.87	61.42 Lt.	554.58	554.58

BEAM 5W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	141+97.69	55.76 Lt.	555.05	555.05
CL. Brg. W. Abut.	142+00.34	55.72 Lt.	555.04	555.04
A	142+10.24	55.56 Lt.	554.99	555.00
B	142+20.14	55.43 Lt.	554.94	554.95
C	142+30.04	55.31 Lt.	554.89	554.90
CL. Pier 1	142+39.61	55.21 Lt.	554.85	554.85
D	142+49.52	55.13 Lt.	554.80	554.81
E	142+59.42	55.06 Lt.	554.75	554.77
F	142+69.33	55.01 Lt.	554.70	554.72
G	142+79.23	54.98 Lt.	554.65	554.66
CL. Pier 2	142+90.87	54.96 Lt.	554.60	554.60
H	143+00.78	54.96 Lt.	554.55	554.56
I	143+10.68	54.99 Lt.	554.50	554.52
J	143+20.59	55.02 Lt.	554.45	554.47
CL Brg. E. Abut.	143+32.14	55.09 Lt.	554.40	554.40
Bk. E. Abut.	143+34.78	55.11 Lt.	554.39	554.39

Note:
All offsets are taken from ℄ I-70.

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USER NAME = bsauter	DESIGNED - AMK	REVISED -	
	CHECKED - MHT	REVISED -	
PLOT SCALE = 20±0.0000 '=' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. TOP OF SLAB ELEVATIONS 1
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-3 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	61
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

BEAM 4W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+00.46	49.38 Lt.	554.86	554.86
CL. Brg. W. Abut.	142+03.11	49.34 Lt.	554.85	554.85
A	142+13.02	49.19 Lt.	554.80	554.81
B	142+22.94	49.06 Lt.	554.75	554.76
C	142+32.85	48.95 Lt.	554.70	554.71
CL. Pier 1	142+42.43	48.85 Lt.	554.65	554.65
D	142+52.35	48.77 Lt.	554.61	554.61
E	142+62.26	48.71 Lt.	554.56	554.58
F	142+72.18	48.66 Lt.	554.51	554.53
G	142+82.10	48.64 Lt.	554.46	554.47
CL. Pier 2	142+93.75	48.63 Lt.	554.41	554.41
H	143+03.66	48.63 Lt.	554.36	554.36
I	143+13.58	48.66 Lt.	554.31	554.32
J	143+23.49	48.71 Lt.	554.26	554.28
CL Brg. E. Abut.	143+35.06	48.78 Lt.	554.21	554.21
Bk. E. Abut.	143+37.71	48.80 Lt.	554.19	554.19

℄ W.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+01.50	47.00 Lt.	554.79	554.79
CL. Brg. W. Abut.	142+04.13	47.00 Lt.	554.78	554.78
A	142+13.98	47.00 Lt.	554.73	554.74
B	142+23.84	47.00 Lt.	554.69	554.70
C	142+33.71	47.00 Lt.	554.64	554.65
CL. Pier 1	142+43.26	47.00 Lt.	554.60	554.60
D	142+53.14	47.00 Lt.	554.55	554.56
E	142+63.03	47.00 Lt.	554.51	554.52
F	142+72.93	47.00 Lt.	554.46	554.48
G	142+82.84	47.00 Lt.	554.41	554.42
CL. Pier 2	142+94.49	47.00 Lt.	554.36	554.36
H	143+04.41	47.00 Lt.	554.31	554.31
I	143+14.34	47.00 Lt.	554.26	554.27
J	143+24.28	47.00 Lt.	554.21	554.22
CL Brg. E. Abut.	143+35.88	47.00 Lt.	554.15	554.15
Bk. E. Abut.	143+38.54	47.00 Lt.	554.14	554.14

BEAM 3W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+03.24	43.00 Lt.	554.67	554.67
CL. Brg. W. Abut.	142+05.89	42.96 Lt.	554.66	554.66
A	142+15.82	42.82 Lt.	554.61	554.62
B	142+25.74	42.69 Lt.	554.56	554.57
C	142+35.67	42.58 Lt.	554.51	554.51
CL. Pier 1	142+45.26	42.49 Lt.	554.46	554.46
D	142+55.18	42.42 Lt.	554.42	554.42
E	142+65.11	42.36 Lt.	554.37	554.38
F	142+75.04	42.32 Lt.	554.32	554.34
G	142+84.96	42.30 Lt.	554.27	554.28
CL. Pier 2	142+96.63	42.29 Lt.	554.21	554.21
H	143+06.55	42.31 Lt.	554.17	554.17
I	143+16.48	42.34 Lt.	554.12	554.13
J	143+26.41	42.39 Lt.	554.07	554.08
CL Brg. E. Abut.	143+37.98	42.47 Lt.	554.02	554.02
Bk. E. Abut.	143+40.64	42.49 Lt.	554.00	554.00

BEAM 2W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+06.03	36.63 Lt.	554.48	554.48
CL. Brg. W. Abut.	142+08.68	36.59 Lt.	554.47	554.47
A	142+18.62	36.45 Lt.	554.42	554.43
B	142+28.55	36.33 Lt.	554.37	554.38
C	142+38.49	36.22 Lt.	554.32	554.32
CL. Pier 1	142+48.09	36.14 Lt.	554.27	554.27
D	142+58.03	36.07 Lt.	554.22	554.23
E	142+67.96	36.01 Lt.	554.18	554.19
F	142+77.90	35.98 Lt.	554.13	554.15
G	142+87.84	35.96 Lt.	554.08	554.09
CL. Pier 2	142+99.52	35.96 Lt.	554.02	554.02
H	143+09.45	35.98 Lt.	553.98	553.98
I	143+19.39	36.02 Lt.	553.93	553.94
J	143+29.33	36.07 Lt.	553.88	553.89
CL Brg. E. Abut.	143+40.92	36.16 Lt.	553.82	553.82
Bk. E. Abut.	143+43.57	36.18 Lt.	553.81	553.81

BEAM 1W

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+08.82	30.25 Lt.	554.29	554.29
CL. Brg. W. Abut.	142+11.47	30.21 Lt.	554.27	554.27
A	142+21.42	30.08 Lt.	554.23	554.24
B	142+31.37	29.96 Lt.	554.18	554.19
C	142+41.31	29.86 Lt.	554.13	554.13
CL. Pier 1	142+50.93	29.78 Lt.	554.08	554.08
D	142+60.88	29.72 Lt.	554.03	554.04
E	142+70.82	29.67 Lt.	553.98	554.00
F	142+80.77	29.64 Lt.	553.94	553.95
G	142+90.72	29.63 Lt.	553.89	553.90
CL. Pier 2	143+02.41	29.63 Lt.	553.83	553.83
H	143+12.36	29.66 Lt.	553.78	553.79
I	143+22.31	29.70 Lt.	553.74	553.75
J	143+32.26	29.76 Lt.	553.69	553.70
CL Brg. E. Abut.	143+43.86	29.85 Lt.	553.63	553.63
Bk. E. Abut.	143+46.51	29.87 Lt.	553.62	553.62

NOTES

1. Work this sheet with sheet S-3.
2. All offsets are taken from ℄ I-70.

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USER NAME = bsauter	DESIGNED - AMK	REVISED -
	CHECKED - MHT	REVISED -
PLOT SCALE = 20:0.0000 ':' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. TOP OF SLAB ELEVATIONS 2
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-4 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	62
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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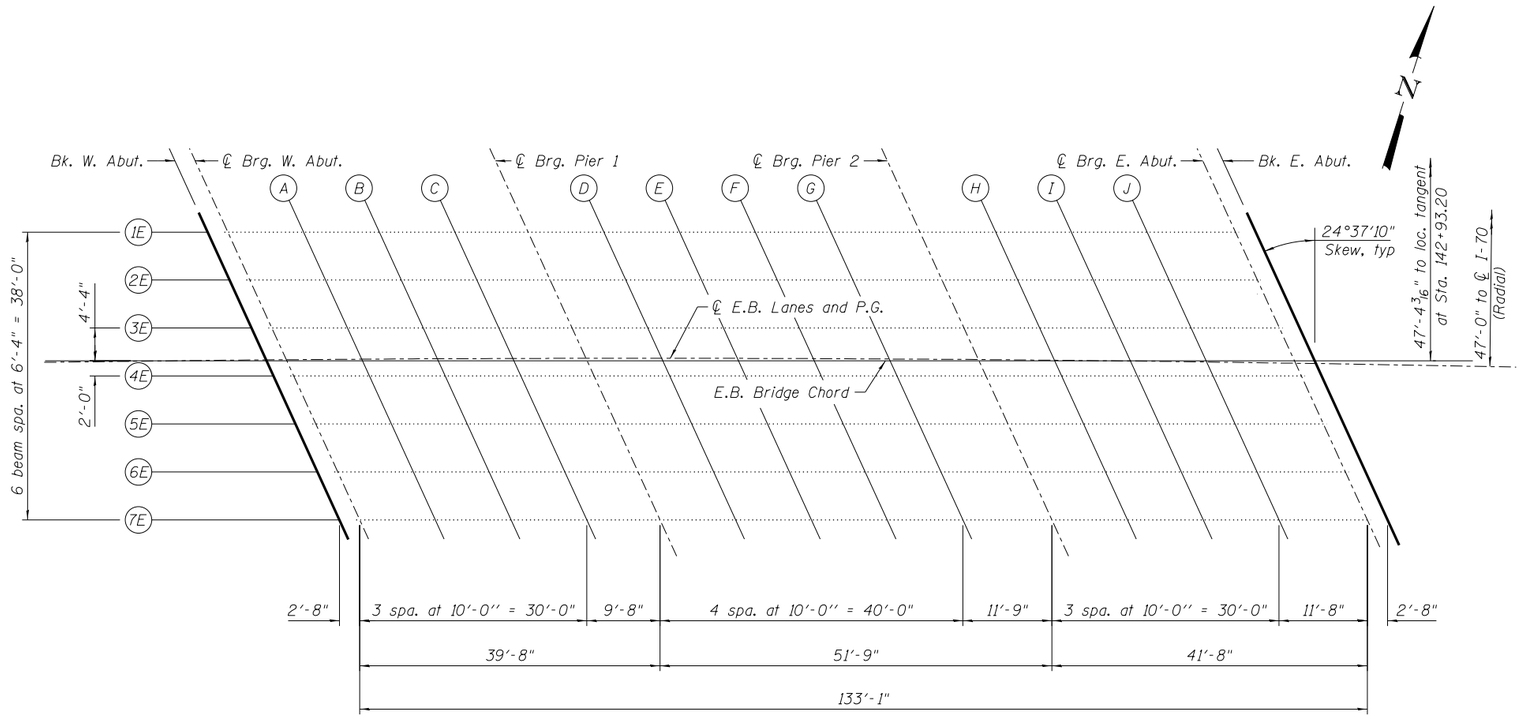
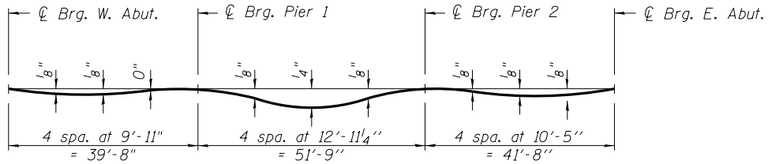


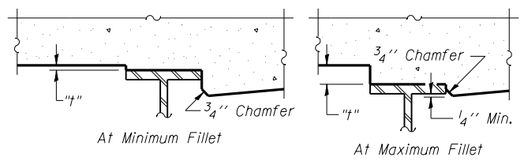
PLAN



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets S-5 and S-6.



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" shown on sheets S-5 and S-6, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+35.55	30.06 Rt.	555.42	555.42
CL. Brg. W. Abut.	142+38.24	30.09 Rt.	555.40	555.40
A	142+48.29	30.17 Rt.	555.36	555.37
B	142+58.34	30.24 Rt.	555.31	555.32
C	142+68.40	30.30 Rt.	555.26	555.26
CL. Pier 1	142+78.11	30.33 Rt.	555.21	555.21
D	142+88.16	30.35 Rt.	555.16	555.17
E	142+98.22	30.35 Rt.	555.11	555.13
F	143+08.27	30.33 Rt.	555.06	555.08
G	143+18.32	30.29 Rt.	555.02	555.02
CL. Pier 2	143+30.14	30.23 Rt.	554.96	554.96
H	143+40.19	30.16 Rt.	554.91	554.91
I	143+50.24	30.07 Rt.	554.86	554.87
J	143+60.29	29.96 Rt.	554.81	554.82
CL Brg. E. Abut.	143+72.02	29.81 Rt.	554.75	554.75
Bk. E. Abut.	143+74.70	29.77 Rt.	554.74	554.74

BEAM 2E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+38.41	36.42 Rt.	555.23	555.23
CL. Brg. W. Abut.	142+41.10	36.45 Rt.	555.21	555.21
A	142+51.16	36.53 Rt.	555.16	555.17
B	142+61.23	36.59 Rt.	555.12	555.13
C	142+71.29	36.64 Rt.	555.07	555.07
CL. Pier 1	142+81.01	36.67 Rt.	555.02	555.02
D	142+91.08	36.68 Rt.	554.97	554.98
E	143+01.14	36.68 Rt.	554.92	554.94
F	143+11.21	36.65 Rt.	554.87	554.89
G	143+21.27	36.61 Rt.	554.82	554.83
CL. Pier 2	143+33.10	36.54 Rt.	554.77	554.77
H	143+43.16	36.47 Rt.	554.72	554.72
I	143+53.22	36.37 Rt.	554.67	554.68
J	143+63.29	36.26 Rt.	554.62	554.63
CL Brg. E. Abut.	143+75.02	36.10 Rt.	554.56	554.56
Bk. E. Abut.	143+77.71	36.06 Rt.	554.54	554.54

BEAM 3E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+41.27	42.78 Rt.	555.03	555.03
CL. Brg. W. Abut.	142+43.96	42.81 Rt.	555.02	555.02
A	142+54.04	42.88 Rt.	554.97	554.98
B	142+64.11	42.94 Rt.	554.92	554.94
C	142+74.19	42.98 Rt.	554.88	554.88
CL. Pier 1	142+83.93	43.01 Rt.	554.83	554.83
D	142+94.0	43.02 Rt.	554.78	554.79
E	143+04.08	43.01 Rt.	554.73	554.75
F	143+14.15	42.98 Rt.	554.68	554.70
G	143+24.23	42.93 Rt.	554.63	554.64
CL. Pier 2	143+36.07	42.86 Rt.	554.57	554.57
H	143+46.14	42.77 Rt.	554.52	554.53
I	143+56.22	42.67 Rt.	554.47	554.49
J	143+66.29	42.55 Rt.	554.42	554.44
CL Brg. E. Abut.	143+78.04	42.39 Rt.	554.37	554.37
Bk. E. Abut.	143+80.73	42.35 Rt.	554.35	554.35

Note:
All offsets are taken from ℄ I-70.

E-S

7-1-10

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USER NAME = bsauter	DESIGNED - AMK	REVISED -	
	CHECKED - MHT	REVISED -	
PLOT SCALE = 20±0.0000 '' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. TOP OF SLAB ELEVATIONS 1
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-5 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	63
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

℄ E.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+43.18	47.00 Rt.	554.91	554.91
CL. Brg. W. Abut.	142+45.86	47.00 Rt.	554.90	554.90
A	142+55.91	47.00 Rt.	554.85	554.86
B	142+65.96	47.00 Rt.	554.80	554.81
C	142+76.03	47.00 Rt.	554.75	554.76
CL. Pier 1	142+85.76	47.00 Rt.	554.71	554.71
D	142+95.84	47.00 Rt.	554.66	554.67
E	143+05.93	47.00 Rt.	554.61	554.63
F	143+16.03	47.00 Rt.	554.56	554.58
G	143+26.13	47.00 Rt.	554.51	554.52
CL. Pier 2	143+38.02	47.00 Rt.	554.45	554.45
H	143+48.14	47.00 Rt.	554.39	554.40
I	143+58.27	47.00 Rt.	554.34	554.36
J	143+68.41	47.00 Rt.	554.29	554.30
CL Brg. E. Abut.	143+80.25	47.00 Rt.	554.22	554.22
Bk. E. Abut.	143+82.96	47.00 Rt.	554.21	554.21

BEAM 4E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+44.14	49.14 Rt.	554.84	554.84
CL. Brg. W. Abut.	142+46.84	49.16 Rt.	554.83	554.83
A	142+56.92	49.24 Rt.	554.78	554.79
B	142+67.01	49.29 Rt.	554.73	554.74
C	142+77.10	49.33 Rt.	554.68	554.69
CL. Pier 1	142+86.84	49.35 Rt.	554.64	554.64
D	142+96.93	49.35 Rt.	554.59	554.60
E	143+07.02	49.33 Rt.	554.54	554.56
F	143+17.10	49.30 Rt.	554.49	554.51
G	143+27.19	49.25 Rt.	554.44	554.45
CL. Pier 2	143+39.04	49.17 Rt.	554.38	554.38
H	143+49.13	49.08 Rt.	554.33	554.34
I	143+59.21	48.97 Rt.	554.28	554.30
J	143+69.30	48.85 Rt.	554.23	554.24
CL Brg. E. Abut.	143+81.06	48.68 Rt.	554.17	554.17
Bk. E. Abut.	143+83.75	48.64 Rt.	554.16	554.16

BEAM 5E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+47.02	55.50 Rt.	554.65	554.65
CL. Brg. W. Abut.	142+49.72	55.52 Rt.	554.64	554.64
A	142+59.81	55.59 Rt.	554.59	554.60
B	142+69.91	55.64 Rt.	554.54	554.55
C	142+80.01	55.67 Rt.	554.49	554.50
CL. Pier 1	142+89.77	55.68 Rt.	554.45	554.45
D	142+99.86	55.68 Rt.	554.40	554.40
E	143+09.96	55.66 Rt.	554.35	554.36
F	143+20.06	55.62 Rt.	554.30	554.32
G	143+30.16	55.56 Rt.	554.25	554.26
CL. Pier 2	143+42.02	55.48 Rt.	554.19	554.19
H	143+52.12	55.38 Rt.	554.14	554.15
I	143+62.22	55.27 Rt.	554.09	554.10
J	143+72.31	55.14 Rt.	554.04	554.05
CL Brg. E. Abut.	143+84.09	54.97 Rt.	553.98	553.98
Bk. E. Abut.	143+86.78	54.93 Rt.	553.97	553.97

BEAM 6E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+49.90	61.85 Rt.	554.46	554.46
CL. Brg. W. Abut.	142+52.60	61.87 Rt.	554.45	554.45
A	142+62.71	61.94 Rt.	554.40	554.41
B	142+72.82	61.98 Rt.	554.35	554.36
C	142+82.93	62.01 Rt.	554.30	554.31
CL. Pier 1	142+92.70	62.02 Rt.	554.25	554.25
D	143+02.81	62.01 Rt.	554.20	554.21
E	143+12.92	61.98 Rt.	554.16	554.17
F	143+23.02	61.94 Rt.	554.11	554.12
G	143+33.13	61.88 Rt.	554.06	554.07
CL. Pier 2	143+45.01	61.78 Rt.	554.00	554.00
H	143+55.12	61.68 Rt.	553.95	553.95
I	143+65.23	61.57 Rt.	553.90	553.91
J	143+75.34	61.43 Rt.	553.85	553.86
CL Brg. E. Abut.	143+87.12	61.25 Rt.	553.79	553.79
Bk. E. Abut.	143+89.82	61.21 Rt.	553.77	553.77

BEAM 7E

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	142+52.79	68.21 Rt.	554.27	554.27
CL. Brg. W. Abut.	142+55.49	68.23 Rt.	554.26	554.26
A	142+65.61	68.28 Rt.	554.21	554.22
B	142+75.73	68.32 Rt.	554.16	554.17
C	142+85.85	68.34 Rt.	554.11	554.11
CL. Pier 1	142+95.63	68.35 Rt.	554.06	554.06
D	143+05.75	68.34 Rt.	554.01	554.02
E	143+15.87	68.30 Rt.	553.96	553.98
F	143+25.99	68.26 Rt.	553.91	553.93
G	143+36.12	68.19 Rt.	553.86	553.87
CL. Pier 2	143+48.01	68.09 Rt.	553.80	553.80
H	143+58.13	67.99 Rt.	553.75	553.76
I	143+68.24	67.86 Rt.	553.70	553.72
J	143+78.36	67.72 Rt.	553.65	553.67
CL Brg. E. Abut.	143+90.16	67.54 Rt.	553.60	553.60
Bk. E. Abut.	143+92.87	67.49 Rt.	553.58	553.58

NOTES

1. Work this sheet with sheet S-5.
2. All offsets are taken from ℄ I-70.

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PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. TOP OF SLAB ELEVATIONS 2
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-6 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	64
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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NORTH CURB LINE

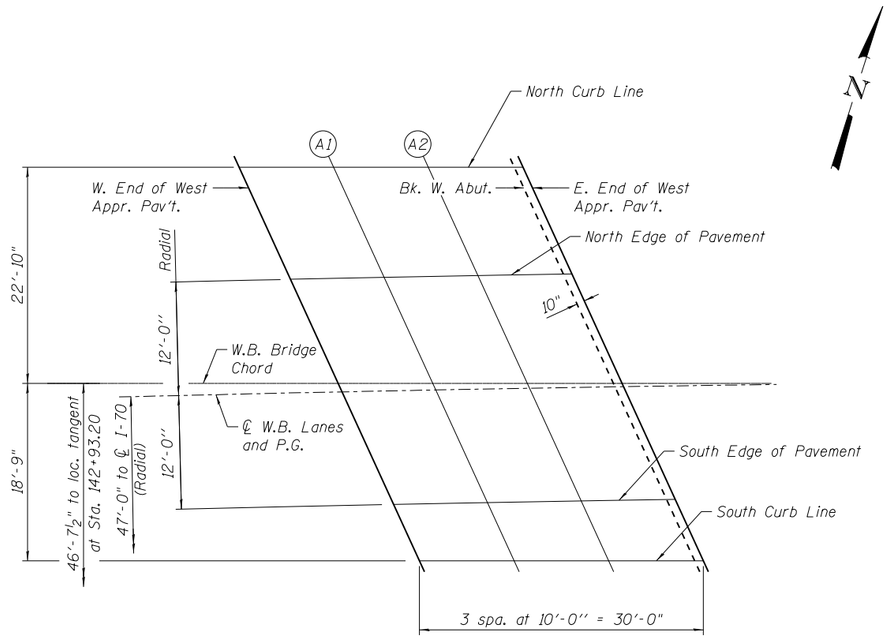
Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	141+62.64	70.96 Lt.	555.63
A1	141+72.52	70.74 Lt.	555.58
A2	141+82.39	70.54 Lt.	555.53
E. End of West Appr. Pav't.	141+92.27	70.36 Lt.	555.48

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	141+67.75	59.00 Lt.	555.27
A1	141+77.55	59.00 Lt.	555.23
A2	141+87.37	59.00 Lt.	555.19
E. End of West Appr. Pav't.	141+97.19	59.00 Lt.	555.14

℄ W.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	141+72.89	47.00 Lt.	554.92
A1	141+82.72	47.00 Lt.	554.87
A2	141+92.56	47.00 Lt.	554.83
E. End of West Appr. Pav't.	142+02.40	47.00 Lt.	554.79



PLAN

West Approach (W.B.)

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	141+78.06	35.00 Lt.	554.56
A1	141+87.91	35.00 Lt.	554.51
A2	141+97.77	35.00 Lt.	554.47
E. End of West Appr. Pav't.	142+07.64	35.00 Lt.	554.43

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	141+80.65	28.99 Lt.	554.38
A1	141+90.60	28.80 Lt.	554.33
A2	142+00.55	28.63 Lt.	554.28
E. End of West Appr. Pav't.	142+10.50	28.47 Lt.	554.23

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. TOP OF WEST APPROACH SLAB ELEVATIONS
SN 018-0047 (W.B.) & 018-0048 (E.B.)

SHEET NO. S-7 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	65
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

NORTH CURB LINE

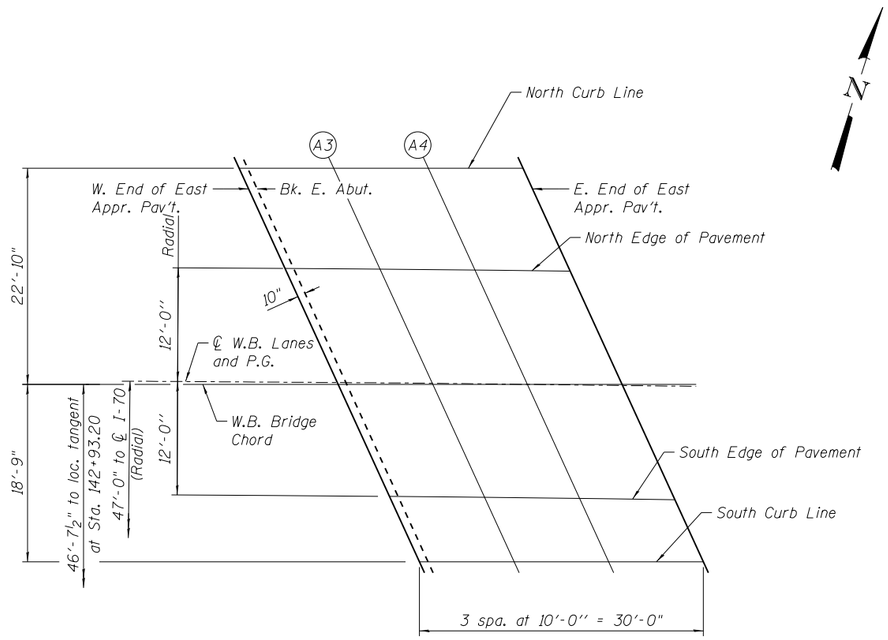
Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+27.21	69.56 Lt.	554.83
A3	143+37.09	69.63 Lt.	554.78
A4	143+46.97	69.71 Lt.	554.73
E. End of East Appr. Pav't.	143+56.85	69.82 Lt.	554.69

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+32.07	59.00 Lt.	554.51
A3	143+42.01	59.00 Lt.	554.46
A4	143+51.95	59.00 Lt.	554.41
E. End of East Appr. Pav't.	143+61.90	59.00 Lt.	554.36

℄ W.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+37.63	47.00 Lt.	554.14
A3	143+47.59	47.00 Lt.	554.09
A4	143+57.55	47.00 Lt.	554.04
E. End of East Appr. Pav't.	143+67.53	47.00 Lt.	553.99



PLAN

East Approach (W.B.)

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+43.21	35.00 Lt.	553.78
A3	143+53.19	35.00 Lt.	553.73
A4	143+63.18	35.00 Lt.	553.68
E. End of East Appr. Pav't.	143+73.18	35.00 Lt.	553.63

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+46.42	28.12 Lt.	553.57
A3	143+56.37	28.22 Lt.	553.52
A4	143+66.32	28.34 Lt.	553.48
E. End of East Appr. Pav't.	143+76.27	28.48 Lt.	553.43

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. TOP OF EAST APPROACH SLAB ELEVATIONS
SN 018-0047 (W.B.) & 018-0048 (E.B.)

SHEET NO. S-8 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	66
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

NORTH CURB LINE

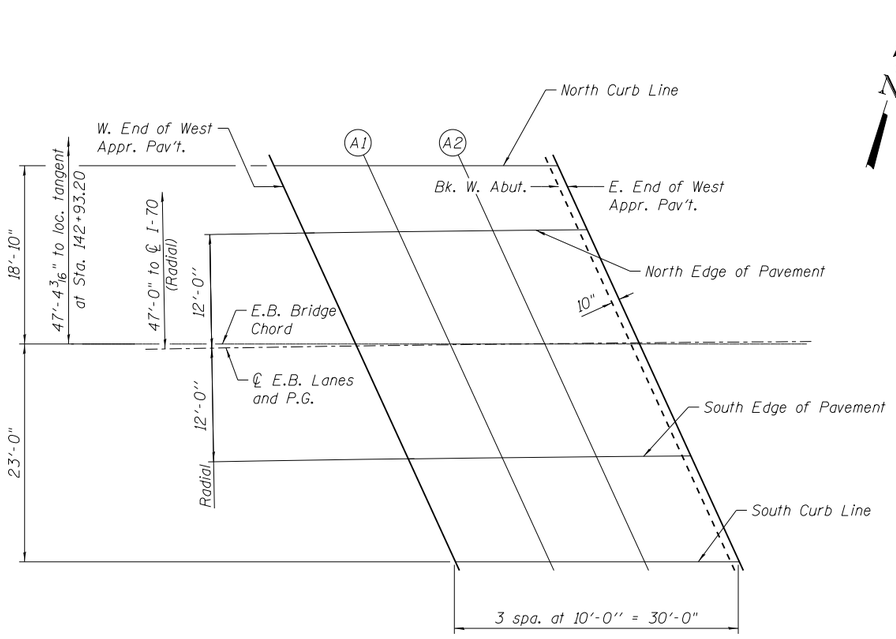
Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	142+05.50	27.85 Rt.	555.61
A1	142+15.55	27.99 Rt.	555.56
A2	142+25.60	28.12 Rt.	555.52
E. End of West Appr. Pav't.	142+35.65	28.23 Rt.	555.47

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	142+08.67	35.00 Rt.	555.40
A1	142+18.67	35.00 Rt.	555.35
A2	142+28.68	35.00 Rt.	555.31
E. End of West Appr. Pav't.	142+38.69	35.00 Rt.	555.26

℄ E.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	142+14.00	47.00 Rt.	555.04
A1	142+24.03	47.00 Rt.	554.99
A2	142+34.06	47.00 Rt.	554.95
E. End of West Appr. Pav't.	142+44.10	47.00 Rt.	554.90



PLAN

West Approach (E.B.)

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	142+19.36	59.00 Rt.	554.68
A1	142+29.41	59.00 Rt.	554.63
A2	142+39.46	59.00 Rt.	554.59
E. End of West Appr. Pav't.	142+49.53	59.00 Rt.	554.54

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of West Appr. Pav't.	142+24.26	69.94 Rt.	554.35
A1	142+34.38	70.05 Rt.	554.30
A2	142+44.51	70.14 Rt.	554.25
E. End of West Appr. Pav't.	142+54.63	70.22 Rt.	554.21

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. TOP OF WEST APPROACH SLAB ELEVATIONS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-9 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	67
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

NORTH CURB LINE

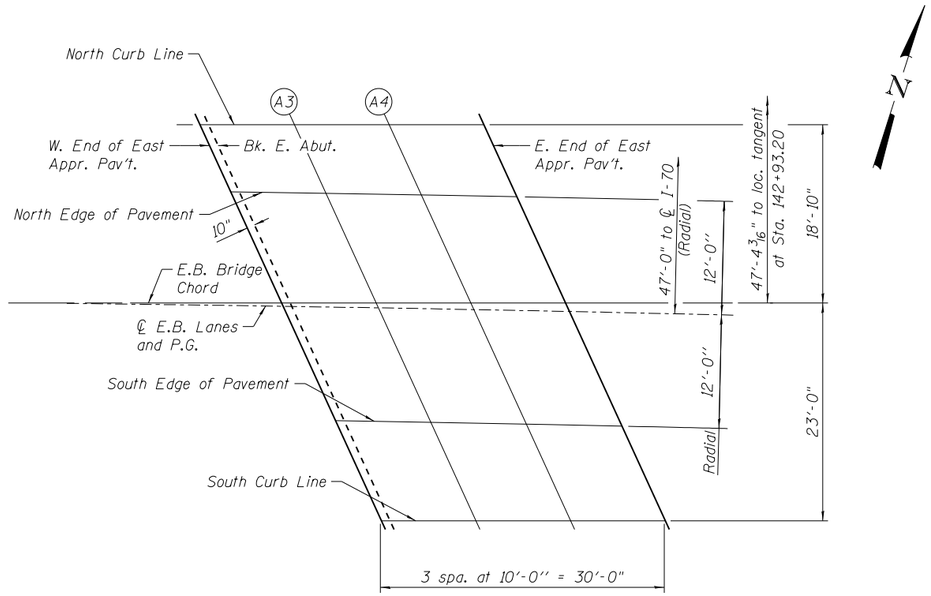
Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+72.91	27.96 Rt.	554.80
A3	143+82.96	27.82 Rt.	554.75
A4	143+93.00	27.65 Rt.	554.70
E. End of East Appr. Pav't.	144+03.05	27.47 Rt.	554.65

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+76.27	35.00 Rt.	554.58
A3	143+86.41	35.00 Rt.	554.53
A4	143+96.55	35.00 Rt.	554.47
E. End of East Appr. Pav't.	144+06.70	35.00 Rt.	554.41

℄ E.B. LANES AND P.G.

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+82.03	47.00 Rt.	554.21
A3	143+92.19	47.00 Rt.	554.16
A4	144+02.36	47.00 Rt.	554.10
E. End of East Appr. Pav't.	144+12.54	47.00 Rt.	554.05



PLAN

East Approach (E.B.)

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+87.82	59.00 Rt.	553.85
A3	143+98.01	59.00 Rt.	553.79
A4	144+08.20	59.00 Rt.	553.73
E. End of East Appr. Pav't.	144+18.41	59.00 Rt.	553.68

SOUTH CURB LINE

Location	Station	Offset	Theoretical Grade Elevations
W. End of East Appr. Pav't.	143+92.90	69.49 Rt.	553.53
A3	144+03.02	69.31 Rt.	553.47
A4	144+13.14	69.11 Rt.	553.42
E. End of East Appr. Pav't.	144+23.26	68.89 Rt.	553.37

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. TOP OF EAST APPROACH SLAB ELEVATIONS
SN 018-0047 (W.B.) & 018-0048 (E.B.)

SHEET NO. S-10 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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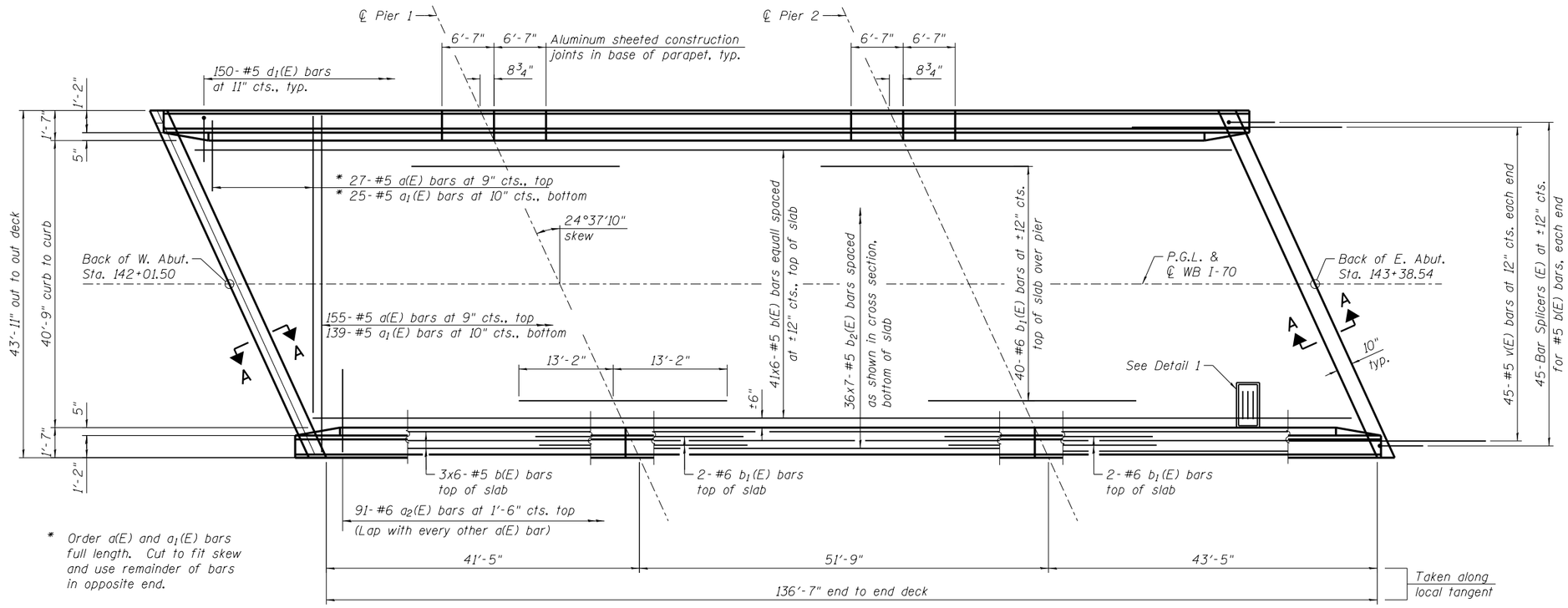
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



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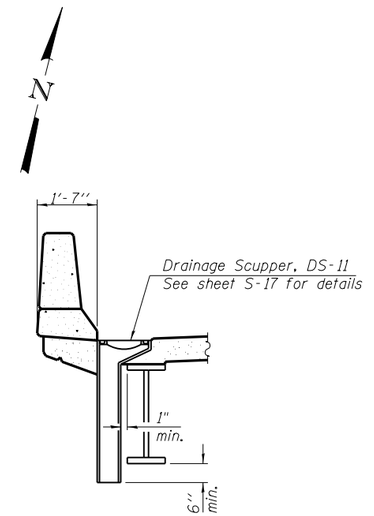
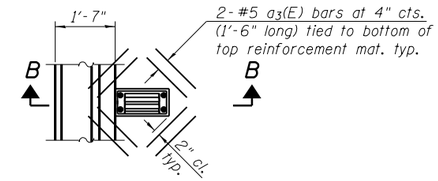
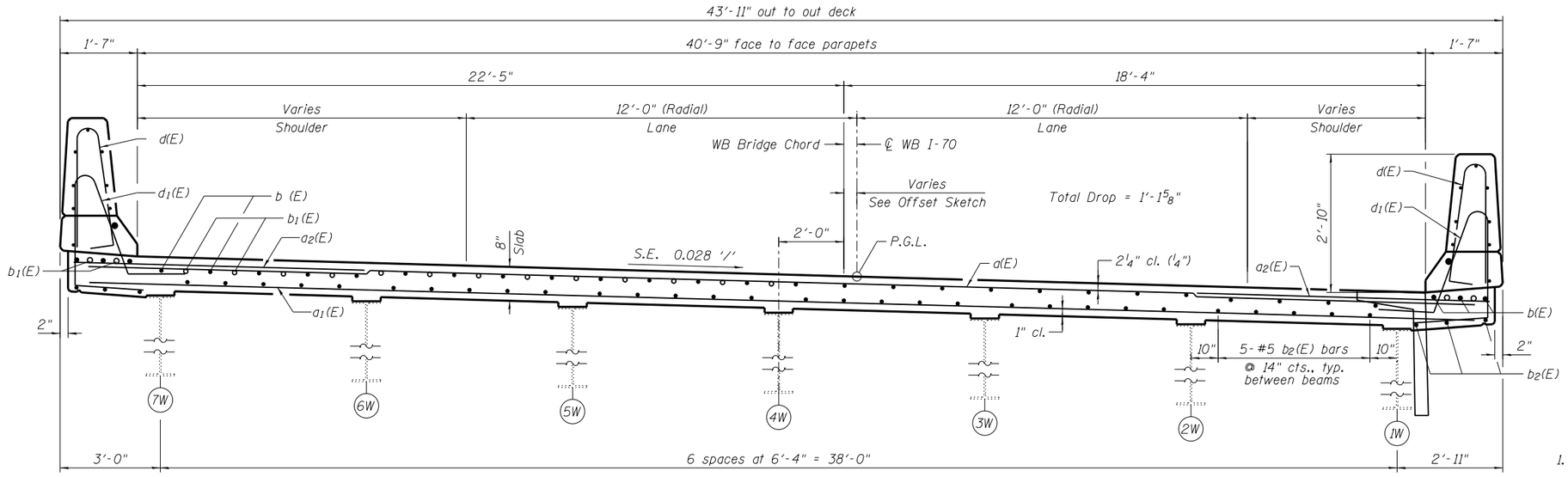


SECTION B-B



DETAIL 1

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



NEAR PIER — NEAR MIDSPAN

CROSS SECTION

(Looking East)

MINIMUM BAR LAP

#5 Bars = 3'-3"

NOTES:

1. See sheet S-13 for Superstructure Details, Parapet Reinforcement, and Bill of Material.
2. Bars indicated 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See sheet S-14 for Section A-A and bar bending diagram.
4. See sheet S-34 for Bar Splicer details.
5. For Offset Sketch see sheet S-2.

Horizontal dimensions at Rt. L's to tangent unless otherwise noted.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. DECK PLAN AND CROSS SECTION
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-11 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	69
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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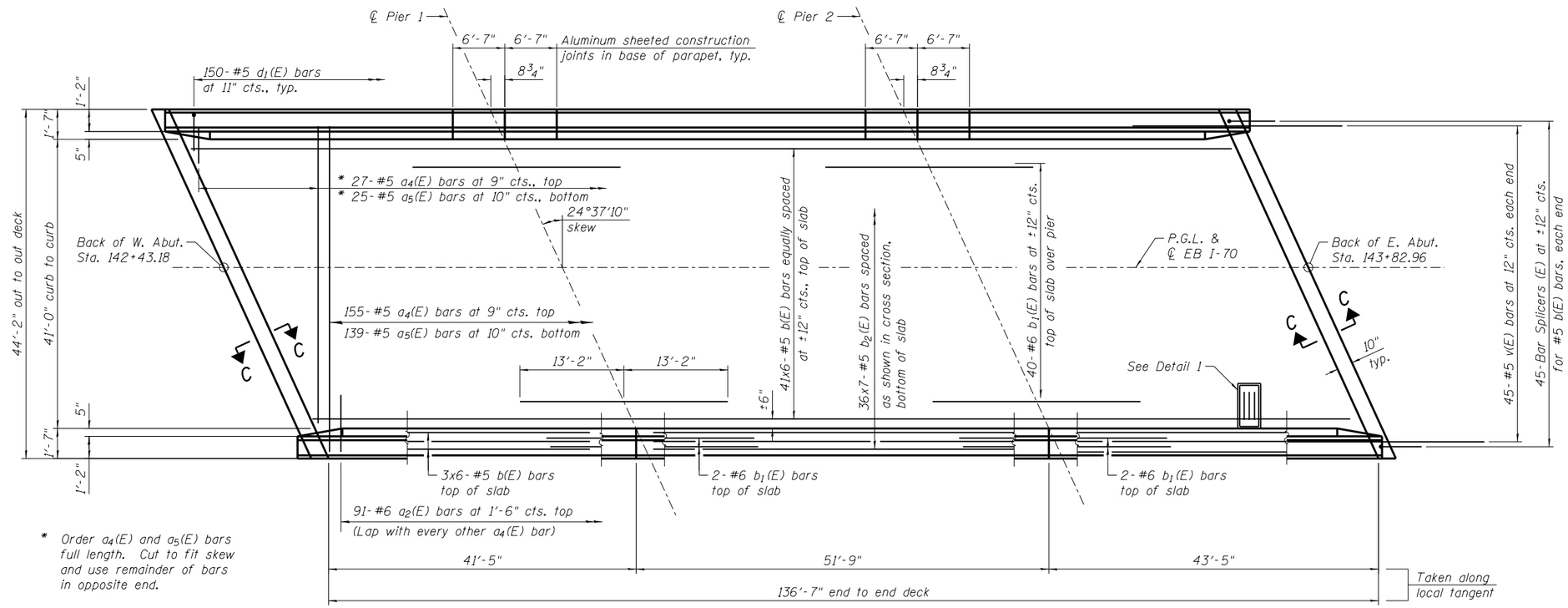
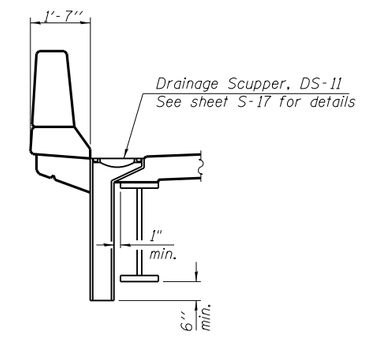
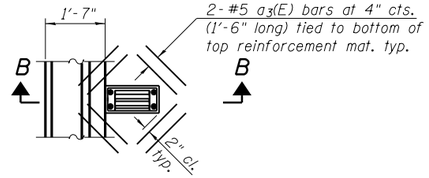


* Order $a_4(E)$ and $a_5(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.

PLAN

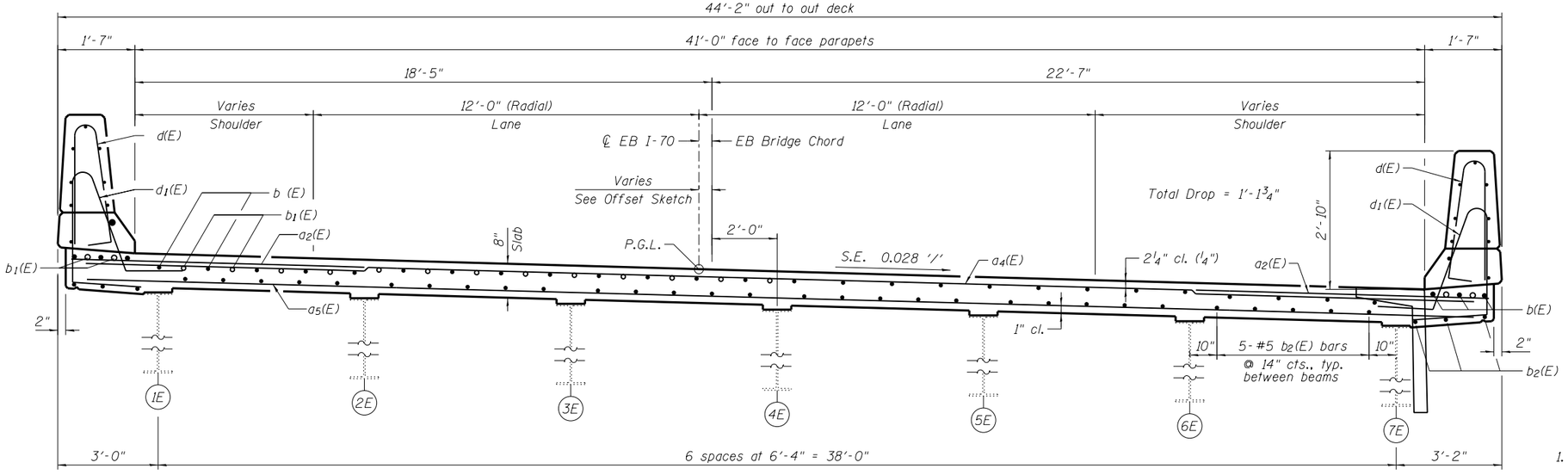


SECTION B-B



DETAIL 1

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



NEAR PIER — NEAR MIDSPAN

CROSS SECTION

(Looking East)

Horizontal dimensions at Rt. L's to tangent unless otherwise noted.

MINIMUM BAR LAP

#5 Bars = 3'-3"

NOTES:

1. See sheet S-13 for Superstructure Details, Parapet Reinforcement, and Bill of Material.
2. Bars indicated 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
3. See sheet S-14 for Section C-C and bar bending diagram.
4. See sheet S-34 for Bar Splicer details.
5. For Offset Sketch see sheet S-2.

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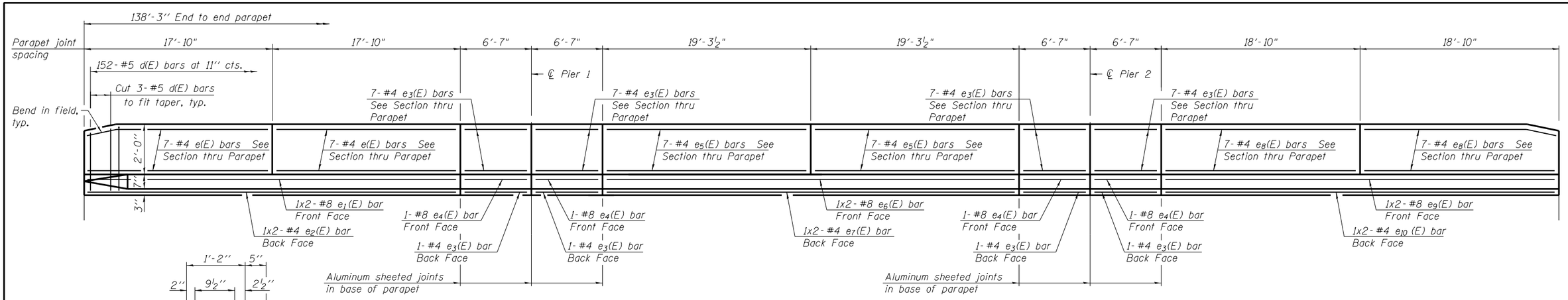
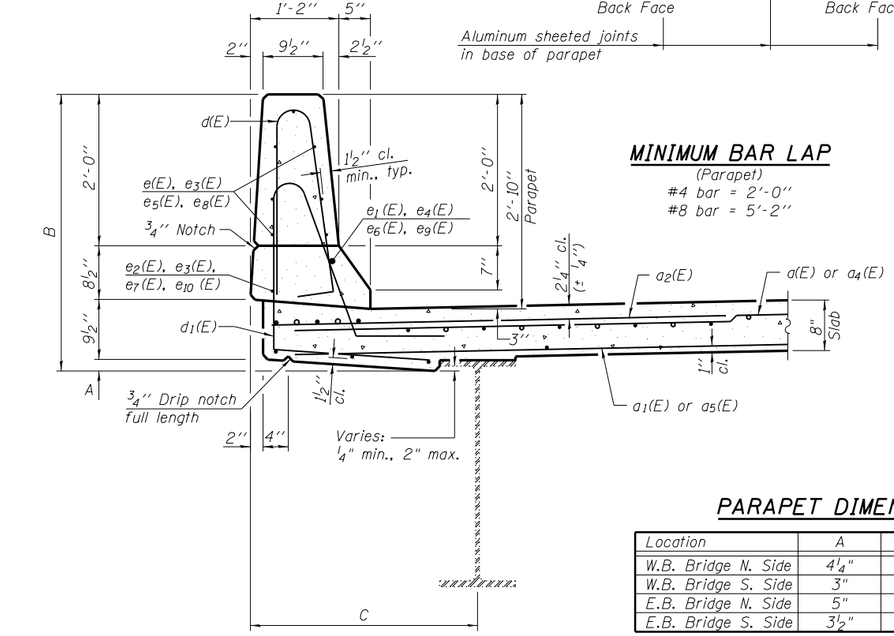
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. DECK PLAN AND CROSS SECTION
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-12 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	70
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET

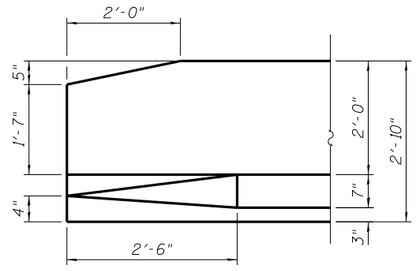


MINIMUM BAR LAP

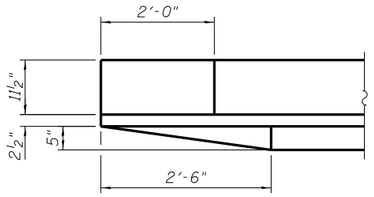
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

PARAPET DIMENSIONS

Location	A	B	C
W.B. Bridge N. Side	4¼"	3'-10¼"	3'-0"
W.B. Bridge S. Side	3"	3'-9"	2'-11"
E.B. Bridge N. Side	5"	3'-11"	3'-0"
E.B. Bridge S. Side	3½"	3'-9½"	3'-2"



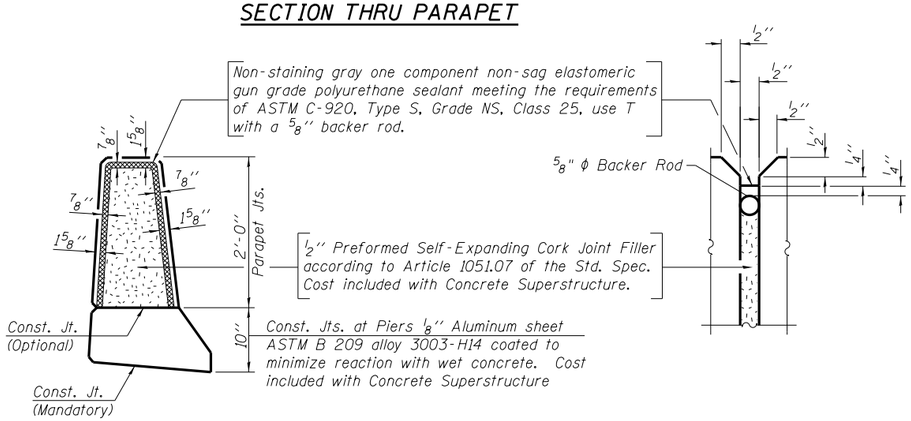
ELEVATION



PLAN

PARAPET END DETAILS

SECTION THRU PARAPET



PARAPET JOINT DETAILS

E.B. SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	182	# 6	6'-6"	——
a3(E)	8	# 5	1'-6"	——
a4(E)	182	# 5	43'-6"	——
a5(E)	164	# 5	42'-10"	——
b(E)	282	# 5	25'-5"	——
b1(E)	88	# 6	26'-4"	——
b2(E)	252	# 5	22'-3"	——
d(E)	304	# 5	5'-7"	
d1(E)	300	# 5	7'-9"	
e(E)	28	# 4	17'-6"	——
e1(E)	4	# 8	20'-3"	——
e2(E)	4	# 4	18'-8"	——
e3(E)	64	# 4	6'-3"	——
e4(E)	8	# 8	6'-3"	——
e5(E)	28	# 4	18'-11"	——
e6(E)	4	# 8	21'-9"	——
e7(E)	4	# 4	20'-2"	——
e8(E)	28	# 4	18'-6"	——
e9(E)	4	# 8	21'-3"	——
e10 (E)	4	# 4	19'-8"	——
m (E)	32	# 6	25'-9"	——
m1(E)	28	# 6	8'-8"	——
m2(E)	24	# 6	6'-8"	——
m4(E)	8	# 6	2'-9"	——
s(E)	84	# 5	7'-9"	
s1(E)	84	# 4	9'-2"	
u1(E)	100	# 4	3'-10"	
v(E)	90	# 5	3'-9"	
Reinforcement Bars, Epoxy Coated		Pound	44,310	
Concrete Superstructure		Cu. Yds.	224.4	

W.B. SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	182	# 5	43'-3"	——
a1(E)	164	# 5	42'-7"	——
a2(E)	182	# 6	6'-6"	——
a3(E)	8	# 5	1'-6"	——
b(E)	282	# 5	25'-5"	——
b1(E)	88	# 6	26'-4"	——
b2(E)	252	# 5	22'-3"	——
d(E)	304	# 5	5'-7"	
d1(E)	300	# 5	7'-9"	
e(E)	28	# 4	17'-6"	——
e1(E)	4	# 8	20'-3"	——
e2(E)	4	# 4	18'-8"	——
e3(E)	64	# 4	6'-3"	——
e4(E)	8	# 8	6'-3"	——
e5(E)	28	# 4	18'-11"	——
e6(E)	4	# 8	21'-9"	——
e7(E)	4	# 4	20'-2"	——
e8(E)	28	# 4	18'-6"	——
e9(E)	4	# 8	21'-3"	——
e10 (E)	4	# 4	19'-8"	——
m(E)	32	# 6	25'-9"	——
m1(E)	28	# 6	8'-8"	——
m2(E)	24	# 6	6'-8"	——
m3(E)	8	# 6	2'-8"	——
s(E)	84	# 5	7'-9"	
s1(E)	84	# 4	9'-2"	
u(E)	98	# 4	5'-2"	
v(E)	90	# 5	3'-9"	
Reinforcement Bars, Epoxy Coated		Pound	44,310	
Concrete Superstructure		Cu. Yds.	223.9	

NOTES:

1. Bars indicated thus 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
2. See sheet S-14 for d(E) and d1(E) bar bending diagram.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-13 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	71
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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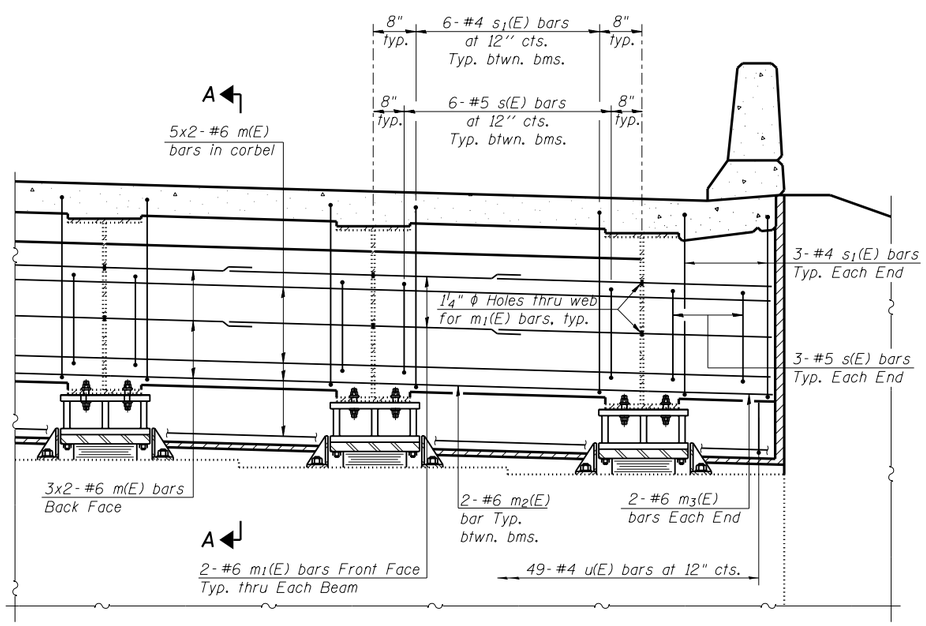
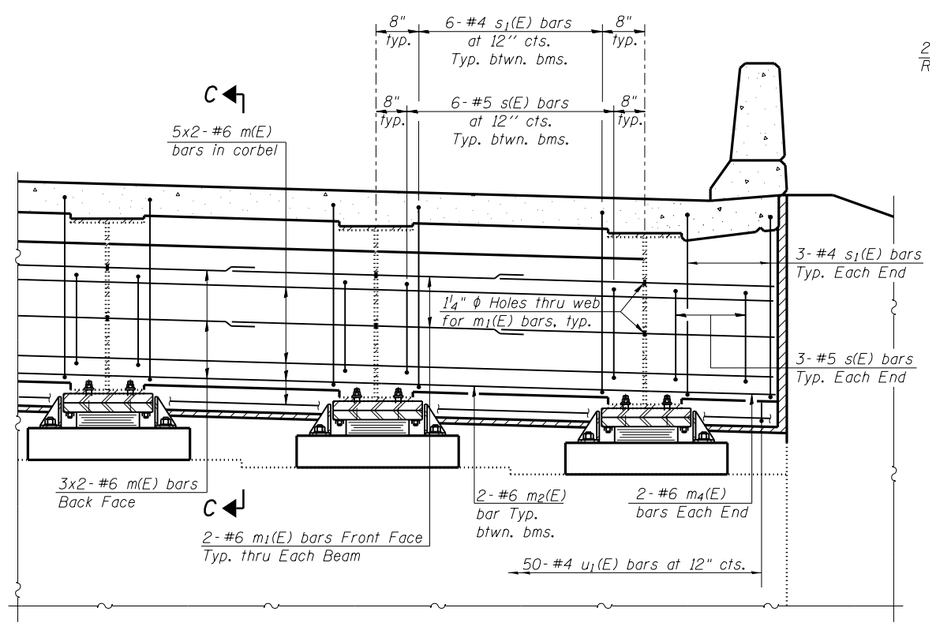
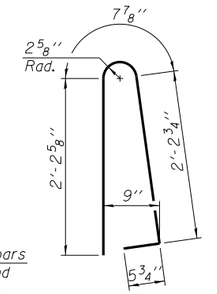


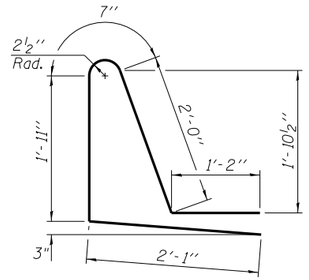
DIAPHRAGM ELEVATION AT W.B. ABUTMENTS



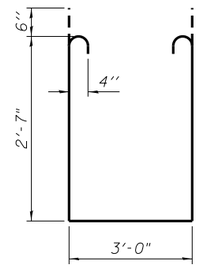
DIAPHRAGM ELEVATION AT E.B. ABUTMENTS



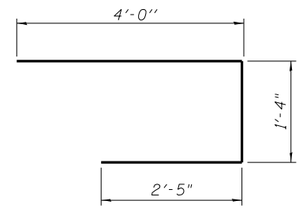
BAR d(E)



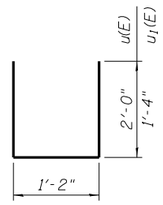
BAR d_1(E)



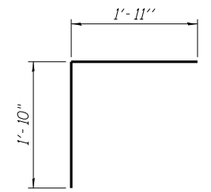
BAR s_1(E)



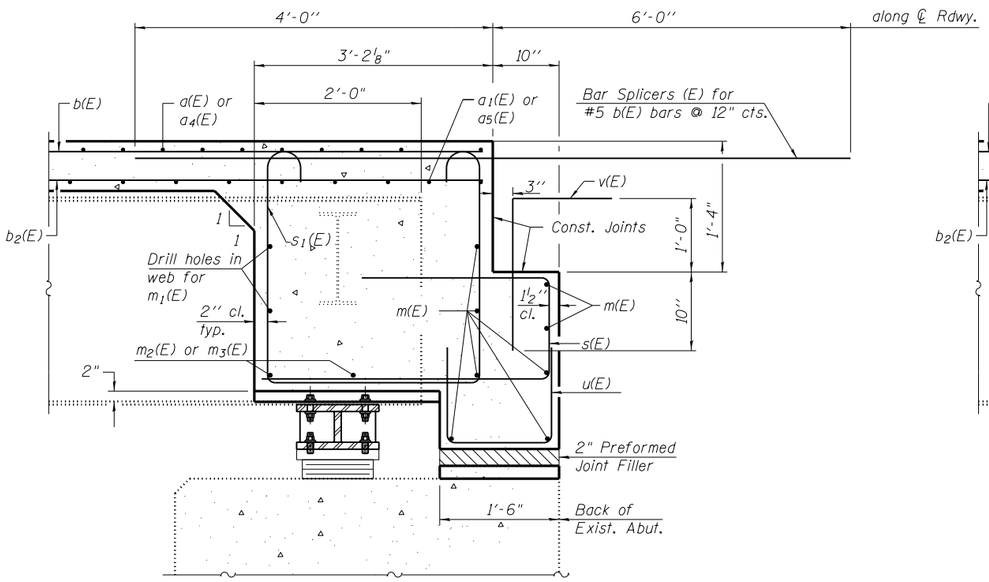
BAR s(E)



BARS u(E) & u_1(E)

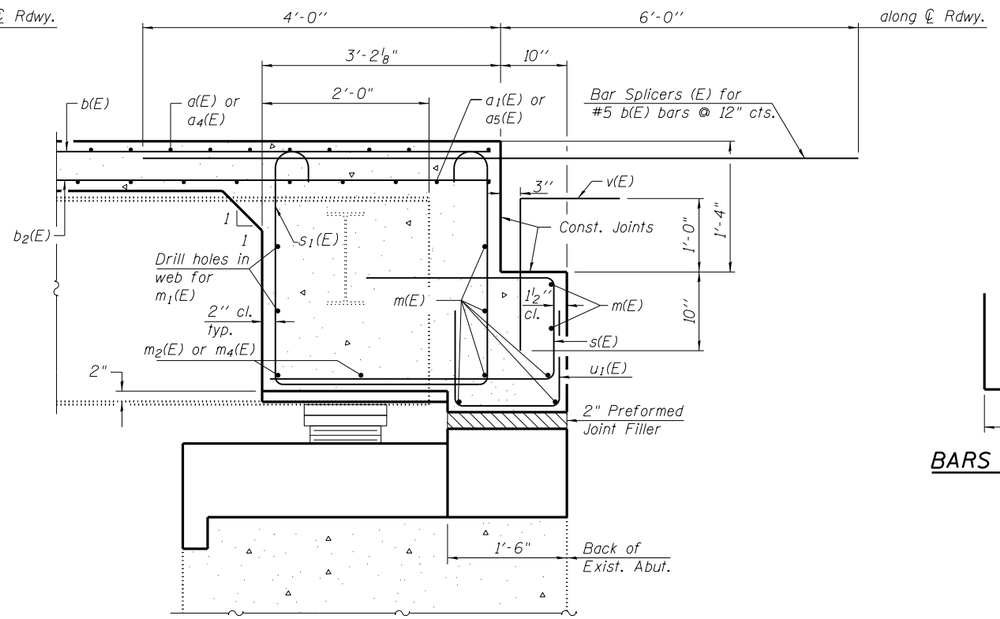


BAR v(E)



SECTION A-A

Dimensions at right angles to abutment, except as shown.



SECTION C-C

Dimensions at right angles to abutment, except as shown.

MIN. BAR LAP

#6 bar = 3'-4"

NOTES:

1. Reinforcement bars in diaphragm are billed with superstructure on sheet S-13.
2. Concrete in diaphragm is included with Concrete Superstructure on sheet S-13.
3. The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 14 Diaphragm Details.dgn

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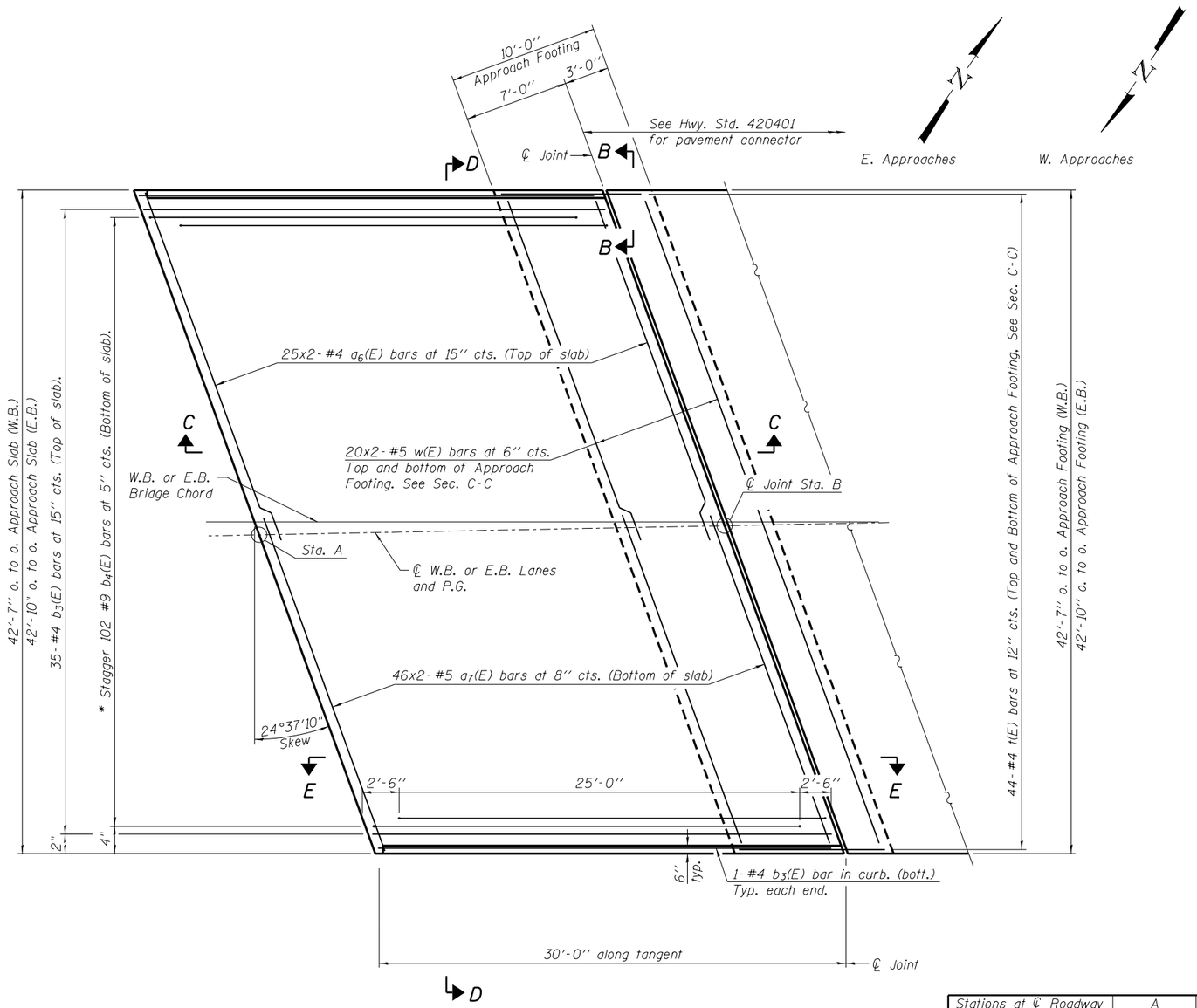
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-14 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	72
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

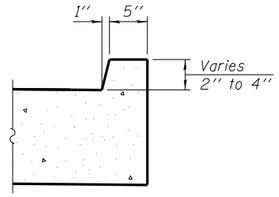
Notes:
See sheet S-16 for Sections C-C & D-D and View E-E.
a_6(E) and a_7(E) bar spacings measured along ℄ Rdwy.



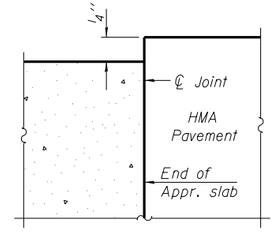
PLAN

Approach dimensions at Rt. ℄'s to tangent unless noted otherwise.

* Tilt #9 b_4(E) bars as required to maintain clearance.



VIEW B-B



FLEXIBLE PAVEMENT

DETAIL A

Stations at ℄ Roadway	A	B
W.B. West Approach	142+02.40	141+72.89
W.B. East Approach	143+37.63	143+67.53
E.B. West Approach	142+44.10	142+14.00
E.B. East Approach	143+82.03	144+12.54

MIN. BAR LAP

#4 Bar = 2'-11"
#5 Bar = 3'-3"

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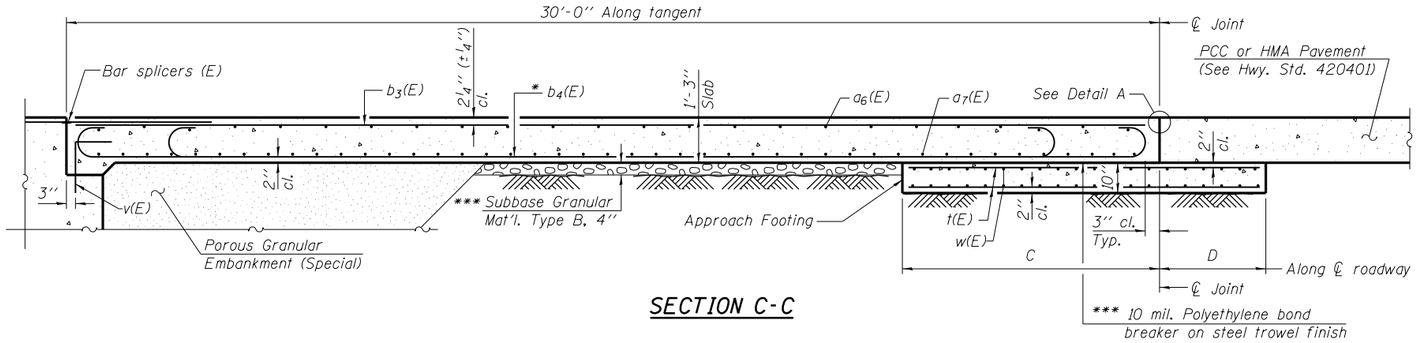
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS – 1
SN 018–0047 (W.B.) & 018–0048 (E.B.)
SHEET NO. S-15 OF S-34 SHEETS

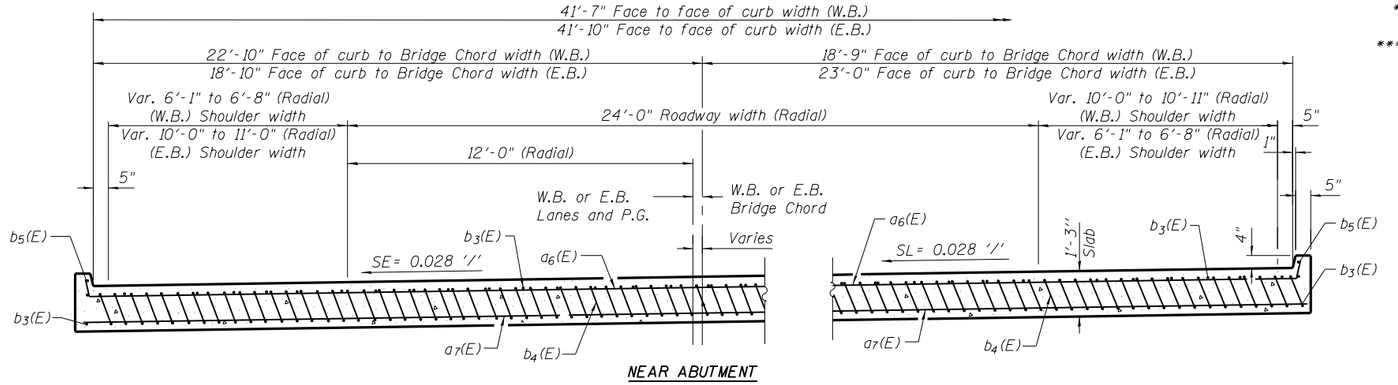
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	73
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



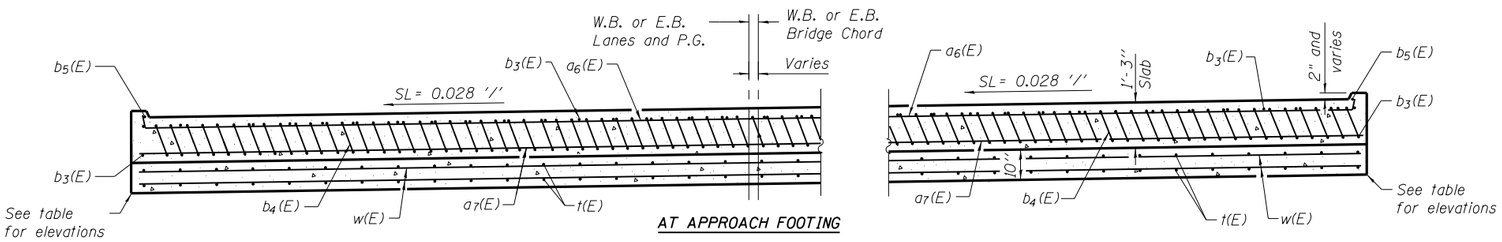
SECTION C-C

APPROACH FOOTING DIMENSIONS

Location	C	D
W.B. West Approach	7'-7 5/8"	3'-3 1/4"
W.B. East Approach	7'-9"	3'-3 1/8"
E.B. West Approach	7'-7 7/8"	3'-3 3/8"
E.B. East Approach	7'-9 1/4"	3'-4"



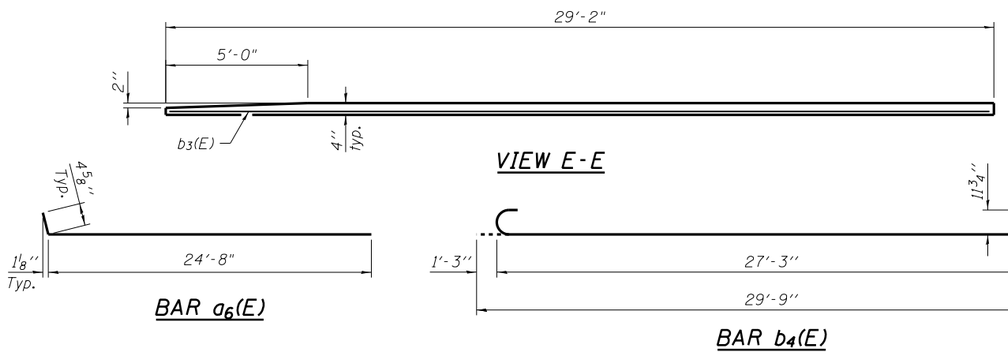
NEAR ABUTMENT



AT APPROACH FOOTING

SECTION D-D

(See Plan for dimensions not shown)
Horizontal dimensions at Rt. ℄'s to tangent unless noted otherwise.



* Tilt #9 $b_4(E)$ bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

APPROACH FOOTING ELEVATIONS

Location	North Edge	South Edge
W.B. West Approach	553.56	552.28
W.B. East Approach	552.62	551.33
E.B. West Approach	553.54	552.25
E.B. East Approach	552.58	551.28

NOTES:

1. See sheet S-15 for Detail A and View B-B.
2. Approach slab and curb concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v(E) bar details, see sheet S-14.
6. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7. For bar splicer details, see sheet S-34.
8. Cost of excavation for approach footing included with Concrete Structures.
9. For Porous Granular Embankment (Special) and drainage treatment details, see sheet S-2.

W.B. APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a6(E)	100	# 4	25'-1"	
a7(E)	184	# 5	25'-1"	
b3(E)	74	# 4	29'-8"	
b4(E)	204	# 9	29'-9"	
b5(E)	4	# 4	28'-10"	
t(E)	176	# 4	10'-8"	
w(E)	160	# 5	25'-1"	
Concrete Superstructure		Cu. Yd.	119.2	
Concrete Structures		Cu. Yd.	28.9	
Reinforcement Bars, Epoxy Coated		Pound	34,110	

E.B. APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a6(E)	100	# 4	25'-1"	
a7(E)	184	# 5	25'-1"	
b3(E)	74	# 4	29'-8"	
b4(E)	204	# 9	29'-9"	
b5(E)	4	# 4	28'-10"	
t(E)	176	# 4	10'-8"	
w(E)	160	# 5	25'-1"	
Concrete Superstructure		Cu. Yd.	119.9	
Concrete Structures		Cu. Yd.	29.1	
Reinforcement Bars, Epoxy Coated		Pound	34,110	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS – 2
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-16 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	74
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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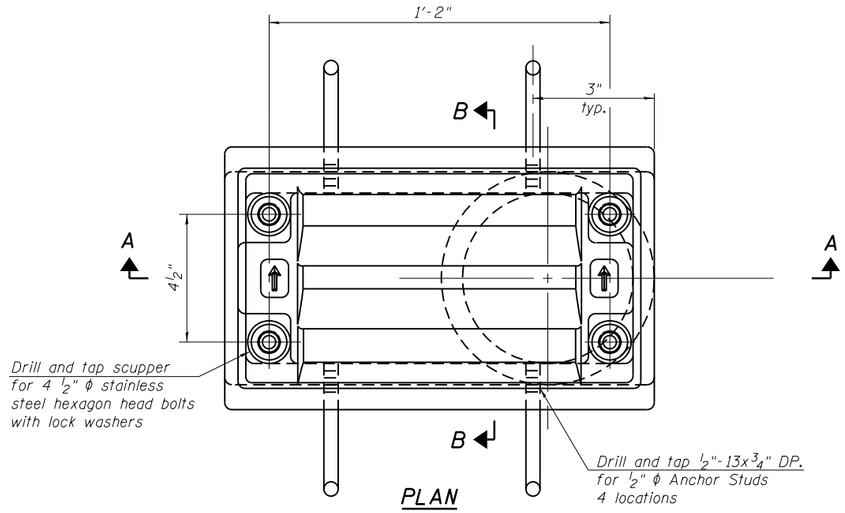
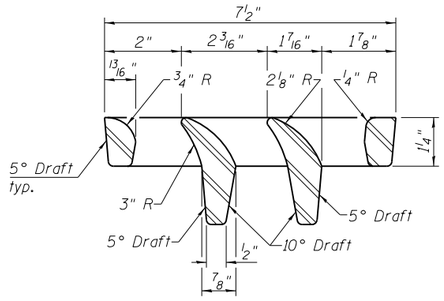
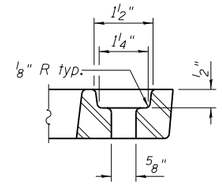


PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

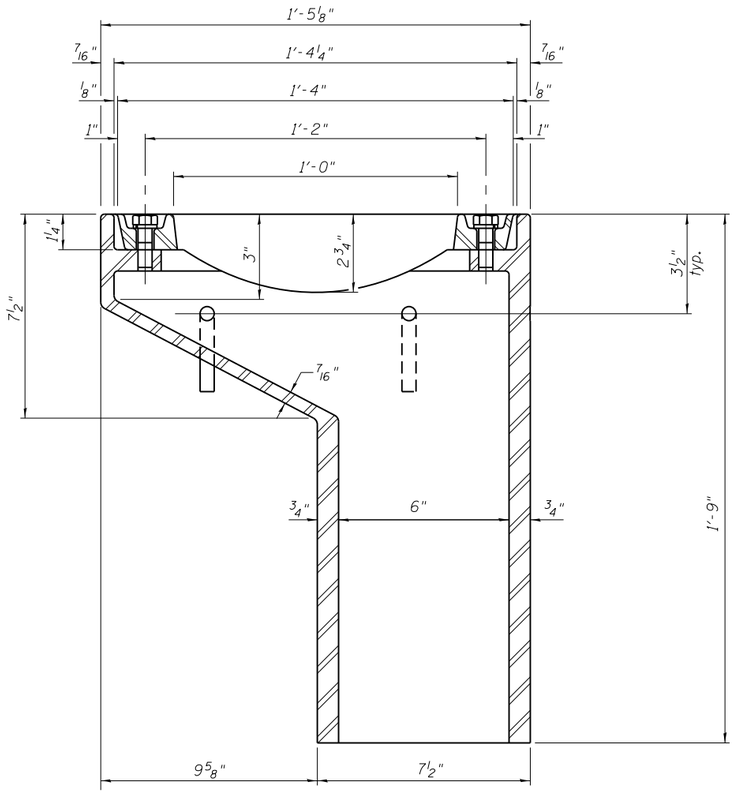
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

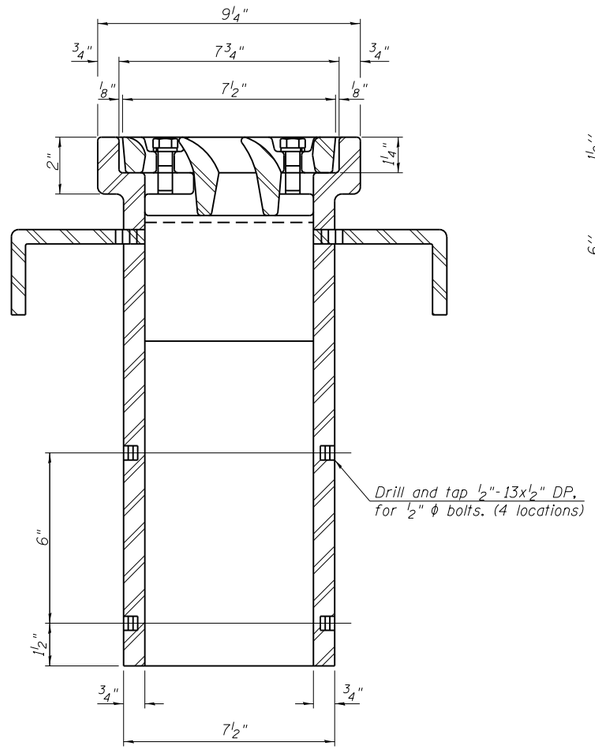
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

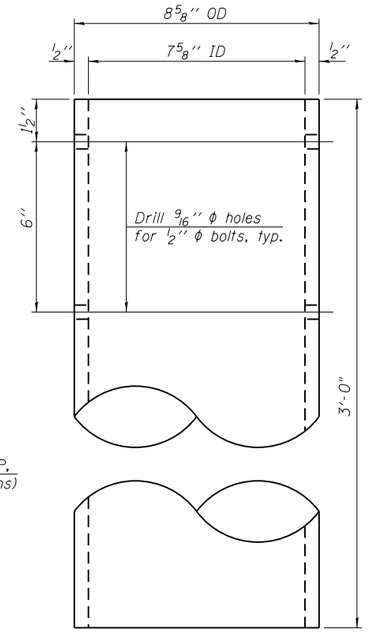


SECTION A-A

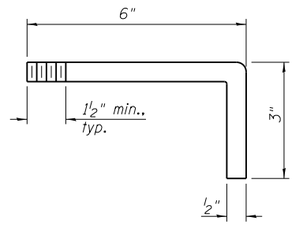
See sheet S-11 and S-12 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	2

DS-11

7-1-10

USER NAME = bsauter	DESIGNED - BWS	REVISED -	
	CHECKED - MHT	REVISED -	
PLOT SCALE = 16.0.0003 '' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE SCUPPER, DS-11
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-17 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	75
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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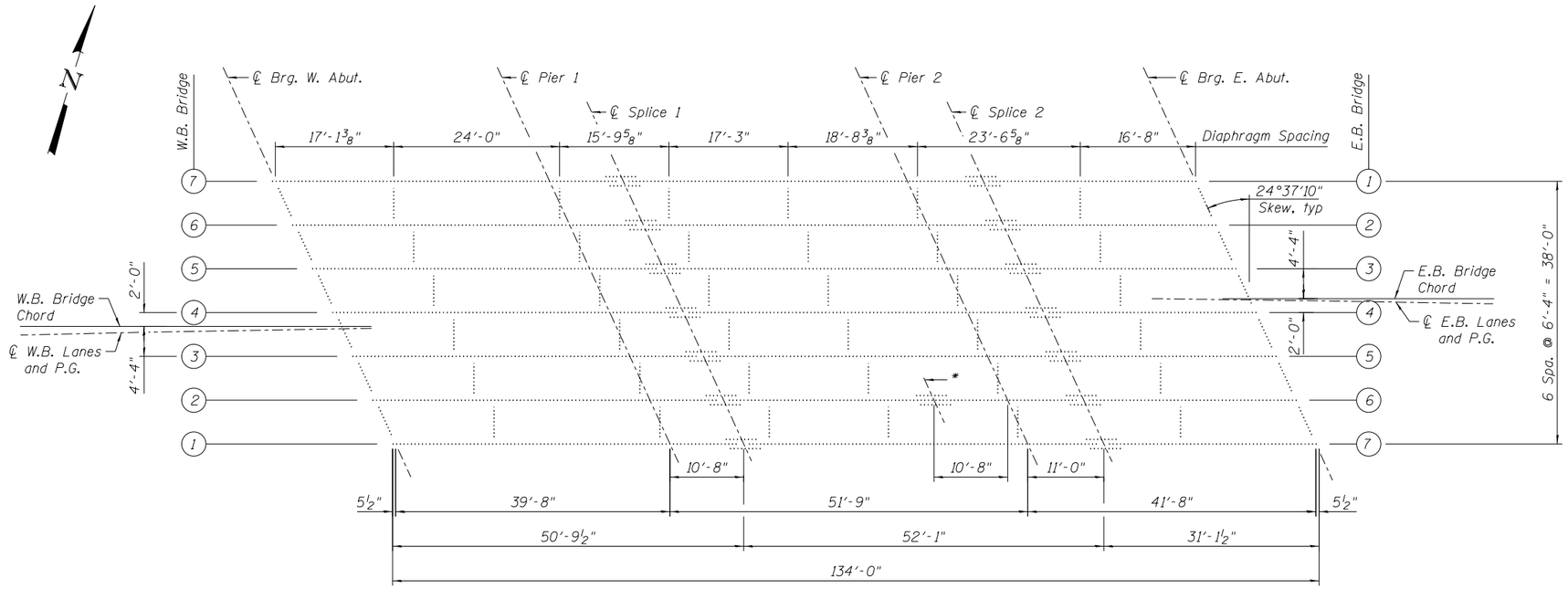
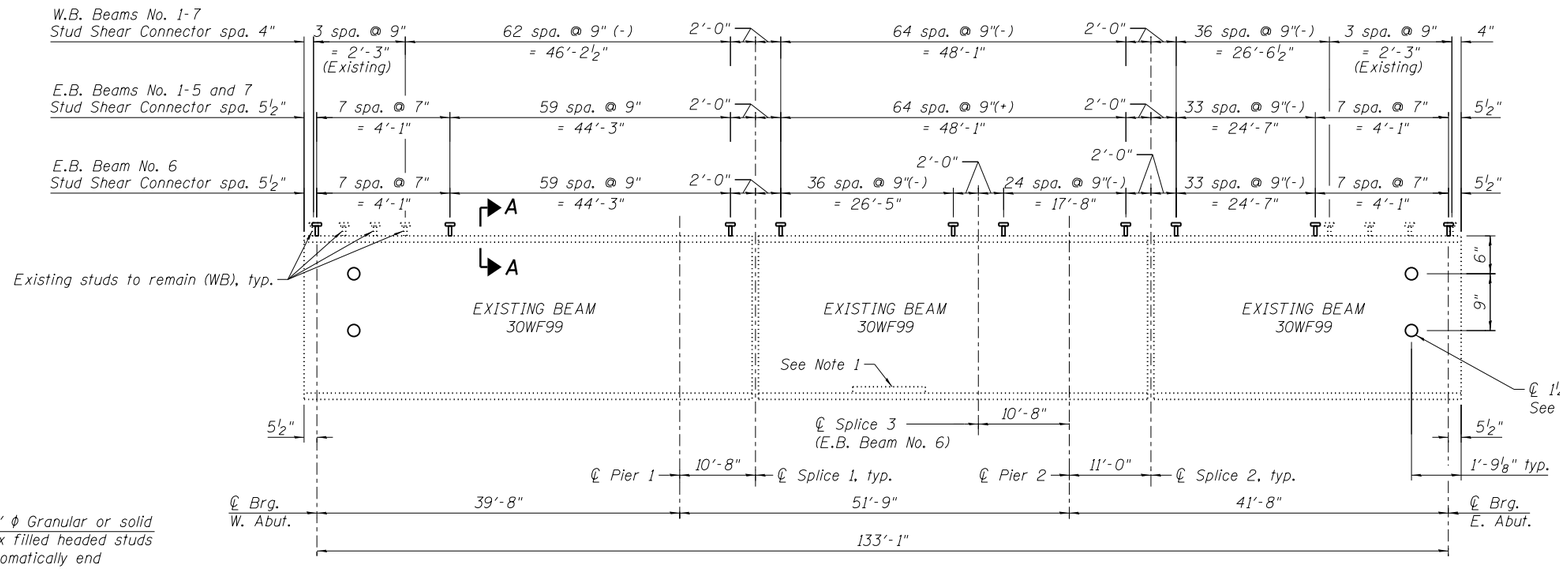
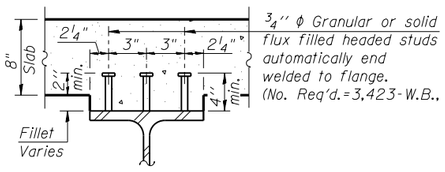


PLAN

* ℄ Splice 3
(E.B. Beam No. 6 only)



BEAM ELEVATION



3/4" ϕ Granular or solid flux filled headed studs automatically end welded to flange.
(No. Req'd.=3,423-W.B., 3,624-E.B.)

SECTION A-A

NOTES:

1. Strengthening Plates were added to E.B. Beam No. 7 during 2005.

Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue
Suite 402 Chicago, Illinois 60656
Tel. 773.775.4005
Fax 773.775.4007
Email dlchicago@ciorba.com

USER NAME = bsauter	DESIGNED - DL	REVISED -
	CHECKED - MHT	REVISED -
PLOT SCALE = 20:0.0003 '1' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-18 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	76
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
I_s	(in^4)	3990	3990	3990	3990	3990
$I_c(n)$	(in^4)	11577	-	11577	-	11577
$I_c(3n)$	(in^4)	8621	-	8621	-	8621
$I_c(cr)$	(in^4)	-	5735	-	5735	-
S_s	(in^3)	269	269	269	269	269
$S_c(n)$	(in^3)	413	-	413	-	413
$S_c(3n)$	(in^3)	374	-	374	-	374
$S_c(cr)$	(in^3)	-	320	-	320	-
Z	(in^3)	-	-	-	-	-
$\wp$	(k/')	0.76	0.76	0.76	0.76	0.76
$M\wp$	('k)	80	160	91	169	91
$s\wp$	(k/')	0.29	0.29	0.29	0.29	0.29
$M_s\wp$	('k)	30	61	34	65	34
M'_L	('k)	207	173	229	178	222
M_{IM}	('k)	62	51	65	52	67
$\frac{5}{3}[M_L + I]$	('k)	448	373	489	382	481
M_a	('k)	726	772	798	801	789
* M_u	('k)	1145	-	1142	-	1141
f_s $\wp$ non-comp	(ksi)	3.57	7.12	4.06	7.53	4.07
f_s $\wp$ (comp)	(ksi)	0.97	2.30	1.09	2.43	1.11
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	13.02	14.00	14.20	14.35	13.97
f_s (Overload)	(ksi)	17.56	23.42	19.35	24.32	19.15
** f_s (Total)	(ksi)	-	30.45	-	31.61	-
VR	(k)	49.8	55.2	39.1	54.2	50.0

INTERIOR GIRDER REACTION TABLE					
		W. Abut.	Pier 1	Pier 2	E. Abut.
***	$R\wp$ (k)	48.3	53.4	55.0	49.4
	R_L (k)	34.3	42.7	42.7	34.7
	R_I (k)	10.3	9.9	9.8	10.4
	R_{Total} (k)	92.9	106.0	107.5	94.5

* Compact section.
** Braced non-compact and partially braced section.
*** Includes dead load due to approach slab and abutment diaphragm.

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 (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.^{3}).

$\wp$: Un-factored non-composite dead load (kips/ft.).

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

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

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

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).
$1.3\ [\ M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)]$

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).
$M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\wp + M_s\wp + \frac{5}{3}\ (M_L + M_I)]$

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

N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 19 Steel Details.dgn

Ciorba Group, Inc.
CONSULTING ENGINEERS
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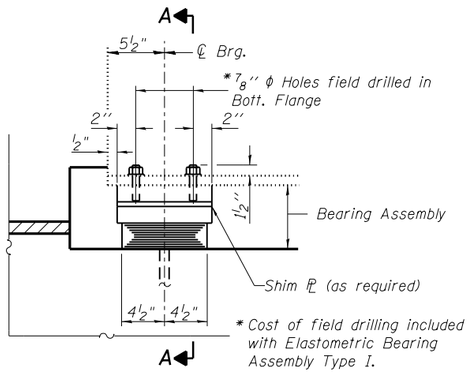
USER NAME = bsauter | PLOT SCALE = 0:2.0000 ':' / in. | PLOT DATE = 8/14/2012

DESIGNED - DL	CHECKED - MHT	REVISED -
DRAWN - RD	CHECKED - MHT	REVISED -
		REVISED -

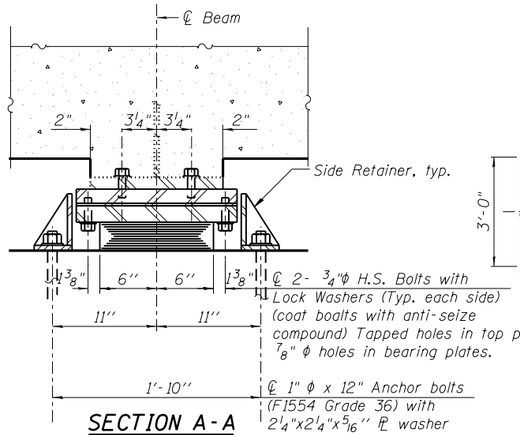
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-19 OF S-34 SHEETS

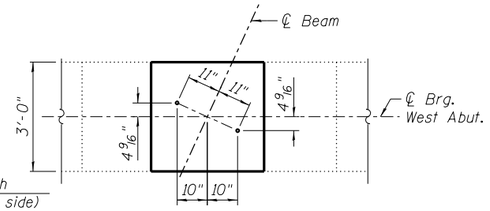
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	77
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



ELEVATION AT WEST ABUTMENT

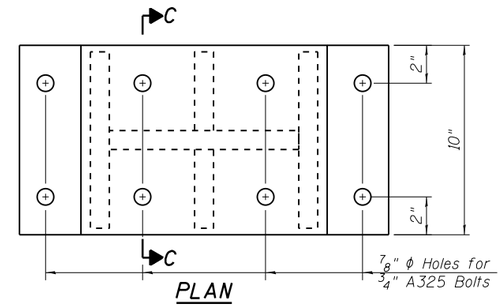


SECTION A-B



BEARING ANCHOR BOLT LAYOUT

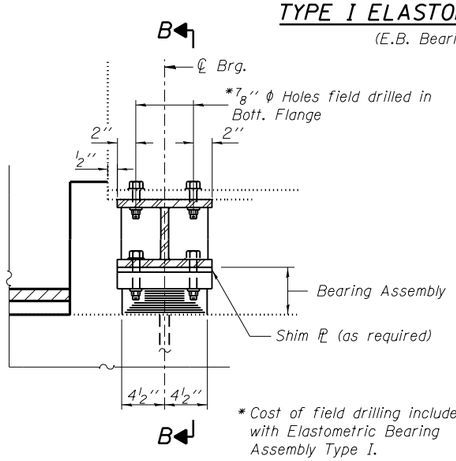
(E.B. Bearings)



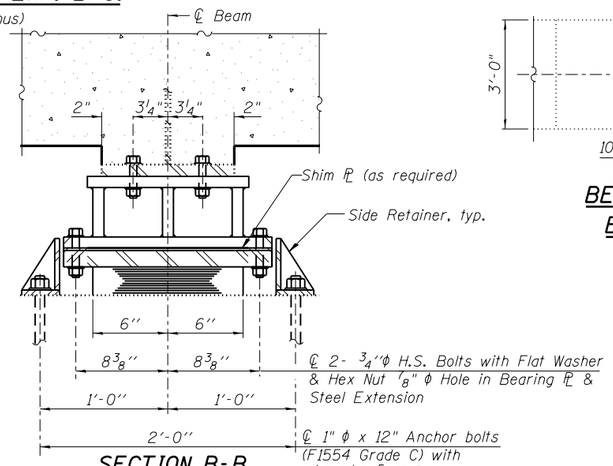
PLAN

TYPE I ELASTOMERIC EXP. BRG.

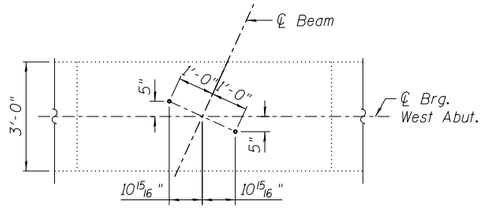
(E.B. Bearings 7 Thus)



ELEVATION AT WEST ABUTMENT

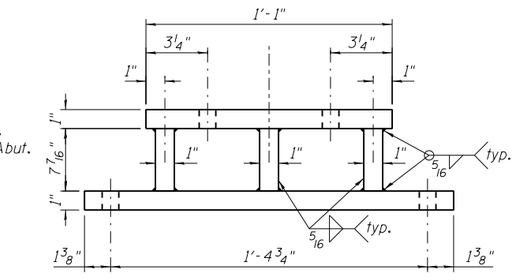


SECTION B-B

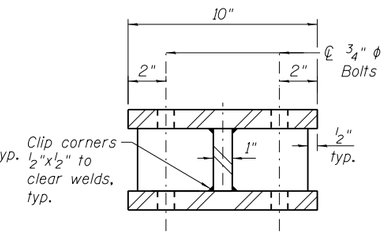


BEARING ANCHOR BOLT LAYOUT

(W.B. Bearings)



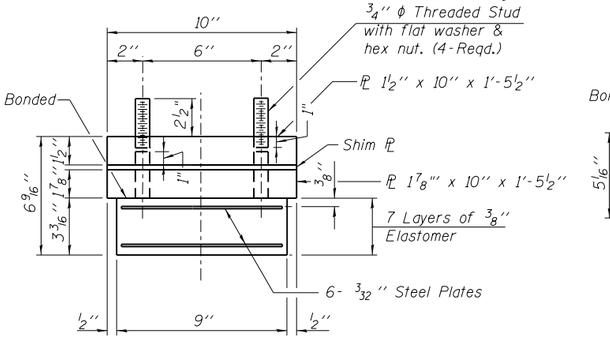
ELEVATION



SECTION C-C

STEEL EXTENSIONS

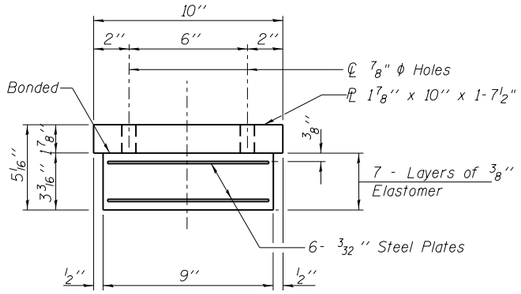
(7 Thus)
Weight included with Structural Steel



BEARING ASSEMBLY

(E.B. Bearings)

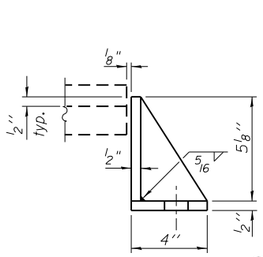
Note:
Shim plates shall not be placed under Bearing Assembly.



BEARING ASSEMBLY

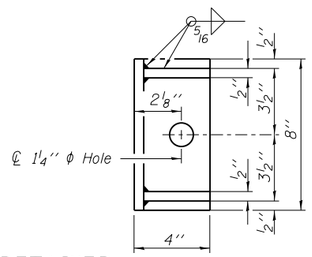
(W.B. Bearings)

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

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



Notes:

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

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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 elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Anchor Bolts, 1"	Each	28
Furnishing and Erecting Structural Steel	Pound	1,180

Clorba Group, Inc.
CONSULTING ENGINEERS
1 North Dearborn, Chicago, Illinois 60602
Suite 402 Cumberland Avenue
Tel. 773.775.4005
Fax 773.775.4014
Email dhicago@clorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -	
	CHECKED - MHT	REVISED -	
PLOT SCALE = 0.166667 ' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT BEARING DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-20 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	78
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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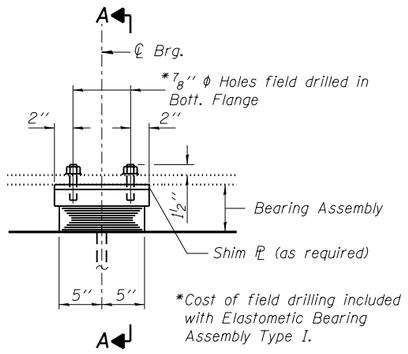
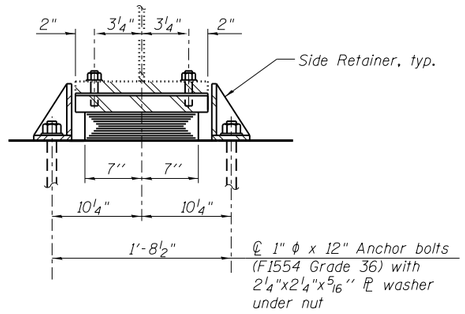
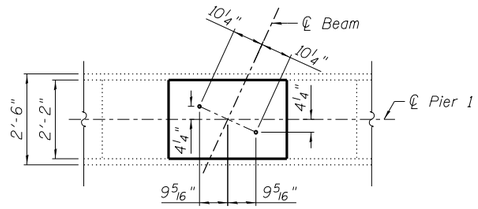


ELEVATION AT PIER 1



SECTION A-A

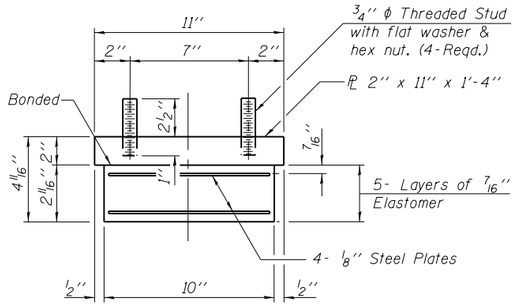


BEARING ANCHOR BOLT LAYOUT

(E.B. Bearings)

TYPE I ELASTOMERIC EXP. BRG.

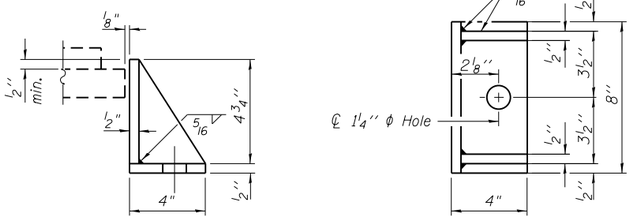
(E.B. Bearings)



BEARING ASSEMBLY

(E.B. Bearings 7 Thus)

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

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

Notes:

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

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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 elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	7
Anchor Bolts, 1"	Each	14

Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 North Cumberland Avenue
Chicago, Illinois 60656
Tel 773.775.4508
Fax 773.775.4014
Email:office@ciorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -
	CHECKED - MHT	REVISED -
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 BEARING DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-21 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	79
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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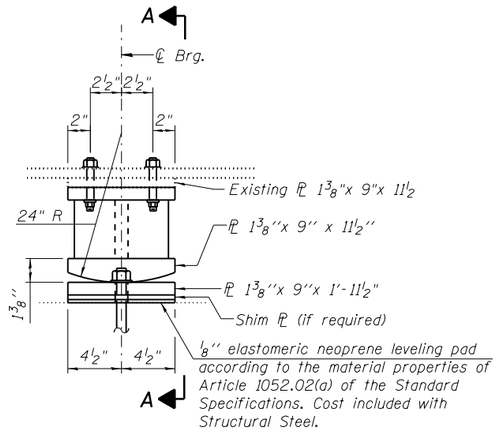
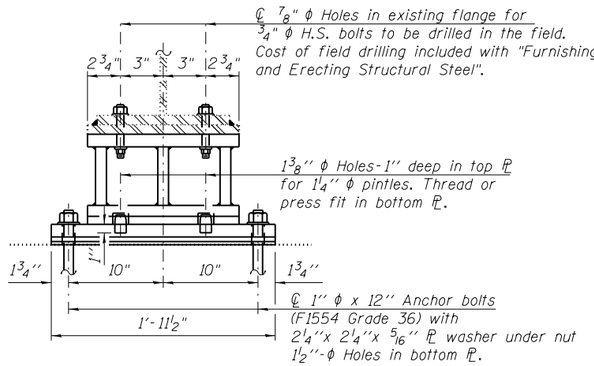
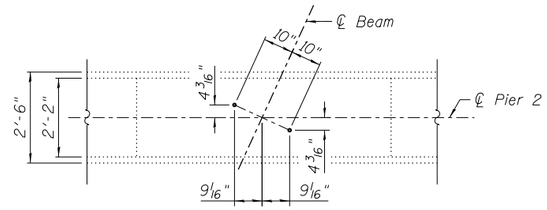


ELEVATION AT PIER 2



SECTION A-A

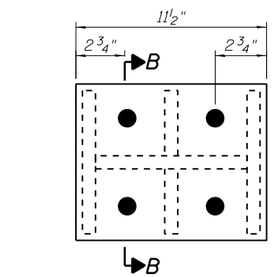


BEARING ANCHOR BOLT LAYOUT

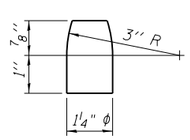
(E.B. Bearings)

FIXED BEARING

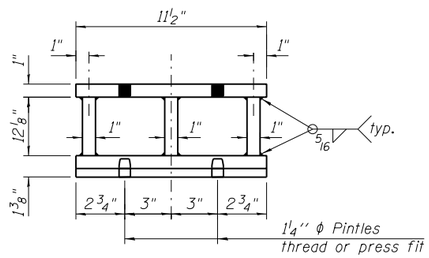
(E.B. Bearings - 7 Thus)



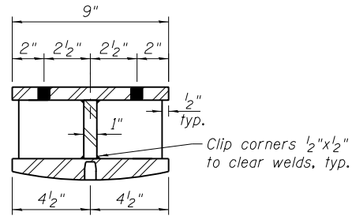
PLAN



PINTLE



ELEVATION



SECTION B-B

STEEL EXTENSIONS

(7 Thus)
Weight included with Structural Steel

Notes:

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

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

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

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	14
Furnishing and Erecting Structural Steel	Pound	1,830

Ciorba Group, Inc.
CONSULTING ENGINEERS
2007 North Cumberland Avenue
Suite 402 Chicago, Illinois 60656
Tel 773.775.4002
Fax 773.775.4007
Email dikcpg@ciorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -
	CHECKED - MHT	REVISED -
PLOT SCALE = 0:2.0000 ':' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 BEARING DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-22 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	80
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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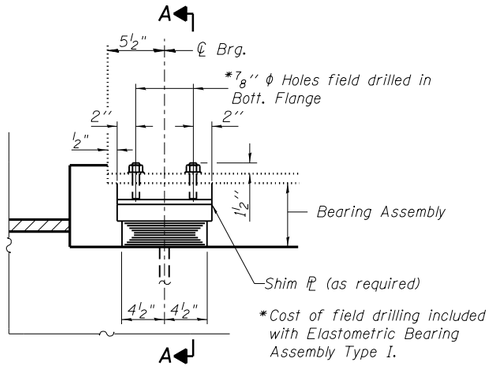
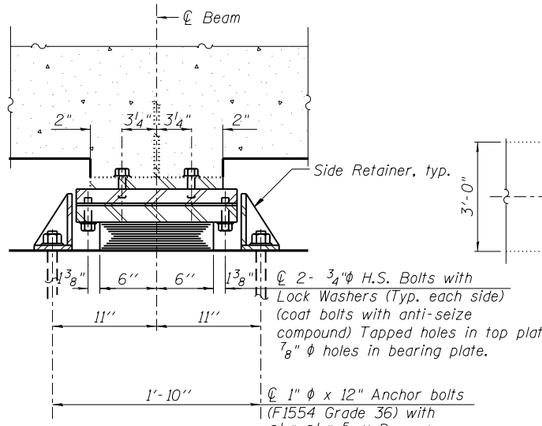


*Cost of field drilling included with Elastometric Bearing Assembly Type I.

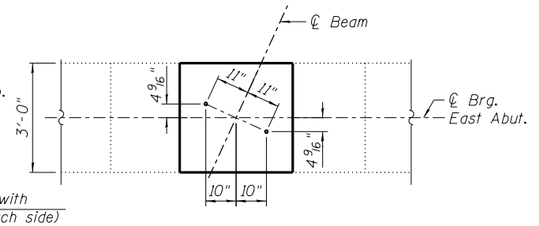
ELEVATION AT EAST ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.

(E.B. Bearings 7 Thus)

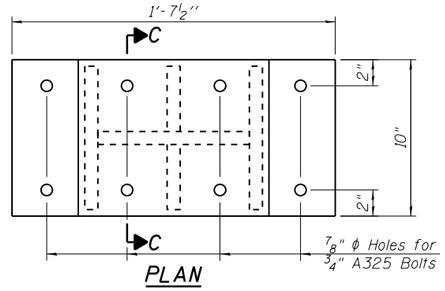


SECTION A-A

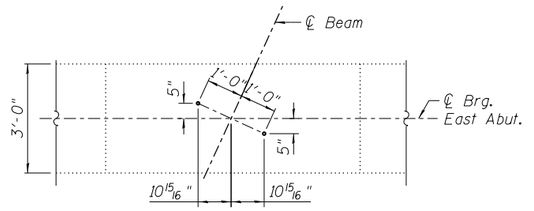


BEARING ANCHOR BOLT LAYOUT

(E.B. Bearings)

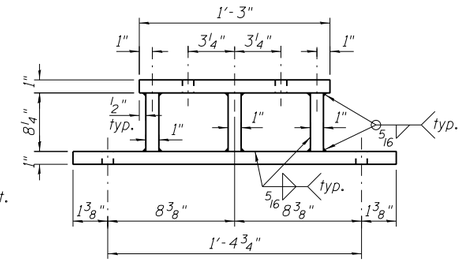


PLAN

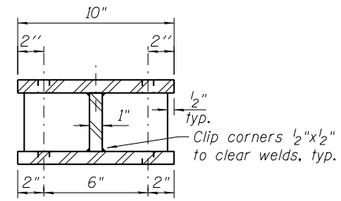


BEARING ANCHOR BOLT LAYOUT

(W.B. Bearings)



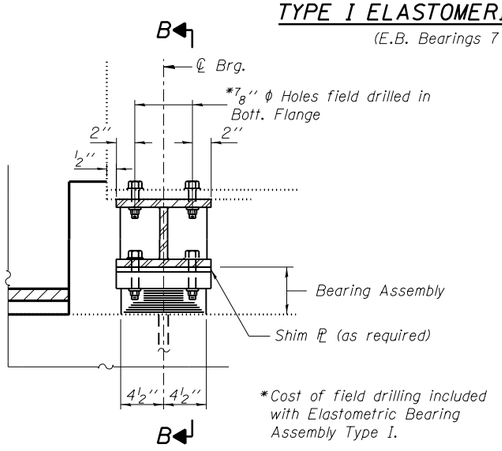
ELEVATION



SECTION C-C

STEEL EXTENSIONS

(7 Thus)
Weight included with Structural Steel

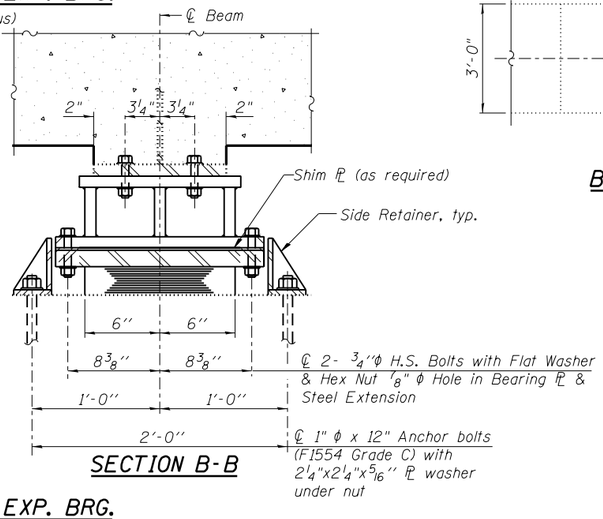


*Cost of field drilling included with Elastometric Bearing Assembly Type I.

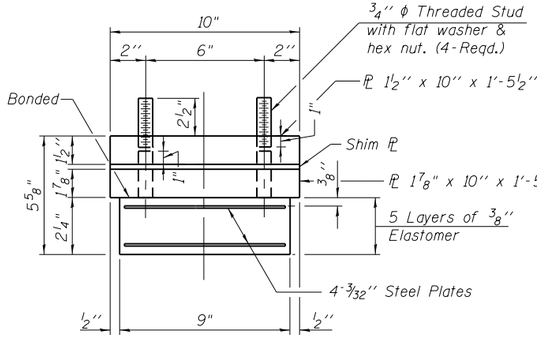
ELEVATION AT EAST ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.

(W.B. Bearings - 7 Thus)



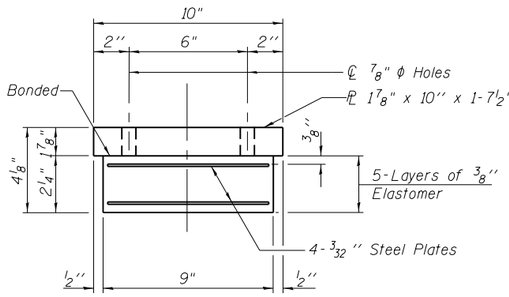
SECTION B-B



BEARING ASSEMBLY

(E.B. Bearings)

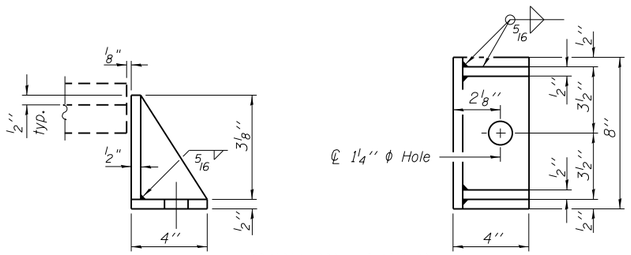
Note:
Shim plates shall not be placed under Bearing Assembly.



BEARING ASSEMBLY

(W.B. Bearings)

Note:
Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

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

Notes:

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

Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.

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 elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	14
Anchor Bolts, 1"	Each	28
Furnishing and Erecting Structural Steel	Pound	1,310

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT BEARING DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)

SHEET NO. S-23 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	81
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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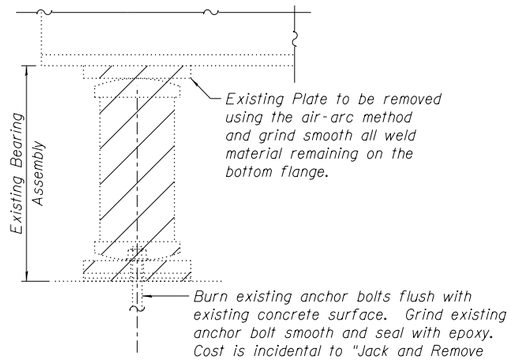
BEAM REACTION TABLE

		W. Abut.	Pier 1	Pier 2	E. Abut.
R ℄ *	(K)	1.4	5.0	5.2	1.5

* Reactions for dead load are for dead load of beam only.



EXISTING BEARING REMOVAL DETAIL

JACK & REMOVE EXISTING BEARING PROCEDURE

1. Removal of existing deck.
2. Jacking existing superstructure. Jack capacity provided should be between 50% and 100% greater than the maximum expected loading. For reaction table see above.
3. Remove bearings.
4. Jack existing beams to proposed position and complete construction.

JACKING EXISTING SUPERSTRUCTURE & REMOVING BEARING NOTES:

1. Jacking existing superstructure should be done after the existing deck is removed.
2. The Contractor shall submit plans for jacking the existing superstructure for approval by the Engineer prior to commencing any work with the bearings. The submittal shall be prepared and sealed by a Licensed Structural Engineer in Illinois.
3. It shall be the Contractor's responsibility to verify beam elevations before and after the beams are jacked.
4. The lifting of the structure should be controlled so that the relative elevation between adjacent beams does not vary more than $\frac{1}{4}$ inch from their original elevation differential.
5. The relative elevations at adjacent substructure units should not vary more than $\frac{3}{4}$ inch from the original relative elevations.
6. A synchronous lifting system should be used to control and equalize individual jack pressures to insure that the superstructure is lifted uniformly without exceeding the above stated relative elevation differentials.
7. The jack capacity provided should be between 50% and 100% greater than the maximum expected loading. For reaction table see above.
8. The diaphragms should not be used as load carrying members in the jacking and cribbing system.
9. When jacks are placed directly under a beam, the jack should be centered under the web and a steel plate should be placed between the top of the jack and the bottom flange of the beam. When web stiffeners bearing on the bottom flange do not exist directly over the location of the jack under a steel beam, hardwood timbers should be installed tightly between the top and bottom flange to prevent flange rotation. Steel stiffening angles should be attached to the web of the beam when the beam web thickness is not adequate to carry the jacking load. Steel plates should be placed under jacks bearing directly on the existing substructure to distribute the jacking load and prevent damage to the existing concrete.
10. Jacks should be placed in a manner and in locations that will ensure that the jacks will be equally loaded and the load will be uniformly distributed to the foundation of the jacking system.
11. The following maximum allowable pressures should be used to determine the area of the timber mats supporting jacking systems.

Supporting Material	Max. Allowable Pressure
Natural Ground (Unsaturated)	0.5 tons/sq. ft.
Conc. Slopewalls & Bit. Shoulders	1.0 tons/sq. ft.
Bituminous Pavements	2.0 tons/sq. ft.
Concrete Pavements	4.0 tons/sq. ft.

Notes:
Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	42
Jacking Existing Superstructure	L. Sum	1

N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 24 Bearing Removal.dgn

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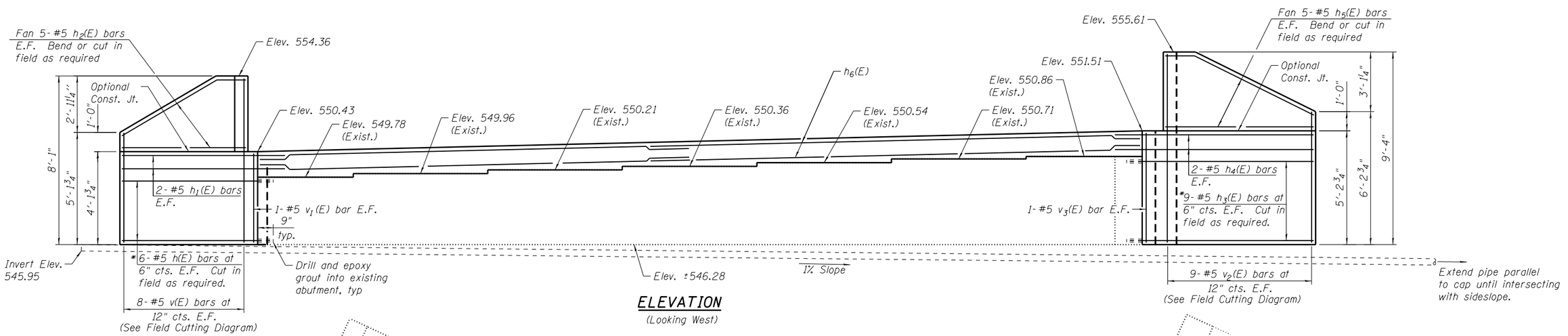
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

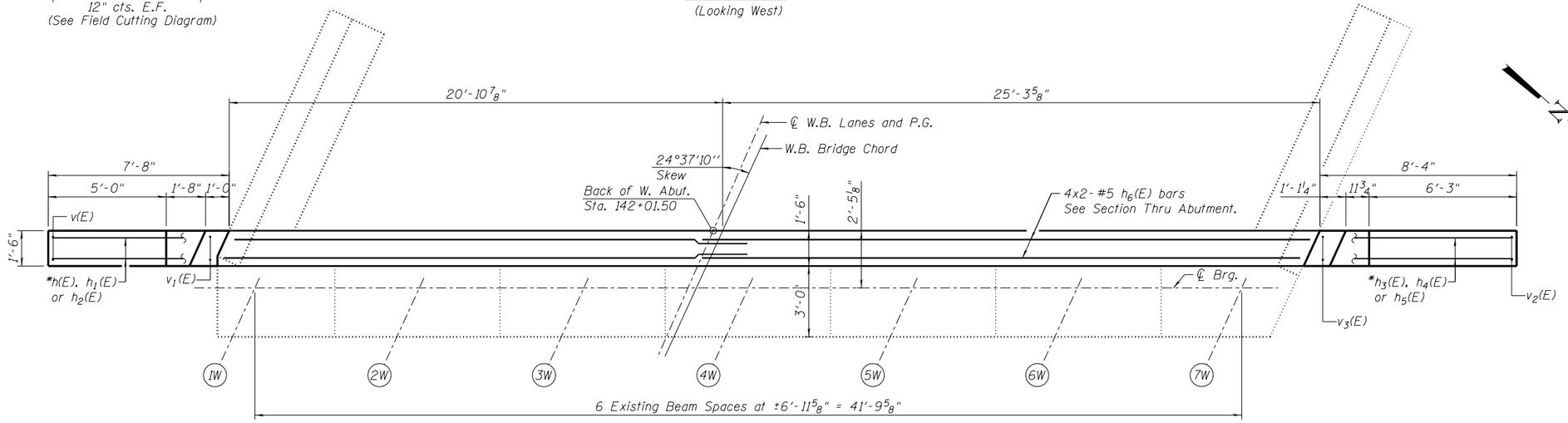
BEARING REMOVAL DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-24 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	82
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

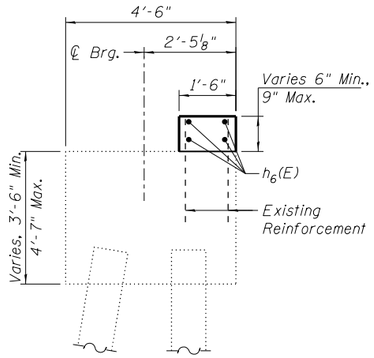


ELEVATION

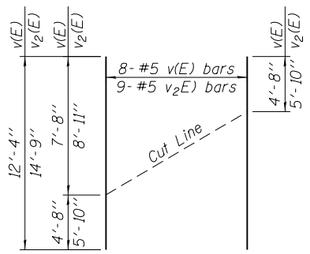
(Looking West)



PLAN



SECTION THRU ABUTMENT



FIELD CUTTING DIAGRAM

Order v(E) and v_2(E) bars full length. Cut to fit as shown and use remainder bars in other face.

* Epoxy grout h(E) and h_3(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

MINIMUM BAR LAP

#5 Bar = 3'-3"

NOTES

1. Space drilled holes in cap to miss existing reinforcement.
2. Bars indicated 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
3. See sheet S-2 for abutment drainage details.
4. E.F. denotes Each Face.
5. For anchor bolt layout see sheet S-20.
6. Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	12	# 5	8'-3"	——
h_1(E)	4	# 5	10'-9"	——
h_2(E)	10	# 5	7'-3"	——
h_3(E)	18	# 5	9'-7"	——
h_4(E)	4	# 5	12'-1"	——
h_5(E)	10	# 5	8'-6"	——
h_6(E)	8	# 5	24'-7"	——
v(E)	8	# 5	12'-4"	——
v_1(E)	2	# 5	3'-9"	——
v_2(E)	9	# 5	14'-9"	——
v_3(E)	2	# 5	4'-9"	——
Structure Excavation			Cu. Yd.	100
Concrete Structures			Cu. Yd.	8.5
Reinforcement Bars, Epoxy Coated			Pound	1,010
Geocomposite Wall Drain			Sq. Yd.	56
Porous Granular Embankment, Special			Cu. Yd.	96
Pipe Underdrains for Structures, 4"			Foot	67

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. WEST ABUTMENT DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-25 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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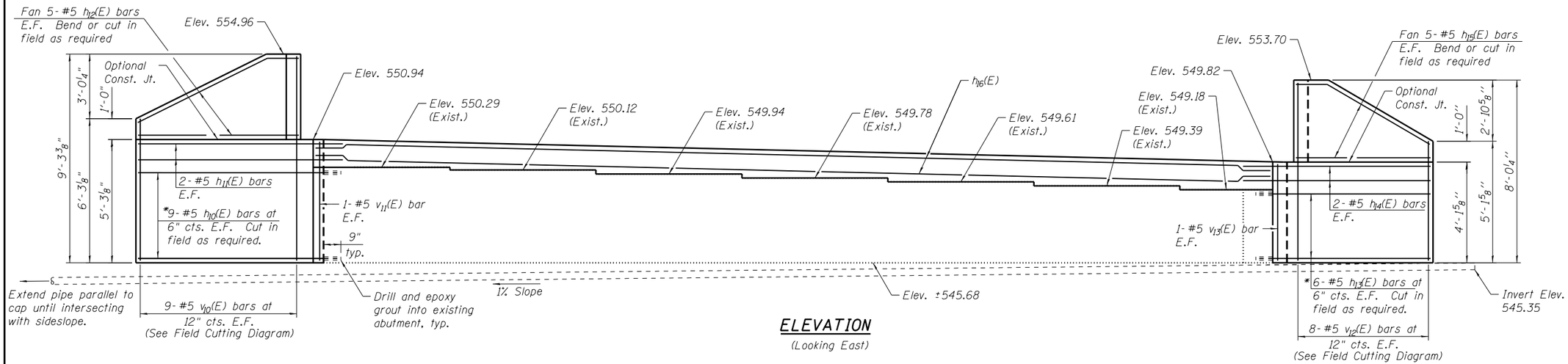
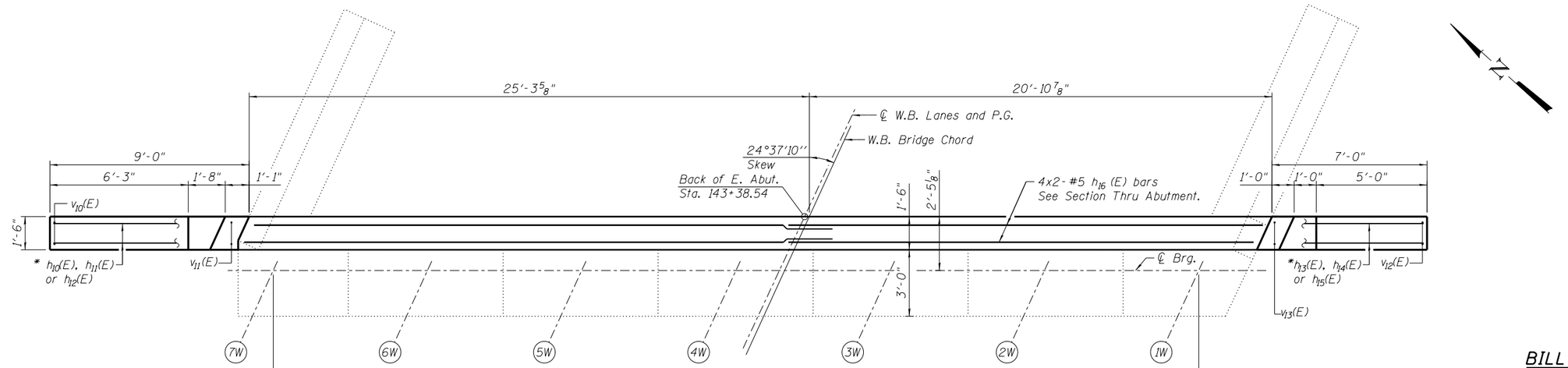
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

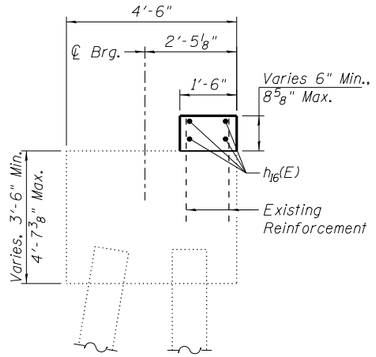


ELEVATION

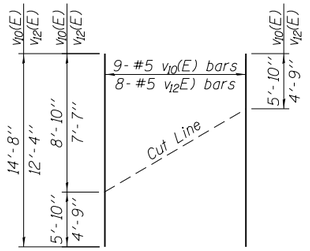
(Looking East)



PLAN



SECTION THRU ABUTMENT



FIELD CUTTING DIAGRAM

Order v_{10}(E) and v_{12}(E) bars full length. Cut to fit as shown and use remainder bars in other face.

* Epoxy grout h_{10}(E) and h_{13}(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

MINIMUM BAR LAP

#5 Bar = 3'-3"

NOTES

1. Space drilled holes in cap to miss existing reinforcement.
2. Bars indicated 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
3. See sheet S-2 for abutment drainage details.
4. E.F. denotes Each Face.
5. For anchor bolt layout see sheet S-23.
6. Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{10}(E)	18	# 5	9'-7"	——
h_{11}(E)	4	# 5	12'-1"	——
h_{12}(E)	10	# 5	8'-7"	——
h_{13}(E)	12	# 5	8'-3"	——
h_{14}(E)	4	# 5	10'-9"	——
h_{15}(E)	10	# 5	7'-6"	——
h_{16}(E)	8	# 5	24'-7"	——
v_{10}(E)	9	# 5	14'-8"	——
v_{11}(E)	2	# 5	4'-10"	——
v_{12}(E)	8	# 5	12'-4"	——
v_{13}(E)	2	# 5	3'-9"	——
Structure Excavation			Cu. Yd.	99
Concrete Structures			Cu. Yd.	8.3
Reinforcement Bars, Epoxy Coated			Pound	1,010
Geocomposite Wall Drain			Sq. Yd.	57
Porous Granular Embankment, Special			Cu. Yd.	95
Pipe Underdrains for Structures, 4"			Foot	67

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DEPARTMENT OF TRANSPORTATION

W.B. EAST ABUTMENT DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-26 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	84
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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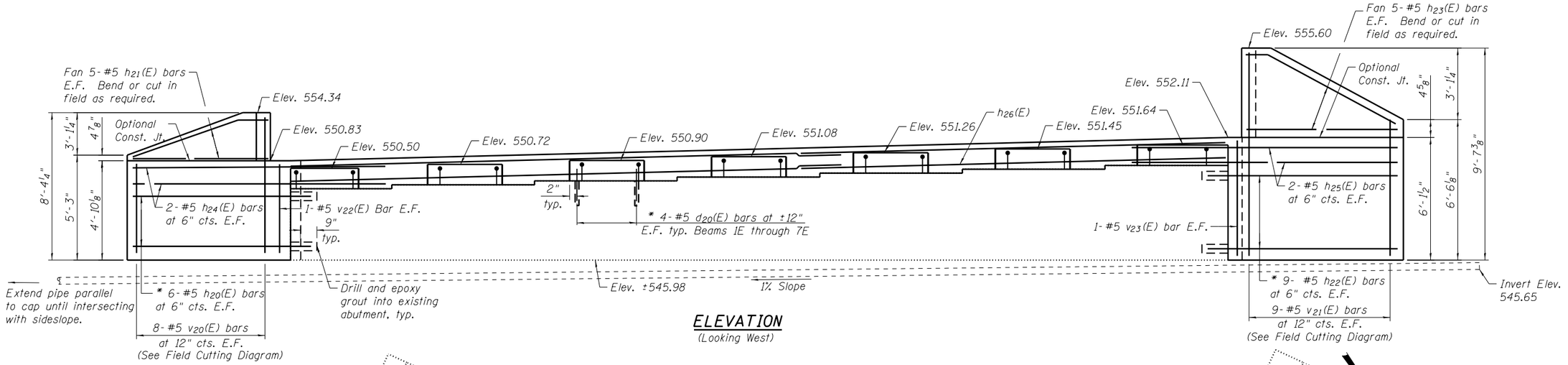
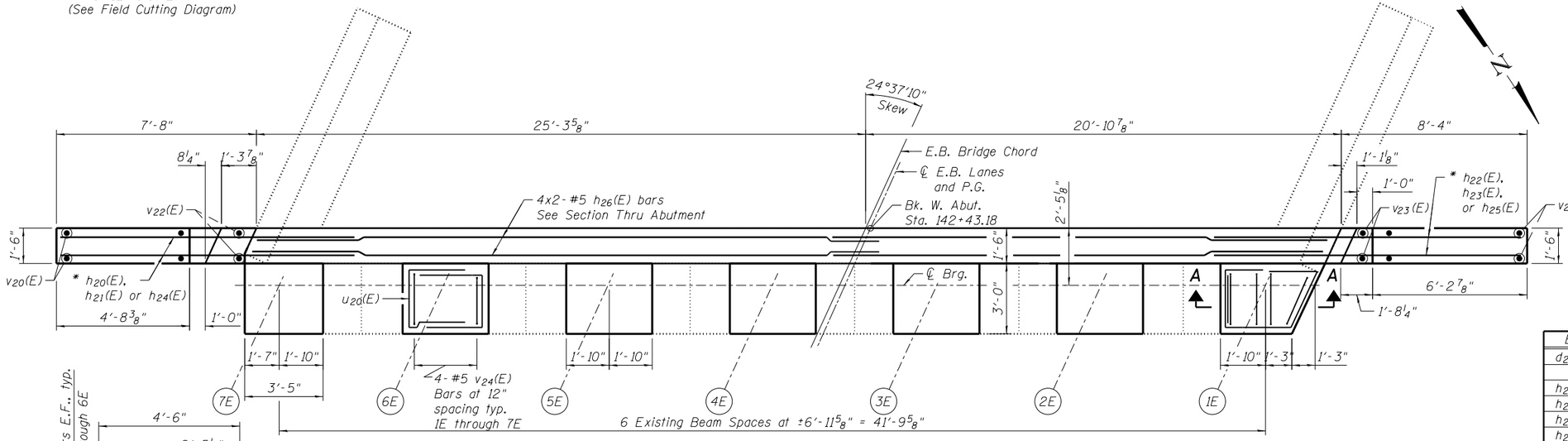
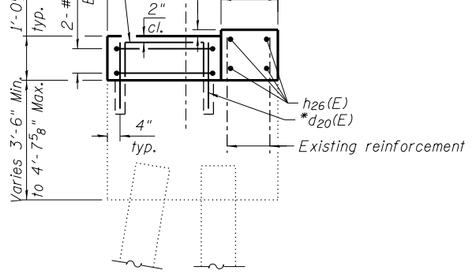


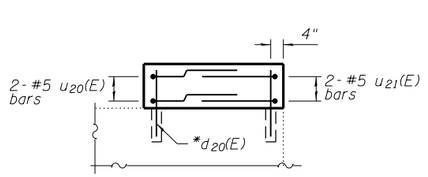
ELEVATION
(Looking West)



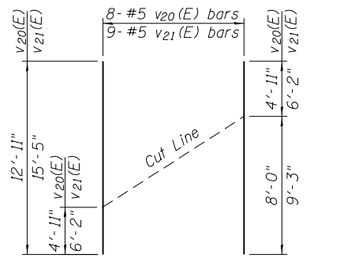
PLAN



SECTION THRU ABUTMENT



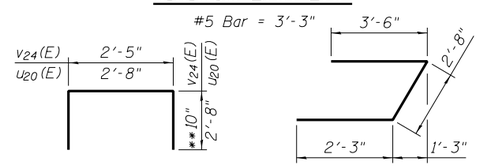
SECTION A-A



FIELD CUTTING DIAGRAM

Order v_{20}(E) and v_{21}(E) bars full length. Cut to fit as shown and use remainder bars in other face.

MINIMUM BAR LAP



Bar v_{24}(E) and u_{20}(E) **BAR u_{21}(E)**

** Cut legs in field if required to maintain clearances.

NOTES:

1. Space drilled holes in cap to miss existing reinforcement.
2. Bars indicated 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
3. See sheet S-2 for abutment drainage details.
4. E.F. denotes Each Face.
5. Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.
6. For anchor bolt layout see sheet S-20.

* Epoxy grout d_{20}(E), h_{20}(E) or h_{22}(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_{20}(E)	56	# 5	1'-6"	
h_{20}(E)	12	# 5	8'-3"	
h_{21}(E)	10	# 5	6'-9"	
h_{22}(E)	18	# 5	9'-7"	
h_{23}(E)	10	# 5	8'-2"	
h_{24}(E)	4	# 5	10'-9"	
h_{25}(E)	4	# 5	12'-1"	
h_{26}(E)	8	# 5	24'-4"	
u_{20}(E)	26	# 5	8'-0"	
u_{21}(E)	2	# 5	8'-5"	
v_{20}(E)	8	# 5	12'-11"	
v_{21}(E)	9	# 5	15'-5"	
v_{22}(E)	2	# 5	3'-10"	
v_{23}(E)	2	# 5	4'-11"	
v_{24}(E)	28	# 5	4'-1"	
Structure Excavation		Cu. Yd.	97	
Concrete Structures		Cu. Yd.	13.7	
Reinforcement Bars, Epoxy Coated		Pound	1,450	
Geocomposite Wall Drain		Sq. Yd.	59	
Porous Granular Embankment, Special		Cu. Yd.	103	
Pipe Underdrains for Structures, 4"		Foot	67	

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PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. WEST ABUTMENT DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-27 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	85
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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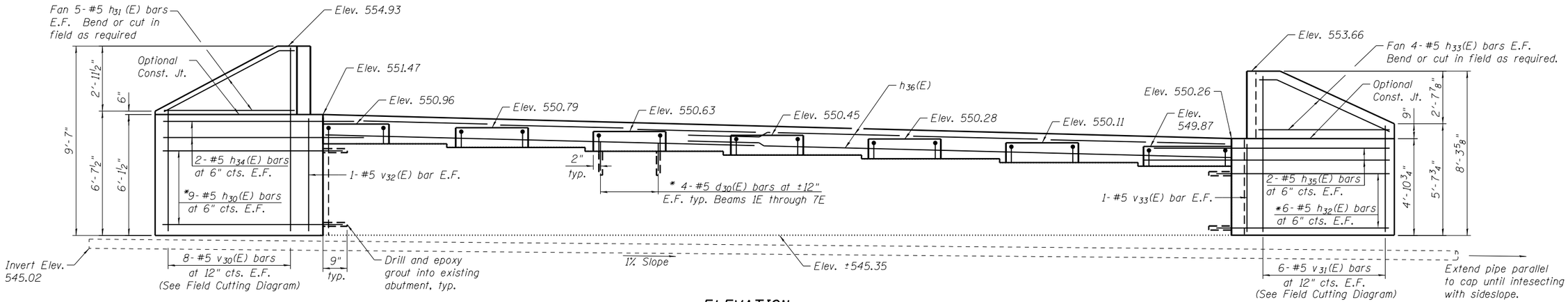
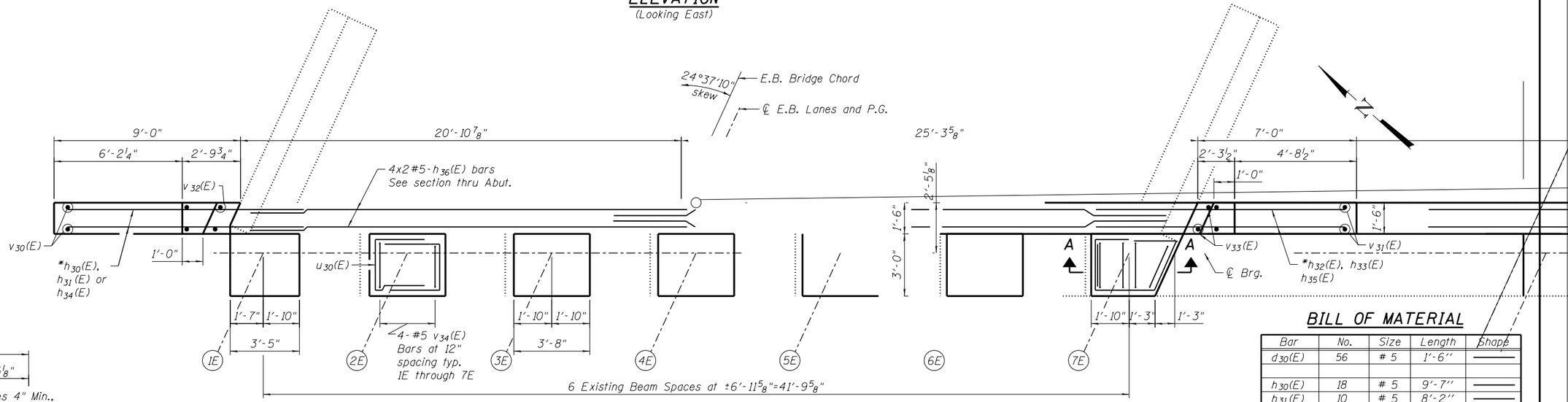
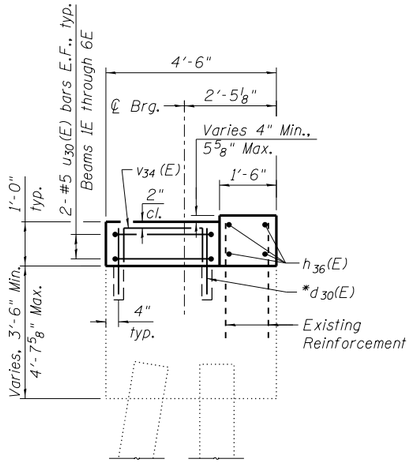


ELEVATION
(Looking East)

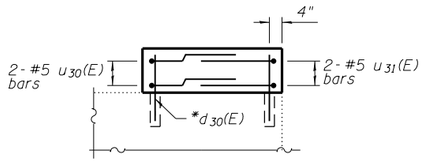


* Epoxy grout h_{30}(E), h_{32}(E), d_{30}(E) bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

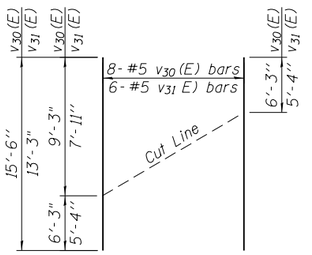
PLAN



SECTION THRU ABUTMENT



SECTION A-A

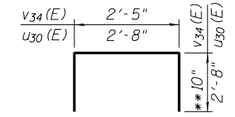


FIELD CUTTING DIAGRAM

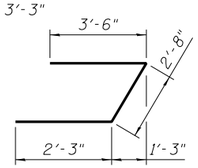
Order v_{30}(E) and v_{31}(E) bars full length. Cut to fit as shown and use remainder bars in other face.

MINIMUM BAR LAP

#5 Bar = 3'-3"



Bar v_{34}(E) and u_{30}(E)



BAR u_{31}(E)

** Cut legs in field if required to maintain clearances.

NOTES:

1. Space drilled holes in cap to miss existing reinforcement.
2. Bars indicated 1x2-#5 etc. indicates 1 line of bars with 2 lengths per line.
3. See sheet S-2 for abutment drainage details.
4. E.F. denotes Each Face.
5. Prior to ordering any material the Contractor shall verify in the field all bearing height and shim thickness dimensions.
6. For anchor bolt layout see sheet S-23.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d_{30}(E)	56	# 5	1'-6"	—
h_{30}(E)	18	# 5	9'-7"	—
h_{31}(E)	10	# 5	8'-2"	—
h_{32}(E)	12	# 5	8'-3"	—
h_{33}(E)	8	# 5	6'-8"	—
h_{34}(E)	4	# 5	12'-1"	—
h_{35}(E)	4	# 5	10'-9"	—
h_{36}(E)	8	# 5	24'-7"	—
u_{30}(E)	26	# 5	8'-0"	⊐
u_{31}(E)	2	# 5	8'-5"	⊐
v_{30}(E)	16	# 5	15'-6"	—
v_{31}(E)	12	# 5	13'-3"	—
v_{32}(E)	2	# 5	5'-9"	—
v_{33}(E)	2	# 5	4'-7"	—
v_{34}(E)	28	# 5	4'-1"	⊐
Structure Excavation			Cu. Yd.	97
Concrete Structures			Cu. Yd.	13.6
Reinforcement Bars, Epoxy Coated			Pound	1,620
Geocomposite Wall Drain			Sq. Yd.	59
Porous Granular Embankment, Special			Cu. Yd.	103
Pipe Underdrains for Structures, 4"			Foot	67

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USER NAME = RDanley	DESIGNED - BWS	REVISED -	
	CHECKED - MHT	REVISED -	
PLOT SCALE = 8ø '-' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

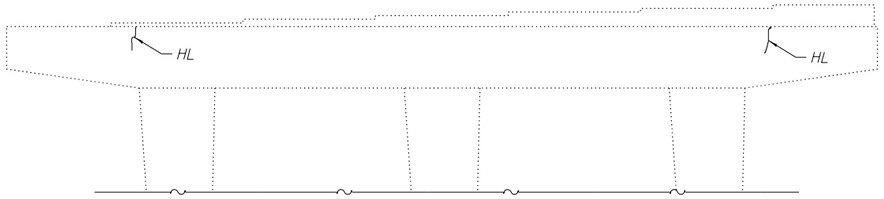
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. EAST ABUTMENT DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-28 OF S-34 SHEETS

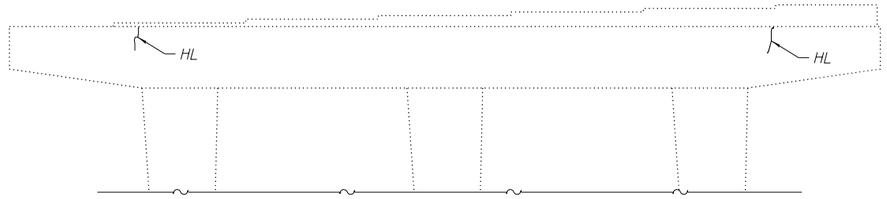
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	86
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

PIER 1 PLAN

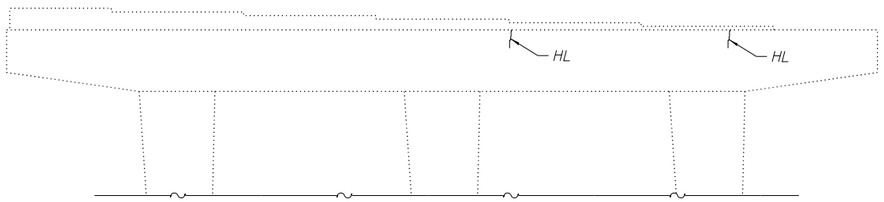
PIER 2 PLAN



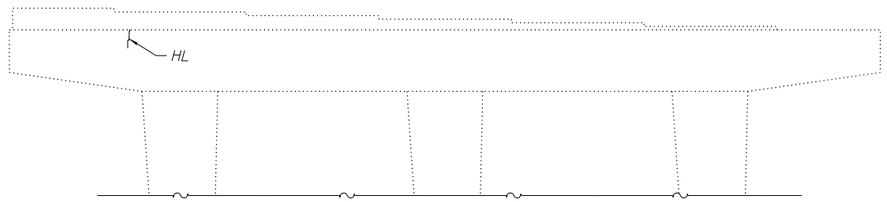
PIER 1 ELEVATION
(Looking West)



PIER 2 ELEVATION
(Looking West)



PIER 1 ELEVATION
(Looking East)



PIER 2 ELEVATION
(Looking East)

LEGEND

HL=Hairline Crack-No Repairs

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USER NAME = RDanley	DESIGNED - MHT	REVISED -
	CHECKED - BWS	REVISED -
PLOT SCALE = 8:0.0000 '' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

W.B. PIER REPAIR DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-29 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	87
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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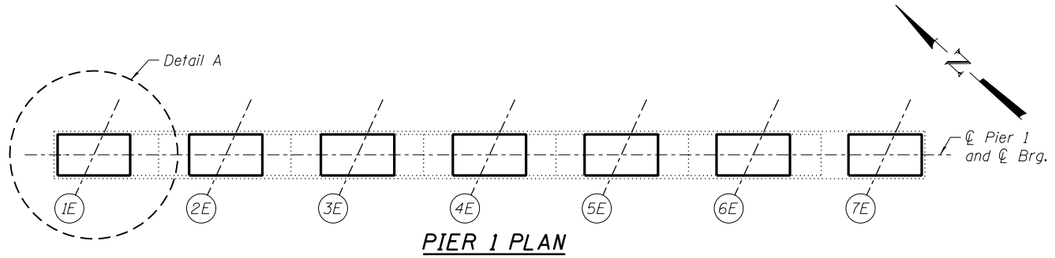
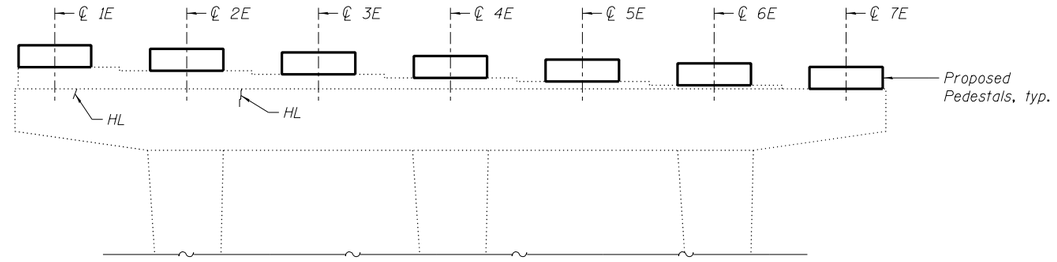
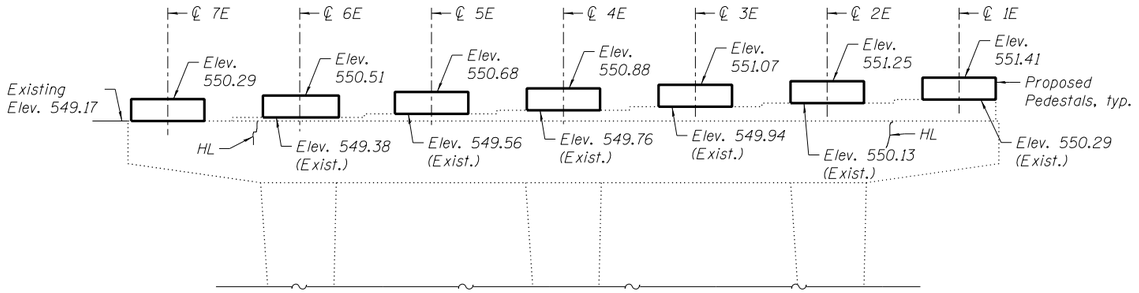


PIER 1 PLAN



PIER 1 ELEVATION

(Lookng East)



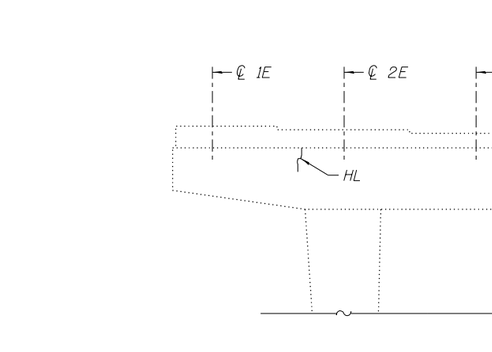
PIER 1 ELEVATION

(Lookng West)

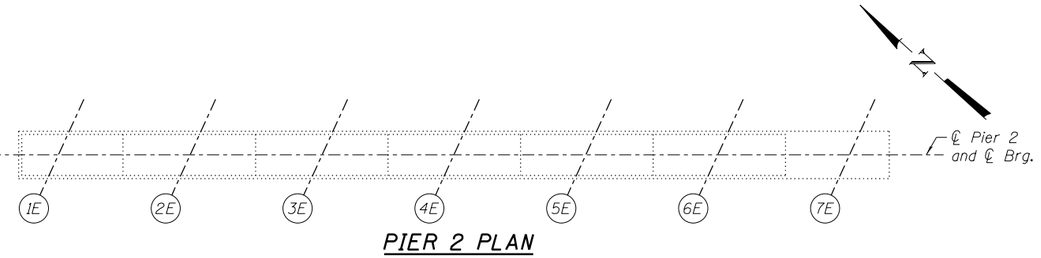
DETAIL A

* Epoxy grout $d_{40}(E)$ bars in 9" min. drilled holes according to Section 584 of the Standard Specifications.

SECTION A-A



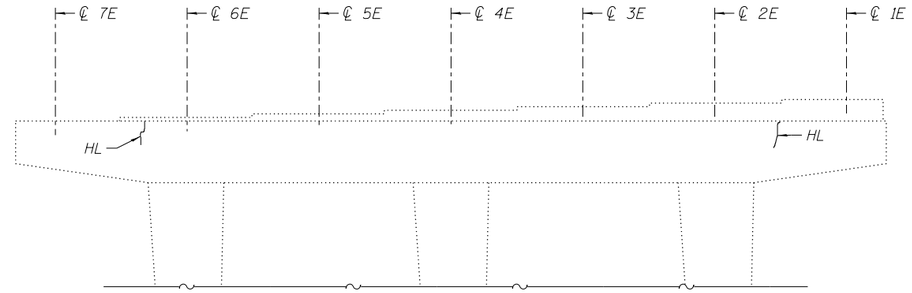
SECTION B-B



PIER 2 PLAN

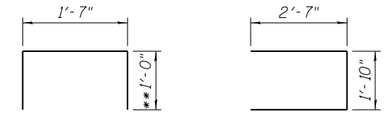
PIER 2 ELEVATION

(Lookng East)



PIER 2 ELEVATION

(Lookng West)



BAR $s_{40}(E)$

BAR $u_{40}(E)$

** Cut legs in field if required to maintain clearances.

NOTES:

1. Prior to ordering any material the contractor shall verify in the field all bearing height and shim thickness dimensions.
2. For anchor bolt layout see sheet S-21 & 22.

LEGEND

Structural Repair of Concrete (Depth equal to or less than 5")

HL - Hairline Crack - No Repairs

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$d_{40}(E)$	56	#5	1'-8"	
$s_{40}(E)$	28	#5	3'-7"	
$u_{40}(E)$	42	#5	7'-0"	
Concrete Structures			Cu. Yd.	2.5
Reinforcement Bars, Epoxy Coated			Pound	510
Structural Repair of Concrete (Depth equal to or less than 5")			Sq. Ft.	2

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USER NAME = RDanley	DESIGNED - MHT	REVISED -	
	CHECKED - BWS	REVISED -	
PLOT SCALE = 80 '/ in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - BWS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

E.B. PIER REPAIR DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-30 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	88
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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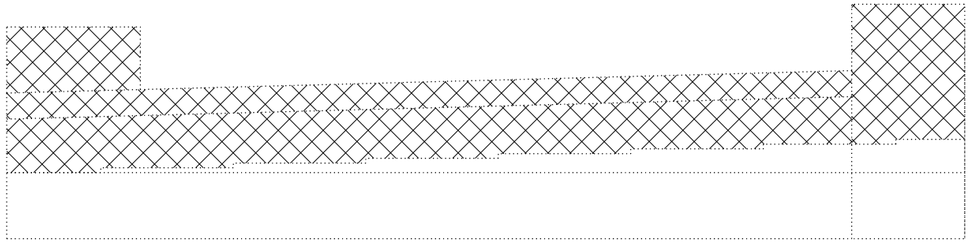

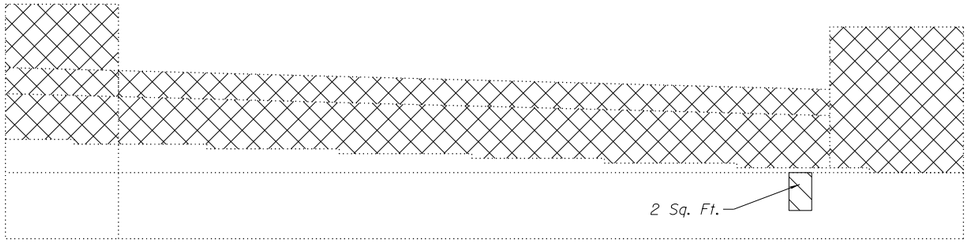

ELEVATION
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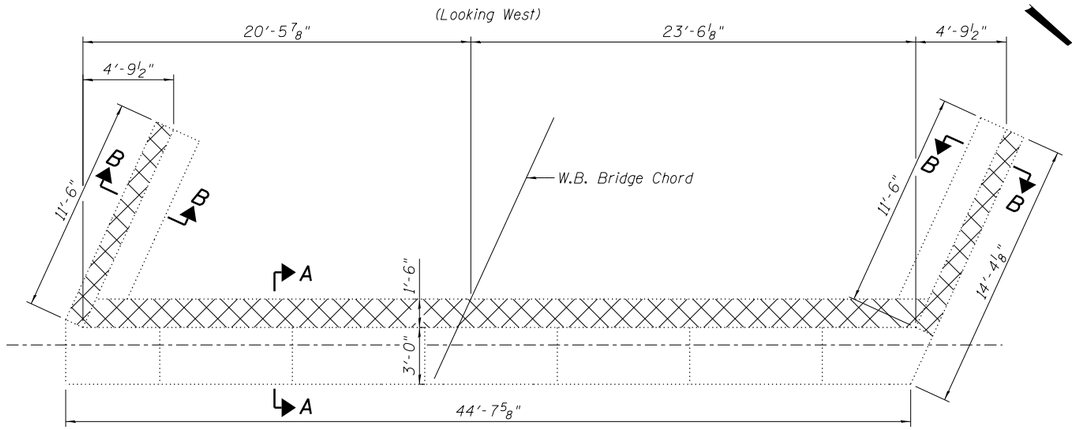
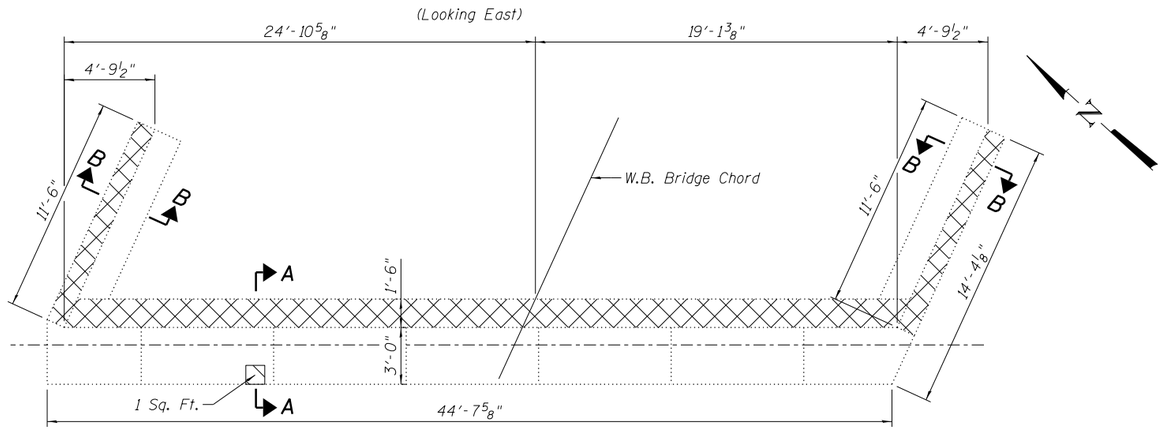
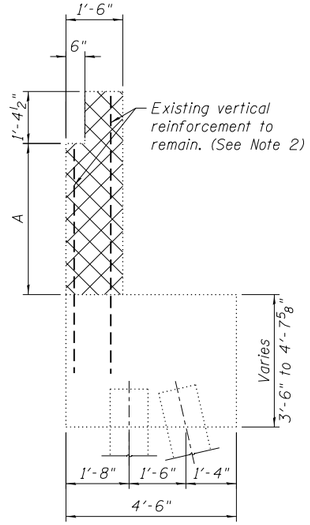


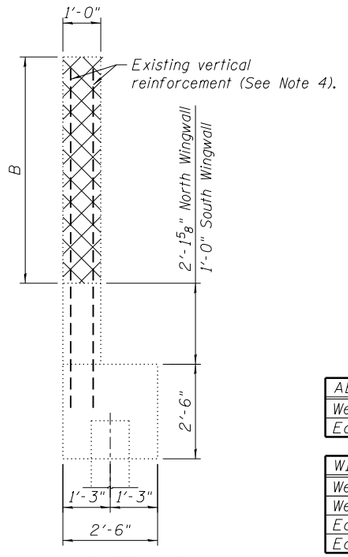
ELEVATION
(Looking East)



PLAN
WEST ABUTMENT



SECTION A-A



SECTION B-B

ABUTMENT BACKWALL	A
West Abutment	Varies 2'-9 7/8" to 3'-11 7/8"
East Abutment	Varies 2'-9 1/2" to 4'-0"

WINGWALL	B
West Abut. North Wingwall	7'-9 3/8"
West Abut. South Wingwall	7'-8 1/4"
East Abut. North Wingwall	7'-8 7/8"
East Abut. South Wingwall	7'-8"

PLAN
EAST ABUTMENT

NOTES:

1. Repairs of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
4. Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with Concrete Removal.

LEGEND

Concrete Removal

Structural Repair of Concrete (Depth equal to or less than 5")

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	3
Concrete Removal	Cu. Yd.	34.2

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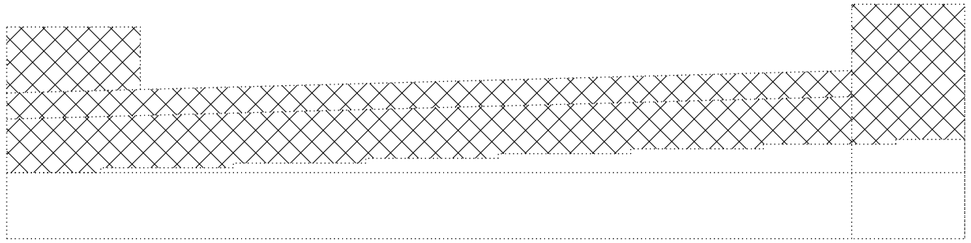
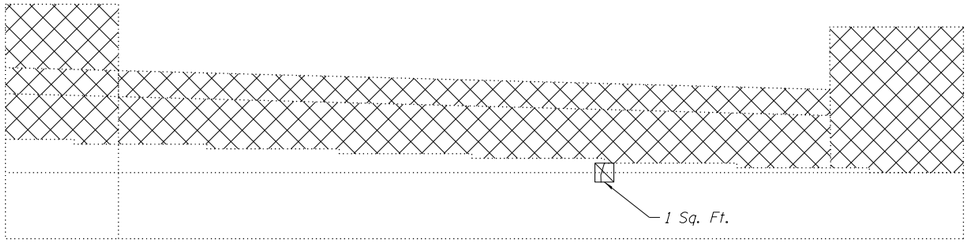
USER NAME = RDanley	DESIGNED - MHT	REVISED -	
	CHECKED - BWS	REVISED -	
PLOT SCALE = 8.0 '' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

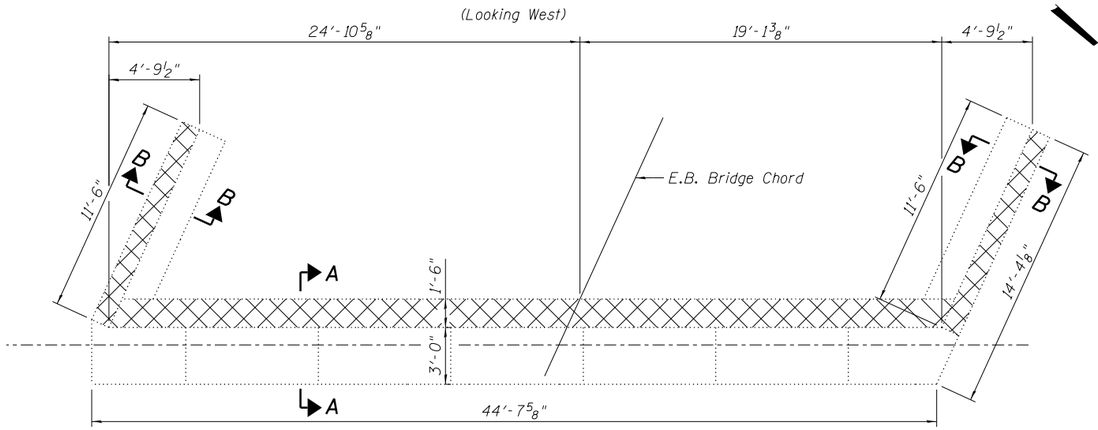
W.B. ABUTMENT REMOVAL AND REPAIRS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-31 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	89
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

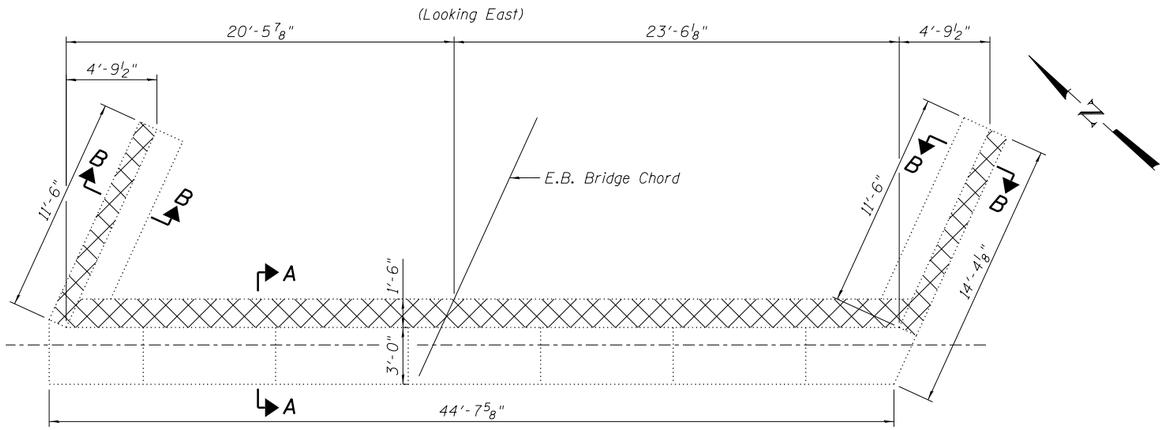




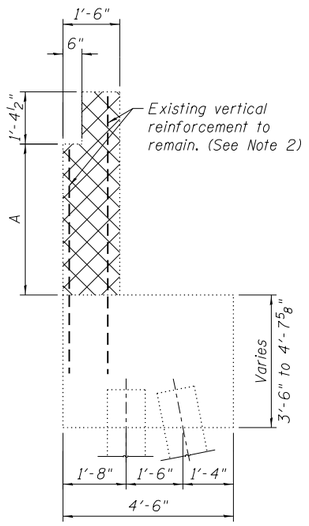
ELEVATION
(Looking West)



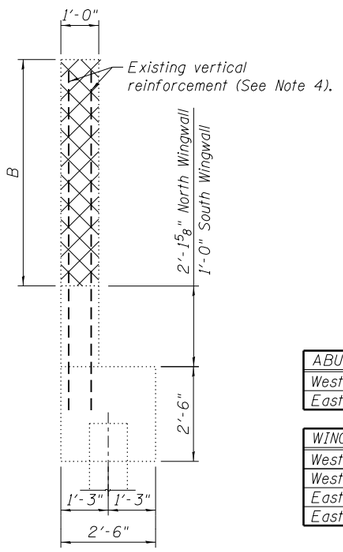
ELEVATION
(Looking East)



PLAN
WEST ABUTMENT



SECTION A-A



SECTION B-B

ABUTMENT BACKWALL	A
West Abutment	Varies 2'-9 7/8" to 4'-0 1/8"
East Abutment	Varies 2'-9 1/2" to 3'-11 7/8"

WINGWALL	B
West Abut. North Wingwall	7'-9 1/8"
West Abut. South Wingwall	7'-8 1/4"
East Abut. North Wingwall	7'-8 3/4"
East Abut. South Wingwall	7'-8"

PLAN
EAST ABUTMENT

NOTES:

1. Repairs of the existing abutments shall include but may not be limited to the areas shown. The actual areas to be repaired will be determined by the Engineer at the time of construction.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
3. Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.
4. Existing reinforcement not extending into new construction shall be cut off and covered with a 2" layer of cement grout. Cost shall be included with Concrete Removal.

LEGEND

Concrete Removal

Structural Repair of Concrete (Depth equal to or less than 5")

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth equal to or less than 5")	Sq. Ft.	1
Concrete Removal	Cu. Yd.	34.3

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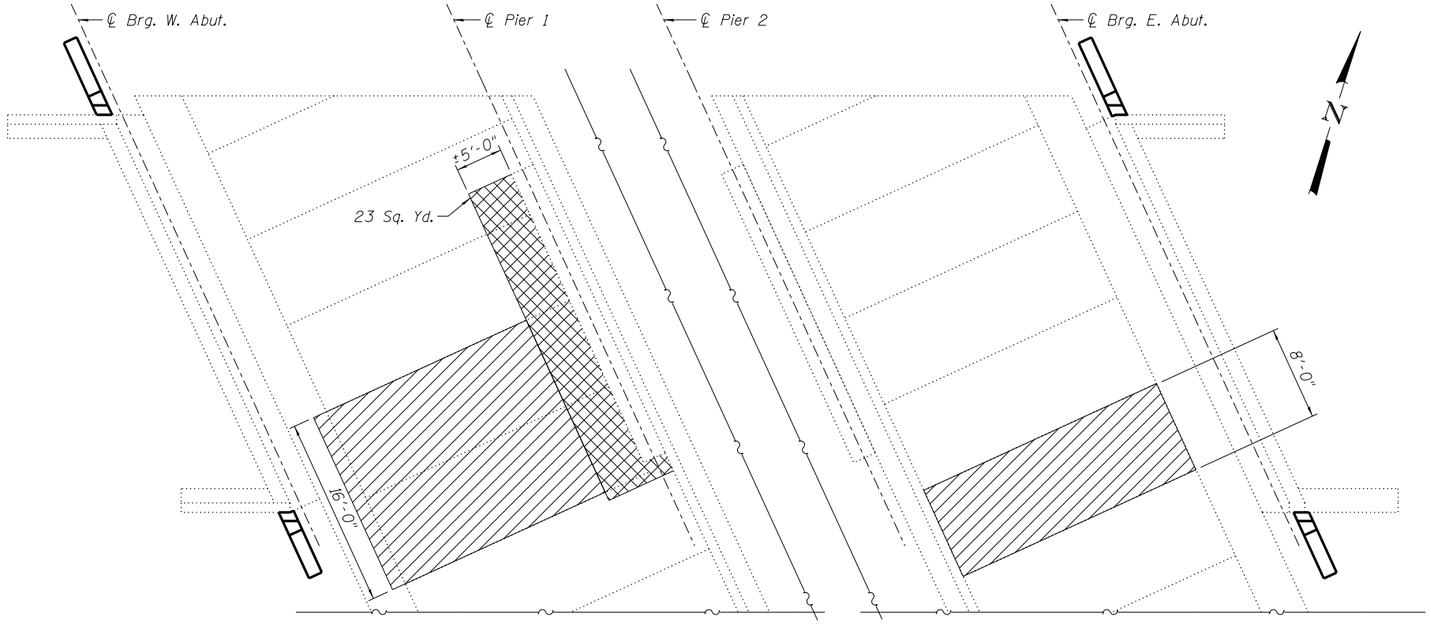
USER NAME = RDanley	DESIGNED - MHT	REVISED -	
	CHECKED - BWS	REVISED -	
PLOT SCALE = 8.0 ' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - MHT	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

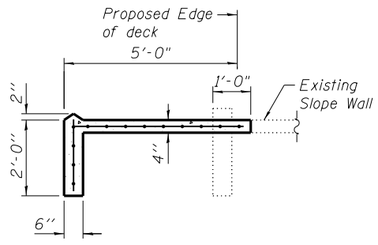
E.B. ABUTMENT REMOVAL AND REPAIRS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-32 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	90
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

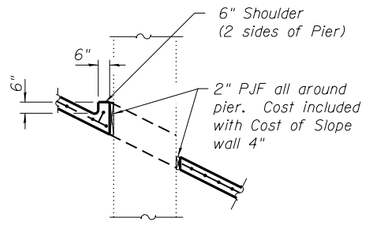
N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 32 Removal Details-2.dgn



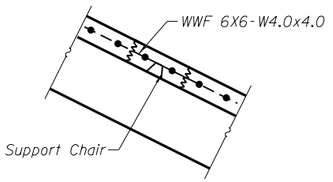
W.B. SLOPE WALL REPAIR PLAN



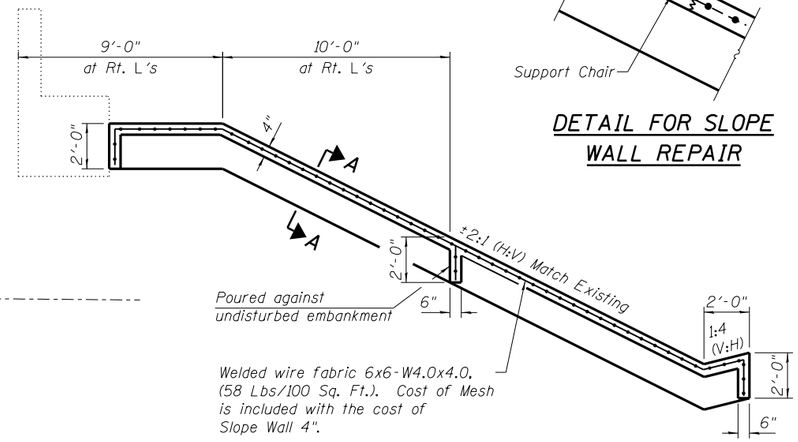
SECTION A-A



SECTION B-B

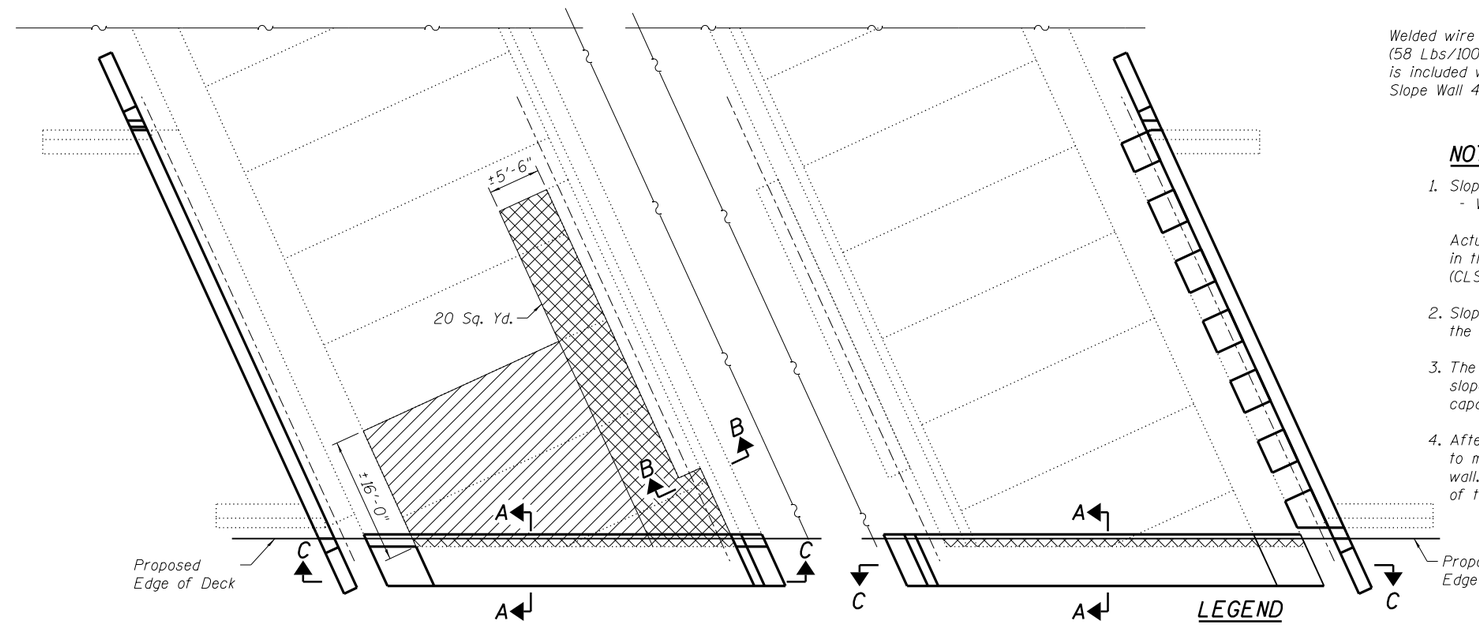


DETAIL FOR SLOPE WALL REPAIR



SECTION C-C

℄ F.A.I. 70



E.B. SLOPE WALL REPAIR PLAN

LEGEND

- Estimated area of Slope Wall Slurry Pumping
- Slope Wall Removal and Slope Wall 4"

NOTES:

1. Slope Wall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0xW4.0, weighing 58 lbs. per 100 sq. ft.

   Actual quantity of slope wall removal and reconstruction will be determined in the field by the Engineer. Volume of Controlled Low-Strength Material (CLSM) will also be determined in the field.

2. Slope Wall Slurry Pumping shall be completed in conformance with the Special Provision "Slope Wall Slurry Pumping".

3. The Contractor shall proceed with caution in all operations around the slope wall panels for which Slurry Pumping is indicated. The slope wall capacity may be limited due to undermining.

4. After the CLSM has set, the welded wire fabric shall be supported to maintain its profile 2" below the finished elevation of the slope wall. Then the slope wall shall be cast according to the requirements of the Standard Specifications Section 511.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Slope Wall Slurry Pumping	Cu. Yd.	57
Slope Wall Removal	Sq. Yd.	55
Slope Wall 4"	Sq. Yd.	108

N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 33 Slopewall Details.dgn

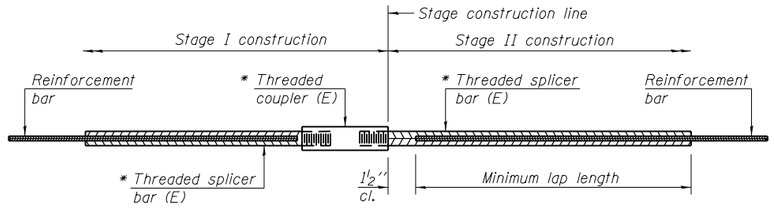
Clorba Group, Inc.
CONSULTING ENGINEERS
5027 North Cumberland Avenue
Suite 402 Chicago, Illinois 60656
Tel. 773.775.4605
Fax 773.775.4614
Email dl4cago@clorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -	
	CHECKED - DL	REVISED -	
PLOT SCALE = 16.000022 ' / in.	DRAWN - RD	REVISED -	
PLOT DATE = 8/14/2012	CHECKED - DL	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL REPAIR DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-33 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	91
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

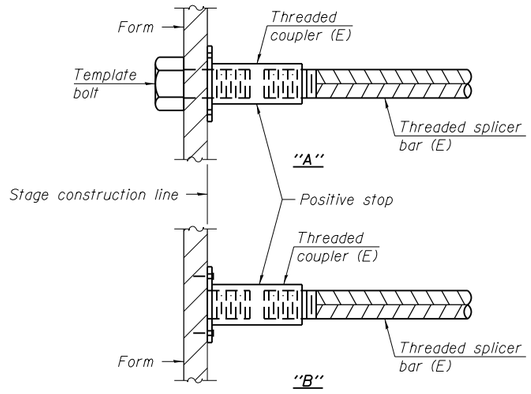
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

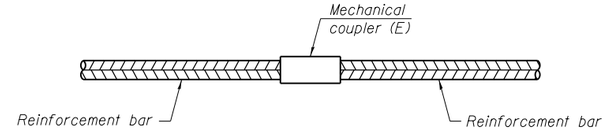
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



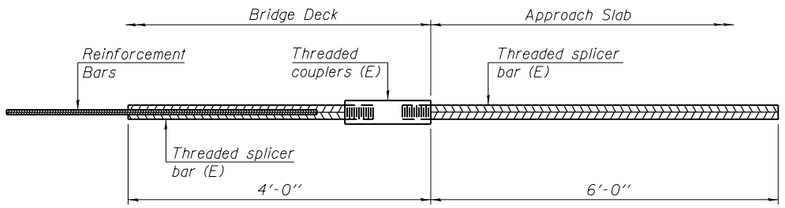
INSTALLATION AND SETTING METHODS

"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.



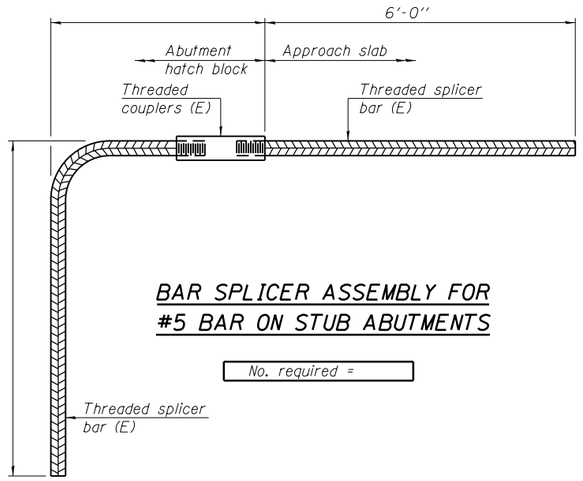
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 180



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

7-1-10

Ciorba Group, Inc.
CONSULTING ENGINEERS
2007 North Cumberland Avenue
Suite 402 Chicago, Illinois 60656
Tel. 773.775.4005
Fax. 773.775.4007
Email dlhagin@ciorba.com

USER NAME = RDanley	DESIGNED - BWS	REVISED -
	CHECKED - MHT	REVISED -
PLOT SCALE = 16:0.0003 '1' / in.	DRAWN - RD	REVISED -
PLOT DATE = 8/14/2012	CHECKED - BWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
SN 018-0047 (W.B.) & 018-0048 (E.B.)
SHEET NO. S-34 OF S-34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47B, 18-47HB)BR	CUMBERLAND	147	92
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

N:\PROJ\0003377.00\0003377.07\Design\Structural\CAD\018-0047 & 018-0048-74466 34 Bar Splicer Details.dgn

Bench Mark: Chiseled square on the S.W. wingwall on the W.B. Structure over the Embarras River. Elevation = 548.30.

Existing Structure: S.N. 018-0049 (Westbound) and 018-0050 (Eastbound) built in 1969 as F.A.I. Rt. 70 Section 18-47B at Station 158+31.00. The superstructure consists of two continuous steel beam units four spans each with a reinforced concrete deck slab. All substructure units are supported on steel H-piling with the exception of piers 3, 4, and 5 which are founded on rock. The substructure consists of open abutments with concrete slopewalls, and solid wall piers. The structure length measures 670'-0" bk-to-bk of abutments and 36'-0" out-to-out of deck with no skew. Spans 1, 4, 5, & 8 are 72'-8" and spans 2, 3, 6, and 7 are 93'-2".

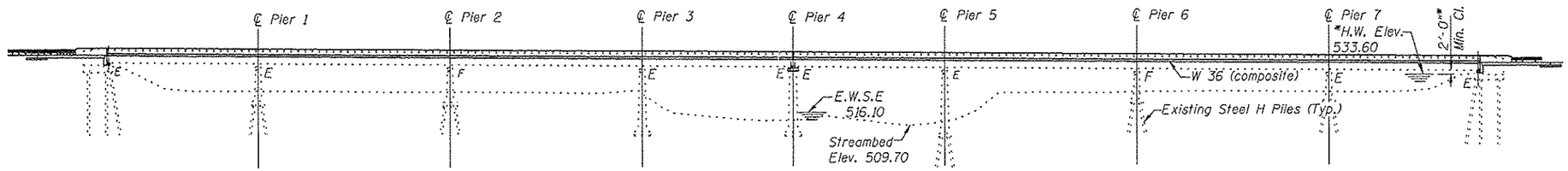
Traffic to be maintained using staged detours.

No Salvage

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	E. Abut.
	536.84	520.48	519.66	505.30	504.84	503.98	520.16	519.30	530.94

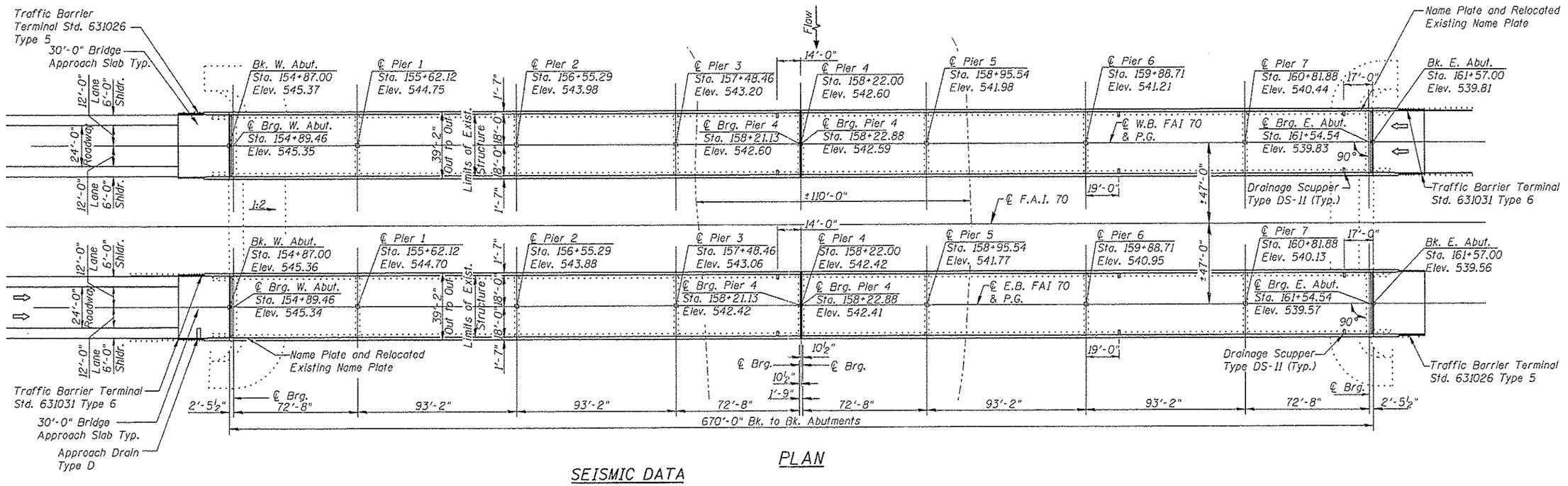
Scour Elevations provided are the bottom of abutment and pier elevations from the existing bridge plans.



ELEVATION

*High Water Elevation from existing bridge plans.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PLAN

SEISMIC DATA

Seismic Performance Category (SPC)=A
Bedrock acceleration coefficient (A) = 0.067
Site Coefficient (S) = 1.0

LOADING HS20-44 & ALT.

Allow 25#/sq. ft. for future wearing surface.

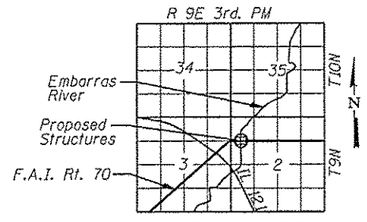
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications
Guide Specifications for Fatigue Evaluation of Existing Steel Bridges 1990

DESIGN STRESSES

FIELD UNITS (NEW CONSTRUCTION)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

FIELD UNITS (EXIST. CONSTRUCTION)
fy = 36,000 psi (Structural Steel)
f'c = 3,500 psi (Substructure)
fy = 40,000 psi (Reinforcement)



LOCATION SKETCH

PETER B. BAYLES 081-006042 LICENSED STRUCTURAL ENGINEER ILLINOIS

Peter B. Bayles, P.E., S.E.
Structural Engineer License No. 081-006042
Expiration Date: 11/30/2012

GENERAL PLAN
F.A.I. 70
OVER EMBARRAS RIVER
SEC. (18-47B, 18-47HB)BR
CUMBERLAND COUNTY
STATION 158+31.00
STRUCTURE NO. 018-0049 & 0050

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

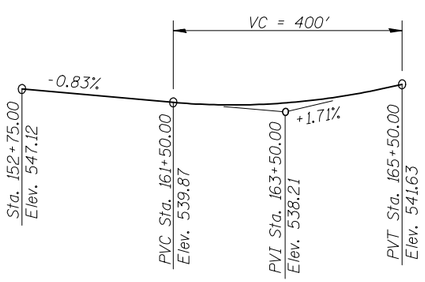
GENERAL PLAN AND ELEVATION
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 1 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VBIK (18-47B, 18-47HB)BR	CUMBERLAND	147	93
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

INDEX OF SHEETS

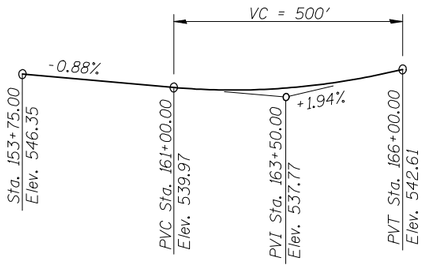
SCOPE OF WORK

-Repair spalls and delaminations on piers and abutments using formed concrete repair.
-Remove existing concrete deck, approach slabs and abutment backwalls.
-Install new back walls at abutments, diaphragms at abutments and at Pier 4, bearings at abutments and at Pier 4, steel extensions at abutments and concrete pedestals at Pier 4.
-Repair existing bolted and welded diaphragm connections at all interior diaphragms as shown.
-Retro fit top cover plates.
-Construct new deck, approach slabs and install expansion joints.



PROFILE GRADE F.A.I. RTE. 70 W.B.

Along ℄ Roadway



PROFILE GRADE F.A.I. RTE. 70 E.B.

Along ℄ Roadway

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $^{3}/_{4}$in.ϕ, open holes $^{13}/_{16}$ in.ϕ, unless otherwise noted.

Calculated Weight of Structural Steel = 125,955 lb

Calculated Weight of Structural Steel Removal = 15,317 lb

The Contractor shall test the existing welds by non-destructive methods within 2 ft of the end of the existing cover plates for cracks after removal of the existing concrete deck. Dye penetrant (PT), magnetic particle (MT), or other approved testing method shall be performed by qualified personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for disposition. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid for according to Article 109.04 of the Standard Specifications.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories not including shear studs welded to the top flange of beams shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer. Any cracks that can not be removed by grinding $^{1}/_{4}$in. deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Concrete Sealer shall be applied to the designated areas of the abutment hatched block and backwalls and pier cap pedestals.

Cleaning and field painting of structural steel shall be done under a separate painting contract.

Slopewall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

Slipforming of parapets is not allowed.

The existing deck overlay contains asbestos. The Contractor shall take appropriate precautions to deal with the presence of asbestos on this project.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel shall only be cleaned and painted as required by the Special Provision for "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

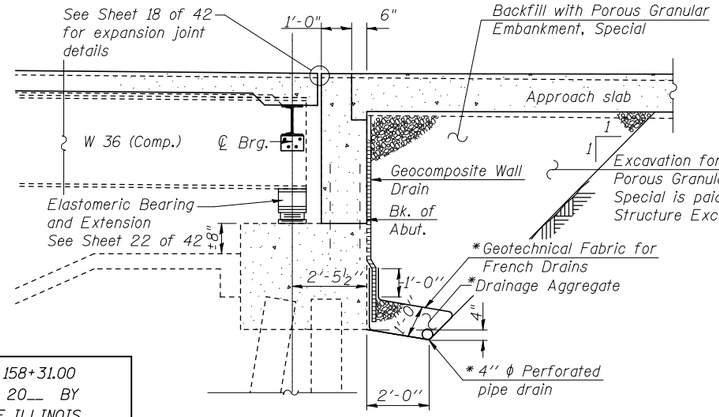
All new structural steel shall be shop painted with an inorganic zinc rich primer per AASHTO M 300, Type 1.

Bearing seat surfaces at Pier 4 shall be constructed or adjusted to the designated elevations within a tolerance of $^{1}/_{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Porous Granular Embankment, Special	Cu. Yd.	238		238
	Concrete Removal	Cu. Yd.		59.3	59.3
	Slope Wall Removal	Sq. Yd.	27		27
	Removal of Existing Concrete Deck No. 3	Each	1		1
	Removal of Existing Concrete Deck No. 4	Each	1		1
	Structure Excavation	Cu. Yd.		255	255
	Concrete Structures	Cu. Yd.		98.1	98.1
	Concrete Superstructure	Cu. Yd.	2047.3		2047.3
*	Bridge Deck Grooving	Sq. Yd.	5489		5489
*	Protective Coat	Sq. Yd.	13981		13981
	Furnishing and Erecting Structural Steel	L. Sum	1		1
	Stud Shear Connectors	Each	16848		16848
	Reinforcement Bars, Epoxy Coated	Pound	450980	6140	457120
	Bar Splicers	Each	156		156
	Slope Wall 6"	Sq. Yd.	27		27
	Name Plates	Each	2		2
	Preformed Joint Strip Seal	Foot	152		152
	Elastomeric Bearing Assembly, Type II	Each		48	48
	Anchor Bolts, $^{5}/_{8}$"	Each		192	192
	Concrete Sealer	Sq. Ft.		1359	1359
	Geocomposite Wall Drain	Sq. Yd.	115		115
	Jack and Remove Existing Bearings	Each		24	24
	Structural Steel Removal	L. Sum	1		1
	Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq. Ft.		456	456
	Structural Repair of Concrete (Depth Greater than 5 Inches)	Sq. Ft.		7	7
	Drainage Scuppers, DS-11	Each	12		12
	Modular Expansion Joint 6"	Foot	76		76
	Pipe Underdrains for Structures, 4"	Foot	215		215
	Pipe Drains, 4"	Foot		540	540
	Jacking and Cribbing	Each		24	24

*Includes approach slabs



SECTION THRU ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

Note:
All drainage system components shall run under the wingwall footings and shall extend to 2'-0" from the face of each wingwall except an outlet pipe shall connect with a 4" pipe drain. The pipe drain shall extend to the toe of slope where it shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

STATION 158+31.00
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. (18-47B, 18-47HB)BR
LOADING HS20-44 & ALT.
STR. NO. 018-0049

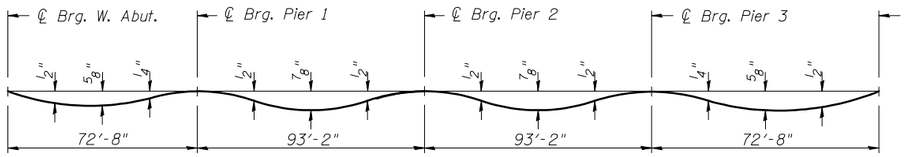
STATION 158+31.00
REBUILT 20__ BY
STATE OF ILLINOIS
F.A.I. 70 SEC. (18-47B, 18-47HB)BR
LOADING HS20-44 & ALT.
STR. NO. 018-0050

NAME PLATES

See Std. 515001
Existing Name Plates to be cleaned and relocated next to new Name Plates.
Cost included with Name Plates.

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

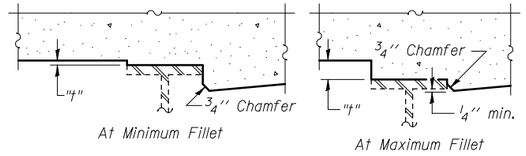
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES AND BILL OF MATERIAL STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	94
	PLOT SCALE =	DRAWN MLO	REVISED -							CONTRACT NO. 74466
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO. 2 OF 42 SHEETS			ILLINOIS FED. AID PROJECT		



DEAD LOAD DEFLECTION DIAGRAM

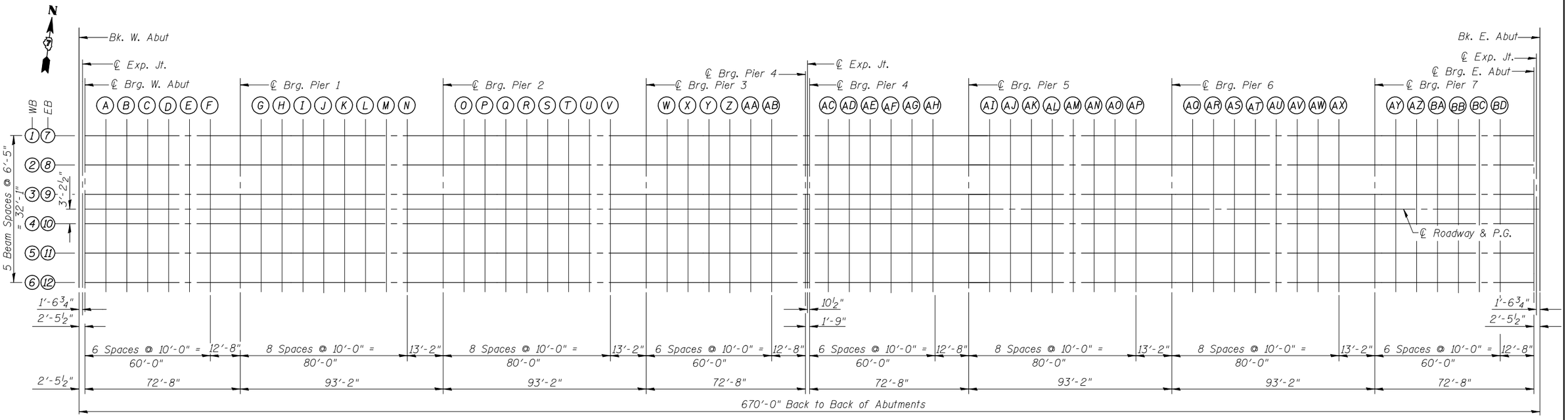
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 4 thru 7 of 42.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 4 thru 7 of 42, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**TOP OF SLAB ELEVATIONS STRUCTURE NO. 018-0049(W.B.) & 018-0050(E.B.)**
		CHECKED MCB	REVISED -		
	PLOT SCALE =	DRAWN MLO	REVISED -		SHEET NO. 3 OF 42 SHEETS
	PLOT DATE =	CHECKED MCB	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	95
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

BEAM 1 & 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	16.04	545.10	545.10
CL. EXP. JT.	154+88.56	16.04	545.09	545.09
CL. BRG. W. ABUT.	154+89.46	16.04	545.08	545.08
A	154+99.46	16.04	545.00	545.03
B	155+09.46	16.04	544.92	544.96
C	155+19.46	16.04	544.83	544.88
D	155+29.46	16.04	544.75	544.80
E	155+39.46	16.04	544.67	544.71
F	155+49.46	16.04	544.58	544.59
CL. BRG. PIER 1	155+62.13	16.04	544.48	544.48
G	155+72.13	16.04	544.40	544.41
H	155+82.13	16.04	544.31	544.34
I	155+92.13	16.04	544.23	544.28
J	156+02.13	16.04	544.15	544.22
K	156+12.13	16.04	544.06	544.13
L	156+22.13	16.04	543.98	544.04
M	156+32.13	16.04	543.90	543.94
N	156+42.13	16.04	543.82	543.84
CL. BRG. PIER 2	156+55.29	16.04	543.71	543.71
O	156+65.29	16.04	543.62	543.63
P	156+75.29	16.04	543.54	543.57
Q	156+85.29	16.04	543.46	543.51
R	156+95.29	16.04	543.37	543.43
S	157+05.29	16.04	543.29	543.36
T	157+15.29	16.04	543.21	543.27
U	157+25.29	16.04	543.13	543.17
V	157+35.29	16.04	543.04	543.06
CL. BRG. PIER 3	157+48.46	16.04	542.93	542.93
W	157+58.46	16.04	542.85	542.86
X	157+68.46	16.04	542.77	542.79
Y	157+78.46	16.04	542.68	542.72
Z	157+88.46	16.04	542.60	542.65
AA	157+98.46	16.04	542.52	542.57
AB	158+08.46	16.04	542.43	542.46
W. CL. BRG. PIER 4	158+21.13	16.04	542.33	542.33
CL. EXP. JT.	158+22.00	16.04	542.32	542.32
E. CL. BRG. PIER 4	158+22.88	16.04	542.32	542.32
AC	158+32.88	16.04	542.23	542.26
AD	158+42.88	16.04	542.15	542.19
AE	158+52.88	16.04	542.07	542.12
AF	158+62.88	16.04	541.98	542.03
AG	158+72.88	16.04	541.90	541.94
AH	158+82.88	16.04	541.82	541.83
CL. BRG. PIER 5	158+95.54	16.04	541.71	541.71
AI	159+05.54	16.04	541.63	541.64
AJ	159+15.54	16.04	541.55	541.58
AK	159+25.54	16.04	541.46	541.51
AL	159+35.54	16.04	541.38	541.45
AM	159+45.54	16.04	541.30	541.37
AN	159+55.54	16.04	541.21	541.27
AO	159+65.54	16.04	541.13	541.17
AP	159+75.54	16.04	541.05	541.07

BEAM 1 & 6 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. BRG. PIER 6	159+88.71	16.04	540.94	540.94
AQ	159+98.71	16.04	540.86	540.87
AR	160+08.71	16.04	540.77	540.80
AS	160+18.71	16.04	540.69	540.74
AT	160+28.71	16.04	540.61	540.67
AU	160+38.71	16.04	540.52	540.59
AV	160+48.71	16.04	540.44	540.50
AW	160+58.71	16.04	540.36	540.40
AX	160+68.71	16.04	540.27	540.29
CL. BRG. PIER 7	160+81.88	16.04	540.17	540.17
AY	160+91.88	16.04	540.08	540.09
AZ	161+01.88	16.04	540.00	540.02
BA	161+11.88	16.04	539.92	539.96
BB	161+21.88	16.04	539.83	539.88
BC	161+31.88	16.04	539.75	539.80
BD	161+41.88	16.04	539.67	539.70
CL. BRG. E.ABUT.	161+54.54	16.04	539.56	539.56
CL. EXP. JT.	161+55.44	16.04	539.55	539.55
BK. E. ABUT.	161+57.00	16.04	539.54	539.54

BEAM 2 & 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	9.63	545.22	545.22
CL. EXP. JT.	154+88.56	9.63	545.21	545.21
CL. BRG. W. ABUT.	154+89.46	9.63	545.20	545.20
A	154+99.46	9.63	545.12	545.15
B	155+09.46	9.63	545.04	545.08
C	155+19.46	9.63	544.95	545.00
D	155+29.46	9.63	544.87	544.92
E	155+39.46	9.63	544.79	544.83
F	155+49.46	9.63	544.70	544.71
CL. BRG. PIER 1	155+62.13	9.63	544.60	544.60
G	155+72.13	9.63	544.52	544.53
H	155+82.13	9.63	544.43	544.46
I	155+92.13	9.63	544.35	544.40
J	156+02.13	9.63	544.27	544.34
K	156+12.13	9.63	544.18	544.25
L	156+22.13	9.63	544.10	544.16
M	156+32.13	9.63	544.02	544.06
N	156+42.13	9.63	543.94	543.96
CL. BRG. PIER 2	156+55.29	9.63	543.83	543.83
O	156+65.29	9.63	543.74	543.75
P	156+75.29	9.63	543.66	543.69
Q	156+85.29	9.63	543.58	543.63
R	156+95.29	9.63	543.49	543.55
S	157+05.29	9.63	543.41	543.48
T	157+15.29	9.63	543.33	543.39
U	157+25.29	9.63	543.25	543.29

BEAM 2 & 5 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
V	157+35.29	9.63	543.16	543.18
CL. BRG. PIER 3	157+48.46	9.63	543.05	543.05
W	157+58.46	9.63	542.97	542.98
X	157+68.46	9.63	542.89	542.91
Y	157+78.46	9.63	542.80	542.84
Z	157+88.46	9.63	542.72	542.77
AA	157+98.46	9.63	542.64	542.69
AB	158+08.46	9.63	542.55	542.58
W. CL. BRG. PIER 4	158+21.13	9.63	542.45	542.45
CL. EXP. JT.	158+22.00	9.63	542.44	542.44
E. CL. BRG. PIER 4	158+22.88	9.63	542.44	542.44
AC	158+32.88	9.63	542.35	542.38
AD	158+42.88	9.63	542.27	542.31
AE	158+52.88	9.63	542.19	542.24
AF	158+62.88	9.63	542.10	542.15
AG	158+72.88	9.63	542.02	542.06
AH	158+82.88	9.63	541.94	541.95
CL. BRG. PIER 5	158+95.54	9.63	541.83	541.83
AI	159+05.54	9.63	541.75	541.76
AJ	159+15.54	9.63	541.67	541.70
AK	159+25.54	9.63	541.58	541.63
AL	159+35.54	9.63	541.50	541.57
AM	159+45.54	9.63	541.42	541.49
AN	159+55.54	9.63	541.33	541.39
AO	159+65.54	9.63	541.25	541.29
AP	159+75.54	9.63	541.17	541.19
CL. BRG. PIER 6	159+88.71	9.63	541.06	541.06
AQ	159+98.71	9.63	540.98	540.99
AR	160+08.71	9.63	540.89	540.92
AS	160+18.71	9.63	540.81	540.86
AT	160+28.71	9.63	540.73	540.79
AU	160+38.71	9.63	540.64	540.71
AV	160+48.71	9.63	540.56	540.62
AW	160+58.71	9.63	540.48	540.52
AX	160+68.71	9.63	540.39	540.41
CL. BRG. PIER 7	160+81.88	9.63	540.29	540.29
AY	160+91.88	9.63	540.20	540.21
AZ	161+01.88	9.63	540.12	540.14
BA	161+11.88	9.63	540.04	540.08
BB	161+21.88	9.63	539.95	540.00
BC	161+31.88	9.63	539.87	539.92
BD	161+41.88	9.63	539.79	539.82
CL. BRG. E.ABUT.	161+54.54	9.63	539.68	539.68
CL. EXP. JT.	161+55.44	9.63	539.67	539.67
BK. E. ABUT.	161+57.00	9.63	539.66	539.66

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 018-0049(W.B.)
SHEET NO. 4 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	96
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

BEAM 3 & 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	3.21	545.32	545.32
CL. EXP. JT.	154+88.56	3.21	545.31	545.31
CL. BRG. W. ABUT.	154+89.46	3.21	545.30	545.30
A	154+99.46	3.21	545.22	545.25
B	155+09.46	3.21	545.14	545.18
C	155+19.46	3.21	545.05	545.10
D	155+29.46	3.21	544.97	545.02
E	155+39.46	3.21	544.89	544.93
F	155+49.46	3.21	544.80	544.81
CL. BRG. PIER 1	155+62.13	3.21	544.70	544.70
G	155+72.13	3.21	544.62	544.63
H	155+82.13	3.21	544.53	544.56
I	155+92.13	3.21	544.45	544.50
J	156+02.13	3.21	544.37	544.44
K	156+12.13	3.21	544.28	544.35
L	156+22.13	3.21	544.20	544.26
M	156+32.13	3.21	544.12	544.16
N	156+42.13	3.21	544.04	544.06
CL. BRG. PIER 2	156+55.29	3.21	543.93	543.93
O	156+65.29	3.21	543.84	543.85
P	156+75.29	3.21	543.76	543.79
Q	156+85.29	3.21	543.68	543.73
R	156+95.29	3.21	543.59	543.65
S	157+05.29	3.21	543.51	543.58
T	157+15.29	3.21	543.43	543.49
U	157+25.29	3.21	543.35	543.39
V	157+35.29	3.21	543.26	543.28
CL. BRG. PIER 3	157+48.46	3.21	543.15	543.15
W	157+58.46	3.21	543.07	543.08
X	157+68.46	3.21	542.99	543.01
Y	157+78.46	3.21	542.90	542.94
Z	157+88.46	3.21	542.82	542.87
AA	157+98.46	3.21	542.74	542.79
AB	158+08.46	3.21	542.65	542.68
W. CL. BRG. PIER 4	158+21.13	3.21	542.55	542.55
CL. EXP. JT.	158+22.00	3.21	542.54	542.54
E. CL. BRG. PIER 4	158+22.88	3.21	542.54	542.54
AC	158+32.88	3.21	542.45	542.48
AD	158+42.88	3.21	542.37	542.41
AE	158+52.88	3.21	542.29	542.34
AF	158+62.88	3.21	542.20	542.25
AG	158+72.88	3.21	542.12	542.16
AH	158+82.88	3.21	542.04	542.05
CL. BRG. PIER 5	158+95.54	3.21	541.93	541.93
AI	159+05.54	3.21	541.85	541.86
AJ	159+15.54	3.21	541.77	541.80
AK	159+25.54	3.21	541.68	541.73
AL	159+35.54	3.21	541.60	541.67
AM	159+45.54	3.21	541.52	541.59
AN	159+55.54	3.21	541.43	541.49
AO	159+65.54	3.21	541.35	541.39
AP	159+75.54	3.21	541.27	541.29

BEAM 3 & 4 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. BRG. PIER 6	159+88.71	3.21	541.16	541.16
AQ	159+98.71	3.21	541.08	541.09
AR	160+08.71	3.21	540.99	541.02
AS	160+18.71	3.21	540.91	540.96
AT	160+28.71	3.21	540.83	540.89
AU	160+38.71	3.21	540.74	540.81
AV	160+48.71	3.21	540.66	540.72
AW	160+58.71	3.21	540.58	540.62
AX	160+68.71	3.21	540.49	540.51
CL. BRG. PIER 7	160+81.88	3.21	540.39	540.39
AY	160+91.88	3.21	540.30	540.31
AZ	161+01.88	3.21	540.22	540.24
BA	161+11.88	3.21	540.14	540.18
BB	161+21.88	3.21	540.05	540.10
BC	161+31.88	3.21	539.97	540.02
BD	161+41.88	3.21	539.89	539.92
CL. BRG. E.ABUT.	161+54.54	3.21	539.78	539.78
CL. EXP. JT.	161+55.44	3.21	539.77	539.77
BK. E. ABUT.	161+57.00	3.21	539.76	539.76

℄ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	0.00	545.37	545.37
CL. EXP. JT.	154+88.56	0.00	545.36	545.36
CL. BRG. W. ABUT.	154+89.46	0.00	545.35	545.35
A	154+99.46	0.00	545.27	545.30
B	155+09.46	0.00	545.19	545.23
C	155+19.46	0.00	545.10	545.15
D	155+29.46	0.00	545.02	545.07
E	155+39.46	0.00	544.94	544.98
F	155+49.46	0.00	544.85	544.86
CL. BRG. PIER 1	155+62.13	0.00	544.75	544.75
G	155+72.13	0.00	544.67	544.68
H	155+82.13	0.00	544.58	544.61
I	155+92.13	0.00	544.50	544.55
J	156+02.13	0.00	544.42	544.49
K	156+12.13	0.00	544.33	544.40
L	156+22.13	0.00	544.25	544.31
M	156+32.13	0.00	544.17	544.21
N	156+42.13	0.00	544.09	544.11
CL. BRG. PIER 2	156+55.29	0.00	543.98	543.98
O	156+65.29	0.00	543.89	543.90
P	156+75.29	0.00	543.81	543.84
Q	156+85.29	0.00	543.73	543.78
R	156+95.29	0.00	543.64	543.70
S	157+05.29	0.00	543.56	543.63
T	157+15.29	0.00	543.48	543.54
U	157+25.29	0.00	543.40	543.44

℄ ROADWAY & PROFILE GRADE CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
V	157+35.29	0.00	543.31	543.33
CL. BRG. PIER 3	157+48.46	0.00	543.20	543.20
W	157+58.46	0.00	543.12	543.13
X	157+68.46	0.00	543.04	543.06
Y	157+78.46	0.00	542.95	542.99
Z	157+88.46	0.00	542.87	542.92
AA	157+98.46	0.00	542.79	542.84
AB	158+08.46	0.00	542.70	542.73
W. CL. BRG. PIER 4	158+21.13	0.00	542.60	542.60
CL. EXP. JT.	158+22.00	0.00	542.59	542.59
E. CL. BRG. PIER 4	158+22.88	0.00	542.59	542.59
AC	158+32.88	0.00	542.50	542.53
AD	158+42.88	0.00	542.42	542.46
AE	158+52.88	0.00	542.34	542.39
AF	158+62.88	0.00	542.25	542.30
AG	158+72.88	0.00	542.17	542.21
AH	158+82.88	0.00	542.09	542.10
CL. BRG. PIER 5	158+95.54	0.00	541.98	541.98
AI	159+05.54	0.00	541.90	541.91
AJ	159+15.54	0.00	541.82	541.85
AK	159+25.54	0.00	541.73	541.78
AL	159+35.54	0.00	541.65	541.72
AM	159+45.54	0.00	541.57	541.64
AN	159+55.54	0.00	541.48	541.54
AO	159+65.54	0.00	541.40	541.44
AP	159+75.54	0.00	541.32	541.34
CL. BRG. PIER 6	159+88.71	0.00	541.21	541.21
AQ	159+98.71	0.00	541.13	541.14
AR	160+08.71	0.00	541.04	541.07
AS	160+18.71	0.00	540.96	541.01
AT	160+28.71	0.00	540.88	540.94
AU	160+38.71	0.00	540.79	540.86
AV	160+48.71	0.00	540.71	540.77
AW	160+58.71	0.00	540.63	540.67
AX	160+68.71	0.00	540.54	540.56
CL. BRG. PIER 7	160+81.88	0.00	540.44	540.44
AY	160+91.88	0.00	540.35	540.36
AZ	161+01.88	0.00	540.27	540.29
BA	161+11.88	0.00	540.19	540.23
BB	161+21.88	0.00	540.10	540.15
BC	161+31.88	0.00	540.02	540.07
BD	161+41.88	0.00	539.94	539.97
CL. BRG. E.ABUT.	161+54.54	0.00	539.83	539.83
CL. EXP. JT.	161+55.44	0.00	539.82	539.82
BK. E. ABUT.	161+57.00	0.00	539.81	539.81

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 018-0049(W.B.)
SHEET NO. 5 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	97
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

BEAM 7 & 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	16.04	545.09	545.09
CL. EXP. JT.	154+88.56	16.04	545.08	545.08
CL. BRG. W. ABUT.	154+89.46	16.04	545.07	545.07
A	154+99.46	16.04	544.98	545.01
B	155+09.46	16.04	544.90	544.94
C	155+19.46	16.04	544.81	544.86
D	155+29.46	16.04	544.72	544.77
E	155+39.46	16.04	544.63	544.67
F	155+49.46	16.04	544.54	544.55
CL. BRG. PIER 1	155+62.13	16.04	544.43	544.43
G	155+72.13	16.04	544.35	544.36
H	155+82.13	16.04	544.26	544.29
I	155+92.13	16.04	544.17	544.22
J	156+02.13	16.04	544.08	544.15
K	156+12.13	16.04	543.99	544.06
L	156+22.13	16.04	543.91	543.97
M	156+32.13	16.04	543.82	543.86
N	156+42.13	16.04	543.73	543.75
CL. BRG. PIER 2	156+55.29	16.04	543.61	543.61
O	156+65.29	16.04	543.53	543.54
P	156+75.29	16.04	543.44	543.47
Q	156+85.29	16.04	543.35	543.40
R	156+95.29	16.04	543.26	543.32
S	157+05.29	16.04	543.17	543.24
T	157+15.29	16.04	543.09	543.15
U	157+25.29	16.04	543.00	543.04
V	157+35.29	16.04	542.91	542.93
CL. BRG. PIER 3	157+48.46	16.04	542.79	542.79
W	157+58.46	16.04	542.71	542.72
X	157+68.46	16.04	542.62	542.64
Y	157+78.46	16.04	542.53	542.57
Z	157+88.46	16.04	542.44	542.49
AA	157+98.46	16.04	542.35	542.40
AB	158+08.46	16.04	542.27	542.30
W. CL. BRG. PIER 4	158+21.13	16.04	542.15	542.15
CL. EXP. JT.	158+22.00	16.04	542.15	542.15
E. CL. BRG. PIER 4	158+22.88	16.04	542.14	542.14
AC	158+32.88	16.04	542.05	542.08
AD	158+42.88	16.04	541.96	542.00
AE	158+52.88	16.04	541.87	541.92
AF	158+62.88	16.04	541.79	541.84
AG	158+72.88	16.04	541.70	541.74
AH	158+82.88	16.04	541.61	541.62
CL. BRG. PIER 5	158+95.54	16.04	541.50	541.50
AI	159+05.54	16.04	541.41	541.42
AJ	159+15.54	16.04	541.32	541.35
AK	159+25.54	16.04	541.24	541.29
AL	159+35.54	16.04	541.15	541.22
AM	159+45.54	16.04	541.06	541.13
AN	159+55.54	16.04	540.97	541.03
AO	159+65.54	16.04	540.88	540.92
AP	159+75.54	16.04	540.80	540.82

BEAM 7 & 12 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. BRG. PIER 6	159+88.71	16.04	540.68	540.68
AQ	159+98.71	16.04	540.59	540.60
AR	160+08.71	16.04	540.50	540.53
AS	160+18.71	16.04	540.42	540.47
AT	160+28.71	16.04	540.33	540.39
AU	160+38.71	16.04	540.24	540.31
AV	160+48.71	16.04	540.15	540.21
AW	160+58.71	16.04	540.06	540.10
AX	160+68.71	16.04	539.98	540.00
CL. BRG. PIER 7	160+81.88	16.04	539.86	539.86
AY	160+91.88	16.04	539.77	539.78
AZ	161+01.88	16.04	539.68	539.70
BA	161+11.88	16.04	539.60	539.64
BB	161+21.88	16.04	539.52	539.57
BC	161+31.88	16.04	539.45	539.50
BD	161+41.88	16.04	539.38	539.41
CL. BRG. E.ABUT.	161+54.54	16.04	539.30	539.30
CL. EXP. JT.	161+55.44	16.04	539.30	539.30
BK. E. ABUT.	161+57.00	16.04	539.29	539.29

BEAM 8 & 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	9.63	545.21	545.21
CL. EXP. JT.	154+88.56	9.63	545.20	545.20
CL. BRG. W. ABUT.	154+89.46	9.63	545.19	545.19
A	154+99.46	9.63	545.10	545.13
B	155+09.46	9.63	545.02	545.06
C	155+19.46	9.63	544.93	544.98
D	155+29.46	9.63	544.84	544.89
E	155+39.46	9.63	544.75	544.79
F	155+49.46	9.63	544.66	544.67
CL. BRG. PIER 1	155+62.13	9.63	544.55	544.55
G	155+72.13	9.63	544.47	544.48
H	155+82.13	9.63	544.38	544.41
I	155+92.13	9.63	544.29	544.34
J	156+02.13	9.63	544.20	544.27
K	156+12.13	9.63	544.11	544.18
L	156+22.13	9.63	544.03	544.09
M	156+32.13	9.63	543.94	543.98
N	156+42.13	9.63	543.85	543.87
CL. BRG. PIER 2	156+55.29	9.63	543.73	543.73
O	156+65.29	9.63	543.65	543.66
P	156+75.29	9.63	543.56	543.59
Q	156+85.29	9.63	543.47	543.52
R	156+95.29	9.63	543.38	543.44
S	157+05.29	9.63	543.29	543.36
T	157+15.29	9.63	543.21	543.27
U	157+25.29	9.63	543.12	543.16

BEAM 8 & 11 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
V	157+35.29	9.63	543.03	543.05
CL. BRG. PIER 3	157+48.46	9.63	542.91	542.91
W	157+58.46	9.63	542.83	542.84
X	157+68.46	9.63	542.74	542.76
Y	157+78.46	9.63	542.65	542.69
Z	157+88.46	9.63	542.56	542.61
AA	157+98.46	9.63	542.47	542.52
AB	158+08.46	9.63	542.39	542.42
W. CL. BRG. PIER 4	158+21.13	9.63	542.27	542.27
CL. EXP. JT.	158+22.00	9.63	542.27	542.27
E. CL. BRG. PIER 4	158+22.88	9.63	542.26	542.26
AC	158+32.88	9.63	542.17	542.20
AD	158+42.88	9.63	542.08	542.12
AE	158+52.88	9.63	541.99	542.04
AF	158+62.88	9.63	541.91	541.96
AG	158+72.88	9.63	541.82	541.86
AH	158+82.88	9.63	541.73	541.74
CL. BRG. PIER 5	158+95.54	9.63	541.62	541.62
AI	159+05.54	9.63	541.53	541.54
AJ	159+15.54	9.63	541.44	541.47
AK	159+25.54	9.63	541.36	541.41
AL	159+35.54	9.63	541.27	541.34
AM	159+45.54	9.63	541.18	541.25
AN	159+55.54	9.63	541.09	541.15
AO	159+65.54	9.63	541.00	541.04
AP	159+75.54	9.63	540.92	540.94
CL. BRG. PIER 6	159+88.71	9.63	540.80	540.80
AQ	159+98.71	9.63	540.71	540.72
AR	160+08.71	9.63	540.62	540.65
AS	160+18.71	9.63	540.54	540.59
AT	160+28.71	9.63	540.45	540.51
AU	160+38.71	9.63	540.36	540.43
AV	160+48.71	9.63	540.27	540.33
AW	160+58.71	9.63	540.18	540.22
AX	160+68.71	9.63	540.10	540.12
CL. BRG. PIER 7	160+81.88	9.63	539.98	539.98
AY	160+91.88	9.63	539.89	539.90
AZ	161+01.88	9.63	539.80	539.82
BA	161+11.88	9.63	539.72	539.76
BB	161+21.88	9.63	539.64	539.69
BC	161+31.88	9.63	539.57	539.62
BD	161+41.88	9.63	539.50	539.53
CL. BRG. E.ABUT.	161+54.54	9.63	539.42	539.42
CL. EXP. JT.	161+55.44	9.63	539.42	539.42
BK. E. ABUT.	161+57.00	9.63	539.41	539.41

BEAM 9 & 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	3.21	545.31	545.31
CL. EXP. JT.	154+88.56	3.21	545.30	545.30
CL. BRG. W. ABUT.	154+89.46	3.21	545.29	545.29
A	154+99.46	3.21	545.20	545.23
B	155+09.46	3.21	545.12	545.16
C	155+19.46	3.21	545.03	545.08
D	155+29.46	3.21	544.94	544.99
E	155+39.46	3.21	544.85	544.89
F	155+49.46	3.21	544.76	544.77
CL. BRG. PIER 1	155+62.13	3.21	544.65	544.65
G	155+72.13	3.21	544.57	544.58
H	155+82.13	3.21	544.48	544.51
I	155+92.13	3.21	544.39	544.44
J	156+02.13	3.21	544.30	544.37
K	156+12.13	3.21	544.21	544.28
L	156+22.13	3.21	544.13	544.19
M	156+32.13	3.21	544.04	544.08
N	156+42.13	3.21	543.95	543.97
CL. BRG. PIER 2	156+55.29	3.21	543.83	543.83
O	156+65.29	3.21	543.75	543.76
P	156+75.29	3.21	543.66	543.69
Q	156+85.29	3.21	543.57	543.62
R	156+95.29	3.21	543.48	543.54
S	157+05.29	3.21	543.39	543.46
T	157+15.29	3.21	543.31	543.37
U	157+25.29	3.21	543.22	543.26
V	157+35.29	3.21	543.13	543.15
CL. BRG. PIER 3	157+48.46	3.21	543.01	543.01
W	157+58.46	3.21	542.93	542.94
X	157+68.46	3.21	542.84	542.86
Y	157+78.46	3.21	542.75	542.79
Z	157+88.46	3.21	542.66	542.71
AA	157+98.46	3.21	542.57	542.62
AB	158+08.46	3.21	542.49	542.52
W. CL. BRG. PIER 4	158+21.13	3.21	542.37	542.37
CL. EXP. JT.	158+22.00	3.21	542.37	542.37
E. CL. BRG. PIER 4	158+22.88	3.21	542.36	542.36
AC	158+32.88	3.21	542.27	542.30
AD	158+42.88	3.21	542.18	542.22
AE	158+52.88	3.21	542.09	542.14
AF	158+62.88	3.21	542.01	542.06
AG	158+72.88	3.21	541.92	541.96
AH	158+82.88	3.21	541.83	541.84
CL. BRG. PIER 5	158+95.54	3.21	541.72	541.72
AI	159+05.54	3.21	541.63	541.64
AJ	159+15.54	3.21	541.54	541.57
AK	159+25.54	3.21	541.46	541.51
AL	159+35.54	3.21	541.37	541.44
AM	159+45.54	3.21	541.28	541.35
AN	159+55.54	3.21	541.19	541.25
AO	159+65.54	3.21	541.10	541.14
AP	159+75.54	3.21	541.02	541.04

BEAM 9 & 10 CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. BRG. PIER 6	159+88.71	3.21	540.90	540.90
AQ	159+98.71	3.21	540.81	540.82
AR	160+08.71	3.21	540.72	540.75
AS	160+18.71	3.21	540.64	540.69
AT	160+28.71	3.21	540.55	540.61
AU	160+38.71	3.21	540.46	540.53
AV	160+48.71	3.21	540.37	540.43
AW	160+58.71	3.21	540.28	540.32
AX	160+68.71	3.21	540.20	540.22
CL. BRG. PIER 7	160+81.88	3.21	540.08	540.08
AY	160+91.88	3.21	539.99	540.00
AZ	161+01.88	3.21	539.90	539.92
BA	161+11.88	3.21	539.82	539.86
BB	161+21.88	3.21	539.74	539.79
BC	161+31.88	3.21	539.67	539.72
BD	161+41.88	3.21	539.60	539.63
CL. BRG. E.ABUT.	161+54.54	3.21	539.52	539.52
CL. EXP. JT.	161+55.44	3.21	539.52	539.52
BK. E. ABUT.	161+57.00	3.21	539.51	539.51

℄ ROADWAY & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK. W. ABUT.	154+87.00	0.00	545.36	545.36
CL. EXP. JT.	154+88.56	0.00	545.35	545.35
CL. BRG. W. ABUT.	154+89.46	0.00	545.34	545.34
A	154+99.46	0.00	545.25	545.28
B	155+09.46	0.00	545.17	545.21
C	155+19.46	0.00	545.08	545.13
D	155+29.46	0.00	544.99	545.04
E	155+39.46	0.00	544.90	544.94
F	155+49.46	0.00	544.81	544.82
CL. BRG. PIER 1	155+62.13	0.00	544.70	544.70
G	155+72.13	0.00	544.62	544.63
H	155+82.13	0.00	544.53	544.56
I	155+92.13	0.00	544.44	544.49
J	156+02.13	0.00	544.35	544.42
K	156+12.13	0.00	544.26	544.33
L	156+22.13	0.00	544.18	544.24
M	156+32.13	0.00	544.09	544.13
N	156+42.13	0.00	544.00	544.02
CL. BRG. PIER 2	156+55.29	0.00	543.88	543.88
O	156+65.29	0.00	543.80	543.81
P	156+75.29	0.00	543.71	543.74
Q	156+85.29	0.00	543.62	543.67
R	156+95.29	0.00	543.53	543.59
S	157+05.29	0.00	543.44	543.51
T	157+15.29	0.00	543.36	543.42
U	157+25.29	0.00	543.27	543.31

℄ ROADWAY & PROFILE GRADE CONT'D

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. BRG. PIER 3	157+48.46	0.00	543.06	543.06
W	157+58.46	0.00	542.98	542.99
X	157+68.46	0.00	542.89	542.91
Y	157+78.46	0.00	542.80	542.84
Z	157+88.46	0.00	542.71	542.76
AA	157+98.46	0.00	542.62	542.67
AB	158+08.46	0.00	542.54	542.57
W. CL. BRG. PIER 4	158+21.13	0.00	542.42	542.42
CL. EXP. JT.	158+22.00	0.00	542.42	542.42
E. CL. BRG. PIER 4	158+22.88	0.00	542.41	542.41
AC	158+32.88	0.00	542.32	542.35
AD	158+42.88	0.00	542.23	542.27
AE	158+52.88	0.00	542.14	542.19
AF	158+62.88	0.00	542.06	542.11
AG	158+72.88	0.00	541.97	542.01
AH	158+82.88	0.00	541.88	541.89
CL. BRG. PIER 5	158+95.54	0.00	541.77	541.77
AI	159+05.54	0.00	541.68	541.69
AJ	159+15.54	0.00	541.59	541.62
AK	159+25.54	0.00	541.51	541.56
AL	159+35.54	0.00	541.42	541.49
AM	159+45.54	0.00	541.33	541.40
AN	159+55.54	0.00	541.24	541.30
AO	159+65.54	0.00	541.15	541.19
AP	159+75.54	0.00	541.07	541.09
CL. BRG. PIER 6	159+88.71	0.00	540.95	540.95
AQ	159+98.71	0.00	540.86	540.87
AR	160+08.71	0.00	540.77	540.80
AS	160+18.71	0.00	540.69	540.74
AT	160+28.71	0.00	540.60	540.66
AU	160+38.71	0.00	540.51	540.58
AV	160+48.71	0.00	540.42	540.48
AW	160+58.71	0.00	540.33	540.37
AX	160+68.71	0.00	540.25	540.27
CL. BRG. PIER 7	160+81.88	0.00	540.13	540.13
AY	160+91.88	0.00	540.04	540.05
AZ	161+01.88	0.00	539.95	539.97
BA	161+11.88	0.00	539.87	539.91
BB	161+21.88	0.00	539.79	539.84
BC	161+31.88	0.00	539.72	539.77
BD	161+41.88	0.00	539.65	539.68
CL. BRG. E.ABUT.	161+54.54	0.00	539.57	539.57
CL. EXP. JT.	161+55.44	0.00	539.57	539.57
BK. E. ABUT.	161+57.00	0.00	539.56	539.56

NORTH EDGE OF SHOULDER

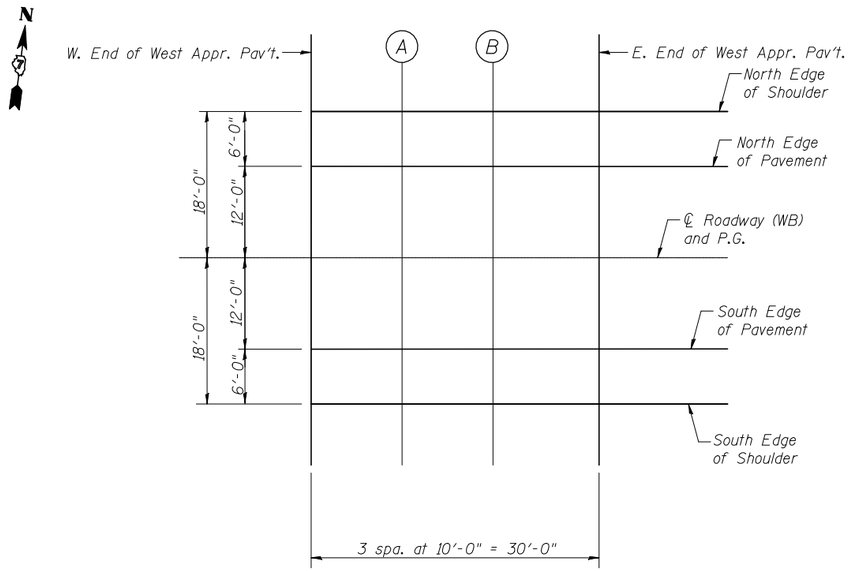
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't.	154+57.50	-18.00	545.31
A	154+67.50	-18.00	545.22
B	154+77.50	-18.00	545.14
E. End West Appr. Pav't.	154+87.50	-18.00	545.06

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't.	154+57.50	-12.00	545.43
A	154+67.50	-12.00	545.34
B	154+77.50	-12.00	545.26
E. End West Appr. Pav't.	154+87.50	-12.00	545.18

℄ ROADWAY, PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't.	154+57.50	0.00	545.62
A	154+67.50	0.00	545.53
B	154+77.50	0.00	545.45
E. End West Appr. Pav't.	154+87.50	0.00	545.37



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't.	154+57.50	12.00	545.43
A	154+67.50	12.00	545.34
B	154+77.50	12.00	545.26
E. End West Appr. Pav't.	154+87.50	12.00	545.18

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pav't.	154+57.50	18.00	545.31
A	154+67.50	18.00	545.22
B	154+77.50	18.00	545.14
E. End West Appr. Pav't.	154+87.50	18.00	545.06

E-AS 7-1-10

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 018-0049(W.B.)

SHEET NO. 8 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	100
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

NORTH EDGE OF SHOULDER

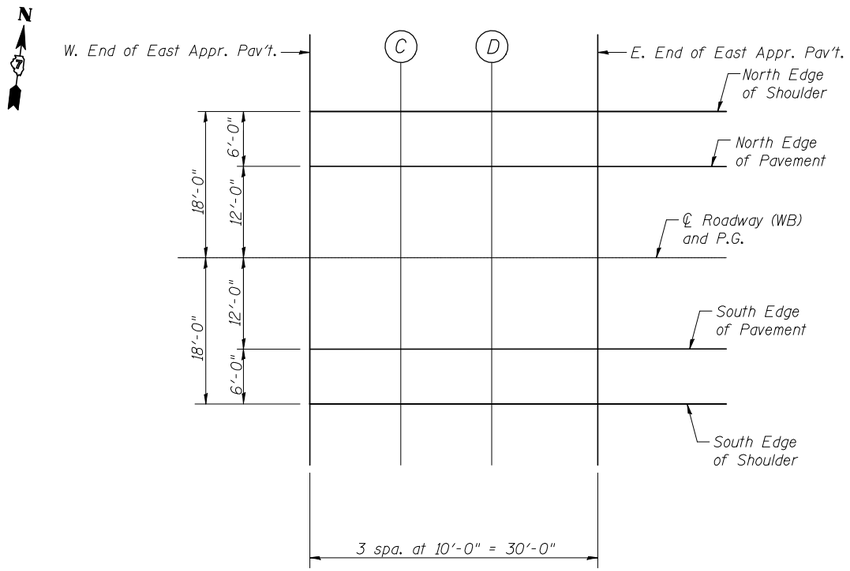
Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't.	161+56.50	-18.00	539.51
C	161+66.50	-18.00	539.43
D	161+76.50	-18.00	539.36
E. End East Appr. Pav't.	161+86.50	-18.00	539.30

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't.	161+56.50	-12.00	539.63
C	161+66.50	-12.00	539.55
D	161+76.50	-12.00	539.48
E. End East Appr. Pav't.	161+86.50	-12.00	539.42

℄ ROADWAY, PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't.	161+56.50	0.00	539.82
C	161+66.50	0.00	539.74
D	161+76.50	0.00	539.67
E. End East Appr. Pav't.	161+86.50	0.00	539.61



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't.	161+56.50	12.00	539.63
C	161+66.50	12.00	539.55
D	161+76.50	12.00	539.48
E. End East Appr. Pav't.	161+86.50	12.00	539.42

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End East Appr. Pav't.	161+56.50	18.00	539.51
C	161+66.50	18.00	539.43
D	161+76.50	18.00	539.36
E. End East Appr. Pav't.	161+86.50	18.00	539.30

E-AS 7-1-10

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO. 018-0049(W.B.)
SHEET NO. 9 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	101
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

NORTH EDGE OF SHOULDER

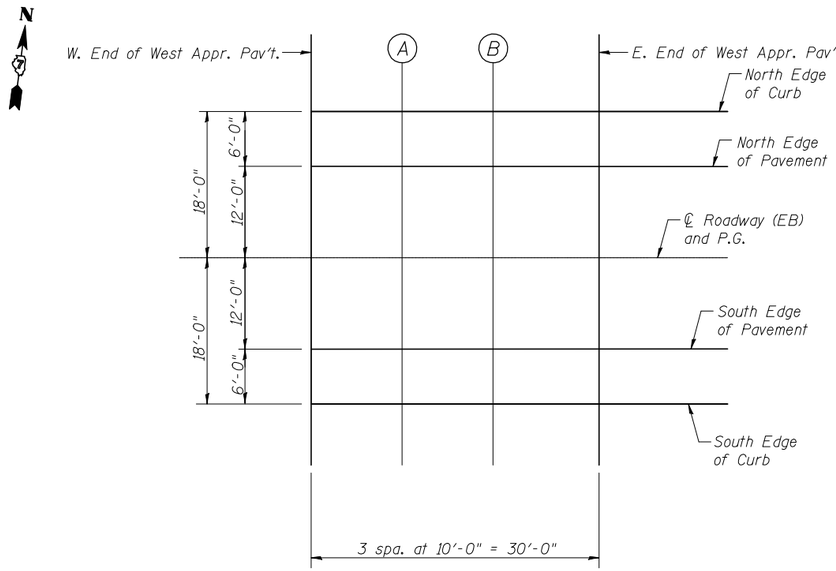
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End West Appr. Pav't.	154+57.50	-18.00	545.31	545.31
A	154+67.50	-18.00	545.23	545.23
B	154+77.50	-18.00	545.14	545.14
E. End West Appr. Pav't.	154+87.50	-18.00	545.05	545.05

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End West Appr. Pav't.	154+57.50	-12.00	545.43	545.43
A	154+67.50	-12.00	545.35	545.35
B	154+77.50	-12.00	545.26	545.26
E. End West Appr. Pav't.	154+87.50	-12.00	545.17	545.17

℄ ROADWAY, PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End West Appr. Pav't.	154+57.50	0.00	545.62	545.62
A	154+67.50	0.00	545.54	545.54
B	154+77.50	0.00	545.45	545.45
E. End West Appr. Pav't.	154+87.50	0.00	545.36	545.36



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End West Appr. Pav't.	154+57.50	12.00	545.43	545.43
A	154+67.50	12.00	545.35	545.35
B	154+77.50	12.00	545.26	545.26
E. End West Appr. Pav't.	154+87.50	12.00	545.17	545.17

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End West Appr. Pav't.	154+57.50	18.00	545.31	545.31
A	154+67.50	18.00	545.23	545.23
B	154+77.50	18.00	545.14	545.14
E. End West Appr. Pav't.	154+87.50	18.00	545.05	545.05

E-AS 7-1-10

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF APPROACH SLAB ELEVATIONS STRUCTURE NO. 018-0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	102
	PLOT SCALE =	DRAWN MLO	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.10 OF 42 SHEETS			ILLINOIS FED. AID PROJECT		

NORTH EDGE OF SHOULDER

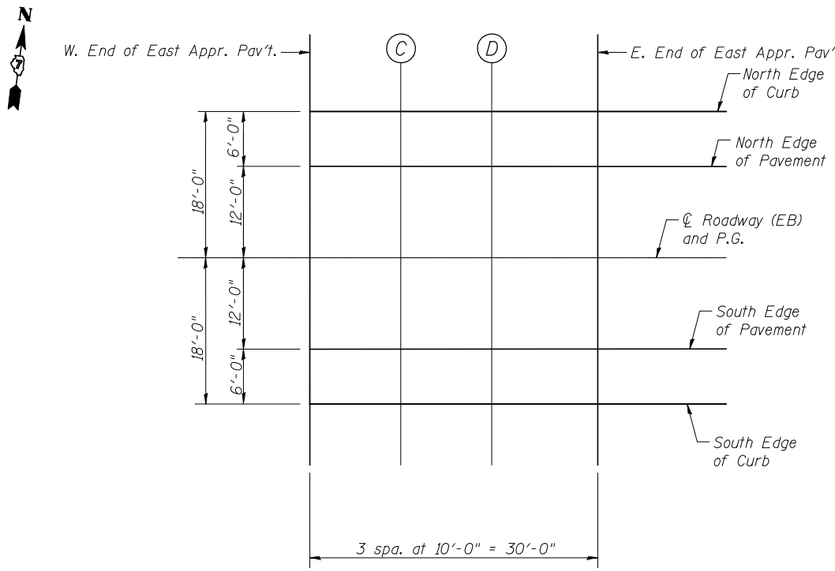
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End East Appr. Pav't.	161+56.50	-18.00	539.25	539.25
C	161+66.50	-18.00	539.19	539.19
D	161+76.50	-18.00	539.15	539.15
E. End East Appr. Pav't.	161+86.50	-18.00	539.11	539.11

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End East Appr. Pav't.	161+56.50	-12.00	539.37	539.37
C	161+66.50	-12.00	539.31	539.31
D	161+76.50	-12.00	539.27	539.27
E. End East Appr. Pav't.	161+86.50	-12.00	539.23	539.23

℄ ROADWAY, PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End East Appr. Pav't.	161+56.50	0.00	539.56	539.56
C	161+66.50	0.00	539.50	539.50
D	161+76.50	0.00	539.46	539.46
E. End East Appr. Pav't.	161+86.50	0.00	539.42	539.42



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End East Appr. Pav't.	161+56.50	12.00	539.37	539.37
C	161+66.50	12.00	539.31	539.31
D	161+76.50	12.00	539.27	539.27
E. End East Appr. Pav't.	161+86.50	12.00	539.23	539.23

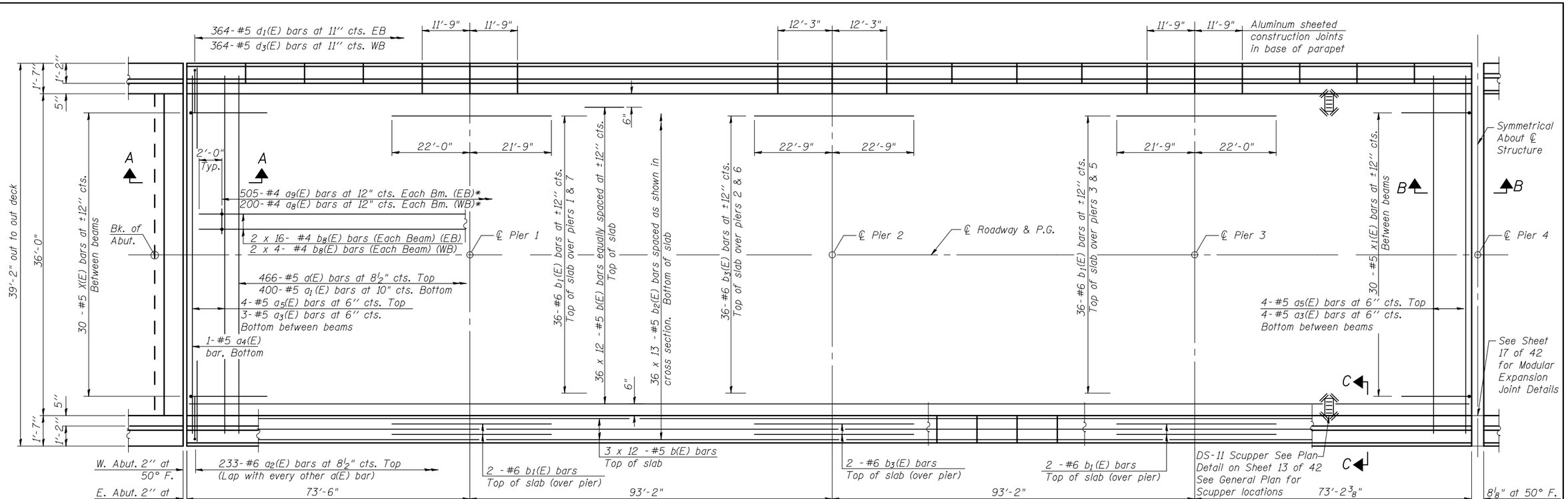
SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
W. End East Appr. Pav't.	161+56.50	18.00	539.25	539.25
C	161+66.50	18.00	539.19	539.19
D	161+76.50	18.00	539.15	539.15
E. End East Appr. Pav't.	161+86.50	18.00	539.11	539.11

E-AS 7-1-10

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF APPROACH SLAB ELEVATIONS STRUCTURE NO. 018-0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	103
	PLOT SCALE =	DRAWN MLO	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO. 11 OF 42 SHEETS		ILLINOIS	FED. AID PROJECT		



*See Partial Elevation Unit I on Sheet 20 of 42 for locations of fillet reinforcement where fillets are estimated to be greater than 6" high or at existing studs. Engineer to determine final location and quantity of bars in field following formwork installation.

MINIMUM BAR LAP

#4 bar = 2'-1"
#5 bar = 2'-7"
#6 bar = 3'-1"

PARTIAL PLAN

(Symmetrical About ℄ of Structure)

Notes:

See Sheet 13 of 42 for superstructure details and Bill of Material.

Bars indicated thus 36 x 13-#5 etc. indicates 36 lines of bars with 13 lengths per line.

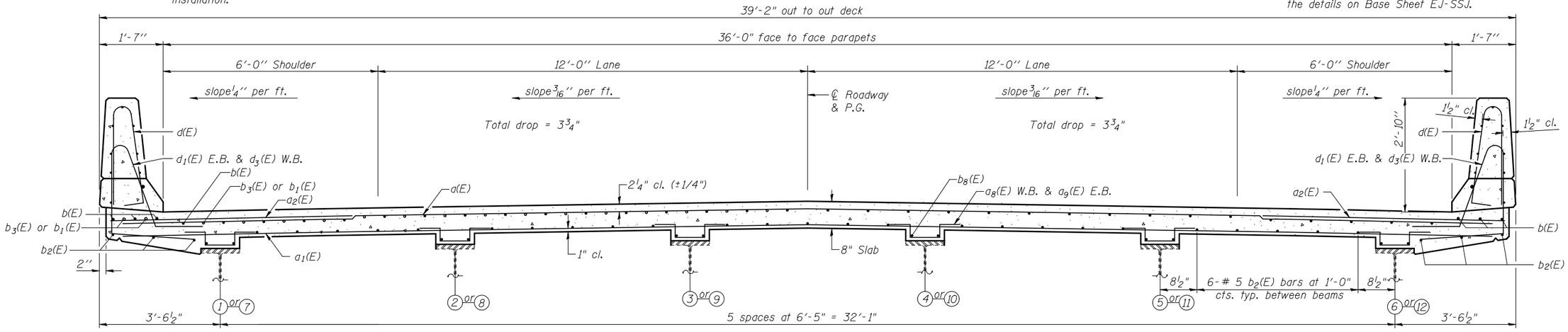
See Sheet 13 of 42 for parapet reinforcement.

See Sheet 14 of 42 for Section A-A & B-B.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

The modular joint opening and deck dimensions detailed on the superstructure are based on a 8⅛" clear opening at 50° F. If the Contractor elects to use a different opening size based on the manufacturers recommendations, all associated deck dimensions shall be modified. Required modifications shall be made at no additional cost to the State.

Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Base Sheet EJ-SSJ.



NEAR PIER NEAR MIDSPAN

CROSS SECTION

(Looking East)

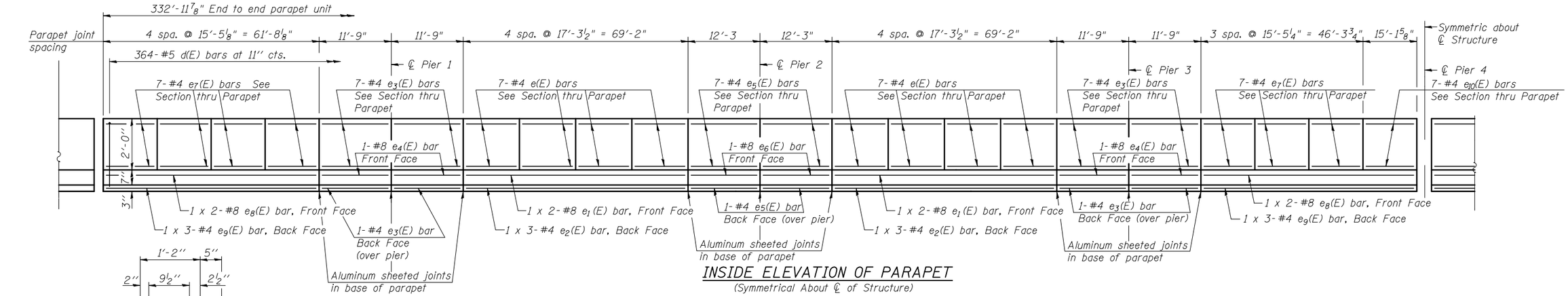
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN CGF	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

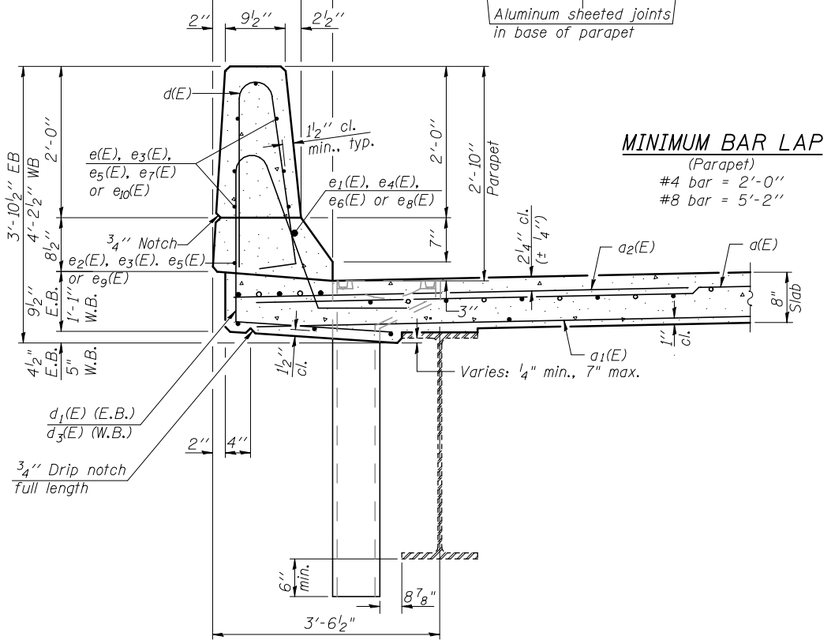
SUPERSTRUCTURE
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.12 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	104
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



INSIDE ELEVATION OF PARAPET

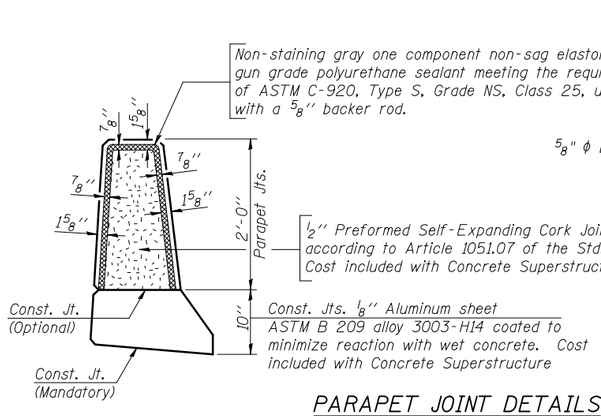
(Symmetrical About ℄ of Structure)



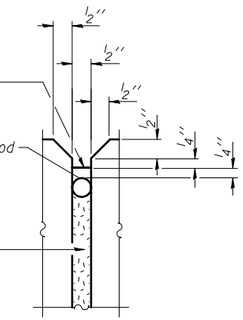
SECTION C-C

MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



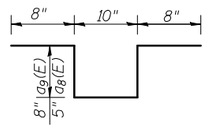
PARAPET JOINT DETAILS



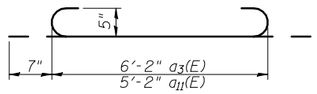
TWO SUPERSTRUCTURES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	1864	#5	38'-4"	
a1(E)	1600	#5	37'-2"	
a2(E)	1864	#6	6'-6"	
a3(E)	80	#5	7'-4"	
a4(E)	4	#5	37'-4"	
a5(E)	32	#5	38'-6"	
a8(E)	1200	#4	3'-0"	
a9(E)	3030	#4	3'-6"	
a10(E)	96	#5	1'-6"	
a11(E)	60	#5	6'-4"	
b(E)	2016	#5	30'-1"	
b1(E)	320	#6	43'-9"	
b2(E)	1872	#5	28'-0"	
b3(E)	160	#6	45'-6"	
b8(E)	336	#4	27'-7"	
d(E)	2912	#5	5'-7"	
d1(E)	1456	#5	8'-3"	
d3(E)	1456	#5	8'-6"	
e(E)	448	#4	17'-0"	
e1(E)	32	#8	37'-1"	
e2(E)	48	#4	24'-4"	
e3(E)	256	#4	11'-6"	
e4(E)	32	#8	11'-6"	
e5(E)	128	#4	12'-0"	
e6(E)	16	#8	12'-0"	
e7(E)	392	#4	15'-2"	
e8(E)	32	#8	33'-4"	
e9(E)	48	#4	21'-10"	
e10(E)	56	#4	14'-10"	
x(E)	120	#5	6'-7"	
x1(E)	120	#5	7'-0"	
Reinforcement Bars, Epoxy Coated			Pound	388610
Concrete Superstructure			Cu. Yd.	1801.7

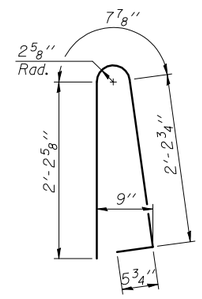
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



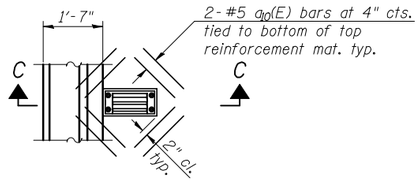
BAR a9(E) & a8(E)



BAR a3(E) & a11(E)

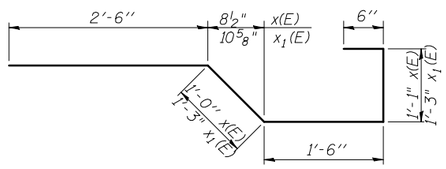


BAR d(E)

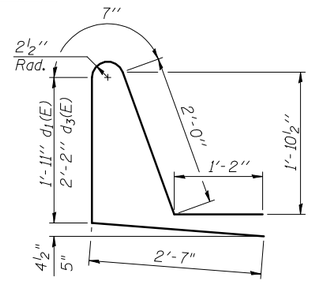


PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



BAR x(E) & X1(E)



BAR d1(E) & d3(E)

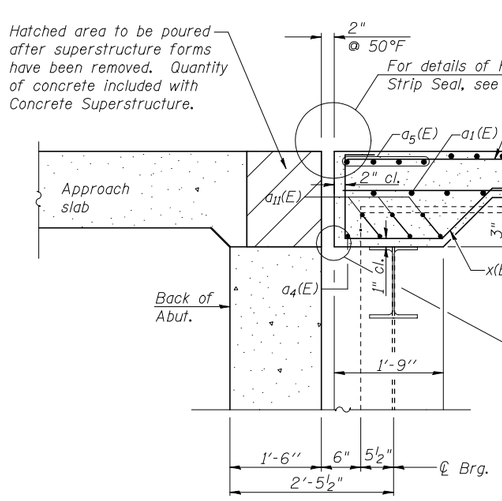
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN CGF	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

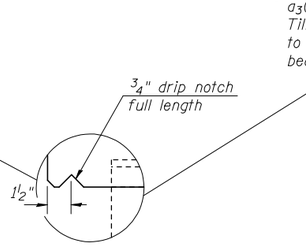
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.13 OF 42 SHEETS

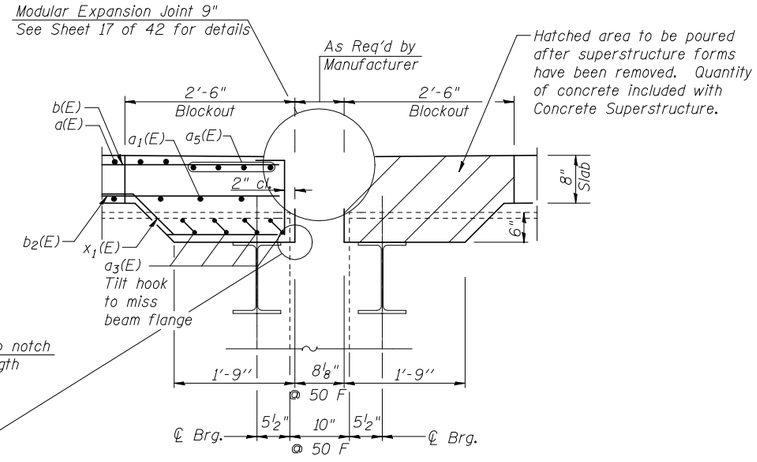
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	105
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



SECTION A-A



INSET

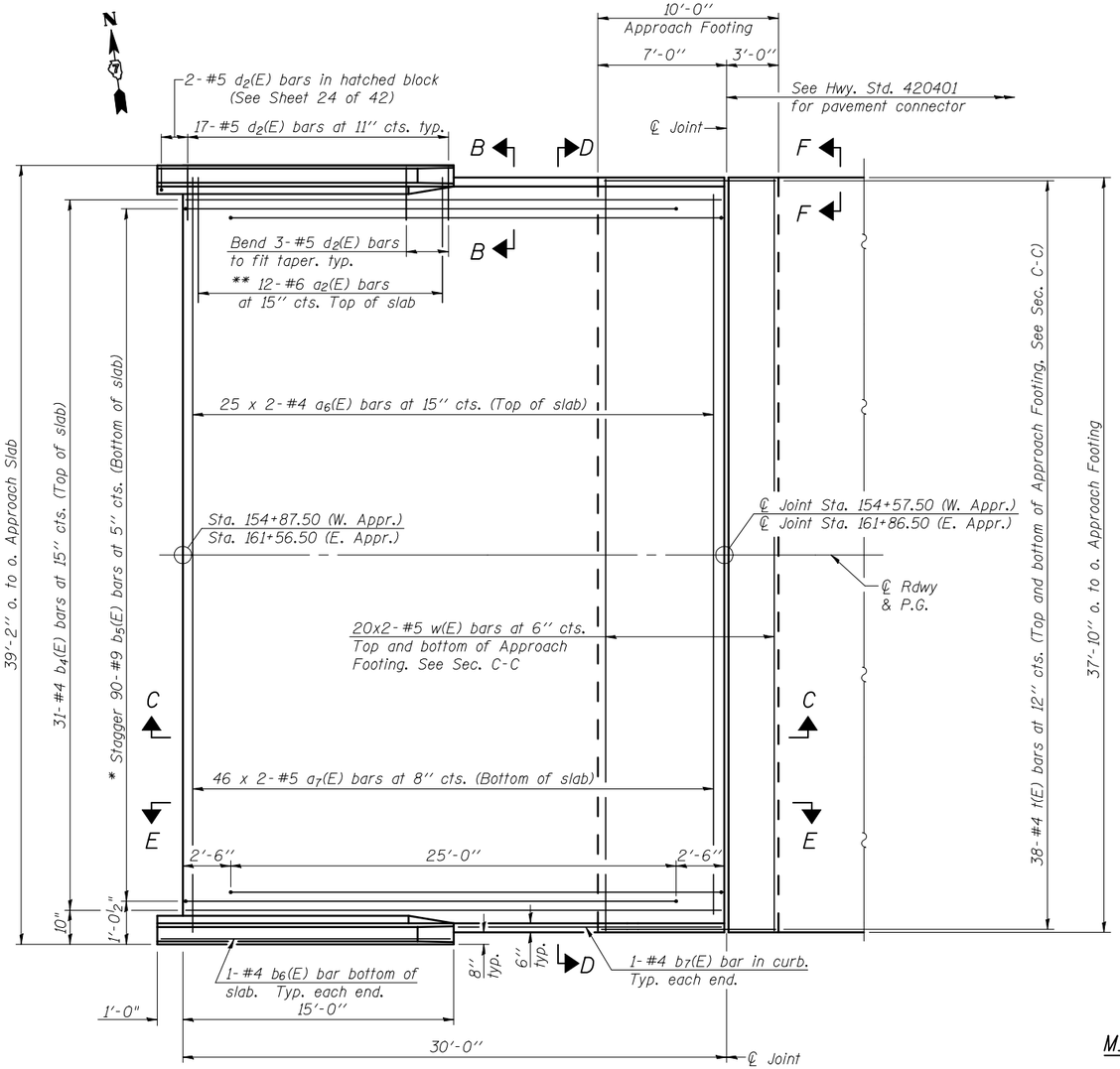


SECTION B-B

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE DETAILS STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	106
	PLOT SCALE =	DRAWN CGF	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.14 OF 42 SHEETS		ILLINOIS	FED. AID PROJECT		

Notes:
See sheet 16 of 42 for Sections C-C & D-D and View E-E.
a_6(E) and a_7(E) bar spacings measured along ℄ Rdwy.

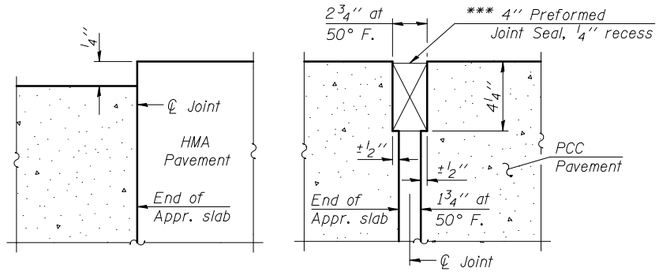


EAST APPROACH PLAN
(West Approach similiar)

* Tilt #9 b_5(E) bars as required to maintain clearance.
** Space between a_6(E) bars, typ. ea. parapet.

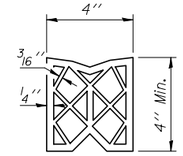
MINIMUM BAR LAP
(Parapet)
#4 bar = 2'-1"
#5 bar = 2'-7"

*** Cost included with Concrete Superstructure.

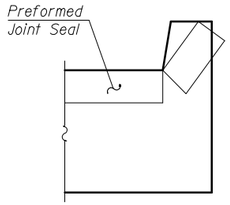


FLEXIBLE PAVEMENT — RIGID PAVEMENT

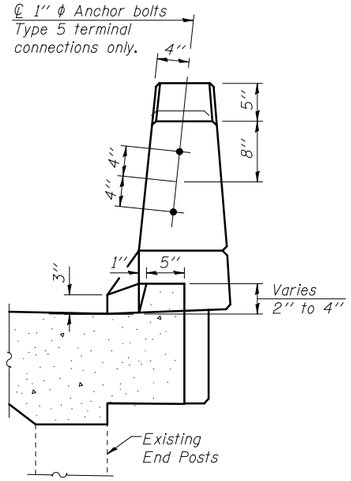
DETAIL A



PREFORMED JOINT SEAL



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



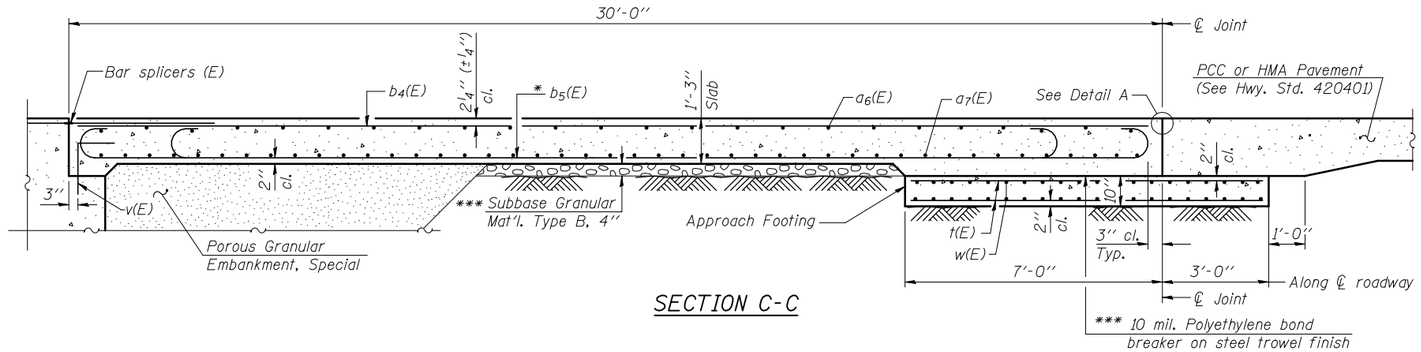
VIEW B-B

BA-0 7-1-10

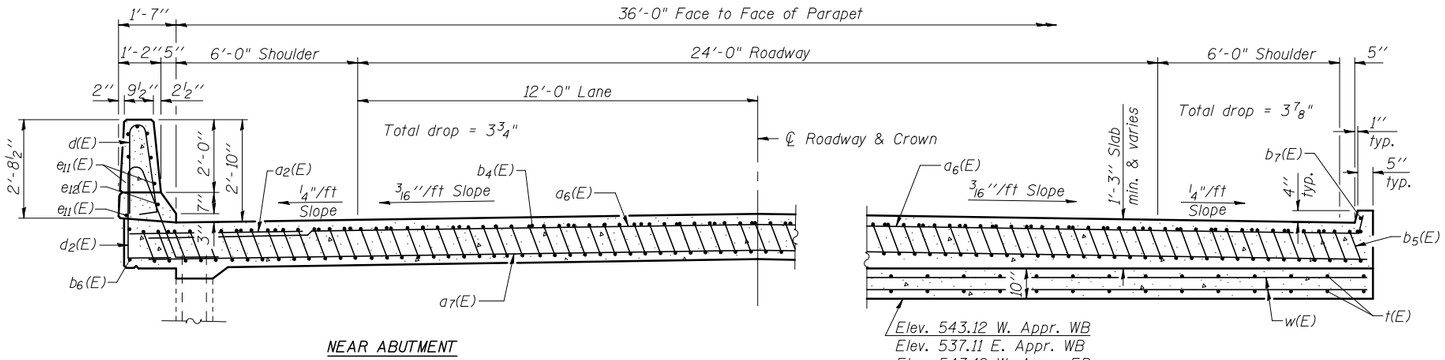
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

(Sheet 1 of 2)

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	107
	PLOT SCALE =	DRAWN CGF	REVISED -						CONTRACT NO. 74466	
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.15 OF 42 SHEETS			ILLINOIS	FED. AID PROJECT	



SECTION C-C



NEAR ABUTMENT

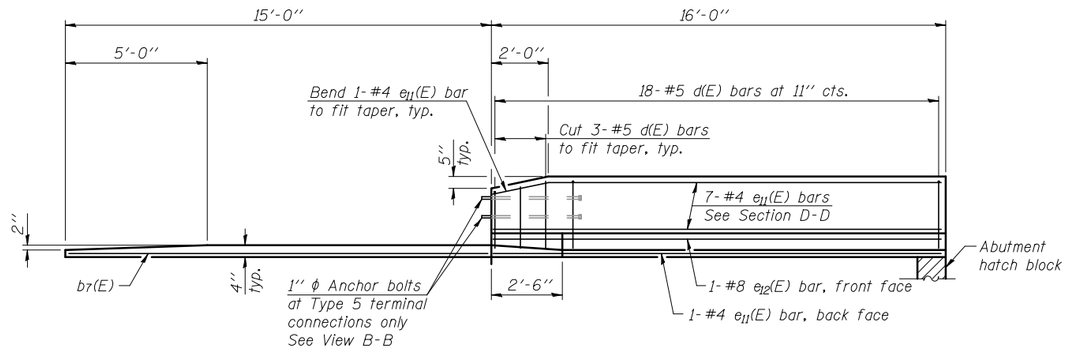
SECTION D-D

(Looking East)

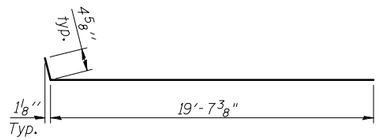
(See Plan for dimensions not shown)

Elev. 543.12 W. Appr. WB
Elev. 537.11 E. Appr. WB
Elev. 543.12 W. Appr. EB
Elev. 536.92 E. Appr. EB
(Level out to out)

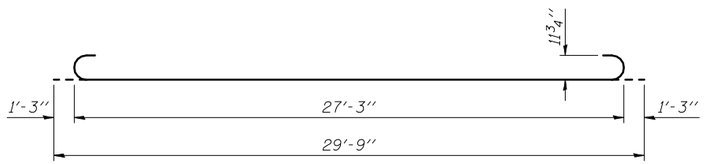
AT APPROACH FOOTING



VIEW E-E



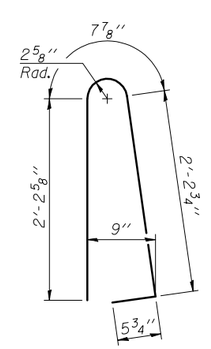
BAR a6(E)



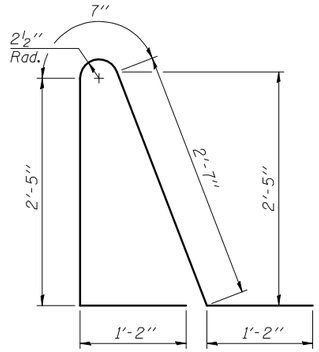
BAR b5(E)

Notes:

See sheet 15 of 42 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 24 of 42.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 34 of 42.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment, Special and drainage treatment details, see sheet 2 of 42.
For additional parapet details, see sheet 15 of 42.



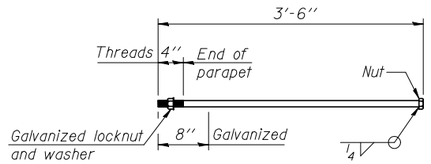
BAR d(E)



BAR d2(E)

* Tilt #9 b5(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

FOUR APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	96	#6	6'-6"	
a6(E)	200	#4	20'-0"	
a7(E)	368	#5	20'-9"	
b4(E)	124	#4	29'-8"	
b5(E)	360	#9	29'-9"	
b6(E)	8	#4	14'-8"	
b7(E)	8	#4	14'-5"	
d(E)	144	#5	5'-7"	
d2(E)	152	#5	7'-11"	
e11(E)	64	#4	15'-8"	
e12(E)	8	#8	15'-8"	
t(E)	304	#4	9'-8"	
w(E)	320	#5	20'-1"	
Concrete Superstructure			Cu. Yd.	245.6
Concrete Structures			Cu. Yd.	46.7
See Note A Reinforcement Bars, Epoxy Coated			Pound	62370

Note A: 53704 lbs (Superstructure)
8666 lbs (Substructure)

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

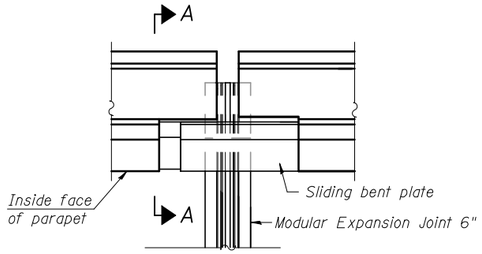
(Sheet 2 of 2)

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN CGF	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

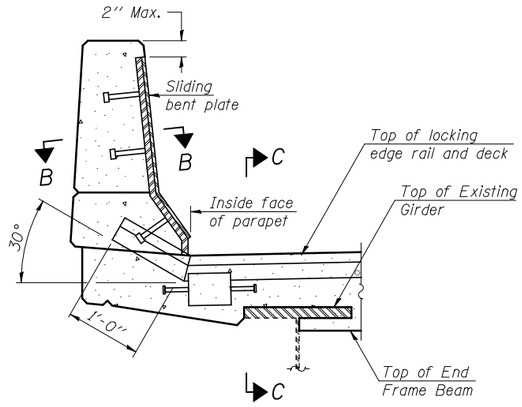
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.16 OF 42 SHEETS

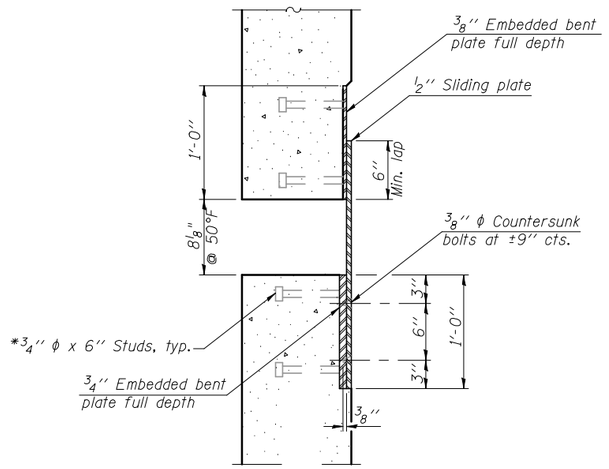
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	108
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



PLAN

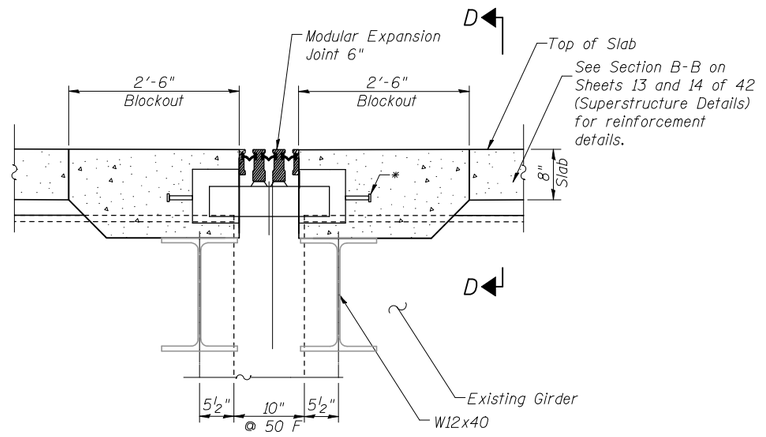


SECTION A-A



SECTION B-B

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SECTION C-C

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

Notes:

Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.

The manufacturer's recommended installation and fabrication methods shall be followed as approved by the Engineer.

Parapet plates, Sidewalk plates, shims, stools, brackets, anchorage studs, hardware and any additional reinforcement are included in the cost of Modular Expansion Joint 6".

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The modular expansion joint system shall be capable of handling 2 1/2" of longintudinal movement either direction from 50°F (5" total).

Support boxes shall be rigidly attached to diaphragms and backwall by adjustable brackets, stools or shims.

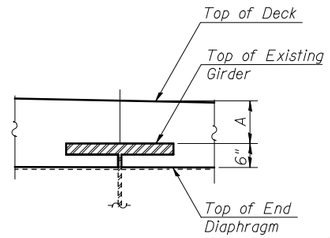
Prior to ordering stools or shims, the Contractor shall verify in the field all top of steel support elevations.

See Guide Bridge Special Provision for Modular Expansion Joint.

Beam Number	Dim. A	
	E.B.	W.B.
1&6	10 1/2"	1'-0 1/2"
2&5	1'-0"	1'-2"
3&4	1'-1"	1'-3"

Notes:

Dim. A is the theroretical difference of the Proposed Deck Elev. and Top of Steel Elevations from the Existing Plans adjusted from survey data.



SECTION D-D

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint 6"	Foot	76

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
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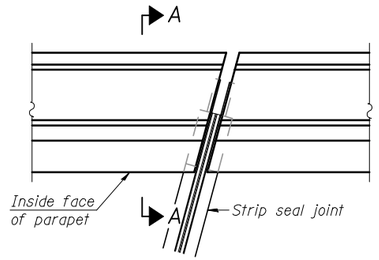
	PLOT DATE =	CHECKED MCB	REVISED -

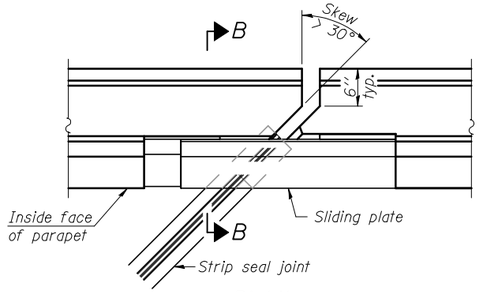
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR EXPANSION JOINT
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 17 OF 42 SHEETS

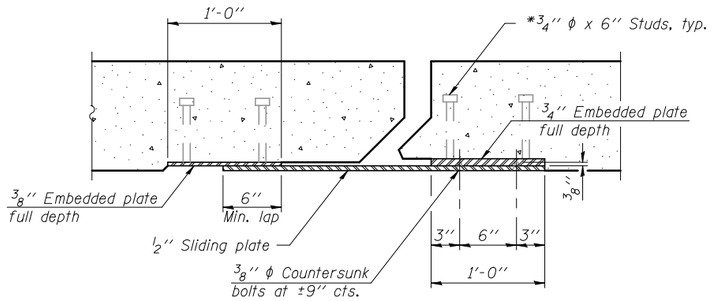
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VBJK (18-47B, 18-47HB)BR	CUMBERLAND	147	109
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



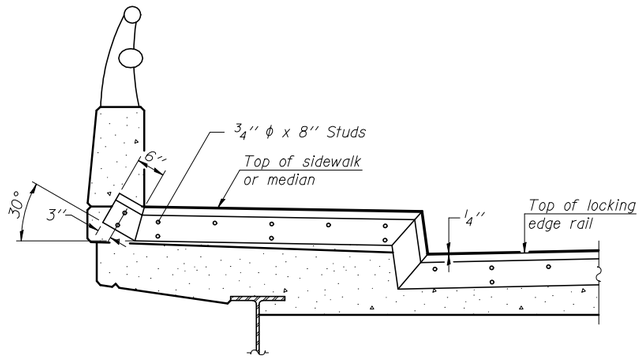
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

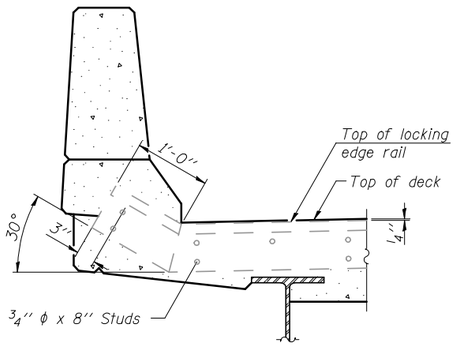


SECTION C-C

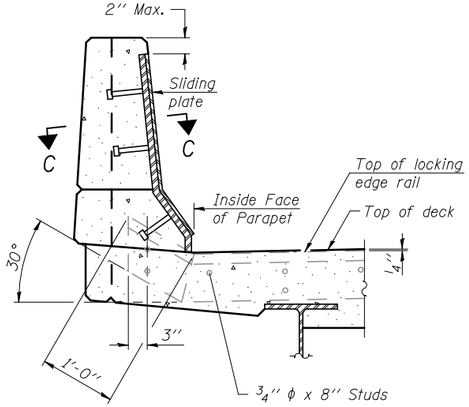


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

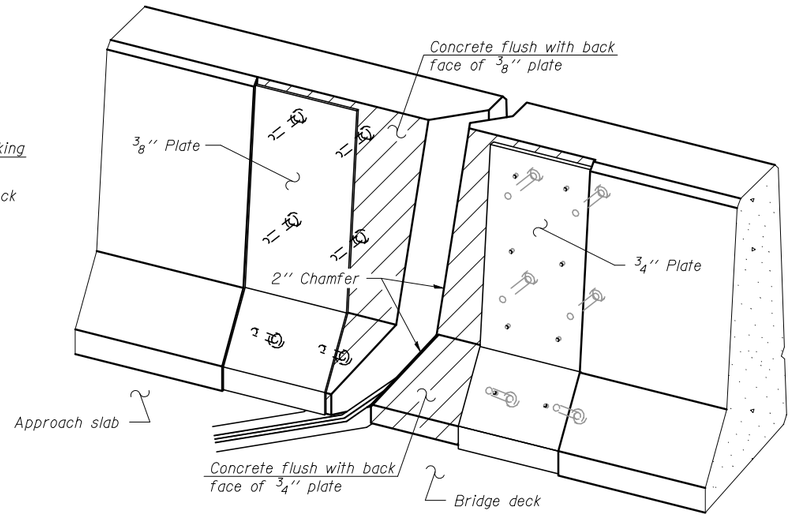
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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 Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. 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.

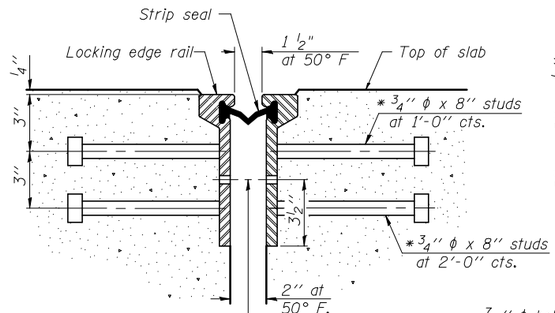
The manufacturer's recommended installation methods shall be followed.

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.

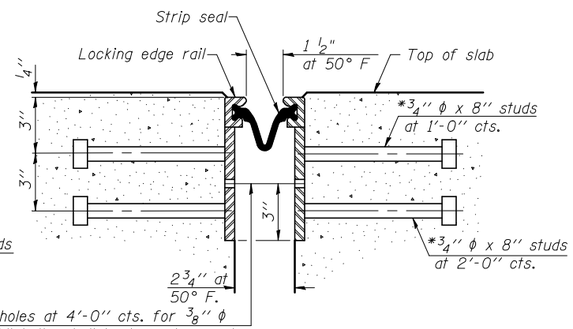
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



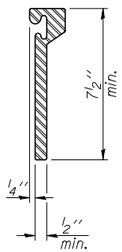
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

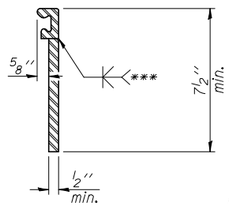


7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

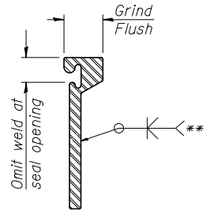
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



** Back gouge 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.

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	152

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

EJ-SSJ 1-27-12

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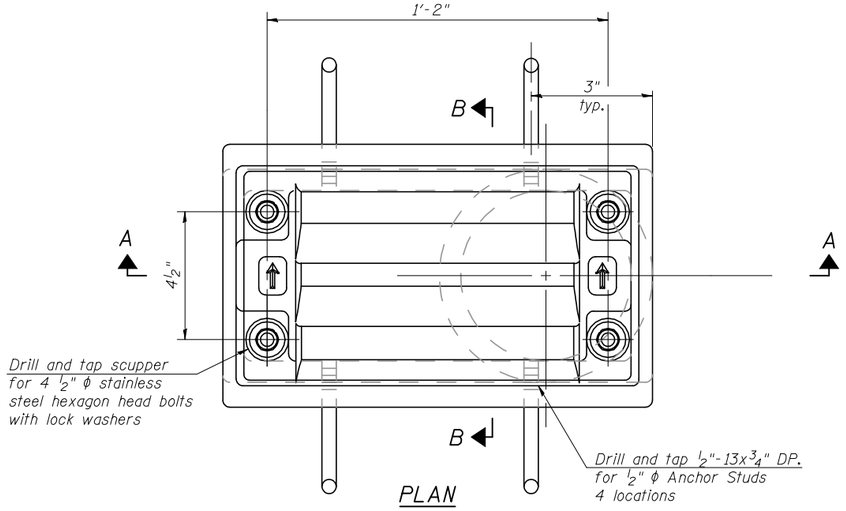
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

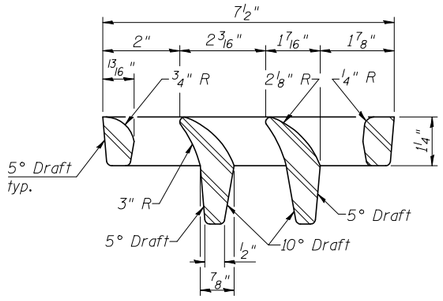
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.18 OF 42 SHEETS

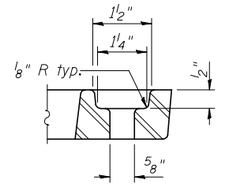
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VBJK (18-47B, 18-47HB)BR	CUMBERLAND	147	110
		CONTRACT NO. 74466		
		ILLINOIS	FED. AID PROJECT	



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

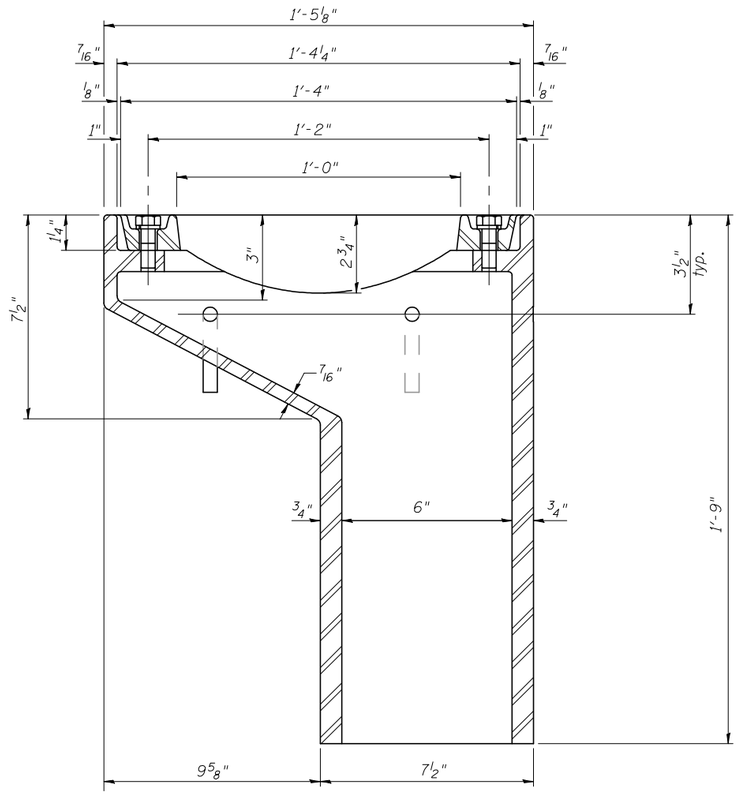
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

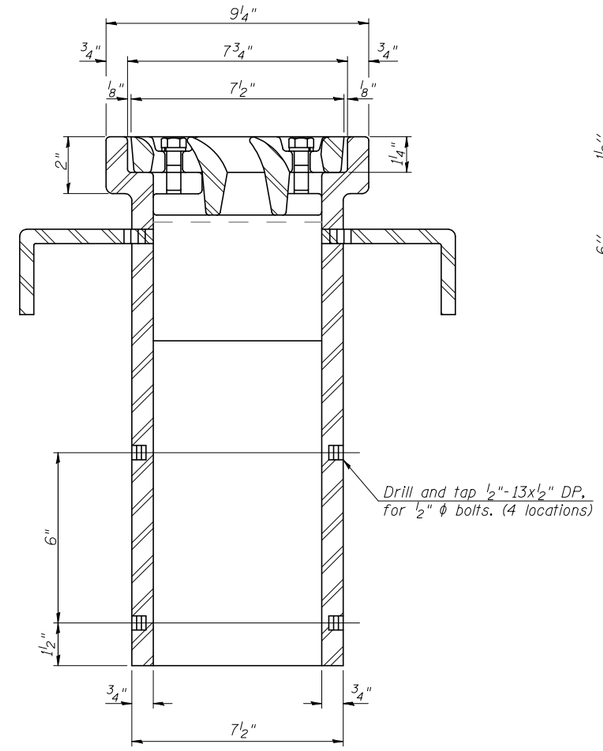
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.

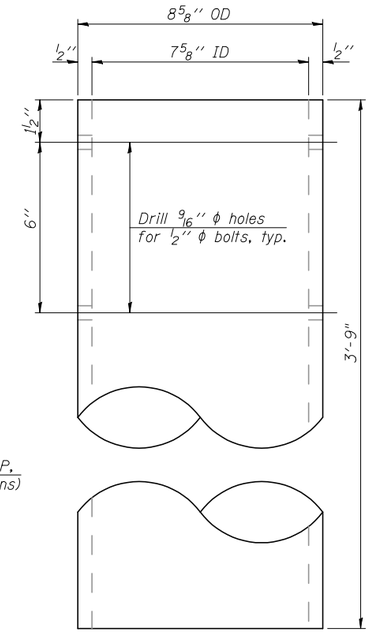


SECTION A-A

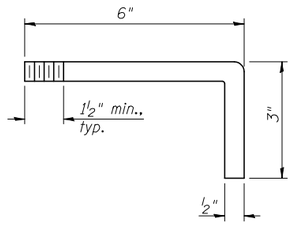
See sheet 13 of 42 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

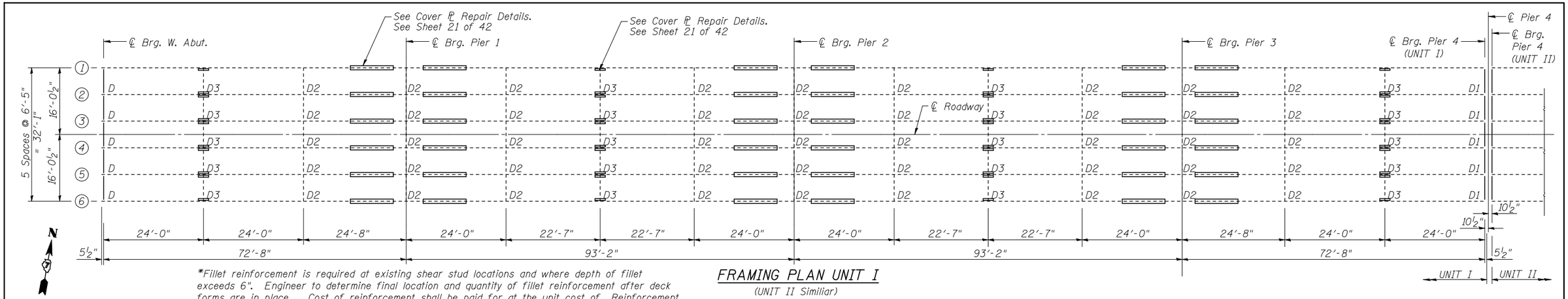
BILL OF MATERIAL

Item	Unit	Quantity
Drainage Scupper, DS-11	Each	12

DS-11 7-1-10

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

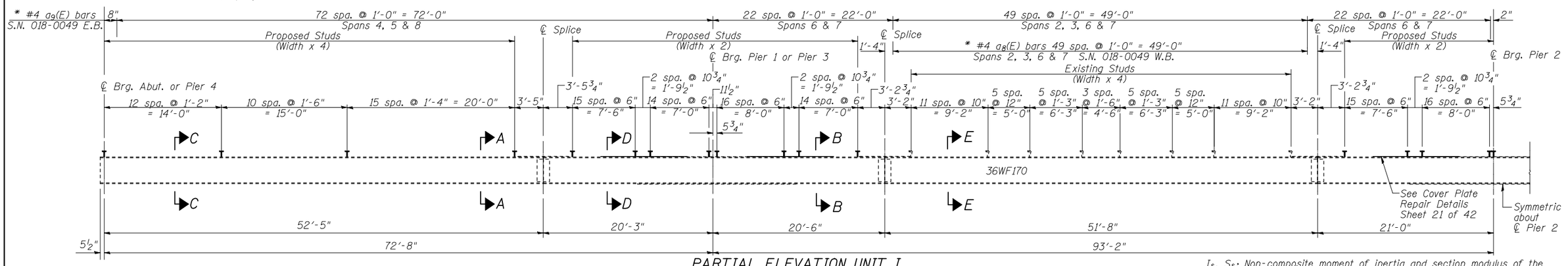
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DRAINAGE SCUPPER, DS-11 STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VBJK (18-47B, 18-47HB)BR	CUMBERLAND	147	111
	PLOT SCALE =	DRAWN MLO	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.19 OF 42 SHEETS			ILLINOIS FED. AID PROJECT		



*Fillet reinforcement is required at existing shear stud locations and where depth of fillet exceeds 6". Engineer to determine final location and quantity of fillet reinforcement after deck forms are in place. Cost of reinforcement shall be paid for at the unit cost of Reinforcement Bars, Epoxy Coated.

FRAMING PLAN UNIT I

(UNIT II Similiar)

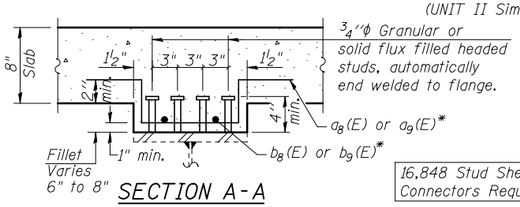


PARTIAL ELEVATION UNIT I

(UNIT II Similiar)

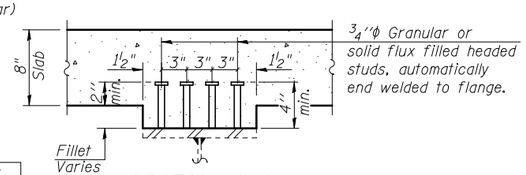
INTERIOR GIRDER MOMENT TABLE					
		0.4 Sp. 1, 0.6 Sp. 4, 0.4 Sp. 5, or 0.6 Sp.8	Pier 1, 3, 5 or 7	0.5 Sp. 2, Sp. 3, Sp. 6, or Sp.7	Pier 2 or 6
I_s	(in^4)	10312	14942	10312	15902
$I_{c(n)}$	(in^4)	27371	35376	27371	36979
$I_{c(3n)}$	(in^4)	19590	25390	19590	26566
$I_{c(cr)}$	(in^4)		18607		19616
S_s	(in^3)	571	802	571	848
$S_{c(n)}$	(in^3)	852	1120	852	1174
$S_{c(3n)}$	(in^3)	759	1003	759	1052
$S_{c(cr)}$	(in^3)		887		933
w_D	(k/')	0.911	0.965	0.911	0.975
M_D	('k)	328	686	322	731
s_D	(k/')	0.300	0.300	0.300	0.300
M_{sD}	('k)	105	213	105	228
M_L	('k)	484	483	503	529
M_{IM}	('k)	122	116	115	121
$\frac{5}{3}[M_L + I]$	('k)	1011	1000	1031	1084
M_a	('k)	1876	2470	1896	2655
M_u	('k)	2329		2332	
f_s D non-comp	(ksi)	6.9	10.3	6.8	10.4
f_s D (comp)	(ksi)	1.7	2.9	1.7	3.0
$f_s \frac{5}{3}[M_L + M_I]$	(ksi)	14.3	13.6	14.6	14.0
f_s (Overload)	(ksi)	22.9	26.8	23.1	27.4
** f_s (Total)	(ksi)		34.8		35.6
VR	(k)	50.1	53	39.9	52

**Partially braced at piers

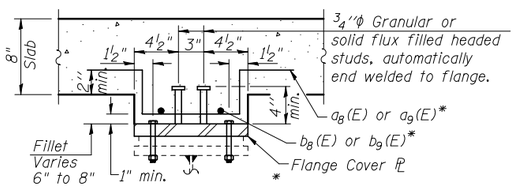


SECTION A-A

16.848 Stud Shear Connectors Required

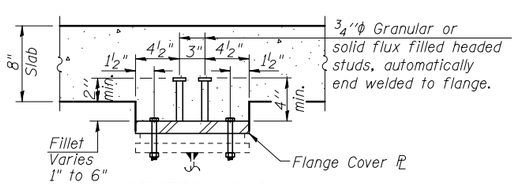


SECTION C-C



SECTION B-B

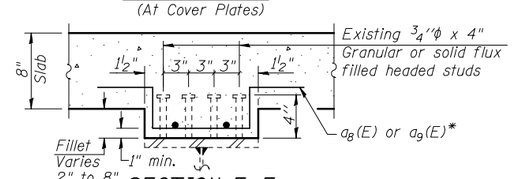
(At Cover Plates)



SECTION D-D

(At Cover Plates)

REACTION TABLE		INTERIOR GIRDERS		
		Abut. Pier 4	Pier 1, 3, 5 or 7	Pier 2 or 6
R_D	(k)	33.6	114.7	118.0
R_L	(k)	35.6	51.3	52.5
R_I	(k)	9.0	8.8	8.4
R_{Total}	(k)	78.2	174.8	178.9



SECTION E-E

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 ($in.^4$ and $in.^3$).

$I_{c(n)}$, $S_{c(n)}$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_{c(3n)}$, $S_{c(3n)}$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_{c(cr)}$, $S_{c(cr)}$: Composite moment of inertia and section modulus of the steel and deck reinforcement based upon a cracked section. Used for computing f_s DL (comp) at piers due to composite (superimposed) dead and live loads ($in.^4$ and $in.^3$).

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

M_D: Un-factored moment due to non-composite dead load (kip-ft.).

s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.)

M_{sD}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

M_I: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.). $1.3\ [M_D + M_{sD} + \frac{5}{3}(M_L + M_I)]$

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). $M_D + M_{sD} + \frac{5}{3}(M_L + M_I)$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi). $1.3\ [M_D + M_{sD} + \frac{5}{3}(M_L + M_I)]$

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

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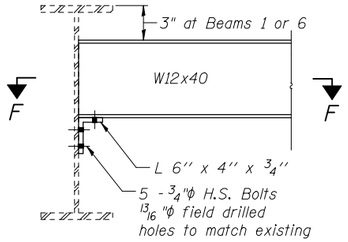
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN CGF	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

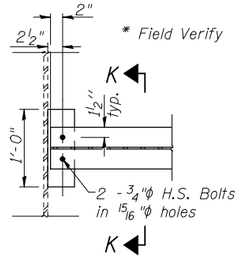
FRAMING PLAN
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 20 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	112
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		



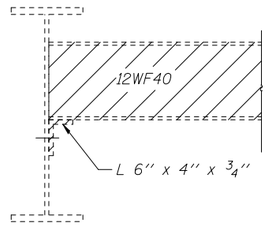
END DIAPHRAGM D

(10 locations, each bridge)



SECTION F-F

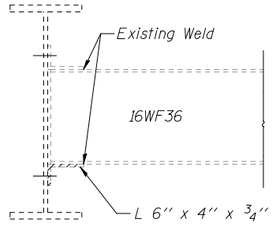
SECTION K-K



EXISTING END DIAPHRAGM D AND D1

(Showing Removal)

Remove existing diaphragms and support angles at abutments and Pier 4 only. Cost included with Structural Steel Removal.



EXISTING INTERIOR DIAPHRAGM D3

(Showing Removal)

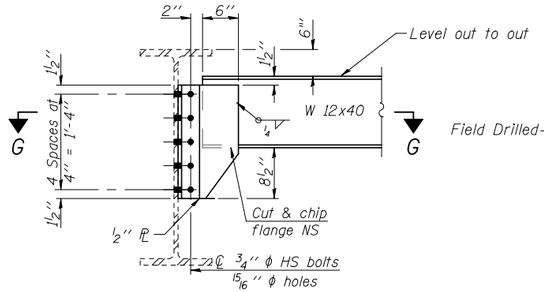
Remove existing lower support angles only. Grind welds smooth. Cost included with Structural Steel Removal.

Procedure for Jacking and Removing Existing Bearings, at Abutments:

1. The Contractor shall submit, for approval by the Engineer, plans for jacking existing beams and removing the existing bearings prior to commencing any related work. See Special Provision for Jack and Remove Existing Bearings.
2. Jacking and removing existing bearings shall be done after existing concrete deck is removed and prior to pouring the new concrete deck. The maximum dead load reaction per beam (weight of steel only) and the minimum jack capacity are as shown in table.
3. The new bearings and steel extensions shall be in place and the jacks shall be lowered prior to pouring the new concrete deck.

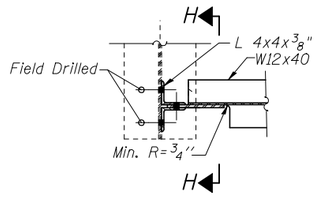
Procedure for Jacking and Cribbing, at Pier 4:

1. The Contractor shall submit, for approval by the Engineer, plans for jacking and cribbing the existing beams prior to commencing any concrete removal work at existing Pier 4. See Special Provision for Jacking and Cribbing.
2. The Contractor shall verify existing bearing dimensions and details, and make necessary approved adjustments to the bearing seats prior to construction or ordering of materials.
3. Jacking the existing beams shall be done after the existing deck is removed, the cribbing is in place and before the new deck is poured. The maximum dead load reaction per beam for each unit (weight of steel only) is 6k.
4. Cost of removal of the existing bearings is included in the pay item Jacking and Cribbing.
5. The new concrete pedestals shall be cured, the new bearings shall be in place, and the jacks shall be lowered prior to pouring the new concrete deck.
6. Bearings to be replaced after proposed diaphragms are installed at Pier 4. Jacking off of proposed diaphragms at Pier 4 is allowed (See Special Provision).

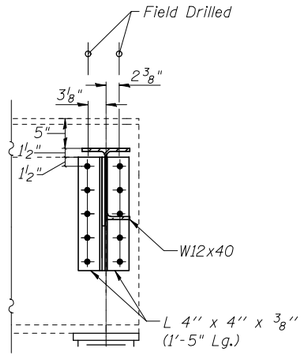


END DIAPHRAGM D1

(10 locations, each bridge)



SECTION G-G



SECTION H-H

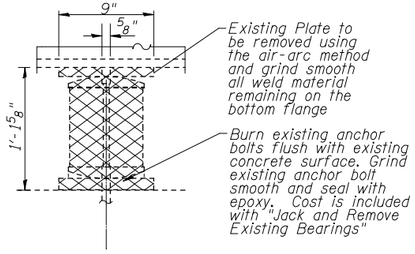
Notes:

Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

Two hardened washers required for each set of oversized holes. See Sheet 20 of 42 for Section B-B.

Bearings and diaphragms will be removed and replaced after deck is removed and before proposed deck is placed.

Cost of field drilling is included with Furnishing and Erecting Structural Steel. Hatched areas indicate Structural Steel Removal.



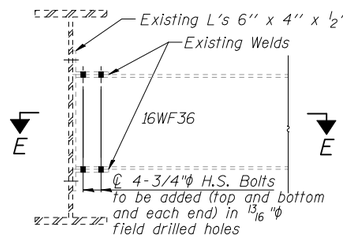
EXISTING BEARING REMOVAL DETAIL

(Abuts & Pier 4)

Jacking Loads (per beam)		Abut.
R ℄ Steel Only	(K)	6
Min. Jack Capacity, Steel Only	(K)	12

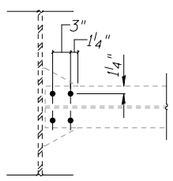
BILL OF MATERIAL

Item	Unit	Total
Structural Steel Removal	L Sum	1
Jacking and Cribbing	Each	24
Jack and Remove Existing Bearings	Each	24

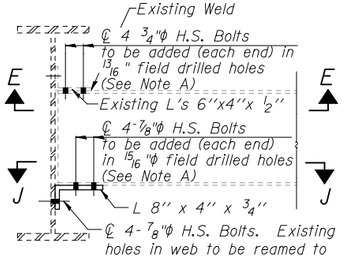


INTERIOR DIAPHRAGM D2

(90 diaphragm locations, each bridge)

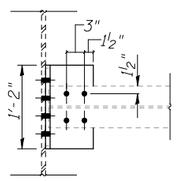


SECTION E-E



INTERIOR DIAPHRAGM D3

(40 diaphragm locations, each bridge)



SECTION J-J

Notes for Interior Diaphragms D2 & D3:

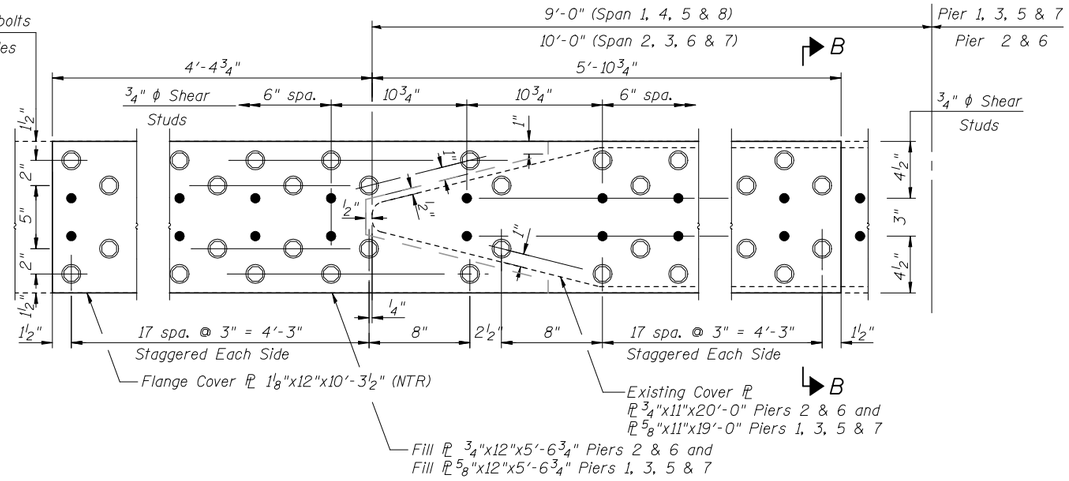
Note A: Several of the original welds from the horizontal leg of the angles to the diaphragms are broken. Numerous locations have already been repaired by adding bolts. New 3/4"ϕ bolts shall be added to all connections which have not yet been repaired in this way, as shown in the details above for diaphragm D2 and Diaphragm D3. Where any bolts are missing from the already repaired locations, new bolts shall also be installed as directed by the Engineer. At the lower clip angle for Diaphragms D3 only, the existing angle shall be removed and replaced as shown.

Note B: The lower clip angles at Diaphragm D3 only shall have the existing 3/4"ϕ bolts in the vertical leg removed and replaced with 7/8"ϕ bolts. The existing holes in the beam web shall be reamed to 15/16"ϕ. Where any bolts are missing from the vertical leg angle connections at other locations, new bolts shall be installed as directed by the Engineer. Cost of reaming included in Furnishing and Erecting Structural Steel.

The number of bolts needed is estimated to be 4,160 (3520 - 3/4"ϕ, 640 - 7/8"ϕ).

Engineer to contact B.B.S if spacing and edge distance requirements cannot be met.

Cost is included in Furnishing and Erecting Structural Steel.



COVER PLATE REPAIR DETAILS

Note: One fill plate and one flange cover plate required at each end of each top flange existing cover plate.

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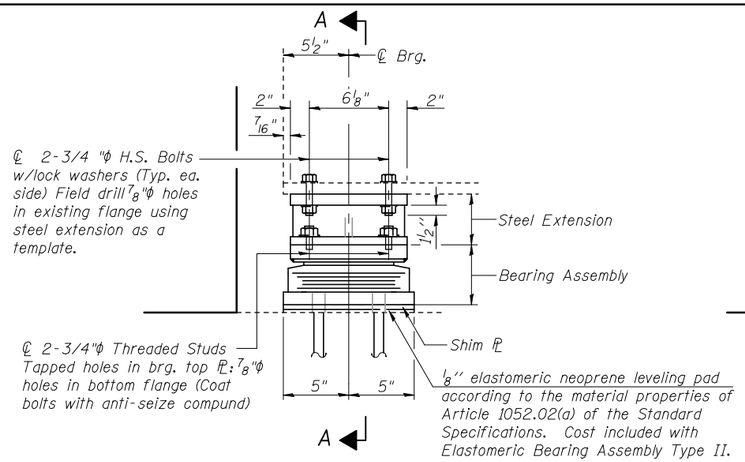
	PLOT SCALE =	DRAWN CGF	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

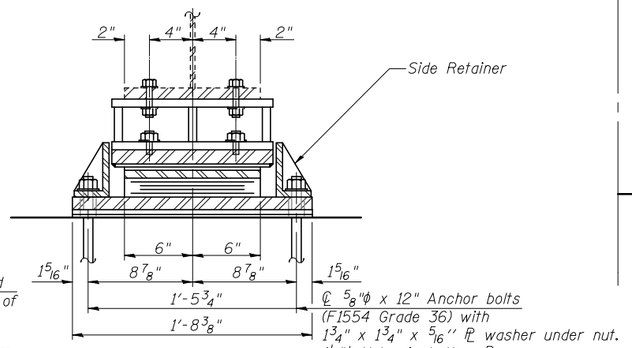
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 21 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	113
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

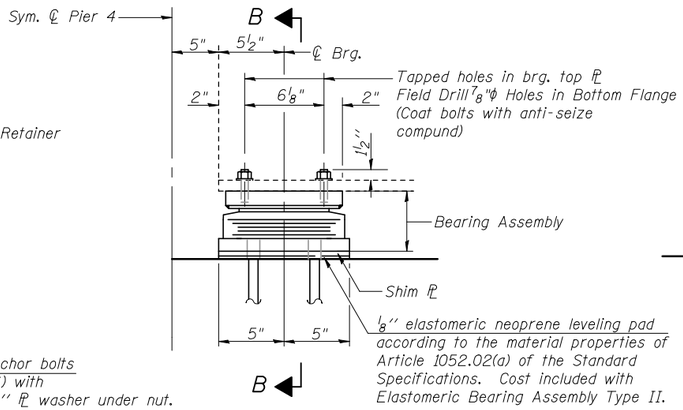


ELEVATION AT ABUT.

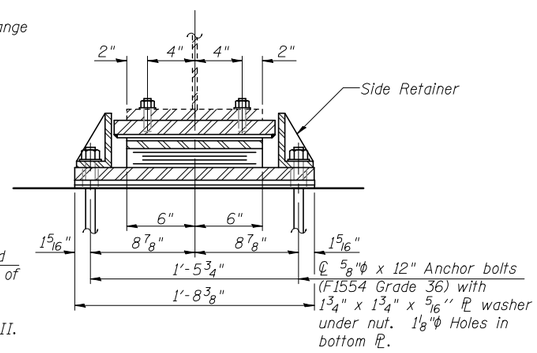


SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.

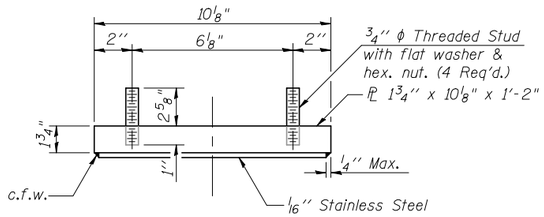


ELEVATION AT PIER 4

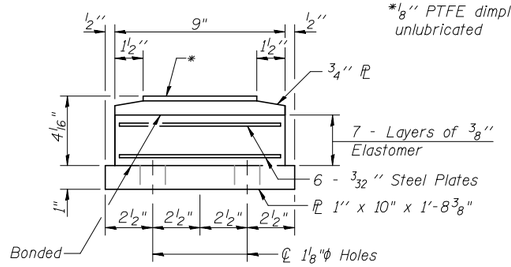


SECTION B-B

TYPE II ELASTOMERIC EXP. BRG.

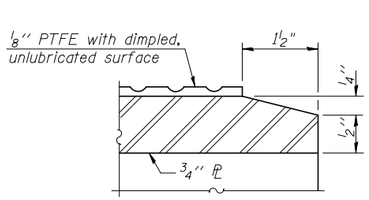


TOP BEARING ASSEMBLY

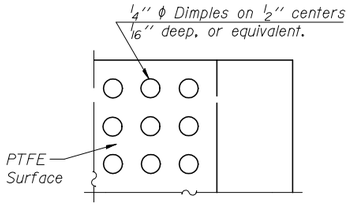


*1/8" PTFE dimpled, unlubricated

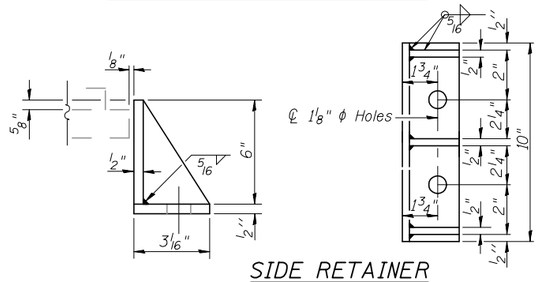
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE

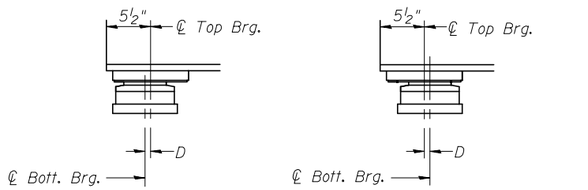


PLAN-PTFE SURFACE



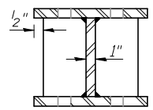
SIDE RETAINER

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

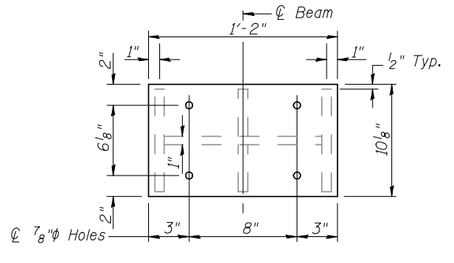


SETTING ANCHOR BOLTS AT EXP. BRG.

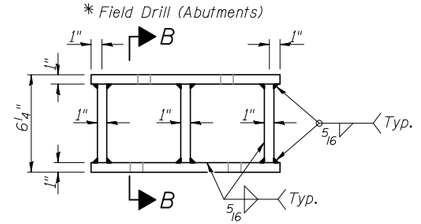
D='8" per each 100° of expansion for every 15° temp. change from the normal temp. of 50°F.



SECTION B-B



PLAN STEEL EXTENSION



ELEVATION STEEL EXTENSION

(Abutments)

Notes:

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

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in 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 elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

Steel extensions, shims and bolts shall be included in the cost of Furnishing and Erecting Structural Steel.

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

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 cost of field drilling is included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	48
Anchor Bolts, 5/8"	Each	192
Furnishing & Erecting Structural Steel	L Sum	1

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FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
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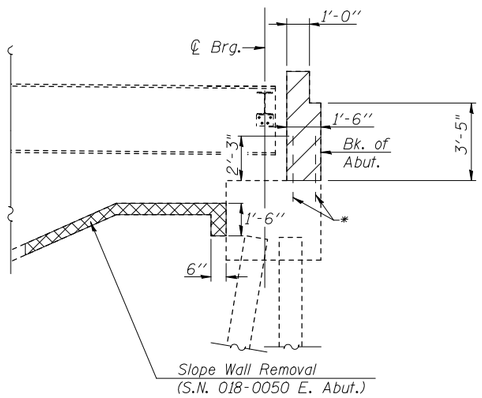
	PLOT SCALE =	DRAWN MCB/O	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

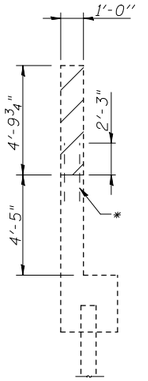
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 22 OF 42 SHEETS

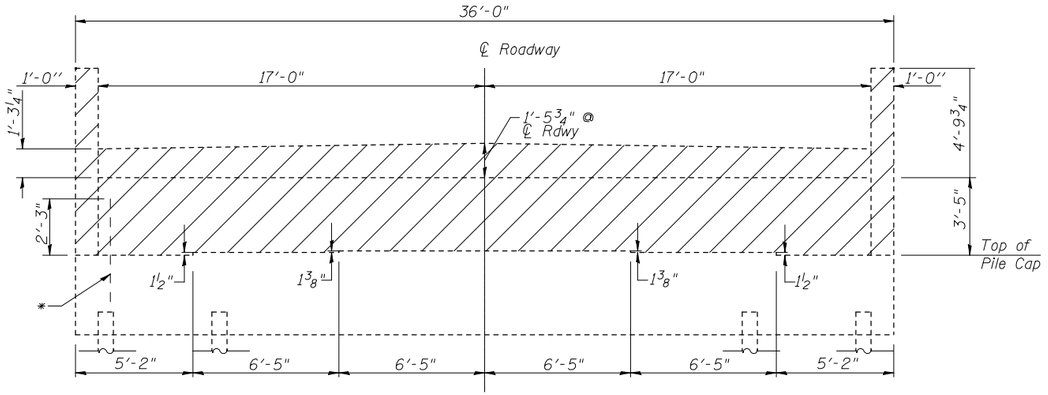
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	114
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



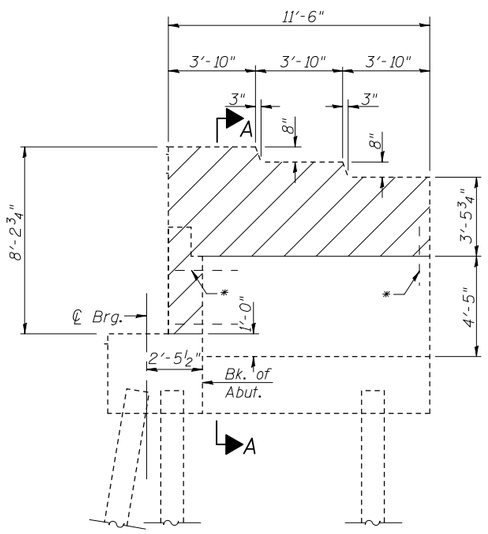
SECTION THRU ABUTMENT



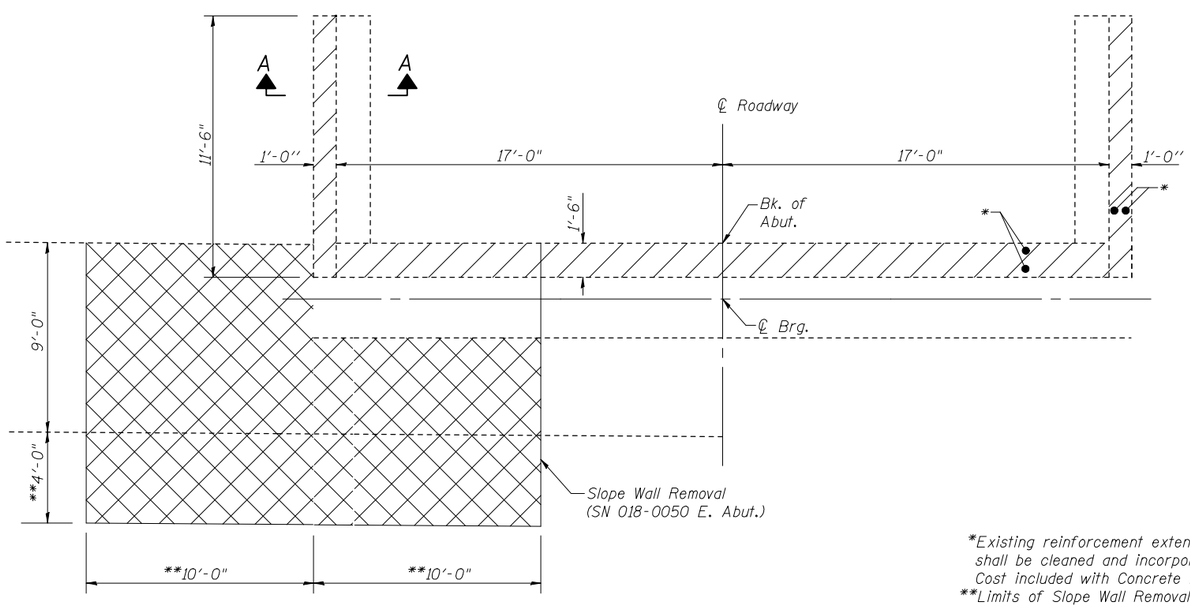
SECTION A-A



ELEVATION



TYPICAL WING ELEVATION



*Existing reinforcement extending into new construction shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

**Limits of Slope Wall Removal and Slope Wall 6" may be varied to suit existing conditions in the field as directed by the Engineer.

Notes

Hatched areas indicate Concrete Removal.

Crosshatched areas indicate Slope Wall Removal.

See Sheet 24 of 42 for Slope Wall 6" details.

E. ABUT. PLAN AT BACKWALL

(W. Abut. Similiar)

BILL OF MATERIAL 4 ABUTS.

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	49.2
Slope Wall Removal	Sq. Yd.	27

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT CONCRETE REMOVAL
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 23 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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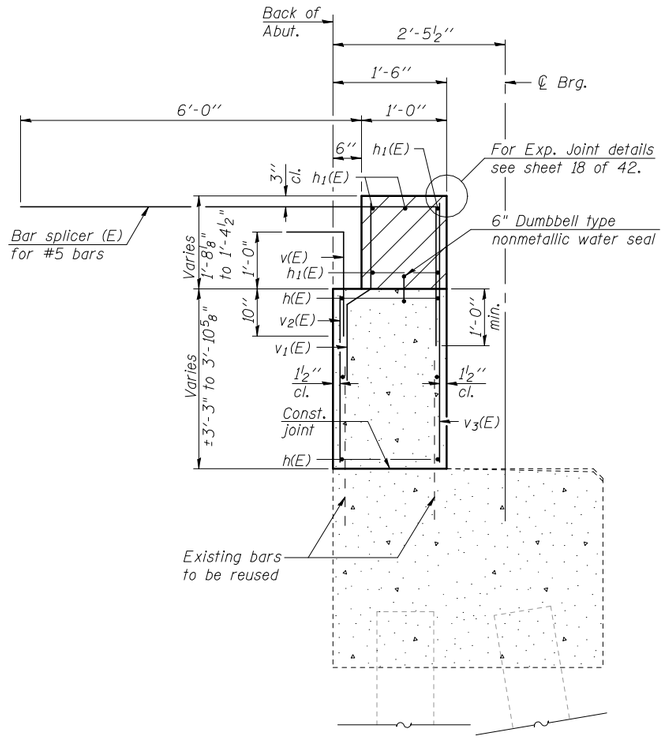
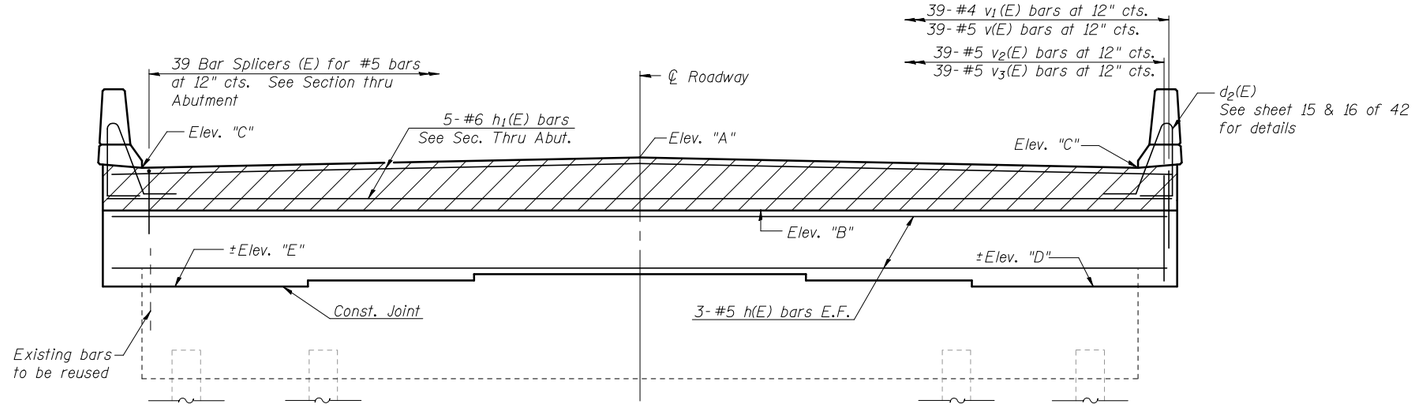
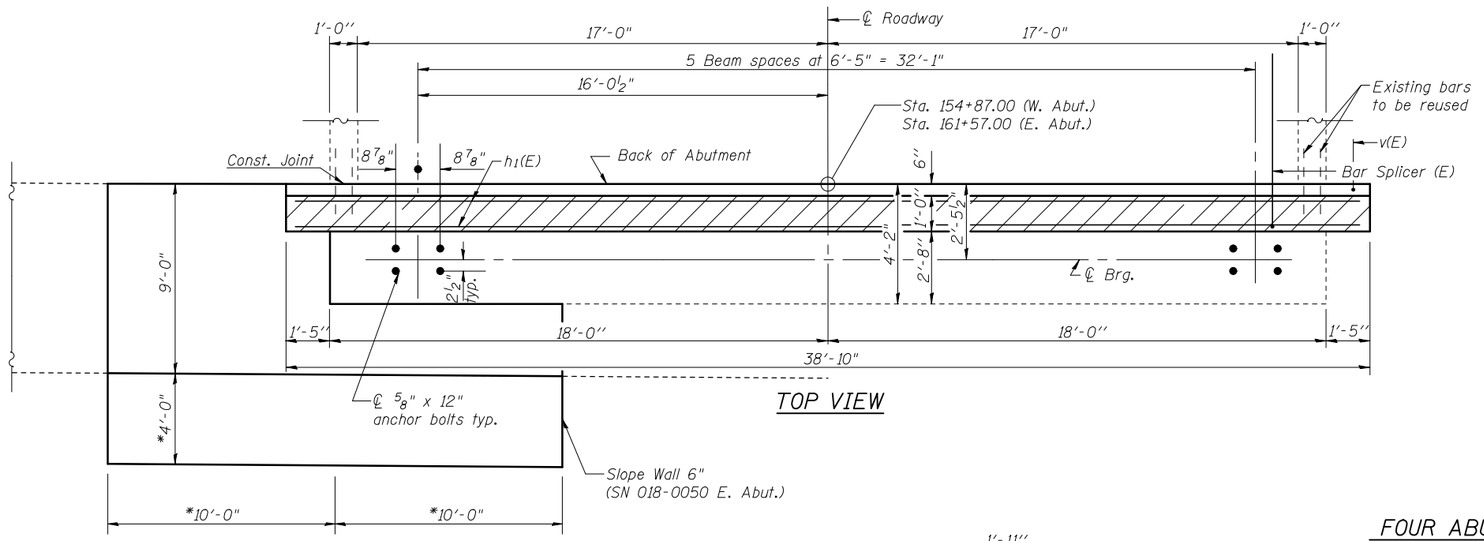
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



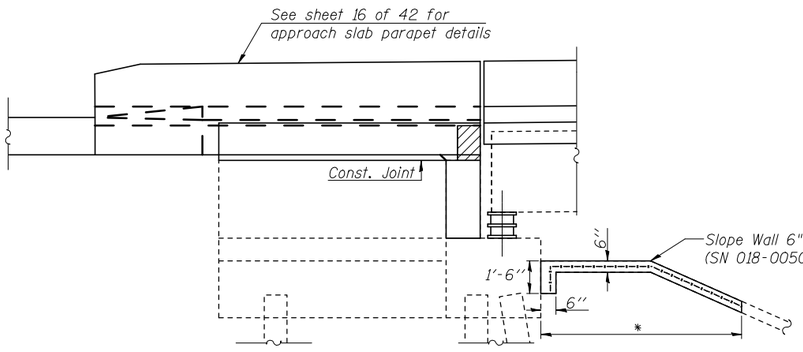
SEC. THRU ABUT.



ELEVATION



TOP VIEW

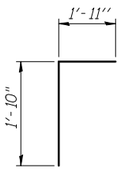


WINGWALL ELEVATION

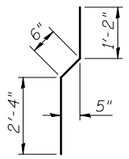
*Limits of Slope Wall Removal and Slope Wall 6" may be varied to suit existing conditions in the field as directed by the Engineer.

	S.N. 018-0049 (Westbound)		S.N. 018-0050 (Eastbound)	
Elev.	W. Abut.	E. Abut.	W. Abut.	E. Abut.
"A"	545.37	539.81	545.36	539.56
"B"	543.69	538.13	543.68	537.87
"C"	545.06	539.50	545.05	539.25
±"D"	545.09	534.24	540.06	534.37
±"E"	545.09	534.25	540.09	534.38

ELEVATION TABLE



BAR v(E)



BAR v1(E)

Notes:
Hatched block to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Concrete Sealer shall be applied to the front face of the abutment backwall and hatched block.

FOUR ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	24	#5	38'-6"	
h1(E)	20	#6	38'-6"	
v(E)	156	#5	3'-9"	
v1(E)	156	#4	4'-0"	
v2(E)	156	#5	2'-10"	
v3(E)	156	#5	4'-4"	
Structure Excavation		Cu. Yd.	255	
Concrete Structures		Cu. Yd.	30.7	
Reinforcement Bars, Epoxy Coated		Pound	4320	
Slope Wall 6"		Sq. Yd.	27	
Concrete Sealer		Sq. Ft.	792	

For details of Bar Splicers, see sheet 34 of 42.

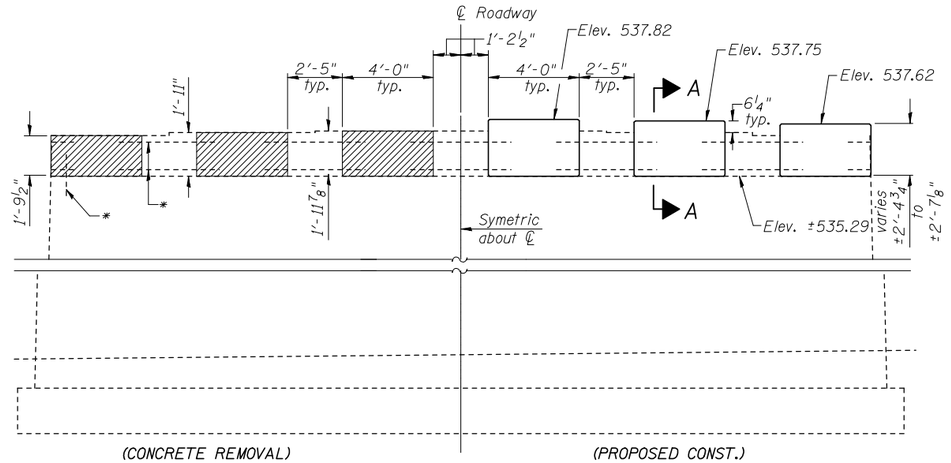
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

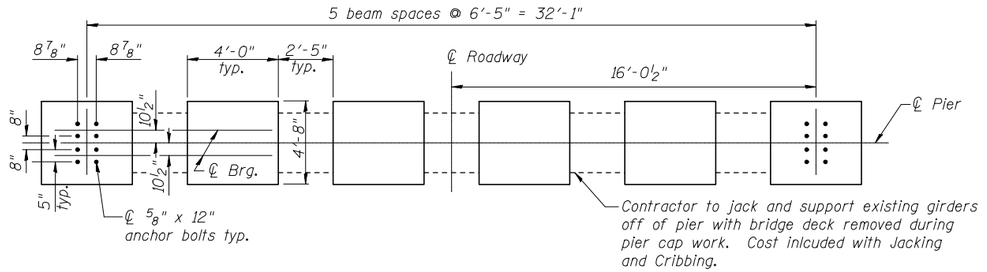
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 24 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	116
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

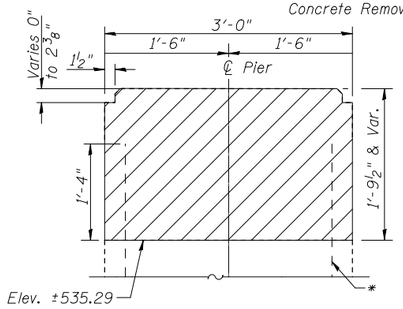


ELEVATION AT PIER 4

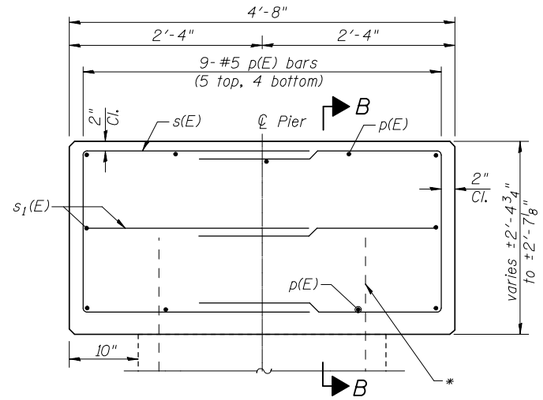


TOP VIEW AT PIER 4

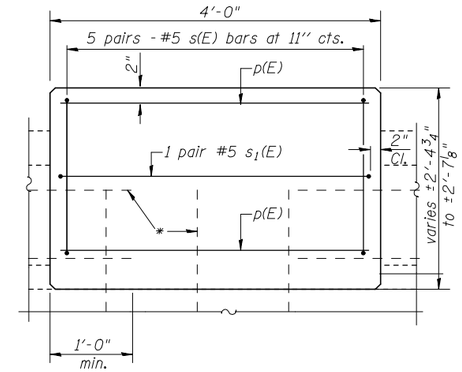
* Existing reinforcement extending into new construction shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.



SECTION A-A
(CONCRETE REMOVAL)

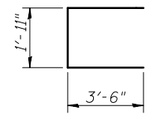


SECTION A-A
(PROPOSED CONST.)

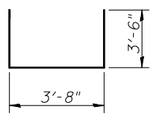


SECTION B-B

Notes:
Hatched areas indicate Concrete Removal.
Concrete Sealer shall be applied to vertical and horizontal faces of the concrete pedestals.
Space reinforcement in cap to miss anchor bolts.
Bearing seat elevations may require adjustment as directed by the Engineer. See Procedure for Jacking and Cribbing at Pier 4, on Sheet 21 of 42.



BAR s(E)



BAR $s_1(E)$

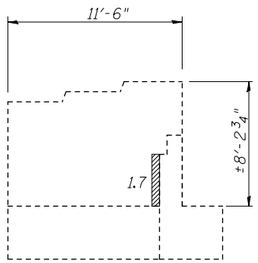
TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p(E)	108	#5	3'-9"	——
s(E)	120	#5	9'-0"	⊏
$s_1(E)$	24	#5	10'-9"	⊔
Concrete Structures			Cu. Yd.	20.7
Reinforcement Bars, Epoxy Coated			Pound	1820
Concrete Removal			Cu. Yd.	10.1
Concrete Sealer			Sq. Ft.	567

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

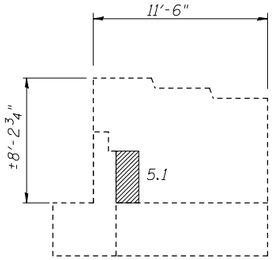
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 4 REMOVAL & REPAIR DETAILS STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
		CHECKED MCB	REVISED -		
	PLOT SCALE =	DRAWN MLO	REVISED -		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO. 25 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	117
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

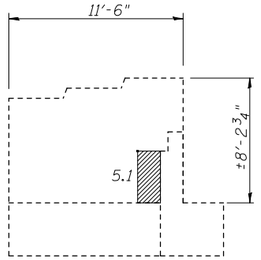


SOUTH WING

WEST ABUTMENT

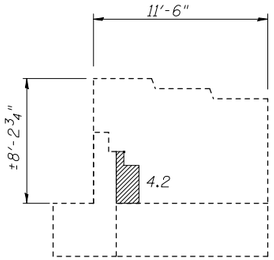


NORTH WING



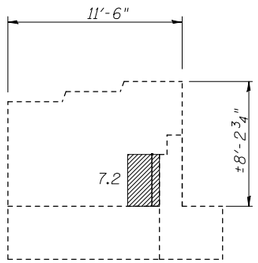
NORTH WING

EAST ABUTMENT



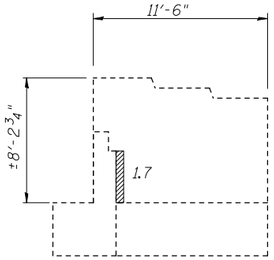
SOUTH WING

S.N. 018-0049

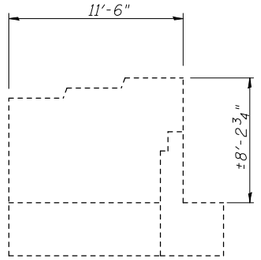


SOUTH WING

WEST ABUTMENT

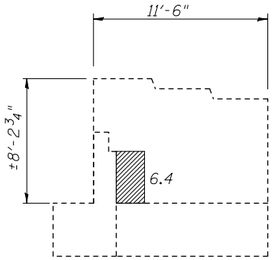


NORTH WING



NORTH WING

EAST ABUTMENT



SOUTH WING

S.N. 018-0050

LEGEND

Structural Repair of Concrete (Depth Equal To or Less Than 5")

FOUR ABUTMENTS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	31.4

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

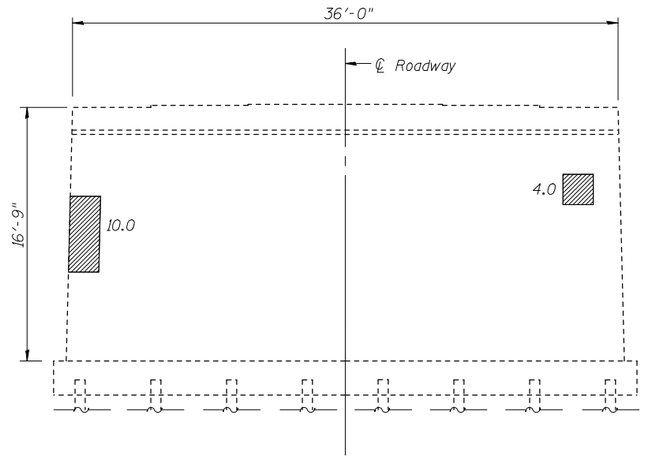
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

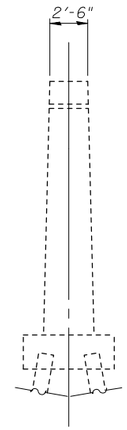
CONCRETE REPAIR DETAILS (WINGWALLS)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)

SHEET NO.26 OF 42 SHEETS

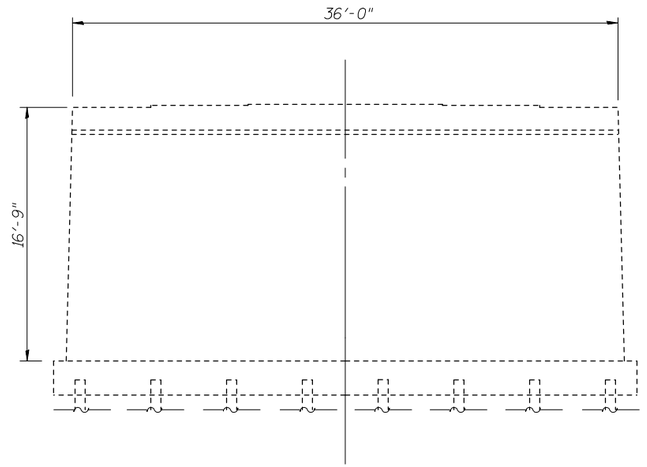
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	118
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



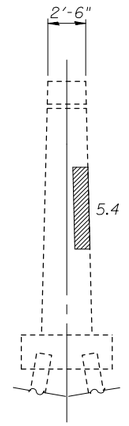
WEST FACE PIER 1



SOUTH FACE

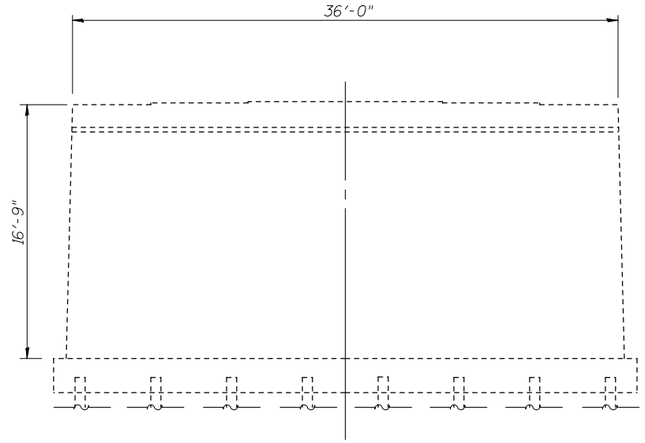


EAST FACE PIER 1



NORTH FACE

S.N. 018-0049



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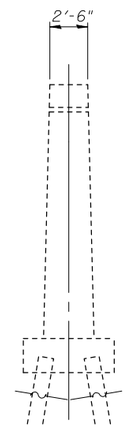

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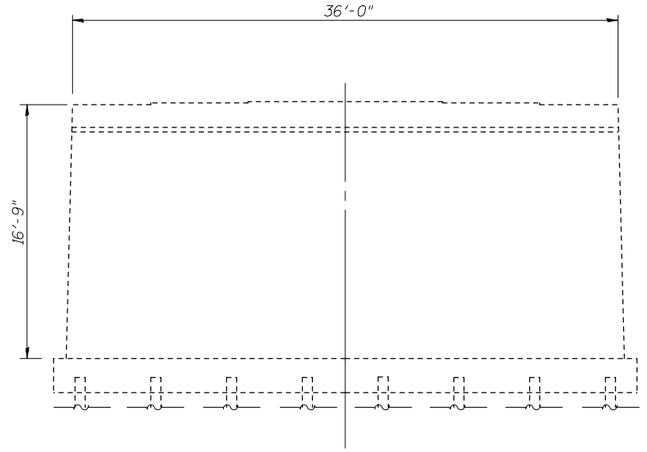
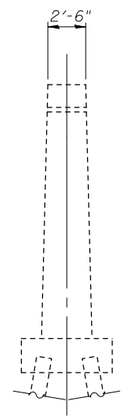


EAST FACE PIER 1



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete
(Depth Equal To or Less Than 5")

TWO PIERS
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	19.4

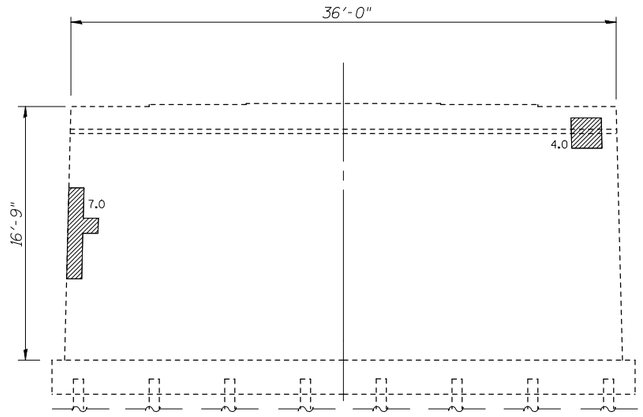
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

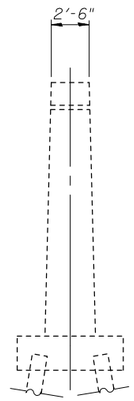
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 1)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.27 OF 42 SHEETS

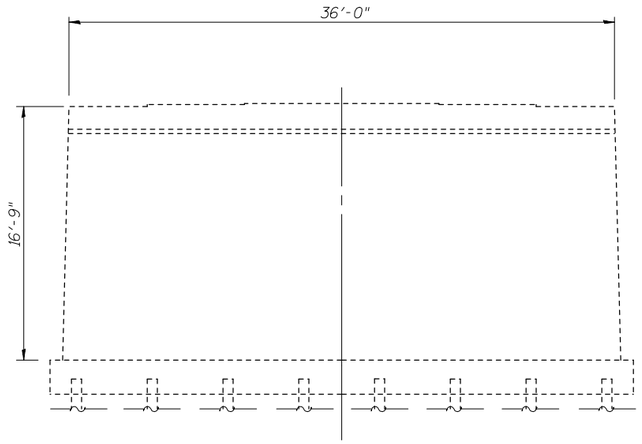
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	119
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



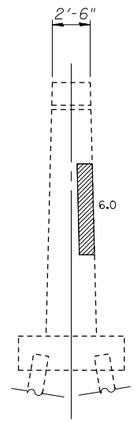
WEST FACE PIER 2



SOUTH FACE

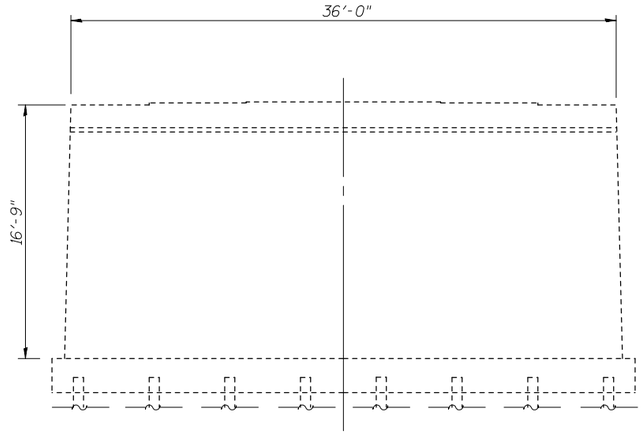


EAST FACE PIER 2



NORTH FACE

S.N. 018-0049



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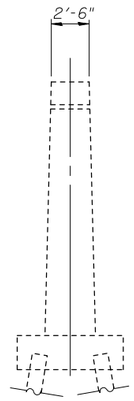
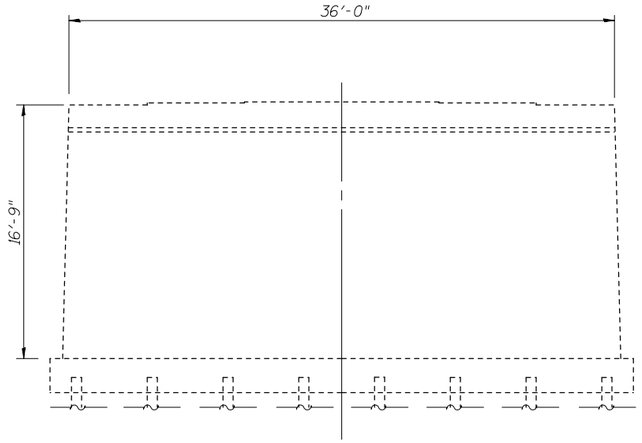
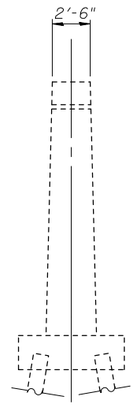


SOUTH FACE



EAST FACE PIER 2



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete (Depth Equal To or Less Than 5")

TWO PIERS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	17.0

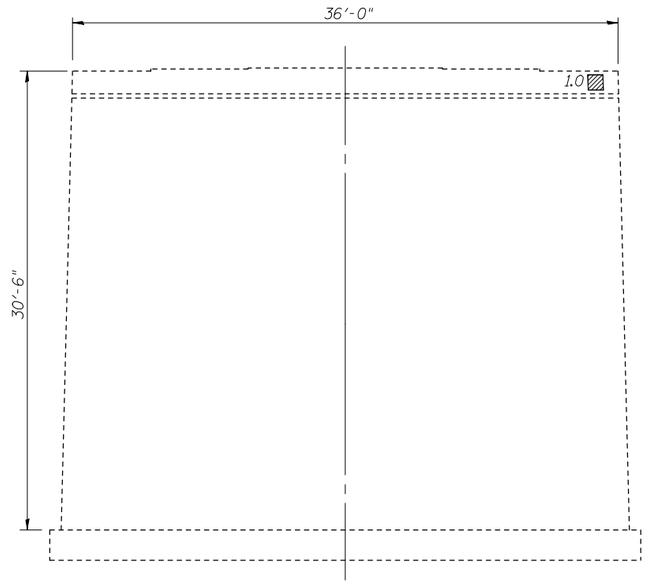
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

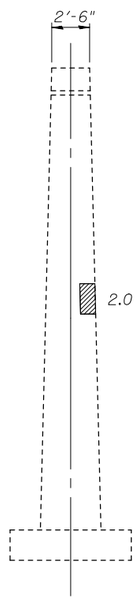
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 2)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.28 OF 42 SHEETS

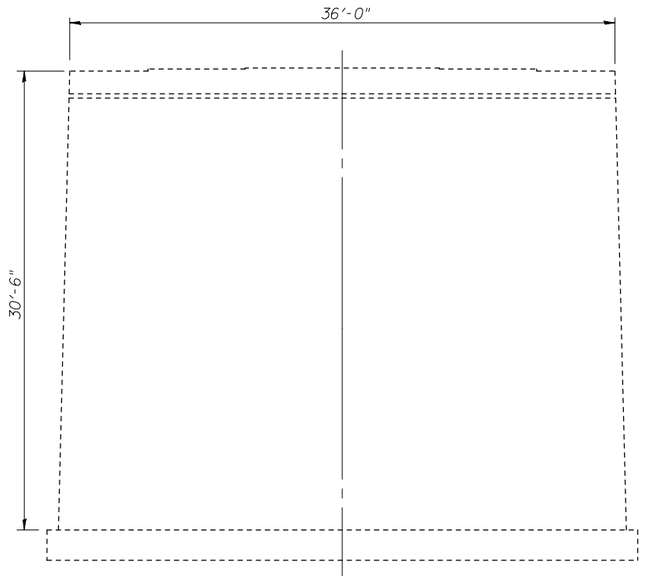
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	120
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



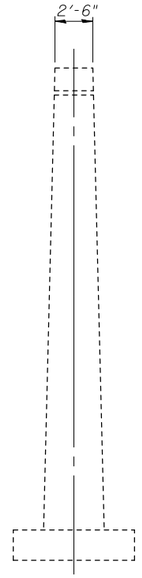
WEST FACE PIER 3



SOUTH FACE

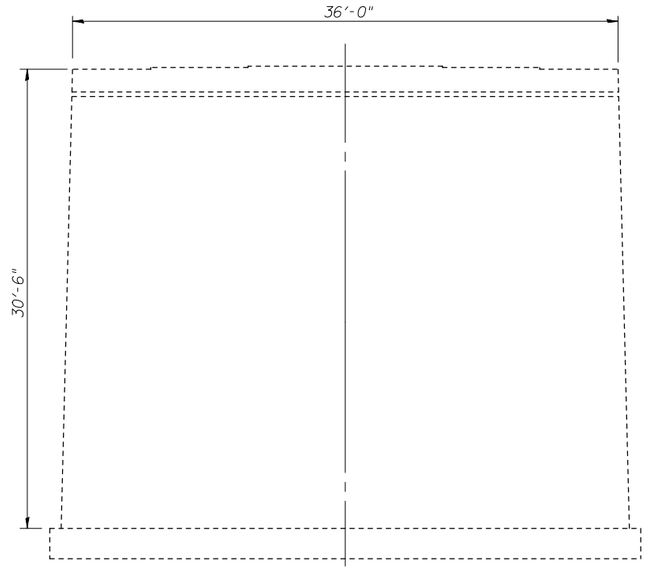


EAST FACE PIER 3

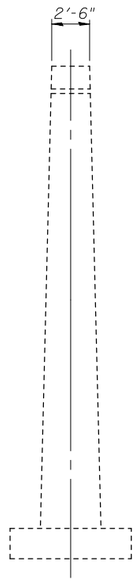


NORTH FACE

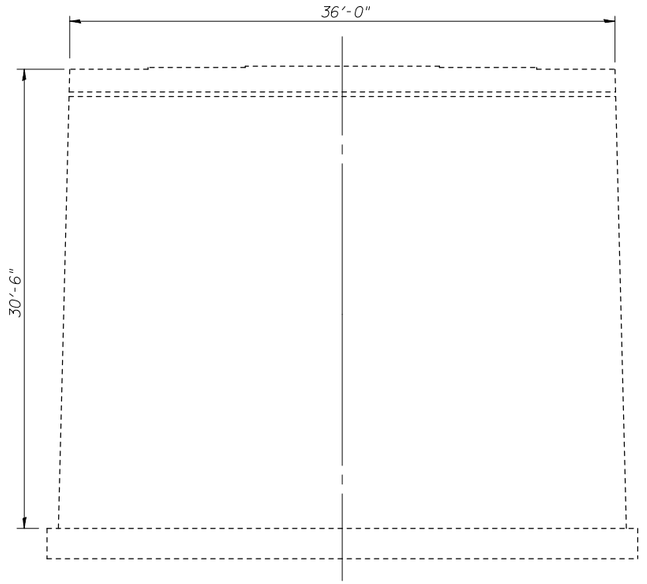
S.N. 018-0049



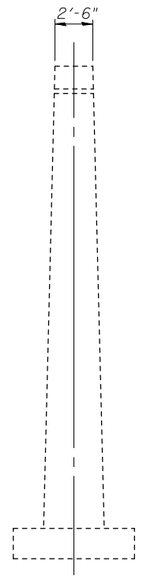
WEST FACE PIER 3



SOUTH FACE



EAST FACE PIER 3



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete
(Depth Equal To or Less Than 5")

TWO PIERS
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	3.0

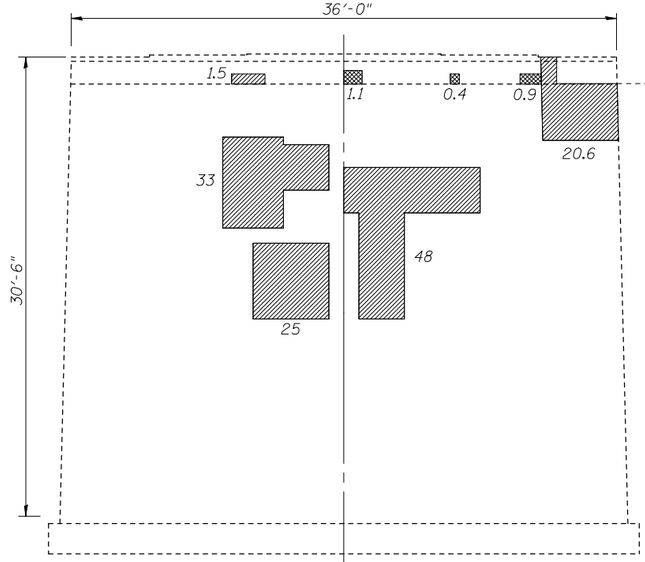
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

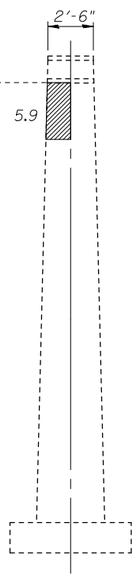
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 3)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.29 OF 42 SHEETS

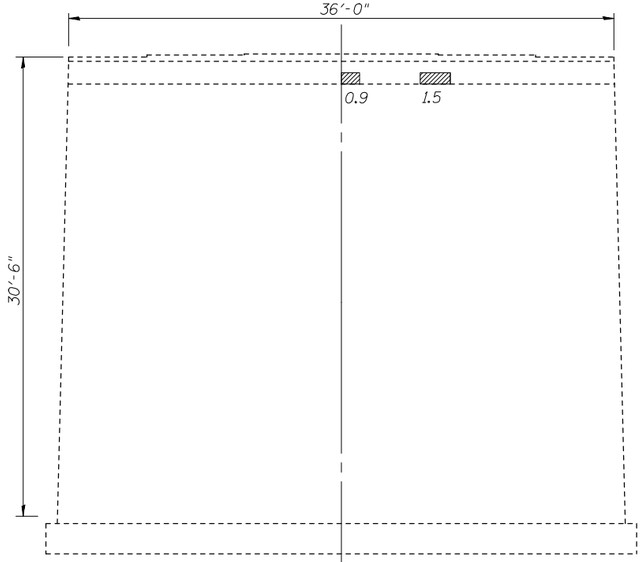
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VBJK (18-47B, 18-47HB)BR	CUMBERLAND	147	121
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



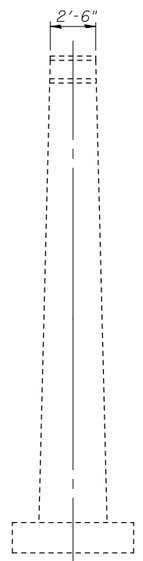
WEST FACE PIER 4



SOUTH FACE

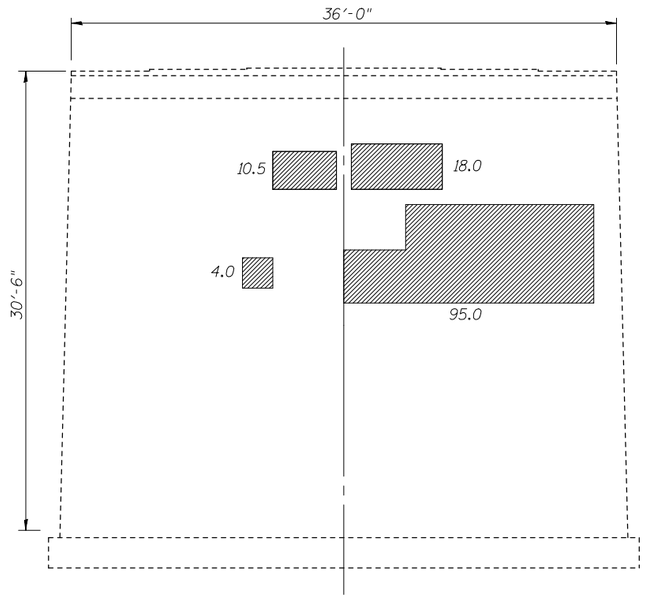


EAST FACE PIER 4

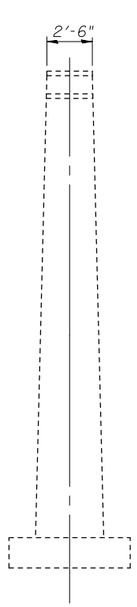


NORTH FACE

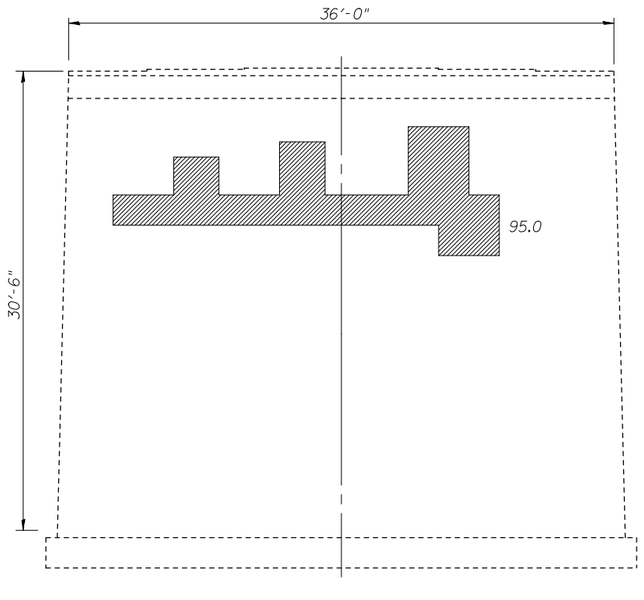
S.N. 018-0049



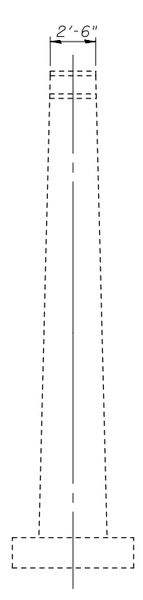
WEST FACE PIER 4



SOUTH FACE



EAST FACE PIER 4



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete (Depth Equal To or Less Than 5")

Structural Repair of Concrete (Depth Greater Than 5")

TWO PIERS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	358.9
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	2.4

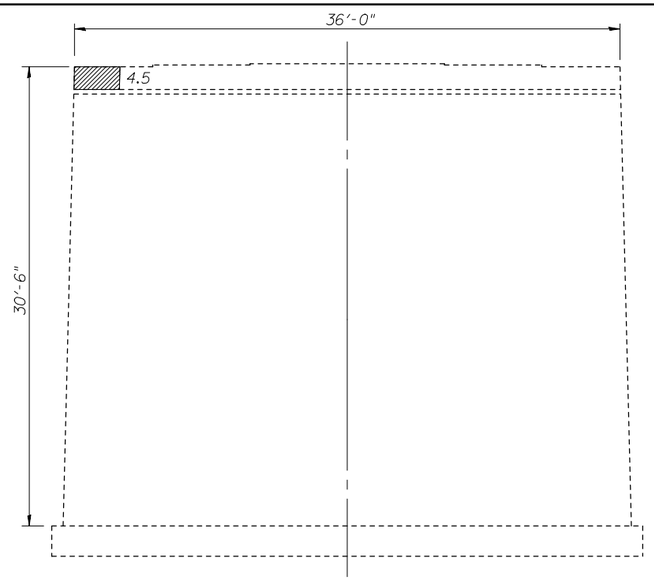
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

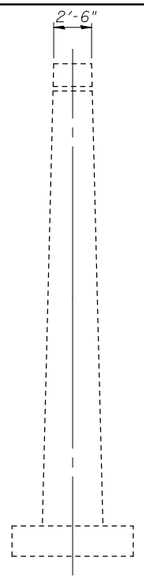
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 4)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.30 OF 42 SHEETS

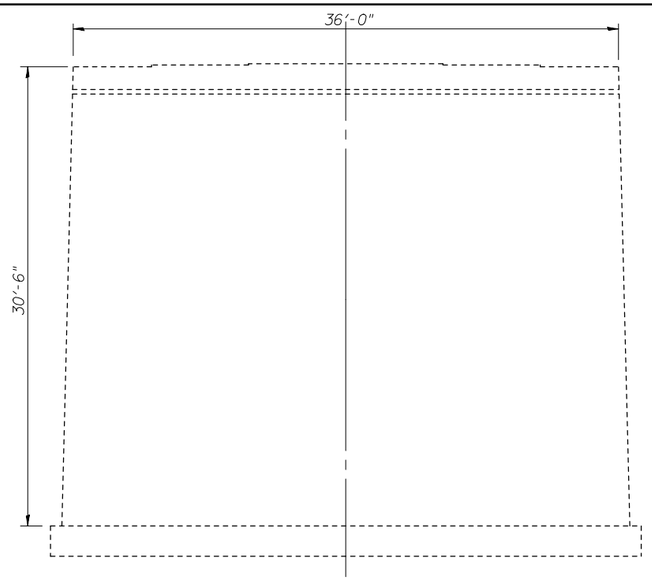
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	122
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



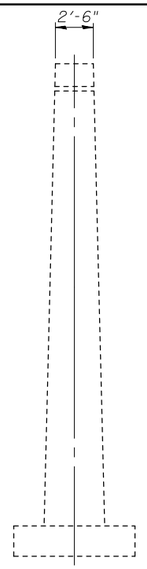
WEST FACE PIER 5



SOUTH FACE

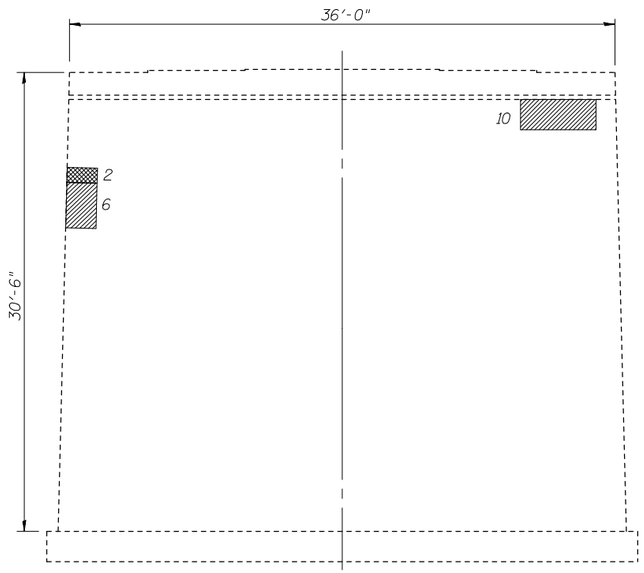


EAST FACE PIER 5

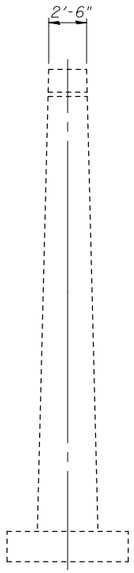


NORTH FACE

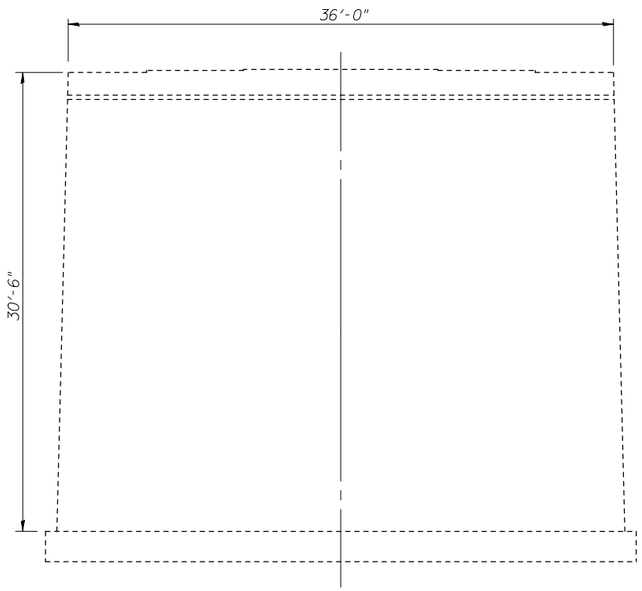
S.N. 018-0049



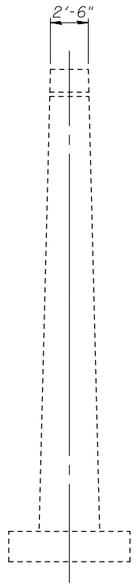
WEST FACE PIER 5



SOUTH FACE



EAST FACE PIER 5



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete (Depth Equal To or Less Than 5")

Structural Repair of Concrete (Depth Greater Than 5")

TWO PIERS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	20.5
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	2.0

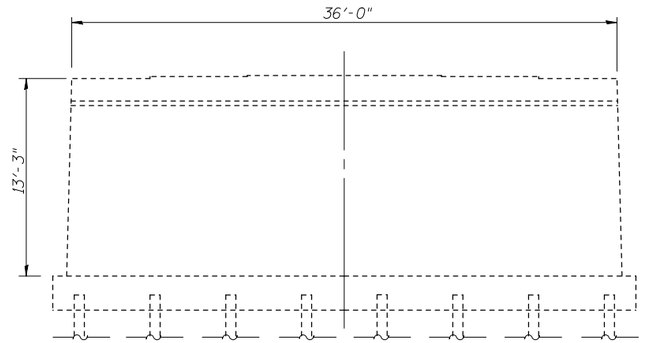
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

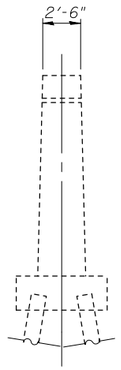
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 5)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.31 OF 42 SHEETS

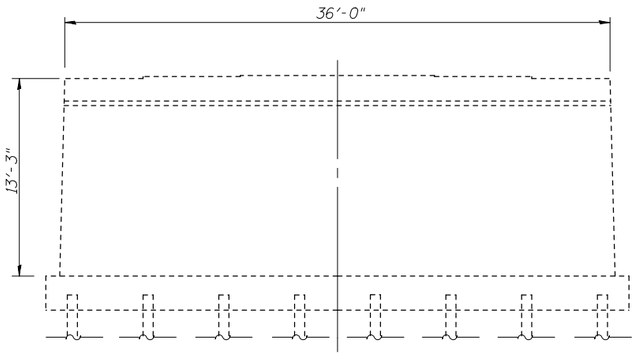
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	123
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			



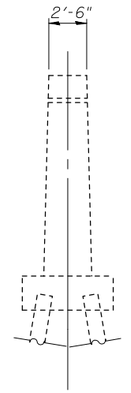
WEST FACE PIER 6



SOUTH FACE

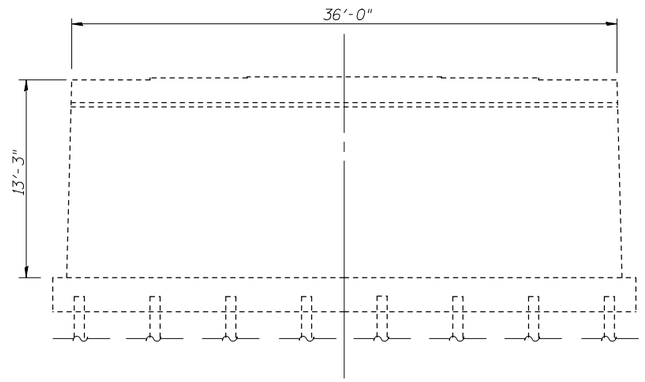


EAST FACE PIER 6

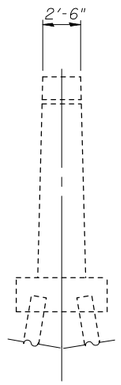


NORTH FACE

S.N. 018-0049



WEST FACE PIER 6



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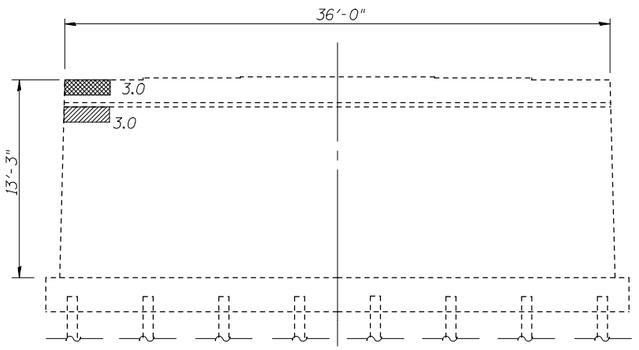

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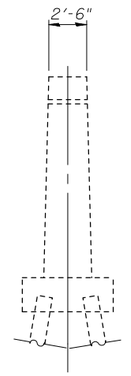


NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete (Depth Equal To or Less Than 5")

Structural Repair of Concrete (Depth Greater Than 5")

TWO PIERS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	3.0
Structural Repair of Concrete (Depth Greater Than 5")	Sq. Ft.	3.0

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

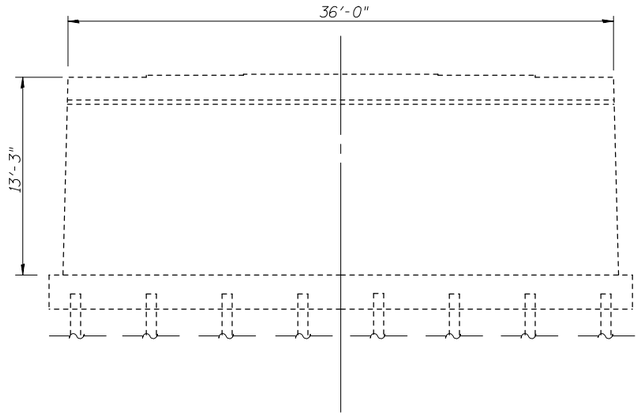
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

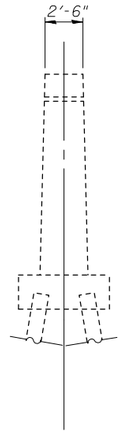
CONCRETE REPAIR DETAILS (PIER 6)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)

SHEET NO.32 OF 42 SHEETS

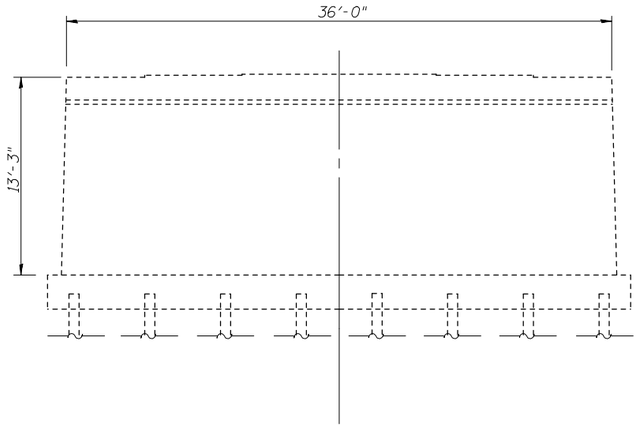
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	124
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



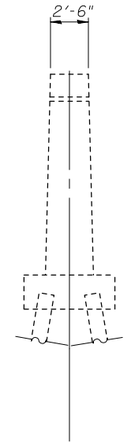
WEST FACE PIER 7



SOUTH FACE

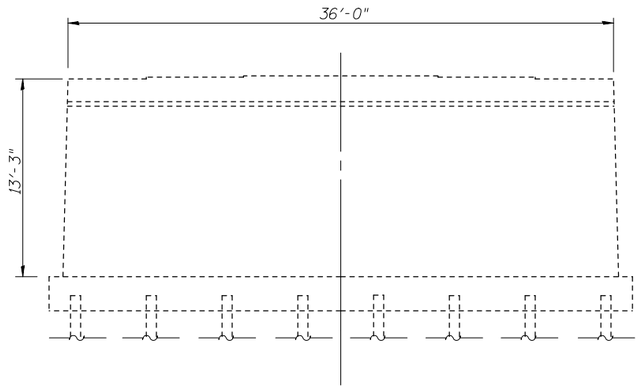


EAST FACE PIER 7

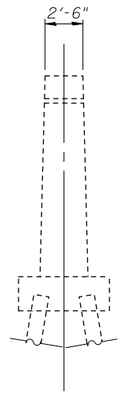


NORTH FACE

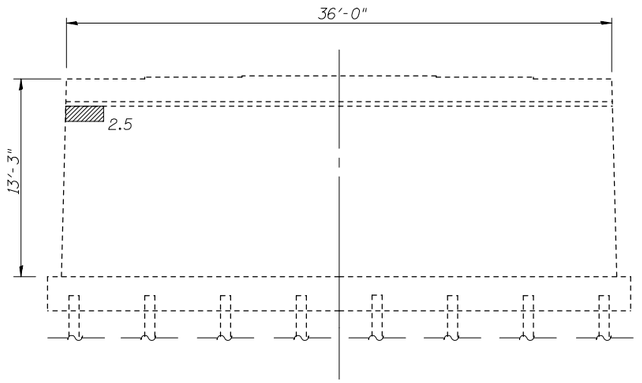
S.N. 018-0049



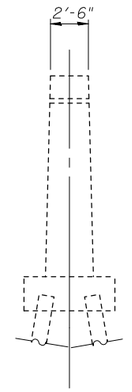
WEST FACE PIER 7



SOUTH FACE



EAST FACE PIER 7



NORTH FACE

S.N. 018-0050

LEGEND

Structural Repair of Concrete
(Depth Equal To or Less Than 5")

TWO PIERS BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	2.5

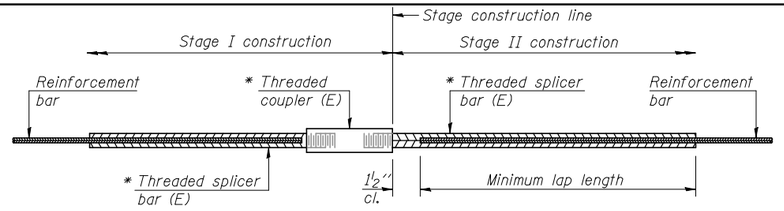
BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE REPAIR DETAILS (PIER 7)
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.33 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	125
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

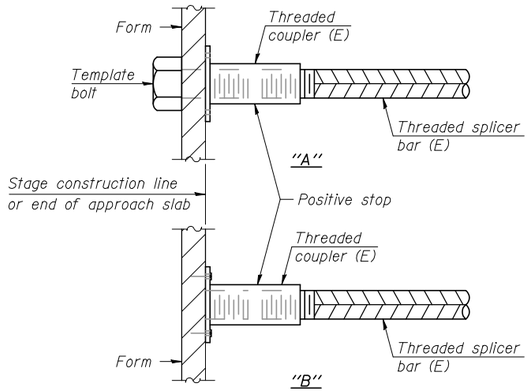
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

Table 1: Black bar, 0.8 Class C
Table 2: Black bar, Top bar lap, 0.8 Class C
Table 3: Epoxy bar, 0.8 Class C
Table 4: Epoxy bar, Top bar lap, 0.8 Class C
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1½" + thread length

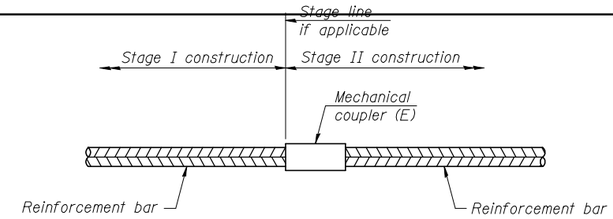
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



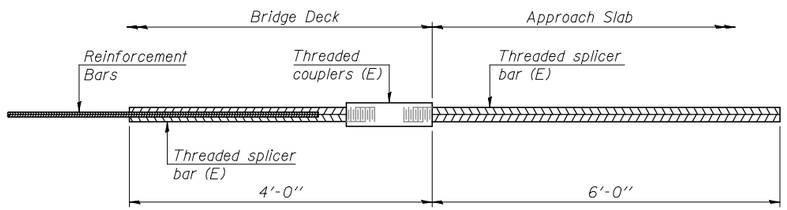
INSTALLATION AND SETTING METHODS

"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.



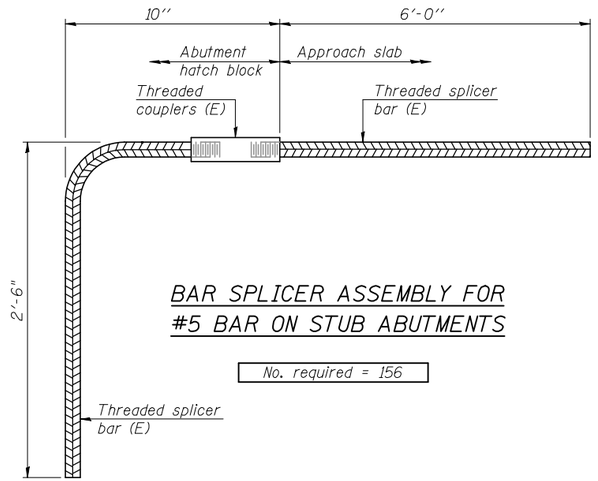
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 156

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 1-27-12

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

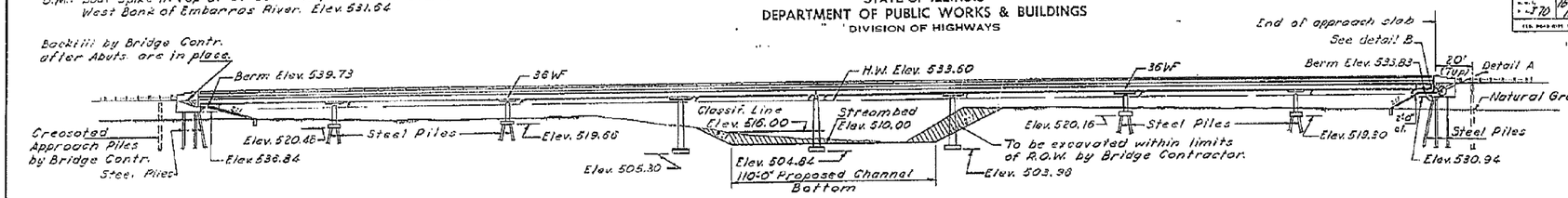
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	126
	PLOT SCALE =	DRAWN MLO	REVISED -					CONTRACT NO. 74466		
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.34 OF 42 SHEETS			ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

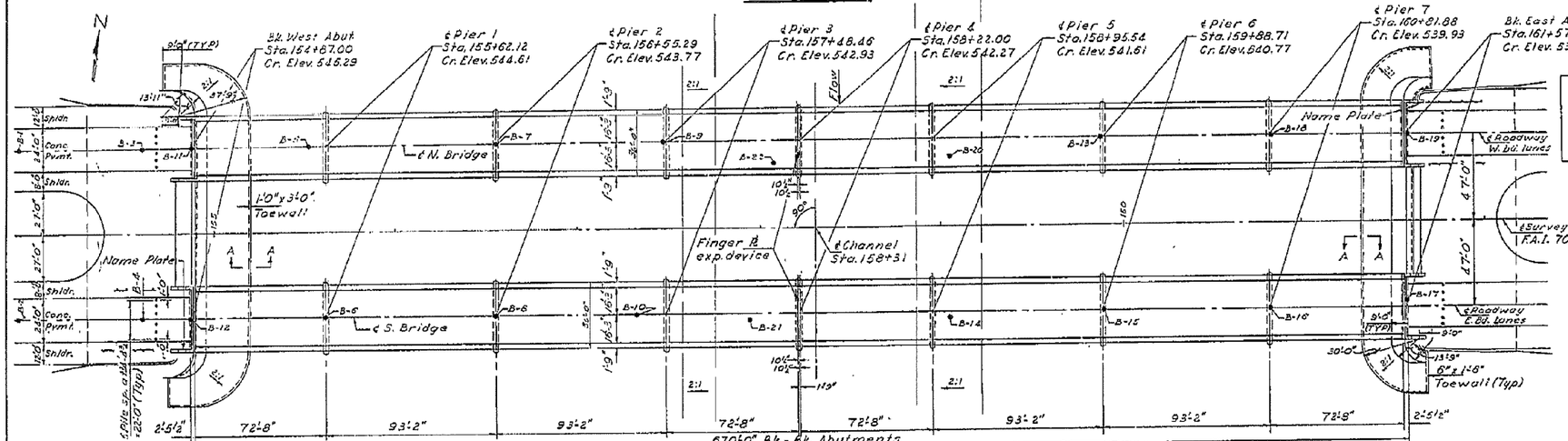
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	18-47 B	CUMBERLAND	29	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT I-76-70-4(57)107		

SHEET NO. 1
19 SHEETS

B.M.: Boat Spike in top of 20" oak stump 290' Lt. of Sta. 156+25 West Bank of Embarras River. Elev. 531.64



ELEVATION



APPR. PILE DATA

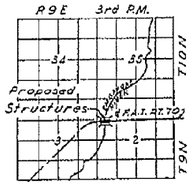
Type: Creosoted
Length: 20ft.
No.: 24

Note:
Excavation for portions of structures in the embankments shall not be classified.

STATION 158+31
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RT. 70 SEC. 18-47B
F.A. PROJ. I-76-70-4 (57)
LOADING HS20℄ALT.

NAME PLATE

(See Std. 2118-1)

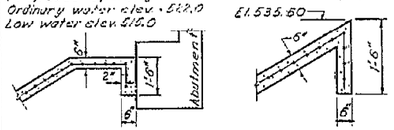


LOCATION SKETCH

WATERWAY INFORMATION

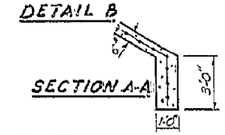
Drainage Area	650,000 acres
Character	rolling, hilly, wooded, cult. varies
Required Opening (50 yr Fl)	6800 sq. Ft.
Present Opening	None
Proposed Opening	6800 sq. ft.

Ordinary water elev. 512.0
Low water elev. 510.0



DETAIL B

DETAIL A



SECTION A-A

DESIGNED	C. H. Blank, P.E.	
CHECKED	A. Engel	
DRAWN	J. Kessler	
CHECKED	S.E.	
EXAMINED	Ralph Burroughs	JAN. 12 1966
PASSED		
APPROVED		

PLAN

GENERAL NOTES

Coarse aggregate to be used in parapet handrails and end post must be free of chert, flint, limonite, lignite and soft sandstone.

The concrete floor slab shall be finished in accordance with Art. 5.19 of the Standard Specifications.

Slope Wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

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

All reinforcement bars shall be lapped 20 dia unless otherwise shown.

Rivets 3/4" ø, open holes 13/16" ø unless otherwise noted.

Anchor bolts shall be set before fastening diaphragms over supports.

Exposed surfaces of the expansion devices, inaccessible after erection, shall receive two shop coats of red lead paint. All other surfaces shall be given one shop coat of red lead paint. Anchor studs shall not be painted.

Exp. devices are included in the quantity of struct. steel. Est. Wt. = 15030 Lbs.

Shear studs shall not be painted.

Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Art. 56.1 to 56.5 inclusive of the Standard Specifications.

Permanent forms will not be permitted in forming the concrete floor slab.

The Contractor shall drive four steel test piles, one each at the W. Abut., So. Bridge; E. Abut., No. Bridge; Pier 3, No. Bridge; and Pier 6, So. Bridge; each in a permanent location as directed by the Engineer, before ordering the remainder of the piles.

Steel piles shall be driven to refusal.

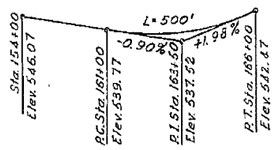
STUD SHEAR CONNECTORS ON THE BEAM FLANGES SHALL BE PLACED IN THE FIELD AFTER THE STEEL HAS BEEN ERECTED AND THE DECK FORMS ARE IN PLACE.

FIELD WELDING OF CONSTRUCTION ACCESSORIES TO THE BOTTOM FLANGES OR FOR A DISTANCE OF 1/4 OF THE SPAN EACH WAY FROM PIER SUPPORTS ON THE TOP FLANGES OF BEAMS OR GIRDERS WILL NOT BE PERMITTED. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
*	Class A Excav. For Structures	Cu. Yds.		655	655
	Rock Excav. for Structures	Cu. Yds.		163	163
	Class A Concrete	Cu. Yds.		1597.0	1597.0
	Class X Concrete	Cu. Yds.	1207.4	192.5	1399.9
	Protective Coat	Sq. Yds.	5850		5850
***	Structural Steel	Lbs.	1536960		1536960
	Aluminum Handrail	Lin. Ft.	2666		2666
	Reinforcement Bars	Lbs.	358030	76120	434150
	Creosoted Piles (up to 20')	Lin. Ft.		480	480
	Steel Piles (BBP36)	Lin. Ft.		3977	3977
	Test Piles Steel (BBP36)	Ea.		4	4
	Name Plates	Ea.		2	2
	Slope Wall (6")	Sq. Yds.		1670	1670
	Cofferdams (Pier 3)	Ea.		2	2
	Cofferdams (Pier 4)	Ea.		2	2
	Cofferdams (Pier 5)	Ea.		2	2
	Cofferdam Excavation	Cu. Yds.		1757	1757
**	Bridge Seat Sealant	L.S.		0.25	0.25

* Includes Excavation for Slope Walls.
** At Abuts. & Pier 6 only.
*** Includes applications on inside face, top, and exposed end of abutment wing walls.



VERTICAL CURVE

DESIGN STRESSES

fc = 1400 psi (slab); 1400psi all other
fs = 20,000 psi (Rsinf.)
fs = 20,000 psi (Struct.)
vc = 75 psi (Ftgs)
n = 10
Max Ftg. Pressure P-3, 5.10 ksf
P-4, 4.33 ksf P-5, 4.62 ksf
4 △ 7560 Composite
4 △ 9360 Non-Composite
LOADING HS20-44 & ALT.

GENERAL PLAN & ELEVATION

F.A.I. RT. 70 OVER EMBARRAS RIVER
PROJ. I-IE-70-4 (57) 107
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

Rev. 9-6-67 JWG. Shortened Wat. Wk. Granite. Changed Class X Concrete from 1665.3 Cu. Yds. to 1659.9 Cu. Yds. Changed Protective Coat from 6030 Sq. Yds. to 5850 Sq. Yds. Changed Struct. Steel from 1685370 Lbs. to 1536960 Lbs. Changed Reinforcement Bars from 405010 Lbs. to 434150 Lbs. Deleted Channel & Barr. Exc. Granite. Rev. N.M.D. 9/7/17

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 35 OF 42 SHEETS

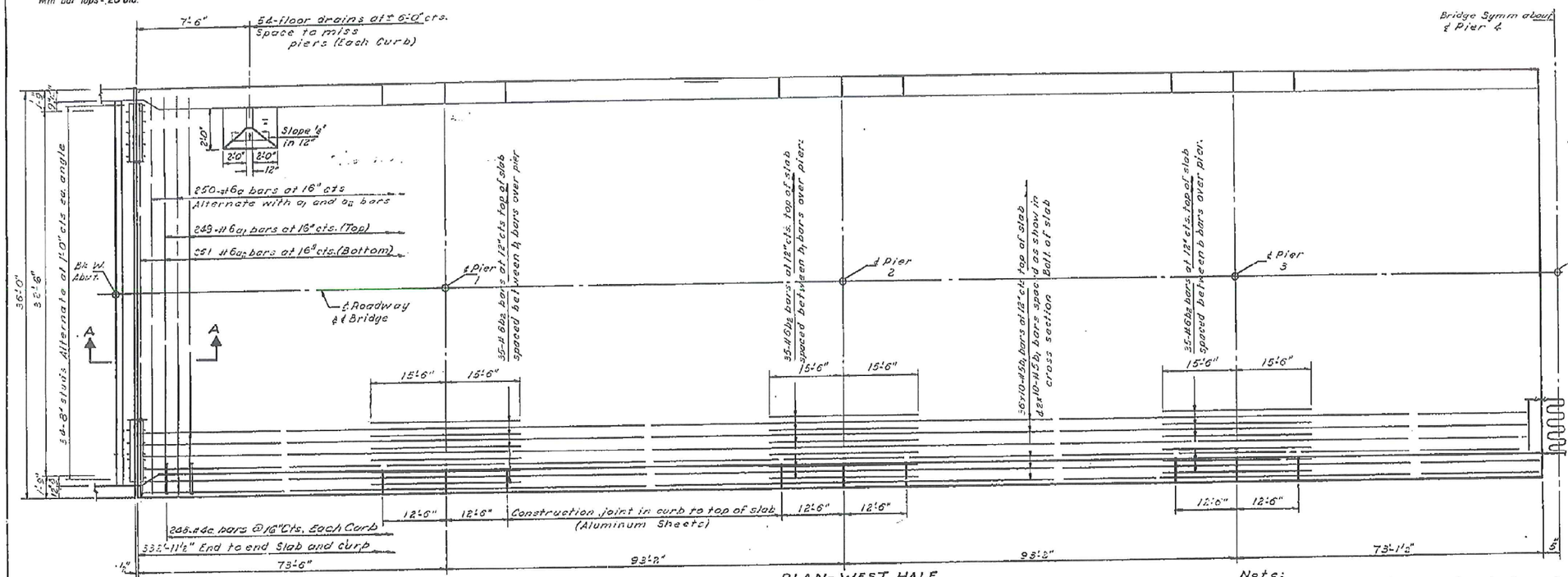
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	127
			CONTRACT NO. 74466	
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. Rte. 70	18-47B	CUMBERLAND	29	8
FED. AID PROJ. NO.	ILLINOIS	FED. AID PROJECT		

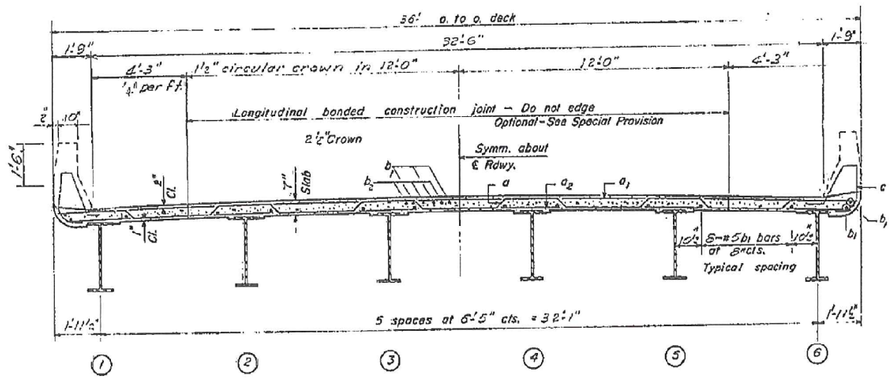
SHEET NO. 4
19 SHEETS

Note:
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line
Min bar lap = 20 dia.



PLAN - WEST HALF
(North & South Bridges)

Note:
For end detail at expansion device and Pier #4, see sheet #8
For Bill of Material, Cross Sections, and Details, see sheet #5.



NEAR PIERS — NEAR MIDSPAN

CROSS SECTION

DESIGNED	Glen W Clark Jr.
CHECKED	J. E. Ingelh
DRAWN	J. Hessler
Jnr. CHECKED	J. E.

EXAMINED Carl E. Dunnam — JAN. 12, 1966
PASSED Ralph Burton
APPROVED J. C. Stratton

SUPERSTRUCTURE
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

Apr. 3-5-67 JNC removed 3'-0" curb see sheet #5 for quantity changes.

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

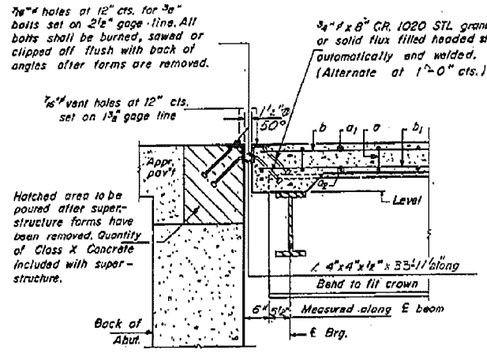
EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.36 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	128
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

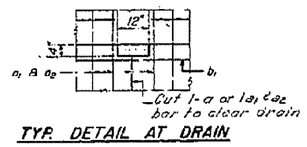
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

I-270	18-47 13	CUMBERLAND	29	9

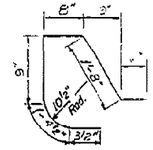
SHEET NO. 5
19 SHEETS



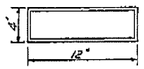
SECTION A-A



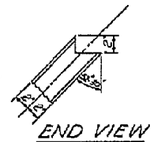
TYP. DETAIL AT DRAIN



BAR c

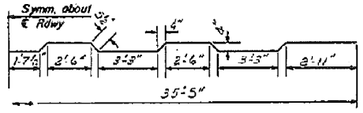


TOP VIEW

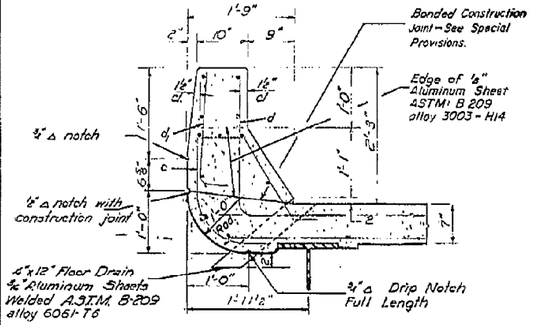


END VIEW

FLOOR DRAIN

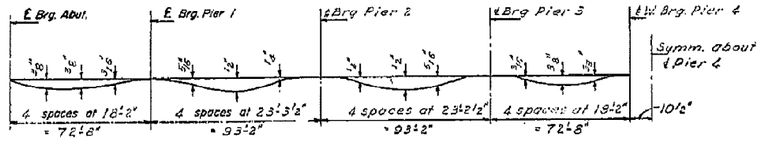


BAR a



CURB DETAIL

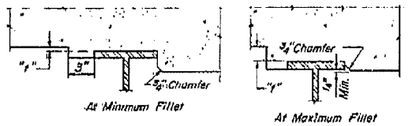
Cost of aluminum sheets and drains shall be incidental to Class X Concrete.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 2 & 3.



At Minimum Fillet

At Maximum Fillet

To determine "f": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on sheet 2 & 3 and subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheet 2 & 3 minus slab thickness, equals the fillet heights "f" above top flange of beams.

FILLET HEIGHTS

TWO BRIDGES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	1000	#6	36'-6"	
a1	996	#6	35'-6"	
a2	1004	#6	34'-9"	
b1	3120	#5	34'-6"	
b2	420	#6	31'-0"	
c	1884	#4	6'-3"	
Reinforcement Bars			Lbs.	299,370
Structural Steel			Lbs.	1686960
Class X Concrete			Cu.Yd.	1162.4

* Weight of bearing assemblies with lead plates, and anchor bolts are included as structural steel.
Est. Wt = 35,690 Lbs.

See sheet # 4 for Superstructure Plan and Cross Section.
See Sh # 9 for parapet wall quantities.

SUPERSTRUCTURE
SECTIONS & DETAILS
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

DESIGNED	J.W. Wiebelhaus	EXAMINED	JAN 12 1966
CHECKED	J. Elsasser	PASSED	
DRAWN	J. Kessler	APPROVED	
CHECKED	J.E.		

Rev. 9-5-67 JWC. G.M safety curb added. Class X Concrete changed from 1976.5 cuyds. to 1162.4 cu.yds. Structural steel changed from 1685970 lbs. to 1686960 lbs. Reinforcement bars changed from 299,970 lbs. to 299,370 lbs.

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

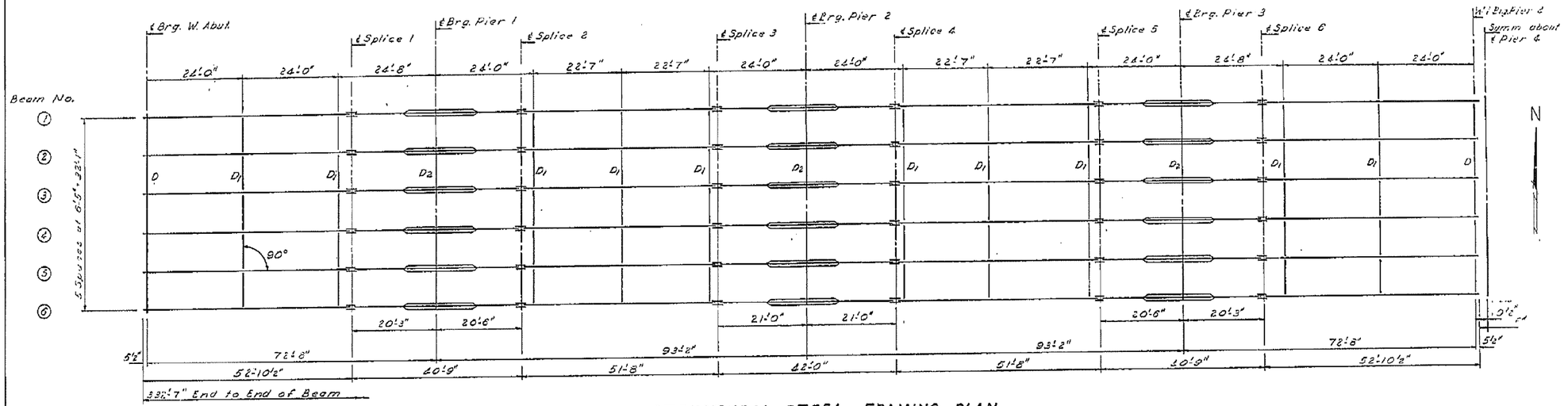
EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 37 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	129
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

HOUSE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	18-47 B	CUMBERLAND	29	10
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

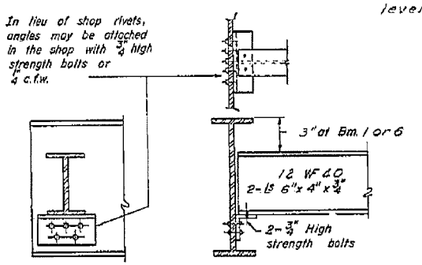
SHEET NO. 6
19 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

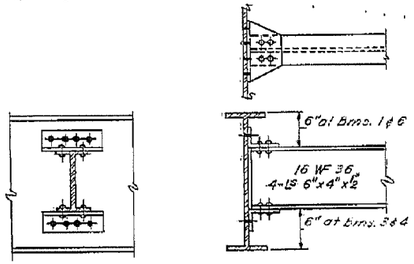


STRUCTURAL STEEL FRAMING PLAN
(All Beams 36WF170)

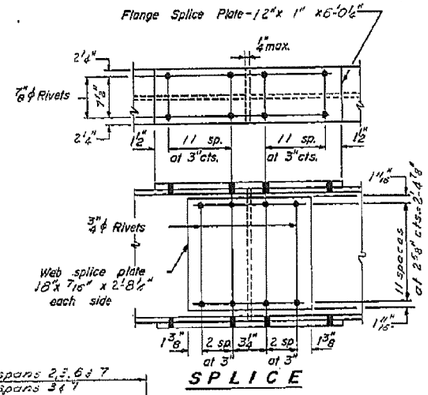
Note:
Run all diaphragms level.



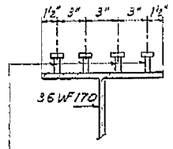
DIAPHRAGM D
20 Required



DIAPHRAGM D1 & D2



SPLICE



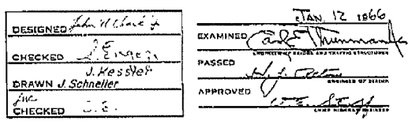
SECTION A-A

¾" x 4" granular or solid flux filled headed studs, automatically end welded to WF.
Est Wt. 5220 Lbs. included in structural steel. Req'd number per beam = 184

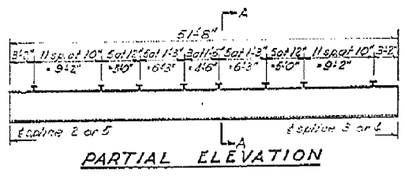
TOP OF WF ELEVATIONS *

Location	Bm 1 or 6	Bm 2 or 5	Bm 3 or 4
℄ Brg. W. Abut.	544.49	544.62	544.69
℄ Splice 1	543.95	544.08	544.15
℄ Brg. Pier 1	543.79	543.91	543.98
℄ Splice 2	543.60	543.73	543.80
℄ Splice 3	543.13	543.26	543.33
℄ Brg. Pier 2	542.94	543.07	543.14
℄ Splice 4	542.75	542.88	542.95
℄ Splice 5	542.29	542.42	542.49
℄ Brg. Pier 3	542.10	542.23	542.30
℄ Splice 6	541.91	542.04	542.11
W. ℄ Brg. Pier 4	541.39	541.62	541.69
E. ℄ Brg. Pier 4	541.49	542.62	541.69
℄ Splice 7	540.95	541.08	541.15
℄ Brg. Pier 5	540.78	540.91	540.98
℄ Splice 8	540.60	540.73	540.80
℄ Splice 9	540.13	540.26	540.33
℄ Brg. Pier 6	539.94	540.07	540.14
℄ Splice 10	539.75	539.88	539.95
℄ Splice 11	539.29	539.42	539.49
℄ Brg. Pier 7	539.10	539.23	539.30
℄ Splice 12	538.91	539.04	539.11
℄ Brg. E. Abut.	538.59	538.72	538.79

*For fabrication only



COVER PLATE



PARTIAL ELEVATION

DESIGNED	John W. Cook Jr.	JAN 12 1966
CHECKED	J.E. Wessel	EXAMINED Carl E. Thurmond
DRAWN	J. Schneller	PASSED
CHECKED		APPROVED

STRUCTURAL STEEL
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

I-C 4-1-66

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

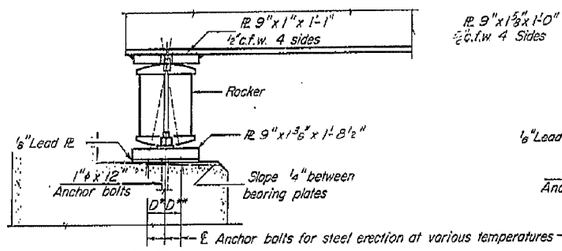
EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 38 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	130
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

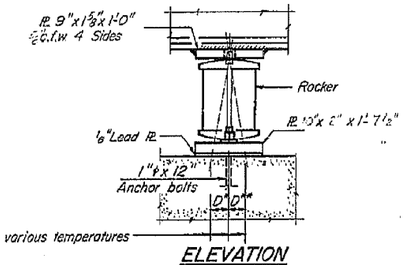
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	18-47B	CUMBERLAND	29	11

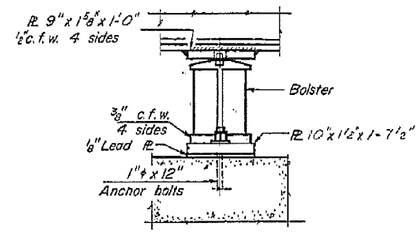
SHEET NO. 7
19 SHEETS



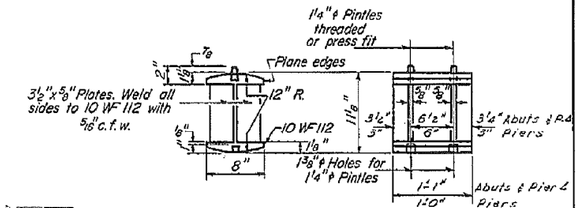
SECTION



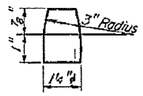
ELEVATION



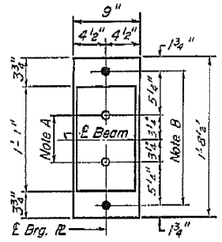
ELEVATION



ROCKER



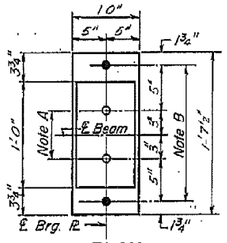
PINTLE



PLAN

AT ABUTS. & PIER 4

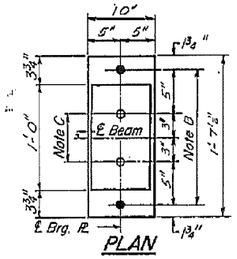
NOTE A
1⅜"ϕ Holes – 1" deep in top PL for pintles. Thread or press fit pintles into bottom PL.



PLAN

AT PIERS 1,3,5 & 7

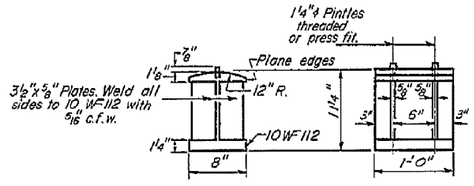
NOTE B
1½"ϕ Holes for 1"ϕ anchor bolts. 2½"x2½"x5/16" PL. Washers under nut.



PLAN

AT PIER 2 & 6

NOTE C
1⅜"ϕ Holes 1" deep in top PL only for 1¼"ϕ pintles.



BOLSTER

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

a) D* (Side of brg. away from fixed brg.)
D* = ⅛" per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
D** (Side of brg. toward fixed brg.)
D** = ⅛" per each 100' of expansion for every 15° rise above the normal temp. of 50°F.

b) After beams have been erected and dimensions D* or D** determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

BEARING ASSEMBLY DETAILS

TABLE OF MOMENTS & REACTIONS – INTERIOR BEAMS

	MOMENTS							REACTIONS				
	.4Sp.1	Pier 1	.5Sp.2	Pier 2	.5Sp.3	Pier 3	.5Sp.4	W.Abut.	Pier 1	Pier 2	Pier 3	℄Brg.P.4
D.L.	267.9	378.0	230.1	625.4	230.1	378.0	267.9	20.6	72.6	74.2	72.6	20.6
S.D.L.	98.0	188.9	109.9	183.8	109.9	188.9	98.0	7.3	25.3	25.3	25.3	7.3
L.L.	463.8	445.0	567.1	469.8	567.1	445.0	463.8	42.0	52.3	54.4	52.3	42.0
Imp.	117.3	107.2	129.9	107.6	129.9	107.2	117.3	10.6	12.6	12.5	12.6	10.6
Total	947.0	1319.1	1057.0	1386.6	1057.0	1319.1	947.0	80.5	162.8	166.4	162.8	80.5

Moments in ft. kips, Reactions in kips
Bridge is symm. about ℄ Pier 4

PROPERTIES

Steel Section	
Is	10,470.0
Sts	579.1
Sas	579.1
Composite Sec.	
Ic	22,563.6
Stc	1,590.1
Sac	778.9

Is = Moment of Inertia of Steel Section (in⁴)
Sts = Section Modulus top of Steel Section (in³)
Sas = Section Modulus bottom of Steel Section (in³)

Ic = Moment of Inertia of Composite Section (in⁴)
Stc = Section Modulus top of steel (Comp. Sec.) (in³)
Sac = Section Modulus bottom of steel (Comp. Sec.) (in³)

DESIGNED	John W. Blank Jr.
CHECKED	J. E. Wright, J. Hazelrigg
DRAWN	P.G. Barnett
Inc. CHECKED	E

EXAMINED — JAN. 12, 1966
PASSED
APPROVED

BEARING DETAILS
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

I-2B 9-1-65

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

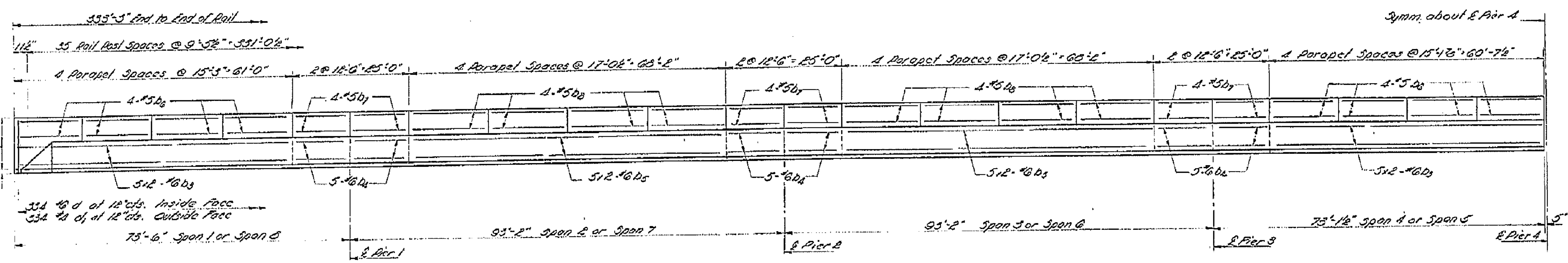
EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO.39 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	131
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

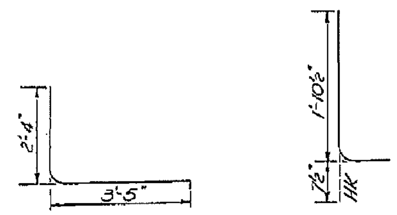
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	18-47 B	CUMBERLAND	29	13

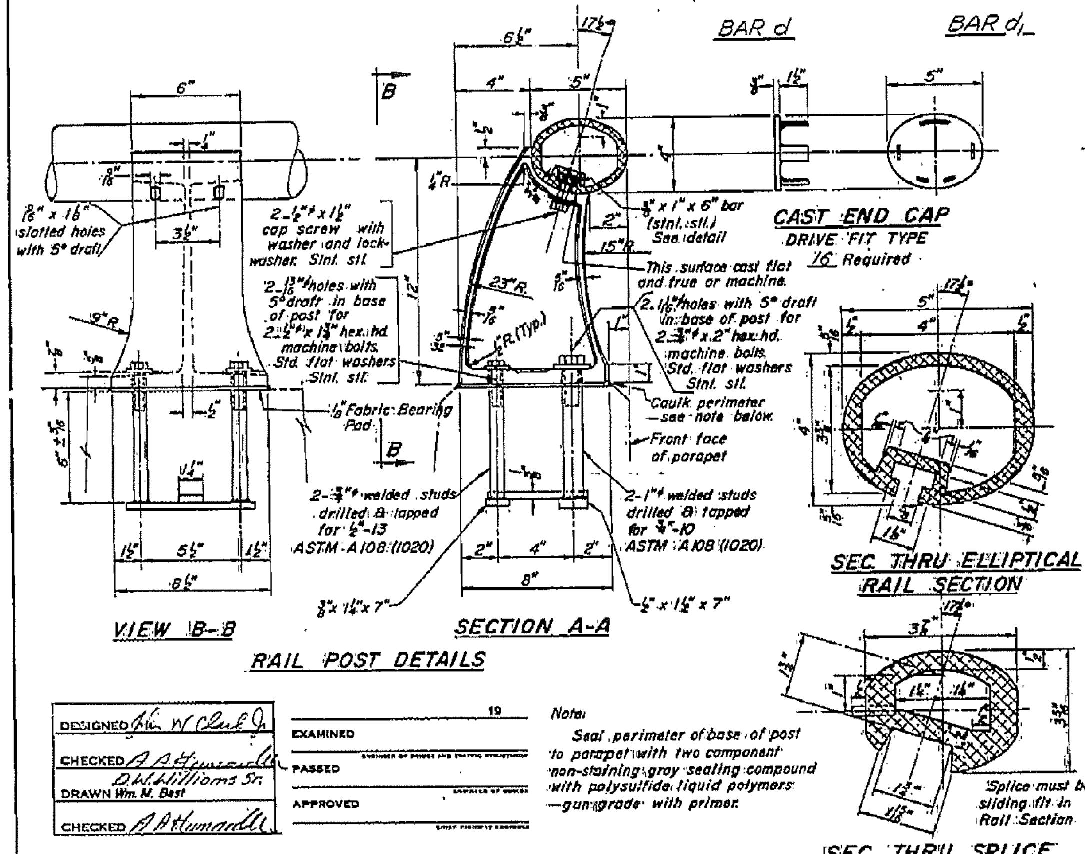
SHEET NO. 9
19 SHEETS

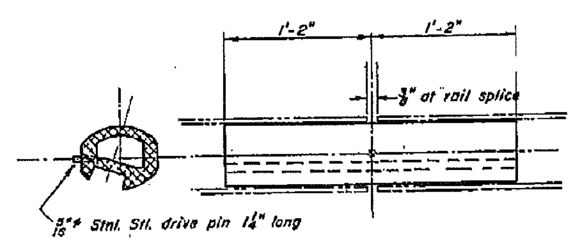


HALF INSIDE ELEVATION
(North Parapet Shown, South Parapet Similar)

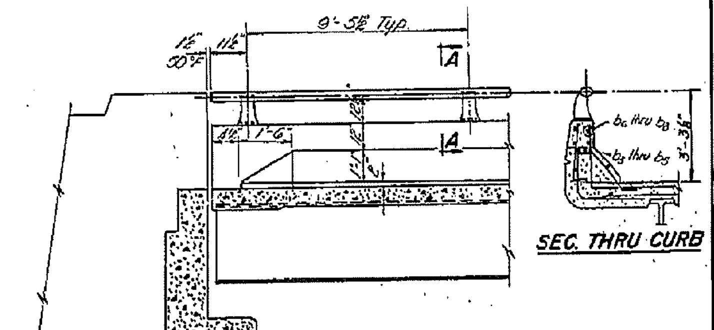


BAR d BAR d1

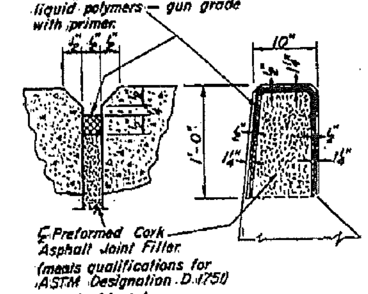




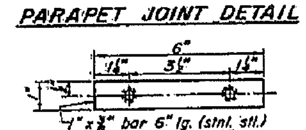
RAIL SPLICE



INSIDE VIEW AT ABUTMENT



PARAPET JOINT DETAIL



CLAMP BAR

Note:
Seal perimeter of base of post to parapet with two component non-staining gray sealing compound with polysulfide liquid polymers — gun grade with primer.

NOTES:
All Posts shall be normal to parapet.
All Aluminum Alloy Extruded Rail shall conform to ASTM specification B-221 alloy 6061-T6 and shall be supplied in modular lengths of 30 feet, except at the end of bridge or over open joints in bridge deck where the rail shall be attached to a minimum of 2 posts. If the rail is on a horizontal curve of 2300 foot radius or less, the modular lengths may be reduced but shall be attached to a minimum of 2 posts.
All joints in rail shall be spliced per detail.
See Special Provisions for following Material Specifications:
Cast Aluminum Alloy Bridge Post—Alloy A344-T4.
Stainless Steel Bars, Cap Screws, Washers and Lockwashers.
Fabric Bearing Pad.
METHOD of MEASUREMENT: Aluminum handrail shall be measured in lineal feet. The length paid for shall be the over all length along the top longitudinal railing member thru all posts and gaps.
BASIS of PAYMENT: Aluminum handrail shall be paid for at the contract unit price per lineal foot for ALUMINUM HANDRAIL, measured as specified, which price shall be payment in full for all materials, fabrication, transportation, and erection.
Cost of rail splice, end caps, and hardware to be incidental to item ALUMINUM HANDRAIL.
Provide 1-⅛" and 2-1/16" Aluminum Shims for 25% of the Posts. Rail element shall be parallel to Grade—high spots shall be ground, and low spots shimmed.

PARAPETS & RAILS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b_3	160	#6	31'-0"	—
b_4	240	#6	12'-5"	—
b_5	160	#6	34'-9"	—
b_6	256	#5	14'-11"	—
b_7	192	#5	12'-5"	—
b_8	256	#5	16'-9"	—
d	2672	#6	5'-9"	L
d_1	2672	#4	2'-6"	L
Class X Concrete			Cu. Yds.	245.0
Reinforcement Bars			Lbs	58660
Aluminum Handrail			Lin. Ft.	2666

ALUMINUM HANDRAIL
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

DESIGNED John W Clark Jr.	EXAMINED	19
CHECKED A A Himmelle	PASSED	
D.W. Williams Sr. DRAWN Wm. M. Best	APPROVED	
CHECKED A A Himmelle		

R-17 11-18-66
Rev 9-5-67 J.W.C. This sheet replaces original sheet 9. Class X Concrete changed from 135.6 cu yds. to 245.0 cu yds. Reinforcement Bars changed from 29030 lbs. to 58660 lbs.

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -
		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING BRIDGE PLANS
STRUCTURE NO. 018–0049(W.B.) & 0050(E.B.)
SHEET NO.40 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	132

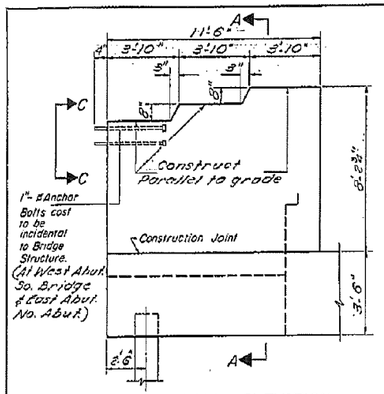
CONTRACT NO. 74466
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

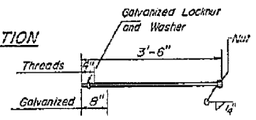
Hatched area to be poured after superstructure form has been removed.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 70	18-47 B	CUMBERLAND	29	14

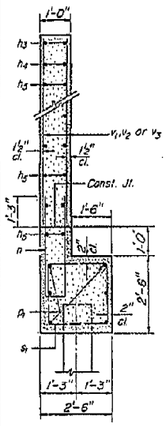
SHEET NO. 10
19 SHEETS

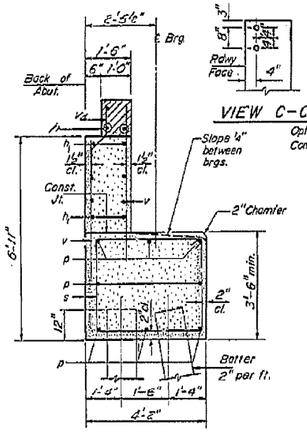


WING WALL ELEVATION



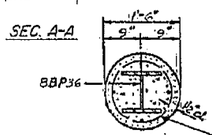
1" ø ANCHOR BOLT





SEC. A-A

SEC. THRU ABUT.



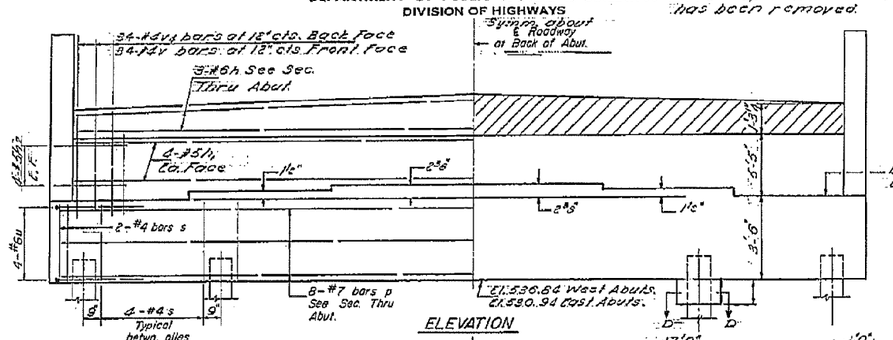
SECTION D-D
(Typical)

Welded wire fabric 6"x 6" mesh: #4 wires - Wt. 58#/100 sq. ft. plus 4-#6 tie bars. The cost of Cl. X Conc. Encasement & Reinforcement is incidental to the cost of furnishing piles. Forms for encasement may be omitted when soil conditions will permit.

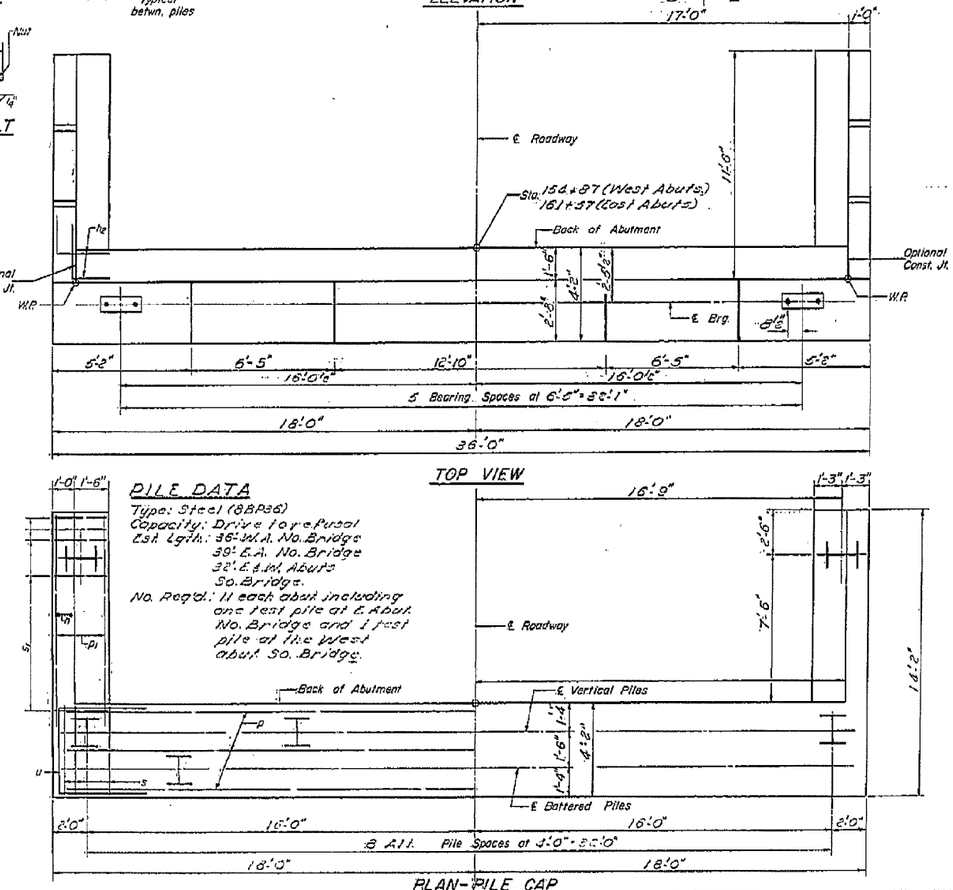
DESIGNED	Jim W Clark Jr
CHECKED	A P Hunnicutt
DRAWN	SG Ferchow
CHECKED	A P Hunnicutt

19
EXAMINED
PASSED
APPROVED

A-9 2-1-66



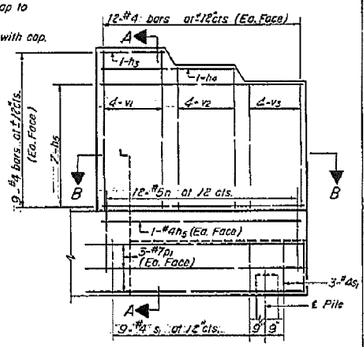
ELEVATION



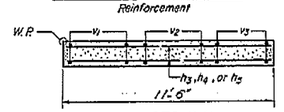
TOP VIEW

PLAN-PILE CAP

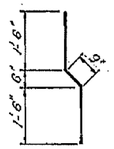
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.



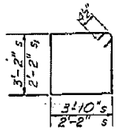
WING WALL ELEVATION
Reinforcement



SEC. B-B

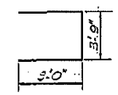


BAR v4

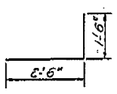


BARs s & s1

BAR n



BAR u



BAR h2

FOUR ABUTMENTS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
v	12	#6	32'-6"	
h1	32	#6	33'-9"	
h2	64	#6	4'-0"	
h3	18	#4	37'-7"	
h4	16	#4	7'-5"	
h5	128	#4	11'-3"	
n	96	#5	7'-9"	
p	32	#7	35'-9"	
p1	66	#7	11'-6"	
s	144	#4	14'-9"	
s1	96	#4	9'-5"	
u	32	#6	9'-9"	
v	272	#4	6'-0"	
v1	64	#4	5'-0"	
v2	64	#4	7'-4"	
v3	64	#4	6'-8"	
v4	136	#4	3'-9"	
Class X Concrete		Cu. Yds.	152.5	
Reinforcement Bars		Lbs.	12160	
Steel Piles (BBP36)		Lin. Ft.	1258	
Test Piles Steel (BBP36)		Ea.	2	

ABUTMENTS
NORTH & SOUTH BRIDGES
F.A.I. RT. 70 SEC. 18-47.B
CUMBERLAND COUNTY
STATION 158+31

Rev. 9-5-67 This sheet replaces orginnal sheet 10. Class X Concrete changed from 153.2 cuyds. to 152.5 cuyds. Reinforcement bars changed from 12050 lbs. to 12160 lbs.

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

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		CHECKED MCB	REVISED -
	PLOT SCALE =	DRAWN MLO	REVISED -
	PLOT DATE =	CHECKED MCB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

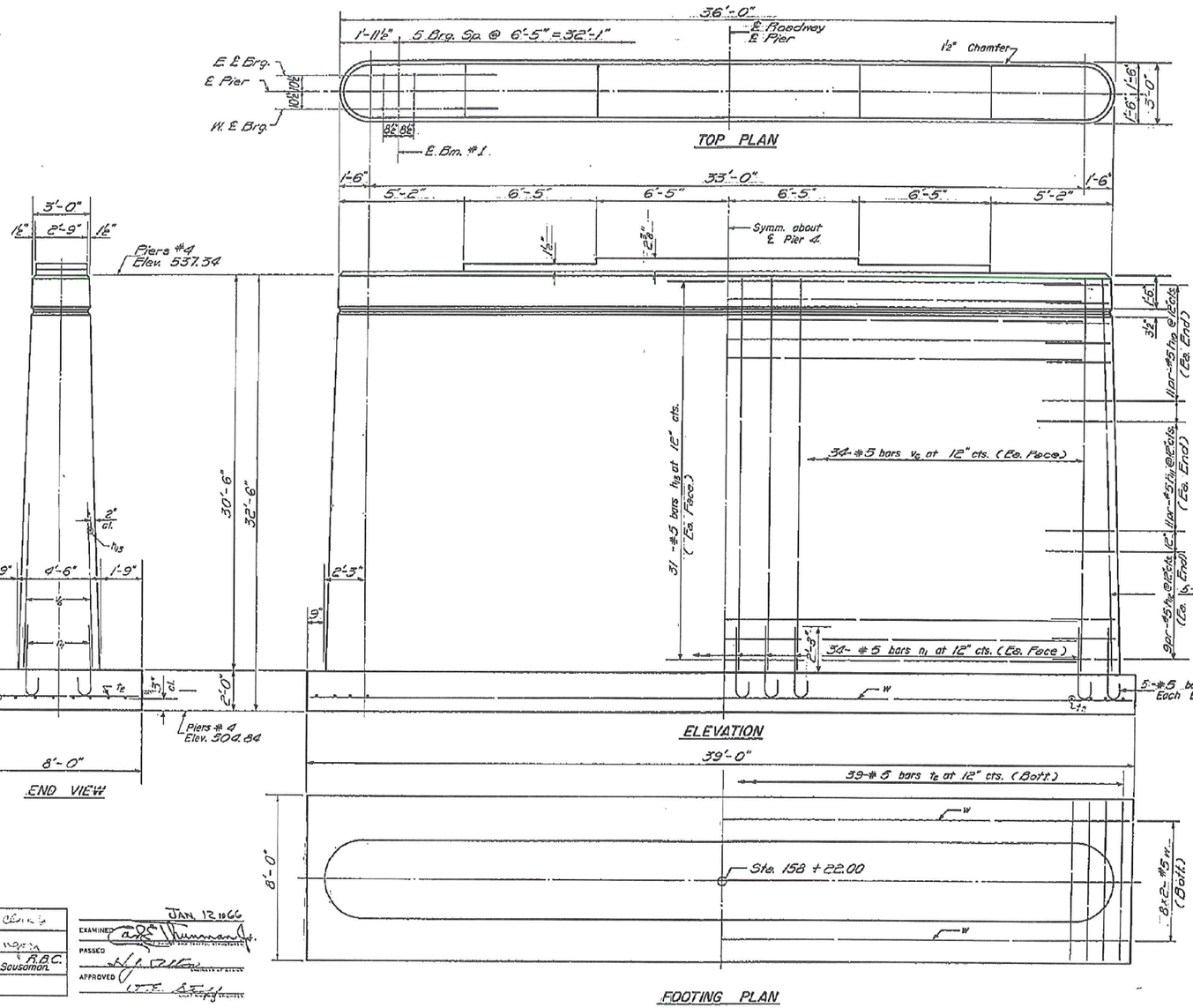
EXISTING BRIDGE PLANS
STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)
SHEET NO. 41 OF 42 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	133
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

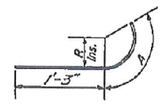
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.N. I.N. I-70	18-47B	CUMBERLAND	19	18
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 14
19 SHEETS



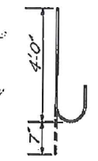
NOTCH DETAIL



Bar	R	A
h10	1'-4"	2'-9"
h11	1'-7"	3'-3"
h12	1'-10"	3'-9"

DETAIL OF BARS
h10, h11 & h12

Note:
Min. bar laps = 30 dia. unless otherwise noted.
All edges shall have ¾" chamfers except as noted.
Pour steps monolithically with cap.



BAR n1

TWO PIERS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10	88	#5	4'-0"	
h11	88	#5	4'-6"	
h12	72	#5	5'-0"	
h9	124	#5	33'-0"	
n1	156	#5	4'-7"	
te	78	#5	7'-9"	
½	156	#5	30'-3"	
W	32	#5	20'-0"	
Class 'A' Concrete			Cu. Yds.	352.0
Reinforcement Bars			Lbs.	12400
Cofferdams (P-4)			Ea.	2
Cofferdam Excav.			Cu. Yds.	142
Rock Exc. for Struct.			Cu. Yd.	35

PIERS #4
NORTH & SOUTH BRIDGES
F.A.I. RT 70 SEC. 18-47B
CUMBERLAND COUNTY
STATION 158+31

DESIGNED	[illegible]	JAN. 12 1966
CHECKED	J. Engrin	
DRAWN	W. A. Sousaman	
CHECKED	S.E.	

EXAMINED [illegible]
PASSED [illegible]
APPROVED [illegible]

P-1 Re-drawn 7-21-59 Rev. 11-25-59

BLANK, WESSELINK, COOK & ASSOCIATES DECATUR, ILLINOIS ENGINEERS - CONSULTANTS DESIGN FIRM NO. 184000894

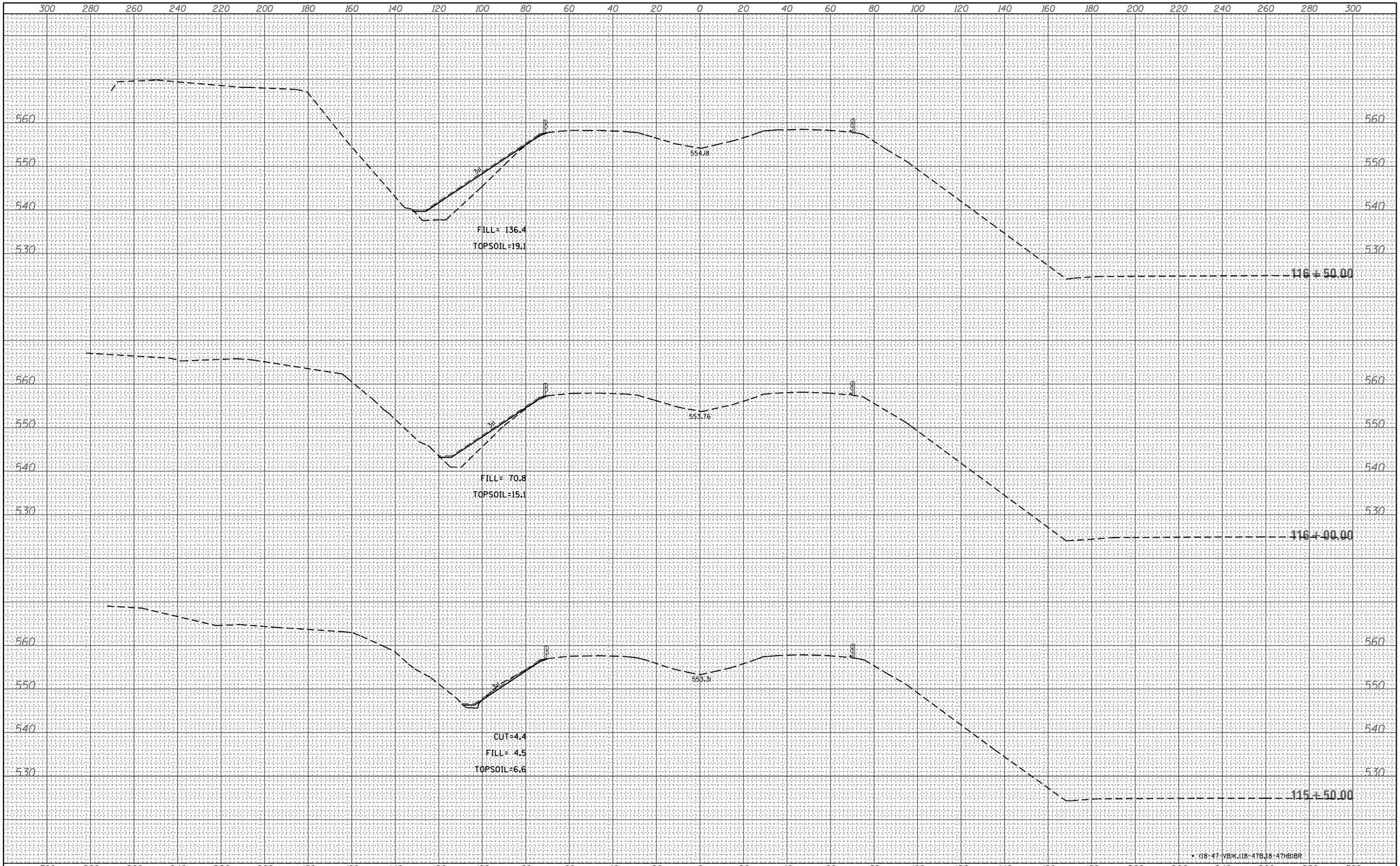
FILE NAME =	USER NAME =	DESIGNED PBB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING BRIDGE PLANS STRUCTURE NO. 018-0049(W.B.) & 0050(E.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED MCB	REVISED -			70	(18-47-VB)K (18-47B, 18-47HB)BR	CUMBERLAND	147	134
	PLOT SCALE =	DRAWN MLO	REVISED -							CONTRACT NO. 74466
	PLOT DATE =	CHECKED MCB	REVISED -		SHEET NO.42 OF 42 SHEETS			ILLINOIS	FED. AID PROJECT	

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 1 OF 8 SHEETS | STA. 115+50.00 | TO STA. 116+50.00

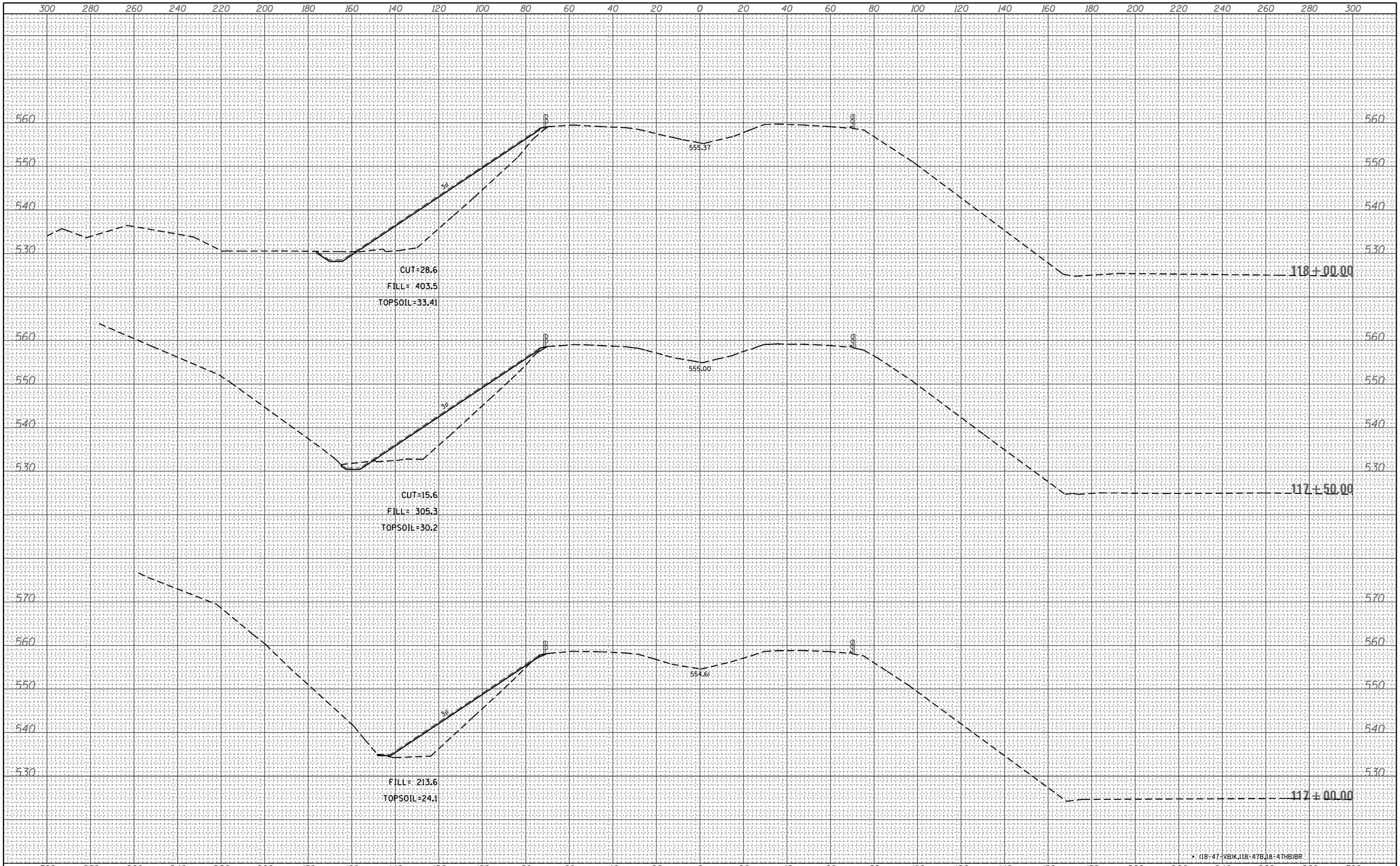
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	135
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE



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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 2 OF 8 SHEETS | STA. 117+00.00 | TO STA. 118+00.00

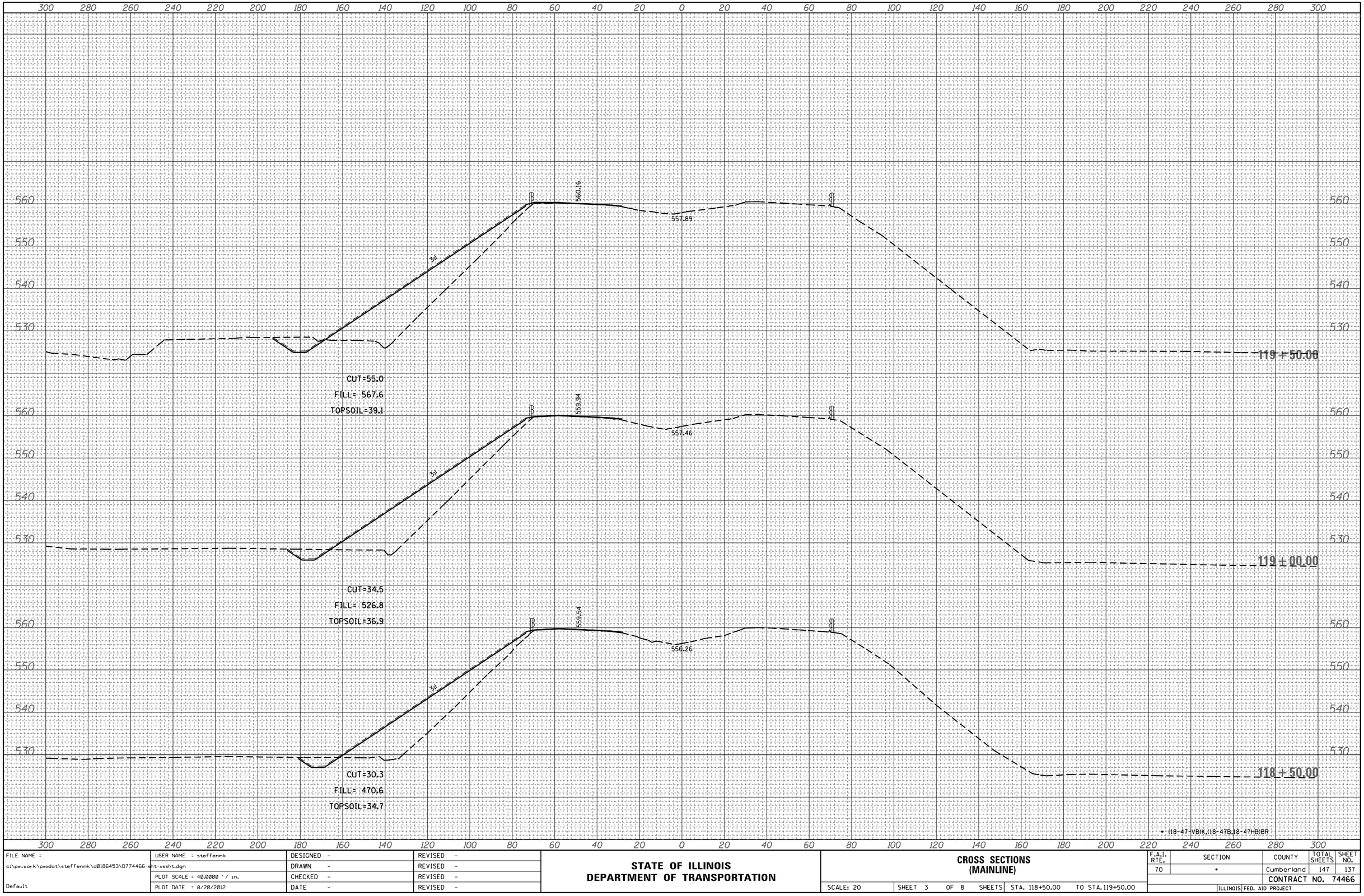
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	136

CONTRACT NO. 74466

ILLINOIS | FED. AID PROJECT

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

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



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	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 3 OF 8 SHEETS | STA. 118+50.00 | TO STA. 119+50.00

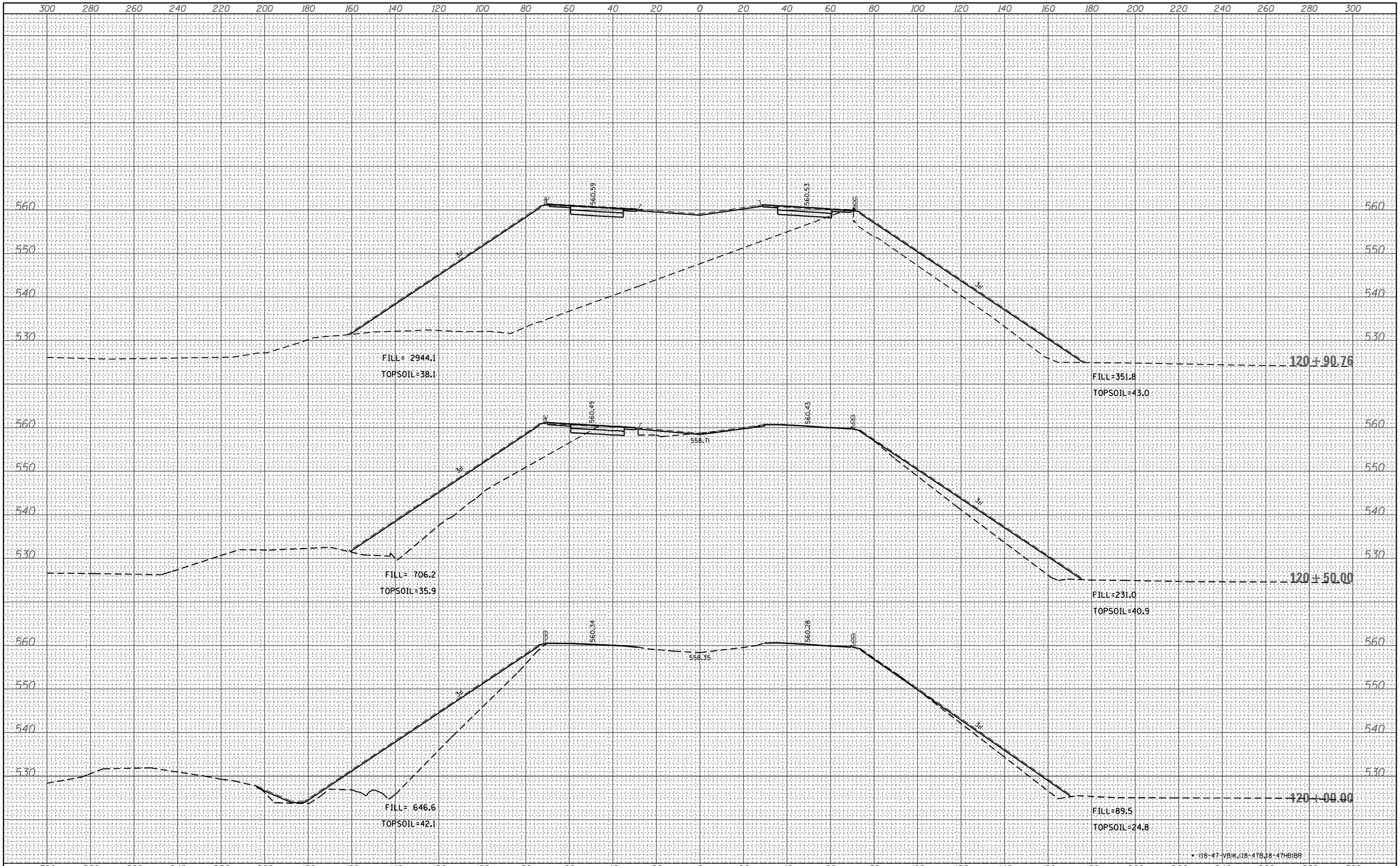
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	137
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE



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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 4 OF 8 SHEETS | STA. 120+00.00 TO STA. 120+90.76

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	138
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

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

DATE

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

DATE

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

560 550 540 530

560.66 560.60

3H 3H

531.55

FILL= 2671.4

TOPSOIL=42.2

121 + 50.00

FILL=3606.6

TOPSOIL=43.7

560.65 560.59

3H 3H

FILL= 3545.5

TOPSOIL=41.1

122 + 42.00

FILL=3588.1

TOPSOIL=44.4

560.60 560.54

3H 3H

FILL= 2928.5

TOPSOIL=38.8

121 + 00.00

FILL=1166.9

TOPSOIL=42.9

* (18-47-VB)K,(18-47B,18-47HB)BR

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

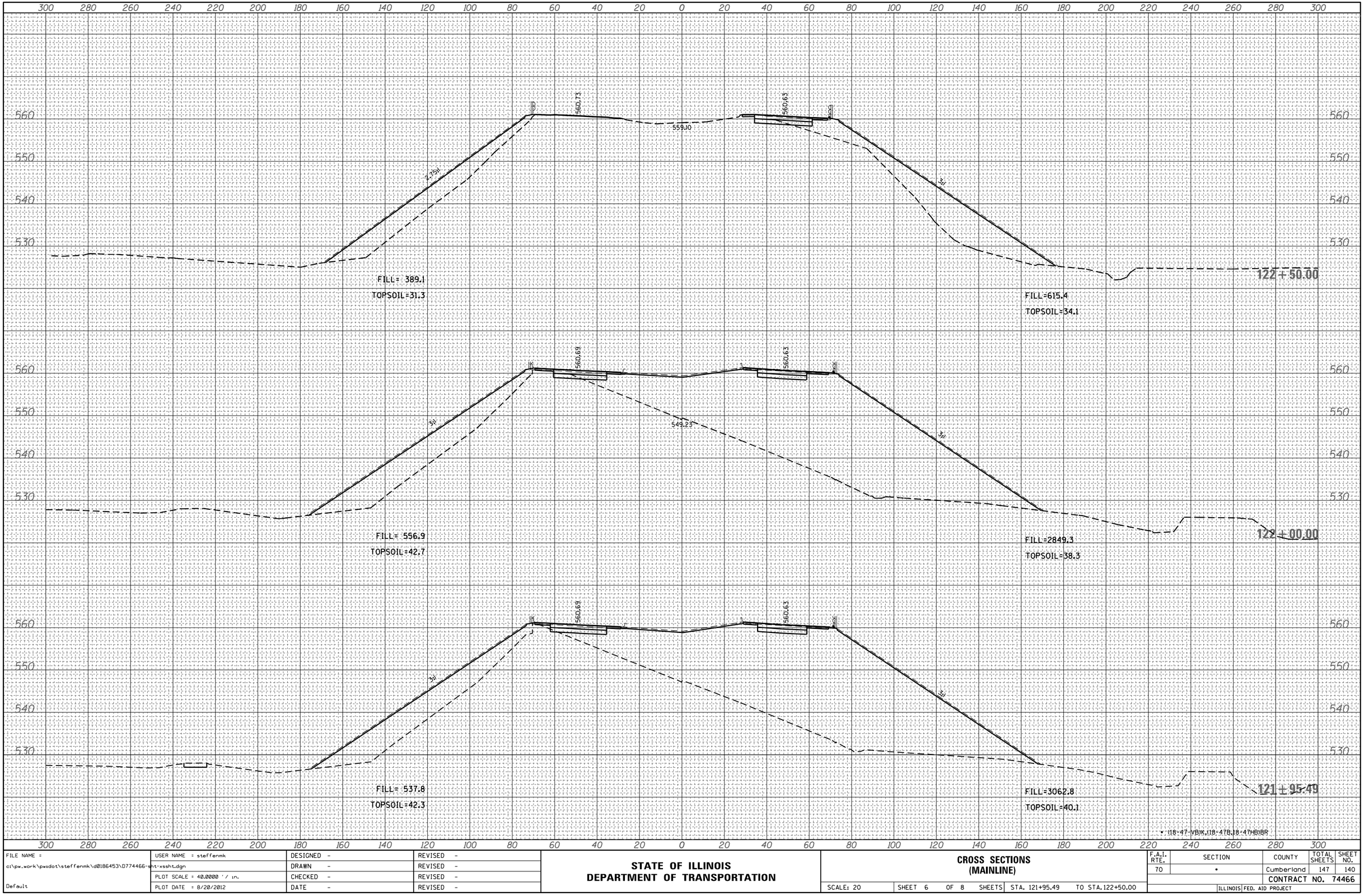
CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 5 OF 8 SHEETS | STA. 121+00.00 TO STA.121+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	139
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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

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



▪ (18-47-VB)K,(18-47B,18-47HB)BR

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

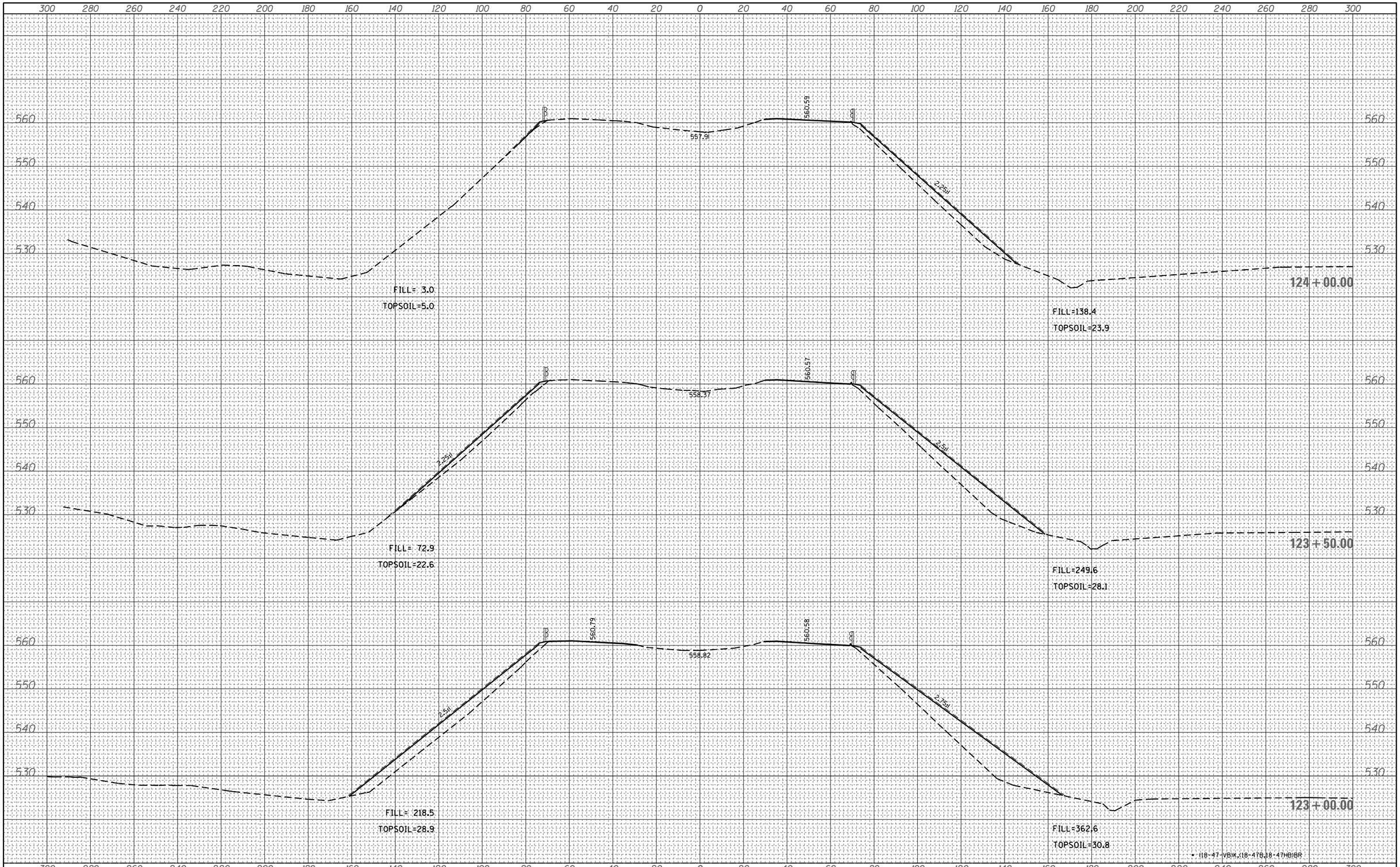
CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 6 OF 8 SHEETS | STA. 121+95.49 | TO STA. 122+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	140
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

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

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



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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 7 OF 8 SHEETS | STA. 123+00.00 TO STA.124+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	141
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

560
550
540
530

557.21

FILL=0.0

TOPSOIL=2.5

124 + 50.00

• (18-47-VB)K,(18-47B,18-47HB)BR

300 280 260 240 220 200 180 160 140 120 100 80 60 40 20 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

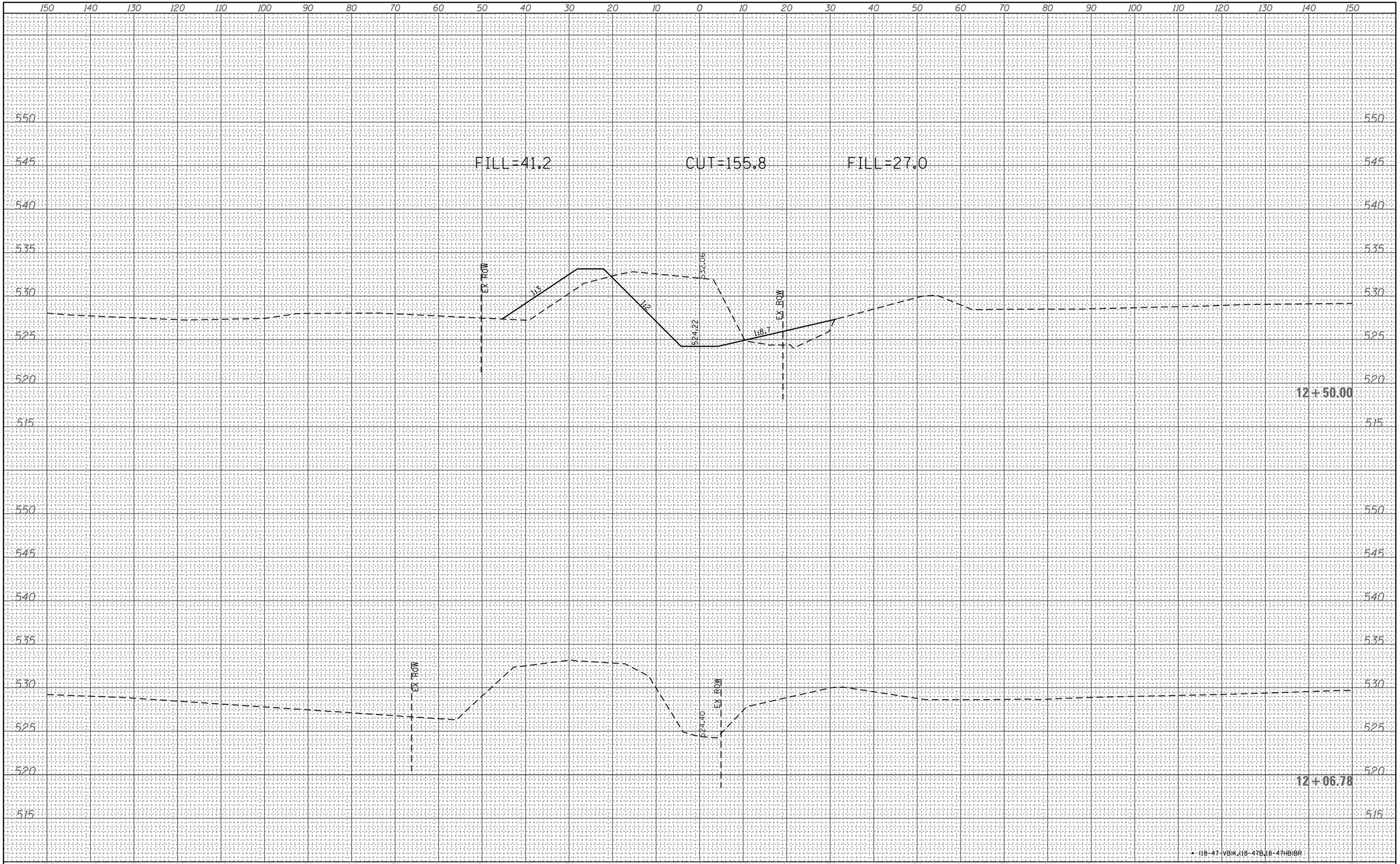
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(MAINLINE)

SCALE: 20 | SHEET 8 OF 8 SHEETS | STA. 124+50.00 | TO STA.124+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	142
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

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



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

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(CHANNEL)

SCALE: 10 | SHEET 1 OF 5 SHEETS | STA. 12+06.78 | TO STA. 12+50.00

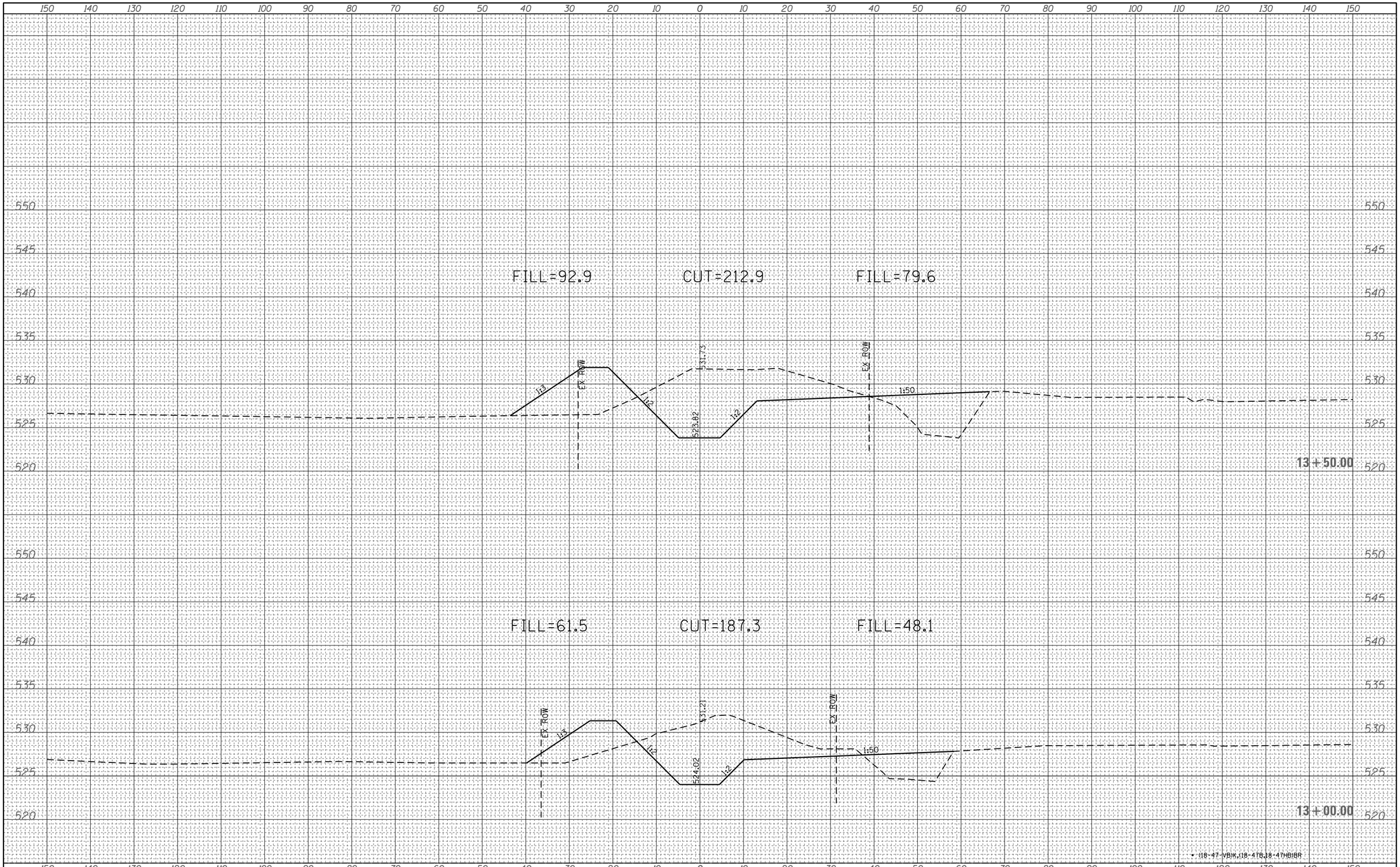
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	143
		CONTRACT NO. 74466		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE



• (18-47-VB)K,(18-47B,18-47HB)BR

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

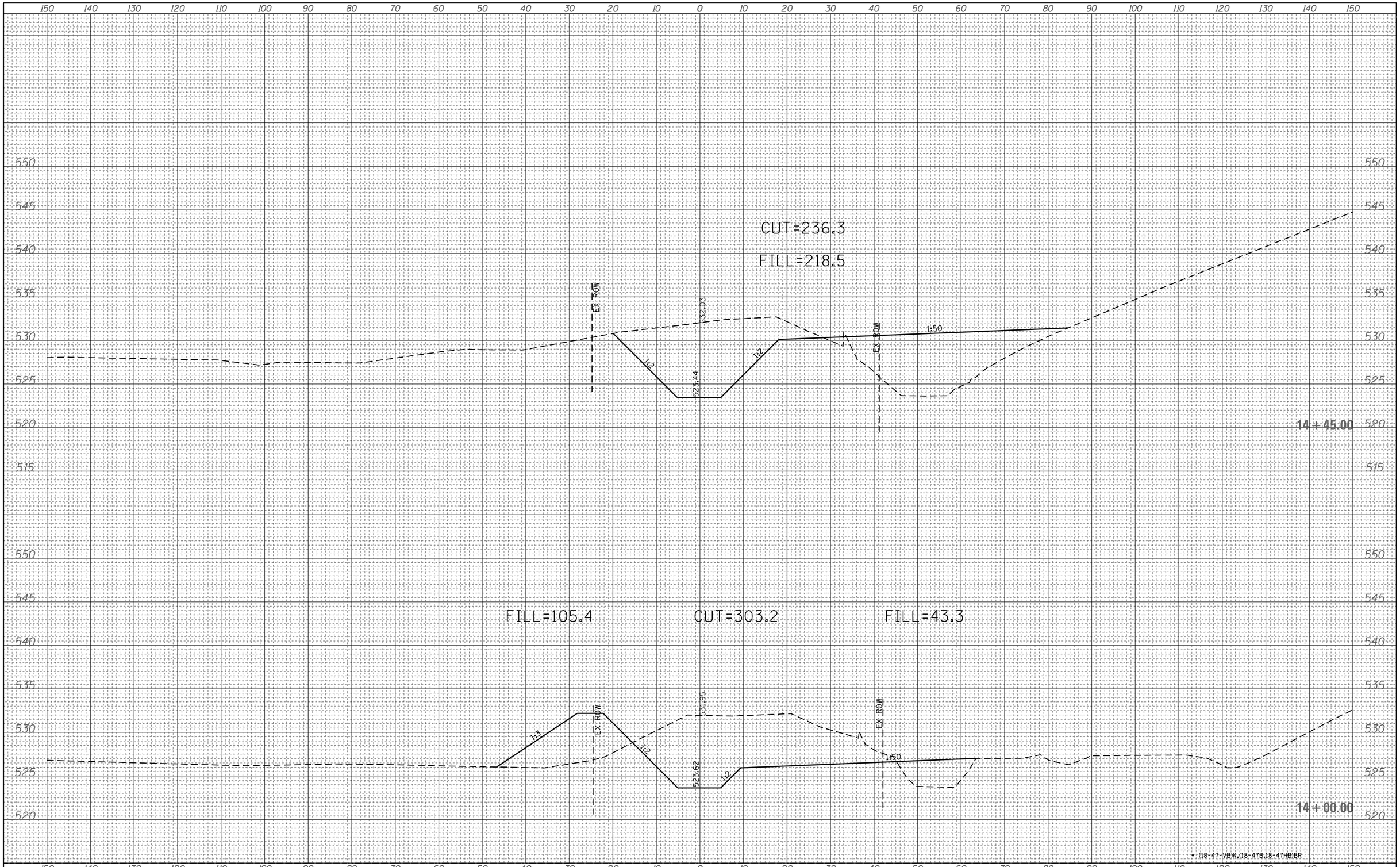
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10 | SHEET 2 OF 5 SHEETS | STA. 13+00.00 | TO STA.13+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	144
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

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



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

• (18-47-VB)K,(18-47B,18-47HB)BR

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

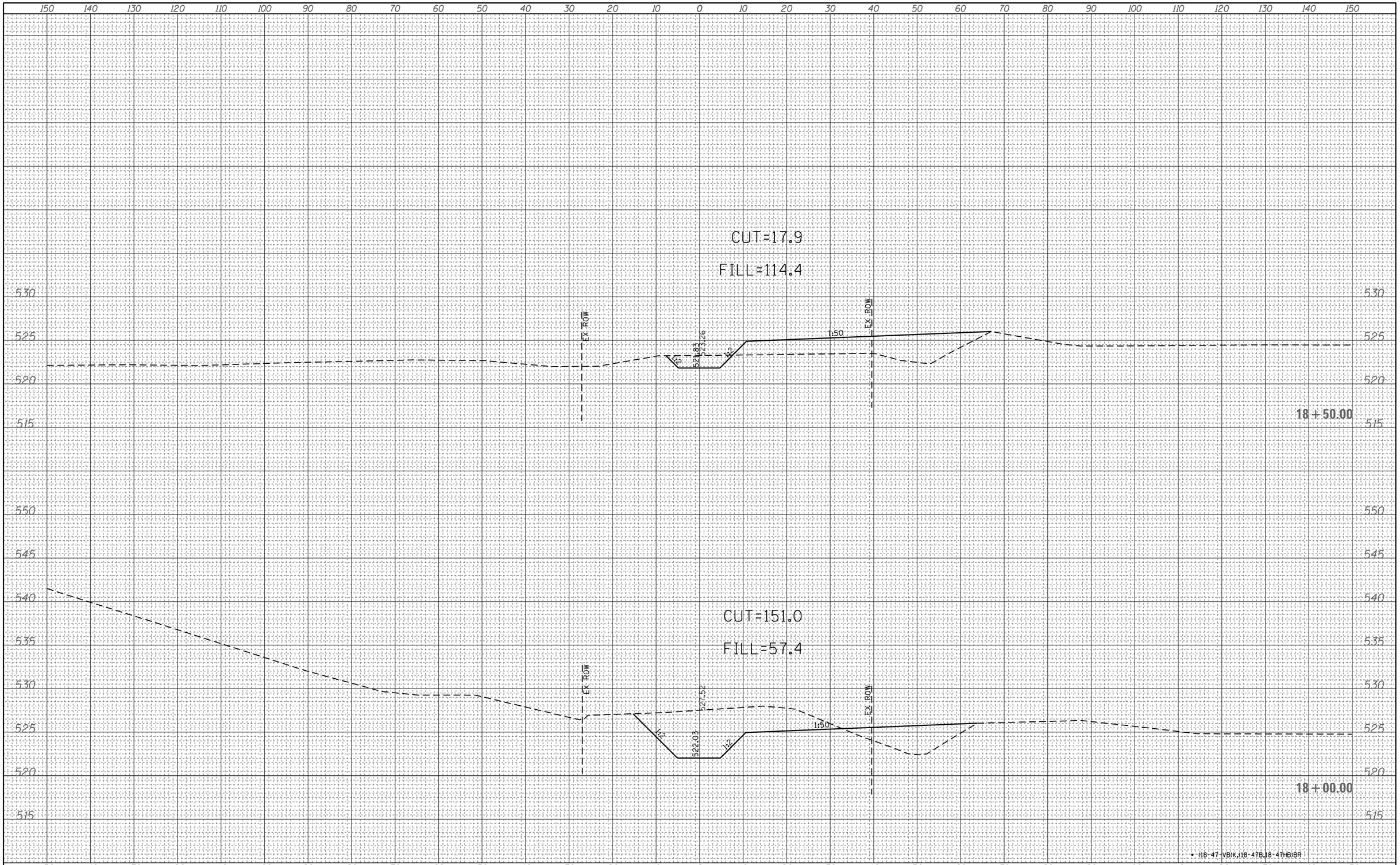
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS (CHANNEL)

SCALE: 10 | SHEET 3 OF 5 SHEETS | STA. 14+00.00 | TO STA.14+45.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	145
		CONTRACT NO. 74466		
		ILLINOIS FED. AID PROJECT		

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



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

• (18-47-VBK,18-47B,18-47HD)BR

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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(CHANNEL)

SCALE: 10 | SHEET 4 OF 5 SHEETS | STA. 18+00.00 | TO STA.18+50.00

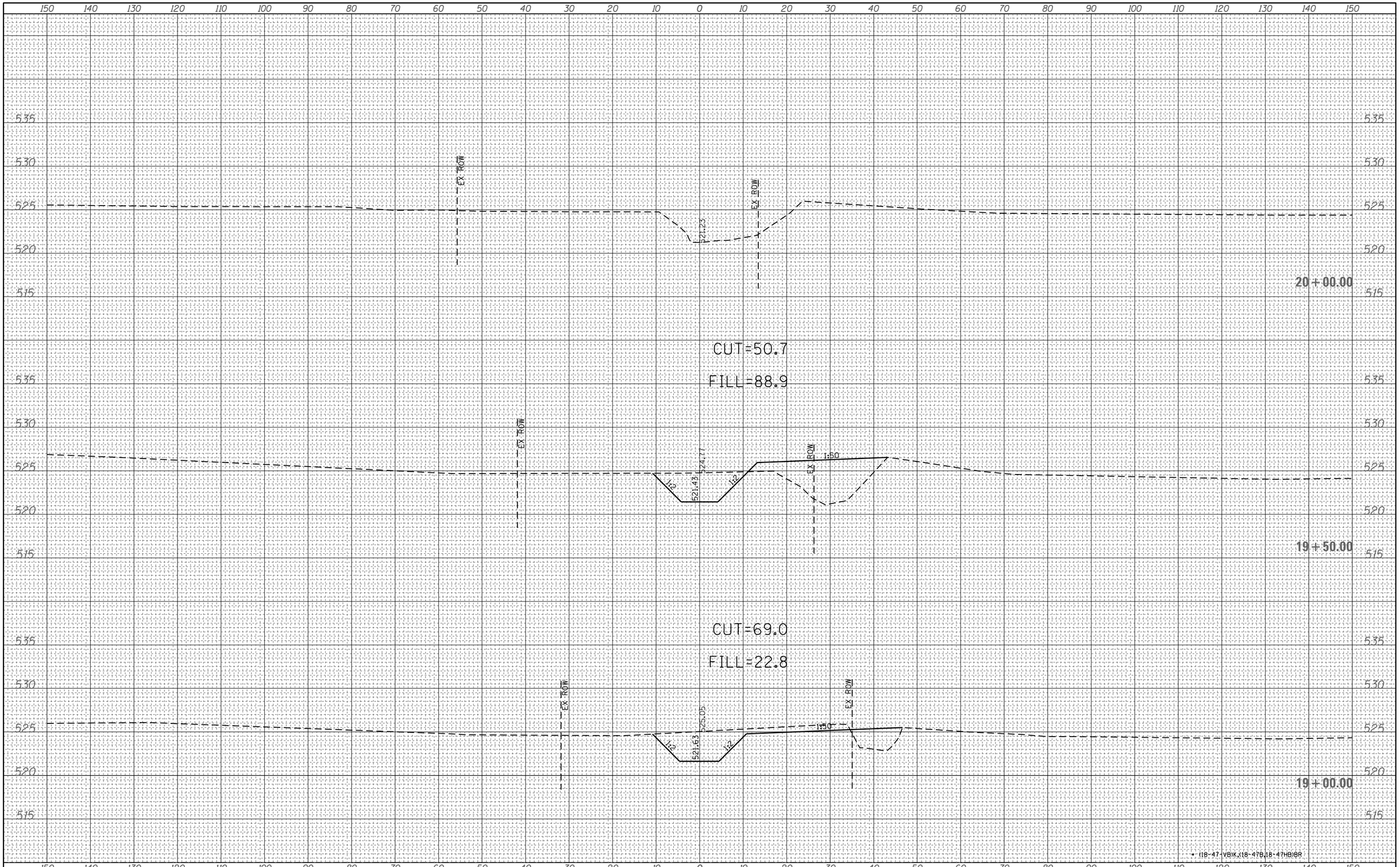
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	146
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



• (18-47-VB)K,(18-47B,18-47HB)DR

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -
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Default	PLOT DATE = 8/20/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS
(CHANNEL)

SCALE: 10 | SHEET 5 OF 5 SHEETS | STA. 19+00.00 | TO STA. 20+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	Cumberland	147	147
		CONTRACT NO. 74466		
	ILLINOIS	FED. AID PROJECT		