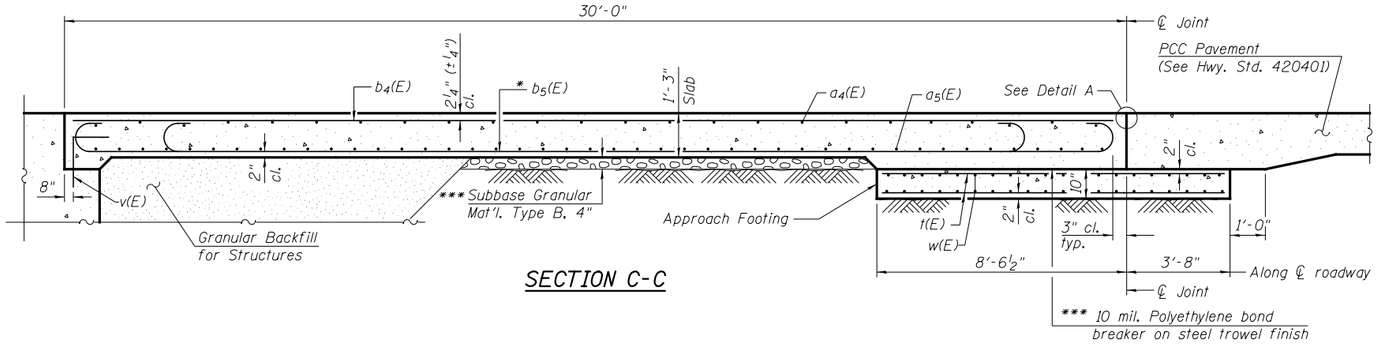
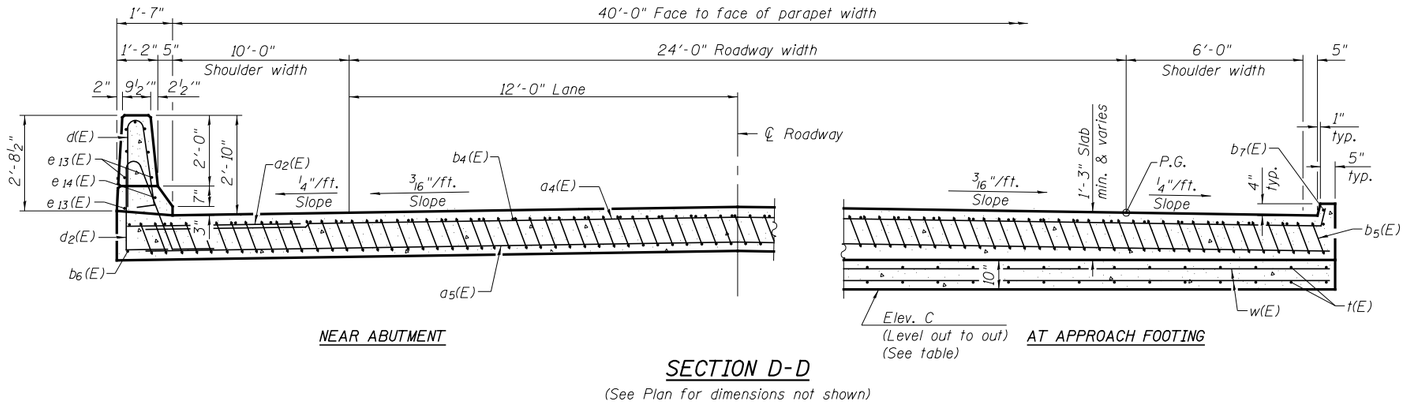


SECTION C-C

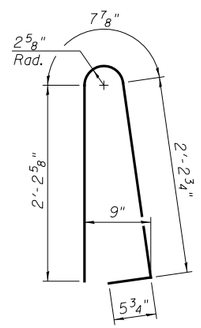


NEAR ABUTMENT — AT APPROACH FOOTING

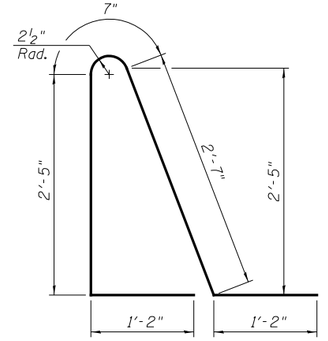
SECTION D-D

(See Plan for dimensions not shown)

Notes:
See sheet 15 of 34 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.
See sheet 13 of 34 for v(E) bar details.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
See sheet 2 of 34 for Granular Backfill for Structures and drainage treatment details.
See sheet 13 of 34 for additional parapet details.



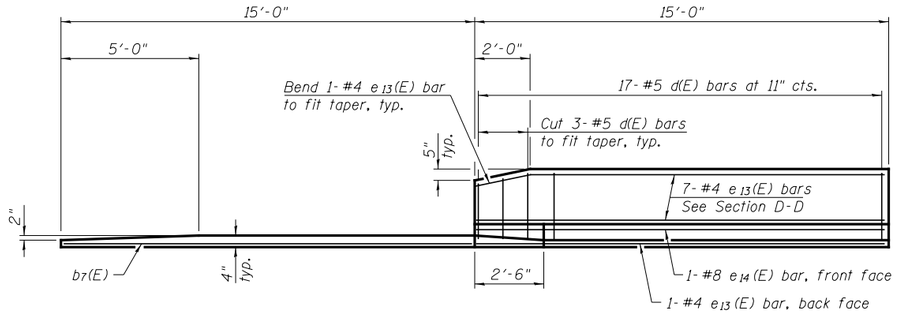
BAR d(E)



BAR d2(E)

* Tilt #9 b5(E) bars as required to maintain clearance.

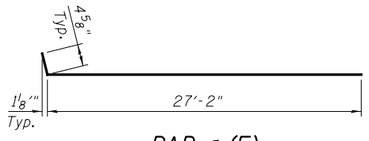
*** Cost included with Concrete Superstructure.



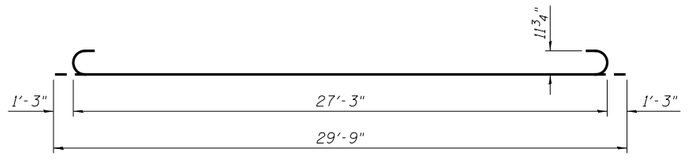
VIEW E-E

APPROACH FOOTING ELEVATIONS

Location	Elevation C
N. Approach (WBL)	591.23
S. Approach (WBL)	588.01
N. Approach (EBL)	591.60
S. Approach (EBL)	588.15



BAR a4(E)



BAR b5(E)

BILL OF MATERIAL
FOUR APPROACH SLABS

Bar	No.	Size	Length	Shape
a2(E)	96	#6	6'-6"	
a4(E)	200	#4	27'-7"	
a5(E)	368	#5	27'-6"	
b4(E)	136	#4	29'-8"	
b5(E)	400	#9	29'-9"	
b6(E)	8	#4	14'-8"	
b7(E)	8	#4	14'-6"	
d(E)	136	#5	5'-7"	
d2(E)	136	#5	7'-11"	
e13(E)	64	#4	14'-8"	
e14(E)	8	#8	14'-8"	
t(E)	336	#4	11'-9"	
w(E)	320	#5	27'-7"	
Concrete Superstructure			Cu. Yd.	294.5
Concrete Structures			Cu. Yd.	63.0
Reinforcement Bars, Epoxy Coated			Pound	73,190

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Jacksonville, Peoria & Shorewood, Illinois

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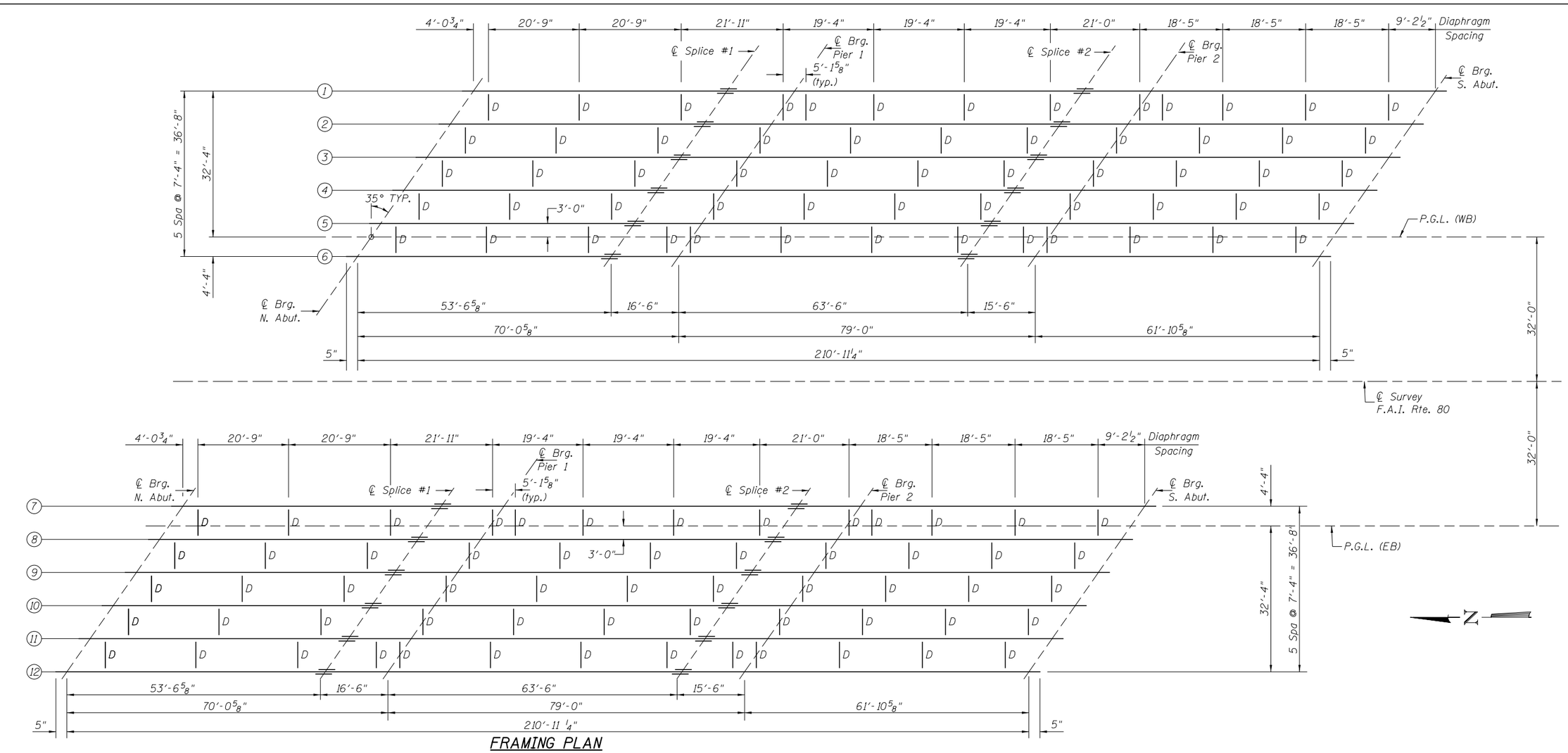
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 16 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	201
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-016 APPROACH DETAILS.dgn



FRAMING PLAN

ELEVATION

SECTION A-A

* See Detail on Sheet 18 of 34.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements. Zone 2.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

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PLOT DATE =	DRAWN - JCW	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
S.N 081–0199(EB) & S.N. 081–0200(WB)
SHEET NO. 17 OF 34 SHEETS

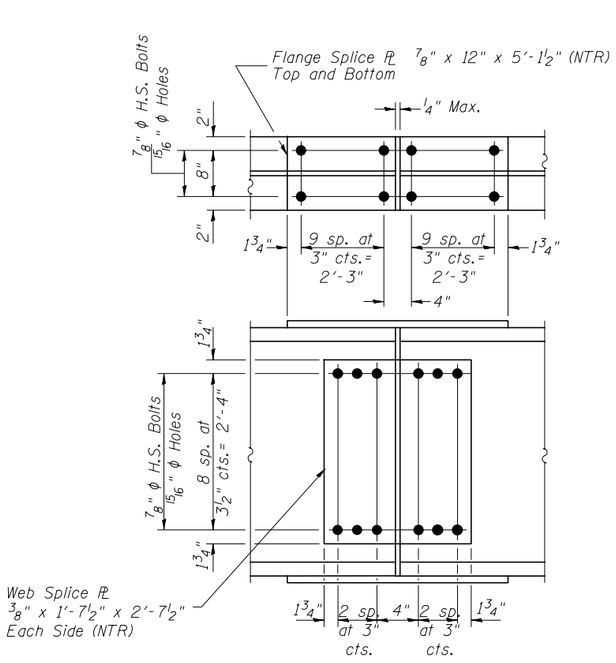
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	202
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-017 FRAMING.dgn

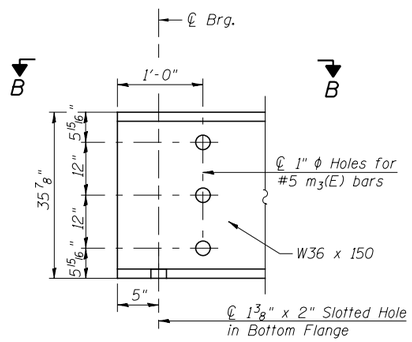
*TOP OF BEAM ELEVATIONS

	WBL Structure						EBL Structure					
	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8	Beam 9	Beam 10	Beam 11	Beam 12
℄ Brg. N. Abut.	592.70	592.92	593.12	593.25	592.21	593.15	593.05	593.26	593.45	593.47	593.43	593.35
℄ Splice 1	591.91	592.13	592.31	592.45	592.41	592.34	592.23	592.43	592.60	592.62	592.58	592.50
℄ Brg. Pier 1	591.70	591.92	592.10	592.23	592.19	592.12	592.00	592.20	592.38	592.39	592.35	592.27
℄ Splice 2	590.89	591.12	591.30	591.41	591.37	591.29	591.15	591.35	591.53	591.53	591.47	591.40
℄ Brg. Pier 2	590.73	590.95	591.13	591.24	591.20	591.12	590.97	591.17	591.35	591.35	591.29	591.21
℄ Brg. S. Abut.	590.10	590.31	590.48	590.60	590.54	590.46	590.28	590.47	590.64	590.64	590.58	590.49

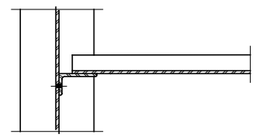
*For fabrication only



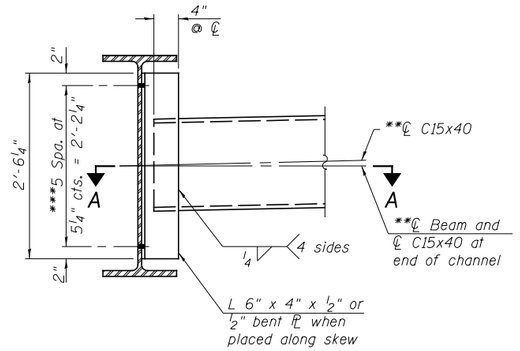
SPLICE DETAIL
(24 Required)



TYPICAL END OF BEAM DETAIL



SECTION A-A



DIAPHRAGM D
(118 Required)

Notes:

Two hardened washers required for each set of oversized holes.

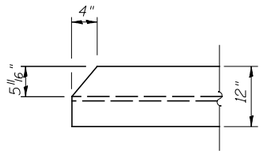
**Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, C15x50, if utilized, shall be provided at no additional cost to the Department.

***3/4"ϕ HS bolts, 15/16"ϕ holes.

All diaphragms between beams 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.

Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

All splice plates shall be M270 Grade 50 (NTR), and all wide flange beams shall be M270 Grade 50 (NTR).



VIEW B-B
(Top Flange)

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME =	DESIGNED - JOH	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
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		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 18 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	203
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-018 STRUC STL DETAILS.dgn

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier #1	0.5 Sp. 2	Pier #2	0.6 Sp. 3
I_s	(in^4)	9040	9040	9040	9040	9040
$I_c(n)$	(in^4)	23428	-	23428	-	23428
$I_c(3n)$	(in^4)	17257	-	17257	-	17257
$I_c(cr)$	(in^4)	-	11983	-	11983	-
S_s	(in^3)	504	504	504	504	504
$S_c(n)$	(in^3)	725	-	725	-	725
$S_c(3n)$	(in^3)	656	-	656	-	656
$S_c(cr)$	(in^3)	-	569	-	569	-
DC1	(k/')	0.921	0.921	0.921	0.921	0.921
M_{DC1}	('k)	339	531	240	453	250
DC2	(k/')	0.150	0.150	0.150	0.150	0.150
M_{DC2}	('k)	54	85	38	72	40
DW	(k/')	0.367	0.367	0.367	0.367	0.367
M_{DW}	('k)	133	208	94	178	98
M_{L+IM}	('k)	859	853	769	781	751
M_U (Strength I)	('k)	2194	2575	1834	2294	1824
$\phi_f M_n$	('k)	3719	2850	3801	2964	3792
f_s DC1	(ksi)	8.07	12.64	5.71	10.79	5.95
f_s DC2	(ksi)	0.99	1.79	0.70	1.52	0.73
f_s DW	(ksi)	2.43	4.39	1.72	3.75	1.79
f_s (L+IM)	(ksi)	14.22	17.99	12.73	16.47	12.43
f_s (Service II)	(ksi)	29.98	41.97	24.68	37.47	24.63
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-	-	-	-	-
$\phi_f F_n$	(ksi)	-	-	-	-	-
V_r	(k)	51.3	56.3	45.4	59.7	51.2

INTERIOR GIRDER REACTION TABLE					
		N. Abut.	Pier #1	Pier #2	S. Abut.
R_{DC1}	(k)	25.2	78.5	72.4	21.7
R_{DC2}	(k)	4.0	12.5	11.6	3.5
R_{DW}	(k)	9.4	30.7	28.3	8.5
R_{L+IM}	(k)	87.1	117.6	113.2	82.1
R_{Total}	(k)	125.7	239.3	225.5	115.8

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) 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-Strength I, and Service II) 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-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total -Strength I and Service II) in cracked sections, due to both short-term composite live loads and long term composite (superimposed) dead loads (in.^{4} and in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_U (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s\ (L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s\ (L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

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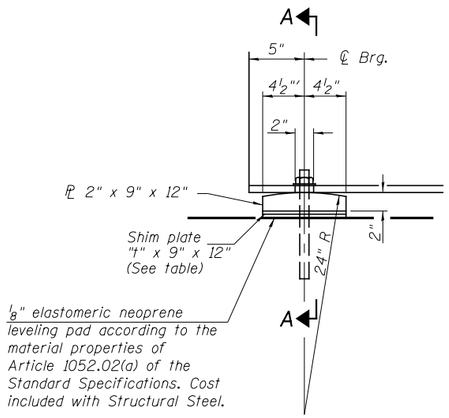
	CHECKED - BAN	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

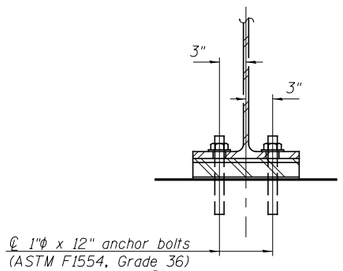
STRUCTURAL STEEL DETAILS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 19 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	204
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-019 STRUC STL DETAILS.dgn



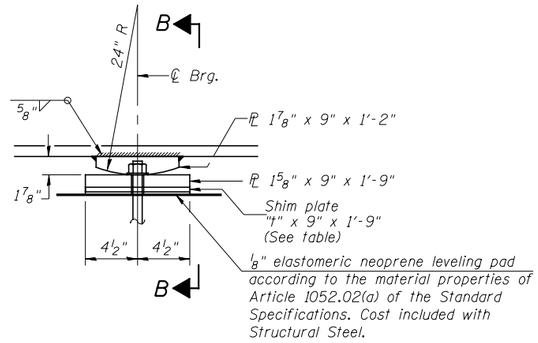
ELEVATION AT ABUTMENT



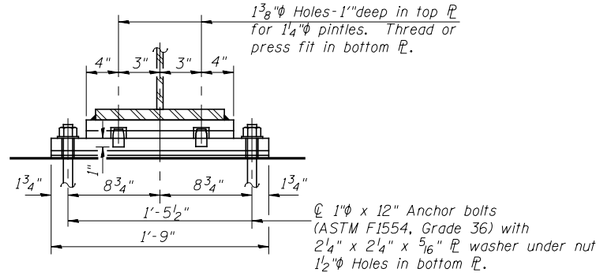
SECTION A-A

FIXED BEARING AT ABUTMENTS

(24 Required)



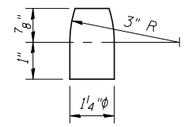
ELEVATION AT PIER



SECTION B-B

FIXED BEARING AT PIERS

(24 Required)

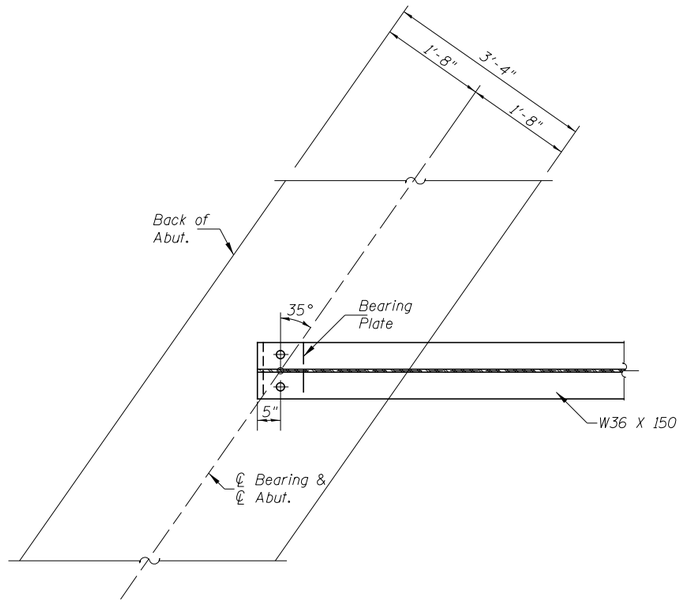


PINTLE

(M270 Grade 50)

SHIM ℄ THICKNESS, "t"

Beam	N. Abut.	Pier 1	Pier 2	S. Abut.
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	½"	½"	½"	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	¼"	⅜"	-	-
10	½"	½"	-	-
11	-	-	-	-
12	-	-	-	-



PARTIAL PLAN AT ABUTMENTS

Notes:

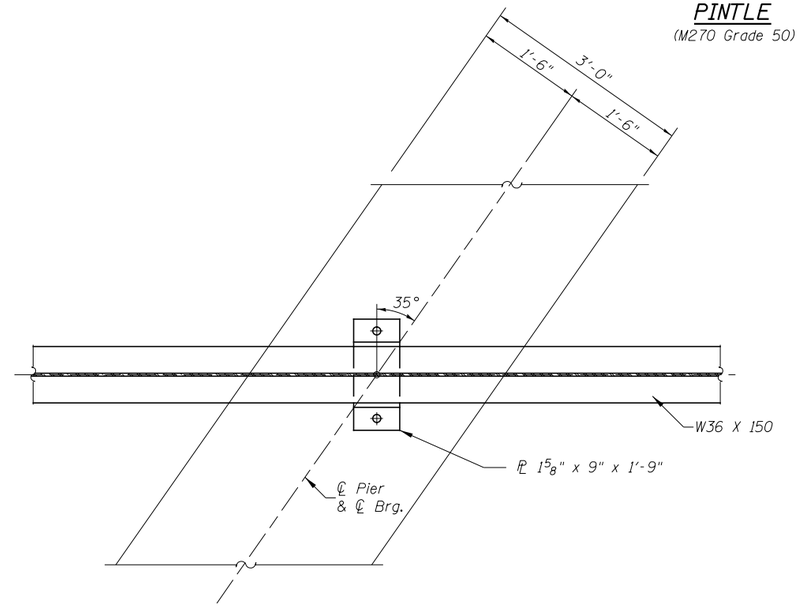
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

The structural steel bearing plates shall conform to the requirements of AASHTO M270 Grade 50.

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

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after members are in place.



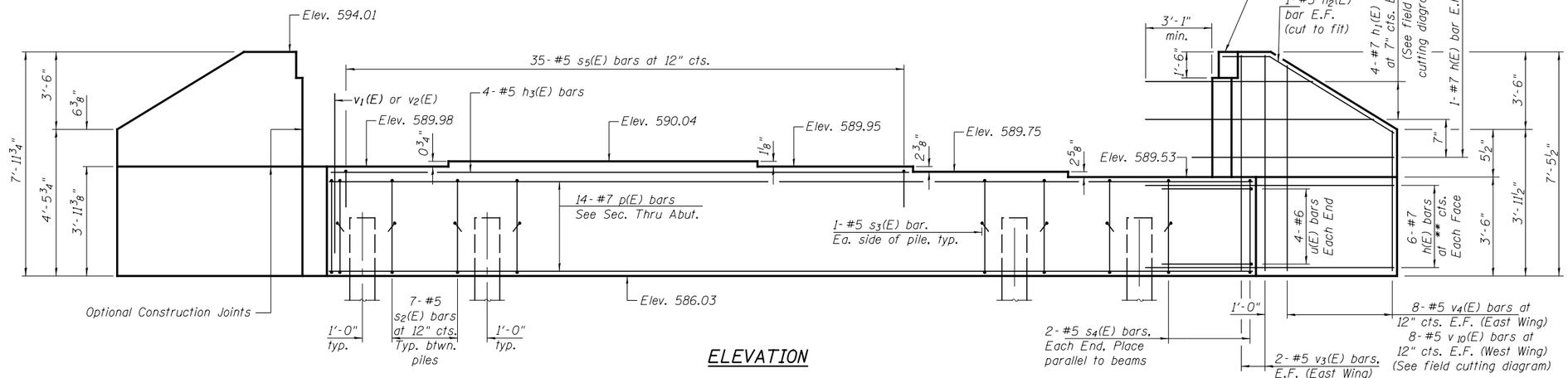
PARTIAL PLAN AT PIERS

BILL OF MATERIAL

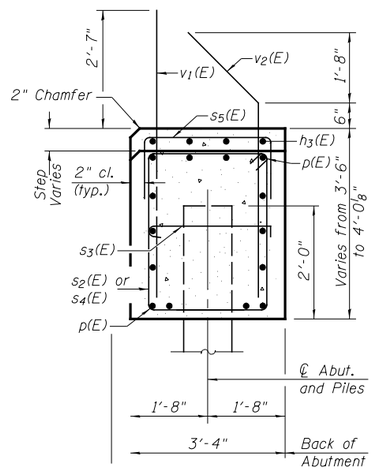
ITEM	UNIT	TOTAL
Anchor Bolts, 1"	EACH	96

Notes:
Pour steps monolithically with cap.

E.F. = Each Face

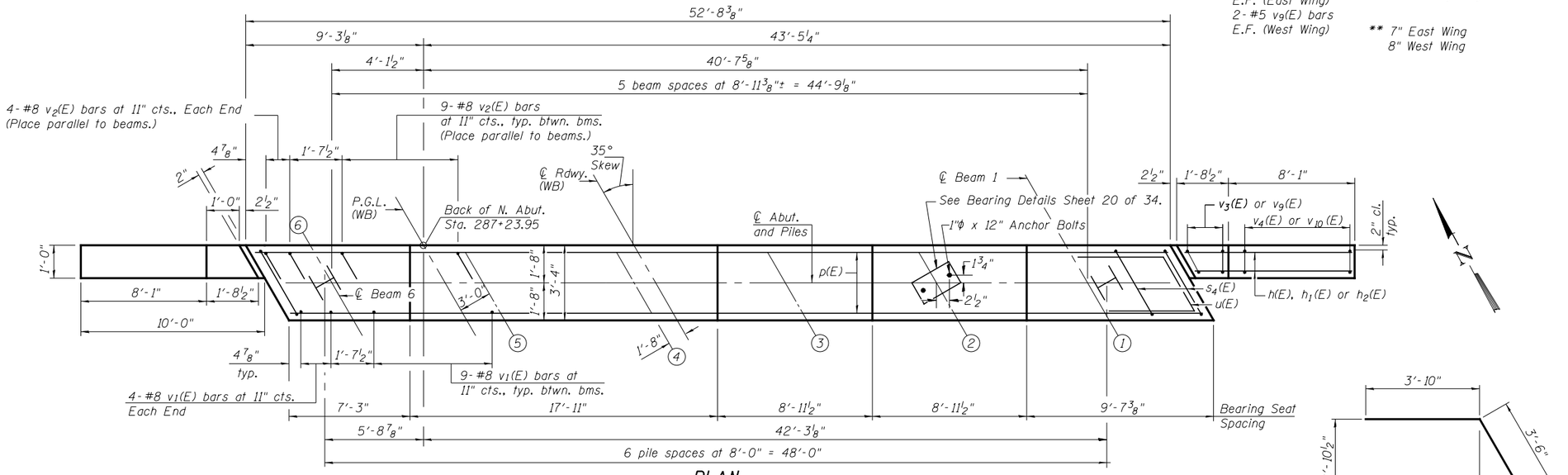


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

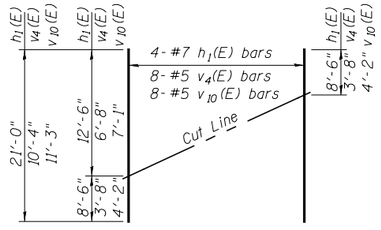
NORTH ABUTMENT (WB) BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	12'-11"	
h_1(E)	8	#7	21'-0"	
h_2(E)	4	#5	10'-2"	
h_3(E)	4	#5	34'-0"	
p(E)	14	#7	52'-3"	
s_2(E)	42	#5	13'-3"	
s_3(E)	14	#5	4'-0"	
s_4(E)	4	#5	14'-7"	
s_5(E)	35	#5	8'-0"	
u(E)	8	#6	11'-2"	
v_1(E)	53	#8	5'-11"	
v_2(E)	53	#8	6'-2"	
v_3(E)	4	#5	7'-1"	
v_4(E)	8	#5	10'-4"	
v_9(E)	4	#5	7'-6"	
v_{10}(E)	8	#5	11'-3"	
Structure Excavation		Cu. Yd.		165
Concrete Structures		Cu. Yd.		29.4
Reinforcement Bars, Epoxy Coated		Pound		5,840
Furnishing Steel Piles HP 12x53		Foot		210
Driving Piles		Foot		210
Test Pile Steel HP 12x53		Each		1

For details of piles see sheet 29 of 34.

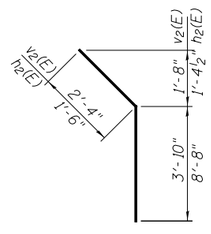
PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418^K
Factored Resistance Available: 230^K
Est. Length: 35 Ft
No. Production Piles: 6
No. Test Piles: 1

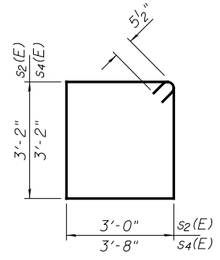


FIELD CUTTING DIAGRAM

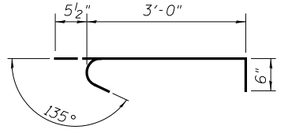
Order h_1(E), v_4(E), and v_{10}(E) full length. Cut as shown and use remainder of bars in opposite face.



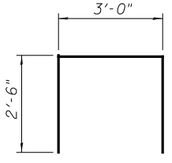
BARS v_2(E) & h_2(E)



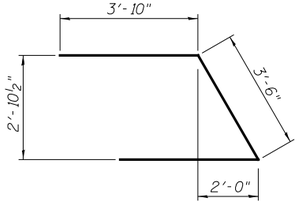
BARS s_2(E) & s_4(E)



BAR s_3(E)



BAR s_5(E)



BAR u(E)

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME =	DESIGNED - JOH	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
	PLOT DATE =	DRAWN - JCW	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

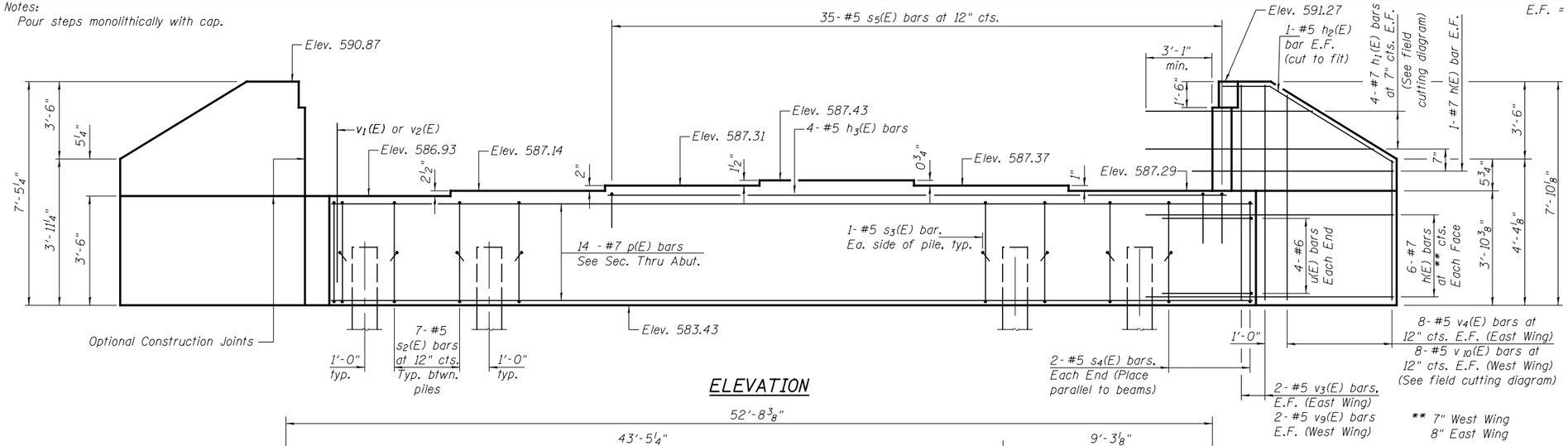
NORTH ABUTMENT (WBL)
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 21 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	206
		CONTRACT NO. 64B78		
		ILLINOIS	FED. AID PROJECT	

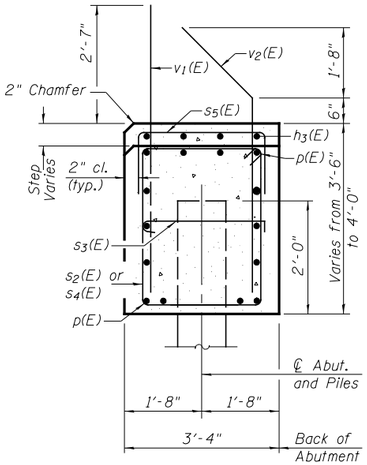
V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-021 N ABUT WBL.dgn

Notes:
Pour steps monolithically with cap.

E.F. = Each Face

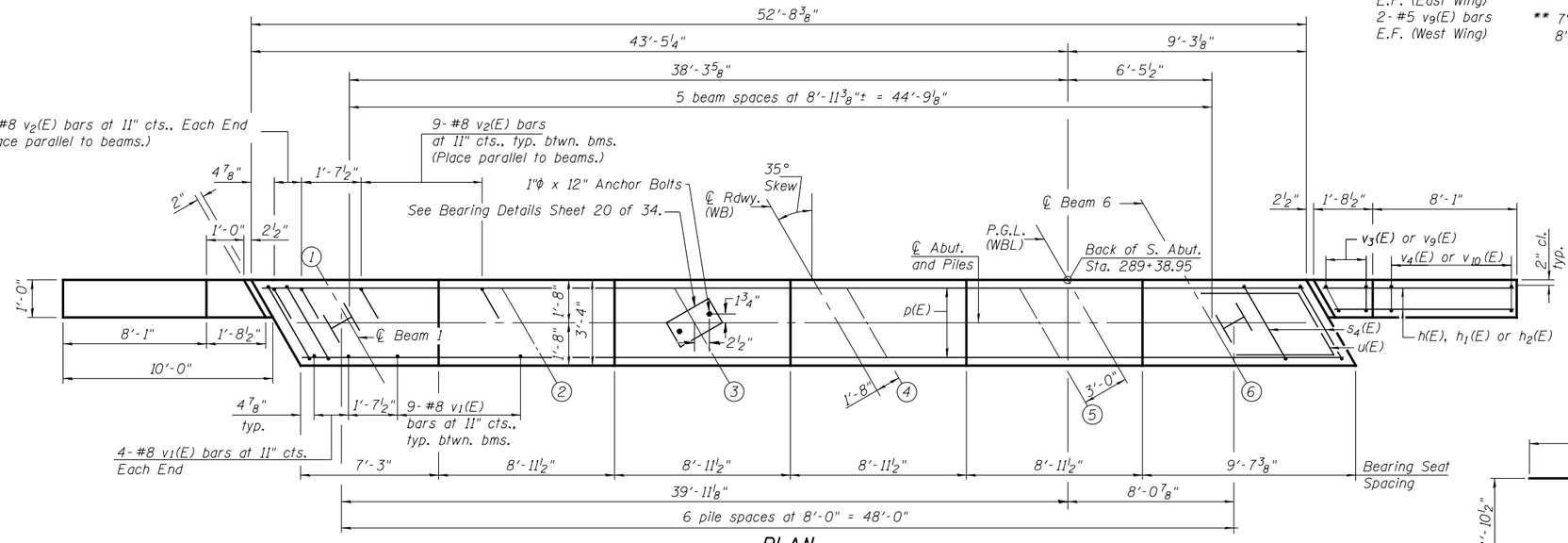


ELEVATION



SEC. THRU ABUT.

Dimensions at right angles to abutment.



PLAN

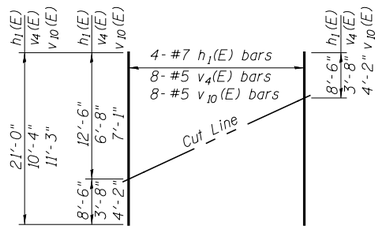
SOUTH ABUTMENT (WB) BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	12'-11"	
h_1(E)	8	#7	21'-0"	
h_2(E)	4	#5	10'-2"	
h_3(E)	4	#5	34'-0"	
p(E)	14	#7	52'-3"	
s_2(E)	42	#5	13'-3"	
s_3(E)	14	#5	4'-0"	
s_4(E)	4	#5	14'-7"	
s_5(E)	35	#5	8'-0"	
u(E)	8	#6	11'-2"	
v_1(E)	53	#8	5'-11"	
v_2(E)	53	#8	6'-2"	
v_3(E)	4	#5	7'-1"	
v_4(E)	8	#5	10'-4"	
v_9(E)	4	#5	7'-6"	
v_{10}(E)	8	#5	11'-3"	
Structure Excavation		Cu. Yd.	160	
Concrete Structures		Cu. Yd.	29.4	
Reinforcement Bars, Epoxy Coated		Pound	5,840	
Furnishing Steel Piles HP 12x53		Foot	210	
Driving Piles		Foot	210	
Test Pile Steel HP 12x53		Each	1	

For details of piles see sheet 29 of 34.

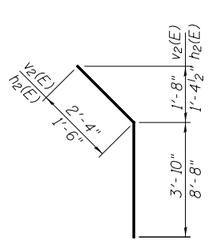
PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418^K
Factored Resistance Available: 230^K
Est. Length: 35 Ft
No. Production Piles: 6
No. Test Piles: 1

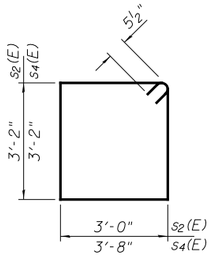


FIELD CUTTING DIAGRAM

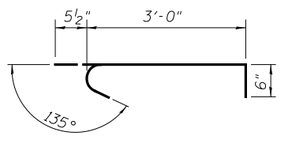
Order h_1(E), v_4(E), and v_{10}(E) full length. Cut as shown and use remainder of bars in opposite face.



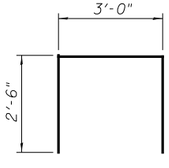
BARS v_2(E) & h_2(E)



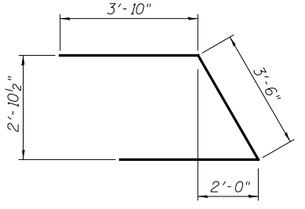
BARS s_2(E) & s_4(E)



BAR s_3(E)



BAR s_5(E)



BAR u(E)

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME =	DESIGNED - JOH	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
	PLOT DATE =	DRAWN - JCW	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

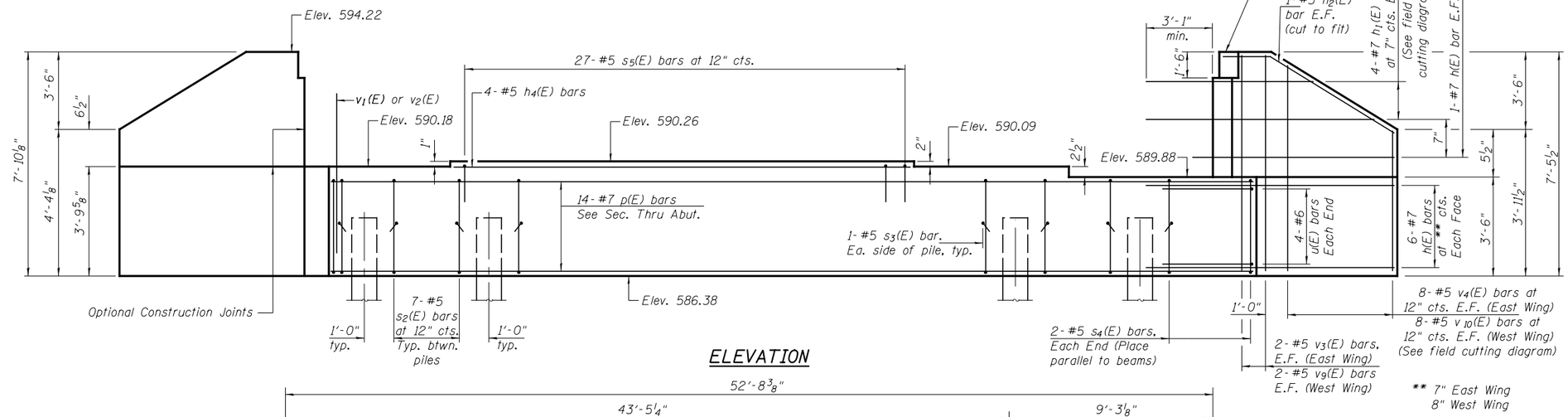
SOUTH ABUTMENT (WBL)
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 22 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	207
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		

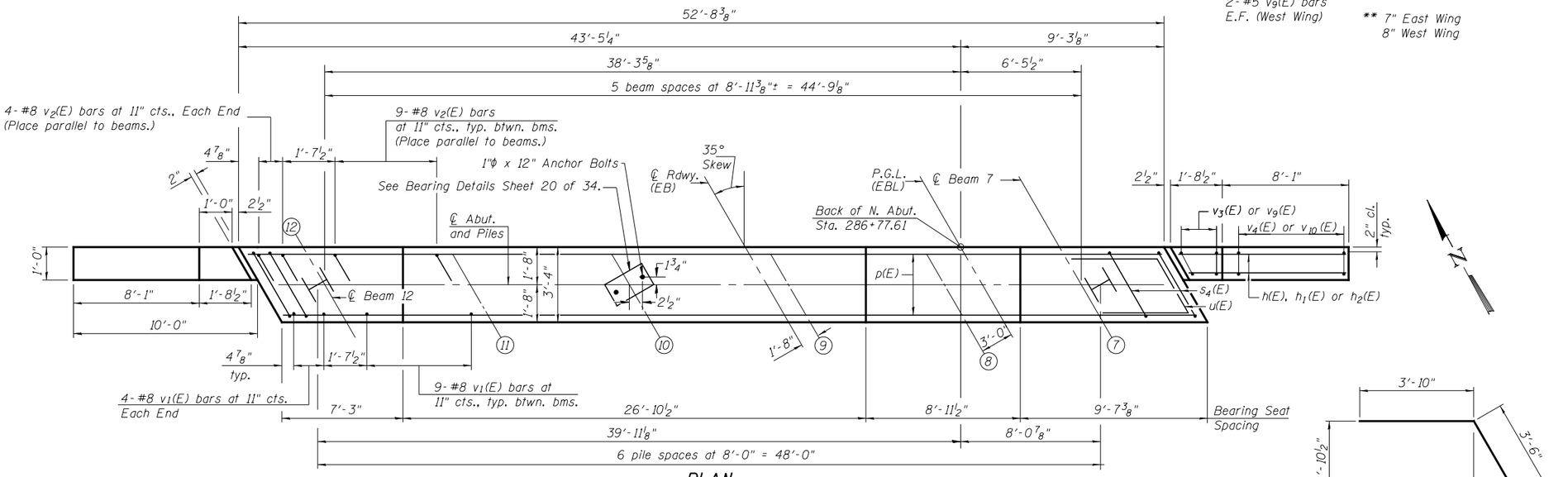
V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-022 S ABUT WBL.dgn

Notes:
Pour steps monolithically with cap.

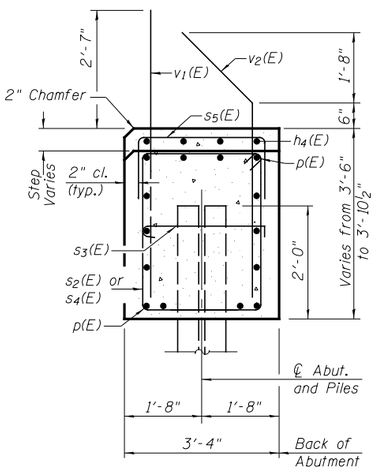
E.F. = Each Face



ELEVATION



PLAN



SEC. THRU ABUT.

Dimensions at right angles to abutment.

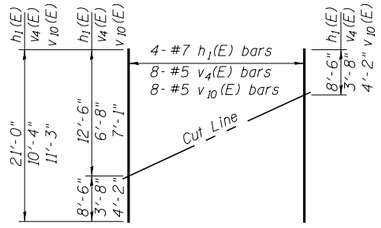
NORTH ABUTMENT (EB) BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	12'-11"	
h_1(E)	8	#7	21'-0"	
h_2(E)	4	#5	10'-2"	
h_4(E)	4	#5	26'-6"	
p(E)	14	#7	52'-3"	
s_2(E)	42	#5	13'-3"	
s_3(E)	14	#5	4'-0"	
s_4(E)	4	#5	14'-7"	
s_5(E)	27	#5	8'-0"	
u(E)	8	#6	11'-2"	
v_1(E)	53	#8	5'-11"	
v_2(E)	53	#8	6'-2"	
v_3(E)	4	#5	7'-1"	
v_4(E)	8	#5	10'-4"	
v_9(E)	4	#5	7'-6"	
v_{10}(E)	8	#5	11'-3"	
Structure Excavation		Cu. Yd.		160
Concrete Structures		Cu. Yd.		29.0
Reinforcement Bars, Epoxy Coated		Pound		5,740
Furnishing Steel Piles HP 12x53		Foot		216
Driving Piles		Foot		216
Test Pile Steel HP 12x53		Each		1

For details of piles see sheet 29 of 34.

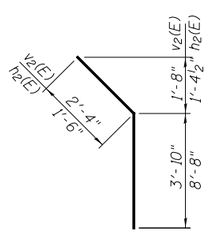
PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418^K
Factored Resistance Available: 230^K
Est. Length: 36 Ft
No. Production Piles: 6
No. Test Piles: 1

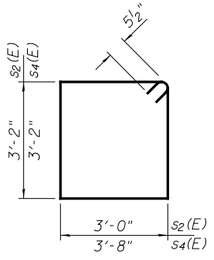


FIELD CUTTING DIAGRAM

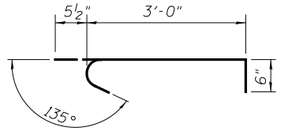
Order h_1(E), v_4(E), and v_{10}(E) full length. Cut as shown and use remainder of bars in opposite face.



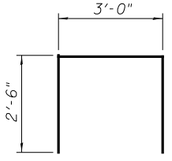
BARS v_2(E) & h_2(E)



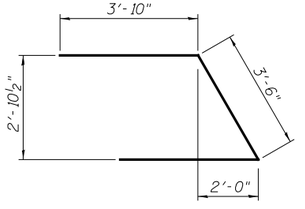
BARS s_2(E) & s_4(E)



BAR s_3(E)



BAR s_5(E)



BAR u(E)

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME =	DESIGNED - JOH	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
	PLOT DATE =	DRAWN - JCW	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

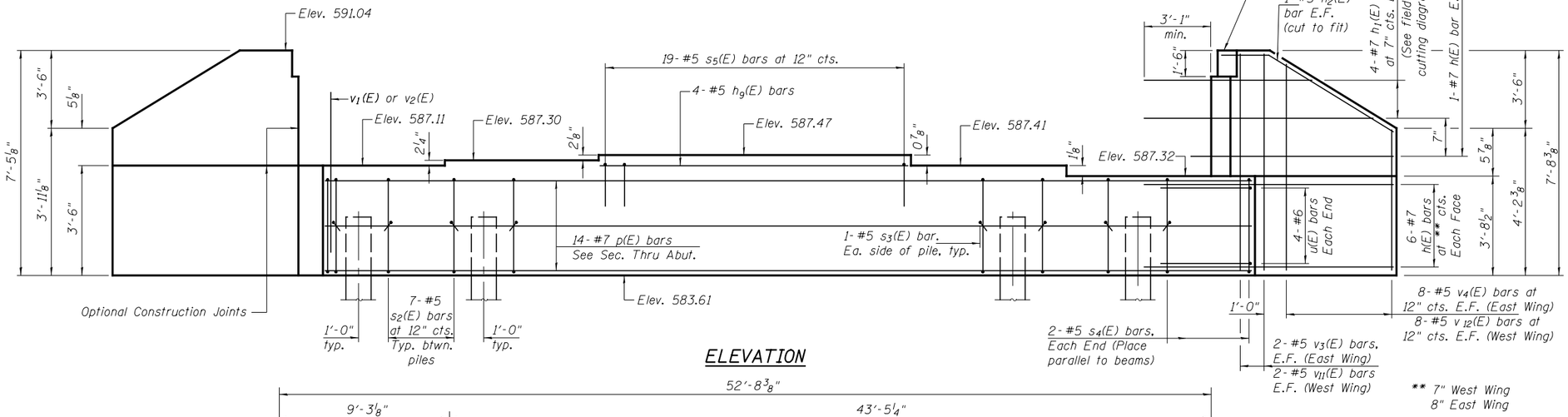
NORTH ABUTMENT (EBL)
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 23 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	208
		CONTRACT NO. 64B78		
		ILLINOIS	FED. AID PROJECT	

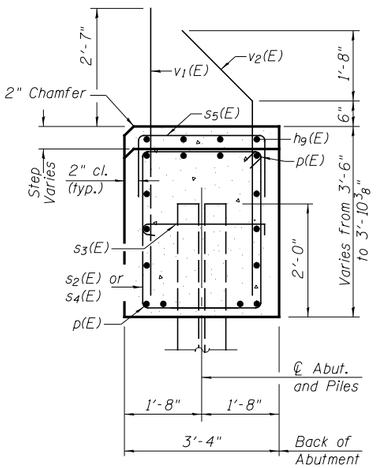
V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-023 N ABUT EBL.dgn

Notes:
Pour steps monolithically with cap.

E.F. = Each Face

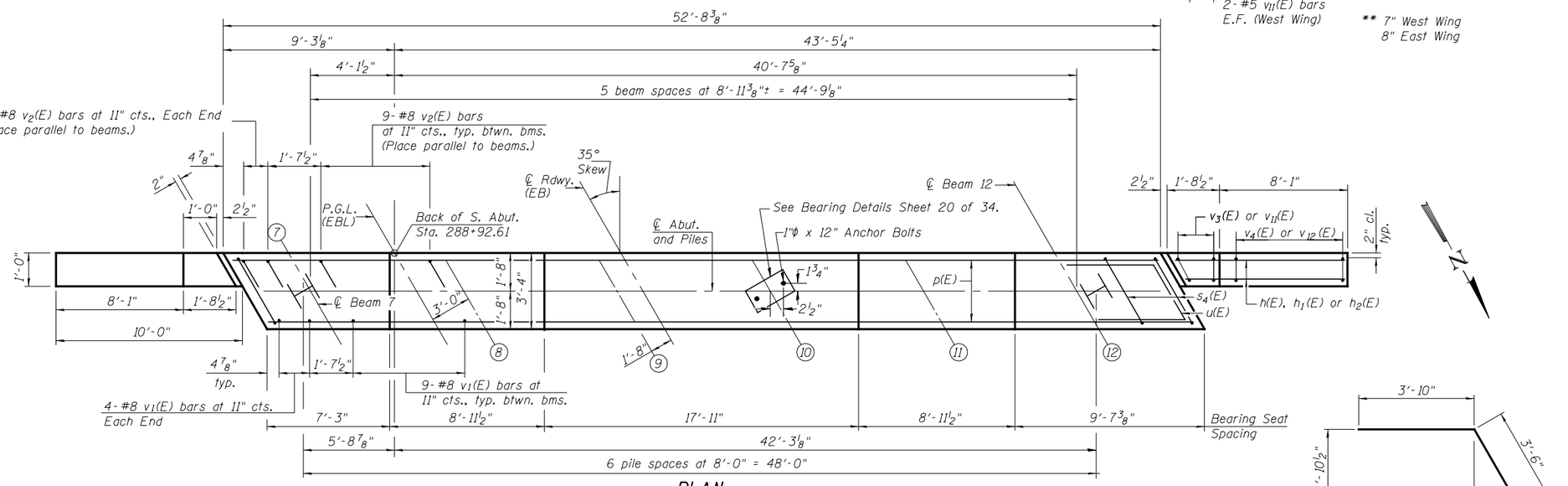


ELEVATION



SEC. THRU ABUT.

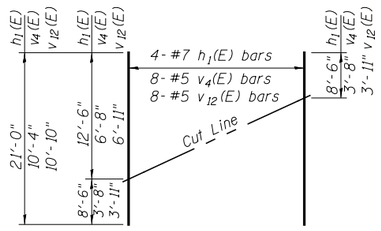
Dimensions at right angles to abutment.



PLAN

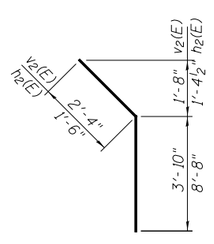
PILE DATA

Type: HP 12x53
Nominal Required Bearing: 418ᴷ
Factored Resistance Available: 230ᴷ
Est. Length: 35 Ft
No. Production Piles: 6
No. Test Piles: 1

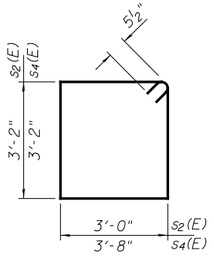


FIELD CUTTING DIAGRAM

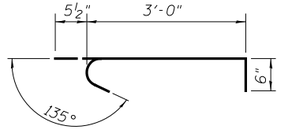
Order h1(E), v4(E), and v12(E) full length. Cut as shown and use remainder of bars in opposite face.



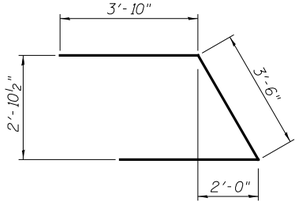
BARS v2(E) & h2(E)



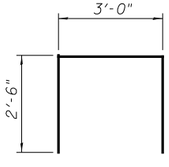
BARS s2(E) & s4(E)



BAR s3(E)



BAR u(E)



BAR s5(E)

SOUTH ABUTMENT (EB) BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	12'-11"	
h1(E)	8	#7	21'-0"	
h2(E)	4	#5	10'-2"	
hg(E)	4	#5	17'-7"	
p(E)	14	#7	52'-3"	
s2(E)	42	#5	13'-3"	
s3(E)	14	#5	4'-0"	
s4(E)	4	#5	14'-7"	
s5(E)	19	#5	8'-0"	
u(E)	8	#6	11'-2"	
v1(E)	53	#8	5'-11"	
v2(E)	53	#8	6'-2"	
v3(E)	4	#5	7'-1"	
v4(E)	8	#5	10'-4"	
v11(E)	4	#5	7'-4"	
v12(E)	8	#5	10'-10"	
Structure Excavation		Cu. Yd.	155	
Concrete Structures		Cu. Yd.	28.7	
Reinforcement Bars, Epoxy Coated		Pound	5,630	
Furnishing Steel Piles HP 12x53		Foot	210	
Driving Piles		Foot	210	
Test Pile Steel HP 12x53		Each	1	

For details of piles see sheet 29 of 34.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

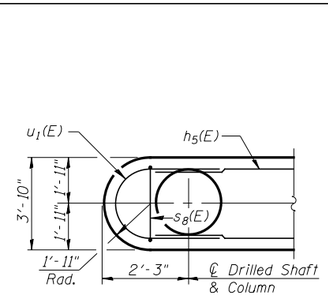
USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - JCW	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

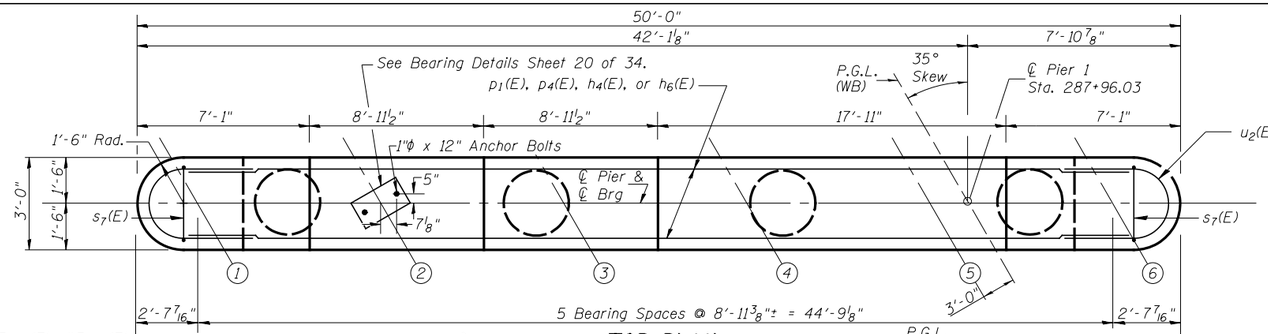
SOUTH ABUTMENT (EBL)
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 24 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	209
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

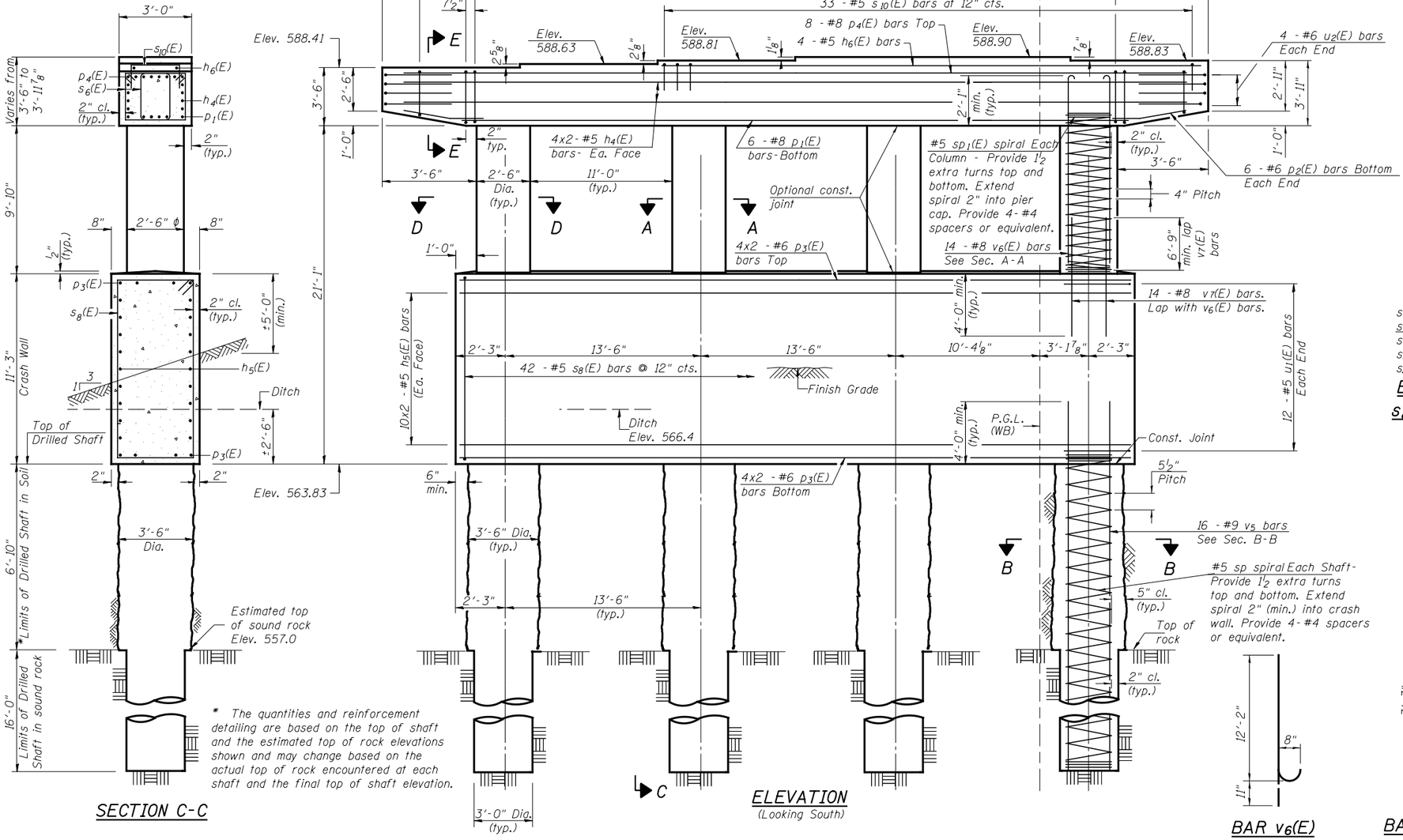
V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-024 S ABUT EBL.dgn



SECTION D-D



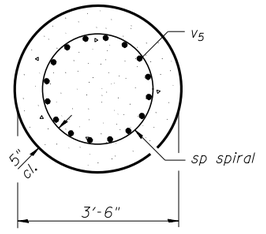
TOP PLAN



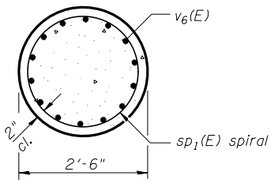
SECTION C-C

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

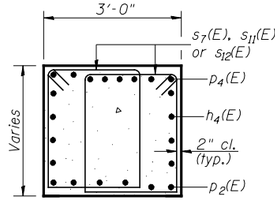
ELEVATION
(Looking South)



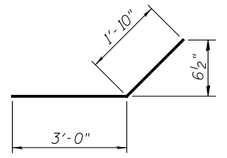
SECTION B-B



SECTION A-A



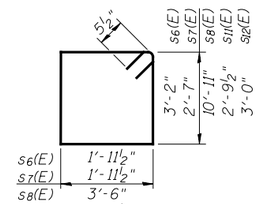
SECTION E-E



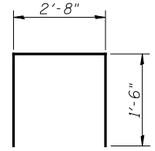
BAR $p_2(E)$

MINIMUM BAR LAP

#5 bar	2'-7"
#6 bar	3'-1"
#5 spiral (coated)	3'-9"
#5 spiral (uncoated)	2'-6"

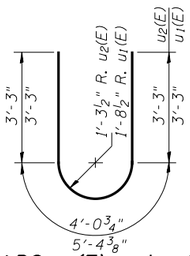


BARS $s_6(E)$, $s_7(E)$, $s_8(E)$, $s_{11}(E)$ & $s_{12}(E)$



BAR $s_{10}(E)$

BAR $v_6(E)$

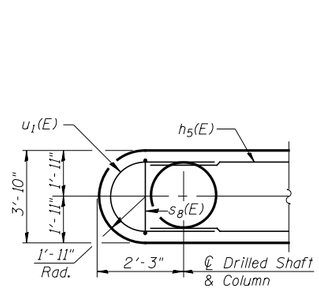


BARS $u_1(E)$ and $u_2(E)$

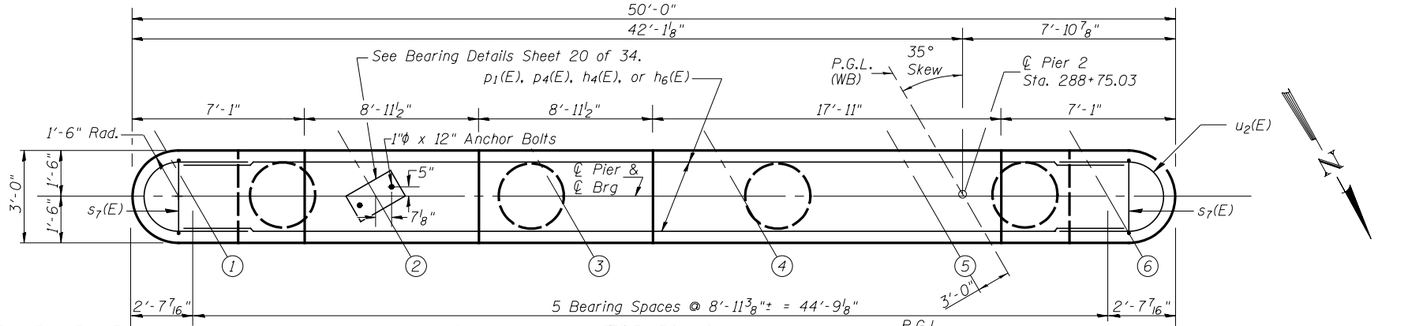
PIER 1 (WB)
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_4(E)$	16	#5	24'-9"	——
$h_5(E)$	40	#5	22'-0"	——
$h_6(E)$	4	#5	32'-3"	——
$p_1(E)$	6	#8	43'-4"	——
$p_2(E)$	12	#6	4'-10"	⌒
$p_3(E)$	16	#6	22'-3"	——
$p_4(E)$	8	#8	47'-0"	——
$s_6(E)$	96	#5	11'-2"	⌐
$s_7(E)$	4	#5	10'-0"	⌐
$s_8(E)$	42	#5	29'-9"	⌐
$s_{10}(E)$	33	#5	5'-8"	□
$s_{11}(E)$	4	#5	10'-5"	⌐
$s_{12}(E)$	4	#5	10'-10"	⌐
sp	4	#5	23'-1"	∿∿
$sp_1(E)$	4	#5	10'-0"	∿∿
$u_1(E)$	24	#5	11'-11"	⊃⊃
$u_2(E)$	8	#6	10'-7"	⊃⊃
v_5	64	#9	26'-11"	——
$v_6(E)$	56	#8	13'-1"	⊃
$v_7(E)$	56	#8	10'-9"	——
Concrete Structures		Cu. Yd.	98.5	
Reinforcement Bars		Pound	7,680	
Reinforcement Bars, Epoxy Coated		Pound	11,440	
Drilled Shaft in Soil		Cu. Yd.	9.7	
Drilled Shaft in Rock		Cu. Yd.	16.8	
Structure Excavation		Cu. Yd.	80	

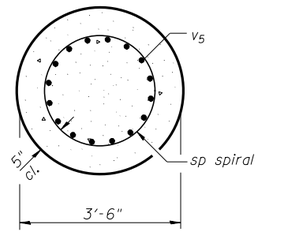
Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
** Length is height of spiral.



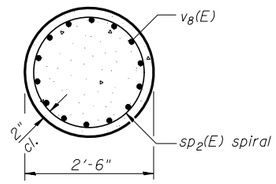
SECTION D-D



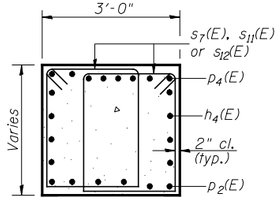
TOP PLAN



SECTION B-B



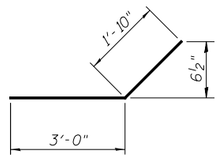
SECTION A-A



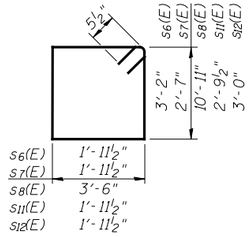
SECTION E-E

MINIMUM BAR LAP

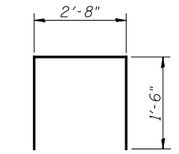
#5 bar	2'-7"
#6 bar	3'-1"
#5 spiral (coated)	3'-9"
#5 spiral (uncoated)	2'-6"



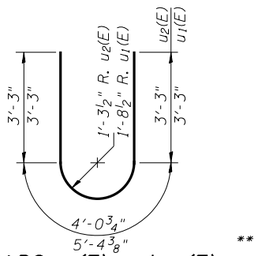
BAR $p_2(E)$



BARS $s_6(E)$, $s_7(E)$, $s_8(E)$, $s_{11}(E)$ & $s_{12}(E)$

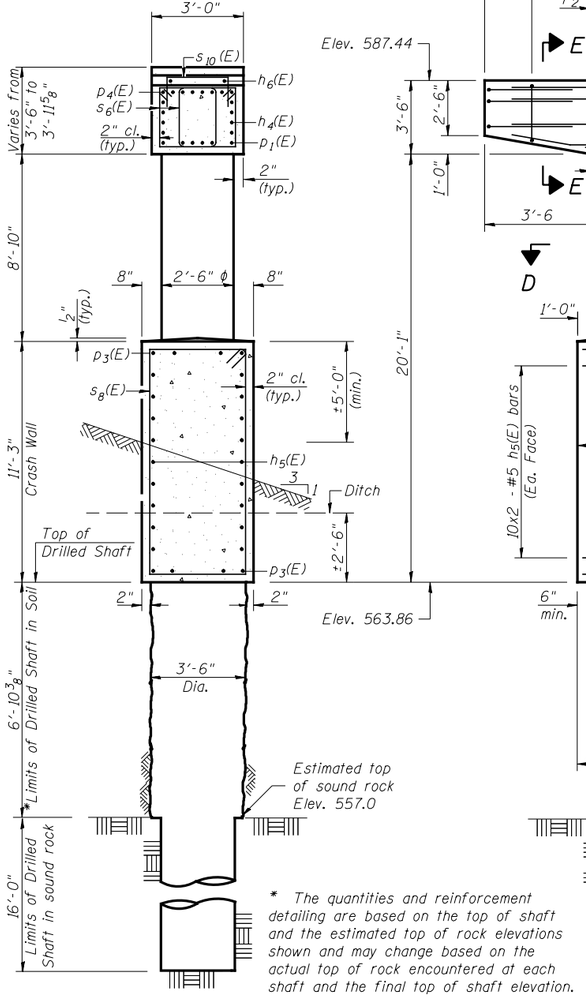


BAR $s_{10}(E)$



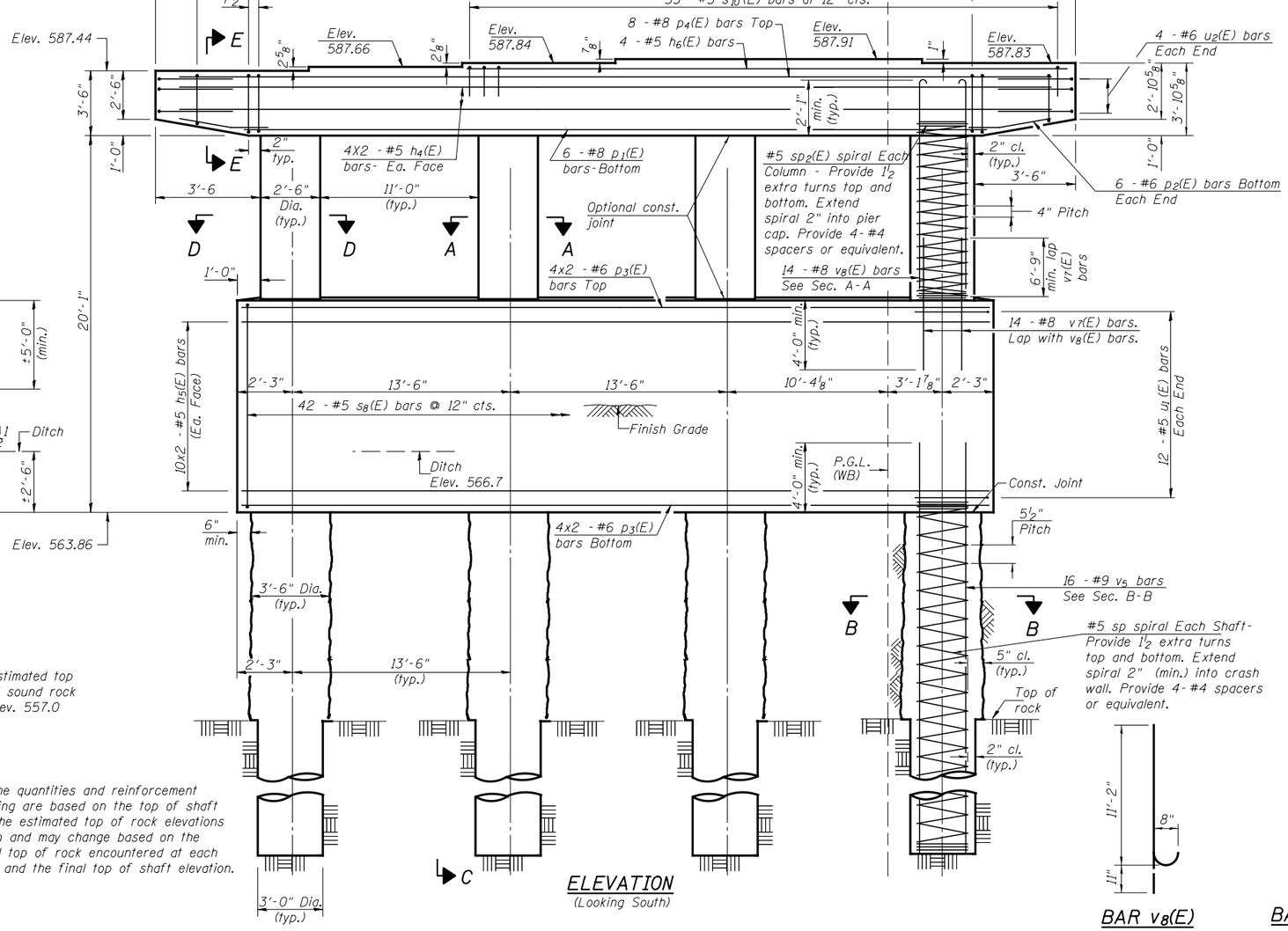
BARS $u_1(E)$ and $u_2(E)$

BAR $v_8(E)$



SECTION C-C

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.



ELEVATION
(Looking South)

PIER 2 (WB) BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_4(E)$	16	#5	24'-9"	—
$h_5(E)$	40	#5	22'-0"	—
$h_6(E)$	4	#5	32'-3"	—
$p_1(E)$	6	#8	43'-4"	—
$p_2(E)$	12	#6	4'-10"	⌒
$p_3(E)$	16	#6	22'-3"	—
$p_4(E)$	8	#8	47'-0"	—
$s_6(E)$	96	#5	11'-2"	⌐
$s_7(E)$	4	#5	10'-0"	⌐
$s_8(E)$	42	#5	29'-9"	⌐
$s_{10}(E)$	33	#5	5'-8"	⊓
$s_{11}(E)$	4	#5	10'-5"	⌐
$s_{12}(E)$	4	#5	10'-10"	⌐
sp	4	#5	23'-1"	∿
$sp_2(E)$	4	#5	9'-0"	∿
$u_1(E)$	24	#5	11'-11"	⊃
$u_2(E)$	8	#6	10'-7"	⊃
v_5	64	#9	26'-11"	—
$v_7(E)$	56	#8	10'-9"	—
$v_8(E)$	56	#8	12'-1"	⊃
Concrete Structures			Cu. Yd.	97.7
Reinforcement Bars			Pound	7,680
Reinforcement Bars, Epoxy Coated			Pound	11,200
Drilled Shaft in Soil			Cu. Yd.	9.8
Drilled Shaft in Rock			Cu. Yd.	16.8
Structure Excavation			Cu. Yd.	75

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
** Length is height of spiral.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

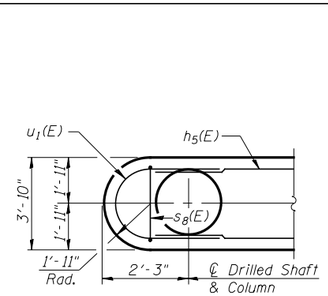
USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - JCW	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

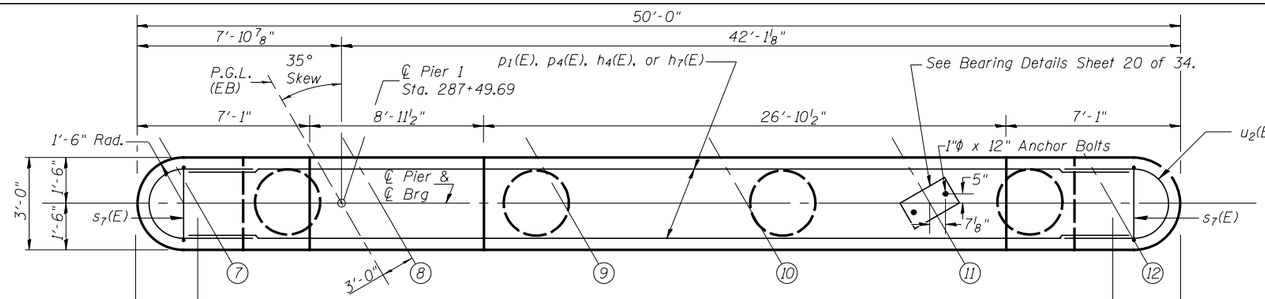
PIER #2 (WBL)
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 26 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	211
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

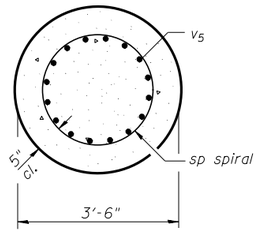
V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-026 PIER*2 WBL.dgn



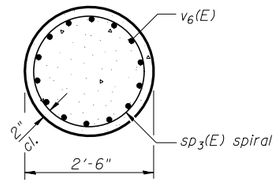
SECTION D-D



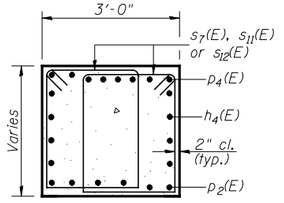
TOP PLAN



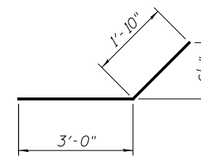
SECTION B-B



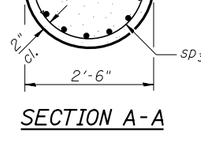
SECTION A-A



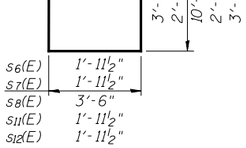
SECTION E-E



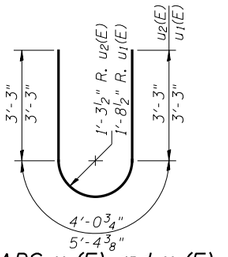
BARS $s_6(E)$, $s_7(E)$, $s_8(E)$, $s_{11}(E)$ & $s_{12}(E)$



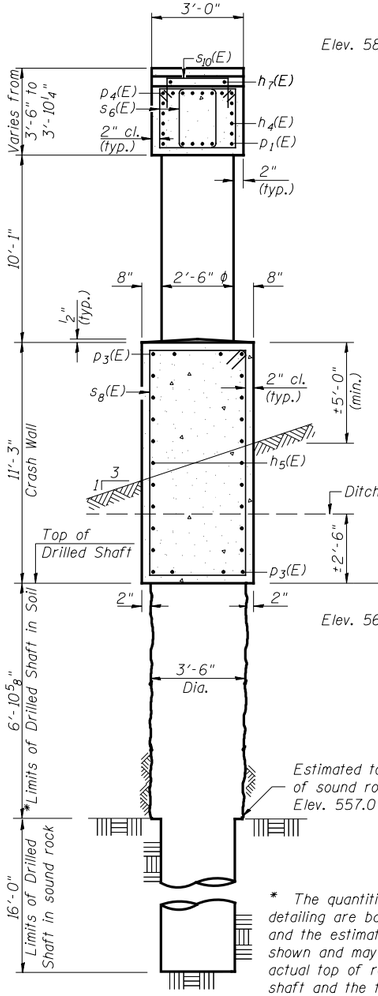
BAR $s_{10}(E)$



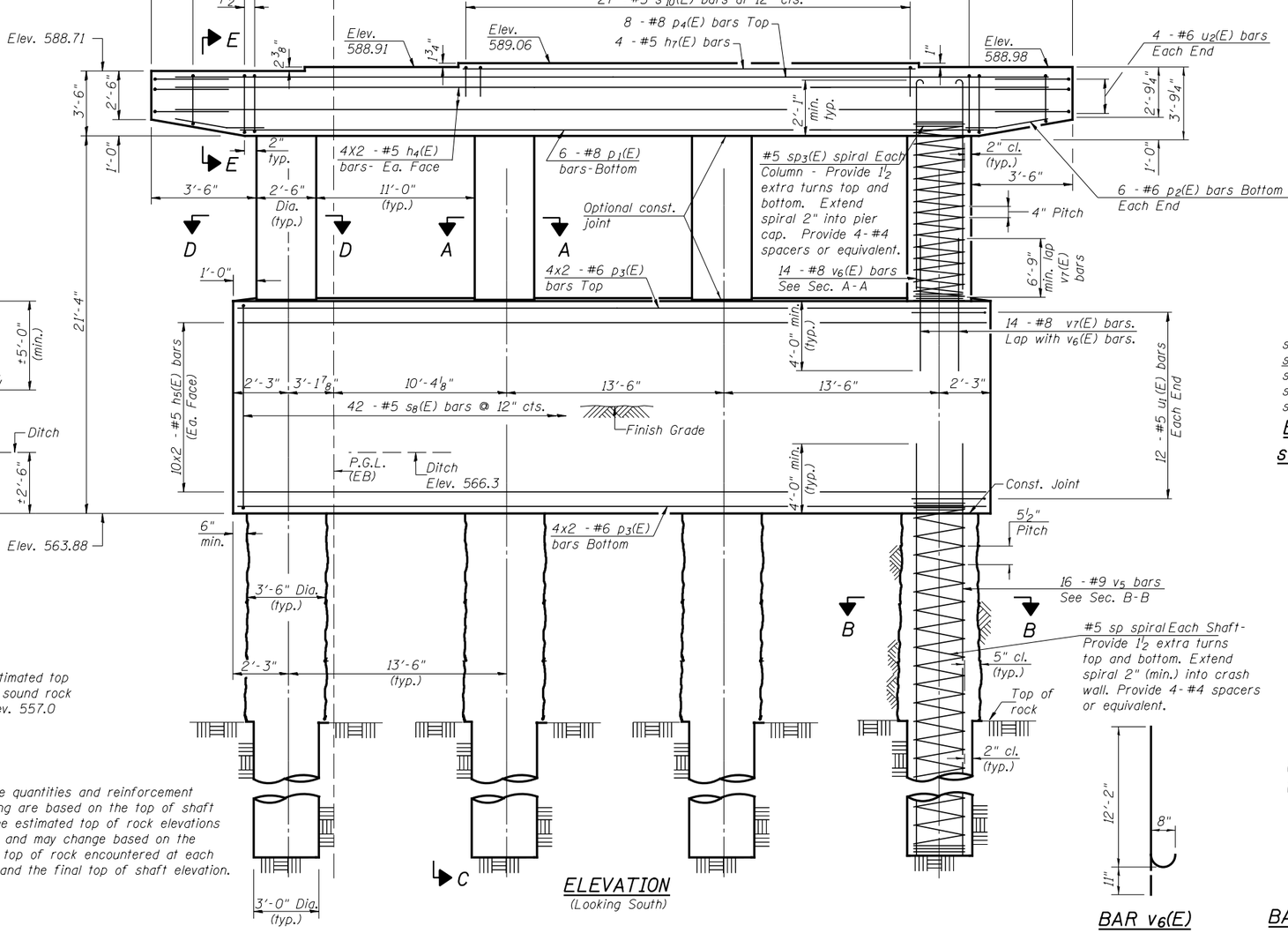
BAR $v_6(E)$



BARS $u_1(E)$ and $u_2(E)$



SECTION C-C



ELEVATION
(Looking South)

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

MINIMUM BAR LAP

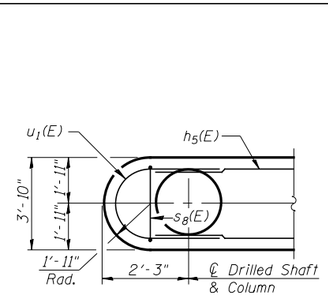
#5 bar	2'-7"
#6 bar	3'-1"
#5 spiral (coated)	3'-9"
#5 spiral (uncoated)	2'-6"

BAR $p_2(E)$

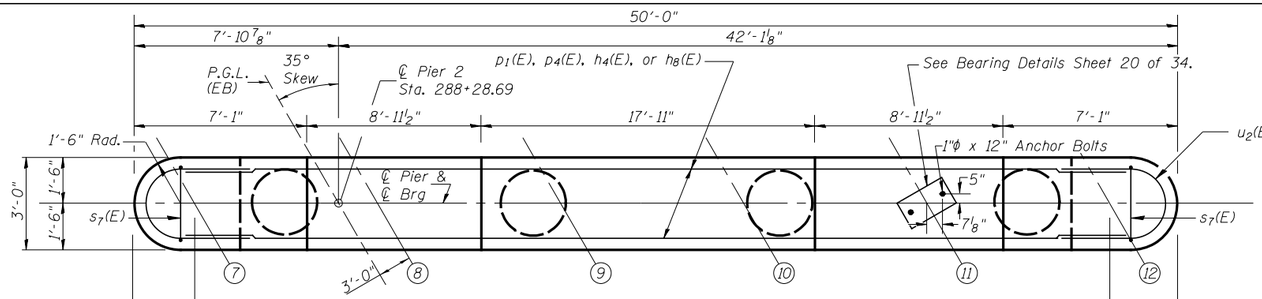
PIER 1 (EB) BILL OF MATERIAL

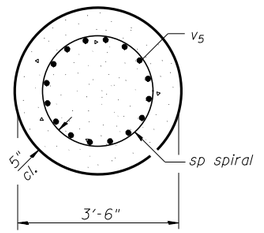
Bar	No.	Size	Length	Shape
$h_4(E)$	16	#5	24'-9"	——
$h_5(E)$	40	#5	22'-0"	——
$h_7(E)$	4	#5	26'-6"	——
$p_1(E)$	6	#8	43'-4"	——
$p_2(E)$	12	#6	4'-10"	⌒
$p_3(E)$	16	#6	22'-3"	——
$p_4(E)$	8	#8	47'-0"	——
$s_6(E)$	96	#5	11'-2"	⌐
$s_7(E)$	4	#5	10'-0"	⌐
$s_8(E)$	42	#5	29'-9"	⌐
$s_{10}(E)$	27	#5	5'-8"	□
$s_{11}(E)$	4	#5	10'-5"	⌐
$s_{12}(E)$	4	#5	10'-10"	⌐
sp	4	#5	23'-1"	∿∿
$sp_3(E)$	4	#5	10'-3"	∿∿
$u_1(E)$	24	#5	11'-11"	⊃⊃
$u_2(E)$	8	#6	10'-7"	⊃⊃
v_5	64	#9	26'-11"	——
$v_6(E)$	56	#8	13'-1"	⊃
$v_7(E)$	56	#8	10'-9"	——
Concrete Structures			Cu. Yd.	98.3
Reinforcement Bars			Pound	7,680
Reinforcement Bars, Epoxy Coated			Pound	11,400
Drilled Shaft in Soil			Cu. Yd.	9.8
Drilled Shaft in Rock			Cu. Yd.	16.8
Structure Excavation			Cu. Yd.	80

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
** Length is height of spiral.

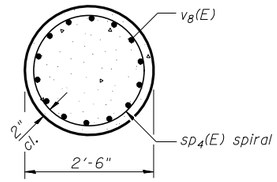


SECTION D-D





SECTION B-B



SECTION A-A

3 Pairs - #5 $s_7(E)$, #5 $s_{11}(E)$ and #5 $s_{12}(E)$ bars at 8" cts. Each end

P.G.L. (EB)

C

TOP PLAN

48 Pairs - #5 $s_6(E)$ bars at 11" cts.

18 - #5 $s_{10}(E)$ bars at 12" cts.

8 - #8 $p_4(E)$ bars Top

4 - #5 $h_8(E)$ bars

1'-6"

7 1/2"

Elev. 587.68

Elev. 587.88

Elev. 588.06

Elev. 588.00

Elev. 587.92

2 3/8"

2 1/8"

3/4"

1"

4 - #6 $u_2(E)$ bars Each End

2'-8 7/8"

3'-8 7/8"

3'-0"

2'-6"

1'-0"

2'-1" min. typ.

E

E

2" typ.

4X2 - #5 $h_4(E)$ bars- Ea. Face

6 - #8 $p_1(E)$ bars-Bottom

#5 $sp_4(E)$ spiral Each Column - Provide 1 1/2 extra turns top and bottom. Extend spiral 2" into pier cap. Provide 4-#4 spacers or equivalent.

2" cl. (typ.)

3'-6"

4" Pitch

6'-9" min. lap $v_7(E)$ bars

6 - #6 $p_2(E)$ bars Bottom Each End

3'-6

2'-6" Dia. (typ.)

11'-0" (typ.)

Optional const. joint

4x2 - #6 $p_3(E)$ bars Top

D

D

A

A

1'-0"

20'-4"

14 - #8 $v_7(E)$ bars. Lap with $v_8(E)$ bars.

4'-0" min. (typ.)

12 - #5 $u_1(E)$ bars Each End

2'-3"

3'-1 7/8"

10'-4 1/8"

13'-6"

13'-6"

2'-3"

42 - #5 $s_8(E)$ bars @ 12" cts.

Finish Grade

10x2 - #5 $h_5(E)$ bars (Ea. Face)

P.G.L. (EB)

Ditch Elev. 566.6

Const. Joint

5 1/2" Pitch

16 - #9 v_5 bars See Sec. B-B

B

B

#5 sp spiral Each Shaft - Provide 1 1/2 extra turns top and bottom. Extend spiral 2" (min.) into crash wall. Provide 4-#4 spacers or equivalent.

5" cl. (typ.)

Top of rock

2" cl. (typ.)

3'-0" Dia. (typ.)

3'-6" Dia. (typ.)

2'-3"

13'-6" (typ.)

6" min.

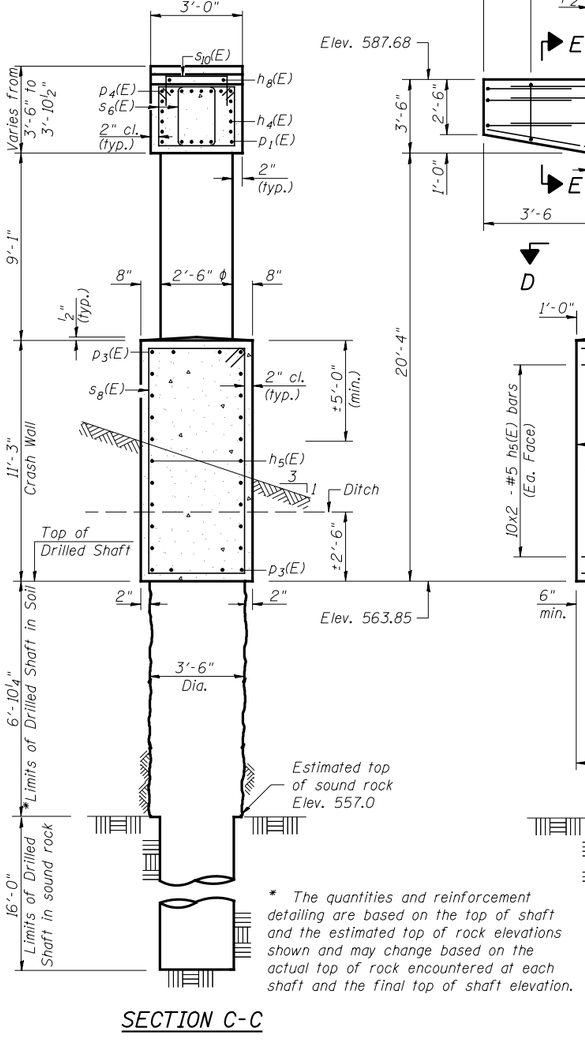
4x2 - #6 $p_3(E)$ bars Bottom

Elev. 563.85

C

ELEVATION

(Looking South)



SECTION C-C

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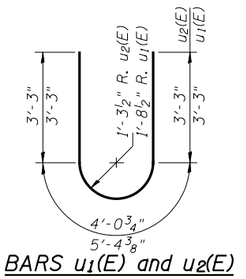
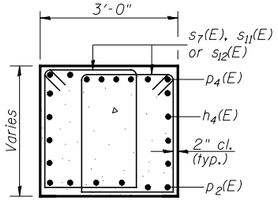
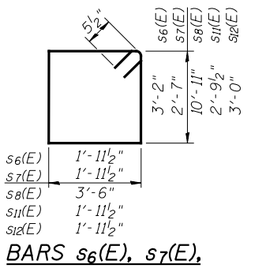


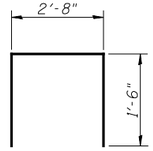
BAR $v_8(E)$



SECTION E-E



BARS $s_6(E)$, $s_7(E)$, $s_8(E)$, $s_{11}(E)$ & $s_{12}(E)$

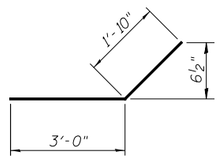


BAR $s_{10}(E)$

BARS $u_1(E)$ and $u_2(E)$

MINIMUM BAR LAP

#5 bar	2'-7"
#6 bar	3'-1"
#5 spiral (coated)	3'-9"
#5 spiral (uncoated)	2'-6"

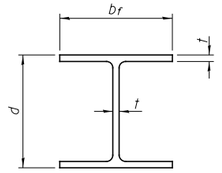


BAR $p_2(E)$

PIER 2 (EB) BILL OF MATERIAL

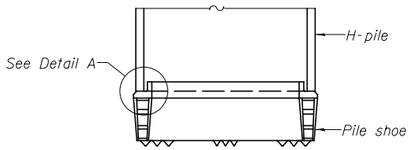
Bar	No.	Size	Length	Shape
$h_4(E)$	16	#5	24'-9"	—
$h_5(E)$	40	#5	22'-0"	—
$h_8(E)$	4	#5	17'-7"	—
$p_1(E)$	6	#8	43'-4"	—
$p_2(E)$	12	#6	4'-10"	⌒
$p_3(E)$	16	#6	22'-3"	—
$p_4(E)$	8	#8	47'-0"	—
$s_6(E)$	96	#5	11'-2"	⌐
$s_7(E)$	4	#5	10'-0"	⌐
$s_8(E)$	42	#5	29'-9"	⌐
$s_{10}(E)$	18	#5	5'-8"	⊓
$s_{11}(E)$	4	#5	10'-5"	⌐
$s_{12}(E)$	4	#5	10'-10"	⌐
sp	4	#5	23'-1"	∿∿∿
$sp_4(E)$	4	#5	9'-3"	∿∿∿
$u_1(E)$	24	#5	11'-11"	⊃
$u_2(E)$	8	#6	10'-7"	⊃
v_5	64	#9	26'-11"	—
$v_7(E)$	56	#8	10'-9"	—
$v_8(E)$	56	#8	12'-1"	—
Concrete Structures			Cu. Yd.	97.5
Reinforcement Bars			Pound	7,680
Reinforcement Bars, Epoxy Coated			Pound	11,080
Drilled Shaft in Soil			Cu. Yd.	9.8
Drilled Shaft in Rock			Cu. Yd.	16.8
Structure Excavation			Cu. Yd.	80

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
** Length is height of spiral.

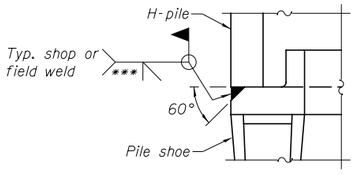


STEEL PILE TABLE

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

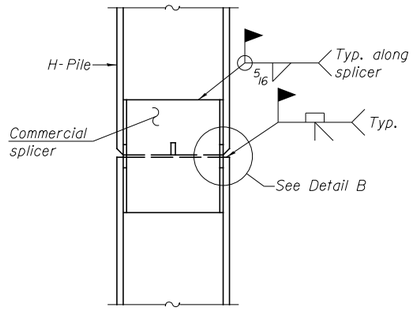


ELEVATION

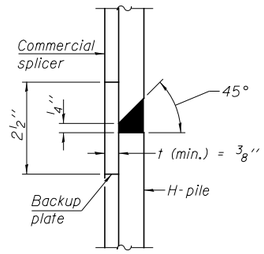


DETAIL A

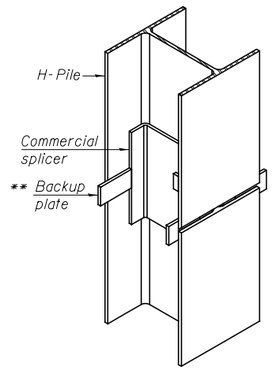
H-PILE SHOE ATTACHMENT



ELEVATION

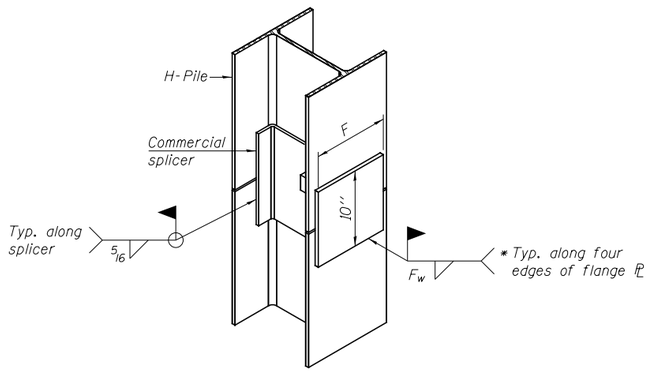


DETAIL "B"

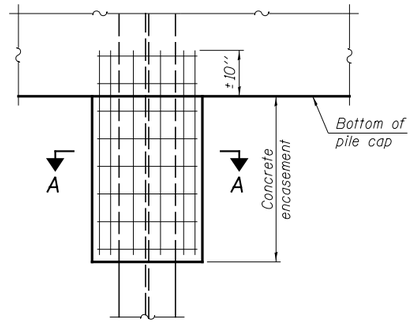


ISOMETRIC VIEW

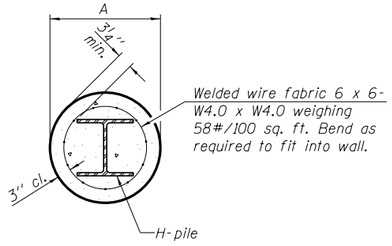
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW



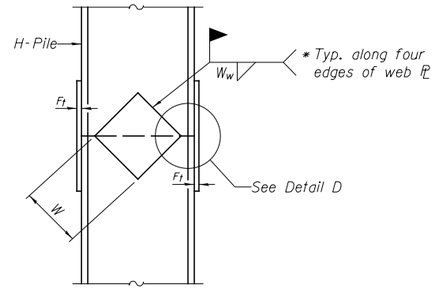
ELEVATION



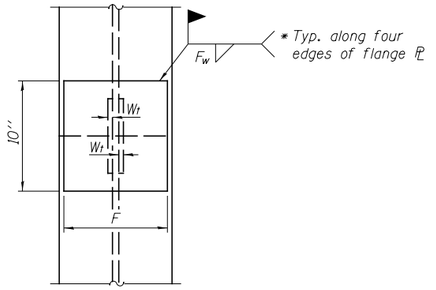
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

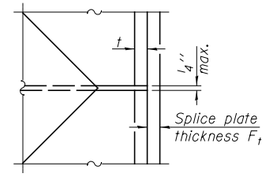
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

WELDED COMMERCIAL SPLICE ALTERNATE

* Interrupt welds $\frac{1}{4}''$ from end of web and/or each flange.

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

*** Weld size per pile shoe manufacturer ($\frac{5}{16}''$ min.).

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

F-HP 1-27-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

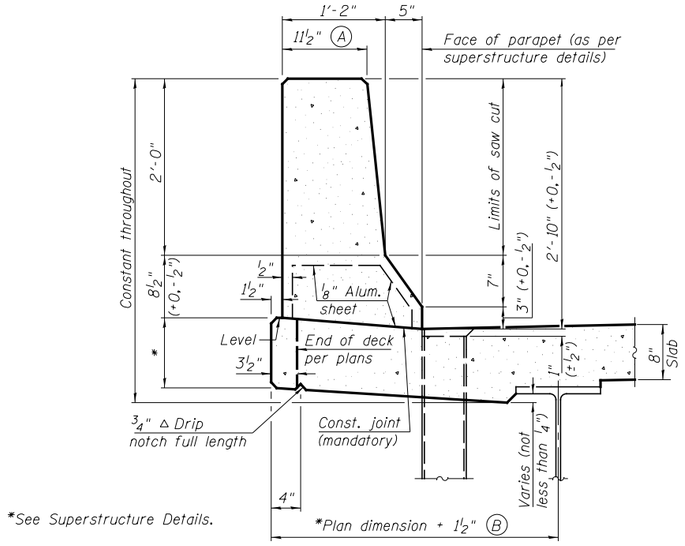
USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - JCW	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
S.N 081–0199(EB) & S.N. 081–0200(WB)
SHEET NO. 29 OF 34 SHEETS

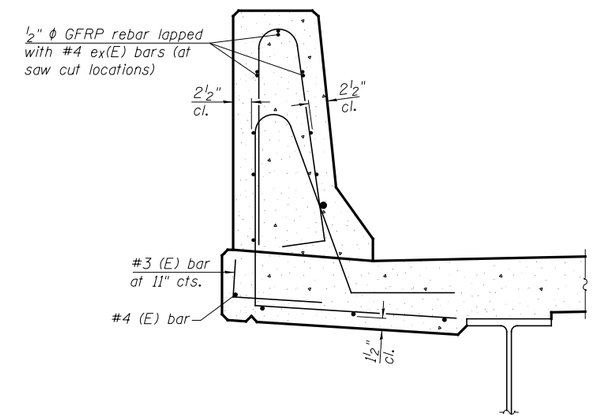
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	214
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-029 HP PILE DETAILS.dgn



34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

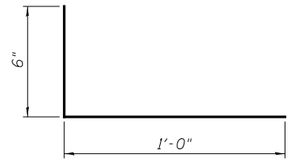
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

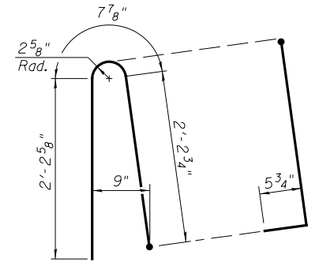
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

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.

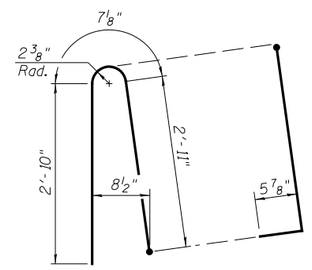


#3 (E) BAR



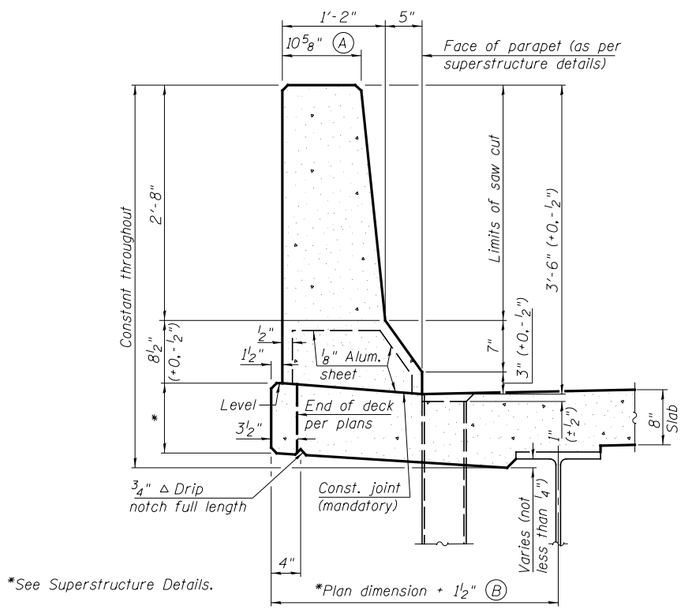
ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)



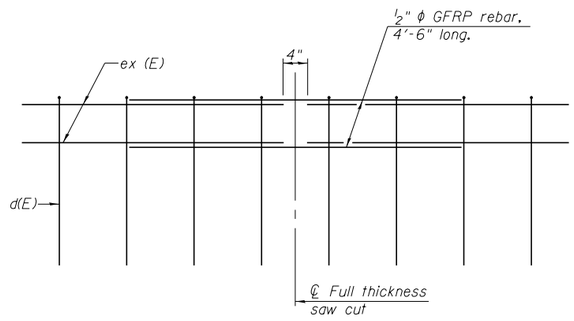
ALTERNATE BAR d(E)

(For 42" parapet when conduit is present)



42" F SHAPE PARAPET SECTION

(Showing dimensions)



GFRP REBAR STIFFENING DETAIL

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

SFP 34-42 8-16-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - JCW	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 30 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	215
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-030 SLIP FORM.dgn

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 7/9/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

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

STRUCT. NO.
Station 288+19.02

BORING NO. B-1b
Station 287+97
Offset 76.00ft Rt CL
Ground Surface Elev. 571.20 ft

Surface Water Elev. ft
Stream Bed Elev. 570.90 ft

Groundwater Elev.:
First Encounter 568.7 ft ▼
Upon Completion Wash ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Road Rock				
	568.70			
STIFF dark gray LOAM		3		
		3	1.3	36.0
	567.20	5	P	
	-5			
MEDIUM dark gray SILTY LOAM		3		
		4	0.9	32.0
	564.70	5	B	
VERY SOFT dark gray SILTY CLAY LOAM with SAND lens		1		
		2	0.2	38.0
		2	P	
	561.70			
	-10			
LOOSE gray medium SAND		5		
		3		
	559.70	5		
Wash		16		
VERY DENSE gray SHALE Auger Refusal		100/10"		
	557.20			
Borehole continued with rock coring.				
	-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Date 7/9/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

COUNTY Rock Island CORING METHOD

STRUCT. NO.
Station 288+19.02

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 559.20 ft
Begin Core Elev. 557.20 ft

BORING NO. B-1b
Station 287+97
Offset 76.00ft Rt CL
Ground Surface Elev. 571.20 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: Dark gray, massively bedded & isotropic t.s.f.: 553.1 to 552.7	557.20	1	100	67	2.6	177.0
	-15					
	552.20					
Sandstone: Light tan & fine grained to 549.7 Limestone: Light tan-buff, brecciated & recemented with fine grained sandstone.		2	100	58	1.6	
	-20					
	547.20					
Dolomite: Buff, marbled & massively bedded, aphanitic, porous & chalky. t.s.f.: 543.9 to 543.2		3	90	48	2	404.0
	-25					
	542.20					
End of Boring						
	-30					

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)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 7/11/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. 26SE, SEC. , TWP. 18N, RNG. 1E

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

STRUCT. NO.
Station 288+19.02

BORING NO. B-2b
Station 289+00
Offset 82.00ft Lt CL
Ground Surface Elev. 569.80 ft

Surface Water Elev. ft
Stream Bed Elev. 570.90 ft

Groundwater Elev.:
First Encounter 567.3 ft ▼
Upon Completion Wash ft
After Hrs. ft

		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Breaker Run Rock					
	567.30 ▼				
VERY STIFF dark gray LOAM			3		
			3	2.1	32.0
	565.80		5	B	
MEDIUM dark gray SILTY CLAY LOAM		-5	1		
			1	0.5	37.0
	563.30		3	B	
SOFT gray/dark gray SILTY CLAY			1		
			1	0.3	49.0
			1	P	
	560.30				
VERY LOOSE gray fine SAND		-10	1		
			0		
	558.30		3		
Wash			5		
VERY DENSE gray SHALE with fine SAND lens			25		
	555.80		47		
VERY DENSE gray SHALE		-15	22		
Auger Refusal at 16'	553.80		100/3"		
Borehole continued with rock coring.					
		-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Date 7/11/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. 26SE, SEC. , TWP. 18N, RNG. 1E

COUNTY Rock Island CORING METHOD

STRUCT. NO.
Station 288+19.02

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 557.80 ft
Begin Core Elev. 553.80 ft

BORING NO. B-2b
Station 289+00
Offset 82.00ft Lt CL
Ground Surface Elev. 569.80 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: Dark gray, trace of sand, first foot fragmented, some vertical fracturing evident. Horizontal parting planes preclude compressive testing.	553.80	1	100	32	1.8	
	-20					
	548.80					
Sandstone: Light gray, very fine grained, laminated throughout, fragmented from 545.8 to 544.8.		2	100	0	1.2	
	-25					
	543.80					
Sandstone: Light gray-green, fine grained to 543.5 Shale: Dark gray, laminated & brittle to 540.8 Sandstone: As above, massively bedded t.s.f.: 540.8 to 539.6		3	100	57	2.2	332.0
	-30					
	538.80					
End of Boring						
	-35					

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)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - TAC	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 32 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	217
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-032 SOIL BORING 2.dgn

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 7/12/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

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

STRUCT. NO. ____
Station 288+19.02

BORING NO. B-3b
Station 289+10
Offset 2.00ft Lt CL
Ground Surface Elev. 586.50 ft

Surface Water Elev. ____ ft
Stream Bed Elev. 570.90 ft

Groundwater Elev.:
First Encounter 561.5 ft ▼
Upon Completion ____ ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				MEDIUM dark brown LOAM
		0.5	12.0	
		P		
584.00				
	7			STIFF tan SILT with SAND lens
	7	1.3	17.0	
582.50	8	P		
-5				
	5			STIFF tan SILT
	6	1.1	20.0	
580.00	10	S		
				SOFT tan SILT
	4			
	3	0.3	23.0	
577.50	4	P		
-10				
	3			STIFF tan SILT
	4	1.2	21.0	
575.00	4	S		
				MEDIUM tan SILT
	2			
	2	0.5	23.0	
572.50	3	P		
-15				
	2			STIFF tan SILTY LOAM
	4	1.5	21.0	
570.00	8	P		
				VERY STIFF dark brown SILTY CLAY with LIMESTONE lens
	7			
	9	3.5	22.0	
	11	P		
567.00				
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	4			STIFF gray SILTY CLAY LOAM
	6	1.3	22.0	
565.00	7	B		
	1			MEDIUM tan/gray SANDY LOAM
	2	1.0	19.0	
562.50	3	P		
▼-25				
	1			SOFT gray SILTY LOAM
	1	0.3	39.0	
	1	P		
559.50				
	6			DENSE gray SHALE with SAND lenses
	12			Auger Refusal
	30			
557.00				
-30				Borehole continued with rock coring.
-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Date 7/12/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

COUNTY Rock Island CORING METHOD ____

STRUCT. NO. ____
Station 288+19.02

BORING NO. B-3b
Station 289+10
Offset 2.00ft Lt CL
Ground Surface Elev. 586.50 ft

CORING BARREL TYPE & SIZE ____
Core Diameter 2 in
Top of Rock Elev. 559.50 ft
Begin Core Elev. 557.00 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
557.00						Shale: Dark brown, with sand fraction, laminations and fractures throughout preclude compressive testing.
-30	1	80	0	3.6		
552.00						Shale: As above, though soapier in luster.
-35	2	100	8	2.6		
547.00						Shale: As above to 545.7
-40	3	100	67	3	197.0	Dolomite: Buff-white, massively bedded, porous and chalky. t.s.f.: 544.2 to 543.6
542.00						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)

BBS, form 138 (Rev. 8-99)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - TAC	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 33 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	218
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-033 SOIL BORING 3.dgn

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Date 7/26/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

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

STRUCT. NO.
Station 288+19.02

BORING NO. B-4b
Station 287+10
Offset 4.00ft Lt CL
Ground Surface Elev. 588.60 ft

Surface Water Elev. ft
Stream Bed Elev. 570.90 ft

Groundwater Elev.:
First Encounter 561.1 ft ▼
Upon Completion ft
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
MEDIUM brown SANDY LOAM				
			0.5 P	15.0
	586.10			
STIFF tan SILTY LOAM		11		
		12	1.8 S	17.0
	584.60	13		
	-5			
STIFF tan SILT		6		
		9	1.9 S	15.0
	582.10	6		
STIFF tan SILT		5		
		6	1.1 P	21.0
	579.60	7		
	-10			
STIFF gray SILTY LOAM		2		
		5	1.5 P	22.0
	577.10	8		
STIFF tan SILT		3		
		4	1.0 B	24.0
	574.60	6		
	-15			
SOFT tan SILT		3		
		4	0.3 P	24.0
	572.10	5		
MEDIUM gray SILTY LOAM		2		
		2	0.6 B	23.0
	569.60	5		
	-20			

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
VERY STIFF gray SILTY CLAY LOAM		3		
		4	2.9 B	23.0
	567.10	10		
STIFF dark gray SILTY CLAY LOAM		4		
		7	1.4 P	31.0
	564.60	9		
	-25			
STIFF gray SILTY LOAM		2		
		4	1.7 B	26.0
	561.60	4		
MEDIUM gray fine SAND		5		
		8		
	559.10	8		
	-30			
VERY DENSE gray SHALE Auger Refusal at 32'		6		
		100/11"		
	556.60			
Borehole continued with rock coring.				
	-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Date 7/26/07

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 Bridge over Barstow Road, 1.75 m. S. of I-88 LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Hampton Twp. - 26SE, SEC. , TWP. 18N, RNG. 1E

COUNTY Rock Island CORING METHOD

STRUCT. NO.
Station 288+19.02

BORING NO. B-4b
Station 287+10
Offset 4.00ft Lt CL
Ground Surface Elev. 588.60 ft

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 559.10 ft
Begin Core Elev. 556.60 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Shale: Dark gray, laminated & brittle, to 554.4 Sandstone: Gray green, well sorted, fine grained & massively bedded. t.s.f.: 553.9 to 553.6	556.60	1	100	7	2.6	234.0
	-35					
	551.60					
Sandstone: Light gray, fine grained, massively bedded, with laminating throughout. t.s.f.: 547.8 to 547.4		2	100	8	2	162.0
	-40					
	546.60					
Limestone/Dolomite: Tan-buff, brecciated & recemented with fine grained sandstone. Poor recovery apparently related to washed out sand matrix, possibly occurring during coring.		3	55	8	4.2	
	-45					
	541.60					
End of Boring						
	-50					

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)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME =	DESIGNED - JOH	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE =	DRAWN - TAC	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
S.N 081-0199(EB) & S.N. 081-0200(WB)
SHEET NO. 34 OF 34 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	81-1HBR-1	Rock Island	430	219
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

V:\3369\Final Structure Sheets from Jacksonville\Barstow Plans\0810199-0810200-64B78-034 SOIL BORING 4.dgn

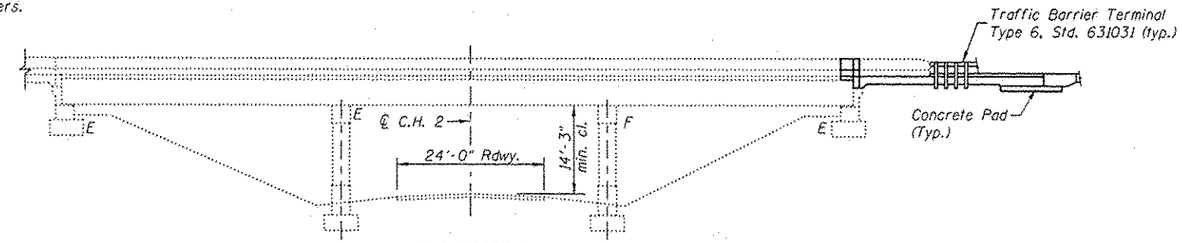
EXISTING STRUCTURE:

SN 037-0023 (E.B.) & SN 037-0024 (W.B.) originally built as F.A.I. Rte 80, Section 37-1HB at Sta. 403+14.67 in 1964. Both structures were rehabilitated in 1990 including deck replacement, bearing replacement, and expansion joint replacement as Section 37-1HBYD. The existing structures consist of 3-span continuous steel W-Beams with a composite concrete deck, supported on concrete pile bent, spill through abutments, and hammerhead type piers. The structures are 131'-3¾" bk. to bk. of abutments with a varying out to out width of 52'-1⁵⁄₁₆" to 47'-7⁵⁄₈" (W.B.) and 55'-3⁷⁄₁₆" to 53'-5" (E.B.) and skewed 21°59'30" Rt Ah. Traffic will be maintained using crossovers.

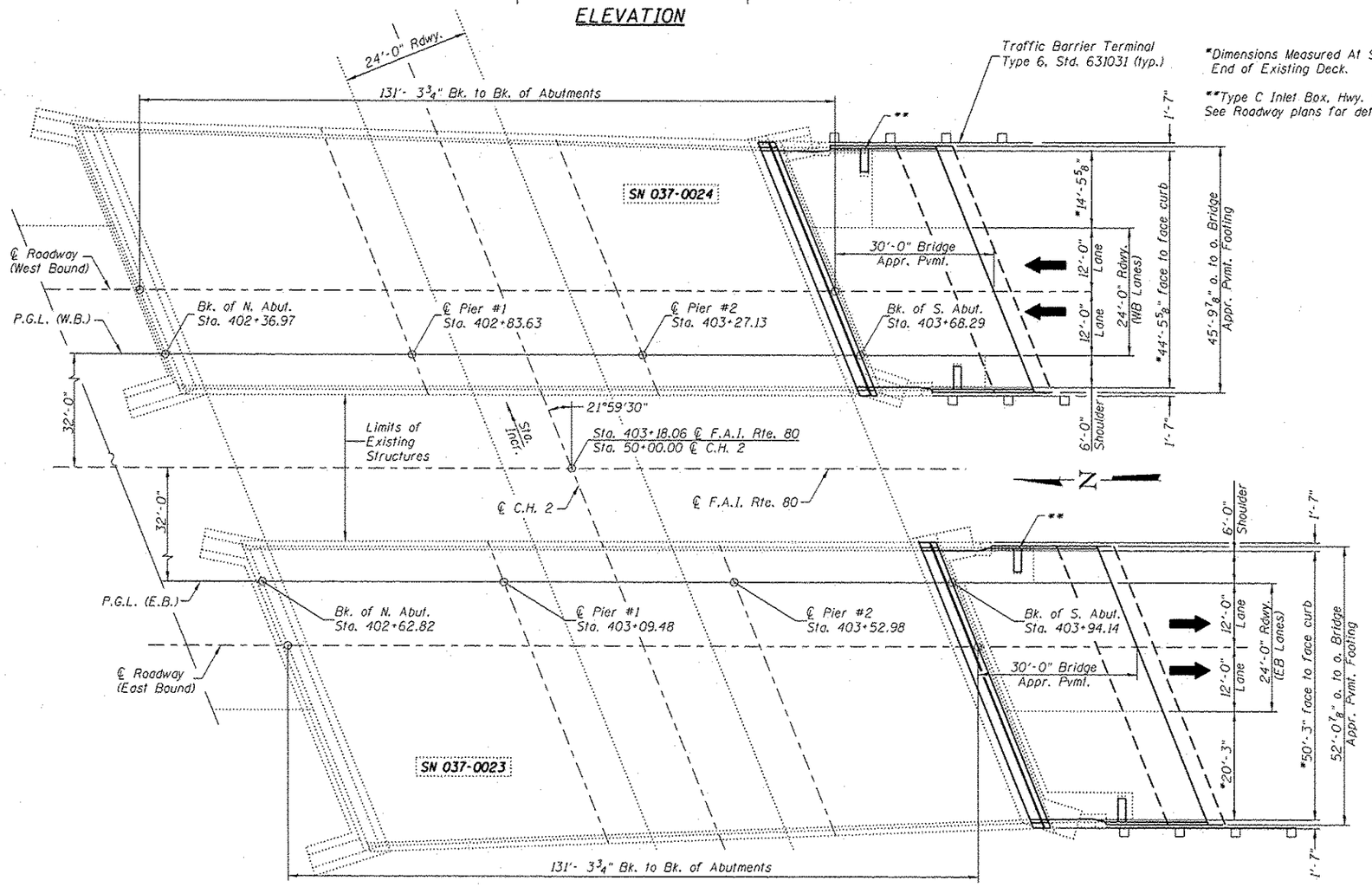
No Salvage

B.M.:

Chisled "□" on S.E. Parapet Wall of SN 037-0025 (E.B.) Elev. 589.855



ELEVATION



PLAN

*Dimensions Measured At South End of Existing Deck.

**Type C Inlet Box, Hwy. Std. 609006, typ. See Roadway plans for details and quantities.

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

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 work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

Protective Coat shall be applied to the top of the deck and inside face and top of parapets and approach curbs.

Bridge Deck Grooving is figured 1'-0" from the curb face and includes the approach pavements.

The Contractor shall match existing elevations and dimensions. The proposed profile grade along the PGL shall tie into the existing deck and adjacent overlay at the end of the approach pavements as specified and directed by the Engineer.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	CU YD	——	32.6	32.6
Concrete Superstructure	CU YD	183.9	——	183.9
Concrete Removal	CU YD	14.4	——	14.4
Bridge Deck Grooving	SQ YD	338	——	338
Protective Coat	SQ YD	366	——	366
Reinforcement Bars, Epoxy Coated	POUND	40,740	——	40,740
Bar Splicers	EACH	——	96	96
Preformed Joint Strip Seal	FOOT	107	——	107
Approach Slab Removal	SQ YD	206	——	206

BENJAMIN A. NEREL 081-006527 LICENSED STRUCTURAL ENGINEER ILLINOIS

Lic Exp. 11/30/16

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
(Existing Construction)
1989 AASHTO and Seismic Retrofitting Guidelines for Highway Bridges.

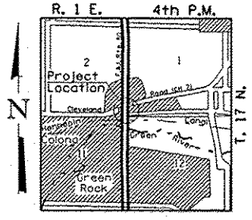
LOADING HS 20-44 & Alt.

Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

(FIELD UNITS) (New Construction)
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Rein.)

(FIELD UNITS) (Existing Construction)
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Rein.)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
F.A.I. ROUTE 80 OVER CLEVELAND ROAD (C.H. 2)
F.A.I. 80 SECTION 37-1HBYD
STATION 403+18.06
HENRY COUNTY
STR. NO. 037-0023 (EB)
STR. NO. 037-0024 (WB)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = TCody	DESIGNED - STM	REVISED -	
PLOT SCALE = NONE	CHECKED - BAN	REVISED -	
PLOT DATE = 3/11/2015	DRAWN - STM	REVISED -	
	CHECKED - BAN	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
S.N. 037-0023 (E.B.) & S.N. 037-0024 (W.B.)
SHEET NO. 1 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	220
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		

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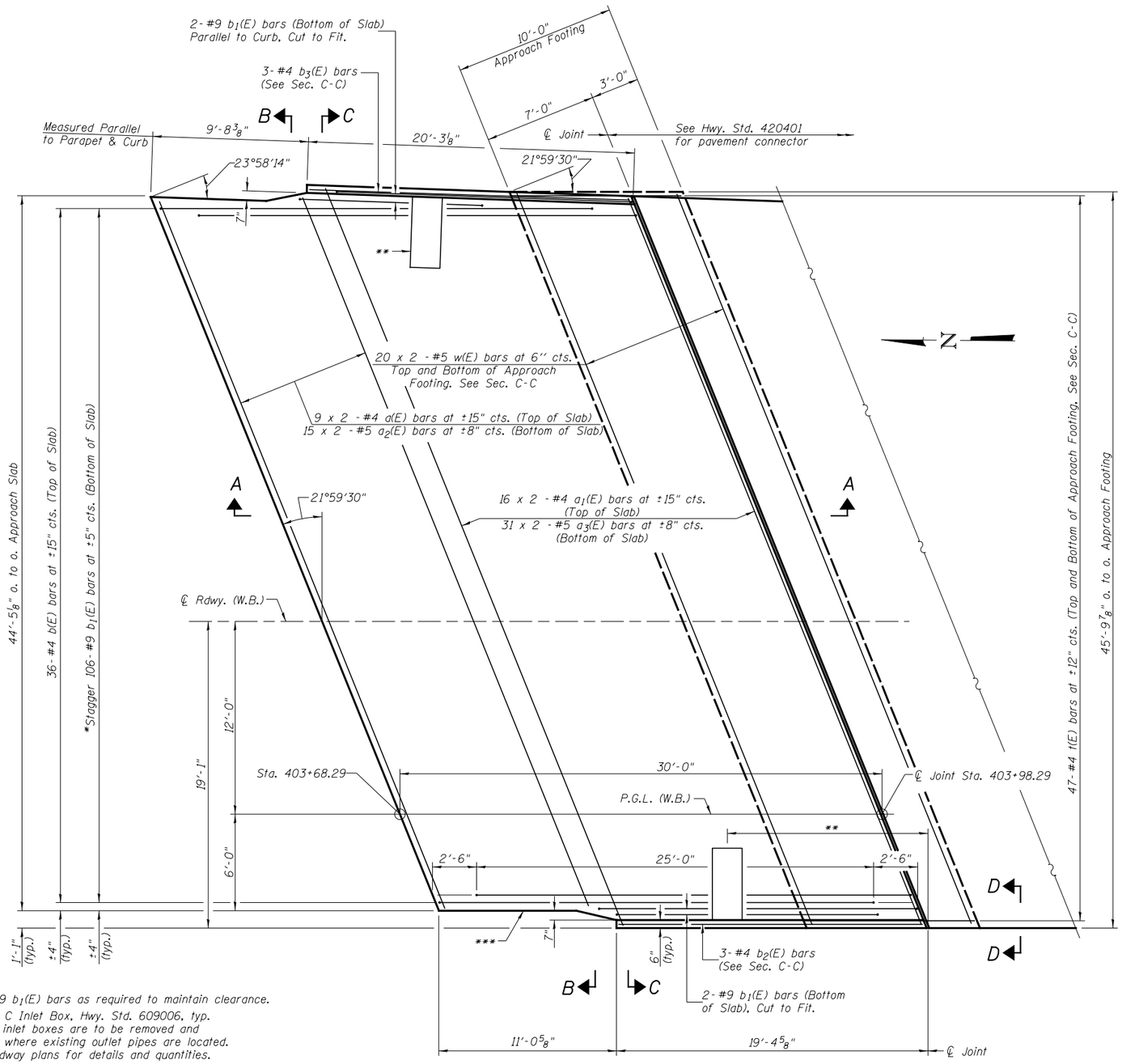


PLAN

* Tilt #9 b_1(E) bars as required to maintain clearance.

** Type C Inlet Box, Hwy. Std. 609006, typ. Existing inlet boxes are to be removed and replaced where existing outlet pipes are located. See Roadway plans for details and quantities.

*** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications; full depth of slab, full length of parapet. typ. each parapet.

**** Cost included with Concrete Superstructure.

Notes:

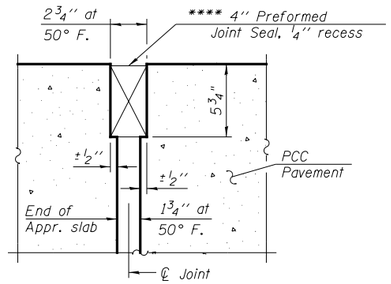
See Sheet 3 of 9 for Sections A-A, B-B, and C-C.

a(E), a_1(E), a_2(E), and a_3(E) bar spacings measured along the ℄ Rdwy.

Order a_1(E), a_3(E), b(E), b_1(E), b_2(E), and b_3(E) bars full length. Cut in field to fit Type C Inlet Box, Hwy. Standard 609006.

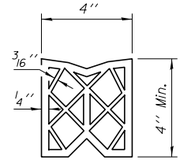
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1 1/2" for installation purposes.

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

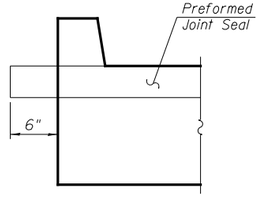


RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL



VIEW D-D

MIN. BAR LAP

#5 bar = 2'-7"

#4 bar = 2'-1"

(Sheet 1 of 2)

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME = bdecraene	DESIGNED - STM	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
	PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB
S.N. 037-0024 (W.B.)
SHEET NO. 2 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	221
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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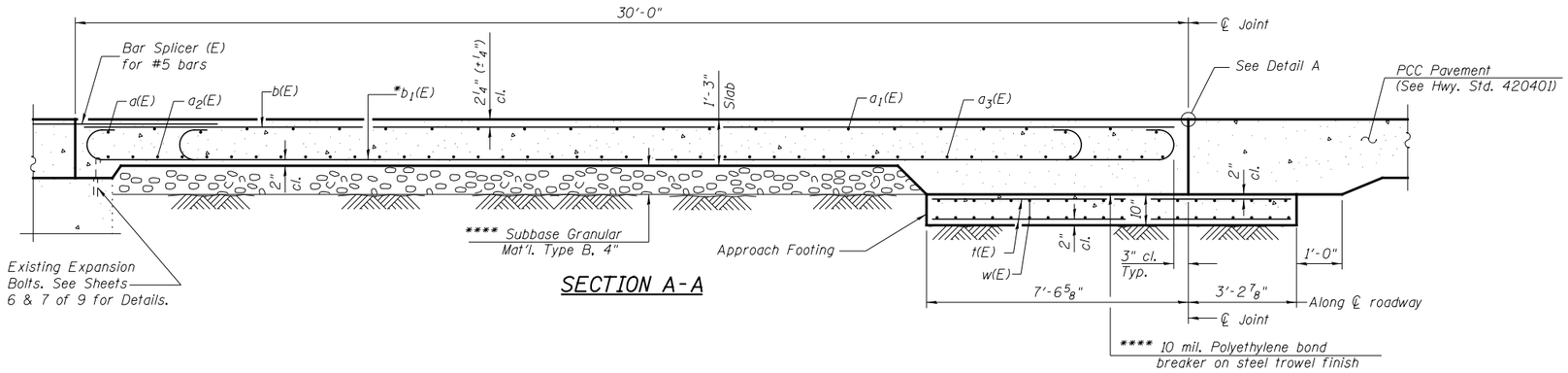
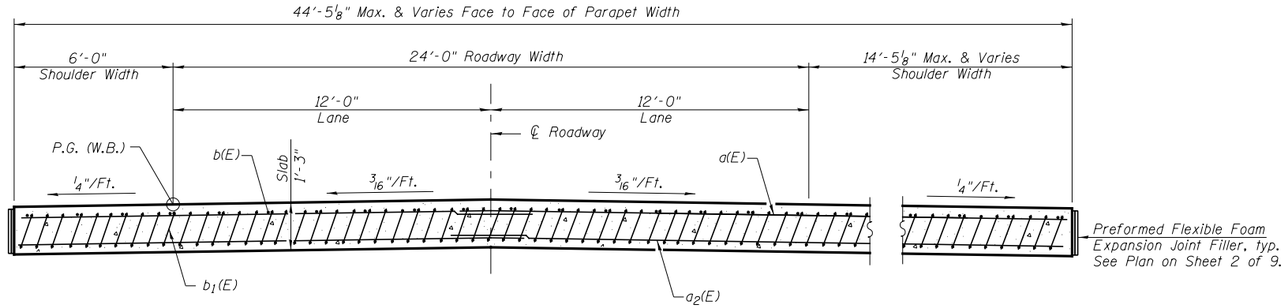
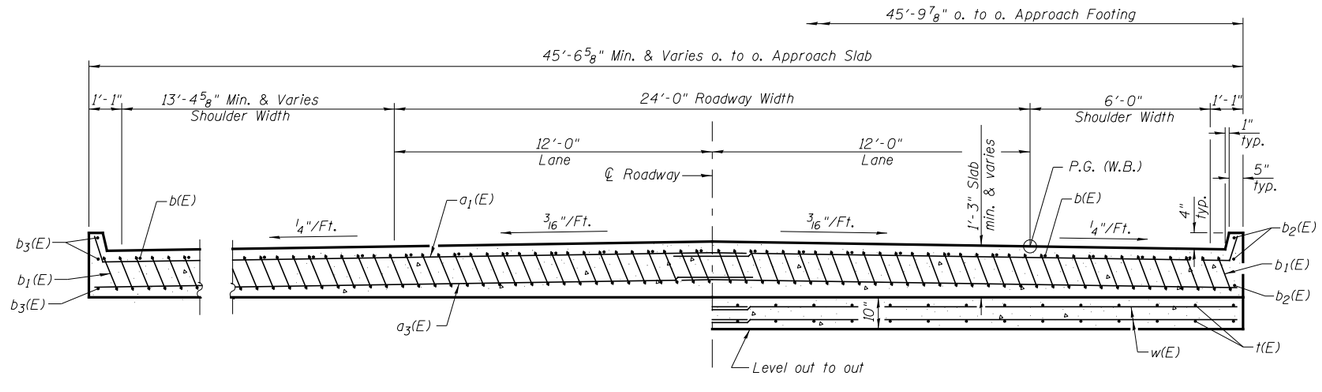


SECTION A-A



SECTION B-B

(See Plan for dimensions not shown)



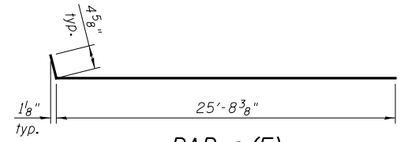
AT CENTER OF APPR. SLAB

AT APPROACH FOOTING

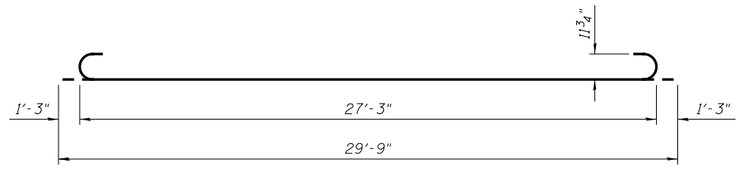
SECTION C-C

(See Plan for dimensions not shown)

Notes:
See Sheet 2 of 9 for Detail A.
Approach slab 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.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
See Sheet 9 of 9 for Bar Splicer details.
Cost of excavation for approach footing included with Concrete Structures.



BAR a_1(E)



BAR b_1(E)

WEST BOUND LANES SOUTH APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	18	#4	24'-11"	
a_1(E)	32	#4	26'-1"	
a_2(E)	30	#5	25'-2"	
a_3(E)	62	#5	26'-1"	
b(E)	36	#4	29'-8"	
b_1(E)	110	#9	29'-9"	
b_2(E)	3	#4	18'-10"	
b_3(E)	3	#4	19'-11"	
t(E)	94	#4	10'-5"	
w(E)	80	#5	25'-10"	
Concrete Superstructure			CU YD	76.5
Concrete Structures			CU YD	15.3
Reinforcement Bars, Epoxy Coated			POUND	18,060

* Tilt #9 b_1(E) bars as required to maintain clearance.
**** Cost included with Concrete Superstructure.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

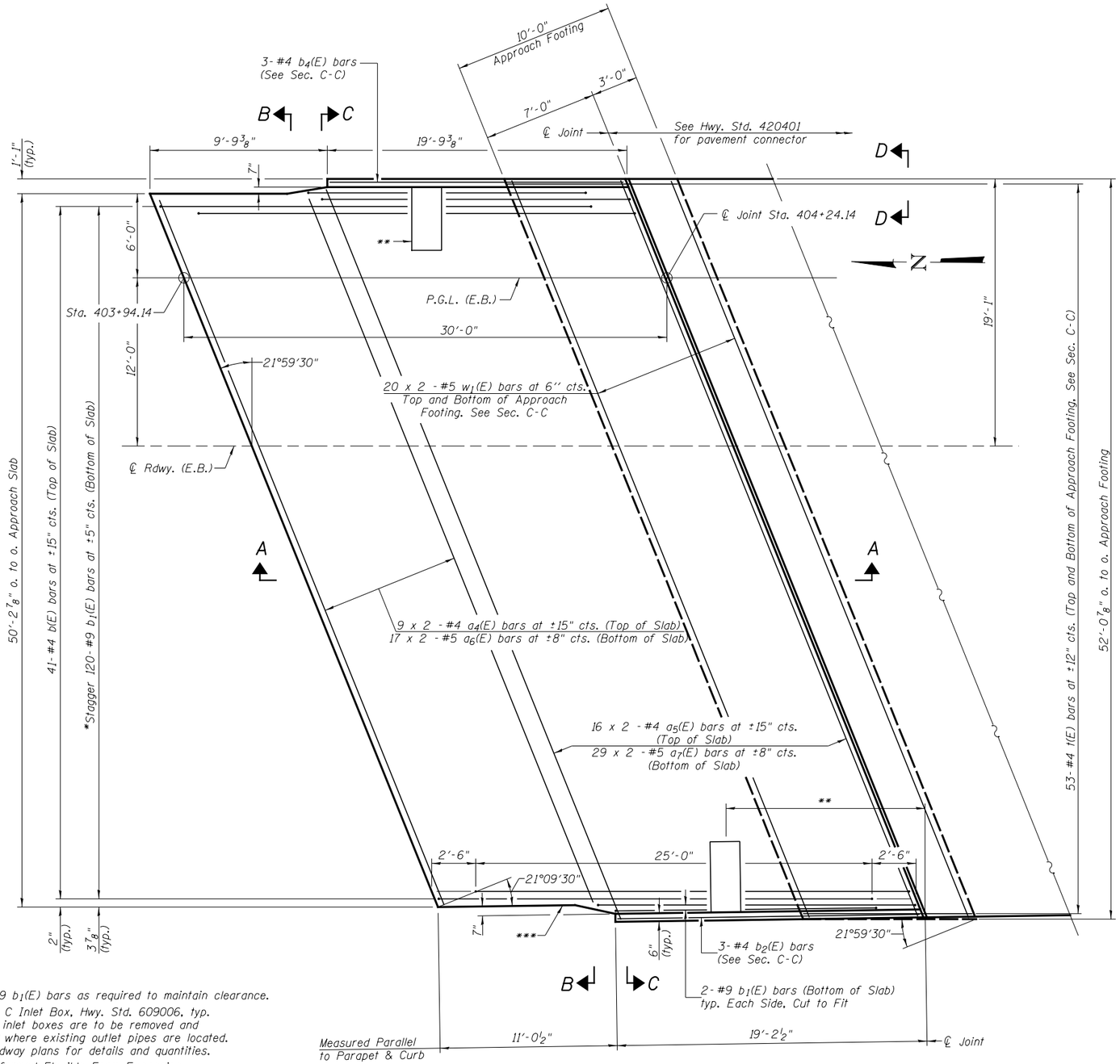
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
S.N. 037-0024 (W.B.)
SHEET NO. 3 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	222
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

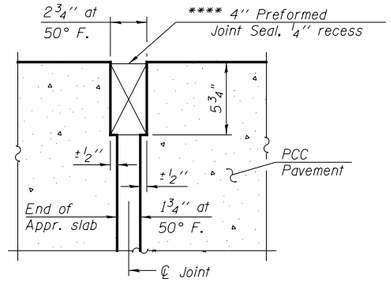
V:\3369\Final Structure Sheets from Jacksonville\Cleveland Road\0370023-0370024-64B78-003 WB APPROACH DETAILS.dgn

Notes:
See Sheet 5 of 9 for Sections A-A, B-B, and C-C.
$a_4(E)$, $a_5(E)$, $a_6(E)$, and $a_7(E)$ bar spacings measured along the ℄ Rdwy.
Order $a_5(E)$, $a_7(E)$, $b(E)$, $b_1(E)$, $b_2(E)$, and $b_4(E)$ bars full length.
Cut in field to fit Type C Inlet Box, Hwy. Standard 609006.
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be $1\frac{1}{2}$" for installation purposes.
Bars indicated thus 20 x 2 - #5 etc. indicates 20 lines of bars with 2 lengths per line.



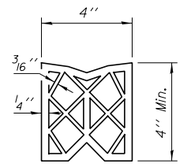
PLAN

* Tilt #9 $b_1(E)$ bars as required to maintain clearance.
** Type C Inlet Box, Hwy. Std. 609006, typ. Existing inlet boxes are to be removed and replaced where existing outlet pipes are located. See Roadway plans for details and quantities.
*** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications; full depth of slab, full length of parapet, typ. each parapet.
**** Cost included with Concrete Superstructure.

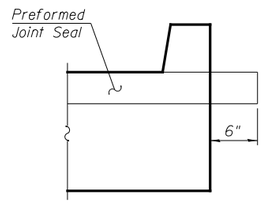


RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL



VIEW D-D

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

(Sheet 1 of 2)

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	PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB
S.N. 037-0023 (E.B.)
SHEET NO. 4 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	223
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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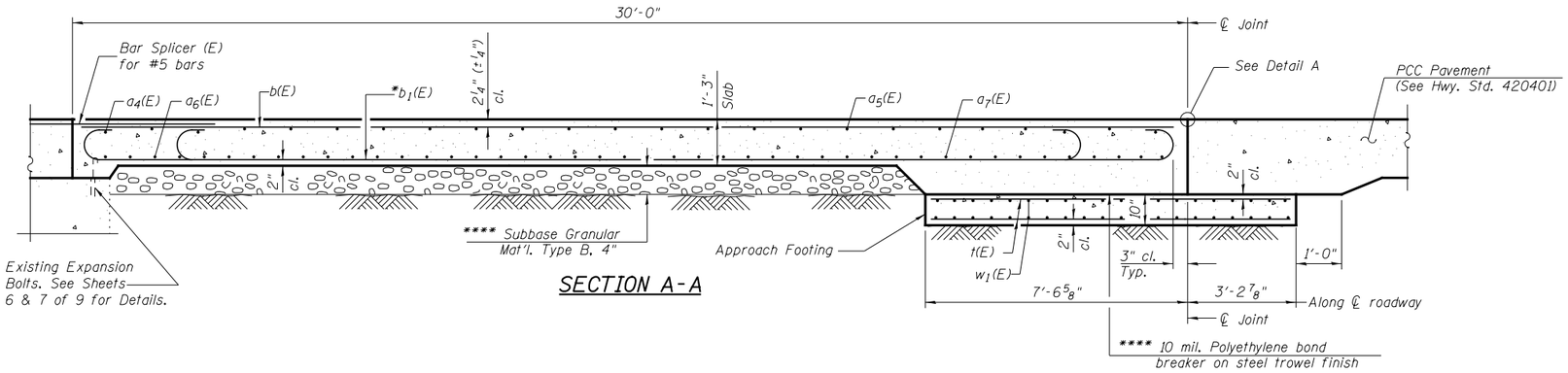
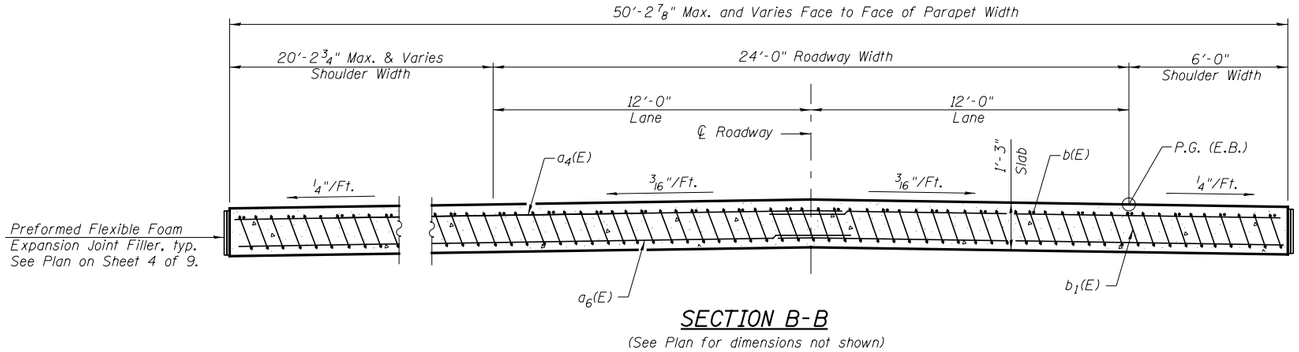
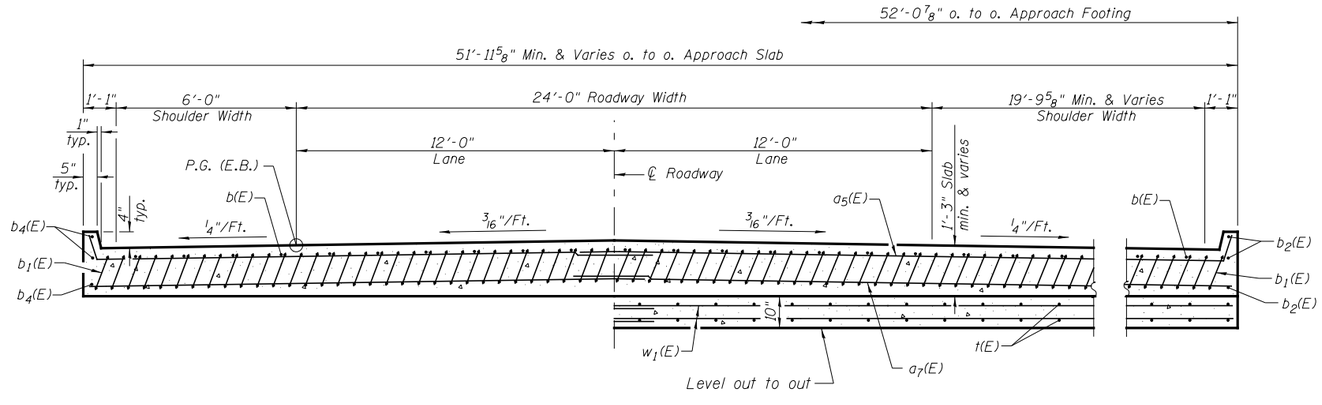


SECTION A-A



SECTION B-B

(See Plan for dimensions not shown)



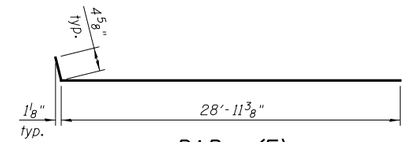
AT CENTER OF APPR. SLAB

AT APPROACH FOOTING

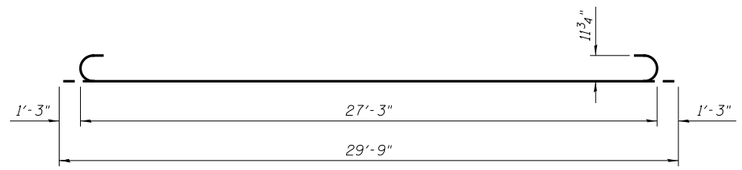
SECTION C-C

(See Plan for dimensions not shown)

Notes:
See Sheet 4 of 9 for Detail A.
Approach slab 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.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
See Sheet 9 of 9 for Bar Splicer details.
Cost of excavation for approach footing included with Concrete Structures.



BAR $a_5(E)$



BAR $b_1(E)$

EAST BOUND LANES SOUTH APPROACH BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_4(E)$	18	#4	28'-0"	
$a_5(E)$	32	#4	29'-4"	
$a_6(E)$	34	#5	28'-3"	
$a_7(E)$	58	#5	29'-3"	
b(E)	41	#4	29'-8"	
$b_1(E)$	124	#9	29'-9"	
$b_2(E)$	3	#4	18'-10"	
$b_4(E)$	3	#4	19'-5"	
t(E)	106	#4	10'-5"	
$w_1(E)$	80	#5	29'-3"	
Concrete Superstructure			CU YD	93.0
Concrete Structures			CU YD	17.3
Reinforcement Bars, Epoxy Coated			POUND	20,340

* Tilt #9 $b_1(E)$ bars as required to maintain clearance.
**** Cost included with Concrete Superstructure.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
S.N. 037-0023 (E.B.)
SHEET NO. 5 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	224
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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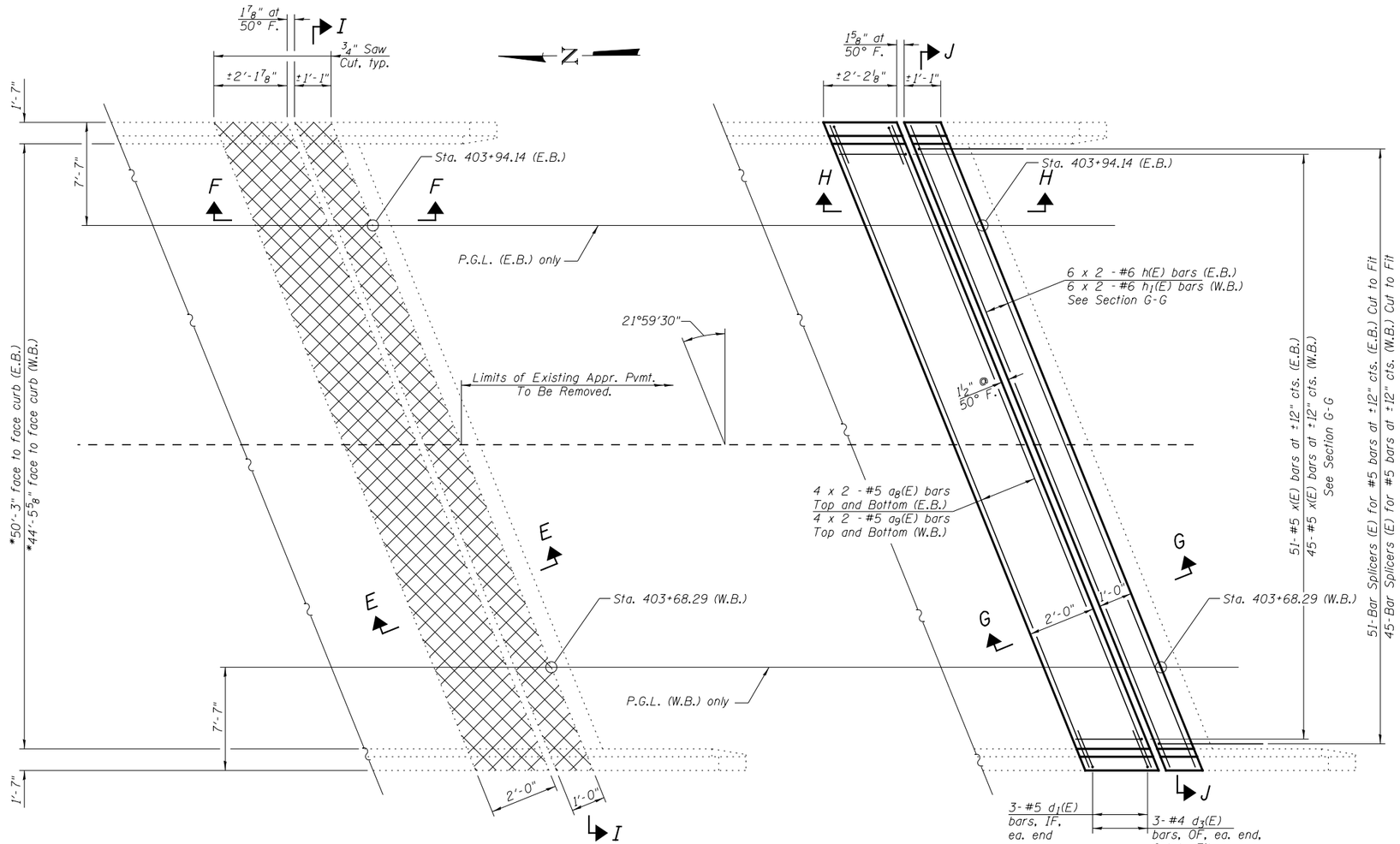
Notes:
See Sheet 7 of 9 for Sections E-E, F-F, G-G, and H-H.
See roadway plans for details and quantities for the removal of concrete & HMA shoulders.
Adjust Bar Splicers (E) accordingly to miss existing expansion bolts.
Bars indicated thus 4 x 2 - #5 etc. indicates 4 lines of bars with 2 lengths per line.
Cross hatched areas indicate Concrete Removal.

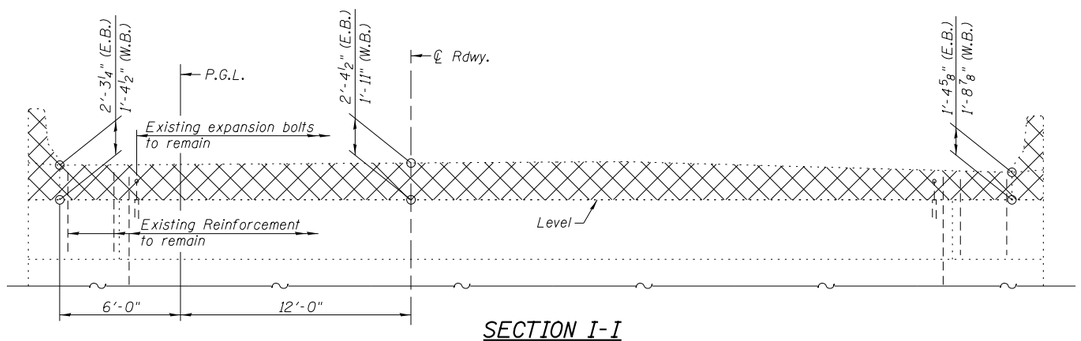


*Dimensions Measured At South End of Existing Deck.

MIN. BAR LAP
#6 bar = 3'-0"
#5 bar = 3'-3"

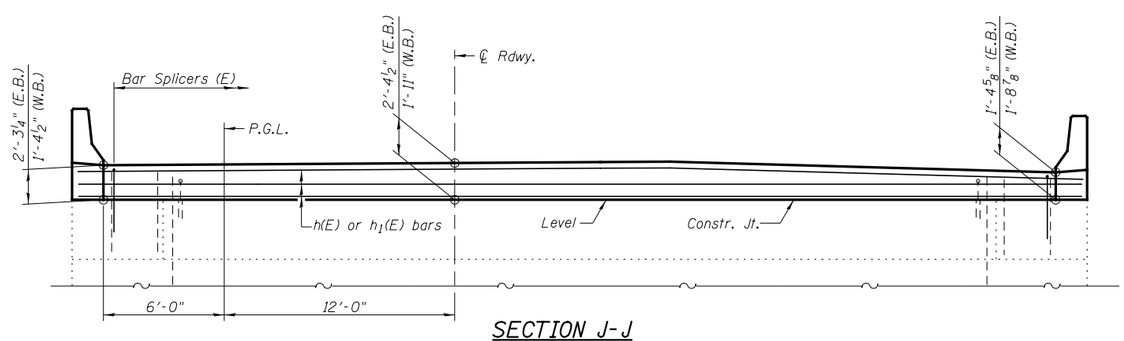
CONCRETE REMOVAL DETAILS

CONCRETE REPLACEMENT DETAILS



SECTION I-I

(Dimensions are given at front of hatched block.
E.B. Structure Shown, W.B. Mirrored)



SECTION J-J

(Dimensions are given at front of hatched block.
E.B. Structure Shown, W.B. Mirrored)

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	PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS
S.N. 037-0023 (E.B.) & S.N. 037-0024 (W.B.)
SHEET NO. 6 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	225
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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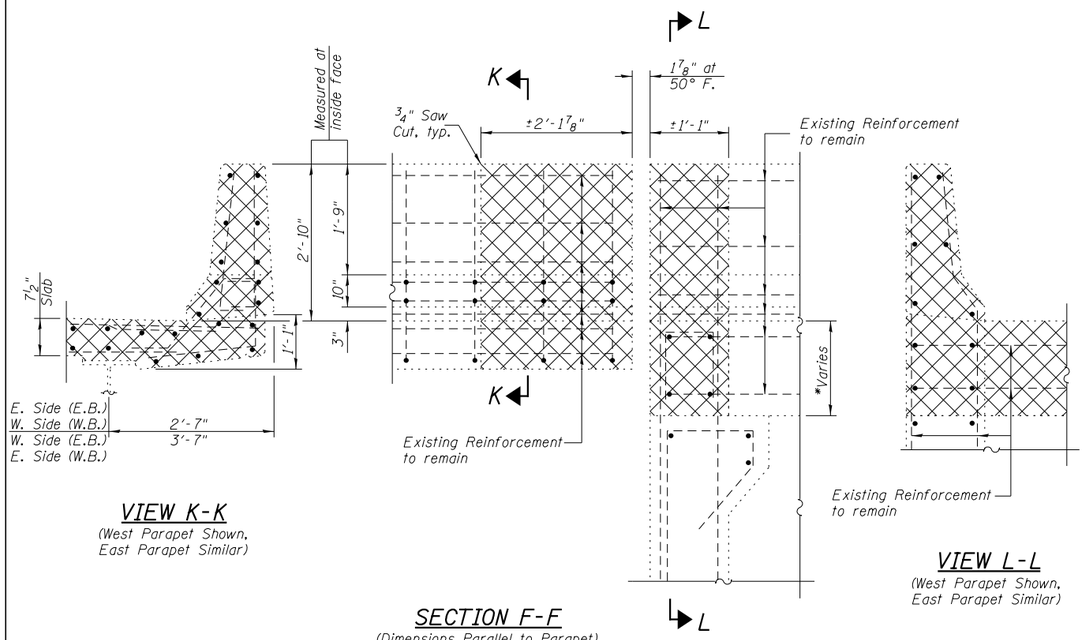
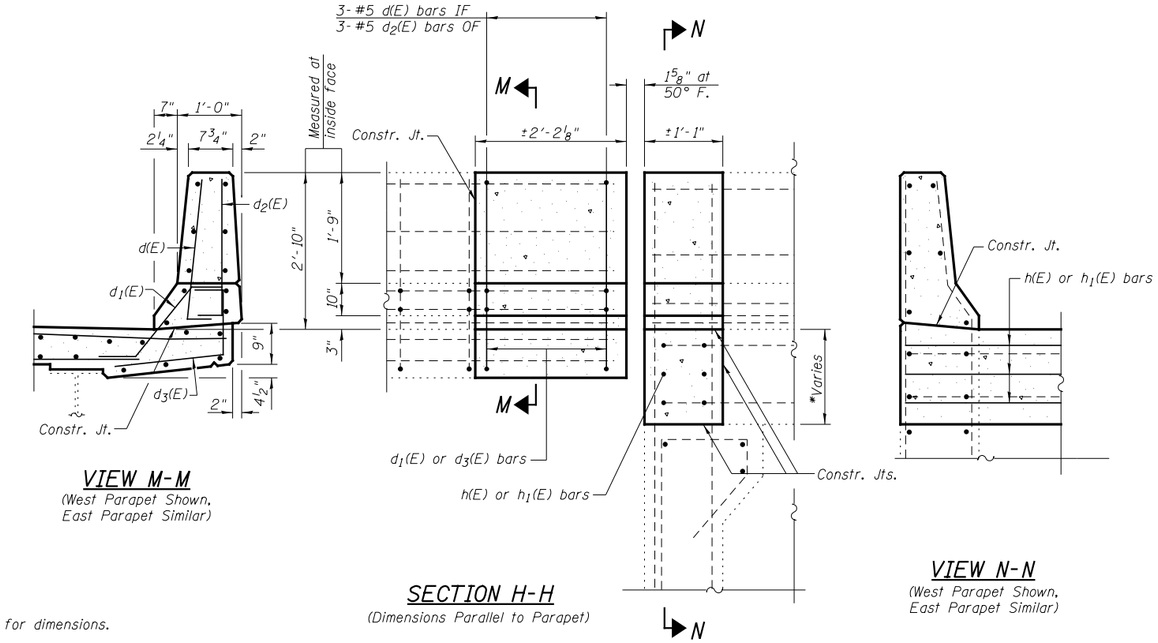
Notes:
Existing reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost is included with Concrete Removal.
Existing reinforcement which can not be incorporated into new construction shall be cut off flush and covered with 2" of cement mortar.
See Sheet 9 of 9 for Bar Splicer details.
Cross hatched areas indicate Concrete Removal.



VIEW K-K
(West Parapet Shown, East Parapet Similar)

SECTION F-F
(Dimensions Parallel to Parapet)

VIEW L-L
(West Parapet Shown, East Parapet Similar)

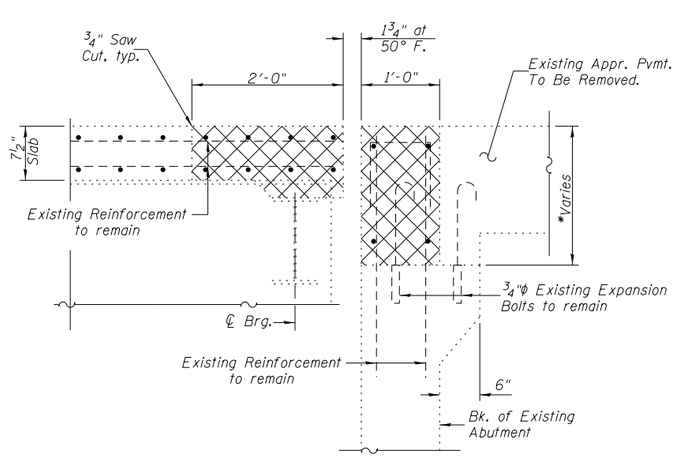


VIEW M-M
(West Parapet Shown, East Parapet Similar)

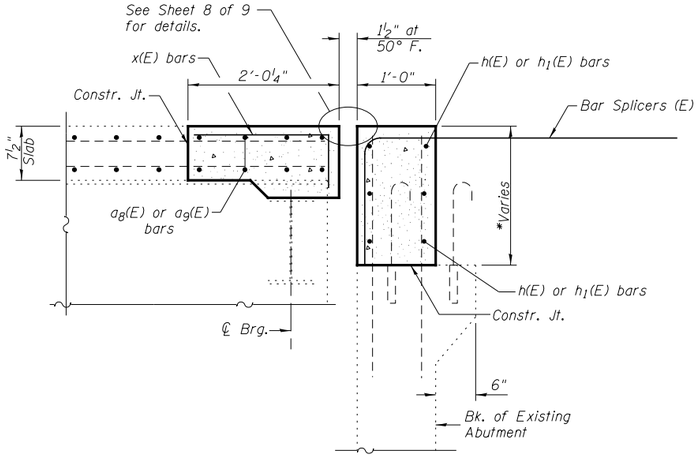
SECTION H-H
(Dimensions Parallel to Parapet)

VIEW N-N
(West Parapet Shown, East Parapet Similar)

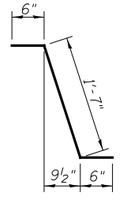
*See Sheet 6 of 9 for dimensions.



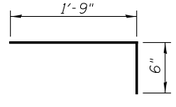
SECTION E-E
(Dimensions at Right Angles)



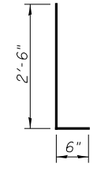
SECTION G-G
(Dimensions at Right Angles)



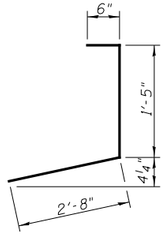
BAR d1(E)



BAR x(E)



BARS d(E) & d2(E)



BAR d3(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_8(E)$	16	#5	30'-1"	
$a_9(E)$	16	#5	27'-0"	
d(E)	12	#5	3'-0"	
$d_1(E)$	12	#5	2'-7"	
$d_2(E)$	12	#4	3'-0"	
$d_3(E)$	12	#4	4'-7"	
h(E)	12	#6	30'-2"	
$h_1(E)$	12	#6	27'-0"	
x(E)	96	#5	2'-3"	
Concrete Removal			CU YD	14.4
Concrete Superstructure			CU YD	14.4
Reinforcement Bars, Epoxy Coated			POUND	2,340

Hutchison Engineering, Inc.
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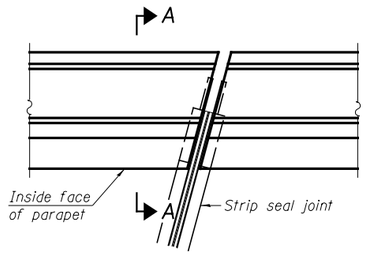
REPAIR DETAILS
S.N. 037-0023 (E.B.) & S.N. 037-0024 (W.B.)
SHEET NO. 7 OF 9 SHEETS

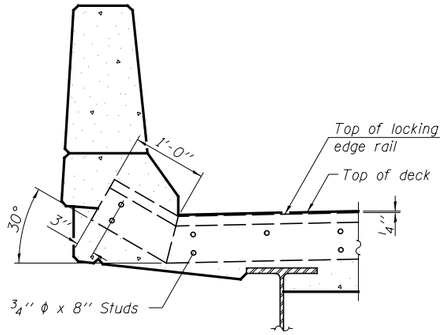
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	226
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Cleveland Road\0370023-0370024-64B78-007 REPAIR DETAILS.dgn



PLAN

(For skews ≤ 30°)



SECTION A-A

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". 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.

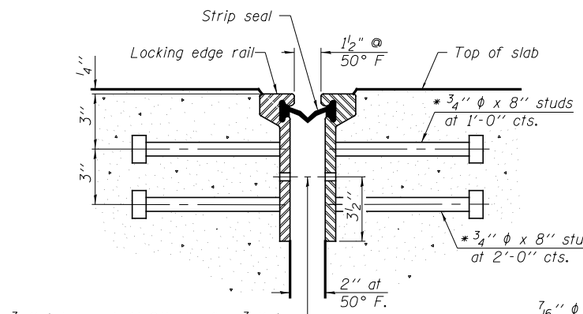
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

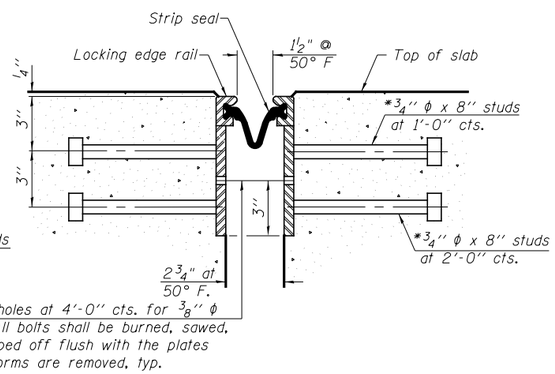
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications 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 shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

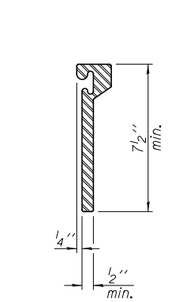


SECTION THRU ROLLED RAIL JOINT

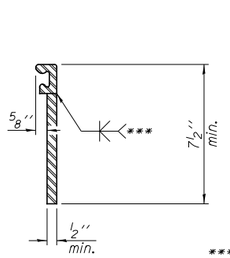


SECTION THRU WELDED RAIL JOINT

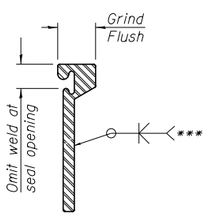
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



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.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	FOOT	107

EJ-SSJ 1-27-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

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DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
S.N. 037-0023 (E.B.) & S.N. 037-0024 (W.B.)
SHEET NO. 8 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	227
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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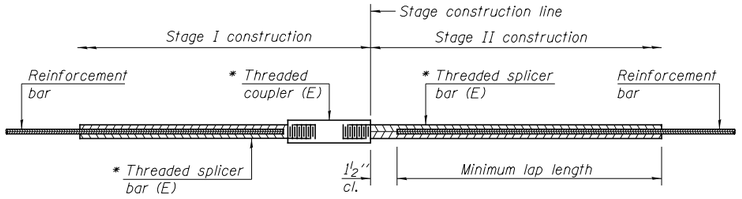


STANDARD BAR SPLICER ASSEMBLY

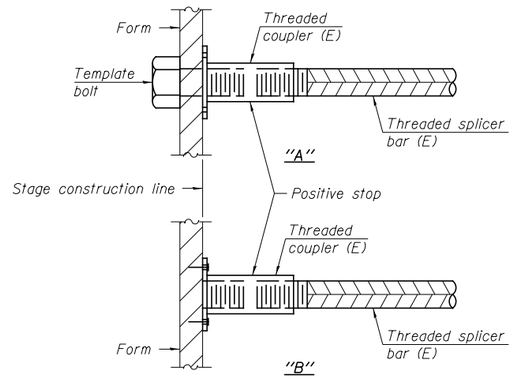
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

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

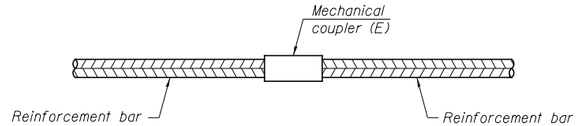
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



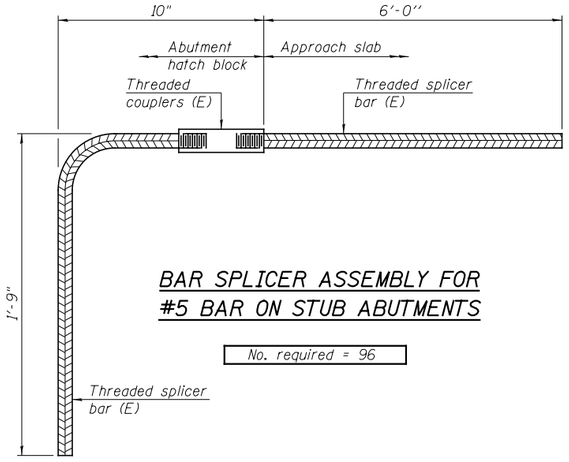
INSTALLATION AND SETTING METHODS

"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 STUB ABUTMENTS

No. required = 96

NOTES

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

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

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

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

BSD-1 8-31-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
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PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S.N. 037–0023 (E.B.) & S.N. 037–0024 (W.B.)
SHEET NO. 9 OF 9 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1HBYD	HENRY	430	228
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Cleveland Road\0370023-0370024-64B78-009 BAR SPLICERS.dgn

B.M. 429: Chiseled "□" on W. Side of E. Sign Fndtn. for Colona Exit (EB Lane)
Sta. 382+81, ±80' Rt
Elev. 668.97

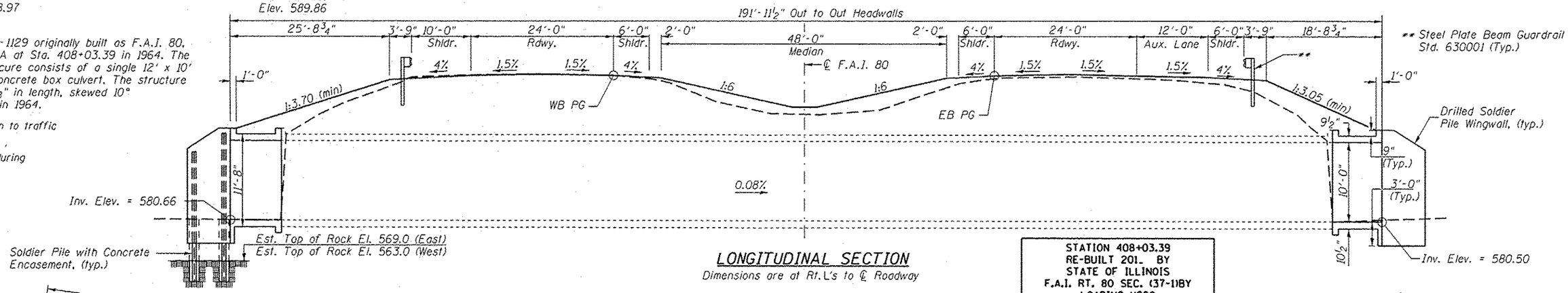
B.M. 432: Chiseled "□" S.E. Parapet Wall EB Structure (Green River)
Sta. 417+88, ±24' Rt
Elev. 589.86

Existing Structure:
Str. No. 037-1129 originally built as F.A.I. 80, Section 37-1A at Sta. 408+03.39 in 1964. The existing strucure consists of a single 12' x 10' reinforced concrete box culvert. The structure is ±176'-10⅝" in length, skewed 10° Constructed in 1964.

Road to remain open to traffic during construction.

Trail to be closed during construction.

Salvage: None



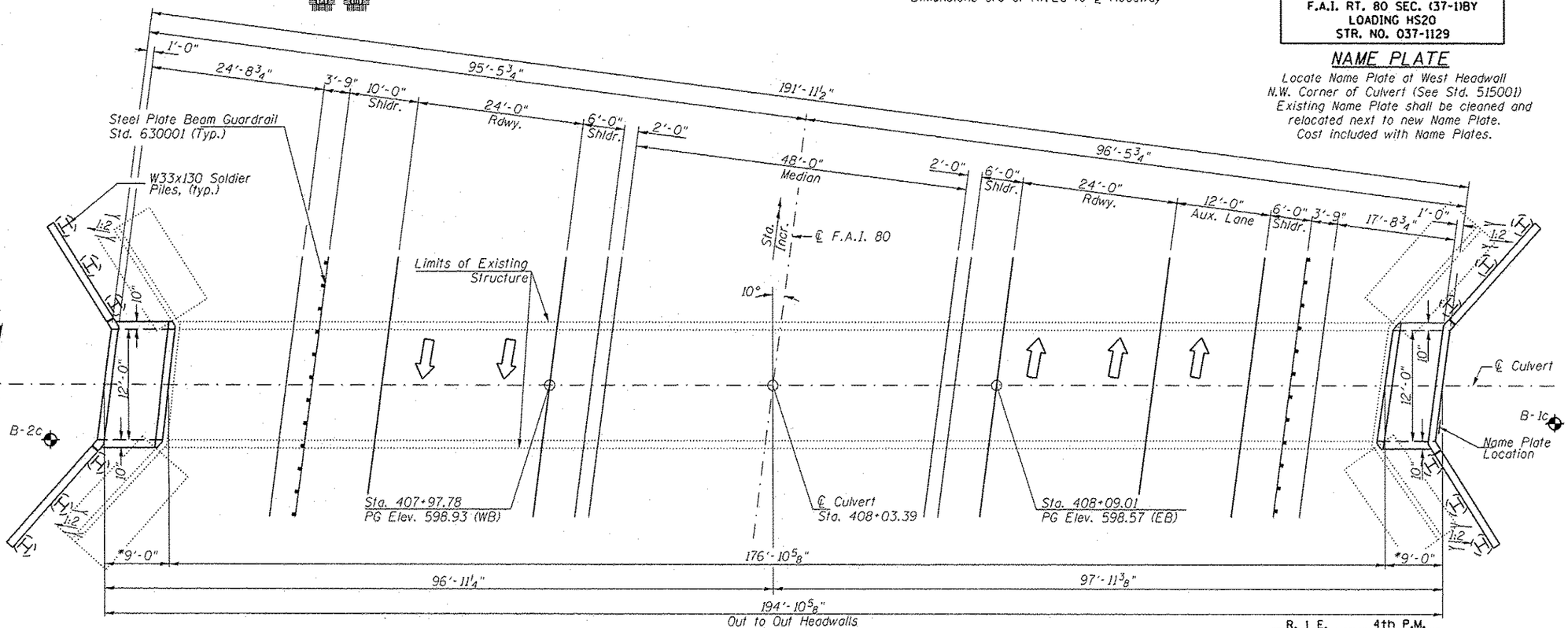
LONGITUDINAL SECTION

Dimensions are at Rt.'s to ℄ Roadway

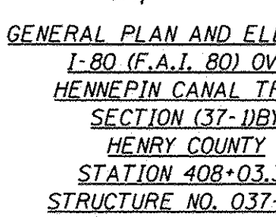
STATION 408+03.39
RE-BUILT 201. BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. (37-1)BY
LOADING HS20
STR. NO. 037-1129

NAME PLATE

Locate Name Plate at West Headwall N.W. Corner of Culvert (See Std. 515001) Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



*Culvert Extension



PROFILE GRADE
(WB I-80)

PROFILE GRADE
(EB I-80)

INDEX OF SHEETS

DESIGN STRESSES

FIELD UNITS

(New Construction)
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)-(Soldier Piles)
(Existing Construction)
f'c = 3,500 psi
fy = 40,000 psi

PLAN

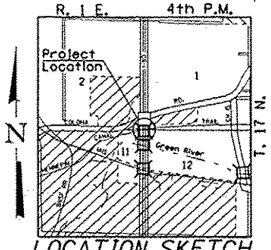
LOADING HS20-44

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

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges 17th Edition

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



LOCATION SKETCH

JAMES O. HAMILTON
081-003668
LICENSED STRUCTURAL ENGINEER OF JACKSONVILLE, ILLINOIS

James O. Hamilton
3/13/2015
Expires 11/30/2016

GENERAL PLAN AND ELEVATION
I-80 (F.A.I. 80) OVER HENNEPIN CANAL TRAIL
SECTION (37-1)BY
HENRY COUNTY
STATION 408+03.39
STRUCTURE NO. 037-1129

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

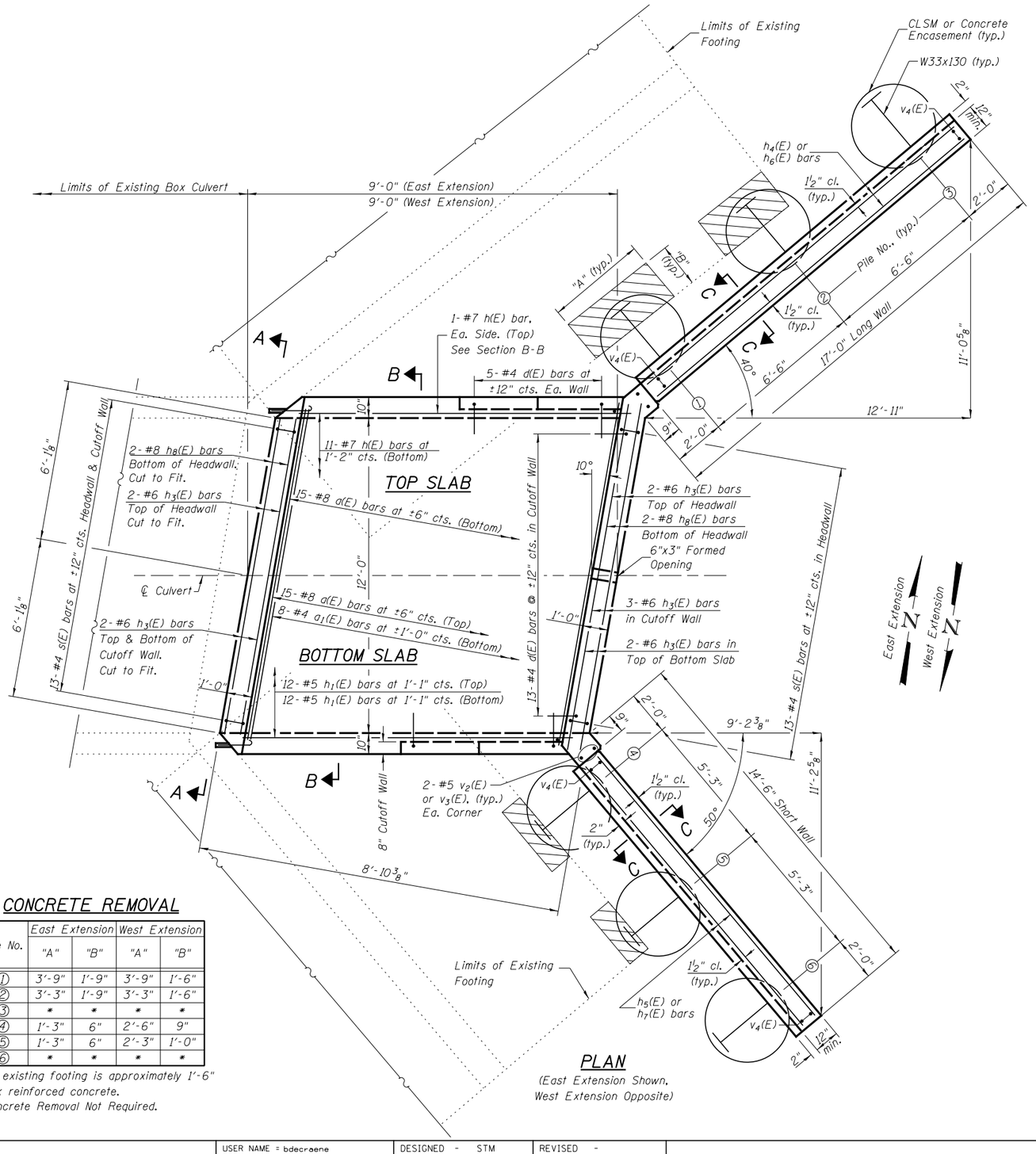
USER NAME = TCody	DESIGNED - STM	REVISED -	
PLOT SCALE = NONE	CHECKED - JOH	REVISED -	
PLOT DATE = 3/11/2015	DRAWN - STM	REVISED -	
	CHECKED - JOH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
S.N. 037-1129
SHEET NO. 1 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	(37-1)BY	HENRY	430	229
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

V:\Bridge\3369 Rock Island\Hennepin Canal Culvert Extension\037I129-64B78-001 GPE.dgn



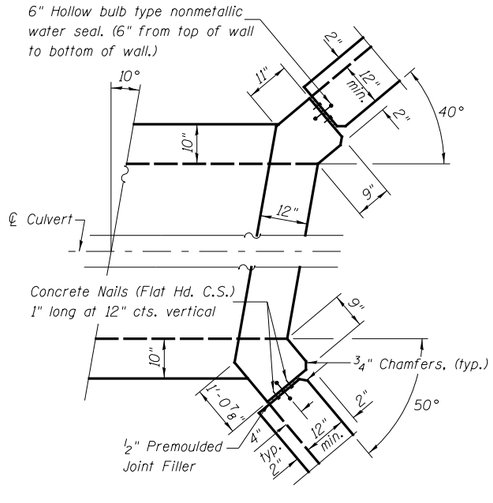
PLAN

(East Extension Shown, West Extension Opposite)

CONCRETE REMOVAL

Pile No.	East Extension		West Extension	
	"A"	"B"	"A"	"B"
①	3'-9"	1'-9"	3'-9"	1'-6"
②	3'-3"	1'-9"	3'-3"	1'-6"
③	*	*	*	*
④	1'-3"	6"	2'-6"	9"
⑤	1'-3"	6"	2'-3"	1'-0"
⑥	*	*	*	*

The existing footing is approximately 1'-6" thick reinforced concrete.
*Concrete Removal Not Required.



CORNER DETAIL

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contactor 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.

Precast alternate is not allowed.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Granular Backfill for Structures	CU YD	81
Concrete Removal	CU YD	1.6
Concrete Box Culverts	CU YD	32.7
Concrete Structures	CU YD	28.7
Reinforcement Bars, Epoxy Coated	POUND	9,890
Stud Shear Connectors	EACH	130
Furnishing Soldier Piles (W Section)	FOOT	373
Drilling and Setting Soldier Piles (in Soil)	CU FT	1,684
Drilling and Setting Soldier Piles (in Rock)	CU FT	1,039
Structure Excavation	CU YD	20
Untreated Timber Lagging	SQ FT	446
Name Plates	EACH	1
Geocomposite Wall Drain	SQ YD	26
¾" ϕ Expansion Bolts	EACH	60

Notes:
Hatched areas indicate Concrete Removal.
See Sheet 3 of 5 for Sections A-A and B-B.
See Sheet 4 of 5 for Soldier Pile Details and Section C-C.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - JOH	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - JOH	REVISED -

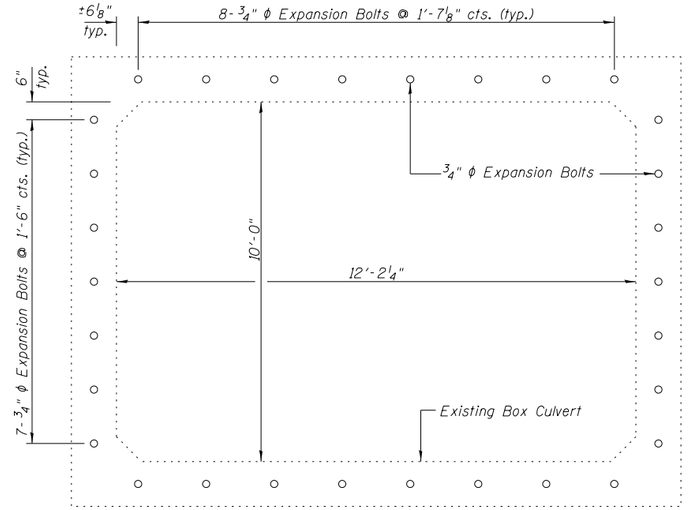
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT EXTENSION DETAILS
S.N. 037–1129
SHEET NO. 2 OF 5 SHEETS

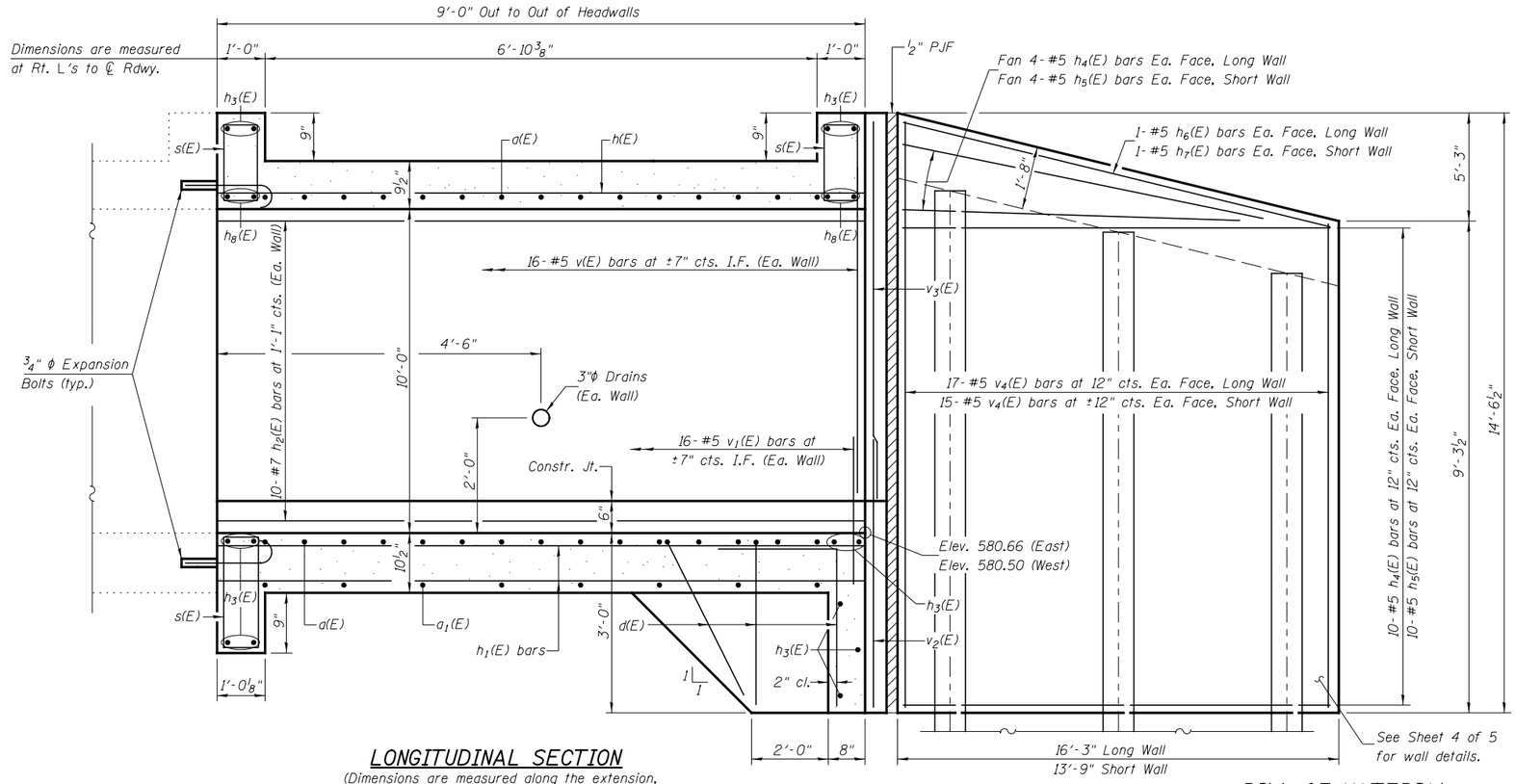
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	(37-1)BY	HENRY	430	230
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Hennepin Canal Culvert Extension\0371129-64B78-002 CULVERT EXTENSION DETAILS.dgn

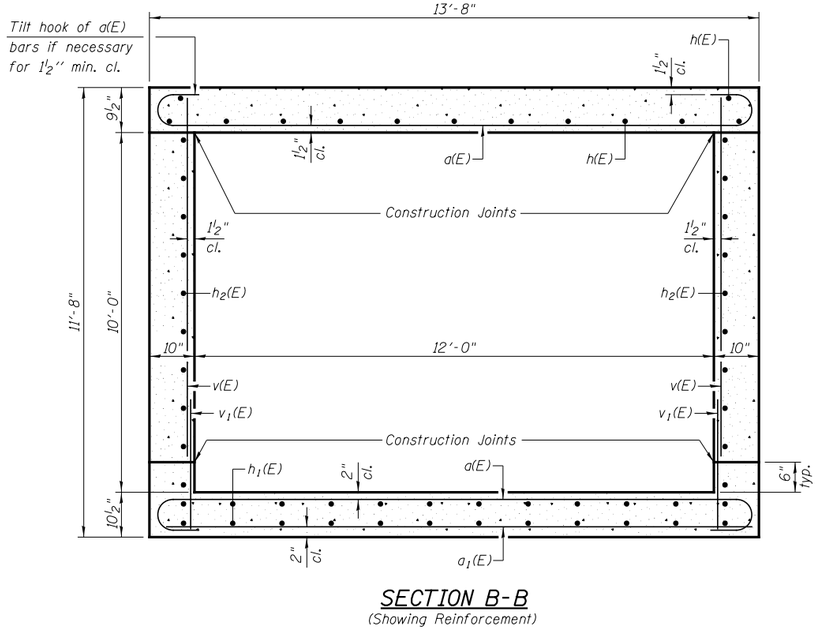
Note:
Expansion bolts shall be $\frac{3}{4}$" ϕ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.



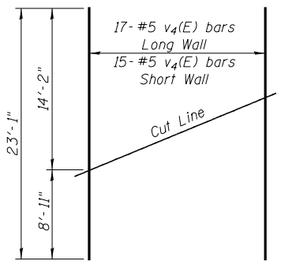
SECTION A-A
(Showing Expansion Bolts)
Dimension along Skew)



LONGITUDINAL SECTION
(Dimensions are measured along the extension, unless otherwise noted.)

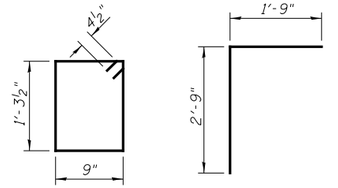


SECTION B-B
(Showing Reinforcement)

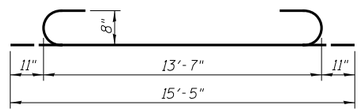


FIELD CUTTING DIAGRAM
Order $v_4(E)$ full length. Cut as shown and use remainder of bars in opposite face.

MIN. BAR LAP
#5 Bar = 2'-6"



BAR s(E) BAR d(E)



BAR a(E)

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
d(E)	60	#8	15'-5"	
a_1(E)	16	#4	13'-7"	
d(E)	46	#4	4'-6"	
h(E)	26	#7	8'-9"	
h_1(E)	48	#5	8'-9"	
h_2(E)	40	#7	8'-6"	
h_3(E)	26	#6	13'-7"	
h_4(E)	56	#5	16'-0"	
h_5(E)	56	#5	13'-6"	
h_6(E)	4	#5	16'-9"	
h_7(E)	4	#5	14'-5"	
h_8(E)	8	#8	13'-7"	
s(E)	78	#4	4'-10"	
v(E)	64	#5	10'-2"	
v_1(E)	64	#5	3'-9"	
v_2(E)	8	#5	6'-0"	
v_3(E)	8	#5	10'-9"	
v_4(E)	64	#5	23'-1"	
Concrete Removal			CU YD	1.6
Concrete Structures			CU YD	28.7
Concrete Box Culverts			CU YD	32.7
Reinforcement Bars, Epoxy Coated			POUND	9,890
¾" ϕ Expansion Bolts			EACH	60

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - JOH	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - JOH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT EXTENSION DETAILS
S.N. 037-1129
SHEET NO. 3 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	(37-1)BY	HENRY	430	231
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Hennepin Canal Culvert Extension\0371129-64B78-003 CULVERT EXTENSION DETAILS.dgn

Notes:

The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.

Geocomposite wall drain shall not have a thickness greater than $\frac{7}{8}$". It shall extend 1'-0" below the 3" ϕ weep hole drain on the back face of the C.I.P. concrete wall.

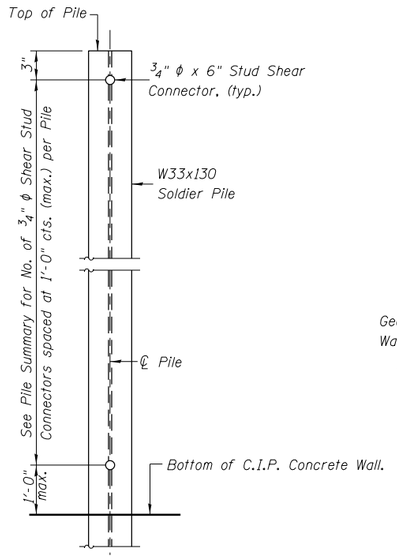
Cost of controlled low-strength material is included in the cost of Drilling and Setting Soldier Piles (in Soil).

The cost and excavation quantity to remove the existing portions of the concrete footing is included with Structure Excavation.

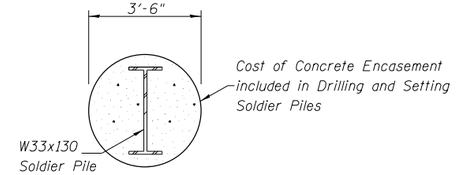
The piles shall be set 2" away from the plan dimensions back of wall to allow for deflection. The backfill shall be placed to the top of lagging construction prior to pouring the concrete facing. The thickness of concrete facing will vary with a 12" min. thinkness.

SUGGESTED SEQUENCE OF CONSTRUCTION

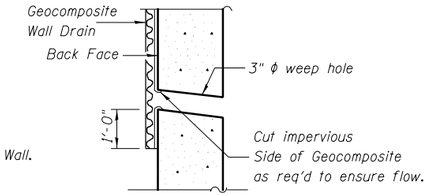
1. Excavate for culvert barrel extension.
2. Construct culvert barrel extension.
3. Install drilled soldier piles (including any required concrete removal).
4. Excavate for concrete facing
5. Install untreated timber lagging.
6. Backfill culvert and solider pile wall to top of lagging.
7. Construct soldier pile wall concrete facing.
8. Backfill culvert and soldier pile wall to finished grade.



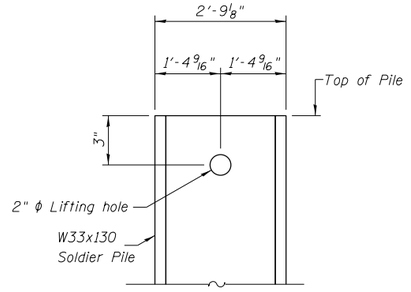
SHEAR STUD DETAIL



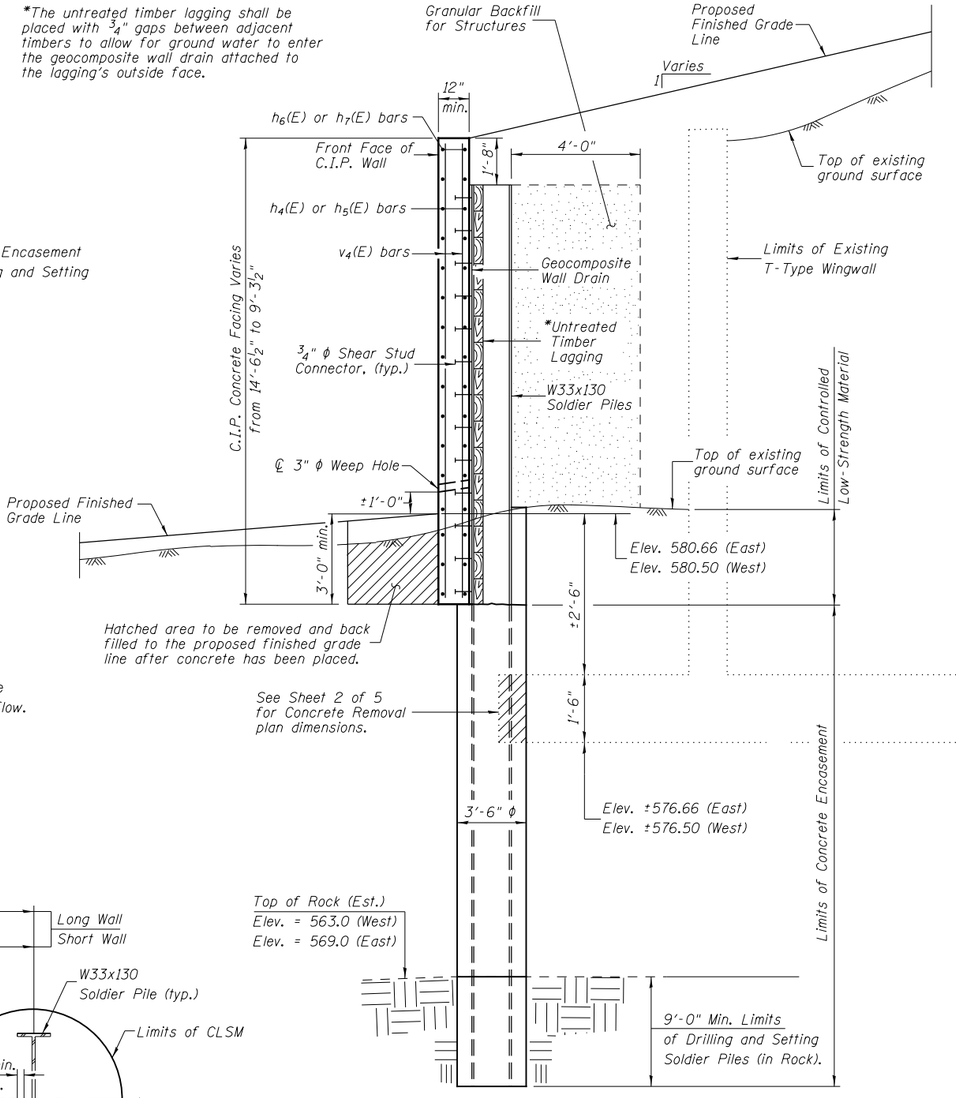
TYPICAL SOLDIER PILE ENCASEMENT DETAILS

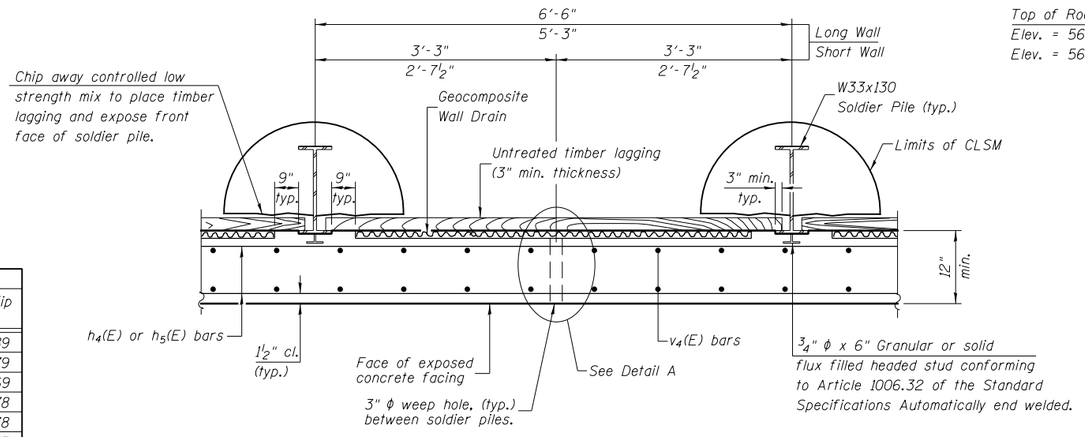


DETAIL A



LIFTING HOLE DETAIL





SECTION THRU DRILLED SOLDIER PILE WALL

SECTION C-C

SOLDIER PILE SUMMARY

Pile No.	East Extension				West Extension			
	Pile Size	Pile Length	Studs per Pile	Pile Tip Elev.	Pile Size	Pile Length	Studs per Pile	Pile Tip Elev.
①	W33x130	31'	13	590.05	W33x130	36'	13	589.89
②	W33x130	28'	11	587.95	W33x130	34'	11	587.79
③	W33x130	26'	8	585.85	W33x130	32'	8	585.69
④	W33x130	30'	13	589.94	W33x130	36'	13	589.78
⑤	W33x130	28'	11	587.94	W33x130	34'	11	587.78
⑥	W33x130	26'	9	585.93	W33x130	32'	9	585.77

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Granular Backfill for Structures	CU YD	80.7
Structure Excavation	CU YD	20
Stud Shear Connectors	EACH	130
Geocomposite Wall Drain	SQ YD	26
Drilling and Setting Soldier Piles (in Soil)	CU FT	1,684
Drilling and Setting Soldier Piles (in Rock)	CU FT	1,039
Furnishing Soldier Piles (W Section)	FOOT	373
Untreated Timber Lagging	SQ FT	446

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bnebel	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - JOH	REVISED -
PLOT DATE = 4/23/2015	DRAWN - STM	REVISED -
	CHECKED - JOH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDER PILE DETAILS
S.N. 037-1129
SHEET NO. 4 OF 5 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	(37-1)BY	HENRY	430	232
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\Bridge\3369 Rock Island\Hennepin Canal Culvert Extension\037129-64B78-004 SOLDIER PILE DETAILS.dgn

Ground Surface Elevations:
B-1c = 580.6
B-2c = 580.5

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 6/19/14

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 over Hennepin Canal Trail culvert LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Colona Twp. - 11NE, SEC. , TWP. 17N, RNG. 1E

COUNTY Rock Island/Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45 Automatic

STRUCT. NO.
Station

BORING NO. B-1c
Station 408+17
Offset 106.00ft Rt
Ground Surface Elev. 100.1 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 93.1 ft ▼
Upon Completion 90.6 ft ▽
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
-90.336465 41.484957 LOOSE light brown SANDY LOAM	98.60			7	Elev. = 579.1
MEDIUM light brown fine SAND		6 8 8			
	96.60				Elev. = 577.1
VERY LOOSE tan fine moist SAND	-5	2 1 3			
	94.10				Elev. = 574.6
VERY LOOSE tan fine SAND	▼	1 1 2			
	91.60				Elev. = 572.1
VERY LOOSE tan fine SAND	▽ -10	1 0 1			
	89.10				Elev. = 569.6
VERY DENSE gray dirty SANDY GRAVEL		14 31 30			
	86.10				Elev. = 566.6
VERY DENSE light gray CLAY with DOLOMITE	-15	45 41 33			
	84.10				Elev. = 564.6
VERY DENSE light gray DOLOMITE with CLAY		100/6"			
	81.60				Elev. = 562.1
End of Boring	-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
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 6/20/14

ROUTE FAI 80 DESCRIPTION P92-143-05 I-80 over Hennepin Canal Trail culvert LOGGED BY W. Garza

SECTION 81-1HB-1 and 81-1VB-1 LOCATION Colona Twp. - 11NE, SEC. , TWP. 17N, RNG. 1E

COUNTY Rock Island/Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME-45 Automatic

STRUCT. NO.
Station

BORING NO. B-2c
Station 407+80
Offset 100.00ft Lt
Ground Surface Elev. 100.1 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 93.1 ft ▼
Upon Completion 90.1 ft ▽
After Hrs. ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
-90.336112 41.484859 LOOSE light brown SANDY LOAM	98.60			13	Elev. = 579.0
LOOSE light brown fine SAND		3 3 3			
	96.60				Elev. = 577.0
LOOSE tan fine moist SAND	-5	4 4 4			
	94.10				Elev. = 574.5
VERY LOOSE tan fine SAND	▼	1 1 1			
	91.60				Elev. = 572.0
MEDIUM light gray SANDY GRAVEL	▽ -10	1 0 16			
	88.60				Elev. = 569.0
VERY DENSE gray SHALE		58 100/8"			
	86.60				Elev. = 567.0
End of Boring	-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)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - JOH	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - JOH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS
S.N. 037-1129
SHEET NO. 5 OF 5 SHEETS

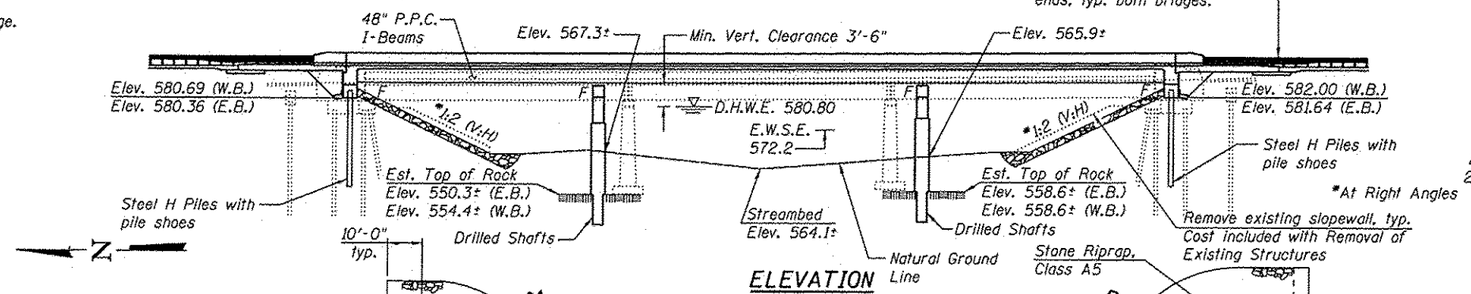
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	(37-1)BY	HENRY	430	233
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

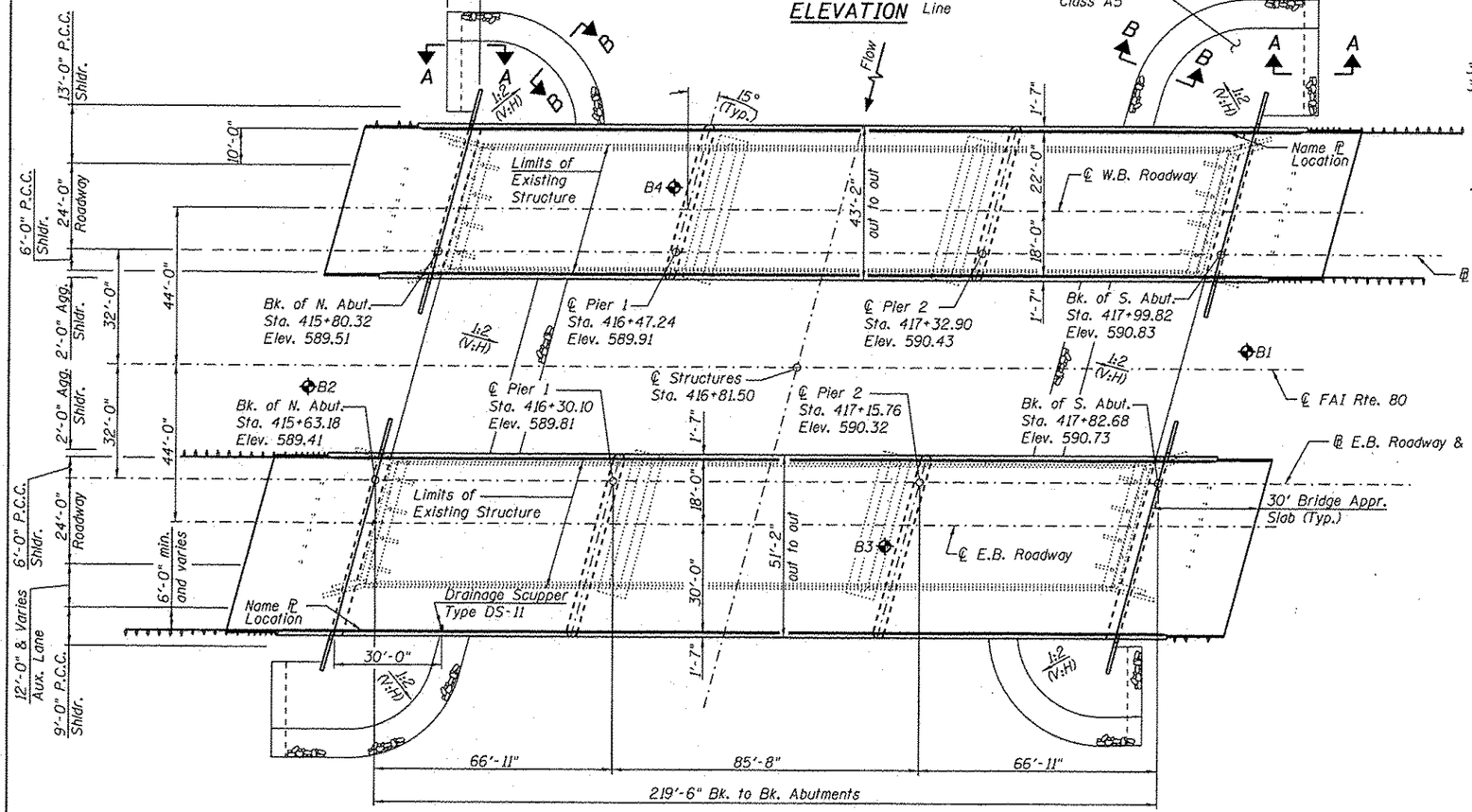
V:\3369\Final Structure Sheets from Jacksonville\Hennepin Canal Culvert Extension\0371129-64B78-005 SOIL BORINGS.dgn

Bench Mark: Chiseled square on southeast parapet wall of SN 037-0025. Elev. 589.855

Existing Structures: S.N. 037-0025 (E.B.) & S.N. 037-0026 (W.B.) was built in 1965 as F.A.I Route 80, Section 37-1B-1 at Station 416+78.30. The existing dual structures are 3-span with PPC I-Beams on open abutments on steel piles and concrete piers on spread footing. 211'-10" bk. to bk. abutments, 36'-0" out to out deck with 14°-41' left ahead skew. The Contractor shall remove and replace the existing structure. Traffic shall be maintained utilizing crossovers during construction. The Westbound bridge shall be constructed first while traffic is placed on the existing Eastbound bridge.

No Salvage.





PLAN

INDEX OF SHEETS

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

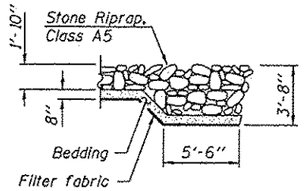
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

PRECAST PRESTRESSED UNITS

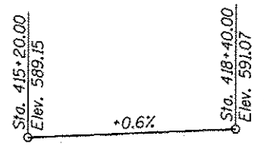
f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" ϕ low lax. strands)
fpbt = 201,960 psi (1/2" ϕ low lax. strands)

SEISMIC DATA

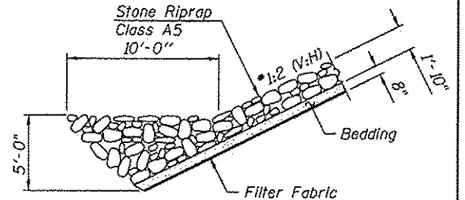
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.062 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.099 g
Soil Site Class = C



SECTION A-A

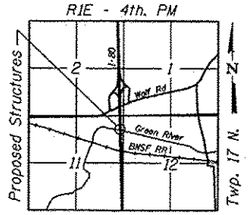


PROFILE GRADE
(Along Inside E.O.P. F.A.I. Rte. 80)



SECTION B-B

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 1060 sq. mi. Existing Low Grade Elev. 586.67 @ Sta. 415+46 Proposed Low Grade Elev. 591.14 @ Sta. 415+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Not. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	10508	2109	2215	580.1	0.8	0.8	580.9	580.9
Design	50	13368	2237	2350	580.8	0.7	0.7	581.5	581.5
Base	100	14524	2292	2408	581.1	0.7	0.7	581.8	581.8
Max. Calc.	500	16732	2366	2486	581.5	0.7	0.6	582.2	582.1

10 Year Velocity through Exist. Bridge = 3.26 fps 10 Year Velocity through Prop. Bridge = 3.10 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)					
N. Abut. (E.B.)	N. Abut. (W.B.)	Pier 1	Pier 2	S. Abut. (E.B.)	S. Abut. (W.B.)
580.36	580.69	560.2	560.0	581.64	582.00

LICENSED STRUCTURAL ENGINEER ★ LYNN M. STOCK 081-006848 N. AURORA ★ STATE OF ILLINOIS

3/11/15
Date

Lynn M. Stock
Licensed Structural Engineer
State of Illinois No. 081-006848
Expires 11/30/2016

GENERAL PLAN & ELEVATION
I-80 OVER GREEN RIVER
FAI RTE 80 SECTION 37-1BR-1
HENRY COUNTY
STATION 416+81.50
S.N. 037-0179 (E.B.) S.N. 037-0180 (W.B.)

LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois	USER NAME =	DESIGNED - PSS	REVISED -
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	PLOT SCALE =	DRAWN - AJF	REVISED -
	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	234
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

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

Seal coat thickness design is based on the Estimated Water Surface Elevation (EWSE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

STATION 416+81.50
BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. 37-1BR-1
LOADING HL-93
STRUCTURE NO. 037-0180

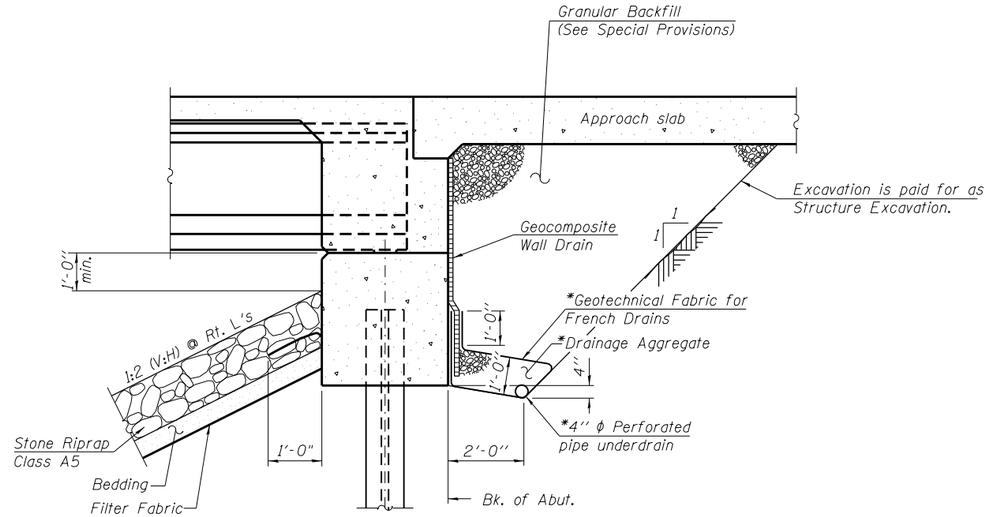
NAME PLATE - W.B.
See Std. 515001

STATION 416+81.50
BUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 80 SEC. 37-1BR-1
LOADING HL-93
STRUCTURE NO. 037-0179

NAME PLATE - E.B.
See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.	-	1,787	1,787
Filter Fabric	Sq. Yd.	-	1,787	1,787
Removal of Existing Structures No. 5	Each	1	-	1
Removal of Existing Structures No. 6	Each	1	-	1
Structure Excavation	Cu. Yd.	-	638	638
Cofferdam Excavation	Cu. Yd.	-	572	572
Cofferdam (Type 2) (Location-1)	Each	-	1	1
Cofferdam (Type 2) (Location-2)	Each	-	1	1
Cofferdam (Type 2) (Location-3)	Each	-	1	1
Cofferdam (Type 2) (Location-4)	Each	-	1	1
Concrete Structures	Cu. Yd.	-	1,608.1	1,608.1
Concrete Superstructure	Cu. Yd.	1,053.1	-	1,053.1
Bridge Deck Grooving	Sq. Yd.	2,590	-	2,590
Seal Coat Concrete	Cu. Yd.	-	352.2	352.2
Protective Coat	Sq. Yd.	3,140	-	3,140
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48 in.	Foot	2,792	-	2,792
Reinforcement Bars	Pound	-	66,340	66,340
Reinforcement Bars, Epoxy Coated	Pound	235,010	84,820	319,830
Bar Splicers	Each	-	328	328
Furnishing Steel Piles HP14x89	Foot	-	731	731
Driving Piles	Foot	-	731	731
Test Pile Steel HP14x89	Each	-	4	4
Pile Shoes	Each	-	26	26
Name Plates	Each	2	-	2
Drilled Shaft in Soil	Cu. Yd.	-	93.2	93.2
Drilled Shaft in Rock	Cu. Yd.	-	123.6	123.6
Anchor Bolts, $1\frac{1}{2}$"	Each	16	-	16
Geocomposite Wall Drain	Sq. Yd.	-	105	105
Granular Backfill for Structures	Cu. Yd.	-	503	503
Drainage Scuppers, DS-11	Each	1	-	1
Pipe Underdrains for Structures 4"	Foot	-	243	243

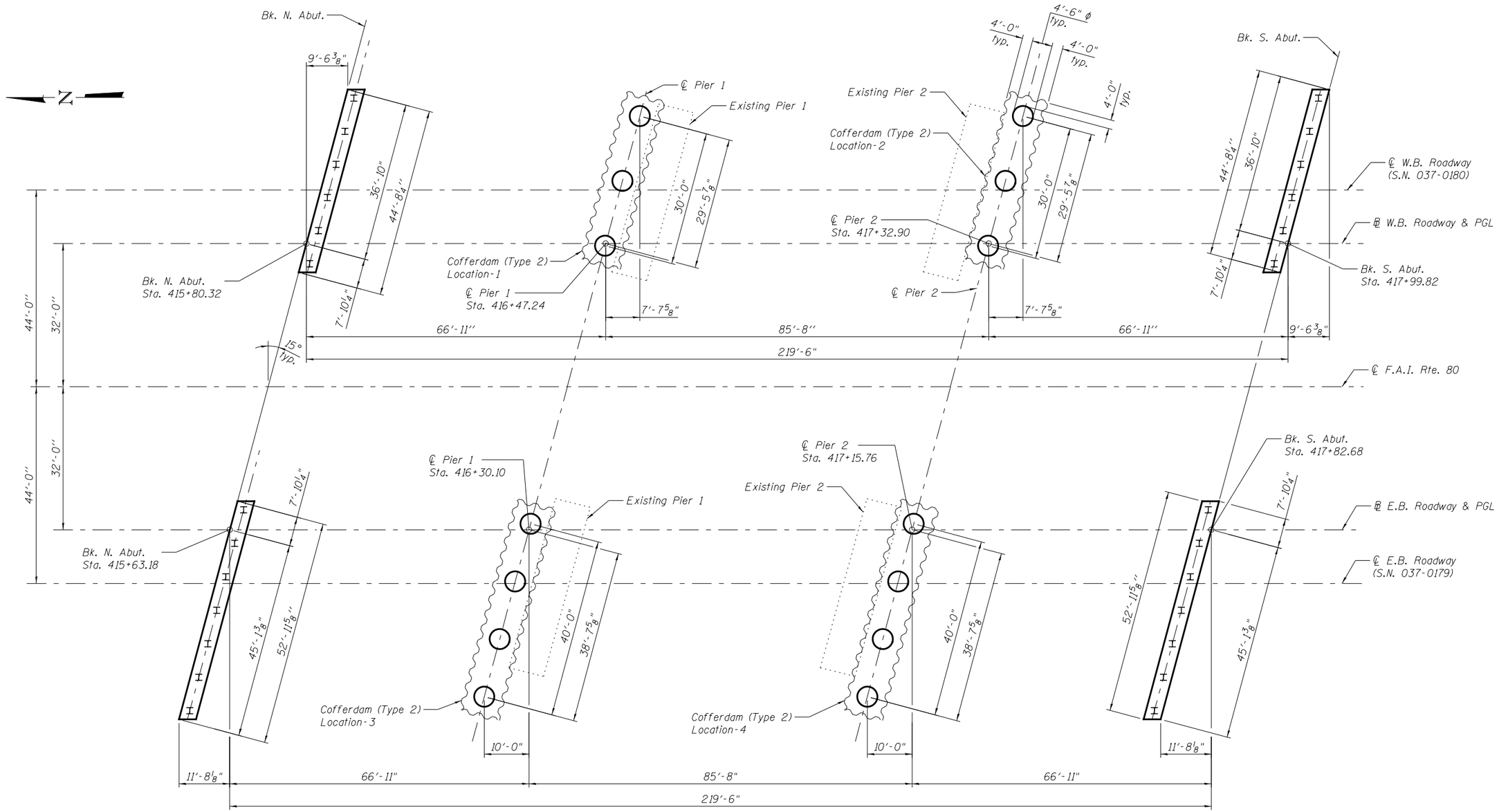


SECTION THRU INTEGRAL ABUTMENT

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

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

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



FOOTING LAYOUT

Legend

- H-Piles
- Drilled Shafts
- Cofferdam Limits

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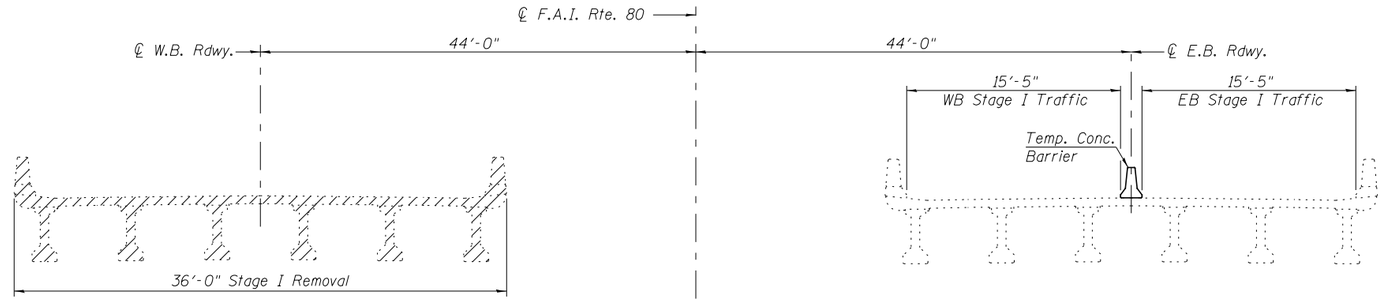
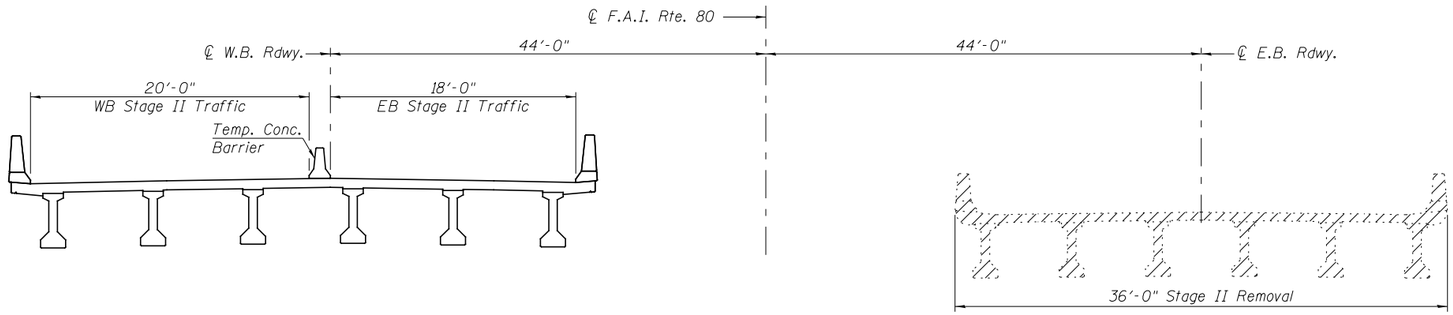
	FILE NAME =	CHECKED - LMS	REVISED -			80	37-1BR-1	HENRY	430	236
	PLOT SCALE =	DRAWN - AJF	REVISED -						CONTRACT NO. 64B78	
	PLOT DATE =	CHECKED - LMS	REVISED -		SHEET NO. 3 OF 43 SHEETS			ILLINOIS	FED. AID PROJECT	



STAGE I REMOVAL & TRAFFIC

(Looking South)

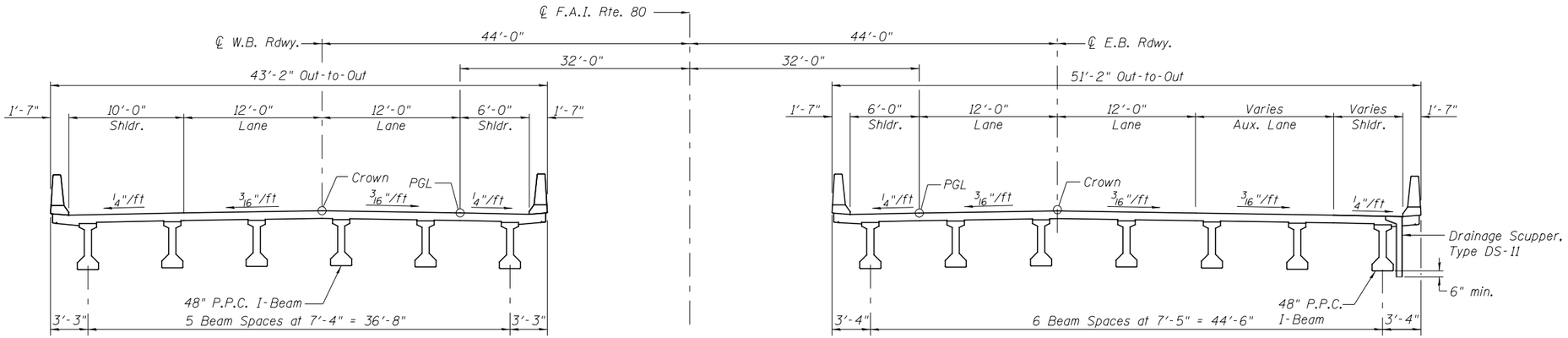


STAGE II REMOVAL & TRAFFIC

(Looking South)

STAGE II REMOVAL & TRAFFIC

(Looking South)



PROPOSED STRUCTURE CROSS SECTION

(Looking South)

Notes:
Hatched areas indicate removal of existing structures.
See Roadway plans for quantity of Temporary Concrete Barrier.

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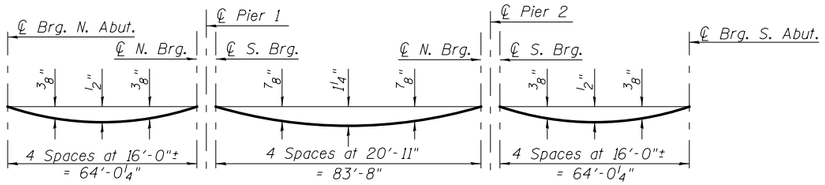
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE TRAFFIC DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 4 OF 43 SHEETS

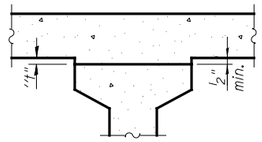
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	237
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



DEAD LOAD DEFLECTION DIAGRAM

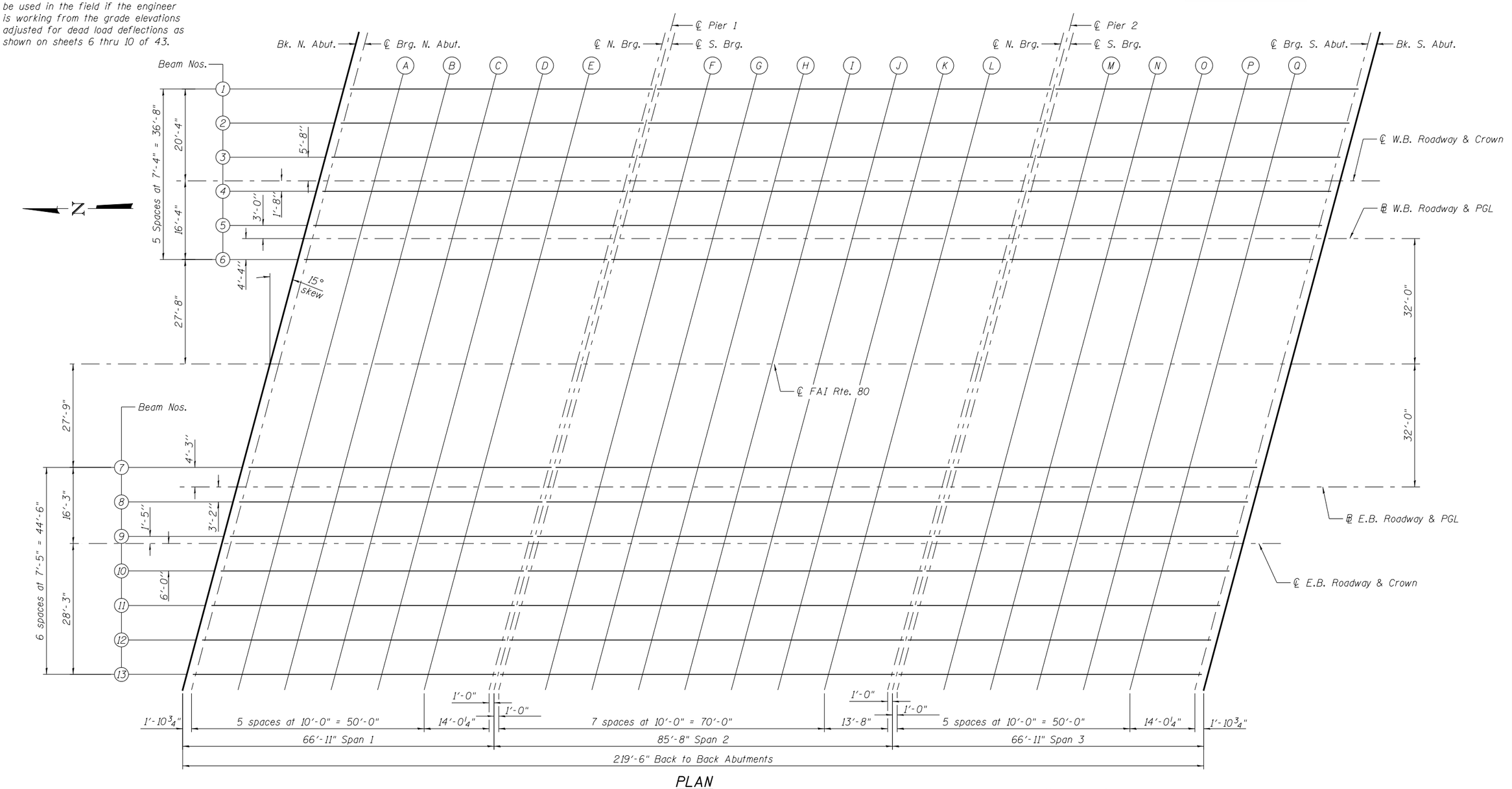
(Includes weight of concrete, excluding beams)

Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6 thru 10 of 43.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown on sheets 6 thru 10 of 43, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS



PLAN

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	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 5 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	238
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+88.98	- 32.33	589.39	589.39
℄ Brg. N. Abut.	415+90.88	- 32.33	589.40	589.40
A	416+00.88	- 32.33	589.46	589.48
B	416+10.88	- 32.33	589.52	589.55
C	416+20.88	- 32.33	589.58	589.62
D	416+30.88	- 32.33	589.64	589.67
E	416+40.88	- 32.33	589.70	589.72
℄ N. Brg.	416+54.90	- 32.33	589.79	589.79
℄ Pier 1	416+55.90	- 32.33	589.79	589.79
℄ S. Brg.	416+56.90	- 32.33	589.80	589.80
F	416+66.90	- 32.33	589.86	589.90
G	416+76.90	- 32.33	589.92	589.99
H	416+86.90	- 32.33	589.98	590.07
I	416+96.90	- 32.33	590.04	590.14
J	417+06.90	- 32.33	590.10	590.19
K	417+16.90	- 32.33	590.16	590.24
L	417+26.90	- 32.33	590.22	590.27
℄ N. Brg.	417+40.57	- 32.33	590.30	590.30
℄ Pier 2	417+41.57	- 32.33	590.31	590.31
℄ S. Brg.	417+42.57	- 32.33	590.31	590.31
M	417+52.57	- 32.33	590.37	590.39
N	417+62.57	- 32.33	590.43	590.46
O	417+72.57	- 32.33	590.49	590.53
P	417+82.57	- 32.33	590.55	590.58
Q	417+92.57	- 32.33	590.61	590.63
℄ Brg. S. Abut.	418+06.59	- 32.33	590.70	590.70
Bk. S. Abut.	418+08.48	- 32.33	590.71	590.71

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+87.02	- 25.00	589.53	589.53
℄ Brg. N. Abut.	415+88.92	- 25.00	589.54	589.54
A	415+98.92	- 25.00	589.60	589.62
B	416+08.92	- 25.00	589.66	589.69
C	416+18.92	- 25.00	589.72	589.76
D	416+28.92	- 25.00	589.78	589.82
E	416+38.92	- 25.00	589.84	589.87
℄ N. Brg.	416+52.94	- 25.00	589.93	589.93
℄ Pier 1	416+53.94	- 25.00	589.93	589.93
℄ S. Brg.	416+54.94	- 25.00	589.94	589.94
F	416+64.94	- 25.00	590.00	590.04
G	416+74.94	- 25.00	590.06	590.13
H	416+84.94	- 25.00	590.12	590.21
I	416+94.94	- 25.00	590.18	590.28
J	417+04.94	- 25.00	590.24	590.34
K	417+14.94	- 25.00	590.30	590.38
L	417+24.94	- 25.00	590.36	590.41
℄ N. Brg.	417+38.60	- 25.00	590.44	590.44
℄ Pier 2	417+39.60	- 25.00	590.45	590.45
℄ S. Brg.	417+40.60	- 25.00	590.45	590.45
M	417+50.60	- 25.00	590.51	590.53
N	417+60.60	- 25.00	590.57	590.60
O	417+70.60	- 25.00	590.63	590.67
P	417+80.60	- 25.00	590.69	590.73
Q	417+90.60	- 25.00	590.75	590.78
℄ Brg. S. Abut.	418+04.62	- 25.00	590.84	590.84
Bk. S. Abut.	418+06.52	- 25.00	590.85	590.85

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+85.05	- 17.67	589.64	589.64
℄ Brg. N. Abut.	415+86.95	- 17.67	589.65	589.65
A	415+96.95	- 17.67	589.71	589.73
B	416+06.95	- 17.67	589.77	589.80
C	416+16.95	- 17.67	589.83	589.87
D	416+26.95	- 17.67	589.89	589.92
E	416+36.95	- 17.67	589.95	589.97
℄ N. Brg.	416+50.97	- 17.67	590.03	590.03
℄ Pier 1	416+51.97	- 17.67	590.04	590.04
℄ S. Brg.	416+52.97	- 17.67	590.05	590.05
F	416+62.97	- 17.67	590.11	590.15
G	416+72.97	- 17.67	590.17	590.24
H	416+82.97	- 17.67	590.23	590.32
I	416+92.97	- 17.67	590.29	590.39
J	417+02.97	- 17.67	590.35	590.45
K	417+12.97	- 17.67	590.41	590.49
L	417+22.97	- 17.67	590.47	590.52
℄ N. Brg.	417+36.64	- 17.67	590.55	590.55
℄ Pier 2	417+37.64	- 17.67	590.55	590.55
℄ S. Brg.	417+38.64	- 17.67	590.56	590.56
M	417+48.64	- 17.67	590.62	590.64
N	417+58.64	- 17.67	590.68	590.71
O	417+68.64	- 17.67	590.74	590.78
P	417+78.64	- 17.67	590.80	590.83
Q	417+88.64	- 17.67	590.86	590.88
℄ Brg. S. Abut.	418+02.66	- 17.67	590.94	590.94
Bk. S. Abut.	418+04.55	- 17.67	590.96	590.96

℄ W.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+83.54	- 12.00	589.72	589.72
℄ Brg. N. Abut.	415+85.43	- 12.00	589.73	589.73
A	415+95.43	- 12.00	589.79	589.81
B	416+05.43	- 12.00	589.85	589.88
C	416+15.43	- 12.00	589.91	589.95
D	416+25.43	- 12.00	589.97	590.00
E	416+35.43	- 12.00	590.03	590.05
℄ N. Brg.	416+49.45	- 12.00	590.11	590.11
℄ Pier 1	416+50.45	- 12.00	590.12	590.12
℄ S. Brg.	416+51.45	- 12.00	590.13	590.13
F	416+61.45	- 12.00	590.19	590.23
G	416+71.45	- 12.00	590.25	590.32
H	416+81.45	- 12.00	590.31	590.40
I	416+91.45	- 12.00	590.37	590.47
J	417+01.45	- 12.00	590.43	590.53
K	417+11.45	- 12.00	590.49	590.57
L	417+21.45	- 12.00	590.55	590.60
℄ N. Brg.	417+35.12	- 12.00	590.63	590.63
℄ Pier 2	417+36.12	- 12.00	590.63	590.63
℄ S. Brg.	417+37.12	- 12.00	590.64	590.64
M	417+47.12	- 12.00	590.70	590.72
N	417+57.12	- 12.00	590.76	590.79
O	417+67.12	- 12.00	590.82	590.86
P	417+77.12	- 12.00	590.88	590.91
Q	417+87.12	- 12.00	590.94	590.96
℄ Brg. S. Abut.	418+01.14	- 12.00	591.02	591.02
Bk. S. Abut.	418+03.04	- 12.00	591.04	591.04

Note:
Offsets are measured from ℄ W.B. Roadway & PGL.

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Consulting Engineers
Westmont, Illinois

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FILE NAME =	CHECKED - LMS	REVISED -
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 6 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	239
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+83.09	- 10.33	589.69	589.69
℄ Brg. N. Abut.	415+84.99	- 10.33	589.70	589.70
A	415+94.99	- 10.33	589.76	589.78
B	416+04.99	- 10.33	589.82	589.85
C	416+14.99	- 10.33	589.88	589.92
D	416+24.99	- 10.33	589.94	589.98
E	416+34.99	- 10.33	590.00	590.02
℄ N. Brg.	416+49.01	- 10.33	590.09	590.09
℄ Pier 1	416+50.01	- 10.33	590.09	590.09
℄ S. Brg.	416+51.01	- 10.33	590.10	590.10
F	416+61.01	- 10.33	590.16	590.20
G	416+71.01	- 10.33	590.22	590.29
H	416+81.01	- 10.33	590.28	590.37
I	416+91.01	- 10.33	590.34	590.44
J	417+01.01	- 10.33	590.40	590.50
K	417+11.01	- 10.33	590.46	590.54
L	417+21.01	- 10.33	590.52	590.57
℄ N. Brg.	417+34.67	- 10.33	590.60	590.60
℄ Pier 2	417+35.67	- 10.33	590.61	590.61
℄ S. Brg.	417+36.67	- 10.33	590.61	590.61
M	417+46.67	- 10.33	590.67	590.69
N	417+56.67	- 10.33	590.73	590.76
O	417+66.67	- 10.33	590.79	590.83
P	417+76.67	- 10.33	590.85	590.89
Q	417+86.67	- 10.33	590.91	590.93
℄ Brg. S. Abut.	418+00.69	- 10.33	591.00	591.00
Bk. S. Abut.	418+02.59	- 10.33	591.01	591.01

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+81.12	- 3.00	589.56	589.56
℄ Brg. N. Abut.	415+83.02	- 3.00	589.58	589.58
A	415+93.02	- 3.00	589.64	589.65
B	416+03.02	- 3.00	589.70	589.73
C	416+13.02	- 3.00	589.76	589.79
D	416+23.02	- 3.00	589.82	589.85
E	416+33.02	- 3.00	589.88	589.90
℄ N. Brg.	416+47.04	- 3.00	589.96	589.96
℄ Pier 1	416+48.04	- 3.00	589.97	589.97
℄ S. Brg.	416+49.04	- 3.00	589.97	589.97
F	416+59.04	- 3.00	590.03	590.07
G	416+69.04	- 3.00	590.09	590.16
H	416+79.04	- 3.00	590.15	590.25
I	416+89.04	- 3.00	590.21	590.32
J	416+99.04	- 3.00	590.27	590.37
K	417+09.04	- 3.00	590.33	590.41
L	417+19.04	- 3.00	590.39	590.44
℄ N. Brg.	417+32.71	- 3.00	590.47	590.47
℄ Pier 2	417+33.71	- 3.00	590.48	590.48
℄ S. Brg.	417+34.71	- 3.00	590.49	590.49
M	417+44.71	- 3.00	590.55	590.56
N	417+54.71	- 3.00	590.61	590.64
O	417+64.71	- 3.00	590.67	590.70
P	417+74.71	- 3.00	590.73	590.76
Q	417+84.71	- 3.00	590.79	590.81
℄ Brg. S. Abut.	417+98.73	- 3.00	590.87	590.87
Bk. S. Abut.	418+00.62	- 3.00	590.88	590.88

℄ W.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+80.32	0.00	589.51	589.51
℄ Brg. N. Abut.	415+82.22	0.00	589.52	589.52
A	415+92.22	0.00	589.58	589.60
B	416+02.22	0.00	589.64	589.67
C	416+12.22	0.00	589.70	589.74
D	416+22.22	0.00	589.76	589.80
E	416+32.22	0.00	589.82	589.85
℄ N. Brg.	416+46.24	0.00	589.91	589.91
℄ Pier 1	416+47.24	0.00	589.91	589.91
℄ S. Brg.	416+48.24	0.00	589.92	589.92
F	416+58.24	0.00	589.98	590.02
G	416+68.24	0.00	590.04	590.11
H	416+78.24	0.00	590.10	590.19
I	416+88.24	0.00	590.16	590.26
J	416+98.24	0.00	590.22	590.32
K	417+08.24	0.00	590.28	590.36
L	417+18.24	0.00	590.34	590.39
℄ N. Brg.	417+31.90	0.00	590.42	590.42
℄ Pier 2	417+32.90	0.00	590.43	590.43
℄ S. Brg.	417+33.90	0.00	590.43	590.43
M	417+43.90	0.00	590.49	590.51
N	417+53.90	0.00	590.55	590.58
O	417+63.90	0.00	590.61	590.65
P	417+73.90	0.00	590.67	590.71
Q	417+83.90	0.00	590.73	590.76
℄ Brg. S. Abut.	417+97.92	0.00	590.82	590.82
Bk. S. Abut.	417+99.82	0.00	590.83	590.83

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+79.16	4.33	589.41	589.41
℄ Brg. N. Abut.	415+81.06	4.33	589.43	589.43
A	415+91.06	4.33	589.49	589.50
B	416+01.06	4.33	589.55	589.58
C	416+11.06	4.33	589.61	589.64
D	416+21.06	4.33	589.67	589.70
E	416+31.06	4.33	589.73	589.75
℄ N. Brg.	416+45.08	4.33	589.81	589.81
℄ Pier 1	416+46.08	4.33	589.82	589.82
℄ S. Brg.	416+47.08	4.33	589.82	589.82
F	416+57.08	4.33	589.88	589.92
G	416+67.08	4.33	589.94	590.01
H	416+77.08	4.33	590.00	590.09
I	416+87.08	4.33	590.06	590.16
J	416+97.08	4.33	590.12	590.22
K	417+07.08	4.33	590.18	590.26
L	417+17.08	4.33	590.24	590.29
℄ N. Brg.	417+30.74	4.33	590.32	590.32
℄ Pier 2	417+31.74	4.33	590.33	590.33
℄ S. Brg.	417+32.74	4.33	590.34	590.34
M	417+42.74	4.33	590.40	590.41
N	417+52.74	4.33	590.46	590.49
O	417+62.74	4.33	590.52	590.55
P	417+72.74	4.33	590.58	590.61
Q	417+82.74	4.33	590.64	590.66
℄ Brg. S. Abut.	417+96.76	4.33	590.72	590.72
Bk. S. Abut.	417+98.66	4.33	590.73	590.73

Note:
Offsets are measured from ℄ W.B. Roadway & PGL.

LIN ENGINEERING,LTD.
Consulting Engineers
Westmont, Illinois

USER NAME =	DESIGNED - PSS	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 7 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	240
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+64.32	-4.25	589.33	589.33
℄ Brg. N. Abut.	415+66.22	-4.25	589.34	589.34
A	415+76.22	-4.25	589.40	589.42
B	415+86.22	-4.25	589.46	589.49
C	415+96.22	-4.25	589.52	589.55
D	416+06.22	-4.25	589.58	589.61
E	416+16.22	-4.25	589.64	589.66
℄ N. Brg.	416+30.24	-4.25	589.72	589.72
℄ Pier 1	416+31.24	-4.25	589.73	589.73
℄ S. Brg.	416+32.24	-4.25	589.73	589.73
F	416+42.24	-4.25	589.79	589.83
G	416+52.24	-4.25	589.85	589.92
H	416+62.24	-4.25	589.91	590.01
I	416+72.24	-4.25	589.97	590.08
J	416+82.24	-4.25	590.03	590.13
K	416+92.24	-4.25	590.09	590.17
L	417+02.24	-4.25	590.15	590.21
℄ N. Brg.	417+15.90	-4.25	590.24	590.24
℄ Pier 2	417+16.90	-4.25	590.24	590.24
℄ S. Brg.	417+17.90	-4.25	590.25	590.25
M	417+27.90	-4.25	590.31	590.33
N	417+37.90	-4.25	590.37	590.40
O	417+47.90	-4.25	590.43	590.46
P	417+57.90	-4.25	590.49	590.52
Q	417+67.90	-4.25	590.55	590.57
℄ Brg. S. Abut.	417+81.92	-4.25	590.63	590.63
Bk. S. Abut.	417+83.82	-4.25	590.64	590.64

℄ E.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+63.18	0.00	589.41	589.41
℄ Brg. N. Abut.	415+65.08	0.00	589.42	589.42
A	415+75.08	0.00	589.48	589.50
B	415+85.08	0.00	589.54	589.57
C	415+95.08	0.00	589.60	589.64
D	416+05.08	0.00	589.66	589.69
E	416+15.08	0.00	589.72	589.74
℄ N. Brg.	416+29.10	0.00	589.80	589.80
℄ Pier 1	416+30.10	0.00	589.81	589.81
℄ S. Brg.	416+31.10	0.00	589.82	589.82
F	416+41.10	0.00	589.88	589.92
G	416+51.10	0.00	589.94	590.01
H	416+61.10	0.00	590.00	590.09
I	416+71.10	0.00	590.06	590.16
J	416+81.10	0.00	590.12	590.22
K	416+91.10	0.00	590.18	590.26
L	417+01.10	0.00	590.24	590.29
℄ N. Brg.	417+14.76	0.00	590.32	590.32
℄ Pier 2	417+15.76	0.00	590.32	590.32
℄ S. Brg.	417+16.76	0.00	590.33	590.33
M	417+26.76	0.00	590.39	590.41
N	417+36.76	0.00	590.45	590.48
O	417+46.76	0.00	590.51	590.55
P	417+56.76	0.00	590.57	590.60
Q	417+66.76	0.00	590.63	590.65
℄ Brg. S. Abut.	417+80.78	0.00	590.71	590.71
Bk. S. Abut.	417+82.68	0.00	590.73	590.73

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+62.33	3.17	589.45	589.45
℄ Brg. N. Abut.	415+64.23	3.17	589.46	589.46
A	415+74.23	3.17	589.52	589.54
B	415+84.23	3.17	589.58	589.62
C	415+94.23	3.17	589.64	589.68
D	416+04.23	3.17	589.70	589.74
E	416+14.23	3.17	589.76	589.79
℄ N. Brg.	416+28.25	3.17	589.85	589.85
℄ Pier 1	416+29.25	3.17	589.85	589.85
℄ S. Brg.	416+30.25	3.17	589.86	589.86
F	416+40.25	3.17	589.92	589.96
G	416+50.25	3.17	589.98	590.05
H	416+60.25	3.17	590.04	590.14
I	416+70.25	3.17	590.10	590.21
J	416+80.25	3.17	590.16	590.26
K	416+90.25	3.17	590.22	590.30
L	417+00.25	3.17	590.28	590.33
℄ N. Brg.	417+13.91	3.17	590.36	590.36
℄ Pier 2	417+14.91	3.17	590.37	590.37
℄ S. Brg.	417+15.91	3.17	590.37	590.37
M	417+25.91	3.17	590.43	590.45
N	417+35.91	3.17	590.49	590.53
O	417+45.91	3.17	590.55	590.59
P	417+55.91	3.17	590.61	590.65
Q	417+65.91	3.17	590.67	590.70
℄ Brg. S. Abut.	417+79.93	3.17	590.76	590.76
Bk. S. Abut.	417+81.83	3.17	590.77	590.77

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+60.34	10.58	589.56	589.56
℄ Brg. N. Abut.	415+62.24	10.58	589.57	589.57
A	415+72.24	10.58	589.63	589.65
B	415+82.24	10.58	589.69	589.72
C	415+92.24	10.58	589.75	589.79
D	416+02.24	10.58	589.81	589.84
E	416+12.24	10.58	589.87	589.89
℄ N. Brg.	416+26.26	10.58	589.95	589.95
℄ Pier 1	416+27.26	10.58	589.96	589.96
℄ S. Brg.	416+28.26	10.58	589.96	589.96
F	416+38.26	10.58	590.02	590.07
G	416+48.26	10.58	590.08	590.16
H	416+58.26	10.58	590.14	590.24
I	416+68.26	10.58	590.20	590.31
J	416+78.26	10.58	590.26	590.37
K	416+88.26	10.58	590.32	590.41
L	416+98.26	10.58	590.38	590.44
℄ N. Brg.	417+11.93	10.58	590.47	590.47
℄ Pier 2	417+12.93	10.58	590.47	590.47
℄ S. Brg.	417+13.93	10.58	590.48	590.48
M	417+23.93	10.58	590.54	590.56
N	417+33.93	10.58	590.60	590.63
O	417+43.93	10.58	590.66	590.70
P	417+53.93	10.58	590.72	590.75
Q	417+63.93	10.58	590.78	590.80
℄ Brg. S. Abut.	417+77.95	10.58	590.86	590.86
Bk. S. Abut.	417+79.84	10.58	590.87	590.87

Note:
Offsets are measured from ℄ E.B. Roadway & PGL.

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Consulting Engineers
Westmont, Illinois

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 8 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	241
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

℄ E.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+59.96	12.00	589.58	589.58
℄ Brg. N. Abut.	415+61.86	12.00	589.59	589.59
A	415+71.86	12.00	589.65	589.67
B	415+81.86	12.00	589.71	589.74
C	415+91.86	12.00	589.77	589.81
D	416+01.86	12.00	589.83	589.86
E	416+11.86	12.00	589.89	589.91
℄ N. Brg.	416+25.88	12.00	589.97	589.97
℄ Pier 1	416+26.88	12.00	589.98	589.98
℄ S. Brg.	416+27.88	12.00	589.98	589.98
F	416+37.88	12.00	590.04	590.09
G	416+47.88	12.00	590.10	590.18
H	416+57.88	12.00	590.16	590.26
I	416+67.88	12.00	590.22	590.33
J	416+77.88	12.00	590.28	590.39
K	416+87.88	12.00	590.34	590.43
L	416+97.88	12.00	590.40	590.46
℄ N. Brg.	417+11.55	12.00	590.49	590.49
℄ Pier 2	417+12.55	12.00	590.49	590.49
℄ S. Brg.	417+13.55	12.00	590.50	590.50
M	417+23.55	12.00	590.56	590.58
N	417+33.55	12.00	590.62	590.65
O	417+43.55	12.00	590.68	590.72
P	417+53.55	12.00	590.74	590.77
Q	417+63.55	12.00	590.80	590.82
℄ Brg. S. Abut.	417+77.57	12.00	590.88	590.88
Bk. S. Abut.	417+79.46	12.00	590.89	590.89

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+58.36	18.00	589.47	589.47
℄ Brg. N. Abut.	415+60.25	18.00	589.49	589.49
A	415+70.25	18.00	589.55	589.56
B	415+80.25	18.00	589.61	589.64
C	415+90.25	18.00	589.67	589.70
D	416+00.25	18.00	589.73	589.76
E	416+10.25	18.00	589.79	589.81
℄ N. Brg.	416+24.27	18.00	589.87	589.87
℄ Pier 1	416+25.27	18.00	589.88	589.88
℄ S. Brg.	416+26.27	18.00	589.88	589.88
F	416+36.27	18.00	589.94	589.98
G	416+46.27	18.00	590.00	590.07
H	416+56.27	18.00	590.06	590.16
I	416+66.27	18.00	590.12	590.23
J	416+76.27	18.00	590.18	590.28
K	416+86.27	18.00	590.24	590.32
L	416+96.27	18.00	590.30	590.36
℄ N. Brg.	417+09.94	18.00	590.38	590.38
℄ Pier 2	417+10.94	18.00	590.39	590.39
℄ S. Brg.	417+11.94	18.00	590.40	590.40
M	417+21.94	18.00	590.46	590.47
N	417+31.94	18.00	590.52	590.55
O	417+41.94	18.00	590.58	590.61
P	417+51.94	18.00	590.64	590.67
Q	417+61.94	18.00	590.70	590.72
℄ Brg. S. Abut.	417+75.96	18.00	590.78	590.78
Bk. S. Abut.	417+77.86	18.00	590.79	590.79

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+56.37	25.42	589.35	589.35
℄ Brg. N. Abut.	415+58.27	25.42	589.36	589.36
A	415+68.27	25.42	589.42	589.44
B	415+78.27	25.42	589.48	589.51
C	415+88.27	25.42	589.54	589.57
D	415+98.27	25.42	589.60	589.63
E	416+08.27	25.42	589.66	589.68
℄ N. Brg.	416+22.29	25.42	589.74	589.74
℄ Pier 1	416+23.29	25.42	589.75	589.75
℄ S. Brg.	416+24.29	25.42	589.75	589.75
F	416+34.29	25.42	589.81	589.85
G	416+44.29	25.42	589.87	589.95
H	416+54.29	25.42	589.93	590.03
I	416+64.29	25.42	589.99	590.10
J	416+74.29	25.42	590.05	590.16
K	416+84.29	25.42	590.11	590.20
L	416+94.29	25.42	590.17	590.23
℄ N. Brg.	417+07.95	25.42	590.26	590.26
℄ Pier 2	417+08.95	25.42	590.26	590.26
℄ S. Brg.	417+09.95	25.42	590.27	590.27
M	417+19.95	25.42	590.33	590.35
N	417+29.95	25.42	590.39	590.42
O	417+39.95	25.42	590.45	590.48
P	417+49.95	25.42	590.51	590.54
Q	417+59.95	25.42	590.57	590.59
℄ Brg. S. Abut.	417+73.97	25.42	590.65	590.65
Bk. S. Abut.	417+75.87	25.42	590.66	590.66

Note:
Offsets are measured from ℄ E.B. Roadway & PGL.

LIN ENGINEERING,LTD.
Consulting Engineers
Westmont, Illinois

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 9 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	242
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+54.38	32.83	589.22	589.22
℄ Brg. N. Abut.	415+56.28	32.83	589.23	589.23
A	415+66.28	32.83	589.29	589.31
B	415+76.28	32.83	589.35	589.38
C	415+86.28	32.83	589.41	589.45
D	415+96.28	32.83	589.47	589.50
E	416+06.28	32.83	589.53	589.55
℄ N. Brg.	416+20.30	32.83	589.61	589.61
℄ Pier 1	416+21.30	32.83	589.62	589.62
℄ S. Brg.	416+22.30	32.83	589.63	589.63
F	416+32.30	32.83	589.69	589.73
G	416+42.30	32.83	589.75	589.82
H	416+52.30	32.83	589.81	589.90
I	416+62.30	32.83	589.87	589.97
J	416+72.30	32.83	589.93	590.03
K	416+82.30	32.83	589.98	590.07
L	416+92.30	32.83	590.04	590.10
℄ N. Brg.	417+05.97	32.83	590.12	590.12
℄ Pier 2	417+06.97	32.83	590.13	590.13
℄ S. Brg.	417+07.97	32.83	590.14	590.14
M	417+17.97	32.83	590.19	590.21
N	417+27.97	32.83	590.25	590.28
O	417+37.97	32.83	590.31	590.35
P	417+47.97	32.83	590.37	590.41
Q	417+57.97	32.83	590.43	590.45
℄ Brg. S. Abut.	417+71.98	32.83	590.51	590.51
Bk. S. Abut.	417+73.88	32.83	590.52	590.52

BEAM 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	415+52.40	40.25	589.06	589.06
℄ Brg. N. Abut.	415+54.29	40.25	589.08	589.08
A	415+64.29	40.25	589.13	589.15
B	415+74.29	40.25	589.19	589.22
C	415+84.29	40.25	589.25	589.29
D	415+94.29	40.25	589.31	589.34
E	416+04.29	40.25	589.37	589.39
℄ N. Brg.	416+18.31	40.25	589.45	589.45
℄ Pier 1	416+19.31	40.25	589.46	589.46
℄ S. Brg.	416+20.31	40.25	589.46	589.46
F	416+30.31	40.25	589.52	589.56
G	416+40.31	40.25	589.58	589.65
H	416+50.31	40.25	589.64	589.73
I	416+60.31	40.25	589.70	589.80
J	416+70.31	40.25	589.76	589.86
K	416+80.31	40.25	589.82	589.90
L	416+90.31	40.25	589.88	589.93
℄ N. Brg.	417+03.98	40.25	589.96	589.96
℄ Pier 2	417+04.98	40.25	589.96	589.96
℄ S. Brg.	417+05.98	40.25	589.97	589.97
M	417+15.98	40.25	590.03	590.05
N	417+25.98	40.25	590.09	590.12
O	417+35.98	40.25	590.15	590.18
P	417+45.98	40.25	590.21	590.24
Q	417+55.98	40.25	590.26	590.29
℄ Brg. S. Abut.	417+70.00	40.25	590.35	590.35
Bk. S. Abut.	417+71.90	40.25	590.36	590.36

Note:
Offsets are measured from ℄ E.B. Roadway & PGL.

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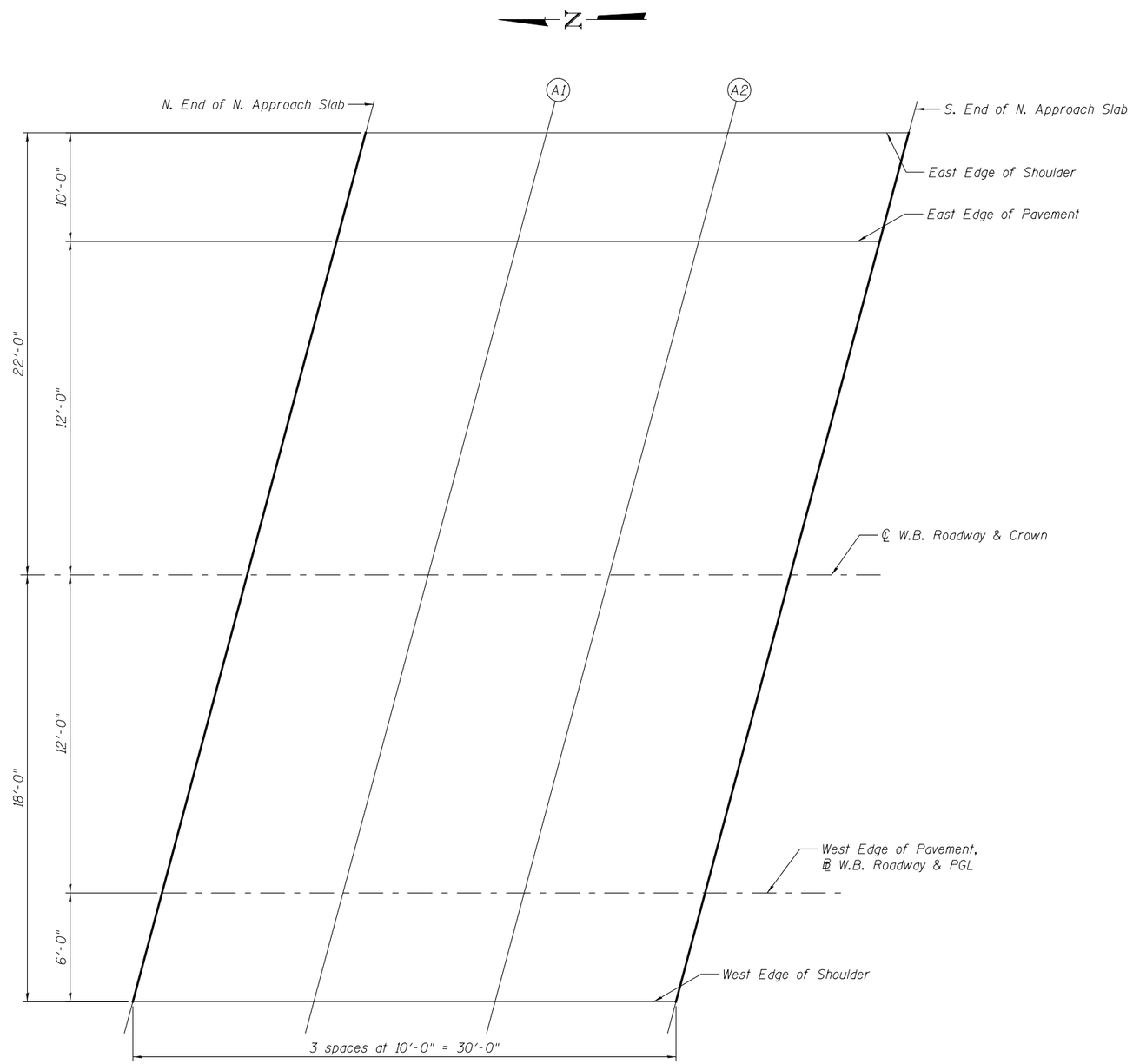
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 10 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	243
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		



PLAN
North Approach (WB)

Note:
Offsets are measured from ℄ W.B. Roadway & PGL

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+60.47	-34.00	589.18
A1	415+70.47	-34.00	589.24
A2	415+80.47	-34.00	589.30
S. End of N. Appr. Slab	415+90.47	-34.00	589.36

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+57.79	-24.00	589.38
A1	415+67.79	-24.00	589.44
A2	415+77.79	-24.00	589.50
S. End of N. Appr. Slab	415+87.79	-24.00	589.56

℄ W.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+54.57	-12.00	589.54
A1	415+64.57	-12.00	589.60
A2	415+74.57	-12.00	589.66
S. End of N. Appr. Slab	415+84.57	-12.00	589.72

WEST EDGE OF PAVEMENT, ℄ W.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+51.36	0.00	589.34
A1	415+61.36	0.00	589.40
A2	415+71.36	0.00	589.46
S. End of N. Appr. Slab	415+81.36	0.00	589.52

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+49.75	6.00	589.20
A1	415+59.75	6.00	589.26
A2	415+69.75	6.00	589.32
S. End of N. Appr. Slab	415+79.75	6.00	589.38

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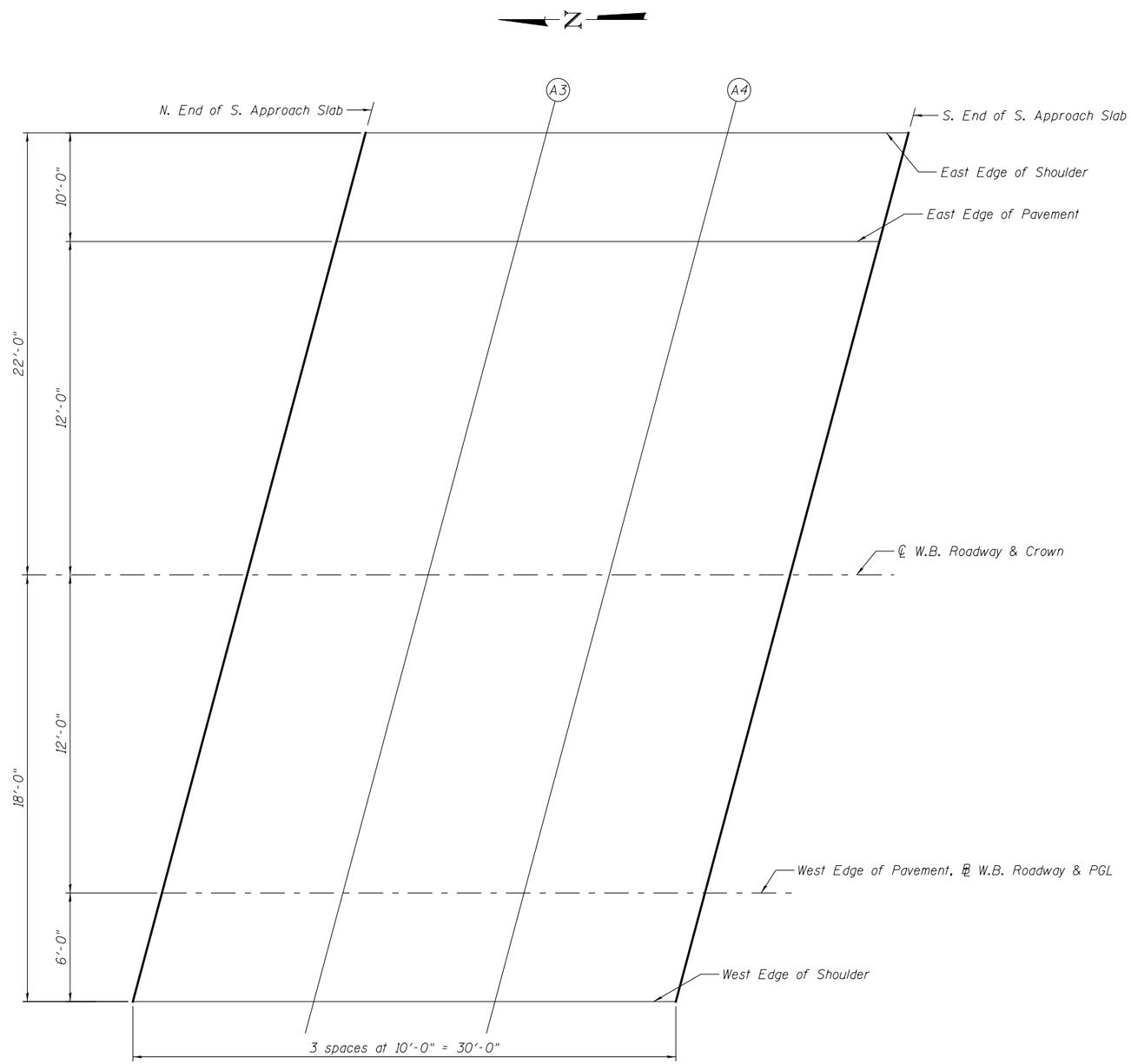
TOP OF WB APPROACH SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 11 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	244
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



PLAN
South Approach (WB)

Note:
Offsets are measured from ℄ W.B. Roadway & PGL

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	418+07.90	-34.00	590.67
A3	418+17.90	-34.00	590.73
A4	418+27.90	-34.00	590.79
S. End of S. Appr. Slab	418+37.90	-34.00	590.85

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	418+05.22	-24.00	590.86
A3	418+15.22	-24.00	590.92
A4	418+25.22	-24.00	590.98
S. End of S. Appr. Slab	418+35.22	-24.00	591.04

℄ W.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	418+02.00	-12.00	591.03
A3	418+12.00	-12.00	591.09
A4	418+22.00	-12.00	591.15
S. End of S. Appr. Slab	418+32.00	-12.00	591.21

WEST EDGE OF PAVEMENT, ℄ W.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+98.78	0.00	590.82
A3	418+08.78	0.00	590.88
A4	418+18.78	0.00	590.94
S. End of S. Appr. Slab	418+28.78	0.00	591.00

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+97.18	6.00	590.69
A3	418+07.18	6.00	590.75
A4	418+17.18	6.00	590.81
S. End of S. Appr. Slab	418+27.18	6.00	590.87

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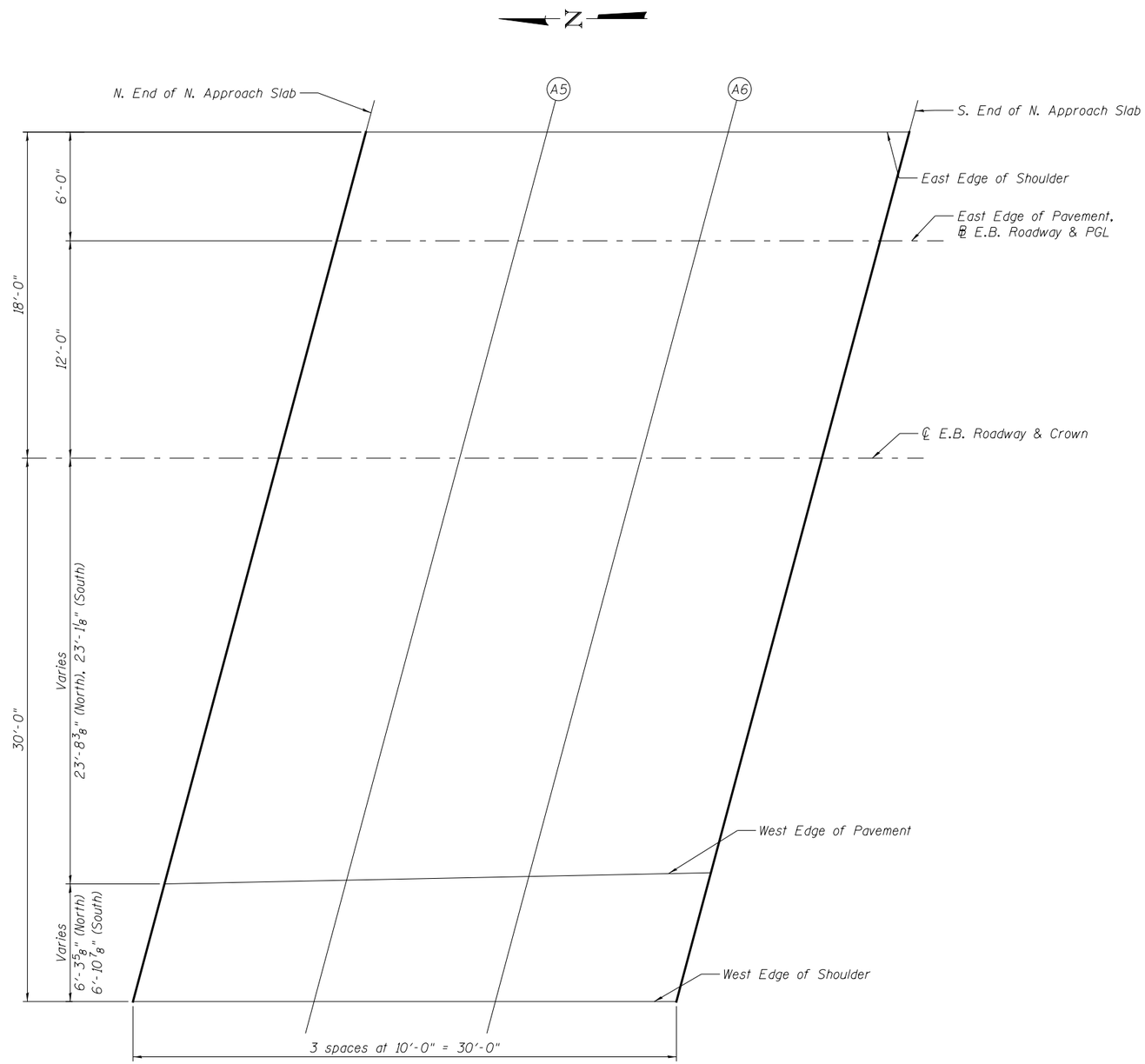
TOP OF WB APPROACH SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 12 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	245
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



PLAN
North Approach (EB)

Note:
Offsets are measured from ℄ E.B. Roadway & PGL

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+35.82	-6.00	589.12
A5	415+45.82	-6.00	589.18
A6	415+55.82	-6.00	589.24
S. End of N. Appr. Slab	415+65.82	-6.00	589.30

EAST EDGE OF PAVEMENT, ℄ E.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+34.22	0.00	589.24
A5	415+44.22	0.00	589.30
A6	415+54.22	0.00	589.36
S. End of N. Appr. Slab	415+64.22	0.00	589.42

℄ E.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+31.00	12.00	589.40
A5	415+41.00	12.00	589.46
A6	415+51.00	12.00	589.52
S. End of N. Appr. Slab	415+61.00	12.00	589.58

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+24.65	35.70	589.00
A5	415+34.70	35.50	589.06
A6	415+44.75	35.30	589.12
S. End of N. Appr. Slab	415+54.81	35.09	589.19

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	415+22.96	42.00	588.85
A5	415+32.96	42.00	588.91
A6	415+42.96	42.00	588.97
S. End of N. Appr. Slab	415+52.96	42.00	589.03

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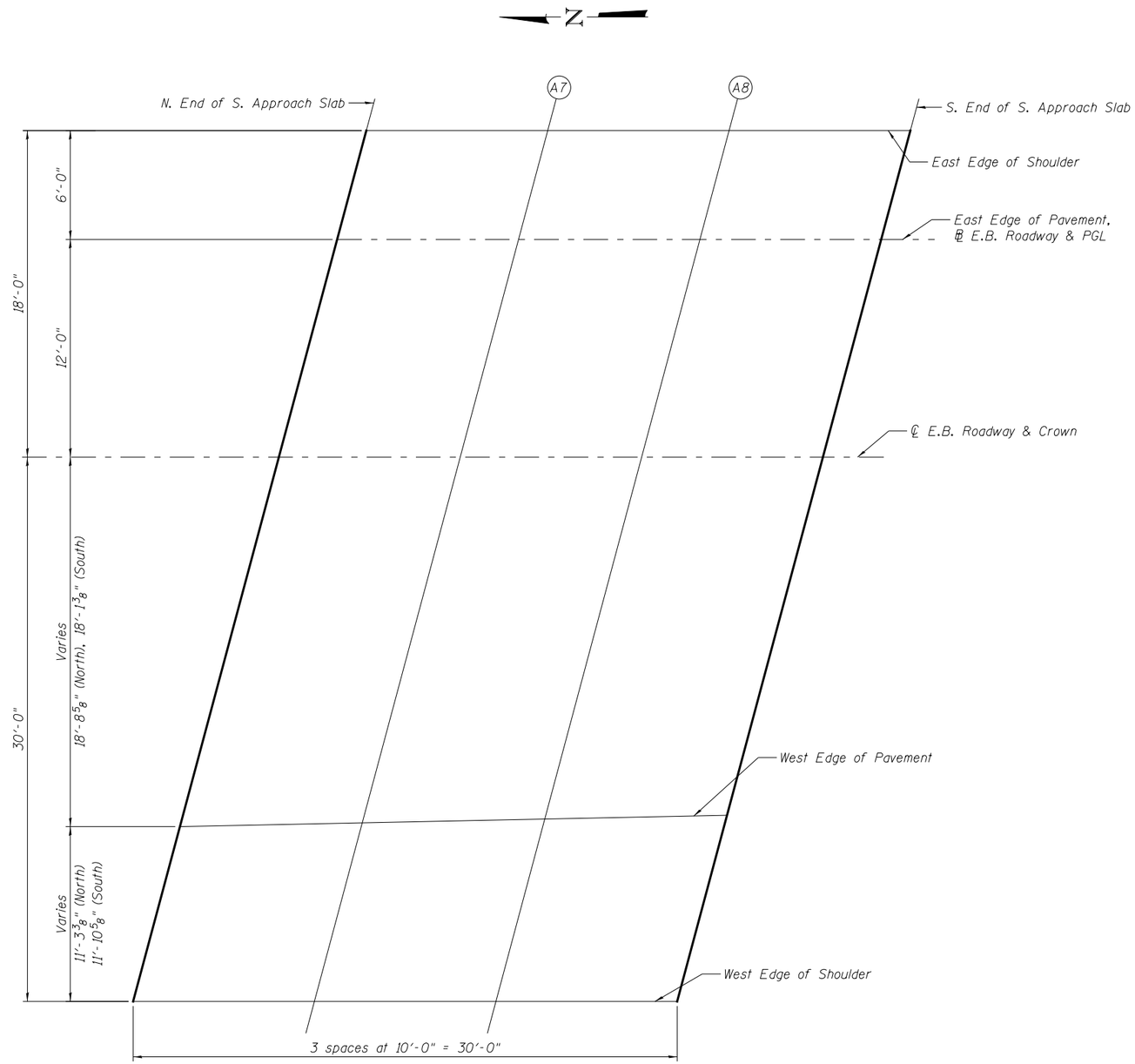
DEPARTMENT OF TRANSPORTATION

TOP OF EB APPROACH SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 13 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	246
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		



PLAN
South Approach (EB)

Note:
Offsets are measured from ℄ E.B. Roadway & PGL

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+83.25	-6.00	590.60
A7	417+93.25	-6.00	590.66
A8	418+03.25	-6.00	590.72
S. End of S. Appr. Slab	418+13.25	-6.00	590.78

EAST EDGE OF PAVEMENT, ℄ E.B. ROADWAY & PGL

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+81.64	0.00	590.72
A7	417+91.64	0.00	590.78
A8	418+01.64	0.00	590.84
S. End of S. Appr. Slab	418+11.64	0.00	590.90

℄ E.B. ROADWAY & CROWN

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+78.43	12.00	590.89
A7	417+88.43	12.00	590.95
A8	417+98.43	12.00	591.01
S. End of S. Appr. Slab	418+08.43	12.00	591.07

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+73.41	30.72	590.57
A7	417+83.47	30.52	590.63
A8	417+93.52	30.32	590.69
S. End of S. Appr. Slab	418+03.57	30.12	590.76

WEST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	417+70.39	42.00	590.31
A7	417+80.39	42.00	590.37
A8	417+90.39	42.00	590.43
S. End of S. Appr. Slab	418+00.39	42.00	590.49

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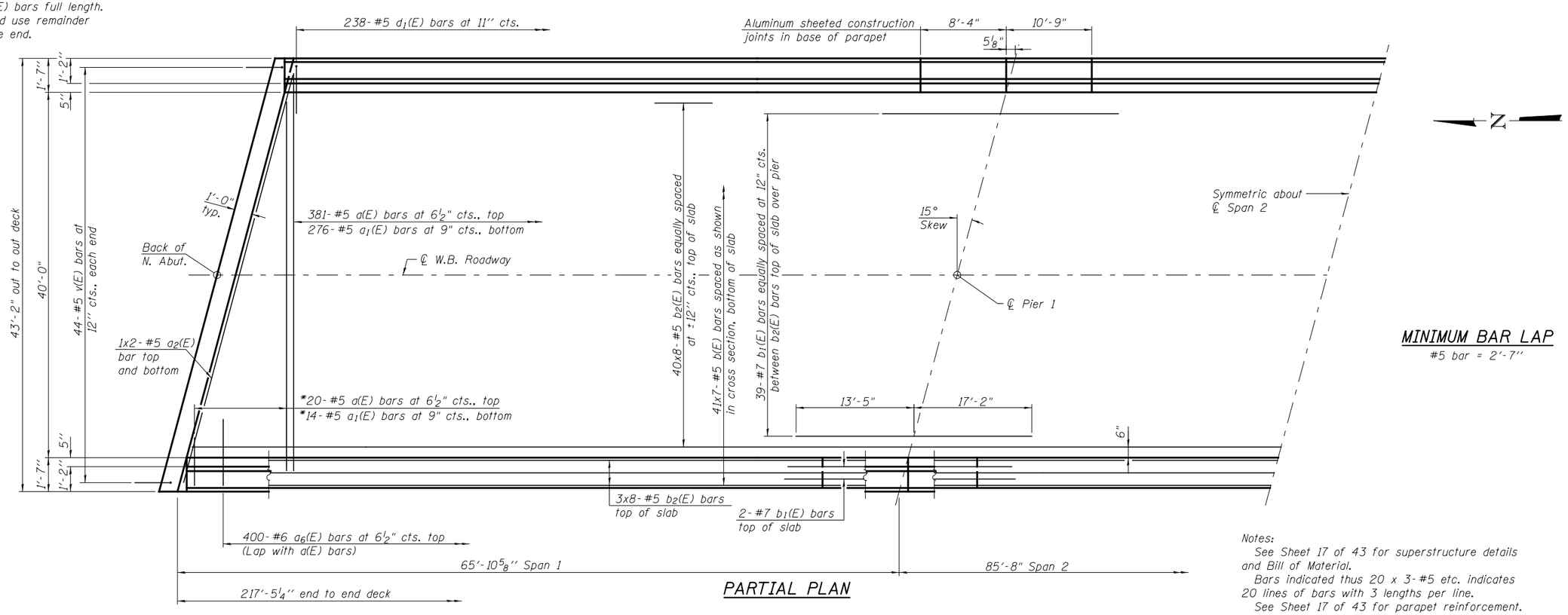
TOP OF EB APPROACH SLAB ELEVATIONS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 14 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	247
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

*Order a(E) & a_1(E) bars full length.
Cut to fit skew and use remainder
of bars in opposite end.

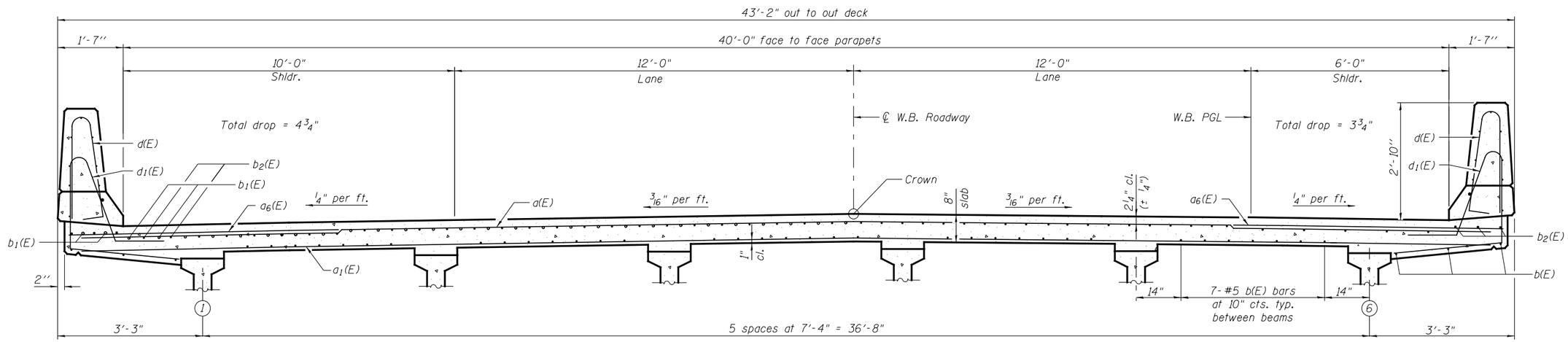


PARTIAL PLAN

MINIMUM BAR LAP

#5 bar = 2'-7"

Notes:
See Sheet 17 of 43 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 17 of 43 for parapet reinforcement.



NEAR PIER NEAR MIDSPAN

CROSS SECTION

(Looking South)

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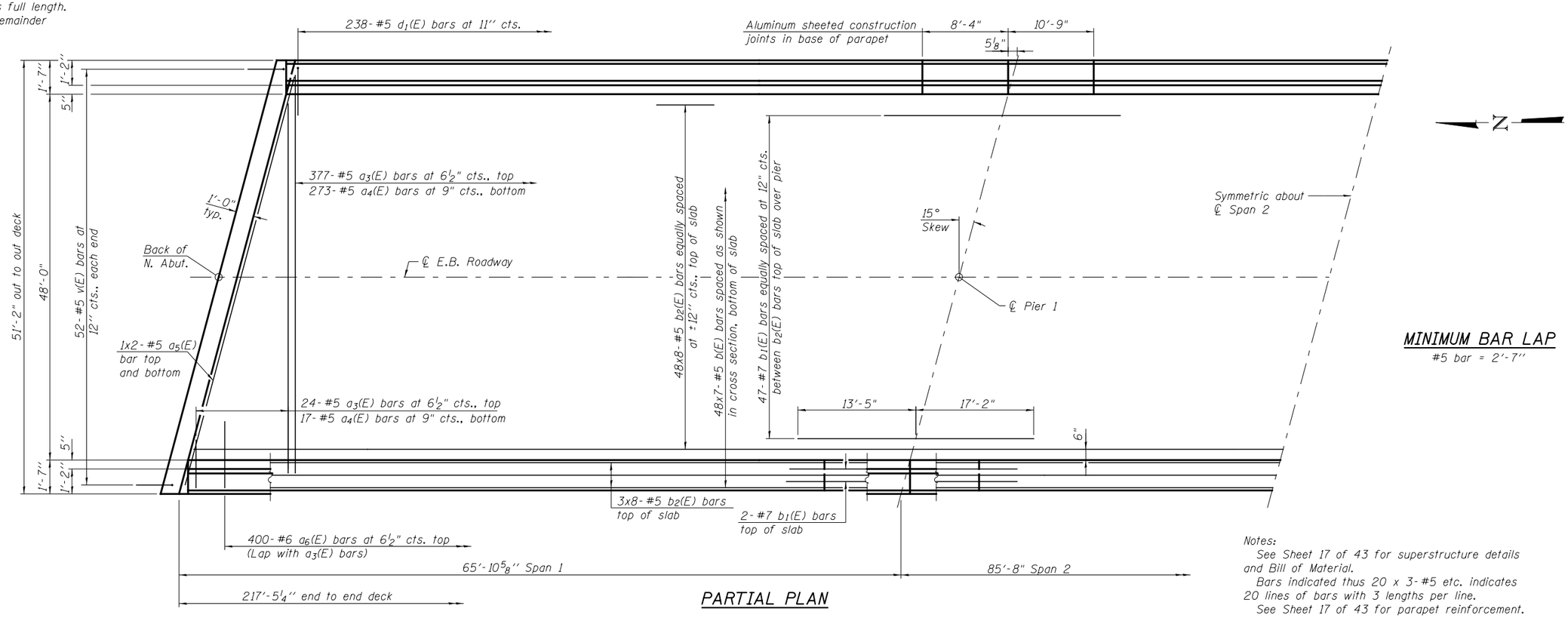
SUPERSTRUCTURE (WB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 15 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	248
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

*Order $a_3(E)$ & $a_4(E)$ bars full length. Cut to fit skew and use remainder of bars in opposite end.

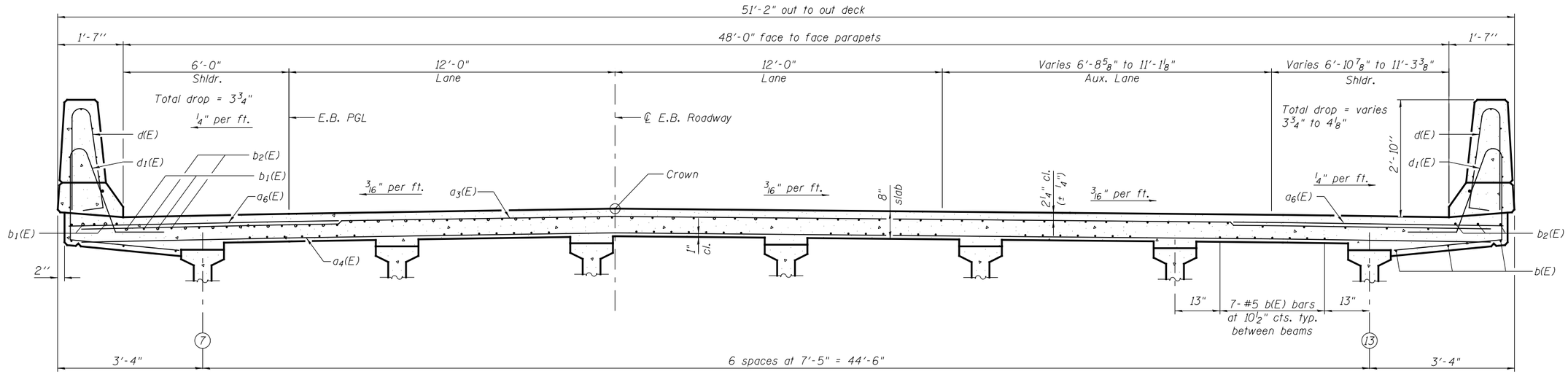


PARTIAL PLAN

MINIMUM BAR LAP

#5 bar = 2'-7"

Notes:
See Sheet 17 of 43 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 17 of 43 for parapet reinforcement.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking South)

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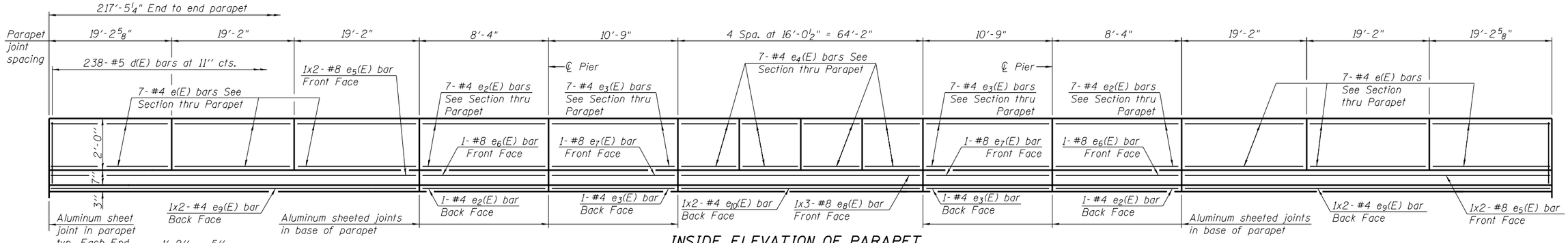
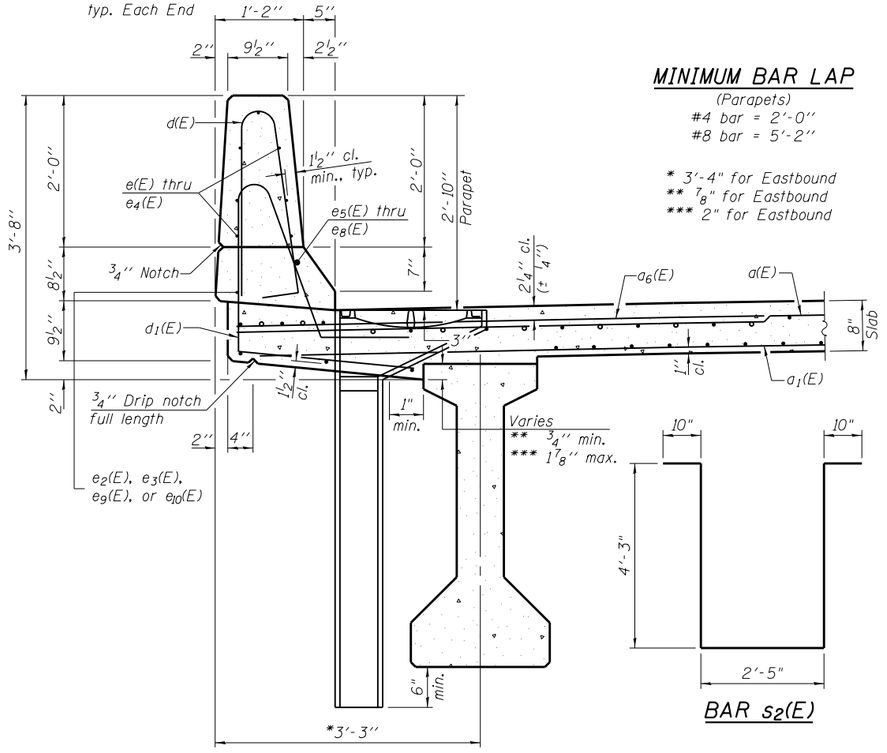
SUPERSTRUCTURE (EB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 16 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	249
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET



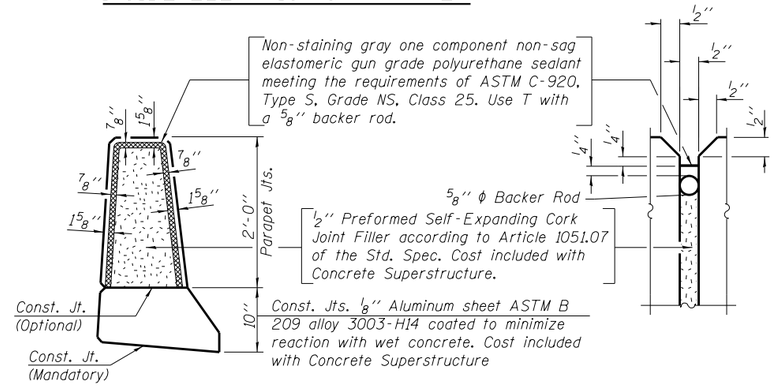
MINIMUM BAR LAP

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

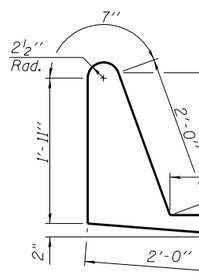
* 3'-4" for Eastbound
** 7/8" for Eastbound
*** 2" for Eastbound

SECTION THRU PARAPET

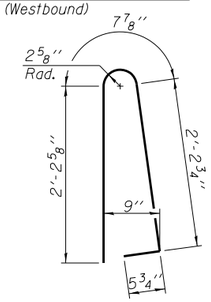
(Westbound)



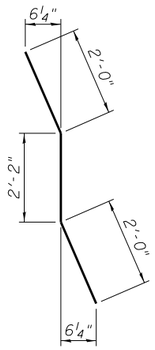
PARAPET JOINT DETAILS



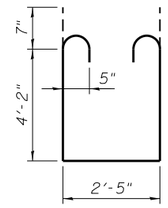
BAR $d_1(E)$



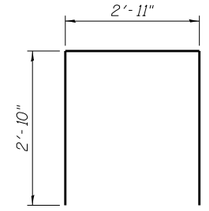
BAR d(E)



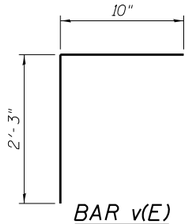
BAR $m_6(E)$



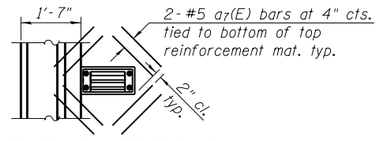
BAR $s_1(E)$



BAR s(E)



BAR v(E)



PLAN AT SCUPPER

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

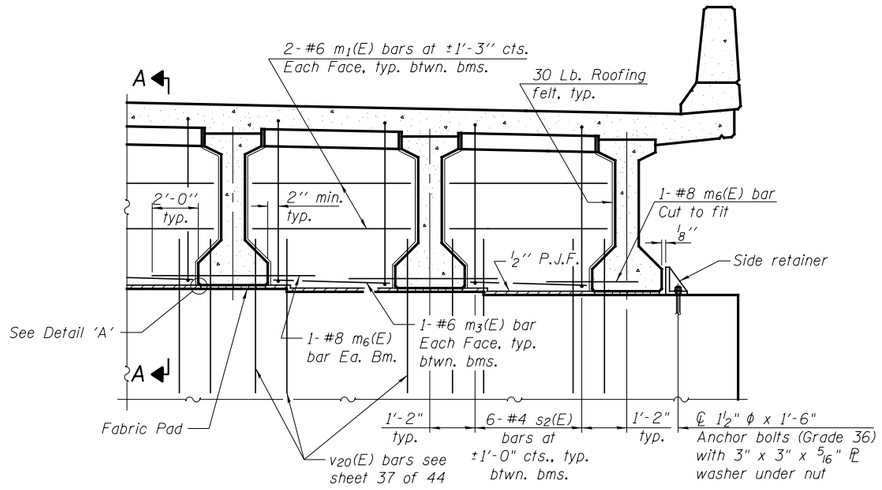
W.B. SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	401	#5	42'-6"	
$a_1(E)$	290	#5	42'-0"	
$a_2(E)$	8	#5	23'-6"	
$a_6(E)$	800	#6	6'-6"	
b(E)	287	#5	33'-3"	
$b_1(E)$	86	#7	30'-7"	
$b_2(E)$	368	#5	29'-5"	
d(E)	476	#5	5'-7"	
$d_1(E)$	476	#5	7'-8"	
e(E)	84	#4	18'-10"	
$e_2(E)$	32	#4	8'-0"	
$e_3(E)$	32	#4	10'-5"	
$e_4(E)$	56	#4	15'-8"	
$e_5(E)$	8	#8	31'-4"	
$e_6(E)$	4	#8	8'-0"	
$e_7(E)$	4	#8	10'-5"	
$e_8(E)$	6	#8	24'-9"	
$e_9(E)$	8	#4	29'-8"	
$e_{10}(E)$	4	#4	33'-1"	
m(E)	30	#6	17'-5"	
$m_1(E)$	70	#6	6'-7"	
$m_2(E)$	12	#6	2'-10"	
$m_3(E)$	30	#6	5'-3"	
$m_4(E)$	4	#6	2'-3"	
$m_5(E)$	24	#5	4'-0"	
$m_6(E)$	12	#8	6'-2"	
s(E)	72	#5	8'-7"	
$s_1(E)$	72	#5	11'-11"	
$s_2(E)$	60	#4	12'-7"	
v(E)	88	#5	3'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	79640
Concrete Superstructure			Cu. Yds.	358.6

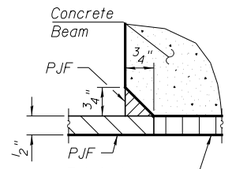
Bars indicated thus 1 x 3-#5 etc. indicates 1 line of bars with 3 lengths per line.

E.B. SUPERSTRUCTURE BILL OF MATERIAL

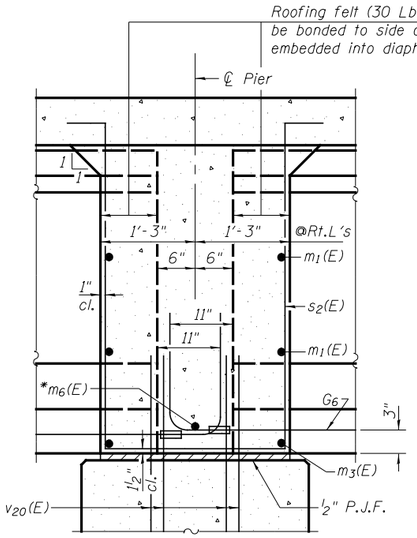
Bar	No.	Size	Length	Shape
$a_3(E)$	401	#5	50'-6"	
$a_4(E)$	290	#5	50'-0"	
$a_5(E)$	8	#5	27'-8"	
$a_6(E)$	800	#6	6'-6"	
$a_7(E)$	8	#5	1'-6"	
b(E)	336	#5	33'-3"	
$b_1(E)$	102	#7	30'-7"	
$b_2(E)$	432	#5	29'-5"	
d(E)	476	#5	5'-7"	
$d_1(E)$	476	#5	7'-8"	
e(E)	84	#4	18'-10"	
$e_2(E)$	32	#4	8'-0"	
$e_3(E)$	32	#4	10'-5"	
$e_4(E)$	56	#4	15'-8"	
$e_5(E)$	8	#8	31'-4"	
$e_6(E)$	4	#8	8'-0"	
$e_7(E)$	4	#8	10'-5"	
$e_8(E)$	6	#8	24'-9"	
$e_9(E)$	8	#4	29'-8"	
$e_{10}(E)$	4	#4	33'-1"	
$m_1(E)$	84	#6	6'-7"	
$m_2(E)$	12	#6	2'-10"	
$m_3(E)$	36	#6	5'-3"	
$m_4(E)$	4	#6	2'-3"	
$m_5(E)$	28	#5	4'-0"	
$m_6(E)$	14	#8	6'-2"	
$m_7(E)$	30	#6	20'-2"	
s(E)	84	#5	8'-7"	
$s_1(E)$	84	#5	11'-11"	
$s_2(E)$	72	#4	12'-7"	
v(E)	104	#5	3'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	90880
Concrete Superstructure			Cu. Yds.	414.9



DIAPHRAGM AT PIERS



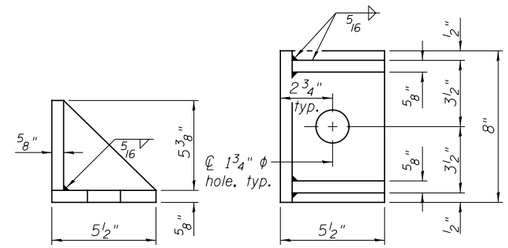
DETAIL 'A'



SECTION A-A

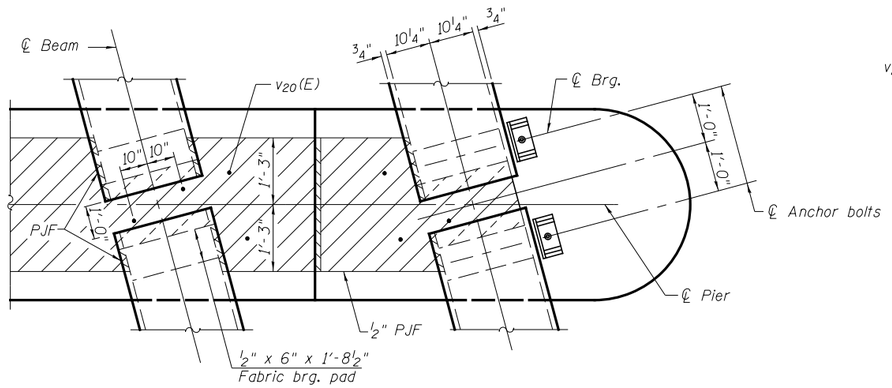
Dimensions along ℄ of beam, except as shown.

* Tightly fasten the #8 bars together with No. 9 wire ties.



SIDE RETAINER

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



PLAN AT PIER

(Showing bearing pads and PJF details)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 17 of 43.

Concrete in diaphragm is included with Concrete Superstructure on sheet 17 of 43.

For details of bars $s_2(E)$ and $m_6(E)$ see sheet 17 of 43.

The $s_2(E)$ bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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

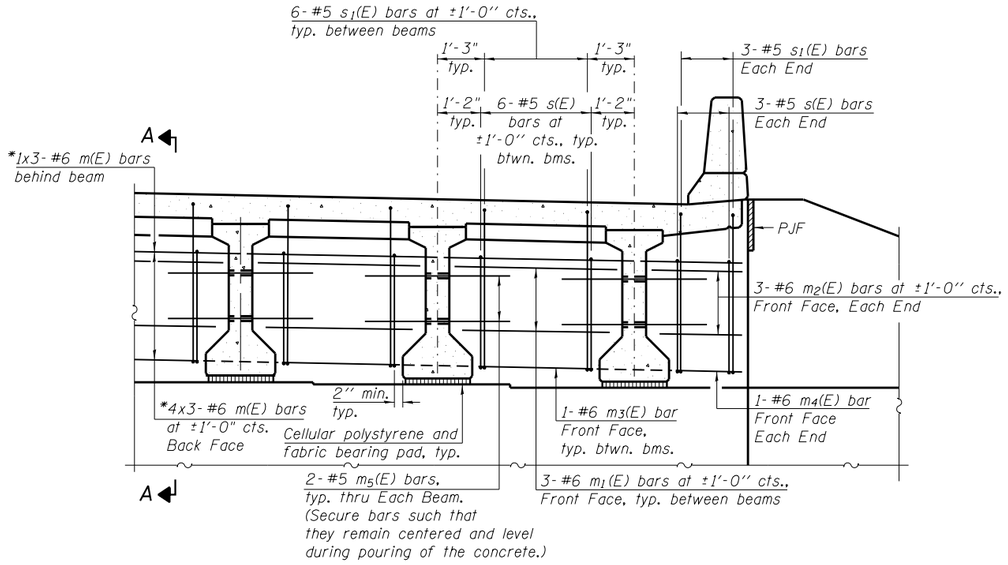
The side retainer shall be galvanized after shop fabrication according to AASHTO M 111. Cost of side retainer and anchor bolts shall be included with Concrete Structures.

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

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

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.



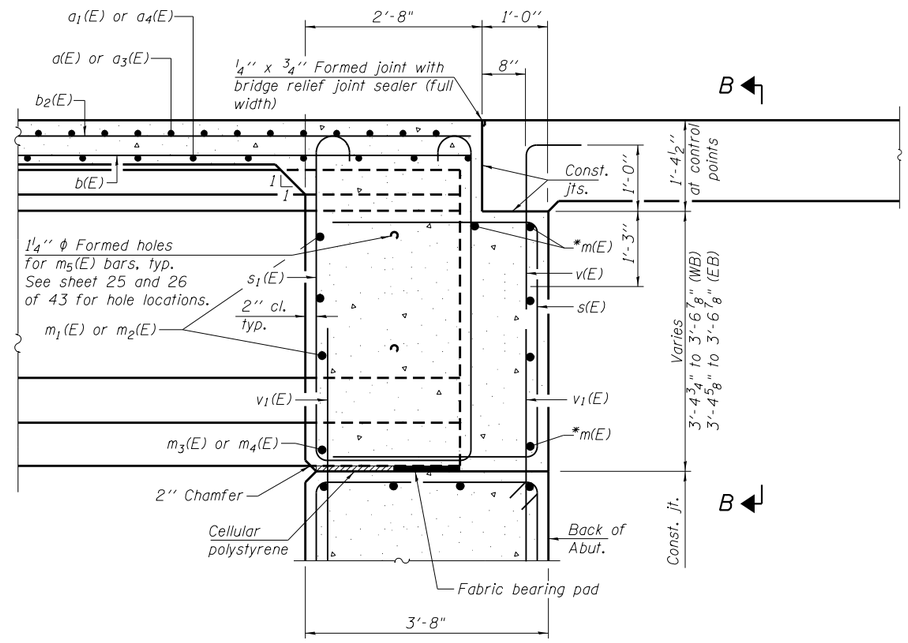
DIAPHRAGM ELEVATION AT ABUTMENT

(WB Bridge shown)

*m_7(E) for EB bridge

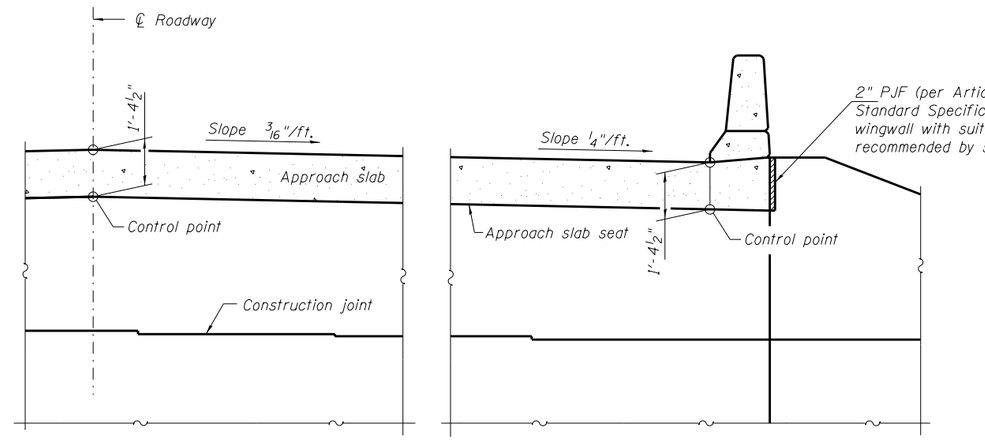
MIN. BAR LAP

#6 Bar = 3'-10"

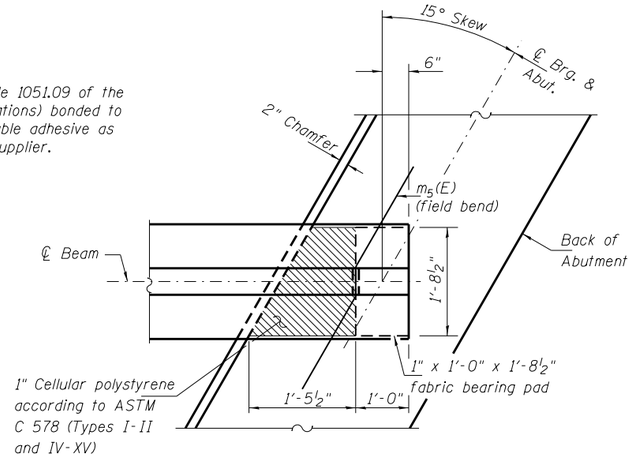


SECTION A-A

(at Rt. L's)



SECTION B-B



PARTIAL PLAN AT ABUTMENT

(Showing bottom flange of beam)

Notes:

Reinforcement bars in diaphragm are billed with superstructure on sheet 17 of 43.

Concrete in diaphragm is included with Concrete Superstructure on sheet 17 of 43.

For details of bars s(E), s_1(E) and v(E) see sheet 17 of 43.

The s(E) and s_1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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

Cost of cellular polystyrene is included with Concrete Superstructure.

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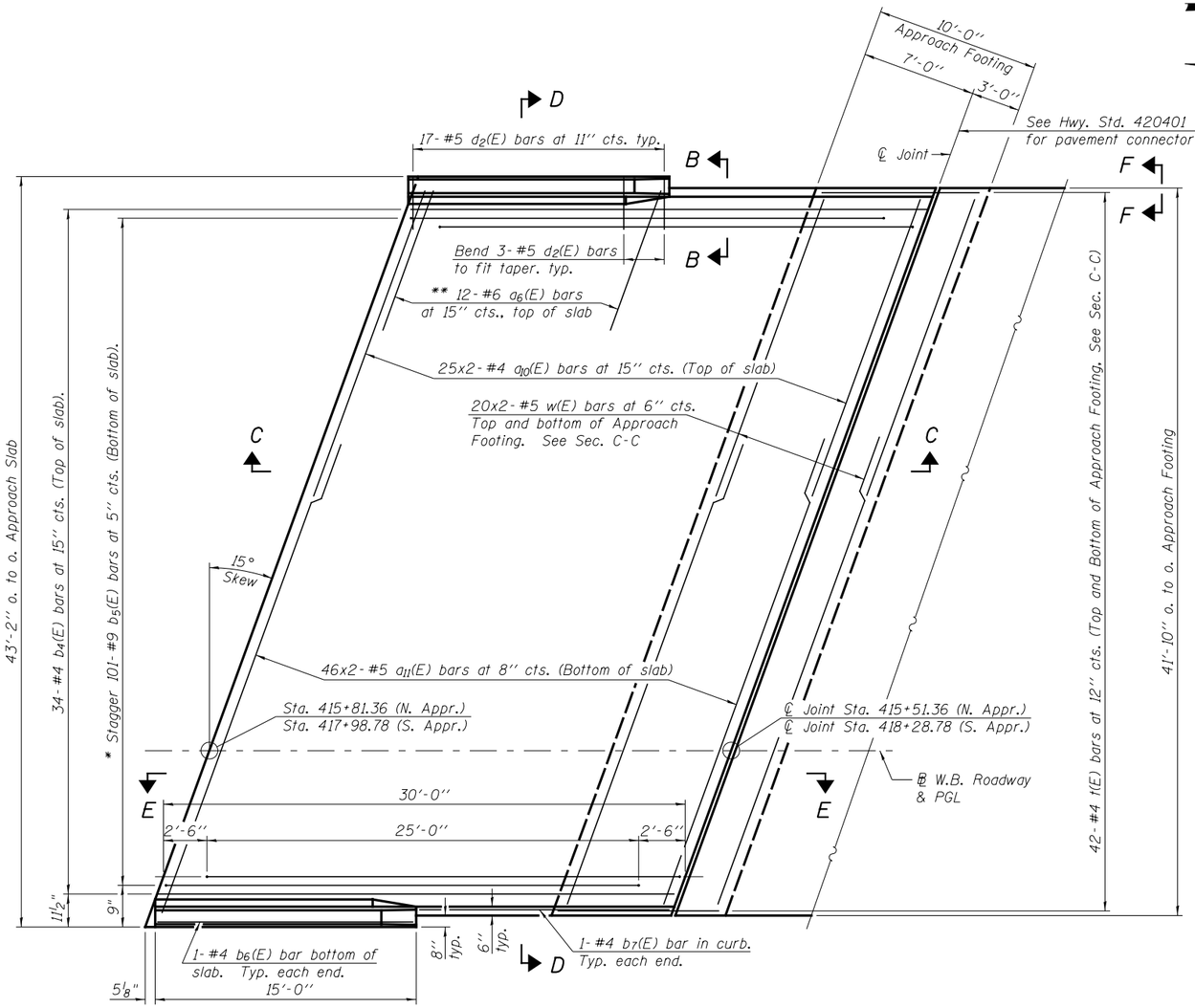
DEPARTMENT OF TRANSPORTATION

ABUTMENT DIAPHRAGM DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 19 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	252
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		



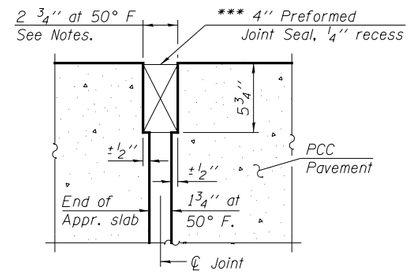
PLAN

(South Approach shown. North Approach similar)

* Tilt #9 b_5(E) bars as required to maintain clearance.
** Space between a_{10}(E) bars, typ. each parapet.

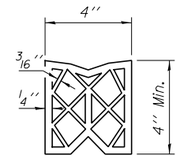
Notes:
See sheet 21 of 43 for Sections C-C & D-D and View E-E.
a_{10}(E) and a_{11}(E) bar spacings measured along ℄ Rdwy.
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1½" for installation purposes.
Bars indicated thus 25x2-#4 etc. indicates 25 lines of bars with 2 lengths per line.

*** Cost included with Concrete Superstructure.

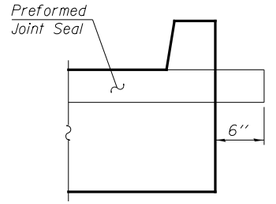


RIGID PAVEMENT

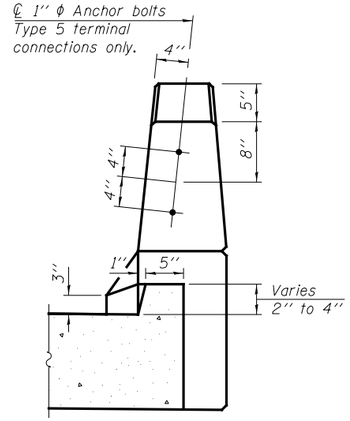
DETAIL A



PREFORMED JOINT SEAL



VIEW F-F



VIEW B-B

MIN. BAR LAP

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

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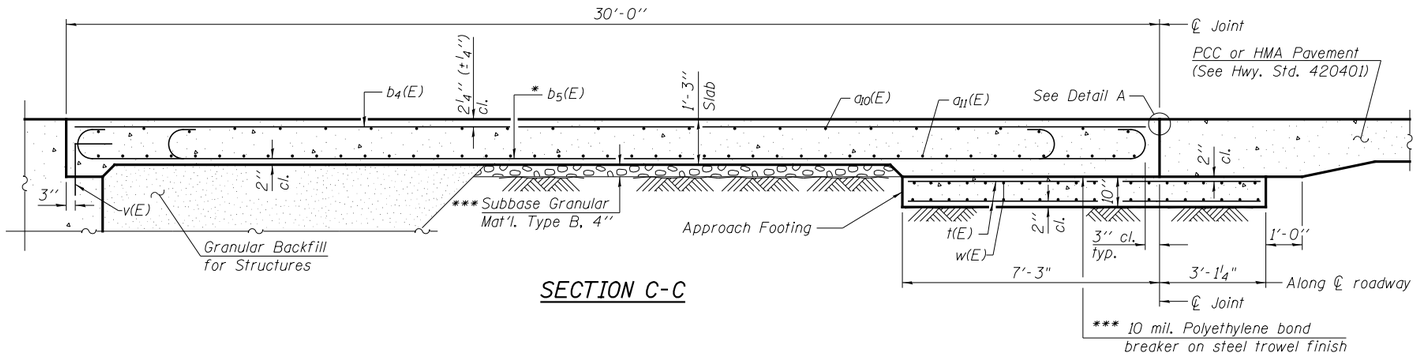
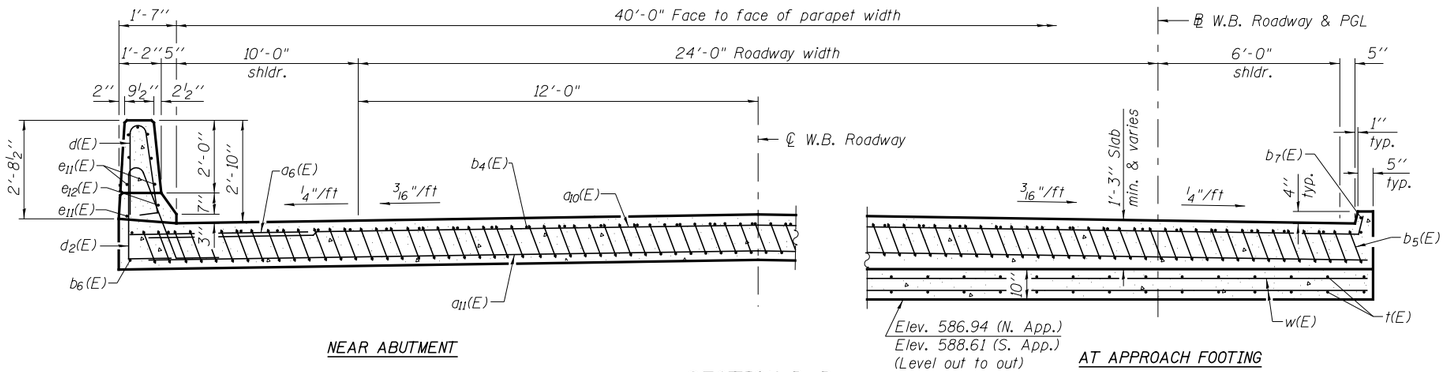
DEPARTMENT OF TRANSPORTATION

WB BRIDGE APPROACH SLAB DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 20 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	253
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



SECTION C-C

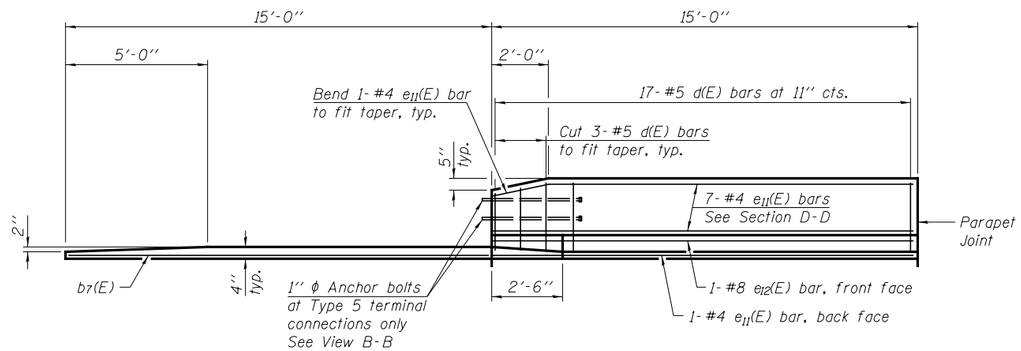


NEAR ABUTMENT

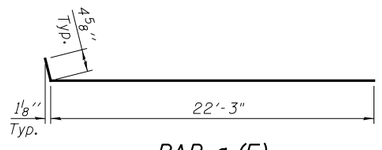
AT APPROACH FOOTING

SECTION D-D

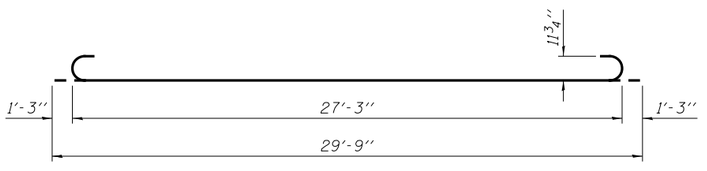
(See Plan for dimensions not shown)
(South Approach shown. North Approach similar)



VIEW E-E

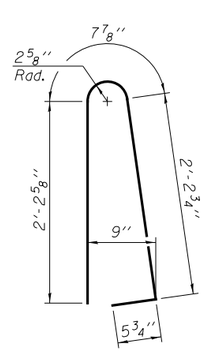


BAR a10(E)

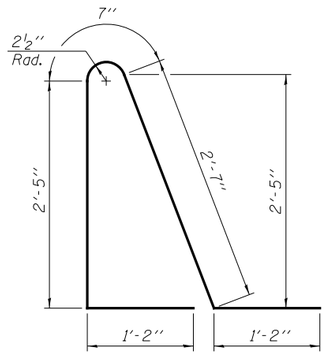


BAR b5(E)

Notes:
- See sheet 20 of 43 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(E) bar details, see sheet 19 of 43.
- The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
- Cost of excavation for approach footing included with Concrete Structures.
- For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 43.
- For additional parapet details, see sheet 17 of 43.



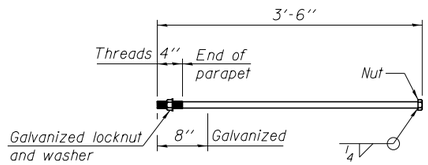
BAR d(E)



BAR d2(E)

* Tilt #9 b5(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

W.B. TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a6(E)	48	#6	6'-6"	
a10(E)	100	#4	22'-8"	
a11(E)	184	#5	22'-11"	
b4(E)	68	#4	29'-8"	
b5(E)	202	#9	29'-9"	
b6(E)	4	#4	14'-8"	
b7(E)	4	#4	14'-5"	
d(E)	68	#5	5'-7"	
d2(E)	68	#5	7'-11"	
e11(E)	32	#4	14'-8"	
e12(E)	4	#8	14'-8"	
t(E)	168	#4	10'-0"	
w(E)	160	#5	23'-0"	
Concrete Superstructure			Cu. Yd.	128.4
Concrete Structures			Cu. Yd.	28.2
Reinforcement Bars, Epoxy Coated			Pound	34,640

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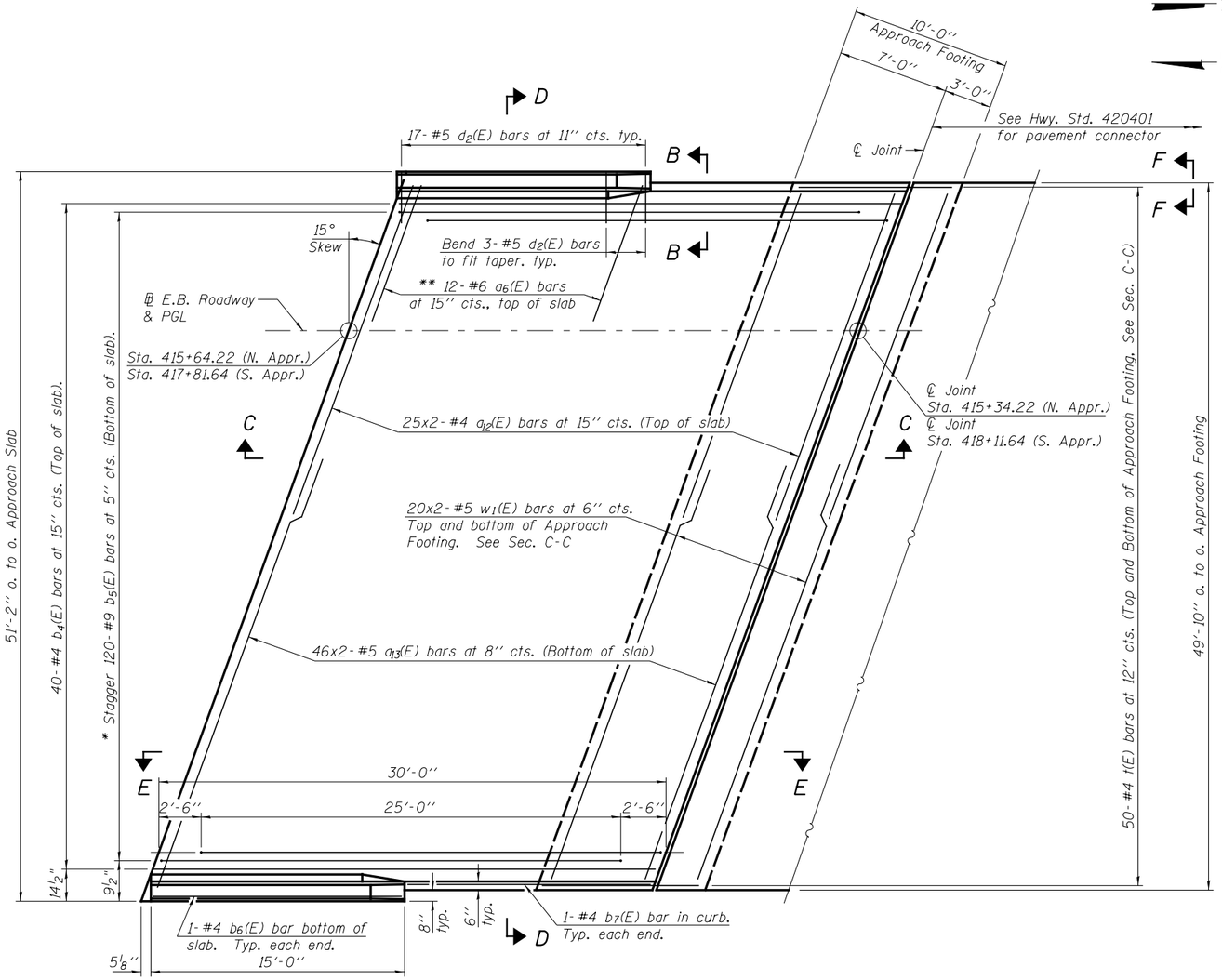
DEPARTMENT OF TRANSPORTATION

WB BRIDGE APPROACH SLAB DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 21 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	254
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		



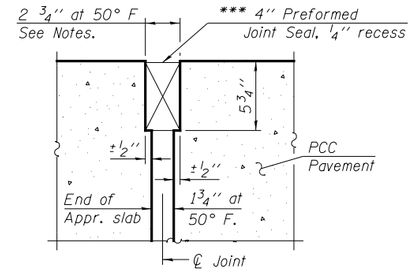
PLAN

(South Approach shown. North Approach similar)

* Tilt #9 b_5(E) bars as required to maintain clearance.
** Space between a_{12}(E) bars, typ. each parapet.

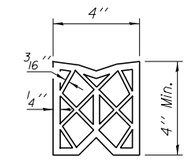
Notes:
See sheet 23 of 43 for Sections C-C & D-D and View E-E.
a_{12}(E) and a_{13}(E) bar spacings measured along ℄ Rdwy.
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1½" for installation purposes.
Bars indicated thus 25x2-#4 etc. indicates 25 lines of bars with 2 lengths per line.

*** Cost included with Concrete Superstructure.

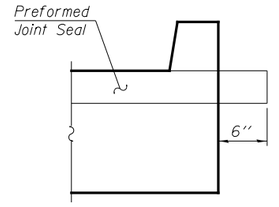


RIGID PAVEMENT

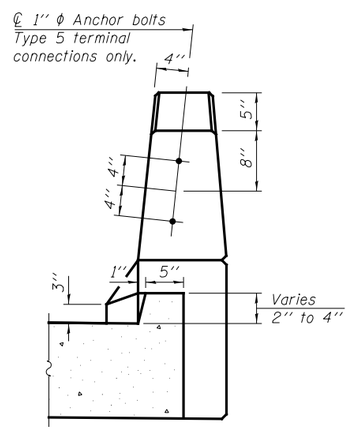
DETAIL A



PREFORMED JOINT SEAL



VIEW F-F



VIEW B-B

MINIMUM BAR LAP

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

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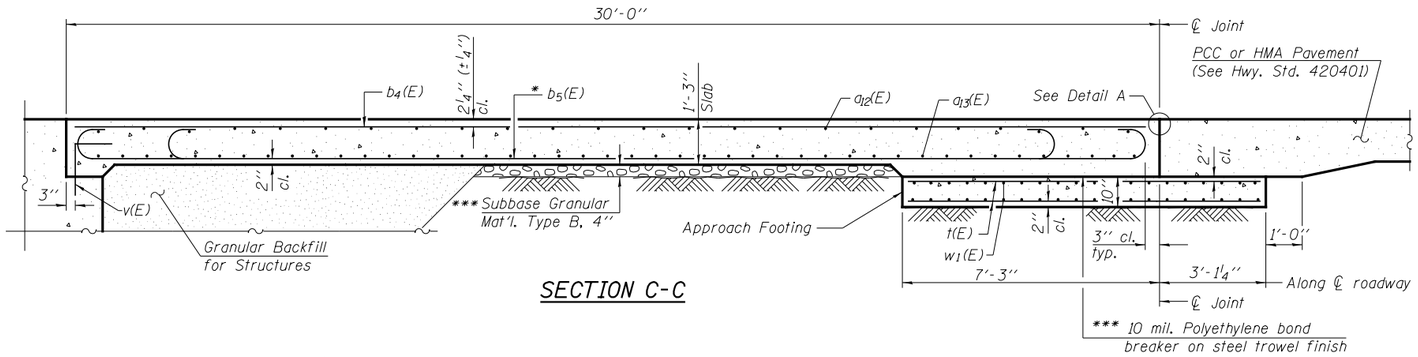
	PLOT DATE =	CHECKED - LMS	REVISED -

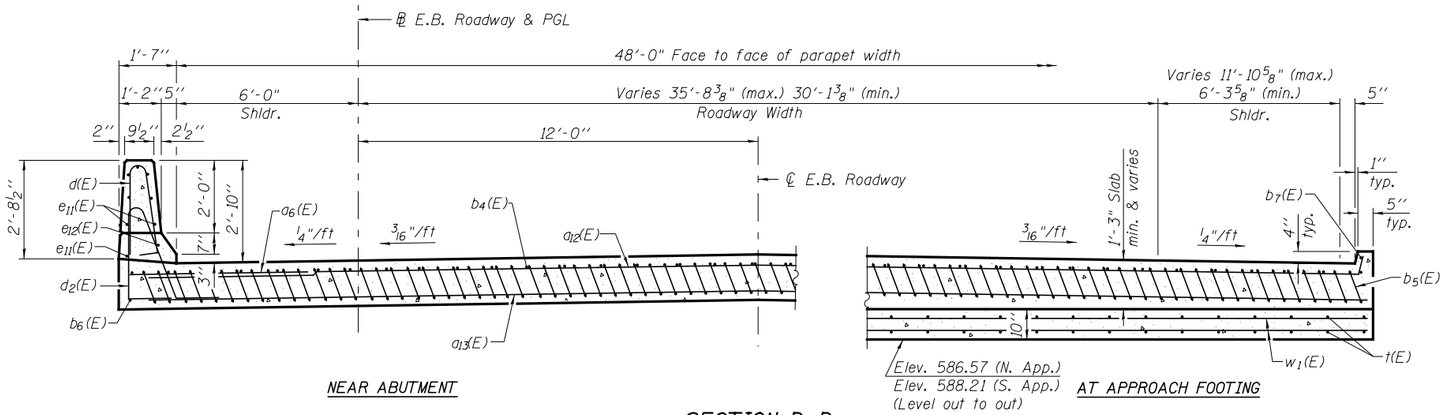
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EB BRIDGE APPROACH SLAB DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 22 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	255
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



SECTION C-C

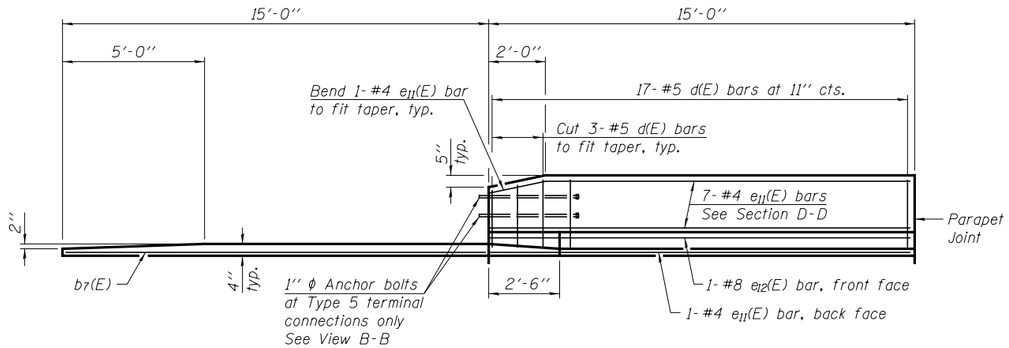


NEAR ABUTMENT

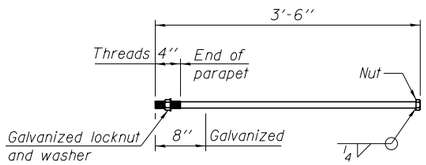
AT APPROACH FOOTING

SECTION D-D

(See Plan for dimensions not shown)
(South Approach shown. North Approach similar)

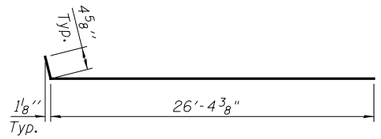


VIEW E-E

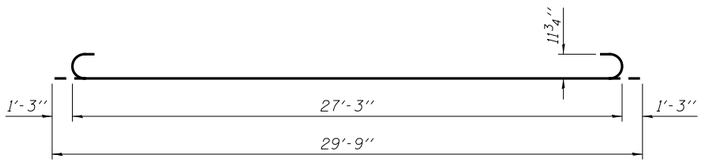


1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)

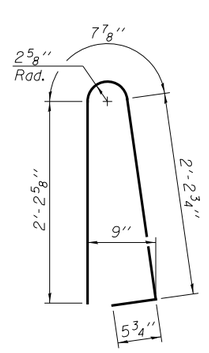


BAR a_{12}(E)

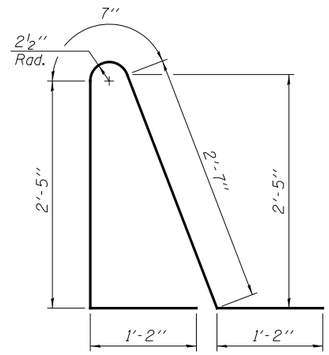


BAR b_5(E)

Notes:
See sheet 22 of 43 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(E) bar details, see sheet 19 of 43.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 43.
For additional parapet details, see sheet 17 of 43.



BAR d(E)



BAR d_2(E)

* Tilt #9 b_5(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

E.B. TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_6(E)	48	#6	6'-6"	
a_{12}(E)	100	#4	26'-9"	
a_{13}(E)	184	#5	27'-1"	
b_4(E)	80	#4	29'-8"	
b_5(E)	240	#9	29'-9"	
b_6(E)	4	#4	14'-8"	
b_7(E)	4	#4	14'-5"	
d(E)	68	#5	5'-7"	
d_2(E)	68	#5	7'-11"	
e_{11}(E)	32	#4	14'-8"	
e_{12}(E)	4	#8	14'-8"	
t(E)	200	#4	10'-0"	
w_1(E)	160	#5	27'-1"	
Concrete Superstructure			Cu. Yd.	151.2
Concrete Structures			Cu. Yd.	30.7
Reinforcement Bars, Epoxy Coated			Pound	40,680

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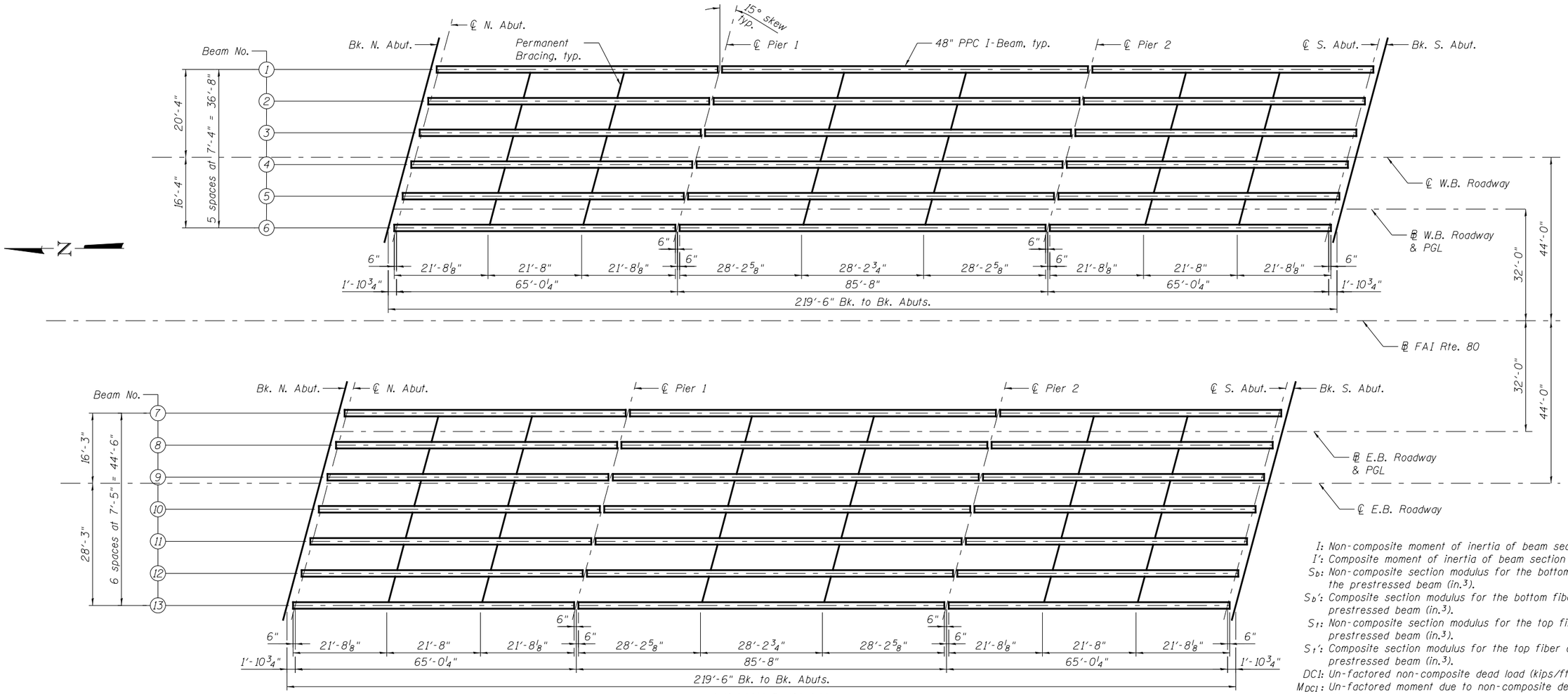
Westmont, Illinois

USER NAME =	DESIGNED - PSS	REVISED -
FILE NAME =	CHECKED - LMS	REVISED -
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EB BRIDGE APPROACH SLAB DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 23 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	256
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		



FRAMING PLAN

INTERIOR BEAM MOMENT TABLE (E.B. Bridge)				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	144117	144117	144117
I'	(in^4)	412863	412863	412863
S_b	(in^3)	6833	6833	6833
S_b'	(in^3)	11410	11410	11410
S_t	(in^3)	5356	5356	5356
S_t'	(in^3)	34941	34941	34941
$DC1$	(k/')	1.354	1.354	1.354
M_{DC1}	('k)	677	-	1203
$DC2$	(k/')	0.128	0.128	0.128
M_{DC2}	('k)	35	70	43
DW	(k/')	0.343	0.343	0.343
M_{DW}	('k)	94	186	114
M_{L+IM}	('k)	850	867	873

INTERIOR BEAM REACTION TABLE (E.B. Bridge)				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	R_{DC1} (k)	60.2	49.5	63.0
*	R_{DC2} (k)	3.0	5.4	5.4
*	R_{DW} (k)	8.1	14.6	14.6
*	R_{L+IM} (k)	79.9	81.8	81.8
	R_{Total} (k)	151.2	150.7	164.2

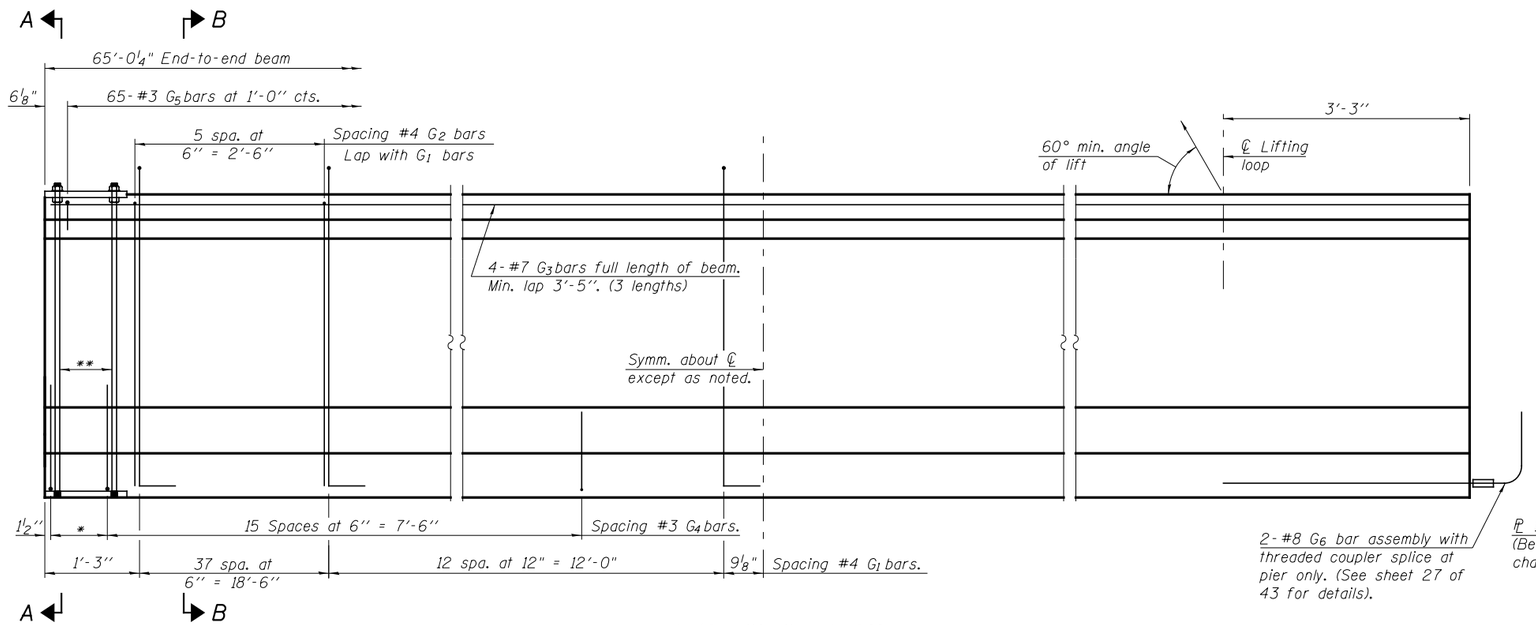
* At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

Note:
See sheet 27 of 43 for Permanent Bracing Details.

INTERIOR BEAM MOMENT TABLE (W.B. Bridge)				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)	144117	144117	144117
I'	(in^4)	411294	411294	411294
S_b	(in^3)	6833	6833	6833
S_b'	(in^3)	11394	11394	11394
S_t	(in^3)	5356	5356	5356
S_t'	(in^3)	34553	34553	34553
$DC1$	(k/')	1.346	1.346	1.346
M_{DC1}	('k)	672	-	1196
$DC2$	(k/')	0.150	0.150	0.150
M_{DC2}	('k)	41	81	50
DW	(k/')	0.333	0.333	0.333
M_{DW}	('k)	92	181	111
M_{L+IM}	('k)	843	861	866

INTERIOR BEAM REACTION TABLE (W.B. Bridge)				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	R_{DC1} (k)	59.8	49.3	62.6
*	R_{DC2} (k)	3.5	6.4	6.4
*	R_{DW} (k)	7.8	14.3	14.3
*	R_{L+IM} (k)	79.3	80.9	80.9
	R_{Total} (k)	150.4	150.9	164.2

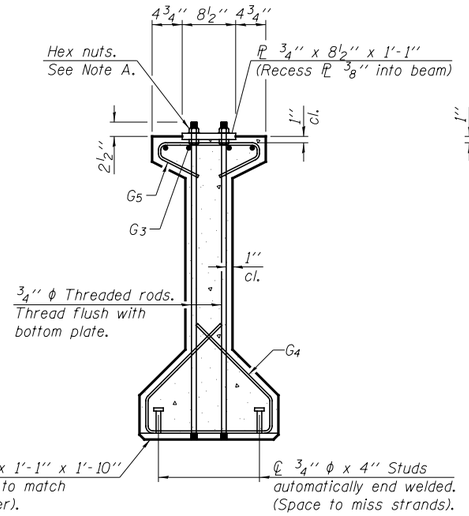
I: Non-composite moment of inertia of beam section (in^4).
I': Composite moment of inertia of beam section (in^4).
S_b: Non-composite section modulus for the bottom fiber of the prestressed beam (in^3).
S_b': Composite section modulus for the bottom fiber of the prestressed beam (in^3).
S_t: Non-composite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



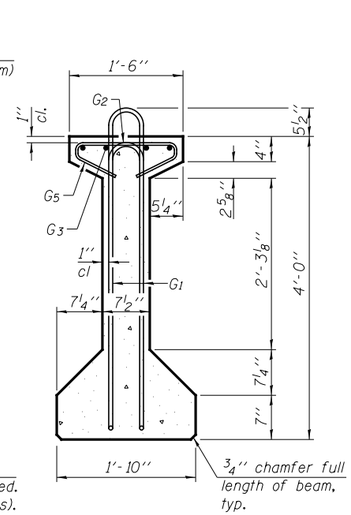
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

* 3 spaces at 3" = 9".
** 4-3/4" ϕ threaded dowel rods at 3" cts., Each Face.

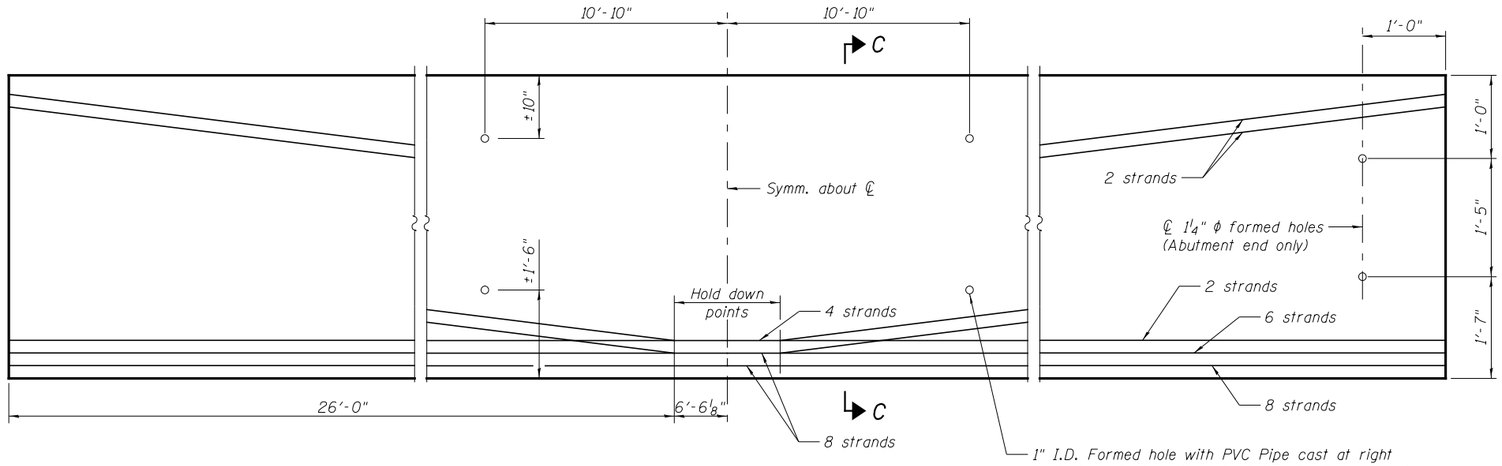
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



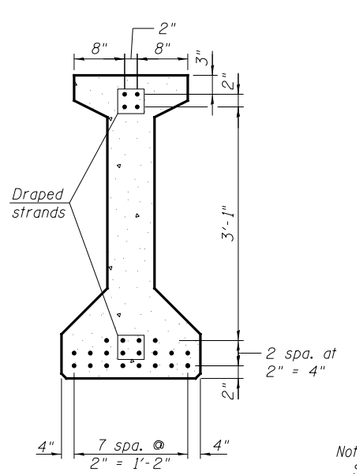
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



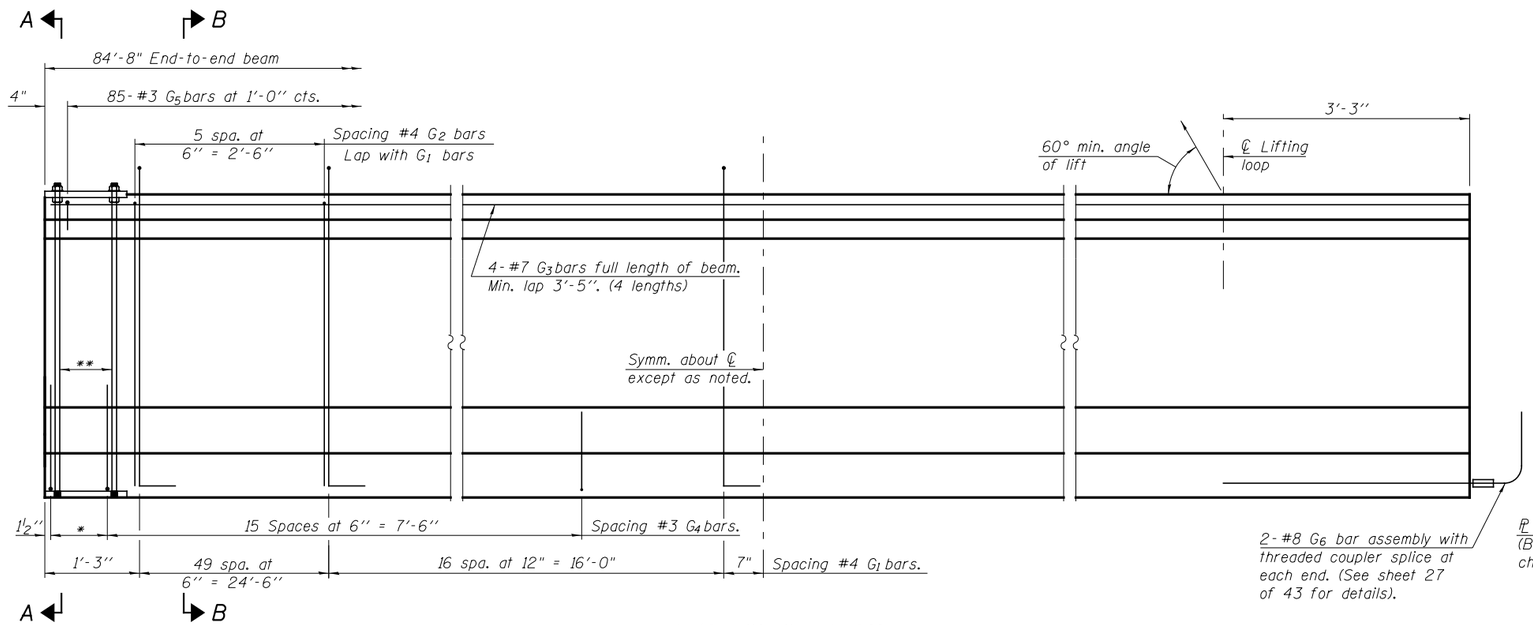
SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	100	#4	9'-8"	
G_2	12	#4	7'-11"	
G_3	12	#7	23'-11"	
G_4	38	#3	5'-3"	
G_5	65	#3	2'-9"	
G_6	2	#8	6'-6"	

***For information only

Notes:
See sheet 27 of 43 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.

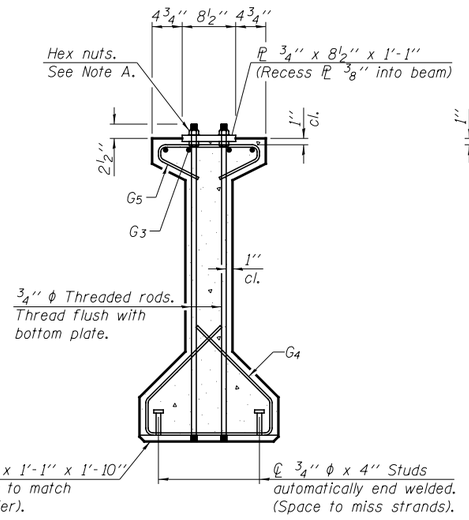


* 3 spaces at 3" = 9".
** 4-¾" ϕ threaded dowel rods at 3" cts., Each Face.

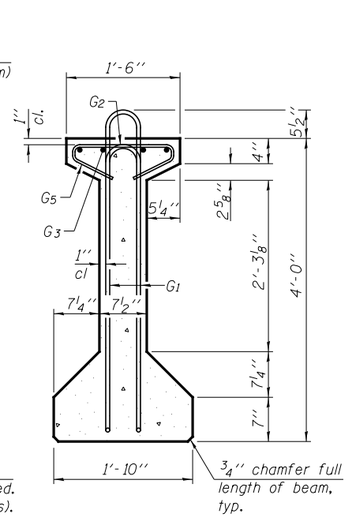
ELEVATION OF BEAM
(Showing reinforcement & dimensions)

2-#8 G_6 bar assembly with threaded coupler splice at each end. (See sheet 27 of 43 for details).

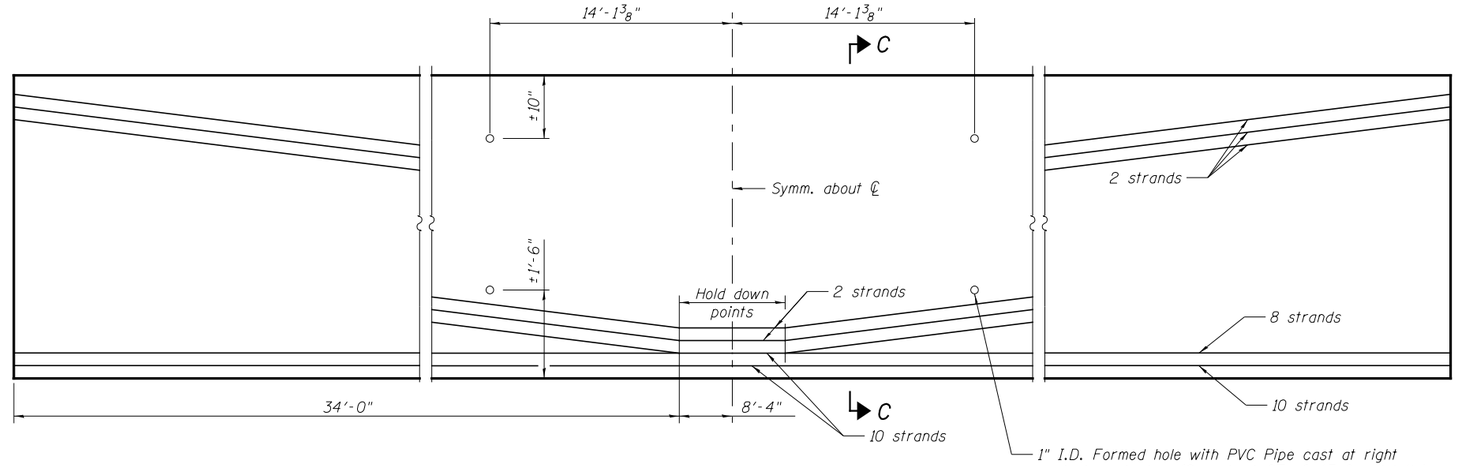
Note A:
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.



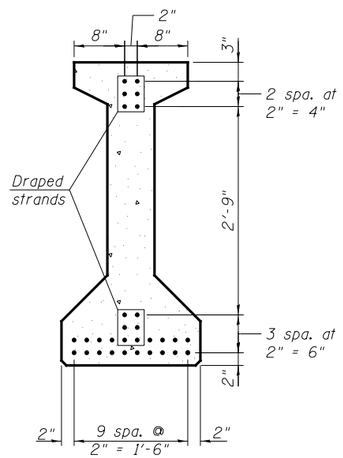
SECTION A-A



SECTION B-B



ELEVATION OF BEAM
(Showing prestressing steel)



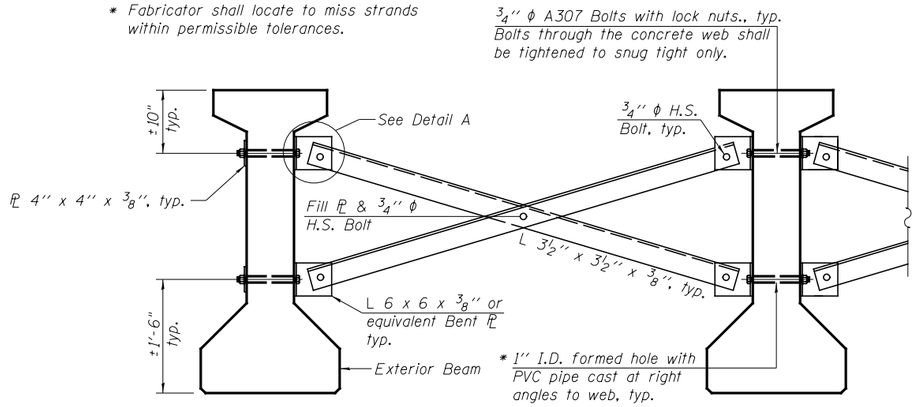
SECTION C-C

***BAR LIST
ONE BEAM ONLY

Bar	No.	Size	Length	Shape
G_1	132	#4	9'-8"	
G_2	12	#4	7'-11"	
G_3	16	#7	23'-8"	
G_4	38	#3	5'-3"	
G_5	85	#3	2'-9"	
G_6	4	#8	6'-6"	

***For information only

Notes:
See sheet 27 of 43 for additional details and Bill of Material.
Required release strength, f'ci, shall be 5,000 psi.



BRACING NOTES:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

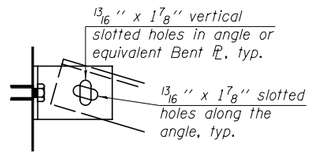
All holes shall be 15/16"ϕ unless otherwise noted.

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

All bolts shall be galvanized according to AASHTO M232.

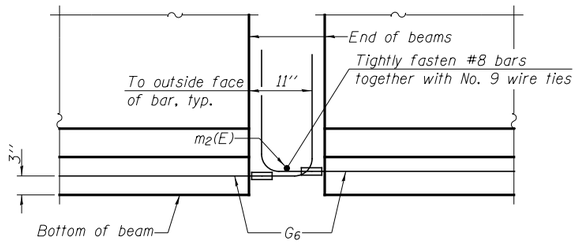
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

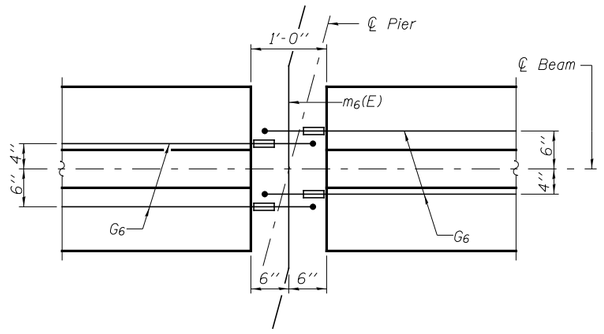


DETAIL A

PERMANENT BRACING DETAILS FOR 48" PPC I-BEAMS



ELEVATION OF BEAM AT PIER



PLAN OF BEAM AT PIER

NOTES

Inserts for 3/4" ϕ threaded dowel rods, when specified, are to be two strut, ferrule type for interior beams and single ferrule, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.

Tilt G_6 bars when necessary to maintain 1 1/2" clearance.

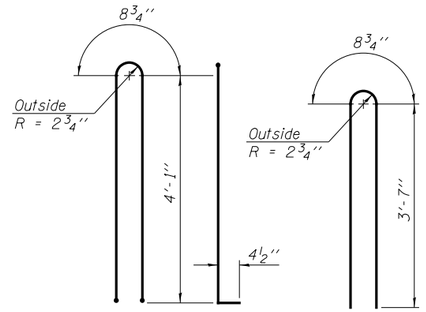
The top and bottom plates shall be AASHTO M270 Grade 50.

The bottom plates and studs shall be galvanized according to AASHTO M111. Top plates and threaded rods need not be galvanized.

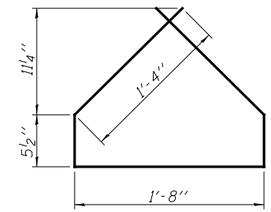
Threaded rods shall be ASTM F 1554 Grade 55.

The G_6 bar assembly shall be capable of developing 125 percent of the yield strength of the grade 60 reinforcement bar components. The assembly shall allow completion of the splice without turning of the hook bar. The hook bar shall be threaded such that the entire coupler can be threaded onto the hook bar.

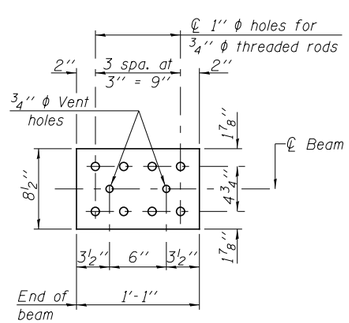
Beams requiring G_6 bar assemblies shall not be released from the fabricator until they have attained 45 days of age or older.



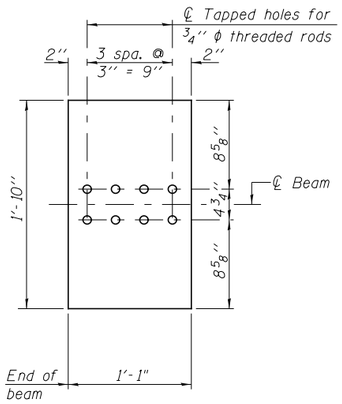
BAR G_1 BAR G_2



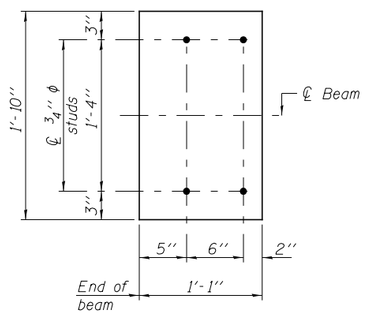
BAR G_4



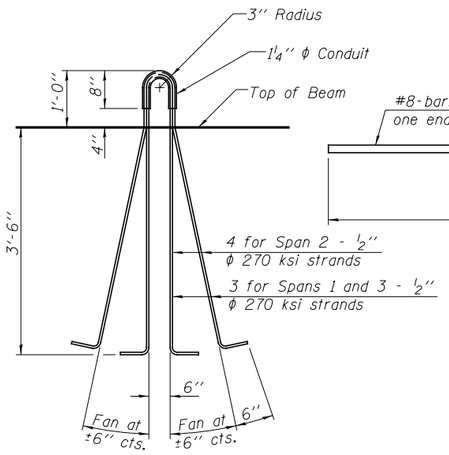
TOP PLATE



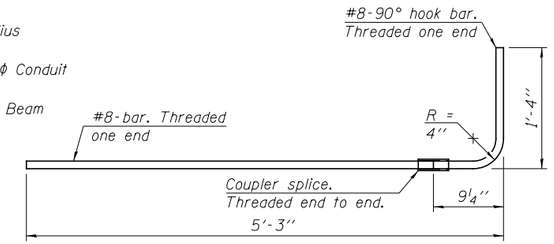
BOTTOM PLATE
(Showing threaded rods)



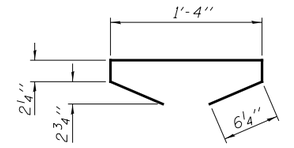
BOTTOM PLATE
(Showing studs)



LIFTING LOOP DETAIL



G6 BAR ASSEMBLY



BAR G_5

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 48"	Ft.	2792

LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

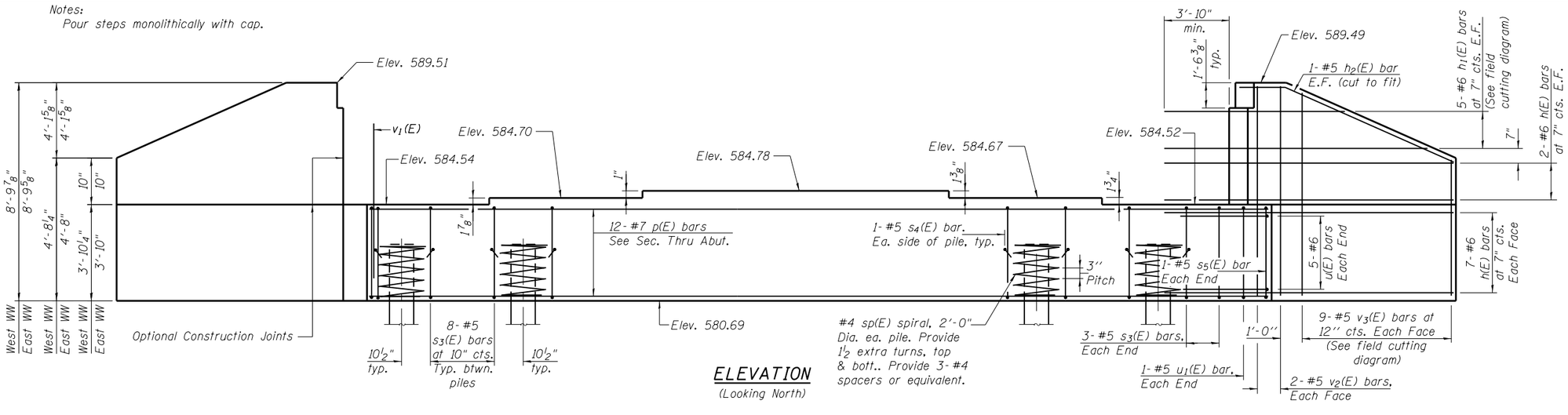
USER NAME =	DESIGNED - PSS	REVISED -
FILE NAME =	CHECKED - LMS	REVISED -
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

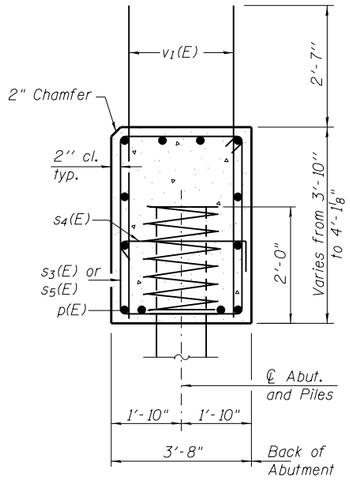
48" PPC I-BEAM DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 27 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	260
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

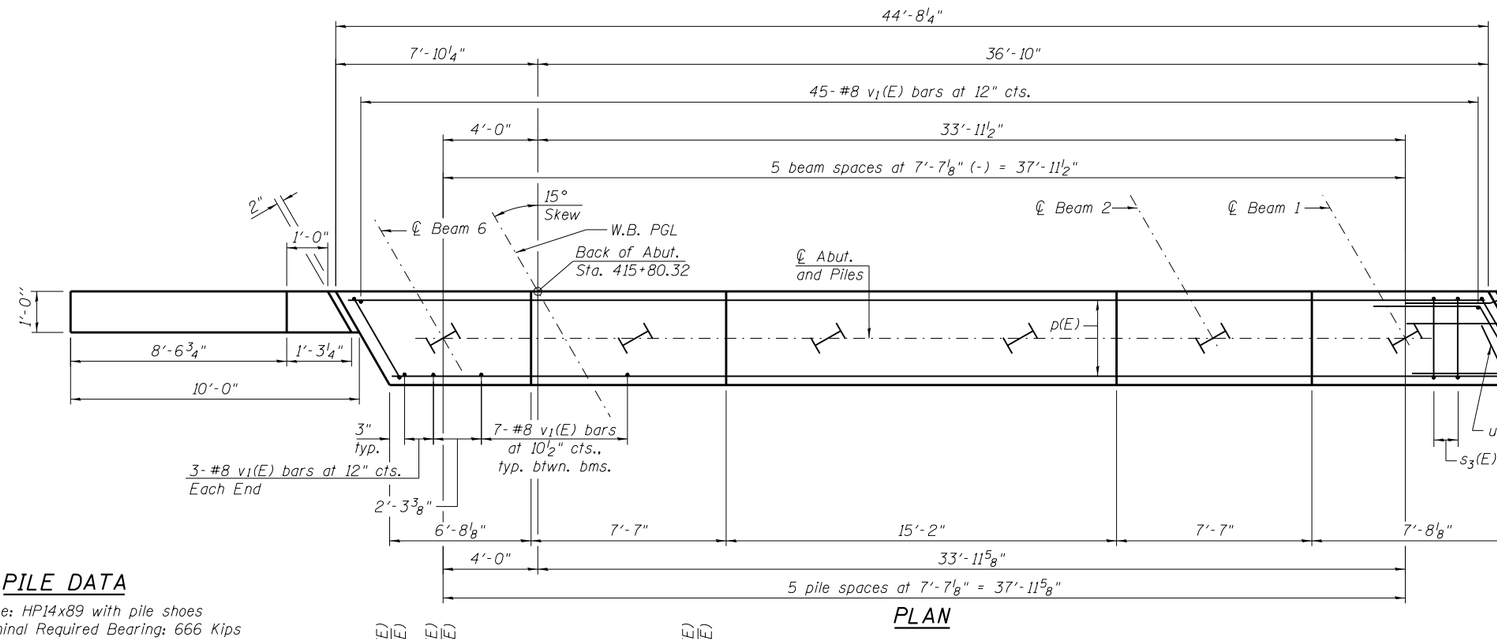
Notes:
Pour steps monolithically with cap.



ELEVATION
(Looking North)



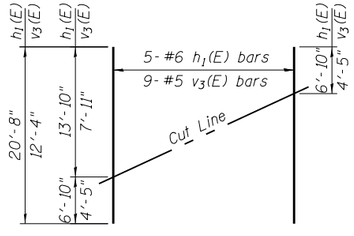
SEC. THRU ABUT.
Dimensions at right angles to abutment.



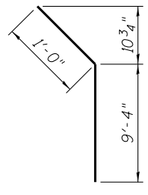
PLAN

PILE DATA

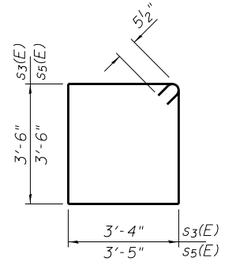
Type: HP14x89 with pile shoes
Nominal Required Bearing: 666 Kips
Factored Resistance Available: 366 Kips
Est. Length: 36 ft
No. Production Piles: 5
No. Test Piles: 1



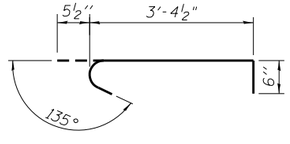
FIELD CUTTING DIAGRAM
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



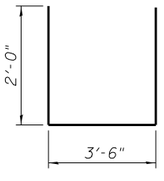
BAR $h_2(E)$



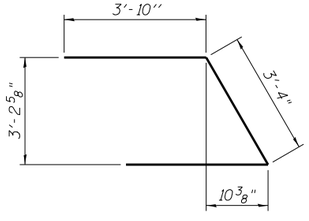
BARS $s_3(E)$ & $s_5(E)$



BAR $s_4(E)$



BAR $u_1(E)$



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	36	#6	13'-10"	
$h_1(E)$	10	#6	20'-8"	
$h_2(E)$	4	#5	10'-4"	
p(E)	12	#7	44'-4"	
$s_3(E)$	46	#5	14'-7"	
$s_4(E)$	12	#5	4'-4"	
$s_5(E)$	2	#5	14'-9"	
* sp(E)	6	#4	2'-0"	
u(E)	10	#6	11'-0"	
$u_1(E)$	2	#5	7'-6"	
$v_1(E)$	86	#8	6'-3"	
$v_2(E)$	8	#5	8'-6"	
$v_3(E)$	18	#5	12'-4"	
Structure Excavation		Cu. Yd.		150
Concrete Structures		Cu. Yd.		29.3
Reinforcement Bars, Epoxy Coated		Pound		5170
Furnishing Steel Piles HP 14x89		Foot		180
Driving Piles		Foot		180
Test Pile Steel HP 14x89		Each		1
Pile Shoes		Each		6

* Length is height of spiral.

For details of piles see sheet 37 of 43.

LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

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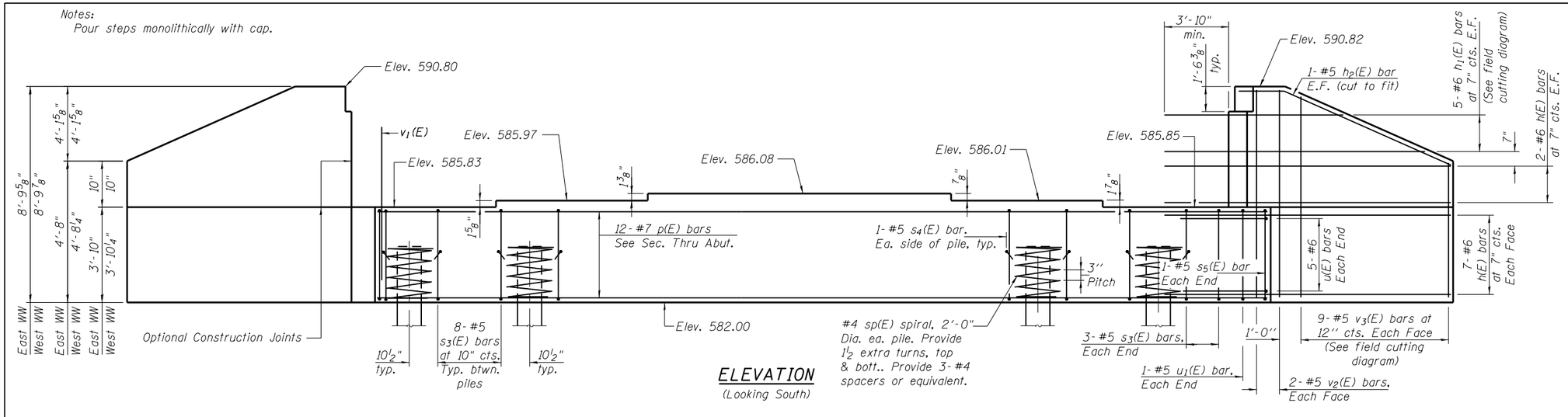
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

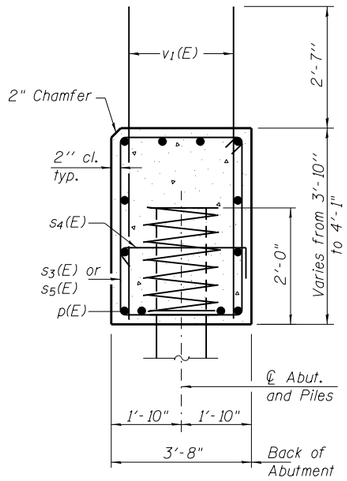
NORTH ABUTMENT DETAILS (WB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 28 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	261
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

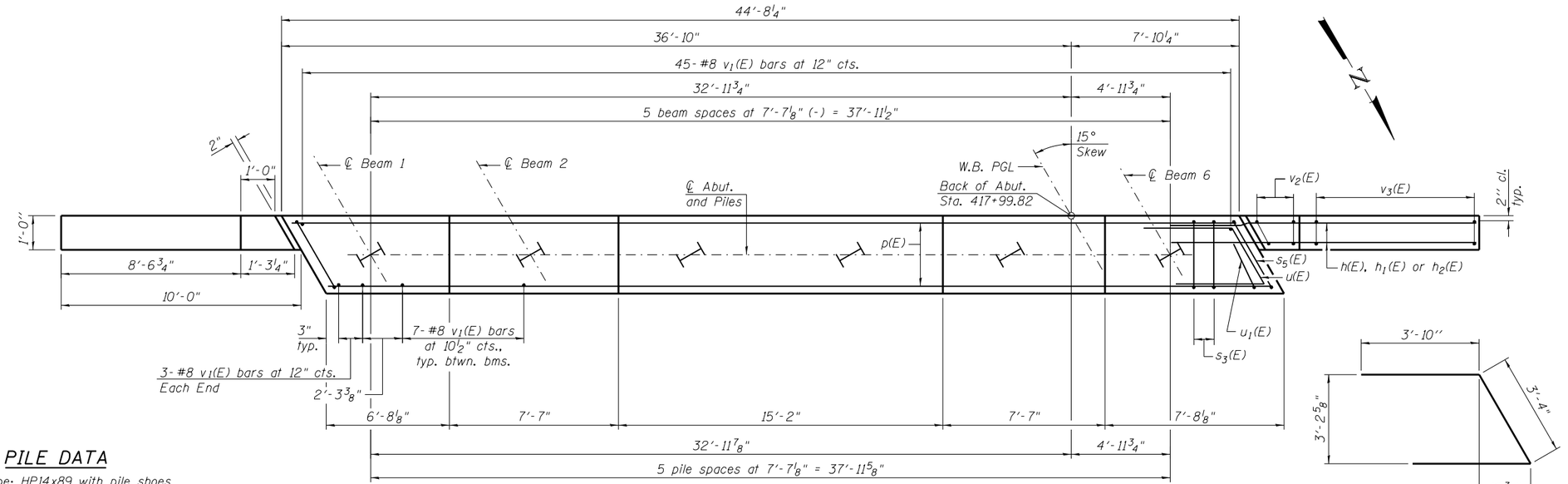
Notes:
Pour steps monolithically with cap.



ELEVATION
(Looking South)

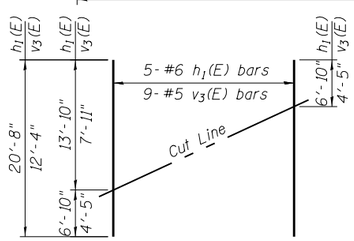


SEC. THRU ABUT.
Dimensions at right angles to abutment.

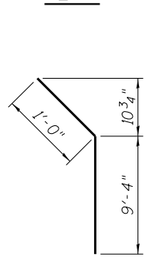


PLAN

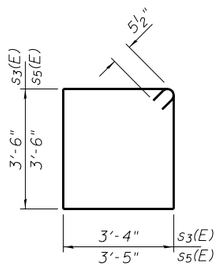
PILE DATA
Type: HP14x89 with pile shoes
Nominal Required Bearing: 705 Kips
Factored Resistance Available: 388 Kips
Est. Length: 31 ft
No. Production Piles: 5
No. Test Piles: 1



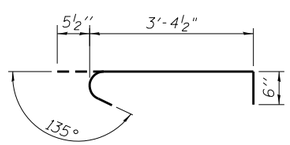
FIELD CUTTING DIAGRAM
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



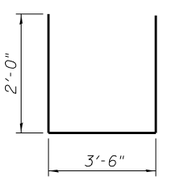
BAR $h_2(E)$



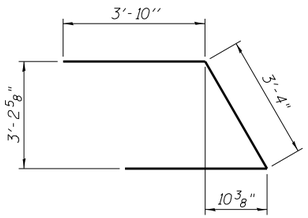
BARS $s_3(E)$ & $s_5(E)$



BAR $s_4(E)$



BAR $u_1(E)$



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	36	#6	13'-10"	
$h_1(E)$	10	#6	20'-8"	
$h_2(E)$	4	#5	10'-4"	
p(E)	12	#7	44'-4"	
$s_3(E)$	46	#5	14'-7"	
$s_4(E)$	12	#5	4'-4"	
$s_5(E)$	2	#5	14'-9"	
* sp(E)	6	#4	2'-0"	
u(E)	10	#6	11'-0"	
$u_1(E)$	2	#5	7'-6"	
$v_1(E)$	86	#8	6'-3"	
$v_2(E)$	8	#5	8'-6"	
$v_3(E)$	18	#5	12'-4"	
Structure Excavation		Cu. Yd.		150
Concrete Structures		Cu. Yd.		29.3
Reinforcement Bars, Epoxy Coated		Pound		5170
Furnishing Steel Piles HP 14x89		Foot		155
Driving Piles		Foot		155
Test Pile Steel HP 14x89		Each		1
Pile Shoes		Each		6

* Length is height of spiral.

For details of piles see sheet 37 of 43.

LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

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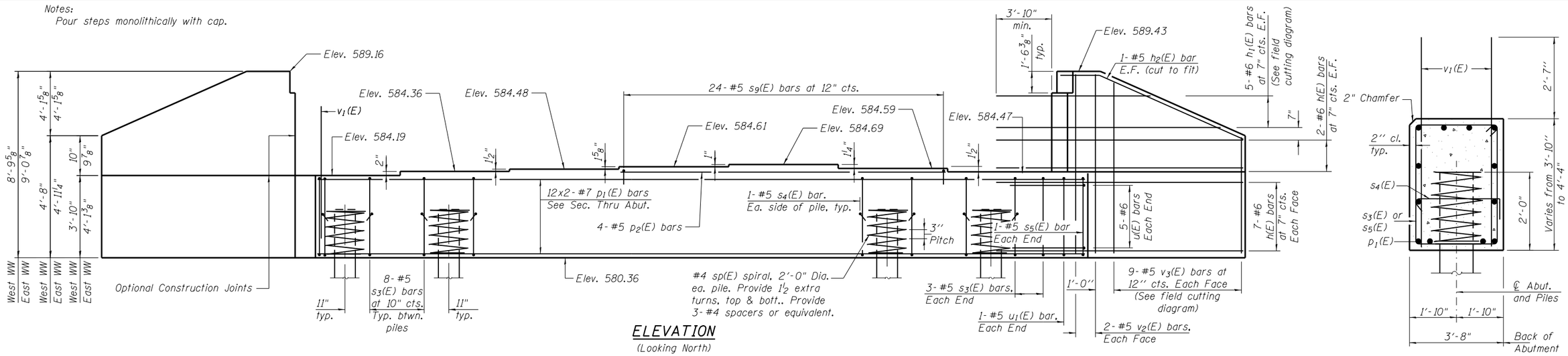
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS (WB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 29 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	262
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

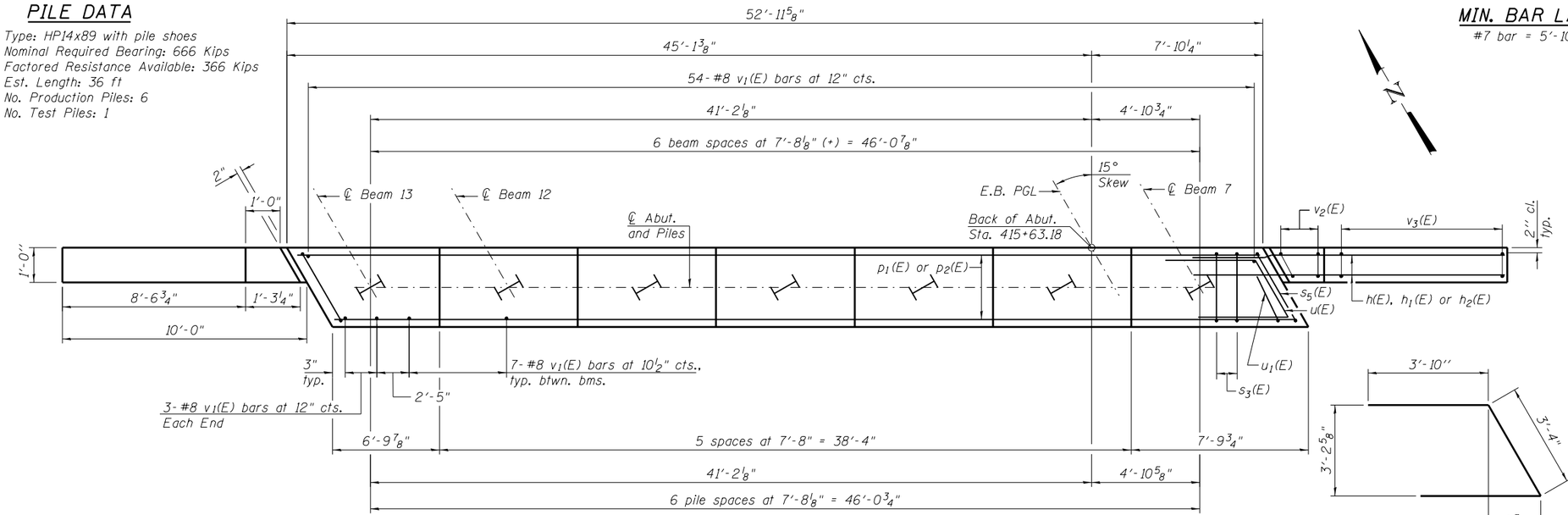
Notes:
Pour steps monolithically with cap.



ELEVATION
(Looking North)

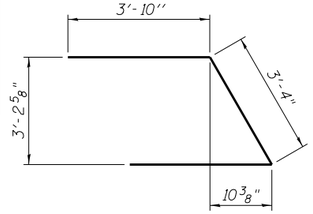
SEC. THRU ABUT.
Dimensions at right angles to abutment.

PILE DATA
Type: HP14x89 with pile shoes
Nominal Required Bearing: 666 Kips
Factored Resistance Available: 366 Kips
Est. Length: 36 ft
No. Production Piles: 6
No. Test Piles: 1

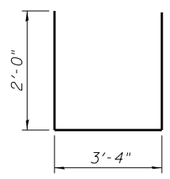


PLAN

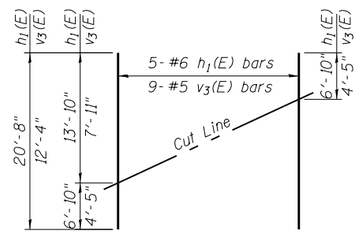
MIN. BAR LAP
#7 bar = 5'-10"



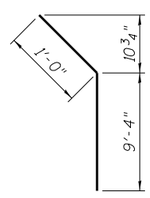
BAR u(E)



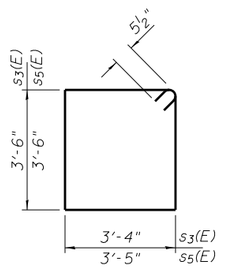
BAR s9(E)



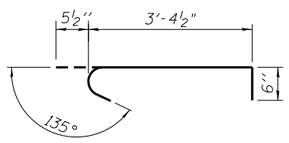
FIELD CUTTING DIAGRAM
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



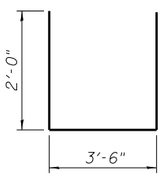
BAR h2(E)



BARS s3(E) & s5(E)



BAR s4(E)



BAR u1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	36	#6	13'-10"	
$h_1(E)$	10	#6	20'-8"	
$h_2(E)$	4	#5	10'-4"	
$p_1(E)$	24	#7	29'-3"	
$p_2(E)$	4	#5	22'-8"	
$s_3(E)$	54	#5	14'-7"	
$s_4(E)$	14	#5	4'-4"	
$s_5(E)$	2	#5	14'-9"	
$s_9(E)$	24	#5	7'-4"	
* sp(E)	7	#4	2'-0"	
u(E)	10	#6	11'-0"	
$u_1(E)$	2	#5	7'-6"	
$v_1(E)$	102	#8	6'-3"	
$v_2(E)$	8	#5	8'-6"	
$v_3(E)$	18	#5	12'-4"	
Structure Excavation		Cu. Yd.		169
Concrete Structures		Cu. Yd.		34.9
Reinforcement Bars, Epoxy Coated		Pound		6240
Furnishing Steel Piles HP 14x89		Foot		216
Driving Piles		Foot		216
Test Pile Steel HP 14x89		Each		1
Pile Shoes		Each		7

* Length is height of spiral.

For details of piles see sheet 37 of 43.

LIN ENGINEERING, LTD.
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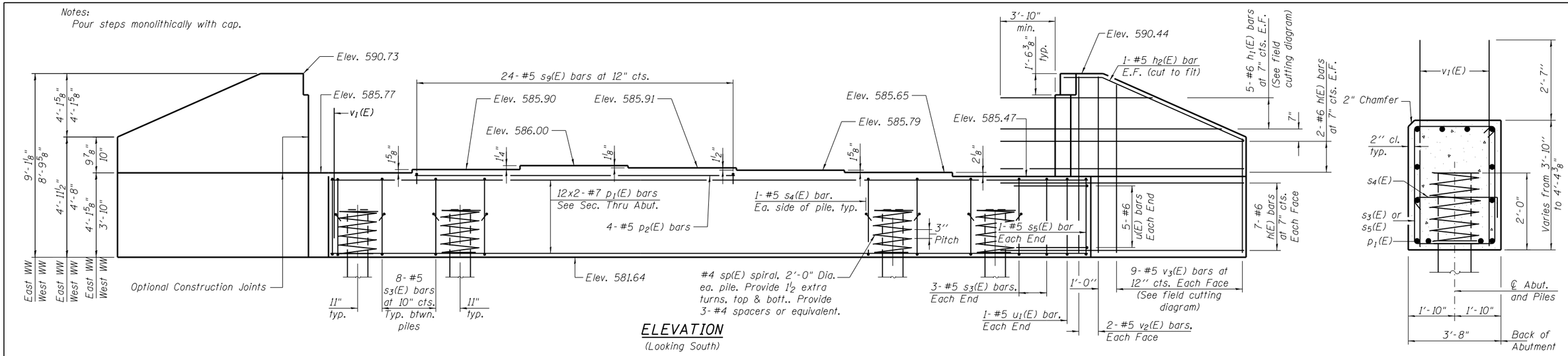
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT DETAILS (EB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 30 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	263
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

Notes:
Pour steps monolithically with cap.

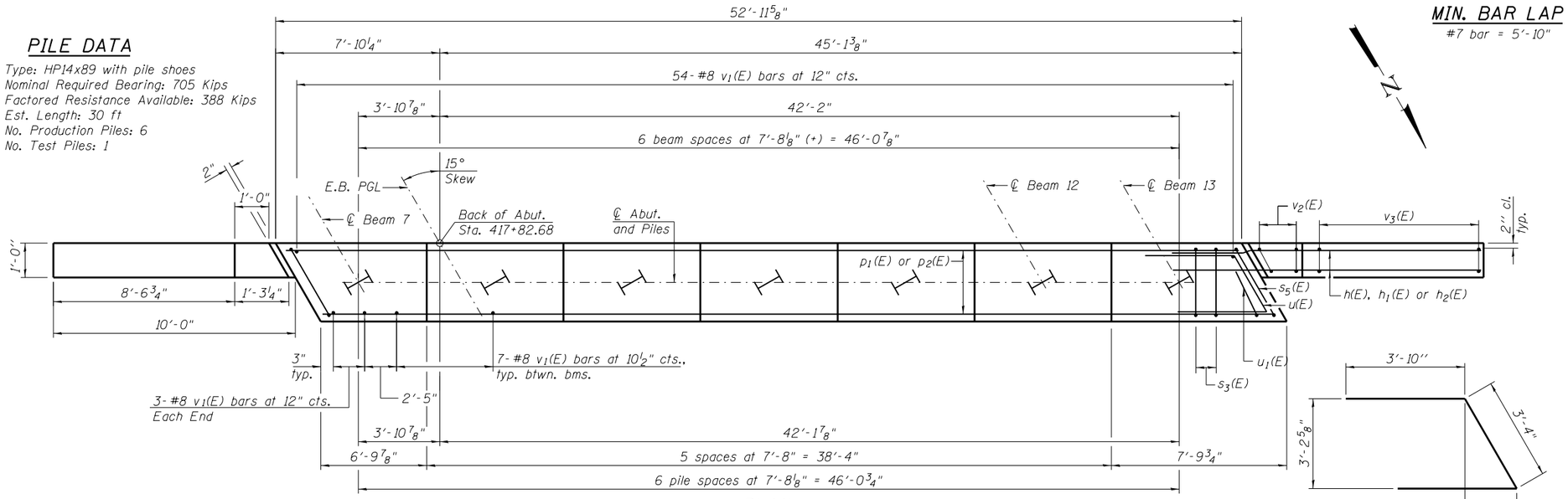


ELEVATION
(Looking South)

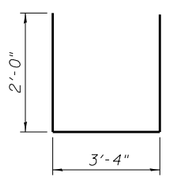
SEC. THRU ABUT.
Dimensions at right angles to abutment.

MIN. BAR LAP
#7 bar = 5'-10"

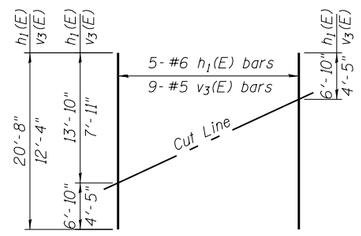
PILE DATA
Type: HP14x89 with pile shoes
Nominal Required Bearing: 705 Kips
Factored Resistance Available: 388 Kips
Est. Length: 30 ft
No. Production Piles: 6
No. Test Piles: 1



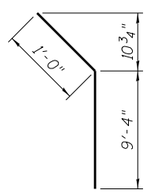
PLAN



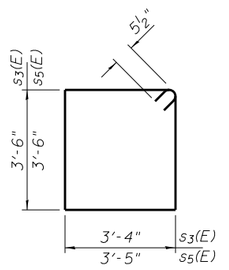
BAR s9(E)



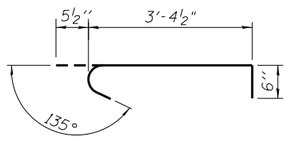
FIELD CUTTING DIAGRAM
Order $h_1(E)$ and $v_3(E)$ full length. Cut as shown and use remainder of bars in opposite face.



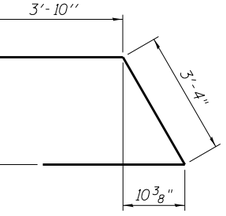
BAR $h_2(E)$



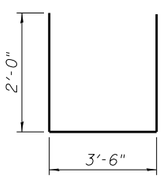
BARS $s_3(E)$ & $s_5(E)$



BAR s4(E)



BAR u(E)



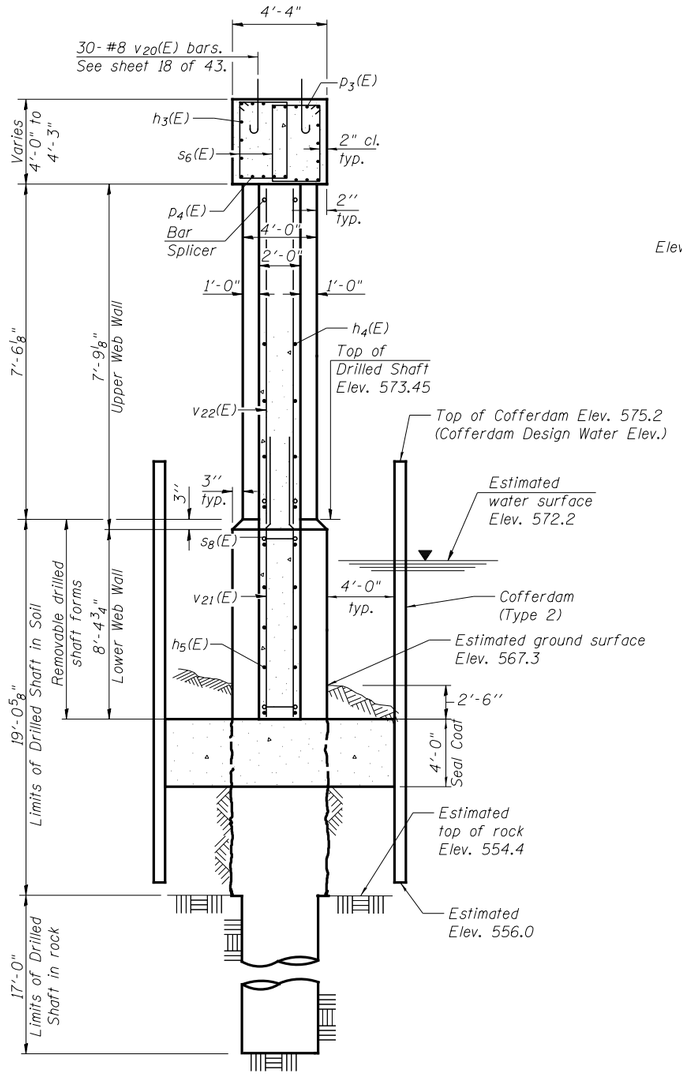
BAR $u_1(E)$

BILL OF MATERIAL

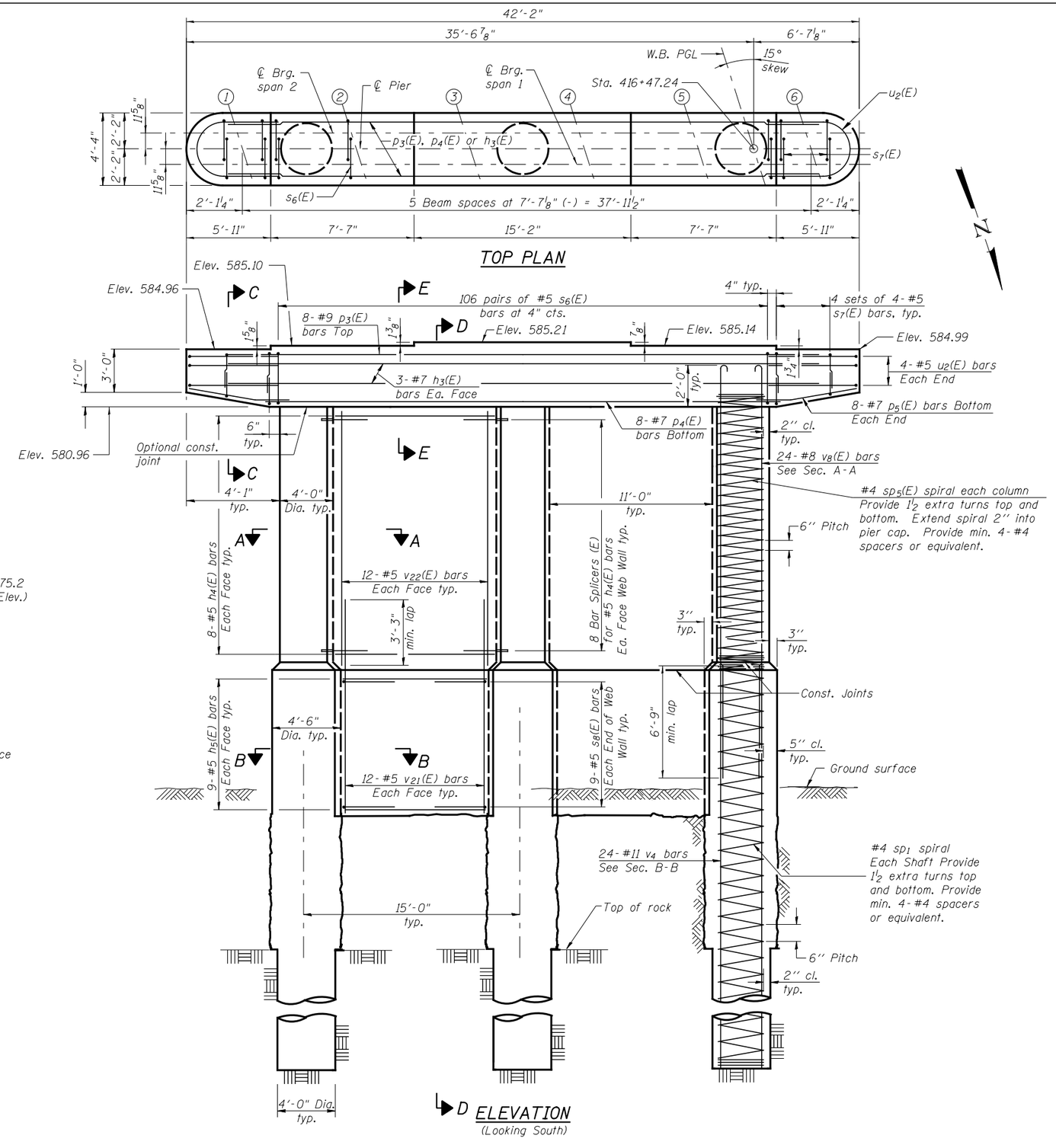
Bar	No.	Size	Length	Shape
h(E)	36	#6	13'-10"	
$h_1(E)$	10	#6	20'-8"	
$h_2(E)$	4	#5	10'-4"	
$p_1(E)$	24	#7	29'-3"	
$p_2(E)$	4	#5	22'-8"	
$s_3(E)$	54	#5	14'-7"	
$s_4(E)$	14	#5	4'-4"	
$s_5(E)$	2	#5	14'-9"	
$s_9(E)$	24	#5	7'-4"	
* sp(E)	7	#4	2'-0"	
u(E)	10	#6	11'-0"	
$u_1(E)$	2	#5	7'-6"	
$v_1(E)$	102	#8	6'-3"	
$v_2(E)$	8	#5	8'-6"	
$v_3(E)$	18	#5	12'-4"	
Structure Excavation		Cu. Yd.		169
Concrete Structures		Cu. Yd.		35.1
Reinforcement Bars, Epoxy Coated		Pound		6240
Furnishing Steel Piles HP 14x89		Foot		180
Driving Piles		Foot		180
Test Pile Steel HP 14x89		Each		1
Pile Shoes		Each		7

* Length is height of spiral.
For details of piles see sheet 37 of 43.

Notes:
For sections A-A, B-B, C-C, and E-E, bar details and bill of material, see sheet 36 of 43.
Seal coat thickness and cofferdam tip elevation are dependent on Contractor's design.



SECTION D-D



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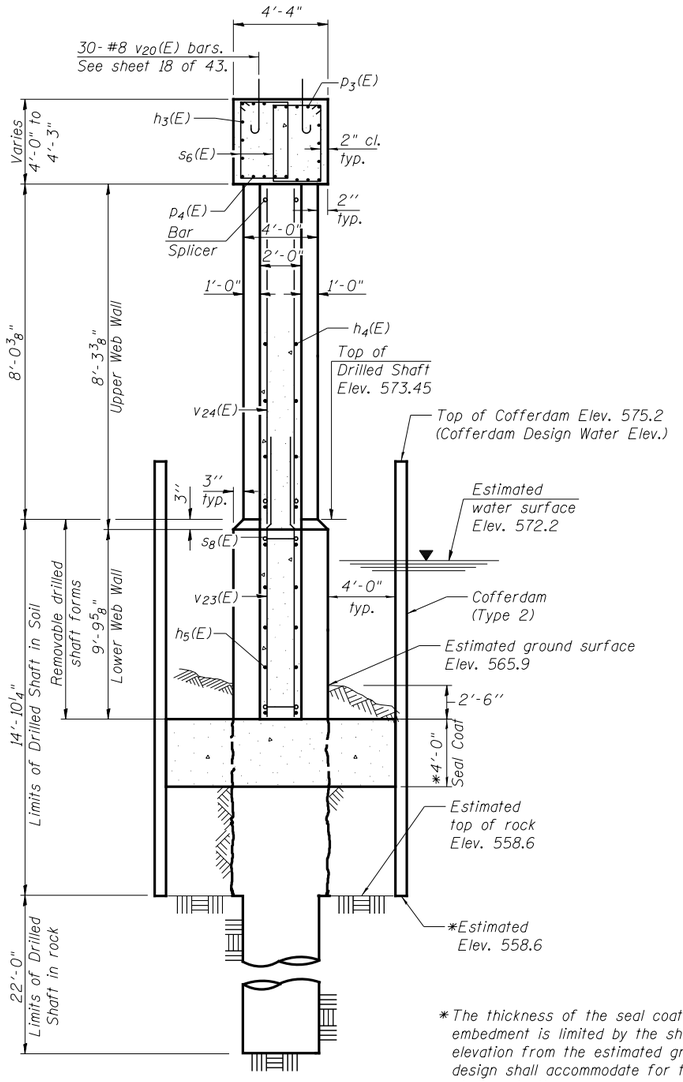
	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 (WB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 32 OF 43 SHEETS

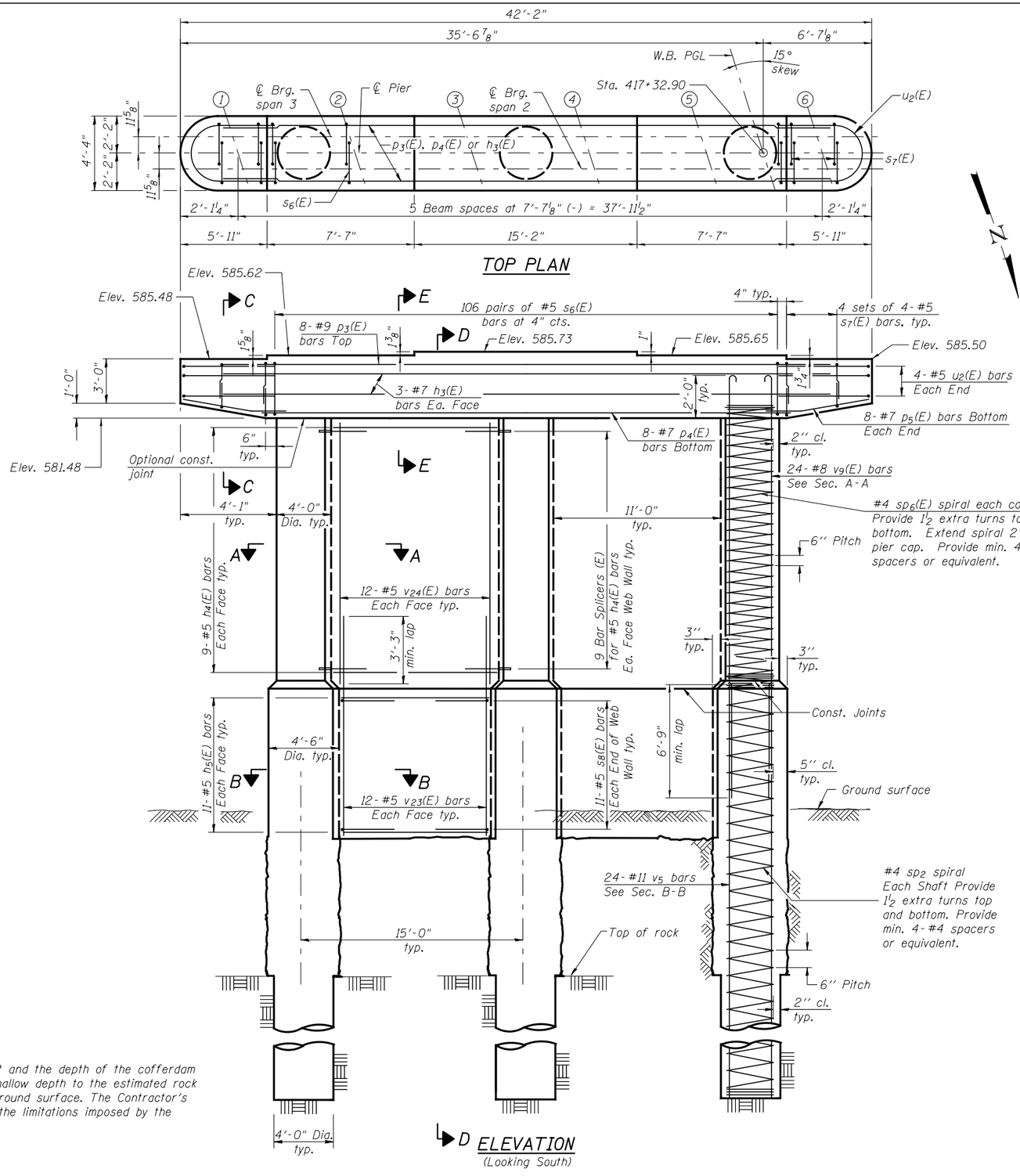
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	265
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

Notes:
For sections A-A, B-B, C-C, and E-E, bar details and bill of material, see sheet 36 of 43.
Seal coat thickness and cofferdam tip elevation are dependent on Contractor's design.



SECTION D-D

*The thickness of the seal coat and the depth of the cofferdam embedment is limited by the shallow depth to the estimated rock elevation from the estimated ground surface. The Contractor's design shall accommodate for the limitations imposed by the shallow depth.



D ELEVATION (Looking South)

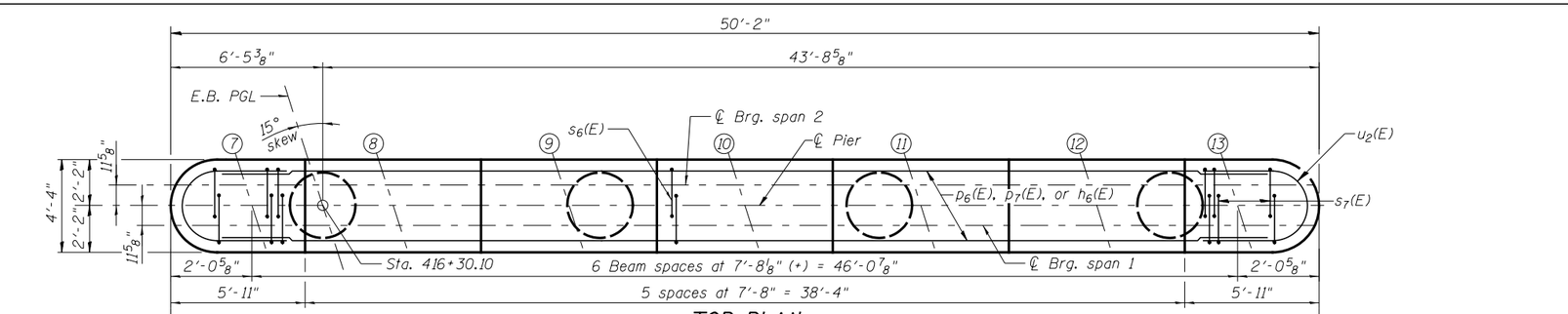
LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois	USER NAME =	DESIGNED - PSS	REVISED -
	FILE NAME =	CHECKED - LMS	REVISED -
	PLOT SCALE =	DRAWN - AJF	REVISED -
	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

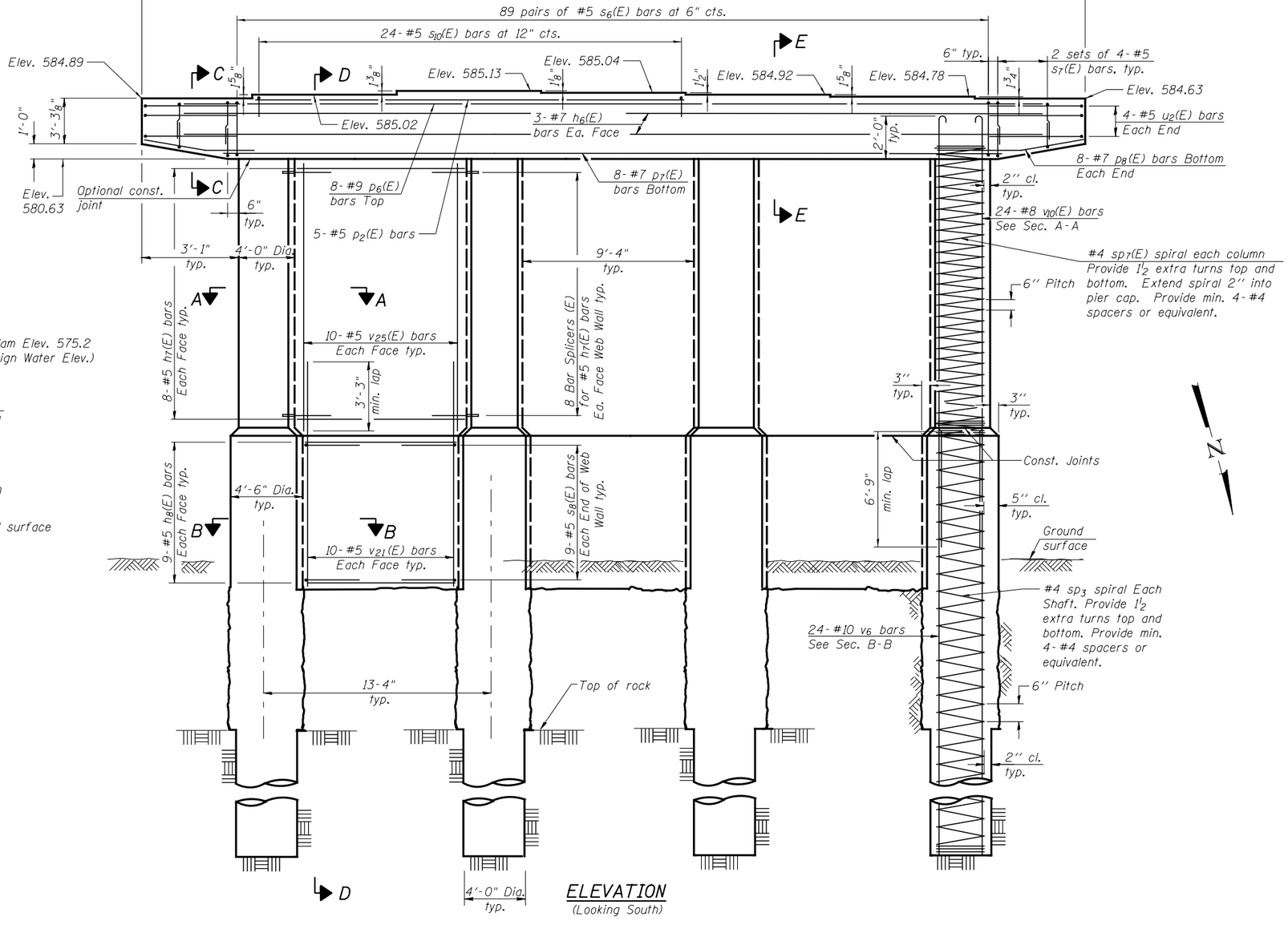
PIER 2 (WB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 33 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	266
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		

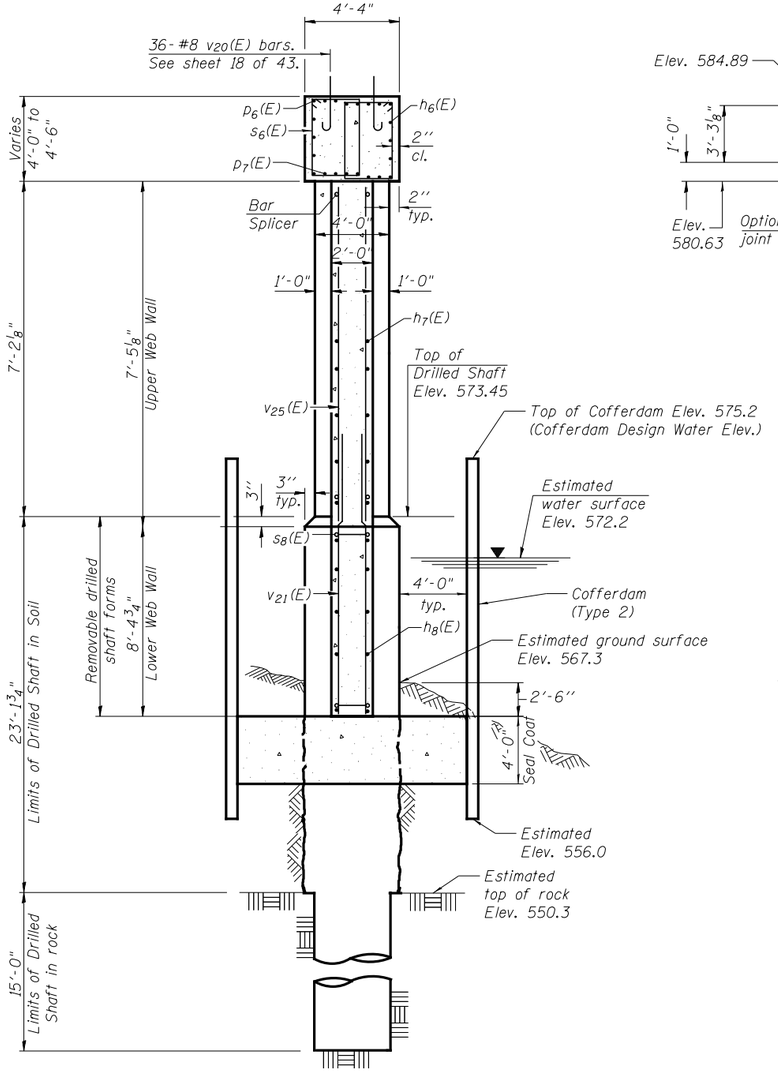
Notes:
For sections A-A, B-B, C-C, and E-E, bar details and bill of material, see sheet 36 of 43.
Seal coat thickness and cofferdam tip elevation are dependent on Contractor's design.



TOP PLAN



ELEVATION
(Looking South)



SECTION D-D

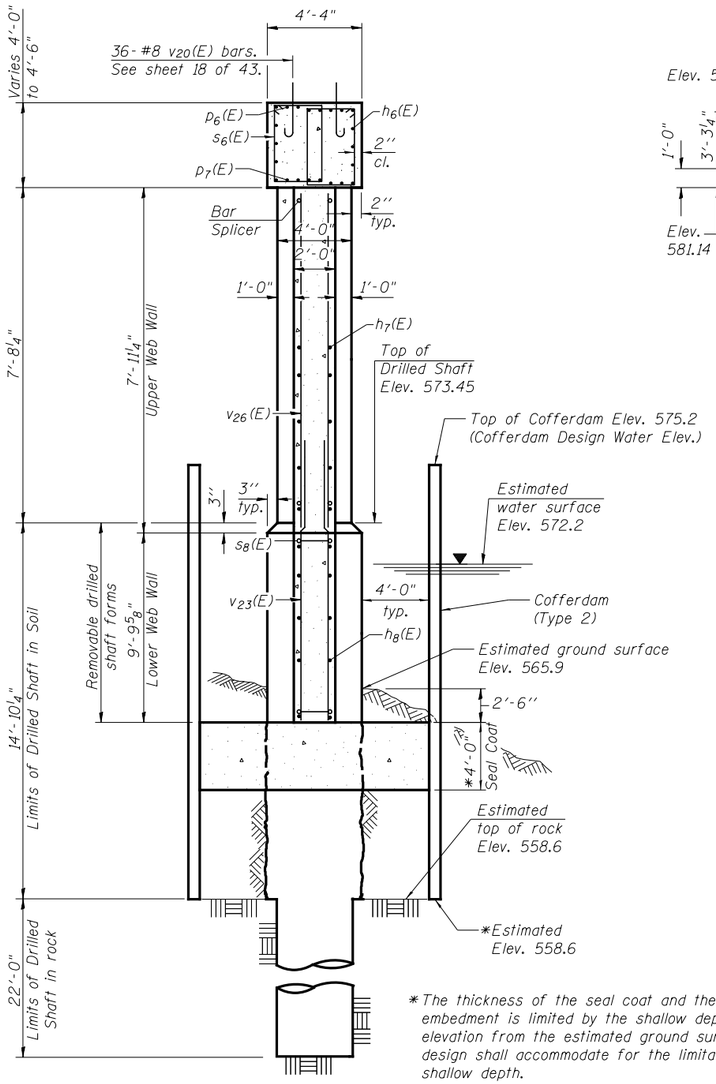
LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois	USER NAME =	DESIGNED - PSS	REVISED -
	FILE NAME =	CHECKED - LMS	REVISED -
	PLOT SCALE =	DRAWN - AJF	REVISED -
	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 (EB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 34 OF 43 SHEETS

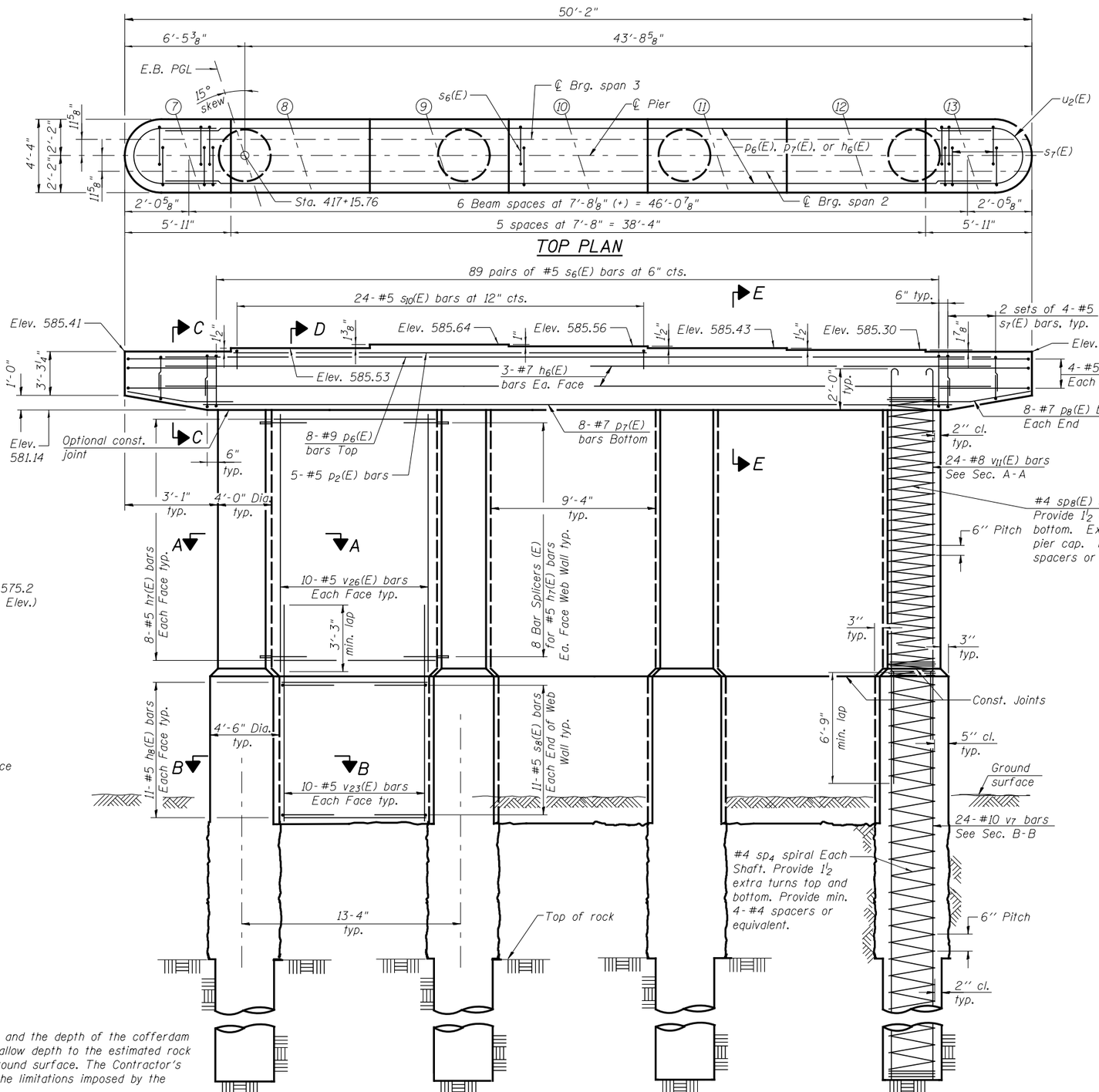
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	267
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

Notes:
For sections A-A, B-B, C-C, and E-E, bar details and bill of material, see sheet 36 of 43.
Seal coat thickness and cofferdam tip elevation are dependent on Contractor's design.



*The thickness of the seal coat and the depth of the cofferdam embedment is limited by the shallow depth to the estimated rock elevation from the estimated ground surface. The Contractor's design shall accommodate for the limitations imposed by the shallow depth.

SECTION D-D



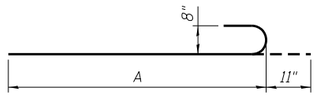
ELEVATION
(Looking South)

LIN ENGINEERING, LTD. Consulting Engineers Westmont, Illinois	USER NAME =	DESIGNED - PSS	REVISED -
	FILE NAME =	CHECKED - LMS	REVISED -
	PLOT SCALE =	DRAWN - AJF	REVISED -
	PLOT DATE =	CHECKED - LMS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 (EB)
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 35 OF 43 SHEETS

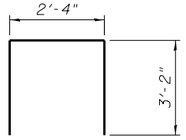
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	268
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



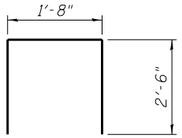
BARS $v_8(E)$ thru $v_{11}(E)$

BARS $v_8(E)$ thru $v_{11}(E)$

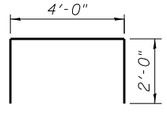
Bar	A
$v_8(E)$	16'-4"
$v_9(E)$	16'-10"
$v_{10}(E)$	16'-0"
$v_{11}(E)$	16'-6"



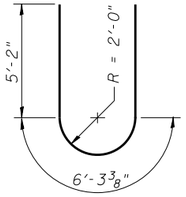
BAR $s_7(E)$



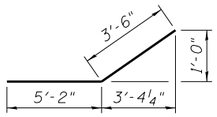
BAR $s_8(E)$



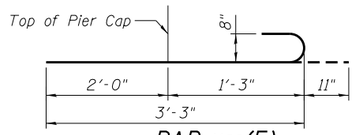
BAR $s_{10}(E)$



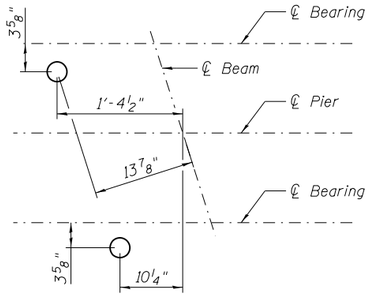
BAR $u_2(E)$



BAR $p_5(E)$

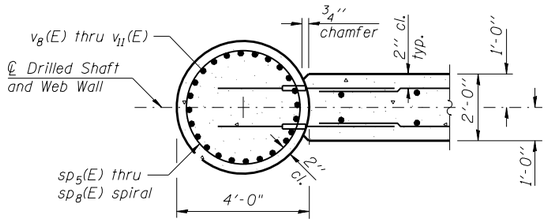


BAR $v_{20}(E)$

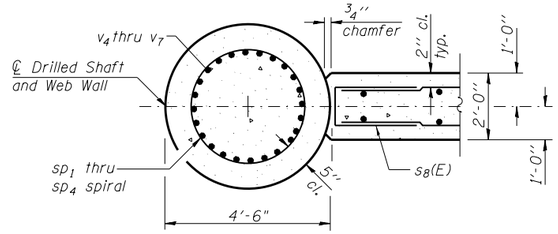


ANCHOR BOLT LAYOUT

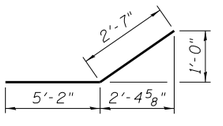
(Pier 1 and 2 EB and WB)
(Beam 1 shown. Beam 6, 7, and 13 similar)



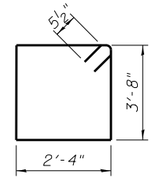
SECTION A-A



SECTION B-B



BAR $p_8(E)$



BAR $s_6(E)$

WB PIER 1 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	$h_3(E)$	6	#7	37'-10"	——
	$h_4(E)$	32	#5	10'-8"	——
	$h_5(E)$	36	#5	10'-2"	——
	$p_3(E)$	8	#9	37'-10"	——
	$p_4(E)$	8	#7	35'-0"	——
	$p_5(E)$	16	#7	8'-8"	⌐
	$s_6(E)$	212	#5	12'-11"	⊏
	$s_7(E)$	32	#5	8'-8"	⊔
	$s_8(E)$	36	#5	6'-8"	⊔
**	sp_1	3	#4	35'-8"	∿∿∿
**	$sp_5(E)$	3	#4	7'-6"	∿∿∿
	$u_2(E)$	8	#5	16'-8"	⊃
	v_4	72	#11	35'-8"	——
	$v_8(E)$	72	#8	17'-3"	⊃
	$v_{20}(E)$	30	#8	4'-2"	⊃
	$v_{21}(E)$	48	#5	11'-8"	——
	$v_{22}(E)$	48	#5	7'-2"	——
	Cofferdam Excavation			Cu. Yd.	128
	Seal Coat Concrete			Cu. Yd.	78.8
	Concrete Structures			Cu. Yd.	301.4
	Reinforcement Bars			Pound	15330
	Reinforcement Bars, Epoxy Coated			Pound	11630
	Drilled Shaft in Soil			Cu. Yd.	22.8
	Drilled Shaft in Rock			Cu. Yd.	23.8
	Cofferdam (Type 2) (Location-1)			Each	1

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals = 2'-7"
** Length is height of spiral.

WB PIER 2 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	$h_3(E)$	6	#7	37'-10"	——
	$h_4(E)$	36	#5	10'-8"	——
	$h_5(E)$	44	#5	10'-2"	——
	$p_3(E)$	8	#9	37'-10"	——
	$p_4(E)$	8	#7	35'-0"	——
	$p_5(E)$	16	#7	8'-8"	⌐
	$s_6(E)$	212	#5	12'-11"	⊏
	$s_7(E)$	32	#5	8'-8"	⊔
	$s_8(E)$	44	#5	6'-8"	⊔
**	sp_2	3	#4	36'-6"	∿∿∿
**	$sp_6(E)$	3	#4	8'-0"	∿∿∿
	$u_2(E)$	8	#5	16'-8"	⊃
	v_5	72	#11	36'-6"	——
	$v_9(E)$	72	#8	17'-9"	⊃
	$v_{20}(E)$	30	#8	4'-2"	⊃
	$v_{23}(E)$	48	#5	13'-1"	——
	$v_{24}(E)$	48	#5	7'-8"	——
	Cofferdam Excavation			Cu. Yd.	128
	Seal Coat Concrete			Cu. Yd.	78.8
	Concrete Structures			Cu. Yd.	302.5
	Reinforcement Bars			Pound	15680
	Reinforcement Bars, Epoxy Coated			Pound	12030
	Drilled Shaft in Soil			Cu. Yd.	13.0
	Drilled Shaft in Rock			Cu. Yd.	30.8
	Cofferdam (Type 2) (Location-2)			Each	1

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals = 2'-7"
** Length is height of spiral.

EB PIER 1 BILL OF MATERIAL

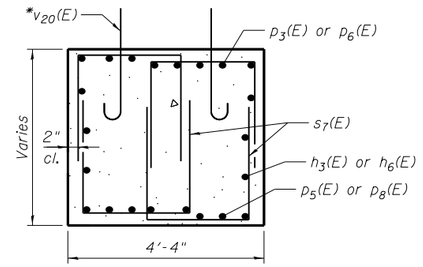
	Bar	No.	Size	Length	Shape
	$h_6(E)$	6	#7	45'-10"	——
	$h_7(E)$	48	#5	9'-0"	——
	$h_8(E)$	54	#5	8'-6"	——
	$p_2(E)$	5	#5	22'-8"	——
	$p_6(E)$	8	#9	45'-10"	——
	$p_7(E)$	8	#7	45'-0"	——
	$p_8(E)$	16	#7	7'-9"	⌐
	$s_6(E)$	178	#5	12'-11"	⊏
	$s_7(E)$	16	#5	8'-8"	⊔
	$s_8(E)$	54	#5	6'-8"	⊔
	$s_{10}(E)$	24	#5	8'-0"	⊔
**	sp_3	4	#4	37'-9"	∿∿∿
**	$sp_7(E)$	4	#4	7'-2"	∿∿∿
	$u_2(E)$	8	#5	16'-8"	⊃
	v_6	96	#10	37'-9"	——
	$v_{10}(E)$	96	#8	16'-11"	⊃
	$v_{20}(E)$	36	#8	4'-2"	⊃
	$v_{21}(E)$	60	#5	11'-8"	——
	$v_{25}(E)$	60	#5	6'-10"	——
	Cofferdam Excavation			Cu. Yd.	158
	Seal Coat Concrete			Cu. Yd.	97.3
	Concrete Structures			Cu. Yd.	419.1
	Reinforcement Bars			Pound	17960
	Reinforcement Bars, Epoxy Coated			Pound	13520
	Drilled Shaft in Soil			Cu. Yd.	40.1
	Drilled Shaft in Rock			Cu. Yd.	28.0
	Cofferdam (Type 2) (Location-3)			Each	1

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals = 2'-7"
** Length is height of spiral.

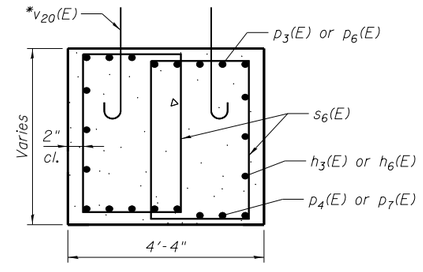
EB PIER 2 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	$h_6(E)$	6	#7	45'-10"	——
	$h_7(E)$	48	#5	9'-0"	——
	$h_8(E)$	66	#5	8'-6"	——
	$p_2(E)$	5	#5	22'-8"	——
	$p_6(E)$	8	#9	45'-10"	——
	$p_7(E)$	8	#7	45'-0"	——
	$p_8(E)$	16	#7	7'-9"	⌐
	$s_6(E)$	178	#5	12'-11"	⊏
	$s_7(E)$	16	#5	8'-8"	⊔
	$s_8(E)$	66	#5	6'-8"	⊔
	$s_{10}(E)$	24	#5	8'-0"	⊔
**	sp_4	4	#4	36'-6"	∿∿∿
**	$sp_8(E)$	4	#4	7'-8"	∿∿∿
	$u_2(E)$	8	#5	16'-8"	⊃
	v_7	96	#10	36'-6"	——
	$v_{11}(E)$	96	#8	17'-5"	⊃
	$v_{20}(E)$	36	#8	4'-2"	⊃
	$v_{23}(E)$	60	#5	13'-1"	——
	$v_{26}(E)$	60	#5	7'-4"	——
	Cofferdam Excavation			Cu. Yd.	158
	Seal Coat Concrete			Cu. Yd.	97.3
	Concrete Structures			Cu. Yd.	397.6
	Reinforcement Bars			Pound	17370
	Reinforcement Bars, Epoxy Coated			Pound	13990
	Drilled Shaft in Soil			Cu. Yd.	17.3
	Drilled Shaft in Rock			Cu. Yd.	41.0
	Cofferdam (Type 2) (Location-4)			Each	1

Cast steps monolithically with cap.
Space cap reinforcement to miss anchor bolts.
Minimum lap for spirals = 2'-7"
** Length is height of spiral.



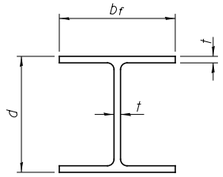
SECTION C-C



SECTION E-E

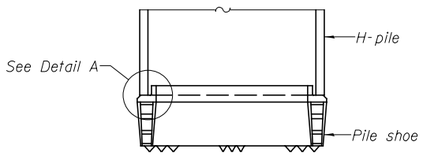
*For layout of $v_{20}(E)$ bars, see sheet 18 of 43.

Note:
For locations of section A-A, B-B, C-C, and E-E see sheets 32 thru 35 of 43.

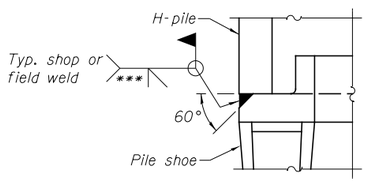


STEEL PILE TABLE

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

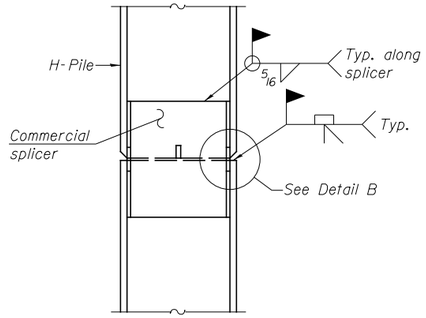


ELEVATION

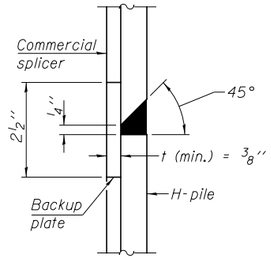


DETAIL A

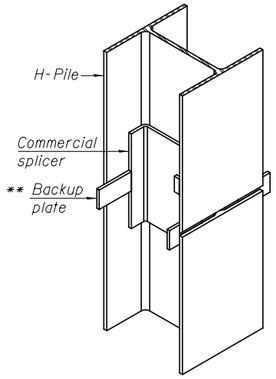
H-PILE SHOE ATTACHMENT



ELEVATION

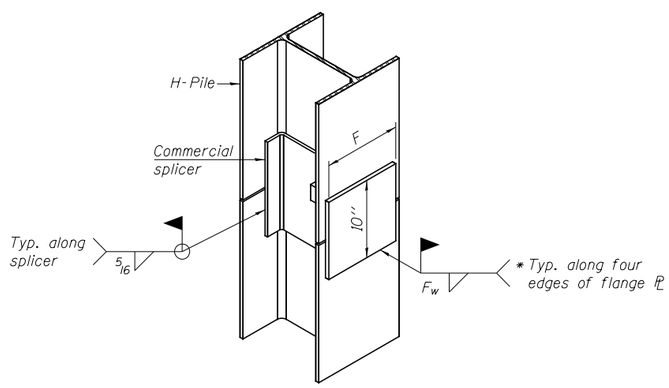


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



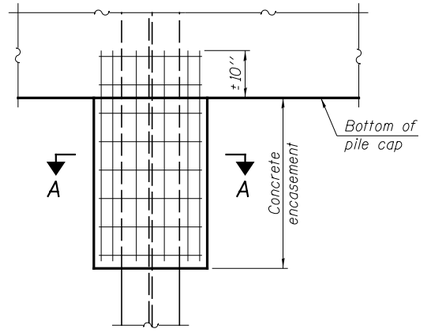
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

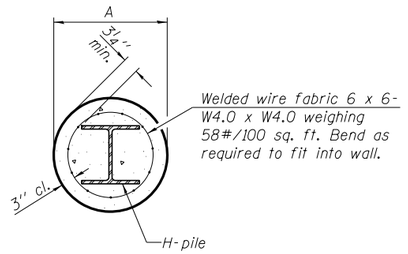
Interrupt welds 1/4'' from end of web and/or each flange.

Remove portions of backup plates that extend outside the flanges.

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



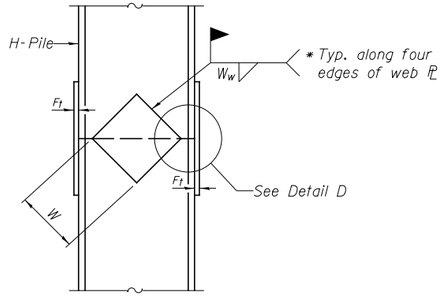
ELEVATION



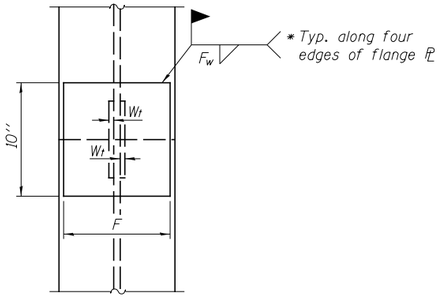
SECTION A-A

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

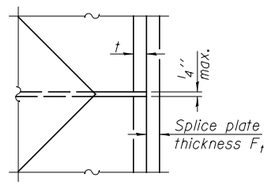
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

F-HP 1-27-12

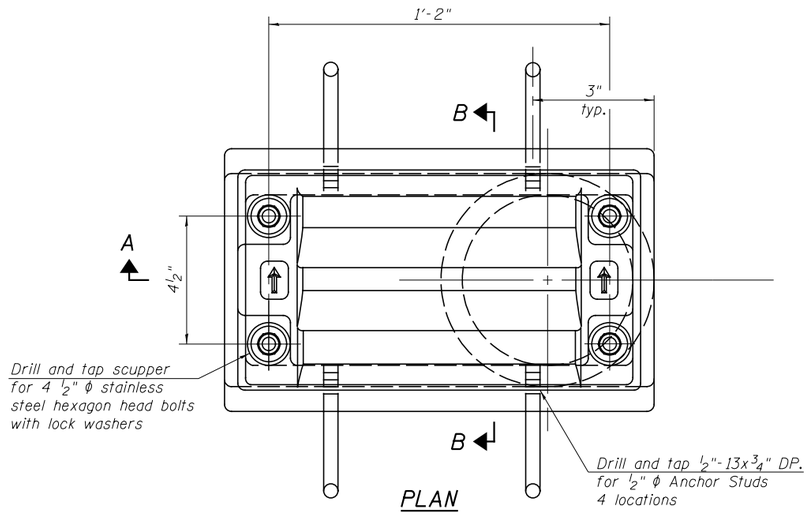
LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

USER NAME =	DESIGNED - PSS	REVISED -
FILE NAME =	CHECKED - LMS	REVISED -
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE =	CHECKED - LMS	REVISED -

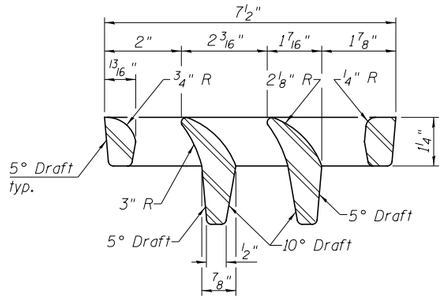
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 37 OF 43 SHEETS

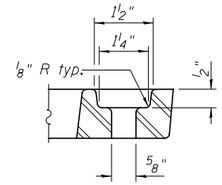
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	270
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		



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.

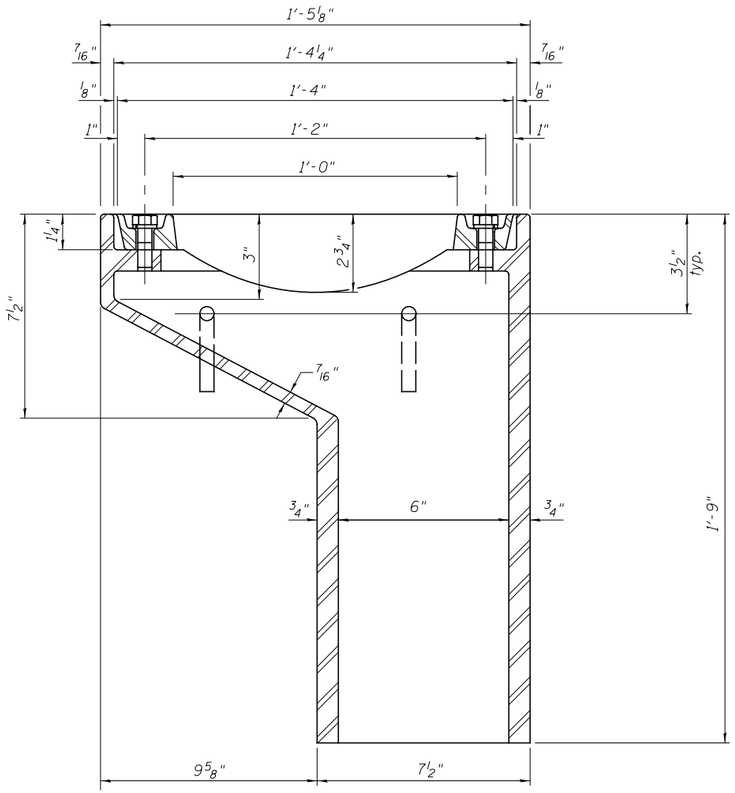
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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.

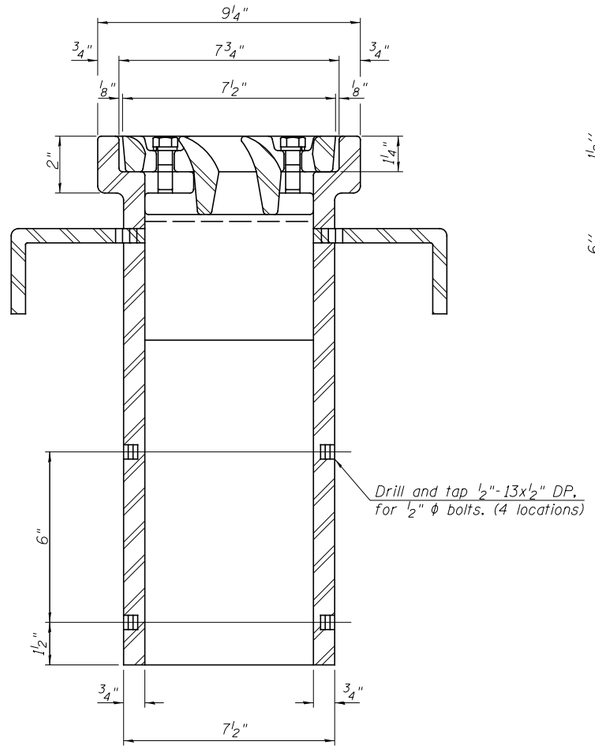
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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.

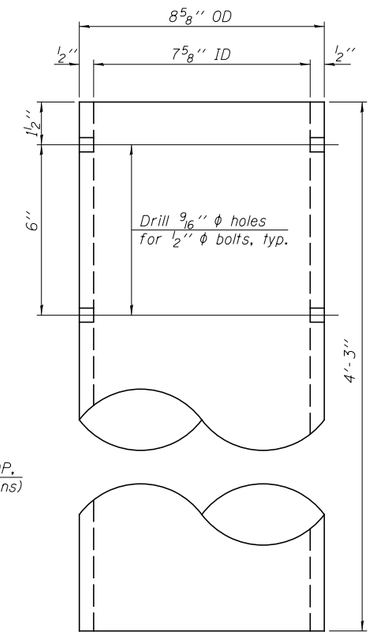


SECTION A-A

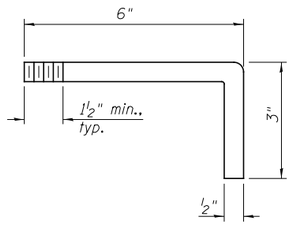
See sheet 17 of 43 for scupper location relative to parapet.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	1

DS-11

7-1-10

USER NAME =	DESIGNED - PSS	REVISED -	
FILE NAME =	CHECKED - LMS	REVISED -	
PLOT SCALE =	DRAWN - AJF	REVISED -	
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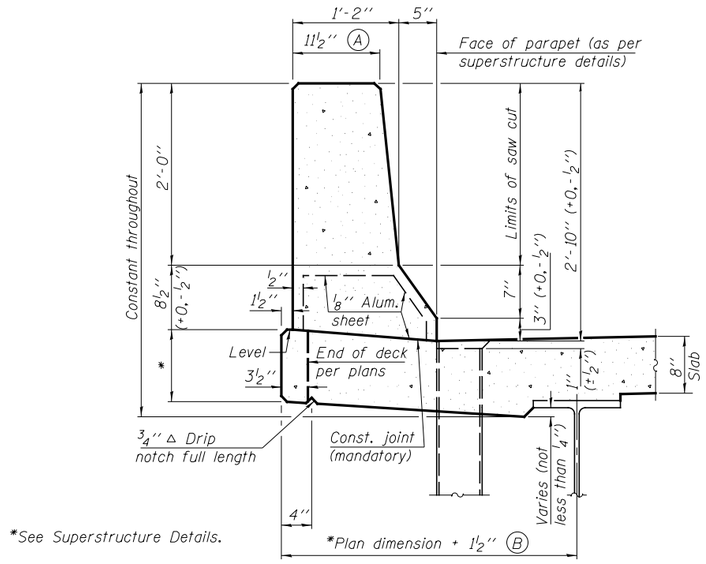
LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

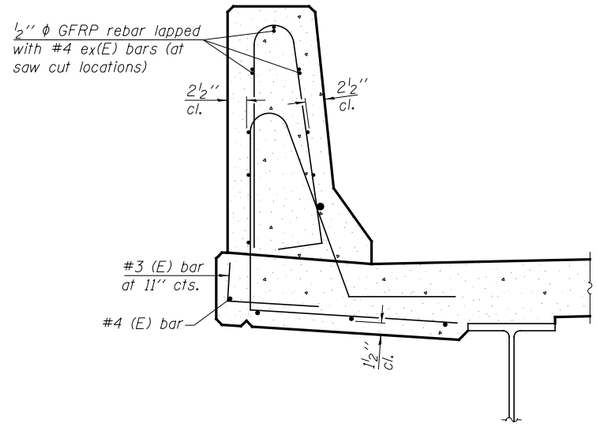
DRAINAGE SCUPPER, DS-11
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 38 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	271
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



34" F SHAPE PARAPET SECTION

(Showing dimensions)



SECTION

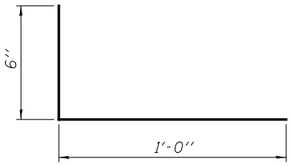
(34" parapet shown - 42" parapet similar)
(Showing reinforcement clearances for slip forming and additional reinforcement bars)

GENERAL NOTES

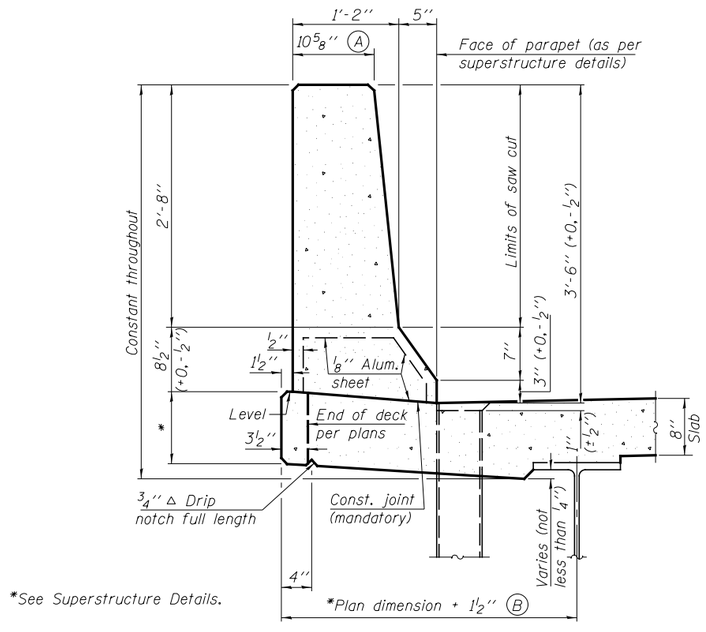
All dimensions shall remain the same as shown on superstructure details, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0165 cu. yds./ft. for 34" parapet or = 0.0223 cu. yds./ft. for 42" parapet.

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.

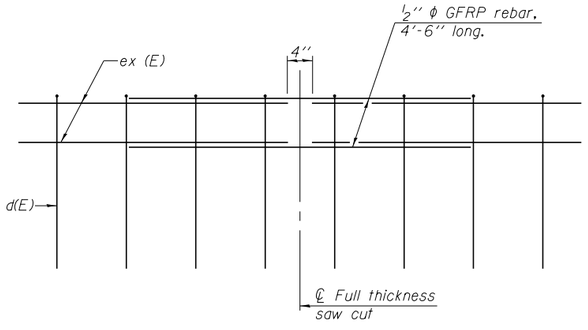


#3 (E) BAR



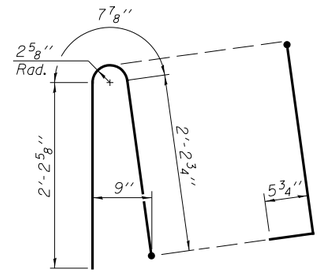
42" F SHAPE PARAPET SECTION

(Showing dimensions)



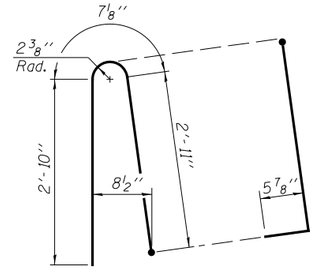
GFRP REBAR STIFFENING DETAIL

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



ALTERNATE BAR d(E)

(For 34" parapet when conduit is present)



ALTERNATE BAR d(E)

(For 42" parapet when conduit is present)

SFP 34-42 8-16-12

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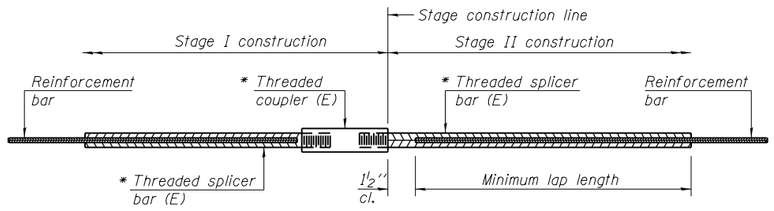
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 39 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	272
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

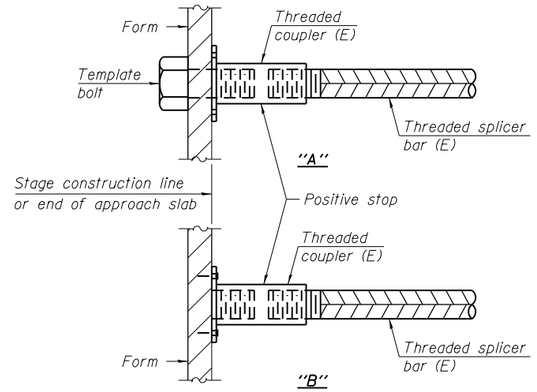
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

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
Table 5: Epoxy bar, Class C
Table 6: Epoxy bar, Top bar top, Class C

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

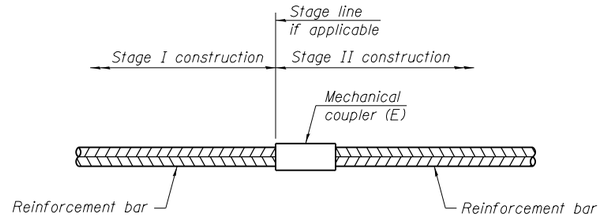
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Piers	#5	328	5



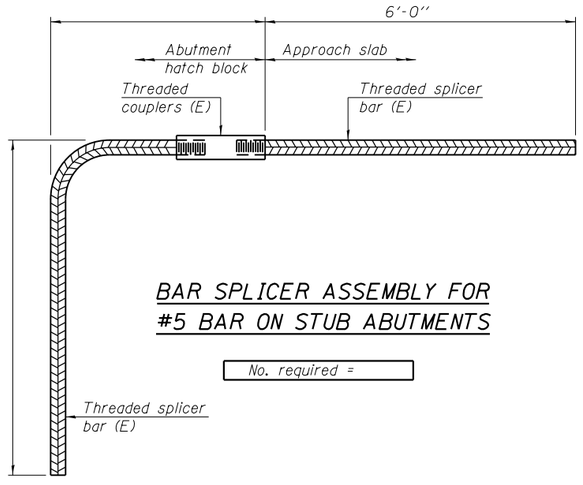
INSTALLATION AND SETTING METHODS

"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



NOTES

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

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

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

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

BSD-1 8-31-12

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STATE OF ILLINOIS
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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 40 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	273
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 1

Date 8/30/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over the Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

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

STRUCT. NO. 037-0179, 0180
Station

BORING NO. B-1
Station 418+07
Offset 5.00ft Lt CL Median
Ground Surface Elev. 587.70 ft

Surface Water Elev. 19.50 ft
Stream Bed Elev. 22.00 ft

Groundwater Elev.:
First Encounter 565.2 ft
Upon Completion Wash ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				LOOSE brown fine SAND
585.20				
	3			MEDIUM brown fine SAND
	6			
583.70	10			
-5				
	6			MEDIUM brown fine SAND
	7		13.0	
581.20	7			
				MEDIUM gray moist fine SAND
	8			
	9			
578.20	9			
-10				
	3			STIFF gray CLAY LOAM with SAND lens
	4	1.5	31.0	
576.20	7	B		
				STIFF gray SILTY LOAM with SAND lens
	3			
	3	1.7	24.0	
573.20	6	S		
-15				
	2			SOFT gray SILT
	2	0.4	31.0	
571.20	3	B		
				MEDIUM gray SILTY CLAY LOAM
	2			
	3	0.8	34.0	
568.20	5	B		
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	3			MEDIUM gray moist fine SAND
	3			
566.20	7			
				MEDIUM gray fine SAND
	4			
	3			
563.70	6			
-25				
	15			VERY DENSE gray SANDY GRAVEL
	100/6"			
560.70				
	23			Wash
	32			VERY DENSE light gray weathered SHALE
558.70	47			
-30				
	100/9"			VERY DENSE light gray weathered SHALE
556.20				
	100/6"			Wash
554.70				VERY DENSE light gray SHALE
				Auger Refusal at 33'
				Borehole continued with rock coring.
-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Page 1 of 1

Date 8/30/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over the Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

COUNTY Henry CORING METHOD ____

STRUCT. NO. 037-0179, 0180
Station

BORING NO. B-1
Station 418+07
Offset 5.00ft Lt CL Median
Ground Surface Elev. 587.70 ft

CORING BARREL TYPE & SIZE ____
Core Diameter 2 in
Top of Rock Elev. 564.70 ft
Begin Core Elev. 554.70 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
554.70	1	90	60	4.8		Siltstone: light gray-buff, dense, chalky w/irregular fractures. Too fracture-prone for testing.
-35						
549.70	2	100	32	6		Siltstone: as above to 551.9, turning to Dolomite, buff-white to gray, dense, aphanitic, w/occasional shaley partings, mostly 1" to 3" segments.
-40						
544.70	3	100	82	3	1161.0	Dolomite: buff white to gray, dense & finely crystalline w/some pitting, medium to thickly bedded. t.s.f.: 548.1 to 547.3
-45						
539.70						End of Boring
-50						

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)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 1

Date 9/1/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over the Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

COUNTY Henry DRILLING METHOD Hollow Stem Auger HAMMER TYPE B-53 Diedrich Autmatic

STRUCT. NO. 037-0179, 0180
Station

BORING NO. B-2
Station 415+45
Offset 6.00ft Rt CL Median
Ground Surface Elev. 586.00 ft

Surface Water Elev. 19.50 ft
Stream Bed Elev. 22.00 ft

Groundwater Elev.:
First Encounter 563.5 ft
Upon Completion Wash ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
583.50				
	11			MEDIUM brown dirty fine SAND
	12			
582.00	14			
-5				
	9			MEDIUM gray dirty fine SAND
	11			
579.50	14			
	9			MEDIUM gray dirty fine SAND
	10			
	9			
576.50				
-10				
	7			STIFF gray SANDY LOAM
	9	1.6		
574.50	16	P		
	4			VERY STIFF gray SILTY LOAM
	5	2.0	20.0	
572.00	8	B		
-15				
	3			MEDIUM gray SILTY LOAM
	4	0.9	29.0	
569.50	7	B		
	6			VERY STIFF gray SILTY LOAM
	7	2.4	20.0	
566.50	9	S		
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	5			MEDIUM gray moist fine SAND
	12			
564.50	15			
				LOOSE gray fine SAND
	1			
	2			
561.50	5			
-25				
	3			MEDIUM gray SANDY GRAVEL
	9			
559.50	8			
				Wash
	5			DENSE gray clean medium coarse SAND
	16			
556.50	14			
-30				
	8			MEDIUM gray fine SAND
	9			
554.00	13			
	100/6"			VERY DENSE gray DOLOMITE
552.00				Auger Refusal at 34'
				Borehole continued with rock coring.
-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)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 41 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	274
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

ROCK CORE LOG

Page 1 of 1

Date 9/1/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over the Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

COUNTY Henry CORING METHOD

STRUCT. NO. 037-0179, 0180 CORING BARREL TYPE & SIZE

Station

BORING NO. B-2 Core Diameter 2 in

Station 415+45 Top of Rock Elev. 554.00 ft

Offset 6.00ft Rt CL Median Begin Core Elev. 552.00 ft

Ground Surface Elev. 586.00 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: buff-white to gray, dense, aphanitic w/sporadic shaley partings. t.s.f.: 550.4 to 549.9	552.00	1	100	25	4.2	904.0
	547.00					
Dolomite: as above, finely crystalline w/some pitting. t.s.f.: 545.0 to 543.9		2	100	73	3	856.0
	542.00					
Dolomite: as above, displaying re-cemented fractures & occasional pitting. t.s.f.: 539.4 to 538.3		3	100	60	2.6	607.0
	537.00					
End of Boring						

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)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 1

Date 9/7/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

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

STRUCT. NO. 037-0179, 0180

Station

BORING NO. B-3

Station 417+11

Offset 6.00ft Rt EB CL

Ground Surface Elev. 588.10 ft

Surface Water Elev. ft

Stream Bed Elev. ft

Groundwater Elev.:

First Encounter 568.1 ft ▼

Upon Completion Wash ft

After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
567.10				Streambed
	1			LOOSE gray fine SAND
564.10	2			
	3			
	0			LOOSE gray fine SAND
561.60	0			
	5			
	18			Wash MEDIUM gray dirty SANDY GRAVEL
	16			
558.60	13			
	14			VERY DENSE gray weathered SHALE with LIMESTONE fragments
	00/12"			Auger Refusal at 32'
556.10				Borehole continued with rock coring.
568.10 ▼				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
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ROCK CORE LOG

Page 1 of 1

Date 9/7/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of Cleveland Road, I-80 over Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC., TWP. 17N, RNG. 1E

COUNTY Henry CORING METHOD

STRUCT. NO. 037-0179, 0180 CORING BARREL TYPE & SIZE

Station

BORING NO. B-3 Core Diameter 2 in

Station 417+11 Top of Rock Elev. 557.60 ft

Offset 6.00ft Rt EB CL Begin Core Elev. 556.10 ft

Ground Surface Elev. 588.10 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: buff-white, predominantly aphanitic, thinly bedded, fractured & chalky	556.10	1	100	0	4.2	
	551.10					
Dolomite: As above		2	100	0	3	
	546.10					
Dolomite: as above, though not as fractured. t.s.f.: 542.9 to 542.1		3	100	23	2.6	1408.0
	541.10					
End of Boring						

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)

LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

USER NAME =	DESIGNED - PSS	REVISED -	
FILE NAME =	CHECKED - LMS	REVISED -	
PLOT SCALE =	DRAWN - AJF	REVISED -	
PLOT DATE =	CHECKED - LMS	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 42 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	275
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation/D-2

SOIL BORING LOG

Page 1 of 1

Date 9/8/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of cleveland Road, I-80 over Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC. , TWP. 17N, RNG. 1E

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

STRUCT. NO. 037-0179, 0180
Station

BORING NO. B-4
Station 416+43
Offset 6.00ft Lt WB CL
Ground Surface Elev. 586.90 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 (%)		DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
				565.90				
				Streambed				
				564.40				
-5				VERY LOOSE gray clean medium coarse SAND	-25	4		
						1		
				560.40		0		
				LOOSE gray fine SAND		4		
						2		
				557.40		7		
-10				VERY DENSE light gray weathered LIMESTONE	-30	100/7"		
				Auger Refusal at 32.5'				
				554.40				
				Borehole continued with rock coring.				
-15					-35			
-20					-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
Illinois Department of Transportation/D-2

ROCK CORE LOG

Page 1 of 1

Date 9/8/11

ROUTE FAI 80 DESCRIPTION 037-0179, Bridge .25 m. S. of cleveland Road, I-80 over Green River LOGGED BY W. Garza

SECTION 37-1B-1-D, 81-1VBR & 81-1HBR-1 LOCATION Colona Twp. - 11NE, SEC. , TWP. 17N, RNG. 1E

COUNTY Henry CORING METHOD

STRUCT. NO. 037-0179, 0180
Station

CORING BARREL TYPE & SIZE
Core Diameter 2 in
Top of Rock Elev. 557.40 ft
Begin Core Elev. 554.40 ft

BORING NO. B-4
Station 416+43
Offset 6.00ft Lt WB CL
Ground Surface Elev. 586.90 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Dolomite: buff-white, chalky & fractured, faces filled w/metallic solution precipitate at one point. t.s.f.: at approximate midpoint 554.40	1	80	18	3.8	454.0
-35					
549.40					
Dolomite: as above t.s.f.: at approximate midpoint	2	60	23	1.2	489.0
-40					
544.40					
Poor core quality and recovery due to out-of-plumb borehole caused by subsurface obstruction, probably boulder-like in size. Third run was abandoned.					
-45					
539.40					
End of Boring					
-50					

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)

LIN ENGINEERING, LTD.
Consulting Engineers
Westmont, Illinois

USER NAME =	DESIGNED - PSS	REVISED -
FILE NAME =	CHECKED - LMS	REVISED -
PLOT SCALE =	DRAWN - AJF	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NOS. 037-0179 & 037-0180
SHEET NO. 43 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1BR-1	HENRY	430	276
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

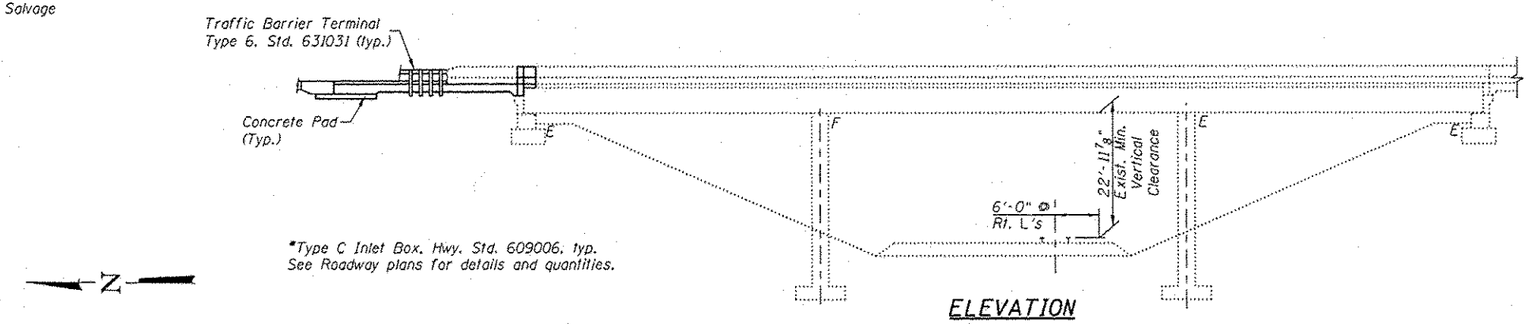
EXISTING STRUCTURE:

SN 037-0027 (E.B.) & SN 037-0028 (W.B.) originally built as F.A.I. Rte 80, Section 37-IVB at Sta. 428+70.17 in 1965.
Both structures were rehabilitated and widened in 1989 including deck replacement, bearing replacement, and expansion joint replacement as Section 37-IVBY.
The existing structures consist of 3-span continuous steel W-Beams with a composite concrete deck, supported on concrete pile bent, spill through abutments, and hammerhead type piers. The structures are 158'-7½" bk. to bk. of abutments with a 43'-2" out to out of deck, and skewed 14°32'30" Lt Ah.
Traffic will be maintained using crossovers.

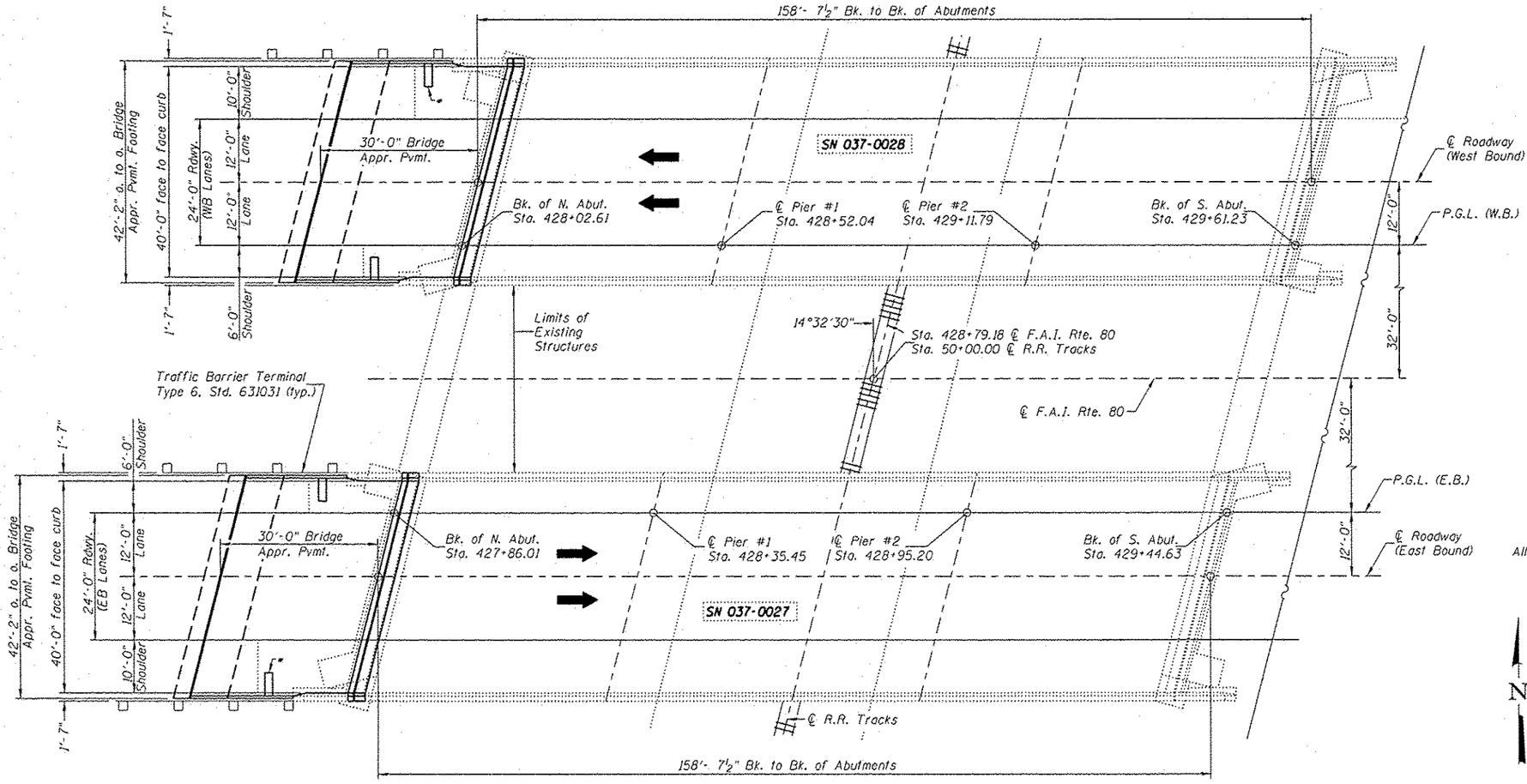
B.M.:

Chisled "□" on S.E. Parapet Wall of SN 037-0025 (E.B.) Elev. 589.855

No Salvage



ELEVATION



PLAN

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

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 work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

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

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50° F.

Protective Coat shall be applied to the top of the deck and inside face and top of parapets and approach curbs.

Bridge Deck Grooving is figured 1'-0" from the curb face and includes the approach pavements.

The Contractor shall match existing elevations and dimensions. The proposed profile grade along the PGL shall tie into the existing deck and adjacent overlay at the end of the approach pavements as specified and directed by the Engineer.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Structures	CU YD	——	26.9	26.9
Concrete Superstructure	CU YD	145.9	——	145.9
Concrete Removal	CU YD	11.0	——	11.0
Bridge Deck Grooving	SQ YD	288	——	288
Protective Coat	SQ YD	312	——	312
Reinforcement Bars, Epoxy Coated	POUND	34,760	——	34,760
Bar Splicers	EACH	——	82	82
Preformed Joint Strip Seal	FOOT	87	——	87
Approach Slab Removal	SQ YD	160	——	160

BENJAMIN A. NEBEL 081-006727 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

Lic Exp. 11/30/16

DESIGN SPECIFICATIONS

(New Construction)
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
(Existing Construction)
1983 AASHTO, 1984 thru 1988 Interim Specifications

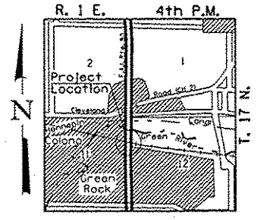
LOADING HS 20-44 & Alt.

Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

(FIELD UNITS) (New Construction)
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Rein.)

(FIELD UNITS) (Existing Construction)
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Rein.)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
F.A.I. ROUTE 80 OVER IOWA INTERSTATE RAILROAD
F.A.I. 80 SECTION 37-1VBY
STATION 428+79.18
HENRY COUNTY
STR. NO. 037-0027 (EB)
STR. NO. 037-0028 (WB)

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = TCody	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/11/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 1 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	277
		CONTRACT NO. 64B78		
		ILLINOIS FED. AID PROJECT		

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* Tilt #9 $b_1(E)$ bars as required to maintain clearance.

** Type C Inlet Box, Hwy. Std. 609006, typ. Existing inlet boxes are to be removed and replaced where existing outlet pipes are located. See Roadway plans for details and quantities.

*** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of the Std. Specifications; full depth of slab, full length of parapet, typ. each parapet.

**** Cost included with Concrete Superstructure.

Notes:

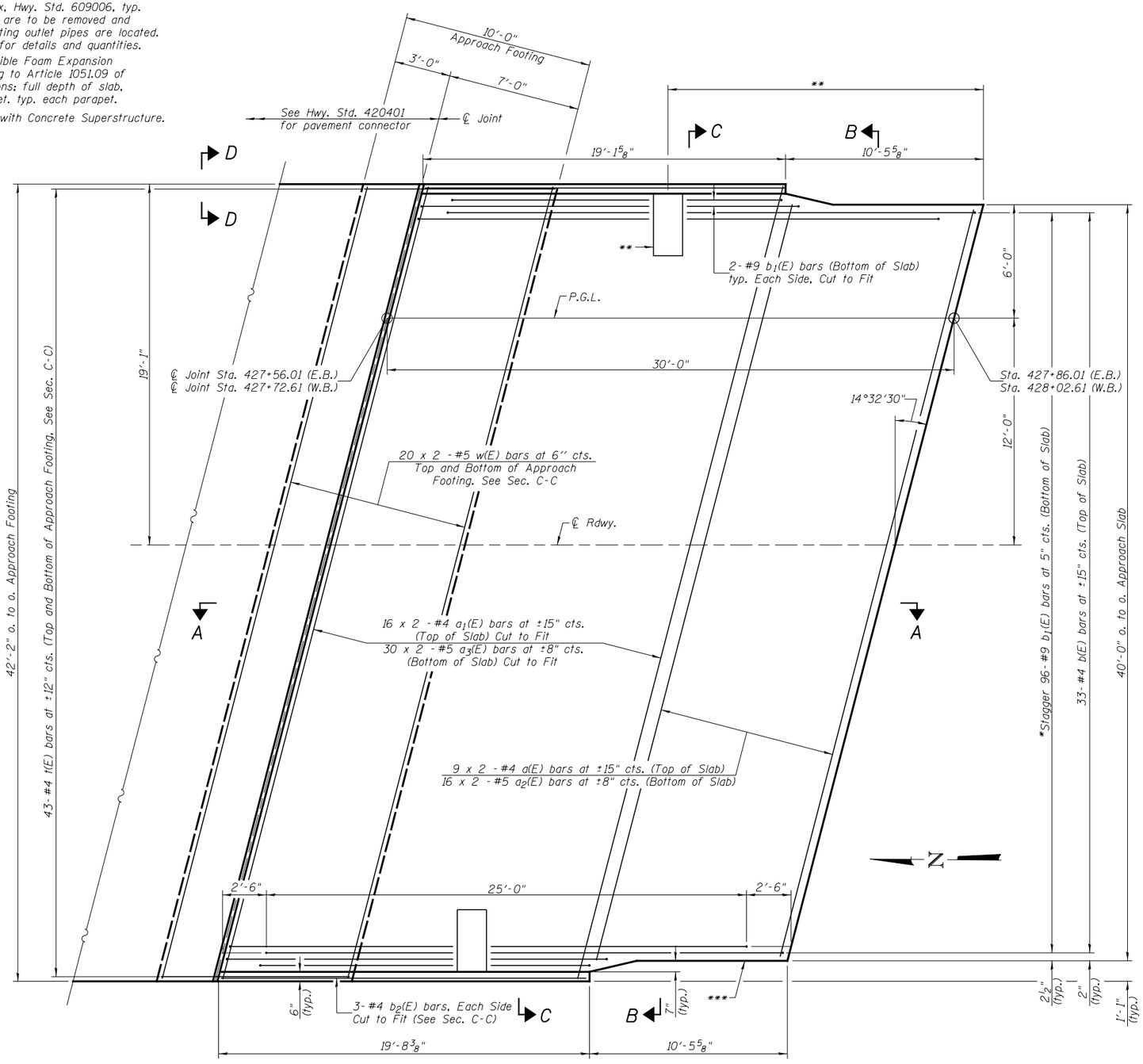
See Sheet 3 of 7 for Sections A-A, B-B, and C-C.

$a(E)$, $a_1(E)$, $a_2(E)$, and $a_3(E)$ bar spacings measured along the ℄ Rdwy.

Order $a_1(E)$, $a_3(E)$, $b(E)$, $b_1(E)$, and $b_2(E)$ bars full length. Cut in field to fit Type C Inlet Box, Hwy. Standard 609006.

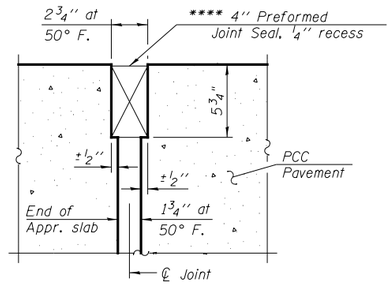
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be $1\frac{1}{2}$" for installation purposes.

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



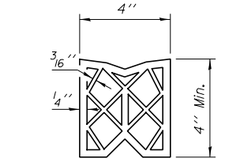
PLAN

(E.B. Shown, W.B. Mirrored)

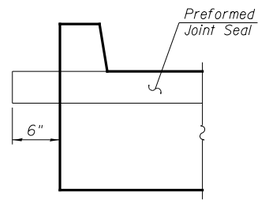


RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL



VIEW D-D

MIN. BAR LAP

#5 bar = 2'-7"

#4 bar = 2'-1"

Hutchison Engineering, Inc. Jacksonville, Peoria & Shorewood, Illinois	USER NAME = bdecraene	DESIGNED - STM	REVISED -
	PLOT SCALE = NONE	CHECKED - BAN	REVISED -
	PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
		CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 2 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	278
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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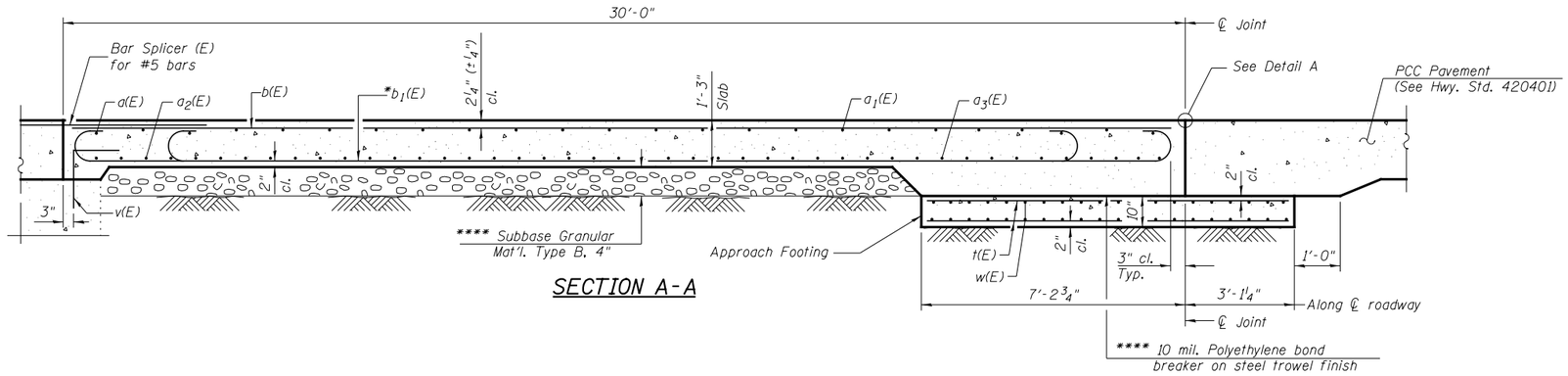
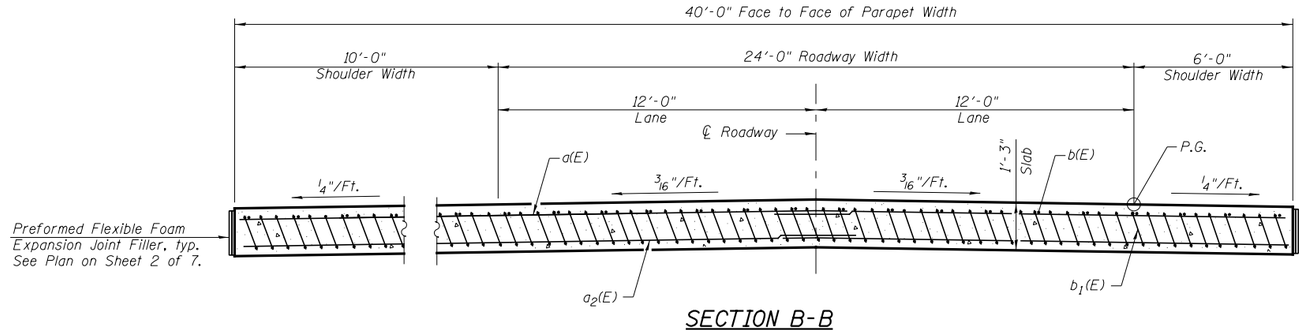
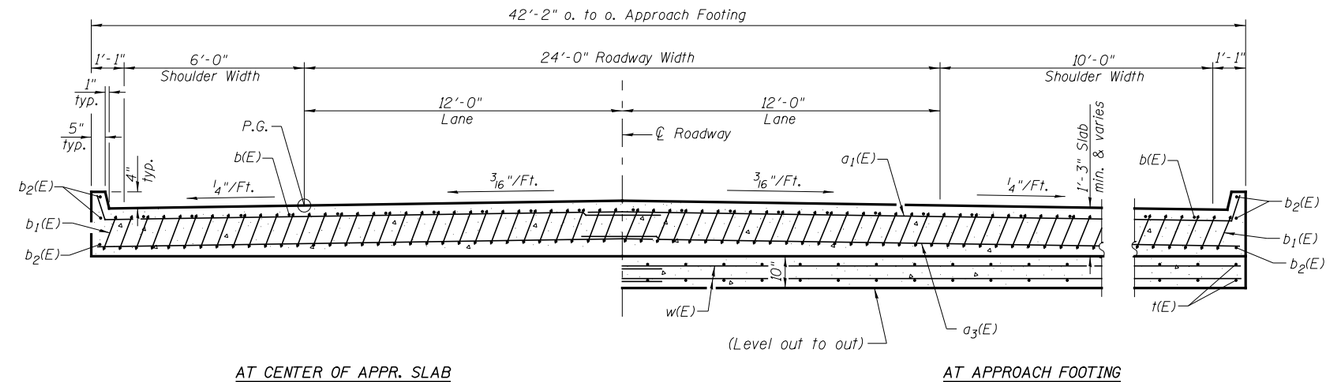


SECTION A-A



SECTION B-B

(See Plan for dimensions not shown)
Looking North for E.B.
Looking South for W.B.



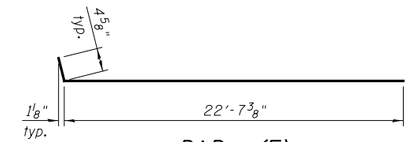
AT CENTER OF APPR. SLAB

AT APPROACH FOOTING

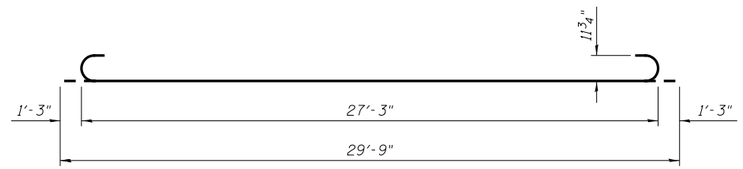
SECTION C-C

(See Plan for dimensions not shown)
Looking South for E.B.
Looking North for W.B.

Notes:
See Sheet 2 of 7 for Detail A.
Approach slab 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.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
See Sheet 5 of 7 for v(E) bar details.
See Sheet 7 of 7 for Bar Splicer details.
Cost of excavation for approach footing included with Concrete Structures.



BAR a1(E)



BAR b1(E)

TWO APPROACH SLABS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	36	#4	21'-7"	
a1(E)	64	#4	23'-0"	
a2(E)	64	#5	21'-10"	
a3(E)	120	#5	22'-11"	
b(E)	66	#4	29'-8"	
b1(E)	200	#9	29'-9"	
b2(E)	12	#4	19'-4"	
t(E)	172	#4	10'-0"	
w(E)	160	#5	22'-11"	
Concrete Superstructure			CU YD	134.9
Concrete Structures			CU YD	26.9
Reinforcement Bars, Epoxy Coated			POUND	32,490

* Tilt #9 b1(E) bars as required to maintain clearance.
**** Cost included with Concrete Superstructure.

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 3 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	279
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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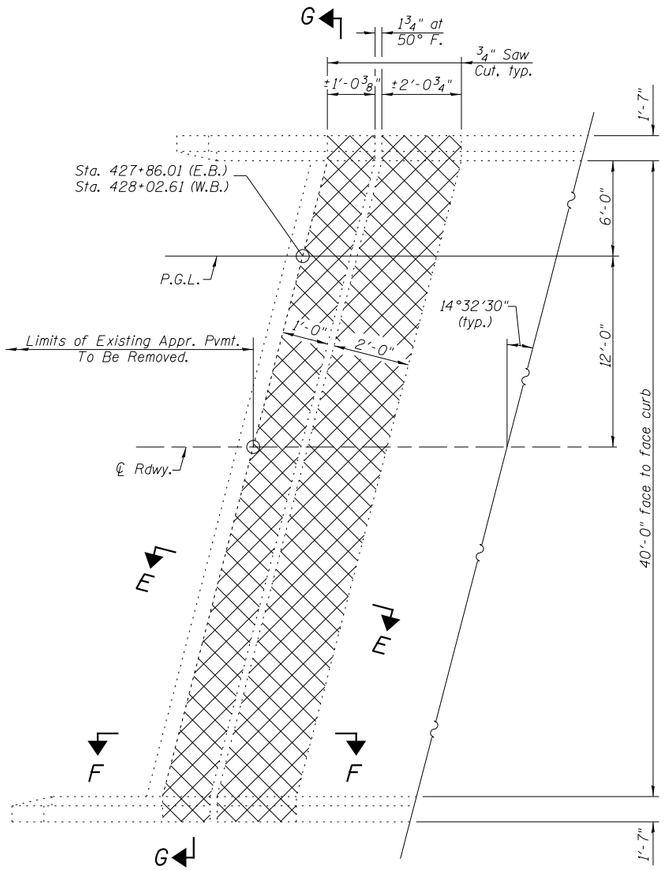
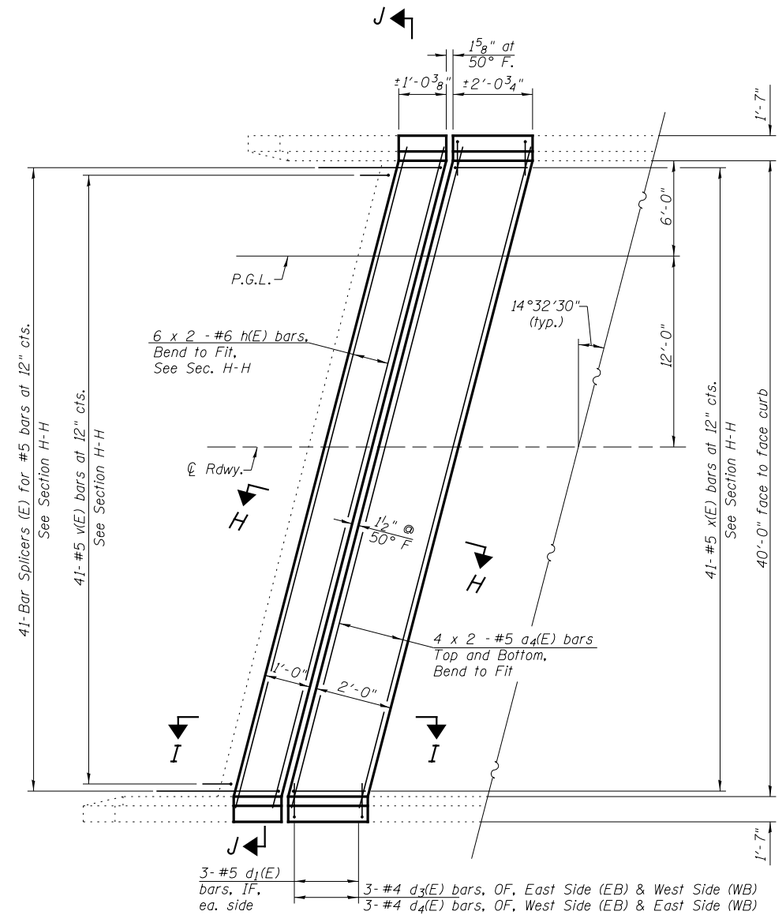




Notes:

See Sheet 5 of 7 for Sections E-E, F-F, H-H, and I-I.

See roadway plans for details and quantities for the removal of concrete & HMA shoulders.

Adjust Bar Splicers (E) to miss existing expansion bolts & reinforcement bars.

Bars indicated thus 4 x 2 - #5 etc. indicates 4 lines of bars with 2 lengths per line.

Drill 1"Φ holes & epoxy grout v(E) bars with a 9" embedment. Cost shall be included in Reinforcement Bars, Epoxy Coated.

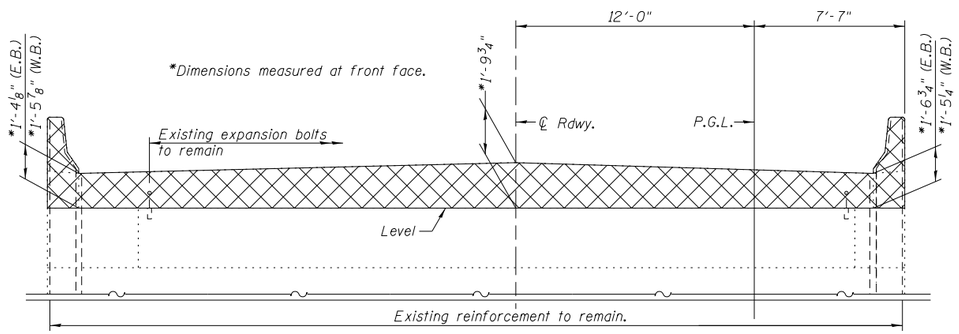
Cross hatched areas indicate Concrete Removal.

CONCRETE REMOVAL DETAILS

(E.B. Structure Shown, W.B. Mirrored)

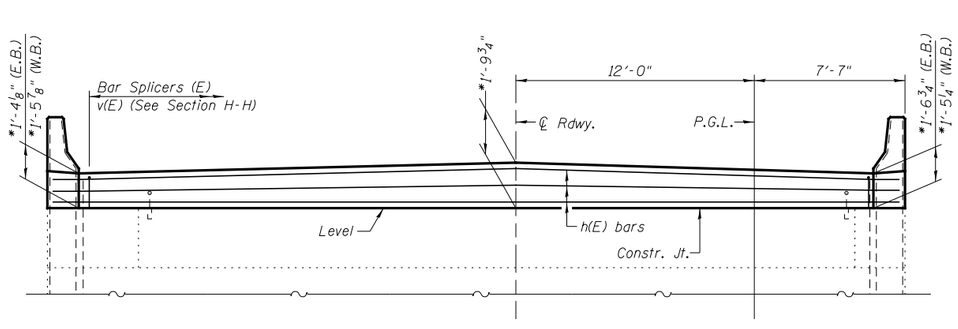
CONCRETE REPLACEMENT DETAILS

(E.B. Structure Shown, W.B. Mirrored)



SECTION G-G

(E.B. Structure Shown, W.B. Mirrored)



SECTION J-J

(E.B. Structure Shown, W.B. Mirrored)

MIN. BAR LAP

#6 bar = 3'-0"
#5 bar = 3'-3"

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 4 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	280
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

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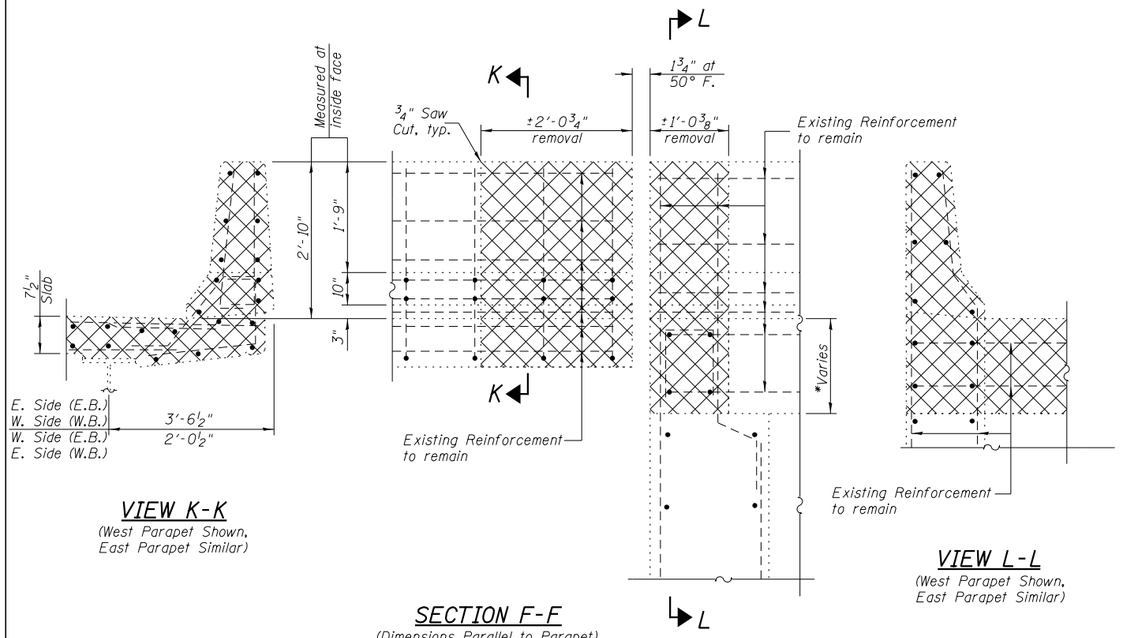
Notes:
Existing reinforcement extending into new construction shall be cleaned, straightened, and incorporated into the new construction. Cost is included with Concrete Removal.
Existing reinforcement which can not be incorporated into new construction shall be cut off flush and covered with 2" of cement mortar.
See Sheet 7 of 7 for Bar Splicer details.
Cross Hatched areas indicate Concrete Removal.

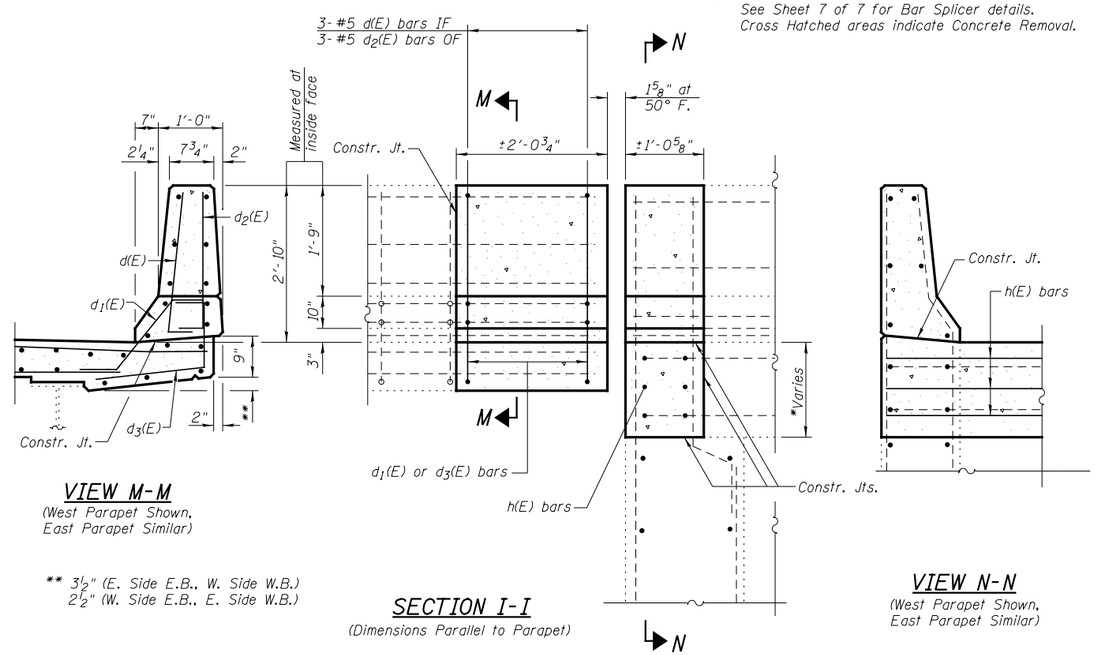


VIEW K-K
(West Parapet Shown, East Parapet Similar)

SECTION F-F
(Dimensions Parallel to Parapet)

VIEW L-L
(West Parapet Shown, East Parapet Similar)

*See Sheet 4 of 7 for dimensions.

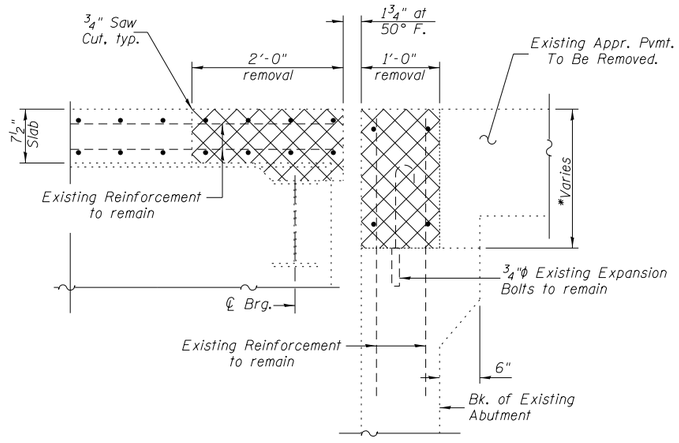


VIEW M-M
(West Parapet Shown, East Parapet Similar)

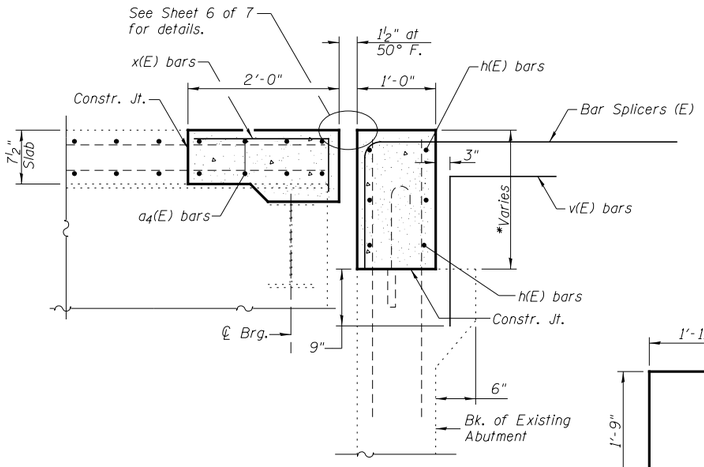
** 3½" (E. Side E.B., W. Side W.B.)
2½" (W. Side E.B., E. Side W.B.)

SECTION I-I
(Dimensions Parallel to Parapet)

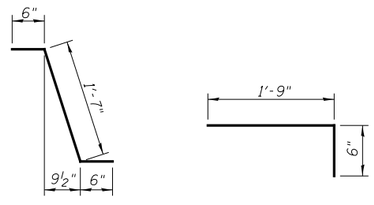
VIEW N-N
(West Parapet Shown, East Parapet Similar)



SECTION E-E
(Dimensions at Right Angles)

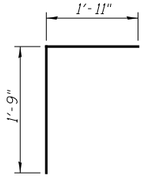


SECTION H-H
(Dimensions at Right Angles)

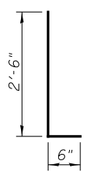


BAR d1(E)

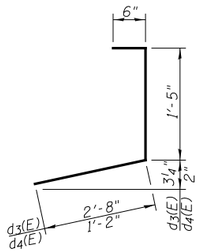
BAR x(E)



BAR v(E)



BARS d(E) & d2(E)



BAR d3(E) & d4(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_4(E)$	32	#5	23'-10"	
d(E)	12	#5	3'-0"	
$d_1(E)$	12	#5	2'-7"	
$d_2(E)$	12	#4	3'-0"	
$d_3(E)$	6	#4	4'-7"	
$d_4(E)$	6	#4	3'-1"	
h(E)	24	#6	23'-8"	
v(E)	82	#5	3'-6"	
x(E)	82	#5	2'-3"	
Concrete Removal			CU YD	11.0
Concrete Superstructure			CU YD	11.0
Reinforcement Bars, Epoxy Coated			POUND	2,270

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

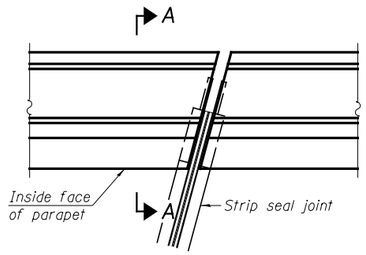
USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 5 OF 7 SHEETS

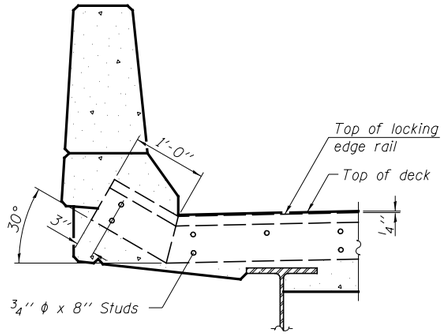
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	281
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Iowa Interstate RR\0370027-0370028-64B78-005-REPAIR DETAILS.dgn



PLAN

(For skews ≤ 30°)



SECTION A-A

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". 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.

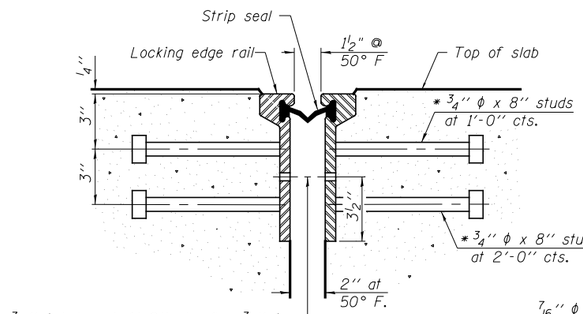
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed.

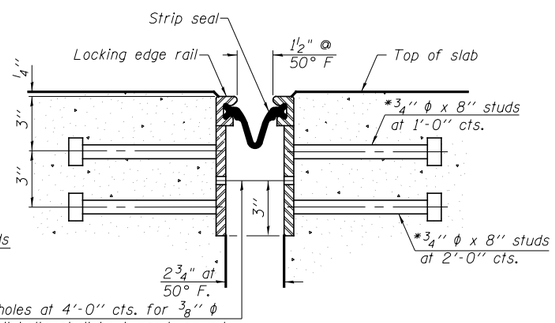
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications 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 shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

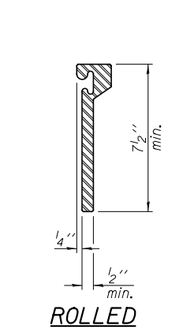


SECTION THRU ROLLED RAIL JOINT

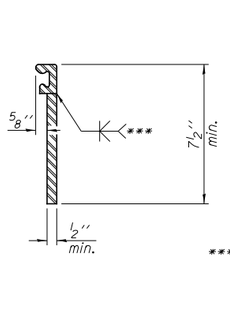


SECTION THRU WELDED RAIL JOINT

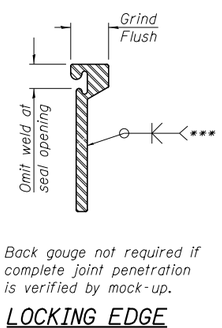
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



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.

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	FOOT	87

EJ-SSJ 1-27-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

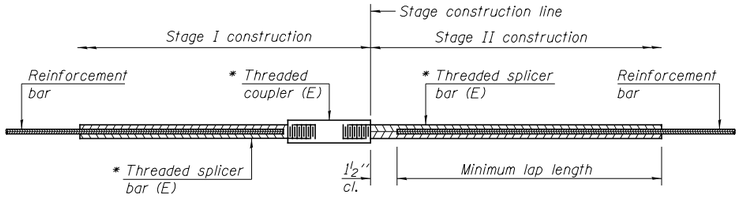
USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
S.N. 037-0027 (E.B.) & S.N. 037-0028 (W.B.)
SHEET NO. 6 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	282
		CONTRACT NO. 64B78		
	ILLINOIS FED. AID PROJECT			

V:\3369\Final Structure Sheets from Jacksonville\Iowa Interstate RR\0370027-0370028-64B78-006-PREF JT STRIP SEAL.dgn



STANDARD BAR SPLICER ASSEMBLY

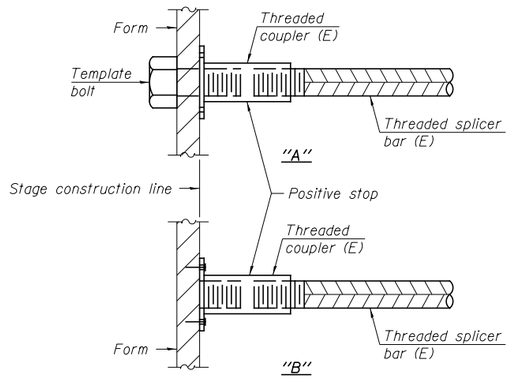
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

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

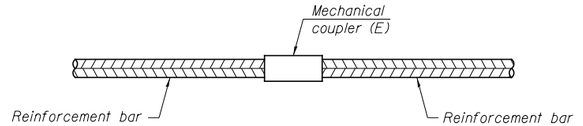
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



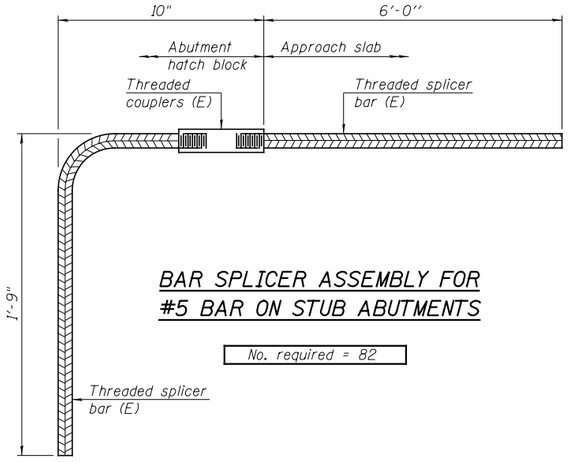
INSTALLATION AND SETTING METHODS

"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 STUB ABUTMENTS

No. required = 82

NOTES

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

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

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

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

BSD-1

8-31-12

Hutchison Engineering, Inc.
Jacksonville, Peoria & Shorewood, Illinois

USER NAME = bdecraene	DESIGNED - STM	REVISED -
PLOT SCALE = NONE	CHECKED - BAN	REVISED -
PLOT DATE = 3/17/2015	DRAWN - STM	REVISED -
	CHECKED - BAN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S.N. 037–0027 (E.B.) & S.N. 037–0028 (W.B.)
SHEET NO. 7 OF 7 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	37-1VBY	HENRY	430	283
		CONTRACT NO. 64B78		
	ILLINOIS	FED. AID PROJECT		

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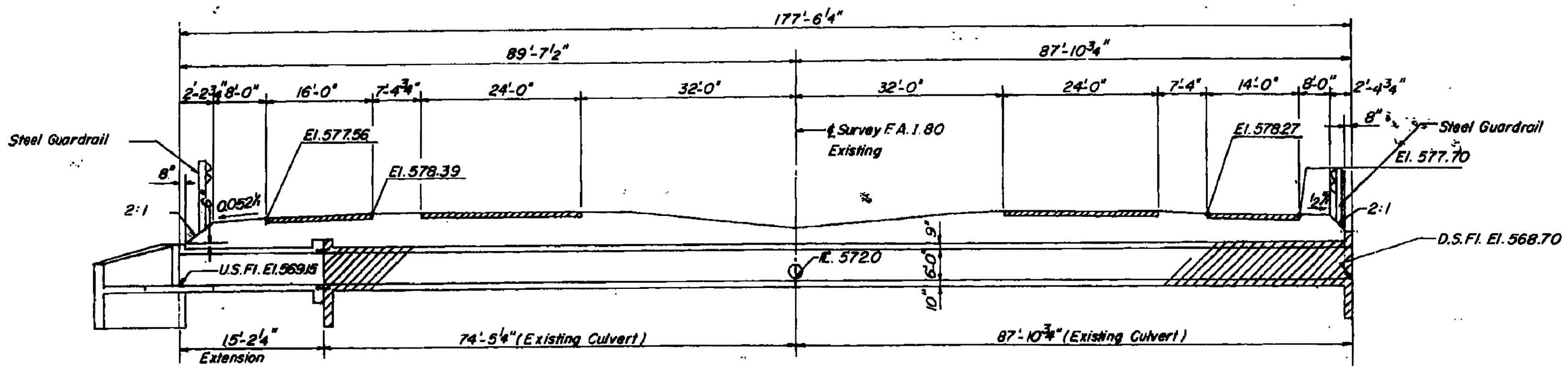
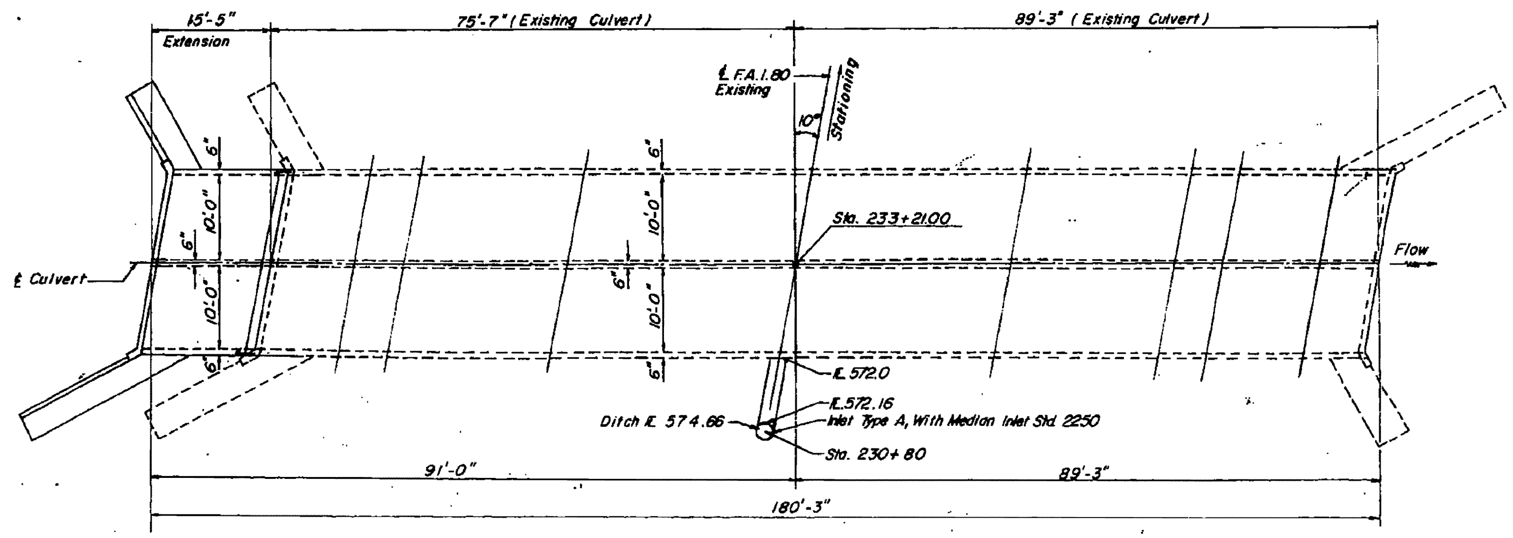
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. / F.A. 403	161-1-1	ROCK ISLAND	545	185
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 1
2 SHEETS



LONGITUDINAL SECTION

Horizontal Dimensions are at Rt. ∠s

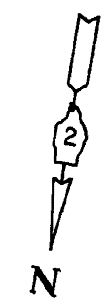


PLAN

STA. 233+21.00
EXTENSION 19 BY
STATE OF ILLINOIS
FA 403 SECTION 161-1
FA PROJ. EBRF-403-1(7)
LOADING HS 20

NAME PLATE

SEE STD. 2113



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

The following surfaces of the culvert shall be waterproofed; the top of the top slab, the backs of the exterior walls above the lower construction joint and the backs of the wings above the tops of the footings. See Art. 503.11 of Std. Spec's.

Cut hole in side of culvert and grout for tight seal of new median drain. Cost incidental to the contract.

Class X Concrete shall be used throughout.

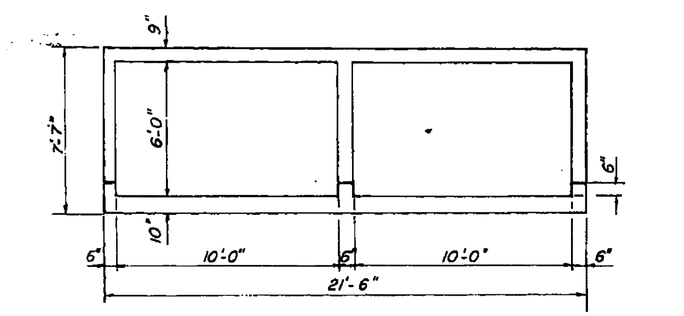
Exposed edges shall be beveled ¾"

For backfilling and embankment, See std. spec's.

Non-Metalic waterseal used in the wingwall joints shall extend from the top of the footing to within 6" of the top of the headwall.

Expansion Bolts shall consist of self drilling expansion shields and ¾" ϕ hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.

It shall be the responsibility of the contractor to verify all dimensions and conditions existing in the field prior to construction.



SECTION THRU BARREL

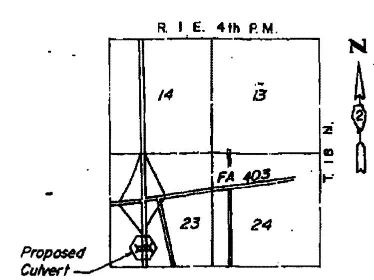
WATERWAY INFORMATION

Drainage Area	2353 Acres
Character	Level
Present Opening	120 Sq. Ft.
Recommended Opening	120 Sq. Ft.
Q (50)	800 cfs
Created Head	0'

DESIGN STRESSES

f'c = 1400 psi — Barrel
fc = 1000 psi — Wings
fs = 20,000 psi — Reinforcement
vc = 75 psi — Footings
vc = 90 psi — Barrel & Stem
n = 10

LOADING ~~HS~~ 20-44



LOCATION MAP

DESIGNED	A.A.
CHECKED	R.F.
DRAWN	A.M.
CHECKED	H.R.S.

GENERAL PLAN AND ELEVATIONS
FA 403 SECTION 161-1
F.A.I. 80 OVER DITCH
ROCK ISLAND COUNTY
STATION 233+21.00

FOR INFORMATION ONLY

FILE NAME = V:\3369\CADD Sheets\D264B78_sht_exist-structure-1.dgn	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
	PLOT SCALE = 2.000000 ' / in.	DRAWN - RMD	REVISED -
	PLOT DATE = 3/17/2015	CHECKED - DJD	REVISED -
		DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

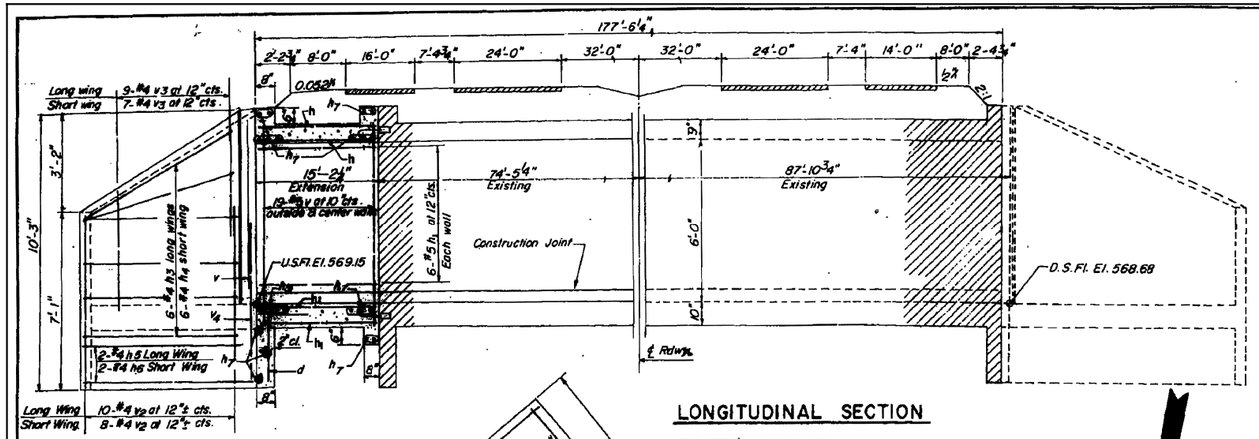
EXISTING STRUCTURE PLANS
S.N. 081-2031

SCALE: N/A | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

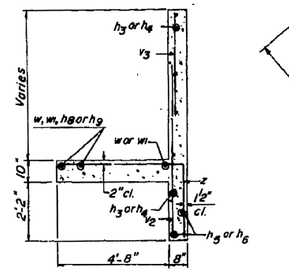
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	284
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 403	161-1-I	ROCK ISLAND	545	186
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

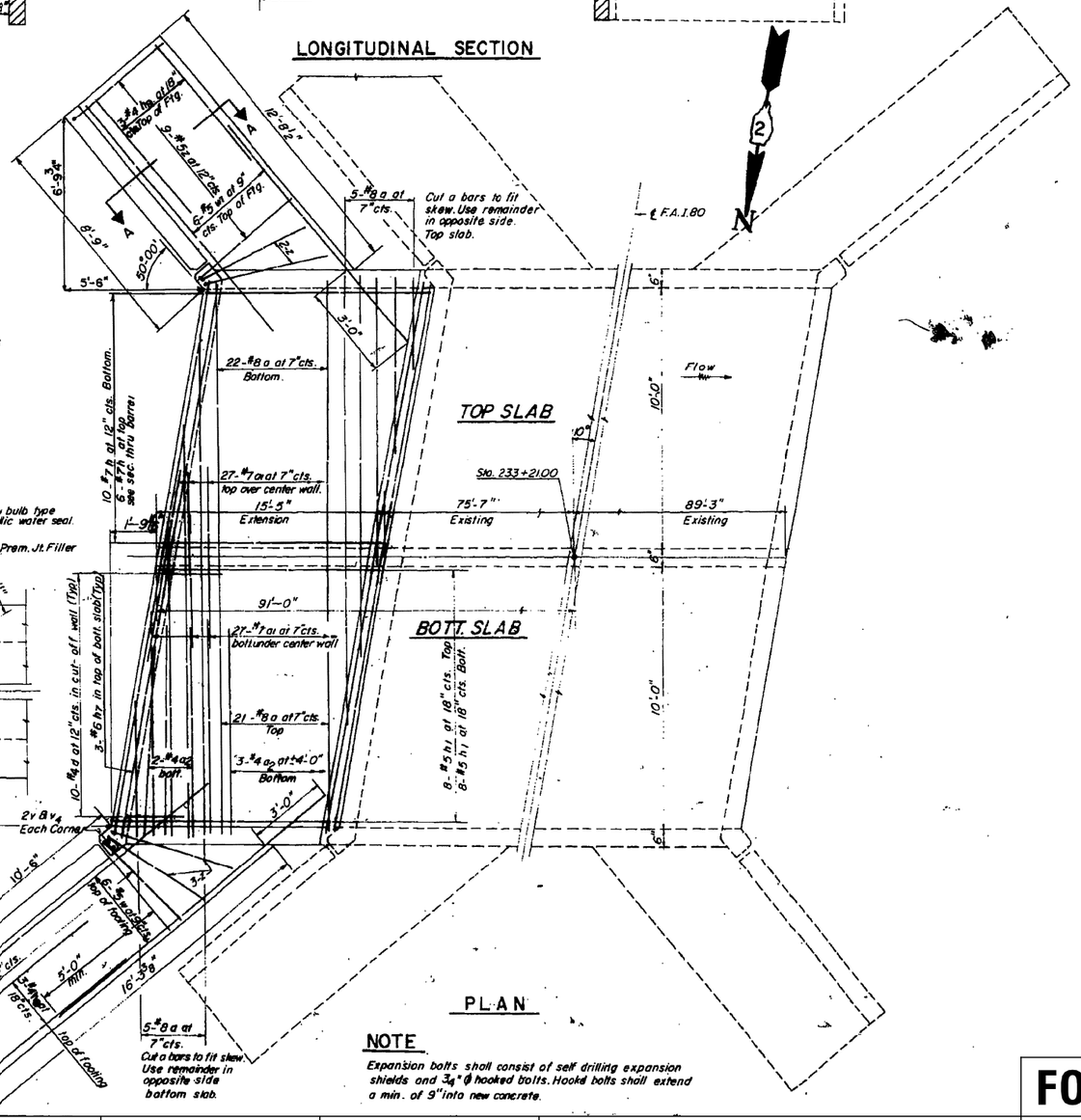
SHEET NO. 2
2 SHEETS

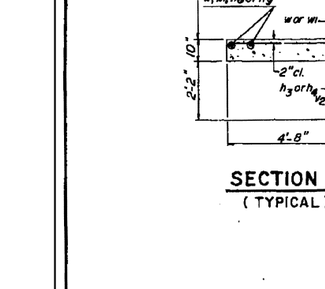


LONGITUDINAL SECTION



SECTION A-A
(TYPICAL)



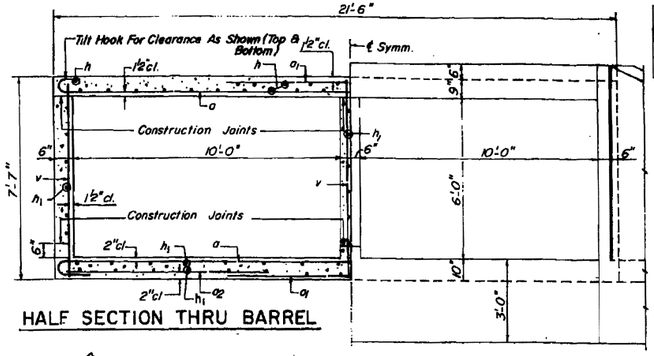


CORNER DETAILS

DESIGNED	A.A.
CHECKED	R.T.F.
DRAWN	A.M.
CHECKED	R.A.

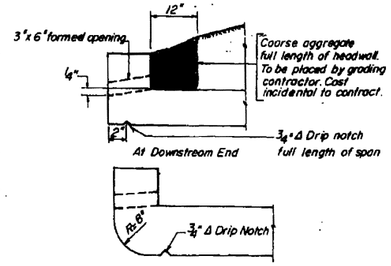
NOTE

Expansion bolts shall consist of self drilling expansion shields and ¾"ø hooked bolts. Hooked bolts shall extend a min. of 9" into new concrete.

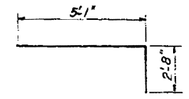


HALF SECTION THRU BARREL

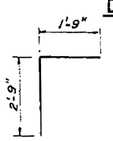
HALF END ELEVATION



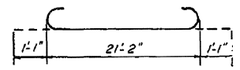
DRAIN DETAIL



BAR z



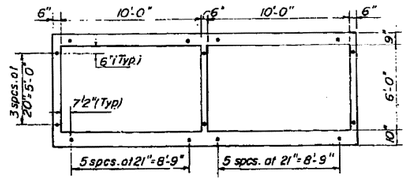
BAR d



BAR a

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH
a	54	#8	23'-4"
a1	54	#7	9'-0"
a2	10	#4	7'-6"
d	20	#4	4'-6"
h	32	#7	15'-2"
h1	50	#5	15'-2"
h3	6	#4	9'-5"
h4	6	#4	7'-8"
h5	2	#4	10'-3"
h6	2	#4	8'-6"
h7	21	#6	21'-3"
h8	3	#4	6'-9"
h9	3	#4	5'-3"
v	61	#5	7'-3"
v2	18	#4	6'-10"
v3	16	#4	4'-3"
v4	4	#5	5'-3"
w	6	#5	13'-3"
w1	6	#5	11'-6"
z	25	#5	7'-9"
Class X Concrete		Cu. Yds.	34.3
Reinforcement bars		Lbs.	8010
Expansion Bolts		Each	36



LOCATION OF EXPANSION BOLTS

Location	Bar	No.
Top of top slab	h	12
Bott. of top slab	h	20
Top of bott. slab	h_1	16
Bott. of bott. slab	h_1	16
Each outside wall	h_1	6
Center wall	h_1	6

One length each required.

CULVERT DETAILS
FA 403 SECTION 161-1
F.A.I. 80 OVER DITCH
ROCK ISLAND COUNTY
STATION 233+2100

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
S.N. 081-2031

SCALE: N/A	SHEET NO. 2 OF 2 SHEETS	STA.	TO STA.

FILE NAME =	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
V:\3369\CADD Sheets\D264B78_sht_exist-structure-1.dgn		DRAWN - RMD	REVISED -
	PLOT SCALE = 2.000000 ' / in.	CHECKED - DJD	REVISED -
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

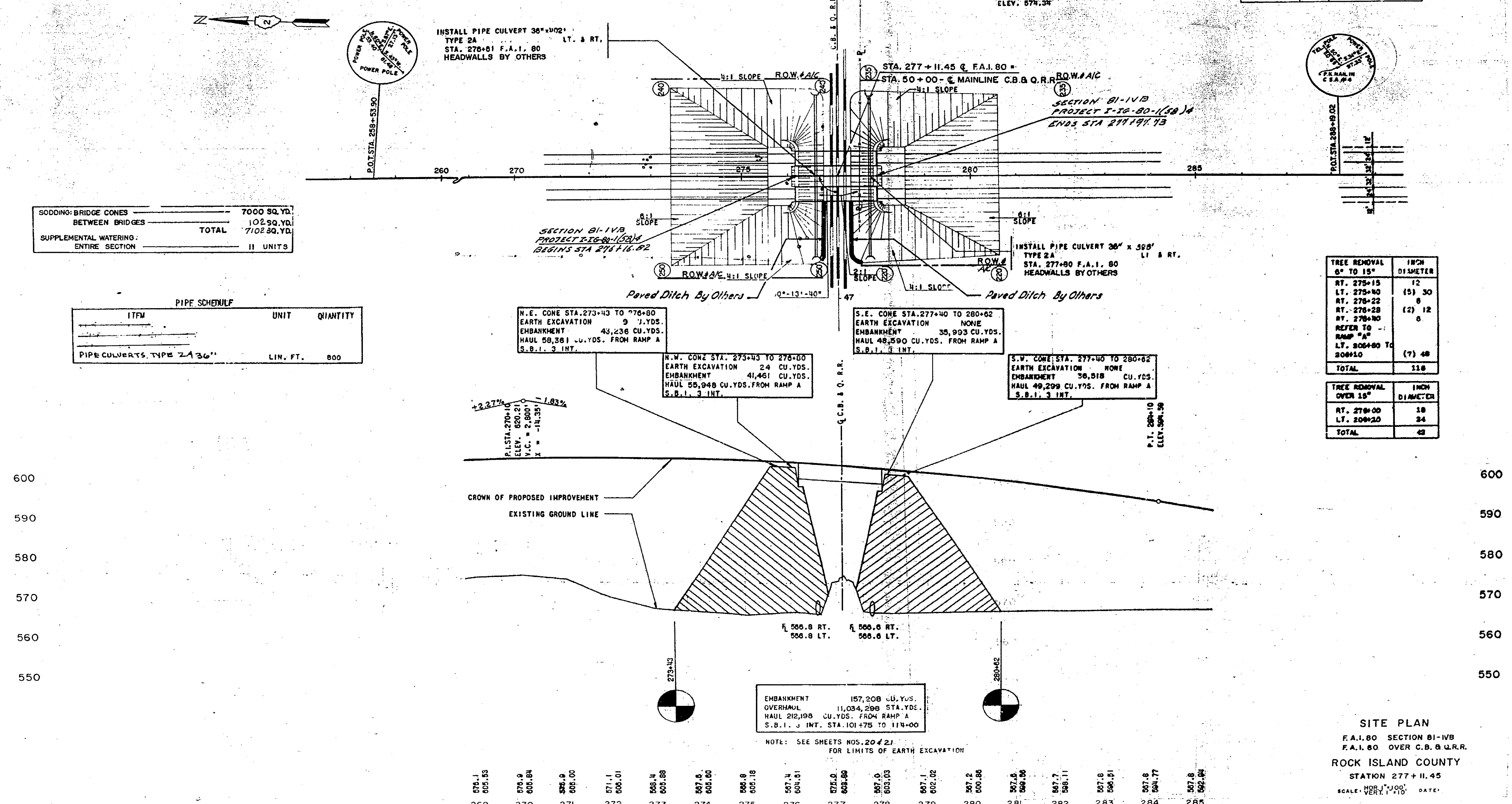
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	285
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

081-0014 orig & repair
081-0015

SHEET NO. 13
SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-IHB-1 81-IVB	ROCK ISLAND	[illegible]	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



U.S. G.S. DATUM
5TH G.A.1929
B.M.: R.R. SPIKE IN 12" POPLAR 170' RT. STA. 276+35 ELEV. 588.89
B.M.: CHISELED SQUARE S.W. CORNER N. PARAPET WALL OF HIGHWAY BRIDGE S.A. 4 & 860' S.E. STA. 288+19 F.A.I. 80 ELEV. 574.34
INSTALL PIPE CULVERT 36"x402' TYPE 2A LT. & RT. STA. 276+81 F.A.I. 80 HEADWALLS BY OTHERS
STA. 277+11.45 ℄ F.A.I. 80
STA. 50+00 - ℄ MAINLINE C.B.& Q.R.R.
C.B. & Q. R.R.
SECTION 81-IVB PROJECT I-IG-80-1(58)4 ENDS STA 277+97.73
SECTION 81-IVB PROJECT I-IG-80-1(58)4 BEGINS STA 276+16.82
INSTALL PIPE CULVERT 36" x 398' TYPE 2A LT & RT. STA. 277+80 F.A.I. 80 HEADWALLS BY OTHERS
4:1 SLOPE
6:1 SLOPE
2:1 SLOPE
R.O.W. & A/C
Paved Ditch By Others
P.O.T. STA. 258+53.90
P.O.T. STA. 288+19.02
POWER POLE
260
270
275
280
285
N.E. CONE STA. 273+43 TO 276+80 EARTH EXCAVATION 9 CU.YDS. EMBANKMENT 43,236 CU.YDS. HAUL 58,361 CU.YDS. FROM RAMP A S.B.I. 3 INT.
N.W. CONE STA. 273+43 TO 276+80 EARTH EXCAVATION 24 CU.YDS. EMBANKMENT 41,461 CU.YDS. HAUL 55,948 CU.YDS. FROM RAMP A S.B.I. 3 INT.
S.E. CONE STA. 277+40 TO 280+62 EARTH EXCAVATION NONE EMBANKMENT 35,993 CU.YDS. HAUL 48,590 CU.YDS. FROM RAMP A S.B.I. 3 INT.
S.W. CONE STA. 277+40 TO 280+62 EARTH EXCAVATION NONE EMBANKMENT 36,518 CU.YDS. HAUL 49,299 CU.YDS. FROM RAMP A S.B.I. 3 INT.
+2.27%
-1.83%
P.I. STA. 270+10 ELEV. 620.21 V.C. = 2,800' X = -14.35
P.T. 284+10 ELEV. 594.58
CROWN OF PROPOSED IMPROVEMENT
EXISTING GROUND LINE
600
590
580
570
560
550
℄ 566.8 RT. 566.8 LT.
℄ 566.6 RT. 566.6 LT.
273+43
280+62
EMBANKMENT 157,208 CU.YDS.
OVERHAUL 11,034,298 STA.YDS.
HAUL 212,198 CU.YDS. FROM RAMP A S.B.I. 3 INT. STA. 101+75 TO 114+00
NOTE: SEE SHEETS NOS. 20 & 21 FOR LIMITS OF EARTH EXCAVATION
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285

SODDING:		
BRIDGE CONES		7000 SQ. YD.
BETWEEN BRIDGES		102 SQ. YD.
	TOTAL	7102 SQ. YD.
SUPPLEMENTAL WATERING:		
ENTIRE SECTION		11 UNITS

PIPE SCHEDULE

ITEM	UNIT	QUANTITY
PIPE CULVERTS TYPE 2A 36"	LIN. FT.	800

TREE REMOVAL 6" TO 15"	INCH DIAMETER
RT. 275+15	12
LT. 275+40	(5) 30
RT. 276+22	6
RT. 276+28	(2) 12
RT. 278+40	8
REFER TO RAMP "A" LT. 206+60 TO 208+10	(7) 48
TOTAL	116

TREE REMOVAL OVER 15"	INCH DIAMETER
RT. 278+00	18
LT. 208+20	24
TOTAL	42

SITE PLAN
F.A.I. 80 SECTION 81-IVB
F.A.I. 80 OVER C.B. & Q.R.R.
ROCK ISLAND COUNTY
STATION 277+11.45
SCALE: HOR. 1"=100' VERT. 1"=10' DATE:

Rev. [illegible]: Sod Quant. Btwn. Bridges From 860 Sq.Yds. to 102 Sq.Yds. & Sod Total 7860 to 7102 Sq.Yds. RPE.

FOR INFORMATION ONLY

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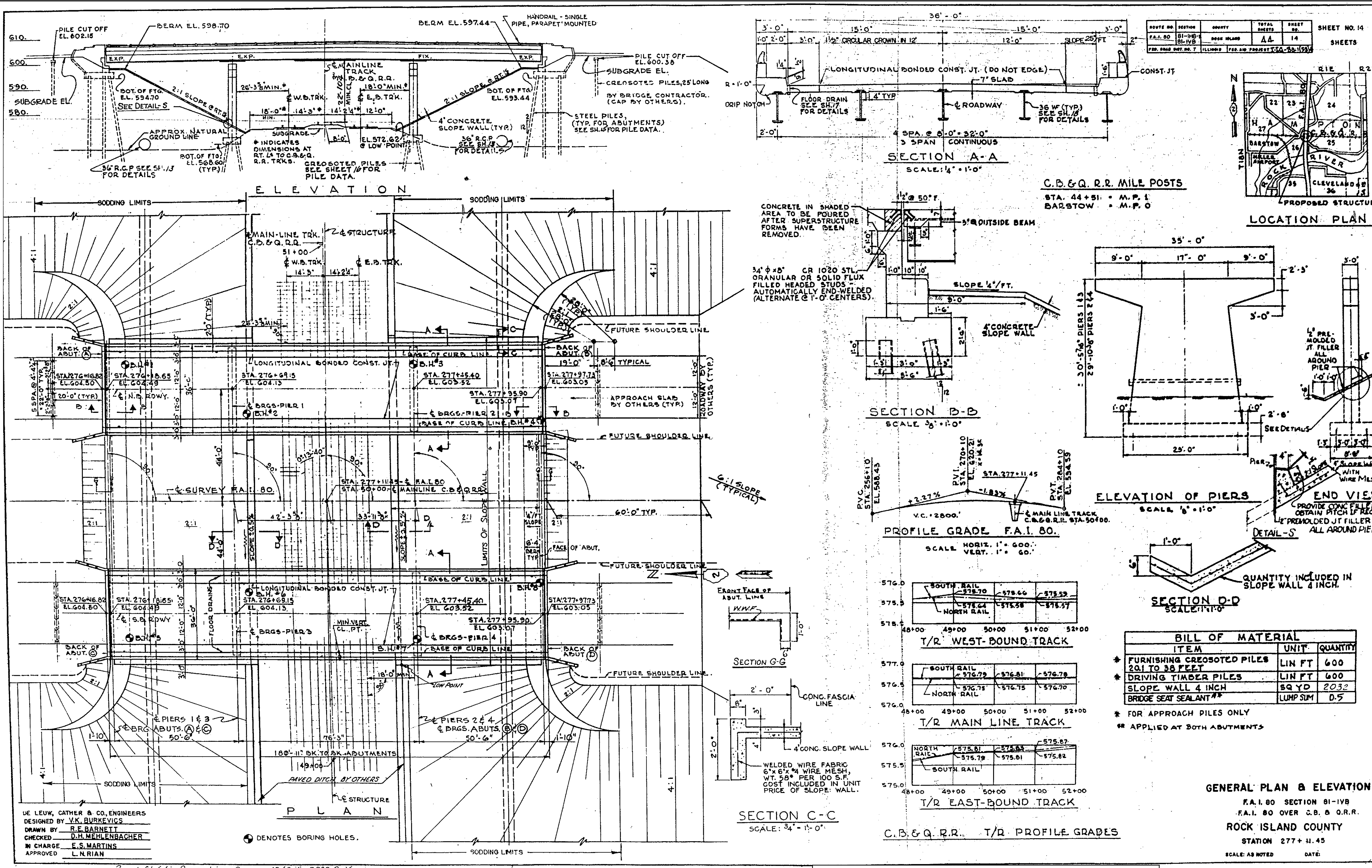
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 1 OF 13 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	286
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
* FURNISHING CREOSOTED PILES 20 TO 38 FEET	LIN FT	600
* DRIVING TIMBER PILES	LIN FT	600
SLOPE WALL 4 INCH	SQ YD	2032
BRIDGE SEAT SEALANT **	LUMP SUM	0.5

* FOR APPROACH PILES ONLY
** APPLIED AT BOTH ABUTMENTS

DE LEUW, CATHER & CO. ENGINEERS
DESIGNED BY V.K. BURKEVICS
DRAWN BY R.E. BARNETT
CHECKED D.H. MEHLENBACHER
IN CHARGE E.S. MARTINS
APPROVED L.N. RIAN

JOB NO. REV. 1-2-64: SLOPE WALL QUANT. 1240 TO 2032 SQ. YDS.

GENERAL PLAN & ELEVATION
F.A.I. 80 SECTION 81-1VB
F.A.I. 80 OVER C.B. & Q.R.R.
ROCK ISLAND COUNTY
STATION 277 + 11.45
SCALE: AS NOTED DATE:

SHEET NO. 14 OF 44 SHEETS

FOR INFORMATION ONLY

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	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 2 OF 13 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	287

* 37-1BR-1, 81-1VBR & 81-1HBR-1 — CONTRACT NO. 64B78
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

NOTE:
ELEVATIONS GIVEN AT FACE OF BACKWALL.

EL. 607.55 ABUTS A & C
EL. 606.12 ABUTS B & D
EL. 605.10 ABUTS A & C
EL. 603.66 ABUTS B & D
EL. 604.30 ABUTS A & C
EL. 602.87 ABUTS B & D
EL. 602.93 ABUTS A & C
EL. 601.50 ABUTS B & D
EL. 598.73 ABUTS A & C
EL. 598.31 ABUTS B & D
EL. 599.59 ABUTS A & C
EL. 598.17 ABUTS B & D
EL. 594.70 ABUTS A & C
EL. 593.44 ABUTS B & D

SYMMETRICAL ABOUT ℄ ROADWAY
EL. 604.49 ABUTS A & C
EL. 603.06 ABUTS B & D

NOTE:
E.F. MEANS EACH FACE
N.F. MEANS NEAR FACE
F.F. MEANS FAR FACE

35-A403 @ 1'-0"
35-A402 @ 1'-0" E.F.
2-A401 E.F.
2-A404 E.F.
1-A502 N.F.
1-A503 F.F.
1-A502 N.F.
W408
W410
W409
W407
2-A504 E.F.
2-A502 N.F.
4 SETS OF 3-A502
8-A405 E.F. (IN 2 LENGTHS)
6-A701 (IN 2 LENGTHS)
2-A501
4-A405 E.F. IN 2 LENGTHS)
37-A406 @ 1'-0"
35-A505 @ 1'-0" F.F. DOWELS

ELEVATION
SCALE: 3/8" = 1'-0"

FOR ABUTS B & D
FOR ABUTS A & C
N

SLOPE 1/4" / FT BETWEEN BRG. SEATS (TYPICAL)
BACK OF ABUTMENT
FACE OF BACKWALL
℄ BRG'S
75°-43'-30"
90°-00'-00" (TYP.)
R=6"
W.P
FOR REINFORCEMENT SEE OPPOSITE SIDE
ANCHOR BOLT LOCATION (TYPICAL)
3'-0" LEVEL (TYPICAL)
2 SPACES @ 8'-0" = 16'-0"
18'-0 3/8"
(61) (62) (63)

SYMMETRICAL ABOUT ℄ ROADWAY
STA. 276+16.82 ABUTS A & C
STA. 277+97.73 ABUTS B & D
A407
W402
A505 & W501
W401
A408
W405
W408
W403
W404
W409, W407 & W406
A503
A404
A405
W410
A502
W.P
A501
A502
A405
A701

PLAN
SCALE: 3/8" = 1'-0"

SYMMETRICAL ABOUT ℄ ROADWAY
STA. 276+16.82 ABUTS A & C
STA. 277+97.73 ABUTS B & D
2 SPACES @ 7'-8 13/16" = 15'-5 5/8"
BACK OF ABUTMENT
90°-00'-00"
℄ PILES
75°-43'-30"
W.P
12-A601 @ 1'-0" (2 LENGTHS)
5-A506 @ 1'-0"
TEST PILE ABUTS A & D ONLY
2 SPACES @ 7'-1 7/16" = 14'-2 7/8"
3'-6 3/4"
32-A506 @ 1'-0"
2'-6 1/4"
18'-9 5/16"

I DENOTES A PILE BATTERED 2 IN 12 IN THE DIRECTION INDICATED

FOOTING PLAN
SCALE: 1/4" = 1'-0"

PILE DATA
TYPE: 8BP36
CAPACITY 26 TON MIN.
EST. LENGTH 50 FEET
TOTAL NO. REQUIRED* - 60
* INCLUDES TEST PILES

W410
W407
A402
A504
A404
A502
A401

SECTION B-B
SCALE: 1/2" = 1'-0"

W410
W407
A402
A502
A405
A403
℄ BRG'S
OPTIONAL CONST. JT.

SECTION C-C
SCALE: 1/2" = 1'-0"

3'-8" 3'-8" 3'-8" 1'-2"
12'-2"
3" CL.
3"
PARALLEL TO GRADE
EL. 606.29 ABUTS A & C
EL. 604.69 ABUTS B & D
W408 E.F.
1-W409 E.F.
6-W407 @ 1'-0" E.F.
4-W410 E.F. @ 1'-0"
4-W404 E.F. @ 1'-0"
A502
3'-0"
1'-6"
2-W406 @ 10" E.F.
BEND IN FIELD
2-W405 E.F.
2-W409 E.F.
8-A505 E.F. @ 1'-0" (DOWELS)
A507
A601
A506
ABUTS A & C
ABUTS B & D
4'-7 1/8"
4'-3"

ELEVATION E-E
ELEVATION F-F (OPPOSITE HAND)
SCALE: 3/8" = 1'-0"

W409
W404
3'-0"
1'-6"
1½" CL.
W407
2-W501
1-W403
1-A408 E.F.
1-W402
1-W401
BEND IN FIELD
1-A407 E.F.
2-A505
W406
A505
2"x4" KEY
A507
A506
5'-6"
1'-3"
3'-0"
1'-3"

SECTION D-D
SCALE: 3/8" = 1'-0"

SHADED AREA TO BE POURED AFTER SUPERSTRUCTURE FORMS HAVE BEEN REMOVED. QUANTITY OF CLASS X CONCRETE INCLUDED WITH SUPERSTRUCTURE

SLOPE PARALLEL TO GRADE
℄ BRG'S
A404
A403
FACE OF BACKWALL
SLOPE ¼" PER FT. BETWEEN BRG. SEATS
2" CHAMFER
1½" CL.
BACK OF ABUTMENT
A701
A405
A406
A402
A505
2"x10" KEY
A601
A506
ABUTS A & C
ABUTS B & D
10" 10" 1'-0" 6"
1'-0" VARIES
5'-6 3/4"
5'-6 15/16"
2'-4 5/8"
2'-2 3/4"
2'-6"
1'-6" 1'-8" 1'-0" 1'-4" 1'-5"
1'-0"
1'-3" 3'-0" 1'-3"
5'-6"

SECTION A-A
SCALE: 1/2" = 1'-0"

BAR A406

2'-5"
3'-6"
5"
2'-9"

BARS A502, A503 & A504

A502	2'-0"
A503	2'-8"
A504	4'-0"

BARS A403 & A501

5"
7"
2'-6"

BAR A505

BARS W401, W402 & W403

BAR	A	B
A403	1'-3"	9"
A501	2'-2"	1'-3"

BAR	A	B
W401	9"	3'-1"
W402	9"	2'-7"
W403	9"	2'-0"

BAR LIST (4 ABUTMENTS)

BAR	NO.	SIZE	LENGTH	SHAPE	WEIGHT
A401	32	4	3'-6"		75
A402	280	4	6'-9"		1263
A403	140	4	2'-9"		257
A404	16	4	29'-9"		318
A405	96	4	18'-10"		1208
A406	148	4	5'-11"		585
A407	16	4	2'-7"		28
A408	16	4	4'-6"		48
A501	16	5	4'-8"		78
A502	128	5	4'-9"		634
A503	8	5	5'-6"		46
A504	32	5	6'-9"		225
A505	284	5	3'-3"		963
A506	168	5	5'-0"		676
A507	48	5	9'-8"		484
A601	48	6	20'-6"		1478
A701	24	7	18'-9"		920
W401	8	4	7'-11"		42
W402	8	4	6'-11"		37
W403	6	4½	5'-9"		31
W404	64	4	8'-3"		396
W405	32	4	6'-0"		128
W406	48	4	10'-6"		337
W407	96	4	10'-0"		641
W408	16	4	3'-4"		36
W409	48	4	7'-0"		224
W410	64	4	9'-11"		424
W501	16	5	7'-0"		117
			TOTAL		11,899.

NOTES
ALL BAR DIMENSIONS ARE OUT TO OUT
USE ¼ OF THE TOTAL NUMBER OF BARS FOR EACH ABUTMENT.
ALL BAR MARKS TO BE PREFIXED FOR SHIPMENT WITH THE LETTER OF THE ABUTMENT WHERE THE BARS WILL BE USED. FOR EXAMPLE: A-A401 MEANS BARS A401 FOR ABUTMENT "A".
FOR LOCATION OF ABUTMENTS SEE SHT. 14

BILL OF MATERIAL (4 ABUTS.)

ITEM	UNIT	QUANTITY
CLASS X CONCRETE	CU YD	184.5
REINFORCEMENT BARS	POUND	11,899
FURNISHING STEEL PILES 8BP36	LIN. FT	2,900
TEST PILE STEEL 8BP36	EACH	2
DRIVING STEEL PILES	LIN FT	2,900

ABUTMENT DETAILS
F.A.I. 80 SECTION 81-1VB
F.A.I. 80 OVER C.B. & Q.R.R.
ROCK ISLAND COUNTY
STATION 277+11.45
SCALE: AS NOTED
DATE:

ROUTE NO.	POSITION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-1HB-1 81-1VB	ROCK ISLAND	44	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 15
SHEETS

DE LEUW, CATHER & CO., ENGINEERS
DESIGNED BY E. LIEBOLD
DRAWN BY O. MARTINSONS
CHECKED E. RHOMBERG
IN CHARGE E. S. MARTINS
APPROVED L. N. RIAN

JOB NO.

FOR INFORMATION ONLY

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	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

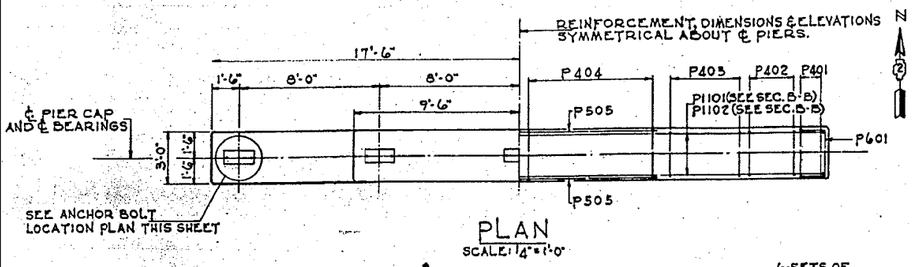
EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 3 OF 13 SHEETS | STA. | TO STA.

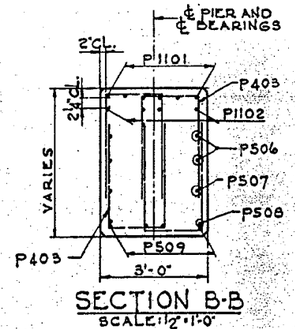
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	288
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-1HBR-1 81-1VB	ROCK ISLAND	44	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

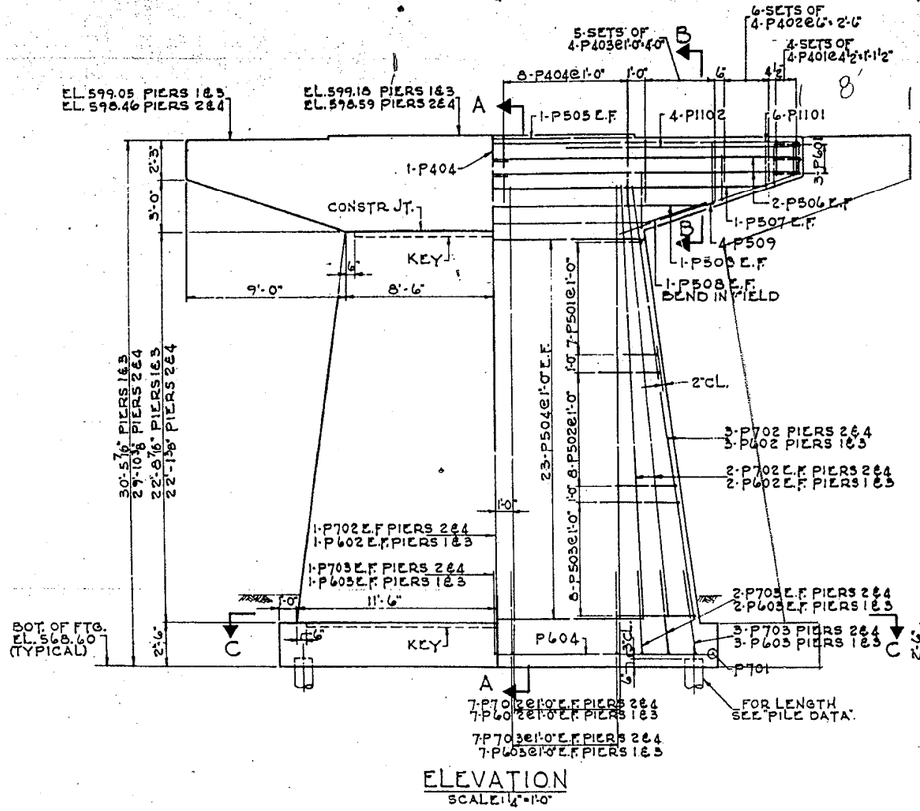
SHEET NO. 16
SHEETS



PLAN
SCALE: 1/4" = 1'-0"



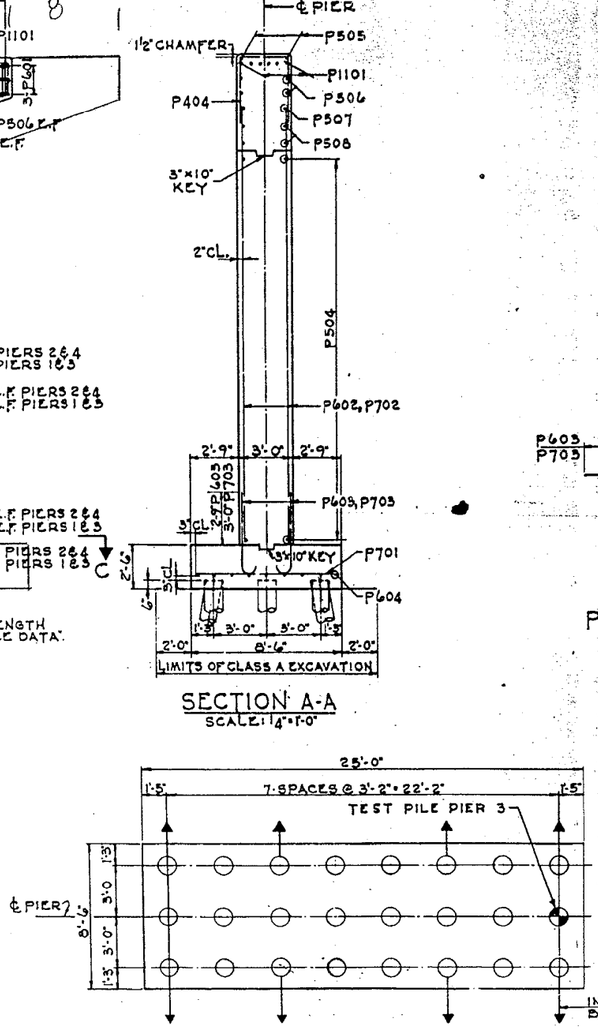
SECTION B-B
SCALE: 1/2" = 1'-0"



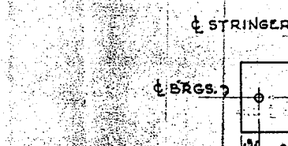
ELEVATION
SCALE: 1/4" = 1'-0"

SECTION A-A
SCALE: 1/4" = 1'-0"

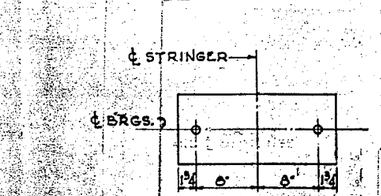
SECTION C-C
SCALE: 1/4" = 1'-0"



PIERS 1 & 3

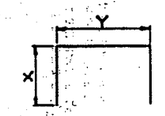


BARS
P603 & P703



TYPICAL ANCHOR BOLT LOCATION PLAN

ANCHOR BOLTS TO PROJECT 4½" ABOVE FINISHED CONC. FOR PIERS 1&3 AND 3¾" FOR PIERS 2&4.



BAR	DIM. X	DIM. Y
P401	2'-0"	1'-7"
P402	2'-6"	1'-7"
P403	3'-0"	1'-7"
P404	3'-9"	2'-8"
P501	2'-6"	2'-6"
P502	3'-6"	2'-6"
P503	4'-6"	2'-6"
P601	1'-6"	2'-7"
P1101	1'-11"	34'-6"

BARS
P401 TO P404 INCL.,
P501 TO P503 INCL.,
P601 AND P1101

BAR LIST - 4 PIERS

BAR	NO.	SIZE	LENGTH	SHAPE	WEIGHT
P401	128	4	5'-7"	⊓	477
P402	192	4	6'-7"	⊓	844
P403	160	4	7'-7"	⊓	810
P404	68	4	10'-2"	⊓	462
P501	56	5	7'-6"	⊓	438
P502	64	5	9'-6"	⊓	634
P503	64	5	11'-6"	⊓	768
P504	184	5	16'-6"	—	3166
P505	8	5	18'-8"	—	156
P506	16	5	18'-0"	—	300
P507	8	5	30'-8"	—	256
P508	16	5	28'-4"	—	406
P509	32	5	11'-0"	—	367
P601	24	6	5'-7"	⊓	201
P602	88	6	25'-3"	—	3537
P603	88	6	5'-2"	⊃	683
P604	36	6	28'-6"	—	1325
P701	132	7	8'-0"	—	2158
P702	88	7	24'-9"	—	4452
P703	88	7	5'-7"	⊃	1004
P1101	24	11	38'-4"	⊓	4608
P1102	32	11	13'-0"	—	2210
TOTAL WEIGHT					29,342

* ALL BAR MARKS ARE TO BE PREFIXED FOR SHIPMENT WITH THE NUMBER OF THE PIER WHERE THE BARS WILL BE USED. FOR EXAMPLE: 3 P401 MEANS BARS P401 FOR PIER 3.

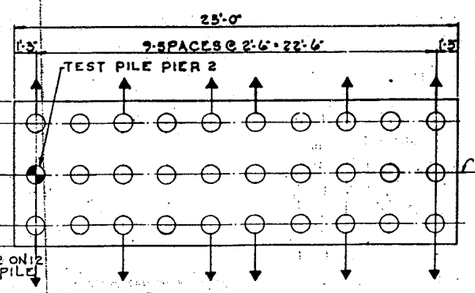
BILL OF MATERIAL - 4 PIERS

ITEM	UNIT	QUANTITY
CLASS A EXCAVATION FOR STRUCTURES	CU YD	400
CLASS X CONCRETE	CU YD	352.0
REINFORCEMENT BARS	POUND	29,342
FURNISHING CREOSOTED PILES UP TO 20 FEET	LIN FT	1007
FURNISHING CREOSOTED PILES 20 TO 30 FEET	LIN FT	1113
TEST PILE TIMBER	EACH	2
DRIVING TIMBER PILES	LIN FT	2120
METAL SHOES	EACH	106

PILE DATA

PIER	1	2	3	4
TYPE	CREOSOTED	CREOSOTED	CREOSOTED	CREOSOTED
CAPACITY	20 TON	20 TON	20 TON	20 TON
EST. LENGTH	21 FT	21 FT	19 FT	19 FT
NO. REQ'D.	24	30 *	24 *	30

* INCLUDES TEST PILES



PIERS 2 & 4

PLAN OF PILES
SCALE: 1/4" = 1'-0"

PIER DETAILS

F.A.I. 80 SECTION 81-1VB
F.A.I. 80 OVER C.B. & Q.R.R.
ROCK ISLAND COUNTY
STATION 277 + 11.45

SCALE: AS NOTED DATE:

DE LEUW, CATHER & CO., ENGINEERS
DESIGNED BY E. LIEBOLD
DRAWN BY S. J. DZIUBA
CHECKED E. RHOMBERG
IN CHARGE E. S. MARTINS
APPROVED L. N. RIAN

JOB NO.

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 4 OF 13 SHEETS | STA. | TO STA.

FILE NAME =	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
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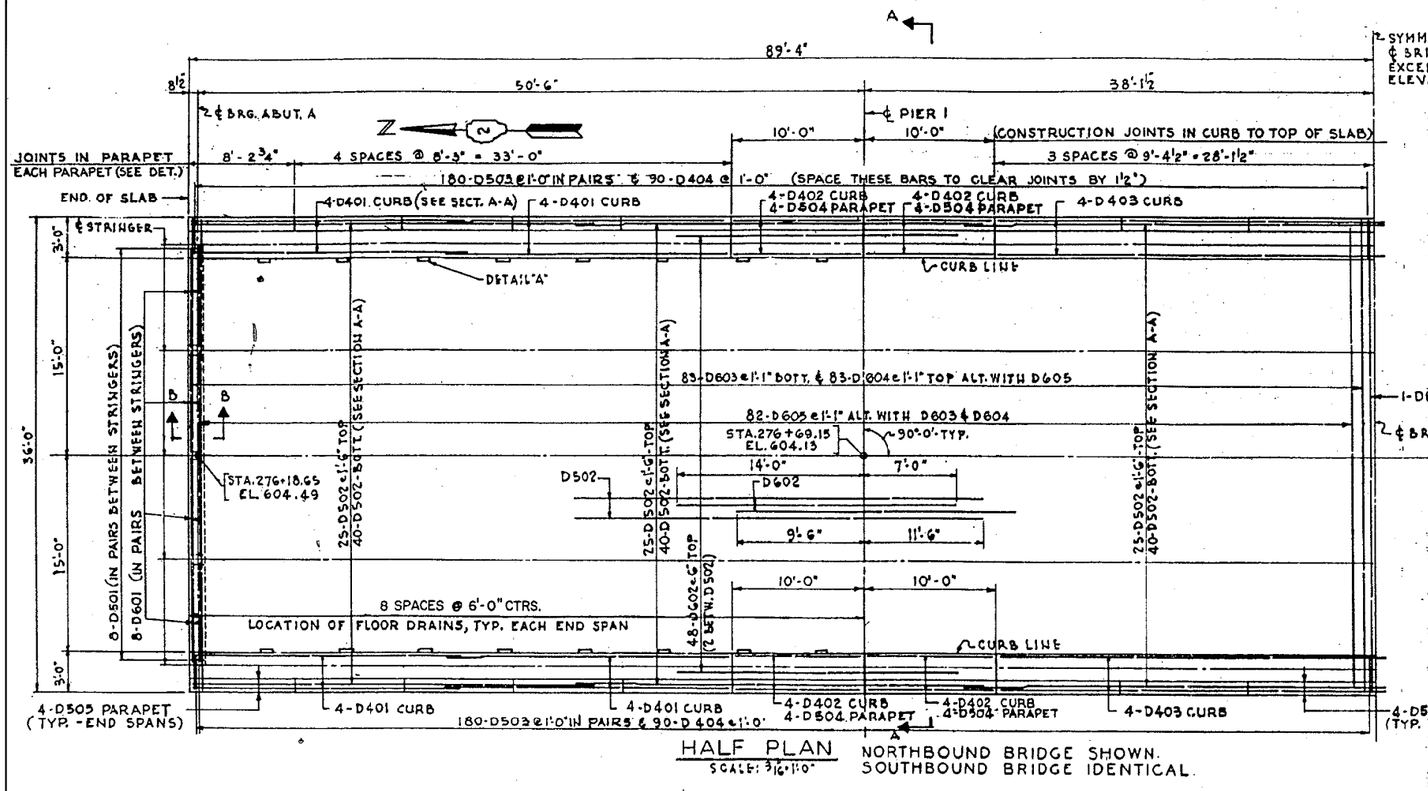
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	289
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

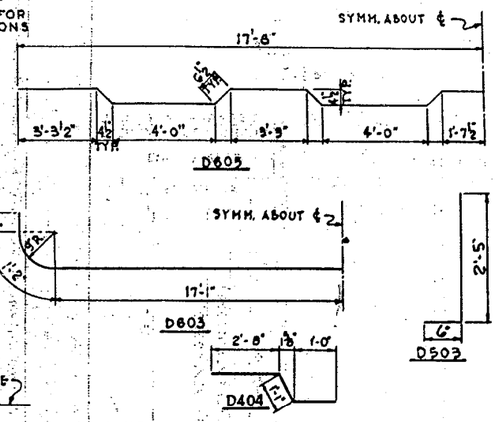
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-1HB-1 81-1VB	ROCK ISLAND	A-A	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 17
SHEETS



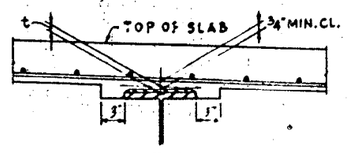
HALF PLAN
SCALE: 3/16" = 1'-0"

NORTHBOUND BRIDGE SHOWN.
SOUTHBOUND BRIDGE IDENTICAL.



DETERMINATION OF FILLET HEIGHT

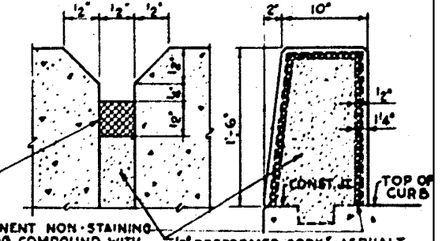
AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP OF STEEL SHALL BE TAKEN AT THE POINTS WHERE D.L. DEFLECTIONS ARE GIVEN. THESE ELEVATIONS SUBTRACTED FROM THE "THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION" PLUS COVER R OR SPLICE R THICKNESS (IF ANY), MINUS FLOOR THICKNESS, EQUALS THE FILLET HEIGHT "t" ABOVE THE TOP OF BEAM.



METHOD OF DETERMINING FILLET HEIGHTS "t"

BAR LIST - 2 BRIDGES

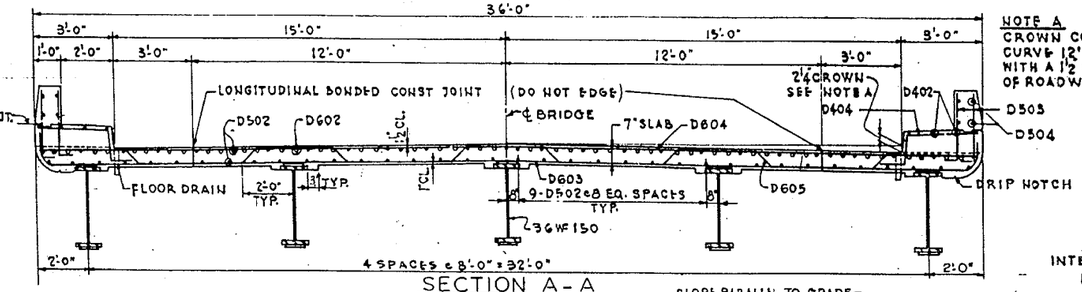
BAR	NO.	SIZE	LENGTH	SHAPE	WEIGHT
D401	64	# 4	21'-0"	——	898
D402	64	# 4	8'-8"	——	413
D403	32	# 4	28'-8"	——	609
D404	720	# 4	4'-9"	~	2,285
D501	32	# 5	10"	——	28
D502	780	# 5	30'-9"	——	25,016
D503	1440	# 5	2'-11"	⌐	4,386
D504	64	# 5	9'-8"	——	645
D505	160	# 5	7'-11"	——	1,322
D506	96	# 5	9'-1"	——	909
D601	32	# 6	1'-8"	——	360
D602	192	# 6	21'-0"	——	6,036
D603	332	# 6	37'-4"	⌒	18,617
D604	332	# 6	35'-4"	——	17,619
D605	330	# 6	36'-8"	~~	18,176
				TOTAL	97,339



TWO-COMPONENT NON-STAINING GREY SEALING COMPOUND WITH POLYSULFIDE LIQUID POLYMERS - GUN GRADE WITH PRIMER.

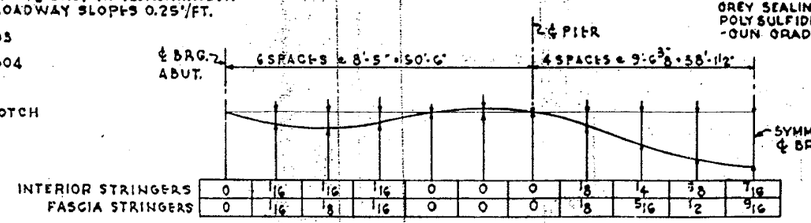
½" PREFORMED CORK - ASPHALT JOINT FILLER - A.S.T.M. DESIGNATION D1751
COST INCIDENTAL.

DETAIL OF JOINT IN PARAPET



SECTION A-A
SCALE: 3/8" = 1'-0"

NOTE A
CROWN CONSISTS OF A CIRCULAR CURVE 12' EACH SIDE OF ℄ ROADWAY WITH A 1½" DROP IN 12' REMAINDER OF ROADWAY SLOPES 0.25"/FT.

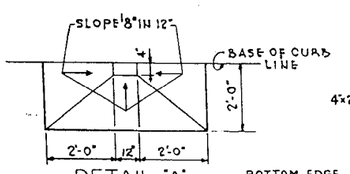


DEAD LOAD DEFLECTION DIAGRAM (IN INCHES)
DUE TO WEIGHT OF CONCRETE ONLY

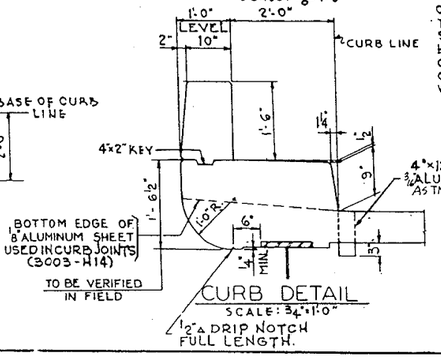
BILL OF MATERIAL (2 BRIDGES)

ITEM	UNIT	QUANTITY
CLASS X CONCRETE	CU YD	379.3
REINFORCEMENT BARS	POUND	97,339
PROTECTIVE COAT	SQ YD	1,540

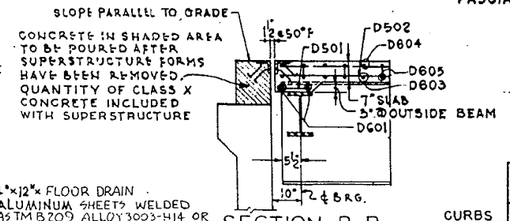
NOTE:
COARSE AGGREGATE WHICH IS TO BE USED IN CLASS X CONCRETE FOR HANDRAIL PARAPETS SHALL BE ABSOLUTELY FREE OF CHERT, FLINT, LIMONITE, LIGNITE, AND SOFT SANDSTONE.



DETAIL "A"
SCALE: ½" = 1'-0"



CURB DETAIL
SCALE: 3/4" = 1'-0"



SECTION B-B
SCALE: ½" = 1'-0"

DETAIL OF ⅛" ALUMINUM SHEETS A.S.T.M B209 ALLOY 3003-H14
SCALE: 3/4" = 1'-0"

TABLE
OF THEORETICAL GRADE ELEVATIONS ADJUSTED FOR DEAD LOAD DEFLECTION ALONG ℄ GIRDERS OR ADJACENT CURB LINES.

	NORTH ABUTS	⅛ L1	⅜ L1	⅝ L1	⅞ L1	PIER 1 OR 3	⅛ L2	⅜ L2	⅝ L2	⅞ L2	⅜ L2	⅝ L2	⅞ L2	PIER 2 OR 4	⅛ L3	⅜ L3	⅝ L3	⅞ L3	SOUTH ABUTS
CURBS	4.30	4.24	4.18	4.13	4.06	4.00	3.94	3.88	3.82	3.75	3.68	3.60	3.51	3.42	3.33	3.26	3.18	3.11	3.03	2.96	2.88
G2	4.43	4.37	4.33	4.26	4.20	4.14	4.07	4.01	3.95	3.90	3.83	3.74	3.65	3.55	3.46	3.39	3.32	3.24	3.18	3.09	3.01
G3	4.49	4.43	4.38	4.31	4.25	4.19	4.13	4.07	4.01	3.95	3.88	3.80	3.71	3.61	3.52	3.45	3.37	3.30	3.23	3.14	3.07

NOTE: ADD 600.00 TO ALL ELEVATIONS ON THIS TABLE.

SUPERSTRUCTURE-SLAB DETAILS

F.A.I. 80 SECTION 81-1VB
F.A.I. 80 OVER C.B. & O.R.R.
ROCK ISLAND COUNTY
STATION 277+11.45

SCALE: AS NOTED DATE:

DE LEUW, CATHER & CO., ENGINEERS
DESIGNED BY E. LIEBOLD
DRAWN BY A. BUROKAS
CHECKED E. RHOMBERG
IN CHARGE E.S. MARTINS
APPROVED L.N. RIAN

JOB NO.

FOR INFORMATION ONLY

FILE NAME =	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
V:\3369\CADD Sheets\D264B78_sht_exist-structure-2.dgn		DRAWN - RMD	REVISED -
	PLOT SCALE = 2.000000 ' / in.	CHECKED - DJD	REVISED -
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

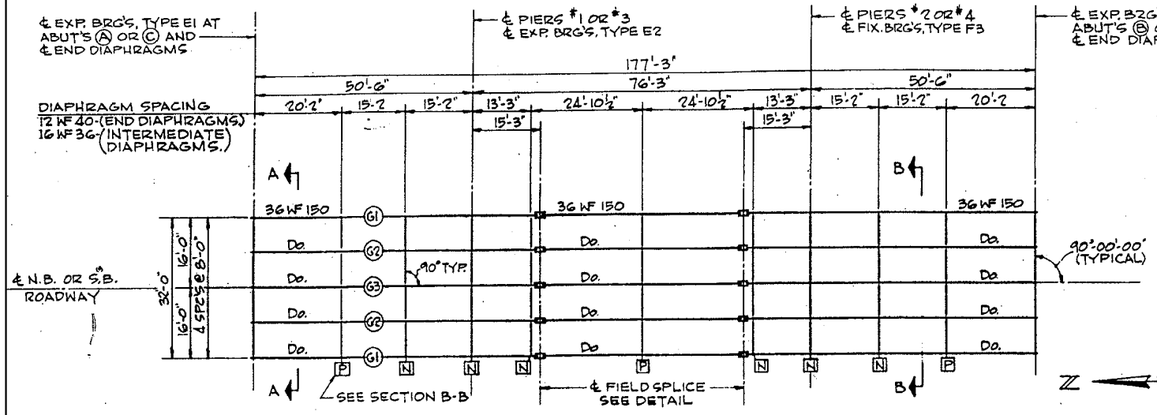
EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 5 OF 13 SHEETS | STA. | TO STA.

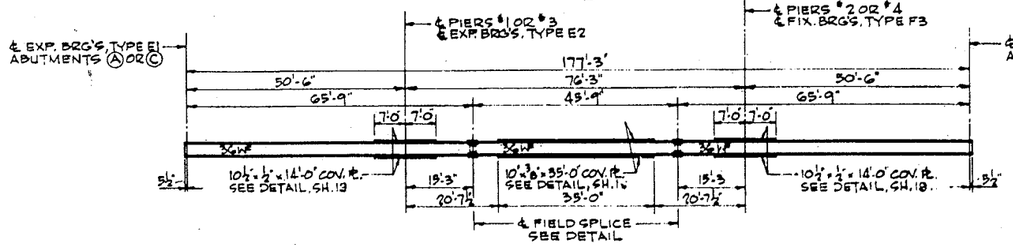
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	290
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-1HB-1 81-1VB	ROCK ISLAND	44	18
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

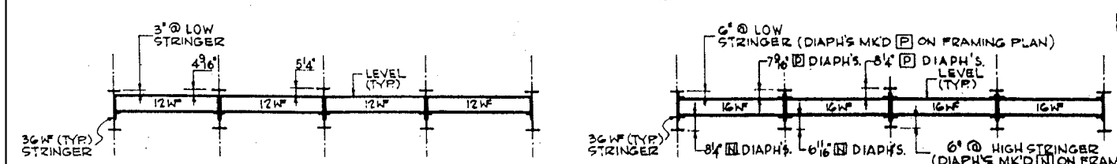
SHEET NO. 18
SHEETS



FRAMING PLAN (2 THUS)
SCALE: 1/16" = 1'-0"

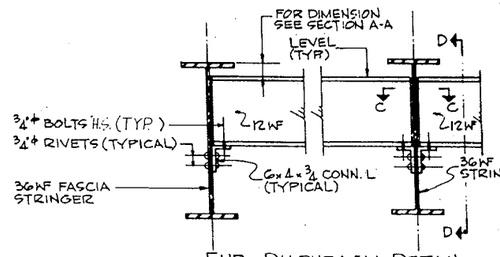


TYPICAL STRINGER ELEVATION
SCALE: 1/16" = 1'-0"

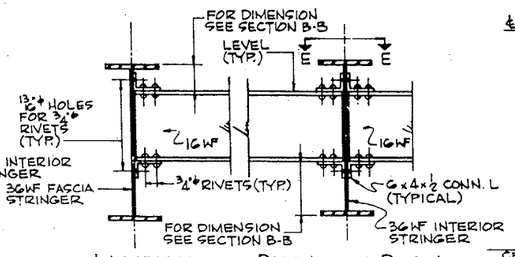


TYPICAL END DIAPHRAGM - SECTION A-A
SCALE: 3/16" = 1'-0"

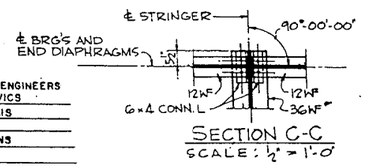
TYPICAL INTERMEDIATE DIAPHRAGM - SECTION B-B
SCALE: 3/16" = 1'-0"



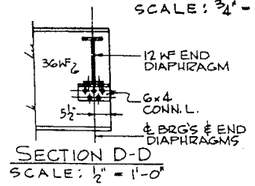
END DIAPHRAGM DETAIL
SCALE: ¾" = 1'-0"



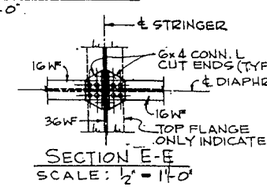
INTERMEDIATE DIAPHRAGM DETAIL
SCALE: ¾" = 1'-0"



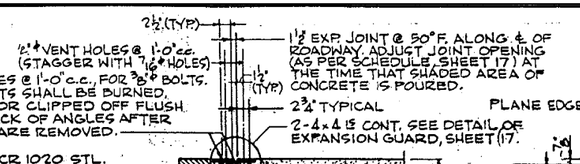
SECTION C-C
SCALE: ½" = 1'-0"



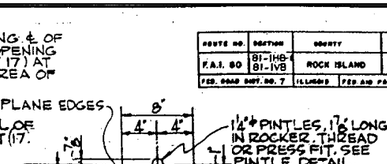
SECTION D-D
SCALE: ½" = 1'-0"



SECTION E-E
SCALE: ½" = 1'-0"

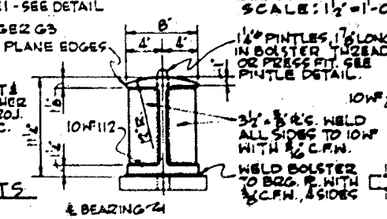


BEARING & JOINT DETAIL AT ABUTMENTS
SCALE: ¾" = 1'-0"



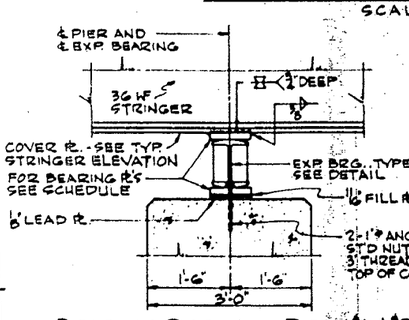
END VIEW — SIDE VIEW

ROCKER DETAIL OF EXPANSION BEARINGS TYPES E1 & E2
SCALE: 1½" = 1'-0"

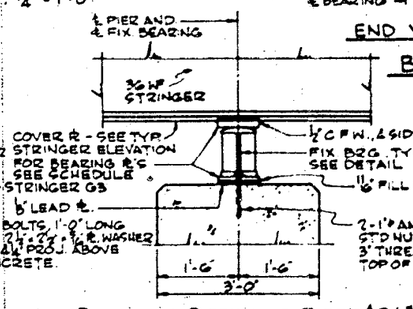


END VIEW — SIDE VIEW

BOLSTER DETAIL OF FIXED BEARINGS TYPE F3
SCALE: 1½" = 1'-0"



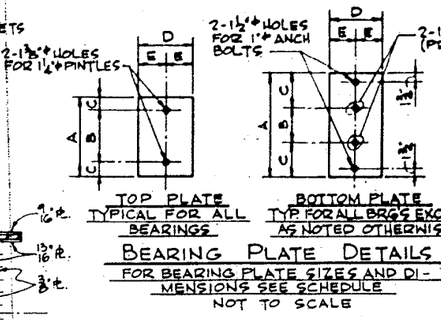
BEARING DETAIL @ PIERS #1 & #3
SCALE: ¾" = 1'-0"



BEARING DETAIL @ PIERS #2 & #4
SCALE: ¾" = 1'-0"

PINTLE DETAIL

WEIGHT / BEARING (FILL ℄'S NOT INCL.)			
BEARING TYPE	E1	E2	F3
WEIGHT/BRG. IN LBS.	776	321	793
NO. BRGS REQ'D.	90	10	10



TYPICAL FIELD SPLICE DETAIL
SCALE: ¾" = 1'-0"

BEARING PLATE DETAILS
FOR BEARING PLATE SIZES AND DIMENSIONS SEE SCHEDULE
NOT TO SCALE

BEARING PLATE SCHEDULE

BRG. / DIMEN.	TOP PLATE E1	TOP PLATE E2	TOP PLATE F3	BOTTOM PLATE E1	BOTTOM PLATE E2	BOTTOM PLATE F3
A	1'-1"	1'-0"	1'-0"	1'-0½"	1'-1½"	1'-1½"
B	6½"	6"	6"	6½"	6"	
C	3¼"	3"	3"	7"	6½"	
D	9"	9"	9"	9"	10"	10"
E	4½"	4½"	4½"	4½"	5"	5"
℄ THICKNESS	1"	1⅛"	1⅛"	1⅛"	2"	1½"

NOTES:
FOR STRUCTURAL STEEL DESIGNATION SEE GENERAL NOTES, SHEET 2
FOR TOP OF STEEL ELEVATIONS SEE TABLE, SHEET 19.

BILL OF MATERIALS — 2 BRIDGES *		
ITEM	UNIT	QUANTITY
FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	340,086

* INCLUDES ALL STRUCTURAL STEEL EXCEPT EXPANSION GUARD ASSEMBLIES.

SUPERSTRUCTURE DETAILS
FRAMING PLAN AND BEARINGS
F.A.I. 80 SECTION 81-1VB
F.A.I. 80 OVER C.B. & O.R.R.
ROCK ISLAND COUNTY
STATION 277+11.45
SCALE: AS NOTED
DATE:

DE LEUW, CATHER & CO., ENGINEERS
DESIGNED BY V. K. BURKEVICS
DRAWN BY J. A. CHALIKIS
CHECKED J. BROZ
IN CHARGE E. S. MARTINS
APPROVED L. N. RIAN

JOB NO.

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 6 OF 13 SHEETS | STA. | TO STA.

FILE NAME =	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
V:\3369\CADD Sheets\D264878_sht_exist-structure-2.dgn	DRAWN - RMD	REVISED -	
	PLOT SCALE = 2.000000 ' / in.	CHECKED - DJD	REVISED -
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	291
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Bench Mark: Chiseled square S.W. corner N. parapet wall of highway bridge S.A. 4 & 860' S.E. Sta. 288+19 F.A.I. Rte. 80 Elev. 574.34

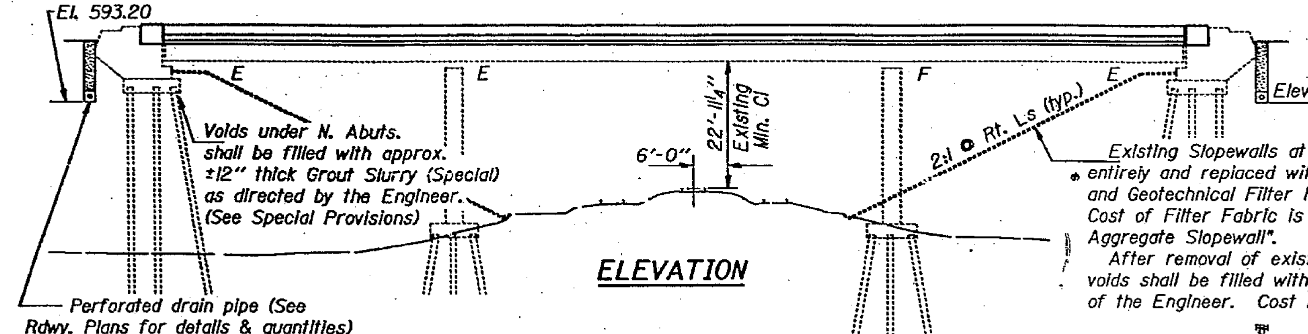
Existing Structure: No. 081-0014 (S.B.), No. 081-0015 (N.B.). Built as F.A.I. 80, Sec. 81-IVB At Sta. 277+11.45 In 1965. Superstructure consists of R.C. deck supported on a three span continuous WF beams, hammerhead piers. 180.9' bk. to bk. abutments and 36'-0" out to out.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

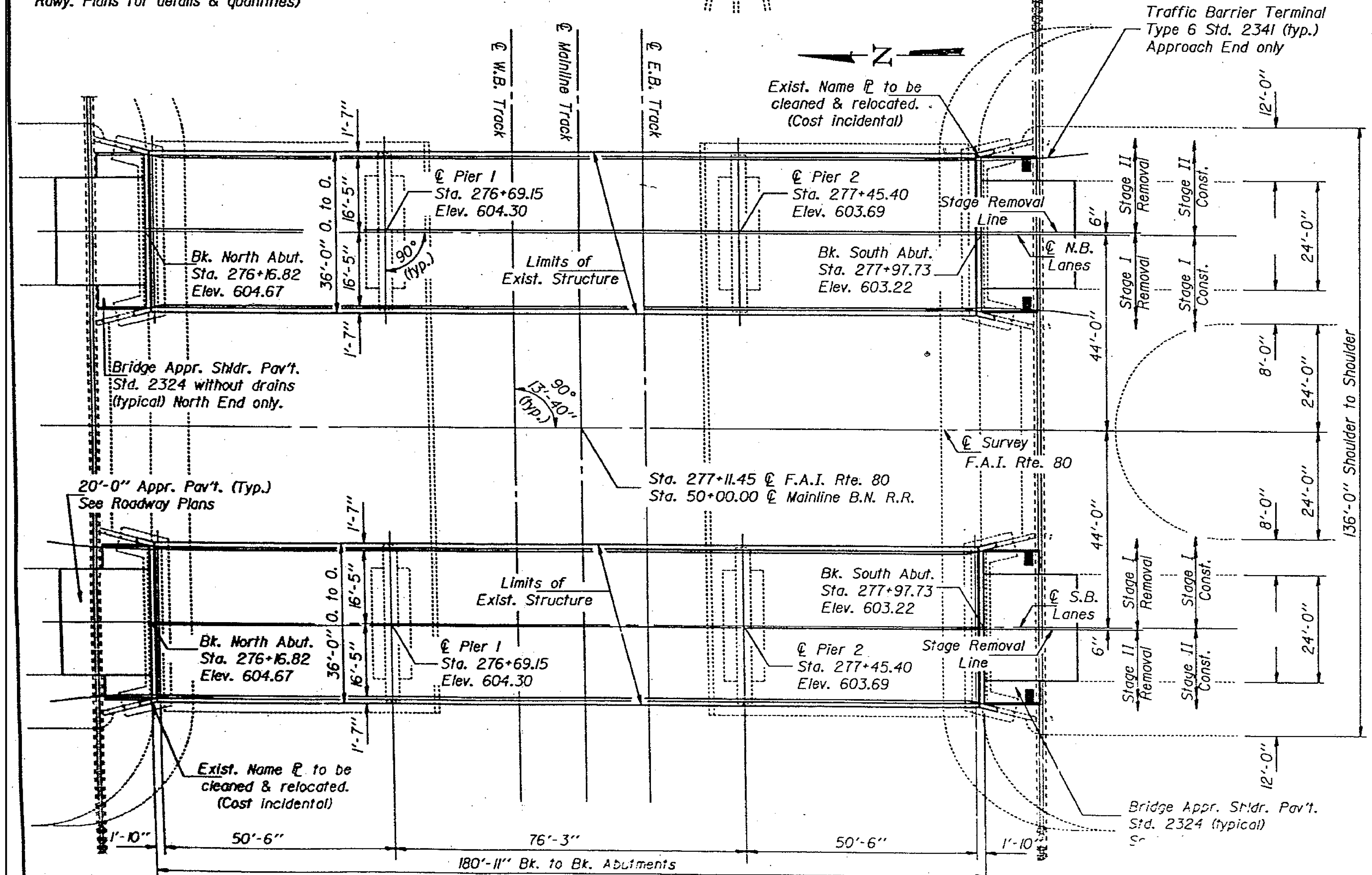
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-IVB	R. ISLAND	67	29

FED. ROAD DIST. NO. 7 — ILLINOIS — FED. AID PROJECT

SHEET NO. 1
13 SHEETS



* Existing Slopewalls at the South Abutments shall be removed entirely and replaced with Bituminous Coated Aggregate Slopewall and Geotechnical Filter Fabric, as directed by the Engineer. Cost of Filter Fabric is incidental to "Bituminous Coated Aggregate Slopewall".
After removal of existing slopewalls at the South Abutments, voids shall be filled with suitable material upon approval of the Engineer. Cost incidental to "Slopewall Removal".



GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53, Grade 60.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The three coat lead and chromate free alkyd paint system shall be used for field painting of existing structural steel. The color of the final finish coat shall be Munsel Standard 7.5G4/8 Interstate Green.

The three coat lead and chromate free alkyd paint system shall be used for shop and field painting of new structural steel. The color of the final finish coat shall be Munsel Standard 7.5G4/8 Interstate Green.

The existing structural steel shall be cleaned by Method II.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M-223, Grade 50.

The approximate weight of existing structural steel to be painted is 170 tons.

The Contractor will be required to mark on top of the concrete deck the locations of the top flange of all the steel beams prior to any removal of the bridge concrete deck. Saw cutting directly over the top of the beam is not permitted.

Replacement portion of the Slopewall at the North Abutments shall be reinforced with Welded Wire Fabric, 6" x 6" W4.0 x W4.0 weighing 58 lbs. per 100 sq. ft.

* Structural Steel = 6670 lbs. for M-183 and 2740 lbs. for M-223, Gr. 50.

Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

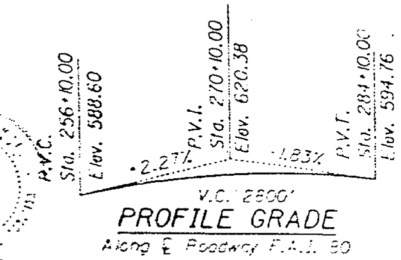
Bridge seat sealer shall be applied to seat area of the abutments.
EST. QUANTITY = 240 SQ. FT.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	15	13	28
Concrete Removal (Special)	Cu. Yd.	75		75
Bituminous Concrete Surface Removal	Sq. Yd.	1151		1151
~~Concrete Bridge Deck Scarification 1½"~~	Sq. Yd.	1151		1151
Plasticized Bridge Deck Concrete Overlay	Sq. Yd.	1260		1260
Preformed Joint Seal 2½"	Lin. Ft.	72		72
Preformed Joint Seal 4"	Lin. Ft.	72		72
Protective Coat	Sq. Yd.	305		305
Class X Concrete Superstructure	Cu. Yd.	76.1	13.4	89.5
* Structural Steel	Pounds	9410		9410
Reinforcement Bars Epoxy Coated	Pounds	12,790	1470	14,260
Deck Slab Repair (Partial)	Sq. Yd.	78		78
Deck Slab Repair (Full Depth Type I)	Sq. Yd.	29		29
Jack and Remove Existing Bearings	Each		20	20
Elastomeric Bearing Assembly, Type I	Each		10	10
Elastomeric Bearing Assembly, Type II	Each		10	10
Slope Wall Removal	Sq. Yd.		889	889
Bituminous Coated Aggregate Slopewall (6")	Sq. Yd.		889	889
Cleaning & Painting Steel Bridge	L.S.	.5		.5
Grout Slurry (Special)	Cu. Yd.		20	20
Bridge Seat Sealer	L. Sum		.5	.5

DESIGNED	Dennis Herbert
CHECKED	M. R. Alexand...
DRAWN	D-H jas
CHECKED	GRA

September 5 1989
EXAMINED Oraj D. Kasper — ENGINEER OF BRIDGE DESIGN
PASSED James T. Kaulbrusa — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

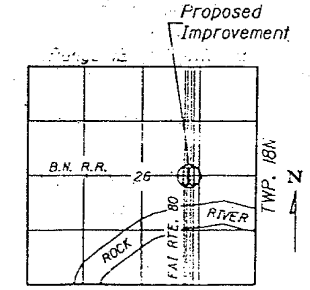


DESIGN SPECIFICATIONS
1983 AASHTO, 1984 thru 1988 Interims

LOADING HS 20-44 & Alt.

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (reinf.)
fy = 36,000 psi (new struct. steel M 183)
fy = 50,000 psi (new struct. steel M 223)

Proposed Improvement



GENERAL PLAN
F.A.I. RTE. 80 OVER B.N. RR
F.A.I. ROUTE 80
SEC. (81-IVB)
ROCK ISLAND COUNTY
STATION 277+11.45
STRUCTURE NO. 081-0014 S.B.
081-0015 N.B.

Rev.

FOR INFORMATION ONLY

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		CHECKED - DJD	REVISED -
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A — SHEET NO. 7 OF 13 SHEETS — STA. — TO STA.

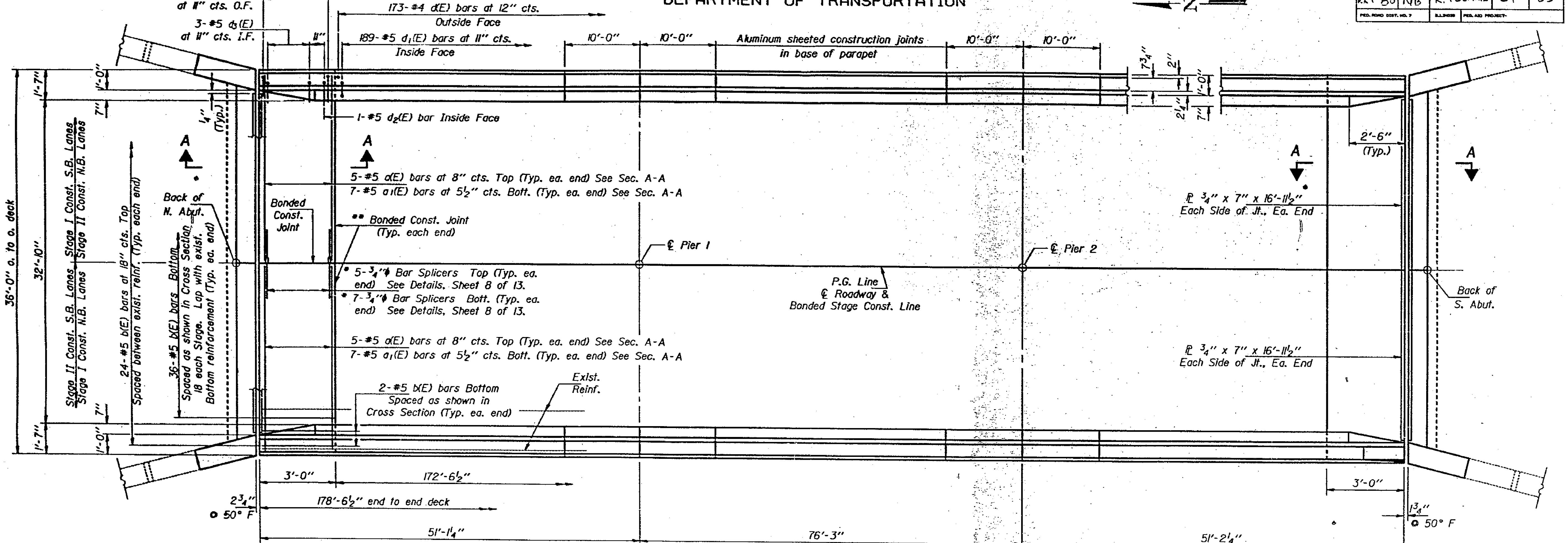
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	292

* 37-1BR-1, 81-1VBR & 81-1HBR-1 — CONTRACT NO. 64B78
FED. ROAD DIST. NO. — ILLINOIS — FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-IVB	R. ISLAND	67	33

SHEET NO. 5
13 SHEETS

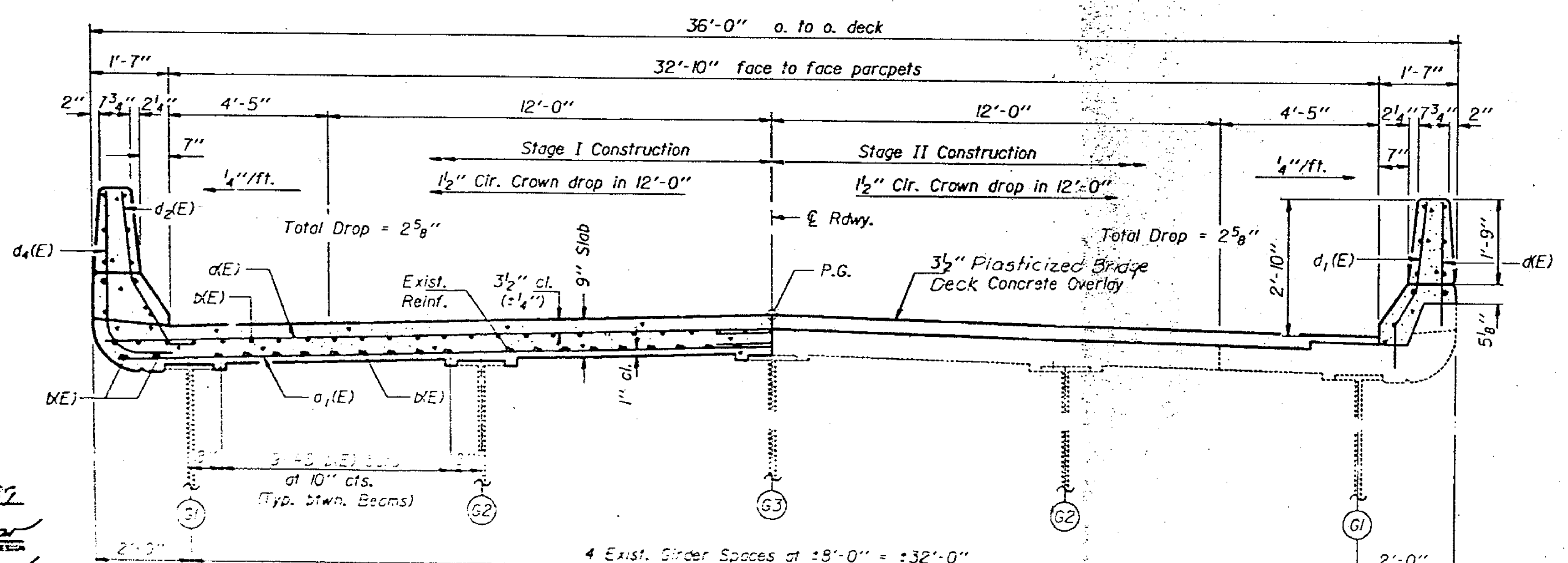


PLAN

S.B. Lanes shown
N.B. Lanes similar

* Bar Splicers lapped with a (E) and a1(E) bars shall be tied with double the number of ties normally used.

** Bonded Const. Joint in accordance with Art. 504.13(a)(2) of the Std. Specs.



CROSS SECTION

(Looking South, S.B. Lanes, Looking North, N.B. Lanes)

Notes: See Sheets 6 & 7 of 13 for Superstructure Details, Section A-A, and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
For Bar Splicer Details, see Sheet 8 of 13.
Existing longitudinal reinforcement in the deck and the remaining portion of the Safety Walk shall be cleaned, straightened, and incorporated into the new construction.

SUPERSTRUCTURES
F.A.I. RTE. 80 SEC. (81-IVB)
ROCK ISLAND COUNTY
STA. 277+11.45

DESIGNED / CHECKED / DRAWN D-Herbert / CHECKED
Sept 5 1987
EXAMINED / PASSED / APPROVED
S-1-0 12-1-83

FOR INFORMATION ONLY

FILE NAME = V:\3369\CADD Sheets\D264B78_sht_exist-structure-2.dgn	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
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	PLOT DATE = 3/17/2015	CHECKED - DJD	REVISED -
		DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 8 OF 13 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	293

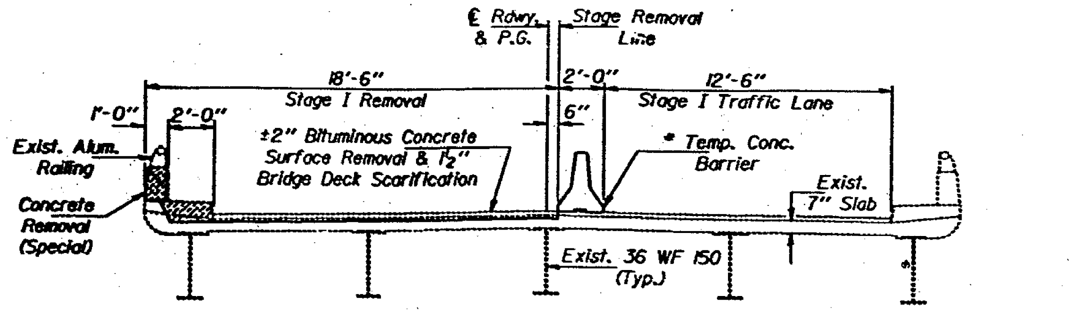
* 37-1BR-1, 81-1VBR & 81-1HBR-1 — CONTRACT NO. 64B78

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

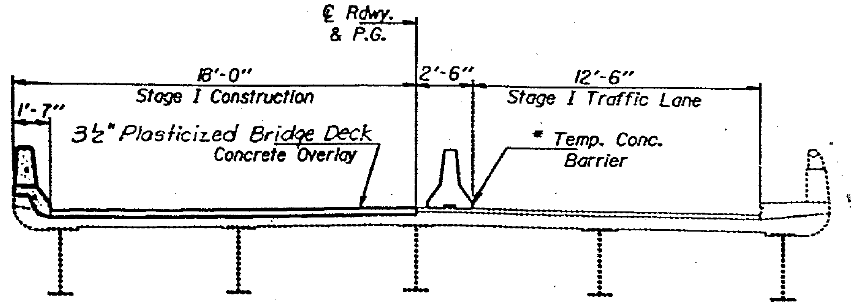
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-IVB	R. ISLAND	67	30

SHEET NO. 2
13 SHEETS

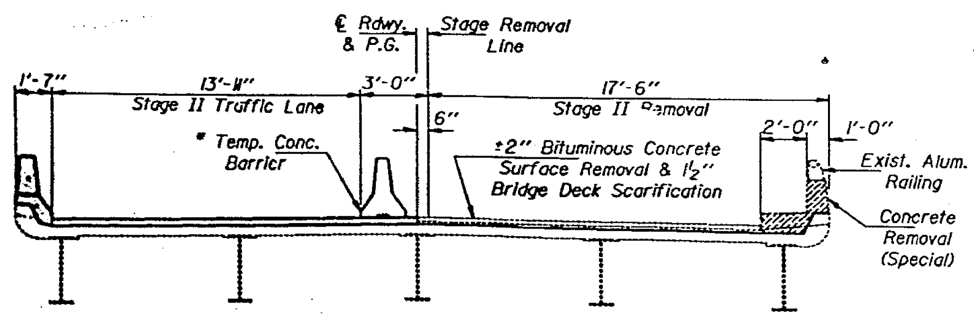


* Pay Item for Temporary Concrete Barrier is included in the Roadway Plans.

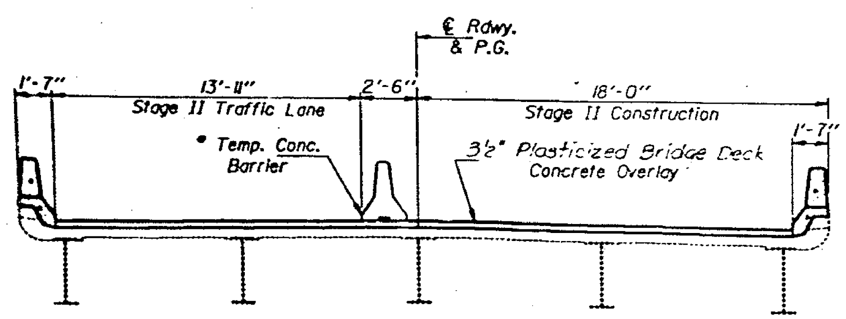
STAGE I REMOVAL



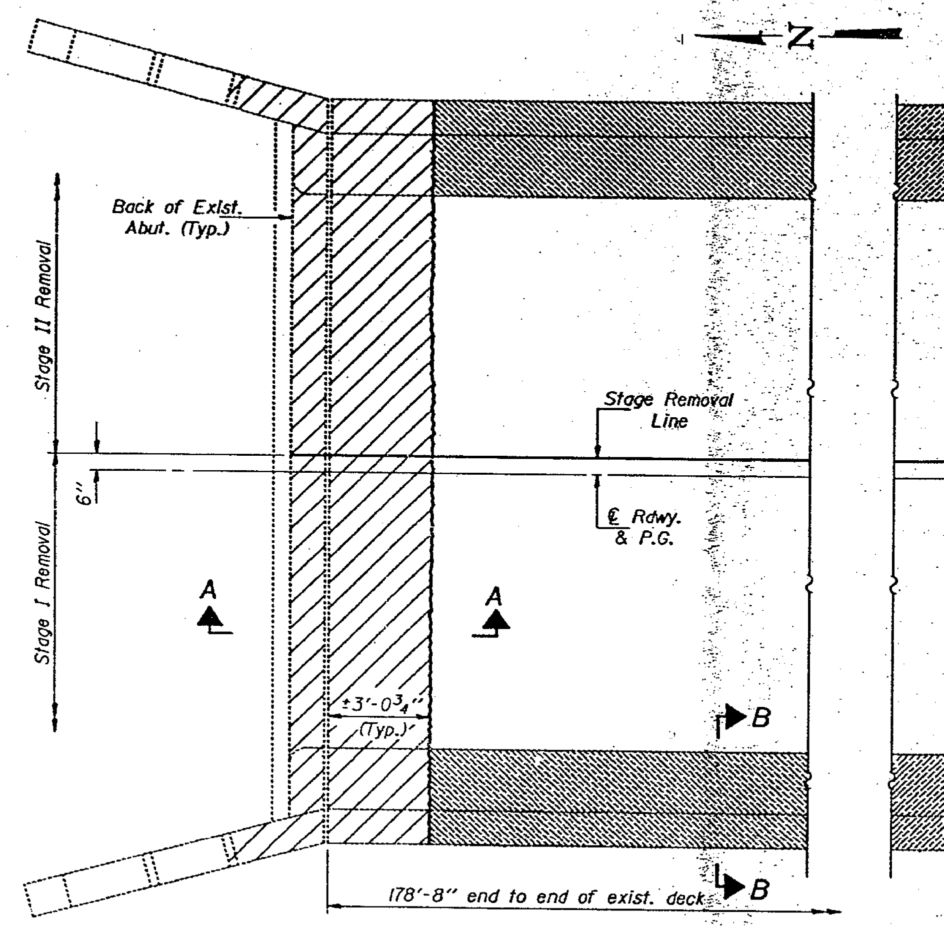
STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION



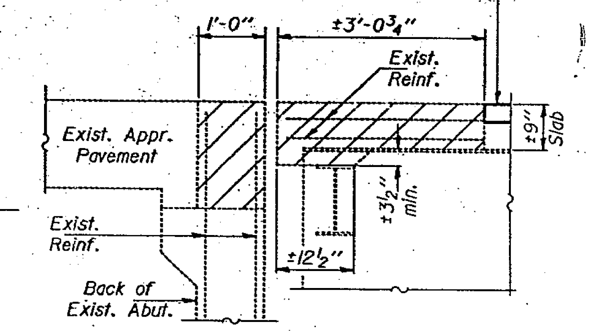
PLAN

DECK CONCRETE REMOVAL

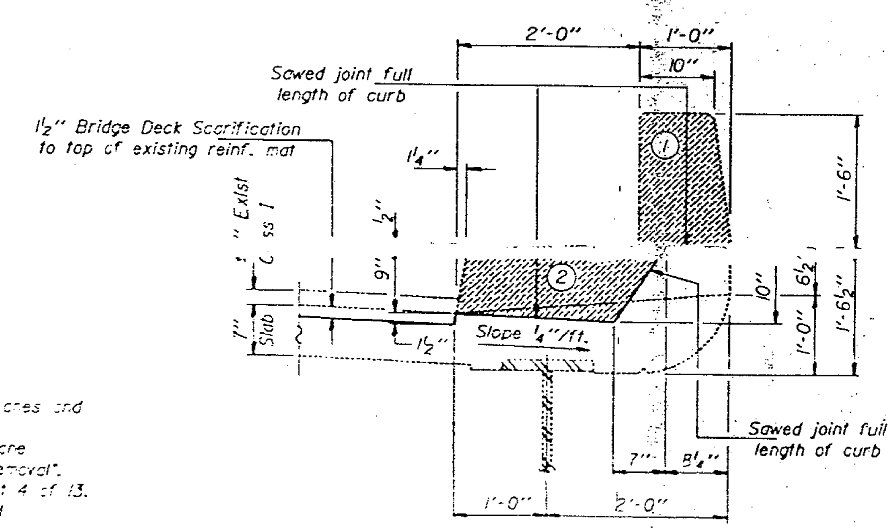
(Showing N.B. Lane; S.B. Lane similar by 180° rotation)

Shaded areas indicate "Concrete Removal Special".

Hatched areas indicate "Concrete Removal".



SECTION A-A



SECTION B-B

Parapet & Safety Walk Removal Sequence

(1) Saw cut and remove parapet above safety walk.

(2) Saw cut safety walk & remove as shown.

Note: Existing longitudinal reinforcement in the deck and the remaining portion of the safty walk shall be cleaned, straightened and incorporated into new construction. Cost incidental to "Concrete Removal".

CONCRETE REMOVAL AND
STAGE CONSTRUCTION DETAILS
F.A.I. RTE. 80 SEC. (81-IVB)
ROCK ISLAND COUNTY
STA. 277+11.45

DESIGNED [signature]
CHECKED [signature]
DRAWN Oferbert
CHECKED [signature]

Sept 5 - 1989
EXAMINED [signature] ENGINEER OF BRIDGE DESIGN
PASSED [signature] ENGINEER OF BRIDGES & STRUCTURES
APPROVED DIRECTOR OF HIGHWAYS

Notes: Cross Sections are Looking South for South Bound Lanes and Looking North for North Bound Lanes.
Cost of removal of the existing waterproofing membrane system is incidental to "Bituminous Concrete Surface Removal".
For details of Temporary Concrete Barrier, see Sheet 4 of 13.
Removal of Exist. Aluminum Railing shall be incidental to "Concrete Removal Special".

FOR INFORMATION ONLY

FILE NAME = V:\3369\CADD Sheets\D264B78_sht_exist-structure-2.dgn	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
		DRAWN - RMD	REVISED -
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	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 9 OF 13 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	294

* 37-1BR-1, 81-1VBR & 81-1HBR-1 CONTRACT NO. 64B78

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT

* (81-1HBY, 81-1VB , 81-1H8-1M

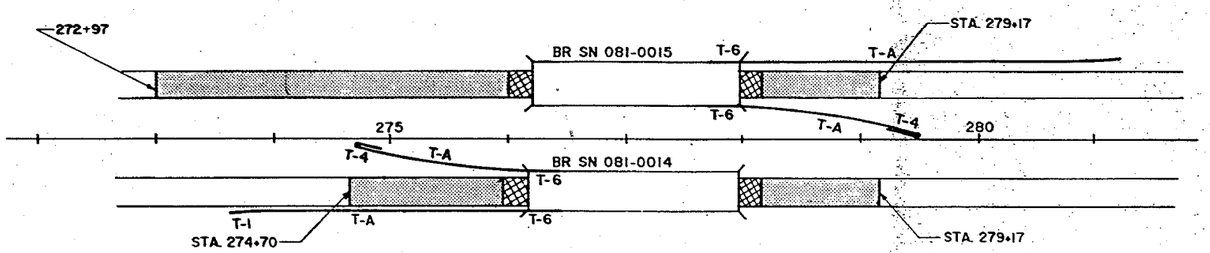
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-80	*	ROCK ISLAND	67	28
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT P-92-018-86		

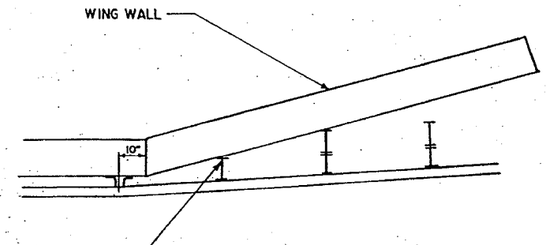
TRAFFIC CONTROL AND PROTECTION, STANDARD 2316, LOCATION 1

LOCATION	EACH
BR SN 081-0014(S.B.)	1

TRAFFIC CONTROL AND PROTECTION, STANDARD 2316, LOCATION 2

LOCATION	EACH
BR SN 081-0015(N.B.)	1





ONLY ROOM FOR ONE W8 x 13 POST WITHOUT BLOCKOUT ON TRAFFIC BARRIER TERMINAL TYPE 6

BITUMINOUS SURFACE REMOVAL VARIABLE DEPTH

LOCATION	SQ YD
NB BRIDGE NO. 15 (APPROACHES)	1067
SB BRIDGE NO. 14 (APPROACHES)	552
	1619

REMOVE AND SALVAGE EXISTING TRAFFIC BARRIER TERMINAL, TYPE 8

LOCATION	EACH
BR 14 S.B. RT 275+91 - 276+43.5	1
BR 14 S.B. LT 275+91 - 276+43.5	1
BR 15 N.B. RT 277+71 - 278+23.6	1
BR 15 N.B. LT 277+71 - 278+23.6	1/4

TERMINAL SECTION REMOVAL AND SALVAGE

LOCATION	EACH
BR 14 S.B. RT 273+62 - 273+87	1
BR 15 N.B. LT 280+98.6 - 281+23.6	1/2

REMOVE AND RE-ERECT STEEL PLATE BEAM GUARD RAIL, TYPE A

LOCATION	LIN FT
BR 14 S.B. RT 275+66 - 275+91	25
BR 14 S.B. LT 274+91 - 275+91	100
BR 15 N.B. RT 278+23.6 - 279+23.6	100
BR 15 N.B. LT 278+23.6 - 278+48.6	25
	250

TRAFFIC BARRIER TERMINAL, TYPE 4

LOCATION	EACH
BR 14 S.B. LT 274+66 - 274+91	1
BR 15 N.B. RT 279+23.6 - 279+48.6	1/2

ADJUST EXISTING GUARD RAIL

LOCATION	LIN FT
BR 14 S.B. RT 273+87 - 275+66	179
BR 15 N.B. LT 278+48.6 - 280+98.6	250
	429

TRAFFIC BARRIER TERMINAL, TYPE 1

LOCATION	EACH
BR 14 S.B. RT 273+62 - 273+87	1
BR 15 N.B. LT 280+98.6 - 281+23.6	1/2

TRAFFIC BARRIER TERMINAL, TYPE 6

LOCATION	EACH
BR 14 S.B. RT 275+93.8 - 276+33.6	1
BR 14 S.B. LT 275+93.8 - 276+33.6	1
BR 15 N.B. RT 277+81 - 278+20.8	1
BR 15 N.B. LT 277+81 - 278+20.8	1
	4

AGGREGATE (PRIME COAT)

LOCATION	TONS
NB BRIDGE NO. 15 (APPROACHES)	1.7
SB BRIDGE NO. 14 (APPROACHES)	0.9
	2.6

BITUMINOUS CONCRETE SURFACE COURSE MIXTURE D, CLASS I, TYPE I

LOCATION	TONS
NB BRIDGE NO. 15 (APPROACHES)	147
SB BRIDGE NO. 14 (APPROACHES)	60

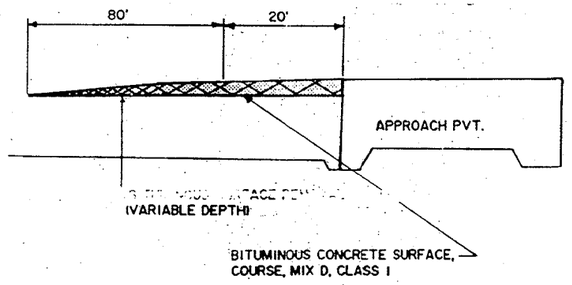
BITUMINOUS MATERIAL (PRIME COAT)

LOCATION	TONS
NB BRIDGE NO. 15 (APPROACHES)	0.32
SB BRIDGE NO. 14 (APPROACHES)	0.17
	0.49

REMOVE AND SALVAGE TRAFFIC BARRIER TERMINAL, TYPE 4

LOCATION		EACH
BR 14 S.B. LT	274+66 - 274+91	1
BR 15 N.B. RT	279+23.6 - 279+48.6	1
		2

TYPICAL BRIDGE APPROACH



DISTRICT NO. 2 DIXON

DESIGNED KEN OUDYN

DRAWN RICH GUISE DATE 7/89

CHECKED SCALE

FOR INFORMATION ONLY

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 10 OF 13 SHEETS | STA. | TO STA.

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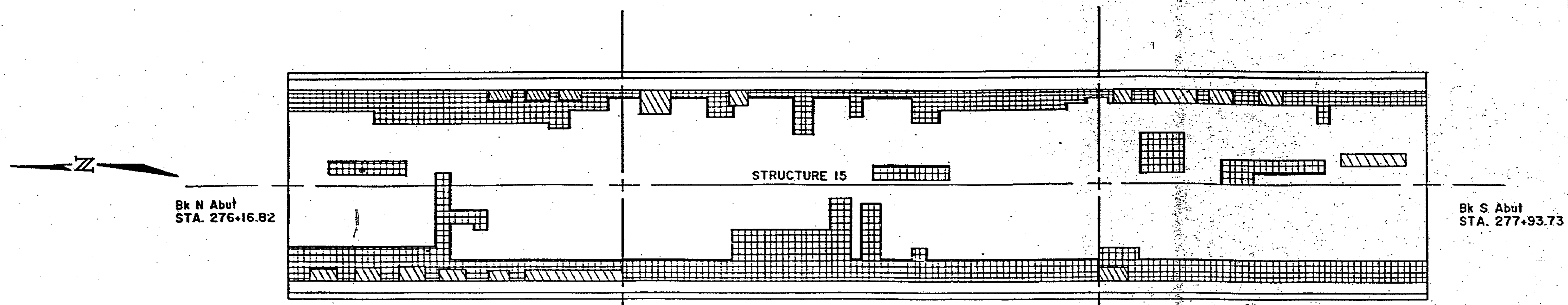
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	295
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

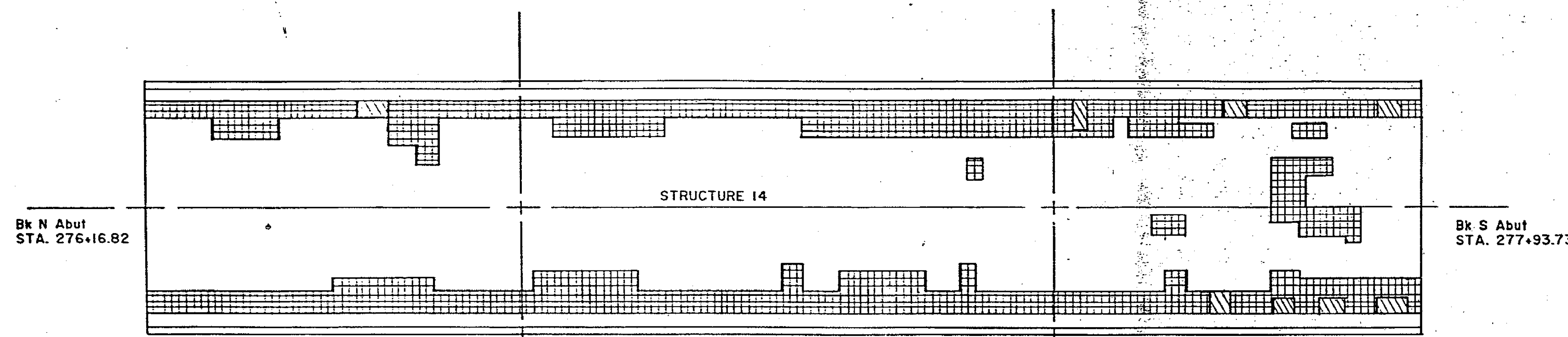
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 80	81-IVB	R. ISLAND	67	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 3
13 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL =1394 SQ FT
FULL TYPE I = 192 SQ FT



PARTIAL =1498 SQ FT
FULL TYPE I = 70 SQ FT

DECK SLAB REPAIR (PARTIAL DEPTH)

LOCATION	SQ.YD.
ENTIRE BRIDGE NO. 14	40
ENTIRE BRIDGE NO. 15	38

NOTE: QUANTITIES FOR PARTIAL DEPTH PATCHES ARE REDUCED BY 75% DUE TO SCARIFICATION BY METHOD 3 PRIOR TO PATCHING.

DECK SLAB REPAIR (FULL DEPTH TYPE I)

LOCATION	SQ.YD.
ENTIRE BRIDGE NO. 14	8
ENTIRE BRIDGE NO. 15	21

DECK SURVEYS MADE 6-89

LEGEND

— DECK SLAB REPAIR (PARTIAL)
— DECK SLAB REPAIR (FULL DEPTH TYPE I)

DESIGNED Dennis Herbert
CHECKED [signature]
DRAWN C. SCHULER
CHECKED GKA

Sept. 5, 1989
EXAMINED [signature]
PASSED [signature]
APPROVED

DECK SLAB REPAIR
F.A.I. RTE. 80 SEC. (81-IVB)
ROCK ISLAND COUNTY
STA. 277+11.45

FOR INFORMATION ONLY

FILE NAME = V:\3369\CADD Sheets\D264B78_sht_exist-structure-2.dgn	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
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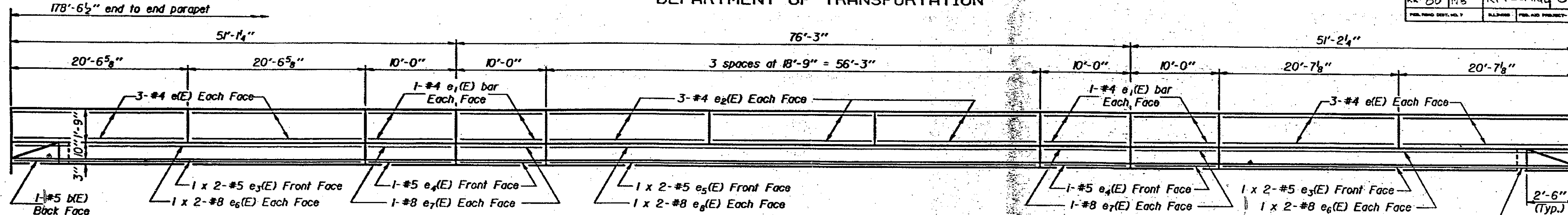
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015
SCALE: N/A | SHEET NO. 11 OF 13 SHEETS | STA. | TO STA.

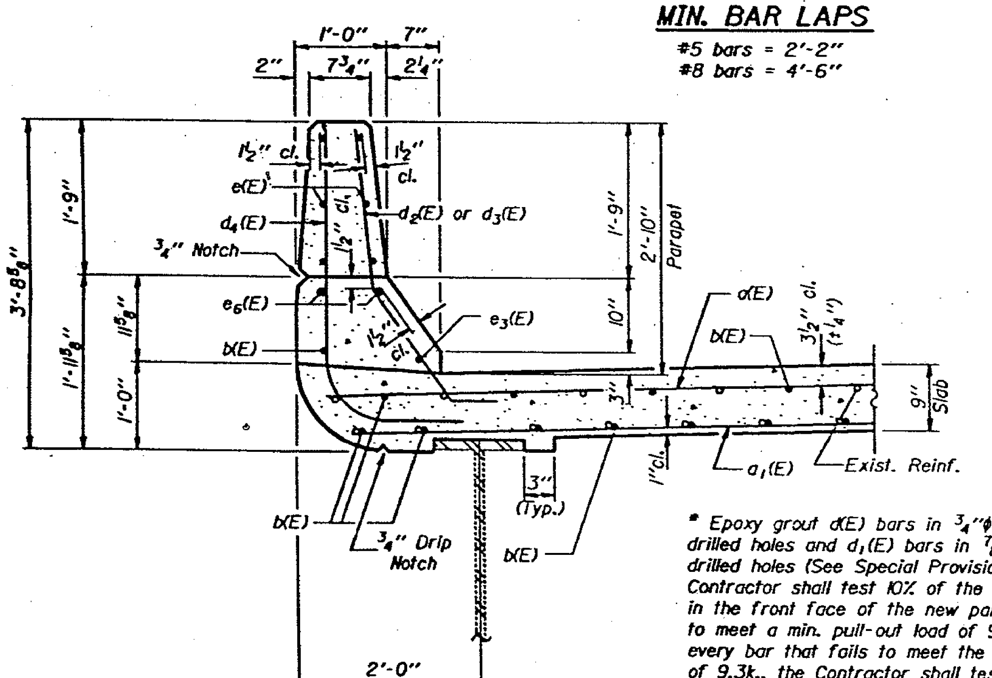
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	296
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



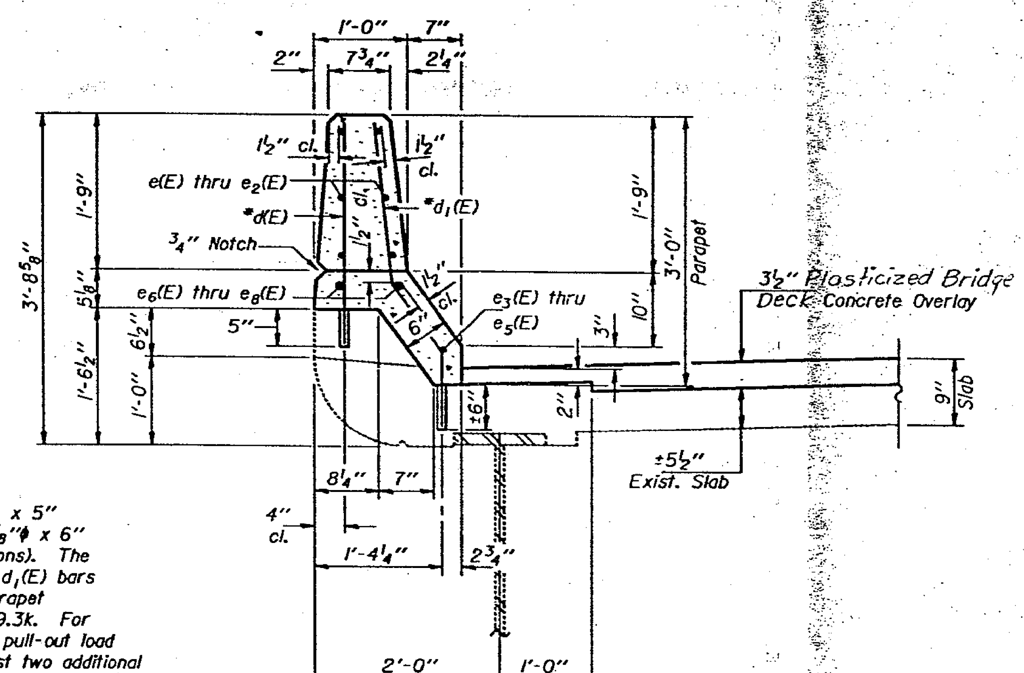
INSIDE ELEVATION OF PARAPET
(Looking East)

MIN. BAR LAPS
#5 bars = 2'-2"
#8 bars = 4'-6"

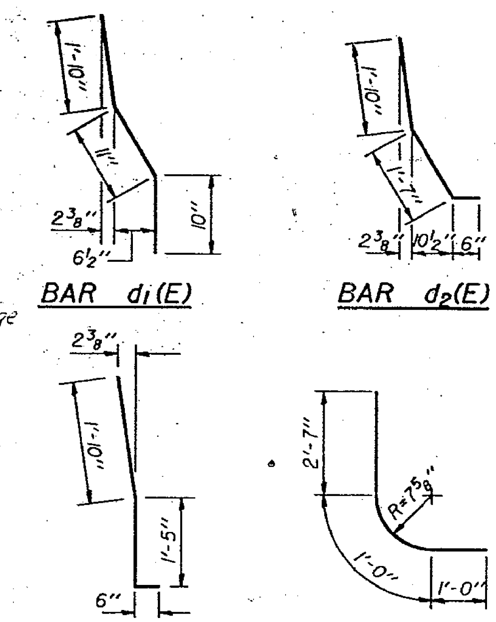


SECTION THRU PARAPET
At end of deck

* Epoxy grout d(E) bars in ¾"φ x 5" drilled holes and d₁(E) bars in ⅞"φ x 6" drilled holes (See Special Provisions). The Contractor shall test 10% of the d₁(E) bars in the front face of the new parapet to meet a min. pull-out load of 9.3k. For every bar that fails to meet the pull-out load of 9.3k., the Contractor shall test two additional bars and grout an additional d₁(E) bar ±4" either side of the failed bar. Cost of testing and additional bars shall be incidental to "Reinforcement Bars Epoxy Coated".



SECTION THRU PARAPET
At Midspan



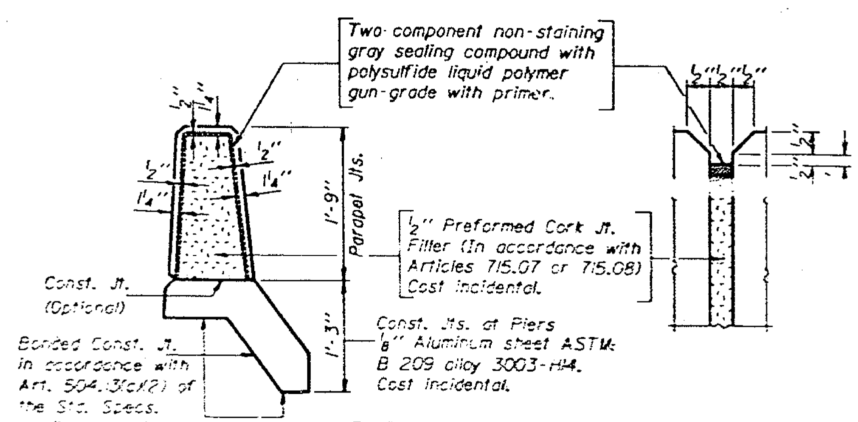
TWO SUPERSTRUCTURES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a (E)	40	#5	17'-8"	——
a₁ (E)	56	#5	17'-5"	——
b(E)	264	#5	2'-9"	——
* d(E)	692	#4	2'-5"	——
* d₁ (E)	756	#5	3'-7"	
d₂(E)	8	#5	3'-11"	
d₃(E)	24	#5	3'-9"	
d₄(E)	32	#4	4'-7"	
e(E)	96	#4	20'-3"	——
e₁ (E)	96	#4	9'-9"	——
e₂(E)	72	#5	18'-6"	——
e₃(E)	16	#5	21'-6"	——
e₄(E)	16	#5	9'-9"	——
e₅(E)	8	#5	29'-1"	——
e₆(E)	16	#8	22'-8"	——
e₇(E)	16	#8	9'-9"	——
e₈(E)	8	#8	30'-3"	——
Reinforcement Bars Epoxy Coated			Lbs.	12,790
Class X Concrete Superstructures			Cu. Yd.	89.5
Concrete Removal			Cu. Yd.	15.0

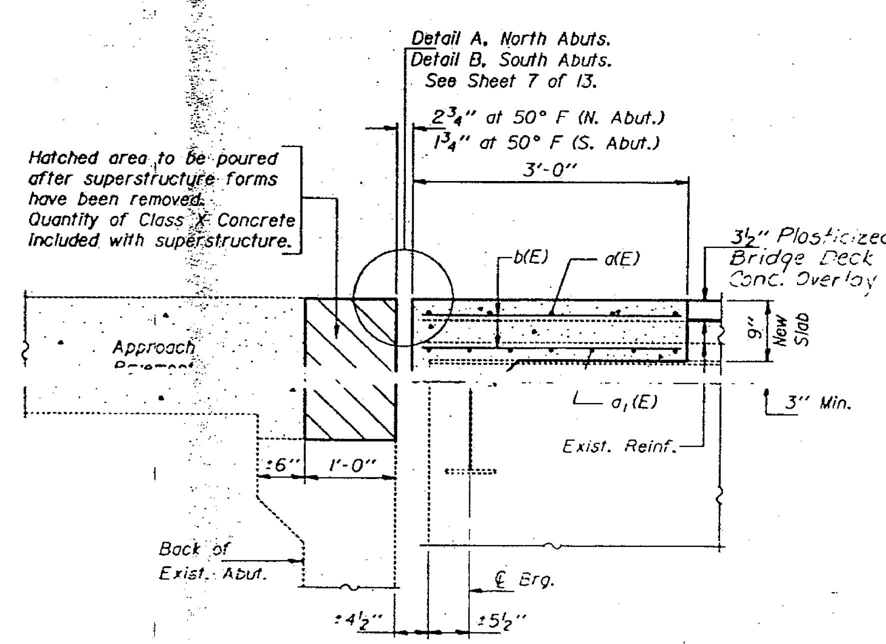
Reinforcement bars designated (E) shall be epoxy coated.

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

Existing reinforcement extending into the removal area shall be cleaned, straightened, and incorporated into the new construction.



PARAPET JOINT DETAILS



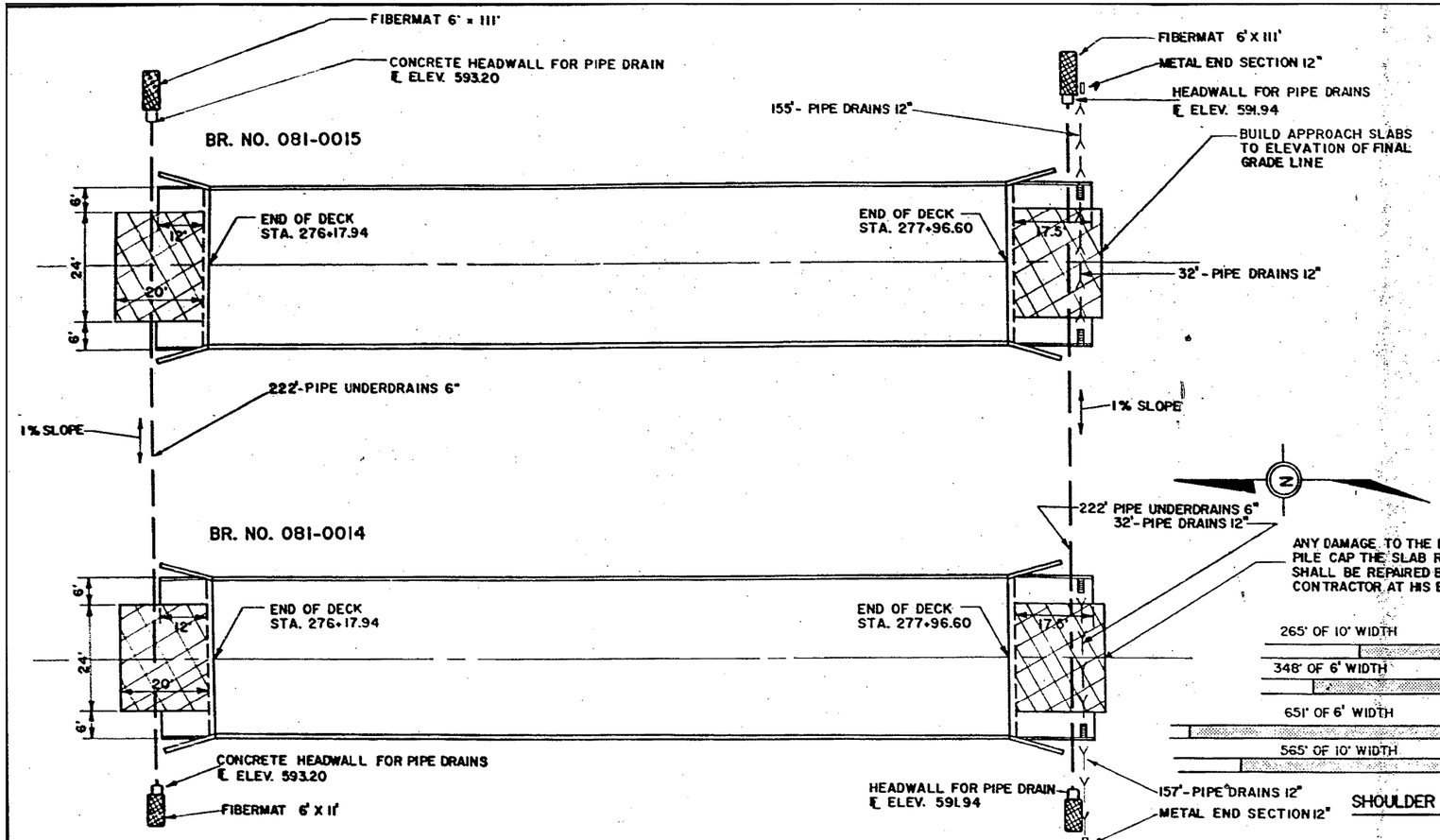
SECTION A-A

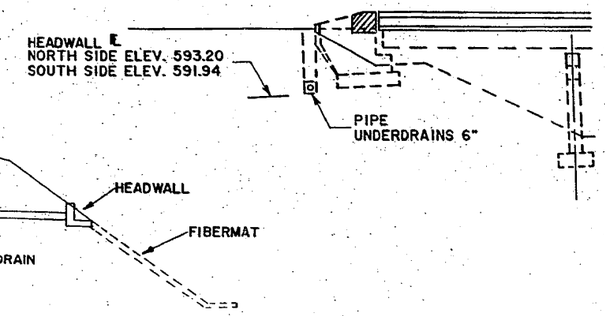
DESIGNED	[signature]	Sept 5 1989	
CHECKED	[signature]	EXAMINED	[signature]
DRAWN	Dierbert	PASSED	[signature]
CHECKED	[signature]	APPROVED	

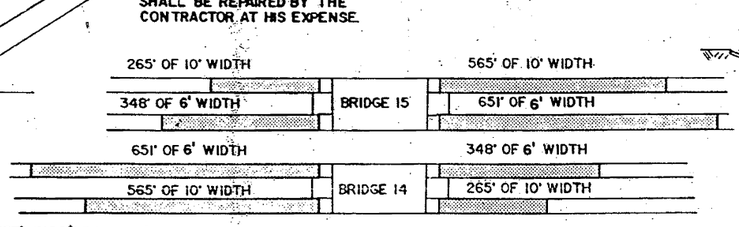
S-1-D 12-1-83

SUPERSTRUCTURE DETAILS
F.A.I. RTE. 80 SEC. (81-IVB)
ROCK ISLAND COUNTY
STA. 277+11.45

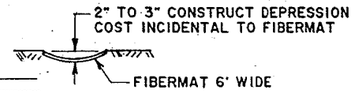
FOR INFORMATION ONLY







SHOULDER REMOVAL AND REPLACEMENT



PC CONCRETE BRIDGE APPROACH SHOULDER PAVEMENT

LOCATION	SQ YD
NB BRIDGE, NE CORNER	8
NB BRIDGE, NW CORNER	8
NB BRIDGE, SE CORNER	10.4
NB BRIDGE, SW CORNER	10.4
SB BRIDGE, NE CORNER	8
SB BRIDGE, NW CORNER	8
SB BRIDGE, SE CORNER	10.4
SB BRIDGE, SW CORNER	10.4
	73.6

TEMPORARY CONCRETE BARRIER

LOCATION	LIN FT
NB BRIDGE, STAGE 1 275+47 - 280+47	500
SB BRIDGE, STAGE 1 273+67 - 278+67	500
	1,000

CONCRETE THRUST BLOCKS

LOCATION	EACH
NB BRIDGE	1
SB BRIDGE	1
	2

TYPE C INLET BOX, STANDARD 2324

LOCATION	EACH
NB BRIDGE, SE CORNER	1
NB BRIDGE, SW CORNER	1
SB BRIDGE, SE CORNER	1
SB BRIDGE, SW CORNER	1
	4

RELOCATE TEMPORARY CONCRETE BARRIER

LOCATION	LIN FT
NB BRIDGE, STAGE 2 275+47 - 280+54	507
SB BRIDGE, STAGE 2 273+60 - 278+67	507
	1,014

TEMPORARY CONCRETE BARRIER TERMINAL SECTION

LOCATION	EACH
NB BRIDGE	1
SB BRIDGE	1
	2

METAL END SECTIONS 12"

LOCATION	EACH
NB BRIDGE	1
SB BRIDGE	1
	2

PIPE DRAINS 12"

LOCATION	LIN FT
NB, SE CORNER	155
NB, SW TO SE CORNER	32
SB, SE TO SW CORNER	32
SB, SW CORNER	157
	376

REINFORCEMENT BARS

LOCATION	POUND
NB BRIDGE	9196
SB BRIDGE	9196
	18392

BRIDGE APPROACH PAVEMENT (SPECIAL)

LOCATION	SQ YD
NB BRIDGE	106.7
SB BRIDGE	106.7
	213.4

CONCRETE HEADWALLS FOR PIPE DRAINS

LOCATION	EACH
NB NE CORNER	1
NB SE CORNER	1
SB NW CORNER	1
SB SW CORNER	1
	4

FIBERMAT

LOCATION	SQ. YD.
NB NE CORNER	74
NB SE CORNER	74
SB NW CORNER	74
SB SW CORNER	74
	296

PIPE UNDERDRAINS 6"

LOCATION	LIN FT
NORTH SIDE	222
SOUTH SIDE	222
	444

APPROACH SLAB REMOVAL

LOCATION	SQ YD
BR 14 APPR. SLABS	106.7
BR 15 APPR. SLABS	106.7
	213.4

BITUMINOUS SHOULDER REMOVAL AND REPLACEMENT

LOCATION	SQ YD
NB BRIDGE	1588
SB BRIDGE	1588
	3176

* (81-1HBY, 81-1VBY, 81-1HB-1)M

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-80	*	ROCK ISLAND	67	27
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

I-80 OVER B.N. RR
FAI ROUTE 80
SEC (81-1VB)
ROCK ISLAND COUNTY
SN 081-0014 & 081-0015

DISTRICT NO. 2 DIXON
DESIGNED KEN OUDYN
DRAWN PHI NGUYEN DATE 5/89
CHECKED SCALE

FOR INFORMATION ONLY

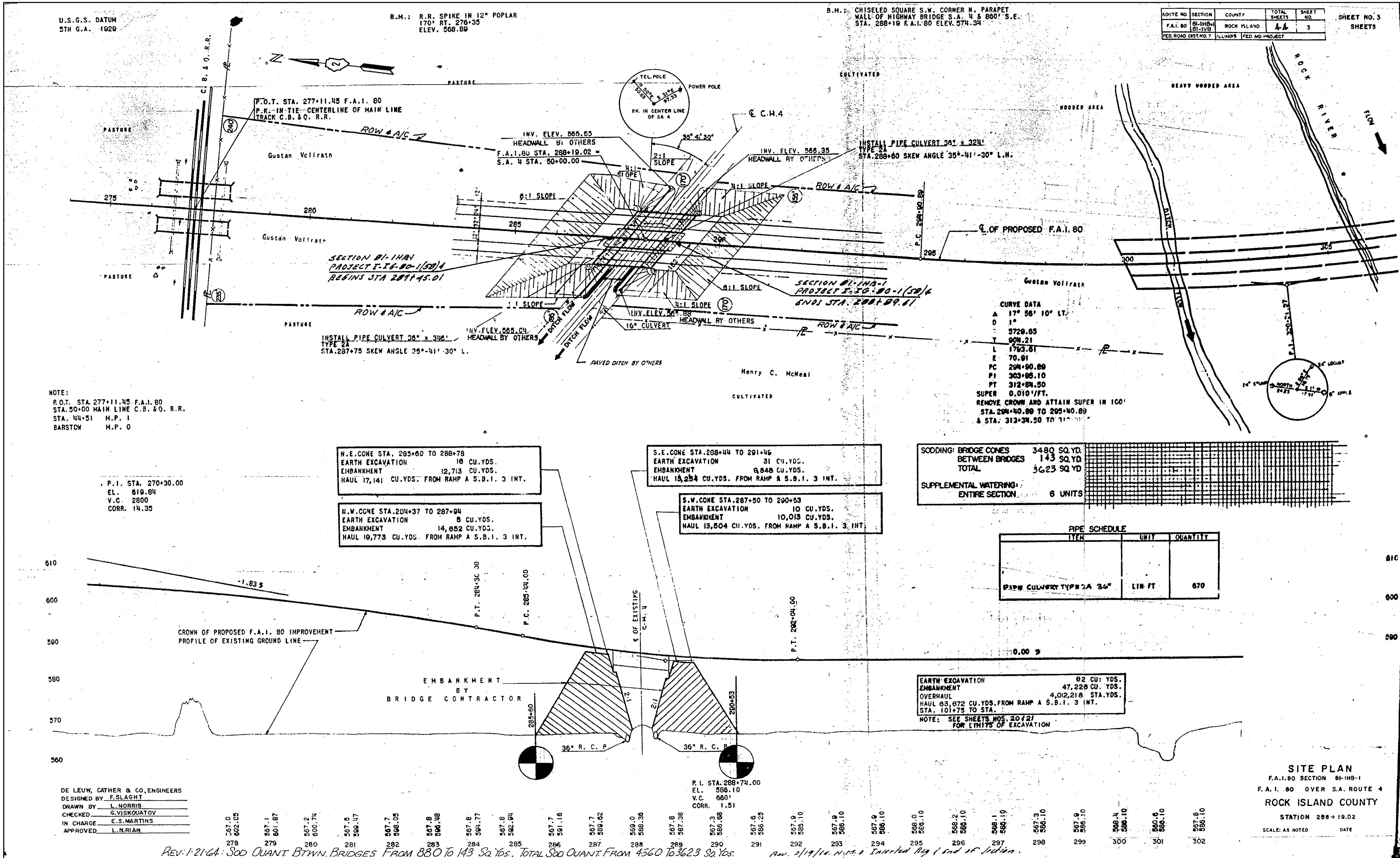
FILE NAME =	USER NAME = bdecraene	DESIGNED - DJD	REVISED -
V:\3369\CADD Sheets\D264B78_sht_exist-structure-2.dgn		DRAWN - RMD	REVISED -
	PLOT SCALE = 2.000000 ' / in.	CHECKED - DJD	REVISED -
	PLOT DATE = 3/17/2015	DATE - 12/10/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0014 / 0015

SCALE: N/A | SHEET NO. 13 OF 13 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	298
* 37-1BR-1, 81-1VBR & 81-1HBR-1		CONTRACT NO. 64B78		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



U.S.G.S. DATUM
5TH G.A. 1929
B.M.: R.R. SPIKE IN 12" POPLAR
170' RT. 276+35
ELEV. 568.89
B.M.: CHISELED SQUARE S.W. CORNER N. PARAPET
WALL OF HIGHWAY BRIDGE S.A. 4 & 880' S.E.
STA. 288+19 F.A.I. 80 ELEV. 574.34
SHEET NO. 3
SHEETS
ROCK ISLAND
PASTURE
CULTIVATED
HEAVY WOODED AREA
WOODED AREA
ROCK RIVER
FLOW
C. B. & Q. R.R.
P.O.T. STA. 277+11.45 F.A.I. 80
P.K. IN TIE CENTERLINE OF MAIN LINE
TRACK C.B. & Q. R.R.
ROW & A/C
Gustan Vollrath
TEL. POLE
POWER POLE
P.K. IN CENTER LINE OF SA 4
℄ C.H.4
INV. ELEV. 565.65
HEADWALL BY OTHERS
F.A.I. 80 STA. 288+19.02 =
S.A. 4 STA. 50+00.00
35° 41' 30"
2:1 SLOPE
INV. ELEV. 565.35
HEADWALL BY OTHERS
INSTALL PIPE CULVERT 36" x 324'
TYPE 2A
STA. 288+60 SKEW ANGLE 35°-41'-30" L.H.
4:1 SLOPE
6:1 SLOPE
℄ OF PROPOSED F.A.I. 80
P.C. 294+90.89
SECTION 81-1HB1
PROJECT I-IG-80-1(58)4
BEGINS STA 284+45.01
SECTION 81-1HB-1
PROJECT I-IG-80-1(58)4
ENDS STA. 288+89.01
INV. ELEV. 565.88
HEADWALL BY OTHERS
16" CULVERT
DITCH FLOW
INV. ELEV. 565.04
HEADWALL BY OTHERS
INSTALL PIPE CULVERT 36" x 346'
TYPE 2A
STA. 287+75 SKEW ANGLE 35°-41'-30" L.
PAVED DITCH BY OTHERS
Henry C. McNeal
DITCH
CURVE DATA
Δ 17° 56' 10" LT.
D 1°
R 5729.65
T 904.21
L 1793.61
E 70.91
PC 294+90.89
PI 303+95.10
PT 312+84.50
SUPER 0.010'/FT.
REMOVE CROWN AND ATTAIN SUPER IN 100'
STA. 294+40.89 TO 295+40.89
& STA. 313+34.50 TO 312+...
NOTE:
P.O.T. STA. 277+11.45 F.A.I. 80
STA. 50+00 MAIN LINE C.B. & Q. R.R.
STA. 44+51 M.P. 1
BARSTOW M.P. 0
P.I. STA. 270+30.00
EL. 619.84
V.C. 2800
CORR. 14.35
N.E. CONE STA. 285+60 TO 288+78
EARTH EXCAVATION 16 CU.YDS.
EMBANKMENT 12,713 CU.YDS.
HAUL 17,141 CU.YDS. FROM RAMP A S.B.I. 3 INT.
N.W. CONE STA. 284+37 TO 287+94
EARTH EXCAVATION 8 CU.YDS.
EMBANKMENT 14,652 CU.YDS.
HAUL 19,773 CU.YDS. FROM RAMP A S.B.I. 3 INT.
S.E. CONE STA. 288+44 TO 291+46
EARTH EXCAVATION 31 CU.YDS.
EMBANKMENT 9,848 CU.YDS.
HAUL 13,254 CU.YDS. FROM RAMP A S.B.I. 3 INT.
S.W. CONE STA. 287+50 TO 290+53
EARTH EXCAVATION 10 CU.YDS.
EMBANKMENT 10,013 CU.YDS.
HAUL 13,504 CU.YDS. FROM RAMP A S.B.I. 3 INT.
SODDING: BRIDGE CONES 3480 SQ.YD.
BETWEEN BRIDGES 143 SQ.YD.
TOTAL 3623 SQ.YD.
SUPPLEMENTAL WATERING:
ENTIRE SECTION 6 UNITS
PIPE SCHEDULE
ITEM | UNIT | QUANTITY
PIPE CULVERT TYPE 2A 36" | LIN FT | 670
CROWN OF PROPOSED F.A.I. 80 IMPROVEMENT
PROFILE OF EXISTING GROUND LINE
-1.83%
P.T. 284+30.00
P.C. 285+44.00
℄ OF EXISTING C.H. 4
P.T. 292+04.00
0.00%
EMBANKMENT BY BRIDGE CONTRACTOR
36" R.C.P.
EARTH EXCAVATION 82 CU. YDS.
EMBANKMENT 47,228 CU. YDS.
OVERHAUL 4,012,218 STA.YDS.
HAUL 63,672 CU.YDS. FROM RAMP A S.B.I. 3 INT.
STA. 101+75 TO STA.
NOTE: SEE SHEETS NOS. 20&21 FOR LIMITS OF EXCAVATION
P.I. STA. 288+74.00
EL. 586.10
V.C. 660'
CORR. 1.51
DE LEUW, CATHER & CO, ENGINEERS
DESIGNED BY F.SLAGHT
DRAWN BY L.NORRIS
CHECKED G.VISKOUATOV
IN CHARGE E.S.MARTINS
APPROVED L.N.RIAN
SITE PLAN
F.A.I. 80 SECTION 81-1HB-1
F.A.I. 80 OVER S.A. ROUTE 4
ROCK ISLAND COUNTY
STATION 288+19.02
SCALE: AS NOTED
REV: 1-21-64: SOD QUANT. BTWN. BRIDGES FROM 880 TO 143 SQ. YDS.; TOTAL SOD QUANT. FROM 4560 TO 3623 SQ. YDS.

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		DATE - 12/10/2014	REVISED -

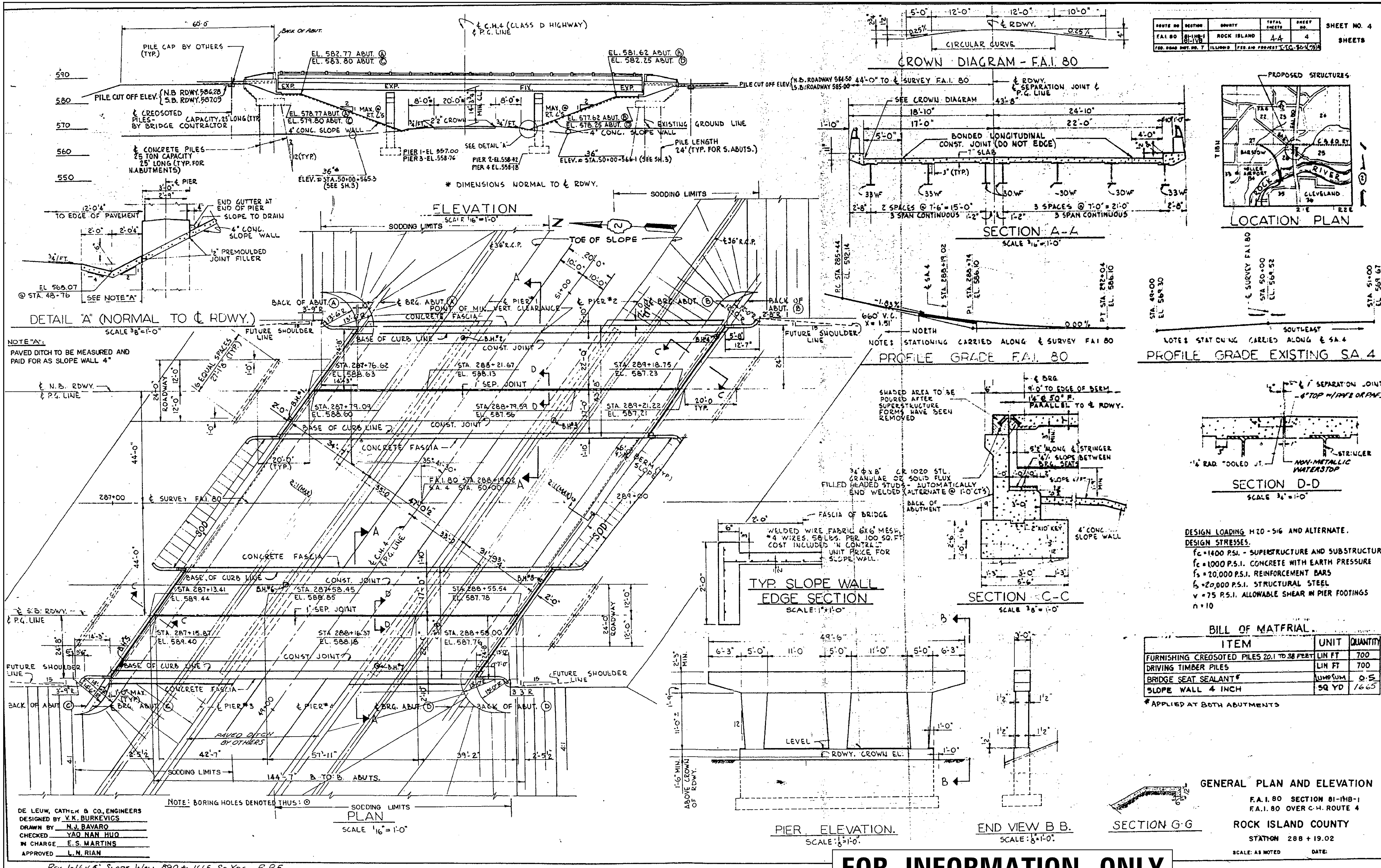
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0016 / 0017

SCALE: N/A | SHEET NO. 1 OF 9 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	299

* 37-1BR-1, 81-1VBR & 81-1HBR-1
CONTRACT NO. 64B78
FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT


SHEET NO. 4
4 SHEETS
F.A.I. 80
ROCK ISLAND
ELEVATION
SCALE 1/16" = 1'-0"
* DIMENSIONS NORMAL TO ℄ RDWY.
DETAIL "A" (NORMAL TO ℄ RDWY.)
SCALE 3/8" = 1'-0"
NOTE "A":
PAVED DITCH TO BE MEASURED AND PAID FOR AS SLOPE WALL 4"
CROWN DIAGRAM - F.A.I. 80
SECTION A-A
SCALE 3/16" = 1'-0"
LOCATION PLAN
PROFILE GRADE F.A.I. 80
NOTE: STATIONING CARRIED ALONG ℄ SURVEY F.A.I. 80
PROFILE GRADE EXISTING S.A. 4
NOTE: STATIONING CARRIED ALONG ℄ S.A. 4
SECTION D-D
SCALE 3/4" = 1'-0"
SECTION C-C
SCALE 3/8" = 1'-0"
TYP. SLOPE WALL EDGE SECTION
SCALE: 1" = 1'-0"
PLAN
SCALE 1/16" = 1'-0"
NOTE: BORING HOLES DENOTED THUS: ⊙
PIER ELEVATION.
SCALE: 1/8" = 1'-0"
END VIEW B B.
SCALE: 1/8" = 1'-0"
SECTION G-G
DESIGN LOADING H20-S16 AND ALTERNATE.
DESIGN STRESSES.
fc = 1400 P.S.I. - SUPERSTRUCTURE AND SUBSTRUCTURE.
fc = 1000 P.S.I. CONCRETE WITH EARTH PRESSURE
fs = 20,000 P.S.I. REINFORCEMENT BARS
fs = 20,000 P.S.I. STRUCTURAL STEEL
v = 75 P.S.I. ALLOWABLE SHEAR IN PIER FOOTINGS
n = 10
BILL OF MATERIAL
GENERAL PLAN AND ELEVATION
F.A.I. 80 SECTION 81-1HB-1
F.A.I. 80 OVER C.H. ROUTE 4
ROCK ISLAND COUNTY
STATION 288 + 19.02
SCALE: AS NOTED
DATE:
DE LEUW, CATHER & CO. ENGINEERS
DESIGNED BY V. K. BURKEVICS
DRAWN BY N. J. BAVARO
CHECKED YAO NAN HUO
IN CHARGE E. S. MARTINS
APPROVED L. N. RIAN

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
FURNISHING CREOSOTED PILES 20.1 TO 38 FEET	LIN FT	700
DRIVING TIMBER PILES	LIN FT	700
BRIDGE SEAT SEALANT*	LUMP SUM	0.5
SLOPE WALL 4 INCH	SQ YD	1665

*APPLIED AT BOTH ABUTMENTS

Rev. 1-16-64: Slope Wall 890 to 1665 Sq.Yds. R.P.E.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
S.N. 081-0016 / 0017

SCALE: N/A | SHEET NO. 2 OF 9 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80	*	ROCK ISLAND	430	300

* 37-1BR-1, 81-1VBR & 81-1HBR-1 | CONTRACT NO. 64B78

FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT