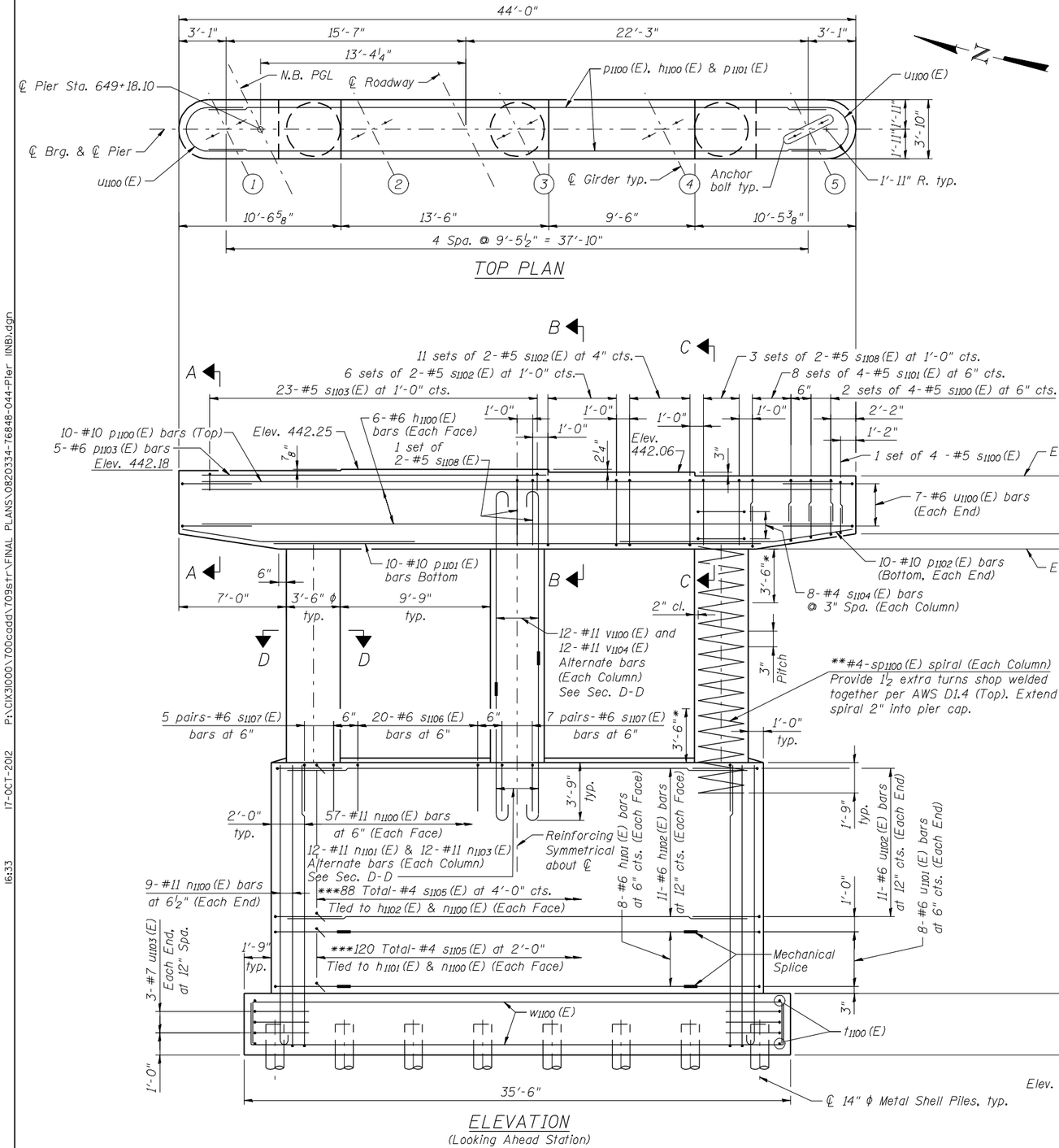

* Splicing of Reinforcement not allowed in this region.

** When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

*** s1105 (E) bars shall be located at bar grid intersections, and the hooks of all ties shall enclose both horizontal and vertical bars at the intersection. the 90° hooks of adjacent s1105 (E) bars shall be alternated end-for-end.

Notes:
All edges shall have ¾" chamfer.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of bearings, see sheet C35.
For details of piles, see sheet C52.

PILE DATA

Type: 14" ϕ x 0.312" Metal Shell Piles with Pile Shoes
Nominal Required Bearing: 431 kips
Factored Resistance Available: 237 kips
Est. Length: 49 ft
No. Production Piles: 31
No. Test Piles: 1

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16:33

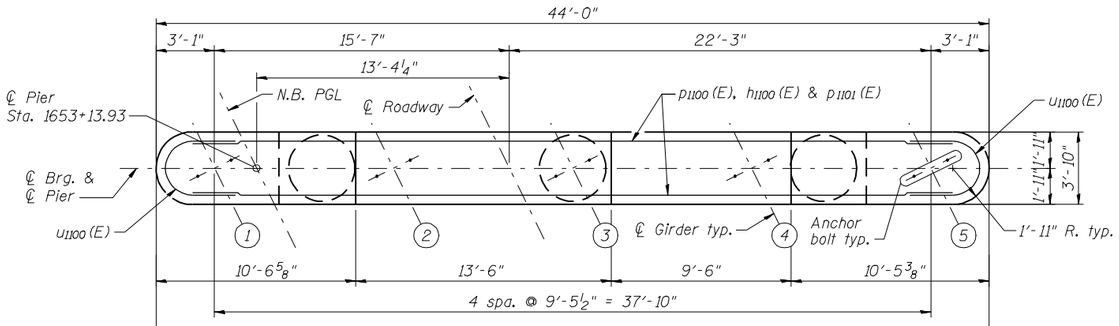
JACOBS

USER NAME =	DESIGNED - N. KHATRI	REVISED -	
	CHECKED - R. RILEY	REVISED -	
PLOT DATE = 17-OCT-2012	DRAWN - E. KRACK	REVISED -	
FILE NAME = 0820334-76848-044-Pier (INB).dgn	CHECKED - N. KHATRI	REVISED -	

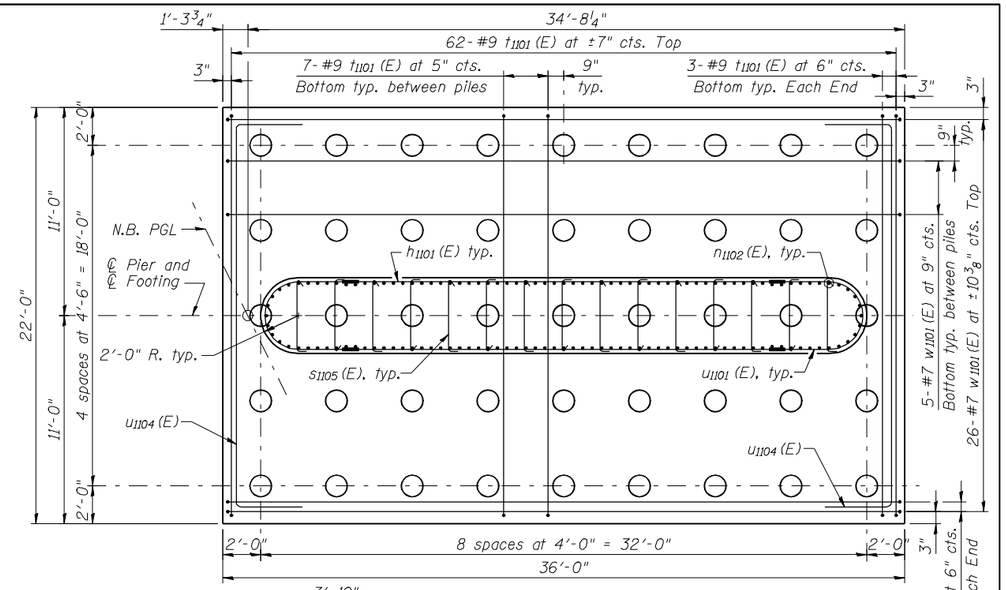
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1 PLAN AND ELEVATION – N.B.
STRUCTURE NO. 082–0334 (N.B.) & 082–0335 (S.B.)
SHEET NO. C44 OF 76 SHEETS

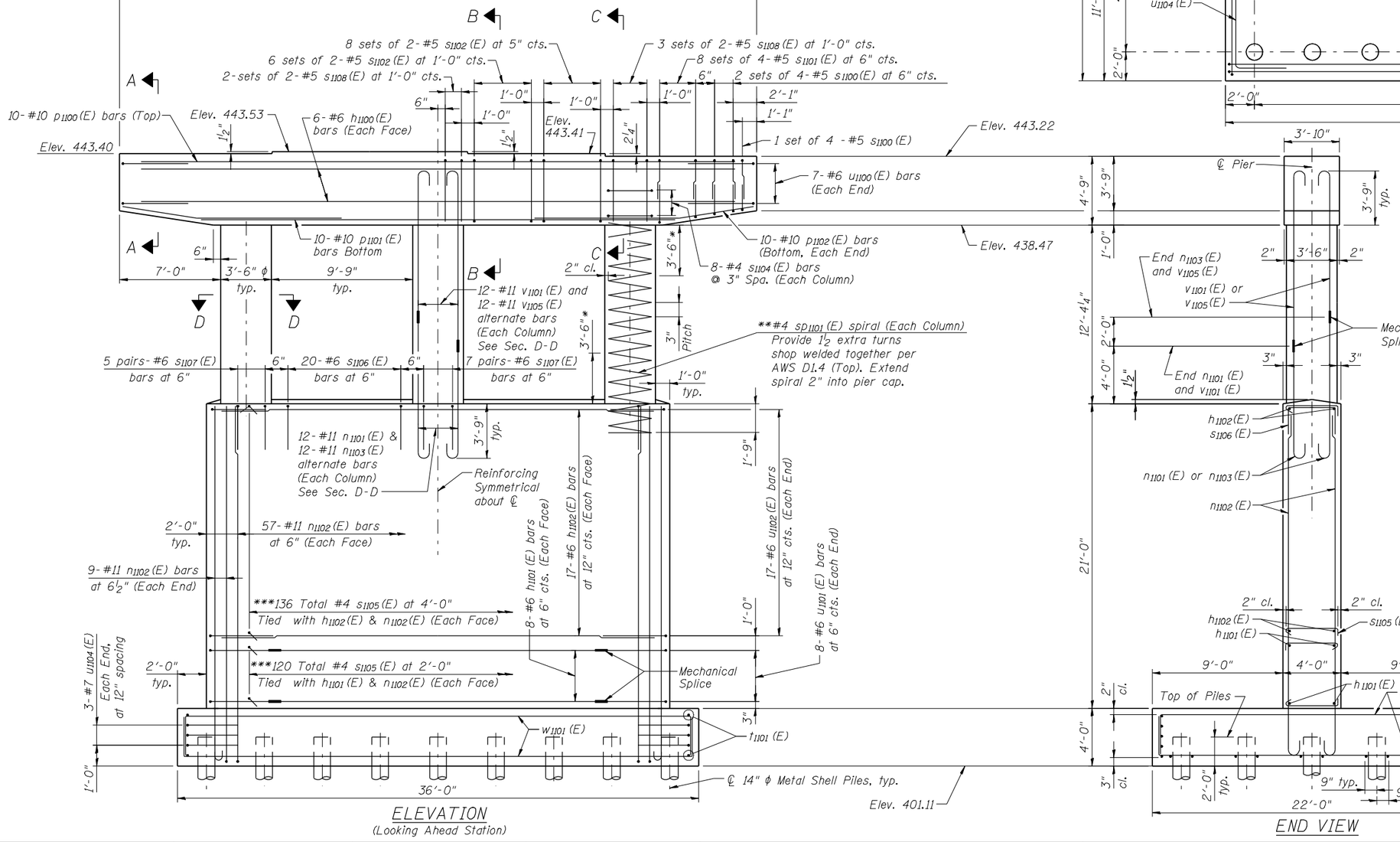
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	101
		CONTRACT NO. 76848		
		ILLINOIS FED. AID PROJECT		



TOP PLAN



FOOTING PLAN



ELEVATION
(Looking Ahead Station)

END VIEW

* Splicing of Reinforcement not allowed in this region.

** When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

*** s1105 (E) bars shall be located at bar grid intersections, and the hooks of all ties shall enclose both horizontal and vertical bars at the intersection. the 90° hooks of adjacent s1105 (E) bars shall be alternated end-for-end.

Notes:
All edges shall have ¾" chamfer.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of bearings, see sheet C35.
For details of piles, see sheet C52.

PILE DATA

Type: 14" ϕ x 0.312" Metal Shell Piles with Pile Shoes
Nominal Required Bearing: 346 kips
Factored Resistance Available: 190 kips
Est. Length: 65 ft
No. Production Piles: 44
No. Test Piles: 1

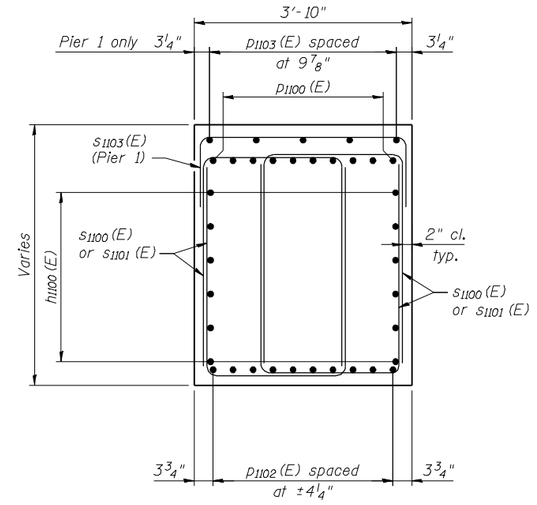
JACOBS

USER NAME =	DESIGNED - N. KHATRI	REVISED -	
	CHECKED - R. RILEY	REVISED -	
PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -	
FILE NAME = 0820334-76848-045-Pier 2(NB).dgn	CHECKED - N. KHATRI	REVISED -	

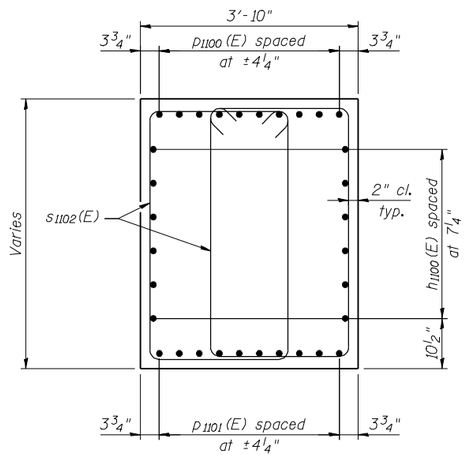
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2 PLAN AND ELEVATION – N.B.
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C45 OF 76 SHEETS

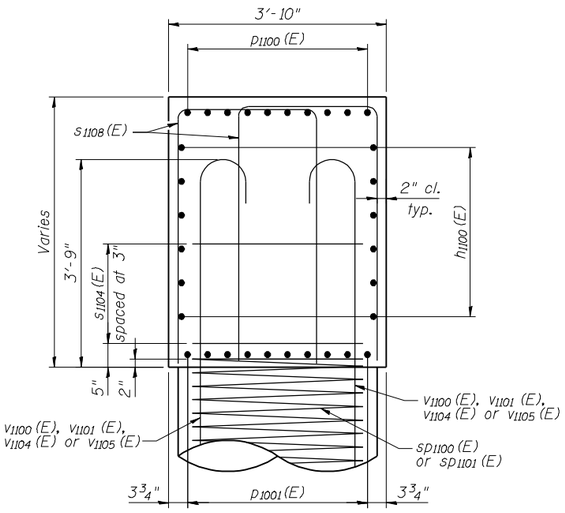
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	102
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



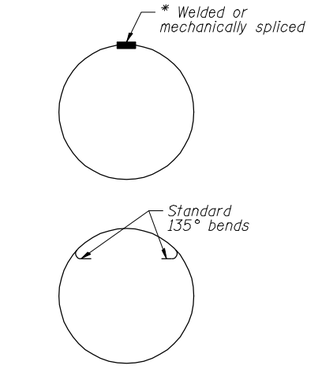
SECTION A-A



SECTION B-B

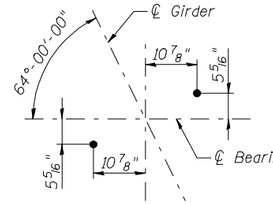


SECTION C-C

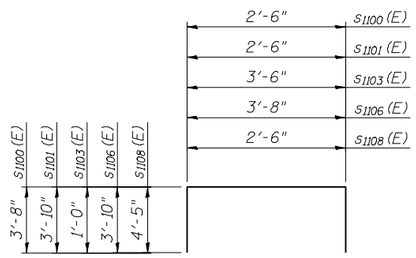


SEISMIC HOOP

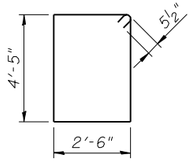
* Shop welded per AWS D1.4.



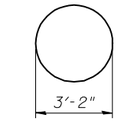
ANCHOR BOLT LAYOUT



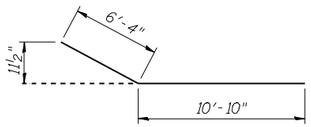
BAR s_{1100} (E), s_{1101} (E), s_{1108} (E) s_{1103} (E) & s_{1106} (E)



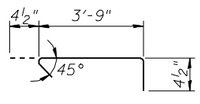
BAR s_{1102} (E)



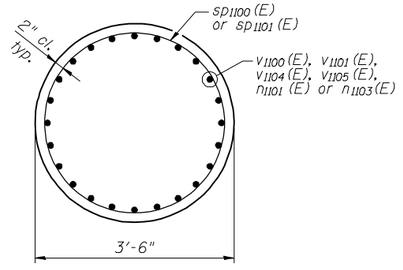
BAR s_{1104} (E)



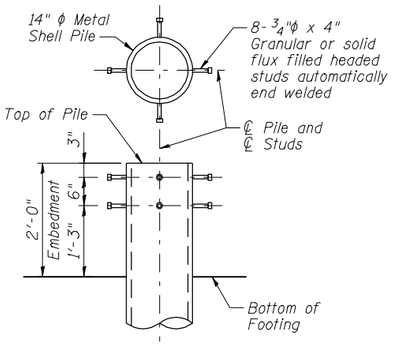
BAR p_{1102} (E)



BAR s_{1105} (E)

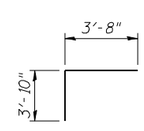


SECTION D-D

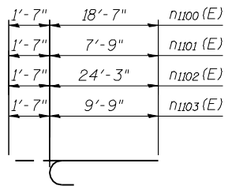


SEISMIC PILE DETAIL

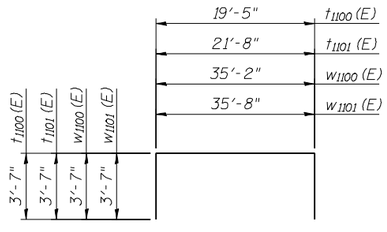
Cost of ¾" ϕ studs shall be included in item "Furnishing Steel Piles".



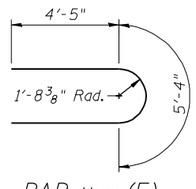
BAR s_{1107} (E)



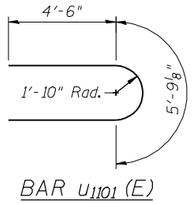
BAR n_{1100} (E), n_{1101} (E) n_{1102} (E) & n_{1103} (E)



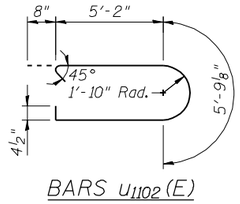
BAR t_{1100} (E), t_{1101} (E), w_{1100} (E) & w_{1101} (E)



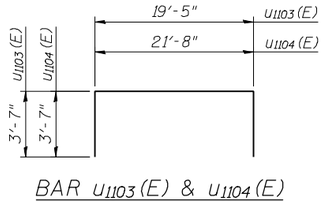
BAR u_{1100} (E)



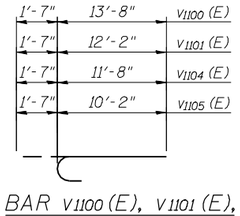
BAR u_{1101} (E)



BARS u_{1102} (E)



BAR u_{1103} (E) & u_{1104} (E)



BAR v_{1100} (E), v_{1101} (E), v_{1104} (E) & v_{1105} (E)

PIER 1 N.B. BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{1100} (E)	12	#6	40'-2"	——
	h_{1101} (E)	16	#6	19'-0"	——
	h_{1102} (E)	22	#6	28'-0"	——
	h_{1103} (E)	6	#7	35'-2"	——
	n_{1100} (E)	132	#11	20'-2"	⌒
	n_{1101} (E)	36	#11	9'-4"	⌒
	n_{1103} (E)	36	#11	11'-4"	⌒
	p_{1100} (E)	10	#10	40'-2"	——
	p_{1101} (E)	10	#10	31'-0"	——
	p_{1102} (E)	20	#10	17'-2"	⌒
	p_{1103} (E)	5	#6	22'-0"	——
	s_{1100} (E)	24	#5	9'-10"	⊓
	s_{1101} (E)	64	#5	10'-2"	⊓
	s_{1102} (E)	68	#5	14'-9"	⊡
	s_{1103} (E)	23	#5	5'-6"	⊓
	s_{1104} (E)	24	#4	11'-10"	○
	s_{1105} (E)	208	#4	4'-6"	⌊
	s_{1106} (E)	40	#6	11'-4"	⊓
	s_{1107} (E)	34	#6	7'-6"	⌐
	s_{1108} (E)	18	#5	11'-4"	⊓
**	sp_{1100} (E)	3	#4	15'-10"	⋀⋀
	t_{1100} (E)	124	#9	26'-7"	⌐
	u_{1100} (E)	14	#6	14'-2"	⊃
	u_{1101} (E)	16	#6	14'-9"	⊃
	u_{1102} (E)	22	#6	17'-2"	⊃
	u_{1103} (E)	6	#7	26'-7"	⌐
	v_{1100} (E)	36	#11	15'-3"	⌒
	v_{1104} (E)	36	#11	13'-3"	⌒
	w_{1100} (E)	48	#7	42'-4"	⌐
	Structure Excavation			Cu. Yd.	317.1
	Concrete Structures			Cu. Yd.	215.6
	Reinforcement Bars, Epoxy Coated			Pound	53,200
	Furnishing Metal Shell Piles 14" x 0.312"			Foot	1519.0
	Driving Piles			Foot	1519.0
	Test Pile, 14" ϕ Shell			Each	1

** Length is height of spiral.

PIER 2 N.B. BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{1100} (E)	12	#6	40'-2"	——
	h_{1101} (E)	16	#6	19'-0"	——
	h_{1102} (E)	34	#6	28'-0"	——
	h_{1104} (E)	6	#7	35'-8"	——
	n_{1101} (E)	36	#11	9'-4"	⌒
	n_{1102} (E)	132	#11	25'-10"	⌒
	n_{1103} (E)	36	#11	11'-4"	⌒
	p_{1100} (E)	10	#10	40'-2"	——
	p_{1101} (E)	10	#10	31'-0"	——
	p_{1102} (E)	20	#10	17'-2"	⌒
	s_{1100} (E)	24	#5	9'-10"	⊓
	s_{1101} (E)	64	#5	10'-2"	⊓
	s_{1102} (E)	56	#5	14'-9"	⊡
	s_{1104} (E)	24	#4	11'-10"	○
	s_{1105} (E)	256	#4	4'-6"	⌊
	s_{1106} (E)	40	#6	11'-4"	⊓
	s_{1107} (E)	34	#6	7'-6"	⌐
	s_{1108} (E)	20	#5	11'-4"	⊓
**	sp_{1101} (E)	3	#4	14'-4"	⋀⋀
	t_{1101} (E)	124	#9	28'-10"	⌐
	u_{1100} (E)	14	#6	14'-2"	⊃
	u_{1101} (E)	16	#6	14'-9"	⊃
	u_{1102} (E)	34	#6	17'-2"	⊃
	u_{1104} (E)	6	#7	28'-10"	⌐
	v_{1101} (E)	36	#11	13'-9"	⌒
	v_{1105} (E)	36	#11	11'-9"	⌒
	w_{1101} (E)	52	#7	42'-10"	⌐
	Structure Excavation			Cu. Yd.	378.1
	Concrete Structures			Cu. Yd.	253.5
	Reinforcement Bars, Epoxy Coated			Pound	58360
	Furnishing Metal Shell Piles 14" x 0.312"			Foot	2860.0
	Driving Piles			Foot	2860.0
	Test Pile, 14" ϕ Shell			Each	1

** Length is height of spiral.

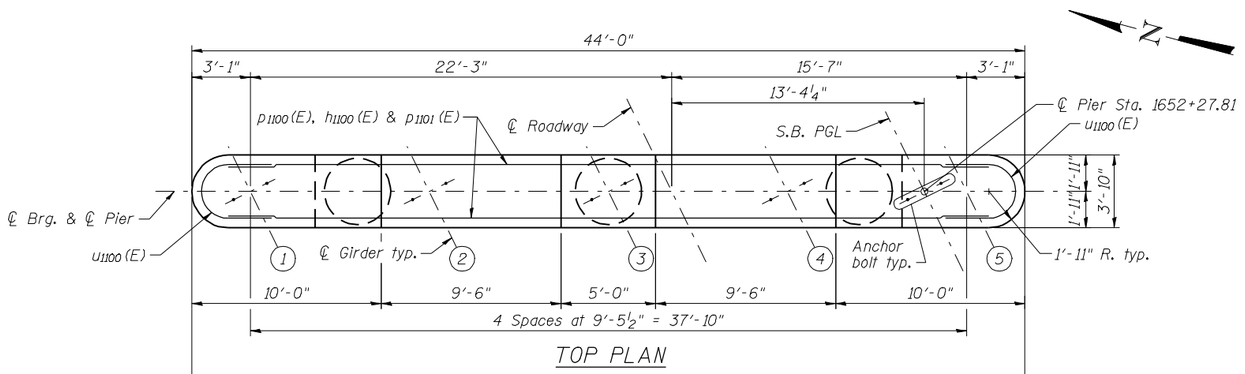
JACOBS

USER NAME =	DESIGNED - N. KHATRI	REVISED -	
	CHECKED - R. RILEY	REVISED -	
PLOT DATE = 17-OCT-2012	DRAWN - E. KRACK	REVISED -	
FILE NAME = 0820334-76848-046-Pier Details(NB).dgn	CHECKED - N. KHATRI	REVISED -	

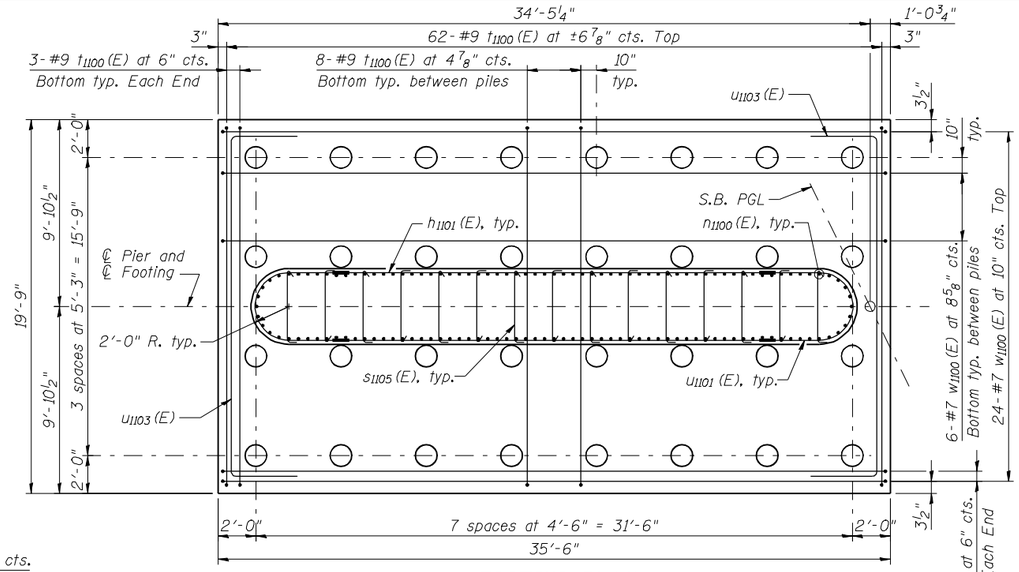
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS (N.B.)
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C46 OF 76 SHEETS

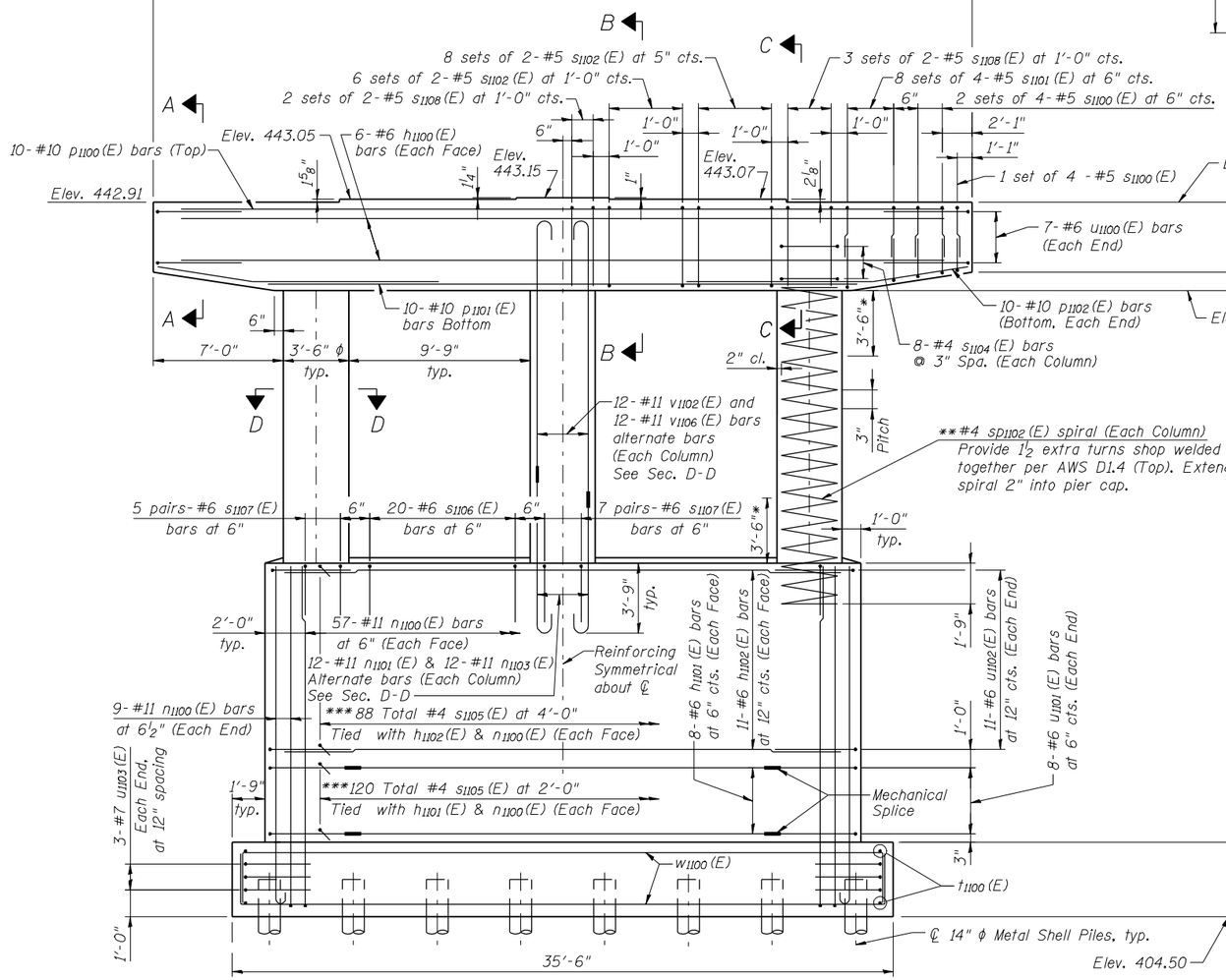
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	103
		CONTRACT NO. 76848		
		ILLINOIS FED. AID PROJECT		



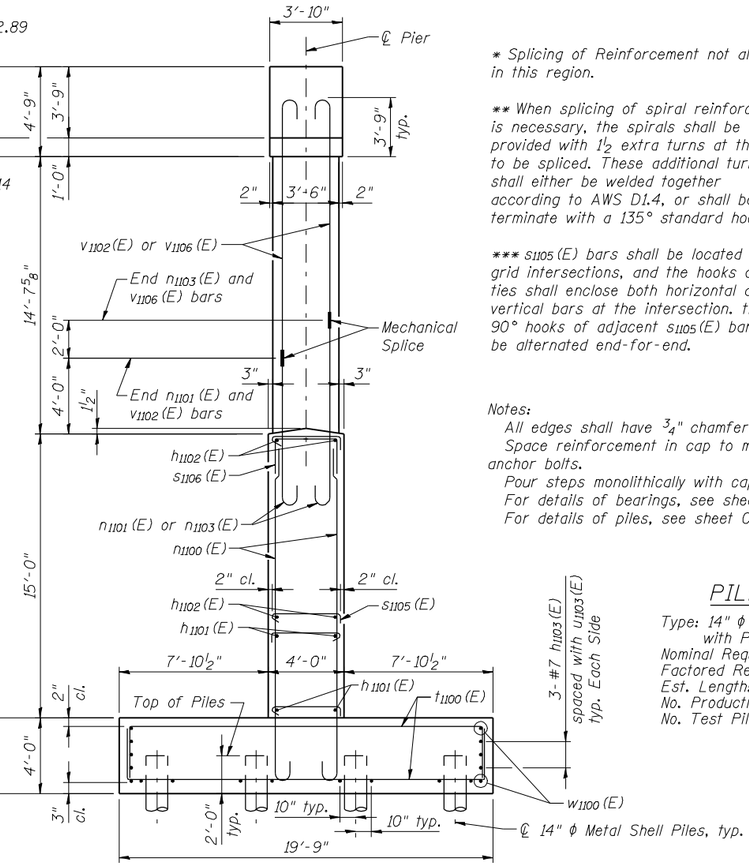
TOP PLAN



FOOTING PLAN



ELEVATION
(Looking Ahead Station)



END VIEW

* Splicing of Reinforcement not allowed in this region.

** When splicing of spiral reinforcement is necessary, the spirals shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

*** s1105(E) bars shall be located at bar grid intersections, and the hooks of all ties shall enclose both horizontal and vertical bars at the intersection. the 90° hooks of adjacent s1105(E) bars shall be alternated end-for-end.

Notes:
All edges shall have $\frac{3}{4}$" chamfer.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of bearings, see sheet C35.
For details of piles, see sheet C52.

PILE DATA

Type: 14" ϕ x 0.312" Metal Shell Piles with Pile Shoes
Nominal Required Bearing: 408 kips
Factored Resistance Available: 224 kips
Est. Length: 70 ft
No. Production Piles: 31
No. Test Piles: 1

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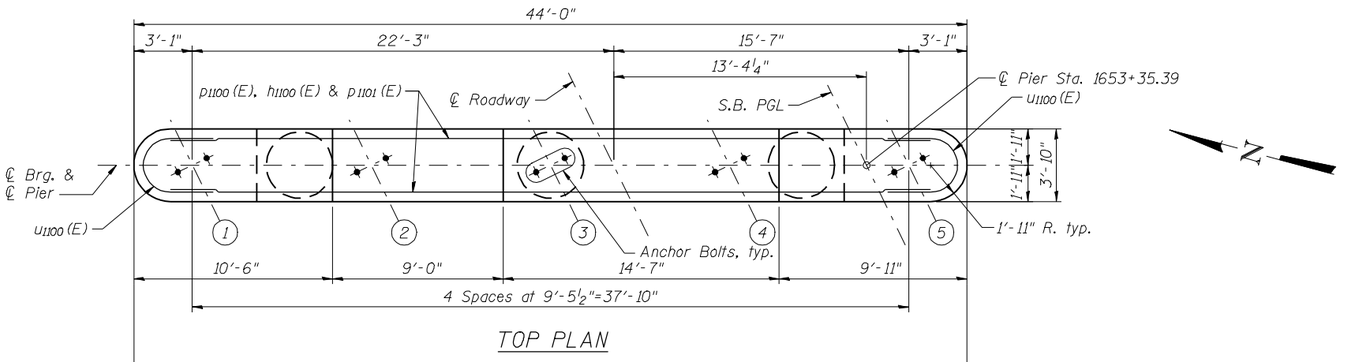
17-OCT-2012
16:34

JACOBS	USER NAME =	DESIGNED - N. KHATRI	REVISED -
		CHECKED - R. RILEY	REVISED -
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -
FILE NAME = 0820335-76848-047-Pier (ISB).dgn		CHECKED - J. SMITH	REVISED -

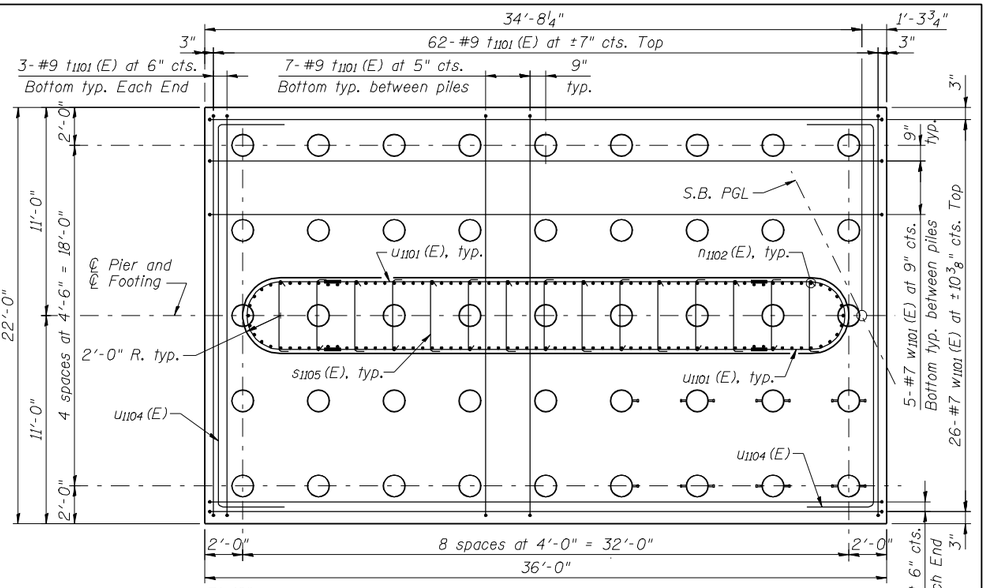
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1 PLAN AND ELEVATION – S.B.
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C47 OF 76 SHEETS

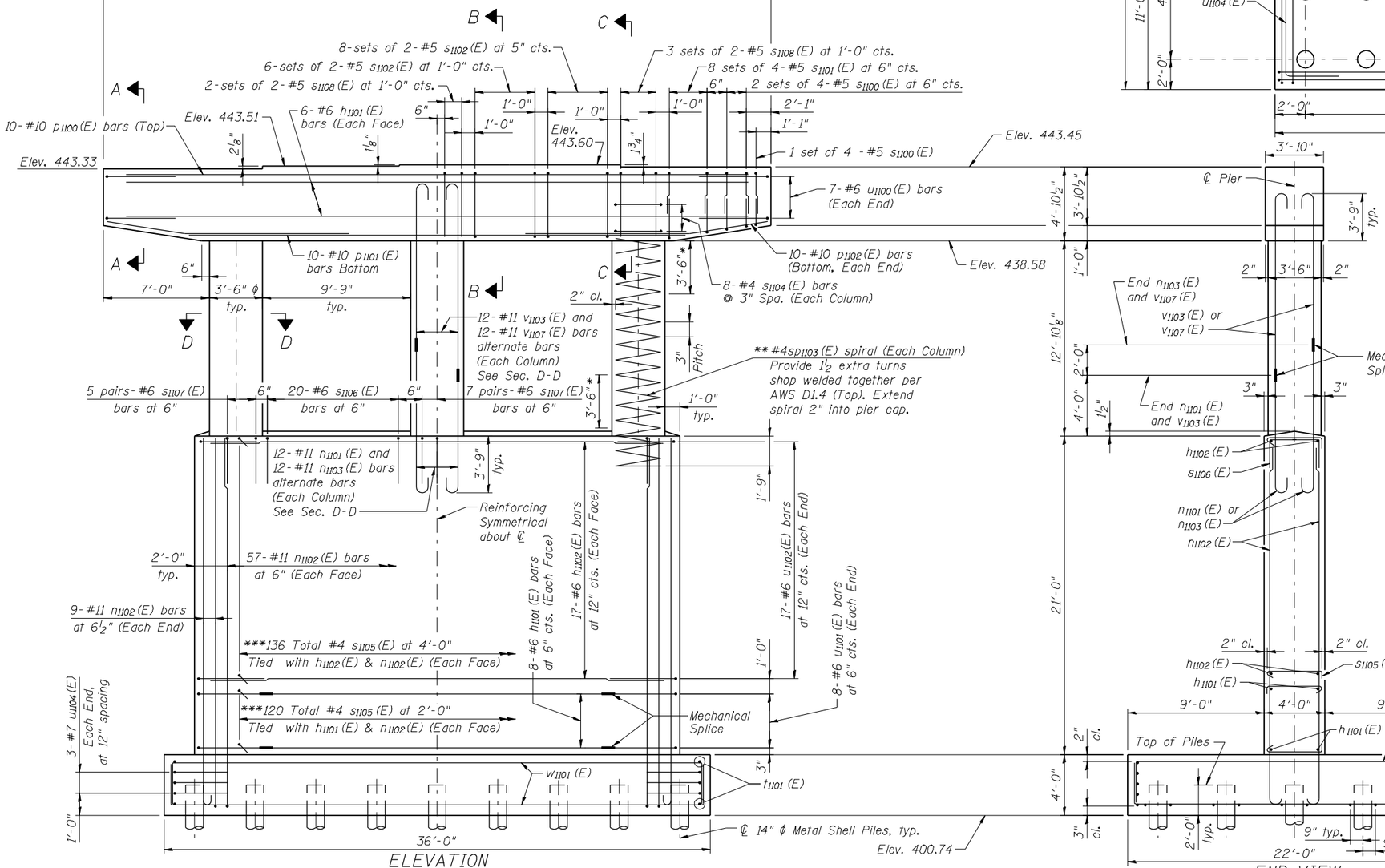
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	104
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



FOOTING PLAN



ELEVATION
(Looking Ahead Station)

END VIEW

* Splicing of Reinforcement not allowed in this region.

** When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

*** s1105 (E) bars shall be located at bar grid intersections, and the hooks of all ties shall enclose both horizontal and vertical bars at the intersection. the 90° hooks of adjacent s1105 (E) bars shall be alternated end-for-end.

Notes:
All edges shall have 3/4" chamfer.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of bearings, see sheet C35.
For details of piles, see sheet C52.

PILE DATA

Type: 14" ϕ x 0.312" Metal Shell Piles with Pile Shoes
Nominal Required Bearing: 380 kips
Factored Resistance Available: 209 kips
Est. Length: 65 ft
No. Production Piles: 44
No. Test Piles: 1

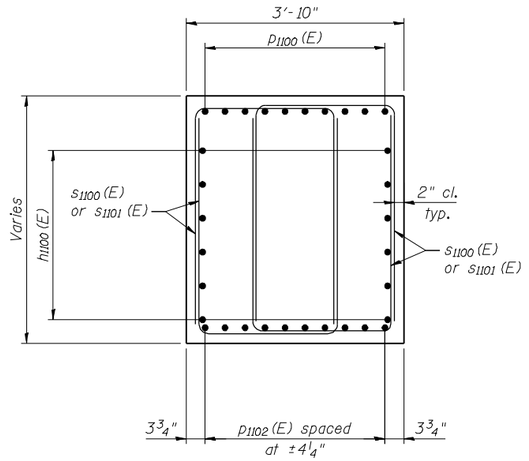
P:\CIV31000\T06cadd\T098tr\FINAL PLANS\0820335-76848-048-Pier 2(SB).dgn
17-OCT-2012
16:34

JACOBS	USER NAME =	DESIGNED - N. KHATRI	REVISED -
		CHECKED - R. RILEY	REVISED -
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -
FILE NAME = 0820335-76848-048-Pier 2(SB).dgn		CHECKED - J. SMITH	REVISED -

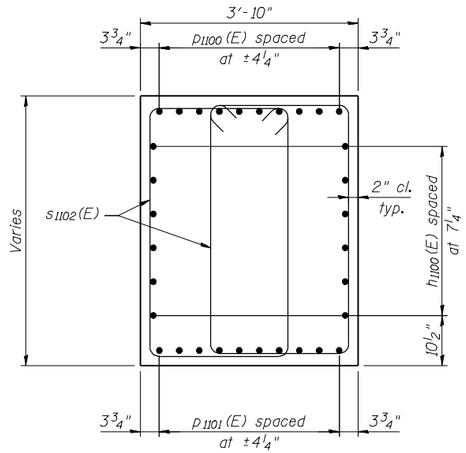
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2 PLAN AND ELEVATION – S.B.
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C48 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	105
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



SECTION A-A



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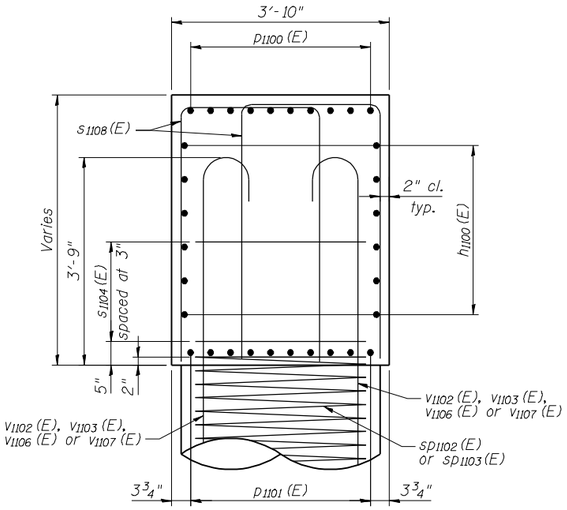

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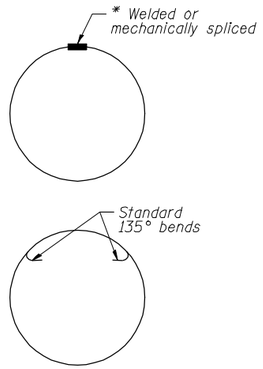
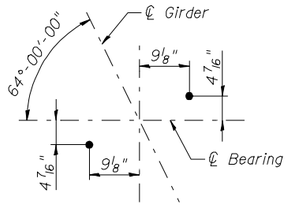
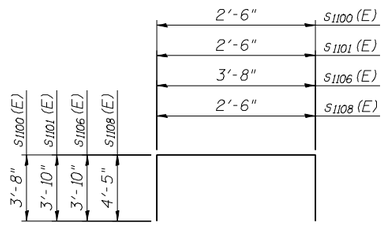


SEISMIC HOOP

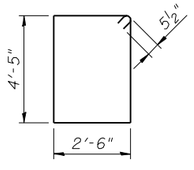
* Shop welded per AWS D1.4.



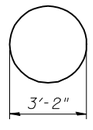
ANCHOR BOLT LAYOUT



BAR s_{1100} (E), s_{1101} (E), s_{1106} (E) & s_{1108} (E)



BAR s_{1102} (E)



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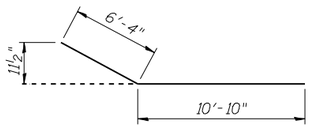
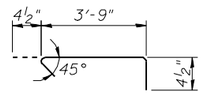
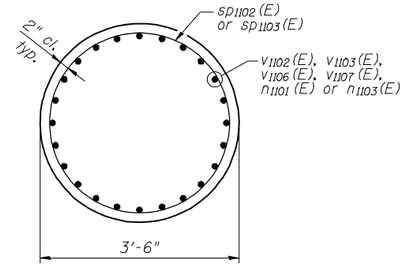


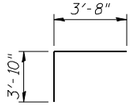
BAR p_{1102} (E)



BAR s_{1104} (E)



SECTION D-D



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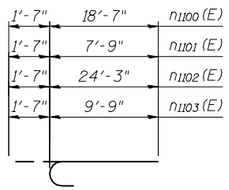
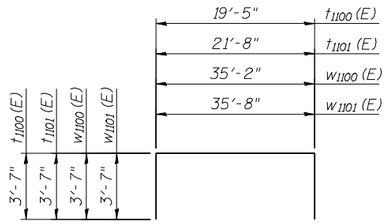
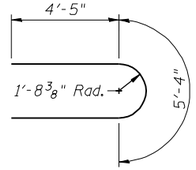


BAR n_{1100} (E), n_{1101} (E) n_{1102} (E) & n_{1103} (E)



BAR t_{1100} (E), t_{1101} (E), w_{1100} (E) & w_{1101} (E)



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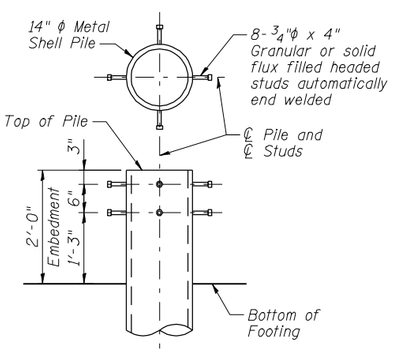
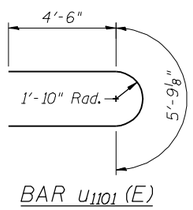
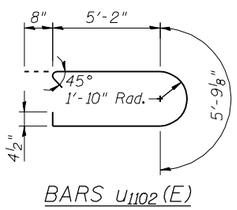


SEISMIC PILE DETAIL

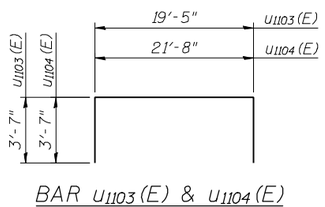
Cost of ¾" ϕ studs shall be included in item "Furnishing Steel Piles".



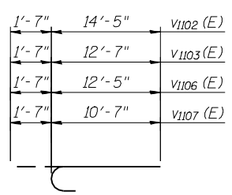
BAR u_{1101} (E)



BARS u_{1102} (E)



BAR u_{1103} (E) & u_{1104} (E)



BAR v_{1102} (E), v_{1103} (E), v_{1106} (E) & v_{1107} (E)

PIER 1 S.B. BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{1100} (E)	12	#6	40'-2"	——
	h_{1101} (E)	16	#6	19'-0"	——
	h_{1102} (E)	22	#6	28'-0"	——
	h_{1103} (E)	6	#7	35'-2"	——
	n_{1100} (E)	132	#11	20'-2"	⌒
	n_{1101} (E)	36	#11	9'-4"	⌒
	n_{1103} (E)	36	#11	11'-4"	⌒
	p_{1100} (E)	10	#10	40'-2"	——
	p_{1101} (E)	10	#10	31'-0"	——
	p_{1102} (E)	20	#10	17'-2"	⌒
	s_{1100} (E)	24	#5	9'-10"	⊓
	s_{1101} (E)	64	#5	10'-2"	⊓
	s_{1102} (E)	56	#5	14'-9"	◻
	s_{1104} (E)	24	#4	11'-10"	○
	s_{1105} (E)	208	#4	4'-6"	⊔
	s_{1106} (E)	40	#6	11'-4"	⊓
	s_{1107} (E)	34	#6	7'-6"	⌐
	s_{1108} (E)	20	#5	11'-4"	⊓
**	sp_{1102} (E)	3	#4	16'-7	⩙
	t_{1100} (E)	124	#9	26'-7"	⌐
	u_{1100} (E)	14	#6	14'-2"	⊃
	u_{1101} (E)	16	#6	14'-9"	⊃
	u_{1102} (E)	22	#6	17'-2"	⊃
	u_{1103} (E)	6	#7	26'-7"	⌐
	v_{1102} (E)	36	#11	16'-0"	⊃
	v_{1106} (E)	36	#11	14'-0"	⊃
	w_{1100} (E)	48	#7	42'-4"	⌐
	Structure Excavation		Cu. Yd.	310.0	
	Concrete Structures		Cu. Yd.	215.4	
	Reinforcement Bars, Epoxy Coated		Pound	53,080	
	Furnishing - Piles, 14" ϕ Shell		Foot	2170.0	
	Driving Piles		Foot	2170.0	
	Test Pile, 14" ϕ Shell		Each	1	

** Length is height of spiral.

PIER 2 S.B. BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h_{1100} (E)	12	#6	40'-2"	——
	h_{1101} (E)	16	#6	19'-0"	——
	h_{1102} (E)	34	#6	28'-0"	——
	h_{1104} (E)	6	#7	35'-8"	——
	n_{1101} (E)	36	#11	9'-4"	⌒
	n_{1102} (E)	132	#11	25'-10"	⌒
	n_{1103} (E)	36	#11	11'-4"	⌒
	p_{1100} (E)	10	#10	40'-2"	——
	p_{1101} (E)	10	#10	31'-0"	——
	p_{1102} (E)	20	#10	17'-2"	⌒
	s_{1100} (E)	24	#5	9'-10"	⊓
	s_{1101} (E)	64	#5	10'-2"	⊓
	s_{1102} (E)	56	#5	14'-9"	◻
	s_{1104} (E)	24	#4	11'-10"	○
	s_{1105} (E)	256	#4	4'-6"	⊔
	s_{1106} (E)	40	#6	11'-4"	⊓
	s_{1107} (E)	34	#6	7'-6"	⌐
	s_{1108} (E)	20	#5	11'-4"	⊓
**	sp_{1103} (E)	3	#4	14'-9"	⩙
	t_{1101} (E)	124	#9	28'-10"	⌐
	u_{1100} (E)	14	#6	14'-2"	⊃
	u_{1101} (E)	16	#6	14'-9"	⊃
	u_{1102} (E)	34	#6	17'-2"	⊃
	u_{1104} (E)	6	#7	28'-10"	⌐
	v_{1103} (E)	36	#11	14'-2"	⊃
	v_{1107} (E)	36	#11	12'-2"	⊃
	w_{1101} (E)	52	#7	42'-10"	⌐
	Structure Excavation		Cu. Yd.	354.9	
	Concrete Structures		Cu. Yd.	253.9	
	Reinforcement Bars, Epoxy Coated		Pound	58,550	
	Furnishing - Piles, 14" ϕ Shell		Foot	2860.0	
	Driving Piles		Foot	2860.0	
	Test Pile, 14" ϕ Shell		Each	1	

** Length is height of spiral.

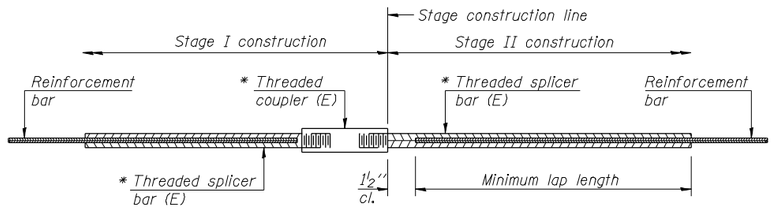
JACOBS

USER NAME =	DESIGNED - N. KHATRI	REVISED -	
	CHECKED - R. RILEY	REVISED -	
PLOT DATE = 17-OCT-2012	DRAWN - E. KRACK	REVISED -	
FILE NAME=0820335-76848-049-Pier Details(SB).dgn	CHECKED - J. SMITH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS (S.B.)
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C49 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	106
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

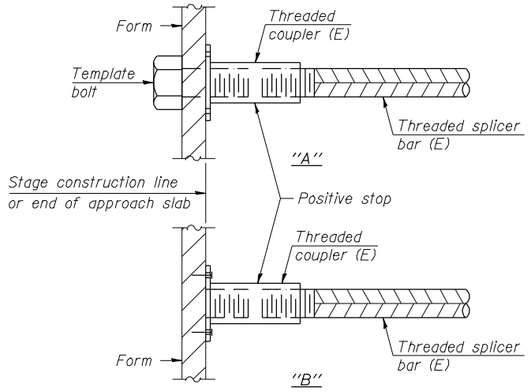
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

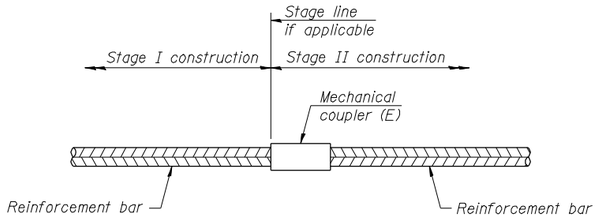
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



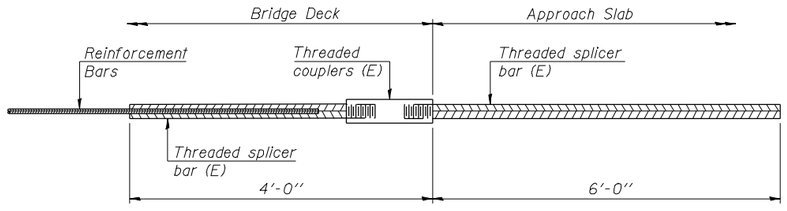
INSTALLATION AND SETTING METHODS

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



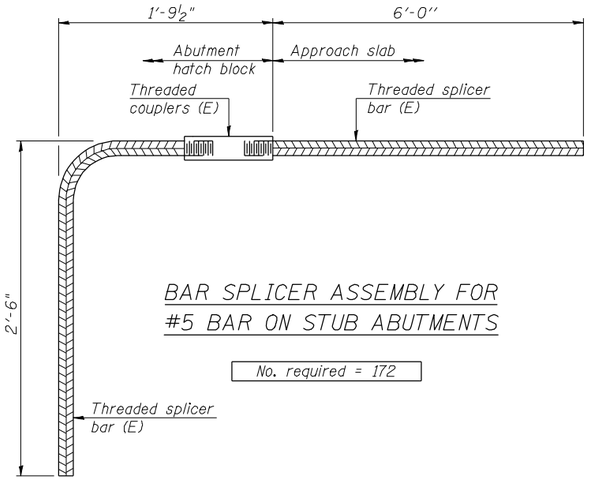
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1 NB - Col.	#11	72
Pier 1 NB - Wall	#6	32
Pier 2 NB - Col.	#11	72
Pier 2 NB - Wall	#6	32
Pier 1 SB - Col.	#11	72
Pier 1 SB - Wall	#6	32
Pier 2 SB - Col.	#11	72
Pier 2 SB - Wall	#6	32



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

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 172

NOTES

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

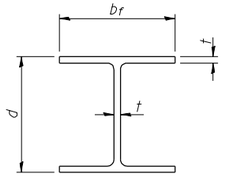
All reinforcement shall be lapped and tied to the splicer bars.

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.

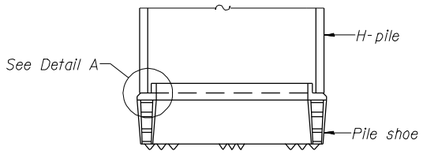
BSD-1 1-27-12

JACOBS	USER NAME =	DESIGNED - N. KHATRI	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - R. RILEY	REVISED -			788	520-1-2HVB	ST. CLAIR	237	107
	PLOT DATE = 17-OCT-2012	DRAWN - C. SALLADE	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-050-Bar Splice.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C50 OF 76 SHEETS			ILLINOIS	FED. AID PROJECT	

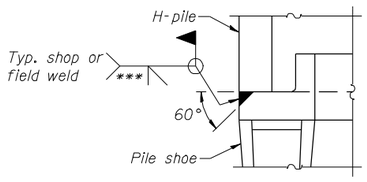


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	$14\frac{1}{4}''$	$14\frac{7}{8}''$	$\frac{13}{16}''$	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″

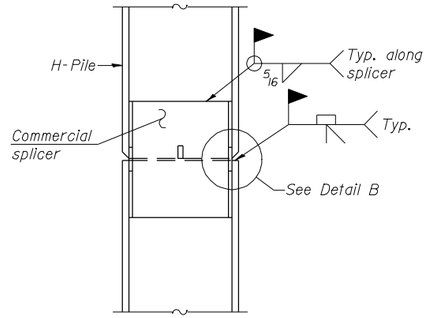


ELEVATION

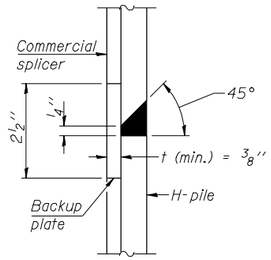


DETAIL A

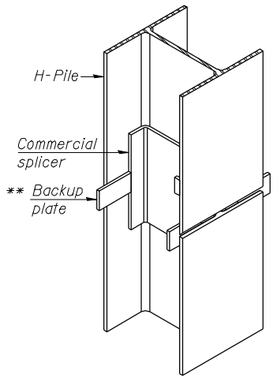
H-PILE SHOE ATTACHMENT



ELEVATION

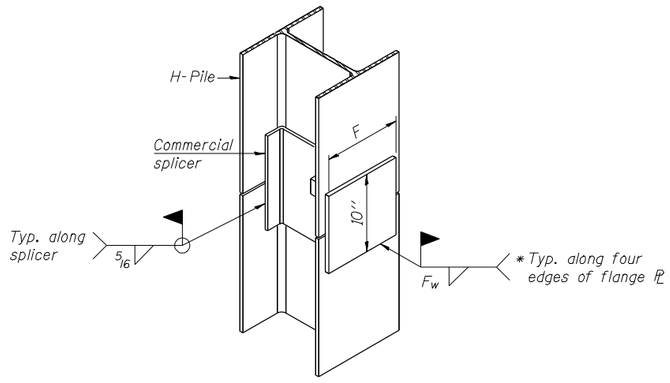


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



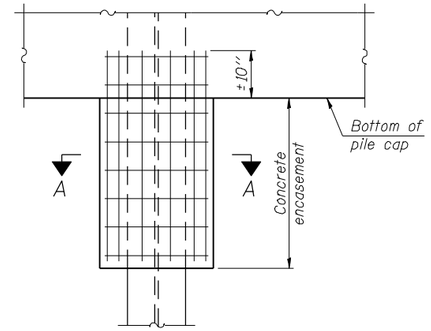
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

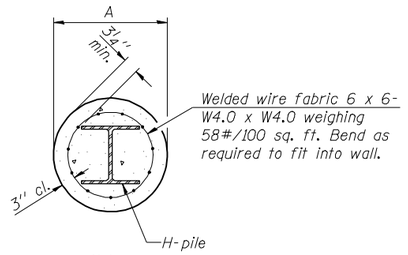
* Interrupt welds ¼″ from end of web and/or each flange.

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

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



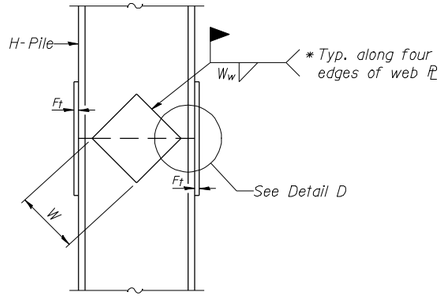
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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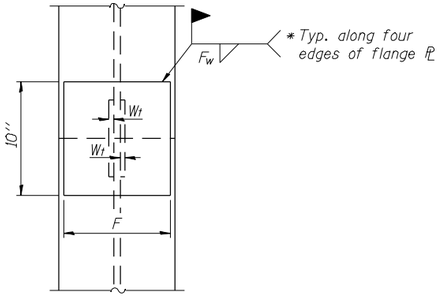
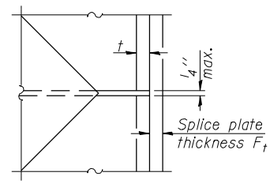


END VIEW



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

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

F-HP 1-27-12

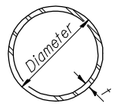
JACOBS	USER NAME =	DESIGNED - N. KHATRI	REVISED -
		CHECKED - S. HENNING	REVISED -
	PLOT DATE = 17-OCT-2012	DRAWN - C. SALLADE	REVISED -
FILE NAME = 0820334-76848-051-HP Pile Details.dgn		CHECKED - S. HENNING	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C51 OF 76 SHEETS

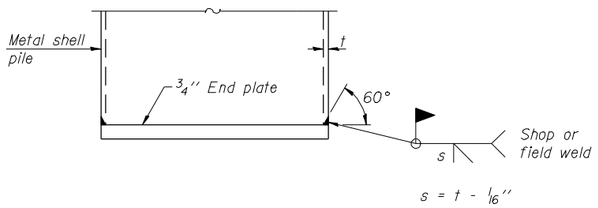
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	108
		CONTRACT NO. 76848		
		ILLINOIS FED. AID PROJECT		

P:\CIX31000\T00add\T09str\FINAL PLANS\0820334-76848-051-HP Pile Details.dgn
17-OCT-2012
16:35

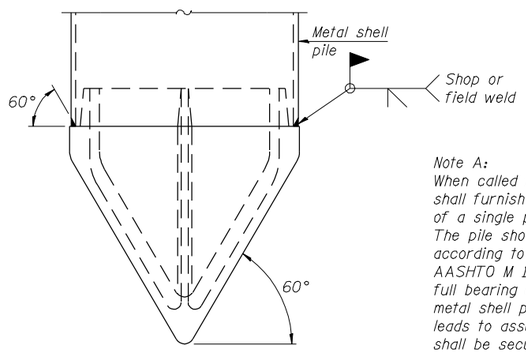


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)
PP12	0.179″	22.60	0.0274
PP12	0.250″	31.37	0.0267
PP14	0.250″	36.71	0.0368
PP14	0.312″	45.61	0.0361



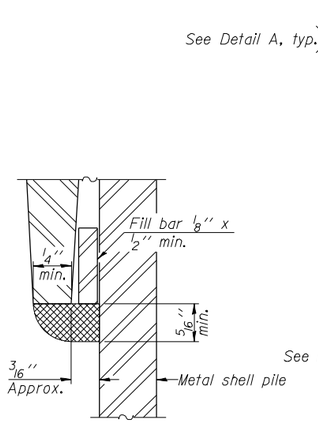
END PLATE ATTACHMENT



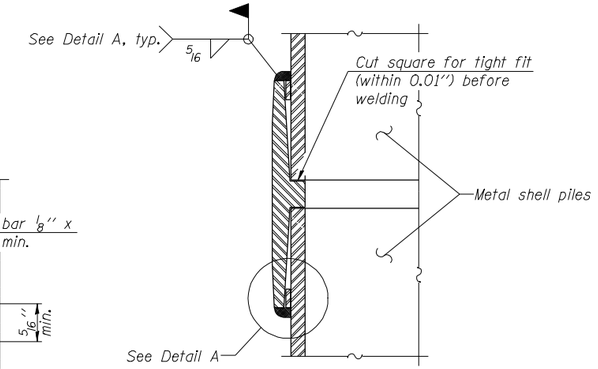
Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

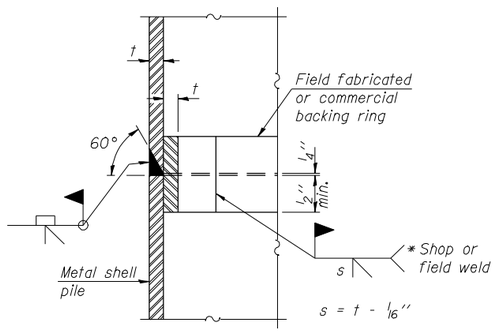


DETAIL A



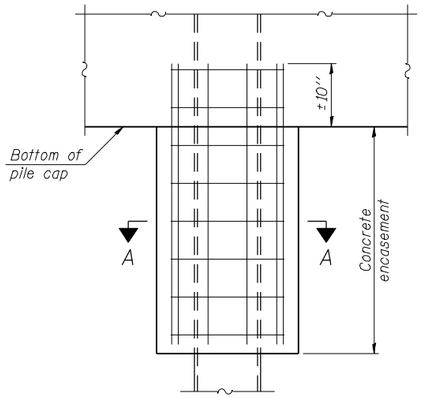
Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

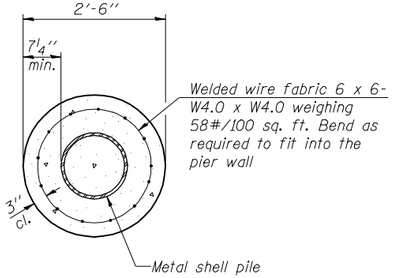


COMPLETE PENETRATION WELD SPLICE

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



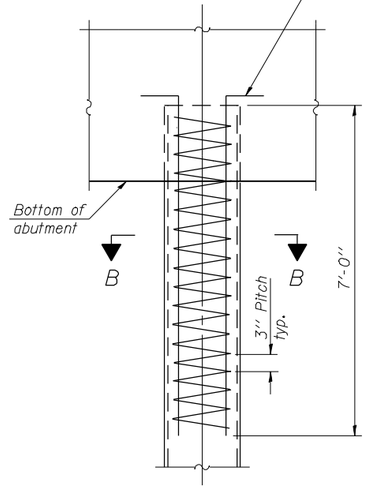
ELEVATION



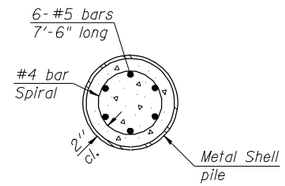
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



ELEVATION



SECTION B-B

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

METAL SHELL REINFORCEMENT AT ABUTMENTS

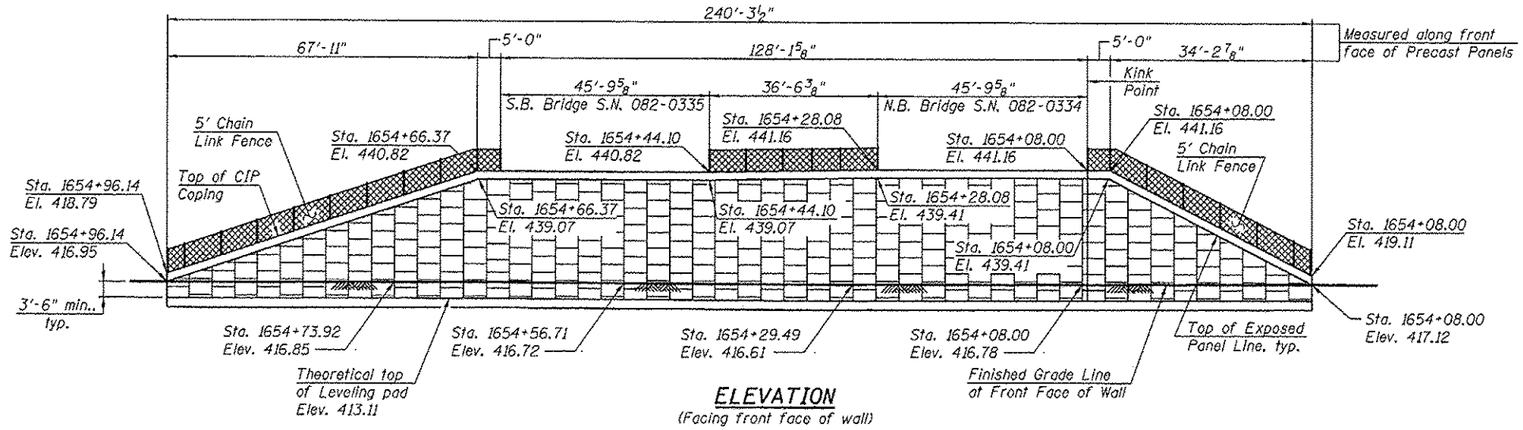
F-MS 1-27-12

JACOBS	USER NAME =	DESIGNED - N. KHATRI	REVISED -
		CHECKED - S. HENNING	REVISED -
	PLOT DATE = 17-OCT-2012	DRAWN - C. SALLADE	REVISED -
FILE NAME=0820334-76848-052-Metal Shell Pile Details.dgn		CHECKED - S. HENNING	REVISED -

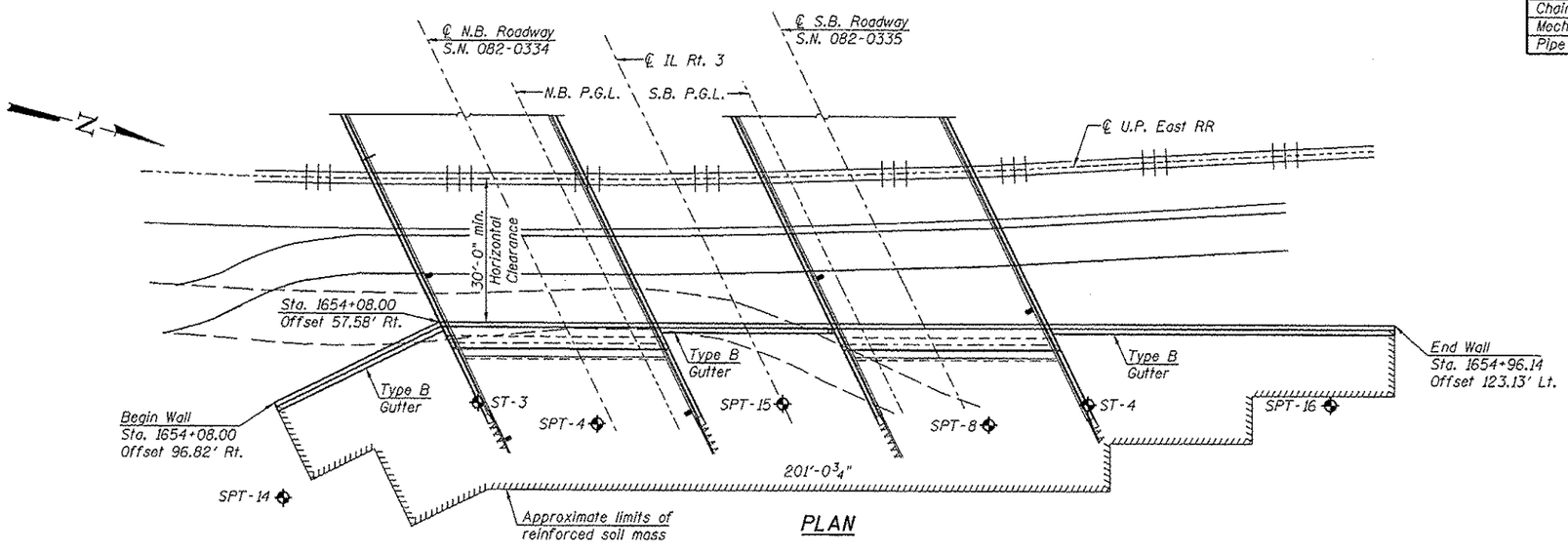
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C52 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	109
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



ELEVATION
(Facing front face of wall)



PLAN

BILL OF MATERIAL
(North MSE Wall)

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	972
Concrete Gutter, Type B	Foot	159
Chain Link Fence, 5'	Foot	159
Mechanically Stabilize Earth Retaining Wall	Sq. Ft.	5133
Pipe Underdrains for Structures 4"	Foot	249

LICENSED STRUCTURAL ENGINEER ★ STATE OF ILLINOIS ★ MICHAEL T. HALEY 81-5991 CHATHAM

Michael T. Haley 6-14-12

Michael T. Haley — Date
Licensed Structural Engineer
State of Illinois No. 81-5991
Expires 11/30/2012
Sheets C53 thru C60 of 76

Note:
Offsets are measured from centerline of IL-Rte. 3 to front face of precast panels.

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Consulting Engineers
Springfield, Illinois

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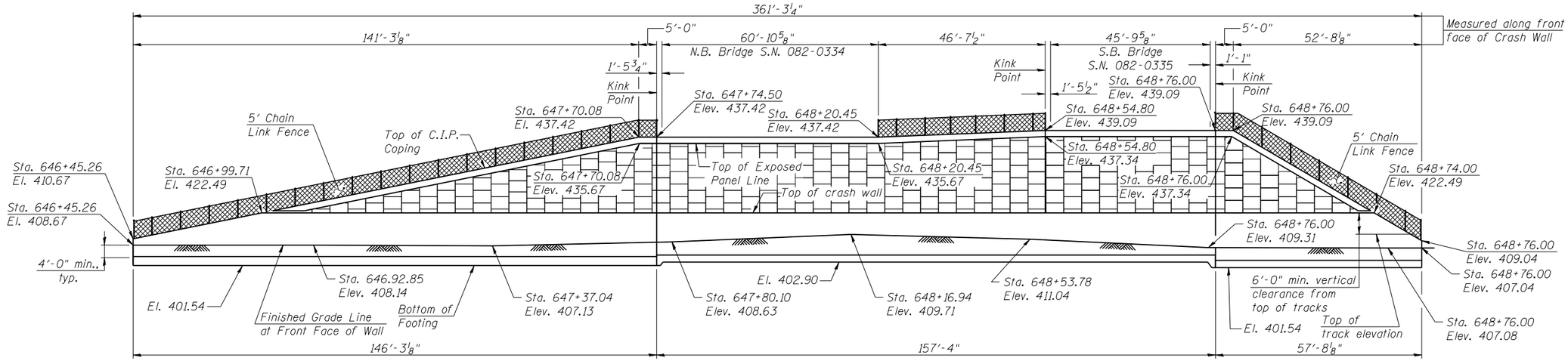
PLOT SCALE =	DRAWN - AJF	REVISED -	
PLOT DATE =	CHECKED - KHH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

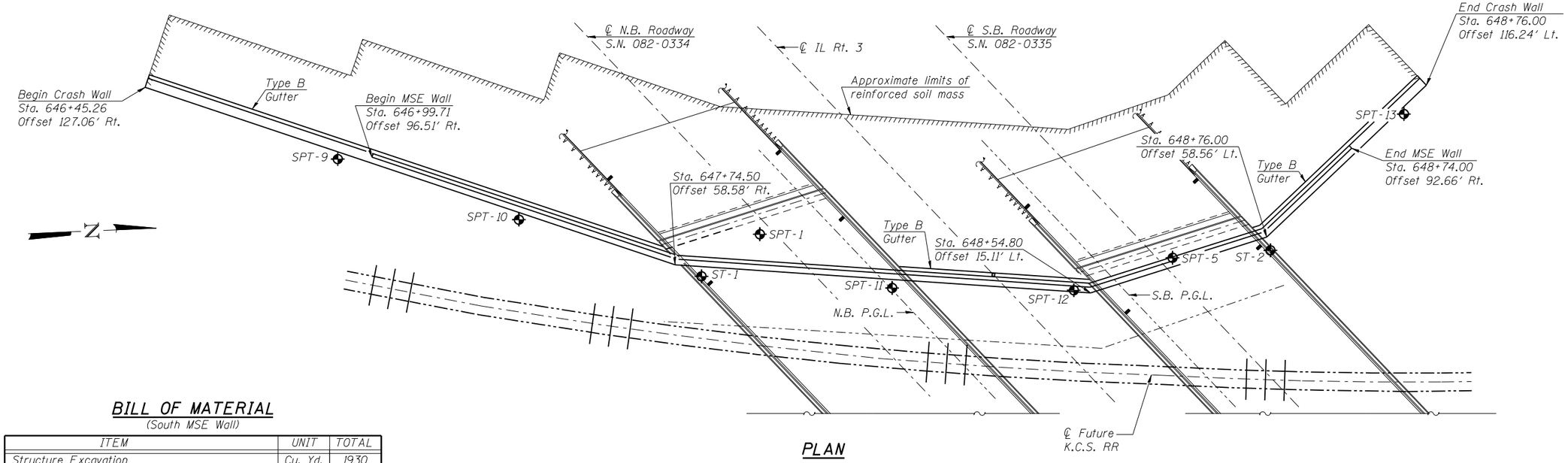
NORTH MSE WALL GENERAL PLAN & ELEVATION
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C53 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	110
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



ELEVATION

(Facing front face of wall)



PLAN

BILL OF MATERIAL

(South MSE Wall)

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	1930
Concrete Gutter, Type B	Foot	265
Chain Link Fence, 5'	Foot	265
Mechanically Stabilize Earth Retaining Wall	Sq. Ft.	2973
Pipe Underdrains for Structures 4"	Foot	376

See sheet C59 of 76 for crashwall quantities.

Note:
Offsets are measured from centerline of IL-Rte. 3 to front face of crash wall.
Limits of Mechanically Stabilized Earth Retaining Wall are from top of exposed panel line to top of crash wall.
Soil reinforcement and select fill behind crash wall will be included in the cost for the MSE wall.

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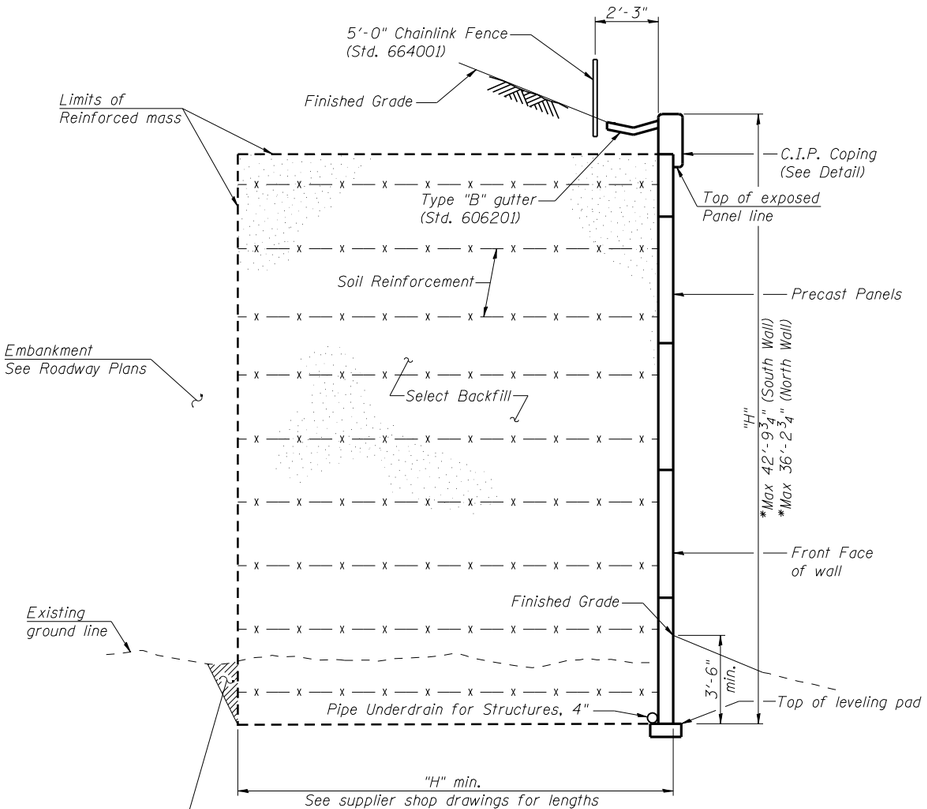
PLOT DATE =	CHECKED - KHH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

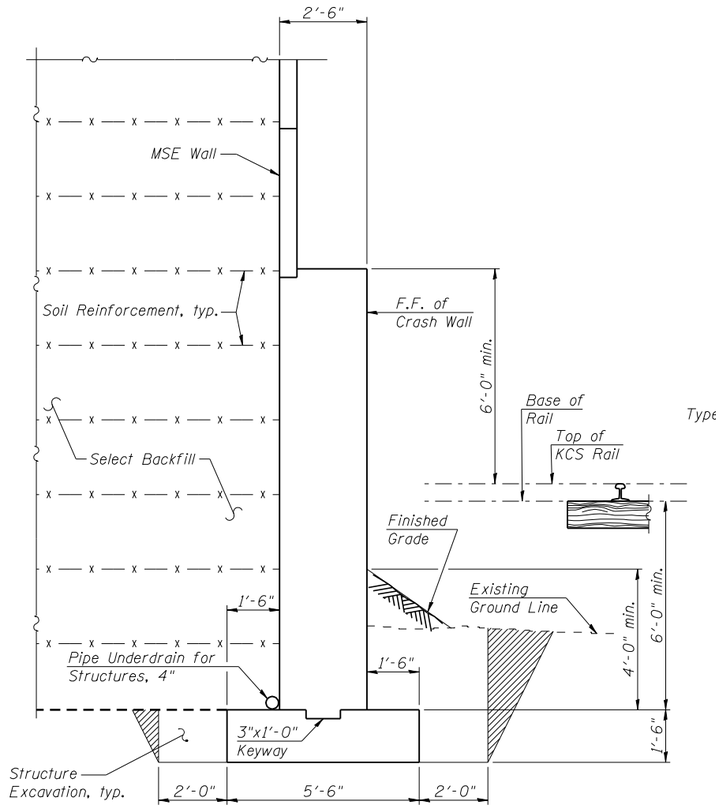
SOUTH MSE WALL GENERAL PLAN & ELEVATION
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C54 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	111
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		



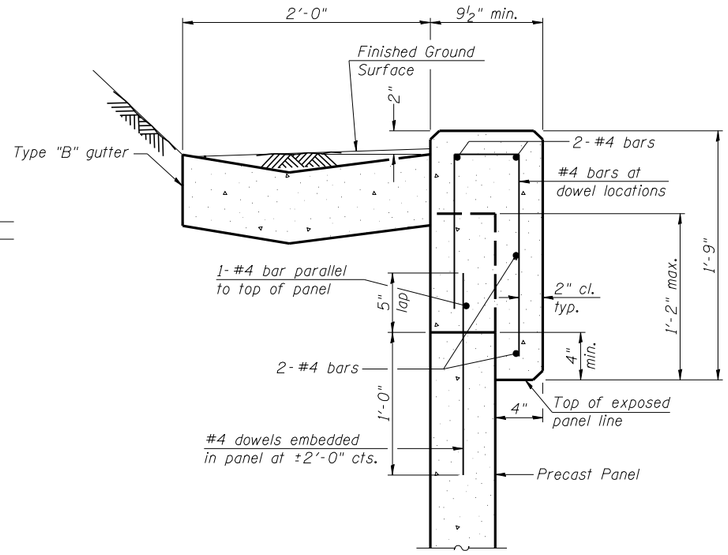
TYPICAL MSE WALL SECTION

**Over-excavation beyond the limits of structure excavation. This area not measured for payment, typ.



TYPICAL CRASH WALL SECTION

(South Abutment MSE Wall only.)



COPING DETAIL

* Max elevation taken from top of footing/leveling pad to top of abutment.
** Backfill over-excavation with same material as used for select fill.

Notes:

Fence post locations shall be coordinated with the MSE Wall supplier to avoid conflicts with soil reinforcement.

Fence posts shall be vertical when erected.

Concrete and reinforcement bars in coping are included in the cost of Mechanically Stabilized Earth Retaining Wall.

Soil reinforcement shall extend to base of crash wall. Limits of reinforced soil mass shall be designed to include the crash wall.

Soil Reinforcement shall be spaced to avoid corrugated pipe encased piles and PVC downspouts.

Panel reinforcement shall be epoxy coated.

See sheet C2 of 76 for Section Thru Abutment.

See sheet C3 of 76 for pile layout at abutments.

See sheets C36 thru C43 of 76 for additional pile details.

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Springfield, Illinois

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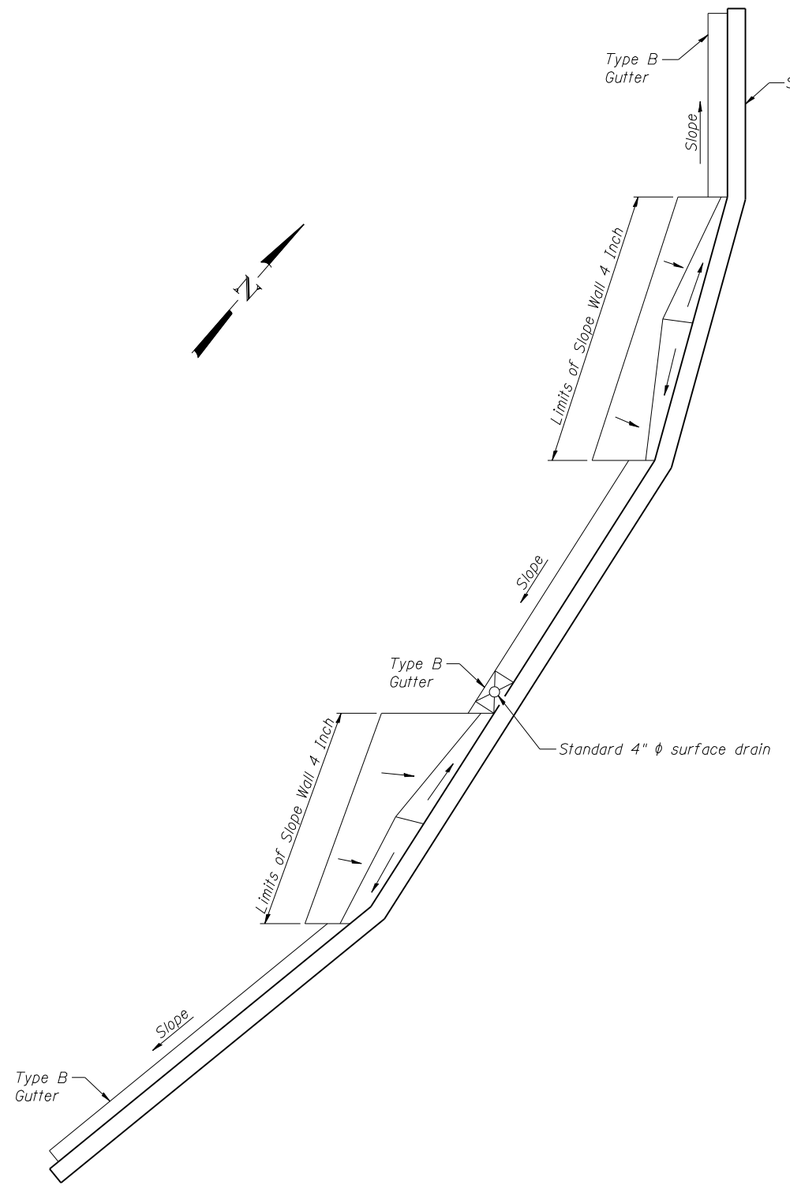
PLOT DATE =	CHECKED - KHH	REVISED -

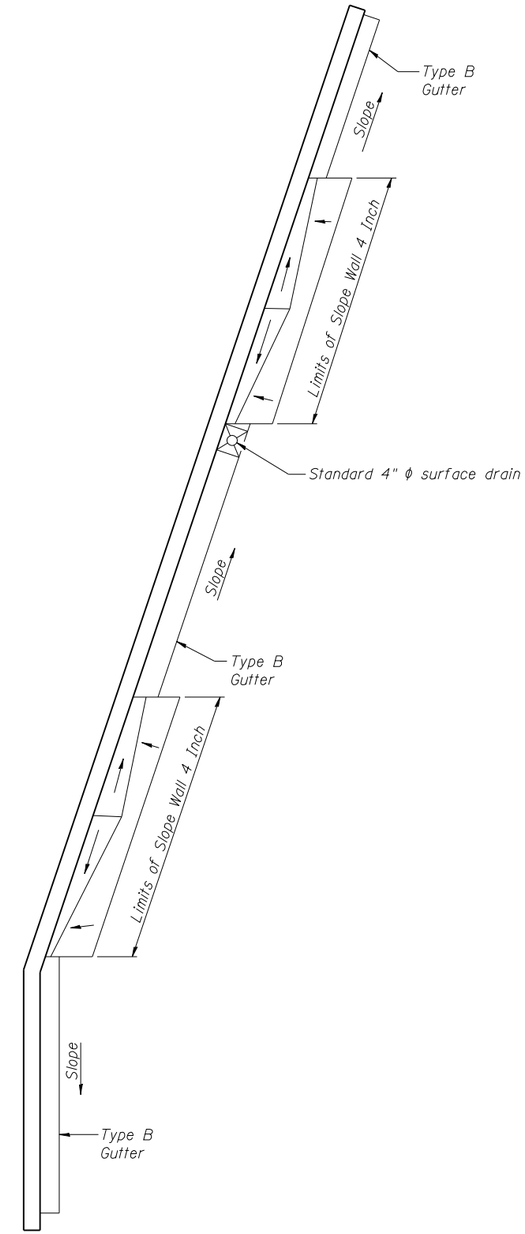
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL SECTIONS AND DETAILS
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C55 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	112
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

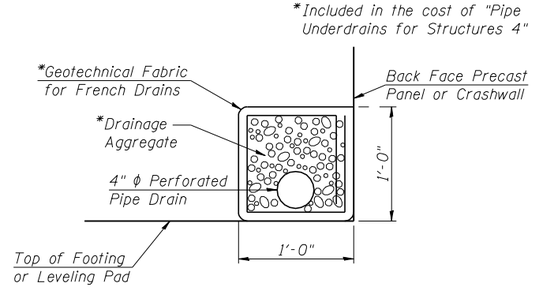


SOUTH WALL

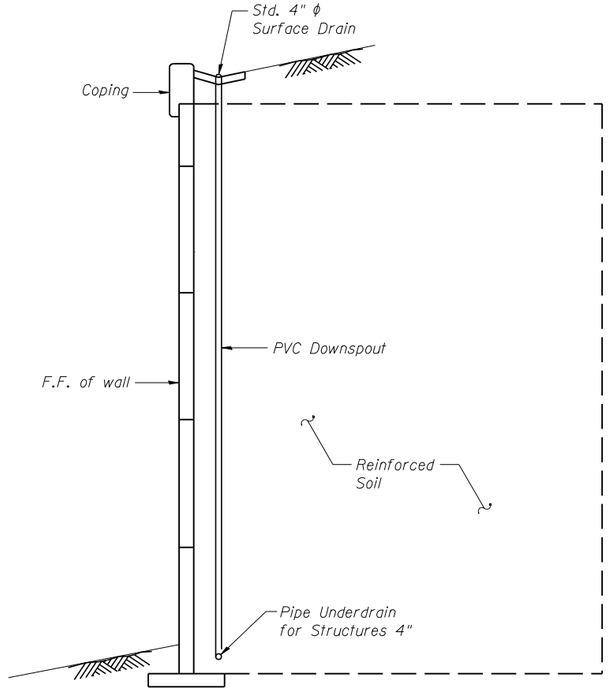


NORTH WALL

Notes:
PVC Downspout shall be paid for as Pipe Underdrain for Structures 4"
Cost of Std. 4" ϕ Surface Drain shall be included in Pipe Underdrain for Structures 4"



PIPE UNDERDRAIN DETAIL



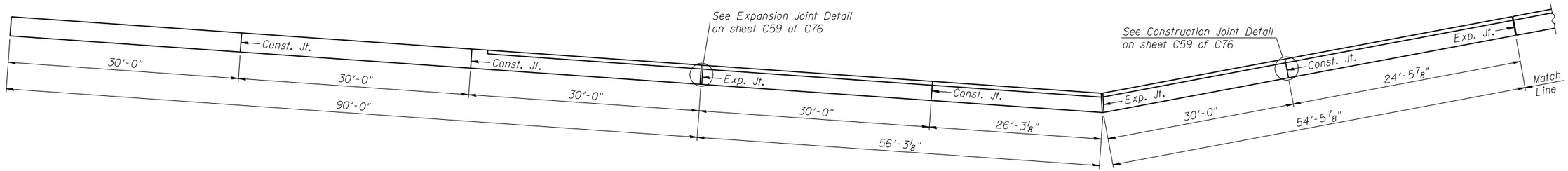
SECTION AT SURFACE DRAIN

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

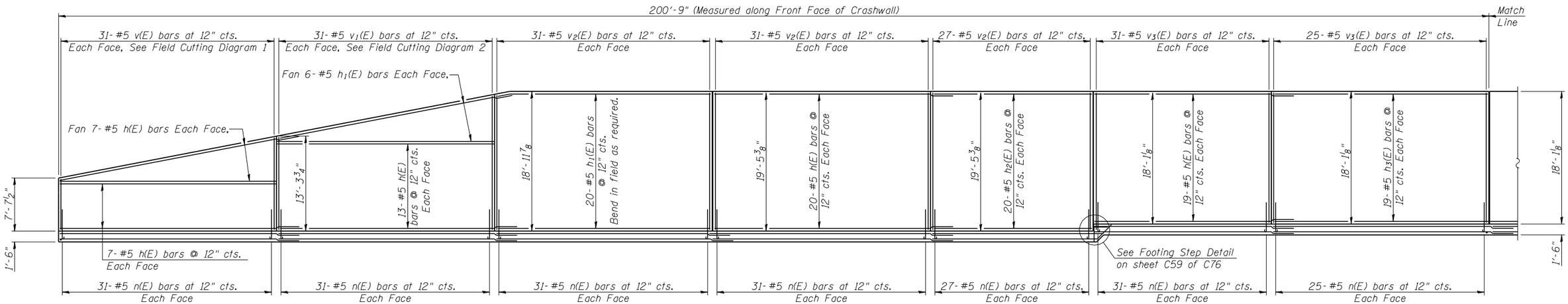
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C56 OF 76 SHEETS

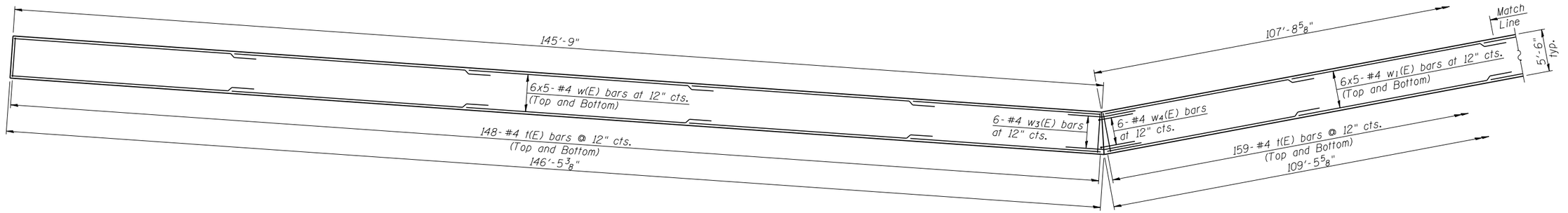
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	113
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		



PLAN



ELEVATION



FOOTING

MIN. BAR LAP

#4 Bars = 1'-8"
#5 Bars = 2'-2"

Note:
Bars indicateed thus 6x5-#4, etc., indicates 6 lines of bars with 5 lengths of #5 bars per line.
See sheet C59 of 76 for joint details, bar bends, cutting diagrams, step details, bar list and bill of material.

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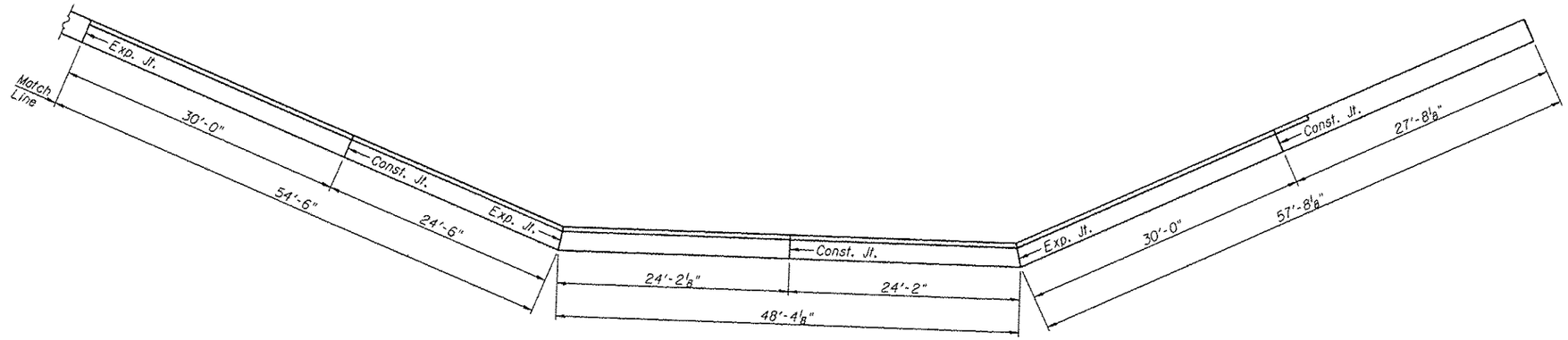
Consulting Engineers
Springfield, Illinois

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

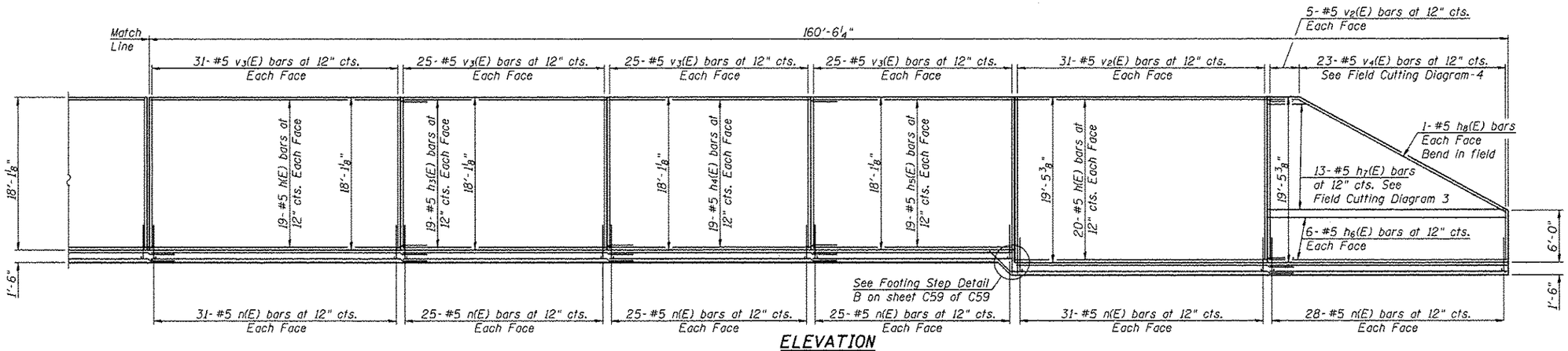
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH MSE WALL – CRASHWALL
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C57 OF 76 SHEETS

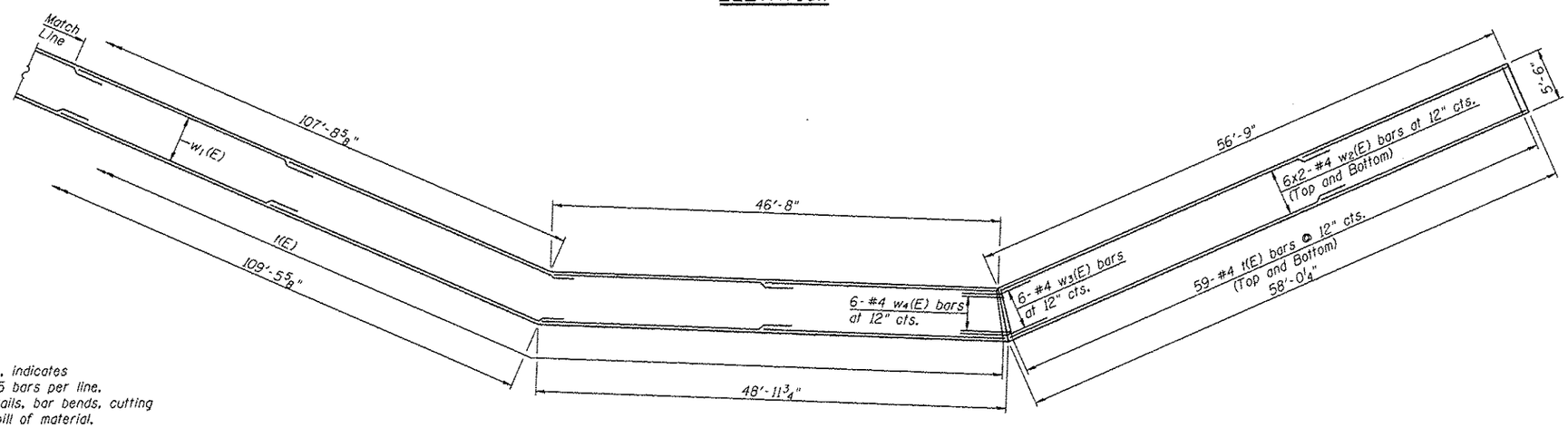
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	114
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



PLAN



ELEVATION



MIN. BAR LAP

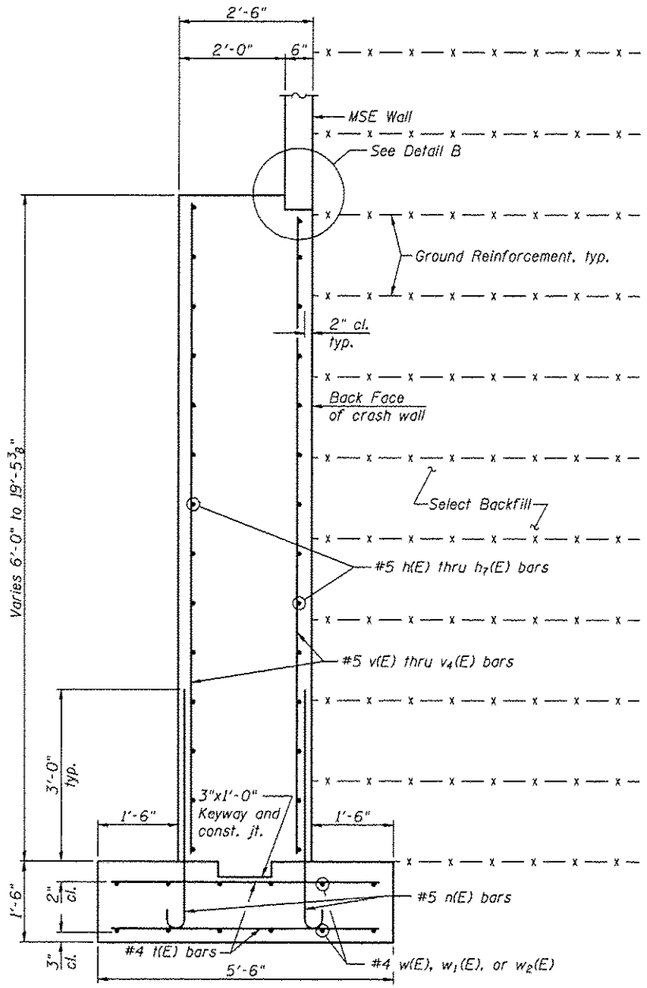
#4 Bars = 1'-8"
#5 Bars = 2'-2"

Note:
Bars indicateed thus 6x5-#4, etc., indicates 6 lines of bars with 5 lengths of #5 bars per line.
See sheet C59 of 76 for joint details, bar bends, cutting diagrams, step details, bar list and bill of material.

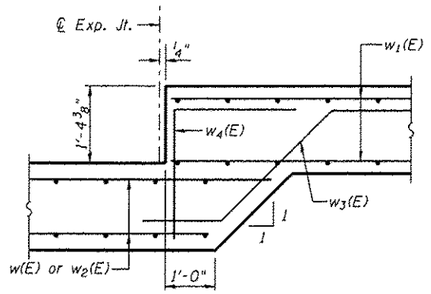
FOOTING

(Sheet 2 of 2)

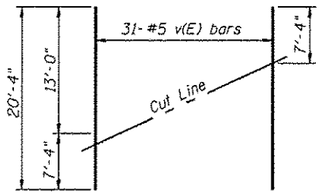
LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - PSS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH MSE WALL – CRASHWALL STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FILE NAME =	CHECKED - KHH	REVISED -			788	520-1-2HVB	ST. CLAIR	237	115
	PLOT SCALE =	DRAWN - AJF	REVISED -					CONTRACT NO. 76848		
	PLOT DATE =	CHECKED - KHH	REVISED -		SHEET NO. C58 OF 76 SHEETS		ILLINOIS	FED. AID PROJECT		



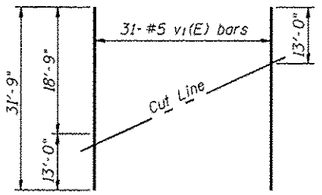
SECTION THRU CRASHWALL



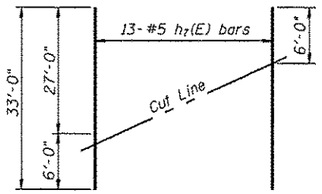
FOOTING STEP DETAIL



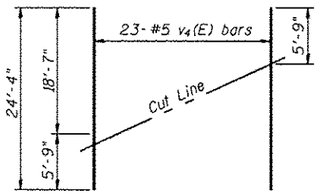
FIELD CUTTING DIAGRAM 1



FIELD CUTTING DIAGRAM 2



FIELD CUTTING DIAGRAM 3



FIELD CUTTING DIAGRAM 4

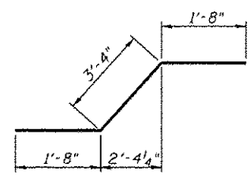
Note:
Order full length. Cut as shown and use remainder in other face of wall.

BILL OF MATERIAL

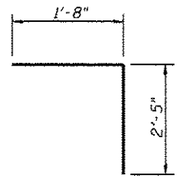
(South Wall)

Bar	No.	Size	Length	Shape
h(E)	222	#5	32'-2"	
h1(E)	40	#5	29'-9"	
h2(E)	40	#5	26'-0"	
h3(E)	76	#5	24'-3"	
h4(E)	38	#5	26'-4"	
h5(E)	38	#5	23'-11"	
h6(E)	12	#5	27'-5"	
h7(E)	13	#5	33'-0"	
h8(E)	2	#5	31'-0"	
n(E)	744	#5	4'-10"	
t(E)	732	#4	5'-3"	
v(E)	31	#5	20'-4"	
v1(E)	31	#5	31'-9"	
v2(E)	250	#5	19'-2"	
v3(E)	324	#5	17'-10"	
v4(E)	46	#5	24'-4"	
w(E)	60	#4	31'-1"	
w1(E)	60	#4	33'-0"	
w2(E)	24	#4	30'-11"	
w3(E)	12	#4	6'-8"	
w4(E)	12	#4	4'-1"	
Concrete Structures			Cu. Yd.	692.9
Reinforcement Bars, Epoxy Coated			Pound	37890

*Cost included with Concrete Structures.



BAR w3(E)



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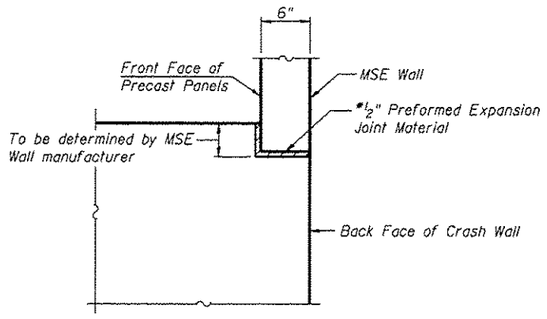
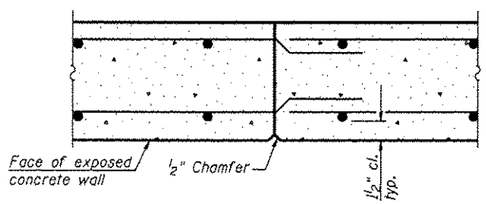
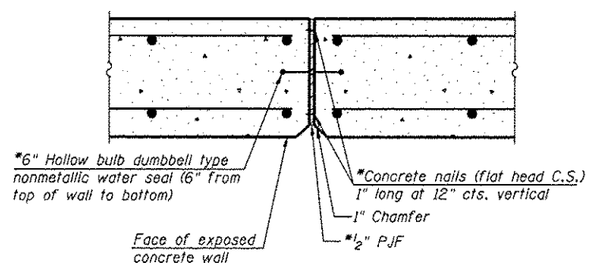


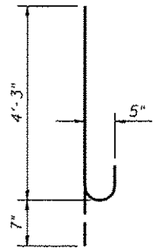
DETAIL B



CONSTRUCTION JOINT



EXPANSION JOINT



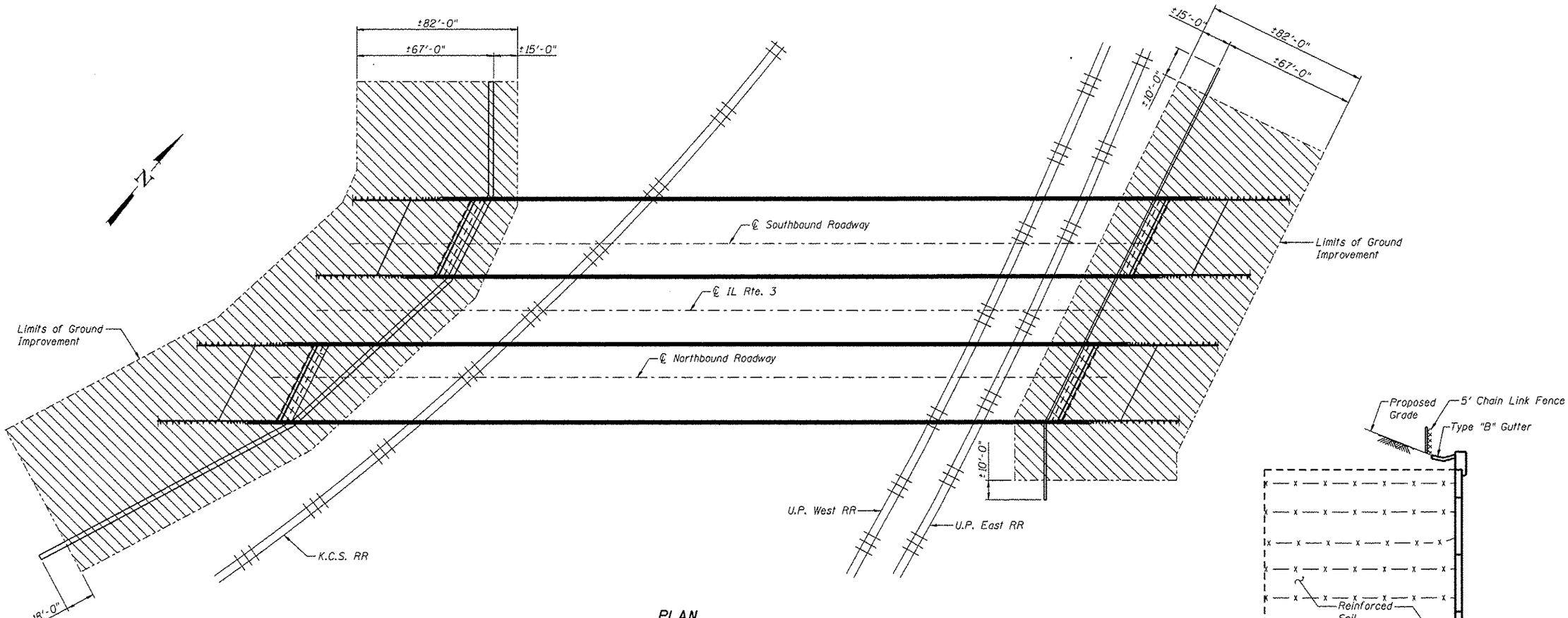
BAR n(E)

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

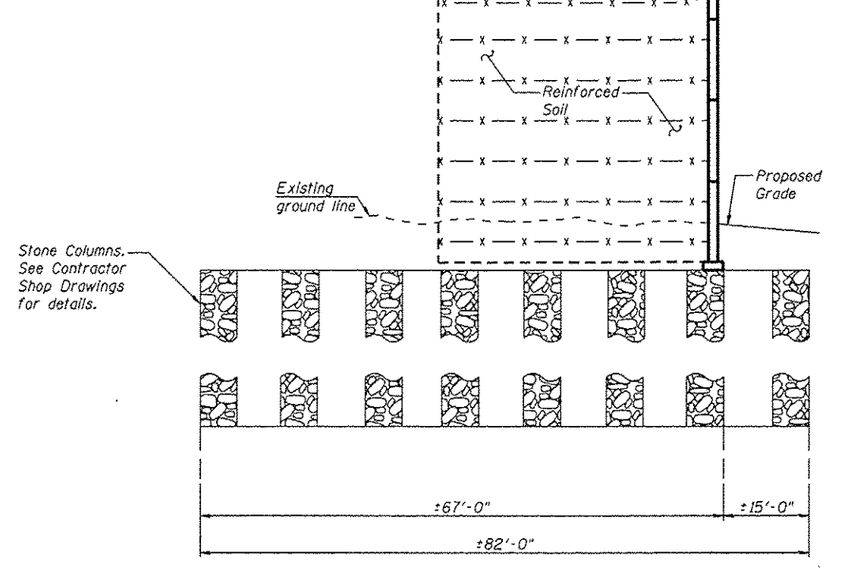
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH MSE WALL – CRASHWALL DETAILS
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C59 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HV8	ST. CLAIR	237	116
		CONTRACT NO. 76848		
		ILLINOIS FED. AID PROJECT		



PLAN



TYPICAL SECTION THRU PROPOSED WALL

GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS

1. Post-construction settlement of MSE Wall shall not exceed 1.0 inch.
2. Minimum factor of safety for Global stability shall be 1.5.
3. Minimum factor of safety for Equivalent Uniform Service Bearing Pressure shall be 2.5.
4. Total settlement shall not exceed 4 inches.

TOTAL BILL OF MATERIAL

Item	Unit	Quantity
Aggregate Column Ground Improvement	L Sum	1

Notes:

Aggregate column ground improvement shall be designed and installed by the Contractor in accordance with Special Provision for Aggregate Column Ground Improvement.

See MSE Wall supplier shop drawings for reinforced soil mass lengths.

Equivalent Uniform Service Bearing Pressure is 5.3 ksf for the North MSE Wall and 6.9 ksf for the South MSE Wall.

LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GROUND IMPROVEMENT
STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
SHEET NO. C60 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	117
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 4

Date 7/24/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY AJ (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-1 (Offset 4' S) Station 647+84.03 Offset 37.00ft RT Ground Surface Elev. 409.50 ft

Surface Water Elev. ft Stream Bed Elev. ft

Groundwater Elev.: First Encounter 401.0 ft Upon Completion ft After hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark gray to brown, silty CLAY, trace organics (Alluvium)			
3	2 3	0.6	23.7
Dark brown silty LOAM, trace roots	4		
2	2 2	0.3	25.5
Dark brown, sandy LOAM	397.50		
3	2 5		27.1
(Regan mud rotary wash at 15.0 ft.)			
Dark brown, sandy LOAM	392.50		
6	6 6		32.6
Dark brown to gray, fine to medium SAND	387.50		
7	6 6		28.9
8	6 6		33.3
9	7 7		26.6
9	9 9		48.3

Gravel = 0.0%
Sand = 92.8%
Silt/Clay = 7.2%

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)

BORING SPT-1
(1 of 4)

Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 4

Date 7/24/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY AJ (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-1 (Offset 4' S) Station 647+84.03 Offset 37.00ft RT Ground Surface Elev. 409.50 ft

Surface Water Elev. ft Stream Bed Elev. ft

Groundwater Elev.: First Encounter 401.0 ft Upon Completion ft After hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark brown to gray, fine to medium SAND (continued)			
10	10 13		28.3
-trace fine gravel below 64.0 ft.			
fine grained, trace decayed wood below 47.0 ft.			
8	4 3		32.7
-fine to coarse grained below 67.0 ft.			
9	6 9		29.2
12	12 13		18.2
349.50			

Gravel = 0.0%
Sand = 87.7%
Silt/Clay = 12.3%

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark brown to gray, fine SAND			
15	8 6		
16	14 10		15.9
7	6 4		21.3

Gravel = 1.8%
Sand = 93.2%
Silt/Clay = 5.3%

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)

BORING SPT-1
(2 of 4)

Illinois Department of Transportation

SOIL BORING LOG

Page 3 of 4

Date 7/24/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY AJ (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-1 (Offset 4' S) Station 647+84.03 Offset 37.00ft RT Ground Surface Elev. 409.50 ft

Surface Water Elev. ft Stream Bed Elev. ft

Groundwater Elev.: First Encounter 401.0 ft Upon Completion ft After hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark brown to gray, fine to coarse SAND			
6	6 7		
7	5 8		13.8
-trace coarse gravel below 93.5 ft.			
20	20 23		
31	27 25		12.2
27	27		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dark brown to gray, medium to coarse SAND, trace gravel			
-possible cobbles and boulders below 104.0 ft.			
50/3"			
Auger refusal at 112.0 ft. Borehole continued with rock coring.	297.50		

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)

BORING SPT-1
(3 of 4)

Illinois Department of Transportation

ROCK CORE LOG

Page 4 of 4

Date 7/24/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY AJ (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair CORING METHOD NX Core

STRUCT. NO. 082-0334 & -0335 Station 648+08 CORING BARREL TYPE & SIZE NXWL

BORING NO. SPT-1 (Offset 4' S) Station 647+84.03 Offset 37.00ft RT Ground Surface Elev. 409.59 ft

Core Diameter 2.1 in Top of Rock Elev. 297.50 ft Begin Core Elev. 297.50 ft

DEPTH (ft)	CORE (ft)	RECOVERY (%)	RQD (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Light grey LIMESTONE, hard, slightly weathered, finely crystalline, medium bedded, dense 297.50					
1	100	82	6.8		
-1/2" dark gray shale seam at 113.0 and 113.2 ft.					
-1/2" dark gray shale seam at 116.0 ft.					
-1/2" dark gray shale seam at 117.5, 118.0, 118.4 and 121.6 ft.					
-16" core loss 119.5 to 120.6 ft.					
2	73	62	4.2		
End of Boring 297.50					

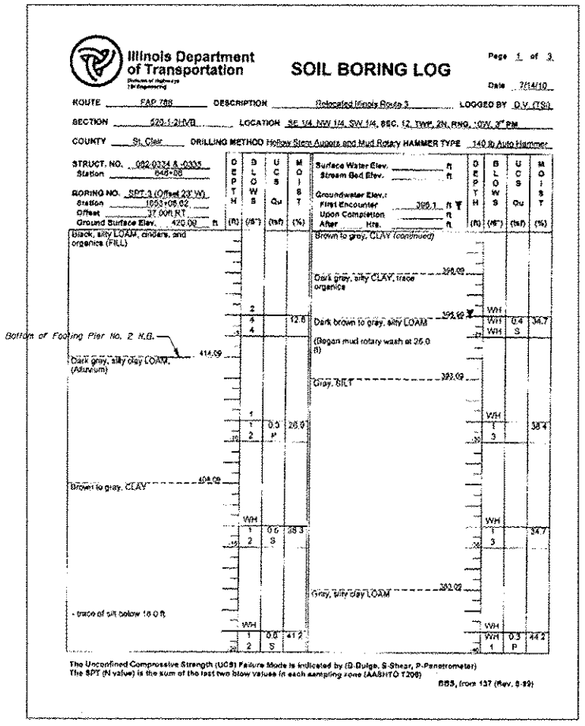
Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the unixial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING SPT-1
(4 of 4)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
		CHECKED - TSI ENGINEERING	REVISED -		
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		SHEET NO. C61 OF 76 SHEETS
FILE NAME = 0820334-76848-061-Boring Log .dgn		CHECKED - R. RILEY	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
768	520-1-2HVB	ST. CLAIR	237	118
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 3

Date 7/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-3 (Offset 23' W) Station 1653+05.62 Offset 37.00ft RT

Ground Surface Elev. 420.09 ft

Surface Water Elev. ft Stream Bed Elev. ft

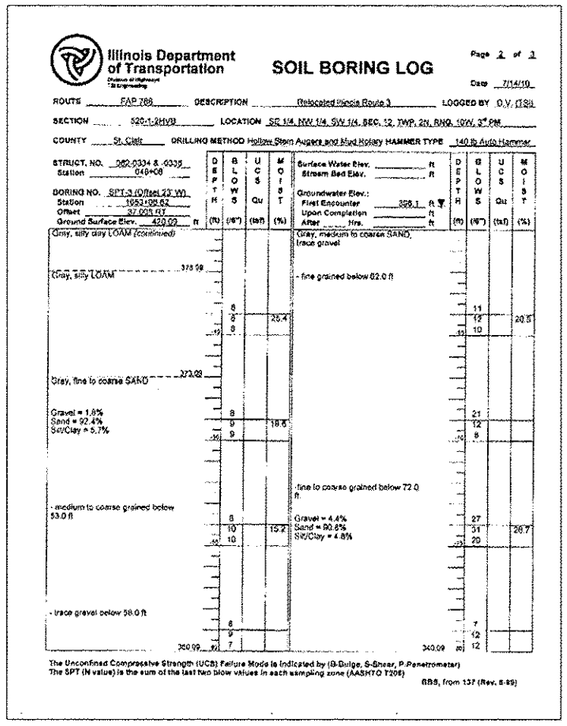
Groundwater Elev.: First Encounter 396.1 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Black, silty LOAM, cinders, and organics (FILL)				Brown to gray, CLAY (continued)			
	2			394.09 Dark gray, silty CLAY, trace organics			
	5			393.68 Dark brown to gray, silty LOAM	WH		
Bottom of Footing Pier No. 2 N.B. 414.09	4	12.6		(Began mud rotary wash at 26.0 ft)	WH	0.4 S	34.7
Dark gray, silty clay LOAM, (Alluvium)				393.09 Gray, SILT			
	1				WH		
	1	0.5 P	26.0		1		38.4
	2				3		
404.09 Brown to gray, CLAY	WH				WH		
	2	0.5 S	38.3		1		34.7
	3				3		
- trace of silt below 16.0 ft				383.09 Gray, silty clay LOAM			
	WH				WH		
	1	0.5	41.2		1	0.5	44.2
	2	S			2	P	

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)

BORING SPT-3
(1 of 3)



Illinois Department of Transportation

SOIL BORING LOG

Page 2 of 3

Date 7/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-3 (Offset 23' W) Station 1653+05.62 Offset 37.00ft RT

Ground Surface Elev. 420.09 ft

Surface Water Elev. ft Stream Bed Elev. ft

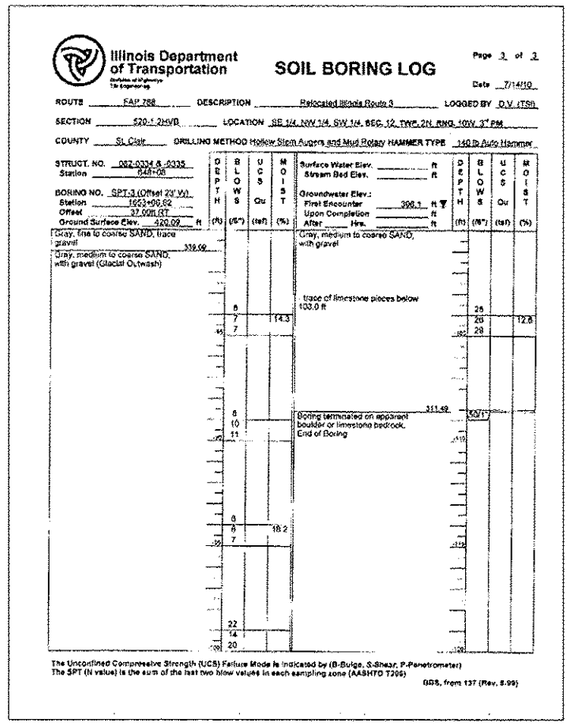
Groundwater Elev.: First Encounter 396.1 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray, silty clay LOAM (continued)				Gray, medium to coarse SAND, trace gravel			
378.09 Gray, silty LOAM	6				11		
	8	25.4			13	20.5	
	9				10		
372.09 Gray, fine to coarse SAND				- fine grained below 62.0 ft			
Gravel = 1.8% Sand = 92.4% Silt/Clay = 5.7%	8				21		
	9	18.6			12		
	9				8		
- medium to coarse grained below 53.0 ft	8			- fine to coarse grained below 72.0 ft	27		
	10	19.2		Gravel = 4.4% Sand = 90.8% Silt/Clay = 4.8%	31	26.7	
	10				20		
- trace gravel below 58.0 ft							
	8				7		
	9				12		
360.09	7			340.09	12		

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

BBS, from 137 (Rev. 8-99)

BORING SPT-3
(2 of 3)



Illinois Department of Transportation

SOIL BORING LOG

Page 3 of 3

Date 7/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. SPT-3 (Offset 23' W) Station 1653+05.62 Offset 37.00ft RT

Ground Surface Elev. 420.09 ft

Surface Water Elev. ft Stream Bed Elev. ft

Groundwater Elev.: First Encounter 396.1 ft Upon Completion ft After Hrs. ft

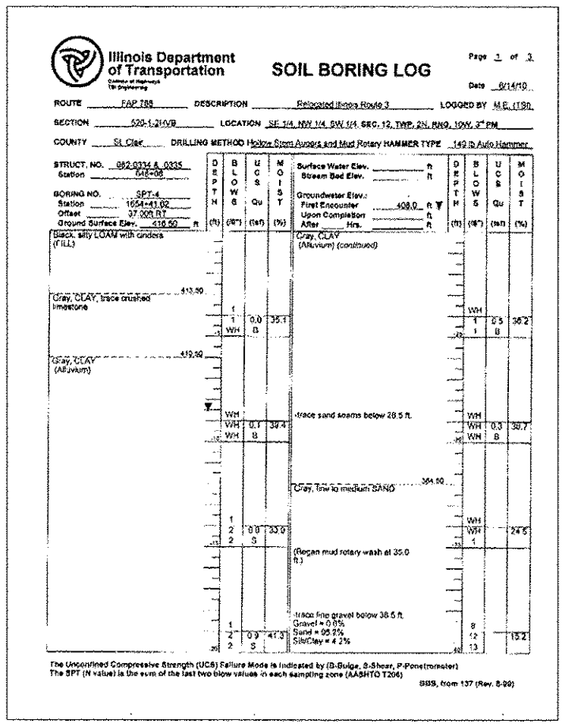
DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray, fine to coarse SAND, trace gravel				Gray, medium to coarse SAND, with gravel			
319.09 Gray, medium to coarse SAND, with gravel (Glacial Outwash)	6				25		
	7	14.3		trace of limestone pieces below 103.0 ft	29	12.8	
	7				28		
	8			311.49 Boring terminated on apparent boulder or limestone bedrock. End of Boring	50/1"		
	10						
	11						
	8	18.2					
	7						
	22						
	14						
	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)

BORING SPT-3
(3 of 3)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	119
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-062-Boring Log 2.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. 062 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		



BORING SPT-4
(1 of 3)

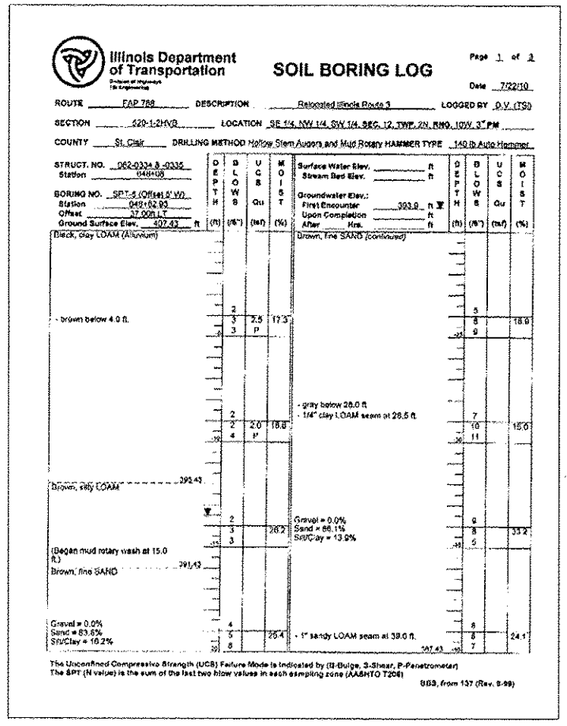
BORING SPT-4
(2 of 3)

BORING SPT-4
(3 of 3)

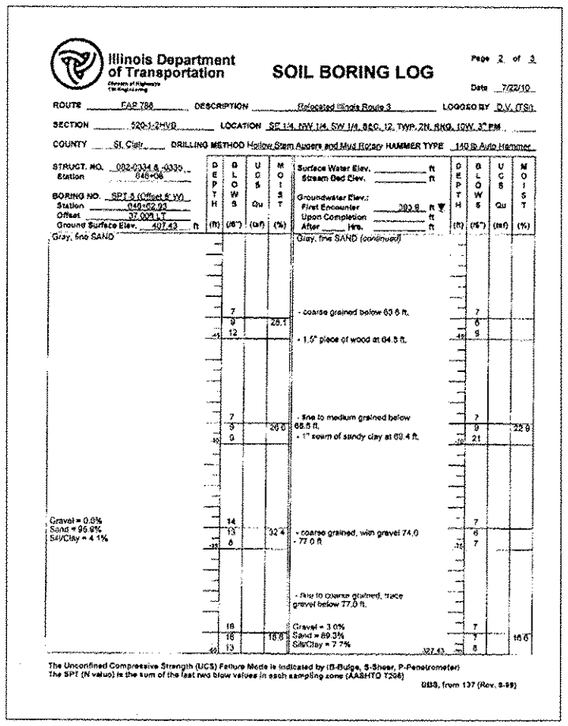
P:\Civil\3000\700cadd\709str\FINAL PLANS\0820334-76848-063-Boring Log 3.dgn
17-OCT-2012
16:37

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
	PLOT DATE = 17-OCT-2012	CHECKED - TSI ENGINEERING	REVISED -		SHEET NO. C63 OF 76 SHEETS
FILE NAME = 0820334-76848-063-Boring Log 3.dgn		DRAWN - M. MEYER	REVISED -		
		CHECKED - R. RILEY	REVISED -		

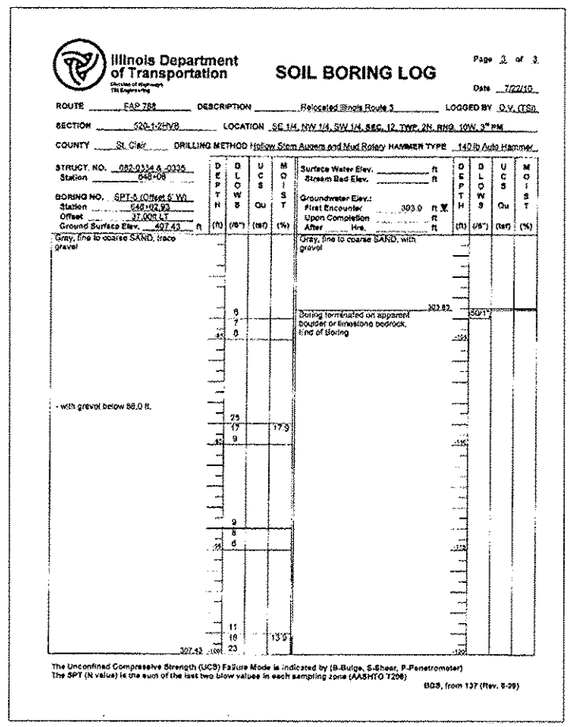
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	120
		CONTRACT NO. 76848		
		ILLINOIS FED. AID PROJECT		



BORING SPT-5
(1 of 3)

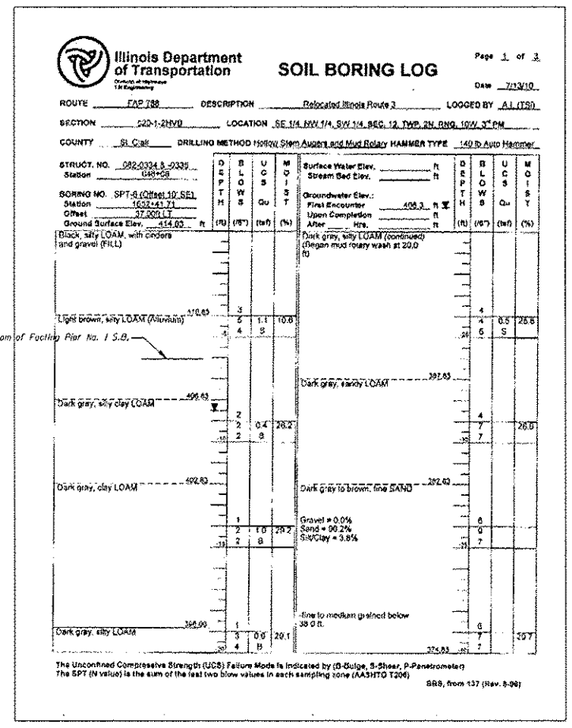


BORING SPT-5
(2 of 3)

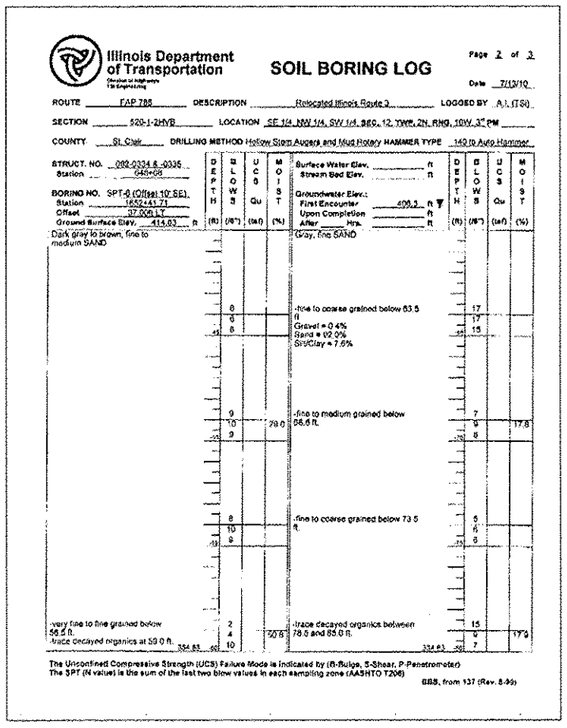


BORING SPT-5
(3 of 3)

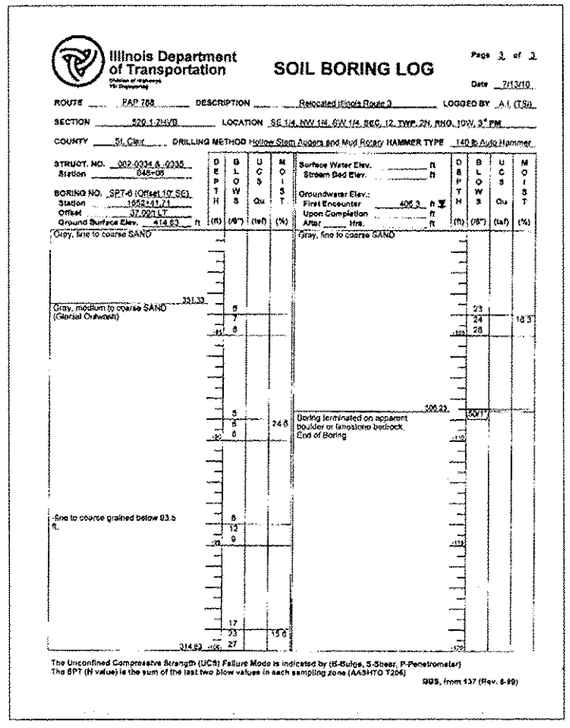
JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	121
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-064-Boring Log 4.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. 064 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		



BORING SPT-6
(1 of 3)



BORING SPT-6
(2 of 3)



BORING SPT-6
(3 of 3)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	122
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		SHEET NO. C65 OF 76 SHEETS			CONTRACT NO. 76848		
FILE NAME = 0820334-76848-065-Boring Log 5.dgn		CHECKED - R. RILEY	REVISED -			ILLINOIS FED. AID PROJECT				

Illinois Department of Transportation — SOIL BORING LOG

Division of Highways, TSI Engineering

Page 1 of 4 | Date 7/15/10

ROUTE FAP 788 | DESCRIPTION Relocated Illinois Route 3 | LOGGED BY A.J. (TSI)
SECTION 520-1-2HVB | LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair | DRILLING METHOD Hollow Stem Augers and Mud Rotary | HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335, Station 648+08
BORING NO. SPT-7 (Offset 18.5' E), Station 1653+42.71, Offset 37.00ft LT, Ground Surface Elev. 414.34 ft
Surface Water Elev. ___ ft; Stream Bed Elev. ___ ft
Groundwater Elev.: First Encounter 391.3 ft; Upon Completion ___ ft; After ___ Hrs. ___ ft

Description	Elev.	Blows (/6")	UCS Qu (tsf)	Moist (%)
Black, silty LOAM, with cinders, fine gravel, trace organics (FILL)		2 / 1 / 2		35.3
Gray to brown, clay LOAM (Alluvium)	405.01	2 / 1 / 1	0.4 S	25.0
Dark gray, CLAY	402.34	1 / 1 / 3	0.6 S	33.0
Dark gray, silty CLAY, trace decayed organics	397.34	2 / 2 / 2	0.7 S	38.8
Dark gray, silty CLAY, trace decayed organics (continued) (Began mud rotary wash at 20.0 ft.)				
Dark gray, silty CLAY	392.34	WH / WH / 1	0.4 B	35.9
Dark gray, silty clay LOAM; -trace fine sand below 28.0 ft.	387.34	WH / WH / 2	0.3 P	36.2
		1 / 2 / 2	0.25 P	33.6
Dark gray, clay LOAM, trace decayed organics; Gravel = 0.0%, Sand = 23.0%, Silt/Clay = 77.0%	376.84	1 / 1 / 3		51.0

Bottom of Footing Pier No. 2 S.B.

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

BBS, from 137 (Rev. 8-99)

BORING SPT-7
(1 of 4)

Illinois Department of Transportation — SOIL BORING LOG

Page 2 of 4 | Date 7/15/10

ROUTE FAP 788 | DESCRIPTION Relocated Illinois Route 3 | LOGGED BY A.J. (TSI)
SECTION 520-1-2HVB | LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair | DRILLING METHOD Hollow Stem Augers and Mud Rotary | HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335, Station 648+08
BORING NO. SPT-7 (Offset 18.5' E), Station 1653+42.71, Offset 37.00ft LT, Ground Surface Elev. 414.34 ft
Groundwater Elev.: First Encounter 391.3 ft

Description	Elev.	Blows (/6")	UCS Qu (tsf)	Moist (%)
Dark gray, clay LOAM, trace decayed organics (continued)				
Dark gray, fine SAND	372.34	6 / 7 / 10		26.5
		6 / 7 / 9		
Dark gray, fine to coarse SAND; -trace fine gravel below 53.0 ft.	362.34	6 / 9 / 10		13.1
Gravel = 5.2%, Sand = 89.4%, Silt/Clay = 5.5%	354.34	7 / 6 / 10		12.4
Dark gray, fine to coarse SAND, trace fine gravel				
Dark gray, fine to coarse SAND; -trace decayed organics at 63.5 ft.		10 / 14 / 9		20.1
Dark gray, fine to coarse SAND, with gravel (Glacial Outwash)	346.34	6 / 4 / 14		
		6 / 7 / 10		19.5
		10 / 10 / 11		

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)

BORING SPT-7
(2 of 4)

Illinois Department of Transportation — SOIL BORING LOG

Page 3 of 4 | Date 7/15/10

ROUTE FAP 788 | DESCRIPTION Relocated Illinois Route 3 | LOGGED BY A.J. (TSI)
SECTION 520-1-2HVB | LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair | DRILLING METHOD Hollow Stem Augers and Mud Rotary | HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335, Station 648+08
BORING NO. SPT-7 (Offset 18.5' E), Station 1653+42.71, Offset 37.00ft LT, Ground Surface Elev. 414.34 ft
Groundwater Elev.: First Encounter 391.3 ft

Description	Elev.	Blows (/6")	UCS Qu (tsf)	Moist (%)
Dark gray, fine to coarse SAND, with gravel (Glacial Outwash) (continued)		4 / 6 / 5		14.6
		8 / 11 / 10		
		4 / 6 / 6		14.8
-trace cobbles below 98.0 ft.	314.34	38 / 36 / 37		
Dark gray, fine to coarse SAND, trace cobbles; -with coarse gravel below 103.5 ft.		22 / 22 / 20		8.1
-trace to with cobbles and boulders below 105.0 ft.		45 / 50/4"		
Original auger refusal at 109.5 ft. Borehole collapsed during coring. Offset 7.0 ft. south and re-drilled to auger refusal at 116.5 ft.				
Second auger refusal at 116.5 ft., began coring. Borehole continued with rock coring.	297.84			

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)

BORING SPT-7
(3 of 4)

Illinois Department of Transportation — ROCK CORE LOG

Page 4 of 4 | Date 7/15/10

ROUTE FAP 788 | DESCRIPTION Relocated Illinois Route 3 | LOGGED BY A.J. (TSI)
SECTION 520-1-2HVB | LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair | CORING METHOD NX Core

STRUCT. NO. 082-0334 & -0335, Station 648+08
BORING NO. SPT-7 (Offset 18.5' E), Station 1653+42.71, Offset 37.00ft LT, Ground Surface Elev. 414.34 ft
CORING BARREL TYPE & SIZE NXWL; Core Diameter 2.1 in; Top of Rock Elev. 297.84 ft; Begin Core Elev. 297.84 ft

Description	Elev.	Core (#)	Recovery (%)	R.Q.D. (%)	Core Time (min/ft)	Strength (tsf)
Light gray LIMESTONE, hard, slightly weathered, finely crystalline, medium bedded, dense	297.84	1	100	64	6.5	
-2" vertical fracture at 119.5 ft.		2	92	77	6	
-5" core loss 122.6 to 122.9 ft.; -thick bedded below 123.5 ft.		3	100	94	4	
End of Boring	287.84					

Color pictures of the cores Yes
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)

BORING SPT-7
(4 of 4)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)**	F.A.P. RTE. 788	SECTION 520-1-2HVB	COUNTY ST. CLAIR	TOTAL SHEETS 237, SHEET NO. 123
		CHECKED - TSI ENGINEERING	REVISED -					CONTRACT NO. 76848	
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		SHEET NO. C66 OF 76 SHEETS		ILLINOIS FED. AID PROJECT		
FILE NAME = 0820334-76848-066-Boring Log 6.dgn		CHECKED - R. RILEY	REVISED -						

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 1 of 3

Date 6/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-8
Station 1654+77.71
Offset 37.00ft LT
Ground Surface Elev. 416.47 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 372.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, silty LOAM with cinders (FILL)			
413.47			
Gray, CLAY, trace sand and wood (Alluvium)	3		
-5	2 1	0.3 P	29.4
410.47			
Gray, CLAY	3		
-10	2 2	0.3 P	40.0
	1		
-15	3 4	1.8 P	34.9
	1		
-20	3 3	1.8 P	34.4
378.47			
Gray, silty CLAY			
-40			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, CLAY *(continued)*			
-25	WH		
	WH 1	1.0 P	47.1
-30	WH WH	0.8 P	42.2
	WH		
-35	WH 1	0.3 P	57.0
	WH		
-40	1 1	0.3 P	54.1

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)

BORING SPT-8
(1 of 3)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 2 of 3

Date 6/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-8
Station 1654+77.71
Offset 37.00ft LT
Ground Surface Elev. 416.47 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 372.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, silty CLAY *(continued)*			
-45	WH		
	3 4	0.3 P	35.4 34.6
370.47			
Gray, silty LOAM	5		
-50	7 8		23.2
(Began mud rotary wash at 50.0 ft.)			
364.47			
Gray, fine to coarse SAND	5		
-55	10 12		18.0
-60	10 7 12		17.6

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, fine to coarse SAND *(continued)*			
-65	16 12 11		14.0
350.47			
Gray, fine SAND, trace gravel			
Gravel = 19.4% Sand = 74.5% Silt/Clay = 6.1% -2.0" seam of silt at 69.3 ft.			
-70	10 8 12		26.4
344.47			
Gray, fine to coarse SAND, trace gravel (Glacial Outwash)			
-75	19 19 16		14.6
-80	11 11 10		22.1
336.47			

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)

BORING SPT-8
(2 of 3)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 3 of 3

Date 6/14/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-8
Station 1654+77.71
Offset 37.00ft LT
Ground Surface Elev. 416.47 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 372.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gray, fine to coarse SAND, trace gravel			
-85	8 7 8		18.0
-90	6 7 9		24.3
-95	7 9 8		
320.47			
Gray, fine to coarse SAND with fine gravel, trace cobbles	7		
-105	13 39		14.2
315.47			
Gray, fine to coarse SAND with fine gravel, trace cobbles *(continued)*			
Boring terminated on apparent boulder or limestone			
End of Boring			
-110			
-115			
-120			

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)

BORING SPT-8
(3 of 3)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	124
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -						CONTRACT NO. 76848	
FILE NAME=0820334-76848-067-Boring Log 7.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C67 OF 76 SHEETS			ILLINOIS	FED. AID PROJECT	

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 1 of 2

Date 7/24/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-9
Station 646+93.61
Offset 103.50ft RT
Ground Surface Elev. 407.58 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 398.6 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, CLAY (FILL)			
	2		
	2	1.9	28.5
	1	S	
401.58			
Brown, silty clay LOAM (Alluvium)			
	2		
	3		25.5
	4		
	1		
	WH		31.1
392.58	3		
Brown, fine SAND (Began mud rotary wash at 15.0 ft.)			
- 2" silt seam at 18.5 ft.	3		
	4		24.5
	8		
Brown, fine SAND *(continued)*			
- fine to coarse grained, trace gravel below 23.0 ft. Gravel = 2.3% Sand = 93.7% Silt/Clay = 4.1%	7		
	7		16.5
	6		
- fine to medium grained below 28.0 ft.	3		
	4		22.1
	5		
	6		
	10		
	14		
Gravel = 0.4% Sand = 91.4% Silt/Clay = 8.2%	7		
	9		35.0
	11		

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)

BORING SPT-9
(1 of 2)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 2 of 2

Date 7/24/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-9
Station 646+93.61
Offset 103.50ft RT
Ground Surface Elev. 407.58 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 398.6 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, fine SAND *(continued)*			
	4		
	5		
	7		
	9		
	10		23.1
357.58	4		
End of Boring			

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)

BORING SPT-9
(2 of 2)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 1 of 2

Date 7/26/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-10
Station 647+37.79
Offset 80.00ft RT
Ground Surface Elev. 407.36 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 407.4 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, CLAY (FILL) (Borehole drilled in standing water.)			
	1		
	1	0.2	28.2
	2	B	
	1		
	1	0.3	44.0
397.36	2	P	
Brown, silty clay LOAM (Alluvium)			
	1		
	3	0.1	38.6
382.86	3	B	
Light brown, sandy LOAM (Began mud rotary wash at 15.0 ft.)			
391.38			
Gray, silty clay LOAM			
- 4.0" seam fine grained sand at 19.3 ft.	2		
	2	0.2	52.7
	2	B	
Gray, silty clay LOAM *(continued)*			
386.36			
Light brown, fine to medium SAND			
Gravel = 0.2% Sand = 95.4% Silt/Clay = 4.4%	10		
	9		21.1
	8		
- fine grained, trace gravel below 28.0 ft.	3		
	6		27.4
	3		
- greenish-brown, fine to medium grained below 33.0 ft.	5		
	6		24.6
	8		
	6		
	7		
367.36	8		

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)

BORING SPT-10
(1 of 2)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 2 of 2

Date 7/26/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. SPT-10
Station 647+37.79
Offset 80.00ft RT
Ground Surface Elev. 407.36 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 407.4 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Greenish-brown, fine to medium SAND			
- gray below 41.0 ft.	9		
	11		23.6
	12		
	6		
	5		24.7
	8		
End of Boring			

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)

BORING SPT-10
(2 of 2)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	125
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME=0820334-76848-068-Boring Log 8.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C68 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation — Division of Highways / The Engineering

SOIL BORING LOG

Page 1 of 2

Date 7/26/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+06

BORING NO. SPT-11 (Offset 15' W)
Station 648+18.07
Offset 21.67ft RT
Ground Surface Elev. 410.00 ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown, CLAY (FILL)			
	2		
	3	0.5	28.6
	3	S	
404.50			
Brown, silty clay LOAM (Alluvium)			
	1		
	2	0.4	28.0
	2	S	
399.00			
Brown, silty LOAM			
- 2.0" fine grained sand seam at 13.0 ft.	2		
	2	0.3	28.2
(Began mud rotary wash at 15.0 ft.)	2	B	
394.50			
Light brown, fine SAND			
	5		
	6		33.8
	6		
370.50			

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

Groundwater Elev.:
First Encounter 402.6 ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Light brown, fine SAND (continued)			
- fine to medium grained below 23.0 ft.			
Gravel = 0.0%	4		
Sand = 96.3%	5		29.3
Silt/Clay = 4.7%	9		
- gray below 28.0 ft			
- brown below 29.5 ft.	7		
	8		23.3
- gray, fine grained below 32 ft			
	7		
	10		28.1
	11		
- fine to medium grained below 38.0 ft.			
	5		
	8		23.3
	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)

BORING SPT-11
(1 of 2)

Illinois Department of Transportation — Division of Highways / The Engineering

SOIL BORING LOG

Page 2 of 2

Date 7/26/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+06

BORING NO. SPT-11 (Offset 15' W)
Station 648+18.07
Offset 21.67ft RT
Ground Surface Elev. 410.00 ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray, fine to medium SAND			
	9		
	9		
	11		
	5		
	6		28.0
380.50	6		
End of Boring			

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

Groundwater Elev.:
First Encounter 402.6 ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

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

BBS, from 137 (Rev. 8-99)

BORING SPT-11
(2 of 2)

Illinois Department of Transportation — Division of Highways / The Engineering

SOIL BORING LOG

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Date 7/27/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+06

BORING NO. SPT-12 (Offset 24' W)
Station 648+54.69
Offset 12.50ft LT
Ground Surface Elev. 409.24 ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown, CLAY (Fill)			
	2		
	2	1.0	20.0
	3	S	
400.84			
Brown, silty LOAM (Alluvium)			
	2		
	3	0.2	27.7
	0		
396.24			
Brown, sandy LOAM			
	3		
	4		27.8
	4		
(Began mud rotary wash at 15.0 ft.)			
392.24			
Brown, fine SAND			
	2		
	3		26.4
	3		
380.24			

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

Groundwater Elev.:
First Encounter 399.2 ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown, fine SAND (continued)			
- fine to coarse grained below 23.0 ft.			
Gravel = 0.5%	7		
Sand = 90.5%	7		15.6
Silt/Clay = 9.0%	8		
- gray, fine grained below 29.0 ft.			
	7		
	9		24.5
	10		
	7		
	10		27.4
	12		
	11		
	11		24.1
	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)

BORING SPT-12
(1 of 2)

Illinois Department of Transportation — Division of Highways / The Engineering

SOIL BORING LOG

Page 2 of 2

Date 7/27/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. 082-0334 & -0335
Station 648+06

BORING NO. SPT-12 (Offset 24' W)
Station 648+54.69
Offset 12.50ft LT
Ground Surface Elev. 409.24 ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray, fine SAND			
- fine to medium grained below 43.0 ft.			
	9		
	10		23.0
	11		
366.24			
End of Boring			

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

Groundwater Elev.:
First Encounter 399.2 ft
Upon Completion ____ ft
After ____ Hrs. ____ ft

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

BBS, from 137 (Rev. 8-99)

BORING SPT-12
(2 of 2)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -			788	520-1-2HVB	ST. CLAIR	237	126
FILE NAME = 0820334-76848-069-Boring Log 9.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. 069 OF 76 SHEETS			CONTRACT NO. 76848		
								ILLINOIS FED. AID PROJECT		

17-OCT-2012 P:\CK43000\T09\cadd\T09str\FINAL PLANS\0820334-76848-069-Boring Log 9.dgn 16:41

Illinois Department of Transportation — SOIL BORING LOG — Page 1 of 2

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W. 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 648+08
BORING NO. SPT-13 Station 648+27.41 Offset 108.75ft LT Ground Surface Elev. 406.60 ft (U)
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 406.6 ft ▼ Upon Completion ft After Hrs.

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown, CLAY (Alluvium) (Borehole drilled in standing water.)			
2	3	1.5	30.7
	3	S	
399.80 Brown, LOAM			
(Began mud rotary wash at 10.0 ft.)			
394.60 Brown, sandy LOAM			
2	WH		
2	1	0.5	33.2
4 Disturbed	2	S	
388.60 Grayish-brown, fine SAND			
Gravel = 0.0% Sand = 93.5% Silt/Clay = 6.5%			
6	6		25.7
	9		
366.60			

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Grayish-brown, fine SAND (continued)			
353.30 Brown, medium to coarse SAND; trace fine gravel			
5	7		26.2
	7		
378.80 Brown, fine to medium SAND			
6	5		25.7
	6		
gray, fine grained below 33.0 ft. Gravel = 0.0% Sand = 90.0% Silt/Clay = 4.0%			
6	8		26.9
	10		
fine to medium grained below 38.0 ft.			
	10		
	15		
	18		

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)

BORING SPT-13
(1 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 2 of 2

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W. 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 648+08
BORING NO. SPT-13 Station 648+27.41 Offset 108.75ft LT Ground Surface Elev. 406.60 ft (U)
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 406.6 ft ▼ Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Gray, find to medium SAND			
9	11		28.1
	12		
End of Boring 356.60			

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

BORING SPT-13
(2 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 1 of 2

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI)
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W. 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 648+08
BORING NO. SPT-14 Station 1654+20.70 Offset 103.90ft RT Ground Surface Elev. 410.50 ft (U)
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 406.2 ft ▼ Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Black, silty LOAM with cinders, trace gravel (FILL)			
4	1		32.5
	1		
403.50 Gray and light brown, CLAY (Alluvium)			
- with 2.0" sand seams from 8.5 to 10.0 ft.			
	WH		
	1	0.5	28.8
	2	S	
	WH		
	1	0.5	37.4
	1	S	
	WH		
397.08 Brown, very fine SAND	2	0.3	34.1
	7	S	

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Brown, very fine SAND (continued) (Began mud rotary wash at 20.0 ft.)			
7	10		24.0
	11		
390.60 Brown and gray, silty LOAM			
4	2		32.9
	5		
384.05 Light gray and brown, fine SAND			
9	10		18.5
	12		
376.60 Light gray and brown, silty clay LOAM			
9	10		18.7
	15		

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)

BORING SPT-14
(1 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 2 of 2

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI)
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W. 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 648+08
BORING NO. SPT-14 Station 1654+20.70 Offset 103.90ft RT Ground Surface Elev. 410.50 ft (U)
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 406.2 ft ▼ Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Light gray and brown, silty clay LOAM (continued)			
376.60 Light gray and brown, fine SAND			
-fine to medium grained from 43.5 to 46.0 ft. (Percent passing No. 200 sieve = 3.4%)			
9	10		21.8
	12		
369.50 End of Boring			

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)

BORING SPT-14
(2 of 2)

P:\CK13000\709ecadd\709str\FINAL PLANS\0820334-76848-070-Boring Log ID.dgn 17-OCT-2012 16:42

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
		CHECKED - TSI ENGINEERING	REVISED -		
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		SHEET NO. C70 OF 76 SHEETS
FILE NAME = 0820334-76848-070-Boring Log ID.dgn		CHECKED - R. RILEY	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
768	520-1-2HVB	ST. CLAIR	237	127
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation — SOIL BORING LOG — Page 1 of 2

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI) Date 6/16/10
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 045+00
BORING NO. SPT-15 Station 1054+54.84 Offset 0.00ft
Ground Surface Elev. 416.40 ft
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 387.9 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (taf)	MOIST (%)	Soil Description
0				Black, silty LOAM with cinders (FILL)
414.40				
2	1 1 1	0.3 S	25.6	Gray and brown, silty clay LOAM
410.90				
5	WH WH 7	0.2 B	42.3	Gray, CLAY (Alluvium)
10				Trace silt and fine sand seams from 26.5 to 37.0 ft.
15	WH WH WH	0.4 B	40.1	
20	1 2 3	0.6 S	39.6	
25	WH WH 1	0.6 S	45.1	(Began mud rotary wash at 35.0 ft.)
379.40				Gray, clay LOAM
30	3 2 2	0.8 P	32.7	
35				
40				
45				
50				
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				

Trace silt lenses from 15.0 to 20.0 ft.

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

BBS, from 137 (Rev. 8-99)

BORING SPT-15
(1 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 2 of 2

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI) Date 6/16/10
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 045+00
BORING NO. SPT-15 Station 1054+54.84 Offset 0.00ft
Ground Surface Elev. 416.40 ft
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 387.9 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (taf)	MOIST (%)	Soil Description
				Gray, clay LOAM (continued)
374.40				
45	8 10 10		23.6	Gray, fine SAND
				(Percent passing No. 200 sieve = 3.2%)
366.40	6 9 10		24.2	
50				End of Boring
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				

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)

BORING SPT-15
(2 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 1 of 2

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI) Date 6/16/10
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 045+00
BORING NO. SPT-16 Station 1055+05.36 Offset 3.50ft LT
Ground Surface Elev. 416.47 ft
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 404.5 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (taf)	MOIST (%)	Soil Description
0				Black, silty LOAM with cinders (FILL)
412.47				
5	2 WH 1	0.0 P	33.2	Gray and brown, CLAY (Alluvium)
410.47				Gray, CLAY
10	WH 1 1	0.1 B	42.2	
15	1 2 3	0.2 B	34.9	Trace decayed organics from 13.5 to 15.0 ft.
20	1 2 2	1.4 S	37.1	Trace silty clay seams from 18.5 to 20.0 ft.
25	WH WH WH	0.4 B	49.3	Trace silt and fine sand lenses from 33.5 to 35.0 ft.
30	WH 1 1	0.4 S	41.3	(Began mud rotary wash at 35.0 ft.)
376.47				Gray, silty LOAM
35	WH 1 1	0.2 B	28.6	
40				
45				
50				
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				

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)

BORING SPT-16
(1 of 2)

Illinois Department of Transportation — SOIL BORING LOG — Page 2 of 2

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY M.E. (TSI) Date 6/16/10
SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM
COUNTY St. Clair DRILLING METHOD Hollow Stem Augers and Mud Rotary HAMMER TYPE 140 lb Auto Hammer
STRUCT. NO. 082-0334 & -0335 Station 045+00
BORING NO. SPT-16 Station 1055+05.36 Offset 3.50ft LT
Ground Surface Elev. 416.47 ft
Surface Water Elev. ft Stream Bed Elev. ft
Groundwater Elev.: First Encounter 404.5 ft Upon Completion ft After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (taf)	MOIST (%)	Soil Description
				Gray, silty LOAM (continued)
374.47				
45	4 5 5	0.2 P	31.8	Gray, CLAY
				Gray, SILT
370.47				
50	1 2 2		33.6	Gravel = 0.0% Sand = 1.0% Silt = 59.9% Clay = 9.1% End of Boring
55				
60				
65				
70				
75				
80				
85				
90				
95				
100				

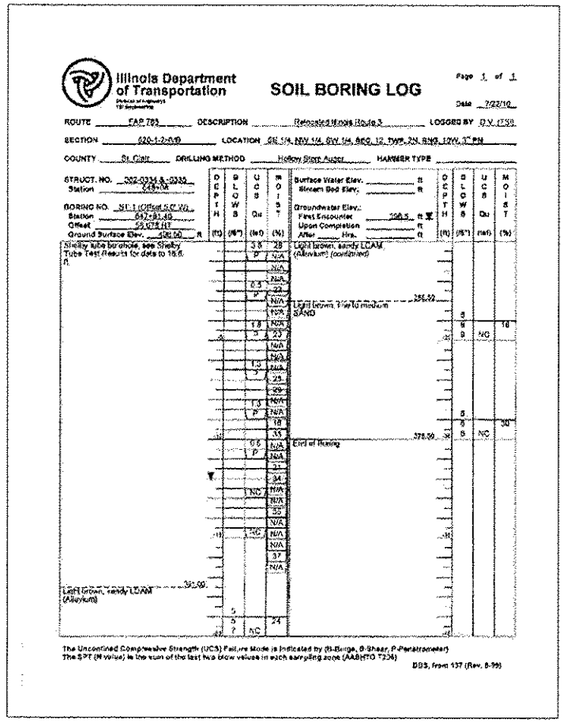
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

BORING SPT-16
(2 of 2)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
	PLOT DATE = 17-OCT-2012	CHECKED - TSI ENGINEERING	REVISED -		SHEET NO. C71 OF 76 SHEETS
FILE NAME = 0820334-76848-07i-Boring Log.rdgn		DRAWN - M. MEYER	REVISED -		
		CHECKED - R. RILEY	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	128
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 7/22/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2-0VB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE

STRUCT. NO. 082-0334 & -0335 Station 646+06

BORING NO. ST-1 (Offset 5.0' W) Station 647+81.46 Offset 55.07ft RT

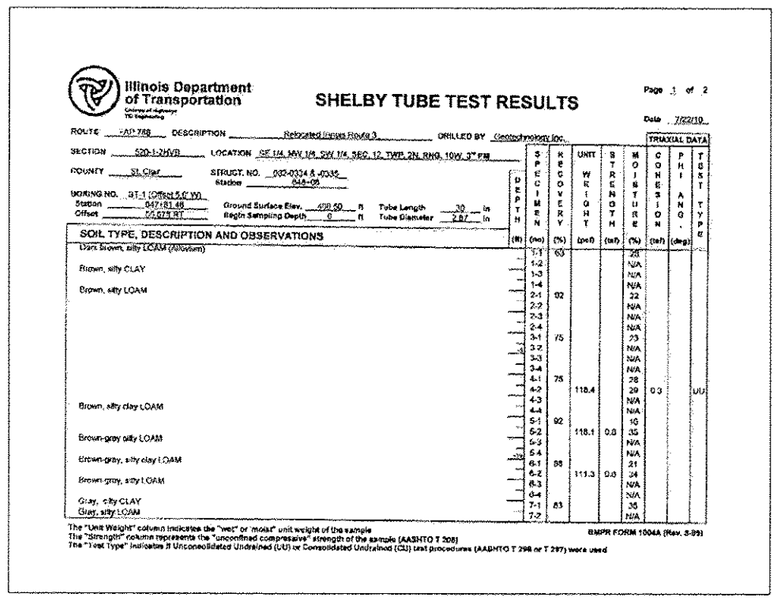
Ground Surface Elev. 426.50 ft (ft) Surface Water Elev. ft; Stream Bed Elev. ft; Groundwater Elev.: First Encounter 396.5 ft; Upon Completion ft; After Hrs. ft

DEPTH (ft)	BLOWS	UCS (tsf)	MOIST (%)	DEPTH (ft)	BLOWS	UCS (tsf)	MOIST (%)
				0			
Shelby tube borings see Shelby Tube Test results for data to 18.5 ft.				Light brown, sandy LOAM (Alluvium) (continued)			
		1.8	N/A				
		1.8	N/A				
		0.5	22				
		P	N/A	395.50			
			19%	Light brown, fine to medium SAND			
		1.8	N/A		5		16
		P	N/A		9	NC	
			23		5		
		1.8	N/A				
		P	N/A				
			25				
			29				
		1.8	N/A		5		30
		P	N/A		9	NC	
			18				
			33	378.00			
		0.6	N/A	End of Boring			
		P	N/A				
			31				
			34				
		NC	N/A				
			N/A				
			35				
		NC	N/A				
			N/A				
			37				
			N/A				
Light brown, sandy LOAM (Alluvium)				362.00			
		5					
		2	NC				
			24				

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

BBS, from 137 (Rev. 8-99)

BORING ST-1
(1 of 1)



Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 1 of 2

Date 7/22/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335 Station 646+06

BORING NO. ST-1 (Offset 5.0' W) Station 647+81.46 Offset 55.07ft RT

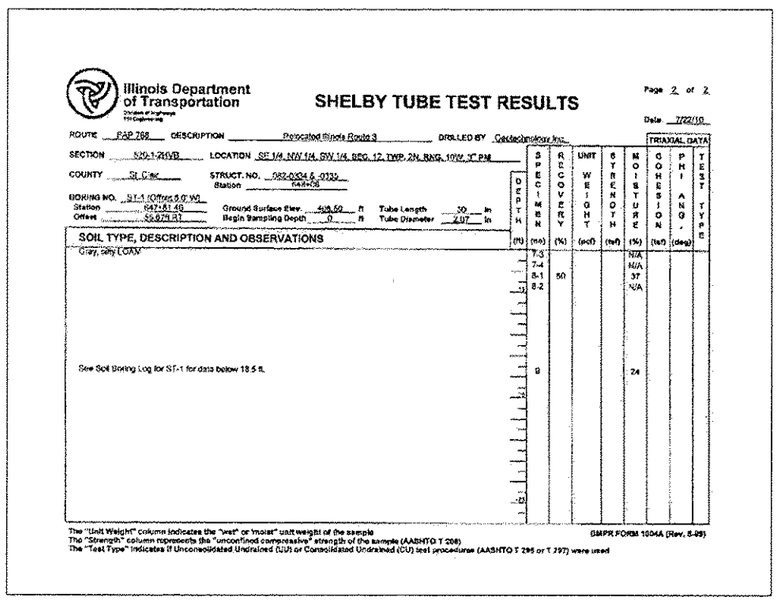
Ground Surface Elev. 426.50 ft Begin Sampling Depth 0 ft Tube Length 30 in Tube Diameter 2.87 in

SPECIMEN DEPTH (ft)	SPECIMEN (no.)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: CONFINING PRESSURE (tsf)	TRIAXIAL DATA: PHI ANG. (deg)	TRIAXIAL DATA: TEST TYPE
SOIL TYPE, DESCRIPTION AND OBSERVATIONS								
Dark brown, silty LOAM (Alluvium)	1-1	63			28			
	1-2				N/A			
Brown, silty CLAY	1-3				N/A			
	1-4				N/A			
Brown, silty LOAM	2-1	92			22			
	2-2				N/A			
	2-3				N/A			
	2-4				N/A			
	3-1	75			23			
	3-2				N/A			
	3-3				N/A			
	3-4				N/A			
Brown, silty clay LOAM	4-1	75			28			
	4-2		118.4		29	0.3		UU
	4-3				N/A			
	4-4				N/A			
Brown-gray silty LOAM	5-1	92			15			
	5-2		118.1	0.0	35			
	5-3				N/A			
Brown-gray, silty clay LOAM	5-4				N/A			
	6-1	88			21			
Brown-gray, silty LOAM	6-2		111.3	0.0	24			
	6-3				N/A			
Gray, silty CLAY	6-4				N/A			
Gray, silty LOAM	7-1	83			35			
	7-2				N/A			

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

BMPR FORM 1004A (Rev. 8-99)

BORING ST-1
(1 of 2)



Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 2 of 2

Date 7/22/10

ROUTE FAP 768 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335 Station 646+06

BORING NO. ST-1 (Offset 5.0' W) Station 647+81.46 Offset 55.07ft RT

Ground Surface Elev. 426.50 ft Begin Sampling Depth 0 ft Tube Length 30 in Tube Diameter 2.87 in

SPECIMEN DEPTH (ft)	SPECIMEN (no.)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: CONFINING PRESSURE (tsf)	TRIAXIAL DATA: PHI ANG. (deg)	TRIAXIAL DATA: TEST TYPE
SOIL TYPE, DESCRIPTION AND OBSERVATIONS								
Gray, silty LOAM	7-3				N/A			
	7-4				N/A			
	8-1	50			37			
	8-2				N/A			
See Soil Boring Log for ST-1 for data below 18.5 ft.								
	9				24			

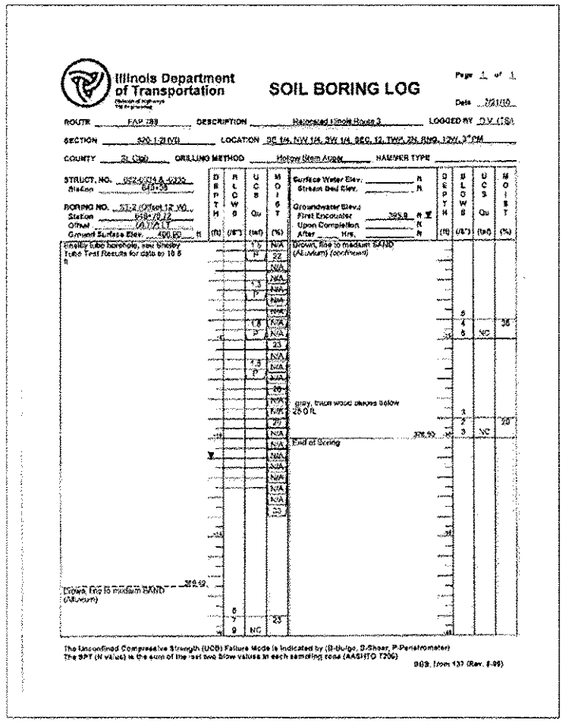
The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

BMPR FORM 1004A (Rev. 8-99)

BORING ST-1
(2 of 2)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			T88	520-1-2HVB	ST. CLAIR	237	129
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-072-Boring Log 12.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C72 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		

17-OCT-2012 P:\CIN\3100\700add\709str\FINAL PLANS\0820334-76848-072-Boring Log 12.dgn 16:43



Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 7/21/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 LOGGED BY D.V. (TSI)

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair GRILLING METHOD Hollow Stem Augers HAMMER TYPE

STRUCT. NO. 082-0334 & 0335
Station 643+55

BORING NO. ST-2 (Offset 12 WB)
Station 648+76.72
Offset 56.78 LT
Ground Surface Elev. 406.90 ft

Surface Water Elev. ft
Stream Bed Elev. ft
Groundwater Elev.:
First Encounter 395.9 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (6")	UCS Qu (tsf)	MOIST (%)
Shelby tube borehole, see Shelby Tube Test Results for data to 18.5 ft			
0	1		N/A
	P		22
			N/A
2	1		N/A
	P		N/A
			N/A
4	1		N/A
	P		N/A
			N/A
6	1		N/A
	P		N/A
			23
8	1		N/A
	P		N/A
			20
10			N/A
			N/A
			N/A
12			N/A
			N/A
			N/A
14			N/A
			N/A
			20
16			N/A
			N/A
			N/A
18			N/A
			N/A
			23
20			N/A
			N/A
			20
22			N/A
			N/A
			N/A
24			N/A
			N/A
			N/A
26			N/A
			N/A
			20
28			N/A
			N/A
			N/A
30			N/A
			N/A
			23
32			N/A
			N/A
			N/A
34			N/A
			N/A
			20
36			N/A
			N/A
			N/A
38			N/A
			N/A
			20

Brown, fine to medium SAND (Alluvium) (backfilled)

gray, thick wood pieces below 25.0 ft.

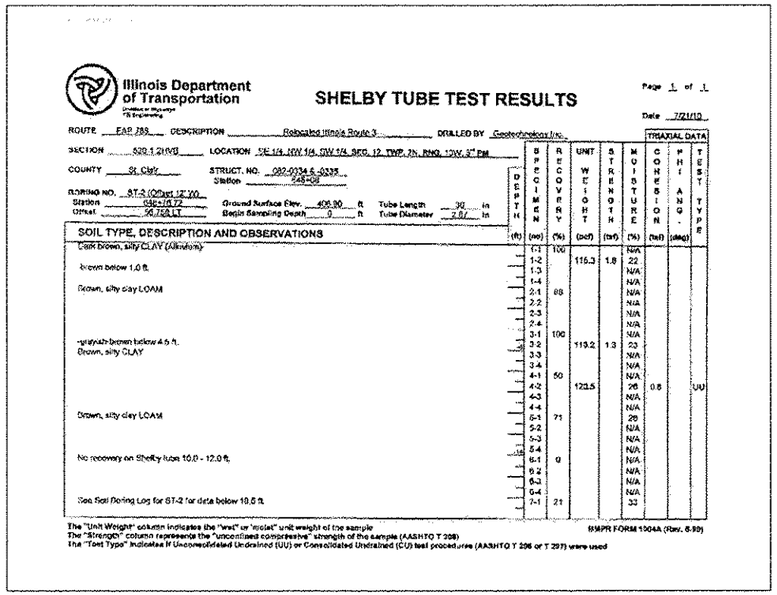
End of Boring 376.90

Brown, fine to medium SAND (Alluvium) 376.9

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 note (AASHTO T206)

IDOT Form 137 (Rev. 8-99)

BORING ST-2
(1 of 1)



Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 1 of 1

Date 7/21/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & 0335
Station 648+00

BORING NO. ST-2 (Offset 12 WB)
Station 648+76.72
Offset 56.78 LT

Ground Surface Elev. 406.90 ft Tube Length 30 in
Begin Sampling Depth 0 ft Tube Diameter 2.87 in

SOIL TYPE, DESCRIPTION AND OBSERVATIONS	DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: CONFINEMENT (tsf)	TRIAXIAL DATA: PHI ANG. (deg)	TRIAXIAL DATA: TEST TYPE
Dark brown, silty CLAY (Alluvium)	0-1	1	100			N/A			
	1-2			115.3	1.8	22			
Brown below 1.0 ft.	1-3					N/A			
	1-4					N/A			
Brown, silty clay LOAM	2-1	2	88			N/A			
	2-2					N/A			
	2-3					N/A			
	2-4					N/A			
	3-1	3	100			N/A			
gray/ash-brown below 4.5 ft.	3-2			119.2	1.3	23			
Brown, silty CLAY	3-3					N/A			
	3-4					N/A			
	4-1	4	50			N/A			
	4-2			123.5		26	0.8		UU
	4-3					N/A			
	4-4					N/A			
Brown, silty clay LOAM	5-1	5	71			29			
	5-2					N/A			
	5-3					N/A			
	5-4					N/A			
No recovery on Shelby tube 10.0 - 12.0 ft.	6-1	6	0			N/A			
	6-2					N/A			
	6-3					N/A			
	6-4					N/A			
See Soil Boring Log for ST-2 for data below 18.5 ft.	7-1	7	21			33			

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

IMPR FORM 1004A (Rev. 8-99)

BORING ST-2
(1 of 1)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	130
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		SHEET NO. C73 OF 76 SHEETS			CONTRACT NO. 76848		
FILE NAME = 0820334-76848-073-Boring Log 13.dgn		CHECKED - R. RILEY	REVISED -					ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 1 of 3

Date 9/21/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. ST-3 Station 1004+26.76 Offset 57.50ft RT

Ground Surface Elev. 410.51 ft Begin Sampling Depth 2 ft

Tube Length 30 in Tube Diameter 2.87 in

DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
	1-1	100			N/A			
	1-2				23			
	1-3				N/A			
	1-4				N/A			
	2-1	100			N/A			
	2-2				N/A			
	2-3		121.8	0.5	27			
	2-4				N/A			
	3-1	100			N/A			
	3-2				N/A			
	3-3				N/A			
	3-4				46			
	4-1	83			N/A			
	4-2				N/A			
	4-3		109.1	0.5	30			
	4-4				N/A			
	5-1	75			N/A			
	5-2		110.6		32	0.3	0	UU
	5-3				N/A			
	5-4				N/A			
	6-1	54			N/A			
	6-2		116.9	1.1	27			
	6-3				N/A			
	6-4				N/A			
	7-1	75			N/A			
	7-2		115.1	0.9	30			

SOIL TYPE, DESCRIPTION AND OBSERVATIONS

Black, silty LOAM, trace brick fragments (FILL)

Black, clay LOAM

Dark brown, CLAY
Dark brown, clay LOAM
Dark gray to black, LOAM

Dark brown to gray, CLAY (Alluvium)
Dark brown, silty LOAM
Dark brown to gray, CLAY

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

IDPR FORM 1004A (Rev. 8-99)

BORING ST-3
(1 of 3)

Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 2 of 3

Date 6/17/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. ST-3 Station 1004+26.76 Offset 57.50ft RT

Ground Surface Elev. 410.51 ft Begin Sampling Depth 2 ft

Tube Length 30 in Tube Diameter 2.87 in

DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
	7-3				N/A			
	7-4				N/A			
	8-1	100			N/A			
	8-2				N/A			
	8-3		117.5		31	0.4	0	UU
	8-4				N/A			
	9-1	100			N/A			
	9-2				N/A			
	9-3		114.4	0.5	37			
	9-4				N/A			
	10-1	100			N/A			
	10-2				N/A			
	10-3		114.6	0.8	25			
	10-4				N/A			
	11-1	100			N/A			
	11-2				N/A			
	11-3		121.3		33	0.4	0	UU
	11-4				N/A			
	12-1	100			N/A			
	12-2				N/A			
	12-3		121.2	0.8	34			
	12-4				N/A			
	13-1	0			N/A			
	13-2				N/A			
	13-3				N/A			
	13-4				N/A			

SOIL TYPE, DESCRIPTION AND OBSERVATIONS

Gray, CLAY

trace sand lenses between 17.5 and 18.0 ft.

Gray, silty CLAY

Gray, CLAY
with sand seams below 24.5 ft.

Gray, silty LOAM

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

IDPR FORM 1004A (Rev. 8-99)

BORING ST-3
(2 of 3)

Illinois Department of Transportation

SHELBY TUBE TEST RESULTS

Page 3 of 3

Date 6/17/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335 Station 648+08

BORING NO. ST-3 Station 1004+26.76 Offset 57.50ft RT

Ground Surface Elev. 410.51 ft Begin Sampling Depth 2 ft

Tube Length 30 in Tube Diameter 2.87 in

DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
	14-1	75			N/A			
	14-2		120.3	0.5	32			
	14-3				N/A			
	14-4				N/A			

SOIL TYPE, DESCRIPTION AND OBSERVATIONS

Gray, silty LOAM

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

IDPR FORM 1004A (Rev. 8-99)

BORING ST-3
(3 of 3)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	131
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-074-Boring Log 14.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C74 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
TSI Engineering

SHELBY TUBE TEST RESULTS

Date 6/16/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. ST-4
Station 1654+82.93 Ground Surface Elev. 416.67 ft Tube Length 30 in
Offset 57.50ft LT Begin Sampling Depth -2 ft Tube Diameter 2.87 in

SOIL TYPE, DESCRIPTION AND OBSERVATIONS	DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
Black , silty LOAM, trace gravel and cinders (FILL)		1-1	92			29			
-trace slag between 2.5 and 4.0 ft.		1-2				N/A			
		1-3				N/A			
		1-4				N/A			
		2-1	98			N/A			
	-5	2-2				N/A			
		2-3				N/A			
Brownish-gray, CLAY		2-4		118.4	0.5	24			
		3-1	100			N/A			
		3-2				N/A			
-trace slag between 7.0 and 8.0 ft.		3-3				N/A			
Brownish-gray, clay LOAM (Percent passing No. 200 sieve = 59.4%)		3-4				36			
		4-1	83			N/A			
Brownish-gray, CLAY (Alluvium)		4-2				N/A			
		4-3		106.0	0.5	39			
	-10	4-4				N/A			
		5-1	83			N/A			
		5-2				N/A			
		5-3		113.5		37	0.2	0	UU
		5-4				N/A			
		6-1	50			N/A			
-gray to dark gray below 12.5 ft.		6-2		109.5	0.3	38			
		6-3				N/A			
		6-4				N/A			
		7-1	83			N/A			
	-15	7-2				N/A			

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

BMPR FORM 1004A (Rev. 8-99)

BORING ST-4
(1 of 3)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SHELBY TUBE TEST RESULTS

Date 6/16/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. ST-4
Station 1654+82.93 Ground Surface Elev. 416.67 ft Tube Length 30 in
Offset 57.50ft LT Begin Sampling Depth -2 ft Tube Diameter 2.87 in

SOIL TYPE, DESCRIPTION AND OBSERVATIONS	DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
Gray to dark gray, CLAY		7-3		113.1	0.5	25			
		7-4				N/A			
-grayish-brown below 16.0 ft.		8-1	90			N/A			
		8-2		117.4		30	0.8	0	UU
		8-3				N/A			
		8-4				N/A			
		9-1	92			N/A			
		9-2		112.4	0.4	27			
		9-3				N/A			
-trace fine sand and silt lenses between 19.5 and 20.0 ft.	-20	9-4				N/A			
		10-1	100			N/A			
-trace silt lenses between 20.5 and 21.0 ft.		10-2				N/A			
		10-3		119.2	0.7	35			
		10-4				N/A			
		11-1	50	110.5		40			
		11-2				N/A			
		11-3				N/A			
		11-4				N/A			
		12-1	92			N/A			
	-25	12-2				N/A			
		12-3		111.0	0.5	40			
-dark gray below 25.5 ft.		12-4				N/A			
		13-1	100			N/A			
Gray, sandy LOAM		13-2				N/A			
		13-3		118.0	0.3	29			
Gray, CLAY		13-4				N/A			

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

BMPR FORM 1004A (Rev. 8-99)

BORING ST-4
(2 of 3)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SHELBY TUBE TEST RESULTS

Date 6/16/10

ROUTE FAP 788 DESCRIPTION Relocated Illinois Route 3 DRILLED BY Geotechnology Inc.

SECTION 520-1-2HVB LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W, 3rd PM

COUNTY St. Clair STRUCT. NO. 082-0334 & -0335
Station 648+08

BORING NO. ST-4
Station 1654+82.93 Ground Surface Elev. 416.67 ft Tube Length 30 in
Offset 57.50ft LT Begin Sampling Depth -2 ft Tube Diameter 2.87 in

SOIL TYPE, DESCRIPTION AND OBSERVATIONS	DEPTH (ft)	SPECIMEN (no)	RECOVERY (%)	UNIT WEIGHT (pcf)	STRENGTH (tsf)	MOISTURE (%)	TRIAXIAL DATA: COHESION (tsf)	PHI ANG. (deg)	TEST TYPE
Gray CLAY		14-1	98			N/A			
		14-2				N/A			
-trace sand lenses from 29.0 to 30.0 ft.		14-3		119.1	0.9	35			
	-30	14-4				N/A			
	-35								
	-40								
	-45								

The "Unit Weight" column indicates the "wet" or "moist" unit weight of the sample
The "Strength" column represents the "unconfined compressive" strength of the sample (AASHTO T 208)
The "Test Type" indicates if Unconsolidated Undrained (UU) or Consolidated Undrained (CU) test procedures (AASHTO T 296 or T 297) were used

BMPR FORM 1004A (Rev. 8-99)

BORING ST-4
(3 of 3)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)
		CHECKED - TSI ENGINEERING	REVISED -		
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -		
FILE NAME = 0820334-76848-075-Boring Log 15.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C75 OF 76 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB	ST. CLAIR	237	132
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 1 of 4

Date 7/3/01

ROUTE FAP 788 DESCRIPTION Relocated Illinois, Route 3 LOGGED BY M.E. (TSI)

SECTION 520-1,2 LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair / Madison DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. SN 082-0334/0335
Station 1651+95

BORING NO. SB 167
Station 1651+95
Offset 13.00ft E
Ground Surface Elev. 414.20 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 405.2 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Very loose, black, sandy LOAM with cinders and slag (FILL)
412.2	2			
	2			Very soft to soft, black, silty LOAM and cinders
	2			
-5	2			
	2			Bottom of Footing Pier No. 1 N.B.
	WH			
405.5	1			
405.0	WH	1.3	P	Very soft, gray, silty CLAY (Alluvium)
-10	1			Very loose, gray, sandy LOAM
403.7				Soft, gray, silty CLAY
	1			
402.2	1	1.0	P	Soft, gray, silty LOAM
401.2	2			Stiff, gray, silty CLAY with silty LOAM seams
	1			
-15	2	1.4	B	
398.7	2			Medium stiff, brown to gray, silty CLAY
397.5	1			
	2	0.7	B	Soft to medium stiff, brown to gray, silty LOAM
	2			
	WH			
-20	2			
	2			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Soft to medium stiff, brown to gray, silty LOAM *(continued)*
	1			
391.2	1			
	1			Loose, gray, sandy LOAM
-25	4			
	4			
388.7				Very loose to medium dense, gray, fine SAND
	WR			
	WH			(Wash no. 200 sieve performed)
	1			-Began mud rotary wash at 27.5 ft.)
	1			
	6			
-30	8			
	8			
	7			
	9			
	9			
	4			
-35	5			(Wash no. 200 sieve performed)
	8			
	4			
	8			
	9			
	4			
	5			
-40	6			

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)

BORING SB 167
(1 of 4)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 2 of 4

Date 7/3/01

ROUTE FAP 788 DESCRIPTION Relocated Illinois, Route 3 LOGGED BY M.E. (TSI)

SECTION 520-1,2 LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair / Madison DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. SN 082-0334/0335
Station 1651+95

BORING NO. SB 167
Station 1651+95
Offset 13.00ft E
Ground Surface Elev. 414.20 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 405.2 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Very loose to medium dense, gray, fine SAND *(continued)*
	3			
	4			(Wash no. 200 sieve performed)
	7			
	5			
-45	6			
	8			
	8			
	11			
-50	13			
362.2				Dense to very dense, gray, medium to coarse SAND (Glacial Outwash)
	14			
	19			
-55	20			
	21			
	29			
-60	31			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Dense to very dense, gray, medium to coarse SAND (Glacial Outwash) *(continued)*
352.2				
	14			Medium dense to dense, gray, coarse SAND, trace fine gravel
	12			
-65	7			
				(Wash no. 200 sieve performed)
	15			
	14			
-70	13			
	14			-Driller reports suspected cobbles
	11			
-75	9			
	14			
	16			
-80	15			
	15			
	16			
-85	15			
	15			
	16			
-90	15			

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)

BORING SB 167
(2 of 4)

Illinois Department of Transportation
Division of Highways
TSI Engineering

SOIL BORING LOG

Page 3 of 4

Date 7/3/01

ROUTE FAP 788 DESCRIPTION Relocated Illinois, Route 3 LOGGED BY M.E. (TSI)

SECTION 520-1,2 LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair / Madison DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE 140 lb Auto Hammer

STRUCT. NO. SN 082-0334/0335
Station 1651+95

BORING NO. SB 167
Station 1651+95
Offset 13.00ft E
Ground Surface Elev. 414.20 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 405.2 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Medium dense to dense, gray, coarse SAND, trace fine gravel *(continued)*
	5			
	5			(Wash no. 200 sieve performed)
-95	6			
	9			
	9			
-100	10			
-105				
-110				
-115				
-120				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Medium dense to dense, gray, coarse SAND, trace fine gravel *(continued)*
	15			
	15			
-105	20			
				-Auger refusal at 110 ft. See Rock Core Log
304.2				
-110				
-115				
-120				

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)

BORING SB 167
(3 of 4)

Illinois Department of Transportation
Division of Highways
TSI Engineering

ROCK CORE LOG

Page 4 of 4

Date 7/3/01

ROUTE FAP 788 DESCRIPTION Relocated Illinois, Route 3 LOGGED BY M.E. (TSI)

SECTION 520-1,2 LOCATION SE 1/4, NW 1/4, SW 1/4, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair / Madison CORING METHOD NX Core

STRUCT. NO. SN 082-0334/0335
Station 1651+95

BORING NO. SB 167
Station 1651+95
Offset 13.00ft E
Ground Surface Elev. 414.20 ft

CORING BARREL TYPE & SIZE NXWL 2.1 in.
Core Diameter 2.1 in
Top of Rock Elev. 297.20 ft
Begin Core Elev. 304.20 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Material
304.2	Run 1	0	0			Coarse GRAVEL with chert and limestone pieces (After auger refusal the driller started coring, but discovered it wasn't bedrock)
-115						
297.2	Run 2	100	75	6		LIMESTONE: Gray, hard, slightly weathered, finely crystalline, band bedding
						-1/4" clay seam at 118.3 ft.
						-horizontal cemented joints at 119.4, 119.5, 119.8, 120.2 and 120.3
-120						
293.2						End of Boring
-125						

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)

BORING SB 167
(4 of 4)

JACOBS	USER NAME =	DESIGNED - TSI ENGINEERING	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS STRUCTURE NO. 082-0334 (N.B.) & 082-0335 (S.B.)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - TSI ENGINEERING	REVISED -			788	520-1-2HVB	ST. CLAIR	237	133
	PLOT DATE = 17-OCT-2012	DRAWN - M. MEYER	REVISED -					CONTRACT NO. 76848		
FILE NAME = 0820334-76848-076-Boring Log 16.dgn		CHECKED - R. RILEY	REVISED -		SHEET NO. C76 OF 76 SHEETS			ILLINOIS FED. AID PROJECT		

Benchmarks: MRC Horizontal/Vertical Control Monument No. 8 (Elevation 401.95) Aluminum disc set in the South end of a headwall to a box culvert under Illinois Route 3; 0.7 miles South of Canal Street; 0.1 miles South of Industrial Ave. and North of railroad track.

Existing Structure: None.

LOADING HL-93

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

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 5th Edition, with 2010 Interims

DESIGN STRESSES

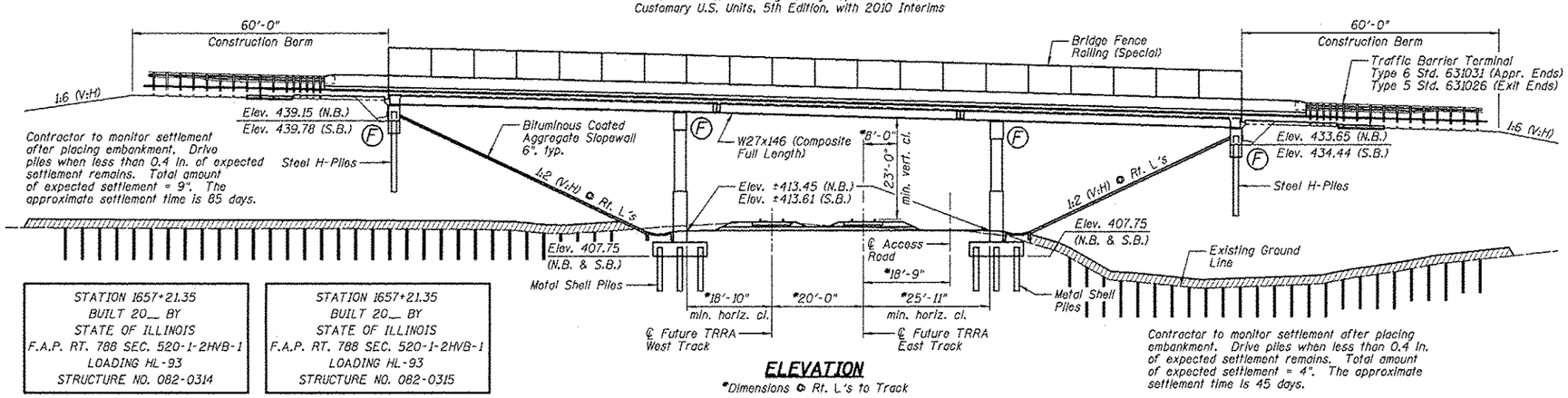
FIELD UNITS:

f'c = 3,500 psi (Cast-in-Place)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Structural Steel - M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.238g
Design Spectral Acceleration at 0.2 sec. (SDs) = 0.539g
Soil Site Class = D

INDEX OF SHEETS



ELEVATION

*Dimensions ℄ Rt. L's to Track

STATION 1657+21.35
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 788 SEC. 520-1-2HVB-1
LOADING HL-93
STRUCTURE NO. 082-0314

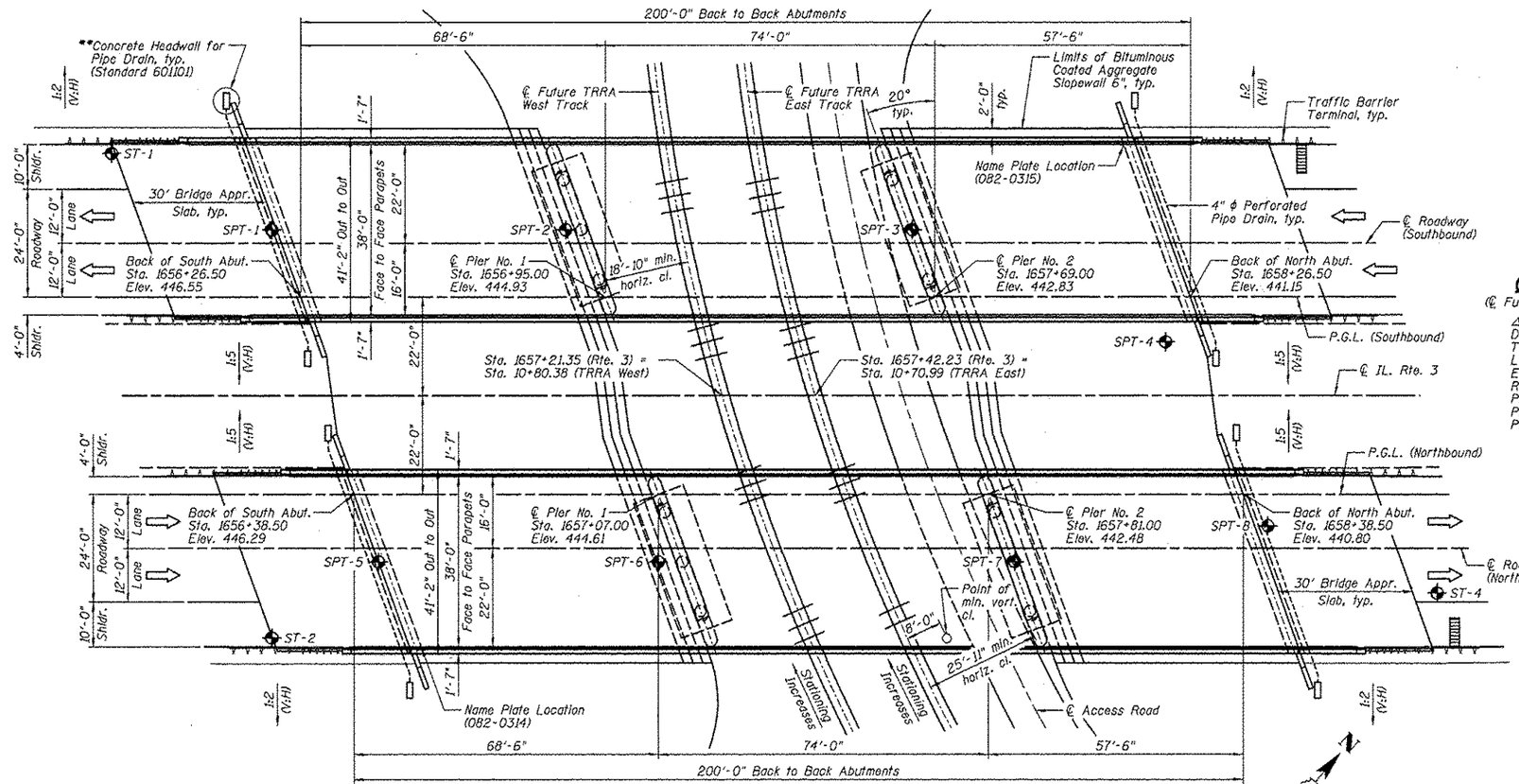
NAME PLATE

See Std. 515001

STATION 1657+21.35
BUILT 20__ BY
STATE OF ILLINOIS
F.A.P. RT. 788 SEC. 520-1-2HVB-1
LOADING HL-93
STRUCTURE NO. 082-0315

NAME PLATE

See Std. 515001



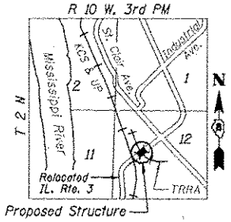
PLAN

**Included in the cost of Pipe Underdrains for Structures

CURVE DATA

(℄ Future TRRA West Track)

Δ = 43°21'40"
D = 12°30'00"
T = 182.59'
L = 347.58'
E = 34.96'
R = 459.28'
P.C. = Sta. 8+20.19
P.T. = Sta. 11+67.77
P.I. = Sta. 10+02.78



LOCATION SKETCH

NOTES:

1.) No free fall deck drains will be permitted in the span over the tracks or within 10 ft. of cross arms of railroad pole line.
2.) All guardrail and inlets to be constructed under future paving contract.

JOSEPH M. LOWRANCE 081-006446 LICENSED STRUCTURAL ENGINEER OF BLOOMINGTON, ILLINOIS

Joseph M. Lowrance Date 12-10-12
JOSEPH M. LOWRANCE
ILLINOIS STRUCTURAL ENGINEER
NO. 081-006446
Exp. Date 11/30/14

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

GENERAL PLAN AND ELEVATION
RELOCATED IL. ROUTE 3 OVER TRRA RAILROAD
F.A.P. RTE. 788 - SECTION 520-1-2HVB-1
ST. CLAIR COUNTY
STATION 1657+21.35
STRUCTURE NO. 082-0314 (NB)
STRUCTURE NO. 082-0315 (SB)

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED	
	CHECKED - JML	REVISED	
	DRAWN - JWK/DJM	REVISED	
DATE - 12/10/12	CHECKED - MSW	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. B1 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	134
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

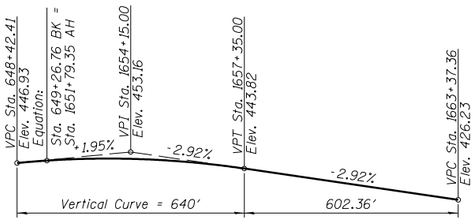
24-8621

TOTAL BILL OF MATERIAL

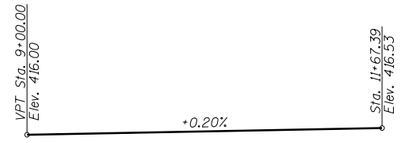
ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.		834	834
Concrete Structures	Cu. Yd.	52.4	501.3	553.7
Concrete Superstructure	Cu. Yd.	839.1		839.1
Bridge Deck Grooving	Sq. Yd.	2,086		2,086
Concrete Encasement	Cu. Yd.		13.2	13.2
Protective Coat	Sq. Yd.	2,652		2,652
Furnishing and Erecting Structural Steel	L Sum	0.3		0.3
Stud Shear Connectors	Each	10,152		10,152
Reinforcement Bars, Epoxy Coated	Pound	202,280	79,650	281,930
Bar Splicers	Each	176		176
Mechanical Splicers	Each		544	544
Slope Wall 4 Inch	Sq. Yd.		172	172
Furnishing Metal Shell Piles 14" x 0.312"	Foot		4,186	4,186
Furnishing Steel Piles HP14X117	Foot		2,000	2,000
Driving Piles	Foot		6,186	6,186
Test Pile Metal Shells	Each		4	4
Test Pile Steel HP14X117	Each		4	4
Name Plates	Each	2		2
Anchor Bolts, 1"	Each	96		96
Geocomposite Wall Drain	Sq. Yd.		140	140
Pipe Underdrains for Structures 4"	Foot		389	389
Bituminous Coated Aggregate Slopewall 6"	Sq. Yd.		1,566	1,566
Porous Granular Embankment, Special	Cu. Yd.		248	248
Bridge Fence Railing (Special)	Foot	792		792

GENERAL NOTES:

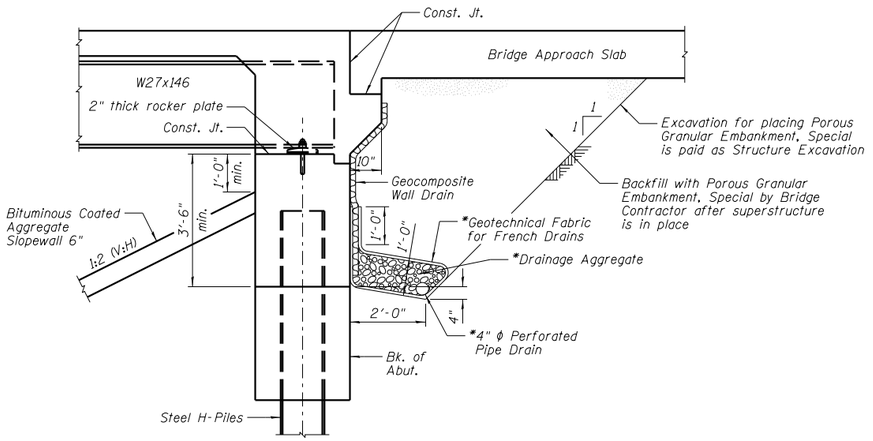
1.) Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{1}{8}$ in. Ø, holes $\frac{15}{16}$ in. Ø, unless otherwise noted.
2.) Calculated weight of Structural Steel = 392.490 lbs.
3.) All structural steel shall be AASHTO M 270 Grade 50W.
4.) No field welding is permitted except as specified in the contract documents.
5.) Reinforcement bars designated (E) shall be epoxy coated.
6.) If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
7.) Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
8.) Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 in. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
9.) The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
10.) Slip Forming of parapets is not allowed.
11.) Wick Drains shall be used to expedite the embankment settlement. See Roadway Plans for quantities, layout and locations.



PROFILE GRADE
(Along ℄ P.G.L.)

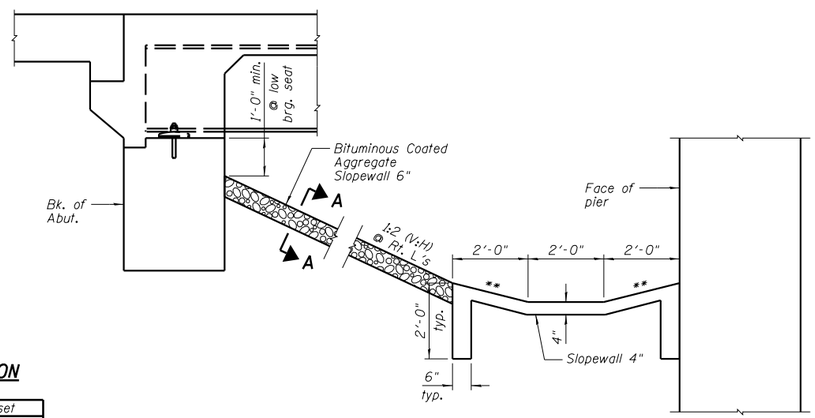


TRRA TRACK PROFILE GRADE
(Top of rail along ℄ Tracks)



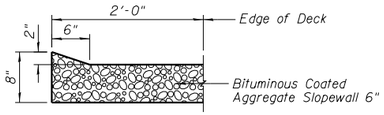
SECTION THRU NORTH ABUTMENTS
(Similar for South Abutments)

NOTES:
1.) Horizontal dimensions @ Rt. L's to Abutment.
2.) *Included in the cost of Pipe Underdrains for Structures 4".
3.) All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

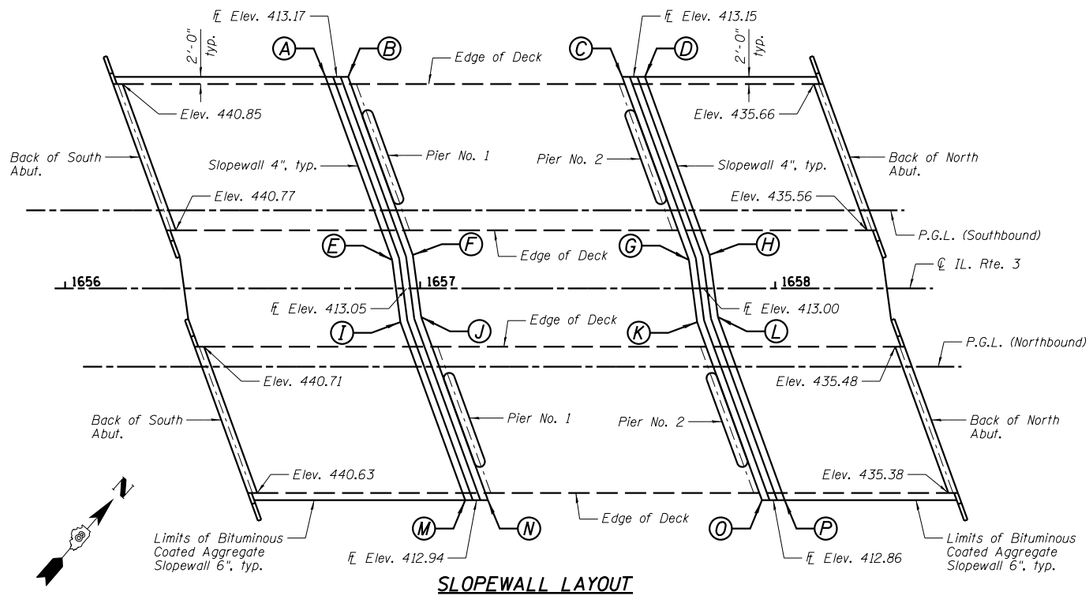


SECTION THRU SLOPEWALL
**1:4 (V:H)
(Horizontal dimensions @ Rt. L's)

NOTES:
Slopewall shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 Sq. Ft.



SECTION A-A



SLOPEWALL LAYOUT

SLOPEWALL LOCATION

Location	Station	Offset
A	1656+73.34	59.58' LT.
B	1656+79.72	59.58' LT.
C	1657+79.72	59.58' LT.
D	1657+63.30	59.58' LT.
E	1656+92.11	8.01' LT.
F	1656+97.97	9.45' LT.
G	1657+75.69	8.01' LT.
H	1657+81.55	9.45' LT.
I	1656+94.45	9.45' RT.
J	1657+00.31	8.01' RT.
K	1657+78.03	9.45' RT.
L	1657+83.89	8.01' RT.
M	1657+12.70	59.58' RT.
N	1657+19.08	59.58' RT.
O	1657+96.28	59.58' RT.
P	1658+02.64	59.58' RT.

Note: Stations and offsets for the Slope Wall 4" are from ℄ IL. Rte. 3.

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Bloomington, Illinois 61704
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	DRAWN - JWK/DJM	REVISED
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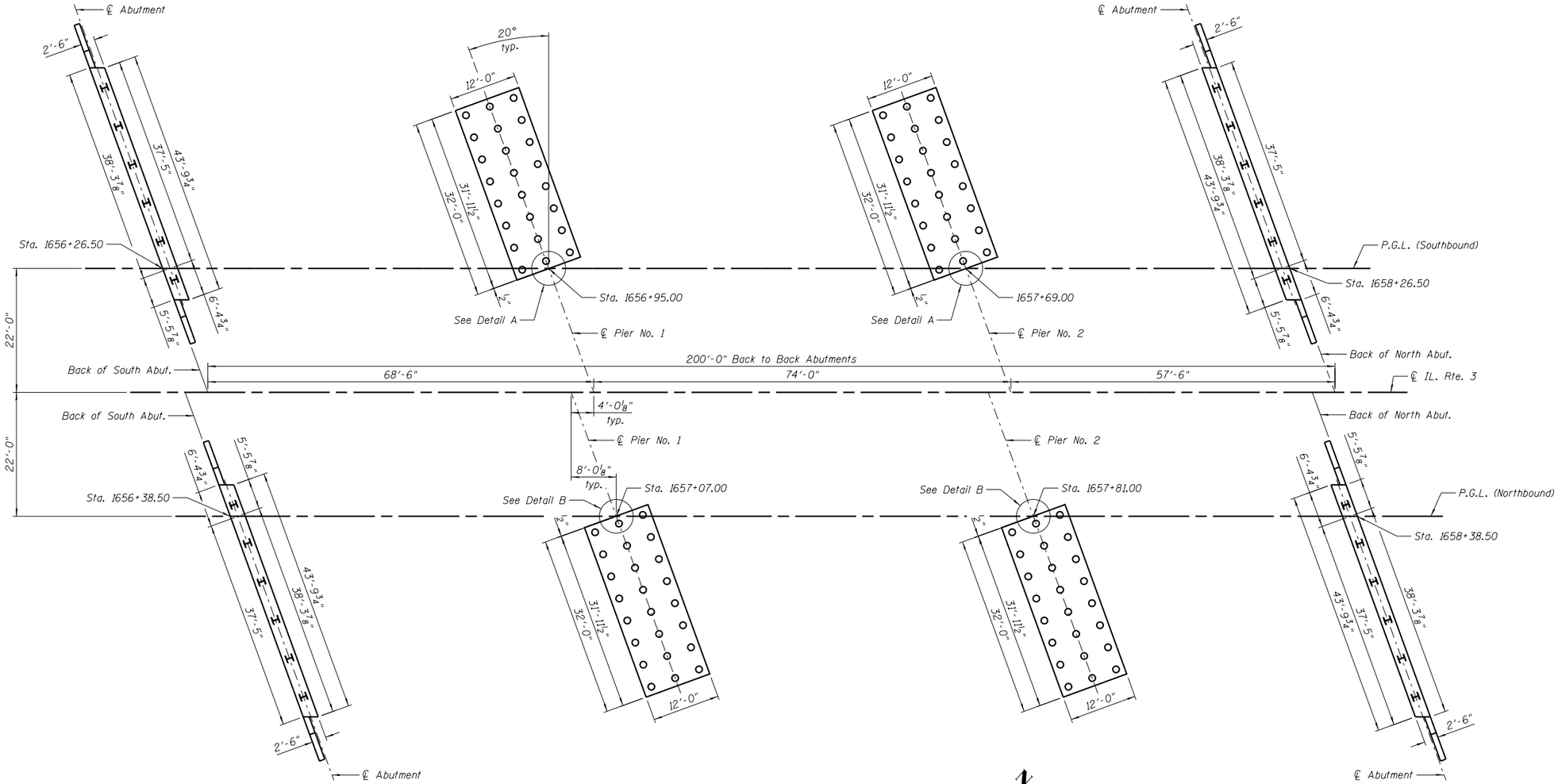
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

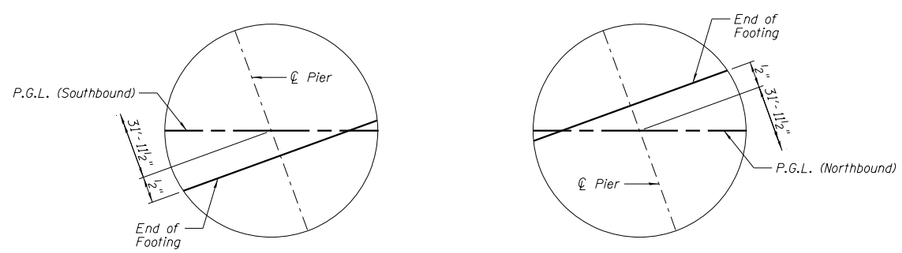
GENERAL DATA
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B2 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	135
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

24-8621



FOUNDATION LAYOUT



DETAIL A

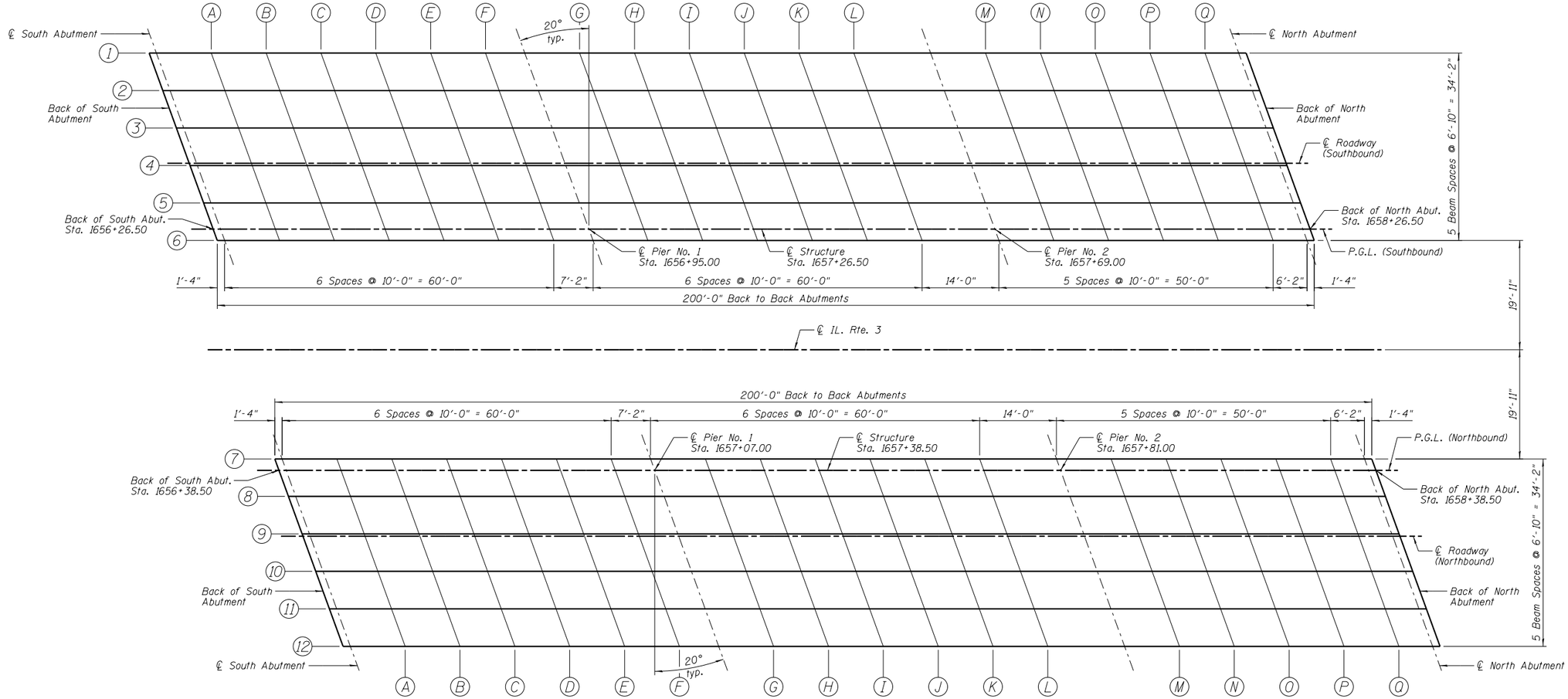
DETAIL B

LEGEND

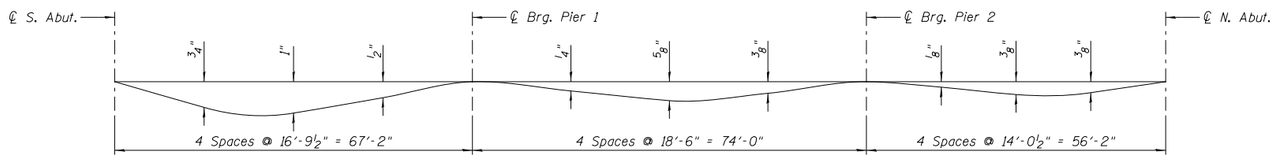
- O MS 14x0.312 Pile (Piers)
- I HP 14x89 Pile (Abutments)

Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax		DESIGNED - TCR	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 082-0314 NB & 082-0315 SB	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - JML	REVISED			788	520-1-2HVB-1	ST. CLAIR	237	136
		DRAWN - JWK/DJM	REVISED						CONTRACT NO. 76848	
	DATE - 10/18/12	CHECKED - MSW	REVISED		SHEET NO. B3 OF 50 SHEETS			ILLINOIS	FED. AID PROJECT	

24-8621



PLAN

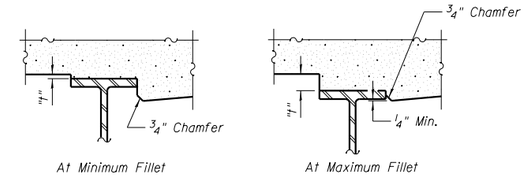


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not for use in the field if the Engineer is working from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection".



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

FILLET HEIGHTS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION LOCATIONS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B4 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	137
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+14.82	-32.08	446.62	446.62
℄ South Abut.	1656+16.15	-32.08	446.59	446.59
A	1656+26.15	-32.08	446.39	446.43
B	1656+36.15	-32.08	446.17	446.25
C	1656+46.15	-32.08	445.95	446.04
D	1656+56.15	-32.08	445.72	445.79
E	1656+66.15	-32.08	445.49	445.53
F	1656+76.15	-32.08	445.24	445.26
℄ Brg. Pier 1	1656+83.32	-32.08	445.06	445.06
G	1656+93.32	-32.08	444.81	444.82
H	1657+03.32	-32.08	444.54	444.57
I	1657+13.32	-32.08	444.27	444.32
J	1657+23.32	-32.08	443.99	444.04
K	1657+33.32	-32.08	443.71	443.75
L	1657+43.32	-32.08	443.41	443.43
℄ Brg. Pier 2	1657+57.32	-32.08	443.00	443.00
M	1657+67.32	-32.08	442.71	442.72
N	1657+77.32	-32.08	442.42	442.44
O	1657+87.32	-32.08	442.12	442.16
P	1657+97.32	-32.08	441.83	441.86
Q	1658+07.32	-32.08	441.54	441.55
℄ North Abut.	1658+13.49	-32.08	441.36	441.36
Bk. of North Abut.	1658+14.82	-32.08	441.32	441.32

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+17.31	-25.25	446.71	446.71
℄ South Abut.	1656+18.64	-25.25	446.68	446.68
A	1656+28.64	-25.25	446.48	446.52
B	1656+38.64	-25.25	446.26	446.34
C	1656+48.64	-25.25	446.04	446.12
D	1656+58.64	-25.25	445.81	445.88
E	1656+68.64	-25.25	445.57	445.61
F	1656+78.64	-25.25	445.32	445.34
℄ Brg. Pier 1	1656+85.81	-25.25	445.14	445.14
G	1656+95.81	-25.25	444.89	444.89
H	1657+05.81	-25.25	444.62	444.65
I	1657+15.81	-25.25	444.35	444.39
J	1657+25.81	-25.25	444.07	444.11
K	1657+35.81	-25.25	443.77	443.81
L	1657+45.81	-25.25	443.48	443.50
℄ Brg. Pier 2	1657+59.81	-25.25	443.07	443.07
M	1657+69.81	-25.25	442.78	442.79
N	1657+79.81	-25.25	442.49	442.51
O	1657+89.81	-25.25	442.19	442.23
P	1657+99.81	-25.25	441.90	441.93
Q	1658+09.81	-25.25	441.61	441.62
℄ North Abut.	1658+15.98	-25.25	441.43	441.43
Bk. of North Abut.	1658+17.31	-25.25	441.39	441.39

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+19.80	-18.42	446.77	446.77
℄ South Abut.	1656+21.13	-18.42	446.74	446.74
A	1656+31.13	-18.42	446.54	446.58
B	1656+41.13	-18.42	446.32	446.39
C	1656+51.13	-18.42	446.09	446.18
D	1656+61.13	-18.42	445.86	445.93
E	1656+71.13	-18.42	445.62	445.67
F	1656+81.13	-18.42	445.38	445.39
℄ Brg. Pier 1	1656+88.30	-18.42	445.19	445.19
G	1656+98.30	-18.42	444.93	444.94
H	1657+08.30	-18.42	444.67	444.69
I	1657+18.30	-18.42	444.39	444.43
J	1657+28.30	-18.42	444.11	444.16
K	1657+38.30	-18.42	443.81	443.85
L	1657+48.30	-18.42	443.52	443.54
℄ Brg. Pier 2	1657+62.30	-18.42	443.11	443.11
M	1657+72.30	-18.42	442.82	442.83
N	1657+82.30	-18.42	442.53	442.55
O	1657+92.30	-18.42	442.23	442.27
P	1658+02.30	-18.42	441.94	441.97
Q	1658+12.30	-18.42	441.65	441.67
℄ North Abut.	1658+18.47	-18.42	441.47	441.47
Bk. of North Abut.	1658+19.80	-18.42	441.43	441.43

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+22.13	-12.00	446.82	446.82
℄ South Abut.	1656+23.46	-12.00	446.80	446.80
A	1656+33.46	-12.00	446.59	446.63
B	1656+43.46	-12.00	446.37	446.44
C	1656+53.46	-12.00	446.14	446.23
D	1656+63.46	-12.00	445.91	445.98
E	1656+73.46	-12.00	445.67	445.71
F	1656+83.46	-12.00	445.42	445.43
℄ Brg. Pier 1	1656+90.63	-12.00	445.23	445.23
G	1657+00.63	-12.00	444.97	444.98
H	1657+10.63	-12.00	444.70	444.73
I	1657+20.63	-12.00	444.43	444.47
J	1657+30.63	-12.00	444.14	444.19
K	1657+40.63	-12.00	443.84	443.88
L	1657+50.63	-12.00	443.55	443.57
℄ Brg. Pier 2	1657+64.63	-12.00	443.14	443.14
M	1657+74.63	-12.00	442.85	442.86
N	1657+84.63	-12.00	442.56	442.58
O	1657+94.63	-12.00	442.27	442.30
P	1658+04.63	-12.00	441.97	442.01
Q	1658+14.63	-12.00	441.68	441.70
℄ North Abut.	1658+20.80	-12.00	441.50	441.50
Bk. of North Abut.	1658+22.13	-12.00	441.46	441.46

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DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B5 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	138
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+22.28	-11.58	446.81	446.81
℄ South Abut.	1656+23.61	-11.58	446.79	446.79
A	1656+33.61	-11.58	446.58	446.62
B	1656+43.61	-11.58	446.36	446.43
C	1656+53.61	-11.58	446.13	446.22
D	1656+63.61	-11.58	445.90	445.97
E	1656+73.61	-11.58	445.66	445.70
F	1656+83.61	-11.58	445.41	445.42
℄ Brg. Pier 1	1656+90.78	-11.58	445.22	445.22
G	1657+00.78	-11.58	444.96	444.97
H	1657+10.78	-11.58	444.69	444.72
I	1657+20.78	-11.58	444.41	444.46
J	1657+30.78	-11.58	444.13	444.18
K	1657+40.78	-11.58	443.83	443.87
L	1657+50.78	-11.58	443.54	443.56
℄ Brg. Pier 2	1657+64.78	-11.58	443.13	443.13
M	1657+74.78	-11.58	442.84	442.85
N	1657+84.78	-11.58	442.55	442.57
O	1657+94.78	-11.58	442.26	442.29
P	1658+04.78	-11.58	441.96	441.99
Q	1658+14.78	-11.58	441.67	441.69
℄ North Abut.	1658+20.95	-11.58	441.49	441.49
Bk. of North Abut.	1658+22.28	-11.58	441.45	441.45

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+24.77	-4.75	446.66	446.66
℄ South Abut.	1656+26.10	-4.75	446.63	446.63
A	1656+36.10	-4.75	446.42	446.46
B	1656+46.10	-4.75	446.20	446.27
C	1656+56.10	-4.75	445.97	446.05
D	1656+66.10	-4.75	445.73	445.80
E	1656+76.10	-4.75	445.49	445.53
F	1656+86.10	-4.75	445.24	445.25
℄ Brg. Pier 1	1656+93.27	-4.75	445.05	445.05
G	1657+03.27	-4.75	444.79	444.80
H	1657+13.27	-4.75	444.52	444.54
I	1657+23.27	-4.75	444.24	444.28
J	1657+33.27	-4.75	443.95	444.00
K	1657+43.27	-4.75	443.65	443.69
L	1657+53.27	-4.75	443.36	443.38
℄ Brg. Pier 2	1657+67.27	-4.75	442.95	442.95
M	1657+77.27	-4.75	442.66	442.67
N	1657+87.27	-4.75	442.37	442.39
O	1657+97.27	-4.75	442.08	442.11
P	1658+07.27	-4.75	441.78	441.81
Q	1658+17.27	-4.75	441.49	441.51
℄ North Abut.	1658+23.44	-4.75	441.31	441.31
Bk. of North Abut.	1658+24.77	-4.75	441.27	441.27

PROFILE GRADE LINE (P.G.L.)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+26.50	0.00	446.55	446.55
℄ South Abut.	1656+27.83	0.00	446.52	446.52
A	1656+37.83	0.00	446.30	446.35
B	1656+47.83	0.00	446.08	446.16
C	1656+57.83	0.00	445.85	445.94
D	1656+67.83	0.00	445.62	445.69
E	1656+77.83	0.00	445.37	445.41
F	1656+87.83	0.00	445.12	445.13
℄ Brg. Pier 1	1656+95.00	0.00	444.93	444.93
G	1657+05.00	0.00	444.67	444.67
H	1657+15.00	0.00	444.39	444.42
I	1657+25.00	0.00	444.11	444.16
J	1657+35.00	0.00	443.82	443.87
K	1657+45.00	0.00	443.53	443.57
L	1657+55.00	0.00	443.24	443.26
℄ Brg. Pier 2	1657+69.00	0.00	442.83	442.83
M	1657+79.00	0.00	442.54	442.54
N	1657+89.00	0.00	442.24	442.27
O	1657+99.00	0.00	441.95	441.99
P	1658+09.00	0.00	441.66	441.69
Q	1658+19.00	0.00	441.37	441.38
℄ North Abut.	1658+25.17	0.00	441.19	441.19
Bk. of North Abut.	1658+26.50	0.00	441.15	441.15

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+27.26	2.08	446.49	446.49
℄ South Abut.	1656+28.59	2.08	446.46	446.46
A	1656+38.59	2.08	446.24	446.29
B	1656+48.59	2.08	446.02	446.10
C	1656+58.59	2.08	445.79	445.88
D	1656+68.59	2.08	445.55	445.63
E	1656+78.59	2.08	445.31	445.35
F	1656+88.59	2.08	445.06	445.07
℄ Brg. Pier 1	1656+95.76	2.08	444.87	444.87
G	1657+05.76	2.08	444.60	444.61
H	1657+15.76	2.08	444.33	444.36
I	1657+25.76	2.08	444.05	444.09
J	1657+35.76	2.08	443.75	443.80
K	1657+45.76	2.08	443.46	443.50
L	1657+55.76	2.08	443.17	443.19
℄ Brg. Pier 2	1657+69.76	2.08	442.76	442.76
M	1657+79.76	2.08	442.47	442.48
N	1657+89.76	2.08	442.18	442.20
O	1657+99.76	2.08	441.89	441.92
P	1658+09.76	2.08	441.59	441.62
Q	1658+19.76	2.08	441.30	441.32
℄ North Abut.	1658+25.93	2.08	441.12	441.12
Bk. of North Abut.	1658+27.26	2.08	441.08	441.08

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B6 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	139
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+37.74	-2.08	446.26	446.26
℄ South Abut.	1656+39.07	-2.08	446.23	446.23
A	1656+49.07	-2.08	446.01	446.06
B	1656+59.07	-2.08	445.78	445.86
C	1656+69.07	-2.08	445.54	445.63
D	1656+79.07	-2.08	445.30	445.37
E	1656+89.07	-2.08	445.04	445.09
F	1656+99.07	-2.08	444.78	444.80
℄ Brg. Pier 1	1657+06.24	-2.08	444.59	444.59
G	1657+16.24	-2.08	444.32	444.32
H	1657+26.24	-2.08	444.04	444.06
I	1657+36.24	-2.08	443.74	443.78
J	1657+46.24	-2.08	443.45	443.50
K	1657+56.24	-2.08	443.16	443.20
L	1657+66.24	-2.08	442.86	442.89
℄ Brg. Pier 2	1657+80.24	-2.08	442.46	442.46
M	1657+90.24	-2.08	442.16	442.17
N	1658+00.24	-2.08	441.87	441.90
O	1658+10.24	-2.08	441.58	441.61
P	1658+20.24	-2.08	441.29	441.32
Q	1658+30.24	-2.08	441.00	441.01
℄ North Abut.	1658+36.41	-2.08	440.81	440.81
Bk. of North Abut.	1658+37.74	-2.08	440.78	440.78

PROFILE GRADE LINE (P.G.L.)

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+38.50	0.00	446.29	446.29
℄ South Abut.	1656+39.83	0.00	446.26	446.26
A	1656+49.83	0.00	446.04	446.08
B	1656+59.83	0.00	445.81	445.88
C	1656+69.83	0.00	445.57	445.65
D	1656+79.83	0.00	445.32	445.39
E	1656+89.83	0.00	445.07	445.11
F	1656+99.83	0.00	444.81	444.82
℄ Brg. Pier 1	1657+07.00	0.00	444.61	444.61
G	1657+17.00	0.00	444.34	444.35
H	1657+27.00	0.00	444.06	444.08
I	1657+37.00	0.00	443.76	443.81
J	1657+47.00	0.00	443.47	443.52
K	1657+57.00	0.00	443.18	443.22
L	1657+67.00	0.00	442.74	442.91
℄ Brg. Pier 2	1657+81.00	0.00	442.48	442.48
M	1657+91.00	0.00	442.18	442.19
N	1658+01.00	0.00	441.89	441.92
O	1658+11.00	0.00	441.60	441.63
P	1658+21.00	0.00	441.31	441.34
Q	1658+31.00	0.00	441.02	441.03
℄ North Abut.	1658+37.17	0.00	440.84	440.84
Bk. of North Abut.	1658+38.50	0.00	440.80	440.80

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+40.23	4.75	446.33	446.33
℄ South Abut.	1656+41.56	4.75	446.30	446.30
A	1656+51.56	4.75	446.07	446.12
B	1656+61.56	4.75	445.84	445.91
C	1656+71.56	4.75	445.60	445.68
D	1656+81.56	4.75	445.35	445.42
E	1656+91.56	4.75	445.10	445.14
F	1657+01.56	4.75	444.83	444.85
℄ Brg. Pier 1	1657+08.73	4.75	444.64	444.64
G	1657+18.73	4.75	444.37	444.37
H	1657+28.73	4.75	444.08	444.11
I	1657+38.73	4.75	443.79	443.83
J	1657+48.73	4.75	443.49	443.54
K	1657+58.73	4.75	443.20	443.24
L	1657+68.73	4.75	442.91	442.93
℄ Brg. Pier 2	1657+82.73	4.75	442.50	442.50
M	1657+92.73	4.75	442.21	442.22
N	1658+02.73	4.75	441.92	441.94
O	1658+12.73	4.75	441.62	441.66
P	1658+22.73	4.75	441.33	441.36
Q	1658+32.73	4.75	441.04	441.06
℄ North Abut.	1658+38.90	4.75	440.86	440.86
Bk. of North Abut.	1658+40.23	4.75	440.82	440.82

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+42.72	11.58	446.38	446.38
℄ South Abut.	1656+44.05	11.58	446.35	446.35
A	1656+54.05	11.58	446.12	446.17
B	1656+64.05	11.58	445.89	445.96
C	1656+74.05	11.58	445.65	445.73
D	1656+84.05	11.58	445.40	445.47
E	1656+94.05	11.58	445.14	445.18
F	1657+04.05	11.58	444.87	444.89
℄ Brg. Pier 1	1657+11.22	11.58	444.68	444.68
G	1657+21.22	11.58	444.40	444.41
H	1657+31.22	11.58	444.12	444.14
I	1657+41.22	11.58	443.82	443.86
J	1657+51.22	11.58	443.53	443.58
K	1657+61.22	11.58	443.24	443.27
L	1657+71.22	11.58	442.94	442.96
℄ Brg. Pier 2	1657+85.22	11.58	442.53	442.53
M	1657+95.22	11.58	442.24	442.25
N	1658+05.22	11.58	441.95	441.97
O	1658+15.22	11.58	441.66	441.69
P	1658+25.22	11.58	441.37	441.40
Q	1658+35.22	11.58	441.07	441.09
℄ North Abut.	1658+41.39	11.58	440.89	440.89
Bk. of North Abut.	1658+42.72	11.58	440.86	440.86

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	DRAWN - JWK/DJM	REVISED
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS, NORTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B7 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	140
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

℄ ROADWAY

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+42.87	12.00	446.38	446.38
℄ South Abut.	1656+44.20	12.00	446.35	446.35
A	1656+54.20	12.00	446.12	446.17
B	1656+64.20	12.00	445.89	445.97
C	1656+74.20	12.00	445.65	445.73
D	1656+84.20	12.00	445.40	445.47
E	1656+94.20	12.00	445.14	445.18
F	1657+04.20	12.00	444.88	444.89
℄ Brg. Pier 1	1657+11.37	12.00	444.68	444.68
G	1657+21.37	12.00	444.40	444.41
H	1657+31.37	12.00	444.12	444.15
I	1657+41.37	12.00	443.82	443.87
J	1657+51.37	12.00	443.53	443.58
K	1657+61.37	12.00	443.24	443.28
L	1657+71.37	12.00	442.95	442.97
℄ Brg. Pier 2	1657+85.37	12.00	442.54	442.54
M	1657+95.37	12.00	442.24	442.25
N	1658+05.37	12.00	441.95	441.98
O	1658+15.37	12.00	441.66	441.69
P	1658+25.37	12.00	441.37	441.40
Q	1658+35.37	12.00	441.08	441.09
℄ North Abut.	1658+41.54	12.00	440.90	440.90
Bk. of North Abut.	1658+42.87	12.00	440.86	440.86

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+45.20	18.42	446.23	446.23
℄ South Abut.	1656+46.53	18.42	446.20	446.20
A	1656+56.53	18.42	445.97	446.02
B	1656+66.53	18.42	445.73	445.81
C	1656+76.53	18.42	445.49	445.57
D	1656+86.53	18.42	445.24	445.31
E	1656+96.53	18.42	444.98	445.02
F	1657+06.53	18.42	444.71	444.73
℄ Brg. Pier 1	1657+13.70	18.42	444.52	444.52
G	1657+23.70	18.42	444.24	444.25
H	1657+33.70	18.42	443.95	443.98
I	1657+43.70	18.42	443.65	443.70
J	1657+53.70	18.42	443.36	443.41
K	1657+63.70	18.42	443.07	443.11
L	1657+73.70	18.42	442.78	442.80
℄ Brg. Pier 2	1657+87.70	18.42	442.37	442.37
M	1657+97.70	18.42	442.08	442.08
N	1658+07.70	18.42	441.78	441.81
O	1658+17.70	18.42	441.49	441.53
P	1658+27.70	18.42	441.20	441.23
Q	1658+37.70	18.42	440.91	440.92
℄ North Abut.	1658+43.87	18.42	440.73	440.73
Bk. of North Abut.	1658+45.20	18.42	440.69	440.69

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+47.69	25.25	446.06	446.06
℄ South Abut.	1656+49.02	25.25	446.03	446.03
A	1656+59.02	25.25	445.80	445.85
B	1656+69.02	25.25	445.56	445.64
C	1656+79.02	25.25	445.32	445.40
D	1656+89.02	25.25	445.06	445.13
E	1656+99.02	25.25	444.80	444.84
F	1657+09.02	25.25	444.53	444.55
℄ Brg. Pier 1	1657+16.19	25.25	444.34	444.34
G	1657+26.19	25.25	444.05	444.06
H	1657+36.19	25.25	443.76	443.79
I	1657+46.19	25.25	443.47	443.51
J	1657+56.19	25.25	443.18	443.22
K	1657+66.19	25.25	442.88	442.92
L	1657+76.19	25.25	442.59	442.61
℄ Brg. Pier 2	1657+90.19	25.25	442.18	442.18
M	1658+00.19	25.25	441.89	441.90
N	1658+10.19	25.25	441.60	441.62
O	1658+20.19	25.25	441.31	441.34
P	1658+30.19	25.25	441.01	441.05
Q	1658+40.19	25.25	440.72	440.74
℄ North Abut.	1658+46.36	25.25	440.54	440.54
Bk. of North Abut.	1658+47.69	25.25	440.50	440.50

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevation Adjusted for Dead Load Deflection
Bk. of South Abut.	1656+50.18	32.08	445.86	445.86
℄ South Abut.	1656+51.51	32.08	445.83	445.83
A	1656+61.51	32.08	445.60	445.64
B	1656+71.51	32.08	445.36	445.43
C	1656+81.51	32.08	445.11	445.19
D	1656+91.51	32.08	444.86	444.93
E	1657+01.51	32.08	444.59	444.64
F	1657+11.51	32.08	444.32	444.34
℄ Brg. Pier 1	1657+18.68	32.08	444.12	444.12
G	1657+28.68	32.08	443.84	443.85
H	1657+38.68	32.08	443.54	443.57
I	1657+48.68	32.08	443.25	443.30
J	1657+58.68	32.08	442.96	443.01
K	1657+68.68	32.08	442.67	442.71
L	1657+78.68	32.08	442.38	442.40
℄ Brg. Pier 2	1657+92.68	32.08	441.97	441.97
M	1658+02.68	32.08	441.68	441.68
N	1658+12.68	32.08	441.38	441.41
O	1658+22.68	32.08	441.09	441.13
P	1658+32.68	32.08	440.80	440.83
Q	1658+42.68	32.08	440.51	440.52
℄ North Abut.	1658+48.85	32.08	440.32	440.33
Bk. of North Abut.	1658+50.18	32.08	440.29	440.29

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS, NORTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. 88 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	141
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

WEST CURB LINE/WEST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1655+83.97	-34.42	447.15
A	1655+93.97	-34.42	446.97
B	1656+04.13	-34.00	446.79
N. End of South Appr.	1656+14.13	-34.00	446.59

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1655+87.76	-24.00	447.30
A	1655+97.76	-24.00	447.12
B	1656+07.76	-24.00	446.93
N. End of South Appr.	1656+17.76	-24.00	446.73

℄ ROADWAY

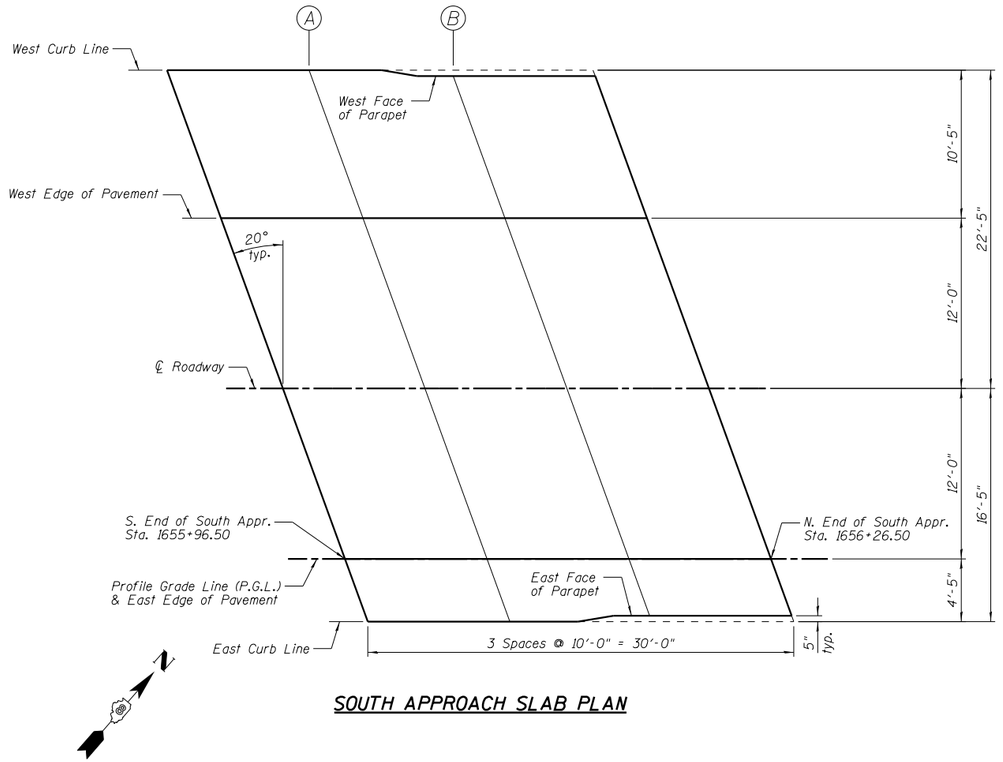
Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1655+92.13	-12.00	447.41
A	1656+02.13	-12.00	447.22
B	1656+12.013	-12.00	447.03
N. End of South Appr.	1656+22.13	-12.00	446.82

PROFILE GRADE LINE (P.G.L.) & EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1655+96.50	0.00	447.14
A	1656+06.50	0.00	446.95
B	1656+16.50	0.00	446.75
N. End of South Appr.	1656+26.50	0.00	446.55

EAST CURB LINE/EAST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1655+98.11	4.42	447.02
A	1656+08.11	4.42	446.83
B	1656+17.96	4.00	446.64
N. End of South Appr.	1656+27.96	4.00	446.43



SOUTH APPROACH SLAB PLAN

WEST CURB LINE/WEST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+14.13	-34.00	441.30
A	1658+24.13	-34.00	441.01
B	1658+33.97	-34.42	440.71
N. End of North Appr.	1658+43.97	-34.42	440.42

WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+17.76	-24.00	441.40
A	1658+27.76	-24.00	441.11
B	1658+37.76	-24.00	440.82
N. End of North Appr.	1658+47.76	-24.00	440.53

℄ ROADWAY

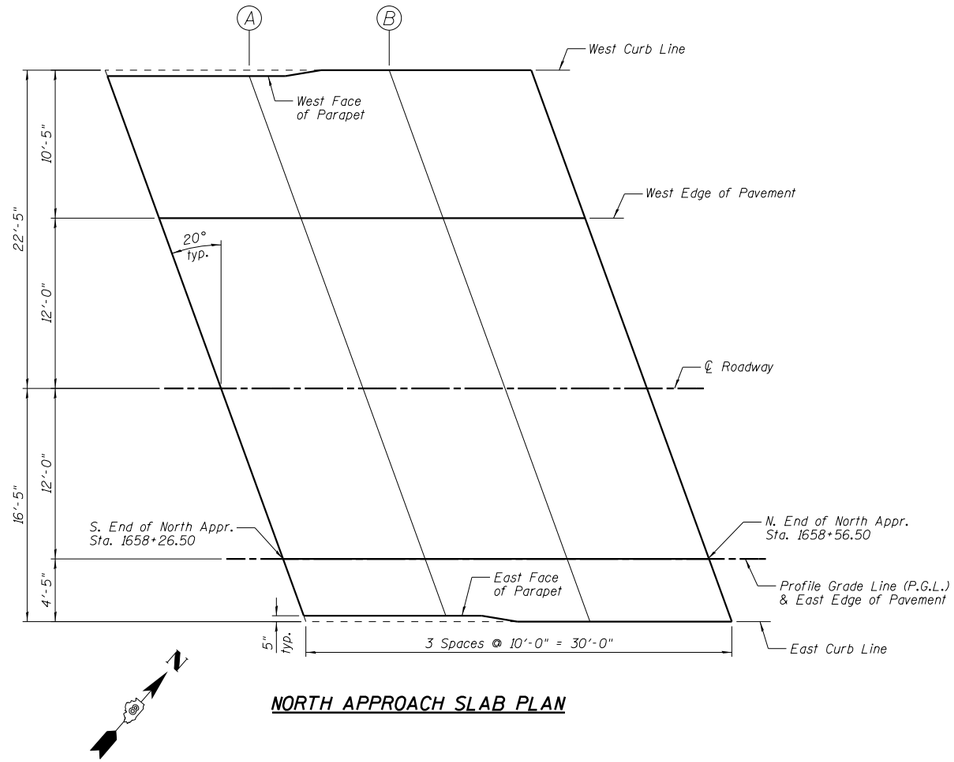
Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+22.13	-12.00	441.46
A	1658+32.13	-12.00	441.17
B	1658+42.13	-12.00	440.88
N. End of North Appr.	1658+52.13	-12.00	440.59

PROFILE GRADE LINE (P.G.L.) & EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+26.50	0.00	441.15
A	1658+36.50	0.00	440.86
B	1658+46.50	0.00	440.56
N. End of North Appr.	1658+56.50	0.00	440.27

EAST CURB LINE/EAST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+27.96	4.00	441.02
A	1658+37.96	4.00	440.73
B	1658+48.11	4.42	440.43
N. End of North Appr.	1658+58.11	4.42	440.13



NORTH APPROACH SLAB PLAN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B9 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	142
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

24-8621

WEST CURB LINE/WEST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1656+06.89	-4.42	446.85
A	1656+16.89	-4.42	446.65
B	1656+27.04	-4.00	446.45
N. End of South Appr.	1656+37.04	-4.00	446.24

PROFILE GRADE LINE (P.G.L.) & WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1656+08.50	0.00	446.91
A	1656+18.50	0.00	446.71
B	1656+28.50	0.00	446.50
N. End of South Appr.	1656+38.50	0.00	446.29

℄ ROADWAY

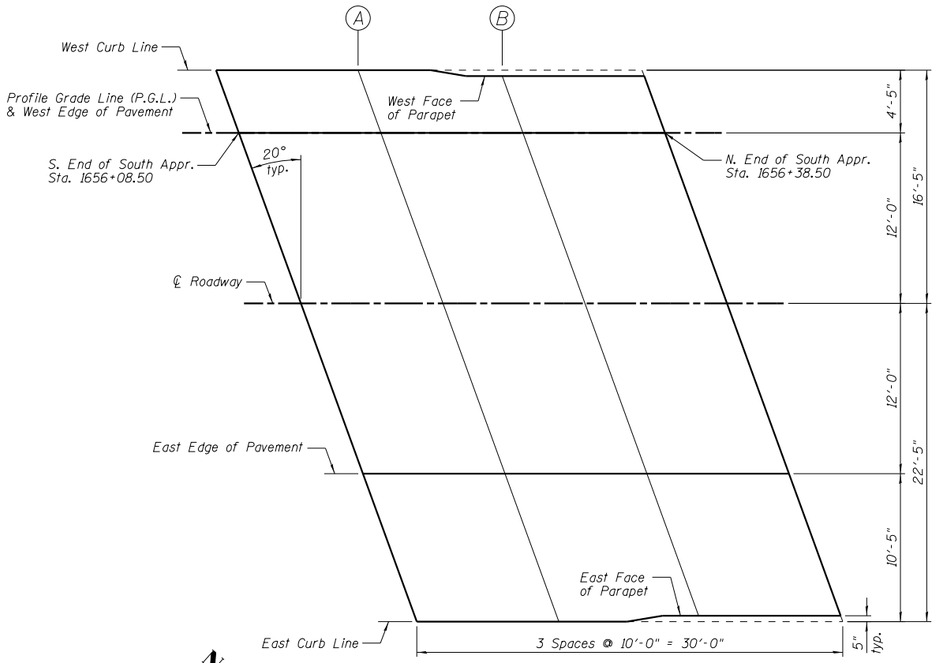
Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1656+12.87	12.00	447.01
A	1656+22.87	12.00	446.81
B	1656+32.87	12.00	446.60
N. End of South Appr.	1656+42.87	12.00	446.38

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1656+17.24	24.00	446.74
A	1656+27.24	24.00	446.53
B	1656+37.24	24.00	446.32
N. End of South Appr.	1656+47.24	24.00	446.10

EAST CURB LINE/EAST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1656+21.03	34.42	446.44
A	1656+31.03	34.42	446.23
B	1656+40.87	34.00	446.03
N. End of South Appr.	1656+50.87	34.00	445.80



SOUTH APPROACH SLAB PLAN

WEST CURB LINE/WEST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+37.04	-4.00	440.76
A	1658+47.04	-4.00	440.46
B	1658+56.89	-4.42	440.17
N. End of North Appr.	1658+66.89	-4.42	439.88

PROFILE GRADE LINE (P.G.L.) & WEST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1658+38.50	0.00	440.80
A	1658+48.50	0.00	440.51
B	1658+58.50	0.00	440.21
N. End of South Appr.	1658+68.50	0.00	439.92

℄ ROADWAY

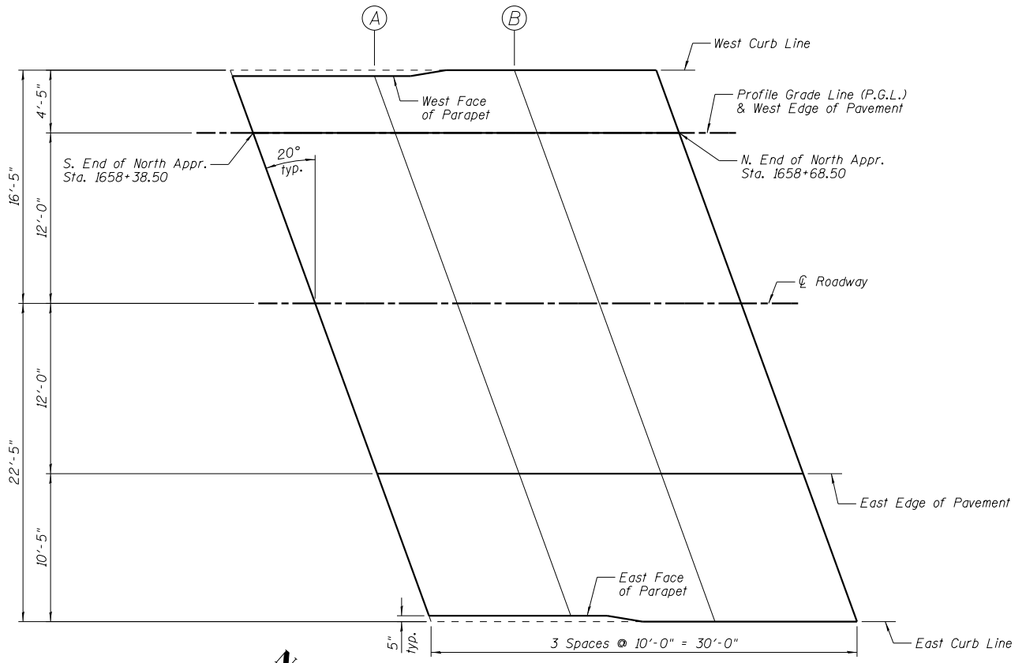
Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+42.87	12.00	440.86
A	1658+52.87	12.00	440.57
B	1658+62.87	12.00	440.27
N. End of North Appr.	1658+72.87	12.00	439.98

EAST EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
S. End of South Appr.	1658+47.24	24.00	440.54
A	1658+57.24	24.00	440.25
B	1658+67.24	24.00	439.96
N. End of South Appr.	1658+77.24	24.00	439.67

EAST CURB LINE/EAST FACE OF PARAPET

Location	Station	Offset	Theoretical Grade Elevations
S. End of North Appr.	1658+50.87	34.00	440.23
A	1658+60.87	34.00	439.94
B	1658+71.03	34.42	439.63
N. End of North Appr.	1658+81.03	34.42	439.34



NORTH APPROACH SLAB PLAN

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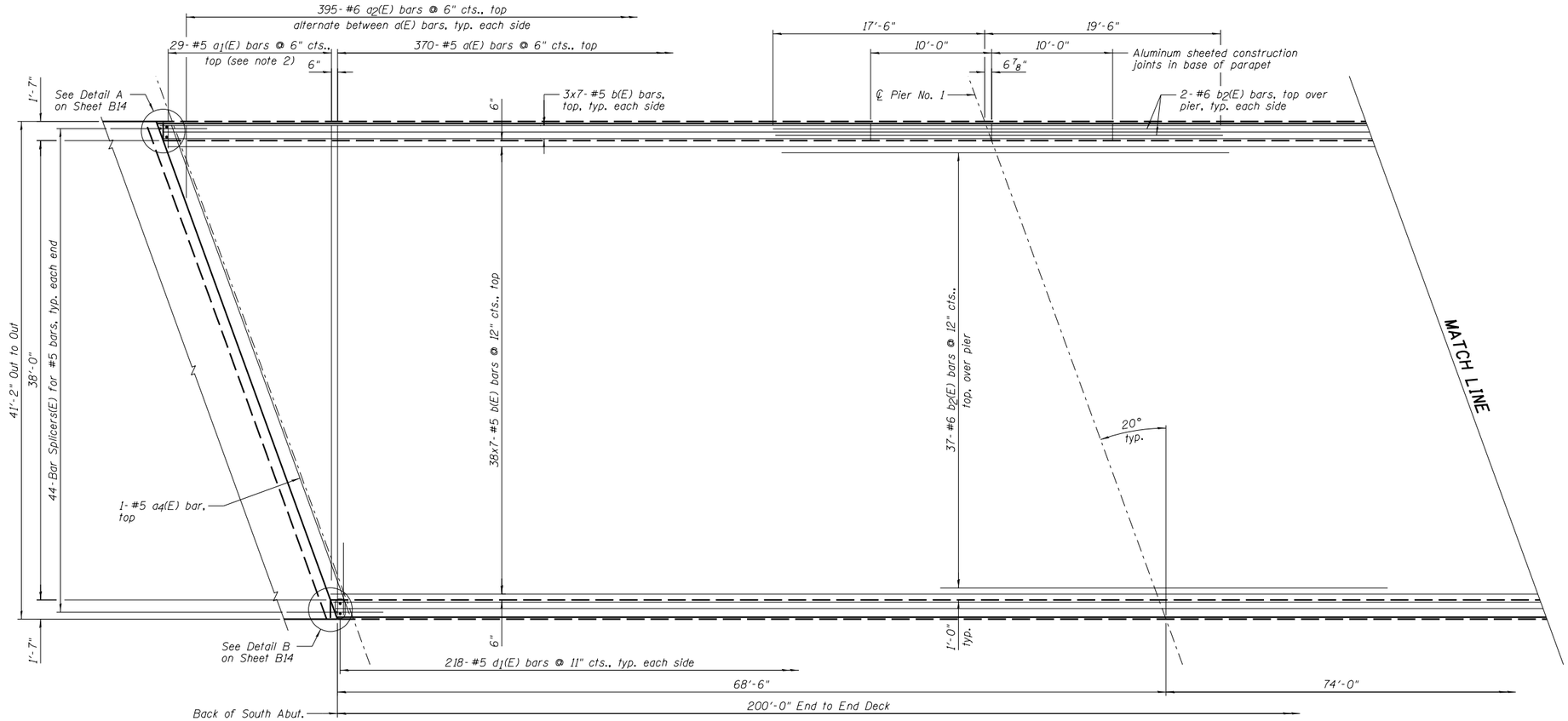
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS, NORTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

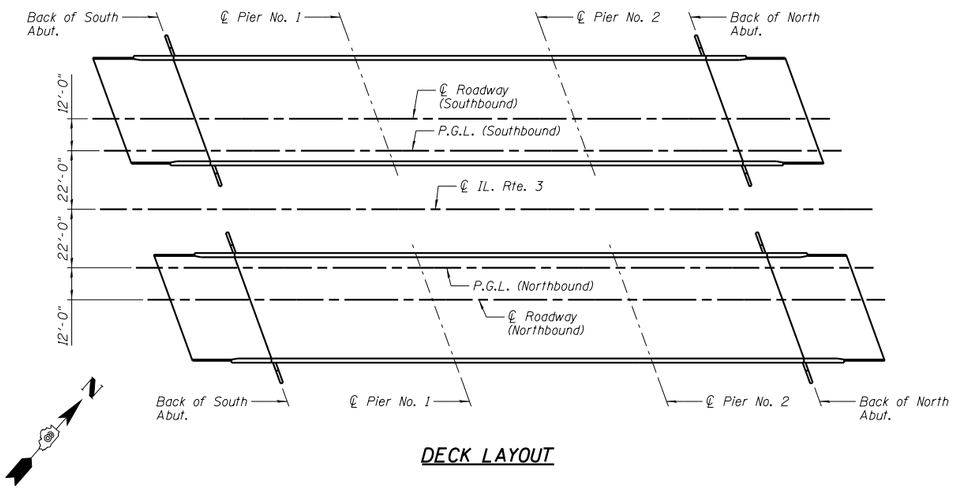
SHEET NO. B10 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	143
			CONTRACT NO. 76848	
	ILLINOIS	FED. AID PROJECT		



HALF PLAN

BAR LAP
#5 - 2'-7"



DECK LAYOUT

NOTES:

1.) See Sheet B14 for Superstructure Details and Bill of Material.
2.) Order a_1(E) bars full length. Cut according to Bar Cutting Diagram on Sheet B14. Use remainder of bars in opposite end of deck.
3.) Bars indicated thus 3x7- #5 etc. indicates 3 lines of bars with 7 lengths per line.
4.) See Sheet B12 for North half of Deck Plan.
5.) See Sheet B36 for Bar Splicer Details.

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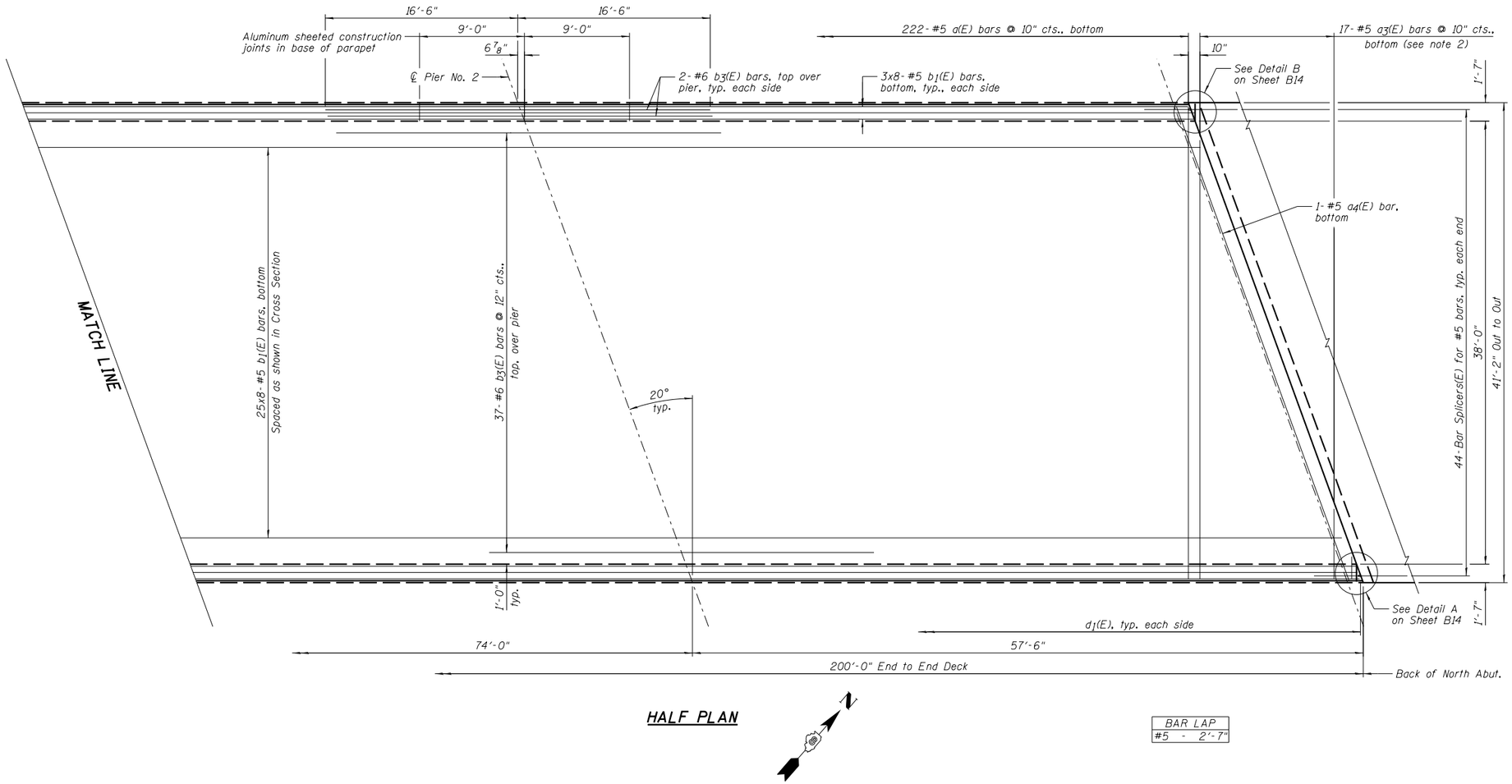
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DECK
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B11 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	144
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		



HALF PLAN

BAR LAP
#5 - 2'-7"

NOTES:

1.) See Sheet B14 for Superstructure Details and Bill of Material.
2.) Order a3(E) bars full length. Cut according to Bar Cutting Diagram on Sheet B14. Use remainder of bars in opposite end of deck.
3.) Bars indicated thus 3x8-#5 etc. indicates 3 lines of bars with 8 lengths per line.
4.) See Sheet B11 for South half of Deck Plan.
5.) See Sheet B36 for Bar Splicer Details.

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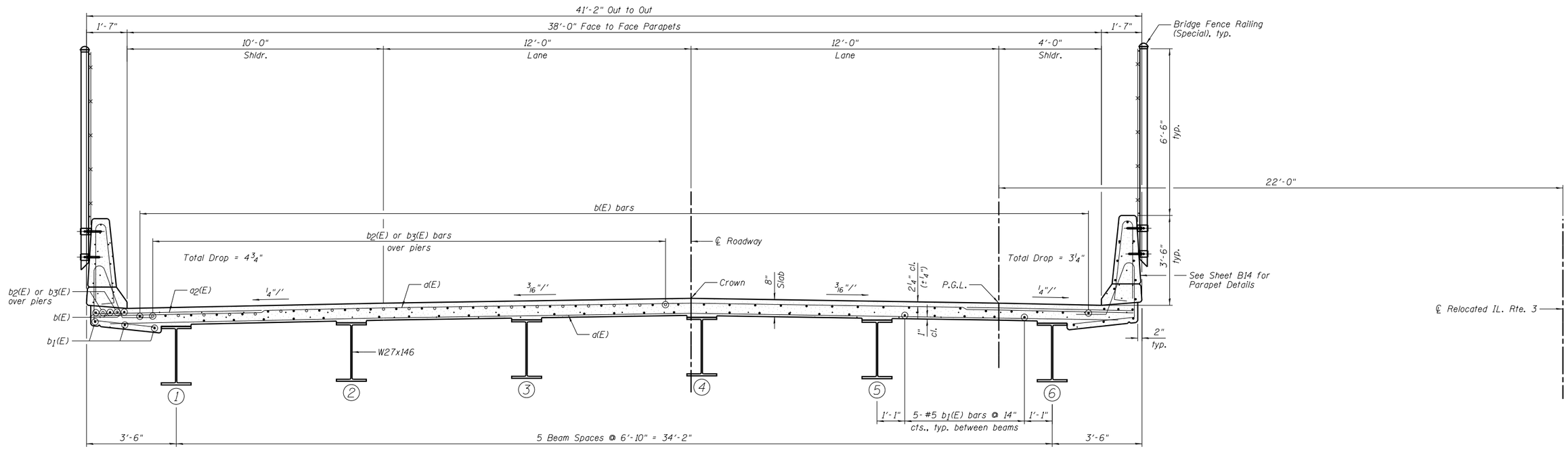
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DECK
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B12 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	145
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621



NEAR PIER

NEAR MIDSPAN

CROSS SECTION
(Looking upstation)

NOTES:

1.) See Sheet B14 for Superstructure Details and Bill of Material.
2.) See Sheets B38 & B39 for Bridge Fence Details.
3.) Southbound Bridge shown. Northbound Bridge same except opposite hand.
4.) Stud Shear Connectors are not shown for clarity.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE CROSS SECTION
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B13 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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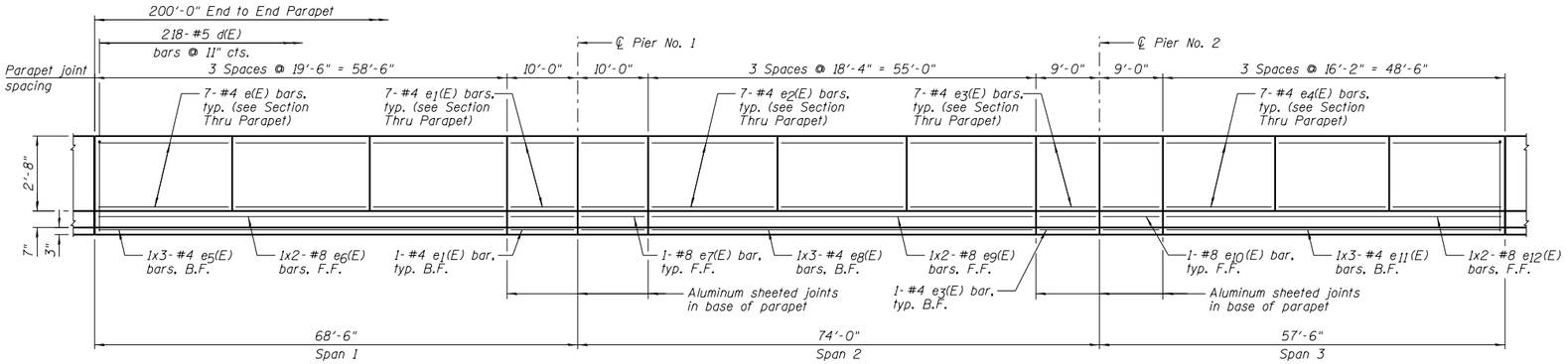
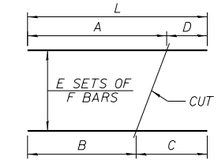
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF PARAPET

BAR LAP	
#4	2'-0"
#8	5'-2"

BAR CUTTING DIAGRAM



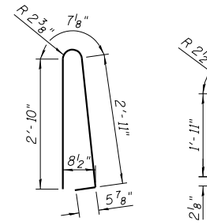
BAR	A	B	C	D	E	F	L
a1(E)	40'-0"	1'-6"	40'-0"	1'-6"	2	29	41'-6"
a3(E)	39'-6"	2'-11"	39'-6"	2'-11"	2	17	42'-5"

SUPERSTRUCTURE BILL OF MATERIAL

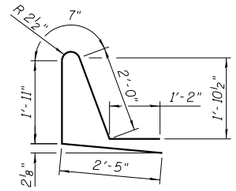
Bar	No.	Size	Length	Shape
d(E)	1184	#5	40'-6"	
a1(E)	58	#5	41'-6"	
a2(E)	1580	#6	6'-6"	
a3(E)	34	#5	42'-5"	
a4(E)	8	#5	43'-1"	
b(E)	616	#5	30'-9"	
b1(E)	496	#5	27'-3"	
b2(E)	82	#6	37'-0"	
b3(E)	82	#6	33'-0"	
d(E)	872	#5	6'-10"	
d1(E)	872	#5	8'-1"	
e(E)	84	#4	19'-2"	
e1(E)	64	#4	9'-8"	
e2(E)	84	#4	18'-0"	
e3(E)	64	#4	8'-8"	
e4(E)	84	#4	15'-10"	
e5(E)	12	#4	20'-9"	
e6(E)	8	#8	31'-8"	
e7(E)	8	#8	9'-8"	
e8(E)	12	#4	19'-7"	
e9(E)	8	#8	29'-11"	
e10(E)	8	#8	8'-8"	
e11(E)	12	#4	17'-5"	
e12(E)	8	#8	26'-8"	
m(E)	20	#6	43'-5"	
m1(E)	48	#6	10'-1"	
m2(E)	20	#6	6'-10"	
m3(E)	8	#6	3'-3"	
s(E)	164	#5	5'-4"	
s1(E)	144	#4	8'-9"	
v(E)	176	#5	3'-9"	

Item	Unit	Quantity
Concrete Superstructure	Cu. Yd.	581.2
Reinforcement Bars, Epoxy Coated	Pound	137,080
Bar Splicers	Each	176

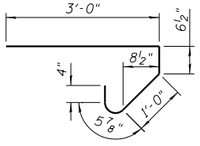
Note: Bill of Material is for two bridge decks.



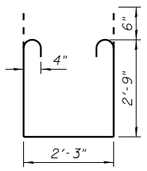
d(E) BAR



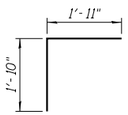
d1(E) BAR



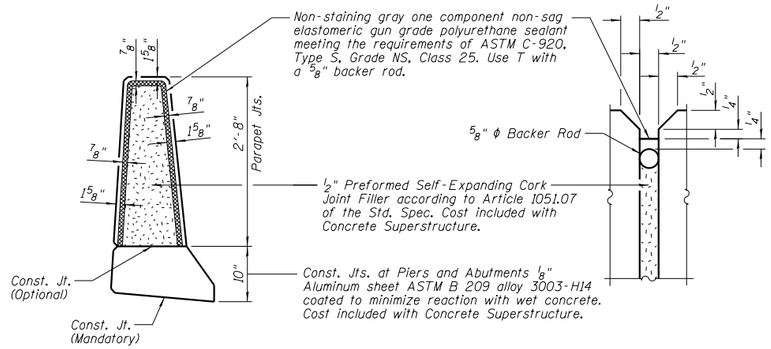
s(E) BAR



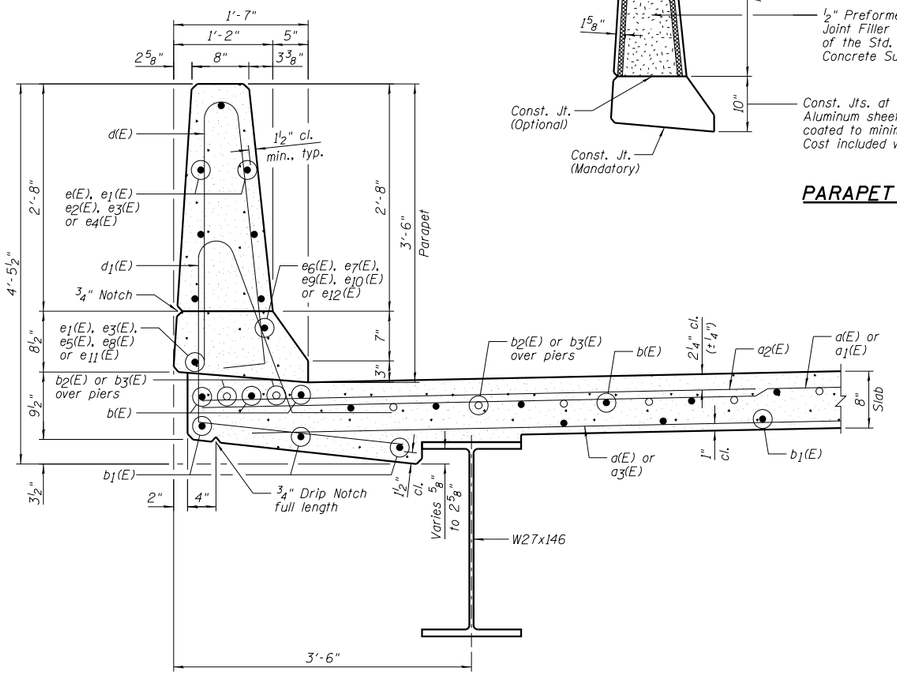
s1(E) BAR



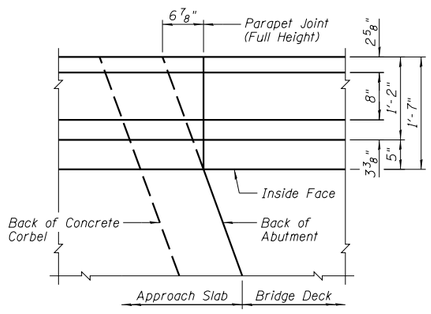
v(E) BAR



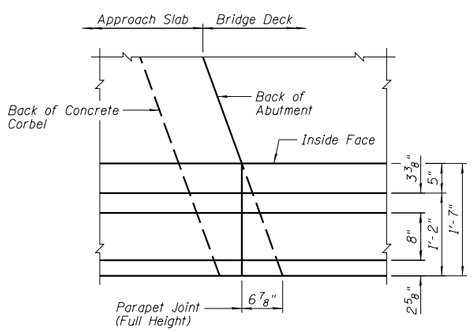
PARAPET JOINT DETAILS



SECTION THRU PARAPET



DETAIL A



DETAIL B

NOTES:

1.) B.F. denotes Back Face and F.F. denotes Front Face.
2.) Inside elevation of parapet view is exaggerated vertically to show reinforcement.
3.) Bars indicated thus 1x3-#4 etc. indicates 1 line of bars with 3 lengths per line.
4.) For location of Detail A and Detail B, see Sheets B11 & B12.

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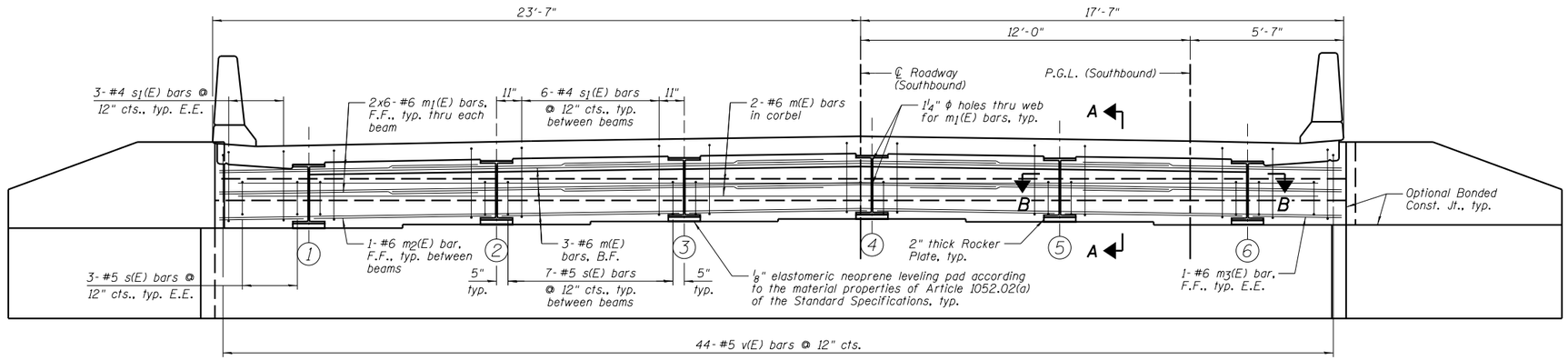
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B14 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	147
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

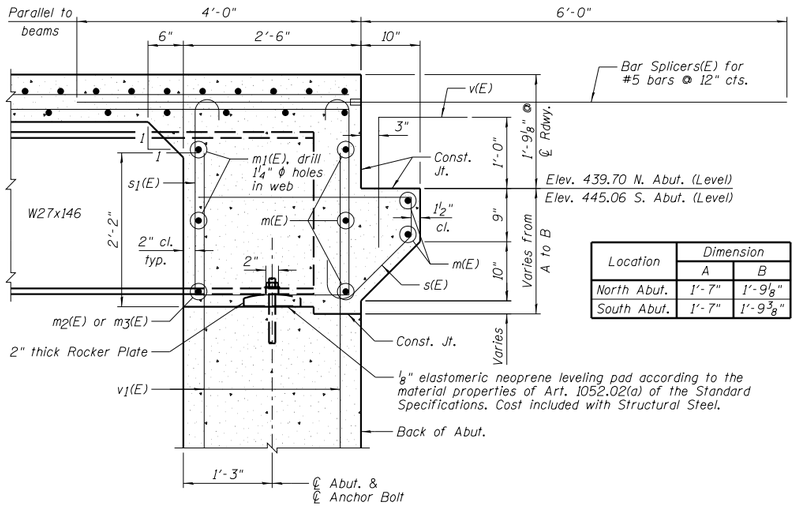
24-8621



ELEVATION OF DIAPHRAGM AT NORTH ABUTMENT

(Similar to South Abutment)

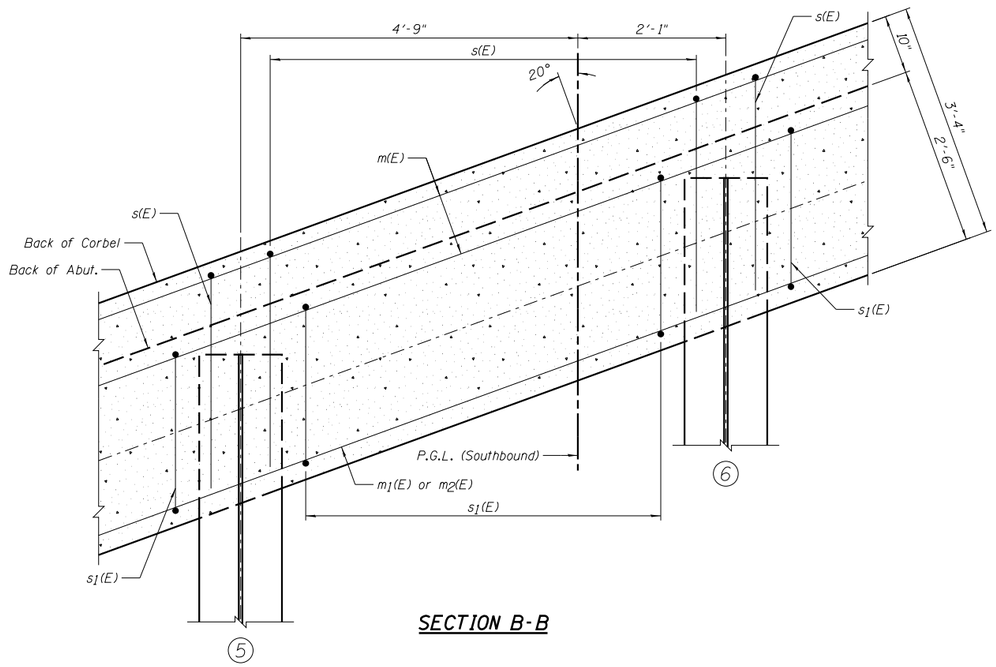
BAR LAP
#6 - 3'-4"



Location	Dimension	
	A	B
North Abut.	1'-7"	1'-9 3/8"
South Abut.	1'-7"	1'-9 3/8"

SECTION A-A

Dimensions @ Rt. L's except as noted.



SECTION B-B

NOTES:

1.) See Sheet B14 for Superstructure Details and Bill of Material.
2.) See Sheet B23 for Fixed Bearing Details.
3.) F.F. denotes Front Face, B.F. denotes Back Face and E.E. denotes Each End.
4.) See Sheet B36 for Bar Splicer Details.
5.) Bars indicated thus 2x6-#6 indicates 2 lines of bars with 6 lengths per line.
6.) The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B15 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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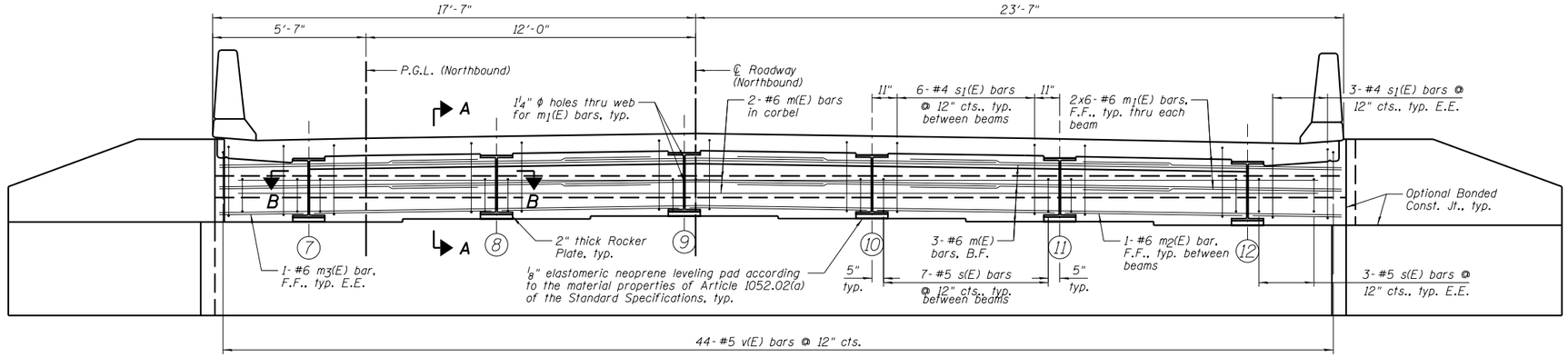
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

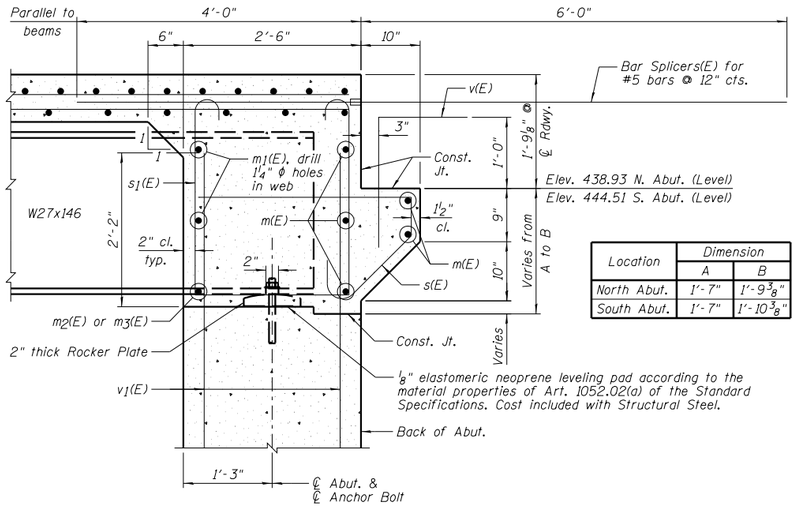
24-8621



ELEVATION OF DIAPHRAGM AT NORTH ABUTMENT

(Similar to South Abutment)

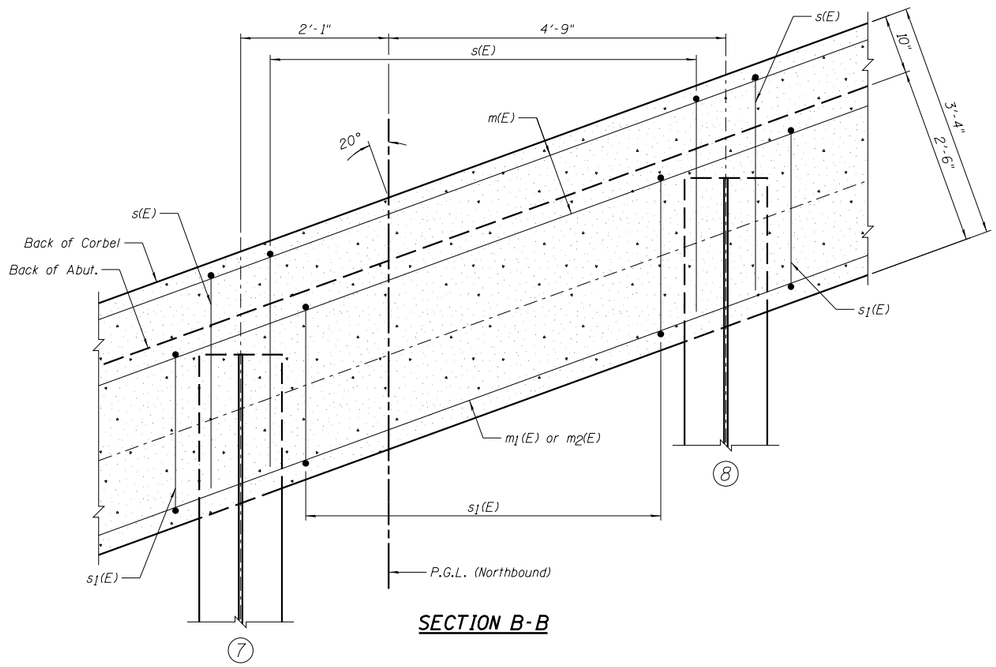
BAR LAP
#6 - 3'-4"



Location	Dimension	
	A	B
North Abut.	1'-7"	1'-9 3/8"
South Abut.	1'-7"	1'-10 3/8"

SECTION A-A

Dimensions @ Rt. L's except as noted.



SECTION B-B

NOTES:

1.) See Sheet B14 for Superstructure Details and Bill of Material.
2.) See Sheet B23 for Fixed Bearing Details.
3.) F.F. denotes Front Face, B.F. denotes Back Face and E.E. denotes Each End.
4.) See Sheet B36 for Bar Splicer Details.
5.) Bars indicated thus 2x6-#6 indicates 2 lines of bars with 6 lengths per line.
6.) The s(E) and s1(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.

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DIAPHRAGM DETAILS, NORTHBOUND ROADWAY STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B16 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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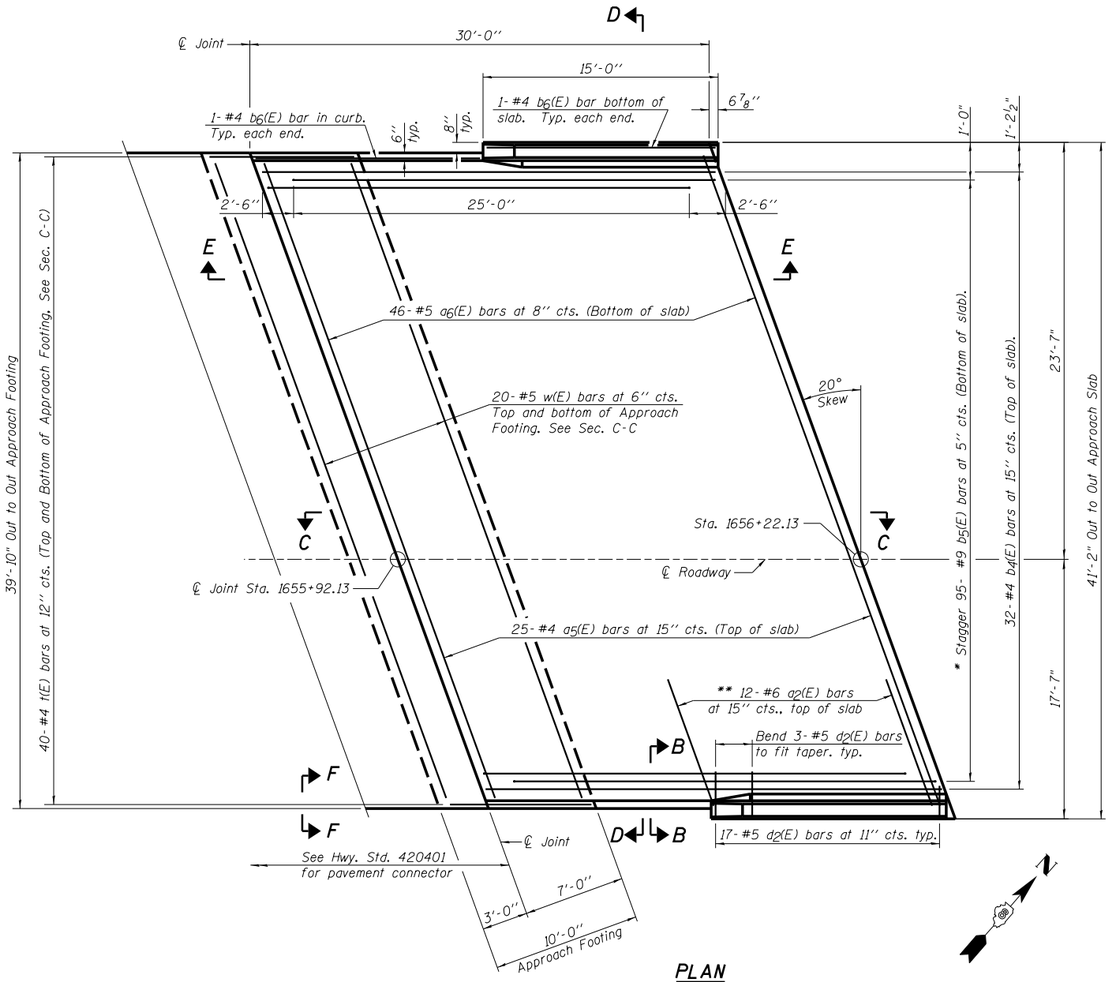
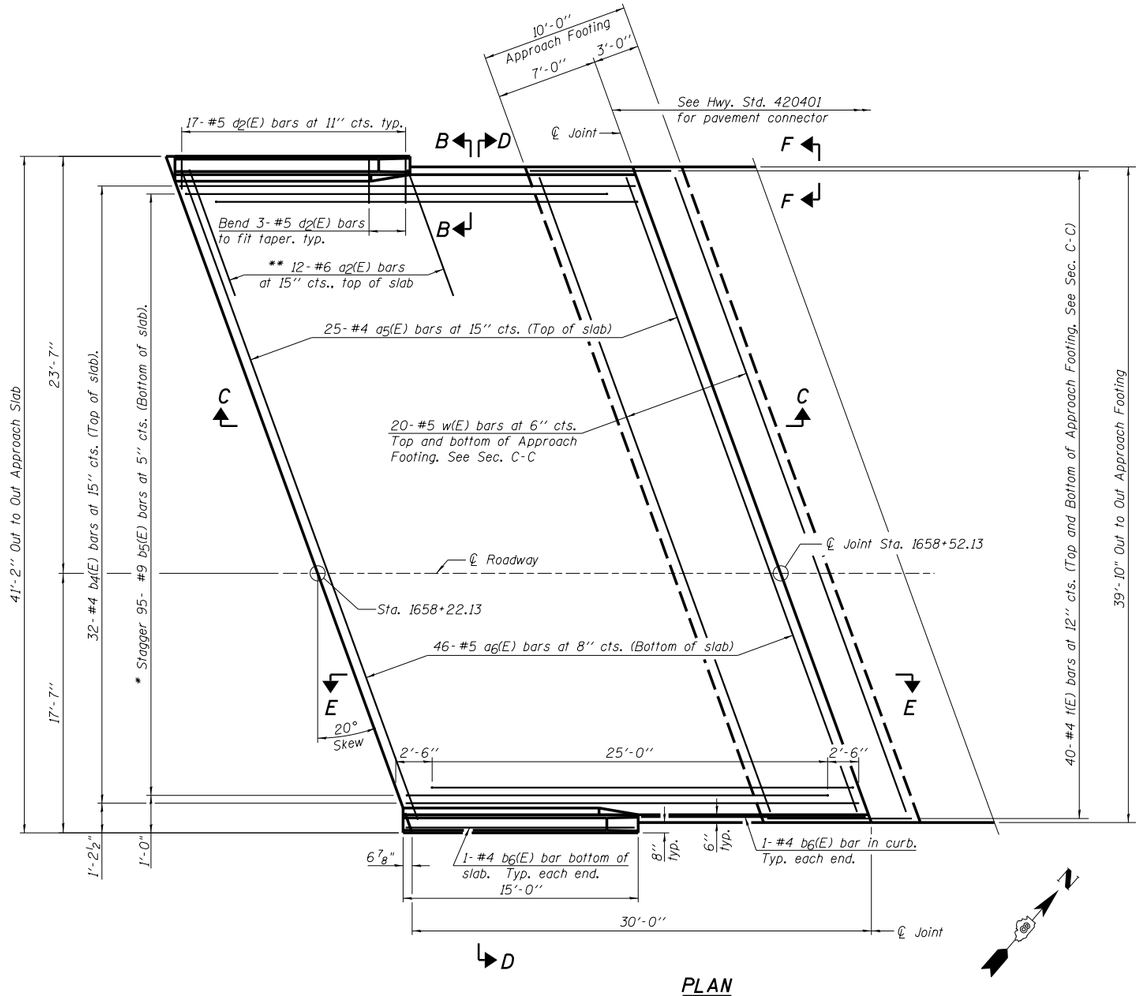
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



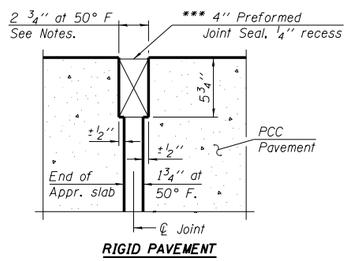
PLAN

* Tilt #9 b5(E) bars as required to maintain clearance.
** Space between a5(E) bars, typ. each parapet.



PLAN

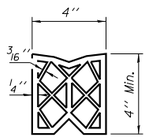
* Tilt #9 b5(E) bars as required to maintain clearance.
** Space between a5(E) bars, typ. each parapet.



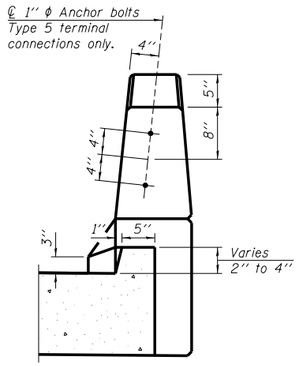
RIGID PAVEMENT

DETAIL A

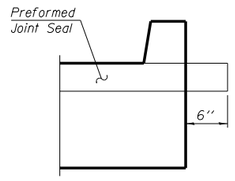
*** Cost included with Concrete Superstructure.



PREFORMED JOINT SEAL



VIEW B-B



VIEW F-F

NOTES:

1.) See sheet B18 for Sections C-C & D-D and View E-E. a5(E) and a6(E) bar spacings measured along ℄ Rdwy.
2.) 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.

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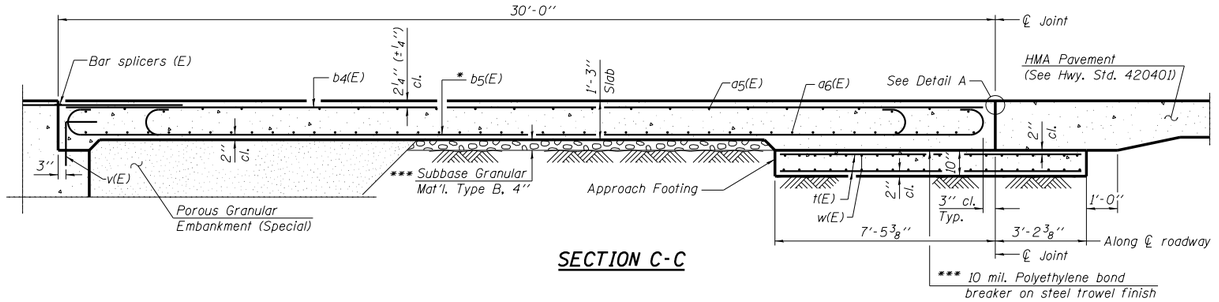
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

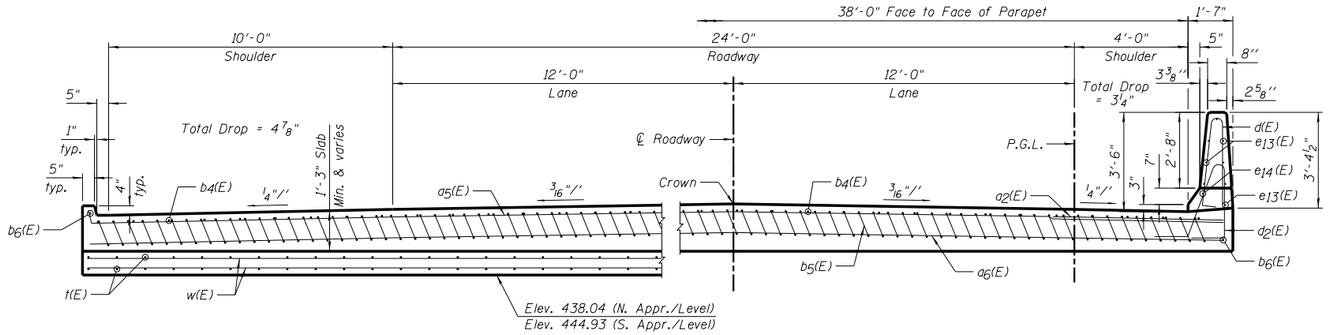
SHEET NO. B17 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	150
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621



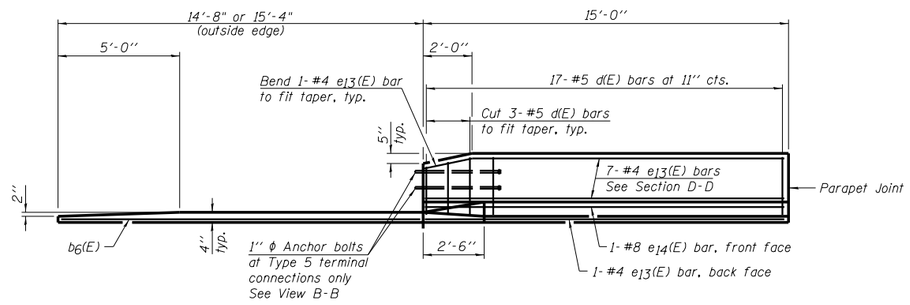
SECTION C-C



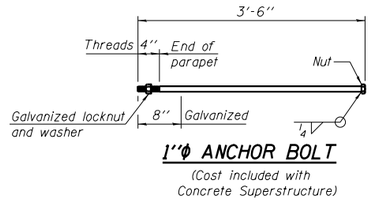
AT APPROACH FOOTING **NEAR ABUTMENT**

SECTION D-D

(See Plans for dimensions not shown)

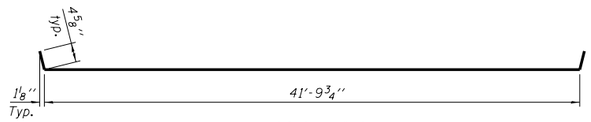


VIEW E-E

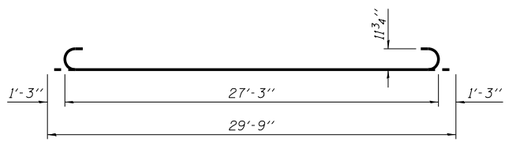


1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)



BAR a5(E)



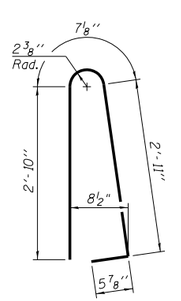
BAR b5(E)

Notes:

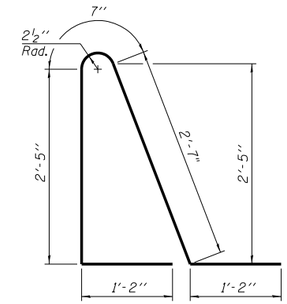
1.) See sheet B17 for Detail A and View B-B.
2.) Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3.) Approach footing concrete shall be paid for as Concrete Structures.
4.) Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5.) For v(E) bar details, see sheet B14 and B15.
6.) The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7.) For bar splicer details, see sheet B36.
8.) Cost of excavation for approach footing included with Concrete Structures.
9.) For Porous Granular Embankment (Special) and drainage treatment details, see sheet B2.
10.) For additional parapet details, see sheet B14.

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

*** Cost included with Concrete Superstructure.



BAR d(E)



BAR d2(E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	48	#6	6'-6"	
a5(E)	50	#4	42'-7"	
a6(E)	92	#5	42'-0"	
b4(E)	64	#4	29'-8"	
b5(E)	190	#9	29'-9"	
b6(E)	8	#4	14'-8"	
d(E)	68	#5	6'-10"	
d2(E)	68	#5	7'-11"	
e13(E)	32	#4	14'-8"	
e14(E)	4	#8	14'-8"	
t(E)	160	#4	10'-3"	
w(E)	80	#5	42'-0"	
Concrete Superstructure			Cu. Yd.	127.0
Concrete Structures			Cu. Yd.	26.2
Reinforcement Bars, Epoxy Coated			Pound	32,600

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

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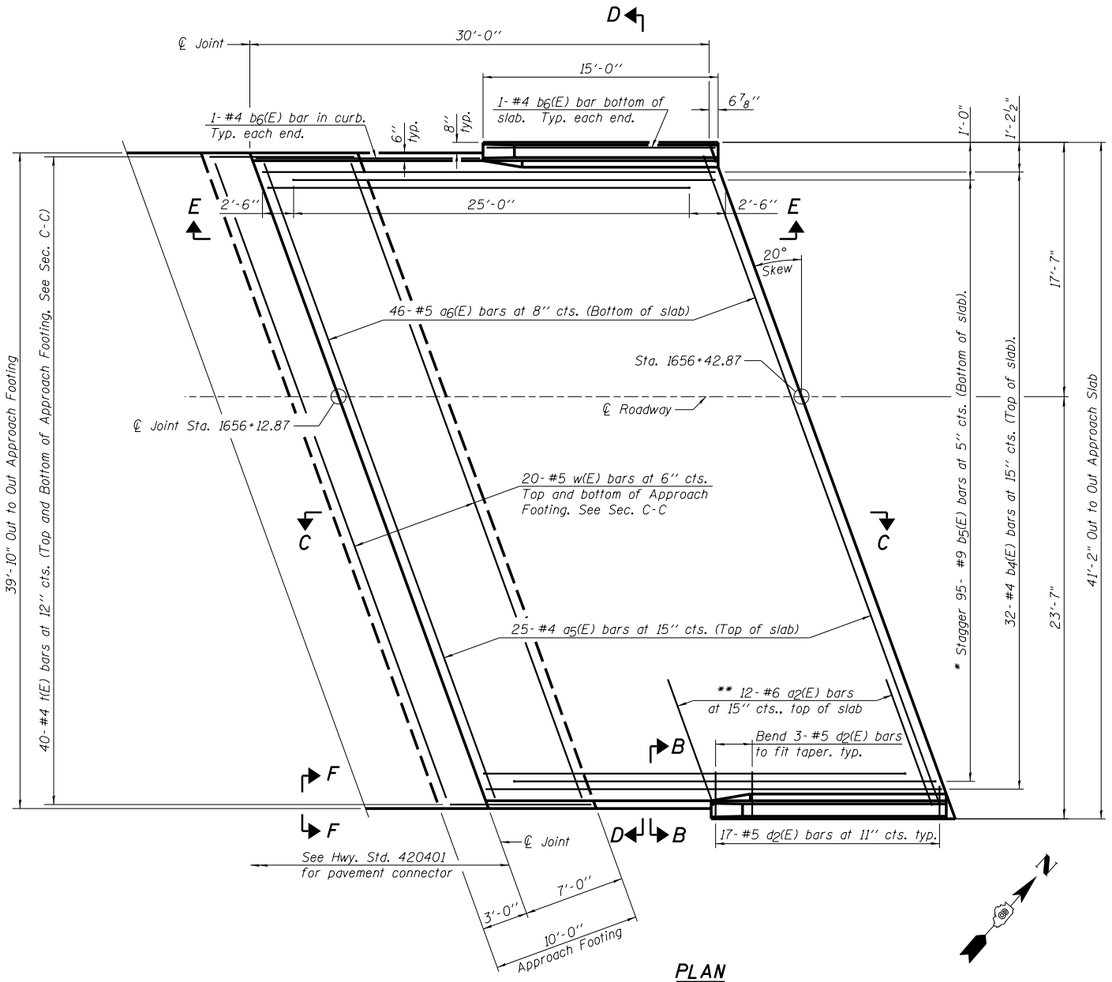
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

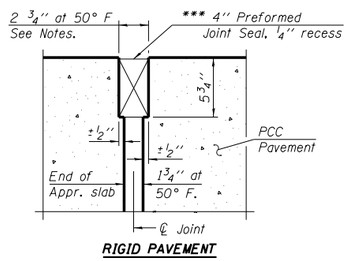
BRIDGE APPROACH SLAB DETAILS, SOUTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B18 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	151
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

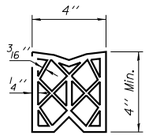
24-8621



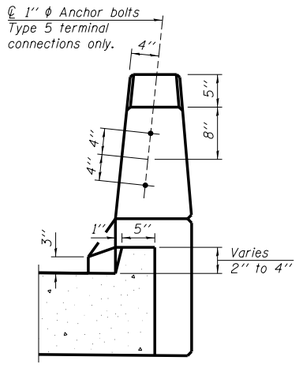


DETAIL A

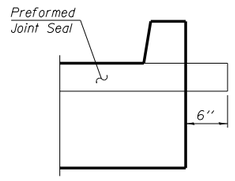
*** Cost included with Concrete Superstructure.



PREFORMED JOINT SEAL



VIEW B-B



VIEW F-F

NOTES:

1.) See sheet B18 for Sections C-C & D-D and View E-E. a5(E) and a6(E) bar spacings measured along ℄ Rdwy.
2.) 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.

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2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

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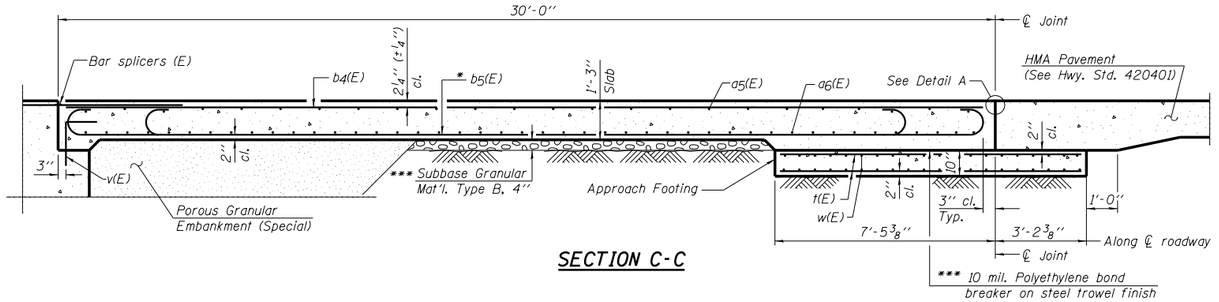
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS, NORTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

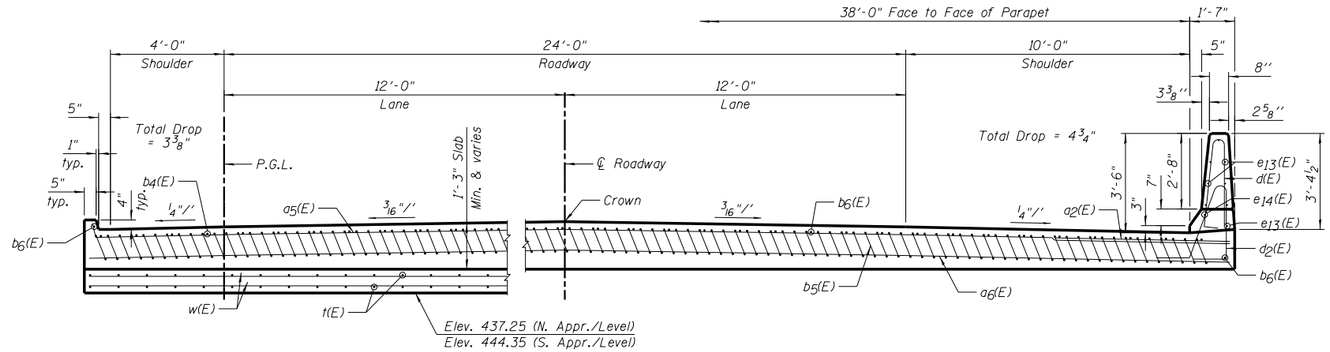
SHEET NO. B19 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	152
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621



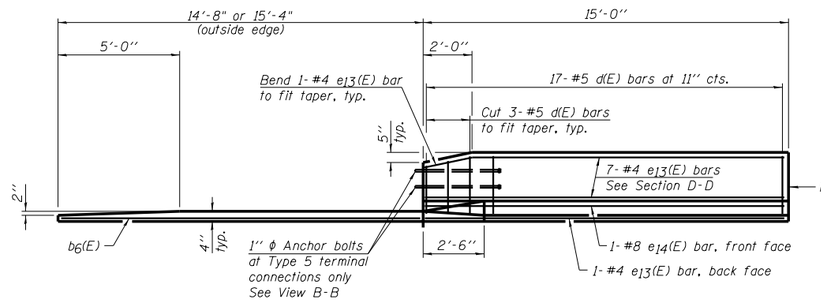
SECTION C-C



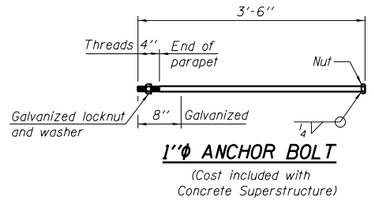
AT APPROACH FOOTING **NEAR ABUTMENT**

SECTION D-D

(See Plans for dimensions not shown)

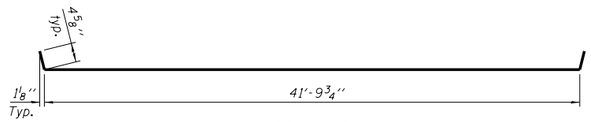


VIEW E-E

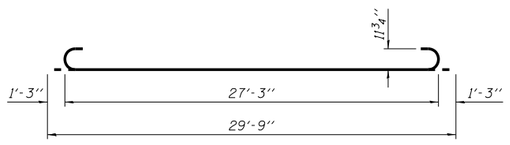


1"ϕ ANCHOR BOLT

(Cost included with Concrete Superstructure)



BAR a5(E)



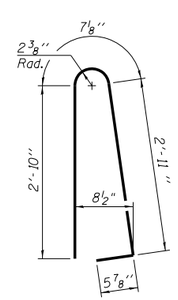
BAR b5(E)

Notes:

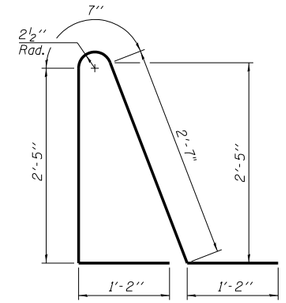
1.) See sheet B19 for Detail A and View B-B.
2.) Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
3.) Approach footing concrete shall be paid for as Concrete Structures.
4.) Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5.) For v(E) bar details, see sheet B14 and B16.
6.) The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7.) For bar splicer details, see sheet B36.
8.) Cost of excavation for approach footing included with Concrete Structures.
9.) For Porous Granular Embankment (Special) and drainage treatment details, see sheet B2.
10.) For additional parapet details, see sheet B14.

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

*** Cost included with Concrete Superstructure.



BAR d(E)



BAR d2(E)

TWO APPROACHES BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	48	#6	6'-6"	
a5(E)	50	#4	42'-7"	
a6(E)	92	#5	42'-0"	
b4(E)	64	#4	29'-8"	
b5(E)	190	#9	29'-9"	
b6(E)	8	#4	14'-8"	
d(E)	68	#5	6'-10"	
d2(E)	68	#5	7'-11"	
e13(E)	32	#4	14'-8"	
e14(E)	4	#8	14'-8"	
l(E)	160	#4	10'-3"	
w(E)	80	#5	42'-0"	
Concrete Superstructure			Cu. Yd.	130.9
Concrete Structures			Cu. Yd.	26.2
Reinforcement Bars, Epoxy Coated			Pound	32,600

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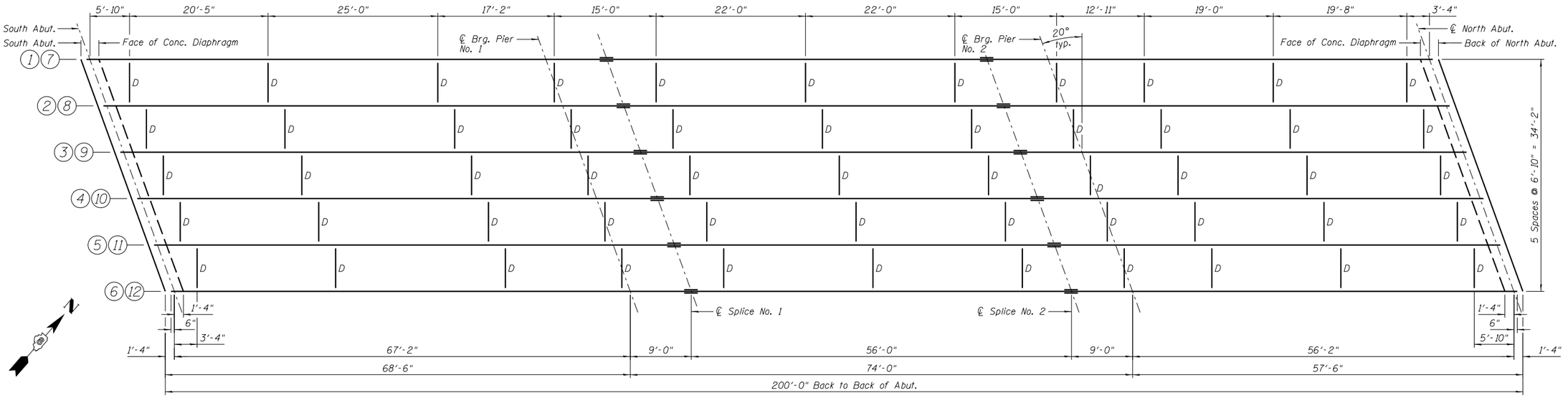
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS, NORTHBOUND ROADWAY
STRUCTURE NO. 082-0314 NB & 082-0315 SB

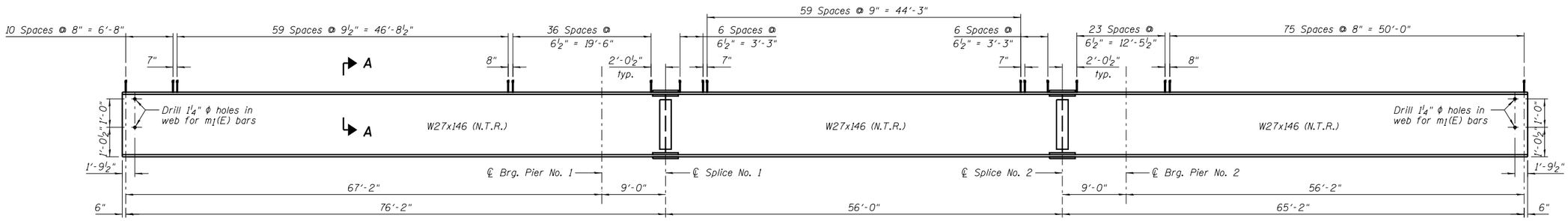
SHEET NO. B20 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	153
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

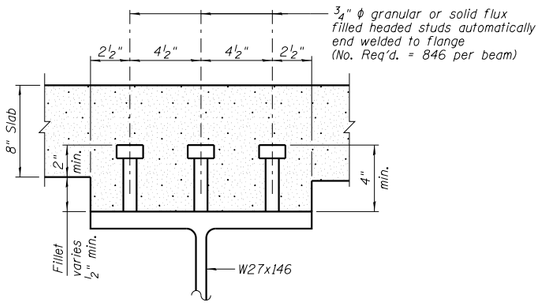
24-8621



PLAN



ELEVATION



SECTION A-A

FABRICATED TOP OF BEAM ELEVATION TABLE						
Location	Beam No. 1	Beam No. 2	Beam No. 3	Beam No. 4	Beam No. 5	Beam No. 6
℄ Brg. S. Abut.	445.87	445.96	446.03	446.07	445.91	445.74
℄ Pier No. 1	444.28	444.36	444.41	444.44	444.27	444.09
℄ Splice No. 1	444.07	444.15	444.19	444.22	444.05	443.87
℄ Splice No. 2	442.50	442.57	442.61	442.64	442.46	442.27
℄ Pier No. 2	442.25	442.32	442.36	442.38	442.20	442.01
℄ Brg. N. Abut.	440.64	440.71	440.75	440.77	440.59	440.40

For fabrication use only.

FABRICATED TOP OF BEAM ELEVATION TABLE						
Location	Beam No. 7	Beam No. 8	Beam No. 9	Beam No. 10	Beam No. 11	Beam No. 12
℄ Brg. S. Abut.	445.51	445.58	445.63	445.48	445.31	445.11
℄ Pier No. 1	443.81	443.86	443.90	443.73	443.55	443.34
℄ Splice No. 1	443.58	443.63	443.66	443.50	443.32	443.10
℄ Splice No. 2	441.96	442.00	442.04	441.87	441.69	441.47
℄ Pier No. 2	441.70	441.75	441.78	441.61	441.43	441.21
℄ Brg. N. Abut.	440.10	440.14	440.18	440.01	439.82	439.61

For fabrication use only.

NOTES:

1.) See Sheet B22 for Splice Details and Diaphragm Details.
2.) Load carrying components designated N.T.R. shall conform to the Impact Testing Requirements, Zone 2.
3.) All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B21 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	154
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

INTERIOR BEAM MOMENT TABLE						
		0.4 Sp. 1	Pier No. 1	0.5 Sp. 2	Pier No. 2	0.6 Sp. 3
I_s	(in^4)	5660	5660	5660	5660	5660
$I_c(n)$	(in^4)	15065	15065	15065	15065	15065
$I_c(3n)$	(in^4)	10978	10978	10978	10978	10978
$I_c(cr)$	(in^4)		7601		7601	
S_s	(in^3)	414	414	414	414	414
$S_c(n)$	(in^3)	598	598	598	598	598
$S_c(3n)$	(in^3)	540	540	540	540	540
$S_c(cr)$	(in^3)		470		470	
DC1	(k/')	0.867	0.867	0.867	0.867	0.867
M_{DC1}	('k)	289	450	190	357	186
DC2	(k/')	0.173	0.173	0.173	0.173	0.173
M_{DC2}	('k)	58	90	38	71	37
DW	(k/')	0.317	0.317	0.317	0.317	0.317
M_{DW}	('k)	106	165	69	131	68
M_{L+IM}	('k)	772	734	671	643	633
M_u (Strength I)	('k)	1944	2207	1563	1857	1487
$\phi_f M_n$	('k)	2897	2334	2897	2334	2897
f_s DC1	(ksi)	8.4	13.0	5.5	10.3	5.4
f_s DC2	(ksi)	1.3	2.3	0.8	1.8	0.8
f_s DW	(ksi)	2.4	4.2	1.5	3.3	1.5
f_s (L+IM)	(ksi)	15.5	18.7	13.5	16.4	12.7
f_s (Service II)	(ksi)	32.2	43.9	25.4	36.8	24.2
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	42.7	58.3	33.8	48.9	32.3
V_f	(k)	34.7	34.5	35.9	35.9	32.9

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) in uncracked sections, 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) in uncracked sections, 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 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 (kip-ft.). 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.

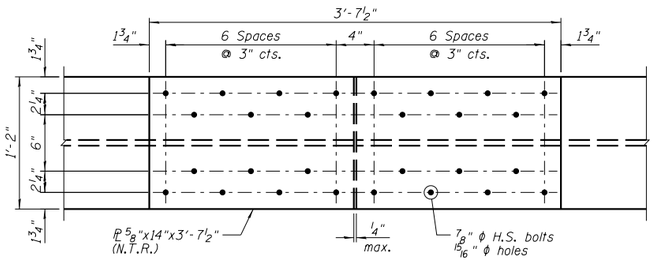
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_{s(L+IM)}$

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

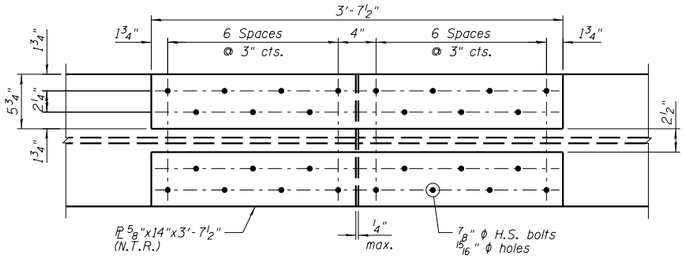
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_{s(L+IM)}$

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

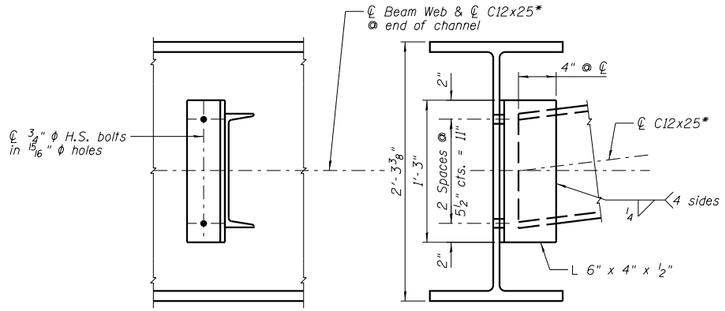
INTERIOR BEAM REACTION TABLE					
		S. Abut.	Pier 1	Pier 2	N. Abut.
R_{DC1}	(k)	23.3	69.2	61.5	18.8
R_{DC2}	(k)	4.5	13.8	12.3	3.6
R_{DW}	(k)	8.2	25.3	22.5	6.6
R_{L+IM}	(k)	77.3	107.1	103.9	73.3
R_{Total}	(k)	113.3	215.4	200.2	102.3



OUTSIDE TOP AND BOTTOM FLANGE



INSIDE TOP AND BOTTOM FLANGE

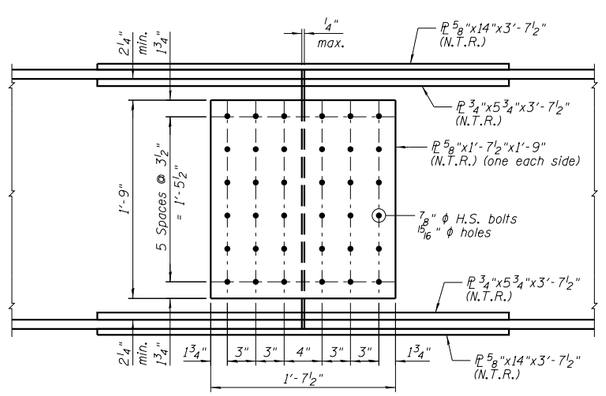


DIAPHRAGM D

(110 - Required for two bridges)

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

*Alternate channels, C12x30, are permitted to facilitate material acquisition. Calculated weight of structural steel is based on C12x25 section. The C12x30, if utilized, shall be provided at no extra cost to the department.



WEB

WEB SPLICE BOLT THREADS ARE EXCLUDED FROM THE SHEAR PLANE.

SPLICE DETAILS

(24 - Required for two bridges)

NOTES:

1.) See Sheet B21 for Splice and Diaphragm Locations.
2.) Load carrying components designated N.T.R. shall conform to the Impact Testing Requirements, Zone 2.
3.) All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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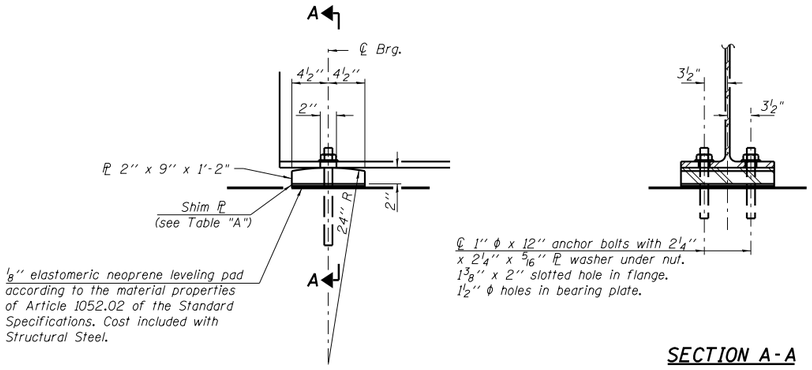
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B22 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	155
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

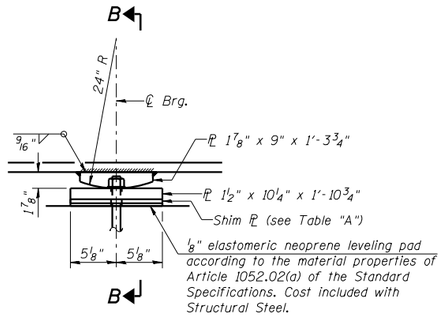


ELEVATION AT ABUTMENTS

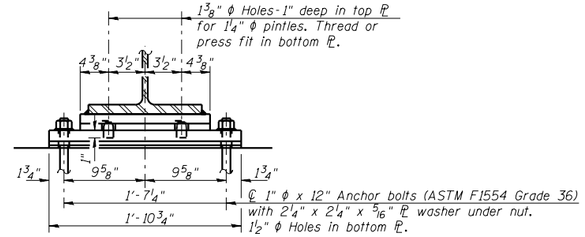
SECTION A-A

FIXED BEARING

(At South Abutment - 6 Required (Southbound))
(At South Abutment - 6 Required (Northbound))
(At North Abutment - 6 Required (Southbound))
(At North Abutment - 6 Required (Northbound))



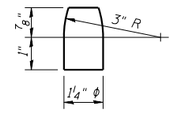
ELEVATION AT PIERS



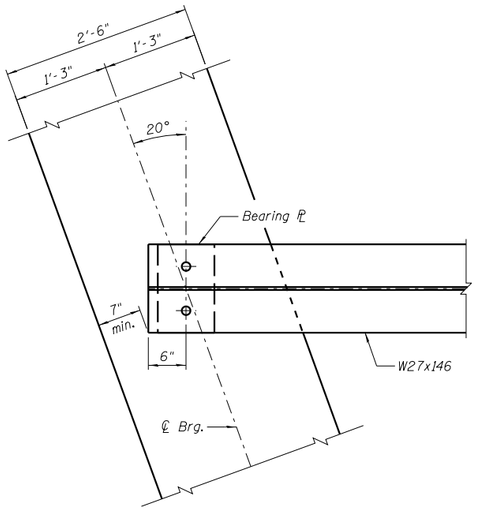
SECTION B-B

FIXED BEARING

(At Pier No. 1 - 6 Required (Southbound))
(At Pier No. 1 - 6 Required (Northbound))
(At Pier No. 2 - 6 Required (Southbound))
(At Pier No. 2 - 6 Required (Northbound))

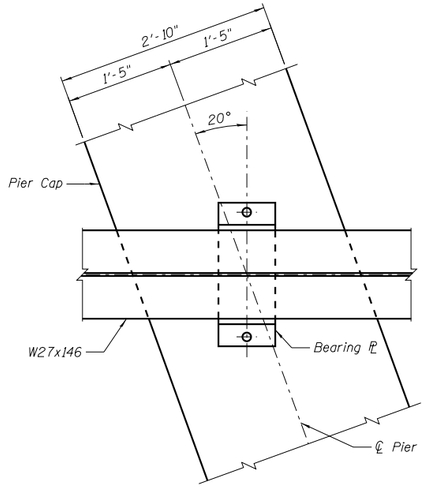


PINTLE



BEARING PLAN AT ABUTMENTS

Notes:
The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.



BEARING PLAN AT PIERS

TABLE "A"

Beam No.	Shim Thickness
S. Abut. - 2	¼"
S. Abut. - 4	½"
S. Abut. - 9	⅝"
Pier 1 - 3	⅝"
Pier 1 - 8	⅝"
Pier 2 - 3	½"
Pier 2 - 8	½"
N. Abut. - 3	½"
N. Abut. - 5	⅛"
N. Abut. - 8	½"
N. Abut. - 11	⅛"

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	96

NOTES:

1.) The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50W.
2.) 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.

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2709 McGraw Drive
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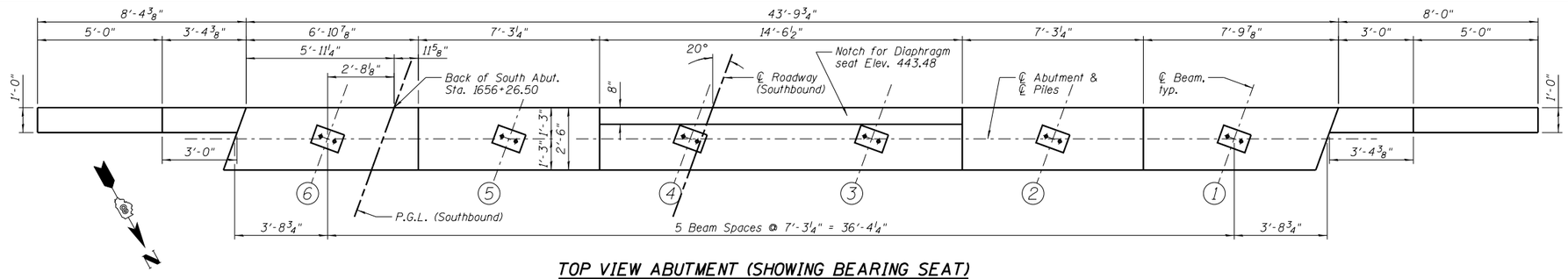
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

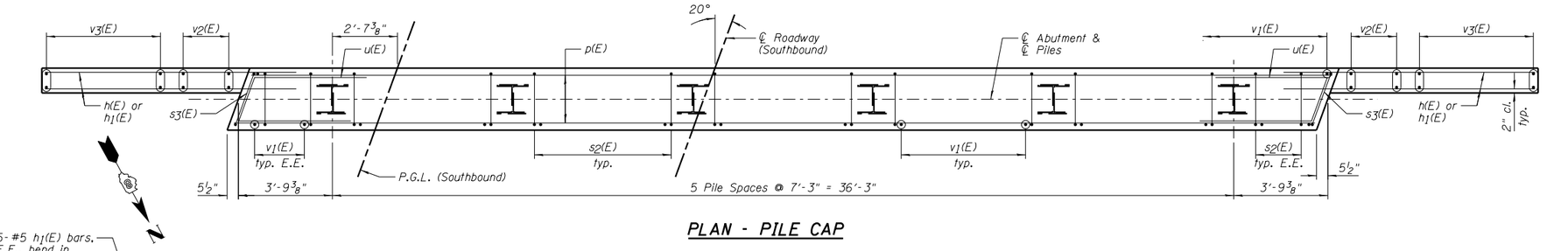
FIXED BEARING DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B23 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	156
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

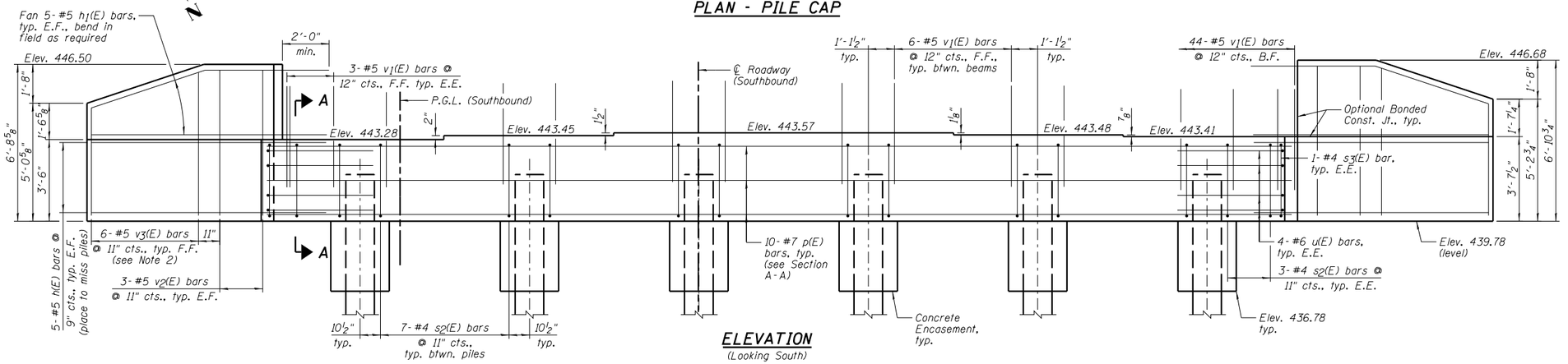
24-8621



TOP VIEW ABUTMENT (SHOWING BEARING SEAT)



PLAN - PILE CAP

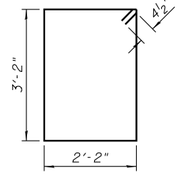


ELEVATION
(Looking South)

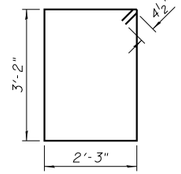
SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	10'-2"	
h1(E)	20	#5	10'-8"	
p(E)	10	#7	43'-6"	
s2(E)	41	#4	11'-5"	
s3(E)	2	#4	11'-7"	
u(E)	8	#6	11'-3"	
v1(E)	78	#5	4'-4"	
v2(E)	12	#5	6'-5"	
v3(E)	12	#5	11'-1"	

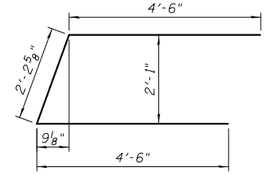
Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	61
Structure Excavation	Cu. Yd.	79
Concrete Structures	Cu. Yd.	18.7
Concrete Encasement	Cu. Yd.	3.3
Reinforcement Bars, Epoxy Coated	Pound	2,360
Furnishing Steel Piles HP14x117	Foot	525
Driving Piles	Foot	525
Test Pile Steel HP14x117	Each	1
Geocomposite Wall Drain	Sq. Yd.	35
Pipe Underdrains for Structures 4"	Foot	97



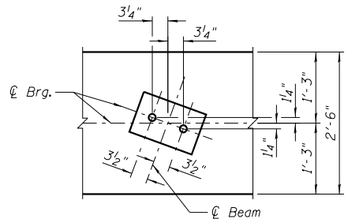
s2(E) BAR



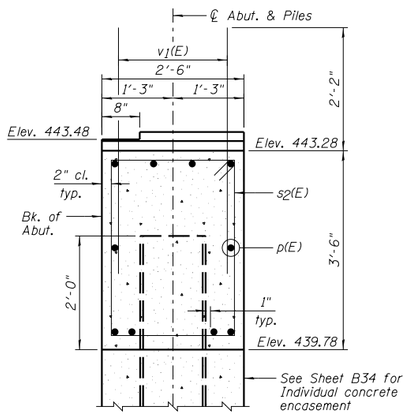
s3(E) BAR



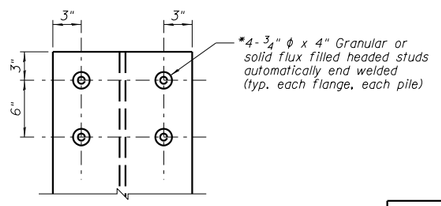
u(E) BAR



TYPICAL ANCHOR BOLT PLACEMENT DETAIL



SECTION A-A



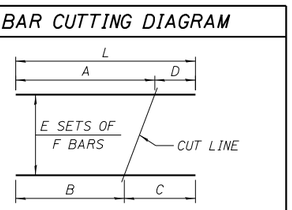
SEISMIC PILE DETAIL

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

PILE DATA:

Pile Type and Size	Steel - HP14x117
Nominal Required Bearing	456 kips
Factored Resistance Available	251 kips
Estimated Pile Length	105 Feet
Number of Production Piles	5
Number of Test Piles	1

BAR CUTTING DIAGRAM



BAR	A	B	C	D	E	F	L
v3(E)	4'-8"	6'-5"	4'-8"	6'-5"	2	6	11'-1"

NOTES:

1.) Pour steps monolithically with cap.
2.) Order v3(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite face of wingwall.
3.) Bend or cut h(E) bars to miss piles.
4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.

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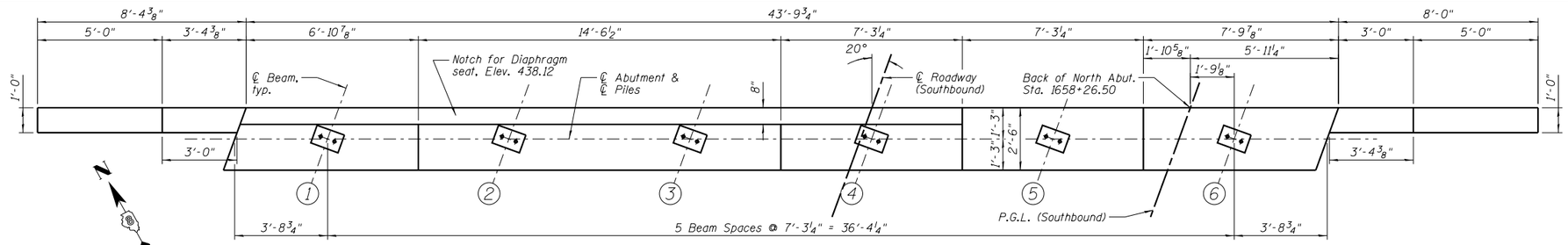
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT, SOUTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB

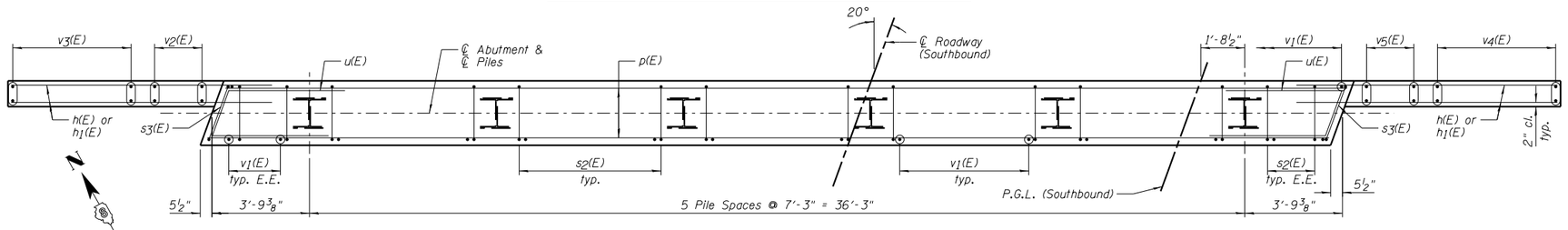
SHEET NO. B24 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	157
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

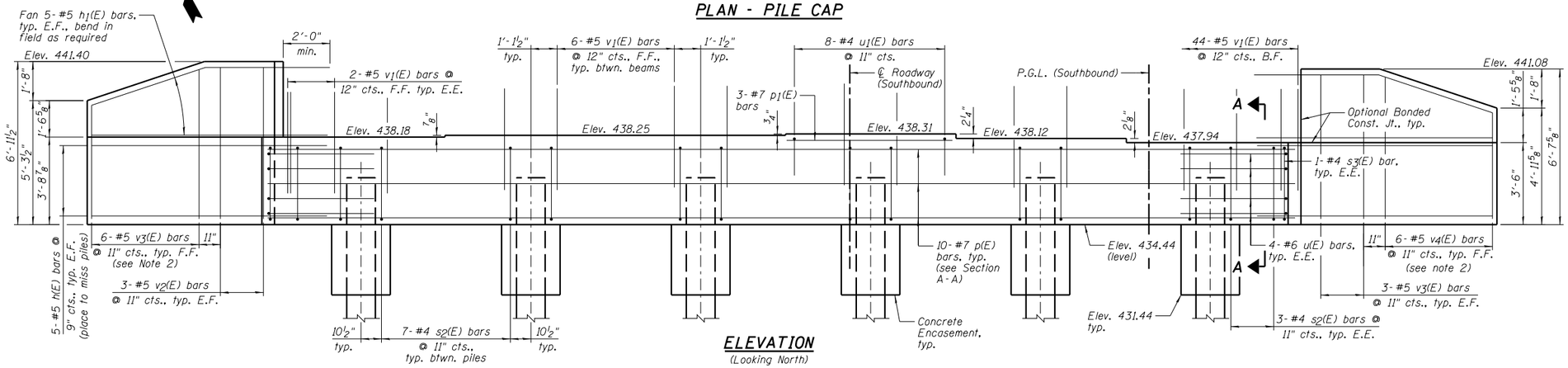
24-8621



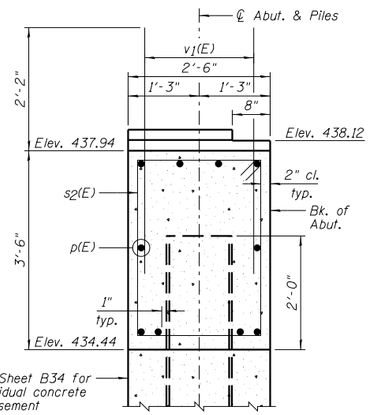
TOP VIEW ABUTMENT (SHOWING BEARING SEAT)



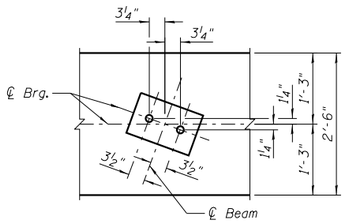
PLAN - PILE CAP



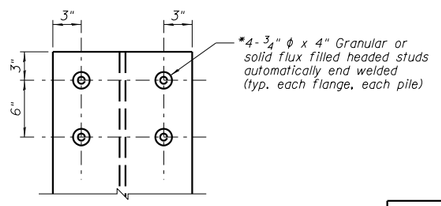
ELEVATION
(Looking North)



SECTION A-A



TYPICAL ANCHOR BOLT PLACEMENT DETAIL



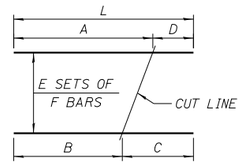
SEISMIC PILE DETAIL

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

PILE DATA:

Pile Type and Size	Steel - HP14x117
Nominal Required Bearing	402 kips
Factored Resistance Available	221 kips
Estimated Pile Length	100 Feet
Number of Production Piles	5
Number of Test Piles	1

BAR CUTTING DIAGRAM

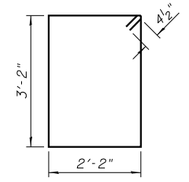


BAR	A	B	C	D	E	F	L
v3(E)	4'-8"	6'-5"	4'-8"	6'-5"	1	6	11'-1"
v4(E)	4'-6"	6'-4"	4'-6"	6'-4"	1	6	10'-10"

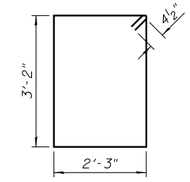
NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	10'-2"	
h1(E)	20	#5	10'-8"	
p(E)	10	#7	43'-6"	
p1(E)	3	#7	6'-11"	
s2(E)	41	#4	11'-5"	
s3(E)	2	#4	11'-7"	
u(E)	8	#6	11'-3"	
u1(E)	8	#4	6'-8"	
v1(E)	78	#5	4'-4"	
v2(E)	6	#5	6'-5"	
v3(E)	6	#5	11'-1"	
v4(E)	6	#5	10'-10"	
v5(E)	6	#5	6'-4"	

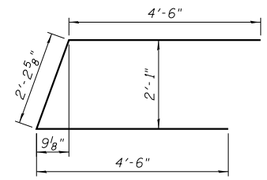
Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	60
Structure Excavation	Cu. Yd.	79
Concrete Structures	Cu. Yd.	18.9
Concrete Encasement	Cu. Yd.	3.3
Reinforcement Bars, Epoxy Coated	Pound	2,440
Furnishing Steel Piles HP14x117	Foot	500
Driving Piles	Foot	500
Test Pile Steel HP14x117	Each	1
Geocomposite Wall Drain	Sq. Yd.	35
Pipe Underdrains for Structures 4"	Foot	96



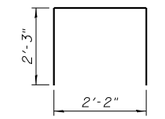
s2(E) BAR



s3(E) BAR



u(E) BAR



u1(E) BAR

NOTES:

1.) Pour steps monolithically with cap.
2.) Order v3(E) and v4(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite face of wingwall.
3.) Bend or cut h(E) bars to miss piles.
4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.

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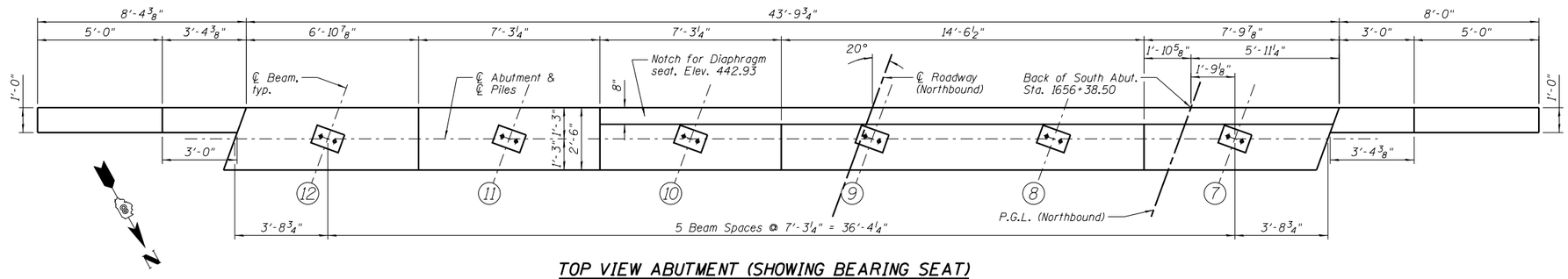
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

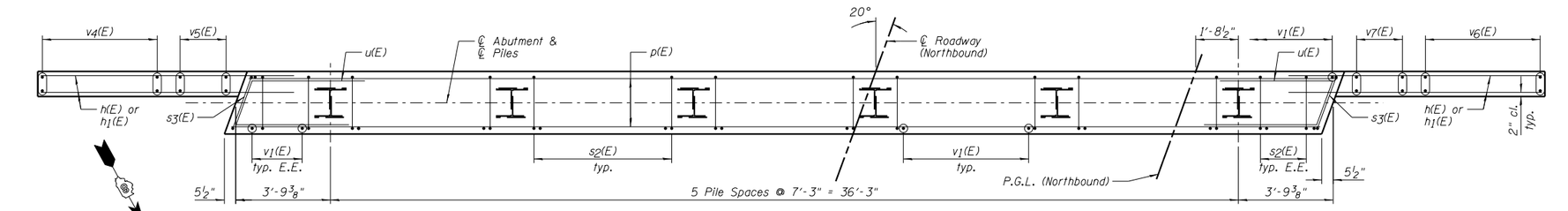
NORTH ABUTMENT, SOUTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B25 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	158
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

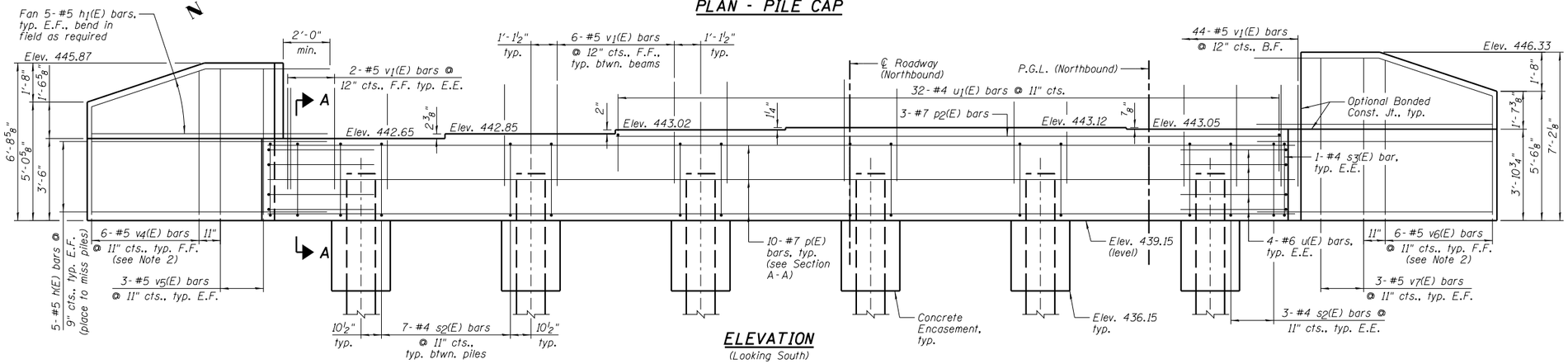
24-8621



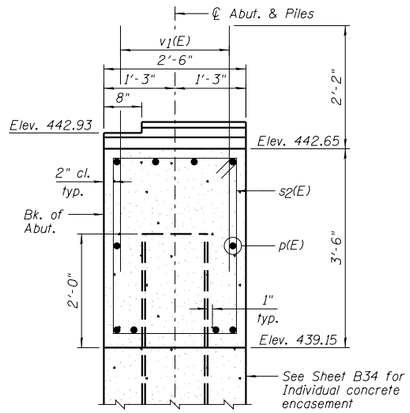
TOP VIEW ABUTMENT (SHOWING BEARING SEAT)



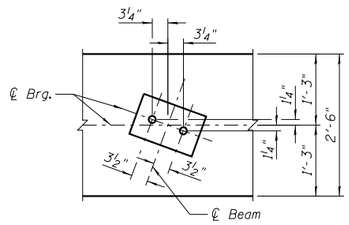
PLAN - PILE CAP



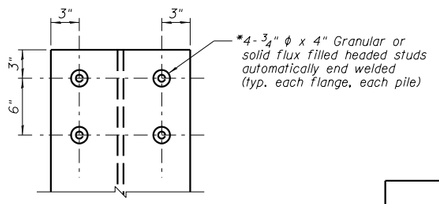
ELEVATION
(Looking South)



SECTION A-A



TYPICAL ANCHOR BOLT PLACEMENT DETAIL



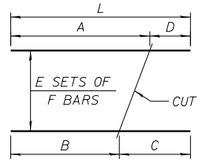
SEISMIC PILE DETAIL

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

PILE DATA:

Pile Type and Size	Steel - HP14x117
Nominal Required Bearing	421 kips
Factored Resistance Available	232 kips
Estimated Pile Length	96 Feet
Number of Production Piles	5
Number of Test Piles	1

BAR CUTTING DIAGRAM

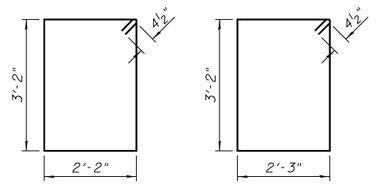


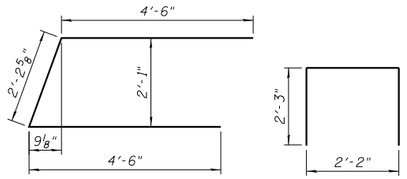
BAR	A	B	C	D	E	F	L
v4(E)	4'-6"	6'-4"	4'-6"	6'-4"	1	6	10'-10"
v6(E)	5'-0"	6'-8"	5'-0"	6'-8"	1	6	11'-8"

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	10'-2"	
h1(E)	20	#5	10'-8"	
p(E)	10	#7	43'-6"	
p2(E)	3	#7	28'-4"	
s2(E)	41	#4	11'-5"	
s3(E)	2	#4	11'-7"	
u(E)	8	#6	11'-3"	
u1(E)	32	#4	6'-8"	
v1(E)	78	#5	4'-4"	
v4(E)	6	#5	10'-10"	
v5(E)	6	#5	6'-4"	
v6(E)	6	#5	11'-8"	
v7(E)	6	#5	6'-8"	

Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	64
Structure Excavation	Cu. Yd.	82
Concrete Structures	Cu. Yd.	19.3
Concrete Encasement	Cu. Yd.	3.3
Reinforcement Bars, Epoxy Coated	Pound	2,680
Furnishing Steel Piles HP14x117	Foot	480
Driving Piles	Foot	480
Test Pile Steel HP14x117	Each	1
Geocomposite Wall Drain	Sq. Yd.	35
Pipe Underdrains for Structures 4"	Foot	98





NOTES:

1.) Pour steps monolithically with cap.
2.) Order v4(E) and v6(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite face of wingwall.
3.) Bend or cut h(E) bars to miss piles.
4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.

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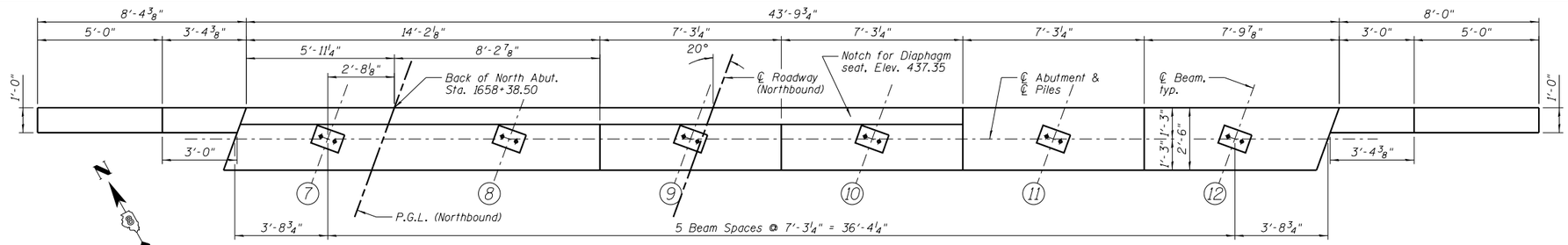
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

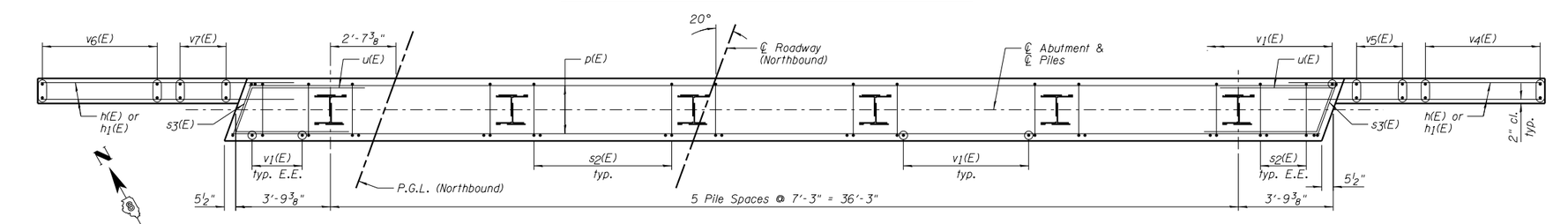
SOUTH ABUTMENT, NORTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B26 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	159
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

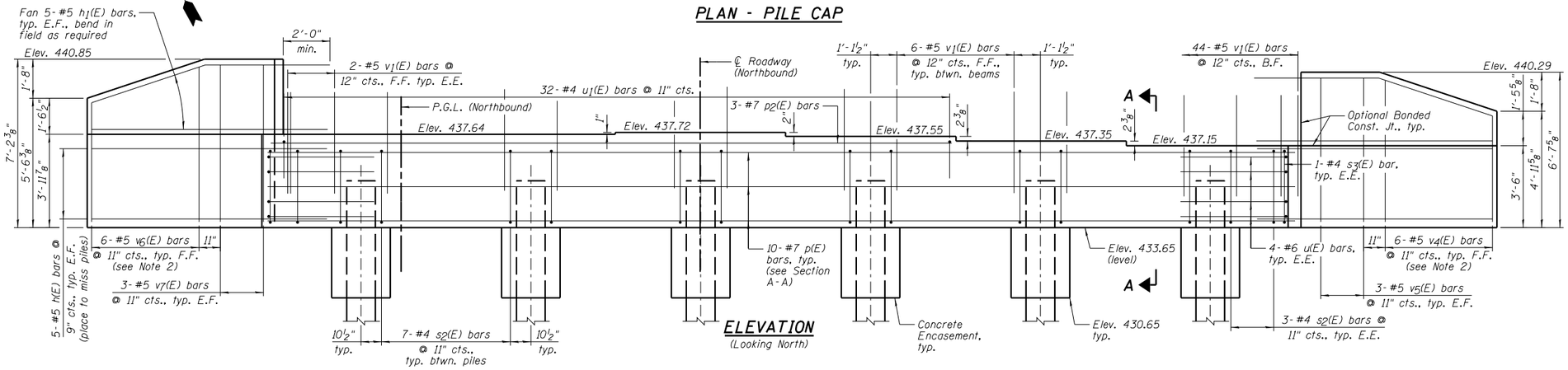
24-8621



TOP VIEW ABUTMENT (SHOWING BEARING SEAT)

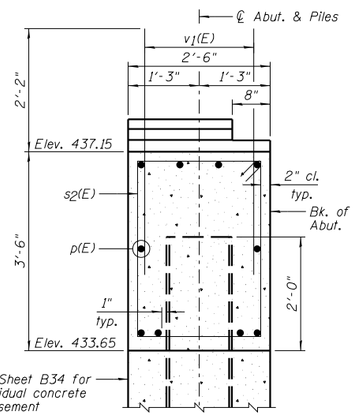


PLAN - PILE CAP

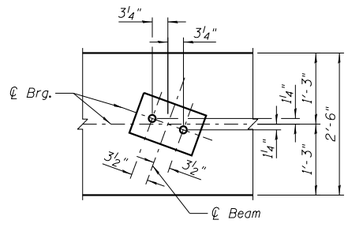


ELEVATION

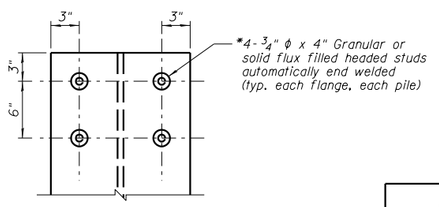
(Looking North)



SECTION A-A



TYPICAL ANCHOR BOLT PLACEMENT DETAIL



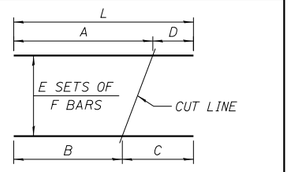
SEISMIC PILE DETAIL

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

PILE DATA:

Pile Type and Size	Steel - HP14x117
Nominal Required Bearing	386 kips
Factored Resistance Available	212 kips
Estimated Pile Length	99 Feet
Number of Production Piles	5
Number of Test Piles	1

BAR CUTTING DIAGRAM

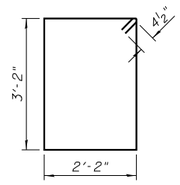


BAR	A	B	C	D	E	F	L
v4(E)	4'-6"	6'-4"	4'-6"	6'-4"	1	6	10'-10"
v6(E)	5'-0"	6'-8"	5'-0"	6'-8"	1	6	11'-8"

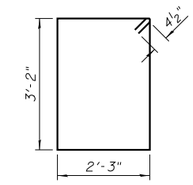
NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	20	#5	10'-2"	
h1(E)	20	#5	10'-8"	
p(E)	10	#7	43'-6"	
p2(E)	3	#7	28'-4"	
s2(E)	41	#4	11'-5"	
s3(E)	2	#4	11'-7"	
u(E)	8	#6	11'-3"	
u1(E)	32	#4	6'-8"	
v1(E)	78	#5	4'-4"	
v4(E)	6	#5	10'-10"	
v5(E)	6	#5	6'-4"	
v6(E)	6	#5	11'-8"	
v7(E)	6	#5	6'-8"	

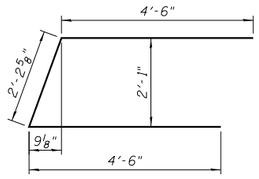
Item	Unit	Quantity
Porous Granular Embankment, Special	Cu. Yd.	63
Structure Excavation	Cu. Yd.	82
Concrete Structures	Cu. Yd.	19.3
Concrete Encasement	Cu. Yd.	3.3
Reinforcement Bars, Epoxy Coated	Pound	2,680
Furnishing Steel Piles HP14x117	Foot	495
Driving Piles	Foot	495
Test Pile Steel HP14x117	Each	1
Geocomposite Wall Drain	Sq. Yd.	35
Pipe Underdrains for Structures 4"	Foot	98



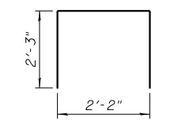
s2(E) BAR



s3(E) BAR



u(E) BAR



u1(E) BAR

NOTES:

1.) Pour steps monolithically with cap.
2.) Order v4(E) and v6(E) bars full length. Cut according to Bar Cutting Diagram. Use remainder of bars in opposite face of wingwall.
3.) Bend or cut h(E) bars to miss piles.
4.) E.E. denotes Each End, F.F. denotes Front Face, B.F. denotes Back Face and E.F. denotes Each Face.

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2709 McGraw Drive
Bloomington, Illinois 61704
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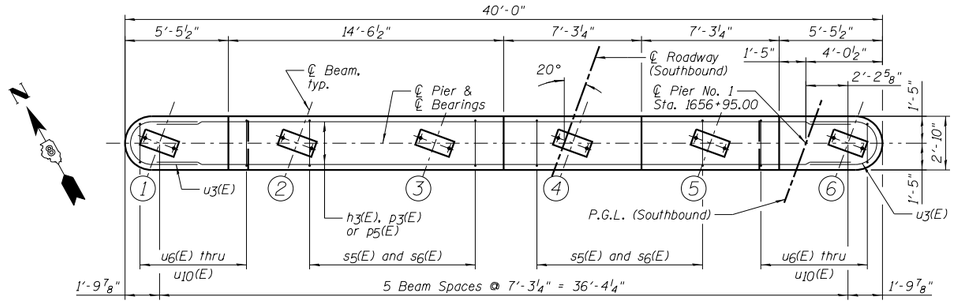
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

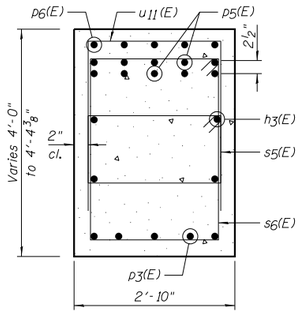
NORTH ABUTMENT, NORTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B27 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	160
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

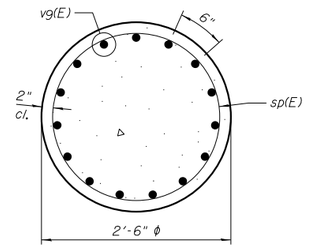
24-8621



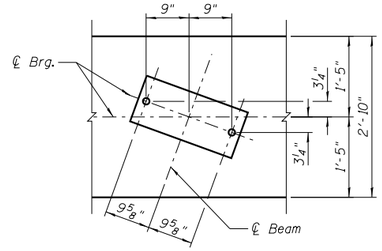
TOP PLAN



SECTION A-A



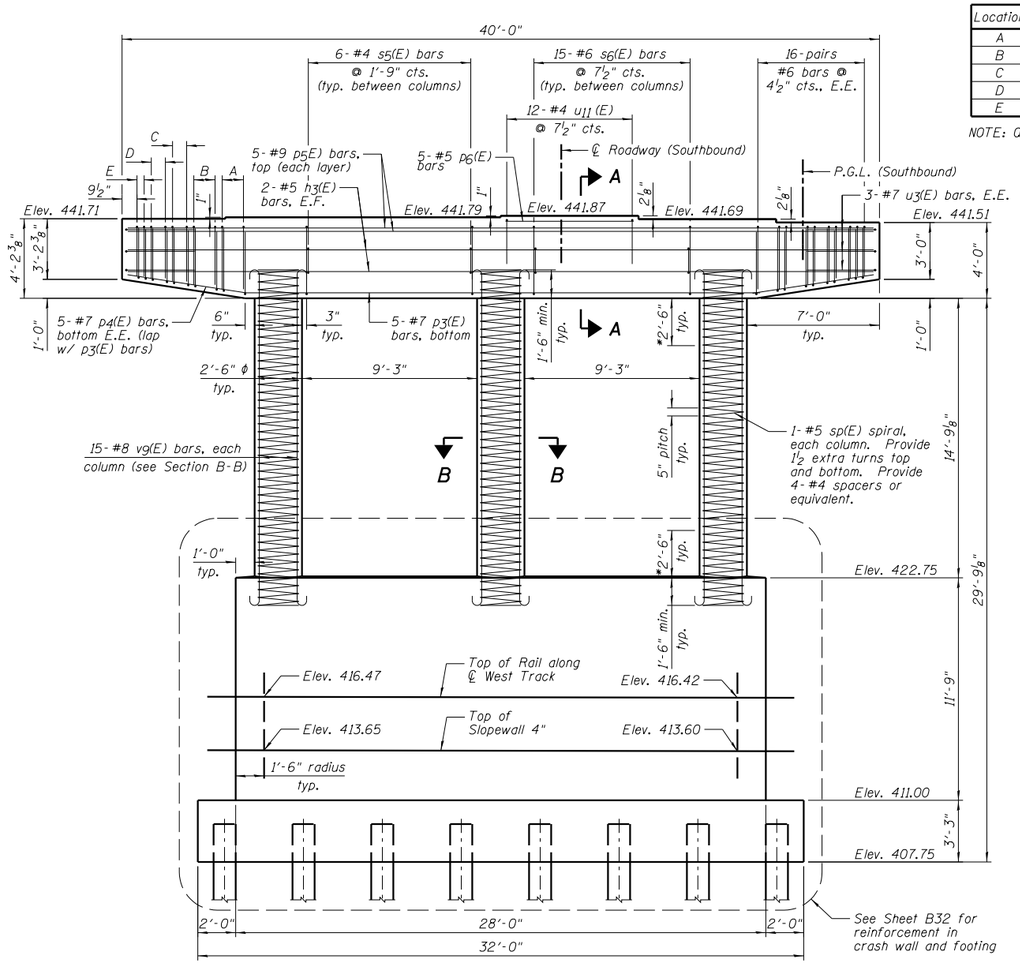
SECTION B-B



TYPICAL ANCHOR BOLT PLACEMENT DETAIL

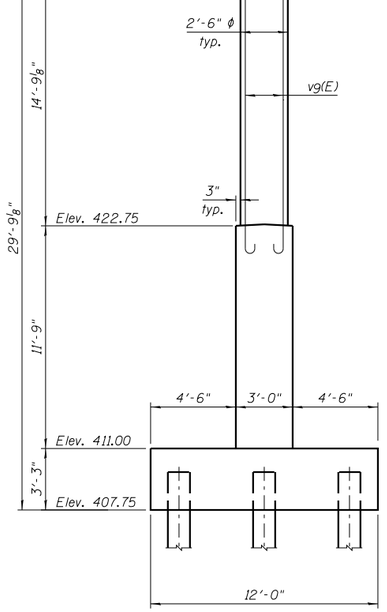
Location	Bar	Bar Quantity
A	u6(E)	8
B	u7(E)	8
C	u8(E)	6
D	u9(E)	6
E	u10(E)	4

NOTE: Quantity is for each end.



ELEVATION

(Looking North)



END VIEW

PIER NO. 1 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h2(E)	18	#6	25'-0"	
	h3(E)	4	#5	36'-10"	
	h4(E)	14	#6	17'-4"	
	n(E)	56	#8	7'-11"	
	n1(E)	52	#8	9'-11"	
	p3(E)	5	#7	26'-8"	
	p4(E)	10	#7	11'-7"	
	p5(E)	10	#9	36'-10"	
	p6(E)	5	#5	6'-11"	
	s4(E)	255	#4	3'-9"	
	s5(E)	12	#4	8'-1"	
	s6(E)	30	#6	13'-8"	
**	sp(E)	3	#5	18'-1"	
	t1(E)	51	#7	11'-6"	
	t2(E)	33	#6	13'-10"	
	u2(E)	14	#6	11'-10"	
	u3(E)	6	#7	14'-1"	
	u4(E)	26	#8	13'-10"	
	u5(E)	25	#8	17'-10"	
	u6(E)	16	#6	9'-2"	
	u7(E)	16	#6	8'-10"	
	u8(E)	12	#6	8'-6"	
	u9(E)	12	#6	8'-2"	
	u10(E)	8	#6	7'-8"	
	u11(E)	12	#4	7'-0"	
	u12(E)	18	#6	13'-10"	
	v8(E)	6	#8	7'-7"	
	v9(E)	45	#8	19'-11"	
	w1(E)	30	#6	31'-6"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	129
Concrete Structures	Cu. Yd.	106.7
Reinforcement Bars, Epoxy Coated	Pound	17,500
Mechanical Splicers	Each	136
Furnishing Metal Shell Piles 14" x 0.312"	Foot	1,035
Driving Piles	Foot	1,035
Test Pile Metal Shells	Each	1

** Length is height of spiral.

PILE DATA

Pile Type and Size	Metal Shell - 14 in. dia. x 0.312 in. walls
Nominal Required Bearing	413 kips
Factored Resistance Available	227 kips
Estimated Pile Length	45 Feet
Number of Production Piles	23
Number of Test Piles	1

NOTES:

1.) Space reinforcement in caps to miss anchor bolts.
2.) Pour steps monolithically with cap.
3.) E.F. denotes Each Face and E.E. denotes Each End.
4.) *Limits of plastic hinging region. Splicing of reinforcement will not be allowed in this region.
5.) See Sheet B32 for details of Crash Wall, Footing and Pile Layout.
6.) See Sheet B33 for Bar Bending Diagrams.

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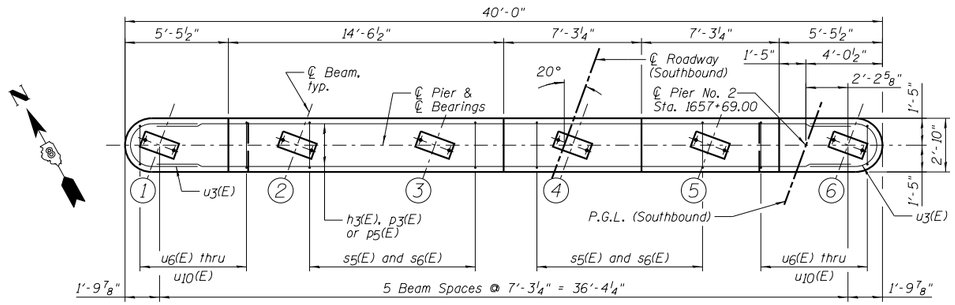
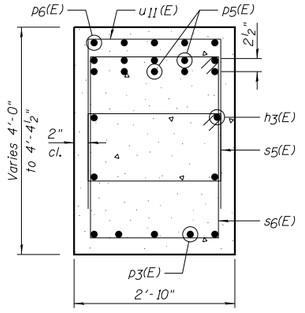
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1, SOUTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B28 OF 50 SHEETS

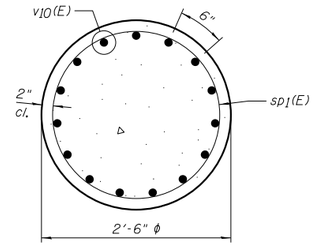
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	161
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



TOP PLAN



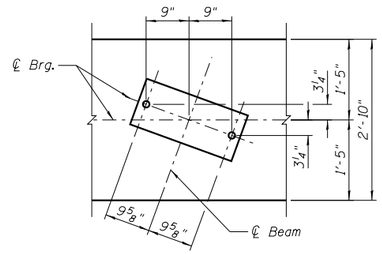
SECTION A-A



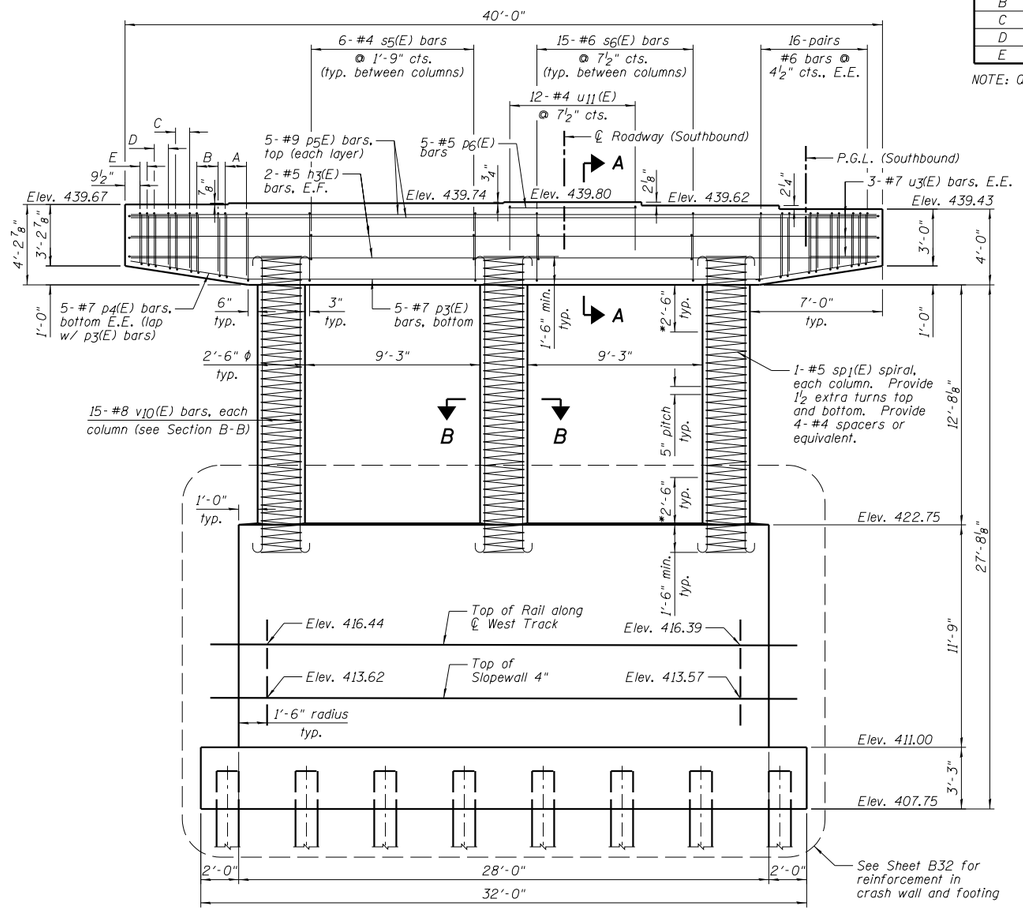
SECTION B-B

Location	Bar	Bar Quantity
A	u6(E)	8
B	u7(E)	8
C	u8(E)	6
D	u9(E)	6
E	u10(E)	4

NOTE: Quantity is for each end.

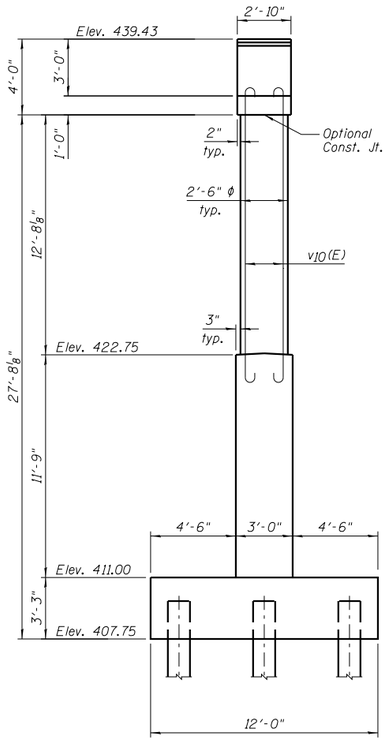


TYPICAL ANCHOR BOLT PLACEMENT DETAIL



ELEVATION

(Looking North)



END VIEW

PIER NO. 2 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h2(E)	18	#6	25'-0"	
	h3(E)	4	#5	36'-10"	
	h4(E)	14	#6	17'-4"	
	n(E)	56	#8	7'-11"	
	n1(E)	52	#8	9'-11"	
	p3(E)	5	#7	26'-8"	
	p4(E)	10	#7	11'-7"	
	p5(E)	10	#9	36'-10"	
	p6(E)	5	#5	6'-11"	
	s4(E)	255	#4	3'-9"	
	s5(E)	12	#4	8'-1"	
	s6(E)	30	#6	13'-8"	
**	sp1(E)	3	#5	16'-0"	
	t1(E)	51	#7	11'-6"	
	t2(E)	33	#6	13'-10"	
	u2(E)	14	#6	11'-10"	
	u3(E)	6	#7	14'-1"	
	u4(E)	26	#8	13'-10"	
	u5(E)	25	#8	17'-10"	
	u6(E)	16	#6	9'-2"	
	u7(E)	16	#6	8'-10"	
	u8(E)	12	#6	8'-6"	
	u9(E)	12	#6	8'-2"	
	u10(E)	8	#6	7'-8"	
	u11(E)	12	#4	7'-0"	
	u12(E)	18	#6	13'-10"	
	v8(E)	6	#8	7'-7"	
	v10(E)	45	#8	17'-10"	
	w1(E)	30	#6	31'-6"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	129
Concrete Structures	Cu. Yd.	105.7
Reinforcement Bars, Epoxy Coated	Pound	17,140
Mechanical Splicers	Each	136
Furnishing Metal Shell Piles 14" x 0.312"	Foot	943
Driving Piles	Foot	943
Test Pile Metal Shells	Each	1

** Length is height of spiral.

PILE DATA

Pile Type and Size	Metal Shell - 14 in. dia. x 0.312 in. walls
Nominal Required Bearing	437 kips
Factored Resistance Available	240 kips
Estimated Pile Length	41 Feet
Number of Production Piles	23
Number of Test Piles	1

NOTES:

1.) Space reinforcement in caps to miss anchor bolts.
2.) Pour steps monolithically with cap.
3.) E.F. denotes Each Face and E.E. denotes Each End.
4.) *Limits of plastic hinging region. Splicing of reinforcement will not be allowed in this region.
5.) See Sheet B32 for details of Crash Wall, Footing and Pile Layout.
6.) See Sheet B33 for Bar Bending Diagrams.

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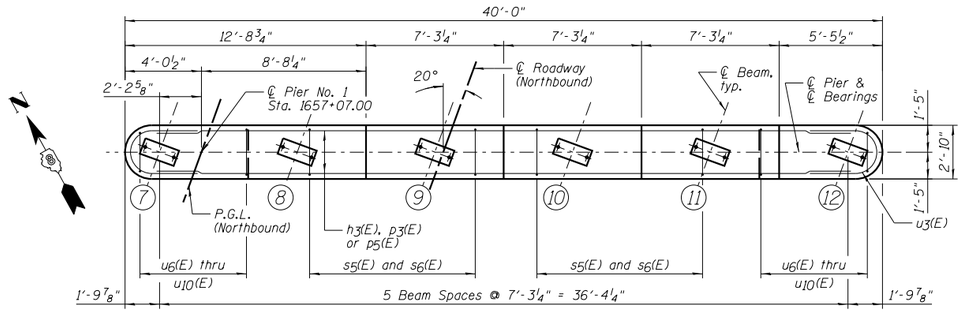
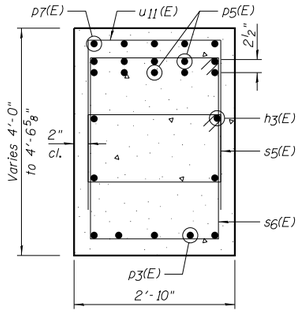
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2, SOUTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B29 OF 50 SHEETS

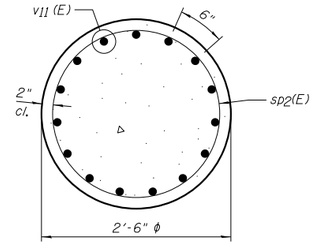
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	162
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



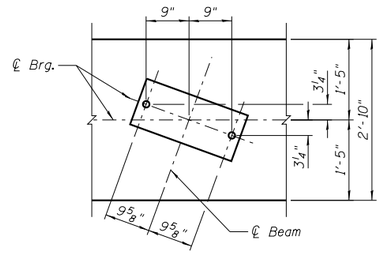
TOP PLAN



SECTION A-A



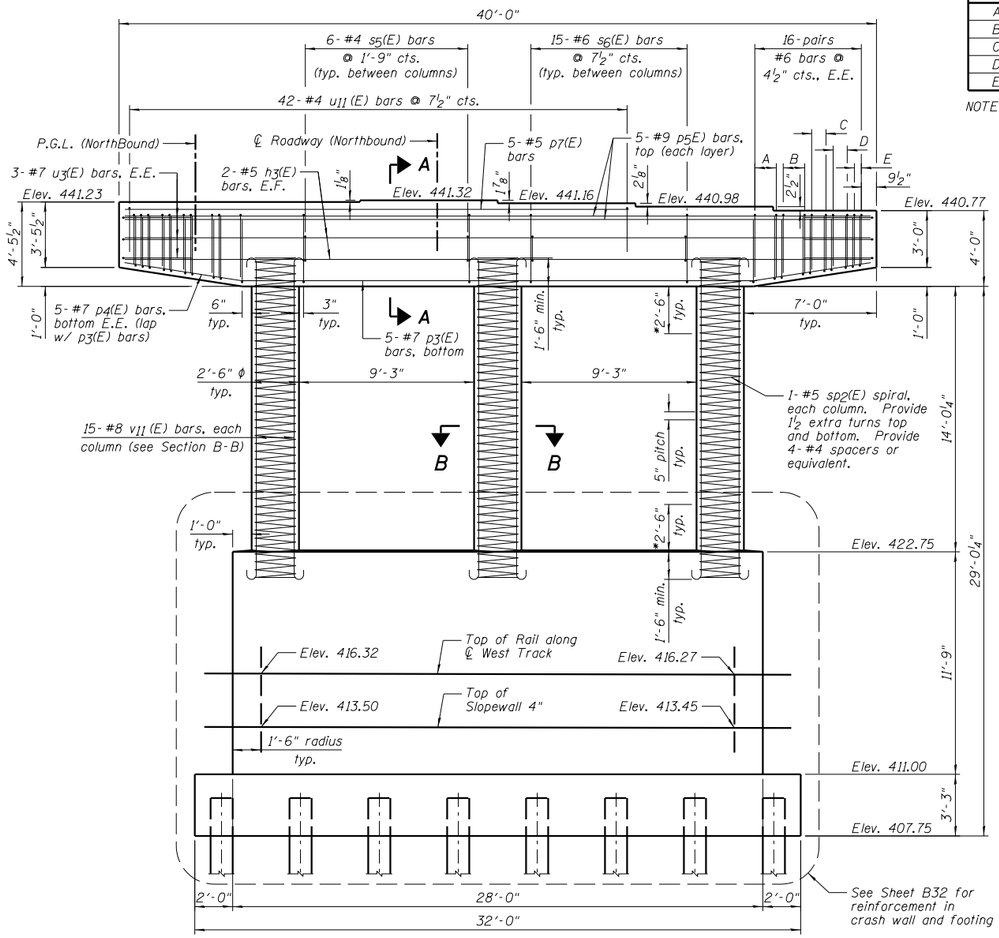
SECTION B-B



TYPICAL ANCHOR BOLT PLACEMENT DETAIL

Location	Bar	Bar Quantity
A	u6(E)	8
B	u7(E)	8
C	u8(E)	6
D	u9(E)	6
E	u10(E)	4

NOTE: Quantity is for each end.



ELEVATION

(Looking North)

END VIEW

PIER NO. 1 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h2(E)	18	#6	25'-0"	
	h3(E)	4	#5	36'-10"	
	h4(E)	14	#6	17'-4"	
	n(E)	56	#8	7'-11"	
	n1(E)	52	#8	9'-11"	
	p3(E)	5	#7	26'-8"	
	p4(E)	10	#7	11'-7"	
	p5(E)	10	#9	36'-10"	
	p7(E)	5	#5	25'-8"	
	s4(E)	255	#4	3'-9"	
	s5(E)	12	#4	8'-1"	
	s6(E)	30	#6	13'-8"	
**	sp2(E)	3	#5	17'-4"	
	t1(E)	51	#7	11'-6"	
	t2(E)	33	#6	13'-10"	
	u2(E)	14	#6	11'-10"	
	u3(E)	6	#7	14'-1"	
	u4(E)	26	#8	13'-10"	
	u5(E)	25	#8	17'-10"	
	u6(E)	16	#6	9'-2"	
	u7(E)	16	#6	8'-10"	
	u8(E)	12	#6	8'-6"	
	u9(E)	12	#6	8'-2"	
	u10(E)	8	#6	7'-8"	
	u11(E)	42	#4	7'-0"	
	u12(E)	18	#6	13'-10"	
	v8(E)	6	#8	7'-7"	
	v11(E)	45	#8	19'-3"	
	w1(E)	30	#6	31'-6"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	127
Concrete Structures	Cu. Yd.	106.9
Reinforcement Bars, Epoxy Coated	Pound	17,620
Mechanical Splicers	Each	136
Furnishing Metal Shell Piles 14" x 0.312"	Foot	966
Driving Piles	Foot	966
Test Pile Metal Shells	Each	1

** Length is height of spiral.

PILE DATA

Pile Type and Size	Metal Shell - 14 in. dia. x 0.312 in. walls
Nominal Required Bearing	370 kips
Factored Resistance Available	203 kips
Estimated Pile Length	42 Feet
Number of Production Piles	23
Number of Test Piles	1

NOTES:

1.) Space reinforcement in caps to miss anchor bolts.
2.) Pour steps monolithically with cap.
3.) E.F. denotes Each Face and E.E. denotes Each End.
4.) *Limits of plastic hinging region. Splicing of reinforcement will not be allowed in this region.
5.) See Sheet B32 for details of Crash Wall, Footing and Pile Layout.
6.) See Sheet B33 for Bar Bending Diagrams.

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DATE - 10/18/12	CHECKED - MSW	REVISED

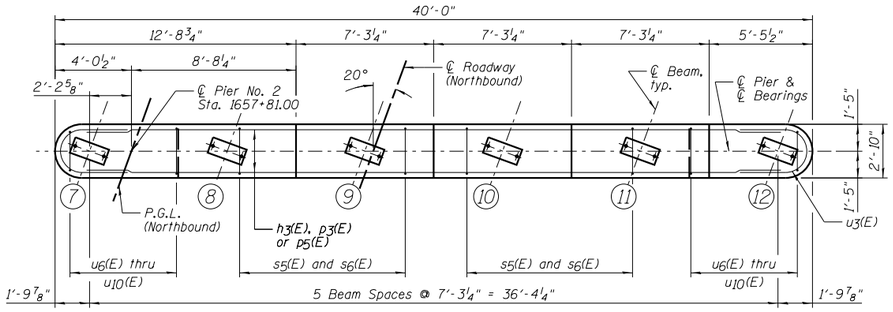
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 1, NORTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB

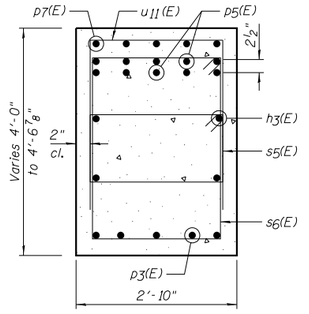
SHEET NO. B30 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	163
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

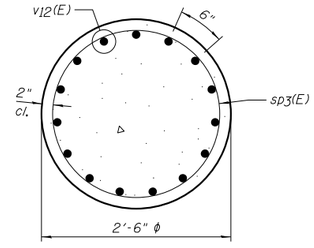
24-8621



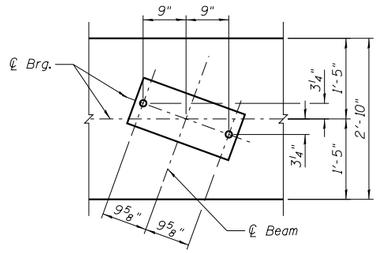
TOP PLAN



SECTION A-A



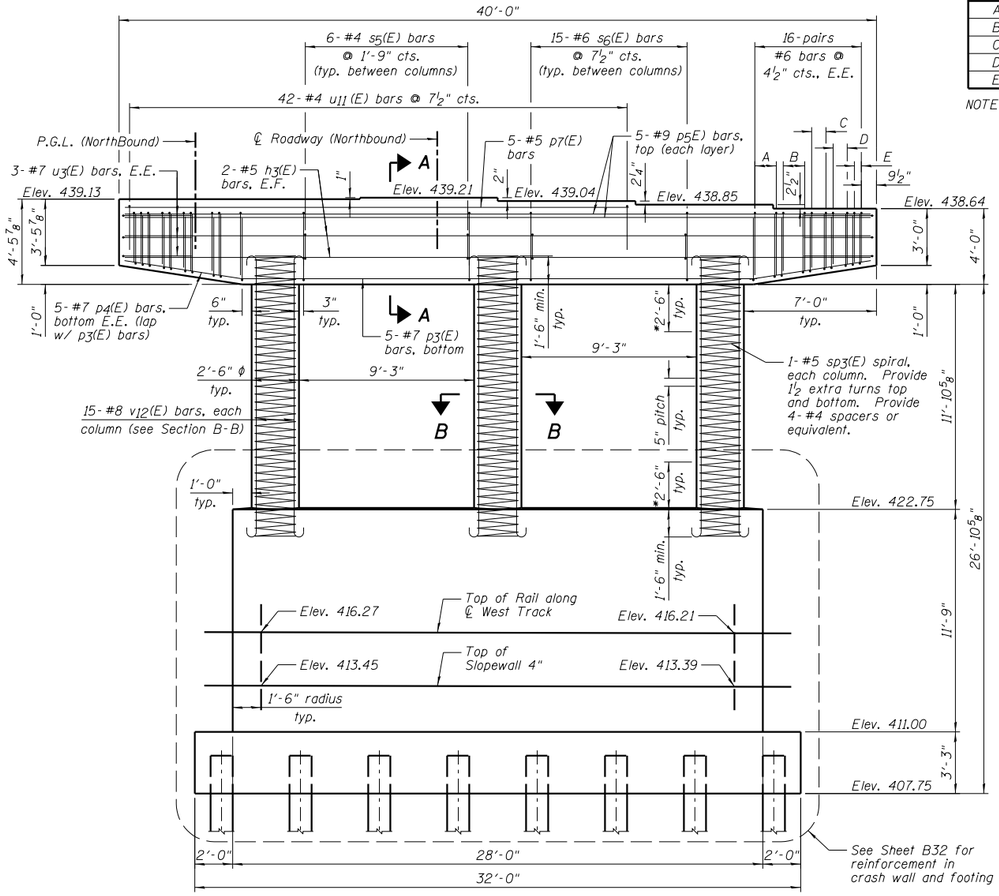
SECTION B-B



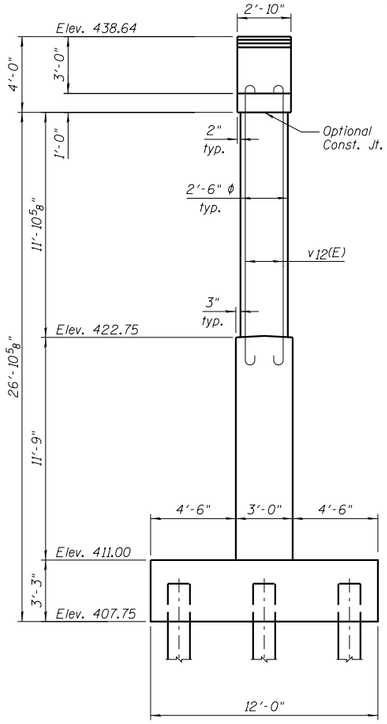
TYPICAL ANCHOR BOLT PLACEMENT DETAIL

Location	Bar	Bar Quantity
A	u6(E)	8
B	u7(E)	8
C	u8(E)	6
D	u9(E)	6
E	u10(E)	4

NOTE: Quantity is for each end.



ELEVATION
(Looking North)



END VIEW

PIER NO. 2 BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	h2(E)	18	#6	25'-0"	
	h3(E)	4	#5	36'-10"	
	h4(E)	14	#6	17'-4"	
	n(E)	56	#8	7'-11"	
	n1(E)	52	#8	9'-11"	
	p3(E)	5	#7	26'-8"	
	p4(E)	10	#7	11'-7"	
	p5(E)	10	#9	36'-10"	
	p7(E)	5	#5	25'-8"	
	s4(E)	255	#4	3'-9"	
	s5(E)	12	#4	8'-1"	
	s6(E)	30	#6	13'-8"	
**	sp3(E)	3	#5	15'-2"	
	t1(E)	51	#7	11'-6"	
	t2(E)	33	#6	13'-10"	
	u2(E)	14	#6	11'-10"	
	u3(E)	6	#7	14'-1"	
	u4(E)	26	#8	13'-10"	
	u5(E)	25	#8	17'-10"	
	u6(E)	16	#6	9'-2"	
	u7(E)	16	#6	8'-10"	
	u8(E)	12	#6	8'-6"	
	u9(E)	12	#6	8'-2"	
	u10(E)	8	#6	7'-8"	
	u11(E)	42	#4	7'-0"	
	u12(E)	18	#6	13'-10"	
	v8(E)	6	#8	7'-7"	
	v12(E)	45	#8	17'-0"	
	w1(E)	30	#6	31'-6"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	127
Concrete Structures	Cu. Yd.	105.8
Reinforcement Bars, Epoxy Coated	Pound	17,230
Mechanical Splicers	Each	136
Furnishing Metal Shell Piles 14" x 0.312"	Foot	1,242
Driving Piles	Foot	1,242
Test Pile Metal Shells	Each	1

** Length is height of spiral.

PILE DATA

Pile Type and Size	Metal Shell - 14 in. dia. x 0.312 in. walls
Nominal Required Bearing	436 kips
Factored Resistance Available	240 kips
Estimated Pile Length	54 Feet
Number of Production Piles	23
Number of Test Piles	1

NOTES:

1.) Space reinforcement in caps to miss anchor bolts.
2.) Pour steps monolithically with cap.
3.) E.F. denotes Each Face and E.E. denotes Each End.
4.) *Limits of plastic hinging region. Splicing of reinforcement will not be allowed in this region.
5.) See Sheet B32 for details of Crash Wall, Footing and Pile Layout.
6.) See Sheet B33 for Bar Bending Diagrams.

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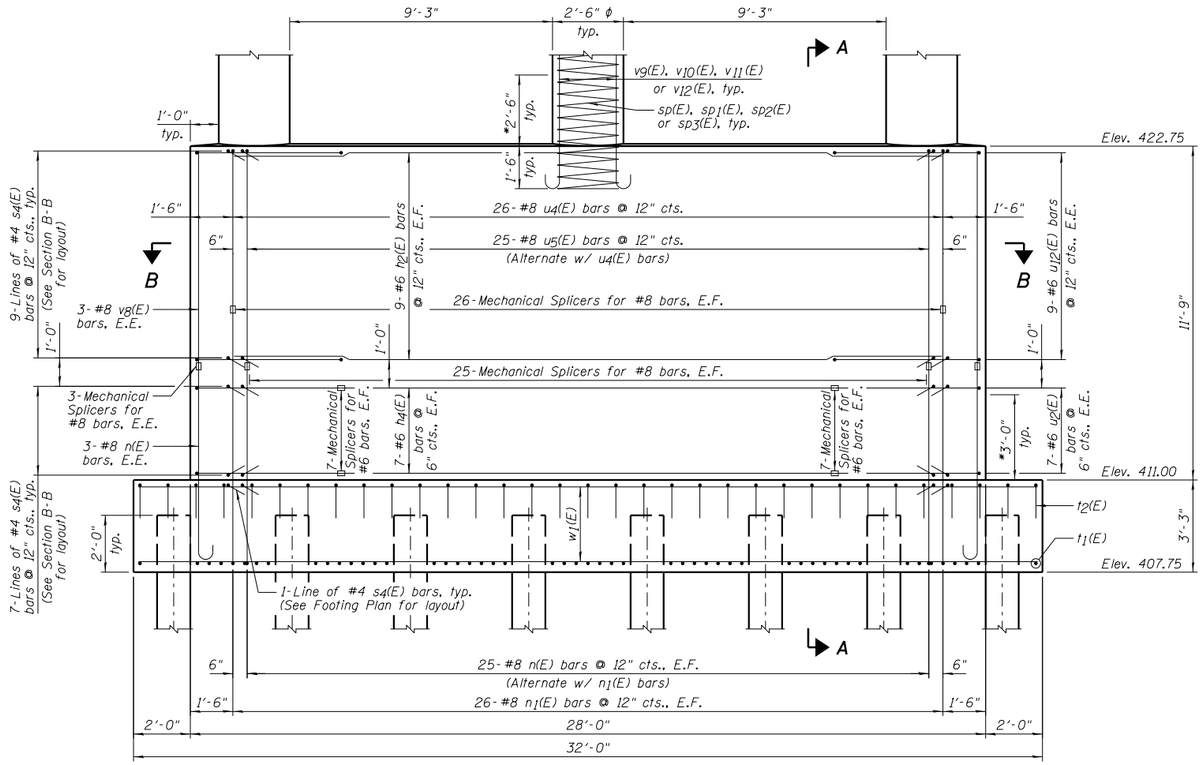
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NO. 2, NORTHBOUND
STRUCTURE NO. 082-0314 NB & 082-0315 SB

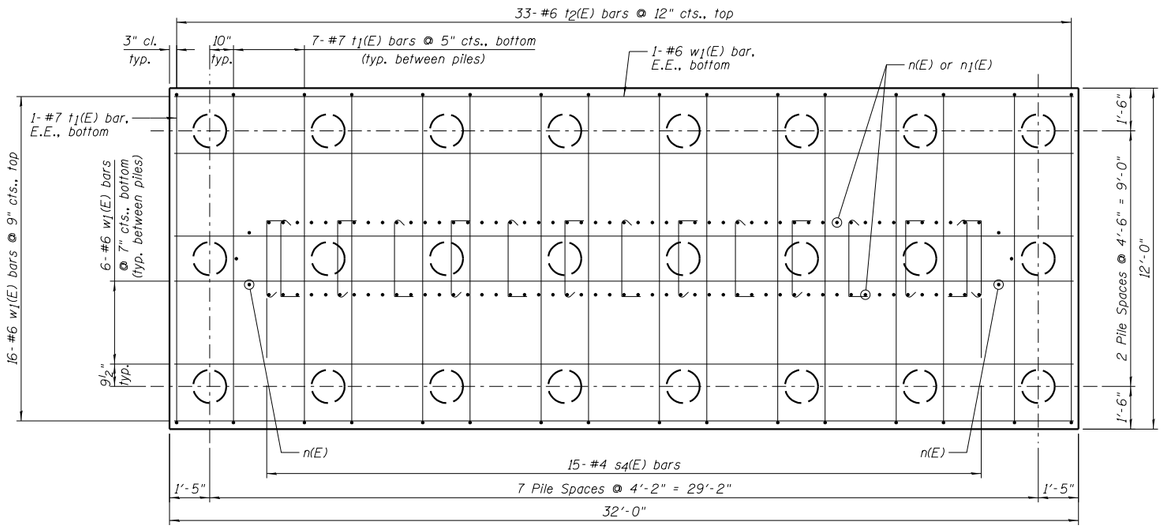
SHEET NO. B31 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	164
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

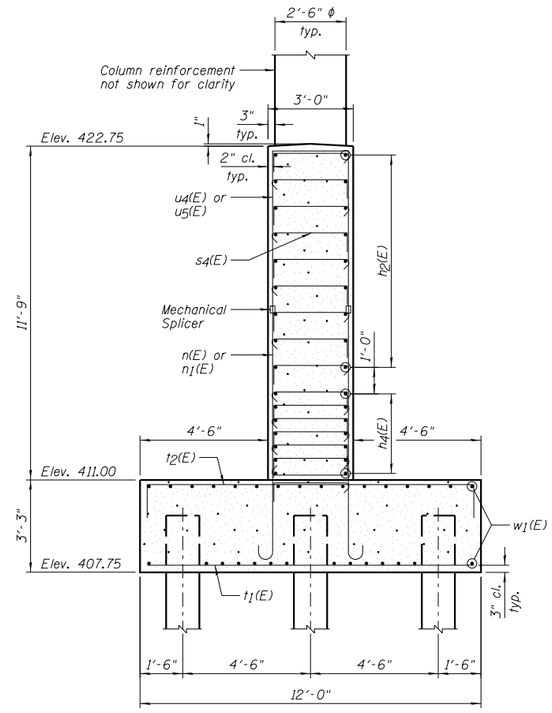
24-8621



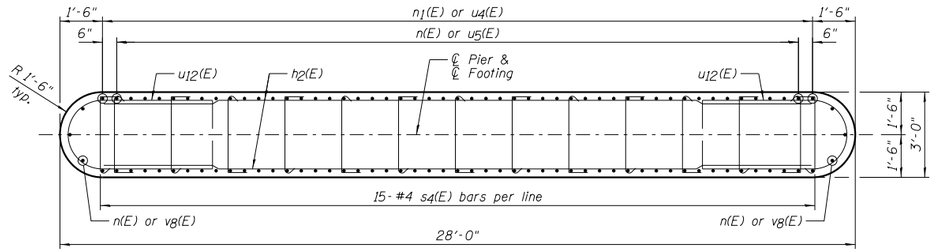
ELEVATION
(Looking North)



FOOTING PLAN



SECTION A-A



SECTION B-B

NOTES:

1.) E.F. denotes Each Face and E.E. denotes Each End.
2.) *Limits of plastic hinging region. Splicing of reinforcement will not be allowed in this region.
3.) Details of Crash Wall, Footing and Pile Layout are common for all piers. See Sheets B28 thru B31 for Bill of Material and Pile Data.
4.) See Sheet B33 for Bar Bending Diagrams.
5.) See Sheet B36 for Mechanical Splicer Details.

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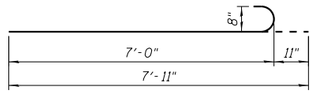
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

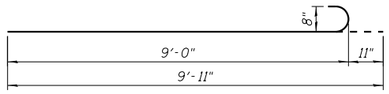
PIER DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B32 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	165
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

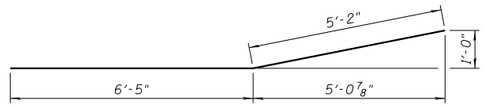
24-8621



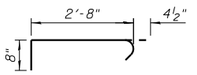
n(E) BAR



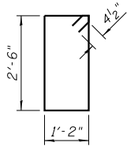
n1(E) BAR



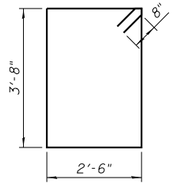
p4(E) BAR



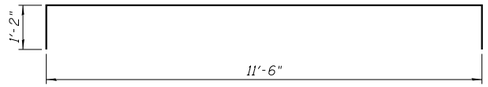
s4(E) BAR



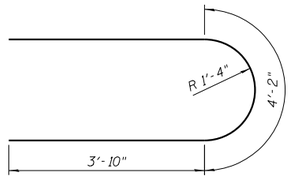
s5(E) BAR



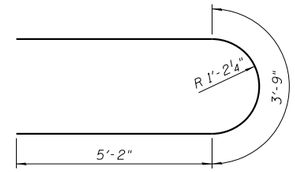
s6(E) BAR



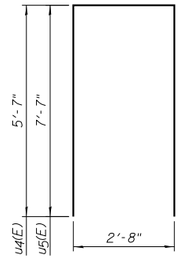
t2(E) BAR



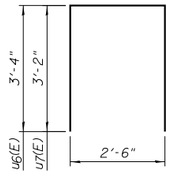
u2(E) BAR



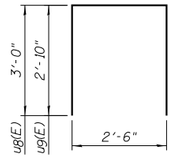
u3(E) BAR



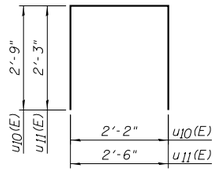
u4(E) & u5(E) BAR



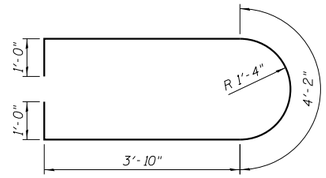
u6(E) & u7(E) BAR



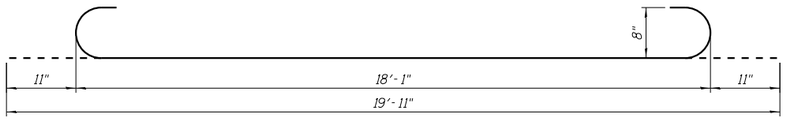
u8(E) & u9(E) BAR



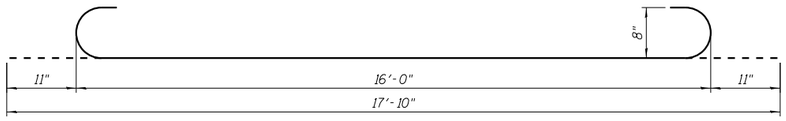
u10(E) & u11(E) BAR



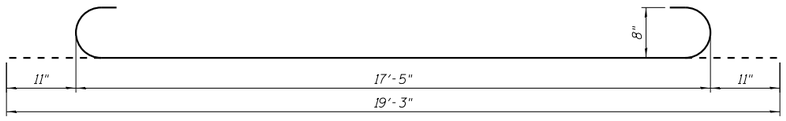
u12(E) BAR



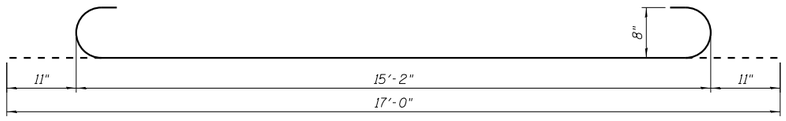
v9(E) BAR



v10(E) BAR



v11(E) BAR



v12(E) BAR

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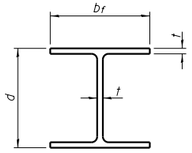
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. 833 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	166
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621



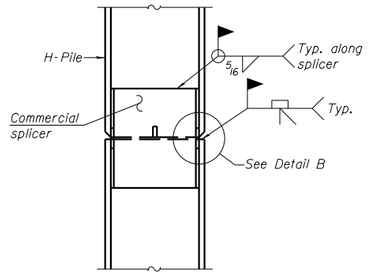
STEEL PILE TABLE

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''

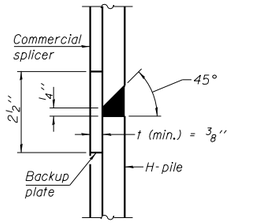
ELEVATION

DETAIL A

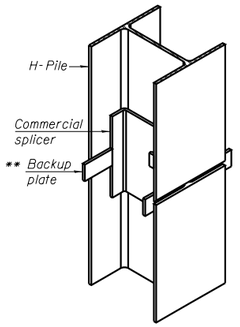
H-PILE SHOE ATTACHMENT



ELEVATION

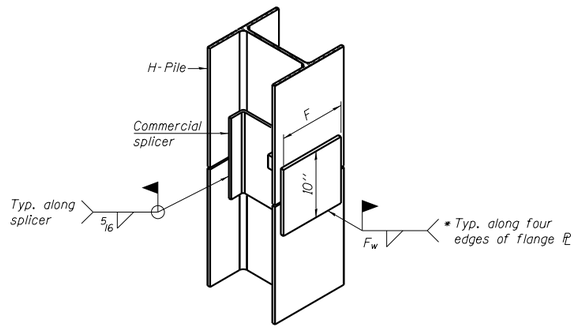


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



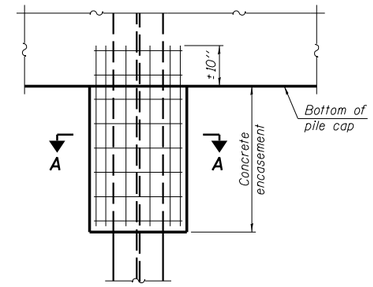
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

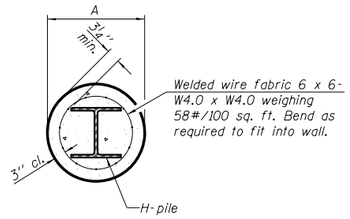
* Interrupt welds ¼'' from end of web and/or each flange.

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

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



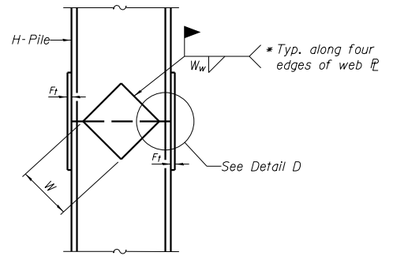
ELEVATION



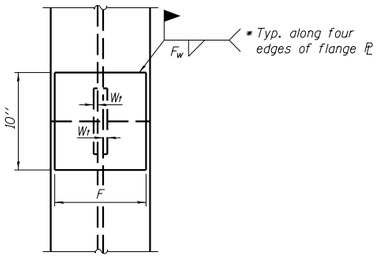
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

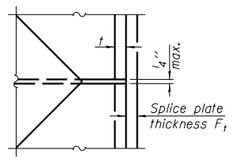
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_f	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

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

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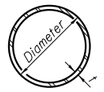
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

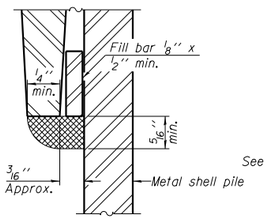
HP PILE DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B34 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	167
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

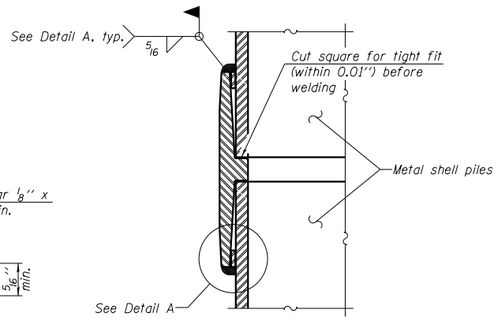


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume ($yd.^3$/ft.)
PP12	0.179''	22.60	0.0274
PP12	0.250''	31.37	0.0267
PP14	0.250''	36.71	0.0368
PP14	0.312''	45.61	0.0361

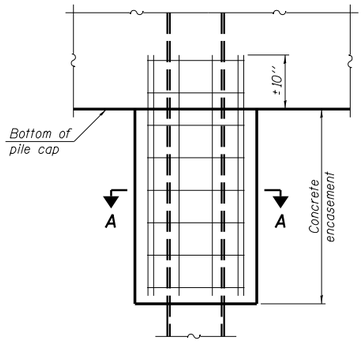


DETAIL A

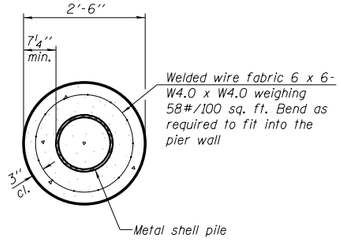


Notes:
The 1/8'' x 1/2'' min. fill bar may be constructed of 2 bars with a 1/8'' max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



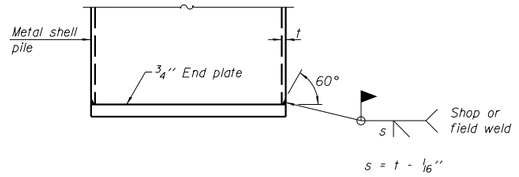
ELEVATION



SECTION A-A

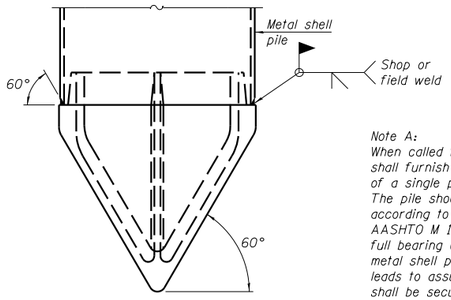
Note:
Forms for encasement may be omitted when soil conditions permit.

CONCRETE ENCASEMENT AT PIERS



$s = t - 1/16''$

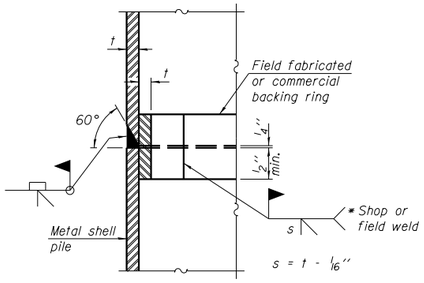
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

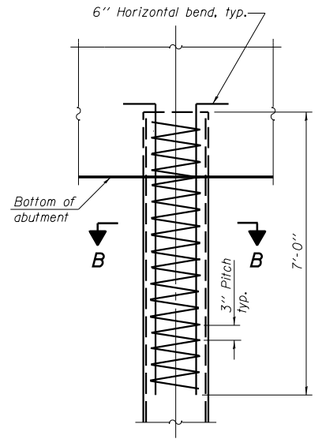
(See Note A)



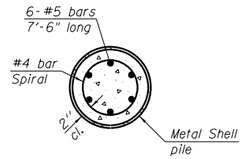
$s = t - 1/16''$

COMPLETE PENETRATION WELD SPLICE

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



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

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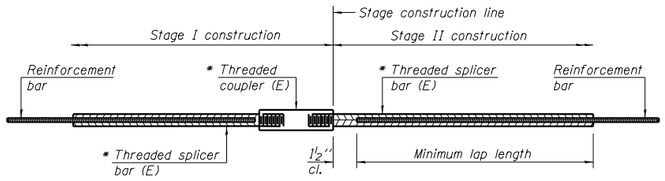
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B35 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	168
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

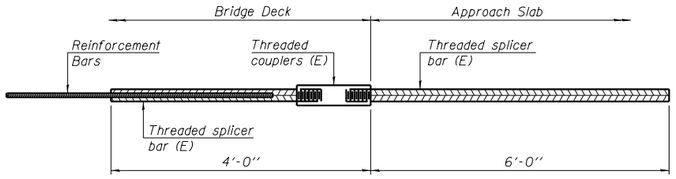
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

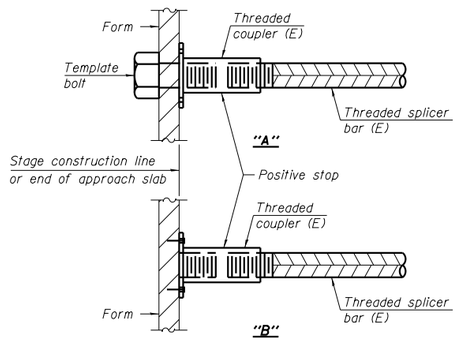
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



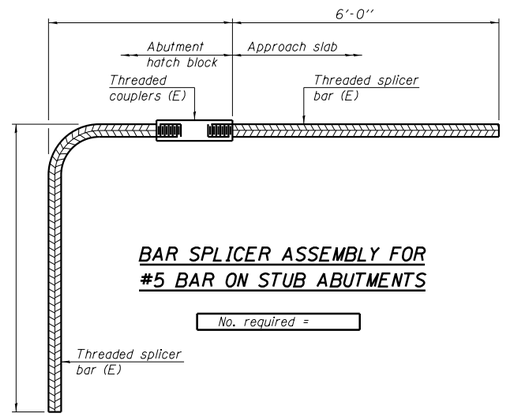
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required = 176



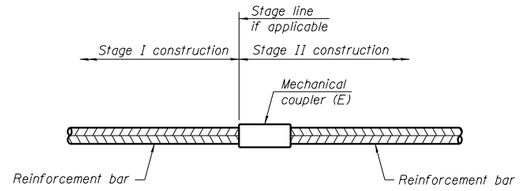
INSTALLATION AND SETTING METHODS

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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1 (SB)	#8	108
Pier 1 (SB)	#6	28
Pier 2 (SB)	#8	108
Pier 2 (SB)	#6	28
Pier 1 (NB)	#8	108
Pier 1 (NB)	#6	28
Pier 2 (NB)	#8	108
Pier 2 (NB)	#6	28

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 1-27-12

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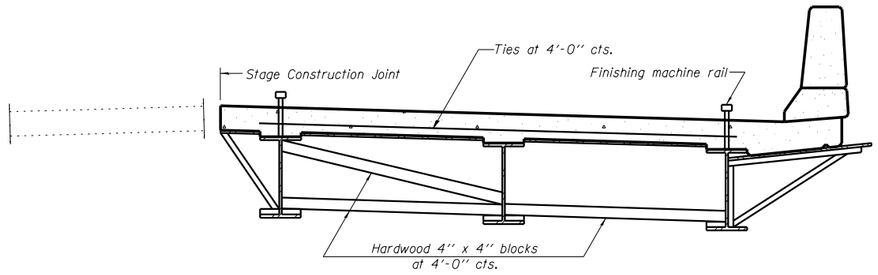
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

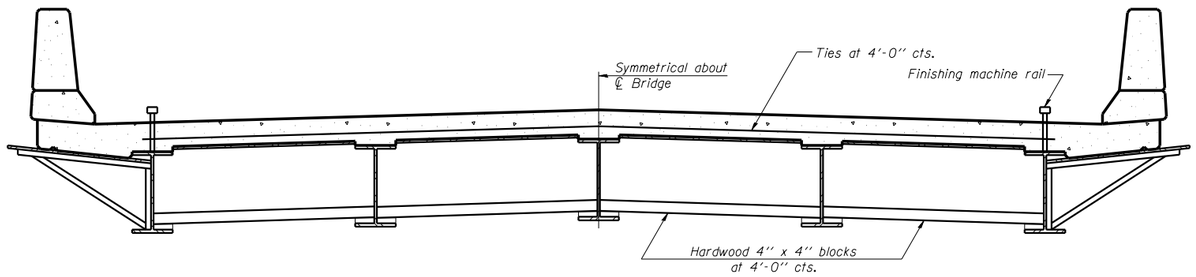
SHEET NO. B36 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	169
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STAGE CONSTRUCTION

NOTES:

1.) When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.
2.) The finishing machine rails shall be placed on the top flange of the exterior beams.
3.) The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.
4.) For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.

SB-1 7-1-10

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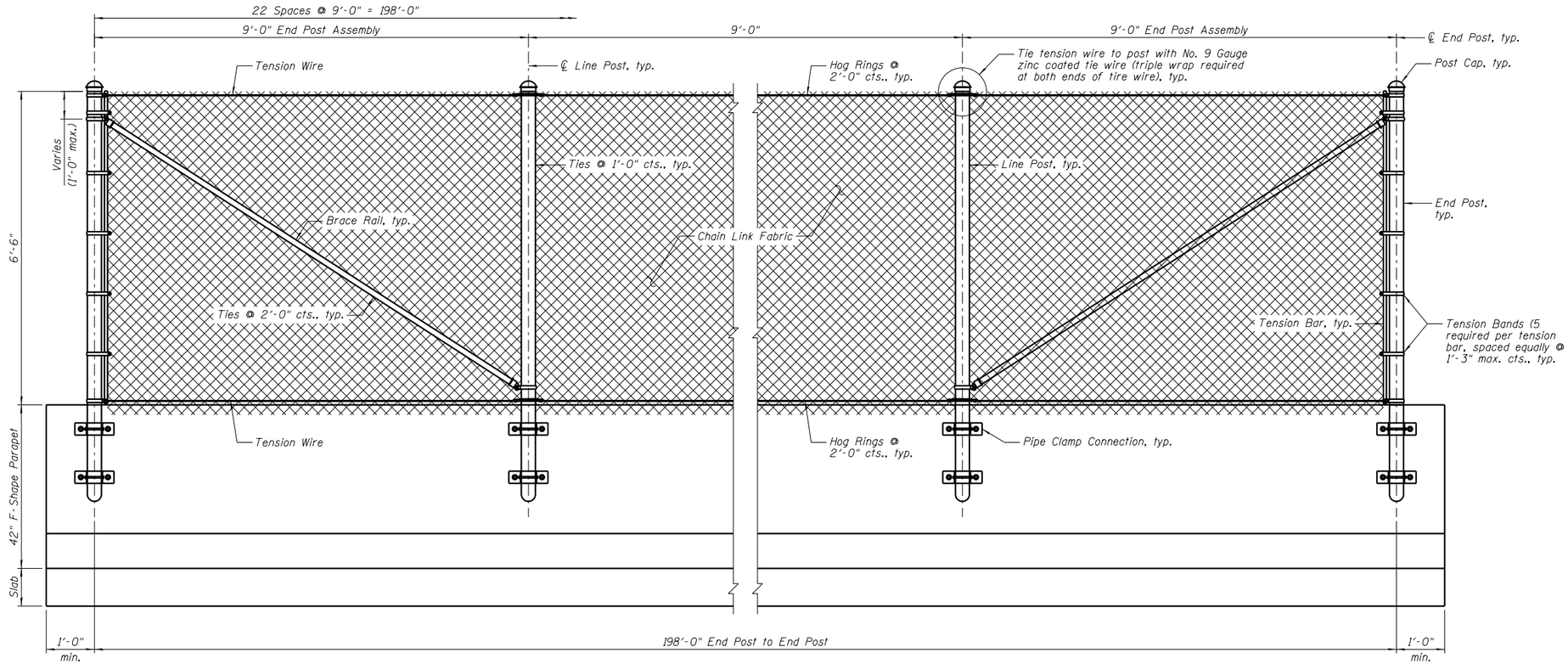
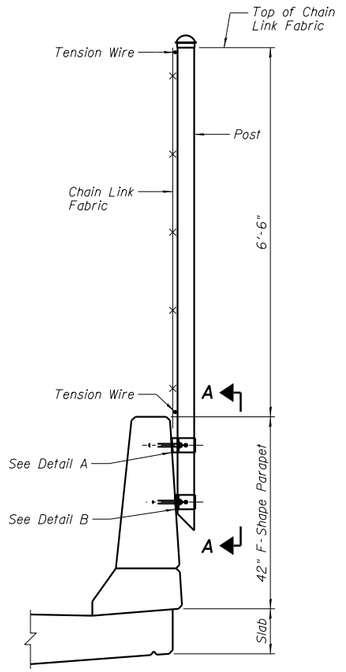
CANTILEVER FORMING BRACKETS FOR SUPERSTRUCTURES WITH W27 BEAMS AND SMALLER
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B37 OF 50 SHEETS

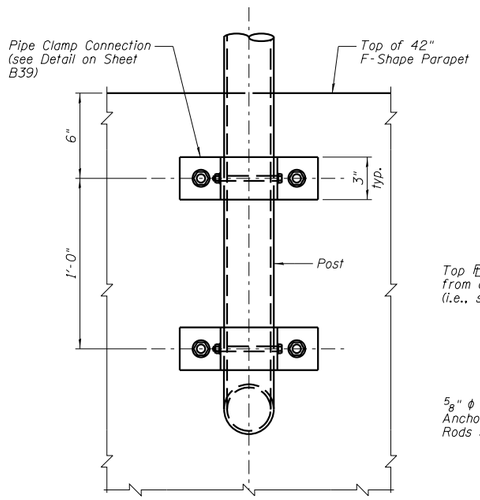
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	170
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			



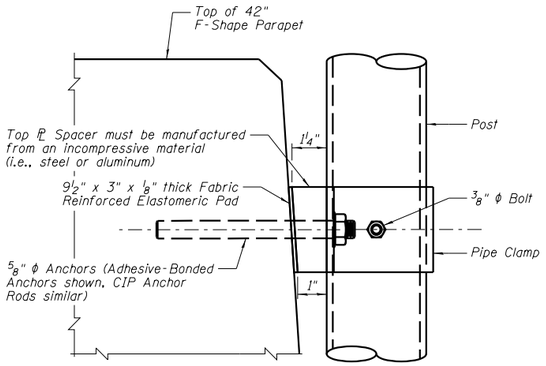


OUTSIDE ELEVATION OF PARAPET

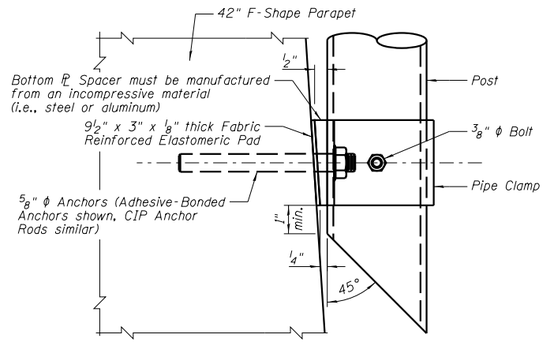
TYPICAL SECTION THRU PARAPET



VIEW A-A



DETAIL A



DETAIL B

FENCING NOTES:

FENCE INSTALLATION:
Install posts plumb (within a tolerance of ±1½"). Use shim plates as required to achieve plumb. The required quantity and thickness of shim plates will be determined in the field. Install chain link fence in accordance with ASTM F 567 as applicable.

42" F-SHAPE PARAPET:
See Superstructure Sheets for 42" F-Shape Parapet details.

LIMITS OF FENCING:
Limits of fencing are from Back of Abutment to Back of Abutment.

PAYMENT:
Payment will be made under Bridge Fence Railing (Special). Payment includes posts, horizontal and expansion rails, brace rails and bands, rail ends, combination rail ends, boulevard clamps, chain link fabric, tension wire, ties, hog rings, tension bars and bands, post and loop caps, pipe clamps, base plates anchor rods, bolts, nuts, washers, shim plates, spacers, neoprene pads, miscellaneous fence fittings and hardware and all incidental materials and labor required to complete installation of the fence.

POST ATTACHMENT NOTES:

ANCHOR RODS, NUTS AND WASHERS:
After the nuts have been tightened, distort the Anchor Rod threads to prevent removal of the nuts. Coat distorted threads and exposed trimmed ends of anchors with a galvanizing compound in accordance with Article 509.05 of the Standard Specifications.

COATINGS:
Hot-dip galvanize all Nuts, Washers, Bolts, CIP Anchor Rods, Adhesive Anchors and Fence Framework (Posts, Internal Sleeves, Shim Plates, Base Plates, Pipe Clamps and Spacers) in accordance with Article 506.04 of the Standard Specifications. Hot-dip galvanize Fence Framework after fabrication.

ADHESIVE-BONDED ANCHORS AND DOWELS:
Adhesive Bonding Material Systems for Anchors and Dowels will comply with Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications. Cutting of reinforcing steel is permitted for drilled hole installation.

WELDING:
All welding will be in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). Weld metal will be E60XX or E70XX. Nondestructive testing of welds is not required.

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DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B38 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	171
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

24-8621

TABLE OF CHAIN LINK FENCE COMPONENTS

COMPONENT	ASTM DESIGNATION	COMPONENT INFORMATION
Posts	F 1083	Galvanized Steel Pipe - 3" NPS, Schedule 40 (3.500" Outside Diameter, 0.216" Wall Thickness)
Chain Link Fabric (2" mesh with twisted top and knuckled bottom selvage)	A 392	Zinc Coated Steel - No. 9 Gauge (coated wire diameter), Class 2 Coating
	A 491	Aluminum Coated Steel - No. 9 Gauge (coated wire diameter)
	F 668	Polyvinyl Chloride (PVC) Coated Steel - No. 9 Gauge Zinc Coated Wire (metallic-coated core wire diameter) ℄ Specify the color of the polymer coating in the General Notes
Tie Wires	F 626	Zinc Coated Steel Wire - No. 9 Gauge
Brace Bands	F 626	No. 12 Gauge (min. thickness) x 3/4" (min. width) Steel Bands (Beveled or Heavy)
Tension Bars	F 626	3/16" (min. thickness) x 3/4" (min. width) x 5'-10" (min. height) Steel Bars
Tension Bands	F 626	No. 14 Gauge (min. thickness) x 3/4" (min. width) Steel Bands
Miscellaneous Fence Components	F 626	Zinc Coated Steel - (includes post or loop caps, horizontal and brace rail ends, combination rail ends, boulevard clamps and all other miscellaneous fittings & hardware)
Tension Wire	A 824 & A 817	Type II (Zinc Coated Steel Wire) - No. 7 Gauge, Class 4 Coating
		Type I (Aluminum Coated Steel Wire) - No. 7 Gauge
Hog Rings	F 626	Zinc Coated Steel Wire - No. 12 Gauge
Brace Rails	F 1083	Galvanized Steel Pipe - 1 1/4" NPS, Schedule 40 (1.660" Outside Diameter, 0.140" Wall Thickness)

LEGEND: NPS = Nominal Pipe Size

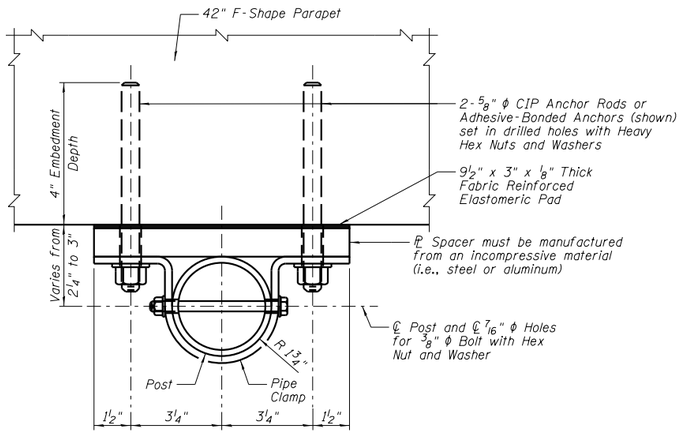
TABLE OF POST ATTACHMENT COMPONENTS

COMPONENT	ASTM DESIGNATION	COMPONENT INFORMATION
Pipe Clamps	A 36 or A 709 Grade 36	1/4" Steel ℄
Shim Plates	A 36 or A 709 Grade 36 or B 209 Alloy 6061-T6 or B 221 Alloy 6063-T5	Plate thicknesses as required; Holes in shim plates will be 3/4" ϕ
Spacers	-	Variable ℄ thickness, see Spacer Detail
Adhesive Anchor Rods	F 1554 Grade 36	Fully threaded Headless Anchor Rods 5/8" ϕ
CIP Anchor Rods	F 1554 Grade 36	Hex Head Anchor Rods 5/8" ϕ
Bolts	A 307	3/8" ϕ x 4 3/4" Hex Head Bolts for Pipe Clamp Connections to Posts
Nuts	A 563	Hex Nuts for Pipe Clamp and Base Plate Connections
Washers	F 436	Flat Washers for Pipe Clamp
Fabric Reinforced Elastomeric Pad	-	In accordance with Article 1028.01 of the Standard Specifications

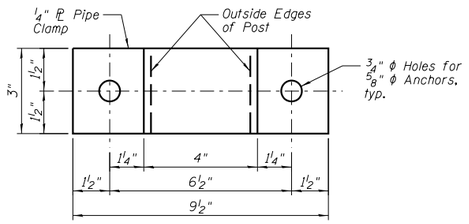
BILL OF MATERIAL

Item	Unit	Total
Bridge Fence Railing (Special)	Foot	792

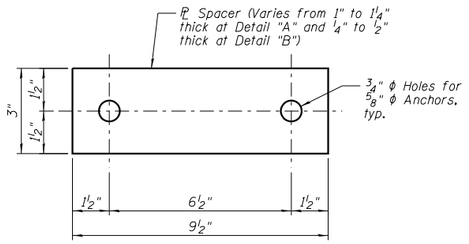
Note: Bill of Material is for two bridges.



PIPE CLAMP CONNECTION DETAIL



PIPE CLAMP DETAIL



SPACER DETAIL

Must be manufactured from an incompressive material (i.e., steel or aluminum))

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DEPARTMENT OF TRANSPORTATION

BRIDGE FENCE DETAILS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B39 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	172
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/7/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson
COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-1 S. ABUT
Station 1656+20
Offset 37.00ft LT
Surface Elev. 414.60 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 398.6
at Completion ____
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %	Soil Description
413.60				Dark brown SILTY CLAY LOAM
	2 2 1	B 0.82	22	Medium stiff dark brown/brown SILTY CLAY LOAM, moist to very moist
409.60	1 1 1	B 0.62	30	Dense brown fine SAND, saturated
-5				
	0 2 3	P 0.25	30	Very soft brown/gray SILTY CLAY, very moist
406.60				
	0 1 3	B 1.23	25	Stiff brown/gray SILTY CLAY, moist to very moist
-10				
	2 3 3	P 1.0	37	
401.10				
	0 2 3	B 2.99	34	Stiff to very stiff brown/gray SILTY CLAY, very moist
-15				
398.10	0 2 7	B 1.11		Loose brown/gray fine SAND, saturated
396.60				Very loose brown fine SAND, saturated
394.60	2 1 3			
-20				
	7 10 11			Medium dense brown fine SAND, saturated
	5 6 6			
-25				

DEPTH	BLOWS	Qu tsf	W %	Soil Description
				Medium dense brown fine SAND, saturated
	8 10 12			
386.10				
	10 11 23			Dense brown fine SAND, saturated
384.60				Medium dense brown fine to medium SAND, saturated
-30				
	4 8 9			
-35				
	3 7 7			
-40				
370.60	6 7 10			Medium dense gray fine to medium SAND, saturated
-45				
	5 8 10			
-50				

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

LDOT BORING 76873.GPJ IDOT.GDT 8/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/7/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-1 S. ABUT
Station 1656+20
Offset 37.00ft LT
Elevation 364.60 ft

DEPTH	BLOWS	Qu tsf	W %	Soil Description
				Medium dense gray fine to medium SAND, saturated
360.60	7 7 9			Medium dense gray fine to coarse SAND, saturated
-55				
	5 8 16			
-60				
351.10	6 13 30			Dense gray fine to coarse SAND with gravel, saturated
349.60				Medium dense gray fine to coarse SAND, saturated
-65				
	7 9 20			
344.60				Very dense gray fine to coarse SAND, saturated
-70				
	11 30 40			
339.60				
-75				

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 339.60 ft

DEPTH	BLOWS	Qu tsf	W %	Soil Description
				Dense gray fine to coarse SAND, trace gravel, saturated
	14 15 15			
334.60				Medium dense gray fine to coarse SAND, trace gravel, saturated
-80				
	7 10 14			
-85				
	5 7 15			
-90				
321.10				Medium dense to dense gray fine to medium SAND, trace coarse sand, saturated
	4 8 11			
-95				
	20 20 16			
-100				

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

LDOT BORING 76873.GPJ IDOT.GDT 8/28/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B40 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-I	ST. CLAIR	237	173
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/7/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-1 S. ABUT
Station 1656+20
Offset 37.00ft LT
Elevation 314.60 ft

	DEPTH	BLOWS	Qu tsf	W %
Medium dense to dense gray fine to medium SAND, trace coarse sand, saturated				
		15 20 19		
	309.60 -105			
Dense gray fine to coarse SAND and small GRAVEL, saturated				
Possible cobbles below 109'		12 32 60/4"		
	-110			
		26 90/5"		
	299.60 -115			
Boring continued with Rock Core			0.1	
	-120			
	-125			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

LDOT_BORING 7683.GPJ LDOT.GDT 8/28/11

Testing Service Corporation
STRUCTURE ROCK CORING LOG

Date 7/7/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson
COUNTY St. Clair

Boring No. SPT-1 S. ABUT
Station 1656+20
Offset 37.00ft LT
Surface Elev. 414.60 ft

Core Type NX Diamond Bit
Core Diameter 2 in
Core Length 7 ft

Top Elev.	Coring Notes and Rock Description	Core Run (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (Min/ft)	COMP. STRNGTH (psi)
299.60	Gray LIMESTONE	1	95	43		922.3
	Moisture Content = 0.1%					
						604.8
	Moisture Content = 0.3%					
	-120.0					
						1193.0
	Moisture Content = 0.1%					
292.60	End of Boring at 122'					
	-125.0					
	-130.0					
	-135.0					

Color pictures of the cores No
Cores will be stored for examination until

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

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	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B41 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	174
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

24-8621

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/29/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson
COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-2 PIER 1
Station 1656+89
Offset 37.00ft LT
Surface Elev. 414.50 ft

Surface Water Elev.
Groundwater Elev.: when drilling 398.5
at Completion after Hrs.

DEPTH	BLOWS	Qu tsf	W %
413.50 Dark brown SILTY CLAY LOAM			
Very loose dark brown SANDY LOAM, trace gravel and cinders, very moist	1 2 1		51
	2 3 1		
-5 408.50			
Stiff gray/brown SILTY CLAY, very moist	0 2 2	P 1.25	39
407.00 Stiff gray SILTY CLAY, very moist			
	0 2 3	B 1.64 15%	42
-10			
	0 1 2	B 1.64 15%	37
	1 2 3	B 1.52 15%	42
-15 398.00			
Loose brown fine SAND, saturated	0 2 4		44
	0 2 3		
394.50 -20 Medium dense brown fine SAND, saturated			
	4 7 7		
	4 5 6		
-25			

DEPTH	BLOWS
Medium dense brown fine SAND, saturated	
	4 6 7
	3 6 6
-30	
	3 9 10
-35 376.50	
Medium dense brown/gray fine to medium SAND, saturated	
	3 7 12
-40	
	4 4 7
-45	
	4 5 7
-50 364.50	

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76673.GPJ IDOT.GDT 6/29/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/29/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-2 PIER 1
Station 1656+89
Offset 37.00ft LT
Elevation 364.50 ft

DEPTH	BLOWS	Qu tsf	W %
Dense gray/brown fine to medium SAND, trace coarse sand and gravel, saturated			
	8 14 17		
-55			
	8 15 24		
-60 349.50			
Dense brown/gray fine to medium SAND, trace coarse sand and gravel, saturated	29 18 21		
-65			
	9 10 20		
-70 342.50			
Medium dense brown/gray fine to medium SAND, trace coarse sand and gravel, saturated	4 8 10		
-75 339.50			

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 339.50 ft

DEPTH	BLOWS
Medium dense brown/gray fine to medium SAND, trace coarse sand and gravel, saturated	
	4 6 11
-80	
	6 8 10
-85 329.50	
Medium dense gray fine to coarse SAND, little small gravel, saturated	
	4 7 17
-90	
321.00 Possible cobble or boulder	50/1"
319.50 -95 Medium dense gray fine to coarse SAND, little small gravel, saturated	
	10 10 12
-100 314.50	

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76673.GPJ IDOT.GDT 6/29/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/29/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-2 PIER 1
Station 1656+89
Offset 37.00ft LT
Elevation 314.50 ft

DEPTH	BLOWS	Qu tsf	W %
Very dense gray fine to coarse SAND and small GRAVEL, saturated			
	25 31 31		
Possible cobbles below 105' -105			
	30 50/5"		
-110			
	31 50/5"		
-115 298.50			
End of Boring at 116' Auger Refusal			
-120			
-125			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76673.GPJ IDOT.GDT 6/29/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

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	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B42 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	175
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/12/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-3 PIER 2
Station 1657+64
Offset 37.00ft LT
Surface Elev. 413.60 ft

Surface Water Elev.
Groundwater Elev.: when drilling 397.6
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
412.60 Dark brown SILTY CLAY LOAM			
	2 2 2	B 1.03 15%	24
407.10 Stiff to medium stiff brown SILTY LOAM, moist			
-5	1 2 2	B 0.94 15%	22
	0 2 2	B 1.72 15%	35
Stiff brown/gray SILTY CLAY, trace organics, very moist			
-10	0 1 2	B 1.85 15%	37
	0 1 2	B 1.44 15%	30
-15	0 1 2	B 1.52 15%	39
397.10 Very loose brown fine SAND, saturated	0 1 2		40
395.60 Loose brown fine SAND, saturated			
	2 3 4		
393.60 -20 Medium dense brown fine SAND, trace silt, saturated			
	2 6 7		
-25	4 9 9		

DEPTH	BLOWS	W %
Medium dense brown fine SAND, trace silt, saturated		
	2 7 10	
-30	3 8 12	
378.60 -35 Medium dense brown fine SAND, saturated	10 13 14	
-40	9 11 17	
-45	6 10 14	
364.60 -50 Medium dense gray fine SAND, saturated	7 10 18	

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76873.GPJ IDOT.GDT 6/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/12/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-3 PIER 2
Station 1657+64
Offset 37.00ft LT
Elevation 363.60 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine SAND, saturated			
360.60 Dense brown fine to medium SAND, saturated			
	12 17 22		
358.60 -55 Dense to medium dense gray fine to medium SAND, saturated			
-60	5 11 21		
-65	5 7 8		
345.60 Dense gray fine to medium SAND, saturated			
	36 23 21		
-70			
338.60 -75	18 21 25		

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 338.60 ft

DEPTH	BLOWS	W %
Medium dense to dense gray fine to medium SAND, saturated		
-80	7 8 12	
-85	7 10 11	
-90	11 14 20	
-95		
315.60 Very dense gray fine to coarse SAND, saturated		
Possible cobbles below 99'	83 18 17	
-100		

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76873.GPJ IDOT.GDT 6/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/12/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-3 PIER 2
Station 1657+64
Offset 37.00ft LT
Elevation 313.60 ft

DEPTH	BLOWS	Qu tsf	W %
Very dense gray fine to coarse SAND, saturated			
-105			
	95 80 40		
-110			
300.60 End of Boring at 113' Auger Refusal			
-115			
-120			
-125			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EJDT BORING 76873.GPJ IDOT.GDT 6/28/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B43 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	176
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/13/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-4 N. ABUT
Station 1658+21
Offset 12.00ft LT
Surface Elev. 401.00 ft

Surface Water Elev.
Groundwater Elev.:
when drilling 394.0
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
400.00 Dark brown SILTY CLAY LOAM			
	1 3 2	B 1.64 15%	26
398.00 Stiff brown/gray SILTY CLAY, moist			
397.00 Very loose dark brown/gray SANDY LOAM, very moist	2 2 2		33
396.00 Very loose brown fine SAND, moist			
-5 Medium dense brown fine SAND, moist to saturated	4 6 5		
393.00 Loose brown fine SAND, saturated			
-10	2 2 6		
	2 3 3		
-15	2 5 5		
	4 5 4		
382.00 Medium dense brown fine to medium SAND, saturated			
-20	3 4 6		
	5 5 8		
376.00 -25	5 7 10		

DEPTH	BLOWS
Medium dense brown fine to medium SAND, saturated	
-30	15 10 11
	7 10 12
-35	6 11 14
	5 9 15
357.50 Dense brown fine to medium SAND, saturated	
-45	16 15 18
	24 24 23
351.00 -50	

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/13/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-4 N. ABUT
Station 1658+21
Offset 12.00ft LT
Elevation 351.00 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine to medium SAND, saturated			
-55	5 8 10		
343.00 Medium dense gray fine to coarse SAND, saturated			
-60	4 7 8		
-65			
-70	5 10 12		
326.00 -75			

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 326.00 ft

DEPTH	BLOWS
Medium dense gray fine to coarse SAND, saturated	
-80	7 12 15
316.00 Very dense gray medium to coarse SAND, trace gravel, saturated Possible cobble below 85'	
-85	
-90	140 121 21
-95	
-100	103 54 39

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/13/11

STRUCTURE NO. 082-0315
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-4 N. ABUT
Station 1658+21
Offset 12.00ft LT
Elevation 301.00 ft

DEPTH	BLOWS
300.50 End of Boring at 100.5' Auger Refusal	
-105	
-110	
-115	
-120	
-125	

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

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DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B44 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	177
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/28/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 082-0314 DRILLED BY Bruno Williamson
COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-5 S. ABUT
Station 1656+44
Offset 37.00ft RT
Surface Elev. 415.10 ft

Surface Water Elev.
Groundwater Elev.:
when drilling 399.1
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
414.10 Dark brown SILTY CLAY LOAM			
Stiff brown SILTY CLAY LOAM, moist	2 2 3	B 1.56 15%	24
-5	2 1 2	B 1.44 15%	25
	1 2 4	B 1.93 15%	23
407.10 Very stiff brown/gray SILTY CLAY, very moist			
-10	2 2 4	B 2.13 15%	37
	1 3 5	B 2.21 15%	31
402.10 Very soft brown/gray SILTY CLAY, moist			
-15	0 2 2	B 0.41 15%	27
400.10 Loose to very loose brown fine SAND, moist to saturated			
	1 2 3		
-20	1 2 2		
395.10 Medium dense brown fine SAND, saturated			
	3 7 9		
-25	5 7 7		
390.10			

DEPTH	BLOWS	Qu tsf	W %
Medium dense brown silty fine to medium SAND, saturated			
	6 7 7		
-30	4 8 12		
-35	5 5 5		
-40	5 8 10		
-45	7 9 13		
-50	6 8 9		

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/28/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-5 S. ABUT
Station 1656+44
Offset 37.00ft RT
Elevation 365.10 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense brown silty fine to medium SAND, saturated			
361.60 Dense brown fine to medium SAND, saturated			
-55	13 18 27		
-60	22 19 15		
350.60 Medium dense brown/gray fine to coarse SAND, trace gravel, saturated	8 11 15		
350.10 Dense gray fine to coarse SAND, trace small gravel, saturated			
-70	13 15 27		
-75	11 16 17		

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 340.10 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine to coarse SAND, trace small gravel, saturated			
-80	7 9 13		
-85	7 10 12		
326.60 Dense gray fine to medium SAND, trace coarse sand, saturated			
-90	15 17 23		
321.60 Medium dense gray fine to medium SAND, trace coarse sand and small gravel, saturated			
-95	10 13 13		
316.60 Dense gray fine to coarse SAND, trace small gravel, saturated			
315.10	13 18 20		

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/28/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-5 S. ABUT
Station 1656+44
Offset 37.00ft RT
Elevation 315.10 ft

DEPTH	BLOWS	Qu tsf	W %
Dense gray fine to coarse SAND, trace small gravel, saturated			
-105	8 10 23		
Possible cobbles below 107'			
306.10 Hard gray SILTY LOAM, moist	27 59 26	P 4.5+	
305.10 -110 Very dense gray coarse SAND, some fine sand, trace gravel, saturated			
Limestone fragments in sample			
	28 50/5"		
300.10 -115 End of Boring at 115' Auger Refusal			
-120			
-125			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. 845 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	178
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/30/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0314 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-6 PIER 1
Station 1657+07
Offset 37.00ft RT
Surface Elev. 415.00 ft

Surface Water Elev.
Groundwater Elev.:
when drilling 399.0
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
414.00 Dark brown SILTY CLAY LOAM			
413.00 Very loose dark brown SANDY LOAM, moist	1 1 2		24
Soft brown/dark brown SILTY CLAY LOAM, moist			
	1 1 2	B 0.33	26 15%
410.00 Stiff to very stiff brown/gray SILTY CLAY, very moist -5			
	0 2 2	B 1.48	39 15%
-10	2 2 3	B 1.64	35 15%
	1 1 3	B 2.05	35 15%
401.50 Very soft brown/gray SILTY CLAY, very moist	0 2 4	B 0.29	36 15%
-15 399.00 Loose brown fine SAND, saturated	1 2 5		45
-20 394.00 Medium dense brown fine SAND, saturated	4 4 6		
	2 5 8		
391.50 Medium dense brown fine SAND, saturated			
390.00 -25	5 7 8		

DEPTH	BLOWS
Medium dense brown fine SAND, saturated	
	2 3 9
-30	3 8 10
381.50 Medium dense brown fine to medium SAND, saturated	
-35	2 6 9
	5 7 11
371.50 Medium dense brown fine to medium SAND, saturated	
-40	6 7 12
-45	10 11 14
365.00 -50	

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EXDT BORING 76873.GPJ IDOT.GDT 6/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/30/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-6 PIER 1
Station 1657+07
Offset 37.00ft RT
Elevation 365.00 ft

DEPTH	BLOWS	Qu tsf	W %
Dense brown fine to medium SAND, saturated			
	8 12 18		
-55			
	9 12 22		
-60			
350.50 Medium dense to dense gray fine to medium SAND, saturated	5 7 12		
-65			
	15 19 23		
-70			
341.50 Medium dense gray fine to medium SAND, saturated	7 8 8		
-75			

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 340.00 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine to medium SAND, saturated			
	7 8 15		
-80 335.00 Medium dense to dense gray fine to coarse SAND, saturated			
-85	6 10 10		
	12 12 22		
-90			
	6 8 13		
-95 316.50 Possible cobble below 98'			
-100 315.00 Very dense gray fine to coarse SAND, trace small gravel, saturated	17 24 30		

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EXDT BORING 76873.GPJ IDOT.GDT 6/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 6/30/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-6 PIER 1
Station 1657+07
Offset 37.00ft RT
Elevation 315.00 ft

DEPTH	BLOWS	Qu tsf	W %
Dense gray fine to coarse SAND, trace small gravel, saturated			
	11 14 17		
310.00 -105 Very dense gray medium to coarse SAND trace small gravel, saturated			
	100 60/5"		
-110			
	35 50/5"		
300.00 -115 End of Boring at 115' Auger Refusal			
-120			
-125			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

EXDT BORING 76873.GPJ IDOT.GDT 6/28/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB

SHEET NO. B46 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	179
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/5/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 082-0314 DRILLED BY Bruno Williamson
COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-7 PIER 2
Station 1657+87
Offset 37.00ft RT
Surface Elev. 415.60 ft

Surface Water Elev.
Groundwater Elev.: when drilling 399.6
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
414.60 Dark brown SILTY CLAY LOAM			
Loose dark brown fine to medium SAND, trace cinders and clay, moist to very moist	1 3 2		27
412.60 Medium stiff brown/gray SILTY LOAM, very moist	1 1 2	B 0.74 15%	37
410.60 -5 Stiff brown/gray SILTY CLAY, very moist	1 2 3	B 1.56 15%	41
	1 3 4	B 1.44 15%	32
405.60 -10 Loose brown fine to medium SAND, moist			
405.10 Very stiff brown/gray SILTY CLAY LOAM, very moist	0 2 3	B 2.46 15%	34
402.60 Medium stiff brown/gray SILTY CLAY LOAM, moist	1 1 4	B 0.82 15%	28
400.60 -15 Loose brown fine to medium SAND, moist to saturated	1 3 5		
	3 3 7		
394.60 -20 Medium dense brown fine SAND, saturated	3 5 5		
	4 7 8		
390.60 -25			

DEPTH	BLOWS	Qu tsf	W %
Medium dense brown fine to medium SAND, saturated			
	4 6 8		
	5 6 15		
-30			
	8 11 15		
-35			
	4 5 12		
-40			
	4 4 10		
-45			
365.60	3 3 9		
-50			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/5/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-7 PIER 2
Station 1657+87
Offset 37.00ft RT
Elevation 365.60 ft

DEPTH	BLOWS	Qu tsf	W %
Dense brown fine to medium SAND, saturated			
	10 14 20		
-55			
357.60 Medium dense gray fine to medium SAND, saturated	10 13 15		
-60			
	5 5 10		
-65			
	9 10 11		
-70			
	8 10 14		
-75			

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 340.60 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine to medium SAND, saturated			
	10 11 13		
-80			
	11 11 16		
-85			
327.10 Medium dense gray fine to coarse SAND, saturated	9 10 10		
325.60 -90 Medium dense gray fine to coarse SAND, saturated			
	6 10 11		
-95			
317.60 Dense gray fine to coarse SAND, trace small gravel, saturated	8 11 22		
315.60 -100			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/5/11

STRUCTURE NO. 082-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-7 PIER 2
Station 1657+87
Offset 37.00ft RT
Elevation 315.60 ft

DEPTH	BLOWS	Qu tsf	W %
Dense to very dense gray fine to coarse SAND, trace small gravel, saturated			
	13 17 20		
-105			
Possible cobbles below 106'			
	25 30 63		
-110			
	47 50/4"		
300.60 -115 End of Boring at 115' Auger Refusal			
-120			
-125			

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

DOT BORING 76873.GPJ IDOT.GDT 8/28/11

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
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DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. 847 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB-1	ST. CLAIR	237	180
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

24-8621

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/15/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 083-0314 DRILLED BY Bruno Williamson
COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. SPT-8 N. ABUT
Station 1658+44
Offset 29.00ft RT
Surface Elev. 406.50 ft

Surface Water Elev.
Groundwater Elev.: when drilling 400.5
at Completion
after Hrs.

DEPTH	BLOWS	Qu tsf	W %
Very loose black SANDY LOAM, very moist			
405.00	0 0 0		32
Very soft brown/gray SILTY CLAY, moist			
	1 1 2	P 0.25	28
401.50 -5			
Medium stiff brown/gray SILTY CLAY, very moist			
400.00	3 3 4	B 0.62	37
Loose brown fine to medium SAND, saturated		15%	
	3 4 5		
-10			
	6 5 4		
393.00			
Medium dense brown fine SAND, saturated	4 6 7		
-15			
	3 3 8		
	2 5 6		
-20			
	4 8 10		
	3 8 10		
381.50 -25			

DEPTH	BLOWS	Qu tsf	W %
Dense to medium dense brown fine SAND, saturated			
	6 15 15		
	4 7 10		
-30			
373.50			
Medium dense gray fine to medium SAND, saturated	7 9 11		
-35			
	5 6 10		
-40			
	5 8 20		
-45			
	6 8 10		
356.50 -50			

LDOT BORING 76873.GPJ IDOT.GDT 8/29/11

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/15/11

STRUCTURE NO. 083-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-8 N. ABUT
Station 1658+44
Offset 29.00ft RT
Elevation 356.50 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense gray fine to medium SAND, saturated			
	6 8 10		
-55			
348.50			
Dense to medium dense gray fine to medium SAND, saturated	11 18 25		
-60			
-65			
	10 11 15		
-70			
331.50 -75			

STRUCTURE NO. 083-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Elevation 331.50 ft

DEPTH	BLOWS	Qu tsf	W %
Medium dense to dense gray fine to medium SAND, saturated			
	13 14 15		
-80			
-85			
	10 16 16		
-90			
-95			
308.00			
Very dense gray fine to coarse SAND, trace small gravel, saturated	70 50/4"		
306.50 -100			

LDOT BORING 76873.GPJ IDOT.GDT 8/29/11

SPT. (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

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	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B48 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-I	ST. CLAIR	237	181
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Date 7/15/11

STRUCTURE NO. 083-0314
ROUTE IL 3
SECTION 50-1-2HVB
COUNTY St. Clair

Boring No. SPT-8 N. ABUT
Station 1658+44
Offset 29.00ft RT
Elevation 306.50 ft

DEPTH	BLOWS	Qu tsf	W %
Very dense gray medium to coarse SAND with small gravel, saturated			
-105			
Boring Continued With Rock Core 300.50			
Gray LIMESTONE			
-110			
-115			
-120			
-125			

LOGT BORING 7683.GPJ DOT.GDT 8/29/11

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

Testing Service Corporation
STRUCTURE ROCK CORING LOG

Date 7/15/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad
SECT. 50-1-2HVB STRUCT. NO. 083-0314 DRILLED BY Bruno Williamson
COUNTY St. Clair

Boring No. SPT-8 N. ABUT
Station 1658+44
Offset 29.00ft RT
Surface Elev. 406.50 ft

Core Type NX Diamond Bit
Core Diameter 2 in
Core Length 10 ft

Top Elev.	Coring Notes and Rock Description	Core Run (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (Min/ft)	COMP. STRNGTH (psi)
300.50	Gray LIMESTONE	1	98	83		
	Moisture Cntent = 1.4%					442.1
	-110.0					
	Moisture Content = 1.1%					1201.7
	Moisture Content = 0.1%					1512.0
	-115.0					
290.50	End of Boring at 116'					
	-120.0					
	-125.0					

Color pictures of the cores No
Cores will be stored for examination until

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

	DESIGNED - TCR	REVISED
	CHECKED - JML	REVISED
	DRAWN - JWK/DJM	REVISED
DATE - 10/18/12	CHECKED - MSW	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 082-0314 NB & 082-0315 SB
SHEET NO. B49 OF 50 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	52O-1-2HVB-1	ST. CLAIR	237	182
		CONTRACT NO. 76848		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 1
Date 7/1/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0315 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. ST-1 S. EMBANKMENT
Station 1655+89
Offset 54.00ft LT
Surface Elev. 416.00 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 404.0
at Completion ____
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %
Dark brown clayey SAND and GRAVEL, with cinders	PUSH		
412.00 Soft brown SILTY CLAY LOAM, moist	PUSH	B 0.53	29
-5 410.00 Soft brown/gray SILTY CLAY LOAM, moist	PUSH	S 0.52	27
	PUSH	P 0.5	28
Wood in sample -10			
	PUSH	P 0.5	43
404.00 Soft gray CLAY, very moist			
	PUSH	P 0.5	40
-15 400.00 End of Boring at 16'			
-20			
-25			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 1
Date 7/1/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0314 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. ST-2 S. EMBANKMENT
Station 1656+20
Offset 54.00ft RT
Surface Elev. 415.00 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 399.0
at Completion ____
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %
Dark brown SILTY CLAY LOAM 414.00			
Medium stiff to stiff brown/gray SILTY CLAY LOAM, moist	PUSH	S 0.98	26
	PUSH	P 1.5	27
-5 Very stiff brown/gray SILTY CLAY LOAM, moist	PUSH	P 3.25	23
407.50 Very stiff gray SILTY LOAM, very moist			30
	PUSH	P 2.25	39
-10 405.00 Stiff to medium stiff gray SILTY CLAY, very moist	PUSH	P 2.25	31
401.00 Locse gray fine SAND, saturated	PUSH	S 0.9	33
-15 399.00 End of Boring at 16'			
-20			
-25			

SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

ILLINOIS DEPARTMENT OF TRANSPORTATION
Testing Service Corporation
STRUCTURE BORING LOG

Page 1 of 1
Date 7/14/11

ROUTE IL 3 DESCRIPTION Relocated IL 3 over TRRA Railroad

SECT. 50-1-2HVB STRUCT. NO. 082-0314 DRILLED BY Bruno Williamson

COUNTY St. Clair LOCATION East St. Louis S. 12 , TWP. 2N , RNG. 10W

Boring No. ST-4 N. EMBANKMENT
Station 1658+82
Offset 44.00ft RT
Surface Elev. 404.00 ft

Surface Water Elev. ____
Groundwater Elev.:
when drilling 398.0
at Completion ____
after ____ Hrs. ____

DEPTH	BLOWS	Qu tsf	W %
Dark brown SILTY CLAY LOAM 403.00			
Stiff brown/gray SILTY CLAY, very moist	PUSH	P 1.25	35
401.00 Medium stiff brown/gray CLAY, moist	PUSH	P 0.75	25
-5 398.00 End of Boring at 6'			
-10			
-15			
-20			
-25			

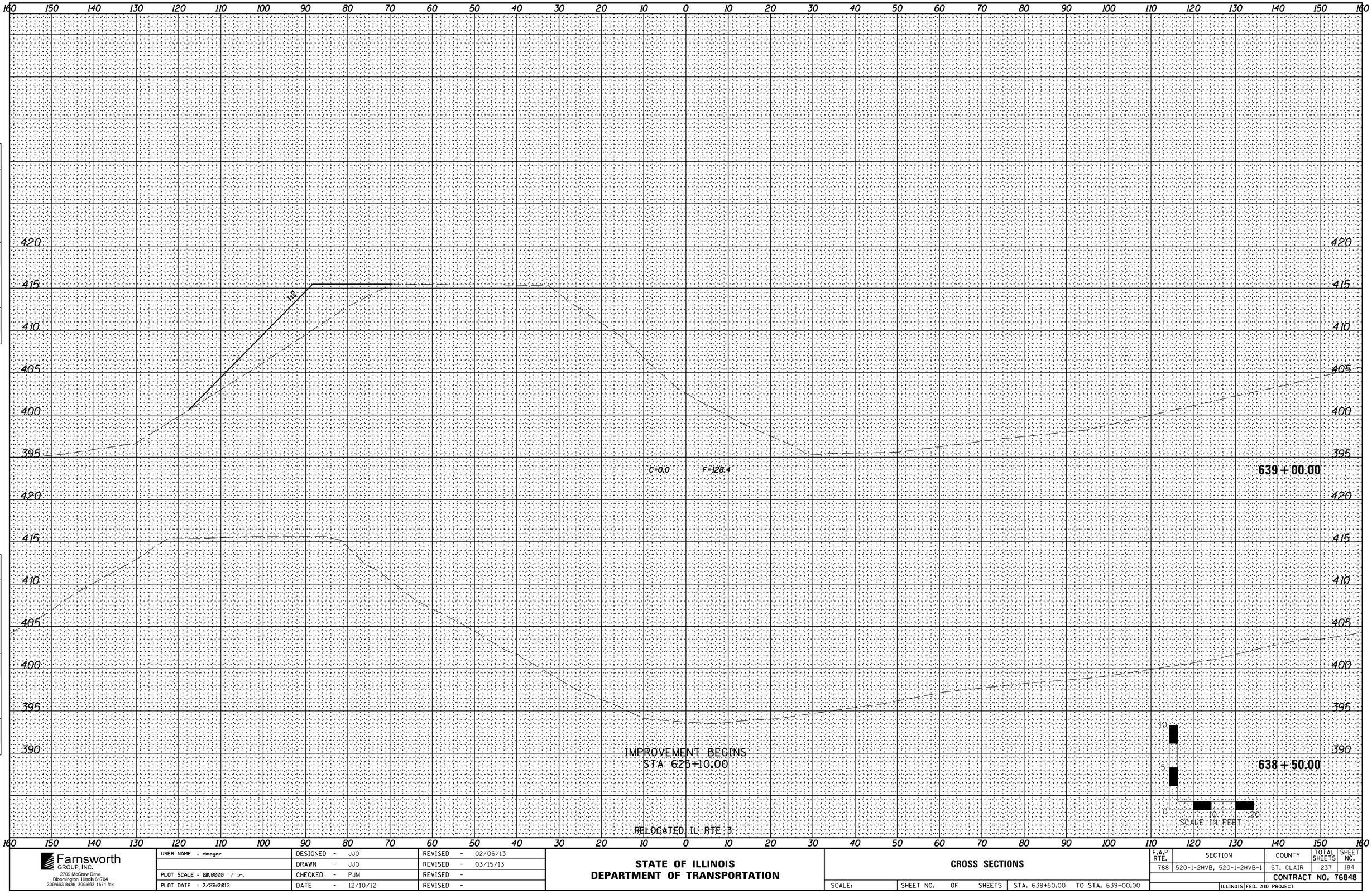
SPT, (N) = Sum of last two blow values in sample. (Qu) B=Bulge S=Shear P=Penetration Test
Stations, Depths, Offset, and Elevations are in Feet

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

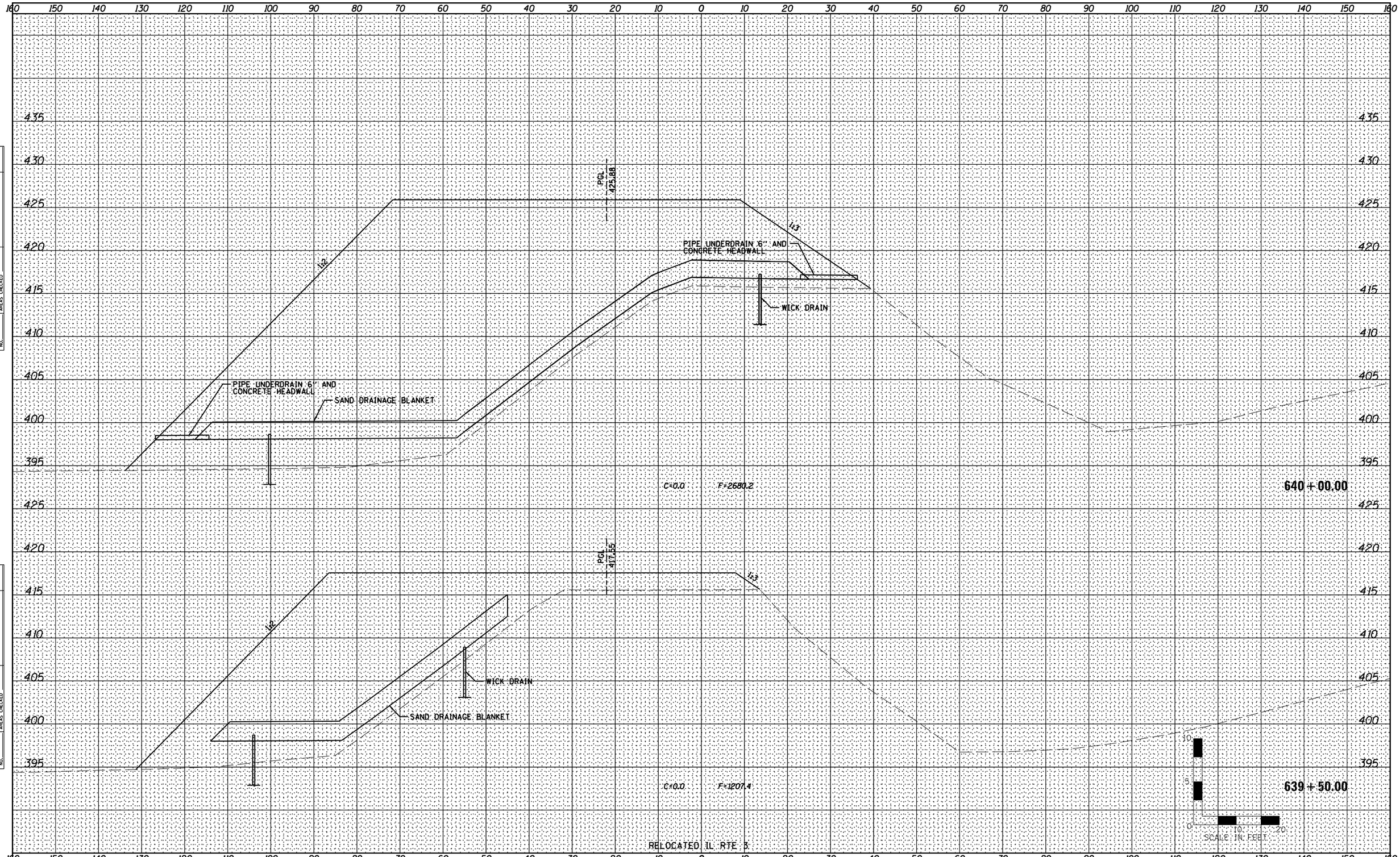
SCALE: | SHEET NO. OF SHEETS | STA. 638+50.00 | TO STA. 639+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	184

CONTRACT NO. 76848

ILLINOIS FED. AID PROJECT

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	DATE
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	DATE
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 100.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 639+50.00 TO STA. 640+00.00

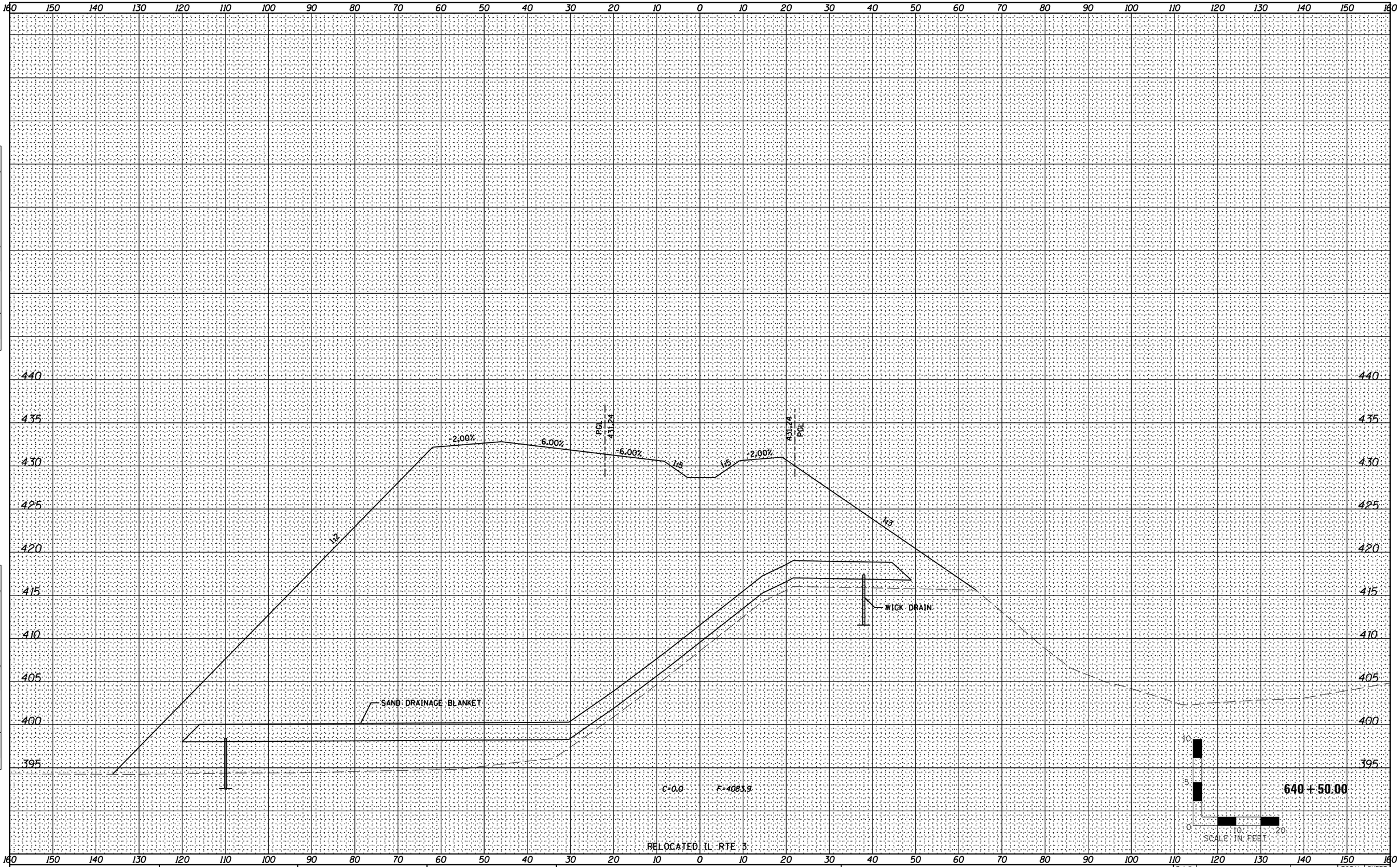
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	185
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	

BY	DATE



USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 20.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 640+50.00 TO STA. 640+50.00

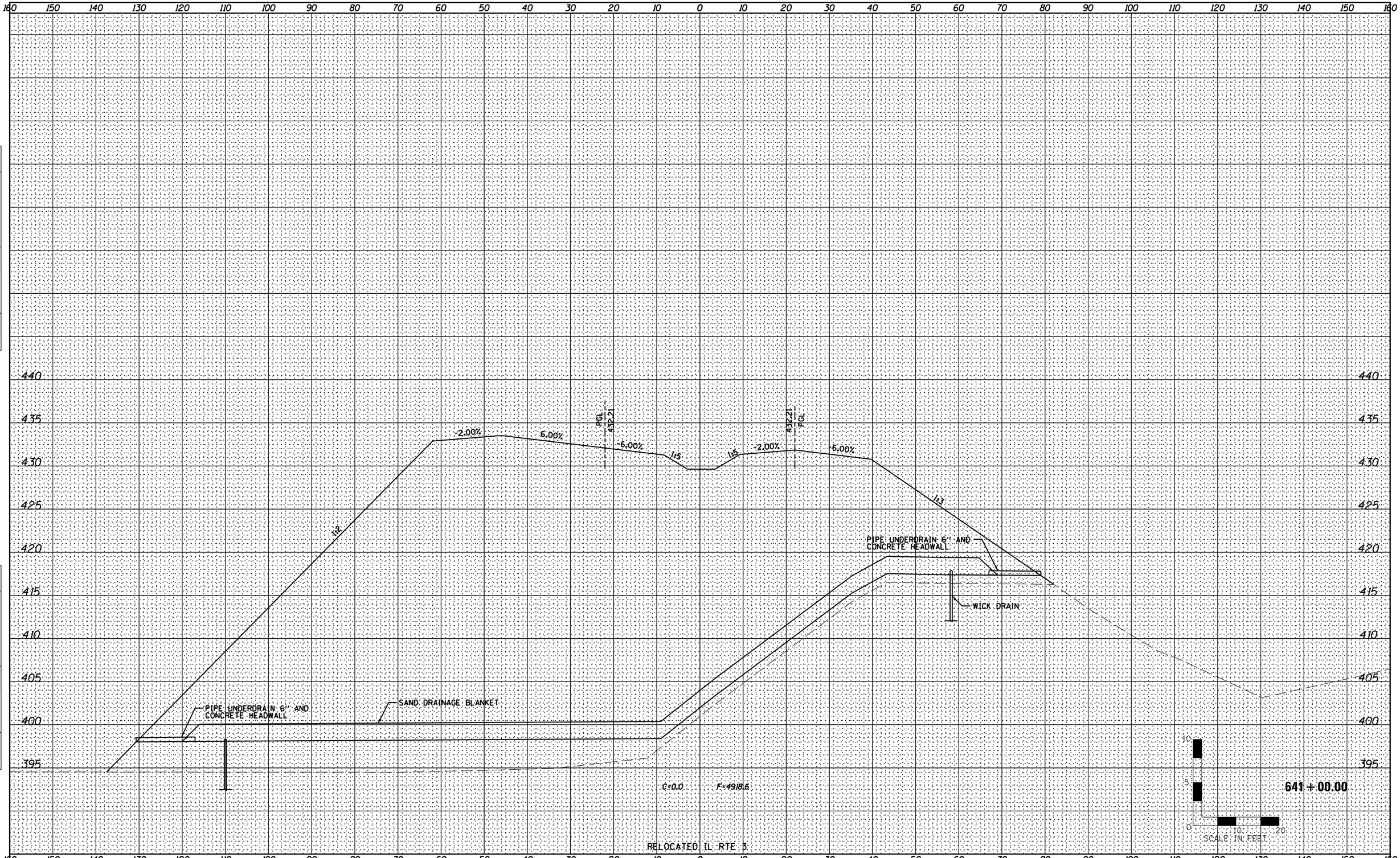
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	186
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS
		DRAWN - JJO	REVISED - 03/15/13		
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -		SCALE:
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -		SHEET NO. OF SHEETS
					STA. 641+00.00 TO STA. 641+00.00

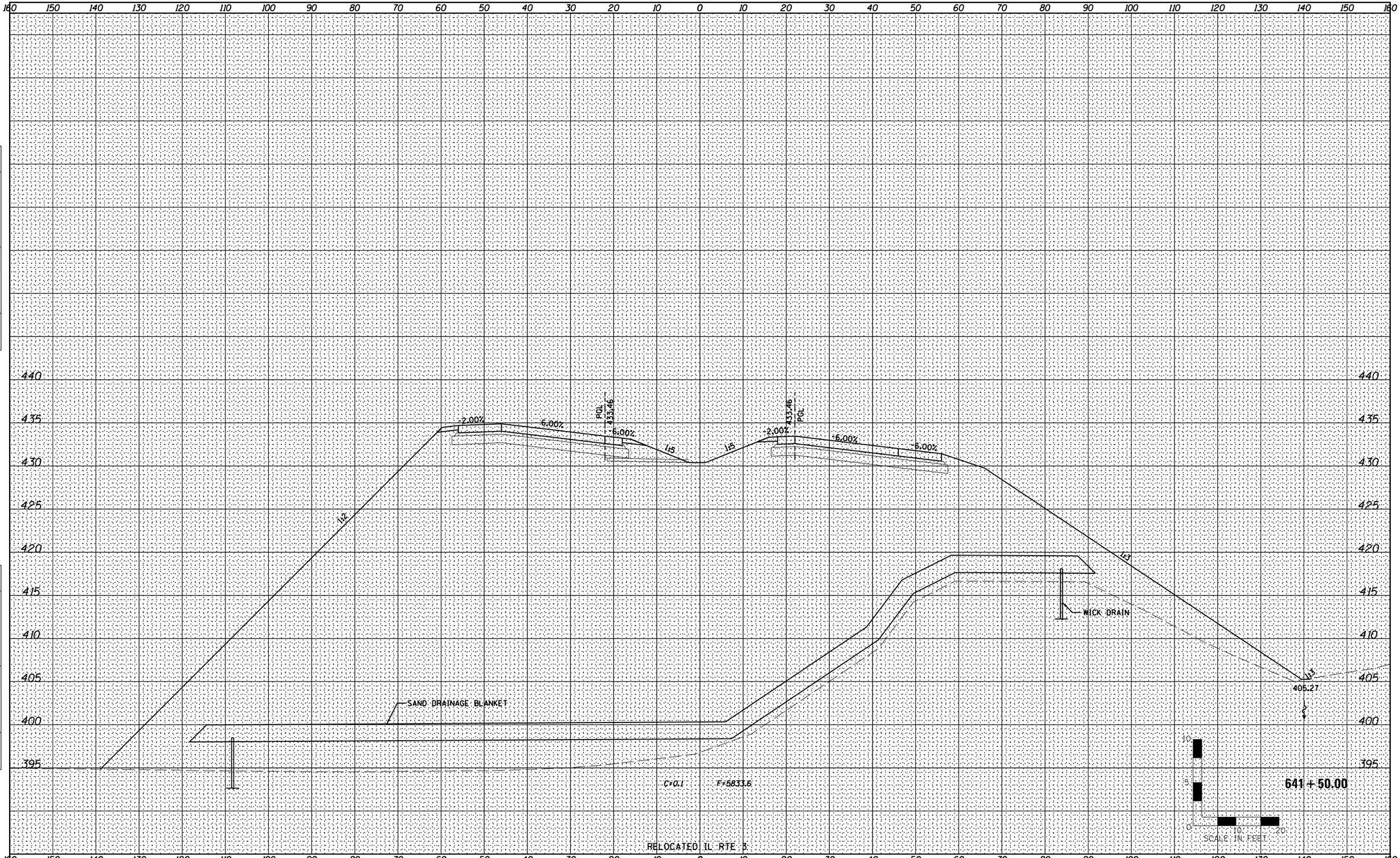
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	187
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



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309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 100.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 641+50.00 TO STA. 641+50.00

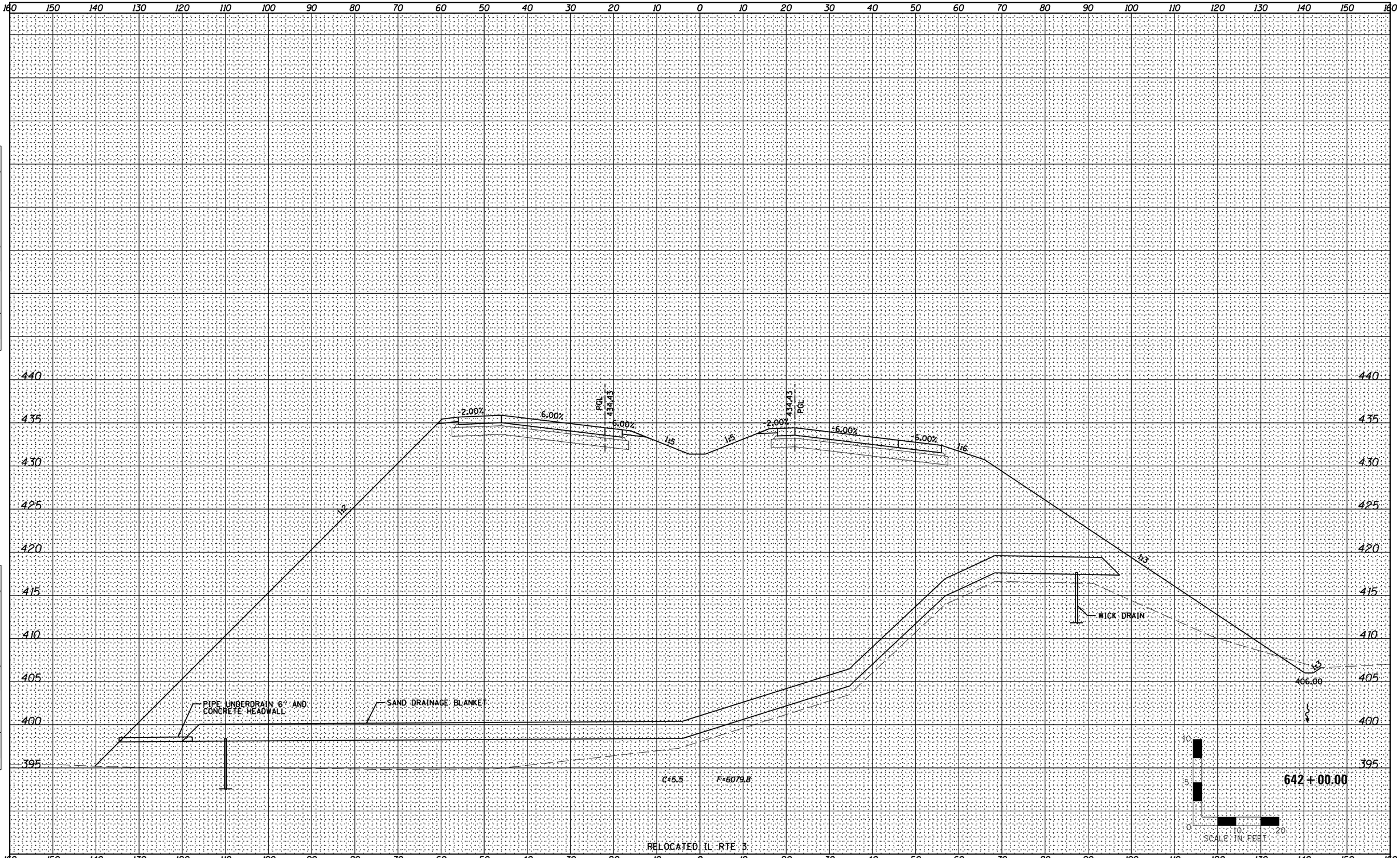
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	188
			CONTRACT NO. 76848	
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS
		DRAWN - JJO	REVISED - 03/15/13		
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 642+00.00 TO STA. 642+00.00
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -		

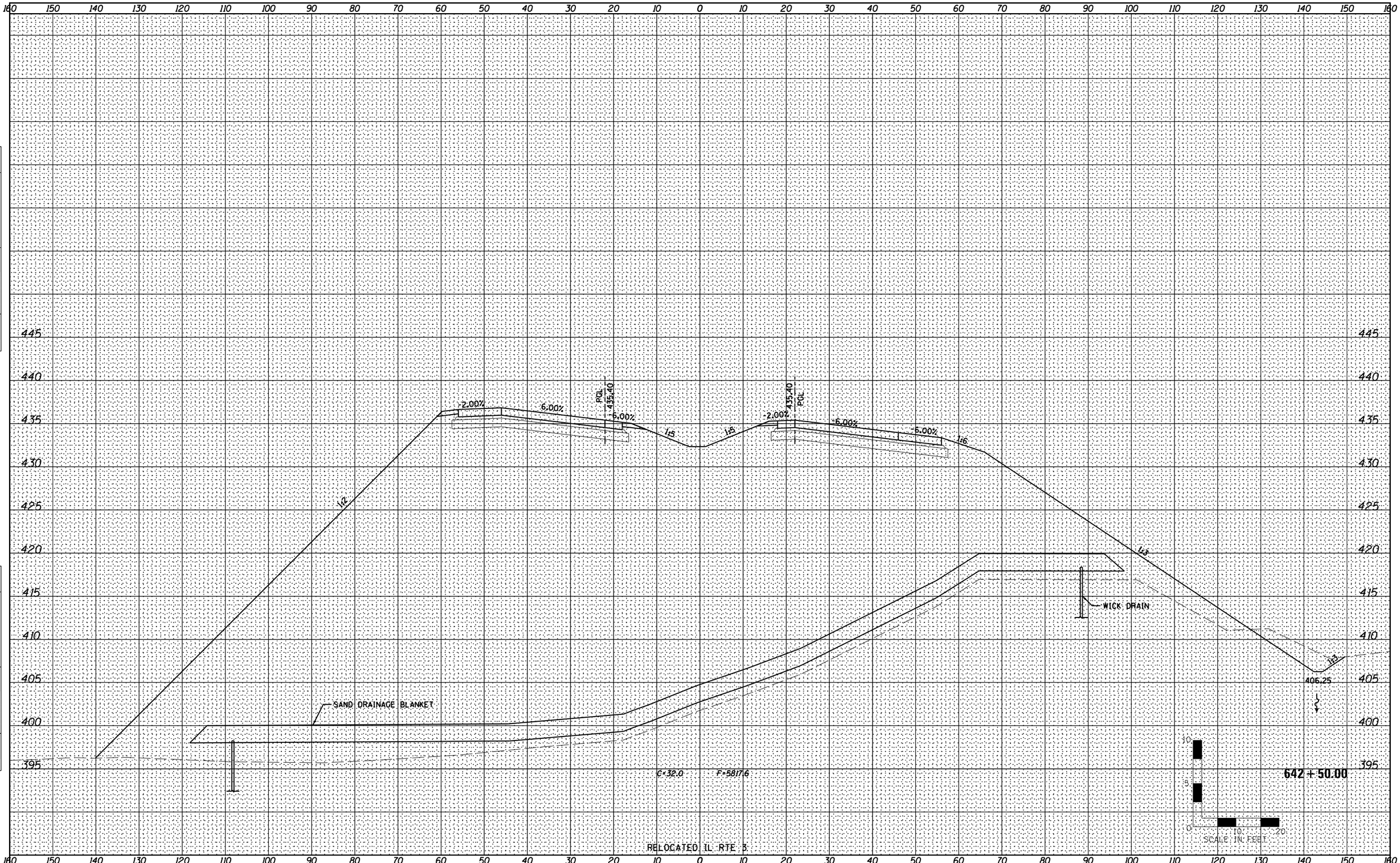
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	189
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS
		DRAWN - JJO	REVISED - 03/15/13		
	PLOT SCALE = 20.0000 ' / in.	CHECKED - PJM	REVISED -		SCALE:
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -		SHEET NO. OF SHEETS STA. 642+50.00 TO STA. 642+50.00

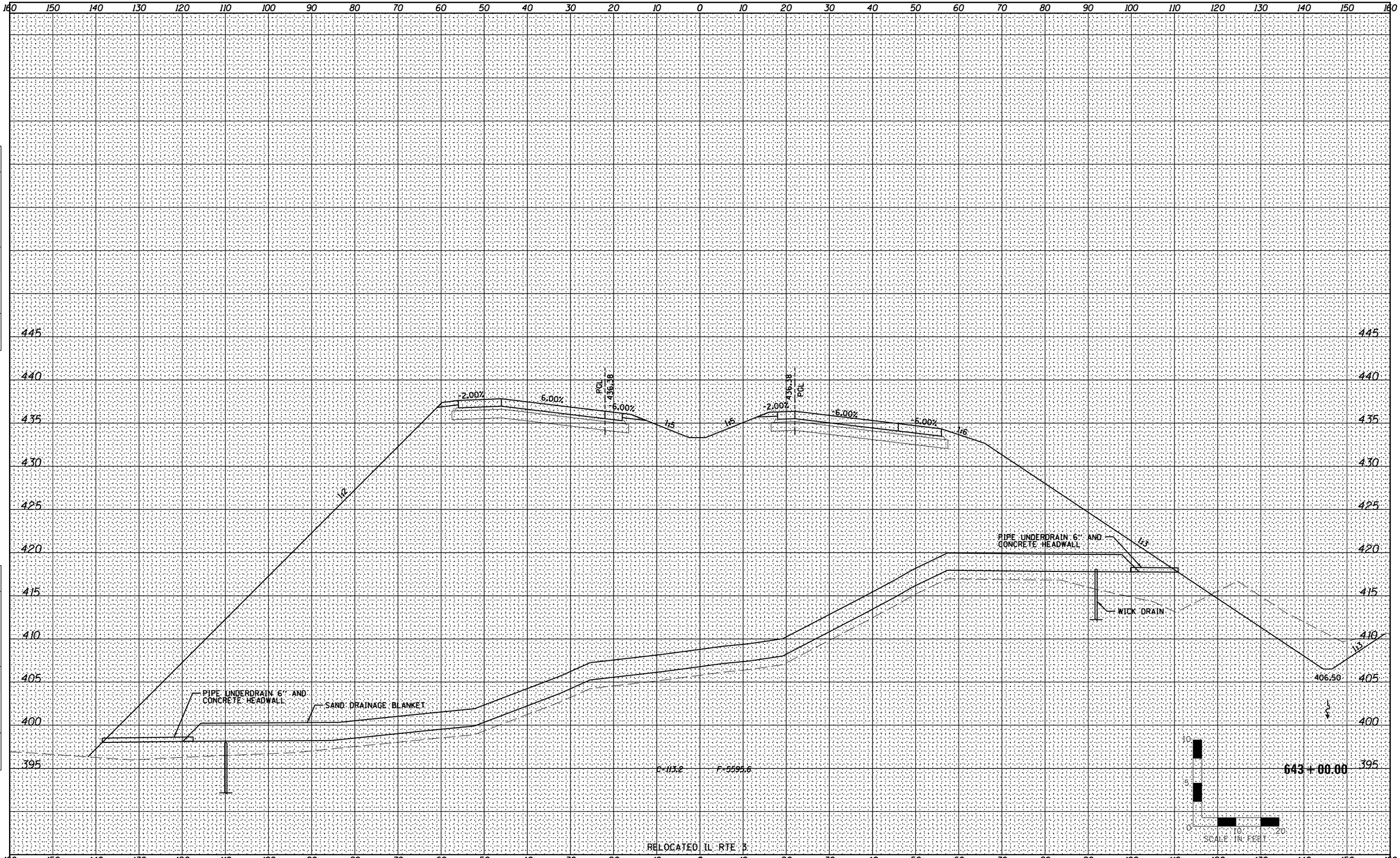
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	190
		CONTRACT NO. 76848		
ILLINOIS	FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



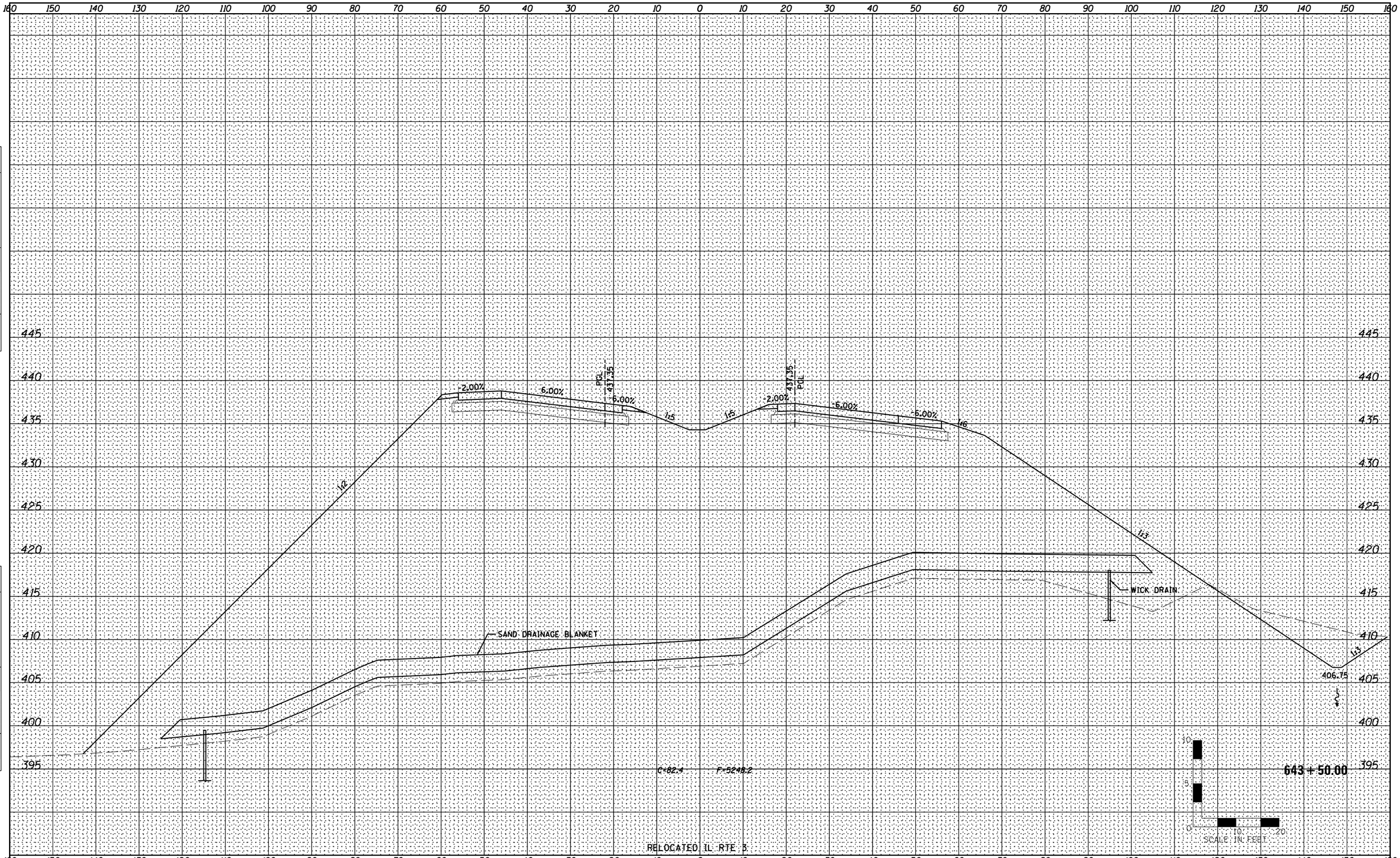
Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CROSS SECTIONS
		DRAWN - JJO	REVISED - 03/15/13		
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -		
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -		SCALE:

SHEET NO.	OF	SHEETS	STA. 643+00.00	TO STA. 643+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	191
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	DATE
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	BY	DATE
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		



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309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED -	02/06/13
	DRAWN - JJO	REVISED -	03/15/13
PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 643+50.00 TO STA. 643+50.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	192

CONTRACT NO. 76848

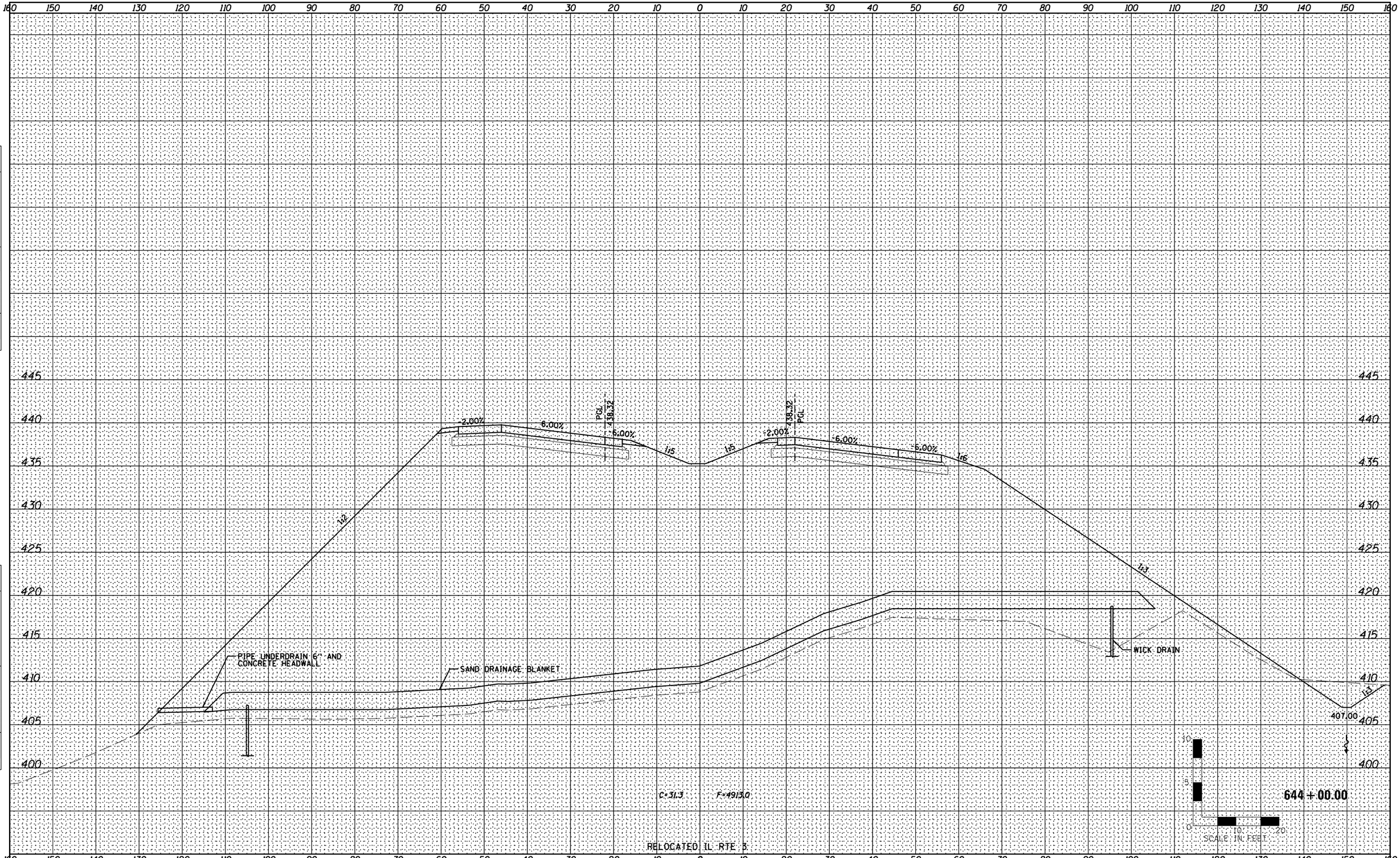
ILLINOIS FED. AID PROJECT

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



Farnsworth GROUP, INC.
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309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13
	DRAWN - JJO	REVISED - 03/15/13
PLOT SCALE = 100.0000 ' / in.	CHECKED - PJM	REVISED -
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 644+00.00 TO STA. 644+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	193

CONTRACT NO. 76848

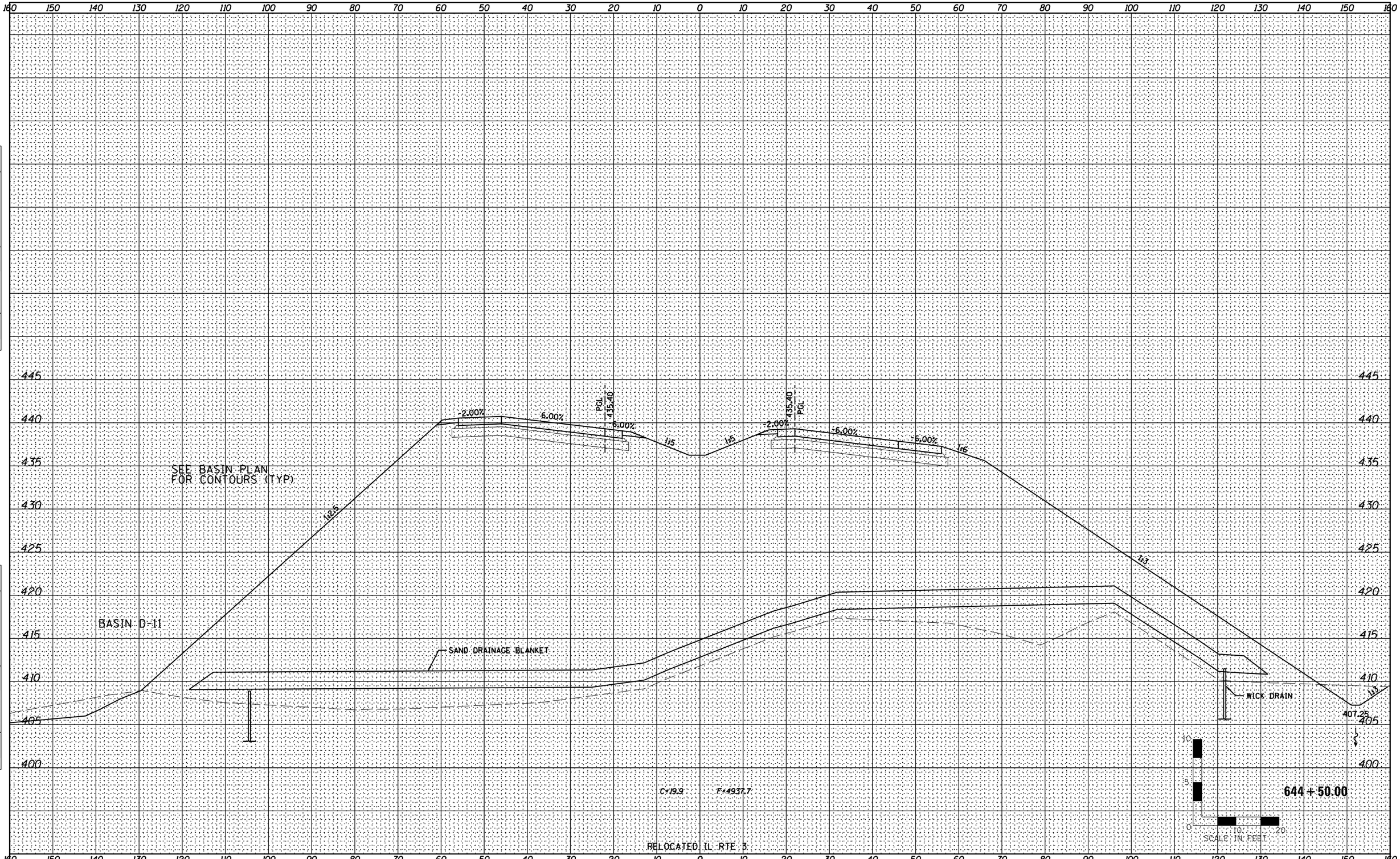
ILLINOIS FED. AID PROJECT

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY

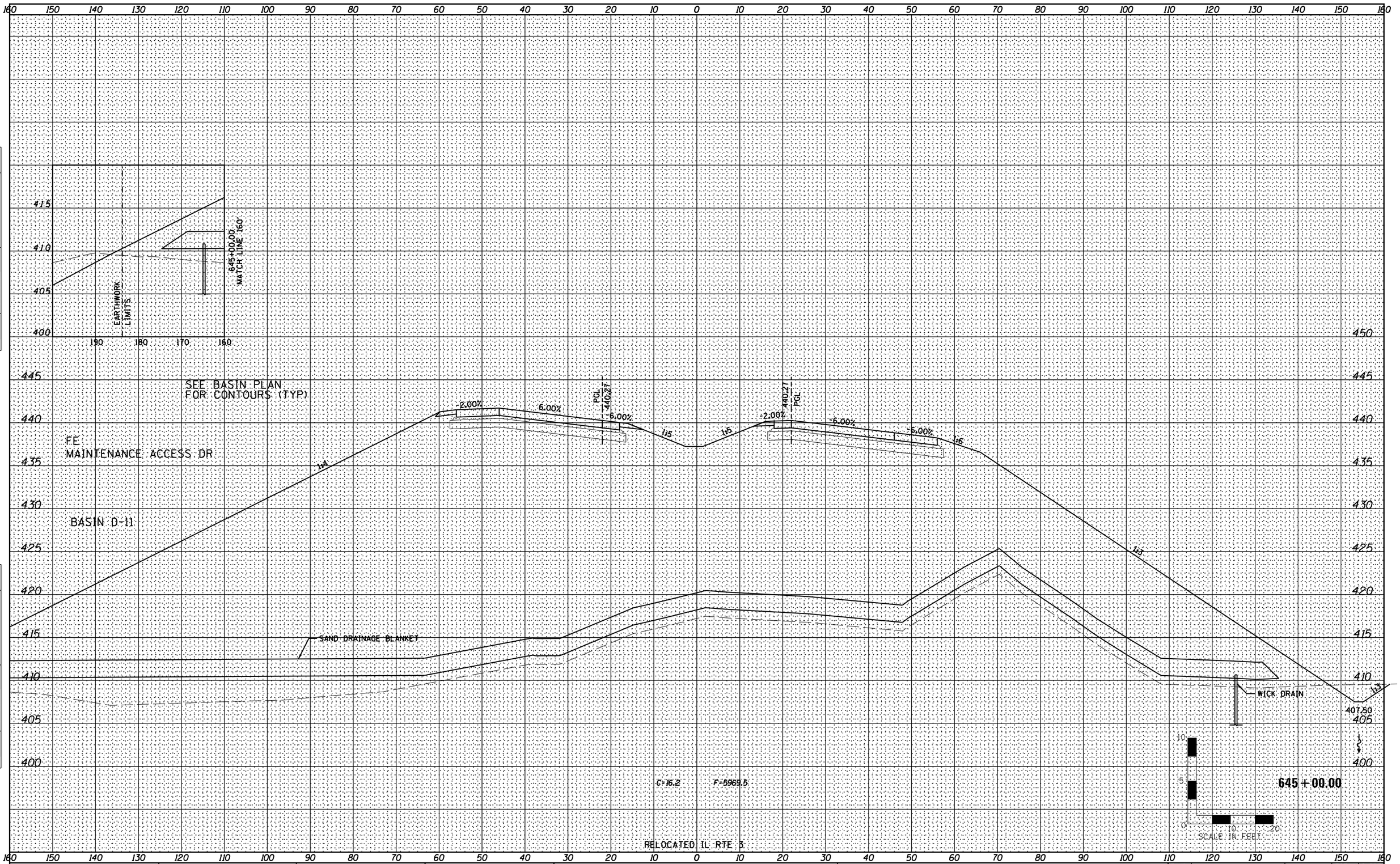
DATE



Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**CROSS SECTIONS**
		DRAWN - JJO	REVISED - 03/15/13		
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -		SCALE: SHEET NO. OF SHEETS STA. 644+50.00 TO STA. 644+50.00
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -		

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	194
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		BY
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		BY
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		DATE

Farnsworth GROUP, INC.
2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

USER NAME = dmeyer	DESIGNED - JJO	REVISED -	02/06/13
	DRAWN - JJO	REVISED -	03/15/13
PLOT SCALE = 20.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 645+00.00 TO STA. 645+00.00

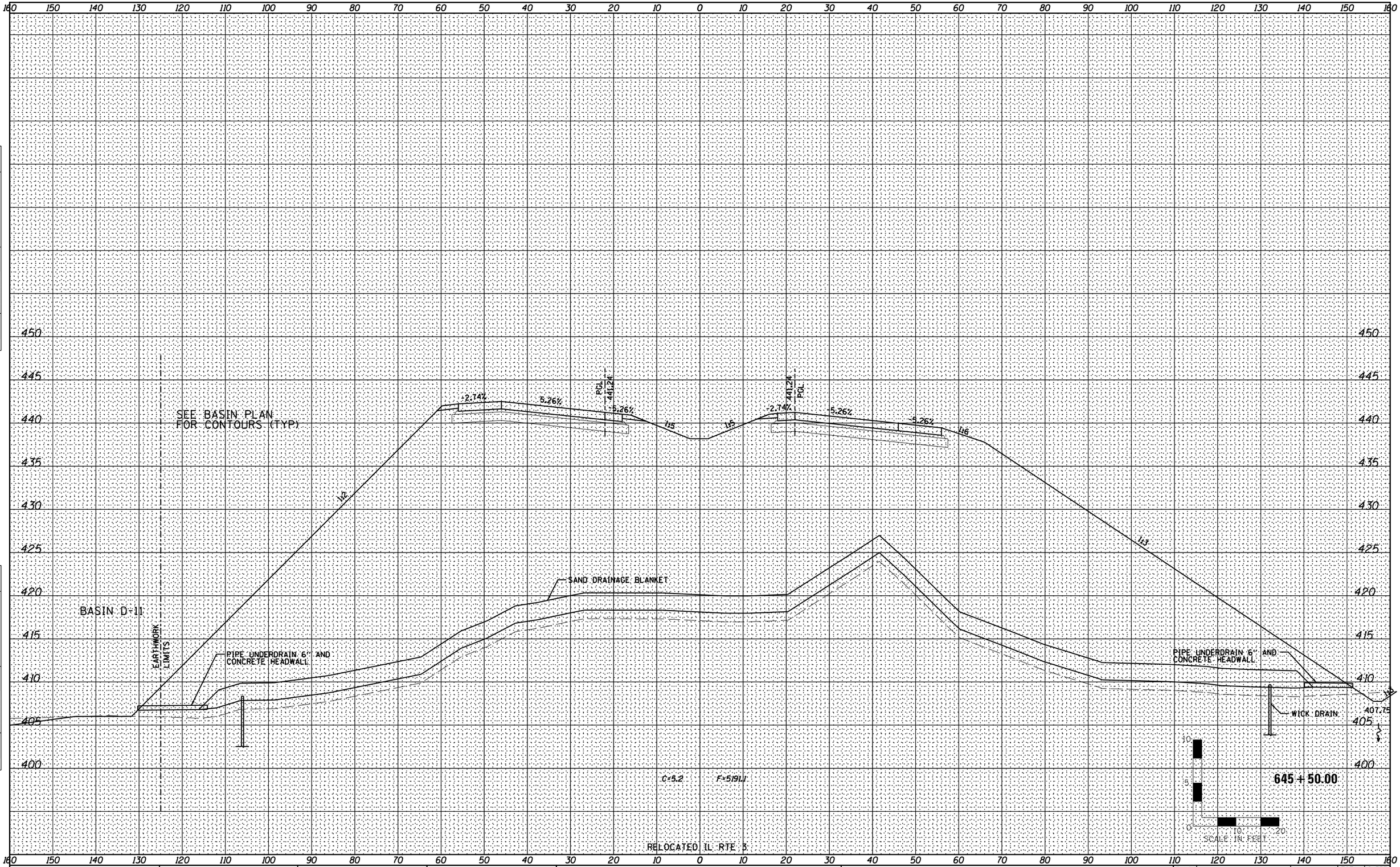
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	195

CONTRACT NO. 76848

ILLINOIS FED. AID PROJECT

FINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	BY
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	SURVEYED	BY
	PLOTTED	
	TEMPLATE	
	AREAS	
	AREAS CHECKED	DATE



USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 20.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

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2709 McGraw Drive
Bloomington, Illinois 61704
309/663-8435, 309/663-1571 fax

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 645+50.00 TO STA. 645+50.00

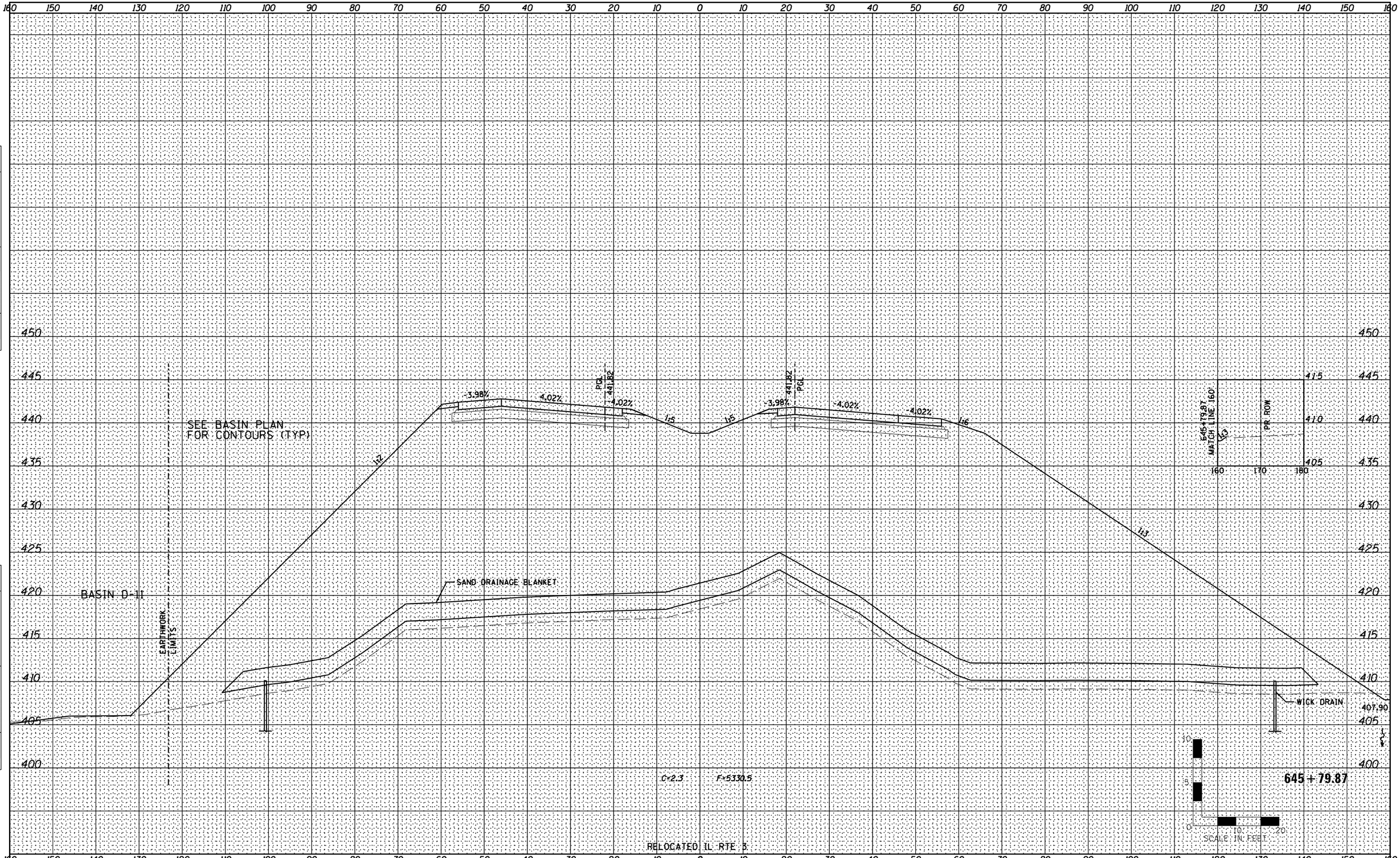
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	196
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 645+79.87 TO STA. 645+79.87

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	197
			CONTRACT NO. 76848	
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

SEE BASIN PLAN FOR CONTOURS (TYP)

BASIN D-II

EARTHWORK LIMITS

-4.00%

3.18%

-4.00%

PDL 442.21

1:5

1:5

-4.00%

PDL 442.21

-3.18%

-4.00%

1:6

1:2

1:3

SAND DRAINAGE BLANKET

PIPE UNDERDRAIN 6" AND CONCRETE HEADWALL

PIPE UNDERDRAIN 6" AND CONCRETE HEADWALL

WICK DRAIN

646+00.00 MATCH LINE 160'

1:3

PR. ROW

408.00

C=2.0 F=5504.0

RELOCATED IL RTE 3

646+00.00

SCALE IN FEET

Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13
		DRAWN - JJO	REVISED - 03/15/13
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

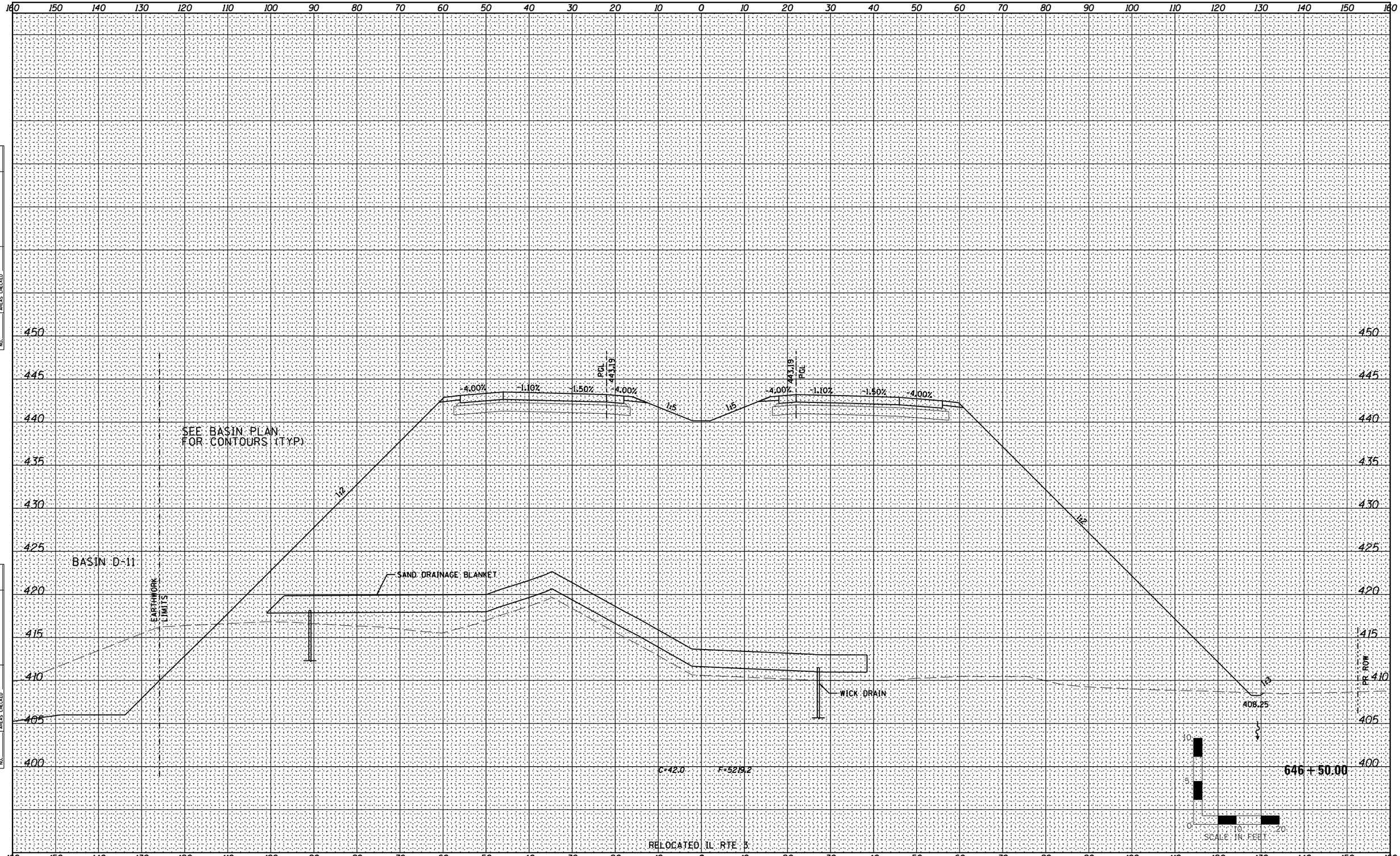
CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 646+00.00 TO STA. 646+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	198
		CONTRACT NO. 76848		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



Farnsworth GROUP, INC. 2709 McGraw Drive Bloomington, Illinois 61704 309/663-8435, 309/663-1571 fax	USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13
		DRAWN - JJO	REVISED - 03/15/13
	PLOT SCALE = 10.0000 ' / in.	CHECKED - PJM	REVISED -
	PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 646+50.00 TO STA. 646+50.00

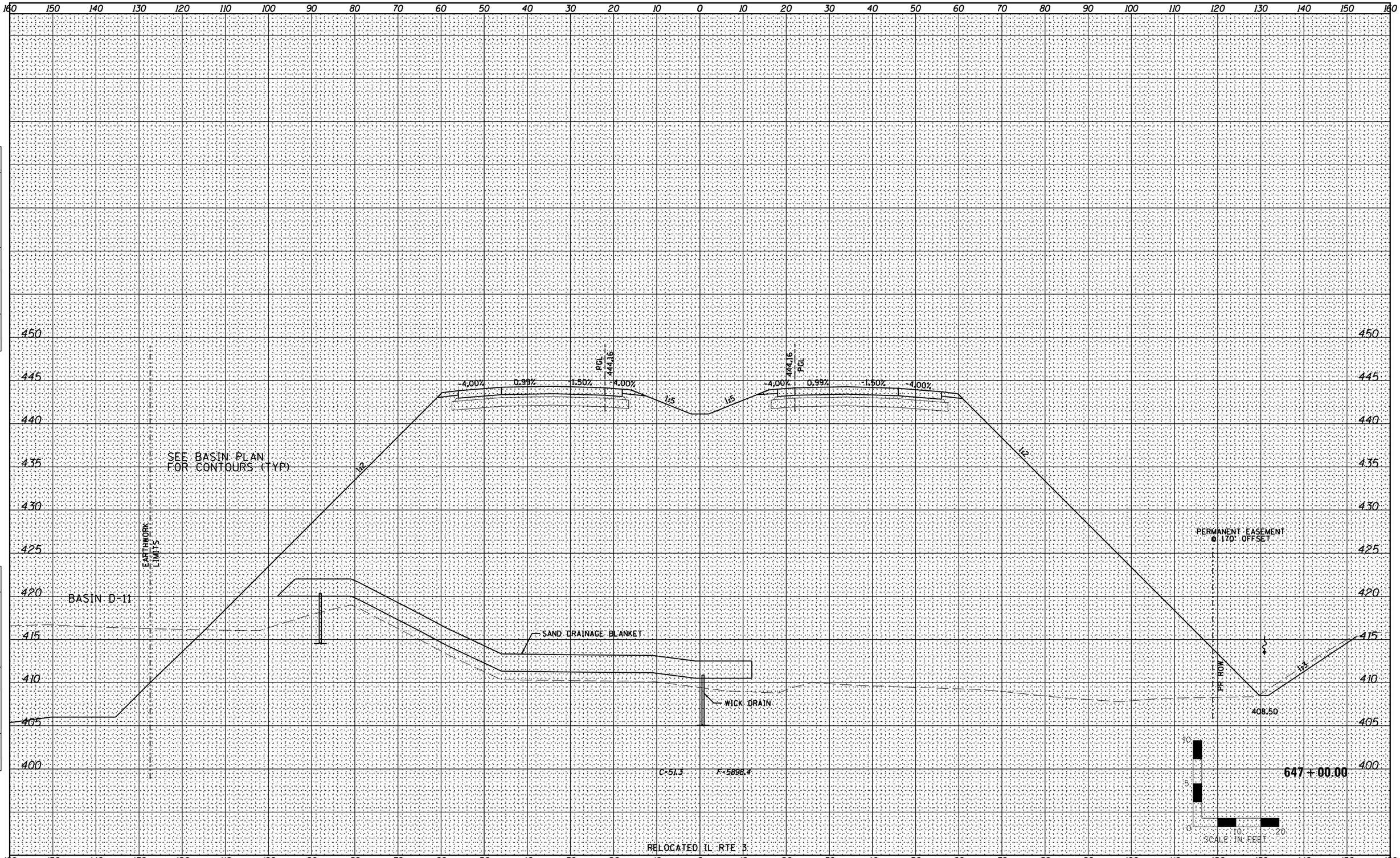
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	199
			CONTRACT NO. 76848	
		ILLINOIS	FED. AID PROJECT	

FINAL SURVEY	NO.	NOTE BOOK	BY	DATE

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

ORIGINAL SURVEY	NO.	NOTE BOOK	BY	DATE

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED



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USER NAME = dmeyer	DESIGNED - JJO	REVISED - 02/06/13	
	DRAWN - JJO	REVISED - 03/15/13	
PLOT SCALE = 20.0000 ' / in.	CHECKED - PJM	REVISED -	
PLOT DATE = 3/25/2013	DATE - 12/10/12	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: | SHEET NO. OF SHEETS | STA. 647+00.00 TO STA. 647+00.00

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
788	520-1-2HVB, 520-1-2HVB-1	ST. CLAIR	237	200

CONTRACT NO. 76848

ILLINOIS FED. AID PROJECT