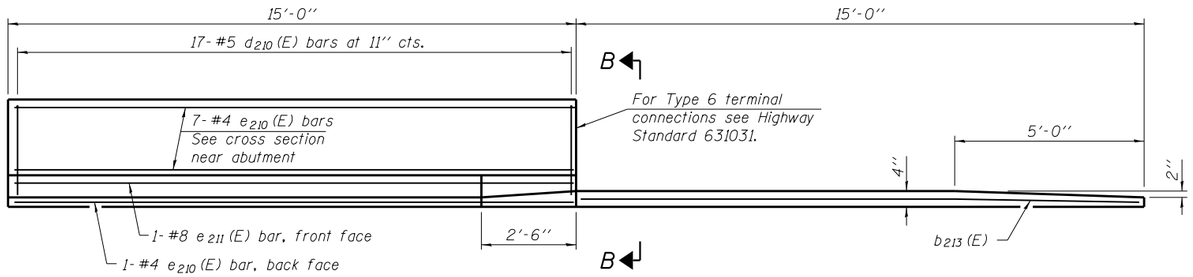
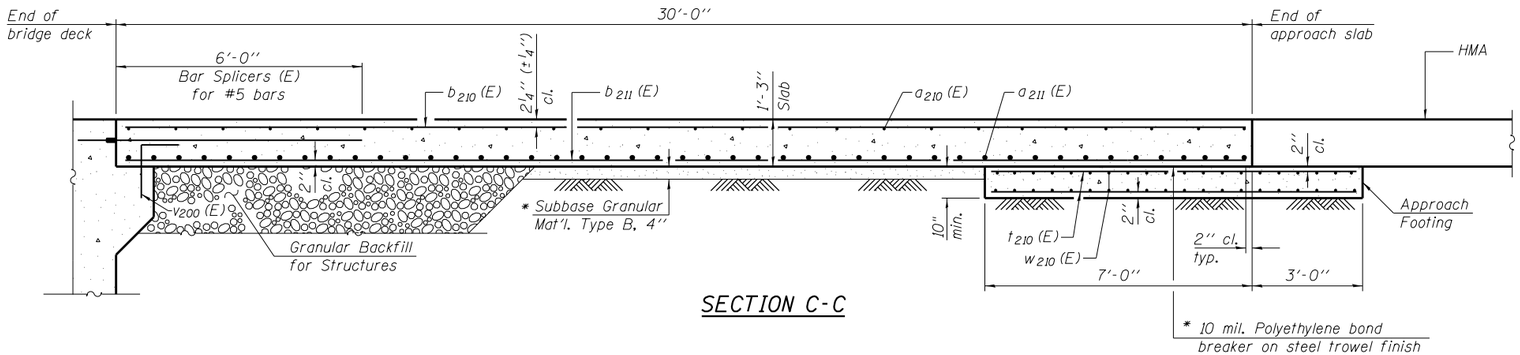
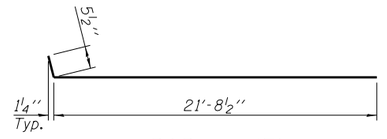


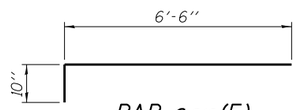
INSIDE ELEVATION OF PARAPET AND CURB



SECTION C-C



BAR a_{210}(E)



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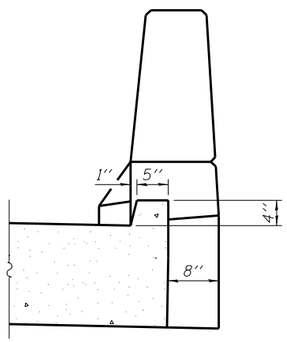
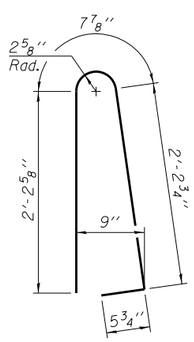
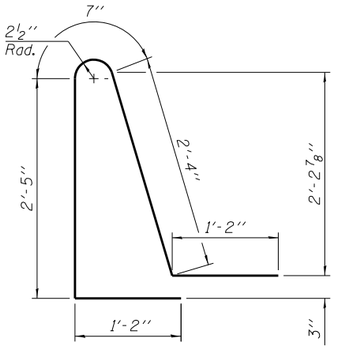


VIEW B-B



BAR d_{210}(E)



BAR d_{211} (E)

Notes:

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 26.
Dowels shall be installed per Article 584 of Standard Specifications. The embedment depth shall be per manufacturer recommendation for developing full tensile strength of dowel in 3500 psi concrete.
For v_{200}(E) bar details, see sheet 9 of 26.

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{210} (E)	92	#5	22'-2"	
a_{211} (E)	120	#8	21'-10"	
a_{212} (E)	46	#5	7'-4"	
b_{210} (E)	68	#5	29'-8"	
b_{211} (E)	108	#9	29'-8"	
b_{212} (E)	10	#5	14'-8"	
b_{213} (E)	2	#4	14'-8"	
d_{210} (E)	34	#5	5'-7"	
d_{211} (E)	34	#5	7'-8"	
d_{212} (E)	172	#5	4'-1"	
d_{213} (E)	120	#8	6'-7"	
d_{214} (E)	32	#5	2'-0"	
e_{210} (E)	16	#4	14'-8"	
e_{211} (E)	2	#8	14'-8"	
t_{210} (E)	92	#4	9'-8"	
w_{210} (E)	80	#5	21'-10"	

Concrete Superstructure	Cu. Yd.	3.3
Concrete Superstructure (Approach Slab)	Cu. Yd.	77.2
Concrete Structures	Cu. Yd.	13.7
Reinforcement Bars, Epoxy Coated	Pound	28,670
Drill and Grout Bars	Each	292
Bridge Deck Grooving	Sq. Yd.	138
Protective Coat	Sq. Yd.	158

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

BAIA-CIP-34FS-0 07-22-16

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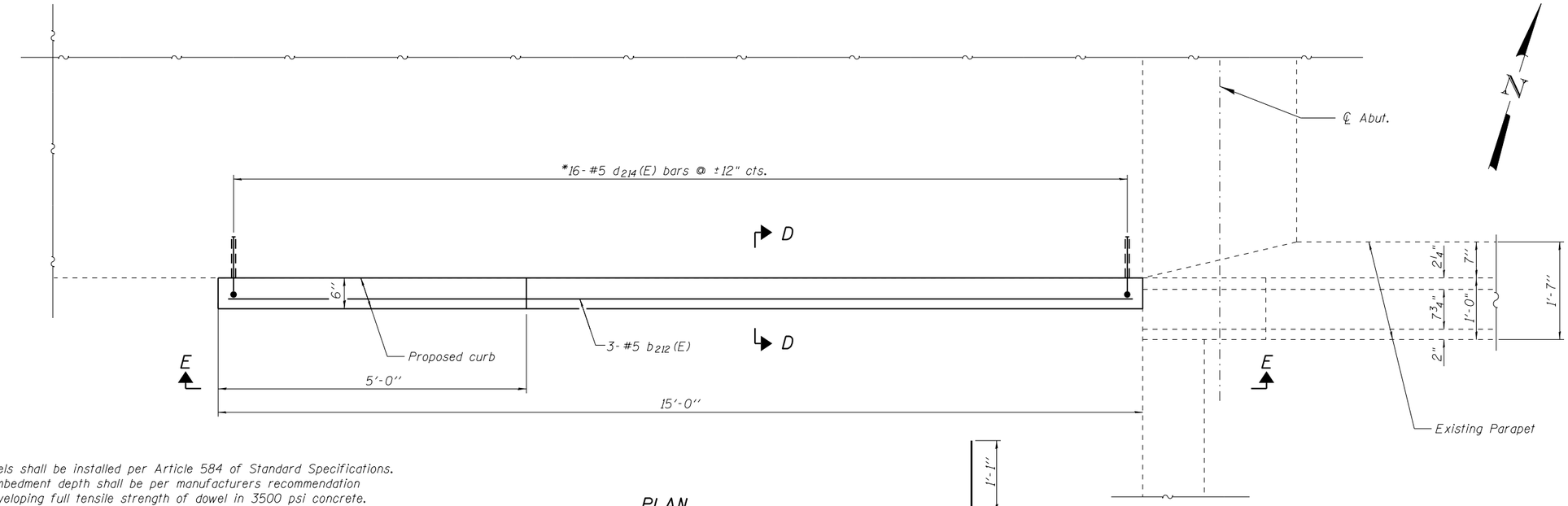
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS 2
STRUCTURE NO. 039-0062
SHEET NO. 13 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	101
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



Notes:

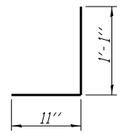
Dowels shall be installed per Article 584 of Standard Specifications. The embedment depth shall be per manufacturers recommendation for developing full tensile strength of dowel in 3500 psi concrete.

Partial removal of existing slopewall adjacent to guardrail may be required to facilitate construction of the proposed curb. Cost shall be included in Concrete Superstructure (Approach Slab).

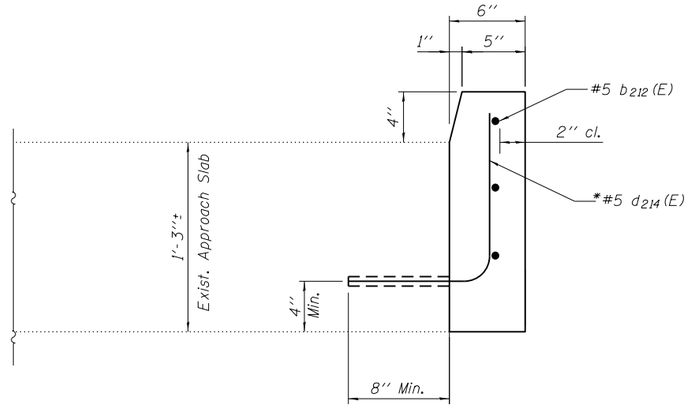
Work associated with proposed curb shall be accomodated prior to Stage 1 Construction. See Roadway Plans and Special Provisions for details.

PLAN

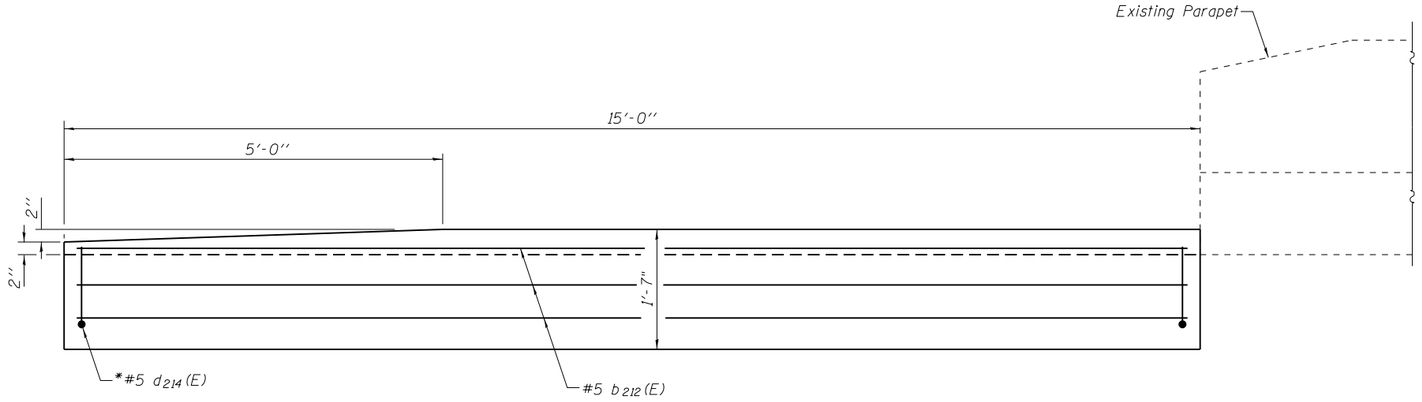
(West Abutment Shown, East Abutment Similar but Opposite Hand)



BAR d_{214}(E)



SECTION D-D



VIEW E-E

*Drill and grout into Existing Concrete Min. 8"

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USER NAME =	DESIGNED	DRC	REVISED
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PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

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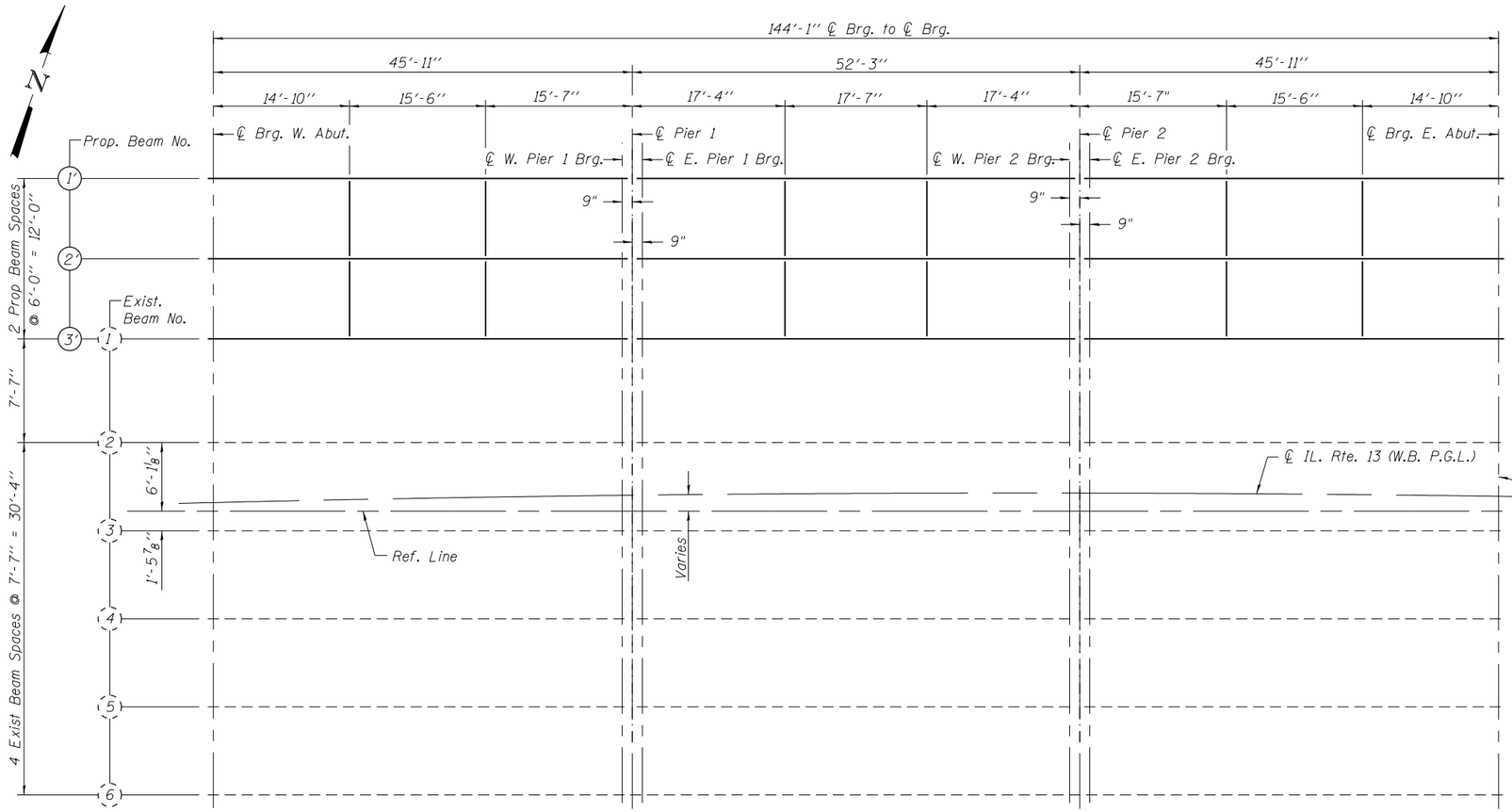
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB MODIFICATION DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 14 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	102
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



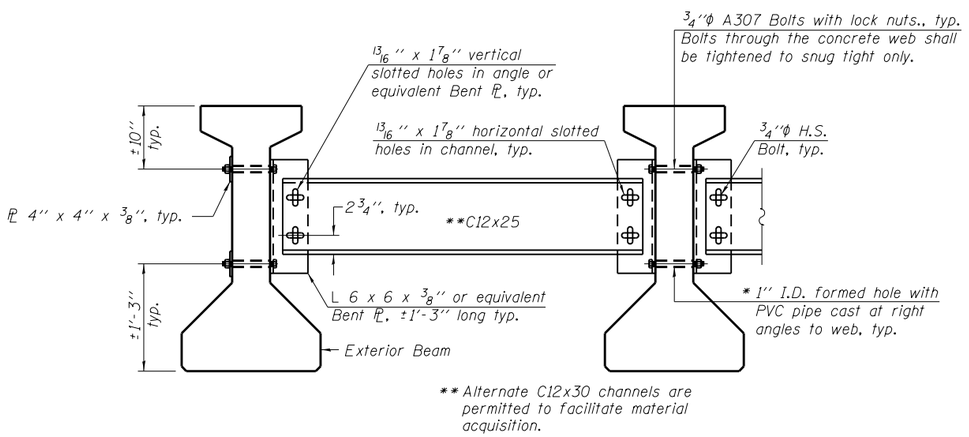
FRAMING PLAN

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	48,648		48,648
I'	(in^4)	171,080	171,080	171,080
S_b	(in^3)	3,165.1		3,165.1
S_b'	(in^3)	5,860.9	5,860.9	5,860.9
S_t	(in^3)	2,358.1		2,358.1
S_t'	(in^3)	11,955	11,955	11,955
$\mathcal{Q}$	(k/')	1.01	1.01	1.01
$M\mathcal{Q}$	('k)	250		329
$s\mathcal{Q}$	(k/')	0.28	0.28	0.28
$M_s\mathcal{Q}$	('k)	44	61	28
LLDF		0.617	0.617	0.617
$M\mathcal{L}$	('k)	270	192	254
M_I	('k)	79	56	72

INTERIOR BEAM REACTION TABLE			
	Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
LLDF	0.771	0.617	0.617
$R\mathcal{Q}$	23.0	23.0	25.8
*** $R_s\mathcal{Q}$	4.9	7.5	7.5
*** $R\mathcal{L}$	41.7	20.9	20.9
*** R_I	12.2	6.1	5.9
R_{Total}	81.8	57.6	60.2

*** At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
$\mathcal{Q}$: Un-factored non-composite dead load (kips/ft.).
$M\mathcal{Q}$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\mathcal{Q}$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
$M_s\mathcal{Q}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
$M_s\mathcal{L}$: Un-factored live load moment on the composite section (kip-ft.).
M_I: Un-factored moment due to impact on the composite section (kip-ft.).



** Alternate C12x30 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS
FOR 36" PPC I-BEAMS

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"ϕ unless otherwise noted.
5/16" x 3" x 3" plate washers are required over all slotted holes.
All bolts shall be galvanized according to AASHTO M232.
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 I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

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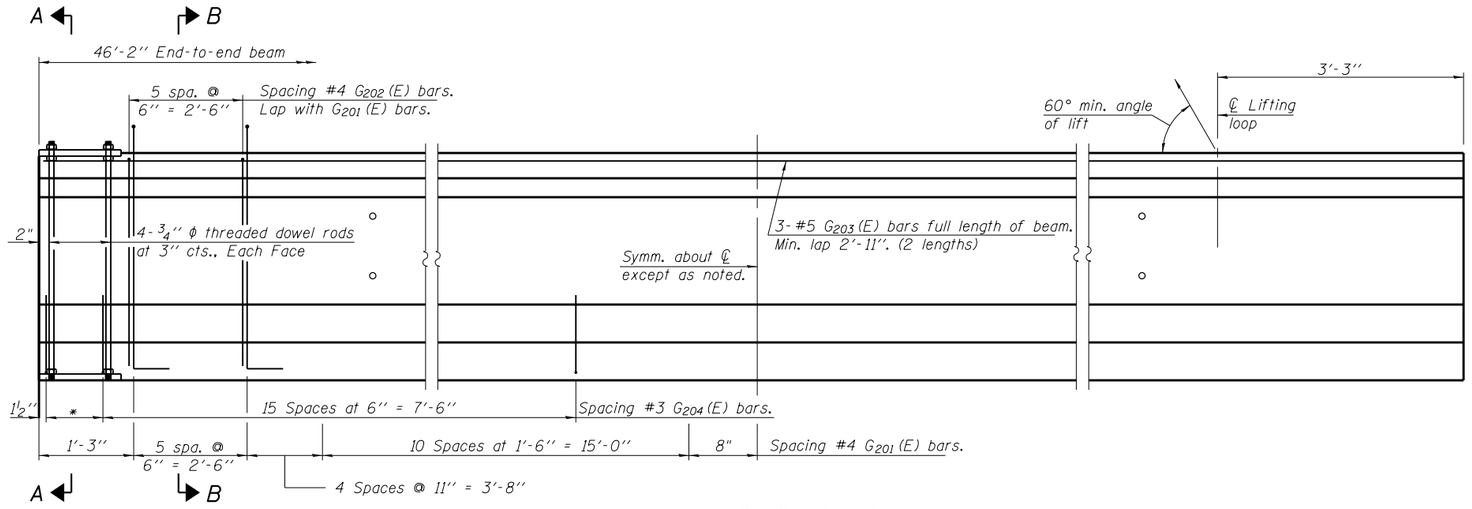
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

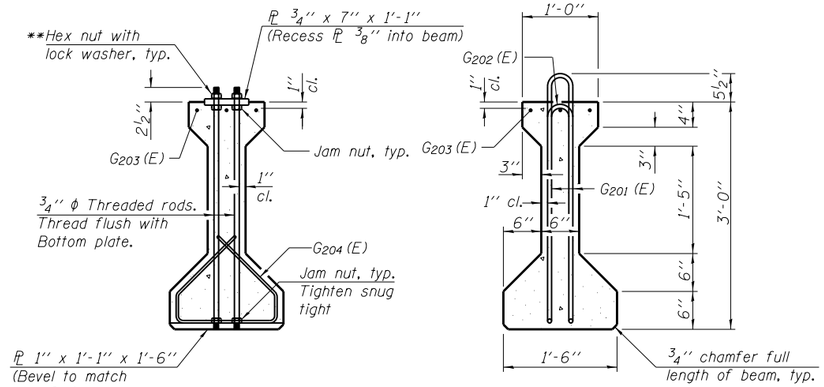
FRAMING PLAN AND DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 15 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	103
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



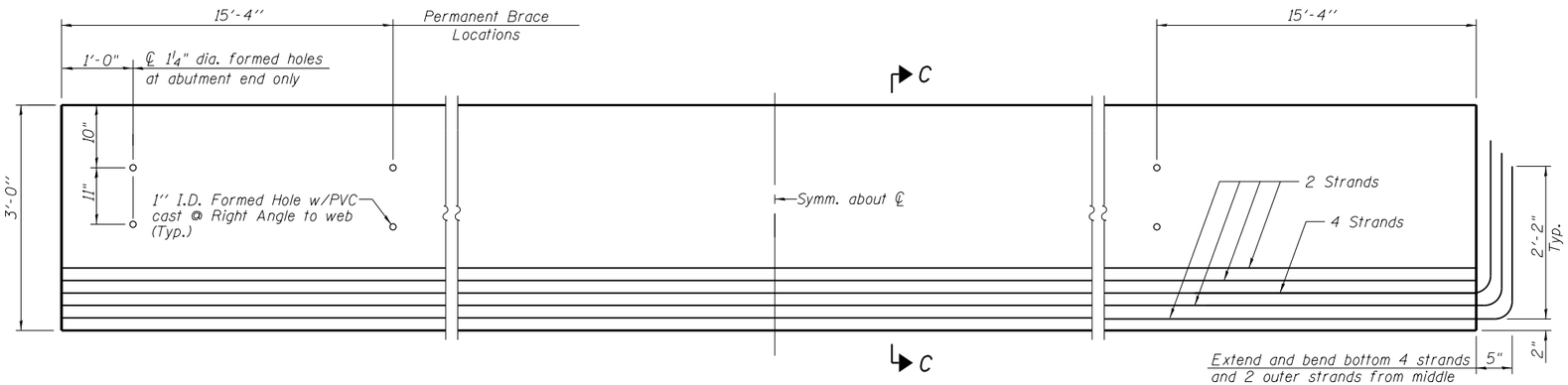
* 3 spaces at 3'' = 9''

ELEVATION OF BEAM
(Showing reinforcement & dimensions)

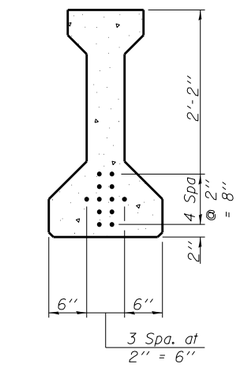


SECTION A-A
**Only tighten sufficiently to compress lock washers

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(12-½'' ϕ 270 ksi strands)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
G201(E)	40	#4	7'-7''	⊓L
G202(E)	10	#4	5'-8''	⊓
G203(E)	6	#5	24'-10''	—
G204(E)	38	#3	4'-1''	⌓

Notes:
See sheet 18 of 26 for additional details and Bill of Material.
See sheet 15 of 26 for permanent bracing details.

PI-4-36 10-7-2016

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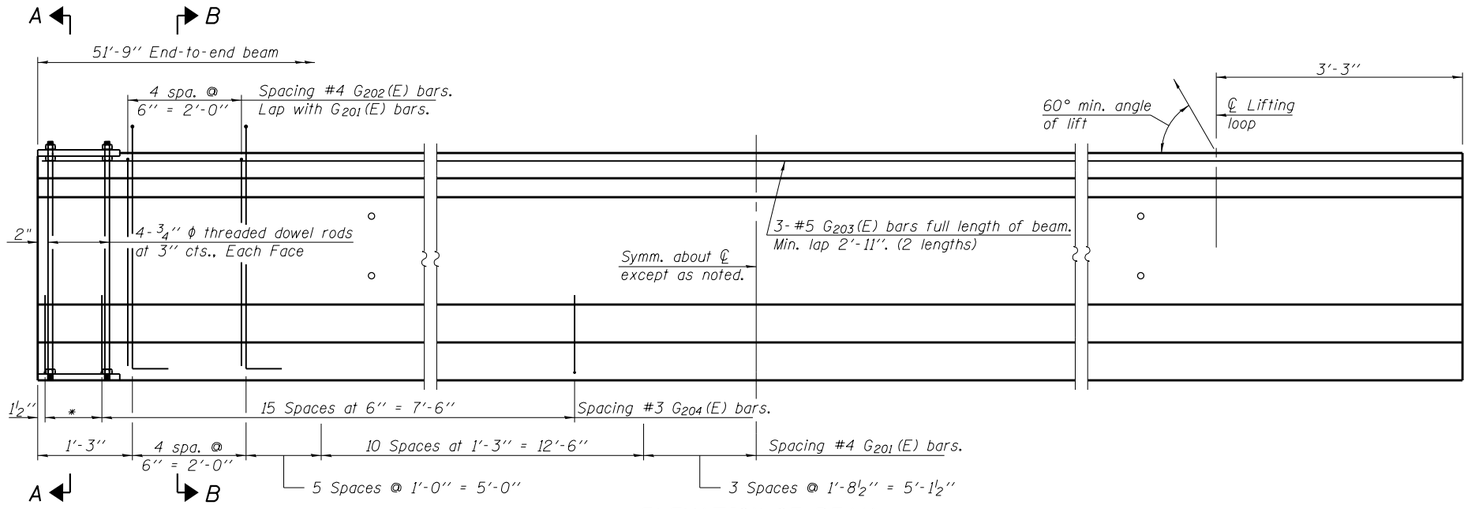
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

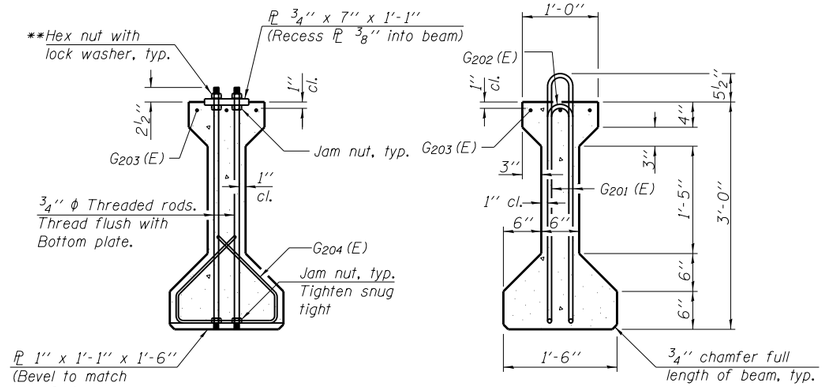
36" PPC I-BEAM SPAN 1 & 3
STRUCTURE NO. 039-0062
SHEET NO. 16 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	104
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



* 3 spaces at 3'' = 9''

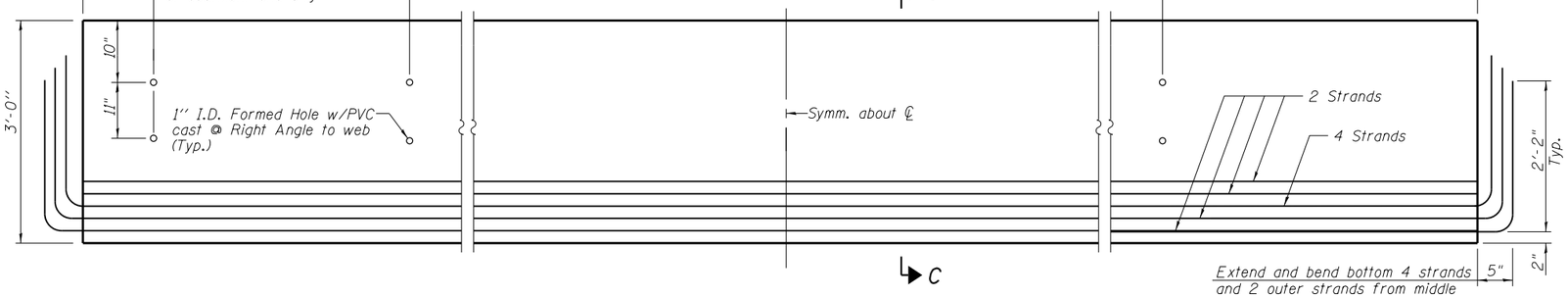
ELEVATION OF BEAM
(Showing reinforcement & dimensions)



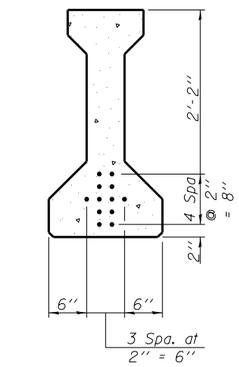
**Only tighten sufficiently to compress lock washers

SECTION A-A

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(12-½'' ϕ 270 ksi strands)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
G201(E)	45	#4	7'-7''	⊓L
G202(E)	8	#4	5'-8''	⊓
G203(E)	6	#5	27'-6"	—
G204(E)	38	#3	4'-1''	⌓

Notes:
See sheet 18 of 26 for additional details and Bill of Material.
See sheet 15 of 26 for permanent bracing details.

PI-4-36

10-7-2016

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PLOT SCALE =	DRAWN GLD	REVISED
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

36" PPC I-BEAM SPAN 2
STRUCTURE NO. 039-0062
SHEET NO. 17 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	105
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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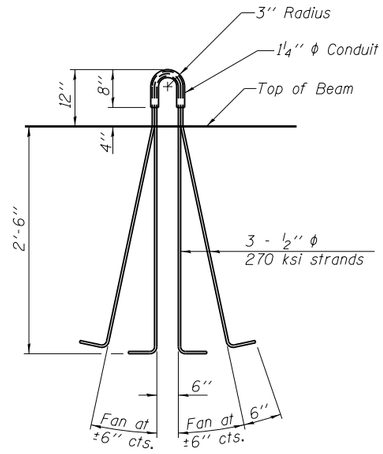


LIFTING LOOP DETAIL

NOTES

Inserts for ¾'' ϕ 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 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 6000 psi and a release concrete compressive strength, f'ci, of 5000 psi.

A minimum 2½'' ϕ lifting pin shall be used to engage the lifting loops during handling.

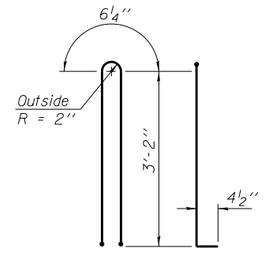
The top and bottom plates shall be AASHTO M270 Grade 50.

The top and bottom plates shall be galvanized according to AASHTO M111. The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.

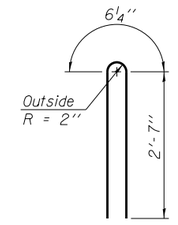
Threaded rods shall be ASTM F 1554 Grade 55.

Beams shall not be released from the fabricator until they have attained 45 days of age or older.

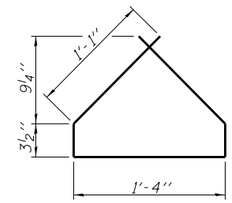
Bend the extended strands inward on the fascia beams to maintain 1½" clearance inside the pier diaphragm.



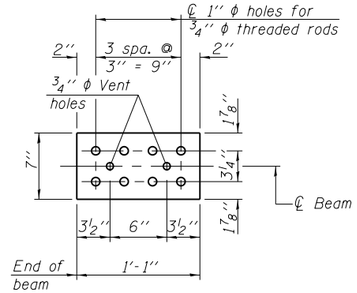
BAR G201(E)



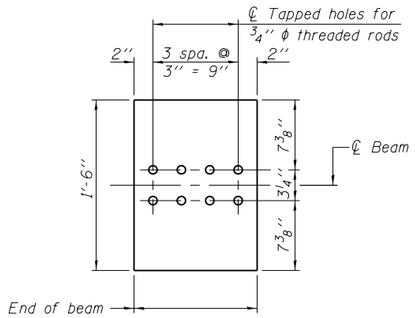
BAR G202(E)



BAR G204(E)



TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 36''	Ft.	433

PI-4-36D

11-22-16

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0062.018-36 PPC I Beam Dtls.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

36" PPC I-BEAM DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 18 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	106
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

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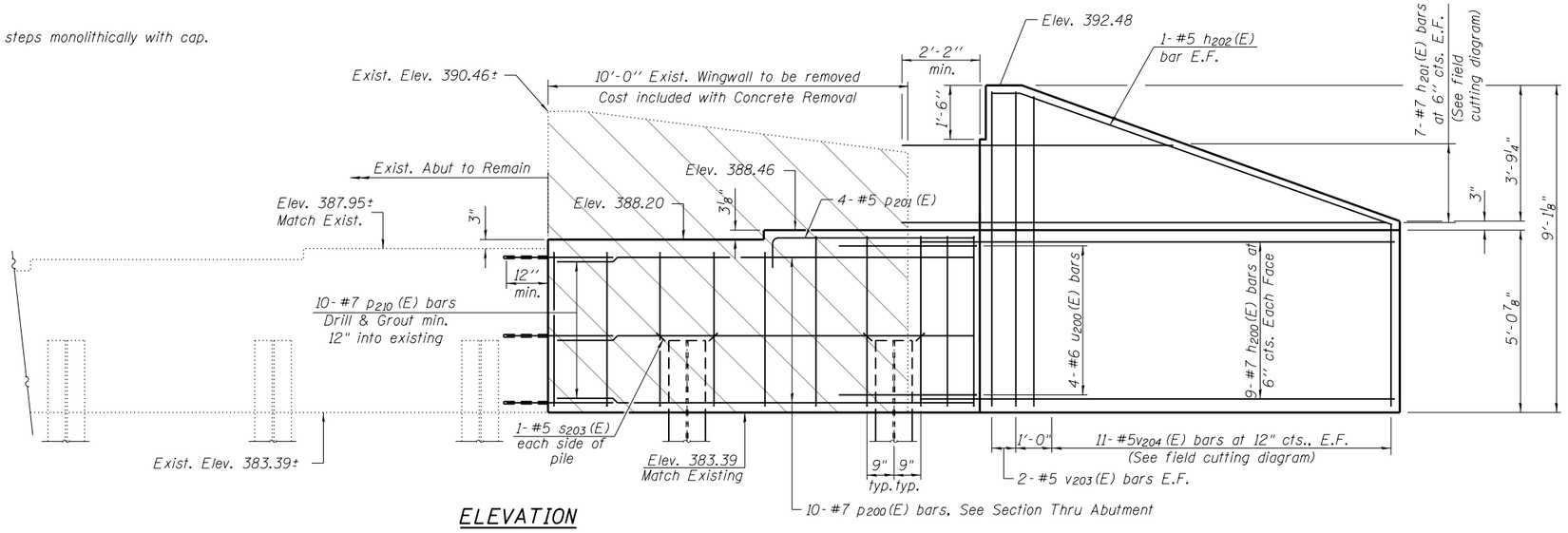
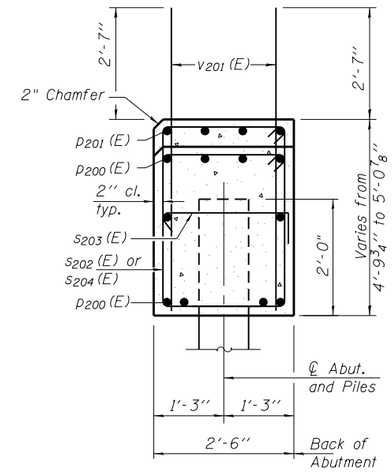
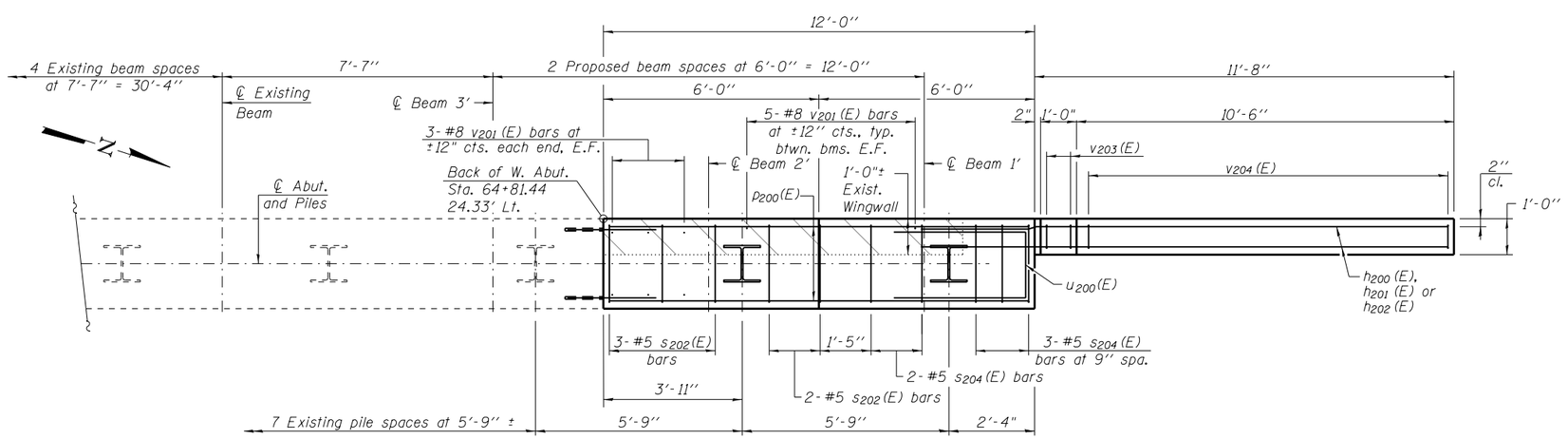
Notes:
Pour steps monolithically with cap.



ELEVATION



SEC. THRU ABUT.



PLAN

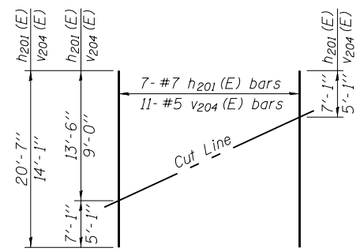
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{200}(E)	18	#7	13'-8"	
h_{201}(E)	7	#7	21'-0"	
h_{202}(E)	2	#5	11'-8"	
p_{200}(E)	10	#7	11'-8"	
p_{201}(E)	4	#5	6'-5"	
p_{210}(E)	10	#7	4'-2"	
s_{202}(E)	5	#5	13'-5"	
s_{203}(E)	4	#5	3'-2"	
s_{204}(E)	5	#5	14'-7"	
u_{200}(E)	4	#6	9'-10"	
v_{201}(E)	22	#8	6'-11"	
v_{203}(E)	4	#5	8'-9"	
v_{204}(E)	11	#5	13'-8"	
Structure Excavation		Cu. Yd.	66	
Concrete Removal		Cu. Yd.	3	
Concrete Structures		Cu. Yd.	8.7	
Reinforcement Bars, Epoxy Coated		Pound	2,000	
Furnishing Steel Piles, HP 12x74		Foot	64	
Driving Piles		Foot	64	
Test Pile, Steel HP 12x74		Each	1	
Drill and Grout Bars		Each	10	
Protective Coat		Sq. Yd.	11	

For details of piles see sheets 23 of 26.

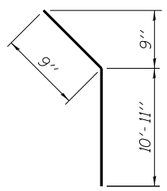
PILE DATA

Type: HP 12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 196 kips
Est. Length: 64'-0"
No. Production Piles: 1
No. Test Piles: 1

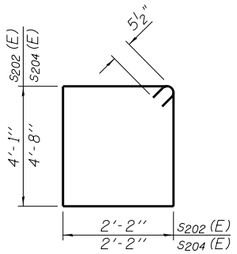


FIELD CUTTING DIAGRAM

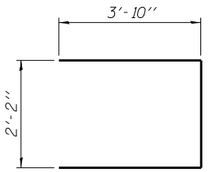
Order h_{201}(E) and v_{204}(E) full length. Cut as shown and use remainder of bars in opposite face.



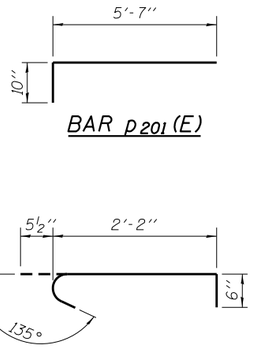
BAR h_{202}(E)



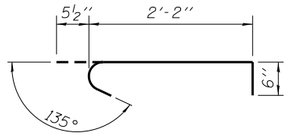
BAR s_{202}(E), BAR s_{204}(E)



BAR u_{200}(E)



BAR p_{201}(E)



BAR s_{203}(E)

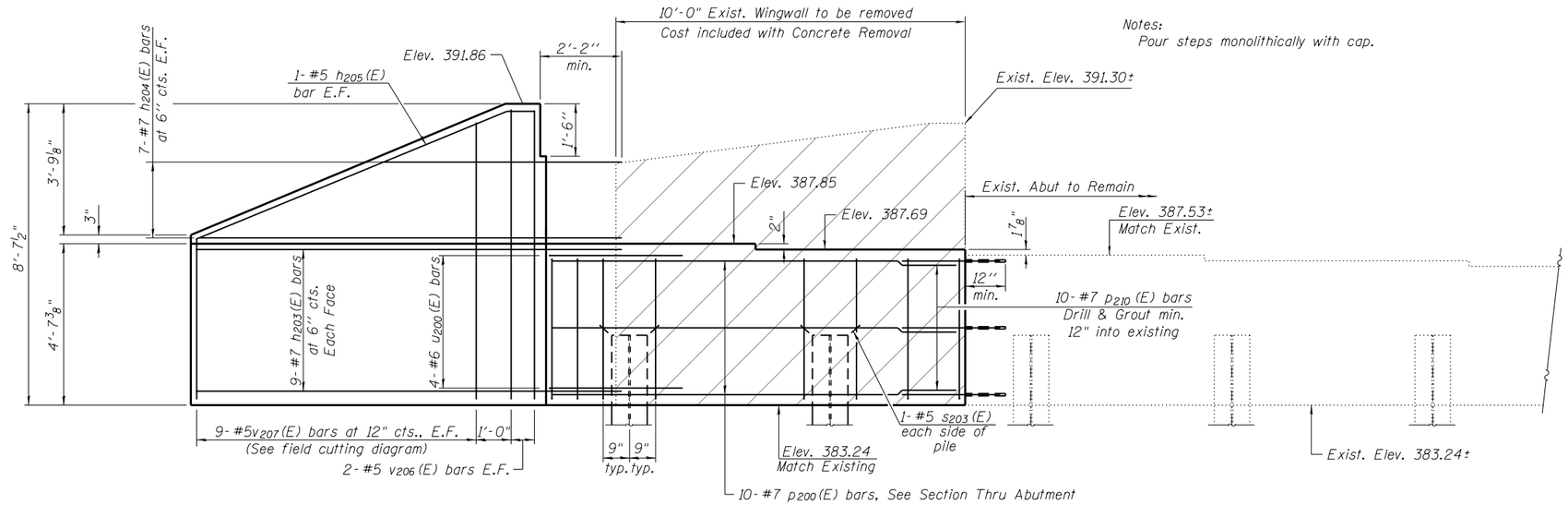
USER NAME =	DESIGNED DRC	REVISED	
...\98850-0062-019-West Abutment.dgn	CHECKED LM	REVISED	
PLOT SCALE =	DRAWN GLD	REVISED	
PLOT DATE =	CHECKED WLB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

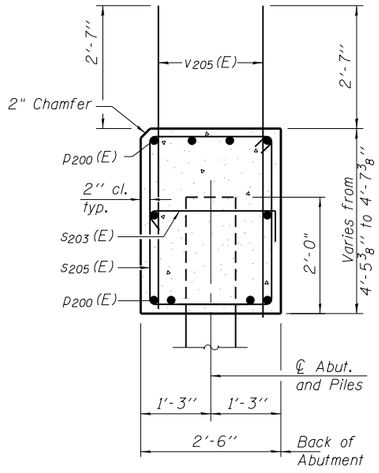
WEST ABUTMENT
STRUCTURE NO. 039-0062
SHEET NO. 19 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	107
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

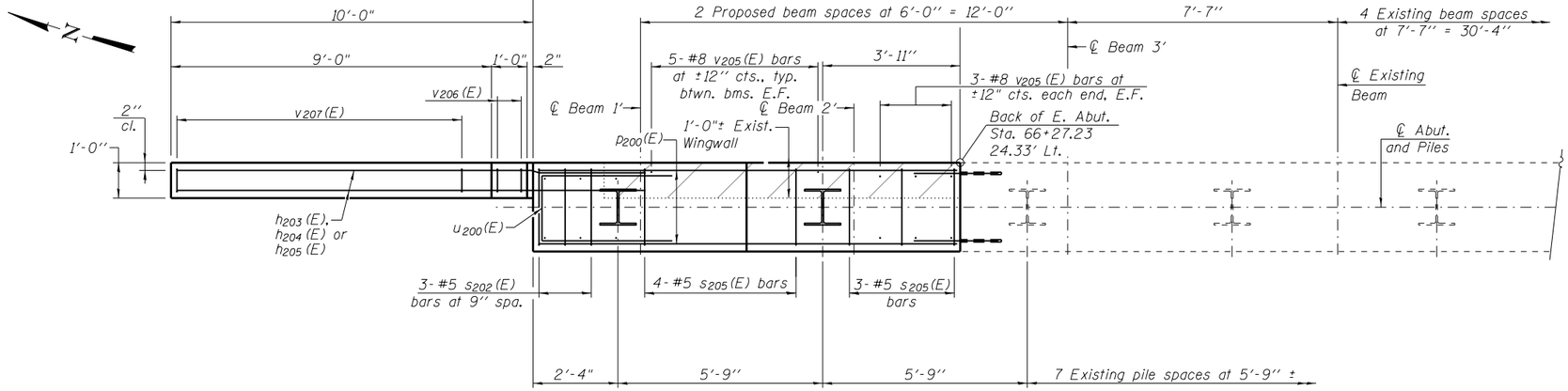
L:\IDOT\080868\W0.31\D-ew\CADD Sheets\Final Plans\Str No 039-0062...



ELEVATION



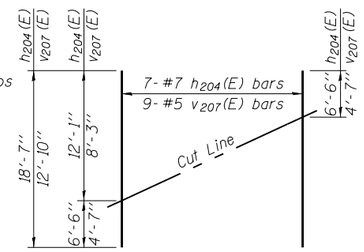
SEC. THRU ABUT.



PLAN

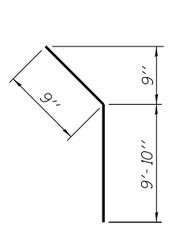
PILE DATA

Type: HP 12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 196 kips
Est. Length: 62'-0"
No. Production Piles: 1
No. Test Piles: 1

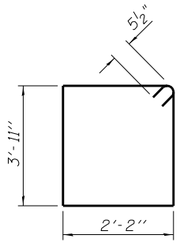


FIELD CUTTING DIAGRAM

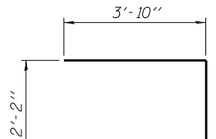
Order h_{204}(E) and v_{207}(E) full length. Cut as shown and use remainder of bars in opposite face.



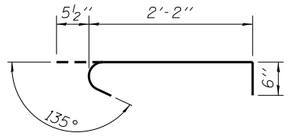
BAR h_{205}(E)



BAR s_{205}(E)



BAR u_{200}(E)



BAR s_{203}(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h_{203}(E)	18	#7	12'-2"	
h_{204}(E)	7	#7	18'-11"	
h_{205}(E)	2	#5	10'-5"	
p_{200}(E)	10	#7	11'-8"	
p_{210}(E)	10	#7	4'-2"	
s_{203}(E)	4	#5	3'-2"	
s_{205}(E)	10	#5	13'-1"	
u_{200}(E)	4	#6	9'-10"	
v_{205}(E)	22	#8	6'-10"	
v_{206}(E)	4	#5	8'-2"	
v_{207}(E)	9	#5	12'-6"	

Structure Excavation	Cu. Yd.	58
Concrete Removal	Cu. Yd.	3
Concrete Structures	Cu. Yd.	7.7
Reinforcement Bars, Epoxy Coated	Pound	1,860
Furnishing Steel Piles, HP 12x74	Foot	62
Driving Piles	Foot	62
Test Pile, HP 12x74	Each	1
Drill and Grout Bars	Each	10
Protective Coat	Sq. Yd.	9

For details of piles see sheet 23 of 26.

CMT

USER NAME =	DESIGNED DRC	REVISED
...\98850-0062_020-East Abutment.dgn	CHECKED LM	REVISED
PLOT SCALE =	DRAWN GLD	REVISED
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 039-0062
SHEET NO. 20 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	108
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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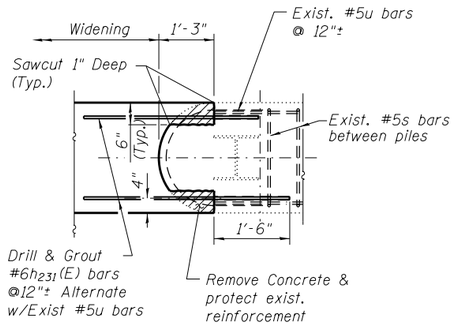
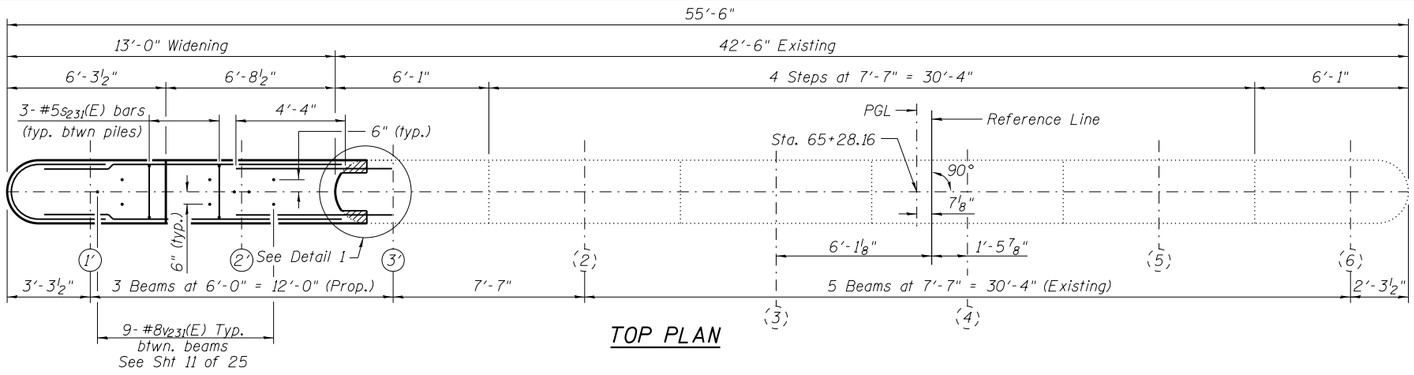


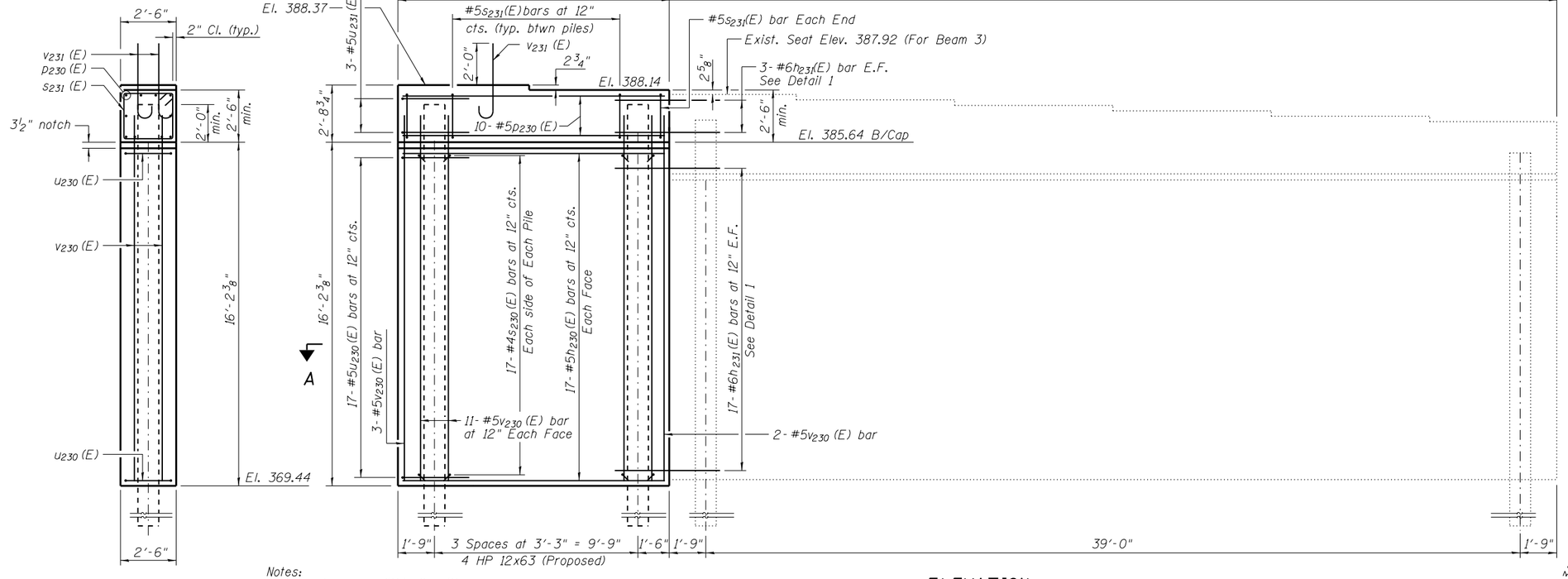
DETAIL 1



TOP PLAN

BILL OF MATERIAL

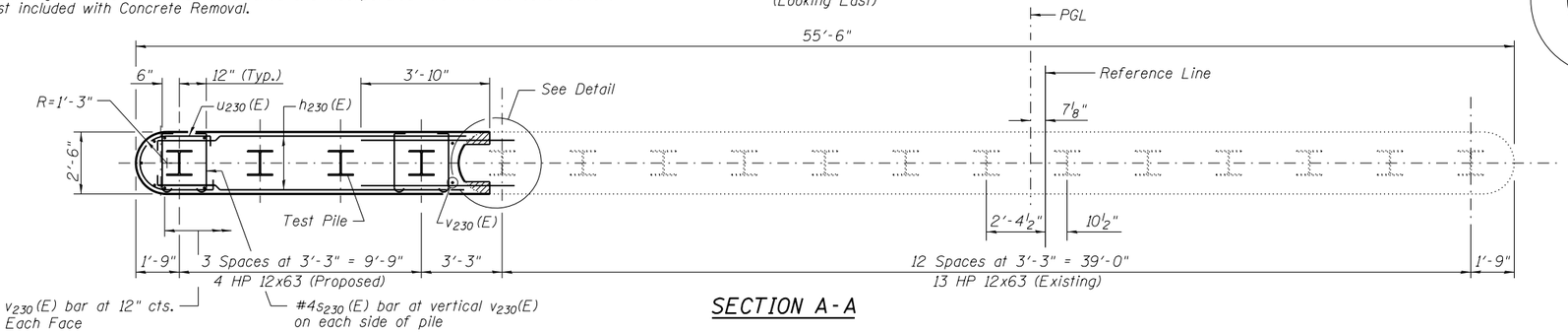
Bar	No.	Size	Length	Shape
$h_{230}(E)$	34	#5	12'-5"	
$h_{231}(E)$	40	#6	5'-4"	
$p_{230}(E)$	10	#5	11'-7"	
$s_{230}(E)$	136	#4	3'-3"	
$s_{231}(E)$	11	#5	9'-7"	
$u_{230}(E)$	17	#5	8'-3"	
$u_{231}(E)$	3	#5	6'-7"	
$v_{230}(E)$	27	#5	18'-2"	
$v_{231}(E)$	9	#8	4'-2"	
Reinforcement Bars, Epoxy Coated		Lbs.	2,070	
Concrete Structure		Cu. Yd.	24.8	
Furnishing Steel Piles, HP 12x63		Foot	186	
Driving Piles		Foot	186	
Test Pile Steel HP 12x63		Each	1	
Structure Excavation		Cu. Yd.	11	
Concrete Removal		Cu. Yd.	1	
Drill and Grout Bars		Each	40	



PIER - END VIEW

Notes:
Pour steps monolithically with cap.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

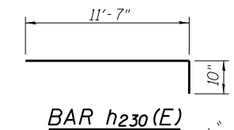
ELEVATION
(Looking East)



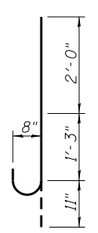
SECTION A-A

PILE DATA

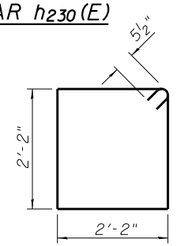
Type: HP 12x63
Nominal Required Bearing: 497 kips
Allowable Resistance Available: 165 kips
Est. Length: 62 ft.
No. Production Piles: 3
No. Test Piles: 1



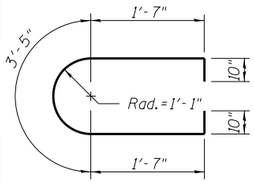
BAR $h_{230}(E)$



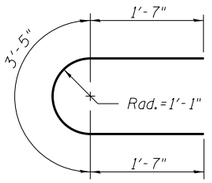
BAR $v_{231}(E)$



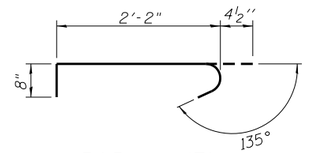
BAR $s_{231}(E)$



BAR $u_{230}(E)$



BAR $u_{231}(E)$



BAR $s_{230}(E)$

CMT	USER NAME =	DESIGNED DRC	REVISED
	...\98850-0062.021-Pier 1.dgn	CHECKED LM	REVISED
	PLOT SCALE =	DRAWN GLD	REVISED
	PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 21 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	109
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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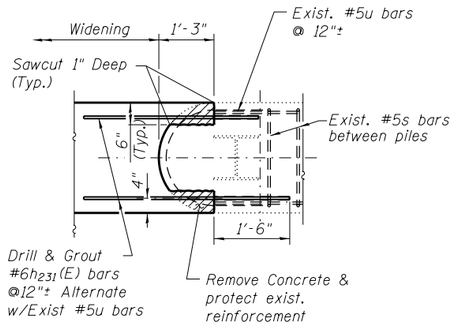
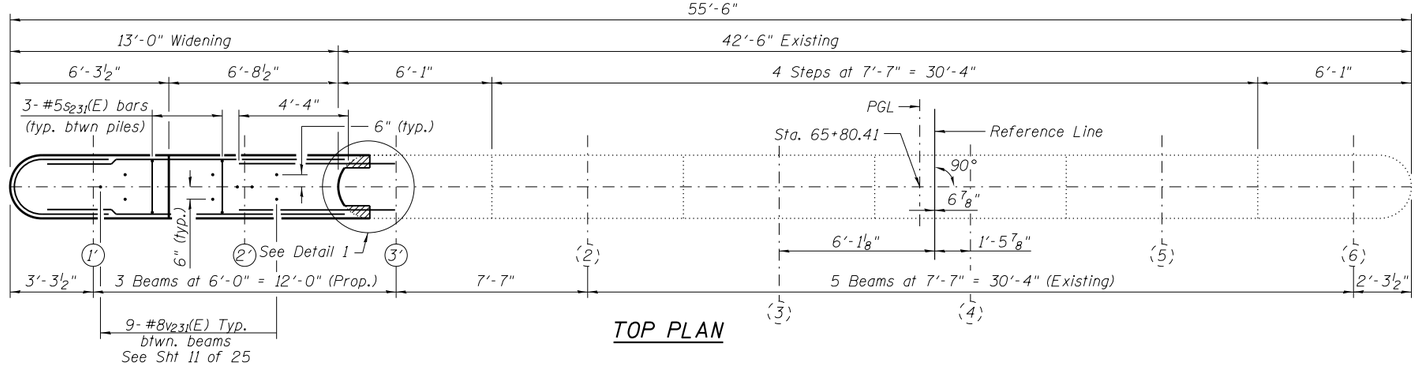


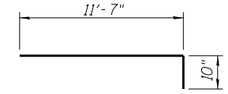
DETAIL 1



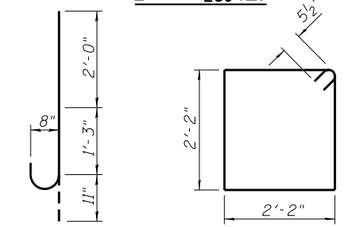
TOP PLAN

BILL OF MATERIAL

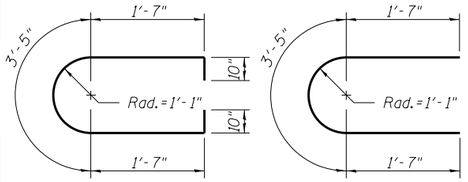
Bar	No.	Size	Length	Shape
$h_{230}(E)$	34	#5	12'-5"	
$h_{231}(E)$	40	#6	5'-4"	
$p_{230}(E)$	10	#5	11'-7"	
$s_{230}(E)$	136	#4	3'-3"	
$s_{231}(E)$	11	#5	9'-7"	
$u_{230}(E)$	17	#5	8'-3"	
$u_{231}(E)$	3	#5	6'-7"	
$v_{230}(E)$	27	#5	18'-2"	
$v_{231}(E)$	9	#8	4'-2"	
Reinforcement Bars, Epoxy Coated		Lbs.	2,070	
Concrete Structure		Cu. Yd.	24.5	
Furnishing Steel Piles, HP 12x63		Foot	183	
Driving Piles		Foot	183	
Test Pile Steel HP 12x63		Each	1	
Structure Excavation		Cu. Yd.	11	
Concrete Removal		Cu. Yd.	1	
Drill and Grout Bars		Each	40	



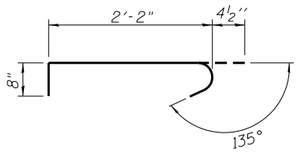
BAR $h_{230}(E)$



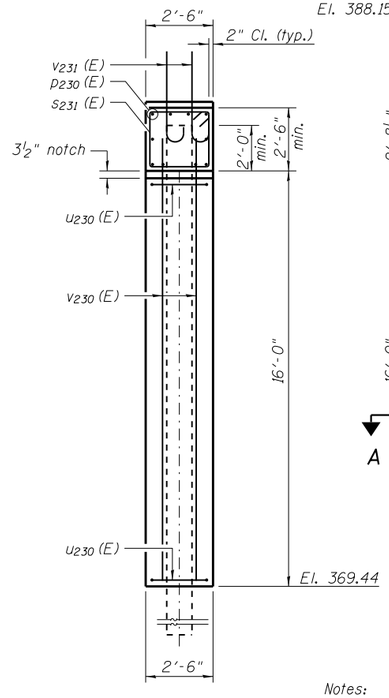
BAR $v_{231}(E)$ BAR $s_{231}(E)$



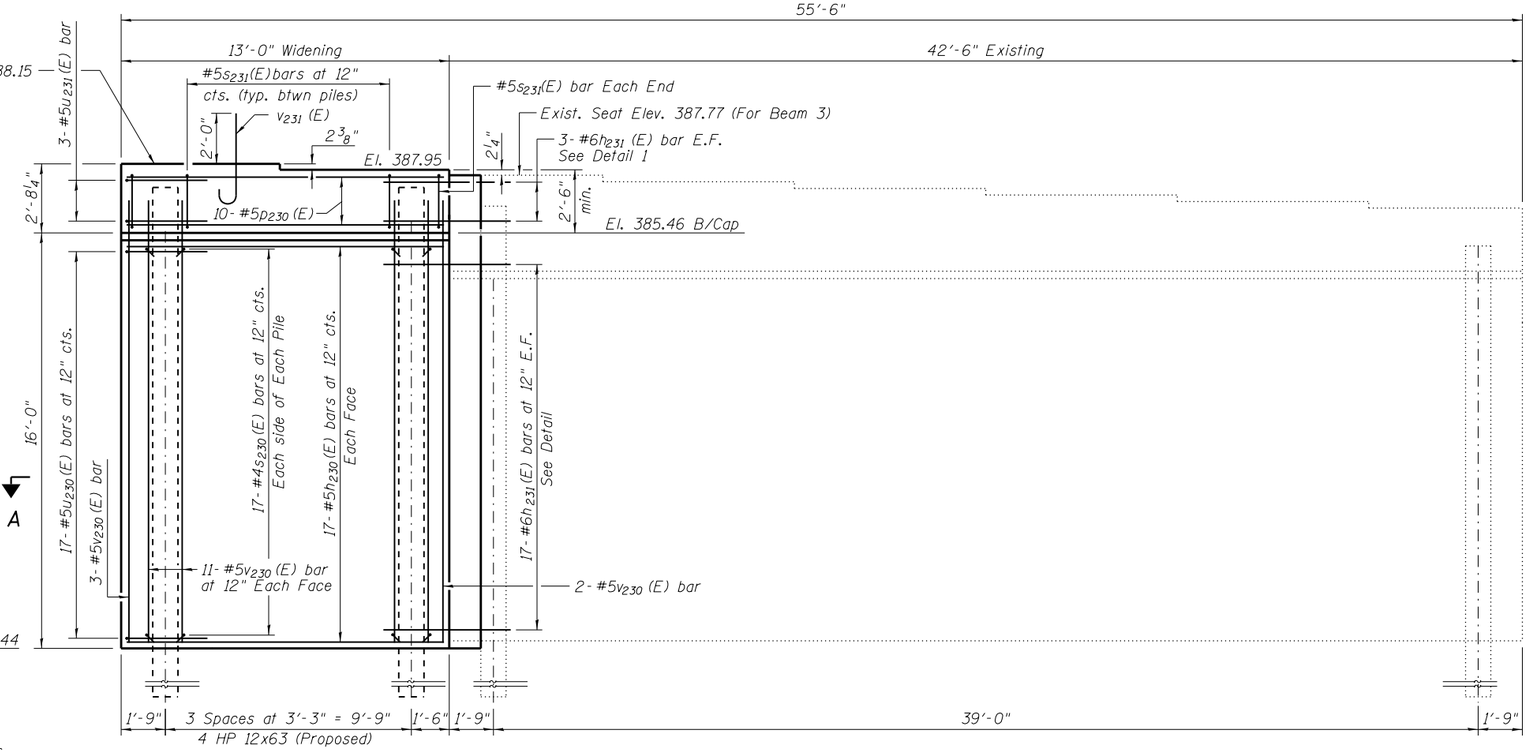
BAR $u_{230}(E)$ BAR $u_{231}(E)$



BAR $s_{230}(E)$



PIER - END VIEW

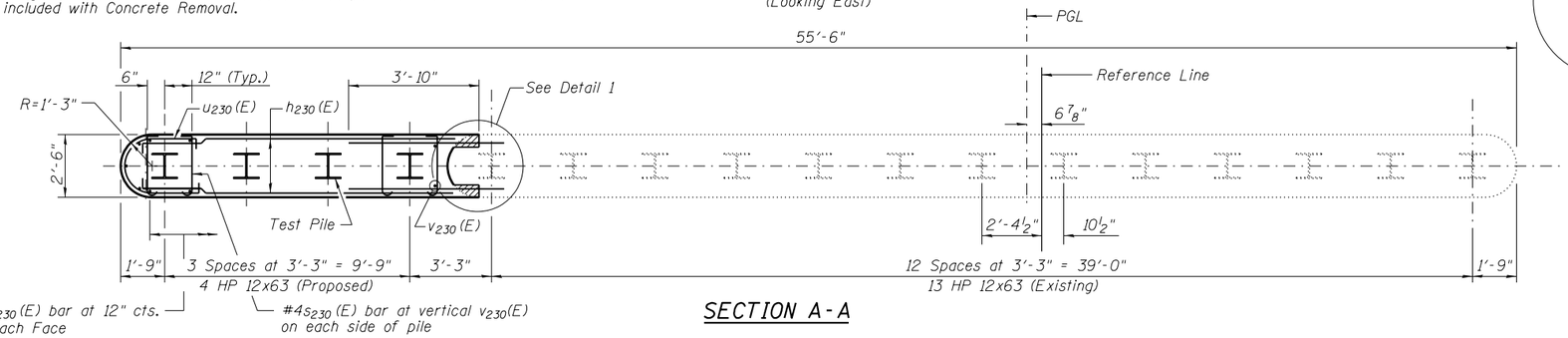


ELEVATION
(Looking East)

Notes:
Pour steps monolithically with cap.
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

PILE DATA

Type: HP 12x63
Nominal Required Bearing: 497 kips
Allowable Resistance Available: 165 kips
Est. Length: 61 ft.
No. Production Piles: 3
No. Test Piles: 1



SECTION A-A

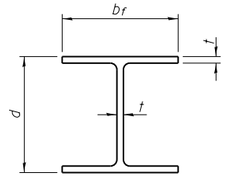
CMT	USER NAME =	DESIGNED	DRC
	...\98850-0062_022-Pier 2.dgn	CHECKED	LM
	PLOT SCALE =	DRAWN	GLD
	PLOT DATE =	CHECKED	WLB

REVISED	
REVISED	
REVISED	
REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

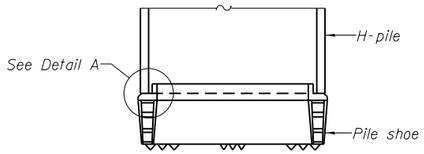
PIER 2 – DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 22 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	110
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

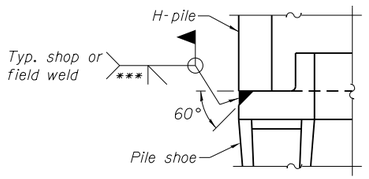


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4''	14 7/8''	13/16''	30''
x102	14''	14 3/4''	11/16''	30''
x89	13 7/8''	14 3/4''	5/8''	30''
x73	13 5/8''	14 5/8''	1/2''	30''
HP 12x84	12 1/4''	12 1/4''	11/16''	24''
x74	12 1/8''	12 1/4''	5/8''	24''
x63	12''	12 1/8''	1/2''	24''
x53	11 3/4''	12''	7/16''	24''
HP 10x57	10''	10 1/4''	9/16''	24''
x42	9 3/4''	10 1/8''	7/16''	24''
HP 8x36	8''	8 1/8''	7/16''	18''

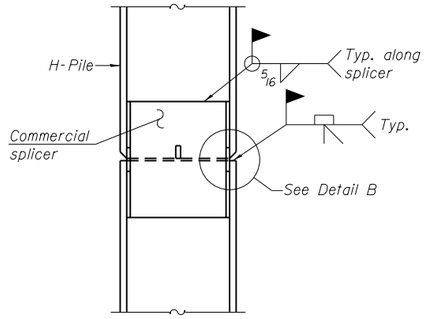


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



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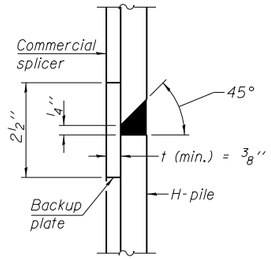
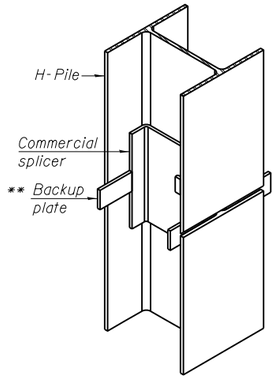
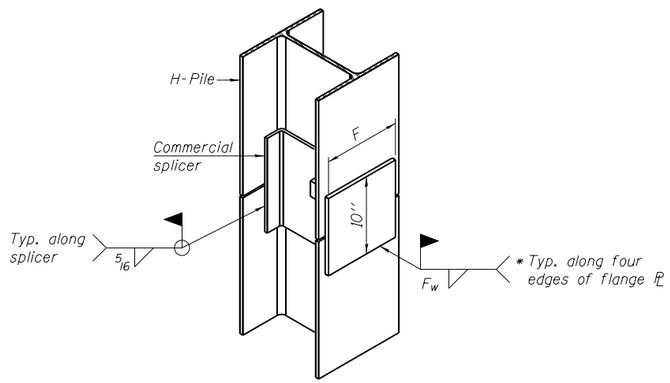


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



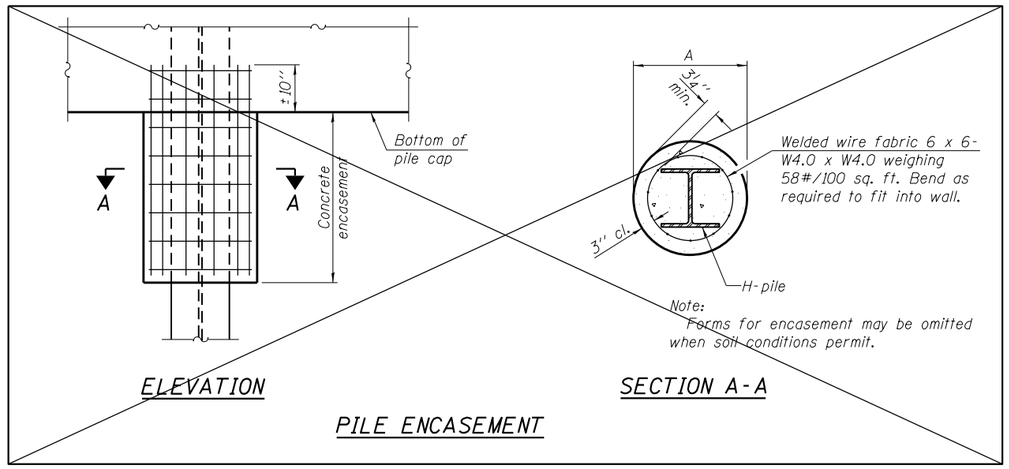
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4'' from end of web and/or each flange.

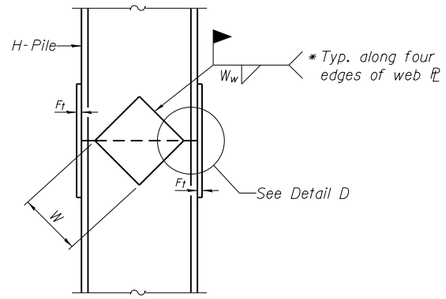
** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16'' min.).

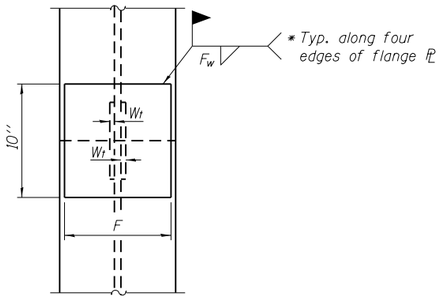


ELEVATION SECTION A-A

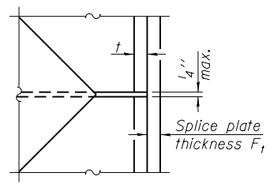
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2''	1''	7/8''	7 3/4''	5/8''	1/2''
x102	12 1/2''	7/8''	3/4''	7 3/4''	5/8''	1/2''
x89	12 1/2''	3/4''	11/16''	7 3/4''	5/8''	1/2''
x73	12 1/2''	5/8''	9/16''	7 3/4''	5/8''	1/2''
HP 12x84	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x74	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x63	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
x53	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
HP 10x57	8''	3/4''	9/16''	5 1/4''	1/2''	3/8''
x42	8''	5/8''	9/16''	5 1/4''	1/2''	3/8''
HP 8x36	7''	5/8''	7/16''	4 1/4''	1/2''	3/8''

WELDED PLATE FIELD SPLICE

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

F-HP 1-27-12

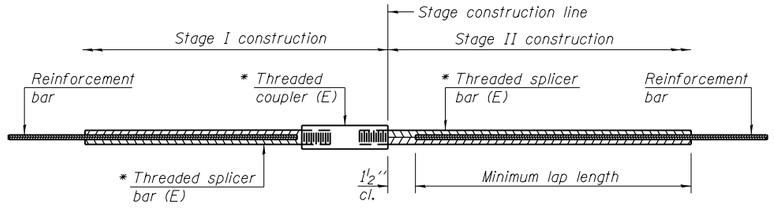
CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0062_023-Steel H Pile.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 23 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	111
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

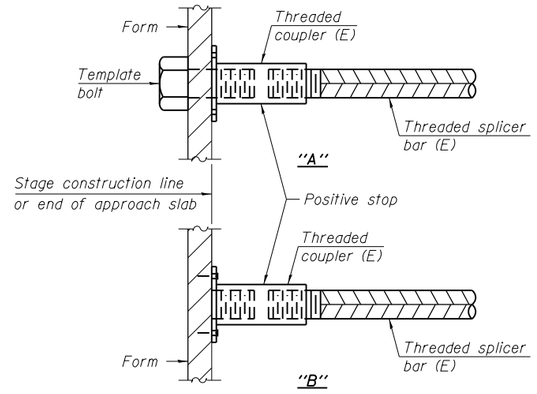


STANDARD BAR SPLICER ASSEMBLY

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

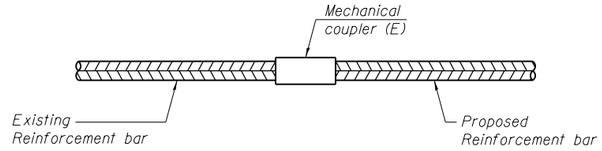
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length



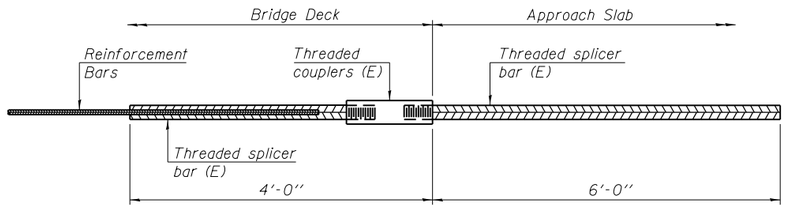
INSTALLATION AND SETTING METHODS

"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.



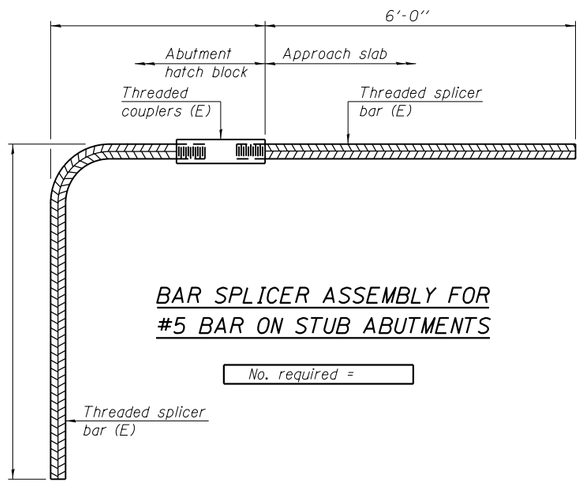
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required = 44



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

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

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

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

BSD-1

11-22-2016

CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0062_024-Bar Splicer Details.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 039-0062
SHEET NO. 24 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	112
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

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ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

Westbound FAP 331 (IL 13) Over Crab Orchard Creek Overflow

Route: FAP 331 (IL 13) Structure Number: 039-0062 Date: 7/22/2014

Section (5B-2) DR Bored By: R Moberly

County: Jackson Location: 0.4 mi East of Giant City Road Checked By: R Graeff

Boring No 1-S
Station 164+48
Offset 16' Lt CL WBL
Ground Surface 391.4 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 369.4
At Completion
At: Hrs:

	DEPTH	BLOWS	Qu tsf	W%
Asphalt over crushed aggregate				
		3		
		4		
387.9		5		
Very stiff, moist, brown, Silty Clay to Clay A7-6				
	5.0	1		
		2	2.3B	22
		4		
384.4				
Medium to soft, very moist, brown and grey, Silty Clay to Clay A7-6		1		
		1	0.5B	25
		2		
381.9				
Stiff, moist, brown, Clay A7-6	10.0	WH		
		2	1.6B	25
		3		
379.4				
Very stiff, moist, brown, Clay to Silty Clay A7-6		1		
		2	2.9B	18
		4		
376.9				
Very soft, very moist, grey, Clay A7-6	15.0	WH		
		1	0.2B	31
		1		
374.4				
Stiff, moist, grey, Clay A7-6		1		
		2	1.9B	33
		4		
371.9				
Very stiff, moist, grey and brown, Clay A7-6	20.0	1		
		3	2.5B	35
		4		
369.4				
Stiff, moist, brown and grey, Clay A7-6		1		
		1	1.6B	33
		1		
	25.0	1		

	DEPTH	BLOWS	Qu tsf	W%
Stiff, moist, brown and grey, Clay A7-6		1	1.2B	26
		2		
		1		
		2	1.8B	26
		3		
	30.0	1		
		2	1.9B	29
		3		
		1		
		2	1.9B	31
356.9		4		
Very stiff, moist, grey and brown, Clay A7-6	35.0	1		
		3	2.0B	27
		5		
		1		
		3	2.7S	31
		4		
	40.0	1		
		4	2.5S	28
		6		
346.9				
Hard, moist, brown, Clay A7-6	45.0	2		
		6	4.5B	24
		8		
341.4	50.0	2		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: (5B-2) DR
County: Jackson
Date: 7/22/2014

Boring No: 1-S
Station: 164+48
Offset: 16' Lt CL WBL
Ground Surface: 391.4 Ft

	DEPTH	BLOWS	Qu tsf	W%
Very stiff, moist, brown, Clay A7-6		4	2.7B	23
		6		
336.9				
Medium, very moist, brown and black, Sandy Clay Loam to Clay Loam A-4 with coal and sand layers	55.0	WH		
		1	0.6B	25
		2		
	60.0	2		
		6	0.8S	18
		6		
328.9				
Hard, dry, grey, Clay Shale				
	65.0	100/6"		
Hard, dry, grey, Clay Shale 321.4	70.0	100/2"		
Bottom of hole = 69.7 feet				
Free water observed at 22.0 feet				
Elevation referenced to BM at SE corner of 039-0019; Elevation = 385.1 feet	75.0			

Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)

To convert "N" values to "N60" multiply by 1.25

DEPTH	BLOWS	Qu tsf	W%
80.0			
85.0			
90.0			
95.0			
100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

Westbound FAP 331 (IL 13) Over Crab Orchard Creek Overflow

Route: FAP 331 (IL 13) Structure Number: 039-0062 Date: 7/18/2014

Section (5B-2) DR Bored By: R Moberly

County: Jackson Location: 0.4 mi East of Giant City Road Checked By: R Graeff

Boring No 2-S
Station 166+64
Offset 15' Lt CL WBL
Ground Surface 390.7 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 366.2
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Asphalt over crushed aggregate				Very soft, wet, brown, Silty Clay Loam A-6	1	0.2B	30
				363.7	1		
387.7	2			Soft, very moist, brown, Silty Clay Loam A-6	WH		
	2				WH	0.3B	28
Stiff, moist to very moist, brown, Clay A7-6	1	1.1B	29		WH		
386.2				361.2			
Medium, moist to v. moist, brown, Clay A7-6 5.0	1			Very soft, wet, brown, Silty Clay Loam A-6 30.0	WH		
	1	0.7B	27		WH	0.1B	29
	1				WH		
383.7							
Medium, moist to very moist, grey, Silty Clay A-6 (poor embankment construction)	WH				WH		
	1	0.7B	25		WH	0.2B	31
	1				WH		
381.2				356.2			
Stiff, moist, brown, Clay A7-6 10.0	1			Stiff, moist, grey, Clay A7-6 35.0	1		
	1	1.4B	26		2	1.6B	31
	3				4		
378.7				353.7			
Very stiff, moist, brown and grey, Clay A7-6	1			Very stiff, moist, grey, Clay A7-6	1		
	3	2.9B	24		2	3.1B	29
	3				4		
15.0	1			40.0	2		
	4	2.9B	23		4	2.7B	33
	4				5		
373.7							
Soft to medium, very moist, grey mottled brown, Silt Loam to Silty Clay Loam A-4	1						
	WH	0.5B	25				
	1						
371.2				346.2			
Stiff, moist, grey and brown, Silt Loam to Silty Clay Loam A-4 20.0	1			Very stiff, moist, brown, Clay A7-6 45.0	2		
	3	1.2S	22		5	3.9B	24
	4				7		
368.7							
Soft, very moist, brown, Silty Clay Loam A-6	WH						
	WH	0.4B	29				
	1						
366.2							
25.0	WH			50.0	2		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: (5B-2) DR
County: Jackson
Date: 7/18/2014

Boring No: 2-S
Station: 166+64
Offset: 15' Lt CL WBL
Ground Surface: 390.7 Ft

DEPTH	BLOWS	Qu tsf	W%		DEPTH	BLOWS	Qu tsf	W%
Very stiff, moist, brown, Clay A7-6	5	2.9B	25					
	7							
				Note: Sand was encountered directly above the Limestone layer. We were unable to seal the augers in the Limestone which allowed sand to continually seep into the bore hole. This caused difficulty in removing the core barrel. I did not want to take a chance of losing the second barrel so the hole was abandoned RM				
55.0	2				80.0			
	4	2.3B	26					
	5							
331.2								
Stiff, moist, grey, Clay A7-6 60.0	1				85.0			
	2	1.5B	19					
	3							
Sand blow-in; washout procedures used 327.2								
Hard, dry, grey, Limestone 326.7	100/0.5"							
Cored 63.6 to 68.6 feet 65.0					90.0			
+/- 2' Limestone over Hard, dry, grey and black, Clay Shale								
53% Recovery; 0% RQD								
322.2								
Bottom of hole = 68.6 feet								
Free water observed at 24.5 feet 70.0					95.0			
Elevation referenced to BM at SE corner of 039-0019; Elevation = 385.1 feet								
Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)								
To convert "N" values to "N60" multiply by 1.25 75.0					100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0062.026-Boring Logs 2.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
STRUCTURE NO. 039-0062
SHEET NO. 26 OF 26 SHEETS

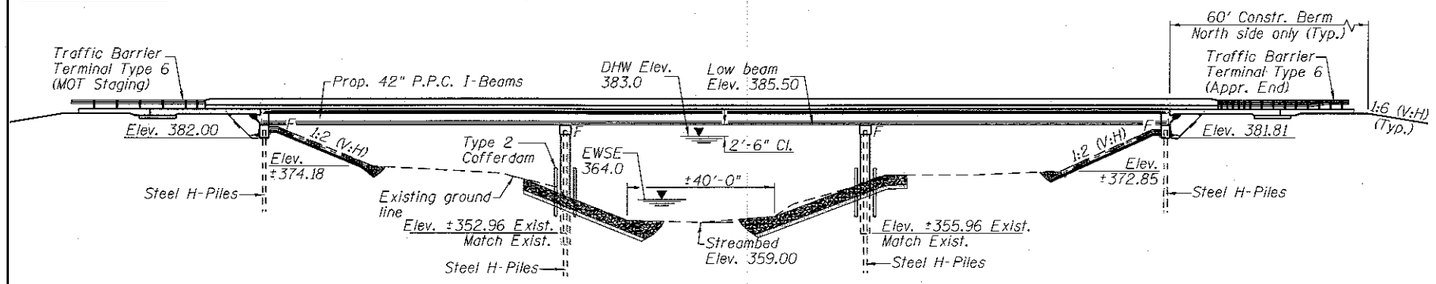
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	114
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

Bench Mark: Cut square on Southwest corner of Structure 039-0061 of Illinois Route 13 WBL @ Sta. 86+65±. Elev. 390.262

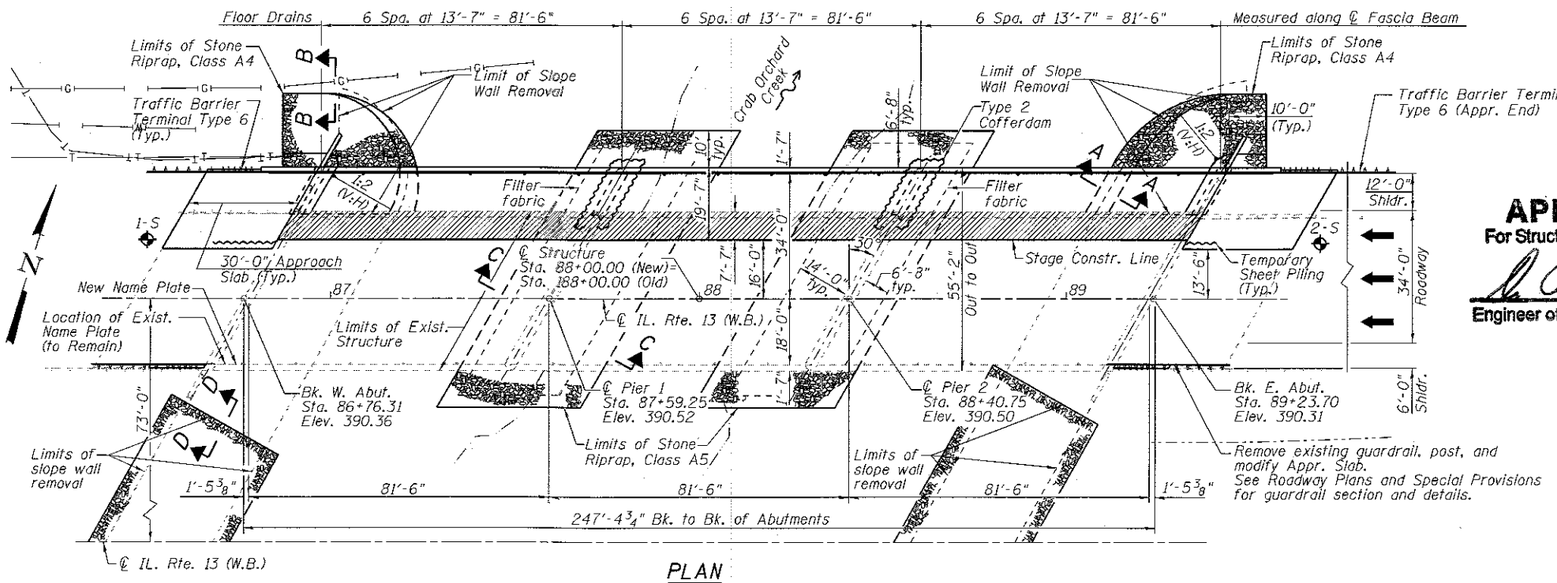
Existing Structure: S.N. 039-0061, built in 1995 is a three span P.P.C. I-Beam Bridge. Substructure consists of intergral abutments supported on steel piles and solid wall pile bent piers. Bk. to Bk. abutments measures 247'-4 3/4" and out-to-out width of 43'-2".

Salvage: Existing bridge to remain and shall be widened.

Traffic Maintenance: Maintain traffic 2 - 11'-0" lanes during widening.



ELEVATION



PLAN

STATION 88+00.00
RE-BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT 331 SEC (5-3) BR-2
LOADING HS20-44
STRUCTURE NO. 039-0061

NAME PLATE
See Std. 515001

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

INDEX OF SHEETS

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Construction
1995 FHWA Seismic Retrofit Manual (500 Year)

LOADING HS 20-44

Allow 25 psf for future wearing surface

DESIGN STRESSES

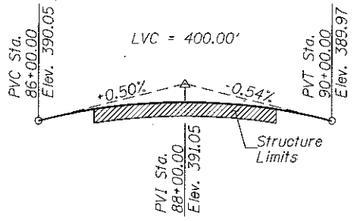
FIELD UNITS	PRECAST PRESTRESSED UNITS
f'c = 3,500 psi (concrete)	f'c = 6,000 psi (concrete)
f'c = 4,000 psi (Superstr. concrete)	f'ci = 5,000 psi
fy = 60,000 psi (Reinforcement)	fpu = 270,000 psi (½"ϕ low lax strands)
	fpbt = 201,960 psi (½"ϕ low lax strands)

SEISMIC DATA

Seismic Performance Category, SPC = C
Horizontal Bedrock Acceleration, A = 0.14g
Site Coefficient, s = 1.5

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
0.100	382.00	346.80	349.80	381.81	5
0.200	382.00	345.80	348.80	381.81	
Design	382.00	352.96	355.96	381.81	

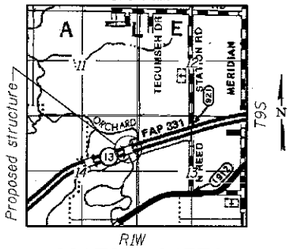


PROFILE GRADE
(Along ℄ IL. Rte. 13 W.B.)
(Existing Profile)

04-13-2017

LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR.
081-005087
STATE OF ILLINOIS

Exp. 11-30-2018



LOCATION SKETCH

GENERAL PLAN
F.A.P. ROUTE 331 (IL 13 W.B.)
OVER CRAB ORCHARD CREEK
SECTION (5-3) BR-2
JACKSON COUNTY
STATION 88+00.00
STRUCTURE NO. 039-0061

CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-2061.201-General Plan.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB/JMM	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 039-0061
SHEET NO. 1 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)BR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	115
		CONTRACT NO. 78295		
		ILLINOIS FED. AID PROJECT		

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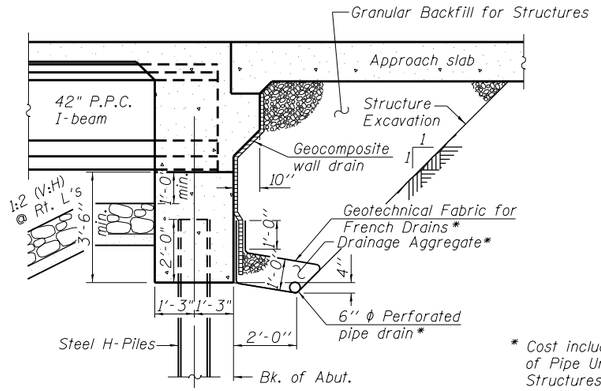
GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
3. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
5. Seal coat thickness design is based on the Cofferdam Design Water Elevation (CDWE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the engineer for approval with cofferdam design.
6. Slipforming of the parapets is not allowed.

NOTE TO CONTRACTOR:

Approach Slabs, Abutments and Piers have removal limits that differ from the stage construction line location shown on the Stage Construction Details sheet. See Approach Slab Details, Abutment Details and Pier Details for more information.



SECTION THRU INTEGRAL ABUTMENT

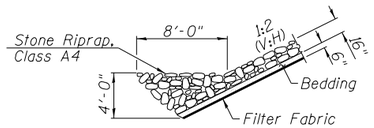
(Horiz. dim. @ Rt. L's)
(Match Existing Abutment)

* Cost included in the cost of Pipe Underdrains for Structures (See special provision).

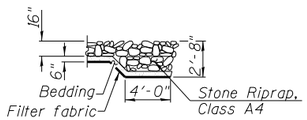
Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall, except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101.)

TOTAL BILL OF MATERIAL

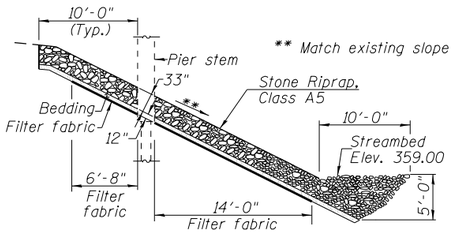
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		512	512
Stone Riprap, Class A5	Sq. Yd.		648	648
Filter Fabric	Sq. Yd.		945	945
Concrete Removal	Cu. Yd.	112	7	119
Slope Wall Removal	Sq. Yd.		404	404
Structure Excavation	Cu. Yd.		111	111
Cofferdam Excavation	Cu. Yd.		117	117
Cofferdam (Type 2) (Location-1)	Each		1	1
Cofferdam (Type 2) (Location-2)	Each		1	1
Floor Drains	Each	15		15
Concrete Structures	Cu. Yd.	15.3	103.3	118.6
Concrete Superstructure	Cu. Yd.	168.7		168.7
Bridge Deck Grooving	Sq. Yd.	599		599
Seal Coat Concrete	Cu. Yd.		21.6	21.6
Protective Coat	Sq. Yd.	746	15	761
Concrete Superstructure (Approach Slab)	Cu. Yd.	76.1		76.1
Furnishing and Erecting Precast Prestresed Concrete I-Beams, 42 IN.	Foot	734		734
Reinforcement Bars, Epoxy Coated	Pound	68,680	9,950	78,630
Bar Splicers	Each	42		42
Furnishing Steel Piles HP 12x63	Foot		544	544
Furnishing Steel Piles HP 12x74	Foot		204	204
Driving Piles	Foot		748	748
Test Pile Steel HP 12x74	Each		1	1
Name Plates	Each	1		1
Temporary Sheet Piling	Sq. Ft.		260	260
Geocomposite Wall Drain	Sq. Yd.		21	21
Bridge Deck Concrete Crack Sealer	Foot	750		750
Granular Backfill for Structures	Cu. Yd.		37	37
Pipe Underdrains for Structures 6"	Foot		68	68
Drill and Grout Bars	Each	246	168	414
Removal of Existing Concrete I-Beam	Each	3		3



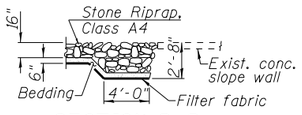
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

WATERWAY INFORMATION

Drainage Area = 255 Sq. Mi.

Exist. Low Grade Elev. 388.69 @ Sta. 80+50.00
Prop. Low Grade Elev. 388.88 @ Sta. 80+50.00

Flood	Freq. Yr.	Structure Number	Q (C.F.S.) Exist.	Q (C.F.S.) Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	039-0061/79	6,158	6,628	2,342	2,367	381.2	0.2	0.1	381.4	381.3
		0'flow Culvert	186	137	67	67					
		039-0062/78	2,056	1,635	779	772					
		Total	8,400		3,188	3,206					
Design	50	039-0061/79	8,788	9,417	2,682	2,715	383.0	0.3	0.2	383.3	383.2
		0'flow Culvert	269	235	85	85					
		039-0062/78	3,343	2,748	995	987					
		Total	12,400		3,762	3,787					
Base	100	039-0061/79	9,878	10,577	2,857	2,894	383.9	0.3	0.3	384.2	384.2
		0'flow Culvert	326	269	94	94					
		039-0062/78	3,896	3,254	1,109	1,099					
		Total	14,100		4,060	4,087					
Scour Design Check	200	039-0061/79	11,055	11,616	2,995	3,036	384.6	0.4	0.3	385.0	384.9
		0'flow Culvert	379	332	101	101					
		039-0062/78	4,576	4,062	1,200	1,189					
		Total	16,010		4,296	4,326					
Max. Calc.	500	039-0061/79	12,694	12,917	3,116	3,158	385.2	0.5	0.4	385.7	385.6
		0'flow Culvert	417	393	107	107					
		039-0062/78	5,389	5,190	1,279	1,268					
		Total	18,500		4,502	4,533					

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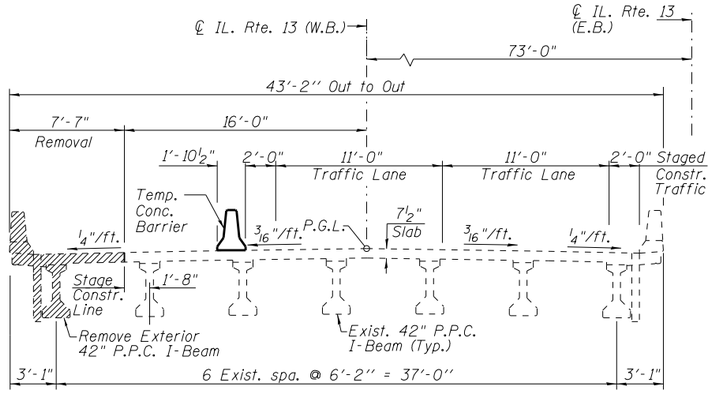
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

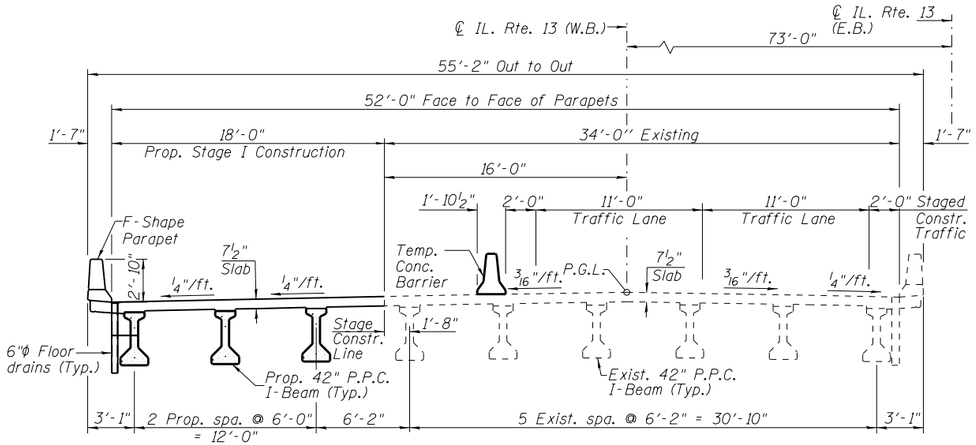
GENERAL DATA
STRUCTURE NO. 039-0061
SHEET NO. 2 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	116
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



CROSS SECTION - SHOWING REMOVAL

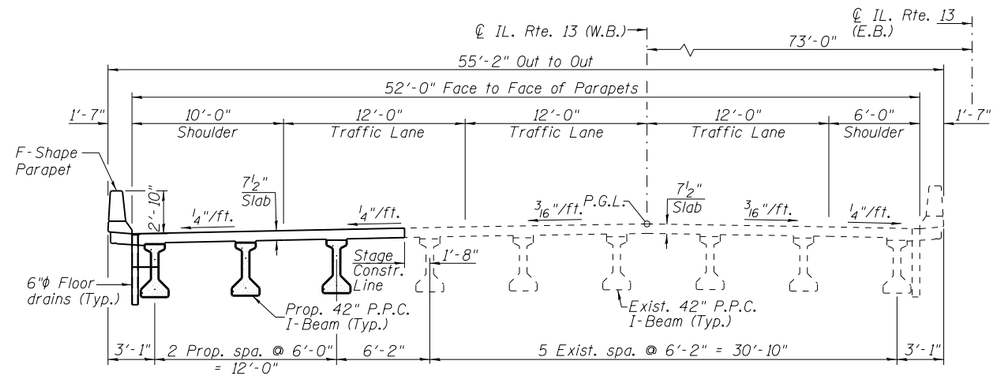
(Looking East)



CROSS SECTION - STAGE I CONSTRUCTION

(Looking East)

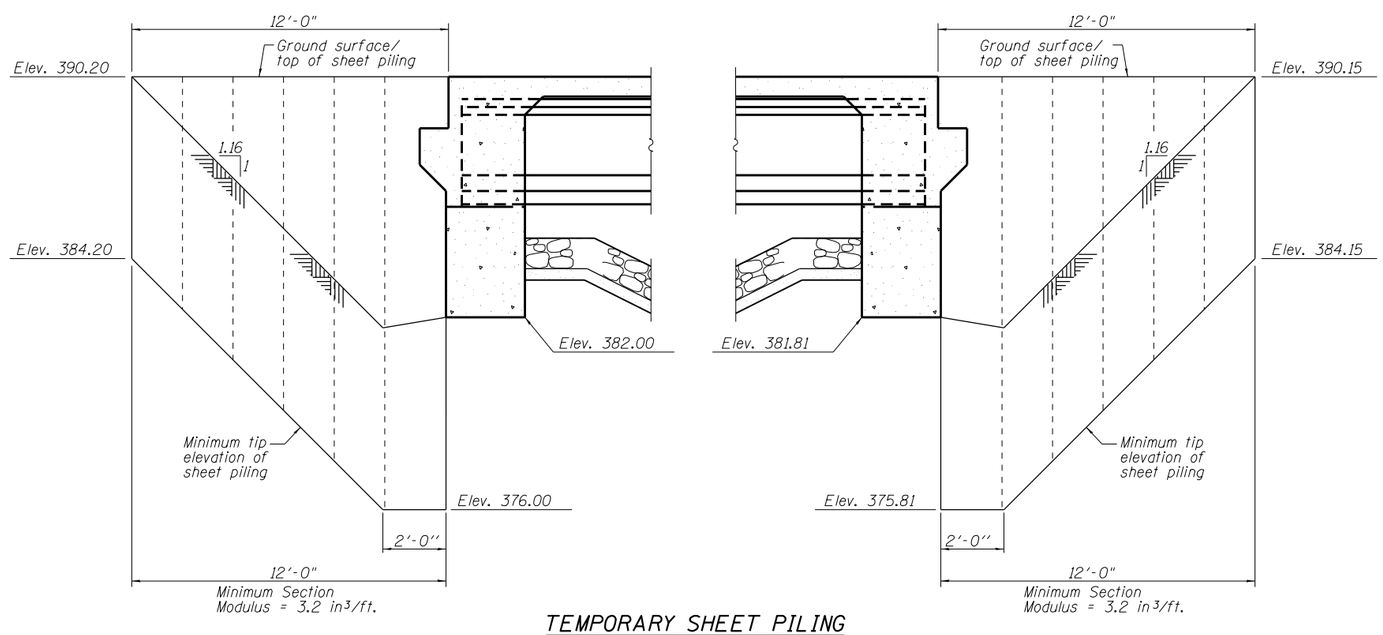
Note:
Work associated with south side guardrail and bridge approach slab curb shall be accomodated prior to Stage 1. See Roadway Plans and Special Provisions for details.



CROSS SECTION

(Looking East)

Note:
For quantity of Temporary Concrete Barrier, see Roadway Plans.



TEMPORARY SHEET PILING

If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for the review and acceptance by the engineer.

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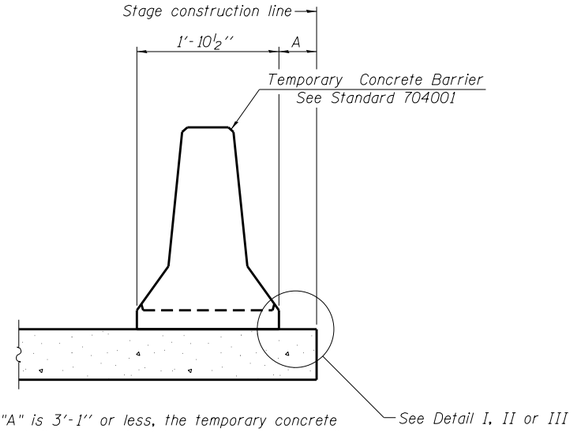
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

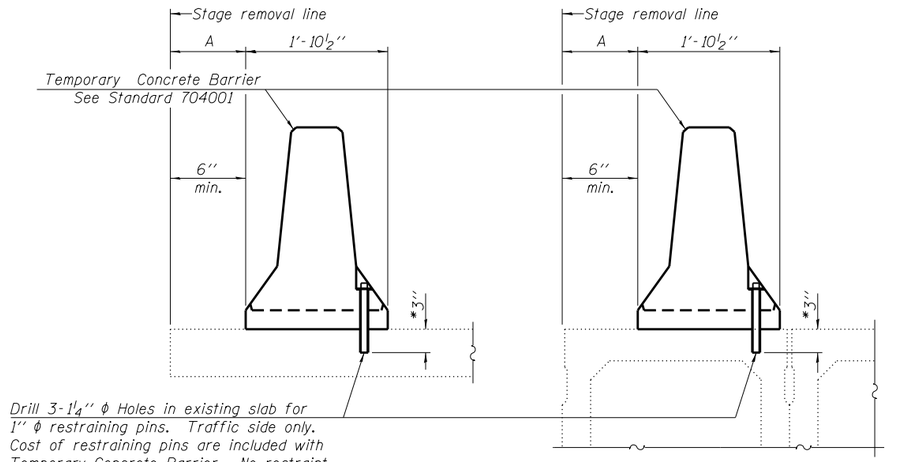
STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 3 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	117
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

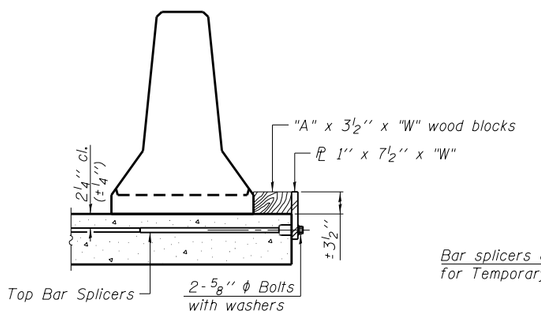


EXISTING SLAB

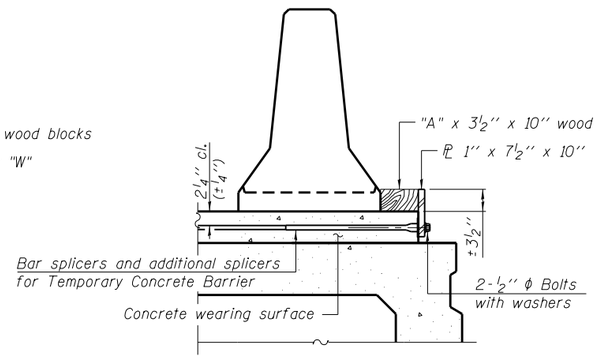
* When hot-mix asphalt wearng surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

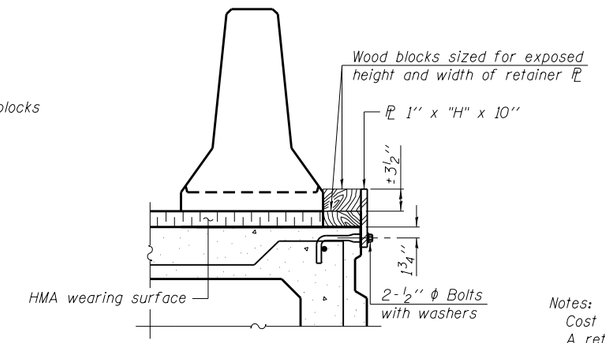
SECTIONS THRU SLAB OR DECK BEAM



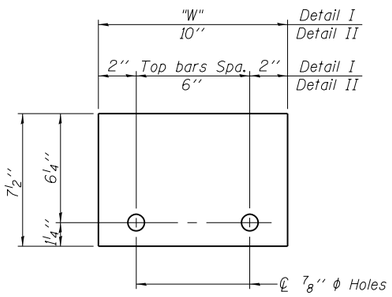
DETAIL I



DETAIL II

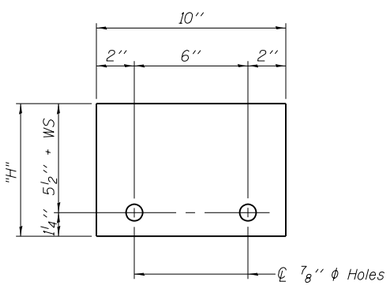


DETAIL III



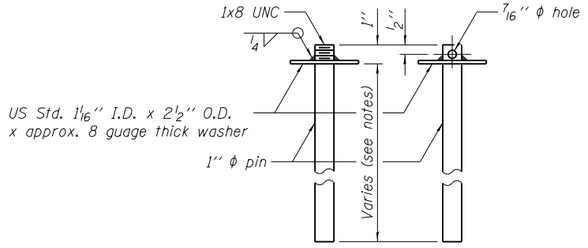
STEEL RETAINER PL 1" x 7½" x "W"

(Detail I and II)

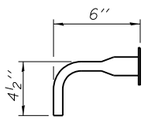


STEEL RETAINER PL 1" x "H" x 10"

(Detail III)



RESTRAINING PIN



BAR SPLICER FOR #4 BAR - DETAIL III

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate ℄ of each temporary concrete barrier.

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than 1½", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

R-27

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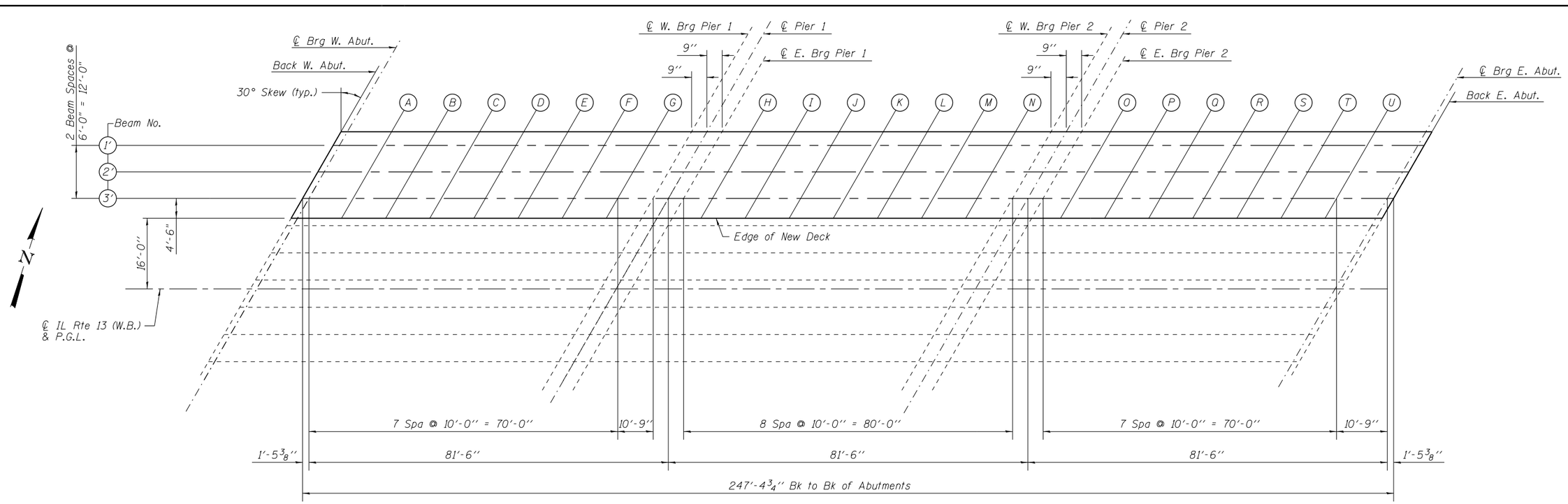
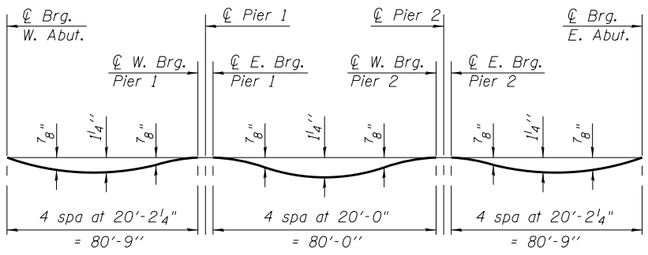
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 039-0061

SHEET NO. 4 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	118
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



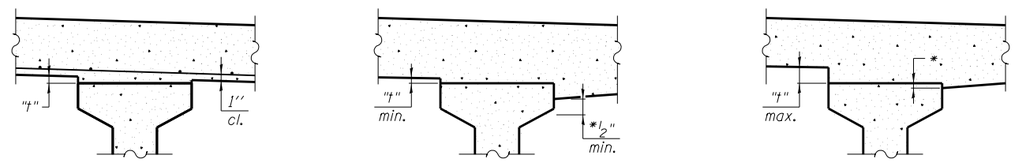


DEAD LOAD DEFLECTION DIAGRAM

(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. As shown on Sheets 6 & 7 of 29.



INTERIOR BEAMS

EXTERIOR BEAMS

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 above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on Sheets 6 & 7 of 29, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

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DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 1
STRUCTURE NO. 039–0061
SHEET NO. 5 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	119
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

BEAM 1'

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	86+95.07	-32.50	389.92	389.92
CL Brg. W. Abut.	86+96.52	-32.50	389.93	389.93
A	87+06.52	-32.50	389.97	390.02
B	87+16.52	-32.50	390.02	390.10
C	87+26.52	-32.50	390.03	390.13
D	87+36.52	-32.50	390.06	390.16
E	87+46.52	-32.50	390.05	390.14
F	87+56.52	-32.50	390.04	390.12
G	87+66.52	-32.50	390.04	390.08
CL W. Brg. Pier 1	87+77.27	-32.50	390.04	390.04
CL Pier 1	87+78.02	-32.50	390.04	390.04
CL E. Brg. Pier 1	87+78.77	-32.50	390.04	390.04
H	87+88.77	-32.50	390.04	390.08
I	87+98.77	-32.50	390.04	390.11
J	88+08.77	-32.50	390.03	390.12
K	88+18.77	-32.50	390.02	390.12
L	88+28.77	-32.50	390.01	390.11
M	88+38.77	-32.50	390.01	390.08
N	88+48.77	-32.50	390.00	390.03
CL W. Brg. Pier 2	88+58.77	-32.50	390.00	390.00
CL Pier 2	88+59.52	-32.50	390.00	390.00
CL E. Brg. Pier 2	88+60.27	-32.50	389.99	389.99
O	88+70.27	-32.50	389.97	390.02
P	88+80.27	-32.50	389.96	390.04
Q	88+90.27	-32.50	389.94	390.04
R	89+00.27	-32.50	389.92	390.02
S	89+10.27	-32.50	389.88	389.98
T	89+20.27	-32.50	389.83	389.90
U	89+30.27	-32.50	389.78	389.82
CL Brg. E. Abut.	89+41.02	-32.50	389.74	389.74
Bk. E. Abut.	89+42.46	-32.50	389.73	389.73

BEAM 2'

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	86+91.61	-26.50	390.04	390.04
CL Brg. W. Abut.	86+93.05	-26.50	390.04	390.04
A	87+03.05	-26.50	390.08	390.13
B	87+13.05	-26.50	390.13	390.21
C	87+23.05	-26.50	390.15	390.25
D	87+33.05	-26.50	390.17	390.28
E	87+43.05	-26.50	390.18	390.27
F	87+53.05	-26.50	390.17	390.24
G	87+63.05	-26.50	390.17	390.21
CL W. Brg. Pier 1	87+73.80	-26.50	390.16	390.16
CL Pier 1	87+74.55	-26.50	390.16	390.16
CL E. Brg. Pier 1	87+75.30	-26.50	390.16	390.16
H	87+85.30	-26.50	390.16	390.21
I	87+95.30	-26.50	390.16	390.24
J	88+05.30	-26.50	390.15	390.25
K	88+15.30	-26.50	390.14	390.25
L	88+25.30	-26.50	390.14	390.23
M	88+35.30	-26.50	390.14	390.21
N	88+45.30	-26.50	390.13	390.16
CL W. Brg. Pier 2	88+55.30	-26.50	390.13	390.13
CL Pier 2	88+56.05	-26.50	390.13	390.13
CL E. Brg. Pier 2	88+56.80	-26.50	390.13	390.13
O	88+66.80	-26.50	390.10	390.14
P	88+76.80	-26.50	390.09	390.18
Q	88+86.80	-26.50	390.07	390.17
R	88+96.80	-26.50	390.05	390.16
S	89+06.80	-26.50	390.02	390.12
T	89+16.80	-26.50	389.98	390.05
U	89+26.80	-26.50	389.92	389.96
CL Brg. E. Abut.	89+37.55	-26.50	389.87	389.87
Bk. E. Abut.	89+39.00	-26.50	389.87	389.87

BEAM 3'

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	86+88.15	-20.50	390.13	390.13
CL Brg. W. Abut.	86+89.59	-20.50	390.15	390.15
A	86+99.59	-20.50	390.19	390.23
B	87+09.59	-20.50	390.24	390.30
C	87+19.59	-20.50	390.27	390.35
D	87+29.59	-20.50	390.29	390.37
E	87+39.59	-20.50	390.31	390.38
F	87+49.59	-20.50	390.29	390.35
G	87+59.59	-20.50	390.29	390.32
CL W. Brg. Pier 1	87+70.34	-20.50	390.29	390.29
CL Pier 1	87+71.09	-20.50	390.29	390.29
CL E. Brg. Pier 1	87+71.84	-20.50	390.29	390.29
H	87+81.84	-20.50	390.29	390.32
I	87+91.84	-20.50	390.29	390.34
J	88+01.84	-20.50	390.28	390.36
K	88+11.84	-20.50	390.27	390.35
L	88+21.84	-20.50	390.27	390.34
M	88+31.84	-20.50	390.27	390.32
N	88+41.84	-20.50	390.26	390.28
CL W. Brg. Pier 2	88+51.84	-20.50	390.25	390.25
CL Pier 2	88+52.59	-20.50	390.25	390.25
CL E. Brg. Pier 2	88+53.34	-20.50	390.25	390.25
O	88+63.34	-20.50	390.23	390.27
P	88+73.34	-20.50	390.22	390.28
Q	88+83.34	-20.50	390.20	390.28
R	88+93.34	-20.50	390.18	390.26
S	89+03.34	-20.50	390.16	390.23
T	89+13.34	-20.50	390.12	390.17
U	89+23.34	-20.50	390.07	390.10
CL Brg. E. Abut.	89+34.09	-20.50	390.02	390.02
Bk. E. Abut.	89+35.53	-20.50	390.01	390.01

Note:
All deck elevations are based on field survey taken along the proposed construction joint.

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CMT

USER NAME =	DESIGNED	CJW	REVISED
...\98850-0061_006-Deck Elev 2.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 2
STRUCTURE NO. 039–0061
SHEET NO. 6 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	120
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

EDGE OF NEW DECK

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. W. Abut.	86+85.55	- 16.00	390.19	390.19
CL Brg. W. Abut.	86+86.99	- 16.00	390.21	390.21
A	86+96.99	- 16.00	390.27	390.31
B	87+06.99	- 16.00	390.32	390.38
C	87+16.99	- 16.00	390.36	390.44
D	87+26.99	- 16.00	390.38	390.46
E	87+36.99	- 16.00	390.40	390.48
F	87+46.99	- 16.00	390.39	390.44
G	87+56.99	- 16.00	390.39	390.42
CL W. Brg. Pier 1	87+67.74	- 16.00	390.38	390.38
CL Pier 1	87+68.49	- 16.00	390.38	390.39
CL E. Brg. Pier 1	87+69.24	- 16.00	390.38	390.38
H	87+79.24	- 16.00	390.38	390.41
I	87+89.24	- 16.00	390.38	390.44
J	87+99.24	- 16.00	390.38	390.45
K	88+09.24	- 16.00	390.37	390.45
L	88+19.24	- 16.00	390.36	390.43
M	88+29.24	- 16.00	390.36	390.41
N	88+39.24	- 16.00	390.36	390.38
CL W. Brg. Pier 2	88+49.24	- 16.00	390.34	390.34
CL Pier 2	88+49.99	- 16.00	390.34	390.35
CL E. Brg. Pier 2	88+50.74	- 16.00	390.34	390.34
O	88+60.74	- 16.00	390.34	390.37
P	88+70.74	- 16.00	390.31	390.37
Q	88+80.74	- 16.00	390.30	390.38
R	88+90.74	- 16.00	390.28	390.36
S	89+00.74	- 16.00	390.26	390.33
T	89+10.74	- 16.00	390.22	390.28
U	89+20.74	- 16.00	390.17	390.20
CL Brg. E. Abut.	89+31.49	- 16.00	390.12	390.12
Bk. E. Abut.	89+32.93	- 16.00	390.11	390.11

Note:
All deck elevations are based on field survey taken along the proposed construction joint.

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CMT

USER NAME =	DESIGNED	CJW	REVISED
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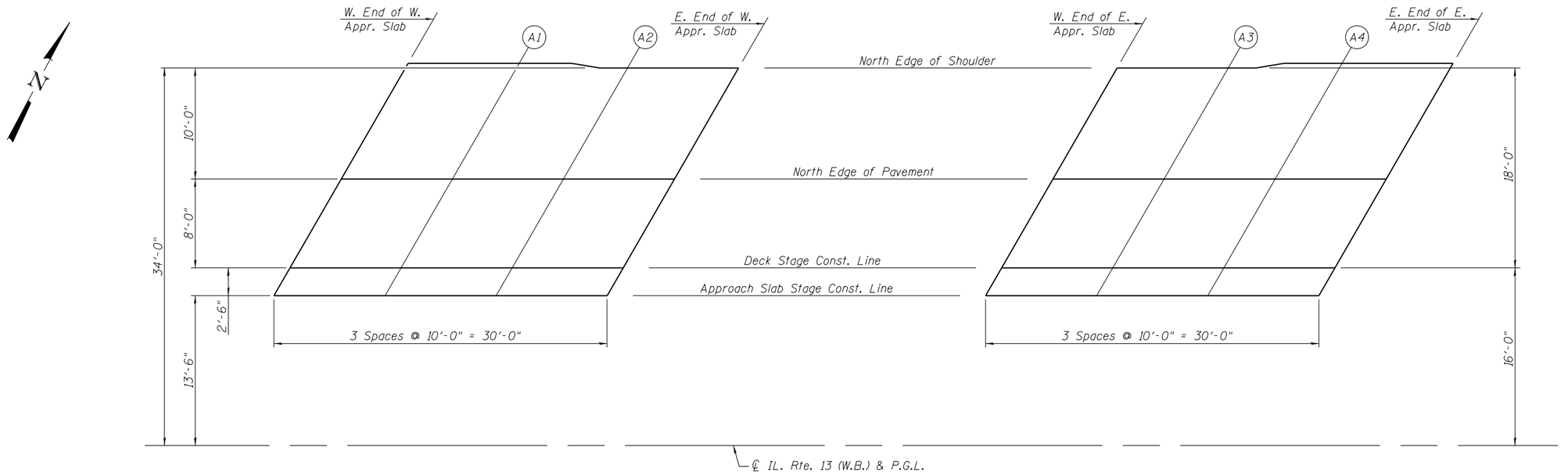
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 3
STRUCTURE NO. 039–0061
SHEET NO. 7 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	121
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



WEST APPROACH SLAB **EAST APPROACH SLAB**

PLAN

NORTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	86+65.93	-34.00	389.61
A1	86+75.93	-34.00	389.71
A2	86+85.93	-34.00	389.82
E. End of W. Appr.	86+95.93	-34.00	389.90

DECK STAGE CONST. LINE

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	86+55.54	-16.00	389.93
A1	86+65.54	-16.00	389.99
A2	86+75.54	-16.00	390.09
E. End of W. Appr.	86+85.54	-16.00	390.19

NORTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	89+43.32	-34.00	389.70
A3	89+53.32	-34.00	389.60
A4	89+63.32	-34.00	389.54
E. End of E. Appr.	89+73.32	-34.00	389.44

DECK STAGE CONST. LINE

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	89+32.93	-16.00	390.11
A3	89+42.93	-16.00	390.08
A4	89+52.93	-16.00	389.98
E. End of E. Appr.	89+62.93	-16.00	389.93

NORTH EDGE OF PAVEMENT

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	86+60.16	-24.00	389.79
A1	86+70.16	-24.00	389.86
A2	86+80.16	-24.00	389.97
E. End of W. Appr.	86+90.16	-24.00	390.08

APPROACH SLAB STAGE CONST. LINE

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	86+54.09	-13.50	389.98
A1	86+64.09	-13.50	390.04
A2	86+74.09	-13.50	390.14
E. End of W. Appr.	86+84.09	-13.50	390.24

NORTH EDGE OF PAVEMENT

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	89+37.55	-24.00	389.93
A3	89+47.55	-24.00	389.88
A4	89+57.55	-24.00	389.77
E. End of E. Appr.	89+67.55	-24.00	389.71

APPROACH SLAB STAGE CONST. LINE

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	89+31.48	-13.50	390.17
A3	89+41.48	-13.50	390.13
A4	89+51.48	-13.50	390.03
E. End of E. Appr.	89+61.48	-13.50	389.98

* Offsets are from P.G.L.

Note:
All deck elevations are based on field survey taken along the proposed construction joint.

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CMT

USER NAME =	DESIGNED	CJW	REVISED
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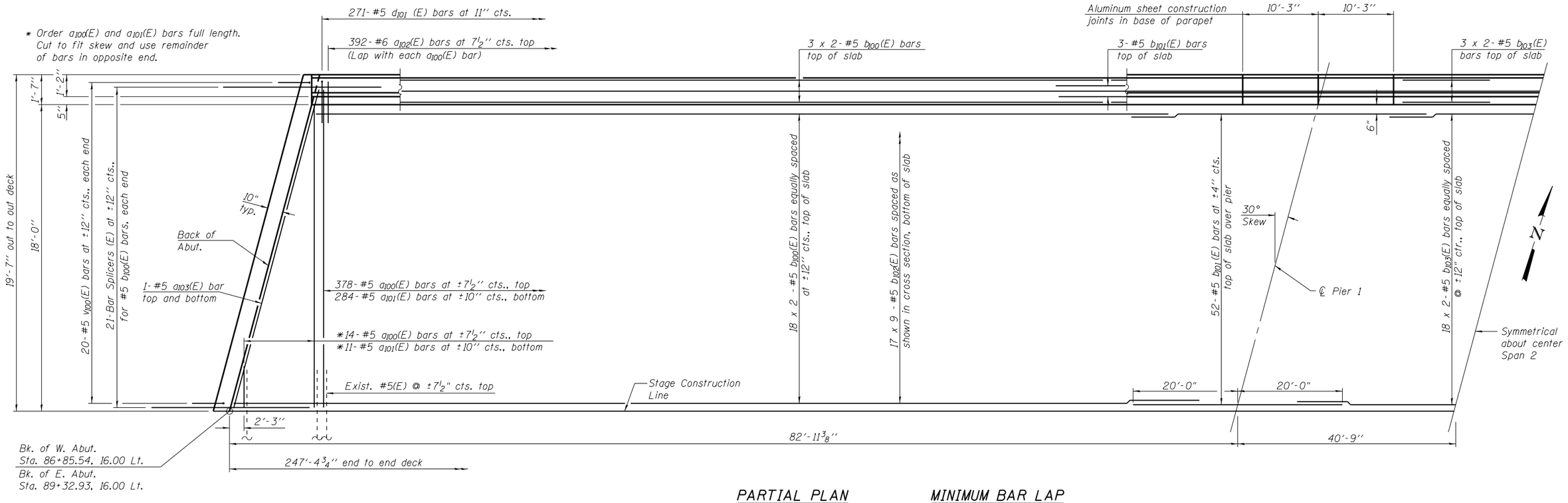
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB ELEVATIONS
STRUCTURE NO. 039-0061
SHEET NO. 8 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	122
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



PARTIAL PLAN

MINIMUM BAR LAP

#5 BAR = 2'-7"

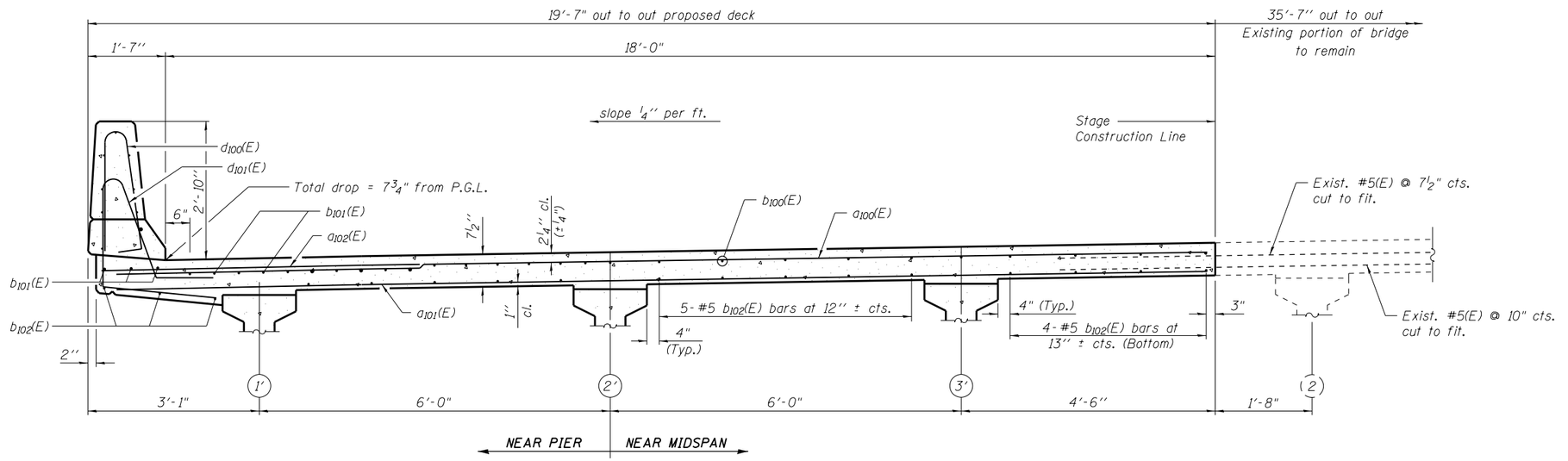
Notes:

See Sheet 10 of 29 for superstructure details and Bill of Material.

Bars indicated thus 20 x 3- #5 etc. indicates 20 lines of bars with 3 lengths per line.

See Sheet 10 of 29 for parapet reinforcement.

Existing reinforcement to be cleaned and incorporated into the new construction. Cost included with concrete removal.



CROSS SECTION

(Looking East)

PII-2-L

6-8-15

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USER NAME =	DESIGNED	CJW	REVISED
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PLOT DATE =	CHECKED	WLB	REVISED

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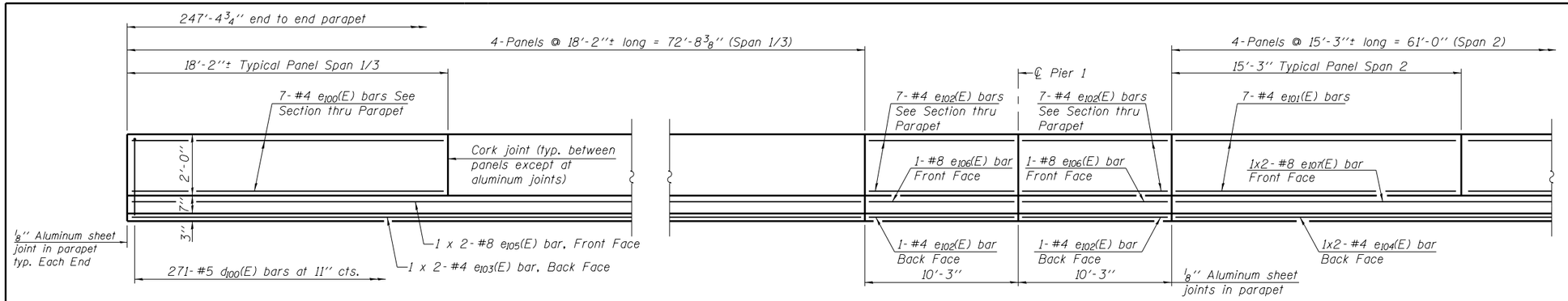
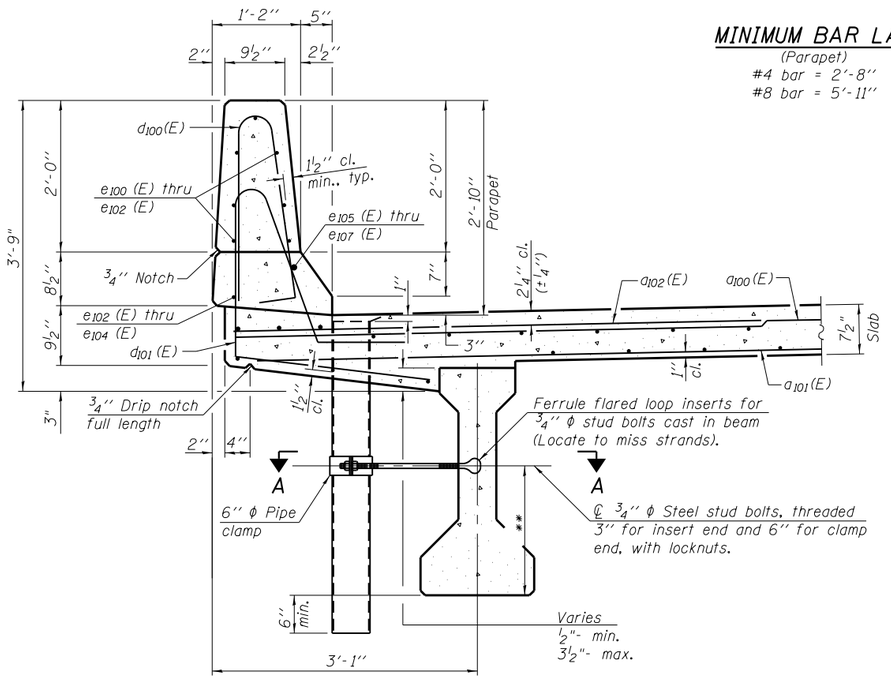
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 039-0061
SHEET NO. 9 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	123
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



INSIDE ELEVATION OF NORTH PARAPET

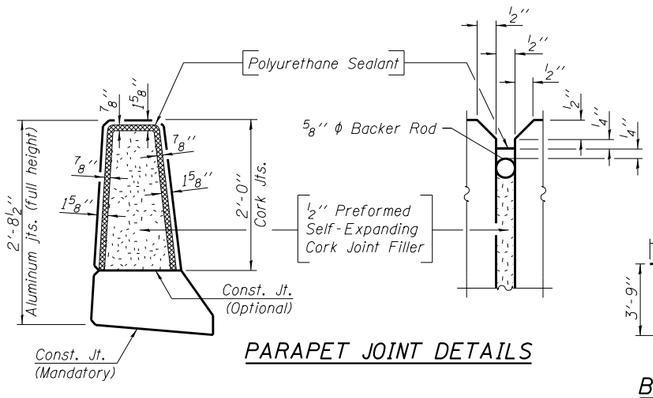


SECTION THRU PARAPET

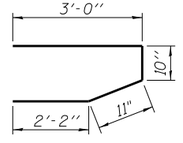
** For insert locations, see sheets 18 & 19 of 29

MINIMUM BAR LAP

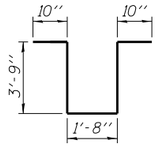
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"



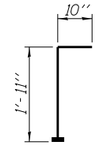
PARAPET JOINT DETAILS



BAR s_{110}(E)



BAR s_{120} (E)



BAR v_{100}(E)

(Headed)

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.

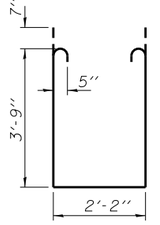
The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.

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 non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 5/8" backer rod.

The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

Headed bars shall conform to ASTM A970 Class HA. Cost included with Reinforcement Bars, Epoxy Coated.

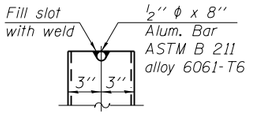


BAR s_{111}(E)

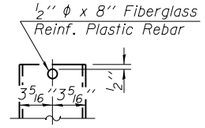
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{100}(E)	392	#5	19'-3"	
a_{101}(E)	295	#5	19'-0"	
a_{102}(E)	392	#6	6'-6"	
a_{103}(E)	4	#5	22'-3"	
b_{100}(E)	84	#5	34'-11"	
b_{101}(E)	110	#5	40'-0"	
b_{102}(E)	153	#5	29'-9"	
b_{103}(E)	42	#5	26'-0"	
d_{100}(E)	271	#5	5'-7"	
d_{101}(E)	271	#5	8'-7"	
e_{100}(E)	56	#4	17'-10"	
e_{101}(E)	28	#4	14'-11"	
e_{102}(E)	32	#4	9'-11"	
e_{103}(E)	4	#4	37'-7"	
e_{104}(E)	2	#4	31'-8"	
e_{105}(E)	4	#8	39'-2"	
e_{106}(E)	4	#8	9'-11"	
e_{107}(E)	2	#8	33'-4"	
m_{110}(E)	10	#6	22'-1"	
m_{111}(E)	8	#6	6'-0"	
m_{112}(E)	4	#6	3'-1"	
m_{113}(E)	4	#6	4'-5"	
m_{114}(E)	2	#6	2'-5"	
m_{115}(E)	12	#5	4'-0"	
m_{116}(E)	4	#6	3'-11"	
m_{117}(E)	2	#6	3'-3"	
m_{120}(E)	8	#6	4'-5"	
m_{121}(E)	16	#6	6'-0"	
m_{122}(E)	6	#5	4'-0"	
m_{123}(E)	8	#5	3'-11"	
m_{124}(E)	4	#5	3'-3"	
s_{110}(E)	34	#5	6'-11"	
s_{111}(E)	34	#5	10'-10"	
s_{120}(E)	28	#5	10'-10"	
v_{100}(E)	40	#5	2'-9"	
Reinforcement Bars, Epoxy Coated		Lbs.	39,050	
Concrete Superstructure		Cu. Yd.	165.4	
Concrete Removal		Cu. Yd.	82	
Bridge Deck Grooving		Sq. Yd.	468	
Protective Coat		Sq. Yd.	594	

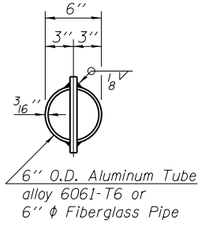
Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.



ALUMINUM TUBE

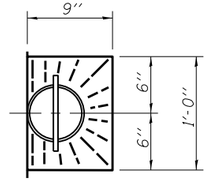


FIBERGLASS PIPE

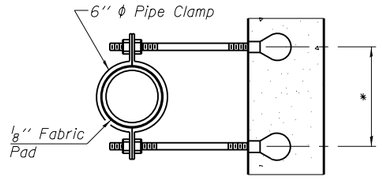


TOP PLAN

(Showing Aluminum Tube)

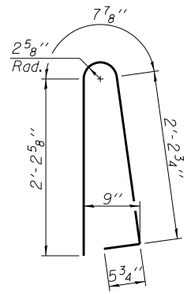


TOP PLAN

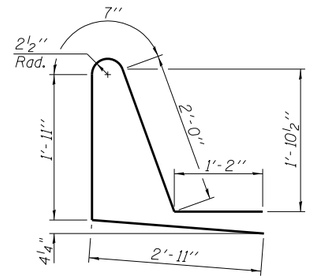


SECTION A-A

*Dimension as required by Pipe Clamp



BAR d_{100}(E)



BAR d_{101}(E)

SDI-I3642-2 10-7-2016

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PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 10 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	124
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

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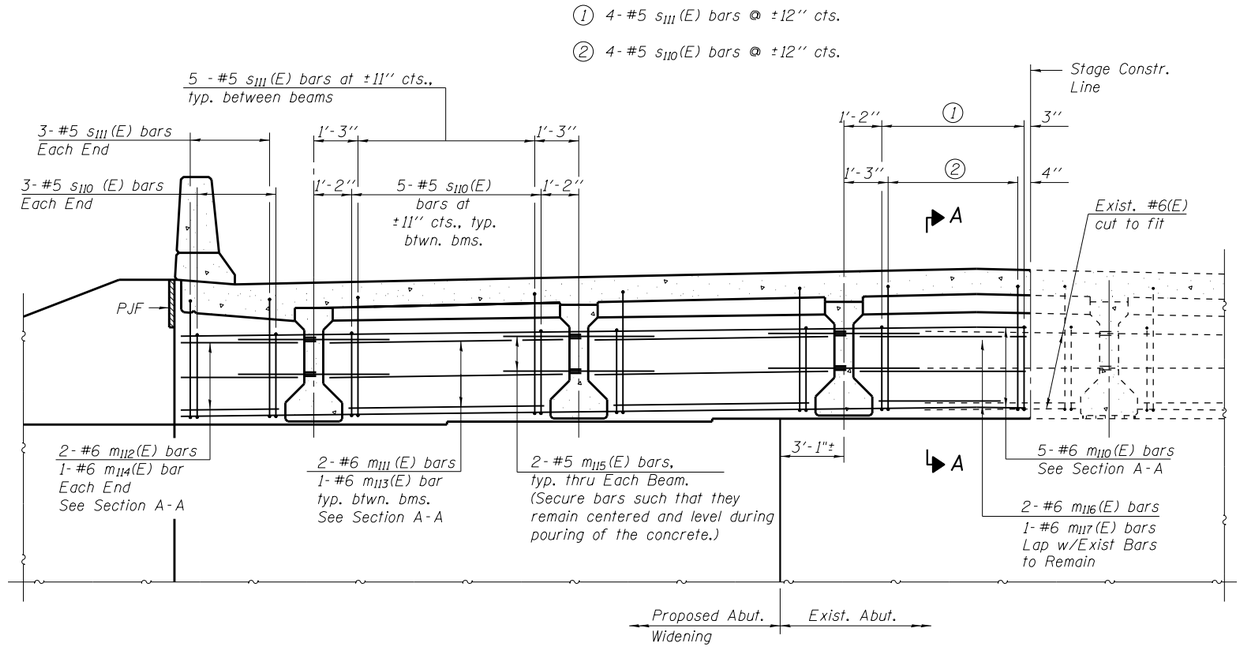
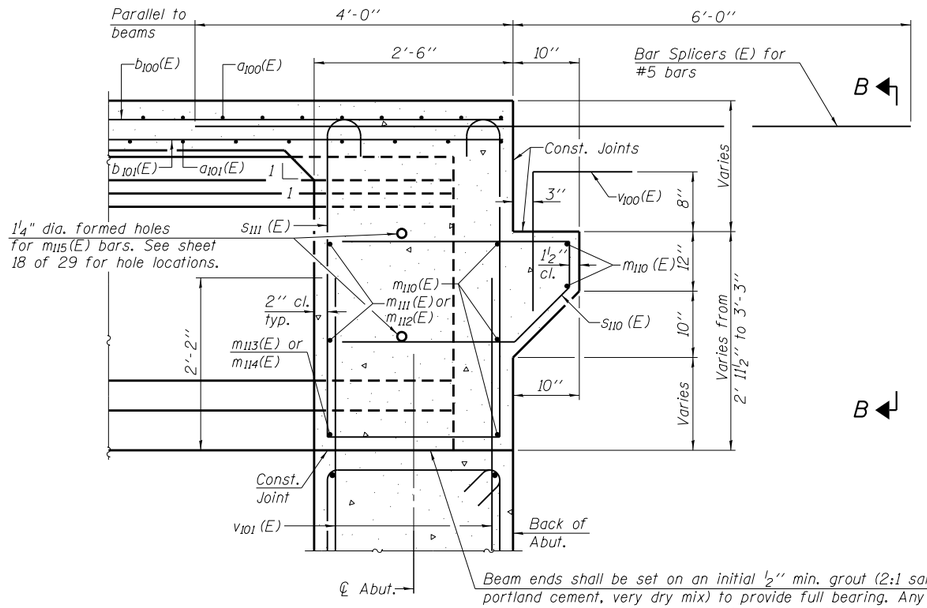


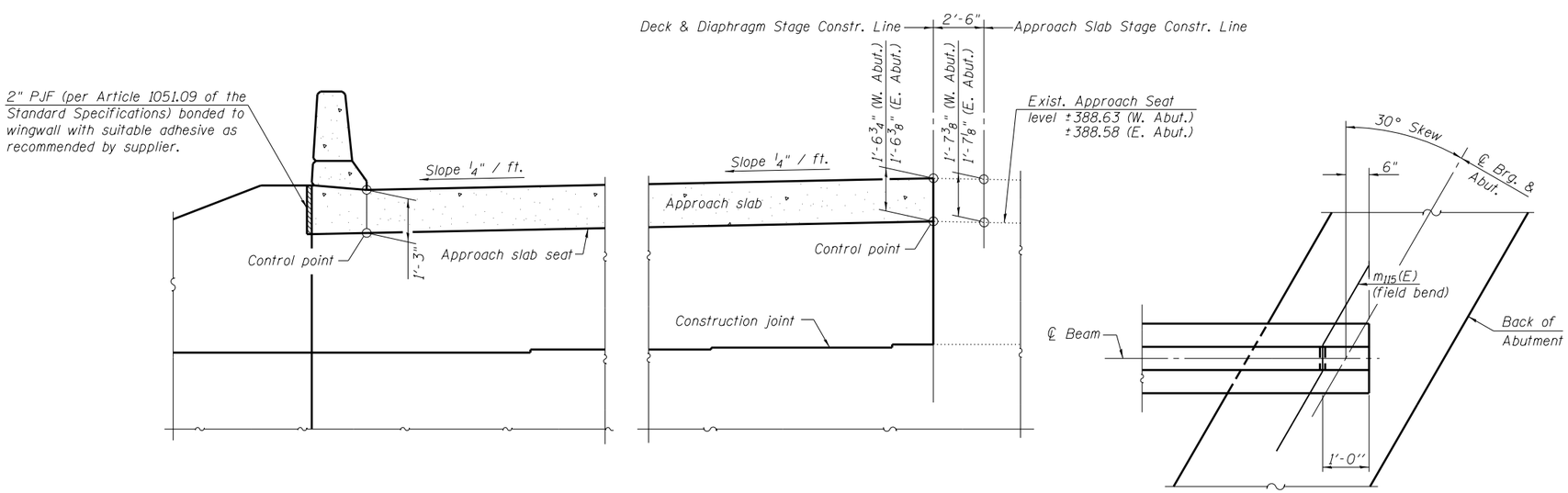
DIAPHRAGM AT ABUTMENT

East Abutment shown, West Abutment similar.



SECTION A-A

Dimensions at right angles to abutment, except as shown.



SECTION B-B

PLAN AT ABUTMENT

(Showing bottom flange of beam)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 29.

Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 29.

For details of bars s_{110}(E), s_{111}(E) and v_{100}(E) see sheet 10 of 29.

The s_{110} (E) and s_{111}(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

The new approach slab seat shall have a constant slope determined from the control points shown.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Existing reinforcement to be cleaned and incorporated into the new construction. Cost included with concrete removal.

All elevations are based on field survey.

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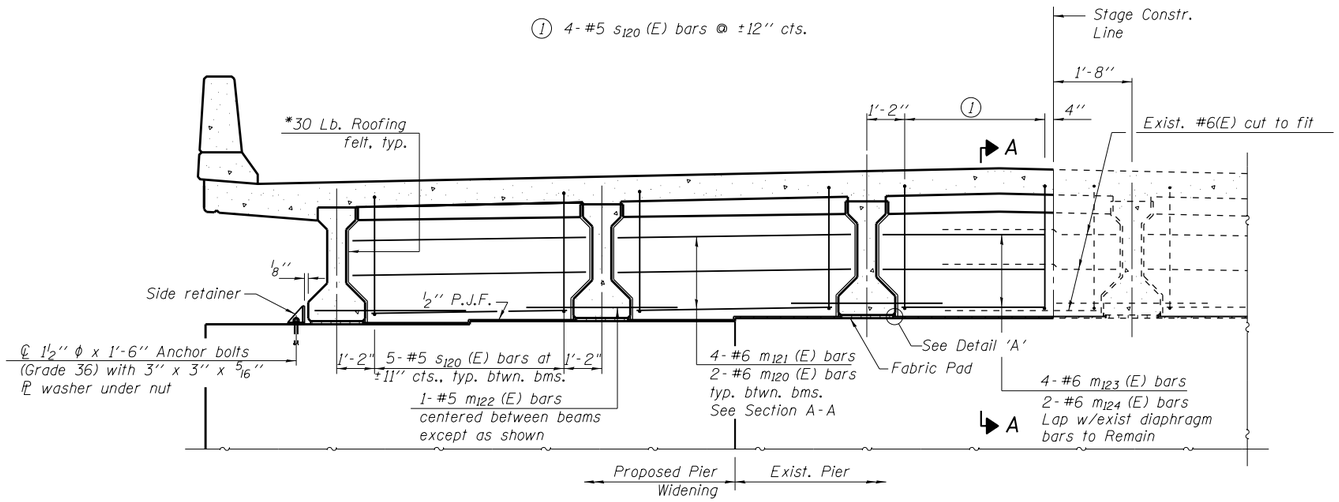
...\98850-0061_011-Abut Diaphragm Details.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

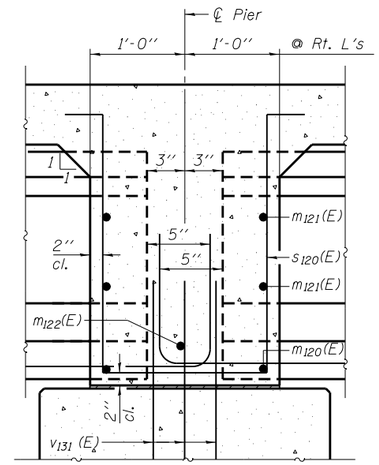
INTERGRAL ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 11 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	125
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



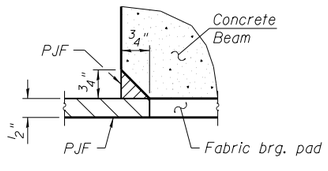
DIAPHRAGM AT PIER

*Bonded to sides of beams embedded into diaphragm.

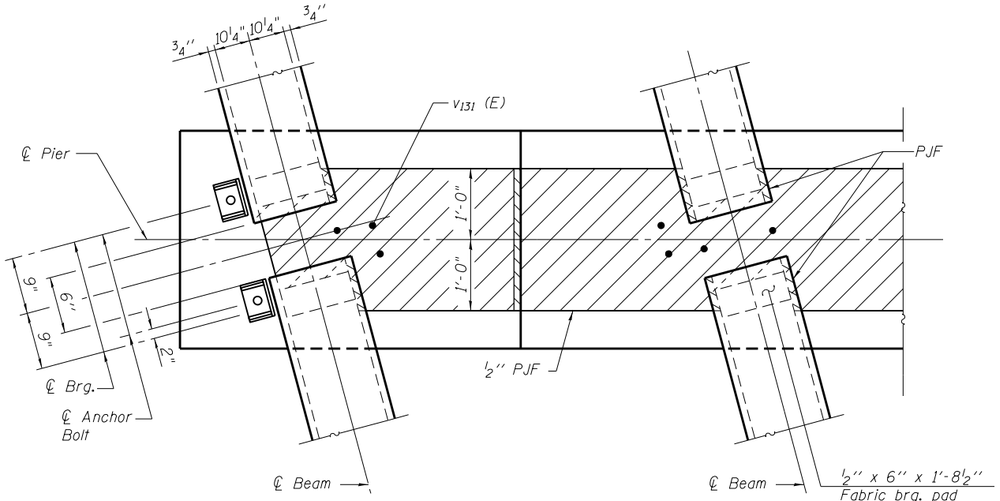


SECTION A-A

(Dimensions along ℄ of beam except as shown)

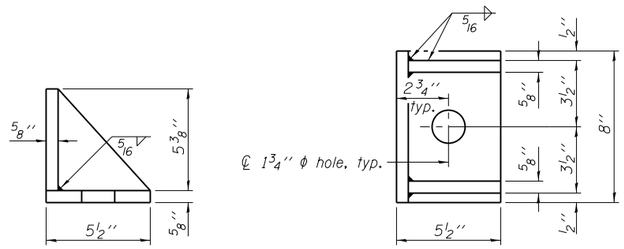


DETAIL 'A'



PLAN AT PIER

(Showing bearing pads and PJF details)



SIDE RETAINER

(2 required each side of pier).
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 29.

Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 29.

Cost of 30 Lb. roofing felt is included with Concrete Superstructure.

Cost of side retainer and anchor bolts shall be included with Concrete Structures.

For details of bar s_{120} (E) see sheet 10 of 29.

The s_{120} (E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

Anchor bolts and side retainers shall be according to Article 521.06 of the Standard Specifications. Side retainers shall be hot dip galvanized.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Anchor bolts and side retainers shall be installed as each exterior beam is erected unless an equivalent temporary means of lateral restraint is used.

Anchor bolts and side retainers shall also be installed on the south end of the existing pier cap adjacent to the existing exterior beam.

Existing reinforcement to be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

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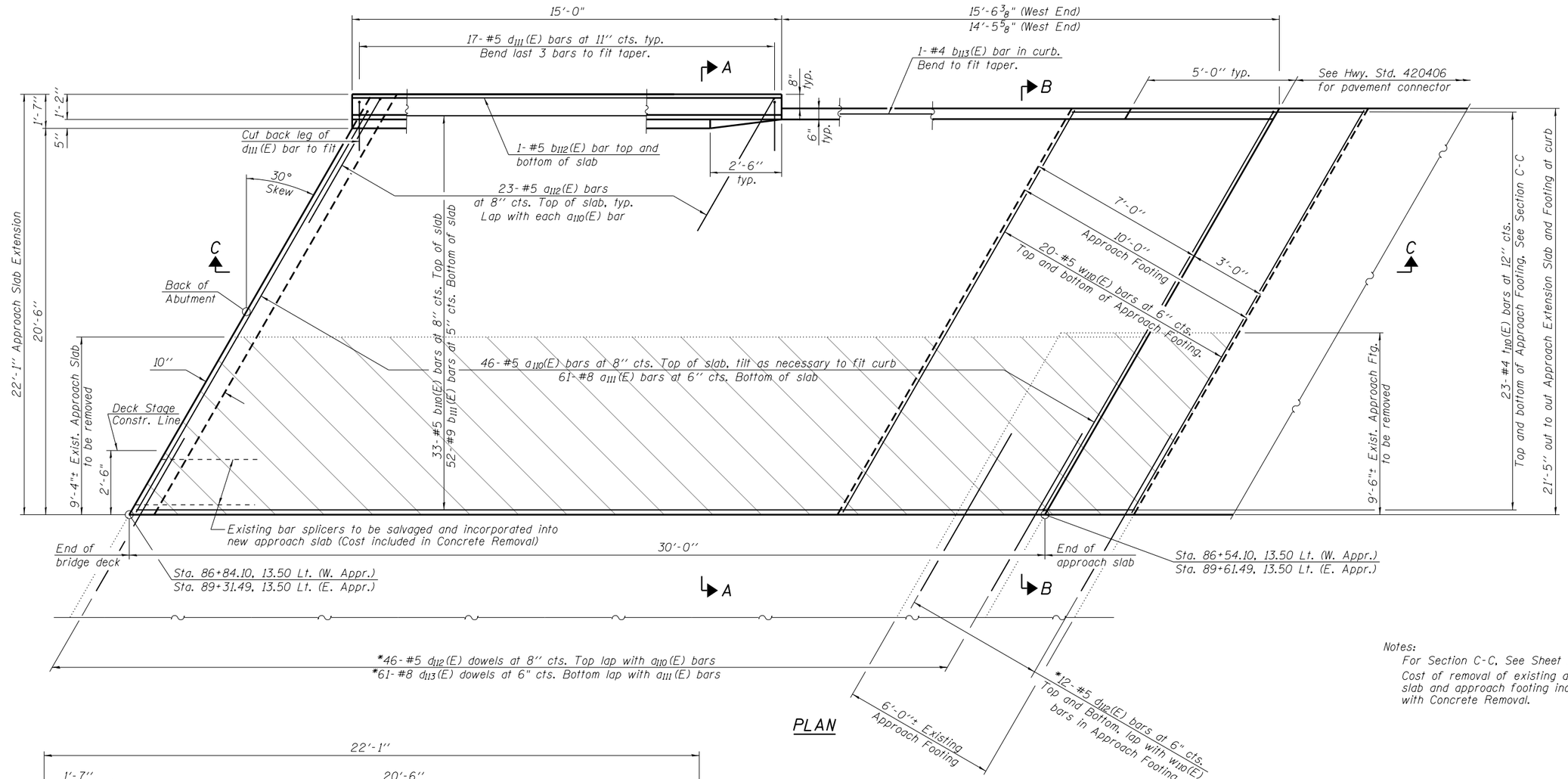
...\98850-0061_012-Pier Diaphragm Details.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

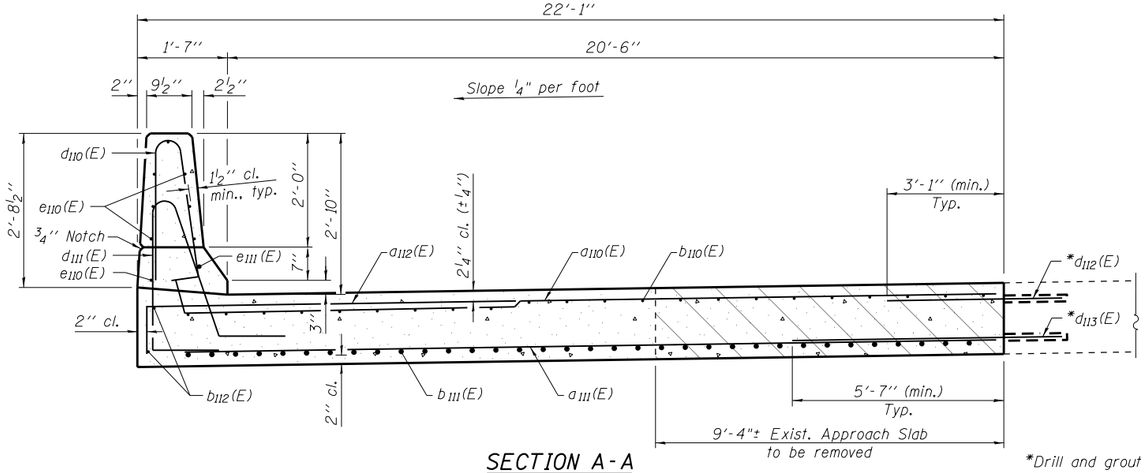
PIER DIAPHRAGM DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 12 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	126
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

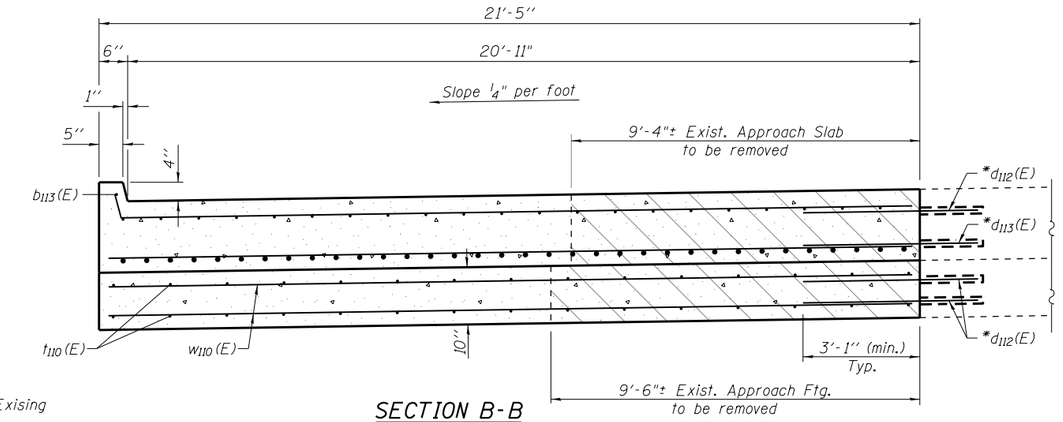


PLAN

Notes:
For Section C-C, See Sheet 14 of 29.
Cost of removal of existing approach slab and approach footing included with Concrete Removal.



SECTION A-A



SECTION B-B

*Drill and grout into Exising Concrete Min 12"

BAIA-CIP-34FS-L(≤30°) 11-22-2016

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PLOT SCALE =		DRAWN	GLD	REVISED
PLOT DATE =		CHECKED	WLB	REVISED

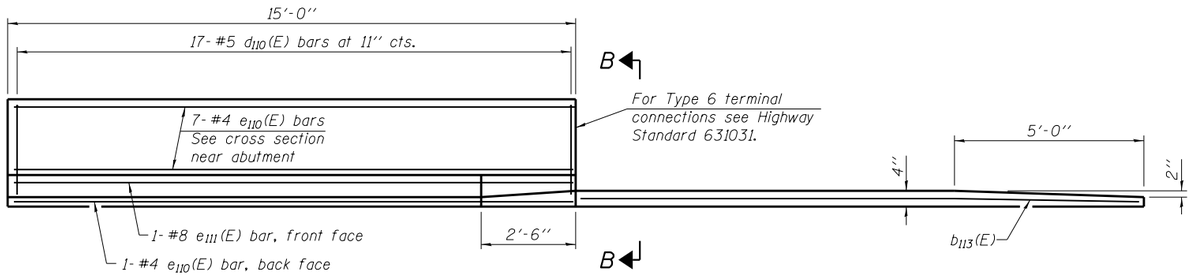
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS – 1
STRUCTURE NO. 039–0061
SHEET NO. 13 OF 29 SHEETS

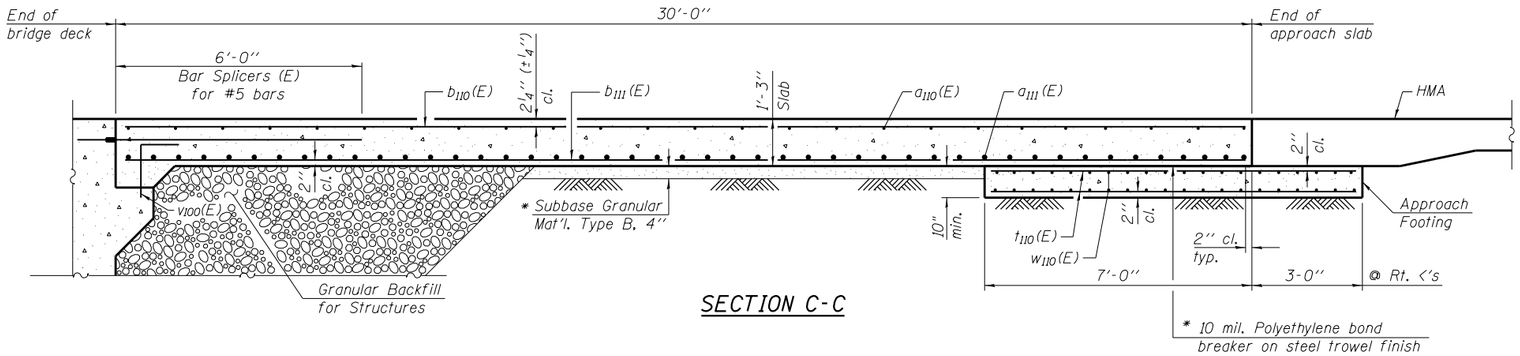
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	127
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

Notes:

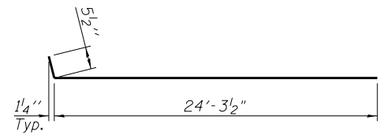
Parapet concrete shall be paid for as Concrete Superstructure.
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
Approach footing concrete shall be paid for as Concrete Structures.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 29.
Dowels shall be installed per Article 584 of Standard Specifications. The embedment depth shall be per manufacturer recommendation for developing full tensile strength of dowel in 3500 psi concrete.



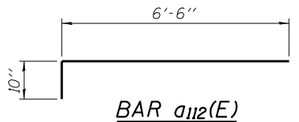
INSIDE ELEVATION OF PARAPET AND CURB



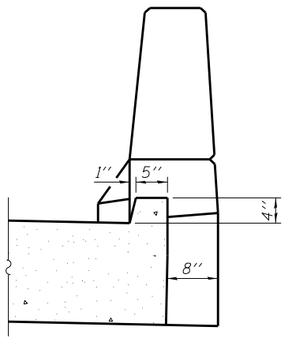
SECTION C-C



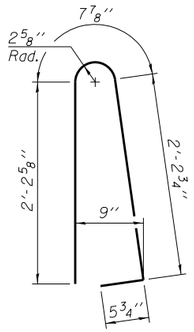
BAR $a_{110}(E)$



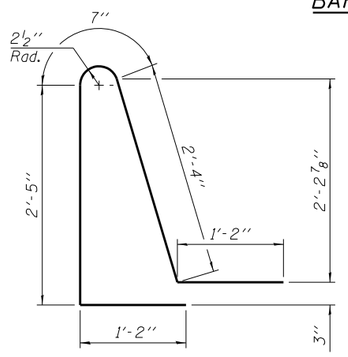
BAR $a_{112}(E)$



VIEW B-B



BAR $d_{110}(E)$



BAR $d_{111}(E)$

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{110}(E)$	92	#5	24'-9"	
$a_{111}(E)$	122	#8	24'-4"	
$a_{112}(E)$	46	#5	7'-4"	
$b_{110}(E)$	66	#5	29'-8"	
$b_{111}(E)$	104	#9	29'-8"	
$b_{112}(E)$	10	#5	14'-8"	
$b_{113}(E)$	2	#5	15'-2"	
$d_{110}(E)$	34	#5	5'-7"	
$d_{111}(E)$	34	#5	7'-8"	
$d_{112}(E)$	140	#5	4'-1"	
$d_{113}(E)$	122	#8	6'-8"	
$d_{114}(E)$	32	#5	2'-0"	
$e_{110}(E)$	16	#4	14'-8"	
$e_{111}(E)$	2	#8	14'-8"	
$t_{110}(E)$	92	#4	11'-2"	
$w_{110}(E)$	80	#5	24'-4"	

Concrete Superstructure	Cu. Yd.	3.3
Concrete Superstructure (Approach Slab)	Cu. Yd.	76.1
Concrete Structures	Cu. Yd.	15.3
Reinforcement Bars, Epoxy Coated	Pound	29,630
Drill and Grout Bars	Each	294
Concrete Removal	Cu. Yd.	30
Bridge Deck Grooving	Sq. Yd.	131
Protective Coat	Sq. Yd.	152

BAIA-CIP-34FS-L(≤30°) 11-22-2016

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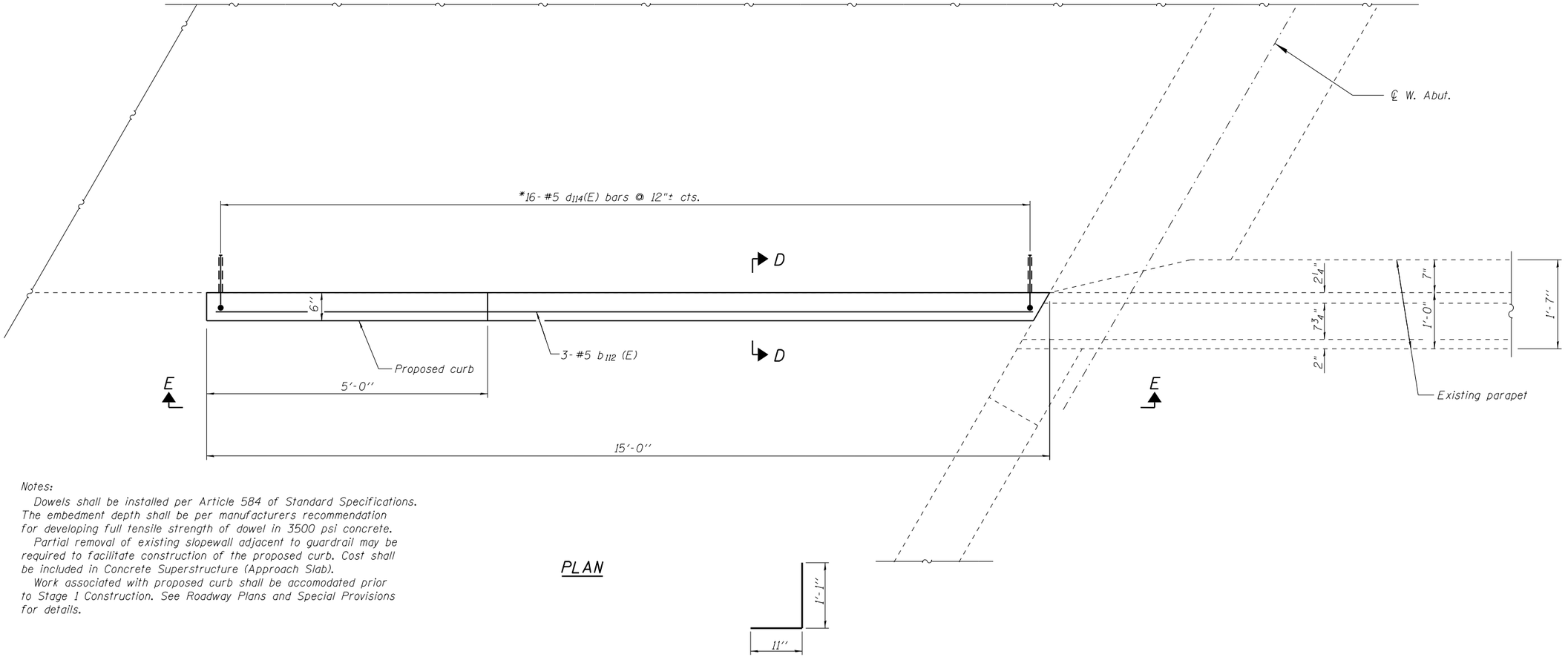
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS – 2
STRUCTURE NO. 039–0061
SHEET NO. 14 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	128
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



PLAN

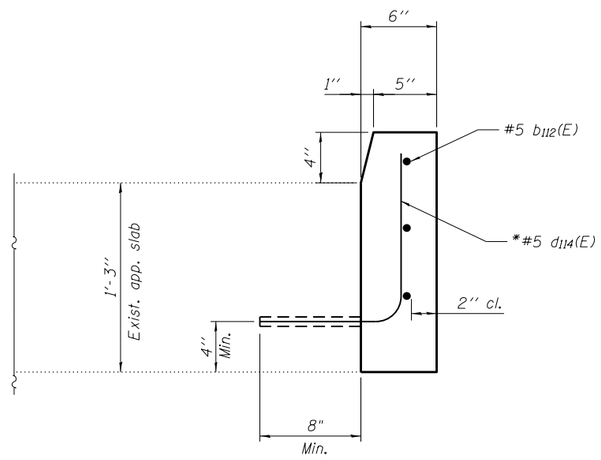
BAR d114(E)

Notes:

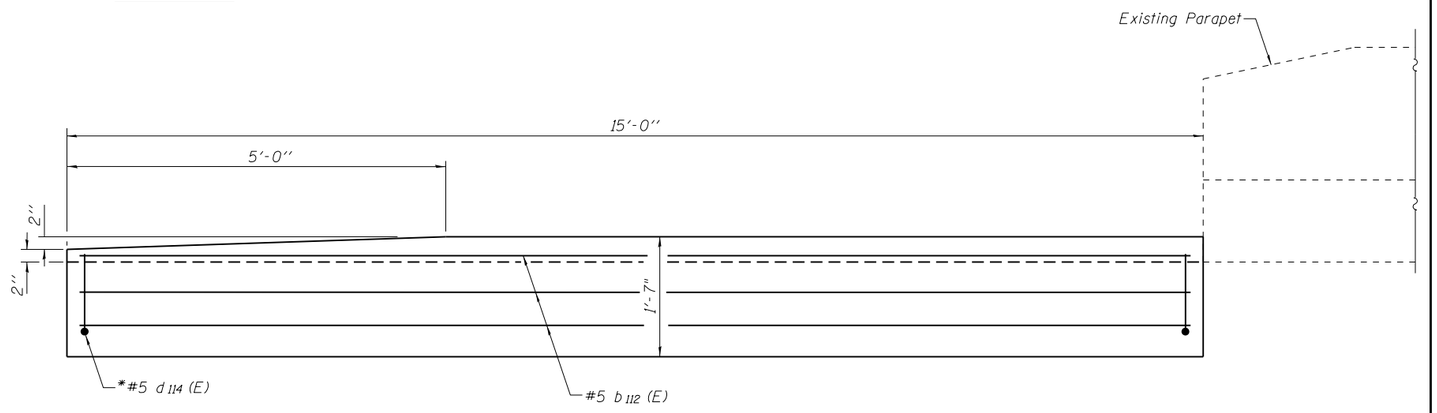
Dowels shall be installed per Article 584 of Standard Specifications. The embedment depth shall be per manufacturers recommendation for developing full tensile strength of dowel in 3500 psi concrete.

Partial removal of existing slopewall adjacent to guardrail may be required to facilitate construction of the proposed curb. Cost shall be included in Concrete Superstructure (Approach Slab).

Work associated with proposed curb shall be accomodated prior to Stage 1 Construction. See Roadway Plans and Special Provisions for details.



SECTION D-D



*Drill and grout into Exising Concrete Min 8"

VIEW E-E

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PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

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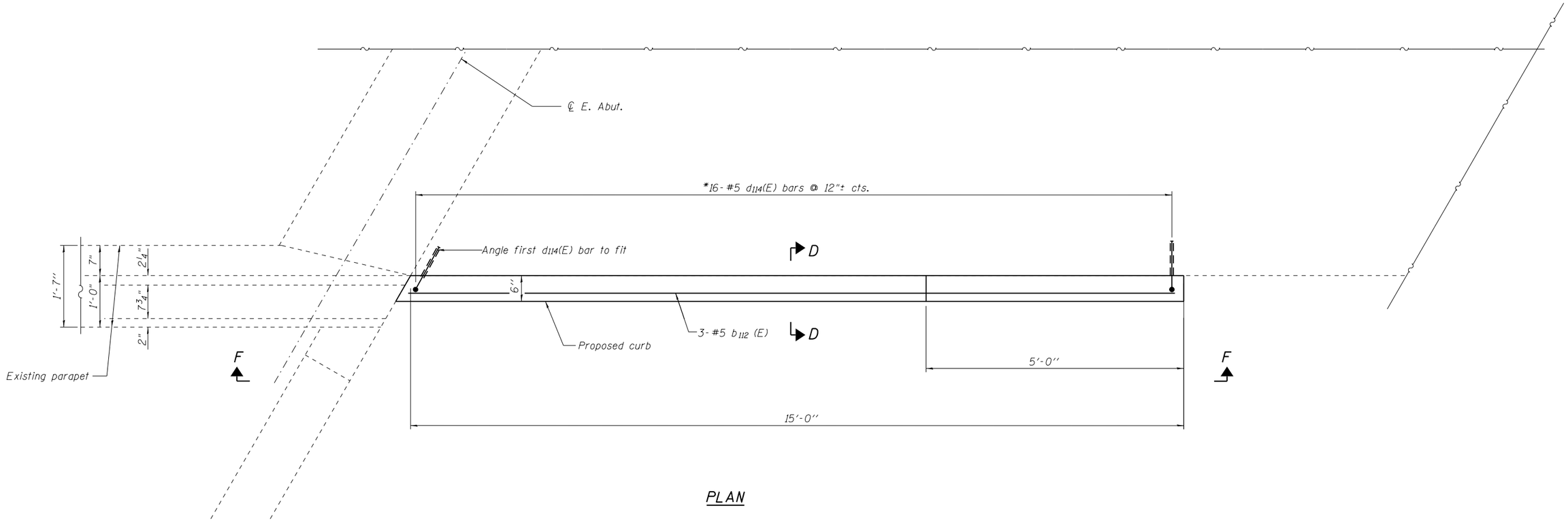
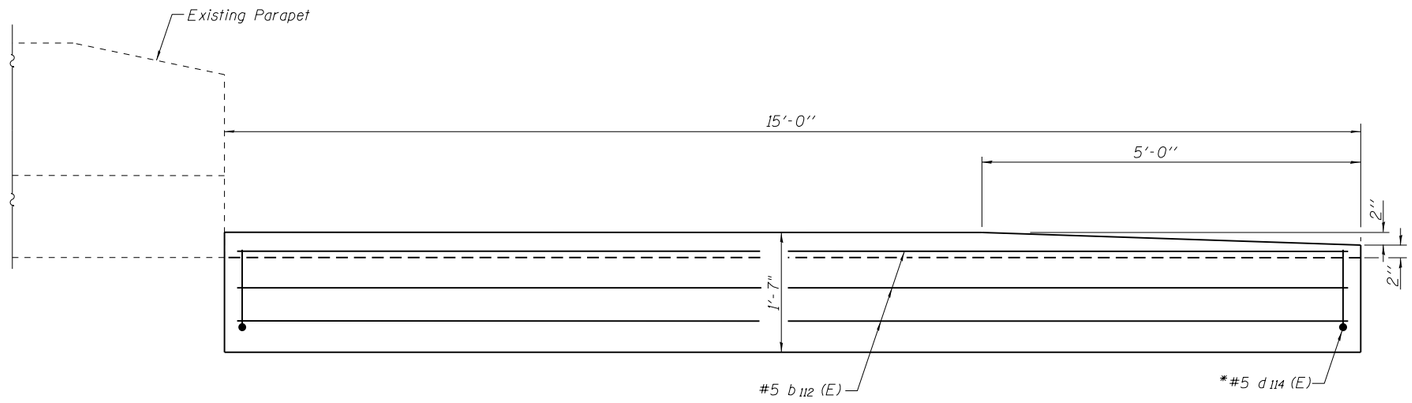
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB MODIFICATIONS DETAILS – 1
STRUCTURE NO. 039–0061
SHEET NO. 15 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	129
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



PLAN



VIEW F-F

*Drill and grout into Exising Concrete Min 8

Notes:
Dowels shall be installed per Article 584 of Standard Specifications. The embedment depth shall be per manufacturers recommendation for developing full tensile strength of dowel in 3500 psi concrete.
For Section D-D, see sheet 15 of 29.
Partial removal of existing slopewall adjacent to guardrail may be required to facilitate construction of the proposed curb. Cost shall be included in Concrete Superstructure (Approach Slab).
Work associated with proposed curb shall be accomodated prior to Stage 1 Construction. See Roadway Plans and Special Provisions for details.

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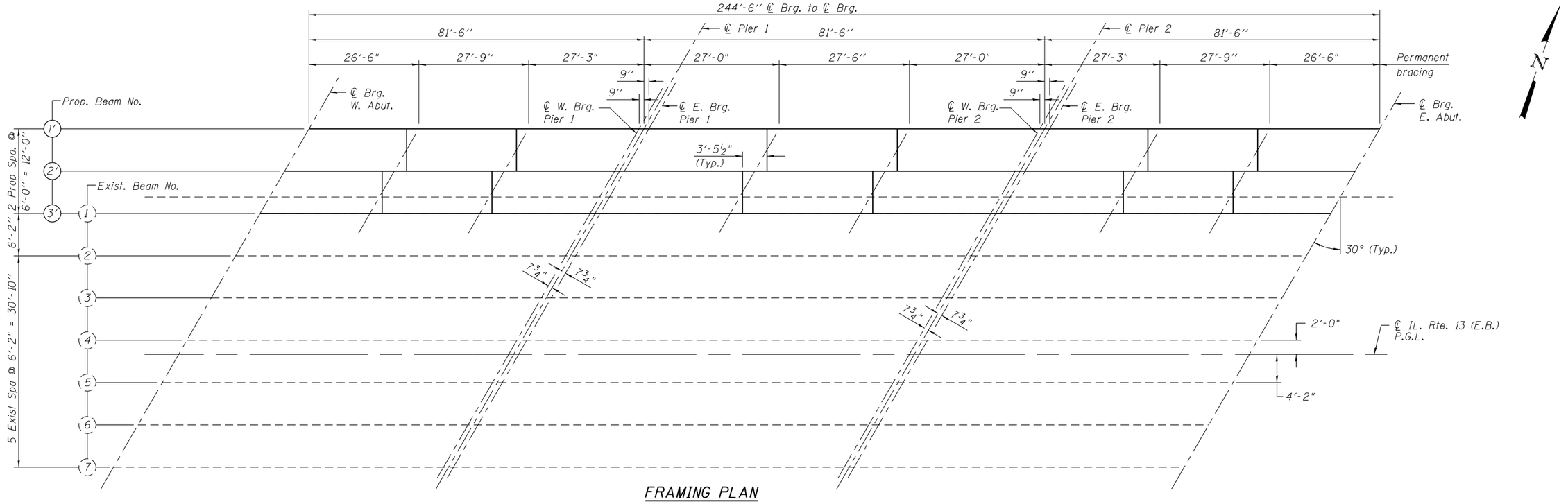
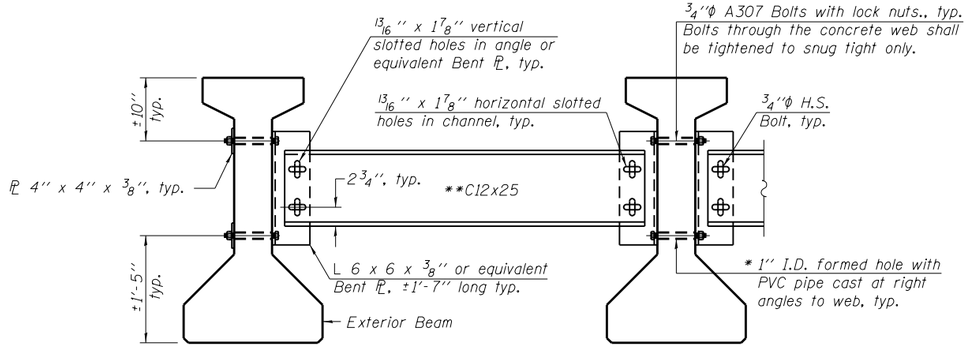
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB MODIFICATIONS DETAILS – 2
STRUCTURE NO. 039–0061
SHEET NO. 16 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	130
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN



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"ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

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 I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS FOR 42" PPC I-BEAMS

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	90,956		90,956
I'	(in^4)	266,676	266,676	266,676
S_b	(in^3)	5,152.7		5,152.7
S_b'	(in^3)	8,613.6	8,613.6	8,613.6
S_t	(in^3)	3,735.6		3,735.6
S_t'	(in^3)	14,384	14,384	14,384
$\wp$	(k/')	1.06	1.06	1.06
$M\wp$	('k)	840		860
$s\wp$	(k/')	0.24	0.24	0.24
$M_s\wp$	('k)	130	155	41
LLDF		0.553	0.553	0.553
M_L	('k)	518	402	429
M_I	('k)	126	98	105

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
$\wp$: Un-factored non-composite dead load (kips/ft.).
$M\wp$: Un-factored moment due to non-composite dead load (kip-ft.).
$s\wp$: Un-factored long-term composite (superimposed) dead load (kips/ft.).
$M_s\wp$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_sL: Un-factored live load moment on the composite section (kip-ft.).
M_I: Un-factored moment due to impact on the composite section (kip-ft.).

INTERIOR BEAM REACTION TABLE				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	LLDF	0.680	0.553	0.553
	$R\wp$	43.3	43.3	43.0
***	$R_s\wp$	8.0	11.0	11.0
***	RL	41.9	24.5	24.5
***	R_I	10.2	6.0	6.0
	R_{Total}	103.4	84.7	84.5

*** At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

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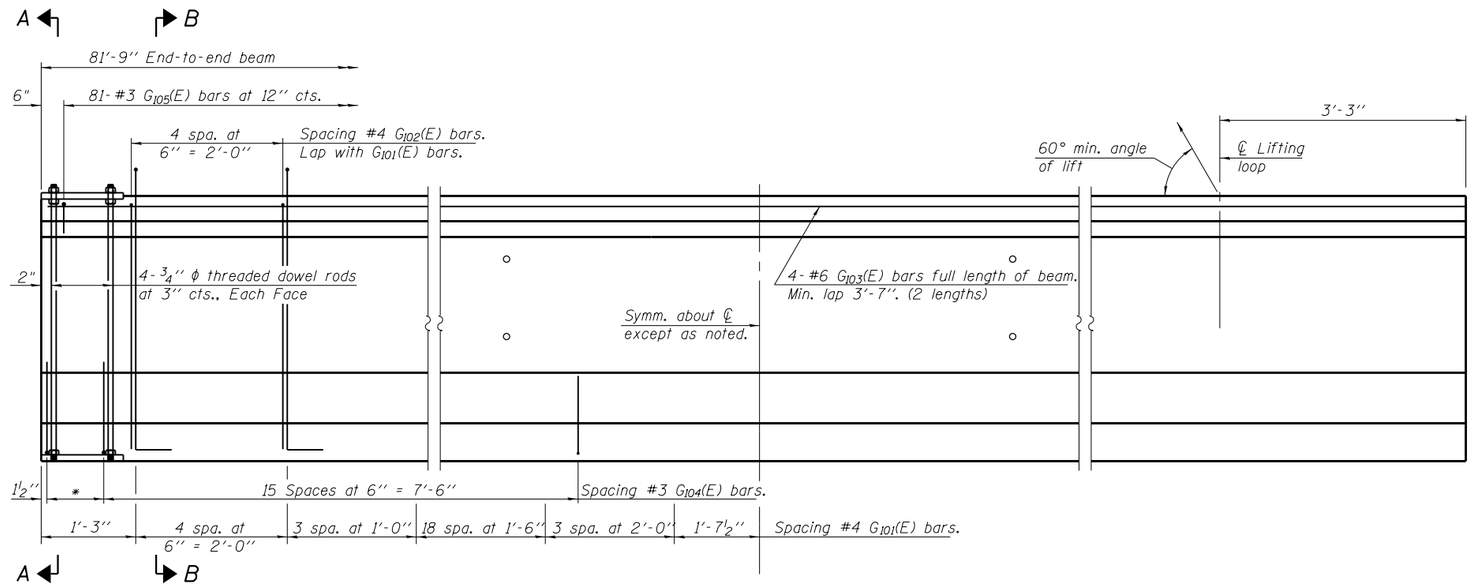
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

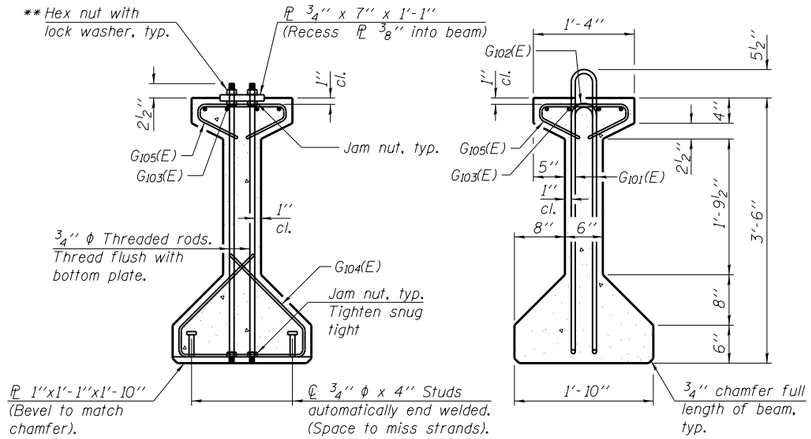
FRAMING PLAN AND DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 17 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	131
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



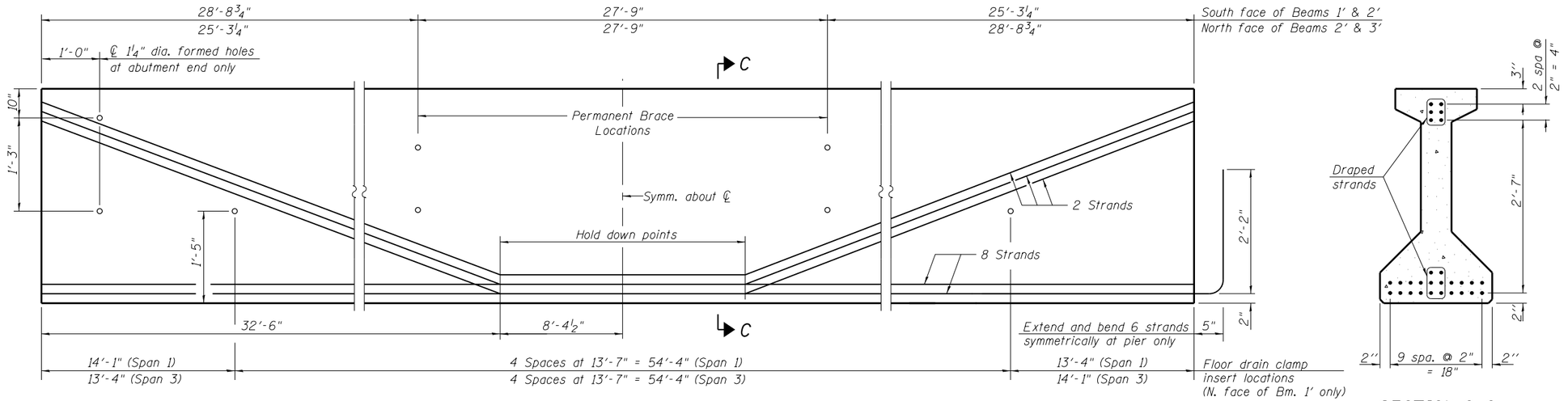
* 3 spaces at 3" = 9"

ELEVATION OF BEAM
(Showing reinforcement & dimensions)



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

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)
Looking South, except as noted)

SECTION C-C
(22-1/2" ϕ 270 ksi strands)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
$G_{101}(E)$	59	#4	8'-7"	
$G_{102}(E)$	10	#4	6'-8"	
$G_{103}(E)$	8	#6	42'-6"	
$G_{104}(E)$	19	#3	4'-11"	
$G_{105}(E)$	81	#3	2'-6"	

Notes:
See sheet 20 of 29 for additional details and Bill of Material.
See sheet 17 of 29 for permanent bracing details.

PI-4-42 10-7-16

CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0061_018-42 PPC I Beam Sp 1 and 3.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

42" PPC I-BEAM SPAN 1 & 3
STRUCTURE NO. 039-0061
SHEET NO. 18 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	132
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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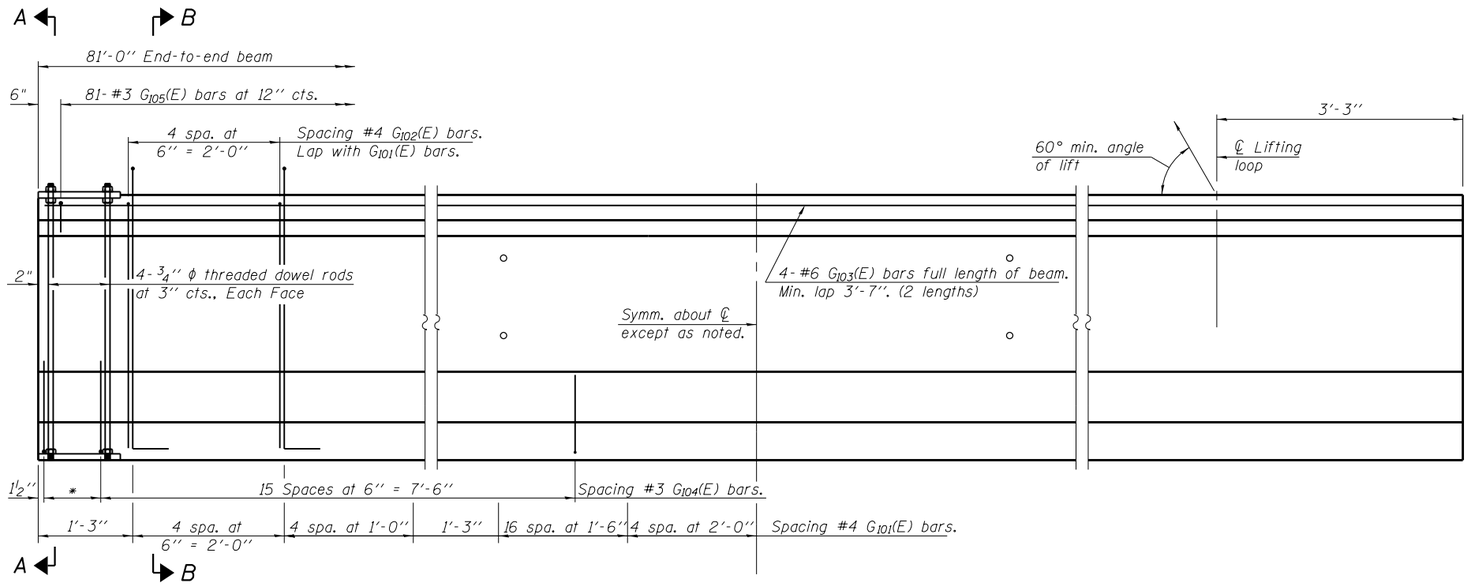
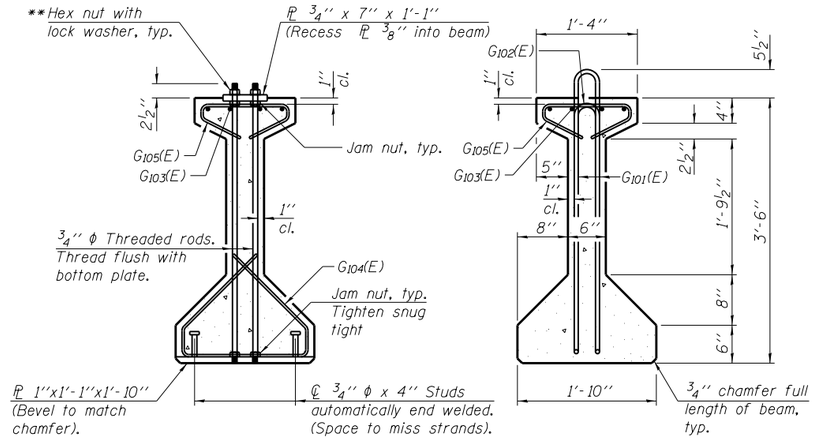


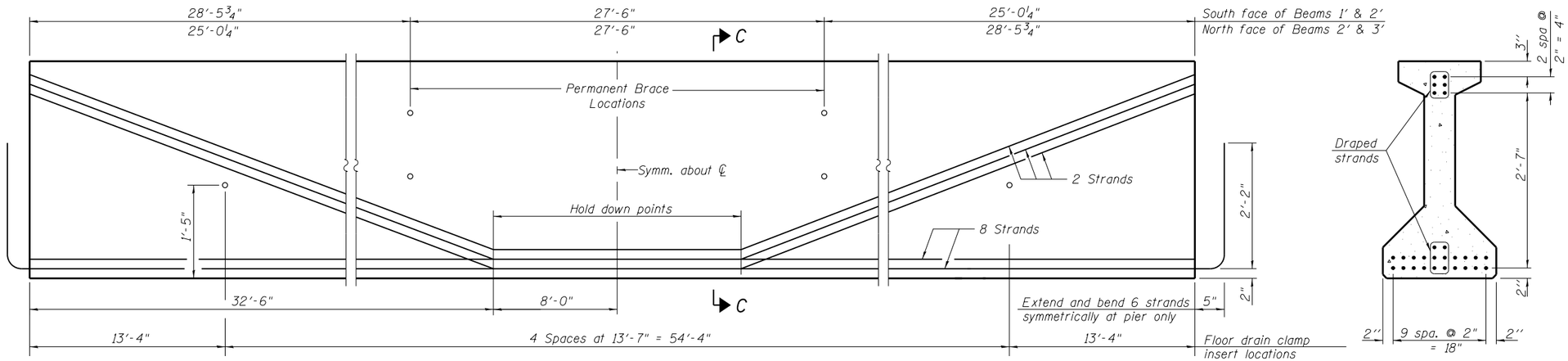
* 3 spaces at 3" = 9"

ELEVATION OF BEAM
(Showing reinforcement & dimensions)



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

SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)
Looking South, except as noted)

SECTION C-C
(22-1/2" ϕ 270 ksi strands)

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
$G_{101}(E)$	59	#4	8'-7"	
$G_{102}(E)$	10	#4	6'-8"	
$G_{103}(E)$	8	#6	42'-6"	
$G_{104}(E)$	19	#3	4'-11"	
$G_{105}(E)$	81	#3	2'-6"	

Notes:
See sheet 20 of 29 for additional details and Bill of Material.
See sheet 17 of 29 for permanent bracing details.

PI-4-42 10-7-16

CMT

USER NAME =	DESIGNED	DRC	REVISED
...\98850-0061_019-42 PPC I Beam Sp 2.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

42" PPC I-BEAM SPAN 2
STRUCTURE NO. 039-0061
SHEET NO. 19 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	133
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

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NOTES

Inserts for $\frac{3}{4}''$ ϕ 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 shall be $\frac{1}{2}''$ and the nominal cross-sectional area shall be 0.153 sq. in.

The beams shall have a final concrete compressive strength, f'c, of 6000 psi and a release concrete compressive strength, f'ci, of 5000 psi.

A minimum $2\frac{1}{2}''$ ϕ lifting pin shall be used to engage the lifting loops during handling.

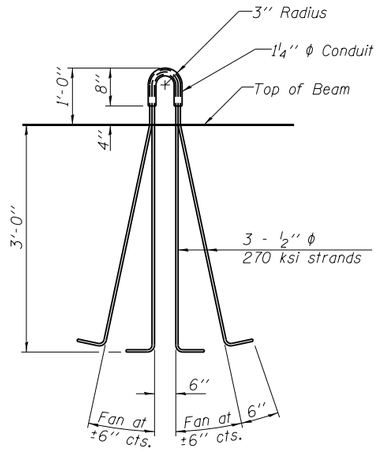
The top and bottom plates shall be AASHTO M270 Grade 50.

The top and bottom plates shall be galvanized according to AASHTO M111. The threaded rods, nuts and washers shall be galvanized according to AASHTO M232.

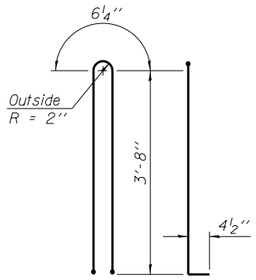
Threaded rods shall be ASTM F 1554 Grade 55.

Beams shall not be released from the fabricator until they have attained 45 days of age or older.

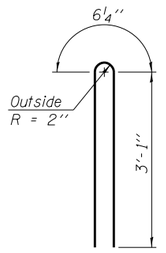
Bend the extended strands inward on the fascia beams to maintain $1\frac{1}{2}$" clearance inside the pier diaphragm.



LIFTING LOOP DETAIL



BAR G101(E)



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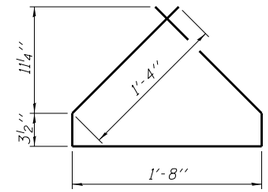

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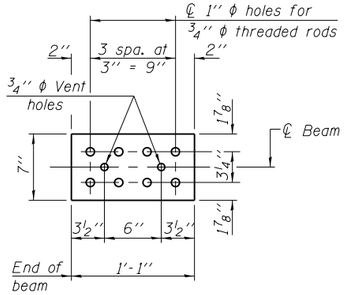
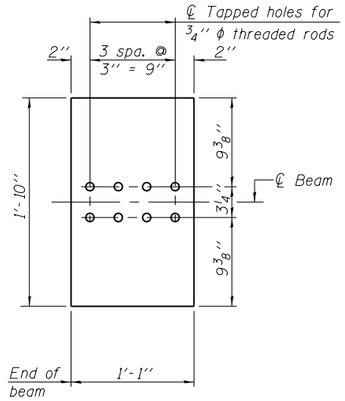
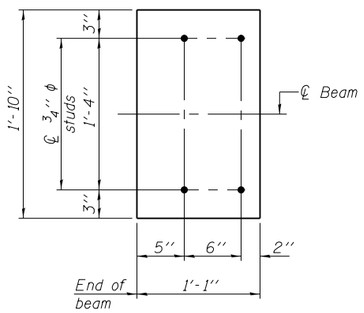


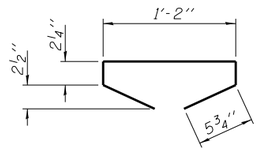
TOP PLATE



BOTTOM PLATE
(Showing threaded rods)



BOTTOM PLATE
(Showing studs)



BAR G105(E)

See bearing details for pintle hole locations when required.

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 42''	Ft.	734

PI-4-42D

11-22-16

CMT

USER NAME =	DESIGNED	CJW	REVISED
...\98850-0061_020-42 PPC I Beam Dtls.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

42" PPC I-BEAM DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 20 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	134
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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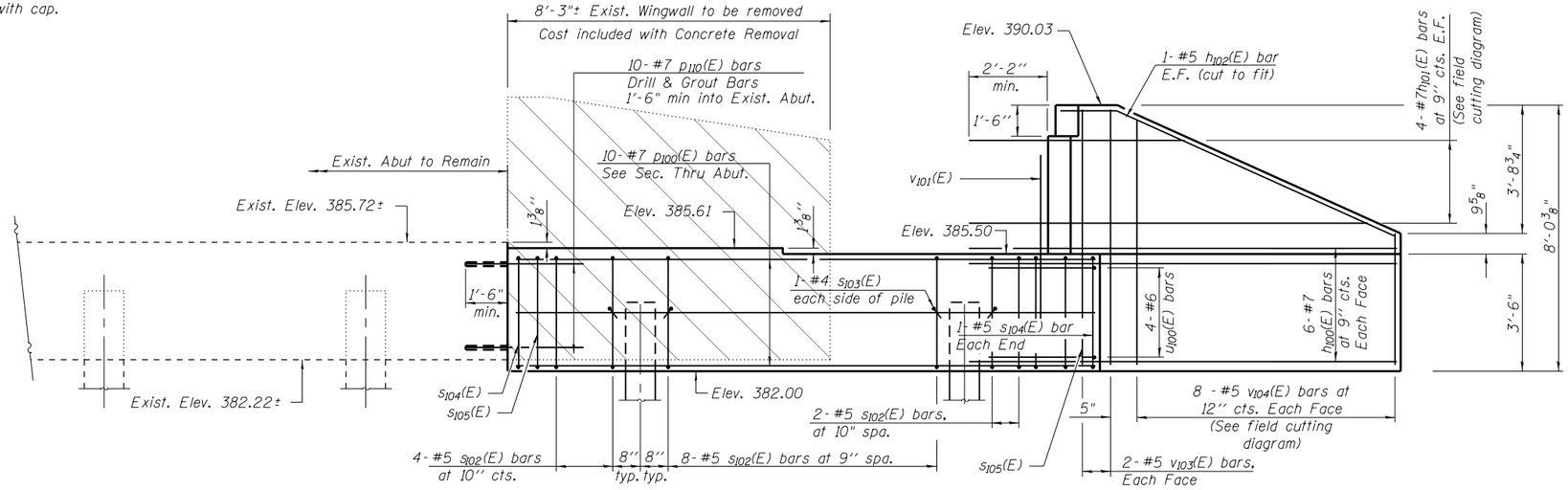
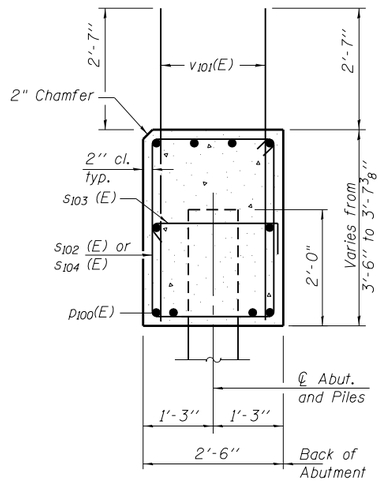
Notes:
Pour steps monolithically with cap.

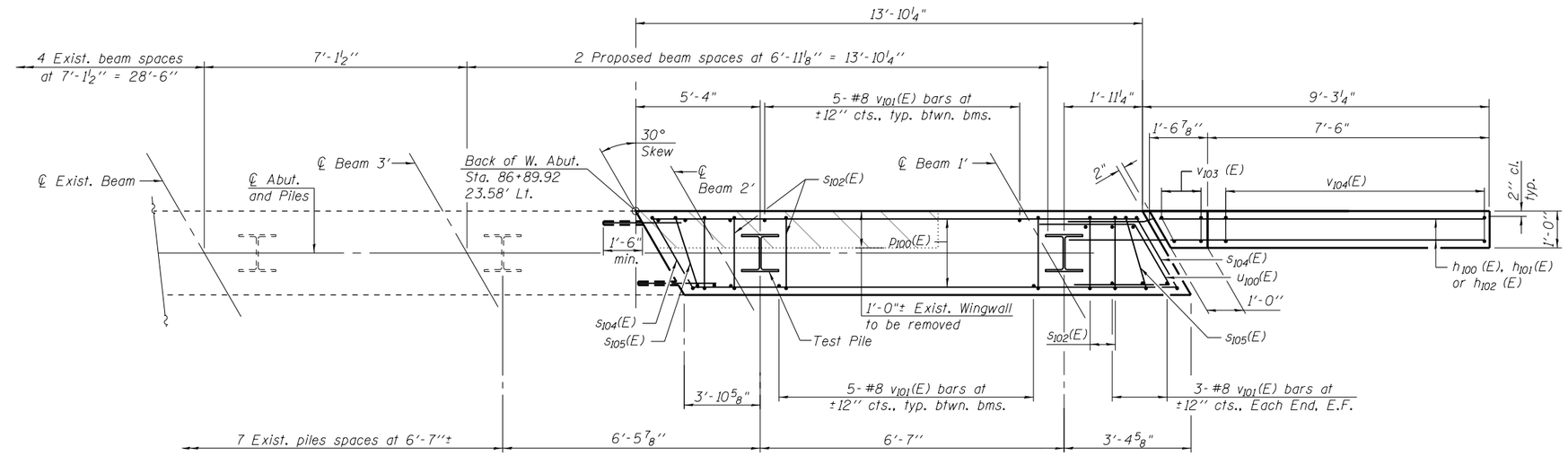


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

BILL OF MATERIAL

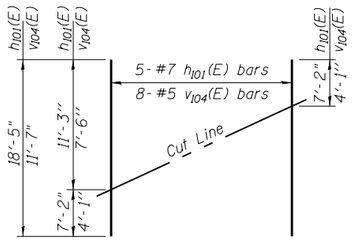
Bar	No.	Size	Length	Shape
h_{100}(E)	12	#7	11'-3"	
h_{101}(E)	5	#7	18'-5"	
h_{102}(E)	2	#5	9'-6"	
p_{100}(E)	10	#7	13'-6"	
p_{110}(E)	10	#7	4'-8"	
s_{102}(E)	15	#5	11'-7"	
s_{103}(E)	4	#5	3'-2"	
s_{104}(E)	2	#5	12'-3"	
s_{105}(E)	2	#5	11'-11"	
u_{100}(E)	4	#6	10'-2"	
v_{101}(E)	22	#8	5'-11"	
v_{103}(E)	4	#5	8'-6"	
v_{104}(E)	8	#5	11'-7"	

Structure Excavation	Cu. Yd.	56
Concrete Removal	Cu. Yd.	2
Concrete Structures	Cu. Yd.	6.7
Reinforcement Bars, Epoxy Coated	Pound	1640
Furnishing Steel Piles HP 12x74	Foot	68
Driving Piles	Foot	68
Test Pile Steel HP 12x74	Each	1
Drill and Grout Bars	Each	10
Protective Coat	Sq. Yd.	7

For details of piles see sheet 26 of 29.

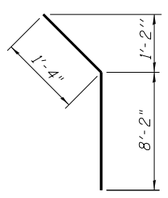
PILE DATA

Type: HP 12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 196 kips
Est. Length: 68'-0"
No. Production Piles: 1
No. Test Piles: 1

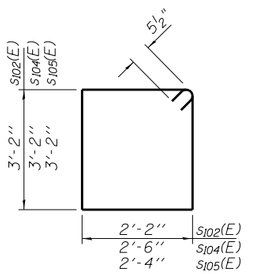


FIELD CUTTING DIAGRAM

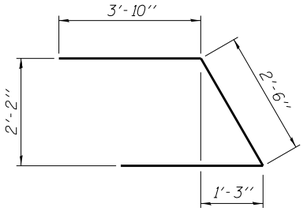
Order h_{101}(E) and v_{104}(E) full length. Cut as shown and use remainder of bars in opposite face.



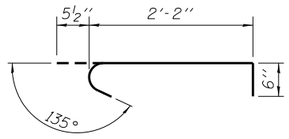
BAR h_{102}(E)



BAR s_{102}(E), s_{104}(E) & s_{105}(E)



BAR u_{100}(E)



BAR s_{103}(E)

CMT	USER NAME =	DESIGNED	DRC	REVISED
	...\98850-0061_021-West Abutment.dgn	CHECKED	LM	REVISED
	PLOT SCALE =	DRAWN	GLD	REVISED
	PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 039-0061
SHEET NO. 21 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	135
		CONTRACT NO. 78295		
		ILLINOIS FED. AID PROJECT		

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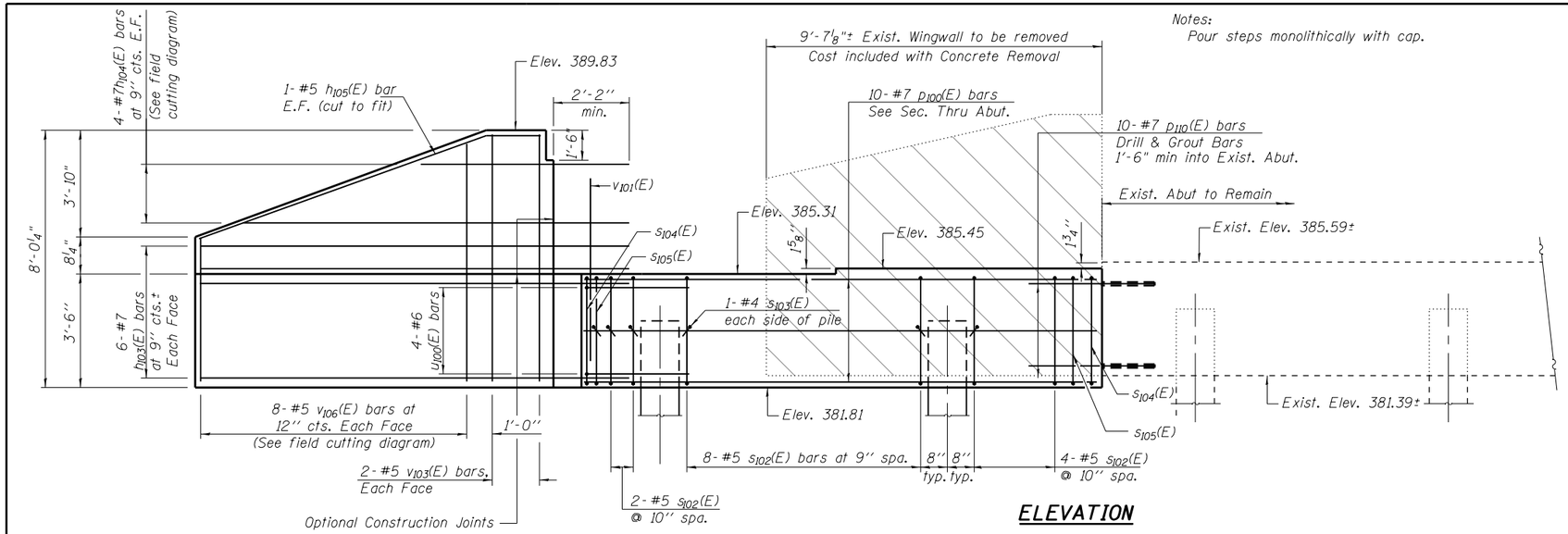
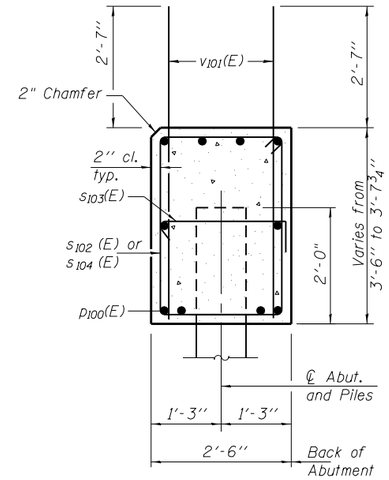
Notes:
Pour steps monolithically with cap.

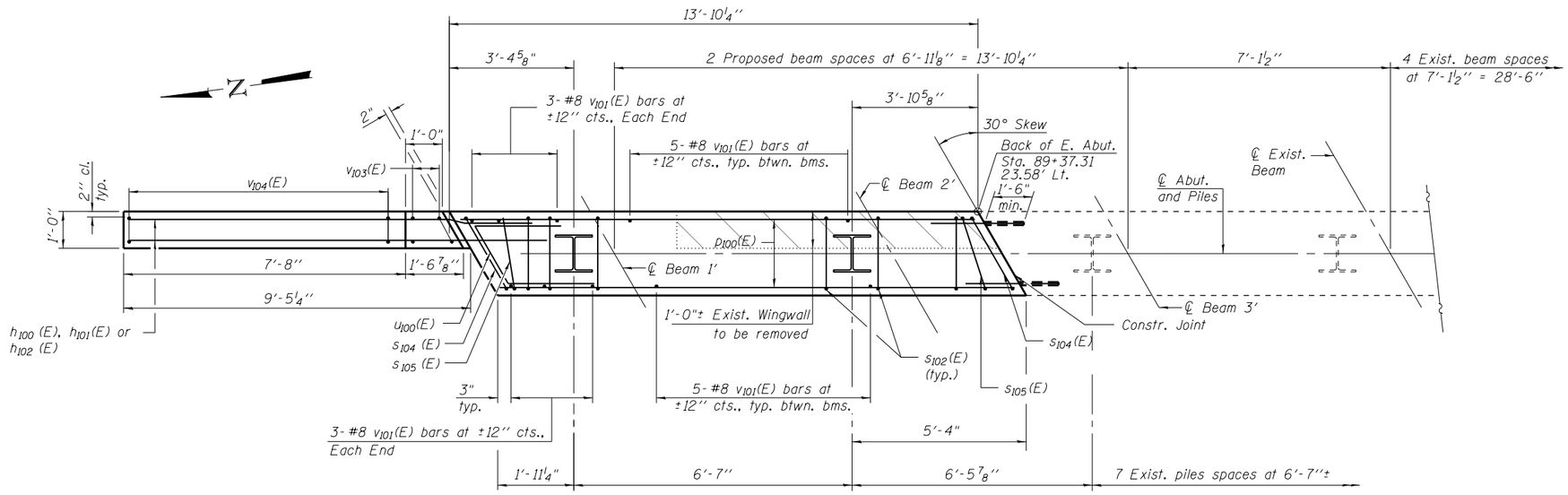


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

BILL OF MATERIAL

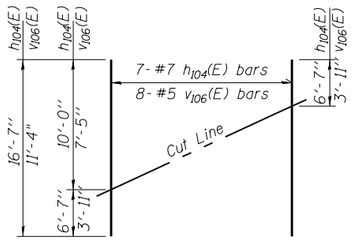
Bar	No.	Size	Length	Shape
h_{103}(E)	12	#7	11'-9''	
h_{104}(E)	7	#7	16'-7''	
h_{105}(E)	4	#5	9'-9''	
p_{100}(E)	10	#7	13'-6"	
p_{110}(E)	10	#7	4'-8''	
s_{102}(E)	15	#5	11'-7''	
s_{103}(E)	4	#5	3'-2''	
s_{104}(E)	2	#5	12'-3''	
s_{105}(E)	2	#5	11'-11''	
u_{100}(E)	4	#6	10'-2''	
v_{101}(E)	22	#8	5'-11''	
v_{105}(E)	4	#5	7'-8''	
v_{106}(E)	8	#5	11'-4"	

Structure Excavation	Cu. Yd.	55
Concrete Removal	Cu. Yd.	3
Concrete Structures	Cu. Yd.	6.7
Reinforcement Bars, Epoxy Coated	Pound	1710
Furnishing Steel Piles, HP 12x74	Foot	136
Driving Piles	Foot	136
Drill and Grout Bars	Each	10
Protective Coat	Sq. Yd.	8

For details of piles see sheet 26 of 29.

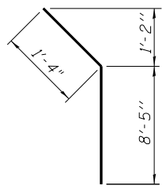
PILE DATA

Type: HP 12x74
Nominal Required Bearing: 589 kips
Allowable Resistance Available: 196 kips
Est. Length: 68'-0''
No. Production Piles: 2
No. Test Piles: 0

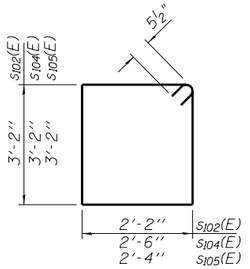


FIELD CUTTING DIAGRAM

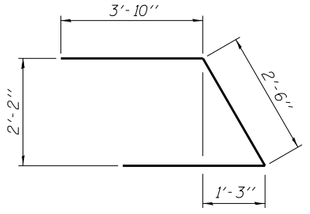
Order h_{101}(E) and v_{104}(E) full length. Cut as shown and use remainder of bars in opposite face.



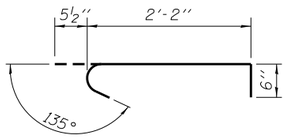
BAR h_{102}(E)



BAR s_{102}(E), s_{104}(E) & s_{105}(E)



BAR u_{100}(E)



BAR s_{103}(E)

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...\98850-0061_022-East Abutment.dgn	CHECKED	LM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 039-0061
SHEET NO. 22 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	136
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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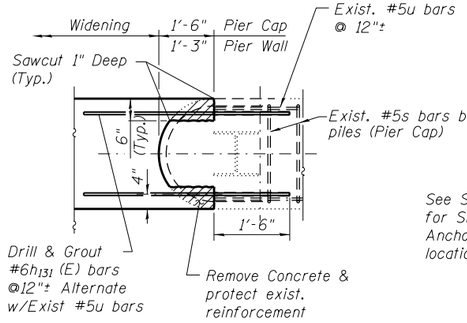
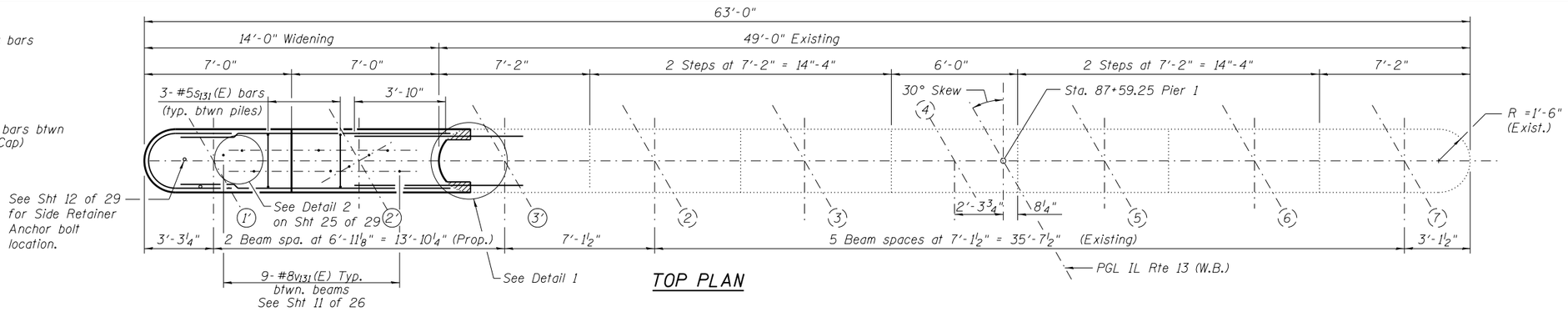
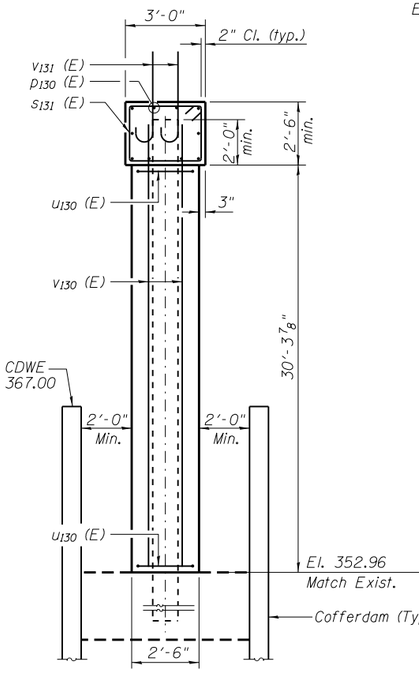


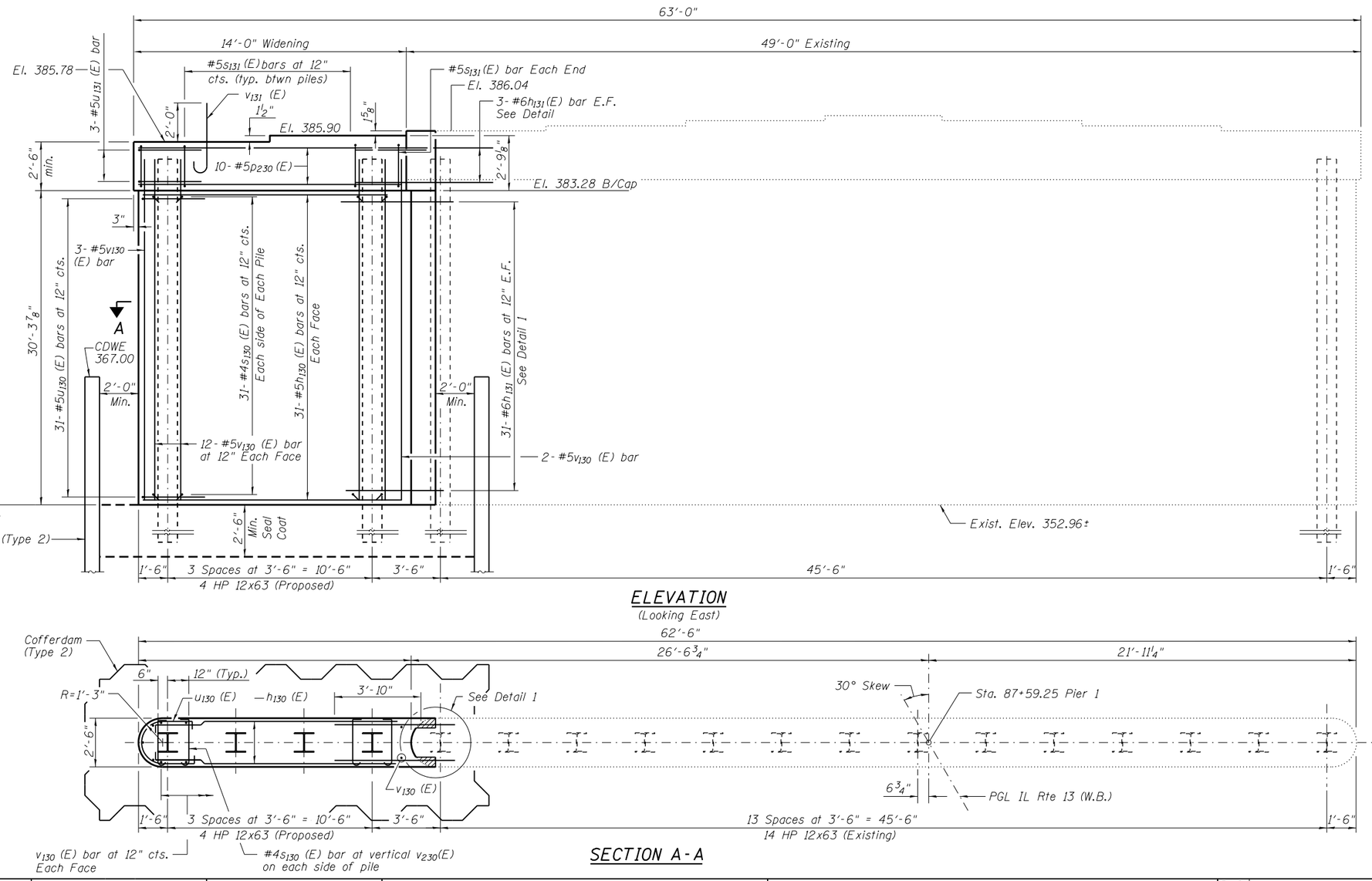
DETAIL 1



TOP PLAN



PIER - END VIEW



ELEVATION

(Looking East)

SECTION A-A

PILE DATA

Type: HP 12x63
Nominal Required Bearing: 497 kips
Allowable Resistance Available: 165 kips
Est. Length: 68 ft.
No. Production Piles: 4
No. Test Piles: 0

MIN LAP SPLICE

#5 bar 3'-2"
#6 bar 3'-10"

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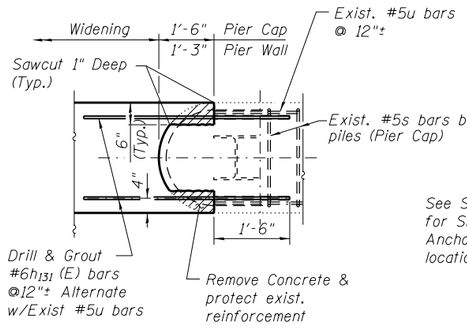
CMT	USER NAME = ...\98850-0061_023-Pier 1.dgn	DESIGNED LM	REVISED
		CHECKED DRC	REVISED
	PLOT SCALE =	DRAWN GLD	REVISED
	PLOT DATE =	CHECKED WLB	REVISED

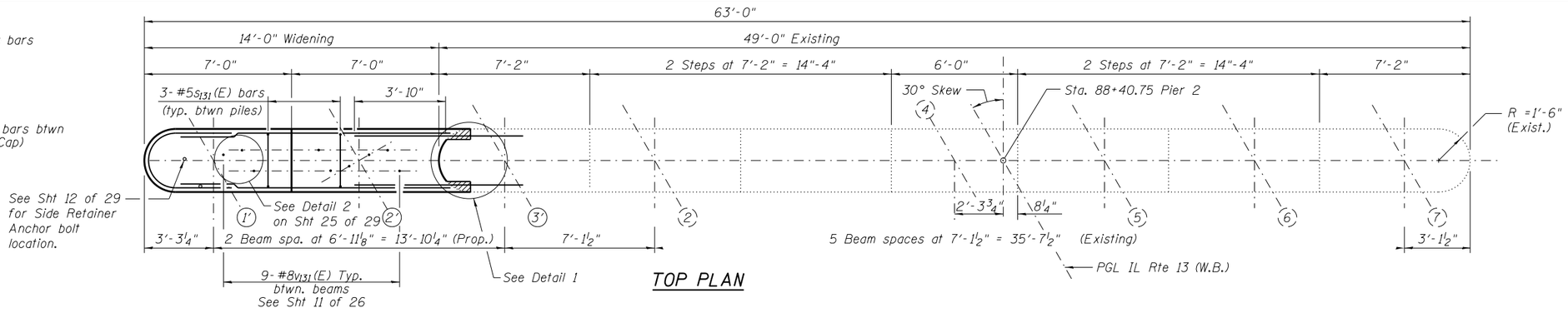
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – DETAILS
STRUCTURE NO. 039–0061
SHEET NO. 23 OF 29 SHEETS

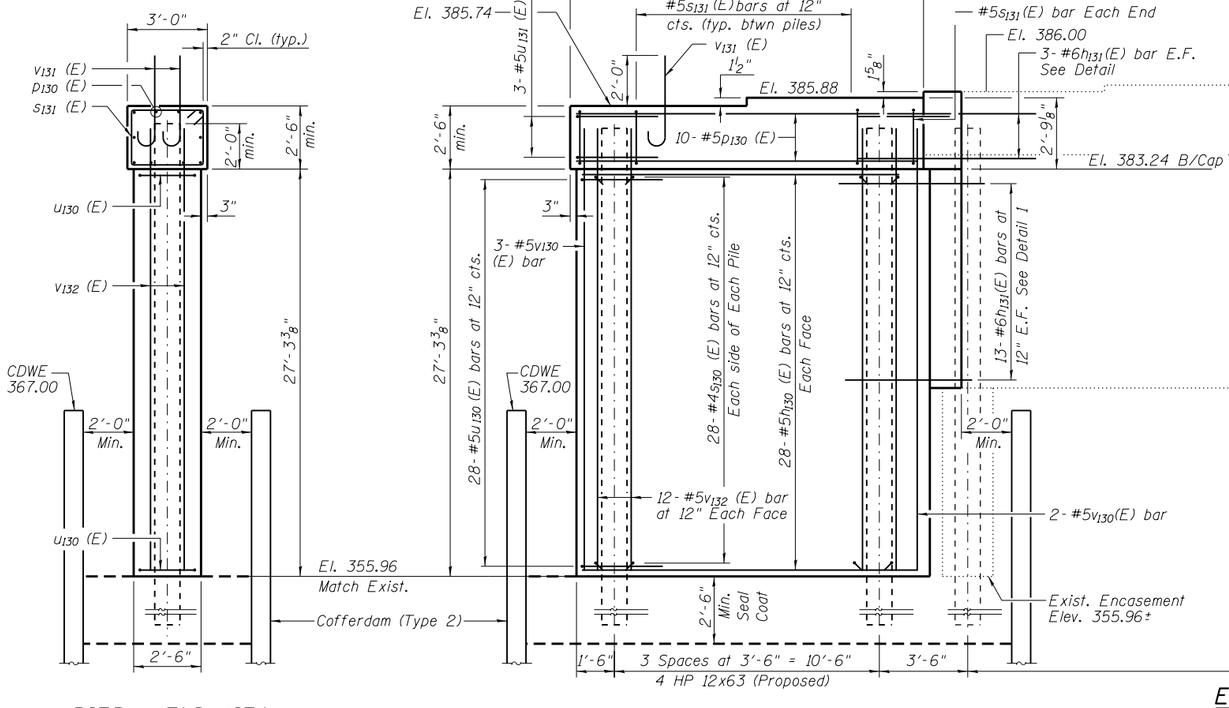
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	137
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



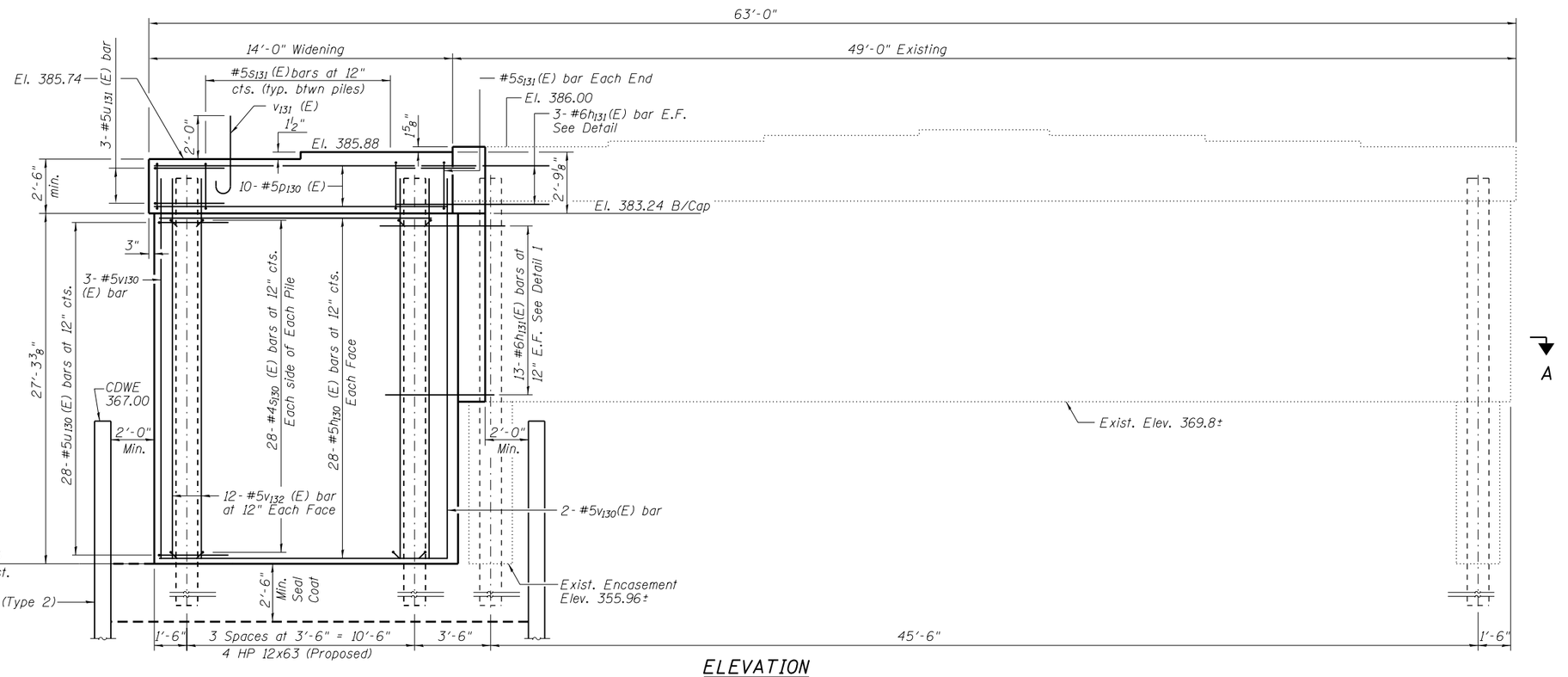
DETAIL 1



TOP PLAN



PIER - END VIEW



ELEVATION

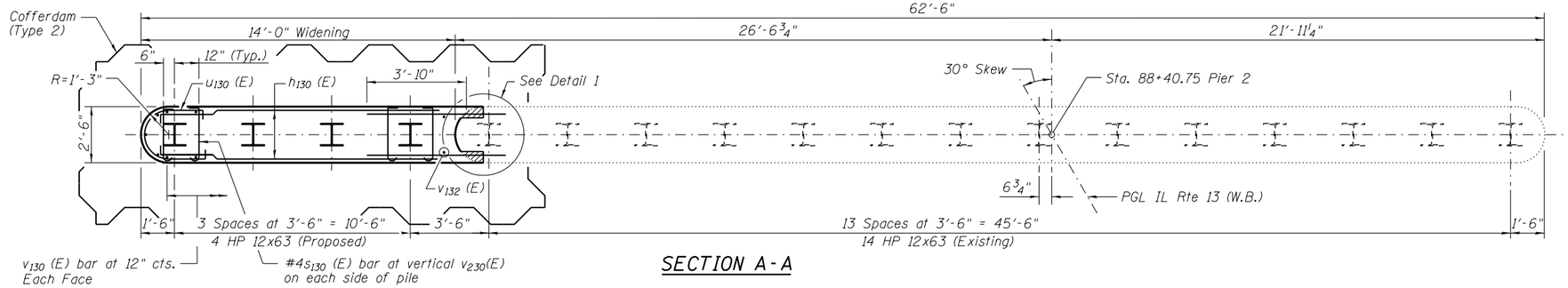
(Looking East)

PILE DATA

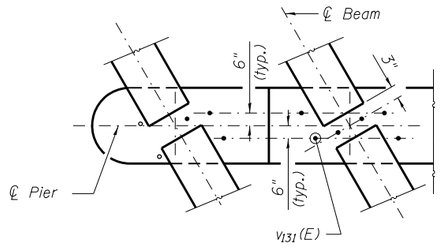
Type: HP 12x63
Nominal Required Bearing: 497 kips
Allowable Resistance Available: 157 kips
Est. Length: 68 ft.
No. Production Piles: 4
No. Test Piles: 0

MIN LAP SPLICE

#5 bar 3'-2"
#6 bar 3'-10"



SECTION A-A



DETAIL 2

BILL OF MATERIAL - PIER 1

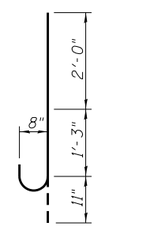
Bar	No.	Size	Length	Shape
h_{130} (E)	62	#5	13'-5"	
h_{131} (E)	68	#6	5'-4"	
p_{130} (E)	10	#5	12'-2"	
s_{130} (E)	248	#4	3'-3"	
s_{131} (E)	11	#5	11'-7"	
u_{130} (E)	31	#5	8'-3"	
u_{131} (E)	3	#5	7'-2"	
v_{130} (E)	29	#5	32'-0"	
v_{131} (E)	9	#8	4'-2"	
Cofferdam Excavation			Cu. Yd.	56
Cofferdam (Type 2) (Location - 1)			Each	1
Reinforcement Bars, Epoxy Coated			Pound	3,570
Concrete Structure			Cu. Yd.	47.1
Furnishing Steel Piles, HP 12x63			Foot	272
Driving Piles			Foot	272
Concrete Removal			Cu. Yd.	1
Seal Coat Concrete			Cu. Yd.	10.8
Drill and Grount Bars			Each	68

BILL OF MATERIAL - PIER 2

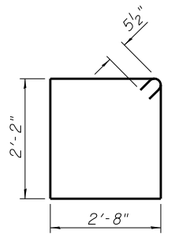
Bar	No.	Size	Length	Shape
h_{130} (E)	56	#5	13'-5"	
h_{131} (E)	32	#6	5'-4"	
p_{130} (E)	10	#5	12'-2"	
s_{130} (E)	224	#4	3'-3"	
s_{131} (E)	11	#5	11'-7"	
u_{130} (E)	28	#5	8'-3"	
u_{131} (E)	3	#5	7'-2"	
v_{131} (E)	9	#8	4'-2"	
v_{132} (E)	29	#5	29'-0"	
Cofferdam Excavation			Cu. Yd.	61
Cofferdam (Type 2) (Location - 2)			Each	1
Reinforcement Bars, Epoxy Coated			Pound	3,030
Concrete Structure			Cu. Yd.	42.8
Furnishing Steel Piles, HP 12x63			Foot	272
Driving Piles			Foot	272
Concrete Removal			Cu. Yd.	1
Seal Coat Concrete			Cu. Yd.	10.8
Drill and Grout Bars			Each	32

Pier Notes:

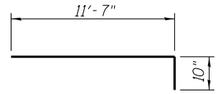
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. Existing reinforcement to be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
4. Cost of saw cutting concrete included with Concrete Removal.
5. Seal coat thickness is based on the Cofferdam Design Water Elevation (CDWE) Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.



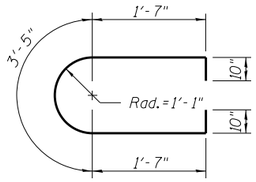
BAR v_{131} (E)



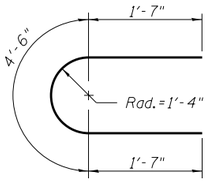
BAR s_{131} (E)



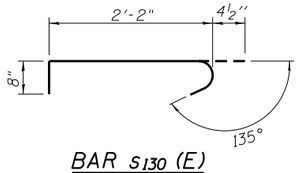
BAR h_{130} (E)



BAR u_{130} (E)



BAR u_{131} (E)



BAR s_{130} (E)

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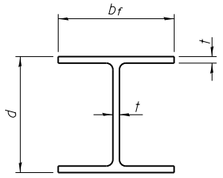
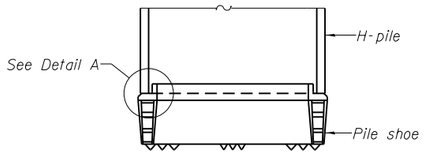
CMT	USER NAME =	DESIGNED LM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER DETAILS STRUCTURE NO. 039-0061	F.A.P. RTE.	SECTION
	...\98850-0061_025-Pier Details.dgn	CHECKED WLB	REVISED			331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2
	PLOT SCALE =	DRAWN GLD	REVISED				
	PLOT DATE =	CHECKED WLB	REVISED		SHEET NO. 25 OF 29 SHEETS		

COUNTY	TOTAL SHEETS	SHEET NO.
JACKSON	321	139
CONTRACT NO. 78295		
ILLINOIS FED. AID PROJECT		

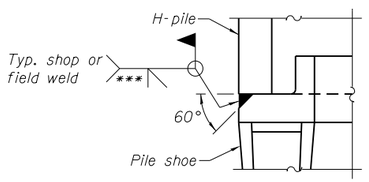


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4''	14 7/8''	13/16''	30''
x102	14''	14 3/4''	11/16''	30''
x89	13 7/8''	14 3/4''	5/8''	30''
x73	13 5/8''	14 5/8''	1/2''	30''
HP 12x84	12 1/4''	12 1/4''	11/16''	24''
x74	12 1/8''	12 1/4''	5/8''	24''
x63	12''	12 1/8''	1/2''	24''
x53	11 3/4''	12''	7/16''	24''
HP 10x57	10''	10 1/4''	9/16''	24''
x42	9 3/4''	10 1/8''	7/16''	24''
HP 8x36	8''	8 1/8''	7/16''	18''

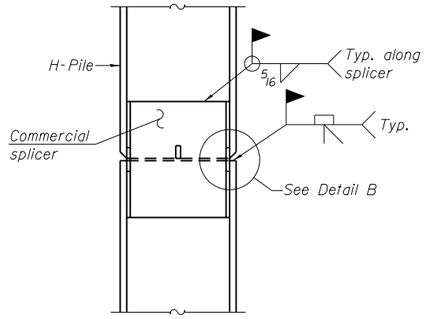


ELEVATION

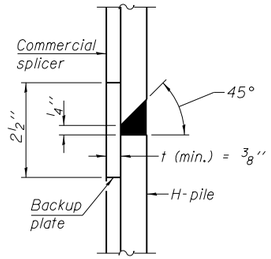


DETAIL A

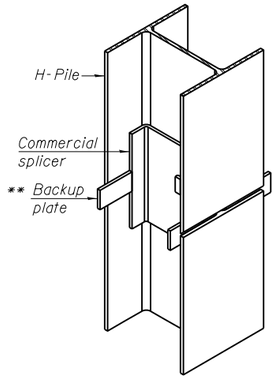
H-PILE SHOE ATTACHMENT



ELEVATION

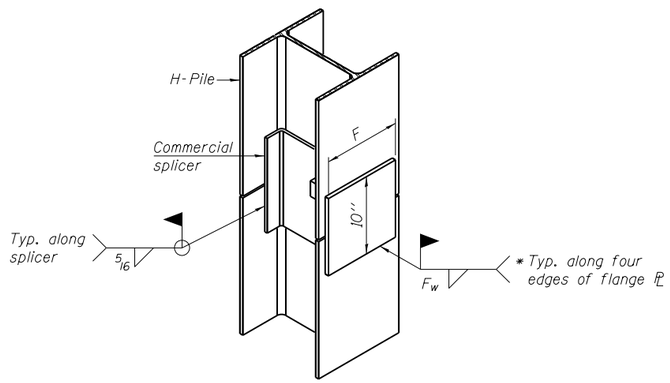


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



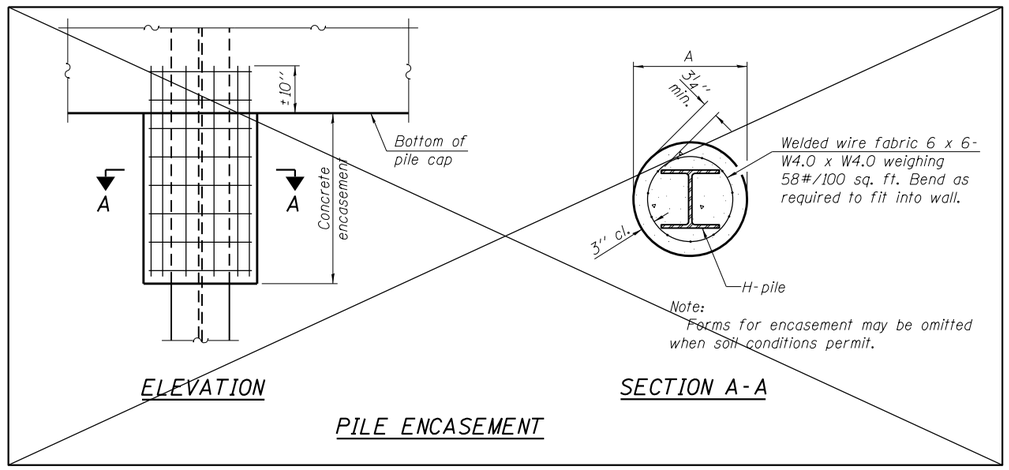
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4'' from end of web and/or each flange.

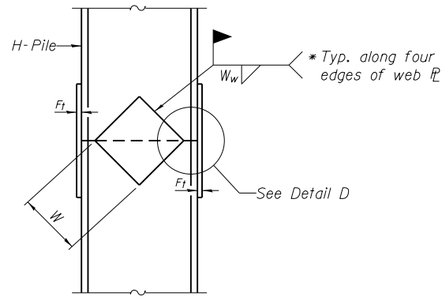
** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16'' min.).

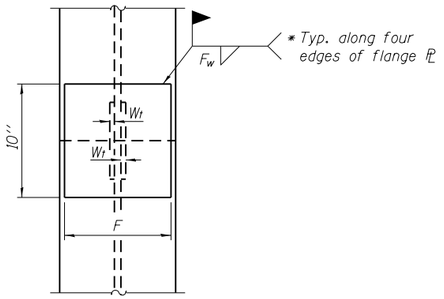


ELEVATION SECTION A-A

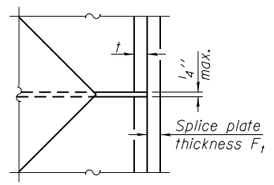
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_f	F_w	W	W_f	W_w
HP 14x117	12 1/2''	1''	7/8''	7 3/4''	5/8''	1/2''
x102	12 1/2''	7/8''	3/4''	7 3/4''	5/8''	1/2''
x89	12 1/2''	3/4''	11/16''	7 3/4''	5/8''	1/2''
x73	12 1/2''	5/8''	9/16''	7 3/4''	5/8''	1/2''
HP 12x84	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x74	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x63	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
x53	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
HP 10x57	8''	3/4''	9/16''	5 1/4''	1/2''	3/8''
x42	8''	5/8''	9/16''	5 1/4''	1/2''	3/8''
HP 8x36	7''	5/8''	7/16''	4 1/4''	1/2''	3/8''

WELDED PLATE FIELD SPLICE

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

F-HP 1-27-12

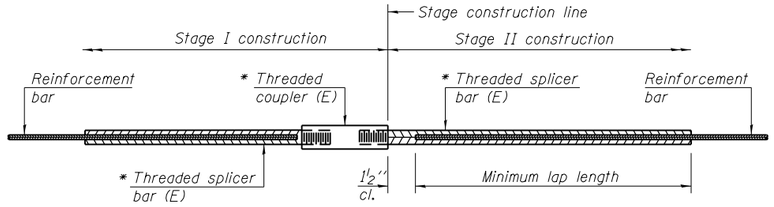
CMT

USER NAME =	DESIGNED	CJW	REVISED
...\98850-0061_026-Steel H Pile.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 26 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	140
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

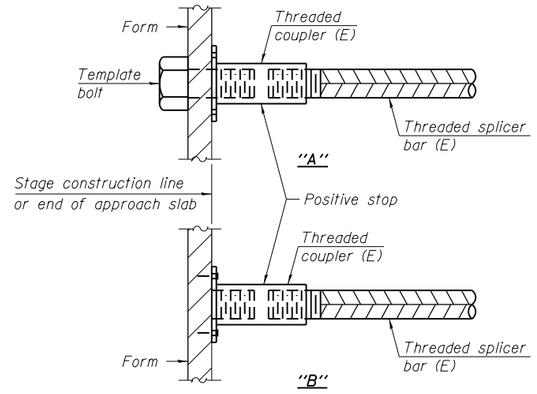


STANDARD BAR SPLICER ASSEMBLY

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

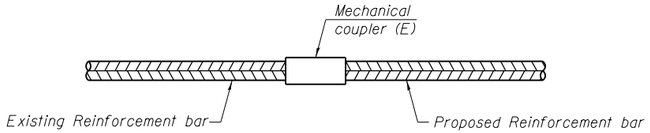
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length



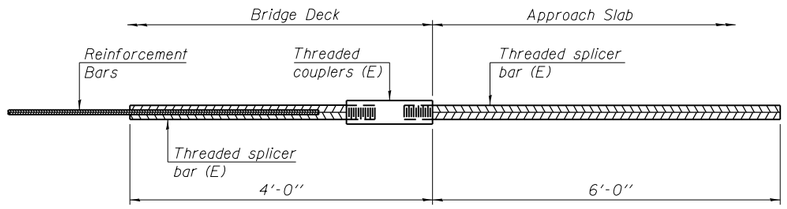
INSTALLATION AND SETTING METHODS

"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.



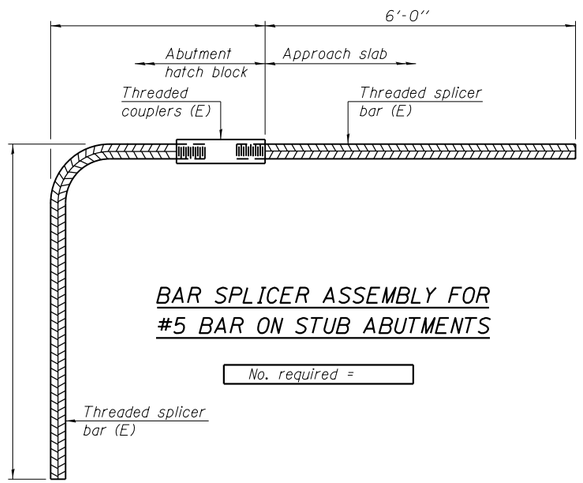
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required = 42



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

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

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

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

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CMT

USER NAME =	DESIGNED	CJW	REVISED
...\98850-0061_027-Bar Splicer Details.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 039-0061
SHEET NO. 27 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	141
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

Westbound FAP 331 (IL 13) Over Crab Orchard Creek

Route: FAP 331 (IL 13) Structure Number: 039-0061 Date: 7/16/2014

Section 5-3B-2 Bored By: R Moberly

County: Jackson Location: 0.6 mi West of Reed Station Road Checked By: R Graeff

Boring No 1-S
Station 186+50
Offset 16' Lt CL WBL
Ground Surface 390.1 Ft

Surf Wat Elev: 362.1
Ground Water Elevation
when Drilling 363.1
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	Material
				Asphalt over crushed aggregate
387.6	2			
	2	1.2B	28	Stiff, moist, grey, Clay A7-6
	1			
385.6				
5.0	1			Very stiff, moist, grey and brown,
	2	3.5S	19	Clay to Silty Clay A7-6
	3			
383.1				
	1			Stiff, moist, grey, Silty Clay A-6
	3	1.7S	20	
	3			
380.6				
10.0	1			Very stiff, moist, grey, Silty Clay
	3	2.7S	19	A-6
	4			
	1			
	2	2.1B	20	
	3			
15.0	1			
	2	2.5B	22	
	3			
	1			
	2	2.5B	23	
	3			
370.6				
20.0	WH			Soft, very moist, grey, Silty Clay
	WH	0.3B	29	Loam A-6
	1			
368.1				
	WH			Very soft, very moist, grey, Silt
	WH	0.2B	30	Loam to Silty Clay Loam A-4
	WH			
25.0	WH			

DEPTH	BLOWS	Qu tsf	W%	Material
	WH	0.1B	29	Very soft, very moist, grey, Silt
	WH			Loam to Silty Clay Loam A-4
363.1				
	WH			Soft, very moist, grey, Silty Clay to
	WH	0.4B	28	Silty Clay Loam A-6
	WH			
360.6				
30.0	WH			Soft to medium, very moist, brown
	WH	0.5B	27	mottled grey, Silty Clay to Silty
	WH			Clay Loam A-6
	WH			
	WH	0.5B	28	
	WH			
355.6				
35.0	WH			Medium, very moist, grey, Clay
	WH	0.7B	30	A7-6
	2			
353.1				
	1			Stiff, moist, grey, Clay A7-6
	2	1.8B	29	
	4			
350.6				
40.0	1			Very stiff, moist, grey mottled
	3	2.1B	27	brown, Clay A7-6
	4			
345.6				
45.0	1			Stiff, moist, grey, Clay A7-6
	3	1.6B	26	
	4			
340.1	50/0	WH		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: 5-3B-2
County: Jackson
Date: 7/16/2014

Boring No: 1-S
Station: 186+50
Offset: 16' Lt CL WBL
Ground Surface: 390.1 Ft

DEPTH	BLOWS	Qu tsf	W%	Material
	1		23	Layers of loose, wet grey, Sand
	1			and stiff, moist, grey Clay A7-6
				and soft, very moist, grey, Sand
				Loam to Sandy Clay Loam A-4
				5' sand blow-in
				wash-out procedures used
55.0	WH			
	1			
	1			
				Borehole advanced with hollow
				stem auger (8" O.D, 3.25" I.D.)
wash-out procedures used 330.6				
60.0	5			Medium dense, very moist, grey,
	10		21	Sand with some pea gravel
	16			78% Sand
				8% Silt
				8% Clay
				6% Gravel
wash-out procedures used 325.1				
65.0				
	2			Soft to medium, very moist, grey,
	5	0.5	18	Sandy Clay Loam with sand and
	3			clay layers
323.1				
				Hard, dry, grey, Clay Shale
320.6	100/6"			
70.0				
				Bottom of hole = 69.5 feet
				Free water observed at 27.0 feet
				Elevation referenced to BM 22 at
				SW corner SN 039-0061; Elev.=
				390.3 feet
75.0				

DEPTH	BLOWS	Qu tsf	W%
80.0			
85.0			
90.0			
95.0			
100.0			

To convert "N" values to "N60" multiply by 1.25

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

USER NAME =	DESIGNED	CJW	REVISED
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PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – 1
STRUCTURE NO. 039-0061
SHEET NO. 28 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	142
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Westbound FAP 331 (IL 13) Over Crab Orchard Creek

Route: FAP 331 (IL 13) Structure Number: 039-0061 Date: 7/15/2014

Section 5-3B-2 Bored By: R Moberly

County: Jackson Location: 0.6 mi West of Reed Station Road Checked By: R Graeff

Boring No 2-S
Station 189+69
Offset 15' Lt CL WBL
Ground Surface 390.0 Ft

Surf Wat Elev: 362.1
Ground Water Elevation
when Drilling 363.1
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	
				Asphalt over crushed aggregate
387.0	3			
	3			
	2	2.3B	17	Very stiff, moist, grey and brown, Clay A7-6
385.5				
5.0	1			Stiff, moist, brown and grey, Clay A7-6
	2	1.7B	21	
383.0	3			
	1			Very stiff, moist, brown, Clay to Silty Clay A7-6
	2	2.9B	17	
	4			
10.0	1			
	1	2.1B	19	
	2			
	1			
	3	2.7B	19	
	4			
15.0	1			
	3	2.3B	21	
	3			
373.0				
	3			Very stiff, moist, grey, Silt Loam to Silty Clay Loam A-4
	4	3.3B	20	
	6			
370.5				
20.0	WH			Medium, very moist, grey, Silt Loam to Silty Clay Loam A-4
	1	0.6B	27	
	1			
368.0				
	WH			Soft, very moist, grey, Silt Loam to Silty Clay Loam A-4
	WH	0.3B	29	
	1			
25.0	WH			

DEPTH	BLOWS	Qu tsf	W%	
	WH	0.3B	30	Soft, very moist, grey, Silt Loam to Silty Clay Loam A-4
	WH			
363.0				
	WH			Very soft, very moist, brown mottled grey, Silty Clay Loam A-6
	WH	0.2B	32	
	WH			
360.5				
30.0	WH			Soft to medium, very moist, grey mottled brown, Silty Clay Loam A-6 with Sand seams
	WH	0.5B	32	
	1			
	WH			
	WH	0.3B	31	
	WH			
355.5				
35.0	WH			Medium, very moist, grey, Silty Clay Loam A-6 with sand and clay layers
	WH	0.6B	36	
	WH			
353.0				
	WH			Medium, very moist, grey, Clay A7-6 with sand seams
	WH	0.7B	35	
	1			
350.5				
40.0	1			Very stiff, moist, grey mottled brown, Clay A7-6
	3	2.3B	36	
	3			
	1			
45.0	3	2.9B	25	
	4			
341.5				
				5' blow-in
50.0	WR			Very loose, wet, grey, Sand with Clay layers

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Route: FAP 331 (IL 13) Date: 7/15/2014

Section: 5-3B-2

County: Jackson

Boring No: 2-S
Station: 189+69
Offset: 15' Lt CL WBL
Ground Surface: 390.0 Ft

DEPTH	BLOWS	Qu tsf	W%	
	WR		26	Very loose, wet, grey, Sand with Clay layers
	WR			76% Sand
				11% Silt
				13% Clay
				Wash-out procedures used
335.5				
55.0	2			Medium, very moist, grey, Silty Clay A-6 with sand layers
	2	0.8B	21	
	3			
330.5				
60.0	1			Stiff, very moist, grey, Clay Loam to Sandy Clay Loam A-6 with sand layers
	3	1.1S	17	
	5			
65.0	1			
	2			(lost sample - broken retainer)
	3			
322.5				
				Hard, dry, grey, Clay Shale
70.0	100/6"			
316.0				
75.0	100/2"			Hard, dry, grey and black, Clay Shale with Coal

DEPTH	BLOWS	Qu tsf	W%	
				Hard, dry, grey and black, Clay Shale with Coal
310.0	80.0	100/3"		
				Bottom of hole = 79.8 feet
				Free water observed at 27.0 feet
				Elevation referenced to BM 22 at SW corner SN 039-0061; Elev.= 390.3 feet
	85.0			
				Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)
				To convert "N" values to "N60" multiply by 1.25
	90.0			
	95.0			
	100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

USER NAME =	DESIGNED	CJW	REVISED
...\98850-0061_029-Boring Logs 2.dgn	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – 2
STRUCTURE NO. 039-0061
SHEET NO. 29 OF 29 SHEETS

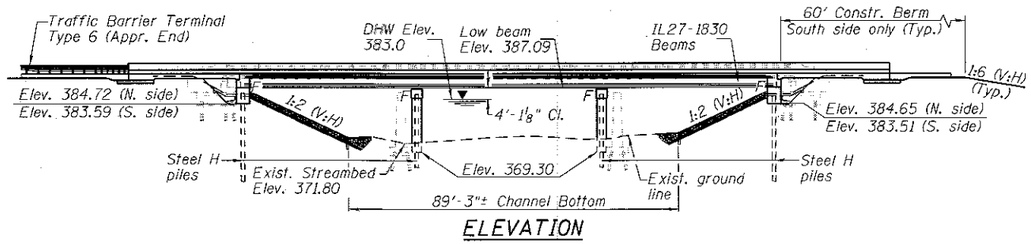
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	143
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

Bench Mark: Cut square on Southwest corner of Structure 039-0062 of Illinois Route 13 WBL @ Sta. 64+81±. Elev. 390.24

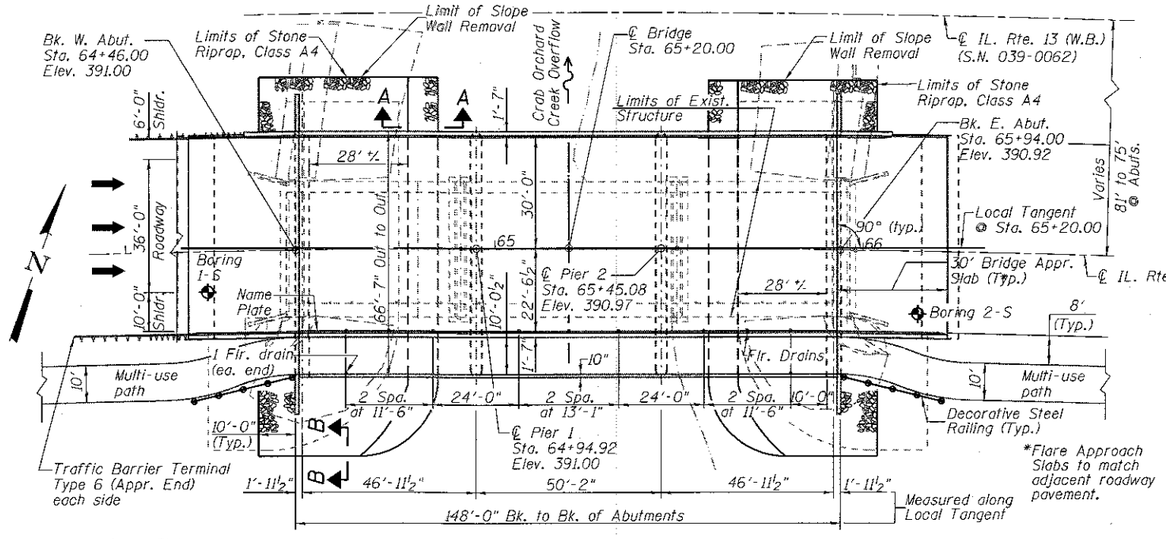
Existing Structure: S.N. 039-0019, built in 1965 is a three span 30WF108 beam bridge. Substructure consists of pile bent abutments supported on steel H-piles and solid wall pile bent piers supported on steel H-piles. Bk. to Bk. abutments measures 156'-0" and out-to-out width of 36'-7½".

Salvage: None

Traffic Maintenance: Traffic to be maintained utilizing median cross-overs, onto W.B. bridge (039-0062).



ELEVATION



PLAN

Note: See sheet 2 of 27 for Section A-A and B-B.

*Flare Approach Slabs to match adjacent roadway pavement.

STATION 65+20.00
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RTE. 331 SEC. (5-3) B-5
LOADING HL-93
STRUCTURE NO. 039-0078

NAME PLATE
See Std. 515001

INDEX OF SHEETS

DESIGN SPECIFICATIONS

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

LOADING HL-93

Allow 50 psf for future wearing surface

DESIGN STRESSES

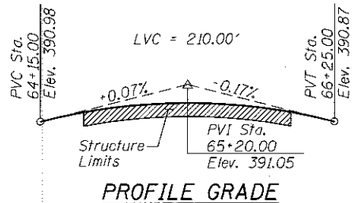
FIELD UNITS	PRECAST PRESTRESSED UNITS
f'c = 3.500 psi (concrete)	f'c = 8,500 psi (concrete)
f'c = 4.000 psi (Superstr. concrete)	f'ci = 7,000 psi
fy = 60,000 psi (Reinforcement)	fpu = 270,000 psi (0.6"ϕ low lax strands)
	fpbt = 202,300 psi (0.6"ϕ low lax strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec (SD1) = 0.360g
Design Spectral Acceleration at 0.2 sec (SDS) = 0.845g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.)				
	W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
Q100	383.59	365.80	365.80	383.51	5
Q200	383.59	364.80	364.80	383.51	
Design	383.59	365.80	365.80	383.51	
Check	383.59	365.80	365.80	383.51	



PROFILE GRADE
(Along ℄ IL. Rte. 13 E.B.)

CURVE DATA

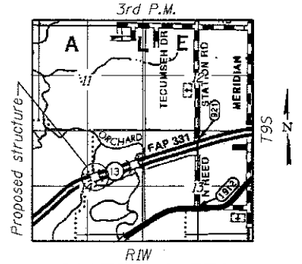
P.I. Sta. = 58+23.81
Δ = 22°27'48" Rt.
D = 1°10'04"
R = 4,906.95
T = 974.42'
L = 1,923.82'
E = 95.81
S.E. = 0.03'/'
P.C. Sta. = 48+49.39
P.T. Sta. = 67+73.20

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

02-26-2018

LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR.
081-005087
STATE OF ILLINOIS

Exp. 11-30-2018



LOCATION SKETCH

GENERAL PLAN
F.A.P. ROUTE 331 (IL 13 E.B.) OVER CRAB ORCHARD CREEK OVERFLOW
SECTION (5-3) B-5
JACKSON COUNTY
STATION 65+20.00
STRUCTURE NO. 039-0078

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB/JMM	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB/JMM	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 039-0078
SHEET NO. 1 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	144
		CONTRACT NO. 78295		
		ILLINOIS FED. AID PROJECT		

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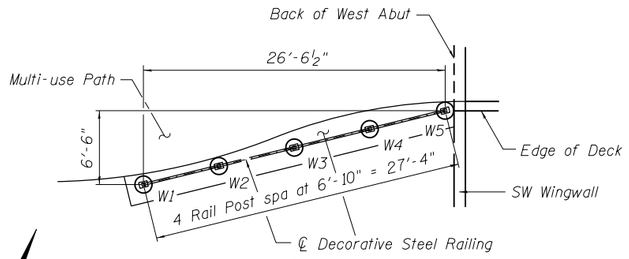
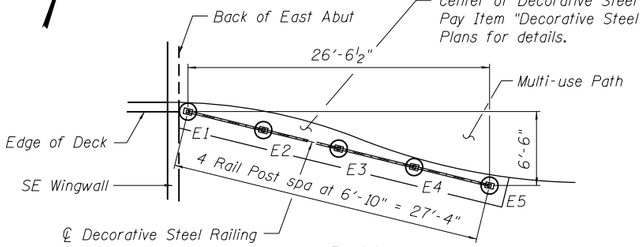
GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting the new Parapet Railing and Decorative Steel Railing except where otherwise noted. The entire sytem shall be shop applied. Damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces of the Railings shall be Reddish Brown, Munsell No. 2.5YR 3/4.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
5. Slipforming of the parapets is not allowed.



PLAN

Fill area with 6" HMA Shoulder. Extend 18" behind center of Decorative Steel Railing. Cost included in Pay Item "Decorative Steel Railing". See Roadway Plans for details.



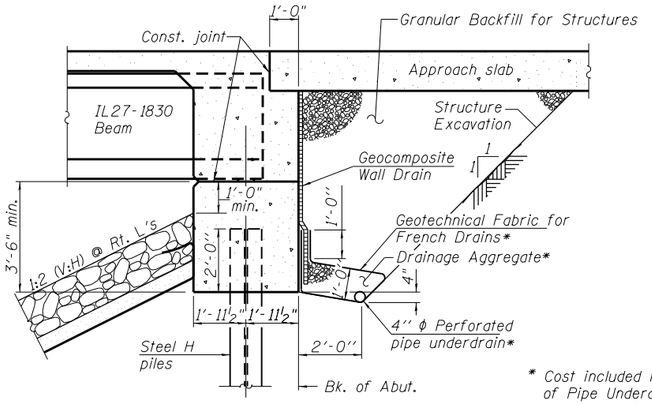
PLAN

DECORATIVE RAILING DETAIL

Note:
For railing post foundation details, see sheet 14 of 27

RAILING FOUNDATION ELEVATION INFORMATION

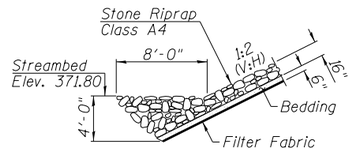
East Foundation Elevations		West Foundation Elevations	
No.	Elev.	No.	Elev.
E1	390.07	W1	390.05
E2	390.03	W2	390.08
E3	390.00	W3	390.10
E4	389.98	W4	390.12
E5	389.93	W5	390.15



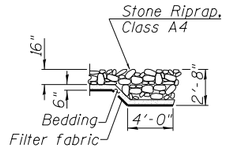
* Cost included in the cost of Pipe Underdrains for Structures (See special provision).

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.)



SECTION A-A



SECTION B-B

WATERWAY INFORMATION

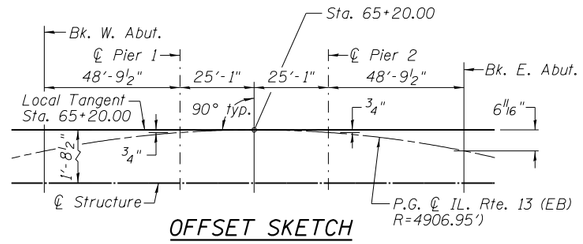
Drainage Area = 255 Sq. Mi.

Exist. Low Grade Elev. 388.69 @ Sta. 80+50.00
Prop. Low Grade Elev. 388.88 @ Sta. 80+50.00

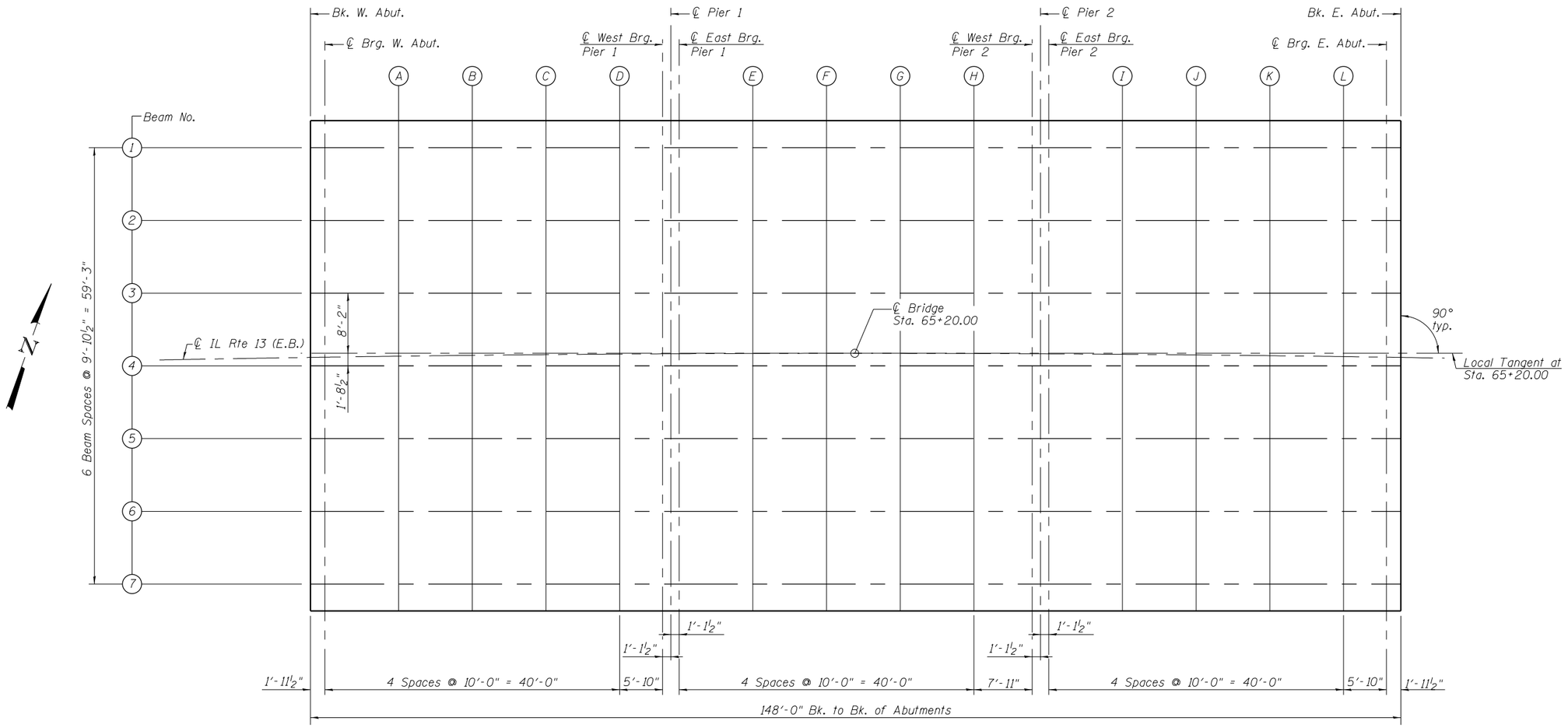
Flood	Freq. Yr.	Structure Number	Q (C.F.S.) Exist.	Q (C.F.S.) Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	039-0061/79	6,158	6,628	2,342	2,367	381.2	0.2	0.1	381.4	381.3
		0'flow Culvert	186	137	67	67					
		039-0062/78	2,056	1,635	779	772					
		Total	8,400		3,188	3,206					
Design	50	039-0061/79	8,788	9,417	2,682	2,715	383.0	0.3	0.2	383.3	383.2
		0'flow Culvert	269	235	85	85					
		039-0062/78	3,343	2,748	995	987					
		Total	12,400		3,762	3,787					
Base	100	039-0061/79	9,878	10,577	2,857	2,894	383.9	0.3	0.3	384.2	384.2
		0'flow Culvert	326	269	94	94					
		039-0062/78	3,896	3,254	1,109	1,099					
		Total	14,100		4,060	4,087					
Scour Design Check	200	039-0061/79	11,055	11,616	2,995	3,036	384.6	0.4	0.3	385.0	384.9
		0'flow Culvert	379	332	101	101					
		039-0062/78	4,576	4,062	1,200	1,189					
		Total	16,010		4,296	4,326					
Max. Calc.	500	039-0061/79	12,694	12,917	3,116	3,158	385.2	0.5	0.4	385.7	385.6
		0'flow Culvert	417	393	107	107					
		039-0062/78	5,389	5,190	1,279	1,268					
		Total	18,500		4,502	4,533					

TOTAL BILL OF MATERIAL

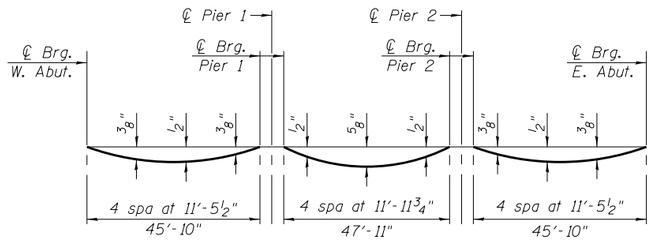
ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		1,027	1,027
Filter Fabric	Sq. Yd.		1,027	1,027
Removal of Existing Structures No. 1	Each			1
Structure Excavation	Cu. Yd.		222	222
Floor Drains	Each	11		11
Concrete Structures	Cu. Yd.	34.0	355.0	389.0
Concrete Superstructure	Cu. Yd.	371.4		371.4
Bridge Deck Grooving	Sq. Yd.	1,157		1,157
Protective Coat	Sq. Yd.	1,589		1,589
Concrete Superstructure (Approach Slab)	Cu. Yd.	154.0		154.0
Furnishing and Erecting Precast Prestressed Concrete Beams, IL27N	Foot	1004		1004
Reinforcement Bars, Epoxy Coated	Pound	163,380	32,000	195,380
Parapet Railing	Foot	205		205
Furnishing Steel Piles HP 10x42	Foot		1,107	1,107
Furnishing Steel Piles HP 14x73	Foot		1,125	1,125
Driving Piles	Foot		2,232	2,232
Test Pile Steel HP 10x42	Each		2	2
Test Pile Steel HP 14x73	Each		2	2
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		102	102
Decorative Steel Railing	Foot	198		198
Granular Backfill for Structures	Cu. Yd.		166	166
Pipe Underdrains for Structures 4"	Foot		202	202



OFFSET SKETCH



LAYOUT PLAN FOR DECK ELEVATIONS

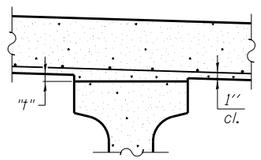


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only, excluding beams)

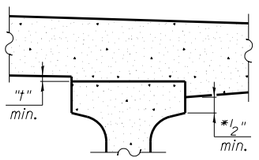
Note:

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, as shown on Sheet 4 of 27.

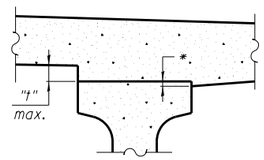


INTERIOR BEAMS

* Variable (not less than ½")



At Minimum Fillet



At Maximum Fillet

EXTERIOR BEAMS

FILLET HEIGHTS

After all beams have been erected, elevations of the top flanges of the beam shall be taken at the intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4 of 27, minus slab thickness equals the fillet heights "t" above top flange of beams.

BEAM 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+46.42	-28.47	391.85	391.85
℄ Brg. W. Abut.	64+48.37	-28.44	391.85	391.85
A	64+58.31	-28.31	391.85	391.87
B	64+68.25	-28.19	391.84	391.88
C	64+78.20	-28.10	391.84	391.88
D	64+88.14	-28.02	391.84	391.85
℄ W. Pier 1 Brg.	64+93.94	-27.99	391.84	391.84
℄ Pier 1	64+95.06	-27.98	391.84	391.84
℄ E. Pier 1 Brg.	64+96.18	-27.98	391.83	391.83
E	65+06.12	-27.94	391.83	391.86
F	65+16.06	-27.92	391.83	391.87
G	65+26.01	-27.92	391.82	391.86
H	65+35.95	-27.94	391.81	391.84
℄ W. Pier 2 Brg.	65+43.82	-27.98	391.81	391.81
℄ Pier 2	65+44.94	-27.98	391.81	391.81
℄ E. Pier 2 Brg.	65+46.06	-27.99	391.81	391.81
I	65+56.00	-28.05	391.80	391.83
J	65+65.95	-28.13	391.79	391.83
K	65+75.89	-28.24	391.79	391.82
L	65+85.83	-28.36	391.78	391.79
℄ Brg. E. Abut.	65+91.63	-28.44	391.77	391.77
Bk. East Abut.	65+93.58	-28.47	391.77	391.77

BEAM 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+46.28	-18.60	391.55	391.55
℄ Brg. W. Abut.	64+48.23	-18.57	391.55	391.55
A	64+58.19	-18.43	391.55	391.58
B	64+68.15	-18.32	391.55	391.59
C	64+78.11	-18.22	391.54	391.58
D	64+88.08	-18.15	391.54	391.56
℄ W. Pier 1 Brg.	64+93.89	-18.11	391.54	391.54
℄ Pier 1	64+95.01	-18.11	391.54	391.54
℄ E. Pier 1 Brg.	64+96.13	-18.10	391.54	391.54
E	65+06.09	-18.06	391.53	391.57
F	65+16.06	-18.04	391.53	391.58
G	65+26.02	-18.05	391.52	391.57
H	65+35.98	-18.07	391.52	391.55
℄ W. Pier 2 Brg.	65+43.87	-18.10	391.51	391.51
℄ Pier 2	65+44.99	-18.11	391.51	391.51
℄ E. Pier 2 Brg.	65+46.11	-18.11	391.51	391.51
I	65+56.08	-18.18	391.51	391.53
J	65+66.04	-18.26	391.50	391.54
K	65+76.00	-18.36	391.49	391.53
L	65+86.96	-18.49	391.48	391.50
℄ Brg. E. Abut.	65+91.77	-18.57	391.48	391.48
Bk. East Abut.	65+93.72	-18.60	391.47	391.47

BEAM 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+46.13	-8.72	391.26	391.26
℄ Brg. W. Abut.	64+48.08	-8.70	391.26	391.26
A	64+58.06	-8.56	391.25	391.28
B	64+68.05	-8.44	391.25	391.30
C	64+78.03	-8.35	391.25	391.29
D	64+88.01	-8.27	391.25	391.26
℄ W. Pier 1 Brg.	64+93.84	-8.24	391.24	391.24
℄ Pier 1	64+94.96	-8.23	391.24	391.24
℄ E. Pier 1 Brg.	64+96.08	-8.23	391.24	391.24
E	65+06.06	-8.19	391.24	391.27
F	65+16.05	-8.17	391.23	391.28
G	65+26.03	-8.17	391.23	391.28
H	65+36.01	-8.19	391.22	391.25
℄ W. Pier 2 Brg.	65+43.92	-8.23	391.22	391.22
℄ Pier 2	65+45.04	-8.23	391.22	391.22
℄ E. Pier 2 Brg.	65+46.16	-8.24	391.22	391.22
I	65+56.15	-8.30	391.21	391.24
J	65+66.13	-8.38	391.20	391.24
K	65+76.11	-8.49	391.19	391.23
L	65+86.09	-8.61	391.19	391.20
℄ Brg. E. Abut.	65+91.92	-8.70	391.18	391.18
Bk. East Abut.	65+93.87	-8.72	391.18	391.18

P.G.L. (E.B.)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+46.00	0.00	390.99	390.99
℄ Brg. W. Abut.	64+47.96	0.00	390.99	390.99
A	64+57.96	0.00	391.00	391.03
B	64+67.96	0.00	391.00	391.04
C	64+77.96	0.00	391.00	391.04
D	64+87.96	0.00	391.00	391.01
℄ W. Pier 1 Brg.	64+93.79	0.00	391.00	391.00
℄ Pier 1	64+94.92	0.00	391.00	391.00
℄ E. Pier 1 Brg.	64+96.04	0.00	391.00	391.00
E	65+06.04	0.00	390.99	391.03
F	65+16.04	0.00	390.99	391.04
G	65+26.04	0.00	390.98	391.03
H	65+36.04	0.00	390.98	391.00
℄ W. Pier 2 Brg.	65+43.96	0.00	390.97	390.97
℄ Pier 2	65+45.08	0.00	390.97	390.97
℄ E. Pier 2 Brg.	65+46.21	0.00	390.97	390.97
I	65+56.21	0.00	390.96	390.99
J	65+66.21	0.00	390.95	390.99
K	65+76.21	0.00	390.94	390.98
L	65+86.21	0.00	390.93	390.94
℄ Brg. E. Abut.	65+92.04	0.00	390.92	390.92
Bk. East Abut.	65+94.00	0.00	390.92	390.92

BEAM 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+45.98	1.15	390.96	390.96
℄ Brg. W. Abut.	64+47.94	1.18	390.96	390.96
A	64+57.94	1.32	390.96	390.99
B	64+67.94	1.43	390.96	391.00
C	64+77.94	1.53	390.95	390.99
D	64+87.95	1.60	390.95	390.97
℄ W. Pier 1 Brg.	64+93.78	1.64	390.95	390.95
℄ Pier 1	64+94.91	1.64	390.95	390.95
℄ E. Pier 1 Brg.	64+96.03	1.65	390.95	390.95
E	65+06.04	1.69	390.94	390.97
F	65+16.04	1.71	390.94	390.99
G	65+26.04	1.71	390.93	390.98
H	65+36.05	1.68	390.93	390.95
℄ W. Pier 2 Brg.	65+43.97	1.65	390.92	390.92
℄ Pier 2	65+45.09	1.64	390.92	390.92
℄ E. Pier 2 Brg.	65+46.22	1.64	390.92	390.92
I	65+56.22	1.58	390.91	390.94
J	65+66.22	1.49	390.91	390.95
K	65+76.23	1.39	390.90	390.94
L	65+86.23	1.26	390.89	390.91
℄ Brg. E. Abut.	65+92.06	1.18	390.88	390.88
Bk. East Abut.	65+94.02	1.15	390.88	390.88

BEAM 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+45.83	11.02	390.66	390.66
℄ Brg. W. Abut.	64+47.79	11.05	390.66	390.66
A	64+57.81	11.19	390.66	390.69
B	64+67.84	11.31	390.66	390.70
C	64+77.86	11.40	390.66	390.70
D	64+87.88	11.48	390.65	390.67
℄ W. Pier 1 Brg.	64+93.73	11.51	390.65	390.65
℄ Pier 1	64+94.86	11.52	390.65	390.65
℄ E. Pier 1 Brg.	64+95.99	11.53	390.65	390.65
E	65+06.01	11.56	390.65	390.68
F	65+16.03	11.58	390.64	390.69
G	65+26.06	11.58	390.64	390.68
H	65+36.08	11.56	390.63	390.66
℄ W. Pier 2 Brg.	65+44.01	11.53	390.62	390.62
℄ Pier 2	65+45.14	11.52	390.62	390.62
℄ E. Pier 2 Brg.	65+46.27	11.51	390.62	390.62
I	65+56.29	11.45	390.62	390.64
J	65+66.32	11.37	390.61	390.65
K	65+76.34	11.26	390.60	390.64
L	65+86.36	11.14	390.59	390.61
℄ Brg. E. Abut.	65+92.21	11.05	390.59	390.59
Bk. East Abut.	65+94.17	11.02	390.59	390.59

BEAM 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+45.68	20.90	390.37	390.37
℄ Brg. W. Abut.	64+47.65	20.93	390.37	390.37
A	64+57.69	21.06	390.37	390.39
B	64+67.73	21.18	390.36	390.41
C	64+77.77	21.28	390.36	390.40
D	64+87.82	21.35	390.36	390.37
℄ W. Pier 1 Brg.	64+93.68	21.39	390.35	390.35
℄ Pier 1	64+94.81	21.39	390.35	390.35
℄ E. Pier 1 Brg.	64+95.94	21.40	390.35	390.35
E	65+05.98	21.44	390.35	390.38
F	65+16.02	21.46	390.34	390.40
G	65+26.07	21.46	390.34	390.39
H	65+36.11	21.43	390.33	390.36
℄ W. Pier 2 Brg.	65+44.06	21.40	390.33	390.33
℄ Pier 2	65+45.19	21.39	390.33	390.33
℄ E. Pier 2 Brg.	65+46.32	21.39	390.33	390.33
I	65+56.37	21.32	390.32	390.35
J	65+66.41	21.24	390.31	390.36
K	65+76.45	21.14	390.30	390.34
L	65+86.50	21.01	390.30	390.31
℄ Brg. E. Abut.	65+92.35	20.93	390.29	390.29
Bk. East Abut.	65+94.32	20.90	390.29	390.29

BEAM 7

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	64+45.53	30.77	390.20	390.20
℄ Brg. W. Abut.	64+47.50	30.80	390.20	390.20
A	64+57.56	30.94	390.20	390.23
B	64+67.63	31.06	390.20	390.24
C	64+77.69	31.15	390.20	390.23
D	64+87.75	31.23	390.19	390.21
℄ W. Pier 1 Brg.	64+93.62	31.26	390.19	390.19
℄ Pier 1	64+94.76	31.27	390.19	390.19
℄ E. Pier 1 Brg.	64+95.89	31.27	390.19	390.19
E	65+05.95	31.31	390.18	390.21
F	65+16.02	31.33	390.18	390.23
G	65+26.08	31.33	390.17	390.22
H	65+36.14	31.31	390.17	390.19
℄ W. Pier 2 Brg.	65+44.11	31.27	390.16	390.16
℄ Pier 2	65+45.24	31.27	390.16	390.16
℄ E. Pier 2 Brg.	65+46.38	31.26	390.16	390.16
I	65+56.44	31.20	390.16	390.18
J	65+66.50	31.11	390.15	390.19
K	65+76.57	31.01	390.14	390.17
L	65+86.63	30.88	390.13	390.15
℄ Brg. E. Abut.	65+92.50	30.80	390.13	390.13
Bk. East Abut.	65+94.47	30.77	390.12	390.12

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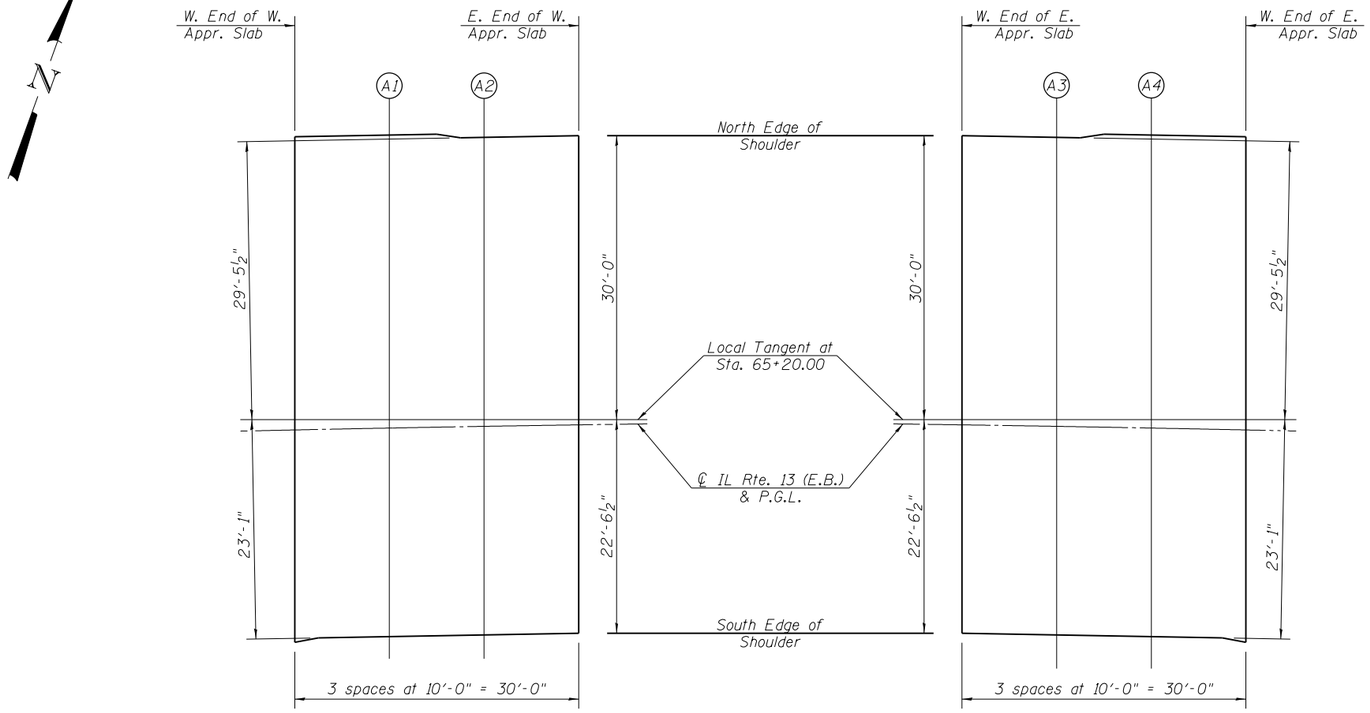
CMT

USER NAME =	DESIGNED CJW	REVISED	
	CHECKED WLB	REVISED	
PLOT SCALE =	DRAWN GLD	REVISED	
PLOT DATE =	CHECKED WLB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 2
STRUCTURE NO. 039–0078
SHEET NO. 4 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	147
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



WEST APPROACH SLAB

EAST APPROACH SLAB

PLAN

Note:
See Sheet 12 of 27 for additional Approach Slab Details.

NORTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	64+17.63	-30.53	391.90
A1	64+27.57	-30.52	391.90
A2	64+37.51	-30.52	391.91
E. End of W. Appr.	64+47.45	-30.54	391.91

℄ ROADWAY & P.G.L.

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	64+17.00	0.00	390.98
A1	64+27.00	0.00	390.99
A2	64+37.00	0.00	390.99
E. End of W. Appr.	64+47.00	0.00	390.99

SOUTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	64+16.53	22.00	390.32
A1	64+26.58	22.02	390.33
A2	64+36.62	22.02	390.33
E. End of W. Appr.	64+46.67	22.00	390.33

NORTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	65+92.55	-30.54	391.83
A3	66+02.49	-30.52	391.82
A4	66+12.43	-30.51	391.80
E. End of E. Appr.	66+22.37	-30.53	391.79

℄ ROADWAY & P.G.L.

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	65+93.00	0.00	390.92
A3	66+03.00	0.00	390.90
A4	66+13.00	0.00	390.89
E. End of E. Appr.	66+23.00	0.00	390.87

SOUTH EDGE OF SHOULDER

LOCATION	STATION	* OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	65+93.33	22.00	390.26
A3	66+03.38	22.02	390.24
A4	66+13.42	22.02	390.23
E. End of E. Appr.	66+23.47	22.00	390.21

* Measured from P.G.L.

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USER NAME =	DESIGNED	MJL	REVISED
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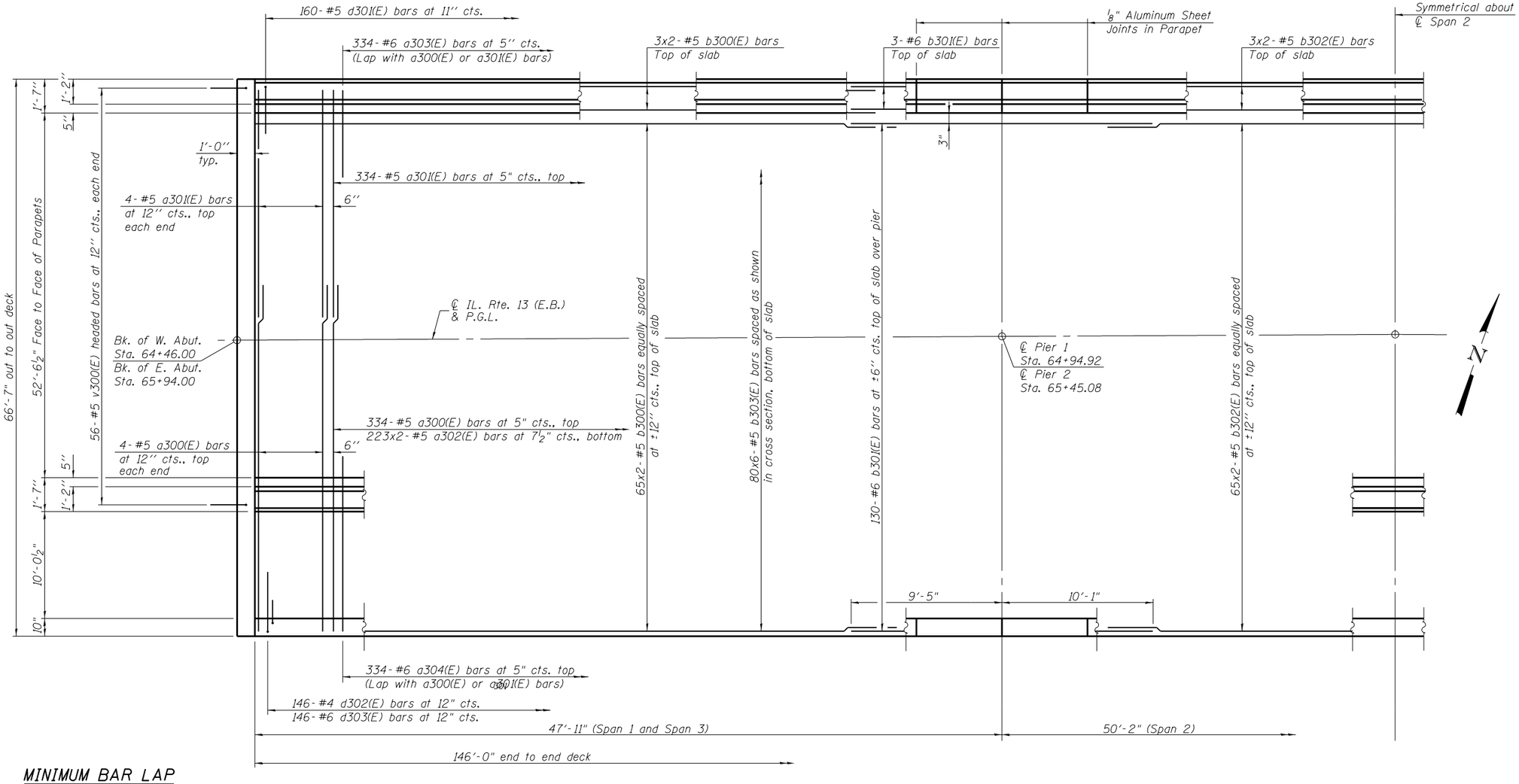
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB ELEVATIONS
STRUCTURE NO. 039-0078
SHEET NO. 5 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	148
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



MINIMUM BAR LAP

#5 bar = 3'-6''

PARTIAL PLAN

Notes:
See sheet 7 of 27 for Cross Section.
See sheet 9 of 27 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

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CMT	USER NAME =	DESIGNED MJL	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE – 1 STRUCTURE NO. 039–0078 SHEET NO. 6 OF 27 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED WLB	REVISED			331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	149
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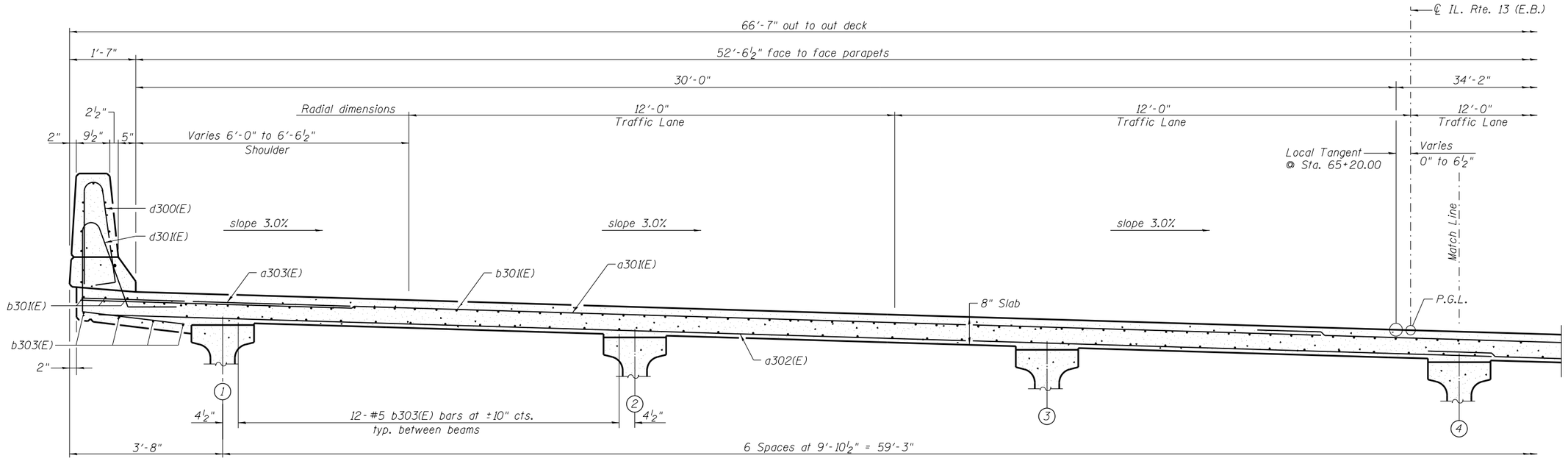
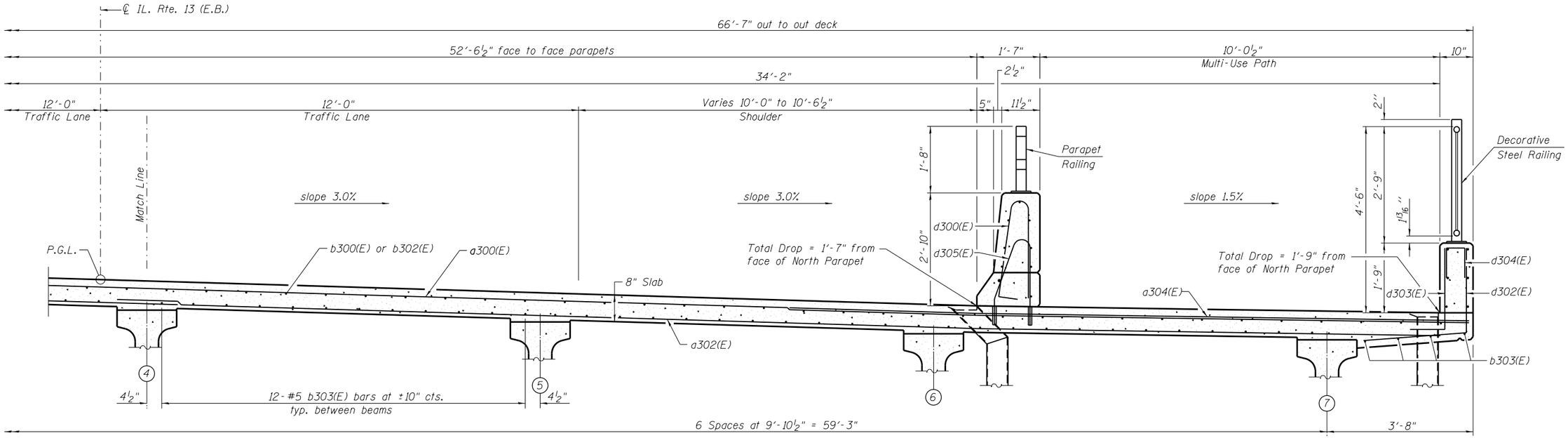
	PLOT DATE =	CHECKED WLB	REVISED					ILLINOIS FED. AID PROJECT		



NEAR PIER



NEAR MIDSPAN

CROSS SECTION
(Looking East)

Note:
Cross-slope changes from 3.0% to 1.5% at the toe of the parapet.

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USER NAME =	DESIGNED	MJL	REVISED
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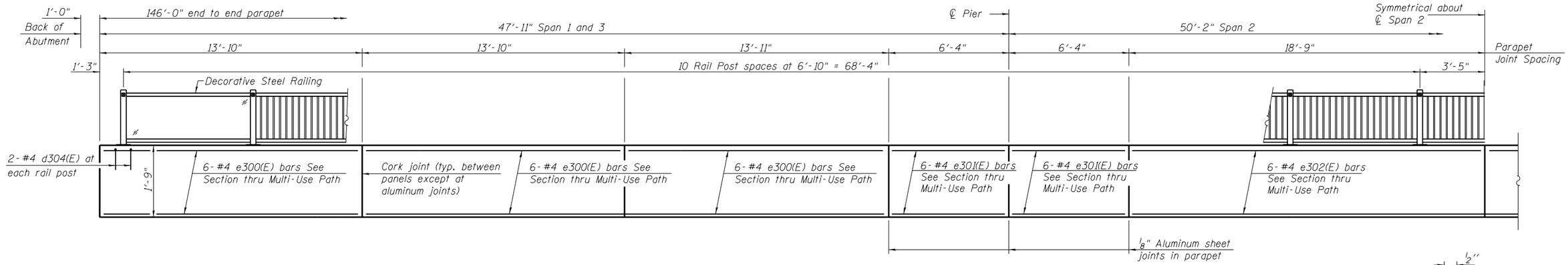
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

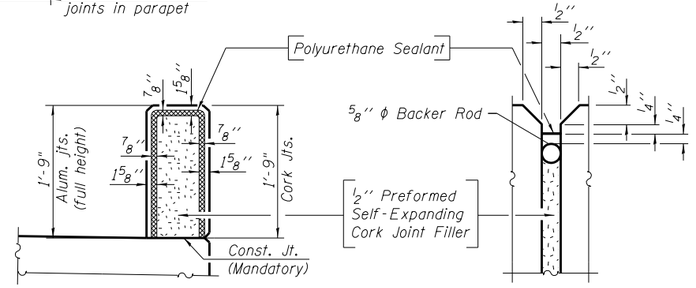
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE – 2
STRUCTURE NO. 039–0078
SHEET NO. 7 OF 27 SHEETS

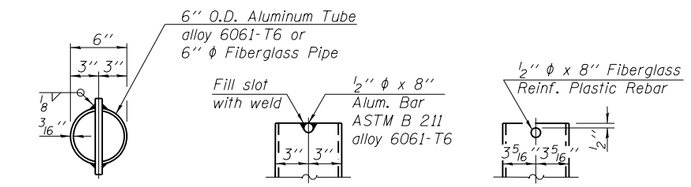
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	150
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



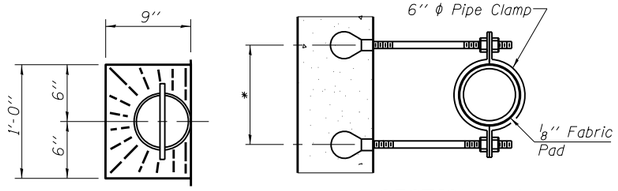
INSIDE ELEVATION OF MULTI-USE PATH PARAPET



MULTI-USE PATH PARAPET JOINT DETAILS

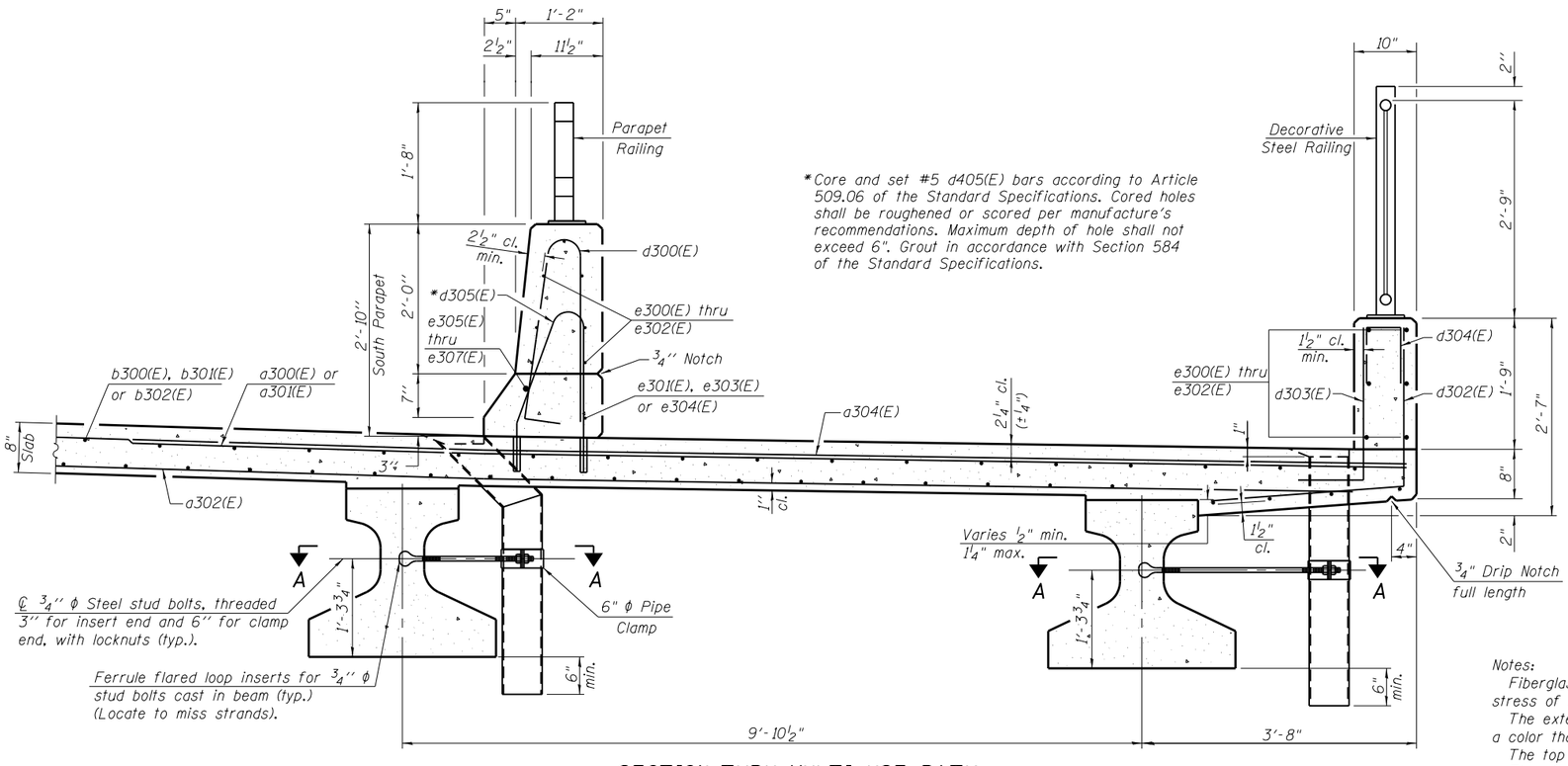


TOP PLAN (Showing Aluminum Tube) | ALUMINUM TUBE | FIBERGLASS PIPE



TOP PLAN | SECTION A-A

*Dimension as required by Pipe Clamp



* Core and set #5 d405(E) bars according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacture's recommendations. Maximum depth of hole shall not exceed 6". Grout in accordance with Section 584 of the Standard Specifications.

SECTION THRU MULTI-USE PATH

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 and inserts 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 non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 5/8" backer rod.

The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

For Decorative Steel Railing and Parapet Railing details see sheet 14 of 27.

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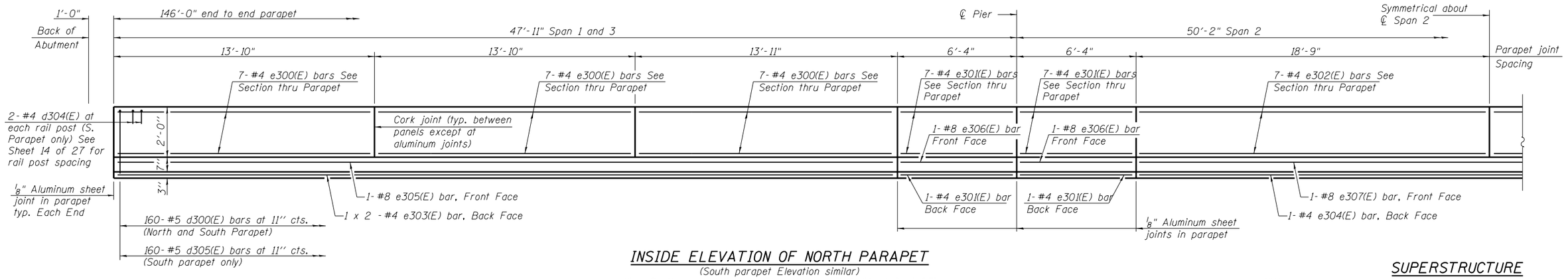
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

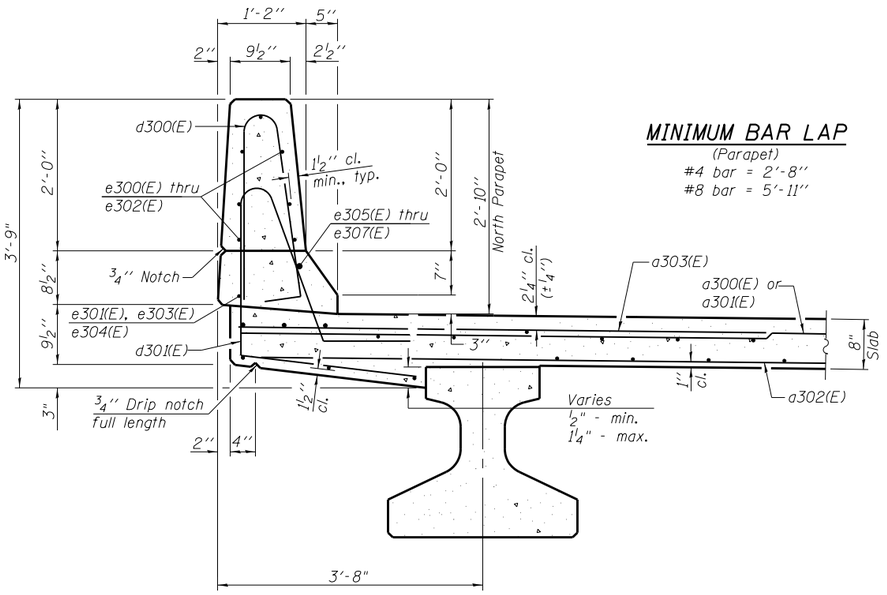
SUPERSTRUCTURE DETAILS – 1
STRUCTURE NO. 039–0078
SHEET NO. 8 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	151
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF NORTH PARAPET

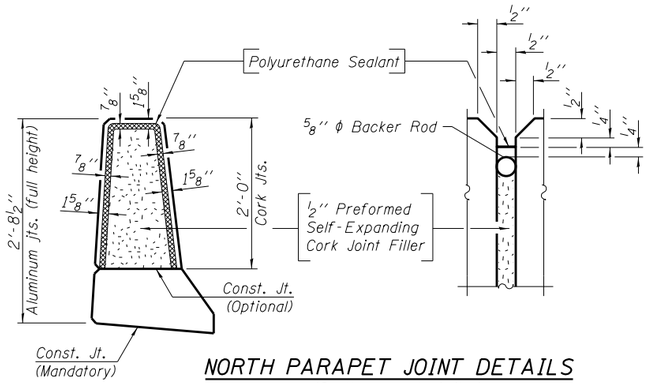
(South parapet Elevation similar)
(See South parapet Section Thru Multiuse Path Sheet 8 of 27)



SECTION THRU PARAPET

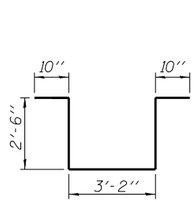
MINIMUM BAR LAP

(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"

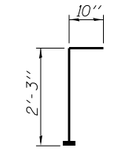


NORTH PARAPET JOINT DETAILS

(South parapet similar)

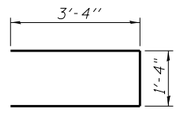


BAR s302(E)

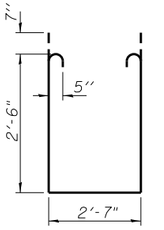


BAR v300(E)

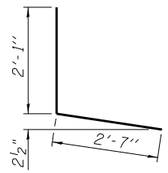
(Headed)



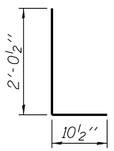
BAR s300(E)



BAR s301(E)



BAR d302(E)



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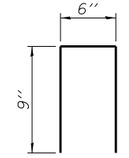

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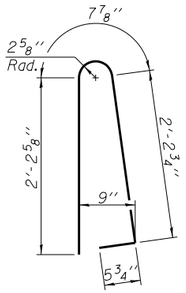
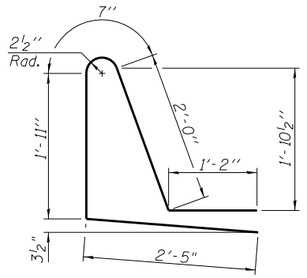
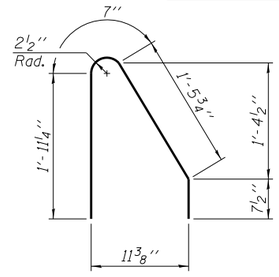


BAR d300(E)



BAR d301(E)



BAR d305(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a300(E)	342	#5	39'-8"	
a301(E)	342	#5	29'-11"	
a302(E)	446	#5	34'-10"	
a303(E)	334	#6	6'-6"	
a304(E)	334	#6	17'-2"	
b300(E)	272	#5	22'-9"	
b301(E)	266	#6	19'-6"	
b302(E)	136	#5	20'-9"	
b303(E)	480	#5	27'-3"	
d300(E)	320	#5	5'-7"	
d301(E)	160	#5	8'-1"	
d302(E)	146	#4	4'-8"	
d303(E)	146	#6	2'-11"	
d304(E)	88	#4	2'-0"	
d305(E)	160	#5	4'-8"	
e300(E)	120	#4	13'-7"	
e301(E)	88	#4	6'-0"	
e302(E)	40	#4	18'-5"	
e303(E)	8	#4	22'-0"	
e304(E)	2	#4	37'-2"	
e305(E)	4	#8	41'-3"	
e306(E)	8	#8	6'-0"	
e307(E)	2	#8	37'-2"	
m300(E)	16	#6	34'-11"	
m301(E)	72	#6	8'-8"	
m302(E)	8	#6	2'-11"	
m303(E)	36	#6	7'-0"	
m304(E)	4	#6	2'-1"	
m305(E)	56	#5	4'-0"	
s300(E)	108	#5	8'-0"	
s301(E)	108	#5	8'-9"	
s302(E)	96	#5	9'-10"	
v300(E)	112	#5	3'-1"	
Concrete Superstructure			Cu. Yd.	361.4
Bridge Deck Grooving			Sq. Yds.	820
Protective Coat			Sq. Yds.	1,200
Reinforcement Bars, Epoxy Coated			Lbs.	97,470

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

Notes:

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.

The Polyurethane Sealant shall be non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a ⅝" backer rod.

The ½" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

Headed bars shall conform to ASTM A970 Class HA. Cost included with Reinforcement Bars, Epoxy Coated.

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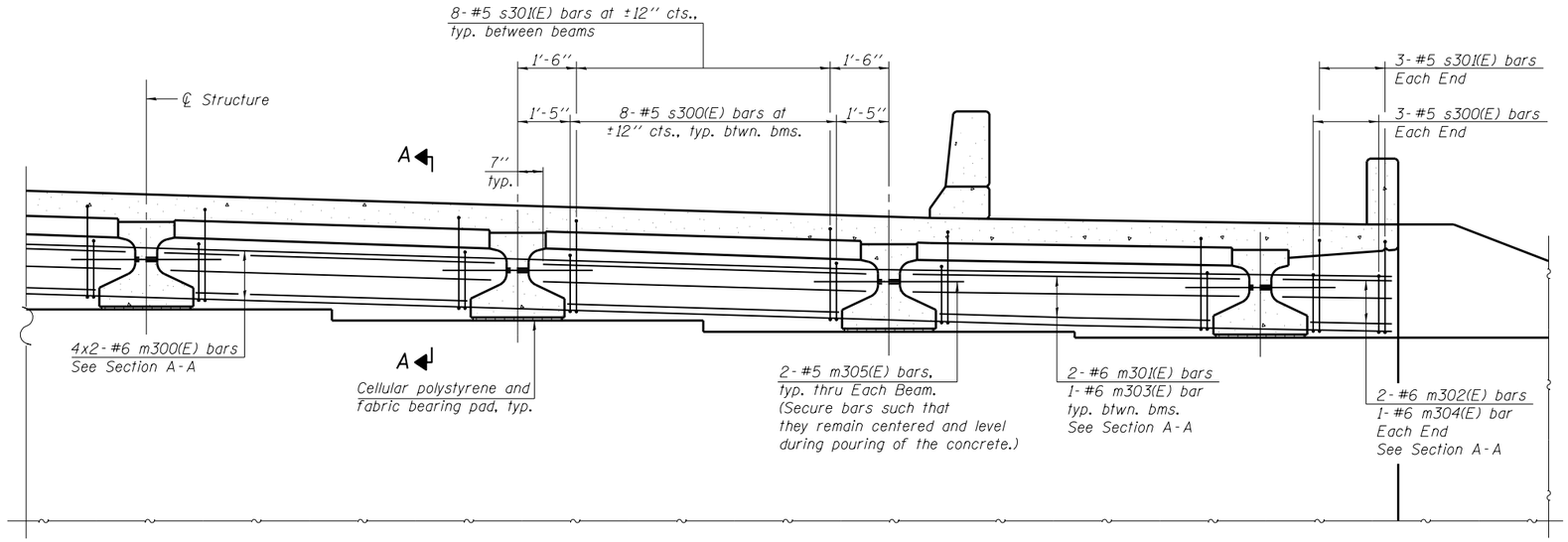
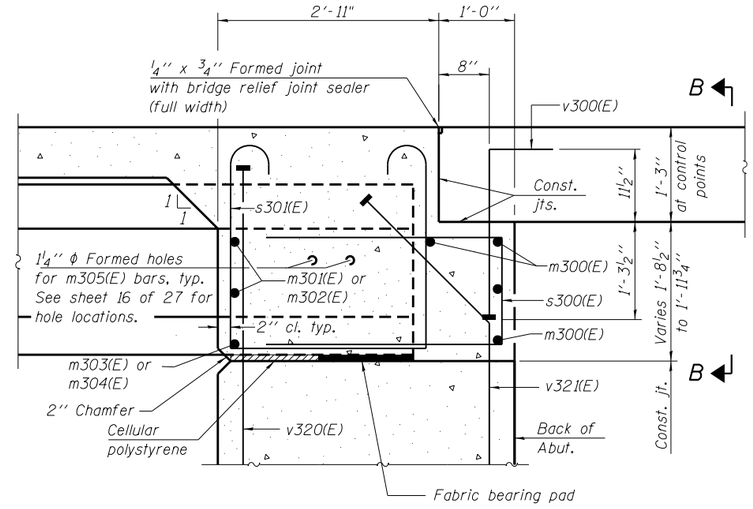
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS – 2
STRUCTURE NO. 039–0078
SHEET NO. 9 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	152
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



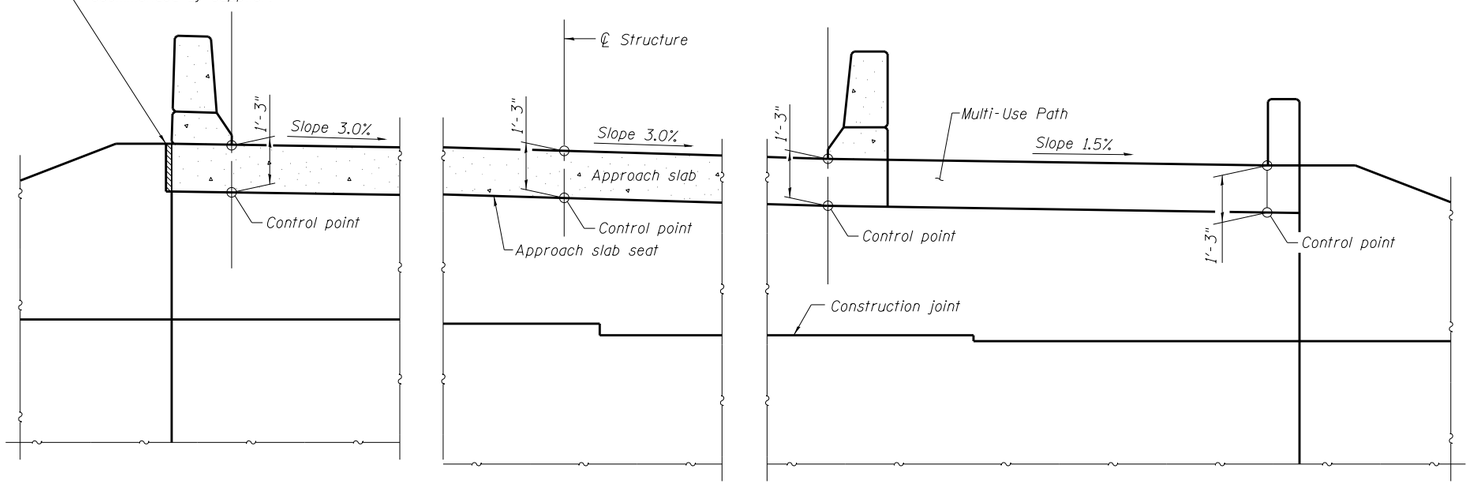
DIAPHRAGM AT ABUTMENT



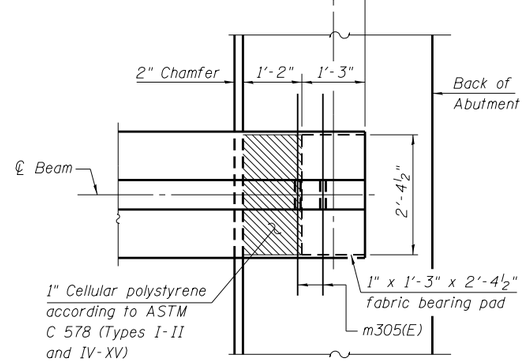
SECTION A-A

MIN. BAR LAP

#6 bar = 3'-7"



SECTION B-B



PLAN AT ABUTMENT

(Showing bottom flange of beam)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 27.

Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 27.

For details of bars s300(E), s301(E) and v300(E) see sheet 9 of 27.

The approach slab seat shall have a constant slope determined from the control points shown.

Cost of cellular polystyrene is included with Concrete Superstructure.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

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DIA-IL27-0 2-17-2017

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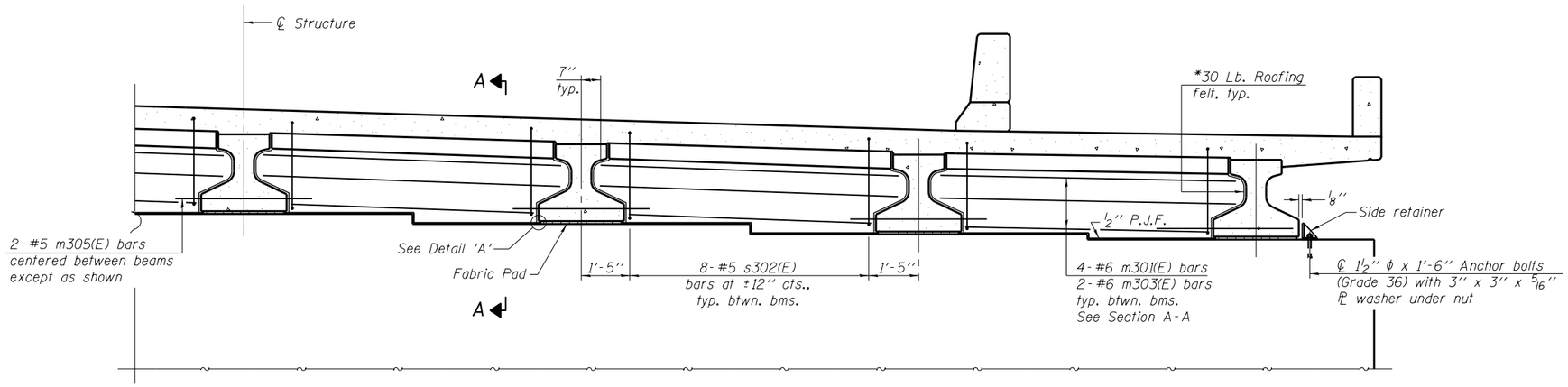
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

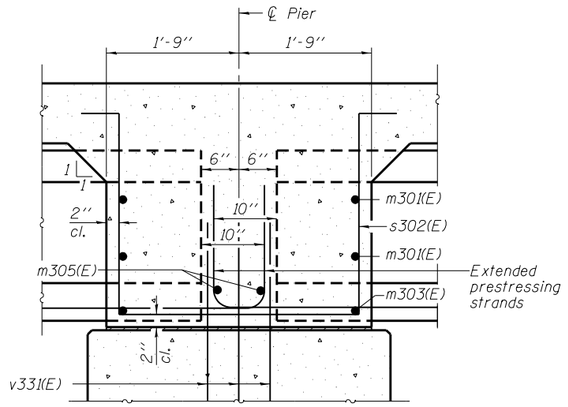
DIAPHRAGM DETAILS – 1
STRUCTURE NO. 039–0078
SHEET NO. 10 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	153
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

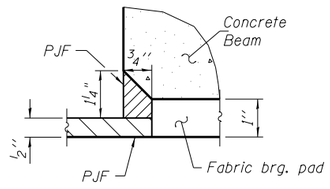


DIAPHRAGM AT PIER

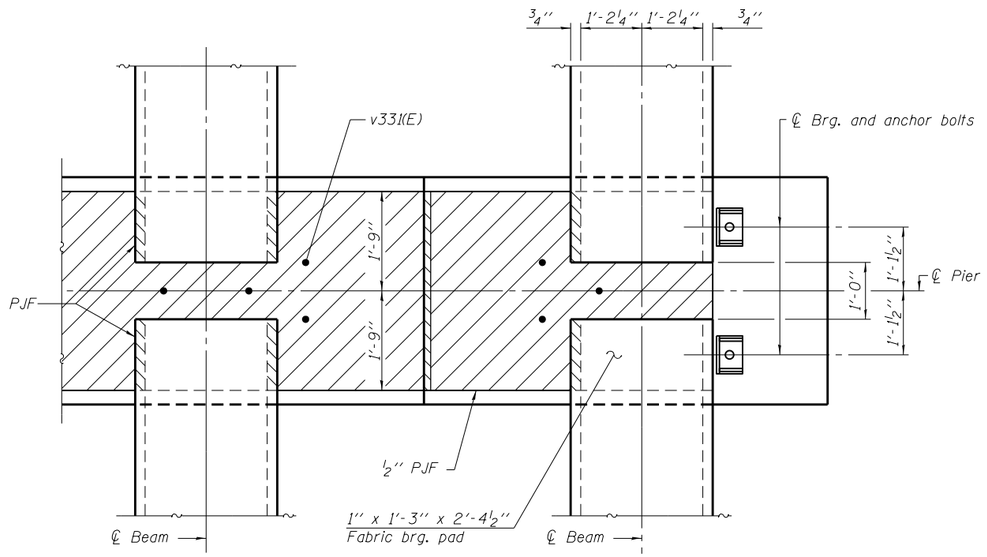
*Bonded to sides of beams embedded into diaphragm.



SECTION A-A

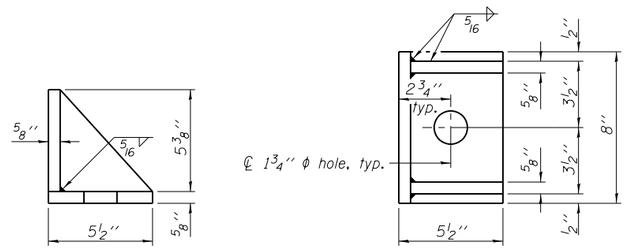


DETAIL 'A'



PLAN AT PIER

(Showing bearing pads and PJF details)



SIDE RETAINER

(2 required each side of pier).
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Notes:

See sheet 9 of 27 for superstructure details and Bill of Material.
Cost of 30 Lb. roofing felt is included with Concrete Superstructure.
Cost of side retainer and anchor bolts shall be included with Concrete Structures.
Anchor bolts and side retainers shall be according to Article 521.06 of the Standard Specifications. Side retainers shall be hot dip galvanized.
Anchor bolts and side retainers shall be installed as each exterior beam is erected unless an equivalent temporary means of lateral restraint is used.

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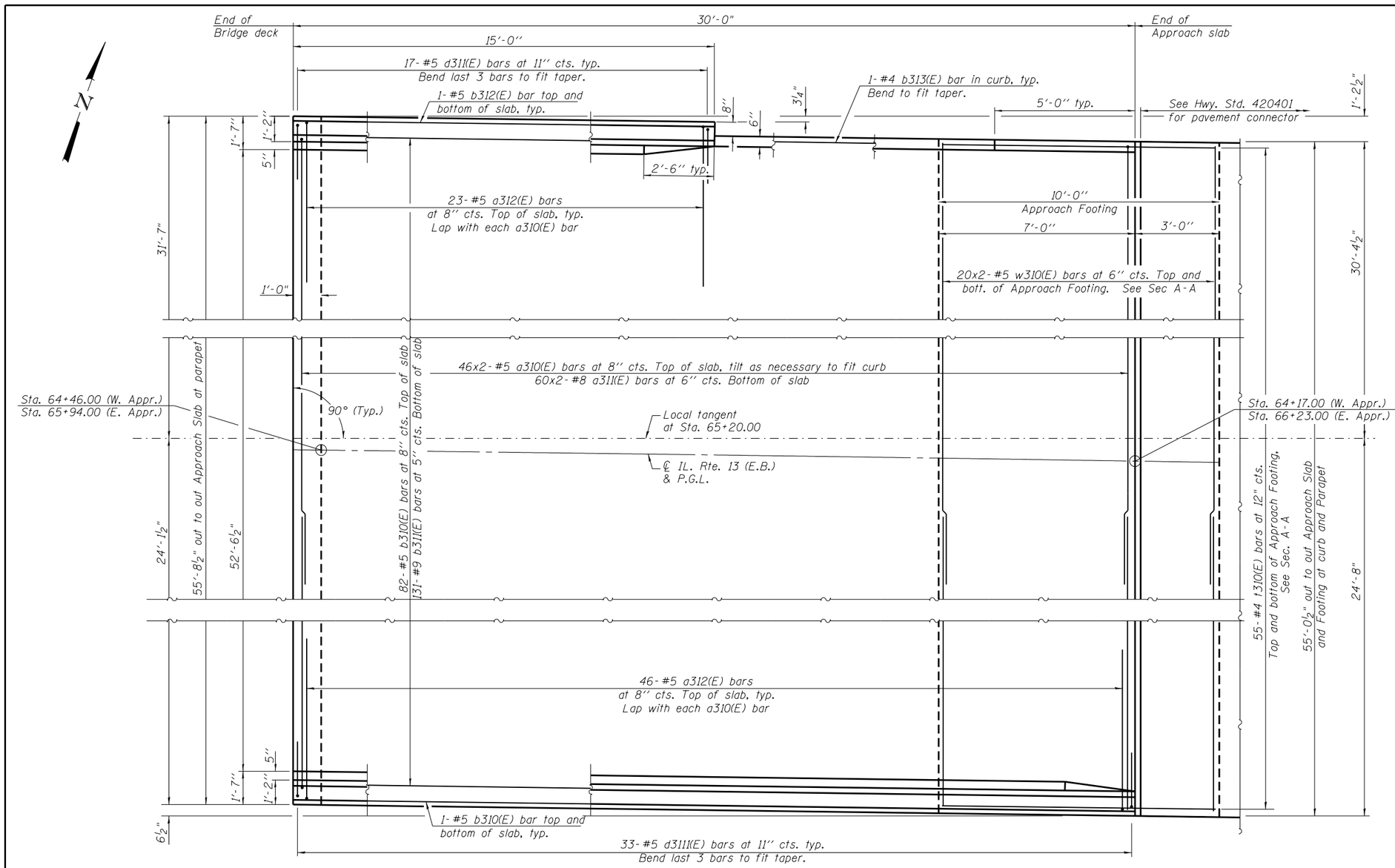
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

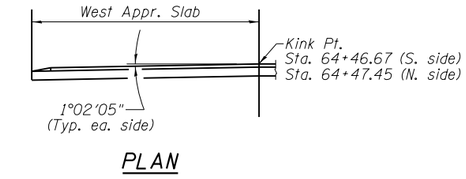
DIAPHRAGM DETAILS – 2
STRUCTURE NO. 039–0078
SHEET NO. 11 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	154
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

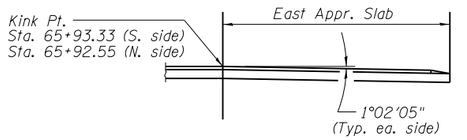


PLAN

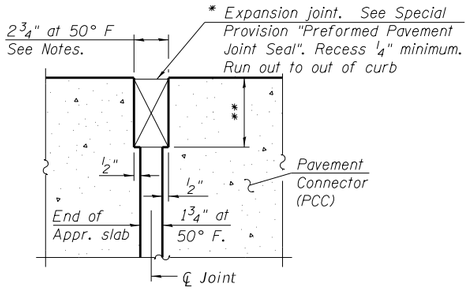
(E. Approach shown, W. Approach opposite)



PLAN



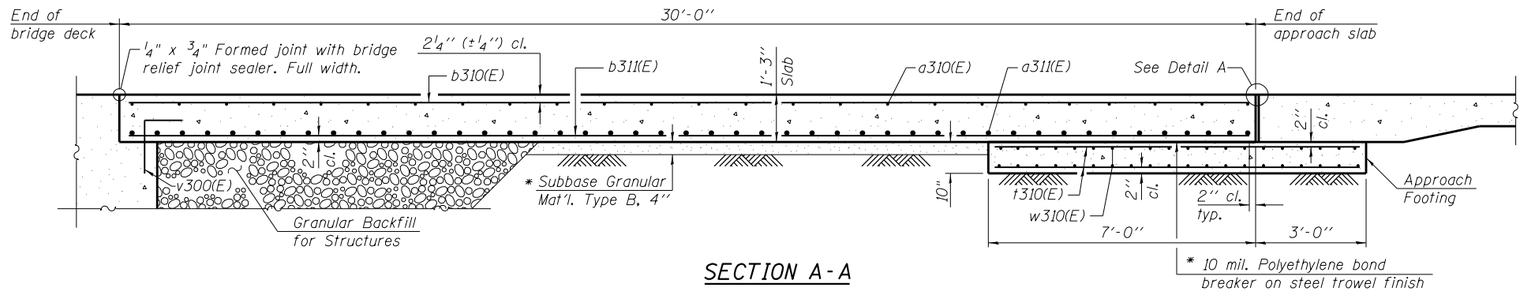
PLAN



DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations



SECTION A-A

MINIMUM BAR LAP

#5 bar = 3'-9"

#8 bar = 4'-9"

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.

Bars indicated thus 20x2-#5 etc., indicates 20 lines of bars with 2 lengths per line.

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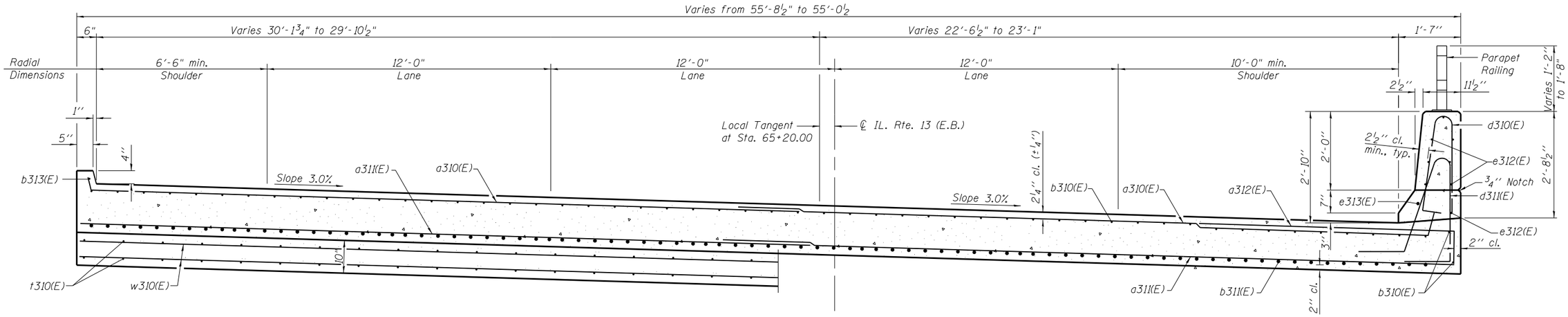
PLOT DATE =	CHECKED	WLB	REVISED

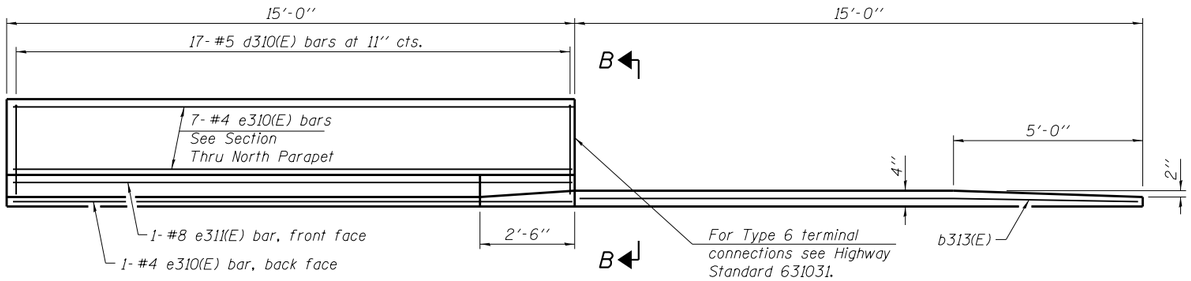
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 1
STRUCTURE NO. 039–0078
SHEET NO. 12 OF 27 SHEETS

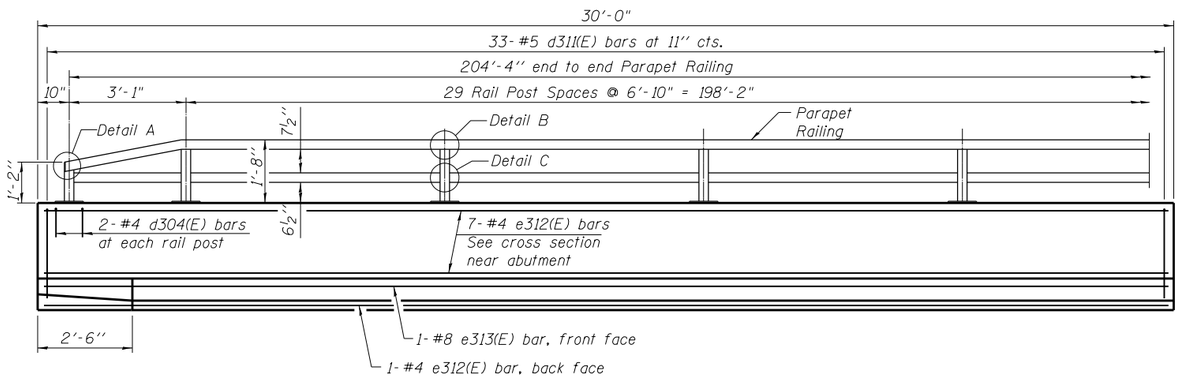
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	155
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



AT APPROACH FOOTING



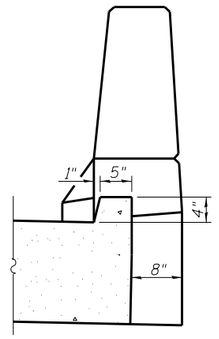
INSIDE ELEVATION OF NORTH PARAPET AND CURB



INSIDE ELEVATION OF SOUTH PARAPET

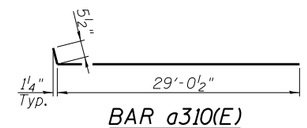
CROSS SECTION

(Looking East)

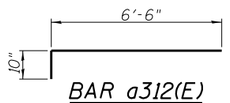


VIEW B-B

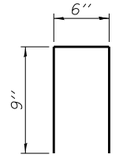
NEAR ABUTMENT



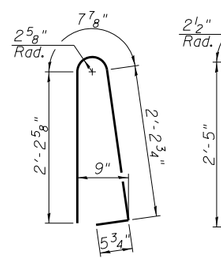
BAR a310(E)



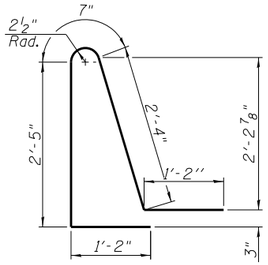
BAR a312(E)



BAR d304(E)



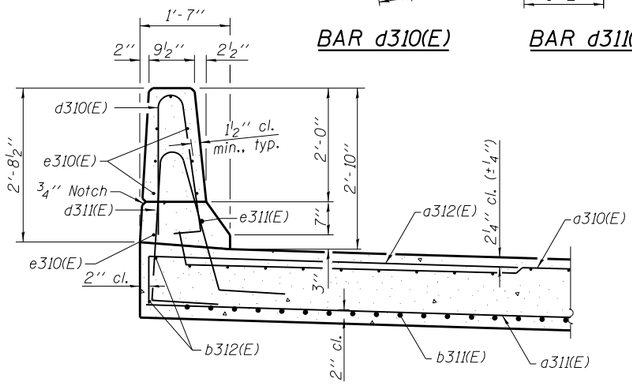
BAR d310(E)



BAR d311(E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a310(E)	184	#5	29'-6"	
a311(E)	240	#8	29'-9"	
a312(E)	138	#5	7'-4"	
b310(E)	168	#5	29'-8"	
b311(E)	262	#9	29'-8"	
b312(E)	4	#5	14'-8"	
b313(E)	2	#4	14'-8"	
d304(E)	20	#4	2'-0"	
d310(E)	100	#5	5'-7"	
d311(E)	100	#5	7'-8"	
e310(E)	16	#4	14'-8"	
e311(E)	2	#8	14'-8"	
e312(E)	16	#4	29'-8"	
e313(E)	2	#8	29'-8"	
t310(E)	220	#4	9'-8"	
w310(E)	160	#5	29'-3"	
Concrete Structures		Cu. Yd.	34.0	
Concrete Superstructure		Cu. Yd.	10.0	
Bridge Deck Grooving		Sq. Yds.	337	
Protective Coat		Sq. Yds.	389	
Concrete Superstructure (Approach Slab)		Cu. Yd.	154.0	
Reinforcement Bars, Epoxy Coated		Pound	65,910	



SECTION THRU NORTH PARAPET

Notes:

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 27.

For Parapet Railing details, Detail A, B and C, see sheet 14 of 27.

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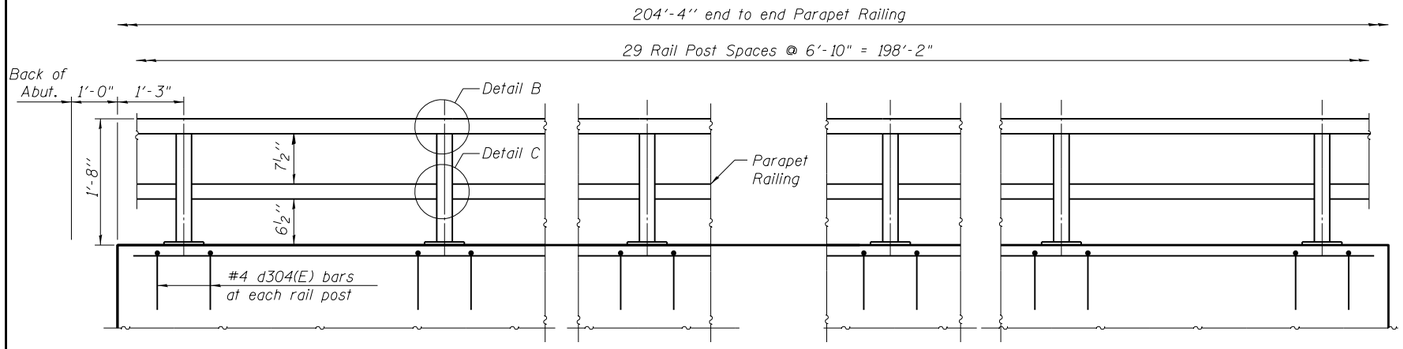
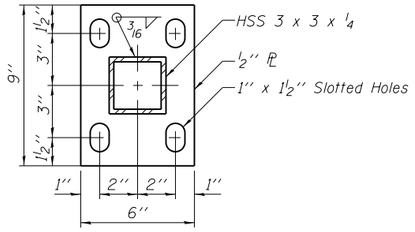
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 2
STRUCTURE NO. 039–0078
SHEET NO. 13 OF 27 SHEETS

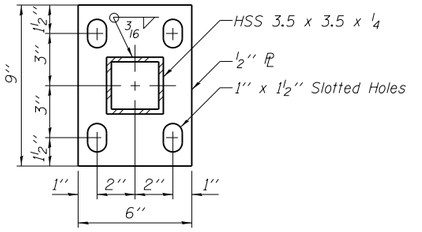
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	156
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



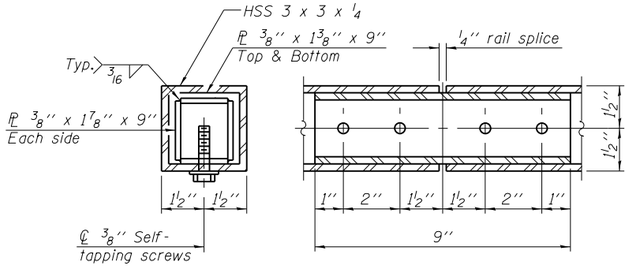
INSIDE ELEVATION OF SOUTH PARAPET



PARAPET RAILING BASE PL

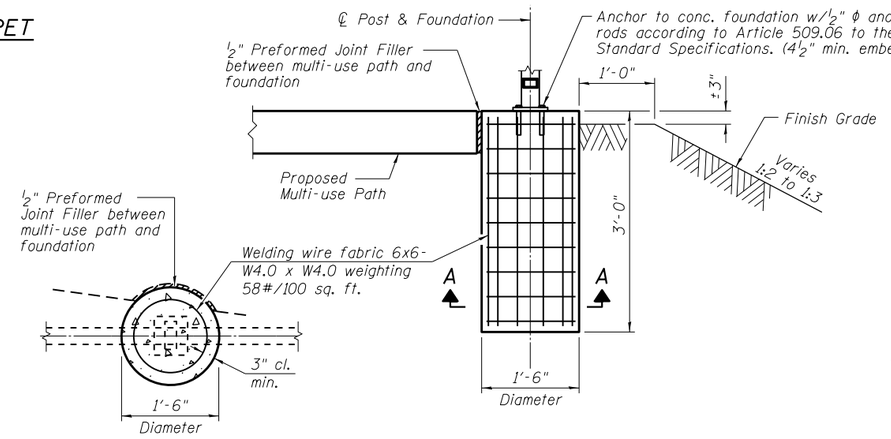


DECORATIVE STEEL RAILING BASE PL



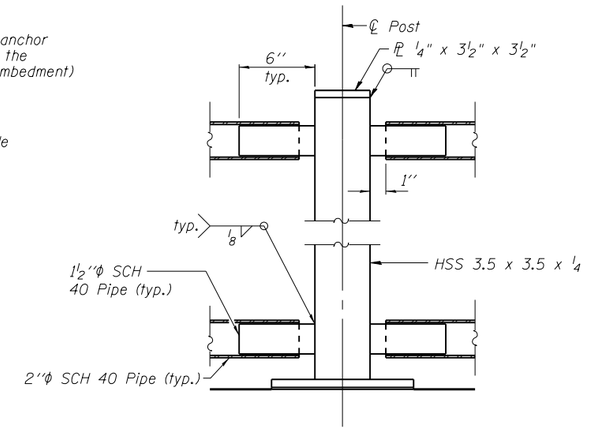
RAIL SPLICE

Note:
All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.

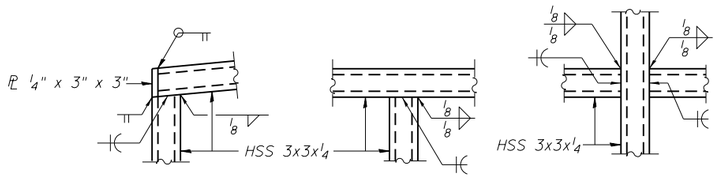


SECTION A-A

ELEVATION



DECORATIVE STEEL RAILING POST



DETAIL A

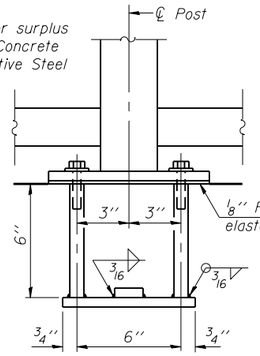
DETAIL B

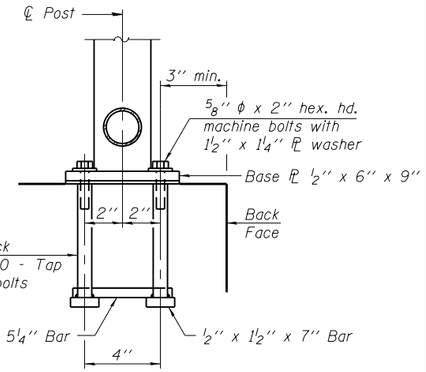
DETAIL C

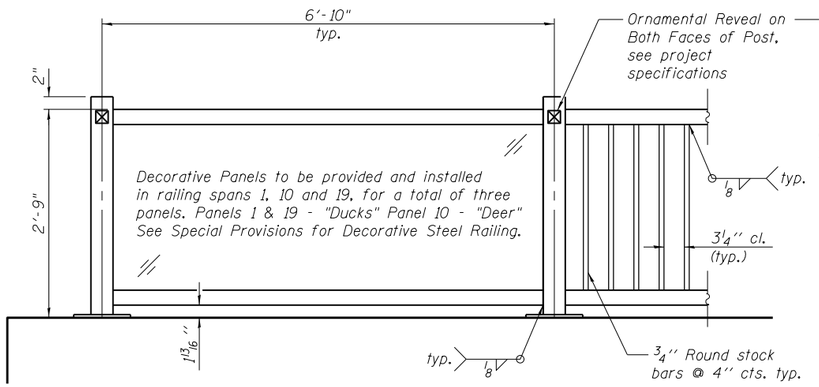
NOTE:

POST FOUNDATION DETAILS

All necessary excavation, backfilling, disposal of unsuitable or surplus material, formwork and furnishing and placing the Class SI Concrete and reinforcement shall be included in the Pay Item "Decorative Steel Railing". See Sheet 2 for foundation layout and elevations.

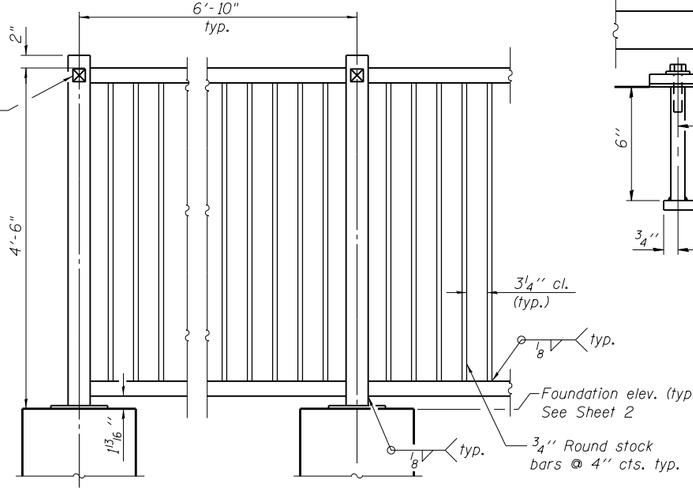






DECORATIVE STEEL RAILING ELEVATION

Aesthetic details to be coordinated with the District



STEEL RAILING ELEVATION-OFF BRIDGE

ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Note:
All post, railing, splices, anchor devices and bent plates shall be painted per the project specifications. For Parapet Railing terminal, see sheet 13 of 27.

BILL OF MATERIAL

Item	Unit	Quantity
Decorative Steel Railing	Foot	198
Parapet Railing	Foot	205

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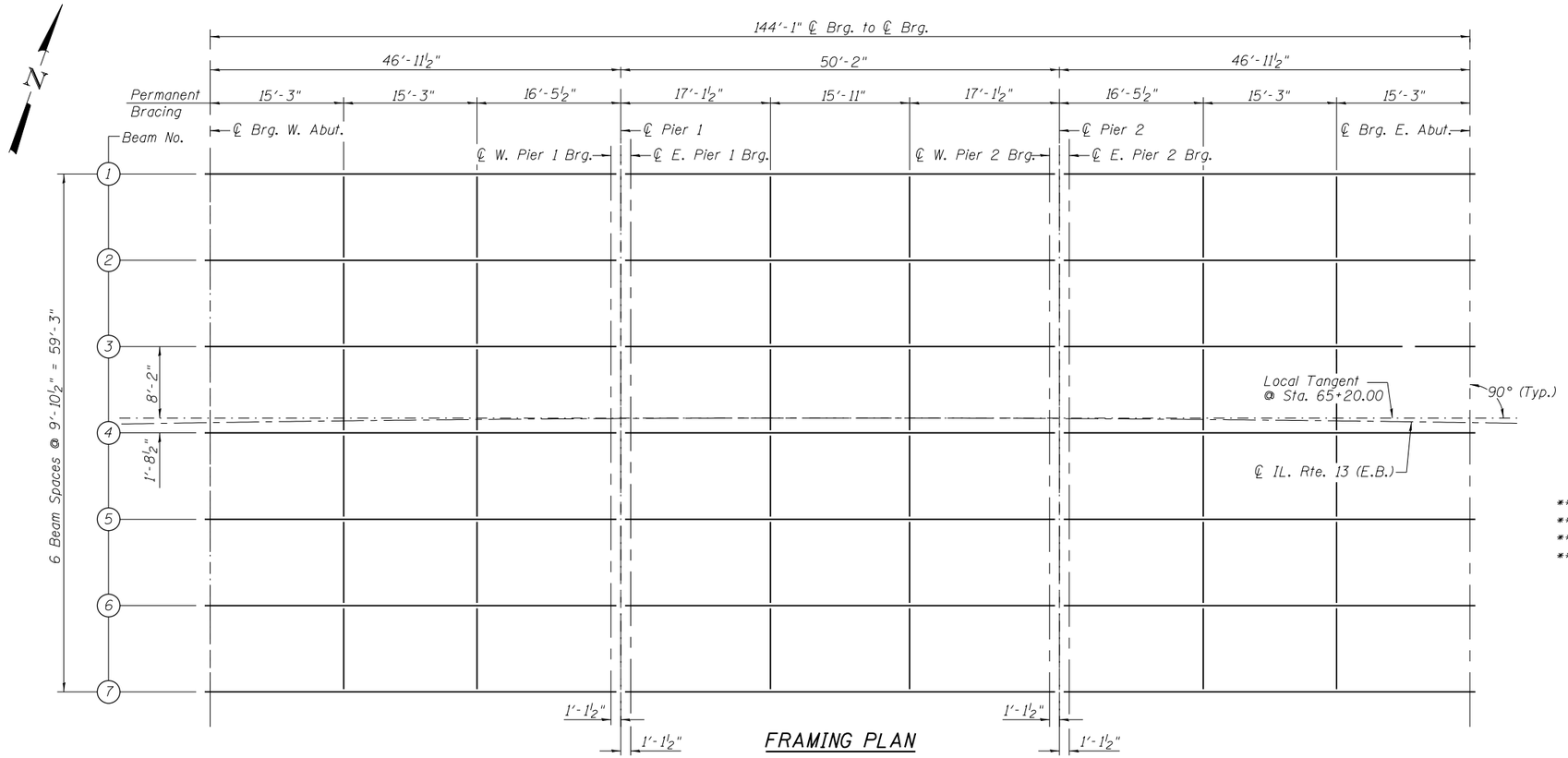
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

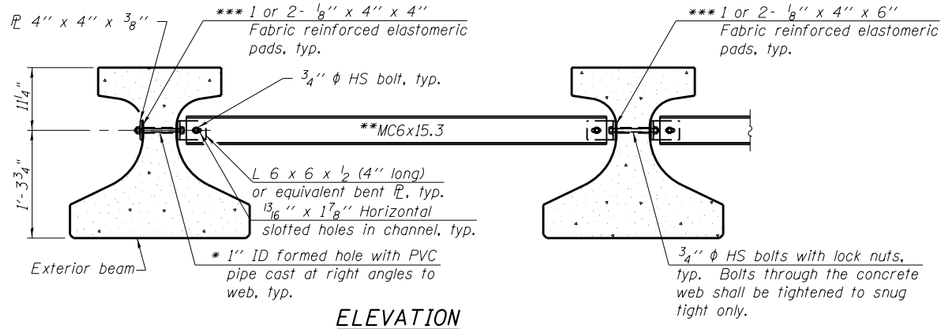
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAILING DETAILS
STRUCTURE NO. 039-0078
SHEET NO. 14 OF 27 SHEETS

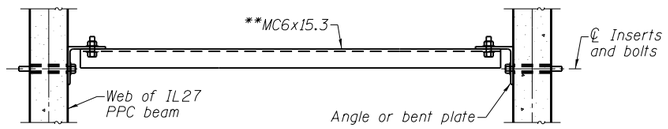
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	157
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN



ELEVATION



PLAN

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" ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

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 MC6x18 channels are permitted to facilitate material acquisition.

*** Place pads as necessary to provide a flat mounting surface between the steel and concrete.

PERMANENT BRACING DETAILS FOR IL27 PPC BEAMS

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	33,879		33,879
I'	(in^4)	144,353		144,353
S_b	(in^3)	3,060.4		3,060.4
S_b'	(in^3)	6,334.0		6,334.0
S_t	(in^3)	2,126.7		2,126.7
S_t'	(in^3)	34,288		34,288
DC1	(k/')	1.49	1.49	1.49
M_{DC1}	('k)	375	0	428
DC2	(k/')	0.17	0.17	0.17
M_{DC2}	('k)	29	35	13
DW	(k/')	0.375	0.375	0.375
M_{DW}	('k)	64	78	30
LLDF		0.840	0.834	0.829
M_{L+IM}	('k)	598	436	520

BEAM REACTION TABLE							
		Abut.		Pier 1 Span 1 Pier 2 Span 3		Pier 1 Span 2 Pier 2 Span 2	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
LLDF		0.943	0.763	0.943	0.763	0.943	0.763
OCF		—	—	—	—	—	—
R_{DC1}	(k)	34.1	31.1	34.1	31.1	35.6	32.6
**** R_{DC2}	(k)	3.09	3.09	4.5	4.5	4.5	4.5
**** R_{DW}	(k)	6.93	6.93	10.1	10.1	10.1	10.1
**** R_{L}	(k)	64.3	52.0	49.5	40.0	49.5	40.0
**** R_{IM}	(k)	17.0	13.7	10.5	8.5	10.5	8.5
R_{Total}	(k)	125.4	106.8	108.7	94.2	110.2	95.7

**** At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: 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.).
M_{DC2}: 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.).
M_{DW}: 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.).

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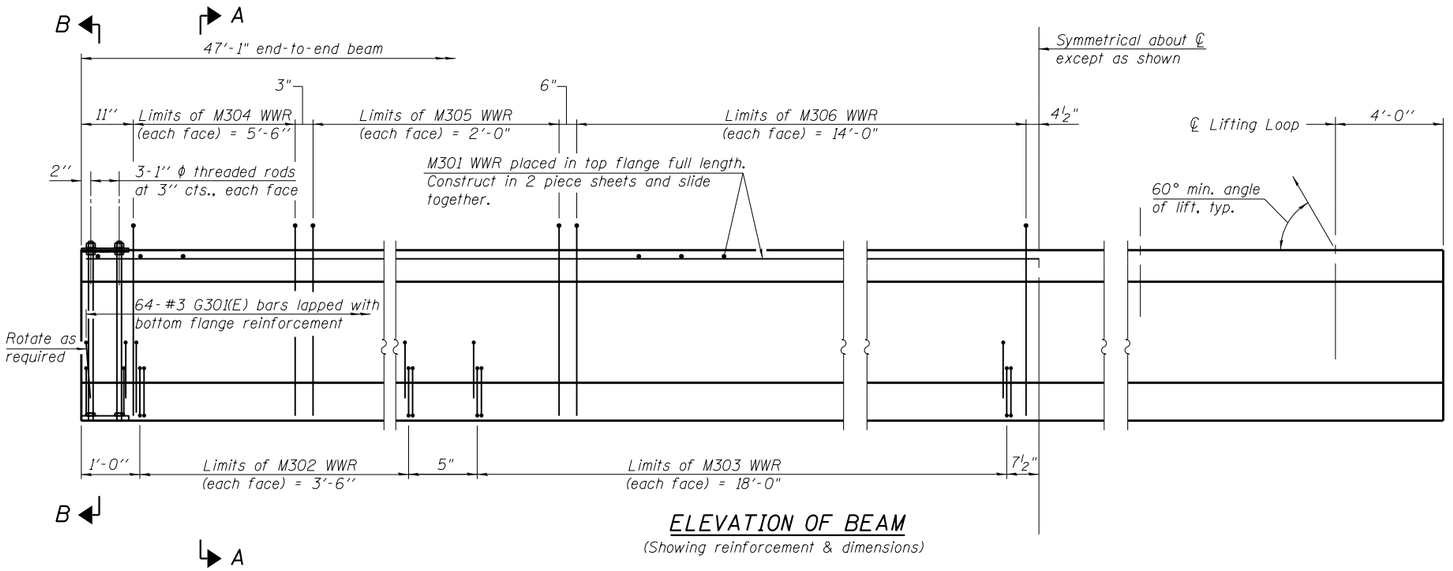
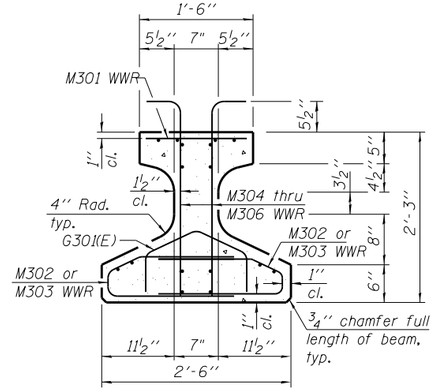
CMT					
	USER NAME =	DESIGNED MJL	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN AND DETAILS STRUCTURE NO. 039-0078 SHEET NO. 15 OF 27 SHEETS
		CHECKED WLB	REVISED		
	PLOT SCALE =	DRAWN GLD	REVISED		
	PLOT DATE =	CHECKED WLB	REVISED		

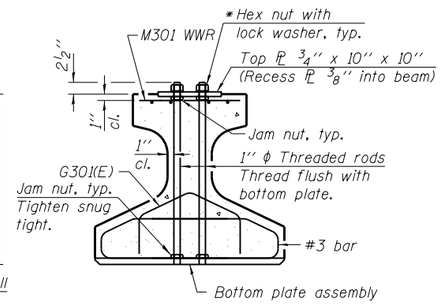
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	158
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

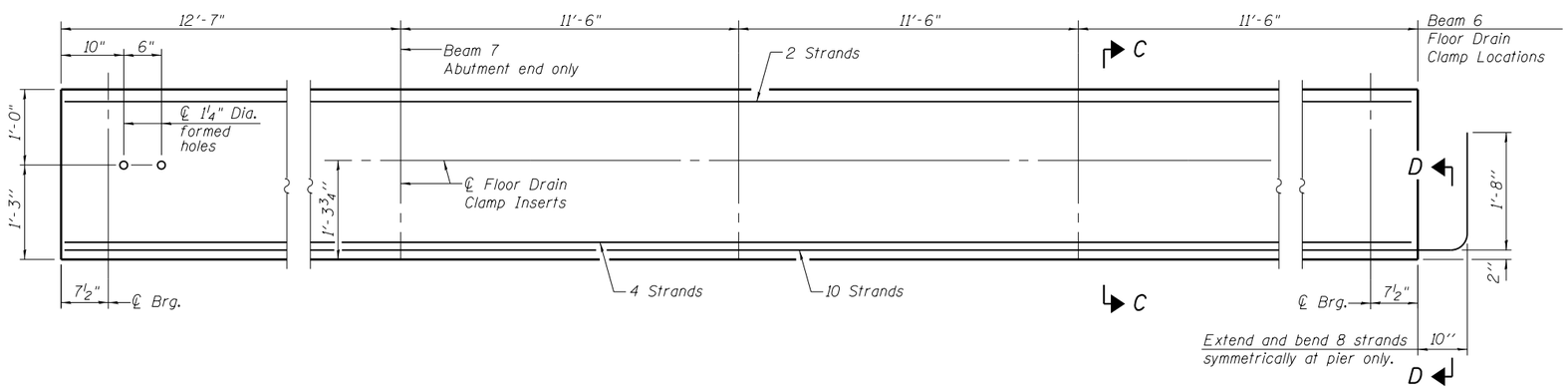


SECTION A-A

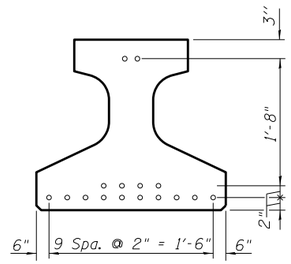


SECTION B-B

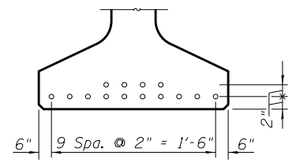
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
16-0.6" ϕ 270 ksi strands)



VIEW D-D

○ Fully bonded strand

▲ Partially debonded strand

Note:
See sheet 8 of 27 for Pipe Clamp details.
See sheet 18 of 27 for additional details and Bill of Material.

IL27-1830 2-17-2017

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USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL27-1830 BEAM SPAN 1 & 3
STRUCTURE NO. 039-0078
SHEET NO. 16 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	159
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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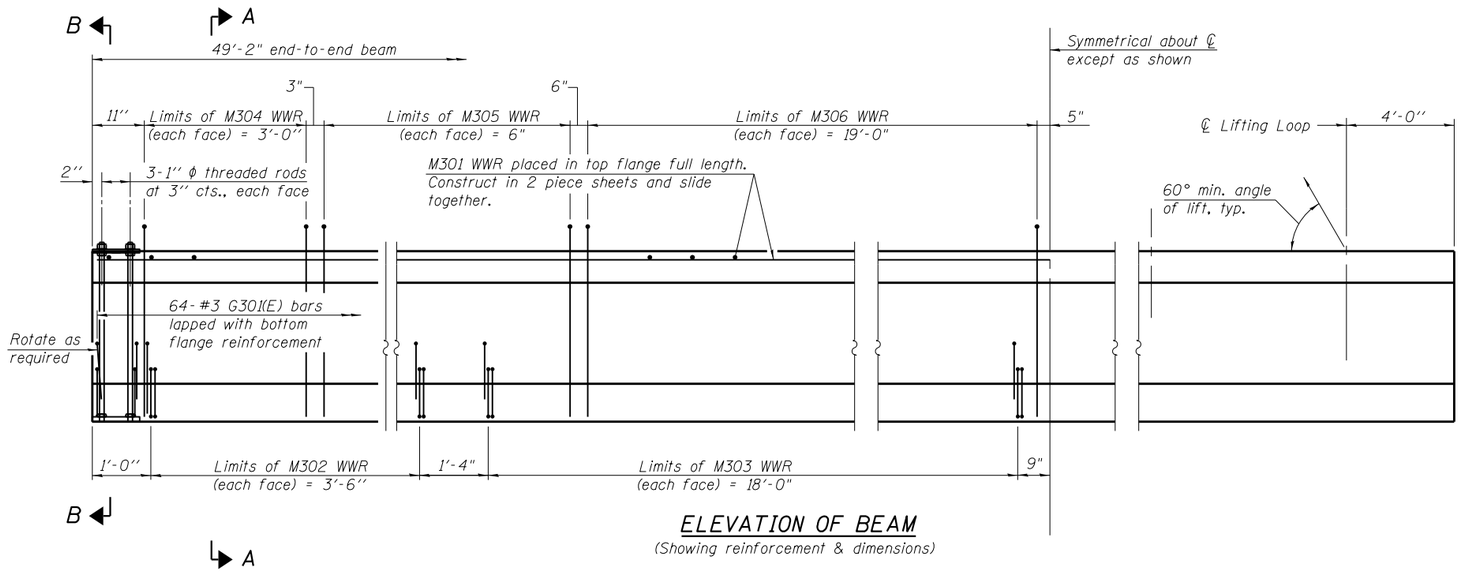
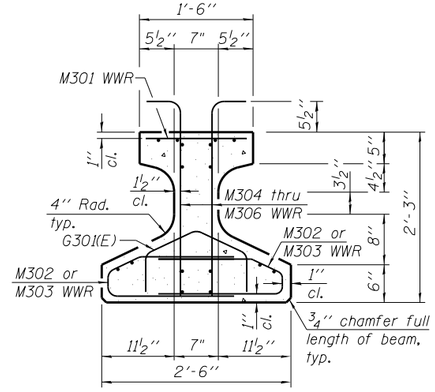
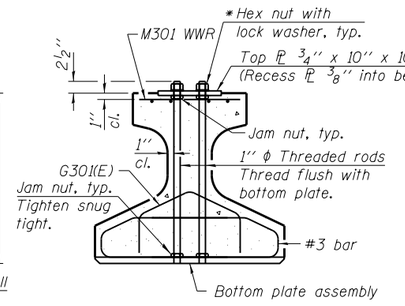


ELEVATION OF BEAM
(Showing reinforcement & dimensions)

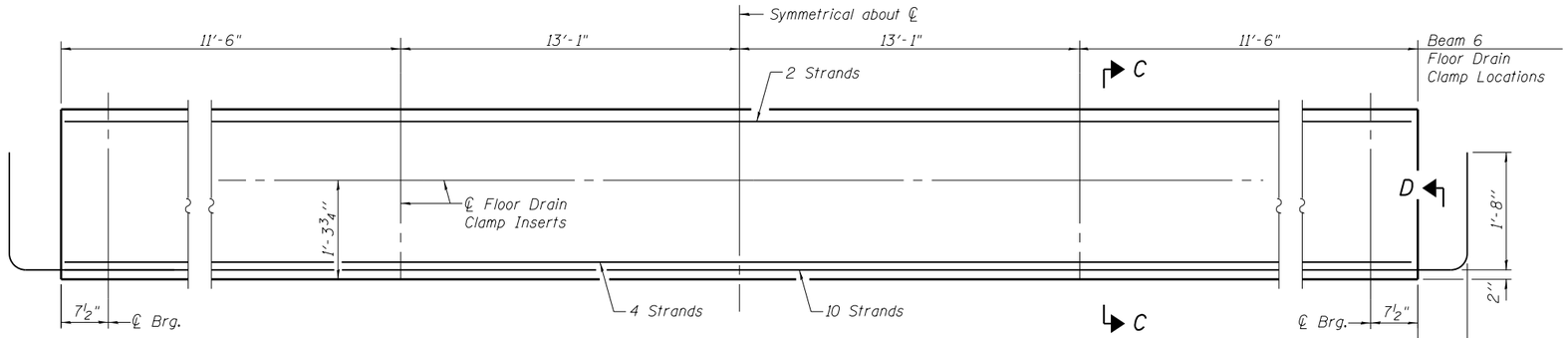


SECTION A-A

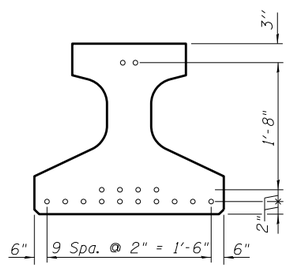


SECTION B-B

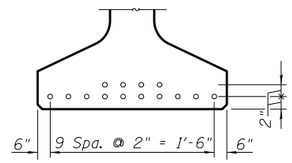
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
16-0.6" ϕ 270 ksi strands)



VIEW D-D

○ Fully bonded strand

▲ Partially debonded strand

Note:
See sheet 8 of 27 for Pipe Clamp details.
See sheet 18 of 27 for additional details and Bill of Material.

IL27-1830 2-17-2017

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL27-1830 BEAM SPAN 2
STRUCTURE NO. 039-0078
SHEET NO. 17 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	160
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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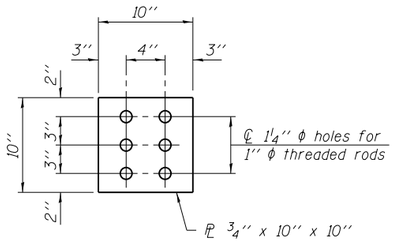
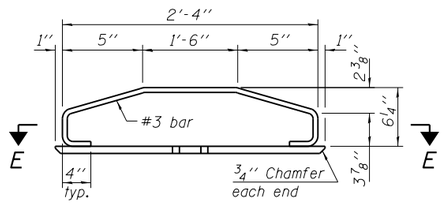
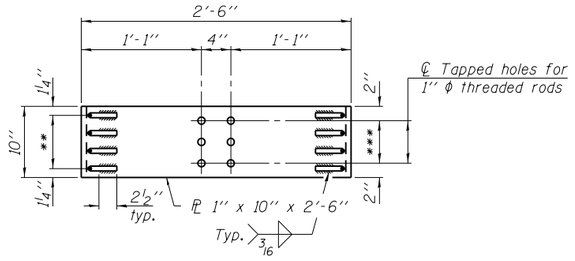


PLAN - TOP PLATE



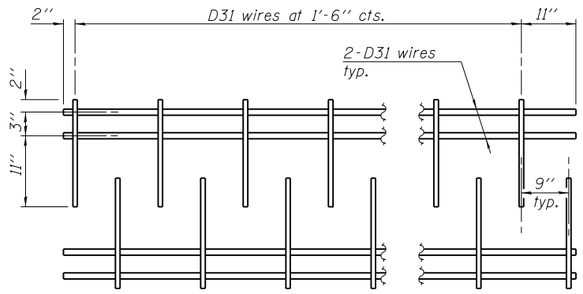
ELEVATION - BOTTOM PLATE ASSEMBLY



SECTION E-E

** 3 Spaces at 2½'' = 7½''

*** 2 Spaces at 3'' = 6''



M301 WWR DETAIL

When multiple sheets of M301 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'' ϕ 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 7000 psi.

A minimum 2½'' ϕ lifting pin shall be used to engage the lifting loops during handling.

Bend the extended strands inward on the fascia beams to maintain 1½'' clearance inside the pier diaphragm.

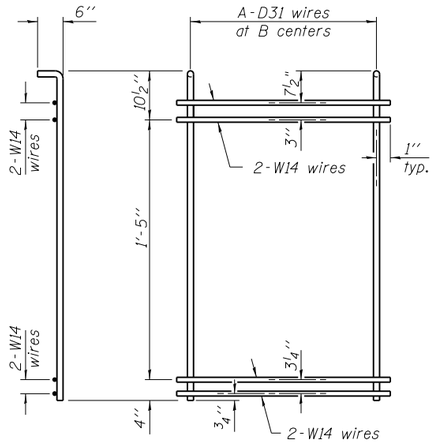
The top and bottom plates shall be AASHTO M270 Grade 50.

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.

Beams shall not be released from the fabricator until they have attained 45 days of age or older.

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



M304 THRU M306 WWR DETAIL

(See Table of Dimensions)

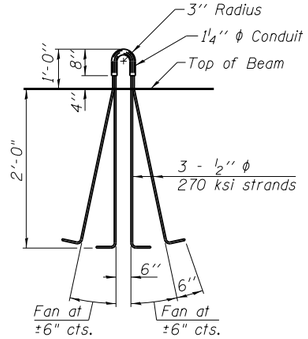
TABLE OF DIMENSIONS

SPAN 1 AND 3

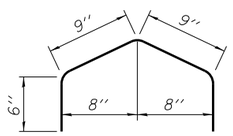
WWR	A	B
M302	15	3''
M303	13	1'-6''
M304	23	3''
M305	5	6"
M306	15	1'-0''

SPAN 2

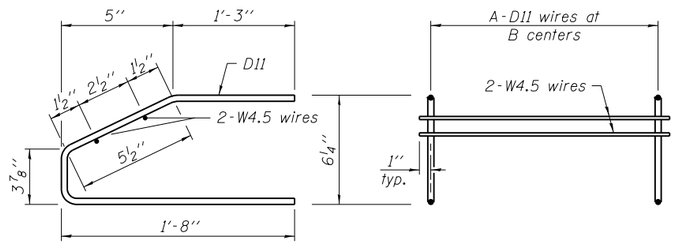
WWR	A	B
M302	15	3''
M303	13	1'-6''
M304	13	3''
M305	2	6"
M306	20	1'-0''



LIFTING LOOP DETAIL



BAR G301(E)



M302 AND M303 WWR DETAIL

(See Table of Dimensions)

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL27N	Ft.	1004

IL27-1830D 2-17-2017

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL27-1830 BEAM DETAILS
STRUCTURE NO. 039-0078
SHEET NO. 18 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	161
		CONTRACT NO. 78295		
		ILLINOIS FED. AID PROJECT		

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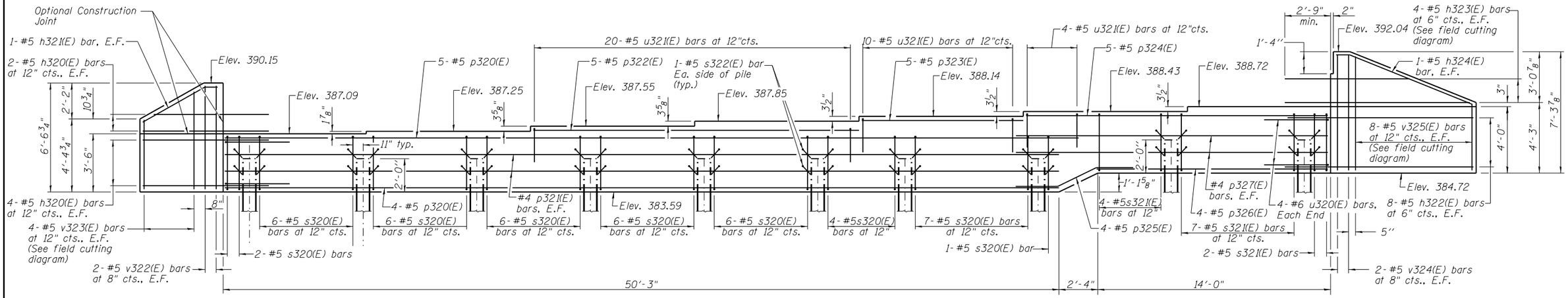
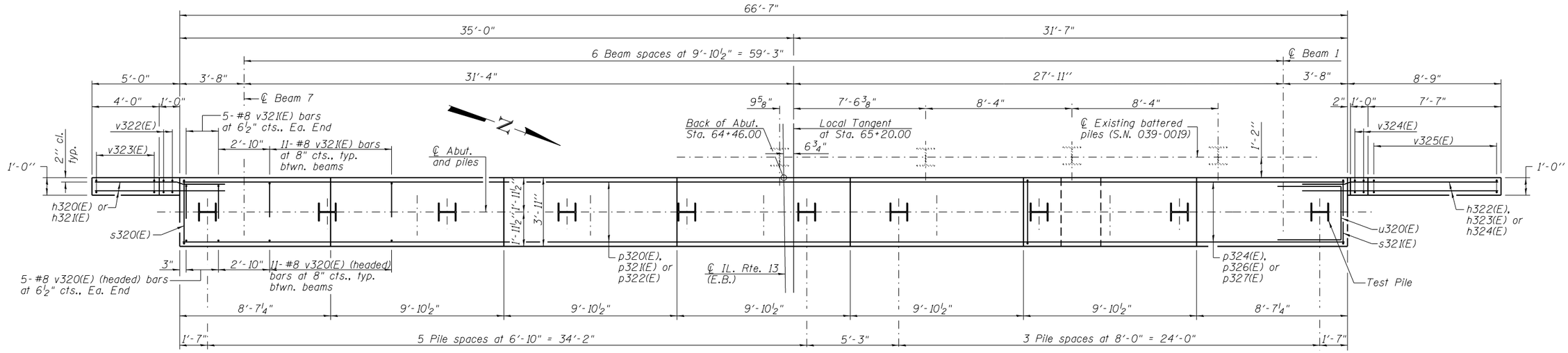


ELEVATION



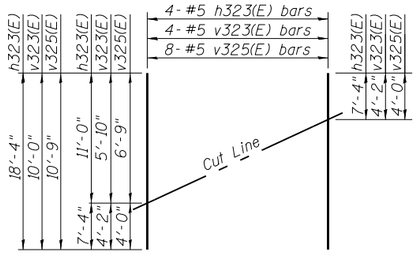
PLAN

PILE DATA

Type: HP 10x42
Nominal Required Bearing: 335kips
Factored Resistance Available: 184kips
Est. Length: 61 ft.
No. Production Piles: 9
No. Test Piles: 1

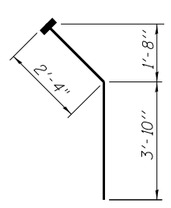
Notes:

1. See sheet 21 of 27 for section thru Abutment and Bill of Materials.
2. For Details of piles see sheet 25 of 27.
3. Pour steps monolothically with cap.
4. See sheet 2 of 27 for Abutment backfill details



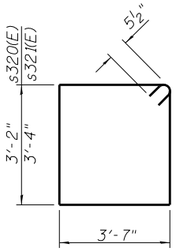
FIELD CUTTING DIAGRAM

Order h323(E), v323(E) and v325(E) full length. Cut as shown and use remainder of bars in opposite face.

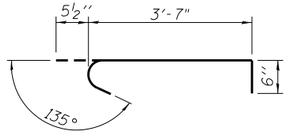


BAR v321(E)

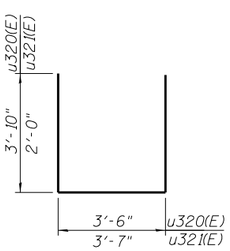
(headed)



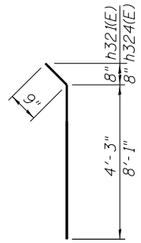
BAR s320(E) & s321(E)



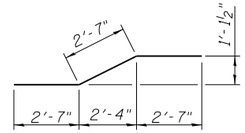
BAR s322(E)



BAR u320(E) & BAR u321(E)



BAR h321(E) & BAR h324(E)



BAR p325(E)

USER NAME =	DESIGNED MJL	REVISED	
	CHECKED WLB	REVISED	
PLOT SCALE =	DRAWN GLD	REVISED	
PLOT DATE =	CHECKED WLB	REVISED	

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 039-0078
SHEET NO. 19 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	162
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

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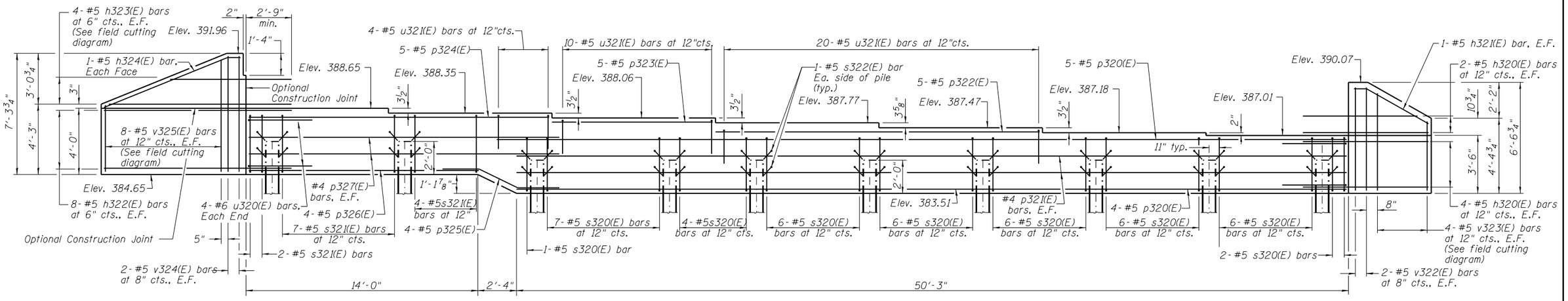
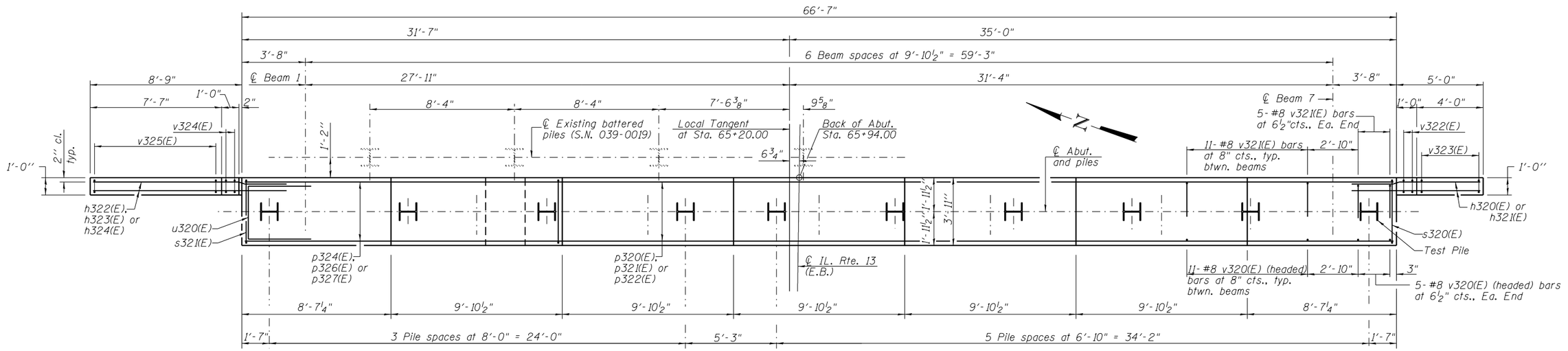


ELEVATION



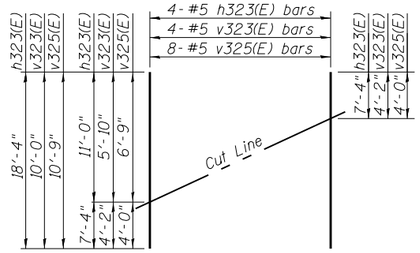
PLAN

PILE DATA

Type: HP 10x42
Nominal Required Bearing: 335 kips
Factored Resistance Available: 184 kips
Est. Length: 62 ft.
No. Production Piles: 9
No. Test Piles: 1

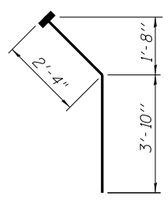
Notes:

1. See sheet 21 of 27 for section thru Abutment and Bill of Materials.
2. For Details of piles see sheet 25 of 27.
3. Pour steps monolothically with cap.
4. See sheet 2 of 27 for Abutment backfill details

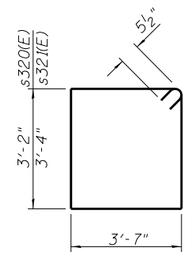


FIELD CUTTING DIAGRAM

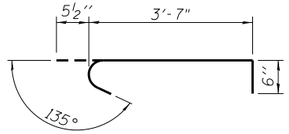
Order h323(E), v323(E) and v325(E) full length. Cut as shown and use remainder of bars in opposite face.



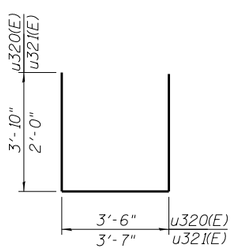
BAR v321(E)
(headed)



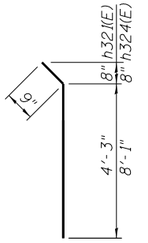
BAR s320(E) & s321(E)



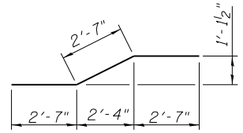
BAR s322(E)



BAR u320(E) & BAR u321(E)



BAR h321(E) & BAR h324(E)



BAR p325(E)

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 039-0078
SHEET NO. 20 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	163
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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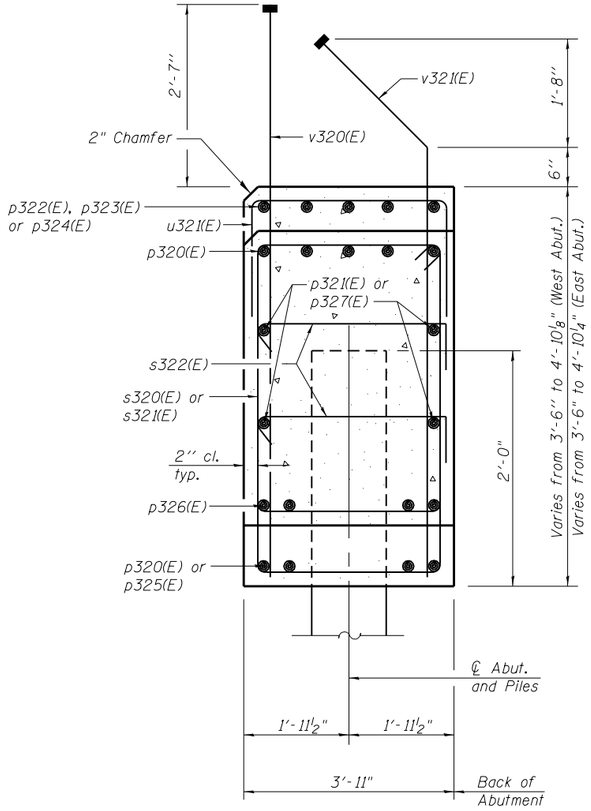

SEC. THRU ABUT.

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h320(E)	12	#5	7'-7"	
h321(E)	2	#5	5'-0"	
h322(E)	16	#5	11'-4"	
h323(E)	4	#5	18'-4"	
h324(E)	2	#5	8'-10"	
p320(E)	9	#5	50'-1"	
p321(E)	4	#4	50'-1"	
p322(E)	5	#5	19'-7"	
p323(E)	5	#5	9'-9"	
p324(E)	5	#5	18'-1"	
p325(E)	4	#5	7'-9"	
p326(E)	4	#5	13'-11"	
p327(E)	4	#4	18'-9"	
s320(E)	44	#5	14'-5"	
s321(E)	13	#5	14'-9"	
s322(E)	40	#5	4'-7"	
u320(E)	8	#6	11'-2"	
u321(E)	34	#5	7'-7"	
v320(E)	76	#8	5'-11"	
v321(E)	76	#8	6'-2"	
v322(E)	4	#5	6'-2"	
v323(E)	4	#5	10'-0"	
v324(E)	4	#5	7'-0"	
v325(E)	8	#5	10'-9"	
Structure Excavation			Cu. Yd.	57
Concrete Structures			Cu. Yd.	41.7
Reinforcement Bars, Epoxy Coated			Pound	5,480
Furnishing Steel Piles, HP 10x42			Foot	549
Driving Piles			Foot	549
Test Pile Steel HP 10x42			Each	1

EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h320(E)	12	#5	7'-7"	
h321(E)	2	#5	5'-0"	
h322(E)	16	#5	11'-4"	
h323(E)	4	#5	18'-4"	
h324(E)	2	#5	8'-10"	
p320(E)	9	#5	50'-1"	
p321(E)	4	#4	50'-1"	
p322(E)	5	#5	19'-7"	
p323(E)	5	#5	9'-9"	
p324(E)	5	#5	18'-1"	
p325(E)	4	#5	7'-9"	
p326(E)	4	#5	13'-11"	
p327(E)	4	#4	18'-9"	
s320(E)	44	#5	14'-5"	
s321(E)	13	#5	14'-9"	
s322(E)	40	#5	4'-7"	
u320(E)	8	#6	11'-2"	
u321(E)	34	#5	7'-7"	
v320(E)	76	#8	5'-11"	
v321(E)	76	#8	6'-2"	
v322(E)	4	#5	6'-2"	
v323(E)	4	#5	10'-0"	
v324(E)	4	#5	7'-0"	
v325(E)	8	#5	10'-9"	
Structure Excavation			Cu. Yd.	57
Concrete Structures			Cu. Yd.	41.7
Reinforcement Bars, Epoxy Coated			Pound	5,480
Furnishing Steel Piles, HP 10x42			Foot	558
Driving Piles			Foot	558
Test Pile Steel HP 10x42			Each	1

Notes:
For details of Piles, see Sheet 25 of 27.
Headed bars shall conform to ASTM A970 Class HA. Cost included with Reinforcement Bars, Epoxy Coated.

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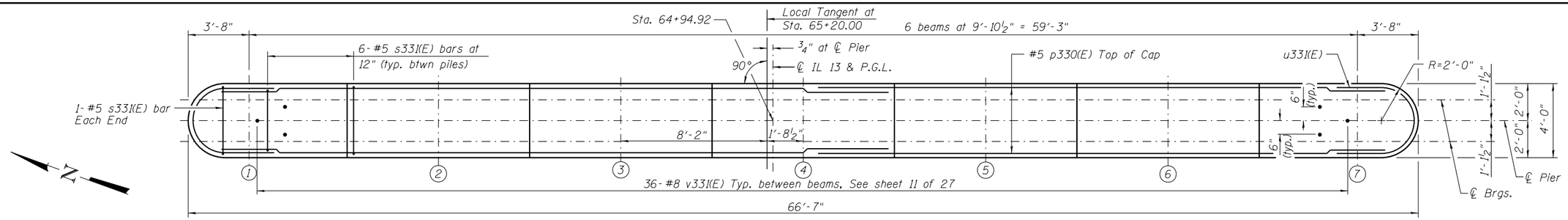
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

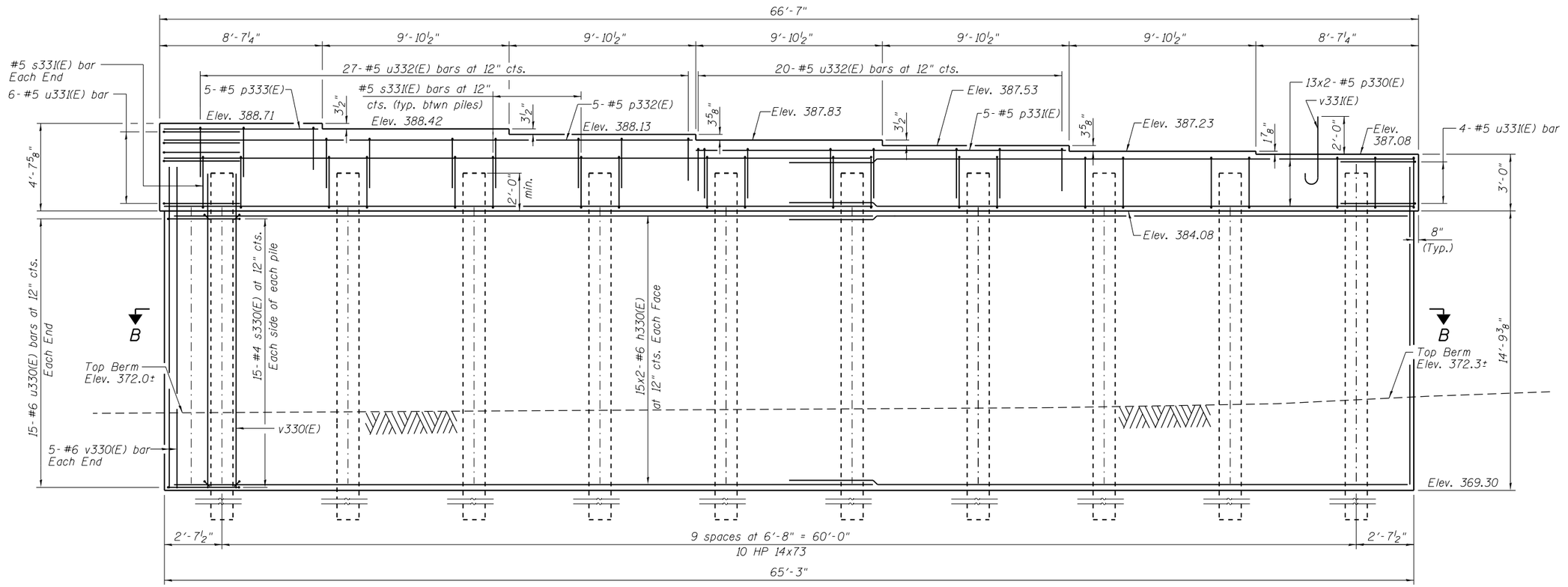
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 039-0078
SHEET NO. 21 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	164
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



MIN. BAR LAP

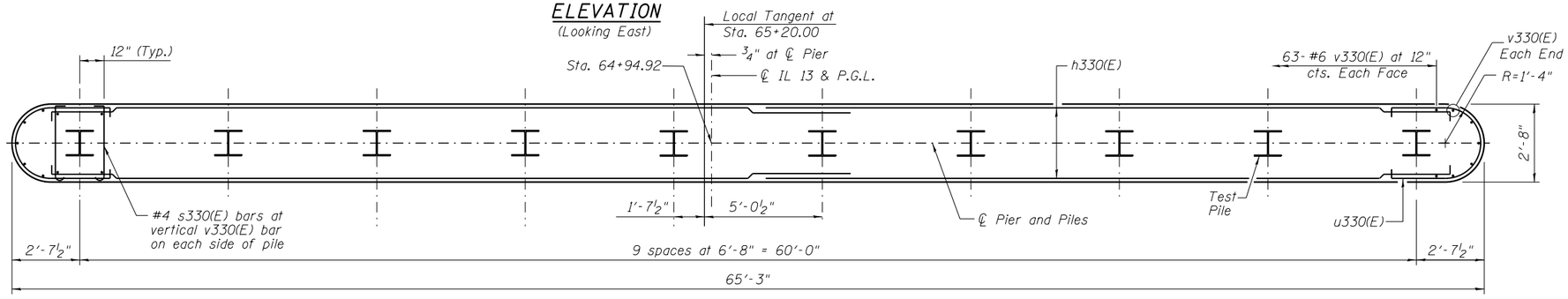
#5 bar = 3'-7"
#6 bar = 4'-4"

PILE DATA

Type: HP 14x73
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 62 ft.
No. Production Piles: 9
No. Test Piles: 1

ELEVATION

(Looking East)



SECTION B-B

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1
STRUCTURE NO. 039-0078
SHEET NO. 22 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	165
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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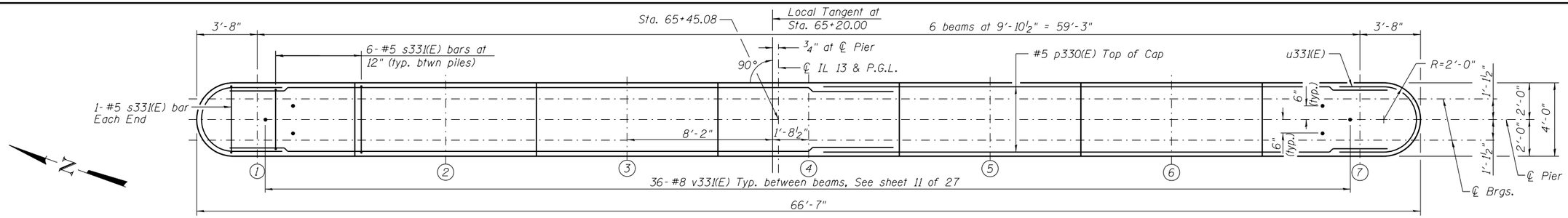
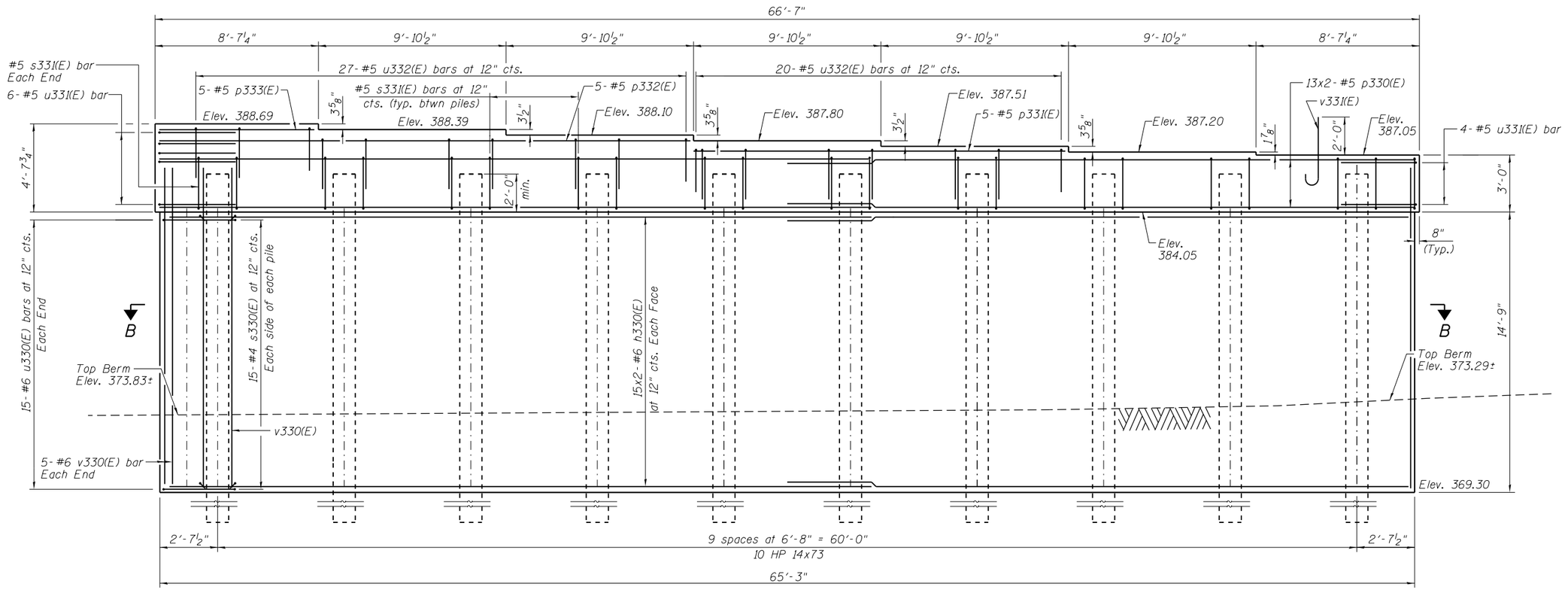


TOP PLAN



MIN. BAR LAP

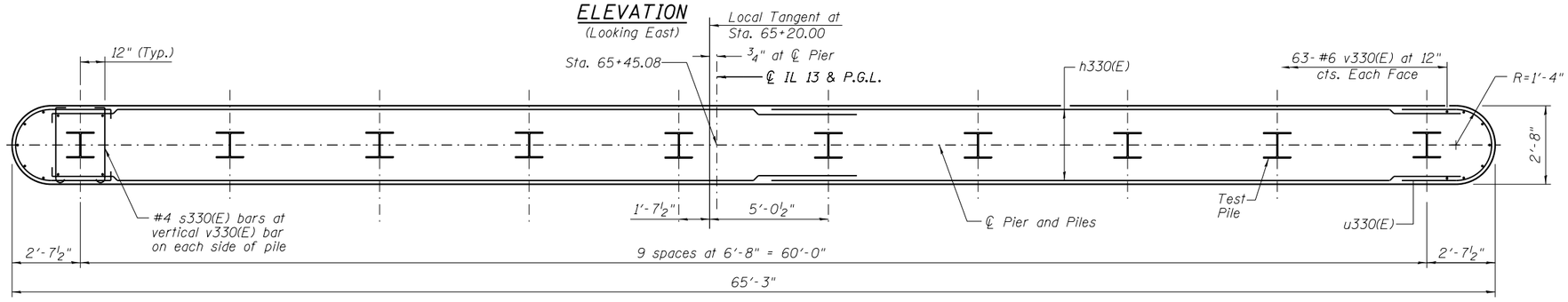
#5 bar = 3'-7"
#6 bar = 4'-4"

PILE DATA

Type: HP 14x73
Nominal Required Bearing: 578 kips
Factored Resistance Available: 318 kips
Est. Length: 63 ft.
No. Production Piles: 9
No. Test Piles: 1

ELEVATION

(Looking East)



SECTION B-B

CMT	USER NAME =	DESIGNED MJL	REVISED
		CHECKED WLB	REVISED
	PLOT SCALE =	DRAWN GLD	REVISED
	PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2
STRUCTURE NO. 039-0078
SHEET NO. 23 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	166
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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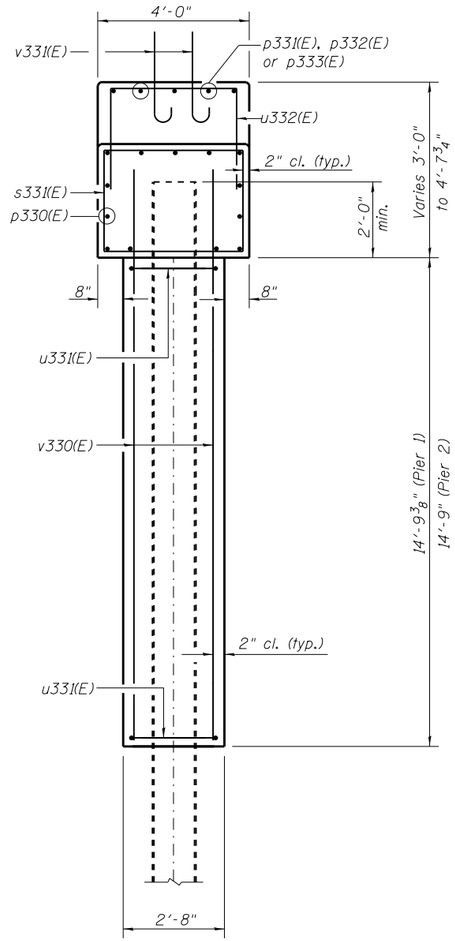


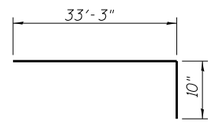
PIER - END VIEW

PIER 1
BILL OF MATERIAL

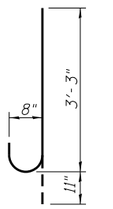
Bar	No.	Size	Length	Shape
h330(E)	60	#6	34'-4"	
p330(E)	26	#5	33'-3"	
p331(E)	5	#5	19'-7"	
p332(E)	5	#5	26'-2"	
p333(E)	5	#5	6'-6"	
s330(E)	300	#4	2'-7"	
s331(E)	56	#5	13'-7"	
u330(E)	30	#6	11'-0"	
u331(E)	10	#5	11'-1"	
u332(E)	47	#5	9'-0"	
v330(E)	136	#6	17'-1"	
v331(E)	36	#8	4'-2"	
Reinforcement Bars, Epoxy Coated			Lbs.	10,520
Concrete Structure			Cu. Yds.	135.9
Furnishing Steel Piles, HP 14x73			Foot	558
Driving Piles			Foot	558
Test Pile Steel HP 14x73			Each	1
Structure Excavation			Cu. Yds.	43

PIER 2
BILL OF MATERIAL

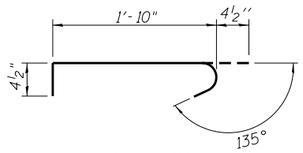
Bar	No.	Size	Length	Shape
h330(E)	60	#6	34'-4"	
p330(E)	26	#5	33'-3"	
p331(E)	5	#5	19'-7"	
p332(E)	5	#5	26'-2"	
p333(E)	5	#5	6'-6"	
s330(E)	300	#4	2'-7"	
s331(E)	56	#5	13'-7"	
u330(E)	30	#6	11'-0"	
u331(E)	10	#5	11'-1"	
u332(E)	47	#5	9'-0"	
v330(E)	136	#6	17'-1"	
v331(E)	36	#8	4'-2"	
Reinforcement Bars, Epoxy Coated			Lbs.	10,520
Concrete Structure			Cu. Yds.	135.7
Furnishing Steel Piles, HP 14x73			Foot	567
Driving Piles			Foot	567
Test Pile Steel HP 14x73			Each	1
Structure Excavation			Cu. Yds.	65



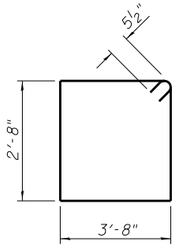
BAR h330(E)



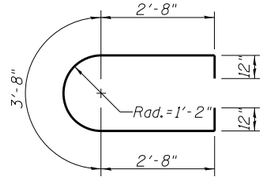
BAR v331(E)



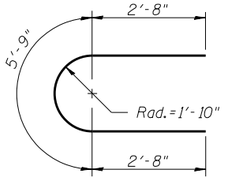
BAR s330(E)



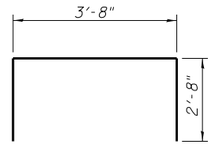
BAR s331(E)



BAR u330(E)



BAR u331(E)



BAR u332(E)

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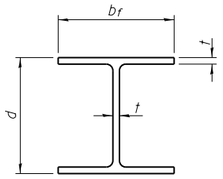
USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

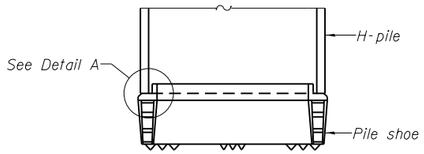
PIER DETAILS
STRUCTURE NO. 039-0078
SHEET NO. 24 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	167
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

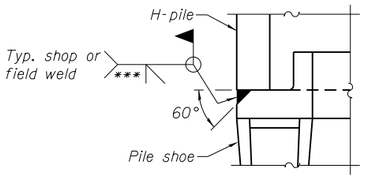


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4''	14 7/8''	13/16''	30''
x102	14''	14 3/4''	11/16''	30''
x89	13 7/8''	14 3/4''	5/8''	30''
x73	13 5/8''	14 5/8''	1/2''	30''
HP 12x84	12 1/4''	12 1/4''	11/16''	24''
x74	12 1/8''	12 1/4''	5/8''	24''
x63	12''	12 1/8''	1/2''	24''
x53	11 3/4''	12''	7/16''	24''
HP 10x57	10''	10 1/4''	9/16''	24''
x42	9 3/4''	10 1/8''	7/16''	24''
HP 8x36	8''	8 1/8''	7/16''	18''



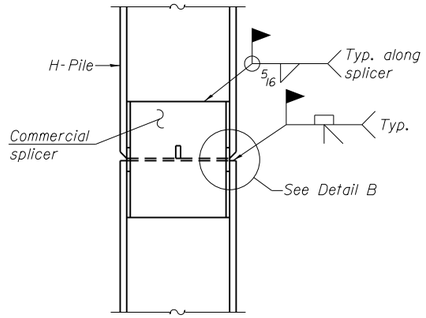
ELEVATION



DETAIL A

SHOE ATTACHMENT

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



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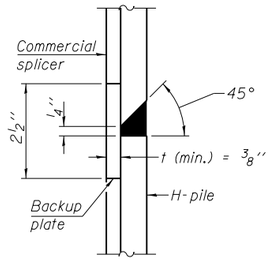
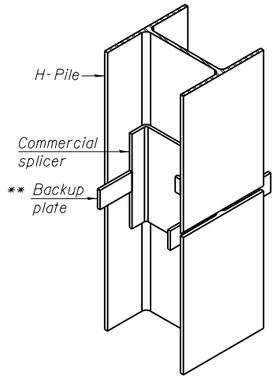
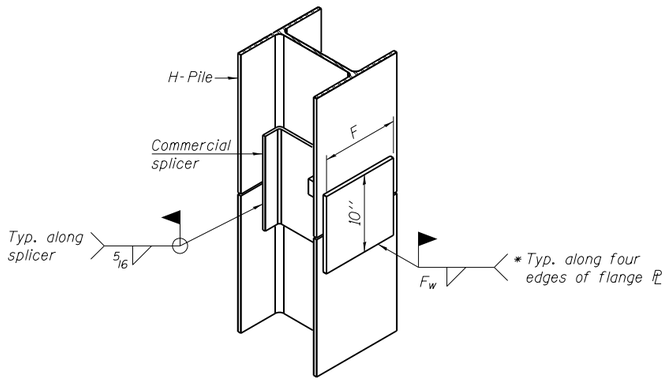


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



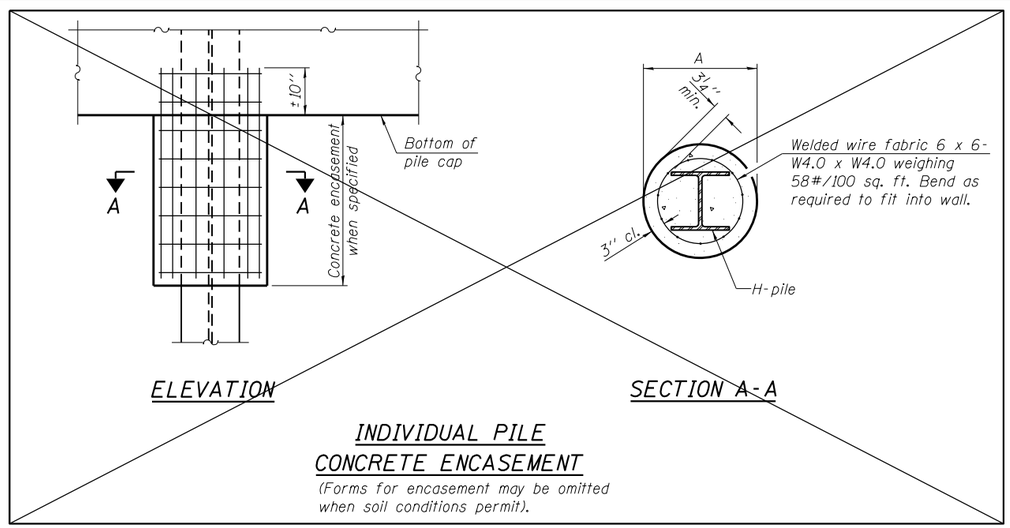
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4'' from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

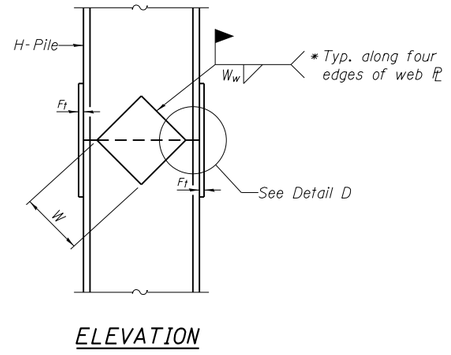
*** Weld size per pile shoe manufacturer (5/16'' min.).



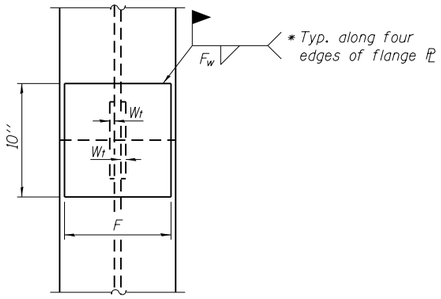
ELEVATION SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

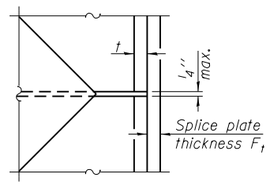
(Forms for encasement may be omitted when soil conditions permit).



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2''	1''	7/8''	7 3/4''	5/8''	1/2''
x102	12 1/2''	7/8''	3/4''	7 3/4''	5/8''	1/2''
x89	12 1/2''	3/4''	11/16''	7 3/4''	5/8''	1/2''
x73	12 1/2''	5/8''	9/16''	7 3/4''	5/8''	1/2''
HP 12x84	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x74	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x63	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
x53	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
HP 10x57	8''	3/4''	9/16''	5 1/4''	1/2''	3/8''
x42	8''	5/8''	9/16''	5 1/4''	1/2''	3/8''
HP 8x36	7''	5/8''	7/16''	4 1/4''	1/2''	3/8''

WELDED PLATE FIELD SPLICE

F-HP

8-11-2017

CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 039-0078
SHEET NO. 25 OF 27 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	168
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

Eastbound FAP 331 (IL 13) Over Crab Orchard Creek Overflow

Route: FAP 331 (IL 13) Structure Number: 039-0019 Date: 6/25/2014

Section (5B-2) DR-1, (5B-2) Bored By: R Moberly

County: Jackson Location: 0.4 mi East of Giant City Road Checked By: R Graeff

Boring No 1-S
Station 164+22
Offset 11' Rt CL EBL
Ground Surface 390.5 Ft

Surf Wat Elev:
Ground Water Elevation
when Drilling 365.5
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
4.5" Asphalt and 13.5" Concrete				Very soft, very moist, brown, Silty Clay Loam A-6	1	0.2B	30
389.0				363.5	WH		
Medium, very moist, grey and brow Clay A7-6	1	0.8B	25	Medium, very moist, grey mottled brown, Silty Clay A-6	WH		
	1				1	0.8B	30
386.0				361.0	1		
Very stiff, moist, grey, Clay A7-6 5.0	1			Stiff, moist, brown mottled grey, 30.0	1		
	1	3.3B	19	Clay A7-6	2	1.8B	30
	4				3		
383.5				358.5			
Stiff, moist, brown and grey, Clay A7-6	1			Very stiff, moist, brown and grey, Clay A7-6	1		
	3	1.9B	21		2	2.7B	27
	3				3		
10.0	1			35.0	1		
	2	1.1B	28		3	2.3B	31
	2				4		
378.5							
Medium, verfy moist, brown, Clay A7-6	WH				1		
	1	0.6B	29		3	2.5B	32
	1				5		
376.0							
Very stiff, moist, brown, Clay 15.0	1			40.0	2		
A7-6	3	2.3B	20		4	2.9B	35
	5				5		
373.5							
Medium, very moist, grey mottled	1						
brown, Clay to silty Clay A7-6	1	0.8B	25				
	2						
371.0							
Medium, very moist, grey mottled 20.0	1			45.0	3		
brown, Silty Clay Loam A-6	1	0.6B	27		7	2.7B	26
	1				8		
368.5							
Soft, very moist, grey mottled	WH						
brown, Silty Clay Loam A-6	1	0.4B	28				
	WH						
366.0							
25.0	WH			50.0	2		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: (5B-2) DR-1, (5B-2) DR
County: Jackson
Date: 6/25/2014

Boring No: 1-S
Station: 164+22
Offset: 11' Rt CL EBL
Ground Surface: 390.5 Ft

DEPTH	BLOWS	Qu tsf	W%
Very stiff, moist, brown, Clay A7-6	5	3.9B	25
	7		
336.0			
Loose to very loose, wet, grey, 55.0	1		
Fine Sand Loam	2		23
73% Sand	2		
16% Silt			
11% Clay			
331.0			
Stiff, moist, grey, brown and black, 60.0	1		
Conglomerate with weathered	7	1.2S	18
Clay Shale	11		
327.5			
Hard, dry, grey, Clay Shale			
65.0	100/4"		
321.0			
Hard, dry, grey Clay Shale with 70.0	14		
layers of softer Shale and Coal	100/6"		
315.5 75.0	100/4"		

Bottom of hole = 74.8 feet

Free water observed at 25.0 feet

Elevation referenced to BM at SE corner of 039-0019; Elevation = 385.1 feet

Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)

To convert "N" values to "N60" multiply by 1.25

DEPTH	BLOWS	Qu tsf	W%
80.0			
85.0			
90.0			
95.0			
100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT	USER NAME =	DESIGNED MJL	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS 1 STRUCTURE NO. 039-0078
		CHECKED WLB	REVISED		SHEET NO. 26 OF 27 SHEETS
	PLOT SCALE =	DRAWN GLD	REVISED		
	PLOT DATE =	CHECKED WLB	REVISED		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	169
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

Route: FAP 331 (IL 13)
Section: (5B-2) DR-1, (5B-2) DR
County: Jackson
Date: 6/26/2014

Boring No: 2-S
Station: 166+15
Offset: 14' Rt CL EBL
Ground Surface: 390.3 Ft

	DEPTH	BLOWS	Qu tsf	W%
Stiff, moist, brown, Clay A7-6		3 4	1.5B	27
	335.8			
Stiff, moist, brown, Clay A7-6 with sand seams	55.0	1 3 4	1.7B	26
	330.8			
Stiff, moist, grey and brown, Clay A7-6 with some gravel	60.0	1 3 4	1.5B	23
	326.3			
Hard, dry grey, weathered Clay Shale	65.0	14 100/12		
	324.8			
Hard, dry, grey Clay Shale	324.3			
Bottom of hole = 66.0 feet				
Free water observed at 27.0 feet	70.0			
Elevation referenced to BM at SE corner of 039-0019; Elevation = 385.1 feet				
Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)				
To convert "N" values to "N60" multiply by 1.25	75.0			

	DEPTH	BLOWS	Qu tsf	W%
	80.0			
	85.0			
	90.0			
	95.0			
	100.0			

N-Std Pentx Test: 2" OD Samplex,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
STRUCTURE NO. 039-0078
SHEET NO. 27 OF 27 SHEETS

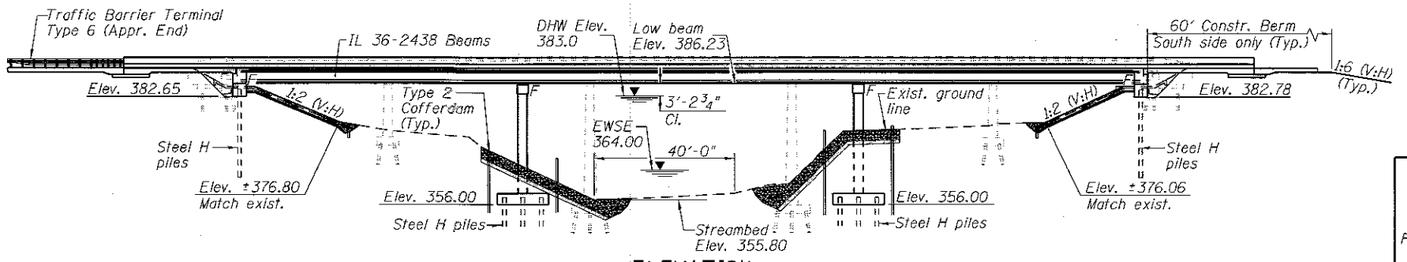
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	170
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

Bench Mark: Cut square on Southwest corner of Structure 039-0061 of Illinois Route 13 WBL @ Sta. 85+86±. Elev. 390.262

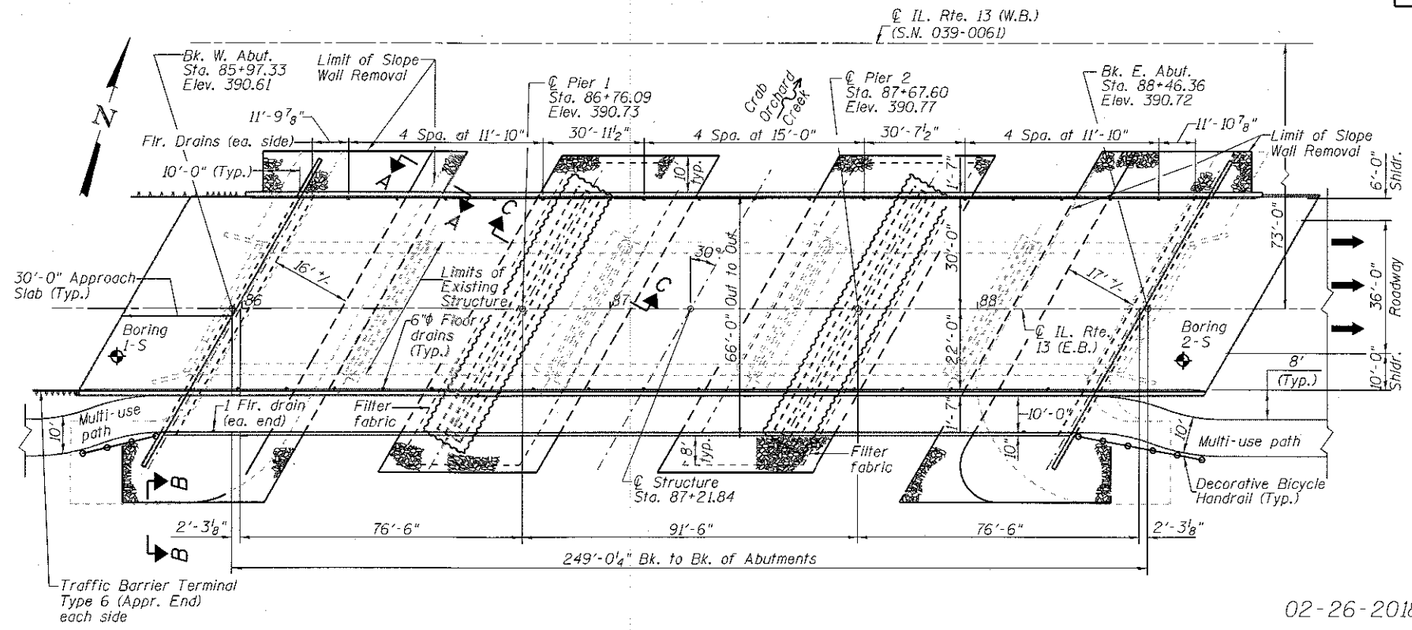
Existing Structure: S.N. 039-0021, built in 1965 is a five span continuous wide flange beam bridge. Substructure consists of pile bent abutments supported on steel piles and solid wall pile bent piers. Bk. to Bk. abutments measures 255'-9" and out-to-out width of 36'-0".

Salvage: None

Traffic Maintenance: Traffic to be maintained utilizing median cross-overs, onto W.B. bridge (039-0061)



ELEVATION

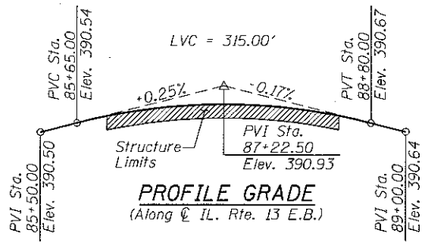


PLAN

Note:
See Sheet 2 of 28 for Section A-A, B-B and C-C.

DESIGN SCOUR ELEVATION TABLE

Event / Limit State	Design Scour Elevations (ft.) W. Abut.	Pier 1	Pier 2	E. Abut.	Item 113
0.100	382.65	340.61	351.07	382.78	5
0.200	382.65	339.61	350.07	382.78	
Design	382.65	340.61	351.07	382.78	
Check	382.65	339.61	350.07	382.78	



PROFILE GRADE
(Along ℄ IL. Rte. 13 E.B.)

STATION 87+21.84
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT 331 SEC (5-3) B-6
LOADING HL-93
STRUCTURE NO. 039-0079

NAME PLATE
See Std. 515001

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

02-26-2018

LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR.
081-005087
STATE OF ILLINOIS

Exp. 11-30-2018

INDEX OF SHEETS

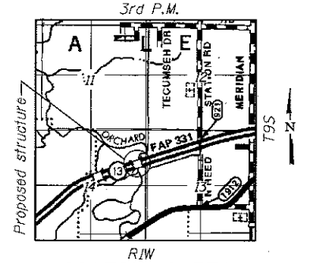
DESIGN SPECIFICATIONS
2014 AASHTO LRFD Bridge Specifications, 7th Edition with 2015 & 2016 Interims

LOADING HL-93
Allow 50 psf for future wearing surface

DESIGN STRESSES

FIELD UNITS	PRECAST PRESTRESSED UNITS
f'c = 3,500 psi (concrete)	f'c = 8,500 psi (concrete)
f'c = 4,000 psi (Superstr. concrete)	f'ci = 7,000 psi
fy = 60,000 psi (Reinforcement)	fpu = 270,000 psi (0.6"ϕ low lax strands)
	fpbt = 202,300 psi (0.6"ϕ low lax strands)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec (SD1) = 0.360g
Design Spectral Acceleration at 0.2 sec (SDS) = 0.845g
Soil Site Class = D



LOCATION SKETCH

GENERAL PLAN
F.A.P. ROUTE 331 (IL 13 E.B.)
OVER CRAB ORCHARD CREEK
SECTION (5-3) B-6
JACKSON COUNTY
STATION 87+21.84
STRUCTURE NO. 039-0079

USER NAME =	DESIGNED	CJW	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 039-0079
SHEET NO. 1 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	171
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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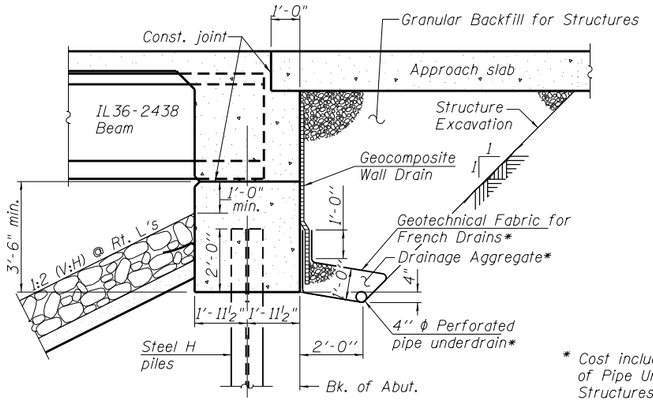
GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting the new Parapet Railing and Decorative Steel Railing except where otherwise noted. The entire sytem shall be shop applied. Damaged areas shall be touched up in the field. The color of the final finish coat for all steel surfaces of the Railings shall be Reddish Brown, Munsell No. 2.5YR 3/4.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
5. Slipforming of the parapets is not allowed.

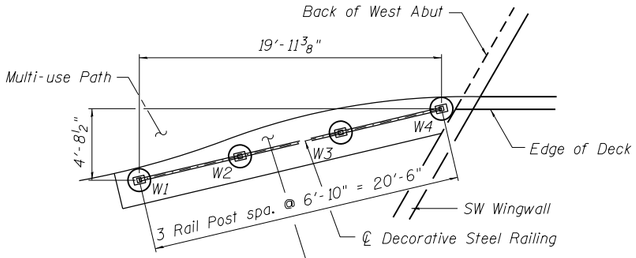


* Cost included in the cost of Pipe Underdrains for Structures (See special provision).

SECTION THRU INTEGRAL ABUTMENT

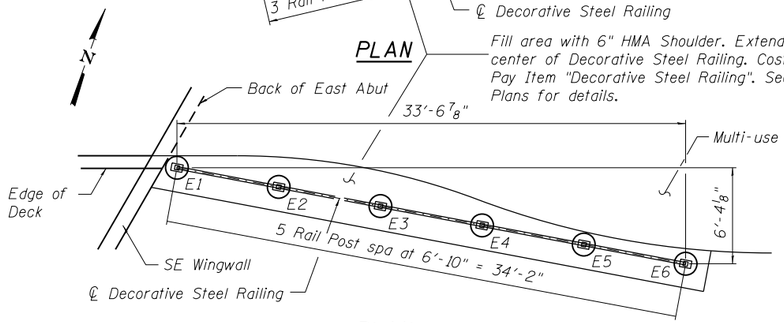
(Horiz. dim. at Rt. L's)

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.)

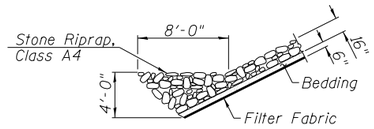


PLAN

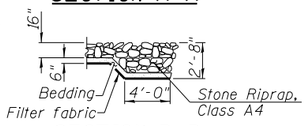
Fill area with 6" HMA Shoulder. Extend 18" behind center of Decorative Steel Railing. Cost included in Pay Item "Decorative Steel Railing". See Roadway Plans for details.



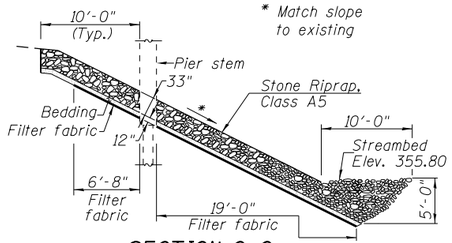
PLAN



SECTION A-A



SECTION B-B



SECTION C-C

DECORATIVE RAILING DETAIL

Note:
For railing post foundation details, see sheet 14 of 28

RAILING FOUNDATION ELEVATION INFORMATION

East Foundation Elevations		West Foundation Elevations	
No.	Elev.	No.	Elev.
E1	390.18	W1	389.88
E2	390.14	W2	389.92
E3	390.11	W3	389.95
E4	390.09	W4	390.01
E5	390.07		
E6	390.05		

WATERWAY INFORMATION

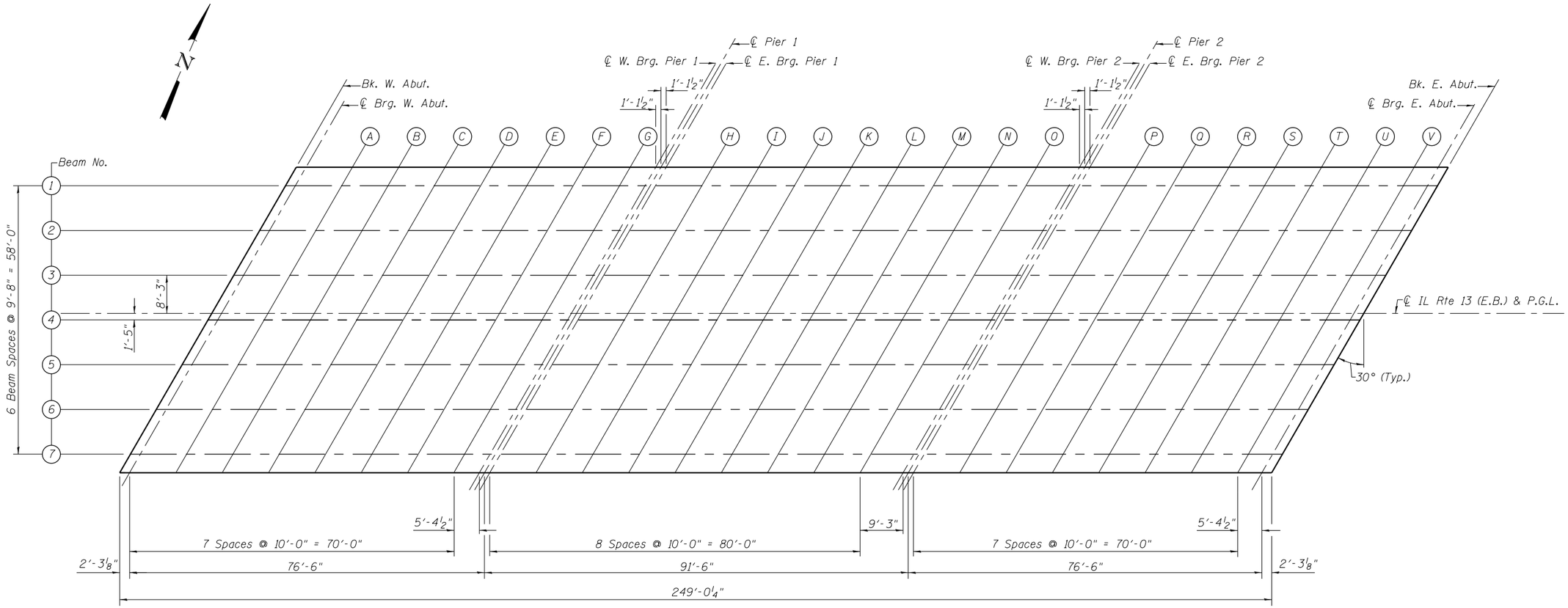
Drainage Area = 255 Sq. Mi.

Exist. Low Grade Elev. 388.69 @ Sta. 80+50.00
Prop. Low Grade Elev. 388.88 @ Sta. 80+50.00

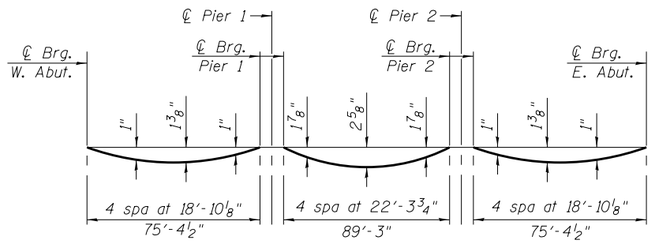
Flood	Freq. Yr.	Structure Number	Q (C.F.S.) Exist.	Q (C.F.S.) Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	039-0061/79	6,158	6,628	2,342	2,367	381.2	0.2	0.1	381.4	381.3
		0'flow Culvert	186	137	67	67					
		039-0062/78	2,056	1,635	779	772					
		Total	8,400		3,188	3,206					
Design	50	039-0061/79	8,788	9,417	2,682	2,715	383.0	0.3	0.2	383.3	383.2
		0'flow Culvert	269	235	85	85					
		039-0062/78	3,343	2,748	995	987					
		Total	12,400		3,762	3,787					
Base	100	039-0061/79	9,878	10,577	2,857	2,894	383.9	0.3	0.3	384.2	384.2
		0'flow Culvert	326	269	94	94					
		039-0062/78	3,896	3,254	1,109	1,099					
		Total	14,100		4,060	4,087					
Scour Design Check	200	039-0061/79	11,055	11,616	2,995	3,036	384.6	0.4	0.3	385.0	384.9
		0'flow Culvert	379	332	101	101					
		039-0062/78	4,576	4,062	1,200	1,189					
		Total	16,010		4,296	4,326					
Max. Calc.	500	039-0061/79	12,694	12,917	3,116	3,158	385.2	0.5	0.4	385.7	385.6
		0'flow Culvert	417	393	107	107					
		039-0062/78	5,389	5,190	1,279	1,268					
		Total	18,500		4,502	4,533					

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.		908	908
Stone Riprap, Class A5	Sq. Yd.		778	778
Filter Fabric	Sq. Yd.		1,514	1,514
Removal of Existing Structures No. 2	Each			1
Structure Excavation	Cu. Yd.		162	162
Cofferdam Excavation	Cu. Yd.		1,513	1,513
Cofferdam (Type 2) (Location - 3)	Each			1
Cofferdam (Type 2) (Location - 4)	Each			1
Floor Drains	Each	32		32
Concrete Structures	Cu. Yd.	53.6	988.7	1,042.3
Concrete Superstructure	Cu. Yd.	609.2		609.2
Bridge Deck Grooving	Sq. Yd.	1,670		1,670
Protective Coat	Sq. Yd.	2,112		2,112
Concrete Superstructure (Approach Slab)	Cu. Yd.	152.5		152.5
Furnishing and Erecting Precast Prestressed Concrete Beams, IL 36N	Foot	1,707		1,707
Reinforcement Bars, Epoxy Coated	Pound	240,060	141,020	381,080
Mechanical Splicers	Each		736	736
Parapet Railing	Foot	304		304
Furnishing Steel Piles HP 12x53	Foot		1,290	1,290
Furnishing Steel Piles HP 14x117	Foot		3,375	3,375
Driving Piles	Foot		4,665	4,665
Test Pile Steel HP 14x117	Each		1	1
Name Plates	Each	1		1
Geocomposite Wall Drain	Sq. Yd.		129	129
Decorative Steel Railing	Foot	299		299
Granular Backfill for Structures	Cu. Yd.		223	223
Pipe Underdrains for Structures 4"	Foot		222	222



LAYOUT PLAN FOR DECK ELEVATIONS

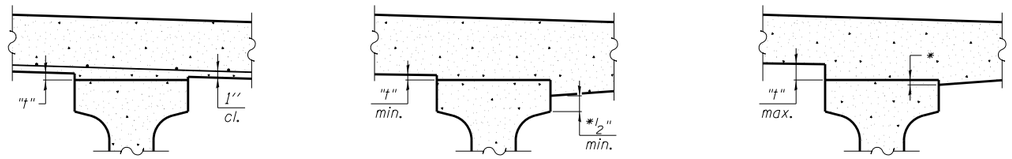


DEAD LOAD DEFLECTION DIAGRAM

(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, as shown on Sheet 4 of 28.



At Minimum Fillet

At Maximum Fillet

INTERIOR BEAMS

EXTERIOR BEAMS

FILLET HEIGHTS

After all beams have been erected, elevations of the top flanges of the beam shall be taken at the intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheet 4 of 28, minus slab thickness equals the fillet heights "t" above top flange of beams.

L:\IDOT\080618\WO.34\Dgn\Sheets\Str No. 039-0079\...

CMT

USER NAME =	DESIGNED MJL	REVISED
	CHECKED WLB	REVISED
PLOT SCALE =	DRAWN GLD	REVISED
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 1
STRUCTURE NO. 039–0079
SHEET NO. 3 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	173
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

BEAM 1

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	86+13.26	-27.58	390.15	390.15
℄ Brg. W. Abut.	86+15.52	-27.58	390.15	390.15
A	86+25.52	-27.58	390.17	390.21
B	86+35.52	-27.58	390.19	390.26
C	86+45.52	-27.58	390.20	390.30
D	86+55.52	-27.58	390.22	390.32
E	86+65.52	-27.58	390.23	390.32
F	86+75.52	-27.58	390.24	390.30
G	86+85.52	-27.58	390.25	390.27
℄ W. Brg. Pier 1	86+90.89	-27.58	390.26	390.26
℄ Pier 1	86+92.02	-27.58	390.26	390.26
℄ E. Brg. Pier 1	86+93.14	-27.58	390.26	390.26
H	87+03.14	-27.58	390.26	390.33
I	87+13.14	-27.58	390.27	390.40
J	87+23.14	-27.58	390.28	390.45
K	87+33.14	-27.58	390.28	390.48
L	87+43.14	-27.58	390.28	390.48
M	87+53.14	-27.58	390.28	390.45
N	87+63.14	-27.58	390.28	390.41
O	87+73.14	-27.58	390.28	390.34
℄ W. Brg. Pier 2	87+82.39	-27.58	390.28	390.28
℄ Pier 2	87+83.52	-27.58	390.28	390.28
℄ E. Brg. Pier 2	87+84.64	-27.58	390.28	390.28
P	87+94.64	-27.58	390.27	390.31
Q	88+04.64	-27.58	390.26	390.34
R	88+14.64	-27.58	390.26	390.36
S	88+24.64	-27.58	390.25	390.35
T	88+34.64	-27.58	390.24	390.33
U	88+44.64	-27.58	390.23	390.29
V	88+54.64	-27.58	390.21	390.24
℄ Brg. E. Abut.	88+60.02	-27.58	390.21	390.21
Bk. East Abut.	88+62.28	-27.58	390.20	390.20

BEAM 2

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	86+07.68	-17.92	390.33	390.33
℄ Brg. W. Abut.	86+09.94	-17.92	390.34	390.34
A	86+19.94	-17.92	390.36	390.40
B	86+29.94	-17.92	390.37	390.46
C	86+39.94	-17.92	390.39	390.50
D	86+49.94	-17.92	390.40	390.51
E	86+59.94	-17.92	390.42	390.51
F	86+69.94	-17.92	390.43	390.50
G	86+79.94	-17.92	390.44	390.46
℄ W. Brg. Pier 1	86+85.31	-17.92	390.44	390.44
℄ Pier 1	86+86.44	-17.92	390.44	390.44
℄ E. Brg. Pier 1	86+87.56	-17.92	390.45	390.45
H	86+97.56	-17.92	390.45	390.53
I	87+07.56	-17.92	390.46	390.60
J	87+17.56	-17.92	390.47	390.66
K	87+27.56	-17.92	390.47	390.69
L	87+37.56	-17.92	390.47	390.69
M	87+47.56	-17.92	390.47	390.66
N	87+57.56	-17.92	390.47	390.61
O	87+67.56	-17.92	390.47	390.54
℄ W. Brg. Pier 2	87+76.81	-17.92	390.47	390.47
℄ Pier 2	87+77.94	-17.92	390.47	390.47
℄ E. Brg. Pier 2	87+79.06	-17.92	390.47	390.47
P	87+89.06	-17.92	390.47	390.51
Q	87+99.06	-17.92	390.46	390.54
R	88+09.06	-17.92	390.45	390.56
S	88+19.06	-17.92	390.45	390.56
T	88+29.06	-17.92	390.44	390.53
U	88+39.06	-17.92	390.43	390.49
V	88+49.06	-17.92	390.42	390.44
℄ Brg. E. Abut.	88+54.44	-17.92	390.41	390.41
Bk. East Abut.	88+56.70	-17.92	390.41	390.41

BEAM 3

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	86+02.09	-8.25	390.50	390.50
℄ Brg. W. Abut.	86+04.36	-8.25	390.50	390.50
A	86+14.36	-8.25	390.52	390.57
B	86+24.36	-8.25	390.54	390.62
C	86+34.36	-8.25	390.55	390.66
D	86+44.36	-8.25	390.57	390.68
E	86+54.36	-8.25	390.58	390.68
F	86+64.36	-8.25	390.60	390.66
G	86+74.36	-8.25	390.61	390.63
℄ W. Brg. Pier 1	86+79.73	-8.25	390.61	390.61
℄ Pier 1	86+80.86	-8.25	390.61	390.61
℄ E. Brg. Pier 1	86+81.98	-8.25	390.62	390.62
H	86+91.98	-8.25	390.62	390.70
I	87+01.98	-8.25	390.63	390.77
J	87+11.98	-8.25	390.64	390.83
K	87+21.98	-8.25	390.64	390.86
L	87+31.98	-8.25	390.65	390.86
M	87+41.98	-8.25	390.65	390.84
N	87+51.98	-8.25	390.65	390.79
O	87+61.98	-8.25	390.65	390.72
℄ W. Brg. Pier 2	87+71.23	-8.25	390.65	390.65
℄ Pier 2	87+72.36	-8.25	390.65	390.65
℄ E. Brg. Pier 2	87+73.48	-8.25	390.65	390.65
P	87+83.48	-8.25	390.64	390.69
Q	87+93.48	-8.25	390.64	390.72
R	88+03.48	-8.25	390.63	390.74
S	88+13.48	-8.25	390.63	390.74
T	88+23.48	-8.25	390.62	390.71
U	88+33.48	-8.25	390.61	390.68
V	88+43.48	-8.25	390.60	390.62
℄ Brg. E. Abut.	88+48.86	-8.25	390.59	390.59
Bk. East Abut.	88+51.12	-8.25	390.59	390.59

P.G.L. (E.B.)

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	85+97.33	0.00	390.61	390.61
℄ Brg. W. Abut.	85+99.59	0.00	390.62	390.62
A	86+09.59	0.00	390.64	390.68
B	86+19.59	0.00	390.65	390.74
C	86+29.59	0.00	390.67	390.78
D	86+39.59	0.00	390.69	390.80
E	86+49.59	0.00	390.70	390.80
F	86+59.59	0.00	390.71	390.78
G	86+69.59	0.00	390.73	390.75
℄ W. Brg. Pier 1	86+74.97	0.00	390.73	390.73
℄ Pier 1	86+76.09	0.00	390.73	390.73
℄ E. Brg. Pier 1	86+77.22	0.00	390.73	390.73
H	86+87.22	0.00	390.74	390.82
I	86+97.22	0.00	390.75	390.89
J	87+07.22	0.00	390.76	390.95
K	87+17.22	0.00	390.76	390.98
L	87+27.22	0.00	390.77	390.98
M	87+37.22	0.00	390.77	390.96
N	87+47.22	0.00	390.77	390.91
O	87+57.22	0.00	390.77	390.84
℄ W. Brg. Pier 2	87+66.47	0.00	390.77	390.77
℄ Pier 2	87+67.60	0.00	390.77	390.77
℄ E. Brg. Pier 2	87+68.73	0.00	390.77	390.77
P	87+78.73	0.00	390.77	390.81
Q	87+88.73	0.00	390.77	390.85
R	87+98.73	0.00	390.76	390.87
S	88+08.73	0.00	390.75	390.86
T	88+18.73	0.00	390.75	390.84
U	88+28.73	0.00	390.74	390.80
V	88+38.73	0.00	390.73	390.75
℄ Brg. E. Abut.	88+44.10	0.00	390.72	390.72
Bk. East Abut.	88+46.36	0.00	390.72	390.72

BEAM 4

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	85+96.51	1.42	390.59	390.59
℄ Brg. W. Abut.	85+98.77	1.42	390.59	390.59
A	86+08.77	1.42	390.61	390.66
B	86+18.77	1.42	390.63	390.71
C	86+28.77	1.42	390.65	390.76
D	86+38.77	1.42	390.66	390.78
E	86+48.77	1.42	390.68	390.78
F	86+58.77	1.42	390.69	390.76
G	86+68.77	1.42	390.70	390.73
℄ W. Brg. Pier 1	86+74.15	1.42	390.71	390.71
℄ Pier 1	86+75.27	1.42	390.71	390.71
℄ E. Brg. Pier 1	86+76.40	1.42	390.71	390.71
H	86+86.40	1.42	390.72	390.80
I	86+96.40	1.42	390.73	390.87
J	87+06.40	1.42	390.74	390.93
K	87+16.40	1.42	390.74	390.96
L	87+26.40	1.42	390.75	390.96
M	87+36.40	1.42	390.75	390.94
N	87+46.40	1.42	390.75	390.89
O	87+56.40	1.42	390.75	390.82
℄ W. Brg. Pier 2	87+65.65	1.42	390.75	390.75
℄ Pier 2	87+66.77	1.42	390.75	390.75
℄ E. Brg. Pier 2	87+67.90	1.42	390.75	390.75
P	87+77.90	1.42	390.75	390.79
Q	87+87.90	1.42	390.74	390.83
R	87+97.90	1.42	390.74	390.85
S	88+07.90	1.42	390.73	390.84
T	88+17.90	1.42	390.72	390.82
U	88+27.90	1.42	390.72	390.78
V	88+37.90	1.42	390.71	390.73
℄ Brg. E. Abut.	88+43.27	1.42	390.70	390.70
Bk. East Abut.	88+45.54	1.42	390.70	390.70

BEAM 5

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	85+90.93	11.08	390.43	390.43
℄ Brg. W. Abut.	85+93.19	11.08	390.44	390.44
A	86+03.19	11.08	390.46	390.50
B	86+13.19	11.08	390.48	390.56
C	86+23.19	11.08	390.49	390.60
D	86+33.19	11.08	390.51	390.62
E	86+43.19	11.08	390.53	390.62
F	86+53.19	11.08	390.54	390.61
G	86+63.19	11.08	390.55	390.58
℄ W. Brg. Pier 1	86+68.57	11.08	390.56	390.56
℄ Pier 1	86+69.69	11.08	390.56	390.56
℄ E. Brg. Pier 1	86+70.82	11.08	390.56	390.56
H	86+80.82	11.08	390.57	390.65
I	86+90.82	11.08	390.58	390.72
J	87+00.82	11.08	390.59	390.78
K	87+10.82	11.08	390.59	390.81
L	87+20.82	11.08	390.60	390.81
M	87+30.82	11.08	390.60	390.79
N	87+40.82	11.08	390.61	390.74
O	87+50.82	11.08	390.61	390.68
℄ W. Brg. Pier 2	87+60.07	11.08	390.61	390.61
℄ Pier 2	87+61.19	11.08	390.61	390.61
℄ E. Brg. Pier 2	87+62.32	11.08	390.61	390.61
P	87+72.32	11.08	390.60	390.65
Q	87+82.32	11.08	390.60	390.68
R	87+92.32	11.08	390.60	390.70
S	88+02.32	11.08	390.59	390.70
T	88+12.32	11.08	390.58	390.68
U	88+22.32	11.08	390.58	390.64
V	88+32.32	11.08	390.57	390.59
℄ Brg. E. Abut.	88+37.69	11.08	390.56	390.56
Bk. East Abut.	88+39.95	11.08	390.56	390.56

BEAM 6

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	85+85.35	20.75	390.23	390.23
℄ Brg. W. Abut.	85+87.61	20.75	390.24	390.24
A	85+97.61	20.75	390.26	390.30
B	86+07.61	20.75	390.28	390.36
C	86+17.61	20.75	390.30	390.40
D	86+27.61	20.75	390.31	390.42
E	86+37.61	20.75	390.33	390.43
F	86+47.61	20.75	390.34	390.41
G	86+57.61	20.75	390.36	390.38
℄ W. Brg. Pier 1	86+62.99	20.75	390.36	390.36
℄ Pier 1	86+64.11	20.75	390.36	390.36
℄ E. Brg. Pier 1	86+65.24	20.75	390.37	390.37
H	86+75.24	20.75	390.38	390.45
I	86+85.24	20.75	390.39	390.53
J	86+95.24	20.75	390.40	390.59
K	87+05.24	20.75	390.40	390.62
L	87+15.24	20.75	390.41	390.62
M	87+25.24	20.75	390.41	390.60
N	87+35.24	20.75	390.42	390.55
O	87+45.24	20.75	390.42	390.49
℄ W. Brg. Pier 2	87+54.49	20.75	390.42	390.42
℄ Pier 2	87+55.61	20.75	390.42	390.42
℄ E. Brg. Pier 2	87+56.74	20.75	390.42	390.42
P	87+66.74	20.75	390.42	390.46
Q	87+76.74	20.75	390.41	390.50
R	87+86.74	20.75	390.41	390.52
S	87+96.74	20.75	390.41	390.52
T	88+06.74	20.75	390.40	390.50
U	88+16.74	20.75	390.39	390.46
V	88+26.74	20.75	390.38	390.41
℄ Brg. E. Abut.	88+32.11	20.75	390.38	390.38
Bk. East Abut.	88+34.37	20.75	390.38	390.38

BEAM 7

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION	THEORETICAL GRADE ELEV. ADJUSTED FOR DEAD LOAD DEFLECTION
Bk. West Abut.	85+79.77	30.42	390.07	390.07
℄ Brg. W. Abut.	85+82.03	30.42	390.07	390.07
A	85+92.03	30.42	390.09	390.14
B	86+02.03	30.42	390.11	390.19
C	86+12.03	30.42	390.13	390.23
D	86+22.03	30.42	390.15	390.25
E	86+32.03	30.42	390.17	390.26
F	86+42.03	30.42	390.18	390.25
G	86+52.03	30.42	390.20	390.22
℄ W. Brg. Pier 1	86+57.41	30.42	390.21	390.21
℄ Pier 1	86+58.53	30.42	390.21	390.21
℄ E. Brg. Pier 1	86+59.66	30.42	390.21	390.21
H	86+69.66	30.42	390.22	390.29
I	86+79.66	30.42	390.23	390.36
J	86+89.66	30.42	390.24	390.41
K	86+99.66	30.42	390.25	390.44
L	87+09.66	30.42	390.25	390.45
M	87+19.66	30.42	390.26	390.43
N	87+29.66	30.42	390.26	390.39
O	87+39.66	30.42	390.27	390.33
℄ W. Brg. Pier 2	87+48.91	30.42	390.27	390.27
℄ Pier 2	87+50.03	30.42	390.27	390.27
℄ E. Brg. Pier 2	87+51.16	30.42	390.27	390.27
P	87+61.16	30.42	390.27	390.31
Q	87+71.16	30.42	390.26	390.34
R	87+81.16	30.42	390.26	390.36
S	87+91.16	30.42	390.26	390.36
T	88+01.16	30.42	390.25	390.34
U	88+11.16	30.42	390.25	390.31
V	88+21.16	30.42	390.24	390.26
℄ Brg. E. Abut.	88+26.53	30.42	390.23	390.23
Bk. East Abut.	88+28.79	30.42	390.23	390.23

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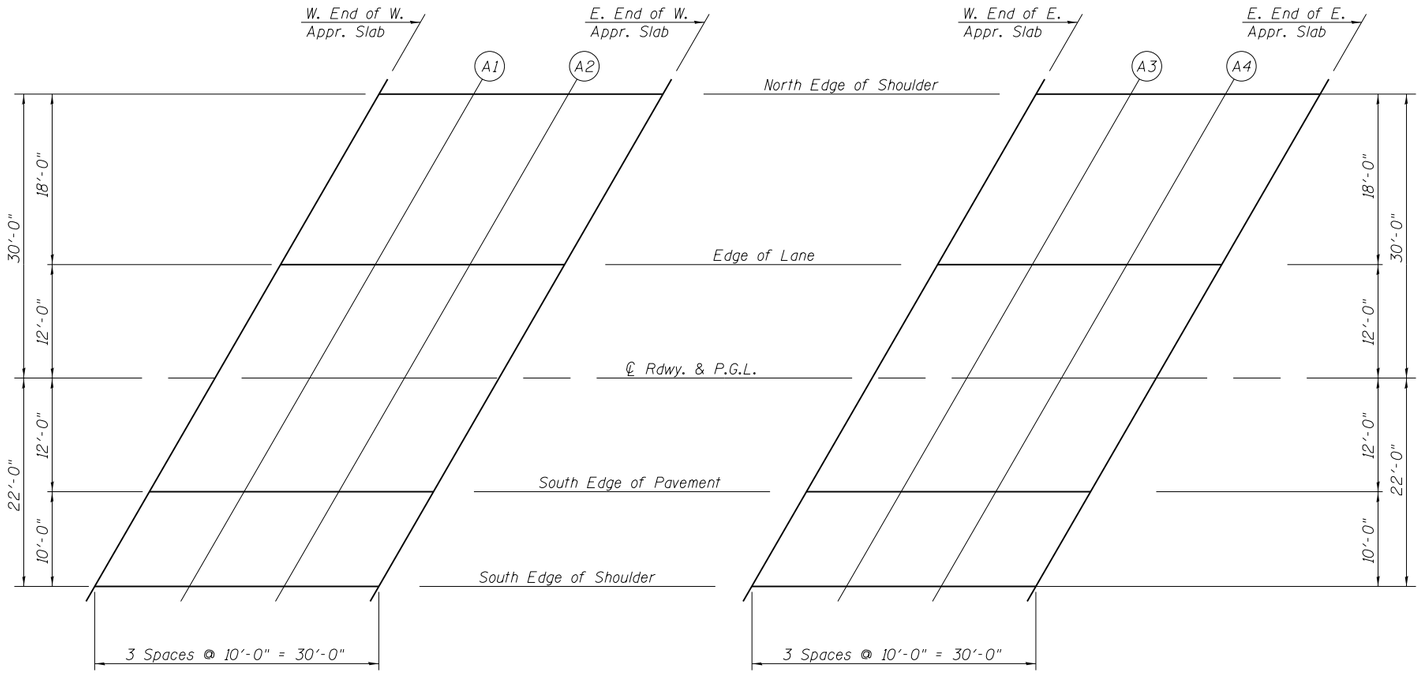
CMT

USER NAME =	DESIGNED MJL	REVISED	
	CHECKED WLB	REVISED	
PLOT SCALE =	DRAWN GLD	REVISED	
PLOT DATE =	CHECKED WLB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATIONS – 2
STRUCTURE NO. 039-0079
SHEET NO. 4 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	174
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



NORTH EDGE OF SHOULDER

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	85+85.81	-30.00	390.05
A1	85+95.81	-30.00	390.07
A2	86+05.81	-30.00	390.09
E. End of W. Appr.	86+15.81	-30.00	390.11

EDGE OF LANE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	85+75.41	-12.00	390.38
A1	85+85.41	-12.00	390.41
A2	85+95.41	-12.00	390.43
E. End of W. Appr.	86+05.41	-12.00	390.45

℄ ROADWAY & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	85+68.49	0.00	390.55
A1	85+78.49	0.00	390.57
A2	85+88.49	0.00	390.59
E. End of W. Appr.	85+98.49	0.00	390.61

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	85+61.56	12.00	390.35
A1	85+71.56	12.00	390.37
A2	85+81.56	12.00	390.40
E. End of W. Appr.	85+91.56	12.00	390.42

SOUTH EDGE OF SHOULDER

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of W. Appr.	85+55.78	22.00	390.13
A1	85+65.78	22.00	390.16
A2	85+75.78	22.00	390.18
E. End of W. Appr.	85+85.78	22.00	390.21

WEST APPROACH SLAB

PLAN

EAST APPROACH SLAB

NORTH EDGE OF SHOULDER

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	88+62.52	-30.00	390.16
A3	88+72.52	-30.00	390.14
A4	88+82.52	-30.00	390.12
E. End of E. Appr.	88+92.52	-30.00	390.11

EDGE OF LANE

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	88+52.13	-12.00	390.53
A3	88+62.13	-12.00	390.52
A4	88+72.13	-12.00	390.50
E. End of E. Appr.	88+82.13	-12.00	390.48

℄ ROADWAY & P.G.L.

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	88+45.20	0.00	390.72
A3	88+55.20	0.00	390.71
A4	88+65.20	0.00	390.69
E. End of E. Appr.	88+75.20	0.00	390.68

SOUTH EDGE OF PAVEMENT

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	88+38.27	12.00	390.55
A3	88+48.27	12.00	390.53
A4	88+58.27	12.00	390.52
E. End of E. Appr.	88+68.27	12.00	390.51

SOUTH EDGE OF SHOULDER

LOCATION	STATION	OFFSET	THEORETICAL GRADE ELEVATION
W. End of E. Appr.	88+32.50	22.00	390.35
A3	88+42.50	22.00	390.34
A4	88+52.50	22.00	390.33
E. End of E. Appr.	88+62.50	22.00	390.32

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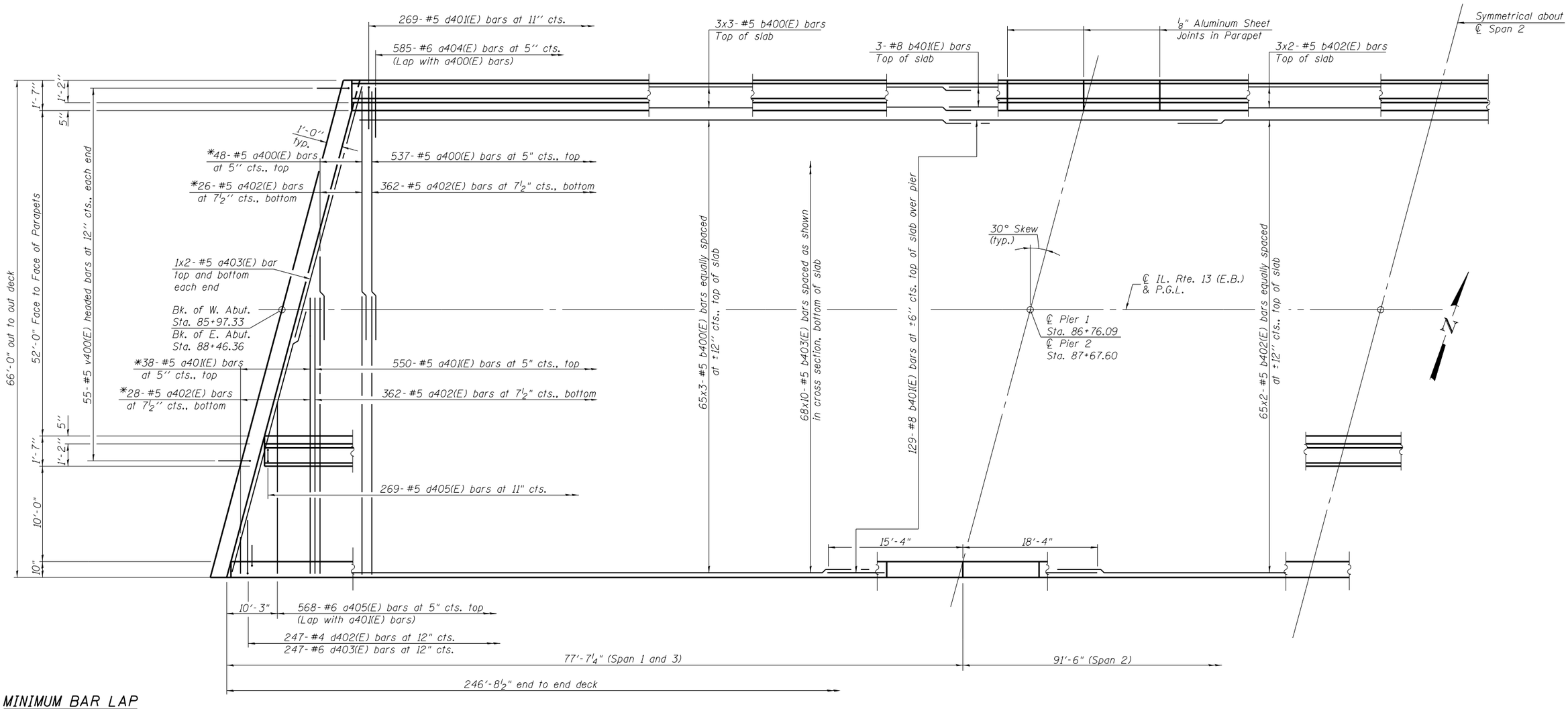
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROACH SLAB ELEVATIONS
STRUCTURE NO. 039-0079
SHEET NO. 5 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	175
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



MINIMUM BAR LAP

#5 bar = 3'-6"

*Order a400(E), a401(E) and a402(E) bars full length.
Cut to fit skew and use remainder of bars in opposite end.

PARTIAL PLAN

Notes:
See sheet 7 of 28 for Superstructure Cross Section.
See sheet 9 of 28 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3- #5 etc. indicates 20 lines of bars with 3 lengths per line.

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CMT	USER NAME =	DESIGNED MJL	REVISED
		CHECKED WLB	REVISED
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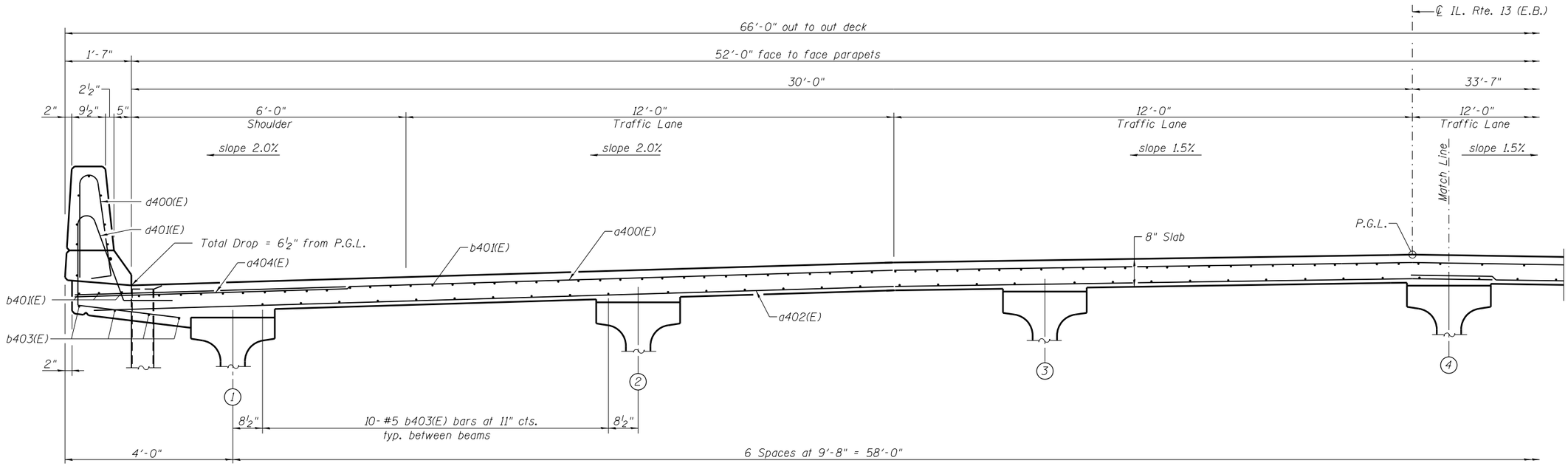
	PLOT DATE =	CHECKED WLB	REVISED

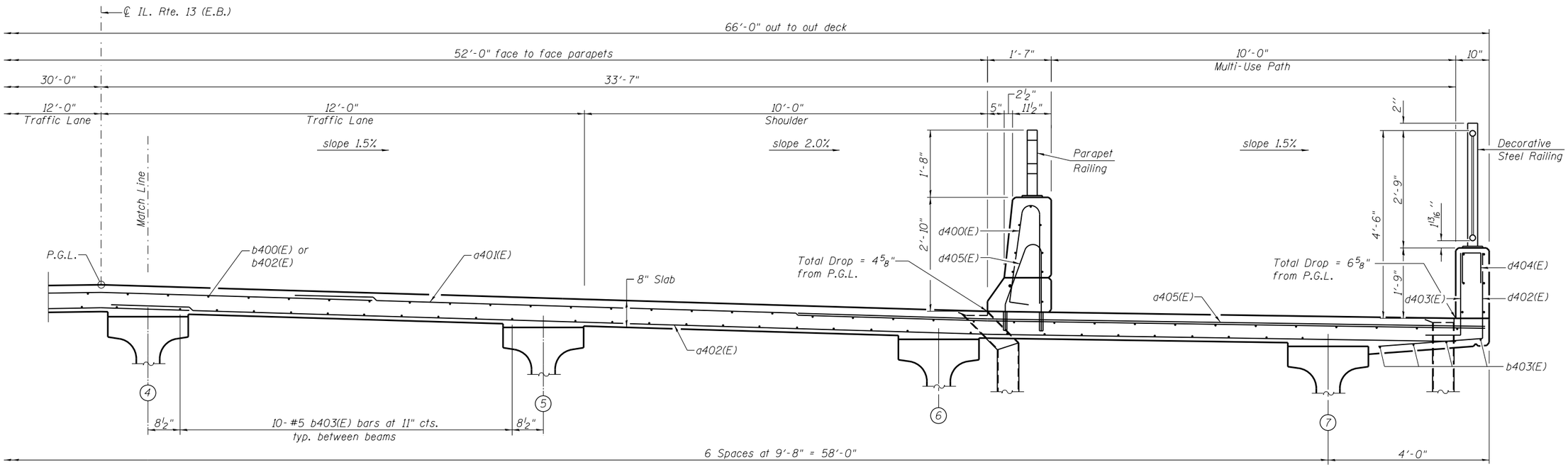
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE – 1
STRUCTURE NO. 039–0079
SHEET NO. 6 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	176
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



NEAR PIER



NEAR MIDSPAN

CROSS SECTION
(Looking East)

Note:
Cross-slope changes from 2.0% to 1.5% at the toe of the parapet.

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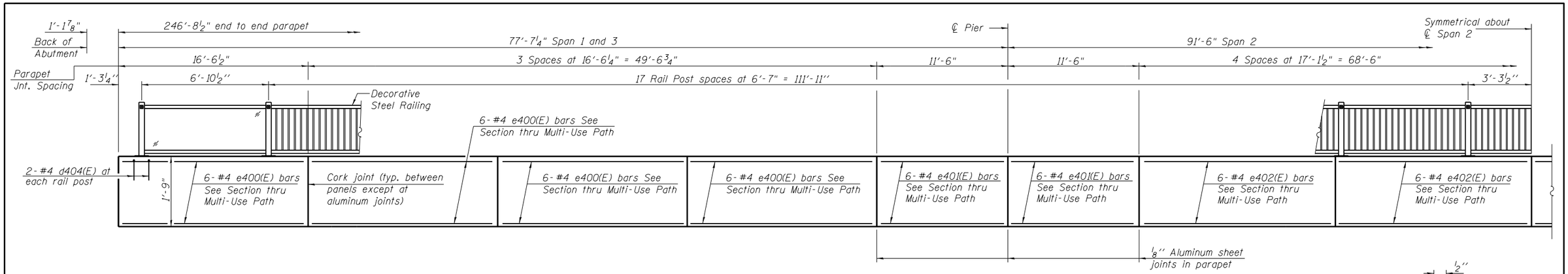
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

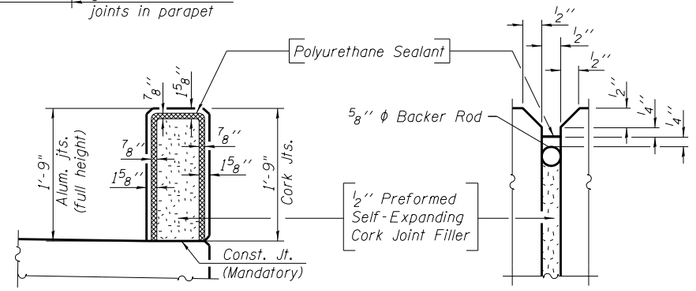
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE – 2
STRUCTURE NO. 039-0079
SHEET NO. 7 OF 28 SHEETS

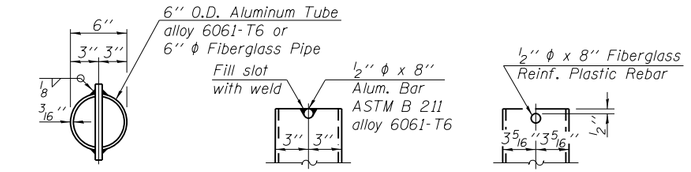
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	177
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



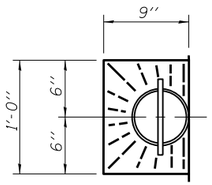
INSIDE ELEVATION OF MULTI-USE PATH PARAPET



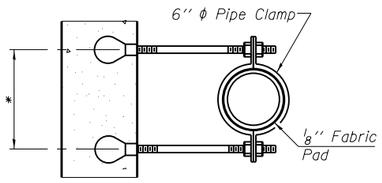
MULTI-USE PATH PARAPET JOINT DETAILS



TOP PLAN (Showing Aluminum Tube) | ALUMINUM TUBE | FIBERGLASS PIPE

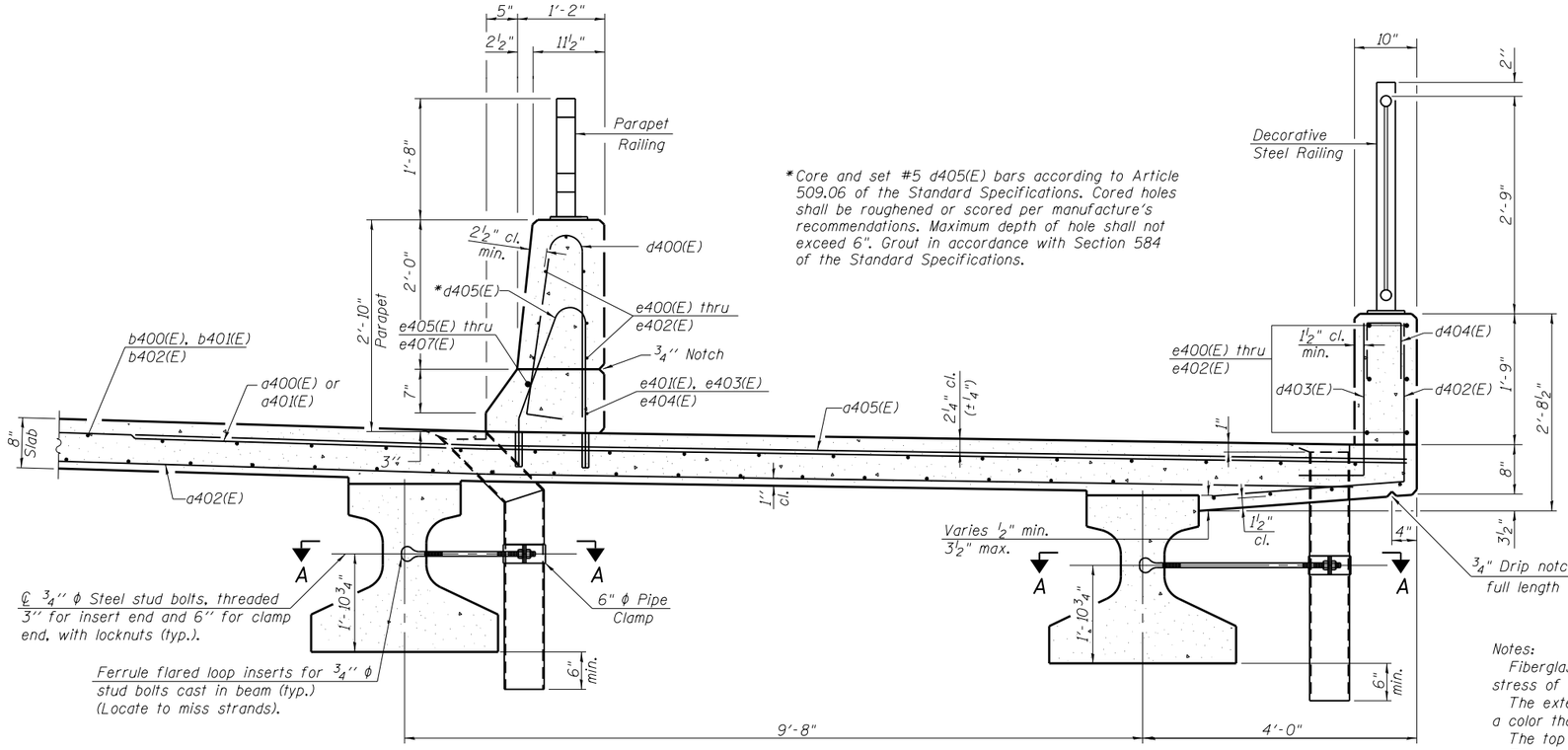


TOP PLAN



SECTION A-A

*Dimension as required by Pipe Clamp



*Core and set #5 d405(E) bars according to Article 509.06 of the Standard Specifications. Cored holes shall be roughened or scored per manufacture's recommendations. Maximum depth of hole shall not exceed 6". Grout in accordance with Section 584 of the Standard Specifications.

SECTION THRU MULTI-USE PATH

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.

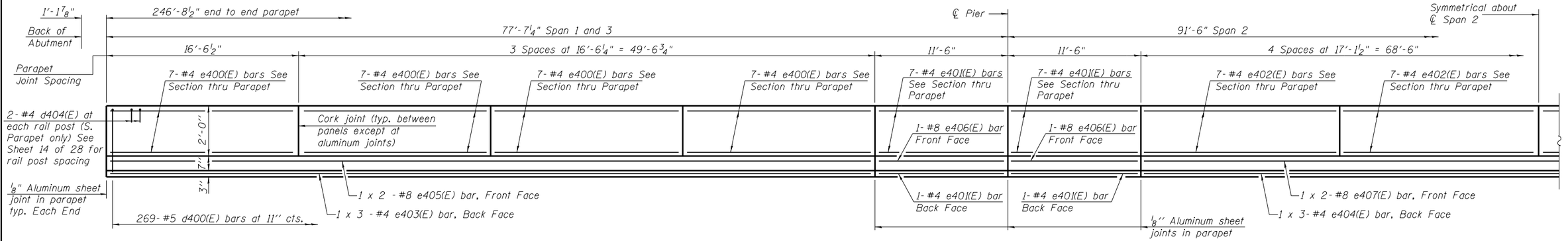
The clamping device and inserts shall be galvanized according to AASHTO M 232. Cost of clamping device and inserts included with Floor Drains.

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 non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 5/8" backer rod.

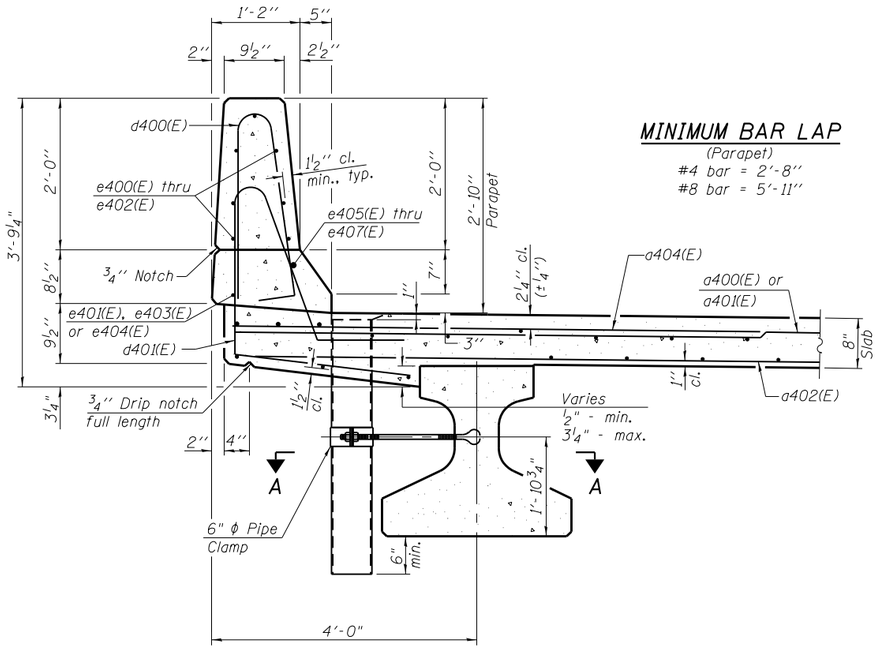
The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

For Railing Details, See Sheet 14 of 28.



INSIDE ELEVATION OF NORTH PARAPET

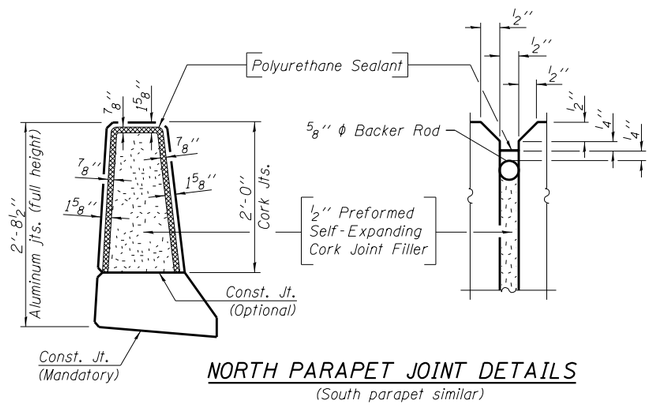
(South parapet Elevation similar)
(See South parapet Section Thru Multi-Use Path Sheet 8 of 28)



MINIMUM BAR LAP

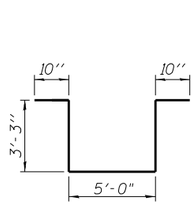
(Parapet)
#4 bar = 2'-8"
#8 bar = 5'-11"

SECTION THRU PARAPET

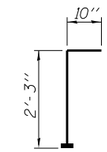


NORTH PARAPET JOINT DETAILS

(South parapet similar)

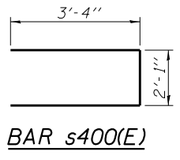


BAR s402(E)

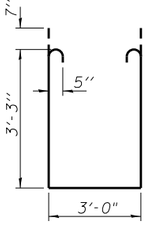


BAR v400(E)

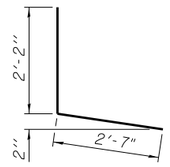
(Headed)



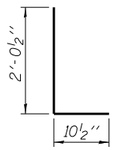
BAR s400(E)



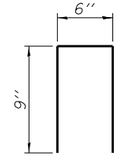
BAR s401(E)



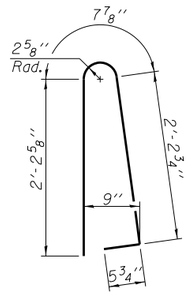
BAR d402(E)



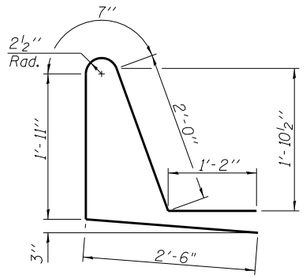
BAR d403(E)



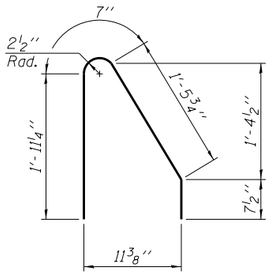
BAR d404(E)



BAR d400(E)



BAR d401(E)



BAR d405(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a400(E)	585	#5	39'-3"	
a401(E)	588	#5	29'-9"	
a402(E)	778	#5	34'-6"	
a403(E)	8	#5	39'-7"	
a404(E)	585	#6	6'-6"	
a405(E)	568	#6	17'-2"	
b400(E)	408	#5	24'-8"	
b401(E)	264	#8	33'-8"	
b402(E)	136	#5	32'-8"	
b403(E)	680	#5	27'-10"	
d400(E)	538	#5	5'-7"	
d401(E)	269	#5	8'-2"	
d402(E)	247	#4	4'-9"	
d403(E)	247	#6	2'-11"	
d404(E)	152	#4	2'-0"	
d405(E)	269	#5	4'-8"	
e400(E)	160	#4	16'-2"	
e401(E)	88	#4	11'-2"	
e402(E)	80	#4	16'-9"	
e403(E)	12	#4	23'-9"	
e404(E)	6	#4	24'-6"	
e405(E)	8	#8	35'-11"	
e406(E)	8	#8	11'-2"	
e407(E)	4	#8	37'-1"	
m400(E)	16	#6	39'-9"	
m401(E)	24	#6	9'-7"	
m402(E)	8	#6	3'-8"	
m403(E)	12	#6	7'-1"	
m404(E)	4	#6	2'-5"	
m405(E)	28	#5	4'-0"	
m406(E)	24	#6	7'-1"	
m407(E)	48	#6	9'-7"	
m408(E)	28	#5	4'-0"	
s400(E)	96	#5	8'-9"	
s401(E)	96	#5	10'-8"	
s402(E)	84	#5	13'-2"	
v400(E)	110	#5	3'-1"	
Concrete Superstructure		Cu. Yd.	598.8	
Bridge Deck Grooving		Sq. Yds.	1,343	
Protective Coat		Sq. Yds.	1,724	
Reinforcement Bars, Epoxy Coated		Lbs.	169,370	

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

Notes:

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 non-staining gray one component non-sag elastomeric gun grade meeting the requirements of ASTM C-920, Type S, Grade NS, Class 25. Use T with a 5/8" backer rod.

The 1/2" Preformed Self-Expanding Cork Joint Filler shall be according to Article 1051.07 of the Std. Spec. Cost included with Concrete Superstructure.

Headed bars shall conform to ASTM A970 Class HA. Cost included with Reinforcement Bars, Epoxy Coated.

See Sheet 8 of 28 for Section A-A and floor drain details.

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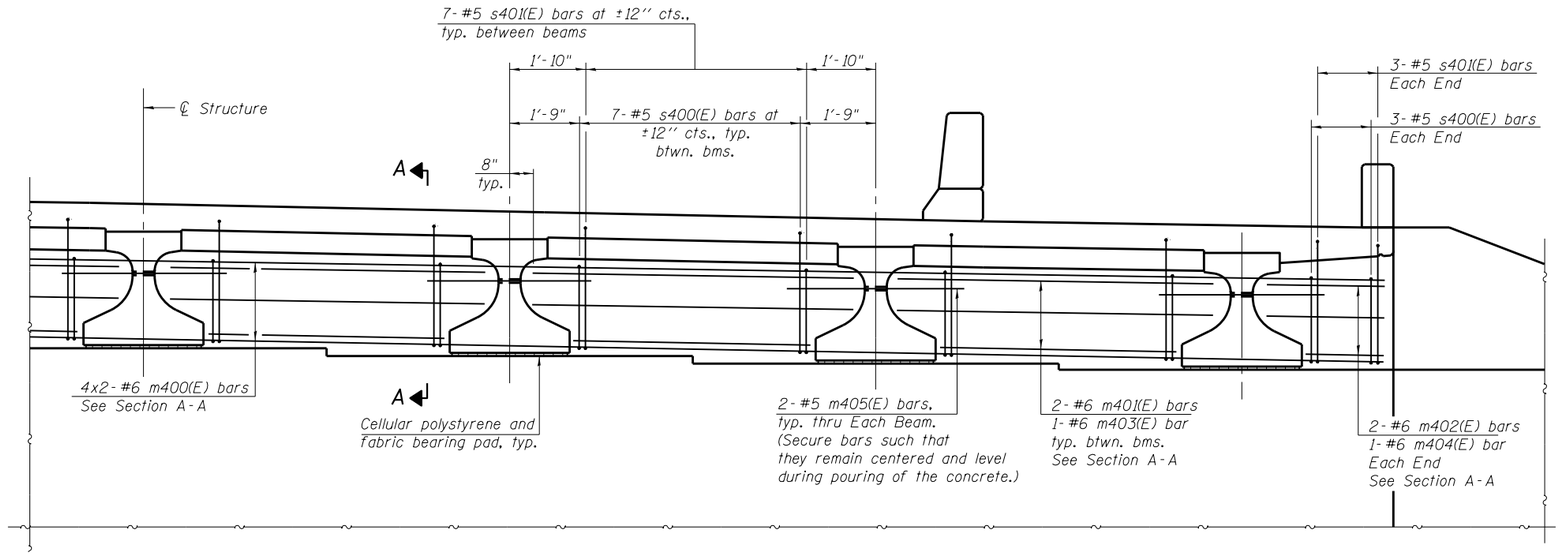
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

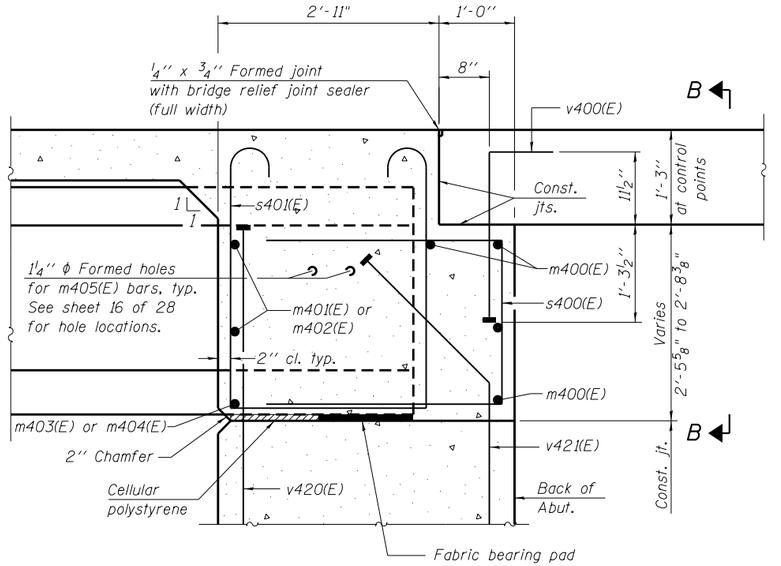
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - 2
STRUCTURE NO. 039-0079
SHEET NO. 9 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	179
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

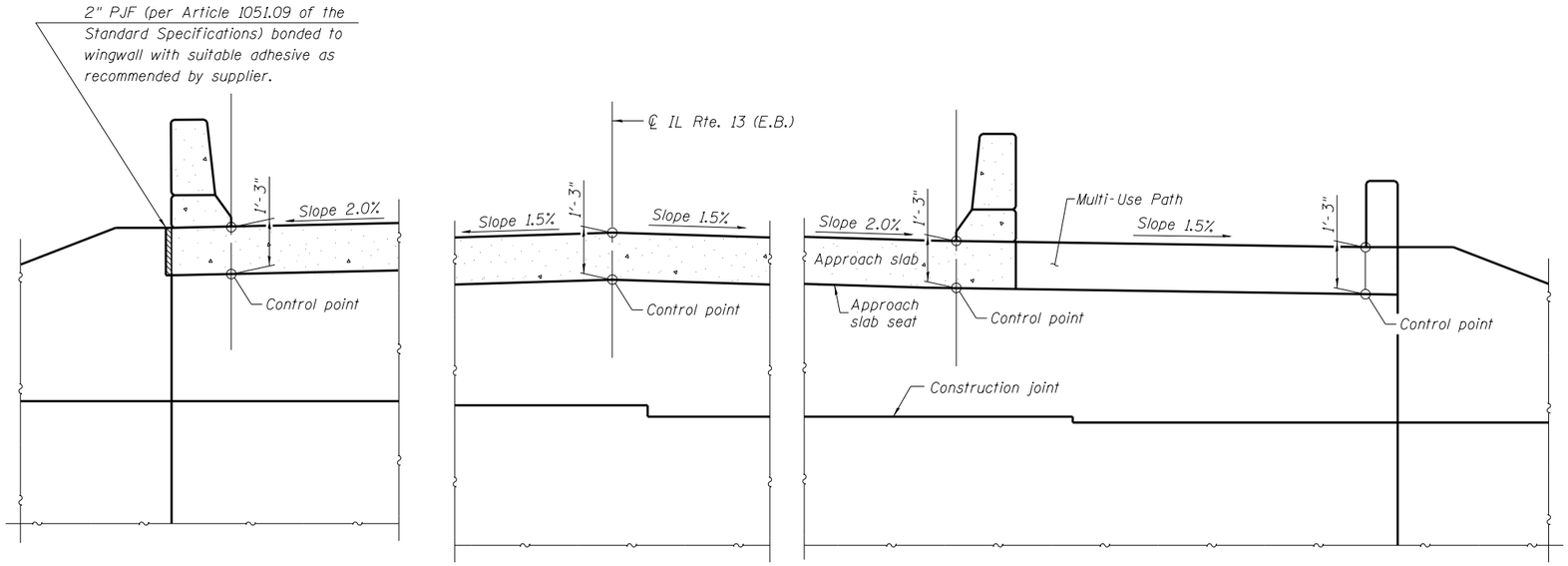


DIAPHRAGM AT ABUTMENT



SECTION A-A

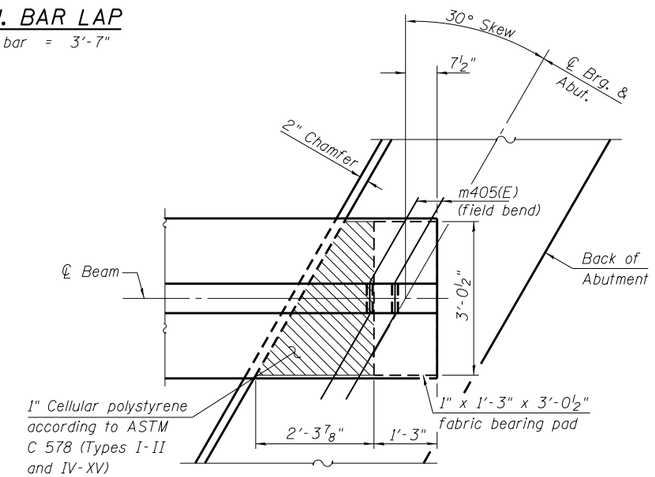
(at Rt. L's)



SECTION B-B

MIN. BAR LAP

#6 bar = 3'-7"



PLAN AT ABUTMENT

(Showing bottom flange of beam)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 9 of 28.

Concrete in diaphragm is included with Concrete Superstructure on sheet 9 of 28.

For details of bars s400(E), s401(E) and v400(E) see sheet 9 of 28.

The s400(E) and s401(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

The approach slab seat shall have a constant slope determined from the control points shown.

Cost of cellular polystyrene is included with Concrete Superstructure.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

DIA-IL36N-L 2-17-2017

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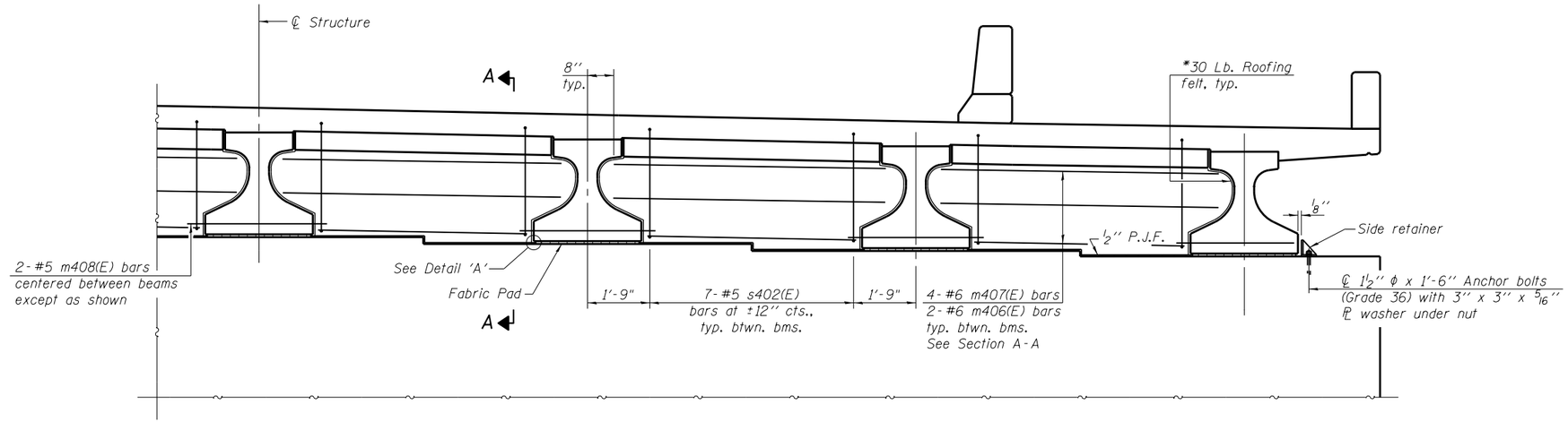
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

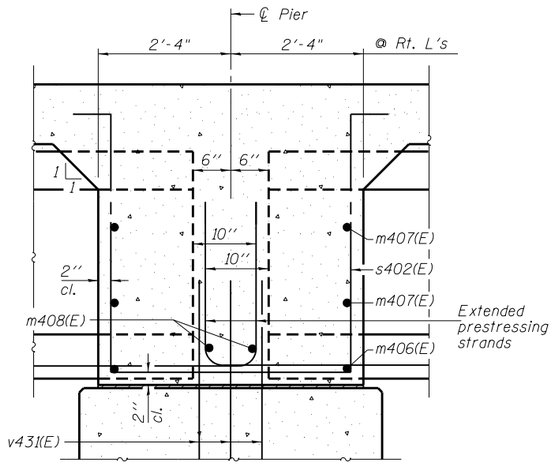
DIAPHRAGM DETAILS – 1
STRUCTURE NO. 039–0079
SHEET NO. 10 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	180
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		



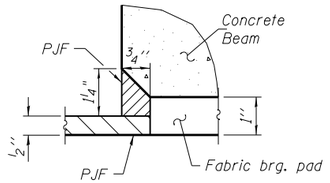
DIAPHRAGM AT PIER

*Bonded to sides of beams embedded into diaphragm.

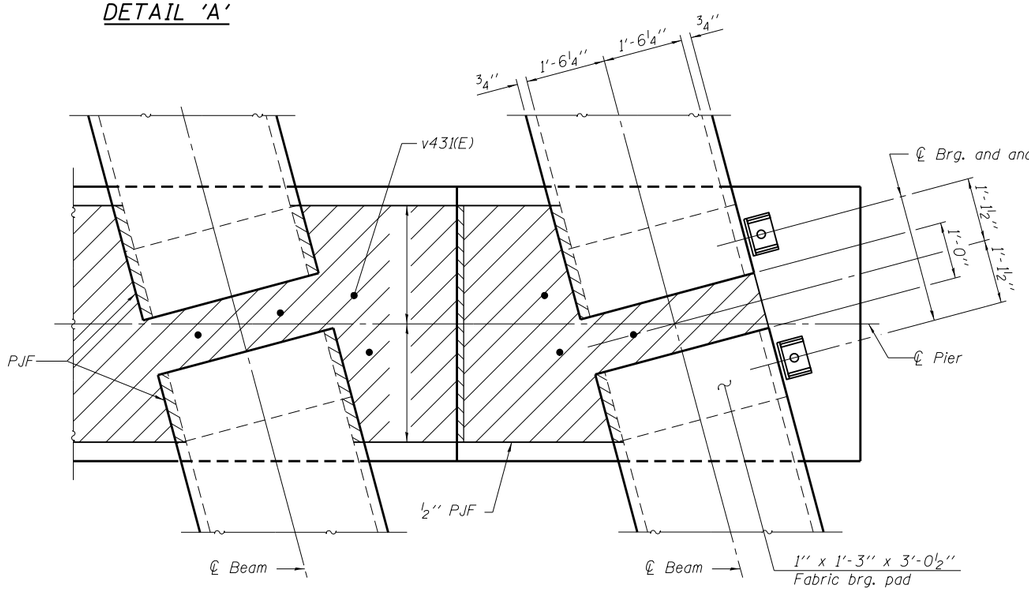


SECTION A-A

(Dimensions along ℄ of beam except as shown)

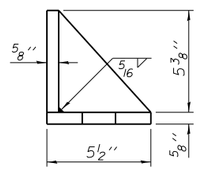


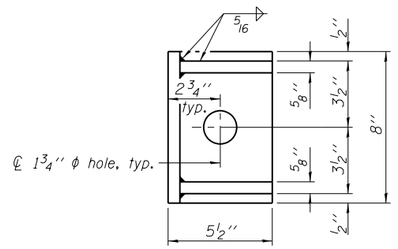
DETAIL 'A'



PLAN AT PIER

(Showing bearing pads and PJF details)





SIDE RETAINER

(2 required each side of pier).
Equivalent rolled angle with stiffeners
will be allowed in lieu of welded plates.

Notes:

See sheet 9 of 28 for superstructure details and Bill of Material.

Cost of 30 Lb. roofing felt is included with Concrete Superstructure.

Cost of side retainer and anchor bolts shall be included with Concrete Structures.

The s402(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

Anchor bolts and side retainers shall be according to Article 521.06 of the Standard Specifications. Side retainers shall be hot dip galvanized.

Anchor bolts and side retainers shall be installed as each exterior beam is erected unless an equivalent temporary means of lateral restraint is used.

DFP-IL36N-L

8-11-2017

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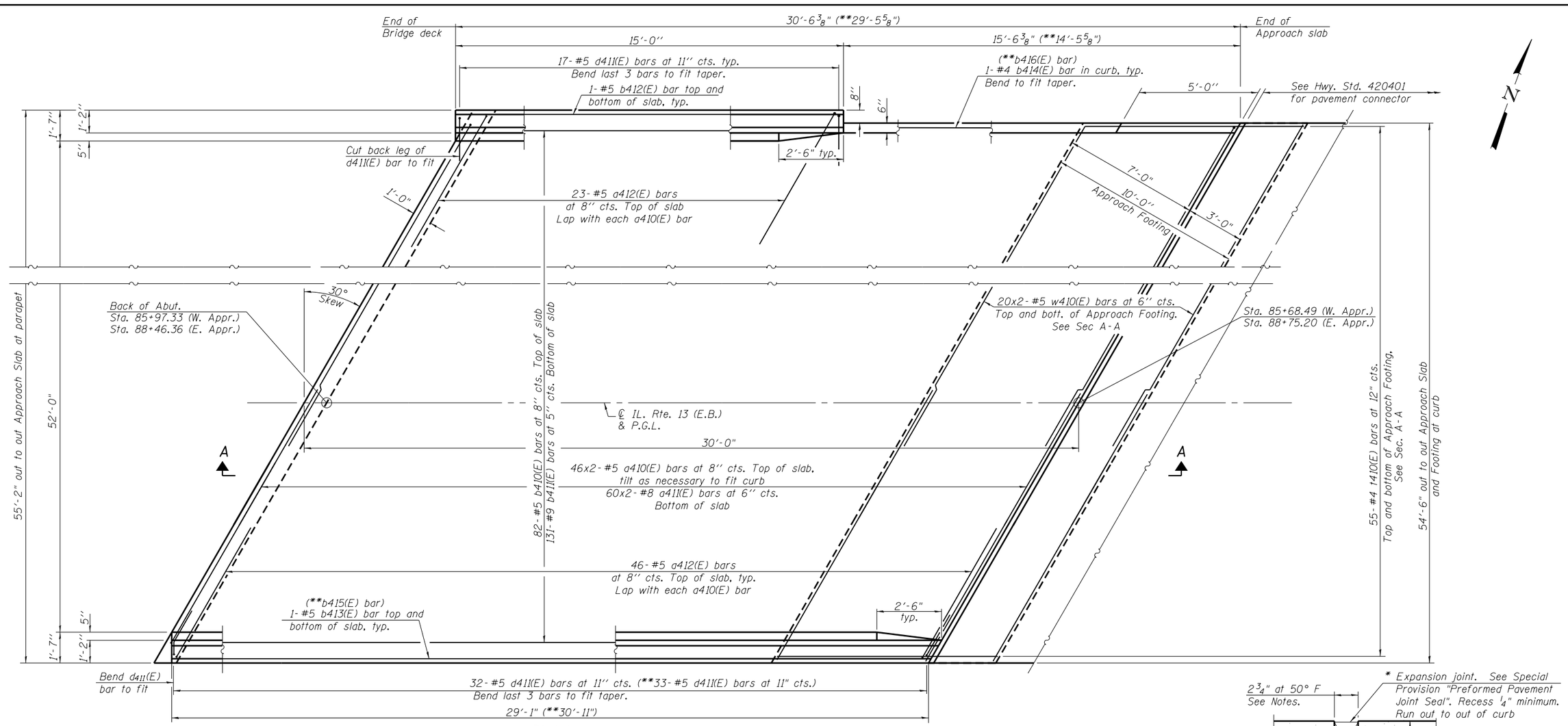
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

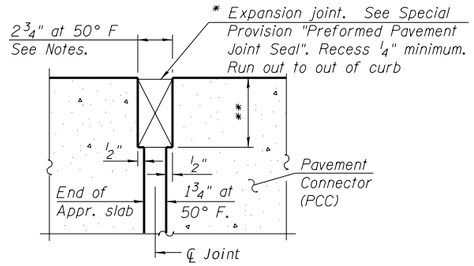
DIAPHRAGM DETAILS – 2
STRUCTURE NO. 039–0079
SHEET NO. 11 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	181
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



PLAN

East App. Slab shown
(**West App. Slab similar)



DETAIL A

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

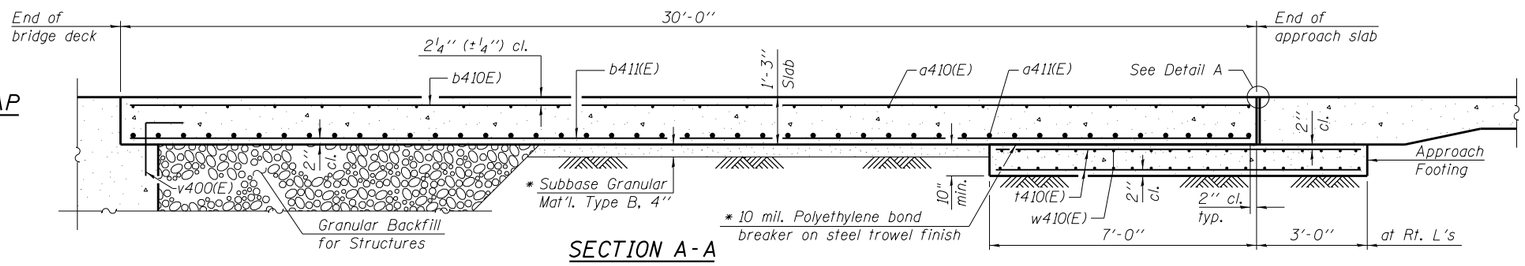
Notes:

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.

Bars indicated thus 20x2-#5 etc., indicates 20 lines of bars with 2 lengths per line.

MINIMUM BAR LAP

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



SECTION A-A

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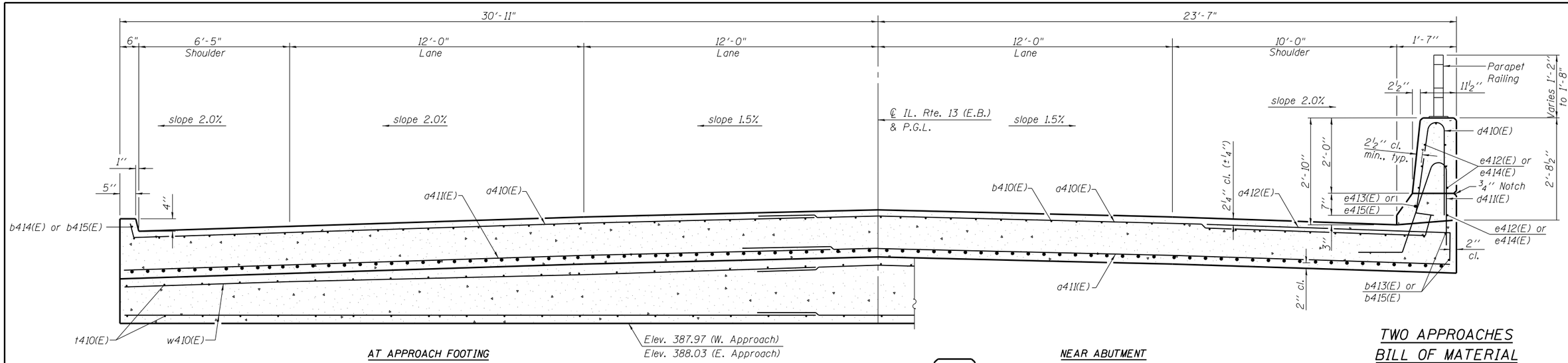
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 1
STRUCTURE NO. 039–0079
SHEET NO. 12 OF 28 SHEETS

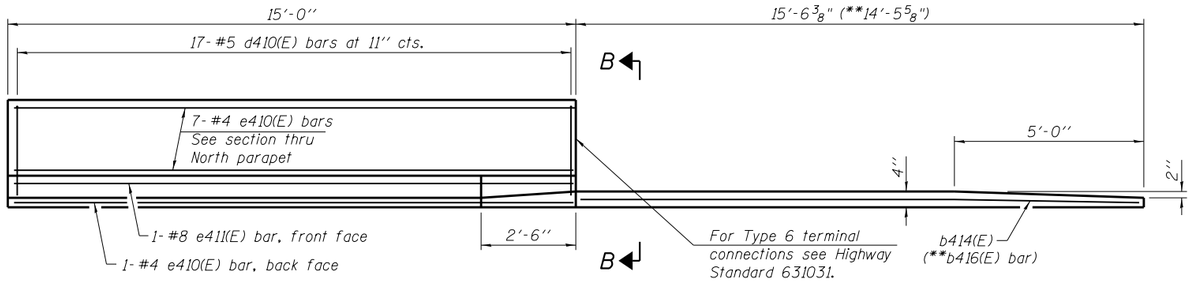
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	182
		CONTRACT NO. 78295		
		ILLINOIS	FED. AID PROJECT	



AT APPROACH FOOTING

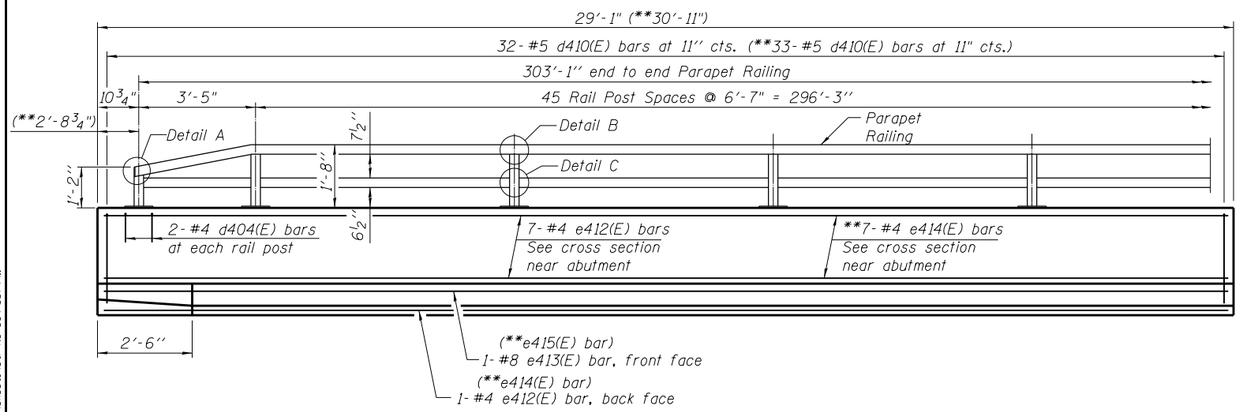
CROSS SECTION

(Looking East)



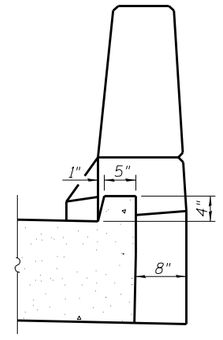
INSIDE ELEVATION OF NORTH PARAPET AND CURB

East App. Slab shown
(**West App. Slab similar)



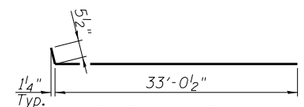
INSIDE ELEVATION OF SOUTH PARAPET

East App. Slab shown
(**West App. Slab similar)

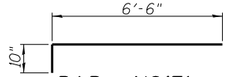


VIEW B-B

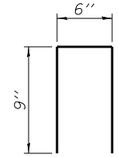
NEAR ABUTMENT



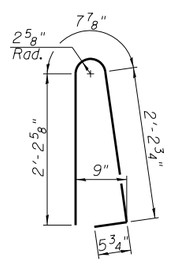
BAR a410(E)



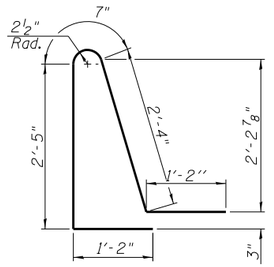
BAR a412(E)



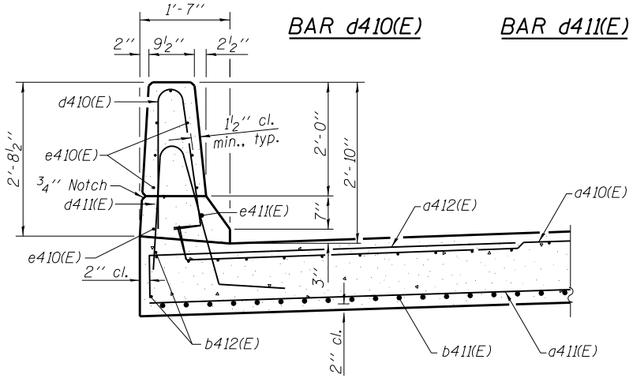
BAR d404(E)



BAR d410(E)



BAR d411(E)



SECTION THRU NORTH PARAPET

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a410(E)	184	#5	33'-6"	
a411(E)	240	#8	34'-8"	
a412(E)	138	#5	7'-4"	
b410(E)	164	#5	29'-8"	
b411(E)	262	#9	29'-8"	
b412(E)	4	#5	14'-8"	
b413(E)	2	#5	28'-9"	
b414(E)	1	#4	15'-2"	
b415(E)	2	#5	30'-7"	
b416(E)	1	#4	14'-1"	
d404(E)	20	#4	2'-0"	
d410(E)	99	#5	5'-7"	
d411(E)	99	#5	7'-8"	
e410(E)	16	#4	14'-8"	
e411(E)	2	#8	14'-8"	
e412(E)	8	#4	28'-9"	
e413(E)	1	#8	28'-9"	
e414(E)	8	#4	30'-7"	
e415(E)	1	#8	30'-7"	
t410(E)	220	#4	11'-2"	
w410(E)	160	#5	33'-2"	
Concrete Structures		Cu. Yd.	53.6	
Concrete Superstructure		Cu. Yd.	10.4	
Bridge Deck Grooving		Sq. Yds.	327	
Protective Coat		Sq. Yds.	388	
Concrete Superstructure (Approach Slab)		Cu. Yd.	152.5	
Reinforcement Bars, Epoxy Coated		Pound	70,690	

Notes:

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 28.

For Parapet Railing details, Detail A, B and C, see sheet 14 of 28.

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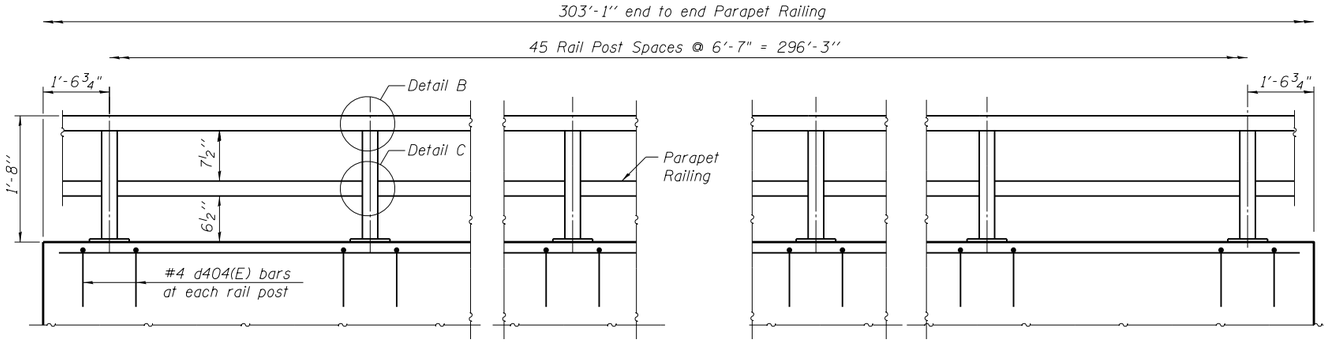
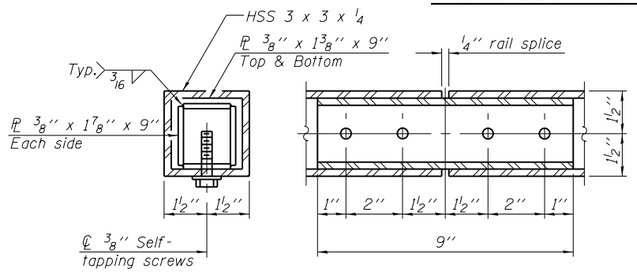
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS – 2
STRUCTURE NO. 039–0079
SHEET NO. 13 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	183
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

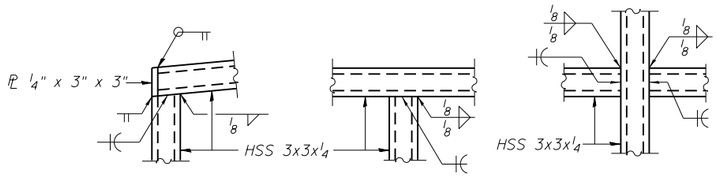


INSIDE ELEVATION OF SOUTH PARAPET



RAIL SPLICE

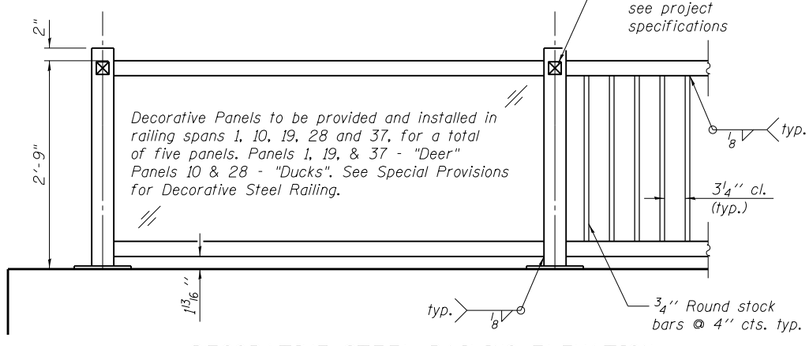
Note:
All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.



DETAIL A

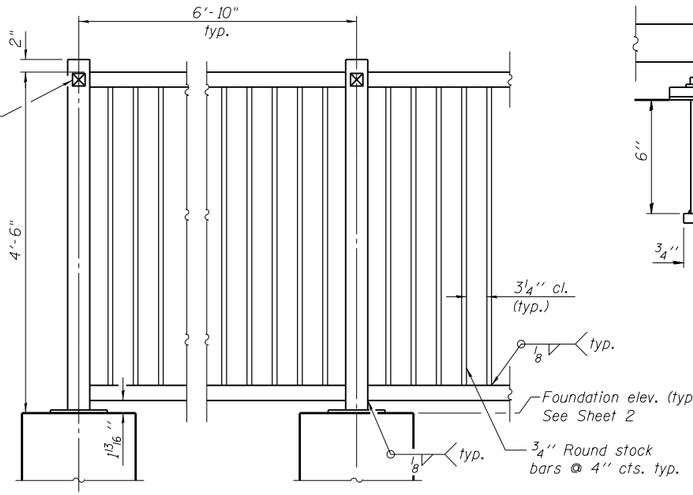
DETAIL B

DETAIL C

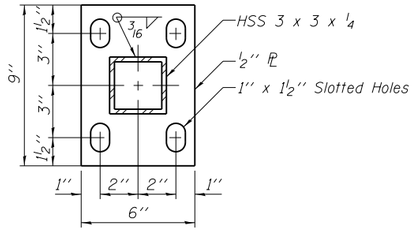


DECORATIVE STEEL RAILING ELEVATION

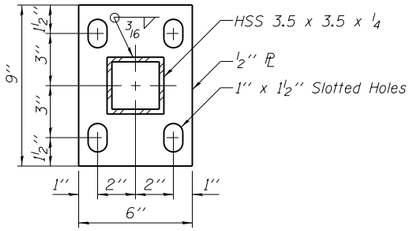
Aesthetic details to be coordinated with the District



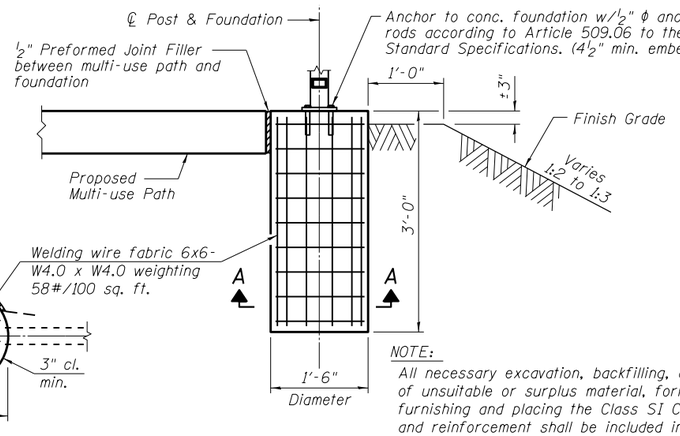
STEEL RAILING ELEVATION-OFF BRIDGE



PARAPET RAILING BASE PL



DECORATIVE STEEL RAILING BASE PL

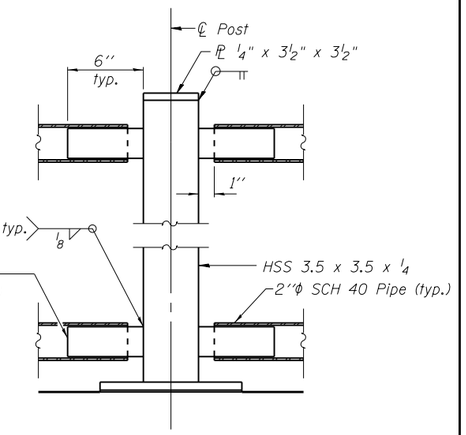


SECTION A-A

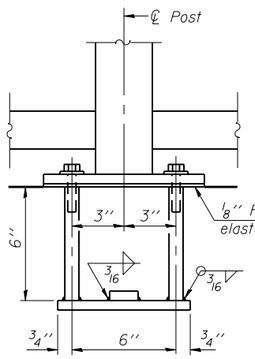
ELEVATION

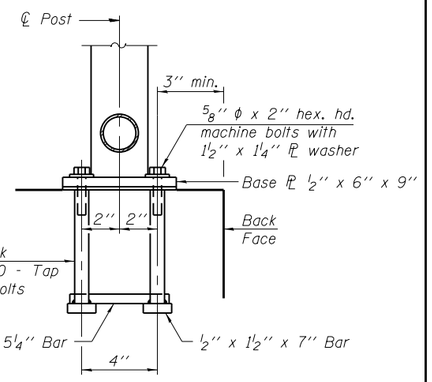
POST FOUNDATION DETAILS

NOTE:
All necessary excavation, backfilling, disposal of unsuitable or surplus material, formwork and furnishing and placing the Class SI Concrete and reinforcement shall be included in the Pay Item "Decorative Steel Railing".
See Sheet 2 for foundation layout and elevations.



DECORATIVE STEEL RAILING POST





ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

Note:
All post, railing, splices, anchor devices and bent plates shall be painted per the project specifications.
For Parapet Railing terminal, see sheet 13 of 28.

BILL OF MATERIAL

Item	Unit	Quantity
Decorative Steel Railing	Foot	299
Parapet Railing	Foot	304

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PLOT DATE =	CHECKED	WLB	REVISED

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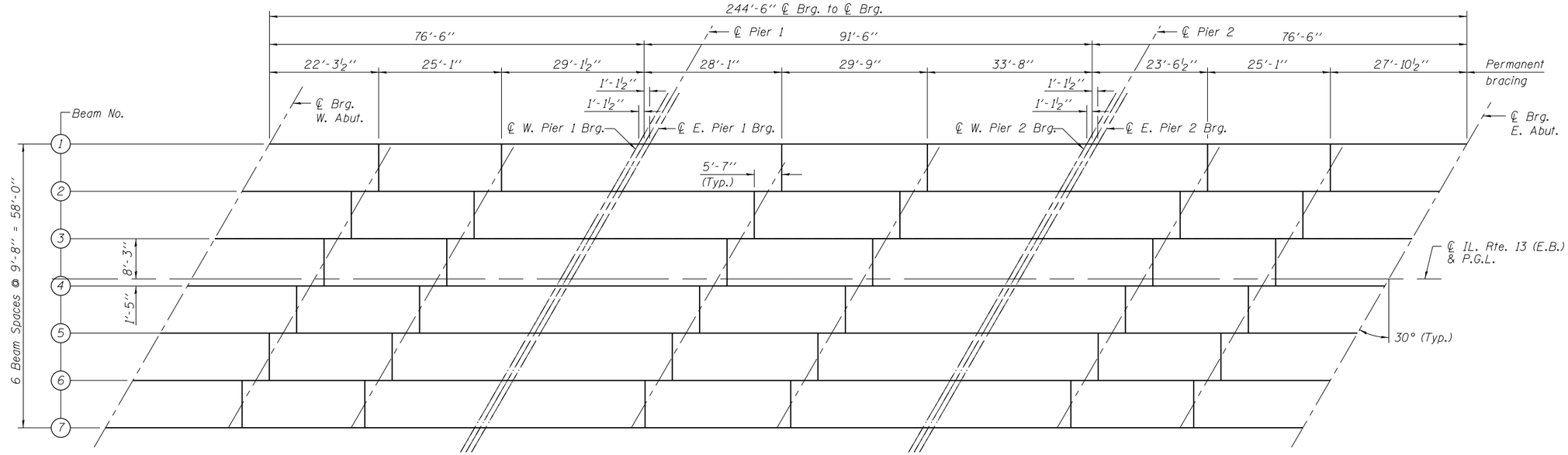
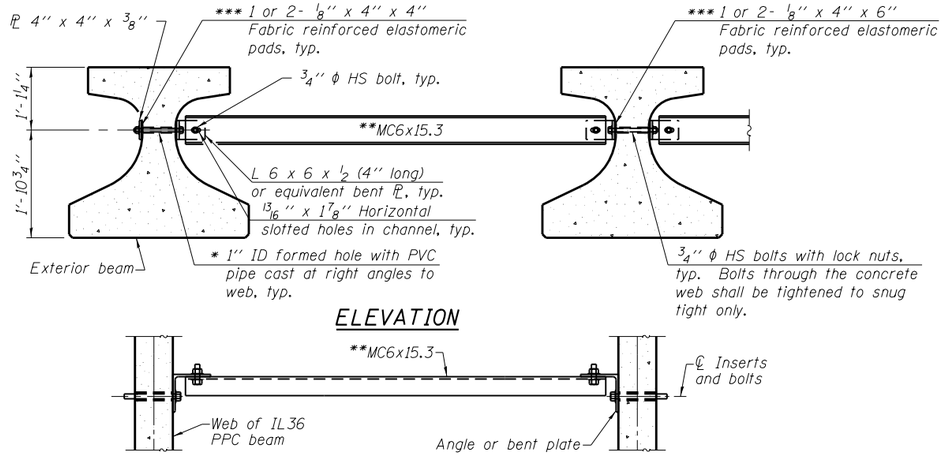
RAILING DETAILS
STRUCTURE NO. 039-0079
SHEET NO. 14 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	184
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



FRAMING PLAN



PERMANENT BRACING DETAILS FOR IL36 PPC BEAMS

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" ϕ unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

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 MC6x18 channels are permitted to facilitate material acquisition.

*** Place pads as necessary to provide a flat mounting surface between the steel and concrete.

BEAM MOMENT TABLE

		0.4 Sp. 1 0.6 Sp. 3		Pier 1 or 2		0.5 Sp. 2	
		Interior	Exterior	Interior	Exterior	Interior	Exterior
I	(in^4)	100,433				100,433	
I'	(in^4)	323,631				323,631	
S_b	(in^3)	6,832.1				6,832.1	
S_b'	(in^3)	12,153				12,153	
S_t	(in^3)	4,715.1				4,715.1	
S_t'	(in^3)	34,539				34,539	
$DC1$	(k/')	1.76	1.67	1.76	1.67	1.76	1.67
M_{DC1}	('k)	1,195	1,137	0	0	1747	1,662
$DC2$	(k/')	0.17	0.17	0.17	0.17	0.17	0.17
M_{DC2}	('k)	70	70	121	121	56	56
DW	(k/')	0.37	0.37	0.37	0.37	0.37	0.37
M_{DW}	('k)	156	156	263	263	125	125
$LLDF$		0.815	0.815	0.796	0.796	0.779	0.779
M_{LL+IM}	('k)	1,266	1,266	1,374	1,374	1,195	1,195

BEAM REACTION TABLE

			Abut.		Pier 1 Span 1 Pier 2 Span 3		Pier 1 Span 2 Pier 2 Span 2	
			Interior	Exterior	Interior	Exterior	Interior	Exterior
	$LLDF$		0.929	0.782	0.929	0.782	0.929	0.782
	OCF		—	1.10	—	—	—	—
	R_{DC1}	(k)	66.2	62.9	66.2	62.9	78.3	74.4
****	R_{DC2}	(k)	4.8	4.8	7.8	7.8	7.8	7.8
****	R_{DW}	(k)	10.8	10.8	17.3	17.3	17.3	17.3
****	R_{LL}	(k)	77.6	71.8	74.8	63.0	74.8	63.0
****	R_{IM}	(k)	18.8	17.4	14.9	12.6	14.9	12.6
	R_{Total}	(k)	178.2	167.7	181.0	163.6	193.1	175.1

**** At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_b': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
S_t: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
S_t': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
$DC1$: Un-factored non-composite dead load (kips/ft.).
M_{DC1}: 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.).
M_{DC2}: 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.).
M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

LL + IM DEFLECTIONS

	Span 1 & 3	Span 2
Calculated deflection	0.49 in.	0.58 in.
Allowable deflection	0.92 in.	1.10 in.

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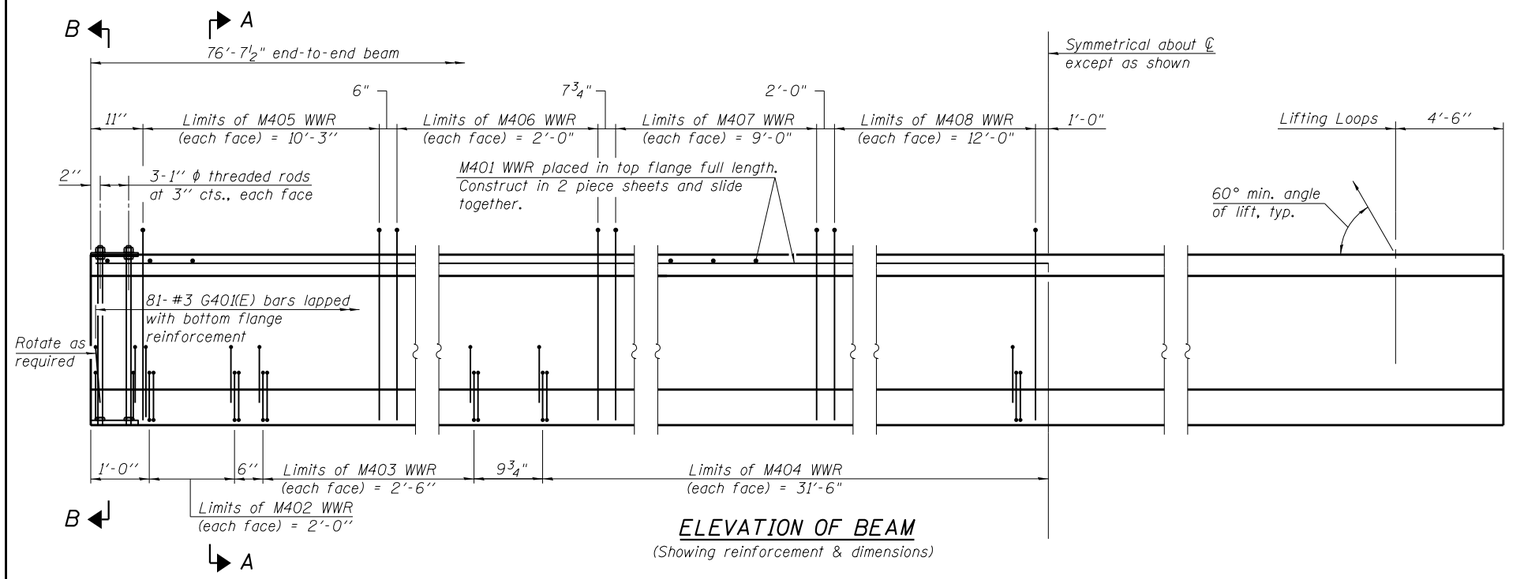
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

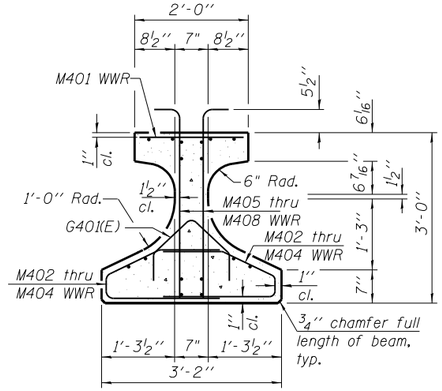
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND DETAILS
STRUCTURE NO. 039-0079
SHEET NO. 15 OF 28 SHEETS

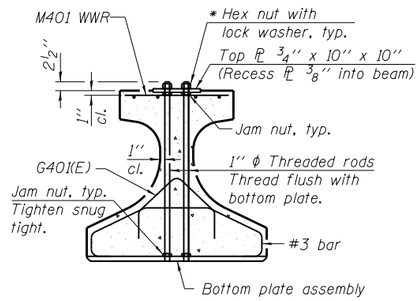
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	185
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



ELEVATION OF BEAM
(Showing reinforcement & dimensions)

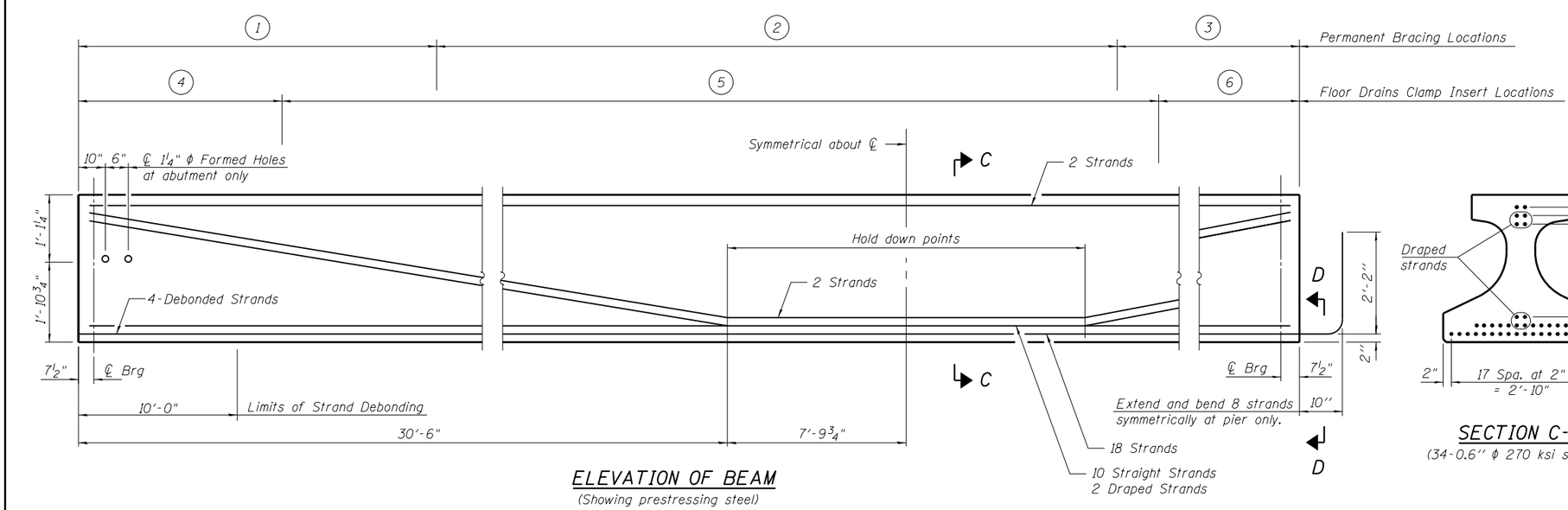


SECTION A-A

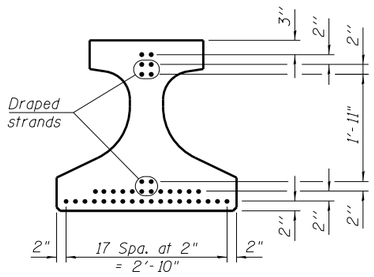


SECTION B-B

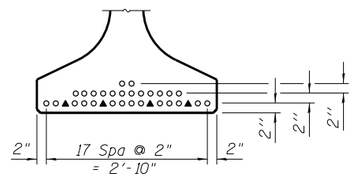
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(34-0.6" ϕ 270 ksi strands)



VIEW D-D

○ Fully bonded strand

▲ Partially debonded strand

PERMANENT BRACING DIMENSION	(1)	(2)	(3)
Span 1 South Side	22'-11"	25'-1"	28'-7½"
Span 1 North Side	28'-6"	25'-1"	23'-0½"
Span 3 South Side	23'-0½"	25'-1"	28'-6"
Span 3 North Side	28'-7½"	25'-1"	22'-11"

FLOOR DRAIN CLAMP INSERT LOCATIONS BEAMS 1, 6 & 7	(4)	(5)	(6)
Span 1	14'-8½"	4 spaces at 11'-10"	14'-7"
Span 3	14'-9½"	4 spaces at 11'-10"	14'-6"

Note:
See sheet 18 of 28 for additional details and Bill of Material.

IL 36-2438 2-17-2017

CMT

USER NAME =	DESIGNED MJL	REVISED
	CHECKED WLB	REVISED
PLOT SCALE =	DRAWN GLD	REVISED
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL36-2438 BEAM SPAN 1 & 3
STRUCTURE NO. 039-0079
SHEET NO. 16 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	186
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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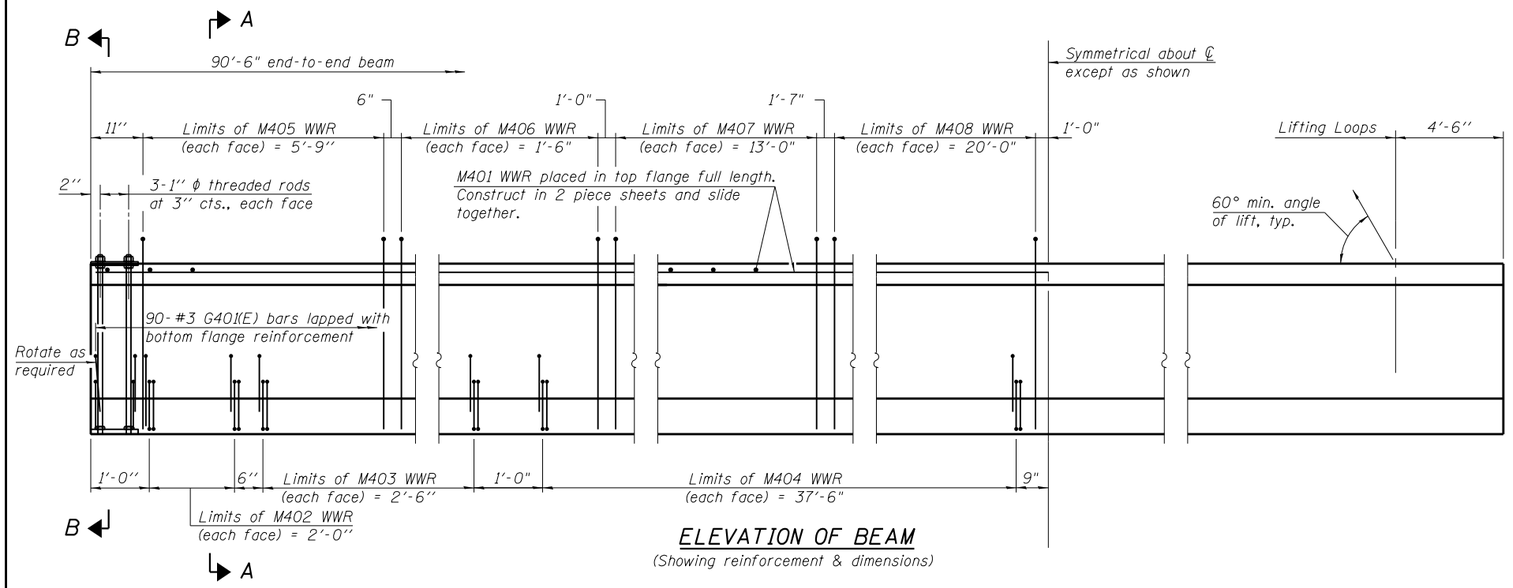
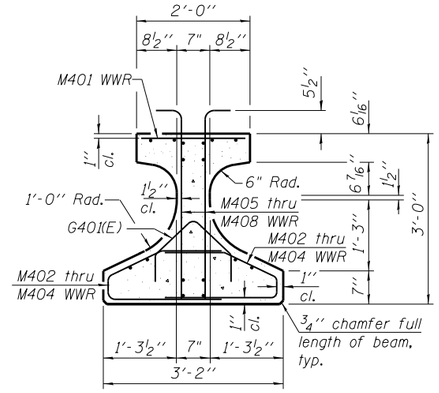
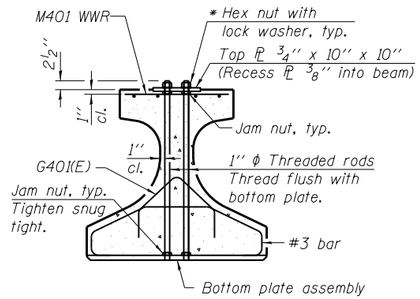


ELEVATION OF BEAM
(Showing reinforcement & dimensions)

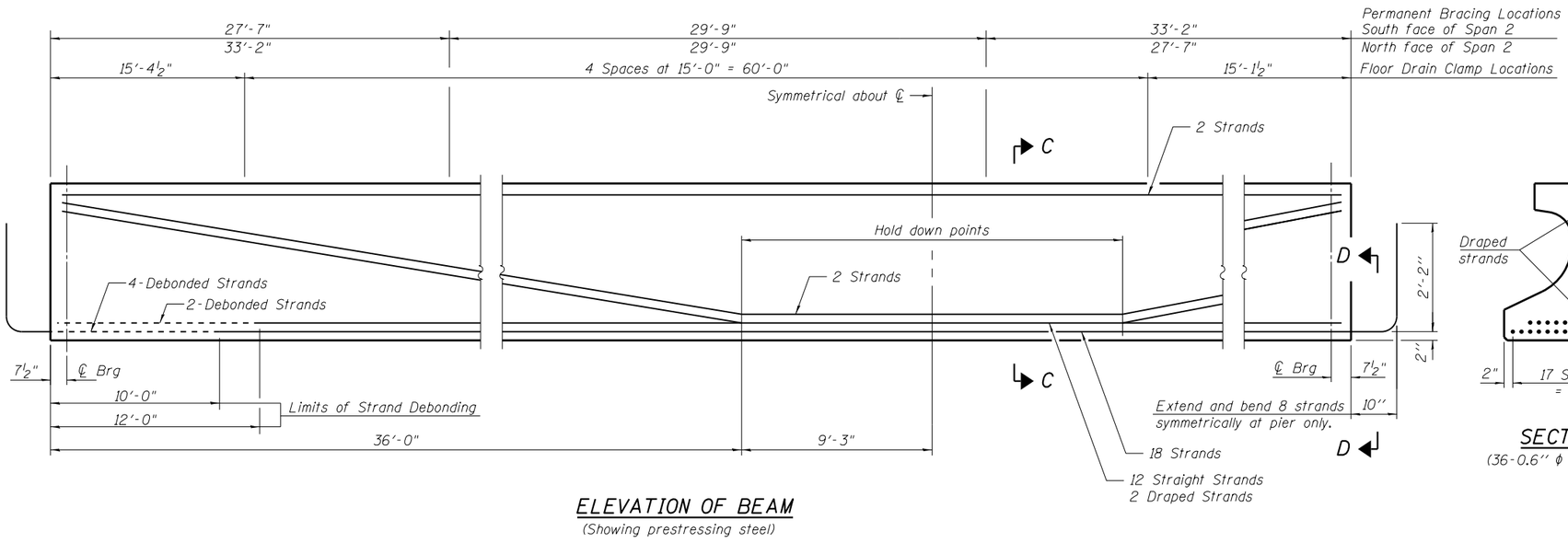


SECTION A-A

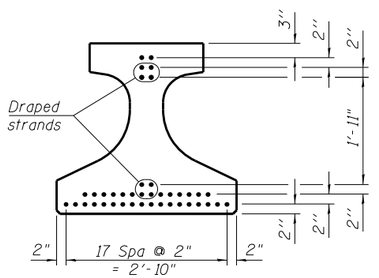


SECTION B-B

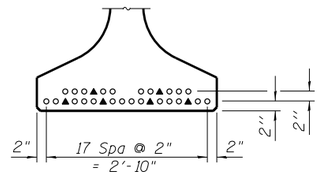
* Only tighten sufficiently to compress lock washers



ELEVATION OF BEAM
(Showing prestressing steel)



SECTION C-C
(36-0.6" ϕ 270 ksi strands)



VIEW D-D

○ Fully bonded strand

▲ Partially debonded strand

Note:
See sheet 18 of 28 for additional details and Bill of Material.

IL 36-2438 2-17-2017

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL36-2438 BEAM SPAN – 2
STRUCTURE NO. 039-0079
SHEET NO. 17 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)IR-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	187
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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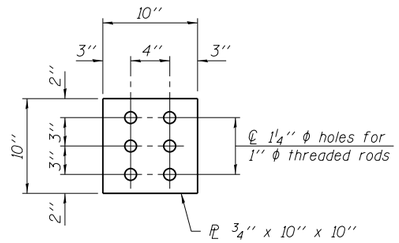
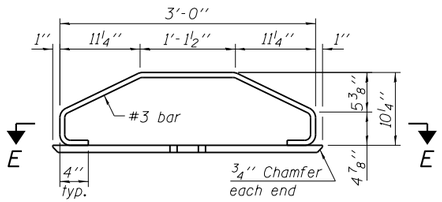
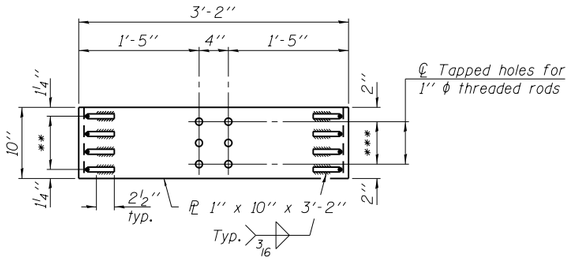


PLAN - TOP PLATE



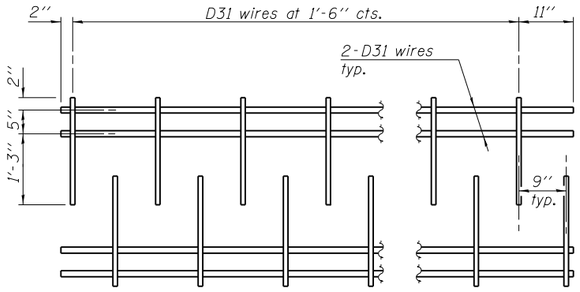
ELEVATION - BOTTOM PLATE ASSEMBLY



SECTION E-E

** 3 Spaces at 2½'' = 7½''

*** 2 Spaces at 3'' = 6''



M401 WWR DETAIL

When multiple sheets of M401 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'' ϕ 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 7000 psi.

A minimum 2½'' ϕ lifting pin shall be used to engage the lifting loops during handling.

Bend the extended strands inward on the fascia beams to maintain 1½'' clearance inside the pier diaphragm.

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.

Beams shall not be released from the fabricator until they have attained 45 days of age or older.

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

M405 THRU M408 WWR DETAIL

(See Table of Dimensions)

TABLE OF DIMENSIONS

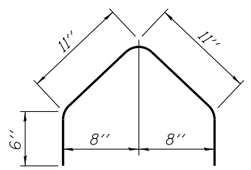
SPAN 1 & 3

WWR	A	B
M402	9	3''
M403	6	6''
M404	22	1'-6''
M405	42	3''
M406	5	6"
M407	10	1'-0''
M408	7	2'-0''

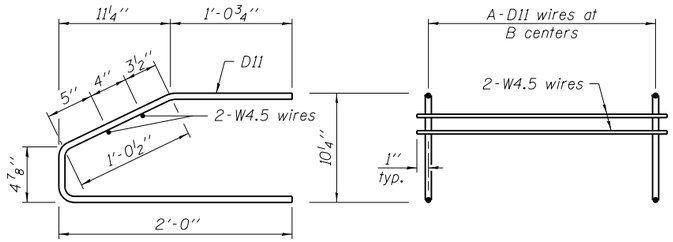
SPAN 2

WWR	A	B
M402	9	3''
M403	6	6''
M404	26	1'-6''
M405	24	3''
M406	4	6"
M407	14	1'-0''
M408	11	2'-0''

TOP FLANGE PLAN - CLIPPED

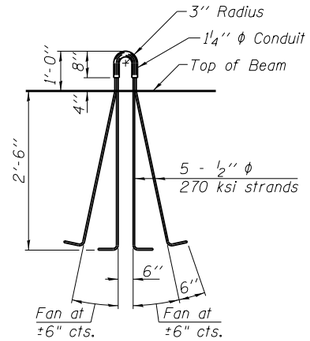


BAR G40I(E)



M402 THRU M404 WWR DETAIL

(See Table of Dimensions)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete Beams, IL36N	Ft.	1707

IL36-2438D 2-17-2017

CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL36–2438 BEAM DETAILS
STRUCTURE NO. 039–0079
SHEET NO. 18 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	188
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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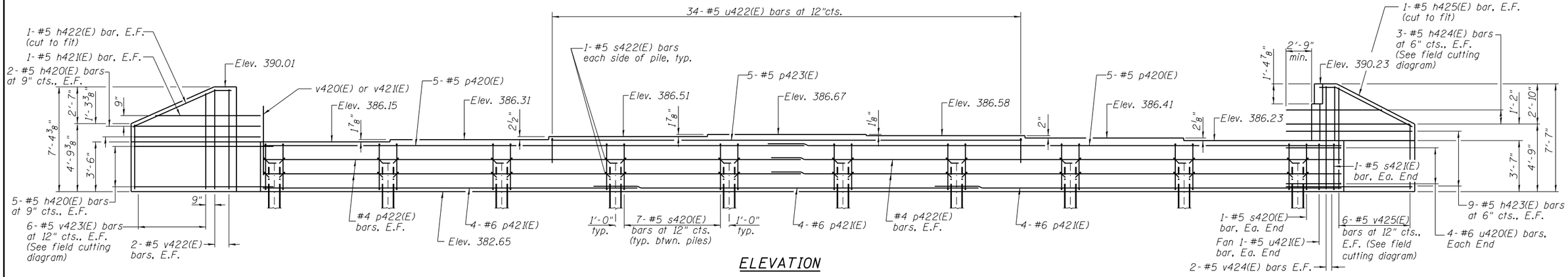
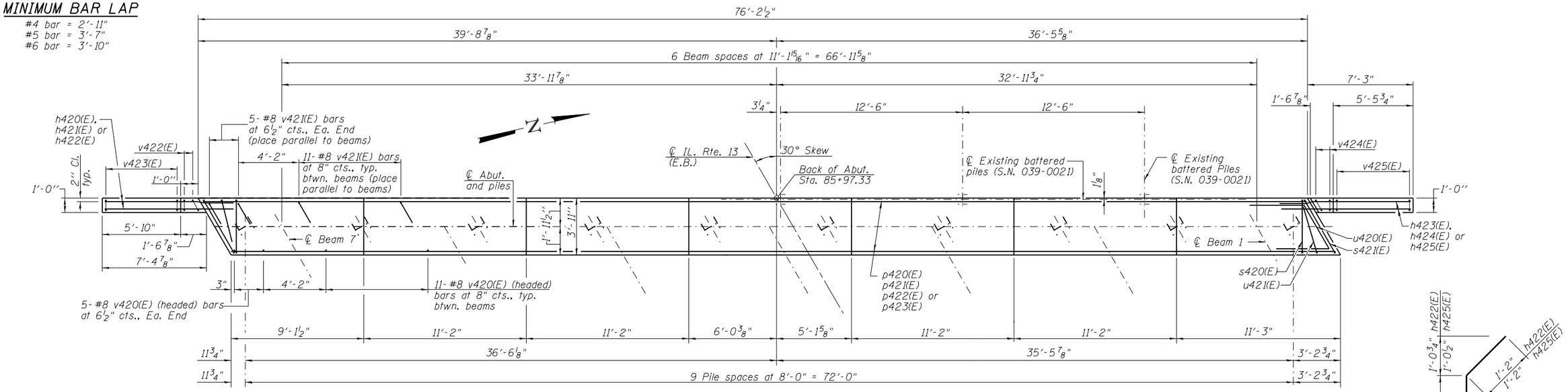


ELEVATION

MINIMUM BAR LAP

#4 bar = 2'-11"
#5 bar = 3'-7"
#6 bar = 3'-10"



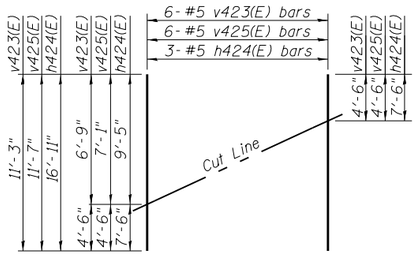
PLAN

PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418kips
Factored Resistance Available: 230kips
Est. Length: 64 ft.
No. Production Piles: 10
No. Test Piles: 0

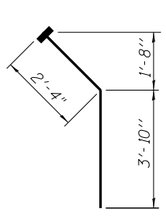
Notes:

1. See sheet 21 of 28 for section thru Abutment and Bill of Materials.
2. For Details of piles see sheet 25 of 28.
3. Pour steps monolothically with cap.
4. See sheet 2 of 28 for Abutment backfill details



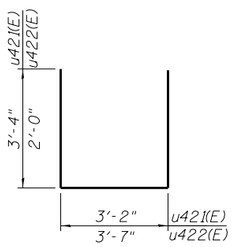
FIELD CUTTING DIAGRAM

Order h424(E), v423(E) and v425(E) full length. Cut as shown and use remainder of bars in opposite face.

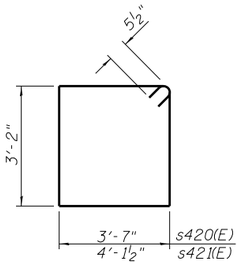


BAR v421(E)

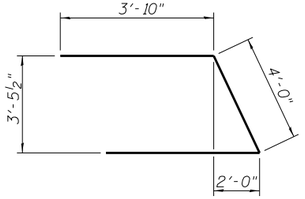
(headed)



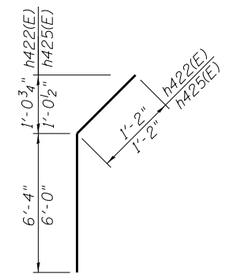
BAR u421(E) & BAR u422(E)



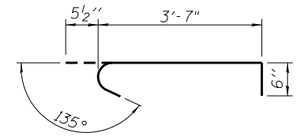
BAR s420(E) & s421(E)



BAR u420(E)



BAR h422(E) & BAR h425(E)



BAR s422(E)

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT
STRUCTURE NO. 039-0079
SHEET NO. 19 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	189
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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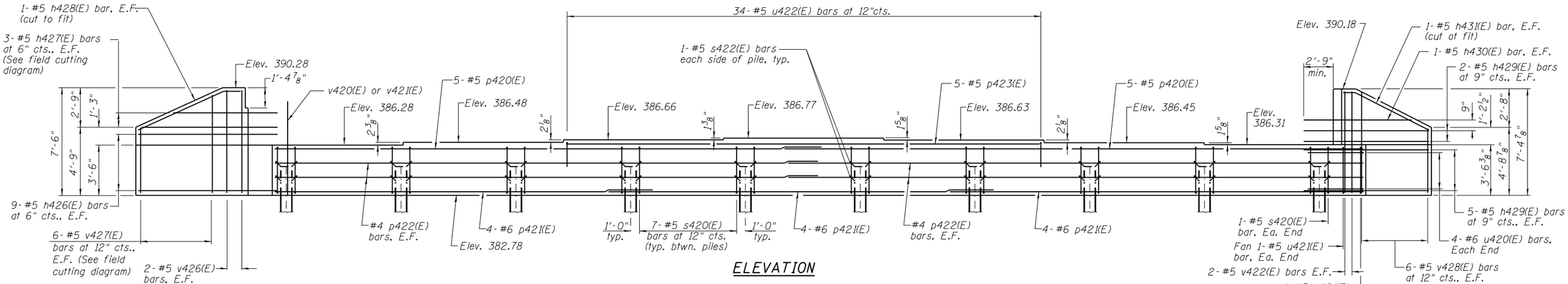
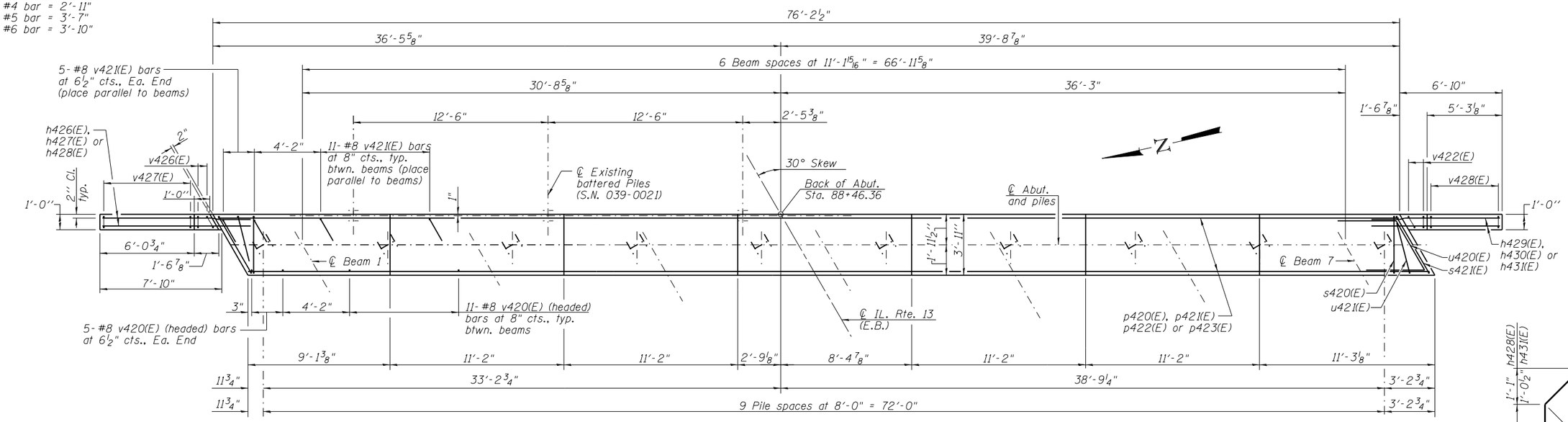


ELEVATION

MINIMUM BAR LAP

#4 bar = 2'-11"
#5 bar = 3'-7"
#6 bar = 3'-10"



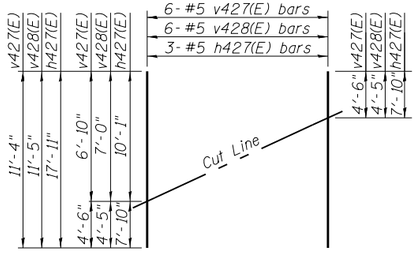
PLAN

PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418kips
Factored Resistance Available: 230kips
Est. Length: 65 ft.
No. Production Piles: 10
No. Test Piles: 0

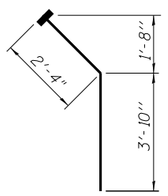
Notes:

1. See sheet 21 of 28 for section thru Abutment and Bill of Materials.
2. For Details of piles see sheet 25 of 28.
3. Pour steps monolothically with cap.
4. See sheet 2 of 28 for Abutment backfill details

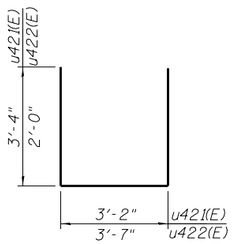


FIELD CUTTING DIAGRAM

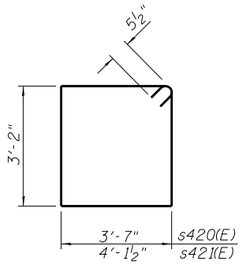
Order v427(E), v428(E) and h429(E) full length. Cut as shown and use remainder of bars in opposite face.



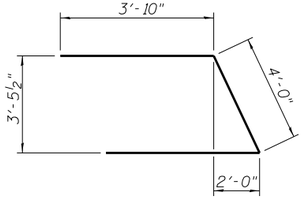
BAR v421(E)
(headed)



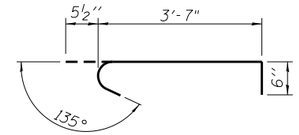
BAR u421(E) & BAR u422(E)



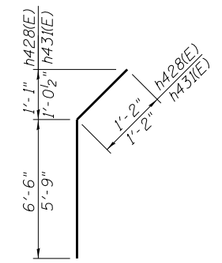
BAR s420(E) & s421(E)



BAR u420(E)



BAR s422(E)



BAR h428(E) & BAR h431(E)

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT
STRUCTURE NO. 039-0079
SHEET NO. 20 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	190
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

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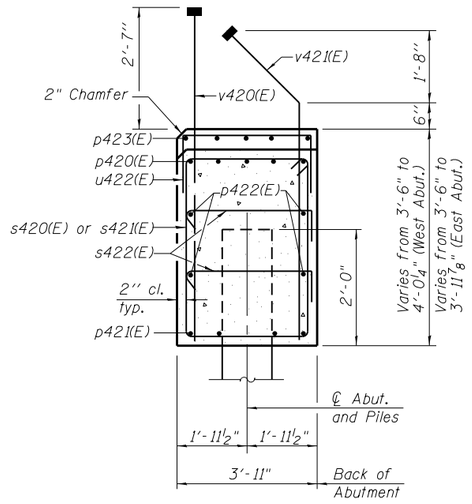

SEC. THRU ABUT.

WEST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h420(E)	14	#5	9'-10"	
h421(E)	2	#5	8'-4"	
h422(E)	2	#5	7'-6"	
h423(E)	18	#5	9'-8"	
h424(E)	3	#5	16'-11"	
h425(E)	2	#5	7'-2"	
p420(E)	10	#5	39'-9"	
p421(E)	12	#6	27'-10"	
p422(E)	8	#4	39'-5"	
p423(E)	5	#5	33'-2"	
s420(E)	65	#5	14'-5"	
s421(E)	2	#5	15'-6"	
s422(E)	40	#5	4'-7"	
u420(E)	8	#6	11'-8"	
u421(E)	2	#5	9'-10"	
u422(E)	34	#5	7'-7"	
v420(E)	76	#8	5'-11"	
v421(E)	76	#8	6'-2"	
v422(E)	4	#5	7'-0"	
v423(E)	6	#5	11'-3"	
v424(E)	4	#5	7'-3"	
v425(E)	6	#5	11'-7"	
Structure Excavation			Cu. Yd.	81
Concrete Structures			Cu. Yd.	45.1
Reinforcement Bars, Epoxy Coated			Pound	6,010
Furnishing - Steel Piles, HP 12x53			Foot	640
Driving Piles			Foot	640

EAST ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h426(E)	18	#5	10'-3"	
h427(E)	3	#5	17'-11"	
h428(E)	2	#5	7'-8"	
h429(E)	14	#5	9'-3"	
h430(E)	2	#5	8'-1"	
h431(E)	2	#5	6'-11"	
p420(E)	10	#5	39'-9"	
p421(E)	12	#6	27'-10"	
p422(E)	8	#4	39'-5"	
p423(E)	5	#5	33'-2"	
s420(E)	65	#5	14'-5"	
s421(E)	2	#5	15'-6"	
s422(E)	40	#5	4'-7"	
u420(E)	8	#6	11'-8"	
u421(E)	2	#5	9'-10"	
u422(E)	34	#5	7'-7"	
v420(E)	76	#8	5'-11"	
v421(E)	76	#8	6'-2"	
v422(E)	4	#5	7'-0"	
v426(E)	4	#5	7'-2"	
v427(E)	6	#5	11'-4"	
v428(E)	6	#5	11'-5"	
Structure Excavation			Cu. Yd.	81
Concrete Structures			Cu. Yd.	44.8
Reinforcement Bars, Epoxy Coated			Pound	6,010
Furnishing - Steel Piles, HP 12x53			Foot	650
Driving Piles			Foot	650

Notes:
For details of piles see sheet 25 of 28.
Headed bars shall conform to ASTM A970 Class HA.
Cost included with Reinforcement Bars, Epoxy Coated.

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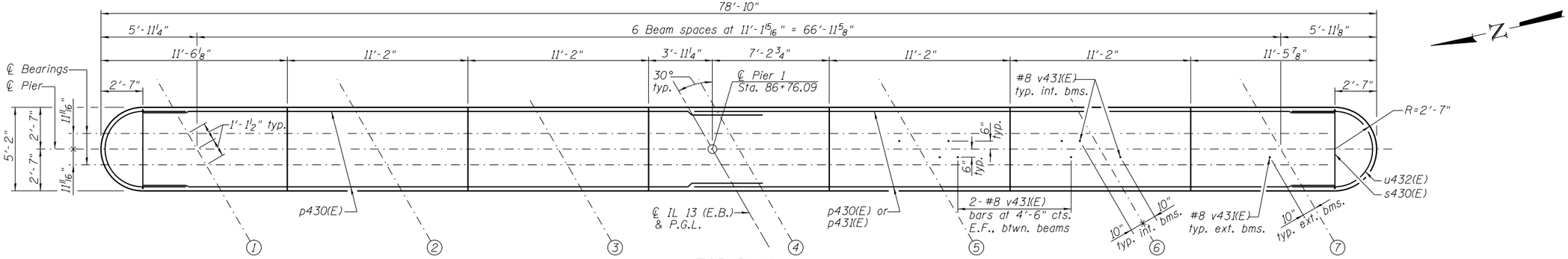
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

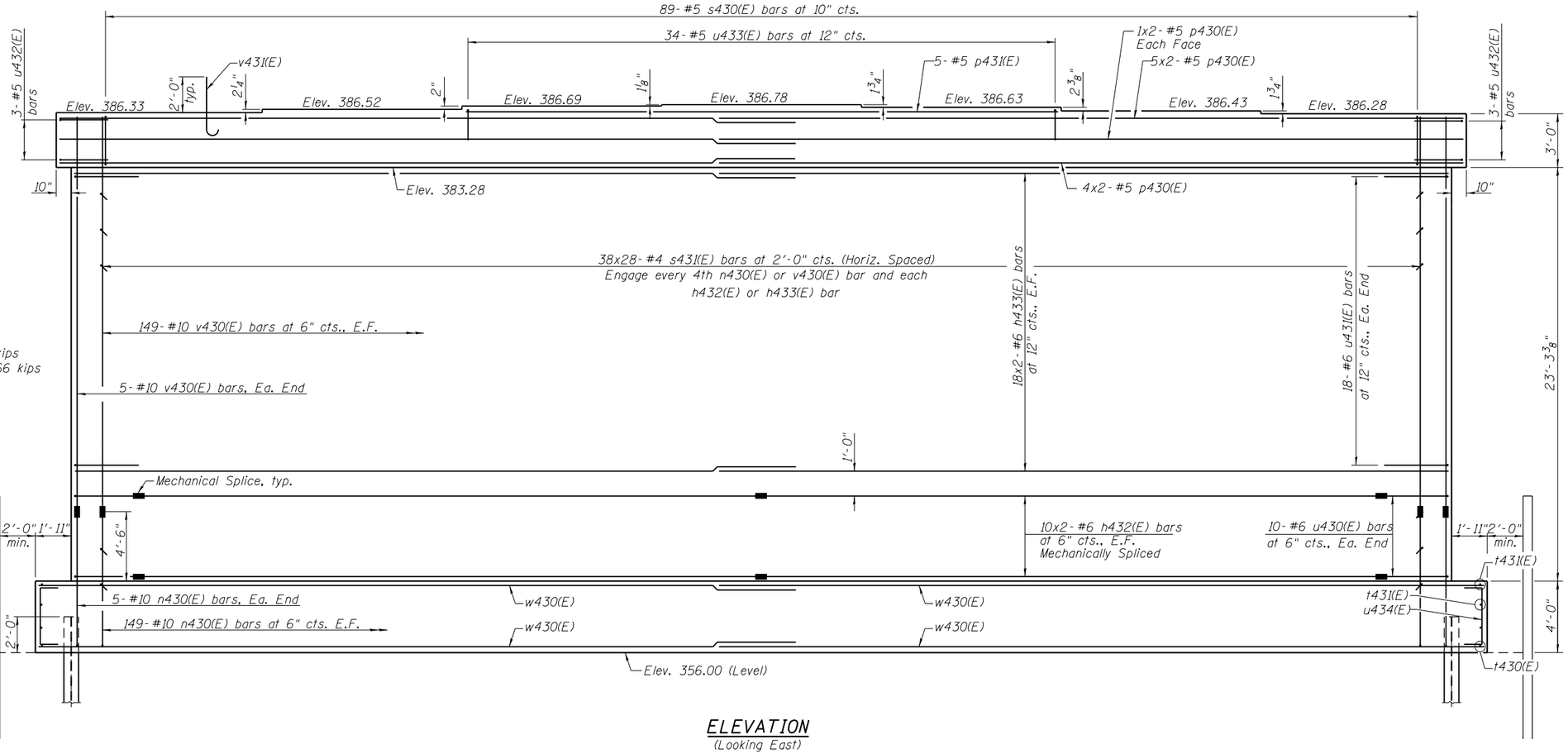
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO. 039-0079
SHEET NO. 21 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	191
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



ELEVATION
(Looking East)

MIN. BAR LAP

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

PILE DATA

Type: HP 14x117
Nominal Required Bearing: 847 kips
Factored Resistance Available: 466 kips
Est. Length: 47 ft.
No. Production Piles: 33
No. Test Piles: 0

Notes:

See Sheet 24 of 28 for Footing Plan, Section Thru Pier, Bar Details and Bill of Material.
Bars indicated thus 5 x 2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

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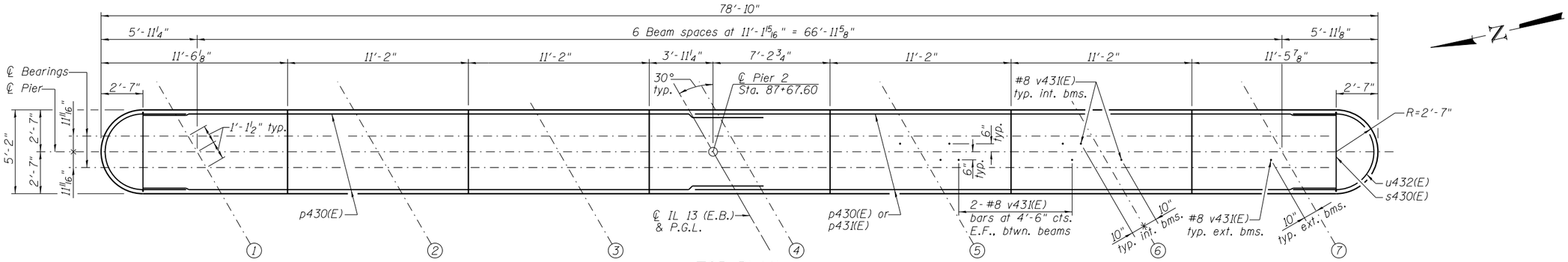
USER NAME =	DESIGNED MJL	REVISED	
	CHECKED WLB	REVISED	
PLOT SCALE =	DRAWN GLD	REVISED	
PLOT DATE =	CHECKED WLB	REVISED	

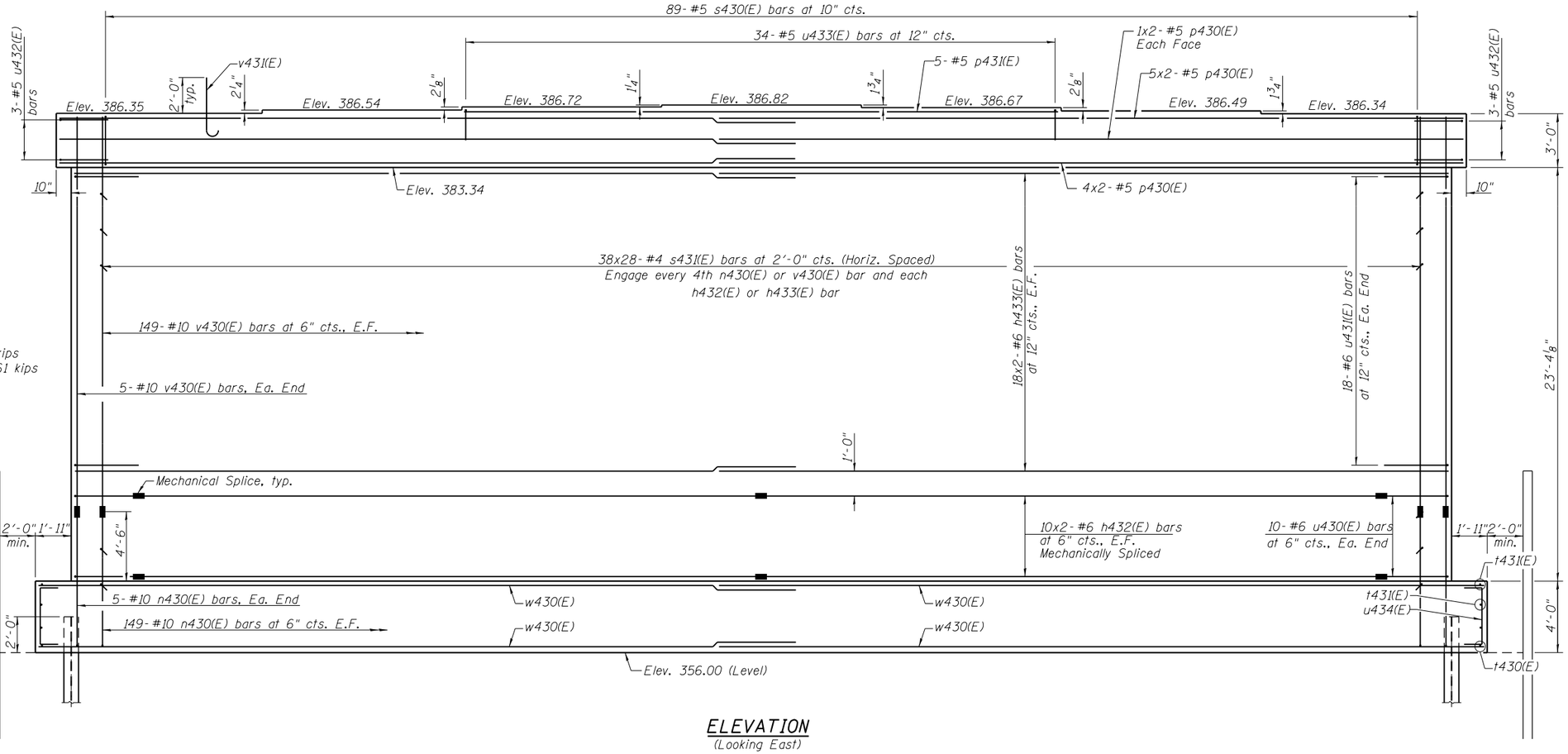
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1
STRUCTURE NO. 039-0079
SHEET NO. 22 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	192
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



ELEVATION
(Looking East)

MIN. BAR LAP

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

PILE DATA

Type: HP 14x117
Nominal Required Bearing: 839 kips
Factored Resistance Available: 461 kips
Est. Length: 57 ft.
No. Production Piles: 32
No. Test Piles: 1

Notes:

See Sheet 24 of 28 for Footing Plan, Section Thru Pier, Bar Details and Bill of Material.
Bars indicated thus 5 x 2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

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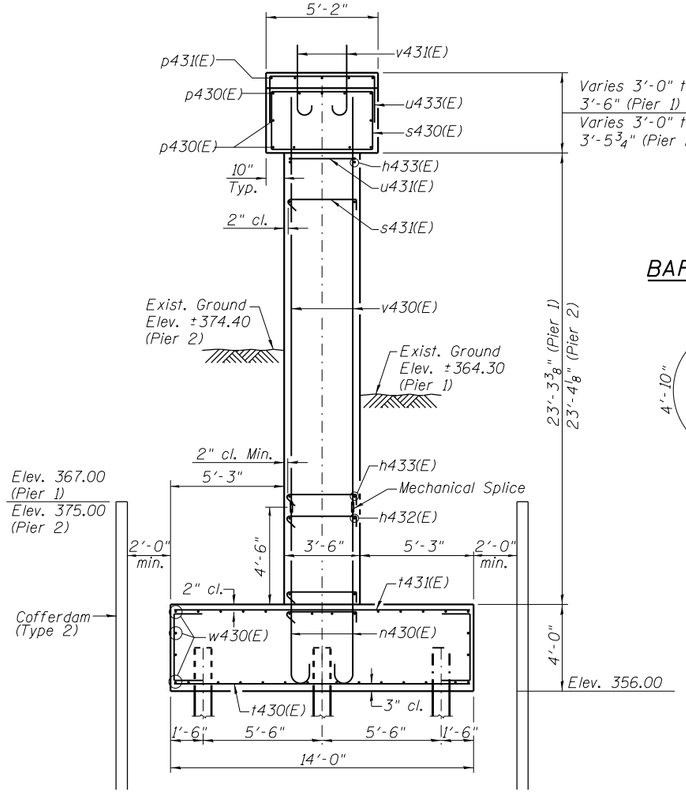
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

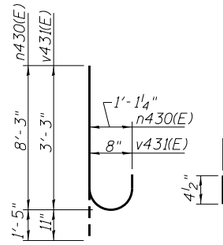
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2
STRUCTURE NO. 039-0079
SHEET NO. 23 OF 28 SHEETS

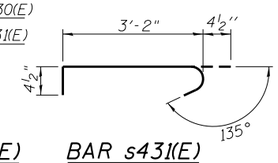
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	193
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			



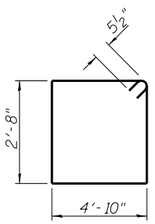
SECTION THRU PIER



BAR n430(E) & v431(E)



BAR s431(E)



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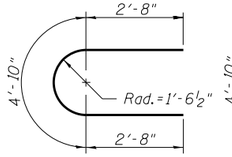

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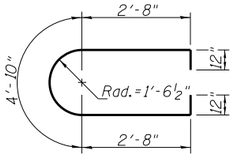
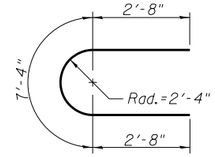
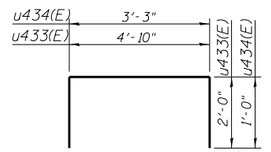


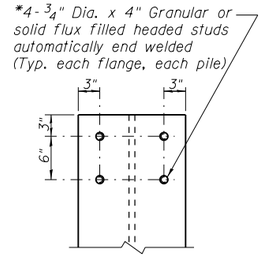
BAR u431(E)



BAR u432(E)



BAR u433(E) & u434(E)



*4-3/4" Dia. x 4" Granular or solid flux filled headed studs automatically end welded (Typ. each flange, each pile)

SEISMIC PILE DETAIL

*Typical each flange, each pile. Cost included with Furnishing Piles.

NOTES:

1. See Sheet 25 of 28 for Steel H-Pile Details.
2. See Sheet 26 of 28 for Mechanical Splicer Details.
3. Pour steps monolithically with cap.
4. Bars indicated thus 10 x 2-#6 etc. indicates 10 lines of bars with 2 lengths per line.

PIER 1 BILL OF MATERIAL

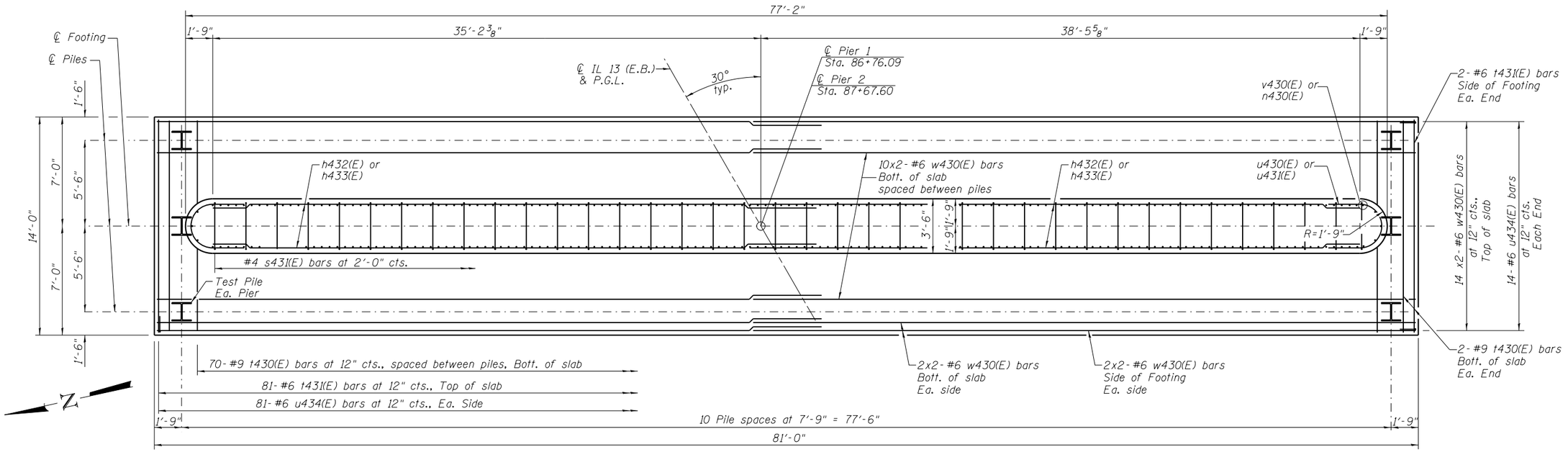
Bar	No.	Size	Length	Shape
h432(E)	40	#6	34'-2"	
h433(E)	72	#6	39'-0"	
n430(E)	308	#10	9'-8"	
p430(E)	22	#5	38'-8"	
p431(E)	5	#5	33'-2"	
s430(E)	89	#5	15'-11"	
s431(E)	1064	#4	3'-11"	
t430(E)	74	#9	13'-8"	
t431(E)	85	#6	13'-8"	
u430(E)	20	#6	10'-2"	
u431(E)	36	#6	12'-2"	
u432(E)	6	#5	12'-8"	
u433(E)	34	#5	8'-10"	
u434(E)	190	#6	5'-3"	
v430(E)	308	#10	20'-11"	
v431(E)	26	#8	4'-2"	
w430(E)	64	#6	42'-1"	

Cofferdam Excavation	Cu. Yd.	470
Cofferdam (Type 2) (Location - 3)	Each	1
Concrete Structures	Cu. Yd.	449.3
Reinforcement Bars, Epoxy Coated	Pound	64,500
Mechanical Splicers	Each	368
Furnishing Steel Piles HP 14x117	Foot	1,551
Driving Piles	Foot	1,551

PIER 2 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h432(E)	40	#6	34'-2"	
h433(E)	72	#6	39'-0"	
n430(E)	308	#10	9'-8"	
p430(E)	22	#5	38'-8"	
p431(E)	5	#5	33'-2"	
s430(E)	89	#5	15'-11"	
s431(E)	1064	#4	3'-11"	
t430(E)	74	#9	13'-8"	
t431(E)	85	#6	13'-8"	
u430(E)	20	#6	10'-2"	
u431(E)	36	#6	12'-2"	
u432(E)	6	#5	12'-8"	
u433(E)	34	#5	8'-10"	
u434(E)	190	#6	5'-3"	
v430(E)	308	#10	20'-11"	
v431(E)	26	#8	4'-2"	
w430(E)	64	#6	42'-1"	

Cofferdam Excavation	Cu. Yd.	1,043
Cofferdam (Type 2) (Location - 4)	Each	1
Concrete Structures	Cu. Yd.	449.5
Reinforcement Bars, Epoxy Coated	Pound	64,500
Mechanical Splicers	Each	368
Furnishing Steel Piles HP 14x117	Foot	1,824
Driving Piles	Foot	1,824
Test Pile Steel HP 14x117	Each	1



FOOTING PLAN (TYP. PIER 1 & PIER 2)

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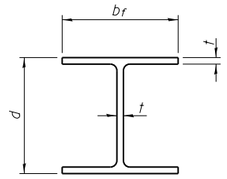
CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

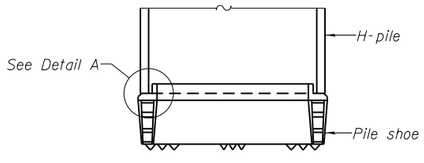
PIER DETAILS
STRUCTURE NO. 039-0079
SHEET NO. 24 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	194
		CONTRACT NO. 78295		
		ILLINOIS FED. AID PROJECT		

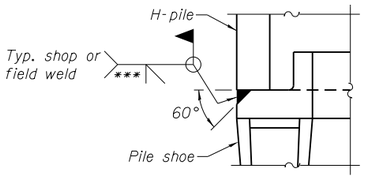


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4''	14 7/8''	13/16''	30''
x102	14''	14 3/4''	11/16''	30''
x89	13 7/8''	14 3/4''	5/8''	30''
x73	13 5/8''	14 5/8''	1/2''	30''
HP 12x84	12 1/4''	12 1/4''	11/16''	24''
x74	12 1/8''	12 1/4''	5/8''	24''
x63	12''	12 1/8''	1/2''	24''
x53	11 3/4''	12''	7/16''	24''
HP 10x57	10''	10 1/4''	9/16''	24''
x42	9 3/4''	10 1/8''	7/16''	24''
HP 8x36	8''	8 1/8''	7/16''	18''



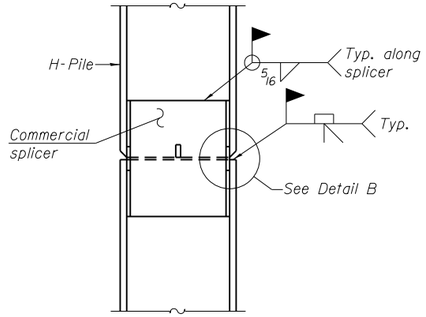
ELEVATION



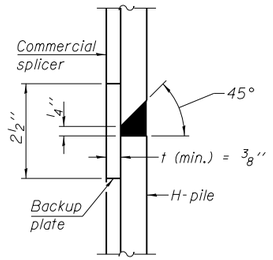
DETAIL A

SHOE ATTACHMENT

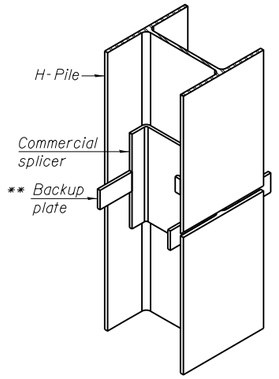
Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION

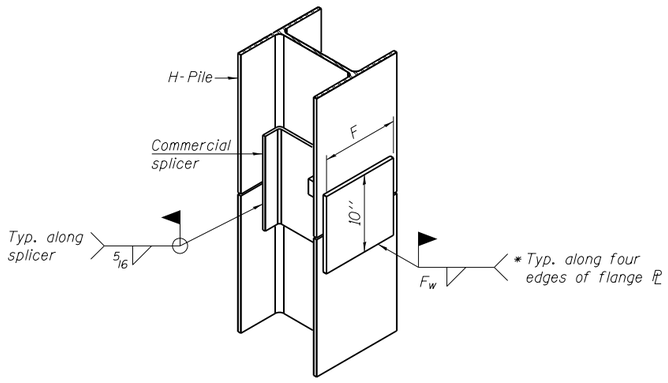


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



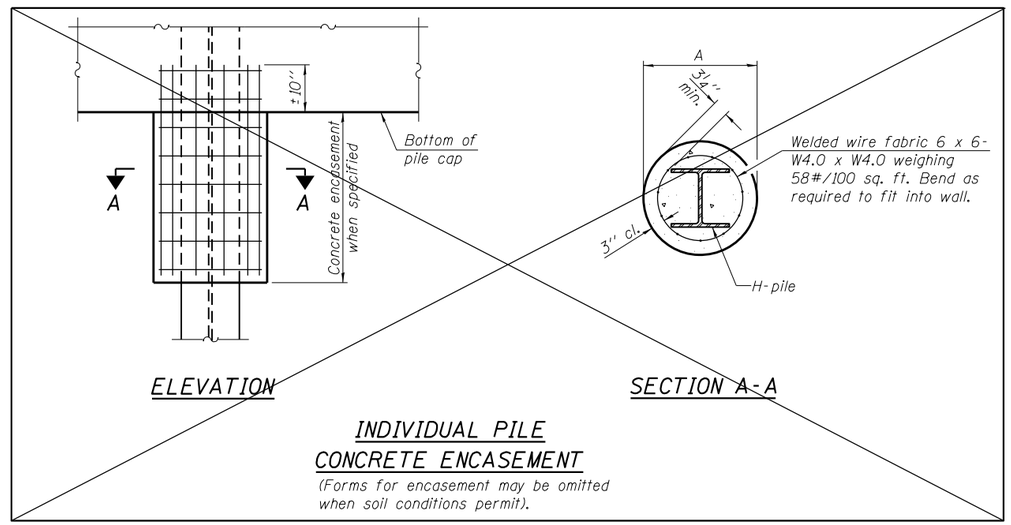
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds 1/4'' from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

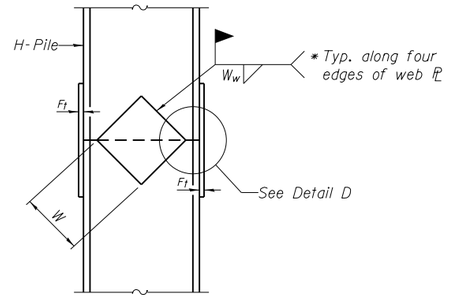
*** Weld size per pile shoe manufacturer (5/16'' min.).



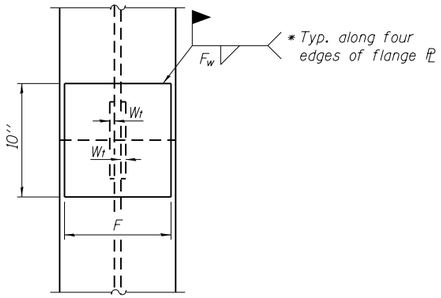
ELEVATION SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASEMENT

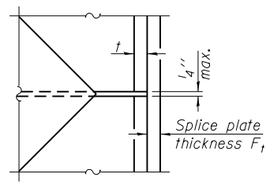
(Forms for encasement may be omitted when soil conditions permit).



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2''	1''	7/8''	7 3/4''	5/8''	1/2''
x102	12 1/2''	7/8''	3/4''	7 3/4''	5/8''	1/2''
x89	12 1/2''	3/4''	11/16''	7 3/4''	5/8''	1/2''
x73	12 1/2''	5/8''	9/16''	7 3/4''	5/8''	1/2''
HP 12x84	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x74	10''	7/8''	11/16''	6 1/2''	5/8''	1/2''
x63	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
x53	10''	5/8''	1/2''	6 1/2''	1/2''	3/8''
HP 10x57	8''	3/4''	9/16''	5 1/4''	1/2''	3/8''
x42	8''	5/8''	9/16''	5 1/4''	1/2''	3/8''
HP 8x36	7''	5/8''	7/16''	4 1/4''	1/2''	3/8''

WELDED PLATE FIELD SPLICE

F-HP 8-11-2017

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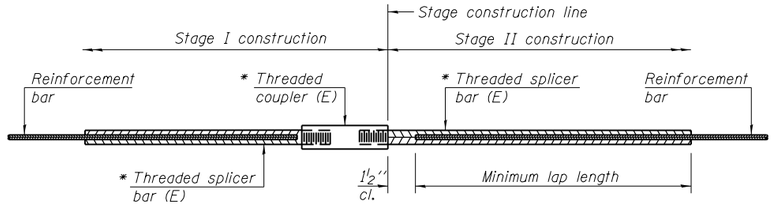
CMT	USER NAME =	DESIGNED	MJL	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	HP PILE DETAILS STRUCTURE NO. 039-0079	F.A.P. RTE. 331
		CHECKED	WLB	REVISED			SECTION (5-3)R-1,N-1,B-5,BR-1,B-6,BR-2
	PLOT SCALE =	DRAWN	GLD	REVISED			COUNTY JACKSON
	PLOT DATE =	CHECKED	WLB	REVISED		SHEET NO. 25 OF 28 SHEETS	TOTAL SHEETS 321
							SHEET NO. 195
							CONTRACT NO. 78295
							ILLINOIS FED. AID PROJECT

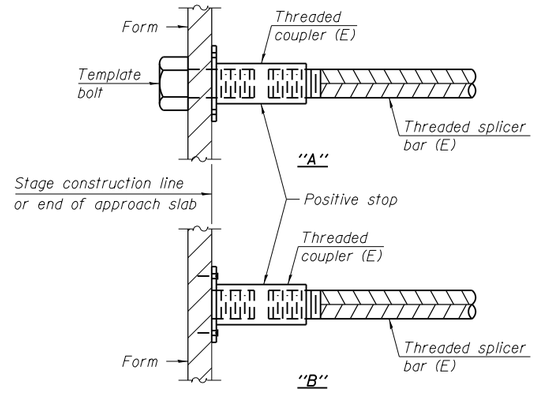


STANDARD BAR SPLICER ASSEMBLY

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

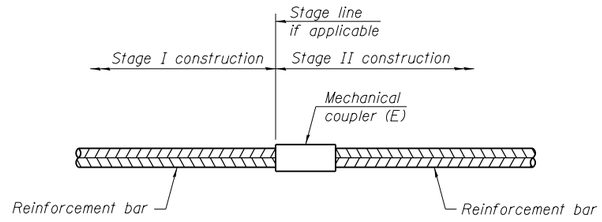
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length



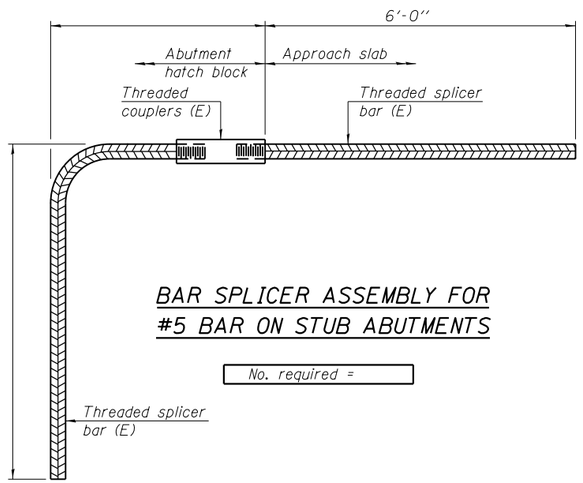
INSTALLATION AND SETTING METHODS

"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.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1	#10	308
Pier 1	#6	60
Pier 2	#10	308
Pier 2	#6	60



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

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

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

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

BSD-1

2-17-2017

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CMT

USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 039-0079
SHEET NO. 26 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	196
		CONTRACT NO. 78295		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation
Boring Log
Sheet 1 of 2

Eastbound FAP 331 (IL 13) Over Crab Orchard Creek
Route: FAP 331 (IL 13) Structure Number: 039-0021 Date: 6/30/2014
Section 5-3B-2 Bored By: R Moberly
County: Jackson Location: 0.6 mi West of Reed Station Road Checked By: R. Graeff

Boring No 1-S
Station 186+02
Offset 13' Rt CL EBL
Ground Surface 390.4 Ft

Surf Wat Elev: 362.1
Ground Water Elevation
when Drilling 355.4
At Completion
At: Hrs:

	DEPTH	BLOWS	Qu tsf	W%
Asphalt and crushed aggregate				
388.4				
Stiff, moist, grey and brown, Clay A7-6		3		
		3	1.4B	19
		2		
385.9				
Very soft, very moist, grey, Clay to Silty Clay A7-6	5.0	WH		
		1	0.2B	28
		1		
383.4				
Stiff, moist, grey and brown, Clay A7-6 (15) with medium layers		1		
		1	1.8B	21
		1		
380.9				
Very stiff, moist, brown, Clay A7-6	10.0	1		
		2	2.1B	19
		3		
		1		
		2	2.1B	22
		3		
	15.0	1		
		3	2.3B	22
		3		
373.4				
Medium, very moist, grey, Silty Clay A-6 with rotten organics		1		
		2	0.7B	30
		2		
370.9				
Medium, very moist, grey, Silty Clay Loam A-6	20.0	1		
		1	0.8B	24
		1		
368.4				
Stiff, moist, grey, Silty Clay Loam A-6		WH		
		1	1.1B	24
		2		
	25.0	1		
Stiff, moist, grey, Silty Clay Loam A-6		1		
		2	1.2B	24
363.4				
Medium, very moist, brown mottled grey, Silty Clay Loam A-6		WH		
		1	0.6B	26
		1		
360.9				
Very soft, very moist, brown mottled grey, Silty Clay Loam A-6	30.0	WH		
		WH	0.2B	32
		WH		
358.4				
Medium, very moist, brown and grey, Silty Clay to Clay A7-6		WH		
		WH	0.7B	38
		1		
355.9				
Stiff, moist, grey, Clay A7-6	35.0	WH		
		1	1.5B	31
		2		
		1		
		1	1.8B	32
		2		
350.9				
Very stiff, moist, grey and brown, Clay A7-6	40.0	1		
		3	3.1B	29
		4		
345.9				
Stiff, moist, grey, Clay A7-6 with sandy layers	45.0	1		
		2	1.5B	22
		3		
340.4	50.0	WH		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: 5-3B-2
County: Jackson
Date: 6/30/2014

Boring No: 1-S
Station: 186+02
Offset: 13' Rt CL EBL
Ground Surface: 390.4 Ft

	DEPTH	BLOWS	Qu tsf	W%
Medium, very moist, grey, Clay A7-6 with layers of wet fine Sand		1	0.8B	33
		1		
335.9				
Soft, very moist, grey, Sandy Clay Loam A-4 with Sand layers	55.0	WH		
		1	0.4B	30
		WH		
330.9		Washed		
Very loose, wet, grey, Sand (no recovery)	60.0	WH		
		1		
		2		
325.9				
Stiff, moist, grey and black, Clay A7-6 with Coal and weathered Clay Shale	65.0	3		
		6	1.8S	#188
		12		
323.4		14		
Hard, dry, grey, Clay Shale		100/8"		
	70.0			
		100/5"		
	75.0			

	DEPTH	BLOWS	Qu tsf	W%
Hard, dry, grey, Clay Shale				
312.9		100/4"		
Bottom of hole = 77.3 feet	80.0			
Free water observed at 35.0 feet				
Elevation referenced to BM 22 at SW corner SN 039-0061; Elev.= 390.3 feet				
Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)				
To convert "N" values to "N60" multiply by 1.25	85.0			
	90.0			
	95.0			
	100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

USER NAME =	DESIGNED MJL	REVISED
	CHECKED WLB	REVISED
PLOT SCALE =	DRAWN GLD	REVISED
PLOT DATE =	CHECKED WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
STRUCTURE NO. 039-0079
SHEET NO. 27 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	197
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation Boring Log

Sheet 1 of 2

Eastbound FAP 331 (IL 13) Over Crab Orchard Creek

Route: FAP 331 (IL 13) Structure Number: 039-0021 Date: 7/1/2014

Section 5-3B-2 Bored By: R Moberly

County: Jackson Location: 0.6 mi West of Reed Station Road Checked By: R. Graeff

Boring No 2-S
Station 188+92
Offset 14' Rt CL EBL
Ground Surface 390.6 Ft

Surf Wat Elev: 362.1
Ground Water Elevation
when Drilling 336.4
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
Asphalt over crushed aggregate				Very soft, wet, grey, Silt Loam to Silty Clay Loam A-4	WH	0.1B	30
					WH		
	2				WH		
	4				WH	0.2B	33
387.1	1				WH		
Stiff, moist, grey and brown, Clay A7-6				361.1			
5.0	1			Soft, very moist, grey mottled brown, Silty Clay Loam A-6	WH		
	1	1.2B	21	30.0	WH	0.3B	31
	2				WH		
383.6				356.6			
Soft, very moist, grey and brown, Clay to Silty Clay A7-6	WH			Medium, very moist, grey mottled brown, Silty Clay Loam A-6	WH		
	WH	0.4B	27		WH	0.5B	31
	1				WH		
381.1							
Very stiff, moist, brown and grey, Clay A7-6 10.0	1			35.0	WH		
	3	2.1B	22		WH	0.6B	30
	3			353.6	1		
				Medium, very moist, grey, Silty Clay A-6 with organics	WH		
	1				WH	0.6B	45
	3	2.5B	23		1		
	4			351.1			
376.1				Very stiff, moist, grey mottled brown, Clay A7-6 40.0	1		
Stiff, moist, brown and grey, Clay A7-6 15.0	1				3	2.5B	29
	3	1.6B	24		4		
	4			346.1			
373.6				Stiff, moist, grey, Clay A7-6 45.0	2		
Hard, damp, grey, Silt Loam to Silty Clay Loam A-4	1				4	1.8B	28
	6	5.5S	18		5		
	7						
371.1							
Soft, very moist, grey, Silty Clay Loam A-4 20.0	WH						
	WH	0.3B	28				
	1						
368.6							
Very soft, wet, grey, Silt Loam to Silty Clay Loam A-4	WH						
	WH	0.1B	31				
	WH						
25.0	WH			340.6 60.0	WH		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Sheet 2 of 2

Route: FAP 331 (IL 13)
Section: 5-3B-2
County: Jackson
Date: 7/1/2014

Boring No: 2-S
Station: 188+92
Offset: 14' Rt CL EBL
Ground Surface: 390.6 Ft

DEPTH	BLOWS	Qu tsf	W%		DEPTH	BLOWS	Qu tsf	W%
Medium, very moist, grey, Clay Loam to Sandy Clay Loam A-6	1	0.6B	23					
A-6	2							
				Bottom of hole = 70.0 feet				
				Free water observed at 54.0 feet				
Washed 5' blow-in 336.6				Elevation referenced to BM 22 at SW corner SN 039-0061; Elev.= 390.3 feet	80.0			
Loose, wet, grey, Sand with many Clay layers 55.0	1							
(not enough sample for grain-size)	2			Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)				
	3							
				To convert "N" values to "N60" multiply by 1.25				
331.1								
Medium, very moist, grey, Clay A7-6 60.0	1				85.0			
	1	0.8B	21					
	2							
326.1								
Soft, very moist, grey, Clay Loam to Sandy Clay Loam A-6 65.0	WH				90.0			
	1	0.4B	29					
	1							
323.1								
Hard, dry, grey, Clay Shale								
320.6 70.0	100/6"				95.0			
Bottom of hole = 70.0 feet								
Free water observed at 54.0 feet								
75.0					100.0			

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

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CMT

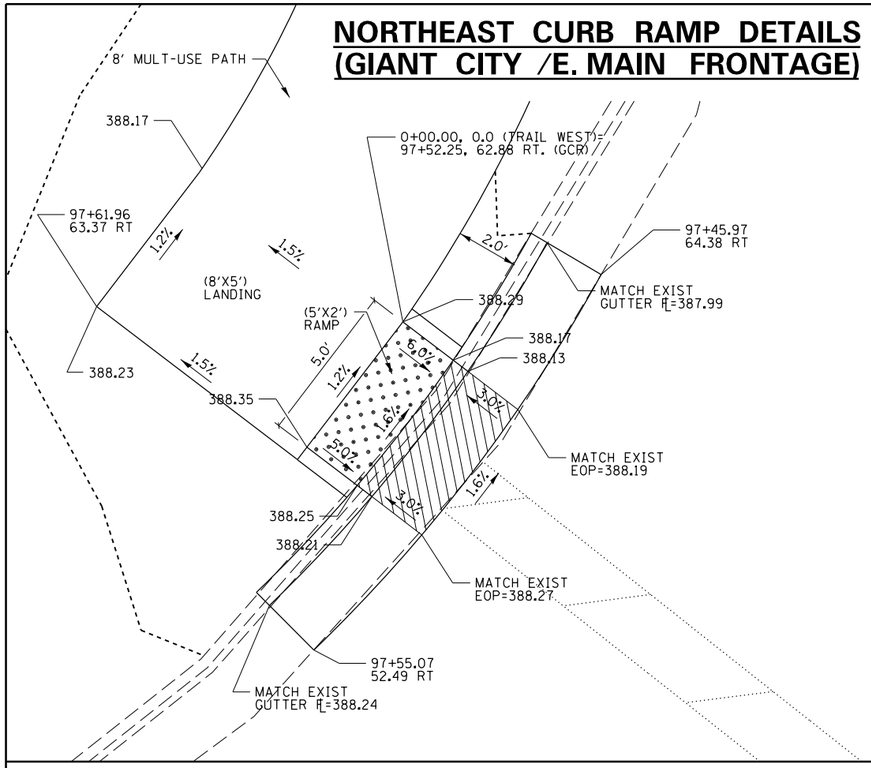
USER NAME =	DESIGNED	MJL	REVISED
	CHECKED	WLB	REVISED
PLOT SCALE =	DRAWN	GLD	REVISED
PLOT DATE =	CHECKED	WLB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
STRUCTURE NO. 039-0079
SHEET NO. 28 OF 28 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	198
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

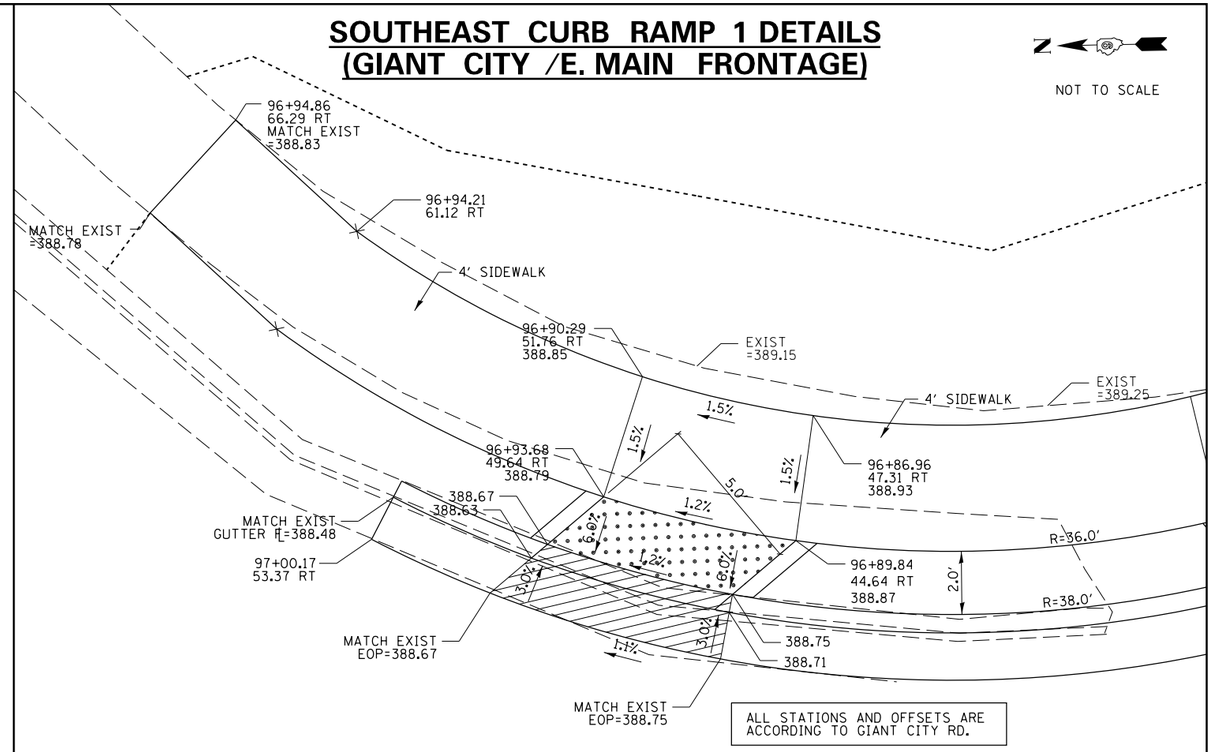
NORTHEAST CURB RAMP DETAILS (GIANT CITY /E. MAIN FRONTAGE)



NOT TO SCALE

ALL STATIONS AND OFFSETS ARE ACCORDING TO GIANT CITY RD.

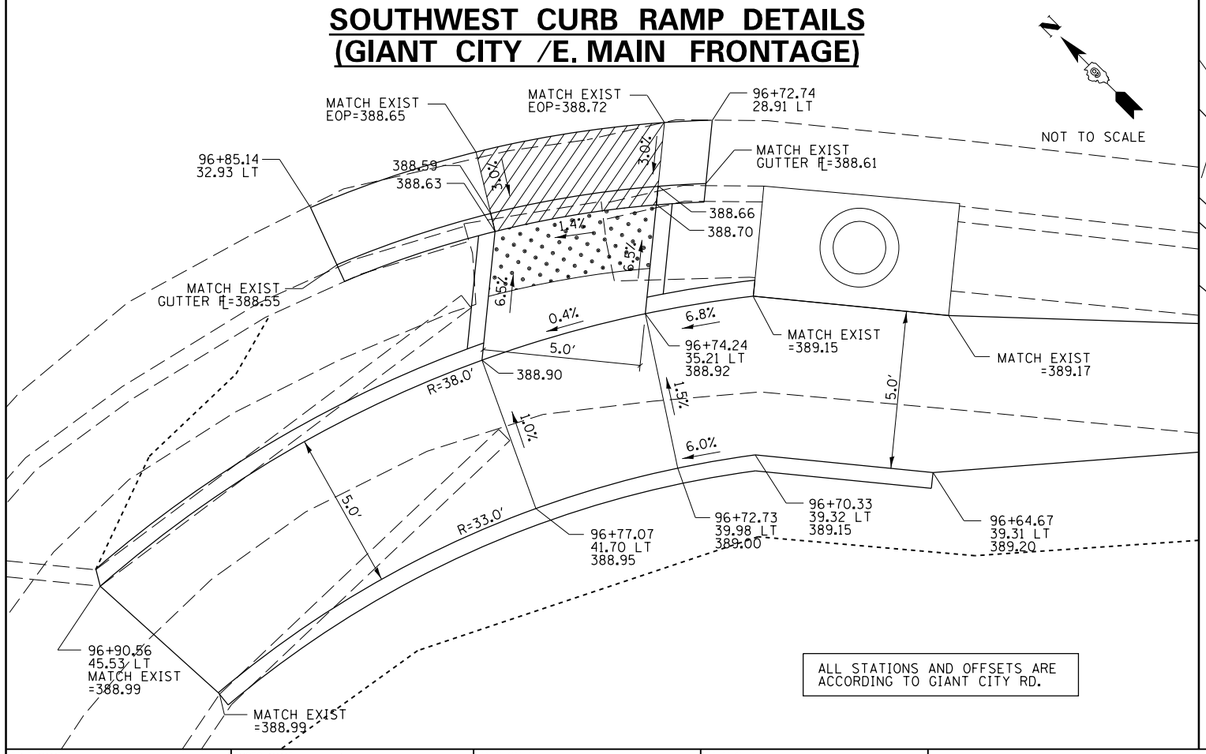
SOUTHEAST CURB RAMP 1 DETAILS (GIANT CITY /E. MAIN FRONTAGE)



NOT TO SCALE

ALL STATIONS AND OFFSETS ARE ACCORDING TO GIANT CITY RD.

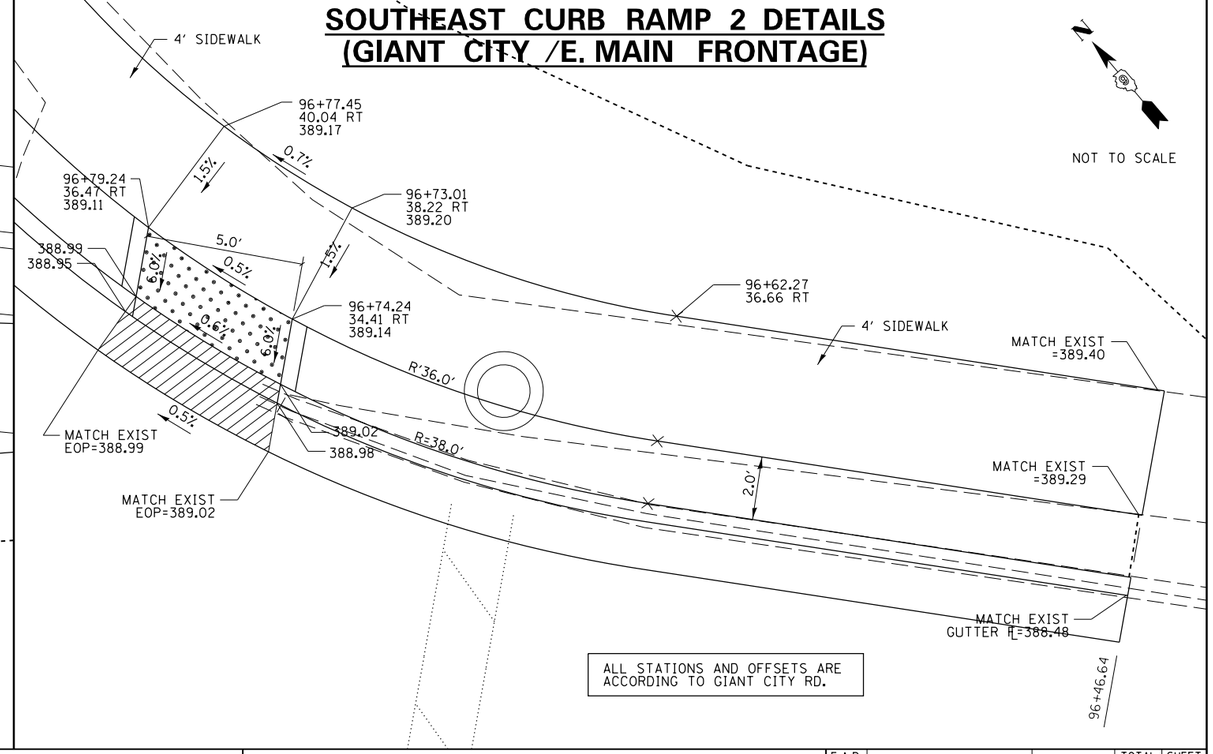
SOUTHWEST CURB RAMP DETAILS (GIANT CITY /E. MAIN FRONTAGE)



NOT TO SCALE

ALL STATIONS AND OFFSETS ARE ACCORDING TO GIANT CITY RD.

SOUTHEAST CURB RAMP 2 DETAILS (GIANT CITY /E. MAIN FRONTAGE)



NOT TO SCALE

ALL STATIONS AND OFFSETS ARE ACCORDING TO GIANT CITY RD.

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		DRAWN -	REVISED -
Default	PLOT SCALE = 4.8000 ' / in.	CHECKED -	REVISED -
	PLOT DATE = 3/23/2018	DATE -	REVISED -

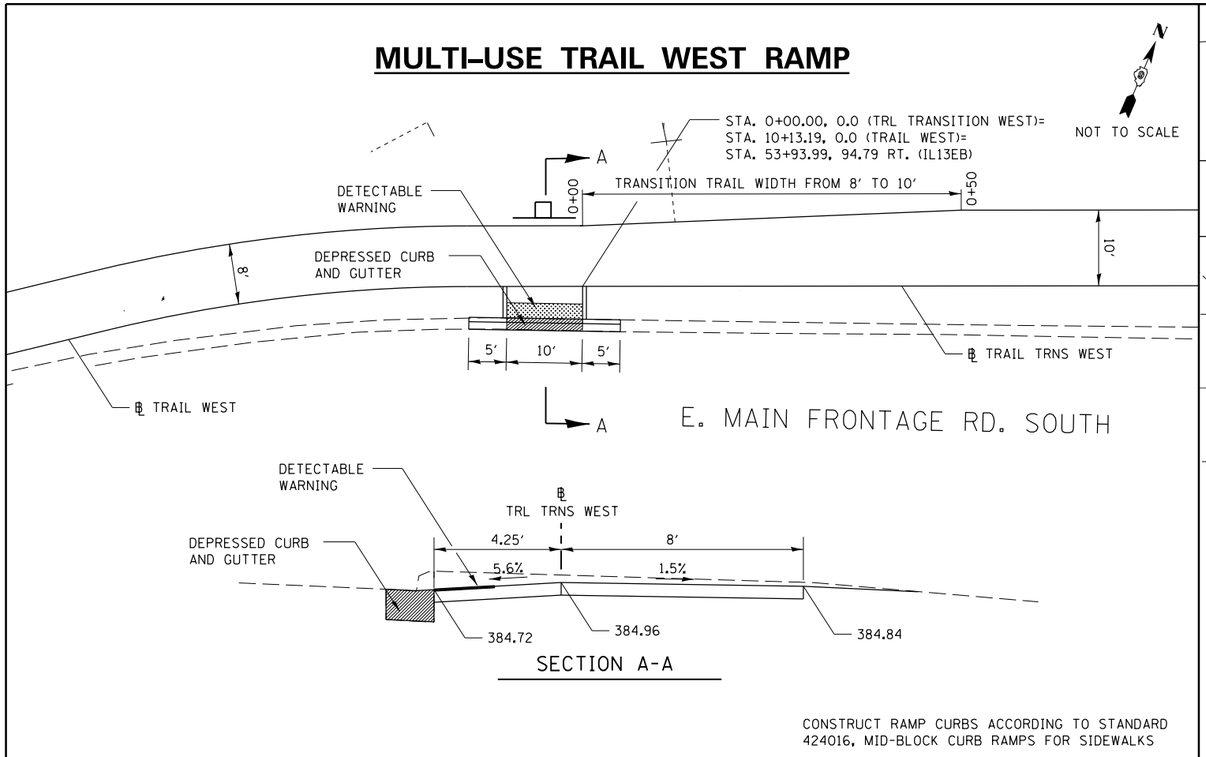
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS:
SIDEWALK CURB RAMPS AT GIANT CITY RD.

SCALE: | SHEET OF SHEETS | STA. | TO STA.

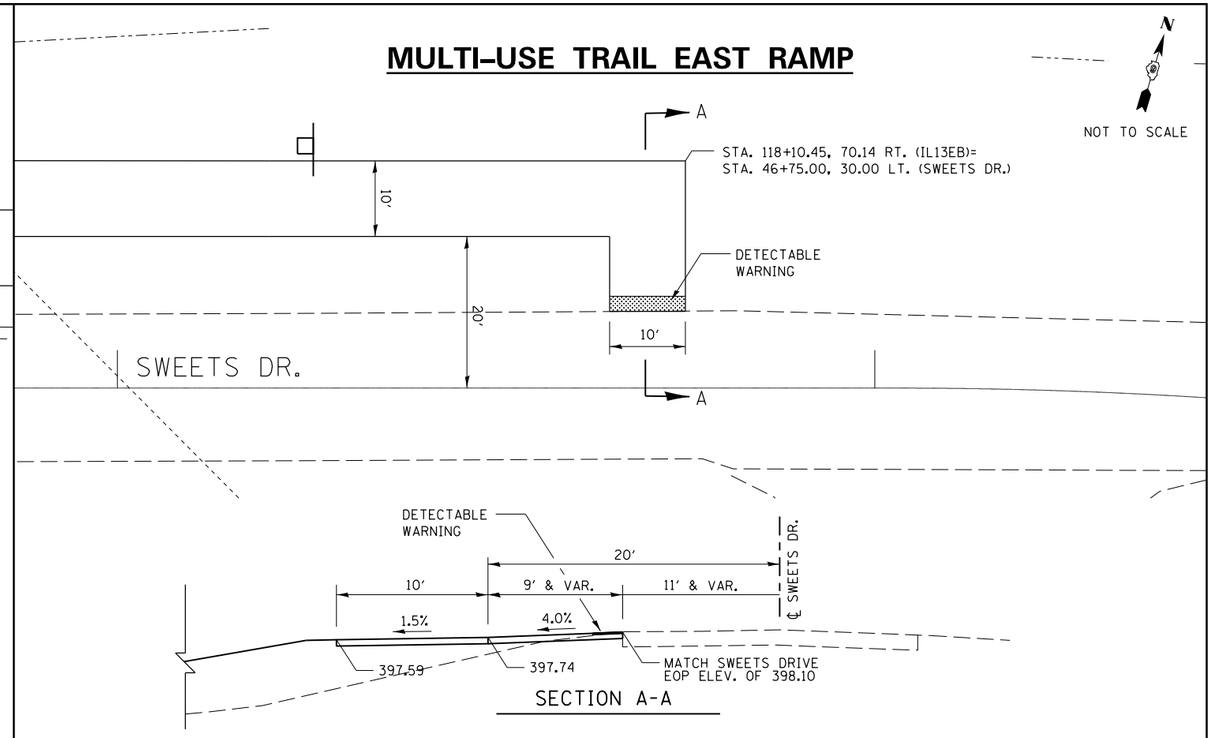
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	199
		CONTRACT NO. 78295		
	ILLINOIS FED. AID PROJECT			

MULTI–USE TRAIL WEST RAMP

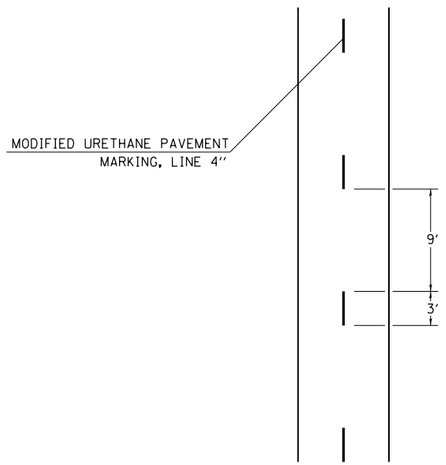


CONSTRUCT RAMP CURBS ACCORDING TO STANDARD 424016, MID-BLOCK CURB RAMPS FOR SIDEWALKS

MULTI–USE TRAIL EAST RAMP

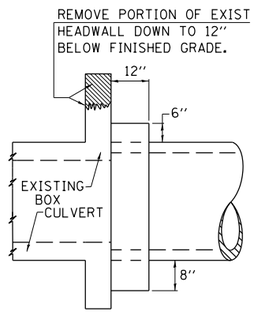


PAVEMENT MARKING DETAIL
MULTI–USE TRAIL

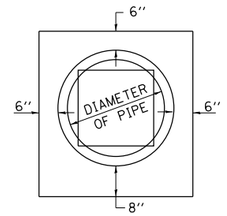


CONCRETE COLLAR

PIPE TO EXISTING BOX CULVERT



SIDE VIEW



END VIEW

TABULATION

DIAMETER OF PIPE	CL SI CONC CU YDS EST
12"	0.16
15"	0.19
18"	0.21
24"	0.29
30"	0.37
36"	0.44
42"	0.53
48"	0.62
54"	0.71
60"	0.81
72"	1.03

THE CONCRETE COLLAR SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR **CONCRETE COLLAR,** AS SHOWN ON THE PLANS, WHICH PRICE SHALL INCLUDE THE REMOVAL OF SUCH PORTIONS OF THE EXISTING HEADWALLS AS MAY BE REQUIRED.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

REVISIONS

REDRAWN	2-15-89
REVISED	8-19-94
REVISED	3-25-08
REVISED	5-16-13

STD. 9-19

FILE NAME = pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Documents\IDOT Offices\District 9\Projects\I3_cu\DRAWINGS\78295-New\CADData\CADsheets\78295-sht-B-details.dgn	USER NAME = naasdp	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 3/23/2018	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS:
MULTI–USE TRAIL WEST RAMP, MULTI–USE TRAIL EAST RAMP, PAVEMENT MARKING FOR MULTI–USE TRAIL, CONCRETE COLLAR

SCALE: | SHEET OF SHEETS | STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(5-3)R-1,N-1,B-5,BR-1,B-6,BR-2	JACKSON	321	200
		CONTRACT NO. 78295		
		ILLINOIS	FED. AID PROJECT	