

GENERAL NOTES

Structural Steel shall be according to the following:
 W-shapes.....AASHTO M 270 Grade 50W
 C-shapes, L-shapes & plates.....AASHTO M 270 Grade 50W

Reinforcement bars designated (E) shall be epoxy coated.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

All construction joints shall be bonded.

Cost for removal of existing bridge rail is included in cost for Removal of Existing Structures.

Excavation of earth necessary to perform removal of existing structures will not be measured for payment. Cost is included in Removal of Existing Structures.

Excavation for Granular Backfill for Structures shall not be paid separately but considered included in the unit price bid for GRANULAR BACKFILL FOR STRUCTURES.

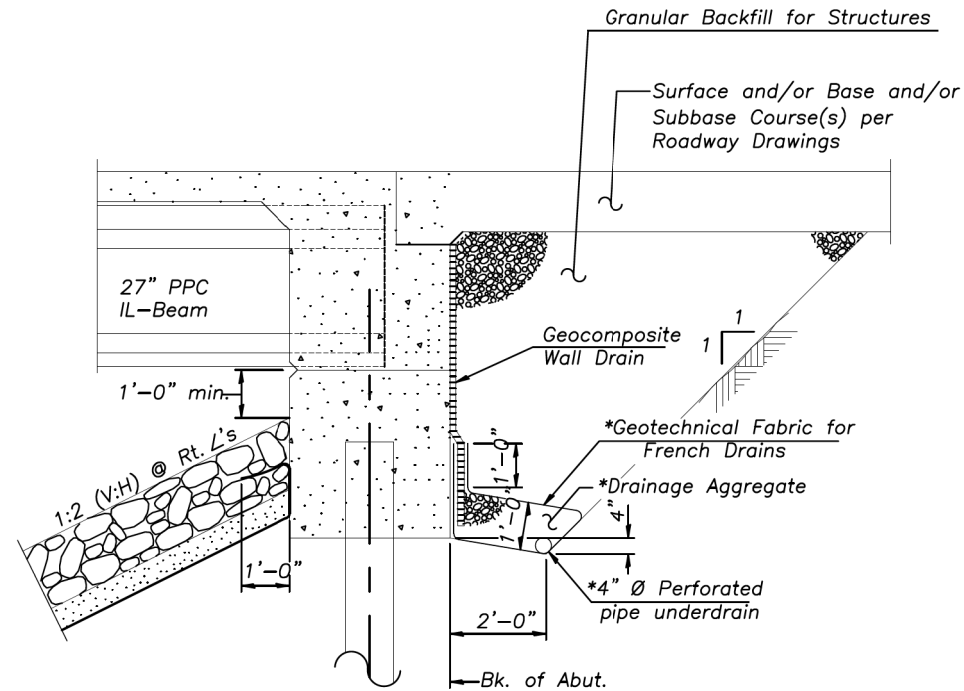
Granular Backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

The proposed improvements are covered under Illinois Department of Natural Resources (IDNR) Statewide Permit Number 2.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except construction as shown in the plans or as allowed in the Special Provision for Temporary Stream Crossings and In-Stream Work Pads.

The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.

Slipform parapet shall not be permitted



SECTION THRU INTEGRAL ABUTMENT
 (Horiz. dim. @ Rt.L's)

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

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).

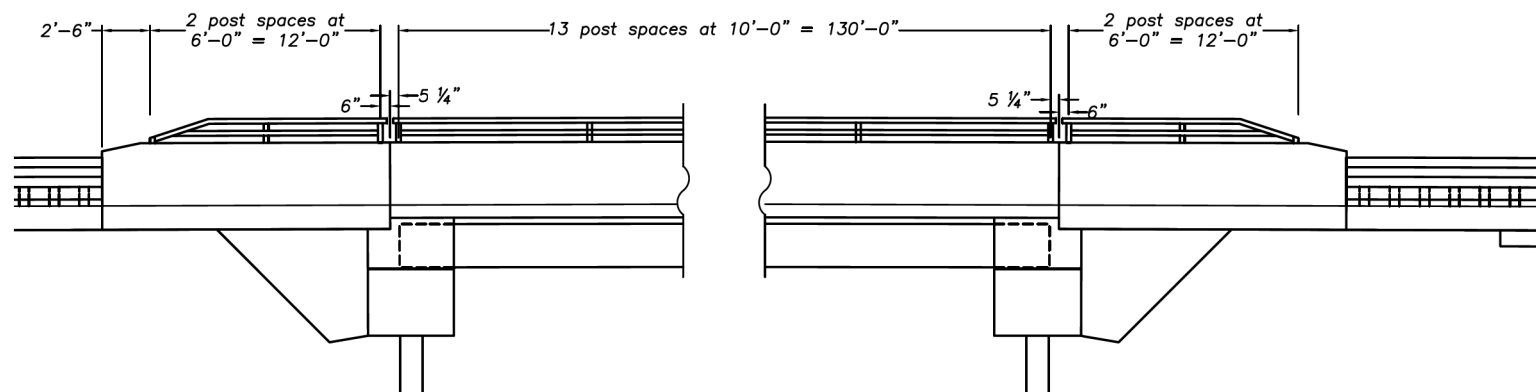
STRUCTURE BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB	TOTAL
GRouted RIPRAP	SQ YD		839	839
FILTER FABRIC	SQ YD		839	839
REMOVAL OF EXISTING STRUCTURES	EACH			1
STRUCTURE EXCAVATION	CU YD		250	250
COFFERDAM EXCAVATION	CU YD		72	72
COFFERDAM (TYPE 1) (LOCATION - 1)	EACH		1	1
FLOOR DRAINS	EACH	16		16
CONCRETE STRUCTURES	CU YD		149.7	149.7
CONCRETE SUPERSTRUCTURE	CU YD	218.9		218.9
BRIDGE DECK GROOVING	SQ YD	108.9		108.9
PROTECTIVE COAT	SQ YD	873		873
CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	108.9		109
FURNISHING METAL SHELL PILES 14" X 0.312"	FOOT		970	970
DRIVING PILES	FOOT		970	970
TEST PILE METAL SHELLS	EACH		3	3
NAME PLATES	EACH	1		1
GRANULAR BACKFILL FOR STRUCTURES	CU YD		146	146
GEOCOMPOSITE WALL DRAIN	SQ YD		65.8	66
PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT		188.8	189
ERECTING PRECAST PRESTRESSED CONCRETE BEAMS, 1L27M	SUM		1	1
REINFORCEMENT BARS, EPOXY COATED (SPECIAL)	POUND	112,960	17,220	130,180

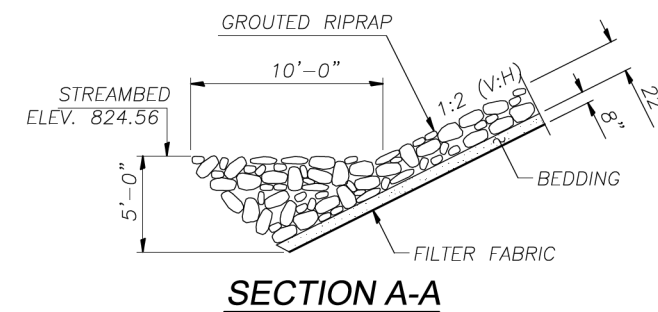
BEAVER CREEK
 BUILT 2023 BY
 BOONE COUNTY
 SEC. 19-00113-00-BR
 POPLAR GROVE ROAD STA. 18+58.14
 STR. NO. 004-3103 LOADING HL-93

LETTERING FOR NAME PLATE

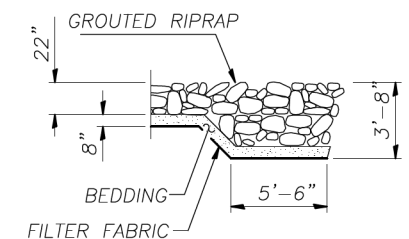
See Std. 515001-03



PARAPET RAILING POST SPACING DETAIL



SECTION A-A



SECTION B-B

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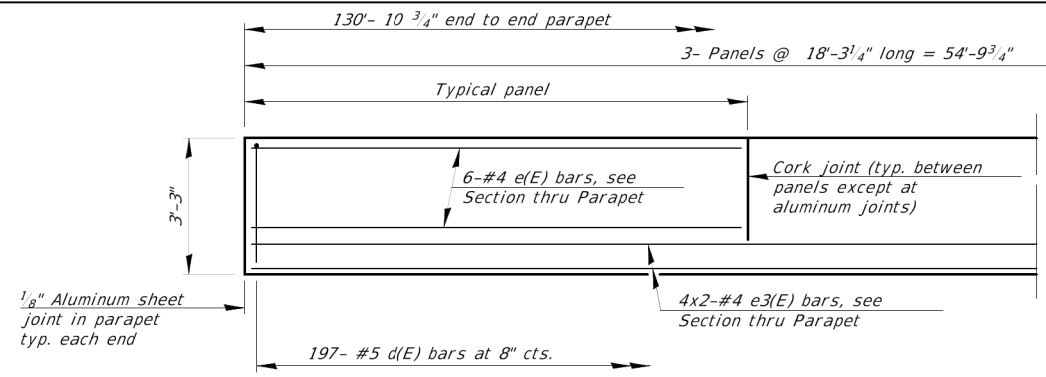
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

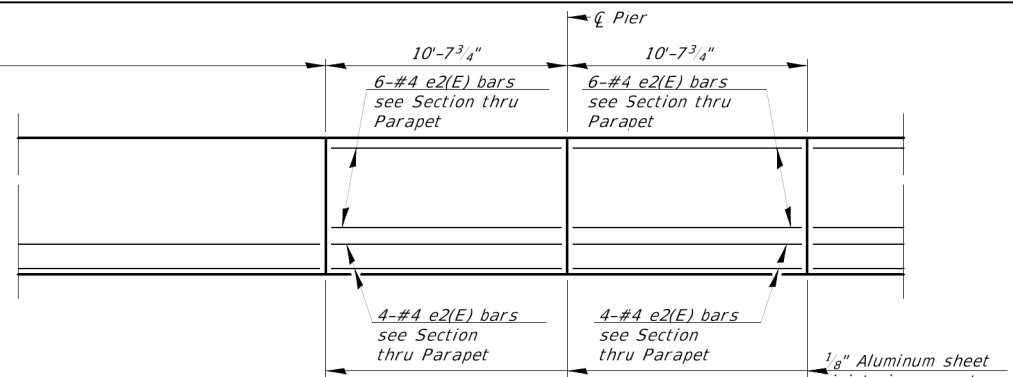
GENERAL BRIDGE DATA

SCALE: 1"=30 SHEET - OF - SHEETS STA. - TO STA. -

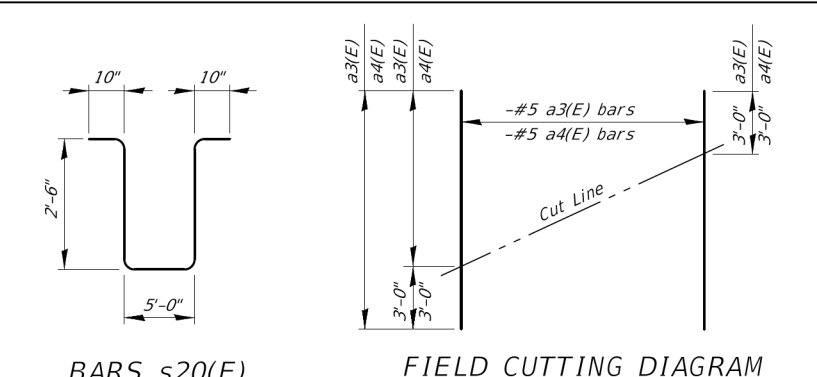
FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	15
-	-	-	CONTRACT NO	85732
ILLINOIS FED. AID PROJECT				



INSIDE ELEVATION OF PARAPET

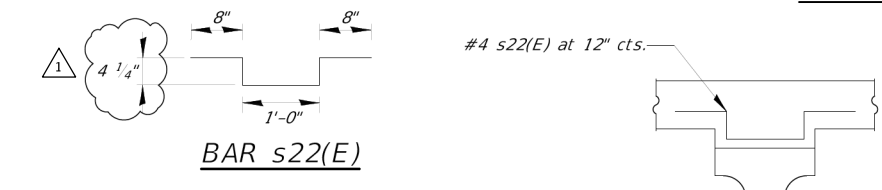


PARAPET JOINT DETAILS



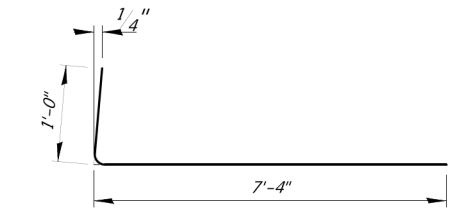
FIELD CUTTING DIAGRAM

Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.



BAR s22(E)

FILLET REINFORCEMENT



BAR a2(E)

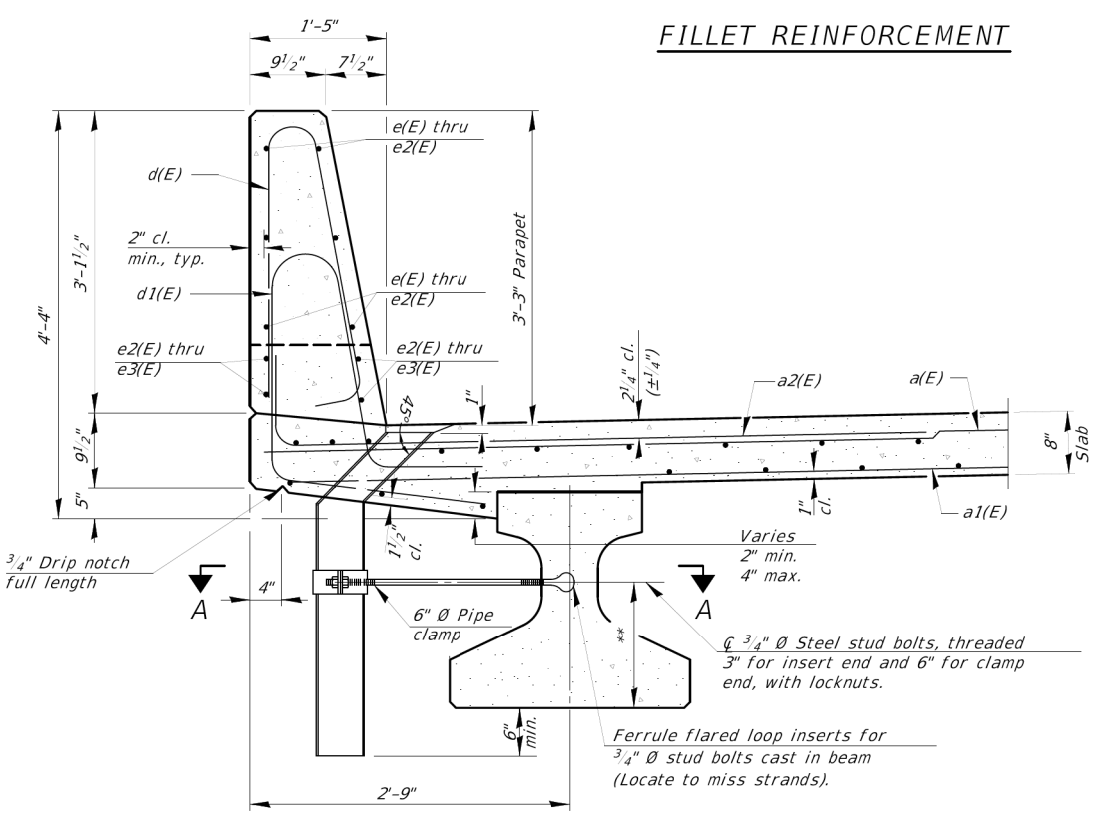
MINIMUM BAR LAP
#4 bar = 2'-5"

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	200	#5	39'-9"	—
a1(E)	131	#5	39'-9"	—
a2(E)	488	#6	8'-4"	—
a3(E)	44	#5	39'-9"	—
a4(E)	29	#5	39'-9"	—
a5(E)	4	#5	45'-8"	—
b(E)	270	#6	28'-2"	—
b1(E)	88	#8	33'-10"	—
b3(E)	210	#6	29'-4"	—
d(E)	394	#5	6'-5"	—
d1(E)	394	#5	8'-5"	—
e(E)	72	#4	17'-11"	—
e2(E)	40	#4	10'-3"	—
e3(E)	32	#4	29'-7"	—
m10(E)	8	#6	45'-10"	—
m11(E)	24	#6	5'-7"	—
m12(E)	8	#6	2'-7"	—
m13(E)	12	#6	3'-8"	—
m14(E)	4	#6	1'-7"	—
m15(E)	28	#5	4'-0"	—
m20(E)	12	#6	3'-8"	—
m21(E)	24	#6	5'-7"	—
m22(E)	14	#5	4'-0"	—
s10(E)	60	#5	8'-4"	—
s11(E)	60	#5	8'-11"	—
s12(E)	56	#5	7'-9"	—
s20(E)	24	#5	11'-8"	—
s21(E)	24	#5	10'-1"	—
s22(E)	931	#4	3'-1"	—
v100(E)	82	#5	3'-1"	—
Reinforcement Bars, Epoxy Coated (Special)		Lbs.		65,100***
Concrete Superstructure		Cu. Yds.		211.1

***BARS TO BE SUPPLIED BY THE CONTRACTOR

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

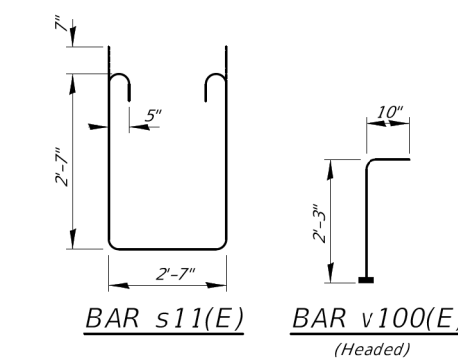


SECTION THRU PARAPET

**For insert locations, see sheet 21.

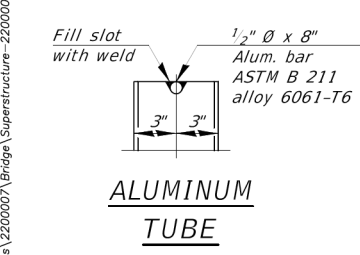
Notes:
Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
The exterior surfaces of the fiberglass floor drains shall be pigmented by the manufacturer with a color that matches the concrete.
The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.
The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.
The 1/8" Aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.
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.

BARS s10(E), s12(E) & s21(E)

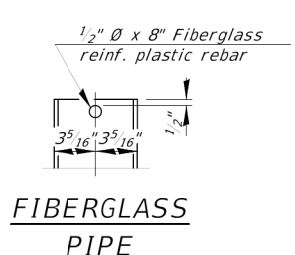


BAR s11(E)

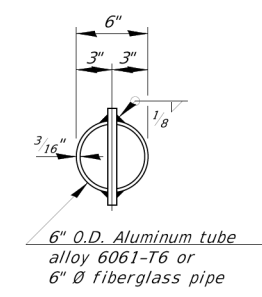
BAR v100(E)
(Headed)



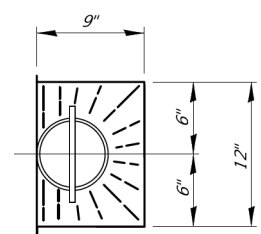
ALUMINUM TUBE



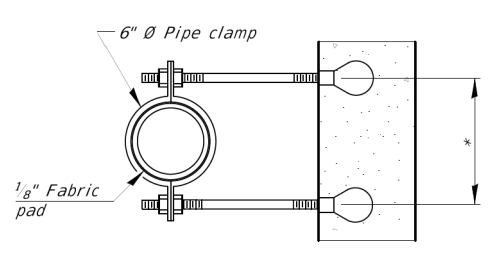
FIBERGLASS PIPE



TOP PLAN
(Showing aluminum tube)

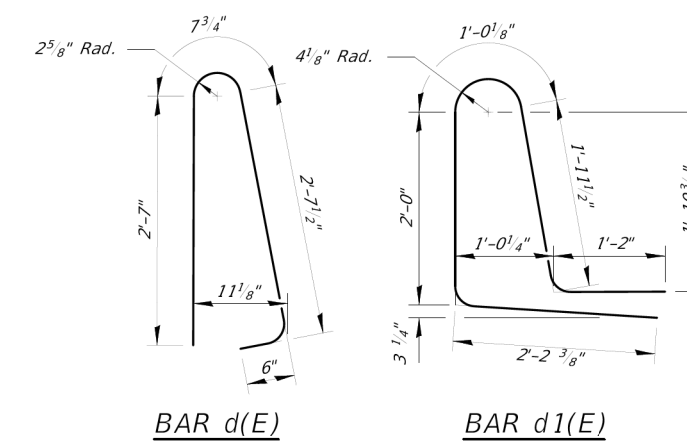


TOP PLAN



SECTION A-A

*Dimension as required by pipe clamp



BAR d(E)

BAR d1(E)

SDI-IL27-2 6-15-2019



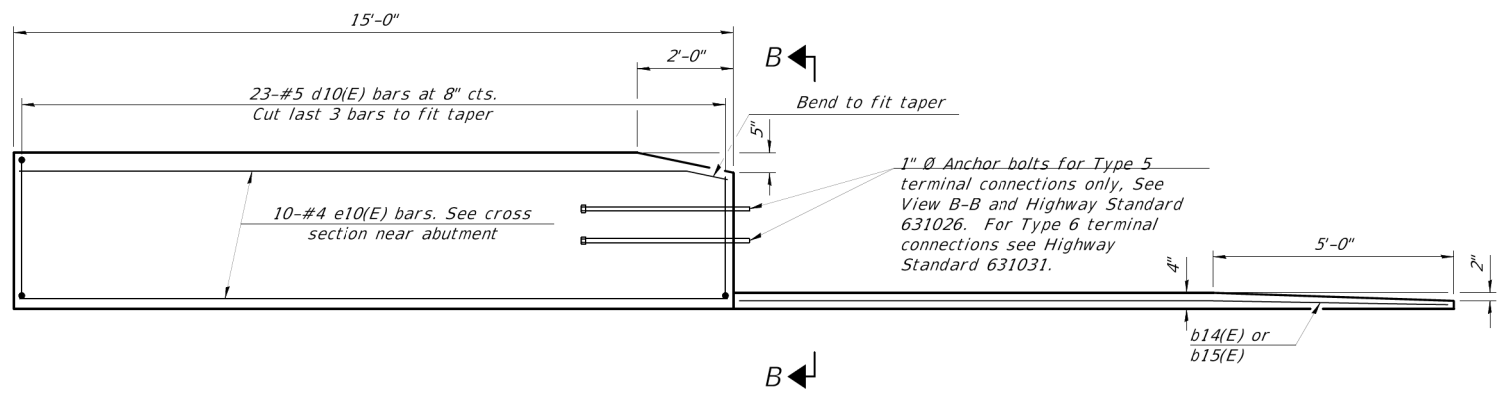
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS

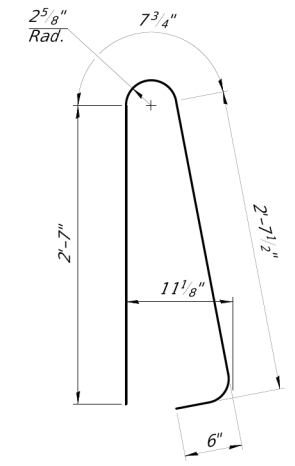
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FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				

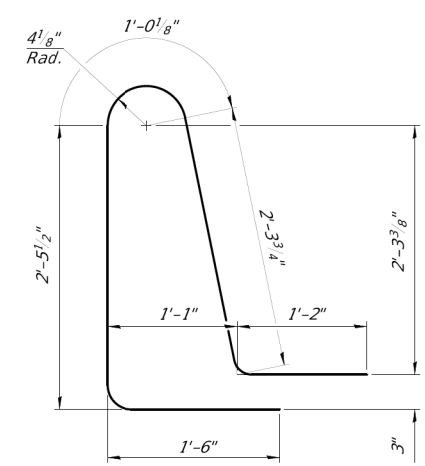


INSIDE ELEVATION OF PARAPET AND CURB

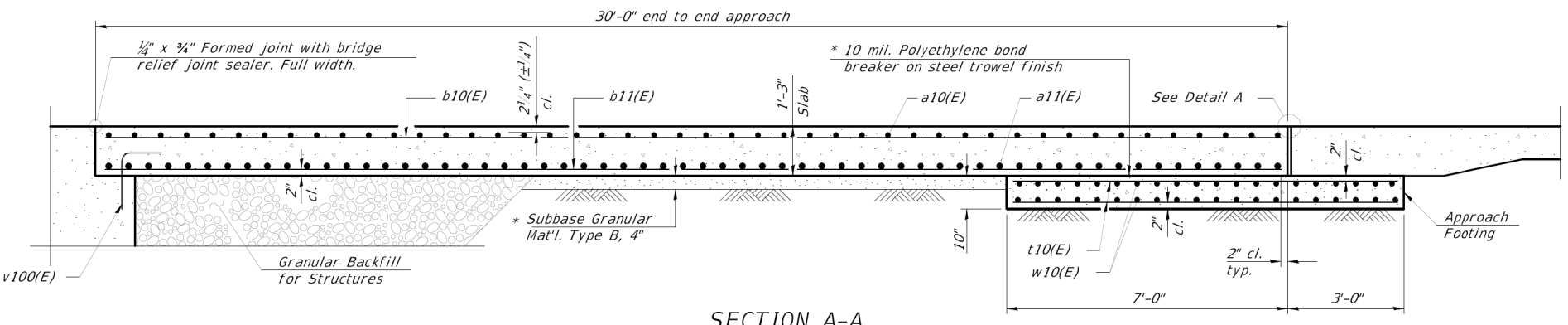
Notes:
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach 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 (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 15 of 38.



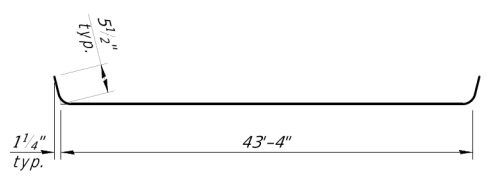
BAR d10(E)



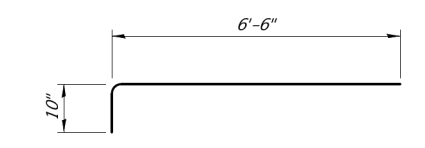
BAR d11(E)



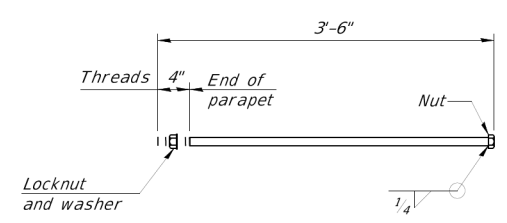
SECTION A-A



BAR a10(E)



BAR a12(E)

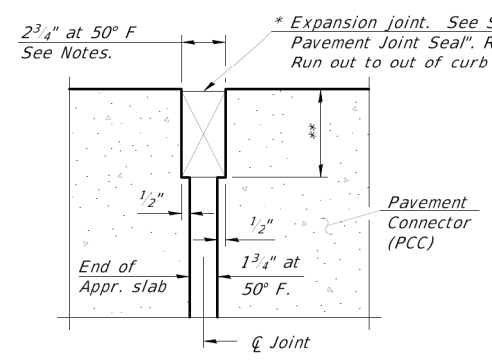


* 1" Ø ANCHOR BOLT

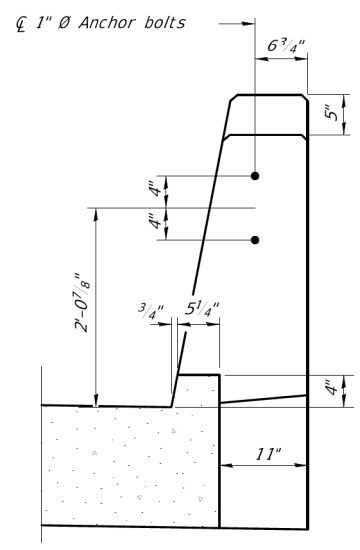
(Anchor bolt assemblies shall be galvanized according to Article 1006.09 of the Standard Specifications)

TWO APPROACHES
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a10(E)	92	#5	44'-3"	U	
a11(E)	120	#8	43'-8"	U	
a12(E)	92	#5	7'-4"	U	
b10(E)	116	#5	29'-8"	—	
b11(E)	184	#9	29'-8"	—	
b12(E)	8	#5	14'-8"	—	
b13(E)	8	#5	14'-8"	—	
b14(E)	2	#4	14'-8"	—	
b15(E)	2	#4	14'-8"	—	
d10(E)	92	#5	6'-5"	U	
d11(E)	92	#5	8'-6"	U	
e10(E)	40	#4	14'-8"	—	
t10(E)	156	#4	9'-8"	—	
w10(E)	80	#5	43'-9"	—	
Reinforcement Bars, Epoxy Coated				Pound	47,860
Concrete Superstructure				Cu. Yd.	7.8
Concrete Superstructure (Approach Slab)				Cu. Yd.	108.9
Concrete Structures				Cu. Yd.	23.6



DETAIL A
 (@ Rt. L's)



VIEW B-B

* Cost included with Concrete Superstructure (Approach Slab).
 ** Per manufacturer recommendations

BAIA-CIP-39CS-R(≤30°) 6-15-2019



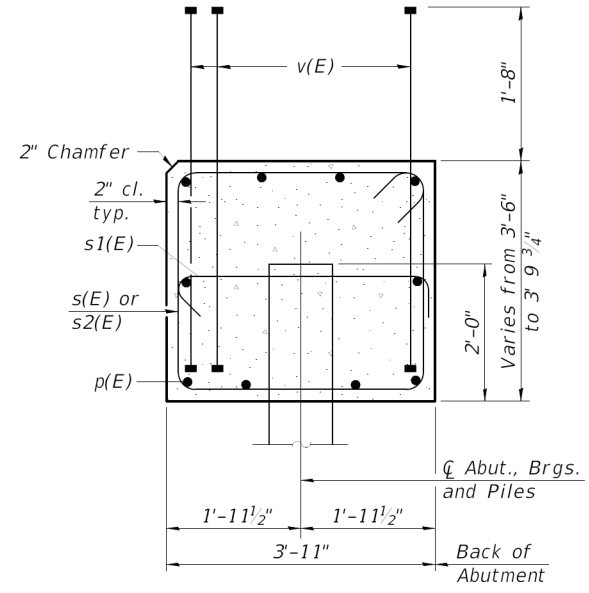
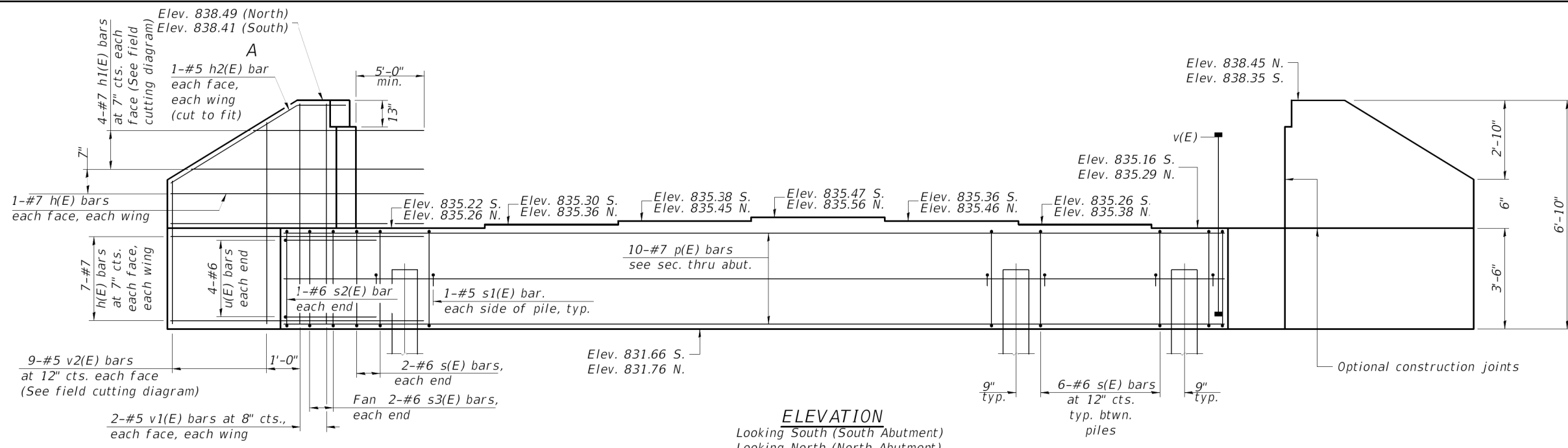
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STATE OF ILLINOIS
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BRIDGE APPROACH SLAB DETAILS (S.N. 004-3103)

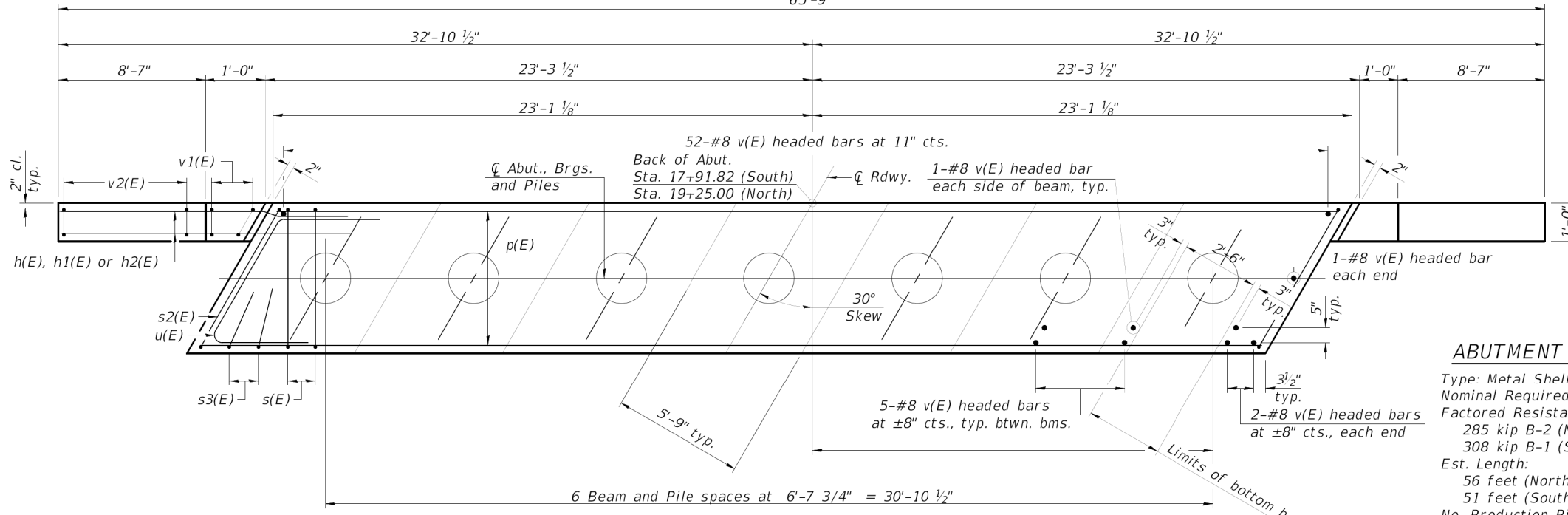
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FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5011	19-00113-00-BR	BOONE	38	27
CONTRACT NO			85732	
ILLINOIS FED. AID PROJECT				



ELEVATION
Looking South (South Abutment)
Looking North (North Abutment)

SEC. THRU ABUT.
Dimensions at right angles to abutment.

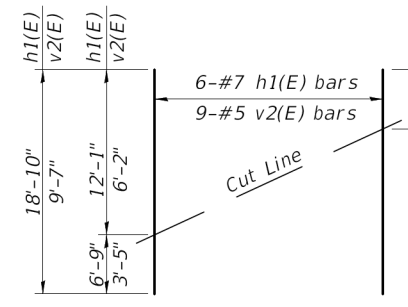


PLAN

ABUTMENT PILE DATA
Type: Metal Shell 14" x 0.312"
Nominal Required Bearing: 519 kip
Factored Resistance Available:
285 kip B-2 (North Abutment)
308 kip B-1 (South Abutment)
Est. Length:
56 feet (North Abutment)
51 feet (South Abutment)
No. Production Piles: 12
No. Test Piles: 2

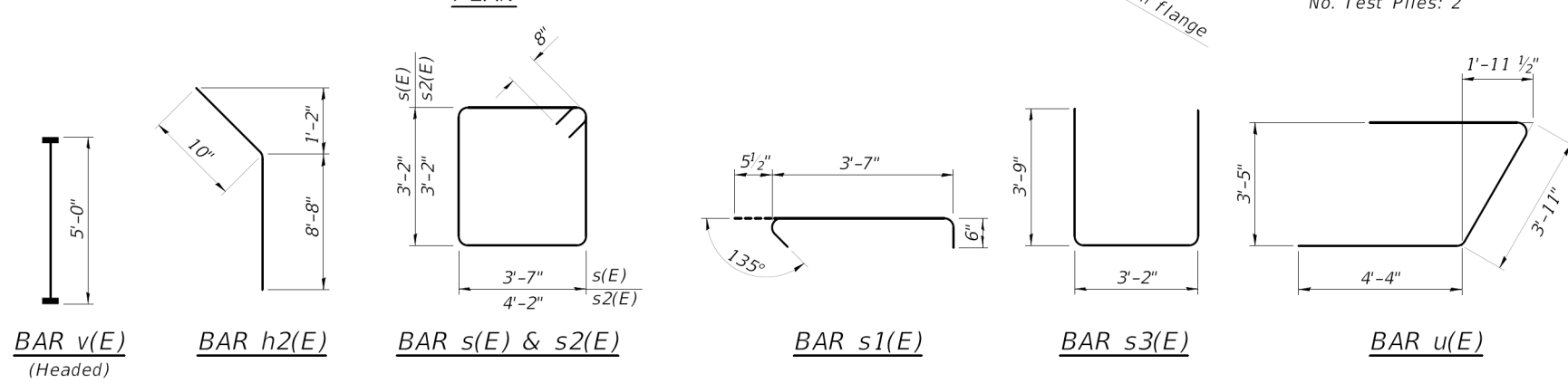
BILL OF MATERIAL FOR 2 ABUTMENTS

Bar	No.	Size	Length	Shape
h(E)	64	#7	14'-5"	—
h1(E)	32	#7	18'-10"	—
h2(E)	8	#5	9'-10"	—
p(E)	20	#8	45'-10"	—
s(E)	80	#6	14'-10"	□
s1(E)	28	#5	4'-7"	□
s2(E)	4	#6	16'-1"	□
s3(E)	8	#6	10'-8"	□
u(E)	16	#6	12'-7"	□
v(E)	204	#8	5'-0"	—
v1(E)	16	#5	6'-8"	—
v2(E)	36	#5	9'-7"	—
Reinforcement Bars, Epoxy Coated (Special)				Lbs. 11,290
Concrete Structures				Cu. Yds. 55.9
Structure Excavation				Cu. Yds. 250
FURNISHING METAL SHELL PILES 14" X 0.312"				Foot 642
Driving Piles				Foot 642
Test Pile Metal Shells				Each 2



FIELD CUTTING DIAGRAM

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.
6-15-2019



Notes:
Four steps monolithically with cap.
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 details of piles see sheet 33 of 38.