

80% FEDERAL
20% STATE
LICE L

SUMMARY OF QUANTITIES												
ITEM #	ITEM DESCRIPTION	UNIT	URBAN TOTAL QUANTITY	0004	0005	0011	0011	0011	0011	0040	0040	0040
				ROADWAY	RESURFACING	BRIDGE SN 082-0117	BRIDGE SN 082-0118	BRIDGE SN 082-0119	BRIDGE SN 082-0120	MSE RET WALL SN 082-W311	MSE RET WALL SN 082-W312	MSE RET WALL SN 082-W313
42001500	P. C. CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT	SQ YD	1,516	1,516								
44000100	PAVEMENT REMOVAL	SQ YD	12,583	12,583								
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SQ YD	5,828		5,828							
44004250	PAVED SHOULDER REMOVAL	SQ YD	7,711	4,588	3,123							
48100500	AGGREGATE SHOULDERS, TYPE A 6"	SQ YD	127		127							
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	9,787	6,148	3,639							
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1			1						
50100400	REMOVAL OF EXISTING STRUCTURES NO. 2	EACH	1				1					
50157300	PROTECTIVE SHIELD	SQ YD	1,279			296	296	344	343			
50200100	STRUCTURE EXCAVATION	CU YD	4,129			253	253			2068	635	920
50300225	CONCRETE STRUCTURES	CU YD	971.4			376.2	376.8	109.3	109.1			
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1,885.2			549.5	549.5	393.1	393.1			
50300260	BRIDGE DECK GROOVING	SQ YD	4,042			1480	1480	541	541			
50300300	PROTECTIVE COAT	SQ YD	5,055			1,848	1,847	680	680			
50400105	PRECAST CONCRETE BRIDGE SLAB	SQ FT	5,020			2,510	2,510					
50400745	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE BULB T-BEAMS 72"	FOOT	2,021.50					1,010.75	1,010.75			
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1			0.5	0.5					
50500505	STUD SHEAR CONNECTORS	EACH	10,440			5,220	5,220					
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	629,470			227,450	227,850	87,180	86,940			
50800515	BAR SPLICERS	EACH	180					90	90			
50800530	MECHANICAL SPLICERS	EACH	512			256	256					
51100100	SLOPE WALL 4 INCH	SQ YD	373			16	16	188	153			
51201600	FURNISHING STEEL PILES HP12X53	FOOT	10,378			3,677	3,689	1,488	1,524			
51202305	DRIVING PILES	FOOT	10,378			3,677	3,689	1,488	1,524			
51203600	TEST PILE STEEL HP12X53	EACH	10			3	3	2	2			
51204650	PILE SHOES	EACH	184			66	66	26	26			
51500100	NAME PLATES	EACH	7			1	1	1	1	1	1	1
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	26			5	5	8	8			
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	10			5	5					
52100520	ANCHOR BOLTS, 1"	EACH	52			10	10	16	16			
52100540	ANCHOR BOLTS, 1 1/2"	EACH	40			20	20					
54001061	GRATED BOX CULVERT END SECTIONS, CULVERT NO. 01	EACH	2	2								
54010603	PRECAST CONCRETE BOX CULVERTS 6' X 3'	FOOT	452	452								
54213657	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 12"	EACH	8	8								
54213660	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1	1								

* DENOTES SPECIALTY ITEM

△ REVISIED 1/6/2012

FILE NAME =
0676884-sht-summary.dgn

USER NAME = thompsrd	DESIGNED GC	REVISED -
MODEL NAME = #MODELNAME#	DRAWN RDT	REVISED -
PLOT SCALE = 20.000 / 1/4"	CHECKED JAP	REVISED -
PLOT DATE = 10/20/2011	DATE 10-19-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NONE SHEET NO. 2 OF 5 SHEETS STA. ----- TO STA. -----

F.A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	4
CONTRACT NO. 76884				
ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES												
ITEM #	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	0004	0005	0011	0011	0011	0011	0040	0040	0040
				ROADWAY IL RTE 15	RESURFACING	BRIDGE SN 082-0117	BRIDGE SN 082-0118	BRIDGE SN 082-0119	BRIDGE SN 082-0120	MSE RET WALL SN 082-W311	MSE RET WALL SN 082-W312	MSE RET WALL SN 082-W313
X0327139	AGGREGATE COLUMN GROUND IMPROVEMENT	L SUM	1	1								
X2070304	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	333			174	159					
X4810100	TEMPORARY SHOULDERS	SQ YD	979	979								
X5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	558			279	279					
X6660445	RIGHT OF WAY AND PROPERTY CORNERS	EACH	2	2								
X7830070	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	6,020.5	6,020.5								
Z0013796	SEDIMENT CONTROL, STABILIZED CONSTRUCTION ENTRANCE	SQ YD	500	500								
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1								
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	141	141								
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	47	47								
Z0016702	DETOUR SIGNING	L SUM	1	1								
Z0018002	DRAINAGE SCUPPERS, DS-11	EACH	1			1						
Z0018800	DRAINAGE SYSTEM	L SUM	1			1						
Z0026407	TEMPORARY SHEET PILING	SQ FT	2,153			1,458		695				
Z0030260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	3	3								
Z0030330	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE), TEST LEVEL 3	EACH	3	3								
Z0034210	MECHANICALLY STABILIZED EARTH RETAINING WALL	SQ FT	18,672			674			7835	5405	4758	
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	180			90	90					
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1								
Z0065704	BITUMINOUS COATED AGGREGATE SLOPEWALL 6"	SQ YD	1,168			546	622					
Z0065760	SLOTTED DRAIN 15" WITH VARIABLE SLOT	FOOT	193	193								
Z0065765	SLOTTED DRAIN 18" WITH VARIABLE SLOT	FOOT	386	386								
Z0065780	SLOTTED DRAIN 30" WITH VARIABLE SLOT	FOOT	649	649								
+ Z0076600	TRAINEES	HOUR	4,000	4,000								
Z0073100	TEMPORARY SHORING	EACH	3	3								

* DENOTES SPECIALTY ITEM
+ 0042

△ REVISED 1/6/2012

FILE NAME : 0876884-sht-summary.dgn	USER NAME : thompson	DESIGNED : GC	REVISED : -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE : 103	SECTION : 27-1-VHB-1	COUNTY : ST. CLAIR	TOTAL SHEETS : 277	SHEET NO. : 7
MODEL NAME : #MODELNAME#	DRAWN : ROT	CHECKED : JAP	REVISED : -		SCALE: NONE	SHEET NO. 5 OF 5 SHEETS	STA. -----	TO STA. -----	CONTRACT NO. 76884			
PLOT SCALE : 20.000 / IN.	DATE : 10-19-11	REVISED : -			ILLINOIS FED. AID PROJECT							
PLOT DATE : 10/20/2011												

GENERAL NOTES

- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 in. ϕ , holes 1 1/8 in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel = 1,551,450 pounds (AASHTO M270 Grade 50, Both Structures) = 106,360 pounds (AASHTO M270 Grade 36, Both Structures)
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- 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.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be gray, Munsell No. 5B 7/1. See Standard Specifications.
- The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- 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 Contractor is advised that the existing structure contains members that are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal, or replacement of the structure. An Existing Structure Information Package is available upon request as noted in the special provisions.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Subbase Granular Material, Type C	CU YD	230		230
Removal of Existing Structures No. 1	EACH			1
Removal of Existing Structures No. 2	EACH			1
Protective Shield	SQ YD	592		592
Structure Excavation	CU YD		506	506
Concrete Structures	CU YD		753.0	753.0
Concrete Superstructure	CU YD	1.099		1.099
Bridge Deck Grooving	SQ YD	2,960		2,960
Protective Coat	SQ YD	3,695		3,695
Precast Concrete Bridge Slab	SQ FT	5,020		5,020
Furnishing and Erecting Structural Steel	L SUM	1		1
Stud Shear Connectors	EACH	10,440		10,440
Reinforcement Bars, Epoxy Coated	POUND	306,090	149,210	455,300
Mechanical Splicers	EACH		512	512
Slope Wall 4"	SQ YD		32	32
Furnishing Steel Piles HP12x53	FOOT		7,366	7,366
Driving Piles	FOOT		7,366	7,366
Test Pile Steel HP12x53	EACH		6	6
Pile Shoes	EACH		132	132
Name Plates	EACH	2		2
Elastomeric Bearing Assembly, Type I	EACH		10	10
Elastomeric Bearing Assembly, Type II	EACH		10	10
Anchor Bolts, 1"	EACH		20	20
Anchor Bolts, 1/2"	EACH		40	40
Geocomposite Wall Drain	SQ YD		230	230
Temporary Mechanically Stabilized Earth Retaining Wall	SQ FT		7,228	7,228
Porous Granular Embankment, Special	CU YD		333	333
Concrete Wearing Surface, 5"	SQ YD	558		558
Drainage Scupper, DS-II	EACH		1	1
Drainage System	L SUM		1	1
Temporary Sheet Piling	SQ FT		1,458	1,458
Mechanically Stabilized Earth Retaining Wall	SQ FT		674	674
Pipe Underdrains for Structures, 4"	FOOT		180	180
Bituminous Coated Aggregate Slope Wall 6"	SQ YD		1,168	1,168

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- S-2. General Notes, B.O.M. & Index of Sheets
- S-3. Foundation Plan
- S-4. Temporary MSE Walls
- S-5. Stage Construction Deck Sections
- S-6. Temporary Concrete Barrier
- S-7. Deck Elevation Plan Eastbound
- S-8. Deck Elevations Eastbound
- S-9. Deck Elevations Eastbound
- S-10. Deck Elevation Plan Westbound
- S-11. Deck Elevations Westbound
- S-12. Deck Elevations Westbound
- S-13. West E.B. Approach Slab Elevations
- S-14. East E.B. Approach Slab Elevations
- S-15. West W.B. Approach Slab Elevations
- S-16. East W.B. Approach Slab Elevations
- S-17. Deck Plan Eastbound
- S-18. Deck Cross Section Eastbound
- S-19. Deck Plan Westbound
- S-20. Deck Cross Section Westbound
- S-21. West Superstructure Details
- S-22. East Superstructure Details
- S-23. Parapet Elevations, Details & B.O.M. Eastbound
- S-24. Parapet Elevations, Details & B.O.M. Westbound
- S-25. Drainage Scupper, DS-II
- S-26. Drainage System
- S-27. West Approach Slab Plan Eastbound
- S-28. East Approach Slab Plan Eastbound
- S-29. West Approach Slab Plan Westbound
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- S-31. Eastbound Approach Slab Details
- S-32. Westbound Approach Slab Details
- S-33. Precast Concrete Bridge Slab
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- S-35. Steel Details-Splices
- S-36. Steel Details & Moment Table
- S-37. Camber Diagram
- S-38. Bearings Details, Type I and Fixed
- S-39. Bearing Details, Type II
- S-40. West Abutment Plan and Elevation Eastbound
- S-41. East Abutment Plan and Elevation Eastbound
- S-42. West Abutment Plan and Elevation Westbound
- S-43. East Abutment Plan and Elevation Westbound
- S-44. Abutment Details
- S-45. Pier Plan and Elevation Eastbound
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- S-49. Non-Structure Number Mechanically Stabilized Earth Retaining Wall
- S-50. Bar Splicer Assembly and Mechanical Splicer Details
- S-51. HP Pile Details
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- S-53. Boring Logs
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- S-59. Boring Logs
- S-60. Boring Logs
- S-61. Boring Logs
- S-62. Boring Logs

CURRENT RATINGS ON FILE FOR EXISTING WESTBOUND STRUCTURE

Inventory: HS 25
 Operating: HS 41.8
 Live Load Restrictions: No

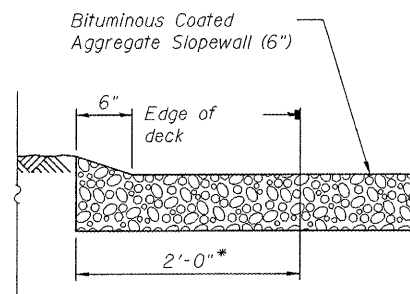
Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

STATION 706+32.12
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 STATE OF ILLINOIS
 F.A.P. RT. 103 SEC. 27-1-VHB-1
 LOADING HL-93
 STRUCTURE NO. 082-0117

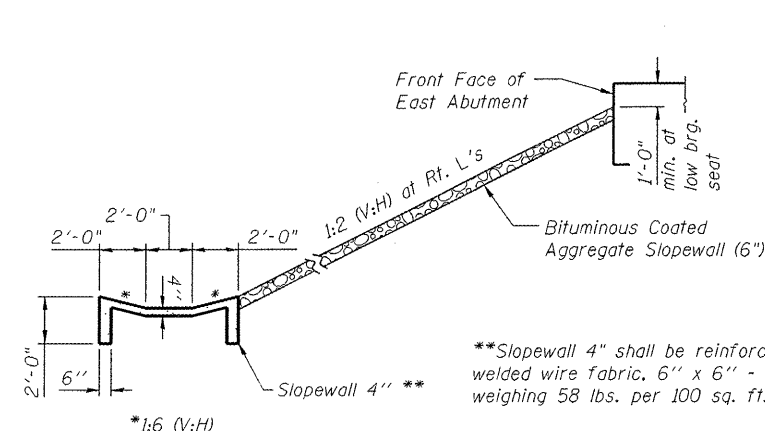
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 See Std. 515001

STATION 706+32.12
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 STATE OF ILLINOIS
 F.A.P. RT. 103 SEC. 27-1-VHB-1
 LOADING HL-93
 STRUCTURE NO. 082-0118

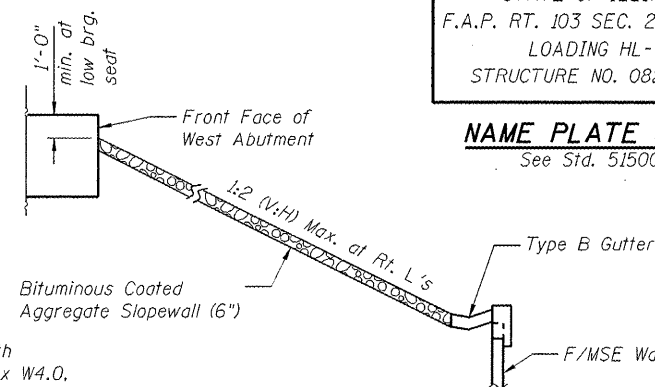
NAME PLATE (W.B.)
 See Std. 515001



SECTION A-A



SECTION THRU EAST SLOPEWALL



SECTION THRU WEST SLOPEWALL

**Slopewall 4" shall be reinforced with welded wire fabric, 6" x 6" - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

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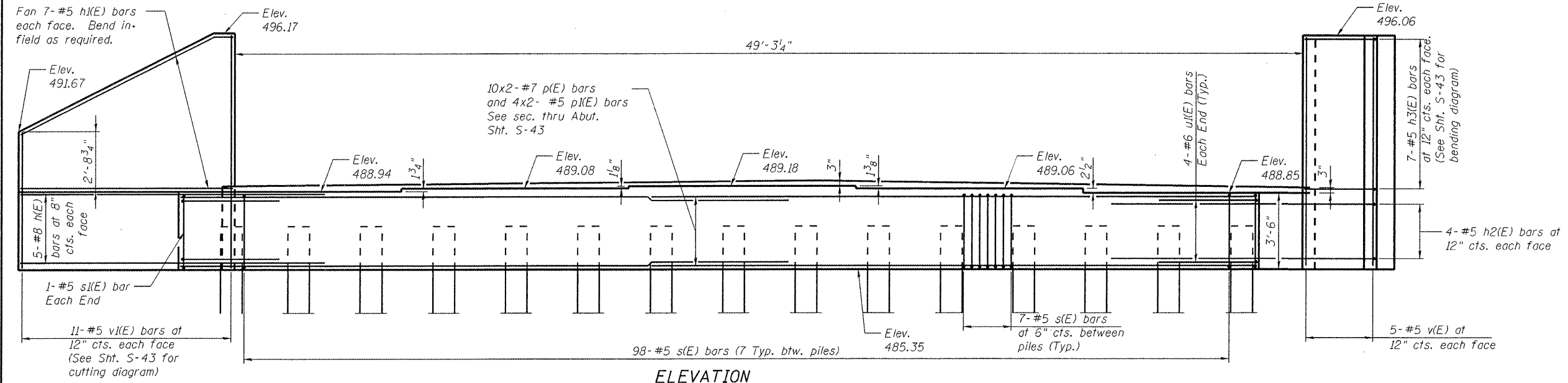
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

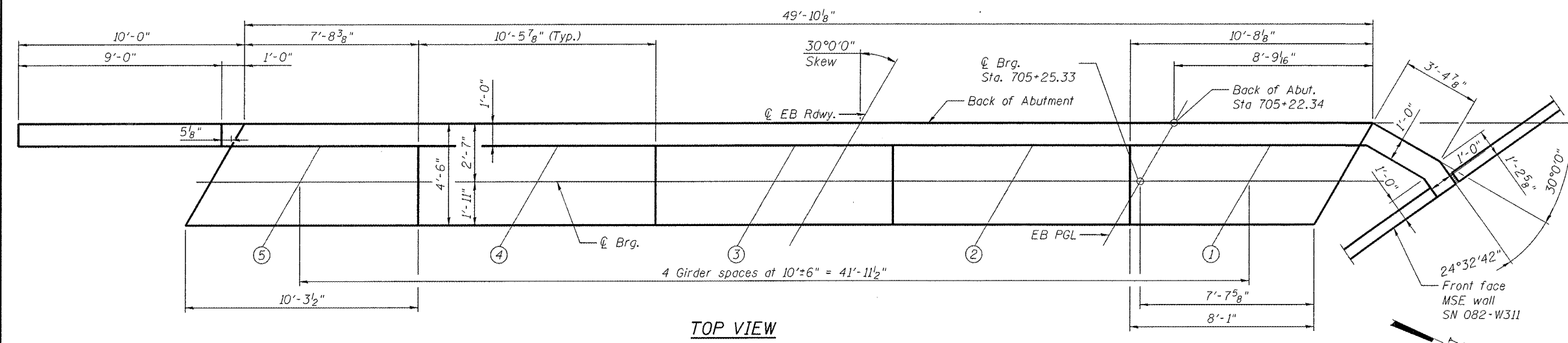
**GENERAL NOTES, B.O.M. & INDEX OF SHEETS
 STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)**

SHEET NO. S-2 OF S-62 SHEETS

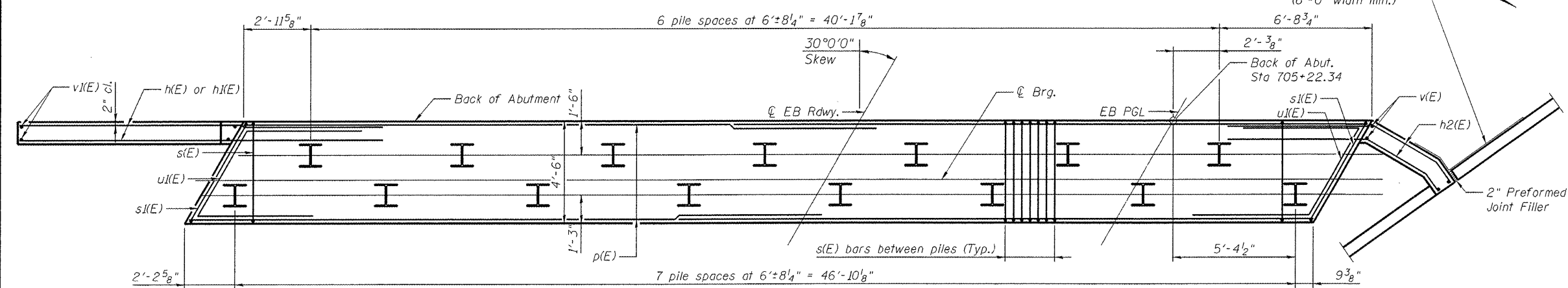
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103	27-1-VHB-1	ST. CLAIR	277	117
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				



ELEVATION



TOP VIEW



PILE PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	10	#8	16'-7"	—
h2(E)	14	#5	10'-8"	—
h3(E)	8	#5	7'-6"	—
h3(E)	14	#5	4'-2"	—
p(E)	20	#7	27'-5"	—
p(E)	8	#5	26'-5"	—
s(E)	98	#5	15'-10"	□
s(E)	2	#5	17'-0"	□
u(E)	8	#6	12'-5"	—
v(E)	10	#5	10'-4"	—
v(E)	11	#5	16'-5"	—
Concrete Structures		Cu. Yd.	36.0	
Reinforcement Bars, Epoxy Coated		Pound	4,170	
Furnishing Steel Piles, HP 12x53		Foot	644	
Driving Piles		Foot	644	
Test Pile Steel, HP 12x53		Each	1	
Pile Shoes		Each	15	

For details of piles see sheet S-51 of S-62.

*Item incidental to Concrete Structures

Cast steps monolithically with cap.

Space top reinforcement in cap to miss anchor bolts.

PILE DATA

Type: HP 12x53
 Nominal Required Bearing: 417 kip
 Factored Resistance Available: 229 kid
 Est. Length: 46'-0"
 No. Production Piles: 14
 No. Test Piles: 1

MIN BAR LAP

#5 = 3'-3"
 #7 = 5'-2"

FILE NAME : 0820117-0118-76584-048-wabsubeEB.dgn



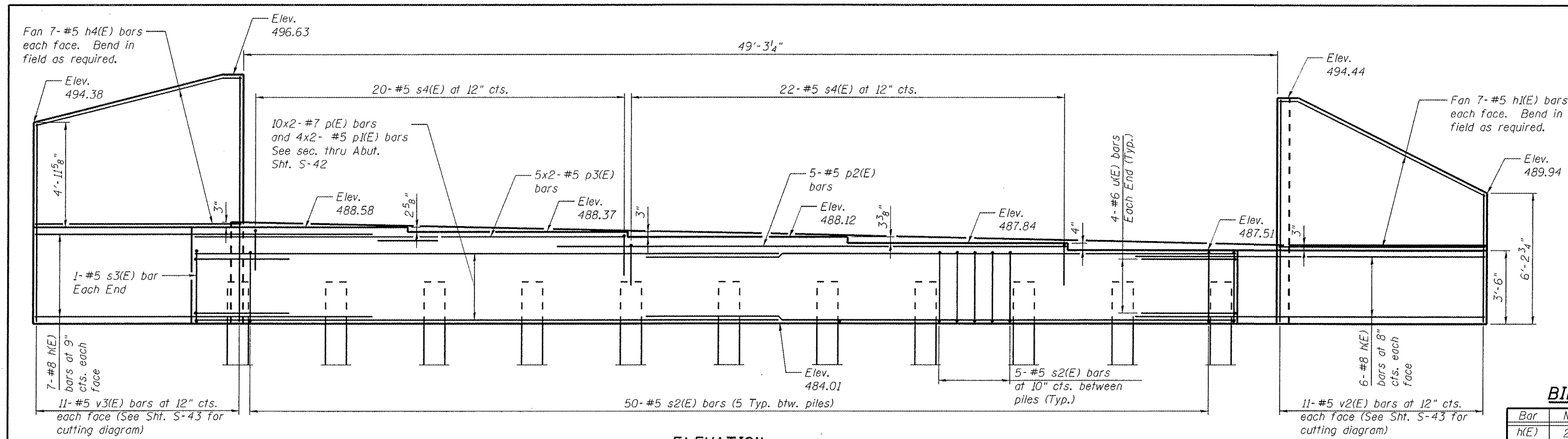
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PLOT DATE = 01/06/2012	DRAWN - RAB	REVISED -
	CHECKED - JAN	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**WEST ABUTMENT PLAN & ELEVATION EASTBOUND
 STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)**

SHEET NO. S-40 OF S-62 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	155
CONTRACT NO. 76884			ILLINOIS FED. AID PROJECT	

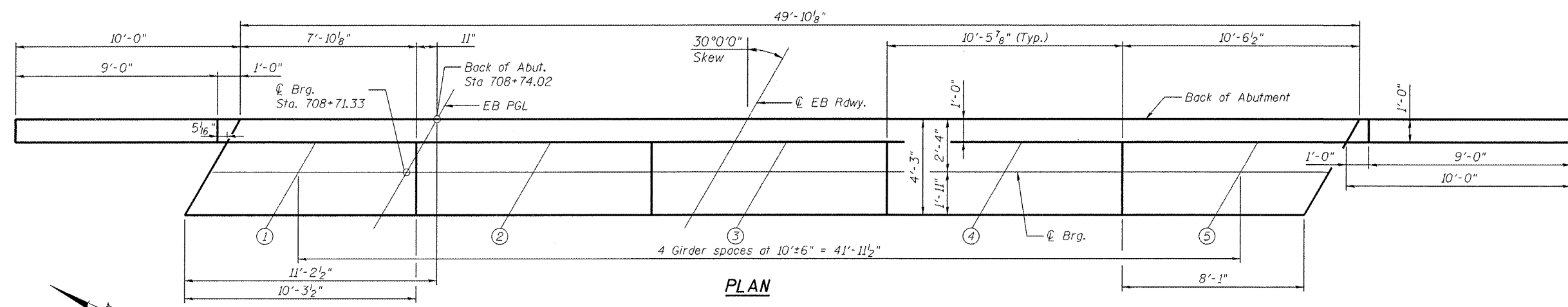


ELEVATION

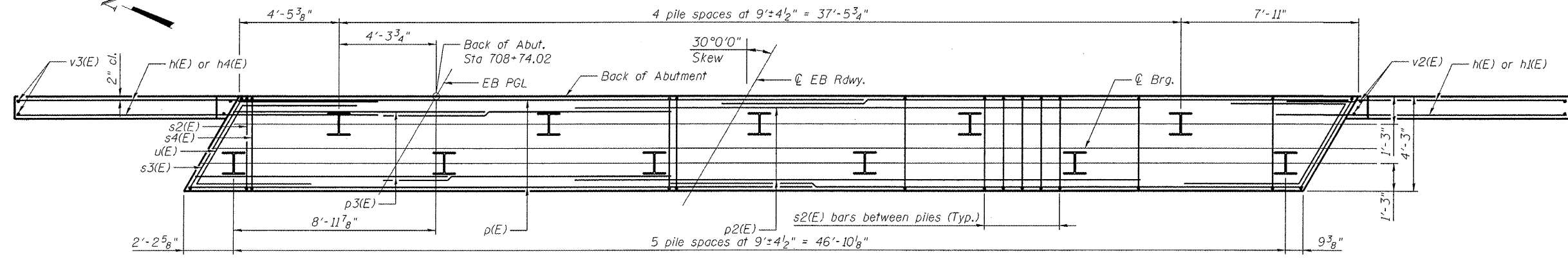
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	26	#8	16'-7"	—
h1(E)	14	#5	10'-8"	—
h4(E)	14	#5	9'-11"	—
p(E)	20	#7	27'-5"	—
p1(E)	8	#5	26'-5"	—
p2(E)	5	#5	24'-1"	—
p3(E)	10	#5	11'-11"	—
s2(E)	50	#5	15'-4"	□
s3(E)	2	#5	16'-6"	□
s4(E)	42	#5	7'-11"	□
u(E)	8	#6	12'-2"	∩
v3(E)	11	#5	21'-3"	—
v2(E)	11	#5	15'-8"	—
Concrete Structures	Cu. Yd.		39.9	
Reinforcement Bars, Epoxy Coated	Pound		4,800	
Furnishing - Piles, HP 12x53	Foot		810	
Driving Piles	Foot		810	
Test Pile Steel, HP 12x53	Each		1	
Pile Shoes	Each		11	
Structure Excavation	Cu. Yd.		76	

For details of piles see sheet S-51 of S-62.
 Cast steps monolithically with cap.
 Space top reinforcement in cap to miss anchor bolts.



PLAN



PILE PLAN

PILE DATA

Type: HP 12x53
 Nominal Required Bearing: 399 kip
 Factored Resistance Available: 220 kip
 Est. Length: 81'-0"
 No. Production Piles: 10
 No. Test Piles: 1

MIN BAR LAP

#5 = 3'-3"
 #7 = 5'-2"

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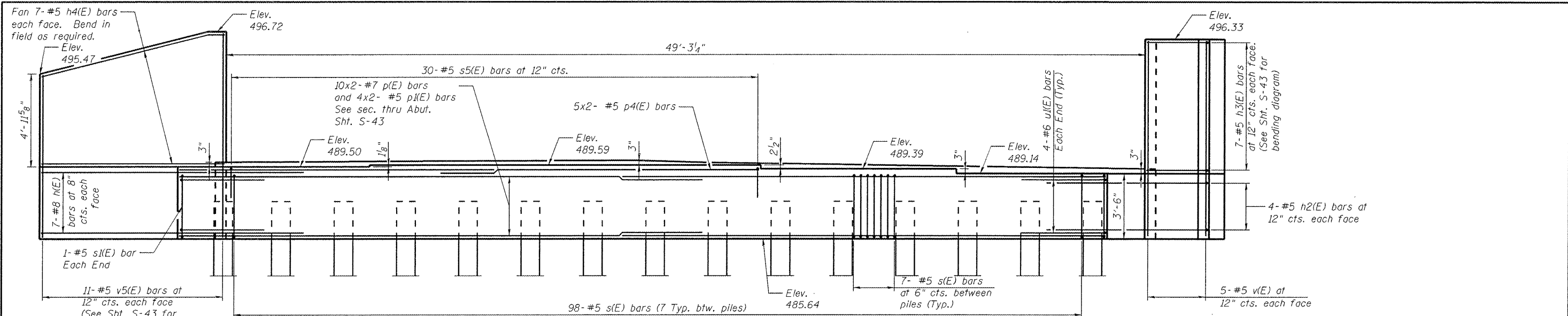
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

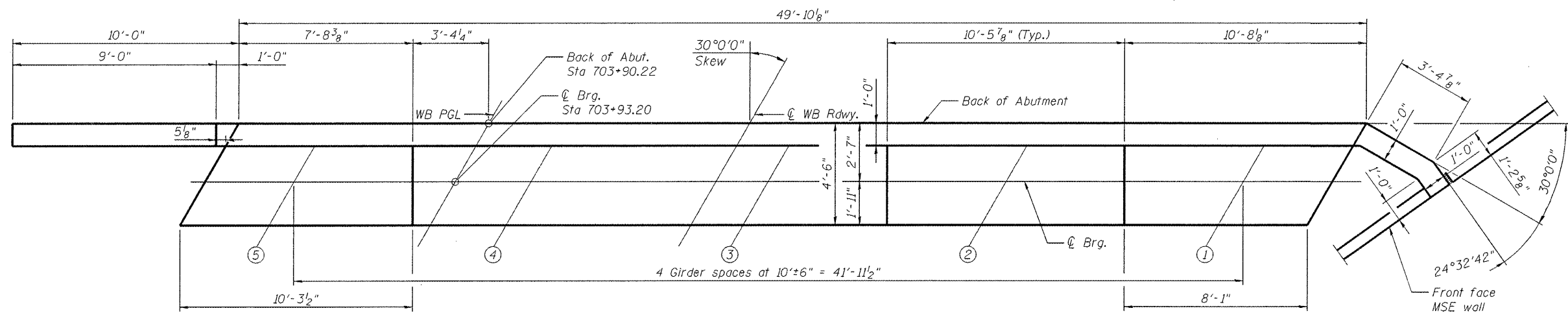
**EAST ABUTMENT PLAN AND ELEVATION EASTBOUND
 STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	156
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				

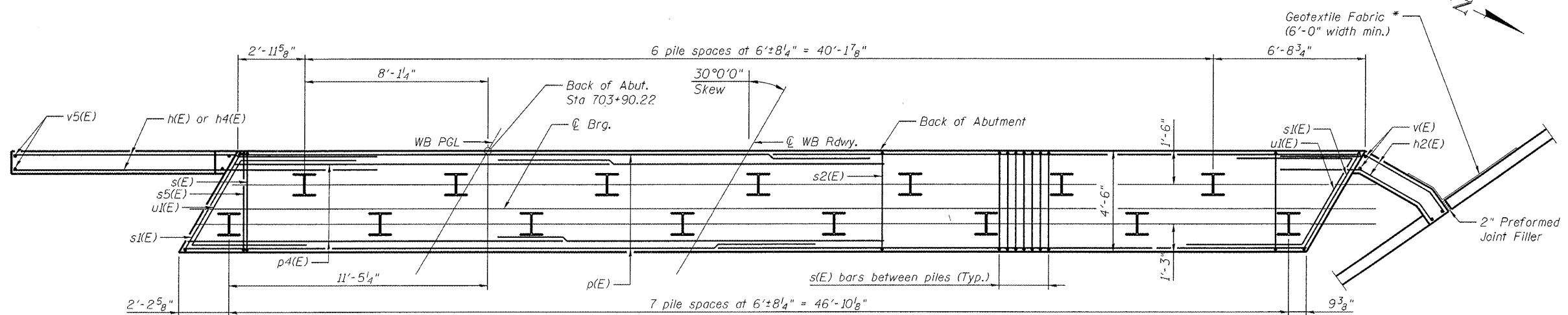
SHEET NO. S-41 OF S-62 SHEETS



ELEVATION



TOP VIEW



PILE PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	14	#8	16'-7"	—
h3(E)	8	#5	7'-6"	—
h4(E)	14	#5	9'-11"	—
p(E)	20	#7	27'-5"	—
p4(E)	8	#5	26'-5"	—
p4(E)	10	#5	17'-2"	—
s(E)	98	#5	15'-10"	□
s1(E)	2	#5	17'-0"	□
s5(E)	30	#5	8'-2"	□
u(E)	8	#6	12'-5"	—
v(E)	10	#5	10'-4"	—
v5(E)	11	#5	19'-3"	—
Concrete Structures	Cu. Yd.		35.0	
Reinforcement Bars, Epoxy Coated	Pound		4,800	
Furnishing Steel Piles, HP 12x53	Foot		616	
Driving Piles	Foot		616	
Test Pile Steel, HP 12x53	Each		1	
Pile Shoes	Each		15	

For details of piles see sheet S-51 of S-62.

*Item incidental to Concrete Structures

Cast steps monolithically with cap.

Space top reinforcement in cap to miss anchor bolts.

PILE DATA

Type: HP 12x53
 Nominal Required Bearing: 406 kip
 Factored Resistance: Available: 223 kip
 Est. Length: 44'-0"
 No. Production Piles: 14
 No. Test Piles: 1

MIN BAR LAP

#5 = 3'-3"
 #7 = 5'-2"

FILE NAME: 0820117-011B-76684-042-WestAbutmentWB.dgn



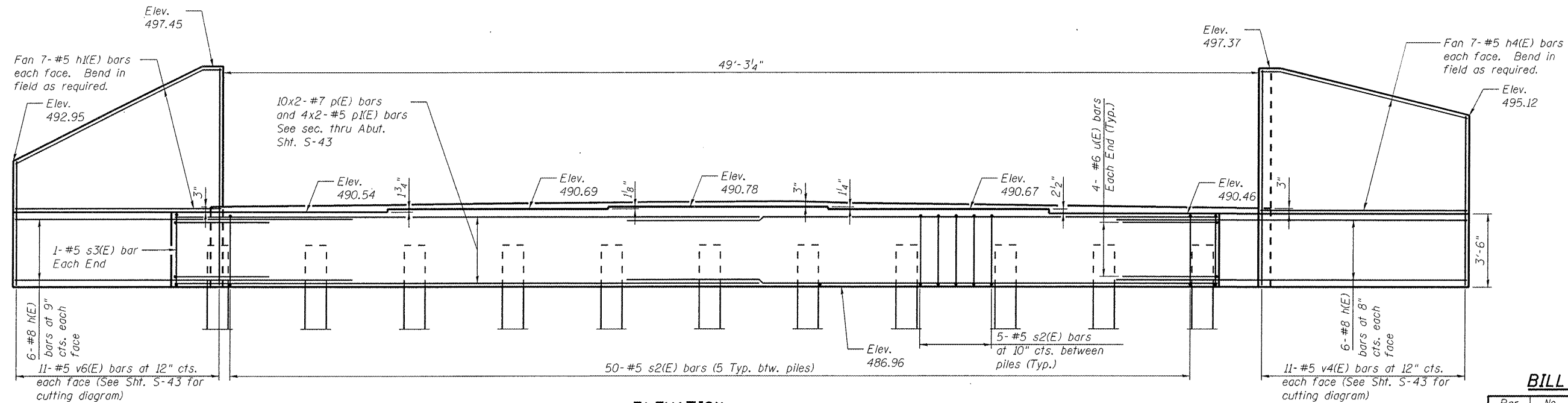
USER NAME = krom	DESIGNED - RAB	REVISION 1/6/2012 RAB
PLOT SCALE = 5/16" = 1' / IN.	CHECKED - JAN	REVISION -
PLOT DATE = 01/06/2012	DRAWN - RAB	REVISION -
	CHECKED - JAN	REVISION -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

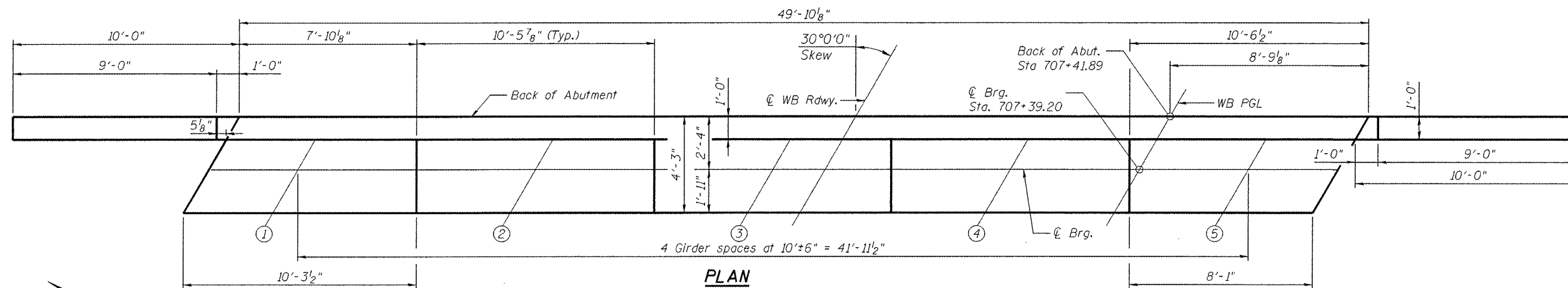
**WEST ABUTMENT PLAN AND ELEVATION WESTBOUND
 STRUCTURE NO 082-0117 (E.B.) & 082-0118 (W.B.)**

SHEET NO. S-42 OF S-62 SHEETS

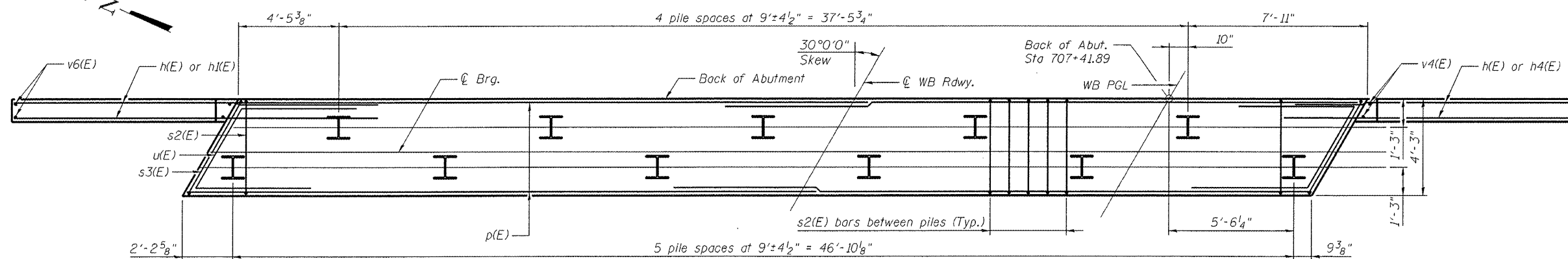
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	157
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN



PILE PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	24	#8	16'-7"	—	
h(E)	14	#5	10'-8"	—	
h4(E)	14	#5	9'-11"	—	
p(E)	20	#7	27'-5"	—	
p(E)	4	#5	26'-5"	—	
s2(E)	50	#5	15'-4"	□	
s3(E)	2	#5	16'-6"	□	
u(E)	8	#6	12'-2"	∟	
v6(E)	11	#5	15'-10"	—	
v4(E)	11	#5	17'-11"	—	
Concrete Structures				Cu. Yd.	35.9
Reinforcement Bars, Epoxy Coated				Pound	3,970
Furnishing Steel Piles, HP 12x53				Foot	850
Driving Piles				Foot	850
Test Pile Steel, HP 12x53				Each	1
Pile Shoes				Each	11
Structure Excavation				Cu. Yd.	76

For details of piles see sheet S-51 of S-62.

Cast steps monolithically with cap.

Space top reinforcement in cap to miss anchor bolts.

PILE DATA

Type: HP 12x53
 Nominal Required Bearing: 417 kip
 Factored Resistance Available: 229 kip
 Est. Length: 85'-0"
 No. Production Piles: 10
 No. Test Piles: 1

MIN BAR LAP

#5 = 3'-3"
 #7 = 5'-2"

FILE NAME = 002017-0105-76884-013-Exc-Abutment-WB.dwg

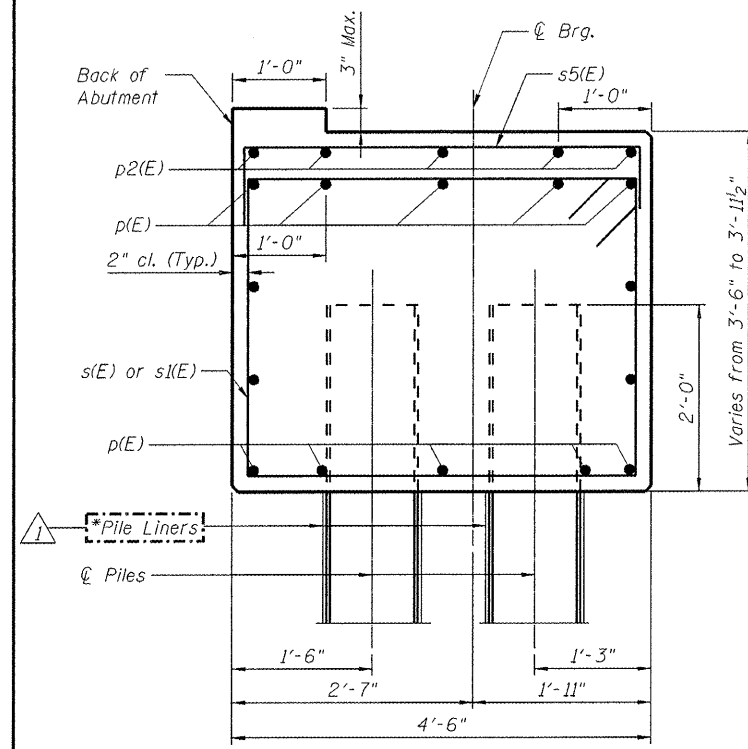


USER NAME = krom	DESIGNED - RAB	REVISED - 1/6/2012 RAB
PLOT SCALE = 5:4.0000 "/>		

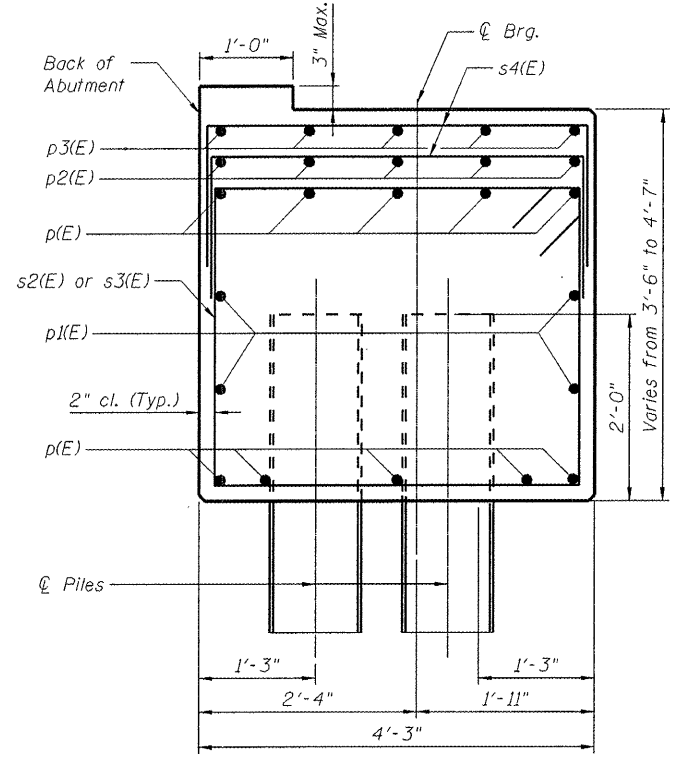
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLAN AND ELEVATION WESTBOUND
STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)
 SHEET NO. S-43 OF S-62 SHEETS

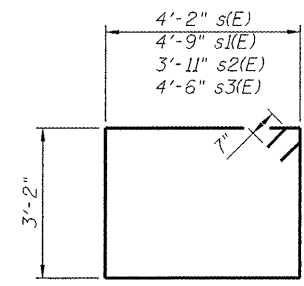
F.A.P. RTE. 103	SECTION 27-1-VHB-1	COUNTY ST. CLAIR	TOTAL SHEETS 277	SHEET NO. 158
CONTRACT NO. 76884			ILLINOIS FED. AID PROJECT	



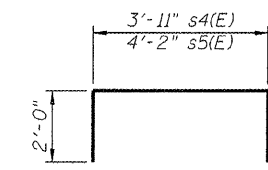
SECTION THRU WEST ABUT.



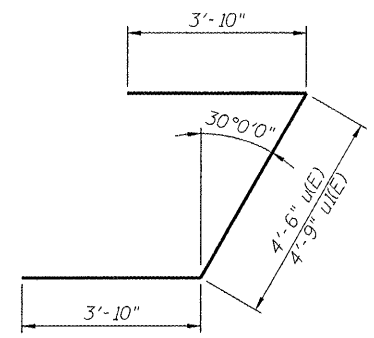
SECTION THRU EAST ABUT.



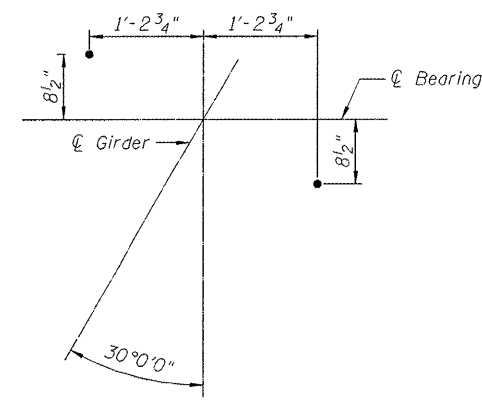
s(E), s1(E), s2(E) and s3(E)



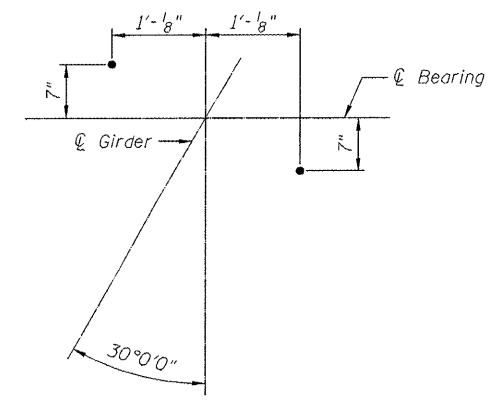
s4(E) and s5(E)



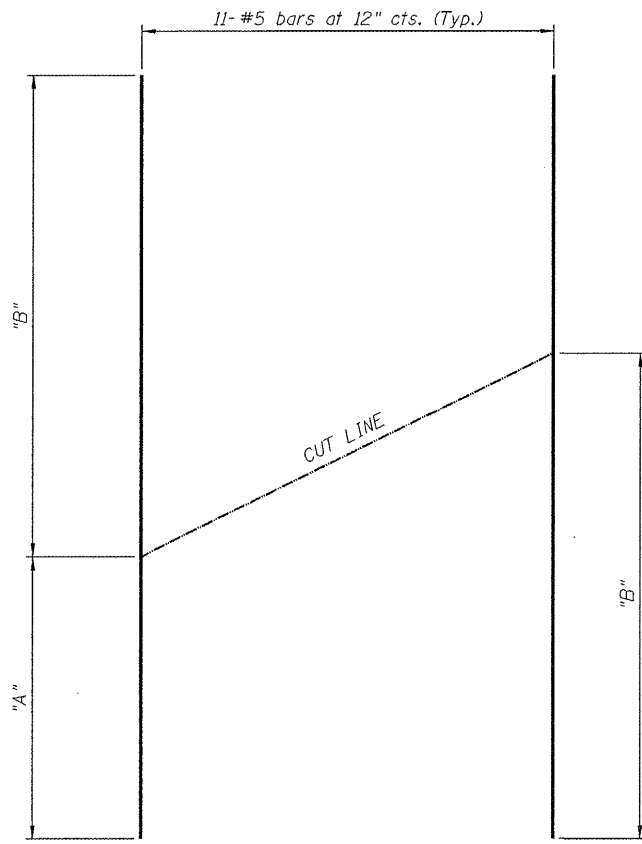
u(E) and u1(E)



ANCHOR BOLT LAYOUT WEST ABUTMENT

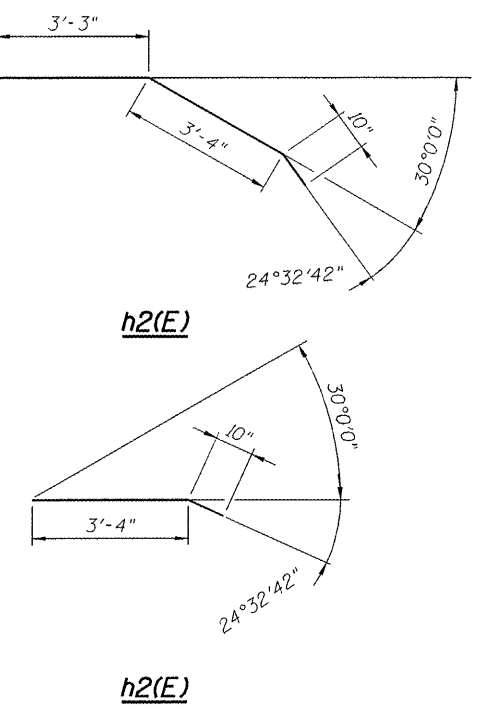


ANCHOR BOLT LAYOUT EAST ABUTMENT



FIELD CUTTING DIAGRAM

Bar	Length	"A"	"B"
v1(E)	16'-5"	6'-0"	10'-5"
v2(E)	15'-8"	5'-7"	10'-1"
v3(E)	21'-3"	9'-0"	12'-3"
v4(E)	17'-11"	7'-10"	10'-1"
v5(E)	19'-3"	8'-6"	10'-9"
v6(E)	15'-10"	5'-8"	10'-2"



h2(E)

h2(E)

NOTES

* Pile liners shall be included in the cost of "Furnishing Steel Piles HP12x53"

Order v1(E), v2(E), v3(E), v4(E), v5(E) and v6(E) full length. Cut as shown and use remainder of bars in opposite face.

FILE NAME = 082017-0118-76884-044-abutment.dgn



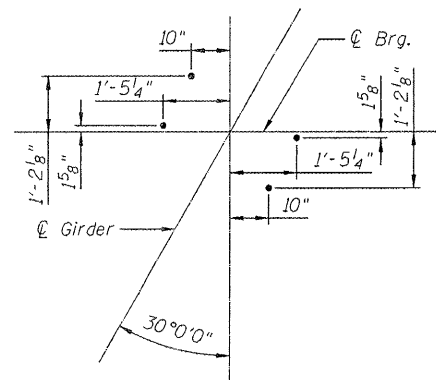
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PLOT SCALE = 20.0000 1" / 10'	CHECKED - JAN	REVISED -
PLOT DATE = 01/06/2012	DRAWN - RAB	REVISED -
	CHECKED - JAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

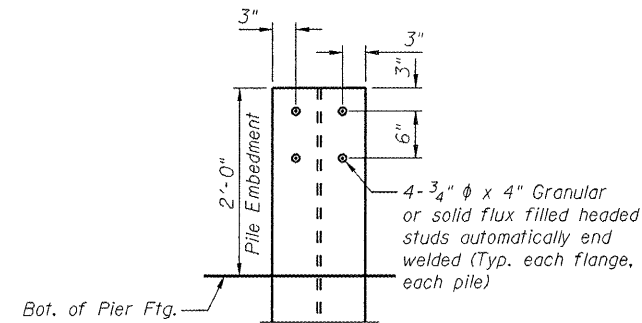
ABUTMENT DETAILS
STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)

SHEET NO. S-44 OF S-62 SHEETS

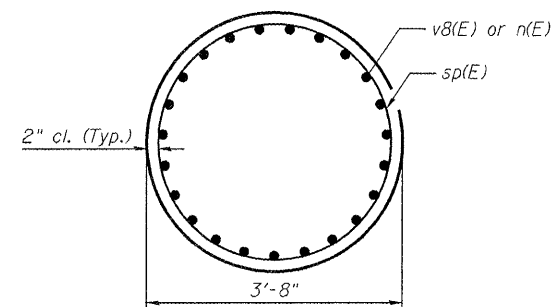
F.A.P. RTE. 103	SECTION 27-1-VHB-1	COUNTY ST. CLAIR	TOTAL SHEETS 277	SHEET NO. 159
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				



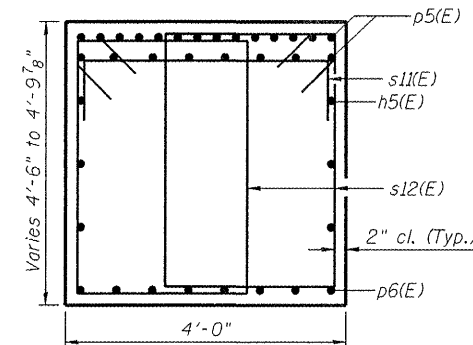
ANCHOR BOLT LAYOUT



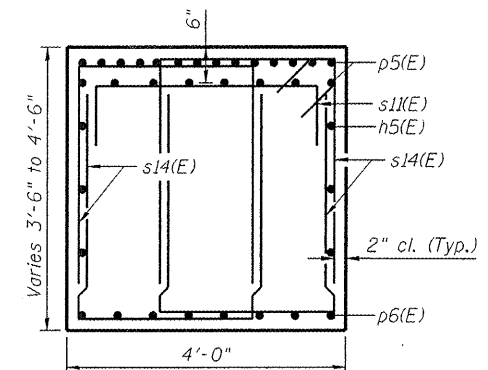
DETAIL A



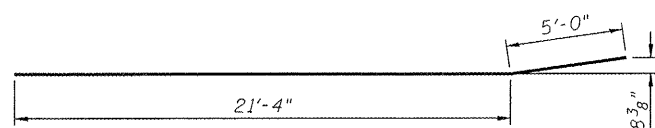
SEC. C-C



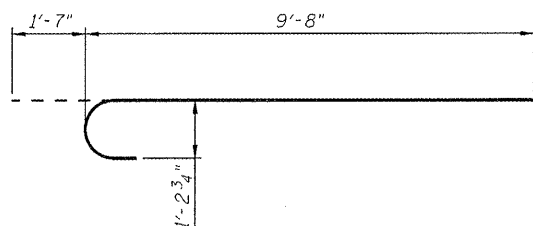
SEC. A-A



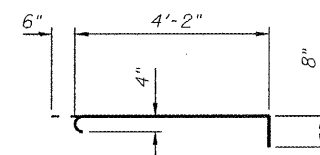
SEC. B-B



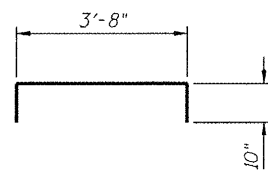
BAR p6(E)



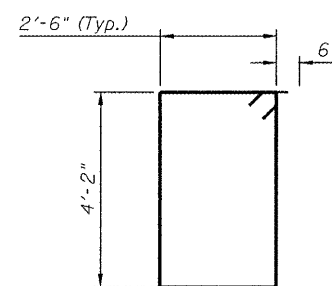
BAR n(E)



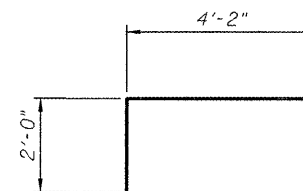
BAR s10(E)



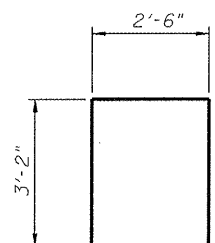
BAR s11(E)



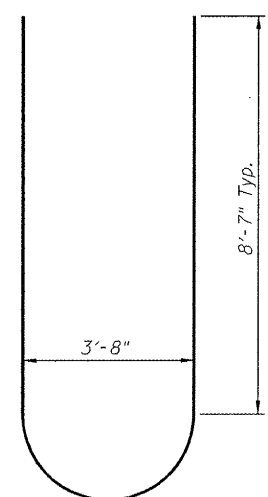
BAR s12(E)



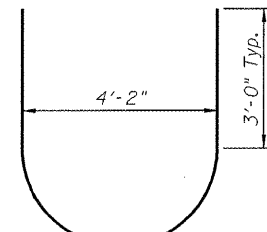
BAR s13(E)



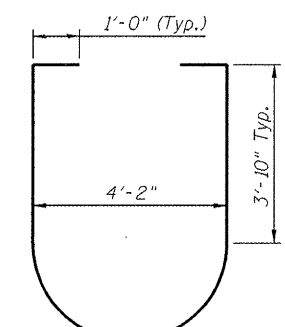
BAR s14(E)



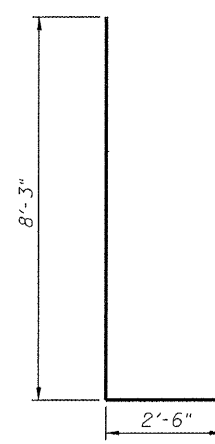
BAR u3(E)



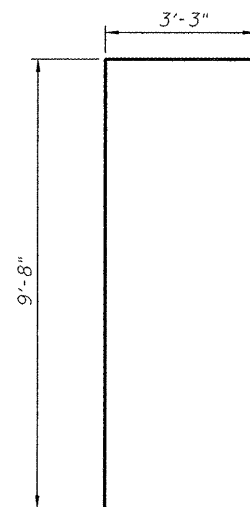
BAR u4(E)



BAR u5(E)



BAR v7(E)



BAR v8(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h5(E)	12	#5	24'-7"	—
h6(E)	48	#6	18'-8"	—
h7(E)	8	#6	27'-6"	—
n(E)	92	#11	11'-3"	U
p5(E)	44	#9	27'-3"	—
p6(E)	16	#9	26'-4"	—
s10(E)	200	#4	5'-4"	U
s11(E)	51	#5	5'-4"	U
s12(E)	248	#6	14'-4"	U
s13(E)	58	#11	8'-2"	U
s14(E)	192	#5	8'-10"	U
sp(E)	4	#5	14'-3 1/2"	W
t1(E)	43	#8	18'-8"	—
t2(E)	85	#10	18'-8"	—
u3(E)	8	#9	22'-11"	U
u4(E)	8	#6	12'-6"	U
u5(E)	24	#6	16'-2"	U
v7(E)	164	#11	10'-9"	U
v8(E)	92	#11	12'-11"	U
v9(E)	164	#11	10'-11"	U
w1(E)	88	#8	24'-3"	—
Structure Excavation		Cu. Yd.	177	
Concrete Structures		Cu. Yd.	266.8	
Reinforcement Bars, Epoxy Coated		Pound	65,430	
Furnishing Steel Piles, HP 12x53		Foot	2,223	
Driving Piles		Foot	2,223	
Test Pile Steel, HP 12x53		Each	1	
Pile Shoes		Each	40	

** Length is height of spiral.
Bars indicated thus 1 x 5-#5 etc. indicates 1 line of bars with 5 lengths per line.

FILE NAME = 0820117-0110-76884-046-PierDetailsEB.dgn

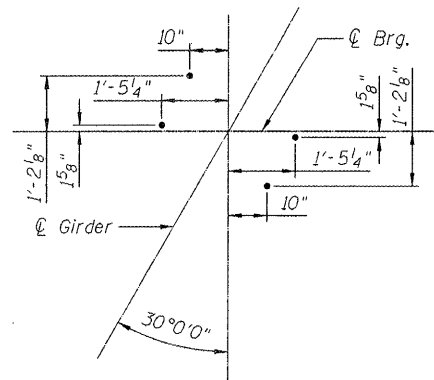


USER NAME = krokm	DESIGNED - SAB	REVISED - 1/6/2012 RAB
PLOT SCALE = 8:0.0000 1" = 8'-0"	CHECKED - MJK	REVISED -
PLOT DATE = 01/06/2012	DRAWN - RAB	REVISED -
	CHECKED - SAB	REVISED -

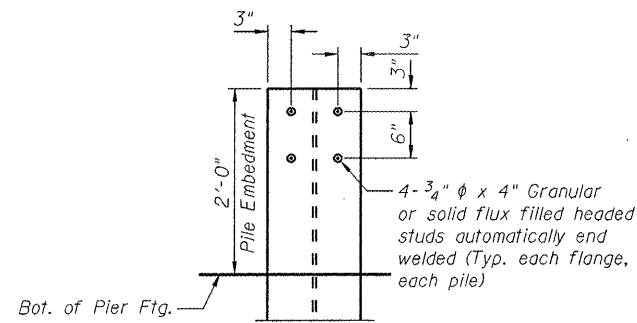
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER DETAILS EASTBOUND
STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)**
SHEET NO. S-46 OF S-62 SHEETS

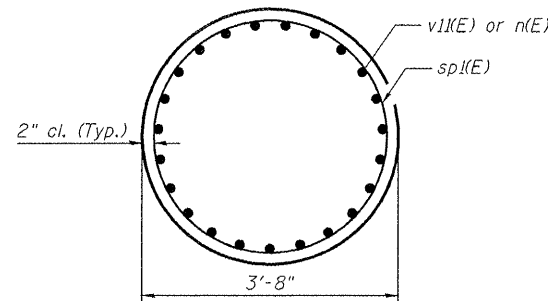
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VNB-1	ST. CLAIR	277	161
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				



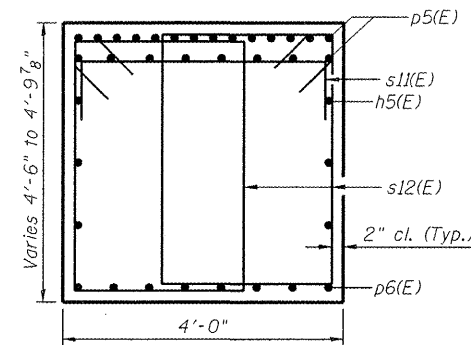
ANCHOR BOLT LAYOUT



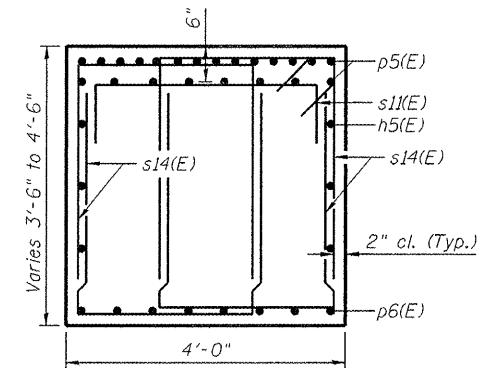
DETAIL A



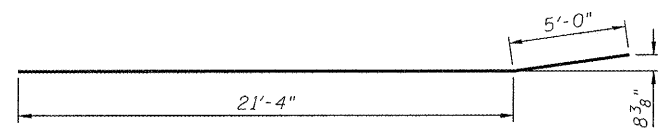
SEC. C-C



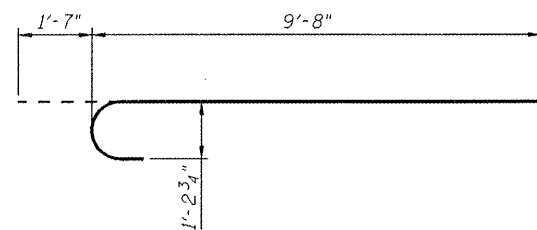
SEC. A-A



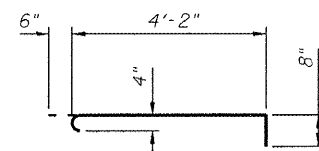
SEC. B-B



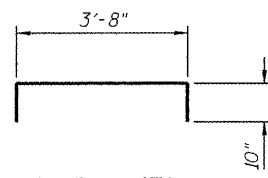
BAR p6(E)



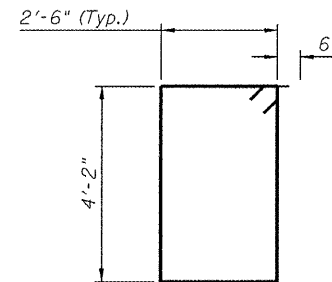
BAR n(E)



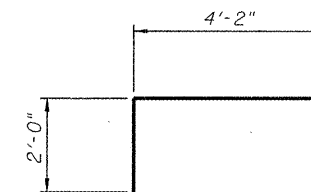
BAR s10(E)



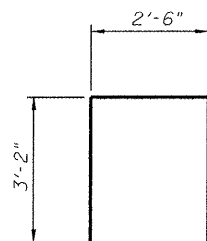
BAR s1(E)



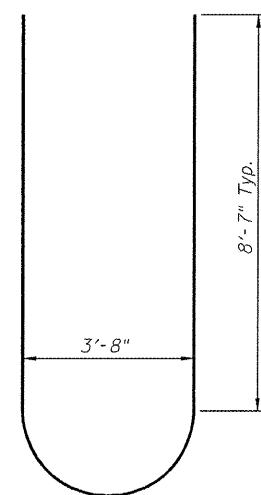
BAR s12(E)



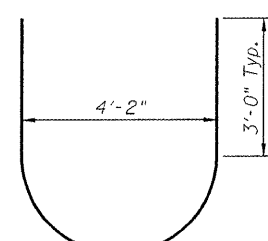
BAR s13(E)



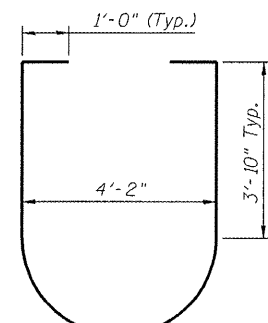
BAR s14(E)



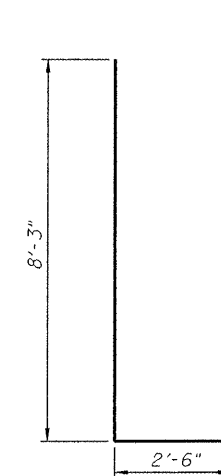
BAR u3(E)



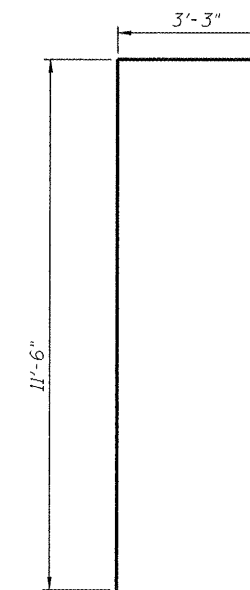
BAR u4(E)



BAR u5(E)



BAR v7(E)



BAR v1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h5(E)	12	#5	24'-7"	—
h6(E)	48	#6	18'-8"	—
h7(E)	8	#6	27'-6"	—
n(E)	92	#11	11'-3"	U
p5(E)	44	#9	27'-3"	—
p6(E)	16	#9	26'-4"	—
s10(E)	200	#4	5'-4"	U
s11(E)	51	#5	5'-4"	U
s12(E)	248	#6	14'-4"	U
s13(E)	58	#11	8'-2"	U
s14(E)	192	#5	8'-10"	U
sp1(E)	4	#5	16'-2"	W
t1(E)	43	#8	18'-8"	—
t2(E)	85	#10	18'-8"	—
u3(E)	8	#9	22'-11"	U
u4(E)	8	#6	12'-6"	U
u5(E)	24	#6	16'-2"	U
v7(E)	164	#11	10'-9"	U
v10(E)	164	#11	10'-6"	U
v11(E)	92	#11	14'-9"	U
w1(E)	88	#8	24'-3"	—
Structure Excavation	Cu. Yd.	177		
Concrete Structures	Cu. Yd.	267.1		
Reinforcement Bars, Epoxy Coated	Pound	66,040		
Furnishing Steel Piles, HP 12x53	Foot	2,223		
Driving Piles	Foot	2,223		
Test Pile Steel, HP 12x53	Each	1		
Pile Shoes	Each	40		

** Length is height of spiral.
Bars indicated thus 1 x 5-#5 etc. indicates 1 line of bars with 5 lengths per line.

FILE NAME = 0820117-0118-76884-018-Pier-Details-WB.dgn

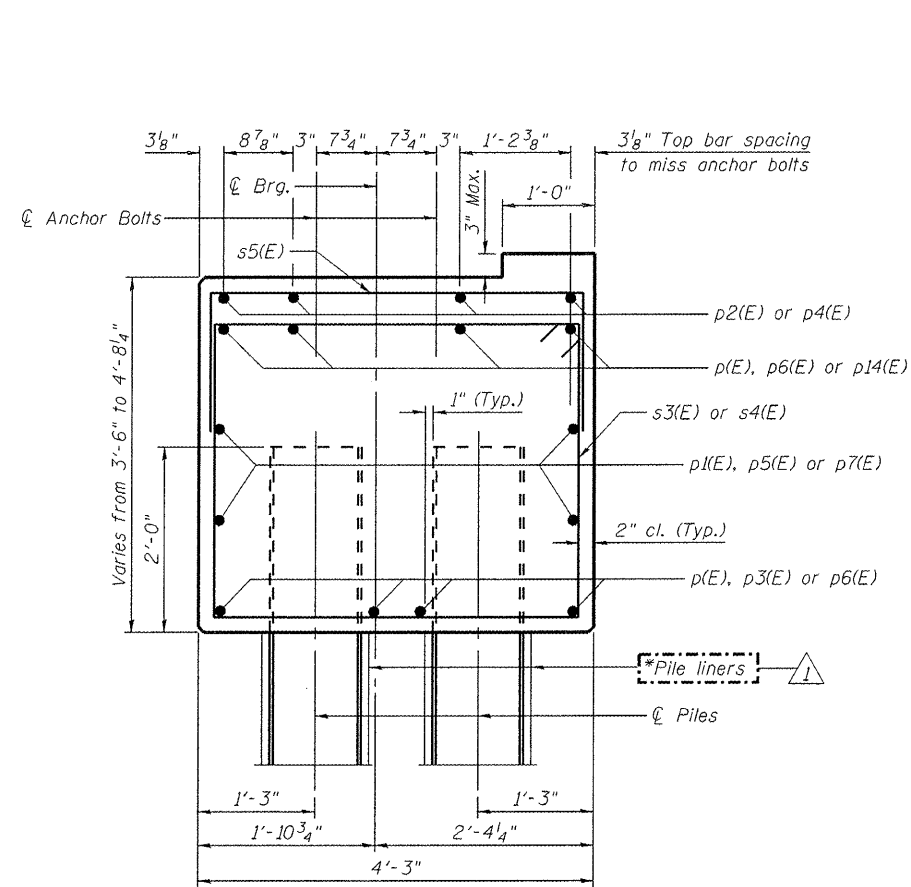


USER NAME = krom	DESIGNED - SAB	REVISED - 1/6/2012 RAB
CHECKED - MJK	REVISIONS	
PLOT SCALE = 8:0.0000 "/>		

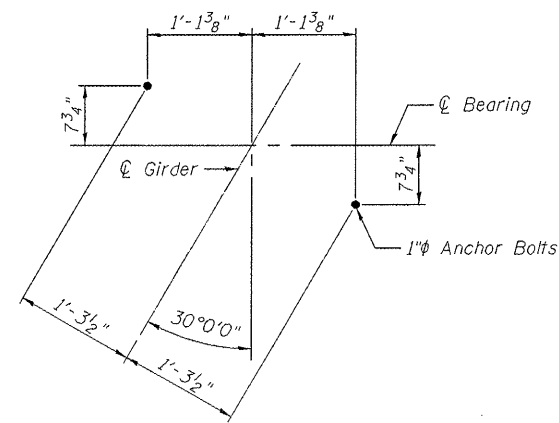
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER DETAILS WESTBOUND
STRUCTURE NO. 082-0117 (E.B.) & 082-0118 (W.B.)**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VMB-1	ST. CLAIR	277	163
			CONTRACT NO. 76884	
ILLINOIS FED. AID PROJECT				



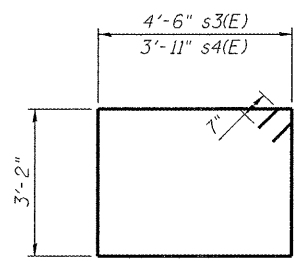
SECTION THRU EAST ABUT.



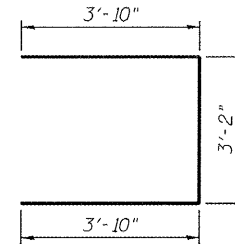
ANCHOR BOLT LAYOUT EAST ABUTMENT

NOTES

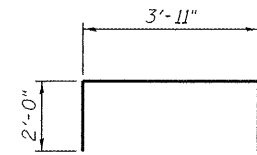
* Pile liners shall be included in the cost of "Furnishing Steel Piles HP12x53"



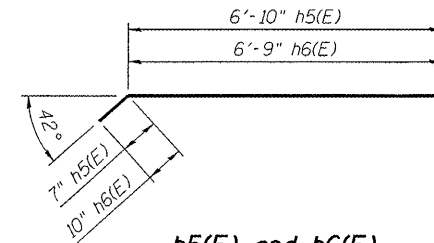
s3(E) and s4(E)



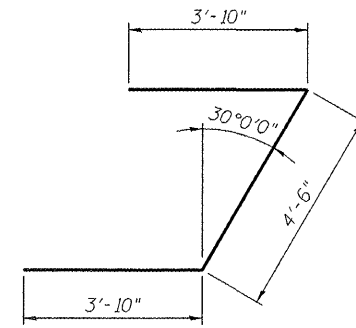
u4(E)



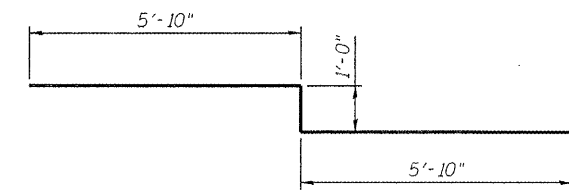
s5(E)



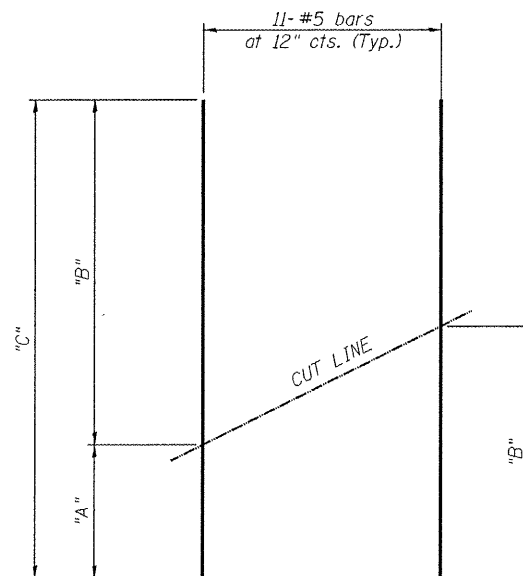
h5(E) and h6(E)



u2(E)



u3(E)



Bar	"A"	"B"	"C"
v2(E)	9'-9"	12'-0"	21'-9"
v3(E)	7'-5"	12'-0"	19'-5"

FIELD CUTTING DIAGRAM

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

**EAST ABUTMENT EASTBOUND
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	7	#8	17'-6"	—
h2(E)	6	#5	13'-1"	—
h4(E)	16	#5	10'-9"	—
h5(E)	12	#5	7'-5"	—
h6(E)	12	#5	7'-7"	—
p(E)	16	#7	19'-6"	—
p1(E)	8	#5	17'-11"	—
p2(E)	4	#5	14'-9"	—
p3(E)	4	#7	25'-9"	—
p4(E)	8	#5	8'-0"	—
p5(E)	4	#5	21'-5"	—
p7(E)	8	#5	18'-6"	—
p14(E)	8	#7	15'-10"	—
s3(E)	2	#5	16'-6"	□
s4(E)	55	#5	15'-4"	□
s5(E)	43	#5	7'-11"	┌
u2(E)	8	#6	12'-2"	┌
u3(E)	4	#7	12'-8"	┌
v1(E)	18	#5	10'-9"	—
v2(E)	11	#5	21'-9"	—
Concrete Structures		Cu. Yd.	40.4	
Reinforcement Bars, Epoxy Coated		Pound	4550	
Furnishing Steel Piles HP12x53		Foot	744	
Driving Piles		Foot	744	
Test Pile Steel HP12x53		Each	1	

**EAST ABUTMENT WESTBOUND
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(E)	7	#8	17'-6"	—
h2(E)	6	#5	13'-1"	—
h4(E)	16	#5	10'-9"	—
h5(E)	12	#5	7'-5"	—
h6(E)	12	#5	7'-7"	—
p2(E)	4	#5	14'-9"	—
p3(E)	4	#7	25'-9"	—
p4(E)	8	#5	8'-0"	—
p5(E)	4	#5	21'-5"	—
p6(E)	16	#7	20'-1"	—
p7(E)	8	#5	18'-6"	—
p14(E)	8	#7	15'-10"	—
s3(E)	2	#5	16'-6"	□
s4(E)	55	#5	15'-4"	□
s5(E)	43	#5	7'-11"	┌
u2(E)	8	#6	12'-2"	┌
u3(E)	4	#7	12'-8"	┌
u4(E)	5	#6	10'-10"	┌
v1(E)	18	#5	10'-9"	—
v3(E)	11	#5	19'-5"	—
Concrete Structures		Cu. Yd.	40.0	
Reinforcement Bars, Epoxy Coated		Pound	4300	
Furnishing Steel Piles HP12x53		Foot	744	
Driving Piles		Foot	744	
Test Pile Steel HP12x53		Each	1	

For details of piles see sheet S-40 of S-51.

FILE NAME = 082011h-0120-76884-035-EastAbutment.tbl.dgn

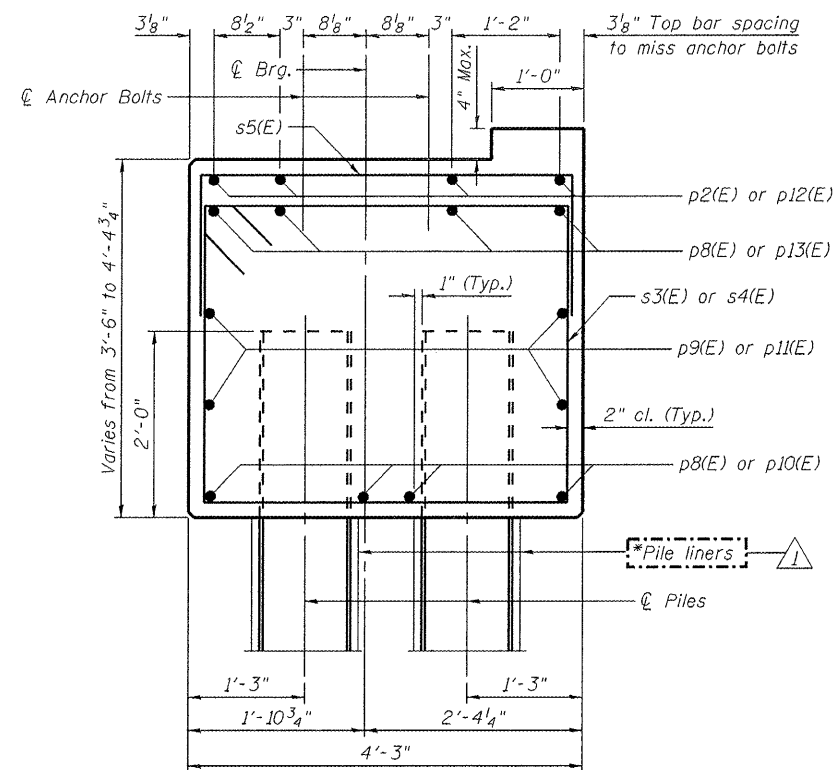


USER NAME = hrakm	DESIGNED - MJK	REVISED 1/6/2012 MJK
PLOT SCALE = 2:0.0000' / IN.	CHECKED - SAB	REVISED -
PLOT DATE = 1/6/2012	DRAWN - MJK	REVISED -
	CHECKED - SAB	REVISED -

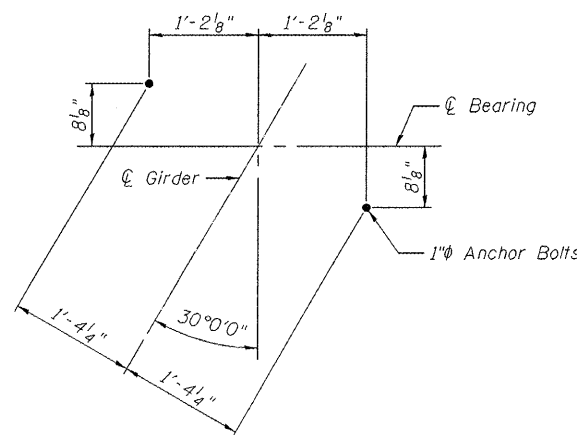
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EAST ABUTMENT DETAILS
STRUCTURE NO. 082-0119 (E.B.) & 082-0120 (W.B.)**
SHEET NO. S-35 OF S-51 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	212
CONTRACT NO. 76884			ILLINOIS FED. AID PROJECT	



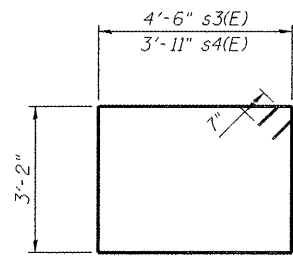
SECTION THRU WEST ABUT.



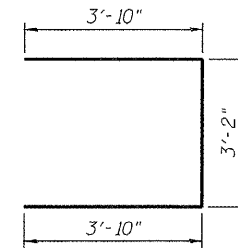
ANCHOR BOLT LAYOUT WEST ABUTMENT

NOTES

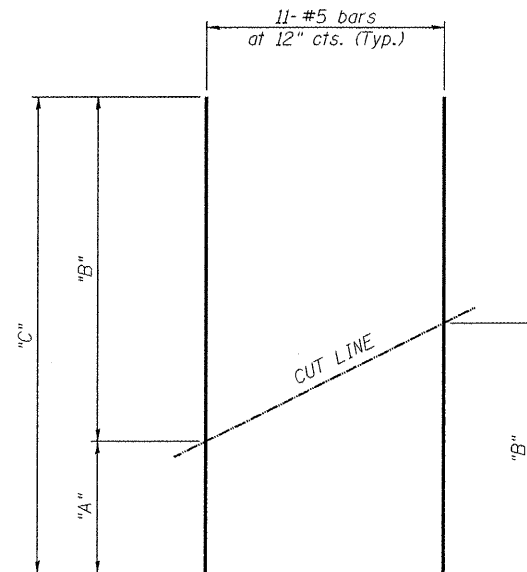
* Pile liners shall be included in the cost of "Furnishing Steel Piles HP12x53"



s3(E) and s4(E)



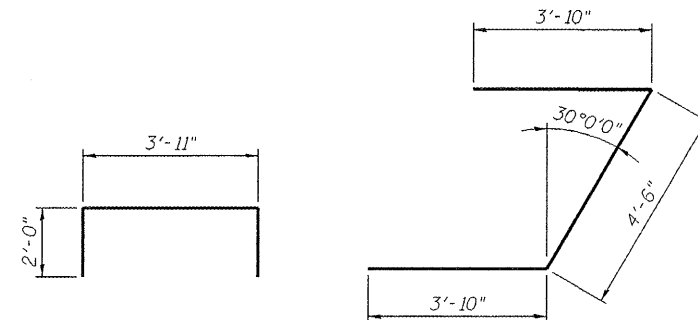
u4(E)



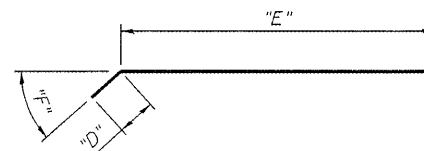
Bar	"A"	"B"	"C"
v4(E)	6'-0"	10'-7"	16'-7"
v6(E)	8'-3"	10'-6"	18'-9"

FIELD CUTTING DIAGRAM

Order v4(E) and v6(E) full length. Cut as shown and use remainder of bars in opposite face.



u2(E)



s5(E)

Bar	"D"	"E"	"F"
h7(E)	0'-11"	6'-3"	45°
h8(E)	1'-2"	6'-2"	45°
h9(E)	0'-7"	6'-8"	44°
h10(E)	0'-10"	6'-6"	44°

h7(E), h8(E), h9(E) and h10(E)

WEST ABUTMENT EASTBOUND
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	7	#8	17'-6"	—
h2(E)	5	#5	13'-1"	—
h4(E)	16	#5	10'-9"	—
h7(E)	13	#5	7'-2"	—
h8(E)	13	#5	7'-4"	—
p2(E)	4	#5	14'-9"	—
p8(E)	16	#7	19'-0"	—
p9(E)	8	#5	17'-5"	—
p10(E)	4	#7	26'-10"	—
p11(E)	4	#5	23'-7"	—
p12(E)	8	#5	8'-9"	—
p13(E)	8	#7	16'-6"	—
s3(E)	2	#5	16'-6"	□
s4(E)	55	#5	15'-4"	□
s5(E)	43	#5	7'-11"	┌
u2(E)	8	#6	12'-2"	┌
u3(E)	4	#7	12'-8"	┌
u4(E)	5	#6	10'-10"	┌
v4(E)	11	#5	16'-7"	—
v5(E)	18	#5	11'-6"	—
Concrete Structures		Cu. Yd.	39.1	
Reinforcement Bars, Epoxy Coated		Pound	4270	
Furnishing Steel Piles HP12x53		Foot	744	
Driving Piles		Foot	744	
Test Pile Steel HP12x53		Each	1	

WEST ABUTMENT WESTBOUND
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	10'-0"	—
h1(E)	7	#8	17'-6"	—
h2(E)	5	#5	13'-1"	—
h9(E)	13	#5	7'-3"	—
h10(E)	13	#5	7'-4"	—
p2(E)	4	#5	14'-9"	—
p8(E)	16	#7	19'-0"	—
p9(E)	8	#5	17'-5"	—
p10(E)	4	#7	26'-10"	—
p11(E)	4	#5	23'-7"	—
p12(E)	8	#5	8'-9"	—
p13(E)	8	#7	16'-6"	—
s3(E)	2	#5	16'-6"	□
s4(E)	55	#5	15'-4"	□
s5(E)	43	#5	7'-11"	┌
u2(E)	8	#6	12'-2"	┌
u4(E)	5	#6	10'-10"	┌
u5(E)	4	#7	12'-6"	┌
v6(E)	11	#5	18'-9"	—
v7(E)	18	#5	11'-5"	—
Concrete Structures		Cu. Yd.	39.2	
Reinforcement Bars, Epoxy Coated		Pound	4280	
Furnishing Steel Piles HP12x53		Foot	780	
Driving Piles		Foot	780	
Test Pile Steel HP12x53		Each	1	

For details of piles see sheet S-40 of S-51.

FILE NAME = 08220119-0120-76884-038-WestAbutDetails.dgn



USER NAME = krahm	DESIGNED - MJK	REVISED - 1/6/2012 MJK
PLOT SCALE = 2:0.0000 1/2" = 1'-0"	CHECKED - SAB	REVISED -
PLOT DATE = 1/6/2012	DRAWN - MJK	REVISED -
	CHECKED - SAB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS
STRUCTURE NO. 082-0119 (E.B.) & 082-0120 (W.B.)
SHEET NO. S-38 OF S-51 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
103	27-1-VHB-1	ST. CLAIR	277	215
CONTRACT NO. 76884				
ILLINOIS FED. AID PROJECT				