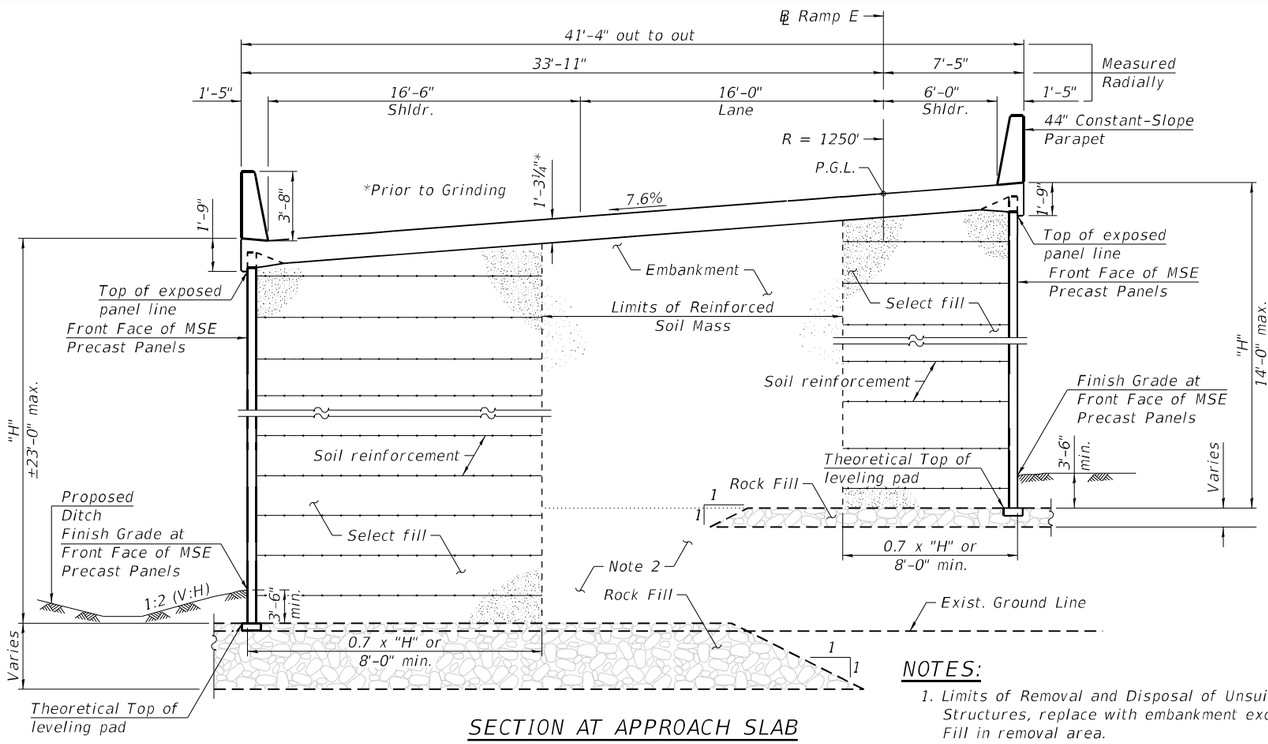
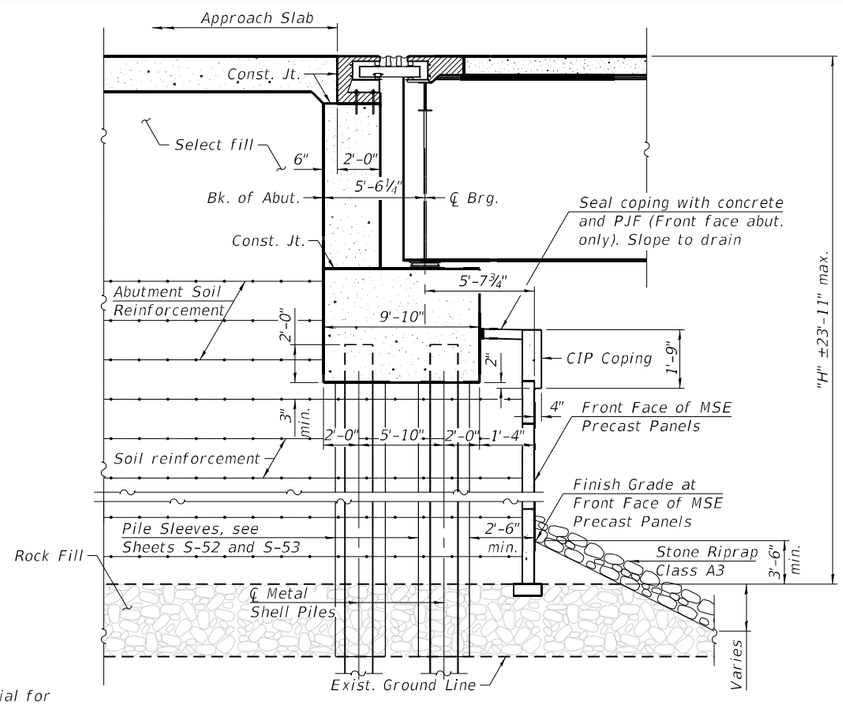


SECTION AT APPROACH SLAB

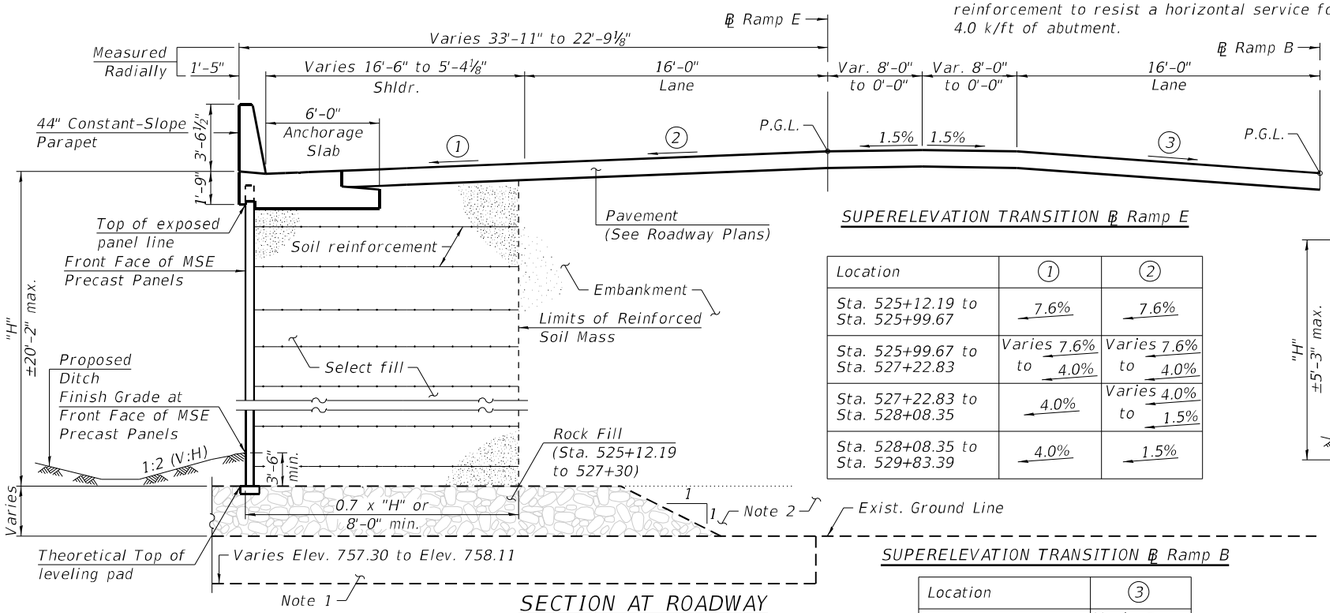
(Looking Upstation)



SECTION THRU ABUTMENT

NOTES:

1. Limits of Removal and Disposal of Unsuitable Material for Structures, replace with embankment except where Rock Fill in removal area.
2. Embankment shall be placed from top of leveling pad at north wall to existing ground line except where Rock Fill is located.
3. Work this sheet with S-53 of S-106.
4. The MSE wall supplier shall design the abutment soil reinforcement to resist a horizontal service force of 4.0 k/ft of abutment.



SECTION AT ROADWAY

(Looking Upstation)

(℄ Ramp E Sta 525+12.19 to Sta 529+83.39)

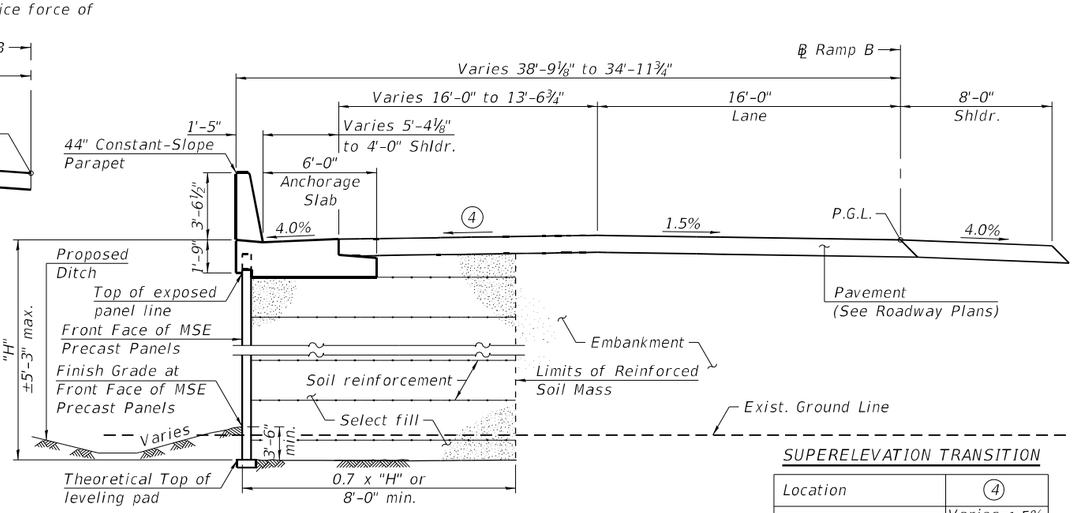
(℄ Ramp B Sta 236+00.41 to Sta 239+38.61)

SUPERELEVATION TRANSITION ℄ Ramp E

Location	①	②
Sta. 525+12.19 to Sta. 525+99.67	7.6%	7.6%
Sta. 525+99.67 to Sta. 527+22.83	Varies 7.6% to 4.0%	Varies 7.6% to 4.0%
Sta. 527+22.83 to Sta. 528+08.35	4.0%	Varies 4.0% to 1.5%
Sta. 528+08.35 to Sta. 529+83.39	4.0%	1.5%

SUPERELEVATION TRANSITION ℄ Ramp B

Location	③
Sta. 236+05.00 to Sta. 238+19.04	Varies 7.8% to 1.5%



SUPERELEVATION TRANSITION

Location	④
Sta. 239+38.61 to Sta. 240+38.61	Varies 1.5% to 1.5%

SECTION AT ROADWAY

(Looking Upstation)

(℄ Ramp B Sta 239+38.61 to Sta 240+00.00)

MODEL: Sheet
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5/3/2021 1:46:51 PM

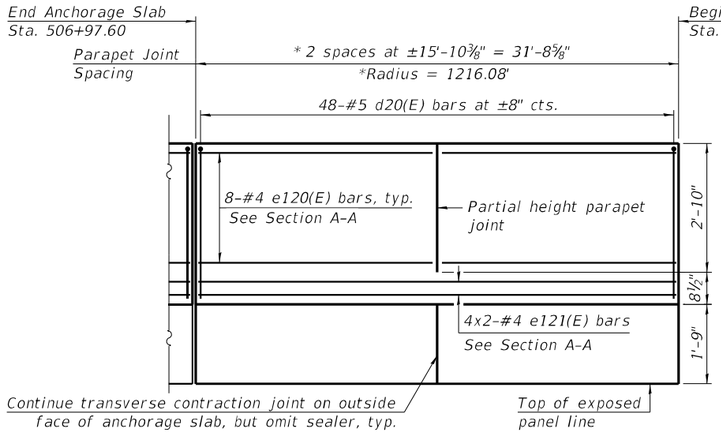
QUIGG ENGINEERING INC

DESIGNED – KWB	REVISED –		
CHECKED – RPW	REVISED –		
DRAWN – LMC	REVISED –		
CHECKED – MDC	REVISED –		

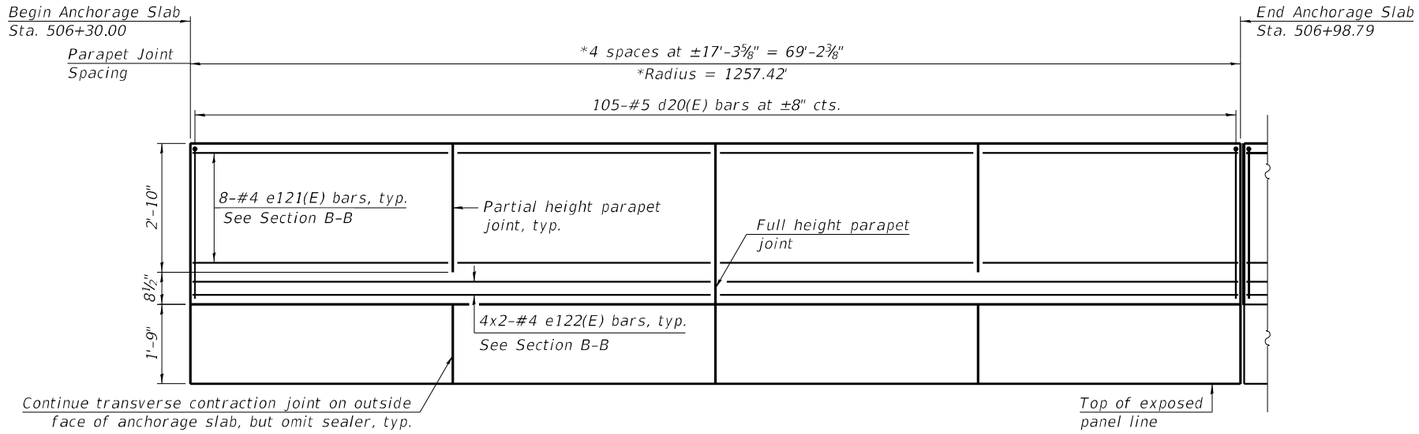
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT – MSE WALL – SECTIONS
STRUCTURE NO. 010-1001
SHEET NO. S-59 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	701
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



OUTSIDE ELEVATION OF SOUTH PARAPET - EAST APPROACH

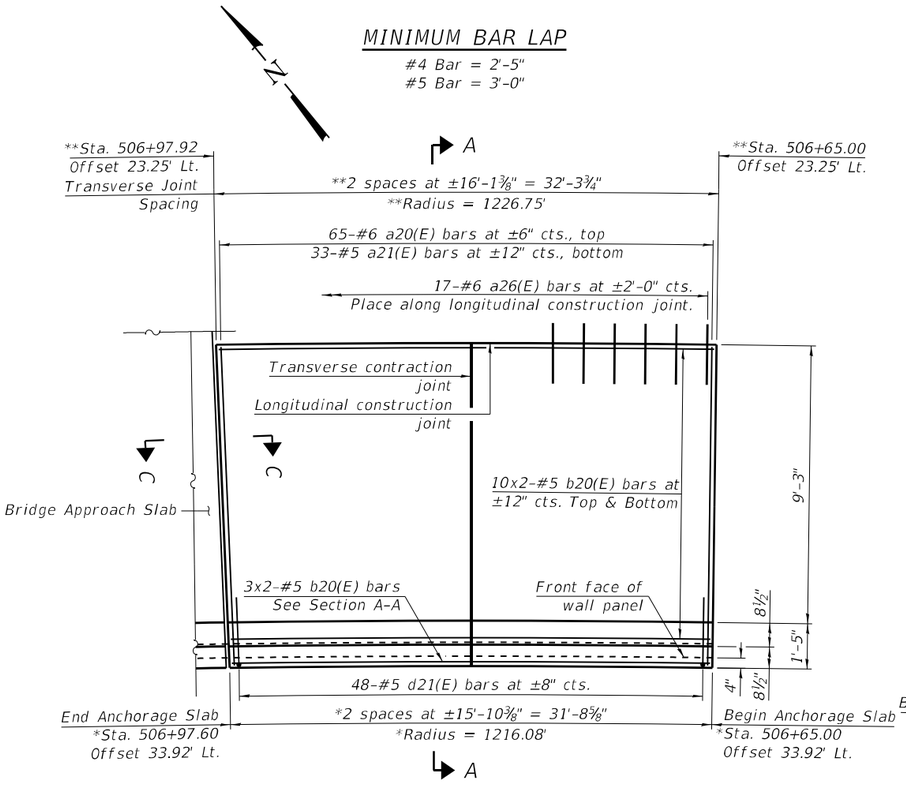


OUTSIDE ELEVATION OF NORTH PARAPET - EAST APPROACH

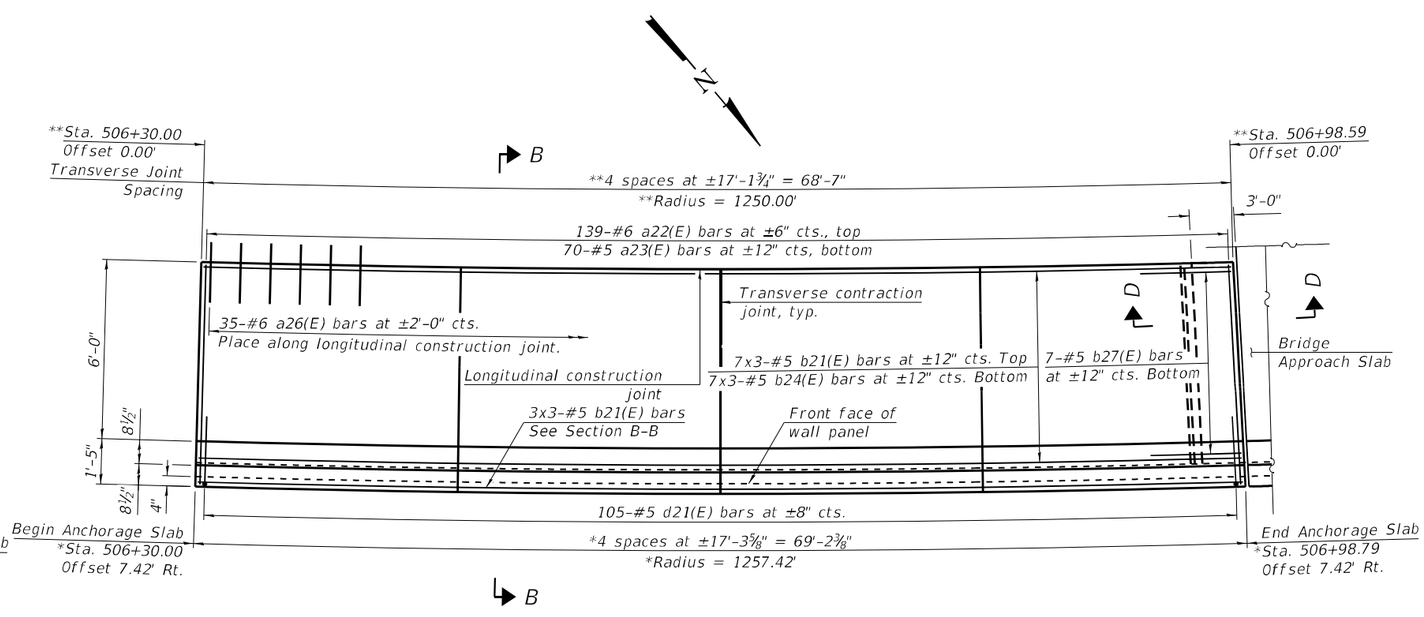
* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

NOTES:

1. Place Transverse Contraction Joints perpendicular to outside face of parapet.
2. For Sections A-A, B-B, C-C, and D-D, see Sheet S-61 of S-106.
3. Bars indicated thus 10x2-#5 etc. indicates 10 lines of bars with 2 lengths per line.
4. For bar details and Bill of Material, see Sheet S-61 of S-106.
5. Work this sheet with Sheets S-61 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.



PLAN - SOUTH PARAPET & ANCHORAGE SLAB - EAST APPROACH



PLAN - NORTH PARAPET & ANCHORAGE SLAB - EAST APPROACH

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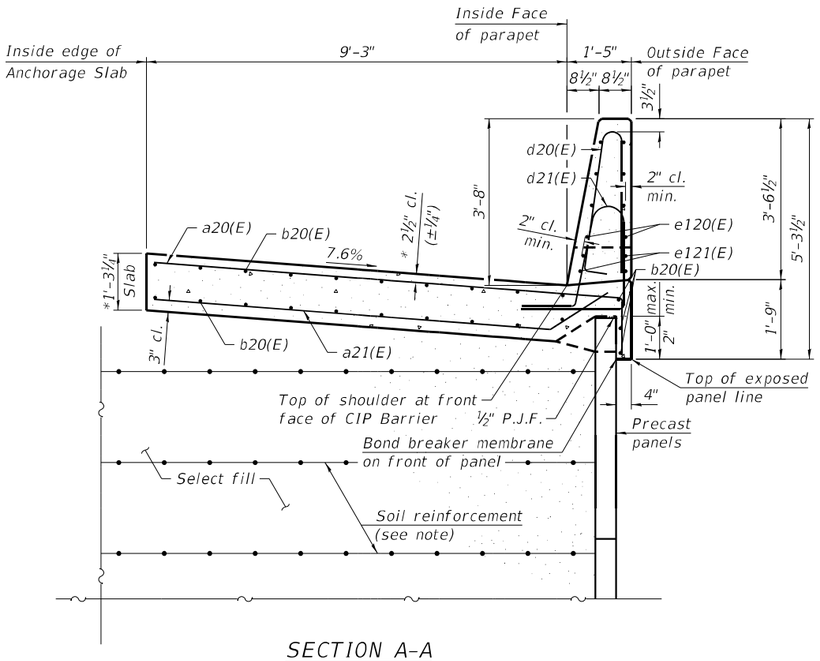
QUIGG ENGINEERING INC

	DESIGNED - KWB	REVISED -	
	CHECKED - RPW	REVISED -	
	DRAWN - LMC	REVISED -	
	CHECKED - MDC	REVISED -	

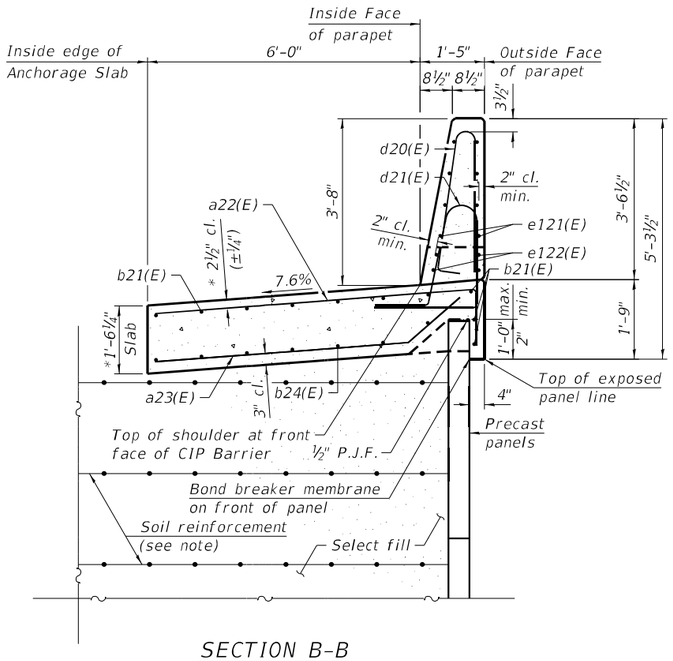
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST PARAPET AND ANCHORAGE SLAB
STRUCTURE NO. 010-1001
SHEET NO. S-60 OF S-106 SHEETS

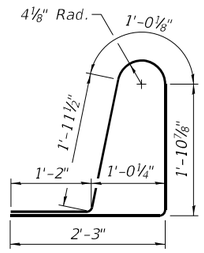
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	702
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



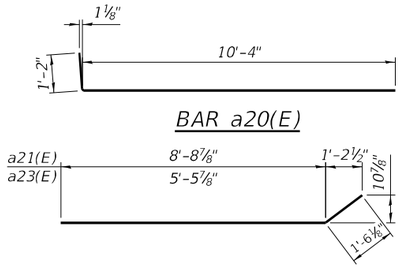
SECTION A-A



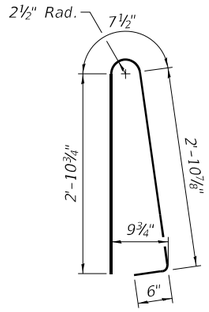
SECTION B-B



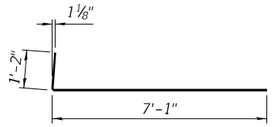
BAR d21(E)



BARS a21(E) OR a23(E)



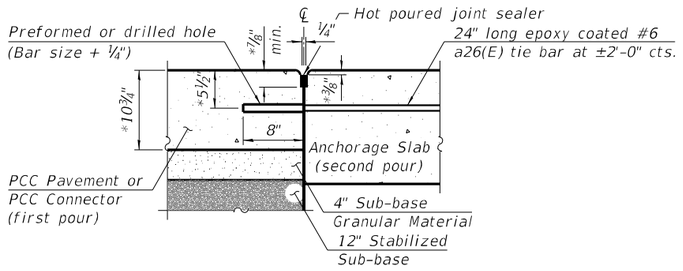
BAR d20(E)



BAR a22(E)

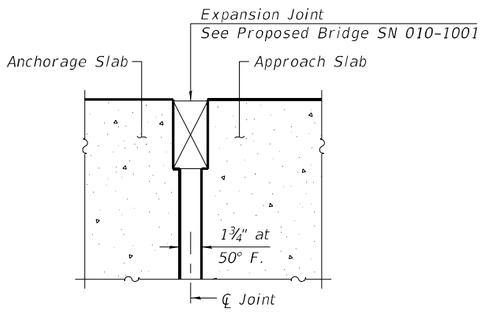
NOTES:

The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 1.15 kips/ft. of wall.
Reinforcement bar bending dimensions are out to out.

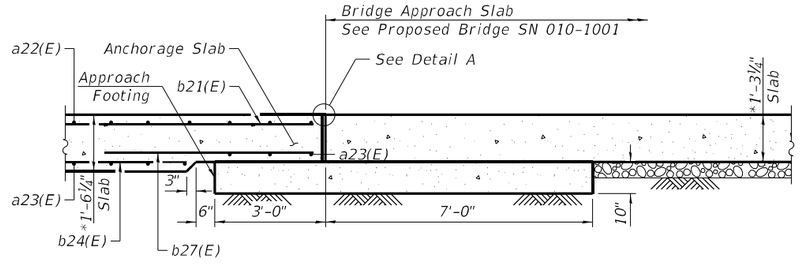


LONGITUDINAL CONSTRUCTION JOINT GROUTED-IN-PLACE TIE BAR

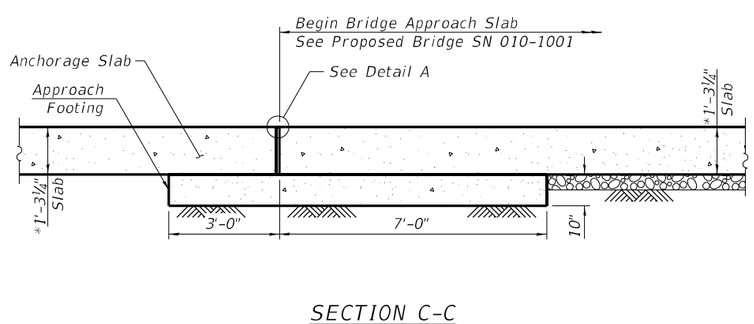
* Prior to grinding



DETAIL A



SECTION D-D



SECTION C-C

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a20(E)	65	#6	11'-6"	
a21(E)	33	#5	10'-3"	
a22(E)	139	#6	8'-3"	
a23(E)	70	#5	7'-0"	
a26(E)	52	#6	2'-0"	
b20(E)	46	#5	17'-6"	
b21(E)	30	#5	25'-0"	
b24(E)	21	#5	24'-0"	
b27(E)	7	#5	6'-9"	
d20(E)	153	#5	7'-0"	
d21(E)	153	#5	8'-4"	
e120(E)	16	#4	15'-7"	
e121(E)	40	#4	17'-0"	
e122(E)	16	#4	18'-5"	

Item	Unit	Total
Reinforcement Bars, Epoxy Coated	Pound	9,330
Concrete Superstructure	Cu. Yd.	59.7
Protective Coat	Sq. Yd.	129

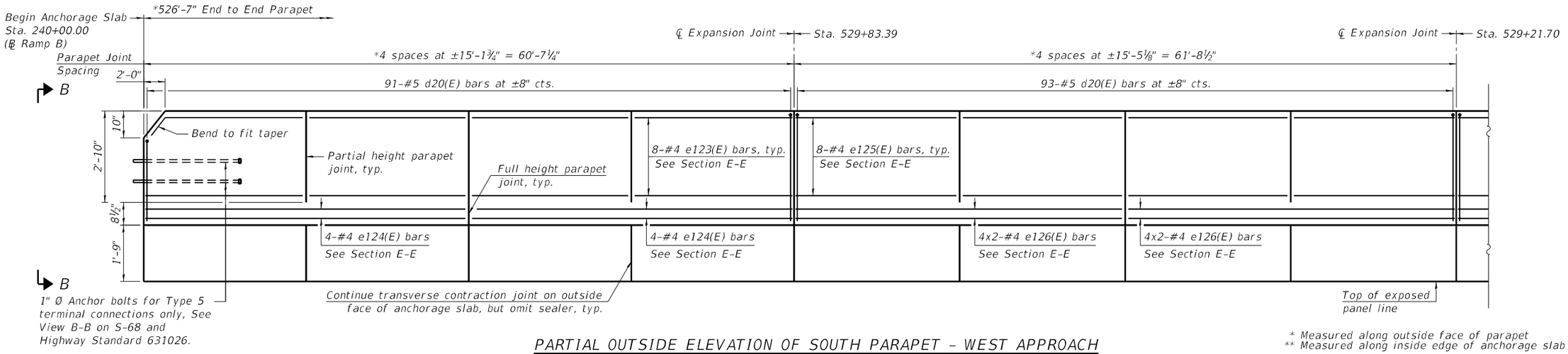
QUIGG ENGINEERING INC

	DESIGNED	KWB	REVISED	–
	CHECKED	RPW	REVISED	–
	DRAWN	LMC	REVISED	–
	CHECKED	MDC	REVISED	–

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ANCHORAGE SLAB AND WALL DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-61 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	703
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

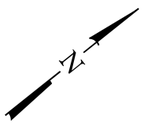


PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

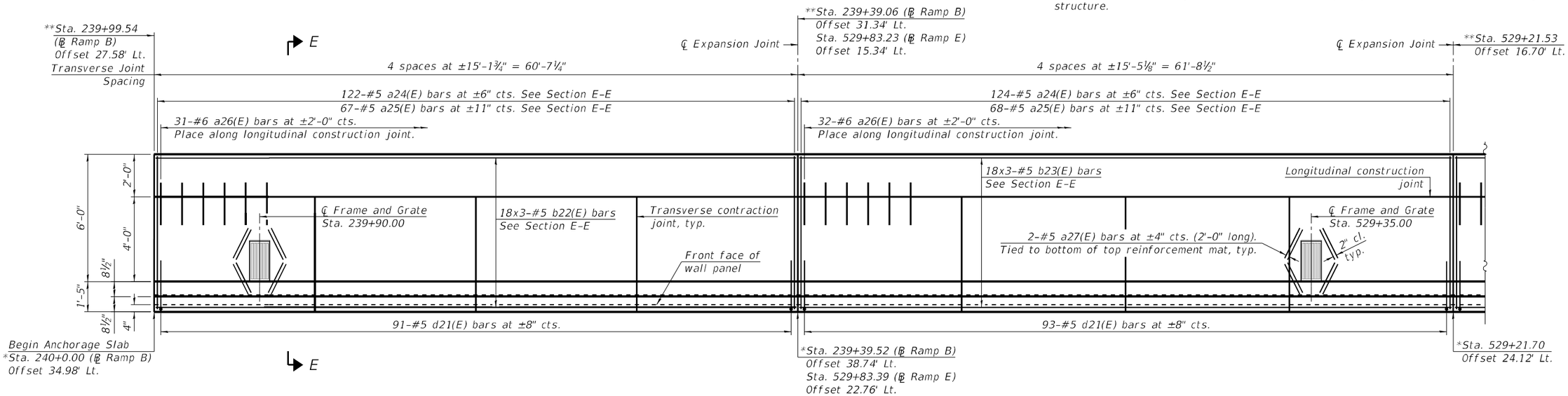
MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"



NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x3-#5 etc. indicates 18 lines of bars with 3 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E, U.N.O.
7. For Drainage Structure Details, see Drainage Plans.
8. Cut transverse and longitudinal bars as necessary to provide 2" clearance to drainage structure.



PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

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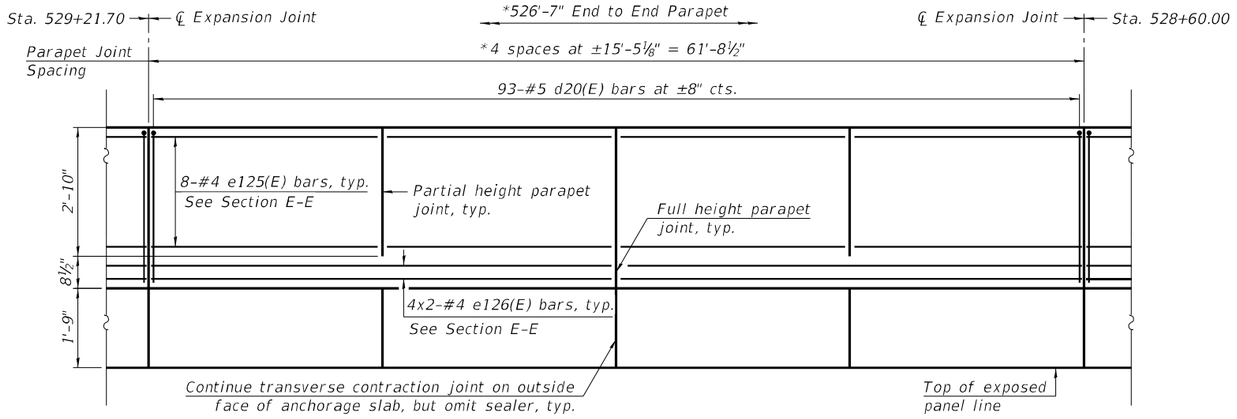
QUIGG ENGINEERING INC

DESIGNED	KWB	REVISED	–
CHECKED	RPW	REVISED	–
DRAWN	LMC	REVISED	–
CHECKED	MDC	REVISED	–

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST PARAPET AND ANCHORAGE SLAB (1 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-62 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	704
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

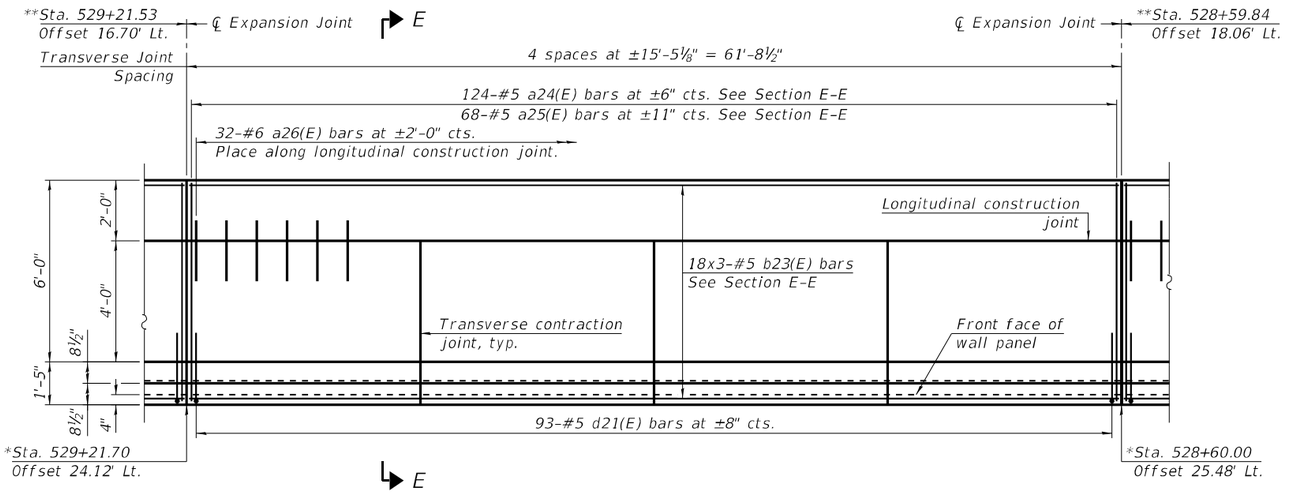
* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"

NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x3-#5 etc. indicates 18 lines of bars with 3 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.



PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

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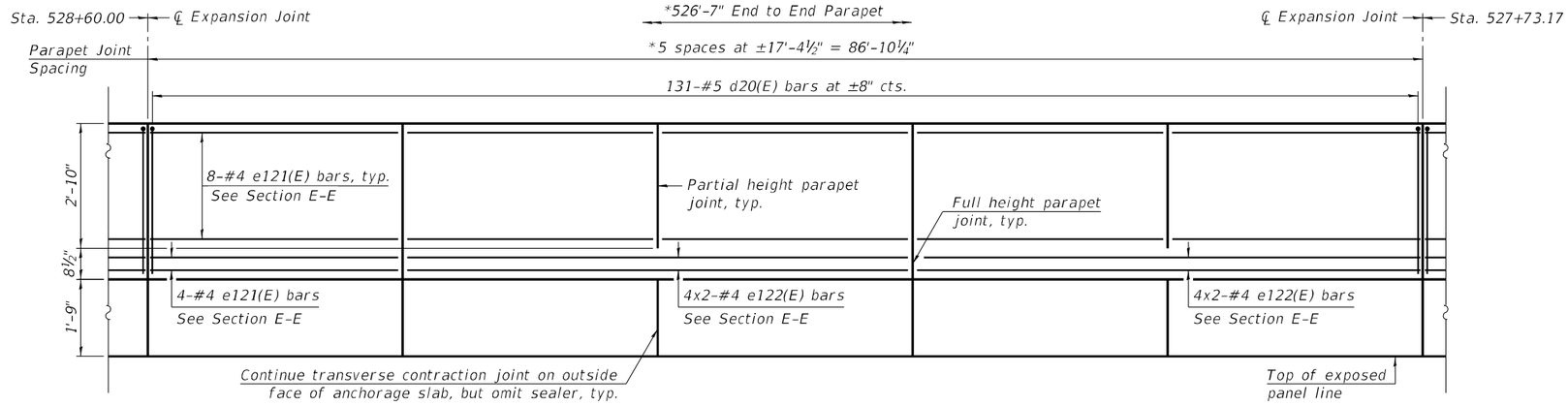
QUIGG ENGINEERING INC

DESIGNED - KWB	REVISED -	
CHECKED - RPW	REVISED -	
DRAWN - LMC	REVISED -	
CHECKED - MDC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST PARAPET AND ANCHORAGE SLAB (2 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-63 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	705
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

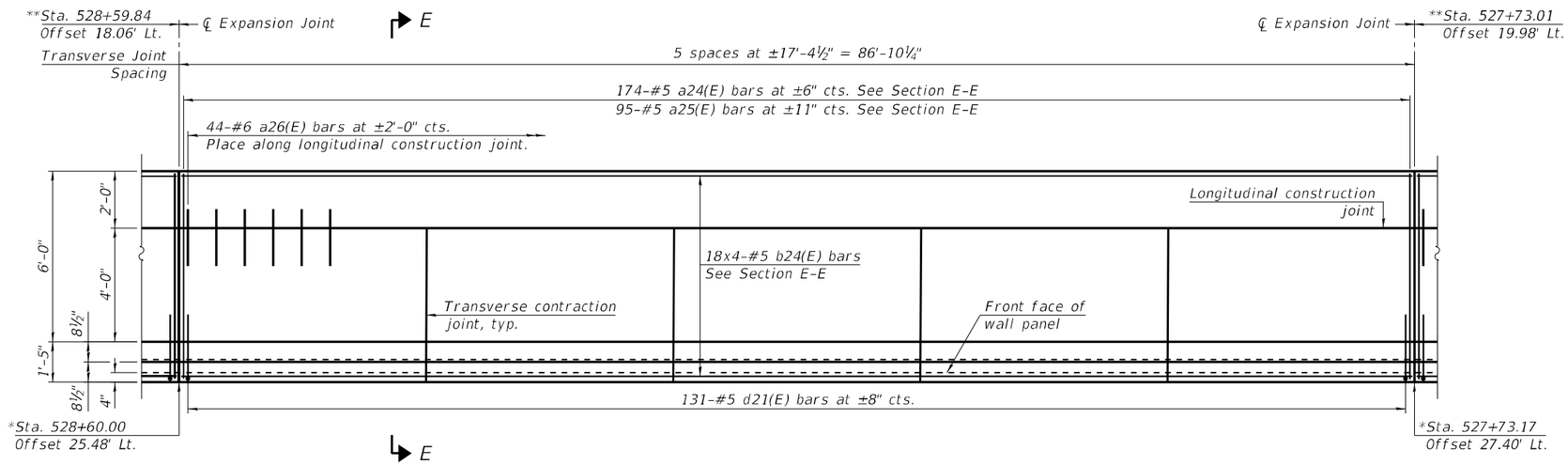
* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"

NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x4-#5 etc. indicates 18 lines of bars with 4 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.

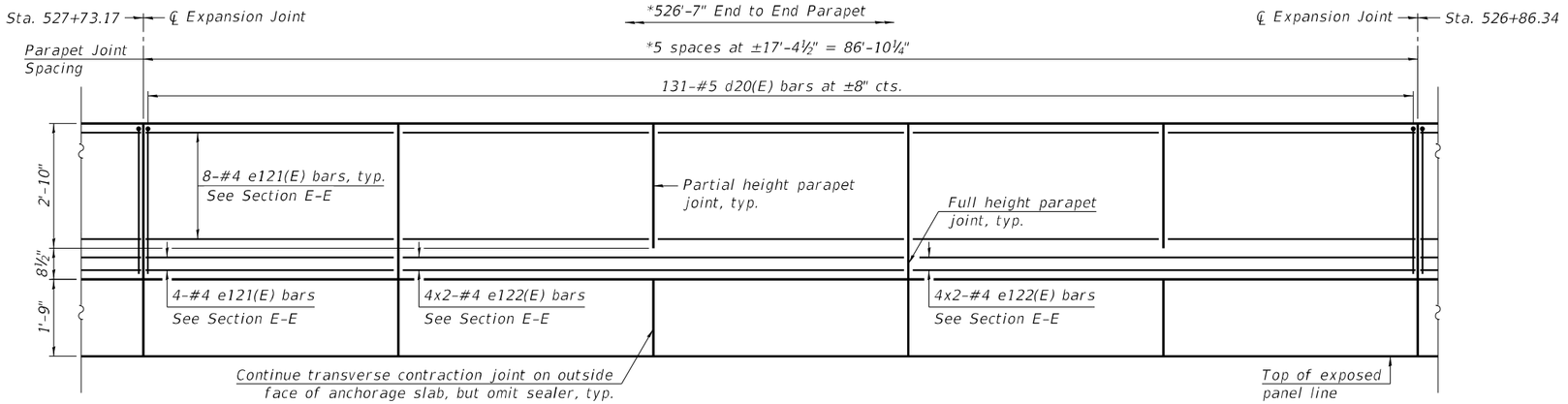


PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

QUIGG ENGINEERING INC	DESIGNED – KWB	REVISED –	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED – RPW	REVISED –	
	DRAWN – LMC	REVISED –	
	CHECKED – MDC	REVISED –	

WEST PARAPET AND ANCHORAGE SLAB (3 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-64 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	706
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

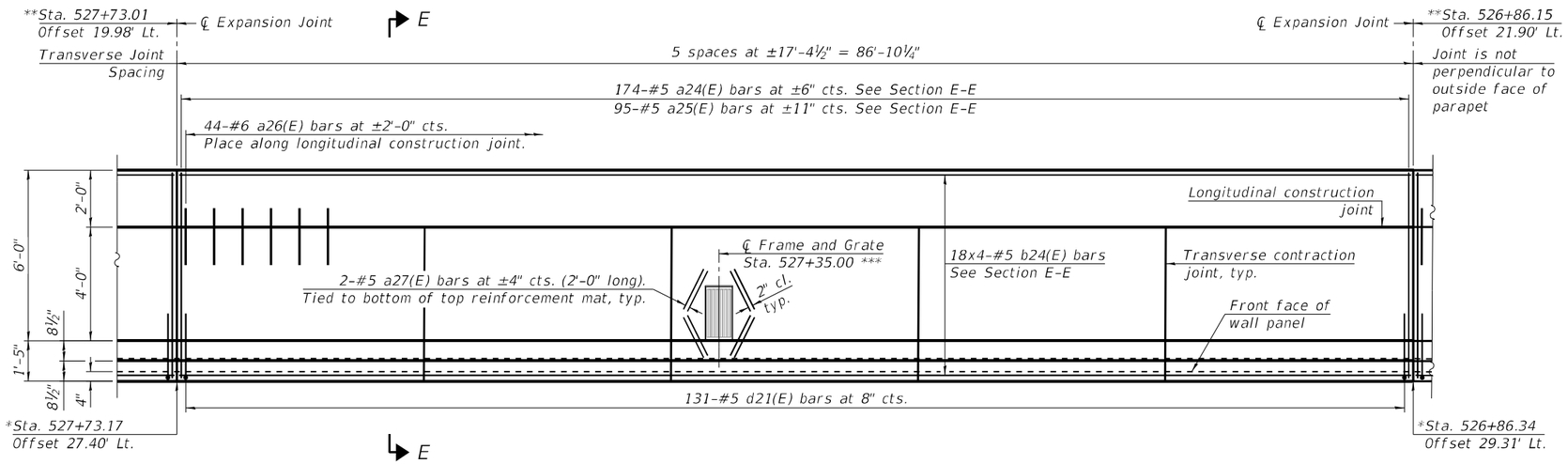
* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"

NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet, U.N.O.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x4-#5 etc. indicates 18 lines of bars with 4 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.
7. For Frame and Grate Details see Drainage Plans.
8. Cut transverse and longitudinal bars as necessary to provide 2" clearance to drainage structure.



PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

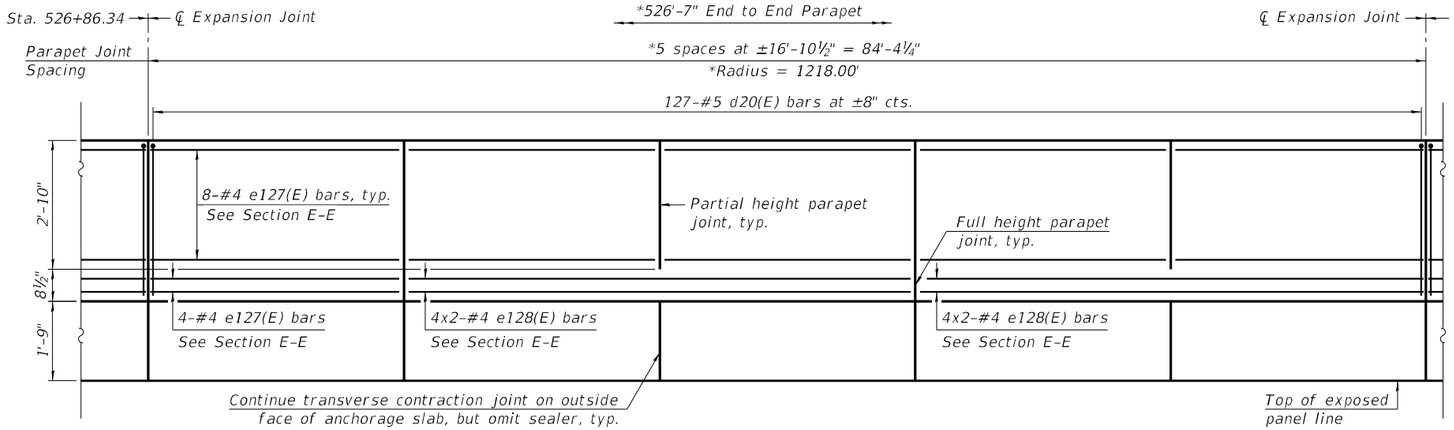
QUIGG ENGINEERING INC

DESIGNED – KWB	REVISED –		
CHECKED – RPW	REVISED –		
DRAWN – LMC	REVISED –		
CHECKED – MDC	REVISED –		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST PARAPET AND ANCHORAGE SLAB (4 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-65 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	707
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

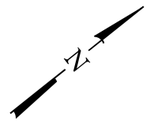


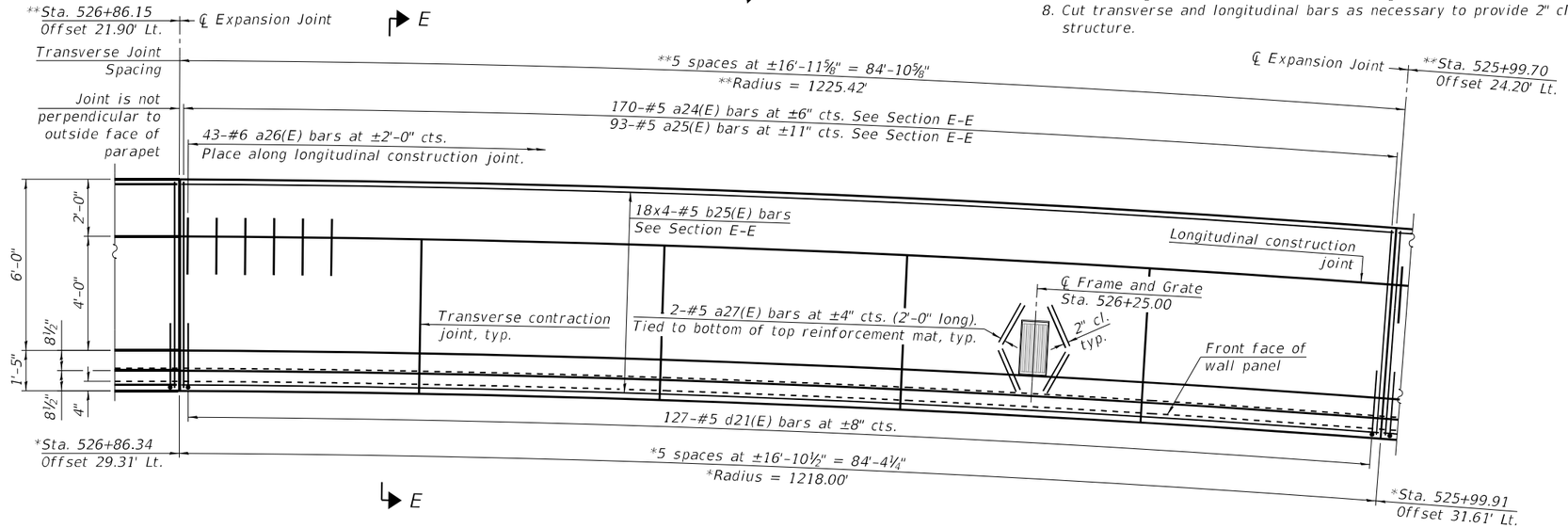
PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"





PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet, U.N.O.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x4-#5 etc. indicates 18 lines of bars with 4 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.
7. For Drainage Structure Details see Drainage Plans.
8. Cut transverse and longitudinal bars as necessary to provide 2" clearance to drainage structure.

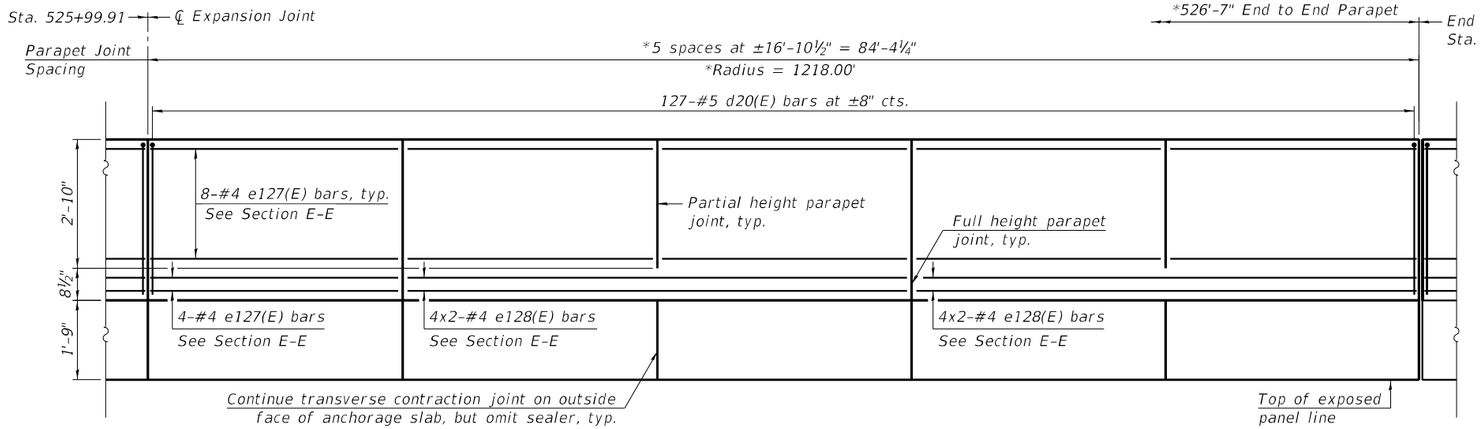
QUIGG ENGINEERING INC

DESIGNED - KWB	REVISED -	
CHECKED - RPW	REVISED -	
DRAWN - LMC	REVISED -	
CHECKED - MDC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST PARAPET AND ANCHORAGE SLAB (5 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-66 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	708
		CONTRACT NO. 70B99		
ILLINOIS	FED. AID PROJECT			

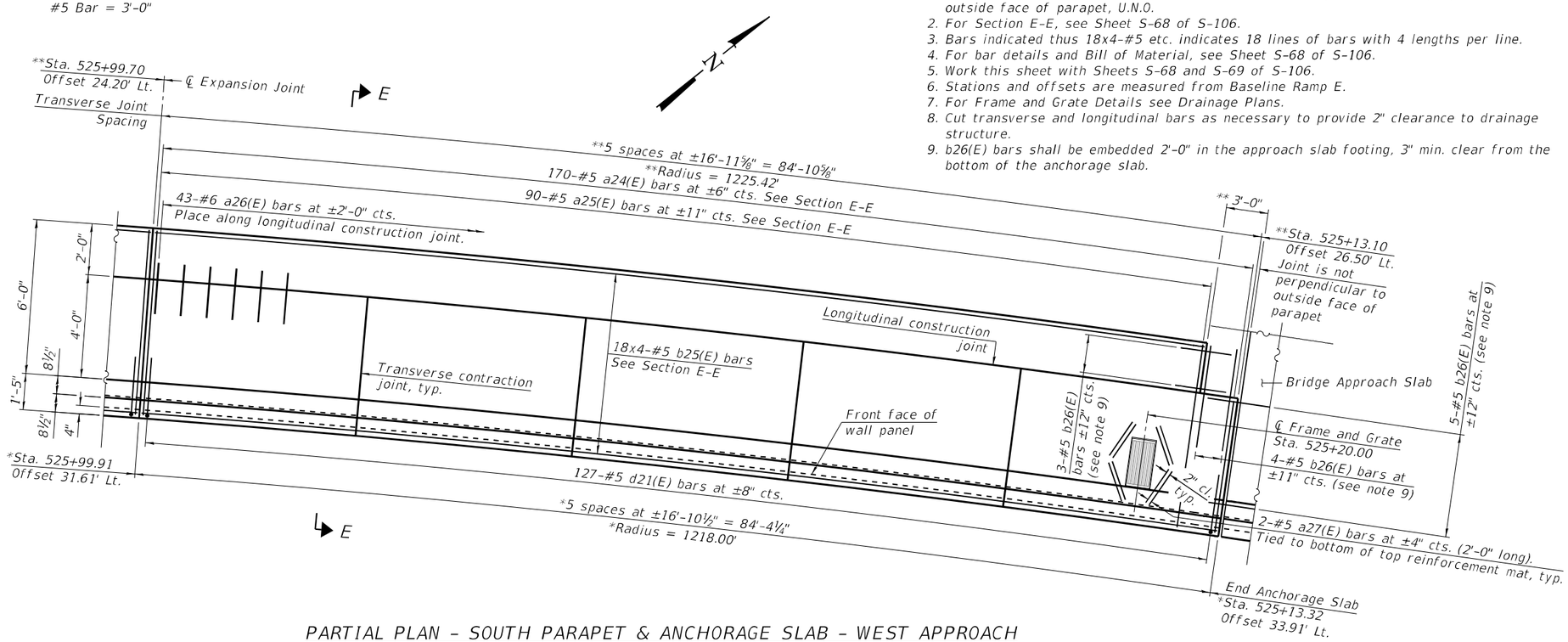


PARTIAL OUTSIDE ELEVATION OF SOUTH PARAPET - WEST APPROACH

* Measured along outside face of parapet
** Measured along inside edge of anchorage slab

MINIMUM BAR LAP

#4 Bar = 2'-5"
#5 Bar = 3'-0"



PARTIAL PLAN - SOUTH PARAPET & ANCHORAGE SLAB - WEST APPROACH

NOTES:

1. Place Transverse Contraction Joints and Transverse Expansion Joints perpendicular to outside face of parapet, U.N.O.
2. For Section E-E, see Sheet S-68 of S-106.
3. Bars indicated thus 18x4-#5 etc. indicates 18 lines of bars with 4 lengths per line.
4. For bar details and Bill of Material, see Sheet S-68 of S-106.
5. Work this sheet with Sheets S-68 and S-69 of S-106.
6. Stations and offsets are measured from Baseline Ramp E.
7. For Frame and Grate Details see Drainage Plans.
8. Cut transverse and longitudinal bars as necessary to provide 2" clearance to drainage structure.
9. b26(E) bars shall be embedded 2'-0" in the approach slab footing, 3" min. clear from the bottom of the anchorage slab.

MODEL: Sheet
FILE NAME: pw:\\entengrpw.bentley.com:cmt-projects\Documents\Projects\IDOT\15066-01\Draw\Structures\CADD_Sheets\RAMP_E\RAMPE-70899-067-West Moment Slab (6 of 6)-QEI.dgn
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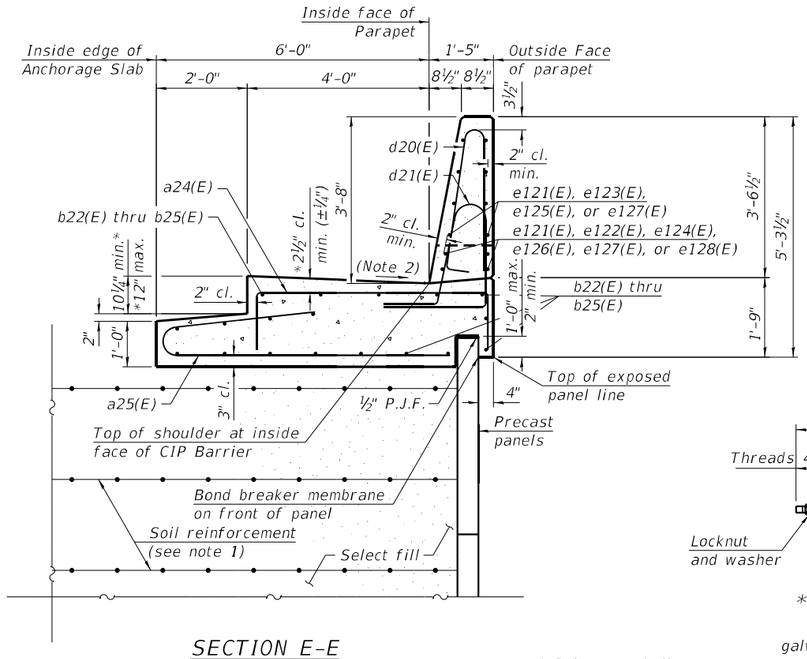
QUIGG ENGINEERING INC

	DESIGNED – KWB	REVISED –	
	CHECKED – RPW	REVISED –	
	DRAWN – LMC	REVISED –	
	CHECKED – MDC	REVISED –	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

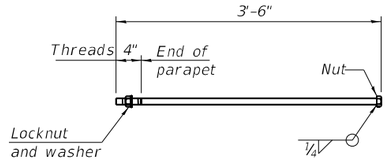
WEST PARAPET AND ANCHORAGE SLAB (6 OF 6)
STRUCTURE NO. 010-1001
SHEET NO. S-67 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	709
		CONTRACT NO. 70899		
	ILLINOIS FED. AID PROJECT			



SECTION E-E

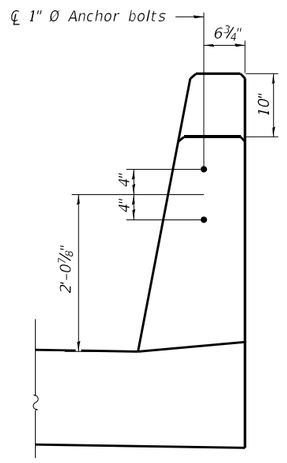
* Prior to grading



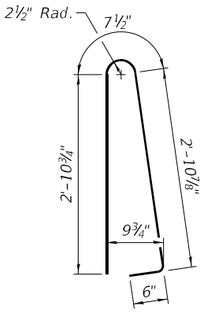
*** 1" Ø ANCHOR BOLT

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

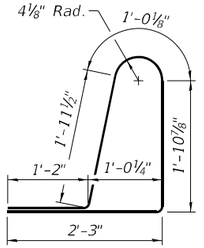
*** Cost included with Concrete Superstructure



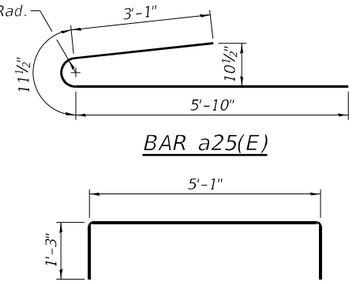
VIEW B-B



BAR d20(E)

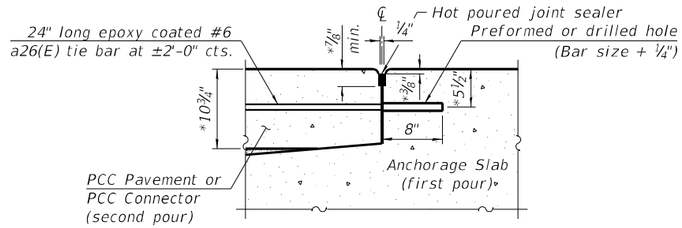


BAR d21(E)



BAR a25(E)

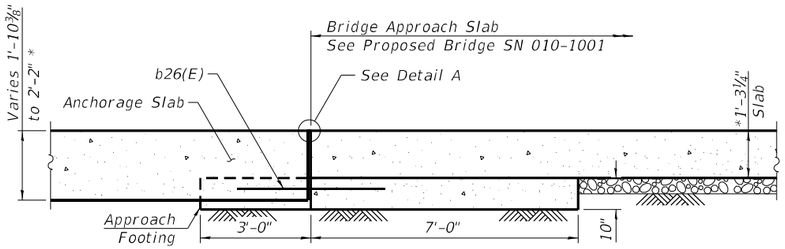
BAR a24(E)



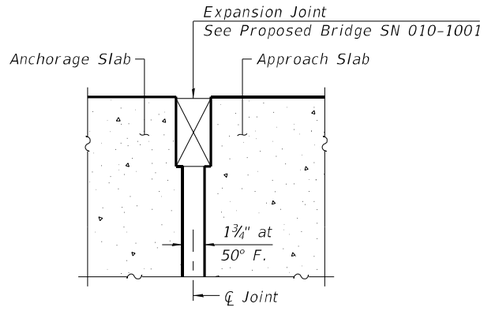
LONGITUDINAL CONSTRUCTION JOINT GROUTED-IN-PLACE TIE BAR

NOTES:

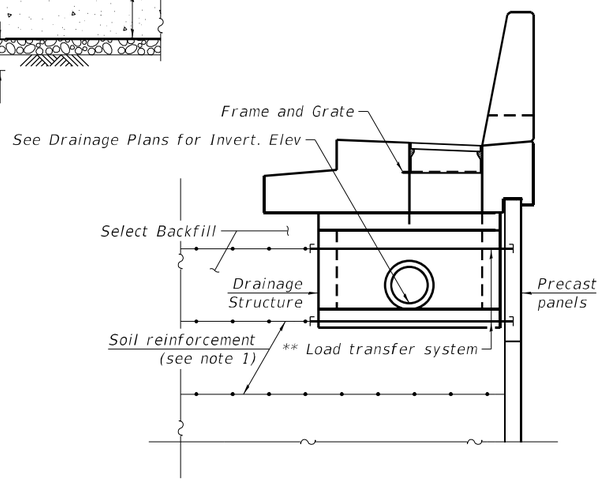
1. The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 1.15 kips/ft. of wall.
2. Varies 7.6% to 4.0%
3. Reinforcement bar bending dimensions are out to out.



SECTION AT ANCHORAGE SLAB AND BRIDGE APPROACH SLAB

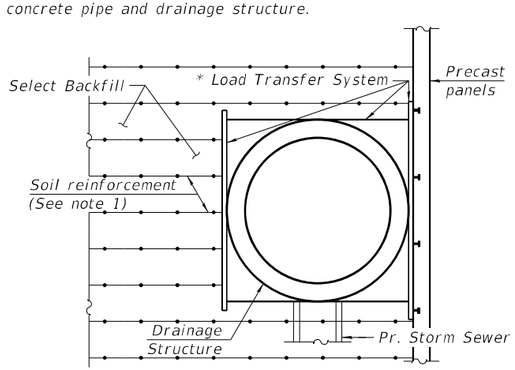


DETAIL A



ANCHORAGE SLAB INLET SECTION

** M.S.E. supplier to design load transfer system to accommodate concrete pipe and drainage structure.



ANCHORAGE SLAB INLET PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a24(E)	1,058	#5	7'-7"	
a25(E)	576	#5	9'-11"	
a26(E)	269	#6	2'-0"	
a27(E)	40	#5	2'-0"	
b22(E)	54	#5	22'-2"	
b23(E)	108	#5	22'-6"	
b24(E)	144	#5	23'-11"	
b25(E)	144	#5	23'-5"	
b26(E)	12	#5	4'-0"	
d20(E)	793	#5	7'-0"	
d21(E)	793	#5	8'-4"	
e121(E)	88	#4	17'-0"	
e122(E)	32	#4	18'-5"	
e123(E)	32	#4	14'-10"	
e124(E)	8	#4	30'-0"	
e125(E)	64	#4	15'-1"	
e126(E)	32	#4	16'-6"	
e127(E)	88	#4	16'-7"	
e128(E)	32	#4	17'-11"	

Item	Unit	Total
Reinforcement Bars, Epoxy Coated	Pound	43,070
Concrete Superstructure	Cu. Yd.	318.0
Protective Coat	Sq. Yd.	494

MODEL: Sheet
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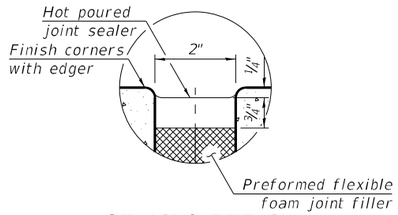
QUIGG ENGINEERING INC

DESIGNED – KWB	REVISED –		
CHECKED – RPW	REVISED –		
DRAWN – LMC	REVISED –		
CHECKED – MDC	REVISED –		

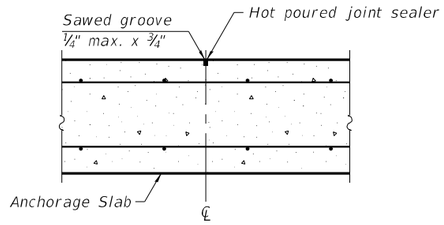
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ANCHORAGE SLAB AND WALL DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-68 OF S-106 SHEETS

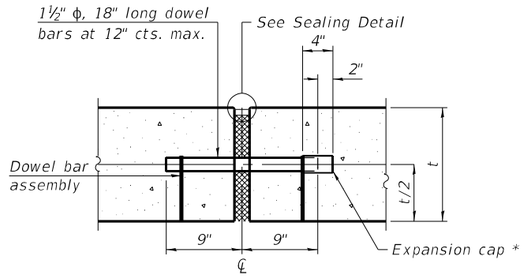
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	710
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



SEALING DETAIL



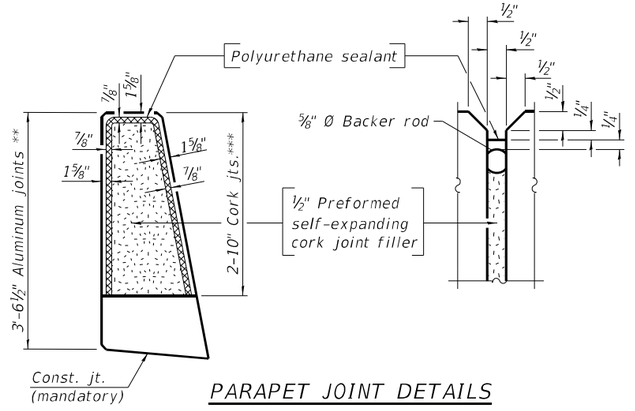
TRANSVERSE CONTRACTION JOINT



* Expansion caps shall be installed on the exposed end of each dowel bar once the header has been removed and the joint filler material has been installed.

ANCHORAGE SLAB EXPANSION JOINT

Expansion joint and dowel bars included in the cost of Concrete Superstructure



PARAPET JOINT DETAILS

** Full height joint only
*** Partial height joint only

QUIGG ENGINEERING INC

DESIGNED – KWB	REVISED –		
CHECKED – RPW	REVISED –		
DRAWN – LMC	REVISED –		
CHECKED – MDC	REVISED –		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB AND MSE WALL – DETAILS
STRUCTURE NO. 010–1001
SHEET NO. S-69 OF S-106 SHEETS

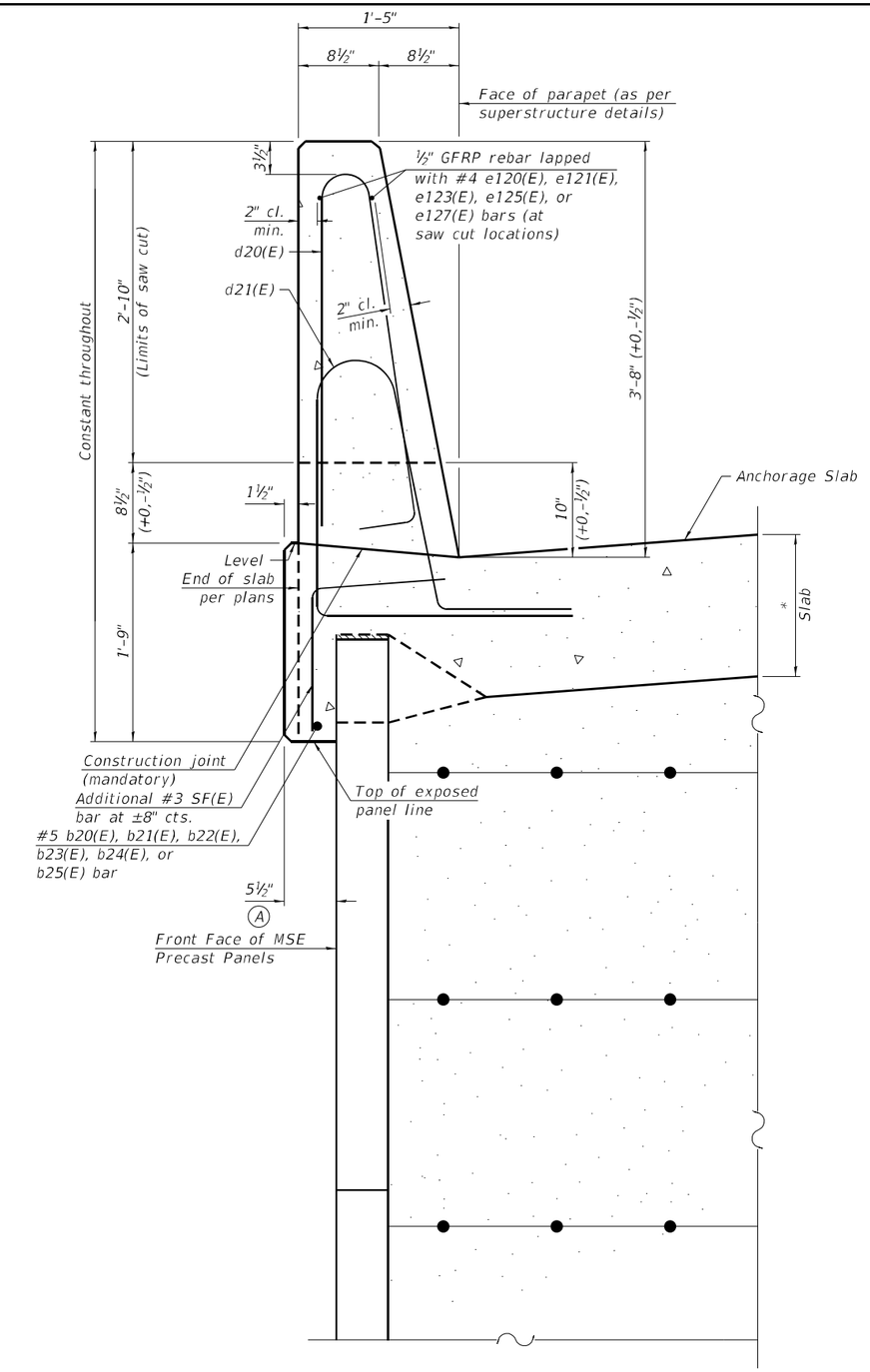
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	711
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.01 cu. yds./ft.

Place full depth aluminum sheets as shown on superstructure details.

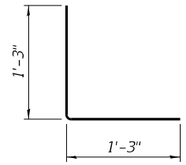
Replace all cork joint filler locations with a full thickness saw cut.



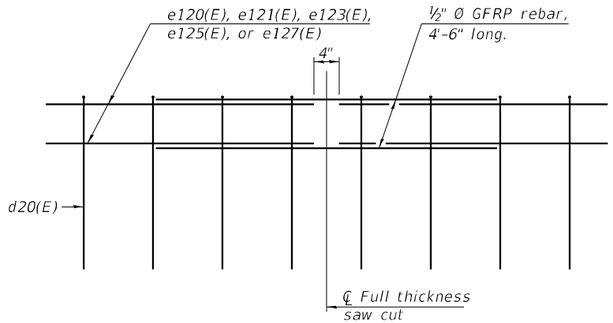
*See Anchorage Slab Details.

44" CONSTANT-SLOPE PARAPET SECTION

(Showing dimensions, d20(E), d21(E) and ½" Ø GFRP rebar)
(Showing reinforcement clearances for slip forming and additional reinforcement)



#3 SF(E) BAR



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

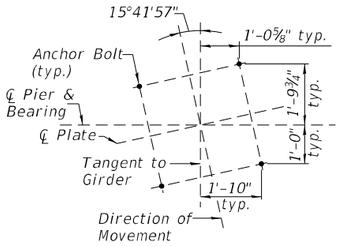
QUIGG ENGINEERING INC

	DESIGNED – KWB	REVISED –	
	CHECKED – RPW	REVISED –	
	DRAWN – LMC	REVISED –	
	CHECKED – MDC	REVISED –	

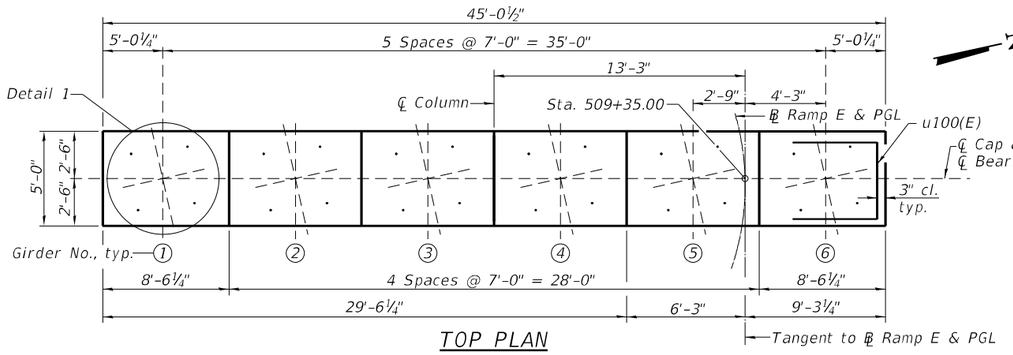
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 010–1001
SHEET NO. S-70 OF S-106 SHEETS

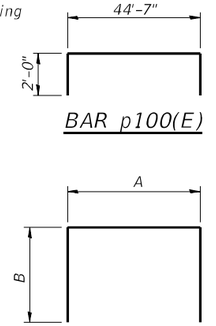
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	712
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



DETAIL 1
Bearing Orientation
(Typ. at Each Girder)



TOP PLAN



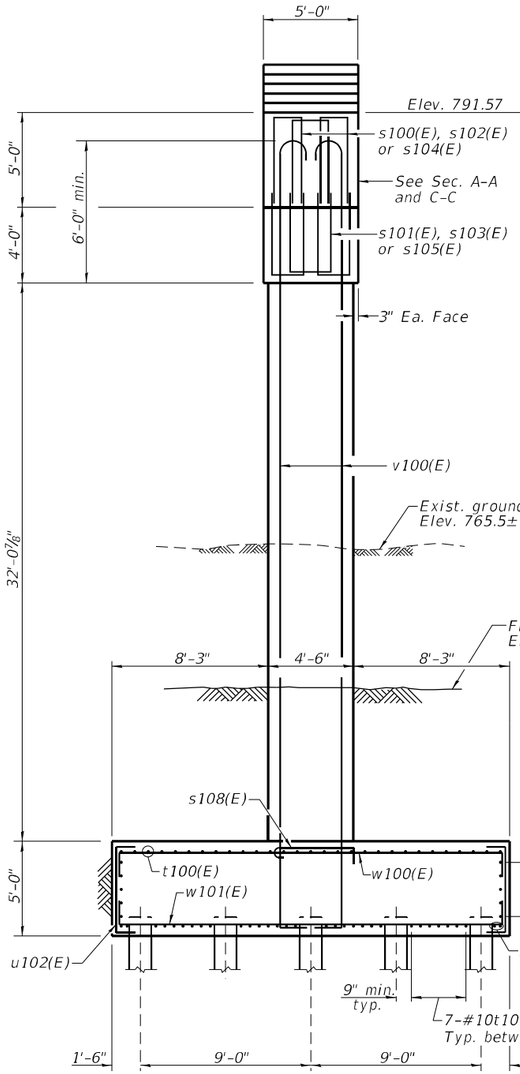
BAR p100(E)

BARS
A & B DIMENSIONS

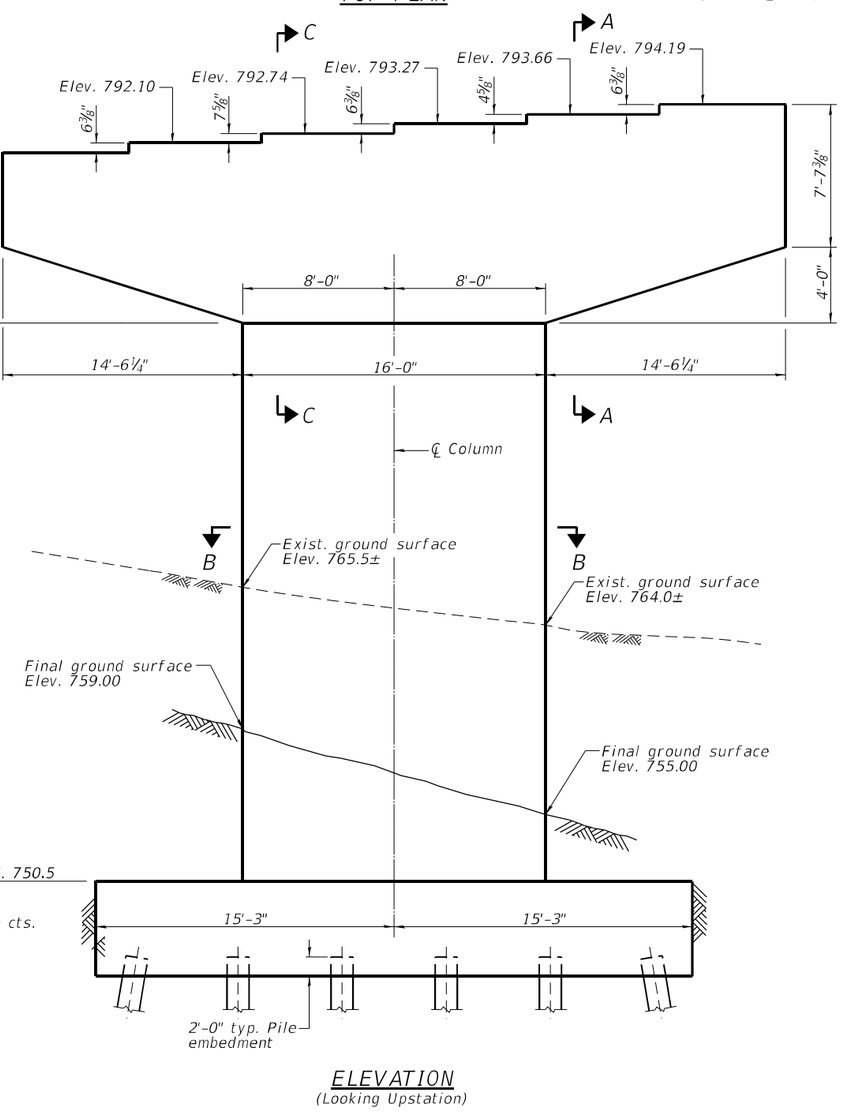
Bar	A	B
s100(E)	2'-0"	4'-4"
s101(E)	2'-6"	4'-4"
s102(E)	2'-0"	5'-6"
s103(E)	2'-6"	5'-6"
s104(E)	2'-0"	6'-7"
s105(E)	2'-6"	6'-7"
s106(E)	3'-1"	6'-7"
t100(E)	30'-2"	1'-0"
t101(E)	30'-2"	1'-10"
t102(E)	29'-11"	1'-0"
u100(E)	4'-6"	3'-10"
u101(E)	4'-8"	3'-10"
u102(E)	4'-7"	1'-0"
u103(E)	4'-2"	3'-2"
w100(E)	20'-8"	1'-0"
w101(E)	20'-8"	1'-10"
w102(E)	20'-5"	1'-0"

BILL OF MATERIAL

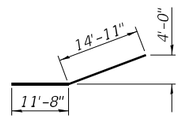
Bar	No.	Size	Length	Shape
h100(E)	12	#6	44'-8"	
h101(E)	2	#6	43'-2"	
h102(E)	2	#6	36'-0"	
h103(E)	2	#6	28'-9"	
h104(E)	2	#6	21'-6"	
h105(E)	24	#6	6'-8"	
h106(E)	12	#6	8'-2"	
h107(E)	196	#5	15'-8"	
p100(E)	9	#11	48'-7"	
p101(E)	9	#11	44'-8"	
p102(E)	12	#8	26'-7"	
s100(E)	20	#5	10'-8"	
s101(E)	10	#5	11'-2"	
s102(E)	64	#5	13'-0"	
s103(E)	32	#5	13'-6"	
s104(E)	132	#5	15'-2"	
s105(E)	66	#5	15'-8"	
s106(E)	56	#5	16'-3"	
s108(E)	1068	#5	5'-6"	
s109(E)	178	#5	17'-0"	
t100(E)	29	#6	32'-2"	
t101(E)	32	#10	33'-10"	
t102(E)	10	#6	31'-11"	
u100(E)	16	#6	12'-2"	
u101(E)	45	#6	12'-4"	
u102(E)	106	#6	6'-7"	
u103(E)	196	#5	10'-6"	
v100(E)	54	#11	46'-5"	
w100(E)	42	#6	22'-8"	
w101(E)	54	#10	24'-4"	
w102(E)	10	#6	22'-5"	
Structure Excavation		Cu. Yd.	631	
Concrete Structures		Cu. Yd.	279.7	
Reinforcement Bars, Epoxy Coated		Pound	56,750	
Furnishing Metal Shell Piles 16"x.312"		Foot	1,914	
Driving Piles		Foot	1,914	
Test Pile Metal Shell		Each	1	
Pile Shoes		Each	30	



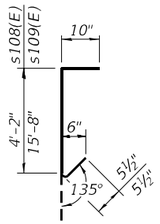
END VIEW



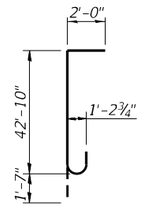
ELEVATION
(Looking Upstation)



BAR p102(E)



BAR s108(E) & s109(E)



BAR v100(E)

MIN. LAP LENGTH
#5 bars: 3'-2"
#6 bars: 3'-10"

NOTES:
1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-46
3. See sheet S-72 Of S-106 for Sections A-A, B-B & C-C
3. Reinforcement bar bending dimensions are out to out.

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
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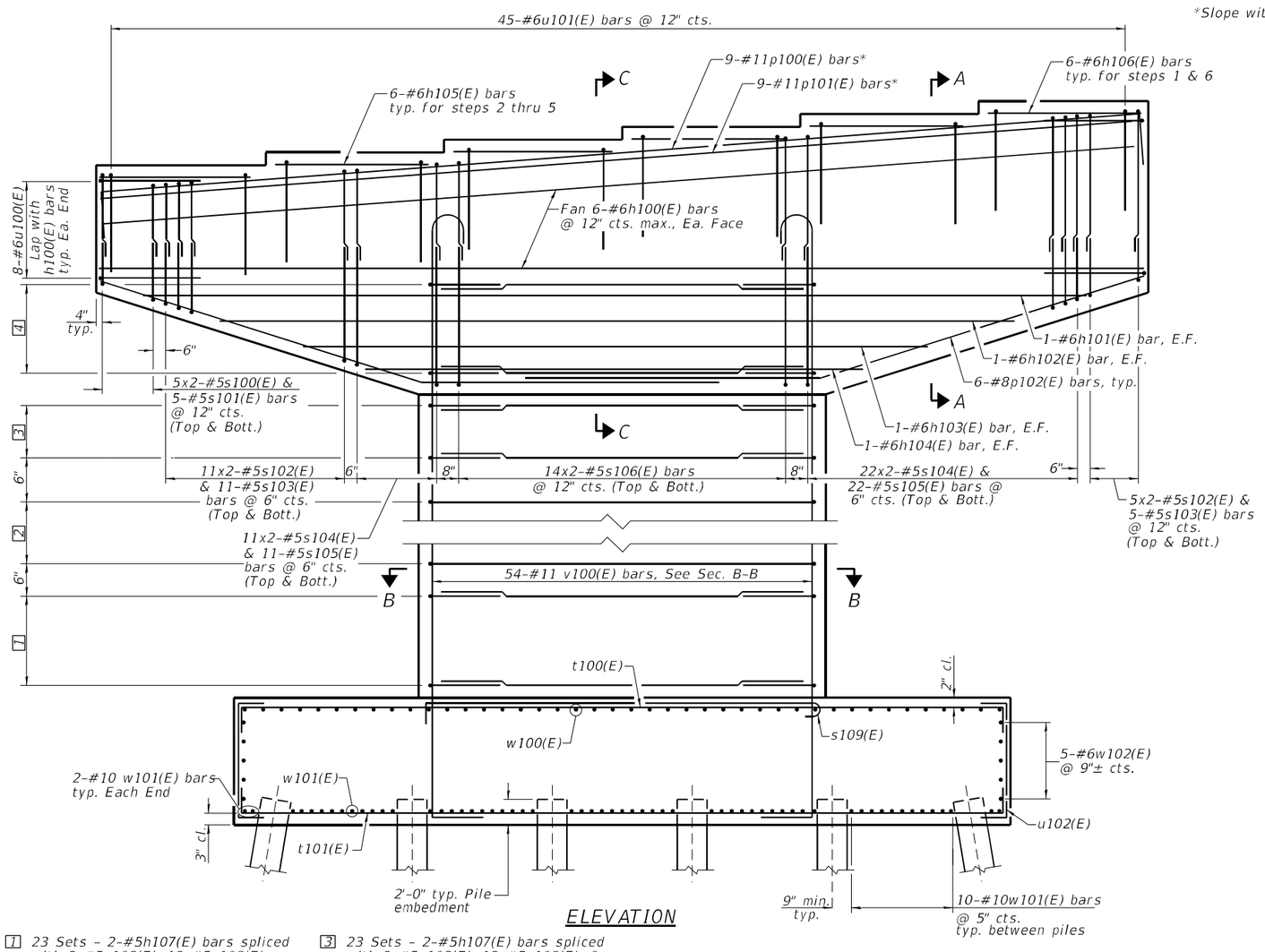
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – PLAN AND ELEVATION
STRUCTURE NO. 010–1001
SHEET NO. S-71 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	713
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION

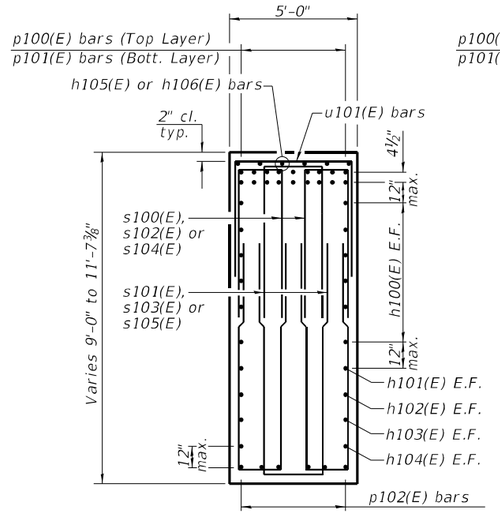
1 23 Sets - 2-#5h107(E) bars spliced with 2-#5u103(E), 12-#5s108(E) & 2-#5s109(E) at 3" cts.

2 42 Sets - 2-#5h107(E) bars spliced with 2-#5u103(E), 12-#5s108(E) & 2-#5s109(E) bars at 6" cts.

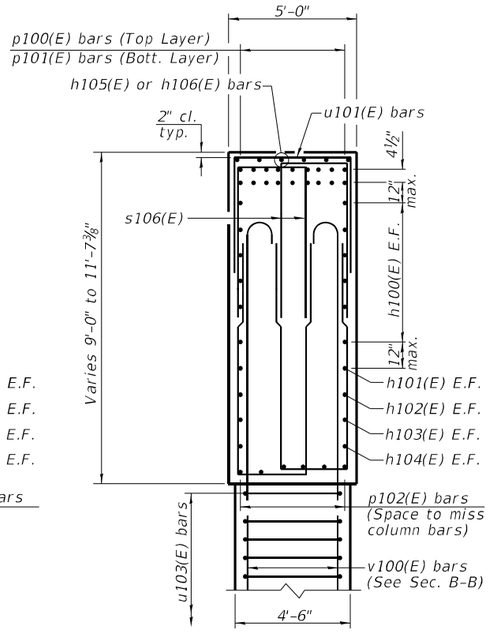
3 23 Sets - 2-#5h107(E) bars spliced with 2-#5u103(E), 12-#5s108(E), & 2#5s109(E) at 3" cts.

4 10 Sets - 2-#5h107(E) bars spliced with 2-#5u103(E) at 3" cts.

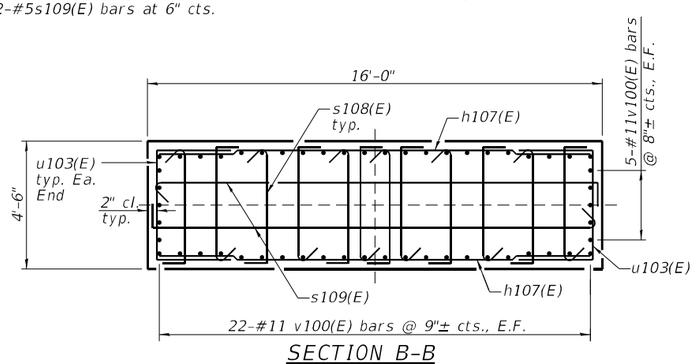
*Slope with Bearing Seats



SECTION A-A



SECTION C-C



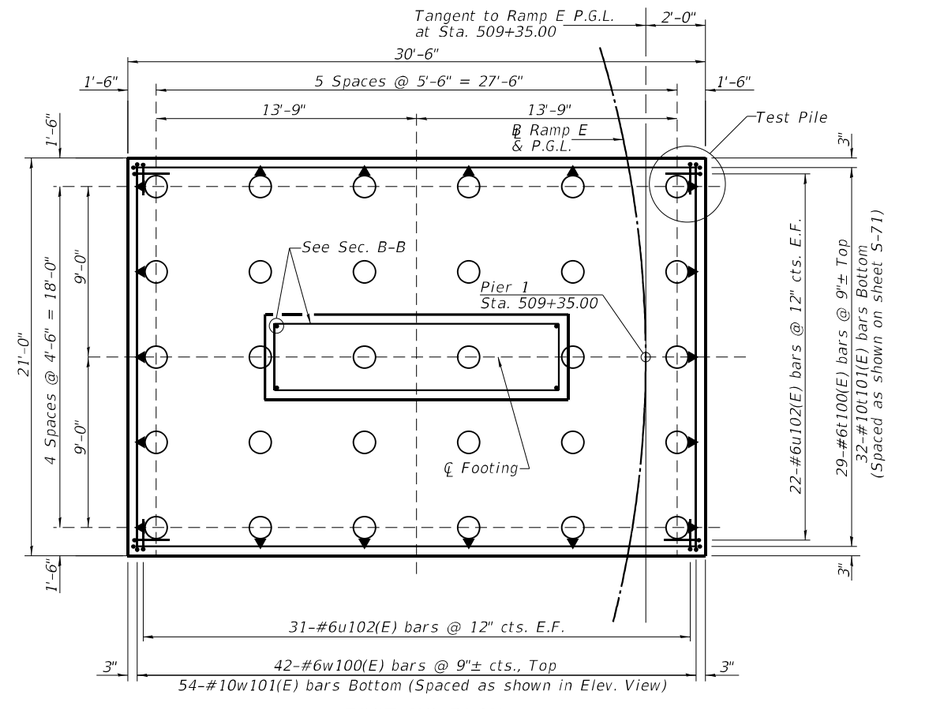
SECTION B-B

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s108(E) & s109(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 566 kips
Factored Resistance Available: 311 kips
Est. Length: 66'
No. Production Piles: 29
No. Test Piles: 1



FOOTING PLAN

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
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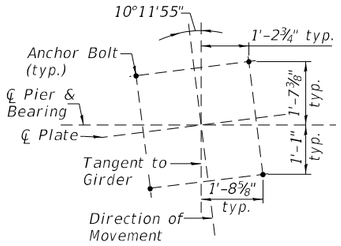
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

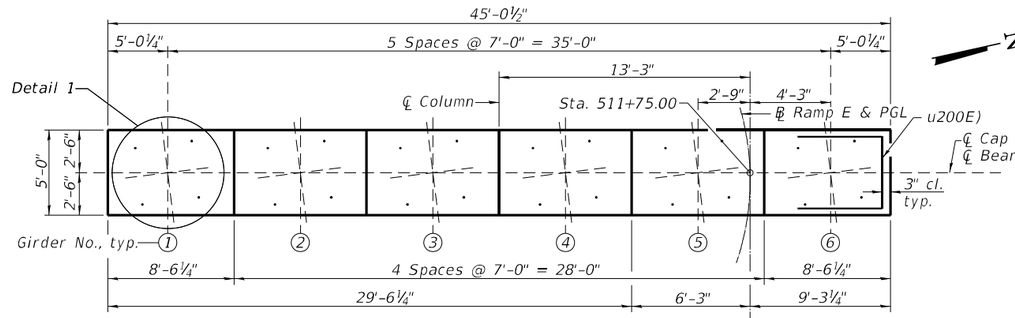
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-72 OF S-106 SHEETS

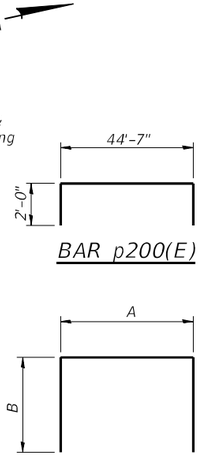
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	714
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		



DETAIL 1
Bearing Orientation
(Typ. at Each Girder)



TOP PLAN

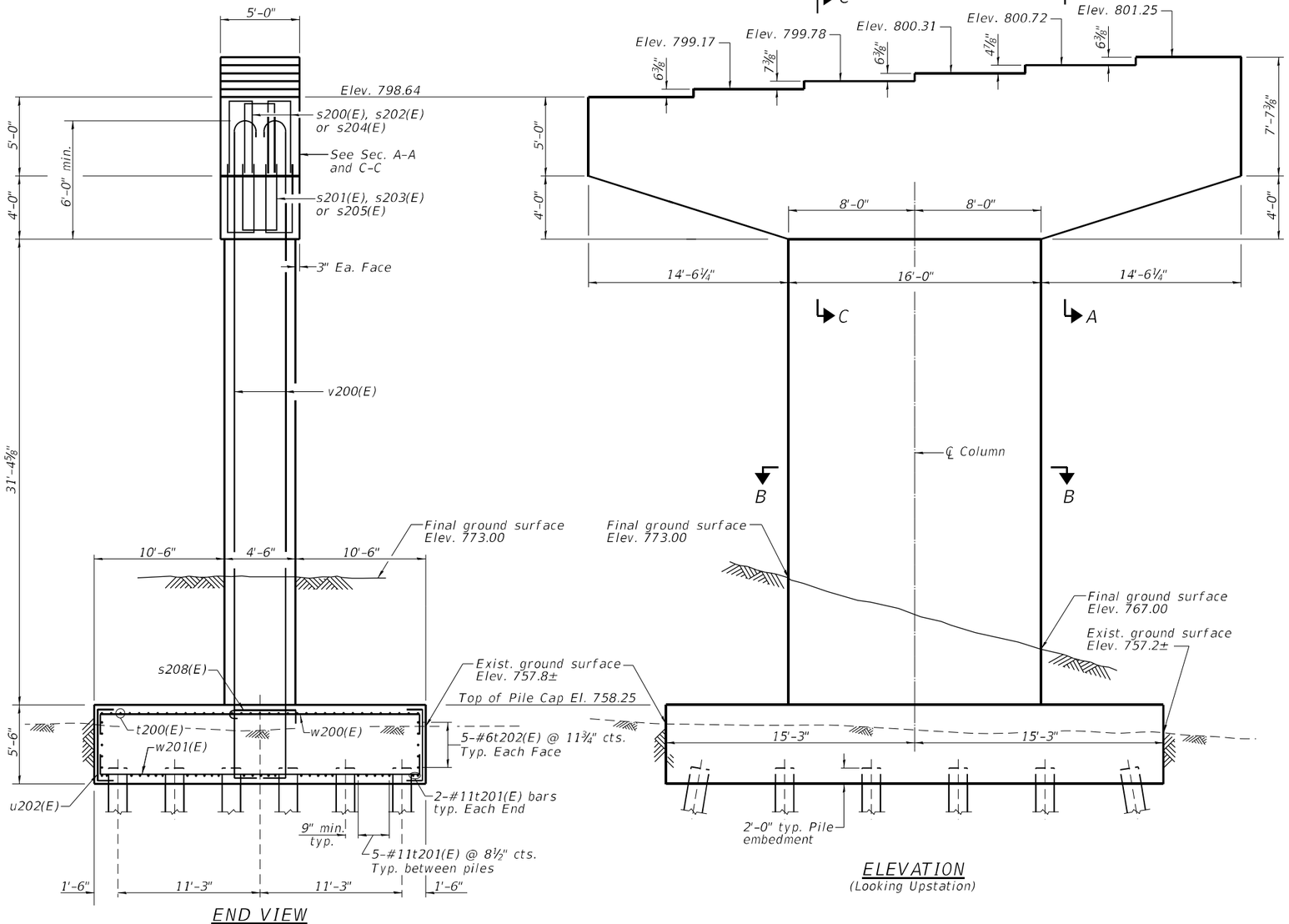


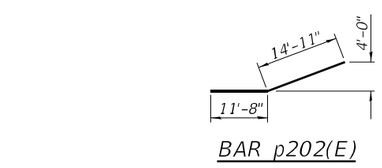
A & B DIMENSIONS

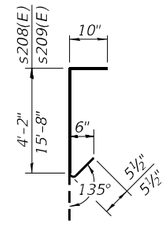
Bar	A	B
s200(E)	2'-0"	4'-4"
s201(E)	2'-6"	4'-4"
s202(E)	2'-0'	5'-6"
s203(E)	2'-6"	5'-6"
s204(E)	2'-0"	6'-7"
s205(E)	2'-6"	6'-7"
s206(E)	3'-1"	6'-7"
t200(E)	30'-2"	1'-0"
t201(E)	30'-2"	2'-0"
t202(E)	29'-11"	1'-0"
u200(E)	4'-6"	3'-10"
u201(E)	4'-8"	3'-10"
u202(E)	5'-1"	1'-0"
u203(E)	4'-2"	3'-2"
w200(E)	25'-2"	1'-0"
w201(E)	25'-2"	2'-0"
w202(E)	24'-11"	1'-0"

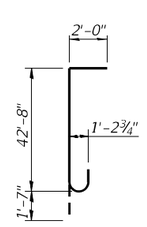
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200(E)	12	#6	44'-8"	
h201(E)	2	#6	43'-2"	
h202(E)	2	#6	36'-0"	
h203(E)	2	#6	28'-9"	
h204(E)	2	#6	21'-6"	
h205(E)	24	#6	6'-8"	
h206(E)	12	#6	8'-2"	
h207(E)	192	#5	15'-8"	
p200(E)	9	#11	48'-7"	
p201(E)	9	#11	44'-8"	
p202(E)	12	#8	26'-7"	
s200(E)	20	#5	10'-8"	
s201(E)	10	#5	11'-2"	
s202(E)	64	#5	13'-0"	
s203(E)	32	#5	13'-6"	
s204(E)	132	#5	15'-2"	
s205(E)	66	#5	15'-8"	
s206(E)	56	#5	16'-3"	
s208(E)	1044	#5	5'-6"	
s209(E)	174	#5	17'-0"	
t200(E)	35	#6	32'-2"	
t201(E)	29	#11	34'-2"	
t202(E)	10	#6	31'-11"	
u200(E)	16	#6	12'-2"	
u201(E)	45	#6	12'-4"	
u202(E)	112	#6	7'-1"	
u203(E)	192	#5	10'-6"	
v200(E)	54	#11	46'-3"	
w200(E)	42	#6	27'-2"	
w201(E)	49	#11	29'-2"	
w202(E)	10	#6	26'-11"	
Structure Excavation		Cu. Yd.	189	
Concrete Structures		Cu. Yd.	317.6	
Reinforcement Bars, Epoxy Coated		Pound	59,720	
Furnishing Metal Shell Piles 16"x.312"		Foot	2,450	
Driving Piles		Foot	2,450	
Test Pile Metal Shell		Each	1	
Pile Shoes		Each	36	









MIN. LAP LENGTH

#6 bars: 3'-10"
#5 bars: 3'-2"

NOTES:

1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-46
3. See sheet S-74 of S-106 for Sections A-A, B-B & C-C
4. Pile cap concrete pour shall be in accordance with Article 1020.15, Heat of Hydration Control for Concrete Structures according to Standard Specifications. Cost included under "Concrete Structures."
5. Reinforcement bar bending dimensions are out to out.

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
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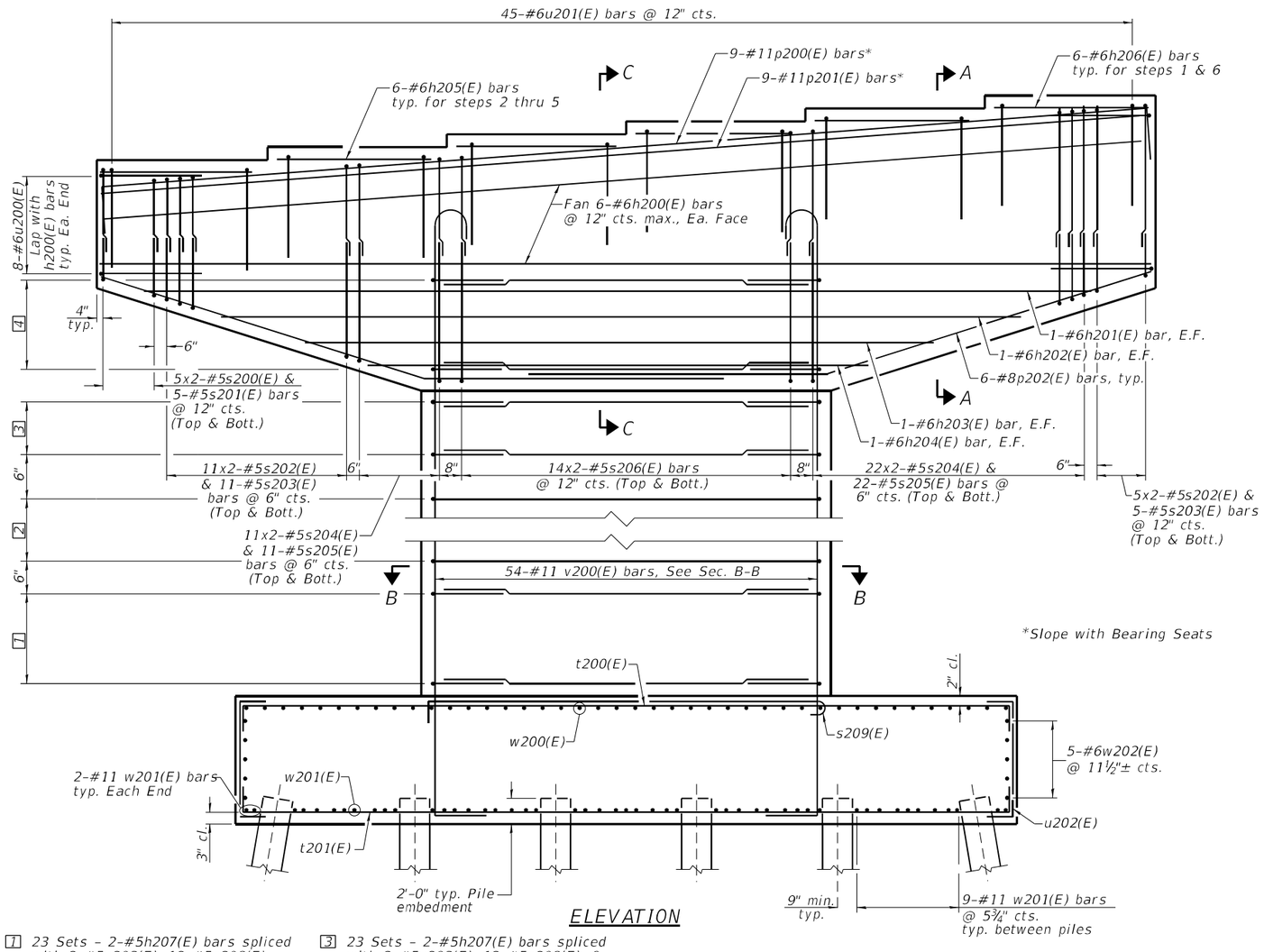
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 – PLAN AND ELEVATION
STRUCTURE NO. 010-1001
SHEET NO. S-73 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	715
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		



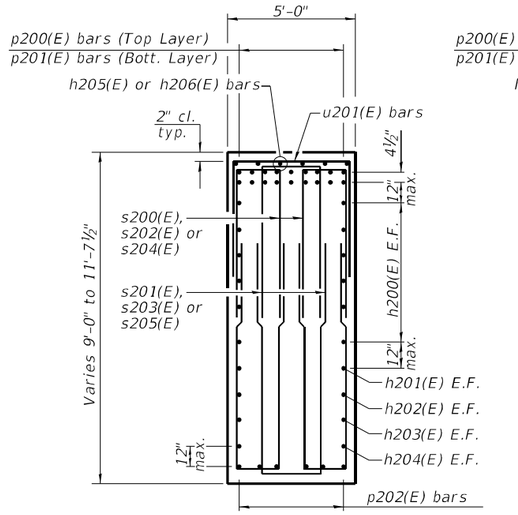
ELEVATION

1 23 Sets - 2-#5h207(E) bars spliced with 2-#5u203(E), 12-#5s208(E) & 2-#5s209(E) at 3" cts.

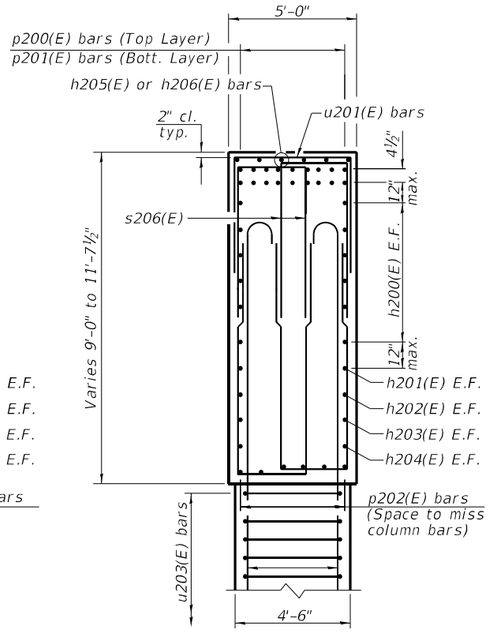
2 40 Sets - 2-#5h207(E) bars spliced with 2-#5u203(E), 12-#5s208(E) & 2-#5s209(E) at 6" cts.

3 23 Sets - 2-#5h207(E) bars spliced with 2-#5u203(E), 12-#5s208(E), & 2#5s209(E) at 3" cts.

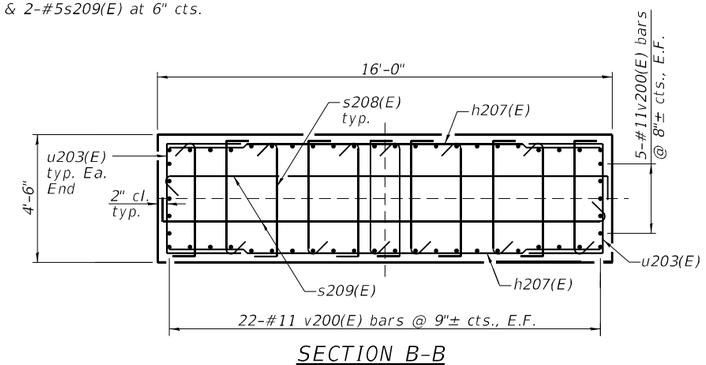
4 10 Sets - 2-#5h207(E) bars spliced with 2-#5u203(E) at 3" cts.



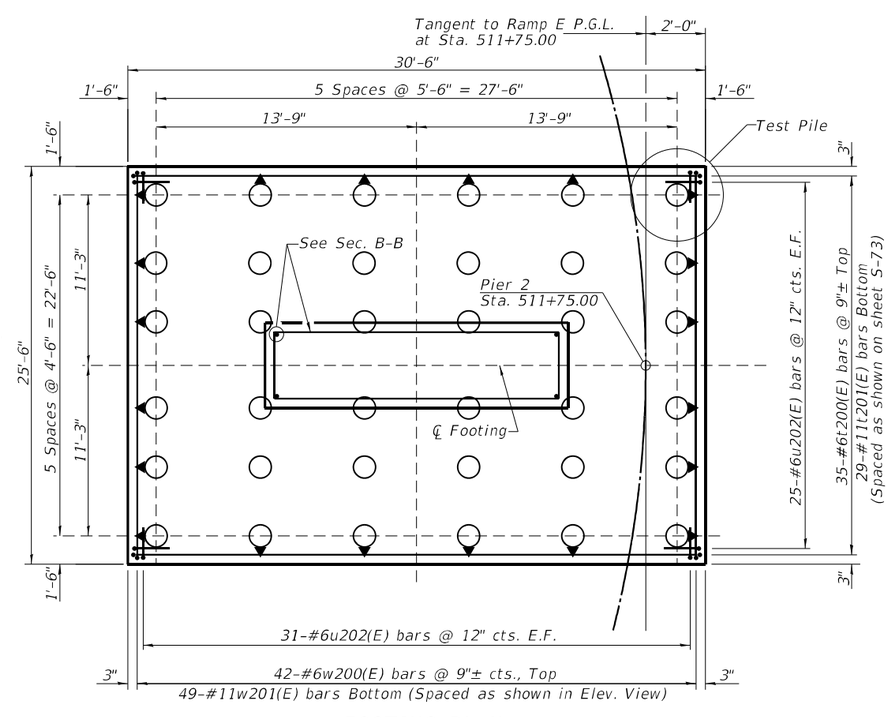
SECTION A-A



SECTION C-C



SECTION B-B



FOOTING PLAN

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s208(E) & s209(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 548 kips
Factored Resistance Available: 301 Kips
Est. Length: 70'
No. Production Piles: 35
No. Test Piles: 1

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
		CHECKED - JDJ	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
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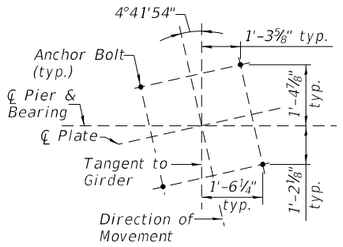
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

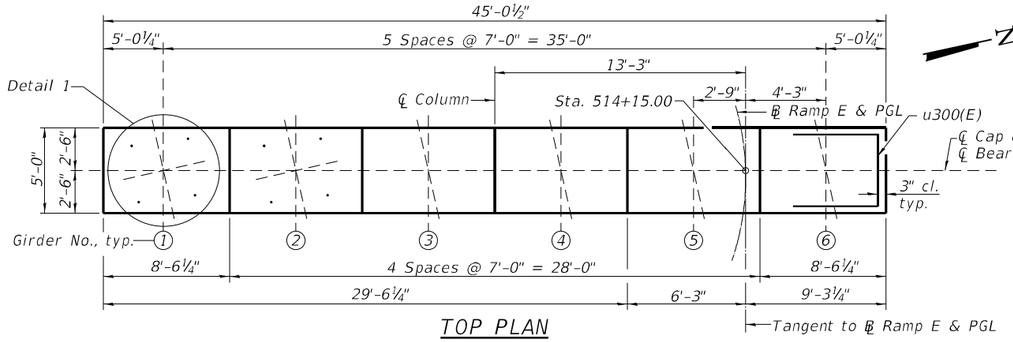
PIER 2 DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-74 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	716
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

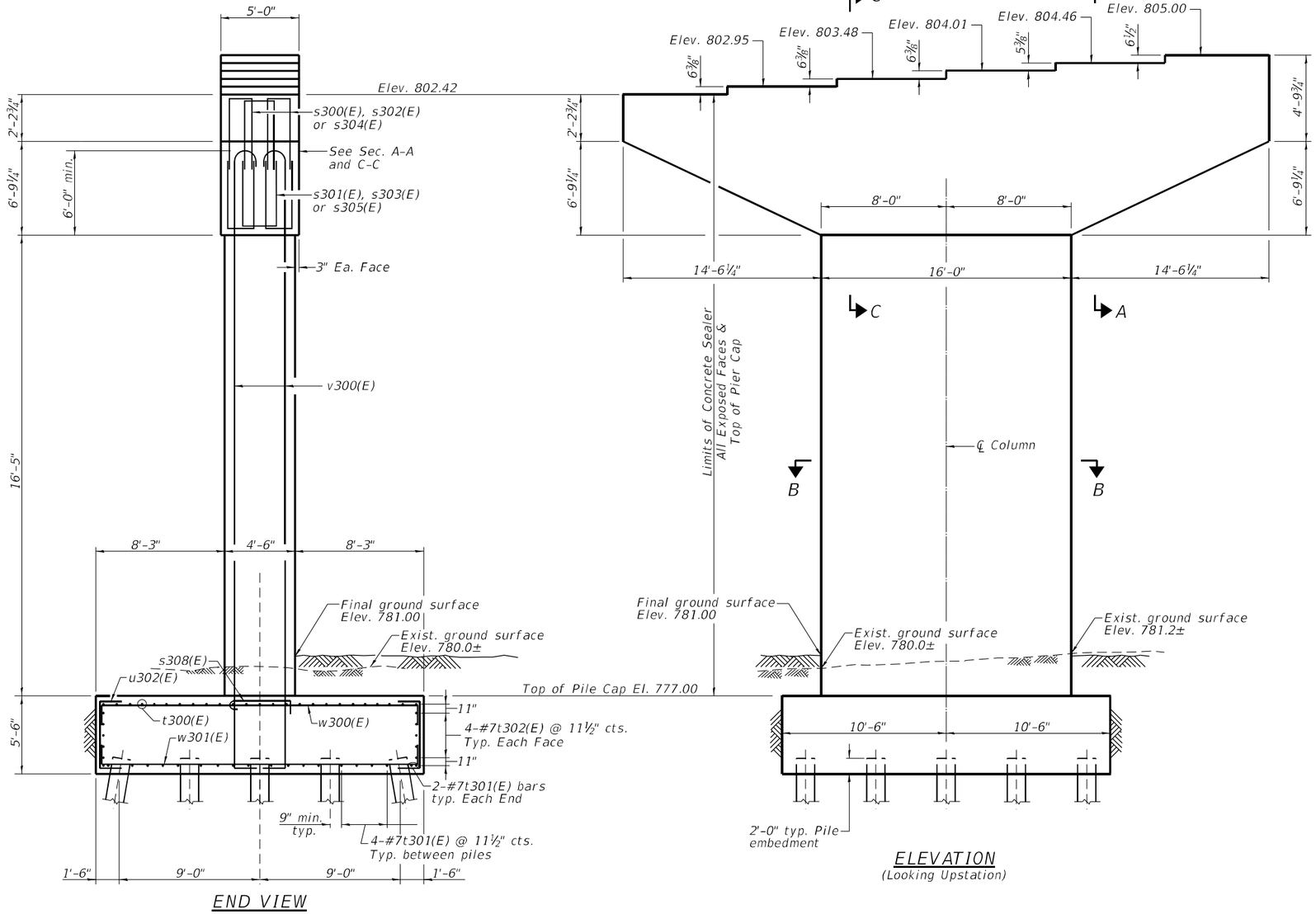


DETAIL 1

Bearing Orientation
(Typ. at Each Girder)



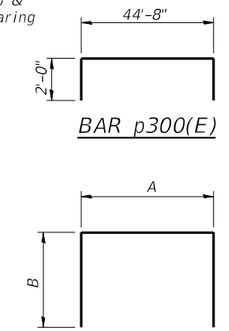
TOP PLAN



END VIEW

ELEVATION

(Looking Upstation)

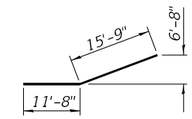


BAR p300(E)

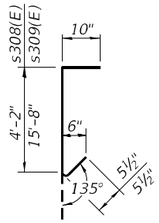
BARS

A & B DIMENSIONS

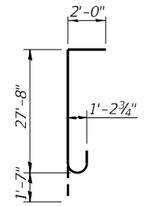
Bar	A	B
s300(E)	2'-0"	3'-5"
s301(E)	2'-6"	3'-5"
s302(E)	2'-0"	4'-8"
s303(E)	2'-6"	4'-8"
s304(E)	2'-0"	6'-8"
s305(E)	2'-6"	6'-8"
s306(E)	3'-1"	6'-8"
t300(E)	20'-8"	1'-2"
t301(E)	20'-8"	1'-2"
t302(E)	20'-5"	1'-2"
u300(E)	4'-6"	3'-10"
u301(E)	4'-8"	3'-10"
u302(E)	5'-1"	1'-0"
u303(E)	4'-2"	3'-2"
w300(E)	20'-8"	1'-2"
w301(E)	20'-8"	2'-0"
w302(E)	20'-5"	1'-2"



BAR p302(E)



BAR s308(E) & s309(E)



BAR v300(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	8	#6	43'-4"	
h301(E)	2	#6	40'-5"	
h302(E)	2	#6	37'-9"	
h303(E)	2	#6	33'-5"	
h304(E)	2	#6	29'-2"	
h305(E)	24	#6	6'-8"	
h306(E)	12	#6	8'-2"	
h307(E)	122	#5	15'-8"	
h308(E)	2	#6	24'-10"	
h309(E)	2	#6	20'-7"	
p300(E)	9	#11	48'-8"	
p301(E)	9	#11	44'-8"	
p302(E)	12	#8	27'-5"	
s300(E)	20	#5	8'-10"	
s301(E)	10	#5	9'-4"	
s302(E)	56	#5	11'-4"	
s303(E)	28	#5	11'-10"	
s304(E)	132	#5	15'-4"	
s305(E)	66	#5	15'-10"	
s306(E)	60	#5	16'-5"	
s308(E)	624	#5	5'-6"	
s309(E)	104	#5	17'-0"	
t300(E)	21	#7	23'-0"	
t301(E)	20	#7	23'-0"	
t302(E)	8	#7	22'-9"	
u300(E)	8	#6	12'-2"	
u301(E)	45	#6	12'-4"	
u302(E)	84	#6	7'-1"	
u303(E)	122	#5	10'-6"	
v300(E)	54	#11	31'-3"	
w300(E)	21	#7	23'-0"	
w301(E)	36	#11	24'-8"	
w302(E)	8	#7	22'-9"	
Structure Excavation		Cu. Yd.	209	
Concrete Structures		Cu. Yd.	201.3	
Reinforcement Bars, Epoxy Coated		Pound	40,300	
Furnishing Metal Shell Piles 16"x.312"		Foot	1,656	
Driving Piles		Foot	1,656	
Test Pile metal Shell		Each	1	
Pile shoes		Each	25	
Concrete Sealer		Sq. Ft.	2,038	

MIN. LAP LENGTH

#5 bars: 3'-2"
#6 bars: 3'-10"

NOTES:

1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-48
3. See sheet S-76 of S-106 for Sections A-A, B-B & C-C
4. Pile cap concrete pour shall be in accordance with Article 1020.15, Heat of Hydration Control for Concrete Structures according to Standard Specifications. Cost included under "Concrete Structures."
5. Reinforcement bar bending dimensions are out to out.

FILE NAME =

CMT

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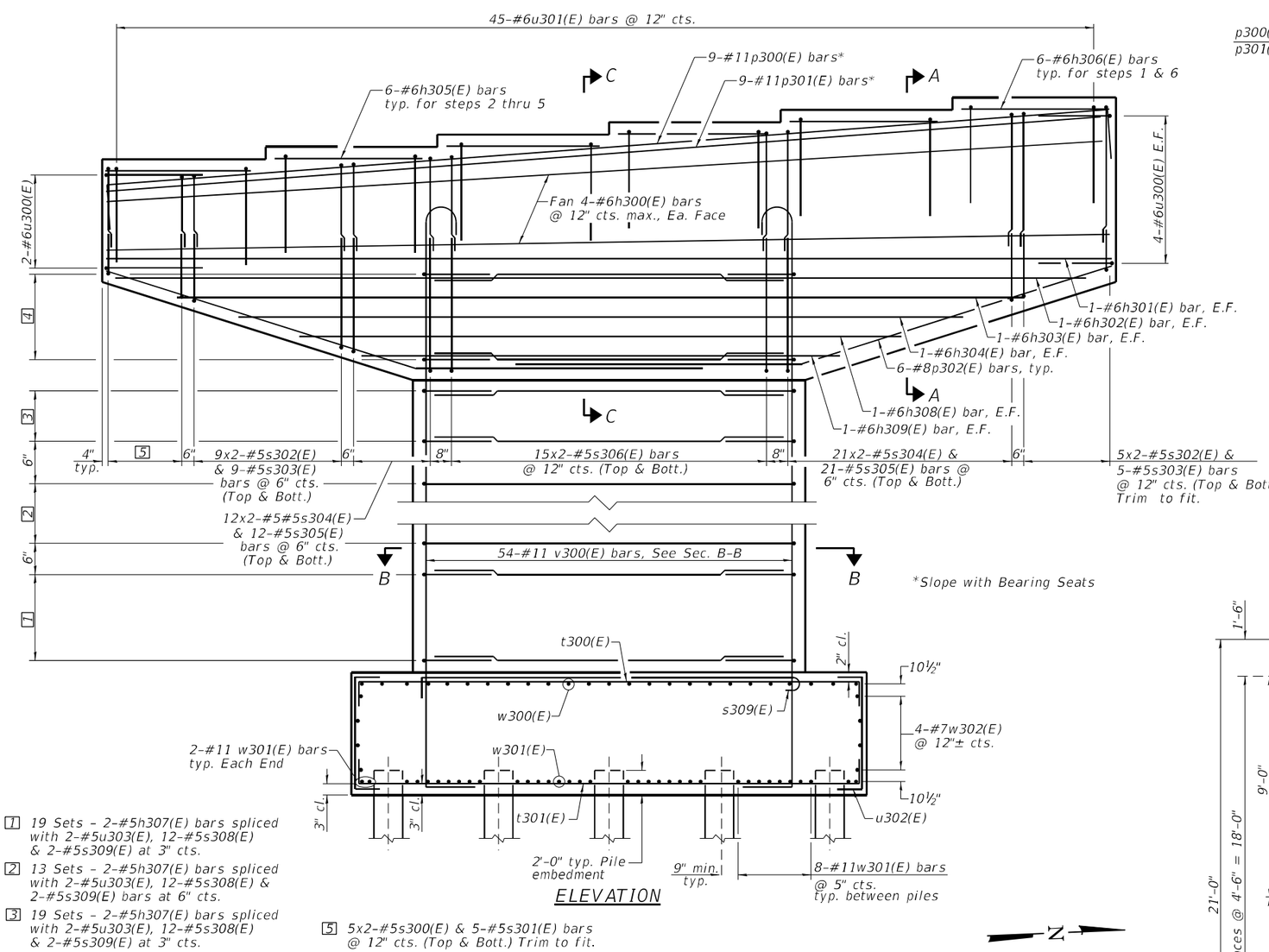
	CHECKED - JDJ	REVISED -	
PLOT SCALE = NA	DRAWN - GLD	REVISED -	
PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 – PLAN AND ELEVATION
STRUCTURE NO. 010-1001
SHEET NO. S-75 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	717
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION

*Slope with Bearing Seats

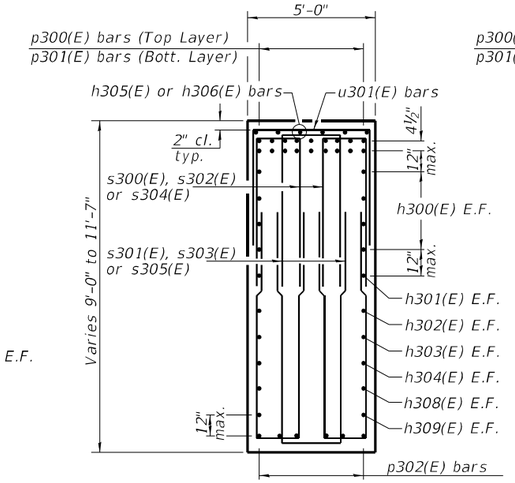
[1] 19 Sets - 2-#5h307(E) bars spliced with 2-#5u303(E), 12-#5s308(E) & 2-#5s309(E) at 3" cts.

[2] 13 Sets - 2-#5h307(E) bars spliced with 2-#5u303(E), 12-#5s308(E) & 2-#5s309(E) bars at 6" cts.

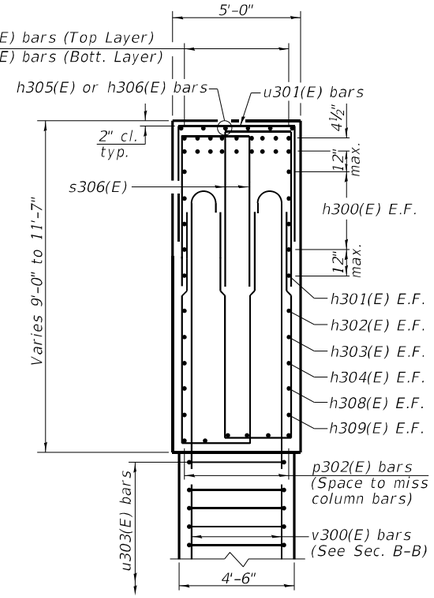
[3] 19 Sets - 2-#5h307(E) bars spliced with 2-#5u303(E), 12-#5s308(E) & 2-#5s309(E) at 3" cts.

[4] 10 Sets - 2-#5h307(E) bars spliced with 2-#5u303(E) at 3" cts.

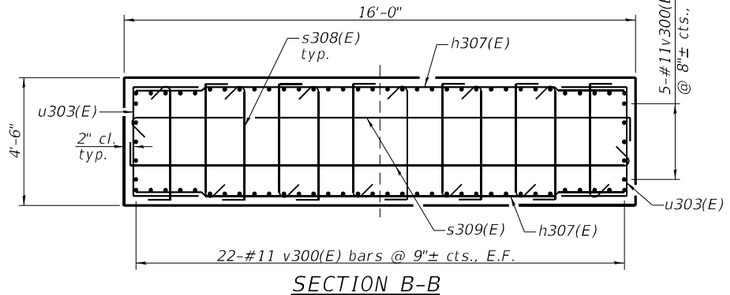
[5] 5x2-#5s300(E) & 5-#5s301(E) bars @ 12" cts. (Top & Bott.) Trim to fit.



SECTION A-A



SECTION C-C



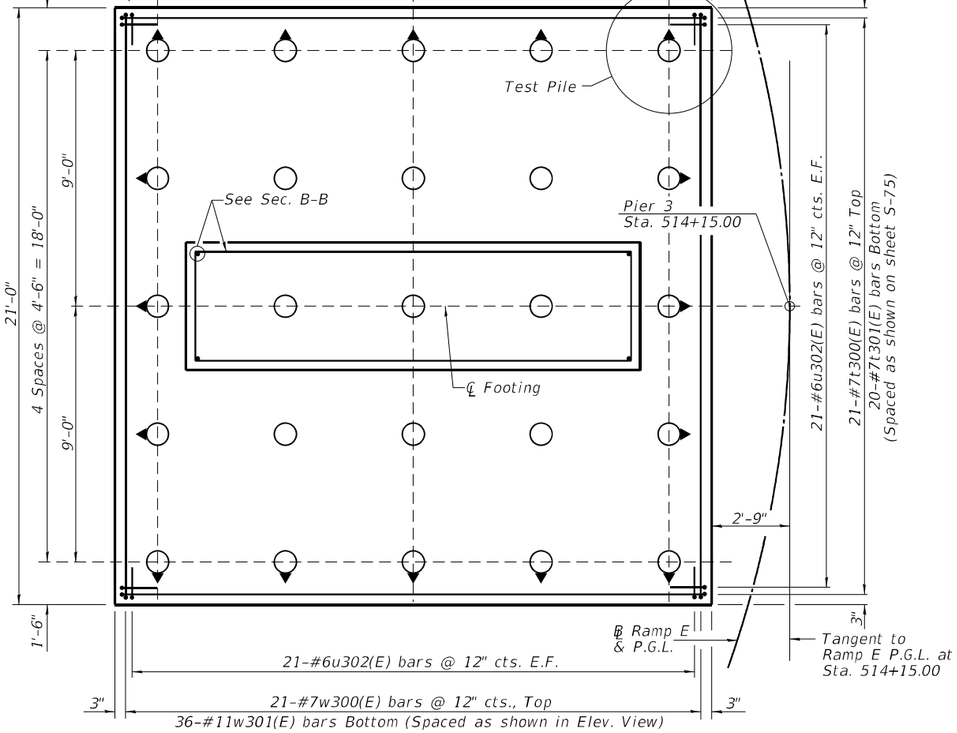
SECTION B-B

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s308(E) & s309(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 617 kips
Factored Resistance Available: 339 kips
Est. Length: 69'
No. Production Piles: 24
No. Test Piles: 1



FOOTING PLAN

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	**STATE OF ILLINOIS**
CMT		CHECKED - JDJ	REVISED -	**DEPARTMENT OF TRANSPORTATION**
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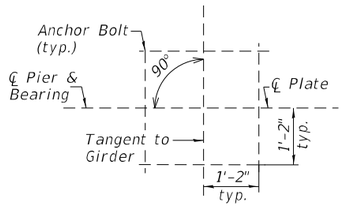
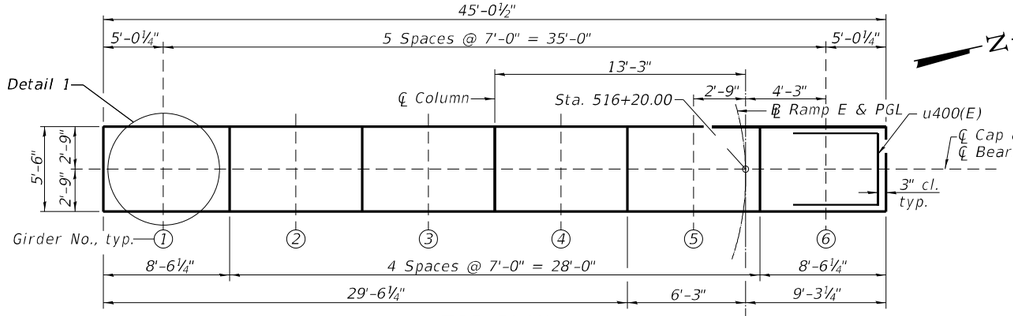
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	

PIER 3 DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-76 OF S-106 SHEETS

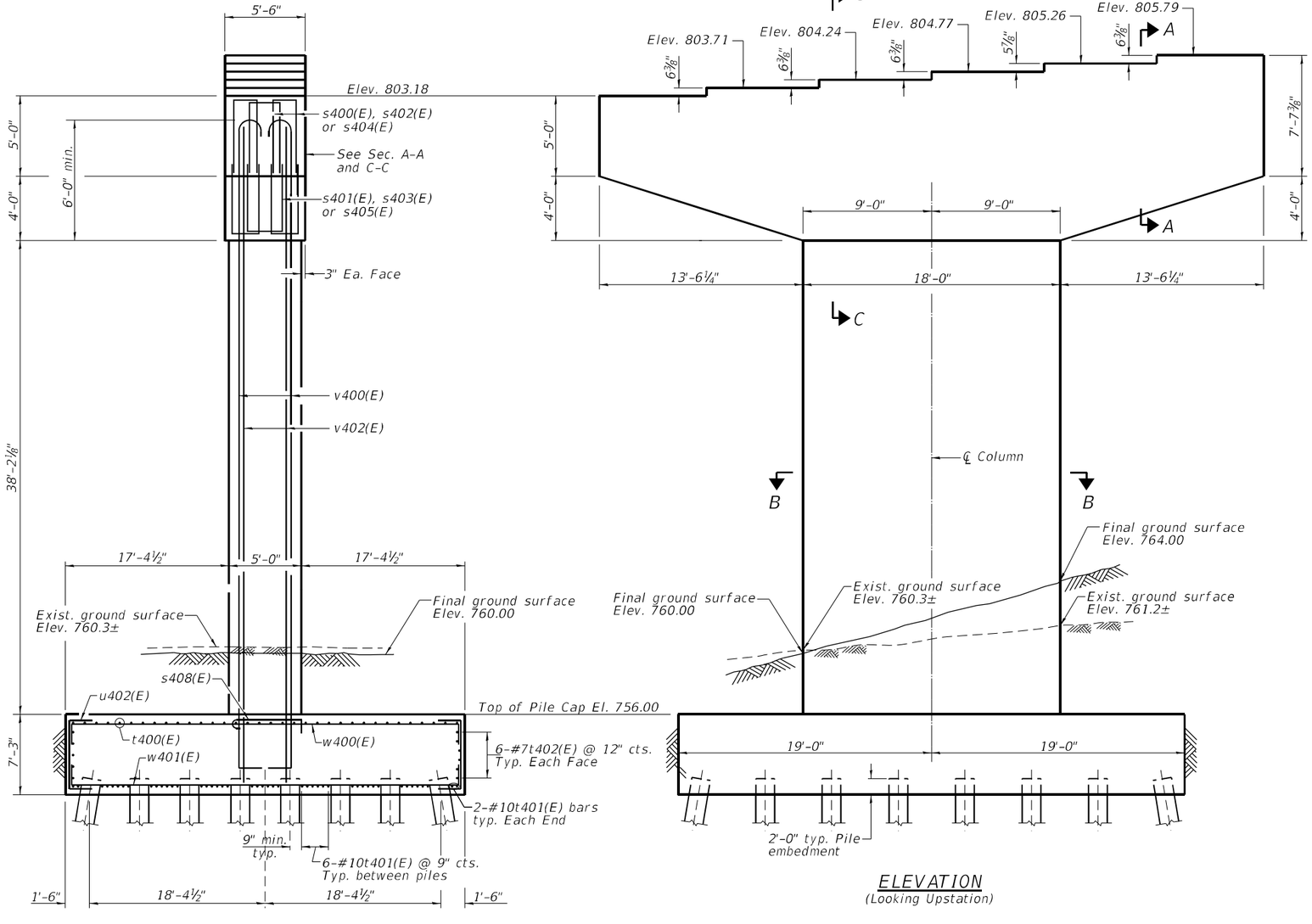
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	718
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



DETAIL 1
Bearing Orientation
(Typ. at Each Girder)

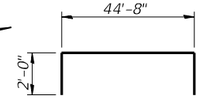


TOP PLAN

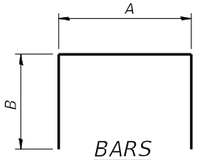


END VIEW

ELEVATION
(Looking Upstation)



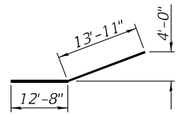
BAR p400(E)



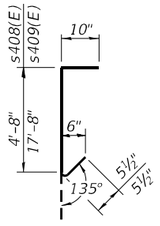
BARS

A & B DIMENSIONS

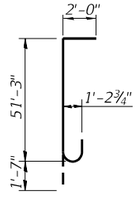
Bar	A	B
s400(E)	2'-2"	4'-5"
s401(E)	2'-8"	4'-5"
s402(E)	2'-2"	5'-9"
s403(E)	2'-8"	5'-9"
s404(E)	2'-2"	6'-9"
s405(E)	2'-8"	6'-9"
s406(E)	3'-4"	6'-9"
t400(E)	37'-8"	1'-2"
t401(E)	37'-8"	2'-0"
t402(E)	37'-5"	1'-2"
u400(E)	5'-0"	3'-10"
u401(E)	5'-2"	3'-10"
u402(E)	6'-10"	1'-0"
u403(E)	4'-8"	3'-2"
w400(E)	39'-5"	1'-2"
w401(E)	39'-5"	2'-0"
w402(E)	39'-2"	1'-2"



BAR p402(E)



BAR s408(E)
& s409(E)



BAR v400(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h400(E)	12	#6	44'-8"	
h401(E)	2	#6	43'-5"	
h402(E)	2	#6	36'-8"	
h403(E)	2	#6	29'-11"	
h404(E)	2	#6	23'-1"	
h405(E)	24	#6	6'-8"	
h406(E)	12	#6	8'-2"	
h407(E)	226	#5	17'-8"	
p400(E)	9	#11	48'-8"	
p401(E)	9	#11	44'-8"	
p402(E)	12	#8	26'-7"	
s400(E)	20	#5	11'-0"	
s401(E)	10	#5	11'-6"	
s402(E)	76	#5	13'-8"	
s403(E)	38	#5	14'-2"	
s404(E)	96	#5	15'-8"	
s405(E)	48	#5	16'-2"	
s406(E)	68	#5	16'-10"	
s408(E)	1664	#5	6'-0"	
s409(E)	208	#5	19'-0"	
t400(E)	40	#7	40'-0"	
t401(E)	46	#10	41'-8"	
t402(E)	12	#7	39'-9"	
u400(E)	12	#6	12'-8"	
u401(E)	45	#6	12'-10"	
u402(E)	156	#6	8'-10"	
u403(E)	226	#5	11'-0"	
v400(E)	72	#11	54'-7"	
v402(E)	64	#11	51'-3"	
w400(E)	38	#7	41'-9"	
w401(E)	74	#11	43'-5"	
w402(E)	12	#7	41'-6"	
Structure Excavation		Cu. Yd.	834	
Concrete Structures		Cu. Yd.	616.5	
Reinforcement Bars, Epoxy Coated		Pound	109,160	
Furnishing Metal Shell Piles 16"x.312"		Foot	3,339	
Driving Piles		Foot	3,339	
Test Pile metal Shell		Each	1	
Pile shoes		Each	64	

MIN. LAP LENGTH

#5 bars: 3'-2"
#6 bars: 3'-10"

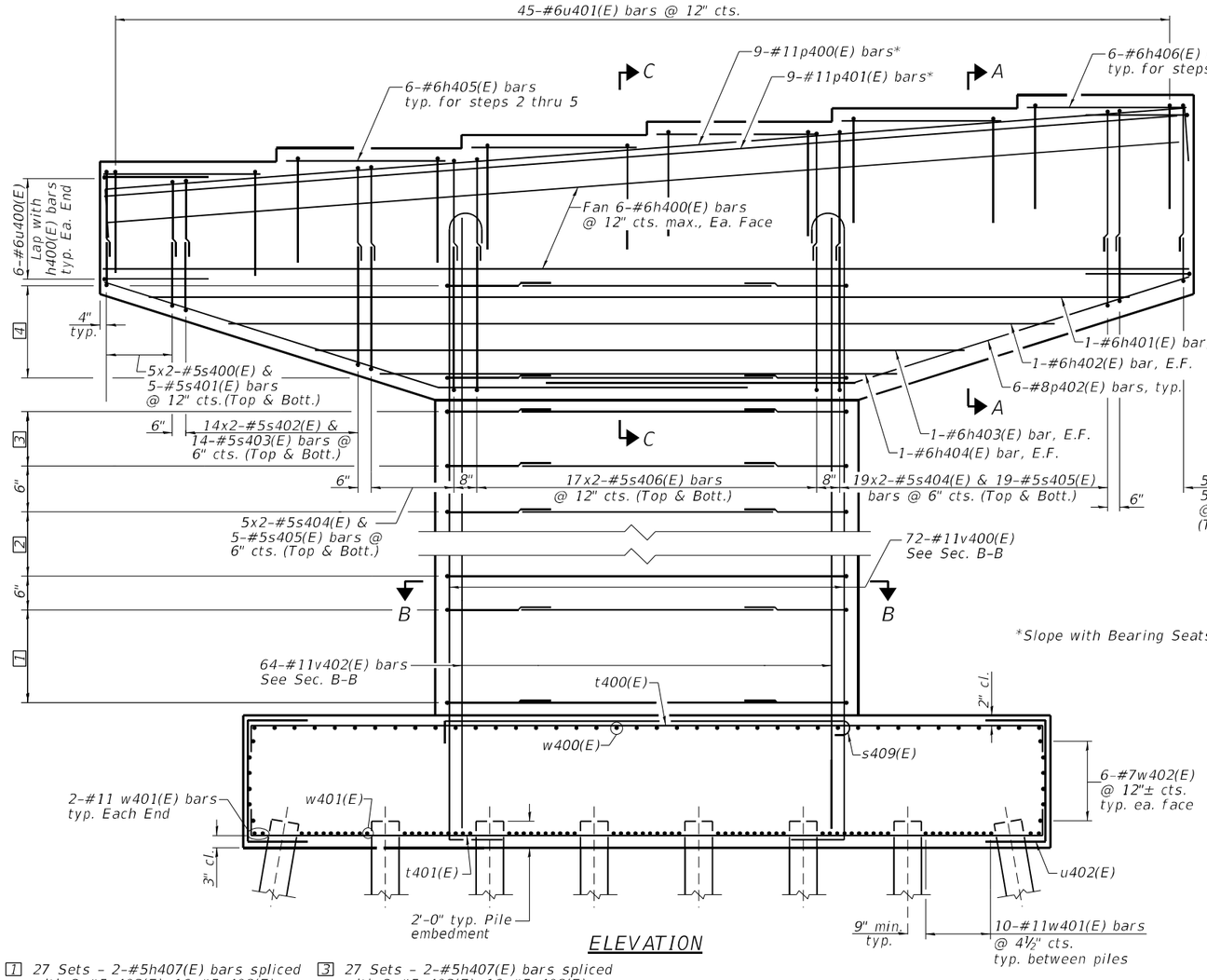
NOTES:

1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-48
3. See sheet S-78 of S-106 for Sections A-A, B-B & C-C
4. Pile cap concrete pour shall be in accordance with Article 1020.15, Heat of Hydration Control for Concrete Structures according to Standard Specifications. Cost included under "Concrete Structures."
5. Reinforcement bar bending dimensions are out to out.

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
CMT License No. 184-000613		CHECKED - JDJ	REVISED -	
	PLOT SCALE = NA	DRAWN - GLD	REVISED -	
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	

PIER 4 – PLAN AND ELEVATION
STRUCTURE NO. 010-1001
SHEET NO. S-77 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	719
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



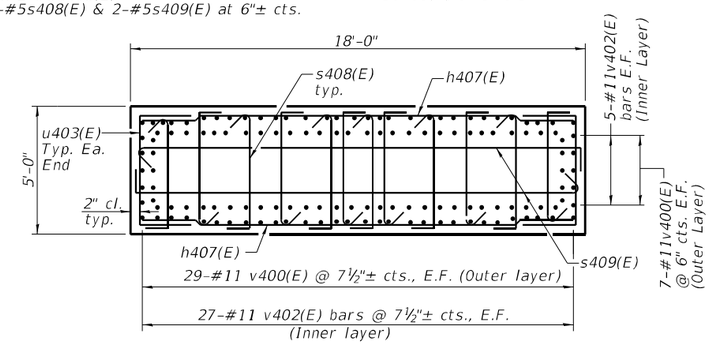
ELEVATION

1 27 Sets - 2-#5h407(E) bars spliced with 2-#5u403(E), 16-#5s408(E) & 2-#5s409(E) at 3" cts.

2 49 Sets - 2-#5h407(E) bars spliced with 2-#5u403(E) 16-#5s408(E) & 2-#5s409(E) at 6"± cts.

3 27 Sets - 2-#5h407(E) bars spliced with 2-#5u403(E), 16-#5s408(E) & 2-#5s409(E) at 3" cts.

4 10 Sets - 2-#5h407(E) bars spliced with 2-#5u403(E) at 3" cts.



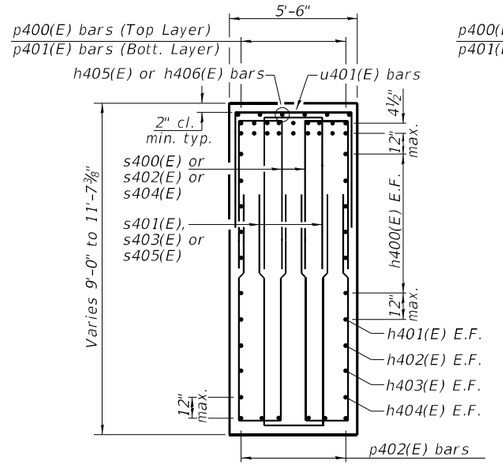
SECTION B-B

NOTES:

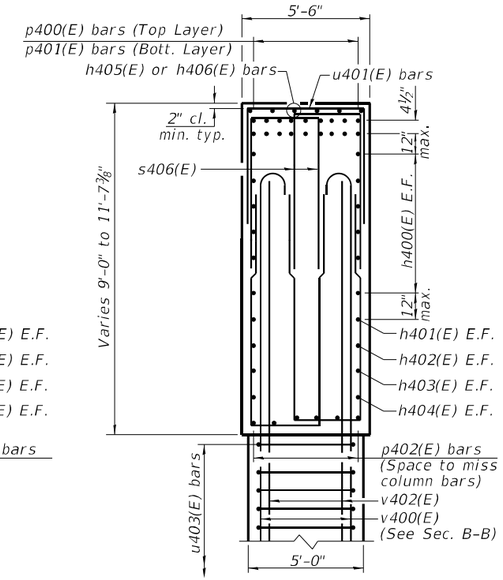
1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on indicated piles.
3. A single layer of cross ties s408(E) & s409(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

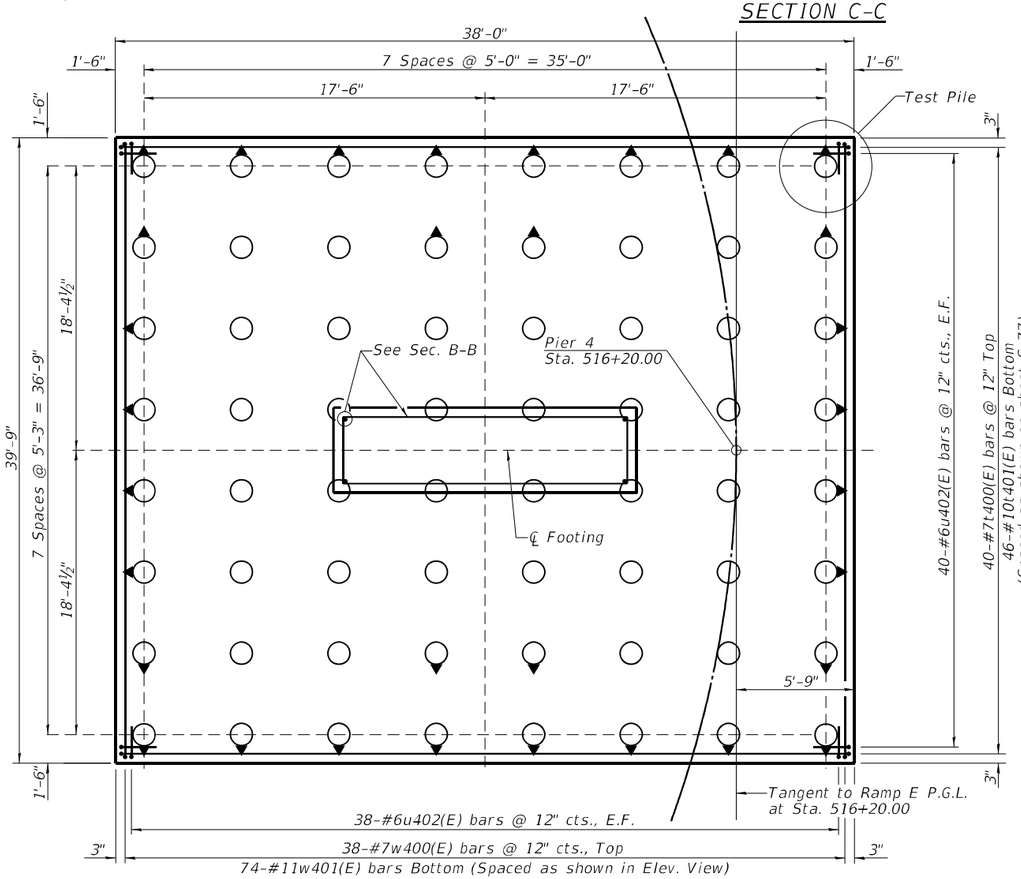
Type: Steel Metal Shell, 16" ∅ w/.312" walls with pile shoes
Nominal Required Bearing: 375 kips
Factored Resistance Available: 206 kips
Est. Length: 53'
No. Production Piles: 63
No. Test Piles: 1



SECTION A-A



SECTION C-C



FOOTING PLAN

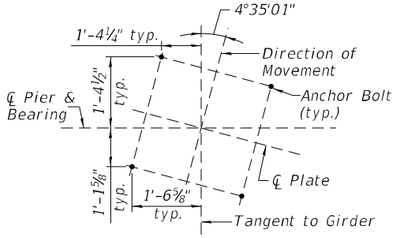
N

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
CMT License No. 184-000613 © Copyright CMT, Inc.		CHECKED - JDJ	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

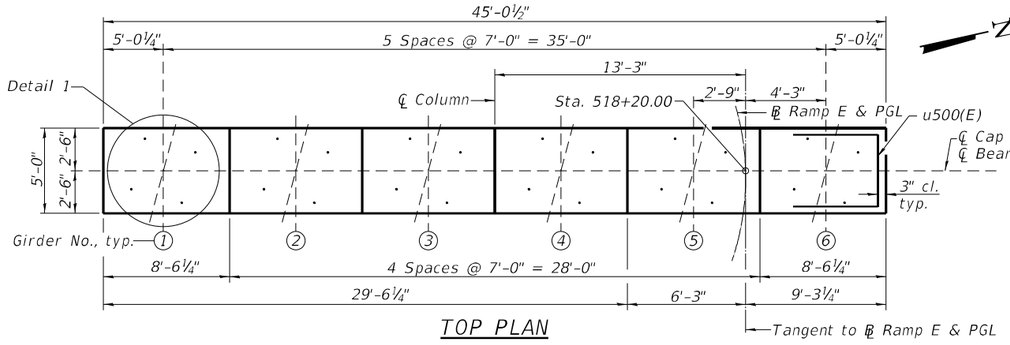
PIER 4 DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-78 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	720
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

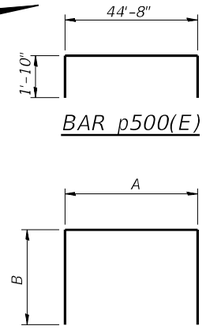


DETAIL 1

Bearing Orientation
(Typ. at Each Girder)

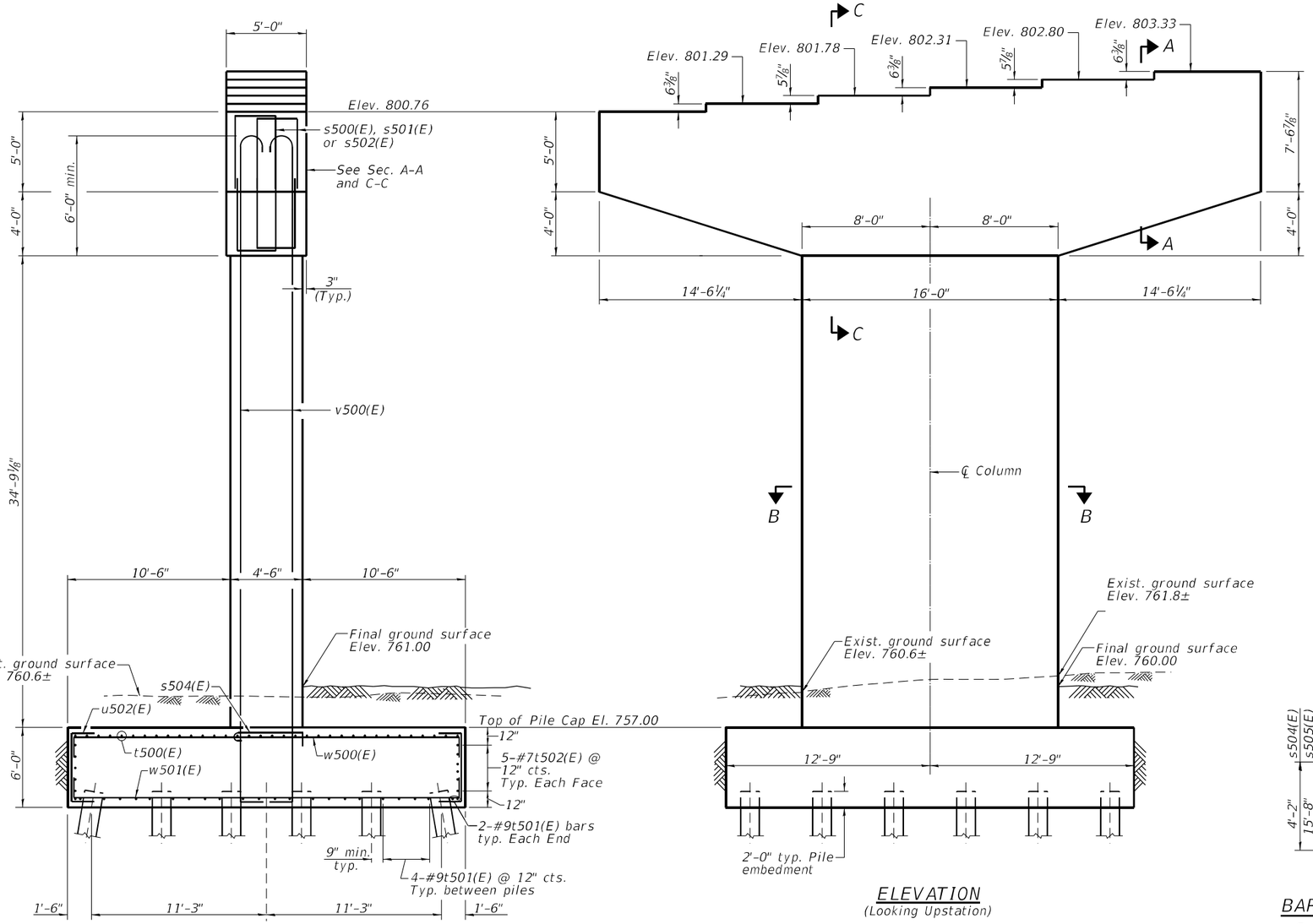


TOP PLAN



A & B DIMENSIONS

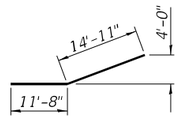
Bar	A	B
s500(E)	3'-1"	4'-5"
s501(E)	3'-1"	5'-8"
s502(E)	3'-1"	6'-8"
t500(E)	25'-2"	1'-2"
t501(E)	25'-2"	2'-0"
t502(E)	24'-11"	1'-2"
u500(E)	4'-6"	3'-10"
u501(E)	4'-8"	3'-10"
u502(E)	5'-7"	1'-0"
u503(E)	4'-2"	3'-2"
w500(E)	25'-2"	1'-2"
w501(E)	25'-2"	2'-0"
w502(E)	24'-11	1'-2"

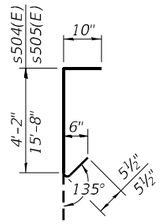


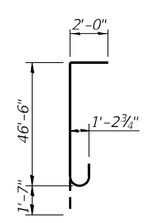
END VIEW

ELEVATION

(Looking Upstation)







BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	12	#6	44'-8"	
h501(E)	2	#6	43'-3"	
h502(E)	2	#6	36'-0"	
h503(E)	2	#6	28'-9"	
h504(E)	2	#6	21'-6"	
h505(E)	24	#6	6'-8"	
h506(E)	12	#6	8'-2"	
h507E)	208	#5	15'-8"	
p500(E)	9	#10	48'-4"	
p501(E)	9	#10	44'-8"	
p502(E)	12	#8	26'-7"	
s500(E)	20	#5	11'-11"	
s501(E)	80	#5	14'-5"	
s502(E)	168	#5	16'-5"	
s504(E)	1,140	#5	5'-6"	
s505(E)	190	#5	17'-0"	
t500(E)	26	#7	27'-6"	
t501(E)	24	#9	29'-2"	
t502(E)	10	#7	27'-3"	
u500(E)	16	#6	12'-2"	
u501(E)	45	#6	12'-4"	
u502(E)	104	#6	7'-7"	
u503(E)	208	#5	10'-6"	
v500(E)	54	#11	50'-1"	
w500(E)	26	#7	27'-6"	
w501(E)	39	#11	29'-2"	
w502(E)	10	#7	27'-3"	
Structure Excavation			Cu. Yd.	355
Concrete Structures			Cu. Yd.	312.2
Reinforcement Bars, Epoxy Coated			Pound	52,760
Furnishing Metal Shell Piles 16"x.312"			Foot	2,345
Driving Piles			Foot	2,345
Test Pile metal Shell			Each	1
Pile shoes			Each	36

MIN. LAP LENGTH

#5 bars: 3'-2"
#6 bars: 3'-10"

NOTES:

1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-48
3. See sheet S-80 of S-106 for Sections A-A, B-B & C-C
4. Pile cap concrete pour shall be in accordance with Article 1020.15, Heat of Hydration Control for Concrete Structures according to Standard Specifications. Cost included under "Concrete Structures."
5. Reinforcement bar bending dimensions are out to out.

FILE NAME =

CMT

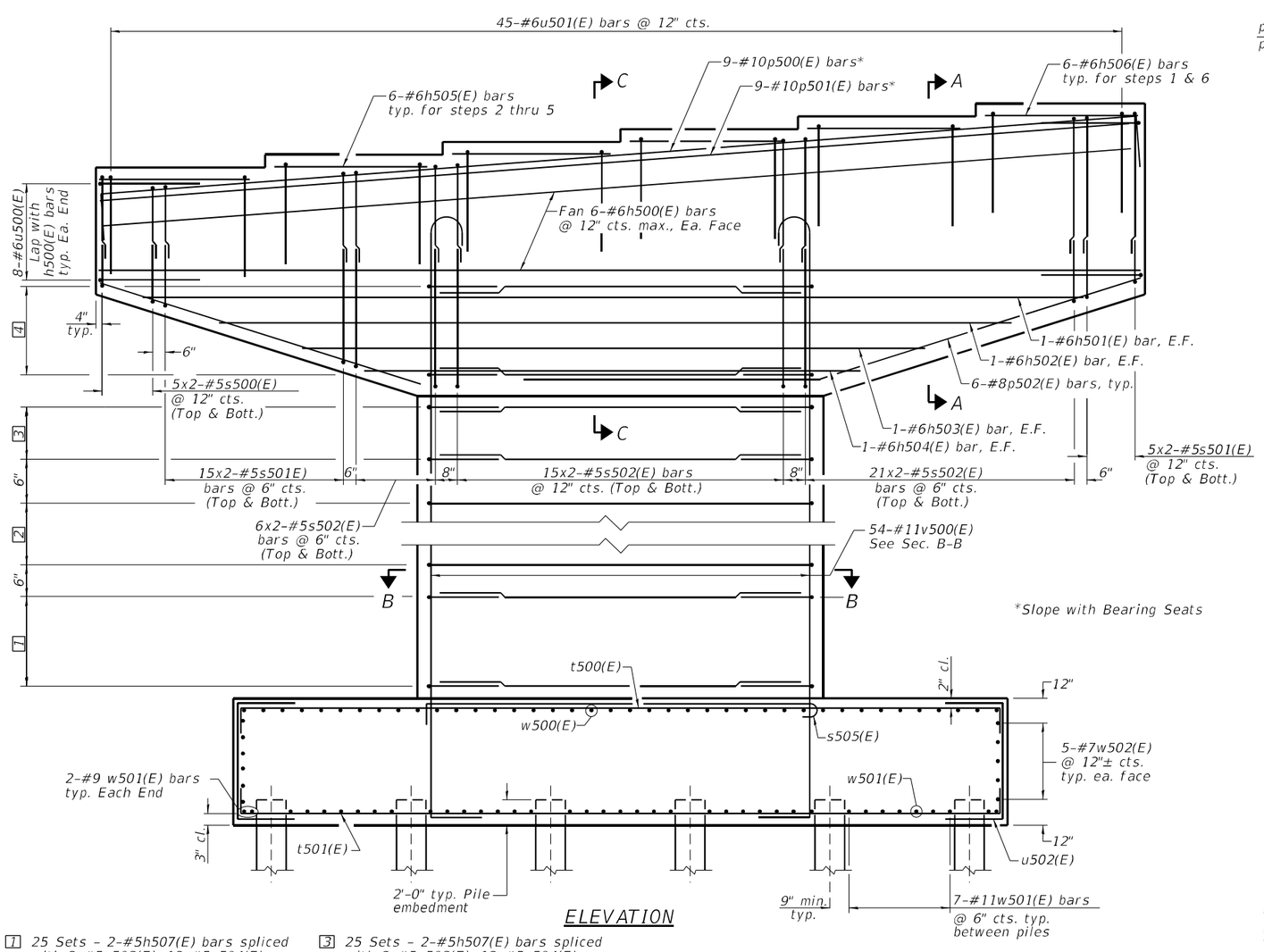
License No. 184-000613

USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	
	CHECKED - JDJ	REVISED -	
PLOT SCALE = NA	DRAWN - GLD	REVISED -	
PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 5 – PLAN AND ELEVATION
STRUCTURE NO. 010-1001
SHEET NO. S-79 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	721
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION

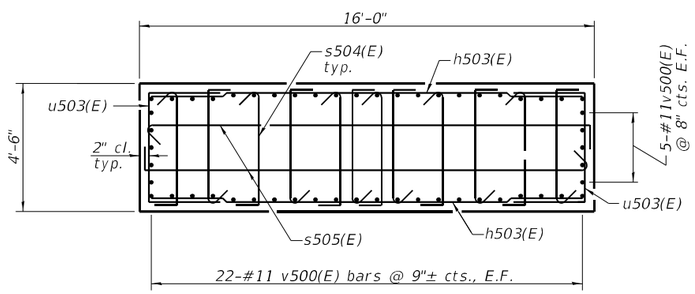
*Slope with Bearing Seats

1 25 Sets - 2-#5h507(E) bars spliced with 2-#5u503(E), 12-#5s504(E) & 2-#5s505(E) at 3" cts.

2 44 Sets - 2-#5h507(E) bars spliced with 2-#5u503(E), 12-#5s504(E) & 2-#5s505(E) at 6"± cts.

3 25 Sets - 2-#5h507(E) bars spliced with 2-#5u503(E), 12-#5s504(E) & 2-#5s505(E) at 3" cts.

4 10 Sets - 2-#5h507(E) bars spliced with 2-#5u503(E) at 3" cts.



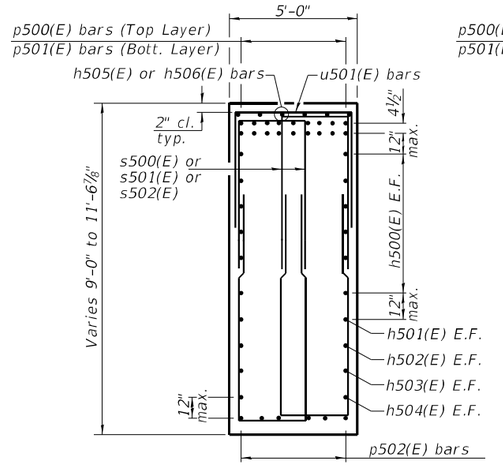
SECTION B-B

NOTES:

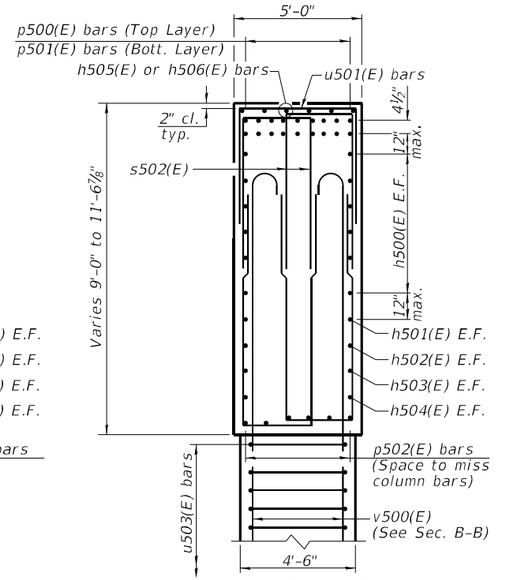
1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s504(E) & s505(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

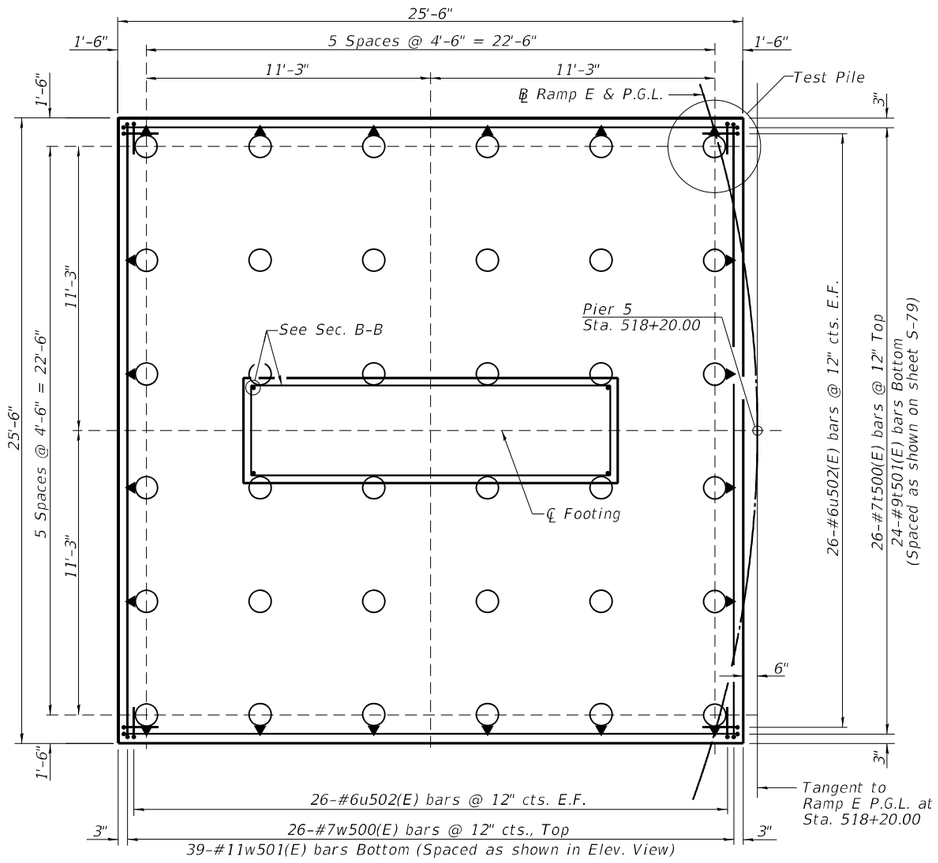
Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 473 kips
Factored Resistance Available: 260 kips
Est. Length: 67'
No. Production Piles: 35
No. Test Piles: 1



SECTION A-A



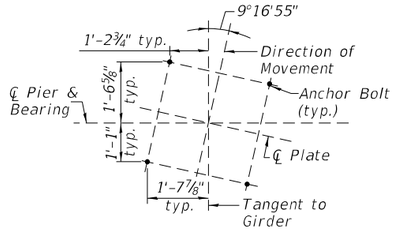
SECTION C-C



FOOTING PLAN

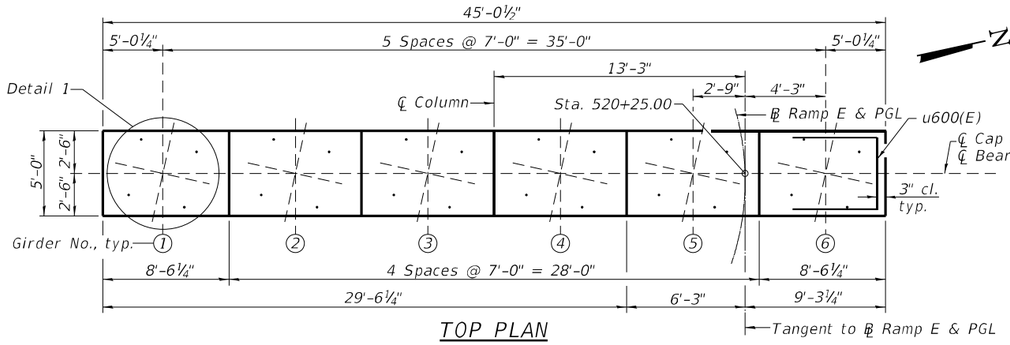
FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 5 DETAILS STRUCTURE NO. 010-1001
CMT License No. 184-000613		CHECKED - JDJ	REVISED -		SHEET NO. S-80 OF S-106 SHEETS
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	722
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

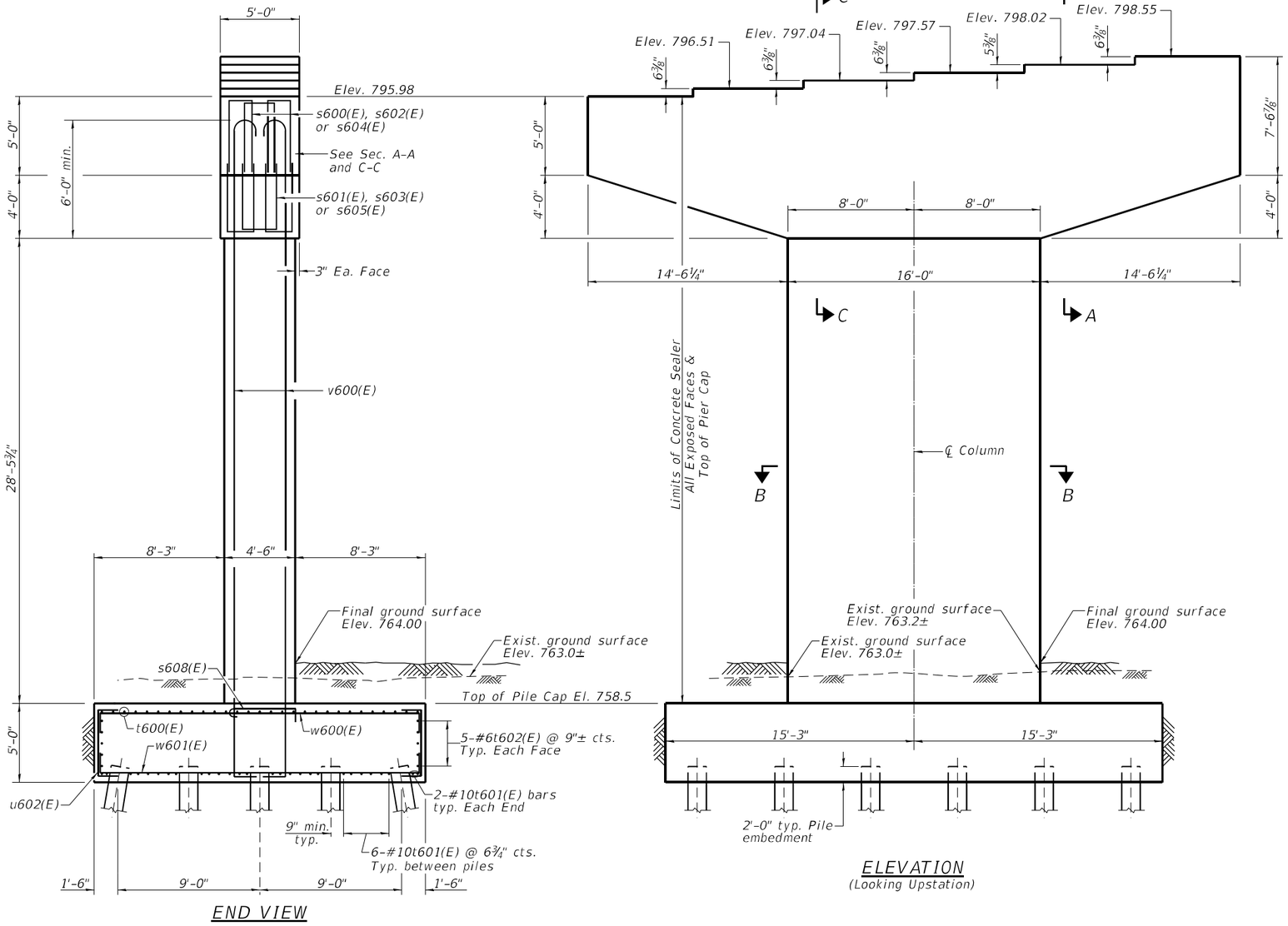


DETAIL 1

Bearing Orientation
(Typ. at Each Girder)



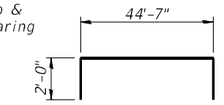
TOP PLAN



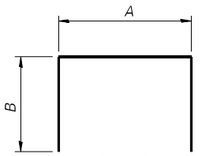
ELEVATION

(Looking Upstation)

END VIEW



BAR p600(E)



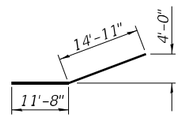
BARS

A & B DIMENSIONS

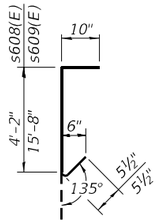
Bar	A	B
s600(E)	2'-0"	4'-4"
s601(E)	2'-6"	4'-4"
s602(E)	2'-0"	5'-6"
s603(E)	2'-6"	5'-6"
s604(E)	2'-0"	6'-7"
s605(E)	2'-6"	6'-7"
s606(E)	3'-1"	6'-7"
t600(E)	30'-2"	1'-0"
t601(E)	30'-2"	1'-10"
t602(E)	29'-11"	1'-0"
u600(E)	4'-6"	3'-10"
u601(E)	4'-8"	3'-10"
u602(E)	4'-7"	1'-0"
u603(E)	4'-2"	3'-2"
w600(E)	20'-8"	1'-0"
w601(E)	20'-8"	1'-10"
w602(E)	20'-5"	1'-0"

BILL OF MATERIAL

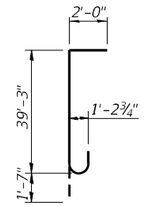
Bar	No.	Size	Length	Shape
h600(E)	12	#6	44'-8"	
h601(E)	2	#6	43'-2"	
h602(E)	2	#6	36'-0"	
h603(E)	2	#6	28'-9"	
h604(E)	2	#6	21'-6"	
h605(E)	24	#6	6'-8"	
h606(E)	12	#6	8'-2"	
h607(E)	176	#5	15'-8"	
p600(E)	9	#11	48'-7"	
p601(E)	9	#11	44'-8"	
p602(E)	12	#8	26'-7"	
s600(E)	20	#5	10'-8"	
s601(E)	10	#5	11'-2"	
s602(E)	64	#5	13'-0"	
s603(E)	32	#5	13'-6"	
s604(E)	132	#5	15'-2"	
s605(E)	66	#5	15'-8"	
s606(E)	56	#5	16'-3"	
s608(E)	948	#5	5'-6"	
s609(E)	158	#5	17'-0"	
t600(E)	29	#6	32'-2"	
t601(E)	28	#10	33'-10"	
t602(E)	10	#6	31'-11"	
u600(E)	16	#6	12'-2"	
u601(E)	45	#6	12'-4"	
u602(E)	106	#6	6'-7"	
u603(E)	176	#5	10'-6"	
v600(E)	54	#11	42'-10"	
w600(E)	42	#6	22'-8"	
w601(E)	49	#10	24'-4"	
w602(E)	10	#6	22'-5"	
Structure Excavation			Cu. Yd.	304
Concrete Structures			Cu. Yd.	269.7
Reinforcement Bars, Epoxy Coated			Pound	53,030
Furnishing Metal Shell Piles 16"x.312"			Foot	1,914
Driving Piles			Foot	1,914
Test Pile metal Shell			Each	1
Pile shoes			Each	30
Concrete Sealer			Sq. Ft.	2,632



BAR p602(E)



BAR s608(E) & s609(E)



BAR v600(E)

MIN. LAP LENGTH

#5 bars: 3'-2"
#6 bars: 3'-10"

NOTES:

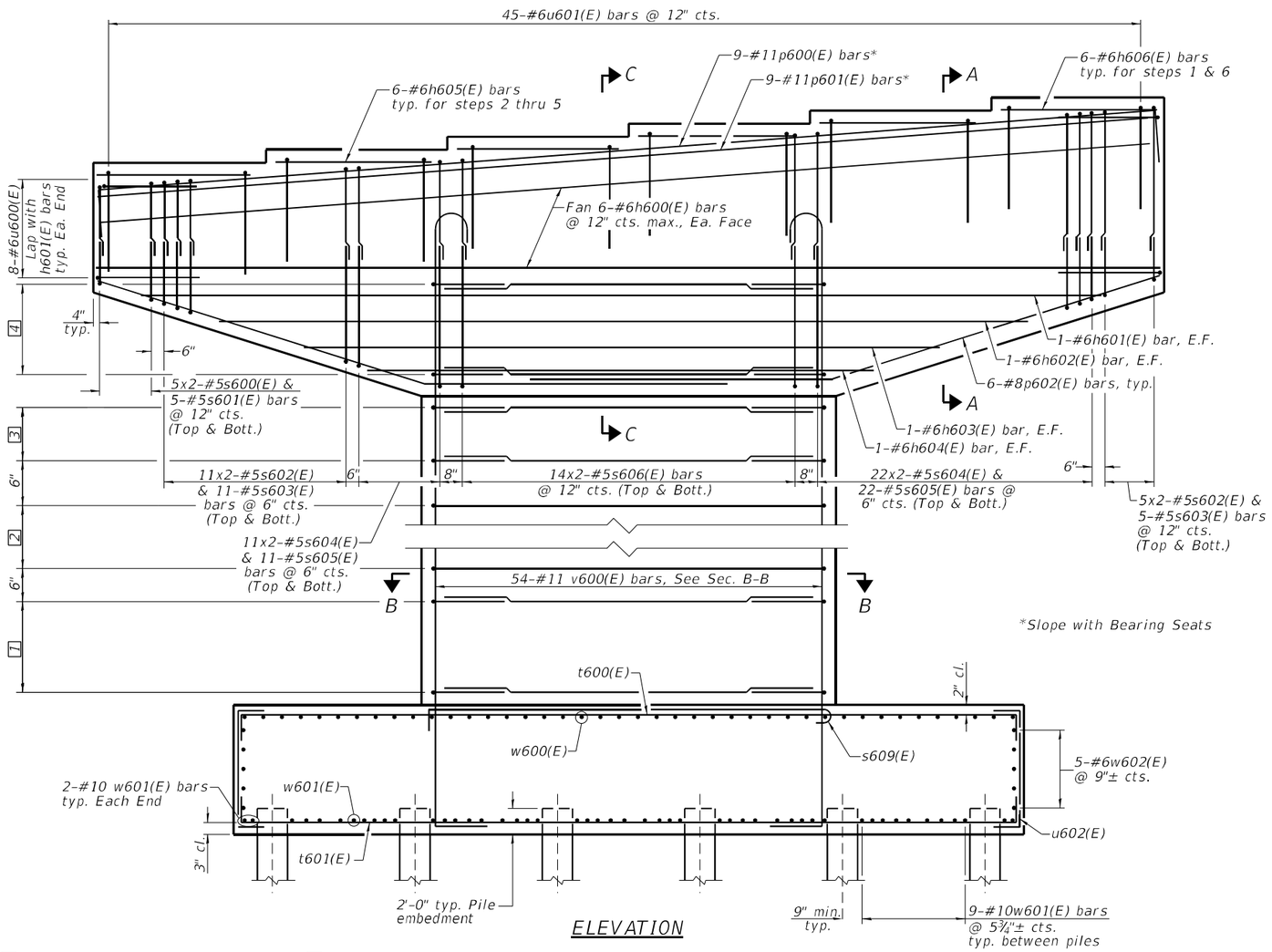
1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-46
3. See sheet S-82 of S-106 for Sections A-A, B-B & C-C
4. Reinforcement bar bending dimensions are out to out.

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
CMT License No. 184-000613		CHECKED - JDJ	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

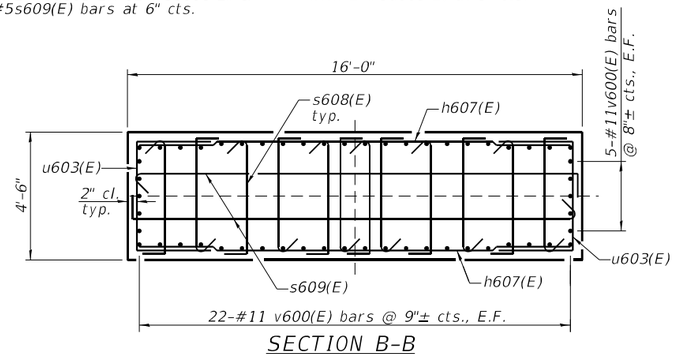
PIER 6 – PLAN AND ELEVATION
STRUCTURE NO. 010–1001
SHEET NO. S-81 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	723
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION

1. 21 Sets - 2-#5h607(E) bars spliced with 2-#5u603(E), 12-#5s608(E) & 2-#5s609(E) at 3" cts.
2. 36 Sets - 2-#5h607(E) bars spliced with 2-#5u603(E), 12-#5s608(E) & 2-#5s609(E) bars at 6" cts.
3. 21 Sets - 2-#5h607(E) bars spliced with 2-#5u603(E), 12-#5s608(E), & 2#5s609(E) at 3" cts.
4. 10 Sets - 2-#5h607(E) bars spliced with 2-#5u603(E) at 3" cts.



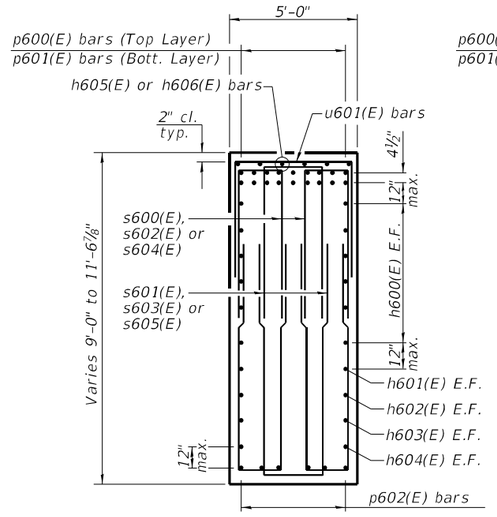
SECTION B-B

NOTES:

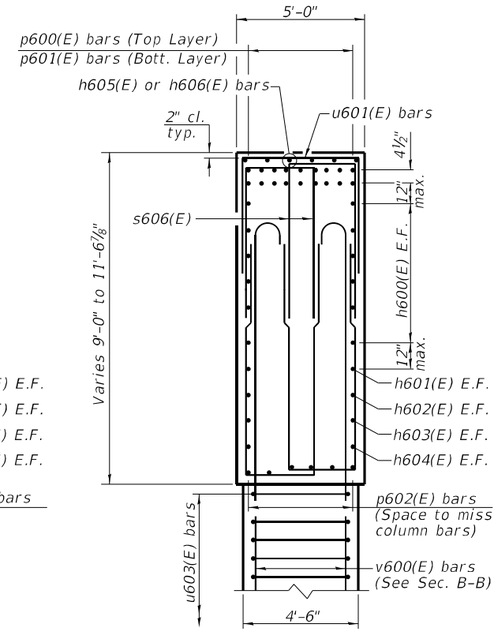
1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s608(E) & s609(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

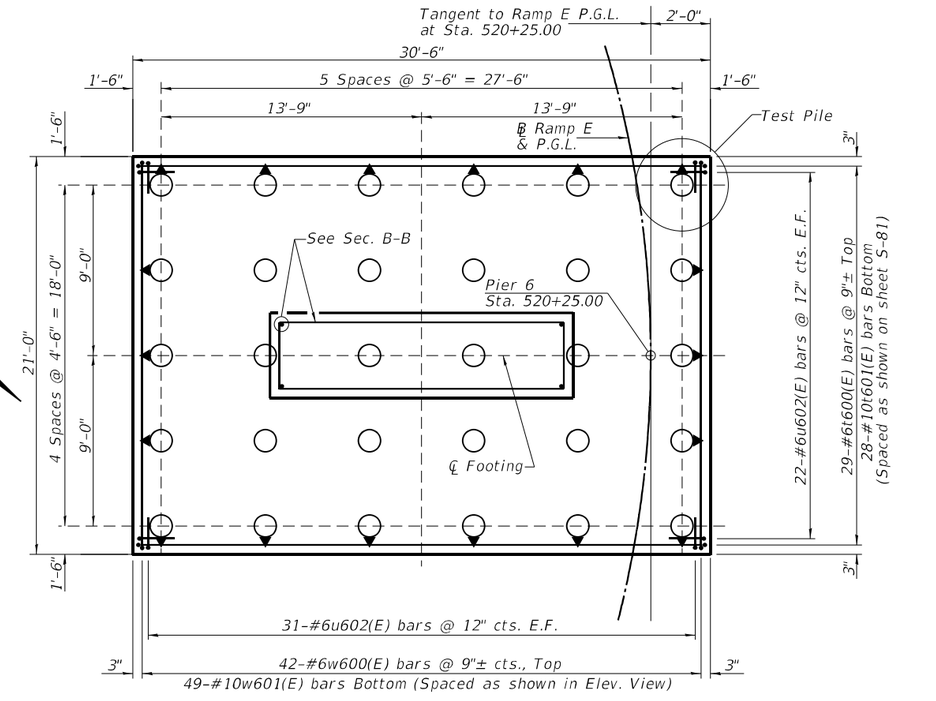
Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 453 kips
Factored Resistance Available: 349 kips
Est. Length: 66'
No. Production Piles: 29
No. Test Piles: 1



SECTION A-A



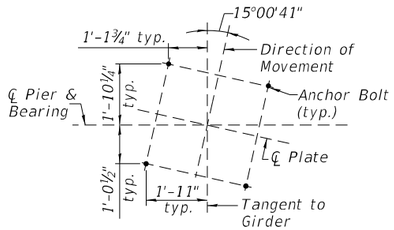
SECTION C-C



FOOTING PLAN

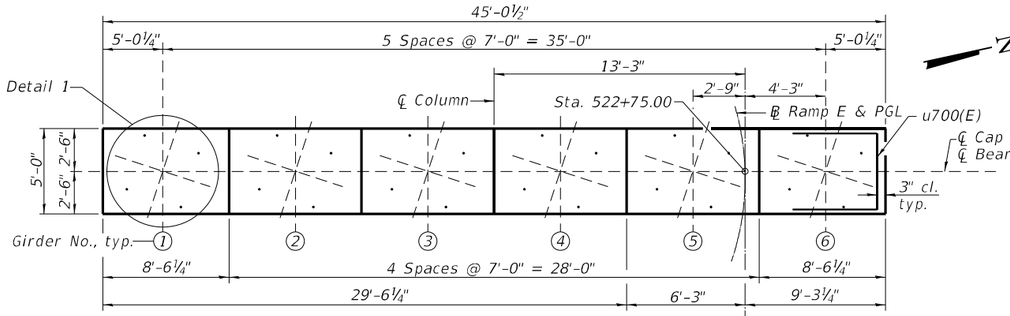
FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
License No. 184-000613 © Copyright CMT, Inc.		CHECKED - JDJ	REVISED -	**PIER 6 DETAILS**
	PLOT SCALE = NA	DRAWN - GLD	REVISED -	**STRUCTURE NO. 010-1001**
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	SHEET NO. S-82 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	724
		CONTRACT NO. 70B99		
		ILLINOIS	FED. AID PROJECT	

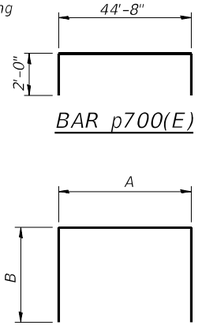


DETAIL 1

Bearing Orientation
(Typ. at Each Girder)



TOP PLAN



BAR p700(E)

BARS

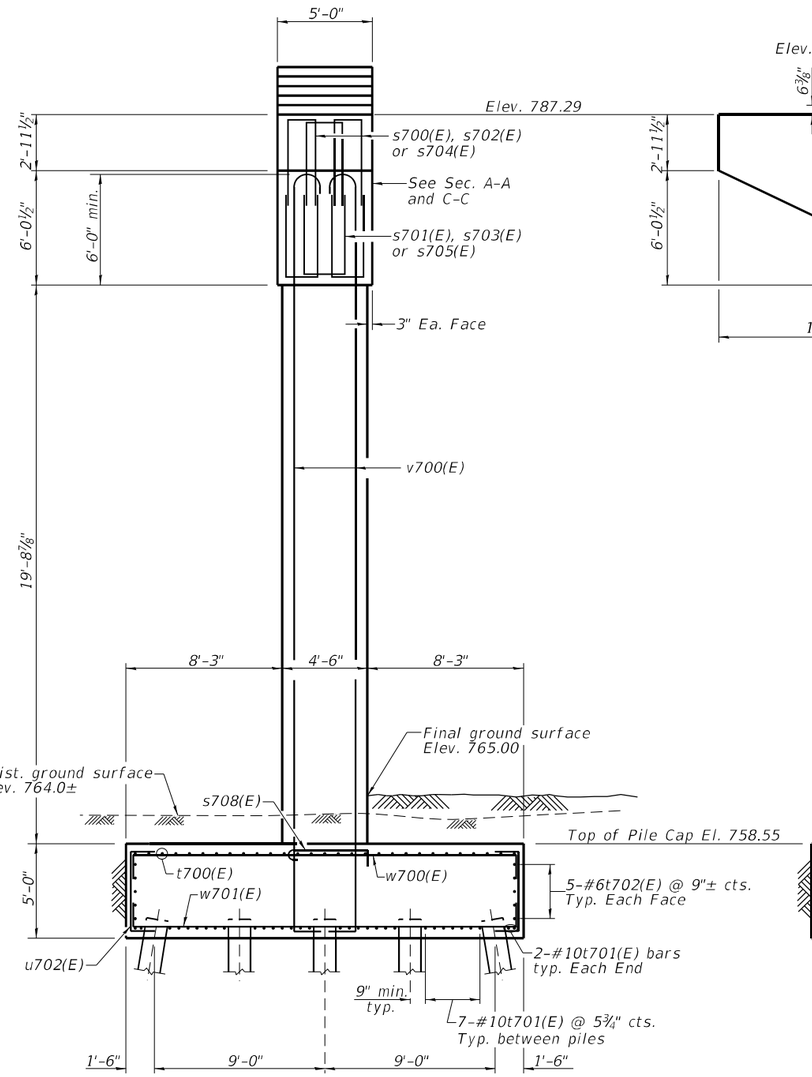
A & B DIMENSIONS

Bar	A	B
s700(E)	2'-0"	3'-8"
s701(E)	2'-6"	3'-8"
s702(E)	2'-0"	5'-0"
s703(E)	2'-6"	5'-0"
s704(E)	2'-0"	6'-9"
s705(E)	2'-6"	6'-9"
s706(E)	3'-1"	6'-9"
t700(E)	30'-2"	1'-0"
t701(E)	30'-2"	1'-10"
t702(E)	29'-11"	1'-0"
u700(E)	4'-6"	3'-10"
u701(E)	4'-8"	3'-10"
u702(E)	4'-7"	1'-0"
u703(E)	4'-2"	3'-2"
w700(E)	20'-8"	1'-0"
w701(E)	20'-8"	1'-10"
w702(E)	20'-5"	1'-0"

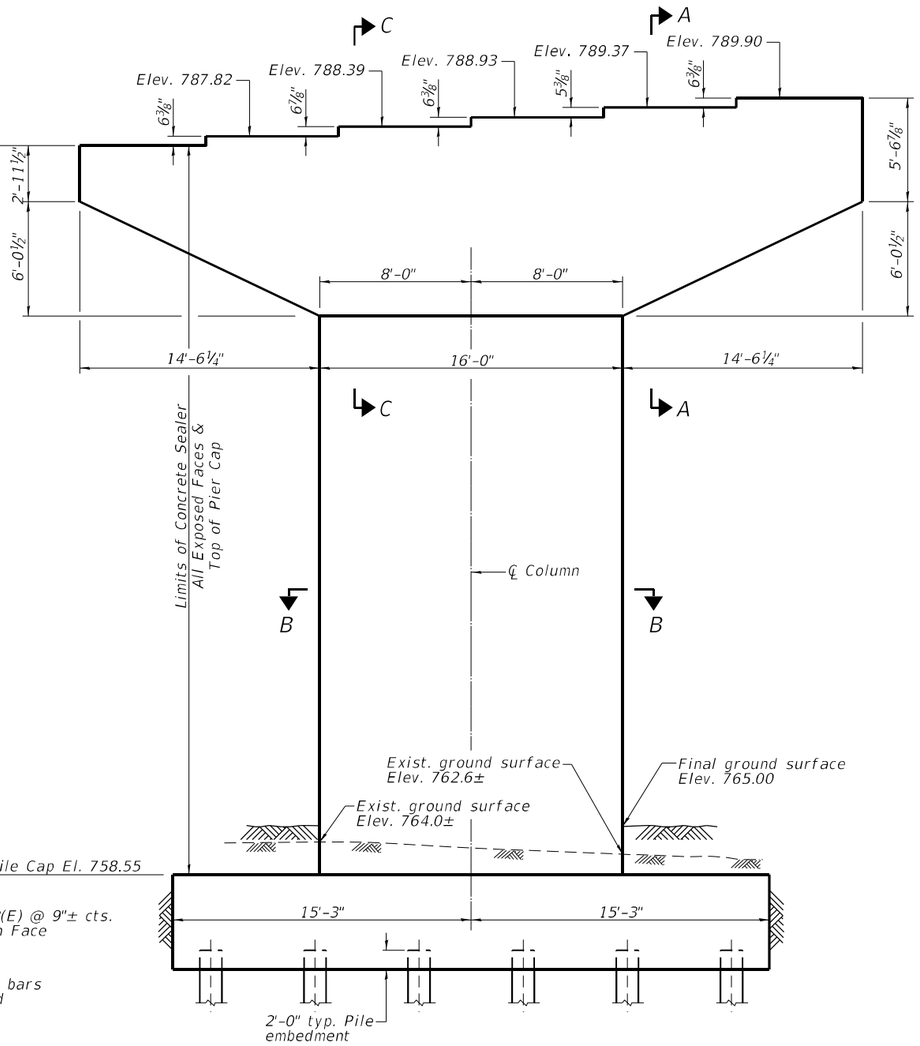
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h700(E)	8	#6	44'-8"	
h701(E)	2	#6	43'-6"	
h702(E)	2	#6	40'-4"	
h703(E)	2	#6	35'-7"	
h704(E)	2	#6	30'-9"	
h705(E)	24	#6	6'-8"	
h706(E)	12	#6	8'-2"	
h707(E)	138	#5	15'-8"	
h708(E)	2	#6	26'-0"	
h709(E)	2	#6	21'-2"	
p700(E)	9	#11	48'-8"	
p701(E)	9	#11	44'-8"	
p702(E)	12	#8	27'-3"	
s700(E)	20	#5	9'-4"	
s701(E)	10	#5	9'-10"	
s702(E)	64	#5	12'-0"	
s703(E)	32	#5	12'-6"	
s704(E)	124	#5	15'-6"	
s705(E)	62	#5	16'-0"	
s706(E)	60	#5	16'-7"	
s708(E)	720	#5	5'-6"	
s709(E)	120	#5	17'-0"	
t700(E)	29	#6	32'-2"	
t701(E)	32	#10	33'-10"	
t702(E)	10	#6	31'-11"	
u700(E)	8	#6	12'-2"	
u701(E)	45	#6	12'-4"	
u702(E)	106	#6	6'-7"	
u703(E)	138	#5	10'-6"	
v700(E)	54	#11	34'-1"	
w700(E)	42	#6	22'-8"	
w701(E)	54	#10	24'-4"	
w702(E)	10	#6	22'-5"	

Structure Excavation	Cu. Yd.	342
Concrete Structures	Cu. Yd.	241.2
Reinforcement Bars, Epoxy Coated	Pound	48,240
Furnishing Metal Shell Piles 16"x.312"	Foot	1,914
Driving Piles	Foot	1,914
Test Pile metal Shell	Each	1
Pile shoes	Each	30
Concrete Sealer	Sq. Ft.	2,202

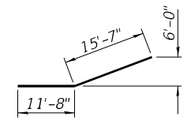


END VIEW

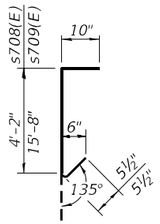


ELEVATION

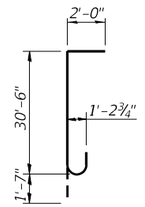
(Looking Upstation)



BAR p702(E)



BAR s708(E) & s709(E)



BAR v700(E)

MIN. LAP LENGTH

#5 bars: 3'-2"
#6 bars: 3'-10"

NOTES:

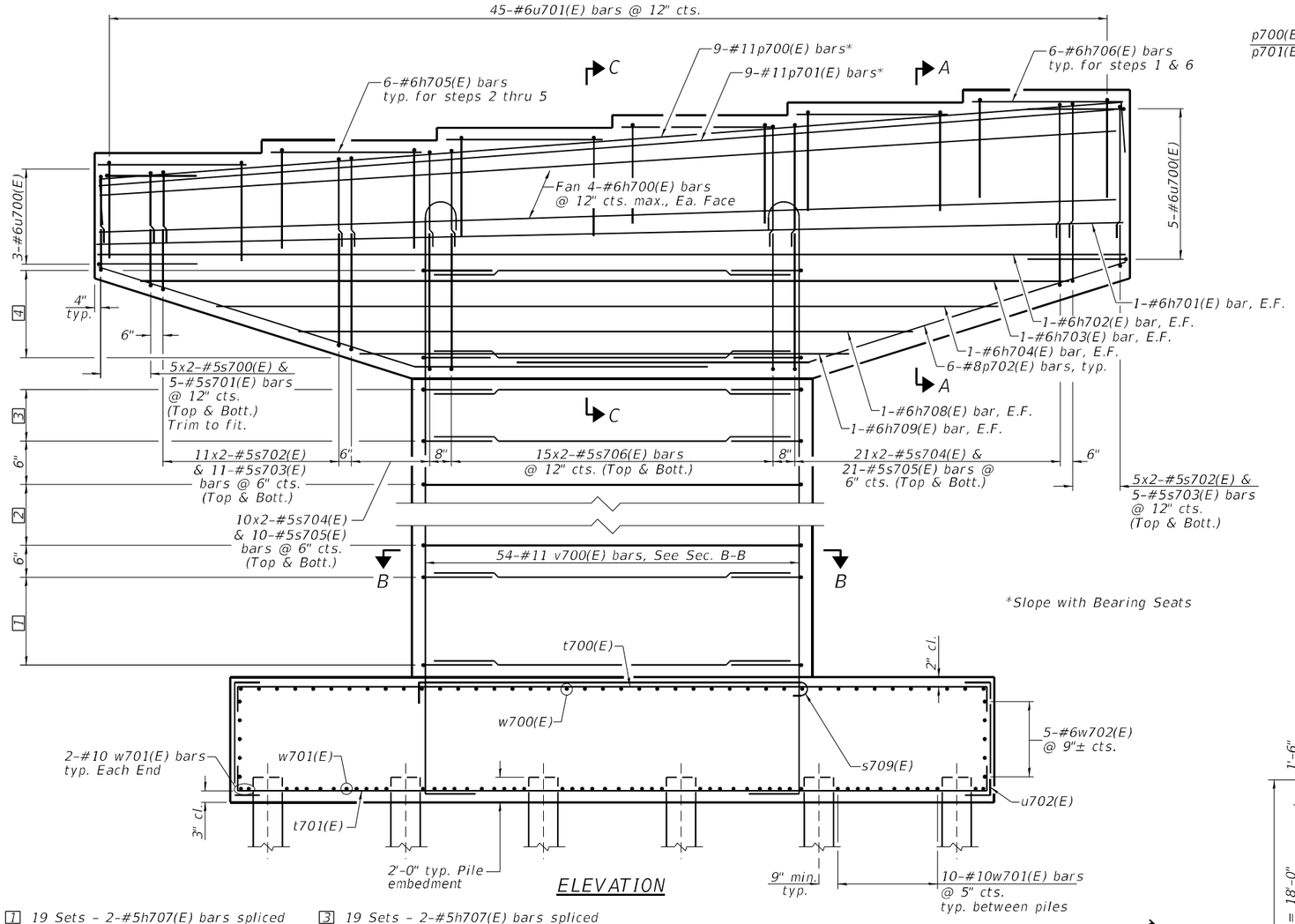
1. Pour steps monolithically with cap.
2. For Anchor Bolts Details see sheet S-46
3. See sheet S-84 of S-106 for Sections A-A, B-B & C-C
4. Reinforcement bar bending dimensions are out to out.

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
		CHECKED - JDJ	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 – PLAN AND ELEVATION
STRUCTURE NO. 010–1001
SHEET NO. S-83 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	725
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



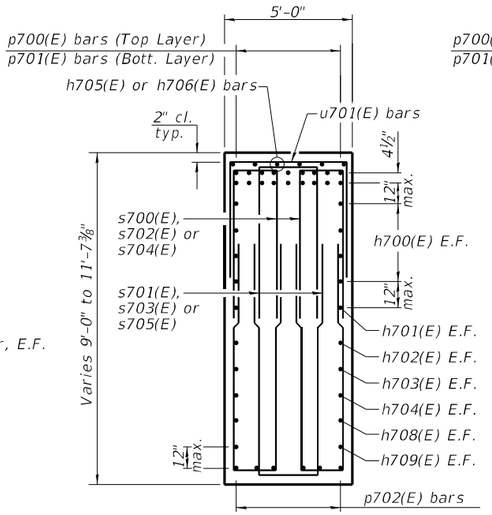
ELEVATION

1 19 Sets - 2-#5h707(E) bars spliced with 2-#5u703(E), 12-#5s708(E) & 2-#5s709(E) at 3" cts.

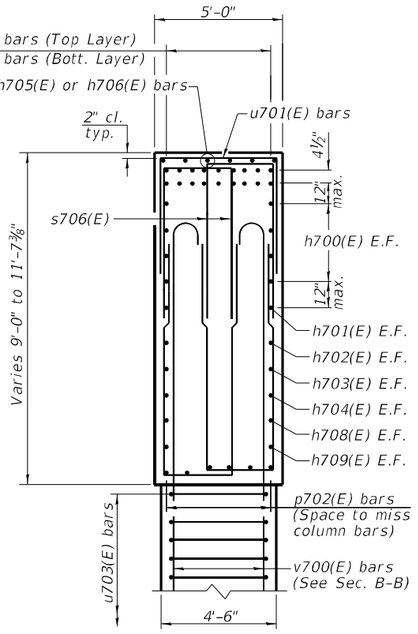
2 21 Sets - 2-#5h707(E) bars spliced with 2-#5u703(E), 12-#5s708(E) & 2-#5s709(E) at 6"± cts.

3 19 Sets - 2-#5h707(E) bars spliced with 2-#5u703(E), 12-#5s708(E), & 2#5s709(E) at 3" cts.

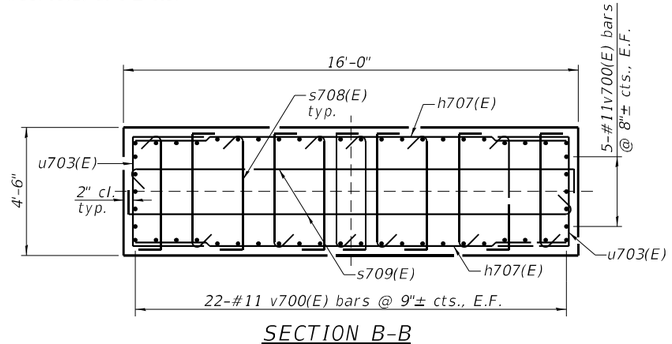
4 10 Sets - 2-#5h707(E) bars spliced with 2-#5u703(E) at 3" cts.



SECTION A-A



SECTION C-C



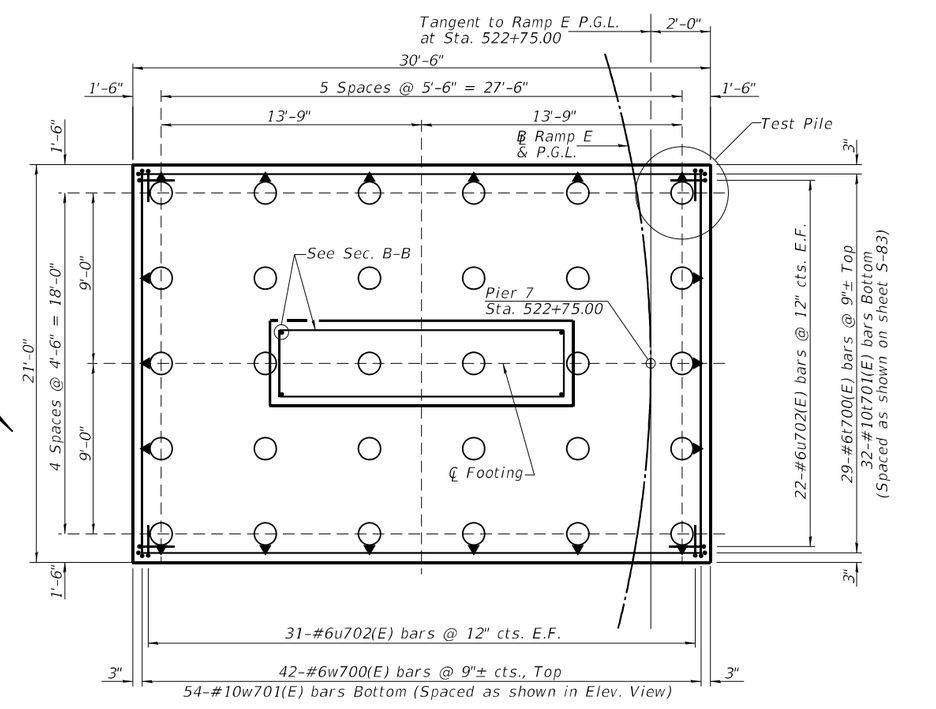
SECTION B-B

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. 4:12 Batter on outside piles.
3. A single layer of cross ties s708(E) & s709(E) shall be provided across the top layer of footing reinforcement.
4. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

PILE DATA

Type: Steel Metal Shell, 16"Ø w/.312" walls with pile shoes
Nominal Required Bearing: 586 kips
Factored Resistance Available: 322 kips
Est. Length: 66'
No. Production Piles: 29
No. Test Piles: 1



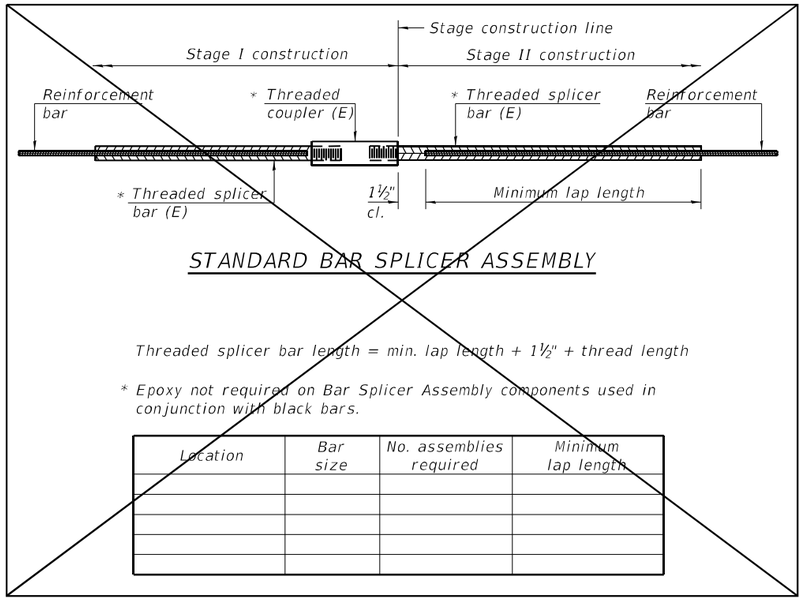
FOOTING PLAN

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
License No. 184-000613 © Copyright CMT, Inc.		CHECKED - JDJ	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-84 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	726
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		

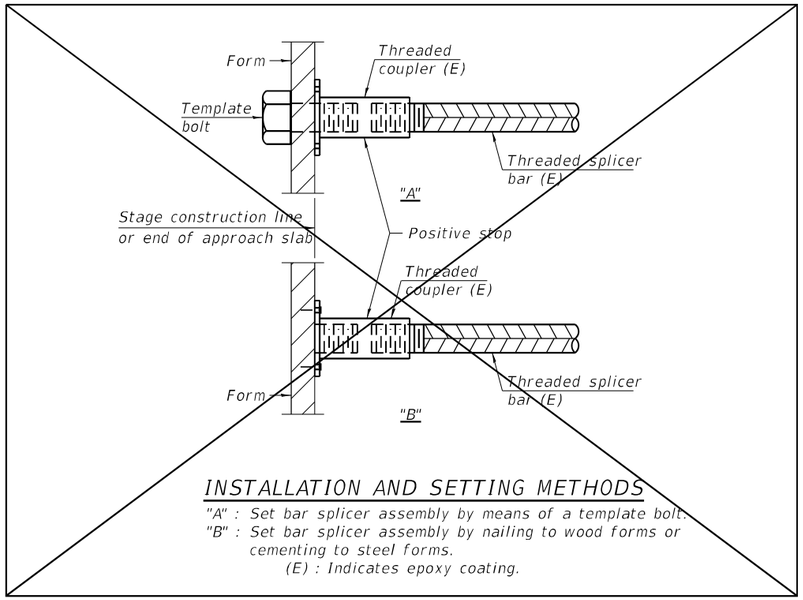


STANDARD BAR SPLICER ASSEMBLY

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

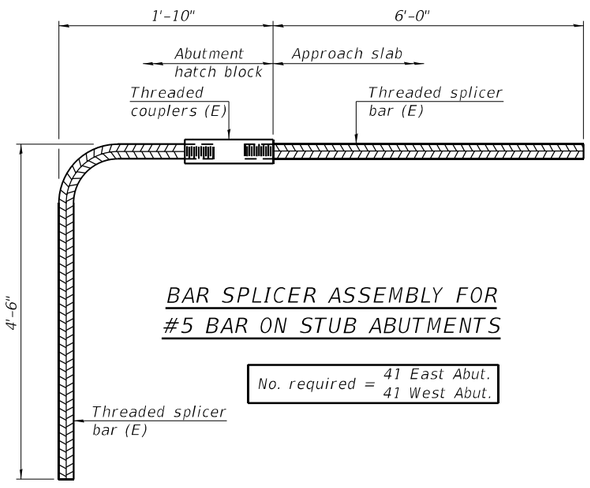
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	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.



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 41 East Abut.
41 West Abut.

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.

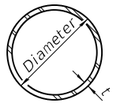
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

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

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
		CHECKED - RJK	REVISED -	
	PLOT SCALE = NA	DRAWN - GLD	REVISED -	
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -	

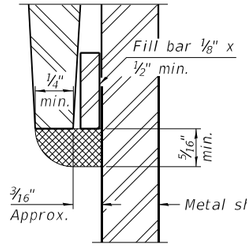
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 010-1001
SHEET NO. S-85 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	727
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

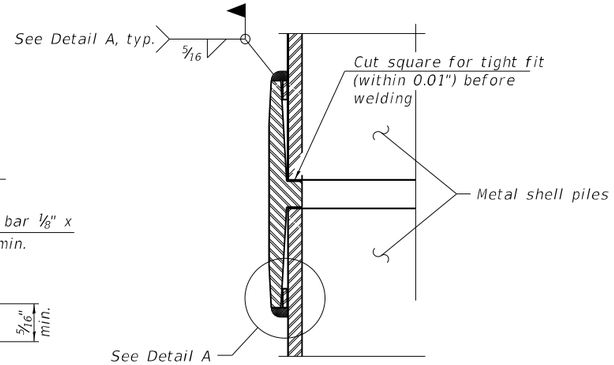


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd.³/ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470

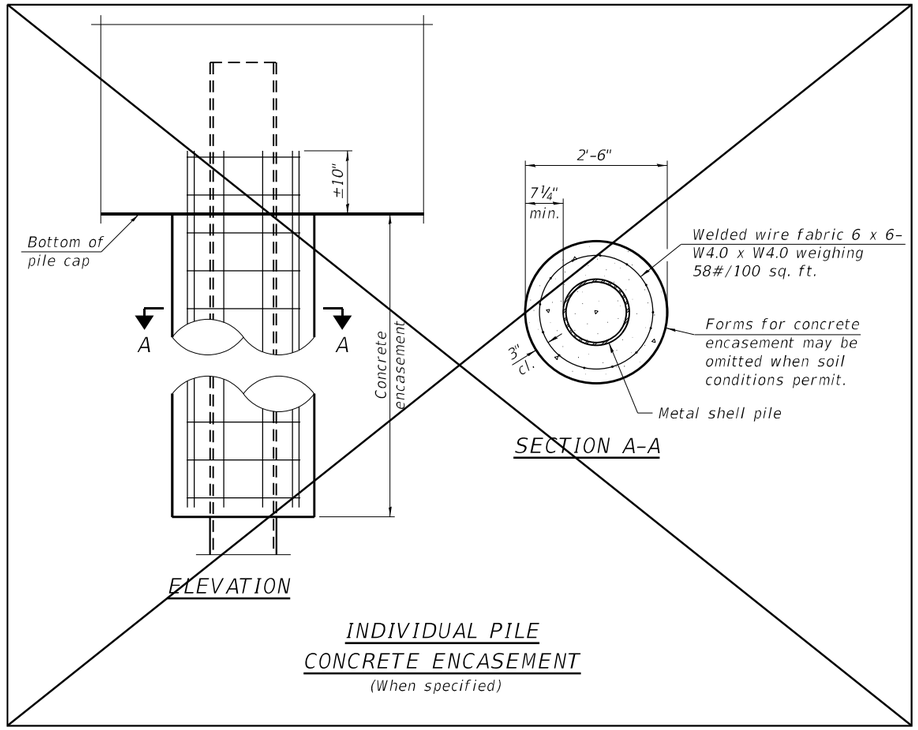


DETAIL A



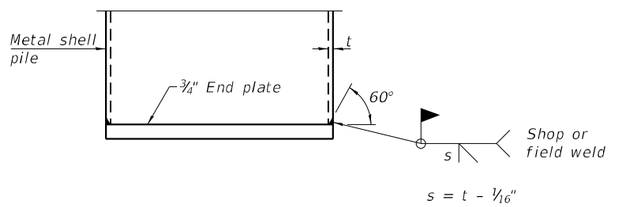
WELDED COMMERCIAL SPLICE

Notes:
The ⅛" x ½" min. fill bar may be constructed of 2 bars with a ⅛" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.



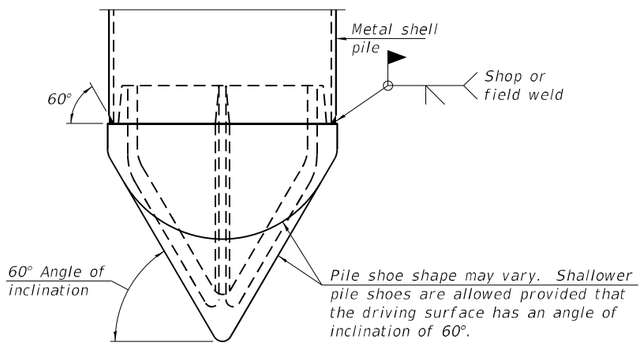
INDIVIDUAL PILE CONCRETE ENCASEMENT

(When specified)



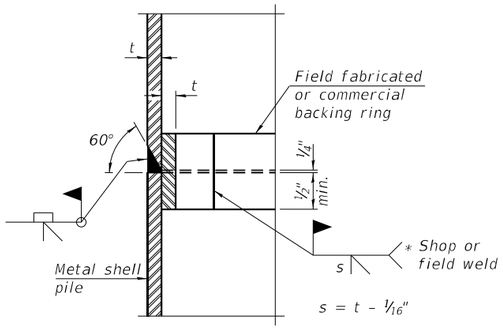
$s = t - \frac{1}{16}"$

END PLATE ATTACHMENT



PILE SHOE ATTACHMENT

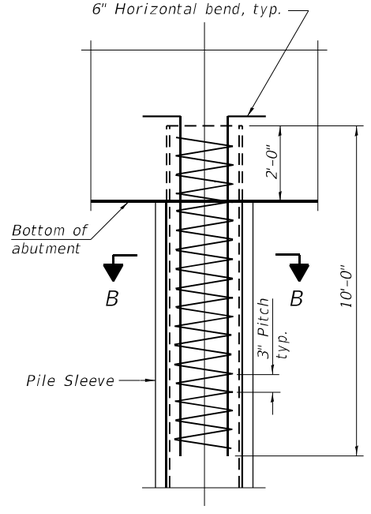
(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).



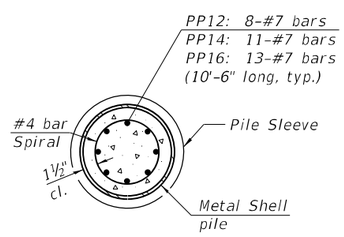
$s = t - \frac{1}{16}"$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

NOTES:

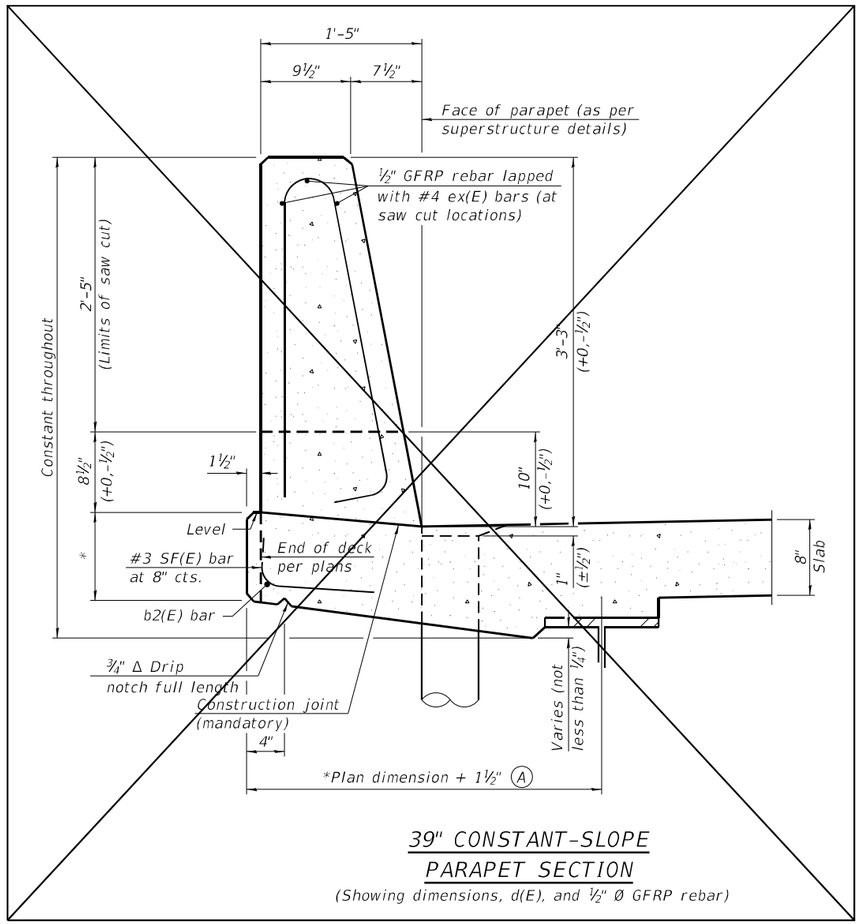
1. Set pile sleeves prior to construction of the MSE walls. Sleeves shall extend from the bottom of the abutment to a minimum of 1'-0" below the bottom of the leveling pad of the MSE Wall.
2. Do not fill annulus between pile and pile sleeve. Provide fabric around top of pile sleeve.
3. Cost of pile sleeves, setting pile sleeves, furnishing and placing filter fabric is included in the cost of Furnishing Metal Shell Piles, 12"x0.25".
4. Pile sleeve size and material shall be approved by the engineer.

REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

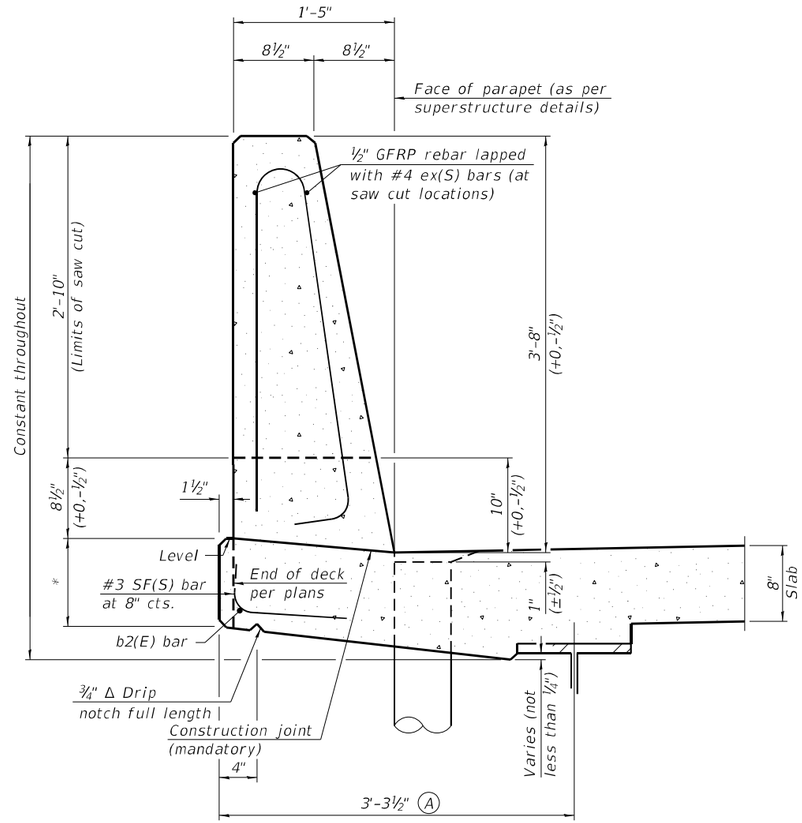
FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	METAL SHELL PILE DETAILS STRUCTURE NO. 010-1001
CMT License No. 184-000613		CHECKED - RJK	REVISED -		SHEET NO. S-86 OF S-106 SHEETS
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	728
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



39" CONSTANT-SLOPE PARAPET SECTION

(Showing dimensions, d(E), and ½" Ø GFRP rebar)



44" CONSTANT-SLOPE PARAPET SECTION

(Showing dimensions, d(S), and ½" Ø GFRP rebar)

*See Superstructure Details.

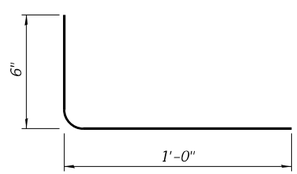
Notes:

All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.

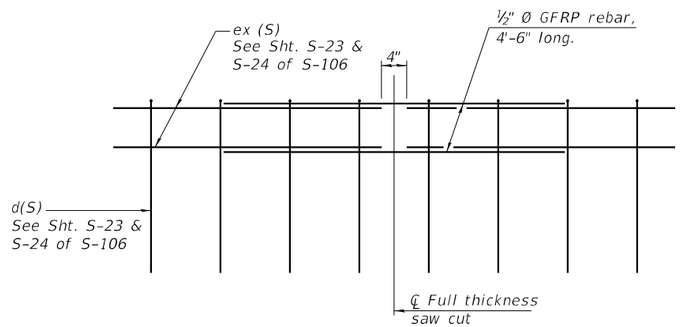
Place full depth aluminum sheets as shown on superstructure details.

Replace all cork joint filler locations with a full thickness saw cut.

Steel superstructure shown. Other superstructure types similar.



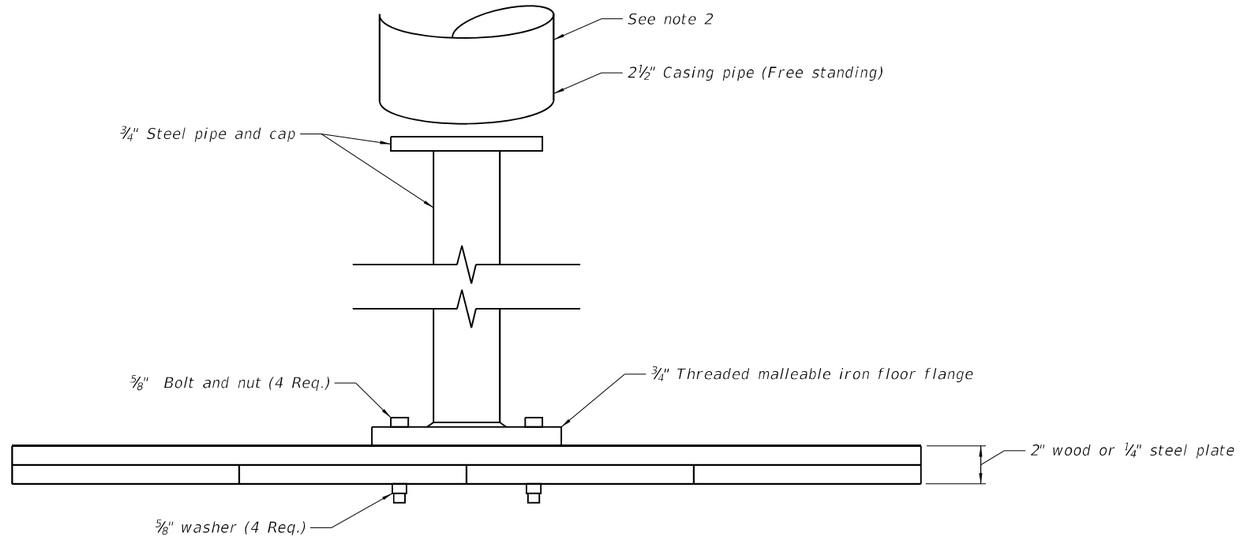
#3 SF (S) BAR



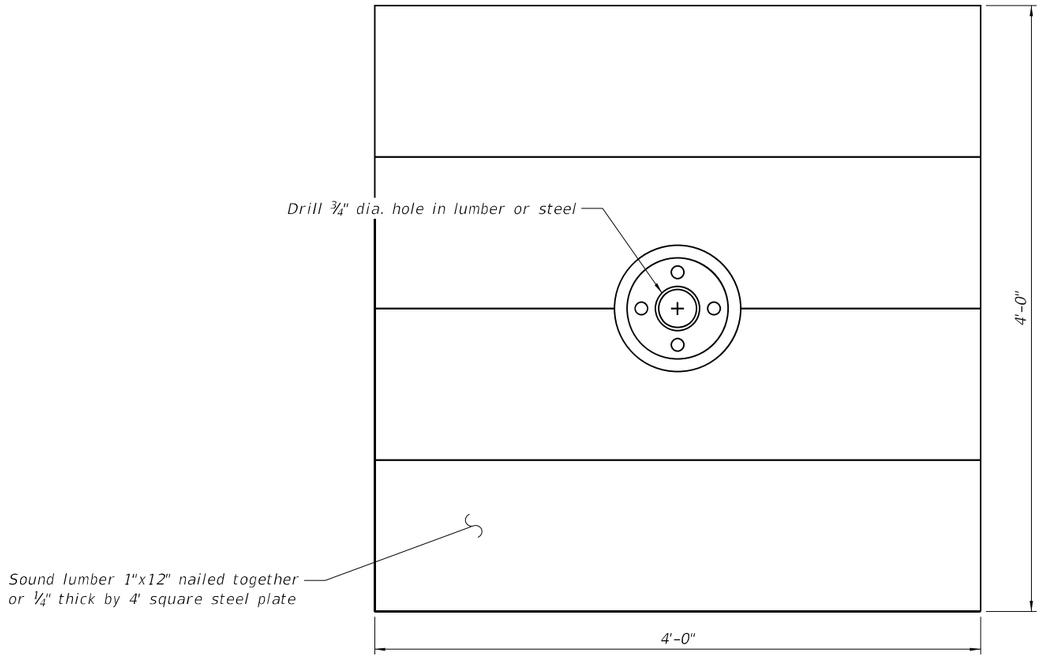
GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE PARAPET SLIPFORMING OPTION STRUCTURE NO. 010-1001	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CMT License No. 184-000613		CHECKED - RJK	REVISED -			74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	729
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		SHEET NO. S-87 OF S-106 SHEETS			CONTRACT NO. 70B99		
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -				ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

NOTES:

1. Settlement platform shall be in accordance with the applicable portions of Article 204.06 of the Standard Specifications.
2. Do not install casing pipe until after one section of ¾" steel pipe has been covered with earth. The casing pipe should not rest on platform.

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SETTLEMENT PLATFORM STRUCTURE NO. 010–1001	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - DH	REVISED -			74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	730
	PLOT SCALE = NA	DRAWN - MAC	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-88 OF S-106 SHEETS			ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 1/27/15

ROUTE	I-57/74
DESCRIPTION	EAST ~~South~~ Abut - Ramp E MSE Wall
LOGGED BY	TC
SECTION	(10-34-1) HBK ~~[illegible]~~
LOCATION	SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144661, Longitude -88.280481
COUNTY	Champaign
DRILLING METHOD	HSA
HAMMER TYPE	Auto
STRUCT. NO.	010-1001
Station	516+05.45
BORING NO.	B-18
Station	506+81.72
Offset	5.1 ft RT
Ground Surface Elev.	754.24 ft
Surface Water Elev.	n/a ft
Stream Bed Elev.	ft
Groundwater Elev.: First Encounter	702.2 ft ▼
Upon Completion	ft
After ___ Hrs.	ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, dark brown	753.24				
SILTY CLAY LOAM: Gray to Brown, medium, moist			1 4 3	0.8 B	26
	751.24				
SILTY CLAY LOAM: Gray to Brown, soft, moist		-5	1 1 1	0.3 B	23
	748.74				
SAND: Brown, medium dense, wet, coarse			5 5 9		17
	746.24				
SILTY CLAY TILL: Gray, soft, wet		-10	3 5 8	0.4 B	13
	743.74				
SILTY CLAY LOAM: Brown, stiff, moist			3 5 7	1.1 B	14
	741.24				
SILTY CLAY TILL: Gray, stiff, moist		-15	6 7 11	1.7 B	11
			3 6 9	1.2 B	12
		-20	6 8 10	1.4 B	11
SILTY CLAY TILL: Gray, stiff, moist *(continued)*		-25	6 8 12	1.2 B	11
		-30	5 7 8	1.5 B	11
	722.74				
SILTY CLAY TILL: Gray, soft, moist, trace sand		-35	5 13 13	0.5 P	10
	717.74				
SILTY CLAY TILL: Gray, stiff, moist		-40	6 8 11	1.3 B	12

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 1/27/15

ROUTE	I-57/74
DESCRIPTION	EAST ~~South~~ Abut - Ramp E MSE Wall
LOGGED BY	TC
SECTION	(10-34-1) HBK ~~[illegible]~~
LOCATION	SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144661, Longitude -88.280481
COUNTY	Champaign
DRILLING METHOD	HSA
HAMMER TYPE	Auto
STRUCT. NO.	010-1001
Station	516+05.45
BORING NO.	B-18
Station	506+81.72
Offset	5.1 ft RT
Ground Surface Elev.	754.24 ft
Surface Water Elev.	n/a ft
Stream Bed Elev.	ft
Groundwater Elev.: First Encounter	702.2 ft ▼
Upon Completion	ft
After ___ Hrs.	ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff, moist *(continued)*		-45	7 9 12	1.4 B	12
		-50	6 9 15	1.4 B	12
	702.24 ▼				
SILTY CLAY TILL: Gray, stiff, wet		-55	5 7 11	1.3 B	14
		-60	6 10 15	1.7 B	14
SILTY CLAY TILL: Gray, stiff, wet *(continued)*		-65	4 9 12	1.6 B	13
	687.24				
SILTY CLAY TILL: Gray, very stiff, moist		-70	7 10 15	2.1 B	13
	682.74				
SILTY CLAY TILL: Gray, stiff, moist		-75	6 9 15	1.5 B	13
	679.24				
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/3/15

ROUTE I-57/74 DESCRIPTION Pier 1 Pier Boring Ramp E LOGGED BY TC

SECTION (10-34-1) HBK 10(5xxRSx1xx1x1x6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144966, Longitude -88.281075

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-19
Station 508+81.19
Offset 1.4 ft RT
Ground Surface Elev. 756.38 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ____ ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6" TOPSOIL	755.88				
SILTY CLAY LOAM: Brown, medium			2 / 2 / 4	0.7 B	31
	753.38				
SILTY CLAY LOAM: Brown, soft		-5	1 / 2 / 3	0.4 B	28
			1 / 2 / 2	0.5 B	29
	748.38				
SANDY CLAY LOAM: Brown, stiff		-10	18 / 15 / 4	1.8 P	14
			12 / 23 / 11	1.5 P	16
	743.38				
SANDY CLAY LOAM: Gray, stiff		-15	4 / 6 / 8	1.9 B	13
	740.88				
SILTY CLAY TILL: Gray, stiff			3 / 8 / 8	2.9 B	12
		-20	3 / 6 / 7	2.3 B	12
SILTY CLAY TILL: Gray, stiff *(continued)*		-25	4 / 7 / 9	2.3 B	12
	729.38				
SANDY CLAY TILL: Gray, very stiff		-30	6 / 12 / 19	3.3 B	9
	724.38				
SILTY SAND: Gray, dense		-35	6 / 14 / 19		9
	719.38				
SILTY CLAY TILL: Gray, very stiff		-40	4 / 6 / 11	2.4 B	13
water in pipe					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/3/15

ROUTE I-57/74 DESCRIPTION Pier 1 Pier Boring Ramp E LOGGED BY TC

SECTION (10-34-1) HBK 10(5xxRSx1xx1x1x6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144966, Longitude -88.281075

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-19
Station 508+81.19
Offset 1.4 ft RT
Ground Surface Elev. 756.38 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ____ ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff *(continued)*		-45	5 / 8 / 12	2.1 B	13
	709.38				
SILTY CLAY TILL: Gray, stiff		-50	3 / 6 / 8	2.0 B	14
	704.38				
SILTY CLAY LOAM TILL: Gray, stiff		-55	4 / 9 / 12	1.8 B	13
	699.38				
SILTY CLAY TILL: Gray, stiff		-60	4 / 6 / 11	1.9 B	13
SILTY CLAY TILL: Gray, stiff *(continued)*		-65	3 / 9 / 10	1.7 B	13
	689.38				
SILTY CLAY TILL: Gray, very stiff		-70	5 / 10 / 12	2.9 B	13
	681.38	-75	7 / 11 / 16	2.7 B	13
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/4/15

ROUTE I-57/74 DESCRIPTION Pier 2 Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145200, Longitude -88.281732

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-20A
Station 510+83.87
Offset 1.2 ft LT
Ground Surface Elev. 756.18 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 747.2 ft ▼
Upon Completion washed ft
After ____ Hrs. ____ ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
6" TOPSOIL: Silty Clay, brown	755.68				
SILTY CLAY: Brown, very stiff			7		
			8	3.3	15
	753.18		7	B	
SILTY CLAY: Brown with Gray, medium, trace sand			3		
			4	1.0	17
	750.68	-5	6	B	
SILTY CLAY LOAM: Brown, hard			4		
			8	4.1	13
	748.18		10	B	
SAND: Brown, medium dense, medium to coarse, wet ▼			5		
	746.68		8	3.7	16
SILTY CLAY LOAM TILL: Gray, very stiff to hard		-10	11	B	
			7		
			10	4.5	11
	743.18		10	B	
SILTY CLAY LOAM TILL: Gray, very stiff			4		
			6	3.3	11
		-15	7	B	
			3		
			6	2.5	13
	738.18		7	B	
SILTY CLAY TILL: Gray, stiff			2		
			4	1.8	13
		-20	5	B	

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff *(continued)*	734.18				
SANDY CLAY LOAM TILL: Gray, hard			8		
	731.68		20	3.3	10
SAND: Gray, fine, dense		-25	22	B	
	729.18				
SAND AND GRAVEL: Gray, medium, medium dense					
(washed sand from auger)			7		
			14		11
		-30	8		
	724.18				
SILTY CLAY TILL: Gray, very hard			22		
			22	4.5	14
	721.18	-35	50/1"	P	
End of Boring					
		-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -
CMT		CHECKED - RJK	REVISED -
	PLOT SCALE = NA	DRAWN - GLD	REVISED -
License No. 184-000613 © Copyright CMT, Inc.	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOG – 3
STRUCTURE NO. 010-1001

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	733
		CONTRACT NO. 70B99		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/5/15

ROUTE I-57/74 (10-34-1) HBK DESCRIPTION Pier 2 ~~Xxx~~ Ramp E LOGGED BY TLM

SECTION ~~10(5xx83x1xx1xx1x6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145182, Longitude -88.281730

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-20B
Station 510+80.98
Offset 7.1 ft LT
Ground Surface Elev. 756.18 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 747.2 ft
Upon Completion ft
After 18 Hrs. 711.4 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
BLIND DRILLING			
-5			
-10			
-15			
-20			
BLIND DRILLING *(continued)*			
-25			
-30			
722.68	8		
SILTY CLAY TILL: Gray, hard	14 19	4.5 B	12
-35			
719.68			
SILTY CLAY LOAM TILL: Gray, hard	8		
-40	12 17	4.3 B	13

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/5/15

ROUTE I-57/74 (10-34-1) HBK DESCRIPTION Pier 2 ~~Xxx~~ Ramp E LOGGED BY TLM

SECTION ~~10(5xx83x1xx1xx1x6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145182, Longitude -88.281730

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-20B
Station 510+80.98
Offset 7.1 ft LT
Ground Surface Elev. 756.18 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 747.2 ft
Upon Completion ft
After 18 Hrs. 711.4 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM TILL: Gray, hard *(continued)*			
	6		
711.18 -45	10 14	2.5 B	13
SILTY CLAY LOAM TILL: Gray, very stiff			
2-4-15 Pulley broke on wench Stopped drilling for the day at 11:05 A 2-5-15 Pulley fixed begin drilling at 9:40	7		
-50	8 18	3.3 B	11
cobbly			
	7		
-55	10 14	2.9 B	13
699.18			
SILTY FINE SAND TO SILT: Gray, medium dense	4		
696.68	7	4.5	17
-60	11	P	
SILTY CLAY LOAM TILL: Gray, hard *(continued)*			
cobbly			
3" silt seam @ 63.5'	7		
-65	10 12	2.9 B	14
	6		
2" silt seam @ 69'	10 16	3.1 B	15
-70	6		
	11 13		12
681.18 -75			
End of Boring			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/5/15

ROUTE I-57/74 DESCRIPTION Pier 2 ~~[illegible]~~ Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~[illegible]~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145367, Longitude -88.282250

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-21
Station 512+39.59
Offset 13.5 ft RT
Ground Surface Elev. 759.18 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 732.2 ft ▼
Upon Completion washed ft
After ___ Hrs. ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10" TOPSOIL: Silty Clay, dark brown	758.38				
SILTY CLAY: Brown, very stiff			4		
			7	2.5	24
	756.18		7	B	
SILTY CLAY: Brown, stiff			2		
			4	1.4	21
	753.68	-5	6	B	
SILTY CLAY: Brown, very stiff			3		
			7	2.1	15
	751.18		7	B	
SILTY CLAY TILL: Gray, very stiff			3		
			6	2.1	12
	748.68	-10	8	B	
SILTY CLAY LOAM TILL: Gray, stiff			3		
			5	1.7	12
			7	B	
			3		
			4	1.8	12
		-15	5	B	
			2		
			3	1.2	13
			5	B	
			2		
	739.68		6	1.0	12
		-20	11	B	18

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY SAND: Gray, fine, medium dense *(continued)*	737.18				
SILTY CLAY LOAM TILL: Gray, stiff			3		
			2	1.1	11
	732.18 ▼	-25	6	B	
SAND: Gray, fine to medium, medium dense, trace gravel			7		
			3		18
		-30	16		
washed auger	725.18		3		
SILTY CLAY LOAM TILL: Brown, very stiff			8	3.7	13
		-35	12	B	
			10		
			15	3.9	11
		-40	18	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/5/15

ROUTE I-57/74 DESCRIPTION Pier 2 ~~[illegible]~~ Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~[illegible]~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145367, Longitude -88.282250

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-21
Station 512+39.59
Offset 13.5 ft RT
Ground Surface Elev. 759.18 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 732.2 ft ▼
Upon Completion washed ft
After ___ Hrs. ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM TILL: Brown, very stiff *(continued)*	717.18				
SILTY CLAY TILL: Gray, medium stiff			6		
			8	1.0	14
	712.18	-45	11	B	
SILTY CLAY LOAM TILL: Gray, stiff			2		
			3	1.4	15
	707.18	-50	5	B	
SILTY CLAY LOAM TILL: Gray, very stiff LL: 21 PL:11 PI: 10			4		
			7	2.1	14
	702.18	-55	12	B	
SILT: Gray, hard			5		
			9	4.3	17
4" silt seam @ 59.5'		-60	20	B	

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILT: Gray, hard *(continued)*	698.18				
SILTY CLAY LOAM TILL: Gray, stiff			3		
			6	1.8	13
	692.18	-65	12	B	
CLAY LOAM TILL: Gray, very stiff			4		
			6	2.1	13
		-70	11	B	
			5		
			11	2.1	12
	684.18	-75	14	B	
End of Boring					
		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 5 STRUCTURE NO. 010-1001	F.A.I. RTE. 74 & 57	SECTION (10-34-1) HBK	COUNTY CHAMPAIGN	TOTAL SHEETS 1187	SHEET NO. 735
CMT		CHECKED - RJK	REVISED -					CONTRACT NO. 70B99		
	PLOT SCALE = NA	DRAWN - GLD	REVISED -							
License No. 184-000613 © Copyright CMT, Inc.	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-93 OF S-106 SHEETS		ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/6/15

ROUTE I-57/74 DESCRIPTION Pier 3 ~~XXX~~ Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~10(5-1-RS)xxxxxxx6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.145461, Longitude -88.282938

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-22
Station 514+32.86
Offset 15.9 ft RT
Ground Surface Elev. 780.54 ft

Surface Water Elev. ___ ft
Stream Bed Elev. ___ ft

Groundwater Elev.:
First Encounter 734.0 ft ▼
Upon Completion ___ ft
After ___ Hrs. ___ ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
8" TOPSOIL	779.87				
FILL: Silty Clay, brown, medium			1		
			2	0.8	17
	777.54		4	B	
FILL: Silty Clay, brown, stiff, trace gravel			6		
			9	1.8	9
	775.04	-5	9	B	
FILL: Silty Clay, brown, very stiff, with limestone pieces			5		
			5	2.9	12
			13	B	
			10		
			11	2.3	9
	770.04	-10	13	B	
FILL: Silty Clay, brown, stiff, with pieces of concrete			5		
			14	1.5	12
	767.54		17	P	
FILL: Silty Clay, brown, very stiff			5		
			8	2.9	16
		-15	11	B	
			6		
			9	2.9	14
			9	B	
			4		
			8	4.6	18
	760.54	-20	6	B	
FILL: Silty Clay, brown/gray, stiff			3		
			3	1.7	25
	753.54	-25	4	B	
SILTY CLAY: Brown, very stiff			4		
			6	3.7	14
	748.54	-30	9	B	
SILTY CLAY TILL: Gray, hard			4		
			10	4.7	11
	743.54	-35	10	B	
SILTY CLAY TILL: Gray, very stiff			5		
			10	2.9	11
		-40	12	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/6/15

ROUTE I-57/74 DESCRIPTION Pier 3 ~~XXX~~ Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~10(5-1-RS)xxxxxxx6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.145461, Longitude -88.282938

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-22
Station 514+32.86
Offset 15.9 ft RT
Ground Surface Elev. 780.54 ft

Surface Water Elev. ___ ft
Stream Bed Elev. ___ ft

Groundwater Elev.:
First Encounter 734.0 ft ▼
Upon Completion ___ ft
After ___ Hrs. ___ ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff *(continued)*			4		
			8	2.1	12
		-45	8	B	
	734.04 ▼				
SAND: Gray, dense, medium to coarse, trace gravel	731.54		13		13
SILTY CLAY LOAM TILL: Gray, very stiff			19		
		-50	25	3.7 B	8
	728.04				
SILTY CLAY TILL: Brown, stiff			4		
			7	1.9	14
		-55	10	B	
	723.04				
SILTY CLAY TILL: Gray, very stiff			5		
			8	2.7	12
		-60	11	B	
SILTY CLAY TILL: Gray, very stiff *(continued)*			3		
			6	1.5	14
		-65	7	B	
LL: 22 PL: 13 PI: 9			3		
			6	1.1	14
	708.54	-70	10	B	
SILTY CLAY LOAM TILL: Gray, stiff LL: 21 PL: 12 PI: 9			5		
			9	1.9	13
	705.54	-75	11	B	
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 6 STRUCTURE NO. 010–1001	F.A.I. RTE. 74 & 57 / SECTION (10-34-1) HBK / COUNTY CHAMPAIGN / TOTAL SHEETS 1187 / SHEET NO. 736
		CHECKED - RJK	REVISED -			CONTRACT NO. 70B99
	PLOT SCALE = NA	DRAWN - GLD	REVISED -			
License No. 184-000613 © Copyright CMT, Inc.	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-94 OF S-106 SHEETS	ILLINOIS FED. AID PROJECT

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/9/15

ROUTE I-57/74 DESCRIPTION Pier 4 ~~Pier~~ Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.145461, Longitude -88.283600

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-23
Station 516+15.94
Offset 13.3 ft RT
Ground Surface Elev. 761.81 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 717.8 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, dark brown			
	2		
759.81			
CLAY: Brown, stiff	3 5	2.3 B	25
	2		
	2 2	1.5 B	28
-5			
756.31			
SILTY CLAY: Brown, soft			
755.31	1		
SILTY CLAY: Gray, soft	1 1	0.4 B	29
753.81			
SILTY CLAY: Brown, soft	2		
	3 6	0.7 B	16
-10			
751.31			
SILTY CLAY TILL: Brown/Gray, very stiff	3		
	5 8	2.5 B	13
748.81			
SILTY CLAY TILL: Gray, very stiff	4		
	6 9	2.3 B	12
-15			
746.31			
SILTY CLAY LOAM TILL: Gray, very stiff	3		
	6 8	2.3 B	11
743.81			
SILTY CLAY TILL: Gray, stiff	3		
	4 6	1.8 B	12
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff *(continued)*			
	2		
	4 7	1.4 B	13
-25			
734.81			
SILTY CLAY TILL: Gray, very stiff, with very thin sand seams	4		
	6 8	2.1 B	12
-30			
729.81			
SILTY CLAY LOAM TILL: Gray, soft	3		
	4 6	0.5 B	11
-35			
724.81			
SILTY CLAY LOAM TILL: Gray, very hard	6		
	11 14	8.5 B	11
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/9/15

ROUTE I-57/74 DESCRIPTION Pier 4 ~~Pier~~ Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.145461, Longitude -88.283600

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-23
Station 516+15.94
Offset 13.3 ft RT
Ground Surface Elev. 761.81 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 717.8 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM TILL: Gray, very hard *(continued)*			
▼	4		
	4 7	1.6 B	13
-45			
714.81			
SILTY CLAY TILL: Gray, stiff	3		
	4 6	1.1 B	14
-50			
	4		
	5 8	1.7 B	14
-55			
704.81			
SILTY CLAY TILL: Gray, stiff, with silt seams	3		
	5 7	1.2 B	15
-60			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff, with silt seams *(continued)*			
699.81			
SILTY CLAY TILL: Gray, stiff	3		
	5 7	1.6 B	14
-65			
	4		
	7 8	1.8 B	14
-70			
	6		
	8 9	1.8 B	13
686.81 -75			
End of Boring			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/9/15

ROUTE	I-57/74	DESCRIPTION	Pier 5 ~~Pier~~ Ramp E
LOGGED BY	TLM	SECTION	(10-34-1) HBK ~~10(5-1-RS-1,14-1,6)R~~
LOCATION	, SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145416, Longitude -88.284219	COUNTY	Champaign
DRILLING METHOD	HSA	HAMMER TYPE	AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-24
Station 517+87.57
Offset 19.2 ft RT
Ground Surface Elev. 760.71 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 691.7 ft ▼
Upon Completion ft
After Hrs. ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
5" TOPSOIL: Silty Clay, dark brown — 760.31				
SILTY CLAY: Brown, stiff		2 / 4 / 5	1.2 S	20
	-5	3 / 5 / 4	1.9 B	19
755.21 — SILTY CLAY: Brown/Gray, stiff		3 / 5 / 6	1.5 B	15
752.71 — SILTY CLAY LOAM: Gray, stiff, with silt seams	-10	3 / 6 / 7	1.7 S	14
750.21 — SILTY CLAY: Gray, very stiff		3 / 4 / 8	2.5 B	16
747.71 — SILTY CLAY TILL: Gray, very stiff	-15	3 / 4 / 8	2.1 B	11
		4 / 6 / 8	2.3 B	12
742.71 — SILTY CLAY TILL: Gray, stiff	-20	3 / 7 / 7	1.7 B	13
SILTY CLAY TILL: Gray, stiff *(continued)*				
	-25	3 / 5 / 7	1.7 B	13
	-30	4 / 7 / 8	1.5 P	10
728.71 — SILTY CLAY TILL: Gray, very stiff, with thin sand seams	-35	3 / 5 / 6	2.5 B	12
	-40	7 / 9 / 9		12

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/9/15

ROUTE	I-57/74	DESCRIPTION	Pier 5 ~~Pier~~ Ramp E
LOGGED BY	TLM	SECTION	(10-34-1) HBK ~~10(5-1-RS-1,14-1,6)R~~
LOCATION	, SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145416, Longitude -88.284219	COUNTY	Champaign
DRILLING METHOD	HSA	HAMMER TYPE	AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-24
Station 517+87.57
Offset 19.2 ft RT
Ground Surface Elev. 760.71 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 691.7 ft ▼
Upon Completion ft
After Hrs. ft

Description	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff, with thin sand seams *(continued)*				
718.71 — SILTY CLAY TILL: Gray, stiff, with 4" silt seam @ 44'	-45	5 / 6 / 6	1.7 B	14
Very disturbed sample. Rock in shoe; No Qu.	-50	3 / 6 / 8		15
SILTY CLAY TILL: Gray, stiff	-55	7 / 6 / 7	1.7 B	13
	-60	3 / 4 / 7	1.0 B	14
SILTY CLAY TILL: Gray, stiff, with 4" silt seam @ 44' *(continued)*				
	-65	3 / 5 / 7	1.1 B	13
694.21 — SILTY CLAY LOAM TILL: Gray, very stiff				
Sand fraction is very fine to fine. ▼	-70	3 / 5 / 10	2.2 B	13
689.21 — SILTY CLAY LOAM: Gray, stiff				
685.71	-75	5 / 12 / 16	1.8 B	12
End of Boring	-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME = CMT	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 8 STRUCTURE NO. 010–1001
		CHECKED - RJK	REVISED -		
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-96 OF S-106 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	738
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/10/15

ROUTE I-57/74 DESCRIPTION Pier 6 ~~Pier~~ Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~10(5-1-RS-1-14-1-6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145246, Longitude -88.284863

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-25
Station 519+75.77
Offset 7.9 ft LT
Ground Surface Elev. 763.51 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Dry ft
After Hrs. ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, dark brown to black	762.01				
SILTY CLAY: Brown/Black, stiff			2 / 5 / 9	1.9 B	21
		-5	3 / 4 / 7	1.6 B	14
SILTY CLAY LOAM: Brown, stiff	758.01		3 / 6 / 8	1.2 B	14
SILTY CLAY: Brown, stiff	755.51	-10	3 / 6 / 8	1.5 B	14
1" sand seam @ 9.95 ft.	753.01				
SILTY CLAY: Gray, very stiff, with periodic thin sand seams >1/8"			3 / 6 / 8	2.1 B	11
SILTY CLAY LOAM TILL: Gray, stiff	750.51	-15	3 / 4 / 7	1.8 B	14
CLAY TILL: Gray, stiff	748.01		2 / 4 / 7	1.7 B	18
SILTY CLAY LOAM TILL: Gray, medium	745.51	-20	2 / 4 / 4	1.0 B	12
SILTY CLAY LOAM TILL: Gray, medium *(continued)*					
CLAY TILL: Gray, medium	741.51				
1" sand seam at 24.5 ft.		-25	2 / 3 / 4	0.9 B	15
SILTY CLAY TILL: Gray, stiff	736.51	-30	3 / 5 / 7	1.5 B	12
(<1" recovery, rock in shoe)		-35	3 / 4 / 6		11
SILTY CLAY TILL: Brown, very stiff	726.51	-40	6 / 8 / 10	2.5 B	12

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/10/15

ROUTE I-57/74 DESCRIPTION Pier 6 ~~Pier~~ Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK ~~10(5-1-RS-1-14-1-6)R~~ LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145246, Longitude -88.284863

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-25
Station 519+75.77
Offset 7.9 ft LT
Ground Surface Elev. 763.51 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter Dry ft
Upon Completion Dry ft
After Hrs. ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Brown, very stiff *(continued)*	721.51				
SILTY CLAY TILL: Gray, very stiff, with thin silt seams		-45	3 / 4 / 7	2.1 B	15
SILTY CLAY TILL: Gray, stiff	716.51	-50	3 / 5 / 7	1.7 B	14
(sample very disturbed from rock in shoe)		-55	8 / 11 / 12		14
		-60	3 / 5 / 7	1.3 B	14
SILTY CLAY TILL: Gray, stiff *(continued)*		-65	3 / 6 / 8	1.6 B	13
		-70	3 / 6 / 9	1.9 B	13
	688.51	-75	6 / 7 / 10	1.6 B	13
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 9 STRUCTURE NO. 010–1001	F.A.I. RTE. 74 & 57	SECTION (10-34-1) HBK	COUNTY CHAMPAIGN	TOTAL SHEETS 1187	SHEET NO. 739
CMT		CHECKED - RJK	REVISED -					CONTRACT NO. 70B99		
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		SHEET NO. S-97 OF S-106 SHEETS		ILLINOIS FED. AID PROJECT			
License No. 184-000613 © Copyright CMT, Inc.	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -							

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/10/15

ROUTE	I-57/74
DESCRIPTION	Pier 7 Boring Ramp E
LOGGED BY	TLM
SECTION	(10-34-1) HBK
LOCATION	SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145012, Longitude -88.285624
COUNTY	Champaign
DRILLING METHOD	HSA
HAMMER TYPE	AUTO
STRUCT. NO.	010-1001
Station	516+05.45
BORING NO.	B-26
Station	522+02.29
Offset	21.0 ft RT
Ground Surface Elev.	762.81 ft
Surface Water Elev.	n/a ft
Stream Bed Elev.	ft
Groundwater Elev.: First Encounter	722.8 ft
Upon Completion	ft
After ___ Hrs.	ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, dark brown	760.81		2 / 2 / 3	1.0 P	27
SILTY CLAY: Brown/Gray, soft	757.31	-5	1 / 2 / 3	0.5 B	24
SILTY CLAY: Brown/Gray, medium, trace gravel	754.81		2 / 3 / 3	0.7 B	16
SILTY CLAY: Brown, medium	752.31	-10	1 / 3 / 3	0.7 B	16
SILTY CLAY TILL: Gray, very stiff			2 / 6 / 7	2.1 B	12
		-15	3 / 5 / 6	2.5 B	11
			4 / 5 / 6	2.1 B	12
		-20	4 / 5 / 6	2.1 B	12
SILTY CLAY TILL: Gray, very stiff *(continued)*	740.81				
SILTY CLAY LOAM TILL: Gray, stiff		-25	2 / 4 / 5	1.7 B	13
		-30	2 / 4 / 6	2.0 B	12
	728.31	-35	1 / 6 / 19	3.5 B	9
SILTY CLAY LOAM TILL: Gray, very stiff, with thin silt and sand seams	725.31				
SILTY CLAY TILL: Brown, very stiff		-40	4 / 8 / 9	3.9 B	12

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation

Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/10/15

ROUTE	I-57/74
DESCRIPTION	Pier 7 Boring Ramp E
LOGGED BY	TLM
SECTION	(10-34-1) HBK
LOCATION	SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.145012, Longitude -88.285624
COUNTY	Champaign
DRILLING METHOD	HSA
HAMMER TYPE	AUTO
STRUCT. NO.	010-1001
Station	516+05.45
BORING NO.	B-26
Station	522+02.29
Offset	21.0 ft RT
Ground Surface Elev.	762.81 ft
Surface Water Elev.	n/a ft
Stream Bed Elev.	ft
Groundwater Elev.: First Encounter	722.8 ft
Upon Completion	ft
After ___ Hrs.	ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Brown, very stiff *(continued)*	720.81				
SILTY CLAY TILL: Gray, very stiff		-45	4 / 6 / 7	2.3 B	12
		-50	3 / 5 / 8	2.3 B	12
	710.81				
SILTY CLAY LOAM TILL: Gray, very stiff		-55	3 / 7 / 9	2.3 B	13
		-60	4 / 8 / 9	2.7 B	12
SILTY CLAY LOAM TILL: Gray, very stiff *(continued)*		-65	4 / 7 / 10	2.1 B	12
		-70	4 / 9 / 13	2.7 B	11
	687.81	-75	4 / 9 / 11	2.1 B	13
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/13/15

ROUTE I-57/74 DESCRIPTION WEST Abutment Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.144513, Longitude -88.286391

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-27
Station 524+80.74
Offset 3.1 ft RT
Ground Surface Elev. 766.63 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 729.6 ft ▼
Upon Completion washed ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
765.83			
10" HMA			
	8		
764.63	3 3	1.5 P	22
SILTY CLAY: Brown, stiff			
	3		
-5	4 7	1.7	25
SILTY CLAY: Black, stiff			
	2		
	3 3	1.5 P	20
758.63			
SILTY CLAY: Brown and Gray, soft	1		
-10	1 2	0.3 P	29
756.13			
SILTY CLAY LOAM: Brown, very stiff, possible till	3		
	5 7	3.7 B	12
753.63			
SILTY CLAY LOAM TILL: Brown to Gray, very stiff	4		
-15	7 9	2.7 B	11
751.13			
SILTY CLAY LOAM TILL: Gray, very stiff	3		
	5 6	2.5 B	10
	3		
-20	5 5	2.7 B	11

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY LOAM TILL: Gray, very stiff *(continued)*			
744.13			
SILTY CLAY TILL: Gray, stiff	2		
-25	3 6	1.7 B	12
	5		
No recovery	8 8		
734.63			
SILTY CLAY LOAM TILL: Gray, very stiff	5		
-35	6 9	2.5 B	11
729.63 ▼			
SAND AND GRAVEL: Gray, loose	WR		
-40	WR 6		13

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 2/13/15

ROUTE I-57/74 DESCRIPTION WEST Abutment Boring Ramp E LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.144513, Longitude -88.286391

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE AUTO

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. B-27
Station 524+80.74
Offset 3.1 ft RT
Ground Surface Elev. 766.63 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 729.6 ft ▼
Upon Completion washed ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND AND GRAVEL: Gray, loose *(continued)*			
724.63			
SAND AND GRAVEL: Gray, medium dense sand, fine gravel Washed sand and gravel from auger at 45 ft.	6		
-45	10 15		17
717.63	8		
SILTY CLAY LOAM TILL: Gray, very stiff	7	3.9	11
-50	10	B	
714.63			
SILTY CLAY LOAM TILL: Gray, hard	7		
-55	11 14	7.0 B	12
709.63			
SILTY CLAY TILL: Gray, very stiff	4		
-60	7 12	3.3 B	12

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff *(continued)*			
	4		
-65	8 12	2.7 B	12
	5		
-70	7 11	2.9 B	13
	4		
691.63 -75	9 11	2.1 B	13
End of Boring			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 11 STRUCTURE NO. 010–1001 SHEET NO. S-99 OF S-106 SHEETS
CMT License No. 184-000613		CHECKED - RJK	REVISED -		
	PLOT SCALE = NA	DRAWN - GLD	REVISED -		
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	741
			CONTRACT NO. 70B99	
	ILLINOIS FED. AID PROJECT			

Mc Cleary Engineering
3705 Progress Blvd
Peru, Il 61354
815 780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 7/26/17

ROUTE I-57/74 DESCRIPTION Ramp E, east abutment LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. , TWP. , RNG. ,

Latitude 40.144676, Longitude -88.280732

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EE 2
Station 507+38.00
Offset 35.0 ft Lt.
Ground Surface Elev. 754.39 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 748.4 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	Dark Brown Silty Clay Loam Topsoil			
752.39		3		
	Dark Brown Very Stiff Silty Clay, moist	4 3	3.3 B	22
751.14				
	Loose Loamy Sand and Gravel, wet	2		
		1 1	-	18
-5				
747.09 ▼		5		
	Very Stiff Brown Silty Clay Loam Till, moist	5 4	2.3 B	13
745.39		2		
	Very Stiff to Stiff Gray Silty Clay Loam Till, moist	5 5	3.3 B	13
-10				
		4		
		5 7	2.1 B	12
		3		
		5 6	2.3 B	12
-15				
		4		
		4 5	1.5 P	12
		2		
		3 4	1.0 P	12
-20				

DEPTH (ft)		BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	Very Stiff to Stiff Gray Silty Clay Loam Till, moist *(continued)*			
		2		
		3 5	1.7 B	12
		2		
-25		4 5	1.8 B	11
		7		
		9 11	4.5 B	10
725.39		6	2.0 P	13
724.89	Dense Gray Course Sand and Small Gravel	12		
-30		11	2.5 P	
	Very Stiff Gray Silty Clay Loam Till, moist			
722.39				
	Dense Sandy Loam Till, moist	8		
		15 16	1.5 P	11
719.39				
-35	End of Boring			
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Mc Cleary Engineering
3705 Progress Blvd, Suite 2
Peru, IL 61354
815-780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 7/26/17

ROUTE I-57/74 DESCRIPTION Ramp E, east abutment MSE Wall LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. , TWP. , RNG. ,

Latitude 40.144582, Longitude -88.280339

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EE 5
Station 506+30.00
Offset 8.0 ft Rt.
Ground Surface Elev. 753.62 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 741.6 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Stiff Dark Brown Silty Clay Loam, moist
751.87	3			
	3 4	2.9 B	22	Very Stiff Brown/Gray Silty Clay, moist
750.37				
	2			Very Loose Gray Sandy Loam, some clay, wet
	1 1	-	23	
-5				
748.12				
	3			Medium Dense Loamy Sand and Gravel
	4 6	-	17	
745.62				
	4			Dense Brown Gravel, very angular Limestone pieces
	18 14	-	13	
-10				
743.12				
	8			Very Stiff to Stiff Gray Silty Clay Loam Till
▼	5 8	2.1 B	12	
	4			
	5 8	2.1 B	12	
-15				
	5			
	7 8	3.0 P	12	
	3	ST		Shelby Tube collected from 18.5 ft. to 20.5 ft.
	3 2	1.0 P	11	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Very Stiff to Stiff Gray Silty Clay Loam Till *(continued)*
	4			
	4 6	1.3 B	13	
	3			
	3 6	1.7 B	13	
-25				
	5			
	5 9	1.2 B	12	
	4			
	5 8	1.4 B	11	
-30				
	4			
	7 10	2.5 B	13	
718.62 -35				
				End of Boring
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING LOG

Mc Cleary Engineering
3705 Progress Blvd, Suite 2
Peru, IL 61354
815-780-8486

Solutions You Can Build On

Date 7/25/17

ROUTE I-57/74 **DESCRIPTION** Ramp E, west abut. MSE Ret. Wall **LOGGED BY** TLM

SECTION (10-34-1) HBK ~~10(S-1-RS-14-1.6)R~~ **LOCATION** , SEC. , TWP. , RNG. ,
Latitude 40.144484, **Longitude** -88.286472

COUNTY Champaign **DRILLING METHOD** Mud Rotary **HAMMER TYPE** Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EW 1
Station 525+05.00
Offset 8.0 ft Rt.
Ground Surface Elev. 764.60 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark Brown and Black Silty Clay, organic, moist Shelby tube collected from 1 ft. to 3 ft.				ST	
			3 4 4	1.5 P	27
		-5	3 2 2	1.1 B	33
	759.10			ST	
Soft to Stiff Brown/Gray Silty Clay Loam Shelby Tube collected from 5 ft. to 7 ft.			1 2	0.5 B	18
			4	1.3 B	15
	756.60				
Hard Brown Clay Loam Till		-10	5 7 10	4.5 B	14
	754.10				
Very Stiff Gray Clay Loam Till			5 8 8	2.9 B	12
	751.60				
Hard Gray Clay Loam Till		-15	6 9 11	5.2 B	12
	749.10				
Very Stiff Gray Clay Loam, 2" Gray Fine to Medium Sand Seam at 26.5'			6 9 10	3.3 B	12
		-20	4 6 7	3.1 B	13

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff Gray Clay Loam, 2" Gray Fine to Medium Sand Seam at 26.5' *(continued)*			5 7 9	2.9 B	13
		-25	5 6 8	2.1 B	13
			4 5 5	3.1 B	13
		-30	4 6 8	2.1 B	12
		-35	7 10 13	2.9 B	11
	727.60				
Dense Gray Fine to Medium Sand, trace gravel (<3/8")		-40	7 11 14	-	16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

SOIL BORING LOG

Mc Cleary Engineering
3705 Progress Blvd, Suite 2
Peru, IL 61354
815-780-8486

Solutions You Can Build On

Date 7/25/17

ROUTE I-57/74 **DESCRIPTION** Ramp E, west abut. MSE Ret. Wall **LOGGED BY** TLM

SECTION (10-34-1) HBK ~~10(S-1-RS-14-1.6)R~~ **LOCATION** , SEC. , TWP. , RNG. ,
Latitude 40.144484, **Longitude** -88.286472

COUNTY Champaign **DRILLING METHOD** Mud Rotary **HAMMER TYPE** Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EW 1
Station 525+05.00
Offset 8.0 ft Rt.
Ground Surface Elev. 764.60 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense Gray Fine to Medium Sand, trace gravel (<3/8") *(continued)*		-45	11 21 26	-	17
	717.60				
Very Stiff Silty Clay Loam Till		-50	6 8 11	2.3 B	15
		-55	5 7 13	2.5 B	13
		-60	6 9 15	3.3 B	14

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very Stiff Silty Clay Loam Till *(continued)*		-65	6 10 13	2.9 B	13
		-70	5 10 15	2.1 B	13
	689.60	-75	7 11 15	2.0 P	15
End of Boring		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Mc Cleary Engineering
3705 Progress Blvd
Peru, Il 61354
815 780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 7/24/17

ROUTE I-57/74 DESCRIPTION Ramp E, west abut. MSE Ret. Wall LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. , TWP. , RNG. ,

Latitude 40.143802, Longitude -88.287079

COUNTY Champaign DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EW 8
Station 528+05.55
Offset 22.0 ft Lt.
Ground Surface Elev. 764.25 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Hard Brown Silty Clay
	7			
	7 11	4.5 P	17	
761.00				
	5			Medium Stiff Brown Clay Loam
	3 3	0.6 B	11	
-5				
758.75				
	2			Stiff Brown Silty Clay, trace sand and gravel
	3 2	1.7 B	18	
	3			
	5 5	2.0 B	16	
-10				
753.25				
	6 7	5.0 B	14	Hard Brown Silty Clay Loam Till
752.25				
	9	2.5 P		Very Stiff Gray Silty Clay Loam Till
	4			
	6 7	2.5 P	16	
-15				
748.75				
	4			Stiff Gray Silty Clay Loam Till with large pieces of angular gravel Gravel pieces are sub-rounded to rounded 2" Gray Medium Sand seam at 29'
	4 5	1.3 P	17	
	4			
	5 7	1.7 P	13	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			Stiff Gray Silty Clay Loam Till with large pieces of angular gravel Gravel pieces are sub-rounded to rounded 2" Gray Medium Sand seam at 29' *(continued)*
	5 6	1.3 B	13	
	4			
	5 7	1.7 B	14	
-25				
	6			
	7 10	1.5 P	16	
	4			
	5 7	1.6 B	13	
-30				
732.25				
				Very Stiff Gray Silty Clay Loam Till 2" Gray Fine to Medium Sand seam at 34'
	6			
	6 13	3.3 B	11	
-35				
727.25				
				Dense Gray Gravel (3/8" top size)
	19	-	9	
724.75	16			
-40	16	2.5P		Very Stiff Gray Silty Clay Loam Till

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Mc Cleary Engineering
3705 Progress Blvd
Peru, Il 61354
815 780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 7/24/17

ROUTE I-57/74 DESCRIPTION Ramp E, west abut. MSE Ret. Wall LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION , SEC. , TWP. , RNG. ,

Latitude 40.143802, Longitude -88.287079

COUNTY Champaign DRILLING METHOD Mud Rotary HAMMER TYPE Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. EW 8
Station 528+05.55
Offset 22.0 ft Lt.
Ground Surface Elev. 764.25 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very Stiff Gray Silty Clay Loam Till *(continued)*
720.25	13			
				Dense Gray Silty Fine Sand
-45	19 19	3.1 B	13	
717.25				
				Dense Gray Clean Medium Sand to Fine Gravel
	12			
	13 13	-	13	
-50				
	19			
709.75	10	3.0	11	
-55	9	P		Very Stiff Gray Clay Loam Till
	8			
	16 13	3.3 B	13	
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Very Stiff Gray Clay Loam Till *(continued)*
	8			
	11 15	3.3 B	13	
-65				
	6			
	7 11	2.3 B	14	
-70				
	6			
	9 12	1.7 B	15	
689.25 -75				End of Boring
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

McCleary Engineering
3705 Progress Blvd, Ste 2
Peru, Illinois 61354
815-780-8486

Solutions You Can Build On

SOIL BORING LOG

Date 2/12/19

ROUTE I-57/74 **DESCRIPTION** Ramp E MSE Retaining Wall W. Abut. **LOGGED BY** TLM

SECTION (10-34-1) HBK ~~XX(5-1xRS-1,14-1,8)R~~ **LOCATION** SE 1/4, **SEC.** 34, **TWP.** 20N, **RNG.** 8E, 3rd **PM**, **Latitude** 40.144404, **Longitude** 88.28635

COUNTY Champaign **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. E-101 Shld. of Exist. Ramp
Station 525+00
Offset 33.5 ft Lt.
Ground Surface Elev. 765.76 ft

Surface Water Elev. - ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 731.8 ft ▼
Upon Completion 733.8 ft ▽
After - **Hrs.** - ft

Description	Elev. (ft)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
HMA Shoulder	765.26				
Frozen brown/gray Silty Clay fill, moist	764.26		3		
Frost			5	4.5	14
			8	P	
	762.76				
Stiff black Silty Clay Topsoil			2		
	761.26		4	3.1	27
Very stiff gray/brown Clay, moist		-5	5	B	
	760.26				
Stiff brown Silty Clay, moist			2		
			2	1.7	23
			3	B	
	757.76				
Soft brown Silty Clay			1		
			2	0.3	25
		-10	2	B	
			1		
	753.76		3	2.1	17
Very stiff brown Silty Clay Loam Till, moist			7	B	
			4		
			6	3.5	15
		-15	8	P	
	750.26				
Hard to very stiff gray Clay Loam Till, moist			5		
			6	5.0	11
			9	B	
			4		
			6	2.3	12
		-20	7	B	
Hard to very stiff gray Clay Loam Till, moist *(continued)*			4		
			6	2.3	12
			7	B	
			4		
			6	2.3	12
		-25	7	B	
			4		
			6	2.1	12
			7	B	
			4		
			5	2.5	12
		-30	7	B	
▽					
	731.76 ▼		4		
Loose gray Medium Coarse Sand	731.26		4	2.5	12
Very stiff to hard gray Clay Loam Till w/sand seams, moist		-35	6	B	
			11		
			15	3.7	17
End of Boring	725.76	-40	13	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOG – 16 STRUCTURE NO. 010–1001	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CMT		CHECKED - RJK	REVISED -			74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	746
	PLOT SCALE = NA	DRAWN - GLD	REVISED -					CONTRACT NO. 70B99		
License No. 184-000613 © Copyright CMT, Inc.	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-104 OF S-106 SHEETS		ILLINOIS FED. AID PROJECT			

Mc Cleary Engineering
3705 Progress Blvd, Ste 2
Peru, Illinois 61354
815-780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 2/12/19

ROUTE I-57/74 **DESCRIPTION** Ramp E MSE Retaining Wall W. Abut. **LOGGED BY** TLM

SECTION (10-34-1) HBK **LOCATION** SE 1/4, **SEC.** 34, **TWP.** 20N, **RNG.** 8E, 3rd **PM**,
Latitude 40.144255, **Longitude** 88.286681

COUNTY Champaign **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. E-102 Backslope of Ditch
Station 526+00
Offset 31.2 ft Lt.
Ground Surface Elev. 765.36 ft

Surface Water Elev. - ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 739.9 ft ▼
Upon Completion - ft
After - **Hrs.** - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Black Clay Loam Topsoil
764.19	1			
	2	1.5	17	Brown Clay, moist
	3	B		
	1			
760.86	2	<0.25	26	
-5	1	P		Soft brown Sandy Clay to Clay Loam
759.86				Stiff yellow brown Silty Clay, moist
	0			
	1	1.1	16	
757.36	2	B		Stiff brown Silty Clay Till, moist
	3	1.9	14	
-10	4	B		
754.86				Stiff to hard gray Clay Loam Till
	3			
	5	2.3	12	
	7	B		
	4			
	7	3.9	11	
-15	10	S		
	6			
	8	4.1	11	
	11	B		
	4			
	7	3.9	11	
-20	9	B		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Stiff to hard gray Clay Loam Till *(continued)*
	3			
	5	2.3	15	
	6	B		
	3			
	5	1.6	13	
-25	6	B		
739.86 ▼				Very stiff gray Silty Clay Loam Till w/ 2" sand seams spaced 4" apart, sand is wet, SiCL is moist
	4			
	5	3.7	12	
	5	B		
736.36	2			
	4	3.5	11	Very stiff to stiff gray Clay Loam Till, moist
-30	6	B		
	5			
	6	1.9	11	
-35	9	B		
	4			
	3	1.5	10	
-40	2	B		End of Boring
725.36				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Mc Cleary Engineering
3705 Progress Blvd, Ste 2
Peru, Illinois 61354
815-780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 2/12/19

ROUTE I-57/74 DESCRIPTION Ramp E MSE Retaining Wall W. Abut. LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION SE 1/4, SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.144031, Longitude 88.286858

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO. E-103 Backslope of Ditch
Station 527+00
Offset 28.6 ft Lt.
Ground Surface Elev. 765.19 ft

Surface Water Elev. - ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 733.2 ft
Upon Completion - ft
After 18 Hrs. 763.2 ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown Silty Clay, moist			
764.02			
	1		
Stiff brown Clay, moist	2	1.3	31
	3	P	
762.19			
Very soft yellow/brown Silty Clay, wet	1		
	0	<0.25	27
-5	1	P	
759.69			
Stiff brown Clay Till, moist	2		
	4	1.7	17
	5	B	
	2		
	4	2.1	17
-10	6	B	
753.69	4		
Stiff gray Clay Loam Till, moist	6	2.1	12
	7	B	
	4		
	4	2.1	13
-15	5	B	
	2		
	3	1.0	13
	5	B	
	2		
	3	1.4	13
-20	4	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff gray Clay Loam Till, moist *(continued)*			
	5		
	5	1.2	13
	7	B	
	3		
	5	1.2	13
-25	6	B	
	3		
	5	1.2	13
	6	B	
	2		
	4	1.0	13
-30	6	P	
733.19			
Gray Clay Loam Till w/ 2" sand seams spaced 6" apart	3		
	5	1.2	11
-35	5	B	
728.19			
Dense Silt Loam Till, moist			
726.19	9		
Medium dense Medium Coarse Sand, wet End of Boring 725.19	8	3.5	13
-40	6	S	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Mc Cleary Engineering
3705 Progress Blvd, Ste 2
Peru, Illinois 61354
815-780-8486

SOIL BORING LOG

Solutions You Can Build On

Date 2/13/19

ROUTE I-57/74 DESCRIPTION Ramp E MSE Retaining Wall LOGGED BY TLM

SECTION (10-34-1) HBK LOCATION SE 1/4, SEC. 34, TWP. 20N, RNG. 8E, 3rd PM,
Latitude 40.144031, Longitude 88.286858

COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. 010-1001
Station 516+05.45

BORING NO E-103ST Backslope of Ditch
Station 527+00
Offset 28.6 ft Lt.
Ground Surface Elev. 765.19 ft

Surface Water Elev. - ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter - ft
Upon Completion - ft
After - Hrs. - ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
761.19			
Very soft yellowish brown Silty Clay, wet		ST	
-5			
759.19			
End of Boring			
-10			
-15			
-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

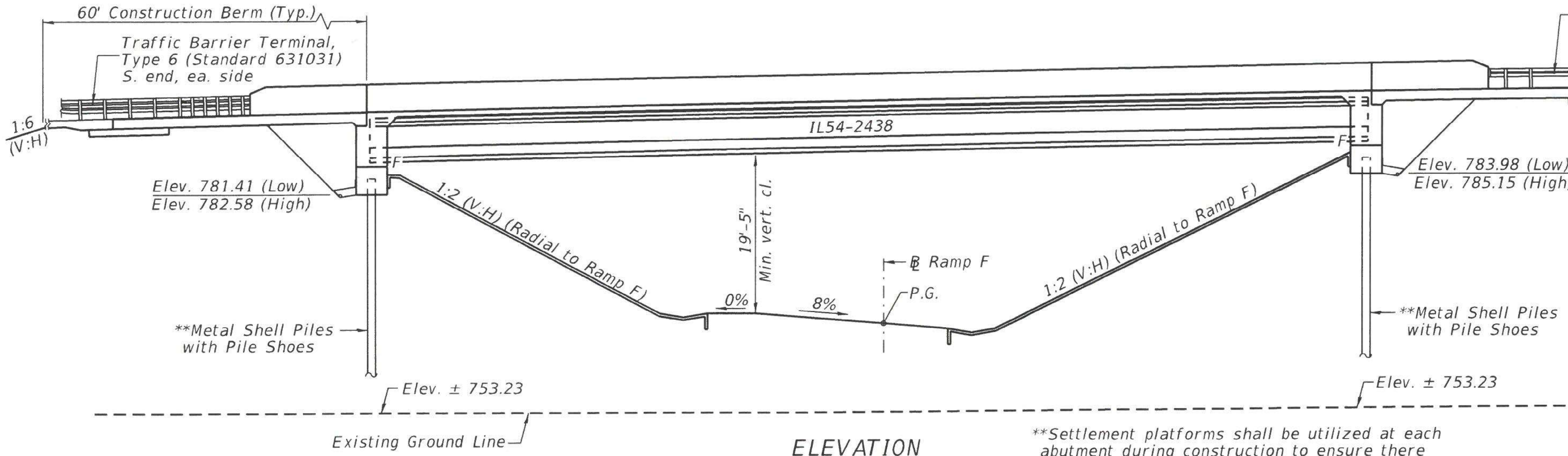
BBS, form 137 (Rev. 8-99)

FILE NAME =	USER NAME = Denise Herrera	DESIGNED - LM	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BORING LOG – 18 STRUCTURE NO. 010–1001**	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CMT License No. 184-000613 © Copyright CMT, Inc.		CHECKED - RJK	REVISED -			74 & 57	(10-34-1) HBK	CHAMPAIGN	1187	748
	PLOT SCALE = NA	DRAWN - GLD	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 05/03/2021	CHECKED - LM	REVISED -		SHEET NO. S-106 OF S-106 SHEETS			ILLINOIS	FED. AID PROJECT	

Bench Mark: Chiseled "□" on top of N.W. corner of light pole foundation #50-107 on Ramp DB, Sta. 1068+46.46 Elev. 769.173

Existing Structure: None

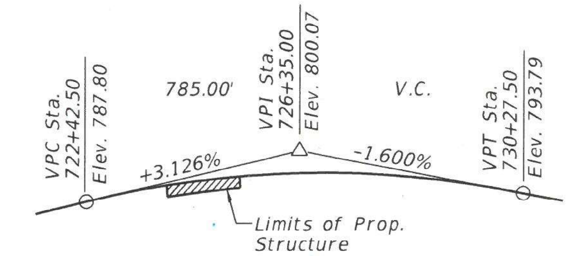
No Salvage



ELEVATION

Note:
Up to ¼" may be ground off the bridge deck and the bridge approach slab.
See Sheet 2 of 30 for Offset Sketch.

**Settlement platforms shall be utilized at each abutment during construction to ensure there is less than 0.4 inches or less left of settlement prior to the installation of the piles to ensure the effects of down drag forces are negligible

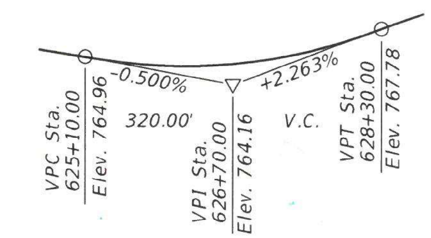


PROFILE GRADE RAMP G
(Along ℄ Ramp G)
Note: The profile grade shows the final elevations after grinding.

INDEX OF SHEETS

PROPOSED RAMP G CURVE DATA

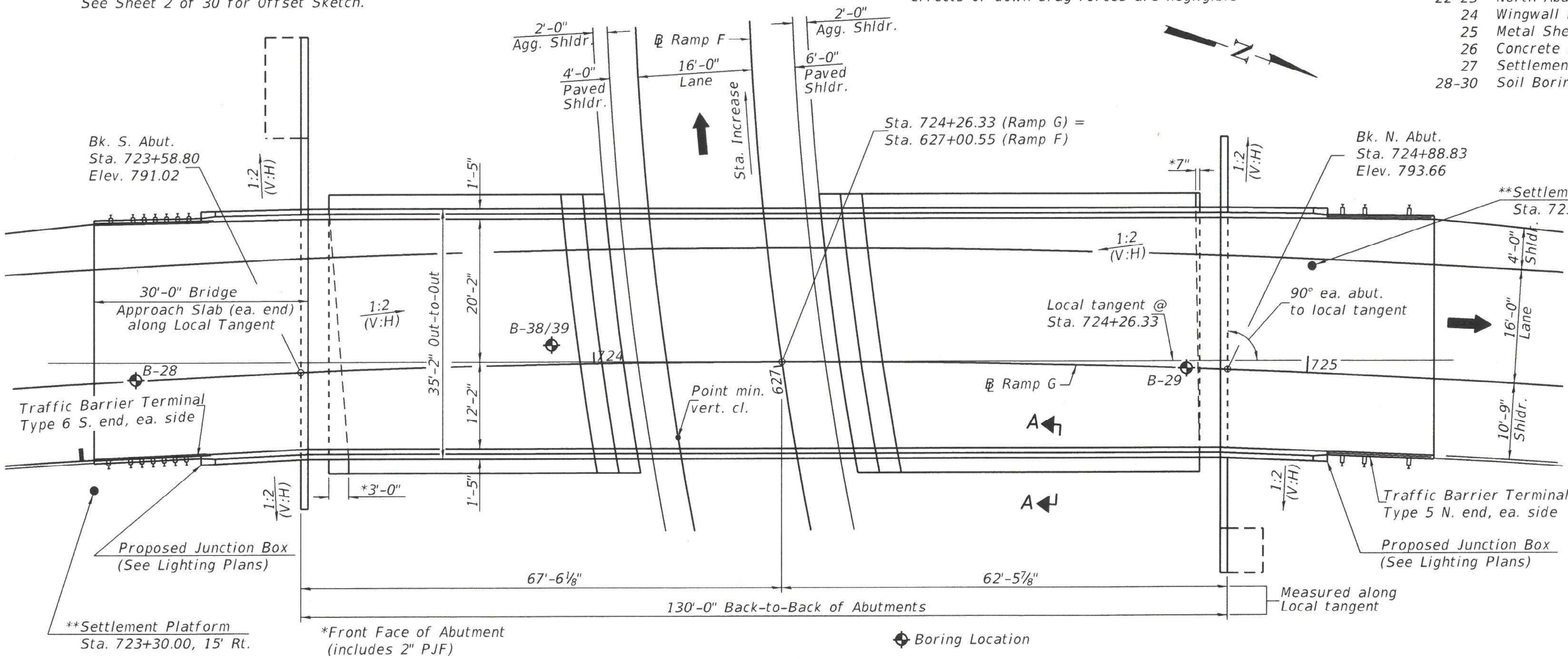
P.I. Sta. = 730+86.74 L = 1,736.70'
Δ = 60°-51'-35"(Rt.) E = 261.20'
D = 3°-30'-16" S.E. = 6.7%
R = 1,635' P.C. Sta. = 721+26.34
T = 960.40' P.T. Sta. = 738+63.05



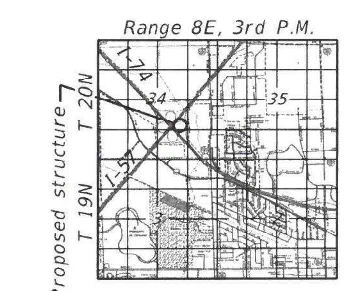
PROFILE GRADE RAMP F
(Along ℄ Ramp F)

PROPOSED RAMP F CURVE DATA

P.I. Sta. = 630+93.16 L = 1041.65'
Δ = 124°-20'-18"(Rt.) E = 548.14'
D = 11°-56'-12" S.E. = 8.0%
R = 480.00' P.C.C. Sta. = 621+83.95
T = 909.21' P.C.C. Sta. = 632+25.60



PLAN



LOCATION SKETCH

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Cast-in-Place)
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 8,500 psi
fci = 6,500 psi
fpu = 270,000 psi (0.6" Ø low lax strands)
fpbt = 202,300 psi (0.6" Ø low lax strands)

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Specifications, 7th Edition w/2015 & 2016 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec (SD1) = 0.135g
Design Spectral Acceleration at 0.2 sec (SDS) = 0.233g
Soil Site Class = D

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

LICENSED STRUCTURAL ENGINEER
GERALD B. ROTHERHAM
081-005673
STATE OF ILLINOIS
[signature]
03/11/2021
Exp. 11/30/2022

GENERAL PLAN & ELEVATION
RAMP G OVER RAMP F
F.A.I. RTE. 57/74
SECTION (10-34-1)HBK
CHAMPAIGN COUNTY
STATION 724+26.33
STRUCTURE NO. 010-1002

FILE NAME = 0101002-70B99-001-GPE.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BFW BACON FARMER WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: 618.997.9196		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 010-1002
SHEET NO. 1 OF 30 SHEETS

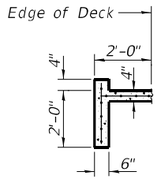
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	749
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

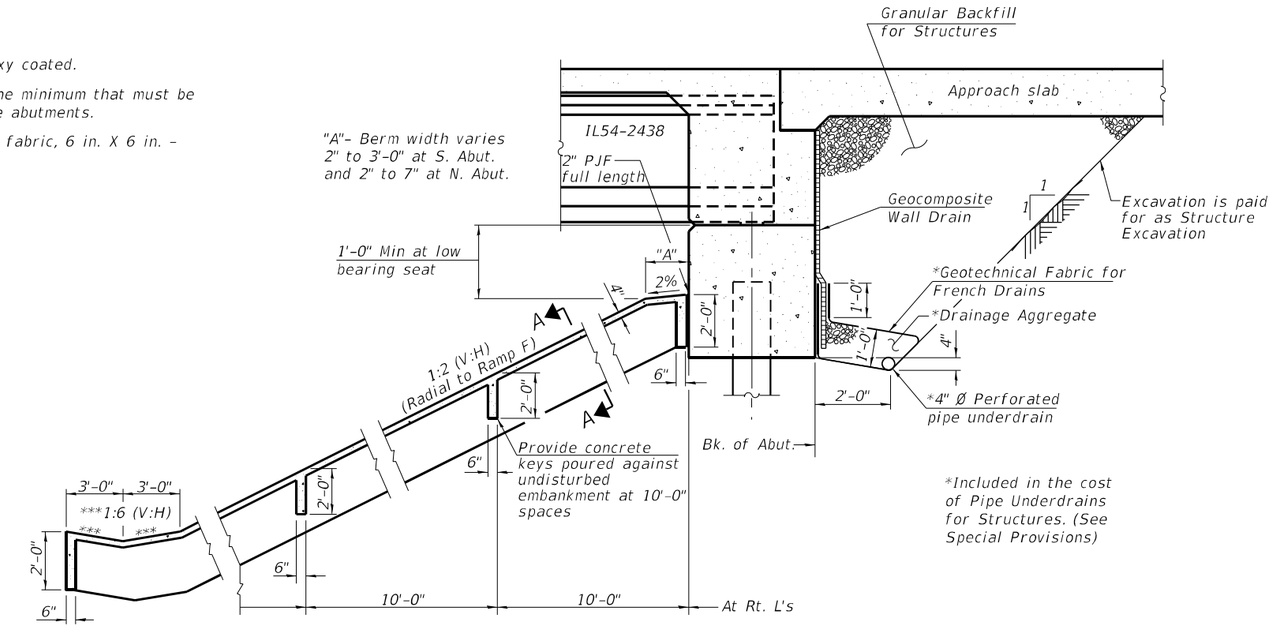
Reinforcement bars designated (E) shall be epoxy coated.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

Slope wall shall be reinforced with welded wire fabric, 6 in. X 6 in. – W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.



SECTION A-A



*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		208	208
Concrete Structures	Cu. Yd.		80.4	80.4
Concrete Superstructure	Cu. Yd.	212.4		212.4
Protective Coat	Sq. Yd.	841		841
Concrete Superstructure (Approach Slab)	Cu. Yd.	98.4		98.4
Furnishing and Erecting Precast Prestressed Concrete Beams, IL54N	Foot	764		764
Reinforcement Bars, Epoxy Coated	Pound	83990	13820	97810
Slope Wall 4 Inch	Sq. Yd.		427	427
Furnishing Metal Shell Piles HP 14"x0.312"	Foot		826	826
Driving Piles	Foot		826	826
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each	1		1
Granular Backfill for Structures	Cu. Yd.		194	194
Geocomposite Wall Drain	Sq. Yd.		91	91
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	335		335
Diamond Grinding (Bridge Section)	Sq. Yd.	698		698
Pipe Underdrains for Structures 4"	Foot		155	155
Settlement Platforms	Each			2

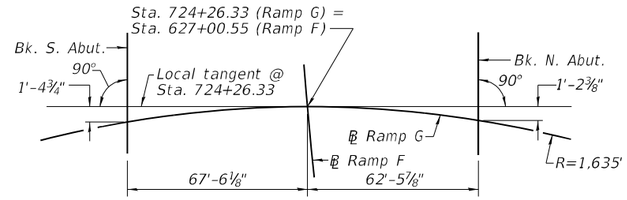
STATION 724+26.33
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 57/74 SEC. (10-34-1)HBK
LOADING HL-93
STRUCTURE NO. 010-1002

NAME PLATE

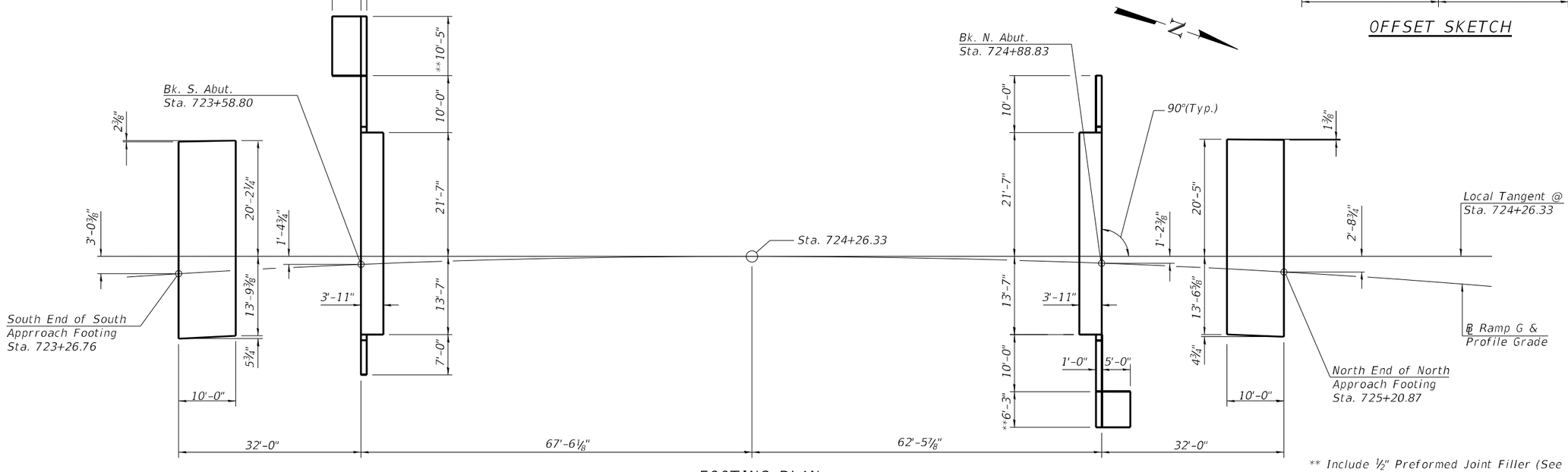
See Std. 515001

SECTION THRU INTEGRAL ABUTMENT

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



OFFSET SKETCH



FOOTING PLAN

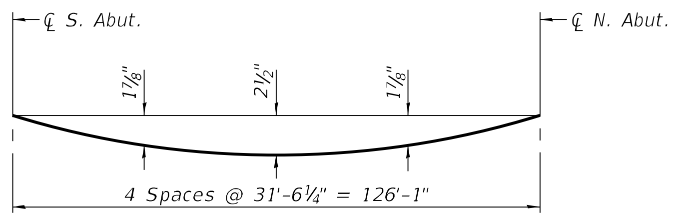
** Include ½" Preformed Joint Filler (See Sheet 24 of 30 for details)

FILE NAME = 0101002-70B99-002-General Data.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)997-3190		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 010-1002
SHEET NO. 2 OF 30 SHEETS

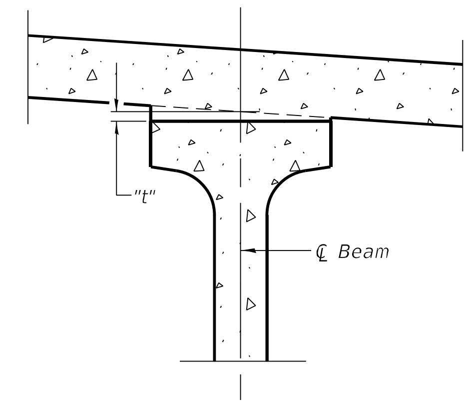
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	750
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only, excluding beams.)

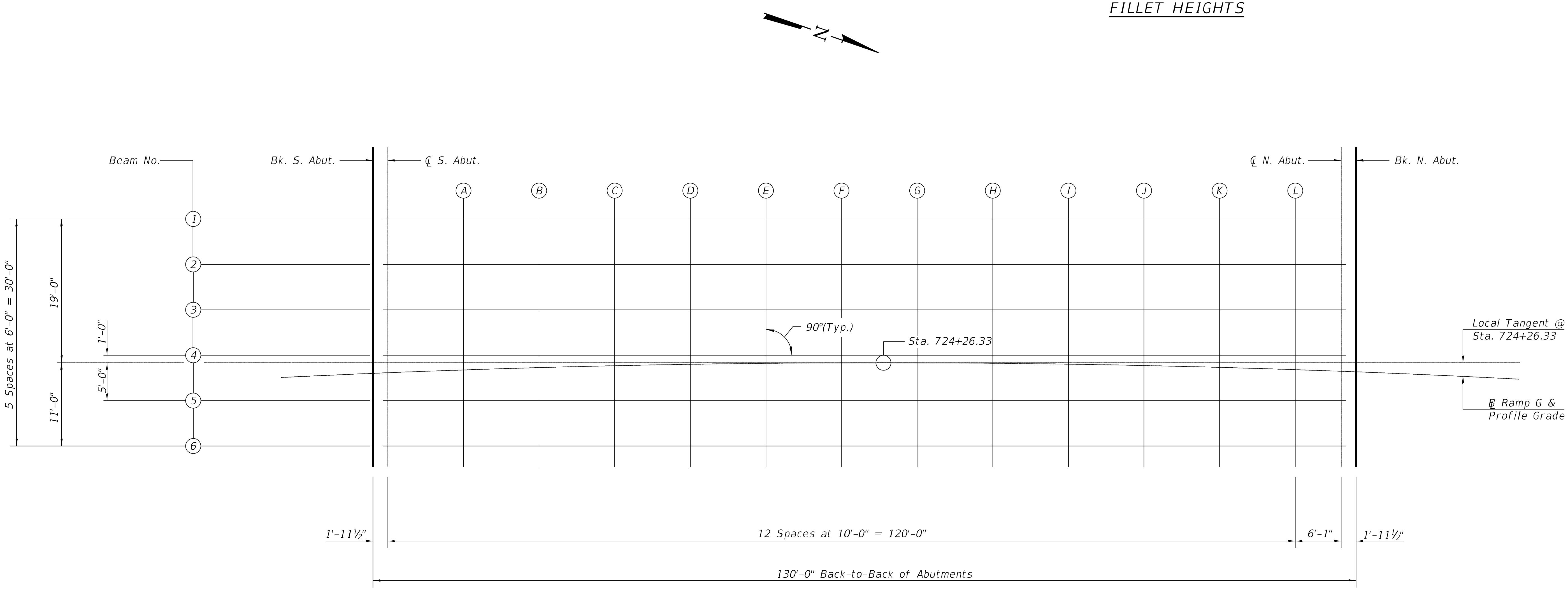
Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on Sheet 4 and 5 of 30.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 4 and 5 of 30, minus 8¼" deck thickness equals the fillet heights "t" above top flange of beams.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elvations below the "Theoretical Grade Elevations" shown on sheet 4 and 5 of 30. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN

FILE NAME = 0101002-70B99-003-TOS Elevations.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS STRUCTURE NO. 010-1002	F.A.I. RTE. 57/74	SECTION (10-34-1)HBK	COUNTY CHAMPAIGN	TOTAL SHEETS 1187 / SHEET NO. 751
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.		CHECKED - FAM	REVISED -						
	PLOT SCALE =	DRAWN - BJV	REVISED -			CONTRACT NO. 70B99			
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 3 OF 30 SHEETS	ILLINOIS FED. AID PROJECT			

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+59.63	-20.38	792.41	792.44
℄ S. Abut.	723+61.57	-20.30	792.46	792.48
A	723+71.44	-19.93	792.67	792.74
B	723+81.31	-19.63	792.87	793.00
C	723+91.19	-19.38	793.08	793.25
D	724+01.07	-19.20	793.29	793.49
E	724+10.96	-19.07	793.49	793.71
F	724+20.84	-19.01	793.69	793.93
G	724+30.73	-19.01	793.89	794.12
H	724+40.61	-19.06	794.09	794.31
I	724+50.50	-19.18	794.29	794.48
J	724+60.38	-19.36	794.48	794.63
K	724+70.26	-19.60	794.67	794.78
L	724+80.13	-19.90	794.86	794.92
℄ N. Abut.	724+86.14	-20.11	794.98	795.00
Bk. N. Abut.	724+88.07	-20.18	795.01	795.03

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+59.39	-14.38	792.01	792.03
℄ S. Abut.	723+61.33	-14.30	792.05	792.07
A	723+71.24	-13.94	792.26	792.33
B	723+81.15	-13.63	792.47	792.59
C	723+91.06	-13.38	792.68	792.84
D	724+00.98	-13.20	792.88	793.08
E	724+10.90	-13.07	793.09	793.31
F	724+20.82	-13.01	793.29	793.52
G	724+30.74	-13.01	793.49	793.72
H	724+40.66	-13.06	793.69	793.91
I	724+50.58	-13.18	793.88	794.07
J	724+60.50	-13.36	794.08	794.23
K	724+70.42	-13.60	794.27	794.38
L	724+80.33	-13.90	794.46	794.52
℄ N. Abut.	724+86.36	-14.11	794.58	794.60
Bk. N. Abut.	724+88.30	-14.18	794.62	794.64

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	724+59.15	-8.39	791.60	791.62
℄ S. Abut.	723+61.09	-8.31	791.64	791.66
A	723+71.04	-7.94	791.85	791.93
B	723+80.98	-7.63	792.06	792.19
C	723+90.94	-7.38	792.27	792.44
D	724+00.89	-7.20	792.48	792.68
E	724+10.85	-7.07	792.68	792.91
F	724+20.80	-7.01	792.89	793.12
G	724+30.76	-7.01	793.09	793.32
H	724+40.72	-7.06	793.29	793.50
I	724+50.67	-7.18	793.48	793.67
J	724+60.63	-7.36	793.68	793.83
K	724+70.58	-7.60	793.87	793.98
L	724+80.53	-7.90	794.07	794.12
℄ N. Abut.	724+86.58	-8.12	794.18	794.20
Bk. N. Abut.	724+88.52	-8.19	794.22	794.24

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+58.90	-2.39	791.19	791.21
℄ S. Abut.	723+60.85	-2.31	791.23	791.25
A	723+70.83	-1.94	791.45	791.52
B	723+80.82	-1.63	791.66	791.78
C	723+90.81	-1.39	791.87	792.04
D	724+00.80	-1.20	792.07	792.28
E	724+10.79	-1.07	792.28	792.51
F	724+20.78	-1.01	792.48	792.72
G	724+30.78	-1.01	792.69	792.92
H	724+40.77	-1.06	792.89	793.10
I	724+50.76	-1.18	793.08	793.27
J	724+60.75	-1.36	793.28	793.43
K	724+70.74	-1.60	793.47	793.58
L	724+80.73	-1.91	793.67	793.72
℄ N. Abut.	724+86.80	-2.12	793.78	793.80
Bk. N. Abut.	724+88.75	-2.19	793.82	793.84

℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+58.80	0.00	791.03	791.05
℄ S. Abut.	723+60.76	0.00	791.08	791.10
A	723+70.77	0.00	791.31	791.39
B	723+80.77	0.00	791.55	791.67
C	723+90.77	0.00	791.77	791.94
D	724+00.78	0.00	791.99	792.20
E	724+10.78	0.00	792.21	792.43
F	724+20.78	0.00	792.42	792.65
G	724+30.78	0.00	792.62	792.85
H	724+40.78	0.00	792.82	793.03
I	724+50.78	0.00	793.01	793.20
J	724+60.78	0.00	793.19	793.34
K	724+70.78	0.00	793.37	793.47
L	724+80.79	0.00	793.54	793.59
℄ N. Abut.	724+86.87	0.00	793.64	793.66
Bk. N. Abut.	724+88.83	0.00	793.67	793.70

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+58.65	3.60	790.78	790.80
℄ S. Abut.	723+60.61	3.68	790.83	790.85
A	723+70.63	4.05	791.04	791.11
B	723+80.65	4.36	791.25	791.38
C	723+90.68	4.61	791.46	791.63
D	724+00.70	4.80	791.67	791.87
E	724+10.73	4.93	791.88	792.10
F	724+20.76	4.99	792.08	792.32
G	724+30.79	4.99	792.28	792.52
H	724+40.82	4.94	792.49	792.70
I	724+50.85	4.82	792.68	792.87
J	724+60.88	4.64	792.88	793.03
K	724+70.90	4.39	793.08	793.18
L	724+80.93	4.09	793.27	793.32
℄ N. Abut.	724+87.02	3.88	793.38	793.41
Bk. N. Abut.	724+88.98	3.80	793.42	793.44

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	723+58.40	9.60	790.38	790.40
℄ S. Abut.	723+60.37	9.68	790.42	790.44
A	723+70.42	10.05	790.63	790.71
B	723+80.48	10.36	790.85	790.97
C	723+90.54	10.61	791.06	791.23
D	724+00.61	10.80	791.27	791.47
E	724+10.67	10.93	791.47	791.70
F	724+20.74	10.99	791.68	791.91
G	724+30.81	10.99	791.88	792.12
H	724+40.88	10.94	792.08	792.30
I	724+50.94	10.82	792.28	792.47
J	724+61.01	10.63	792.48	792.63
K	724+71.07	10.39	792.68	792.78
L	724+81.13	10.09	792.87	792.92
℄ N. Abut.	724+87.24	9.87	792.99	793.01
Bk. N. Abut.	724+89.21	9.80	793.02	793.04

WEST EDGE SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	723+31.07	-22.36	791.83	791.85
A1	723+40.93	-22.01	792.06	792.08
A2	723+50.80	-21.73	792.29	792.31
N. End of S. Appr. Slab	723+60.67	-21.50	792.51	792.54

WEST EDGE OF ROADWAY

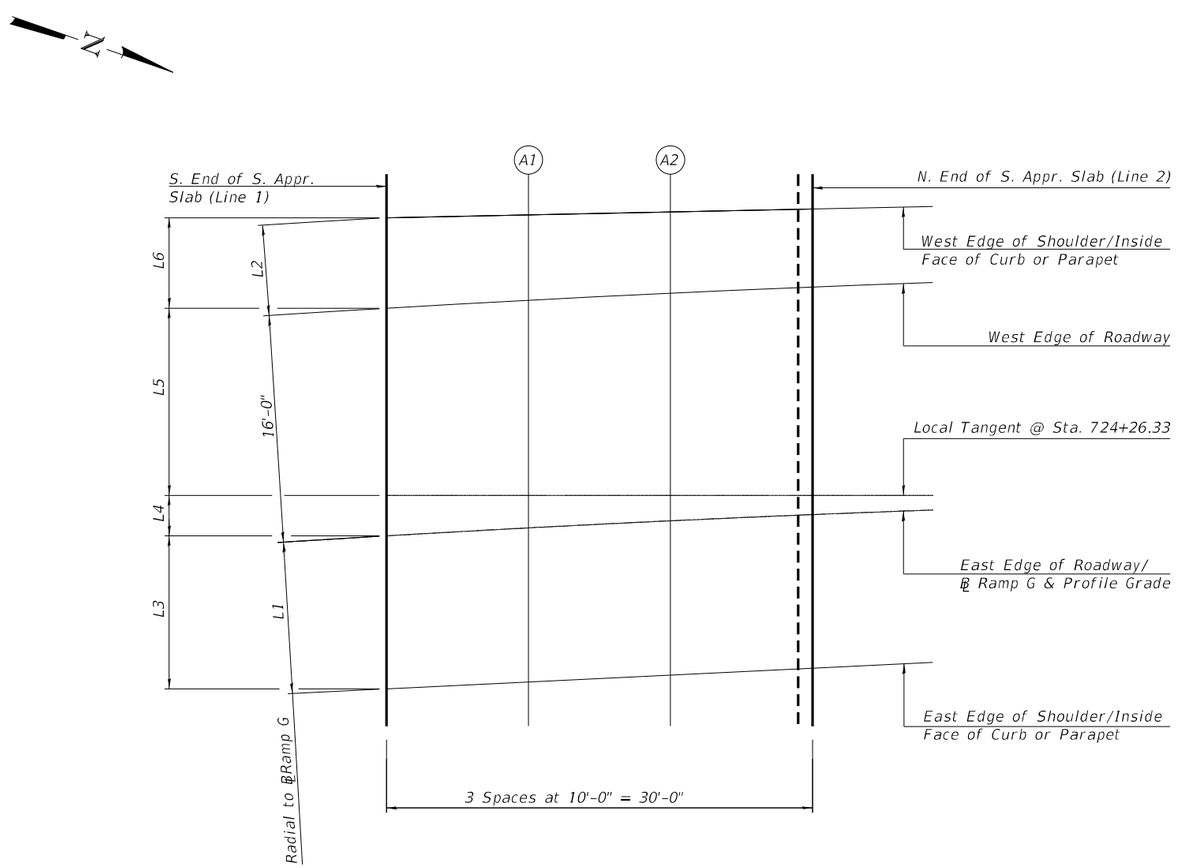
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	723+30.70	-16.00	791.40	791.42
A1	723+40.62	-16.00	791.65	791.67
A2	723+50.53	-16.00	791.90	791.92
N. End of S. Appr. Slab	723+60.45	-16.00	792.14	792.16

EAST EDGE OF ROADWAY/℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	723+29.76	0.00	790.30	790.32
A1	723+39.78	0.00	790.56	790.58
A2	723+49.79	0.00	790.81	790.83
N. End of S. Appr. Slab	723+59.80	0.00	791.05	791.07

EAST EDGE OF SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	723+29.12	10.75	789.56	789.58
A1	723+39.20	10.83	789.82	789.84
A2	723+49.28	10.85	790.07	790.09
N. End of S. Appr. Slab	723+59.36	10.80	790.32	790.34



PLAN

SPACING FOR TOP OF APPROACH ELEVATIONS

LINE	L1	L2	L3	L4	L5	L6
1	10'-9"	6'-4 1/4"	10'-9 1/8"	2'-10 1/4"	13'-2 1/4"	6'-4 3/8"
A1	10'-10"	6'-0 1/8"	10'-10 1/8"	2'-3 1/2"	13'-8 3/4"	6'-0 1/4"
A2	10'-10 1/8"	5'-8 3/4"	10'-10 3/8"	1'-9 1/2"	14'-2 3/4"	5'-8 3/4"
2	10'-9 5/8"	5'-6"	10'-9 3/4"	1'-4 1/4"	14'-7 7/8"	5'-6 1/8"

FILE NAME = 0101002-70B99-006-TOS S. Appr Elev.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

DESIGNED - GBR
CHECKED - FAM
DRAWN - BJV
CHECKED - GBR

REVISED -
REVISED -
REVISED -
REVISED -

BFW
BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
403 NORTH COURT STREET
MARION, ILLINOIS 62959
PHONE - (618)672-3150

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 010-1002
SHEET NO. 6 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	754
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

WEST EDGE SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	724+87.04	-21.31	795.07	795.09
A3	724+96.91	-21.60	795.25	795.27
A4	725+06.77	-21.95	795.43	795.45
N. End of N. Appr. Slab	725+16.63	-22.37	795.61	795.63

WEST EDGE OF ROADWAY

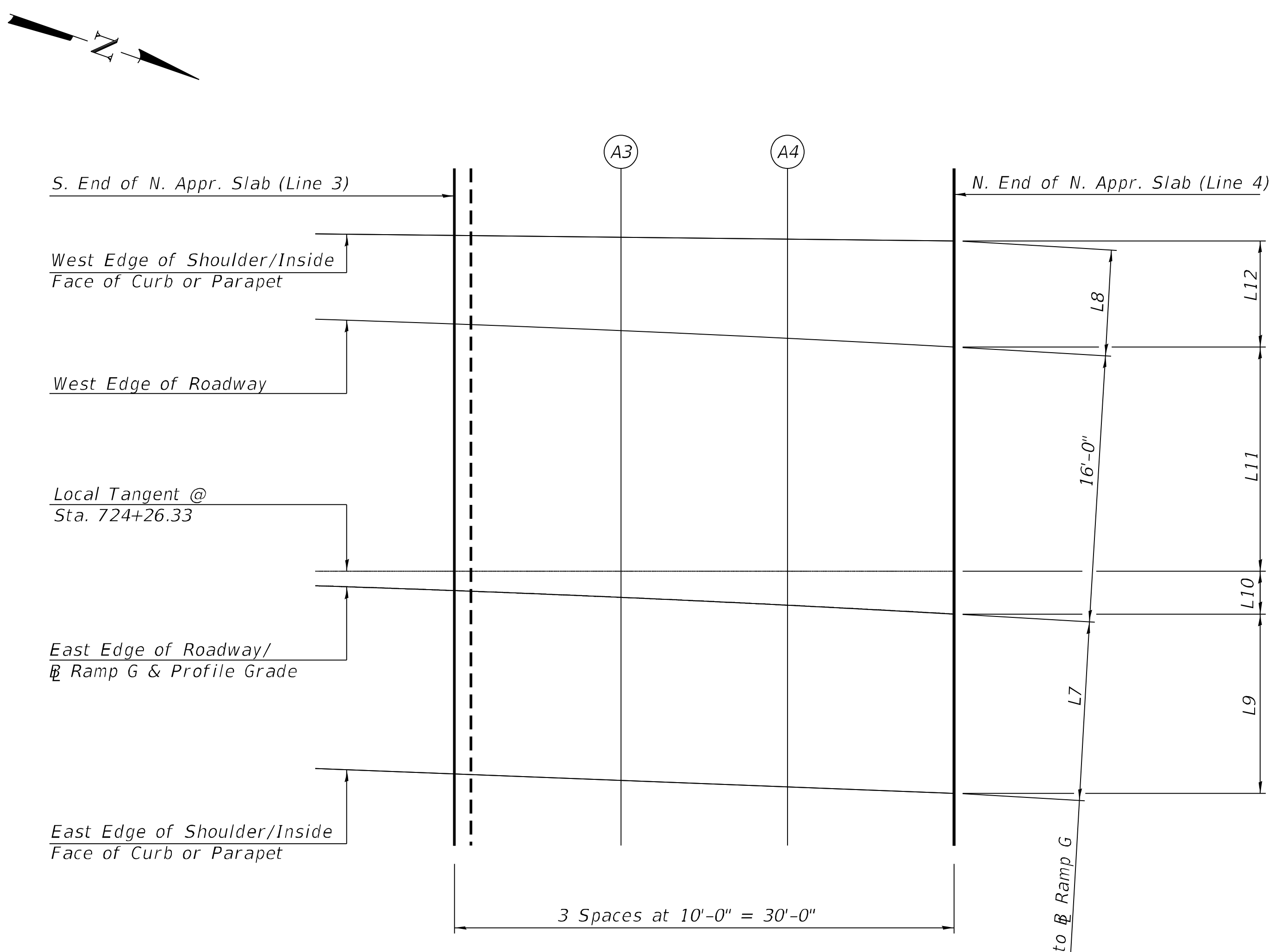
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	724+87.24	-16.00	794.72	794.74
A3	724+97.15	-16.00	794.88	794.90
A4	725+07.06	-16.00	795.04	795.06
N. End of N. Appr. Slab	725+16.98	-16.00	795.18	795.21

EAST EDGE OF ROADWAY/℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	724+87.83	0.00	793.66	793.68
A3	724+97.84	0.00	793.82	793.84
A4	725+07.85	0.00	793.98	794.00
N. End of N. Appr. Slab	725+17.87	0.00	794.13	794.15

EAST EDGE OF SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	724+88.25	11.00	792.93	792.95
A3	724+98.33	10.98	793.09	793.11
A4	725+08.40	10.90	793.25	793.28
N. End of N. Appr. Slab	725+18.47	10.75	793.41	793.44



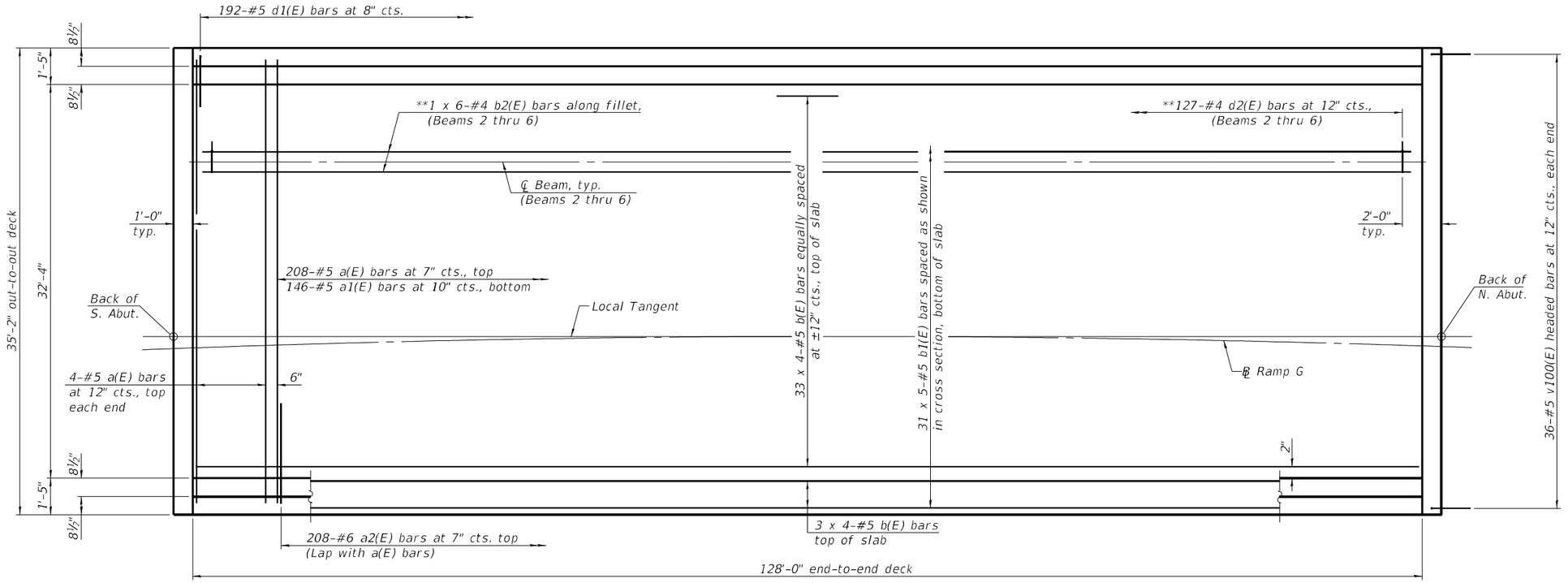
PLAN

SPACING FOR TOP OF APPROACH ELEVATIONS

LINE	L7	L8	L9	L10	L11	L12
3	11'-0"	5'-3¾"	11'-0⅛"	1'-1⅞"	14'-10¼"	5'-3¾"
A3	10'-11¾"	5'-7½"	10'-11⅞"	1'-6¾"	14'-5⅜"	5'-7⅜"
A4	10'-10¾"	5'-11⅜"	10'-10⅞"	2'-0⅜"	13'-11⅞	5'-11½"
4	10'-9"	6'-4⅜"	10'-9¼"	2'-6¾"	13'-5½"	6'-4½"

FILE NAME = 0101002-70B99-007-TOS N.Appr Elev.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF NORTH APPROACH SLAB ELEVATIONS STRUCTURE NO. 010-1002
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.		CHECKED - FAM	REVISED -		
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 7 OF 30 SHEETS

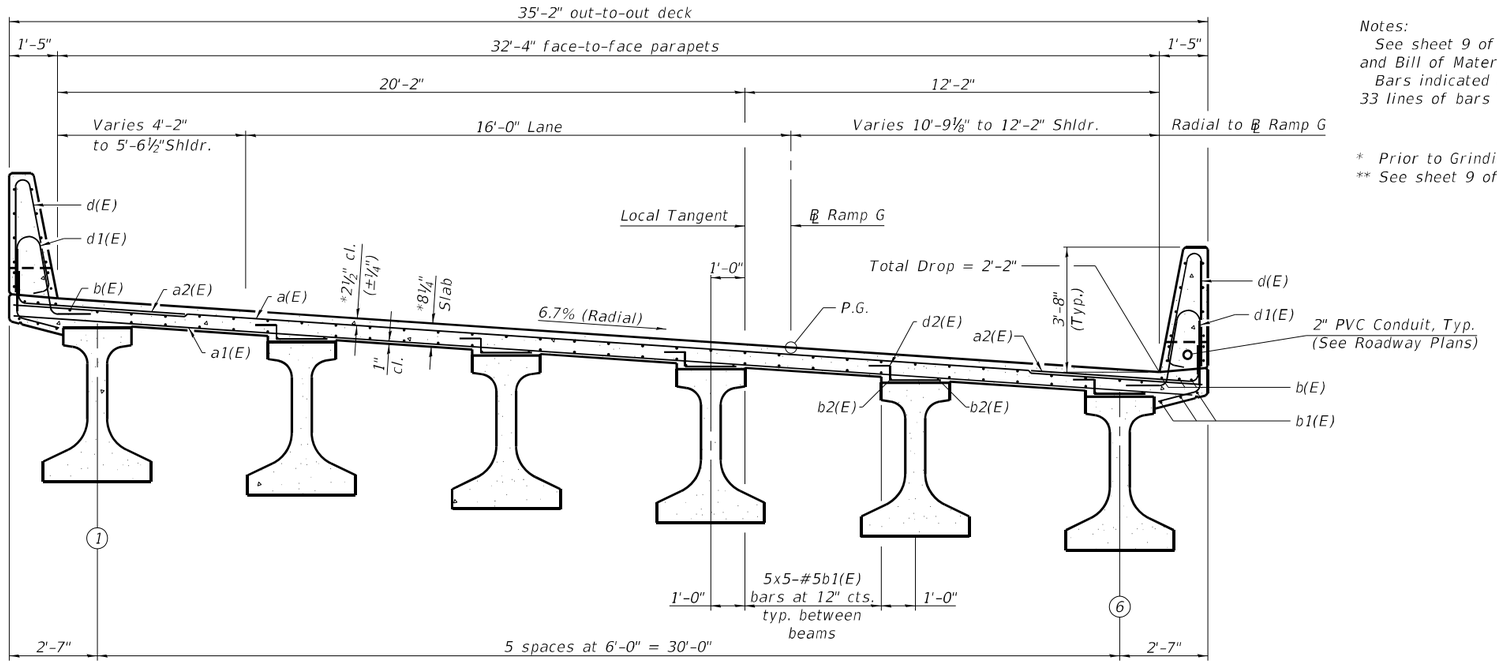
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	755
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		



PLAN

MINIMUM BAR LAP

#4 bar = 2'–5"
#5 bar = 3'–6"

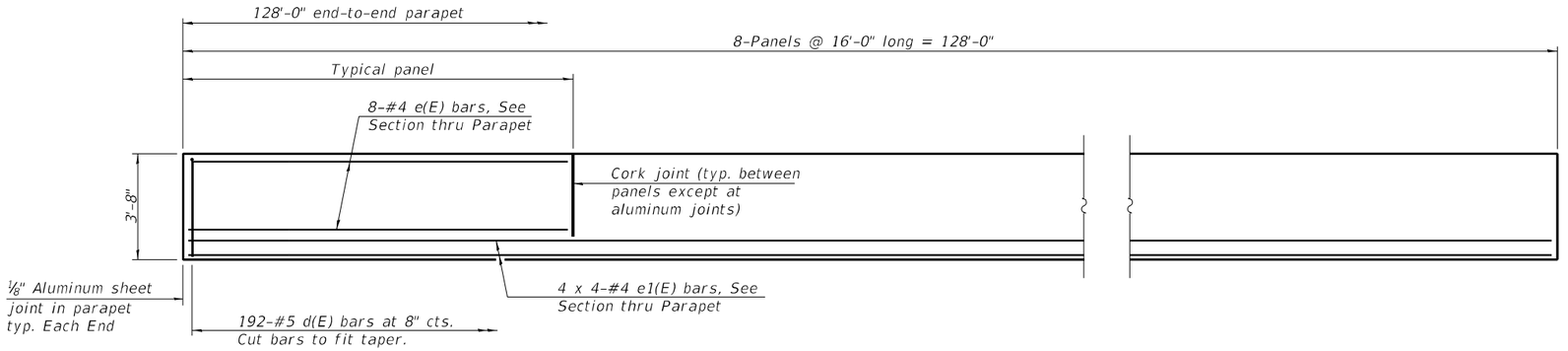


CROSS SECTION
(Looking North)

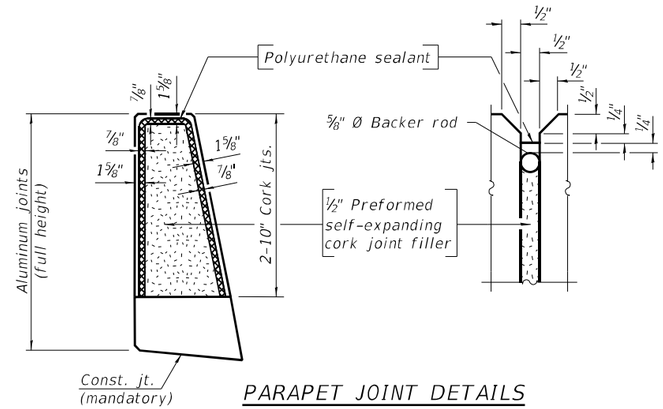
Notes:
See sheet 9 of 30 for superstructure details and Bill of Material.
Bars indicated thus 33 x 4–#5 etc. indicates 33 lines of bars with 4 lengths per line.

* Prior to Grinding
** See sheet 9 of 30 for Fillet Reinforcement Details

FILE NAME = 0101002-70B99-008-Superstructure.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 010–1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE–618.997.8190		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	756
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 8 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



INSIDE ELEVATION OF PARAPET



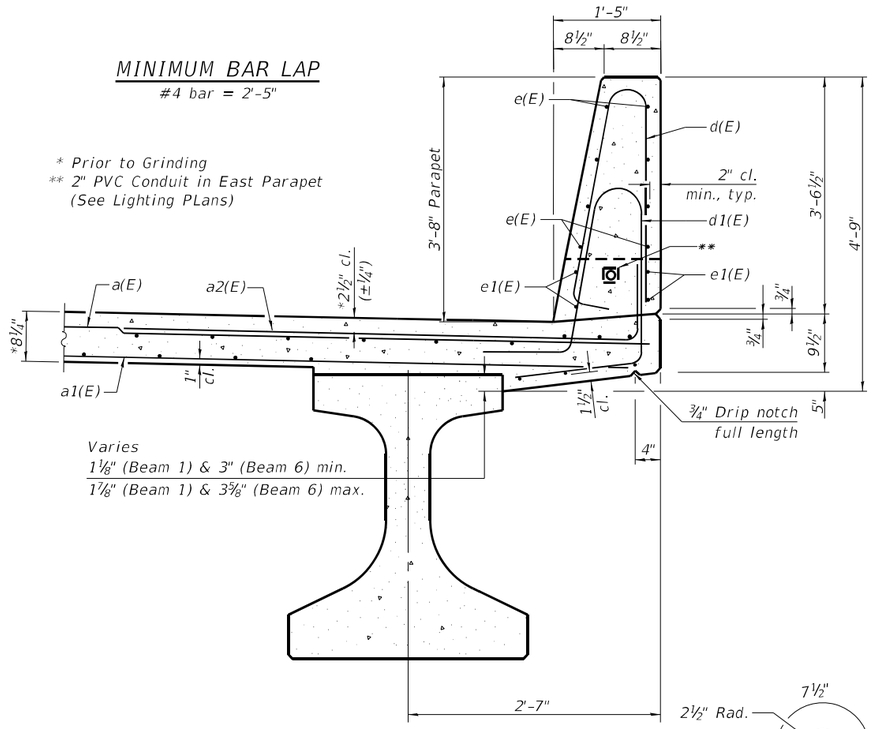
PARAPET JOINT DETAILS

Notes:
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
The ⅛" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

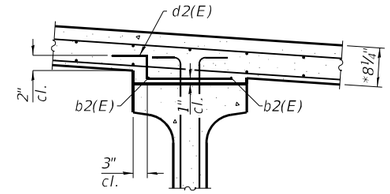
MINIMUM BAR LAP

#4 bar = 2'-5"

* Prior to Grinding
** 2" PVC Conduit in East Parapet (See Lighting PLans)

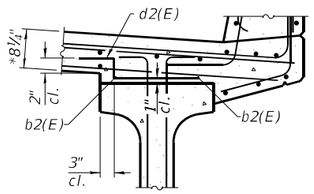


SECTION THRU PARAPET



FILLET REINFORCEMENT DETAIL

(Beams 2 thru 5)



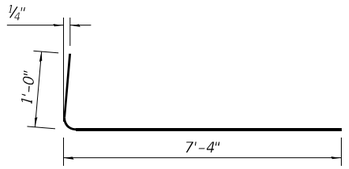
FILLET REINFORCEMENT DETAIL

(Beam 6)

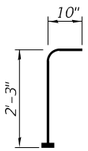
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	216	#5	35'-0"	
a1(E)	146	#5	34'-8"	
a2(E)	416	#6	8'-4"	
b(E)	156	#5	34'-7"	
b1(E)	155	#5	28'-4"	
b2(E)	60	#4	23'-3"	
d(E)	384	#5	7'-0"	
d1(E)	384	#5	7'-6"	
d2(E)	635	#4	2'-8"	
e(E)	128	#4	15'-8"	
e1(E)	32	#4	33'-9"	
m10(E)	12	#6	34'-11"	
m11(E)	40	#6	4'-8"	
m12(E)	16	#6	1'-9"	
m13(E)	10	#6	2'-7"	
m14(E)	4	#6	9"	
m15(E)	24	#5	4'-0"	
s10(E)	48	#5	10'-6"	
s11(E)	48	#5	13'-3"	
s12(E)	48	#5	9'-8"	
v100(E)	72	#5	3'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	41510
Concrete Superstructure			Cu. Yds.	203.8

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

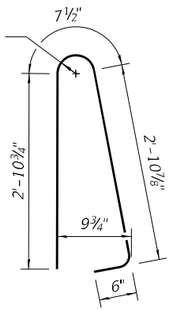


BAR a2(E)

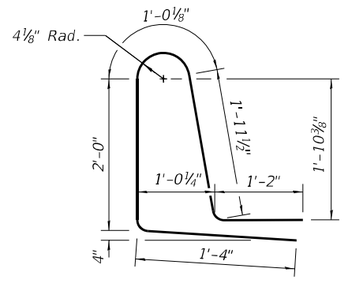


BAR v100(E)

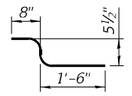
(Headed)



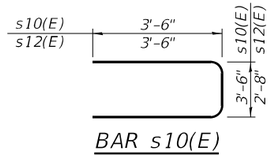
BAR d(E)



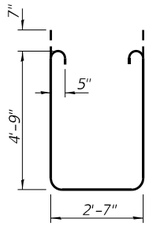
BAR d1(E)



BAR d2(E)



BAR s10(E) & s12(E)



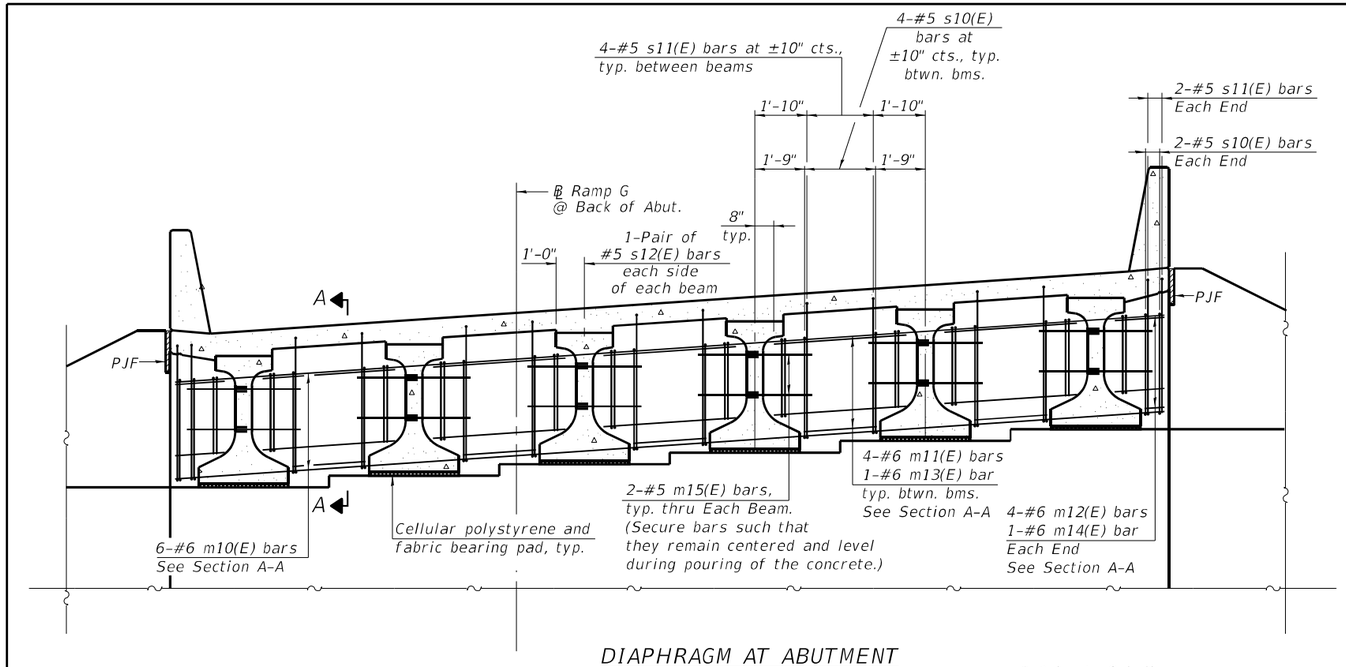
BAR s11(E)

FILE NAME = 0101002-70899-089-Superstructure Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: 618/997-3190		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 010-1002
SHEET NO. 9 OF 30 SHEETS

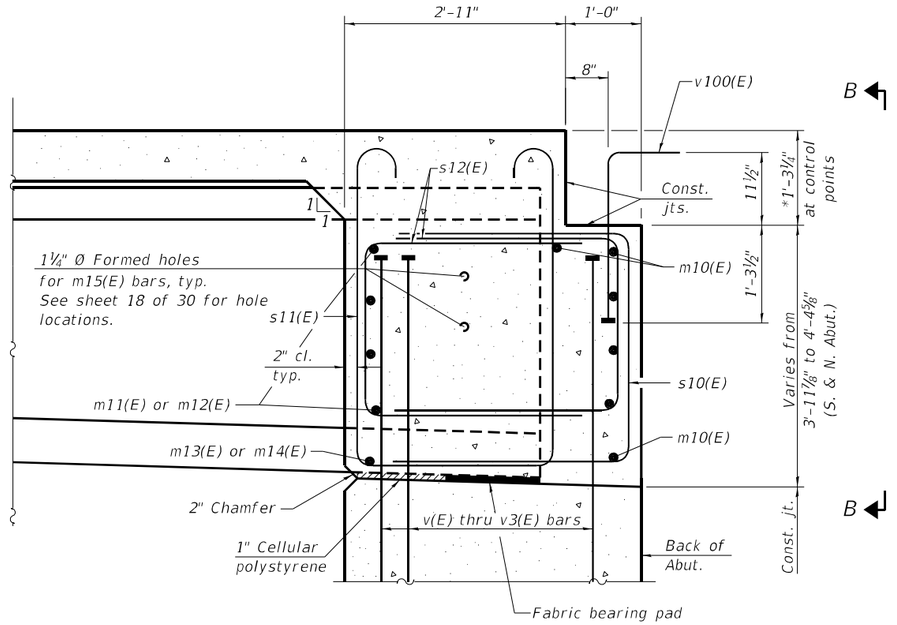
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	757
		CONTRACT NO. 70899		
		ILLINOIS FED. AID PROJECT		



DIAPHRAGM AT ABUTMENT

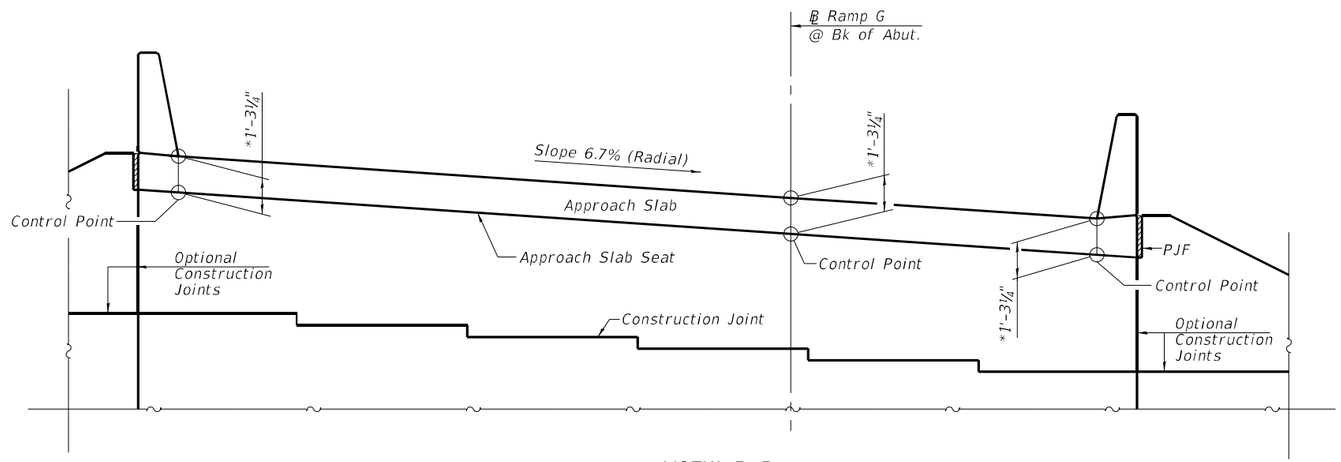
(South Abutment Shown – Looking South)
(North Abutment Similar)

* Prior to Grinding

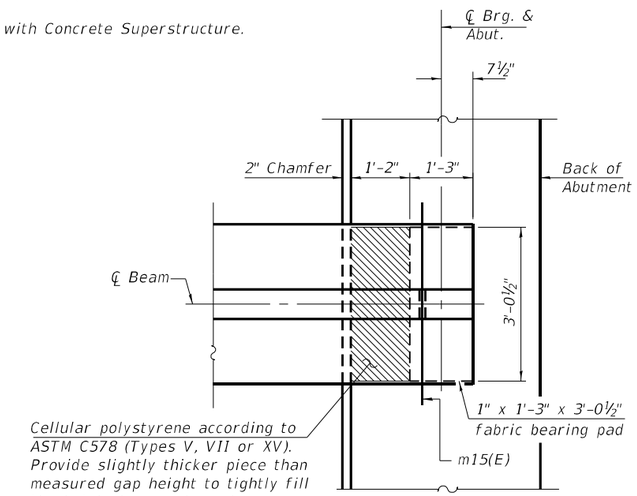


SECTION A-A

Notes:
See sheet 9 of 30 for superstructure details and Bill of Material
See sheet 12 and 15 of 30 for PJF details
The approach slab seat shall have a constant slope determined from the control points shown.
Cost of cellular polystyrene is included with Concrete Superstructure.



VIEW B-B

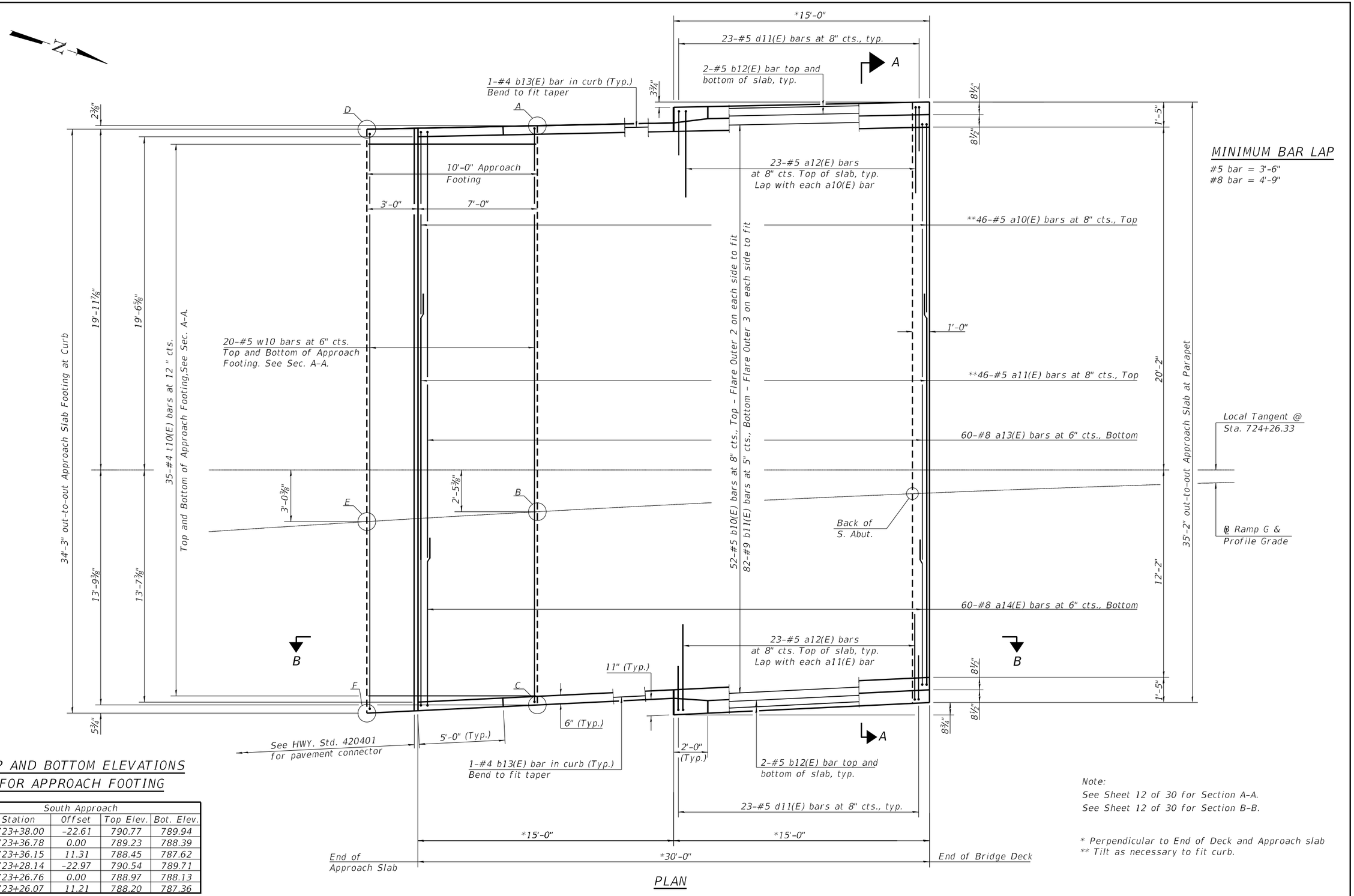


PLAN AT ABUTMENT

(Showing bottom flange of beam)

FILE NAME = 0101002-70B99-010-Diaphragm Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DIAPHRAGM DETAILS STRUCTURE NO. 010-1002
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)997-8190		CHECKED - FAM	REVISED -		SHEET NO. 10 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	758
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



PLAN

MINIMUM BAR LAP

#5 bar = 3'-6"
#8 bar = 4'-9"

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

South Approach				
Point	Station	Offset	Top Elev.	Bot. Elev.
A	723+38.00	-22.61	790.77	789.94
B	723+36.78	0.00	789.23	788.39
C	723+36.15	11.31	788.45	787.62
D	723+28.14	-22.97	790.54	789.71
E	723+26.76	0.00	788.97	788.13
F	723+26.07	11.21	788.20	787.36

Note:
See Sheet 12 of 30 for Section A-A.
See Sheet 12 of 30 for Section B-B.

* Perpendicular to End of Deck and Approach slab
** Tilt as necessary to fit curb.

(Sheet 1 of 3)

FILE NAME = 0101002-70B99-011-S. Appr Slab.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

DESIGNED - GBR
CHECKED - FAM
DRAWN - BJV
CHECKED - GBR

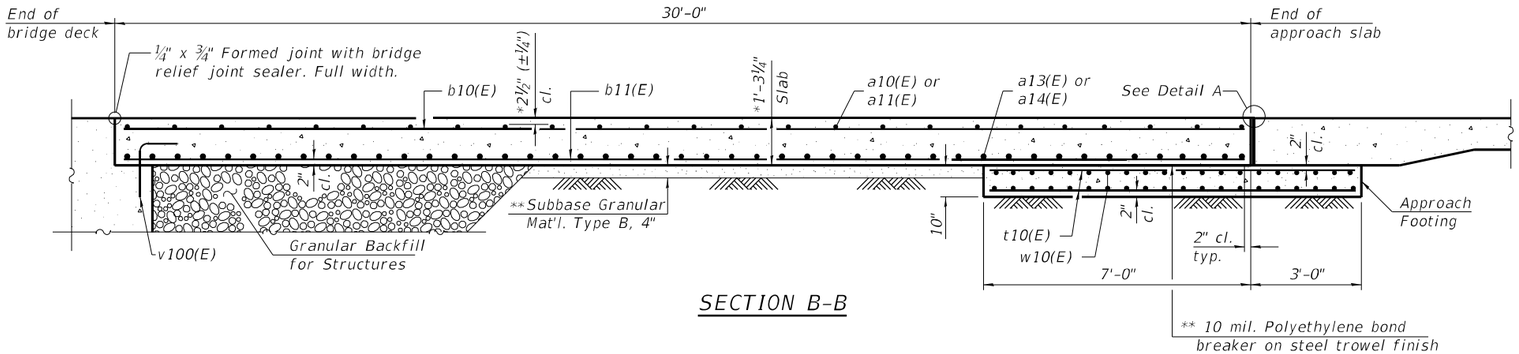
REVISED -
REVISED -
REVISED -
REVISED -

BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.
403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)997-8190

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1002
SHEET NO. 11 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	759
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



SECTION B-B

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total Bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

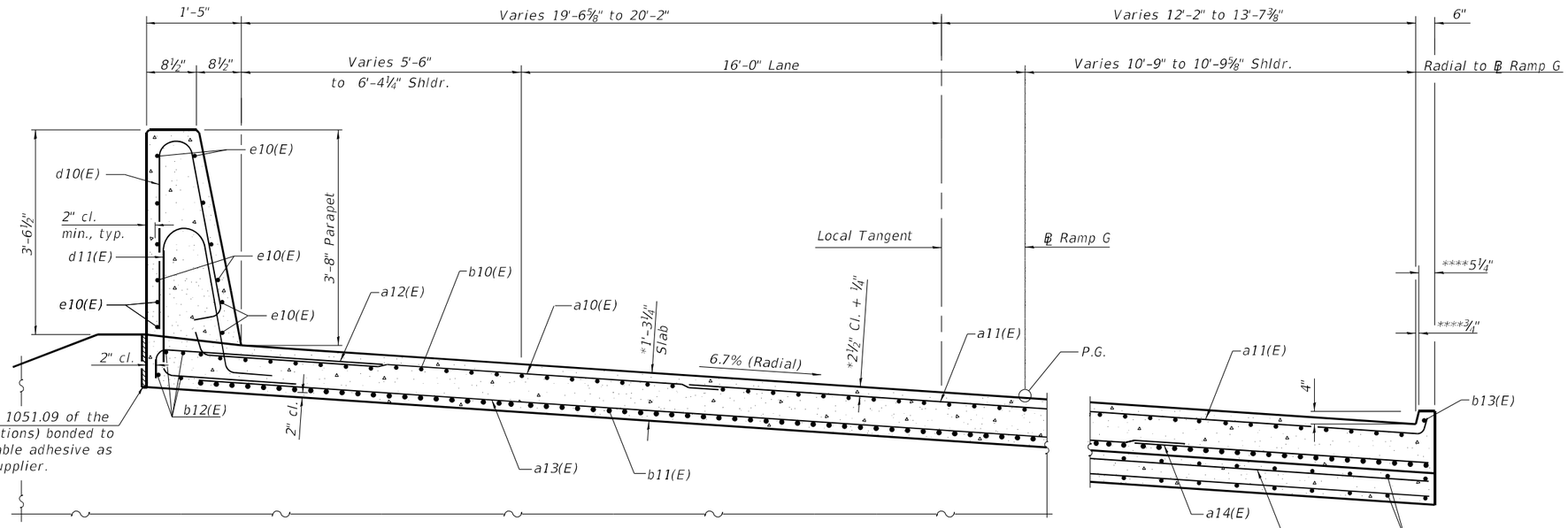
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

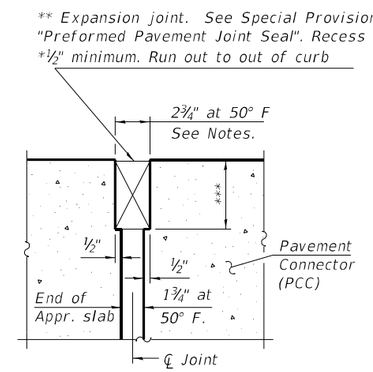
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 30.



NEAR ABUTMENT

AT APPROACH FOOTING

SECTION A-A



DETAIL A

SOUTH APPROACH
BILL OF MATERIAL

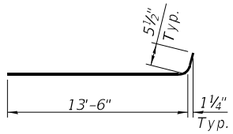
Bar	No.	Size	Length	Shape
a10(E)	46	#5	14'-0"	
a11(E)	46	#5	24'-4"	
a12(E)	46	#5	7'-4"	
a13(E)	60	#8	25'-1"	
a14(E)	60	#8	13'-6"	
b10(E)	52	#5	29'-8"	
b11(E)	82	#9	29'-8"	
b12(E)	8	#5	14'-8"	
b13(E)	2	#4	14'-8"	
d10(E)	46	#5	7'-0"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
t10(E)	70	#4	9'-8"	
w10(E)	40	#5	33'-11"	
Concrete Superstructure		Cu. Yd.	4.3	
Concrete Superstructure (Approach Slab)		Cu. Yd.	49.2	
Concrete Structures		Cu. Yd.	10.6	
Reinforcement Bars, Epoxy Coated		Pound	21240	

* Prior to Grinding

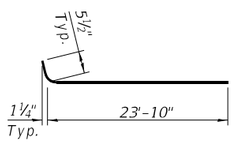
** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

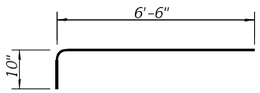
**** Perpendicular to inside face of curb.



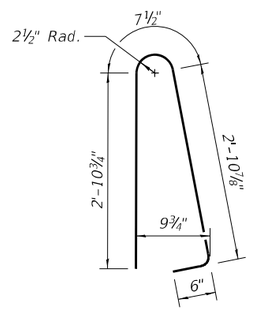
BAR a10(E)



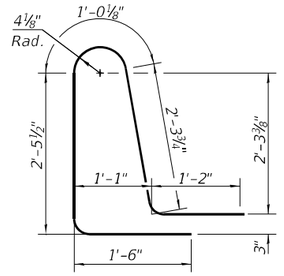
BAR a11(E)



BAR a12(E)



BAR d10E)



BAR d11(E)

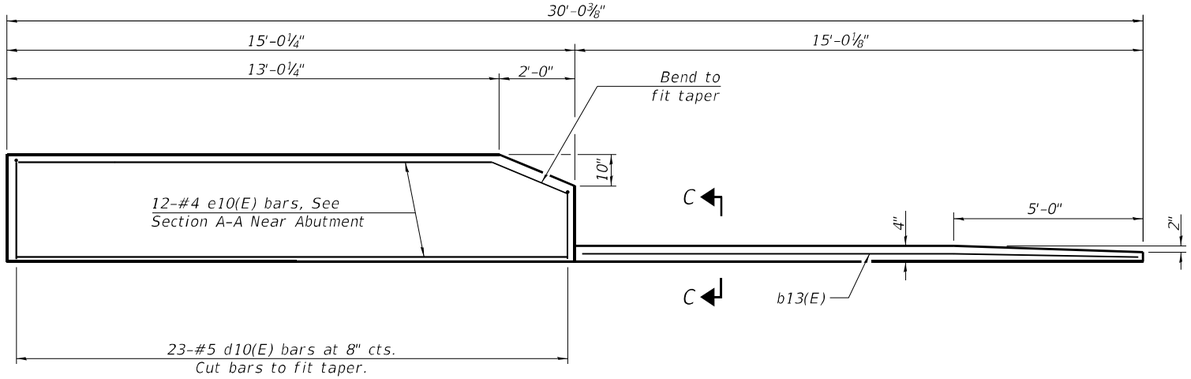
FILE NAME = 0101002-70B99-012-S. Appr Slab Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH GOLIAT STREET MAHOMET, ILLINOIS 61853 PHONE - 815.967.5190		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1002
SHEET NO. 12 OF 30 SHEETS

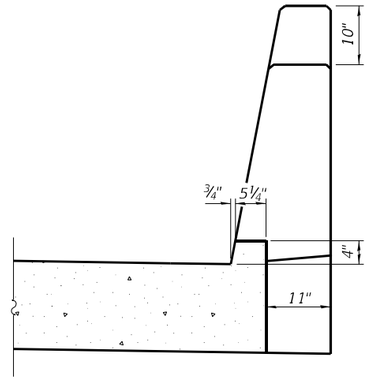
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	760
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

Note:
For Type 6 terminal connections see Highway Standard 631031.

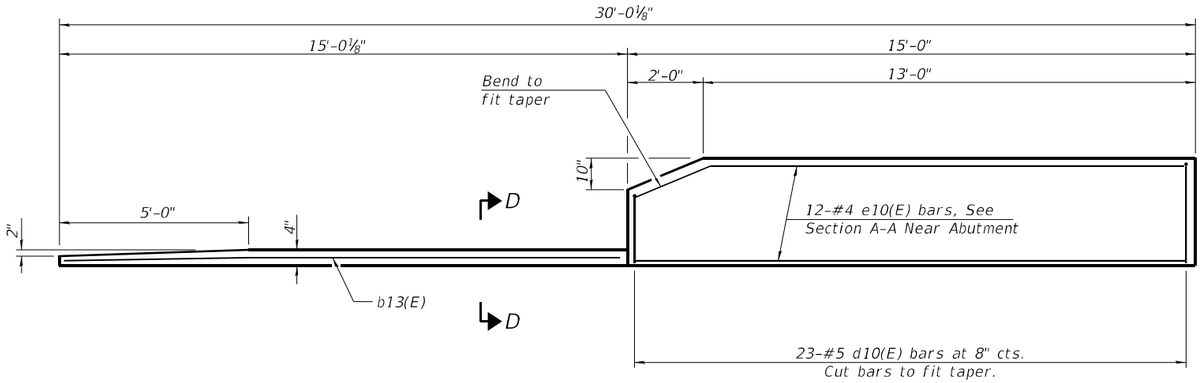


INSIDE ELEVATION OF EAST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)

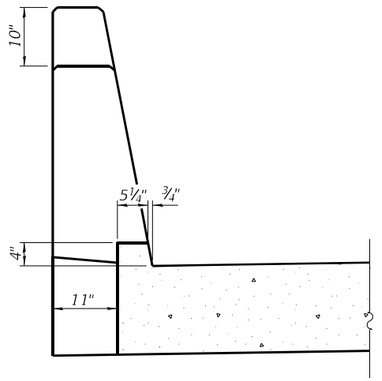


VIEW C-C



INSIDE ELEVATION OF WEST PARAPET AND CURB

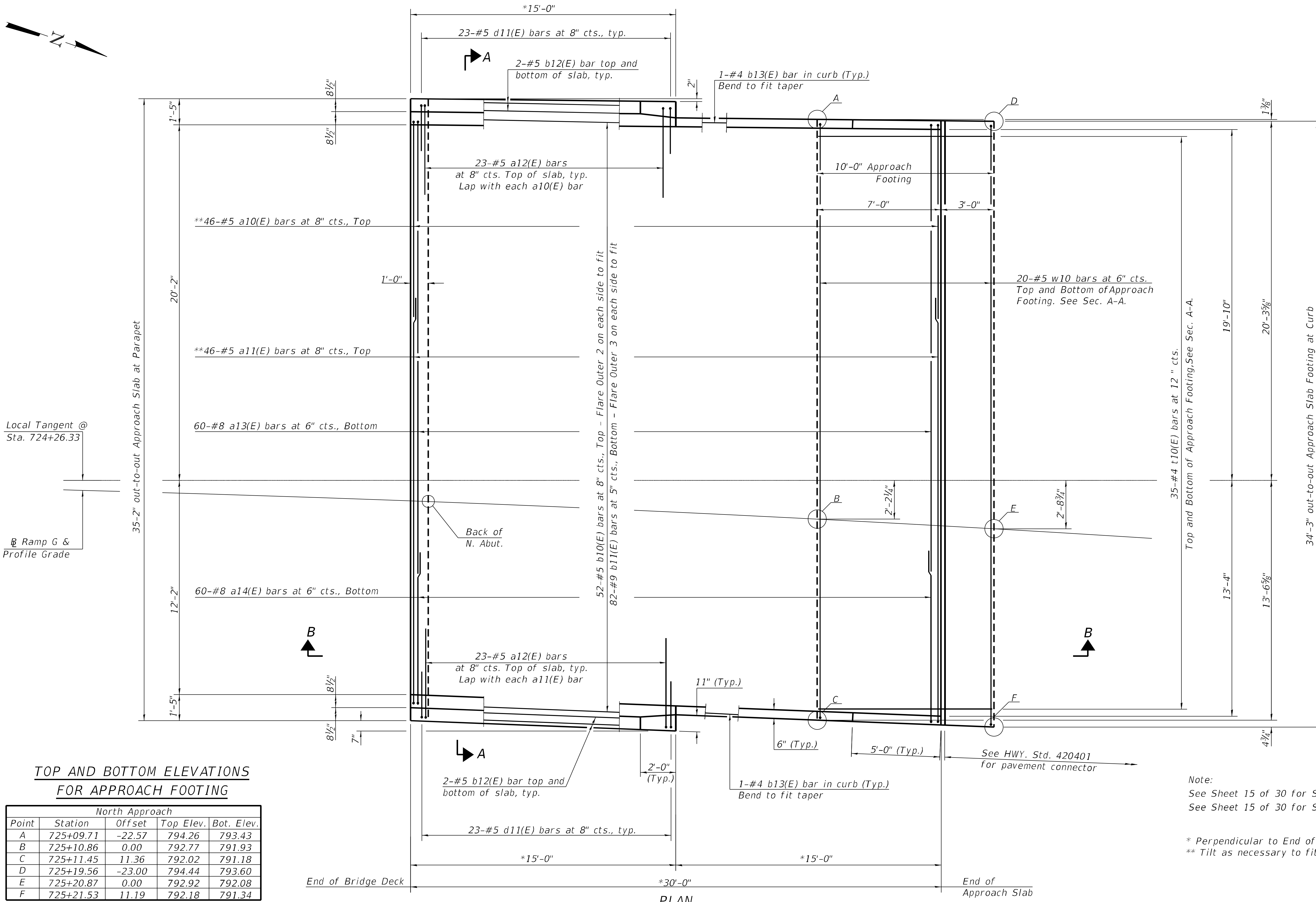
(Dimensions Along Inside Face of Parapet and Curb)



VIEW D-D

FILE NAME = 0101002-70B99-013-S. Appr Slab Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 010-1002
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-8190		CHECKED - FAM	REVISED -		SHEET NO. 13 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	761
		CONTRACT NO. 70B99		
	ILLINOIS	FED. AID PROJECT		



MINIMUM BAR LAP

#5 bar = 3'-6"
#8 bar = 4'-9"

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

North Approach				
Point	Station	Offset	Top Elev.	Bot. Elev.
A	725+09.71	-22.57	794.26	793.43
B	725+10.86	0.00	792.77	791.93
C	725+11.45	11.36	792.02	791.18
D	725+19.56	-23.00	794.44	793.60
E	725+20.87	0.00	792.92	792.08
F	725+21.53	11.19	792.18	791.34

Note:
See Sheet 15 of 30 for Section A-A.
See Sheet 15 of 30 for Section B-B.

* Perpendicular to End of Deck and Approach slab
** Tilt as necessary to fit curb.

(Sheet 1 of 3)

FILE NAME = 0101002-70B99-014-N. Appr Slab.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

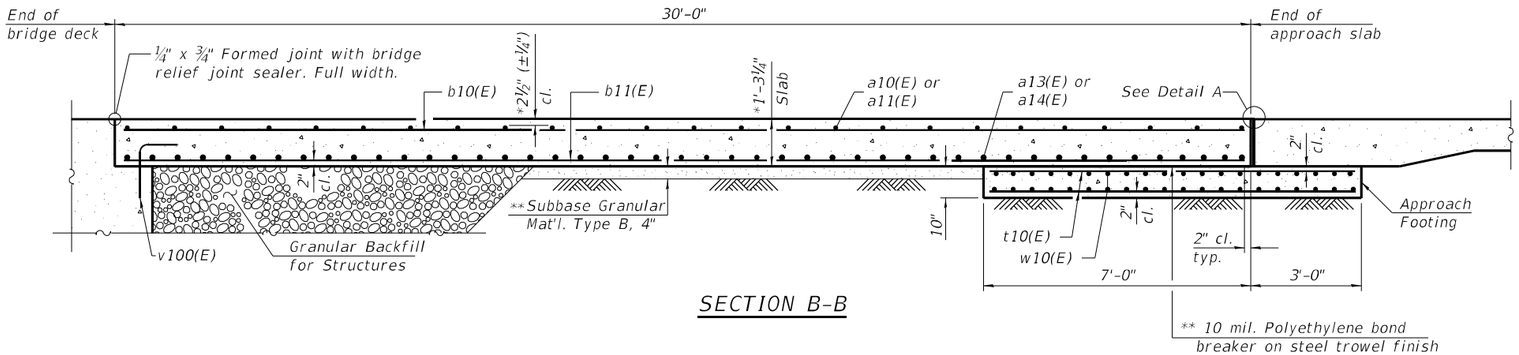
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1002

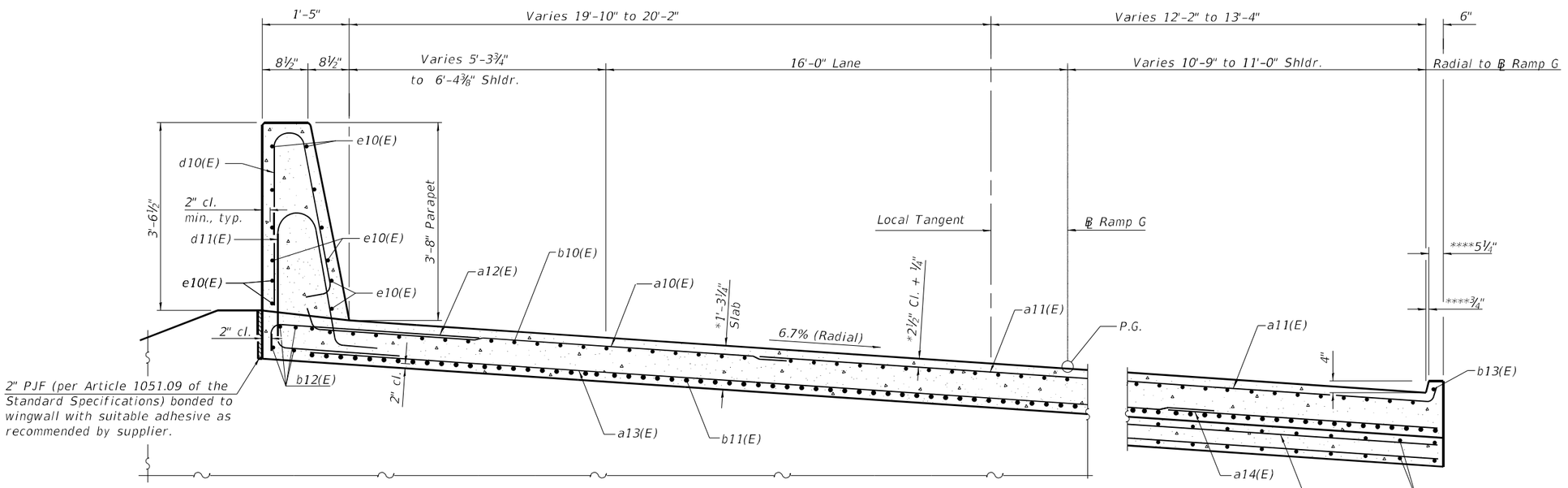
SHEET NO. 14 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	762
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		

Notes:
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total Bridge length plus the length of the bridge approach slab.
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 30.



SECTION B-B

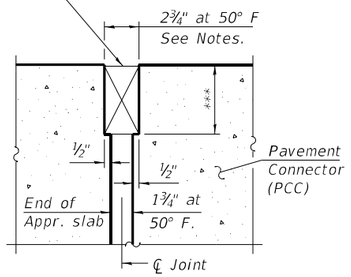


NEAR ABUTMENT

AT APPROACH FOOTING

SECTION A-A

** Expansion joint. See Special Provision "Preformed Pavement Joint Seal". Recess *½" minimum. Run out to out of curb



DETAIL A

NORTH APPROACH
BILL OF MATERIAL

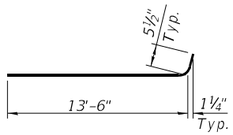
Bar	No.	Size	Length	Shape
a10(E)	46	#5	14'-0"	
a11(E)	46	#5	24'-4"	
a12(E)	46	#5	7'-4"	
a13(E)	60	#8	25'-1"	
a14(E)	60	#8	13'-6"	
b10(E)	52	#5	29'-8"	
b11(E)	82	#9	29'-8"	
b12(E)	8	#5	14'-8"	
b13(E)	2	#4	14'-8"	
d10(E)	46	#5	7'-0"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
t10(E)	70	#4	9'-8"	
w10(E)	40	#5	33'-11"	
Concrete Superstructure		Cu. Yd.	4.3	
Concrete Superstructure (Approach Slab)		Cu. Yd.	49.2	
Concrete Structures		Cu. Yd.	10.6	
Reinforcement Bars, Epoxy Coated		Pound	21240	

* Prior to Grinding

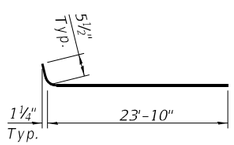
** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

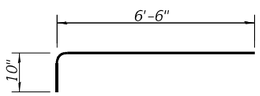
**** Perpendicular to inside face of curb.



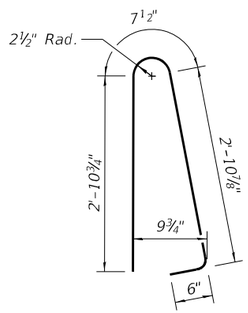
BAR a10(E)



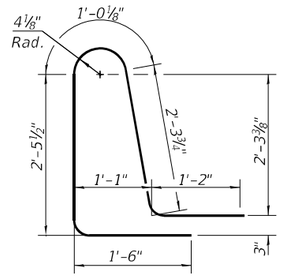
BAR a11(E)



BAR a12(E)



BAR d10E)



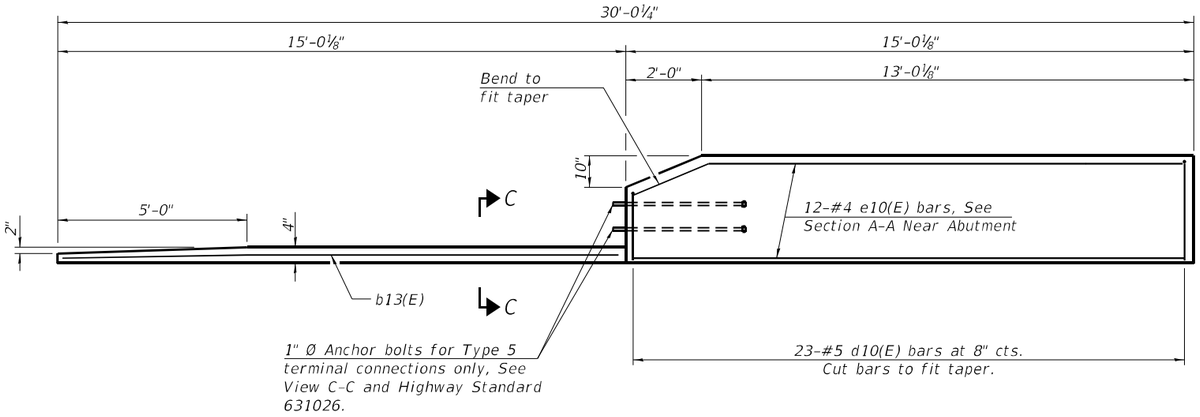
BAR d11(E)

(Sheet 2 of 3)

FILE NAME = 0101002-70899-015-N. Appr Slab Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH GOLIAT STREET MARION, ILLINOIS 62959 PHONE - 618.997.5190		CHECKED - FAM	REVISED -	
	PLOT SCALE =	DRAWN - BJV	REVISED -	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -	

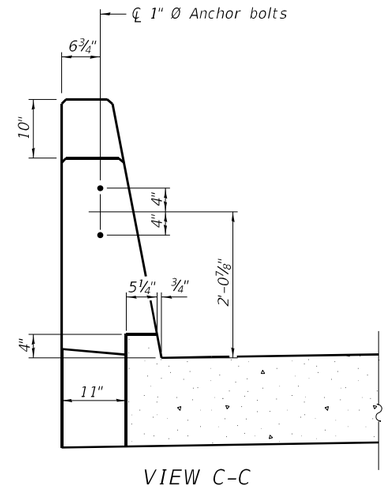
NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1002
SHEET NO. 15 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	763
		CONTRACT NO. 70B99		
		ILLINOIS FED. AID PROJECT		

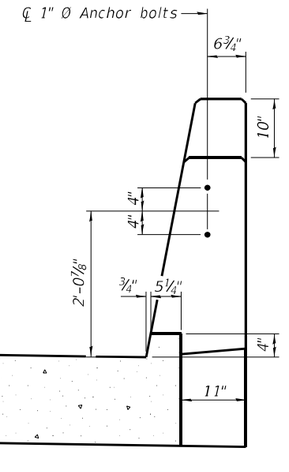


INSIDE ELEVATION OF EAST PARAPET AND CURB

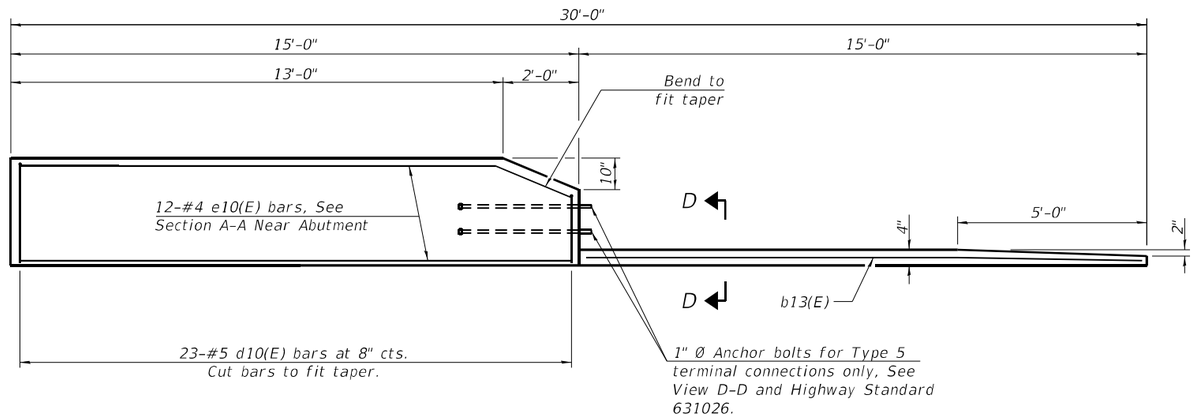
(Dimensions Along Inside Face of Parapet and Curb)



VIEW C-C

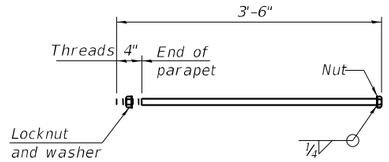


VIEW D-D



INSIDE ELEVATION OF WEST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)

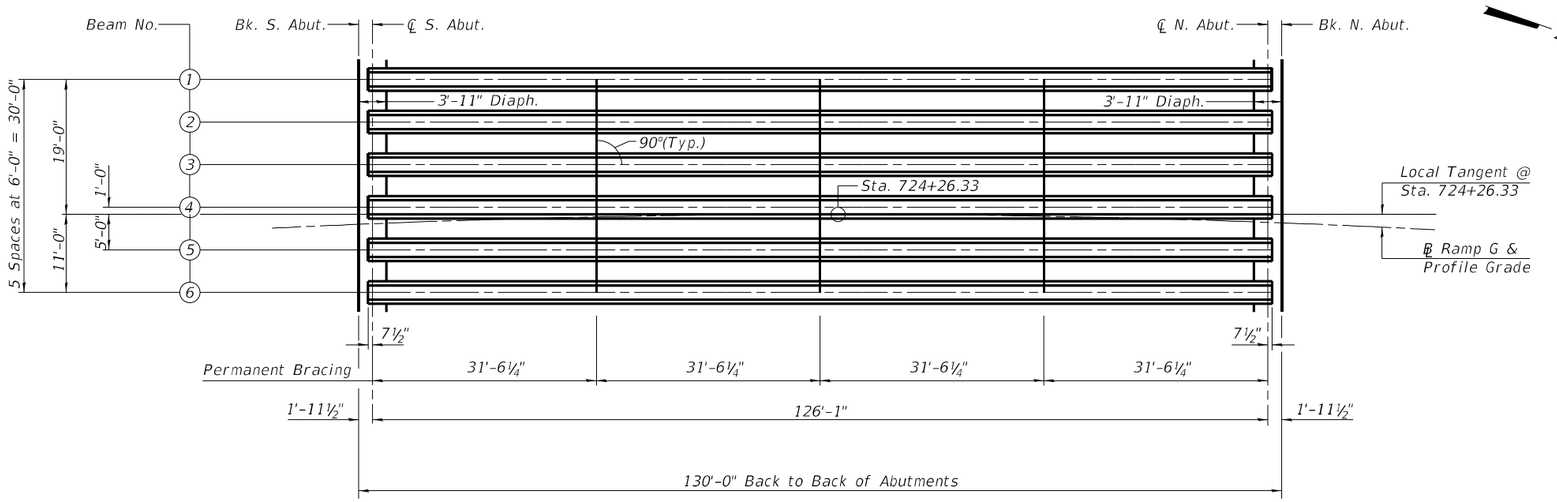


*1" Ø ANCHOR BOLT

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

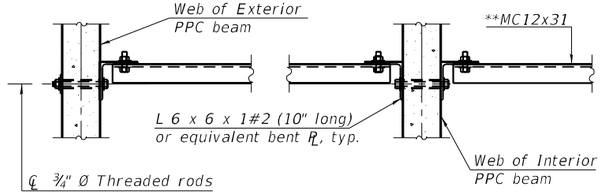
* Cost included with Concrete Superstructure (Approach Slab).

FILE NAME = 0101002-70B99-016-N. Appr Slab Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH BRIDGE APPROACH SLAB DETAILS STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MACON, ILLINOIS 61565 PHONE - 618.967.9740		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	764
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 16 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	

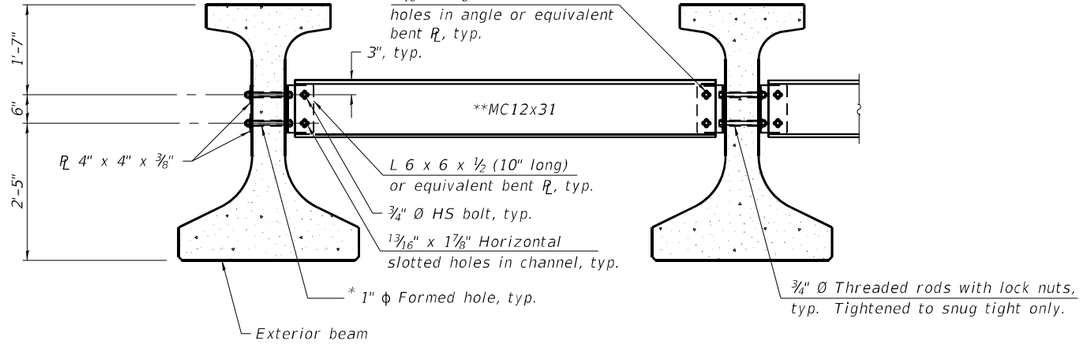


FRAMING PLAN

I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
Sb: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
Sb': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
St: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
St': Composite section modulus for the top fiber of the prestressed beam (in.³).
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
LLDF: Live Load Distribution Factor for Moment or Shear.
OCF: Obtuse Correction Factor



PLAN



ELEVATION

INTERIOR BEAM MOMENT TABLE		
		0.5 Sp.
I	(in^4)	295,427
I'	(in^4)	683,551
Sb	(in^3)	13,551.6
Sb'	(in^3)	19,940.2
St	(in^3)	9,174.7
St'	(in^3)	34,662.8
DC1	(k/')	1.559
MDC1	('k)	3,097
DC2	(k/')	0.190
MDC2	('k)	377.6
DW	(k/')	0.300
MDW	('k)	596.1
LLDF		0.524
M_{L+IM}	('k)	2,055

INTERIOR BEAM REACTION TABLE		
		Abut.
LLDF		0.671
OCF		1.000
RDC1	(k)	98.3
RDC2	(k)	12.0
RDW	(k)	18.9
R_L	(k)	71.8
R_{IM}	(k)	14.8
RTotal	(k)	215.8

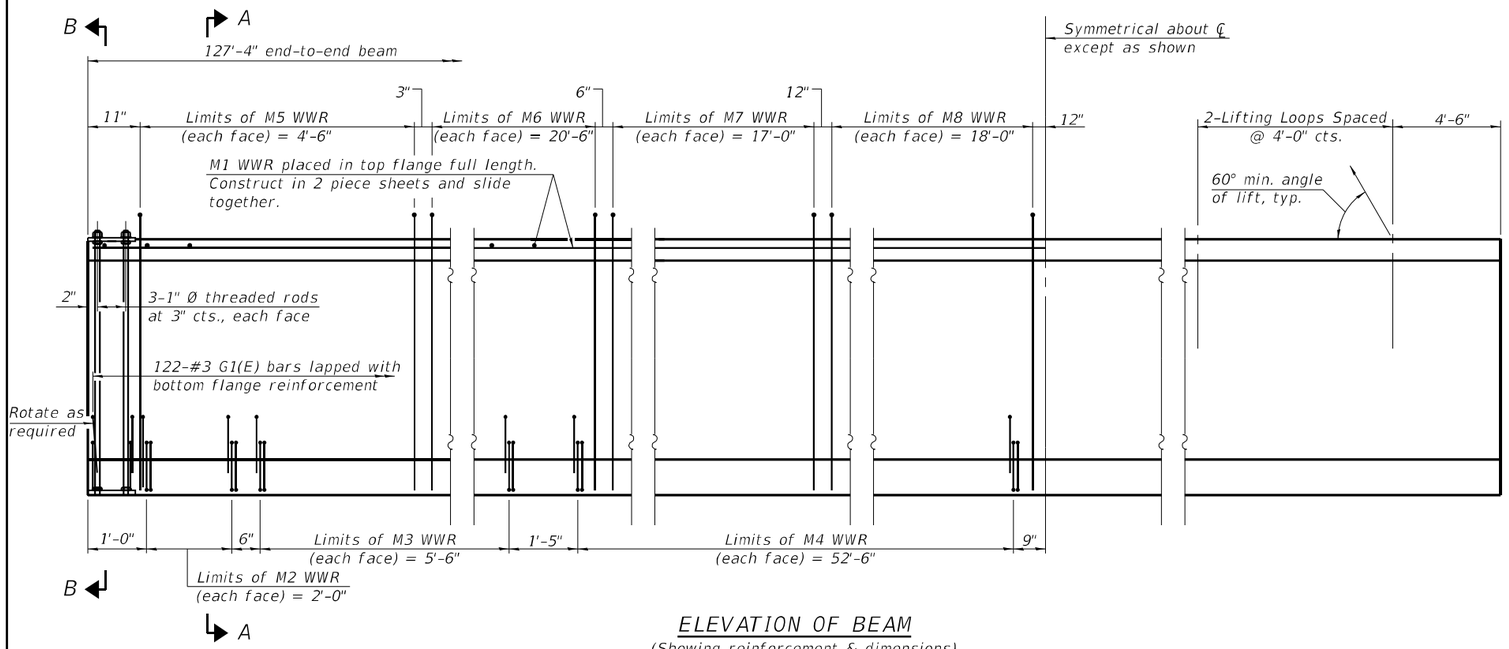
Notes:
All material for bracing shall be hot dip galvanized according to AASHTO M 111 unless otherwise noted.
Two hardened washers are required for each set of oversized holes.
All holes shall be 15/16" Ø unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M 232.
Threaded rods shall be ASTM F1554 Grade 55.
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

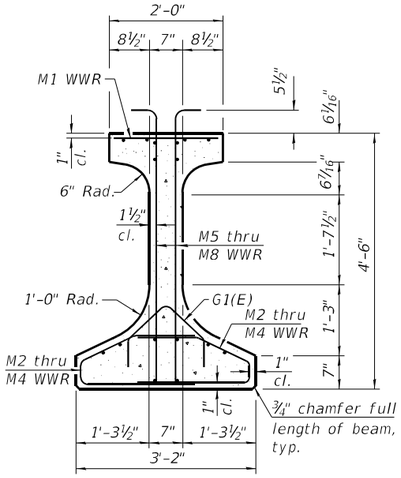
** Alternate MC12x35 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS
(15 Required)

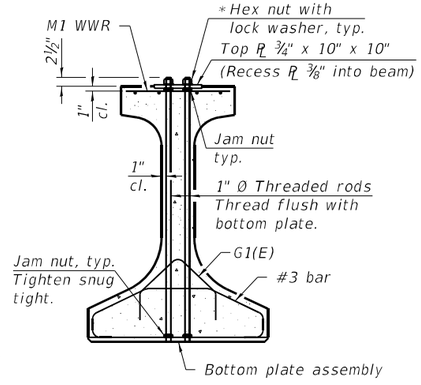
FILE NAME = 0101002-70B99-017-Framing Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - 618/997-8749		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	765
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 17 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

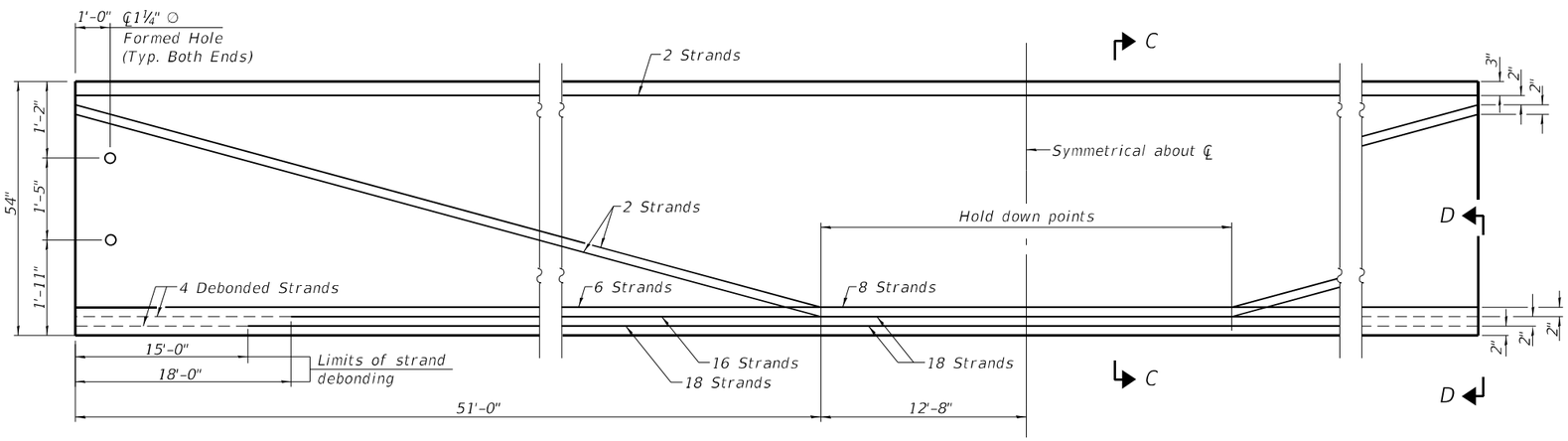


SECTION A-A

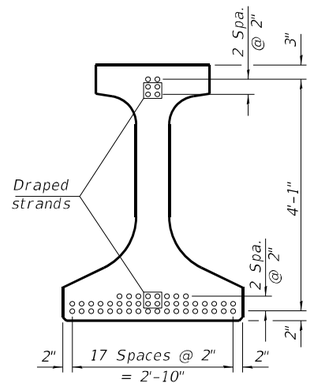


SECTION B-B

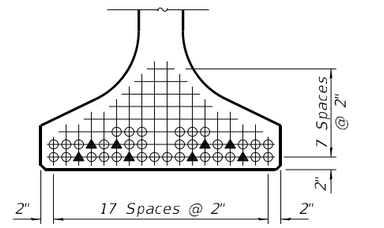
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(46-0.6" Ø 270 ksi strands)



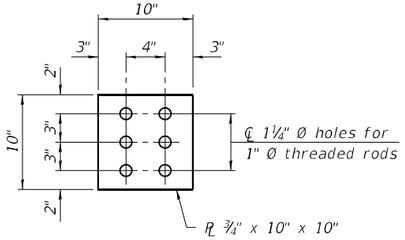
VIEW D-D

○ Fully bonded strand

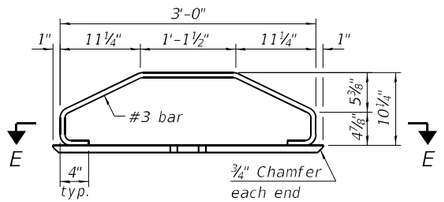
▲ Partially debonded strand

Notes:
See sheet 17 of 30 for number and location of 1" formed holes for Permanent Bracing.
See sheet 19 of 30 for additional details and Bill of Material.

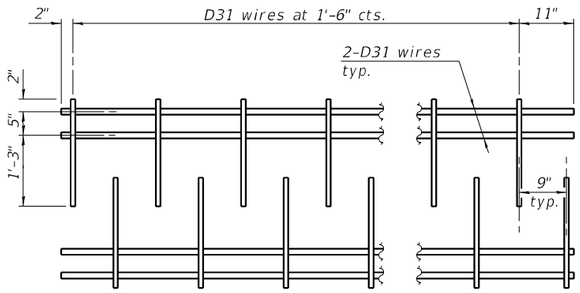
FILE NAME = 0101002-70B99-018-IL54 Beam Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL54N BEAM STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: 618/997-8190		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	766
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 18 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



PLAN – TOP PLATE



ELEVATION – BOTTOM PLATE ASSEMBLY



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").

NOTES

Inserts for ¾" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter for beam strands shall be 0.6" and the nominal cross-sectional area shall be 0.217 sq. in. The nominal diameter for lifting loops shall be ½" and the nominal cross sectional area shall be 0.153 sq. in.

The beams shall have a final concrete compressive strength, f'c, of 8500 psi and a release concrete compressive strength, f'ci, of 6500 psi.

A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

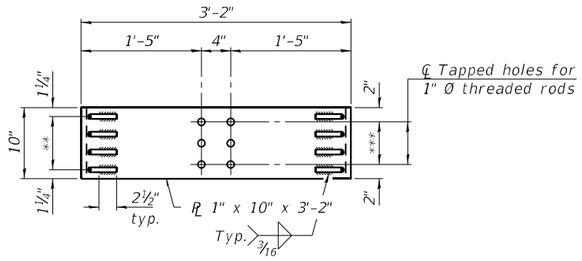
The top and bottom plates shall be AASHTO M 270 Grade 50.

The top plates and bottom plate assemblies shall be galvanized according to AASHTO M 111.

The threaded rods, nuts and washers shall be galvanized according to AASHTO M 232.

Threaded rods shall be ASTM F1554 Grade 55.

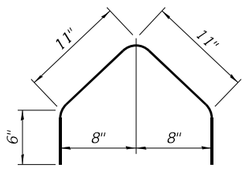
Welded Wire Reinforcement (WWR) shall conform to ASTM A884 with a Class A, Type 1 epoxy coating or ASTM A1060, Table 3 galvanized coating.



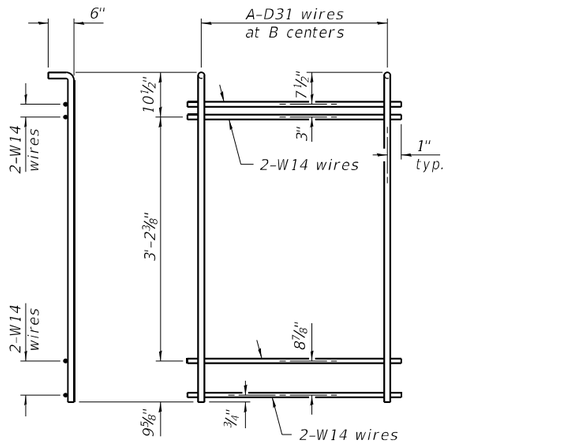
SECTION E-E

** 3 Spaces at 2½" = 7½"

*** 2 Spaces at 3" = 6"

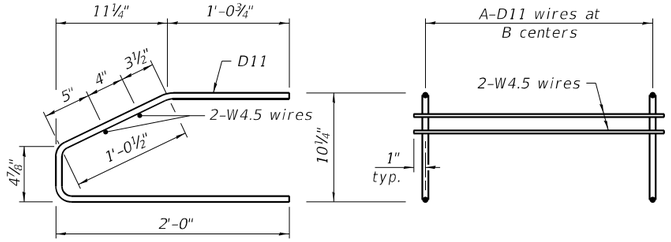


BAR G1(E)



M5 THRU M8 WWR DETAIL

(See Table of Dimensions)



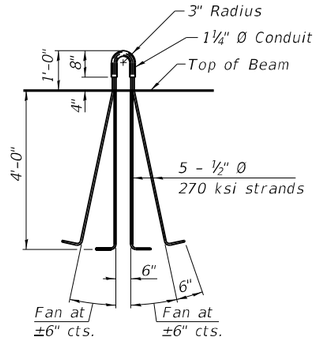
M2 THRU M4 WWR DETAIL

(See Table of Dimensions)

TABLE OF DIMENSIONS

(WWR tables are based on Grade 60.)

WWR	A	B
M2	9	3"
M3	12	6"
M4	36	1'-6"
M5	19	3"
M6	42	6"
M7	18	1'-0"
M8	10	2'-0"



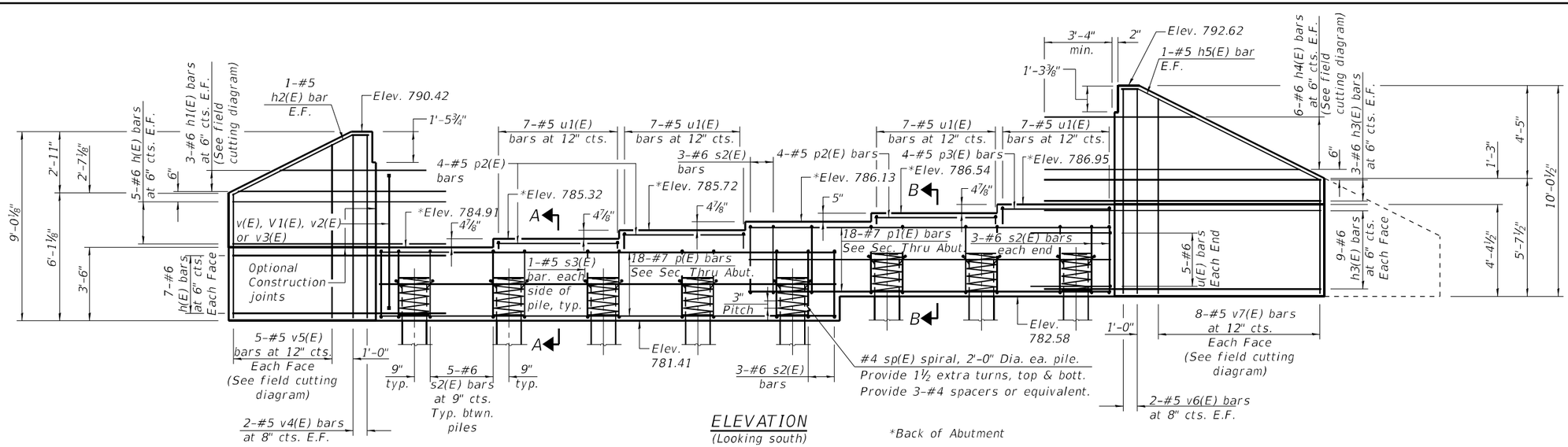
LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL54N	Ft.	764

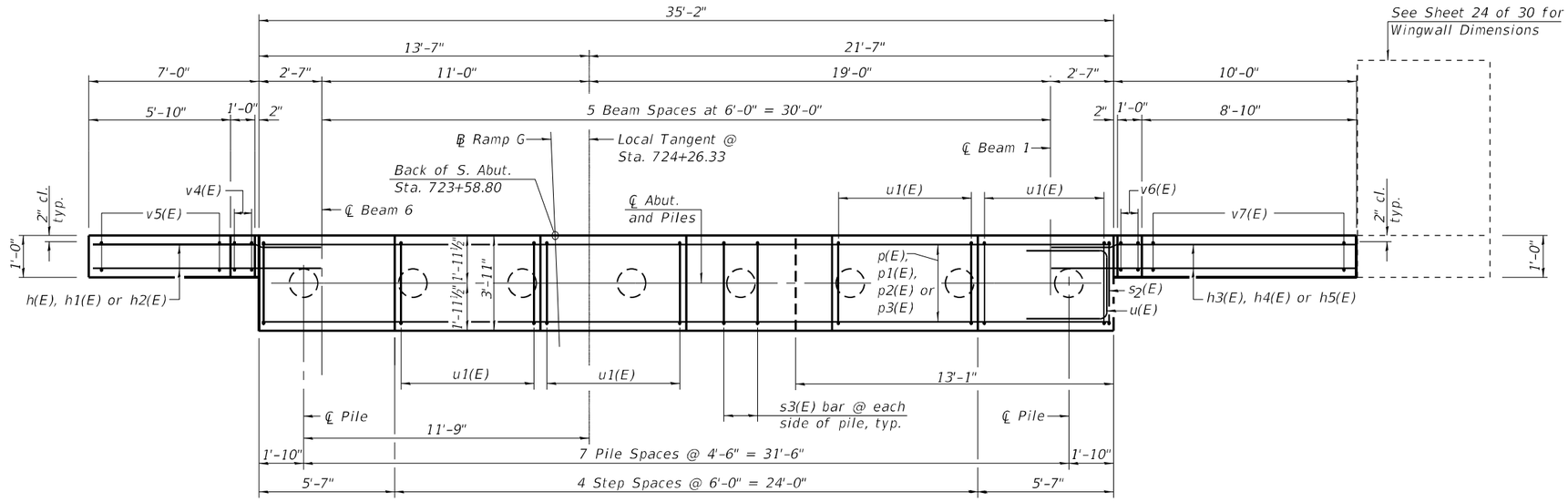
FILE NAME = 0101002-70B99-019-IL54 Beam Details2.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL54N BEAM DETAILS STRUCTURE NO. 010-1002
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)997-8190		CHECKED - FAM	REVISED -		SHEET NO. 19 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	767
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION
(Looking south)

*Back of Abutment

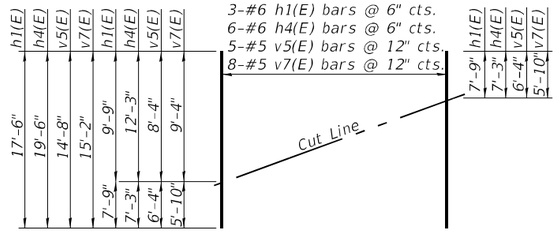


PLAN

PILE DATA

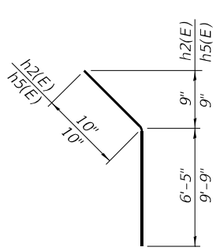
Type: MS 14" x 0.312" With Pile Shoes
Nominal Required Bearing: 513 kips
Factored Resistance Available: 282 kips
Est. Length: 63'
No. Production Piles: 7
No. Test Piles: 1
No. Pile Shoes: 8

Notes:
Pour steps monolithically with cap.
E.F. denotes Each Face.
For Section A-A and B-B, see Sheet 21 of 30.
For Bill of Materials, see Sheet 21 of 30.
For details of piles see Sheet 25 of 30.
Headed bars shall conform to ASTM A970 with threaded attachment: Class HA; and reinforcement bars conforming to ASTM A706 Cost included with Reinforcement Bars, Epoxy Coated.
For Layout of v(E), v1(E), v2(E), & V3(E) bars see Sheet 21 of 30.

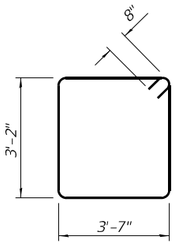


FIELD CUTTING DIAGRAM

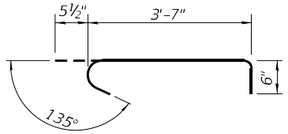
Order h1(E), h4(E), v5(E) and v7(E) full length. Cut as shown and use remainder of bars in opposite face.



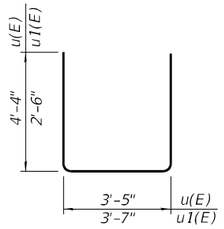
BAR h2(E) & h5(E)



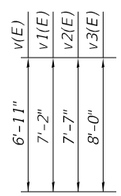
BAR s2(E)



BAR s3(E)

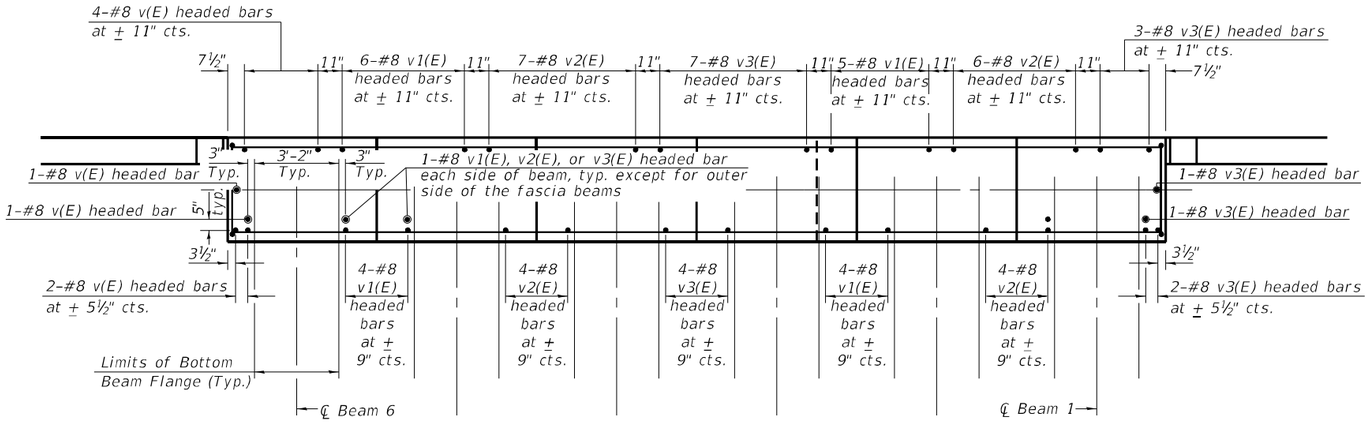


BAR u(E) & u1(E)



BAR v(E), v1(E) v2(E) & v3(E)
(Headed)

FILE NAME = 0101002-70B99-020- S. Abutment.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)827-3930		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	768
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 20 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



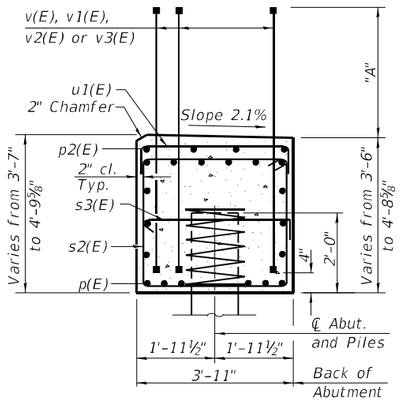
Layout of v(E), v1(E), v2(E) & v3(E) Bars

SOUTH ABUTMENT BILL OF MATERIAL

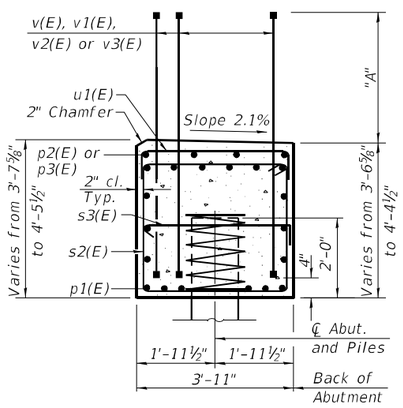
Bar	No.	Size	Length	Shape
h(E)	24	#6	10'-2"	
h1(E)	3	#6	17'-6"	
h2(E)	2	#5	7'-3"	
h3(E)	24	#6	13'-2"	
h4(E)	6	#6	19'-6"	
h5(E)	2	#5	10'-7"	
p(E)	18	#7	21'-10"	
p1(E)	18	#7	17'-4"	
p2(E)	12	#5	5'-10"	
p3(E)	4	#5	5'-4"	
s2(E)	47	#6	14'-10"	
s3(E)	16	#5	4'-7"	
* sp(E)	8	#4	2'-0"	
u(E)	10	#6	12'-1"	
u1(E)	28	#5	8'-7"	
v(E)	8	#8	6'-11"	
v1(E)	23	#8	7'-2"	
v2(E)	25	#8	7'-7"	
v3(E)	20	#8	8'-0"	
v4(E)	4	#5	8'-10"	
v5(E)	5	#5	14'-8"	
v6(E)	4	#5	9'-10"	
v7(E)	8	#5	15'-2"	

Structure Excavation	Cu. Yd.	97
Concrete Structures	Cu. Yd.	26.1
Reinforcement Bars, Epoxy Coated	Pound	6400
Furnishing Metal Shell Piles, 14" x 0.312"	Foot	441
Driving Piles	Foot	441
Test Pile, Metal Shells	Each	1
Pile Shoes	Each	8

* Length is height of spiral.



SEC. A-A



SEC. B-B

DIMENSIONS OF V-BARS ABOVE TOP OF ABUTMENT CAP ("A")

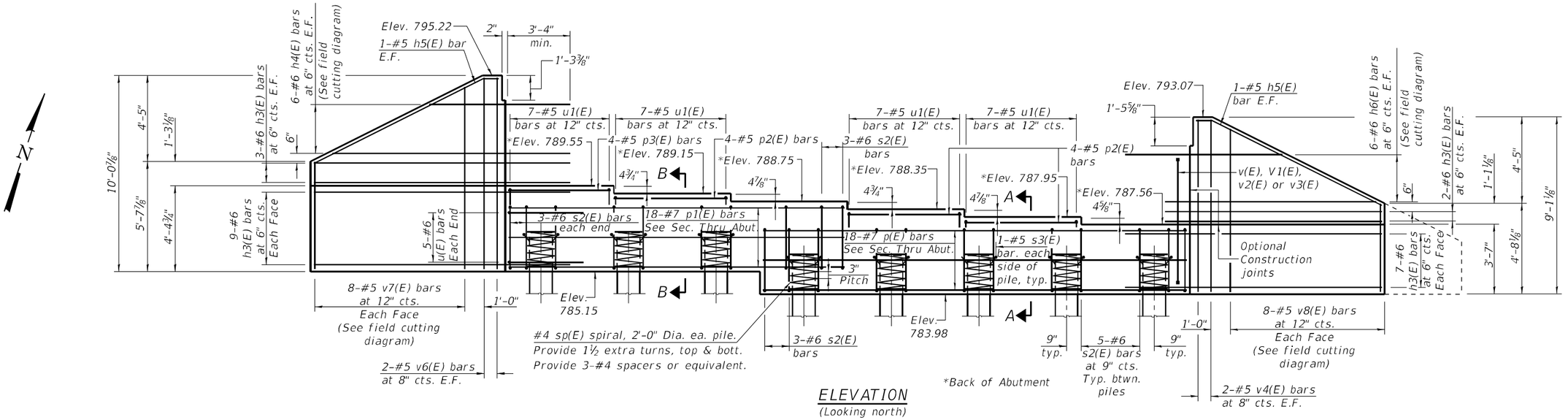
Bar	Minimum Length of "A"	Maximum Length of "A"
v(E)	3'-9"	3'-9"
v1(E)	3'-6⅜"	4'-0"
v2(E)	3'-6½"	4'-0⅛"
v3(E)	3'-7⅜"	4'-0¼"

FILE NAME = 0101002-70B99-021- S. Abutment Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MAHOMET, ILLINOIS 61853 PHONE - 619.967.9190		CHECKED - FAM	REVISED -	
	PLOT SCALE =	DRAWN - BJV	REVISED -	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -	

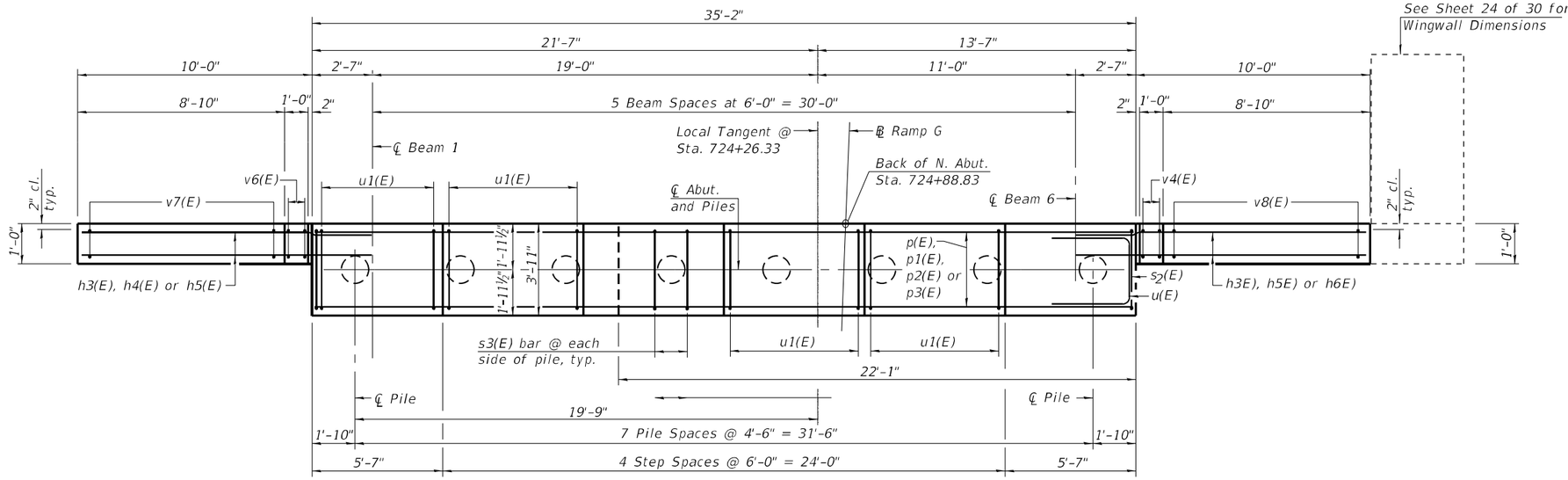
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
STRUCTURE NO. 010-1002
SHEET NO. 21 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	769
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION
(Looking north)

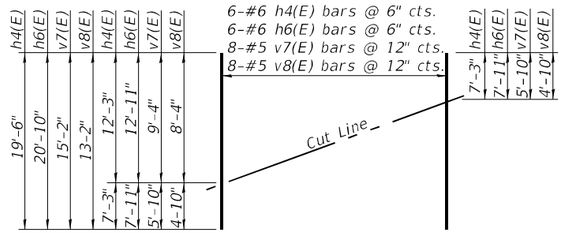


PLAN

PILE DATA

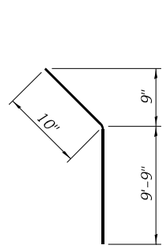
Type: MS 14" x 0.312" With Pile Shoes
Nominal Required Bearing: 513 kips
Factored Resistance Available: 282 kips
Est. Length: 55'
No. Production Piles: 7
No. Test Piles: 1
No. Pile Shoes: 8

Notes:
Pour steps monolithically with cap.
E.F. denotes Each Face.
For Section A-A and B-B, see Sheet 23 of 30.
For Bill of Materials, see Sheet 23 of 30.
For details of piles, see Sheet 25 of 30.
Headed bars shall conform to ASTM A970 with threaded attachment: Class HA; and reinforcement bars conforming to ASTM A706
Cost included with Reinforcement Bars, Epoxy Coated.
For Layout of v(E), v1(E), v2(E), & V3(E) bars see sheet 23 of 30.

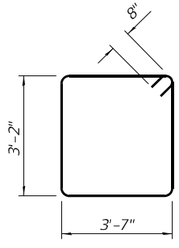


FIELD CUTTING DIAGRAM

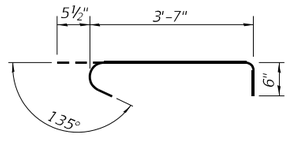
Order h4(E), h6(E), v7(E) and v8(E) full length. Cut as shown and use remainder of bars in opposite face.



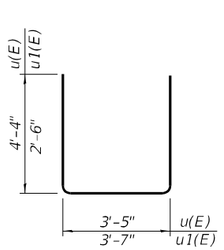
BAR h5(E)



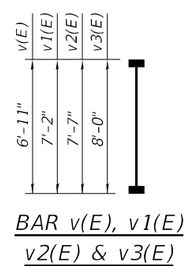
BAR s2(E)



BAR s3(E)

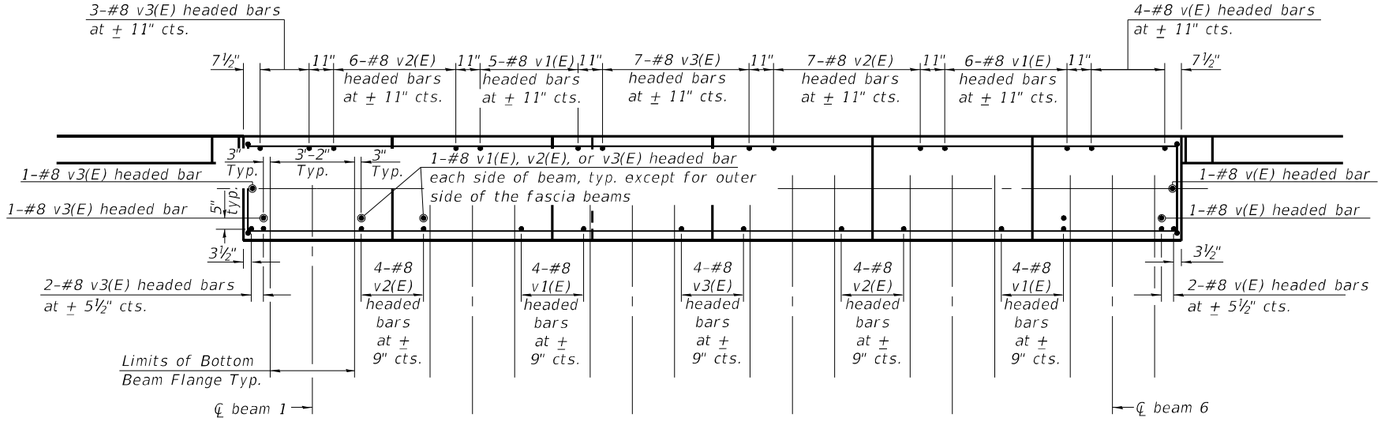


BAR u(E) & u1(E)



BAR v(E), v1(E) v2(E) & v3(E)
(Headed)

FILE NAME = 0101002-70B99-022-N. Abutment.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)997-3190		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	770
	PLOT SCALE =	DRAWN - BJV	REVISED -		SHEET NO. 22 OF 30 SHEETS				CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -					ILLINOIS	FED. AID PROJECT	

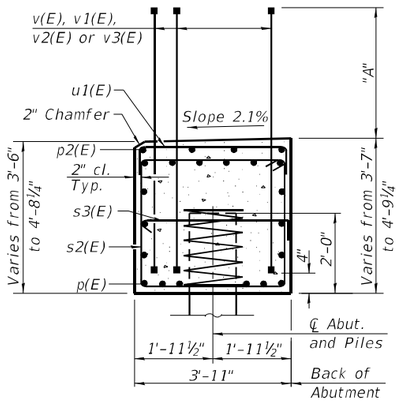


Layout of v(E), v1(E), v2(E) & v3(E) Bars

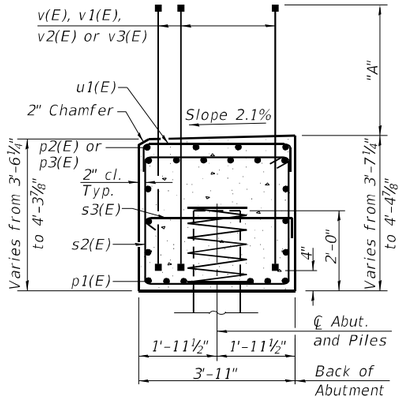
NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h3(E)	42	#6	13'-2"	
h4(E)	6	#6	19'-6"	
h5(E)	4	#5	10'-7"	
h6(E)	6	#6	20'-10"	
p(E)	18	#7	21'-10"	
p1(E)	18	#7	17'-4"	
p2(E)	12	#5	5'-10"	
p3(E)	4	#5	5'-4"	
s2(E)	47	#6	14'-10"	
s3(E)	16	#5	4'-7"	
* sp(E)	8	#4	2'-0"	
u(E)	10	#6	12'-1"	
u1(E)	28	#5	8'-7"	
v(E)	8	#8	6'-11"	
v1(E)	23	#8	7'-2"	
v2(E)	25	#8	7'-7"	
v3(E)	20	#8	8'-0"	
v4(E)	4	#5	8'-10"	
v6(E)	4	#5	9'-10"	
v7(E)	8	#5	15'-2"	
v8(E)	8	#5	13'-2"	
Structure Excavation	Cu. Yd.		111	
Concrete Structures	Cu. Yd.		26.6	
Reinforcement Bars, Epoxy Coated	Pound		6540	
Furnishing Metal Shell Piles, 14" x 0.312"	Foot		385	
Driving Piles	Foot		385	
Test Pile, Metal Shells	Each		1	
Pile Shoes	Each		8	

* Length is height of spiral.



SEC. A-A



SEC. B-B

DIMENSIONS OF V-BARS ABOVE TOP OF ABUTMENT CAP ("A")

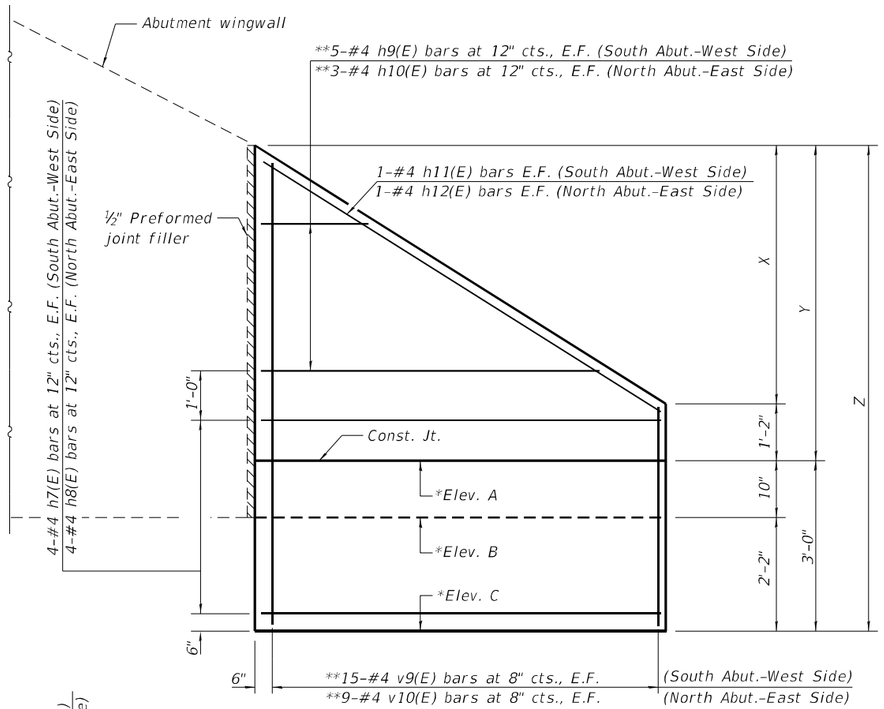
Bar	Minimum Length of "A"	Maximum Length of "A"
v(E)	3'-8"	3'-8"
v1(E)	3'-5⅞"	3'-11"
v2(E)	3'-6⅛"	3'-11⅜"
v3(E)	3'-6¾"	3'-11½"

FILE NAME = 0101002-70B99-023-N. Abutment Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -	
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - (618)997-3190		CHECKED - FAM	REVISED -	
	PLOT SCALE =	DRAWN - BJV	REVISED -	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -	

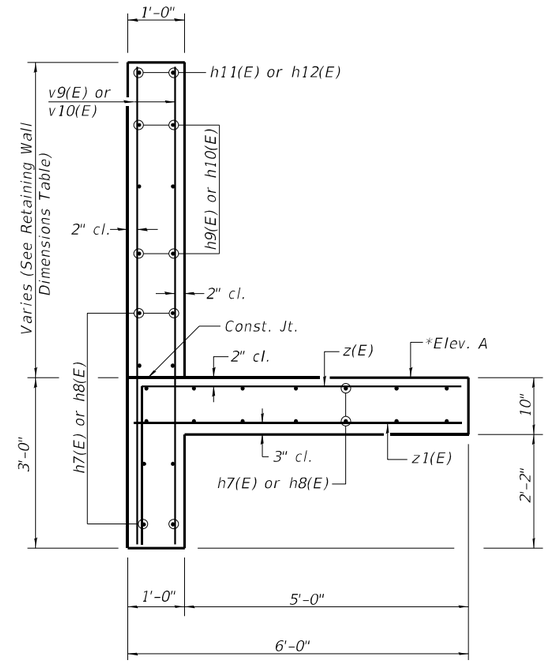
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
STRUCTURE NO. 010-1002
SHEET NO. 23 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	771
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

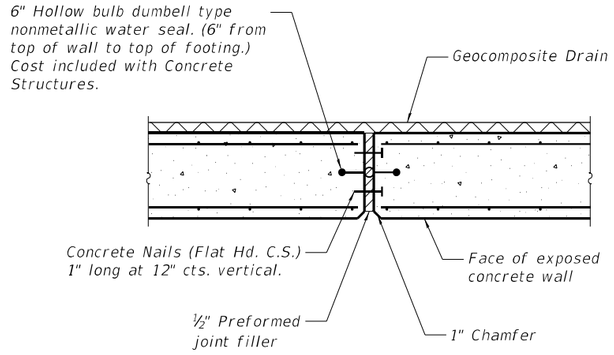


ELEVATION



SECTION A-A

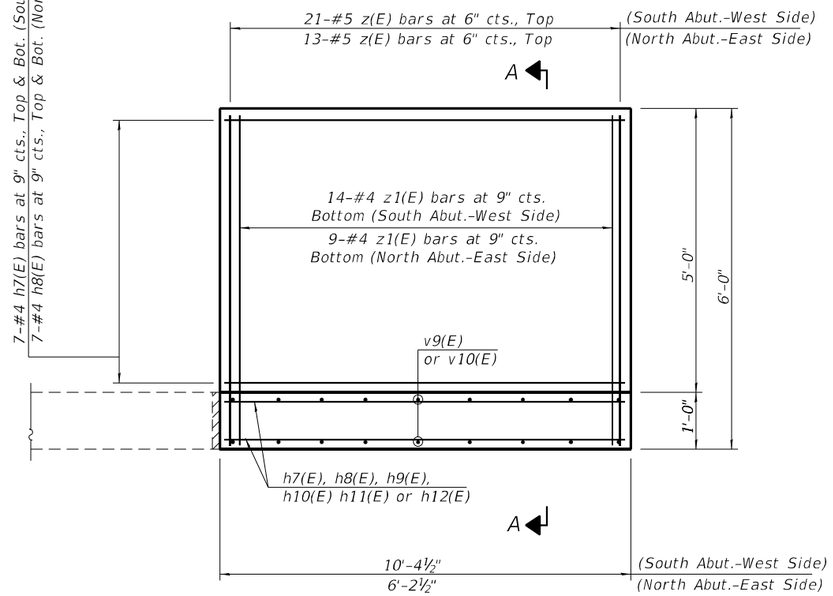
Maximum Applied Service Bearing Pressure, Qmax = 1453 psf



EXPANSION JOINT DETAIL

RETAINING WALL DIMENSIONS

	South Abutment	North Abutment
Dimension	West	East
X	5'-2¼"	3'-1¼"
Y	6'-4¼"	4'-3¼"
Z	9'-4¼"	7'-3¼"

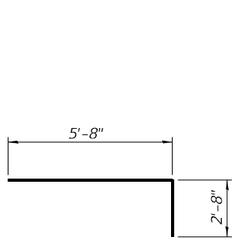


PLAN

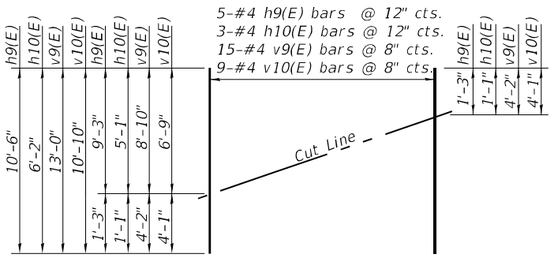
*See Footing Elevation Table
**See Field Cutting Diagram

FOOTING ELEVATIONS

	South Abutment	North Abutment
Elevation	West	East
A	781.83	784.36
B	781.00	783.53
C	778.83	781.36



BAR z(E)



FIELD CUTTING DIAGRAM

Order h9(E), h10(E), v9(E) and v10(E) full length. Cut as shown and use remainder of bars in opposite face.

BILL OF MATERIAL
2 WINGWALL EXTENSIONS

Bar	No.	Size	Length	Shape
h7(E)	22	#4	10'-1"	
h8(E)	22	#4	5'-11"	
h9(E)	5	#4	10'-6"	
h10(E)	3	#4	6'-2"	
h11(E)	2	#4	11'-4"	
h12(E)	2	#4	6'-8"	
v9(E)	15	#4	13'-0"	
v10(E)	9	#4	10'-10"	
z(E)	34	#5	8'-4"	
z1(E)	23	#4	5'-8"	
Concrete Structures		Cu. Yd.	6.5	
Reinforcement Bars, Epoxy Coated		Pound	880	

FILE NAME = 0101002-70B99-024-Wingwall Extension .dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

DESIGNED - GBR
CHECKED - FAM
DRAWN - BJV
CHECKED - GBR

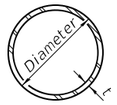
REVISED -
REVISED -
REVISED -
REVISED -

BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.
403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-8190

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

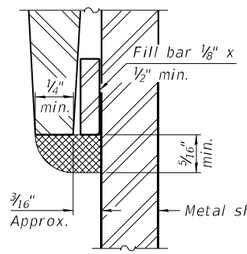
WINGWALL EXTENSIONS
STRUCTURE NO. 010-1002
SHEET NO. 24 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	772
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

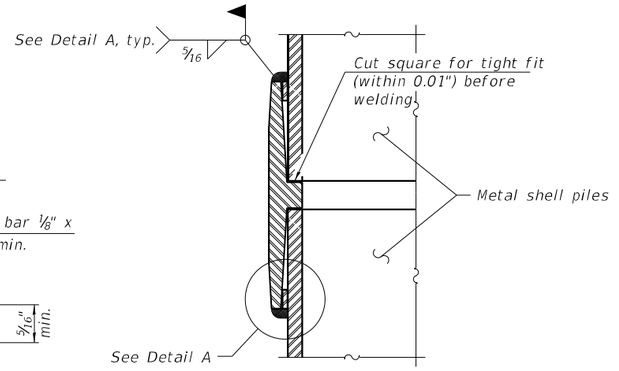


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd.³/ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470

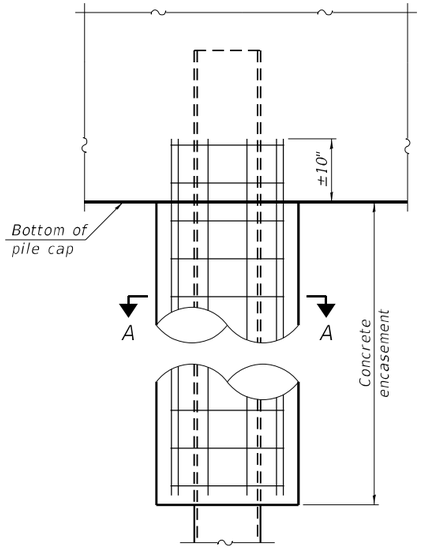


DETAIL A

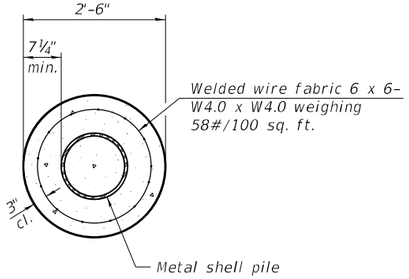


WELDED COMMERCIAL SPLICE

Notes:
The ⅛" x ½" min. fill bar may be constructed of 2 bars with a ⅛" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

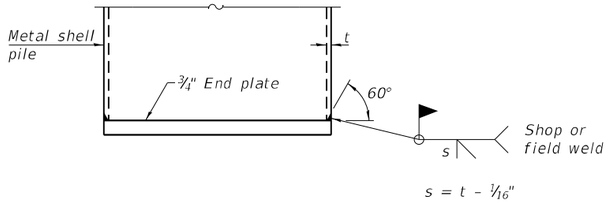


ELEVATION



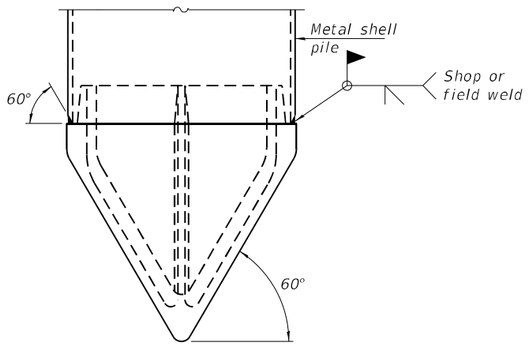
SECTION A–A

INDIVIDUAL PILE CONCRETE ENCASEMENT AT PIERS



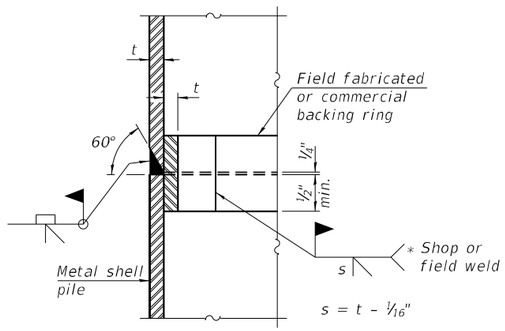
$s = t - \frac{1}{16}"$

END PLATE ATTACHMENT



PILE SHOE ATTACHMENT

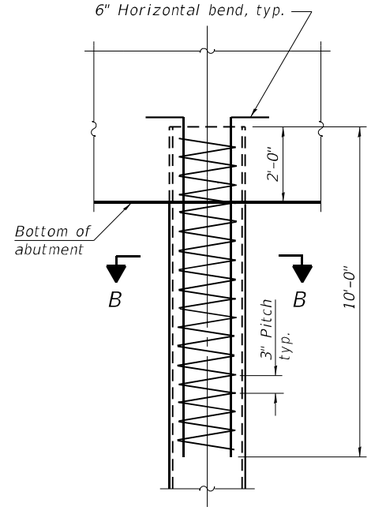
(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).



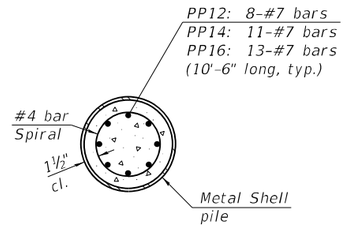
$s = t - \frac{1}{16}"$

COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

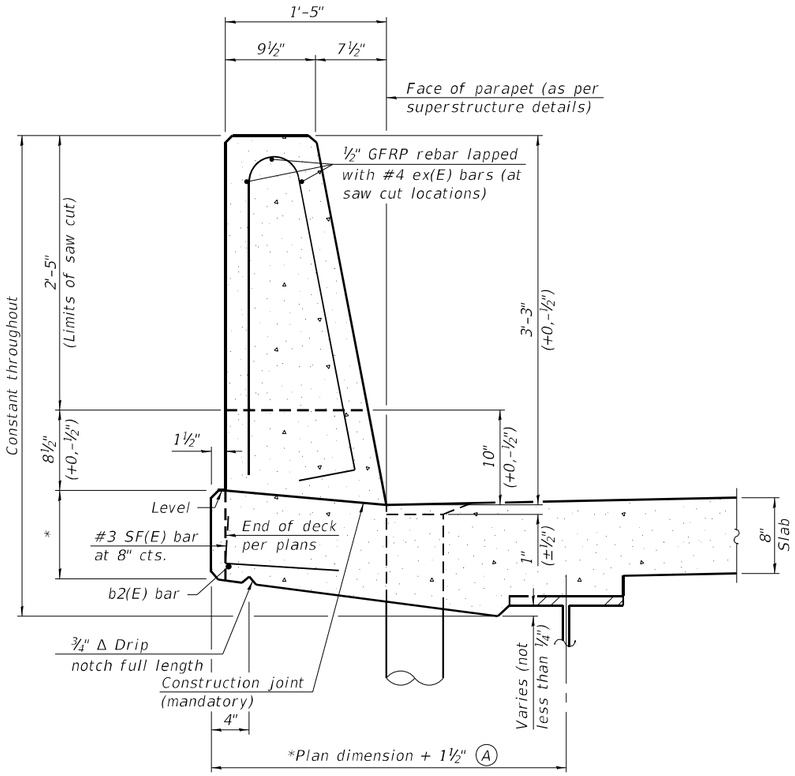
F-MS 8-11-2017

FILE NAME = 0101002-70B99-025- Pile Details.dgn	USER NAME =	DESIGNED - GBR	REVISED -
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COUNTY STREET MARION, ILLINOIS 62959 PHONE (618)997-1931		CHECKED - FAM	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

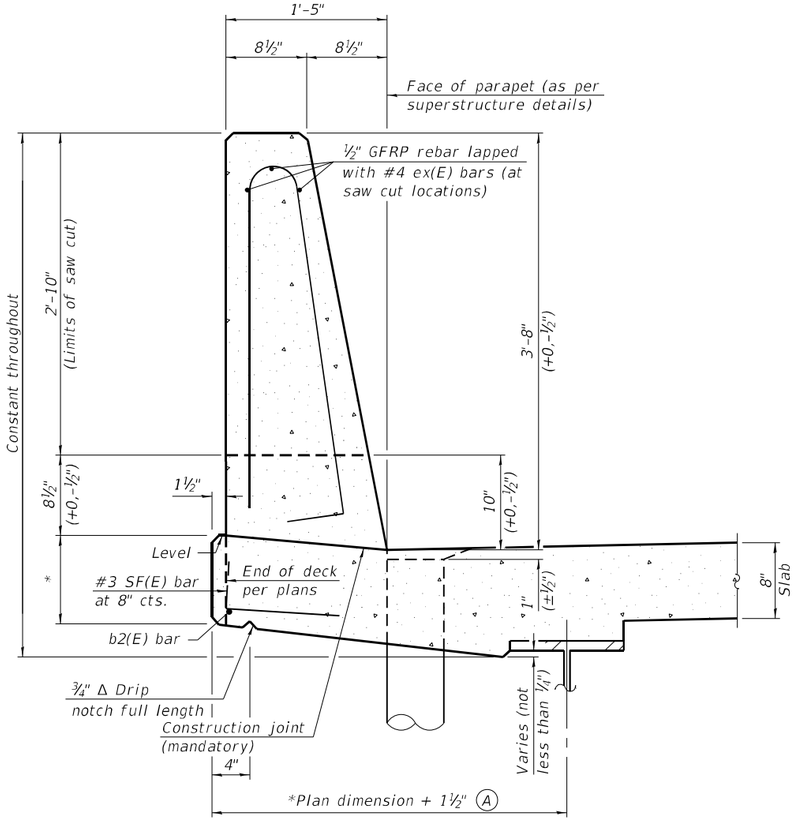
METAL SHELL PILE DETAILS
STRUCTURE NO. 010-1002
SHEET NO. 25 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	773
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



39" CONSTANT-SLOPE PARAPET SECTION

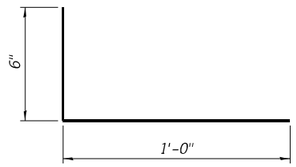
(Showing dimensions, d(E), and ½" Ø GFRP rebar)



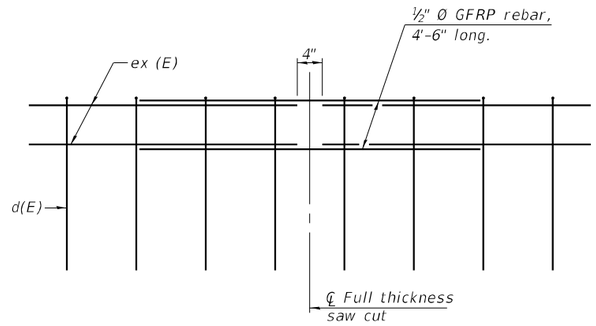
44" CONSTANT-SLOPE PARAPET SECTION

(Showing dimensions, d(E), and ½" Ø GFRP rebar)

*See Superstructure Details.



#3 (E) BAR



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.

Place full depth aluminum sheets as shown on superstructure details.

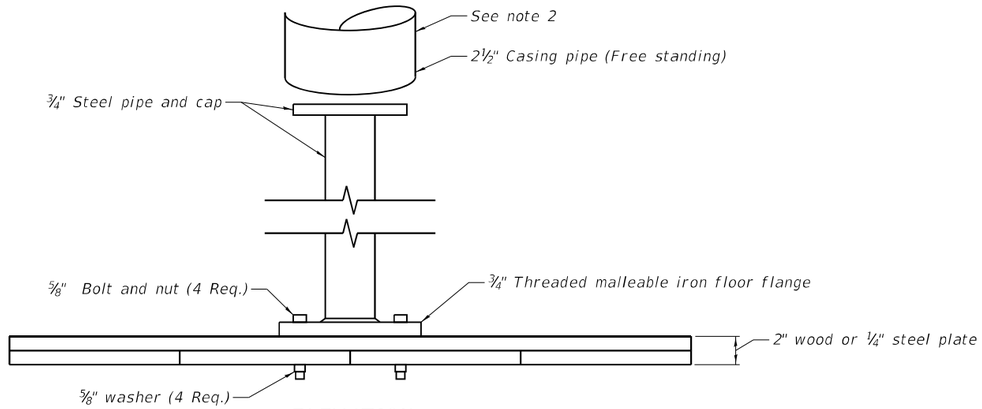
Replace all cork joint filler locations with a full thickness saw cut.

Steel superstructure shown. Other superstructure types similar.

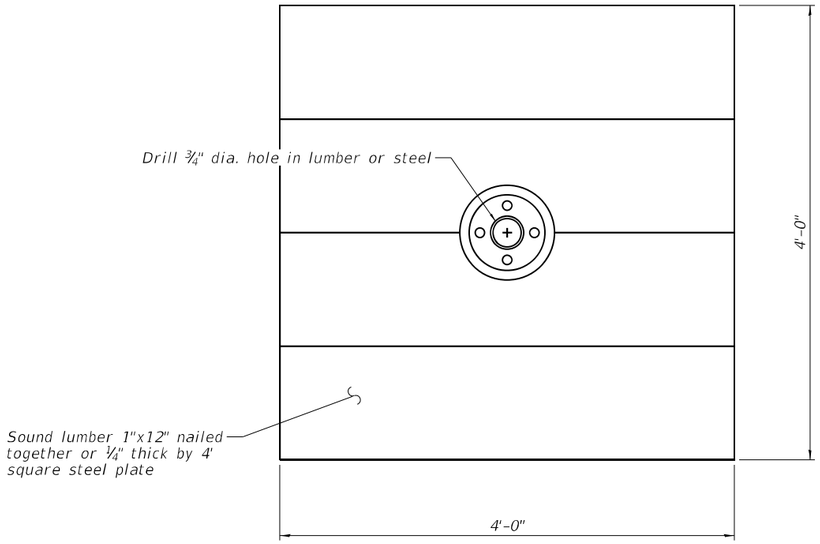
SFP 39-44 1-14-2019

FILE NAME = 0101002-70B99-026- Parapet Slipforming.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE PARAPET SLIPFORMING OPTION STRUCTURE NO. 010-1002
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)672-3150		CHECKED - FAM	REVISED -		SHEET NO. 26 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	774
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



ELEVATION



PLAN

NOTES:

1. Settlement platform shall be in accordance with the applicable portions of Article 204.06 of the Standard Specifications.
2. Do not install casing pipe until after one section of ¾" steel pipe has been covered with earth. The casing pipe should not rest on platform.

FILE NAME = 0101002-70B99-027-Settlement Platform.dgn	USER NAME =	DESIGNED - GBR	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SETTLEMENT PLATFORM STRUCTURE NO. 010-1002	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE -618/997-8190		CHECKED - FAM	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	775
	PLOT SCALE =	DRAWN - BJV	REVISED -		SHEET NO. 27 OF 30 SHEETS				CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -					ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION South Abut Ramp G South Structure LOGGED BY MLL, TC

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3 PM

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-28
Station 723+35.10
Offset 0.0ft
Ground Surface Elev. 753.34 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
▽ First Encounter 746.3 ft
▽ Upon Completion washed ft
▼ After Hrs. ft

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, black				
752.34				
SILTY CLAY: Black, stiff, organics		2		
		3	1.71	18.3
		4	B	
750.34				
SILTY CLAY LOAM: Brown/Gray, soft		1		
748.84		2	0.49	21.5
SILTY CLAY LOAM: Gray, soft	-5	3	B	
747.34		1		
SAND: Brown, medium, course (washed auger) ▽		3	0.33	12.8
		7	B	
744.84				
SAND: Brown, medium, fine		4		
		6		13.6
	-10	9		
		8		
		16		14.9
		13		
		14		
		8		11.6
	-15	9		
736.84		3		
SILTY CLAY TILL: Gray, stiff		7	1.81	9.9
		8	B	
734.84				
SILTY CLAY TILL: Gray, very stiff		4		
	-20	5	2.37	9.7
		10	B	

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff *(continued)*				
		4		
		5	2.06	10.2
	-25	8	B	
		4		
		6	2.27	9.7
	-30	9	B	
721.34				
CLAYEY SAND: Gray, dense		7		
		14		10.0
	-35	16		
715.84				
SILTY CLAY TILL: Gray, very stiff, trace gravel				
		5		
		4	3.5	7.4
713.69	-40	6	P	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name P:\GINT\PROJECTS\I 57 74 CHAMPAIGN COUNTY.GPJ Data Template D6TEMPLT.GDT Date Printed 3/2/15
Latitude 40.144779 Longitude -88.280099 Datum Job Number MCE-14044

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION South Abut Ramp G South Structure LOGGED BY MLL, TC

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3 PM

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-28
Station 723+35.10
Offset 0.0ft
Ground Surface Elev. 753.34 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
▽ First Encounter 746.3 ft
▽ Upon Completion washed ft
▼ After Hrs. ft

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff				
		4		
		5	1.24	11.4
	-45	8	B	
704.84				
SILTY CLAY TILL: Gray, medium		5		
		6	0.99	12.1
	-50	9	B	
699.84				
SILTY CLAY TILL: Gray, stiff		4		
		6	1.48	11.1
	-55	8	B	
		4		
		6	1.24	10.8
	-60	10	B	

	DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, stiff *(continued)*				
689.84				
SILTY CLAY TILL: Gray, very stiff		4		
		7	2.55	10.7
	-65	11	B	
		5		
		9	2.55	10.6
	-70	9	B	
		5		
		9	1.81	10.6
678.34	-75	12	B	
End of Boring				
	-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name P:\GINT\PROJECTS\I 57 74 CHAMPAIGN COUNTY.GPJ Data Template D6TEMPLT.GDT Date Printed 3/2/15
Latitude 40.144779 Longitude -88.280099 Datum Job Number MCE-14044

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION North Abut Ramp G, South Structure LOGGED BY TC, MLL

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3 PM

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-29
Station 724+83.83
Offset 0.0ft
Ground Surface Elev. 753.94 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
▽ First Encounter 743.9 ft
▽ Upon Completion washed ft
▼ After Hrs. ft

DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)	Material
752.94				TOPSOIL: Silty Clay
	2			
	2	1.24	28.4	SILTY CLAY: Gray to Brown, stiff, moist
	4	B		
750.94				
	2			SILTY CLAY LOAM: Brown, soft, moist
	2	0.49	21.8	
-5	3	B		
748.44				
	5			SAND: Brown, medium dense, wet, coarse
	5		16.7	
	12			
745.94				
	5			CLAYEY SAND LOAM: Gray, moist, medium dense
	9		16.9	
-10	13			
▽ 743.44				
	4			SAND: Brown, medium dense, wet, coarse (washed auger)
	4		20.8	
	20			
740.44				
	6			SAND AND GRAVEL: Coarse sand, fine gravel, medium dense
	7		18.5	
-15	8			
737.94				
	9			SILTY CLAY: Gray, stiff
	10	2.89	10.8	
	12	B		
	4			
	5	2.27	12.2	
-20	8	B		
732.44				SILTY CLAY: Gray, stiff *(continued)*
	2			SAND AND GRAVEL: Gray coarse sand and fine gravel, dense (washed auger)
	4			
	12			
729.44				
-25	17		11.8	SILTY CLAY: Gray
	16			
728.44				
				SAND AND GRAVEL: Gray, coarse sand and fine gravel
724.94	10			
	7	2.0	12.3	SILTY CLAY: Gray, medium
-30	6	P		
720.94				
	11			SAND: Gray, loose, wet, coarse
	2		20.4	
-35	6			
715.94				
	7			SAND: Gray/Black/Brown, medium dense, fine (washed auger)
	7		17.2	
-40	7			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name P:\GNT\PROJECTS\I 57 74 CHAMPAIGN COUNTY.GPJ Data Template D6TEMPLT.GDT Date Printed 3/2/15
Latitude 40.141613 Longitude -88.260278 Datum Job Number MCE-14044

Illinois Department of Transportation
Division of Highways
Kaskaskia Engineering Group

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION North Abut Ramp G, South Structure LOGGED BY TC, MLL

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION , SEC. 34, TWP. 20N, RNG. 8E, 3 PM

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-29
Station 724+83.83
Offset 0.0ft
Ground Surface Elev. 753.94 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
▽ First Encounter 743.9 ft
▽ Upon Completion washed ft
▼ After Hrs. ft

DEPTH (ft)	BLOWS	UCS Qu (tsf)	MOIST (%)	Material
				SAND: Gray/Black/Brown, medium dense, fine (washed auger) *(continued)*
709.94	5			
	5	1.81	13.1	SILTY CLAY TILL: Gray, stiff
-45	7	B		
706.94				
				SILTY CLAY TILL: Gray, very stiff
	20			
	17	2.27	12.0	
-50	13	B		
701.94				
				SILTY CLAY TILL: Gray, stiff
	5			
	7	1.98	14.1	
-55	10	B		
	5			
	10	1.90	13.8	
-60	15	B		
				SILTY CLAY TILL: Gray stiff *(continued)*
691.94				
				SILTY CLAY TILL: Gray, very stiff
	5			
	12	2.47	12.5	
-65	16	B		
	25			
	12	2.55	13.1	
-70	16	B		
	12			
	18	3.60	12.1	
678.94 -75	22	B		
				End of Boring
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
Abbreviations W.O.H - Sampler Advanced By Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) BBS, from 137 (Rev. 8-99)

File Name P:\GNT\PROJECTS\I 57 74 CHAMPAIGN COUNTY.GPJ Data Template D6TEMPLT.GDT Date Printed 3/2/15
Latitude 40.141613 Longitude -88.260278 Datum Job Number MCE-14044

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION Pier Ramp G South Structure LOGGED BY MLL

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144894, Longitude -88.280157

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-38/39
Station 723+94.08
Offset 2.9 ft LT
Ground Surface Elev. 753.44 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 747.4 ft ▼
Upon Completion ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL: Silty Clay, dark brown	752.44			
SILTY CLAY: Gray/Brown		2		
		3 4	1.0 B	20
	749.94			
SILTY SAND: Brown, loose, wet, fine		1		
		1 3	0.5 P	17
	-5 747.94			
SAND: Brown, medium dense, wet ▼		5		
		10 12		12
		5		
	743.94	8	0.6	15
CLAYEY SILT: Brown, wet	-10	9	B	
	742.44			
SAND: Medium dense, wet, coarse		4		
	741.44	10 11	1.1 B	12
CLAYEY SILT LOAM: Gray, wet				
	739.94			
SAND AND GRAVEL: Wet		4		
	738.94	7	1.5	9
SILTY CLAY: Gray, stiff, wet	-15	5	B	
		6		
		7 7	2.7 B	10
		4		
	-20	6 8	2.7 B	10

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY: Gray, stiff, wet (continued)				
		4		
	-25	6 9	3.1 B	9
	726.44			
SILTY CLAY TILL: Gray, wet		7		
		8 8	1.5 P	7
	-30			
	721.44			
SILTY CLAY TILL: Gray, very stiff		4		
		5 9	2.0 B	11
	-35			
		4		
	-40	9 10	2.1 B	10

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Bacone Farmer Workmand Engineering & Testing, LLC

SOIL BORING LOG

Date 1/29/15

ROUTE I-57/74 DESCRIPTION Pier Ramp G South Structure LOGGED BY MLL

SECTION 10(5-1-RS-1, 14-1,6)R LOCATION SEC. 34, TWP. 20N, RNG. 8E, 3rd PM, Latitude 40.144894, Longitude -88.280157

COUNTY Champaign DRILLING METHOD HSA HAMMER TYPE Auto

STRUCT. NO.
Station

BORING NO. B-38/39
Station 723+94.08
Offset 2.9 ft LT
Ground Surface Elev. 753.44 ft

Surface Water Elev. n/a ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 747.4 ft ▼
Upon Completion ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Gray, very stiff (continued)				
		4		
	-45	6 10	2.0 B	10
		6		
6" gravelly seam, wet		11 15	2.0 B	10
	-50			
		6		
	-55	8 11	2.1 B	11
	694.44			
SILTY CLAY TILL: Reddish Gray, very stiff	-60	10 15	2.9 B	10

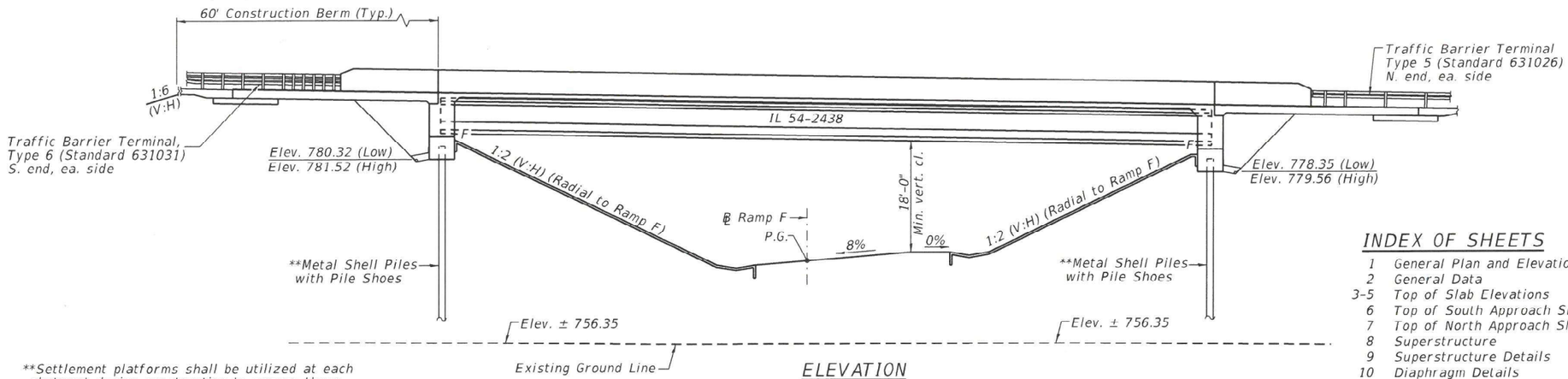
	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SILTY CLAY TILL: Reddish Gray, very stiff (continued)	692.44			
SILTY CLAY TILL: Gray, very stiff to stiff		5		
		10 11	2.5 B	9
	-65			
		7		
		15 14	2.3 B	13
	-70			
		14		
	678.44 -75	20 35	1.5 P	11
End of Boring				
	-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Bench Mark: Chiseled "□" on top of N.W. corner of light pole foundation #50-107 on Ramp DB, Sta. 1068+46.46 Elev. 769.173

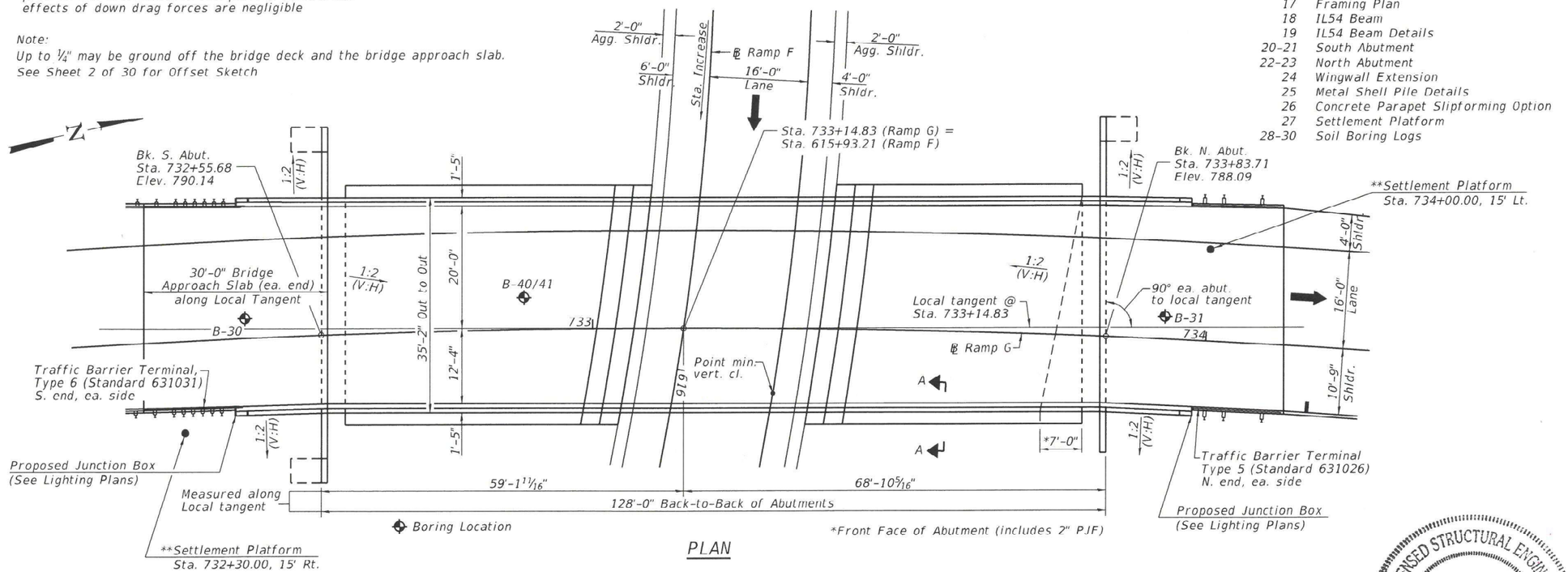
Existing Structure: None No Salvage



ELEVATION

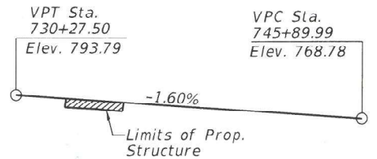
**Settlement platforms shall be utilized at each abutment during construction to ensure there is less than 0.4 inches or less left of settlement prior to the installation of the piles to ensure the effects of down drag forces are negligible

Note:
Up to ¼" may be ground off the bridge deck and the bridge approach slab.
See Sheet 2 of 30 for Offset Sketch



*Front Face of Abutment (includes 2" PJF)

PLAN



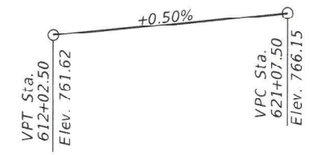
PROFILE GRADE RAMP G

(Along ℄ Ramp G)

Note: The profile grade shows the final elevations after grinding.

PROPOSED RAMP G CURVE DATA

P.I. Sta. = 730+86.74	L = 1,736.70'
△ = 60°51'35" (Rt.)	E = 261.20'
D = 3°30'16"	S.E. = 6.7%
R = 1,635'	P.C. Sta. = 721+26.34
T = 960.40'	P.T. Sta. = 738+63.05



PROFILE GRADE RAMP F

(Along ℄ Ramp F)

PROPOSED RAMP F CURVE DATA

P.I. Sta. = 620+51.51	L = 1041.65'
△ = 124°20'18" (Rt.)	E = 548.14'
D = 11°56'12"	S.E. 8.0%
R = 480.00'	P.C. Sta. = 611+42.29
T = 909.21'	P.C.C. Sta. = 621+83.95

INDEX OF SHEETS

LOCATION SKETCH

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Specifications, 7th Edition w/2015 & 2016 Interims

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec (SD1) = 0.135g
Design Spectral Acceleration at 0.2 sec (SDS) = 0.233g
Soil Site Class = D

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi (Cast-in-Place)
f'c = 4,000 psi (Superstructure Concrete)
fy = 60,000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 8,500 psi
fci = 6,500 psi
fpu = 270,000 psi (0.6" Ø low lax strands)
fpbt = 202,300 psi (0.6" Ø low lax strands)

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

LICENSED STRUCTURAL ENGINEER
GERALD B. ROTHERHAM
081-005673
STATE OF ILLINOIS
03/11/2021
EXP.: 11/30/2022

GENERAL PLAN & ELEVATION
RAMP G OVER RAMP F
F.A.I. RTE. 57/74
SECTION (10-34-1)HBK
CHAMPAIGN COUNTY
STATION 733+14.83
STRUCTURE NO. 010-1003

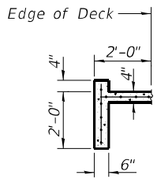
FILE NAME = 0101003-70R99-001-GPF.dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 010-1003	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MADISON, ILLINOIS 62060 PHONE: 618.967.9180		CHECKED - PS	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	779
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 1 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	

GENERAL NOTES

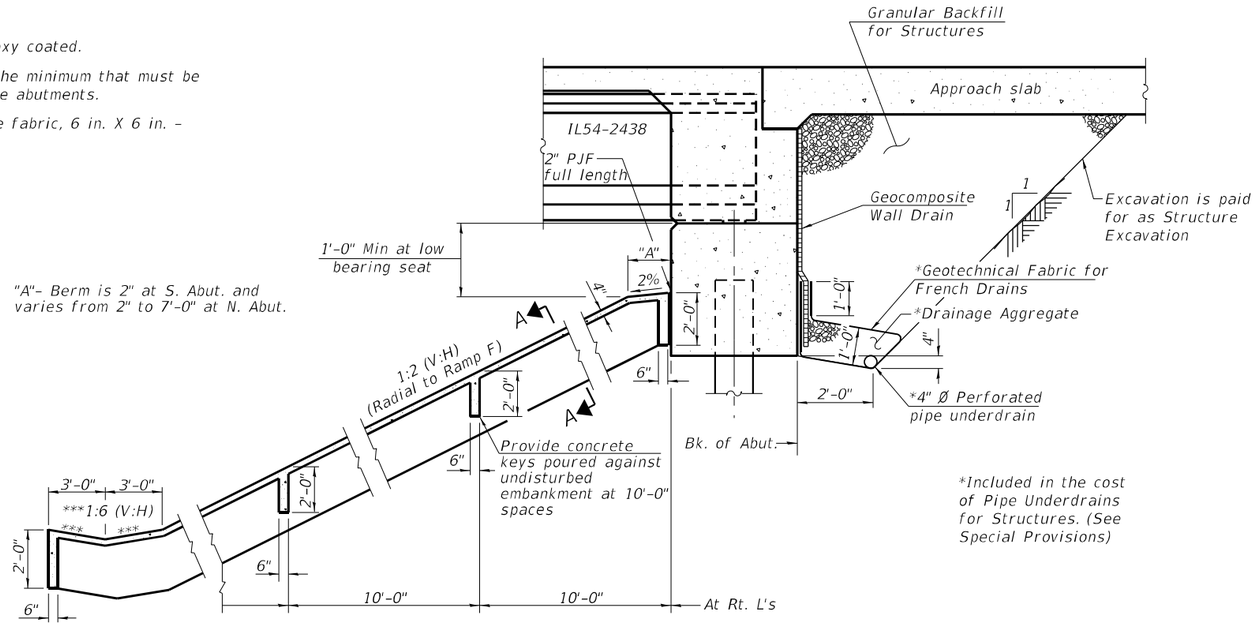
Reinforcement bars designated (E) shall be epoxy coated.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

Slope wall shall be reinforced with welded wire fabric, 6 in. X 6 in. – W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.



SECTION A-A



*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

SECTION THRU INTEGRAL ABUTMENT

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

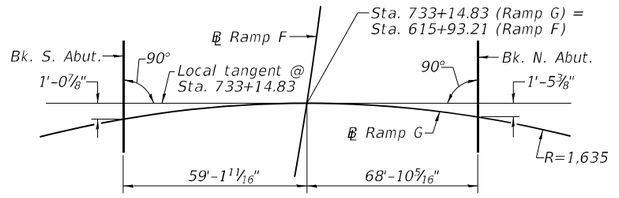
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		222	222
Concrete Structures	Cu. Yd.		77.7	77.7
Concrete Superstructure	Cu. Yd.	211.5		211.5
Protective Coat	Sq. Yd.	832		832
Concrete Superstructure (Approach Slab)	Cu. Yd.	98.4		98.4
Furnishing and Erecting Precast Prestressed Concrete Beams, IL54N	Foot	752		752
Reinforcement Bars, Epoxy Coated	Pound	82930	13320	96250
Slope Wall 4 Inch	Sq. Yd.		429	429
Furnishing Metal Shell Piles HP 14"x0.312"	Foot		1246	1246
Driving Piles	Foot		1246	1246
Test Pile Metal Shells	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each	1		1
Granular Backfill for Structures	Cu. Yd.		188	188
Geocomposite Wall Drain	Sq. Yd.		88	88
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	331		331
Diamond Grinding (Bridge Section)	Sq. Yd.	691		691
Pipe Underdrains for Structures 4"	Foot		155	155
Settlement Platforms	Each			2

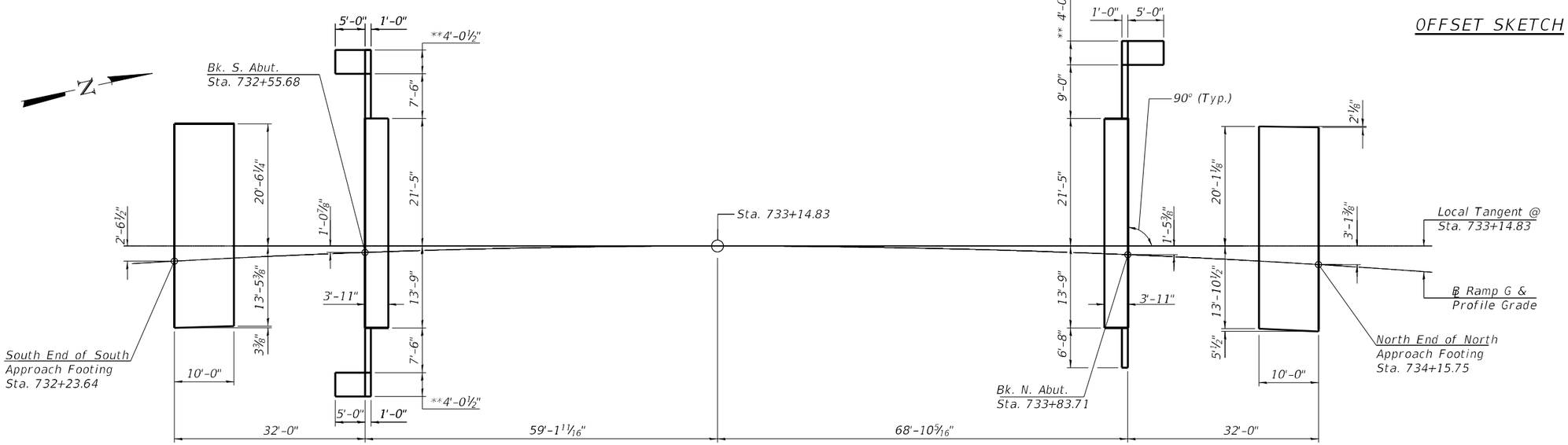
STATION 733+14.83
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RTE. 57/74 SEC. (10-34-1)HBK
LOADING HL-93
STRUCTURE NO. 010-1003

NAME PLATE

See Std. 515001



OFFSET SKETCH



FOOTING PLAN

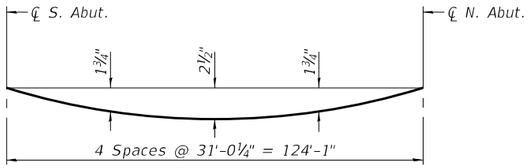
** Include ½" Preformed Joint Filler (See Sheet 24 of 30 for details)

FILE NAME = 0101003-70899-002-General Data.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - 618.997.5190		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 010-1003
SHEET NO. 2 OF 30 SHEETS

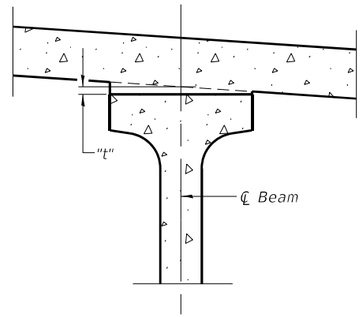
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	780
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only, excluding beams.)

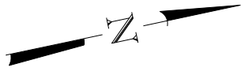
Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on Sheet 4 and 5 of 30.

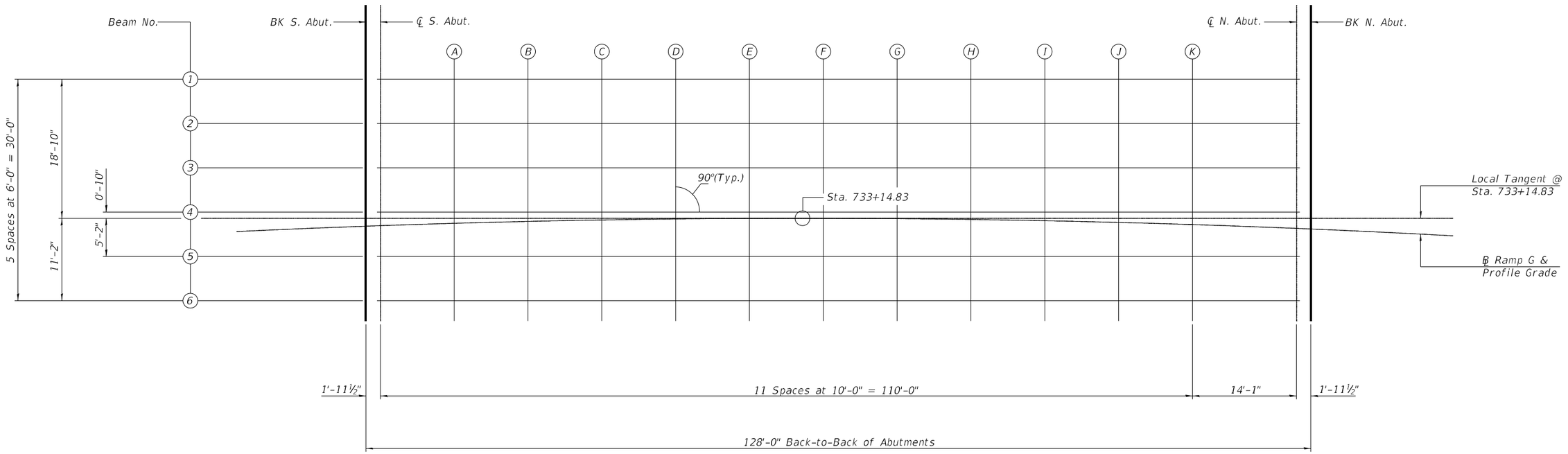


To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 4 and 5 of 30, minus 8¼" deck thickness, equals the fillet heights "t" above top flange of beams.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elvations below the "Theoretical Grade Elevations" shown on sheet 4 and 5 of 30. For grinding the deck, see Special Provisions.

FILLET HEIGHTS





PLAN

FILE NAME = 0101003-70B99-003-TOS Elevations.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - 618.997.8190		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 010-1003
SHEET NO. 3 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	781
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+56.39	-19.89	791.46	791.48
CL. S. Abut.	732+58.32	-19.82	791.43	791.45
A	732+68.20	-19.51	791.25	791.32
B	732+78.08	-19.25	791.07	791.19
C	732+87.96	-19.06	790.90	791.06
D	732+97.84	-18.92	790.74	790.93
E	733+07.73	-18.85	790.57	790.78
F	733+17.62	-18.84	790.41	790.63
G	733+27.50	-18.88	790.26	790.48
H	733+37.39	-18.99	790.11	790.31
I	733+47.27	-19.16	789.96	790.13
J	733+57.15	-19.39	789.82	789.95
K	733+67.03	-19.68	789.68	789.77
CL. N. Abut.	733+80.93	-20.19	789.49	789.51
Bk. N. Abut.	733+82.87	-20.27	789.46	789.48

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+56.18	-13.89	791.07	791.09
CL. S. Abut.	732+58.12	-13.83	791.03	791.05
A	732+68.03	-13.51	790.85	790.92
B	732+77.94	-13.25	790.67	790.79
C	732+87.86	-13.06	790.50	790.66
D	732+97.78	-12.92	790.33	790.53
E	733+07.70	-12.85	790.17	790.38
F	733+17.63	-12.84	790.01	790.23
G	733+27.55	-12.88	789.85	790.07
H	733+37.47	-12.99	789.70	789.91
I	733+47.39	-13.16	789.56	789.73
J	733+57.31	-13.39	789.41	789.55
K	733+67.22	-13.68	789.27	789.37
CL. N. Abut.	733+81.17	-14.19	789.08	789.10
Bk. N. Abut.	733+83.11	-14.27	789.06	789.08

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+55.96	-7.90	790.67	790.69
CL. S. Abut.	732+57.91	-7.83	790.63	790.65
A	732+67.86	-7.51	790.45	790.52
B	732+77.81	-7.25	790.27	790.39
C	732+87.76	-7.06	790.10	790.26
D	732+97.72	-6.92	789.93	790.13
E	733+07.68	-6.85	789.77	789.98
F	733+17.64	-6.84	789.61	789.83
G	733+27.59	-6.88	789.45	789.67
H	733+37.55	-6.99	789.30	789.50
I	733+47.51	-7.16	789.15	789.33
J	733+57.46	-7.39	789.01	789.15
K	733+67.41	-7.68	788.87	788.96
CL. N. Abut.	733+81.42	-8.20	788.68	788.70
Bk. N. Abut.	733+83.36	-8.28	788.65	788.67

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+55.75	-1.90	790.27	790.29
CL. S. Abut.	732+57.70	-1.83	790.23	790.25
A	732+67.69	-1.51	790.05	790.12
B	732+77.67	-1.26	789.87	789.99
C	732+87.66	-1.06	789.70	789.86
D	732+97.66	-0.92	789.53	789.72
E	733+07.65	-0.85	789.37	789.58
F	733+17.65	-0.84	789.21	789.43
G	733+27.64	-0.88	789.05	789.27
H	733+37.64	-0.99	788.90	789.10
I	733+47.63	-1.16	788.75	788.92
J	733+57.62	-1.39	788.60	788.74
K	733+67.60	-1.69	788.46	788.56
CL. N. Abut.	733+81.66	-2.20	788.27	788.29
Bk. N. Abut.	733+83.61	-2.28	788.25	788.27

℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+55.68	0.00	790.14	790.16
CL. S. Abut.	732+57.64	0.00	790.11	790.13
A	732+67.64	0.00	789.95	790.02
B	732+77.65	0.00	789.79	789.91
C	732+87.65	0.00	789.63	789.79
D	732+97.65	0.00	789.47	789.66
E	733+07.65	0.00	789.31	789.52
F	733+17.65	0.00	789.15	789.37
G	733+27.65	0.00	788.99	789.21
H	733+37.65	0.00	788.83	789.03
I	733+47.65	0.00	788.67	788.84
J	733+57.65	0.00	788.51	788.65
K	733+67.66	0.00	788.35	788.44
CL. N. Abut.	733+81.75	0.00	788.12	788.14
Bk. N. Abut.	733+83.71	0.00	788.09	788.11

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+55.53	4.09	789.87	789.89
CL. S. Abut.	732+57.49	4.16	789.83	789.86
A	732+67.51	4.48	789.65	789.72
B	732+77.54	4.74	789.47	789.59
C	732+87.56	4.94	789.30	789.46
D	732+97.59	5.08	789.13	789.32
E	733+07.63	5.15	788.97	789.18
F	733+17.66	5.16	788.80	789.03
G	733+27.69	5.12	788.65	788.86
H	733+37.72	5.01	788.49	788.70
I	733+47.75	4.84	788.34	788.52
J	733+57.77	4.60	788.20	788.34
K	733+67.80	4.31	788.06	788.15
CL. N. Abut.	733+81.91	3.79	787.87	787.89
Bk. N. Abut.	733+83.87	3.71	787.84	787.86

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. S. Abut.	732+55.31	10.09	789.47	789.49
CL. S. Abut.	732+57.28	10.16	789.44	789.46
A	732+67.34	10.48	789.25	789.33
B	732+77.40	10.74	789.07	789.19
C	732+87.46	10.94	788.90	789.06
D	732+97.53	11.08	788.73	788.92
E	733+07.60	11.15	788.56	788.78
F	733+17.67	11.16	788.40	788.62
G	733+27.74	11.12	788.24	788.46
H	733+37.80	11.01	788.09	788.29
I	733+47.87	10.84	787.94	788.12
J	733+57.93	10.60	787.79	787.93
K	733+67.99	10.31	787.65	787.75
CL. N. Abut.	733+82.15	9.79	787.46	787.48
Bk. N. Abut.	733+84.12	9.71	787.44	787.46

WEST EDGE SHOULDER/INSIDE FACE OF CURB OR PARAPET

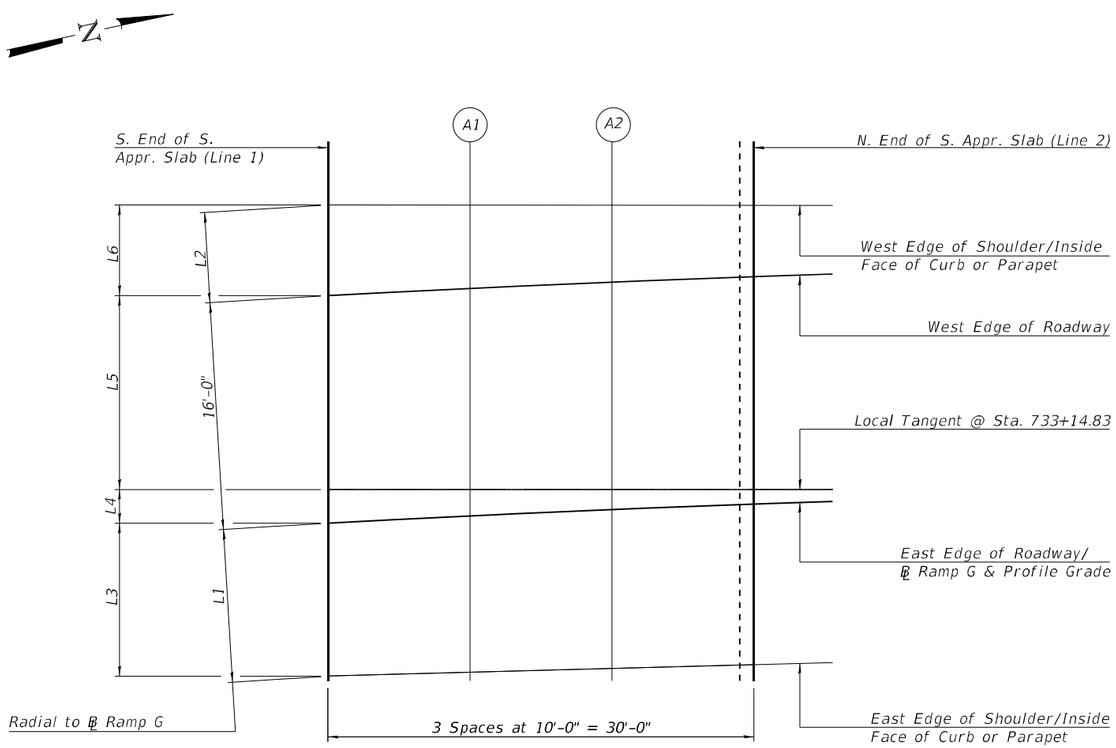
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	732+27.84	-22.37	792.09	792.11
A1	732+37.69	-21.86	791.89	791.92
A2	732+47.55	-21.41	791.71	791.73
N. End of S. Appr. Slab	732+57.42	-21.02	791.52	791.54

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	732+27.50	-16.00	791.67	791.69
A1	732+37.42	-16.00	791.51	791.53
A2	732+47.33	-16.00	791.35	791.37
N. End of S. Appr. Slab	732+57.24	-16.00	791.19	791.21

EAST EDGE OF ROADWAY/℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	732+26.65	0.00	790.61	790.63
A1	732+36.66	0.00	790.45	790.47
A2	732+46.67	0.00	790.29	790.31
N. End of S. Appr. Slab	732+56.68	0.00	790.13	790.15



PLAN

EAST EDGE OF SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of S. Appr. Slab	732+26.06	10.75	789.90	789.92
A1	732+36.13	10.99	789.72	789.74
A2	732+46.20	11.17	789.55	789.57
N. End of S. Appr. Slab	732+56.27	11.29	789.38	789.40

SPACING FOR TOP OF APPROACH ELEVATIONS

LINE	L1	L2	L3	L4	L5	L6
1	10'-9"	6'-4 3/8"	10'-9 1/4"	2'-4 1/2"	13'-7 3/4"	6'-4 1/2"
A1	10'-11 7/8"	5'-10 1/4"	11'-0 1/8"	1'-10 3/8"	14'-1 3/4"	5'-10 3/8"
A2	11'-2"	5'-4 7/8"	11'-2 1/4"	1'-5"	14'-7 1/8"	5'-5"
2	11'-3 1/2"	5'-0 1/4"	11'-3 5/8"	1'-0 3/8"	14'-11 3/4"	5'-0 1/4"

WEST EDGE SHOULDER/INSIDE FACE OF CURB OR PARAPET

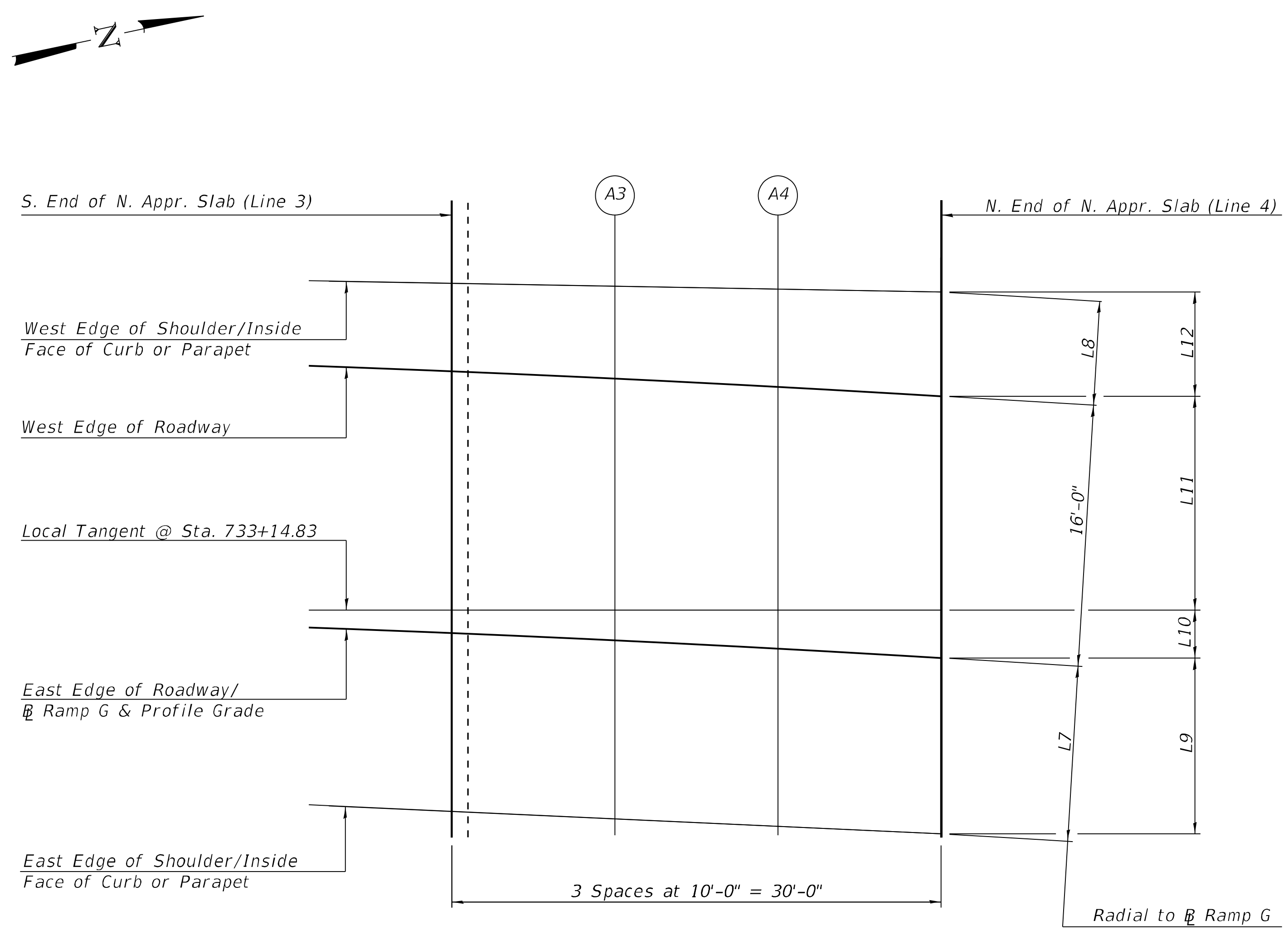
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	733+81.83	-21.39	789.56	789.58
A3	733+91.70	-21.65	789.42	789.44
A4	734+01.57	-21.98	789.28	789.30
N. End of N. Appr. Slab	734+11.43	-22.36	789.15	789.17

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	733+82.05	-16.00	789.19	789.21
A3	733+91.96	-16.00	789.03	789.05
A4	734+01.88	-16.00	788.87	788.89
N. End of N. Appr. Slab	734+11.80	-16.00	788.71	788.74

EAST EDGE OF ROADWAY/℄ RAMP G & PROFILE GRADE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	733+82.71	0.00	788.11	788.13
A3	733+92.72	0.00	787.95	787.97
A4	734+02.73	0.00	787.79	787.81
N. End of N. Appr. Slab	734+12.75	0.00	787.63	787.65



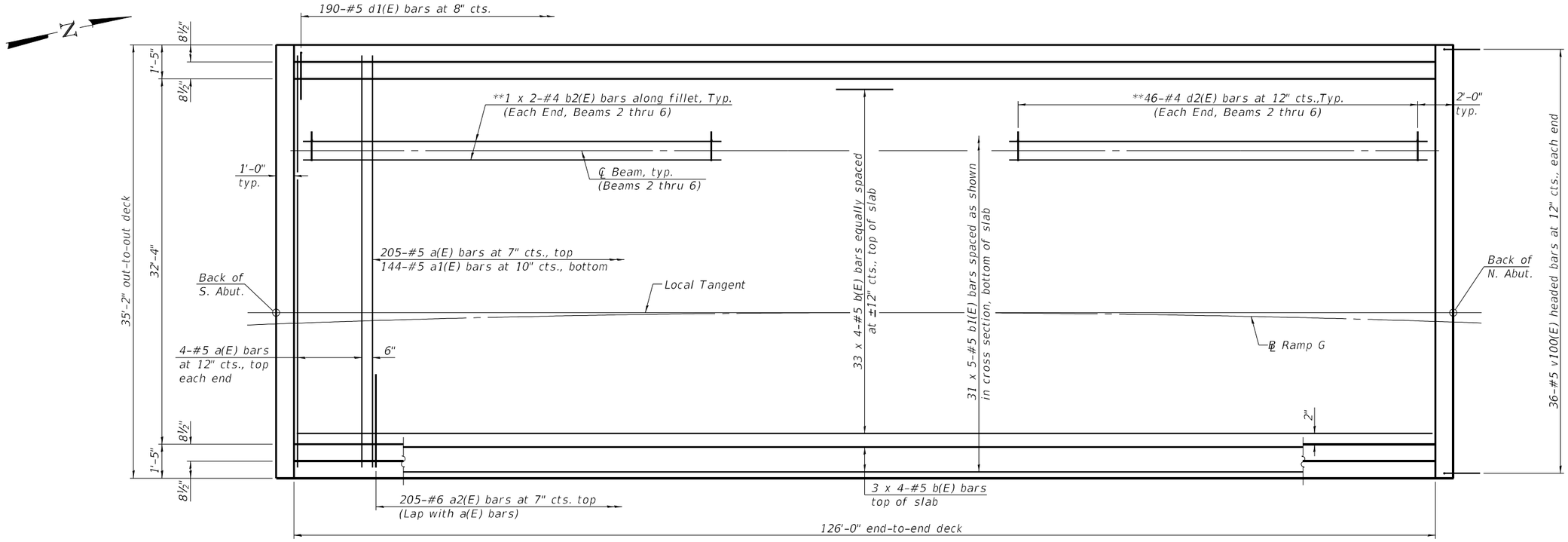
PLAN

EAST EDGE OF SHOULDER/INSIDE FACE OF CURB OR PARAPET

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. End of N. Appr. Slab	733+83.17	10.91	787.37	787.39
A3	733+93.24	10.92	787.21	787.23
A4	734+03.32	10.87	787.05	787.07
N. End of N. Appr. Slab	734+13.40	10.75	786.90	786.92

SPACING FOR TOP OF APPROACH ELEVATIONS

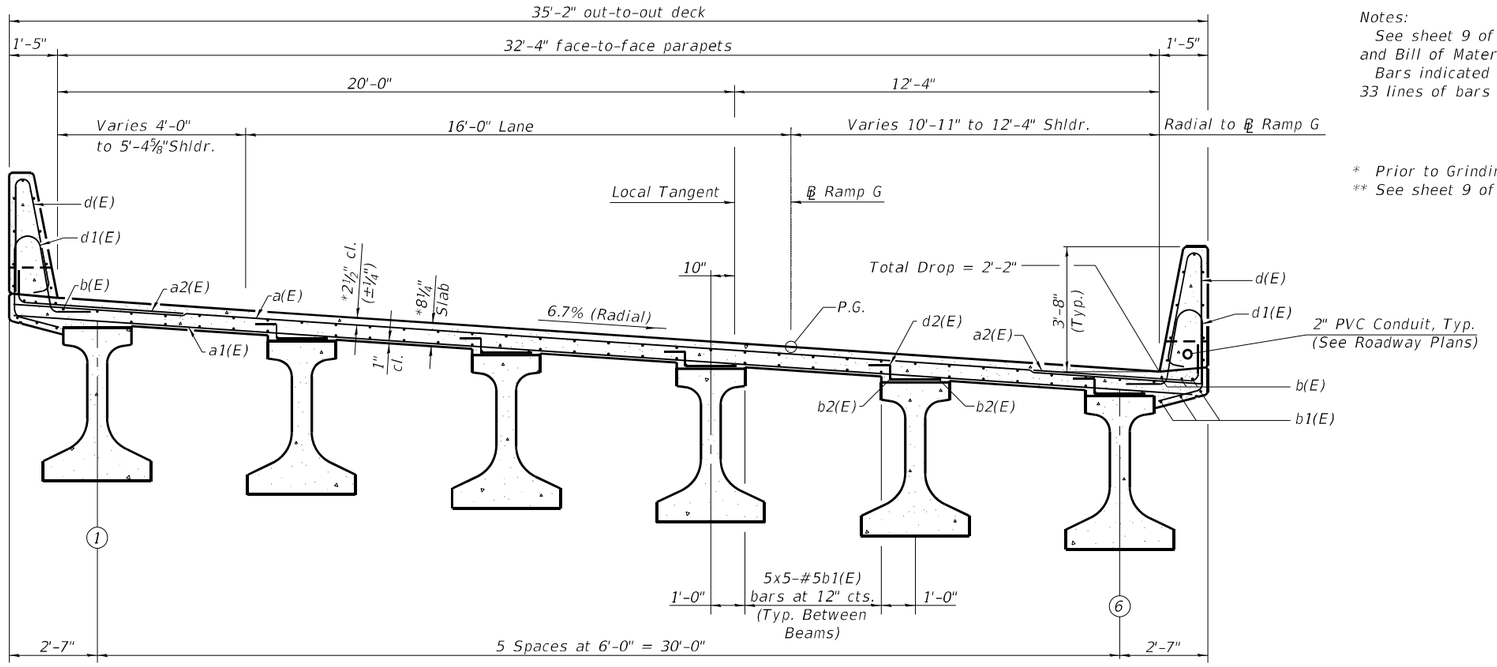
LINE	L7	L8	L9	L10	L11	L12
3	10'-11"	5'-4⅝"	10'-11⅛"	1'-4⅞"	14'-7¼"	5'-4¾"
A3	10'-11"	5'-7⅞"	10'-11¼"	1'-10¼"	14'-2"	5'-7⅞"
A4	10'-10⅜"	5'-11¾"	10'-10⅝"	2'-4⅜"	13'-7⅞"	5'-11¾"
4	10'-9"	6'-4¼"	10'-9¼"	2'-11⅛"	13'-1¼"	6'-4⅜"



PLAN

MINIMUM BAR LAP

#4 bar = 2'–5"
#5 bar = 3'–6"



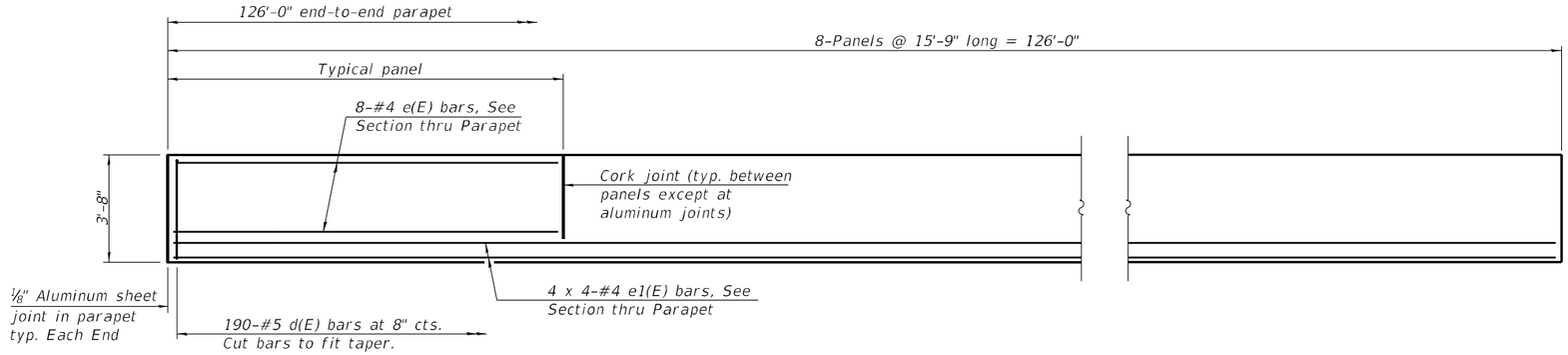
CROSS SECTION
(Looking North)

Notes:
See sheet 9 of 30 for superstructure details and Bill of Material.
Bars indicated thus 33 x 4–#5 etc. indicates 33 lines of bars with 4 lengths per line.

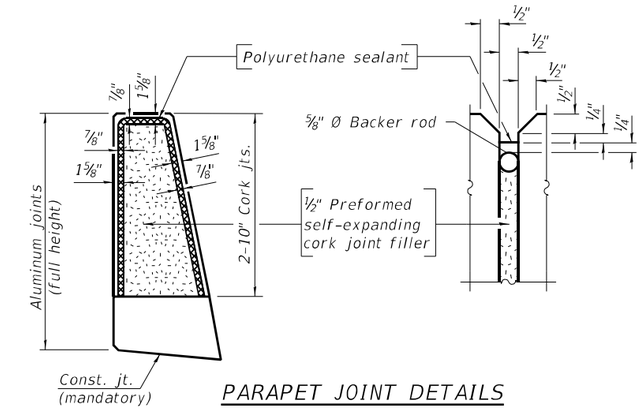
* Prior to Grinding
** See sheet 9 of 30 for Fillet Reinforcement Details

FILE NAME = 0101003-70B99-008-Superstructure.dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 010–1003
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE -618/997-3190		CHECKED - PS	REVISED -		SHEET NO. 8 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	786
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS

Notes:

The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

The ⅛" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

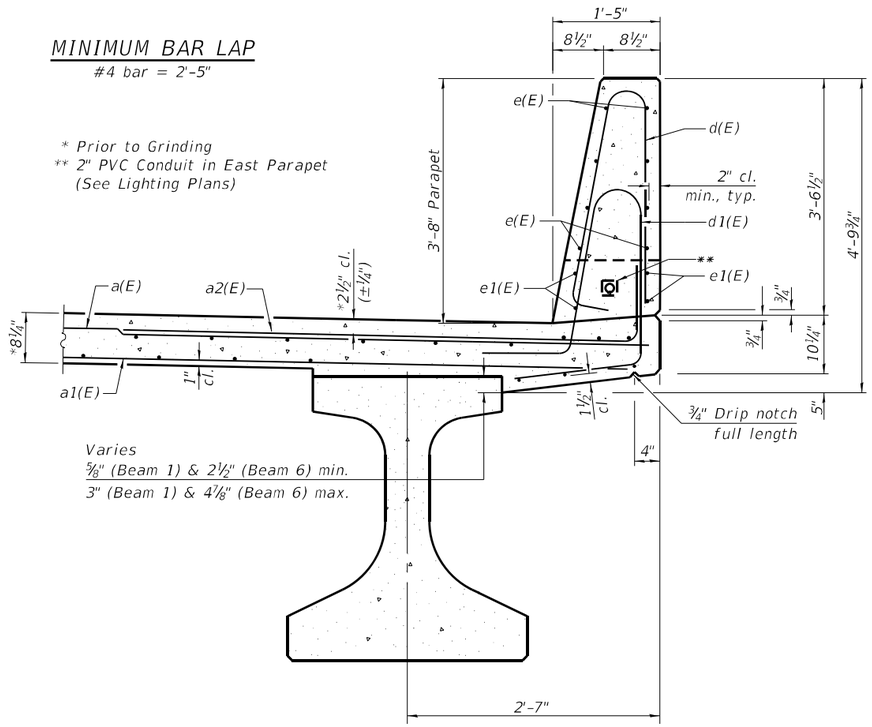
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

MINIMUM BAR LAP

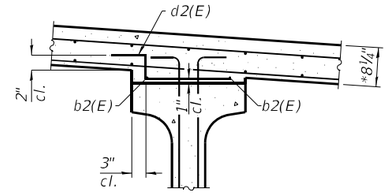
#4 bar = 2'-5"

* Prior to Grinding

** 2" PVC Conduit in East Parapet (See Lighting Plans)

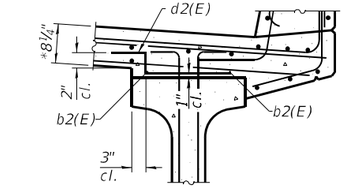


SECTION THRU PARAPET



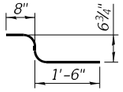
FILLET REINFORCEMENT DETAIL

(Beams 2 thru 5)

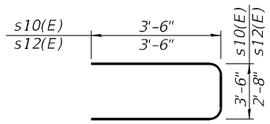


FILLET REINFORCEMENT DETAIL

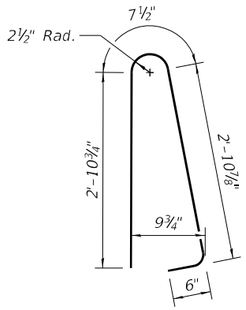
(Beam 6)



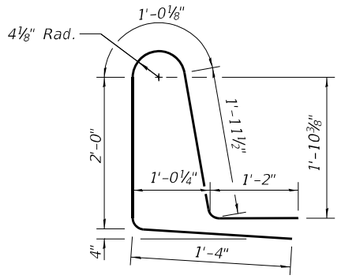
BAR d2(E)



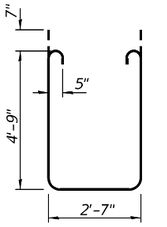
BAR s10(E) & s12(E)



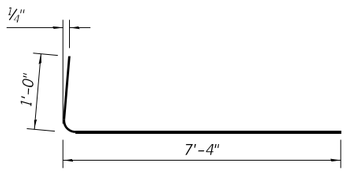
BAR d(E)



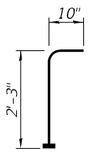
BAR d1(E)



BAR s11(E)



BAR a2(E)



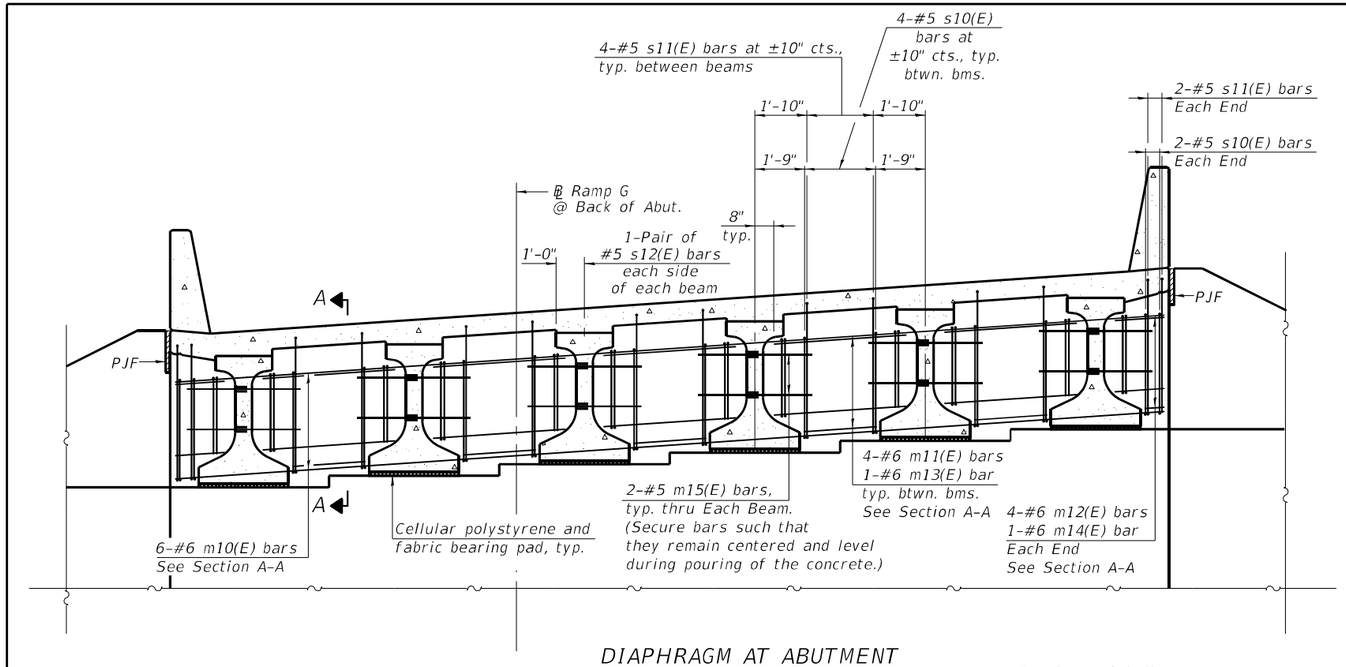
BAR v100(E)

(Headed)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	213	#5	35'-0"	
a1(E)	144	#5	34'-8"	
a2(E)	410	#6	8'-4"	
b(E)	156	#5	34'-1"	
b1(E)	155	#5	28'-0"	
b2(E)	40	#4	24'-3"	
d(E)	380	#5	7'-0"	
d1(E)	380	#5	7'-6"	
d2(E)	460	#4	2'-9"	
e(E)	128	#4	15'-5"	
e1(E)	32	#4	33'-3"	
m10(E)	12	#6	34'-11"	
m11(E)	40	#6	4'-8"	
m12(E)	16	#6	1'-9"	
m13(E)	10	#6	2'-7"	
m14(E)	4	#6	9"	
m15(E)	24	#5	4'-0"	
s10(E)	48	#5	10'-6"	
s11(E)	48	#5	13'-3"	
s12(E)	48	#5	9'-8"	
v100(E)	72	#5	3'-1"	
Reinforcement Bars, Epoxy Coated		Lbs.	40450	
Concrete Superstructure		Cu. Yds.	202.9	

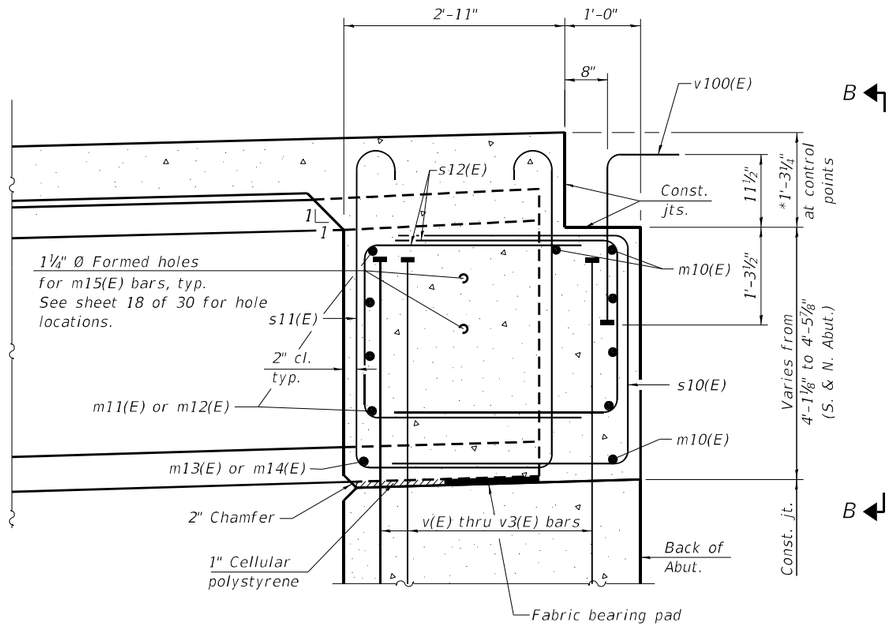
Bars indicated thus 4 x 4-#4 etc. indicates 4 line of bars with 4 lengths per line.



DIAPHRAGM AT ABUTMENT

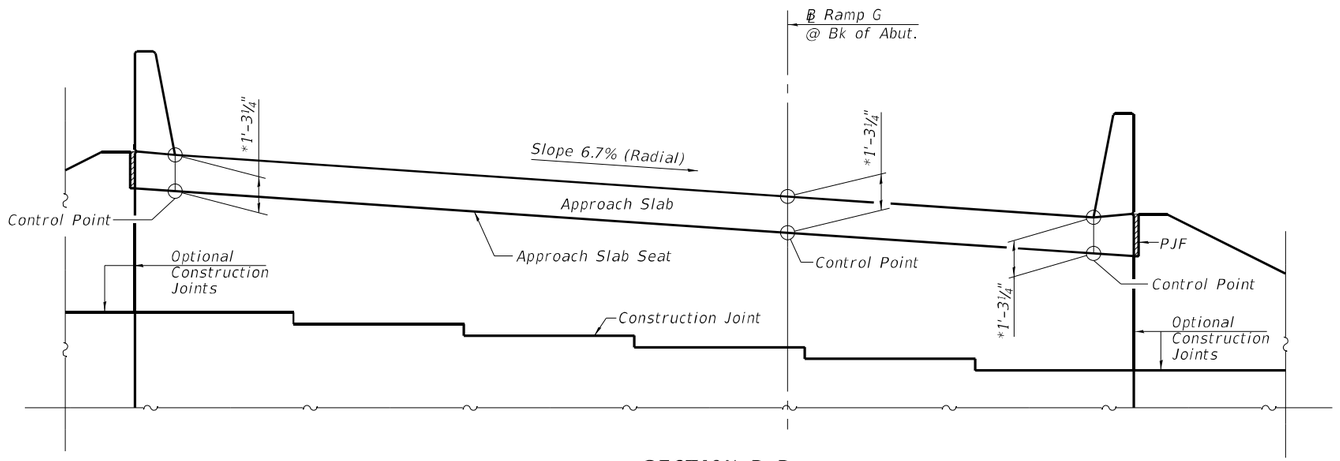
(South Abutment Shown – Looking South)
(North Abutment Similar)

* Prior to Grinding

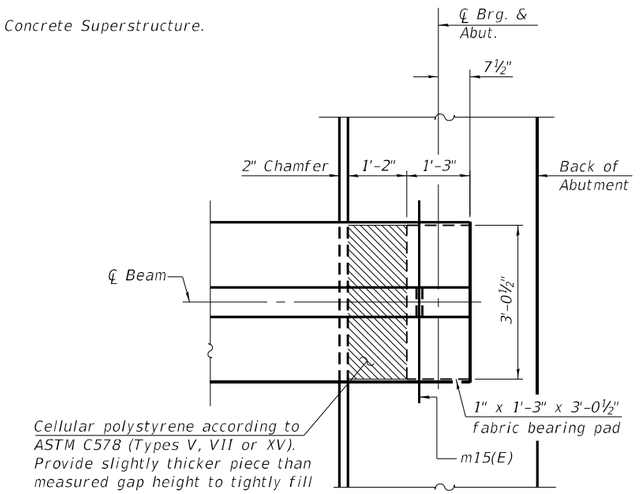


SECTION A-A

Notes:
See sheet 9 of 30 for superstructure details and Bill of Material
See sheet 12 and 15 of 30 for PJF details
The approach slab seat shall have a constant slope determined from the control points shown.
Cost of cellular polystyrene is included with Concrete Superstructure.



SECTION B-B



PLAN AT ABUTMENT

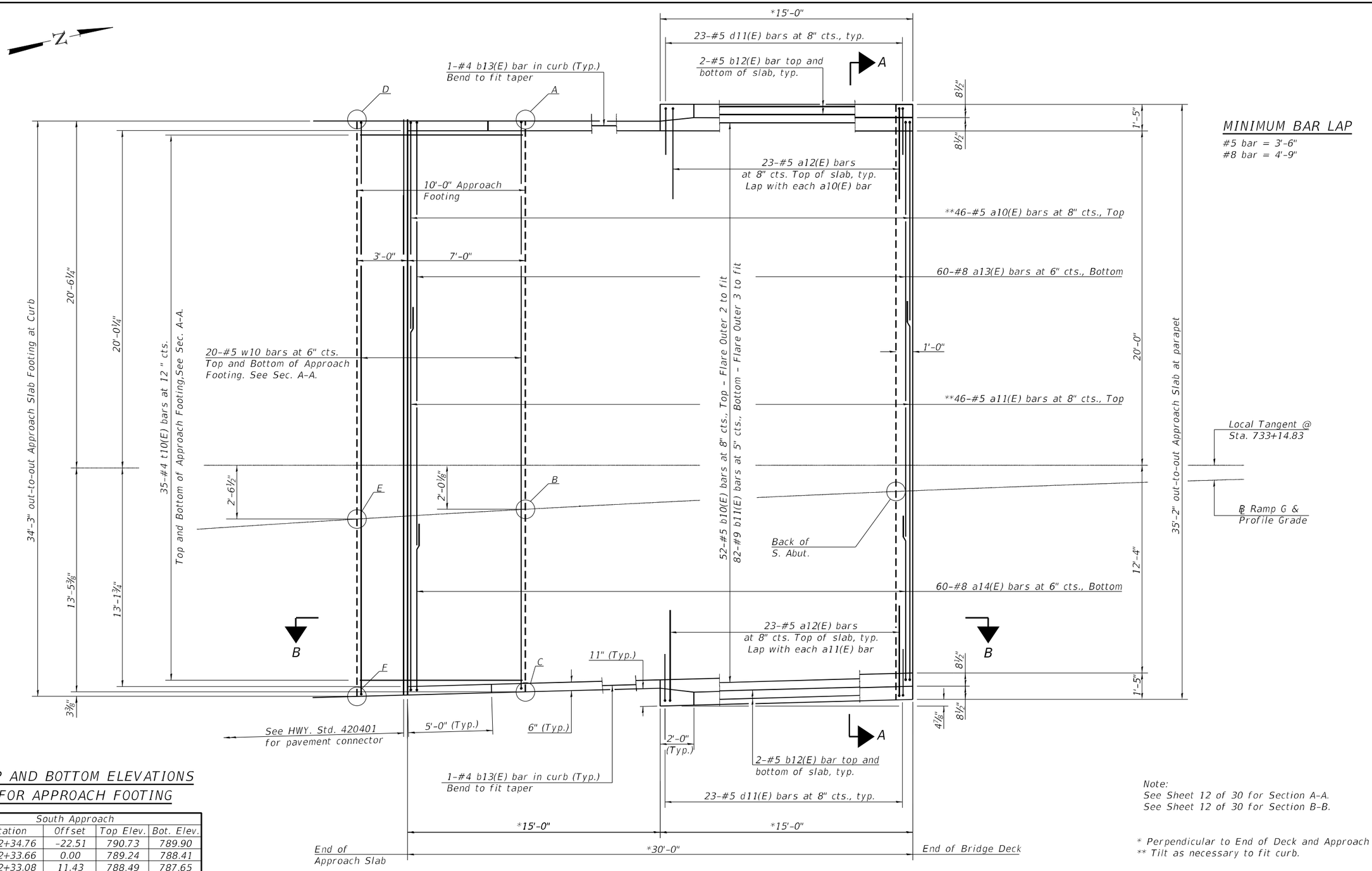
(Showing bottom flange of beam)

FILE NAME = 0101003-70B99-010-Diaphragm Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: 618/997-8190		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 10 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	788
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



PLAN

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

South Approach				
Point	Station	Offset	Top Elev.	Bot. Elev.
A	732+34.76	-22.51	790.73	789.90
B	732+33.66	0.00	789.24	788.41
C	732+33.08	11.43	788.49	787.65
D	732+24.91	-23.03	790.93	790.09
E	732+23.64	0.00	789.40	788.57
F	732+23.02	11.16	788.66	787.83

Note:
See Sheet 12 of 30 for Section A-A.
See Sheet 12 of 30 for Section B-B.

* Perpendicular to End of Deck and Approach slab
** Tilt as necessary to fit curb.

FILE NAME = 0101003-70B99-011-S_Appr Slab.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

DESIGNED - FAM
CHECKED - PS
DRAWN - BJV
CHECKED - GBR

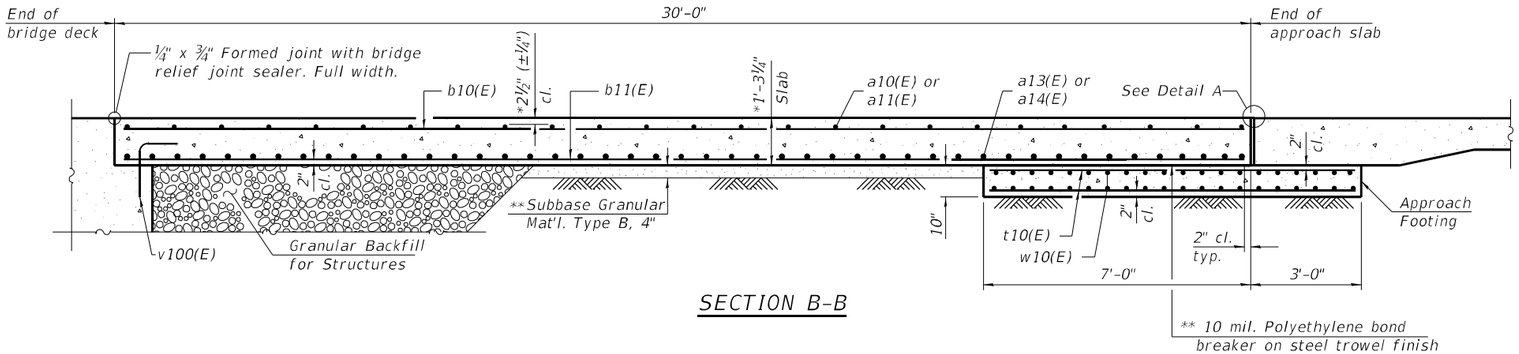
REVISED -
REVISED -
REVISED -
REVISED -

BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.
433 NORTH COURT STREET MACOMB, ILLINOIS 61455 PHONE-(618)837-9160

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 11 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	789
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



SECTION B-B

Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total Bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

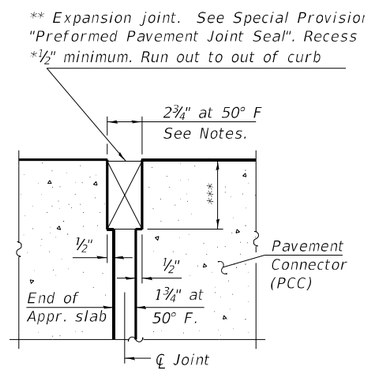
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).

Approach footing concrete shall be paid for as Concrete Structures.

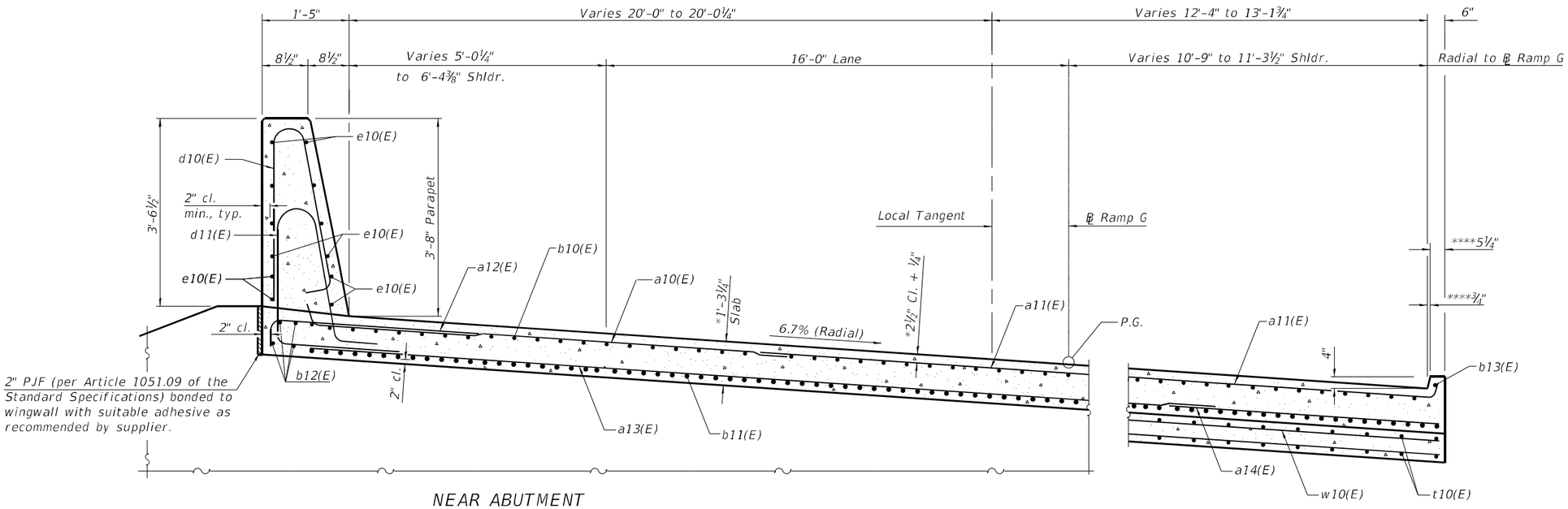
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 30.



DETAIL A



NEAR ABUTMENT

AT APPROACH FOOTING

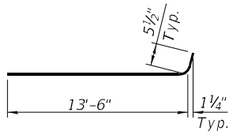
SECTION A-A

* Prior to Grinding

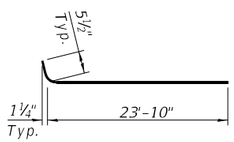
** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

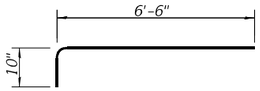
**** Perpendicular to inside face of curb.



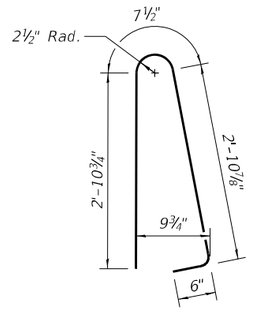
BAR a10(E)



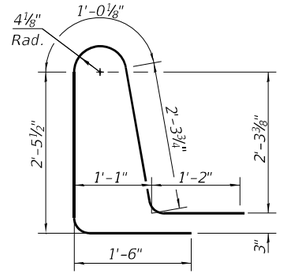
BAR a11(E)



BAR a12(E)



BAR d10E)



BAR d11(E)

SOUTH APPROACH
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	46	#5	14'-0"	
a11(E)	46	#5	24'-4"	
a12(E)	46	#5	7'-4"	
a13(E)	60	#8	25'-1"	
a14(E)	60	#8	13'-6"	
b10(E)	52	#5	29'-8"	
b11(E)	82	#9	29'-8"	
b12(E)	8	#5	14'-8"	
b13(E)	2	#4	14'-8"	
d10(E)	46	#5	7'-0"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
t10(E)	70	#4	9'-8"	
w10(E)	40	#5	33'-11"	
Concrete Superstructure		Cu. Yd.	4.3	
Concrete Superstructure (Approach Slab)		Cu. Yd.	49.2	
Concrete Structures		Cu. Yd.	10.6	
Reinforcement Bars, Epoxy Coated		Pound	21240	

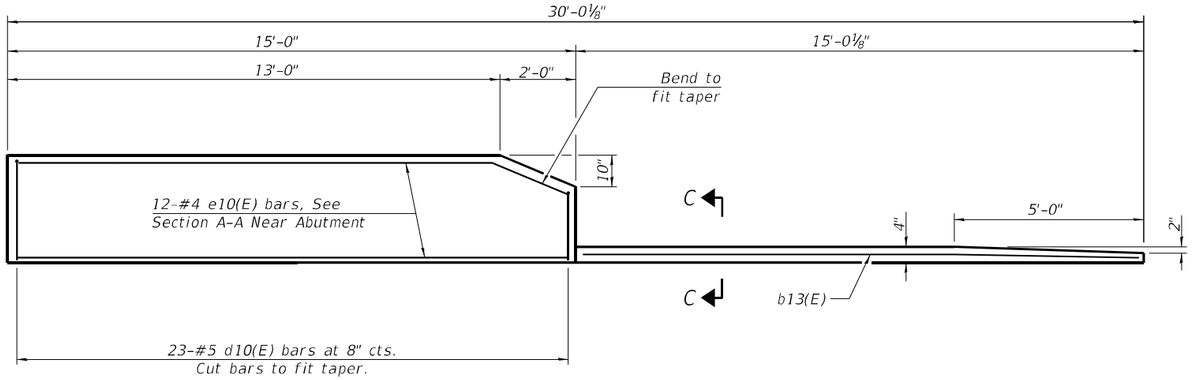
FILE NAME = 0101003-70B99-012-S. Appr Slab Details.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021
DESIGNED - FAM
CHECKED - PS
DRAWN - BJV
CHECKED - GBR
REVISED -
REVISED -
REVISED -
REVISED -

BFW
BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
403 NORTH GOUT STREET
MAHOMET, ILLINOIS 61853
PHONE - 815.967.5190

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

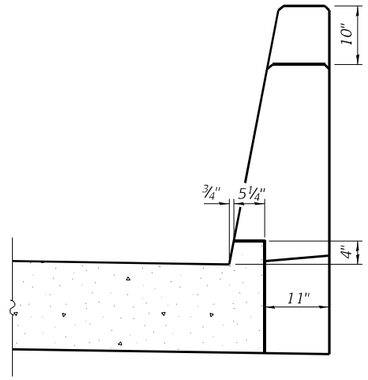
SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 12 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	790
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



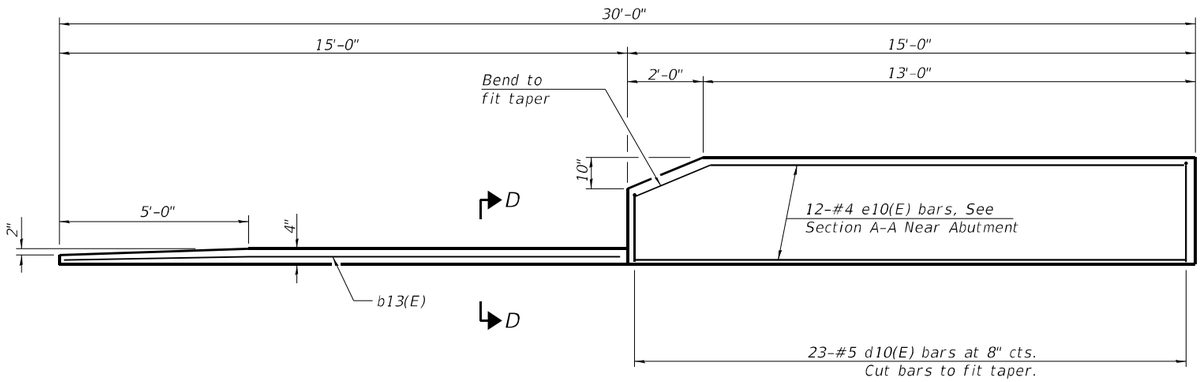
INSIDE ELEVATION OF EAST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)



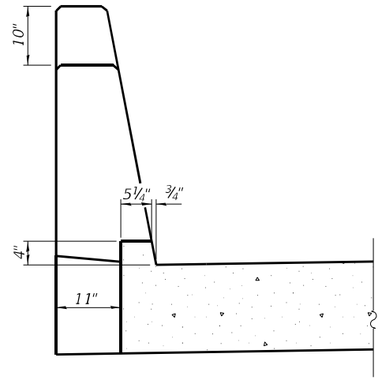
VIEW C-C

Note:
For Type 6 terminal connections see Highway Standard 631031.



INSIDE ELEVATION OF WEST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)



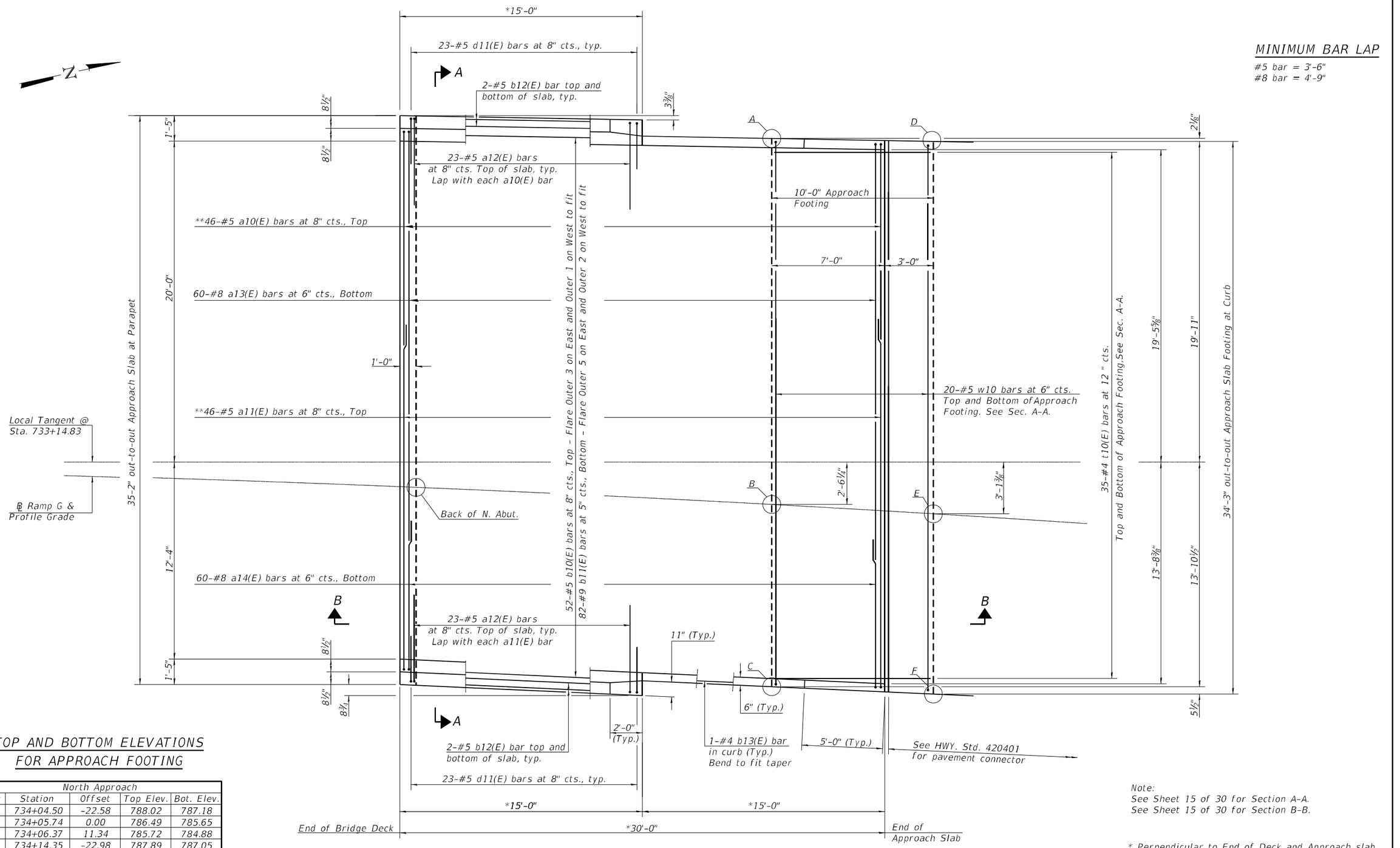
VIEW D-D

FILE NAME = 0101003-70B99-013-S. Appr Slab Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-8190		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 13 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	791
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			



MINIMUM BAR LAP

#5 bar = 3'-6"
#8 bar = 4'-9"

TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING

North Approach				
Point	Station	Offset	Top Elev.	Bot. Elev.
A	734+04.50	-22.58	788.02	787.18
B	734+05.74	0.00	786.49	785.65
C	734+06.37	11.34	785.72	784.88
D	734+14.35	-22.98	787.89	787.05
E	734+15.75	0.00	786.33	785.49
F	734+16.45	11.20	785.57	784.73

PLAN

Note:
See Sheet 15 of 30 for Section A-A.
See Sheet 15 of 30 for Section B-B.

* Perpendicular to End of Deck and Approach slab
** Tilt as necessary to fit curb.

FILE NAME = 0101003-70B99-014-N. Appr Slab.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

BFW — BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.
403 NORTH COURT STREET MAHOMET, ILLINOIS 61853 PHONE - 815.967.9190

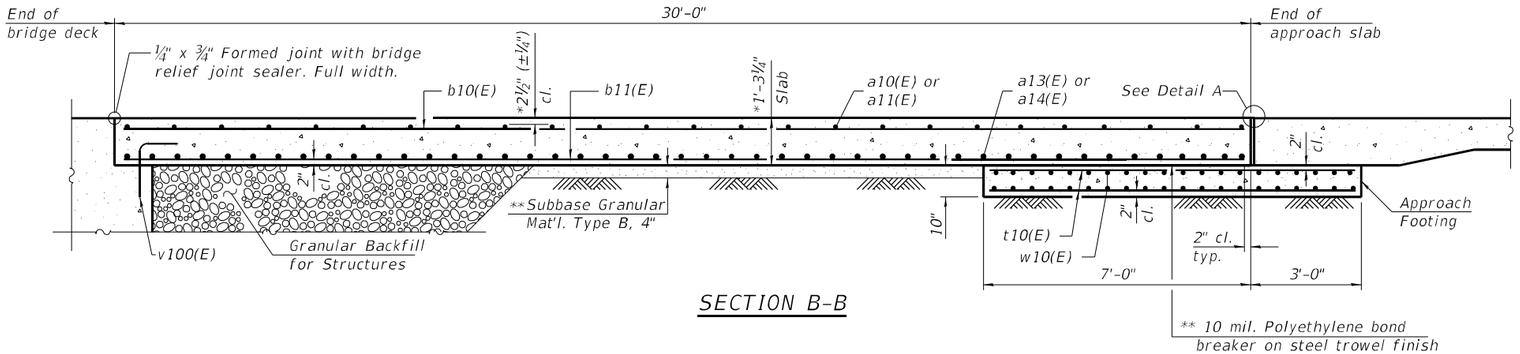
DESIGNED -	GBR	REVISED -
CHECKED -	PS	REVISED -
DRAWN -	BJV	REVISED -
CHECKED -	GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

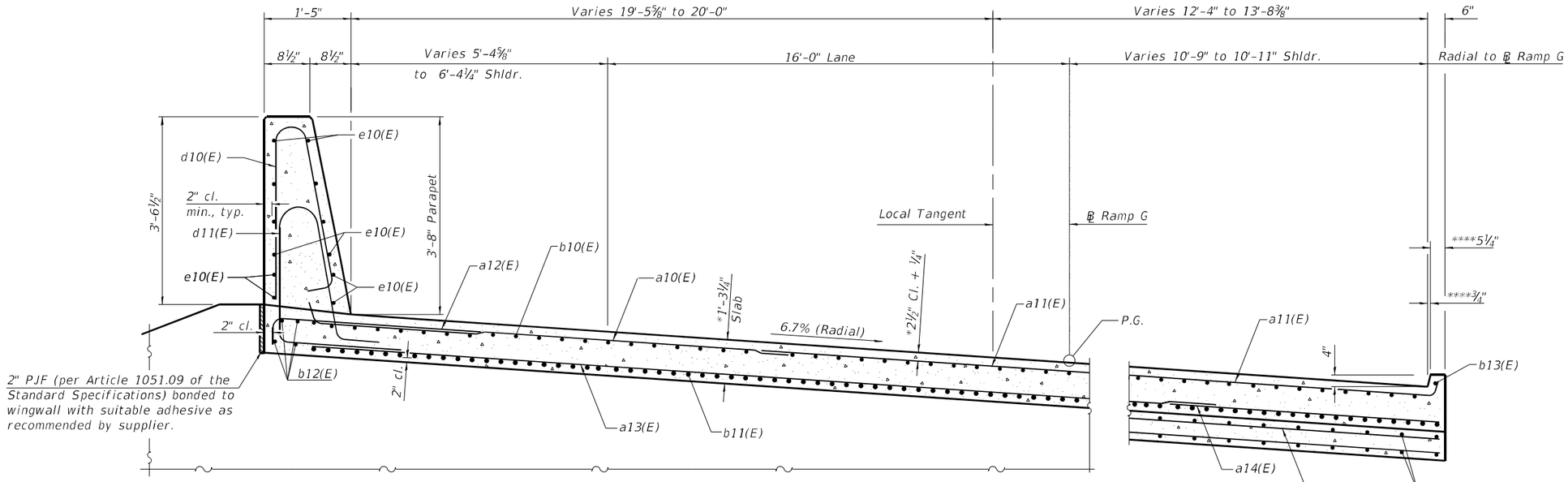
NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 14 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	792
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

Notes:
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total Bridge length plus the length of the bridge approach slab.
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 30.



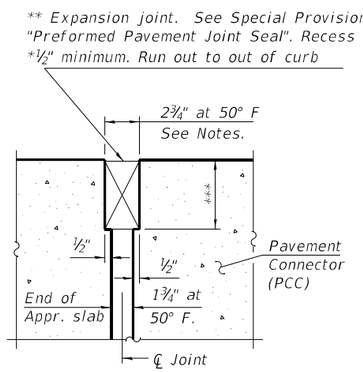
SECTION B-B



NEAR ABUTMENT

AT APPROACH FOOTING

SECTION A-A



DETAIL A

NORTH APPROACH
BILL OF MATERIAL

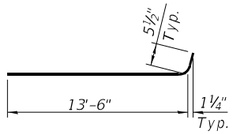
Bar	No.	Size	Length	Shape
a10(E)	46	#5	14'-0"	
a11(E)	46	#5	24'-4"	
a12(E)	46	#5	7'-4"	
a13(E)	60	#8	25'-1"	
a14(E)	60	#8	13'-6"	
b10(E)	52	#5	29'-8"	
b11(E)	82	#9	29'-8"	
b12(E)	8	#5	14'-8"	
b13(E)	2	#4	14'-8"	
d10(E)	46	#5	7'-0"	
d11(E)	46	#5	8'-6"	
e10(E)	24	#4	14'-8"	
t10(E)	70	#4	9'-8"	
w10(E)	40	#5	33'-11"	
Concrete Superstructure		Cu. Yd.	4.3	
Concrete Superstructure (Approach Slab)		Cu. Yd.	49.2	
Concrete Structures		Cu. Yd.	10.6	
Reinforcement Bars, Epoxy Coated		Pound	21240	

* Prior to Grinding

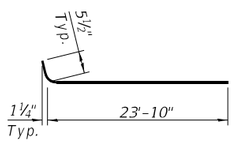
** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

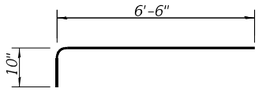
**** Perpendicular to inside face of curb.



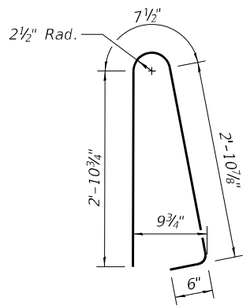
BAR a10(E)



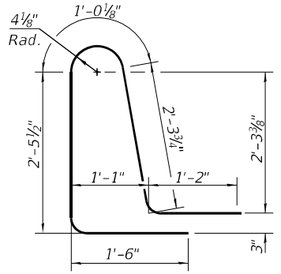
BAR a11(E)



BAR a12(E)



BAR d10E)



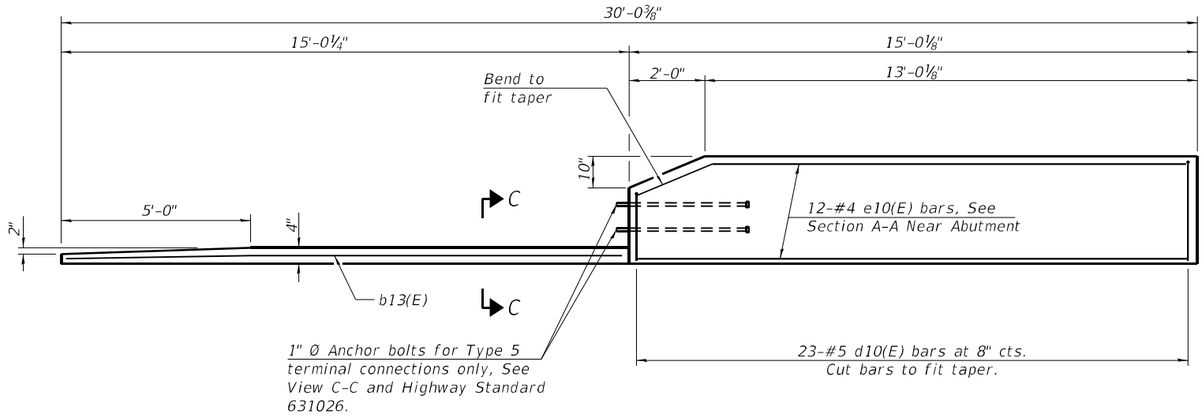
BAR d11(E)

FILE NAME = 0101003-70B99-015-N. Appr Slab Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH SCOTT STREET MAHOMET, ILLINOIS 61853 PHONE - 815.967.5190		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

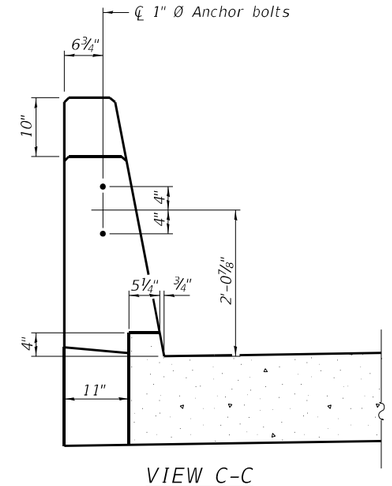
NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 15 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	793
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			

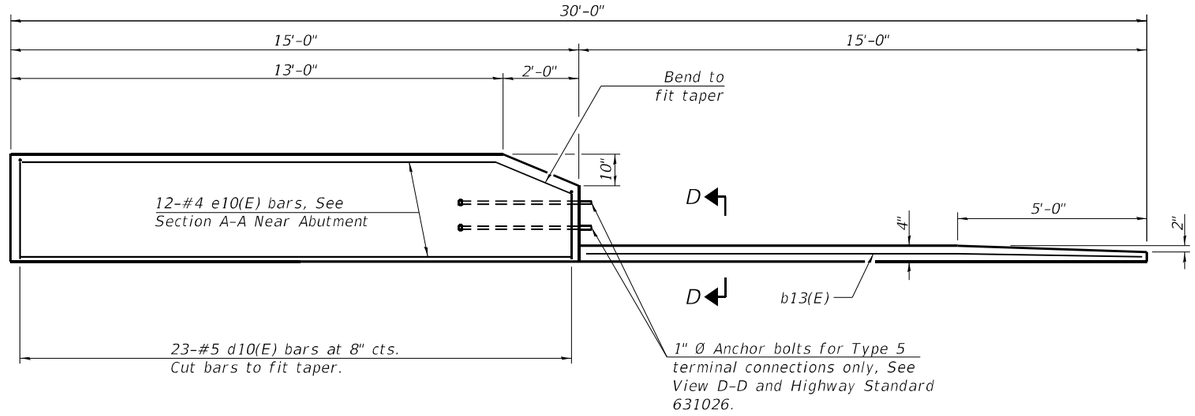


INSIDE ELEVATION OF EAST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)

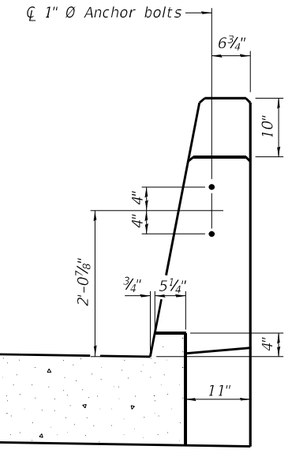


VIEW C-C

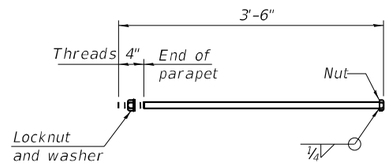


INSIDE ELEVATION OF WEST PARAPET AND CURB

(Dimensions Along Inside Face of Parapet and Curb)



VIEW D-D



* 1" Ø ANCHOR BOLT

(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

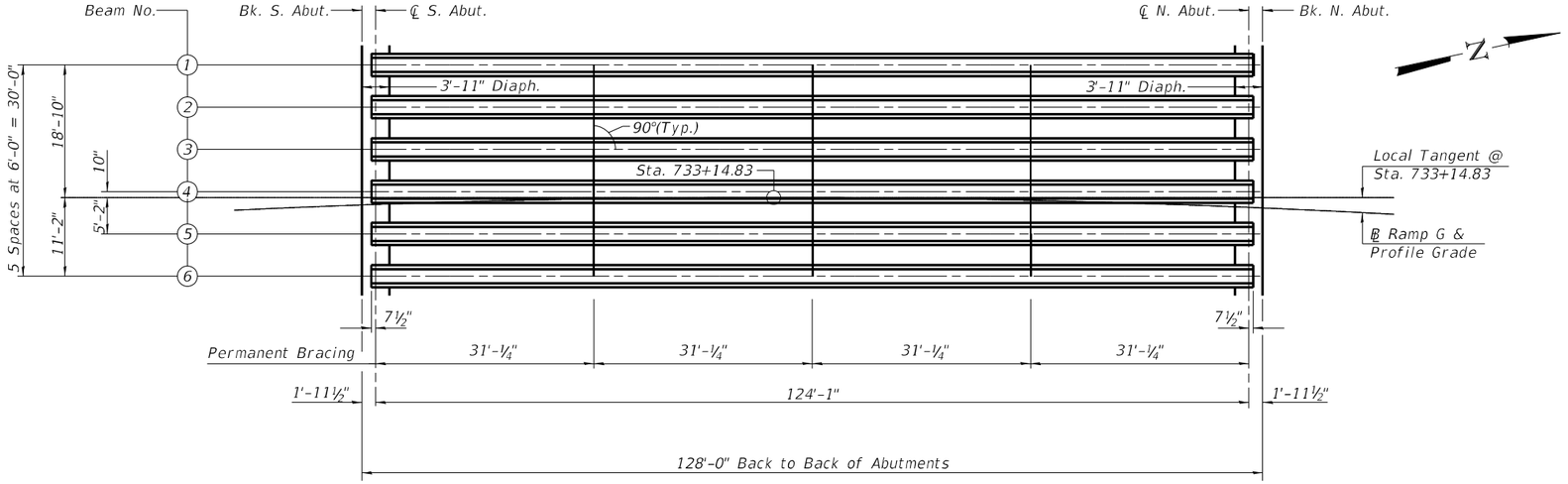
* Cost included with Concrete Superstructure (Approach Slab).

FILE NAME = 0101003-70899-016-N. Appr Slab Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - 618.997.8749		CHECKED - PS	REVISED -
	PLOT SCALE =	DRAWN - BJV	REVISED -
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -

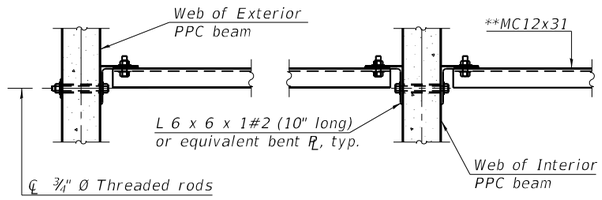
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 010-1003
SHEET NO. 16 OF 30 SHEETS

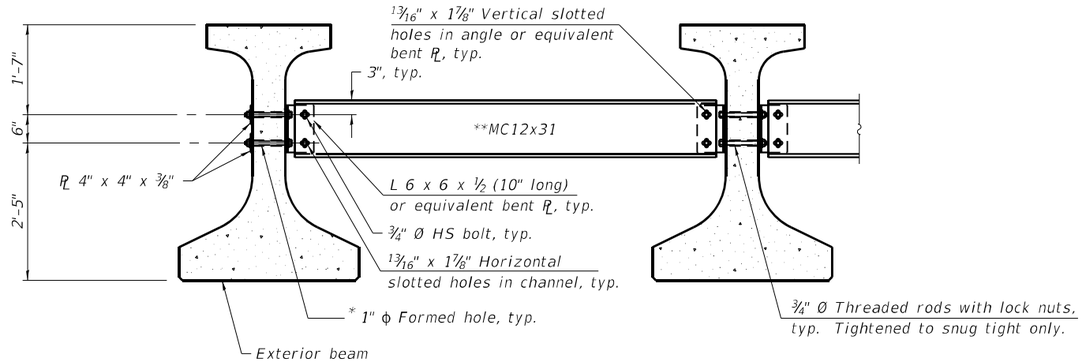
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	794
		CONTRACT NO. 70899		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN



PLAN



ELEVATION

Notes:
All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.
Two hardened washers are required for each set of oversized holes.
All holes shall be 15/16" Ø unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts, threaded rods, and hardware shall be galvanized according to AASHTO M232.
Threaded rods shall be ASTM F 1554 Grade 55.
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate MC12x35 channels are permitted to facilitate material acquisition.

I: Non-composite moment of inertia of beam section (in.⁴).
I': Composite moment of inertia of beam section (in.⁴).
Sb: Non-composite section modulus for the bottom fiber of the prestressed beam (in.³).
Sb': Composite section modulus for the bottom fiber of the prestressed beam (in.³).
St: Non-composite section modulus for the top fiber of the prestressed beam (in.³).
St': Composite section modulus for the top fiber of the prestressed beam (in.³).
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
LLDF: Live Load Distribution Factor for Moment or Shear.
OCF: Obtuse Correction Factor

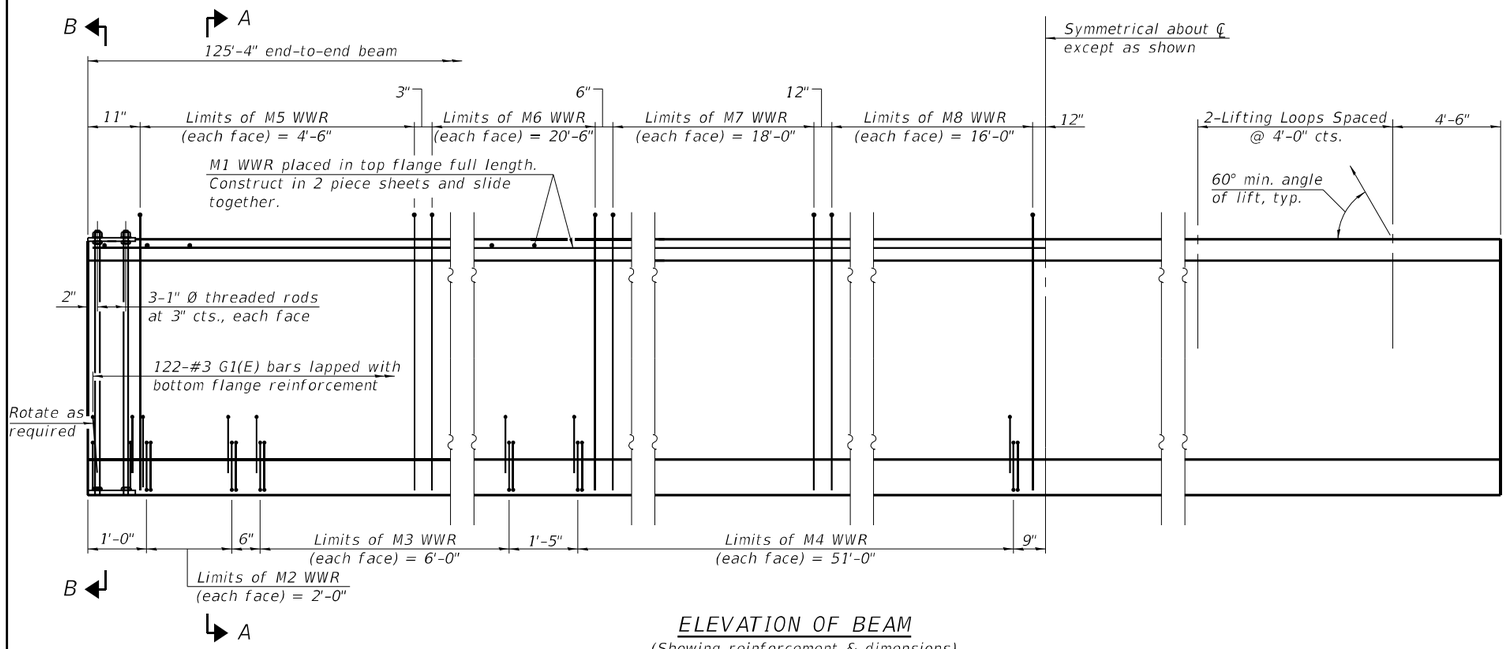
INTERIOR BEAM MOMENT TABLE		
		0.5 Sp.
I	(in^4)	295,427
I'	(in^4)	683,551
Sb	(in^3)	13,551.6
Sb'	(in^3)	19,940.2
St	(in^3)	9,174.7
St'	(in^3)	34,662.8
DC1	(k/')	1.559
MDC1	('k)	3,000
DC2	(k/')	0.190
MDC2	('k)	365.7
DW	(k/')	0.300
MDW	('k)	577.4
LLDF		0.5266
M_{L+IM}	('k)	2,016.8

INTERIOR BEAM REACTION TABLE		
		Abut.
LLDF		0.671
OCF		1.000
RDC1	(k)	96.7
RDC2	(k)	11.8
RDW	(k)	18.6
R_L	(k)	71.3
R_{IM}	(k)	14.7
RTotal	(k)	213.1

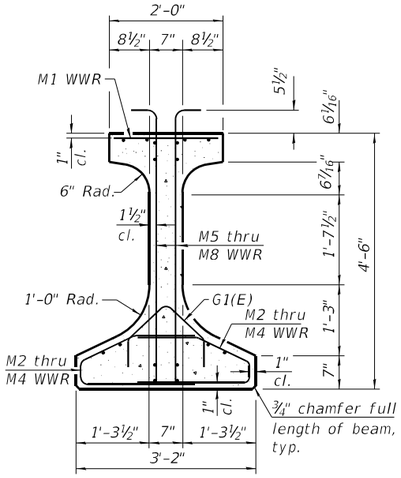
PERMANENT BRACING DETAILS
(15 Required)

FILE NAME = 0101003-70899-017-Framing Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN STRUCTURE NO. 010-1003
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE - 618/997-8749		CHECKED - PS	REVISED -		SHEET NO. 17 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

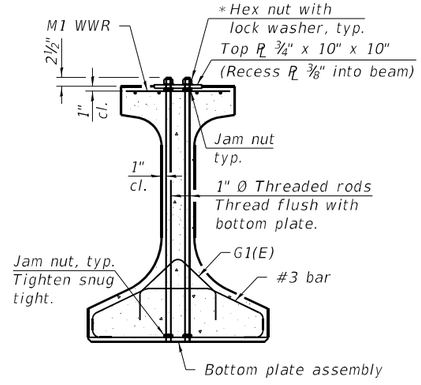
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	795
		CONTRACT NO. 70899		
	ILLINOIS FED. AID PROJECT			



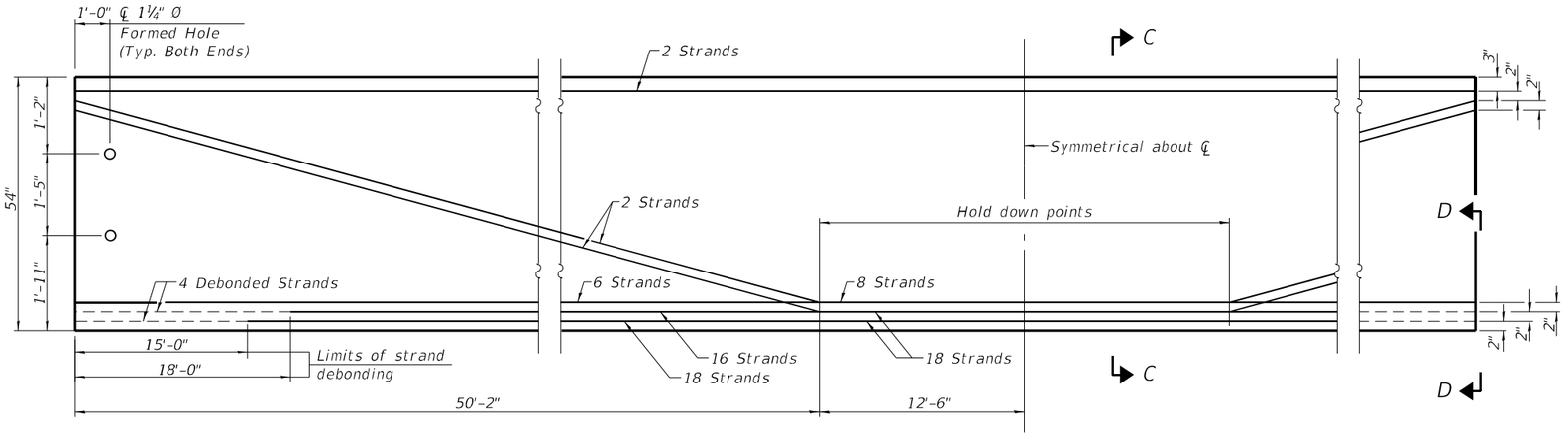
ELEVATION OF BEAM
(Showing reinforcement & dimensions)



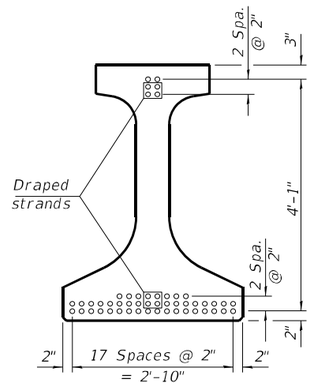
SECTION A-A



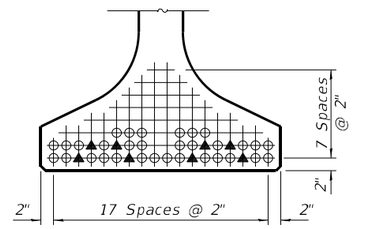
SECTION B-B
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(46-0.6" Ø 270 ksi strands)



VIEW D-D

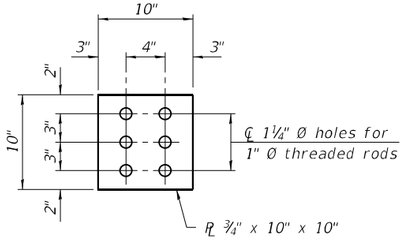
○ Fully bonded strand

▲ Partially debonded strand

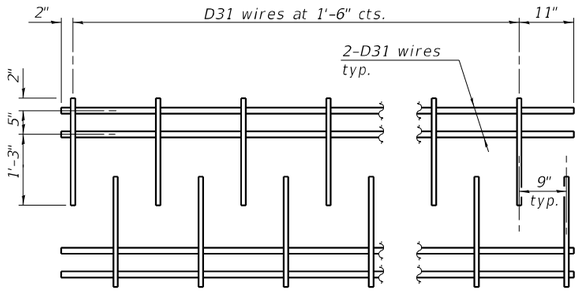
Notes:
See sheet 17 of 30 for number and location of 1" formed holes for Permanent Bracing.
See sheet 19 of 30 for additional details and Bill of Material.

FILE NAME = 0101003-70B99-018-IL54 Beam Details.dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL54N BEAM STRUCTURE NO. 010-1003 SHEET NO. 18 OF 30 SHEETS
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-8190		CHECKED - PS	REVISED -		
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	796
		CONTRACT NO. 70B99		
	ILLINOIS	FED. AID PROJECT		



PLAN - TOP PLATE



M1 WWR DETAIL

When multiple sheets of M1 WWR are required along the beam length, #5(E) bars (5'-0" long) shall be used to splice the longitudinal D31 wires together (Min. Lap 2'-2").

NOTES

Inserts for ¾" Ø threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter for beam strands shall be 0.6" and the nominal cross-sectional area shall be 0.217 sq. in. The nominal diameter for lifting loops shall be ½" and the nominal cross sectional area shall be 0.153 sq. in.

The beams shall have a final concrete compressive strength, f'c, of 8500 psi and a release concrete compressive strength, f'ci, of 6500 psi.

A minimum 2½" Ø lifting pin shall be used to engage the lifting loops during handling.

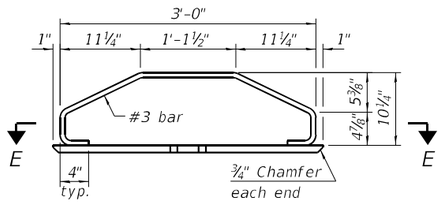
The top and bottom plates shall be AASHTO M270 Grade 50.

The top plates and bottom plate assemblies shall be galvanized according to AASHTO M111.

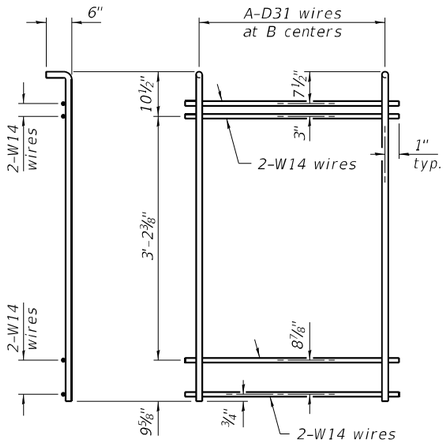
The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.

Threaded rods shall be ASTM F 1554 Grade 55.

Welded Wire Reinforcement (WWR) shall conform to ASTM A884 with a Class A, Type 1 epoxy coating or ASTM A1060, Table 3 galvanized coating.



ELEVATION - BOTTOM PLATE ASSEMBLY



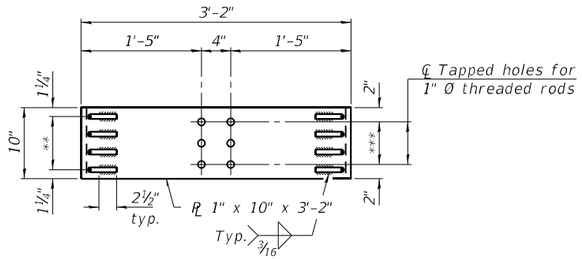
M5 THRU M8 WWR DETAIL

(See Table of Dimensions)

TABLE OF DIMENSIONS

(WWR tables are based on Grade 60.)

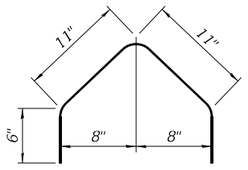
WWR	A	B
M2	9	3"
M3	13	6"
M4	35	1'-6"
M5	19	3"
M6	42	6"
M7	19	1'-0"
M8	9	2'-0"



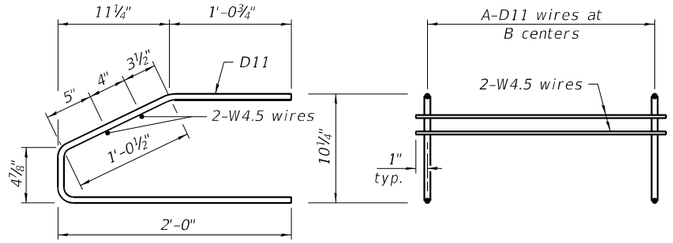
SECTION E-E

** 3 Spaces at 2½" = 7½"

*** 2 Spaces at 3" = 6"

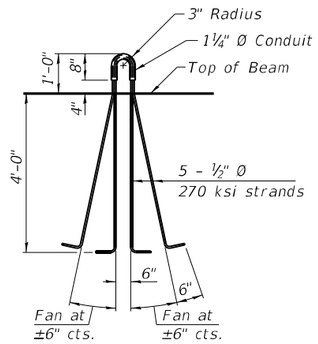


BAR G1(E)



M2 THRU M4 WWR DETAIL

(See Table of Dimensions)

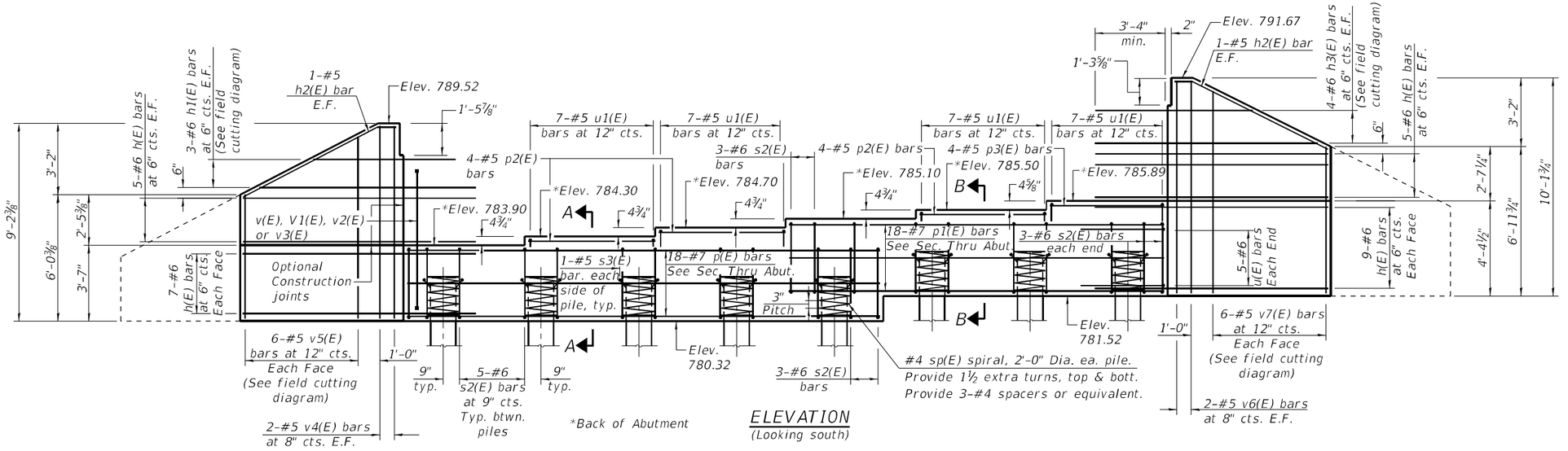


LIFTING LOOP DETAIL

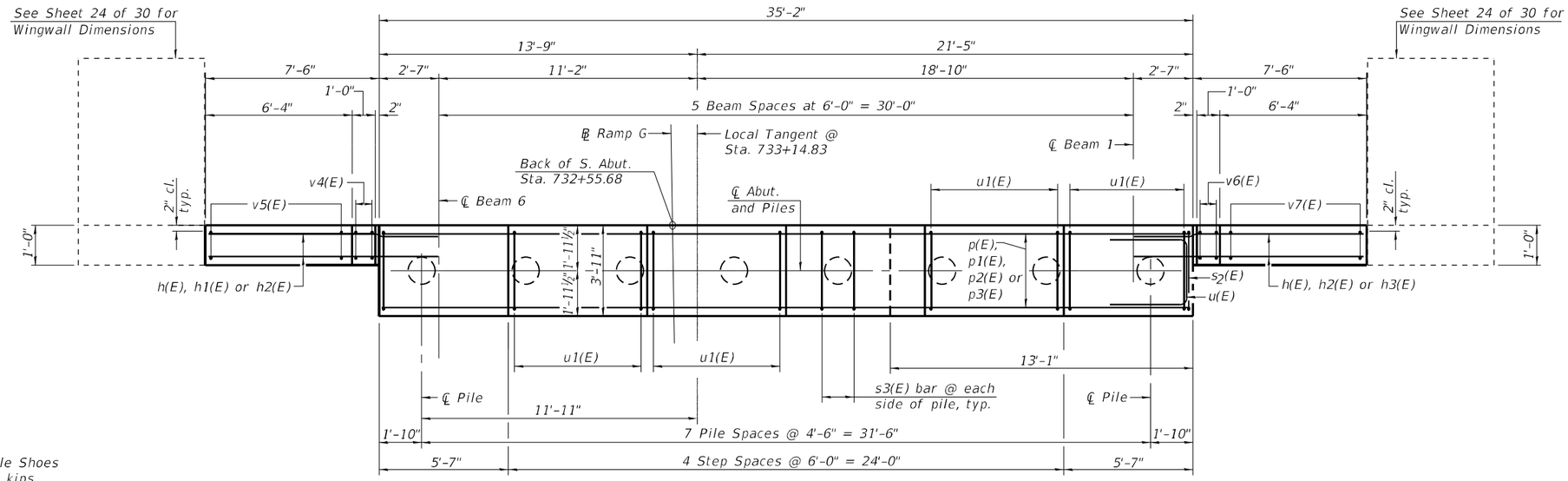
BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL54N	Ft.	752

FILE NAME = 0101003-70B99-019-IL54 Beam Details2.dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	IL54N BEAM DETAILS STRUCTURE NO. 010-1003	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MAHOMET, ILLINOIS 61853 PHONE - 919.867.9199		CHECKED - PS	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	797
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 19 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



ELEVATION
(Looking south)

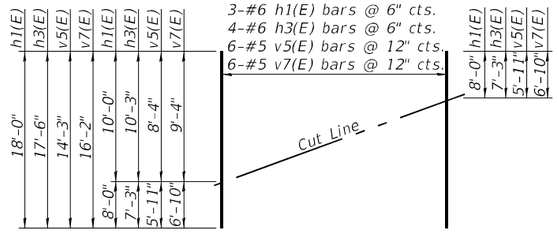


PLAN

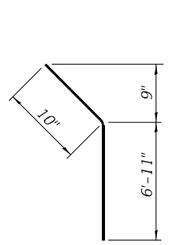
PILE DATA

Type: MS 14" x 0.312" With Pile Shoes
Nominal Required Bearing: 513 kips
Factored Resistance Available: 282 kips
Est. Length: 87'
No. Production Piles: 7
No. Test Piles: 1
No. Pile Shoes: 8

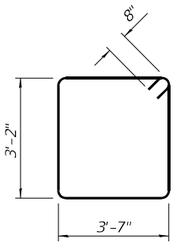
Notes:
Pour steps monolithically with cap.
E.F. denotes Each Face.
For Section A–A and B–B, see Sheet 21 of 30.
For Bill of Materials, see Sheet 21 of 30.
For details of piles, see Sheet 25 of 30.
Headed bars shall conform to ASTM A 970 with threaded attachment: Class HA; and reinforcement bars conforming to ASTM A 706 Cost included with Reinforcement Bars, Epoxy Coated.
For Layout of v(E), v1(E), v2(E), & V3(E) bars see Sheet 21 of 30.



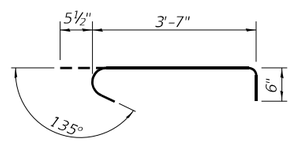
FIELD CUTTING DIAGRAM
Order h1(E), h3(E), v5(E) and v7(E) full length. Cut as shown and use remainder of bars in opposite face.



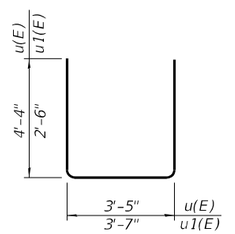
BAR h2(E)



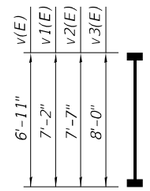
BAR s2(E)



BAR s3(E)

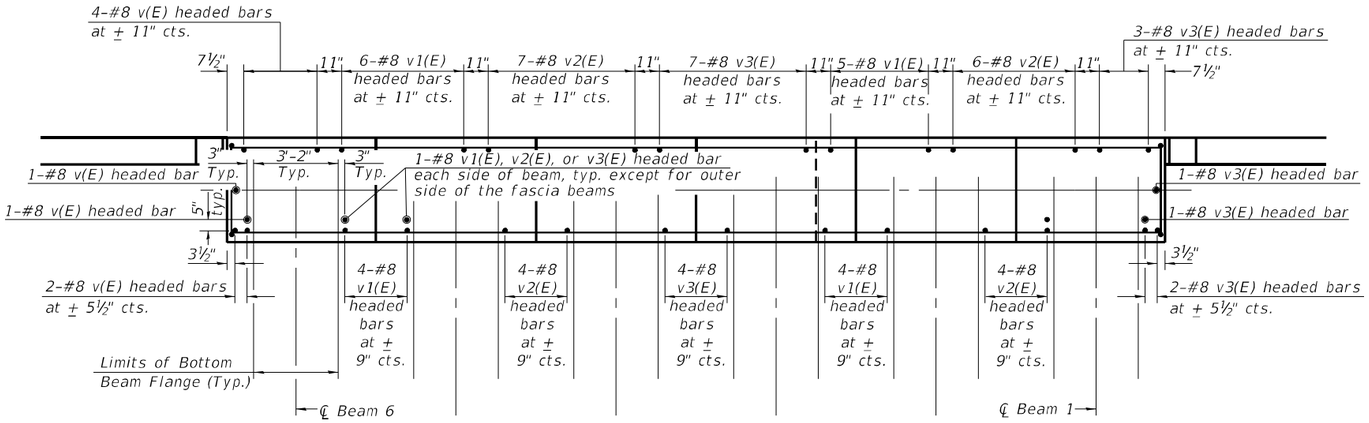


BAR u(E) & u1(E)

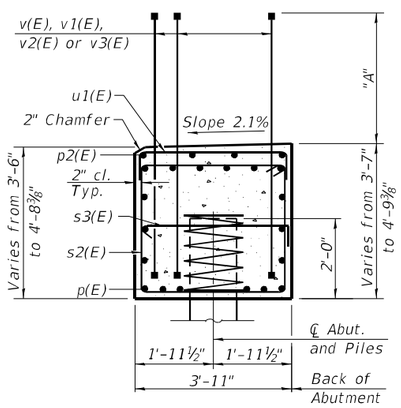


BAR v(E), v1(E) v2(E) & v3(E)
(Headed)

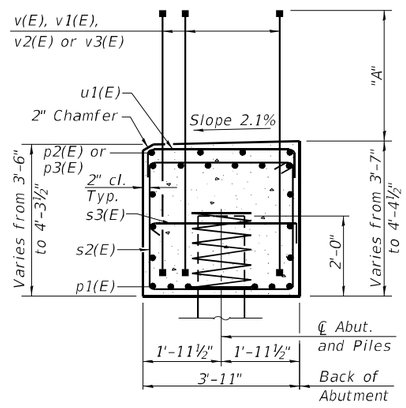
FILE NAME = 0101003-70899-020-South Abutment .dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT STRUCTURE NO. 010–1003	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE-(618)672-3190		CHECKED - PS	REVISED -			57/74	(10-34-1)HBK	CHAMPAIGN	1187	798
	PLOT SCALE =	DRAWN - BJV	REVISED -						CONTRACT NO. 70B99	
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		SHEET NO. 20 OF 30 SHEETS			ILLINOIS	FED. AID PROJECT	



Layout of v(E), v1(E), v2(E) & v3(E) Bars



SEC. A-A



SEC. B-B

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	52	#6	10'-8"	
h1(E)	3	#6	18'-0"	
h2(E)	4	#5	7'-9"	
h3(E)	4	#6	17'-6"	
p(E)	18	#7	21'-10"	
p1(E)	18	#7	17'-4"	
p2(E)	12	#5	5'-10"	
p3(E)	4	#5	5'-4"	
s2(E)	47	#6	14'-10"	
s3(E)	16	#5	4'-7"	
* sp(E)	8	#4	2'-0"	
u(E)	10	#6	12'-1"	
u1(E)	28	#5	8'-7"	
v(E)	8	#8	6'-11"	
v1(E)	23	#8	7'-2"	
v2(E)	25	#8	7'-7"	
v3(E)	20	#8	8'-0"	
v4(E)	4	#5	8'-10"	
v5(E)	6	#5	14'-3"	
v6(E)	4	#5	9'-10"	
v7(E)	6	#5	16'-2"	
Structure Excavation		Cu. Yd.	109	
Concrete Structures		Cu. Yd.	25.7	
Reinforcement Bars, Epoxy Coated		Pound	6300	
Furnishing Metal Shell Piles, 14" x 0.312"		Foot	609	
Driving Piles		Foot	609	
Test Pile, Metal Shells		Each	1	
Pile Shoes		Each	8	

* Length is height of spiral.

DIMENSIONS OF V-BARS ABOVE TOP OF ABUTMENT CAP ("A")

Bar	Minimum Length of "A"	Maximum Length of "A"
v(E)	3'-8"	3'-8"
v1(E)	3'-6⅛"	3'-11⅛"
v2(E)	3'-6¼"	3'-11¼"
v3(E)	3'-6½"	3'-11½"

FILE NAME = 0101003-70899-021-South Abutment Details.dgn
USER NAME =
PLOT SCALE =
PLOT DATE = 3/11/2021

DESIGNED - FAM
CHECKED - PS
DRAWN - BJV
CHECKED - GBR

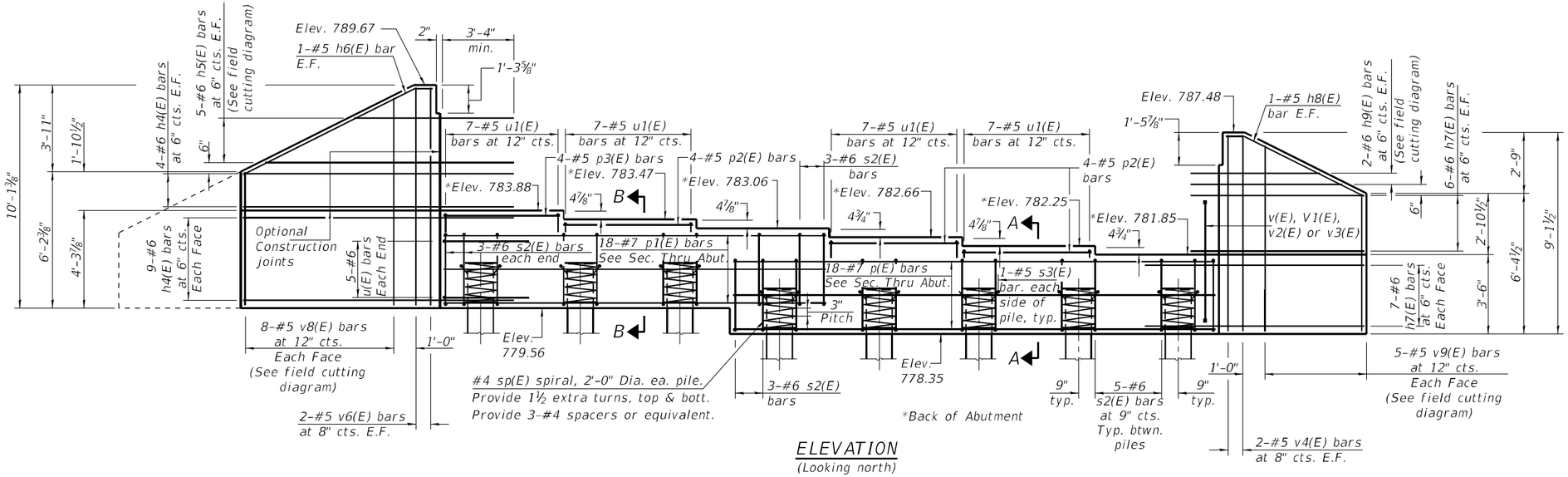
REVISED -
REVISED -
REVISED -
REVISED -

BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC.
403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-3190

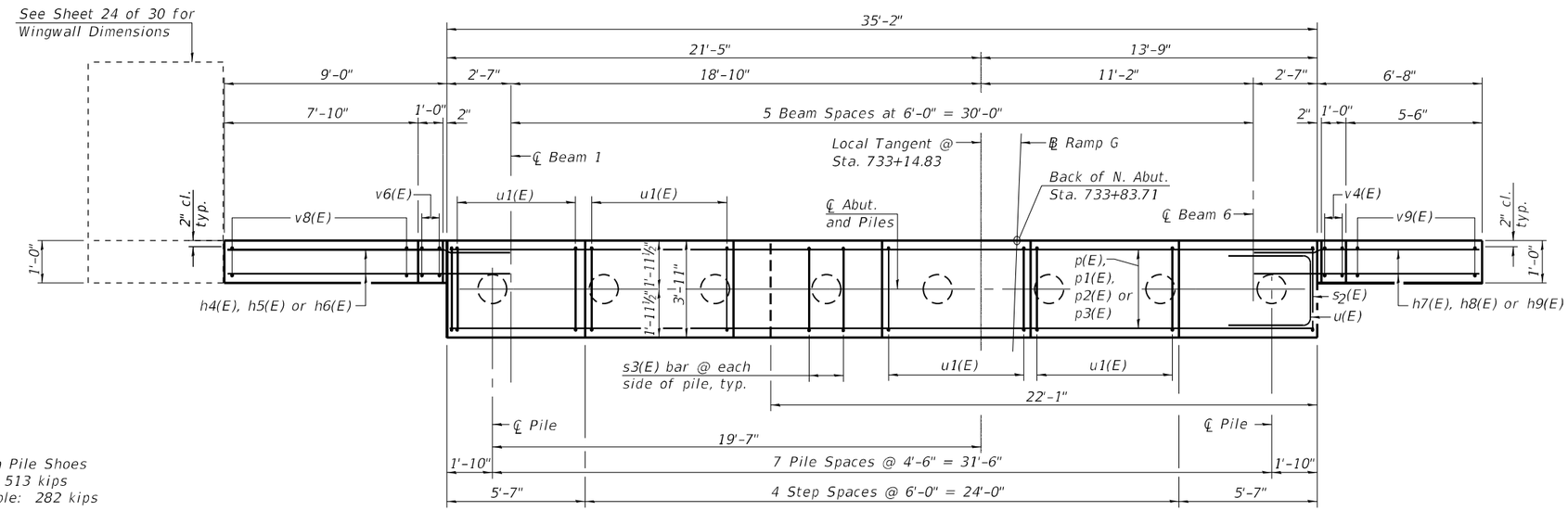
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
STRUCTURE NO. 010-1003
SHEET NO. 21 OF 30 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	799
		CONTRACT NO. 70899		
	ILLINOIS FED. AID PROJECT			



ELEVATION
(Looking north)

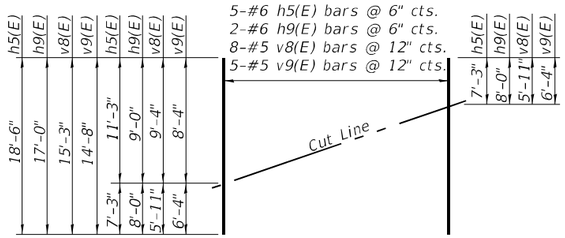


PLAN

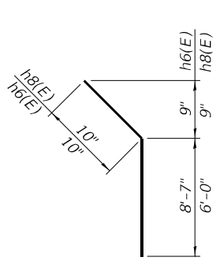
PILE DATA

Type: MS 14" x 0.312" With Pile Shoes
Nominal Required Bearing: 513 kips
Factored Resistance Available: 282 kips
Est. Length: 91'
No. Production Piles: 7
No. Test Piles: 1
No. Pile Shoes: 8

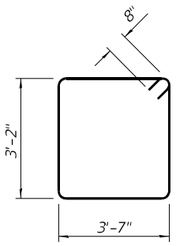
Notes:
Pour steps monolithically with cap.
E.F. denotes Each Face.
For Section A-A and B-B, see Sheet 23 of 30.
For Bill of Materials, see Sheet 23 of 30.
For details of piles see Sheet 25 of 30.
Headed bars shall conform to ASTM A970 with threaded attachment: Class HA; and reinforcement bars conforming to ASTM A706 Cost included with Reinforcement Bars, Epoxy Coated.
For Layout of v(E), v1(E), v2(E), & V3(E) bars see Sheet 23 of 30.



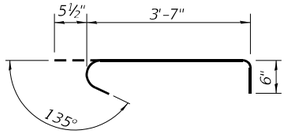
FIELD CUTTING DIAGRAM
Order h5(E), h9(E), v8(E) and v9(E) full length. Cut as shown and use remainder of bars in opposite face.



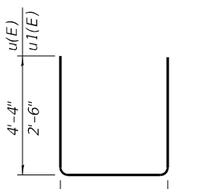
BAR h6(E) & h8(E)



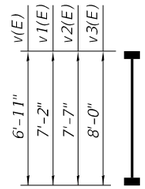
BAR s2(E)



BAR s3(E)



BAR u(E) & u1(E)



BAR v(E), v1(E) v2(E) & v3(E)
(Headed)

FILE NAME = 0101003-70B99-022-North Abutment .dgn	USER NAME =	DESIGNED - FAM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	NORTH ABUTMENT STRUCTURE NO. 010-1003
BFW BACON | FARMER | WORKMAN ENGINEERING & TESTING, INC. 403 NORTH COURT STREET MARION, ILLINOIS 62959 PHONE: (618)997-3190		CHECKED - PS	REVISED -		SHEET NO. 22 OF 30 SHEETS
	PLOT SCALE =	DRAWN - BJV	REVISED -		
	PLOT DATE = 3/11/2021	CHECKED - GBR	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57/74	(10-34-1)HBK	CHAMPAIGN	1187	800
		CONTRACT NO. 70B99		
	ILLINOIS FED. AID PROJECT			