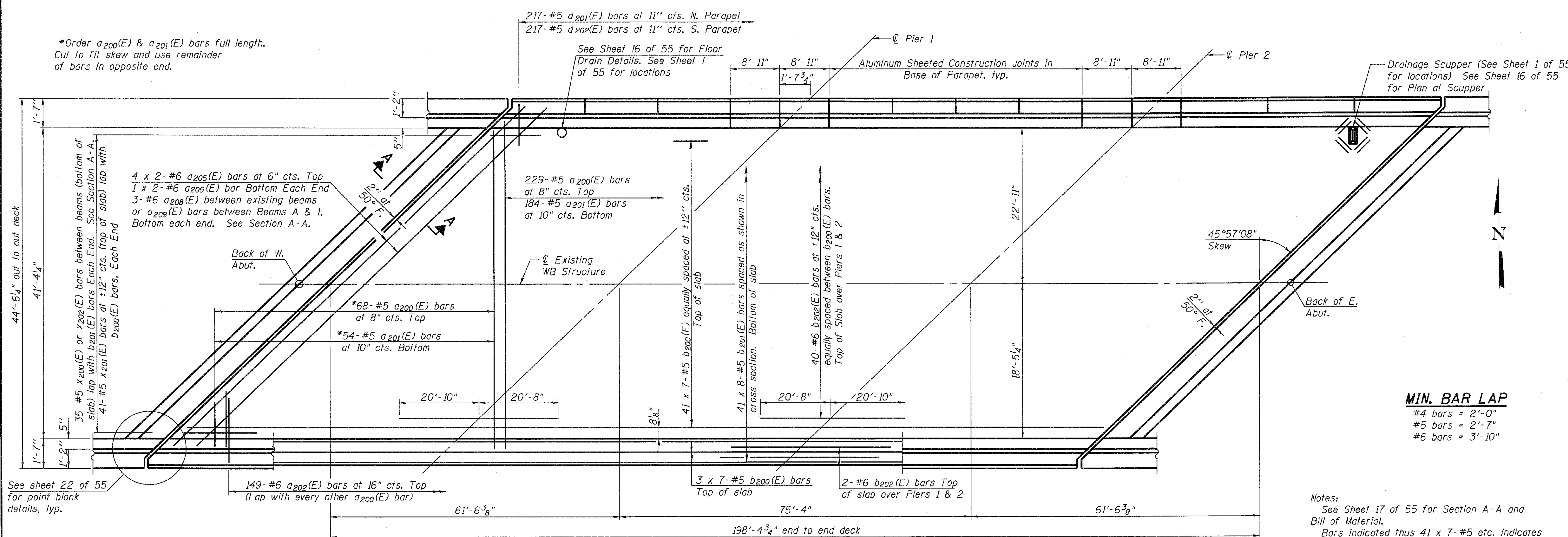
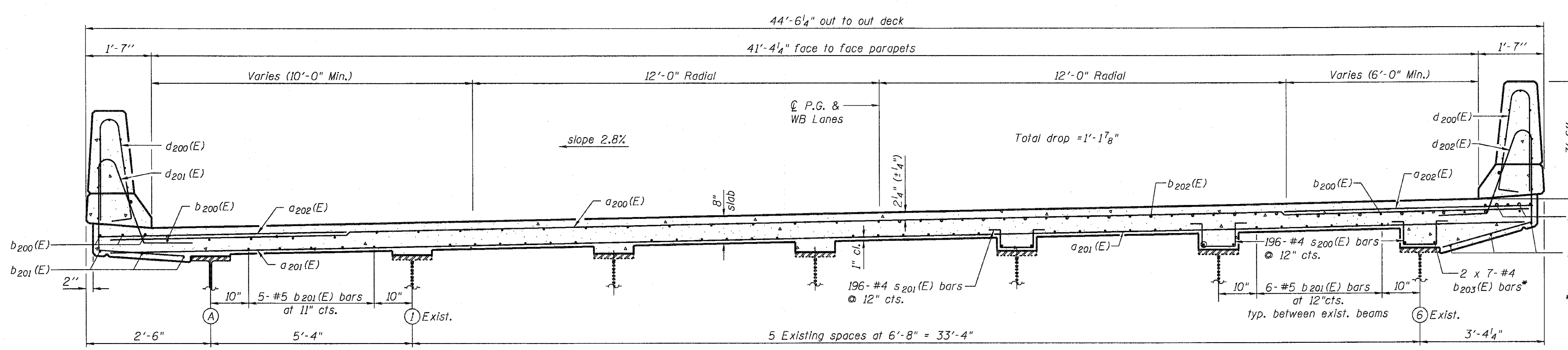


PLAN



CROSS SECTION
(Looking East)

SUPERSTRUCTURE
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C. -CIVIL ENGINEERS- -STRUCTURAL ENGINEERS- -LAND SURVEYORS- Design Firm License No. 184-002703	PROJECT NO. 09033 SCALE DATE 6/4/2010 DESIGN BY BD/MCB DRAWN BY MML CHECKED BY MCB	SHEET NO. 15 55 SHEETS	F.A.I. RTE. 280	SECTION 81-1 (VB) R	COUNTY ROCK ISLAND	TOTAL SHEETS 503	SHEET NO. 201
					CONTRACT NO.		
			FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT			

S-1-L(>30°) 11-1-09

PLOT DATE = 7/21/2010
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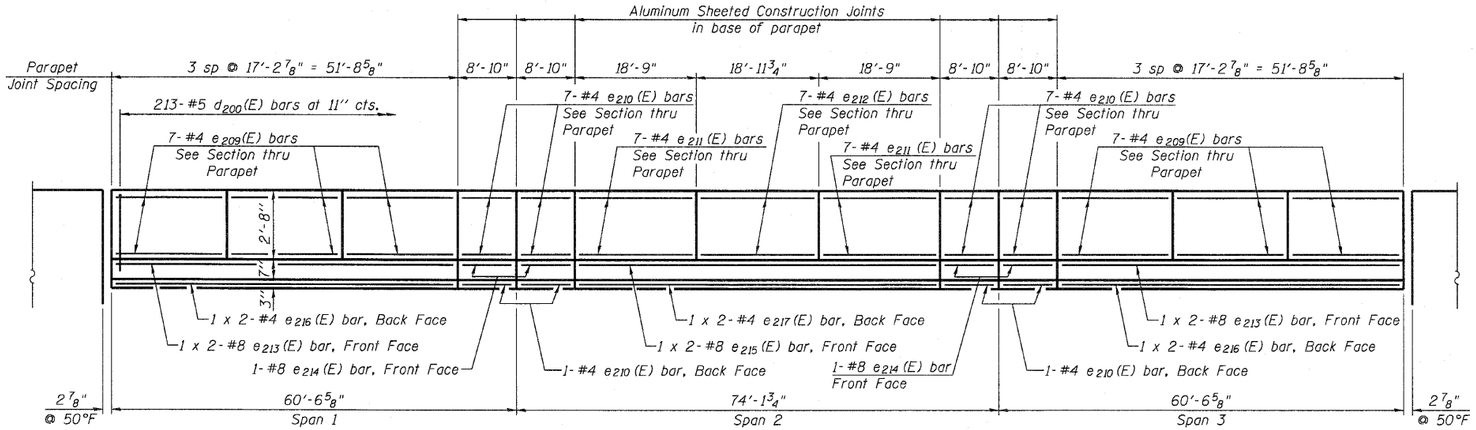
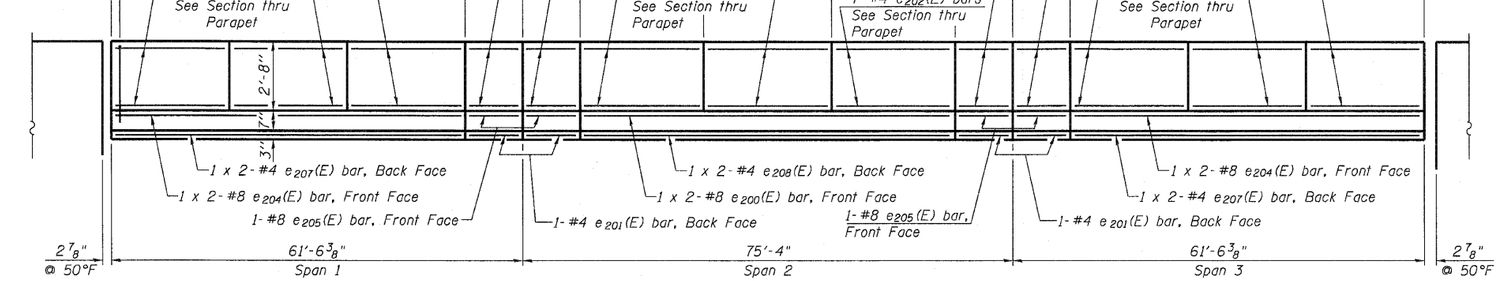


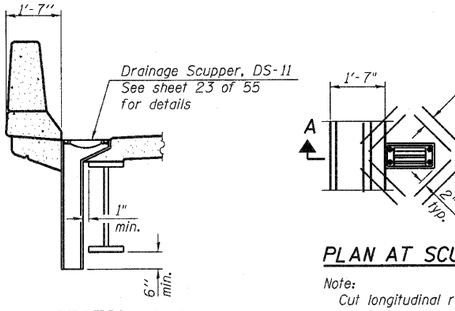
INSIDE ELEVATION OF EB PARAPETS



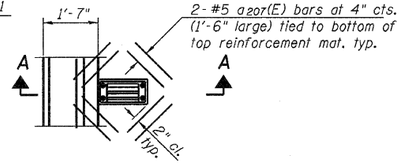
INSIDE ELEVATION OF WB PARAPETS

MINIMUM BAR LAP (PARAPET)

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



SECTION A-A

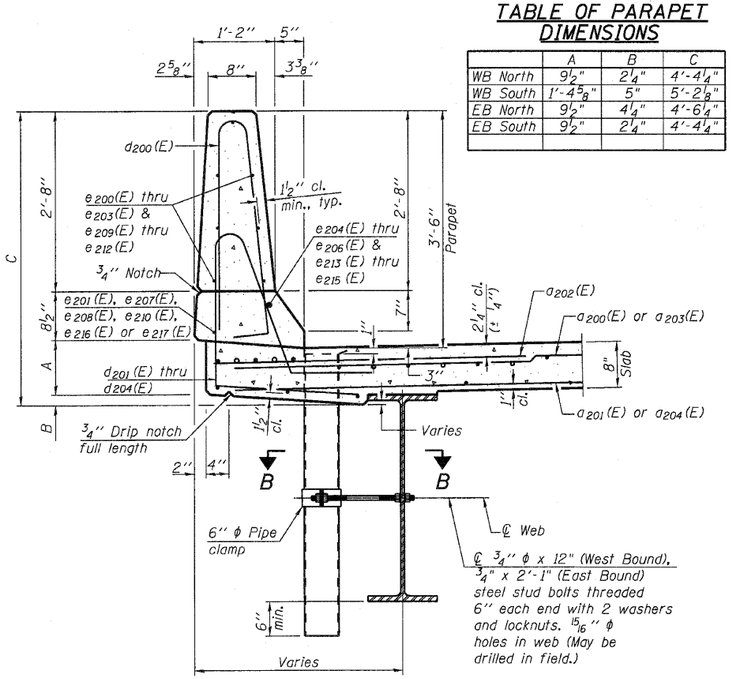


PLAN AT SCUPPER

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

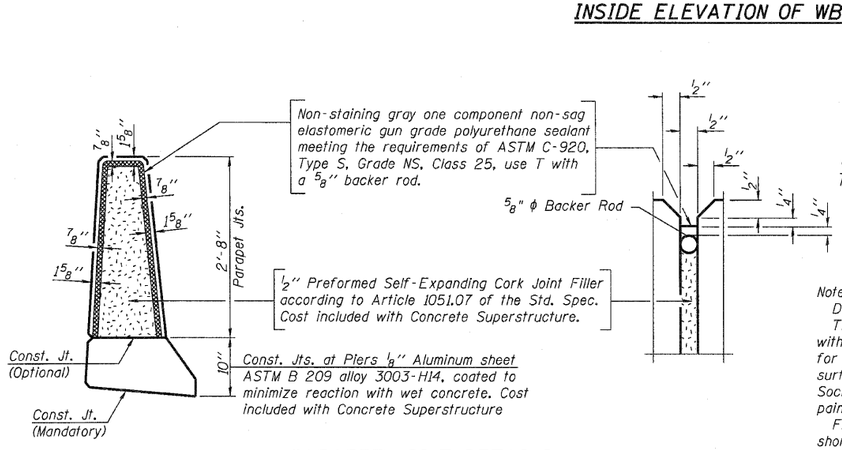
TABLE OF PARAPET DIMENSIONS

	A	B	C
WB North	9 1/2"	2 1/4"	4'-4 1/4"
WB South	1'-4 5/8"	5"	5'-2 3/8"
EB North	9 1/2"	4 1/4"	4'-6 1/4"
EB South	9 1/2"	2 1/4"	4'-4 1/4"

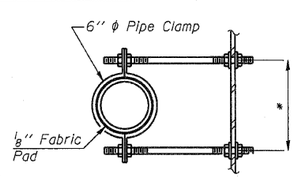


SECTION THRU PARAPET

(Showing floor drain)

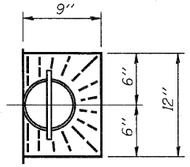


PARAPET JOINT DETAILS

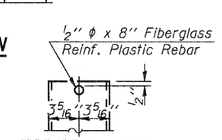


SECTION B-B

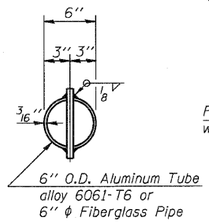
* Dimension as required by Pipe Clamp



TOP PLAN

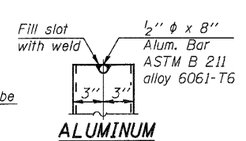


FIBERGLASS PIPE



TOP PLAN

(Showing Aluminum Tube)



ALUMINUM TUBE

Notes:
Drains shall be located clear of all diaphragms.
The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coating's Spec. SSPC-SP1 prior to painting.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG/MML
CHECKED BY MCB

SHEET NO. 16
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	202
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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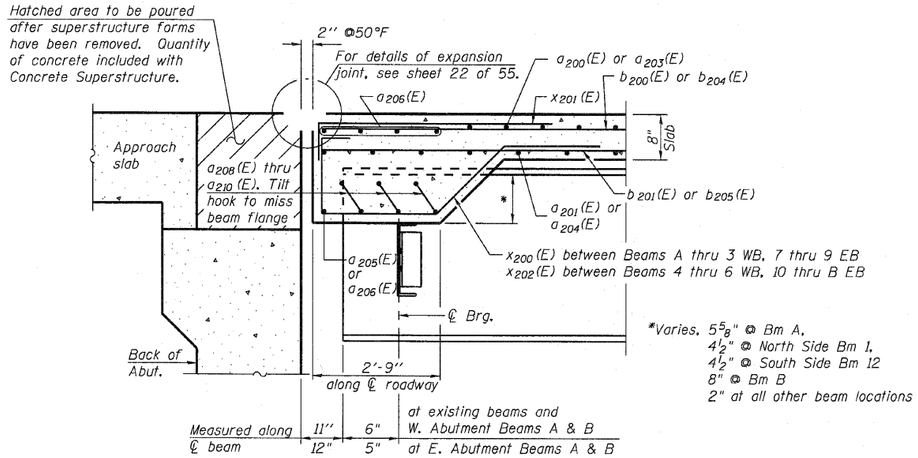
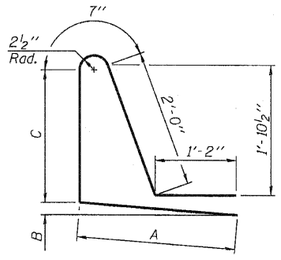


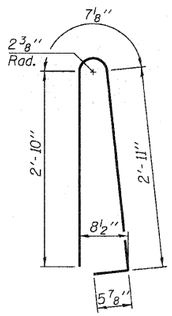
SECTION A-A

TABLE OF BAR DIMENSIONS

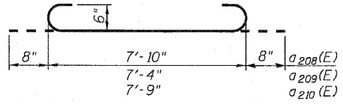
BAR	A	B	C
d201(E)	1'-6"	1 3/4"	1'-11"
d202(E)	2'-4"	4 3/8"	2'-6"
d203(E)	2'-8"	3 3/4"	1'-11"
d204(E)	8"	1 1/2"	1'-11"



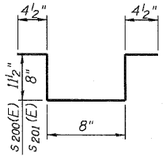
BAR d201(E) thru d204(E)



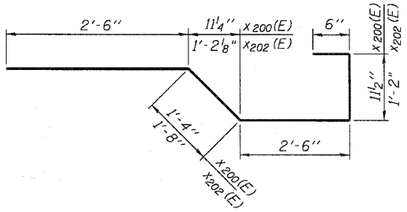
BAR d200(E)



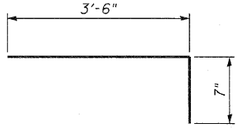
BAR a208(E) thru a210(E)



BARS s200(E) and s201(E)



BAR x200(E) or x202(E)



BAR x201(E)

EB SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a202(E)	292	#6	6'-0"	
a203(E)	292	#5	43'-7"	
a204(E)	234	#5	42'-7"	
a206(E)	20	#6	33'-2"	
a207(E)	16	#5	1'-6"	
a208(E)	30	#6	9'-2"	
a210(E)	6	#6	9'-1"	
b204(E)	329	#5	30'-2"	
b205(E)	328	#5	26'-8"	
b206(E)	88	#6	42'-0"	
b207(E)	42	#4	29'-7"	
d200(E)	426	#5	6'-10"	
d203(E)	213	#5	8'-4"	
d204(E)	213	#5	6'-4"	
e209(E)	84	#4	16'-8"	
e210(E)	64	#4	8'-8"	
e211(E)	28	#4	18'-5"	
e212(E)	14	#4	18'-8"	
e213(E)	8	#8	28'-3"	
e214(E)	8	#8	8'-8"	
e215(E)	4	#8	30'-6"	
e216(E)	8	#4	26'-8"	
e217(E)	4	#4	28'-11"	
s200(E)	386	#4	3'-4"	
s201(E)	193	#4	2'-9"	
x200(E)	36	#5	7'-10"	
x201(E)	82	#5	4'-1"	
x202(E)	34	#5	8'-4"	
Reinforcement Bars, Epoxy Coated			Pound	65,280
Concrete Superstructure			Cu. Yds.	314.0

WB SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a200(E)	297	#5	43'-10"	
a201(E)	238	#5	43'-2"	
a202(E)	298	#6	6'-0"	
a205(E)	20	#6	33'-9"	
a207(E)	8	#5	1'-6"	
a208(E)	30	#6	9'-2"	
a209(E)	6	#6	8'-8"	
b200(E)	329	#5	30'-7"	
b201(E)	328	#5	27'-1"	
b202(E)	88	#6	41'-6"	
b203(E)	42	#4	30'-1"	
d200(E)	434	#5	6'-10"	
d201(E)	217	#5	7'-2"	
d202(E)	217	#5	8'-7"	
e200(E)	84	#4	17'-3"	
e201(E)	64	#4	8'-6"	
e202(E)	28	#4	18'-8"	
e203(E)	14	#4	19'-2"	
e204(E)	8	#8	29'-1"	
e205(E)	8	#8	8'-6"	
e206(E)	4	#8	31'-3"	
e207(E)	8	#4	27'-3"	
e208(E)	4	#4	29'-8"	
s200(E)	392	#4	3'-4"	
s201(E)	196	#4	2'-9"	
x200(E)	34	#5	7'-10"	
x201(E)	82	#5	4'-1"	
x202(E)	36	#5	8'-4"	
Reinforcement Bars, Epoxy Coated			Pound	66,640
Concrete Superstructure			Cu. Yds.	332.3

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 17
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	203
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 1/21/2010
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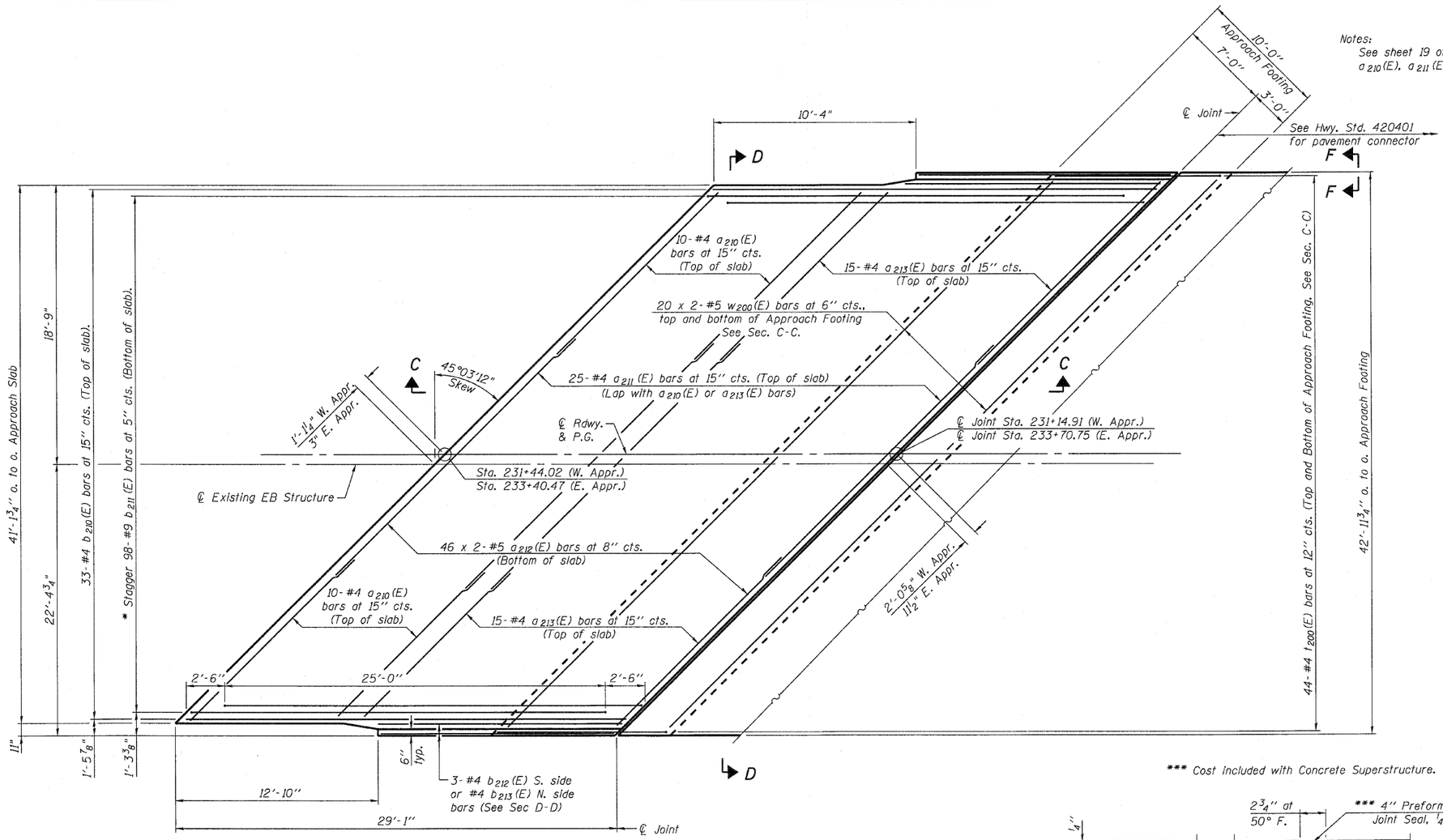
PLOT SCALE = 0.029591 '/ IN.
USER NAME = CTC

S-D

11-1-09

Notes:
See sheet 19 of 55 for Sections C-C & D-D and View E-E.
$a_{210}(E)$, $a_{211}(E)$, $a_{212}(E)$ and $a_{213}(E)$ bar spacings measured along ℄ Rdwy.



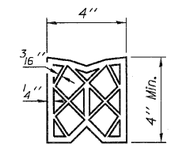
PLAN

(East Approach shown. West Approach similar)

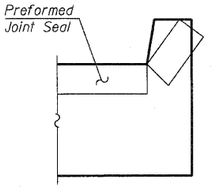
* Tilt #9 $b_{211}(E)$ bars as required to maintain clearance.

MIN. BAR LAP

#4 bars = 2'-1"
#5 bars = 2'-7"



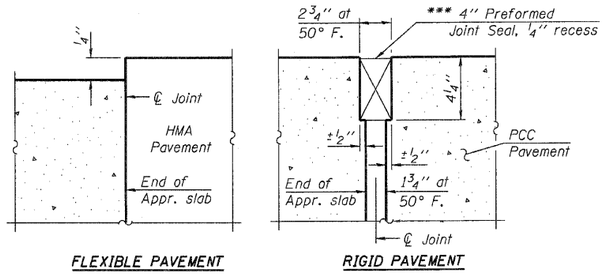
PREFORMED JOINT SEAL



VIEW F-F

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

*** Cost included with Concrete Superstructure.



FLEXIBLE PAVEMENT

RIGID PAVEMENT

DETAIL A

(Sheet 1 of 2)

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 18
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	204
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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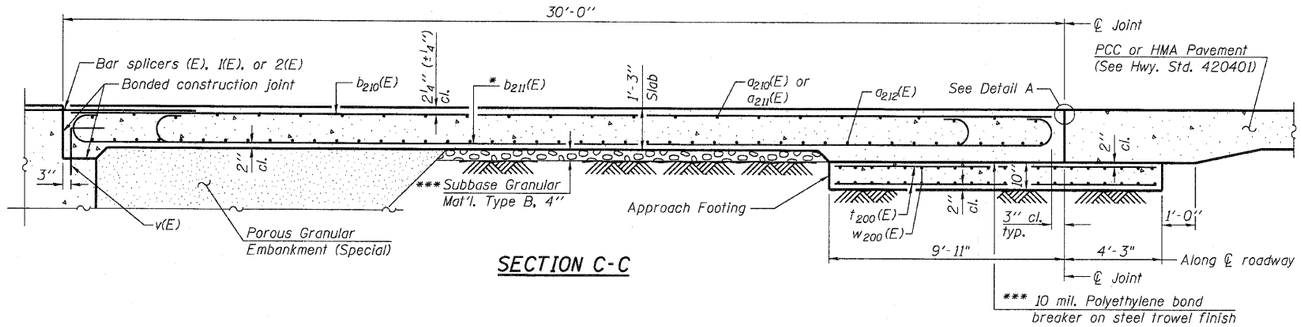
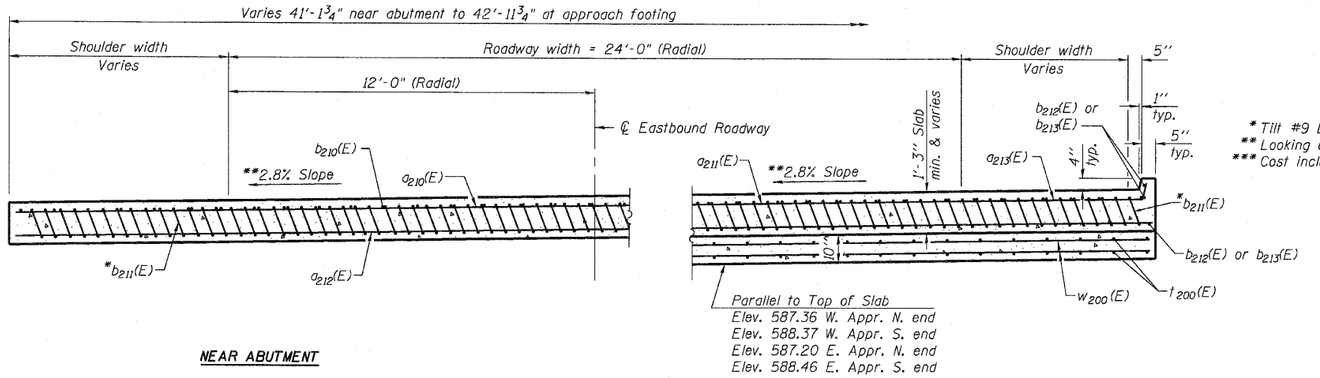
USER NAME = OTC.

BA-L 11-1-09



SECTION C-C



NEAR ABUTMENT

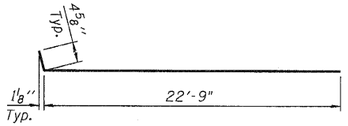
AT APPROACH FOOTING

SECTION D-D

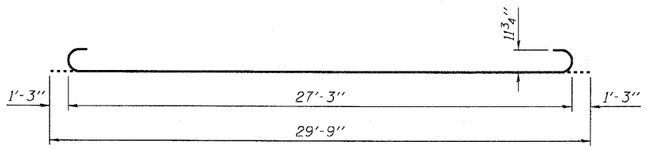
(See Plan for dimensions not shown)

* Tilt #9 b_{211}(E) bars as required to maintain clearance.
** Looking east, opposite looking west.
*** Cost included with Concrete Superstructure.

Notes:
See sheet 18 of 55 for Detail A and View F-F.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets 33 thru 38 of 55.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 48 of 55.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 3 of 55.
For additional parapet details, see sheet 16 of 55.



BAR a_{213}(E)



BAR b_{211}(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{210}(E)	40	#4	21'-7"	
a_{211}(E)	50	#4	20'-0"	
a_{212}(E)	184	#5	32'-2"	
a_{213}(E)	60	#4	23'-2"	
b_{210}(E)	66	#4	29'-8"	
b_{211}(E)	196	#9	29'-9"	
b_{212}(E)	6	#4	16'-0"	
b_{213}(E)	6	#4	17'-11"	
t_{200}(E)	176	#4	13'-10"	
w_{200}(E)	160	#5	32'-1"	
Concrete Superstructure			Cu. Yd.	122.1
Concrete Structures			Cu. Yd.	37.4
See Note A Reinforcement Bars, Epoxy Coated			Pound	36,600

NoteA: 29,620 lbs. (Superstr.)
6,980 lbs. (Substr.)

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 19
55 SHEETS

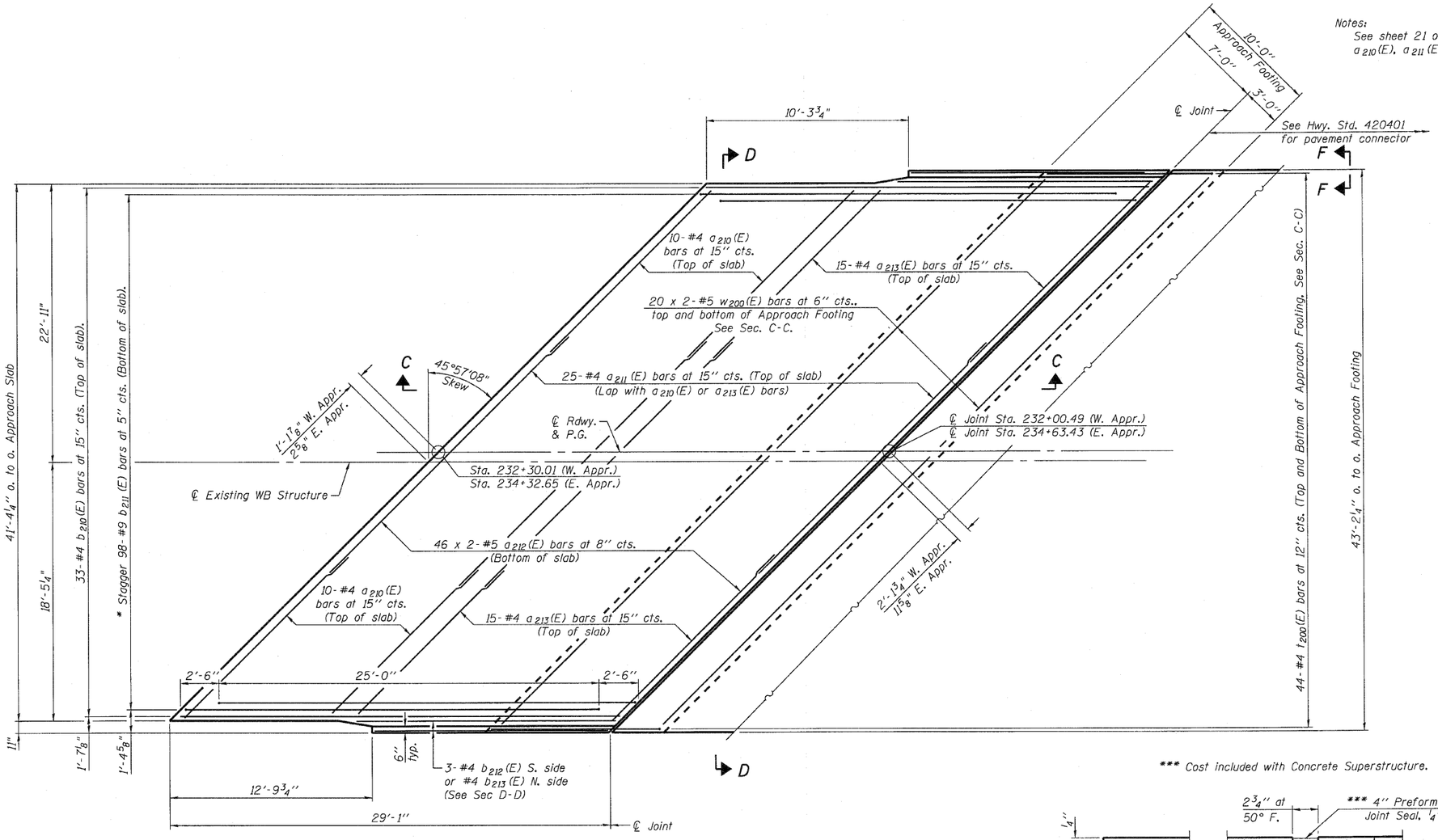
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	205
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-019-appr-pvmt-eb-2.dgn
PLOT SCALE = 0.0556 ' / IN.
USER NAME = CTC.

BA-L

11-1-09

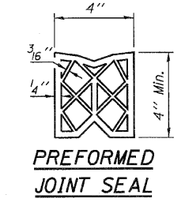
Notes:
See sheet 21 of 55 for Sections C-C & D-D and View E-E.
a_{210}(E), a_{211}(E), a_{212}(E) and a_{213}(E) bar spacings measured along ℄ Rdwy.



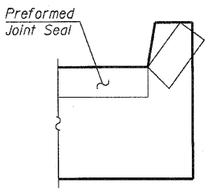
PLAN
(East Approach shown, West Approach similar)

* Tilt #9 b_{211}(E) bars as required to maintain clearance.

MIN. BAR LAP
#4 bars = 2'-1"
#5 bars = 2'-7"

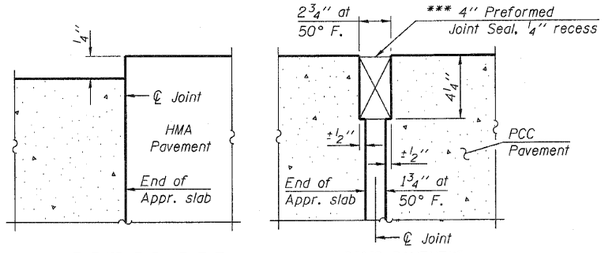


PREFORMED JOINT SEAL



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

*** Cost included with Concrete Superstructure.



FLEXIBLE PAVEMENT | RIGID PAVEMENT

DETAIL A

(Sheet 1 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 20
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	206
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 1/21/2010
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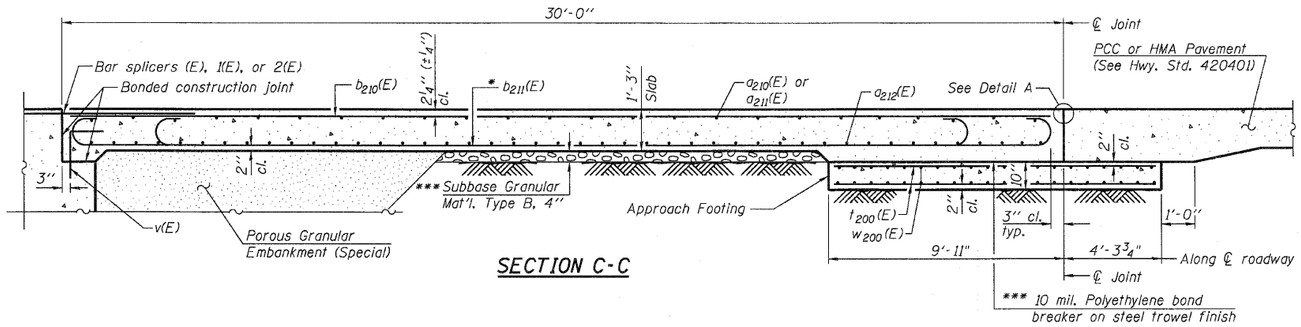
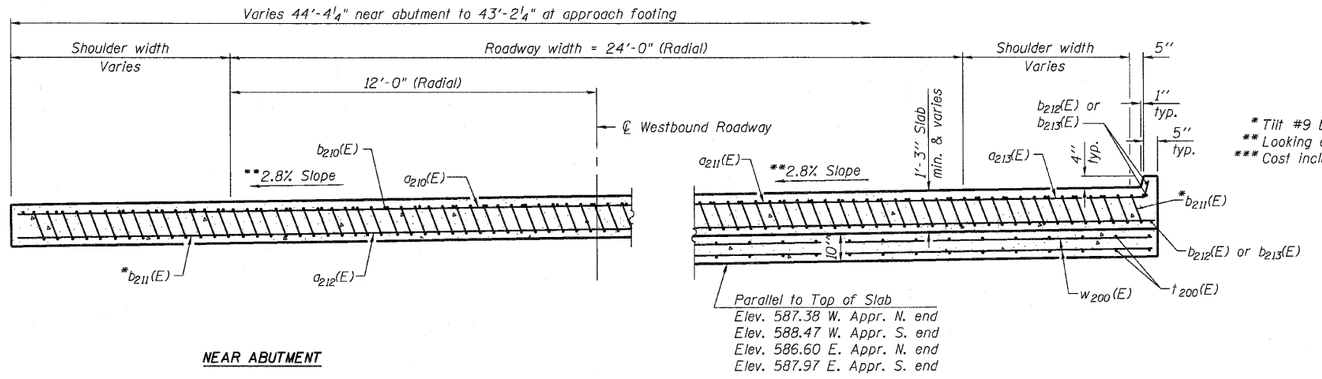
BA-L 11-1-09



SECTION C-C

Notes:
See sheet 20 of 55 for Detail A and View F-F.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheets 39 thru 44 of 55.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 48 of 55.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 3 of 55.
For additional parapet details, see sheet 16 of 55.

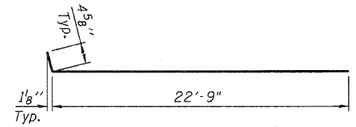


NEAR ABUTMENT

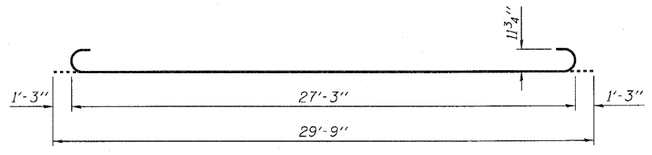
AT APPROACH FOOTING

SECTION D-D
(See Plan for dimensions not shown)

* Tilt #9 b_{211}(E) bars as required to maintain clearance.
** Looking east, opposite looking west.
*** Cost included with Concrete Superstructure.



BAR a_{213}(E)



BAR b_{211}(E)

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{210}(E)	40	#4	21'-7"	
a_{211}(E)	50	#4	20'-0"	
a_{212}(E)	184	#5	32'-2"	
a_{213}(E)	60	#4	23'-2"	
b_{210}(E)	66	#4	29'-8"	
b_{211}(E)	196	#9	29'-9"	
b_{212}(E)	6	#4	16'-0"	
b_{213}(E)	6	#4	17'-11"	
t_{200}(E)	176	#4	13'-10"	
w_{200}(E)	160	#5	32'-1"	
Concrete Superstructure			Cu. Yd.	122.5
Concrete Structures			Cu. Yd.	38.2
Reinforcement Bars, Epoxy Coated			Pound	36,600

See Note A

Note A: 29,620 lbs. (Superstr.)
6,980 lbs. (Substr.)

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0019 (WB)

PLOT DATE = 7/21/2010
FILE NAME = c:\...\081-0018-0019-64815-021-approvmt-wb-2.dgn
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USER NAME = OFC.

BA-L 11-1-09

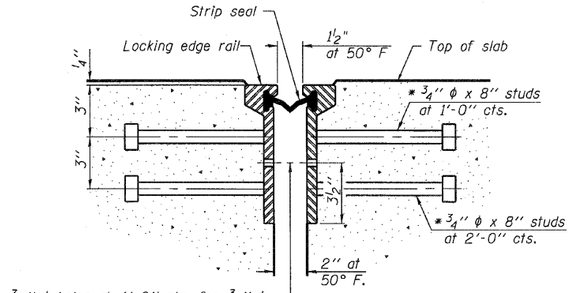
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 03033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 21
55 SHEETS

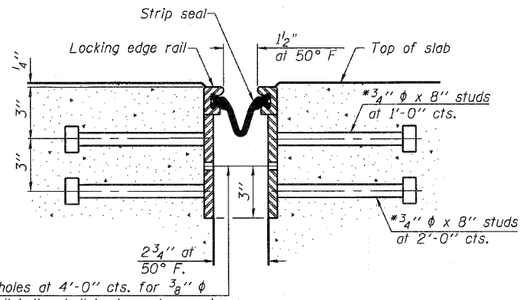
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	207
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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



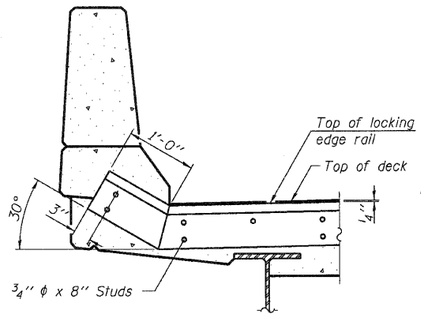
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



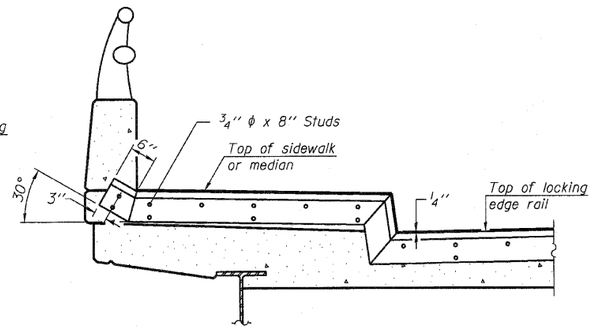
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT



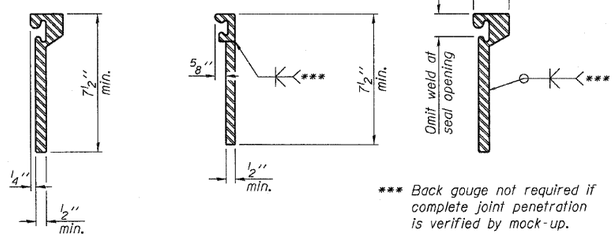
AT PARAPET

See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



ROLLED EXTRUDED RAIL

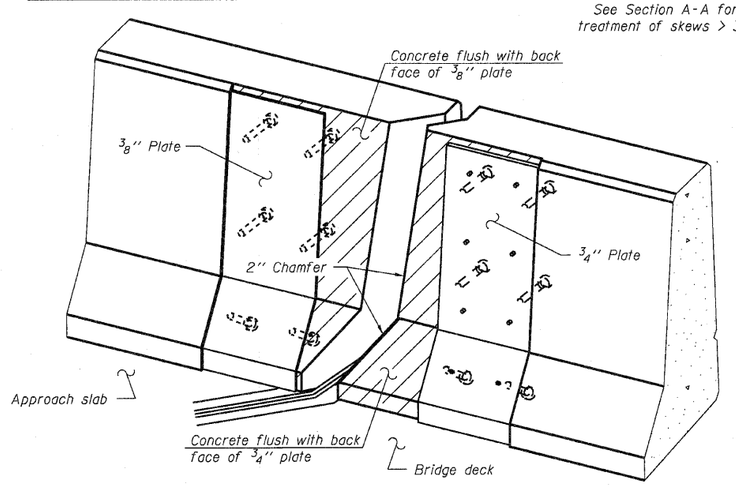
WELDED RAIL

*** Back gouge not required if complete joint penetration is verified by mock-up.

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

Rolled rail shown, welded rail similar.



TRIMETRIC VIEW

(Showing back plates only)

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

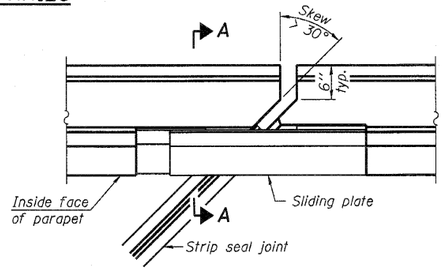
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

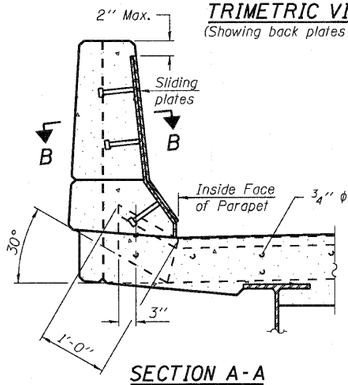
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

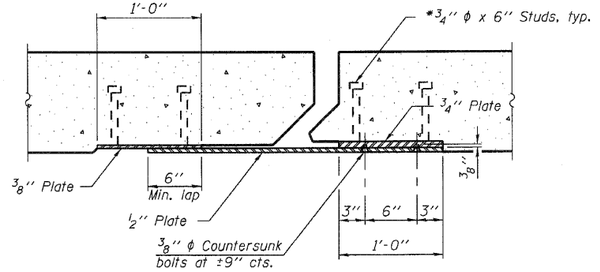
LOCKING EDGE RAILS



PLAN



SECTION A-A



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	243

POINT BLOCK DETAILS

(for skews > 30°)

PREFORMED JOINT STRIP SEAL STRUCTURE NO. 081-0018 (EB) STRUCTURE NO. 081-0019 (WB)

PLOT DATE = 7/21/2010
FILE NAME = I:\081-0018-0019-64815-022-preform-joint-strip.dgn
PLOT SCALE = 0.1029397 '/ IN.
USER NAME = CFC.

EJ-SSJ

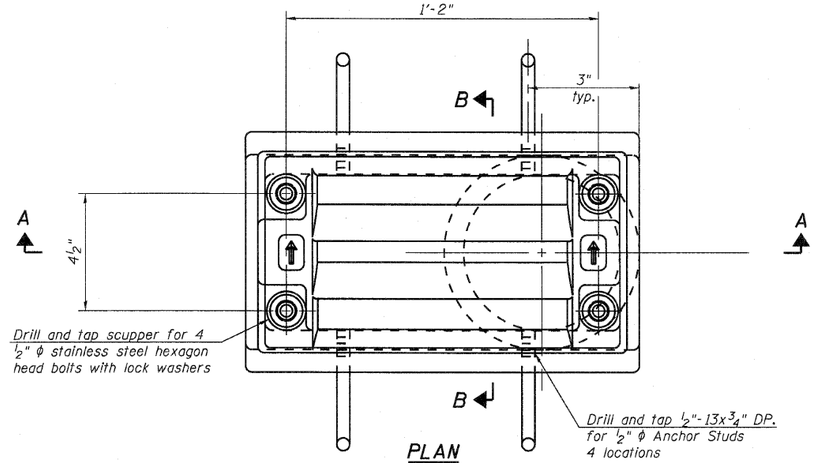
11-1-09

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

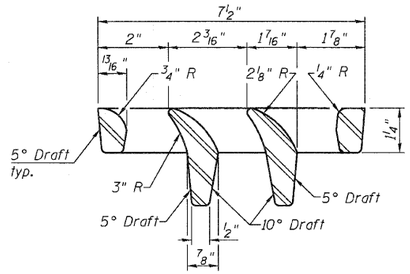
PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MMI
CHECKED BY MCB

SHEET NO. 22
55 SHEETS

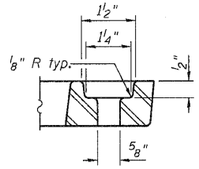
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	208
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

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

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

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

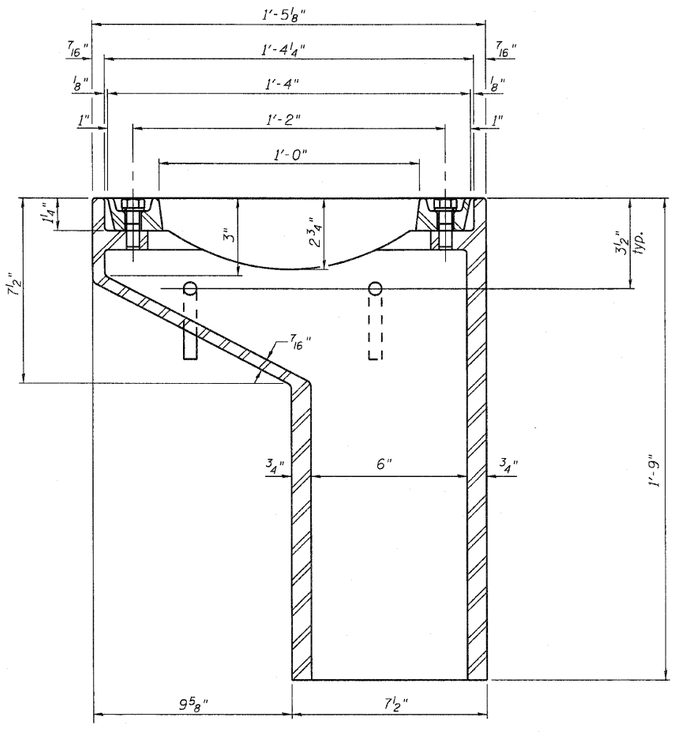
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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

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

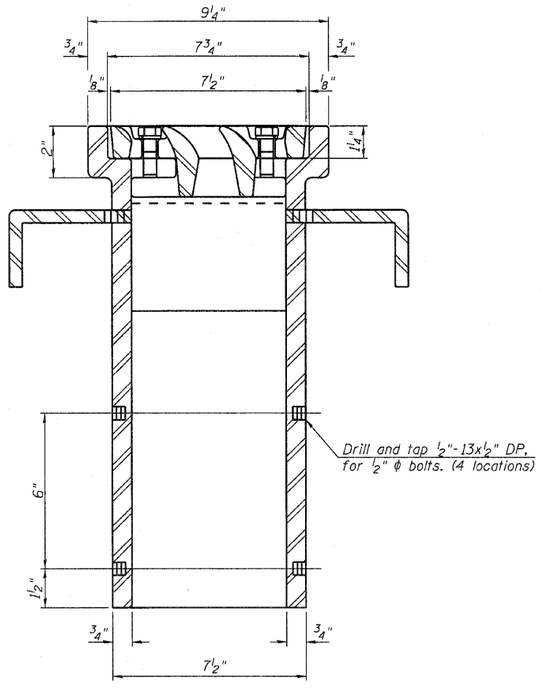
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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

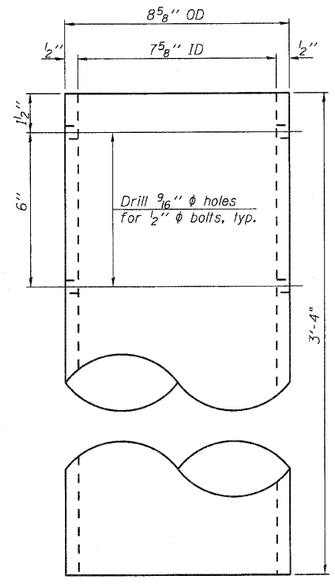


SECTION A-A

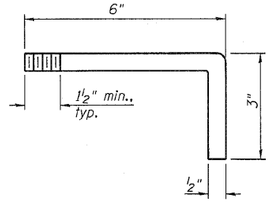
See sheet 16 of 55 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	3

DRAINAGE SCUPPER DS-11
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

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-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 23
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	209
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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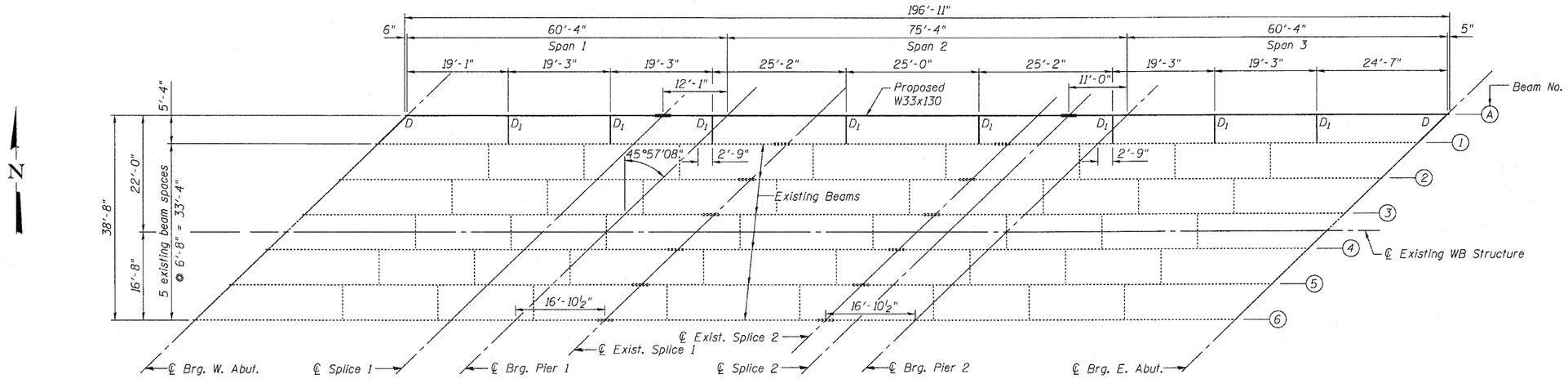
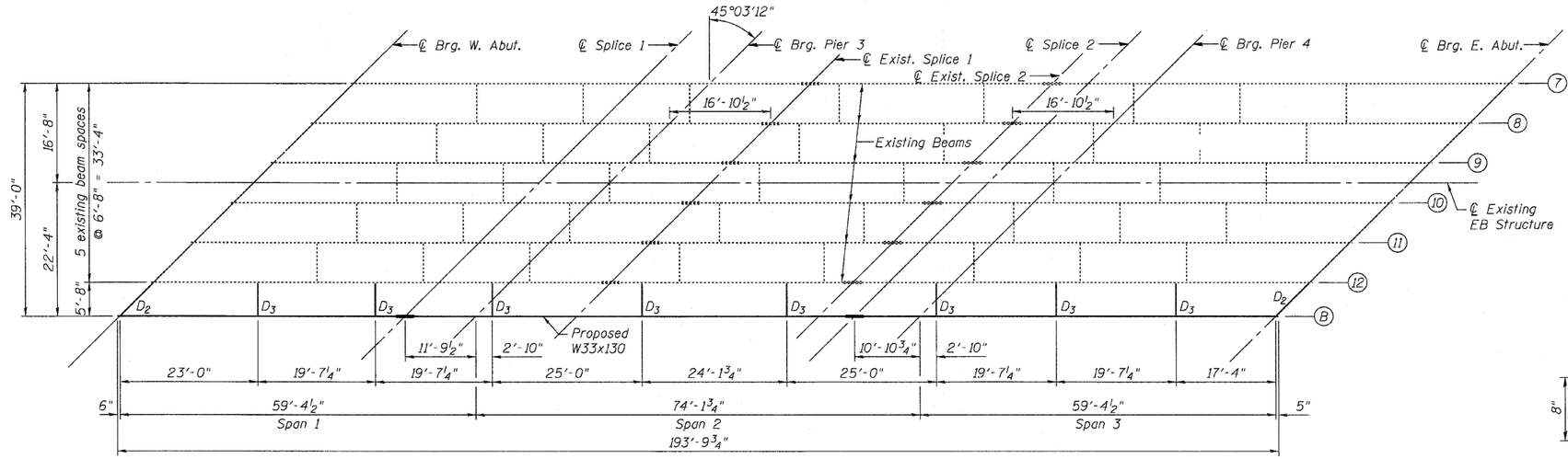
DS-11

11-1-09



FRAMING PLAN, WESTBOUND STRUCTURE



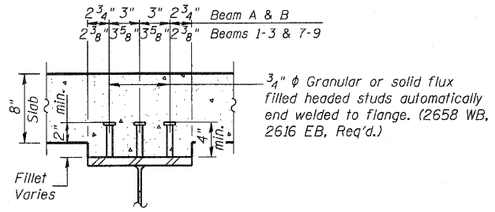
FRAMING PLAN, EASTBOUND STRUCTURE

All beams and splice material are M270 Grade 36 and shall meet Notch Toughness Requirements.

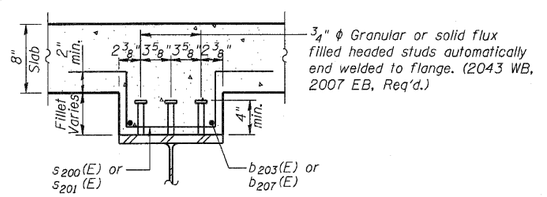
*TOP OF BEAM ELEVATIONS

Location	Bm A	Bm B
℄ W. Abutment	588.86	589.97
℄ Splice 1	588.75	590.01
℄ Brg. Pier 1 or 3	588.72	590.02
℄ Splice 2	588.54	590.05
℄ Brg. Pier 2 or 4	588.50	590.04
℄ Brg. E. Abut.	588.28	590.01

*Elevations are for fabrication only and do not include Dead Load Deflections



BEAMS A, 1-3, WESTBOUND STRUCTURE
BEAMS 7-9, B, EASTBOUND STRUCTURE



BEAM 4 THRU 6, WESTBOUND STRUCTURE
BEAM 10 THRU 12, EASTBOUND STRUCTURE

FRAMING PLAN
STRUCTURE NO. 081-0019 (WB)
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 24
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	210
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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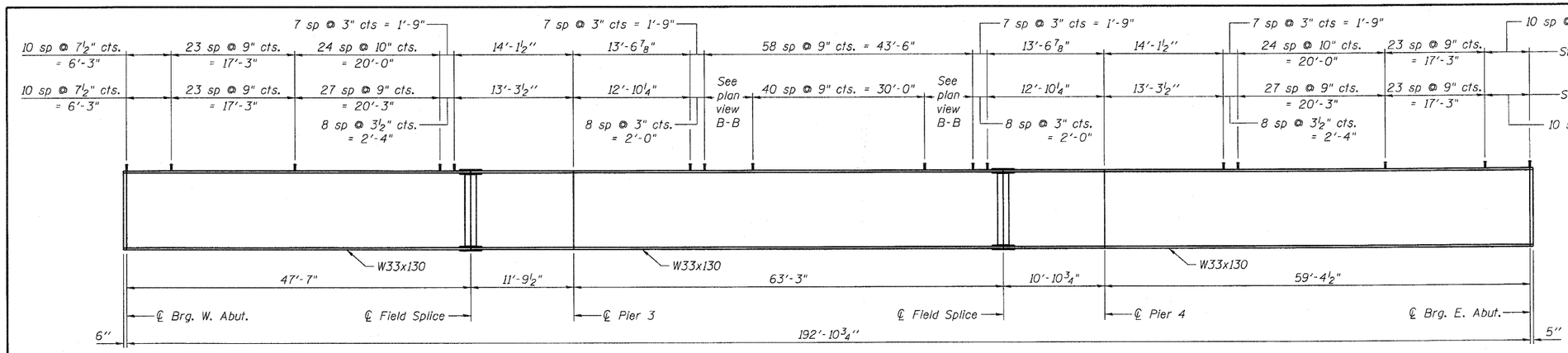


BEAM ELEVATION EASTBOUND STRUCTURE

(Showing Beam B and shear stud spacing for all beams)

BEAM B MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Sp. 2
I_s	(in^4)	6710	6710	6710
$I_c(n)$	(in^4)	15,777	-	15,777
$I_c(3n)$	(in^4)	11,414	-	11,414
S_s	(in^3)	406	406	406
$S_c(n)$	(in^3)	568	-	568
$S_c(3n)$	(in^3)	509	-	509
$\underline{\ell}$	(k/')	0.604	0.604	0.604
$M\underline{\ell}$	('k)	148	271	145
$s\underline{\ell}$	(k/')	0.148	0.148	0.148
$M_s\underline{\ell}$	('k)	40.8	55.4	47.3
M_L	('k)	355.7	221	368.6
M_{IM}	('k)	96.1	59.4	92.6
$\frac{5}{3}[M_L + I]$	('k)	753	467	769
M_a	('k)	1225	1032	1250
M_u	('k)	1601	-	1601
f_s $\underline{\ell}$ non-comp	(ksi)	4.4	8.0	4.3
f_s $\underline{\ell}$ (comp)	(ksi)	1.0	1.6	1.1
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	15.9	13.8	16.2
f_s (Overload)	(ksi)	21.3	23.4	21.6
f_s (Total)	(ksi)	-	30.4	-
VR	(k)	37.5	-	37.5

BEAM B REACTION TABLE			
		Abut.	Pier
$R\underline{\ell}$	(k)	16.8	55.8
R_L	(k)	30.5	37.6
R_I	(k)	8.2	10.2
R_{Total}	(k)	55.5	103.6

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

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

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

$\underline{\ell}$: Un-factored non-composite dead load (kips/ft.).

$M\underline{\ell}$: Un-factored moment due to non-composite dead load (kip-ft.).

$s\underline{\ell}$: Un-factored long-term composite (superimposed) dead load (kips/ft.)

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

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

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

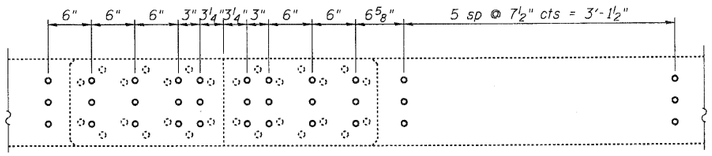
M_a: Factored design moment (kip-ft.).
$1.3\ [\ M\underline{\ell} + M_s\underline{\ell} + \frac{5}{3}(M_L + M_I)]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\underline{\ell} + M_s\underline{\ell} + \frac{5}{3}(M_L + M_I)$

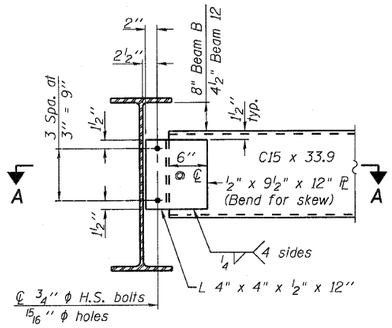
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M\underline{\ell} + M_s\underline{\ell} + \frac{5}{3}(M_L + M_I)]$

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



PLAN VIEW B-B

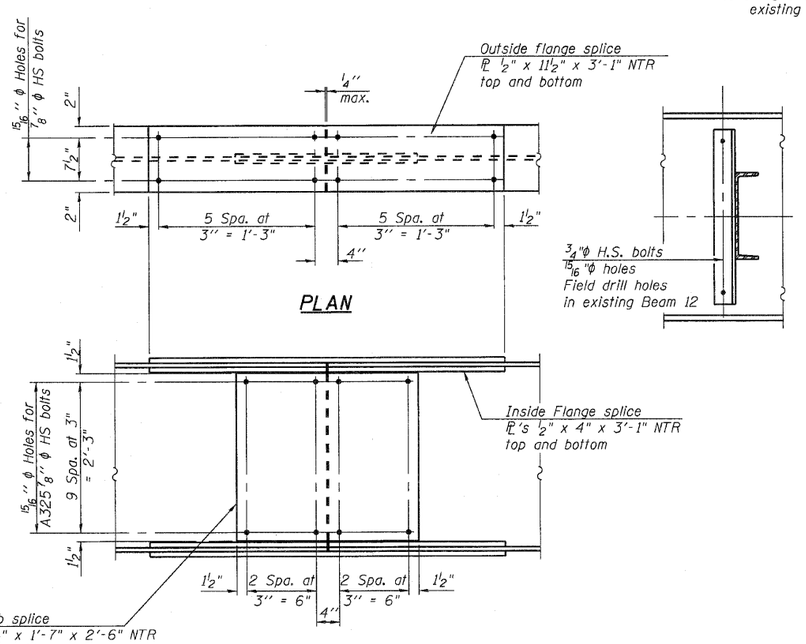
(Showing shear stud layout at existing beam splices)



SECTION A-A

DIAPHRAGM D_2

Note: (2 Required)
Two hardened washers required for each set of oversized holes.

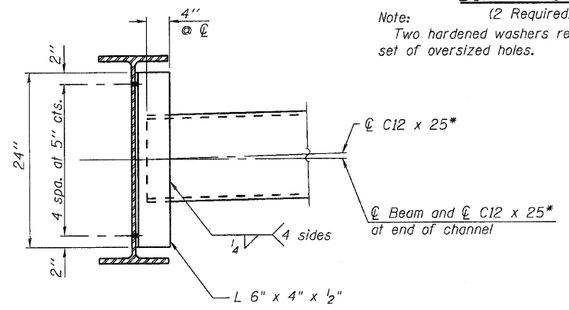


PLAN

ELEVATION

SPLICE DETAIL

(2 Required)



DIAPHRAGM D_3

(8 required)

Note:
Two hardened washers required for each set of oversized holes.

Diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

* Alternate C 12 x 30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no cost to the Department.

** Field weld at existing beam 12

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 081-0018 (EB)

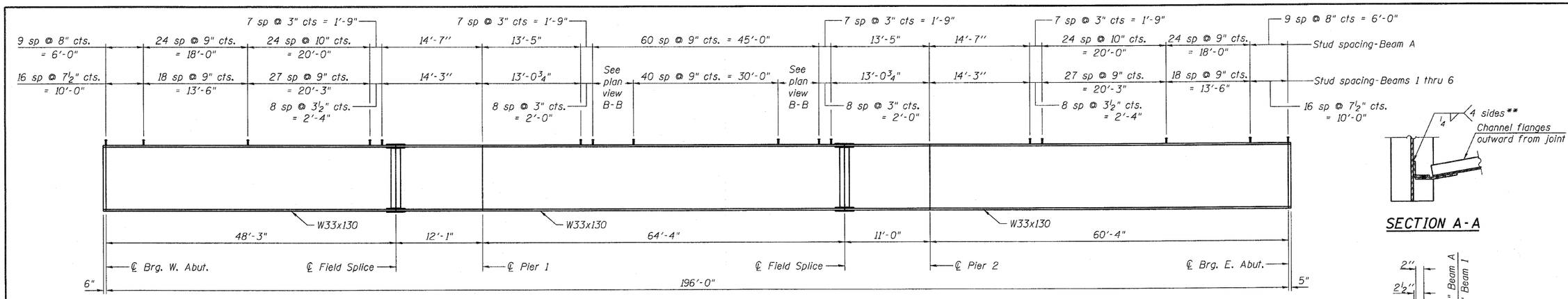
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 25
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	211
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-025-st1.dgn
PLOT SCALE = 20.705529 '/ IN.
USER NAME = CFC.



BEAM ELEVATION WESTBOUND STRUCTURE

(Showing Beam A and shear stud spacing for all beams)

BEAM A MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Sp. 2
I_s	(in^4)	6710	6710	6710
$I_c(n)$	(in^4)	16,404	-	16,404
$I_c(3n)$	(in^4)	11,930	-	11,930
S_s	(in^3)	406	406	406
$S_c(n)$	(in^3)	576	-	576
$S_c(3n)$	(in^3)	517	-	517
ℓ	(k/')	0.673	0.673	0.673
M_ℓ	('k)	170	312	167
s_ℓ	(k/')	0.148	0.148	0.148
$M_{s\ell}$	('k)	42.5	56.0	49.4
M_L	('k)	342.5	211	351.7
M_{IM}	('k)	92.5	57	95.0
$\frac{5}{3}[M_L + I]$	('k)	725	447	744.5
M_a	('k)	1219	1060	1250
M_u	('k)	1606	-	1606
f_s ℓ non-comp	(ksi)	5.0	9.2	4.9
f_s ℓ (comp)	(ksi)	1.0	1.7	1.1
f_s $\frac{5}{3}[M_L + M_I]$	(ksi)	15.1	13.2	15.5
f_s (Overload)	(ksi)	21.1	24.1	21.5
f_s (Total)	(ksi)		31.3	
VR	(k)	40.1	-	34.8

BEAM A REACTION TABLE			
		Abut.	Pier
R_ℓ	(k)	19.0	61.8
R_L	(k)	29.1	33.4
R_I	(k)	7.9	9.0
R_{Total}	(k)	56.0	104.2

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total and Overload) due to non-composite dead loads (in.^{4}and in.^{3}).

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

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

ℓ: Un-factored non-composite dead load (kips/ft.).

M_ℓ: Un-factored moment due to non-composite dead load (kip-ft.).

s_ℓ: Un-factored long-term composite (superimposed) dead load (kips/ft.)

$M_{s\ell}$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

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

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

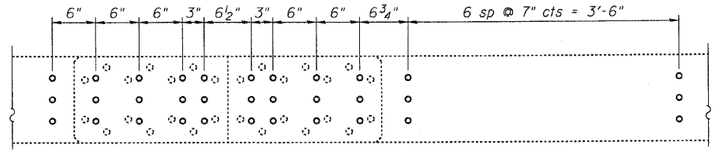
M_a: Factored design moment (kip-ft.).
$1.3\ [\ M_\ell + M_{s\ell} + \frac{5}{3}\ (M_L + M_I)]$

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M_\ell + M_{s\ell} + \frac{5}{3}\ (M_L + M_I)$

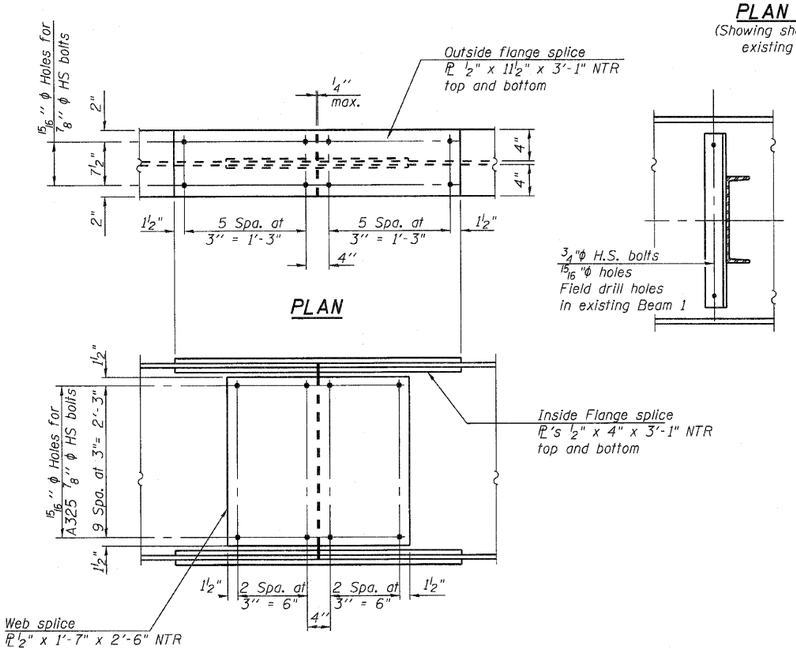
f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.3\ [M_\ell + M_{s\ell} + \frac{5}{3}\ (M_L + M_I)]$

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

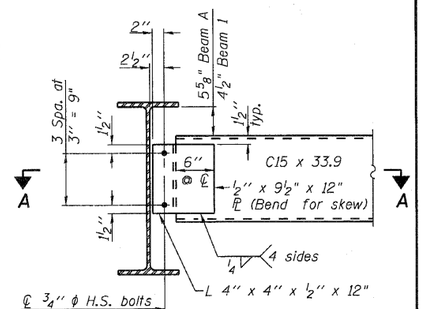


PLAN VIEW B-B

(Showing shear stud layout at existing beam splices)



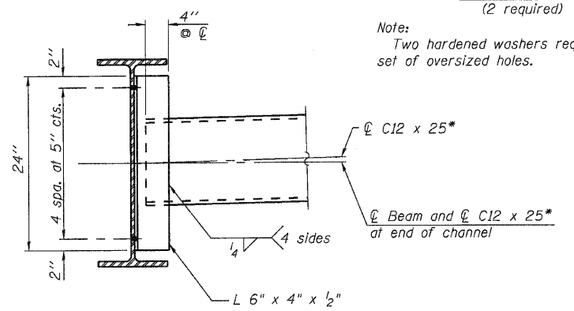
SECTION A-A



DIAPHRAGM D

(2 required)

Note:
Two hardened washers required for each set of oversized holes.



DIAPHRAGM D_1

(8 required)

Note:
Two hardened washers required for each set of oversized holes.

Diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

* Alternate C 12 x 30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no cost to the Department.

** Field weld at existing Beam 1

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 26
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	212
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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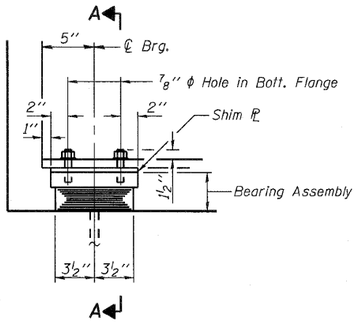
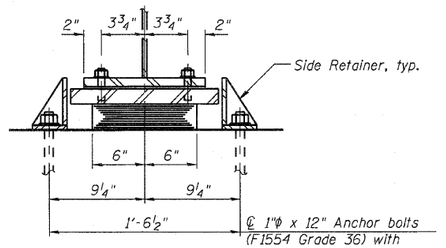
USER NAME = DFC.

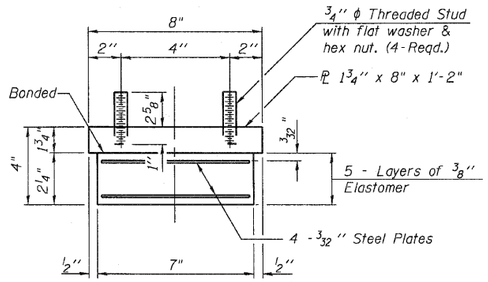


ELEVATION AT EAST ABUTMENTS



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

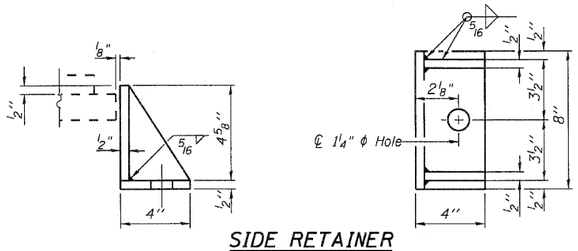
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

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

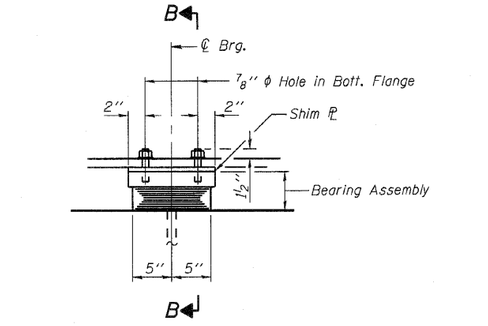
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

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

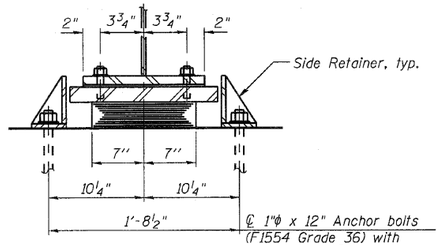


SIDE RETAINER

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

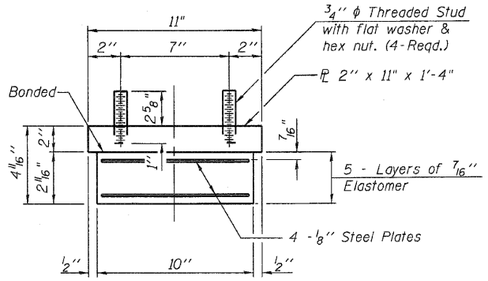


ELEVATION AT PIERS 1 & 3



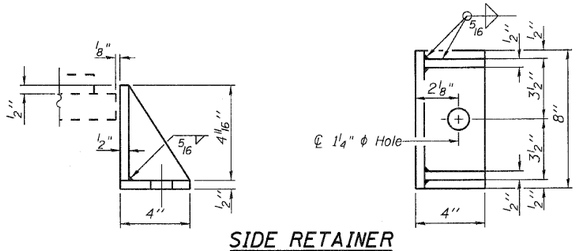
SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	4
Anchor Bolts, 1"	Each	8

BEARING DETAILS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 27
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	213
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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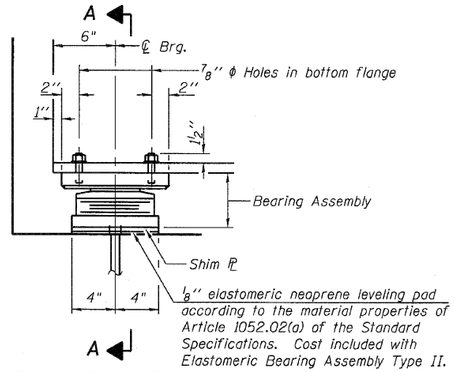
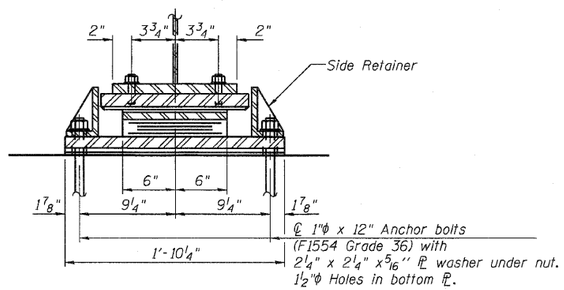
USER NAME = OTC.

I-2E-1

11-1-09

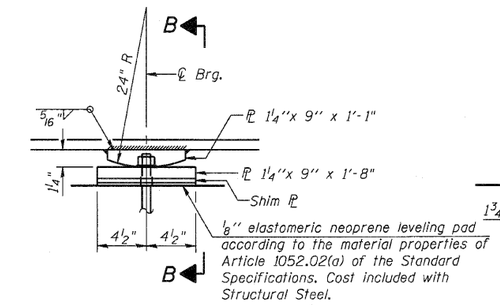


ELEVATION AT WEST ABUTMENTS

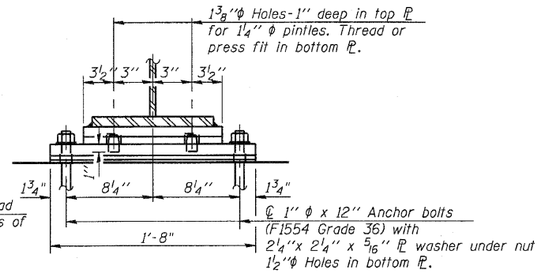


SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.

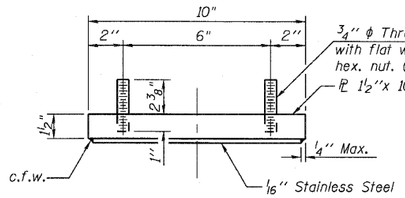


ELEVATION AT PIER 2 & 4

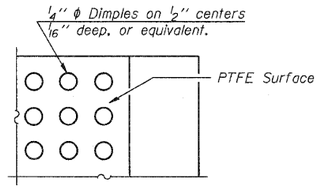


SECTION B-B

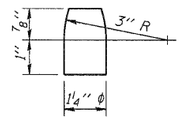
FIXED BEARING



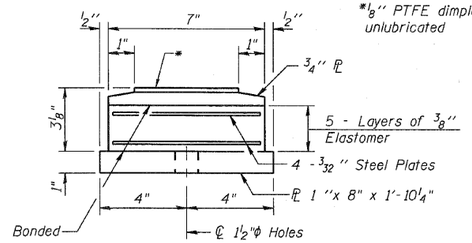
TOP BEARING ASSEMBLY



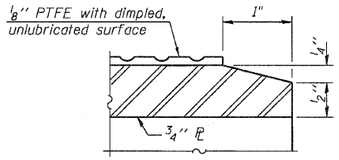
PLAN-PTFE SURFACE



PINTLE

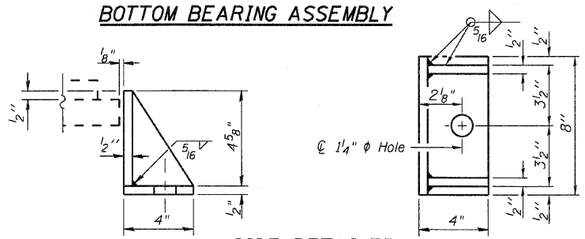


*1/8" PTFE dimpled, unlubricated



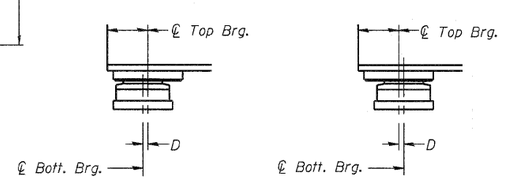
SECTION THRU PTFE

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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



BELOW 50°F. (Move bott. brg. away from fixed brg.)

ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	2
Anchor Bolts, 1"	Each	8

BEARING DETAILS
SN 081-0018 SN 081-0019

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	MML
CHECKED BY	MCB

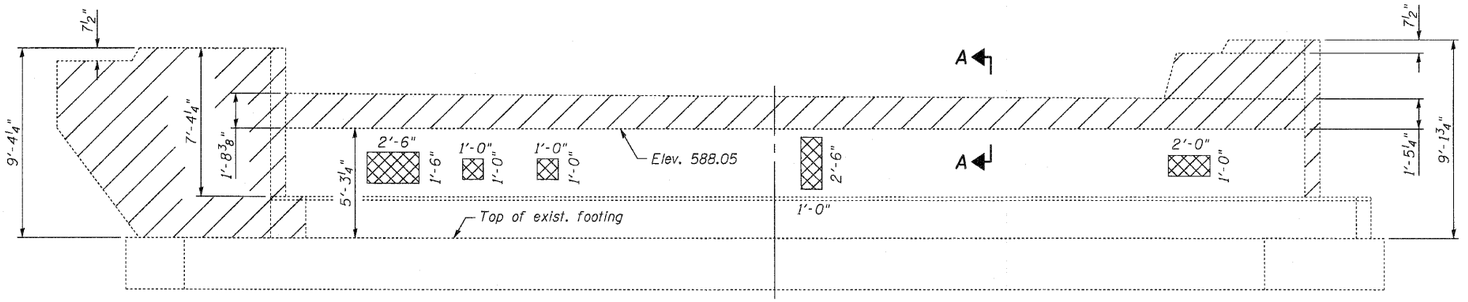
SHEET NO. 28
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	214
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

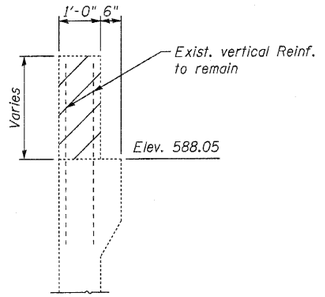
PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-028-brng-det-e-2.dgn
PLOT SCALE = 64.0293397 '/ IN.
USER NAME = CTC

I-2E-2

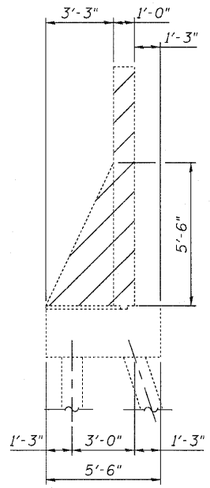
11-1-09



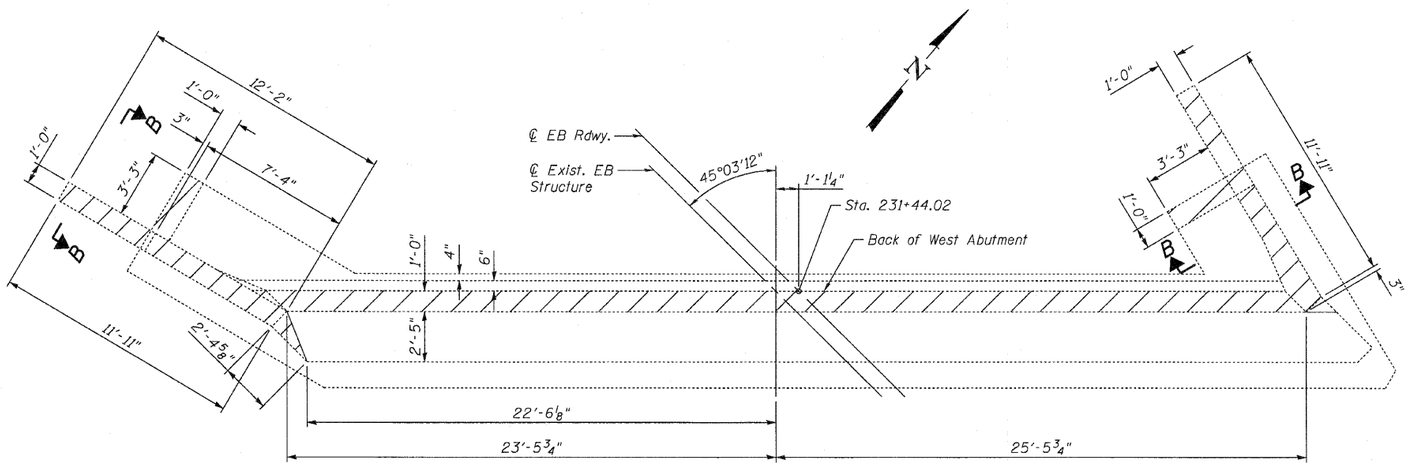
ELEVATION



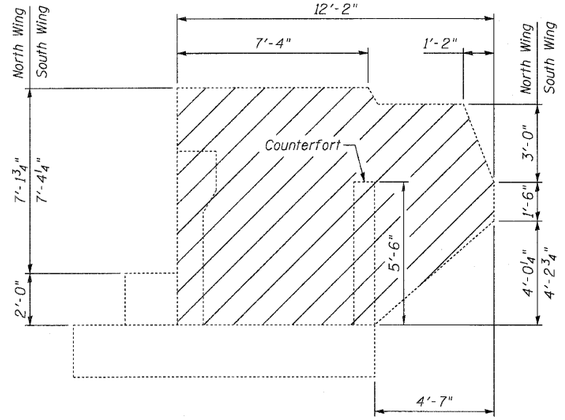
SECTION A-A



SECTION B-B



PLAN



WING ELEVATION

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5")

Concrete Removal

Notes

Existing reinforcement not extending into the areas of new construction shall be cut at the removal line and removed. Exposed portion will be cleaned and coated with a layer of epoxy. Cost included with Concrete Removal.

Existing reinforcement extending into the areas of new construction are to be cleaned, straightened and incorporated into the new construction. All reinforcement bars to be reused that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	10.8
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	10

CONCRETE REMOVAL DETAILS WEST ABUTMENT EB STRUCTURE STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 29
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	215
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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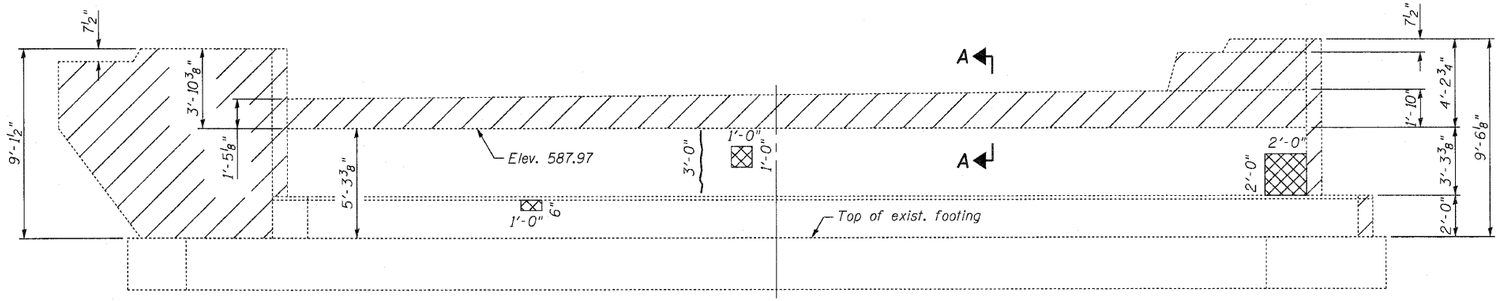
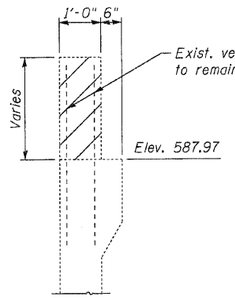
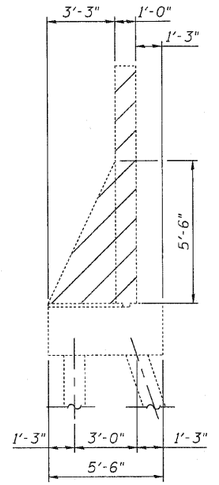
PLOT SCALE = 2.5000 '/ IN.
USER NAME = CFC.



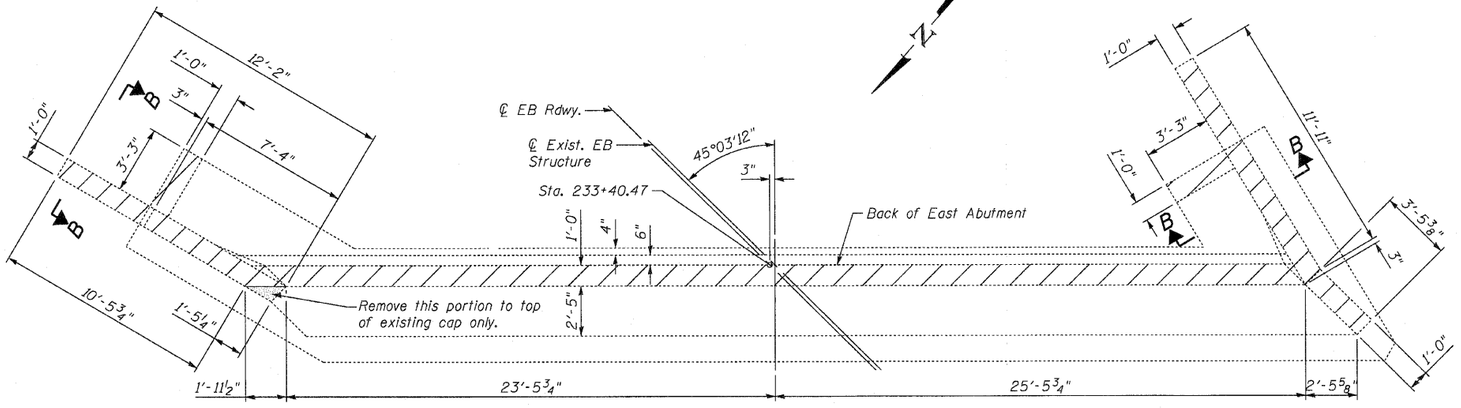
ELEVATION



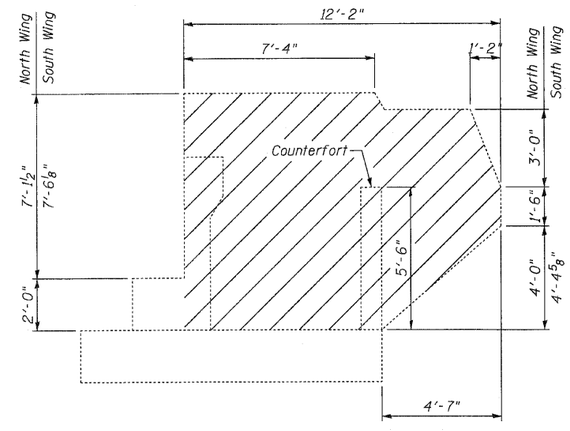
SECTION A-A



SECTION B-B



PLAN



WING ELEVATION

LEGEND

- Structural Repair of Concrete (Depth Equal to or Less Than 5")
- Concrete Removal
- Denotes Epoxy Crack Injection

Notes

Existing reinforcement not extending into the areas of new construction shall be cut at the removal line and removed. Exposed portion will be cleaned and coated with a layer of epoxy. Cost included with Concrete Removal.

Existing reinforcement extending into the areas of new construction are to be cleaned, straightened and incorporated into the new construction. All reinforcement bars to be reused that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	11.1
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	5
Epoxy Crack Injection	Foot	3.0

CONCRETE REMOVAL DETAILS EAST ABUTMENT EB STRUCTURE STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 30
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	216
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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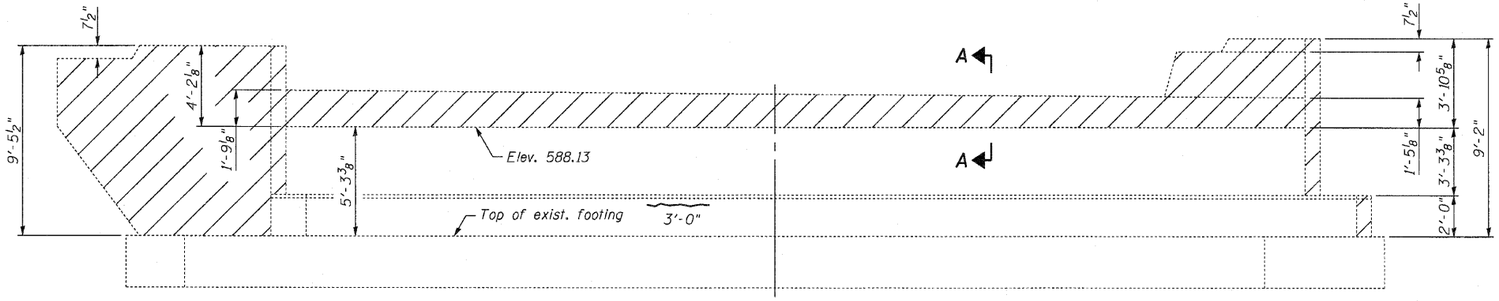
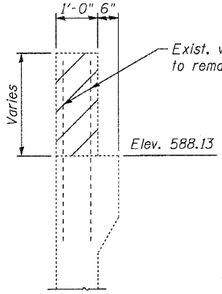
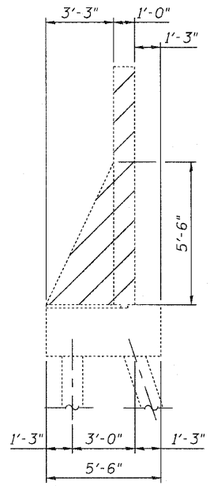
USER NAME = CFC



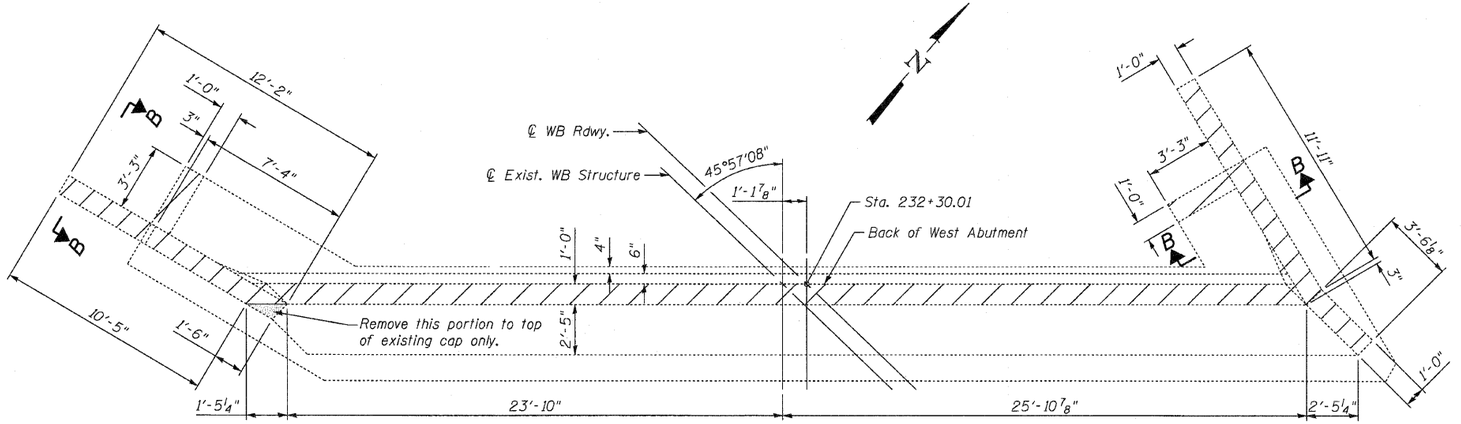
ELEVATION



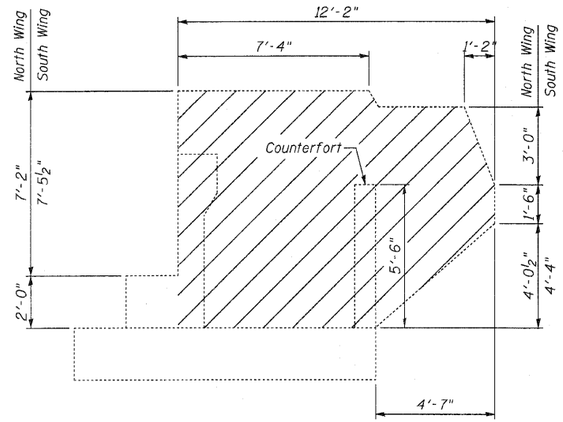
SECTION A-A



SECTION B-B



PLAN



WING ELEVATION

LEGEND

Concrete Removal

Denotes Epoxy Crack Injection

Notes

Existing reinforcement not extending into the areas of new construction shall be cut at the removal line and removed. Exposed portion will be cleaned and coated with a layer of epoxy. Cost included with Concrete Removal.

Existing reinforcement extending into the areas of new construction are to be cleaned, straightened and incorporated into the new construction. All reinforcement bars to be reused that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	11.1
Epoxy Crack Injection	Foot	3.0

CONCRETE REMOVAL DETAILS WEST ABUTMENT WB STRUCTURE STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 31
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	217
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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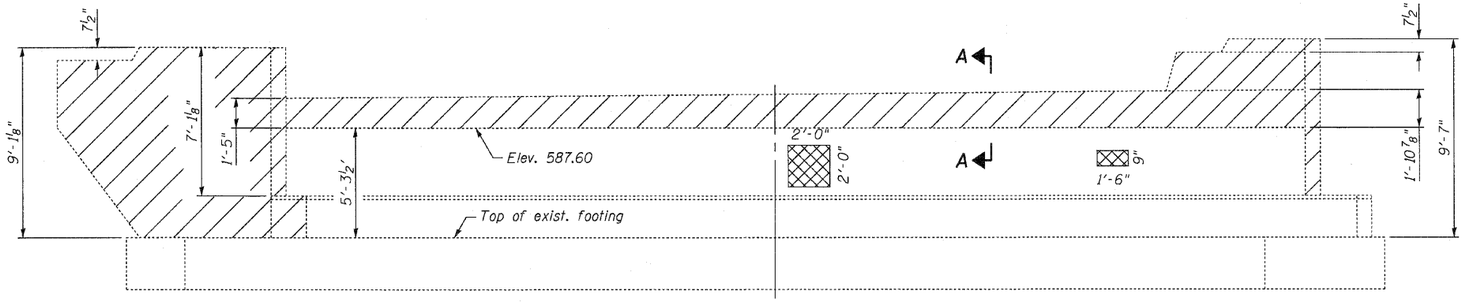
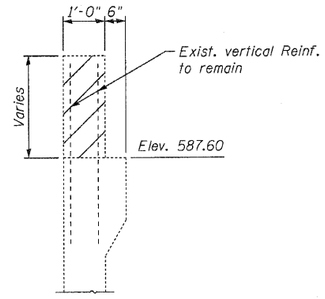
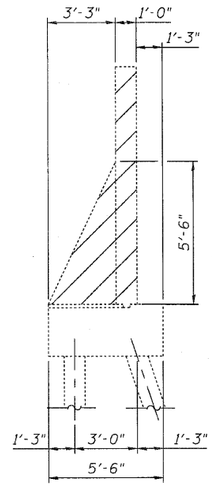
USER NAME = CFC.



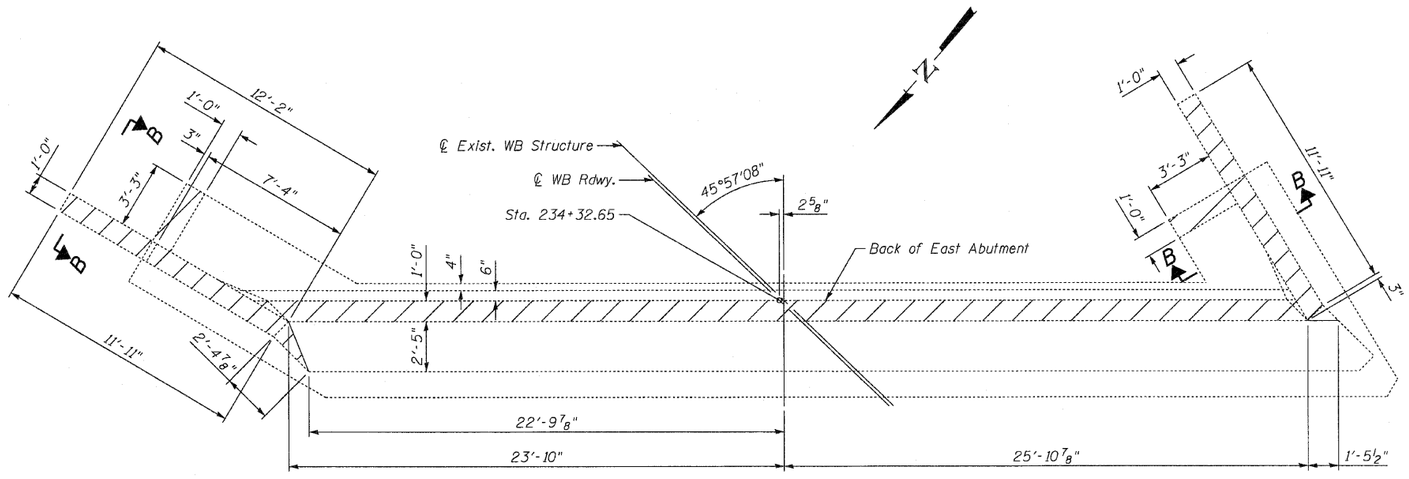
ELEVATION



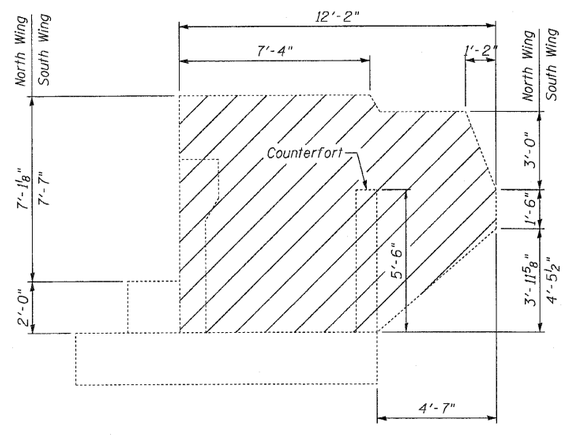
SECTION A-A



SECTION B-B



PLAN



WING ELEVATION

LEGEND

Structural Repair of Concrete (Depth Equal to or Less Than 5")

Concrete Removal

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	11.1
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	5

Notes

Existing reinforcement not extending into the areas of new construction shall be cut at the removal line and removed. Exposed portion will be cleaned and coated with a layer of epoxy. Cost included with Concrete Removal.

Existing reinforcement extending into the areas of new construction are to be cleaned, straightened and incorporated into the new construction. All reinforcement bars to be reused that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

CONCRETE REMOVAL DETAILS EAST ABUTMENT WB STRUCTURE STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 32
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	218
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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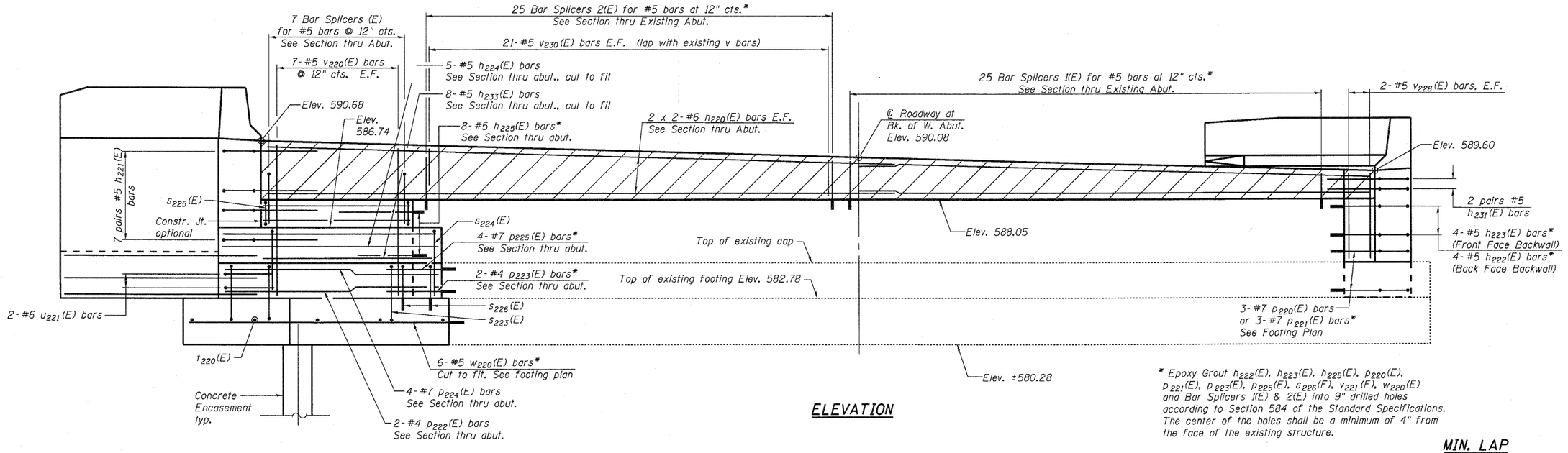
USER NAME = CFC.

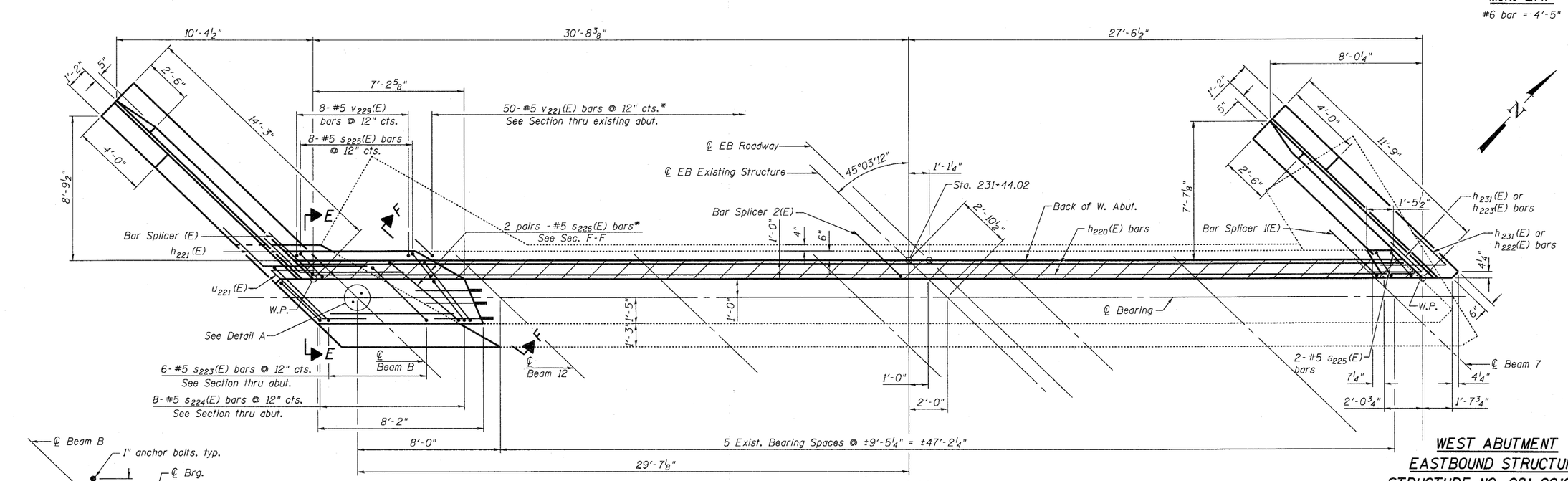


ELEVATION

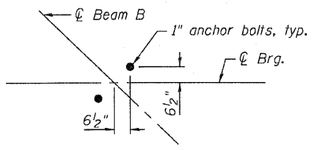
* Epoxy Grout $h_{222}(E)$, $h_{223}(E)$, $h_{225}(E)$, $p_{220}(E)$, $p_{221}(E)$, $p_{223}(E)$, $p_{225}(E)$, $s_{226}(E)$, $v_{221}(E)$, $w_{220}(E)$ and Bar Splicers 1(E) & 2(E) into 9" drilled holes according to Section 584 of the Standard Specifications. The center of the holes shall be a minimum of 4" from the face of the existing structure.

MIN. LAP

#6 bar = 4'-5"



PLAN



DETAIL A

Work this Sheet with Sheets 34 and 35 of 55.

WEST ABUTMENT EASTBOUND STRUCTURE STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	TFG
CHECKED BY	MCB

SHEET NO. 33
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	219
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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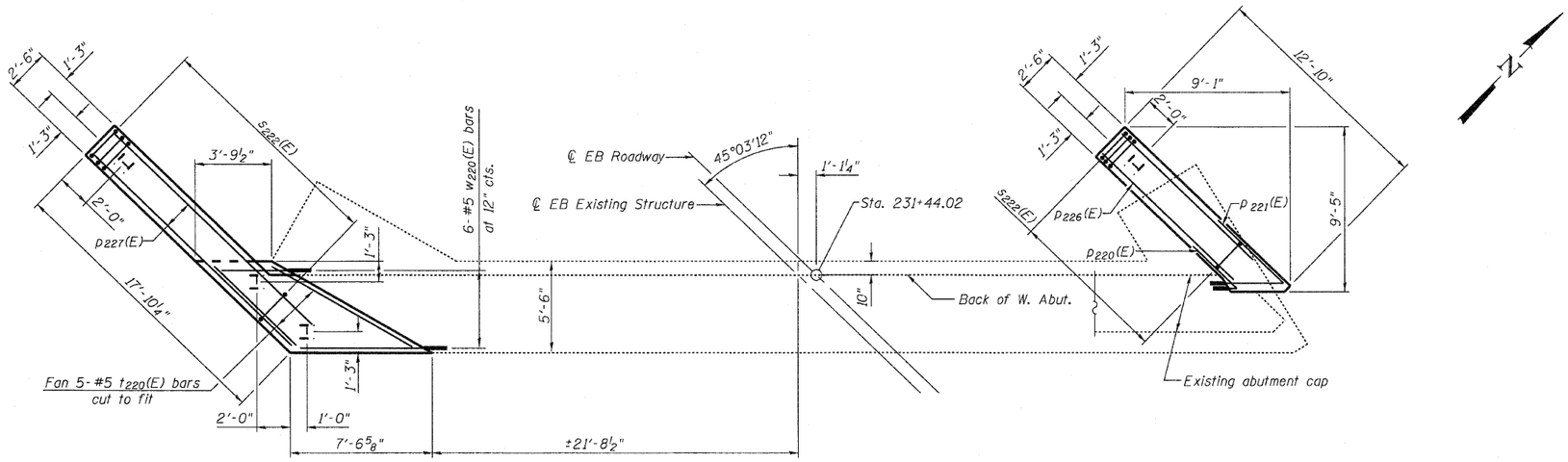


FOOTING PLAN

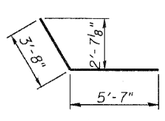
Bar	A	B	C
h222(E)	2'-9"	3'-8"	2'-7⅛"
h223(E)	4'-9"	3'-8"	2'-7⅛"
h231 (E)	5'-7"	3'-8"	2'-7⅛"

PILE DATA

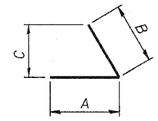
Type: Steel HP 10x42
Nominal Required Bearing: 335 k
Allowable Resistance Available: 111 k
Est. Length: 39' (42' Wingwalls)
Number of Production Piles: 4
Number of Test Piles: 0

BILL OF MATERIAL

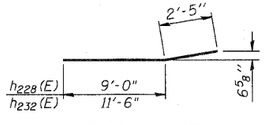
Bar	No.	Size	Length	Shape
h220(E)	8	#6	31'-2"	
h221(E)	14	#5	9'-3"	
h222(E)	4	#5	6'-5"	
h223(E)	4	#5	8'-5"	
h224(E)	5	#5	8'-8"	
h225(E)	5	#5	4'-5"	
h227(E)	8	#4	12'-6"	
h228(E)	8	#4	11'-5"	
h229(E)	9	#4	12'-9"	
h231 (E)	4	#5	9'-3"	
h232(E)	9	#4	13'-11"	
h233(E)	8	#5	6'-10"	
n220(E)	20	#6	11'-6"	
n221(E)	12	#6	5'-9"	
p220(E)	3	#7	7'-6"	
p221(E)	3	#7	12'-8"	
p222(E)	2	#4	7'-10"	
p223(E)	2	#4	5'-4"	
p224(E)	4	#7	7'-10"	
p225(E)	4	#7	8'-3"	
p226(E)	6	#7	10'-3"	
p227(E)	6	#7	15'-9"	
s222(E)	25	#4	9'-5"	
s223(E)	6	#5	12'-1"	
s224(E)	8	#5	9'-11"	
s225(E)	10	#5	5'-1"	
s226(E)	4	#5	6'-4"	
t220(E)	5	#5	10'-1"	
u221(E)	2	#6	13'-1"	
v220(E)	14	#5	7'-6"	
v221(E)	50	#5	4'-1"	
v222(E)	12	#6	7'-6"	
v223(E)	3	#6	6'-10"	
v224(E)	9	#6	7'-9"	
v225(E)	14	#6	8'-6"	
v226(E)	3	#6	8'-1"	
v227(E)	11	#6	8'-10"	
v228(E)	4	#5	6'-6"	
v229(E)	8	#5	4'-6"	
v230(E)	42	#5	1'-8"	
w220(E)	6	#5	8'-0"	
Reinforcement Bars, Epoxy Coated		Pound	3690	
Concrete Structures		Cu. Yd.	21.1	
Bar Splicers		Each	57	
Furnishing Steel Piles HP 10x42		Feet	162	
Driving Piles		Feet	162	
Structure Excavation		Cu. Yd.	109	
Concrete Encasement		Cu. Yd.	1.4	
Concrete Sealer		Sq. Ft.	210.2	



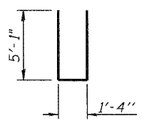
BAR h221(E)



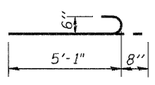
BAR h222(E), h223(E) or h231 (E)



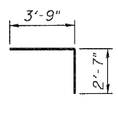
BAR h228(E) or h232(E)



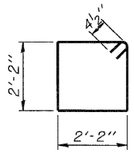
BAR n220(E)



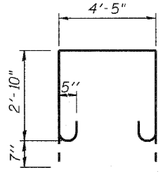
BAR n221(E)



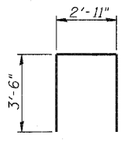
BAR s226(E)



BARS s222(E)



BAR s223(E)



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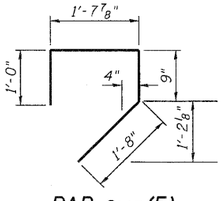

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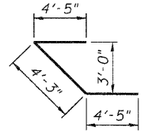
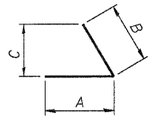
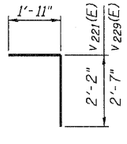


BAR u221(E)

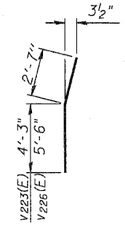


BAR p220(E) or p221(E)

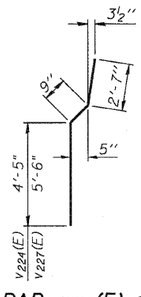
Bar	A	B	C
p220(E)	1'-8"	5'-10"	4'-1½"
p221(E)	4'-5⅞"	8'-2"	5'-9"



BAR v221(E) or v229(E)



BAR v223(E) or v226(E)



BAR v224(E) or v227(E)

For details of Bar Splicers, see Sheet 48 of 55.
For details of Concrete Encasement, see Sheet 47 of 55.
Concrete Sealer shall be applied to the exposed surfaces of the abutment cap and backwall.

Work this Sheet with Sheets 33 and 35 of 55.

WEST ABUTMENT
EASTBOUND STRUCTURE
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 34
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	220
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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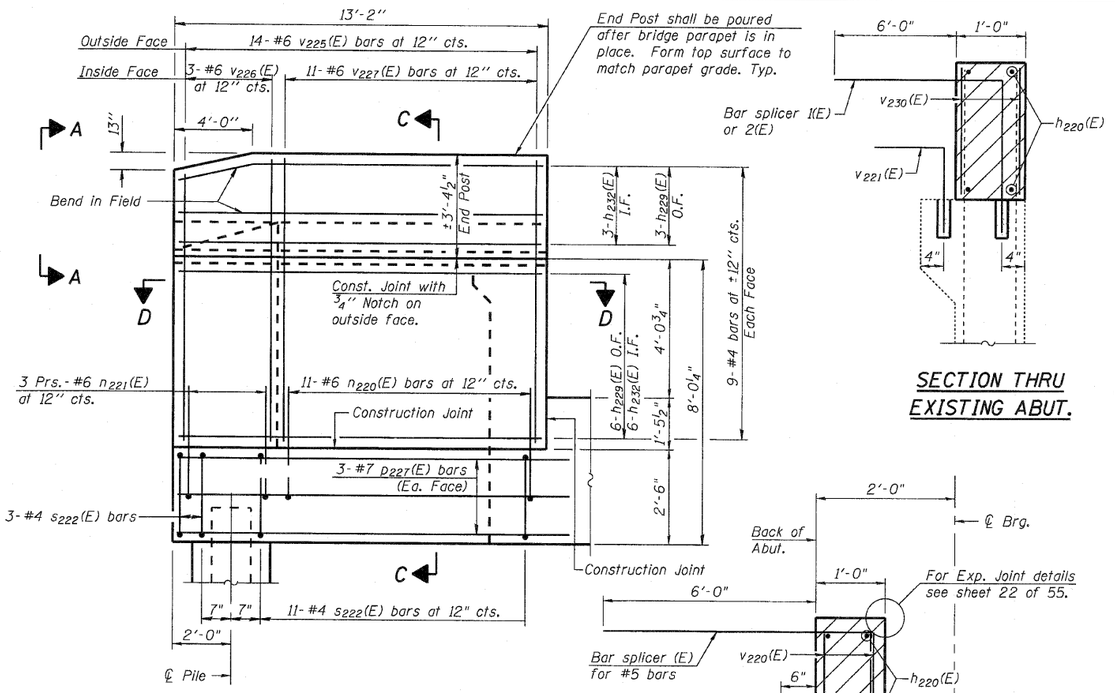
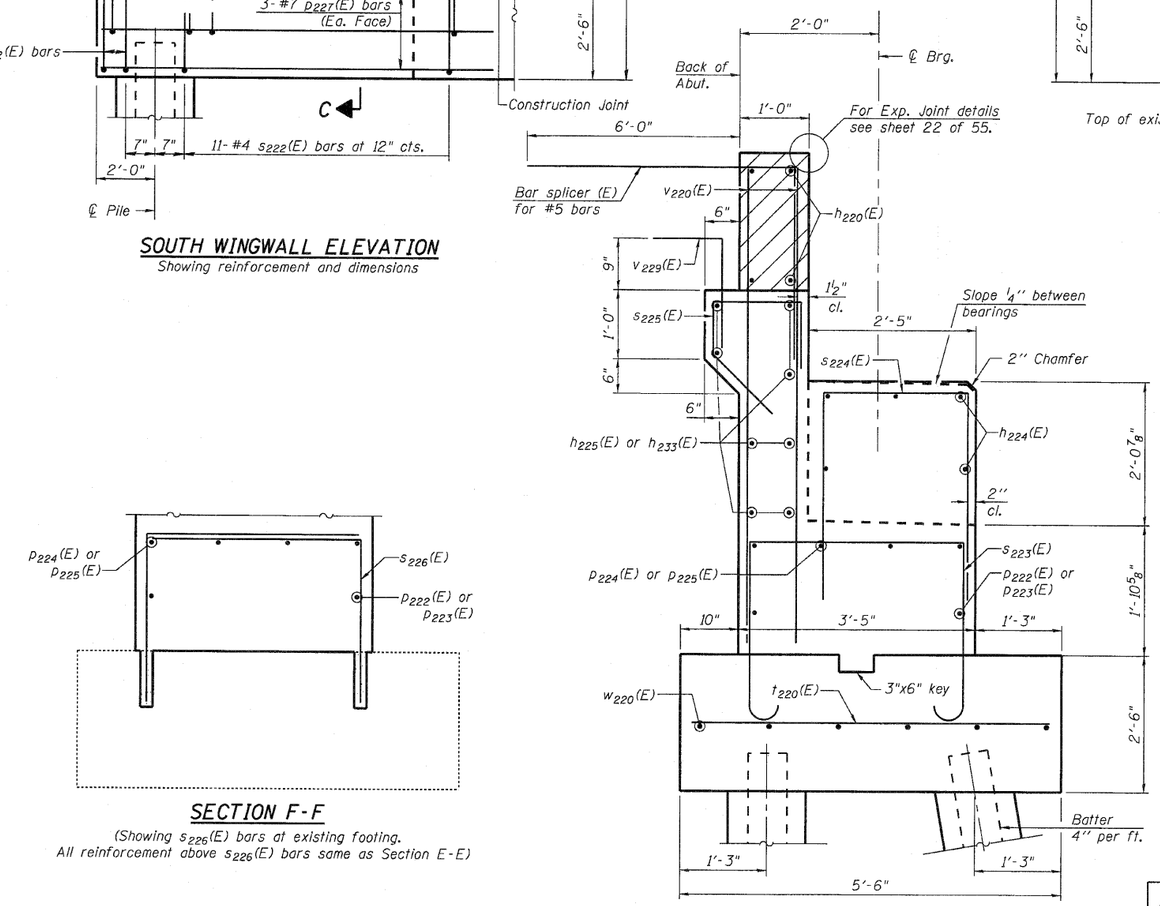
PLOT SCALE = 40.41059 '= 1' IN.
USER NAME = CFC.



SOUTH WINGWALL ELEVATION

Showing reinforcement and dimensions

SECTION THRU EXISTING ABUT.

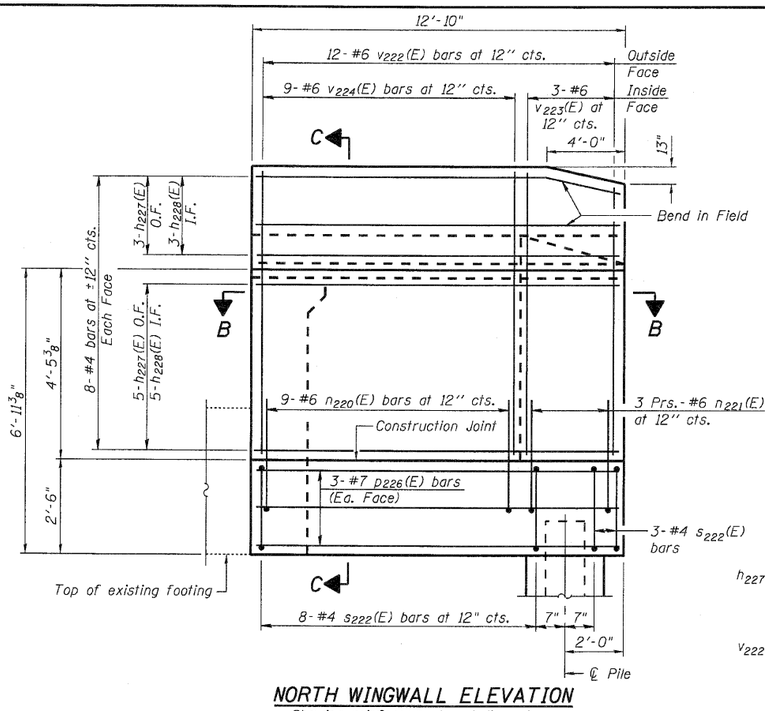


SECTION E-E

at Rt. L's

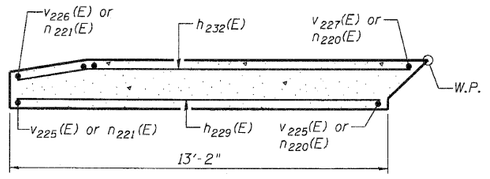
SECTION F-F

(Showing $s_{226}(E)$ bars at existing footing.
All reinforcement above $s_{226}(E)$ bars same as Section E-E)

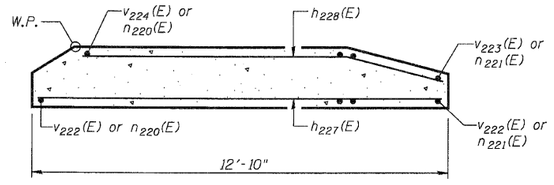


NORTH WINGWALL ELEVATION

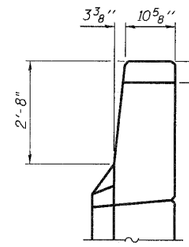
Showing reinforcement and dimensions



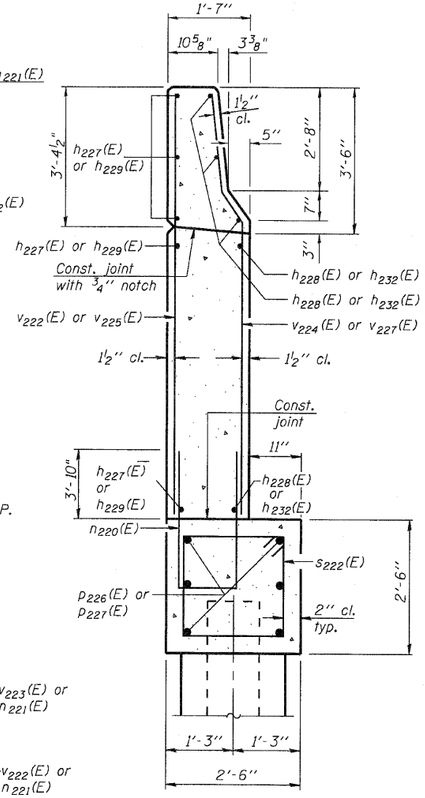
SECTION D-D



SECTION B-B



VIEW A-A



SECTION C-C

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

Quantity of concrete in end post included with Concrete Superstructure on sheet 17 of 55.

For Concrete Encasement details, see sheet 47 of 55.

WEST ABUTMENT
EAST BOUND STRUCTURE
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 35
55 SHEETS

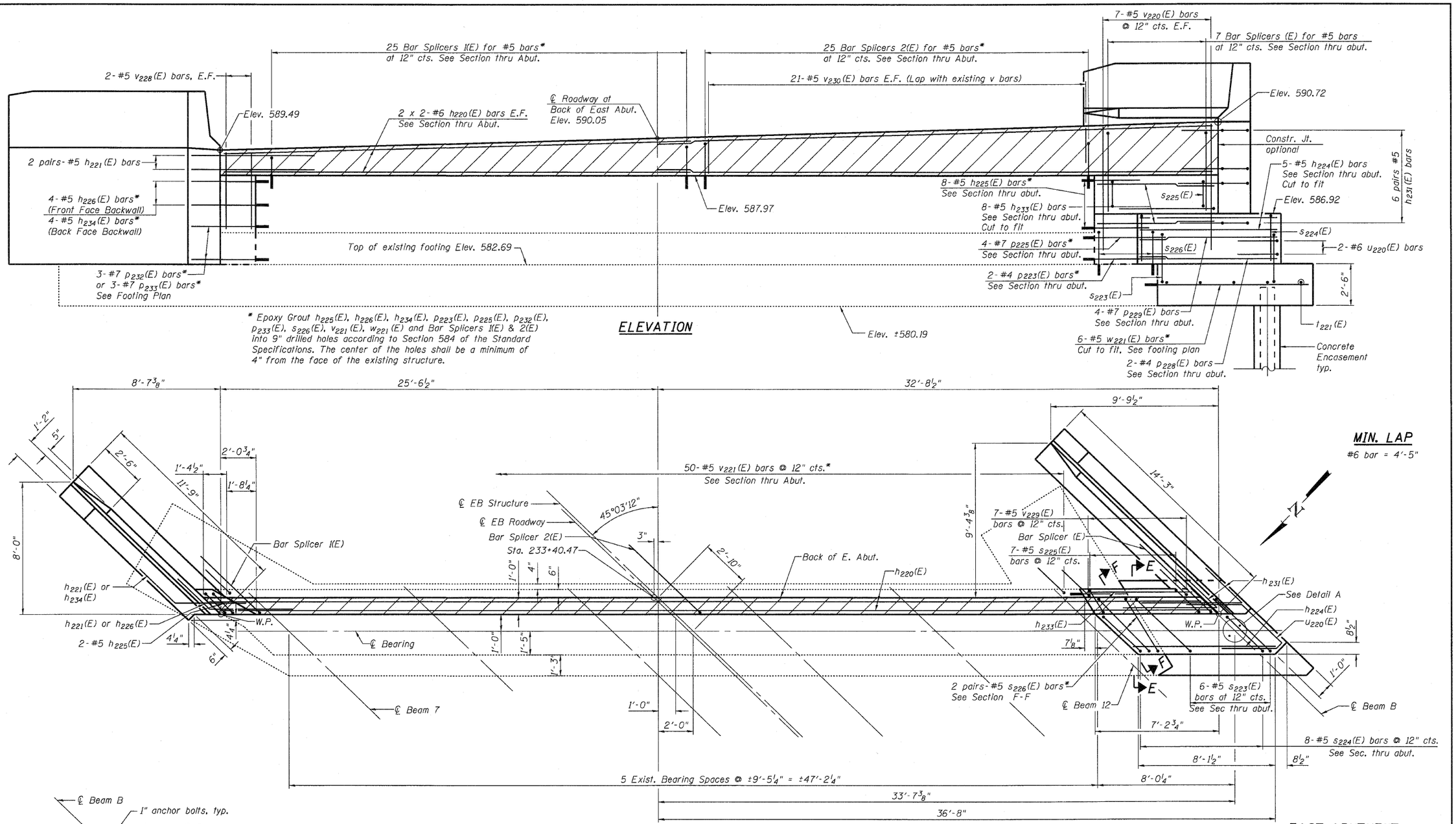
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	221
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-035-eb-west-abut-det.dgn
PLOT SCALE = 0.0625931 1 / IN.
USER NAME = OFC.

A-1-D

11-1-09

Work this Sheet with Sheets 33 and 34 of 55.



Work this Sheet with Sheets 37 and 38 of 55.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	TFG
CHECKED BY	MCB

SHEET NO. 36
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	222
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

EAST ABUTMENT
EASTBOUND STRUCTURE
STRUCTURE NO. 081-0018 (EB)

PLOT DATE = 7/21/2010
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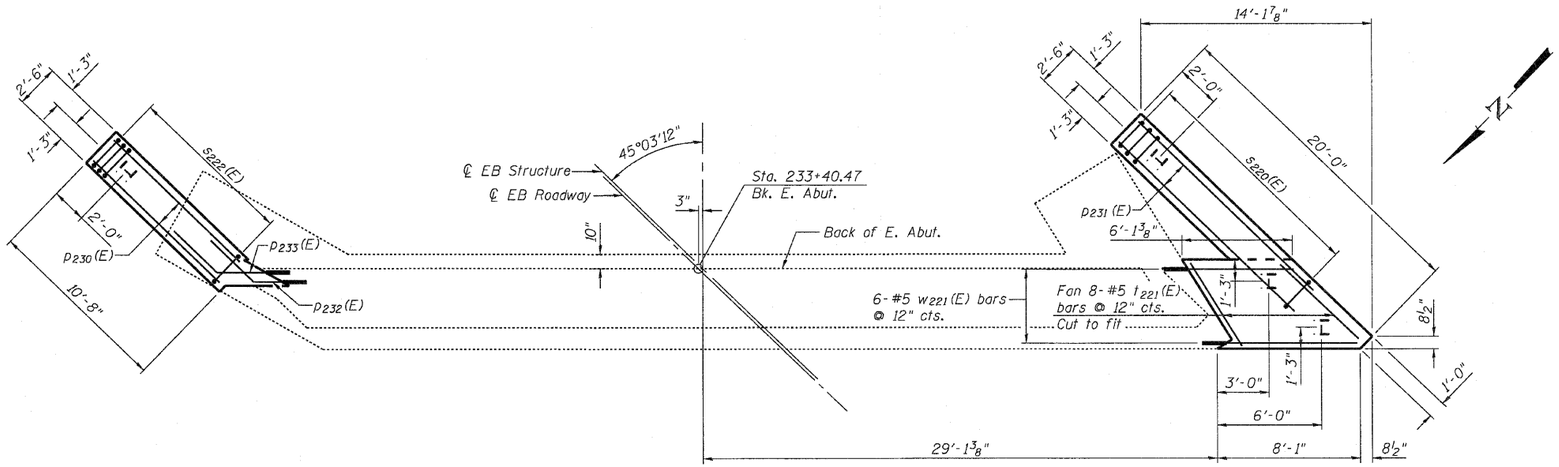
USER NAME = CFC.



FOOTING PLAN

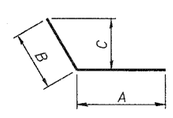
PILE DATA

Type: Steel HP 10x42
Nominal Required Bearing: 335 k
Allowable Resistance Available: 111 k
Est. Length: 39' (42' Wingwalls)
Number of Production Piles: 4
Number of Test Piles: 0

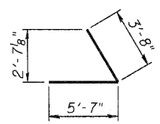
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h220(E)	8	#6	31'-2"	
h221(E)	4	#5	9'-3"	
h224(E)	5	#5	8'-8"	
h225(E)	8	#5	4'-5"	
h226(E)	4	#5	6'-9"	
h228(E)	9	#4	11'-5"	
h231(E)	12	#5	9'-3"	
h232(E)	10	#4	13'-11"	
h233(E)	8	#5	6'-10"	
h234(E)	4	#5	7'-9"	
h235(E)	10	#4	15'-0"	
h236(E)	9	#4	10'-4"	
n220(E)	20	#6	11'-6"	
n221(E)	12	#6	5'-9"	
p223(E)	2	#4	5'-4"	
p225(E)	4	#7	8'-3"	
p228(E)	2	#4	7'-10"	
p229(E)	4	#7	7'-10"	
p230(E)	6	#7	10'-4"	
p231(E)	6	#7	16'-5"	
p232(E)	3	#7	10'-2"	
p233(E)	3	#7	9'-11"	
s222(E)	25	#4	9'-5"	
s223(E)	6	#5	12'-1"	
s224(E)	8	#5	9'-11"	
s225(E)	9	#5	5'-1"	
s226(E)	4	#5	6'-4"	
t221(E)	8	#5	7'-3"	
u220(E)	2	#6	12'-10"	
v220(E)	14	#5	7'-6"	
v221(E)	50	#5	4'-1"	
v222(E)	11	#6	7'-6"	
v223(E)	3	#6	6'-10"	
v224(E)	8	#6	7'-9"	
v225(E)	16	#6	8'-6"	
v226(E)	3	#6	8'-1"	
v227(E)	13	#6	8'-10"	
v228(E)	4	#5	6'-6"	
v229(E)	7	#5	4'-6"	
v230(E)	42	#5	1'-8"	
w221(E)	6	#5	8'-9"	
Reinforcement Bars, Epoxy Coated			Pound	3760
Concrete Structures			Cu. Yd.	22.8
Bar Splicers			Each	57
Furnishing Steel Piles HP 10x42			Feet	162
Driving Piles			Feet	162
Structure Excavation			Cu. Yd.	109
Concrete Encasement			Cu. Yd.	1.4
Concrete Sealer			Sq. Ft.	222.4

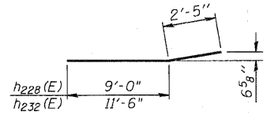
Bar	A	B	C
h221(E)	5'-7"	3'-8"	2'-7⅞"
h226(E)	3'-1"	3'-8"	2'-7⅞"
h234(E)	4'-1"	3'-8"	2'-7⅞"



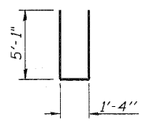
BAR h221(E), h226(E) or h234(E)



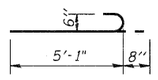
BAR h231(E)



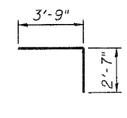
BAR h228(E) or h232(E)



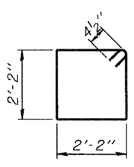
BAR n220(E)



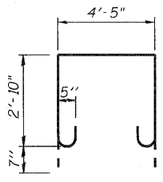
BAR n221(E)



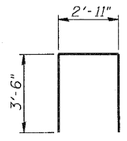
BAR s226(E)



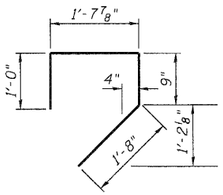
BARS s222(E)



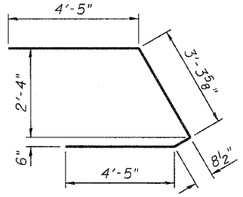
BAR s223(E)



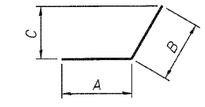
BAR s224(E)



BAR s225(E)

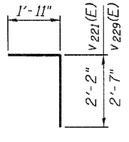


BAR u220(E)

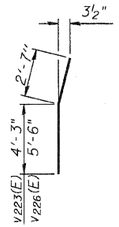


BAR p232(E) or p233(E)

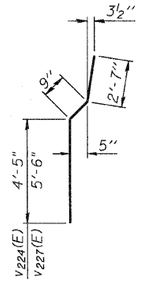
Bar	A	B	C
p232(E)	2'-0"	8'-2"	5'-9"
p233(E)	4'-1"	5'-10"	4'-1½"



BAR v221(E) or v229(E)



BAR v223(E) or v226(E)



BAR v224(E) or v227(E)

For details of Bar Splicers, see Sheet 48 of 55.
For details of Concrete Encasement, see Sheet 47 of 55.
Concrete sealer shall be applied to the exposed surfaces of the abutment cap and backwall.

EAST ABUTMENT
EASTBOUND STRUCTURE
STRUCTURE NO. 081-0018 (EB)

Work this Sheet with Sheets 36 and 38 of 55.

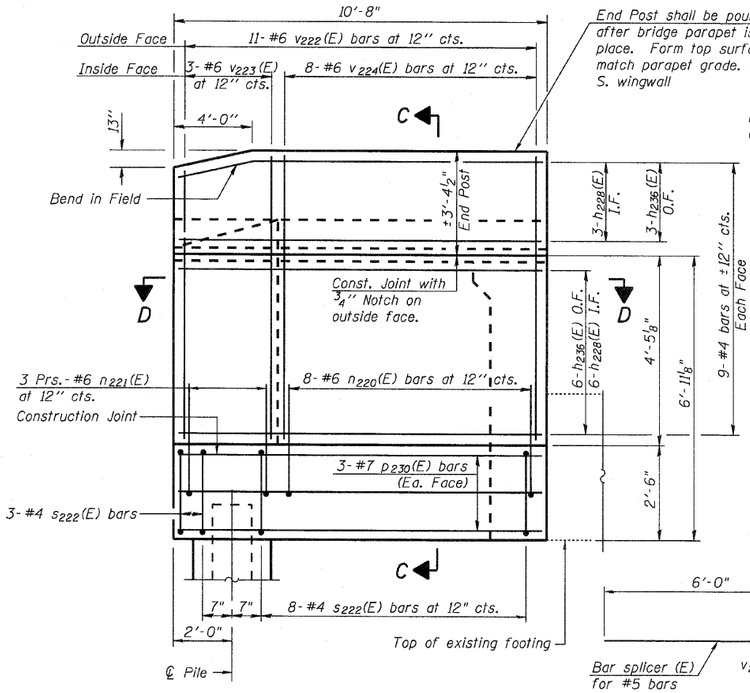
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 37
55 SHEETS

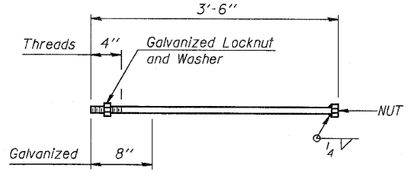
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	223
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-037-eb-east-abut-2.dgn
PLOT SCALE = 41.41059 '/ IN.
USER NAME = DTC

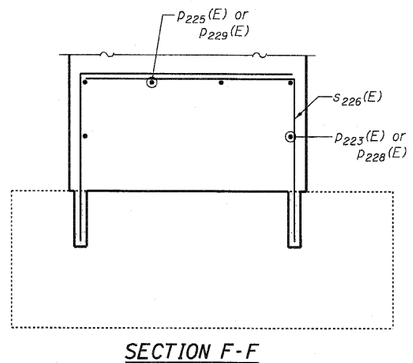


NORTH WINGWALL ELEVATION

Showing reinforcement and dimensions

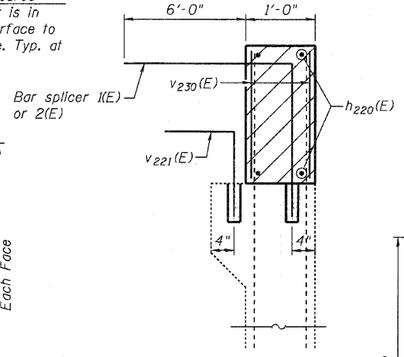


1" ϕ ANCHOR BOLT

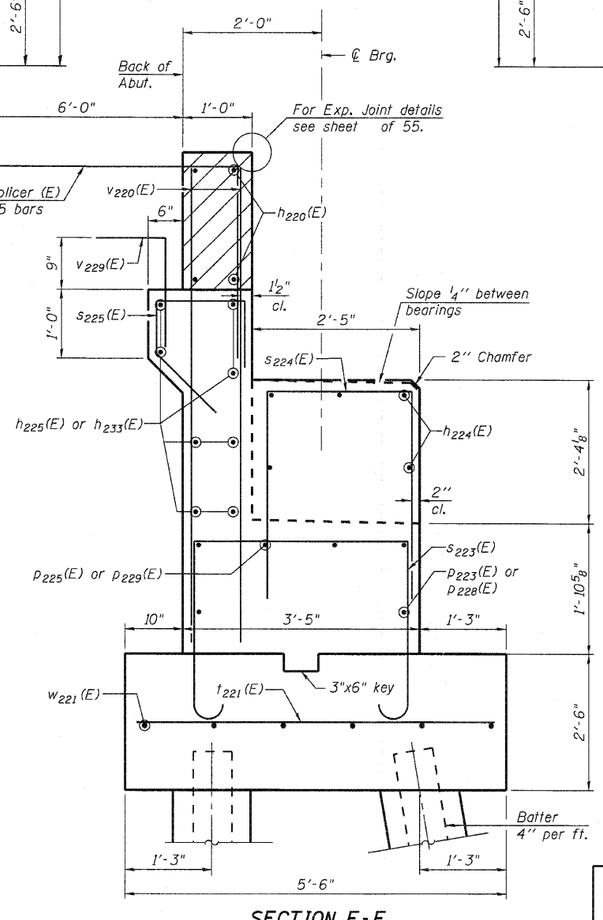


SECTION F-F

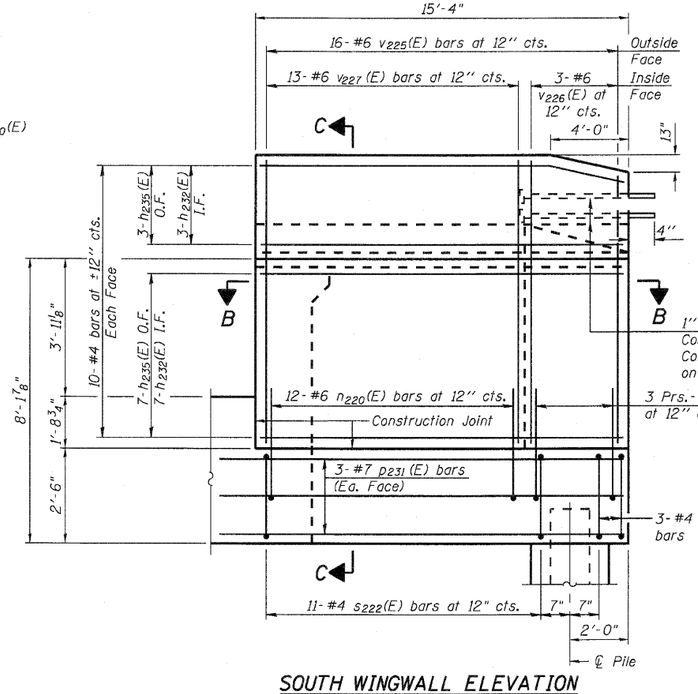
(Showing $s_{226}(E)$ bars at existing footing. All reinforcement above $s_{226}(E)$ bars same as Section thru Abutment.)



SECTION THRU EXISTING ABUT.

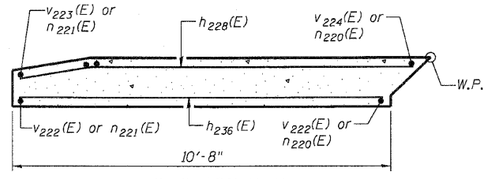


SECTION E-E

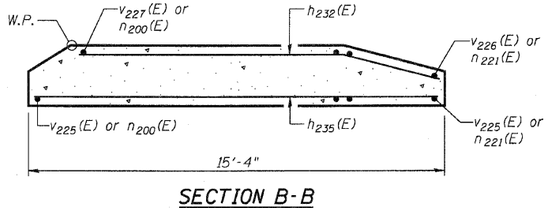


SOUTH WINGWALL ELEVATION

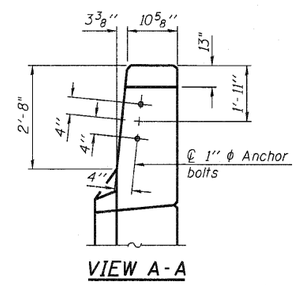
Showing reinforcement and dimensions



SECTION D-D



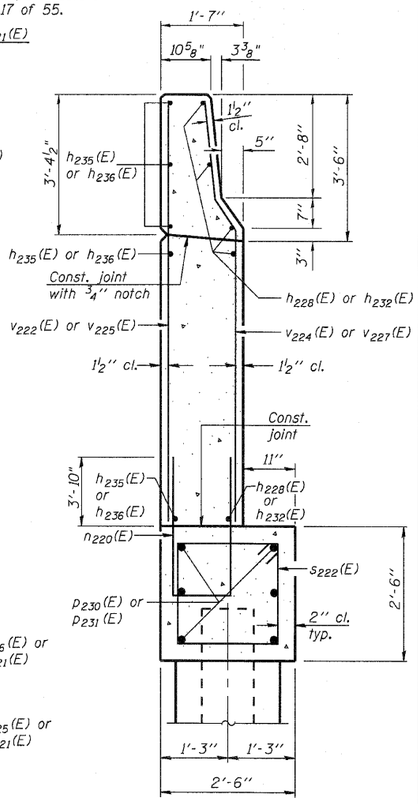
SECTION B-B



VIEW A-A

1" ϕ Anchor Bolts. Cost included with Concrete Superstructure on sheet 17 of 55.

3 Prs.-#6 n221(E) at 12" cts.



SECTION C-C

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

Quantity of concrete in end post included with Concrete Superstructure on sheet 17 of 55.

For Concrete Encasement details, see sheet 47 of 55.

EAST ABUTMENT
EAST BOUND STRUCTURE
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 38
55 SHEETS

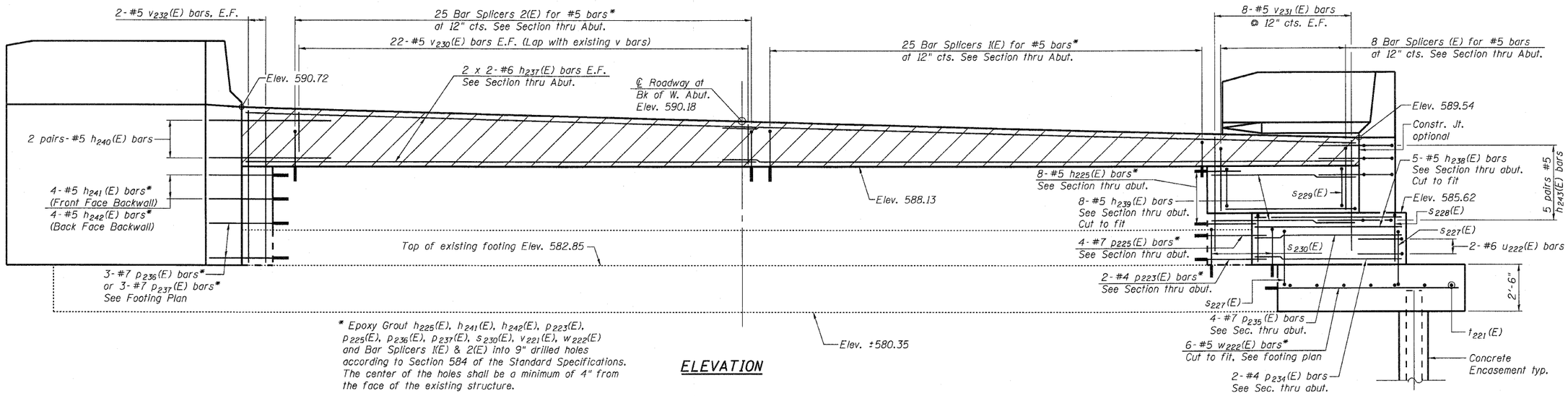
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	224
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = c:\...\081-0018-0019-64815-038-eb-east-about-det.dgn
PLOT SCALE = 0.029397 '/ IN.
USER NAME = CTC.

A-1-D

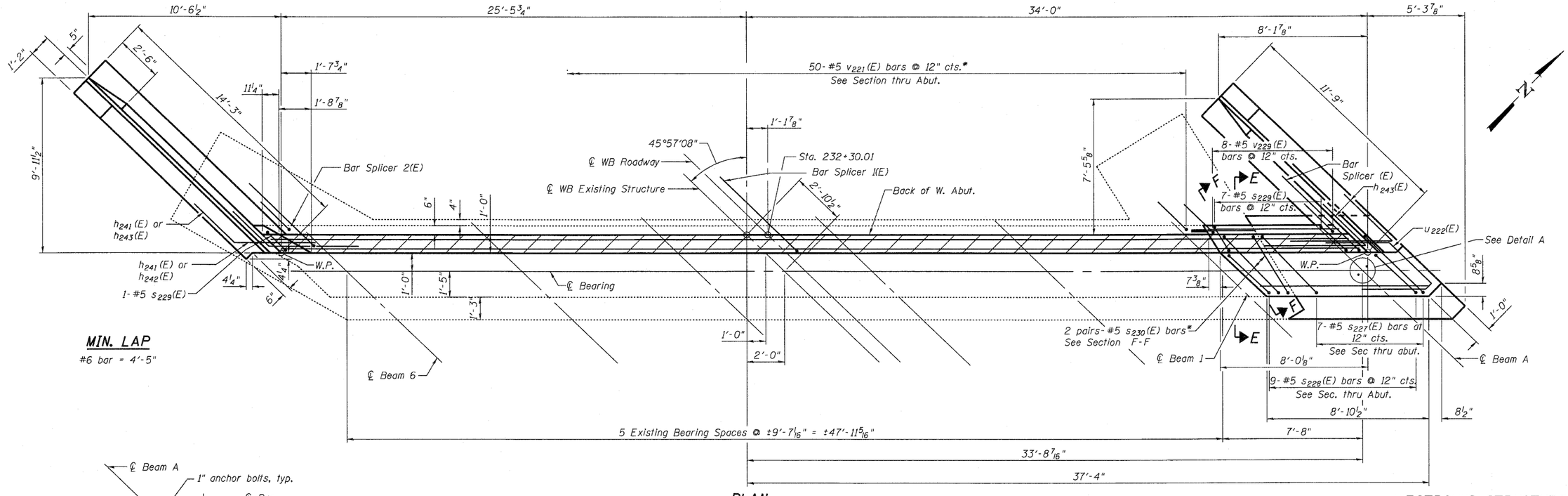
11-1-09

Work this Sheet with Sheets 36 and 37 of 55.



* Epoxy Grout h_{225}(E), h_{241}(E), h_{242}(E), p_{223}(E), p_{225}(E), p_{236}(E), p_{237}(E), s_{230}(E), v_{221}(E), w_{222}(E) and Bar Splicers 1(E) & 2(E) into 9" drilled holes according to Section 584 of the Standard Specifications. The center of the holes shall be a minimum of 4" from the face of the existing structure.

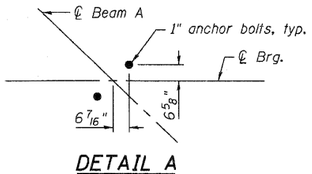
ELEVATION



MIN. LAP

#6 bar = 4'-5"

PLAN



DETAIL A

WESTBOUND STRUCTURE
WEST ABUTMENT
STRUCTURE NO. 081-0019 (WB)

Work this Sheet with Sheets 40 and 41 of 55.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	TFG
CHECKED BY	MCB

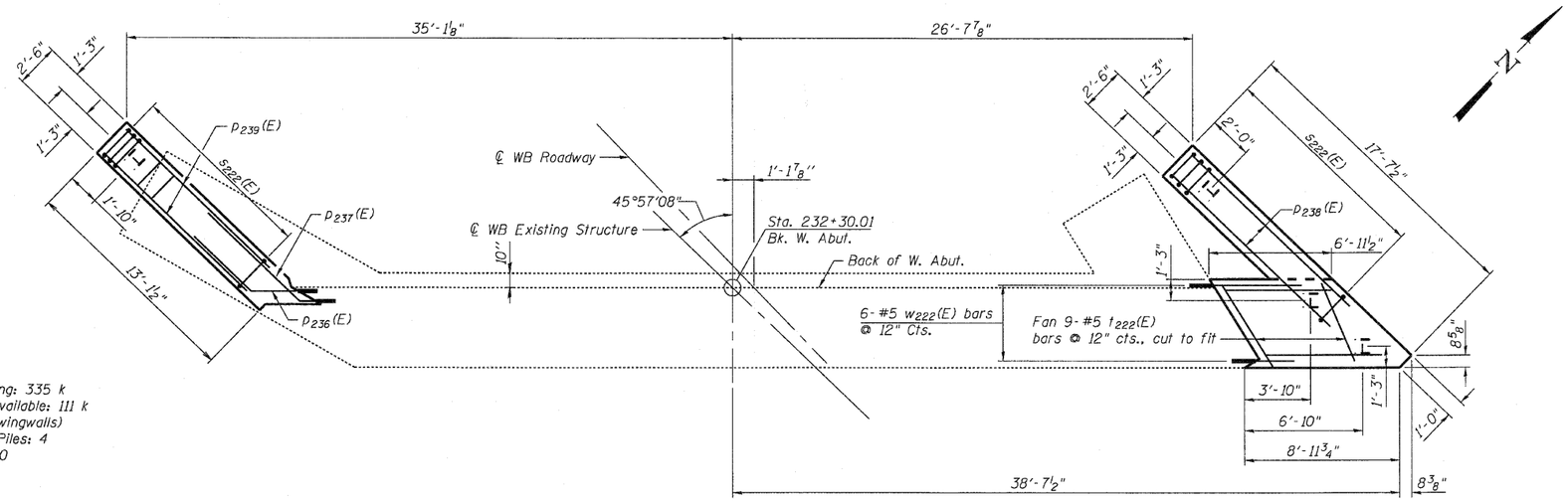
SHEET NO. 39
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	225
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-039-wb-west-sbut.dgn
PLOT SCALE = 226.942353 ' / IN.
USER NAME = DTC.

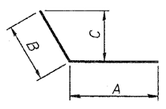
PILE DATA

Type: Steel HP 10x42
Nominal Required Bearing: 335 k
Allowable Resistance Available: 111 k
Est. Length: 39' (42' wingwalls)
Number of Production Piles: 4
Number of Test Piles: 0

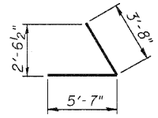


FOOTING PLAN

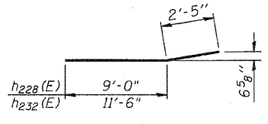
Bar	A	B	C
h240(E)	5'-7"	3'-8"	2'-6 1/2"
h241(E)	2'-8"	3'-8"	2'-6 1/2"
h242(E)	3'-11"	3'-8"	2'-6 1/2"



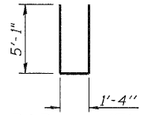
BAR h240(E), h241(E), h242(E)



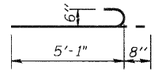
BAR h243(E)



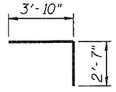
BAR h228(E) or h232(E)



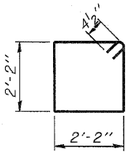
BAR n220(E)



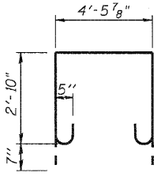
BAR n221(E)



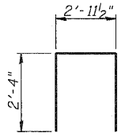
BAR s230(E)



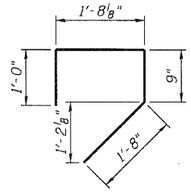
BARS s222(E)



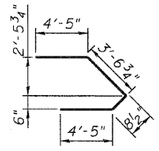
BAR s227(E)



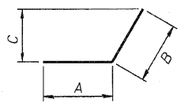
BAR s228(E)



BAR s229(E)

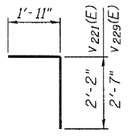


BAR u222(E)

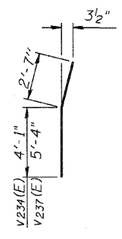


BAR p236(E) or p237(E)

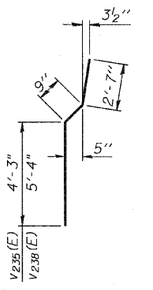
Bar	A	B	C
p236(E)	3'-9"	5'-10"	4'-1 1/2"
p237(E)	1'-5"	8'-2"	5'-9"



BAR v221(E) or v229(E)



BAR v234(E) or v237(E)



BAR v235(E) or v238(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h225(E)	8	#5	4'-5"	
h227(E)	8	#4	12'-6"	
h228(E)	8	#4	11'-5"	
h229(E)	9	#4	12'-9"	
h232(E)	9	#4	13'-11"	
h237(E)	8	#6	31'-10"	
h238(E)	5	#5	9'-11"	
h239(E)	8	#5	7'-8"	
h240(E)	4	#5	9'-3"	
h241(E)	4	#5	8'-3"	
h242(E)	4	#5	7'-7"	
h243(E)	10	#5	9'-3"	
n220(E)	20	#6	11'-6"	
n221(E)	12	#6	5'-9"	
p223(E)	2	#4	5'-4"	
p225(E)	4	#7	8'-3"	
p234(E)	2	#4	8'-6"	
p235(E)	4	#7	8'-6"	
p236(E)	3	#7	9'-7"	
p237(E)	3	#7	9'-7"	
p238(E)	6	#7	13'-11"	
p239(E)	6	#7	12'-9"	
s222(E)	25	#4	9'-5"	
s227(E)	7	#5	12'-2"	
s228(E)	9	#5	7'-8"	
s229(E)	9	#5	5'-2"	
s230(E)	4	#5	6'-5"	
t221(E)	9	#5	7'-3"	
u222(E)	2	#6	13'-2"	
v221(E)	50	#5	4'-1"	
v229(E)	8	#5	4'-6"	
v230(E)	44	#5	1'-8"	
v231(E)	16	#5	6'-4"	
v232(E)	4	#5	7'-3"	
v233(E)	12	#6	7'-10"	
v234(E)	3	#6	6'-8"	
v235(E)	9	#6	7'-7"	
v236(E)	14	#6	9'-0"	
v237(E)	3	#6	7'-11"	
v238(E)	11	#6	8'-8"	
w222(E)	6	#5	10'-8"	
Reinforcement Bars, Epoxy Coated			Pound	3750
Concrete Structures			Cu. Yd.	21.9
Bar Splicers			Each	58
Furnishing Steel Piles HP 10x42			Feet	162
Driving Piles			Feet	162
Structure Excavation			Cu. Yd.	109
Concrete Encasement			Cu. Yd.	1.4
Concrete Sealer			Sq. Ft.	208.9

For details of Bar Splicers, see Sheet 48 of 55.
For details of Concrete Encasement, see Sheet 47 of 55.
Concrete sealer shall be applied to the exposed surfaces of the abutment cap and backwall.

WEST ABUTMENT
WESTBOUND STRUCTURE
STRUCTURE NO. 081-0019 (WB)

Work this Sheet with Sheets 39 and 41 of 55.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 40
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	226
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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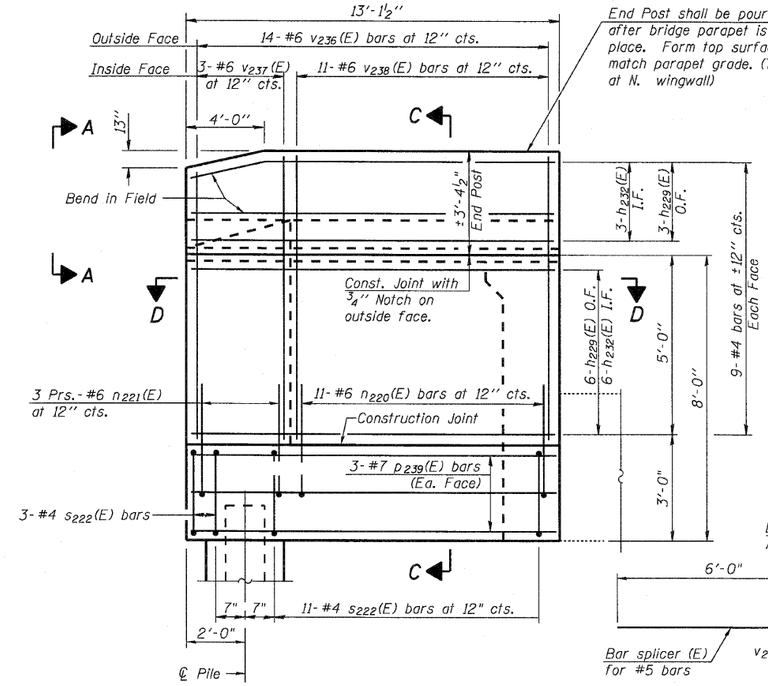
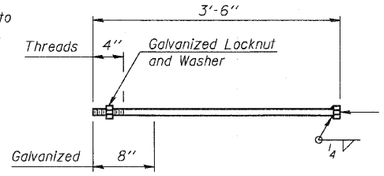
USER NAME = DTC.

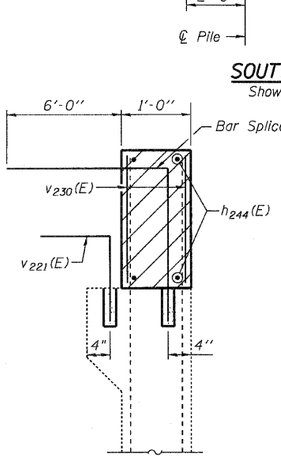


SOUTH WINGWALL ELEVATION

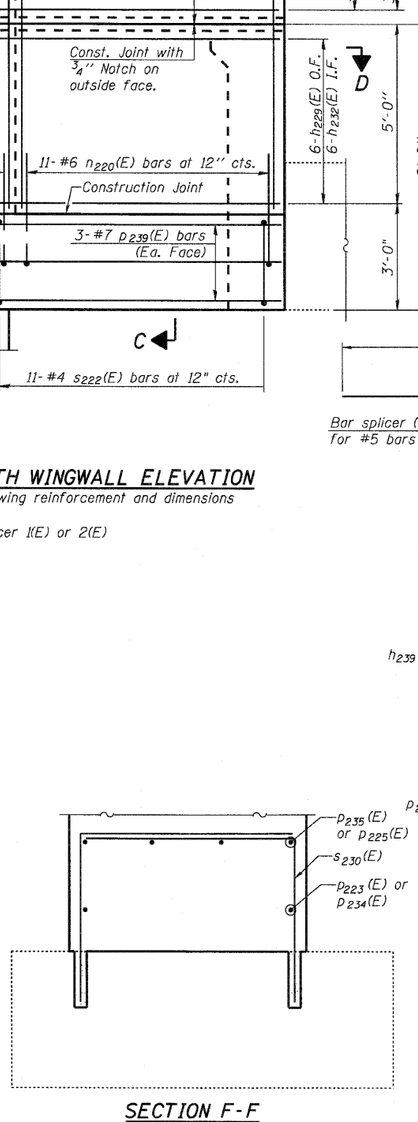
Showing reinforcement and dimensions



1" ϕ ANCHOR BOLT

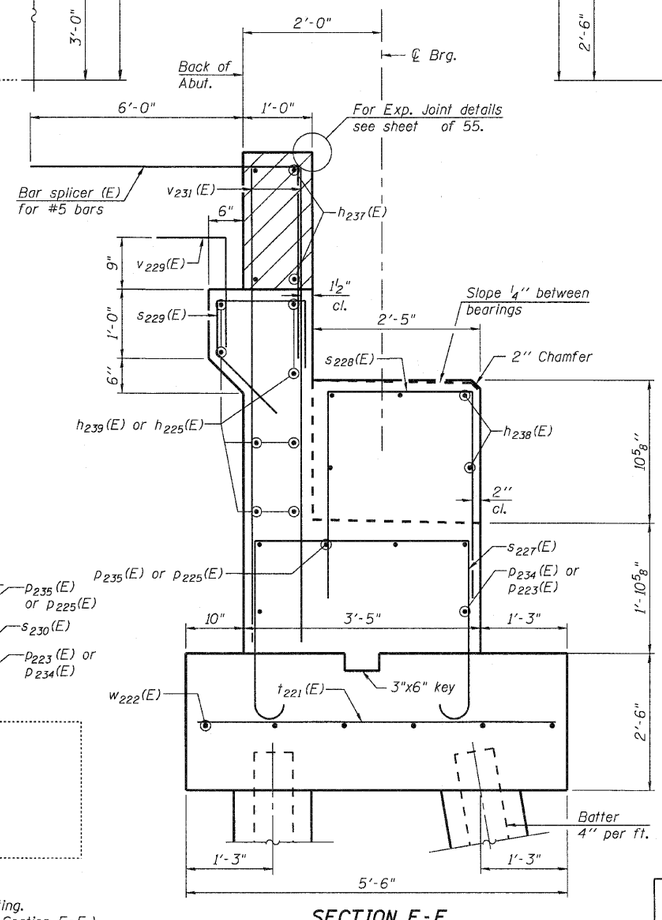


SECTION THRU EXISTING ABUT.



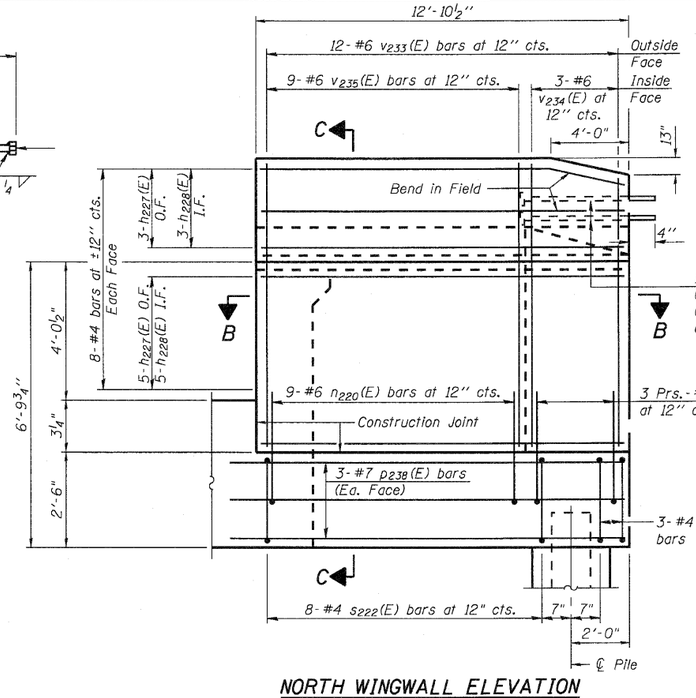
SECTION F-F

(Showing s_{230}(E) bars at existing footing. All reinforcement above s_{230}(E) bars same as Section E-E.)



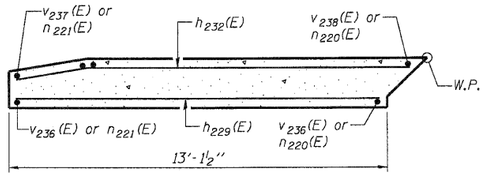
SECTION E-E

Work this Sheet with Sheets 39 and 40 of 55.

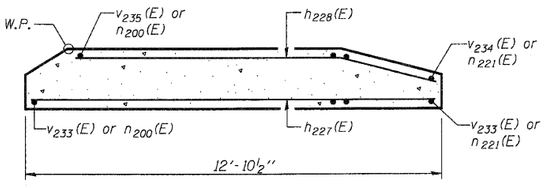


NORTH WINGWALL ELEVATION

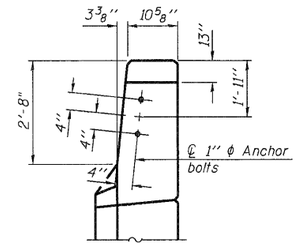
Showing reinforcement and dimensions



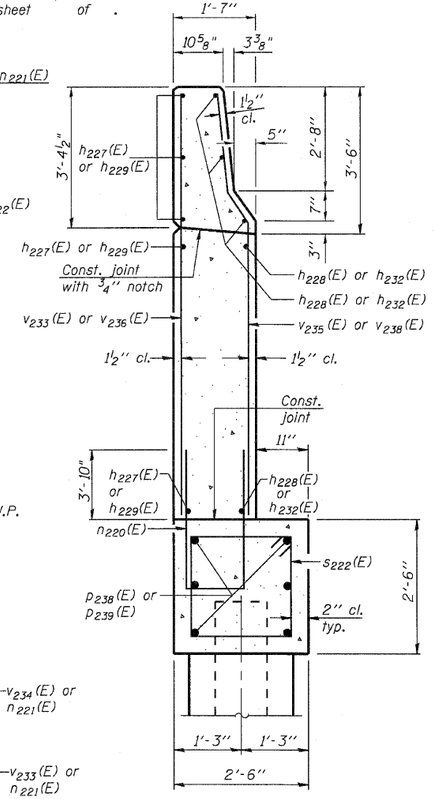
SECTION D-D



SECTION B-B



VIEW A-A



SECTION C-C

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

Quantity of concrete in end post included with Concrete Superstructure on sheet - of 55.

For Concrete Encasement details, see sheet - of 55.

WEST ABUTMENT
WEST BOUND STRUCTURE
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

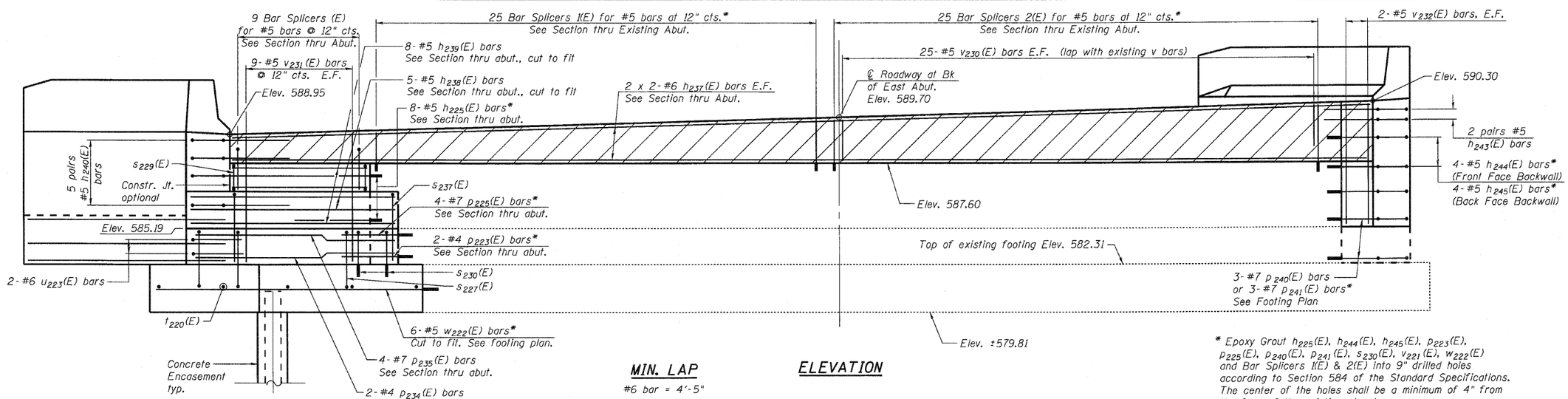
SHEET NO. 41
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	227
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-3018-0019-64815-041-wb-west-cout-det.dgn
PLOT SCALE = 0.012597 '/ IN.
USER NAME = CFC.

A-1-D

11-1-09

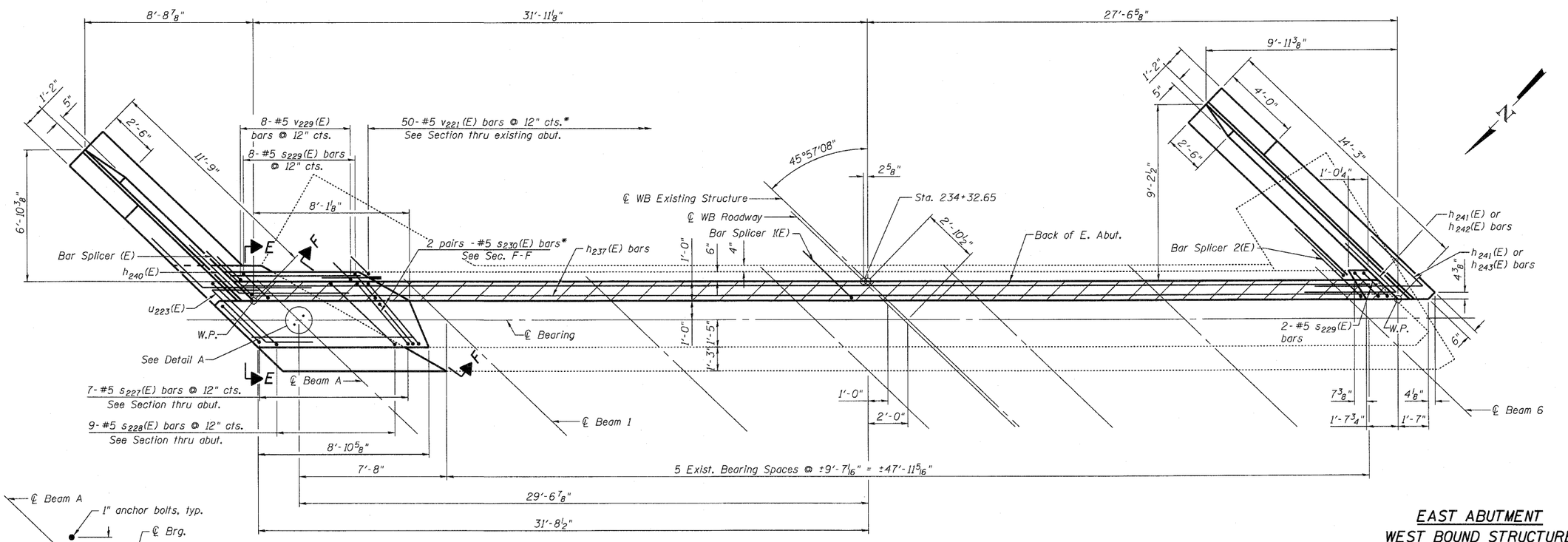


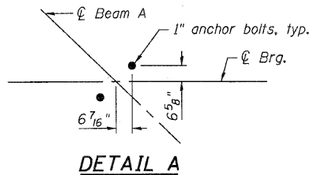
MIN. LAP

#6 bar = 4'-5"

ELEVATION

* Epoxy Grout $h_{225}(E)$, $h_{244}(E)$, $h_{245}(E)$, $p_{223}(E)$, $p_{225}(E)$, $p_{240}(E)$, $p_{241}(E)$, $s_{230}(E)$, $v_{221}(E)$, $w_{222}(E)$ and Bar Splicers 1(E) & 2(E) into 9" drilled holes according to Section 584 of the Standard Specifications. The center of the holes shall be a minimum of 4" from the face of the existing structure.





DETAIL A

PLAN

EAST ABUTMENT
WEST BOUND STRUCTURE
STRUCTURE NO. 081-0019 (WB)

Work this Sheet with Sheets 43 and 44 of 55.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

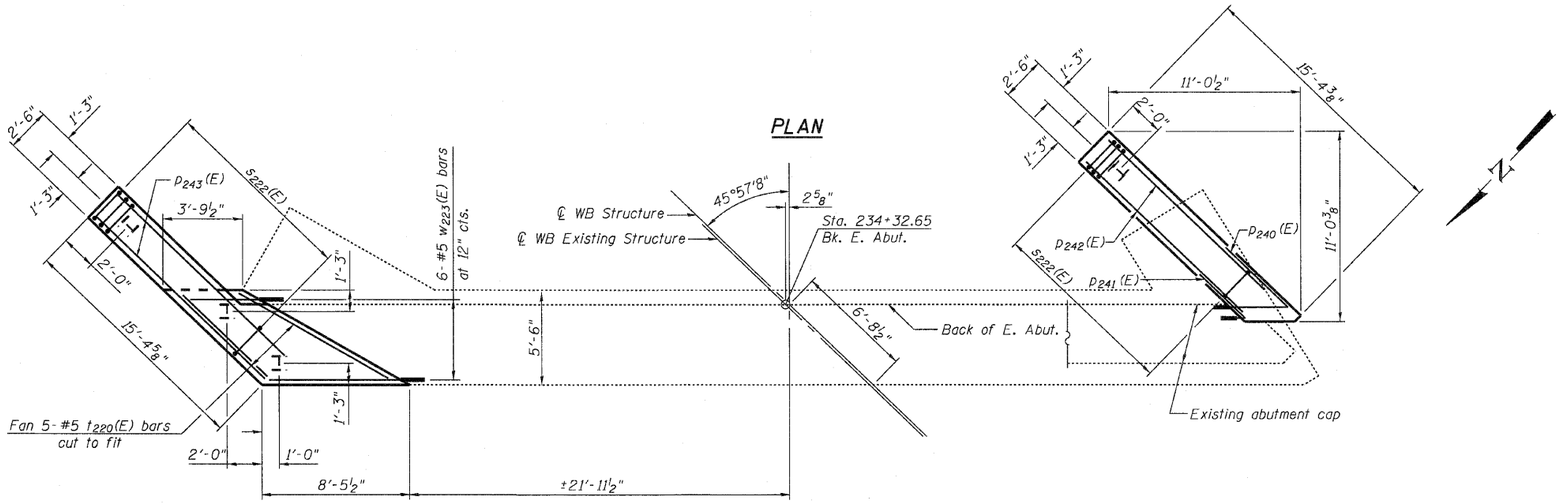
PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	TFG
CHECKED BY	MCB

SHEET NO. 42
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	228
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-042-wb-east-abut.dgn
PLOT SCALE = 268.342353 '/ IN.
USER NAME = CTC.

PLAN



PILE DATA

Type: Steel HP 10x42
Nominal Required Bearing: 335 k
Allowable Resistance Available: 111 k
Est. Length: 39' (42' wingwalls)
Number of Production Piles: 4
Number of Test Piles: 0

FOOTING PLAN

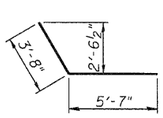
Bar	A	B	C
h243(E)	5'-7"	3'-8"	2'-6 1/2"
h244(E)	2'-9"	3'-8"	2'-6 1/2"
h245(E)	4'-1"	3'-8"	2'-6 1/2"

BILL OF MATERIAL

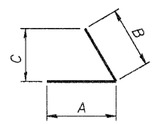
Bar	No.	Size	Length	Shape
h225(E)	8	#5	4'-5"	
h228(E)	8	#4	11'-5"	
h232(E)	10	#4	13'-11"	
h235(E)	10	#4	15'-0"	
h236(E)	8	#4	10'-4"	
h237(E)	8	#6	31'-10"	
h238(E)	5	#5	9'-11"	
h239(E)	8	#5	7'-8"	
h240(E)	10	#5	9'-3"	
h243(E)	4	#5	9'-3"	
h244(E)	4	#5	6'-5"	
h245(E)	4	#5	7'-9"	
n220(E)	21	#6	11'-6"	
n221(E)	12	#6	5'-9"	
p223(E)	2	#4	5'-4"	
p225(E)	4	#7	8'-3"	
p234(E)	2	#4	8'-6"	
p235(E)	4	#7	8'-6	
p240(E)	3	#7	12'-4"	
p241(E)	3	#7	7'-2"	
p242(E)	6	#7	12'-11"	
p243(E)	6	#7	13'-3"	
s222(E)	25	#4	9'-5"	
s227(E)	7	#5	12'-2"	
s228(E)	9	#5	7'-8"	
s229(E)	10	#5	5'-2"	
s230(E)	4	#5	6'-5"	
t220(E)	5	#5	10'-1"	
u223(E)	2	#6	13'-2"	
v221(E)	50	#5	4'-1"	
v229(E)	8	#5	4'-6"	
v230(E)	50	#5	1'-8"	
v231(E)	18	#5	6'-4"	
v232(E)	4	#5	7'-3"	
v233(E)	11	#6	7'-10"	
v234(E)	3	#6	6'-8"	
v235(E)	8	#6	7'-7"	
v236(E)	16	#6	9'-0"	
v237(E)	3	#6	7'-11"	
v238(E)	13	#6	8'-8"	
w223(E)	6	#5	8'-11"	

Reinforcement Bars, Epoxy Coated	Pound	3810
Concrete Structures	Cu. Yd.	20.8
Bar Splicers	Each	59
Furnishing Steel Piles HP 10x42	Feet	162
Driving Piles	Feet	162
Structure Excavation	Cu. Yd.	109
Concrete Encasement	Cu. Yd.	1.4
Concrete Sealer	Sq. Ft.	206.5

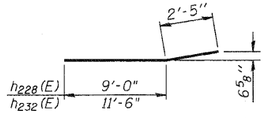
For details of Bar Splicers, see Sheet 48 of 55.
For details of Concrete Encasement, see Sheet 47 of 55.
Concrete sealer shall be applied to the exposed surfaces of the abutment cap and backwall.



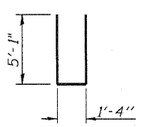
BAR h240(E)



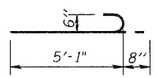
BAR h243(E), h244(E) or h245(E)



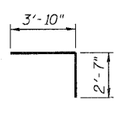
BAR h228(E) or h232(E)



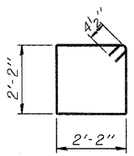
BAR n220(E)



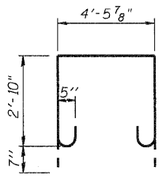
BAR n221(E)



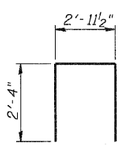
BAR s230(E)



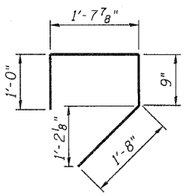
BARS s222(E)



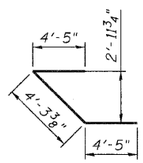
BAR s227(E)



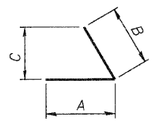
BAR s228(E)



BAR s229(E)

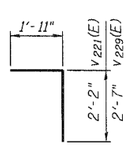


BAR u223(E)

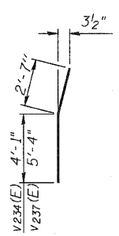


BAR D240(E) or D241(E)

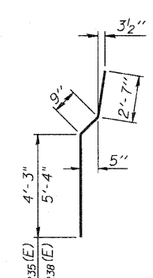
Bar	A	B	C
D241(E)	1'-4"	5'-10"	4'-0 5/8"
D240(E)	4'-2"	8'-2"	5'-8 5/8"



BAR v221(E) or v229(E)



BAR v234(E) or v237(E)



BAR v235(E) or v238(E)

EAST ABUTMENT
WEST BOUND STRUCTURE
STRUCTURE NO. 081-0019 (WB)

Work this Sheet with Sheets 42 and 44 of 55.

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 43
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	229
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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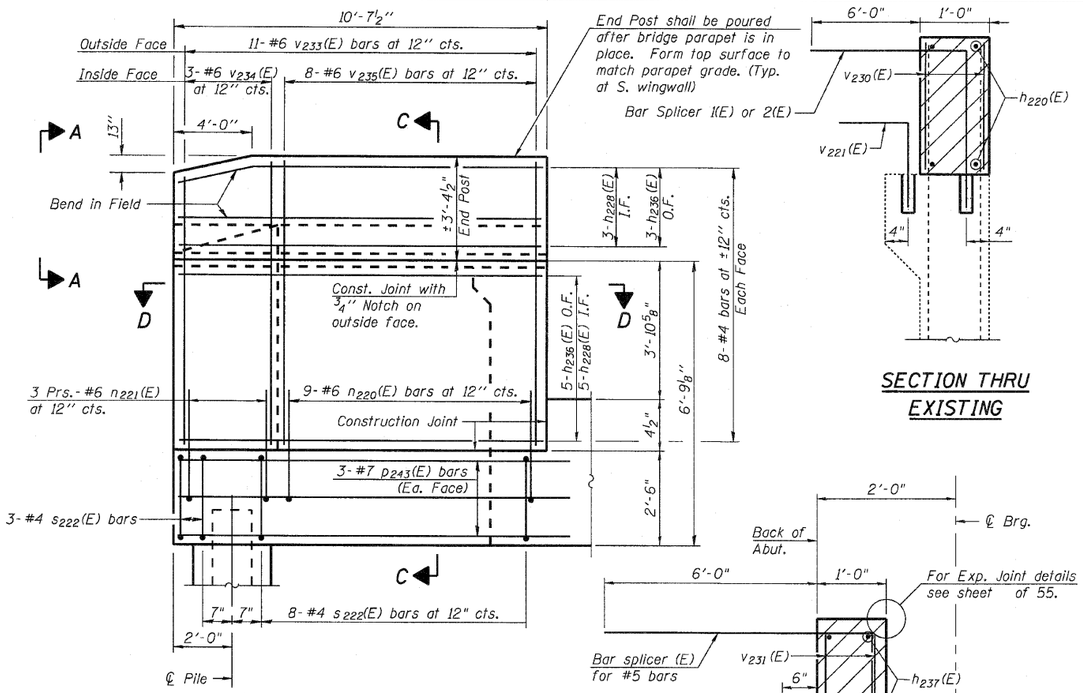
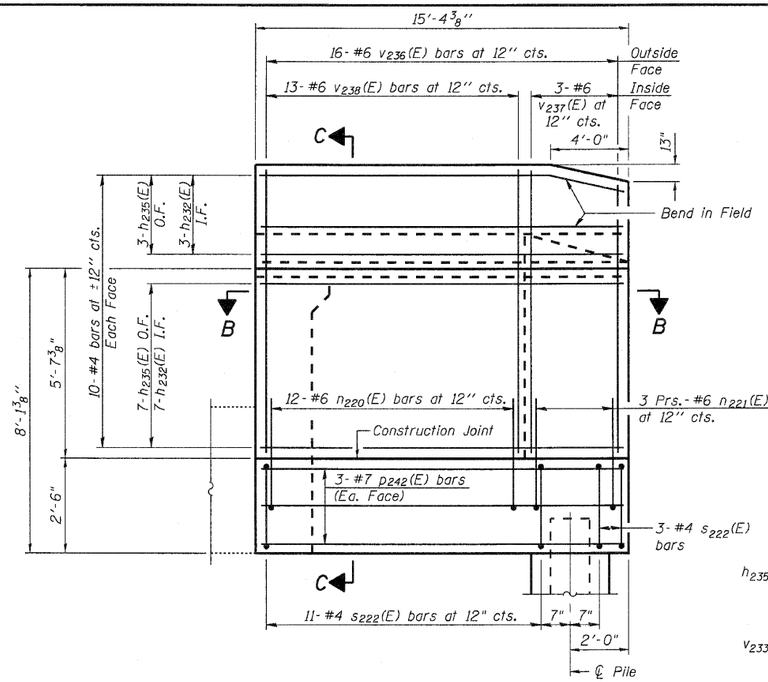
PLOT SCALE = 40.411059 '= / IN.
USER NAME = DFC.



NORTH WINGWALL ELEVATION

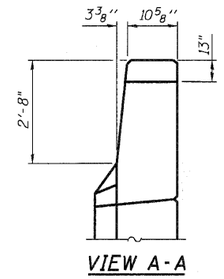
Showing reinforcement and dimensions

SECTION THRU EXISTING

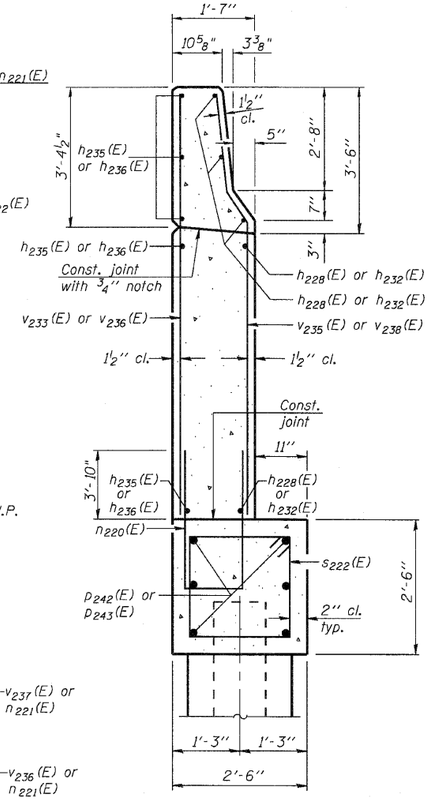


SOUTH WINGWALL ELEVATION

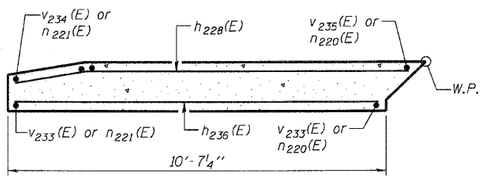
Showing reinforcement and dimensions



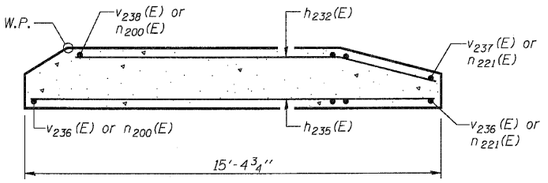
VIEW A-A



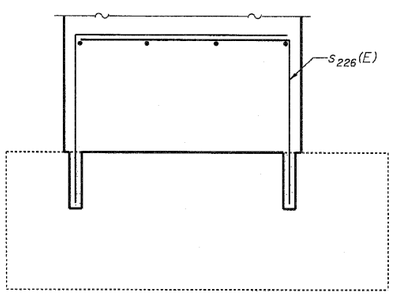
SECTION C-C



SECTION D-D

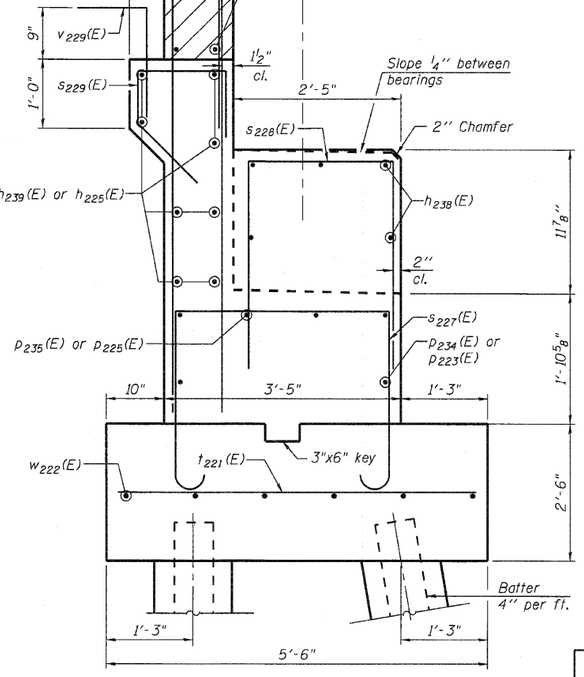


SECTION B-B



SECTION F-F

(Showing $s_{226}(E)$ bars at existing footing.
All reinforcement above $s_{226}(E)$ bars same as Section E-E.)



SECTION E-E

Notes:

Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.

Space reinforcement in cap to miss anchor bolts.

Pour steps monolithically with cap.

Quantity of concrete in end post included with Concrete Superstructure on sheet 17 of 55.

For Concrete Encasement details, see sheet 47 of 55.

EAST ABUTMENT
WEST BOUND STRUCTURE
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 44
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	230
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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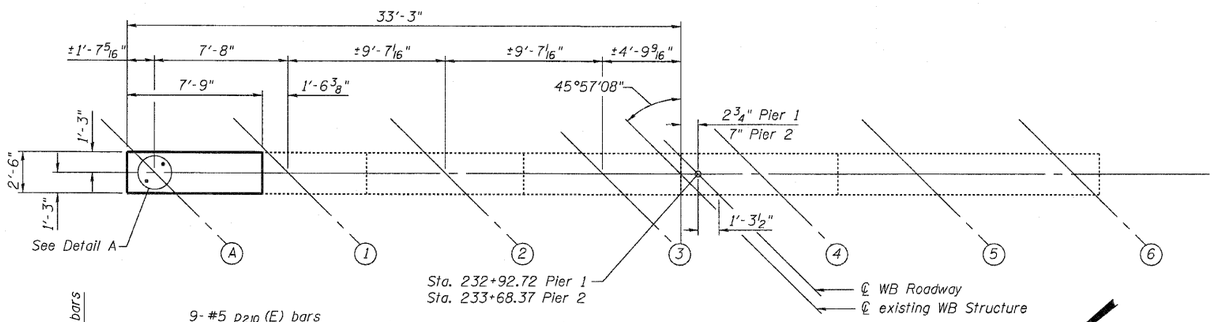
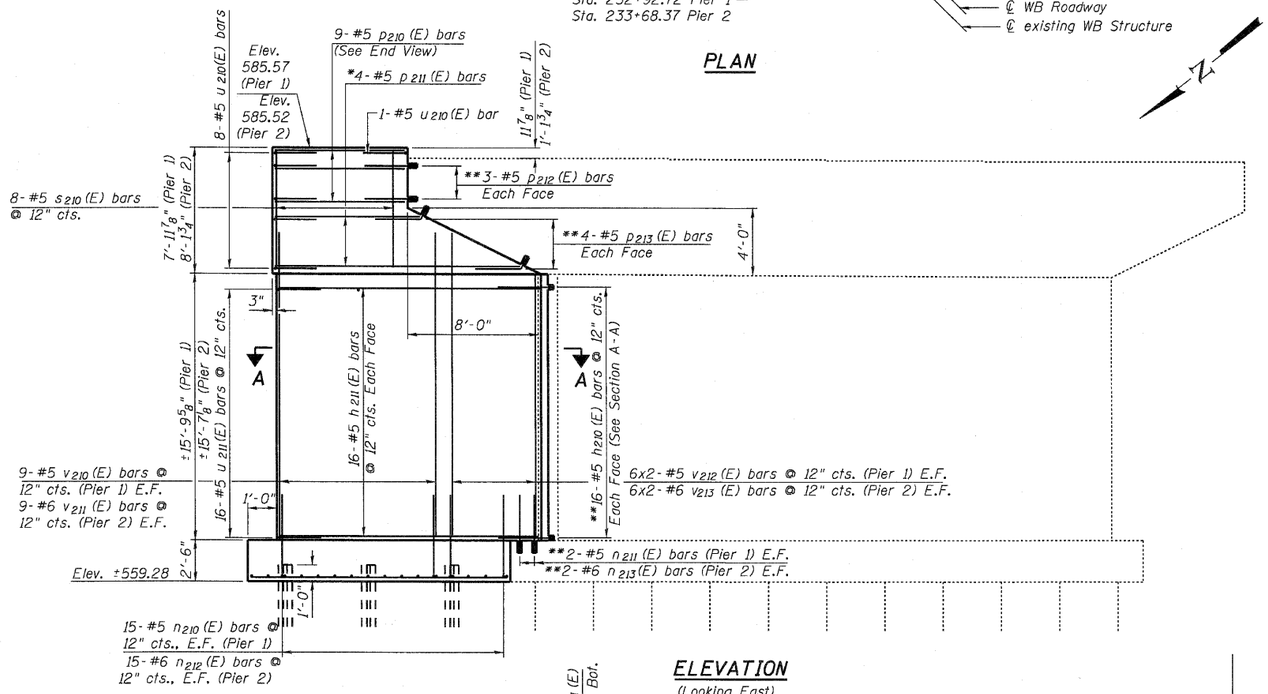
PLOT SCALE = 0.029391 '/ IN.
USER NAME = OTC



PLAN



ELEVATION

(Looking East)

PILE DATA

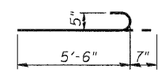
Type: Steel HP 10 x 42
Nominal Required Bearing : 335 k
Allowable Resistance Avaiable : 111 k
Est. Length : 19 ft. (Pier 1)
22 ft. (Pier 2)
No. Production Piles = 6 (Per 1)
6 (Per 2)
No. of Test Piles = 0

FOOTING PLAN

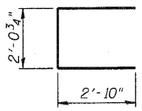
Note: B Denotes battered pile location

NOTES

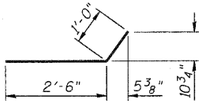
Space reinforcement in cap to miss anchor bolts.
All construction joints between new construction and existing concrete shall be Bonded Construction Joints.
All edges shall have 3/4" chamfers except as noted.



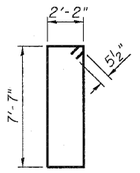
BAR n210 (E)



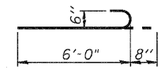
BAR u210 (E)



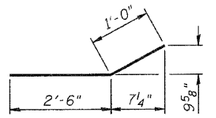
BAR p213 (E)



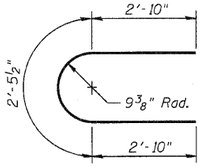
BAR s210(E)



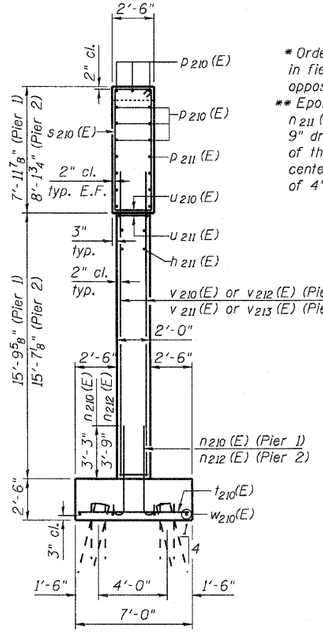
BAR n212 (E)



BAR h210 (E)



BAR u211 (E)



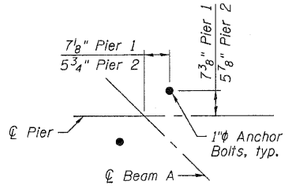
END VIEW

* Order p211 (E) bars Full Length cut in field to fit. Use remainder in opposite Face.

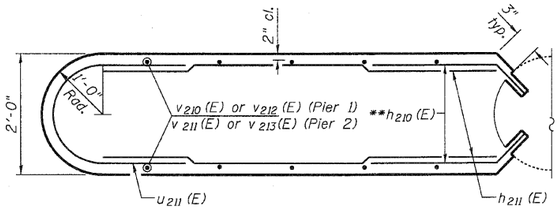
** Epoxy Grout p212(E), p213(E), h210(E), n211 (E), n213(E) and w211 (E) bars into 9" drilled holes according to Section 584 of the Standard Specifications. The center of the holes shall be a minimum of 4" from the face of the existing structure.

MIN. LAP

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



DETAIL A



SECTION A-A

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h210 (E)	64	#5	3'-6"	
h211 (E)	64	#5	14'-3"	
n210 (E)	30	#5	6'-1"	
n211 (E)	4	#5	4'-0"	
n212 (E)	30	#6	6'-8"	
n213 (E)	4	#6	4'-6"	
p210 (E)	18	#5	7'-5"	
p211 (E)	8	#5	22'-10"	
p212 (E)	12	#5	3'-5"	
p213 (E)	16	#5	3'-6"	
s210 (E)	16	#5	20'-5"	
t210 (E)	32	#7	6'-8"	
u210 (E)	18	#5	7'-9"	
u211 (E)	32	#5	8'-2"	
v210 (E)	18	#5	17'-9"	
v211 (E)	18	#6	18'-0"	
v212 (E)	24	#5	10'-1"	
v213 (E)	24	#6	10'-7"	
w210 (E)	16	#5	14'-8"	
w211 (E)	16	#5	3'-5"	
Structure Excavation		Cu. Yd.	105	
Concrete Structures		Cu. Yd.	70.0	
Reinforcement Bars, Epoxy Coated		Pound	5100	
Furnishing Steel Piles, HP 10x42		Foot	246	
Driving Piles		Foot	246	

PIERS 1 & 2
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	6/4/2010
DESIGN BY	BD/MCB
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 45
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	231
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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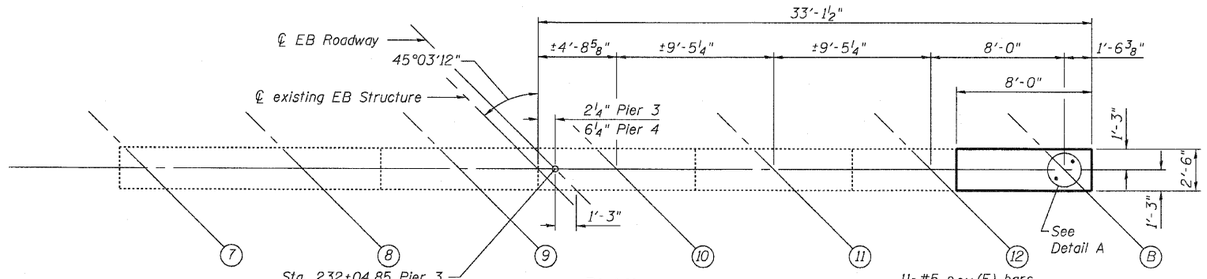
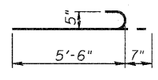
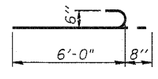
PLOT SCALE = 0.4026397 '= 1 IN.
USER NAME = OFC.



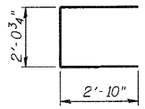
PLAN



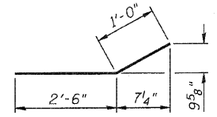
BAR n_{210} (E)



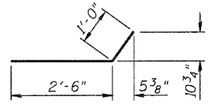
BAR n_{212} (E)



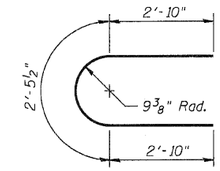
BAR u_{210} (E)



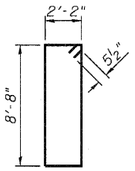
BAR h_{210} (E)



BAR p_{213} (E)



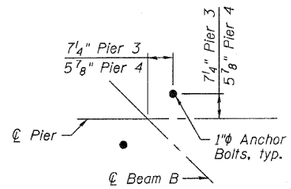
BAR u_{211} (E)



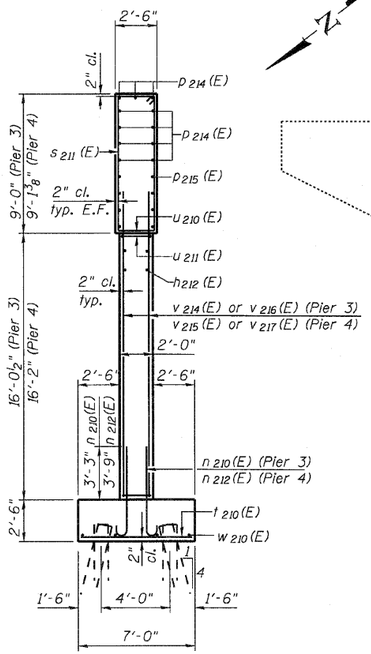
BAR s_{211} (E)

MIN. LAP

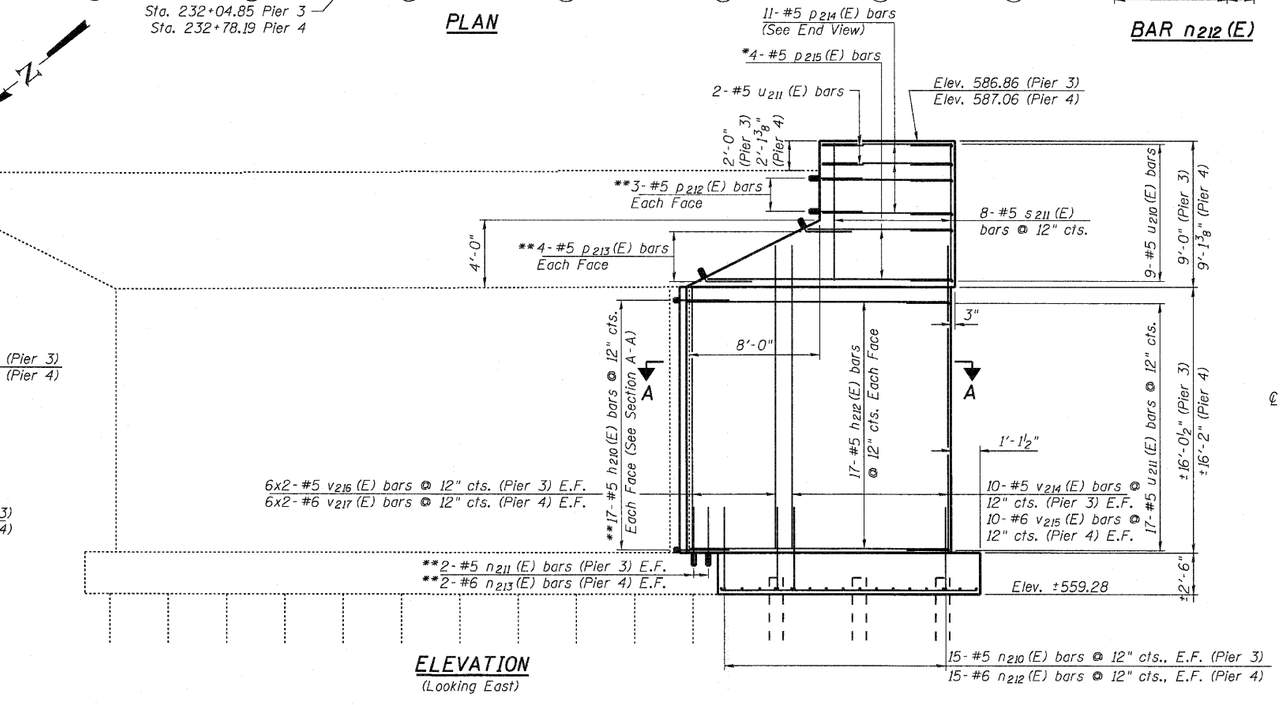
#5 bar = 2'-7"
#6 bar = 3'-1"



DETAIL A



END VIEW



ELEVATION

(Looking East)

* Order p_{215} (E) bars Full Length. Cut in field to fit. Use remainder in opposite Face.

** Epoxy Grout p_{212} (E), p_{213} (E), h_{210} (E), n_{211} (E), n_{213} (E) and w_{211} (E) bars into 9" drilled holes according to Section 584 of the Standard Specifications. The center of the holes shall be a minimum of 4" from the face of the existing structure.

BILL OF MATERIAL

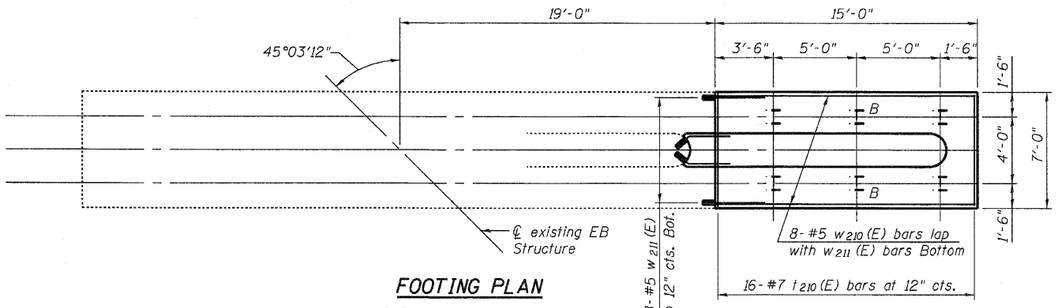
Bar	No.	Size	Length	Shape
h_{210} (E)	68	#5	3'-6"	
h_{212} (E)	68	#5	14'-7"	
n_{210} (E)	30	#5	6'-1"	
n_{211} (E)	4	#5	4'-0"	
n_{212} (E)	30	#6	6'-8"	
n_{213} (E)	4	#6	4'-6"	
p_{212} (E)	12	#5	3'-5"	
p_{213} (E)	16	#5	3'-6"	
p_{214} (E)	22	#5	7'-8"	
p_{215} (E)	8	#5	23'-4"	
s_{211} (E)	16	#5	22'-7"	
t_{210} (E)	32	#7	6'-8"	
u_{210} (E)	22	#5	7'-9"	
u_{211} (E)	34	#5	8'-2"	
v_{214} (E)	20	#5	17'-10"	
v_{215} (E)	20	#6	18'-4"	
v_{216} (E)	24	#5	10'-3"	
v_{217} (E)	24	#6	10'-9"	
w_{210} (E)	16	#5	14'-8"	
w_{211} (E)	16	#5	3'-5"	
Structure Excavation		Cu. Yd.	119	
Concrete Structures		Cu. Yd.	73.4	
Reinforcement Bars, Epoxy Coated		Pound	5440	
Furnishing Steel Piles, HP 10x42		Foot	216	
Driving Piles		Foot	216	

PILE DATA

Type: Steel HP 10 x 42
Nominal Required Bearing : 335 k
Allowable Resistance Avaiable : 111 k
Est. Length : 17 ft. (Pier 3)
19 ft. (Pier 4)
No. Production Piles = 6 (Pier 3)
6 (Pier 4)
No. of Test Piles = 0

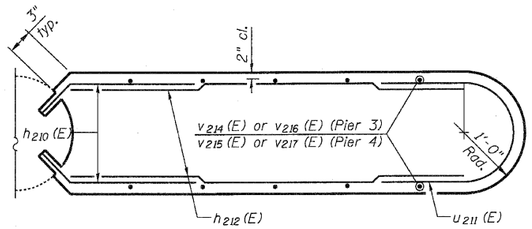
NOTES

Space reinforcement in cap to miss anchor bolts.
All construction joints between new construction and existing concrete shall be Bonded Construction Joints.
All edges shall have ¾" chamfers except as noted.



FOOTING PLAN

Note: B Denotes Battered Pile Location



SECTION A-A

PIERS 3 & 4
STRUCTURE NO. 081-0018 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 46
55 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	232
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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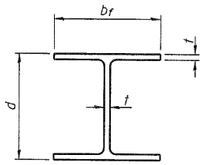
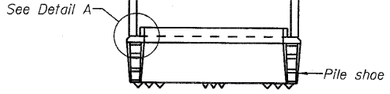
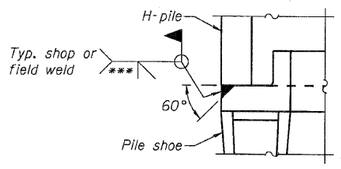


STEEL PILE TABLE

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"

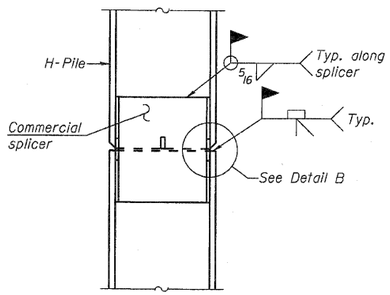


ELEVATION

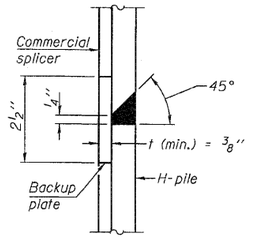


DETAIL A

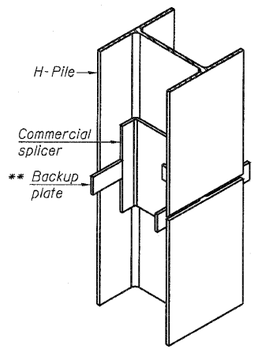
H-PILE SHOE ATTACHMENT



ELEVATION

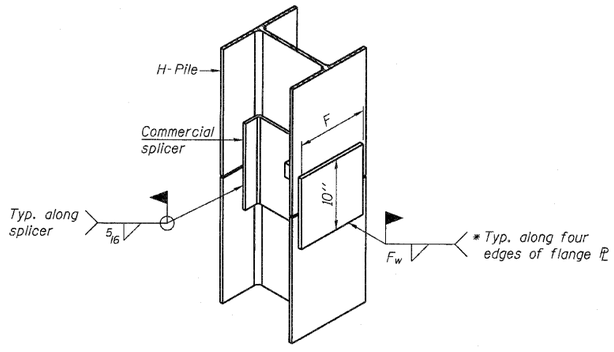


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



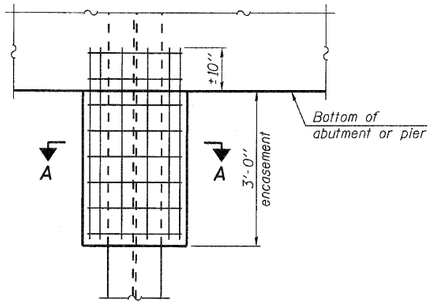
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

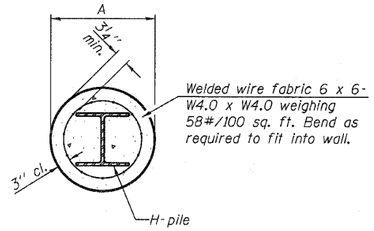
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



ELEVATION



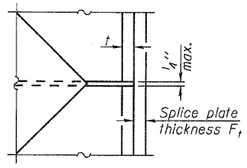
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

PILE ENCASEMENT

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

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

HP PILE DETAILS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	4/15/10
DESIGN BY	BD/MCB
DRAWN BY	TFG
CHECKED BY	MCB

SHEET NO. 47
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	233
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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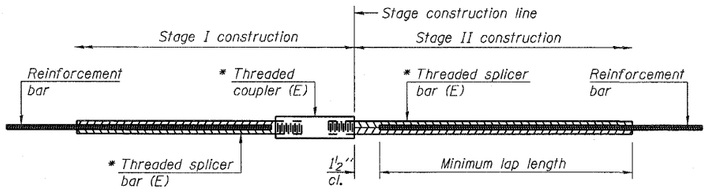
USER NAME = CFC.

F-HP

11-1-09



STANDARD BAR SPLICER ASSEMBLY

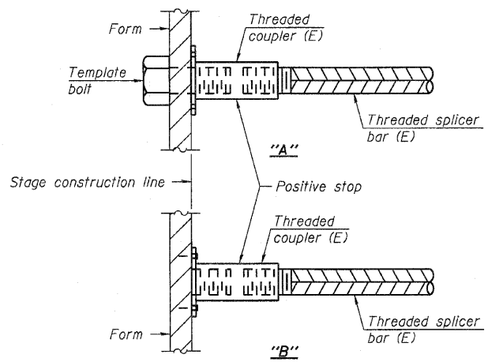
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

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

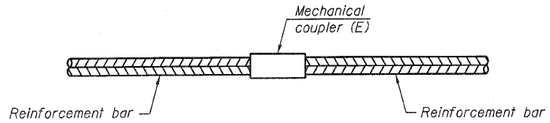
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



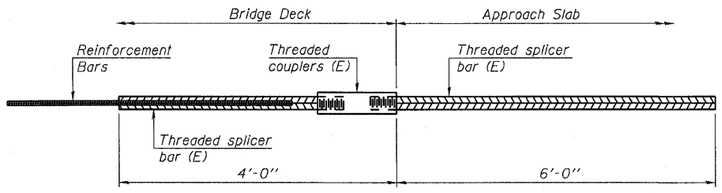
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



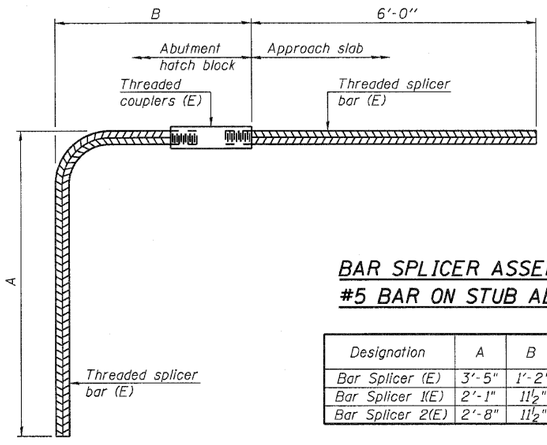
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

Designation	A	B	No. Required
Bar Splicer (E)	3'-5"	1'-2"	31
Bar Splicer 1(E)	2'-1"	11½"	100
Bar Splicer 2(E)	2'-8"	11½"	100

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 special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 081-0018 (EB) STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 48
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	234
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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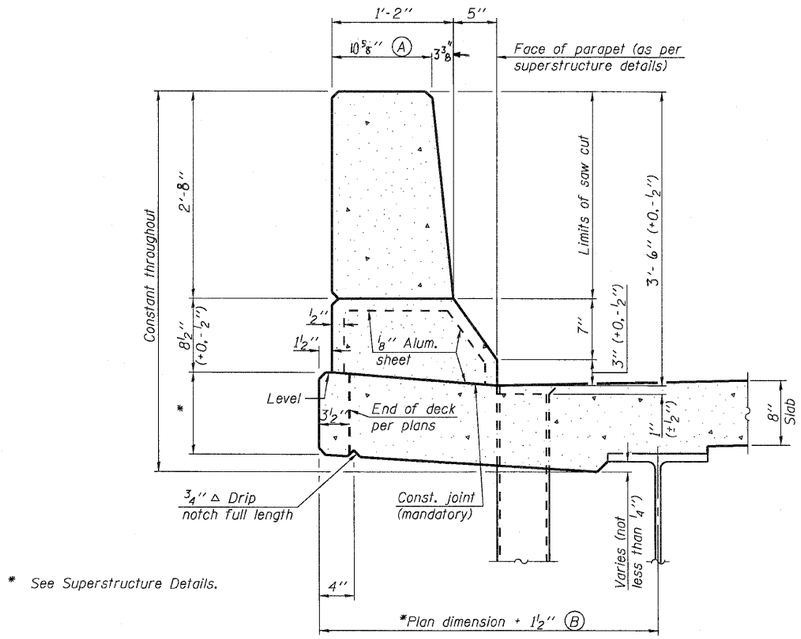
USER NAME = CFC_

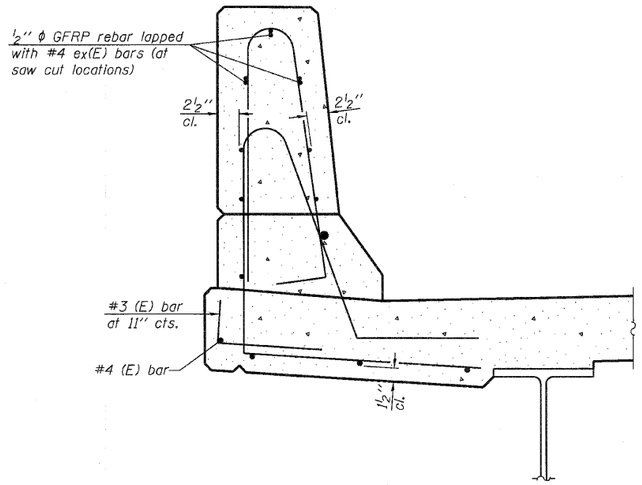
BSD-1

11-1-09

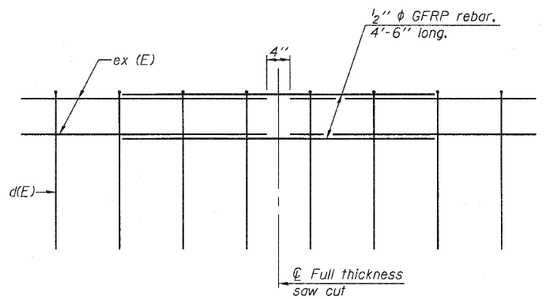


* See Superstructure Details.

SECTION
(Showing dimensions)



SECTION
(Showing reinforcement clearances for slip forming and additional reinforcement bars)



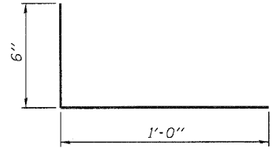
GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section at each parapet joint location.)

GENERAL NOTES

All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. of parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.



#3 (E) BAR

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY BD/MCB
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 49
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	235
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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USER NAME = DTC.

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/17/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 234+12
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 552.0 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Ground 571.50
				LOOSE tan fine SILTY SAND 569.50
				Through Bridge Deck
-5				
-10				
-15				
-20				
-25				
-30				
-35				
-40				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	1 1 4			LOOSE tan fine SAND 568.00
	3 6 11			MEDIUM tan fine SAND 565.00
	4 5 5	2.3 P	21	VERY STIFF gray SILTY LOAM 563.00
	3 6 5	1.9 S	21	STIFF olive-green SILTY LOAM wet p.c.f. - 137 560.50
	1 2 5	1.4 S	34	STIFF black LOAM with ORGANICS wet p.c.f. - 113 558.00
	1 4 5	2.5 B	22	VERY STIFF gray SILTY CLAY wet p.c.f. - 130 555.50
	1 3 4	1.5 B	31	STIFF gray SILTY CLAY LOAM wet p.c.f. - 120 552.50 ▼
	7 15 21			DENSE tan dirty SAND & GRAVEL 550.00

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/17/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 234+12
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.5 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 552.0 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				DENSE gray weathered SHALE 548.00
	12 17 21			VERY DENSE gray SHALE 545.50
	16 31 38			VERY DENSE gray SHALE 543.00
	15 31 28			VERY DENSE gray SHALE 541.00
	100/8"			Borehole continued with rock coring.
-45				
-50				
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 8/17/05

ROUTE I-280 DESCRIPTION 92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD _____

CORING BARREL TYPE & SIZE _____

STRUCT. NO. _____
Station _____

BORING NO. B-1
Station 234+12
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.5 ft

Core Diameter 1.5 in
Top of Rock Elev. 550.00 ft
Begin Core Elev. 541.00 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	
	1	100	88	2.4		Shale: light gray, laminated and flaky with alternating hard and soft banded layers - no testable segments of reliable integrity. 536.00
-50						
	2	50	0	2.6		As above: severe fragmentation throughout. It's probable that lower half was soft sandstone washed out during coring. 531.00
-55						
	3	80	0	1		Sandstone: speckled white and gray, soft, porous and fragile. 526.00
-60						
-65						End of Boring

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)
BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-050-boringe-1.dgn
PLOT SCALE = 1.000000 ' / IN.
USER NAME = CFC.

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 50
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	236
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/22/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-2
Station 232+98
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 561.3 ft ▼
Upon Completion _____ ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				LOOSE gray fine medium SAND
	14 3 5			
577.30				
				LOOSE gray fine SAND
	2 3 4			
574.30				
				STIFF tan SILT with fine SAND
	1 6 5	1.1 P	19	
572.30				
				STIFF gray SILTY CLAY wet p.c.f. - 150
	5 5 6	2.0 B	20	
569.80				
				STIFF black LOAM
	1 3 4	1.3 P	33	
567.30				
				STIFF gray SILTY CLAY
	1 2 4	1.0 P	19	
564.80				
				STIFF gray SILTY CLAY LOAM with SAND lens wet p.c.f. - 133
	1 1 3	1.0 B	22	
561.80				
				MEDIUM light brown dirty SAND & GRAVEL
	4 9 7			
559.30				

Through Bridge Deck

Ground 579.60

REVISED 9-30-07 EEC

Revised GROUND SURFACE ELEVATION to 589.8 ft.

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/22/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-2
Station 232+98
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 561.3 ft ▼
Upon Completion _____ ft
After ____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	100/8			VERY DENSE light gray SANDSTONE
557.80				Borehole continued with rock coring.

REVISED 9-30-07 EEC

Revised GROUND SURFACE ELEVATION to 589.8 ft.

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 8/22/05

ROUTE I-280 DESCRIPTION 92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD _____

STRUCT. NO. _____
Station _____

CORING BARREL TYPE & SIZE _____
Core Diameter 1.5 in
Top of Rock Elev. 558.80 ft
Begin Core Elev. 557.80 ft

BORING NO. B-2
Station 232+98
Offset 12.00ft Lt WB CL
Ground Surface Elev. 589.8 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	
	1	80	8	2.8		Shale: light grey, soft and soapy, tending towards mudstone.
552.80						
	2	100	28	3.2		As above: with alternating hard and soft layers of less than 1/8 inch thicknesses.
547.80						
	3	0	0	2.2		No recovery: presumably soft sandstone washed out under water pressure.
542.80						
						End of Boring

REVISED 9-30-07 EEC

Revised GROUND SURFACE ELEVATION to 589.8 ft.

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-051-borings-2.dgn
PLOT SCALE = 0.025397 1" = IN.
USER NAME = CFC

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 51
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	237
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/26/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ____
Station ____

BORING NO. B-3
Station 231+90
Offset 13.00ft Rt EB CL
Ground Surface Elev. 589.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 552.3 ft ▼
Upon Completion ____ ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Through Bridge Deck			
-5			
-10			
-15			
Ground 569.80 -20			
VERY LOOSE tan fine SAND 568.30	1 1 2		
MEDIUM tan fine SAND 565.30 -25	3 7 8		
STIFF tan SANDY LOAM 563.30	8 9 9	2.0 P	18
MEDIUM gray SILTY LOAM wet p.c.f. - 143 560.80 -30	3 4 5	0.6 S	21
MEDIUM dark gray LOAM wet p.c.f. - 121 558.30	1 2 3	0.7 B	13
MEDIUM gray SILTY LOAM wet p.c.f. - 129 555.80 -35	1 1 3	0.7 B	23
MEDIUM tan SILTY CLAY LOAM with moist SAND lens wet p.c.f. - 121 552.80 ▼	1 1 1	0.5 B	28
DENSE tan SAND & GRAVEL 550.30 -40	5 14 23		

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/26/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ____
Station ____

BORING NO. B-3
Station 231+90
Offset 13.00ft Rt EB CL
Ground Surface Elev. 589.8 ft

Surface Water Elev. N/A ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter 552.3 ft ▼
Upon Completion ____ ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY DENSE gray weathered SHALE 548.30	11 22 43		
VERY DENSE gray SHALE 546.30	100/7"		
Borehole continued with rock coring. -45			
-50			
-55			
-60			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 8/26/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD ____

STRUCT. NO. ____
Station ____

CORING BARREL TYPE & SIZE ____
Core Diameter 1.5 in
Top of Rock Elev. 550.30 ft
Begin Core Elev. 546.30 ft

BORING NO. B-3
Station 231+90
Offset 13.00ft Rt EB CL
Ground Surface Elev. 589.8 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: light gray, soft and soapy, tending towards mudstone. -45	1	95	33	3.2	
541.30					
As above to 535.9, then transitions to . . . Sandstone: banded gray and white turning to buff white, fragile, soft and porous and fine grained with no testable segments due to fragility. -50	2	95	10	1.8	
536.30					
Sandstone: As above T.S.P.: 534.9 to 534.5 -55	3	95	47	1.2	324
531.30					
End of Boring -60					

Color pictures of the cores ____
Cores will be stored for examination until ____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-052-borings-3.dgn
PLOT SCALE = 0ú1.025397 '=' / IN.
USER NAME = CFC

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 52
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	238
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/29/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-4
Station 232+95
Offset 13.00ft Rt CL EB
Ground Surface Elev. 589.6 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 552.1 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Through Bridge Deck			
571.60			
Ground			
-10			
-15			
-20			
LOOSE tan fine SAND	2 2 4		
567.60			
STIFF tan/brown SANDY LOAM	2 4 5	2.0 P	19
565.60			
-25			
STIFF gray SILTY CLAY LOAM	1 2 3	1.8 P	21
563.10			
STIFF gray SILTY CLAY LOAM wet p.c.f. - 131	2 4 4	1.7 B	23
560.60			
-30			
STIFF dark gray LOAM	1 3 4	1.5 P	30
558.10			
STIFF gray SILTY CLAY LOAM	1 3 4	1.4 P	28
555.60			
-35			
MEDIUM gray SILTY CLAY LOAM wet p.c.f. - 118	1 2 3	0.6 B	29
552.60			
DENSE tan SAND & GRAVEL	2 12 27		
550.10			
-40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 8/29/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-4
Station 232+95
Offset 13.00ft Rt CL EB
Ground Surface Elev. 589.6 ft

Surface Water Elev. N/A ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 552.1 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY DENSE gray SHALE	35 100/10"		
548.10			
Borehole continued with rock coring.			
-45			
-50			
-55			
-60			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 8/29/05

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD _____

STRUCT. NO. _____
Station _____

CORING BARREL TYPE & SIZE _____

BORING NO. B-4
Station 232+95
Offset 13.00ft Rt CL EB
Ground Surface Elev. 589.6 ft

Core Diameter 1.5 in
Top of Rock Elev. 550.10 ft
Begin Core Elev. 548.10 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: light gray, tending to mudstone, though occasionally laminated.	1	96	0	3	
543.10					
-45					
Shale: as above.	2	70	0	2.8	
538.10					
-50					
Shale: as above.	3	100	0	3	
533.10					
-55					
End of Boring					
-60					

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-053-borings-4.dgn
PLOT SCALE = 0.1000 '/ IN.
USER NAME = CFC

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 53
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	239
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 1/10/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ____
Station ____

BORING NO. B-5
Station 231+70
Offset ft CL
Ground Surface Elev. 588.8 ft

Surface Water Elev. ____ ft
Stream Bed Elev. 569.0 ft

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

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
DRY light brown SILTY LOAM			8	MEDIUM tan fine SAND	4 11 11		
586.30				566.80			
STIFF light brown SANDY LOAM	12 11 9	1.1 P	9	STIFF gray SILTY LOAM	4 5 7	1.6 P	18
584.80 -5				564.30 -25			
STIFF gray SANDY LOAM	6 5 7	1.5 S	19	MEDIUM tan moist fine SAND	5 10 14		
582.30				561.80			
STIFF gray SILTY LOAM	7 6 7	1.7 S	17	SITFF gray/tan SILTY LOAM	3 4 5	1.1 B	25
579.80 -10				559.80 -30			
STIFF gray LOAM with SAND lens	3 5 10	1.7 B	17	STIFF dark gray LOAM	1 3 4	1.3 P	24
576.80				557.30			
MEDIUM tan fine SAND	8 10 16			STIFF gray SILTY CLAY LOAM	1 3 4	1.7 B	26
574.80 -15				554.80 -35			
MEDIUM tan fine SAND	7 11 15			STIFF gray SILTY CLAY LOAM	1 2 3	1.0 B	31
571.80				551.80			
STIFF gray/tan SILTY LOAM with fine SAND lens	5 6 10	1.9 S	17	VERY LOOSE brown dirty SAND & GRAVEL	2 2 2		
569.30 -20				549.30 -40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 1/10/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ____
Station ____

BORING NO. B-5
Station 231+70
Offset ft CL
Ground Surface Elev. 588.8 ft

Surface Water Elev. ____ ft
Stream Bed Elev. 569.0 ft

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

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM gray weathered SHALE	1 4 9		
547.30			
VERY DENSE gray SHALE with COAL lens	24 100/7"		
545.30			
Borehole continued with rock coring.			
-45			
-50			
-55			
-60			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 1/10/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD ____

STRUCT. NO. ____
Station ____

CORING BARREL TYPE & SIZE ____
Core Diameter 1.5 in
Top of Rock Elev. 549.30 ft
Begin Core Elev. 545.30 ft

BORING NO. B-5
Station 231+70
Offset ft CL
Ground Surface Elev. 588.8 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: light gray, flaky and laminated, tending to mudstone - no testable segments.	1	100	25	3	
-15					
540.30					
Shale: as above, but denser and tenacious - segment for compressive test fragmented when cutting.	2	100	70	2.2	
-50					
535.30					
Shale: as above to 533.5, then transitions to . . . Sandstone: white-buff, fine grained, porous and very soft and fragile - no testable segments.	3	100	21	1.8	
-55					
530.30					
End of Boring					
-60					

Color pictures of the cores ____
Cores will be stored for examination until ____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = c:\081-0018-0019-64815-054-borings-5.dgn
PLOT SCALE = 0.4029397 '=' / IN.
USER NAME = CFC

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 54
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	240
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 1/12/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-6
Station 234+26
Offset 1.00ft Lt CL
Ground Surface Elev. 588.6 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 569.0 ft

Groundwater Elev.:
First Encounter 551.1 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
			11	DRY light brown SILTY LOAM
586.10				
	9			MEDIUM tan fine SAND
	10			
584.10	9			
-5				
	8			VERY STIFF gray SILTY LOAM
	10	3.0		
581.60	13	P		
	9			DENSE tan fine SAND
	13			
579.60	18			
-10				
	9			MEDIUM tan fine SAND
	11			
577.10	18			
	10			MEDIUM tan fine SAND
	10			
574.60	15			
-15				
	9			MEDIUM tan fine SAND with SILT LOAM lens
	10			
572.10	13			
	9			MEDIUM tan fine SAND
	10			
569.60	11			
-20				
	6			MEDIUM tan fine SAND
	9			
566.60	11			
	4			STIFF gray SILTY LOAM
	5	1.8	22	
564.60	6	P		
-25				
	3			STIFF gray SILTY LOAM
	4	1.8	22	
562.10	7	P		
	3			MEDIUM gray/tan SILTY LOAM with fine SAND lens
	3	0.9	20	
559.60	4	P		
-30				
	1			STIFF dark gray LOAM
	5	1.6	29	
557.10	7	B		
	1			VERY STIFF gay SILTY CLAY LOAM
	3	2.1	26	
554.60	6	B		
-35				
	1			STIFF gray SILTY CLAY LOAM with weathered SHALE
	2	1.5	27	
551.60	6	B		
	18			MEDIUM brown dirty SAND & GRAVEL
	10			
549.10	9			
-40				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Date 1/12/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-6
Station 234+26
Offset 1.00ft Lt CL
Ground Surface Elev. 588.6 ft

Surface Water Elev. _____ ft
Stream Bed Elev. 569.0 ft

Groundwater Elev.:
First Encounter 551.1 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	10			DENSE gray SHALE
	16			
546.10	29			
				Borehole continued with rock coring.
-45				
-50				
-55				
-60				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Date 1/12/06

ROUTE I-280 DESCRIPTION P92-045-02 (c) I-280 over Iowa Interstate Railroad, .4 m. W. of US 67 LOGGED BY W. Garza

SECTION 81-1VB LOCATION Blackhawk Twp. - 23 SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD _____

STRUCT. NO. _____
Station _____

CORING BARREL TYPE & SIZE _____
Core Diameter 1.5 In
Top of Rock Elev. 549.10 ft
Begin Core Elev. 546.10 ft

BORING NO. B-6
Station 234+26
Offset 1.00ft Lt CL
Ground Surface Elev. 588.6 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Material
	1	35	0	5		Shale: light gray, soapy & flaky, tending to mudstone - no testable segments.
-45						
541.10						
	2	100	52	3.8		Shale: as above, severely laminated with no testable segments.
-50						
536.10						
	3	100	37	2.4		Shale: as above.
-55						
531.10						
-60						End of Boring

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0018-0019-64815-055-borings-6.dgn
PLOT SCALE = 0.029397 '=' / IN.
USER NAME = CFC

BORING LOGS
STRUCTURE NO. 081-0018 (EB)
STRUCTURE NO. 081-0019 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 6/4/2010
DESIGN BY
DRAWN BY CFC
CHECKED BY MCB

SHEET NO. 55
55 SHEETS

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (VB) R	ROCK ISLAND	503	241
		CONTRACT NO. 64815		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Benchmark: Steel plug in concrete ℄ median, Sta. 225+00, Elev. 579.00

Existing Structures: SN 081-0020 and SN 081-0021 originally built in 1964 as FAI 280, Section 81-1-HB1. Both structures were rehabilitated in 1989 by scarifing and overlaying the deck, traffic barrier upgrade, bearing replacement and expansion joint replacement as Section 81-1HBY-1. The existing structures consist of 3-span continous concrete beams with integral concrete deck supported on pile bent abutments and multiple column piers on spread footings. The structures are 156'-11" long back to back abutments and 35'-8" wide o. to o. deck. The existing structures are to be removed and replaced with wider structures. Traffic will be maintained using crossovers.

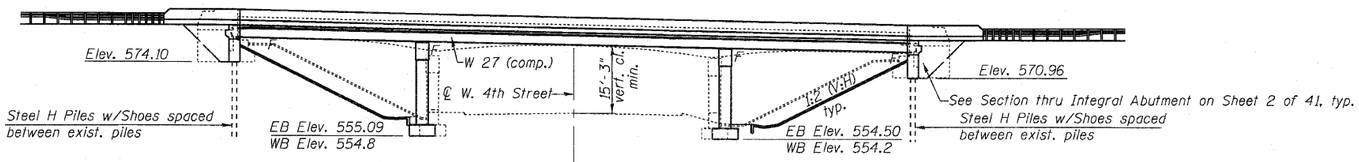
No Salvage.

STATION 241+67.32
BUILT BY
STATE OF ILLINOIS
F.A.I. RT. 280 SEC. 81-1(HB-1)
LOADING HS20 & ALT.
STRUCTURE NO. 081-0190

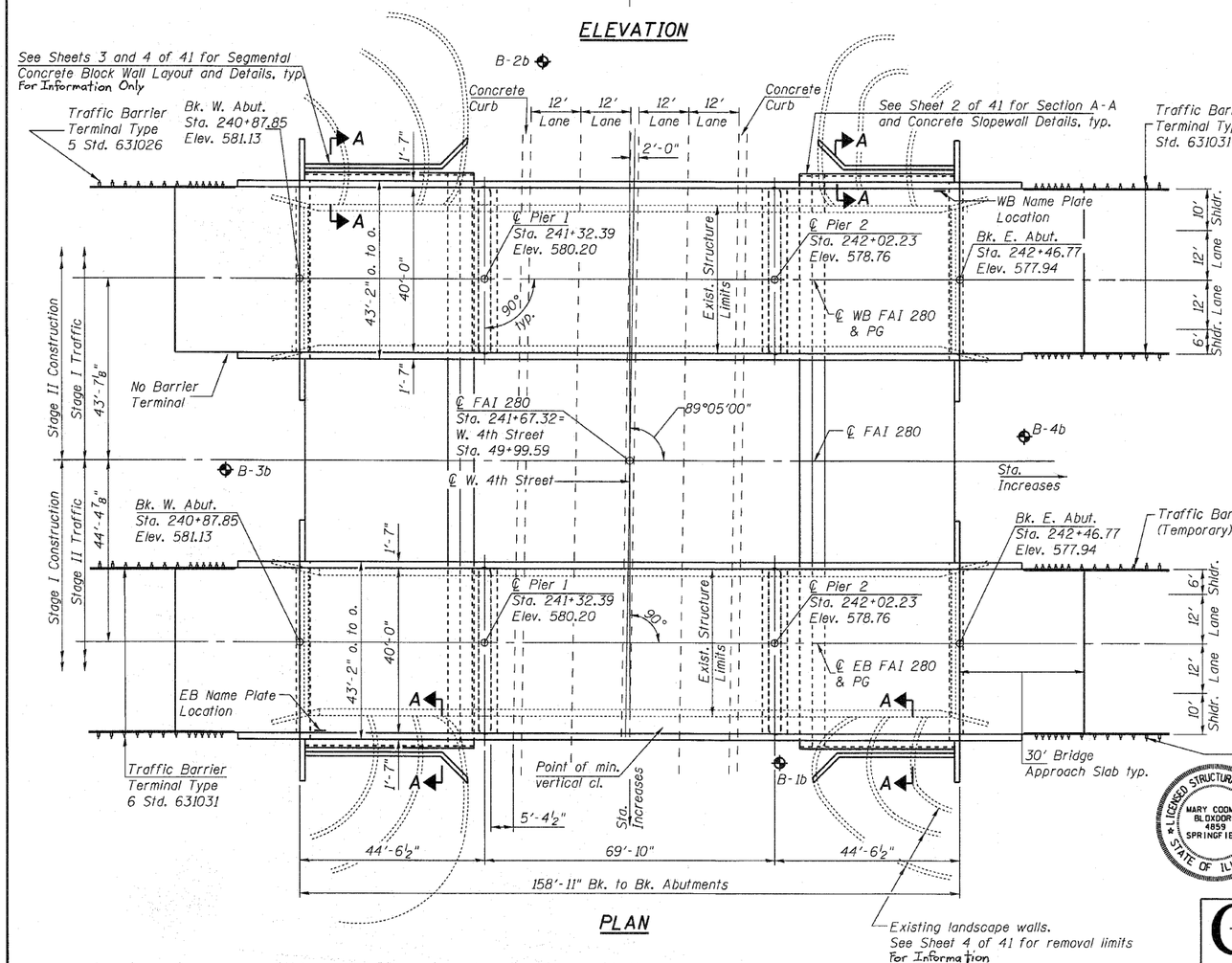
WB NAME PLATE
See Std. 515001

STATION 241+67.32
BUILT BY
STATE OF ILLINOIS
F.A.I. RT. 280 SEC. 81-1(HB-1)
LOADING HS20 & ALT.
STRUCTURE NO. 081-0191

EB NAME PLATE
See Std. 515001



ELEVATION



PLAN

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.034
Site Coefficient (S) = 1.0

DESIGN SPECIFICATIONS

AASHTO 2002

LOADING HS20-44 & ALT.

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS

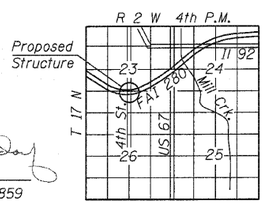
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50-primary members)
fy = 36,000 psi (M270 Grade 36)

INDEX OF SHEETS

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TFD)
ENGINEER OF BRIDGES AND STRUCTURES

LICENSED STRUCTURAL ENGINEER
MARY COOMBE BLOXDORF
4859
SPRINGFIELD
STATE OF ILLINOIS

Mary Coombe Bloxdorf
ILLINOIS STRUCTURAL NO. 4859
EXPIRES 11/30/10
DATE: 07/21/10



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
I-280 OVER W. 4TH STREET
F.A.I. 280, SEC. 81-1 (HB-1)
ROCK ISLAND COUNTY
STA. 241+67.32
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	GB/MCB
DRAWN BY	TFC
CHECKED BY	MCB

SHEET NO. 1
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	242
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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PLOT SCALE = 1.000 '/ IN.
USER NAME = CFC.

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^{3}/_{4}$"ϕ, holes $^{13}/_{16}$"ϕ, unless otherwise noted.

Calculated weight of Structural Steel is shown in the table below.

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

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

Reinforcement bars designated (E) shall be epoxy coated.

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

3 The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surfaces and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up and finish coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and the bottom of the bottom flange of fascia beams shall be Blue, Munsell No. 10B 3/6. See Special Provision for "Cleaning and Painting New Metal Structures."

Concrete Sealer shall be applied to the designated areas of the piers.

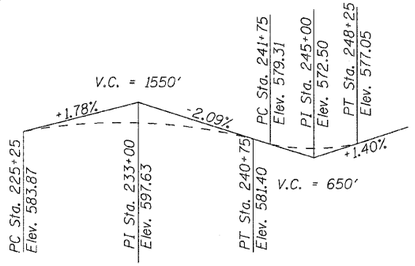
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

If the contractor elects to slipform and also to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locationsas required for the hardwood blocks. Details for the placement of the finishing machine rails, the spacing of the ties and hardwood blocks, and the placement of the hardwood blocks in each bay are shown on sheet 37 of 41. If additional cantilever forming brackets are required, hardwood blocking shall be placed between webs of beams in each bay at each of these additional bracket locations.

The Protective Shield shall extend from centerline to centerline of the piers in the middle span of each structure and the width shall be the out to out parapet width of each structure plus 3 feet beyond each parapet.

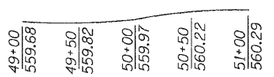
STRUCTURAL STEEL WEIGHT (LBS)

	F_y = 36 ksi	F_y = 50 ksi	Total
EB	9,670	123,023	132,693
WB	9,670	123,023	132,693
Total	19,340	246,045	265,385



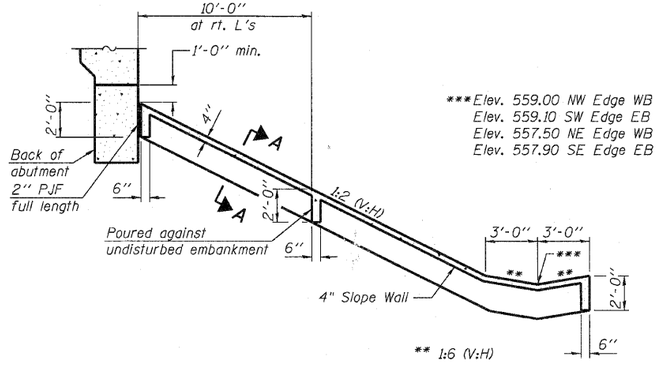
PROFILE GRADE

Along ℄ WB & EB Lanes



EXISTING PROFILE GRADE

Along ℄ 4th Street

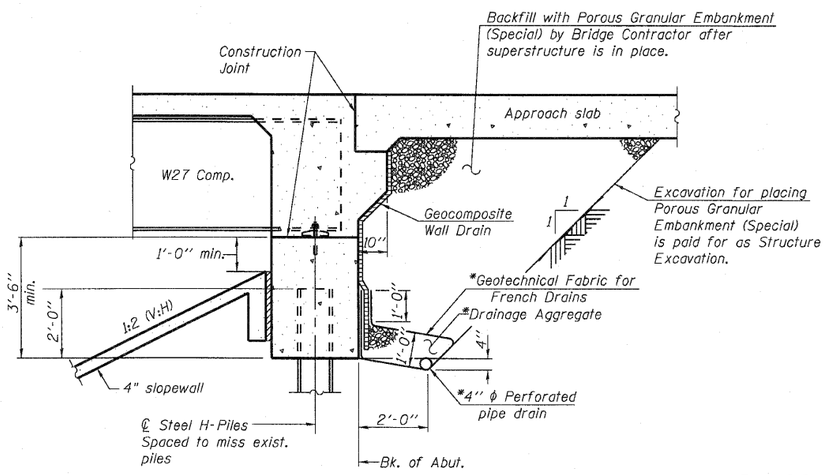


SECTION THRU CONCRETE SLOPEWALL

Slope wall shall be reinforced with welded wire fabric, 6 in. x 6in. - W4.0 x W 4.0, weighing 58 lbs per 100 sq ft.

TOTAL BILL OF MATERIAL

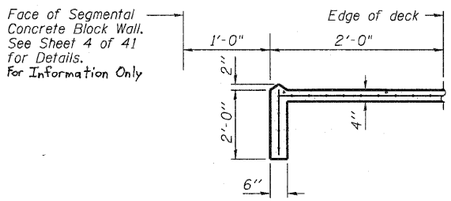
ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		221	221
Removal of Existing Structures No. 1	Each			2
Protective Shield	Sq. Yd.	763		763
Structure Excavation	Cu. Yd.		582	582
Concrete Structures	Cu. Yd.		380.4	380.4
Concrete Superstructure	Cu. Yd.	741.7		741.7
Bridge Deck Grooving	Sq. Yd.	1849		1849
Concrete Encasement	Cu. Yd.		8.4	8.4
Protective Coat	Sq. Yd.	2314		2314
Furnishing and Erecting Structural Steel Bridge No. 2	L. Sum	1		1
Stud Shear Connectors	Each	9198		9198
Reinforcement Bars, Epoxy Coated	Pound	159,520	49,620	209,140
Bar Splicers	Each	184		184
Slopewall 4"	Sq. Yd.		1312	1312
Furnishing Steel Piles HP 10x42	Foot		552	552
Driving Piles	Foot		552	552
Pile Shoes	Each		24	24
Name Plates	Each	2		2
Anchor Bolts, $^{3}/_{4}$" ϕ	Each	56		56
Anchor Bolts, 1" ϕ	Each	56		56
Concrete Sealer	Sq. Ft.		4315	4315
Geocomposite Wall Drain	Sq. Yd.		130	130
Pipe Underdrains for Structures, 4"	Foot		305	305
~~Segmental Concrete Block Wall~~	~~Sq. Ft.~~		~~858~~	~~858~~



SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

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

3 REVISED 10/29/10

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY CME
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 2
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	243
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

GENERAL DATA
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

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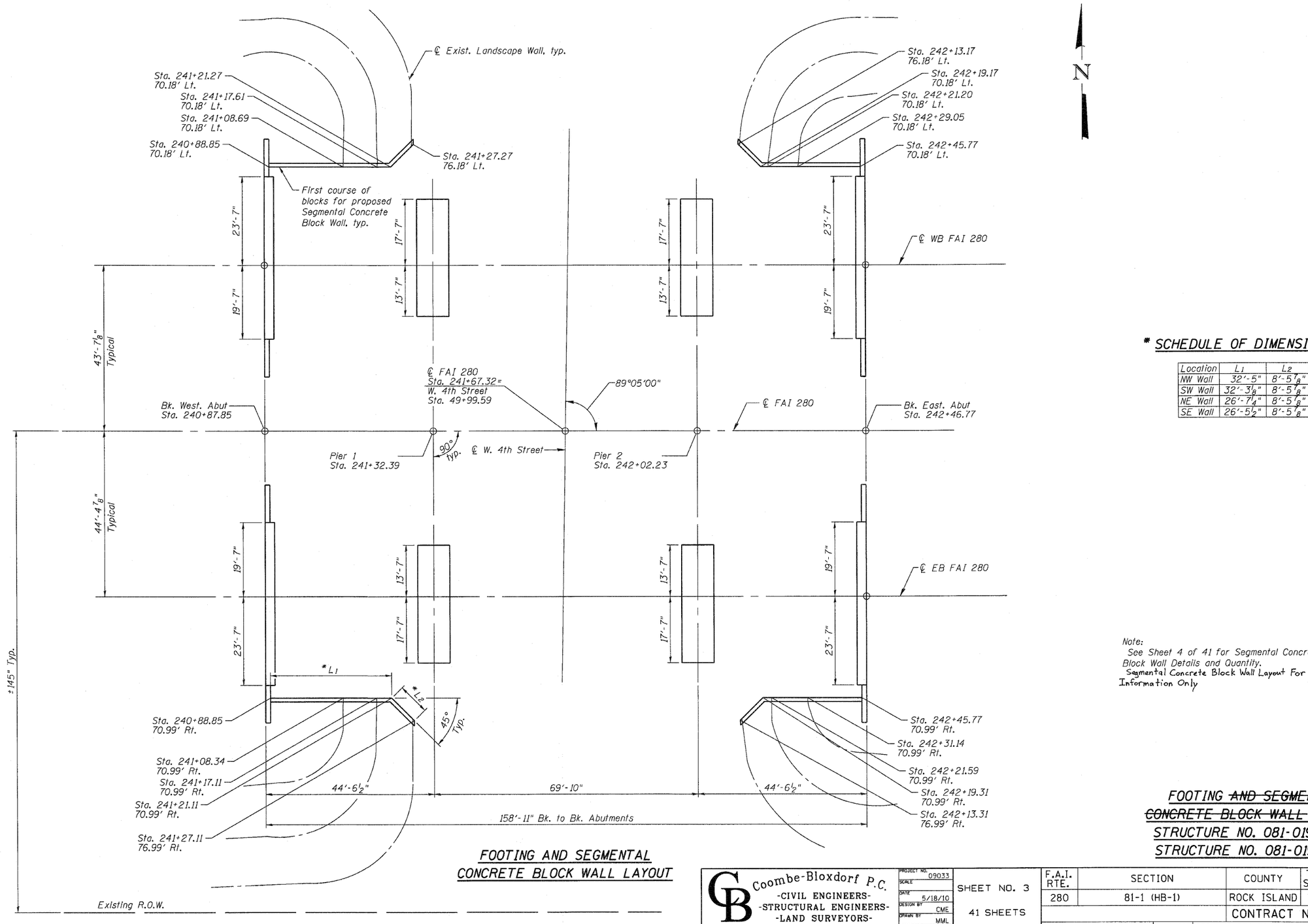

* SCHEDULE OF DIMENSIONS

Location	L_1	L_2
NW Wall	32'-5"	8'-5 7/8"
SW Wall	32'-3 3/8"	8'-5 7/8"
NE Wall	26'-7 1/4"	8'-5 7/8"
SE Wall	26'-5 1/2"	8'-5 7/8"

Note:
See Sheet 4 of 41 for Segmental Concrete Block Wall Details and Quantity.
Segmental Concrete Block Wall Layout For Information Only

FOOTING AND SEGMENTAL CONCRETE BLOCK WALL LAYOUT

FOOTING ~~AND SEGMENTAL CONCRETE BLOCK WALL~~ LAYOUT
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	CME
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 3
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	244
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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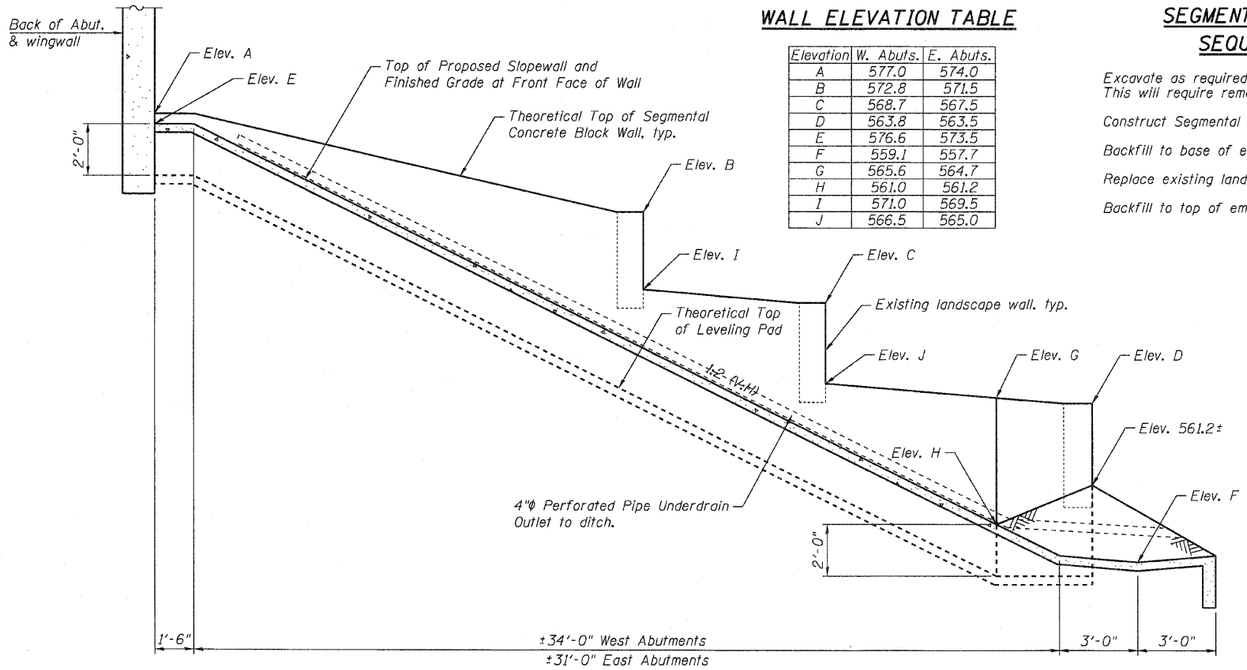


SECTION A-A

WALL ELEVATION TABLE

Elevation	W. Abuts.	E. Abuts.
A	577.0	574.0
B	572.8	571.5
C	568.7	567.5
D	563.8	563.5
E	576.6	573.5
F	559.1	557.7
G	565.6	564.7
H	561.0	561.2
I	571.0	569.5
J	566.5	565.0

SEGMENTAL CONCRETE BLOCK WALL SEQUENCE OF CONSTRUCTION

Excavate as required for construction of Segmental Concrete Block Wall. This will require removal of existing landscape walls as shown.

Construct Segmental Concrete Block Walls.

Backfill to base of existing landscape walls.

Replace existing landscape walls as shown.

Backfill to top of embankment as directed by the Engineer.

NOTES:

See sheet 2 of 41 for Concrete Slopewall Details.

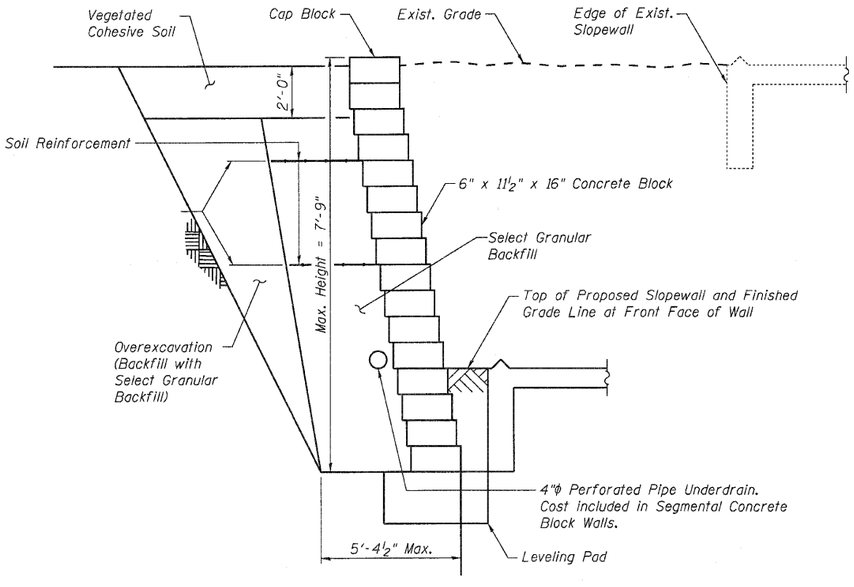
Plans for the construction of the Segmental Concrete Block Walls are to be prepared and submitted by others.

Hatched areas indicate permanent removal of existing landscape walls. Cross-hatched areas indicate removal and replacement of existing landscape walls. Cost of landscape wall removal and replacement is included in Segmental Concrete Block Wall.

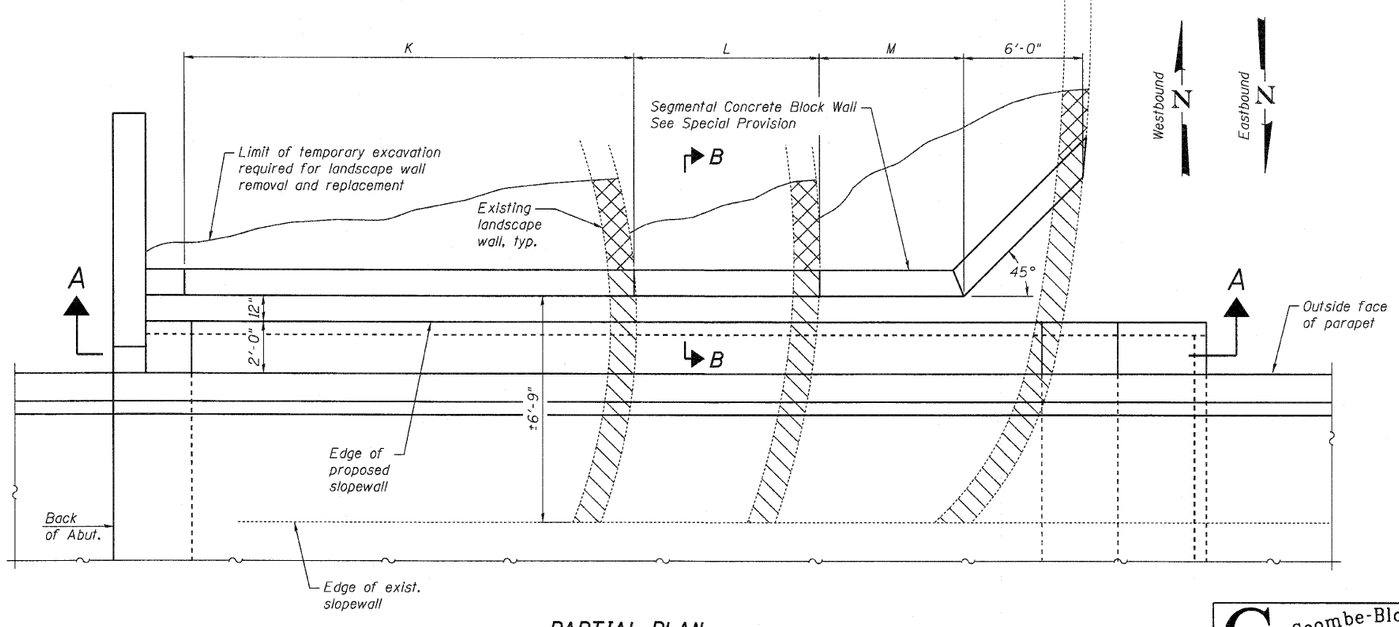
Excavation and backfill required for Segmental Concrete Block Wall construction is included in Segmental Concrete Block Wall.

The block used for construction of the Segmental Concrete Block Walls shall match the existing block used for the existing landscape walls in size, 6" x 11½" x 16", and color as directed by the Engineer.

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.



SECTION B-B



PARTIAL PLAN

Showing Segmental Concrete Block Wall (NW & SE shown, SW & NE similar)

WALL DIMENSION TABLE

DIM	SW	SE	NW	NE
K	18'-5⅛"	13'-7⅜"	18'-10"	15'-8⅝"
L	8'-9¼"	9'-6⅝"	8'-11"	7'-10¼"
M	3'-6"	1'-9⅜"	3'-2"	1'-6⅜"

BILL OF MATERIAL TWO STRUCTURES

Item	Unit	Total
Segmental Concrete Block Wall	Sq. Ft.	858

For Information Only

SEGMENTAL CONCRETE BLOCK WALL DETAILS STRUCTURE NO. 081-0190 (WB) STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 4
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	245
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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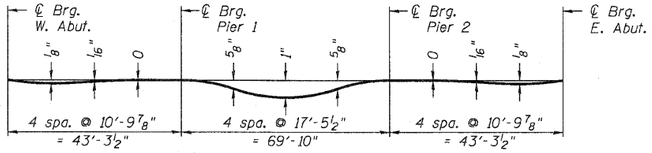
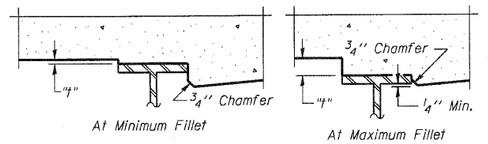


DEAD LOAD DEFLECTION DIAGRAM

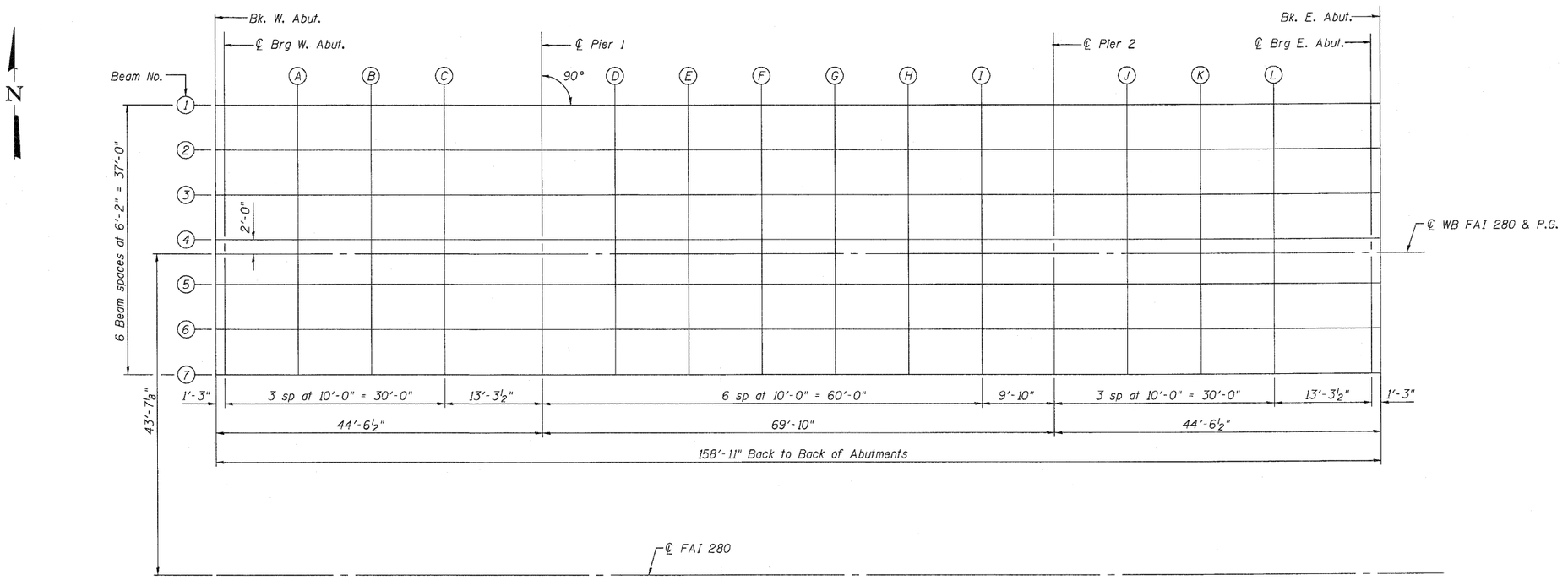
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 6 thru 8 of 41.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 6 thru 8 of 41, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY TFG
CHECKED BY MCB

SHEET NO. 5
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	246
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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USER NAME = DTC

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-64.09	580.77	580.77
CL Brg W. Abut.	24089.10	-64.09	580.74	580.74
A	24099.10	-64.09	580.53	580.54
B	24109.10	-64.09	580.32	580.33
C	24119.10	-64.09	580.11	580.11
CL Pier 1	24132.39	-64.09	579.84	579.84
D	24142.39	-64.09	579.63	579.65
E	24152.39	-64.09	579.42	579.48
F	24162.39	-64.09	579.21	579.29
G	24172.39	-64.09	579.00	579.08
H	24182.39	-64.09	578.79	578.85
I	24192.39	-64.09	578.59	578.62
CL Pier 2	24202.23	-64.09	578.40	578.40
J	24212.23	-64.09	578.20	578.20
K	24222.23	-64.09	578.02	578.02
L	24232.23	-64.09	577.84	577.84
CL Brg E. Abut.	24245.52	-64.09	577.60	577.60
Back E. Abut.	24246.77	-64.09	577.58	577.58

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-57.92	580.89	580.89
CL Brg W. Abut.	24089.10	-57.92	580.87	580.87
A	24099.10	-57.92	580.66	580.66
B	24109.10	-57.92	580.45	580.45
C	24119.10	-57.92	580.24	580.24
CL Pier 1	24132.39	-57.92	579.96	579.96
D	24142.39	-57.92	579.75	579.78
E	24152.39	-57.92	579.54	579.60
F	24162.39	-57.92	579.33	579.41
G	24172.39	-57.92	579.12	579.20
H	24182.39	-57.92	578.92	578.98
I	24192.39	-57.92	578.71	578.74
CL Pier 2	24202.23	-57.92	578.52	578.52
J	24212.23	-57.92	578.33	578.32
K	24222.23	-57.92	578.14	578.14
L	24232.23	-57.92	577.96	577.97
CL Brg E. Abut.	24245.52	-57.92	577.73	577.73
Back E. Abut.	24246.77	-57.92	577.70	577.70

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-51.76	581.00	581.00
CL Brg W. Abut.	24089.10	-51.76	580.97	580.97
A	24099.10	-51.76	580.76	580.77
B	24109.10	-51.76	580.55	580.56
C	24119.10	-51.76	580.34	580.34
CL Pier 1	24132.39	-51.76	580.07	580.07
D	24142.39	-51.76	579.86	579.88
E	24152.39	-51.76	579.65	579.71
F	24162.39	-51.76	579.44	579.52
G	24172.39	-51.76	579.23	579.31
H	24182.39	-51.76	579.02	579.08
I	24192.39	-51.76	578.82	578.85
CL Pier 2	24202.23	-51.76	578.63	578.63
J	24212.23	-51.76	578.43	578.43
K	24222.23	-51.76	578.25	578.25
L	24232.23	-51.76	578.07	578.07
CL Brg E. Abut.	24245.52	-51.76	577.83	577.83
Back E. Abut.	24246.77	-51.76	577.81	577.81

PLOT DATE = 7/21/2010
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USER NAME = CFC.

E-S

11-1-09

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 6
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	247
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-45.59	581.10	581.10
CL Brg W. Abut.	24089.10	-45.59	581.07	581.07
A	24099.10	-45.59	580.86	580.87
B	24109.10	-45.59	580.65	580.66
C	24119.10	-45.59	580.44	580.44
CL Pier 1	24132.39	-45.59	580.16	580.16
D	24142.39	-45.59	579.95	579.98
E	24152.39	-45.59	579.74	579.81
F	24162.39	-45.59	579.54	579.62
G	24172.39	-45.59	579.33	579.41
H	24182.39	-45.59	579.12	579.18
I	24192.39	-45.59	578.92	578.95
CL Pier 2	24202.23	-45.59	578.72	578.72
J	24212.23	-45.59	578.53	578.53
K	24222.23	-45.59	578.34	578.35
L	24232.23	-45.59	578.16	578.17
CL Brg E. Abut.	24245.52	-45.59	577.93	577.93
Back E. Abut.	24246.77	-45.59	577.91	577.91

℄ WB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-43.59	581.13	581.13
CL Brg W. Abut.	24089.10	-43.59	581.10	581.10
A	24099.10	-43.59	580.89	580.90
B	24109.10	-43.59	580.68	580.69
C	24119.10	-43.59	580.47	580.47
CL Pier 1	24132.39	-43.59	580.20	580.20
D	24142.39	-43.59	579.99	580.01
E	24152.39	-43.59	579.78	579.84
F	24162.39	-43.59	579.57	579.65
G	24172.39	-43.59	579.36	579.44
H	24182.39	-43.59	579.15	579.21
I	24192.39	-43.59	578.95	578.98
CL Pier 2	24202.23	-43.59	578.76	578.76
J	24212.23	-43.59	578.56	578.56
K	24222.23	-43.59	578.38	578.38
L	24232.23	-43.59	578.20	578.20
CL Brg E. Abut.	24245.52	-43.59	577.96	577.96
Back E. Abut.	24246.77	-43.59	577.94	577.94

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-39.42	581.06	581.06
CL Brg W. Abut.	24089.10	-39.42	581.04	581.04
A	24099.10	-39.42	580.83	580.83
B	24109.10	-39.42	580.62	580.62
C	24119.10	-39.42	580.41	580.41
CL Pier 1	24132.39	-39.42	580.13	580.13
D	24142.39	-39.42	579.92	579.95
E	24152.39	-39.42	579.71	579.77
F	24162.39	-39.42	579.50	579.58
G	24172.39	-39.42	579.29	579.37
H	24182.39	-39.42	579.09	579.15
I	24192.39	-39.42	578.88	578.91
CL Pier 2	24202.23	-39.42	578.69	578.69
J	24212.23	-39.42	578.50	578.49
K	24222.23	-39.42	578.31	578.31
L	24232.23	-39.42	578.13	578.14
CL Brg E. Abut.	24245.52	-39.42	577.90	577.90
Back E. Abut.	24246.77	-39.42	577.87	577.87

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USER NAME = DTC

E-S

11-1-09

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 7
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	248
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-33.26	580.96	580.96
CL Brg W. Abut.	24089.10	-33.26	580.94	580.94
A	24099.10	-33.26	580.73	580.74
B	24109.10	-33.26	580.52	580.53
C	24119.10	-33.26	580.31	580.31
CL Pier 1	24132.39	-33.26	580.03	580.03
D	24142.39	-33.26	579.82	579.85
E	24152.39	-33.26	579.61	579.67
F	24162.39	-33.26	579.40	579.49
G	24172.39	-33.26	579.19	579.28
H	24182.39	-33.26	578.99	579.05
I	24192.39	-33.26	578.79	578.81
CL Pier 2	24202.23	-33.26	578.59	578.59
J	24212.23	-33.26	578.40	578.40
K	24222.23	-33.26	578.21	578.22
L	24232.23	-33.26	578.03	578.04
CL Brg E. Abut.	24245.52	-33.26	577.80	577.80
Back E. Abut.	24246.77	-33.26	577.78	577.78

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	-27.09	580.85	580.85
CL Brg W. Abut.	24089.10	-27.09	580.82	580.82
A	24099.10	-27.09	580.61	580.62
B	24109.10	-27.09	580.40	580.41
C	24119.10	-27.09	580.19	580.19
CL Pier 1	24132.39	-27.09	579.92	579.92
D	24142.39	-27.09	579.71	579.73
E	24152.39	-27.09	579.50	579.56
F	24162.39	-27.09	579.29	579.37
G	24172.39	-27.09	579.08	579.16
H	24182.39	-27.09	578.87	578.93
I	24192.39	-27.09	578.67	578.70
CL Pier 2	24202.23	-27.09	578.48	578.48
J	24212.23	-27.09	578.28	578.28
K	24222.23	-27.09	578.10	578.10
L	24232.23	-27.09	577.92	577.92
CL Brg E. Abut.	24245.52	-27.09	577.68	577.68
Back E. Abut.	24246.77	-27.09	577.66	577.66

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E-S

11-1-09

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 8
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	249
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

N. EDGE OF SHOULDER

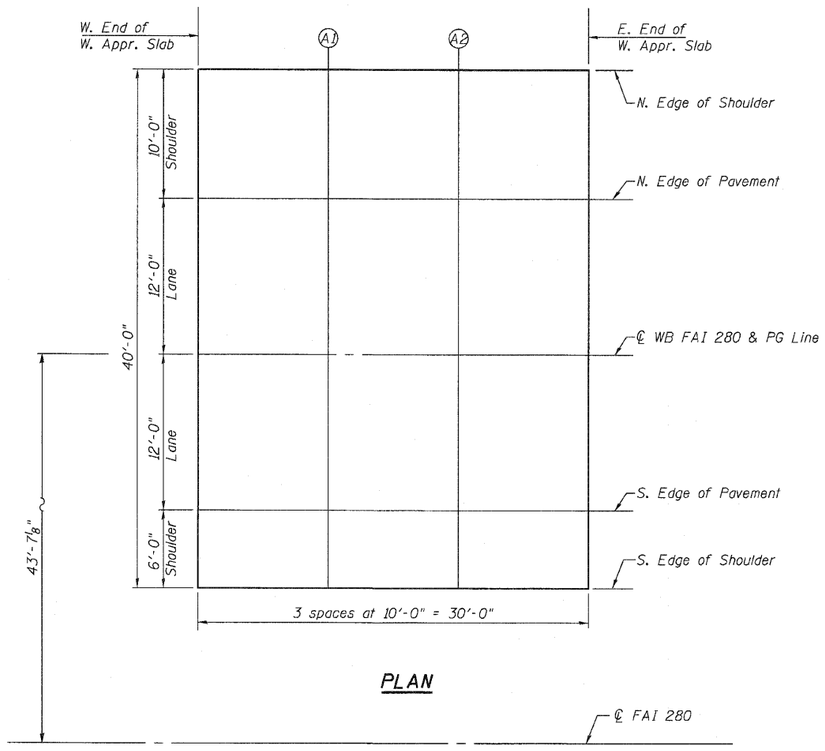
Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	-65.59	581.37
A1	24067.85	-65.59	581.16
A2	24077.85	-65.59	580.95
E End W Appr Slab	24087.85	-65.59	580.74

N. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	-55.59	581.57
A1	24067.85	-55.59	581.36
A2	24077.85	-55.59	581.15
E End W Appr Slab	24087.85	-55.59	580.94

℄ WB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	-43.59	581.76
A1	24067.85	-43.59	581.55
A2	24077.85	-43.59	581.34
E End W Appr Slab	24087.85	-43.59	581.13



PLAN

S. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	-31.59	581.57
A1	24067.85	-31.59	581.36
A2	24077.85	-31.59	581.15
E End W Appr Slab	24087.85	-31.59	580.94

S. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	-25.59	581.45
A1	24067.85	-25.59	581.24
A2	24077.85	-25.59	581.03
E. End of W. App	24087.85	-25.59	580.82

TOP OF WEST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0190 (WB)

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E-AS

11-1-09

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY
CHECKED BY MCB

SHEET NO. 9
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	250
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

N. EDGE OF SHOULDER

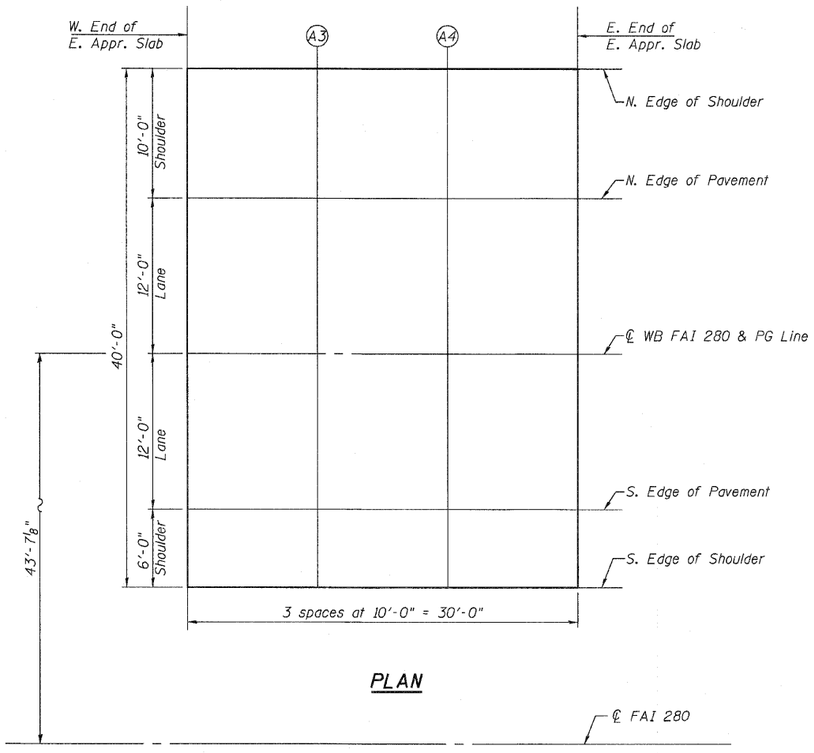
Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	-65.59	577.55
A3	24256.77	-65.59	577.38
A4	24266.77	-65.59	577.22
E End E Appr Slab	24276.77	-65.59	577.06

N. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	-55.59	577.75
A3	24256.77	-55.59	577.58
A4	24266.77	-55.59	577.42
E End E Appr Slab	24276.77	-55.59	577.26

℄ WB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	-43.59	577.94
A3	24256.77	-43.59	577.77
A4	24266.77	-43.59	577.61
E End E Appr Slab	24276.77	-43.59	577.45



PLAN

S. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	-31.59	577.75
A3	24256.77	-31.59	577.58
A4	24266.77	-31.59	577.42
E End E Appr Slab	24276.77	-31.59	577.26

S. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	-25.59	577.63
A3	24256.77	-25.59	577.46
A4	24266.77	-25.59	577.30
E End E Appr Slab	24276.77	-25.59	577.14

TOP OF EAST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	
DRAWN BY	
CHECKED BY	MCB

SHEET NO. 10

41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	251
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

E-AS

11-1-09

PLOT DATE = 7/21/2010
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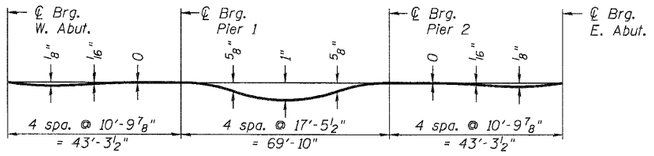
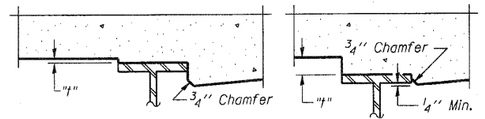


DEAD LOAD DEFLECTION DIAGRAM

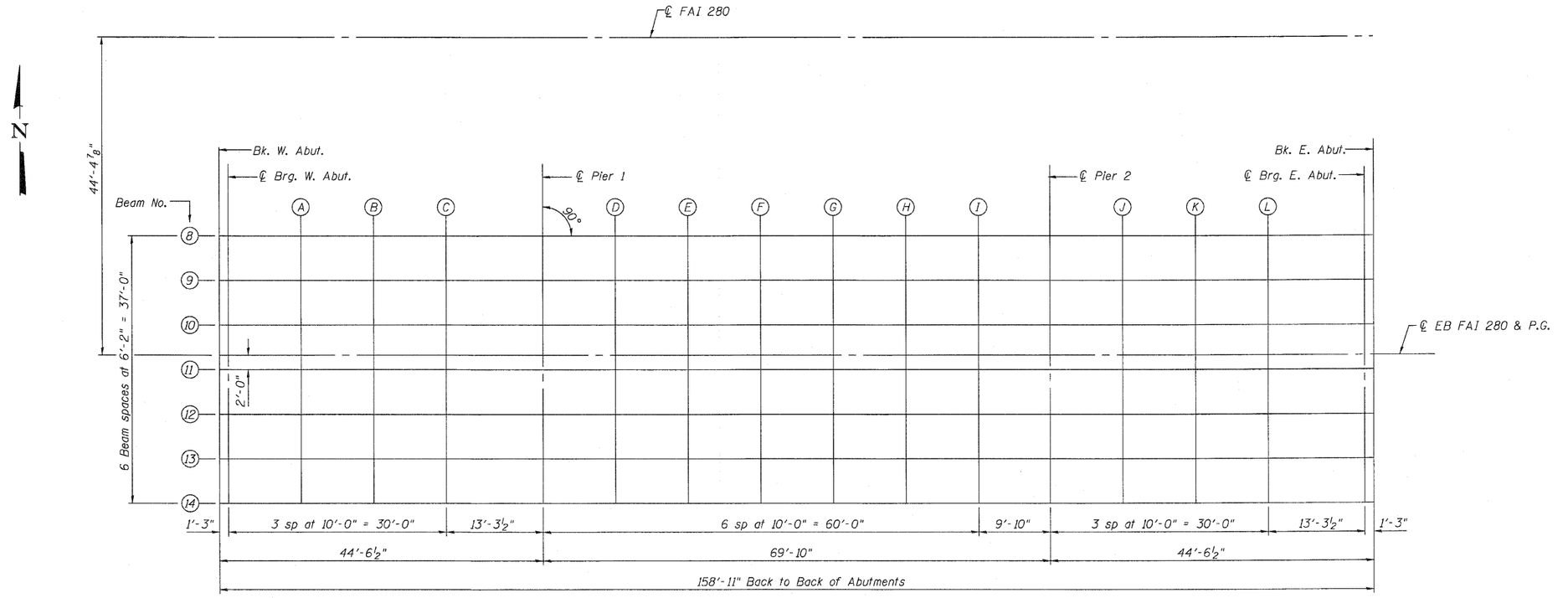
(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 12 thru 14 of 41.



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

FILLET HEIGHTS



TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY
CHECKED BY MCB

SHEET NO. 11
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	252
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	27.90	580.85	580.85
CL Brg W. Abut.	24089.10	27.90	580.82	580.82
A	24099.10	27.90	580.61	580.62
B	24109.10	27.90	580.40	580.41
C	24119.10	27.90	580.19	580.19
CL Pier 1	24132.39	27.90	579.92	579.92
D	24142.39	27.90	579.71	579.73
E	24152.39	27.90	579.50	579.56
F	24162.39	27.90	579.29	579.37
G	24172.39	27.90	579.08	579.16
H	24182.39	27.90	578.87	578.93
I	24192.39	27.90	578.67	578.70
CL Pier 2	24202.23	27.90	578.48	578.48
J	24212.23	27.90	578.28	578.28
K	24222.23	27.90	578.10	578.10
L	24232.23	27.90	577.92	577.92
CL Brg E. Abut.	24245.52	27.90	577.68	577.68
Back E. Abut.	24246.77	27.90	577.66	577.66

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	34.07	580.96	580.96
CL Brg W. Abut.	24089.10	34.07	580.94	580.94
A	24099.10	34.07	580.73	580.74
B	24109.10	34.07	580.52	580.53
C	24119.10	34.07	580.31	580.31
CL Pier 1	24132.39	34.07	580.03	580.03
D	24142.39	34.07	579.82	579.85
E	24152.39	34.07	579.61	579.67
F	24162.39	34.07	579.40	579.49
G	24172.39	34.07	579.19	579.28
H	24182.39	34.07	578.99	579.05
I	24192.39	34.07	578.79	578.81
CL Pier 2	24202.23	34.07	578.59	578.59
J	24212.23	34.07	578.40	578.40
K	24222.23	34.07	578.21	578.22
L	24232.23	34.07	578.03	578.04
CL Brg E. Abut.	24245.52	34.07	577.80	577.80
Back E. Abut.	24246.77	34.07	577.78	577.78

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	40.23	581.06	581.06
CL Brg W. Abut.	24089.10	40.23	581.04	581.04
A	24099.10	40.23	580.83	580.83
B	24109.10	40.23	580.62	580.62
C	24119.10	40.23	580.41	580.41
CL Pier 1	24132.39	40.23	580.13	580.13
D	24142.39	40.23	579.92	579.95
E	24152.39	40.23	579.71	579.77
F	24162.39	40.23	579.50	579.58
G	24172.39	40.23	579.29	579.37
H	24182.39	40.23	579.09	579.15
I	24192.39	40.23	578.88	578.91
CL Pier 2	24202.23	40.23	578.69	578.69
J	24212.23	40.23	578.50	578.49
K	24222.23	40.23	578.31	578.31
L	24232.23	40.23	578.13	578.14
CL Brg E. Abut.	24245.52	40.23	577.90	577.90
Back E. Abut.	24246.77	40.23	577.87	577.87

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	
DRAWN BY	
CHECKED BY	MCB

SHEET NO. 12
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	253
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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℄ EB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	44.40	581.13	581.13
CL Brg W. Abut.	24089.10	44.40	581.10	581.10
A	24099.10	44.40	580.89	580.90
B	24109.10	44.40	580.68	580.69
C	24119.10	44.40	580.47	580.47
CL Pier 1	24132.39	44.40	580.20	580.20
D	24142.39	44.40	579.99	580.01
E	24152.39	44.40	579.78	579.84
F	24162.39	44.40	579.57	579.65
G	24172.39	44.40	579.36	579.44
H	24182.39	44.40	579.15	579.21
I	24192.39	44.40	578.95	578.98
CL Pier 2	24202.23	44.40	578.76	578.76
J	24212.23	44.40	578.56	578.56
K	24222.23	44.40	578.38	578.38
L	24232.23	44.40	578.20	578.20
CL Brg E. Abut.	24245.52	44.40	577.96	577.96
Back E. Abut.	24246.77	44.40	577.94	577.94

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	46.40	581.10	581.10
CL Brg W. Abut.	24089.10	46.40	581.07	581.07
A	24099.10	46.40	580.86	580.87
B	24109.10	46.40	580.65	580.66
C	24119.10	46.40	580.44	580.44
CL Pier 1	24132.39	46.40	580.16	580.16
D	24142.39	46.40	579.95	579.98
E	24152.39	46.40	579.74	579.81
F	24162.39	46.40	579.54	579.62
G	24172.39	46.40	579.33	579.41
H	24182.39	46.40	579.12	579.18
I	24192.39	46.40	578.92	578.95
CL Pier 2	24202.23	46.40	578.72	578.72
J	24212.23	46.40	578.53	578.53
K	24222.23	46.40	578.34	578.35
L	24232.23	46.40	578.16	578.17
CL Brg E. Abut.	24245.52	46.40	577.93	577.93
Back E. Abut.	24246.77	46.40	577.91	577.91

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	52.56	581.00	581.00
CL Brg W. Abut.	24089.10	52.56	580.97	580.97
A	24099.10	52.56	580.76	580.77
B	24109.10	52.56	580.55	580.56
C	24119.10	52.56	580.34	580.34
CL Pier 1	24132.39	52.56	580.07	580.07
D	24142.39	52.56	579.86	579.88
E	24152.39	52.56	579.65	579.71
F	24162.39	52.56	579.44	579.52
G	24172.39	52.56	579.23	579.31
H	24182.39	52.56	579.02	579.08
I	24192.39	52.56	578.82	578.85
CL Pier 2	24202.23	52.56	578.63	578.63
J	24212.23	52.56	578.43	578.43
K	24222.23	52.56	578.25	578.25
L	24232.23	52.56	578.07	578.07
CL Brg E. Abut.	24245.52	52.56	577.83	577.83
Back E. Abut.	24246.77	52.56	577.81	577.81

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E-S

11-1-09

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 13

41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	254
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

BEAM 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	58.73	580.89	580.89
CL Brg W. Abut.	24089.10	58.73	580.87	580.87
A	24099.10	58.73	580.66	580.66
B	24109.10	58.73	580.45	580.45
C	24119.10	58.73	580.24	580.24
CL Pier 1	24132.39	58.73	579.96	579.96
D	24142.39	58.73	579.75	579.78
E	24152.39	58.73	579.54	579.60
F	24162.39	58.73	579.33	579.41
G	24172.39	58.73	579.12	579.20
H	24182.39	58.73	578.92	578.98
I	24192.39	58.73	578.71	578.74
CL Pier 2	24202.23	58.73	578.52	578.52
J	24212.23	58.73	578.33	578.32
K	24222.23	58.73	578.14	578.14
L	24232.23	58.73	577.96	577.97
CL Brg E. Abut.	24245.52	58.73	577.73	577.73
Back E. Abut.	24246.77	58.73	577.70	577.70

BEAM 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Back W. Abut.	24087.85	64.89	580.77	580.77
CL Brg W. Abut.	24089.10	64.89	580.74	580.74
A	24099.10	64.89	580.53	580.54
B	24109.10	64.89	580.32	580.33
C	24119.10	64.89	580.11	580.11
CL Pier 1	24132.39	64.89	579.84	579.84
D	24142.39	64.89	579.63	579.65
E	24152.39	64.89	579.42	579.48
F	24162.39	64.89	579.21	579.29
G	24172.39	64.89	579.00	579.08
H	24182.39	64.89	578.79	578.85
I	24192.39	64.89	578.59	578.62
CL Pier 2	24202.23	64.89	578.40	578.40
J	24212.23	64.89	578.20	578.20
K	24222.23	64.89	578.02	578.02
L	24232.23	64.89	577.84	577.84
CL Brg E. Abut.	24245.52	64.89	577.60	577.60
Back E. Abut.	24246.77	64.89	577.58	577.58

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11-1-09

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 14
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	255
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0191 (EB)

N. EDGE OF SHOULDER

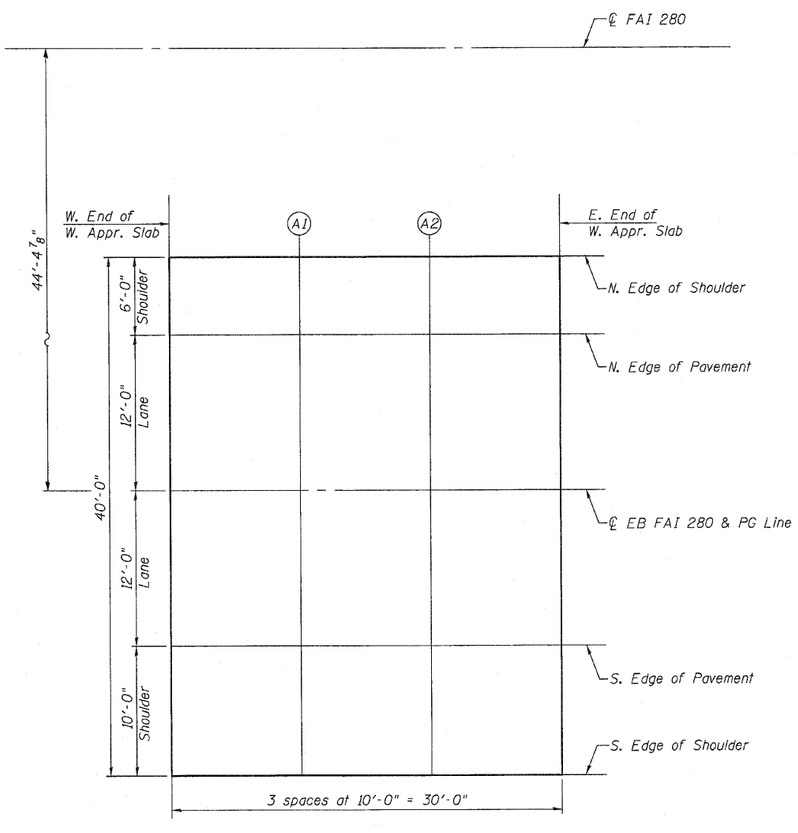
Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	26.40	581.45
A1	24067.85	26.40	581.24
A2	24077.85	26.40	581.03
E End W Appr Slab	24087.85	26.40	580.82

N. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	32.40	581.57
A1	24067.85	32.40	581.36
A2	24077.85	32.40	581.15
E End W Appr Slab	24087.85	32.40	580.94

℄ EB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	44.40	581.76
A1	24067.85	44.40	581.55
A2	24077.85	44.40	581.34
E End W Appr Slab	24087.85	44.40	581.13



PLAN

S. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	56.40	581.57
A1	24067.85	56.40	581.36
A2	24077.85	56.40	581.15
E End W Appr Slab	24087.85	56.40	580.94

S. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W End W Appr Slab	24057.85	66.40	581.37
A1	24067.85	66.40	581.16
A2	24077.85	66.40	580.95
E End W Appr Slab	24087.85	66.40	580.74

TOP OF WEST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY
CHECKED BY MCB

SHEET NO. 15
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	256
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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N. EDGE OF SHOULDER

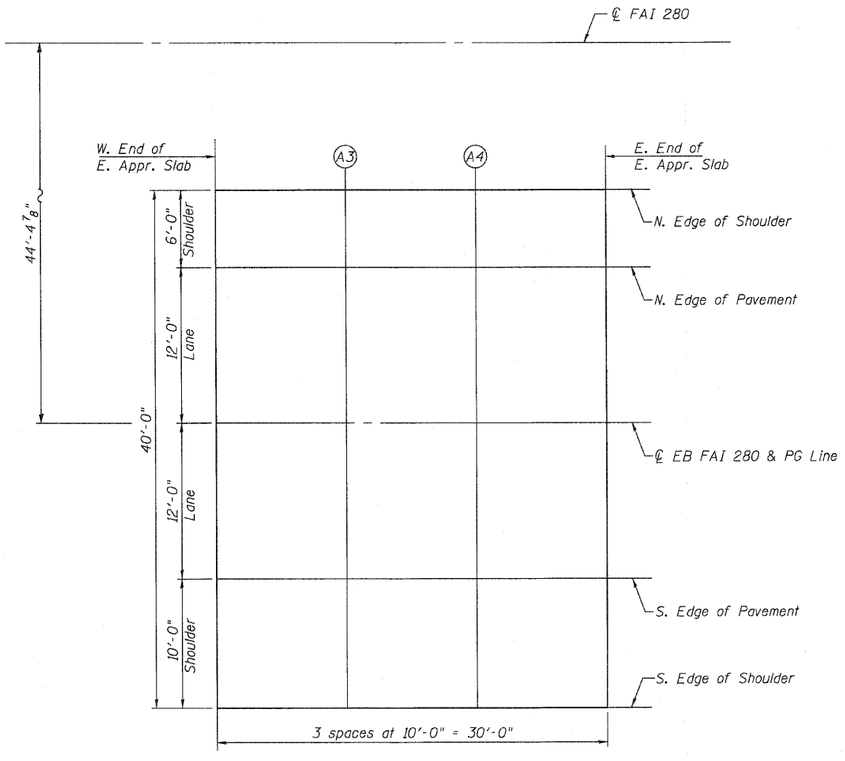
Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	26.40	577.63
A3	24256.77	26.40	577.46
A4	24266.77	26.40	577.30
E End E Appr Slab	24276.77	26.40	577.14

N. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	32.40	577.75
A3	24256.77	32.40	577.58
A4	24266.77	32.40	577.42
E End E Appr Slab	24276.77	32.40	577.26

℄ EB FAI 280 & PROFILE GRADE LINE

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	44.40	577.94
A3	24256.77	44.40	577.77
A4	24266.77	44.40	577.61
E End E Appr Slab	24276.77	44.40	577.45



PLAN

S. EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	56.40	577.75
A3	24256.77	56.40	577.58
A4	24266.77	56.40	577.42
E End E Appr Slab	24276.77	56.40	577.26

S. EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W End E Appr Slab	24246.77	66.40	577.55
A3	24256.77	66.40	577.38
A4	24266.77	66.40	577.22
E End E Appr Slab	24276.77	66.40	577.06

TOP OF EAST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY
CHECKED BY MCB

SHEET NO. 16
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	257
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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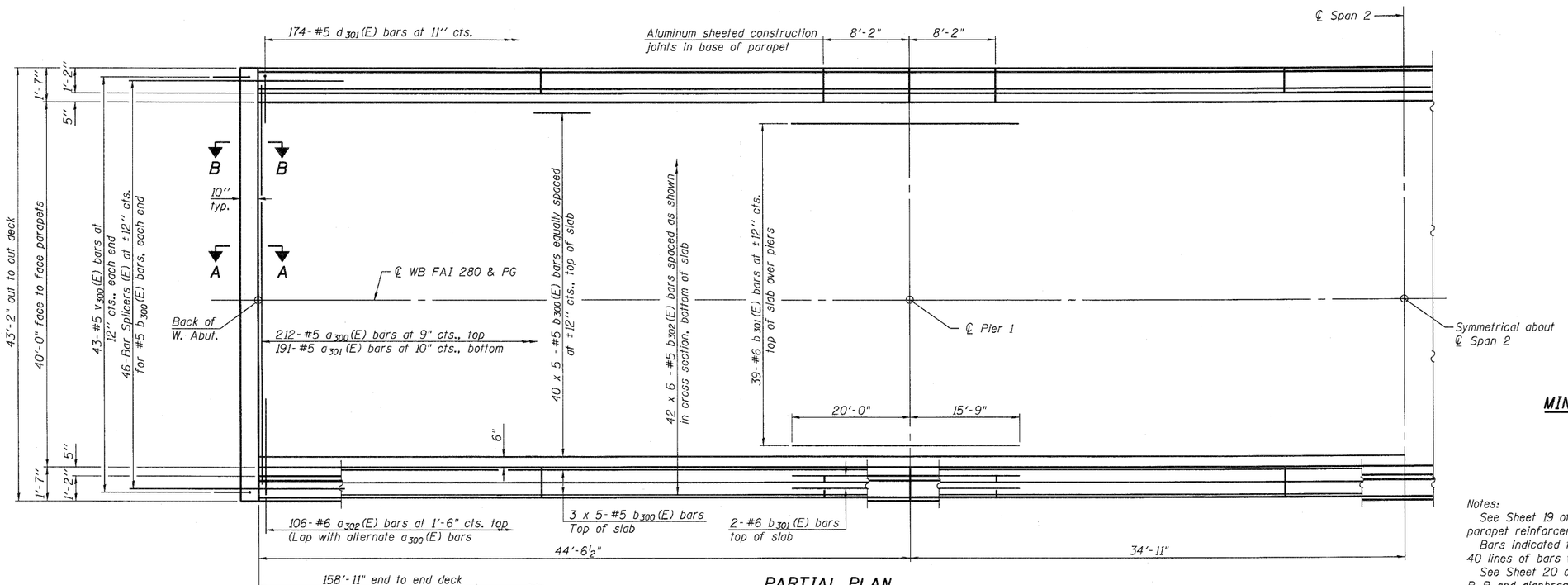


PARTIAL PLAN

MINIMUM BAR LAP

#5 bar = 2'-7"

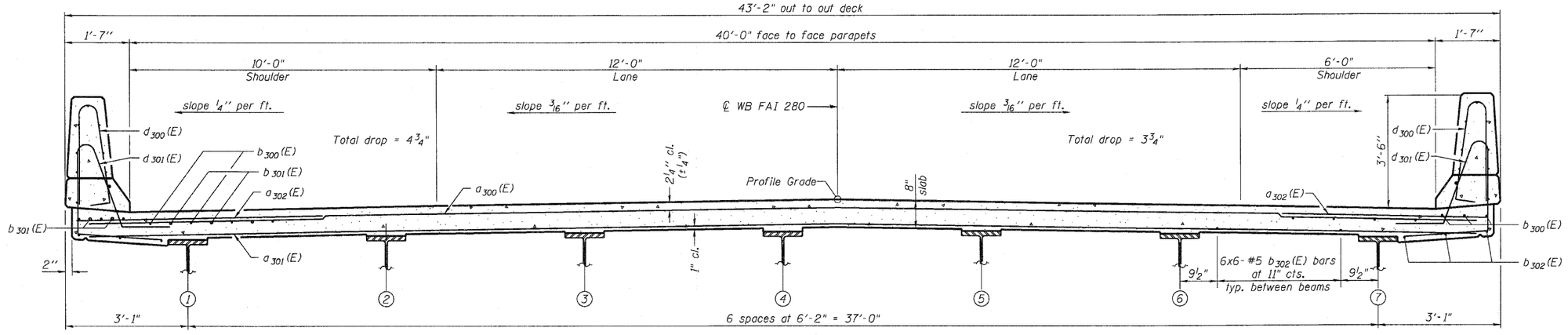
Notes:

See Sheet 19 of 41 for superstructure details, parapet reinforcement, and Bill of Material.

Bars indicated thus 40 x 5-#5 etc. indicates 40 lines of bars with 5 lengths per line.

See Sheet 20 of 41 for Section A-A, Section B-B and diaphragm details.

See Sheet 36 of 41 for Bar Splicer details.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking East)

SUPERSTRUCTURE
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 17
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	258
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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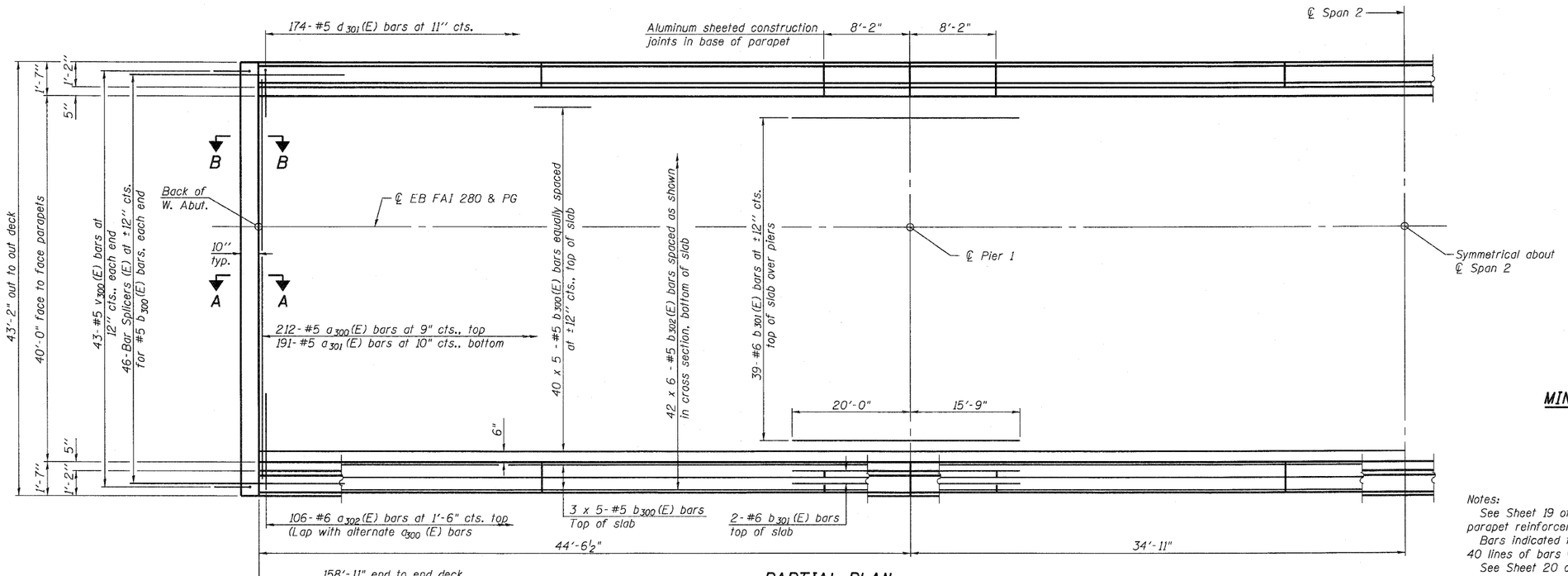
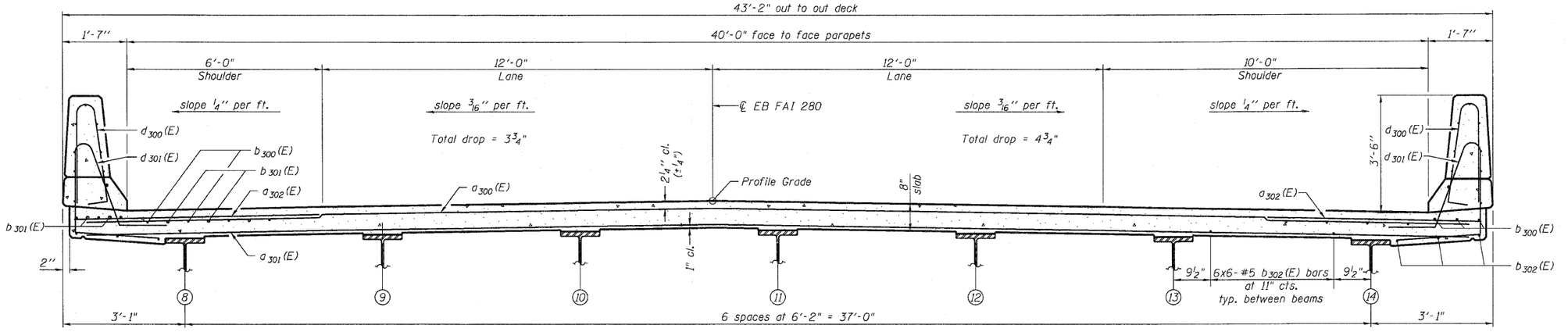


PARTIAL PLAN

MINIMUM BAR LAP
#5 bar = 2'-7"

Notes:
See Sheet 19 of 41 for superstructure details, parapet reinforcement, and Bill of Material.
Bars indicated thus 40 x 5- #5 etc. indicates 40 lines of bars with 5 lengths per line.
See Sheet 20 of 41 for Section A-A, Section B-B and diaphragm details.
See Sheet 36 of 41 for Bar Splicer details.



NEAR PIER

CROSS SECTION
(Looking East)

NEAR MIDSPAN

SUPERSTRUCTURE
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C. -CIVIL ENGINEERS- -STRUCTURAL ENGINEERS- -LAND SURVEYORS- Design Firm License No. 184-002703	PROJECT NO. 09033; SCALE; DATE 5/18/10; DESIGN BY; DRAWN BY MML; CHECKED BY MCB	SHEET NO. 18 41 SHEETS	F.A.I. RTE. 280	SECTION 81-1 (HB-1)
			COUNTY ROCK ISLAND	TOTAL SHEETS 503
			SHEET NO. 259	
			CONTRACT NO. 64815	
			FED. ROAD DIST. NO. 7	ILLINOIS FED. AID PROJECT

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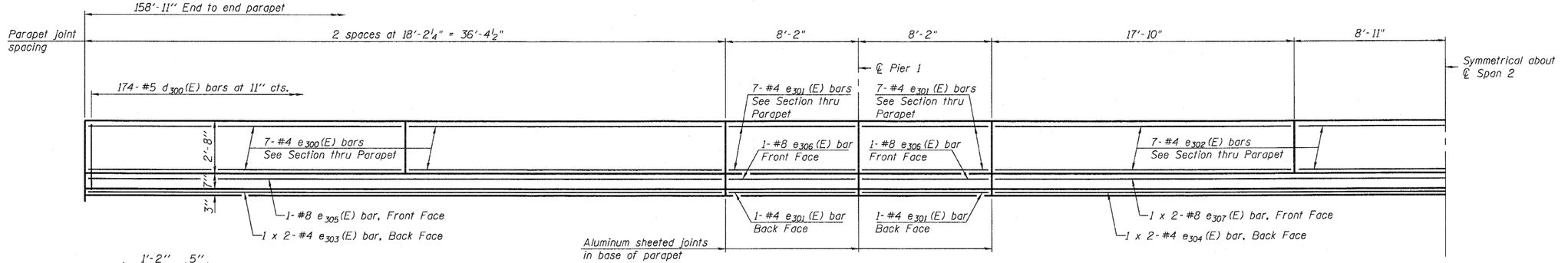
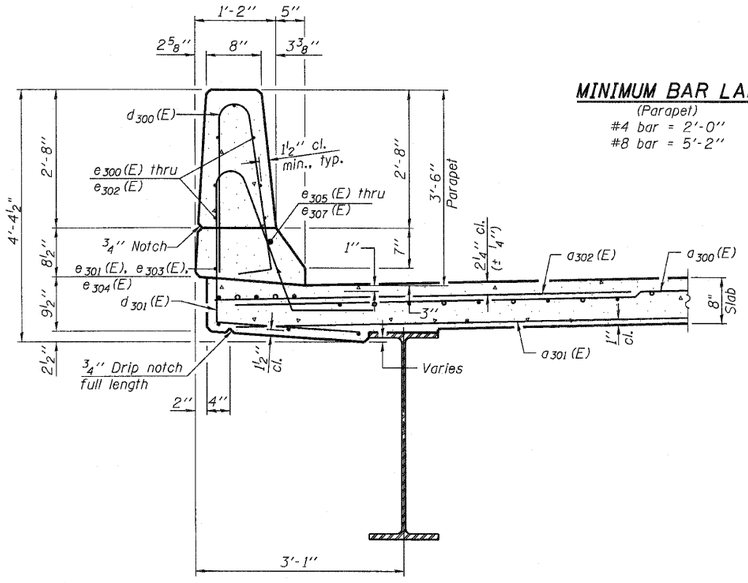


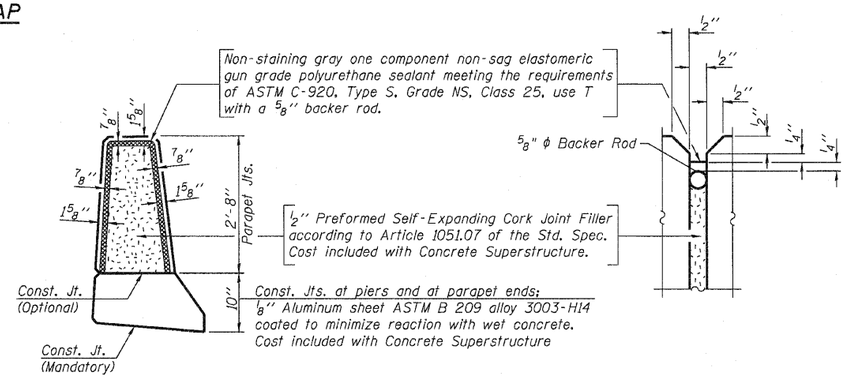
INSIDE ELEVATION OF PARAPET



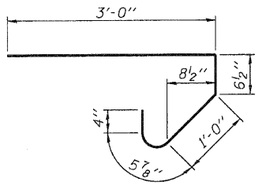
SECTION THRU PARAPET

MINIMUM BAR LAP

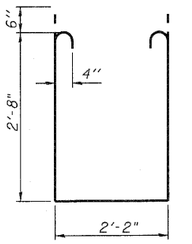
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



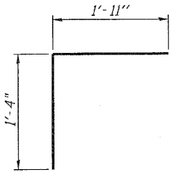
PARAPET JOINT DETAILS



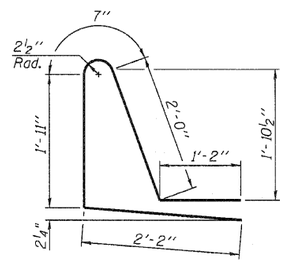
BAR s300(E)



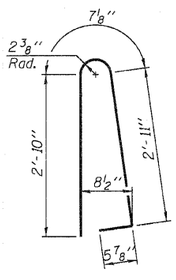
BAR s301 (E)



BAR v300(E)



BAR d301(E)



BAR d300(E)

TWO SUPERSTRUCTURES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a300(E)	424	#5	42'-6"	—
a301(E)	382	#5	41'-10"	—
a302(E)	424	#6	6'-6"	—
b300(E)	460	#5	33'-10"	—
b301(E)	172	#6	35'-9"	—
b302(E)	504	#5	28'-7"	—
d300(E)	696	#5	6'-10"	
d301(E)	696	#5	7'-10"	
e300(E)	112	#4	17'-10"	—
e301(E)	128	#4	7'-10"	—
e302(E)	84	#4	17'-6"	—
e303(E)	16	#4	19'-0"	—
e304(E)	8	#4	27'-8"	—
e305(E)	8	#8	36'-0"	—
e306(E)	16	#8	7'-10"	—
e307(E)	8	#8	29'-3"	—
m300(E)	40	#6	23'-1"	—
m301(E)	56	#6	9'-6"	—
m302(E)	24	#6	5'-10"	—
m303(E)	8	#6	2'-9"	—
s300(E)	192	#5	5'-5"	⌐
s301(E)	168	#4	8'-6"	U
v300(E)	172	#5	3'-3"	⌐
Reinforcement Bars, Epoxy Coated		Pound	100,860	
Concrete Superstructure		Cu. Yds.	476.3	
Bar Splicers		Each	184	

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

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 19
41 SHEETS

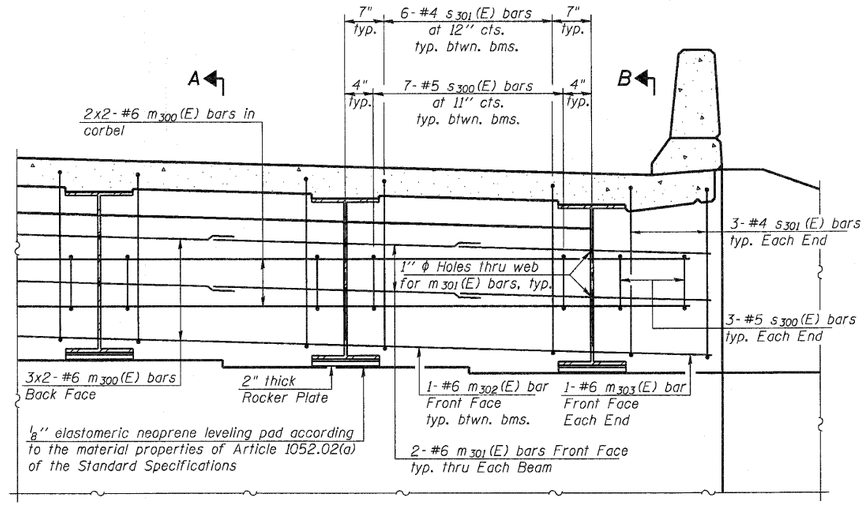
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	260
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

S-I-D

11-1-09

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-019-superstr-det.dgn
PLOT SCALE = 64.029397 '=' / IN.
USER NAME = CTC.

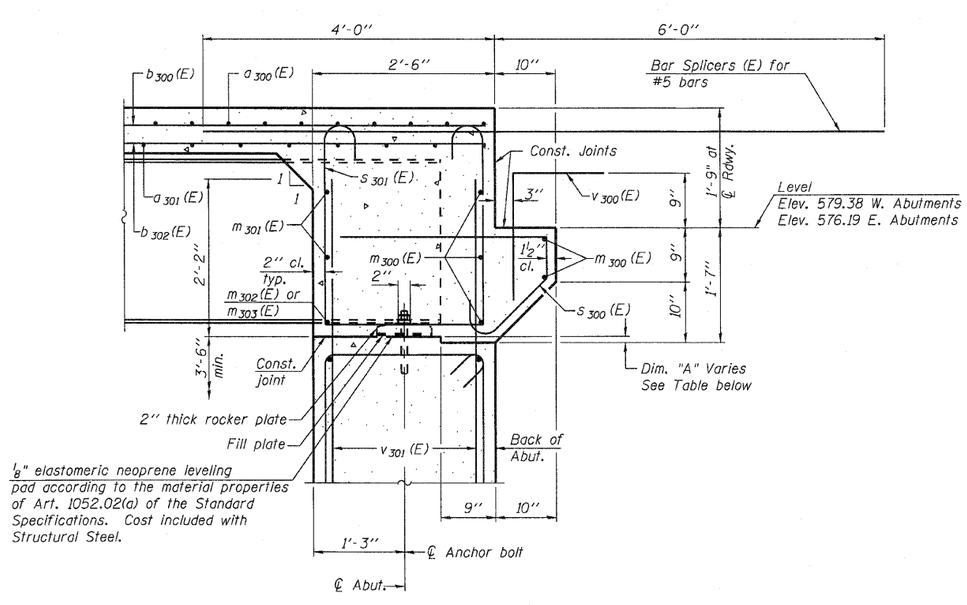
Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 19 of 41.
Concrete in diaphragm is included with Concrete Superstructure on sheet 19 of 41.
For details of bars $s_{300}(E)$ & $s_{301}(E)$ see sheet 19 of 41.



DIAPHRAGM ELEVATION AT ABUTMENT

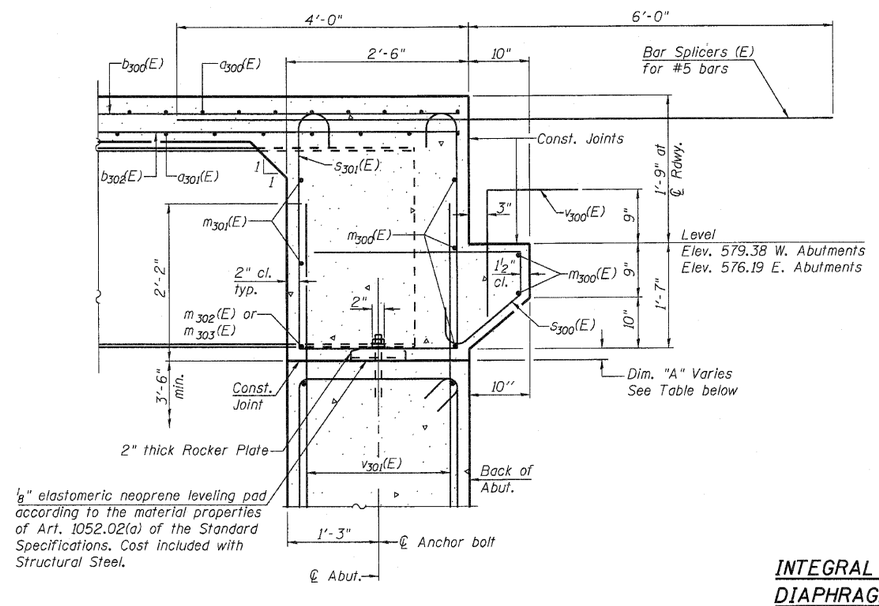
MIN. BAR LAP

#6 bar = 3'-4"



SECTION A-A

At Seats for Beams 3, 4, 5, 10, 11 & 12



SECTION B-B

At Seats for Beams 1, 2, 6, 7, 8, 9, 13 & 14

DIMENSION "A"

Beams	1 & 14	2 & 13	3 & 12	4 & 11	5 & 10	6 & 9	7 & 8
"A"	$2\frac{3}{8}$"	$\frac{7}{8}$"	$\frac{3}{8}$"	$1\frac{1}{8}$"	$1\frac{1}{8}$"	0	$1\frac{3}{8}$"

See Section A-A and Section B-B for Dimension "A" locations

INTEGRAL ABUTMENT DIAPHRAGM DETAILS STRUCTURE NO. 081-0190 (WB) STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 20
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	261
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SI-DS2 11-1-09

PLOT DATE = 1/21/2010
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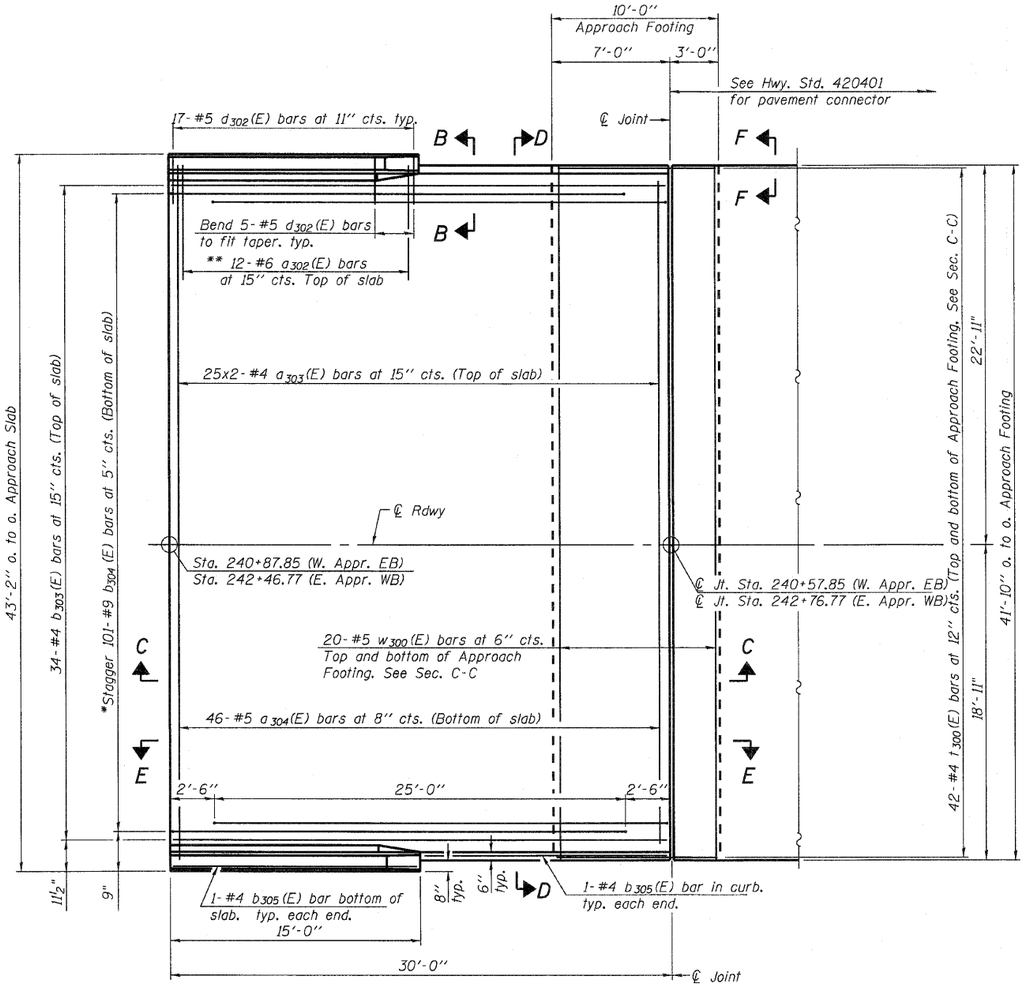
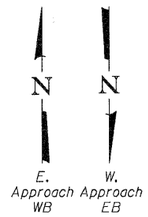


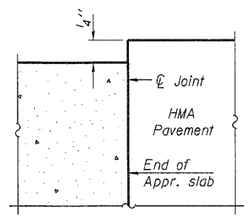
PLAN

W. Approach EB, E. Approach WB
* Tilt #9 b_{304}(E) bars as required to maintain clearance.
** Space between a_{303}(E) bars, typ. ea. parapet.

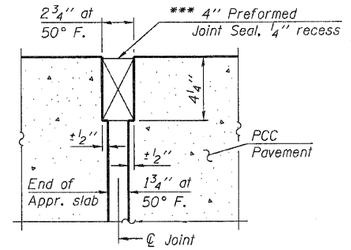
Notes:
See sheet 23 of 41 for Sections C-C & D-D and View E-E.



*** Cost included with Concrete Superstructure.

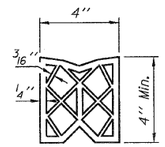


FLEXIBLE PAVEMENT



RIGID PAVEMENT

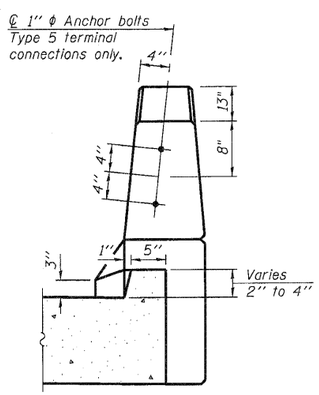
DETAIL A



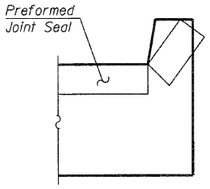
PREFORMED JOINT SEAL

MIN. BAR LAP

#4 bar = 2'-4"



VIEW B-B



VIEW F-F

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

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 21
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	262
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

BA-0

11-1-09

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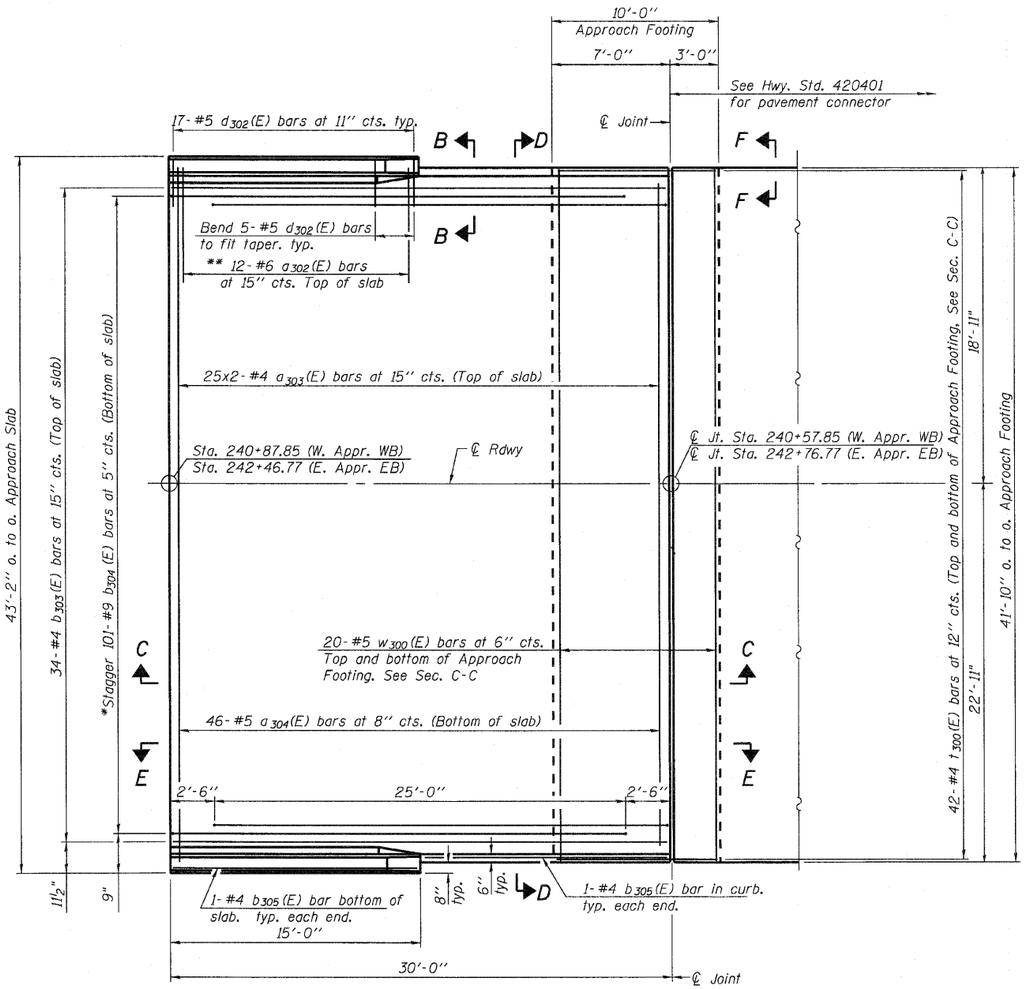
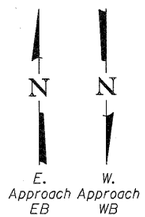


PLAN

W. Approach WB, E. Approach EB
* Tilt #9 b_{304}(E) bars as required to maintain clearance.
** Space between d_{303}(E) bars, typ. ea. parapet.

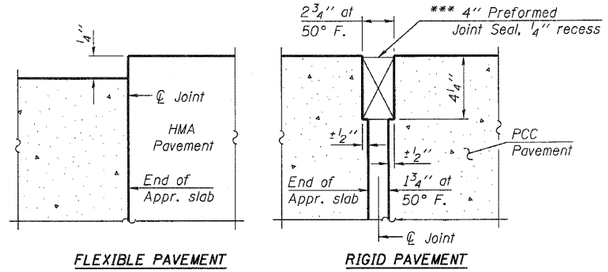
MIN. BAR LAP

#4 bar = 2'-4"



Notes:
See sheet 23 of 41 for Sections C-C & D-D and View E-E.

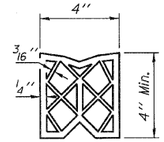
*** Cost included with Concrete Superstructure.



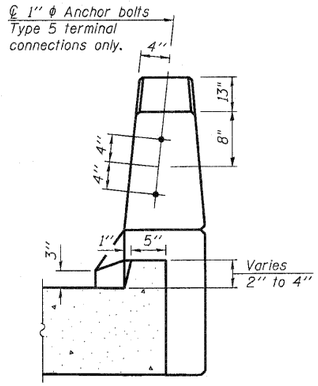
FLEXIBLE PAVEMENT

RIGID PAVEMENT

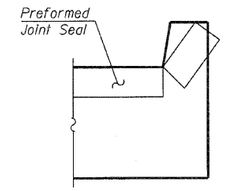
DETAIL A



PREFORMED JOINT SEAL



VIEW B-B



VIEW F-F

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

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
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SHEET NO. 22
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	263
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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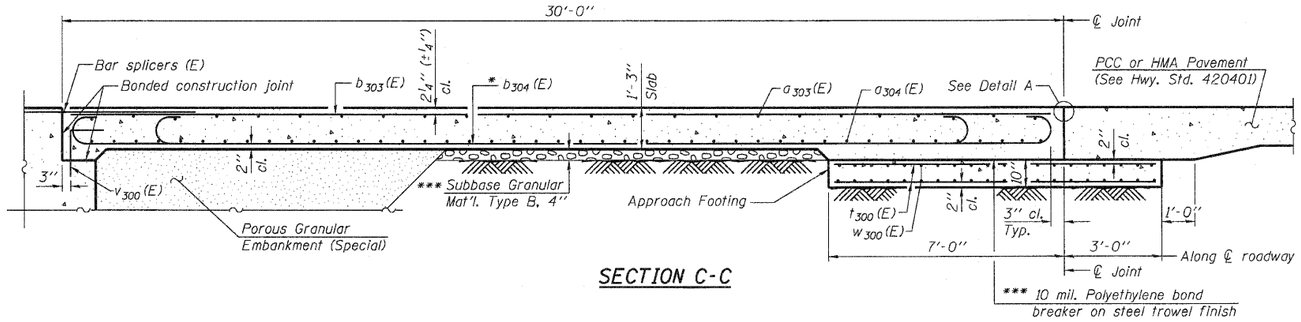
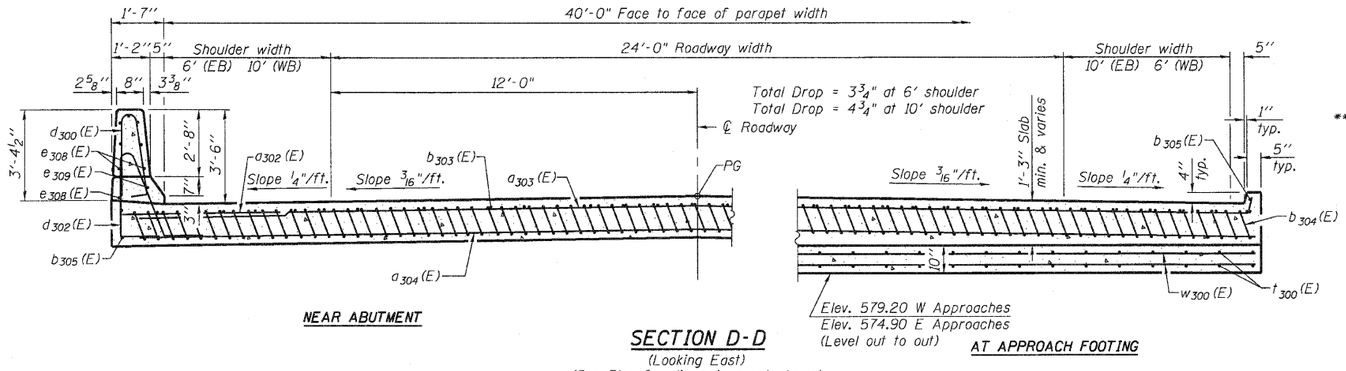
BA-0

11-1-09



SECTION C-C

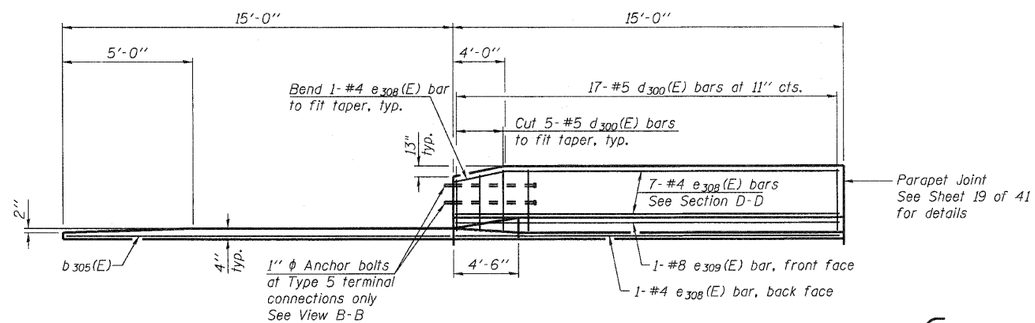


NEAR ABUTMENT

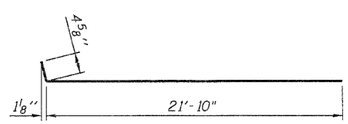
SECTION D-D

(Looking East)
(See Plan for dimensions not shown)

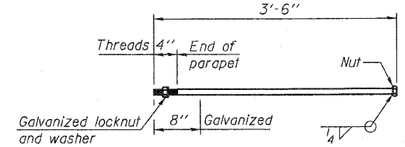
AT APPROACH FOOTING



VIEW E-E

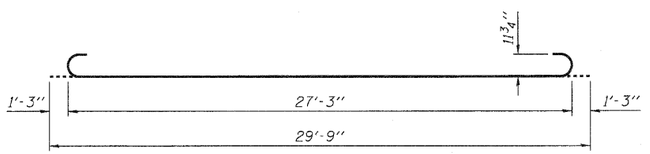


BAR a_{303}E)



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

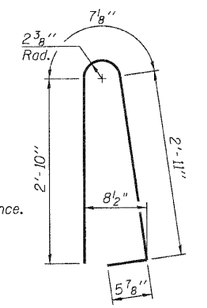


BAR b_{304}(E)

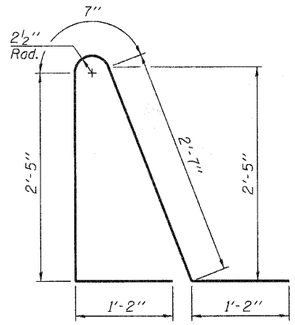
Notes:
See Sheets 21 and 22 of 41 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v_{300}(E) bar details, see sheet 19 of 41.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 36 of 41.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 2 of 41.
For additional parapet details, see sheet 19 of 41.

* Tilt #9 b_{304}(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



BAR d_{300}(E)



BAR d_{302}(E)

FOUR APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{302}(E)	96	#6	6'-6"	
a_{303}(E)	200	#4	22'-3"	
a_{304}(E)	184	#5	41'-6"	
b_{303}(E)	136	#4	29'-8"	
b_{304}(E)	404	#9	29'-9"	
b_{305}(E)	16	#4	14'-8"	
d_{300}(E)	136	#5	6'-10"	
d_{302}(E)	136	#5	7'-11"	
e_{308}(E)	64	#4	14'-8"	
e_{309}(E)	8	#8	14'-8"	
t_{300}(E)	336	#4	9'-8"	
w_{300}(E)	160	#5	41'-6"	
Concrete Superstructure			Cu. Yd.	265.4
Concrete Structures			Cu. Yd.	51.4
See Note A: Reinforcement Bars, Epoxy Coated			Pound	67,760

Note A: 58,660 lbs. (Superstructure)
9,100 lbs. (Substructure)

BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 23
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	264
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
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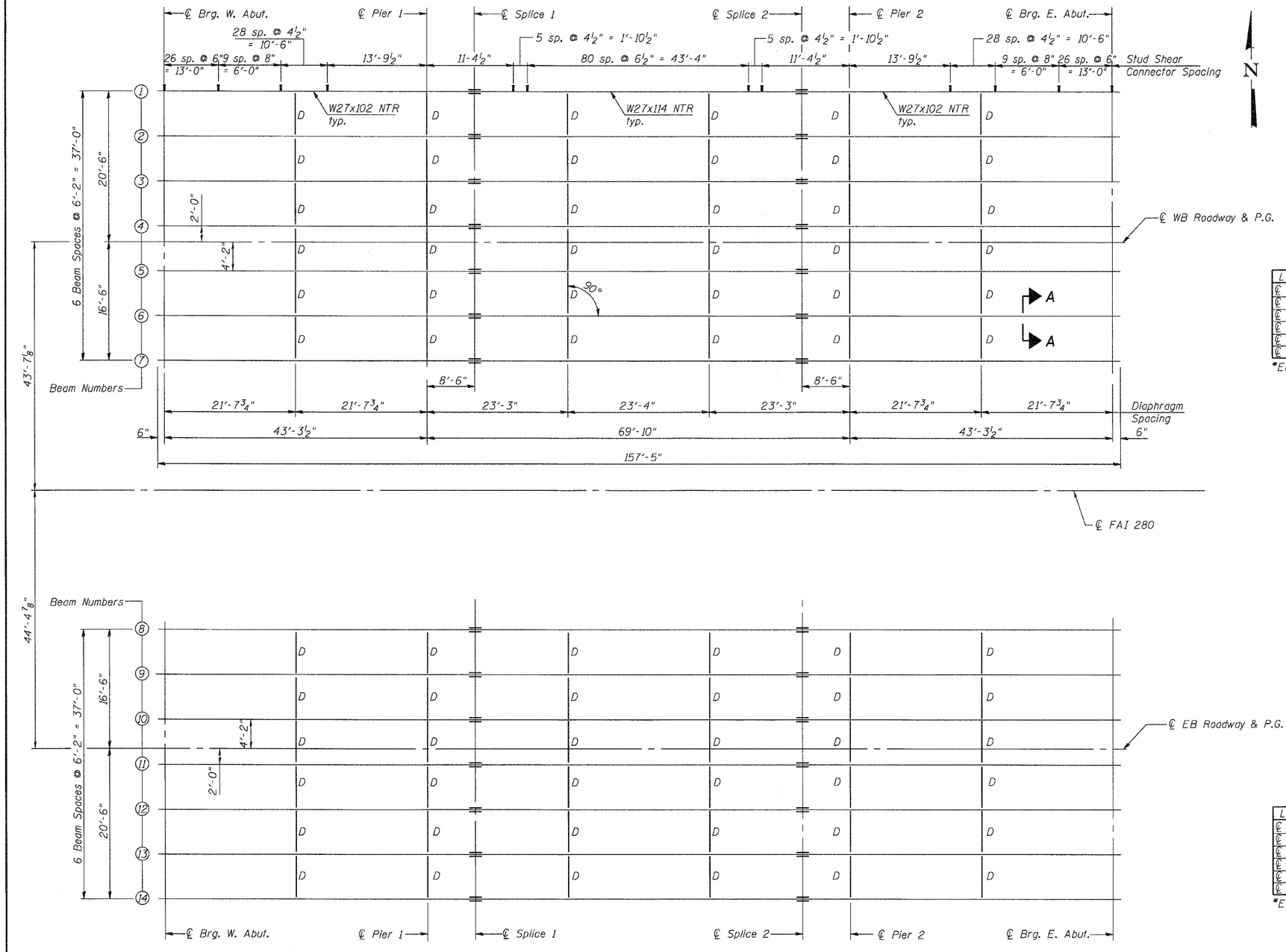
BA-0

11-1-09



*TOP OF BEAM ELEVATIONS

Location	Bm 1	Bm 2	Bm 3	Bm 4	Bm 5	Bm 6	Bm 7
℄ Brg. W. Abut.	580.03	580.16	580.26	580.36	580.33	580.23	580.11
℄ Pier 1	579.09	579.22	579.33	579.42	579.39	579.29	579.17
℄ Splice 1	578.91	579.03	579.14	579.24	579.20	579.11	578.99
℄ Splice 2	577.82	577.94	578.05	578.14	578.11	578.01	577.90
℄ Pier 2	577.66	577.79	577.89	577.99	577.96	577.86	577.74
℄ Brg. E. Abut.	576.89	577.02	577.12	577.22	577.19	577.09	576.97

*Elevations are for fabrication only

NOTES

All beams shall be AASHTO M270 Grade 50.
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
See Sheet 25 of 41 for Section A-A, End of Beam Detail, Splice Detail and Diaphragm Details.

*TOP OF BEAM ELEVATIONS

Location	Bm 8	Bm 9	Bm 10	Bm 11	Bm 12	Bm 13	Bm 14
℄ Brg. W. Abut.	580.11	580.23	580.33	580.36	580.26	580.16	580.03
℄ Pier 1	579.17	579.29	579.39	579.42	579.33	579.22	579.09
℄ Splice 1	578.99	579.11	579.20	579.24	579.14	579.03	578.91
℄ Splice 2	577.90	578.01	578.11	578.14	578.05	577.94	577.82
℄ Pier 2	577.74	577.86	577.96	577.99	577.89	577.79	577.66
℄ Brg. E. Abut.	576.97	577.09	577.19	577.22	577.12	577.02	576.89

*Elevations are for fabrication only

FRAMING PLAN

Beam Sizes, diaphragm spacing, splice locations and stud shear connector spacing are typical for both structures.

STEEL FRAMING PLAN
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 24
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	265
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

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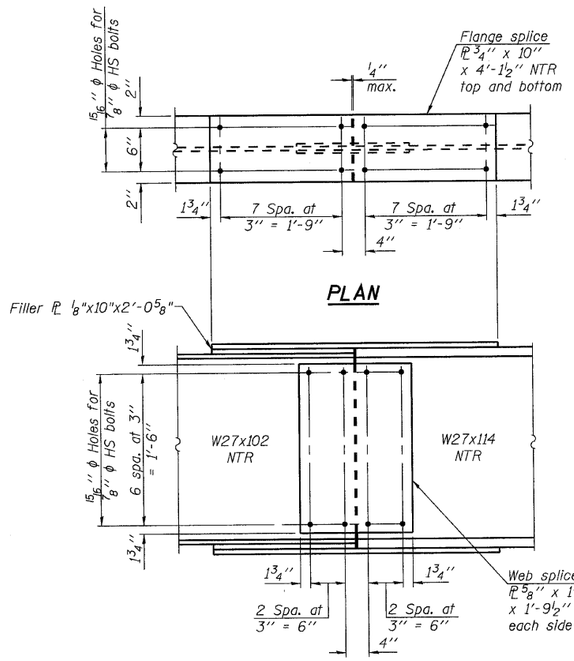
USER NAME = CPC

NOTES:

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnnected to install bearing anchor rods.

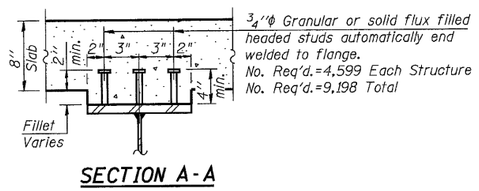
All Splice plates, excluding Filler plates, shall be AASHTO M270 Grade 50.



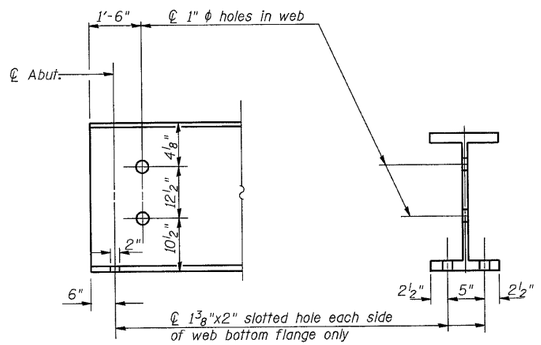
PLAN

ELEVATION

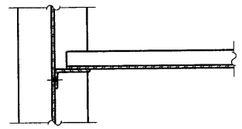
SPLICE DETAIL
(14 required, each structure)
(28 Required, Total)



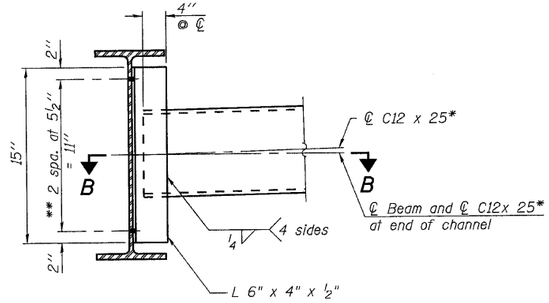
SECTION A-A



END OF BEAM DETAIL
(Stud shear connectors not shown)



SECTION B-B



DIAPHRAGM D
(36 required, each structure)
(72 required, total)

Note:
Two hardened washers required for each set of oversized holes.

* Alternate C12x30 channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

** 3/4" ϕ HS bolts, 15/16" ϕ holes

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

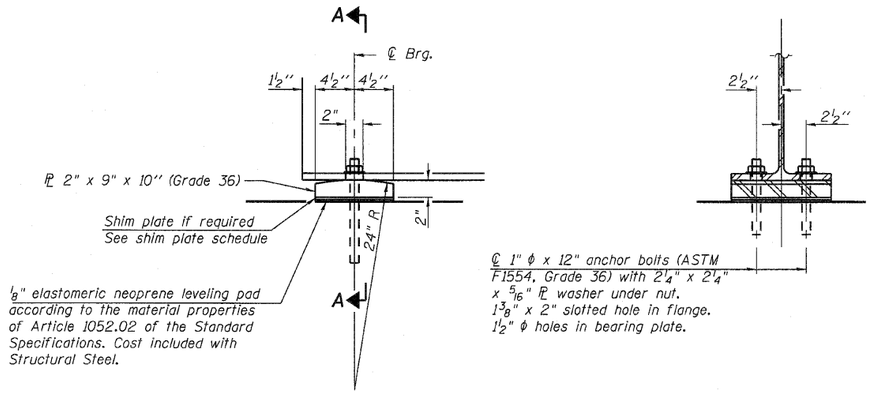
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 25
41 SHEETS

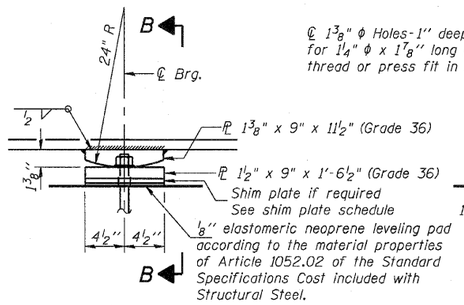
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	266
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 8/2/2010
FILE NAME = ...\081-0190_0191-64815-025-struct-det.dgn
PLOT SCALE = 0.085783 ' / IN.
USER NAME = MML_

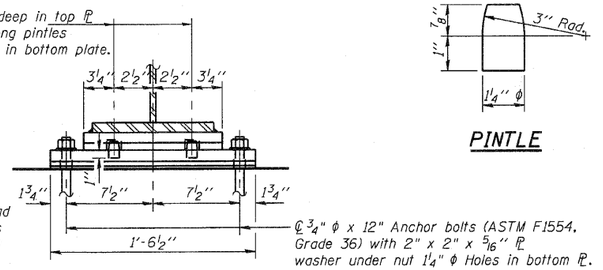


ELEVATION

SECTION A-A



ELEVATION



SECTION B-B

PINTLE

FIXED BEARING AT PIERS 1 AND 2

FIXED BEARING AT ABUTMENTS

NOTES

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

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

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

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

$\mathcal{D}$: Unfactored non-composite dead load (kips/ft.).

$M\mathcal{D}$: Unfactored moment due to non-composite dead load (kip-ft.).

$s\mathcal{D}$: Unfactored long-term composite (superimposed) dead load (kips/ft.)

$M_s\mathcal{D}$: Unfactored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Unfactored live load moment (kip-ft.).

M_{imp}: Unfactored moment due to impact (kip-ft.).

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

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
$M\mathcal{D} + M_s\mathcal{D} + \frac{5}{3}(M_L + M_{imp})$

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

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

INTERIOR BEAM MOMENT TABLE			
	0.4 Span 1 or 0.6 Span 3	Piers	0.5 Span 2
I_s	3620	3620	4090
$I_c(n)$	10,313	—	11,351
$I_c(3n)$	7636	—	8,333
S_s	267	267	299
$S_c(n)$	403	—	448
$S_c(3n)$	364	—	404
$\mathcal{D}$	0.76	1.22	0.78
$M\mathcal{D}$	68	392	213
$s\mathcal{D}$	0.46	—	0.46
$M_s\mathcal{D}$	56	—	162
M_L	240	171	402
M_I	72	48	104
$\frac{5}{3}[M_L + I]$	520	365	843
M_a	837	984	1583
M_u	1609	—	1687
$f_s\ \mathcal{D}$ non-comp	3.1	17.6	8.6
$f_s\ \mathcal{D}$ comp	1.8	—	4.8
$f_s\ \frac{5}{3}[M_L + M_I]$	15.6	16.4	22.6
f_s (Overload)	20.5	34.0	36.0
f_s (Total)	—	44.2	—
VR	31	—	36

SHIM PLATE SCHEDULE		
Beams	Location	Shim Plate
4 & 11	W. Abut.	½"x 9"x 10"
4 & 11	Pier 1	½"x 9"x 1'-6½"
4 & 11	Pier 2	½"x 9"x 1'-6½"
4 & 11	E. Abut.	½"x 9"x 10"

INTERIOR BEAM REACTION TABLE		
	Abut.	Pier
$R\mathcal{D}$	18	80
R_L	30	38
Imp.	8	10
R_{Total}	56	128

BILL OF MATERIAL
TWO STRUCTURES

Item	Unit	Total
Anchor Bolts, 1"ϕ	Each	56
Anchor Bolts, ¾"ϕ	Each	56

BEARING DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

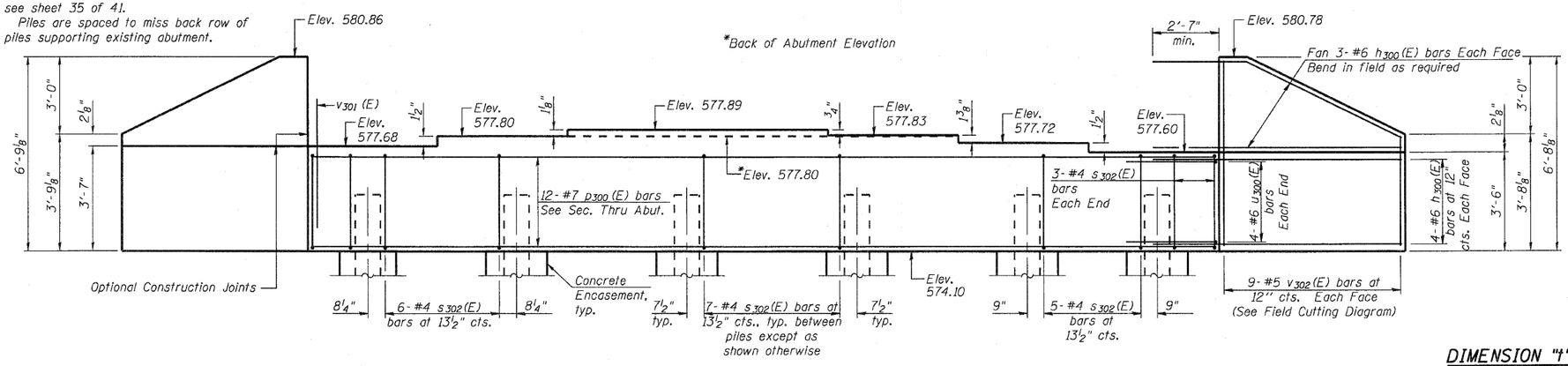
PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 26
41 SHEETS

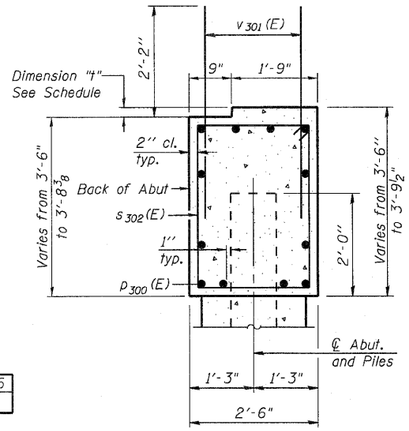
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	267
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...081-0190,0191-64815-026-bearing-det.dgn
PLOT SCALE = 0.089783 ' / IN.
USER NAME = DTC

Notes:
Pour steps monolithically with cap.
For details of piles and Concrete Encasement, see sheet 35 of 41.
Piles are spaced to miss back row of piles supporting existing abutment.



ELEVATION
(Looking West)

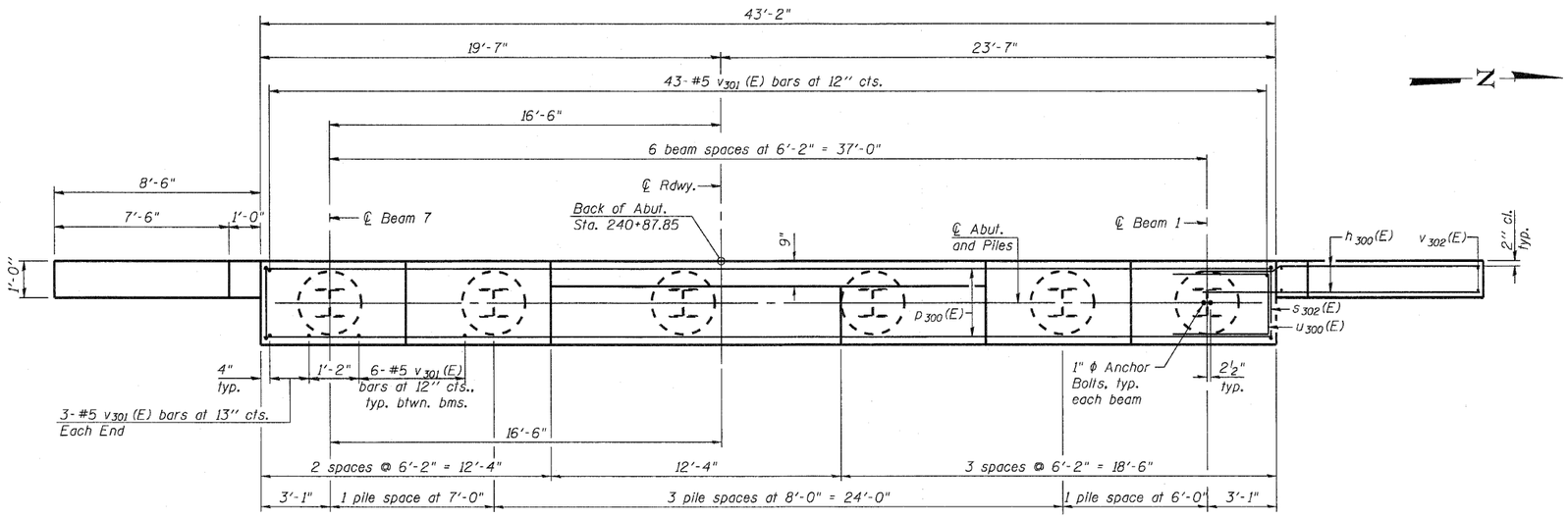


SEC. THRU ABUT.

DIMENSION "t"

	Beam 3	Beam 4	Beam 5
t	⅜"	1⅛"	1⅛"

t = 0 at Beams 1, 2, 6, and 7



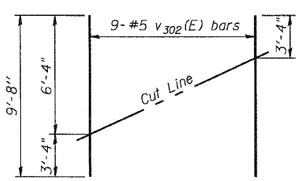
PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	28	#6	10'-11"	
p300(E)	12	#7	42'-2"	
s302(E)	38	#4	11'-5"	
u300(E)	8	#6	7'-3"	
v301(E)	85	#5	4'-4"	
v302(E)	18	#5	9'-8"	
Structure Excavation		Cu. Yd.	78	
Concrete Structures		Cu. Yd.	18.1	
Reinforcement Bars, Epoxy Coated		Pound	2435	
Furnishing Steel Piles, HP 10x42		Foot	144	
Driving Piles		Foot	144	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

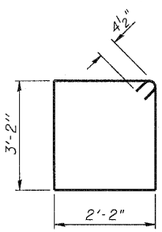
PILE DATA

Type: HP 10x42 with pile shoes
Nominal Required Bearing: 335
Allowable Resistance Available: 112
Est. Length: 24'
No. Production Piles: 6
No. Test Piles: 0

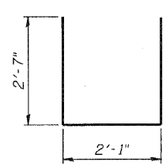


FIELD CUTTING DIAGRAM

Order v302(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s302(E)



BAR u300(E)

WEST ABUTMENT
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

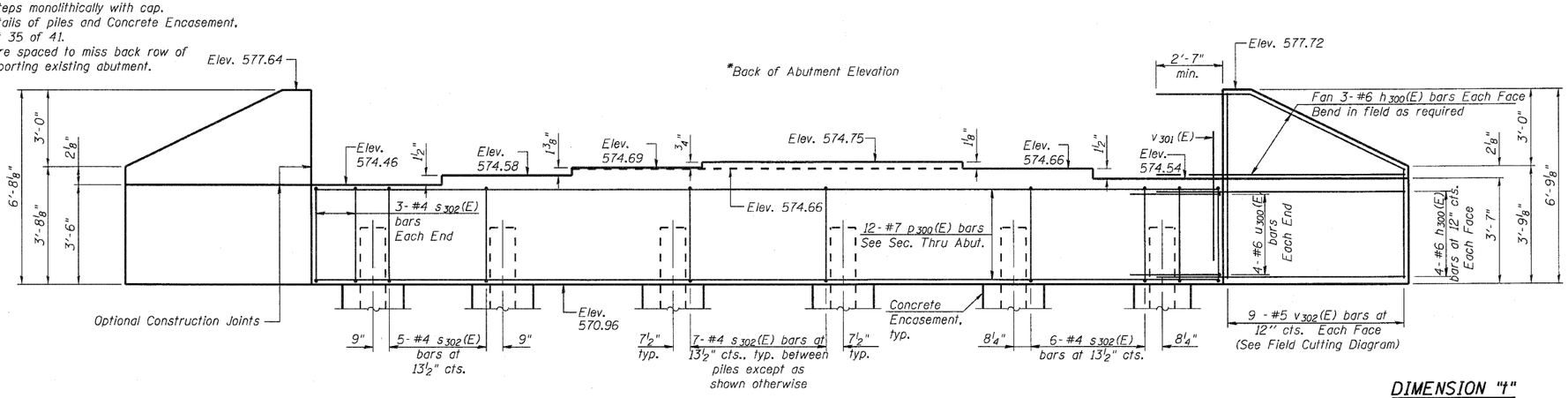
SHEET NO. 27
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	268
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

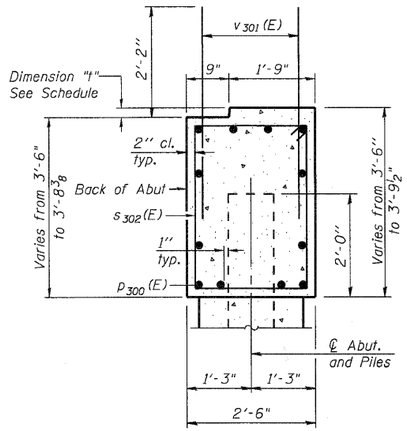
AI-0
11-1-09

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-027-abu-rsf-WB.dgn
PLOT SCALE = 0.005783 ' / IN.
USER NAME = OFC.

Notes:
Pour steps monolithically with cap.
For details of piles and Concrete Encasement, see sheet 35 of 41.
Piles are spaced to miss back row of piles supporting existing abutment.



ELEVATION
(Looking East)

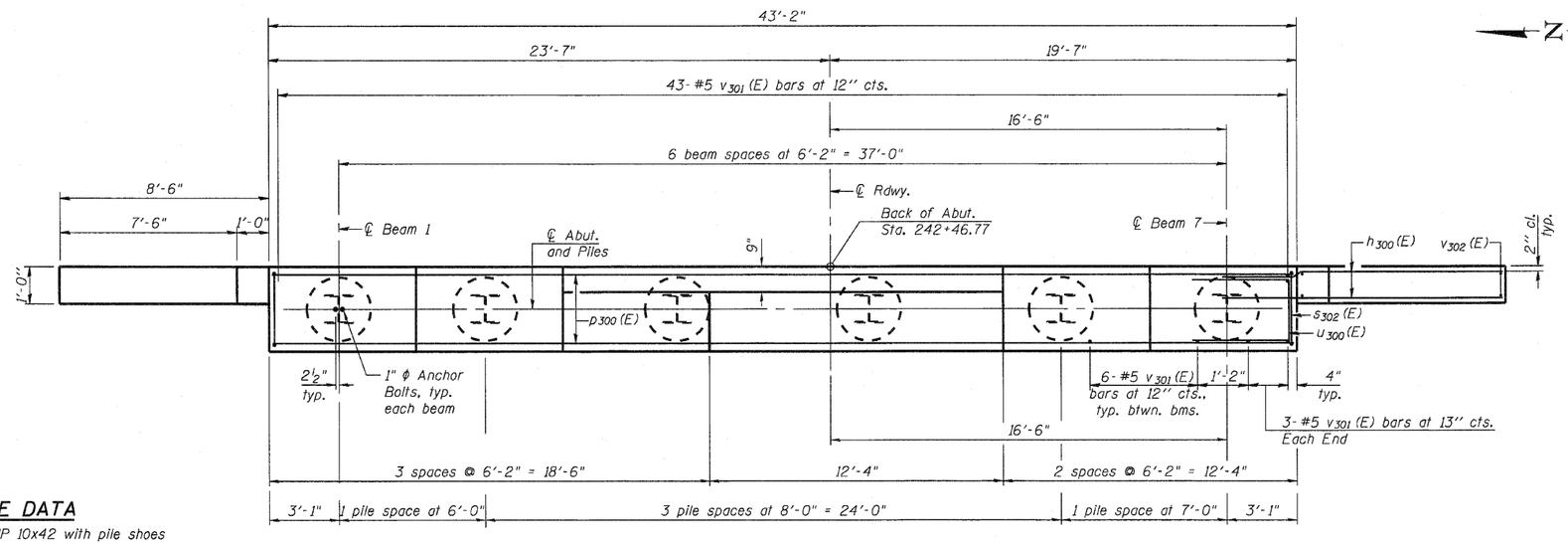


SEC. THRU ABUT.

DIMENSION "t"

	Beam 3	Beam 4	Beam 5
t	3/8"	1 1/8"	1 1/8"

t = 0 at Beams 1, 2, 6, and 7



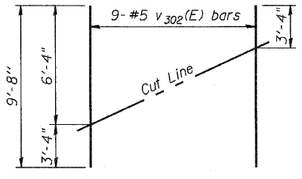
PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300 (E)	28	#6	10'-11"	
p300 (E)	12	#7	42'-2"	
s302 (E)	38	#4	11'-5"	
u300 (E)	8	#6	7'-3"	
v301 (E)	85	#5	4'-4"	
v302 (E)	18	#5	9'-8"	
Structure Excavation		Cu. Yd.	78	
Concrete Structures		Cu. Yd.	18.1	
Reinforcement Bars, Epoxy Coated		Pound	2435	
Furnishing Steel Piles, HP 10x42		Foot	126	
Driving Piles		Foot	126	
Concrete Encasement		Cu. Yd.	2.1	
Pile Shoes		Each	6	

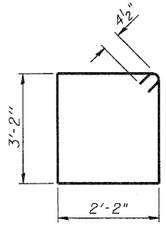
PILE DATA

Type: HP 10x42 with pile shoes
Nominal Required Bearing: 335
Allowable Resistance Available: 112
Est. Length: 21'
No. Production Piles: 6
No. Test Piles: 0

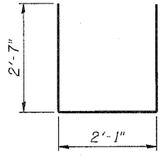


FIELD CUTTING DIAGRAM

Order v302 (E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s302(E)



BAR u300(E)

EAST ABUTMENT
STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 28
41 SHEETS

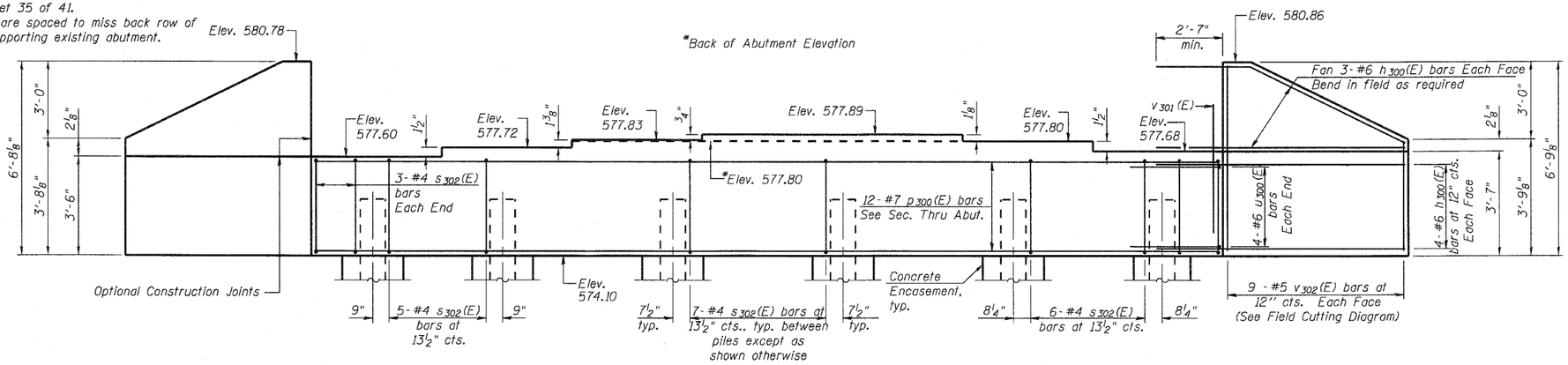
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	269
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190.0191-64815-028-abutsE-WB.dgn
PLOT SCALE = 0.085783 ' / IN.
USER NAME = CFC.

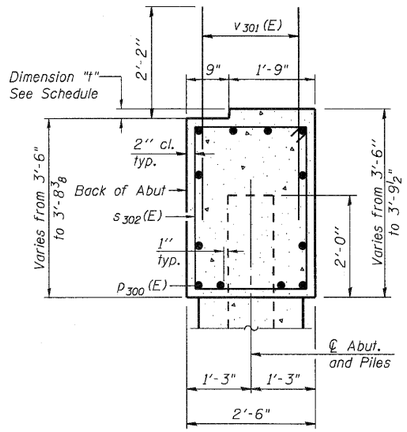
AI-0

11-1-09

Notes:
Pour steps monolithically with cap.
For details of piles and Concrete Encasement, see sheet 35 of 41.
Piles are spaced to miss back row of piles supporting existing abutment.



ELEVATION
(Looking West)

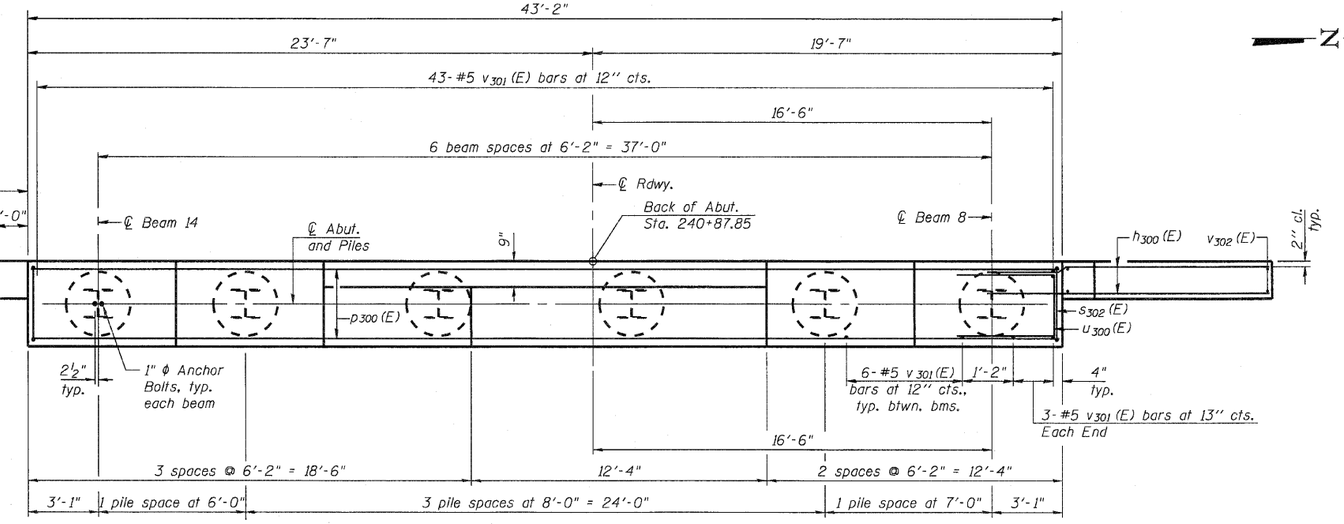


SEC. THRU ABUT.

DIMENSION "t"

	Beam 10	Beam 11	Beam 12
t	1⅛"	1⅛"	⅜"

t = 0 at Beams 8, 9, 13, and 14



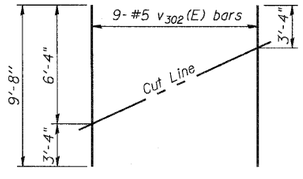
PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300 (E)	28	#6	10'-11"	
p300 (E)	12	#7	42'-2"	
s302 (E)	38	#4	11'-5"	
u300 (E)	8	#6	7'-3"	
v301 (E)	85	#5	4'-4"	
v302 (E)	18	#5	9'-8"	
Structure Excavation			Cu. Yd.	78
Concrete Structures			Cu. Yd.	18.1
Reinforcement Bars, Epoxy Coated			Pound	2435
Furnishing Steel Piles, HP 10x42			Foot	150
Driving Piles			Foot	150
Concrete Encasement			Cu. Yd.	2.1
Pile Shoes			Each	6

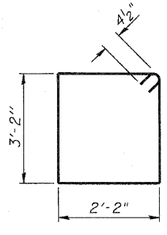
PILE DATA

Type: HP 10x42 with pile shoes
Nominal Required Bearing: 335
Allowable Resistance Available: 112
Est. Length: 25'
No. Production Piles: 6
No. Test Piles: 0

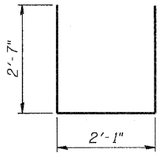


FIELD CUTTING DIAGRAM

Order v302 (E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s302(E)



BAR u300(E)

WEST ABUTMENT
STRUCTURE NO. 081-0191 (EB)

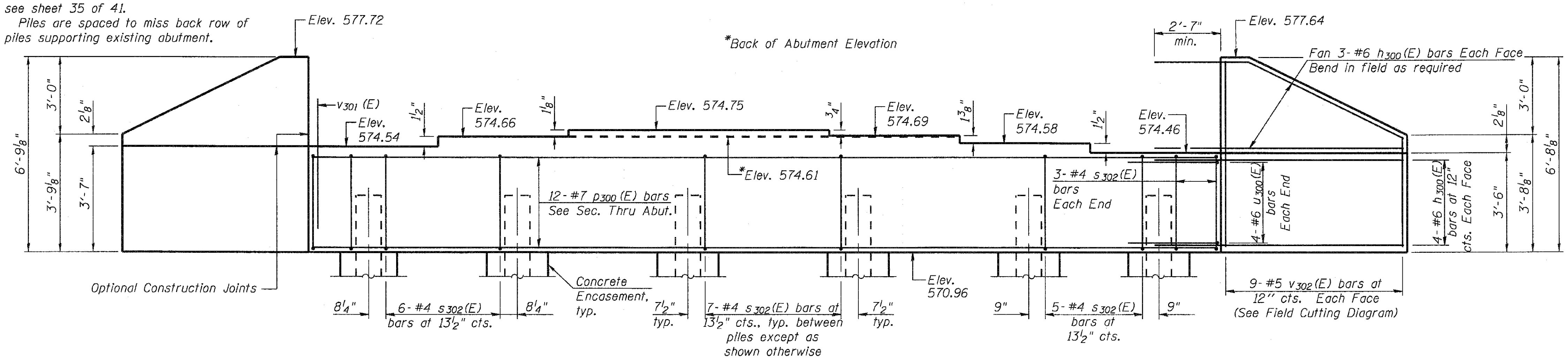
Coombe-Bloxdorf P.C. -CIVIL ENGINEERS- -STRUCTURAL ENGINEERS- -LAND SURVEYORS- Design Firm License No. 184-002703	PROJECT NO. 09033 SCALE DATE 5/18/10 DESIGN BY DRAWN BY MML CHECKED BY MCB	SHEET NO. 29 41 SHEETS	F.A.I. RTE. 280	SECTION 81-1 (HB-1)	COUNTY ROCK ISLAND	TOTAL SHEETS 503	SHEET NO. 270
					CONTRACT NO. 64815		
			FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190,0191-64815-029-00ts#-EB.dgn
PLOT SCALE = 0.085783 ' / IN.
USER NAME = CTC.

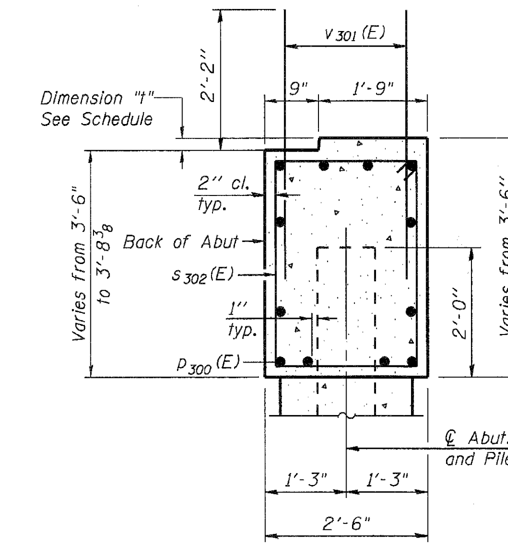
AI-0

11-1-09

Notes:
Pour steps monolithically with cap.
For details of piles and Concrete Encasement, see sheet 35 of 41.
Piles are spaced to miss back row of piles supporting existing abutment.



ELEVATION
(Looking East)

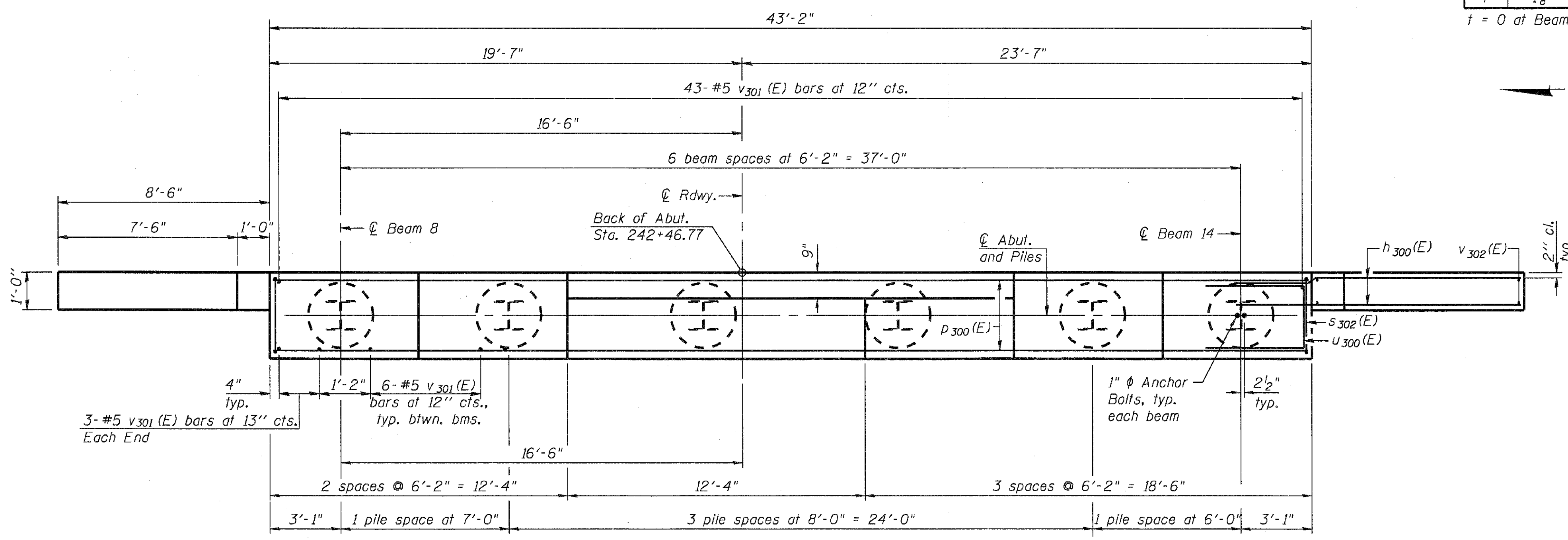


SEC. THRU ABUT.

DIMENSION "t"

	Beam 10	Beam 11	Beam 12
t	1⅛"	1⅛"	⅜"

t = 0 at Beams 8, 9, 13, and 14



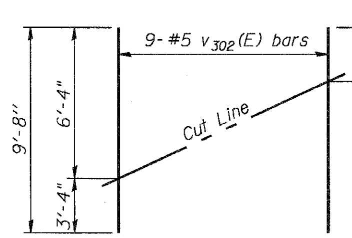
PLAN

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300 (E)	28	#6	10'-11"	
p300 (E)	12	#7	42'-2"	
s302 (E)	38	#4	11'-5"	
u300 (E)	8	#6	7'-3"	
v301 (E)	85	#5	4'-4"	
v302 (E)	18	#5	9'-8"	
Structure Excavation			Cu. Yd.	78
Concrete Structures			Cu. Yd.	18.1
Reinforcement Bars, Epoxy Coated			Pound	2435
Furnishing Steel Piles, HP 10x42			Foot	132
Driving Piles			Foot	132
Concrete Encasement			Cu. Yd.	2.1
Pile Shoes			Each	6

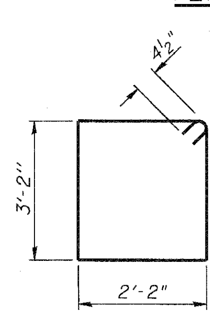
PILE DATA

Type: HP 10x42 with pile shoes
Nominal Required Bearing: 335
Allowable Resistance Available: 112
Est. Length: 22'
No. Production Piles: 6
No. Test Piles: 0

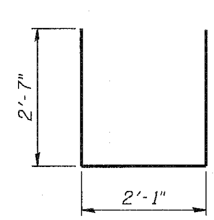


FIELD CUTTING DIAGRAM

Order v_{302}(E) full length. Cut as shown and use remainder of bars in opposite face.



BAR s_{302}(E)



BAR u_{300}(E)

EAST ABUTMENT
STRUCTURE NO. 081-0191 (EB)

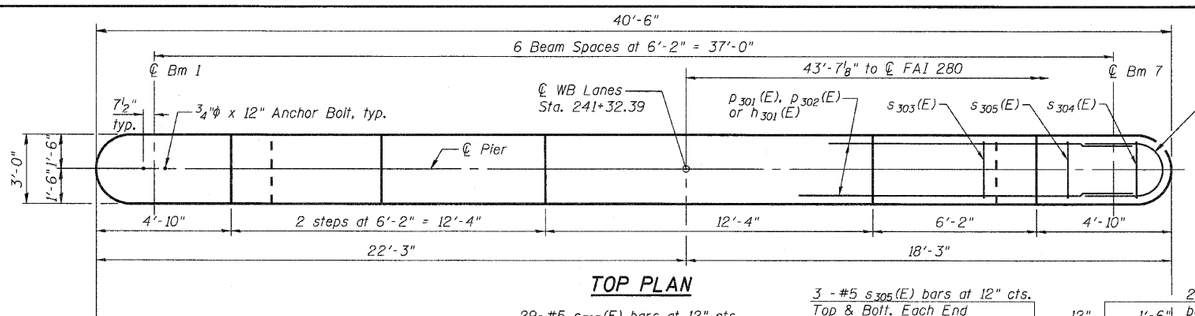
Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033 / SCALE / DATE 5/18/10 / DESIGN BY / DRAWN BY MML / CHECKED BY MCB	SHEET NO. 30 / 41 SHEETS	F.A.I. RTE. 280	SECTION 81-1 (HB-1)	COUNTY ROCK ISLAND	TOTAL SHEETS 503	SHEET NO. 271
				CONTRACT NO. 64815		
		FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

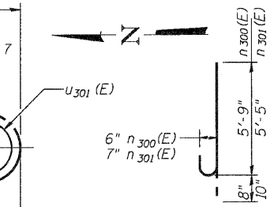
AI-0 11-1-09

PLOT DATE = 7/21/2010
FILE NAME = ...081-0190,0191-64815-030-abutE-EB.dgn
PLOT SCALE = 0.095783 ' / IN.
USER NAME = CFC.

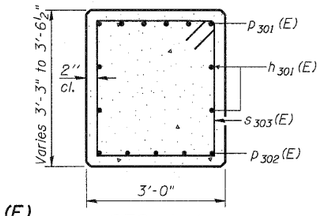
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Concrete Sealer shall be applied to all the exposed surfaces of the pier.



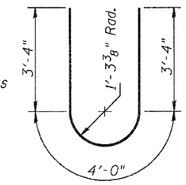
TOP PLAN



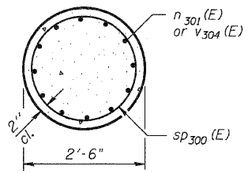
BAR $n_{300}(E)$ & $n_{301}(E)$



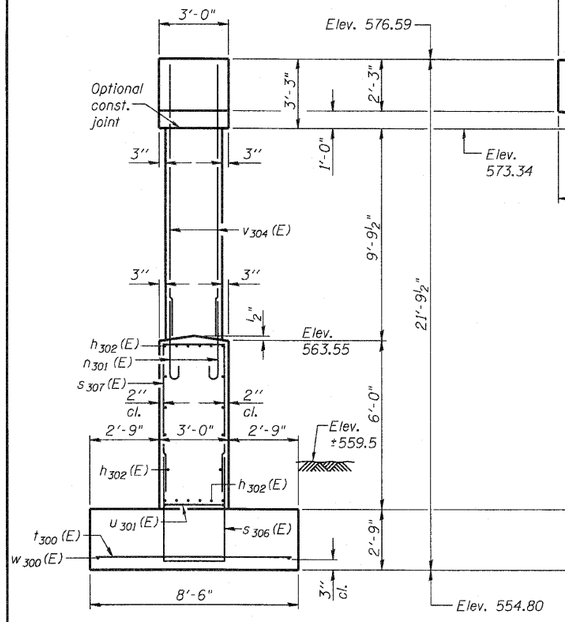
SEC. A-A



BAR $u_{301}(E)$



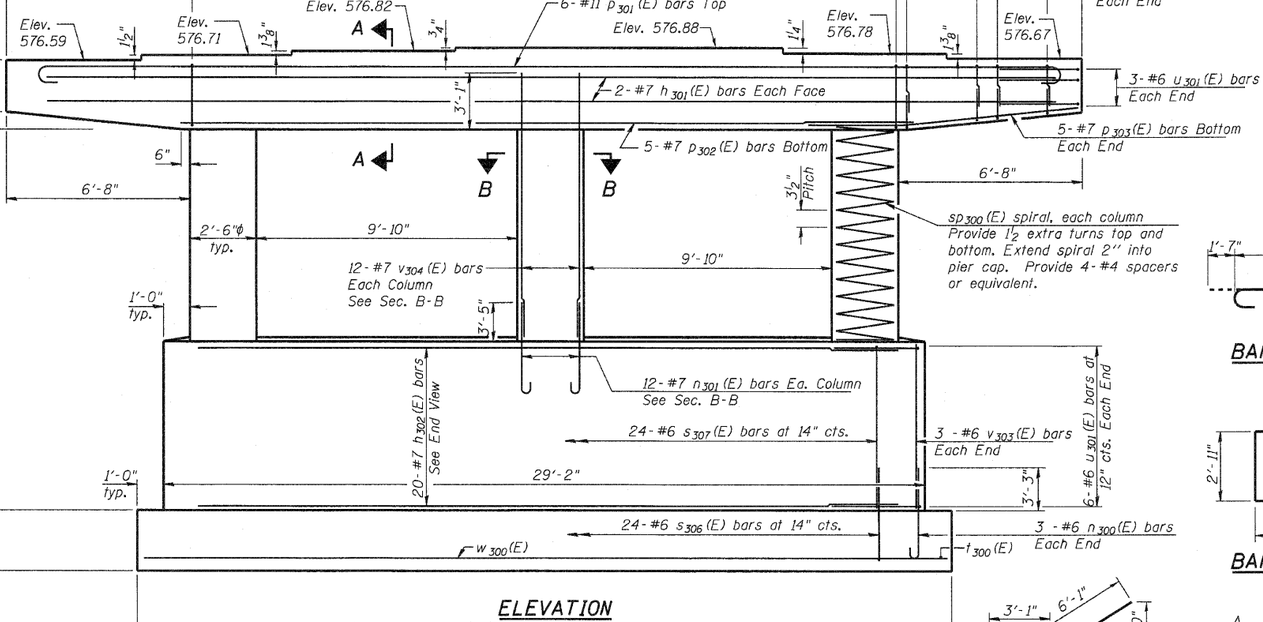
SEC. B-B



NORTH END VIEW

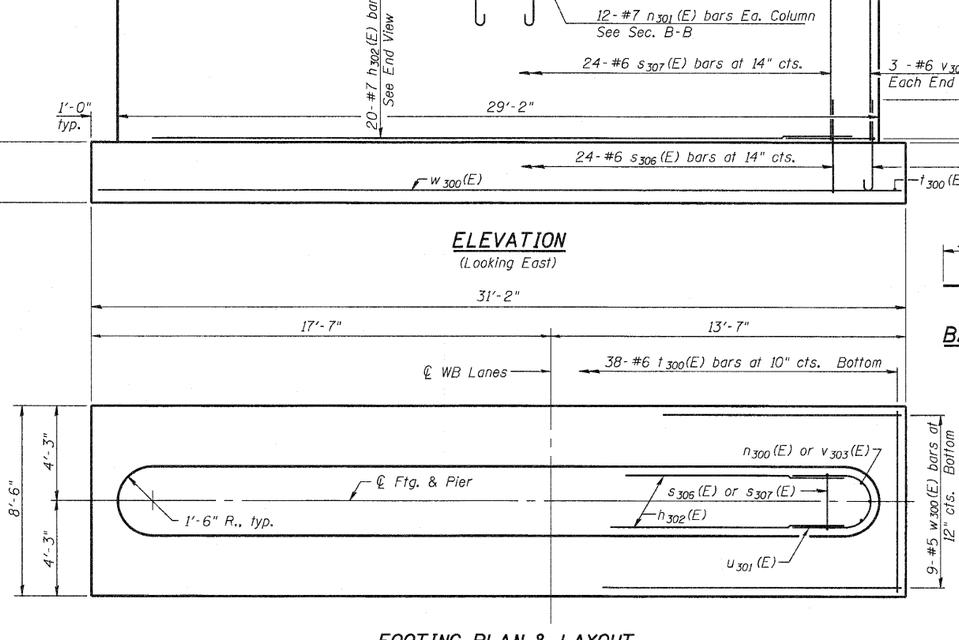
Max. Applied Service Bearing Pressure, Q_{max} = 4.6 ksf

Note:
If rock is not encountered at or above Elev. 554.8 the engineer shall be contacted before construction of the footing begins.

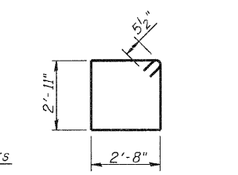


ELEVATION

(Looking East)



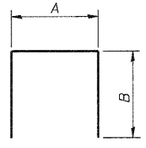
FOOTING PLAN & LAYOUT



BAR $p_{301}(E)$

BAR $s_{303}(E)$

BAR $p_{303}(E)$



BARS $s_{304}(E)$ thru $s_{307}(E)$

A & B DIMENSIONS

Bar	A	B
$s_{304}(E)$	2'-8"	2'-1"
$s_{305}(E)$	2'-8"	2'-6"
$s_{306}(E)$	2'-8"	5'-9"
$s_{307}(E)$	2'-8"	5'-8"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_{301}(E)$	4	#7	37'-6"	—
$h_{302}(E)$	20	#7	25'-2"	—
$n_{300}(E)$	6	#6	6'-5"	⊃
$n_{301}(E)$	36	#7	6'-3"	⊃
$p_{301}(E)$	6	#11	40'-8"	⊂⊃
$p_{302}(E)$	5	#7	28'-2"	—
$p_{303}(E)$	10	#7	9'-2"	⌒
$s_{303}(E)$	29	#5	12'-1"	□
$s_{304}(E)$	8	#5	6'-10"	⊔
$s_{305}(E)$	12	#5	7'-8"	⊔
$s_{306}(E)$	24	#6	14'-2"	⊔
$s_{307}(E)$	24	#6	14'-0"	⊓
* $sp_{300}(E)$	3	#4	10'-0"	∿∿
$t_{300}(E)$	38	#6	8'-2"	—
$u_{301}(E)$	18	#6	10'-8"	⊃
$v_{303}(E)$	6	#6	5'-8"	—
$v_{304}(E)$	36	#7	12'-8"	—
$w_{300}(E)$	9	#5	30'-10"	—
Structure Excavation			Cu. Yd.	77
Concrete Structures			Cu. Yd.	65.9
Reinforcement Bars, Epoxy Coated			Pound	7750
Concrete Sealer			Sq. Ft.	1078

* Length is height of spiral.

PIER 1

STRUCTURE NO. 081-0190 (WB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

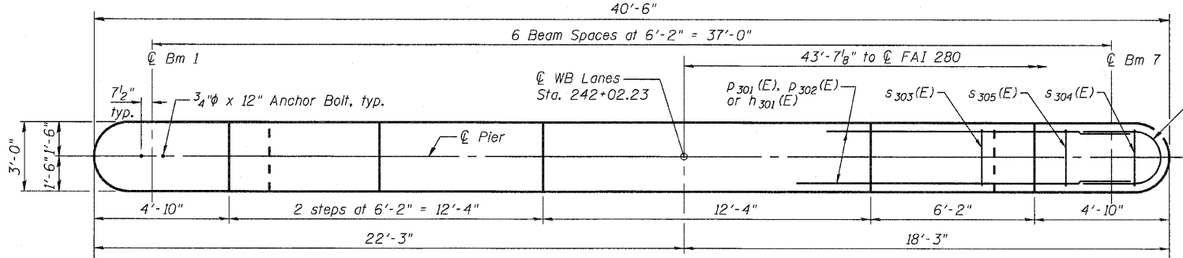
PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 31
41 SHEETS

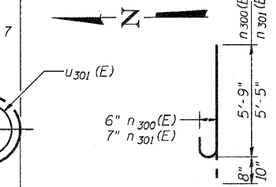
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	272
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = I:\081-0190_0191-64815-031-pier1-wb.dgn
PLOT SCALE = 0.0051183 ' / IN.
USER NAME = CYC.

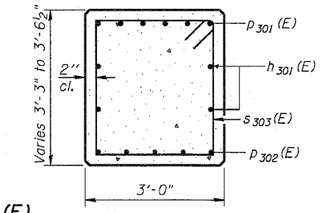
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Concrete Sealer shall be applied to all the exposed surfaces of the pier.



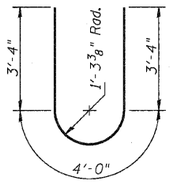
TOP PLAN



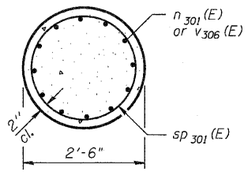
BAR $n_{300}(E)$ & $n_{301}(E)$



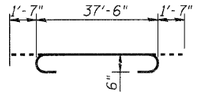
SEC. A-A



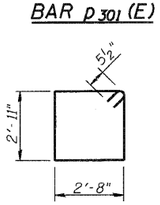
BAR $u_{301}(E)$



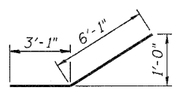
SEC. B-B



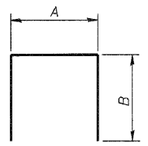
BAR $p_{301}(E)$



BAR $s_{303}(E)$



BAR $p_{303}(E)$



BARS $s_{304}(E)$ thru $s_{306}(E)$ & $s_{308}(E)$

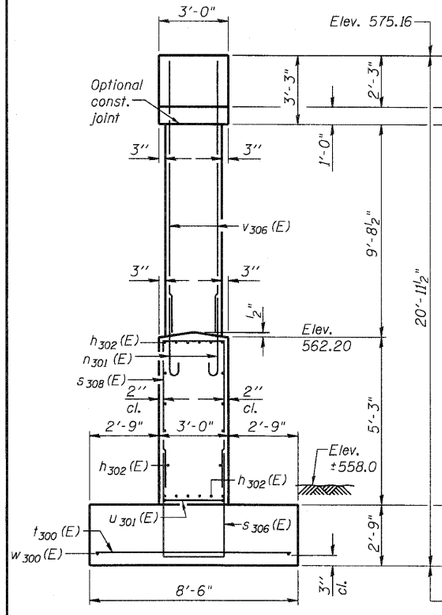
A & B DIMENSIONS

Bar	A	B
$s_{304}(E)$	2'-8"	2'-1"
$s_{305}(E)$	2'-8"	2'-6"
$s_{306}(E)$	2'-8"	5'-9"
$s_{308}(E)$	2'-8"	4'-11"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_{301}(E)$	4	#7	37'-6"	—
$h_{302}(E)$	20	#7	26'-2"	—
$n_{300}(E)$	6	#6	6'-5"	⊃
$n_{301}(E)$	36	#7	6'-3"	⊃
$p_{301}(E)$	6	#11	40'-8"	⊂⊃
$p_{302}(E)$	5	#7	28'-2"	—
$p_{303}(E)$	10	#7	9'-2"	⌐
$s_{303}(E)$	29	#5	12'-1"	□
$s_{304}(E)$	8	#5	6'-10"	⊔
$s_{305}(E)$	12	#5	7'-8"	⊔
$s_{306}(E)$	24	#6	14'-2"	⊔
$s_{308}(E)$	24	#6	12'-6"	⊓
* $sp_{301}(E)$	3	#4	9'-11"	∿∿
$t_{300}(E)$	38	#6	8'-2"	—
$u_{301}(E)$	18	#6	10'-8"	⊃
$v_{305}(E)$	6	#6	4'-11"	—
$v_{306}(E)$	36	#7	12'-8"	—
$w_{300}(E)$	9	#5	30'-10"	—
Structure Excavation			Cu. Yd.	62
Concrete Structures			Cu. Yd.	63.5
Reinforcement Bars, Epoxy Coated			Pound	7660
Concrete Sealer			Sq. Ft.	1085

* Length is height of spiral.



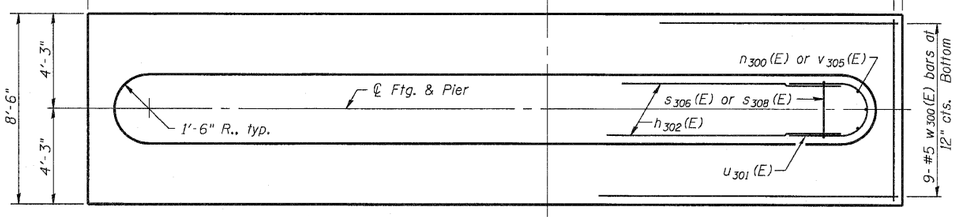
NORTH END VIEW

Max. Applied Service Bearing Pressure, Q_{max} = 4.6 ksf

Note:
If rock is not encountered at or above Elev. 554.20 the engineer shall be contacted before construction of the footing begins.

ELEVATION

(Looking East)



FOOTING PLAN & LAYOUT

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 32
41 SHEETS

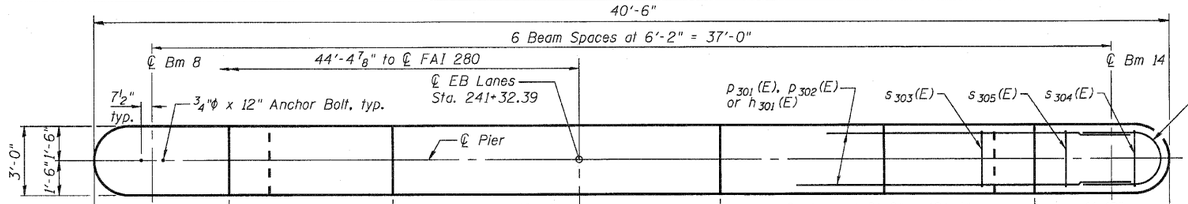
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	273
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 1/21/2010
FILE NAME = ...\081-0190_0151-64815-032-pier2-wb.dgn
PLOT SCALE = 0.0081783 ' / IN.
USER NAME = CFC.

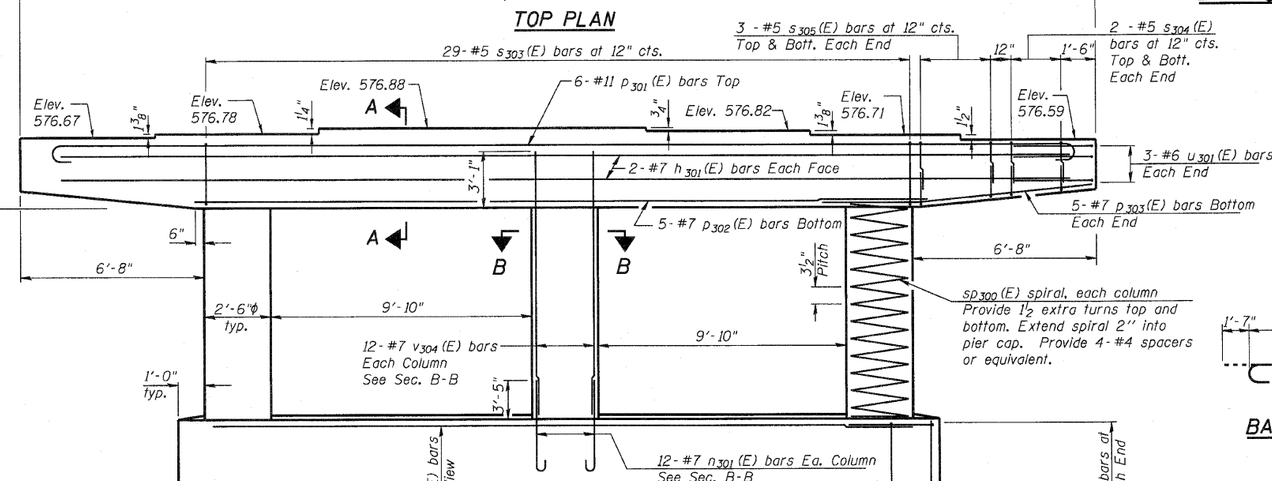
PIER 2

STRUCTURE NO. 081-0190 (WB)

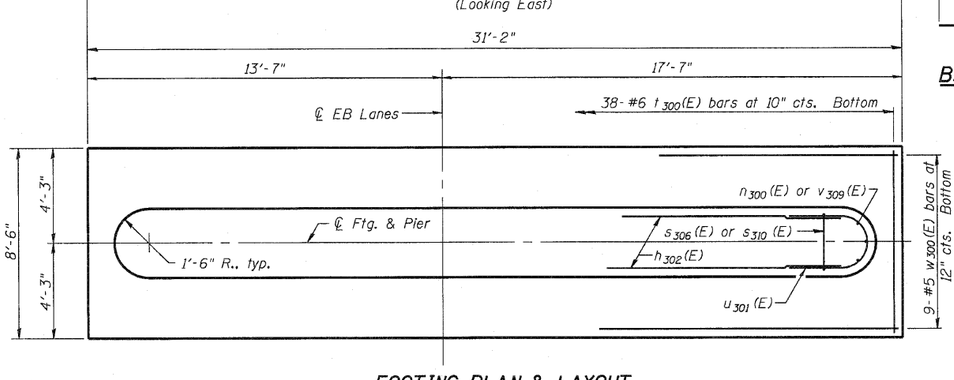
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Concrete Sealer shall be applied to all the exposed surfaces of the pier.



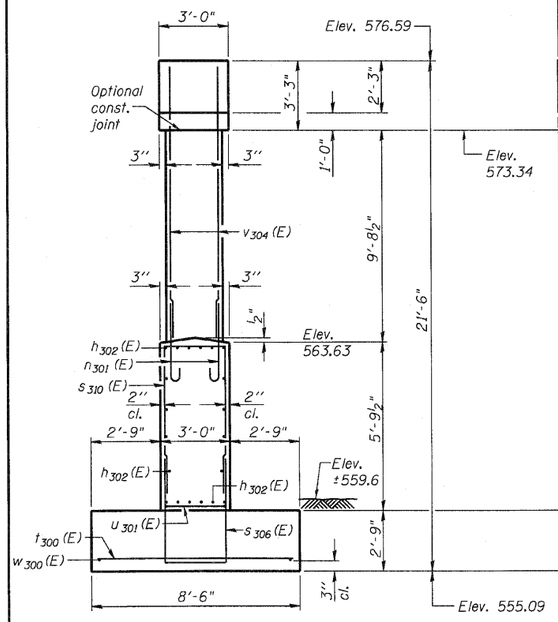
TOP PLAN



ELEVATION
(Looking East)



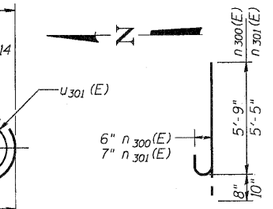
FOOTING PLAN & LAYOUT



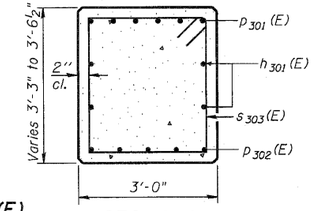
SOUTH END VIEW

Max. Applied Service Bearing Pressure, Q_{max} = 4.6 ksf

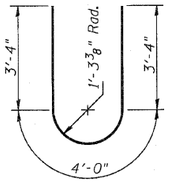
Note:
If rock is not encountered at or above Elev. 555.09 the engineer shall be contacted before construction of the footing begins.



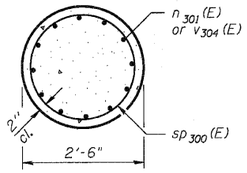
BAR n300(E) & n301(E)



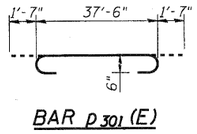
SEC. A-A



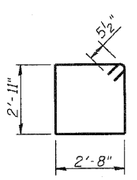
BAR u301(E)



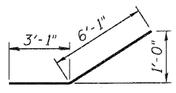
SEC. B-B



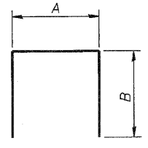
BAR p301(E)



BAR s303(E)



BAR p303(E)



BARS s304(E) thru s306(E) & s310(E)

A & B DIMENSIONS

Bar	A	B
s304(E)	2'-8"	2'-1"
s305(E)	2'-8"	2'-6"
s306(E)	2'-8"	5'-9"
s310(E)	2'-8"	5'-5"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h301(E)	4	#7	37'-6"	
h302(E)	20	#7	26'-2"	
n300(E)	6	#6	6'-5"	
n301(E)	36	#7	6'-3"	
p301(E)	6	#11	40'-8"	
p302(E)	5	#7	28'-2"	
p303(E)	10	#7	9'-2"	
s303(E)	29	#5	12'-1"	
s304(E)	8	#5	6'-10"	
s305(E)	12	#5	7'-8"	
s306(E)	24	#6	14'-2"	
s310(E)	24	#6	13'-6"	
* sp300(E)	3	#4	10'-0"	
t300(E)	38	#6	8'-2"	
u301(E)	18	#6	10'-8"	
v304(E)	36	#7	12'-8"	
v309(E)	6	#6	5'-5"	
w300(E)	9	#5	30'-10"	
Structure Excavation		Cu. Yd.	74	
Concrete Structures		Cu. Yd.	65.2	
Reinforcement Bars, Epoxy Coated		Pound	7730	
Concrete Sealer		Sq. Ft.	1075	

* Length is height of spiral.

PIER 1
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

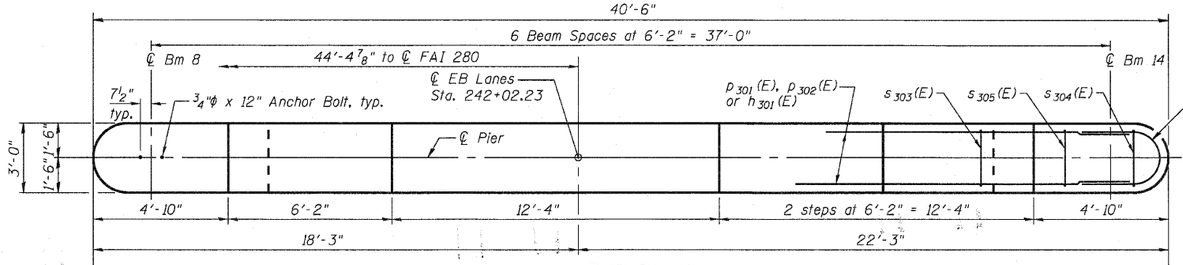
PROJECT NO. 09033
SCALE
DATE 5/18/02
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 33
41 SHEETS

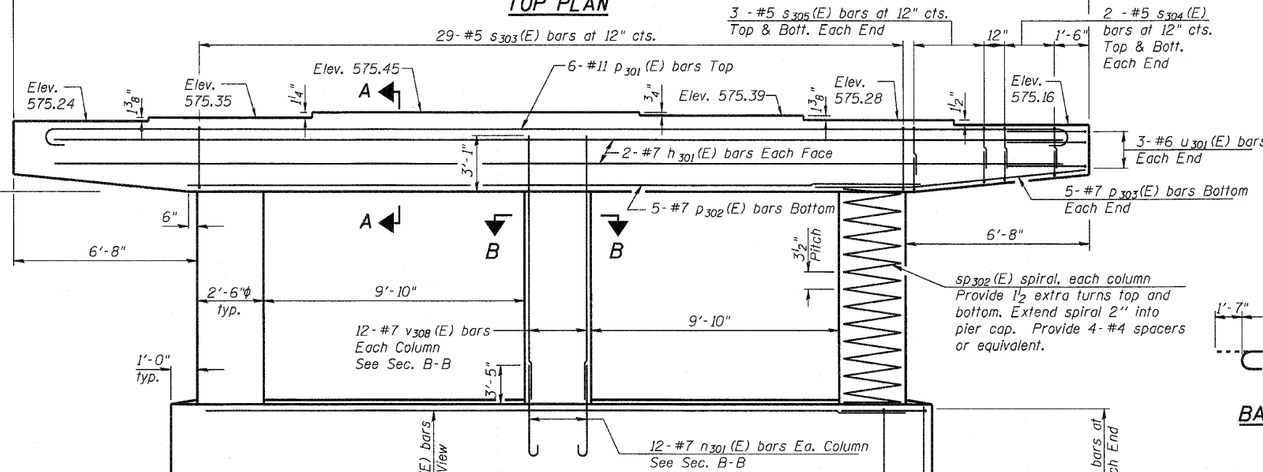
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	274
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-033-pier1-eb.dgn
PLOT SCALE = 0.085783 ' / IN.
USER NAME = CFC.

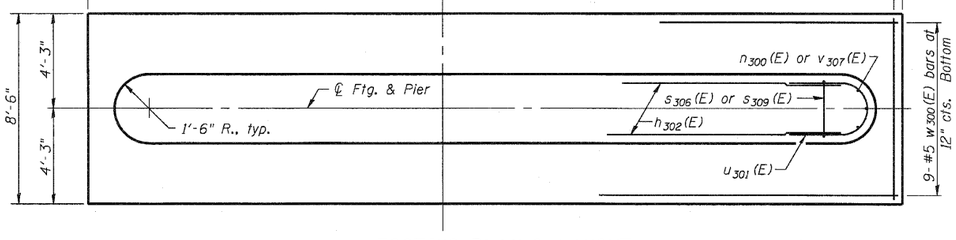
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Concrete Sealer shall be applied to all the exposed surfaces of the pier.



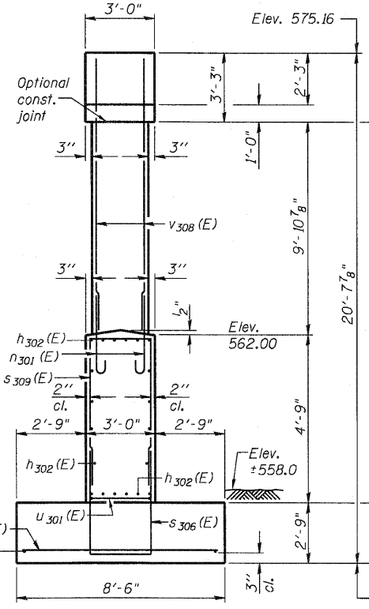
TOP PLAN



ELEVATION
(Looking East)



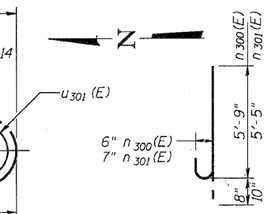
FOOTING PLAN & LAYOUT



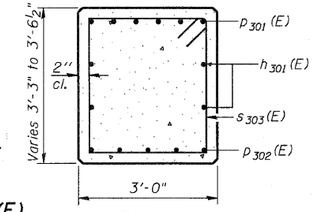
SOUTH END VIEW

Max. Applied Service Bearing Pressure, Q_{max} = 4.6 ksf

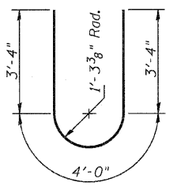
Note:
If rock is not encountered at or above Elev. 554.50 the engineer shall be contacted before construction of the footing begins.



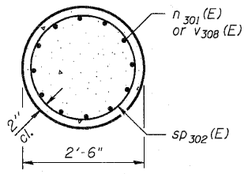
BAR n300 (E) & n301 (E)



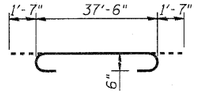
SEC. A-A



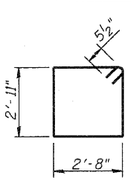
BAR u301 (E)



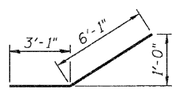
SEC. B-B



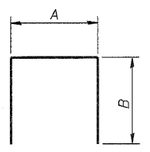
BAR p301 (E)



BAR s303 (E)



BAR p303 (E)



BARS s304 (E) thru s306 (E) & s309 (E)

A & B DIMENSIONS

Bar	A	B
s304 (E)	2'-8"	2'-1"
s305 (E)	2'-8"	2'-6"
s306 (E)	2'-8"	5'-9"
s309 (E)	2'-8"	4'-5"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h301 (E)	4	#7	37'-6"	—
h302 (E)	20	#7	26'-2"	—
n300 (E)	6	#6	6'-5"	U
n301 (E)	36	#7	6'-3"	U
p301 (E)	6	#11	40'-8"	C
p302 (E)	5	#7	28'-2"	—
p303 (E)	10	#7	9'-2"	L
s303 (E)	29	#5	12'-1"	□
s304 (E)	8	#5	6'-10"	U
s305 (E)	12	#5	7'-8"	U
s306 (E)	24	#6	14'-2"	U
s309 (E)	24	#6	11'-6"	U
* sp302 (E)	3	#4	10'-1"	∿∿
t300 (E)	38	#6	8'-2"	—
u301 (E)	18	#6	10'-8"	C
v307 (E)	6	#6	4'-6"	—
v308 (E)	36	#7	12'-10"	—
w300 (E)	9	#5	30'-10"	—
Structure Excavation		Cu. Yd.	57	
Concrete Structures		Cu. Yd.	62.0	
Reinforcement Bars, Epoxy Coated		Pound	7640	
Concrete Sealer		Sq. Ft.	1077	

* Length is height of spiral.

PIER 2
STRUCTURE NO. 081-1091 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

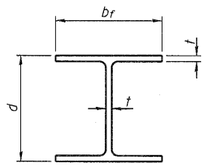
PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 34
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	275
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

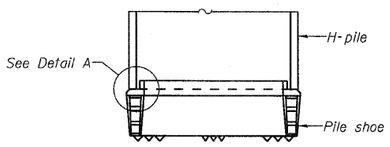
PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0151-64815-034-pier2-eb.dgn
PLOT SCALE = 0.0051783 ' / IN.
USER NAME = DTC.

11-1-09

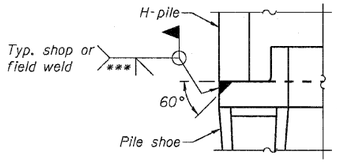


STEEL PILE TABLE

Designation	Depth d	Flange width br	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"

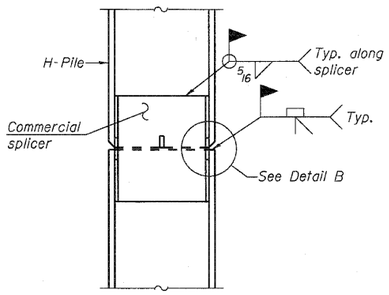


ELEVATION

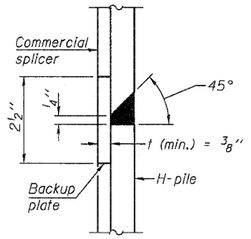


DETAIL A

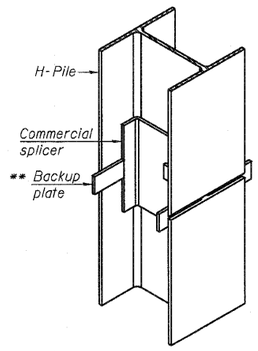
H-PILE SHOE ATTACHMENT



ELEVATION

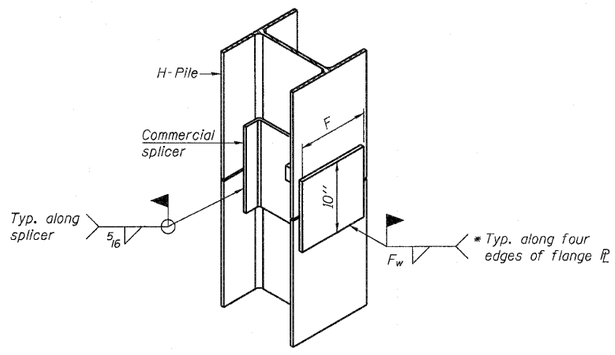


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



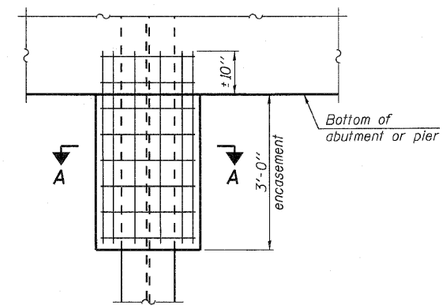
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

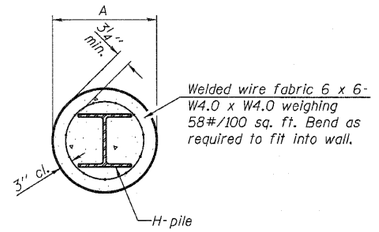
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



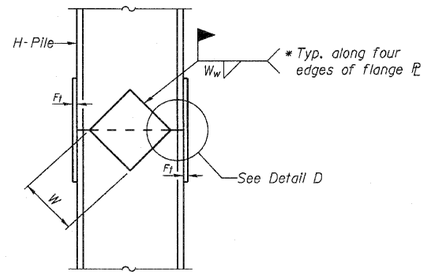
ELEVATION



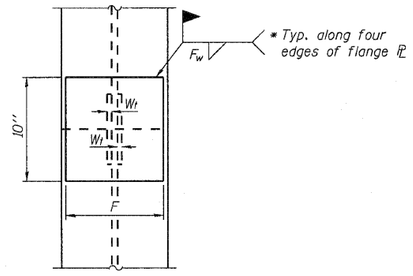
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

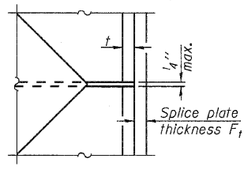
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	Ft	Fw	W	Wf	Ww
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.

HP PILE DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	GB/MCB
DRAWN BY	MML
CHECKED BY	MCB

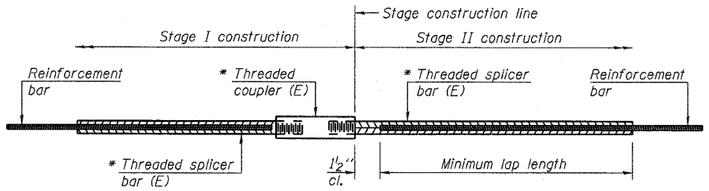
SHEET NO. 35
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	276
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-035-HP-pile-det.dgn
PLOT SCALE = 0.002597 '= 1' IN.
USER NAME = CTC

F-HP

11-1-09



STANDARD BAR SPLICER ASSEMBLY

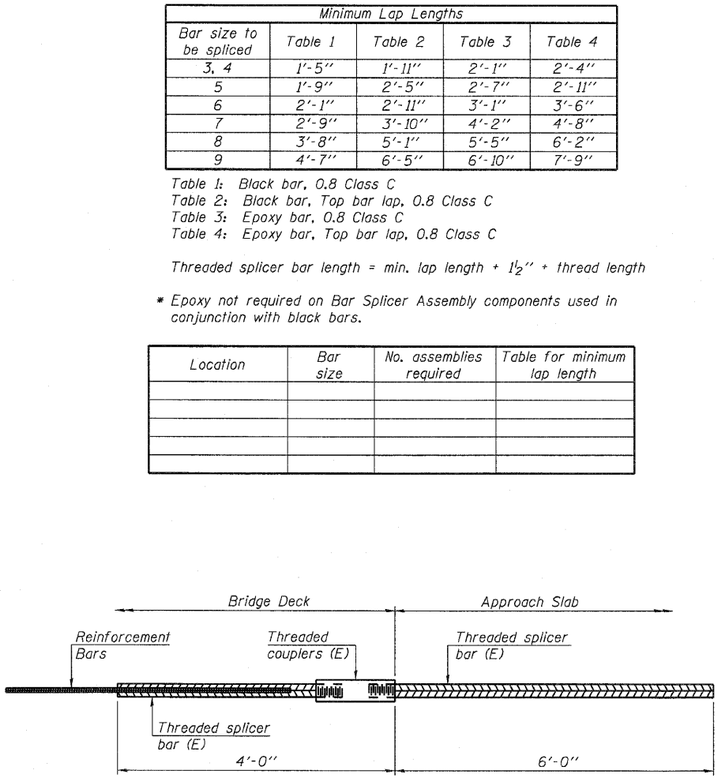
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

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

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

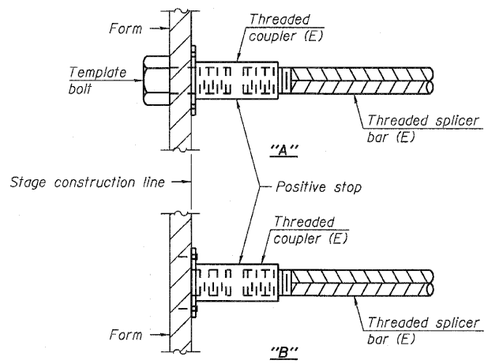
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



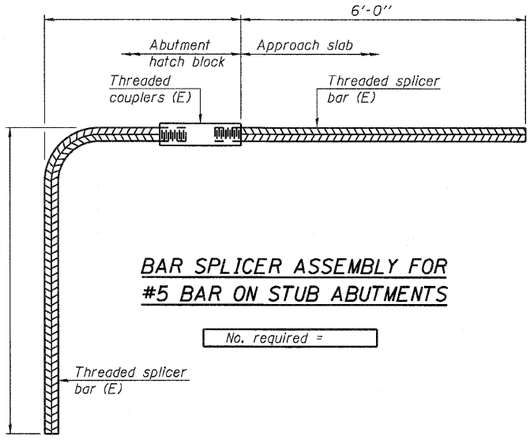
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 184



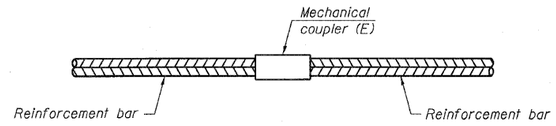
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies 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 special provision for Mechanical Splicers.
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-035-splicer-det.dgn
PLOT SCALE = 0.208783 ' / IN.
USER NAME = CTC.

BSD-1

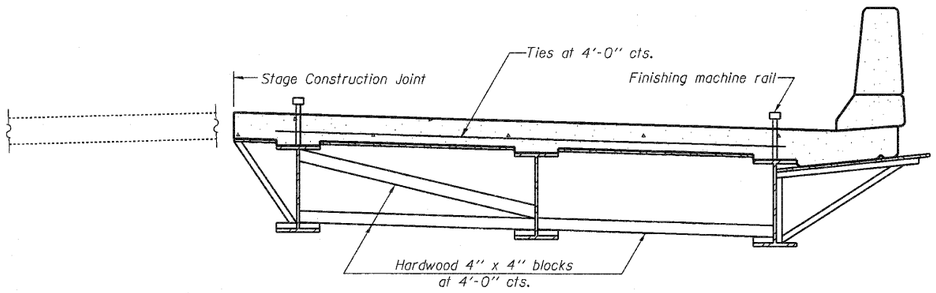
11-1-09

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

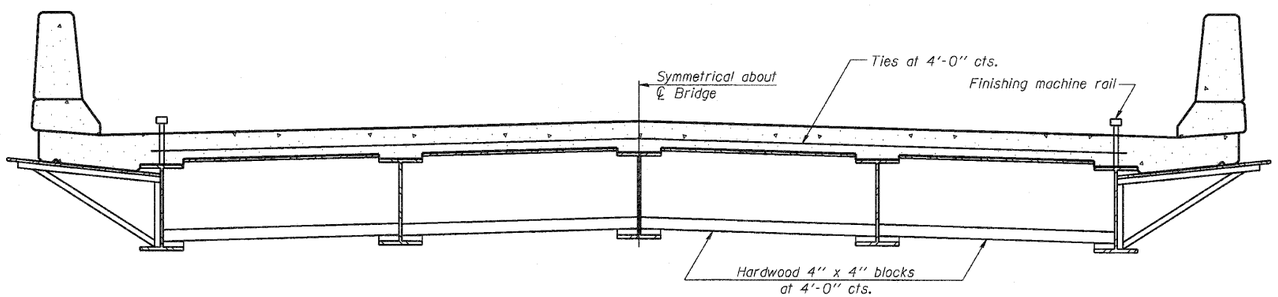
PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	GB/MCB
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 36
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	277
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

CANTILEVER FORMING BRACKETS
FOR SUPERSTRUCTURES WITH
W27 BEAMS AND SMALLER
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-037-Cantilever-det.dgn
PLOT SCALE = 48.029391 '-' / IN.
USER NAME = CTC.

SB-1

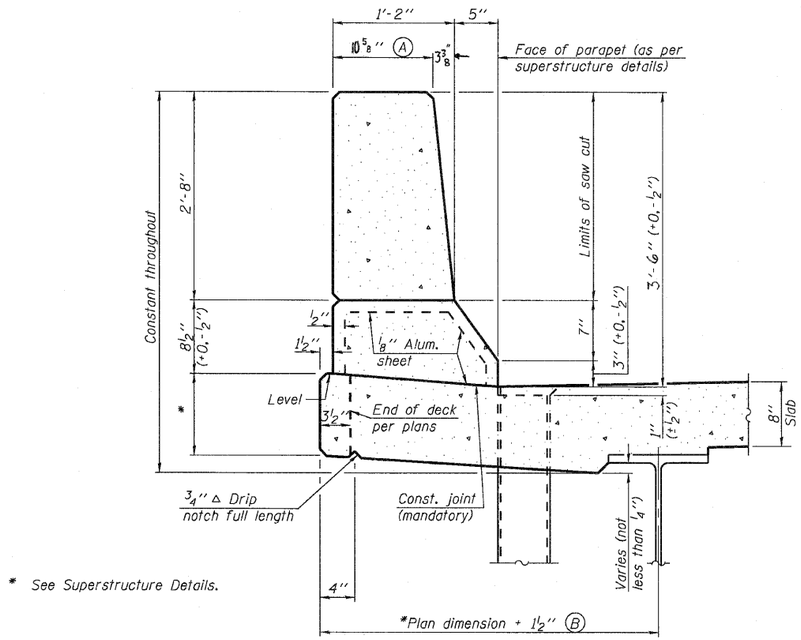
11-1-09

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY
DRAWN BY MML
CHECKED BY MCB

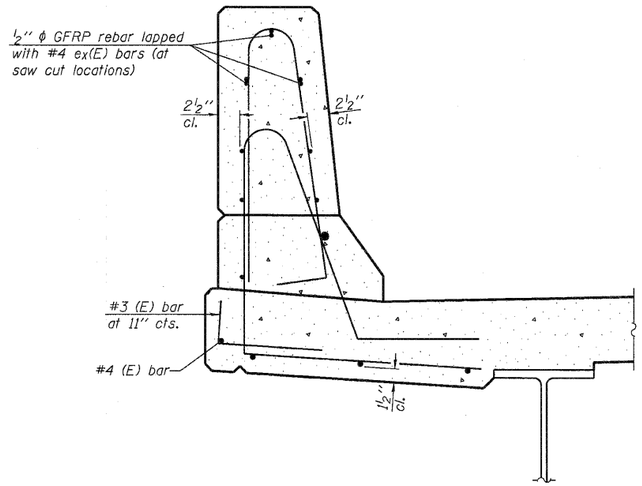
SHEET NO. 37
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	278
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



* See Superstructure Details.

SECTION
(Showing dimensions)



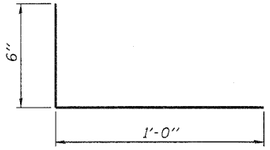
SECTION
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

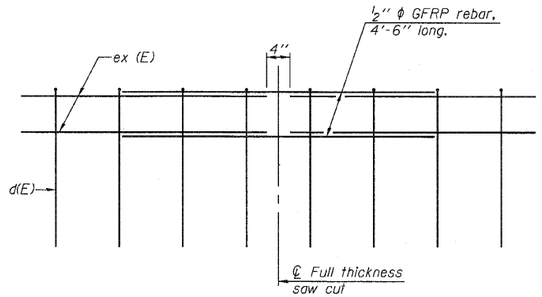
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. of parapet.

Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.

Steel superstructure shown. Other superstructure types similar.



#3 (E) BAR



GFRP REBAR STIFFENING DETAIL
(Place as shown in parapet section at each parapet joint location.)

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO.	09033
SCALE	
DATE	5/18/10
DESIGN BY	GB/MCB
DRAWN BY	MML
CHECKED BY	MCB

SHEET NO. 38
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	279
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-038-Conc-parapet-det.dgn
PLOT SCALE = 0.012597 '/ IN.
USER NAME = CFC.

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280 over 4th St. in Milan, .2 m. W. of US 67 LOGGED BY W. Garza

Date 6/16/05

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC., TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. 081-0020 & 21
Station 242+02

BORING NO. B-1b
Station 242+05
Offset 73.00ft Rt CL
Ground Surface Elev. 556.8 ft

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

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

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM dark brown SILTY CLAY LOAM		0.8 P	29
553.80			
VERY DENSE tanish gray GRAVELY LIMESTONE	1 15 100/ 6"		
551.80 -5			
Borehole continued with rock coring.			
-10			
-15			
-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 1

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280 over 4th St. in Milan, .2 m. W. of US 67 LOGGED BY W. Garza

Date 6/16/05

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC., TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD ____

STRUCT. NO. 081-0020 & 21
Station 242+02

CORING BARREL TYPE & SIZE ____

BORING NO. B-1b
Station 242+05
Offset 73.00ft Rt CL
Ground Surface Elev. 556.8 ft

Core Diameter 1.5 in
Top of Rock Elev. 553.80 ft
Begin Core Elev. 551.80 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: gray-brown, dense & fragmented	1	100	0	6.4	
546.80 -10					
Dolomite: as above, fractured, w/occasional crystal faces visible.	2	100	0	7.6	
541.80 -15					
Dolomite: as above T.S.F.: 539.6 to 539.1	3	100	48	6	675
536.80 -20					
End of Boring					
-25					

Color pictures of the cores ____
Cores will be stored for examination until ____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280, I-280 over 4th Street in Milan LOGGED BY W. Garza

Date 6/22/05

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC., TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. ____
Station ____

BORING NO. B-2b
Station 241+48
Offset 97.00ft Lt CL
Ground Surface Elev. 559.8 ft

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

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

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SOFT dark brown LOAM		0.3 P	24
557.30			
MEDIUM dark gray LOAM		0.9 B	19
555.80 -5			
Borehole continued with rock coring.			
-10			
-15			
-20			

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

BBS, from 137 (Rev. 8-99)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-039-boring-logs.dgn
PLOT SCALE = 64.000397 '=' / IN.
USER NAME = CFC.

BORING LOGS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY GB/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 39
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	280
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 1

Date 6/22/05

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280, I-280 over 4th Street In Milan LOGGED BY W. Garza

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD

STRUCT. NO. Station

CORING BARREL TYPE & SIZE

Core Diameter 1.5 in

BORING NO. B-2b Station 241+48 Offset 97.00ft Lt CL Ground Surface Elev. 559.8 ft

Top of Rock Elev. 554.80 ft

Begin Core Elev. 554.80 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: gray-brown, fractured & dense No testable segments available due to edge deterioration of samples.	1	70	12	7	
549.80 -10					
Dolomite: as above No testable segments available due to edge deterioration of samples.	2	100	20	5.4	
544.80 -15					
Dolomite: as above, with replacement mineralized woody stem fossil visible in lower half. No testable segments available due to edge deterioration of samples.	3	100	10	6	
539.80 -20					
End of Boring					
-25					

Color pictures of the cores _____

Cores will be stored for examination until_____

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/23/05

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280, over 4th Street in Milan LOGGED BY W. Garza

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. Station

BORING NO. B-3b Station 240+72 Offset 2.00ft Rt CL Ground Surface Elev. 581.8 ft

Surface Water Elev. ft

Stream Bed Elev. ft

Groundwater Elev.:

First Encounter ft

Upon Completion ft

After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY SOFT brown SANDY LOAM		0.1 P	12
579.30			
STIFF brown SANDY LOAM	10 9 9	1.5 S	13
577.80 -5			
VERY STIFF brown SANDY LOAM with GRAVEL	9 12 10	2.8 P	24
575.30			
STIFF dark brown SILTY CLAY LOAM with GRAVEL	3 7 10	2.0 B	22
572.80 -10			
STIFF brown SILTY CLAY LOAM	5 5 7	1.1 B	14
570.30			
STIFF gray/black CLAY LOAM	3 7 17	2.0 B	35
567.80 -15			
STIFF black SANDY LOAM	4 6 6	1.5 B	19
565.30			
STIFF dark gray SANDY LOAM	4 7 7	1.0 P	18
562.80 -20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
STIFF gray SILTY CLAY LOAM	4 4 7	2.0 B	9
560.30			
STIFF gray SILT with bottom 8" dirty moist SAND	4 3 2	1.4 P	21
557.80 -25			
SOFT gray SILT	3 4 5	0.3 P	19
555.30			
Borehole continued with rock coring.			
-30			
-35			
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 1

Date 6/23/05

ROUTE FAI 280 DESCRIPTION P92-045-02 Bridge on I-280, over 4th Street in Milan LOGGED BY W. Garza

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD

STRUCT. NO. Station

CORING BARREL TYPE & SIZE

Core Diameter 1.5 in

BORING NO. B-3b Station 240+72 Offset 2.00ft Rt CL Ground Surface Elev. 581.8 ft

Top of Rock Elev. 554.30 ft

Begin Core Elev. 554.30 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: gray brown, dense and fractured throughout.	1	90	0	8.6	
-30					
549.30					
Dolomite, as above, though not as fractured.	2	100	13	8	
-35					
544.30					
Dolomite: as above, though appreciably more solid. T.S.F. 543.6 to 542.9	3	100	40	4	645
-40					
539.30					
End of Boring					
-45					

Color pictures of the cores _____

Cores will be stored for examination until_____

The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-040-boring-logs.dgn
PLOT SCALE = 0.029397 '=' / IN.
USER NAME = OTC

BORING LOGS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY CB/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 40
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	281
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 1

Date 6/27/05

ROUTE FAI 280 DESCRIPTION P92-045-02 I-280 over 4th Street in Milan LOGGED BY W. Garza

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Automatic

STRUCT. NO. _____
Station _____

BORING NO. B-4b
Station 242+65
Offset 6.00ft Lt CL
Ground Surface Elev. 575.2 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

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

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SILTY CLAY LOAM			0.8 P	20
	572.70			
VERY STIFF redish brown SANDY LOAM with LOAM		5 7 10	2.7 B	15
	571.20			
	-5			
STIFF dark gray SANDY LOAM		4 4 5	1.0 P	11
	568.70			
VERY STIFF brown/gray LOAM		3 4 5	2.1 B	16
	566.20			
	-10			
STIFF gray SANDY LOAM with LIMESTONE fragments		4 6 8	1.1 P	17
	563.70			
VERY STIFF dark gray SILTY CLAY LOAM with ORGANICS		4 5 7	2.1 B	22
	561.20			
	-15			
VERY STIFF dark gray SILTY CLAY LOAM		4 5 8	2.4 B	19
	558.70			
MEDIUM dark brown LOAM		6 7 7	0.9 P	22
	556.20			
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF black CLAY LOAM		3 4 7	2.1 B	32
Auger Refusal at 22'	553.70			
Borehole continued with rock coring.				
	-25			
	-30			
	-35			
	-40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
IDOT

ROCK CORE LOG

Page 1 of 1

Date 6/27/05

ROUTE FAI 280 DESCRIPTION P92-045-02 I-280 over 4th Street in Milan LOGGED BY W. Garza

SECTION 81-1-HB1 LOCATION Blackhawk Twp. - 23SE, SEC. , TWP. 17N, RNG. 2W

COUNTY Rock Island CORING METHOD _____

STRUCT. NO. _____
Station _____

CORING BARREL TYPE & SIZE _____

BORING NO. B-4b
Station 242+65
Offset 6.00ft Lt CL
Ground Surface Elev. 575.2 ft

Core Diameter 1.5 in
Top of Rock Elev. 553.20 ft
Begin Core Elev. 553.20 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: buff to brown, fractured & segmented, dense with a chalky appearance.		1	100	27	4.4	
	-25					
Dolomite: as above	548.20	2	100	0	7.4	
	-30					
Dolomite: as above	543.20	3	100	12	6	474
T.S.F.: 539.9 to 539.4						
	-35					
End of Boring	538.20					
	-40					

Color pictures of the cores _____
Cores will be stored for examination until _____
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

PLOT DATE = 7/21/2010
FILE NAME = ...\081-0190_0191-64815-041-boring-logs.dgn
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USER NAME = CTC

BORING LOGS
STRUCTURE NO. 081-0190 (WB)
STRUCTURE NO. 081-0191 (EB)

Coombe-Bloxdorf P.C.
-CIVIL ENGINEERS-
-STRUCTURAL ENGINEERS-
-LAND SURVEYORS-
Design Firm License No. 184-002703

PROJECT NO. 09033
SCALE
DATE 5/18/10
DESIGN BY GB/MCB
DRAWN BY MML
CHECKED BY MCB

SHEET NO. 41
41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1 (HB-1)	ROCK ISLAND	503	282
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Bench Mark: IDOT District Network Monument 6572.3070, 131.5 Feet South of I-280 Centerline at Sta.283+31.91. Elev. 579.52.

Existing Structures: S.N. 081-0022 (E.B.) and S.N. 081-0023 (W.B.) built as F.A.I. Route 280, Section 81-1HB-2 at Station 254+98.87 in 1964. Deck wearing surface, expansion joints and barriers were replaced in 1989. Each structure consists of a 3 span continuous, variable depth, cast-in-place reinforced concrete tee beam superstructure. Each substructure consists of concrete abutments supported on piles and hammerhead piers bearing on rock. Each structure is 162'-5" long back to back of abutments and the deck is 35'-8" out-to-out. Existing superstructure to be removed and replaced with widened superstructure. Traffic is to be routed to one side of the interstate roadway during construction of the structure on the other side.

No salvage.

Note: All existing elevations shown on these drawings are 0.20 feet lower than the corresponding elevations shown on the original drawings.

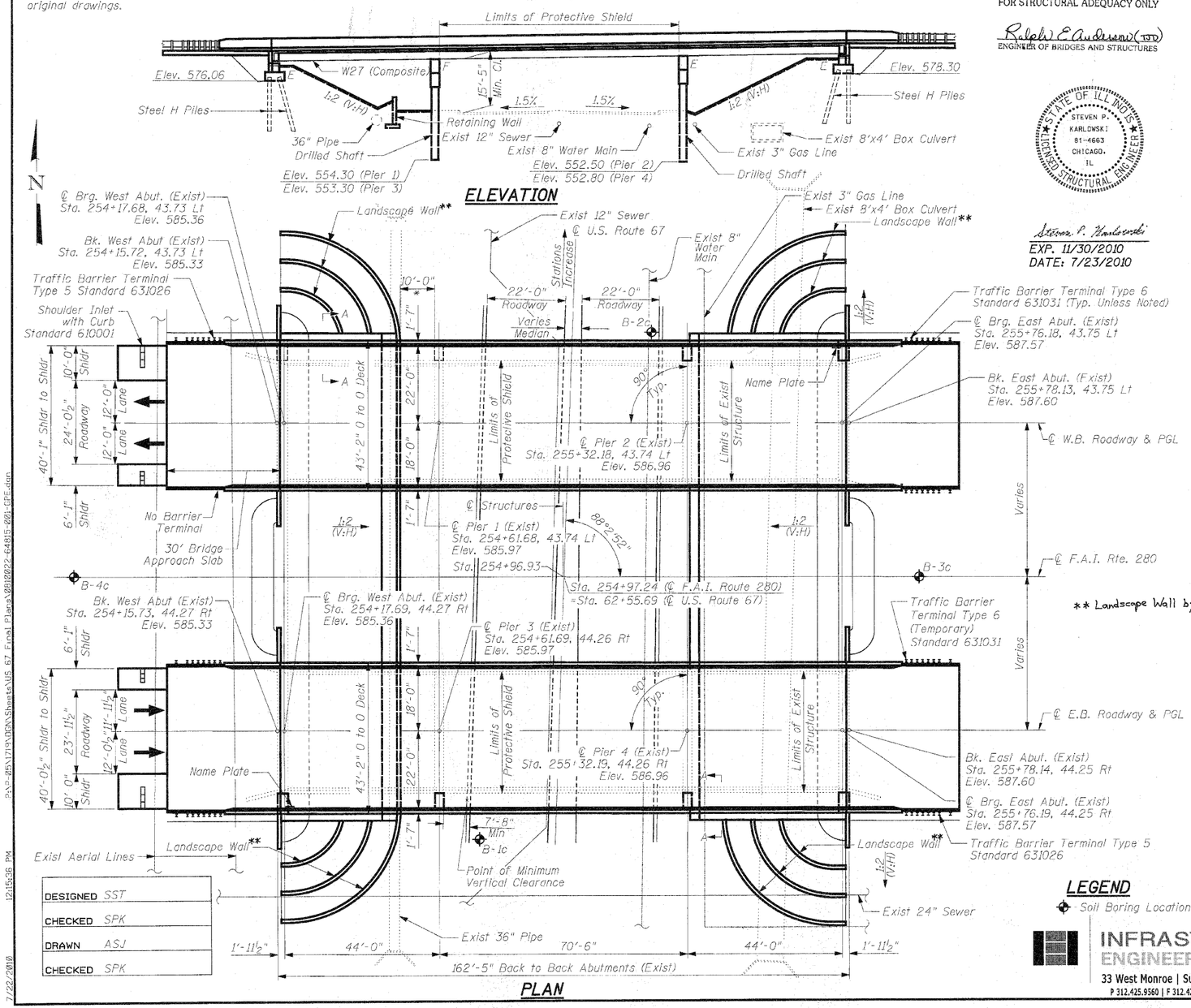
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

Ralph E Anderson (TDD)
ENGINEER OF BRIDGES AND STRUCTURES

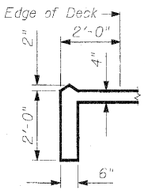
STATE OF ILLINOIS
STEVEN P. KARLOWSKI
81-4663
CHICAGO, IL
REGISTERED STRUCTURAL ENGINEER

Steven P. Karlowski
EXP. 11/30/2010
DATE: 7/23/2010

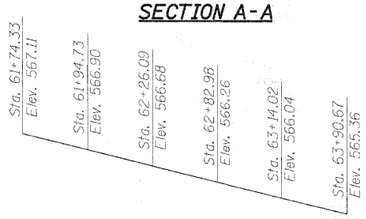


PLAN

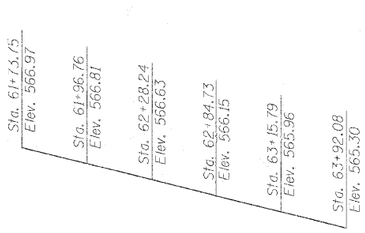
DESIGNED	SST
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK



SECTION A-A



PROFILE GRADE
U.S. ROUTE 67 (S.B. LANES)
(Along West Edge of Roadway)



PROFILE GRADE
U.S. ROUTE 67 (N.B. LANES)
(Along East Edge of Roadway)

DESIGN SPECIFICATIONS

AASHTO 2002 Standard Specifications for Highway Bridges

LOADING HS20-44 & ALT

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS (New Construction)

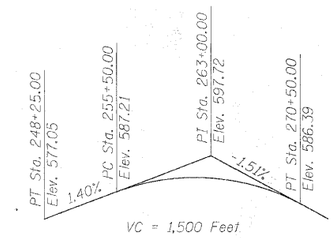
f'_c = 3,500 psi (Concrete)
f_y = 60,000 psi (Reinforcement)
f_y = 50,000 psi (Structural Steel) (AASHTO M270 Grade 50)
f_y = 36,000 psi (Structural Steel) (AASHTO M270 Grade 36)

FIELD UNITS (Existing Construction)

f_c = 1,000 psi (Concrete)
f_s = 20,000 psi (Reinforcement)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.034
Site Coefficient (S) = 1.0



PROFILE GRADE F.A.I. ROUTE 280
(Along ℄ Roadway)

* Multiuse Path

STATION 254+97.24
RE-BUILT BY
STATE OF ILLINOIS
F.A.I. RT. 280 SEC. 81-1(HB-2)R
LOADING HS20 & ALT.
STR. NO. 081-0023

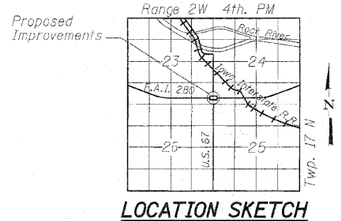
WESTBOUND LANES
NAME PLATE
See Std. 515001

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

STATION 254+97.24
RE-BUILT BY
STATE OF ILLINOIS
F.A.I. RT. 280 SEC. 81-1(HB-2)R
LOADING HS20 & ALT.
STR. NO. 081-0022

EASTBOUND LANES
NAME PLATE
See Std. 515001

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



LOCATION SKETCH

LEGEND
Soil Boring Location

GENERAL PLAN & ELEVATION
I-280 OVER U.S. ROUTE 67
F.A.I. ROUTE 280 - SEC. 81-1(HB-2)R
ROCK ISLAND COUNTY
STATION 254+97.24
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

INFRASTRUCTURE ENGINEERING | INCORPORATED
33 West Monroe | Suite 1540 | Chicago, IL 60603
P 312.425.9560 | F 312.425.9564 | www.infrastructure-eng.com

SHEET NO. 1	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	283
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$ in. ϕ. holes $^{15}/_{16}$ in. ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 13,290 pounds (AASHTO M270 Grade 36)
= 261,650 pounds (AASHTO M270 Grade 50)

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

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

Reinforcement bars designated (E) shall be epoxy coated.

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

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

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

Concrete Sealer shall be applied to all exposed surfaces of new concrete in the Piers.

The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception of the exterior surfaces and the bottom of the bottom flange of fascia beams, masked off connection surfaces, field installed fasteners and damaged areas shall be touched up and finish coated in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and the bottom of the bottom flange of fascia beams shall be Blue, Munsell No. 10B 3/6. See Special Provision for "Cleaning and Painting New Metal Structures."

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

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		507	507
Removal of Existing Superstructures	Each	2		2
Concrete Removal	Cu. Yd.		38.4	38.4
Slope Wall Removal	Sq. Yd.		1,356	1,356
Protective Shield	Sq. Yd.	559		559
Structure Excavation	Cu. Yd.		916	916
Concrete Structures	Cu. Yd.		214.4	214.4
Concrete Superstructure	Cu. Yd.	752.1		752.1
Bridge Deck Grooving	Sq. Yd.	1,863		1,863
Concrete Encasement	Cu. Yd.		2.8	2.8
Protective Coat	Sq. Yd.	2,331		2,331
Stud Shear Connectors	Each	10,332		10,332
Reinforcement Bars	Pound		3,350	3,350
Reinforcement Bars, Epoxy Coated	Pound	168,440	36,860	205,300
Bar Splicers	Each	184		184
Slope Wall 4 Inch	Sq. Yd.		1,204	1,204
Furnishing Steel Piles HP10x42	Foot		214.4	214.4
Driving Piles	Foot		214.4	214.4
Pile Shoes	Each		8	8
Name Plates	Each	2		2
Drilled Shaft in Soil	Cu. Yd.		40.5	40.5
Drilled Shaft in Rock	Cu. Yd.		1.6	1.6
Elastomeric Bearing Assembly, Type 1	Each	36		36
Anchor Bolts, 1"	Each	48		48
Anchor Bolts, $1^{1}/_{4}$"	Each	48		48
Concrete Sealer	Sq. Ft.		1,749	1,749
Epoxy Crack Injection	Foot		28	28
Geocomposite Wall Drain	Sq. Yd.		263	263
Pipe Underdrains For Structures 4"	Foot		441	441
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.		27	27
Furnishing and Erecting Structural Steel Bridge No. 3	L. Sum	1		1
~~Remove and Reinstall Landscape Block Wall~~	~~Sq. Ft.~~		~~1,390~~	~~1,390~~

* Quantity is for deck surface and inside face and top of parapets.

DESIGNED	
CHECKED	
DRAWN	ASJ
CHECKED	SPK

3 REVISED 10/29/10

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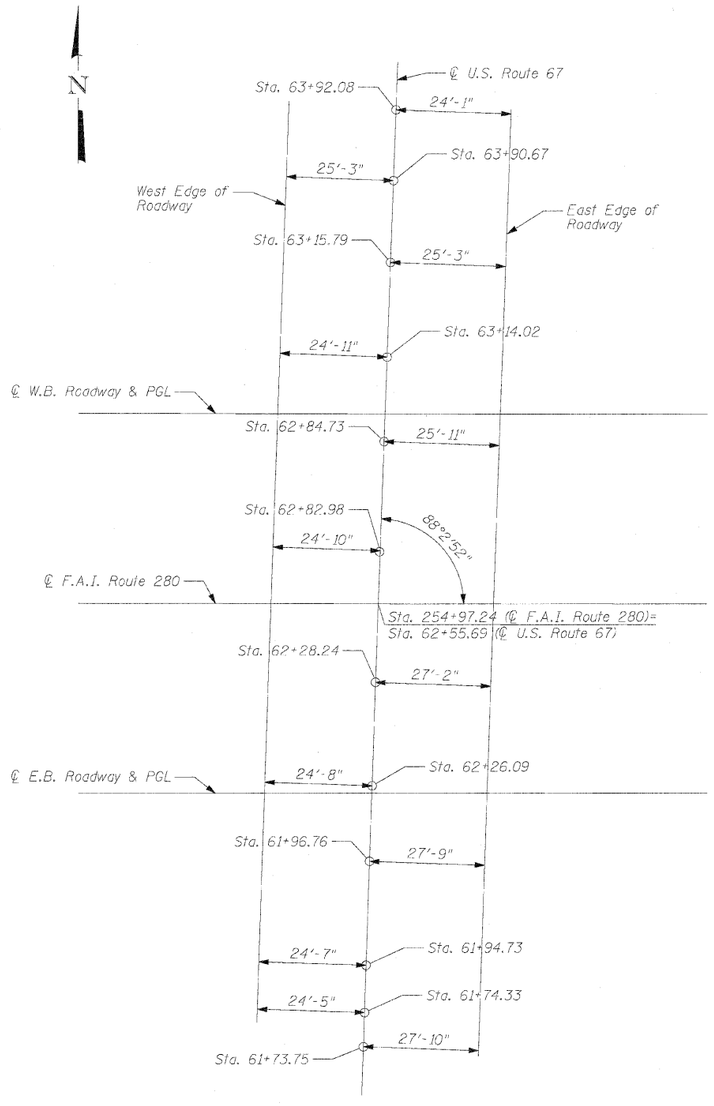
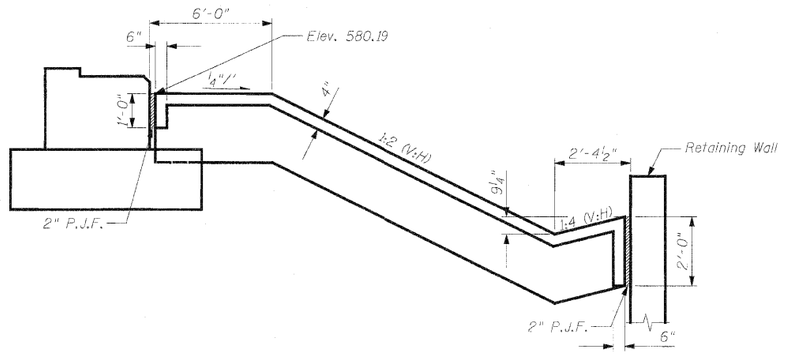
GENERAL NOTES AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	284
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

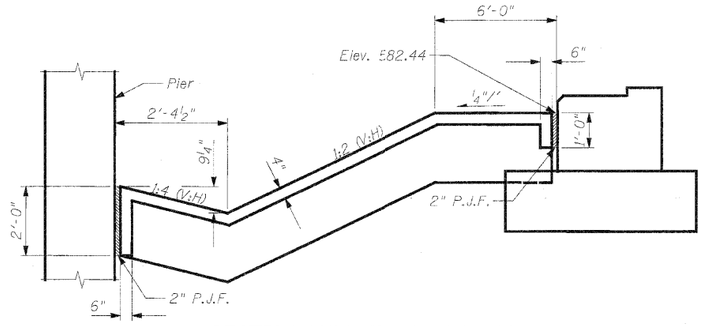
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



EXISTING U.S. ROUTE 67 ROADWAY LAYOUT



SECTION THRU WEST SLOPEWALL
(Looking North)



SECTION THRU EAST SLOPEWALL
(Looking North)

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

ROADWAY LAYOUT & SLOPEWALLS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	-
CHECKED	-
DRAWN	ASJ
CHECKED	SPK

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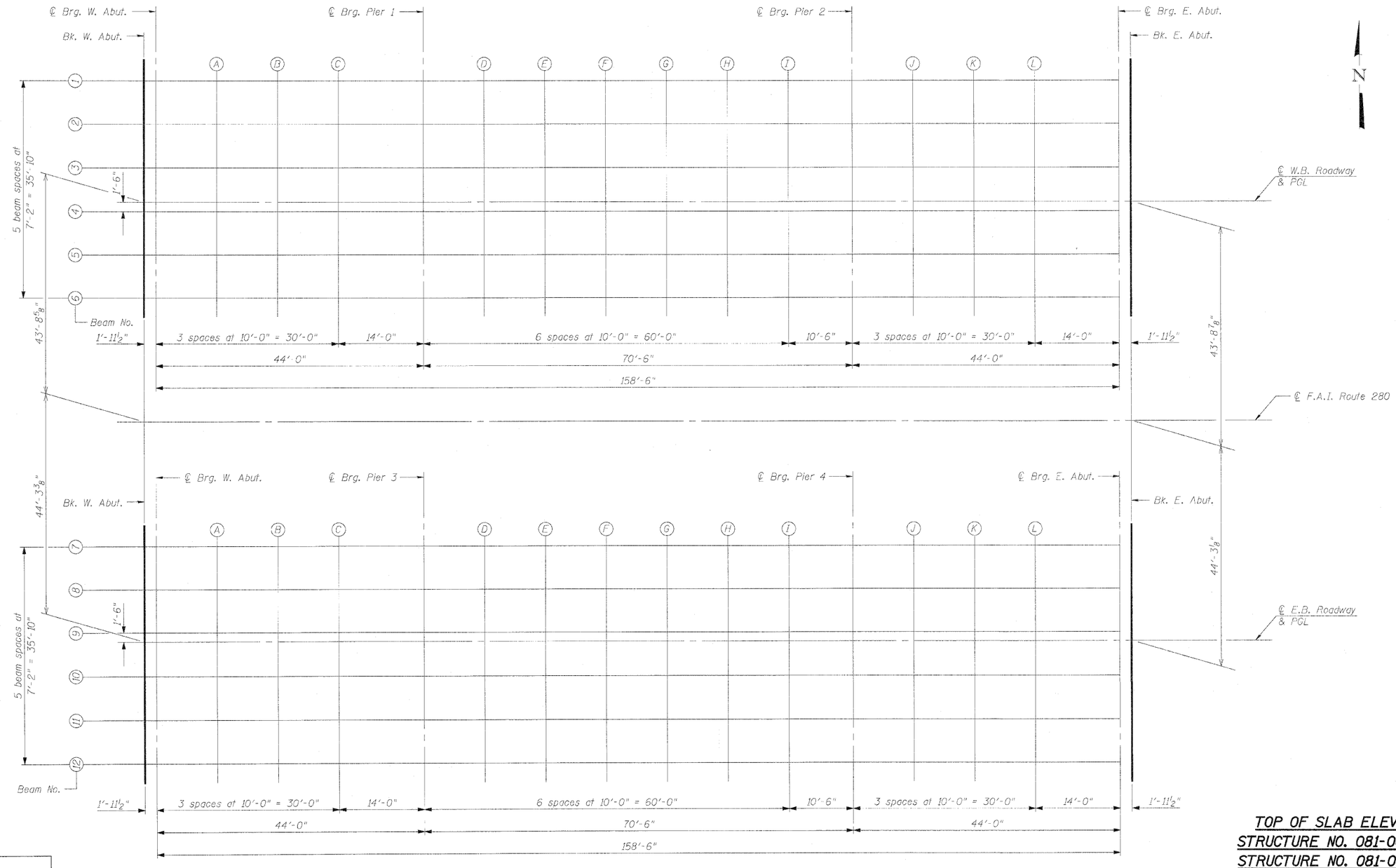
SHEET NO. 3	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	285
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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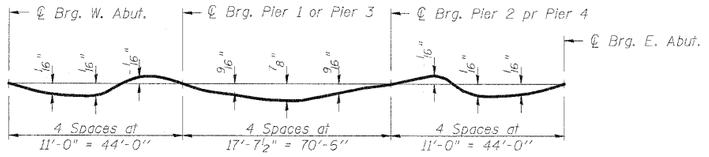
SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	286
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

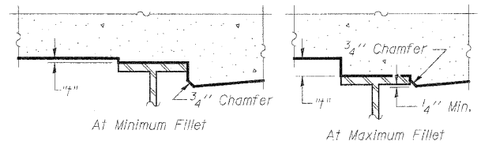


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below and on Sheets 6 thru 8.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown on Sheet 4. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below and on Sheets 6 thru 8, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	-20.00	584.98	584.98
℄ Brg. W. Abut.	254+17.68	-20.00	585.00	585.00
A	254+27.68	-20.00	585.14	585.15
B	254+37.68	-20.00	585.28	585.29
C	254+47.68	-20.00	585.42	585.42
℄ Pier 1	254+61.68	-20.00	585.62	585.62
D	254+71.68	-20.00	585.76	585.78
E	254+81.68	-20.00	585.90	585.95
F	254+91.68	-20.00	586.04	586.12
G	255+01.68	-20.00	586.18	586.26
H	255+11.68	-20.00	586.32	586.39
I	255+21.68	-20.00	586.46	586.50
℄ Pier 2	255+32.18	-20.00	586.61	586.61
J	255+42.18	-20.00	586.75	586.74
K	255+52.18	-20.00	586.89	586.89
L	255+62.18	-20.00	587.02	587.03
℄ Brg. E. Abut.	255+76.18	-20.00	587.22	587.22
Bk. E. Abut.	255+78.13	-20.00	587.24	587.24

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	-12.83	585.13	585.13
℄ Brg. W. Abut.	254+17.68	-12.83	585.15	585.15
A	254+27.68	-12.83	585.29	585.30
B	254+37.68	-12.83	585.43	585.44
C	254+47.68	-12.83	585.57	585.57
℄ Pier 1	254+61.68	-12.83	585.77	585.77
D	254+71.68	-12.83	585.91	585.93
E	254+81.68	-12.83	586.05	586.10
F	254+91.68	-12.83	586.19	586.27
G	255+01.68	-12.83	586.33	586.41
H	255+11.68	-12.83	586.47	586.54
I	255+21.68	-12.83	586.61	586.65
℄ Pier 2	255+32.18	-12.83	586.76	586.76
J	255+42.18	-12.83	586.90	586.90
K	255+52.18	-12.83	587.04	587.04
L	255+62.18	-12.83	587.17	587.18
℄ Brg. E. Abut.	255+76.18	-12.83	587.37	587.37
Bk. E. Abut.	255+78.13	-12.83	587.39	587.39

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	-5.67	585.24	585.24
℄ Brg. W. Abut.	254+17.68	-5.67	585.27	585.27
A	254+27.68	-5.67	585.41	585.41
B	254+37.68	-5.67	585.55	585.56
C	254+47.68	-5.67	585.69	585.69
℄ Pier 1	254+61.68	-5.67	585.88	585.88
D	254+71.68	-5.67	586.02	586.04
E	254+81.68	-5.67	586.16	586.22
F	254+91.68	-5.67	586.30	586.38
G	255+01.68	-5.67	586.44	586.53
H	255+11.68	-5.67	586.59	586.65
I	255+21.68	-5.67	586.72	586.76
℄ Pier 2	255+32.18	-5.67	586.88	586.88
J	255+42.18	-5.67	587.01	587.01
K	255+52.18	-5.67	587.15	587.16
L	255+62.18	-5.67	587.29	587.30
℄ Brg. E. Abut.	255+76.18	-5.67	587.48	587.48
Bk. E. Abut.	255+78.13	-5.67	587.51	587.51

℄ W.B. ROADWAY AND P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	0.00	585.33	585.33
℄ Brg. W. Abut.	254+17.68	0.00	585.36	585.36
A	254+27.68	0.00	585.50	585.50
B	254+37.68	0.00	585.64	585.64
C	254+47.68	0.00	585.78	585.78
℄ Pier 1	254+61.68	0.00	585.97	585.97
D	254+71.68	0.00	586.11	586.13
E	254+81.68	0.00	586.25	586.31
F	254+91.68	0.00	586.39	586.47
G	255+01.68	0.00	586.53	586.62
H	255+11.68	0.00	586.67	586.74
I	255+21.68	0.00	586.81	586.85
℄ Pier 2	255+32.18	0.00	586.96	586.96
J	255+42.18	0.00	587.10	587.10
K	255+52.18	0.00	587.24	587.24
L	255+62.18	0.00	587.38	587.38
℄ Brg. E. Abut.	255+76.18	0.00	587.57	587.57
Bk. E. Abut.	255+78.13	0.00	587.60	587.60

Note:
Offset is measured from ℄ W.B. Roadway & PGL. Negative number indicates north of ℄, Positive number indicates south of ℄.

W.B. ROADWAY - TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	LC
CHECKED	MCT

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SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	287
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	1.50	585.31	585.31
℄ Brg. W. Abut.	254+17.68	1.50	585.33	585.33
A	254+27.68	1.50	585.47	585.48
B	254+37.68	1.50	585.61	585.62
C	254+47.68	1.50	585.75	585.76
℄ Pier 1	254+61.68	1.50	585.95	585.95
D	254+71.68	1.50	586.09	586.11
E	254+81.68	1.50	586.23	586.28
F	254+91.68	1.50	586.37	586.45
G	255+01.68	1.50	586.51	586.59
H	255+11.68	1.50	586.65	586.72
I	255+21.68	1.50	586.79	586.83
℄ Pier 2	255+32.18	1.50	586.94	586.94
J	255+42.18	1.50	587.08	587.08
K	255+52.18	1.50	587.22	587.22
L	255+62.18	1.50	587.36	587.36
℄ Brg. E. Abut.	255+76.18	1.50	587.55	587.55
Bk. E. Abut.	255+78.13	1.50	587.57	587.57

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	8.67	585.20	585.20
℄ Brg. W. Abut.	254+17.68	8.67	585.22	585.22
A	254+27.68	8.67	585.36	585.37
B	254+37.68	8.67	585.50	585.51
C	254+47.68	8.67	585.64	585.64
℄ Pier 1	254+61.68	8.67	585.84	585.84
D	254+71.68	8.67	585.98	586.00
E	254+81.68	8.67	586.12	586.17
F	254+91.68	8.67	586.26	586.34
G	255+01.68	8.67	586.40	586.48
H	255+11.68	8.67	586.54	586.60
I	255+21.68	8.67	586.68	586.72
℄ Pier 2	255+32.18	8.67	586.83	586.83
J	255+42.18	8.67	586.96	586.96
K	255+52.18	8.67	587.10	587.11
L	255+62.18	8.67	587.24	587.25
℄ Brg. E. Abut.	255+76.18	8.67	587.44	587.44
Bk. E. Abut.	255+78.13	8.67	587.46	587.46

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.72	15.84	585.06	585.06
℄ Brg. W. Abut.	254+17.68	15.84	585.09	585.09
A	254+27.68	15.84	585.23	585.24
B	254+37.68	15.84	585.37	585.38
C	254+47.68	15.84	585.51	585.51
℄ Pier 1	254+61.68	15.84	585.71	585.70
D	254+71.68	15.84	585.85	585.87
E	254+81.68	15.84	585.99	586.04
F	254+91.68	15.84	586.13	586.20
G	255+01.68	15.84	586.27	586.35
H	255+11.68	15.84	586.41	586.47
I	255+21.68	15.84	586.55	586.58
℄ Pier 2	255+32.18	15.84	586.70	586.70
J	255+42.18	15.84	586.83	586.83
K	255+52.18	15.84	586.97	586.98
L	255+62.18	15.84	587.11	587.12
℄ Brg. E. Abut.	255+76.18	15.84	587.30	587.30
Bk. E. Abut.	255+78.13	15.84	587.33	587.33

W.B. ROADWAY - TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	LC
CHECKED	MCT

Note:
Offset is measured from ℄ W.B. Roadway & PGL. Negative number indicates north of ℄. Positive number indicates south of ℄.

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SHEET NO. 6	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	288
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	-15.84	585.06	585.06
℄ Brg. W. Abut.	254+17.69	-15.84	585.09	585.09
A	254+27.69	-15.84	585.23	585.24
B	254+37.69	-15.84	585.37	585.38
C	254+47.69	-15.84	585.51	585.51
℄ Pier 3	254+61.69	-15.84	585.71	585.71
D	254+71.69	-15.84	585.85	585.87
E	254+81.69	-15.84	585.99	586.04
F	254+91.69	-15.84	586.13	586.20
G	255+01.69	-15.84	586.27	586.35
H	255+11.69	-15.84	586.41	586.47
I	255+21.69	-15.84	586.55	586.58
℄ Pier 4	255+32.19	-15.84	586.69	586.70
J	255+42.19	-15.84	586.83	586.83
K	255+52.19	-15.84	586.97	586.98
L	255+62.19	-15.84	587.11	587.12
℄ Brg. E. Abut.	255+76.19	-15.84	587.30	587.30
Bk. E. Abut.	255+78.14	-15.84	587.33	587.33

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	-8.67	585.19	585.19
℄ Brg. W. Abut.	254+17.69	-8.67	585.22	585.22
A	254+27.69	-8.67	585.36	585.37
B	254+37.69	-8.67	585.50	585.51
C	254+47.69	-8.67	585.64	585.64
℄ Pier 3	254+61.69	-8.67	585.84	585.84
D	254+71.69	-8.67	585.98	586.00
E	254+81.69	-8.67	586.12	586.17
F	254+91.69	-8.67	586.26	586.34
G	255+01.69	-8.67	586.40	586.48
H	255+11.69	-8.67	586.54	586.60
I	255+21.69	-8.67	586.68	586.72
℄ Pier 4	255+32.19	-8.67	586.82	586.83
J	255+42.19	-8.67	586.96	586.96
K	255+52.19	-8.67	587.11	587.11
L	255+62.19	-8.67	587.24	587.25
℄ Brg. E. Abut.	255+76.19	-8.67	587.44	587.44
Bk. E. Abut.	255+78.14	-8.67	587.46	587.46

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	-1.50	585.31	585.31
℄ Brg. W. Abut.	254+17.69	-1.50	585.33	585.33
A	254+27.69	-1.50	585.47	585.48
B	254+37.69	-1.50	585.61	585.62
C	254+47.69	-1.50	585.75	585.76
℄ Pier 3	254+61.69	-1.50	585.95	585.95
D	254+71.69	-1.50	586.09	586.11
E	254+81.69	-1.50	586.23	586.28
F	254+91.69	-1.50	586.37	586.45
G	255+01.69	-1.50	586.51	586.59
H	255+11.69	-1.50	586.65	586.72
I	255+21.69	-1.50	586.79	586.83
℄ Pier 4	255+32.19	-1.50	586.94	586.94
J	255+42.19	-1.50	587.08	587.07
K	255+52.19	-1.50	587.22	587.22
L	255+62.19	-1.50	587.36	587.36
℄ Brg. E. Abut.	255+76.19	-1.50	587.55	587.55
Bk. E. Abut.	255+78.14	-1.50	587.57	587.57

℄ E.B. ROADWAY AND P.G.L.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	0.00	585.33	585.33
℄ Brg. W. Abut.	254+17.69	0.00	585.36	585.36
A	254+27.69	0.00	585.50	585.50
B	254+37.69	0.00	585.64	585.64
C	254+47.69	0.00	585.78	585.78
℄ Pier 3	254+61.69	0.00	585.97	585.97
D	254+71.69	0.00	586.11	586.13
E	254+81.69	0.00	586.25	586.31
F	254+91.69	0.00	586.39	586.47
G	255+01.69	0.00	586.53	586.62
H	255+11.69	0.00	586.67	586.74
I	255+21.69	0.00	586.81	586.85
℄ Pier 4	255+32.19	0.00	586.96	586.96
J	255+42.19	0.00	587.10	587.10
K	255+52.19	0.00	587.24	587.24
L	255+62.19	0.00	587.38	587.39
℄ Brg. E. Abut.	255+76.19	0.00	587.57	587.57
Bk. E. Abut.	255+78.14	0.00	587.60	587.60

Note:
Offset is measured from ℄ E.B. Roadway & PGL. Negative number indicates north of ℄. Positive number indicates south of ℄.

E.B. ROADWAY - TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	LC
CHECKED	MCT

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SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	289
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	5.67	585.24	585.24
℄ Brg. W. Abut.	254+17.69	5.67	585.27	585.27
A	254+27.69	5.67	585.41	585.42
B	254+37.69	5.67	585.55	585.56
C	254+47.69	5.67	585.69	585.69
℄ Pier 3	254+61.69	5.67	585.88	585.88
D	254+71.69	5.67	586.02	586.04
E	254+81.69	5.67	586.16	586.22
F	254+91.69	5.67	586.30	586.38
G	255+01.69	5.67	586.44	586.53
H	255+11.69	5.67	586.58	586.65
I	255+21.69	5.67	586.72	586.76
℄ Pier 4	255+32.19	5.67	586.87	586.87
J	255+42.19	5.67	587.01	587.01
K	255+52.19	5.67	587.15	587.15
L	255+62.19	5.67	587.29	587.30
℄ Brg. E. Abut.	255+76.19	5.67	587.48	587.48
Bk. E. Abut.	255+78.14	5.67	587.51	587.51

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	12.83	585.13	585.13
℄ Brg. W. Abut.	254+17.69	12.83	585.15	585.15
A	254+27.69	12.83	585.29	585.30
B	254+37.69	12.83	585.43	585.44
C	254+47.69	12.83	585.57	585.57
℄ Pier 3	254+61.69	12.83	585.77	585.77
D	254+71.69	12.83	585.91	585.93
E	254+81.69	12.83	586.05	586.10
F	254+91.69	12.83	586.19	586.27
G	255+01.69	12.83	586.33	586.41
H	255+11.69	12.83	586.47	586.54
I	255+21.69	12.83	586.61	586.65
℄ Pier 4	255+32.19	12.83	586.76	586.76
J	255+42.19	12.83	586.90	586.89
K	255+52.19	12.83	587.04	587.04
L	255+62.19	12.83	587.17	587.18
℄ Brg. E. Abut.	255+76.19	12.83	587.36	587.37
Bk. E. Abut.	255+78.14	12.83	587.39	587.39

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	254+15.73	20.00	584.98	584.98
℄ Brg. W. Abut.	254+17.69	20.00	585.00	585.00
A	254+27.69	20.00	585.14	585.15
B	254+37.69	20.00	585.28	585.29
C	254+47.69	20.00	585.42	585.42
℄ Pier 3	254+61.69	20.00	585.62	585.62
D	254+71.69	20.00	585.76	585.78
E	254+81.69	20.00	585.90	585.95
F	254+91.69	20.00	586.04	586.12
G	255+01.69	20.00	586.18	586.26
H	255+11.69	20.00	586.32	586.39
I	255+21.69	20.00	586.46	586.50
℄ Pier 4	255+32.19	20.00	586.61	586.61
J	255+42.19	20.00	586.75	586.74
K	255+52.19	20.00	586.89	586.89
L	255+62.19	20.00	587.02	587.03
℄ Brg. E. Abut.	255+76.19	20.00	587.22	587.22
Bk. E. Abut.	255+78.14	20.00	587.24	587.24

DESIGNED	LC
CHECKED	MCT
DRAWN	LC
CHECKED	MCT

Note:
Offset is measured from ℄ E.B. Roadway & PGL. Negative number indicates north of ℄. Positive number indicates south of ℄.

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E.B. ROADWAY - TOP OF SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

SHEET NO. 8	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	290
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

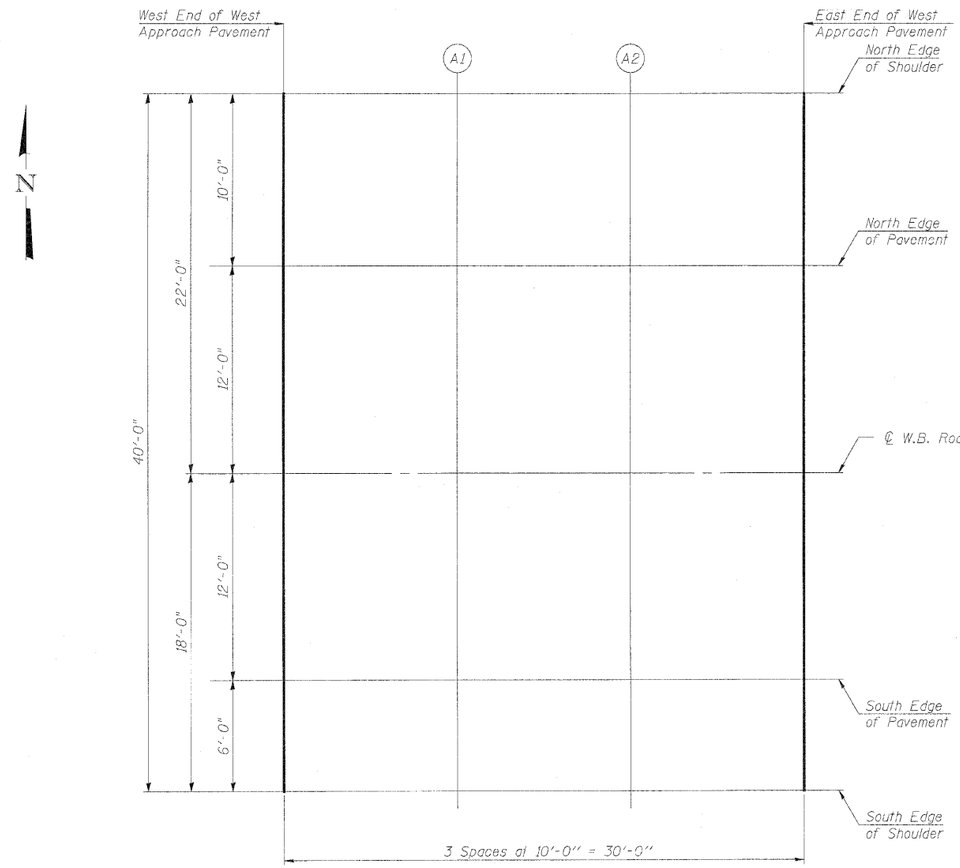
Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.55	-22.00	584.52
A1	253+96.55	-22.00	584.66
A2	254+06.55	-22.00	584.80
E. End W. Appr. Pav't.	254+16.55	-22.00	584.94

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.55	-12.00	584.73
A1	253+96.55	-12.00	584.87
A2	254+06.55	-12.00	585.01
E. End W. Appr. Pav't.	254+16.55	-12.00	585.15

℄ W.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.55	0.00	584.92
A1	253+96.55	0.00	585.06
A2	254+06.55	0.00	585.20
E. End W. Appr. Pav't.	254+16.55	0.00	585.34



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.55	12.00	584.73
A1	253+96.55	12.00	584.87
A2	254+06.55	12.00	585.01
E. End W. Appr. Pav't.	254+16.55	12.00	585.15

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.55	18.00	584.61
A1	253+96.55	18.00	584.75
A2	254+06.55	18.00	584.89
E. End W. Appr. Pav't.	254+16.55	18.00	585.03

Note:
Offset is measured from ℄ W.B. Roadway & PGL..
Negative number indicates north of ℄. Positive number indicates south of ℄.

TOP OF W.B. ROADWAY
WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	ASJ
CHECKED	MCT

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SHEET NO. 9	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	291
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

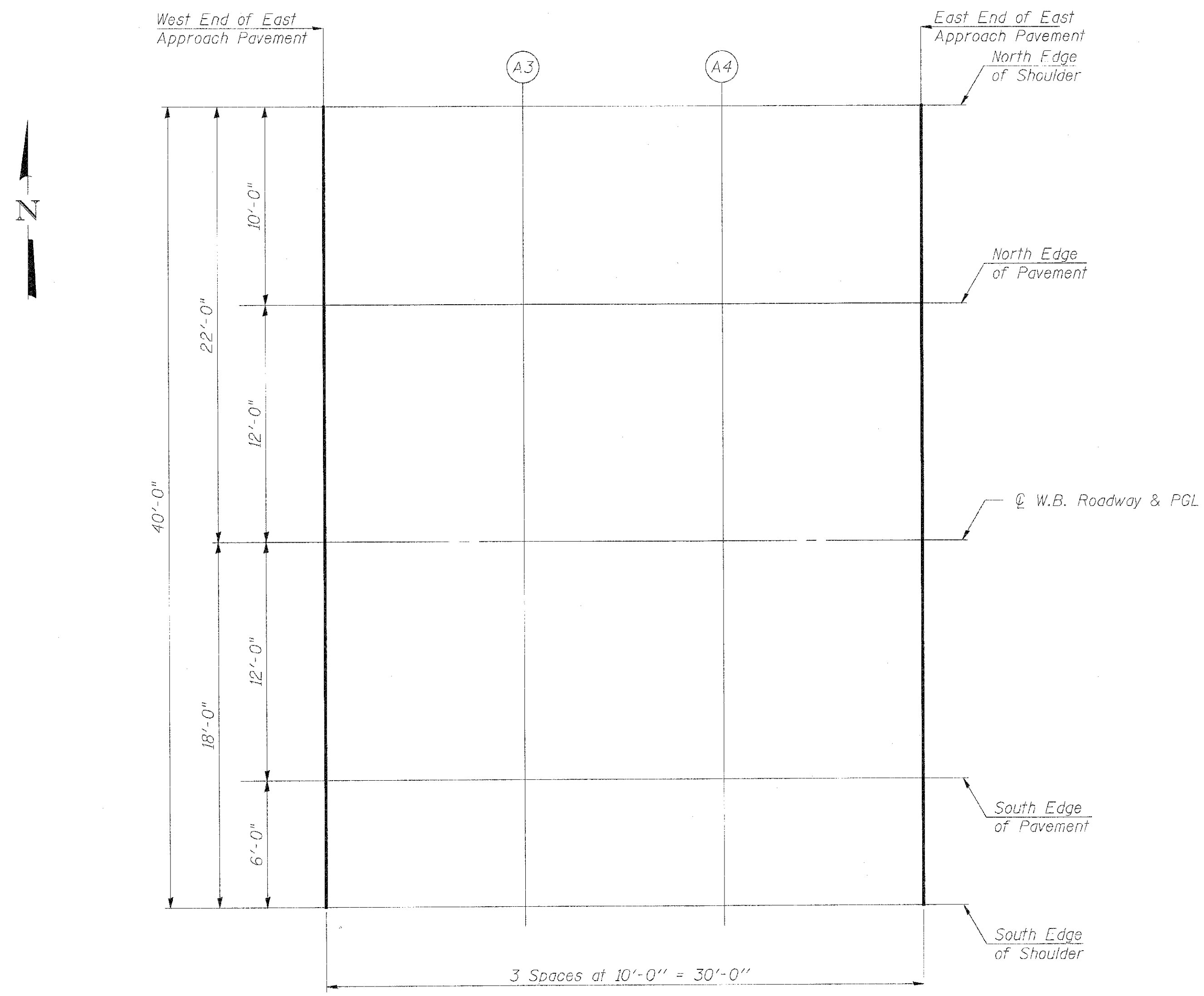
Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.30	-22.00	587.19
A3	255+87.30	-22.00	587.32
A4	255+97.30	-22.00	587.46
E. End E. Appr. Pav't.	256+07.30	-22.00	587.58

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.30	-12.00	587.40
A3	255+87.30	-12.00	587.53
A4	255+97.30	-12.00	587.66
E. End E. Appr. Pav't.	256+07.30	-12.00	587.79

℄ W.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.30	0.00	587.58
A3	255+87.30	0.00	587.72
A4	255+97.30	0.00	587.85
E. End E. Appr. Pav't.	256+07.30	0.00	587.98



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.30	12.00	587.40
A3	255+87.30	12.00	587.53
A4	255+97.30	12.00	587.66
E. End E. Appr. Pav't.	256+07.30	12.00	587.79

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.30	18.00	587.27
A3	255+87.30	18.00	587.41
A4	255+97.30	18.00	587.54
E. End E. Appr. Pav't.	256+07.30	18.00	587.67

Note:
Offset is measured from ℄ W.B. Roadway & PGL. Negative number indicates north of ℄. Positive number indicates south of ℄.

TOP OF W.B. ROADWAY
EAST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	ASJ
CHECKED	MCT

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SHEET NO. 10	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	292
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

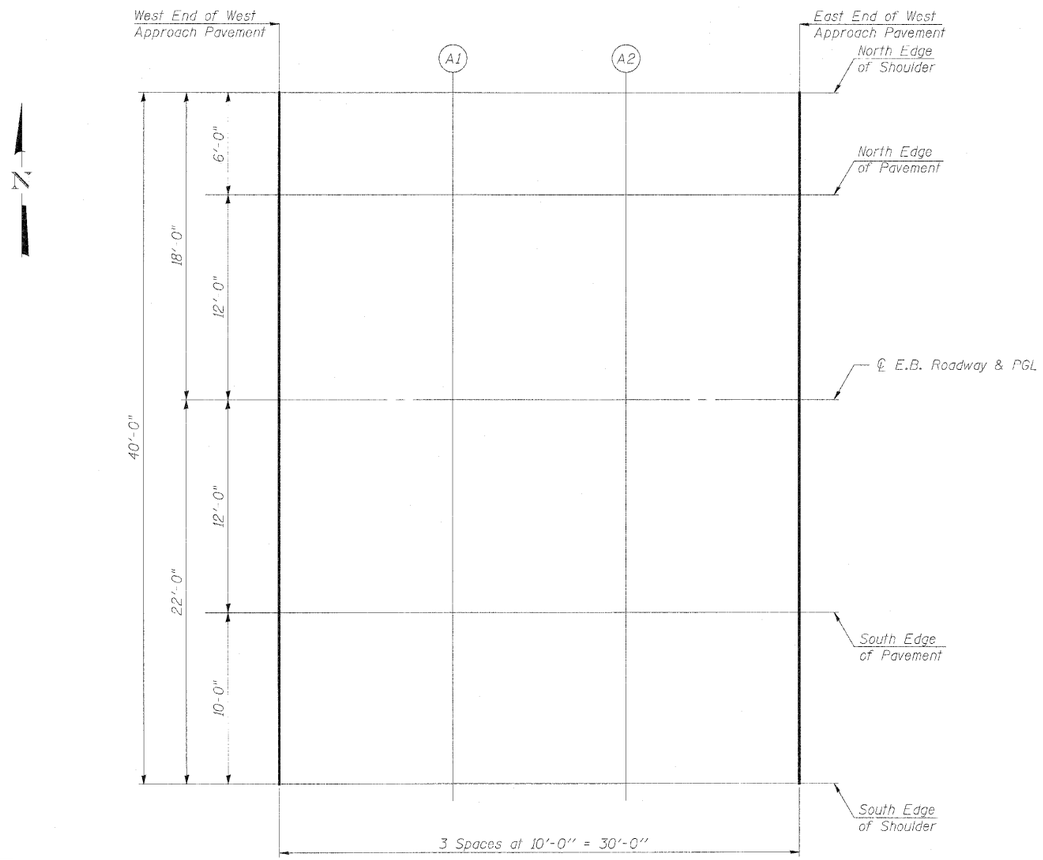
Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.56	-18.00	584.61
A1	253+96.56	-18.00	584.75
A2	254+06.56	-18.00	584.89
E. End W. Appr. Pav't.	254+16.56	-18.00	585.03

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.56	-12.00	584.73
A1	253+96.56	-12.00	584.87
A2	254+06.56	-12.00	585.01
E. End W. Appr. Pav't.	254+16.56	-12.00	585.15

℄ E.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.56	0.00	584.92
A1	253+96.56	0.00	585.06
A2	254+06.56	0.00	585.20
E. End W. Appr. Pav't.	254+16.56	0.00	585.34



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.56	12.00	584.73
A1	253+96.56	12.00	584.87
A2	254+06.56	12.00	585.01
E. End W. Appr. Pav't.	254+16.56	12.00	585.15

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End W. Appr. Pav't.	253+86.56	22.00	584.52
A1	253+96.56	22.00	584.66
A2	254+06.56	22.00	584.80
E. End W. Appr. Pav't.	254+16.56	22.00	584.94

Note:
Offset is measured from ℄ E.B. Roadway & PGL.
Negative number indicates north of ℄. Positive number indicates south of ℄.

TOP OF E.B. ROADWAY WEST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0022 (E.B.) STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	ASJ
CHECKED	MCT

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SHEET NO. 11	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	293
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH EDGE OF SHOULDER

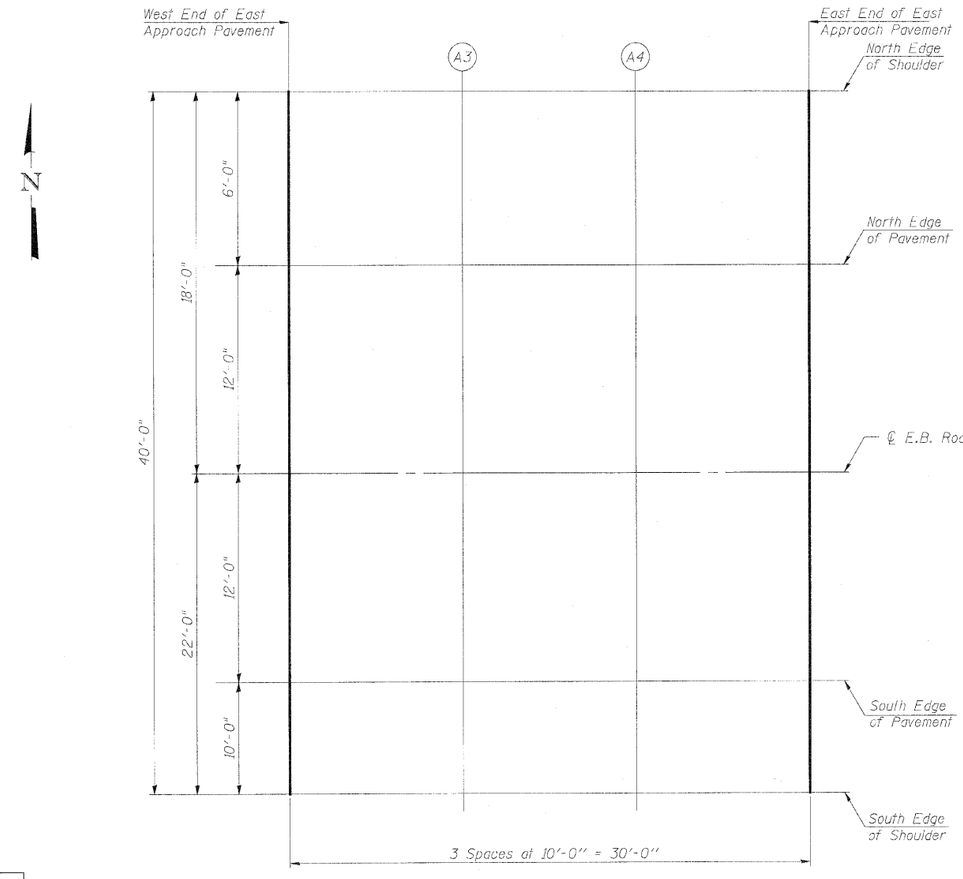
Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.31	-18.00	587.27
A3	255+87.31	-18.00	587.41
A4	255+97.31	-18.00	587.54
E. End E. Appr. Pav't.	256+07.31	-18.00	587.67

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.31	-12.00	587.40
A3	255+87.31	-12.00	587.53
A4	255+97.31	-12.00	587.66
E. End E. Appr. Pav't.	256+07.31	-12.00	587.79

℄ E.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.31	0.00	587.58
A3	255+87.31	0.00	587.72
A4	255+97.31	0.00	587.85
E. End E. Appr. Pav't.	256+07.31	0.00	587.98



PLAN

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.31	12.00	587.40
A3	255+87.31	12.00	587.53
A4	255+97.31	12.00	587.66
E. End E. Appr. Pav't.	256+07.31	12.00	587.79

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End E. Appr. Pav't.	255+77.31	22.00	587.19
A3	255+87.31	22.00	587.32
A4	255+97.31	22.00	587.46
E. End E. Appr. Pav't.	256+07.31	22.00	587.58

Note:
Offset is measured from ℄ E.B. Roadway & PGL.
Negative number indicates north of ℄. Positive number indicates south of ℄.

TOP OF E.B. ROADWAY EAST APPROACH SLAB ELEVATIONS STRUCTURE NO. 081-0022 (E.B.) STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	LC
CHECKED	MCT
DRAWN	ASJ
CHECKED	MCT

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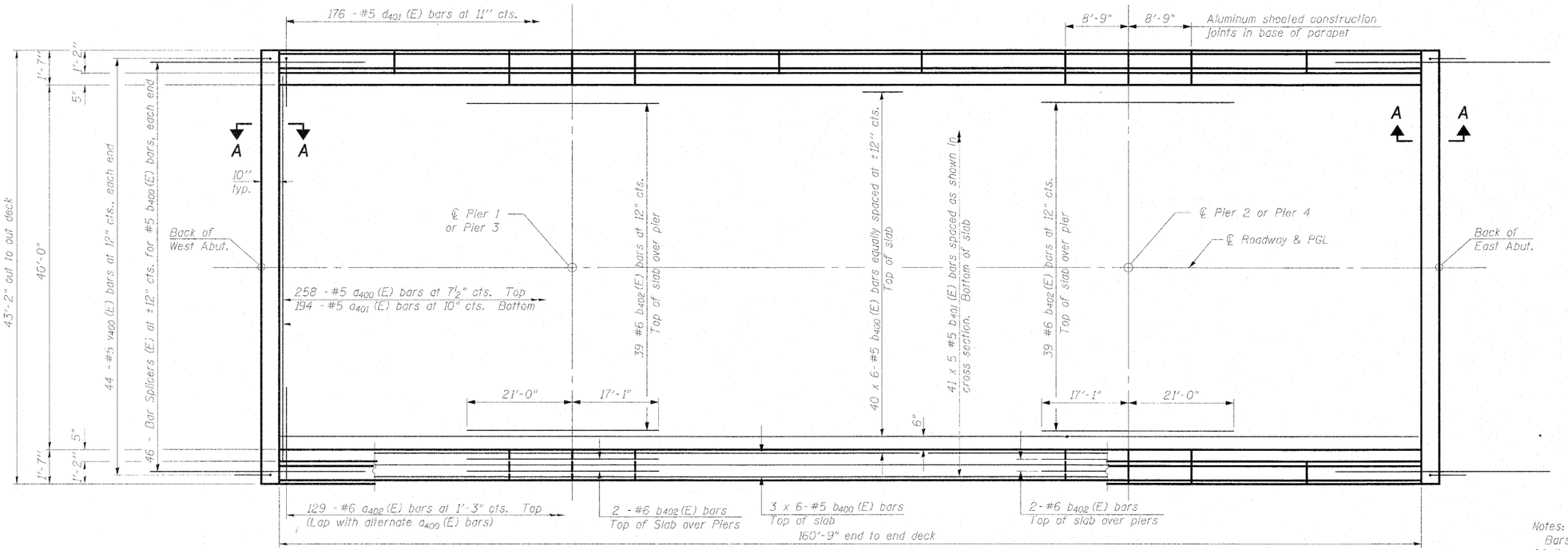
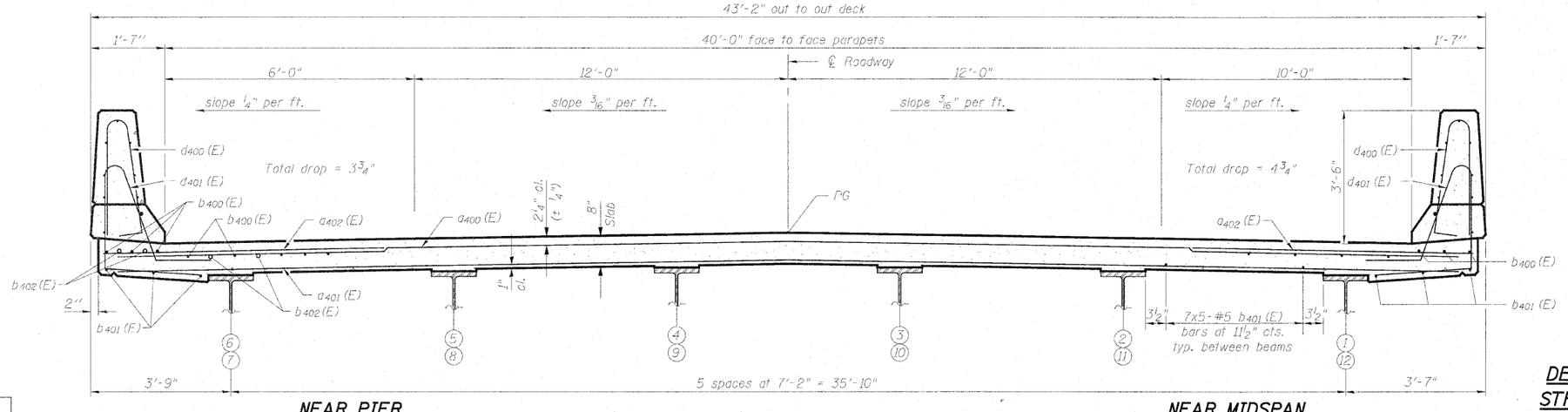
SHEET NO. 12	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	294
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Notes:
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 14 of 54 for superstructure details, parapet reinforcement and Bill of Material.
See Sheet 15 of 54 for Section A-A.



NEAR PIER

CROSS SECTION

(E.B. Roadway Looking East)
(W.B. Roadway Looking West)

NEAR MIDSPAN

MINIMUM BAR LAP

(Slab)

#5 bar = 3'-3"

DECK PLAN & CROSS SECTION
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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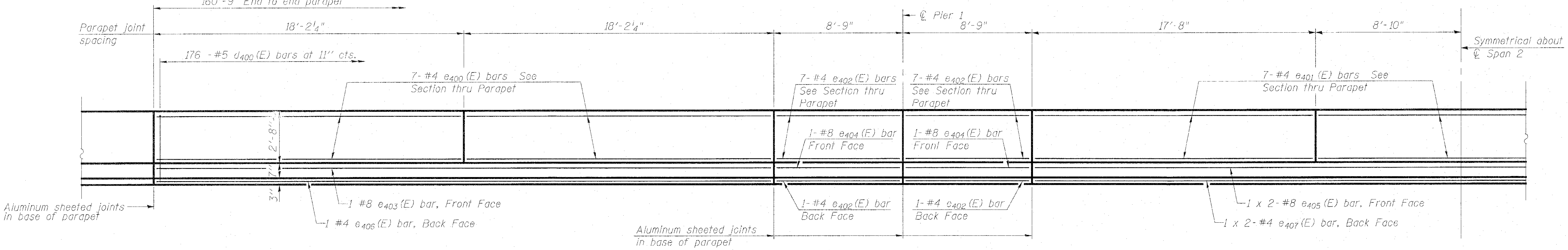
SHEET NO. 13	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	295
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

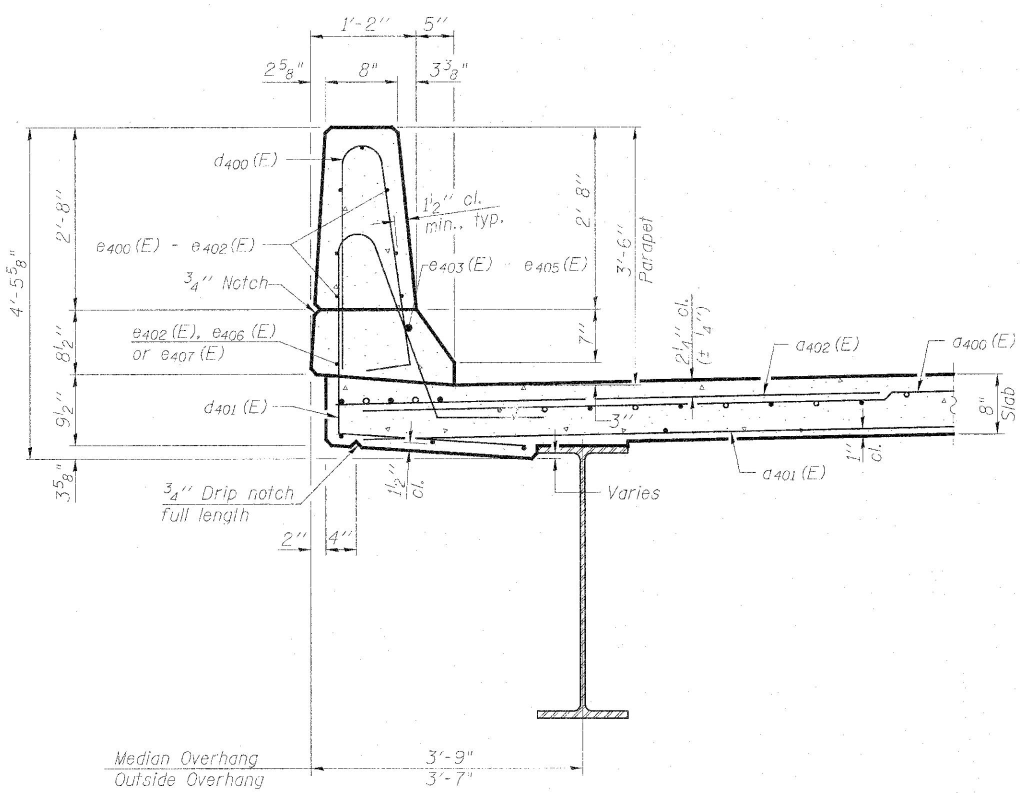
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



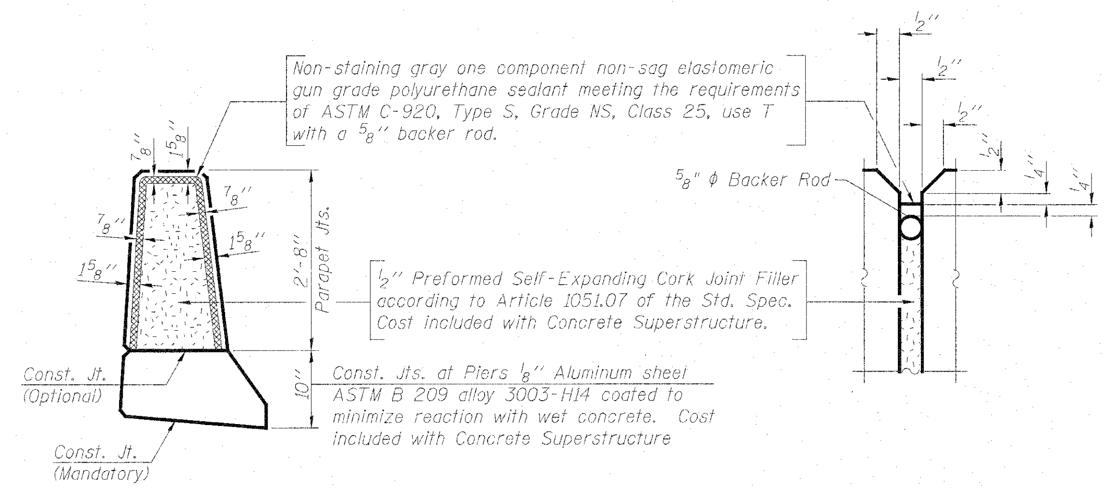
INSIDE ELEVATION OF PARAPET

MINIMUM BAR LAP

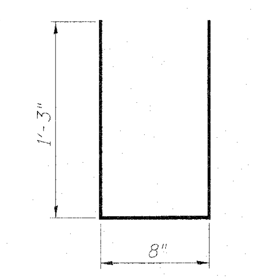
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



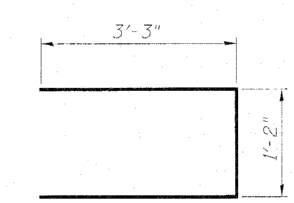
SECTION THRU PARAPET



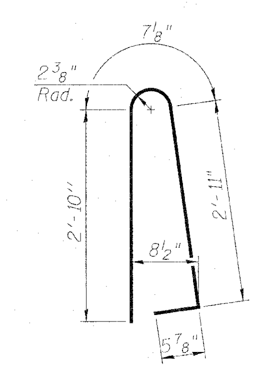
PARAPET JOINT DETAILS



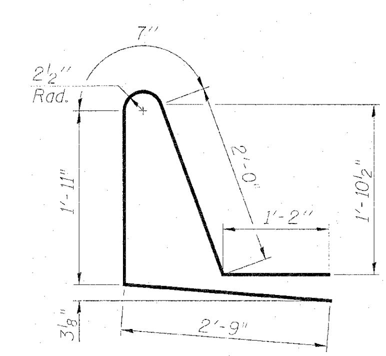
BAR u_{400} (E)



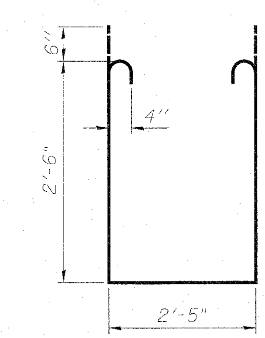
BAR s_{400} (E)



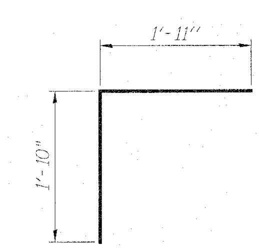
BAR d_{400} (E)



BAR d_{401} (E)



BAR s_{401} (E)



BAR v_{400} (E)

TWO SUPERSTRUCTURES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{400}(E)	516	#5	42'-6"	——
a_{401}(E)	388	#5	41'-10"	——
a_{402}(E)	516	#6	6'-6"	——
b_{400}(E)	552	#5	29'-6"	——
b_{401}(E)	410	#5	34'-9"	——
b_{402}(E)	172	#6	38'-1"	——
d_{400}(E)	704	#5	6'-10"	
d_{401}(E)	704	#5	8'-5"	
e_{400}(E)	112	#4	17'-11"	——
e_{401}(E)	84	#4	17'-4"	——
e_{402}(E)	128	#4	8'-5"	——
e_{403}(E)	8	#8	36'-1"	——
e_{404}(E)	16	#8	8'-5"	——
e_{405}(E)	8	#8	28'-11"	——
e_{406}(E)	8	#4	36'-1"	——
e_{407}(E)	8	#4	27'-4"	——
m_{400}(E)	48	#6	10'-4"	——
m_{401}(E)	40	#6	6'-10"	——
m_{402}(E)	8	#6	3'-1"	——
m_{403}(E)	8	#6	3'-3"	——
m_{404}(E)	32	#6	42'-6"	——
s_{400}(E)	184	#5	7'-8"	⊐
s_{401}(E)	164	#4	8'-5"	▯
u_{400}(E)	176	#5	3'-2"	⊔
v_{400}(E)	176	#5	3'-9"	┌
Concrete Superstructure			Cu. Yds.	491.3
Bridge Deck Grooving			Sq. Yd.	1357
Protective Coat			Sq. Yd.	1727
Reinforcement Bars, Epoxy Coated			Pound	109,780
Bar Splicers			Each	184

Bars indicated thus 1 x 2 - #5 etc. indicates 1 line of bars with 2 lengths per line.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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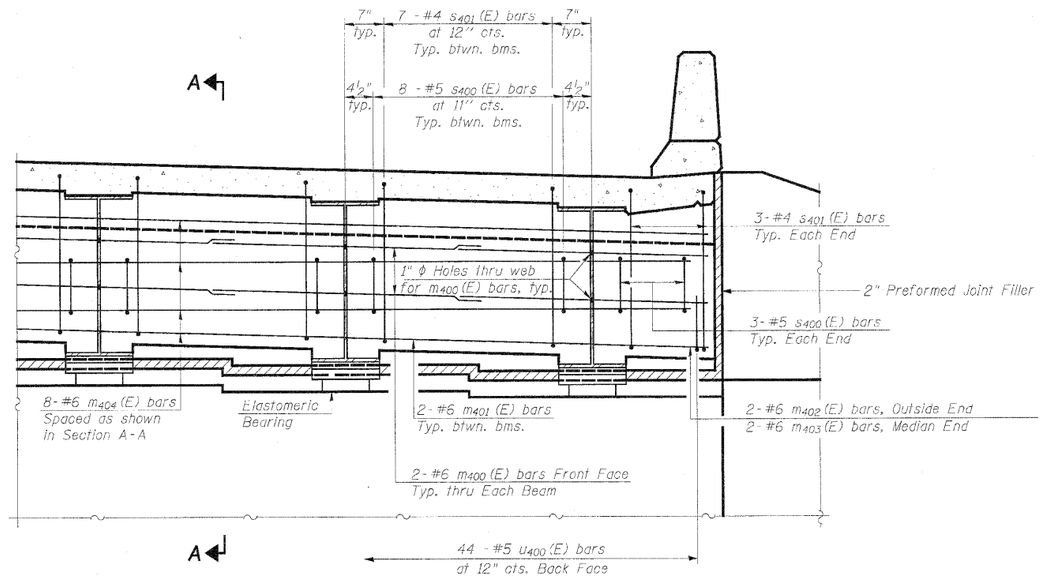
SHEET NO. 14
54 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
280	81-1(HB-2)R	ROCK ISLAND	503	296
		CONTRACT NO. 64815		
FED. ROAD DIST. NO. _	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

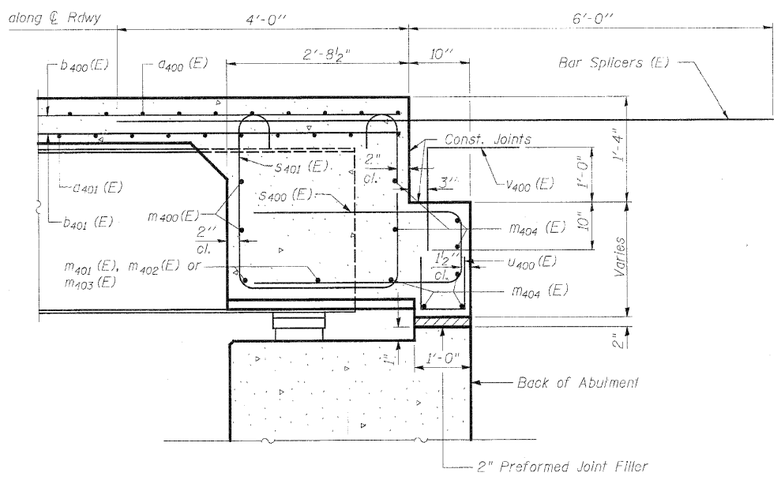


DIAPHRAGM ELEVATION AT ABUTMENT

Notes:
Reinforcement bars in diaphragm are billed with superstructure on sheet 14 of 54.
Concrete in diaphragm is included with Concrete Superstructure on sheet 14 of 54.
The s_{400}(E) and s_{401}(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

MIN. BAR LAP

#6 bar = 3'-10"



SECTION A-A

SEMI- INTEGRAL ABUTMENT DIAPHRAGM
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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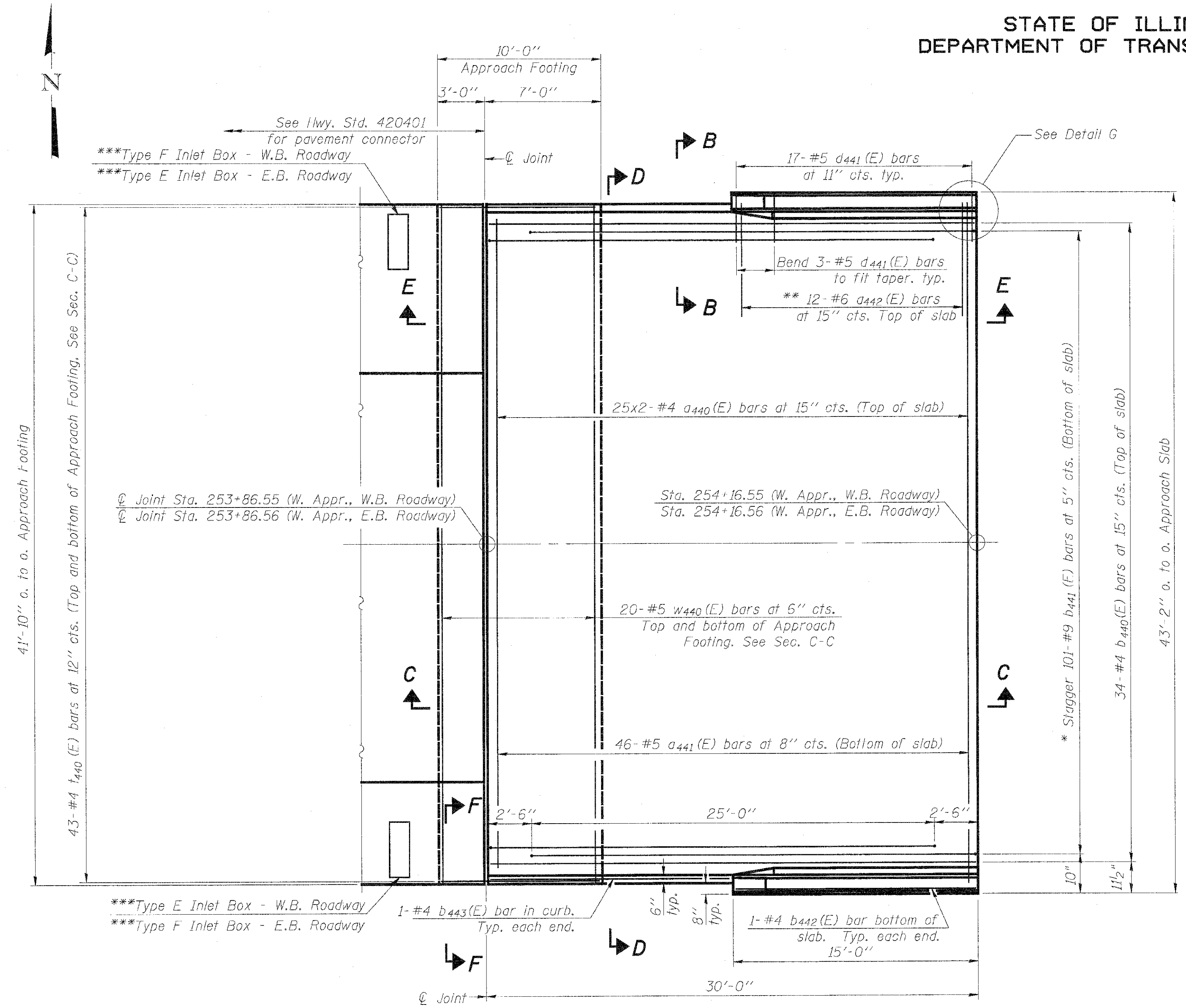
SHEET NO. 15	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	297
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

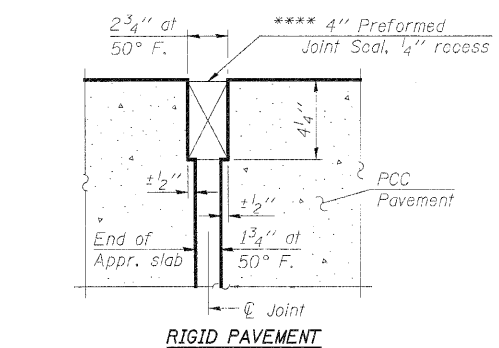
Notes:
See sheet 17 of 54 for Sections C-C & D-D and View E-E.
a_{440}(E) and a_{441}(E) bar spacings measured along ℄ Rdwy.



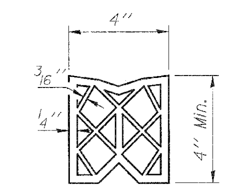
PLAN

* Tilt #9 b_{441}(E) bars as required to maintain clearance.
** Space between a_{440}(E) bars, typ. ea. parapet.
*** See Highway Standard 610001. See Roadway Plans for details and quantities.

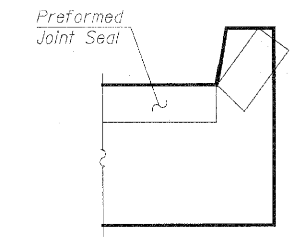
**** Cost included with Concrete Superstructure.



DETAIL A

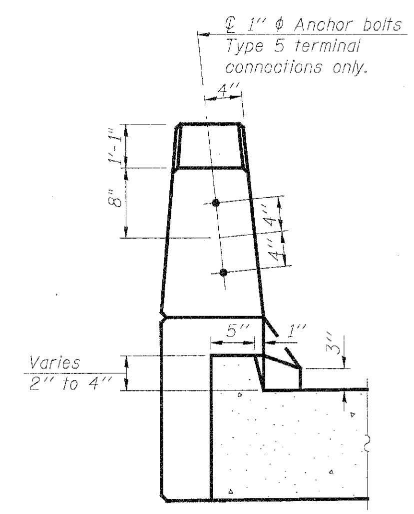


PREFORMED JOINT SEAL

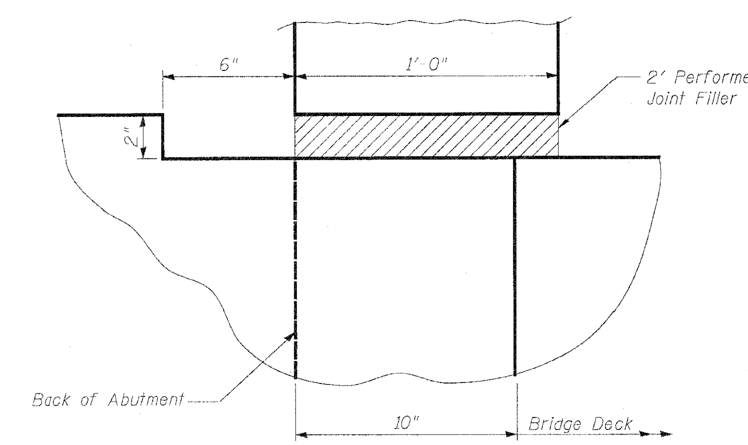


VIEW F-F

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



VIEW B-B



DETAIL G

Parapet not shown for clarity.

(Sheet 1 of 2)

BRIDGE WEST APPROACH SLAB DETAILS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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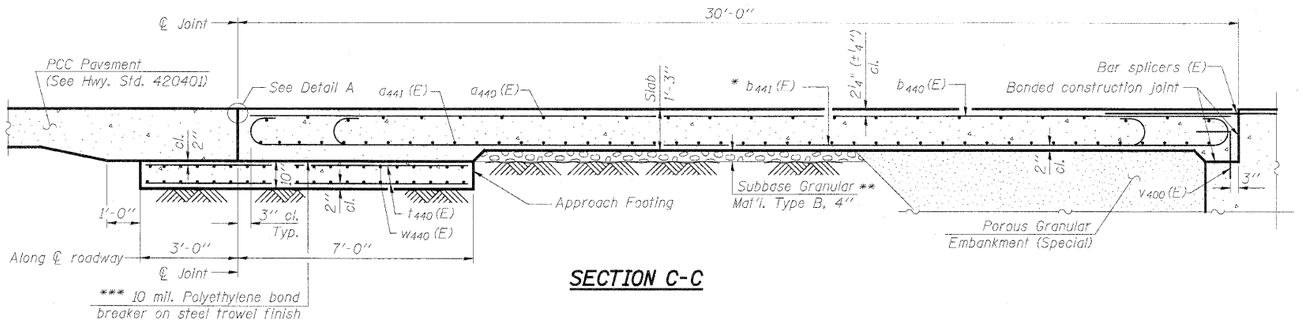
SHEET NO. 16	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	298
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

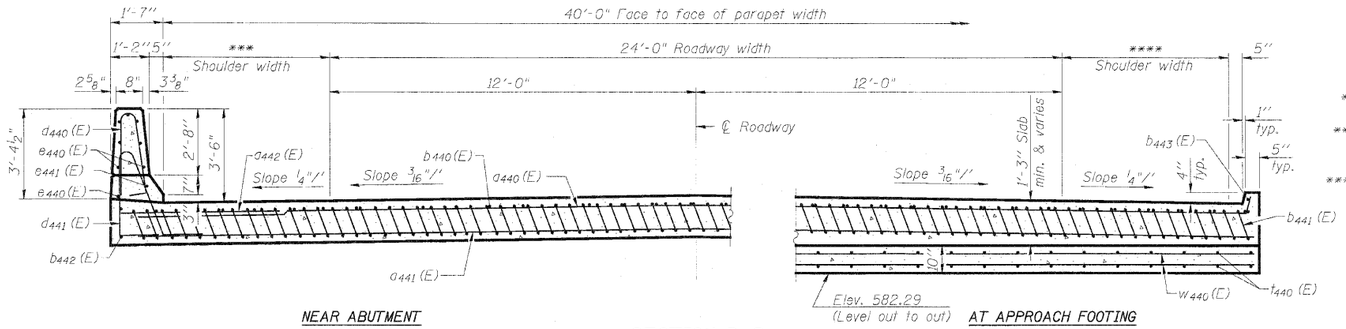
P:\P-25\I-16\DGN\Sheets\US 67 Final Plans\0810022-64815-016-W-Appr-Details.dgn 11:55:45 AM 7/22/2010 .1719

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Notes:
See sheet 16 of 54 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For $v_{400}(E)$ bar details, see sheet 14 of 54.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 48 of 54.
Cost of excavation for approach footing included with Concrete Structures.
For Porous Granular Embankment (Special) and drainage treatment details, see sheet 35 of 54.
For additional parapet details, see sheet 14 of 54.



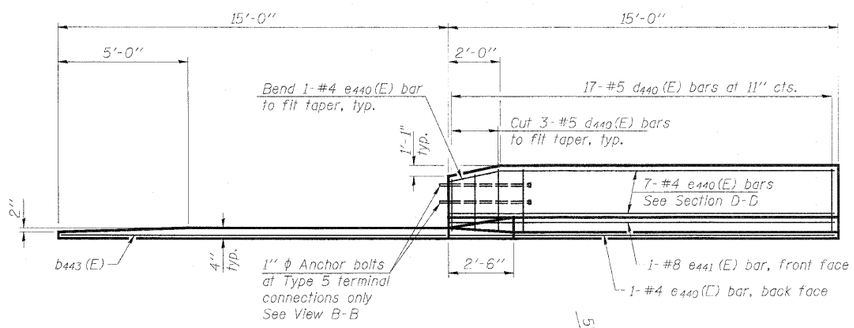
SECTION C-C



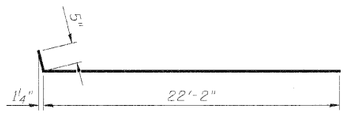
NEAR ABUTMENT — AT APPROACH FOOTING

SECTION D-D

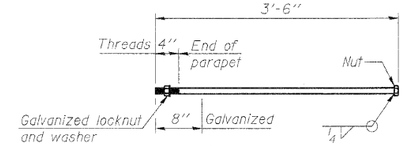
(See Plan for dimensions not shown)



VIEW E-E

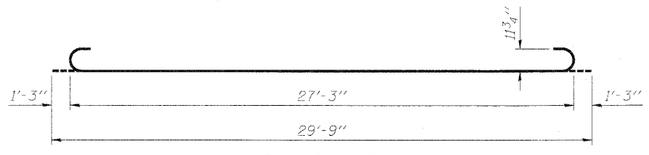


BAR $a_{440}(E)$



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)



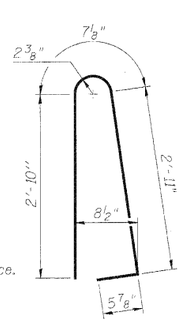
BAR $b_{441}(E)$

* Tilt #9 $b_{441}(E)$ bars as required to maintain clearance.

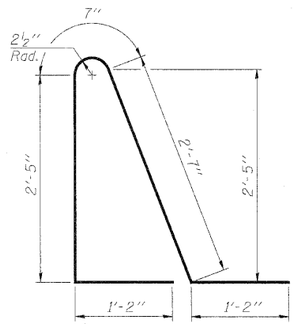
** Cost included with Concrete Superstructure.

*** 10'-0" - W.B. Roadway
6'-0" - E.B. Roadway

**** 6'-0" - W.B. Roadway
10'-0" - E.B. Roadway



BAR $d_{440}(E)$



BAR $d_{441}(E)$

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{440}(E)$	100	#4	22'-7"	
$a_{441}(E)$	92	#5	41'-6"	
$a_{442}(E)$	48	#6	6'-6"	
$b_{440}(E)$	68	#4	29'-8"	
$b_{441}(E)$	202	#9	29'-9"	
$b_{442}(E)$	4	#4	14'-8"	
$b_{443}(E)$	4	#4	14'-8"	
$d_{440}(E)$	68	#5	6'-10"	
$d_{441}(E)$	68	#5	7'-11"	
$e_{440}(E)$	32	#4	14'-8"	
$e_{441}(E)$	4	#8	14'-8"	
$t_{440}(E)$	172	#4	9'-8"	
$w_{440}(E)$	80	#5	11'-6"	
Concrete Superstructure			Cu. Yd.	130.4
Concrete Structures			Cu. Yd.	25.7
Bridge Deck Grooving			Sq. Yd.	253
Protective Coat			Sq. Yd.	302
Reinforcement Bars, Epoxy Coated			Pound	33,900

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

(Sheet 2 of 2)

BRIDGE WEST APPROACH SLAB DETAILS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

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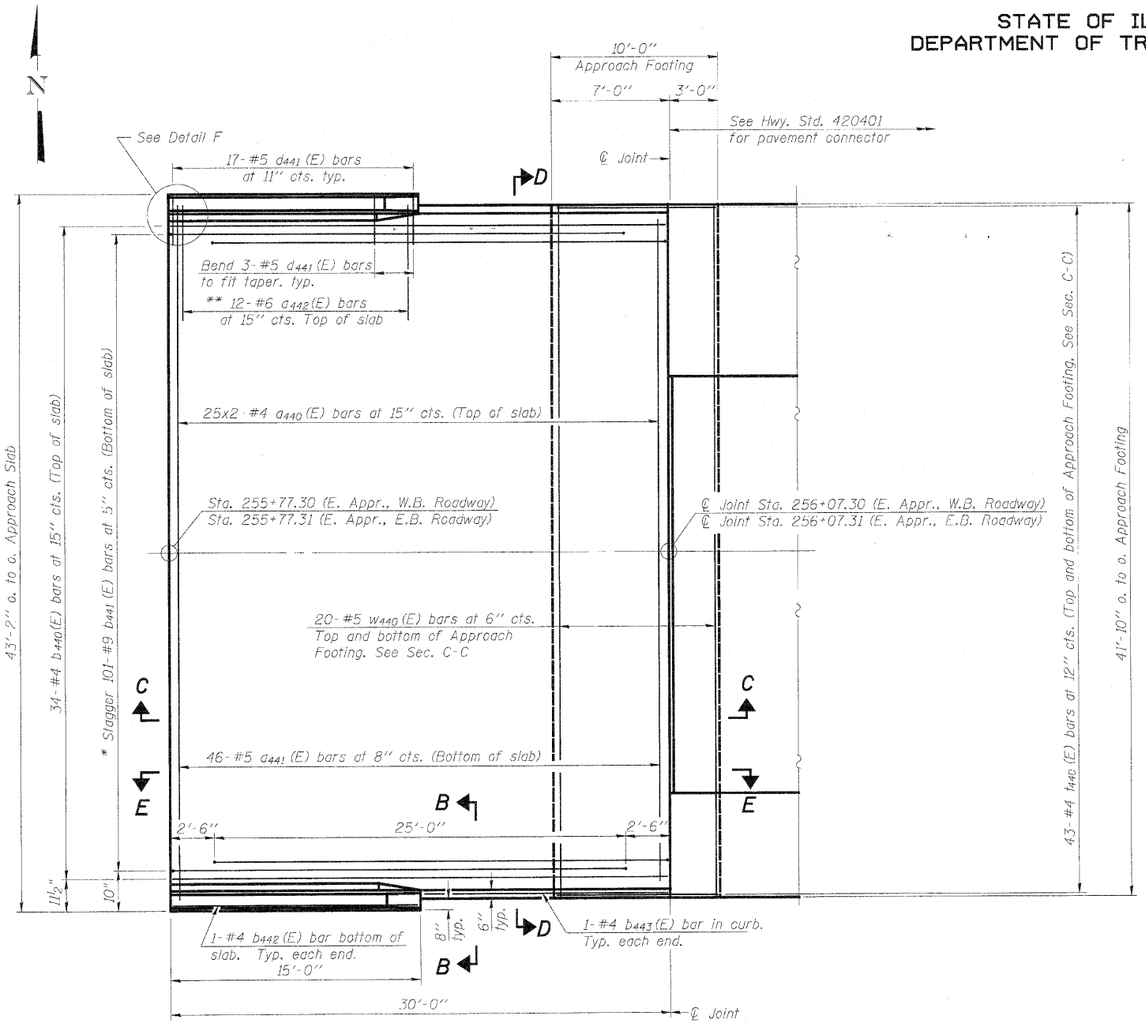
SHEET NO. 17	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	299
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

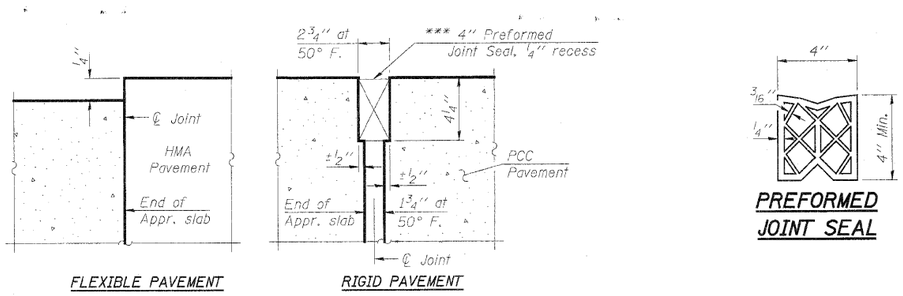
Notes:
See sheet 19 of 54 for Sections C-C & D-D and View E-E.
a_{440}(E) and a_{441}(E) bar spacings measured along ℄ Rdwy.



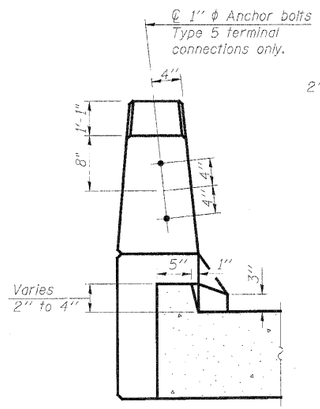
PLAN

* Tilt #9 b^{441}(E) bars as required to maintain clearance.
** Space between a^{440}(E) bars, typ. ea. parapet.

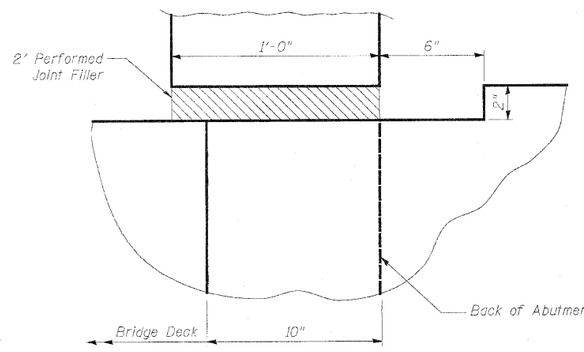
*** Cost included with Concrete Superstructure.



DETAIL A



VIEW B-B



DETAIL F
Parapet not shown for clarity.

(Sheet 1 of 2)

BRIDGE EAST APPROACH SLAB DETAILS
STRUCTURE NO. 081-0022 (E.B.)
STRUCTURE NO. 081-0023 (W.B.)

DESIGNED	ASJ
CHECKED	SPK
DRAWN	ASJ
CHECKED	SPK

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SHEET NO. 18	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
54 SHEETS	280	81-1(HB-2)R	ROCK ISLAND	503	300
			CONTRACT NO. 64815		
	FED. ROAD DIST. NO. _	ILLINOIS	FED. AID PROJECT		