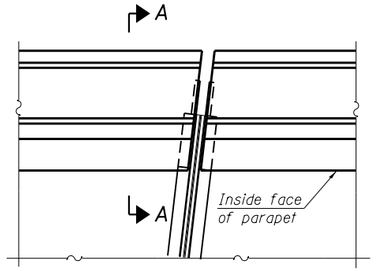
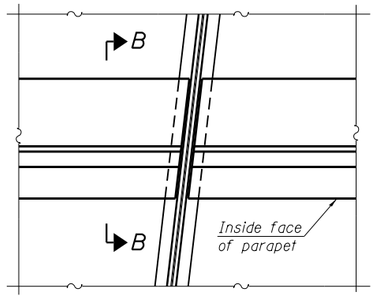
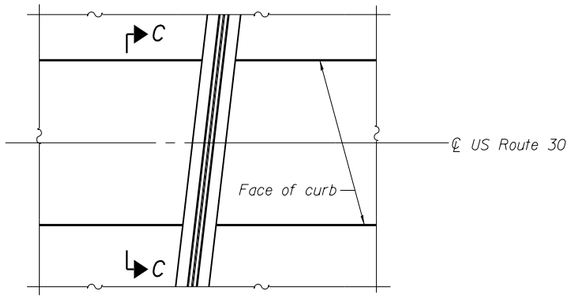


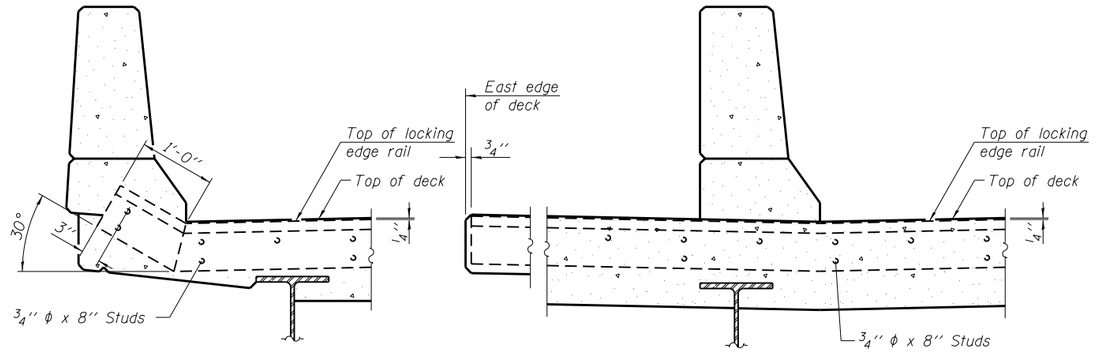
PLAN AT W. PARAPET



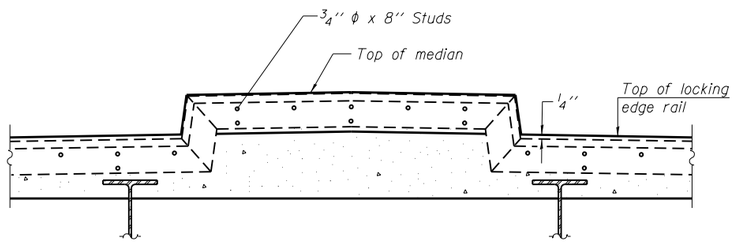
PLAN AT E. PARAPET



PLAN AT MEDIAN



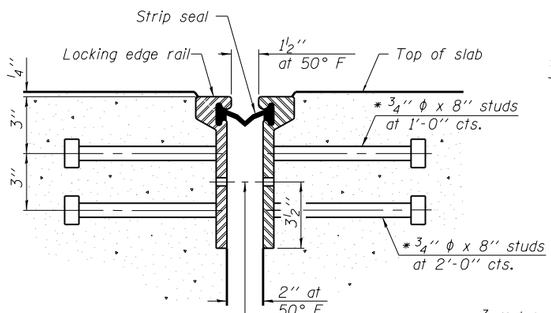
SECTION B-B



SECTION C-C

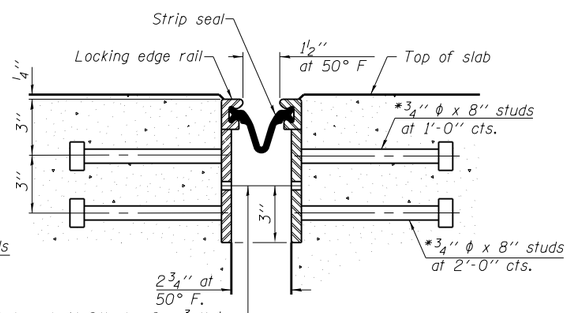
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

SECTION A-A



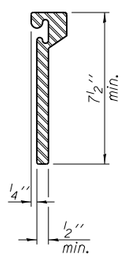
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

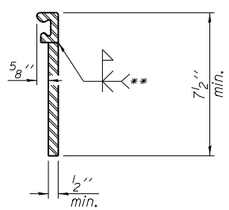


7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

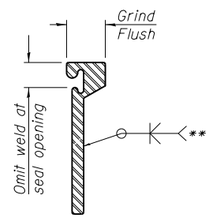
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



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

LOCKING EDGE RAIL SPLICE

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

Rolled rail shown, welded rail similar.

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

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

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

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

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	162

LOCKING EDGE RAILS

V3 Companies of Illinois Ltd.
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

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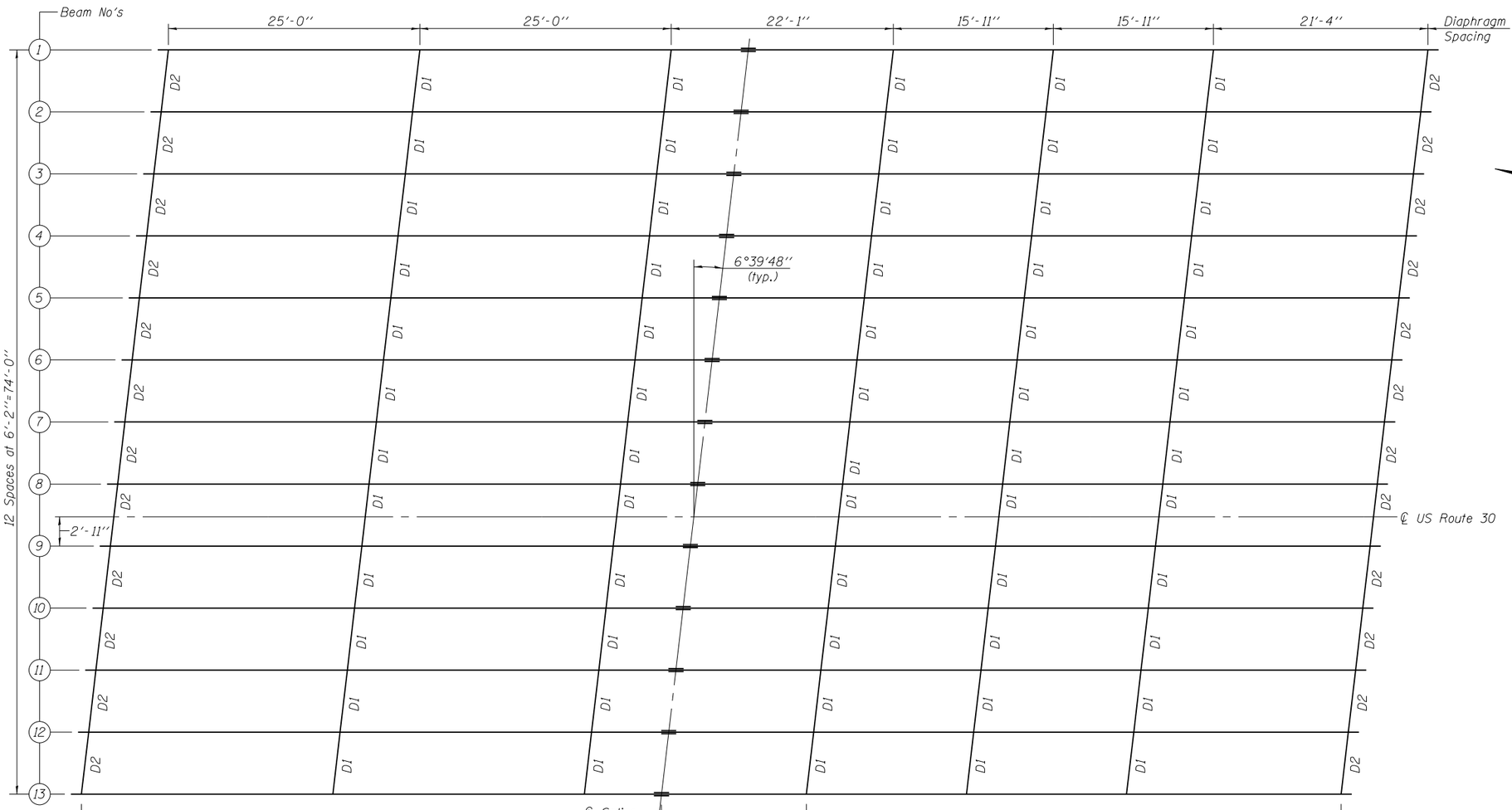
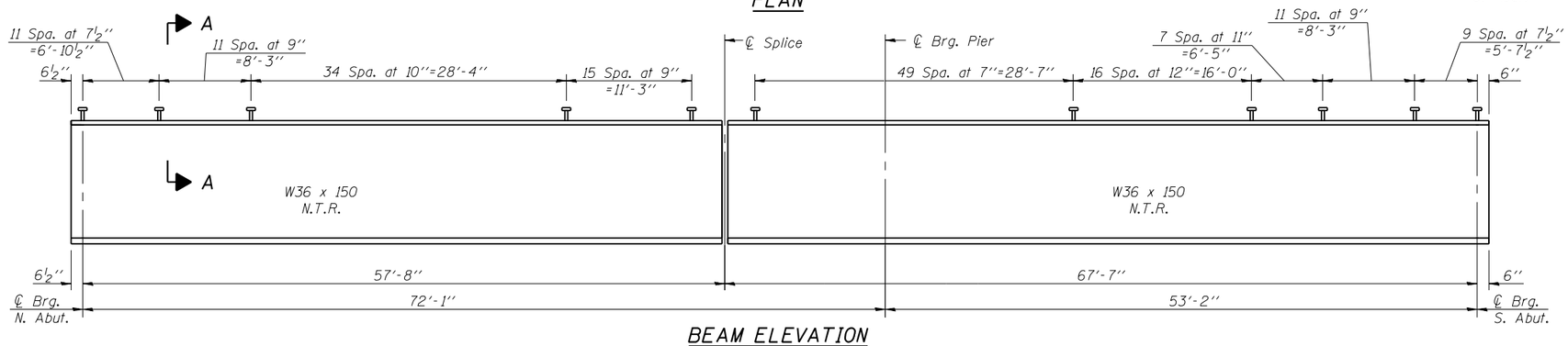
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 016-1350
SHEET NO. 16 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	201
		CONTRACT NO. 60R19		
ILLINOIS	FED. AID PROJECT			



PLAN

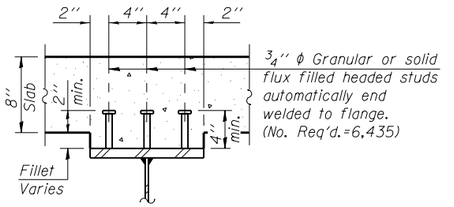


BEAM ELEVATION

TOP OF BEAM ELEVATIONS

Beam No.	℄ Brg. N. Abut.	℄ Splice Span 1	℄ Brg. Pier	℄ Brg. S. Abut.
Beam 1	659.96	660.22	660.18	660.01
Beam 2	659.82	660.09	660.05	659.89
Beam 3	659.69	659.96	659.92	659.77
Beam 4	659.77	660.04	660.00	659.86
Beam 5	659.89	660.17	660.13	659.99
Beam 6	660.01	660.30	660.26	660.12
Beam 7	660.13	660.43	660.39	660.26
Beam 8	660.25	660.55	660.52	660.39
Beam 9	660.25	660.56	660.53	660.40
Beam 10	660.12	660.43	660.40	660.28
Beam 11	659.98	660.30	660.27	660.16
Beam 12	659.84	660.17	660.14	660.04
Beam 13	659.71	660.04	660.01	659.91

For Fabrication Only



SECTION A-A

Notes:

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.

Load carrying components designated "N.T.R." shall conform to the Impact Testing Requirement, Zone 2.

All Beams and splice ℄'s shall conform to the requirements of AASHTO M270 Grade 50.

See Sheet 18 of 35 for diaphragm details, Beam Moment and Reaction Tables, and splice details.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN AND ELEVATION
STRUCTURE NO. 016-1350
SHEET NO. 17 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	202
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
I_s	(in^4)	9040	9040	9040
$I_c(n)$	(in^4)	23,061	-	23,061
$I_c(3n)$	(in^4)	16,695	-	16,695
$I_c(cr)$	(in^4)	-	11,814	-
S_s	(in^3)	504	504	504
$S_c(n)$	(in^3)	728	-	728
$S_c(3n)$	(in^3)	653	-	653
$S_c(cr)$	(in^3)	-	567	-
DC1	(k/')	0.83	0.83	0.83
M_{DC1}	('k)	344	429	109
DC2	(k/')	0.11	0.11	0.11
M_{DC2}	('k)	44	55	14
DW	(k/')	0.28	0.28	0.28
M_{DW}	('k)	116	145	37
M_{L+IM}	('k)	758	632	547
M_u (Strength I)	('k)	1986	1929	1167
$\phi_f M_n$	('k)	3647	2917	3683
f_s DC1	(ksi)	8.19	10.21	2.59
f_s DC2	(ksi)	0.81	1.16	0.26
f_s DW	(ksi)	2.13	3.07	0.68
f_s (L+IM)	(ksi)	12.49	13.38	9.02
f_s (Service II)	(ksi)	27.36	31.83	15.26
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	-	-
$\phi_f F_n$	(ksi)	-	-	-
V_f	(k)	50.6	-	46.4

INTERIOR BEAM REACTION TABLE				
		N. Abut.	Pier	S. Abut.
R_{DC1}	(k)	23.9	65.9	13.9
R_{DC2}	(k)	3.1	8.4	1.8
R_{DW}	(k)	8.1	22.2	4.7
R_{L+IM}	(k)	74.0	112.7	65.1
R_{Total}	(k)	109.1	209.2	85.5

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 (superimposed) dead loads ($in.^4$ and $in.^3$).

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

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

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

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

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

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

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

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

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

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

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

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

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

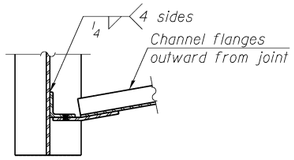
f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

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

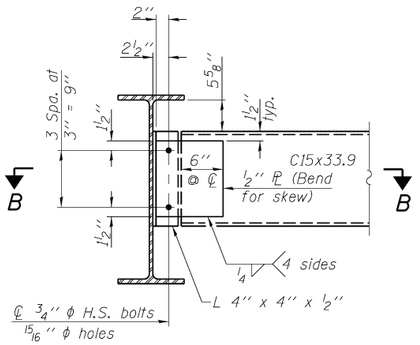
f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

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

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

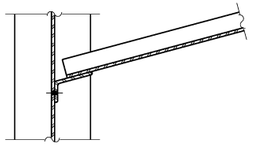


SECTION B-B

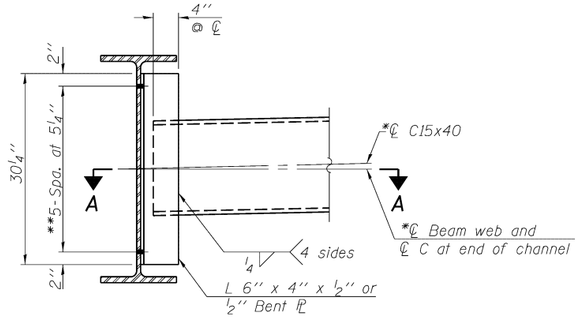


END DIAPHRAGM D2

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

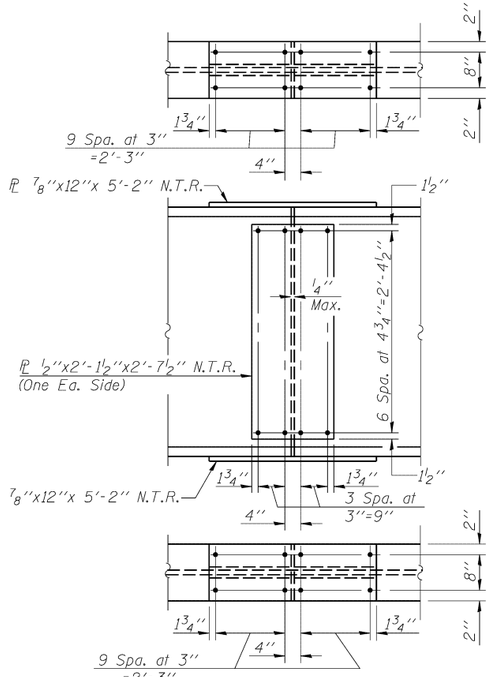


SECTION A-A



INTERIOR DIAPHRAGM D1

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels C15x50 are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
The alternate, if utilized, shall be provided at no additional cost to the Department.
**¾" ϕ HS bolts, 15/16" ϕ holes



FIELD SPLICE DETAIL

Notes:
Use ⅞" ϕ H.S. bolts with 15/16" ϕ holes for all splice connections.
Load carrying components designated "N.T.R." shall conform to the Impact Testing Requirement, Zone 2.
All splice ℙ's shall conform to the requirements of AASHTO M270 Grade 50.

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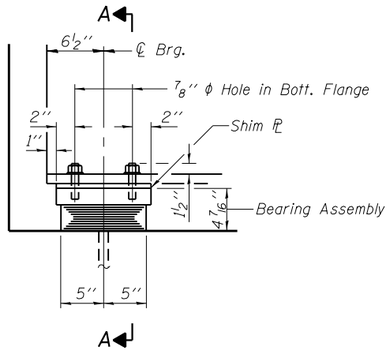
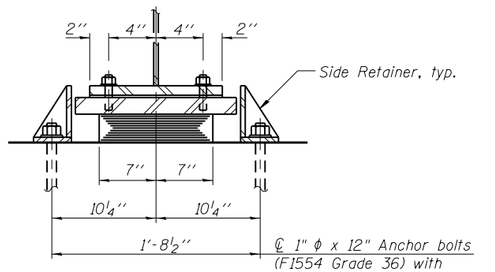
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
STRUCTURE NO. 016-1350
SHEET NO. 18 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	203
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

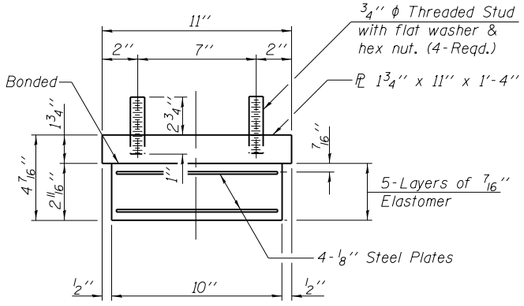


ELEVATION AT ABUT.



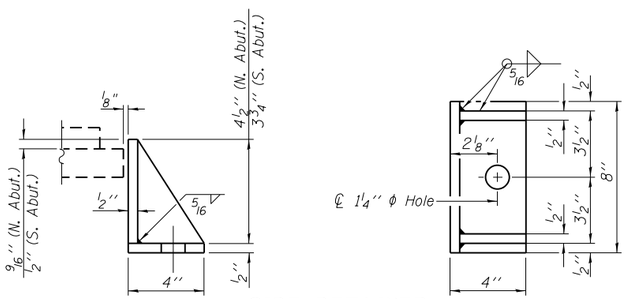
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG. AT NORTH ABUTMENT



BEARING ASSEMBLY

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



SIDE RETAINER

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

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

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

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

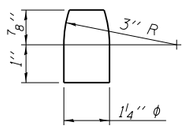
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

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

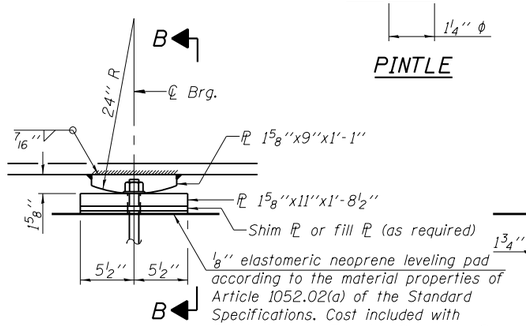
The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M 270 Grade 50.

The Structural Steel plates of the fixed bearings, including pintles, shall conform to the requirements of AASHTO M 270 Grade 50.

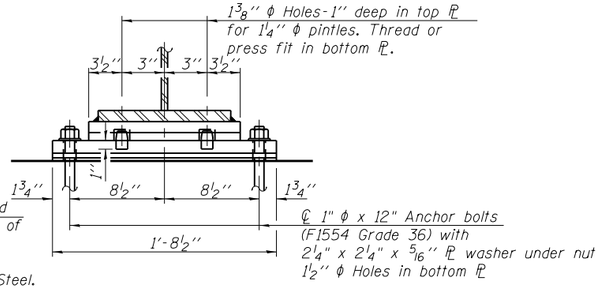
Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.



PINTLE



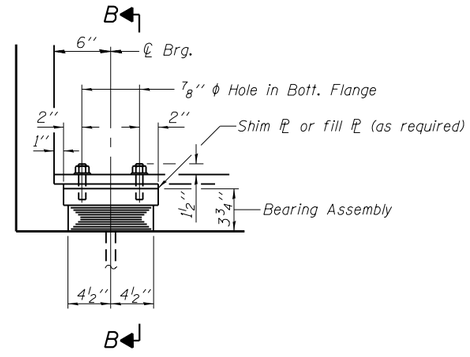
ELEVATION AT PIER



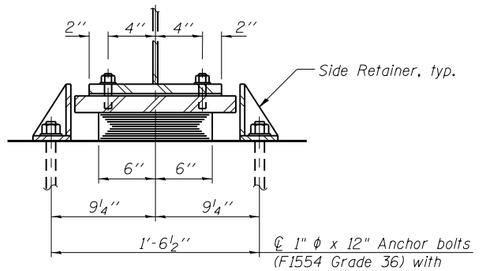
SECTION B-B

FIXED BEARING

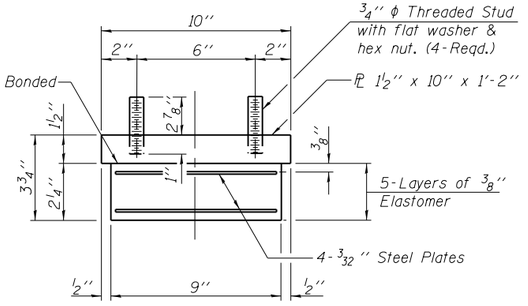
TYPE I ELASTOMERIC EXP. BRG. AT SOUTH ABUTMENT



ELEVATION AT ABUT.



SECTION B-B



BEARING ASSEMBLY

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

FILL PLATES

	Beam 9
Pier	⅛''
South Abutment	⅛''

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	26
Anchor Bolts, 1''	Each	78

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 016-1350
SHEET NO. 19 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	204
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

*Elevation at back of hatched area.

MINIMUM BAR LAP

#5 = 3′-3″
#6 = 3′-10″
#7 = 5′-10″

PILE DATA

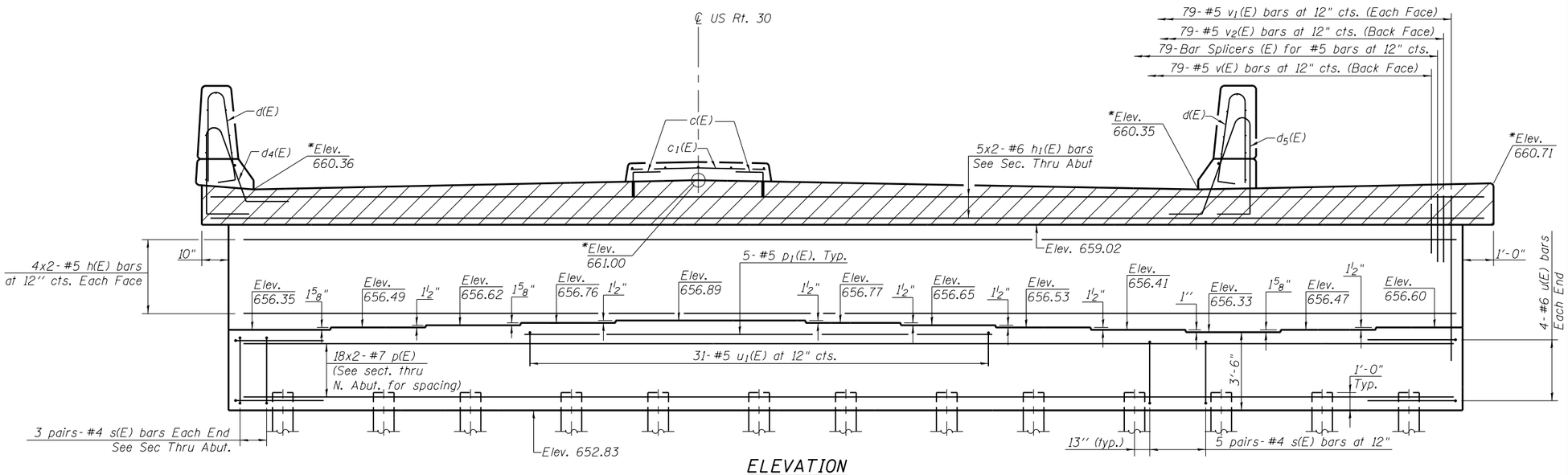
Type: Metal Shell-14 in. dia. x .25 in. walls
Nominal Required Bearing: 415 kips
Factored Resistance Available: 228 kips
Est. Length: 85′
No. Production Piles: 12
No. Test Piles: 1

In order to alleviate dowdrag on pile, the Contractor shall:

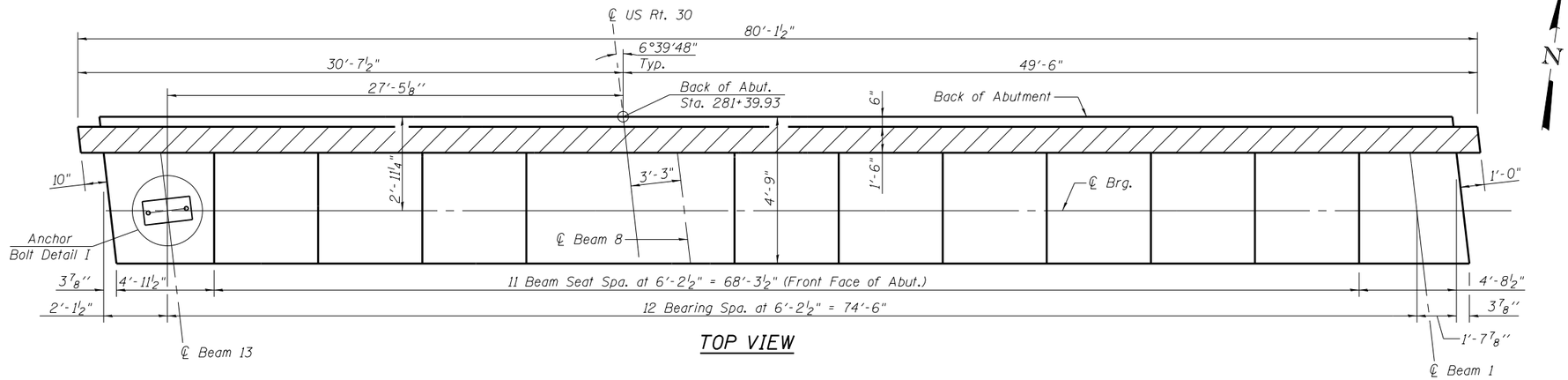
Construct the MSE walls first, wait **6 months, and then drive piles through sleeves that were placed before MSE wall construction. Place sleeves after removal of unsuitable material and before backfilling with Aggregate Subgrade Improvement where this is necessary. Cost included with Furnishing Metal Shell Piles, 14″ ϕ x 0.25″.

**Or until the settlement platforms for the MSE walls indicate that 1.6″ of the estimated 2.0″ of settlement has occurred at the abutment.

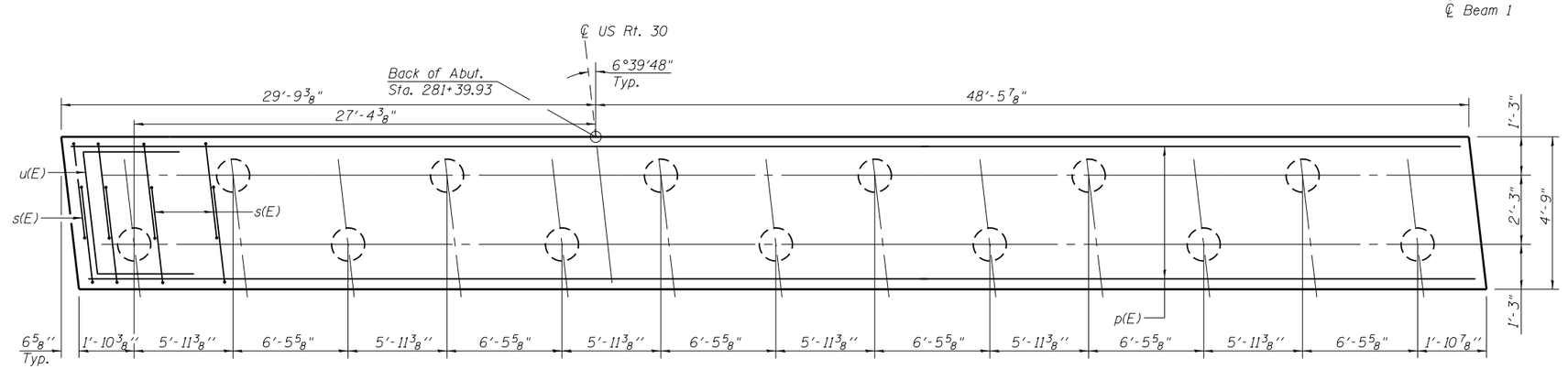
Notes:
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Bar indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.
See Sheet 22 of 35 for Sec. Thru North Abut., Anchor Bolt Detail I, Bar Details, and Bill of Material.
See Sheet 11 of 35 for median and parapet reinforcement details.
See Sheet 24 of 35 for additional pile information.
See sheet 25 of 35 for details of Bar Splicers.



ELEVATION
(Looking North)



TOP VIEW



PILE CAP PLAN

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT
STRUCTURE NO. 016-1350
SHEET NO. 20 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	205
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

*Elevation at back of hatched area.

MINIMUM BAR LAP

#5 = 3'-3"
#6 = 3'-10"
#7 = 5'-10"

PILE DATA

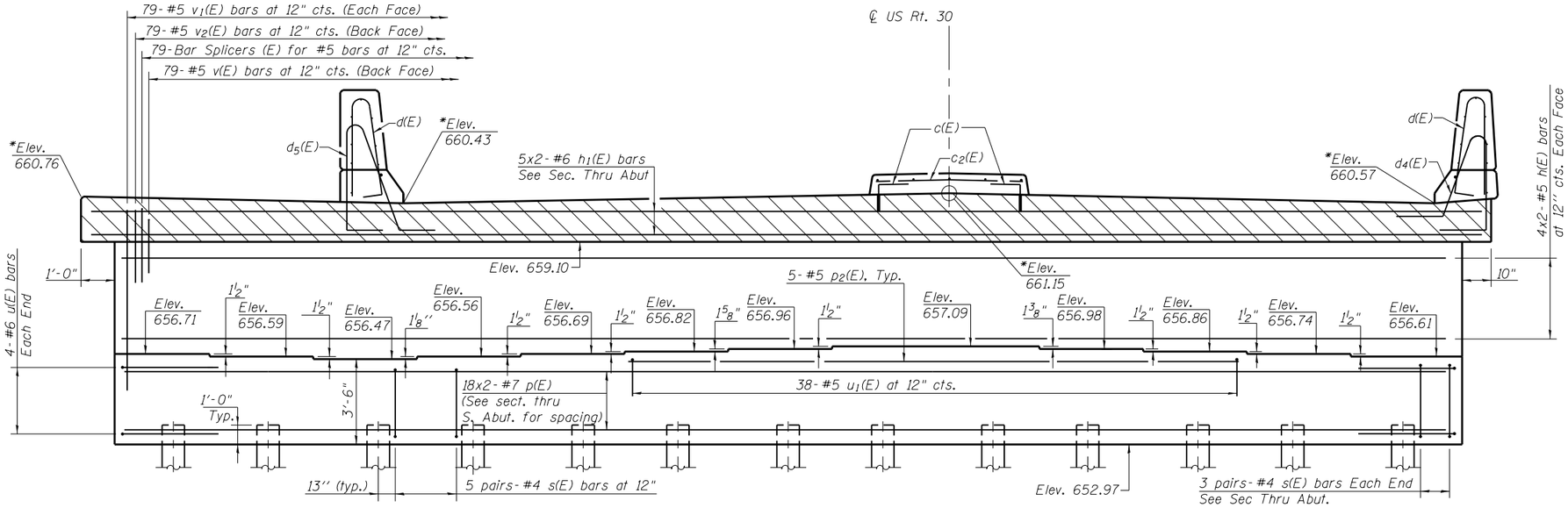
Type: Metal Shell-14 in. dia. x .25 in. walls
Nominal Required Bearing: 335 kips
Factored Resistance Available: 184 kips
Est. Length: 74'
No. Production Piles: 12
No. Test Piles: 1

In order to alleviate dowdrag on pile, the Contractor shall:

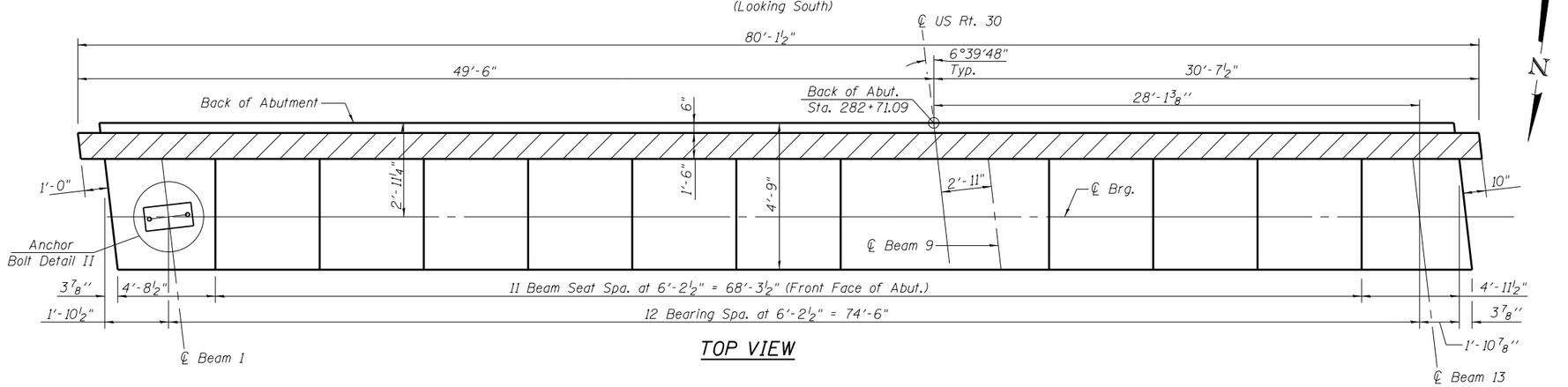
Construct the MSE walls first, wait **6 months, and then drive piles through sleeves that were placed before MSE wall construction. Cost included with Furnishing Metal Shell Piles, 14" ϕ x 0.25".

**Or until the settlement platforms for the MSE walls indicate that 1.6" of the estimated 2.0" of settlement has occurred at the abutment.

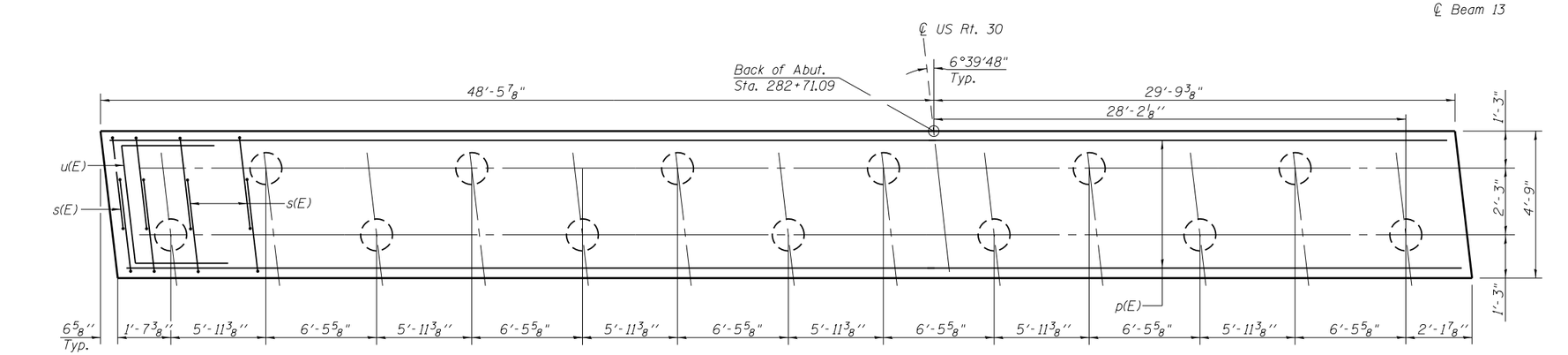
Notes:
Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Bar indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.
See Sheet 22 of 35 for Sec. Thru North Abut., Anchor Bolt Detail II, Bar Details, and Bill of Material.
See Sheet 12 of 35 for median and parapet reinforcement details.
See Sheet 24 of 35 for additional pile information.
See sheet 25 of 35 for details of Bar Splicers.



ELEVATION
(Looking South)



TOP VIEW



PILE CAP PLAN

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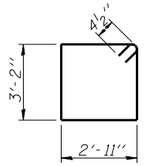
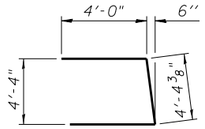
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT
STRUCTURE NO. 016-1350
SHEET NO. 21 OF 35 SHEETS

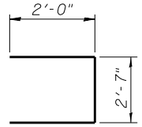
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	206
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



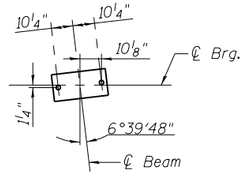
BAR s(E)



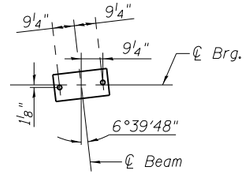
BAR u(E)



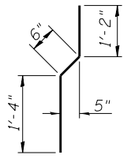
BAR u1(E)



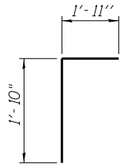
ANCHOR BOLT DETAIL I



ANCHOR BOLT DETAIL II



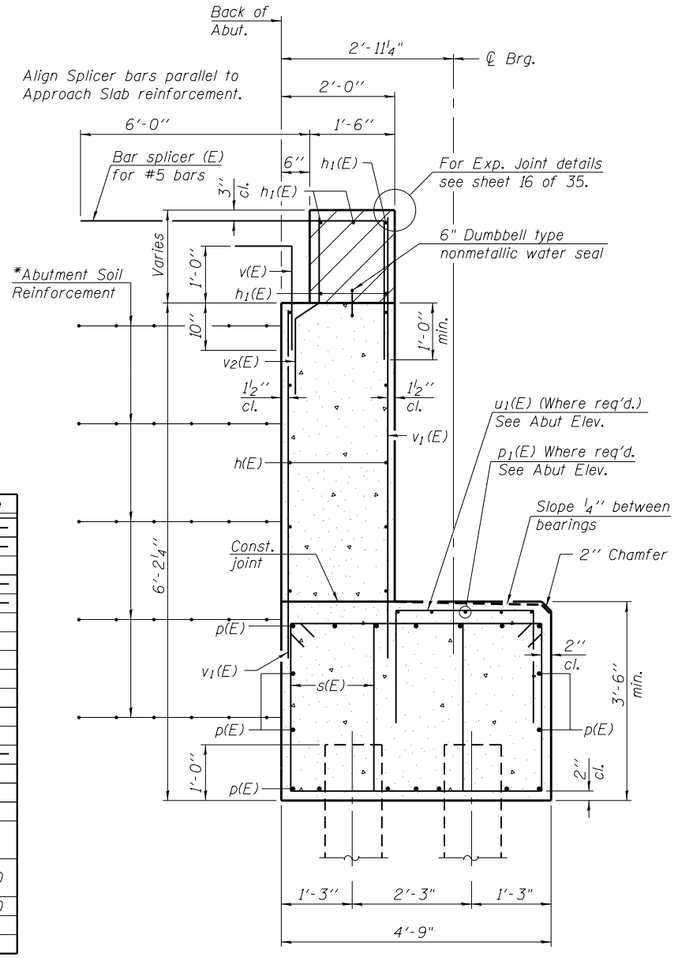
BAR v2(E)



BAR v(E)

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	40'-8"	
h_1(E)	10	#6	41'-9"	
p(E)	36	#7	41'-11"	
p_1(E)	5	#5	30'-9"	
s(E)	132	#4	12'-11"	
u(E)	8	#6	12'-5"	
u_1(E)	31	#5	6'-7"	
v(E)	79	#5	3'-9"	
v_1(E)	158	#5	5'-9"	
v_2(E)	79	#5	3'-0"	
Concrete Structures		Cu. Yd.	65.9	
Concrete Superstructures		Cu. Yd.	7.2	
Reinforcement Bars, Epoxy Coated		Pound	7,560	
Furnishing Metal Shell Piles, 14" x 0.25"		Foot	1,020	
Driving Piles		Foot	1,020	
Test Pile, Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	662	

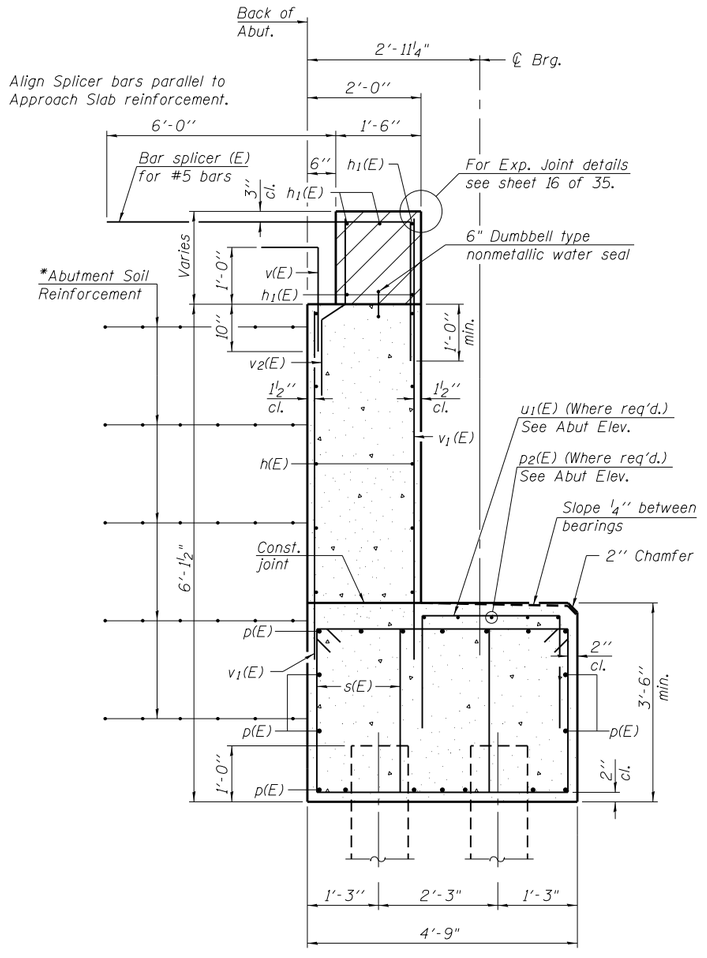


SEC. THRU NORTH ABUT.

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

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	16	#5	40'-8"	
h_1(E)	10	#6	41'-9"	
p(E)	36	#7	41'-11"	
p_2(E)	5	#5	36'-11"	
s(E)	132	#4	12'-11"	
u(E)	8	#6	12'-5"	
u_1(E)	38	#5	6'-7"	
v(E)	79	#5	3'-9"	
v_1(E)	158	#5	5'-9"	
v_2(E)	79	#5	3'-0"	
Concrete Structures		Cu. Yd.	66.0	
Concrete Superstructures		Cu. Yd.	7.5	
Reinforcement Bars, Epoxy Coated		Pound	7,640	
Furnishing Metal Shell Piles, 14" x 0.25"		Foot	888	
Driving Piles		Foot	888	
Test Pile, Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	670	



SEC. THRU SOUTH ABUT.

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

Notes:

Hatched area to be poured after superstructure forms have been removed. Quantity of concrete included with Concrete Superstructure.

See sheet 25 of 35 for details of Bar Splicers.

* The MSE wall supplier shall design the abutment reinforcement to resist a factored horizontal force of 3.16 k/foot of abutment. Cost included with Mechanically Stabilized Earth Retaining Wall.

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DEPARTMENT OF TRANSPORTATION

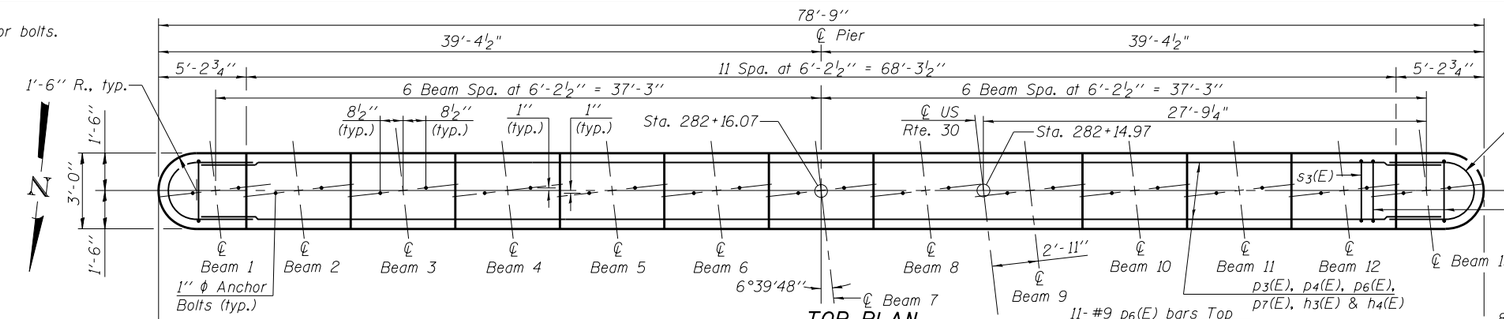
ABUTMENT DETAILS
STRUCTURE NO. 016-1350
SHEET NO. 22 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	207
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

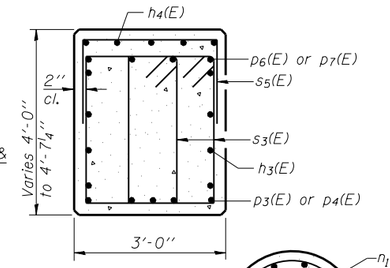
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles, see sheet 24 of 35.

PILE DATA

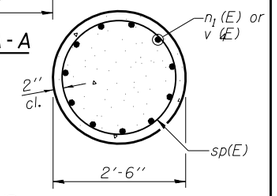
Type: Metal Shell-14 in. dia. x .25 in. walls
Nominal Required Bearing: 336 kips
Factored Resistance Available: 185 kips
Est. Length: 46 feet
No. Production Piles: 25
No. Test Piles: 1



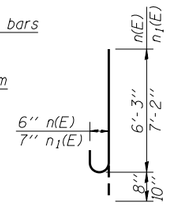
TOP PLAN



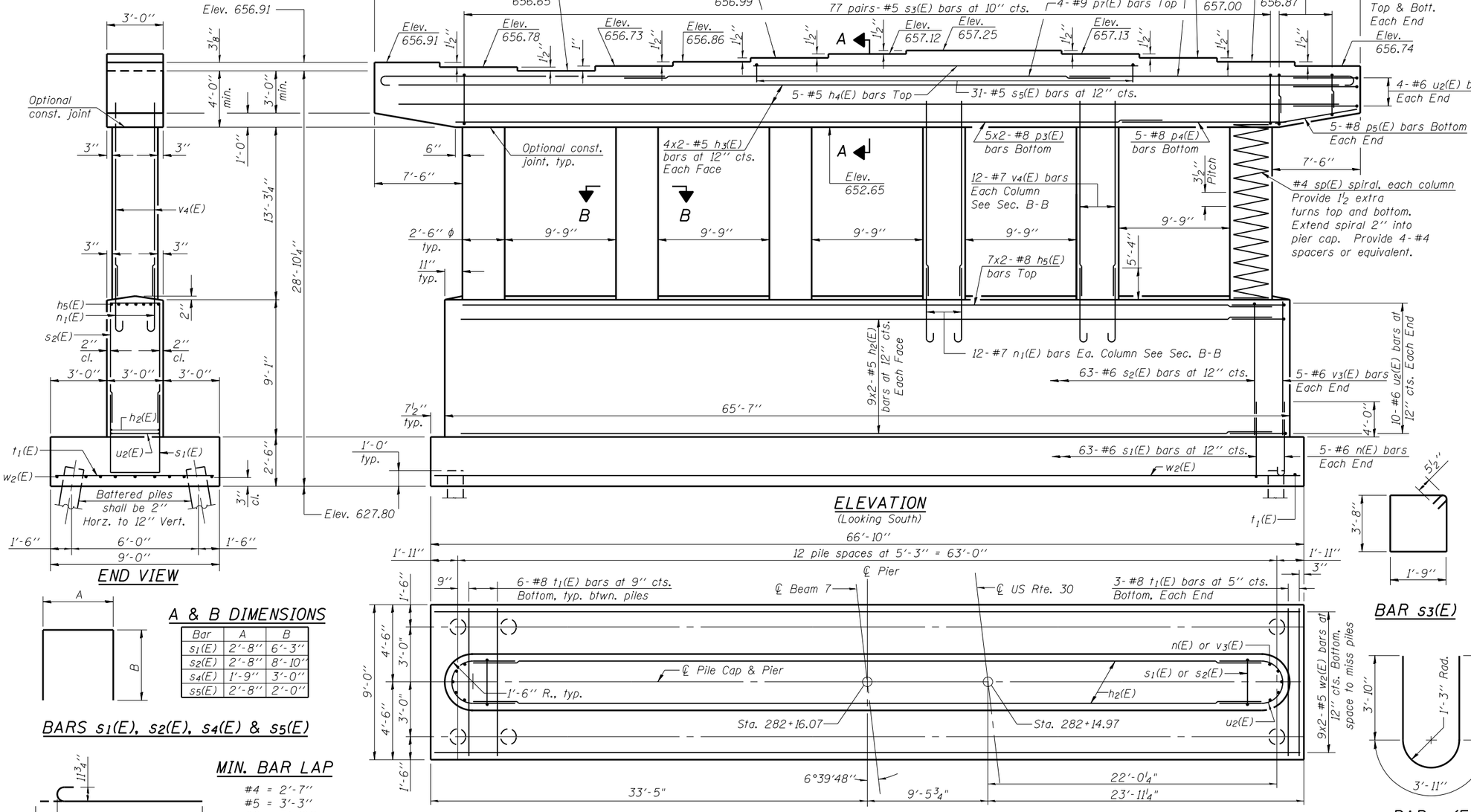
SEC. A-A

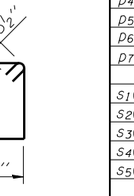


SEC. B-B

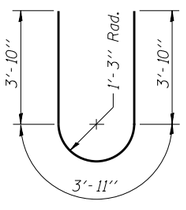


BAR n(E) & n1(E)





BAR s3(E)

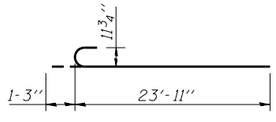


BAR u2(E)

A & B DIMENSIONS

Bar	A	B
s1(E)	2'-8"	6'-3"
s2(E)	2'-8"	8'-10"
s4(E)	1'-9"	3'-0"
s5(E)	2'-8"	2'-0"

BARS s1(E), s2(E), s4(E) & s5(E)



BAR p6(E)

MIN. BAR LAP

#4 = 2'-7"
#5 = 3'-3"
#6 = 3'-10"
#7 = 5'-2"
#8 = 6'-9"
#9 = 9'-8"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2(E)	36	#5	32'-11"	—
h3(E)	16	#5	39'-6"	—
h4(E)	5	#5	30'-9"	—
h5(E)	14	#8	34'-8"	—
n(E)	10	#6	6'-11"	⊃
n1(E)	72	#7	8'-0"	⊃
p3(E)	10	#8	28'-5"	—
p4(E)	5	#8	21'-6"	—
p5(E)	10	#8	7'-2"	—
p6(E)	22	#9	25'-2"	⊃
p7(E)	4	#9	50'-0"	—
s1(E)	63	#6	15'-2"	⊔
s2(E)	63	#6	20'-4"	⊔
s3(E)	154	#5	11'-9"	⊡
s4(E)	64	#5	7'-9"	⊔
s5(E)	31	#5	6'-8"	⊔
* sp(E)	6	#4	13'-6"	∿∿
t1(E)	78	#8	8'-9"	—
u2(E)	28	#6	11'-7"	⊃
v3(E)	10	#6	8'-9"	—
v4(E)	72	#7	15'-0"	—
w2(E)	18	#5	34'-11"	—
Structure Excavation			Cu. Yd.	154
Concrete Structures			Cu. Yd.	172.9
Reinforcement Bars, Epoxy Coated			Pound	20,460
Furnishing Metal Shell Piles, 14" x 0.25"			Foot	1150
Driving Piles			Foot	1150
Test Pile, Metal Shells			Each	1

* Length is height of spiral.

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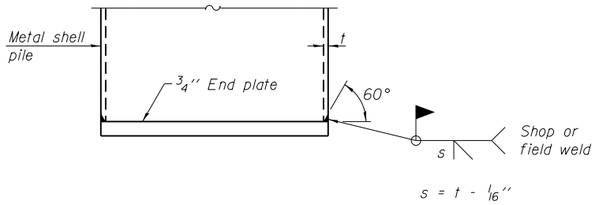
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER
STRUCTURE NO. 016-1350
SHEET NO. 23 OF 35 SHEETS

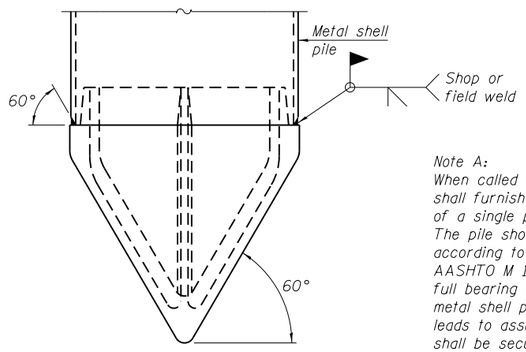
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	208
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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



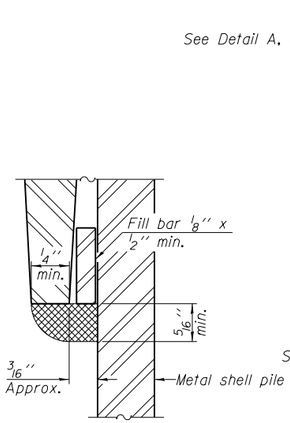
END PLATE ATTACHMENT



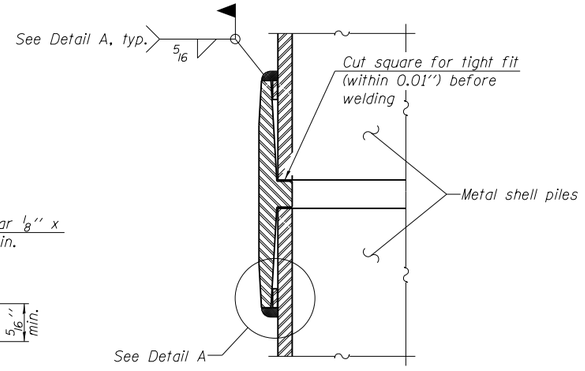
Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over 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)

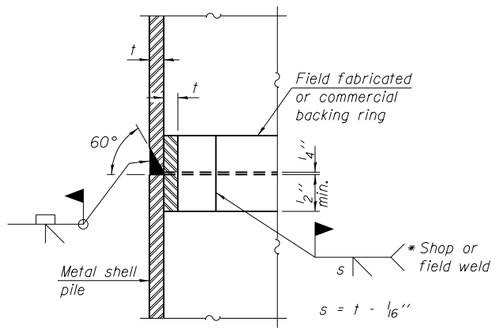


DETAIL A



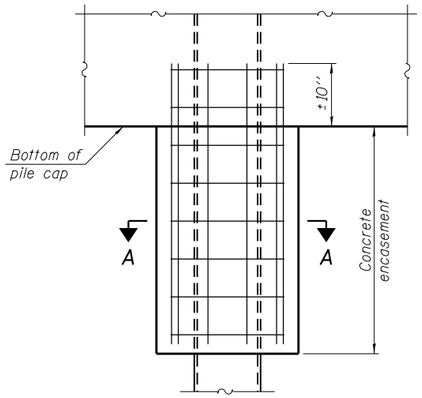
Notes:
The 1/8″ x 1/2″ min. fill bar may be constructed of 2 bars with a 1/8″ max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

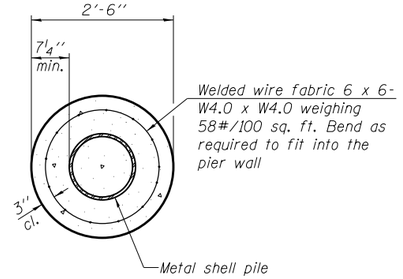


COMPLETE PENETRATION WELD SPLICE

* 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.



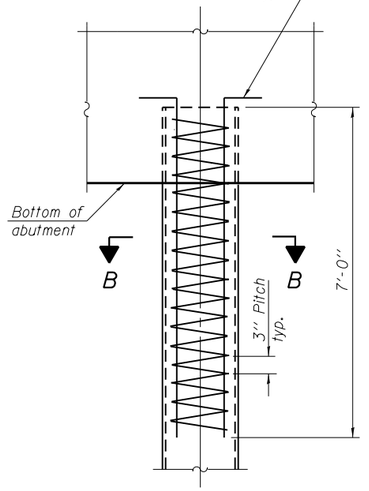
ELEVATION



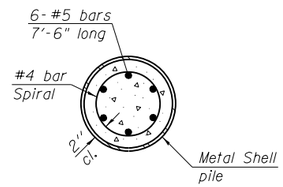
SECTION A-A

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

CONCRETE ENCASEMENT AT PIERS



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

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

F-MS 1-27-12

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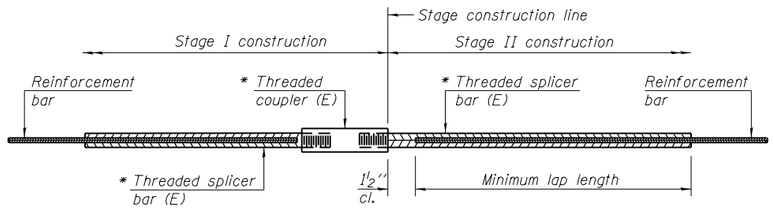
METAL SHELL PILE DETAILS
STRUCTURE NO. 016-1350
SHEET NO. 24 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	209
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



STANDARD BAR SPLICER ASSEMBLY

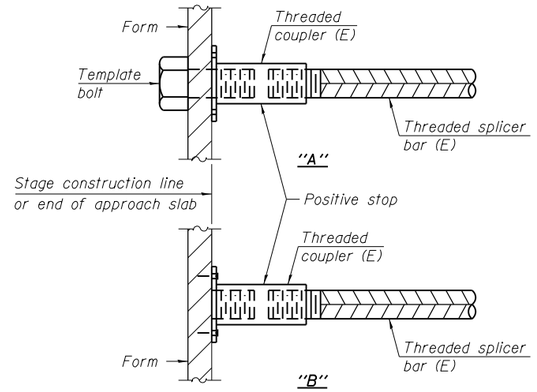
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

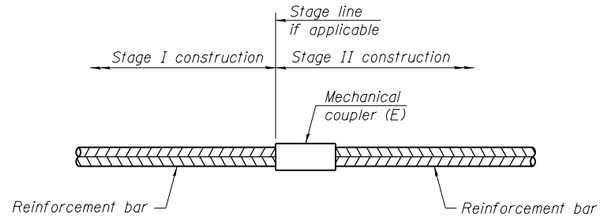
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



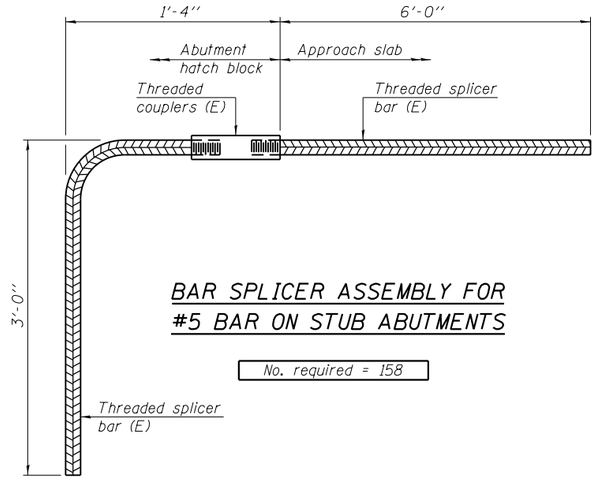
INSTALLATION AND SETTING METHODS

"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



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 158

NOTES

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

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

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

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

BSD-1 8-31-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 016-1350
SHEET NO. 25 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	210
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

DATE 1/26-27/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	AS	–	27	Sandy TOPSOIL with Gravel–black–loose (Fill)
	3			
	3			
	4	NP	17	
628.2				
	3		*95*	SILTY CLAY–black–stiff (A–6)
	5			
–5	7	1.9B	18	
625.7				
	2			SILTY LOAM–gray–loose (A–4)
	2			
	2	NP	19	
623.2				
	4			SAND & GRAVEL–brown–loose (A–1)
	4			
–10	5	NP	19	
620.7				
	3			SILTY LOAM–gray–medium dense (A–4)
	5			
	6	NP	24	
618.2				
	3		*118*	CLAY–gray–stiff (A–6)
	4			
–15	5	1.9B	17	
615.7				
	2			SILTY LOAM–gray–loose (A–4)
	3			
	3	NP	21	
–20	4	NP	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	2			SILTY LOAM–gray–loose (A–4)
	2			
	4	NP	22	
603.2				
	2			SILTY CLAY–gray–medium stiff (A–6) Wet
	3			
–30	3	0.5P	28	
599.2				
	3			SILTY SAND & GRAVEL–gray–medium dense (A–2)
	6			
–35	8	NP	17	
594.2				
	3			SAND–gray–medium dense (A–3)
	5			
–40	5	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

DATE 1/26-27/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SAND–gray–medium dense (A–3)
569.2				
	4			SANDY LOAM–gray–medium dense (A–2)
	6			
–45	7	NP	23	
				SAND–gray–medium dense (A–3)
579.2				
	4			SAND & GRAVEL–gray–medium dense (A–1)
	6			
–55	7	NP	14	
574.2				
	11			SAND–gray–medium dense (A–3)
	14			
–60	14	NP	21	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	9			SANDY LOAM–gray–medium dense (A–2)
	11			
–65	14	NP	30	
564.2				
	10			SAND–gray–medium dense to dense (A–3)
	12			
–70	15	NP	30	
	14			
	16			
–75	20	NP	24	
	20			
–80	22	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

DATE 1/26-27/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SAND–gray– medium dense to dense (A–3)
549.2				
	7		*106*	CLAY–gray–stiff to very stiff (A–6)
	9			
–85	11	1.25B	22	
	4		*110*	
	8			
–90	11	2.0B	20	
	6		*118*	
	9			
–95	11	2.3B	16	
534.2				
	27			SANDY LOAM–gray–very dense (A–2)
	50/5"			
–100	NP		7	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	32		*129*	SANDY LOAM–gray–very dense (A–2)
529.2				
	50/5"			SILTY LOAM to LOAM–gray–very dense (A–4)
–105		2.4B	10	
	34			
	50/4"			
–110		NP	14	
518.2				
	50/1"			Weathered Shale–gray–very dense
517.2				
–115		NP	10	Drillers Observation: Apparent Bedrock
515.7				
				Silurian System, Niagaran Series Dolomite RUN 1 (–115.5' to –125.5') Gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ –119.2', changing to light gray & fine grained with horizontal bedding @ –122.0'. Horizontal fractures @ –118.8', –119.2', –119.5', –120.0', –121.5', –121.7', –123.1' & –123.4'.
–120				RUN 1

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
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NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 26 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	211
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
DATE 1/26-27/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Recovery=100.0% RQD=82.0%	RUN 1		
505.7			
Silurian System, Niagaran Series Dolomite RUN 2 (−125.5' to −131.5') Light gray to gray with horizontal to wavy bedding and some varving becoming slightly porous from−128.0' to −129.0'. Horizontal fractures @ −126.4' & −126.7'. Weathered horizontal fracture with thin clay parting @ −126.9'. Transverse fracture from −127.0' to −127.4'. Horizontal fractures @ −127.7' & −131.1'. Recovery=100.0% RQD=94.0%	RUN 2		
499.7			
End Of Boring @ −131.5 Hollow Stem Augers To −10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used 117.0' Of 3.0"ø Casing Used CME Automatic Hammer			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
−125			
−130			
−135			
−140			
−145			
−150			
−155			
−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 1/26-27/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 515.7
Begin Core Elev. 515.7

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−115.5' to −125.5') Gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ −119.2', changing to light gray & fine grained with horizontal bedding @ −122.0'. Horizontal fractures @ −118.8', −119.2', −119.5', −120.0', −121.5', −121.7', −123.1' & −123.4'.	1	100.0	82.0	n/a	1170 @ −115.5'
−120.5					
−125.5					

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

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ROCK CORE LOG

PAGE 2 of 2
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 505.7
Begin Core Elev. 505.7

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (−125.5' to −131.5') Light gray to gray with horizontal to wavy bedding and some varving becoming slightly porous from−128.0' to −129.0'. Horizontal fractures @ −126.4' & −126.7'. Weathered horizontal fracture with thin clay parting @ −126.9'. Transverse fracture from −127.0' to −127.4'. Horizontal fractures @ −127.7' & −131.1'.	2	100.0	94.0	n/a	1102 @ −125.5'
−130.5					
−135.5					

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 27 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	212
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 3
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	AS	–	26	TOPSOIL, GRAVEL & STONE–black–loose (Fill)
	4			
	4			
	3	NP	11	
628.5				
	4			SILTY CLAY–brown & gray–very stiff (A–6)
–5	5	2.75P	30	
	4			
625.5				
	1			
	1			LOAM–brown & gray–very loose (A–2)
	1	NP	25	
623.5				
	4			LOAM–gray–medium dense (A–2)
	5			
–10	6	NP	18	
621.0				
	3			
	6			SILTY LOAM–gray–medium dense (A–4)
	5	NP	23	
618.5				
	2		102	SILTY CLAY LOAM–gray–medium dense (A–4/A–6)
	4			
–15	6	1.1B	23	
616.0				
	2			
	4			
	4	3.0P	19	SILTY LOAM–gray–loose (A–4)
	2			
	4			
–20	4	1.75P	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3			SILTY LOAM–gray–loose (A–4)
	6	1.5P	19	
	2			
	3			
–25	5	1.0P	24	
	2			
	3			
	4	0.5P	25	
	2			
	2			
–30	3	NP	22	
599.5				
	2			SANDY LOAM–gray–medium dense (A–2)
	7			
–35	8	NP	22	
594.5				
	6			SAND with Gravel–gray–medium dense (A–1)
	9			
–40	9	NP	17	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 3
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND with Gravel–gray–medium dense (A–1)
589.5				
	8			SAND–gray–medium dense (A–3)
	7			
–45	6	NP	22	
579.5				
	5			SAND & GRAVEL–gray–medium dense (A–1)
	6			
–55	6	NP	14	
574.5				
	9			SANDY LOAM–gray–medium dense (A–2)
	9			
–60	8	NP	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SANDY LOAM–gray–medium dense (A–2)
	10			
	11			
–65	13	NP	22	
564.5				
	10			SAND–gray–dense (A–3)
	15			
–70	18	NP	23	
	14			
	23			
–75	28	NP	20	
	16			
	26			
–80	26	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–dense (A–3)
549.5				
	5		102	CLAY LOAM–gray–very dense (A–4/A–6)
	8			
–85	11	2.5B	24	
	4		108	
	8			
–90	10	1.7B	21	
	6		113	
	8			
–95	12	1.6B	18	
534.5				
	30			CLAY LOAM–gray–very dense (A–4/A–6)
	50/5"			
–100		4.5+P	12	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	50/1"			
–105		4.5+P	11	
	23		129	
	47			
–110	50/4"	4.6S	11	
518.5				
				Drillers Observation: Possible Bedrock.
516.5–115				
				End Of Boring @ –115.0'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				Diedrich Automatic Hammer
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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USER NAME =	DESIGNED - WJV	REVISED
	CHECKED - CJB	REVISED
PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1350
SHEET NO. 28 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	213
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 3
DATE DR
LOGGED BY 2/1/2012
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-09
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
628.5				TOPSOIL–black
	AS	–	32	
	2		97	
	3			SILTY CLAY–brown & gray–
	3	1.9B	27	stiff (A–6)
626.5				
	3			SANDY CLAY LOAM–brown & gray–
	3			loose (A–2/A–6)
–5	3	NP	18	
▼623.5				
	3			
	3			
	4	NP	21	
	5			
	5			
–10	5	NP	19	
	2			SILTY LOAM–brown & gray–loose (A–4)
	2			
	4	NP	24	
	2			
	3			
–15	4	NP	23	
	2			
	3			
	5	NP	23	
	3			
	5			
–20	6	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
609.0				SILTY LOAM–loose (A–4)
	2			
	2			
	3	NP	25	
	1			SILT–gray–very loose to loose (A–4)
	2			
–25	2	NP	23	
	2			
	2			
	4	NP	21	
	2			
	2			
–30	2	NP	24	
597.5				
	4			SAND & GRAVEL–gray–
	4			loose to medium dense (A–1)
–35	4	NP	20	
	10			
	14			
–40	15	NP	17	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-09
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND & GRAVEL–gray–
				loose to medium dense (A–1)
587.5				
	8			
	12			
–45	9	NP	24	
	8			SAND–gray–
	11			medium dense to dense (A–3)
–50	12	NP	23	
	8			
	10			
–55	12	NP	24	
	12			
	18			
–60	21	NP	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–
				medium dense to dense (A–3)
	10			
	11			
–65	13	NP	23	
562.5				
	13		107	CLAY–gray–stiff (A–6)
	9			
–70	12	1.5B	21	
557.5				
	12		131	CLAY LOAM–gray–very stiff (A–6)
	20			
–75	25	2.9B	10	
552.5				
	18			SAND–gray–dense (A–3)
	26			
–80	32	NP	16	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 3
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-09
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–dense (A–3)
547.5				
	48			
	50/3"			SANDY CLAY LOAM–gray–
–85		4.5P	10	very dense (A–2)
542.5				
	22		128	
	32			CLAY LOAM–gray–
–90	32	1.9S	12	very dense (A–4/A–6)
537.5				
	16			
	24			
–95	45	4.5+P	14	
				SILTY CLAY LOAM–gray–
				very dense (A–4)
	16		124	
	25			
–100	29	1.9B	14	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	22		123	SILTY CLAY LOAM–gray–
	38			very dense (A–4)
–105	55	2.4S	14	
	22		117	
520.0	50/2"			
–110		1.5S	15	
				Drillers Observation: Possible Bedrock.
518.0				
				End Of Boring @ –111.5'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				Diedrich Automatic Hammer
–115				
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				10.0" TOPSOIL–black
631.7	AS	–	24	
	5		93	
	5			SILTY CLAY–brown & gray–
	7	2.4B	26	very stiff (A–6)
629.5				
	3			
	4			SANDY CLAY–brown & gray–
–5	4	1.9P	19	stiff (A–6)
▼626.5				
	2			
	2			SANDY LOAM–brown & gray–
	4	NP	19	loose (A–2)
624.5				
	2			
	3			
–10	5	NP	23	
	2			SILTY LOAM–gray–
	2			loose to medium dense (A–4)
	3	NP	27	
	2			
	3			
–15	6	NP	29	
	3			
	5			
	6	NP	25	
	3			
	4			
–20	5	NP	21	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM–gray–
				loose to medium dense (A–4)
	3			
	4			
–25	3	NP	22	
	2			
	2			
	2	NP	21	
	2			
	2			
–30	2	NP	20	
600.5				
	5			SAND with Gravel–gray–
	5			loose (A–1)
–35	3	NP	19	
595.5				
	7			SAND–gray–dense (A–3)
	11			
–40	15	NP	24	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–dense (A–3)
590.5				
	16			
	8			SAND & GRAVEL–gray–
–45	7	NP	15	medium dense (A–1)
585.5				
	12			
	18			
–50	20	NP	24	
	14			SAND–gray–dense (A–3)
	18			
–55	21	NP	22	
	15			
	18			
–60	22	NP	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	12			SAND–gray–dense (A–3)
	16			
–65	19	NP	26	
565.5				
	6		111	
	11			SILTY CLAY–gray–very stiff (A–6)
–70	15	2.4B	19	
560.5				
	23			
	44			SAND–gray–very dense (A–3)
–75	50/5"	NP	22	
	24			
	35			
–80	48	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–very dense (A–3)
550.5				
	19			
	24			CLAY LOAM–gray–very stiff (A–6)
–85	50/3"	3.5+P	16	
545.5				
	15		119	
	25			
–90	34	1.3B	15	SILTY CLAY LOAM–gray–
				very dense (A–4)
535.5				
				SILTY LOAM to LOAM–gray–
				very dense (A–4)
530.5				
	50/6"		133	
–105		1.9S	10	CLAY LOAM–gray–
				very dense (A–4/A–6)
	38			
	50/3"			
–110		4.5+P	13	
521.5				
520.5				Drillers Observation: Apparent Bedrock.
				Silurian System, Niagaran Series Dolomite
				RUN 1 (–112.0' to –122.0')
				Gray & fine grained with horizontal
				bedding becoming light gray mottled
				gray & slightly porous @ –116.2',
				changing to light gray & fine grained
				with horizontal bedding @ –119.2'.
				Horizontal fractures @ –113.7', –116.5',
				–117.4', –117.8', –118.0', –118.6',
				–119.1' & –119.8'.
				Recovery=99.0%
				RQD=96.5%
–115				RUN 1
	18		120	
	35			
–95	50/5"	3.0B	15	
535.5				
				SILTY LOAM to LOAM–gray–
				very dense (A–4)
	50/6"			
–100		NP	15	
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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USER NAME =	DESIGNED - WJV	REVISED
	CHECKED - CJB	REVISED
PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1350
SHEET NO. 30 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	215
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued. 510.5	RUN 1		
Silurian System, Niagaran Series Dolomite RUN 1 (−122.0' to −127.0') Light gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −122.3'. Horizontal fractures @ −124.3', −124.8', −125.0', −125.7', −125.9' & −126.3'. −125	RUN 2		
Recovery=100.0% RQD=90.0% 505.5			
End Of Boring @ −127.0' Hollow Stem Augers To −10.0' Rotary Drilling To Completion 114.0' Of 4.0"ø Casing Used CME Automatic Hammer			
−130			
−135			
−140			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
−145			
−150			
−155			
−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE DR
LOGGED BY 1/30-31/2012
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 520.5
Begin Core Elev. 520.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−112.0' to −122.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −116.2', changing to light gray & fine grained with horizontal bedding @ −119.2'. Horizontal fractures @ −113.7', −116.5', −117.4', −117.8', −118.0', −118.6', −119.1' & −119.8'.	1	99.0	96.5	n/a	1149 @ −112.0'
−117					
−122					

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

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ROCK CORE LOG

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DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 510.5
Begin Core Elev. 510.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−122.0' to −127.0') Light gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −122.3'. Horizontal fractures @ −124.3', −124.8', −125.0', −125.7', −125.9' & −126.3'.	2	100.0	90.0	n/a	819 @ −122.0'
−127					
−132					

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

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USER NAME =	DESIGNED - WJV	REVISED
	CHECKED - CJB	REVISED
PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 31 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	216
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

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DATE 6/13/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
8.0" TOPSOIL 631.3	AS	–	13
	5		98
	7	3.1S@	
CLAY LOAM–dark brown & gray–stiff to very stiff (Fill) Wet	8	11.3%	27
	2		
	2		
–5	2	1.25P	25
626.4			
SANDY LOAM–brown & gray–medium dense (A–2)	3		
	5		
	6	NP	18
623.9			
	5		
	5		
–10	7	NP	22
SILTY LOAM–brown & gray–loose to medium dense (A–4)	2		
	2		
	4	NP	26
	2		
	5		
–15	4	NP	22
616.4			
SANDY LOAM–brown & gray–medium dense (A–2)	4		
	5		
	7	NP	23
613.9			
SILTY LOAM–gray–loose to medium dense (A–4)	4		
	4		
–20	8	NP	25

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	2		
	2		
–25	4	NP	24
SILTY LOAM–gray–loose to medium dense (A–4)	2		
	4		
	4	NP	21
	2		
	3		
–30	4	NP	23
	2		
	3		
–35	4	NP	22
594.9			
SAND & GRAVEL–gray–medium dense (A–1)	5		
	6		
–40	6	NP	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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DATE 6/13/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND & GRAVEL–gray–medium dense (A–1)	4		
	7		
–45	12	NP	16
584.9			
SAND–gray–dense to very dense (A–3)	8		
	14		
–50	16	NP	20
	11		
	15		
–55	17	NP	19

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	15		
	21		
–65	26	NP	21
SAND–gray–dense to very dense (A–3)	15		
	26		
–70	36	NP	18
559.9			
SILTY CLAY LOAM–gray–very stiff (A–4/A–6)	6		114
	10		
–75	18	2.2B	18
554.9			
SANDY LOAM–gray–very dense (A–2)	21		
	39		
–80	47	NP	16

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SANDY LOAM–gray–very dense (A–2)			
549.9			
	32		
SAND–gray–very dense (A–3)	50/5"		
–85		NP	21
544.9			
	13		123
	24		
–90	39	4.5+P	14
SANDY CLAY LOAM–gray–dense to very dense (A–4/A–6)			
	13		
	22		
–95	30	4.5+P	11
–100	48	4.5+P	13

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	16		123
	27		
SANDY CLAY LOAM–gray–dense to very dense (A–4/A–6)			
–105	39	3.3B	14
	23		
	50/5"		
521.9–110		4.5+P	13

Drillers Observation: Apparent Bedrock. 521.4

Silurian System, Niagaran Series Dolomite
RUN 1 (–110.5' to –120.5')

Gray & fine grained with horizontal bedding becoming light gray mottled gray @ –113.0'. Porous from –113.0' to –116.8'. Horizontal fractures @ –110.8', –111.1', –113.0' & –116.8'. Vertical fracture from –114.9' to –115.5'. Horizontal fractures @ –115.8' & –116.5'.

Recovery=100.0%
RQD=78.5%

–115 RUN 1
–120

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 32 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	217
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued. 511.4	RUN 1		
Silurian System, Niagaran Series Dolomite RUN 2 (-120.5' to -125.5')			
Light gray mottled gray & slightly porous with horizontal bedding becoming gray & fine grained @ -122.5'. Horizontal fractures @ -120.7', -121.1', -122.5' & -125.1'.	RUN 2		
Recovery=96.7% RQD=88.0% 506.4	-125		
End Of Boring @ -125.5 Hollow Stem Augers To -10.0' Rotary Drilling To Completion 112.0' Of 3.0"ø Casing Used 10.0' Of 4.0"ø Casing Used CME Automatic Hammer	-130		
	-135		
	-140		
	-145		
	-150		
	-155		
	-160		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 6/14/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 521.9
Begin Core Elev. 521.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (-110.5' to -120.5')	1	100.0	78.5	n/a	853 @ -111.2'
Gray & fine grained with horizontal bedding becoming light gray mottled gray @ -113.0'. Porous from -113.0' to -116.8'. Horizontal fractures @ -110.8', -111.1', -113.0' & -116.8'. Vertical fracture from -114.9' to -115.5'. Horizontal fractures @ -115.8' & -116.5'.					
-115.5					
-120.5					

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

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ROCK CORE LOG

PAGE 2 of 2
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-11
Station 282+11
Offset 30.6' Left
Ground Surface Elev. 631.9

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 521.9
Begin Core Elev. 521.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (-120.5' to -125.5')	2	96.7	88.0	n/a	517 @ -121.2'
Light gray mottled gray & slightly porous with horizontal bedding becoming gray & fine grained @ -122.5'. Horizontal fractures @ -120.7', -121.1', -122.5' & -125.1'.					
-125.5					

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 33 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	218
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 4
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-12**
Station 282+10
Offset 45.6' Right
Ground Surface Elev. *633.8*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *625.8*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3.0" CRUSHED STONE *633.4*	AS	–	4
TOPSOIL–black *632.3*	5		*93*
	5	4.6S@	
	8	9.9%	25
SANDY CLAY LOAM–brown & gray– loose to medium dense (A–2)	3		
	4		
–5	6	1.25P	17
	2		
	3		
	4	–	21
625.8			
	5		
	6		
–10	7	NP	18
LOAM–gray–medium dense (A–4)	3		
	4		
	6	NP	21
	3		
	5		
–15	8	NP	25
618.3			
SILTY LOAM–gray– loose to medium dense (A–4)	3		
	6		
	7	NP	20
	4		
	7		
–20	7	NP	23

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		
	5		
	8	NP	23
	2		
	3		
–25	3	NP	22
SILTY LOAM–gray– loose to medium dense (A–4)	3		
	5		
	5	NP	21
	3		
	5		
–30	5	NP	22
601.8			
SAND & GRAVEL–gray– medium dense (A–1)	3		
	5		
–35	7	NP	19
596.8			
SAND–gray–medium dense (A–3)	9		
	11		
–40	10	NP	24

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-12**
Station 282+10
Offset 45.6' Right
Ground Surface Elev. *633.8*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *625.8*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–medium dense (A–3) *591.8*			
	7		
SAND & GRAVEL–gray– medium dense (A–1)	7		
–45	10	NP	15
586.8			
	15		
	17		
–50	18	NP	24
SAND–gray–dense (A–3)	15		
	16		
–55	19	NP	23
	19		
	21		
–60	25	NP	21

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–dense (A–3)	20		
	23		
–65	24	NP	20
566.8			
	21		*110*
CLAY–gray–very stiff (A–6)	26		
–70	32	2.2B	20
561.8			
	43		
	50/3"		
–75		NP	20
SAND–gray–very dense (A–3)			
	41		
	50/4"		
–80		NP	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-12**
Station 282+10
Offset 45.6' Right
Ground Surface Elev. *633.8*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *625.8*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–very dense (A–3) *551.8*			
	18		*123*
	27		
–85	34	3.7B	13
SANDY CLAY LOAM–gray– very dense (A–4/A–6)	20		*118*
	38		
–90	50/4"	1.8B	16
	35		
	50/4"		
–95		4.5+P	12
	31		*125*
	50/4"		
–100		2.1B	13

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	50/0"		
–105			NR
	32		
	50/4"		
–110		4.5+P	12
522.8			
Drillers Observation: Apparent Bedrock *522.3*			
Silurian System, Niagaran Series Dolomite RUN 1 (–111.0' to –121.0')			
Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ –114.9'.			
Horizontal fractures @ –111.1', –113.4', –115.8', –116.0', –117.1', –117.7', –118.4', –118.7' & –119.4'.			
Recovery=100.0% RQD=86.0%			
–115	RUN 1		
–120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1350
SHEET NO. 34 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	219
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-12
Station 282+10
Offset 45.6' Right
Ground Surface Elev. 633.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.8
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued. 512.8	RUN 1		
Silurian System, Niagaran Series Dolomite RUN 2 (-121.0' to -126.0')			
Light gray mottled gray & fine grained with horizontal to wavy bedding becoming slightly porous @ -125.4'. Horizontal fractures @ -121.6', -123.4', -124.4', -124.6' & -125.3'.	RUN 2		
-125			
Recovery=100.0% RQD=94.0% 507.8			
End Of Boring @ -126.0 Hollow Stem Augers To -10.0' Rotary Drilling To Completion CME Automatic Hammer			
-130			
-135			
-140			
-145			
-150			
-155			
-160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-12
Station 282+10
Offset 45.6' Right
Ground Surface Elev. 633.8

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 522.8
Begin Core Elev. 522.3

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (-111.0' to -121.0')	1	100.0	86.0	n/a	891 @ -111.3'
Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ -114.9'. Horizontal fractures @ -111.1', -113.4', -115.8', -116.0', -117.1', -117.7', -118.4', -118.7' & -119.4'.					
-116					
-121					

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

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ROCK CORE LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-12
Station 282+10
Offset 45.6' Right
Ground Surface Elev. 633.8

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 522.8
Begin Core Elev. 522.3

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (-121.0' to -126.0')	2	100.0	94.0	n/a	781 @ -121.0'
Light gray mottled gray & fine grained with horizontal to wavy bedding becoming slightly porous @ -125.4'. Horizontal fractures @ -121.6', -123.4', -124.4', -124.6' & -125.3'.					
-126					

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

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	CHECKED - CJB	REVISED
PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1350
SHEET NO. 35 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	220
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

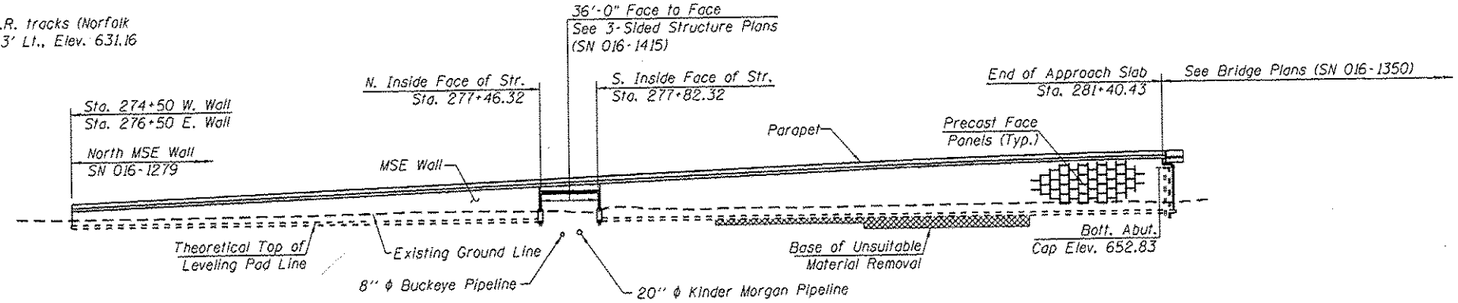
Bench Mark:

BM #3 - Cut square in N.E. corner of large utility structure S. of the N. set of R.R. tracks (Norfolk Southern Railroad) and near the E. R.O.W. line of U.S. Rt. 30 Sta. 278+54.41, 71.23' Lt., Elev. 631.16

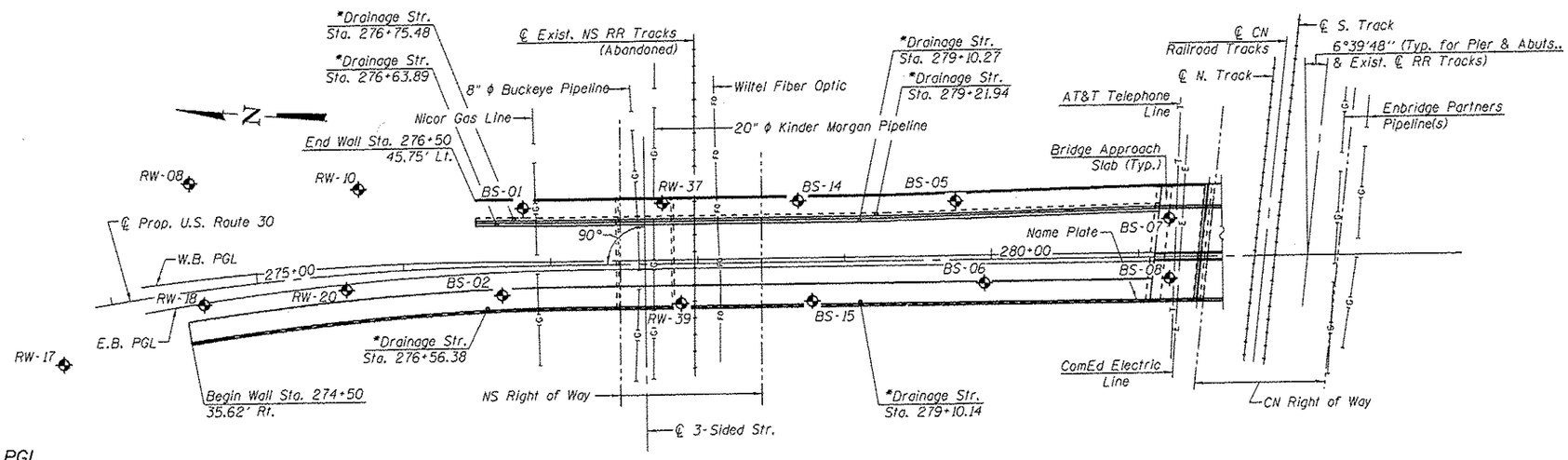
BM #103 - Cut square at corner of traffic manhole on E. side of U.S. Rt. 30 and E. line of Sauk Trail Sta. 291+34.10, 39.95' Lt., Elev. 633.67

Existing Structure: None

Stage traffic to be maintained along existing US 30. See Roadway Plans for maintenance of traffic.



ELEVATION
(Looking East)



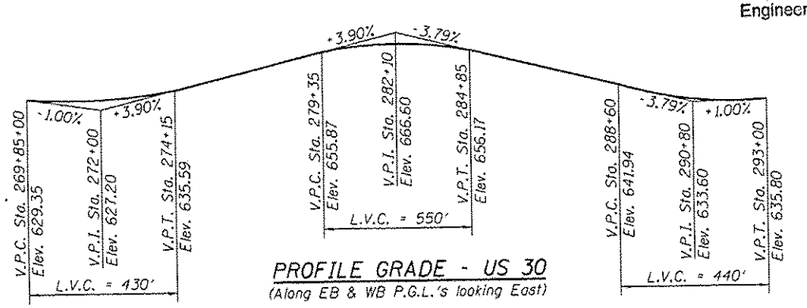
PLAN

*See Sheet 10 of 34 for Drainage Structure Details

℄ US RTE. 30, EB PGL AND WB PGL STATIONS AND ELEVATIONS TABLE FOR ADJACENT BRIDGE (SN 016-1350)

Longitudinal / Transverse	℄ US Rte. 30 Station	℄ US Rte. 30 Elev.	EB PGL Station	EB PGL Elev.	WB PGL Station	WB PGL Elev.
Bk. of N. Abut.	281+39.93	660.99	281+39.58	660.93	281+40.28	660.93
℄ Brg. N. Abut.	281+42.89	661.02	281+42.54	660.96	281+43.24	660.96
℄ Pier	282+14.97	661.38	282+14.62	661.31	282+15.32	661.31
℄ Brg. S. Abut.	282+68.14	661.17	282+67.79	661.11	282+68.49	661.11
Bk. of S. Abut.	282+71.09	661.15	282+70.74	661.09	282+71.44	661.08

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PROFILE GRADE - US 30
(Along EB & WB P.G.L.'s looking East)

CURVE #1 DATA

(℄/℄ Prop. U.S. Route 30)
Δ = 31°-05'-52"
D = 3°-10'-59"
T = 500.84'
L = 976.97'
E = 68.38'
R = 1800.00'
S.E. = Normal Crown
P.C. = Sta. 267+05.42
P.T. = Sta. 276+82.39
P.I. = Sta. 272+06.26

LOADING HL-93

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

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, 6th Edition.

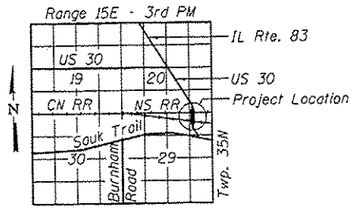
DESIGN STRESSES

FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
f'c = 4,500 psi (Precast Panels)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.093g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.152g
Soil Site Class = D

STATE OF ILLINOIS
WILLIAM J. VECRZYN
4983
HANOVER PARK
IL
LICENSED STRUCTURAL ENGINEER
Bill Vecrzyn 8/12/2013
Expires 11-30-14



LOCATION SKETCH

GENERAL PLAN & ELEVATION
NORTH MSE WALLS
F.A.P. RTE. 353 - SEC. 11-Y-A
COOK COUNTY
STATION 274+50 TO 281+52.27
STRUCTURE NO. 016-1279

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SHEET NO. 1 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	221
		CONTRACT NO. 60R19		
ILLINOIS	FED. AID PROJECT			

GENERAL NOTES

Reinforcement Bars designated (E) shall be epoxy coated.

See Special Provisions for Mechanically Stabilized Earth Retaining Wall design and construction requirements.

The gradations and capping of the Aggregate Subgrade Improvement used to replace the unsuitable material shall be approved by the Engineer.

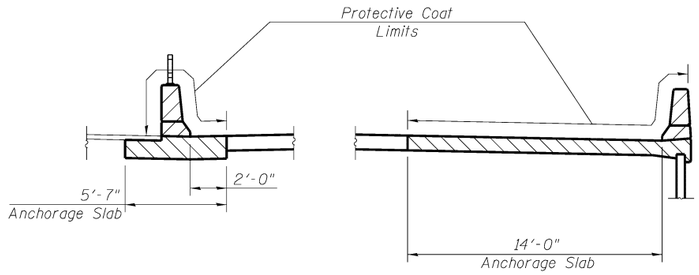
M.S.E. wall supplier to provide internal stability design for load transfer system to accomodate the posts for the traffic barrier terminals at the north end of the southeast wall. See Roadway Plans for exact location of traffic barrier terminals and IDOT Highway Standards 630301-06 and 631031-11 for details. Coordinate with Contractor installing the traffic barrier terminals. Cost included with Mechanically Stabilized Earth Retaining Wall.

Slipforming of the parapets is not allowed.

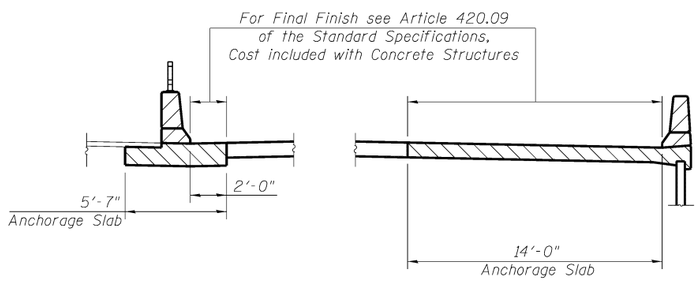
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	26,465
Structure Excavation	Cu. Yd.	8,039
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	3,645
Aggregate Subgrade Improvement	Cu. Yd.	3,645
Concrete Structures	Cu. Yd.	492.7
Concrete Superstructure	Cu. Yd.	134.1
Protective Coat	Sq. Yd.	1,758
Reinforcement Bars, Epoxy Coated	Pound	100,620
Bicycle Railing	Foot	466
Parapet Railing	Foot	462
Name Plates	Each	1
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	3,553
Porous Granular Embankment	Cu. Yd.	20,926

INDEX OF SHEETS



PROTECTIVE COAT LIMITS



FINAL FINISH LIMITS

ANCHORAGE SLAB PAY ITEM LEGEND

Paid as Concrete Superstructure

Paid as Concrete Structures

STATION 274+50.00
-281+52.27
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 353 SEC. 11-Y-A
LOADING HL-93
STRUCTURE NO. 016-1279

NAME PLATE

See Std. 515001

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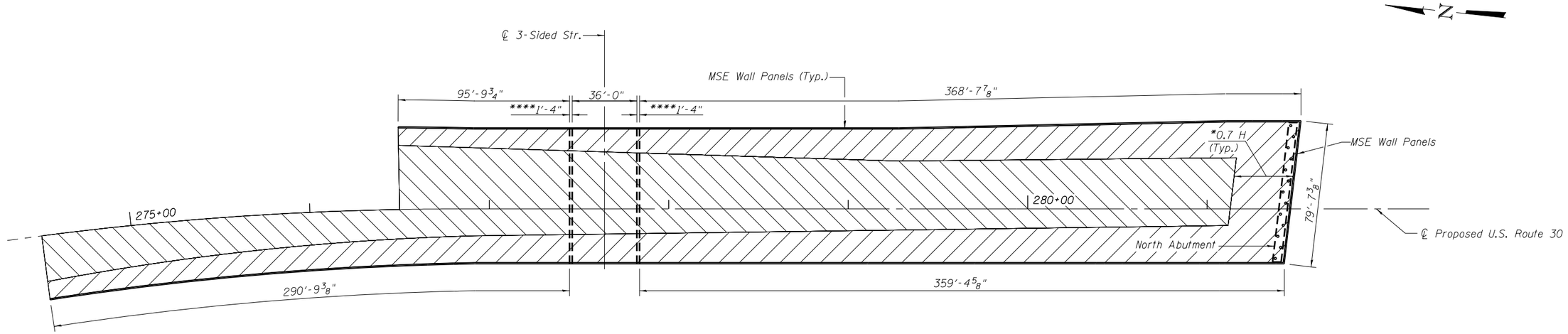
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-1279
SHEET NO. 2 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	222
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		



PLAN

LEGEND

*** Porous Granular Embankment

** Select Fill with Soil Reinforcement

* Assumed length, to be determined by MSE Wall Supplier.

** Cost included with Mechanically Stabilized Earth Retaining Walls, see Special Provisions.

*** At Contractor's choice, Select Fill may be substituted for Porous Granular Embankment at no additional cost.

**** Based on Hy-Span section. May vary depending on manufacturer's specifications.

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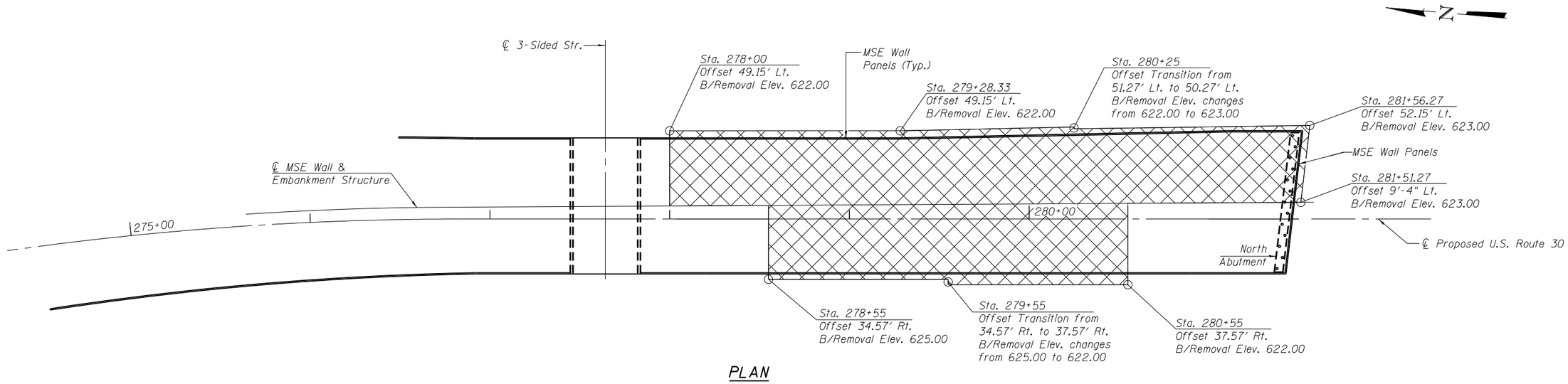
DEPARTMENT OF TRANSPORTATION

MSE RETAINING WALLS GENERAL LAYOUT
STRUCTURE NO. 016-1279
SHEET NO. 3 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	223
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		



PLAN

LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures, Backfill with Aggregate Subgrade Improvement.

Notes:

The limits and quantities of removal and replacement of unsuitable material for structures shown are based on the boring data and may be modified by the Engineer for variable subsurface conditions encountered in the field.

See Sheet 8 of 35 for cross section limits of Removal and Disposal of Unsuitable Material for Structures and placement of Aggregate Subgrade Improvement.

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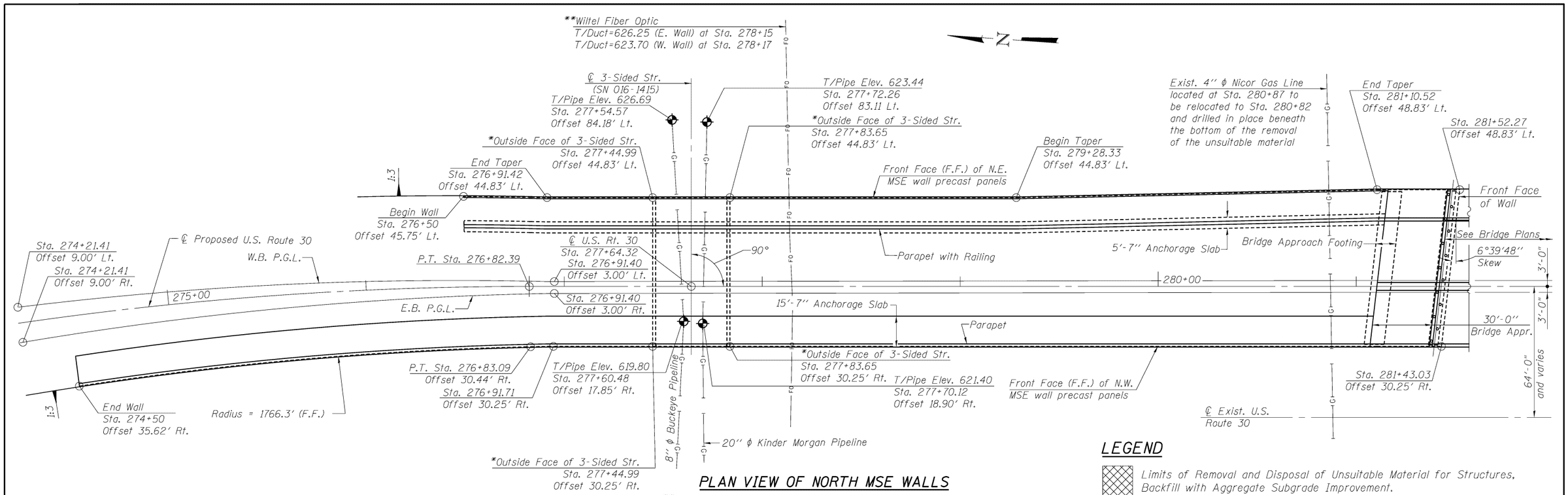
UNSUITABLE MATERIAL REMOVAL AND BACKFILL LAYOUT
STRUCTURE NO. 016-1279
SHEET NO. 4 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	224
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

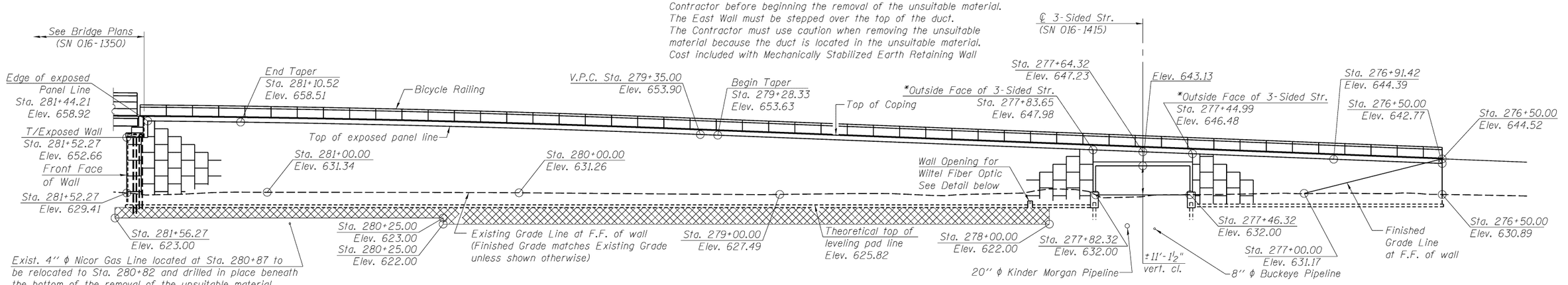


PLAN VIEW OF NORTH MSE WALLS

**Elevations are estimated and need to be confirmed by the Contractor before beginning the removal of the unsuitable material. The East Wall must be stepped over the top of the duct. The Contractor must use caution when removing the unsuitable material because the duct is located in the unsuitable material. Cost included with Mechanically Stabilized Earth Retaining Wall

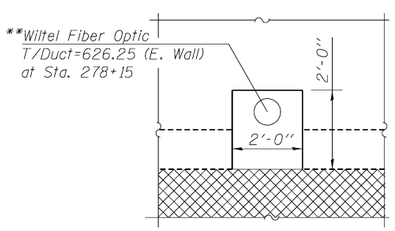
LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures. Backfill with Aggregate Subgrade Improvement.



ELEVATION OF NORTHEAST MSE WALL

(Looking West @ F.F. of Wall)



WALL OPENING FOR WILTEL FIBER OPTIC

*Based on Hy-Span section. May vary depending on manufacturer's specifications.

Notes:

See Sheet 9 of 35 for additional Wall Elevations.

Wall offsets are measured from the ℄ Proposed U.S. Route 30 to the front face (F.F.) of precast panels.

Neither the concrete coping at the top of the wall, approach slabs, approach roadway pavements or bike paths, shall be constructed until after the roadway embankment and reinforced select fill have been in place for 6 months, after which time less than 1" of the total anticipated 2½" of settlement is assumed to remain, without prior approval of the Engineer. The MSE wall supplier is alerted to the fact that 2½" of settlement are anticipated from Stations 278+55 to Sta 281+53, and the MSE wall supplier shall take appropriate measures to accommodate this settlement in the wall design.

Settlement Platforms shall be installed per Art 204.06 in order to monitor the settlement. The settlement period may be shortened at the discretion of the Engineer if the monitoring data indicates a lesser than predicted settlement.

M.S.E. wall supplier to provide internal stability design for load transfer system to accomodate drainage piping and drainage structures. See Drainage and Utilities drawings for exact locations of drainage piping and drainage structures.

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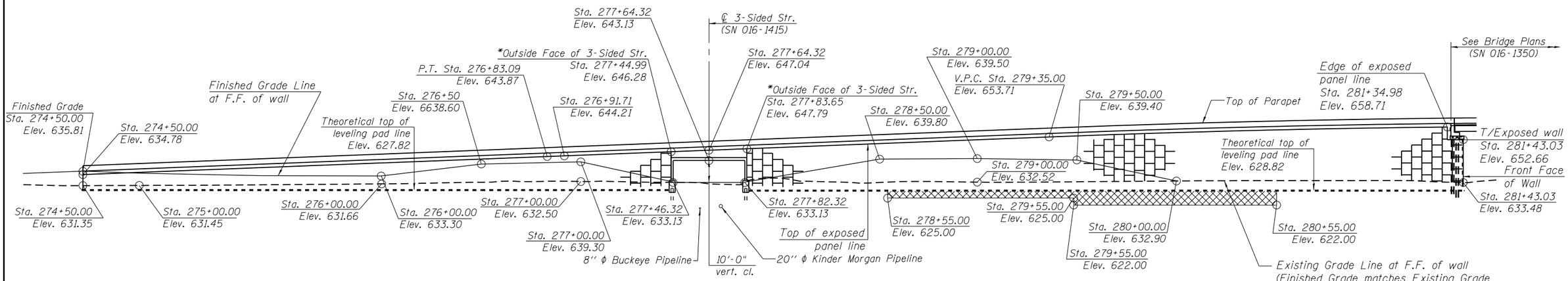
MSE WALL PLAN & ELEVATION
STRUCTURE NO. 016-1279
SHEET NO. 5 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	225
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		



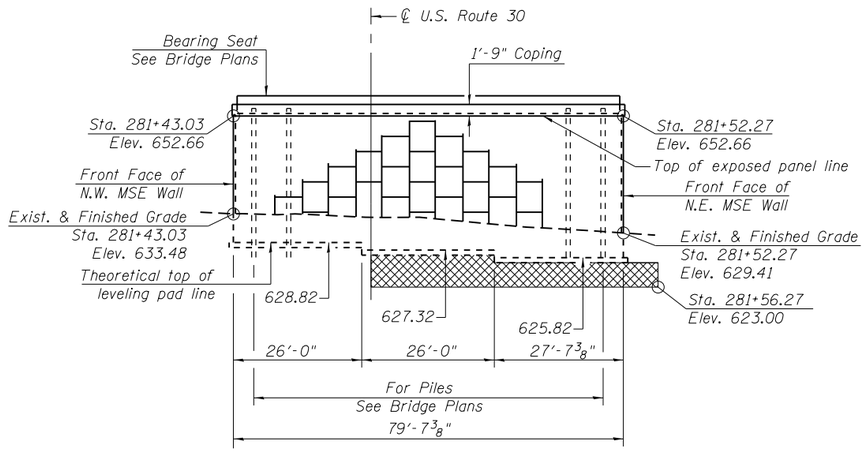
*Based on Hy-Span section. May vary depending on manufacturer's specifications.

ELEVATION OF NORTHWEST MSE WALL

(Looking East @ F.F. of Wall)

LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures, Backfill with Aggregate Subgrade Improvement.



SOUTH WALL ELEVATION AT NORTH ABUTMENT

(Looking North @ F.F. of Wall)

Notes:
See Notes on Sheet 5 of 35.

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DEPARTMENT OF TRANSPORTATION

MSE WALL ELEVATIONS
STRUCTURE NO. 016-1279
SHEET NO. 6 OF 35 SHEETS

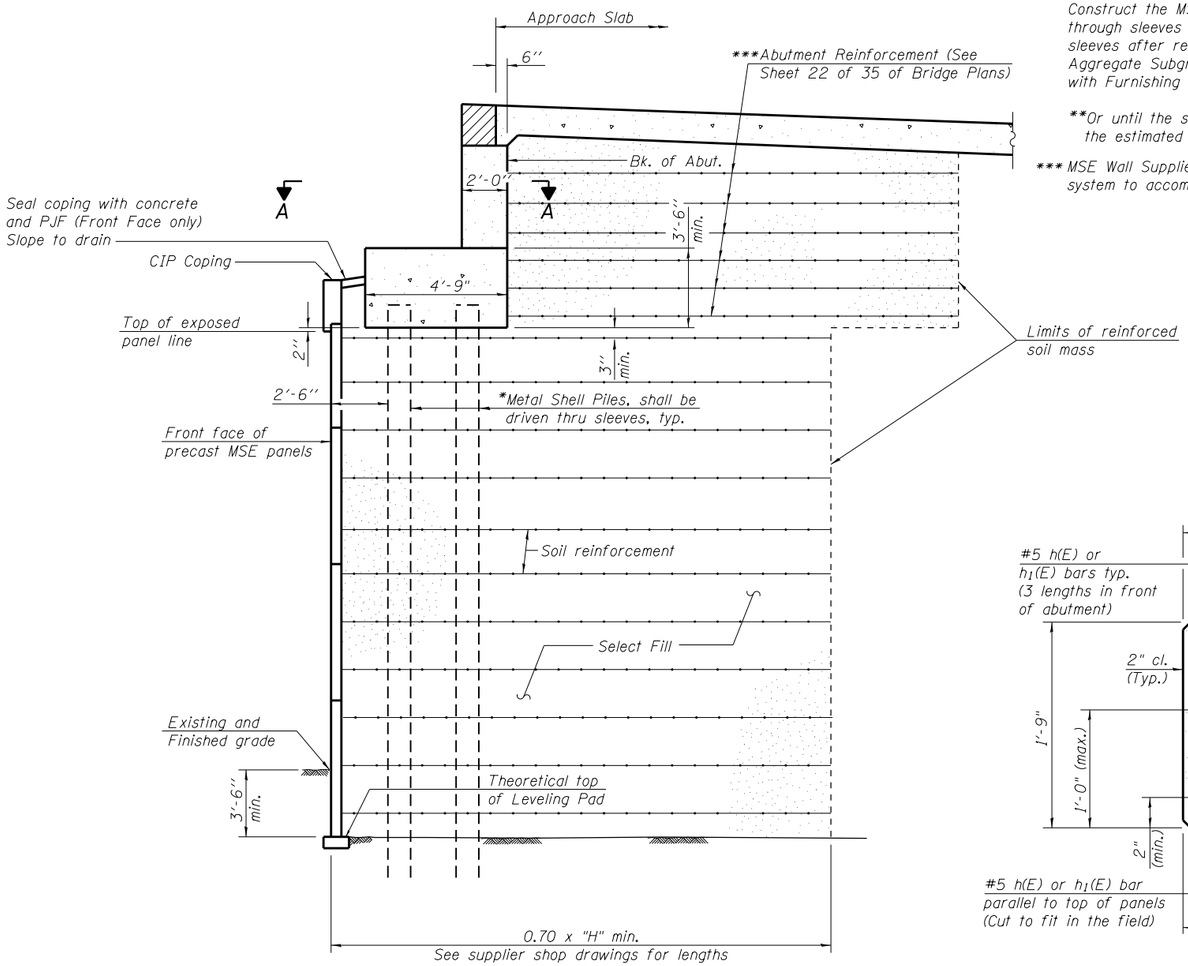
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	226
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

* In order to alleviate downdrag on the piles, the Contractor shall:

Construct the MSE walls first, wait **6 months, and then drive piles through sleeves that were placed before MSE wall construction. Place sleeves after removal of unsuitable material and before backfilling with Aggregate Subgrade Improvement where this is necessary. Cost included with Furnishing Metal Shell Piles, 14'' ϕ x 0.25''.

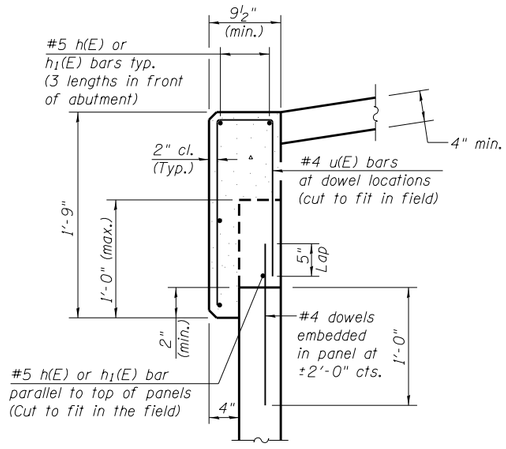
**Or until the settlement platforms for the MSE walls indicate that 1.6'' of the estimated 2.0'' of settlement has occurred at the abutment.

*** MSE Wall Supplier to provide internal stability design for load transfer system to accomodate horizontal forces from abutment

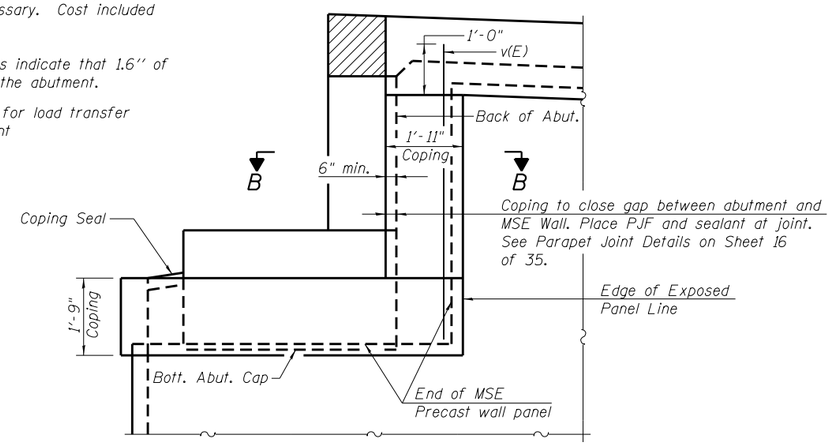


TYPICAL SECTION THRU ABUTMENT

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

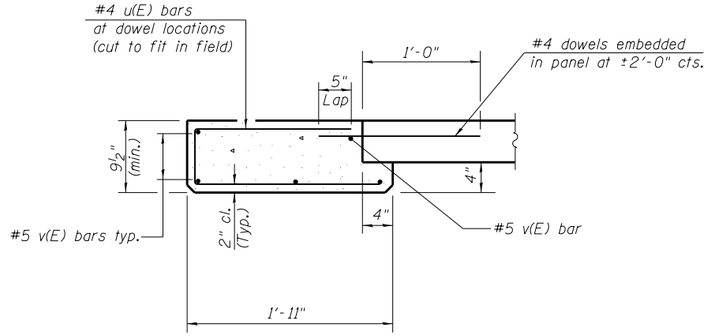


TYPICAL SECTION THRU ABUTMENT COPING

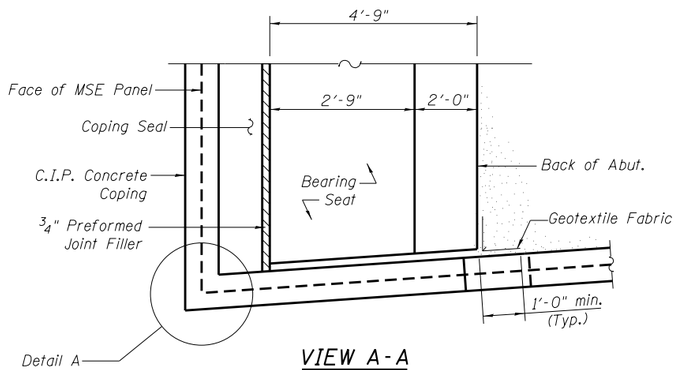


COPING AT SIDE OF ABUTMENT

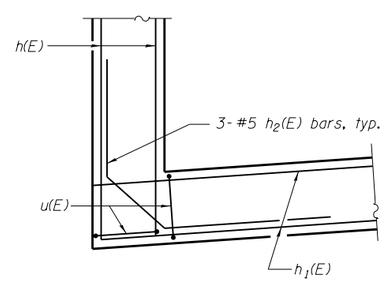
Reinforcement on Vertical Coping similar to Coping on Front Face of Abutment



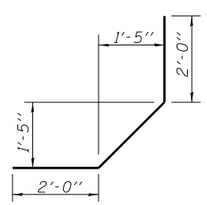
SECTION B-B



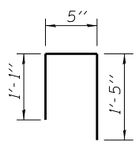
VIEW A-A



DETAIL A



BAR $h_2(E)$



BAR u(E)

MIN. BAR LAP

#5 Bars = 2'-7''

***BAR LIST FOR WALL COPING AROUND ABUTMENT

Bar	No.	Size	Length	Shape	
h(E)	15	#5	28'-4"	——	Front of Abuts.
h1(E)	10	#5	8'-0"	——	Side of Abuts.
h2(E)	6	#5	6'-0''	⌐	
v(E)	10	#5	7'-8"	——	Cut to fit as req'd
u(E)	56	#4	2'-11''	⊓	

***For information only

Notes:

The cost of coping seal, cast-in-place concrete coping, reinforcement bars and dowel bars for the coping around the abutments will be included with bid pay item "Mechanically Stabilized Earth Retaining Wall". The Contractor may substitute a precast coping at their own expense, the details of which must be included in the shop plans and approved by the Engineer.

Contractor shall contact the MSE wall supplier to verify that added crane/pile driving equipment loading on top of MSE wall is acceptable should the contractor choose to drive piles from the top of the MSE walls.

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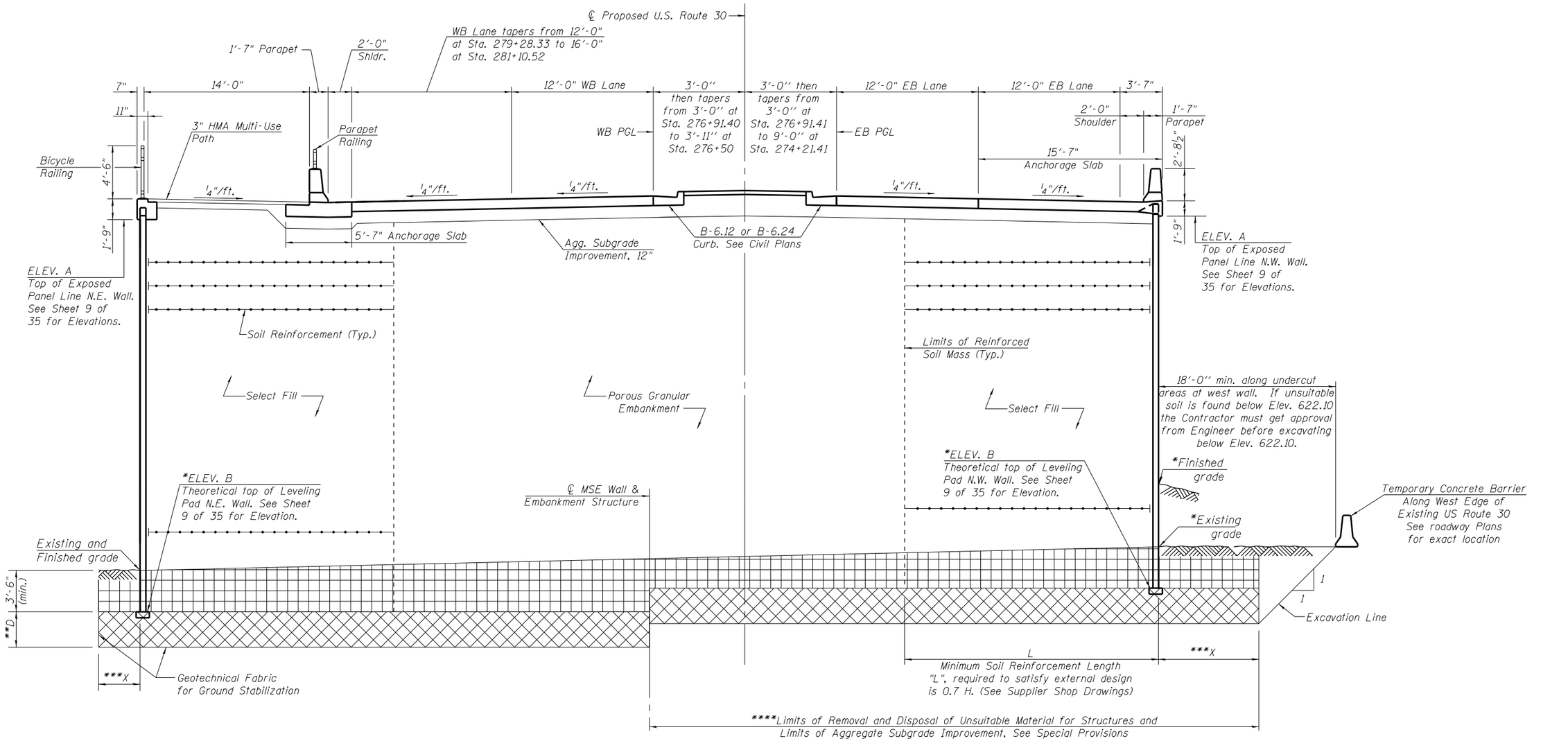
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS AT ABUTMENT
STRUCTURE NO. 016-1279
SHEET NO. 7 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	227
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION THRU NORTH WALLS

(Looking South)

* Due to construction phasing, MSE wall will have to be constructed 3'-6" below lowest elevation of existing ground within wall limits. Embankment to be placed against wall to existing elevations during stage traffic phasing. See Civil drawings and Cross Sections for finished grade elevations.

** See Sheets 5 and 6 of 35 for longitudinal limits and depth of Removal and Disposal of Unsuitable Material for Structures.

*** Distance "X" is equal to the Removal Depth "D" plus an additional 6".

**** Final limits of Removal and Disposal of Unsuitable Material for Structures shall be determined by the Engineer. For additional information, see Sheet 4 of 35.

At wall locations where there is not any Removal and Disposal of Unsuitable Materials for Structures, follow Section 502.12(b) of the Standard Specifications for limits of Structure Excavation.

LEGEND

Limits of Structure Excavation

Limits of Removal and Disposal of Unsuitable Material for Structures, Backfill with Aggregrate Subgrade Improvement

Notes:

See Sheets 5 and 6 of 35 for Plan and Elevations of Walls.

The limits of Porous Granular Embankment is based on the Select Fill limits, extending 0.7 x height of wall behind the wall face. These quantities may be adjusted in the field according to actual wall design and select granular material quantities.

The Contractor may substitute Select Fill for Porous Granular Embankment at no additional cost.

See Sheet 11 thru 15 of 35 for Anchorage Slab and Parapet Details.

See Sheet 9 of 35 for Elev. A and Elev. B.

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PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL CROSS SECTION
STRUCTURE NO. 016-1279
SHEET NO. 8 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	228
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

NORTHEAST WALL ELEVATIONS

STATION	E. & W. PGL ELEV.	ELEV. A TOP OF EXPOSED PANEL LINE	ELEV. OF EXIST. GRADE	ELEV. B TOP OF LEVELING PAD	H (FT.)
276+50.00	644.75	642.77	630.89	625.82	16.95
276+75.00	645.72	643.75	630.93		17.93
276+91.42	646.36	644.39	631.13		18.57
277+00.00	646.70	644.72	631.17		18.90
277+25.00	646.67	645.70	630.75		19.08
277+44.99	648.46	646.49	630.74		20.66
277+50.00	648.65	646.67	630.32		20.85
277+64.32	649.20	647.23	629.84		21.41
277+75.00	649.62	647.65	629.57		21.83
277+83.65	649.96	647.98	629.80		22.16
278+00.00	650.60	648.62	632.63		22.80
278+25.00	651.57	649.60	630.49		23.78
278+50.00	652.55	650.57	629.30		24.75
278+75.00	653.52	651.55	629.30		25.73
279+00.00	654.50	652.52	627.49		26.70
279+25.00	655.47	653.50	631.03		27.68
279+28.33	655.60	653.63	631.03		27.81
279+35.00	655.88	653.90	631.05		28.08
279+50.00	656.44	654.46	631.14		28.64
279+75.00	657.32	655.33	631.20		29.51
280+00.00	658.11	656.11	631.26		30.29
280+25.00	658.82	656.80	631.26		30.98
280+50.00	659.44	657.41	631.29		31.59
280+75.00	659.96	657.92	631.32		32.10
281+00.00	660.41	658.35	631.34		32.53
281+10.52	660.57	658.51	631.30		32.69
281+25.00	660.76	658.70	631.15		32.88
281+44.21	660.97	658.92	629.68		33.10
281+52.27	661.05	652.66	629.41		26.84

NORTHWEST WALL ELEVATIONS

STATION	E. & W. PGL ELEV.	ELEV. A TOP OF EXPOSED PANEL LINE	ELEV. OF EXIST. GRADE	ELEV. B TOP OF LEVELING PAD	H (FT.)
274+50.00	636.95	634.78	631.35	627.82	6.96
274+75.00	637.92	635.75	631.46		7.93
275+00.00	638.90	636.73	631.49		8.91
275+25.00	639.87	637.70	631.53		9.88
275+50.00	640.85	638.68	631.58		10.86
275+75.00	641.82	639.65	631.63		11.83
276+00.00	642.80	640.63	631.68		12.81
276+25.00	643.77	641.60	631.75		13.78
276+50.00	644.75	642.58	631.81		14.76
276+75.00	645.72	643.55	632.58		15.73
276+83.09	646.04	643.87	632.65		16.05
276+91.71	646.37	644.21	632.62		16.39
277+00.00	646.70	644.53	632.43		16.71
277+25.00	647.67	645.50	632.95		17.68
277+44.99	648.45	646.28	633.16		18.46
277+50.00	648.65	646.48	633.22		18.66
277+64.32	649.20	647.04	633.36		19.72
277+75.00	649.62	647.45	633.36		20.13
277+83.65	649.96	647.79	633.33	628.82	18.97
278+00.00	650.60	648.43	633.35		19.61
278+25.00	651.57	649.40	633.44		20.58
278+50.00	652.55	650.38	633.27		21.56
278+75.00	653.52	651.35	633.10		22.53
279+00.00	654.50	652.33	632.90		23.51
279+25.00	655.47	653.30	632.90		24.48
279+35.00	655.88	653.71	632.90		24.89
279+50.00	656.44	654.28	632.89		25.46
279+75.00	657.32	655.16	632.88		26.34
280+00.00	658.11	655.95	632.86		27.13
280+25.00	658.82	656.65	632.91		27.83
280+50.00	659.44	657.27	633.04		28.45
280+75.00	659.96	657.80	633.17		28.98
281+00.00	660.41	658.24	633.34		29.42
281+25.00	660.76	658.59	633.40		29.77
281+34.98	660.88	658.71	633.42		29.89
281+43.03	660.96	652.66	633.48		23.84

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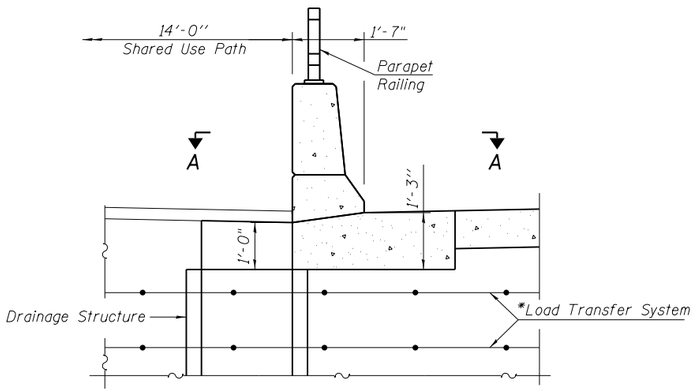
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

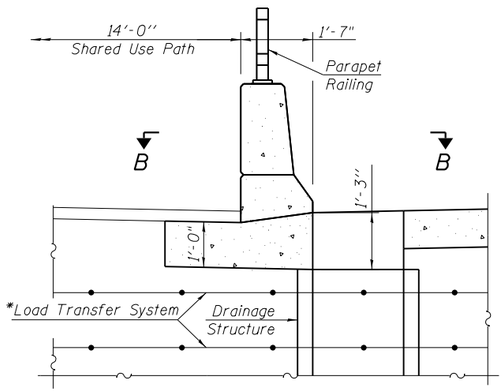
MSE WALL CROSS SECTION TABLES
STRUCTURE NO. 016-1279
SHEET NO. 9 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	229
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		



SECTION THRU DRAINAGE STRUCTURES IN NORTHEAST ANCHORAGE SLAB

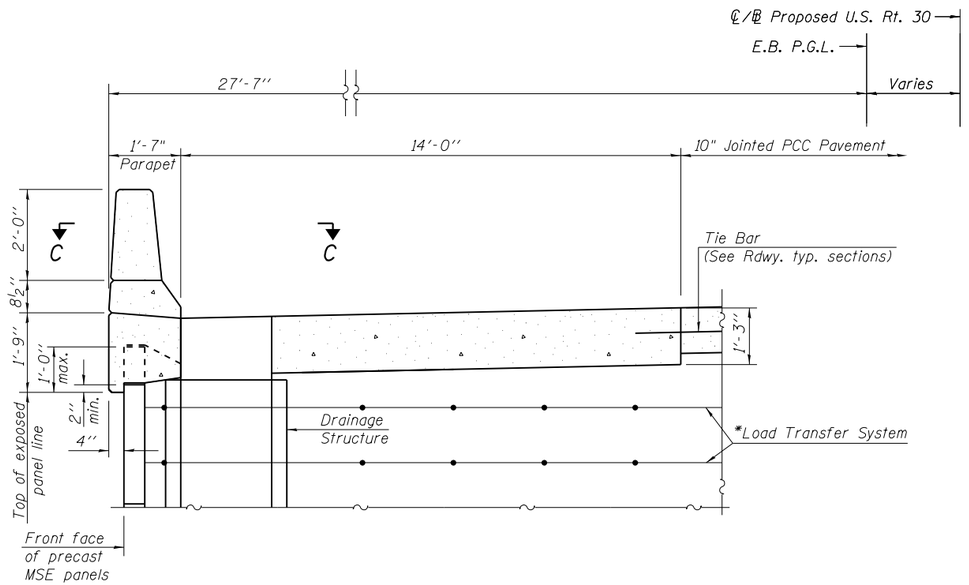
(East of Parapet - 2 Total)



SECTION THRU DRAINAGE STRUCTURES IN NORTHEAST ANCHORAGE SLAB

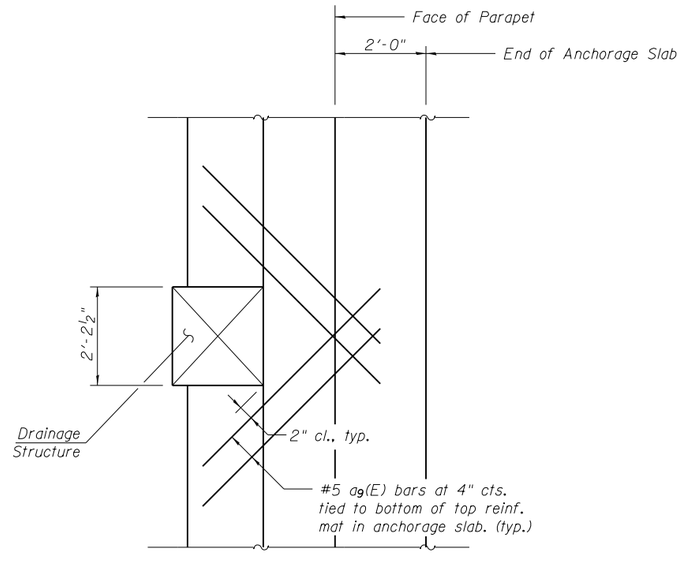
(West of Parapet - 2 Total)

*M.S.E. Wall supplier to provide internal stability design for load transfer system to accomodate drainage structures and pipes.



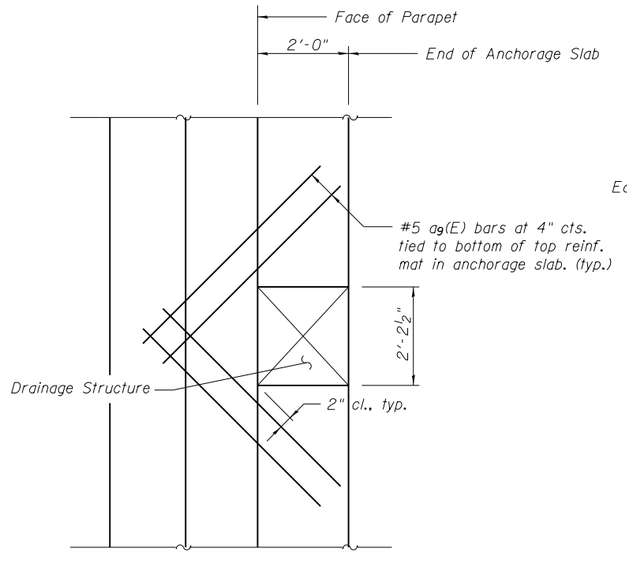
SECTION THRU DRAINAGE STRUCTURES IN NORTHWEST ANCHORAGE SLAB

(2 Total)



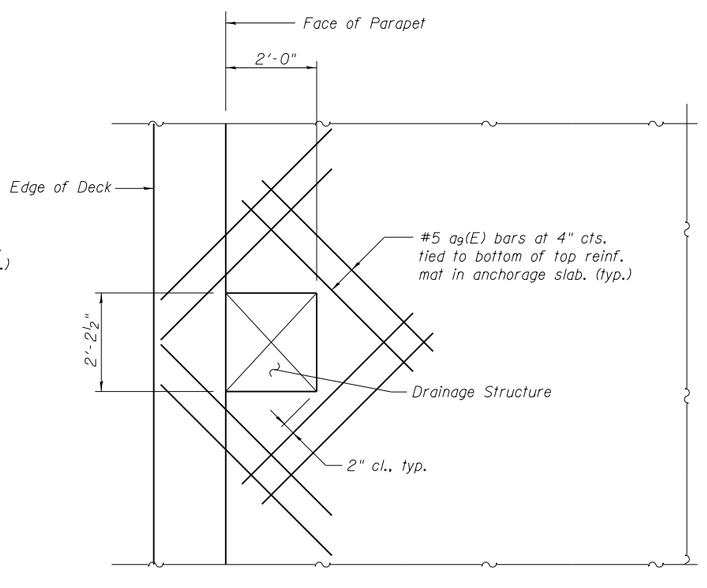
SECTION A-A

Shift transverse reinforcement and cut longitudinal reinforcement in anchorage slab to clear drainage structures.



SECTION B-B

Shift transverse reinforcement and cut longitudinal reinforcement in anchorage slab to clear drainage structures.



SECTION C-C

Shift transverse reinforcement and cut longitudinal reinforcement in anchorage slab to clear drainage structures.

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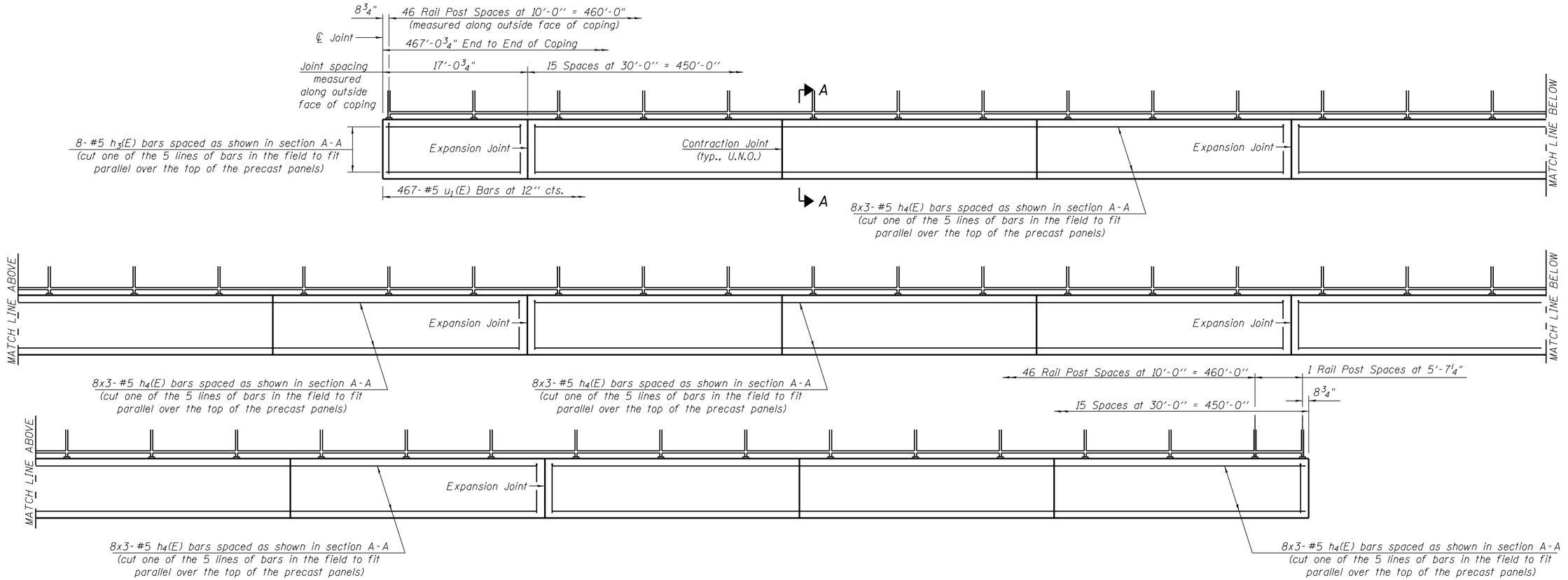
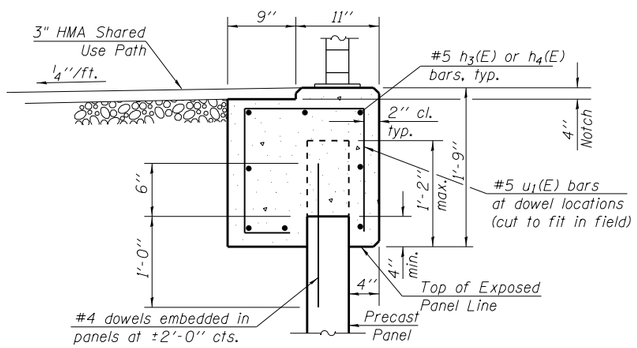
DRAINAGE STRUCTURES DETAILS
STRUCTURE NO. 016-1279
SHEET NO. 10 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	230
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

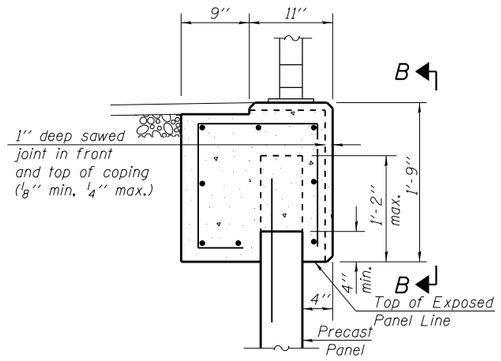


COPING ON TOP OF NORTHEAST MSE WALL

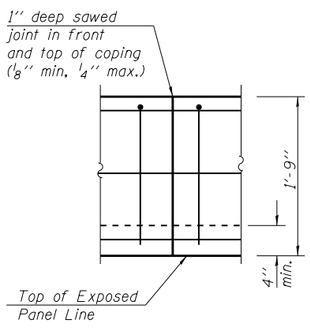
(Looking West)



SECTION A-A



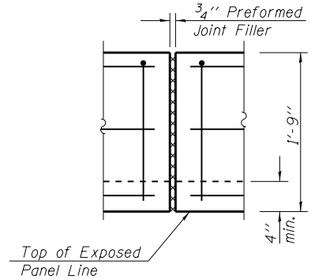
CONTRACTION JOINT AT NE COPING



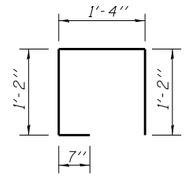
SECTION B-B

MIN. BAR LAP

#5 Bars = 2'-7"



EXPANSION JOINT AT NE COPING



BAR $u_1(E)$

NORTHEAST WALL COPING BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$h_3(E)$	8	#5	16'-8"	——
$h_4(E)$	120	#5	31'-8"	——
$u_1(E)$	467	#5	4'-3"	⊓
Reinforcement Bars, Epoxy Coated			Pound	6,170
Concrete Structures			Cu. Yds.	46.1

Notes:

Dowel bars for the northeast wall coping will be included in the cost of Mechanically Stabilized Earth Retaining Wall. Coping over the 3-sided structure's headwall is also included in the above Bill of Material.

See Sheet 17 of 35 for Railing Details and Bill of Material.

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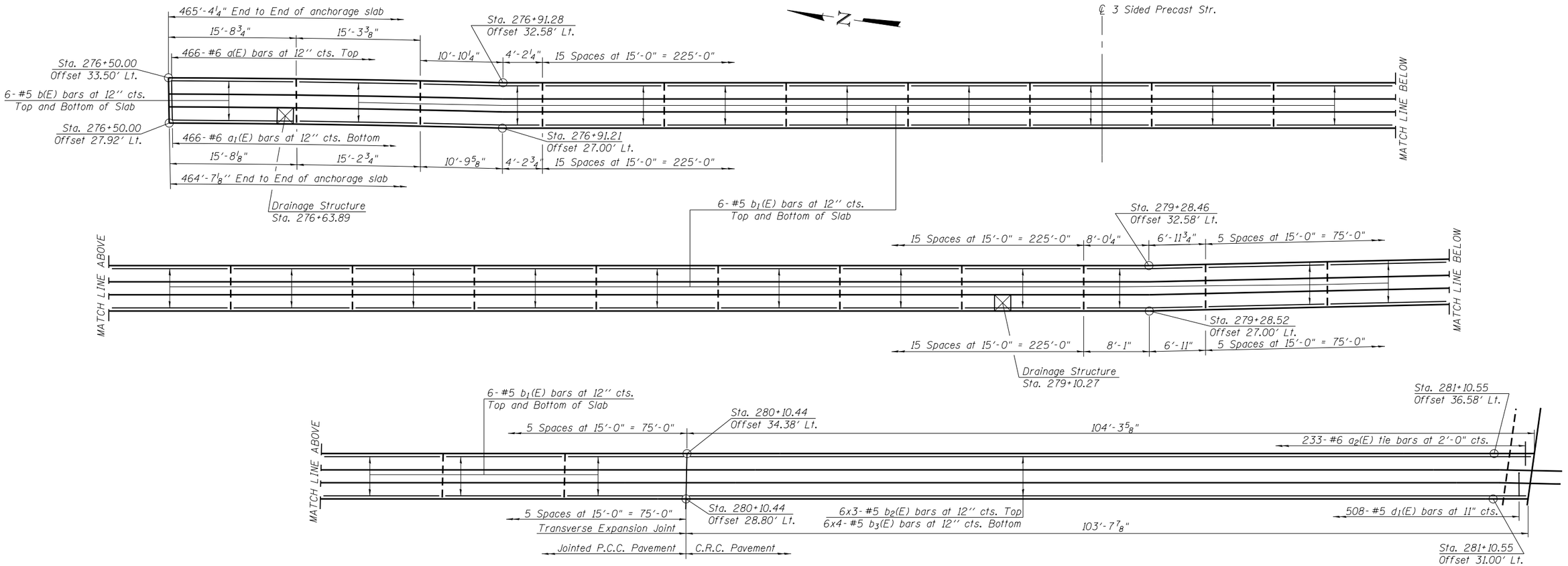
NORTHEAST MSE WALL COPING ELEVATION
STRUCTURE NO. 016-1279
SHEET NO. 11 OF 35 SHEETS

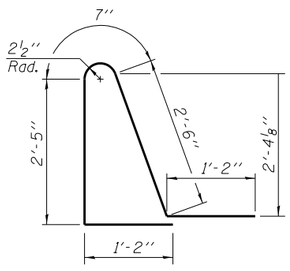
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	231
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



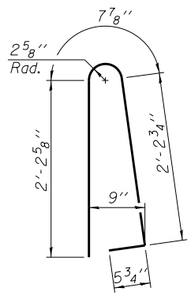
NORTHEAST ANCHORAGE SLAB AND PARAPET BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
	a(E)	466	#6	5'-3"	
	a1(E)	466	#6	5'-3"	
*	a2(E)	233	#6	2'-6"	
	a9(E)	16	#5	4'-0"	
	b(E)	12	#5	15'-4"	
	b1(E)	276	#5	14'-8"	
	b2(E)	18	#5	36'-6"	
	b3(E)	24	#5	28'-0"	
	d(E)	508	#5	5'-7"	
	d1(E)	508	#5	7'-10"	
	e(E)	8	#4	15'-4"	
	e1(E)	184	#4	14'-8"	
	e2(E)	32	#4	25'-7"	
	e3(E)	8	#8	15'-4"	
	e4(E)	23	#8	14'-8"	
	e5(E)	4	#8	25'-7"	
	Reinforcement Bars, Epoxy Coated		Pound	24,260	
	Concrete Superstructure		Cu. Yds.	60.2	
	Concrete Structures		Cu. Yds.	108.2	

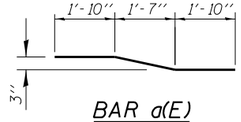
*Weight not included in Reinf. Bars, Epoxy Coated. Cost included with PCC Pav't, 10" (Jointed) and Bridge CRC Pav't. See Roadway drawings.



BAR d1(E)



BAR d(E)



BAR d(E)

NORTHEAST ANCHORAGE SLAB PLAN

MIN. BAR LAP
#5 Bars = 2'-7"

Notes:
See Sheet 13 of 35 for Section Thru Northeast Parapet and Anchorage Slab.
See Sheet 16 of 35 for Joint Details.
See Sheet 10 of 35 for Drainage Structure Details.

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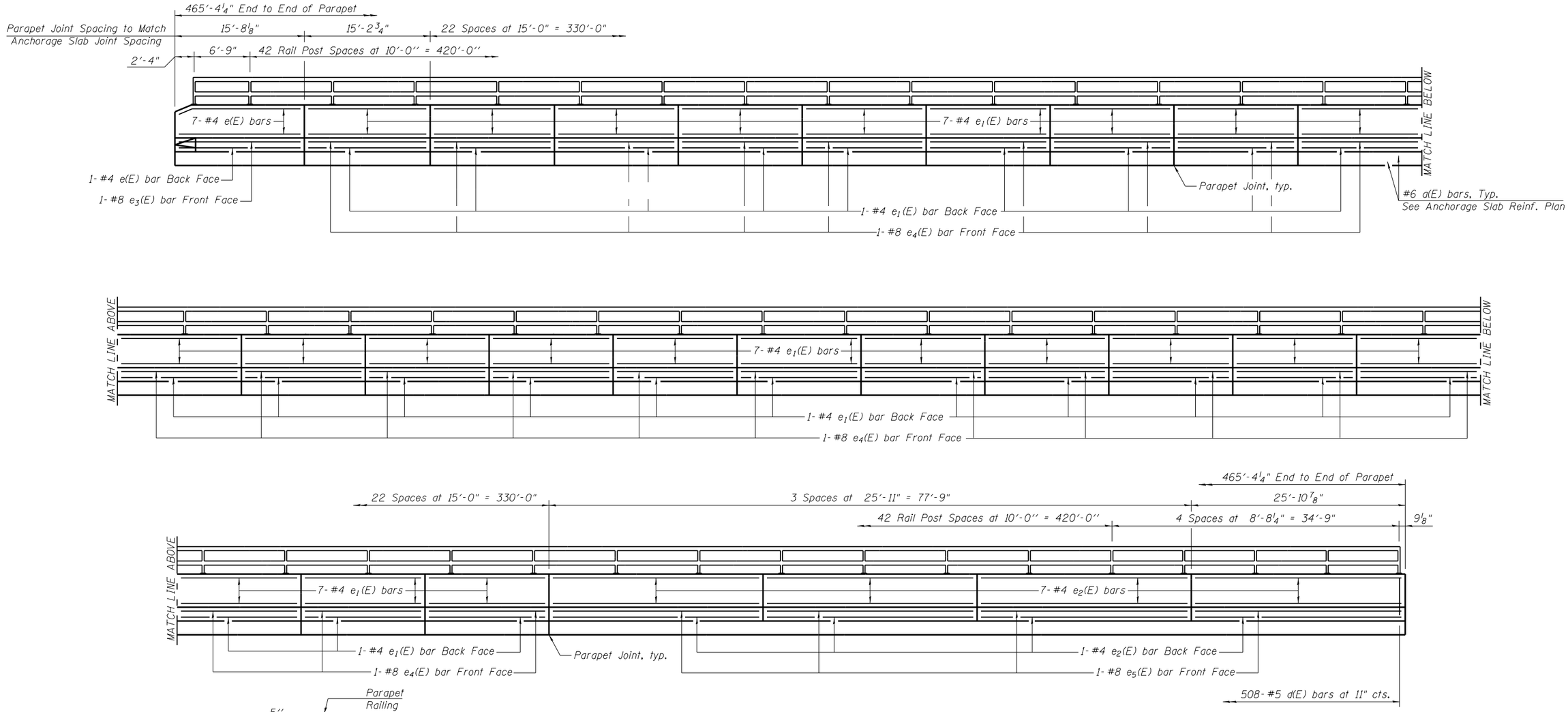
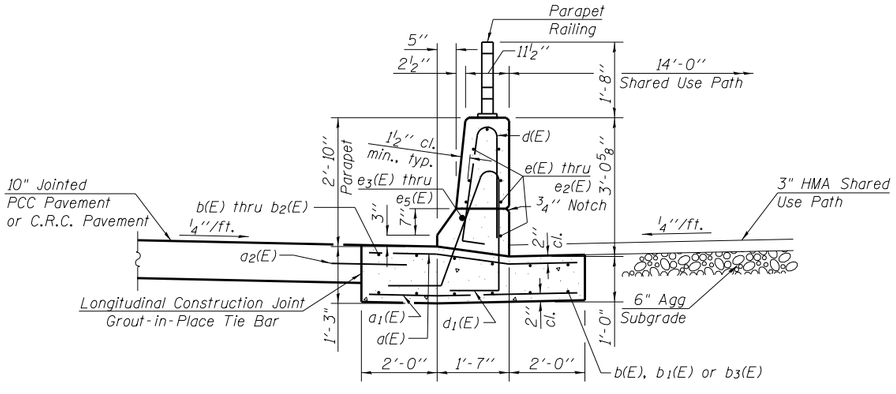
NORTHEAST ANCHORAGE SLAB
STRUCTURE NO. 016-1279
SHEET NO. 12 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	232
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



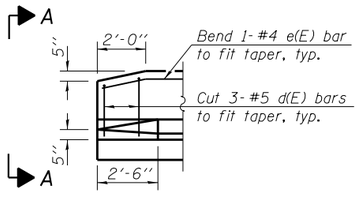
NORTHEAST PARAPET ELEVATION

(Looking East)

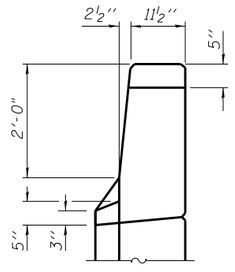


SECTION THRU NORTHEAST PARAPET AND ANCHORAGE SLAB

(Looking North)



TYPICAL END SECTION



VIEW A-A

Notes:
See Sheet 12 of 35 for Bar Details and Bill of Material.
See Sheet 16 of 35 for Joint Details.

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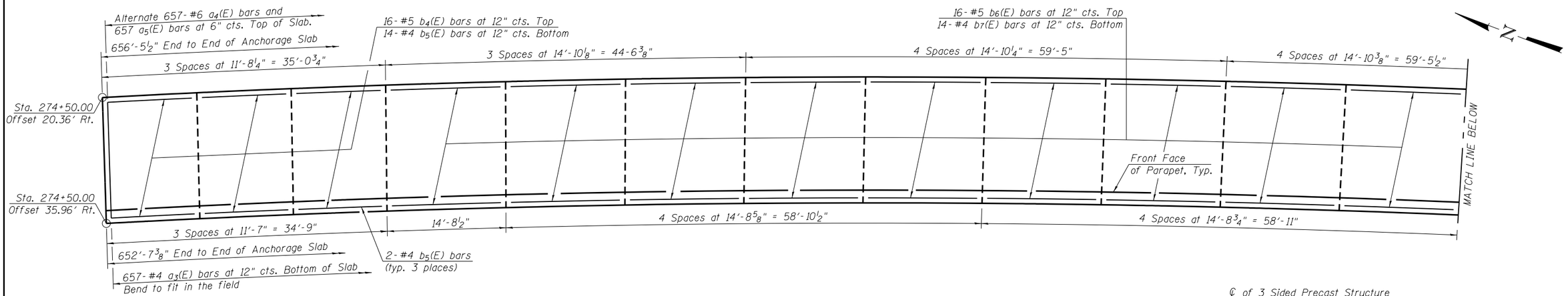
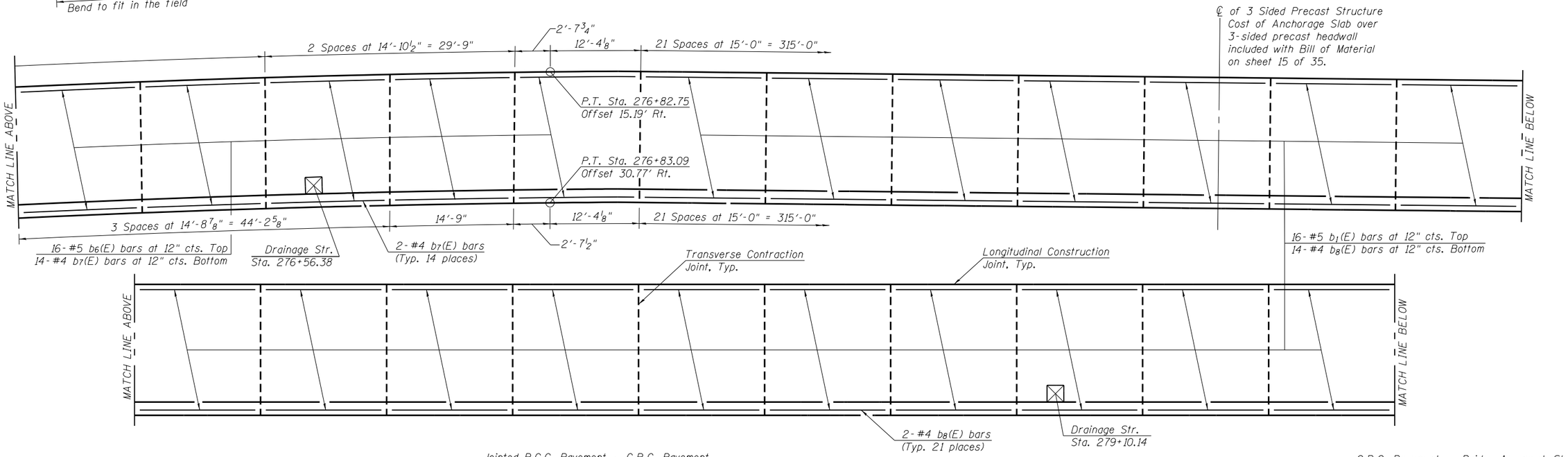
NORTHEAST PARAPET ELEVATION
STRUCTURE NO. 016-1279
SHEET NO. 13 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	233
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		





Notes:
See Sheet 15 of 35 for Section Thru Northwest Parapet and Anchorage Slab, bar details and Bill of Material.
See Sheet 16 of 35 for Joint Details.
See Sheet 10 of 35 for Drainage Structure Details.

NORTHWEST ANCHORAGE SLAB PLAN

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

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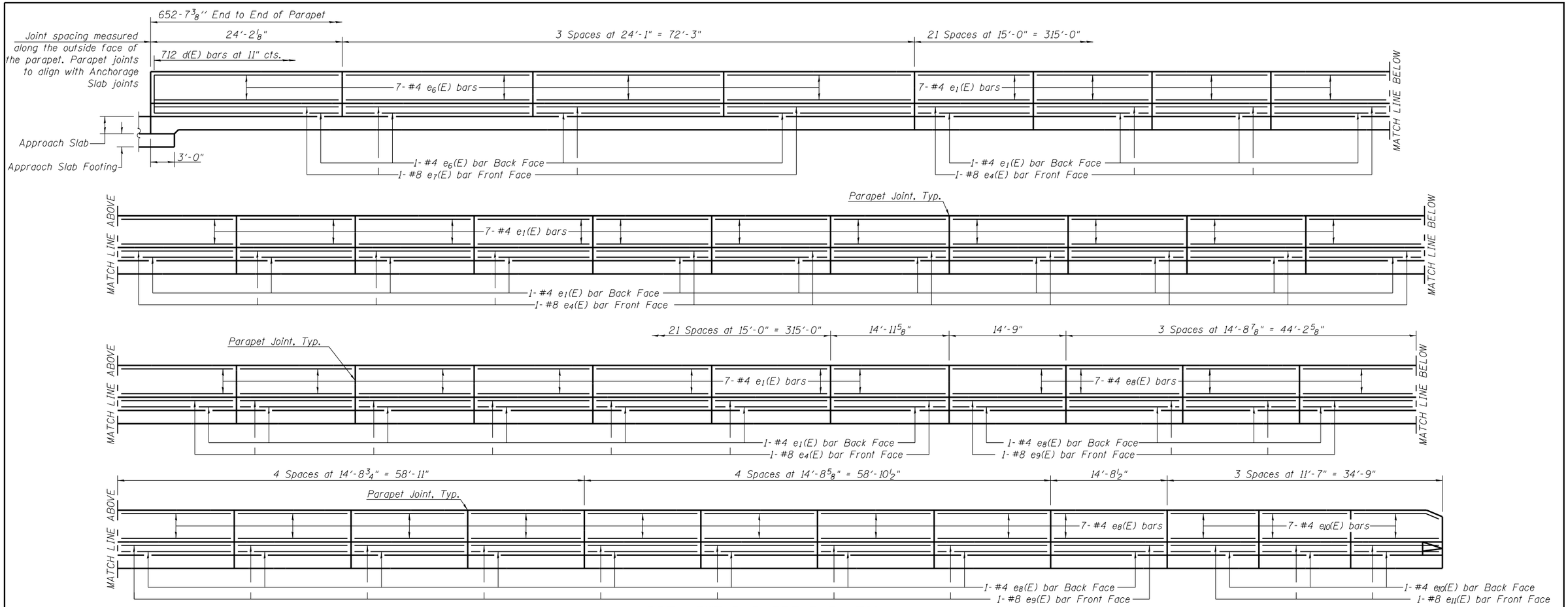
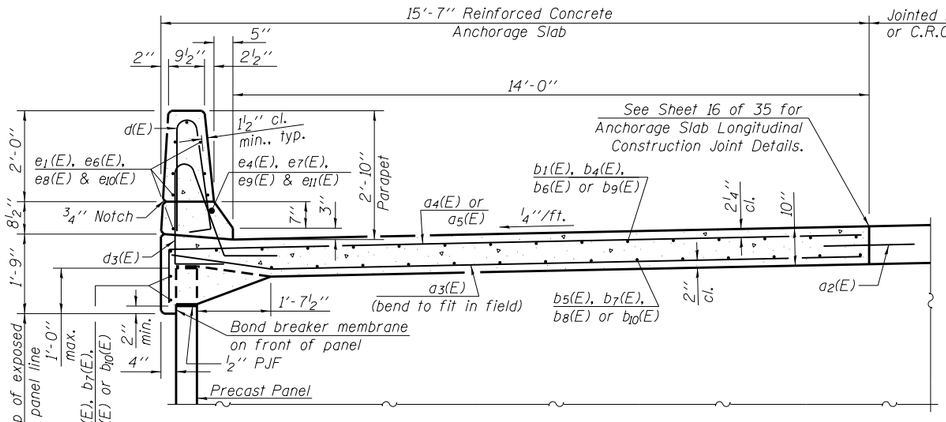
NORTHWEST MSE WALL ANCHORAGE SLAB
STRUCTURE NO. 016-1279
SHEET NO. 14 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	234
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

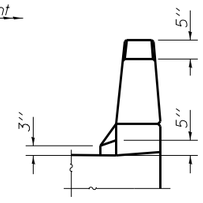


NORTHWEST PARAPET ELEVATION

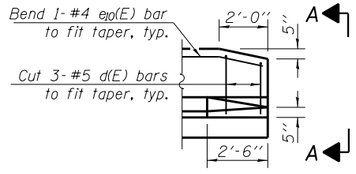
(Looking West)



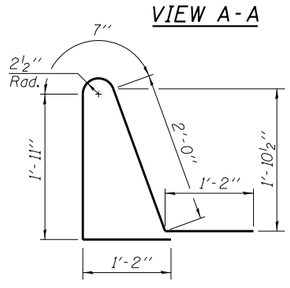
SECTION THRU NORTHWEST PARAPET AND ANCHORAGE SLAB



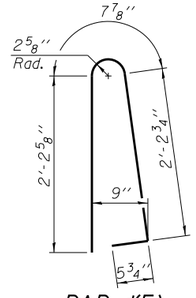
VIEW A-A



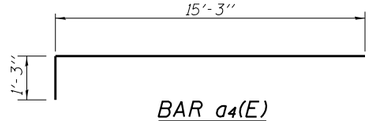
TYPICAL END SECTION



BAR d3(E)



BAR d(E)



BAR a4(E)

NORTHWEST ANCHORAGE SLAB AND PARAPET BILL OF MATERIAL

	Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape
*	a2(E)	329	#6	2'-6"		d3(E)	712	#5	6'-10"	
	a3(E)	657	#4	15'-3"						
	a4(E)	657	#6	16'-6"		e1(E)	176	#4	14'-8"	
	a5(E)	657	#6	15'-3"		e4(E)	22	#8	14'-8"	
	a9(E)	16	#5	4'-0"		e6(E)	32	#4	23'-10"	
						e7(E)	4	#8	23'-10"	
	b1(E)	336	#5	14'-8"		e8(E)	104	#4	14'-5"	
	b4(E)	48	#5	11'-4"		e9(E)	13	#8	14'-5"	
	b5(E)	48	#4	11'-4"		e10(E)	24	#4	11'-3"	
	b6(E)	224	#5	14'-6"		e11(E)	3	#8	11'-3"	
	b7(E)	224	#4	14'-6"						
	b8(E)	336	#4	14'-8"		Reinforcement Bars, Epoxy Coated			Pound	70.190
	b9(E)	48	#5	34'-5"						
	b10(E)	64	#4	26'-1"		Concrete Superstructure			Cu. Yds.	73.9
	d(E)	712	#5	5'-7"		Concrete Structures			Cu. Yds.	338.4

*Weight not included in Reinf. Bars, Epoxy Coated. Cost included with PCC Pav't, 10" (Jointed) and Bridge CRC Pav't. See Roadway drawings.

Notes:
See Sheet 16 of 35 for Joint Details.

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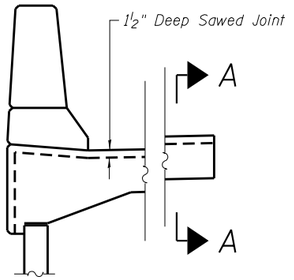
PLOT DATE =	CHECKED - WJV	REVISED

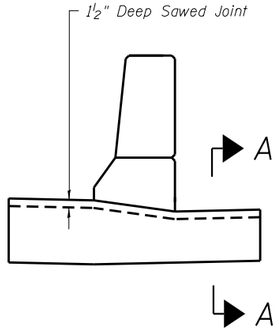
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTHWEST PARAPET ELEVATION
STRUCTURE NO. 016-1279
SHEET NO. 15 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	235
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



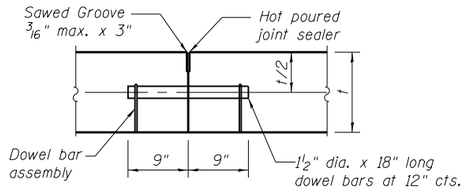
NORTHWEST ANCHORAGE SLABS



NORTHEAST ANCHORAGE SLAB

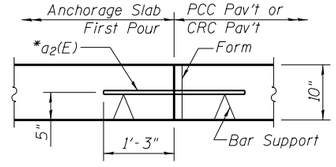
TRANSVERSE CONTRACTION JOINT DETAILS

(See Art. 420.10(d) of Standard Specifications.)

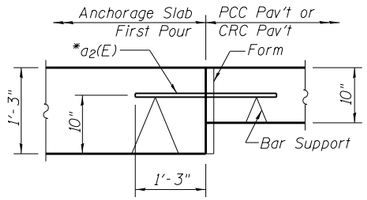


SECTION A-A

(Cost of Dowel bar, dowel bar assembly, saw cut and hot poured joint sealer included with Concrete Structures)



NORTHWEST ANCHORAGE SLAB

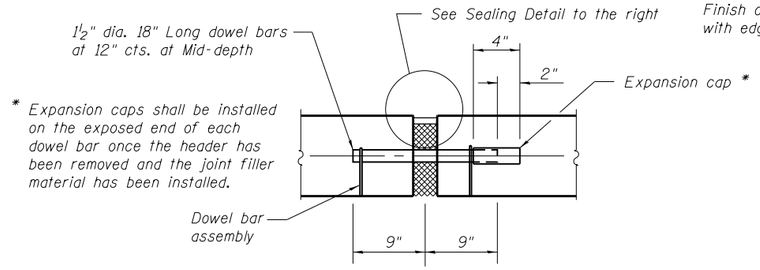


NORTHEAST ANCHORAGE SLAB

*Cost included with PCC Pav't., 10" Jointed and Bridge C.R.C. Pav't. See Roadway Plans.

ANCHORAGE SLAB LONGITUDINAL CONSTRUCTION JOINT DETAILS

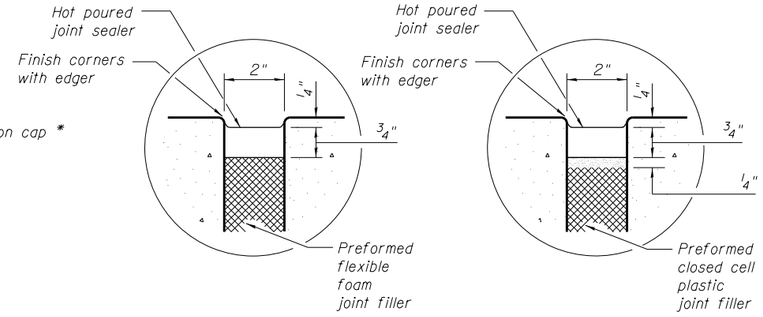
(Joint to be sawed and sealed in accordance with the Longitudinal Construction Joint Details on Std. 420001)



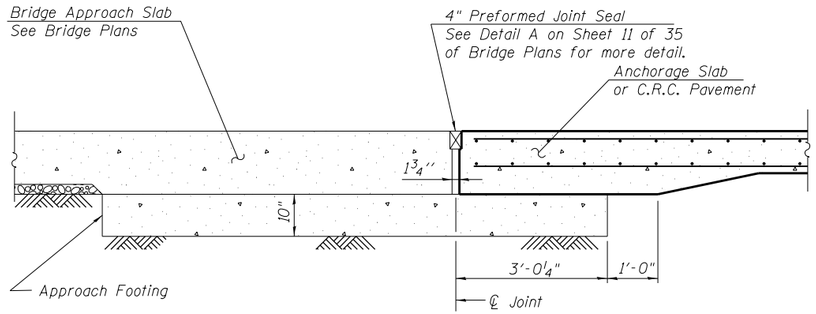
ANCHORAGE SLAB TRANSVERSE EXPANSION JOINT

Located at C.R.C Pav't and Jointed PCC Pav't Joint

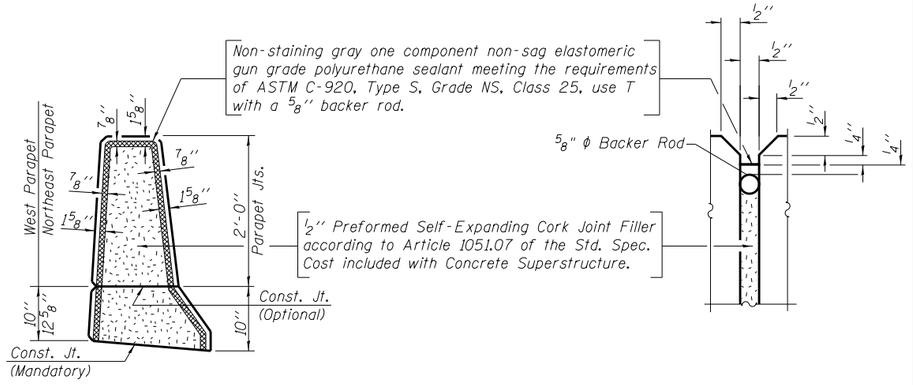
(Cost of Dowel bar, dowel bar assembly, expansion cap and hot poured joint sealer included with Concrete Structures)



SEALING DETAIL



TRANSVERSE EXPANSION JOINT BETWEEN THE APPOROACH SLAB AND ANCHORAGE SLAB OR C.R.C. PAVEMENT



NORTHEAST AND NORTHWEST PARAPET

PARAPET JOINT DETAILS

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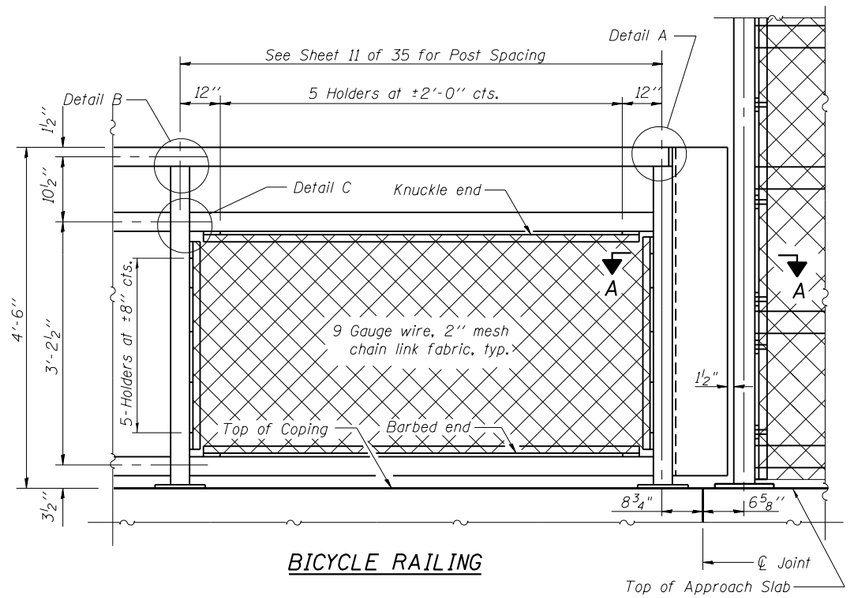
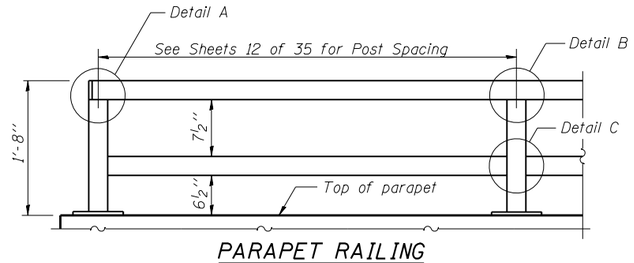
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ANCHORAGE SLAB AND PARAPET DETAILS
STRUCTURE NO. 016-1279
SHEET NO. 16 OF 35 SHEETS

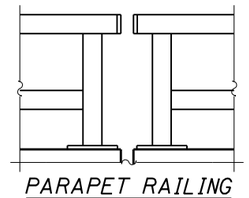
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	236
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		



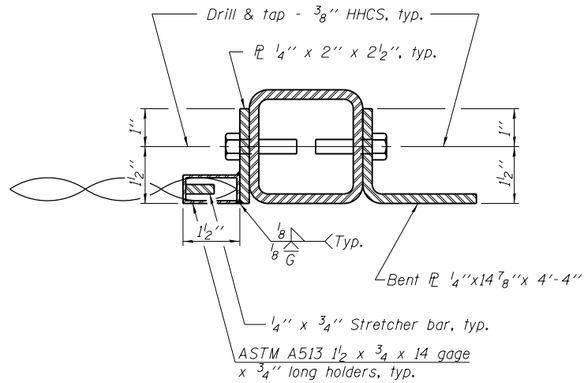
BICYCLE RAILING



PARAPET RAILING
ELEVATION
(Inside Face of Two Element Rail)

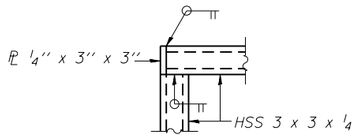


PARAPET RAILING
ELEVATION AT EXPANSION JOINT
(Two Element Rail Shown - Three Element Rail Similar)

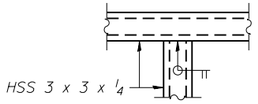


SECTION A-A

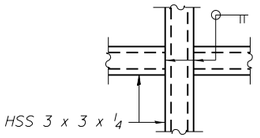
Notes:
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



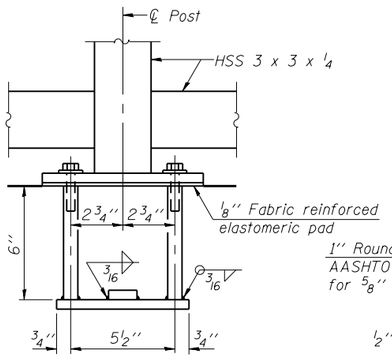
DETAIL A

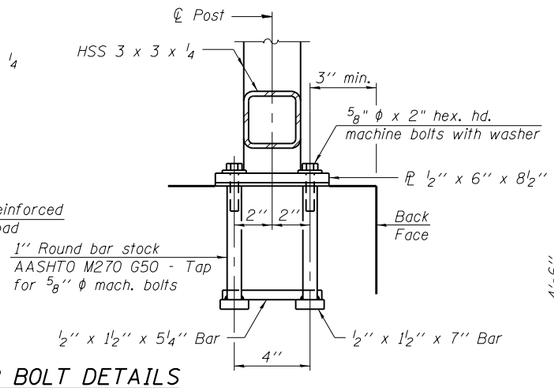


DETAIL B



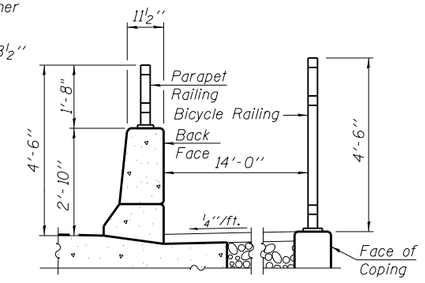
DETAIL C



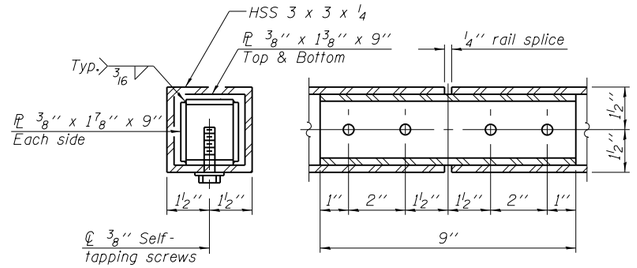


ANCHOR BOLT DETAILS

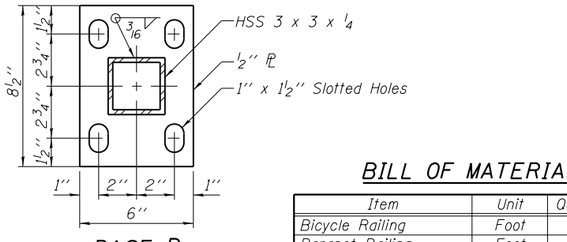
In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting ⅝'' ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



SECTION THRU PATH
NORTH OF THE BRIDGE



RAIL SPLICE



BASE PL

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	466
Parapet Railing	Foot	462

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PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO. 016-1279
SHEET NO. 17 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	237
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 3
DATE 2/10/2013
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				5.0" ASPHALT, 10.0" CRUSHED STONE
629.4				
	3			
	5	2.75P	15	SANDY CLAY–dark brown & gray–very stiff (A–6) Fill
	6			
627.9				
	3			SILTY CLAY–brown & gray–very stiff (A–6)
	4		88	
–5	5	2.3B	24	
625.4				
	2			SANDY LOAM to LOAM–brown & gray–loose (A–2/A–4)
	2			
	3	NP	20	
622.9				
	3			SANDY LOAM–gray–loose to medium dense (A–2)
	3			
–10	3	NP	20	
	3			
	4			
	6	NP	23	
617.9				
	2		105	SILTY LOAM–gray–loose to medium dense (A–4)
	2			
–15	3	NP	22	
	3			
	3			
	5	NP	22	
	3			
	4			
–20	4	NP	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	2			SILTY LOAM–gray–loose to medium dense (A–4)
	5			
	6	NP	24	
	2			
	2			
	3	NP	25	
602.9				
	2		103	SILTY CLAY LOAM–gray–loose (A–4)
	2			
–30	3	0.5B	24	
598.9				
	2			SILTY LOAM–gray–very loose (A–4)
	2			
–35	2	NP	22	
593.9				
	6			SAND–gray–medium dense (A–3)
	6			
–40	5	NP	24	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 3
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense (A–3)
568.9				
	4			SILTY LOAM–gray–medium dense (A–4)
	6			
–45	9	NP	25	
				SAND–gray–medium dense (A–3)
	6			
	7			
–50	7	NP	23	
	8			
	8			
–55	8	NP	22	
	10			
	12			
–60	10	NP	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	11			
	14			
–65	14	NP	22	
563.9				
	28			SAND & GRAVEL–gray–medium dense (A–1)
	15			
–70	12	NP	10	
558.9				
	15			SILTY LOAM–gray–medium dense to dense (A–4)
	24			
–75	30	NP	19	
	13			
	18			
–80	18	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 3
DATE 2/10/2013
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	9			SILTY LOAM–gray–medium dense to dense (A–4)
	9			
–85	11	NP	23	
	9			
	12			
–90	16	NP	16	
	9			
	11			
–95	14	NP	22	
533.9				
	6		102	CLAY–gray–stiff (A–6)
	9			
–100	12	1.9B	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7		111	CLAY–gray–stiff (A–6)
	9			
–105	11	1.8B	19	
523.9				
	50/1"			GRAVEL–gray–very dense (A–1)
–110		NP	5	
518.9				
	50/4"			SANDY CLAY LOAM with Fractured Rock–gray–very dense (A–2)
–115		NP	14	
514.4				
				Drillers Observation: Possible Bedrock
				End Of Boring @ –118.5'
				Hollow Stem Augers To –10.0' 512.4
				Rotary Drilling To Completion
				10.0' Of 4.0"ø Casing Used
				CME Automatic Hammer
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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PLOT SCALE =	DRAWN - EVS	REVISED	
PLOT DATE =	CHECKED - WJV	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 18 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	238
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
631.6				4.0" ASPHALT, 6.0" SAND & GRAVEL
	2			
	3			Clayey TOPSOIL–black
	4	2.5P	25	
629.4				
	3		83	SILTY CLAY–brown & gray–
	5			stiff (A–6) Wet
–5	6	1.8B	26	
626.9				
	1			SANDY CLAY LOAM–brown & gray–
	1			very loose (A–2)
	2	–	21	
624.4				
	2			SILTY LOAM–gray–loose (A–4)
	3			
–10	4	NP	19	
621.9				
	3			LOAM–gray–loose (A–2/A–4)
	5			
	5	NP	25	
619.4				
	3		106	SILTY CLAY LOAM–gray–
	4			loose (A–4)
–15	5	0.3B	22	
616.9				
	3			
	3			SILTY LOAM–gray–loose (A–4)
	4	NP	23	
	2			
	2			
–20	5	1.75P	29	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM–gray–loose (A–4) 611.9
	2		101	
	4			
	5	1.0B	25	
	2		104	
	5			SILTY CLAY LOAM–gray–
–25	4	0.5B	23	medium stiff to stiff (A–4/A–6)
	3		104	
	4			
	5	1.1B	23	
	3		95	
	3			
–30	3	0.5B	29	
600.4				
	2			SILTY LOAM–gray–loose (A–4)
	2			
–35	3	NP	24	
595.4				
	3			SAND–gray–
	4			loose to medium dense (A–3)
	3			
	4			
–40	6	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			
	5			SAND–gray–
–45	5	NP	23	loose to medium dense (A–3)
	3			
	4			
–50	6	NP	20	
	5			
	6			
–55	9	NP	24	
575.4				
	7		99	SILTY CLAY–gray–
	7			medium stiff (A–6) Wet
–60	10	0.6B	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY–gray–
				medium stiff (A–6) Wet
570.4				
	10			
	16			SAND–gray–dense (A–3)
–65	21	NP	18	
565.4				
	11			
	9			SAND & GRAVEL–gray–
	12			medium dense (A–1)
–70	11	NP	19	
560.4				
	15			
	18			SILTY LOAM–gray–
–75	20	NP	21	medium dense to dense (A–4)
	11			
	17			
–80	21	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7			
	10			SILTY LOAM–gray–
–85	13	NP	26	medium dense to dense (A–4)
	9			
	12			
–90	16	NP	22	
540.4				
	5		101	
	9			
–95	11	2.0B	25	CLAY–gray–very stiff (A–6)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY–gray–very stiff (A–6)
				530.4
	8		137	
	32			
–105	40	1.9B	9	
				SANDY CLAY LOAM with Gravel–gray–
				very dense (A–2)
	32			
	50/5"			
–110		NP	10	
	50/3"			
–115		NP	14	
516.4				
515.4				Drillers Observation: Apparent Bedrock
				Silurian System, Niagaran Series Dolomite
				RUN 1 (–117.0' to –127.0')
	5		112	Gray & fine grained with horizontal
	10			bedding becoming light gray mottled
–120	14	2.4B	19	gray & slightly porous @ –120.3'.

RUN 1

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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PLOT DATE =	CHECKED - WJV	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 19 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	239
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
RUN 1 (−117.0' to −127.0') Horizontal fractures @ −118.3', −119.1', −119.5', −119.6', −120.0', −120.5', −121.8', −122.5', −122.6', −122.7', −123.2', −123.6', −124.2' & −125.0'. Recovery=93.5% RQD=82.5%		RUN 1					
−125				−145			
505.4							
Silurian System, Niagaran Series Dolomite RUN 1 (−127.0' to −133.0') Light gray to gray & fine grained with horizontal bedding becoming mottled gray & slightly porous with horizontal to wavy bedding @ −130.1'. Horizontal fractures @ −129.5', −130.7', −131.1', −131.7' & −132.2'. Recovery=100.0% RQD=100.0%		RUN 2					
−130				−150			
499.4							
End Of Boring @ −133.0 Hollow Stem Augers To −10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer							
−135				−155			
−140				−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 515.4
Begin Core Elev. 515.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−117.0' to −127.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −120.3'. Horizontal fractures @ −118.3', −119.1', −119.5', −119.6', −120.0', −120.5', −121.8', −122.5', −122.6', −122.7', −123.2', −123.6', −124.2' & −125.0'.	1	93.5	82.5	n/a	851 @ −117.0'
−132					
−137					

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

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ROCK CORE LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 505.4
Begin Core Elev. 505.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (−127.0' to −133.0') Light gray to gray & fine grained with horizontal bedding becoming mottled gray & slightly porous with horizontal to wavy bedding @ −130.1'. Horizontal fractures @ −129.5', −130.7', −131.1', −131.7' & −132.2'.	2	100.0	100.0	n/a	824 @ −127.0'
−132.0					
−137					

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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 20 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	240
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 3
DATE 7/2/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-05
Station 279+75
Offset 39.5' Left
Ground Surface Elev. 631.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.1
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	AS	–	26	TOPSOIL–black
	7			
	15			
628.1	12	–	29	
	2		82	SILTY CLAY–dark gray to black–stiff (A–6) Wet
	3			
–5	4	1.5B	27	
625.6				
	0			SILTY CLAY–brown & gray–very soft (A–7) Wet
	1			
	1	<0.25P	34	
▼622.1	1		98	
	3			Silty SAND & GRAVEL–brown & gray–loose (A–2)
–10	4	NP	18	
620.6				
	4			SILTY LOAM–gray–loose (A–4)
	3			
	5	NP	22	
618.1				
	3			SILTY CLAY LOAM–gray–loose (A–4/A–6)
	3			
–15	5	2.5P	24	
	2		105	
	2			
	4	1.2B	23	
	2			SAND–gray–medium dense (A–3)
	3			
–20	5	1.75P	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY LOAM–loose (A–4/A–6) 610.6
	4		109	
	4			SILTY CLAY–gray–stiff (A–6)
	4	1.3B	20	
608.1				
	2			
	4			
–25	5	1.0P	25	
	2			SILTY LOAM–gray–loose (A–4)
	3			
	4	1.5P	23	
	1		98	
	3			
–30	3	0.4B	27	
599.1				
	2			SILTY CLAY–gray–soft (A–6) Wet
	3			
–35	4	0.25P	31	
594.1				
	6			
	9			
–40	10	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-05
Station 279+75
Offset 39.5' Left
Ground Surface Elev. 631.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.1
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			
	9			
–45	9	NP	21	SAND–gray–medium dense (A–3)
	6			
	12			
–50	14	NP	20	
579.1				
	6			SAND with Gravel–gray–medium dense (A–1)
	6			
–55	6	NP	16	
574.1				
	11			SANDY LOAM–gray–medium dense to dense (A–2)
	16			
–60	16	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	12			
	18			
–65	16	NP	25	SANDY LOAM–gray–medium dense to dense (A–2)
	6			
	8			
–70	8	NP	24	
559.1				
	6			SAND–gray–medium dense (A–3)
	7			
–75	11	NP	21	
554.1				
	11			SILT–gray–dense (A–4)
	18			
–80	20	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
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SOIL BORING LOG

PAGE 3 of 3
DATE 7/2/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-05
Station 279+75
Offset 39.5' Left
Ground Surface Elev. 631.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.1
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	9			SILT–gray–dense (A–4)
	17			
–85	19	NP	24	
544.1				
	4		103	
	8			
–90	11	1.7B	23	CLAY–gray–stiff to very stiff (A–6)
	5		103	
	7			
–95	9	2.1B	23	
	5		114	
	8			
–100	12	2.4B	28	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY–gray–stiff to very stiff (A–6)
529.1				
	8		136	
	11			
–105	32	1.9S	9	
				CLAY LOAM–gray–dense (A–4/A–6)
	45		134	
	50/4"			
–110		3.1S	9	
519.1				
				LOAM–gray–very dense (A–2/A–4)
	50/4"			
516.1–115		4.5+P	10	
				Drillers Observation: Possible Bedrock.
514.1				
				End Of Boring @ –117.0'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				Diedrich Automatic Hammer
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 21 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	241
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

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DATE 1/24-25/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	AS	–	28	Sandy TOPSOIL with Cinders–black–loose (Fill)
	4			
	3			
629.0	3		93	
–5	4			SILTY CLAY–dark brown & gray–stiff (A–6) Wet
	5	1.25B	25	
626.5 ▼				
	2			
	4			SILTY LOAM–gray–loose (A–4)
	4	NP	24	
	2			
–10	2			
	3	NP	25	
622.0				
	3			SANDY LOAM–gray–loose (A–2)
	4			
	4	NP	26	
619.5				
	2			SILTY CLAY–gray–very stiff (A–6)
	2			
–15	3	2.0P	24	
617.0				
	1			SILTY LOAM–gray–loose (A–4)
	2			
	3	NP	21	
614.5				
	2		88	SILTY CLAY LOAM–gray–loose (A–4)
	3			
–20	5	1.25B	27	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	2		101	SILTY CLAY LOAM–gray–loose (A–4)
	2			
609.5	4	0.8B	25	
	2			SILT–gray–loose (A–4)
–25	3	NP	23	
607.0				
	2		106	SILTY CLAY LOAM–gray–loose (A–4)
	2			
	3	0.5B	22	
604.5				
	2			SILTY LOAM–gray–loose (A–4)
	2			
–30	4	2.0P	21	
	2			
	3			
–35	5	1.25P	22	
595.5				
				SAND–gray–medium dense (A–3)
	7			
	10			
–40	11	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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DATE 1/24-25/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense (A–3)
	8			
	10			
–48	11	NP	24	
				Some gravel from –48.5' to –50.0'.
	5			
–50	6	NP	22	
575.5				
				SANDY LOAM–gray–medium dense to dense (A–2)
	12			
–60	17	NP	27	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SANDY LOAM–gray–medium dense to dense (A–2)
	8			
	12			
–65	14	NP	26	
565.5				
	6			SILTY LOAM–gray–medium dense (A–4)
	6			
–70	8	NP	22	
560.5				
	5			SAND & GRAVEL–gray–medium dense (A–1)
	11			
–75	9	NP	16	
555.5				
	12			SILT–gray–dense (A–4)
	19			
–80	19	NP	19	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 4
DATE 1/24-25/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILT–gray–dense (A–4)
	10			
	16			
–85	16	NP	20	
545.5				
	6		101	CLAY–gray–stiff to very stiff (A–6)
	8			
–90	11	2.4B	25	
				CLAY–gray–stiff to very stiff (A–6)
	4		105	
	7			
–95	11	2.75B	22	
	11		113	
	14			
–100	14	1.9B	18	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY–gray–stiff to very stiff (A–6)
530.5				
	21		121	SANDY CLAY LOAM–gray–very dense (A–2/A–6)
	50/5"			
–105		1.3B	13	
525.5				
	31			SILTY CLAY LOAM–gray–very dense (A–4/A–6)
	50/4"			
–110		4.5+P	10	
	50/6"			
517.5–115		4.5+P	11	
516.5				Drillers Observation: Apparent Bedrock.
				Silurian System, Niagaran Series Dolomite RUN 1 (–116.0' to –124.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray with horizontal to wavy bedding @ –119.9'. Horizontal fractures @ –116.1', –116.2', –116.7', –117.4', –120.3', –121.3', –122.5', –122.7', –123.0' & –123.6'. RUN 1
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
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NR–No Recovery

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	CHECKED - WJV	REVISED	
PLOT SCALE =	DRAWN - EVS	REVISED	
PLOT DATE =	CHECKED - WJV	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 22 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	242
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 4 of 4
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Recovery=98.8% RQD=85.0% RUN 1 508.5							
Silurian System, Niagaran Series Dolomite RUN 1 (−124.0' to −132.0') Light gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ −127.3'. Horizontal fractures @ −124.8', −128.0', −128.2' & −128.3'. Weathered horizontal fracture with thin clay parting @ −128.8'. Recovery=98.8% RQD=93.8% RUN 2 500.5							
End Of Boring @ −132.0' Hollow Stem Augers To −10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used 117.0' Of 3.0"ø Casing Used CME Automatic Hammer							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 1/24-25/2012
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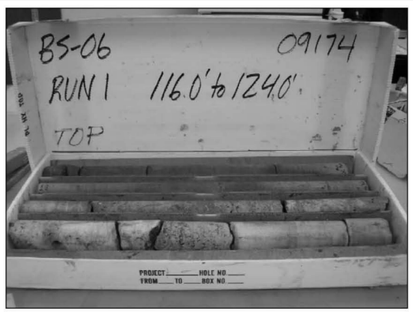
ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 516.5
Begin Core Elev. 516.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−116.0' to −124.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray with horizontal to wavy bedding @ −119.9'. Horizontal fractures @ −116.1', −116.2', −116.7', −117.4', −120.3', −121.3', −122.5', −122.7', −123.0' & −123.6'.	1	98.8	85.0	n/a	1072 @ −116.3'



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

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ROCK CORE LOG

PAGE 2 of 2
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-06
Station 279+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 508.5
Begin Core Elev. 508.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−124.0' to −132.0') Light gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ −127.3'. Horizontal fractures @ −124.8', −128.0', −128.2' & −128.3'. Weathered horizontal fracture with thin clay parting @ −128.8'.	2	98.8	93.8	n/a	1230 @ −124.0'

Color pictures of the cores Yes Cores will be stored for examination for —
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 23 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	243
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

DATE 1/26-27/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-07**
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	AS	–	27	Sandy TOPSOIL with Gravel–black–loose (Fill)
	3			
	4	NP	17	
628.2				
	3		95	SILTY CLAY–black–stiff (A–6)
	5			
–5	7	1.9B	18	
625.7				
	2			SILTY LOAM–gray–loose (A–4)
	2			
	2	NP	19	
623.2				
	4			SAND & GRAVEL–brown–loose (A–1)
	4			
–10	5	NP	19	
620.7				
	3			SILTY LOAM–gray–medium dense (A–4)
	5			
	6	NP	24	
618.2				
	3		118	CLAY–gray–stiff (A–6)
	4			
–15	5	1.9B	17	
615.7				
	2			SILTY LOAM–gray–loose (A–4)
	3			
	3	NP	21	
	2			
	4			
–20	4	NP	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	2			SILTY LOAM–gray–loose (A–4)
	2			
	4	NP	22	
603.2				
	2			SILTY CLAY–gray–medium stiff (A–6) Wet
	3			
–30	3	0.5P	28	
599.2				
	3			SILTY SAND & GRAVEL–gray–medium dense (A–2)
	6			
–35	8	NP	17	
594.2				
	3			SAND–gray–medium dense (A–3)
	5			
–40	5	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

DATE 1/26-27/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-07**
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SAND–gray–medium dense (A–3)
569.2				
	9			SANDY LOAM–gray–medium dense (A–2)
	11			
–65	14	NP	30	
564.2				
	10			SAND–gray–medium dense to dense (A–3)
	12			
–70	15	NP	30	
	14			
	16			
–75	20	NP	24	
	20			
–80	22	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	4			SAND–gray–medium dense (A–3)
	6			
–45	7	NP	23	
579.2				
	4			SAND & GRAVEL–gray–medium dense (A–1)
	6			
–55	7	NP	14	
574.2				
	11			SAND–gray–medium dense (A–3)
	14			
–60	14	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

DATE 1/26-27/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-07**
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SAND–gray– medium dense to dense (A–3)
549.2				
	7		106	CLAY–gray–stiff to very stiff (A–6)
	9			
–85	11	1.25B	22	
	4		110	
	8			
–90	11	2.0B	20	
	6		118	
	9			
–95	11	2.3B	16	
534.2				
	27			SANDY LOAM–gray–very dense (A–2)
	50/5"			
–100	NP		7	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	2			SANDY LOAM–gray–very dense (A–2)
529.2				
	32		129	SILTY LOAM to LOAM–gray–very dense (A–4)
	50/5"			
–105		2.4B	10	
	34			
	50/4"			
–110		NP	14	
518.2				
	50/1"			Weathered Shale–gray–very dense
517.2				
–115		NP	10	Drillers Observation: Apparent Bedrock
515.7				
				Silurian System, Niagaran Series Dolomite RUN 1 (–115.5' to –125.5') Gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ –119.2', changing to light gray & fine grained with horizontal bedding @ –122.0'. Horizontal fractures @ –118.8', –119.2', –119.5', –120.0', –121.5', –121.7', –123.1' & –123.4'.
–120				RUN 1

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 24 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	244
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
DATE 1/26-27/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.2
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Recovery=100.0% RQD=82.0%	RUN 1						
505.7							
Silurian System, Niagaran Series Dolomite RUN 2 (−125.5' to −131.5') Light gray to gray with horizontal to wavy bedding and some varving becoming slightly porous from−128.0' to −129.0'. Horizontal fractures @ −126.4' & −126.7'. Weathered horizontal fracture with thin clay parting @ −126.9'. Transverse fracture from −127.0' to −127.4'. Horizontal fractures @ −127.7' & −131.1'. Recovery=100.0% RQD=94.0%	RUN 2						
499.7							
End Of Boring @ −131.5 Hollow Stem Augers To −10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used 117.0' Of 3.0"ø Casing Used CME Automatic Hammer							

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

ROCK CORE LOG

PAGE 1 of 2
DATE 1/26-27/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 515.7
Begin Core Elev. 515.7

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−115.5' to −125.5') Gray & fine grained with horizontal to wavy bedding becoming light gray mottled gray & slightly porous @ −119.2', changing to light gray & fine grained with horizontal bedding @ −122.0'. Horizontal fractures @ −118.8', −119.2', −119.5', −120.0', −121.5', −121.7', −123.1' & −123.4'.	1	100.0	82.0	n/a	1170 @ −115.5'
−120.5					
−125.5					

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

ROCK CORE LOG

PAGE 2 of 2
DATE 1/26-27/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-07
Station 281+25
Offset 44.5' Left
Ground Surface Elev. 631.2
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 505.7
Begin Core Elev. 505.7

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (−125.5' to −131.5') Light gray to gray with horizontal to wavy bedding and some varving becoming slightly porous from−128.0' to −129.0'. Horizontal fractures @ −126.4' & −126.7'. Weathered horizontal fracture with thin clay parting @ −126.9'. Transverse fracture from −127.0' to −127.4'. Horizontal fractures @ −127.7' & −131.1'.	2	100.0	94.0	n/a	1102 @ −125.5'
−130.5					
−135.5					

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

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PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 25 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	245
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 3
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	AS	–	26	TOPSOIL, GRAVEL & STONE–black–loose (Fill)
	4			
	4			
628.5	3	NP	11	
	4			SILTY CLAY–brown & gray–very stiff (A–6)
–5	5	2.75P	30	
625.5	4			
	1			
	1			LOAM–brown & gray–very loose (A–2)
	1	NP	25	
623.5				
	4			LOAM–gray–medium dense (A–2)
	5			
–10	6	NP	18	
621.0				
	3			SILTY LOAM–gray–medium dense (A–4)
	6			
	5	NP	23	
618.5				
	2		102	SILTY CLAY LOAM–gray–medium dense (A–4/A–6)
	4			
–15	6	1.1B	23	
616.0				
	2			
	4			SILTY LOAM–gray–loose (A–4)
	4	3.0P	19	
	2			
	4			
–20	4	1.75P	26	

SILTY LOAM–gray–loose (A–4)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	3		
	3		
	6	1.5P	19
	2		
	3		
–25	5	1.0P	24
	2		
	3		
	4	0.5P	25
	2		
	2		
–30	3	NP	22
599.5			
SANDY LOAM–gray–medium dense (A–2)			
	2		
	7		
–35	8	NP	22
594.5			
SAND with Gravel–gray–medium dense (A–1)			
	6		
	9		
–40	9	NP	17

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

PAGE 2 of 3
DATE DR
LOGGED BY 2/3/2012
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND with Gravel–gray–medium dense (A–1)
589.5				
	8			
	7			
–45	6	NP	22	
				SAND–gray–medium dense (A–3)
	9			
	13			
–50	16	NP	22	
579.5				
	5			SAND & GRAVEL–gray–medium dense (A–1)
	6			
–55	6	NP	14	
574.5				
	9			SANDY LOAM–gray–medium dense (A–2)
	9			
–60	8	NP	23	

SANDY LOAM–gray–medium dense (A–2)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	10		
	11		
–65	13	NP	22
564.5			
SAND–gray–dense (A–3)			
	10		
	15		
–70	18	NP	23
	14		
	23		
–75	28	NP	20
	16		
	26		
–80	26	NP	20

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 3
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-08
Station 281+25
Offset 2.5' Right
Ground Surface Elev. 631.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 625.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–dense (A–3)
549.5				
	5		102	CLAY LOAM–gray–very dense (A–4/A–6)
	8			
–85	11	2.5B	24	
	10			
	15		108	
	8			
–90	10	1.7B	21	
	6		113	
	8			
–95	12	1.6B	18	
534.5				
				CLAY LOAM–gray–very dense (A–4/A–6)
	30			
	50/5"			
–100		4.5+P	12	

CLAY–gray–stiff to very stiff (A–6)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	50/1"		
–105		4.5+P	11
	23		129
	47		
–110	50/4"	4.6S	11
518.5			
Drillers Observation: Possible Bedrock.			
516.5–	–115		
End Of Boring @ –115.0'			
Hollow Stem Augers To –10.0'			
Rotary Drilling To Completion			
Diedrich Automatic Hammer			
–120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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	CHECKED - WJV	REVISED
PLOT SCALE =	DRAWN - EVS	REVISED
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 26 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	246
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

DATE 6/20/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-14**
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
626.3				Clayey TOPSOIL–dark brown to black
	AS	–	18	
	4			SILTY SAND & CINDERS–black–medium dense (Fill)
	7			
	12	NP	15	
624.0				
	2		*100*	CLAY–brown & gray–very stiff (A–6)
	4			
–5	5	3.0B	25	
621.5				
	2			SANDY LOAM–brown & gray–very loose (A–2)
	1			
	1	NP	18	
619.0				
	1			SANDY LOAM–gray–loose (A–2)
	2			
–10	5	NP	19	
616.5				
	4			SILT–gray–medium dense (A–4)
	5			
	7	NP	24	
614.0				
	3			
	4			
–15	6	1.5P	23	SILTY CLAY LOAM–gray–loose to medium dense (A–4)
	2			
	3			
	4	1.75P	23	
609.0				
	2		*99*	SILTY CLAY–gray–stiff (A–6)
	4			
–20	4	1.0B	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3		*105*	SILTY CLAY–gray–stiff (A–6)
	4			
	9	1.4B	22	
604.0				
	2		*108*	
	3			
–25	8	0.6B	21	SILTY CLAY LOAM–gray–medium stiff (A–4/A–6)
	2		*104*	
	3			
	4	0.7B	23	
599.0				
	1			
	3			
–30	3	1.5P	29	CLAY–gray–stiff (A–6) Wet
	1			
	2			
–35	7	1.0P	25	
590.0				
	5			SAND–gray–medium dense (A–3)
	9			
–40	13	NP	23	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-14**
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense (A–3)
	7			
	8			
–45	13	NP	20	
580.0				
	7			
	5			
–50	6	NP	19	SAND & GRAVEL–gray–medium dense (A–1)
	6			
	5			
–55	5	NP	19	
570.0				
	13			SANDY LOAM–gray–dense (A–2)
	18			
–60	16	NP	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	13			SANDY LOAM–gray–dense (A–2)
	13			
–65	20	NP	25	
560.0				
	10			
	13			
–70	16	NP	20	SAND–gray–medium dense (A–3)
	7			
	8			
–75	13	NP	19	
550.0				
	16			SILT–gray–dense (A–4)
	16			
–80	20	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-14**
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	15			
	14			
–85	17	NP	21	SILT–gray–dense (A–4)
	7			
	14			
–90	17	NP	20	
535.0				
	4		*100*	
	10			
–95	11	1.25B	24	CLAY–gray–stiff to very stiff (A–6)
	5		*109*	
	10			
–100	14	2.8B	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	8			CLAY–gray–stiff to very stiff (A–6)
	26			
–105	27	2.75P	18	
520.0				
	35			
	50/3"			
–110		NP	16	SILTY SAND & GRAVEL–gray–very dense (A–2)
	50/4"			
–115		NP	12	
511.5				
				Drillers Observation: Apparent Bedrock. 511.0
				Silurian System, Niagaran Series Dolomite
				RUN 1 (–116.0' to –126.0')
				Gray & fine grained with horizontal bedding becoming light gray mottled gray & porous @ –122.2'. Horizontal fractures @ –120.2', –120.3', –120.4', –120.9', –121.4', –121.5', –122.0', –122.2', –122.6', –124.0' & –124.5. RUN 1
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 27 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	247
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 4 of 4
DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. BS-14
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued. Recovery=100.0% RQD=93.5%	RUN 1		
-125			
501.0			
Silurian System, Niagaran Series Dolomite RUN 2 (-126.0' to -131.0') Light gray mottled gray & fine grained with horizontal bedding becoming porous @ -130.5'. Horizontal fractures @ -128.2', -129.2', -129.9', -130.0' & -130.4'. Recovery=100.0% RQD=93.5%	RUN 2		
-130			
496.0			
End Of Boring @ -131.0' Hollow Stem Augers To -10.0' Rotary Drilling To Completion CME Automatic Hammer 10' Of 4.0"ø Casing Used 117' Of 3.0"ø Casing Used			
-135			
-140			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-145			
-150			
-155			
-160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 6/20/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-14
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 511.5
Begin Core Elev. 511.0

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (-116.0' to -126.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & porous @ -122.2'. Horizontal fractures @ -120.2', -120.3', -120.4', -120.9', -121.4', -121.5', -122.0', -122.2', -122.6', -124.0' & -124.5'.	1	100.0	93.5	n/a	920 @ -116.0'
-125					
-130					

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

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ROCK CORE LOG

PAGE 2 of 2
DATE 6/20/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash

STRUCT. NO. ---
Station ---
BORING NO. BS-14
Station 278+77
Offset 45.6' Left
Ground Surface Elev. 627.0

CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 511.5
Begin Core Elev. 511.0

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (-126.0' to -131.0') Light gray mottled gray & fine grained with horizontal bedding becoming porous @ -130.5'. Horizontal fractures @ -128.2', -129.2', -129.9', -130.0' & -130.4'.	2	100.0	93.5	n/a	656 @ -128.1'
-131					
-10					

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

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PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 28 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	248
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-15**
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
632.1				SANDY TOPSOIL with Gravel–black (Fill)
	AS	–	14	
	5			
	7			Clayey SAND & CINDERS–dark brown–medium dense (Fill)
630.1	8	–	14	
	3		*101*	SILTY CLAY–dark brown & gray–very stiff (A–6)
–5	5	3.75B	24	
627.6				
	1			SANDY CLAY LOAM–brown & gray–loose (A–4)
	3			
625.1	2	–	19	
	2			SILTY SAND & GRAVEL–brown & gray–loose (A–2)
–10	3 4	NP	20	
622.6				
	3			
	4 6	NP	23	
	5			SILTY LOAM–gray–loose to medium dense (A–4)
–15	4 5	NP	20	
	3			
	4 4	NP	23	
	3			
–20	2 5	NP	25	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
612.6				SILTY LOAM–gray (A–4)
	3		*104*	
	5			
	9	1.5B	23	CLAY–gray–medium stiff to stiff (A–6)
	3		*108*	
–25	7	0.9B	21	
607.6				
	2			SILTY CLAY LOAM–gray–stiff (A–4/A–6)
	3			
605.1	5	1.0P	27	
	2			CLAY–gray–stiff (A–6)
–30	2 3	1.0P	31	
601.1				
	1			SILTY LOAM–gray–loose (A–4)
	2			
–35	5	NP	23	
596.1				
	6			SAND–gray–medium dense (A–3)
	11			
–40	13	NP	17	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-15**
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	6			SAND–gray–medium dense (A–3)
	9			
–45	8	NP	23	
586.1				
	5			
	6			SAND & GRAVEL–gray–medium dense (A–1)
	7			
–55	6	NP	18	
	6			
	10			
–60	10	NP	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
671.1				SAND & GRAVEL–gray–medium dense (A–1)
	5			
	9			
	15			SANDY LOAM–gray–dense (A–2)
	17			
–65	13	NP	22	
566.1				
	13			SAND–gray–medium dense (A–3)
	12			
–70	15	NP	22	
561.1				
	16			SILT–gray–dense (A–4)
	25			
–75	28	NP	20	
556.1				
	14		*106*	SILTY CLAY LOAM–gray–medium dense to dense (A–4)
	14			
–80	16	2.4B	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
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Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. ---
Station ---
BORING NO. **BS-15**
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	9		*111*	SILTY CLAY LOAM–gray–medium dense to dense (A–4)
	12	1.9S@		
–85	16	11.4%	19	
	10			
	13			SILTY CLAY–gray–very stiff (A–6)
	12			
–90	17	–	24	
541.1				
	6		*104*	CLAY–gray–stiff to very stiff (A–6)
	9			
–95	13	3.5B	23	
	6		*109*	
	9			
–100	14	2.7B	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY–gray–stiff to very stiff (A–6)
	11		*110*	
	15			
–105	22	1.1B	20	
526.1				
	7			SILTY CLAY–gray–very stiff (A–6)
	14			
–110	34	3.75P	15	
521.1				
	50/3"			SILTY SAND & GRAVEL–gray–very dense (A–2)
519.1				Drillers Observation: Apparent Bedrock.
518.1–115			NP	15
				Silurian System, Niagaran Series Dolomite RUN 1 (–115.0' to –125.0')
				Gray & fine grained with horizontal bedding becoming lighter gray & slightly porous @ –121.0'. Vertical fracture from –115.1' to –115.5'. Highly fractured from –116.5' to –116.8'. 2.0" clay parting @ –116.8'. Horizontal fractures @ –118.1', –120.1', –120.2', –121.5', –121.6', –122.2', –122.6', –123.4', –123.7' & –124.3'.
–120				RUN 1

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
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NR–No Recovery

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PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 29 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	249
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 4 of 4
DATE 6/20/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --- Station ---
BORING NO. BS-15
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To 10.0'
Upon Completion n/a
After ___ Hrs. ___

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued. Very porous from −123.7' to −125.0'. Recovery=98.0% RQD=74.5%	RUN 1						
508.1 −125				−145			
Silurian System, Niagaran Series Dolomite RUN 2 (−125.0' to −130.0') Light gray mottled gray & fine grained with horizontal bedding.Horizontal fractures @ −125.5', −129.4', −129.7' & −129.9'. Recovery=100.0% RQD=86.0%	RUN 2						
503.1 −130				−150			
End Of Boring @ −130.0 Hollow Stem Augers To −10.0' Rotary Drilling To Completion 116.0' Of 3.0"ø Casing Used 10.0' Of 4.0"ø Casing Used CME Automatic Hammer							
−135				−155			
−140				−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 6/20/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --- Station ---
BORING NO. BS-15
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 519.1
Begin Core Elev. 518.1

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−115.0' to −125.0') Gray & fine grained with horizontal bedding becoming lighter gray & slightly porous @ −121.0'. Vertical fracture from −115.1' to −115.5'. Highly fractured from −116.5' to −116.8'. 2.0" clay parting @ −116.8'. Horizontal fractures @ −118.1', −120.1', −120.2', −121.5', −121.6', −122.2', −122.6', −123.4', −123.7' & −124.3'. Very porous from −123.7' to −125.0'.	1	98.0	74.5	n/a	920 @ −115.8'
−120					
−125					

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

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ROCK CORE LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --- Station ---
BORING NO. BS-15
Station 278+78
Offset 30.6' Right
Ground Surface Elev. 633.1
CORING BARREL TYPE & SIZE NX Double Swivel-5 ft
Core Diameter 2.0 in
Top of Rock Elev. 519.1
Begin Core Elev. 518.1

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (−125.0' to −130.0') Light gray mottled gray & fine grained with horizontal bedding.Horizontal fractures @ −125.5', −129.4', −129.7' & −129.9'.	2	100.0	86.0	n/a	862 @ −125.5'
−130					

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

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PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 30 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	250
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE 1/17/2012
LOGGED BY MD
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1279
Station --
BORING NO. **RW-08**
Station 274+75
Offset 51.5' Left
Ground Surface Elev. 628.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.3
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3.0" ASPHALT, 3.0" CRUSHED STONE 628.3				SILTY CLAY–gray–soft (A–6) Wet 608.3			
	4		98		3		
SILTY CLAY–dark brown & gray–very stiff (A–6)	5	3.2S@		SILTY CLAY LOAM–gray–medium dense (A–4)	4		
625.8	5	14.1%	24	605.8	7	2.0P	19
SANDY LOAM–gray–loose (A–2)	4				5		
▼624.3	4				7		
–5	4	NP	18	–25	5	0.5P	23
SAND–gray–loose (A–3)	2				2		98
	3				3		
	3	NP	17	CLAY–gray–medium stiff to stiff (A–6)	4	1.6B	27
620.8							
SILTY LOAM–gray–medium dense (A–4)	3				2		
	3				3		
–10	7	NP	18	–30	2	0.5P	24
618.3							
SILTY CLAY–gray–stiff to very stiff (A–6)	2						
	3						
	3	1.25P	24				
	3		105		2		
	4				3		
–15	5	2.7B	22	–35	2	0.75P	28
613.3							
	2						
	3			591.8			
	4	0.25P	27				
SILTY CLAY–gray–soft (A–6) Wet				SAND–gray–loose to medium dense (A–3)			
	3				4		
	23				5		
–20	4	0.25P	26	–40	4	NP	21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 2
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1279
Station --
BORING NO. **RW-08**
Station 274+75
Offset 51.5' Left
Ground Surface Elev. 628.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.3
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4			SAND–gray–medium dense (A–3)	7		
SAND–gray–loose to medium dense (A–3)	5				9		
–45	4	NP	20	–65	7	NP	20
	9				9		
	12				11		
–50	12	NP	19	–70	11	NP	18
576.8				556.8			
SANDY LOAM–gray–medium dense (A–2)	8			SILTY LOAM–gray–medium dense (A–4)	9		
	10				12		
–55	11	NP	21	553.8 –75	15	NP	20
571.8				End Of Boring @ –75.0'			
SAND–gray–medium dense (A–3)				Hollow Stem Augers To –10.0'			
				Rotary Drilling To Completion			
	9			10.0' Of 4.0"ø Casing Used			
	15			Diedrich Automatic Hammer			
–60	7	NP	22	–80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE 2/7/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 016-1279
Station --
BORING NO. **RW-10**
Station 275+75
Offset 47.0' Left
Ground Surface Elev. 629.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
3.0" ASPHALT, 5.0" SAND & GRAVEL 628.8				SILTY LOAM–medium dense (A–4) 609.1			
	5				3		
	8				4		
SANDY CLAY–brown–very stiff (A–6)	6	3.5P	13		5	–	20
626.6							
	4		91		4		
SILTY CLAY–brown & gray–medium stiff (A–6) Wet	4				4		
–5	4	0.9B	27	–25	5	–	22
▼623.6							
	1			SILTY CLAY LOAM–gray–loose (A–4)	3		
SANDY LOAM–gray–very loose (A–2)	1				4		
	2	NP	22		4	–	26
621.6							
	3				2		
	5				2		
–10	7	NP	20	–30	3	0.5P	24
SILTY LOAM–gray–medium dense (A–4)	3						
	5						
	6	NP	31				
	3						
	6				3		
	6				3		
–15	7	NP	25	–35	4	1.0P	27
614.1							
	3		106				
SILTY CLAY LOAM–gray–loose (A–4)	4			592.6			
	4	0.5B	22				
611.6							
	2			SAND–gray–medium dense (A–3)	5		
SILTY LOAM–gray–medium dense (A–4)	4				8		
–20	6	1.5P	23	–40	10	NP	23

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 31 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	251
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 2 of 2
DATE 2/7/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 016-1279
Station --
BORING NO. **RW-10**
Station 275+75
Offset 47.0' Left
Ground Surface Elev. 629.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		
	5		
-45	5	NP	16
	6		
	6		
-50	7	NP	23
	10		
	10		
-55	18	NP	25
	10		
	12		
-60	15	NP	22

SAND–gray–medium dense (A–3)

SAND–gray–medium dense (A–3)

562.6

SAND & GRAVEL–gray–dense (A–1)

557.6

SILTY LOAM–gray–dense (A–4)

554.6 -75

End Of Boring @ -75.0
Hollow Stem Augers To -10.0'
Rotary Drilling To Completion
10.0' Of 4.0"ø Casing Used
CME Automatic Hammer

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65	8		
	11		
	15	NP	17
	10		
	16		
-70	23	NP	20
	17		
	23		
-75	27	NP	21
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE 6/11/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-17**
Station 273+60
Offset 34.6' Right
Ground Surface Elev. 630.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	31		
	35		
	30	NP	5
	4		*109*
-5	5	1.6B	19
	5		
	6		
	6	–	18
	4		
-10	7	NP	17
	4		
	5		
	8	2.0P	24
	4		*105*
-15	8	1.4B	22
	4		
	7		
	8	1.5P	22
	5		
-20	7	NP	28

12.0" CONCRETE
629.6

ASPHALT & STONE–very dense (Fill)

627.6

SANDY CLAY LOAM–brown & gray–loose to medium dense (A–2/A–6)

622.6

SANDY LOAM–gray–medium dense (A–2)

620.1

SILTY CLAY LOAM–gray–stiff to very stiff (A–4/A–6)

612.6

SAND–gray–medium dense (A–3)

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	8		
	11		
	13	NP	22
	10		
	13		
-25	16	NP	18
	11		
	13		
	15	NP	20
	9		
-30	10	NP	22
	4		*105*
-35	7	1.1B	23
	9		
	15		
-40	20	NP	18

SAND–gray–medium dense (A–3) 610.1

LOAM–gray–medium dense (A–4)

598.6

SILTY CLAY LOAM–gray–stiff (A–4/A–6)

593.6

SAND–gray–dense (A–3)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

PAGE 2 of 2
DATE 6/11/2012
LOGGED BY JK
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-17**
Station 273+60
Offset 34.6' Right
Ground Surface Elev. 630.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 622.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	4		
	6		
-45	9	NP	17
	11		
	15		
-50	19	NP	19
	11		
	14		
-55	19	NP	20
	12		
	17		
570.6 -60	21	NP	21

SAND–gray–dense (A–3)

588.6

SANDY LOAM–gray–dense (A–2)

End Of Boring @ -60.0'
Hollow Stem Augers To -10.0'
Rotary Drilling To Completion
CME Automatic Hammer

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

Geo Services, Inc.
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SOIL BORING LOG

PAGE 1 of 2
DATE 2/6/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1281
Station --
BORING NO. **RW-18**
Station 274+62
Offset 10.0' Right
Ground Surface Elev. 630.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -15.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				14.0" CONCRETE, 10.0" CRUSHED STONE
628.8				
	50/6"			SILTY CLAY LOAM–gray–stiff (A-4/A-6)
		NP	11	
	2			
	2			SANDY CLAY LOAM–brown & gray–very loose (A-2)
-5	2	0.5P	19	
	1			
	2			
622.8	2	–	18	
	3			SANDY CLAY–gray–medium dense (A-6)
	3			
-10	5	–	21	
620.3				
	2			SILTY SAND & GRAVEL–gray–medium dense (A-2)
	5			
	8	NP	14	
617.8				
	2			CLAY–gray–medium stiff to stiff (A-6)
	4			
-15	5	1.5P	21	
	1		*107*	
	3			
	2	0.6B	21	
	1		*107*	
	4			
-20	4	1.8B	21	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				CLAY–medium stiff to stiff (A-6) 610.3
	3			
	3			
607.8	5	1.5P	24	
	2			SILTY LOAM–gray–loose to medium dense (A-4)
	3			
-25	6	NP	22	
	3			
	6			
602.8	4	NP	22	
	3		*99*	SILTY CLAY–gray–stiff (A-6)
	4			
-30	5	1.6B	26	
	2		*104*	
	3			
-35	4	1.2B	23	
593.8				
	6			SAND–gray–medium dense (A-3)
	17			
-40	18	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 2
DATE 2/6/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1281
Station --
BORING NO. **RW-18**
Station 274+62
Offset 10.0' Right
Ground Surface Elev. 630.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -15.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense (A-3)
	4			
	7			
-45	7	NP	20	
583.8				
	4			SILTY LOAM–gray–loose (A-4)
	3			
-50	3	NP	23	
578.8				
	4			SAND–gray–medium dense (A-3)
	9			
-55	7	NP	22	
573.8				
	4			SILTY CLAY LOAM to SILTY LOAM–gray–medium dense (A-4)
	7			
-60	8	–	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY LOAM to SILTY LOAM–gray–medium dense (A-4)
568.8				
	8			SAND–gray–medium dense (A-3)
	10			
-65	9	NP	23	
563.8				
	12			SAND & GRAVEL–gray–medium dense (A-1)
	11			
-70	16	NP	14	
558.8				
	8			Clayey SAND & GRAVEL–gray–medium dense (A-2)
	9			
555.8 -75	9	–	15	
				End Of Boring @ -75.0'
				Hollow Stem Augers To -15.0'
				Rotary Drilling To Completion
				15.0' Of 4.0"ø Casing Used
				Diedrich Automatic Hammer
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE 2/7/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. 016-1281
Station --
BORING NO. **RW-20**
Station 275+60
Offset 10.5' Right
Ground Surface Elev. 630.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.1
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				3.0" ASPHALT, 5.0" SAND & GRAVEL
629.4				
	4			Clayey TOPSOIL–black
	6			
	8	4.0P	26	
627.1				
	3			SILTY CLAY–dark brown & gray–medium stiff to stiff (A-6) Wet
	2			
-5	2	1.5P	28	
	0			
	0			
	1	0.5P	26	
622.1				
	2			SANDY LOAM–gray–loose (A-2)
	4			
-10	3	NP	16	
619.6				
	3			SILTY CLAY LOAM–gray–medium dense (A-4)
	4			
	6	1.0P	27	
	4			
	5			
-15	7	1.0P	27	
614.6				
	3			SILTY LOAM–gray–loose to medium dense (A-4)
	3			
	4	NP	22	
	2			
	5			
-20	6	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM–loose to medium dense 609.6
	2			
	4			SILTY CLAY –gray–very stiff (A-6)
	4			
	5	2.0P	23	
607.1				
	3			
	5			
-25	4	1.25P	23	
	2			SILTY CLAY LOAM–gray–loose (A-4)
	4			
	5	1.5P	24	
	3			
	4			
-30	5	NP	29	
598.1				
	5			
	7			SAND–gray–medium dense (A-3)
	8	NP	21	
	7			
	12			
-40	15	NP	18	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

V3 Companies of Illinois Ltd.
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

USER NAME =	DESIGNED - EVS	REVISED
	CHECKED - WJV	REVISED
PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 33 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	253
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 2 of 2
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LOGGED BY DR
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. **RW-20**
Station 275+60
Offset 10.5' Right
Ground Surface Elev. 630.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.1
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY LOAM–gray–medium stiff (A–4/A–6) Wet
				568.1
	6			
	9			
–45	11	NP	20	SAND–gray–medium dense (A–3)
	9			
	11			
–50	12	NP	23	
				558.1
	10			SAND & GRAVEL–gray–medium dense (A–1)
	12			
–55	7	NP	23	555.1
				573.1
	3			SILTY CLAY LOAM–gray–medium stiff (A–4/A–6) Wet
	4			
–60	11	NP	32	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY LOAM–gray–medium stiff (A–4/A–6) Wet
				568.1
	9			
	10			
–65	12	NP	22	SAND–gray–medium dense (A–3)
	8			
	8			
–70	9	NP	22	
				558.1
	9			SAND & GRAVEL–gray–medium dense (A–1)
	11			
–75	12	NP	9	555.1
				End Of Boring @ –75.0 Hollow Stem Augers To –10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer
–80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 2
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-37**
Station 277+80
Offset 45.6' Left
Ground Surface Elev. 629.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To –10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	AS	–	10	4.0" SANDY TOPSOIL–black 629.3
	10			CLAY LOAM–dark brown & gray–medium dense (Fill)
	10			
	11	–	13	
				626.7
	6		98	SILTY CLAY–dark brown & gray–hard (A–6)
–5	9	4.1B	23	
				624.2
	2			LOAM–gray–loose to medium dense (A–4)
	2			
	3	NP	17	
	5			
–10	6	NP	22	
	6			
	10			
	7	NP	21	
				616.7
	4			SILTY LOAM–gray–medium dense (A–4)
	5			
–15	5	NP	22	
	3			
	5			
	7	NP	22	
				611.7
	4		106	SILTY CLAY LOAM–gray–stiff to very stiff (A–4/A–6)
	5			
–20	7	0.7B	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY LOAM–gray–stiff to very stiff (A–4/A–6)
	4			
	5			
–25	7	2.5P	21	
	4			
	4			
	6	–	22	
	3		100	
–30	5	0.7B	25	
				597.7
	3			SANDY LOAM–gray–medium dense (A–2)
	4			
–35	10	NP	24	
				592.7
	8			SAND–gray–medium dense to dense (A–3)
	11			
–40	13	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 2
DATE 6/12/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-37**
Station 277+80
Offset 45.6' Left
Ground Surface Elev. 629.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To –10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense to dense (A–3)
	11			
	15			
–45	16	NP	20	
	19			
	25			
579.7 –50	36	NP	21	
				End Of Boring @ –50.0' Hollow Stem Augers To –10.0' Rotary Drilling To Completion CME Automatic Hammer
–55				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
–75				
–80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1279
SHEET NO. 34 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	254
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

DATE 6/12/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. RW-39
Station 277+80
Offset 30.6' Right
Ground Surface Elev. 633.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				3.0" SANDY TOPSOIL-black XX
	AS	–	5	
	6			CRUSHED STONE-medium dense (Fill)
	8			
	11	NP	4	
630.4				
	3			CLAY LOAM-dark brown & black-
	3			stiff (Fill)
-5	3	1.75P	23	
627.9				
	3		24	SILTY CLAY-brown & gray-
	5			very stiff (A-6) Possible Fill
	7	2.0B	29	
625.4				
	2			SANDY CLAY LOAM-brown & gray-
	2			loose to medium dense (A-2/A-4)
-10	2	–	21	Possible Fill
622.9				
	8			SAND-gray-medium dense (A-3)
	9			
	11	NP	22	
620.4				
	4			SANDY LOAM-gray-
	4			medium dense (A-2)
-15	6	NP	15	
617.9				
	3			
	7			
	8	–	25	SILTY CLAY LOAM-gray-
				medium dense (A-4)
	3			
	8			
-20	5	–	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			SILTY CLAY LOAM-gray-
	7			medium dense (A-4)
	8	3.0P	18	
610.4				
	4		108	SILTY CLAY-gray-very stiff (A-6)
	8			
-25	11	3.3B	21	
607.9				
	4			
	5			
	10	1.25P	19	SILTY CLAY LOAM-gray-
				stiff (A-4/A-6)
	2			
	4			
-30	6	1.25P	30	
601.4				
	4			
	6			SILTY LOAM-gray-
-35	7	NP	20	medium dense (A-4)
596.4				
	7			SANDY LOAM-gray-
	10			medium dense (A-2)
-40	15	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

DATE 6/12/2012
LOGGED BY JK
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. RW-39
Station 277+80
Offset 30.6' Right
Ground Surface Elev. 633.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SANDY LOAM-gray-
				medium dense (A-2)
591.4				
	9			
	10			
-45	14	NP	18	
				SAND-gray-medium dense (A-3)
	9			
	11			
583.4 -50	11	NP	18	
				End Of Boring @ -50.0'
				Hollow Stem Augers To -10.0'
				Rotary Drilling To Completion
				CME Automatic Hammer
-55				
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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630.724.9202 fax
www.v3co.com

USER NAME =	DESIGNED - EVS	REVISED
	CHECKED - WJV	REVISED
PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1279
SHEET NO. 35 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	255
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

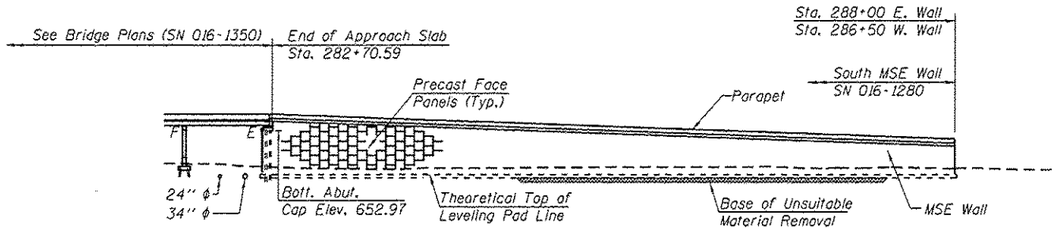
Bench Mark:

BM #3 - Cut square in N.E. corner of large utility structure S. of the N. set of R.R. tracks (Norfolk Southern Railroad) and near the E. R.O.W. line of U.S. Rt. 30 Sta. 278+54.41, 71.23' Lt., Elev. 631.16

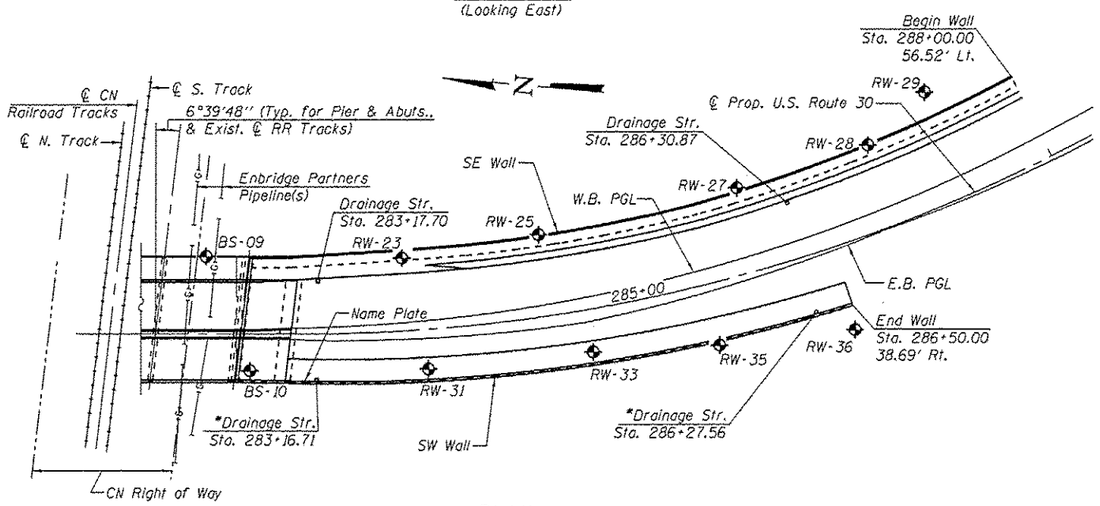
BM #103 - Cut square at corner of traffic manhole on E. side of U.S. Rt. 30 and E. line of Sauk Trail Sta. 291+34.10, 39.95' Lt., Elev. 633.67

Existing Structure: None

Stage traffic to be maintained along existing US 30. See Roadway Plans for maintenance of traffic.



ELEVATION
(Looking East)



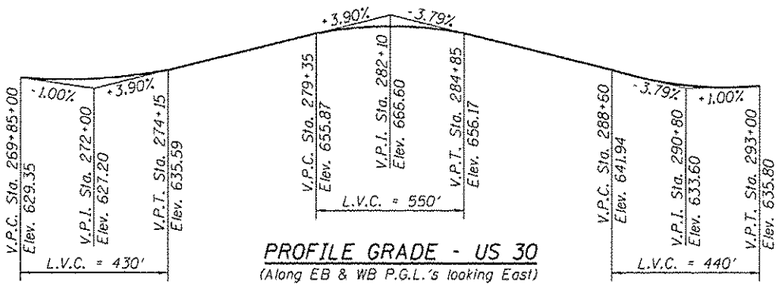
PLAN

*See Sheet 10 of 25 for Drainage Structure Details

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

℄ US RTE. 30, EB PGL AND WB PGL STATIONS AND ELEVATIONS TABLE FOR ADJACENT BRIDGE (SN 016-1350)

Longitudinal / Transverse	℄ US Rte. 30 Station	℄ US Rte. 30 Elev.	EB PGL Station	EB PGL Elev.	WB PGL Station	WB PGL Elev.
Bk. of N. Abut.	281+39.93	660.99	281+39.58	660.93	281+40.28	660.93
℄ Brg. N. Abut.	281+42.89	661.02	281+42.54	660.96	281+43.24	660.96
℄ Pier	282+14.97	661.38	282+14.62	661.31	282+15.32	661.31
℄ Brg. S .Abut.	282+68.14	661.17	282+67.79	661.11	282+68.49	661.11
Bk. of S. Abut.	282+71.09	661.15	282+70.74	661.09	282+71.44	661.08



PROFILE GRADE - US 30
(Along EB & WB P.G.L.'s looking East)

CURVE #2 DATA
℄/℄ Prop. U.S. Route 30)
Δ = 76°-29'-05"
D = 5°-30'-33"
T = 819.64'
L = 1388.30'
E = 284.17'
R = 1040.00'
S.E. = Normal Crown
P.C. = Sta. 283+10.09
P.T. = Sta. 296+98.39
P.I. = Sta. 291+29.73

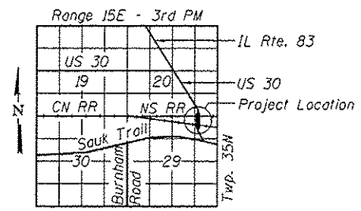
LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

DESIGN SPECIFICATIONS
AASHTO LRFD Bridge Design Specifications, 6th Edition.

DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
f'c = 4,500 psi (Precast Panels)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.093g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.152g
Soil Site Class = D

STATE OF ILLINOIS
WILLIAM J. VEGRZYN
4983
HANOVER PARK, IL
LICENSED STRUCTURAL ENGINEER
Expires 11-30-14
8/12/2013



LOCATION SKETCH

GENERAL PLAN & ELEVATION
SOUTH MSE WALLS
F.A.P. RTE. 353 - SEC. 11-Y-A
COOK COUNTY
STATION 282+60.94 TO 288+00
STRUCTURE NO. 016-1280

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DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	256
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Reinforcement Bars designated (E) shall be epoxy coated.

See Special Provisions for Mechanically Stabilized Earth Retaining Wall design and construction requirements.

The gradations and capping of the Aggregate Subgrade Improvement used to replace the unsuitable material shall be approved by the Engineer.

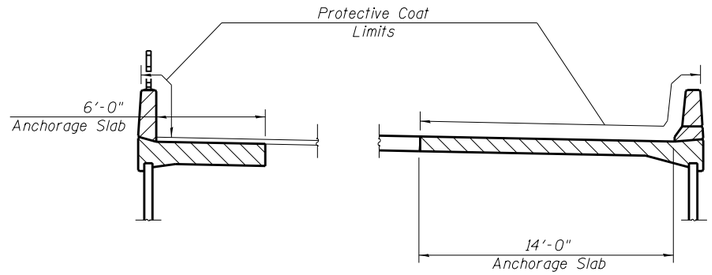
M.S.E. wall supplier to provide internal stability design for load transfer system to accomodate the posts for the traffic barrier terminals at the north end of the southeast wall. See Roadway Plans for exact location of traffic barrier terminals and IDOT Highway Standards 630301-06 and 631031-11 for details. Coordinate with Contractor installing the traffic barrier terminals. Cost included with Mechanically Stabilized Earth Retaining Wall.

Slipforming of the parapets is not allowed.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	23,581
Structure Excavation	Cu. Yd.	3,763
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	4,538
Aggregate Subgrade Improvement	Cu. Yd.	4,538
Concrete Structures	Cu. Yd.	359.6
Concrete Superstructure	Cu. Yd.	83.3
Protective Coat	Sq. Yd.	1,237
Reinforcement Bars, Epoxy Coated	Pound	63,340
Parapet Railing	Foot	499
Name Plates	Each	1
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	3,517
Porous Granular Embankment	Cu. Yd.	21,976

INDEX OF SHEETS



PROTECTIVE COAT LIMITS
SOUTH WALL

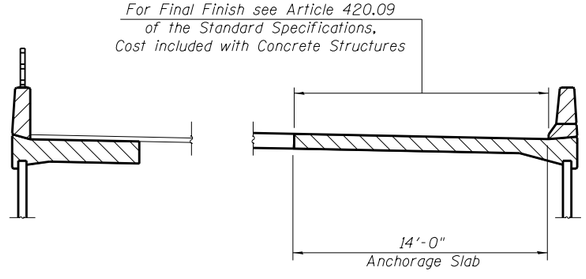
ANCHORAGE SLAB
PAY ITEM LEGEND

Paid as Concrete Superstructure

Paid as Concrete Structures

STATION 282+60.94
-288+00.00
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 353 SEC. 11-Y-A
LOADING HL-93
STRUCTURE NO. 016-1280

NAME PLATE
See Std. 515001



FINAL FINISH LIMITS
SOUTH WALL

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DEPARTMENT OF TRANSPORTATION

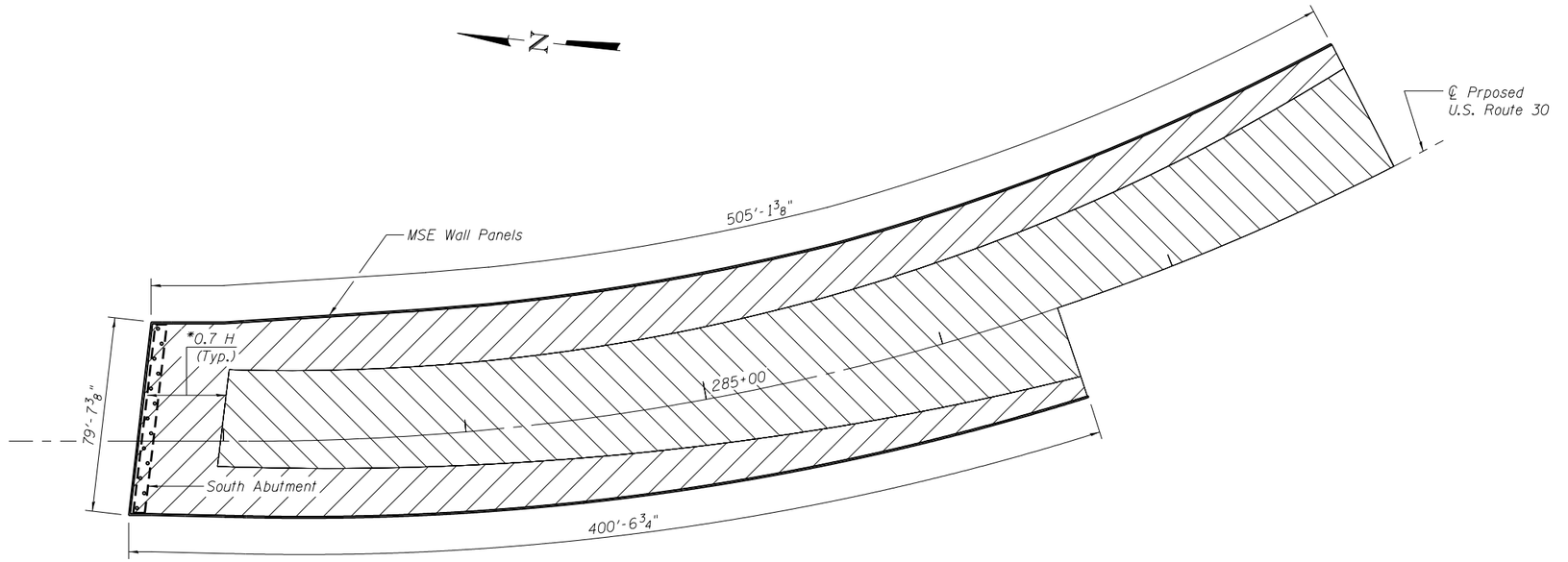
GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 016-1280
SHEET NO. 2 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	257
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

LEGEND

*** Porous Granular Embankment

** Select Fill with Soil Reinforcement



PLAN

* Assumed length, to be determined by MSE Wall Supplier.

** Cost included with Mechanically Stabilized Earth Retaining Walls, see Special Provisions.

*** At Contractor's choice, Select Fill may be substituted for Porous Granular Embankment at no additional cost.

**** Based on Hy-Span section. May vary depending on manufacturer's specifications.

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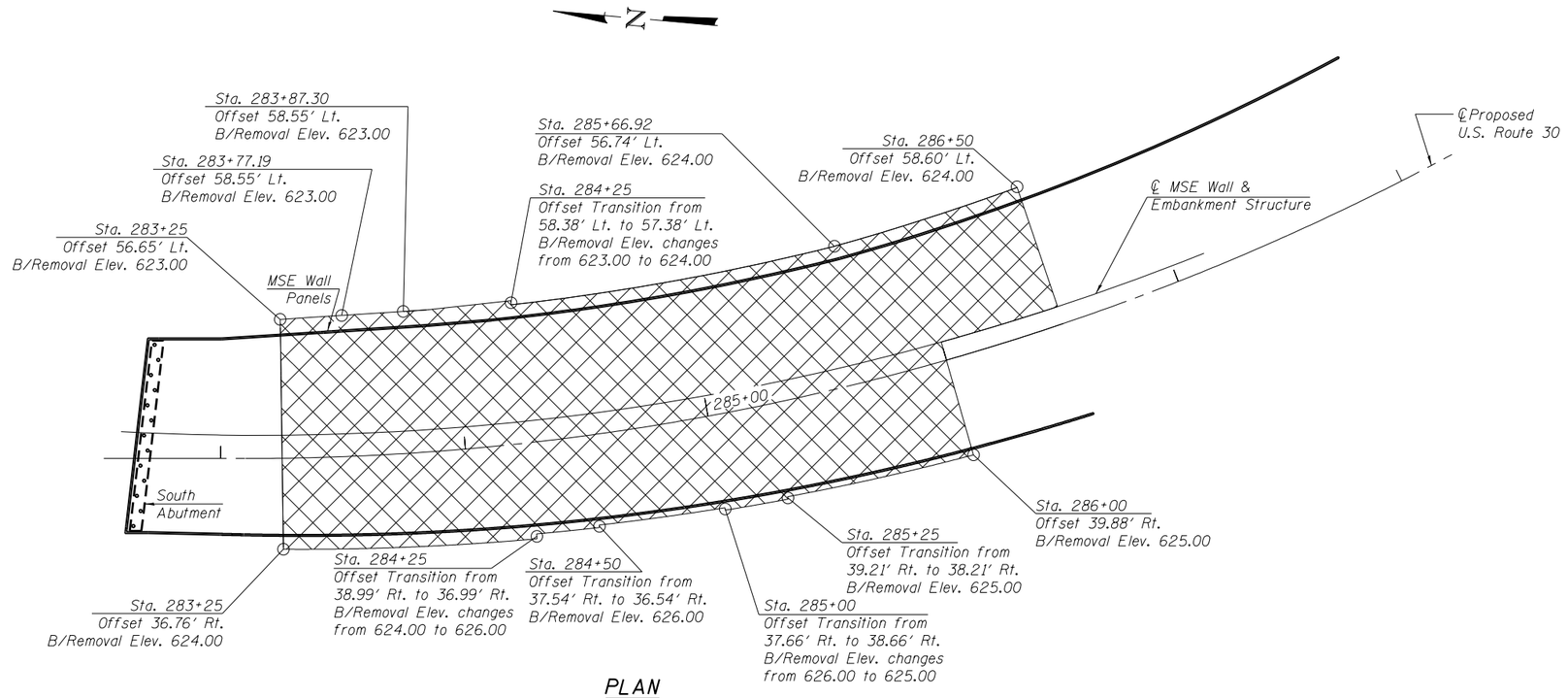
DEPARTMENT OF TRANSPORTATION

MSE RETAINING WALLS GENERAL LAYOUT
STRUCTURE NO. 016-1280
SHEET NO. 3 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	258
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures. Backfill with Aggregate Subgrade Improvement.



PLAN

Notes:

The limits and quantities of removal and replacement of unsuitable material for structures shown are based on the boring data and may be modified by the Engineer for variable subsurface conditions encountered in the field.

See Sheet 8 of 25 for cross section limits of Removal and Disposal of Unsuitable Material for Structures and placement of Aggregate Subgrade Improvement.

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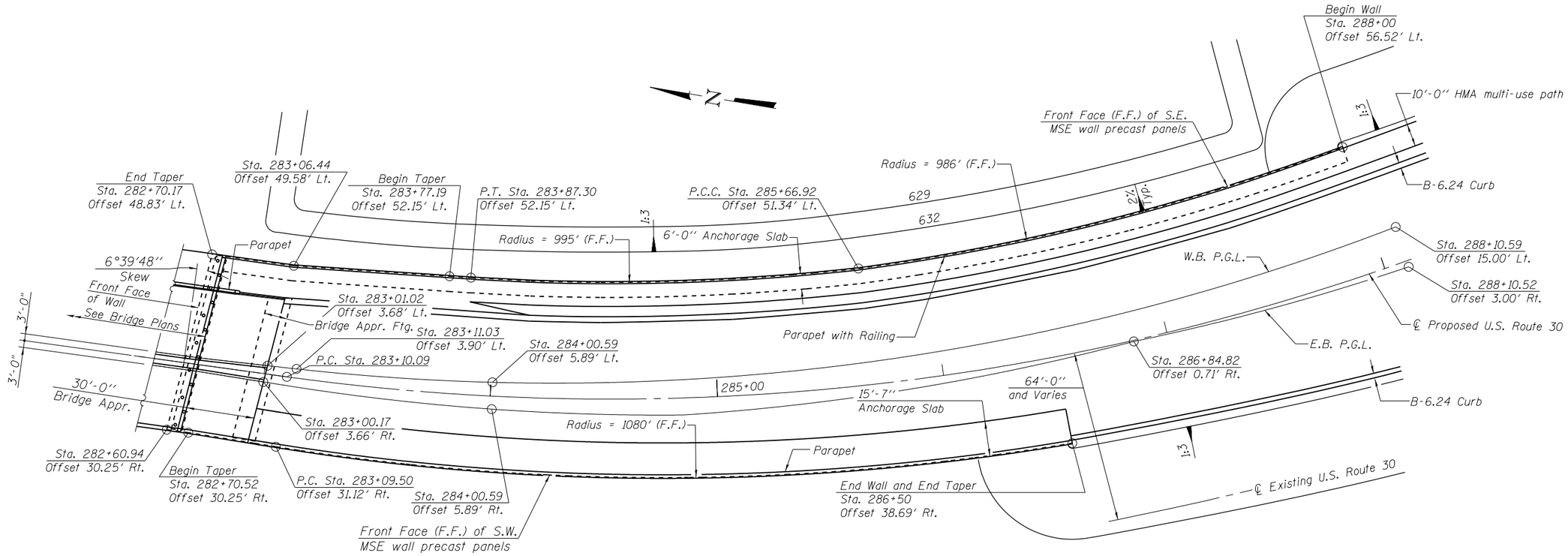
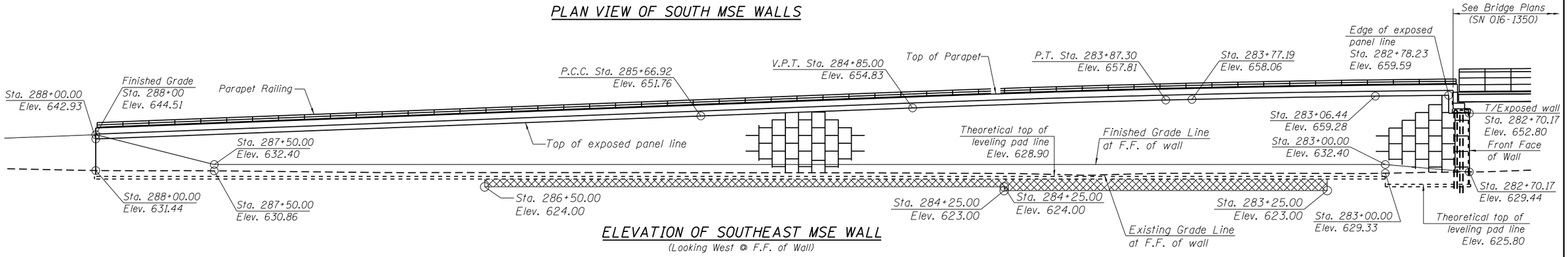
UNSUITABLE MATERIAL REMOVAL AND BACKFILL LAYOUT
STRUCTURE NO. 016-1280
SHEET NO. 4 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	259
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



PLAN VIEW OF SOUTH MSE WALLS



ELEVATION OF SOUTHEAST MSE WALL

(Looking West @ F.F. of Wall)

LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures, Backfill with Aggregate Subgrade Improvement.

Notes:

See Sheet 9 of 25 for additional Wall Elevations

Wall offsets are measured from the ℄ Proposed U.S. Route 30 to the front face (F.F.) of precast panels.

Neither the concrete coping at the top of the wall, approach slabs, nor approach roadway pavements or bike paths, shall be constructed until after the roadway embankment and reinforced select fill have been in place for 6 months, after which time less than 1" of the total anticipated 2½" of settlement is assumed to remain, without prior approval of the Engineer. The MSE wall supplier is alerted to the fact that 2½" of settlement are anticipated from Stations 282+60 to Sta 283+25, and the MSE wall supplier shall take appropriate measures to accommodate this settlement in the wall design.

Settlement Platforms shall be installed per Art 204.06 in order to monitor the settlement. The settlement period may be shortened at the discretion of the Engineer if the monitoring data indicates a lesser than predicted settlement.

M.S.E. supplier to provide internal stability design for load transfer system to accomodate drainage piping and drainage structures.

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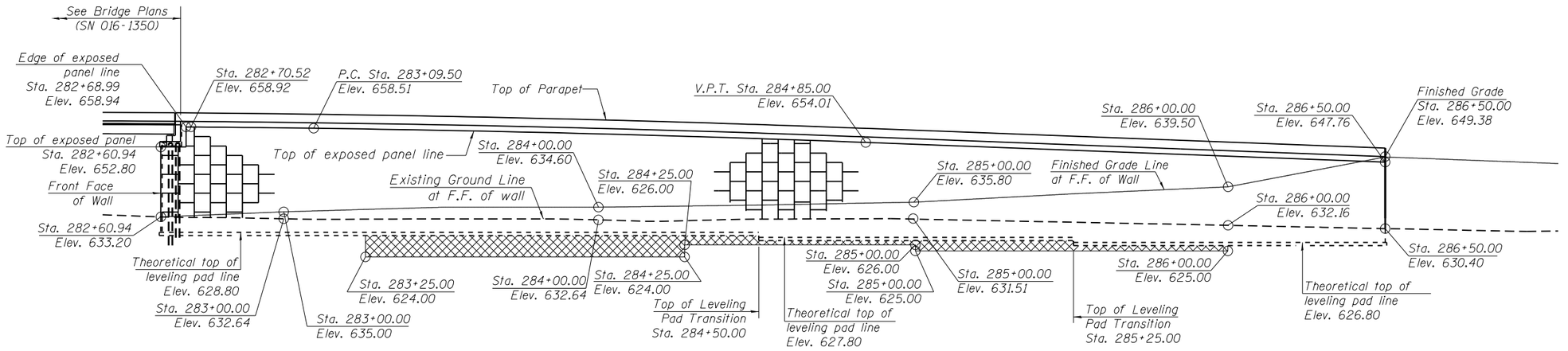
MSE WALL PLAN & ELEVATION
STRUCTURE NO. 016-1280
SHEET NO. 5 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	260
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

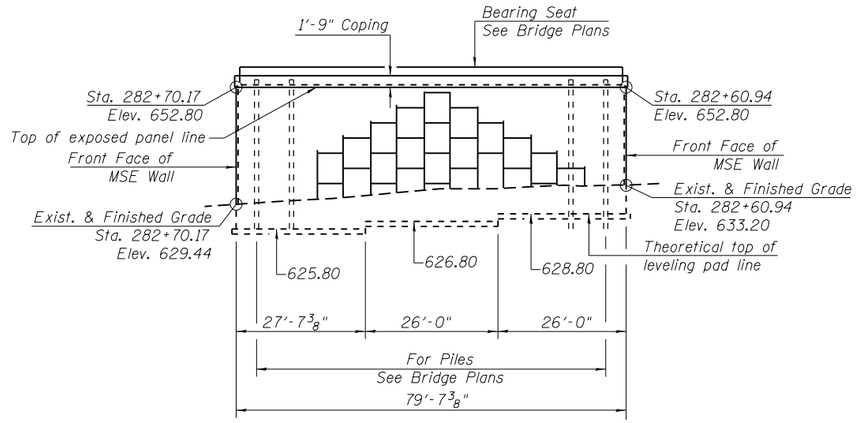


ELEVATION OF SOUTHWEST MSE WALL

(Looking East @ F.F. of Wall)

LEGEND

Limits of Removal and Disposal of Unsuitable Material for Structures. Backfill with Aggregate Subgrade Improvement.



NORTH WALL ELEVATION AT SOUTH ABUTMENT

(Looking South @ F.F. of Wall)

Notes:
See Notes on Sheet 5 of 25.

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DEPARTMENT OF TRANSPORTATION

MSE WALL ELEVATIONS
STRUCTURE NO. 016-1280
SHEET NO. 6 OF 25 SHEETS

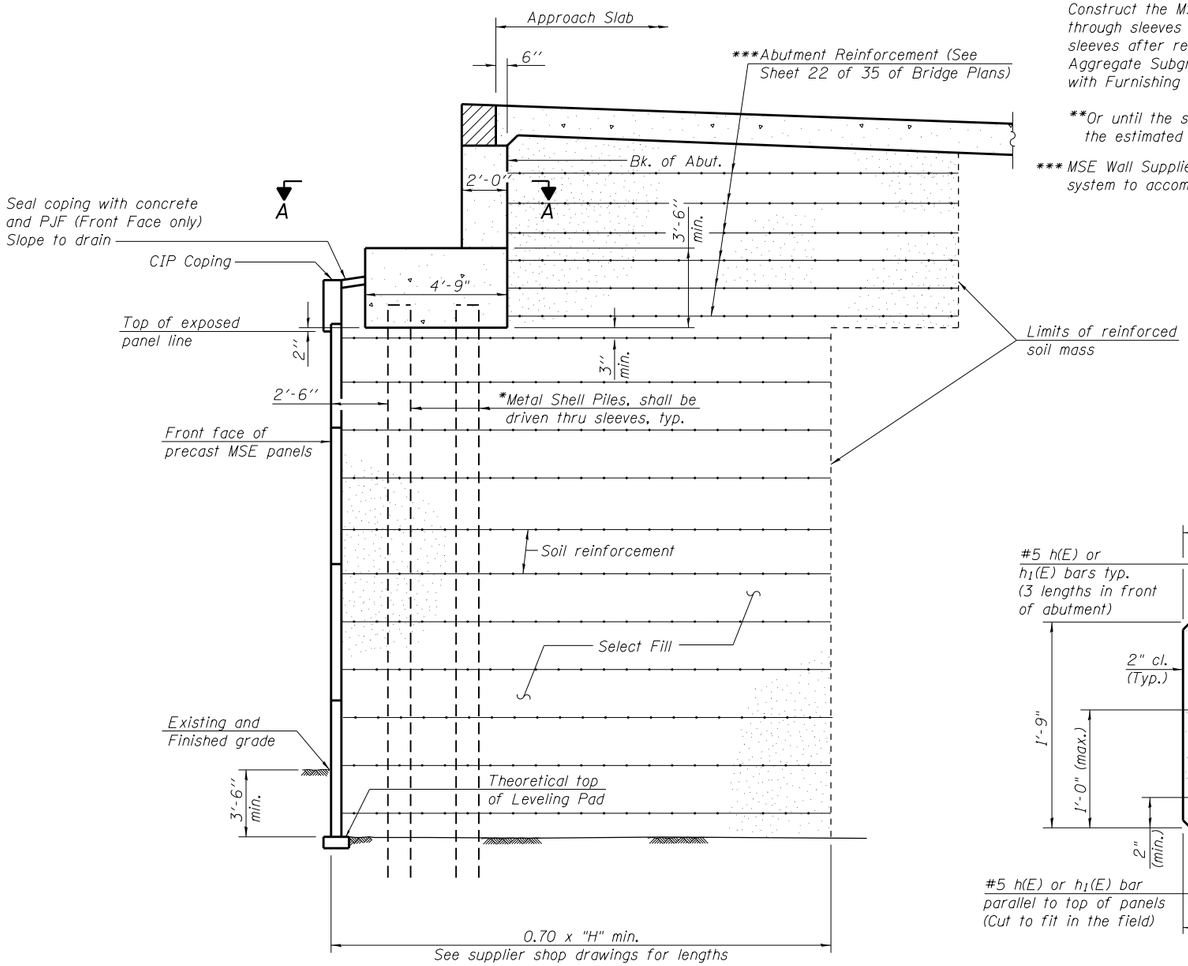
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	261
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

* In order to alleviate downdrag on the piles, the Contractor shall:

Construct the MSE walls first, wait **6 months, and then drive piles through sleeves that were placed before MSE wall construction. Place sleeves after removal of unsuitable material and before backfilling with Aggregate Subgrade Improvement where this is necessary. Cost included with Furnishing Metal Shell Piles, 14'' ϕ x 0.25''.

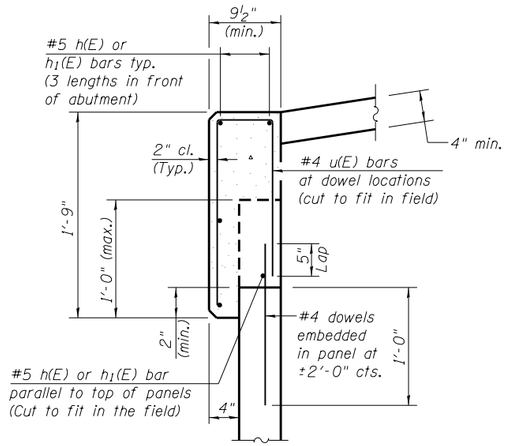
**Or until the settlement platforms for the MSE walls indicate that 1.6'' of the estimated 2.0'' of settlement has occurred at the abutment.

*** MSE Wall Supplier to provide internal stability design for load transfer system to accomodate horizontal forces from abutment

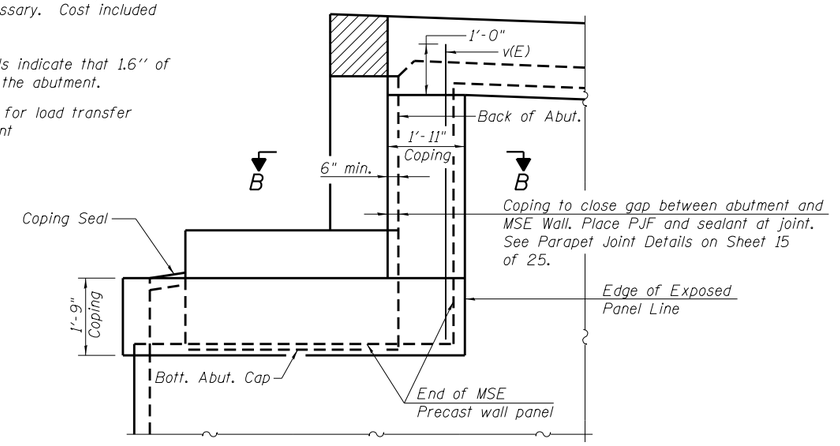


TYPICAL SECTION THRU ABUTMENT

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

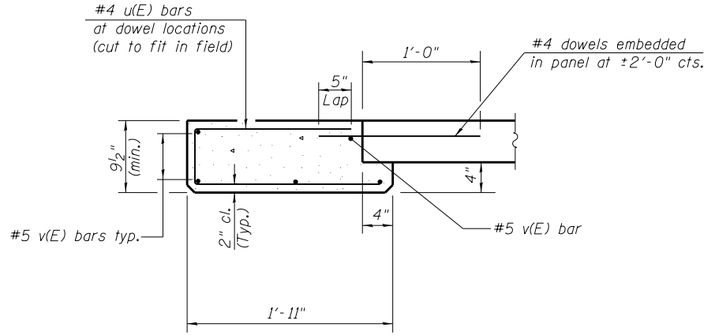


TYPICAL SECTION THRU ABUTMENT COPING

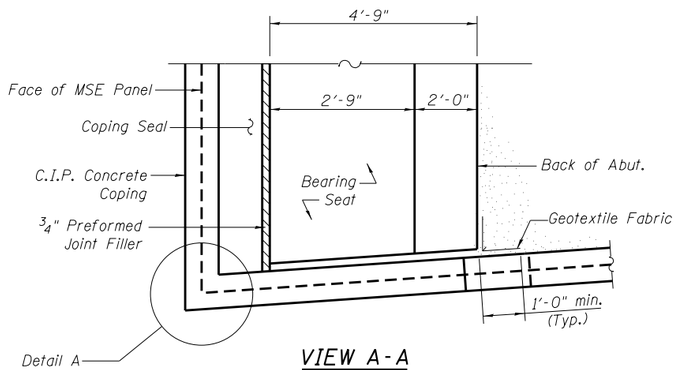


COPING AT SIDE OF ABUTMENT

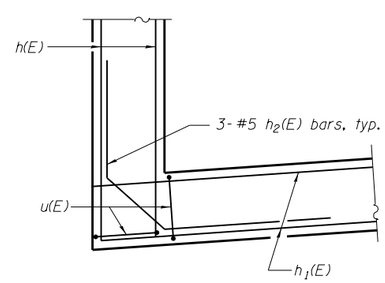
Reinforcement on Vertical Coping similar to Coping on Front Face of Abutment



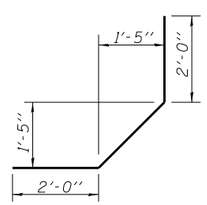
SECTION B-B



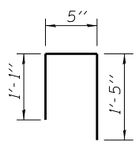
VIEW A-A



DETAIL A



BAR $h_2(E)$



BAR u(E)

MIN. BAR LAP

#5 Bars = 2'-7''

***BAR LIST FOR WALL COPING AROUND ABUTMENTS

Bar	No.	Size	Length	Shape	
h(E)	15	#5	28'-4"	——	Front of Abuts.
h1(E)	10	#5	8'-0"	——	Side of Abuts.
h2(E)	6	#5	6'-0''	⌜	
v(E)	10	#5	7'-8"	——	Cut to fit as req'd
u(E)	56	#4	2'-11''	⊓	

***For information only

Notes:

The cost of coping seal, cast-in-place concrete coping, reinforcement bars and dowel bars for the coping around the abutments will be included with bid pay item "Mechanically Stabilized Earth Retaining Wall". The Contractor may substitute a precast coping at their own expense, the details of which must be included in the shop plans and approved by the Engineer.

Contractor shall contact the MSE wall supplier to verify that added crane/pile driving equipment loading on top of MSE wall is acceptable should the contractor choose to drive piles from the top of the MSE walls.

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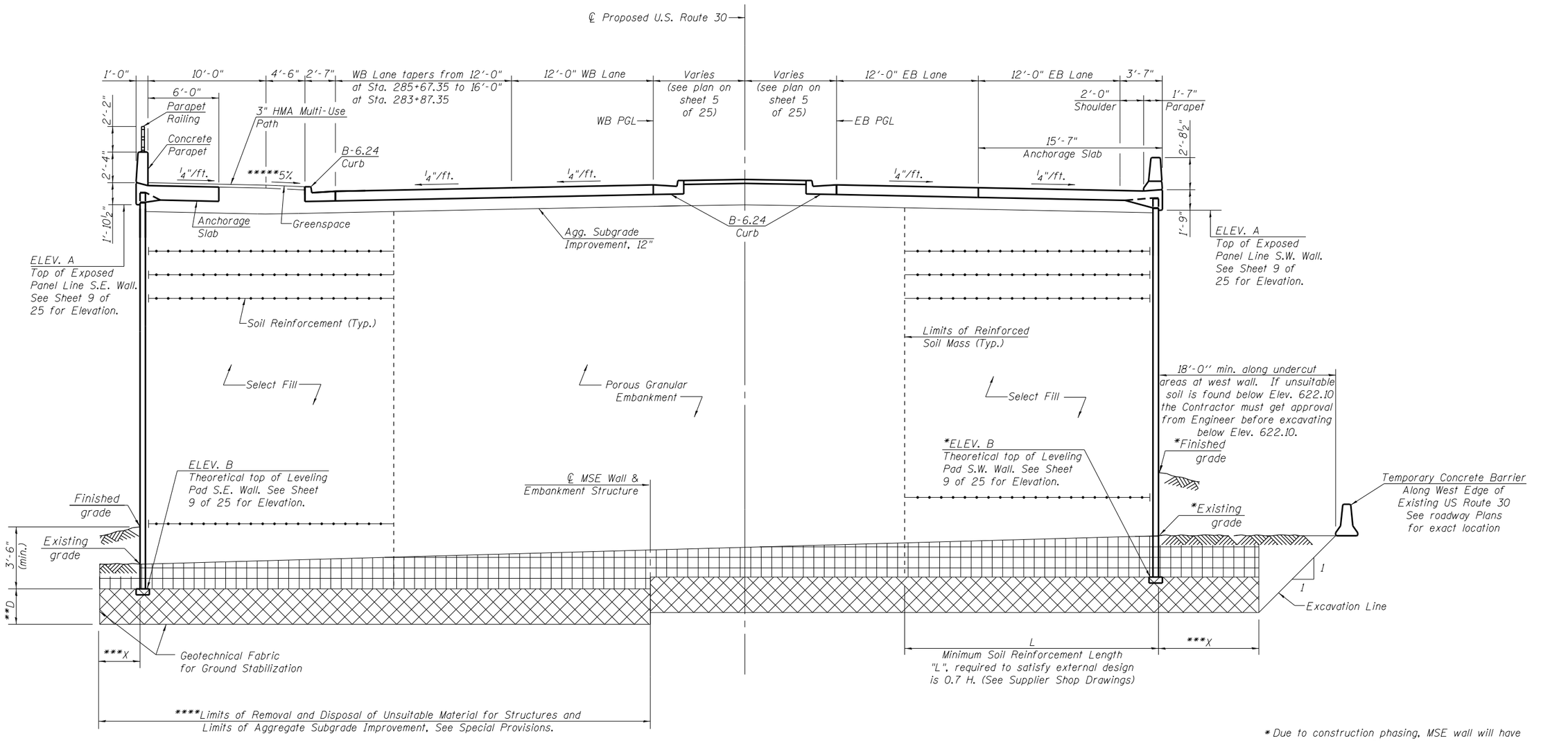
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS AT ABUTMENTS
STRUCTURE NO. 016-1280
SHEET NO. 7 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	262
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



TYPICAL SECTION THRU SOUTH WALLS

(Looking South)

Notes:

See Sheets 5 and 6 of 25 for Plan and Elevations of Walls.

The limits of Porous Granular Embankment is based on the Select Fill limits, extending 0.7 x height of wall behind the wall face. These quantities may be adjusted in the field according to actual wall design and select granular material quantities.

The Contractor may substitute Select Fill for Porous Granular Embankment at no additional cost.

See Sheet 11 thru 14 of 25 for Anchorage Slab and Parapet Details

See Sheet 9 of 25 for Elev. A and Elev. B.

LEGEND

Limits of Structure Excavation

Limits of Removal and Disposal of Unsuitable Material for Structures, Backfill with Aggregrate Subgrade Improvement

* Due to construction phasing, MSE wall will have to be constructed 3'-6" below lowest elevation of existing ground within wall limits. Embankment to be placed against wall to existing elevations during stage traffic phasing. See Civil drawings and Cross Sections for finished grade elevations.

** See Sheets 5 and 6 of 25 for longitudinal limits and depth of Removal and Disposal of Unsuitable Material for Structures.

*** Distance "X" is equal to the Removal Depth "D" plus an additional 6".

**** Final limits of Removal and Disposal of Unsuitable Material for Structures shall be determined by the Engineer. For additional information, see Sheet 4 of 25.

At wall locations where there is not any Removal and Disposal of Unsuitable Materials for Structures, follow Section 502.12(b) of the Standard Specifications for limits of Structure Excavation.

***** Cross Slope in green space varies when transitioning from barrier curb to depressed curb. See Roadway Plans.

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SOUTH MSE WALL CROSS SECTION
STRUCTURE NO. 016-1280
SHEET NO. 8 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	263
		CONTRACT NO. 60R19		
ILLINOIS	FED. AID PROJECT			

SOUTHEAST WALL ELEVATIONS

STATION	E. & W. PGL ELEV.	ELEV. A TOP OF EXPOSED PANEL LINE	ELEV. OF FINISHED GRADE	ELEV. B TOP OF LEVELING PAD	H (FT.)
282+70.17	661.09	652.80	629.44	625.80	27.00
282+78.23	661.03	659.63	630.26	625.80	33.83
283+00.00	660.80	659.41	632.40	628.90	30.50
283+06.44	660.72	659.33	↓	↓	30.42
283+25.00	660.45	659.07	↓	↓	30.16
283+50.00	660.02	658.61	↓	↓	29.72
283+75.00	659.50	658.11	↓	↓	29.21
283+77.19	659.45	658.06	↓	↓	29.16
283+87.30	659.21	657.81	↓	↓	28.92
284+00.00	658.89	657.48	↓	↓	28.60
284+25.00	658.20	656.83	↓	↓	27.92
284+50.00	657.42	656.05	↓	↓	27.15
284+75.00	656.55	655.20	↓	↓	26.29
284+85.00	656.18	654.83	↓	↓	25.92
285+00.00	655.61	654.27	↓	↓	25.36
285+25.00	654.66	653.34	↓	↓	24.43
285+50.00	653.71	652.40	↓	↓	23.49
285+66.92	653.08	651.76	↓	↓	22.87
285+75.00	652.77	651.46	↓	↓	22.55
286+00.00	651.82	650.51	↓	↓	21.61
286+25.00	650.87	649.57	↓	↓	20.66
286+50.00	649.92	648.62	↓	↓	19.71
286+75.00	648.98	647.67	↓	↓	18.76
287+00.00	648.03	646.72	↓	↓	17.82
287+25.00	647.08	645.78	↓	↓	16.87
287+50.00	646.13	644.83	632.40	↓	15.92
287+75.00	645.19	643.88	638.46	↓	14.97
288+00.00	644.24	642.93	644.51	628.90	14.03

SOUTHWEST WALL ELEVATIONS

STATION	E. & W. PGL ELEV.	ELEV. A TOP OF EXPOSED PANEL LINE	ELEV. OF EXIST. GRADE	ELEV. B TOP OF LEVELING PAD	H (FT.)
282+60.94	661.16	652.80	633.20	628.80	24.00
282+68.99	661.10	658.94	633.03	↓	30.14
282+70.52	6661.09	658.92	632.99	↓	30.12
282+75.00	661.05	658.89	632.84	↓	30.09
283+00.00	660.80	658.63	632.64	↓	29.83
283+09.50	660.68	658.51	632.61	↓	29.71
283+25.00	660.45	658.29	632.56	↓	29.49
283+50.00	660.02	657.85	632.47	↓	29.05
283+75.00	659.50	657.33	632.51	↓	28.53
284+00.00	658.89	656.73	632.64	↓	27.93
284+25.00	658.20	656.03	632.36	↓	27.23
284+50.00	657.42	655.25	632.00	627.80	27.45
284+75.00	656.55	654.38	631.78	↓	26.58
284+85.00	656.18	654.01	631.70	↓	26.21
285+00.00	655.61	653.44	631.51	↓	25.64
285+25.00	654.66	652.49	631.11	626.80	24.69
285+50.00	653.71	651.55	630.94	↓	24.75
285+75.00	652.77	650.60	630.79	↓	23.80
286+00.00	651.82	649.65	630.62	↓	22.85
286+25.00	650.87	648.70	630.49	↓	21.90
286+50.00	649.92	647.76	630.40	↓	20.96

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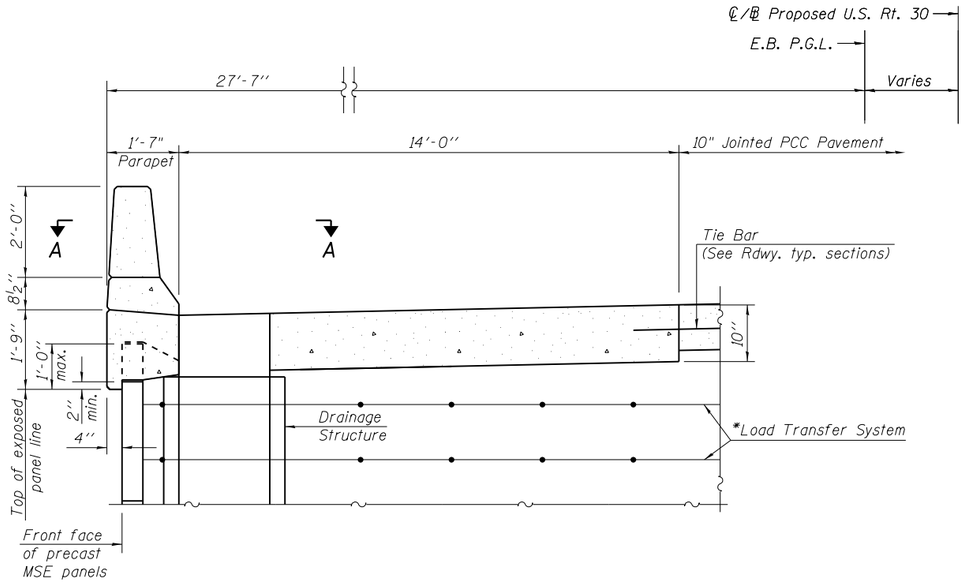
DEPARTMENT OF TRANSPORTATION

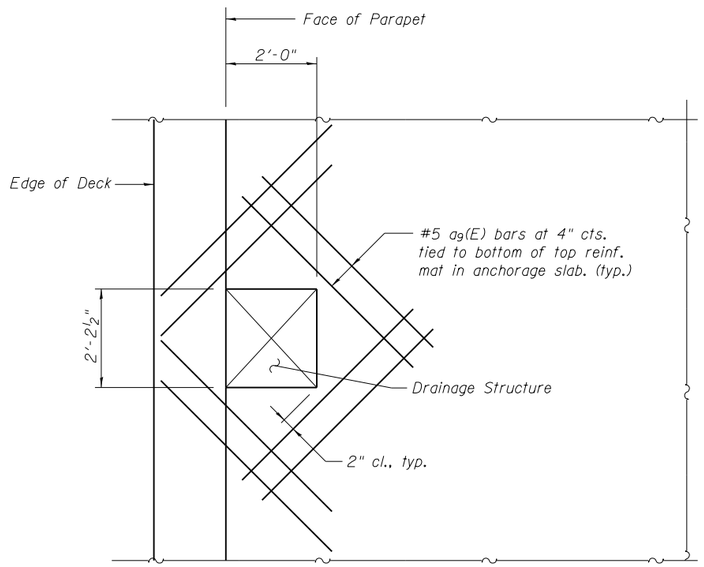
MSE WALL CROSS SECTION TABLES
STRUCTURE NO. 016-1280
SHEET NO. 9 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	264
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



SECTION THRU DRAINAGE STRUCTURES IN SOUTHWEST ANCHORAGE SLABS

(2 Total)



SECTION A-A

Shift transverse reinforcement and cut longitudinal reinforcement in anchorage slab to clear drainage structures.

*M.S.E. Wall supplier to provide internal stability design for load transfer system to accomodate drainage structures and pipes.

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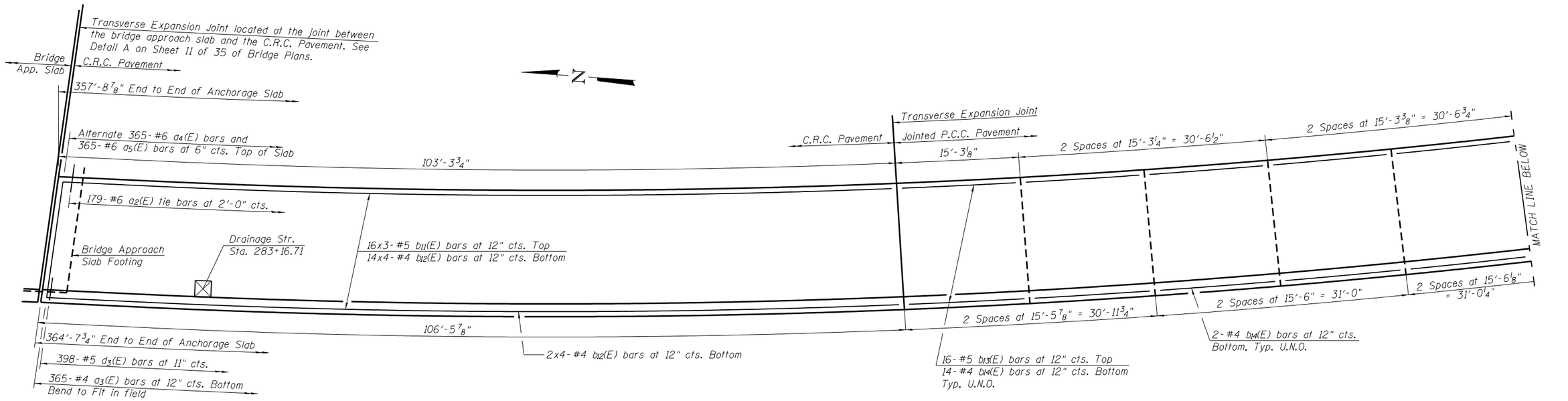
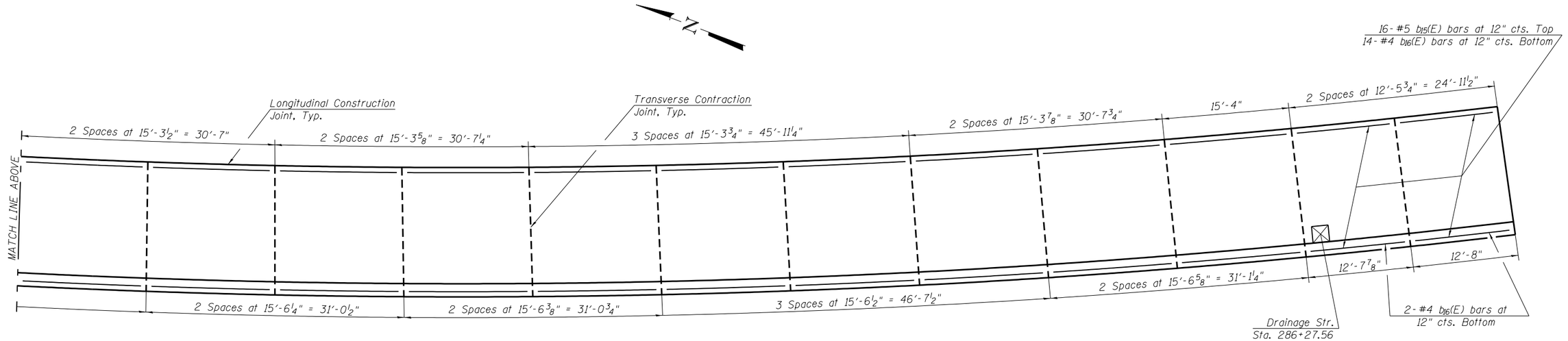
DRAINAGE STRUCTURES DETAILS
STRUCTURE NO. 016-1280
SHEET NO. 10 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	265
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			





SOUTHWEST ANCHORAGE SLAB PLAN

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

Notes:
See Sheet 12 of 25 for Section Thru Southwest Parapet and Anchorage Slab, Bar Details, and Bill of Material.
See Sheet 15 of 25 for Joint Details.
See Sheet 10 of 25 for Drainage Structure Details.

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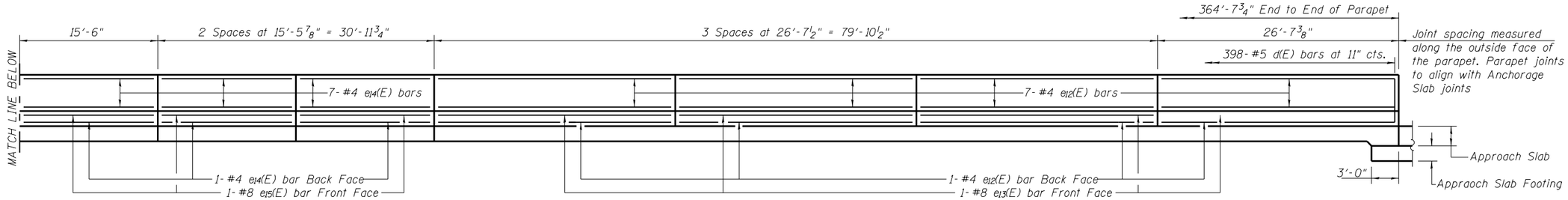
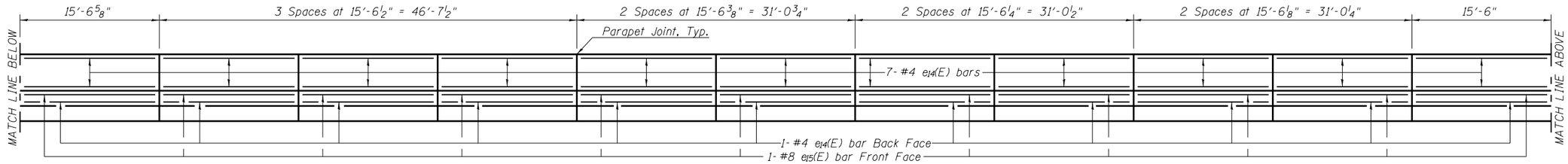
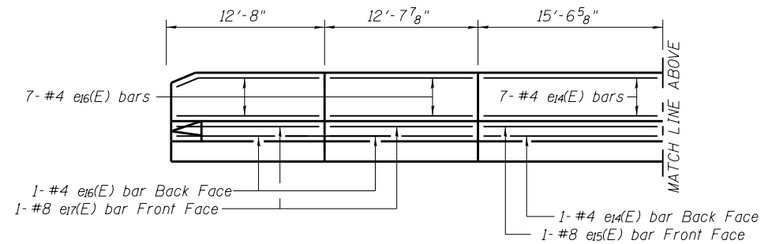
SOUTHWEST MSE WALL ANCHORAGE SLAB
STRUCTURE NO. 016-1280
SHEET NO. 11 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	266
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

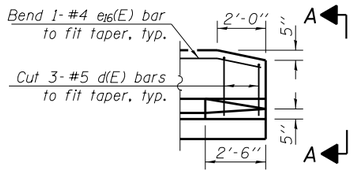




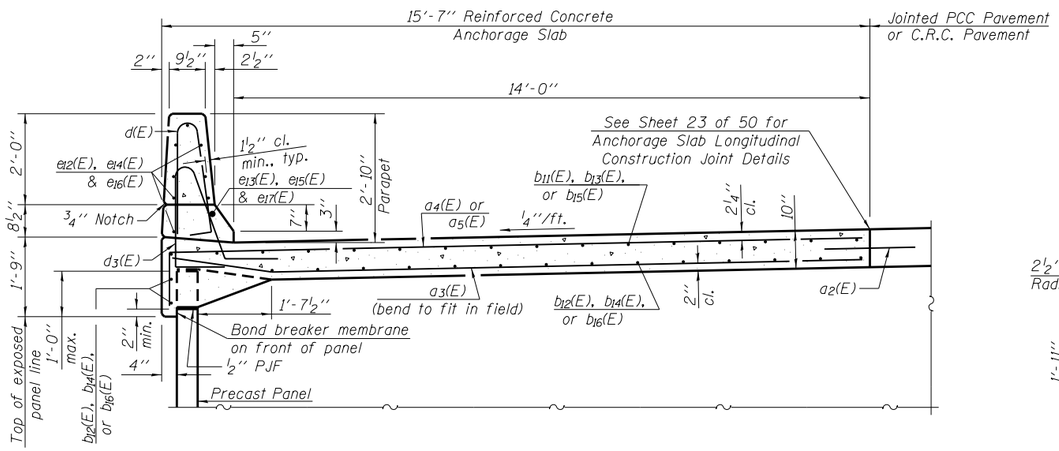


SOUTHWEST PARAPET ELEVATION

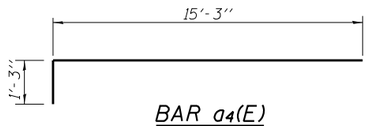
(Looking West)



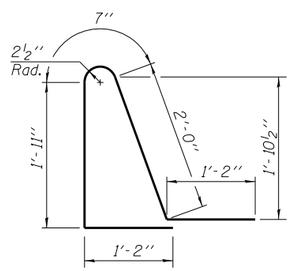
TYPICAL END SECTION



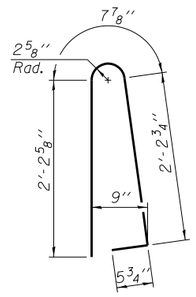
SECTION THRU SOUTHWEST PARAPET AND ANCHORAGE SLAB



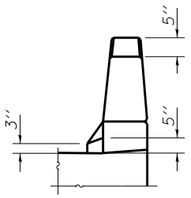
BAR a4(E)



BAR d3(E)



BAR d(E)



VIEW A-A

SOUTHWEST ANCHORAGE SLAB AND PARAPET BILL OF MATERIAL

	Bar	No.	Size	Length	Shape
*	a2(E)	179	#6	2'-6"	
	a3(E)	365	#4	15'-3"	
	a4(E)	365	#6	16'-6"	
	a5(E)	365	#6	15'-3"	
	a9(E)	16	#5	4'-0"	
	b11(E)	48	#5	37'-2"	
	b12(E)	64	#4	28'-2"	
	b13(E)	240	#5	15'-0"	
	b14(E)	240	#4	15'-0"	
	b15(E)	32	#5	12'-3"	
	b16(E)	32	#4	12'-3"	
	d(E)	398	#5	5'-7"	
	d3(E)	398	#5	6'-10"	
	e12(E)	32	#4	26'-4"	
	e13(E)	4	#8	26'-4"	
	e14(E)	120	#4	15'-3"	
	e15(E)	15	#8	15'-3"	
	e16(E)	16	#4	12'-5"	
	e17(E)	2	#8	12'-5"	
	Reinforcement Bars, Epoxy Coated			Pound	39,120
	Concrete Superstructure			Cu. Yds.	41.3
	Concrete Structures			Cu. Yds.	186.9

*Weight not included in Reinf. Bars, Epoxy Coated. Cost included with PCC Pav't, 10" (Jointed) and Bridge CRC Pav't. See Roadway drawings.

Notes:
See Sheet 15 of 25 for Joint Details.

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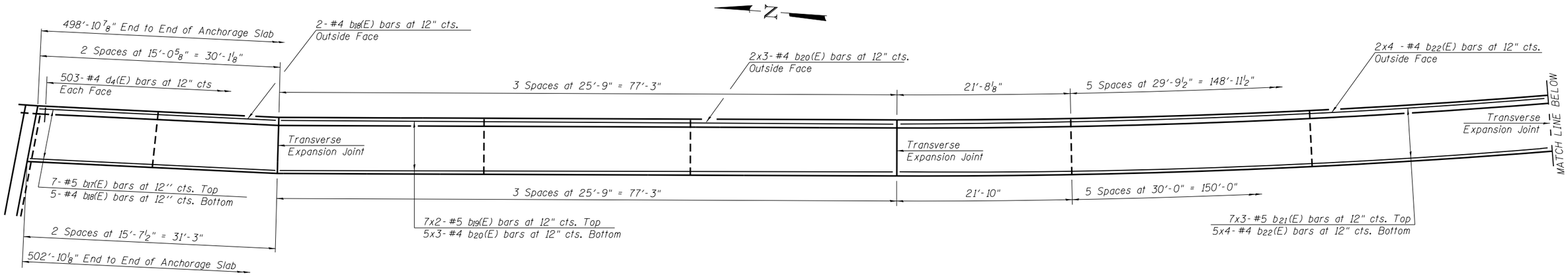
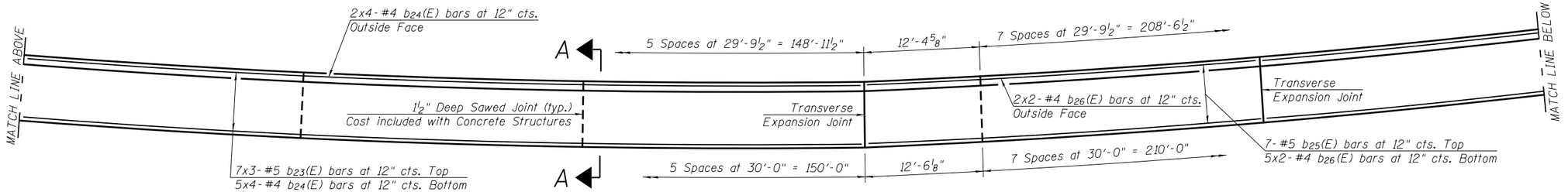
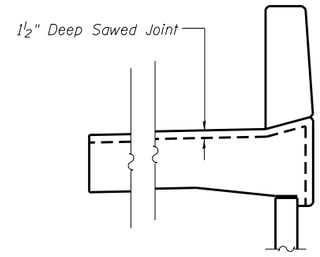
DEPARTMENT OF TRANSPORTATION

SOUTHWEST PARAPET ELEVATION
STRUCTURE NO. 016-1280
SHEET NO. 12 OF 25 SHEETS

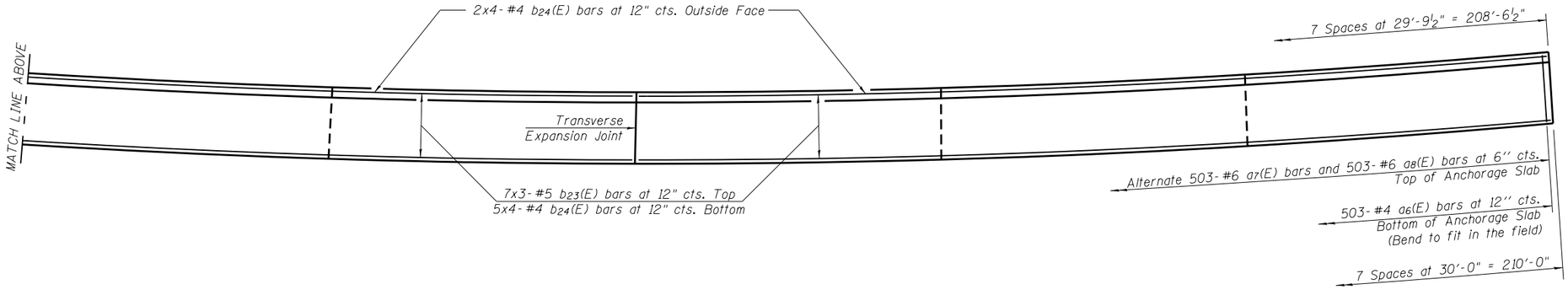
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	267
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		







SECTION A-A



MIN. BAR LAP

#4 Bars = 2'-1''
#5 Bars = 2'-7''

Notes:
See Sheet 14 of 25 for Section Thru Southeast Parapet and Anchorage Slab, Bar Details, and Bill of Material.
See Sheet 15 of 25 for Joint Details.

SOUTHEAST ANCHORAGE SLAB PLAN

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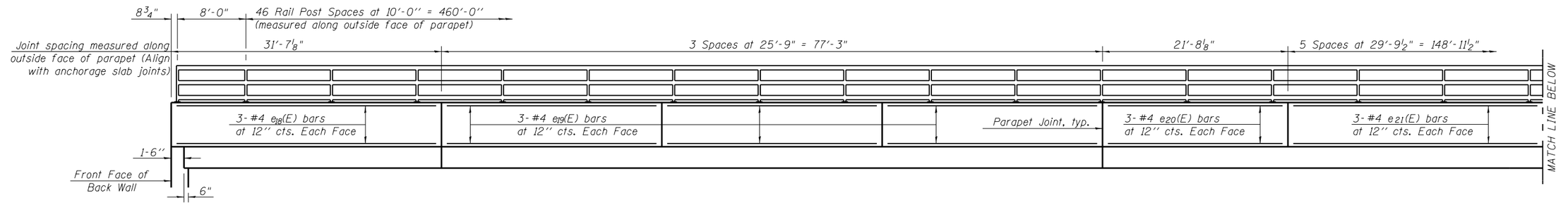
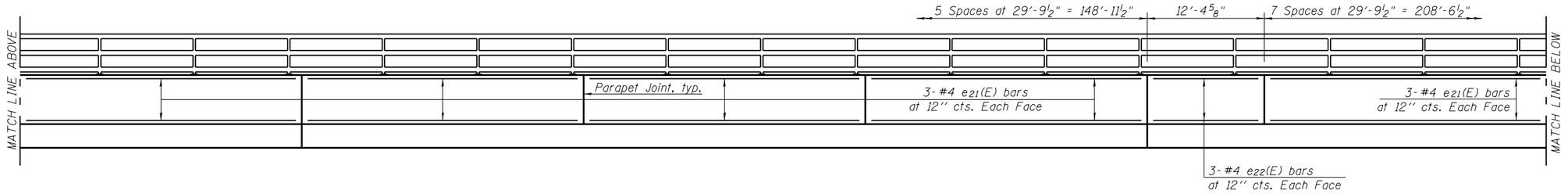
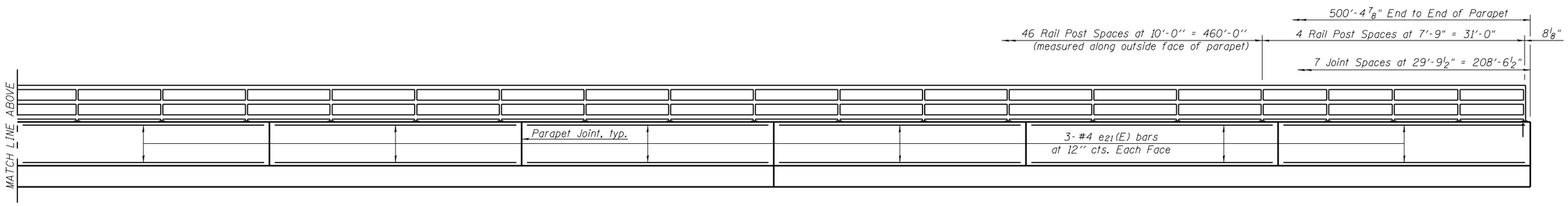
SOUTHEAST MSE WALL ANCHORAGE SLAB
STRUCTURE NO. 016-1280
SHEET NO. 13 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	268
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

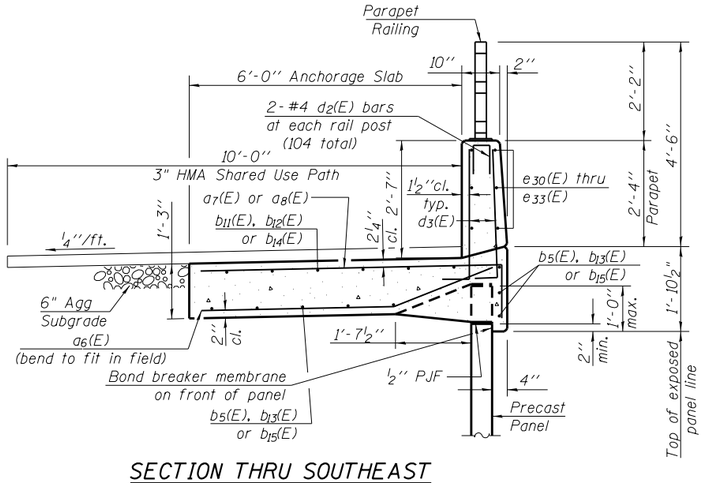




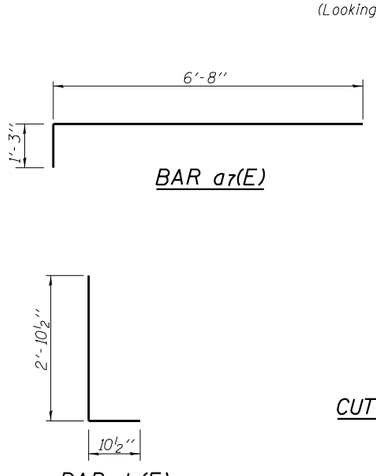


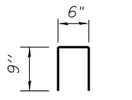
SOUTHEAST PARAPET ELEVATION

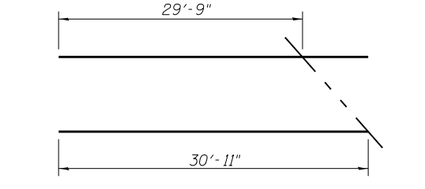
(Looking East)



SECTION THRU SOUTHEAST PARAPET AND ANCHORAGE SLAB







CUTTING DIAGRAM FOR $b_{17}(E)$ & $b_{18}(E)$

SOUTHEAST ANCHORAGE SLAB AND PARAPET BILL OF MATERIAL

Bar	No.	Size	Length	Shape	Bar	No.	Size	Length	Shape
$a_6(E)$	503	#4	6'-8"	——	$d_2(E)$	104	#4	2'-0"	⊓
$a_7(E)$	503	#6	7'-11"	——	$d_4(E)$	1006	#4	3'-9"	L
$a_8(E)$	503	#6	6'-8"	——					
					$e_{18}(E)$	6	#4	31'-3"	——
$b_{17}(E)$	7	#5	30'-11"	——	$e_{19}(E)$	18	#4	25'-5"	——
$b_{18}(E)$	7	#4	30'-11"	——	$e_{20}(E)$	6	#4	21'-4"	——
$b_{19}(E)$	14	#5	39'-9"	——	$e_{21}(E)$	72	#4	29'-5"	——
$b_{20}(E)$	21	#4	27'-1"	——	$e_{22}(E)$	6	#4	12'-1"	——
$b_{21}(E)$	21	#5	29'-0"	——					
$b_{22}(E)$	28	#4	22'-1"	——	Reinforcement Bars, Epoxy Coated			Pound	24,220
$b_{23}(E)$	63	#5	31'-9"	——					
$b_{24}(E)$	84	#4	24'-1"	——	Concrete Superstructure			Cu. Yds.	42.0
$b_{25}(E)$	7	#5	41'-10"	——					
$b_{26}(E)$	14	#4	22'-0"	——	Concrete Structures			Cu. Yds.	172.7

Notes:
See Sheet 15 of 25 for Joint Details.

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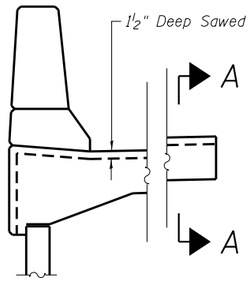
SOUTHEAST PARAPET ELEVATION
STRUCTURE NO. 016-1280
SHEET NO. 14 OF 25 SHEETS

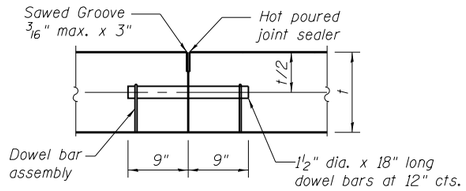
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	269
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



SOUTHWEST ANCHORAGE SLABS

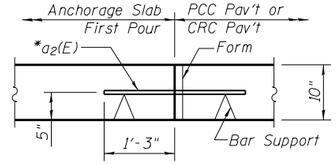
TRANSVERSE CONTRACTION JOINT DETAILS

(See Art. 420.10(d) of Standard Specifications.)



SECTION A-A

(Cost of Dowel bar, dowel bar assembly, saw cut and hot poured joint sealer included with Concrete Structures)

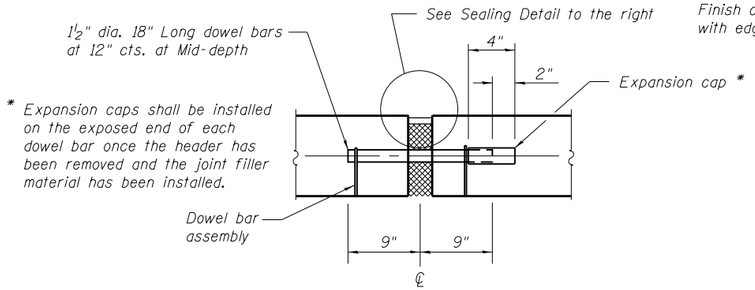


SOUTHWEST ANCHORAGE SLABS

*Cost included with PCC Pav't., 10" Jointed and Bridge C.R.C. Pav't. See Roadway Plans.

ANCHORAGE SLAB LONGITUDINAL CONSTRUCTION JOINT DETAILS

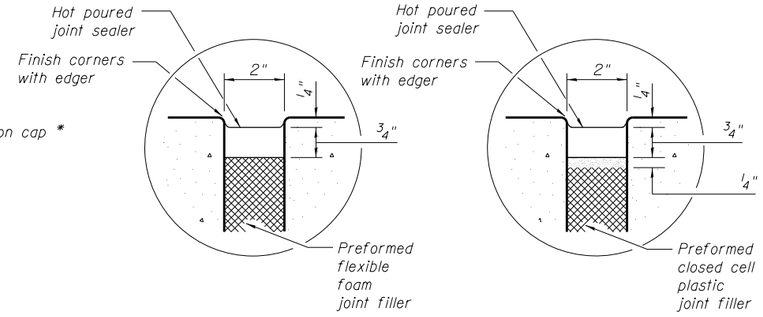
(Joint to be sawed and sealed in accordance with the Longitudinal Construction Joint Details on Std. 420001)



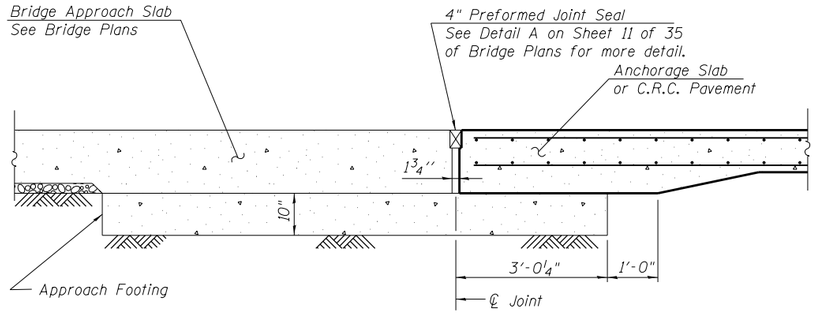
ANCHORAGE SLAB TRANSVERSE EXPANSION JOINT

Located at C.R.C Pav't and Jointed PCC Pav't Joint

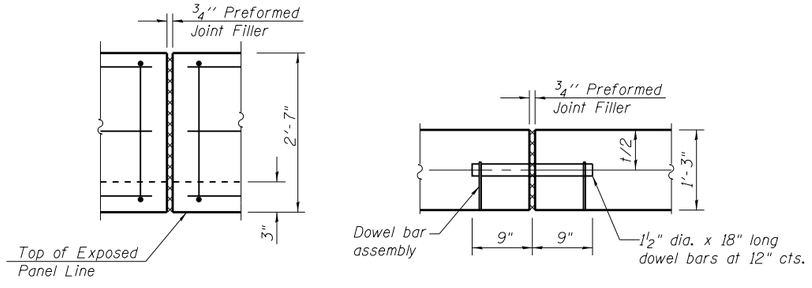
(Cost of Dowel bar, dowel bar assembly, expansion cap and hot poured joint sealer included with Concrete Structures)



SEALING DETAIL



TRANSVERSE EXPANSION JOINT BETWEEN THE APPOROACH SLAB AND ANCHORAGE SLAB OR C.R.C. PAVEMENT

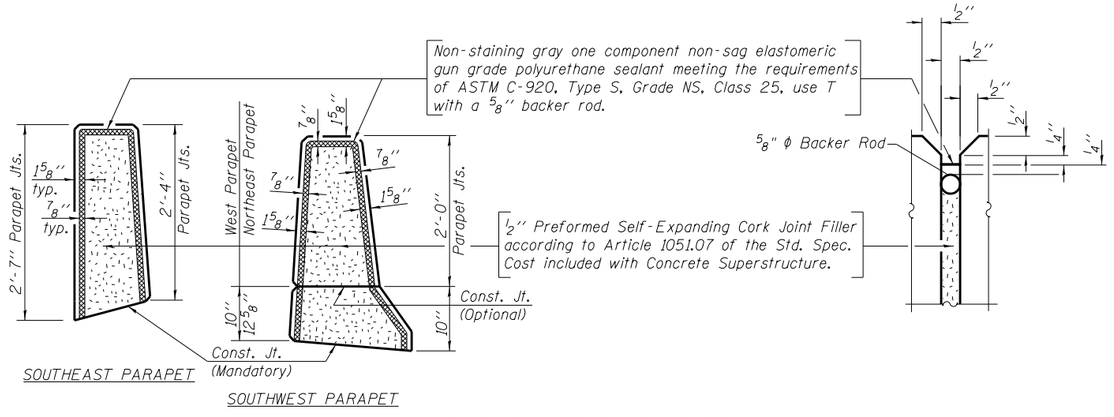


LOOKING AT FRONT FACE OF WALL

SECTION THRU ANCHORAGE SLAB

EXPANSION JOINT AT SE ANCHORAGE SLAB

(Cost of Dowel bar, dowel bar assembly, preformed joint filler included with Concrete Structures)



SOUTHEAST PARAPET

SOUTHWEST PARAPET

PARAPET JOINT DETAILS

V3 Companies of Illinois Ltd.
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

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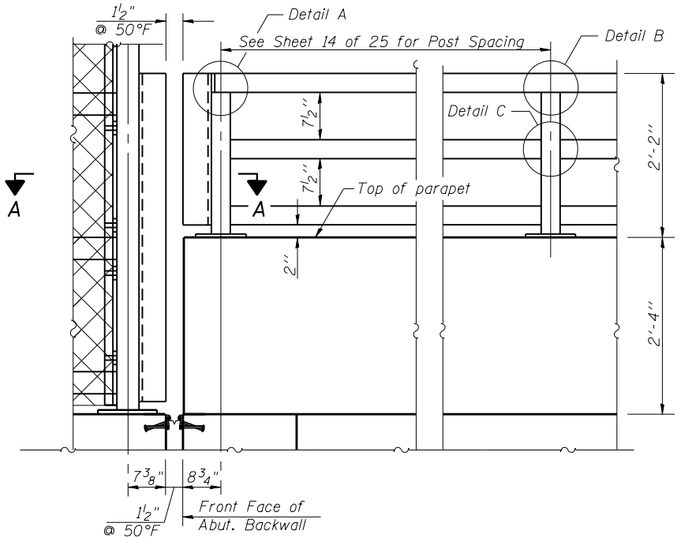
PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

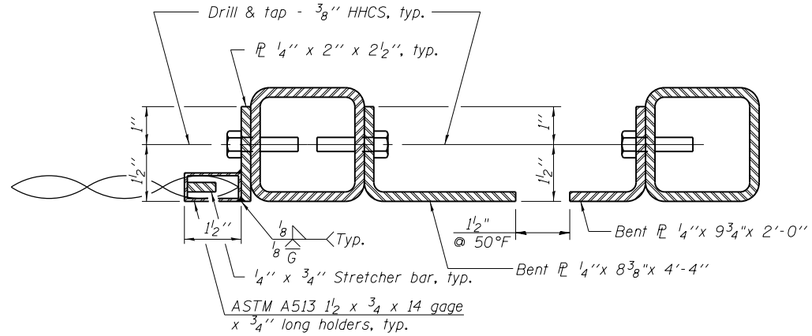
ANCHORAGE SLAB AND PARAPET DETAILS
STRUCTURE NO. 016-1280
SHEET NO. 15 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	270
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		



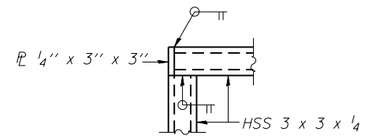
PARAPET RAILING ELEVATION

(Inside Face of Three Element Rail)

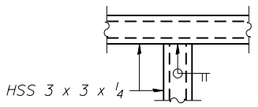


SECTION A-A

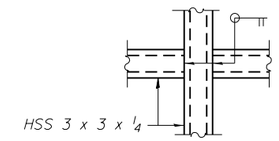
Notes:
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



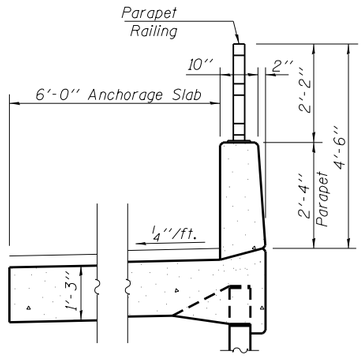
DETAIL A



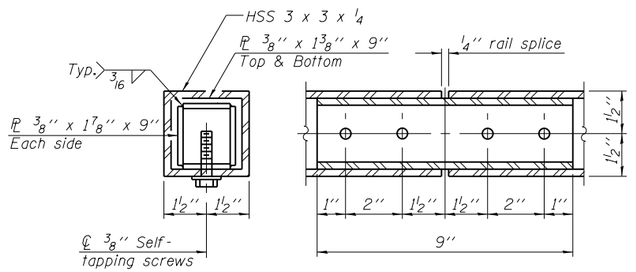
DETAIL B



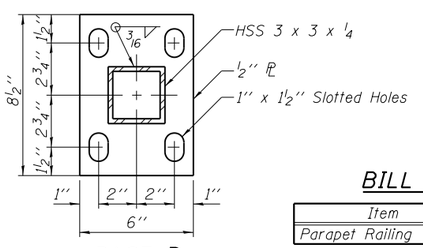
DETAIL C



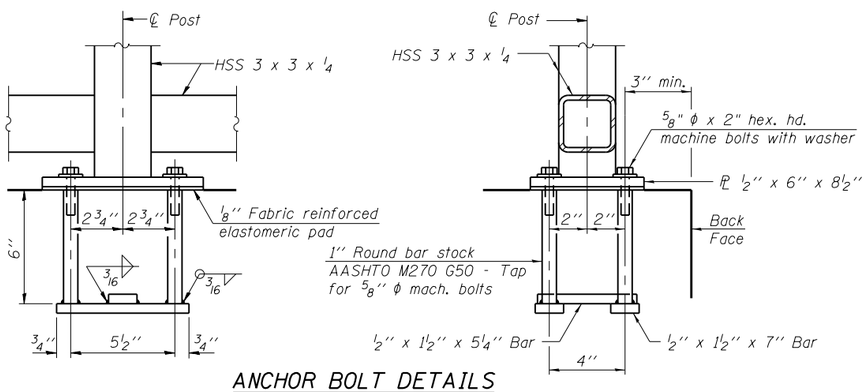
SECTION THRU PATH SOUTH OF THE BRIDGE



RAIL SPLICE



BASE PL



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" ϕ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing	Foot	499

V3 Companies of Illinois Ltd.
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
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www.v3co.com

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING
STRUCTURE NO. 016-1280
SHEET NO. 16 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	271
		CONTRACT NO. 60R19		
ILLINOIS FED. AID PROJECT				

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

PAGE 1 of 3
DATE DR
LOGGED BY 2/1/2012
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-09**
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
628.5				TOPSOIL–black
	AS	–	32	
	2		97	
	3			SILTY CLAY–brown & gray–
	3	1.9B	27	stiff (A–6)
626.5				
	3			SANDY CLAY LOAM–brown & gray–
	3			loose (A–2/A–6)
–5	3	NP	18	
▼623.5				
	3			
	3			
	4	NP	21	
	5			
	5			
–10	5	NP	19	
	2			SILTY LOAM–brown & gray–loose (A–4)
	2			
	4	NP	24	
	2			
	3			
–15	4	NP	23	
	2			
	3			
	5	NP	23	
	3			
	5			
–20	6	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM–loose (A–4)
609.0				
	2			
	2			
	3	NP	25	
	1			SILT–gray–very loose to loose (A–4)
	2			
–25	2	NP	23	
	2			
	2			
	4	NP	21	
	2			
	2			
–30	2	NP	24	
597.5				
	4			SAND & GRAVEL–gray–
	4			loose to medium dense (A–1)
–35	4	NP	20	
	10			
	14			
–40	15	NP	17	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-09**
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND & GRAVEL–gray–
				loose to medium dense (A–1)
587.5				
	8			SAND–gray–
	12			medium dense to dense (A–3)
–45	9	NP	24	
	8			
	11			
–50	12	NP	23	
	8			
	10			
–55	12	NP	24	
	12			
	18			
–60	21	NP	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–
				medium dense to dense (A–3)
	10			
	11			
–65	13	NP	23	
562.5				
	13		107	CLAY–gray–stiff (A–6)
	9			
–70	12	1.5B	21	
557.5				
	12		131	CLAY LOAM–gray–very stiff (A–6)
	20			
–75	25	2.9B	10	
552.5				
	18			SAND–gray–dense (A–3)
	26			
–80	32	NP	16	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 3
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. **BS-09**
Station 282+50
Offset 44.5' Left
Ground Surface Elev. 629.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–dense (A–3)
547.5				
	48			SANDY CLAY LOAM–gray–
	50/3"			very dense (A–2)
–85		4.5P	10	
542.5				
	22		128	CLAY LOAM–gray–
	32			very dense (A–4/A–6)
–90	32	1.9S	12	
537.5				
	16			
	24			SILTY CLAY LOAM–gray–
–95	45	4.5+P	14	very dense (A–4)
	16		124	
	25			
–100	29	1.9B	14	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	22		123	SILTY CLAY LOAM–gray–
	38			very dense (A–4)
–105	55	2.4S	14	
	22		117	
520.0	50/2"			
–110		1.5S	15	Drillers Observation: Possible Bedrock.
518.0				End Of Boring @ –111.5'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				Diedrich Automatic Hammer
–115				
–120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1280
SHEET NO. 17 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	272
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
631.7	AS 5 7	–	24 93	10.0" TOPSOIL–black
629.5	5 7	2.4B	26	SILTY CLAY–brown & gray– very stiff (A–6)
	3 4 4	1.9P	19	SANDY CLAY–brown & gray– stiff (A–6)
−5				
▼626.5	2 2 4	NP	19	SANDY LOAM–brown & gray– loose (A–2)
624.5	2 3 5	NP	23	SILTY LOAM–gray– loose to medium dense (A–4)
−10				
	2 2 3	NP	27	
	2 3 6	NP	29	
−15				
	3 5 6	NP	25	
	3 4 5	NP	21	
−20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	3 4 4	NP	23	SILTY LOAM–gray– loose to medium dense (A–4)
−25	2 3 3	NP	22	
	2 2 2	NP	21	
−30	2 2 2	NP	20	
600.5	5 5 3	NP	19	SAND with Gravel–gray– loose (A–1)
−35				
595.5	7 11 15	NP	24	SAND–gray–dense (A–3)
−40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
590.5	16 8 7	NP	15	SAND–gray–dense (A–3)
SAND & GRAVEL–gray– medium dense (A–1)				
−45				
585.5	12 18 20	NP	24	
				SAND–gray–dense (A–3)
−50				
	14 18 21	NP	22	
−55				
	15 24 22	NP	24	
−60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	12 16 19	NP	26	SAND–gray–dense (A–3)
−65				
565.5	6 11 15	2.4B	19 111	SILTY CLAY–gray–very stiff (A–6)
−70				
560.5	23 44 50/5"	NP	22	SAND–gray–very dense (A–3)
−75				
−80	24 35 48	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 4
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				SAND–gray–very dense (A–3)
550.5	19 24 50/3"	3.5+P	16	CLAY LOAM–gray–very stiff (A–6)
−85				
545.5	15 25 34	1.3B	119 15	SILTY CLAY LOAM–gray– very dense (A–4)
−90				
	18 35 50/5"	3.0B	120 15	
−95				
535.5				SILTY LOAM to LOAM–gray– very dense (A–4)
	50/6"			
−100		NP	15	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
530.5	50/6"		133	
−105		1.9S	10	CLAY LOAM–gray– very dense (A–4/A–6)
	38 50/3"	4.5+P	13	
−110				
521.5				Drillers Observation: Apparent Bedrock.
520.5				Silurian System, Niagaran Series Dolomite RUN 1 (−112.0' to −122.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −116.2', changing to light gray & fine grained with horizontal bedding @ −119.2'. Horizontal fractures @ −113.7', −116.5', −117.4', −117.8', −118.0', −118.6', −119.1' & −119.8'. Recovery=99.0% RQD=96.5%
−115				RUN 1
−120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS–Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1280
SHEET NO. 18 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	273
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
DATE DR
LOGGED BY 1/30-31/2012
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 626.5
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Run 1 continued.	RUN 1		
510.5			
Silurian System, Niagaran Series Dolomite RUN 1 (−122.0' to −127.0') Light gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −122.3'. Horizontal fractures @ −124.3', −124.8', −125.0', −125.7', −125.9' & −126.3'.	RUN 2		
−125			
Recovery=100.0% RQD=90.0%			
505.5			
End Of Boring @ −127.0' Hollow Stem Augers To −10.0' Rotary Drilling To Completion 114.0' Of 4.0"ø Casing Used CME Automatic Hammer			
−130			
−135			
−140			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
−145			
−150			
−155			
−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 520.5
Begin Core Elev. 520.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−112.0' to −122.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −116.2', changing to light gray & fine grained with horizontal bedding @ −119.2'. Horizontal fractures @ −113.7', −116.5', −117.4', −117.8', −118.0', −118.6', −119.1' & −119.8'.	1	99.0	96.5	n/a	1149 @ −112.0'
−117					
−122					

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

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ROCK CORE LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-10
Station 282+75
Offset 22.5' Right
Ground Surface Elev. 632.5
CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 510.5
Begin Core Elev. 510.5

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−122.0' to −127.0') Light gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −122.3'. Horizontal fractures @ −124.3', −124.8', −125.0', −125.7', −125.9' & −126.3'.	2	100.0	90.0	n/a	818 @ −122.0'
−127					
−132					

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

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PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 19 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	274
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-23**
Station 283+75
Offset 44.0' Left
Ground Surface Elev. 629.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
628.7				10.0" TOPSOIL–black
	AS	–	32	
	3		*94*	
	4			SILTY CLAY–dark brown & gray–
–5	5	2.4B	26	stiff to very stiff (A–6) Wet
623.6				
	3		*91*	
	3	1.4S@		SILTY LOAM–gray–loose (A–4)
–5	4	14.1%	27	
	3			
	4			SAND–brown–loose (A–3)
	5	NP	20	
621.6				
	3			
	5			SILTY LOAM–gray–medium dense (A–4)
–10	5	NP	20	
619.1				
	3			
	5			SANDY LOAM–gray–
	6	NP	21	medium dense (A–2)
	5			
	6			
–15	6	NP	17	
614.1				
	3			
	3			SILTY LOAM–gray–loose (A–4)
	4	NP	24	
	2			
	2			
–20	3	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	3			
	3			
	3	NP	21	SILTY LOAM–gray–loose (A–4)
	2			
	2			
–25	3	NP	22	
	3			
	3			
	3	NP	24	
	2			
	2			
–30	3	NP	25	
597.6				
	7			SAND–gray–
	11			medium dense to dense (A–3)
–35	13	NP	21	
	8			
	10			
–40	11	NP	25	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-23**
Station 283+75
Offset 44.0' Left
Ground Surface Elev. 629.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 623.6
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	6			
	9			
–45	10	NP	24	SAND–gray–
				medium dense to dense (A–3)
	8			
	10			
–50	10	NP	20	
	9			
	11			
–55	14	NP	22	
	9			
	15			
–60	18	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	12			SAND–gray–
	15			medium dense to dense (A–3)
–65	17	NP	20	
562.6				
	9		*104*	
	11			CLAY–gray–very stiff (A–6)
–70	15	3.8B	21	
557.6				
	31			CLAY LOAM–gray–very stiff (A–6)
	25			
554.6 –75	36	3.75P	12	
				End Of Boring @ –75.0'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				10.0' Of 4.0"ø Casing Used
				Diedrich Automatic Hammer
–80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-2480
Station --
BORING NO. **RW-25**
Station 284+75
Offset 51.0' Left
Ground Surface Elev. 629.8

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter *Dry to –10.0'*
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
628.9				10.0" TOPSOIL–black
	AS	–	26	
	3		*96*	
	4			SILTY CLAY–dark brown, gray & black–
	4	1.8B	23	stiff (A–6) Fill
626.8				
	2			SANDY CLAY LOAM–brown & gray–
	1			very loose (A–2)
–5	1	–	19	
624.3				
	3			
	4			SAND–brown–
	5	NP	18	loose to medium dense (A–3)
	4			
	6			
–10	9	NP	11	
619.3				
	5			
	7			SILTY LOAM–gray–medium dense (A–4)
	8	NP	25	
616.8				
	4			SANDY LOAM–gray–
	6			medium dense (A–2)
–15	8	NP	25	
614.3				
	2			
	3			SILTY LOAM–gray–loose (A–4)
	3	NP	23	
611.8				
	2			SANDY LOAM–gray–loose (A–2)
	3			
–20	4	NP	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
609.3				SANDY LOAM–gray–loose (A–2)
	5			
	7			
	9	NP	23	
	8			
	9			
–25	10	NP	24	SAND–gray–
				medium dense to very dense (A–3)
	5			
	9			
	9	NP	20	
	5			
	9			
–30	11	NP	22	
	6			
	10			
–35	13	NP	22	
	10			
	13			
–40	14	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016–1280
SHEET NO. 20 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	275
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-2480
Station --
BORING NO. **RW-25**
Station 284+75
Offset 51.0' Left
Ground Surface Elev. *629.8*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–medium dense to very dense (A–3)			
-45	11 14 16	NP	23
-50	11 16 19	NP	22
-55	12 14 17	NP	22
-60	12 20 24	NP	22
SAND–gray–medium dense to very dense (A–3)			
-65	18 24 27	NP	22
-70	25 29 34	NP	22
554.8 -75	29 46 50/5"	NP	20
End Of Boring @ -75.0'			
Hollow Stem Augers To -10.0'			
Rotary Drilling To Completion			
10.0' Of 4.0"ø Casing Used			
Diedrich Automatic Hammer			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-27**
Station 286+00
Offset 56.5' Left
Ground Surface Elev. *629.9*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" TOPSOIL–black *629.0*	AS 3	–	24
SILTY CLAY–dark brown & gray–stiff (A–6) Fill	3 4 5	1.9B	22
626.9			
SANDY LOAM–dark brown & gray–very loose (A–2)	1 1 2	NP	20
624.4			
SAND–brown–medium dense (A–3)	3 5 7	NP	10
-10	4 6 6	NP	20
619.4			
SILTY LOAM–gray–loose (A–4)	2 3 6	NP	20
616.9			
SANDY LOAM–gray–medium dense (A–2)	3 9 11	NP	24
-15			
614.4			
SAND–gray–medium dense (A–3)	5 7 8	NP	24
611.9			
SAND & GRAVEL–gray–medium dense (A–1)	5 7 9	NP	15
-20			
SAND & GRAVEL–medium dense (A–1) *609.4*			
	5 9 9	NP	20
	3 4 5	NP	19
-25			
SAND–gray–loose to medium dense (A–3)	4 6 9	NP	19
-30	5 5 6	NP	22
597.9			
SAND & GRAVEL–gray–medium dense (A–1)	6 12 14	NP	16
-35			
592.9			
SAND–gray–medium dense to very dense (A–3)	13 16 20	NP	24
-40			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-27**
Station 286+00
Offset 56.5' Left
Ground Surface Elev. *629.9*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–medium dense to very dense (A–3)			
-45	9 9 13	NP	23
-50	11 19 23	NP	23
-55	17 30 30	NP	22
-60	29 50/5"	NP	19
SAND–gray–medium dense to very dense (A–3)			
-65	27 50/6"	NP	19
-70	15 17 21	NP	24
554.9 -75	29 50/6"	NP	20
End Of Boring @ -75.0'			
Hollow Stem Augers To -10.0'			
Rotary Drilling To Completion			
10.0' Of 4.0"ø Casing Used			
Diedrich Automatic Hammer			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 21 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	276
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-28**
Station 286+90
Offset 54.5' Left
Ground Surface Elev. 630.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" TOPSOIL–black 629.2	AS	–	27
	3		
	5		
SANDY CLAY LOAM–dark brown & gray–stiff (A/6) Possible Fill	6	1.25P	19
	2		
	1		
–5	2	1.25P	19
624.6			
	2		*105*
CLAY–brown–stiff (A–6)	3		
	6	1.5B	22
622.1			
	4		
	5		
–10	5	NP	16
SAND–brown–medium dense (A–3)			
	4		
	5		
	6	NP	21
	4		
	7		
–15	8	NP	17
614.6			
	5		
	8		
SAND–gray–medium dense (A–3)	10	NP	23
	5		
	7		
–20	9	NP	22

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	3		
	5		
	5	NP	18
	3		
	5		
SAND–gray–medium dense (A–3)	6	NP	24
	5		
	6		
	8	NP	21
	5		
	7		
–30	8	NP	24
	7		
	10		
–35	13	NP	23
593.1			
SAND & GRAVEL–gray–medium dense (A–1)	10		
	12		
–40	13	NP	12

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-28**
Station 286+90
Offset 54.5' Left
Ground Surface Elev. 630.1

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND & GRAVEL–gray–medium dense (A–1)			
588.1			
	16		
	28		
–45	37	NP	19
SAND–gray–dense to very dense (A–3)			
	19		
	26		
–50	34	NP	21
	18		
	24		
–55	31	NP	19
	21		
	44		
–60	50/5"	NP	20

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	27		
	50/5"		
		NP	20
	19		
	31		
–70	43	NP	20
	31		
	50/5"		
555.1 –75		NP	20
End Of Boring @ –75.0'			
Hollow Stem Augers To –10.0'			
Rotary Drilling To Completion			
10.0' Of 4.0"ø Casing Used			
Diedrich Automatic Hammer			
–80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-29**
Station 287+40
Offset 66.0' Left
Ground Surface Elev. 630.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" TOPSOIL–black 629.3	AS	–	26
	3		*96*
SILTY CLAY–dark brown & gray–very stiff (A–6)	5	2.7B	24
627.2			
	2		
SANDY LOAM–dark brown & gray–loose (A–2)	3		
–5	4	NP	17
624.7			
	3		
	5		
SAND–brown–medium dense (A–3)	6	NP	7
	5		
	7		
–10	5	NP	9
619.7			
	4		
SANDY LOAM–brown–medium dense (A–2)	7		
	9	NP	20
617.2			
	4		
SAND & GRAVEL–gray–medium dense (A–1)	6		
–15	7	NP	18
614.7			
	4		
	6		
SAND–gray–medium dense (A–3)	7	NP	18
	7		
	10		
–20	11	NP	22

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	7		
	9		
	11	NP	21
	4		
	7		
–25	9	NP	19
SAND–gray–medium dense (A–3)			
	6		
	7		
	9	NP	22
	3		
	5		
–30	7	NP	22
	7		
	11		
–35	14	NP	22
	7		
	9		
–40	10	NP	14

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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USER NAME =	DESIGNED - EVS	REVISED
	CHECKED - WJV	REVISED
PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 22 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	277
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 2 of 2
DATE 1/12/2012
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1280
Station --
BORING NO. **RW-29**
Station 287+40
Offset 66.0' Left
Ground Surface Elev. 630.2

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SAND–gray–medium dense (A–3)							
588.2							
	7				19		
SAND & GRAVEL–gray–	10				45		
medium dense (A–1) –45	12	NP	11	SAND–gray–dense to very dense (A–3) –65	50/3"	NP	22
583.2							
	18				24		
	26				47		
–50	30	NP	20	–70	50/4"	NP	20
SAND–gray–dense to very dense (A–3)							
	19				38		
	22				50/5"		
–55	25	NP	21	555.2 –75		NP	19
				End Of Boring @ –75.0'			
				Hollow Stem Augers To –10.0'			
				Rotary Drilling To Completion			
				10.0' Of 4.0"ø Casing Used			
				Diedrich Automatic Hammer			
	15						
	17						
–60	20	NP	23	–80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-31**
Station 283+75
Offset 23.0' Right
Ground Surface Elev. 632.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" TOPSOIL–black 631.8	AS	–	20	SANDY LOAM–very loose to loose (A–2) 612.2			
	3		96		2		
	5				3		
SILTY CLAY–dark brown & gray–	7	3.1B	26		4	NP	23
very stiff (A–6) Wet							
	6		96		2		
	7				2		
–5	7	3.25B	26	SILTY LOAM–gray– –25	2	NP	23
627.2				very loose to loose (A–4)			
	1				2		
SANDY CLAY LOAM–brown & gray–	2				2		
very loose (A–2)	2	–	19		3	NP	23
624.7							
	3				2		
	4				2		
–10	4	NP	18	–30	3	NP	24
	2			600.7			
	2						
SANDY LOAM–brown & gray–	2	NP	19				
very loose to loose (A–2)				SILTY SAND & GRAVEL–gray–			
	2				3		
	3				13		
–15	5	NP	24	–35	13	NP	13
	2						
	3			595.7			
	3	NP	24				
				SANDY LOAM–gray–			
	2			medium dense to dense (A–2)			
	3				11		
					15		
–20	5	NP	21	–40	19	NP	22

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 2
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-31**
Station 283+75
Offset 23.0' Right
Ground Surface Elev. 632.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
SANDY LOAM–gray–							
medium dense to dense (A–2)							
590.7							
	9			SAND–gray–	13		
	12			medium dense to dense (A–3)	18		
–45	17	NP	23	–65	25	NP	22
				565.7			
SAND–gray–					14		
medium dense to dense (A–3)					19		
	12			–70	22	4.5+P	10
	13			CLAY LOAM–gray–			
–50	13	NP	21	very stiff to hard (A–6)			
					12		111
	12				20		
	18			557.7 –75	29	2.8B	15
–55	15	NP	21	End Of Boring @ –75.0'			
				Hollow Stem Augers To –10.0'			
				Rotary Drilling To Completion			
				10.0' Of 4.0"ø Casing Used			
				Diedrich Automatic Hammer			
	15						
	18						
–60	15	NP	20	–80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 23 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	278
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE 1/19/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-33**
Station 284+90
Offset 31.5' Right
Ground Surface Elev. 631.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	AS	–	24	SAND–gray–medium dense (A–3) 611.1
	3			TOPSOIL–black
	6			
	7	3.75P	25	
628.6				
	3			SILTY CLAY–dark brown & black–stiff (A–6) Apparent Fill, Wet
	4			
–5	4	1.75P	28	
626.1				
	2			SANDY CLAY LOAM–dark brown & gray–loose (A–2)
	2			
	3	–	18	
623.6				
	3			SAND–brown–medium dense (A–3)
	5			
–10	6	NP	16	
621.1				
	3			SILTY LOAM–gray–loose (A–4)
	4			
	4	NP	22	
	3			
	4			
–15	5	NP	24	
616.1				
	8			SAND–gray–medium dense (A–3)
	9			
	8	NP	14	
	9			
	10			
–20	10	NP	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	6			SAND & GRAVEL–gray–medium dense (A–1)
	6			
	5	NP	18	
608.6				
	5			SAND–gray–medium dense to dense (A–3)
	8			
–25	9	NP	21	
	3			
	5			
	7	NP	22	
	4			
	8			
–30	10	NP	22	
	6			
	10			
–35	13	NP	24	
	8			
	11			
–40	14	NP	24	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 2
DATE 1/19/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-33**
Station 284+90
Offset 31.5' Right
Ground Surface Elev. 631.6

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				SAND–gray–medium dense to dense (A–3)
	7			
	10			
–45	15	NP	27	
	8			
	11			
–50	15	NP	21	
	15			
	23			
–55	29	NP	24	
	12			
	22			
–60	30	NP	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	20			SAND–gray–medium dense to dense (A–3)
	22			
–65	25	NP	24	
	19			
	23			
–70	28	NP	23	
	10			
	14			
–75	17	NP	23	
556.6				End Of Boring @ –75.0'
				Hollow Stem Augers To –10.0'
				Rotary Drilling To Completion
				10.0' Of 4.0"ø Casing Used
				Diedrich Automatic Hammer
–80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 1 of 2
DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-35**
Station 285+60
Offset 41.5' Right
Ground Surface Elev. 631.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry to -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	AS	–	26	16.0" TOPSOIL–black
630.1	3		88	
	5			SILTY CLAY–dark brown & gray–very stiff (A–6)
	6	3.0B	24	
628.4				
	3			SANDY CLAY LOAM–dark brown & gray–loose (A–2)
	3			
–5	2	0.5P	17	
625.9				
	2			SAND–brown–loose to medium dense (A–3)
	2			
	4	NP	15	
	3			
	4			
–10	5	NP	8	
	5			
	8			
	11	NP	21	
	6			
	7			
–15	7	NP	23	
	6			
	7			
613.4	8	NP	23	
	5			SAND–gray–medium dense to dense (A–3)
	6			
–20	6	NP	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	5			SAND–gray–medium dense to dense (A–3)
	8			
	10	NP	24	
	9			
	10			
	12	NP	24	
	5			
	5			
	6	NP	20	
	7			
	9			
–35	10	NP	23	
	8			
	10			
–40	11	NP	23	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 24 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	279
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

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DATE DR
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-35**
Station 285+60
Offset 41.5' Right
Ground Surface Elev. *631.4*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	8		
	12		
-45	15	NP	22
SAND–gray– medium dense to dense (A–3)			
	10		
	12		
-50	14	NP	23
	16		
	20		
-55	25	NP	23
	15		
	22		
-60	34	NP	21

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	23		
	28		
-65	30	NP	22
SAND–gray– medium dense to dense (A–3)			
	8		
	12		
-70	17	NP	23
	17		
	30		
556.4 -75	37	NP	23
End Of Boring @ -75.0' Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used Diedrich Automatic Hammer			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-36**
Station 286+40
Offset 49.5' Right
Ground Surface Elev. *631.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
10.0" TOPSOIL–black *630.3*	AS	–	31
	4		*109*
CLAY LOAM–dark brown & gray– very stiff (A–6)	4		
	5	2.4B	17
628.2			
SANDY CLAY LOAM–brown & gray– loose (A–2)	3		
	3		
-5	2	0.75P	20
625.7			
	4		
	7		
SAND–brown–medium dense (A–3)	10	NP	19
	5		
	6		
-10	7	NP	15
620.7			
SILTY CLAY with Silt Seams–gray– medium stiff (A–4/A–6)	2		
	3		
	4	0.5P	23
618.2			
	2		
	2		
-15	3	NP	21
SAND–gray– loose to very dense (A–3)	4		
	7		
	9	NP	21
	5		
	6		
-20	7	NP	20

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	5		
	6		
	6	NP	20
	3		
	4		
-25	5	NP	24
SAND–gray– loose to very dense (A–3)	6		
	9		
	11	NP	21
	5		
	7		
-30	10	NP	20
	8		
	14		
-35	19	NP	22
	9		
	14		
-40	17	NP	24

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
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SOIL BORING LOG

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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. 016-1282
Station --
BORING NO. **RW-36**
Station 286+40
Offset 49.5' Right
Ground Surface Elev. *631.2*

Surface Water Elev. *n/a*
Stream Bed Elev. *n/a*
Groundwater Elevation:
First Encounter *Dry to -10.0'*
Upon Completion *n/a*
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	9		
	11		
-45	14	NP	25
SAND–gray– loose to very dense (A–3)			
	12		
	16		
-50	16	NP	25
	17		
	20		
-55	22	NP	20
	12		
	14		
-60	17	NP	25

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
	21		
	23		
-65	26	NP	22
SAND–gray– loose to very dense (A–3)			
	25		
	36		
-70	44	NP	20
	33		
	44		
556.2 -75	50/5"	NP	21
End Of Boring @ -75.0' Hollow Stem Augers To -10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used Diedrich Automatic Hammer			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR–No Recovery

V3 Companies of Illinois Ltd.
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

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	CHECKED - WJV	REVISED
PLOT SCALE =	DRAWN - EVS	REVISED
PLOT DATE =	CHECKED - WJV	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1280
SHEET NO. 25 OF 25 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	280
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

Bench Mark:

BM #3 - Cut square in N.E. corner of large utility structure S. of the N. set of R.R. tracks (Norfolk Southern Railroad) and near the E. R.O.W. line of U.S. Rt. 30 Sta. 278+54.41, 71.23' Lt., Elev. 631.16

BM #103 - Cut square at corner of traffic manhole on E. side of U.S. Rt. 30 and E. line of Sauk Trail Sta. 291+34.10, 39.95' Lt., Elev. 633.67

Existing Structure: None

Stage traffic to be maintained along existing US 30.
See Roadway Plans for maintenance of traffic.

INDEX OF SHEETS

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.
The foundation design is based on the following maximum reactions applied at the top of the footing/pedestal wall:

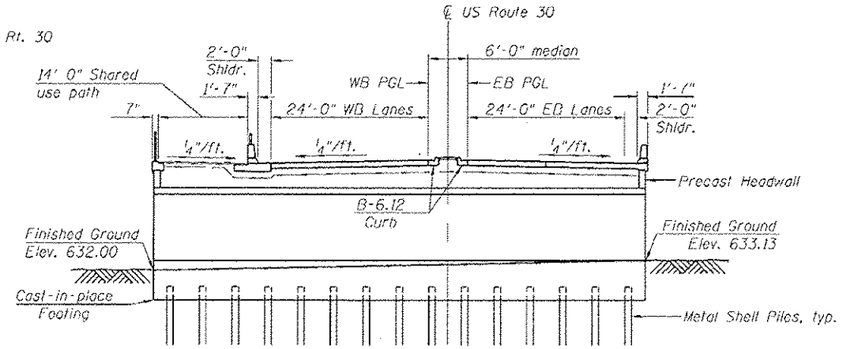
Exterior footings (Service Loads): 25.6 kips/foot (vertical), 13.3 kips/foot (horizontal)
Exterior footings (Factored Loads): 38.2 kips/foot (vertical), 20.0 kips/foot (horizontal)

The Contractor shall verify that the selected structure meets these design parameters. If the design parameters are exceeded, a complete foundation design with calculations, details, and the required seals shall be submitted for review and approval.

See wall plans for the backfill materials to be used within the limits of the Structure Excavation where the MSE wall soil reinforcement is used. Cast included with Mechanically Stabilized Earth Retaining Wall.

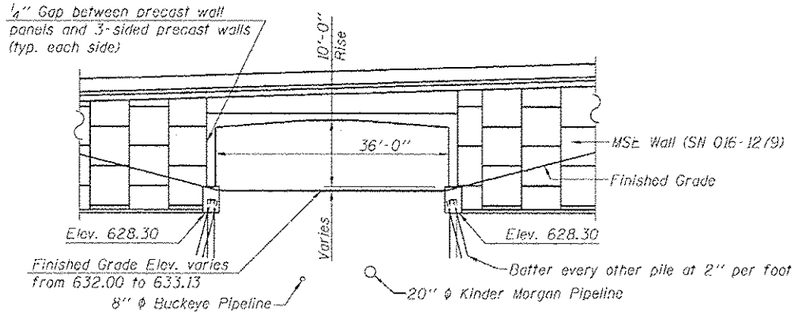
See Sheet 2 of 7 for Section A-A and Section B-B.

See SN 016-1279 for additional information and details.



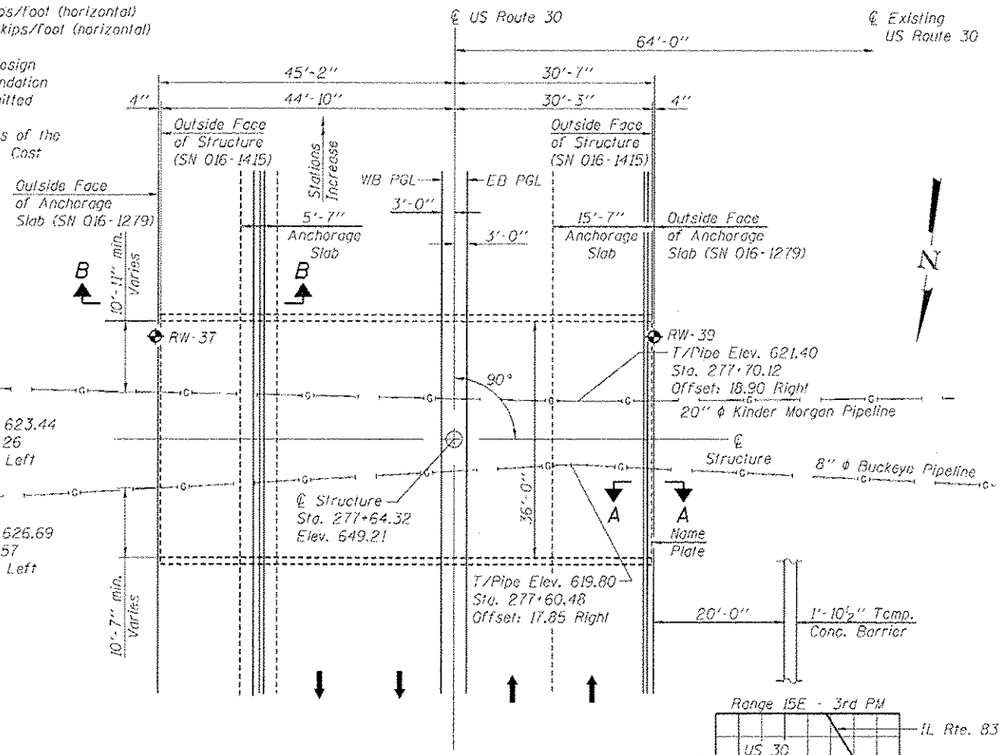
LONGITUDINAL SECTION

(Looking South)

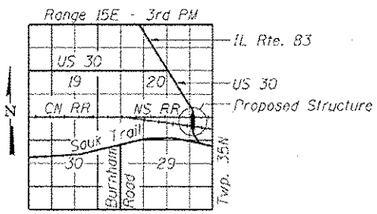


SECTION THRU STRUCTURE

(Looking East)
Slab and wall thickness may vary per manufacturer



PLAN



LOCATION SKETCH

DESIGN STRESSES

FIELD UNITS

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

PRECAST UNITS

f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.093g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.152g
Soil Site Class = D

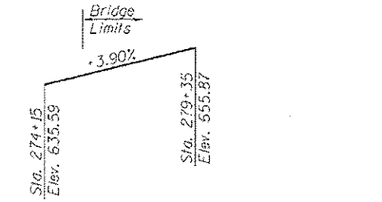
LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



PROFILE GRADE - US 30

(Along EB & WB P.G.L.'s looking East)

STATE OF ILLINOIS
WILLIAM J. VEGRZYN
4983
HANOVER PARK
IL
LICENSED STRUCTURAL ENGINEER

Bill Vegrzyn 8/12/2013
Expires 11-30-14

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	191
Concrete Structures	Cu. Yd.	69.5
Reinforcement Bars, Epoxy Coated	Pound	4,640
Furnishing Metal Shell Piles, 14" x 0.25"	Foot	1,740
Driving Piles	Foot	1,740
Test Pile Metal Shells	Each	1
Name Plates	Each	1
Three Sided Precast Concrete Structures, 36'x10'	Foot	75.1

STATION 277+64.32
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 353 SEC. 11-Y-A
LOADING HL-93
STRUCTURE NO. 016-1415

NAME PLATE

See Std. 515001

GENERAL PLAN & ELEVATION
US ROUTE 30 OVER
FUTURE BIKE PATH
BUCKEYE AND KINDER MORGAN PIPELINES
F.A.P. RTE. 353 - SEC. 11-Y-A
COOK COUNTY
STATION 277+64.32
STRUCTURE NO. 016-1415

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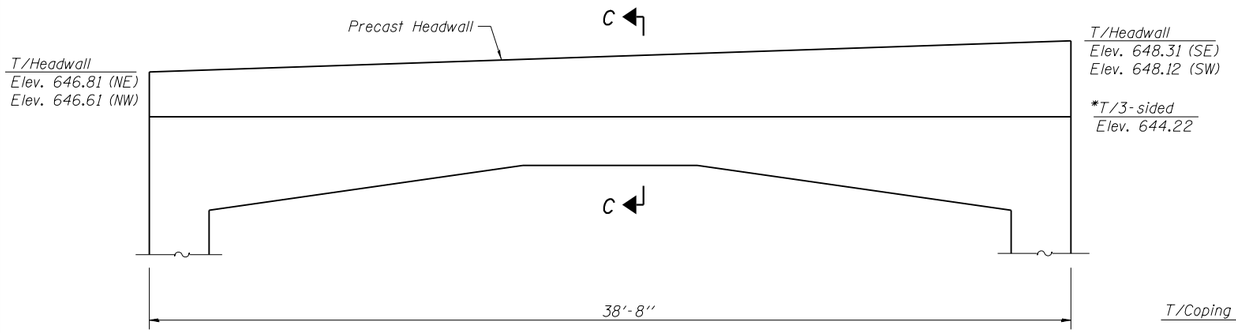
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

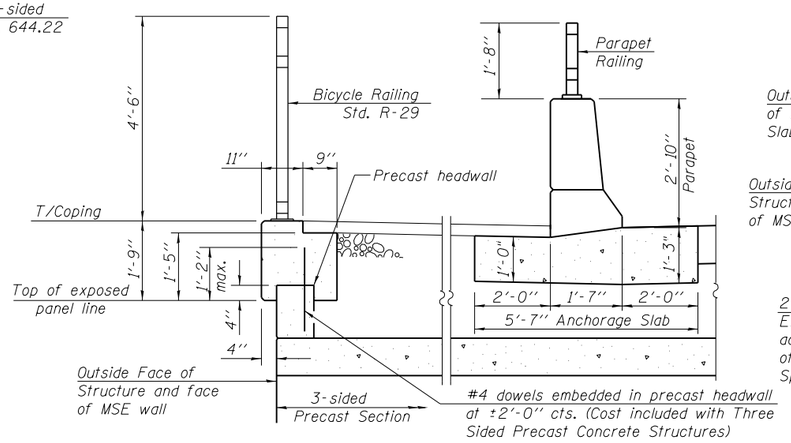
STRUCTURE NO. 016-1415
SHEET NO. 1 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	281
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

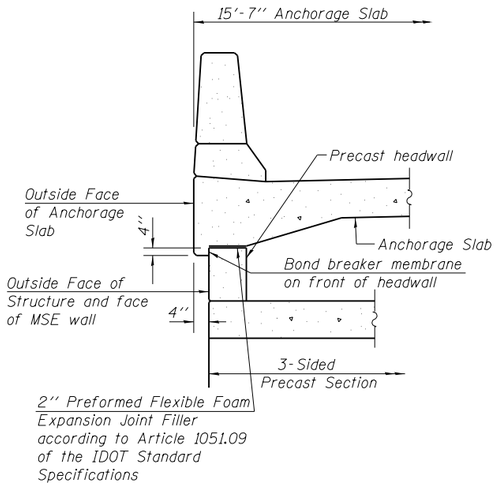


HEADWALL ELEVATION

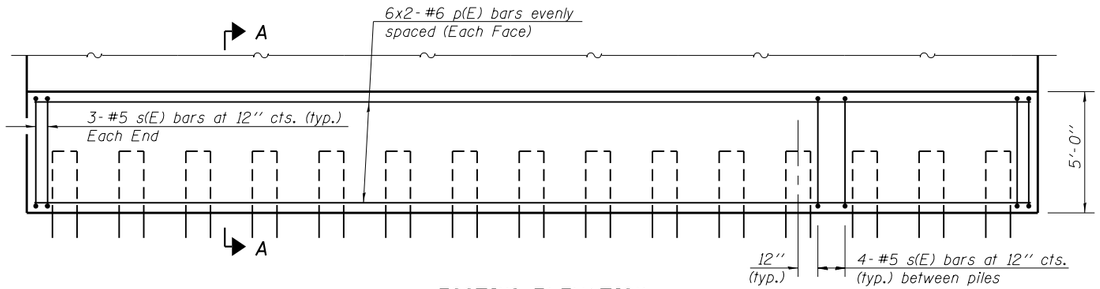
(Hy-Span shown, may vary depending on the Manufacturer of the three-sided precast)



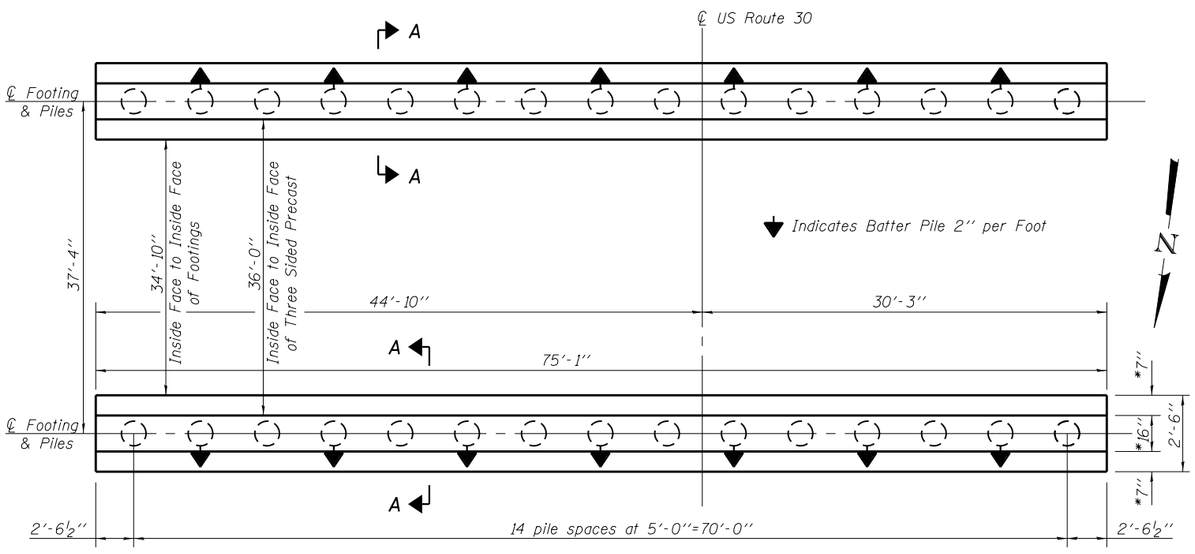
SECTION B-B



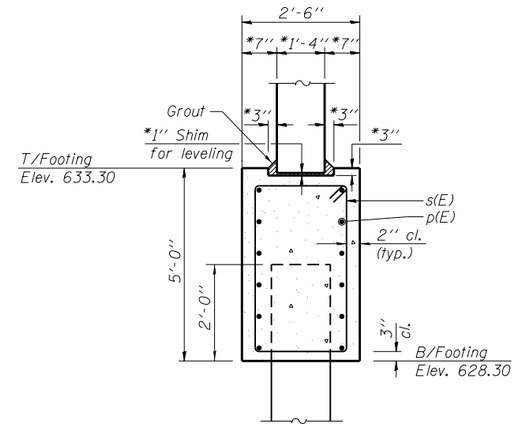
SECTION A-A



FOOTING ELEVATION

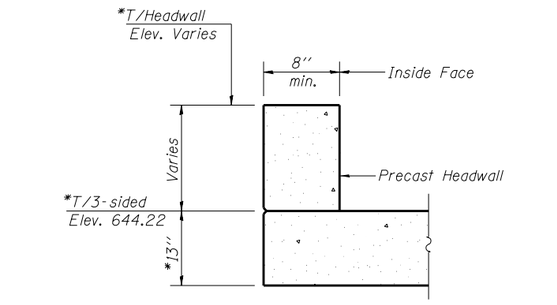


FOOTING PLAN



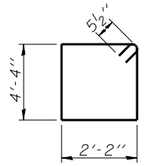
SECTION A-A

*Based on a Hy-Span section. May vary depending on manufacturer's specifications.



SECTION C-C

*Hy-Span Section shown, may vary depending on Manufacturer of Three Sided Precast Concrete Structure



BAR s(E)

MINIMUM BAR LAP

#6 = 3'-10"

PILE DATA

Type: Metal Shell-14 in. dia. x .25 in. walls
Nominal Required Bearing: 364 kips
Factored Resistance Available: 200 kips
Est. Length: 60'
No. Production Piles: 29
No. Test Piles: 1

Notes:

Piles shall be driven through 18" diameter precored holes extending to elevation 618.00 according to Article 512.09(c) of the Standard Specifications. Cost included in driving piles.

Cost of Precast Headwalls is included in the cost of Three Sided Precast Concrete Structures.

Bars indicated thus 6x2-#6 etc. indicates 6 lines of bars with 2 lengths per line.

Cost of coping, railings, parapets and anchorage slabs included with MSE wall drawings.

TWO FOOTINGS BILL OF MATERIAL

Bar	No.	Size	Length	Shape
p(E)	48	#6	39'-4"	———
s(E)	124	#5	13'-11"	□
Concrete Structure			Cu. Yd.	69.5
Reinforcement Bars, Epoxy Coated			Pound	4,640
Furnishing Metal Shell Piles, 14" x 0.25"			Foot	1,740
Driving Piles			Foot	1,740
Test Pile, Metal Shell			Each	1

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PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOOTING AND HEADWALL DETAILS
STRUCTURE NO. 016-1415
SHEET NO. 2 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	282
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
805 Amherst Court, Suite 204
Naperville, Illinois 60565
(630) 355-2838

SOIL BORING LOG

PAGE 1 of 2
DATE 6/12/2012
LOGGED BY JK
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-37**
Station 277+80
Offset 45.6' Left
Ground Surface Elev. 629.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				4.0" SANDY TOPSOIL—black 629.3
	AS	–	10	
	10			CLAY LOAM—dark brown & gray—
	10			medium dense (Fill)
	11	–	13	
				626.7
	6		*86*	SILTY CLAY—dark brown & gray—
	7			hard (A-6)
-5	9	4.1B	23	
				624.2
	2			
	2			
	3	NP	17	
	5			LOAM—gray—
	6			loose to medium dense (A-4)
-10	8	NP	22	
	6			
	10			
	7	NP	21	
				616.7
	4			
	5			SILTY LOAM—gray—
-15	5	NP	22	medium dense (A-4)
	3			
	5			
	7	NP	22	
				611.7
	4		*105*	SILTY CLAY LOAM—gray—
	5			stiff to very stiff (A-4/A-6)
-20	7	0.7B	22	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			
	6			
	7			
-25	7	2.5P	21	SILTY CLAY LOAM—gray—
				stiff to very stiff (A-4/A-6)
	4			
	4			
	6	–	22	
	3		*100*	
	4			
-30	5	0.7B	25	
				597.7
	3			
	4			SANDY LOAM—gray—
-35	10	NP	24	medium dense (A-2)
				592.7
	8			SAND—gray—
	11			medium dense to dense (A-3)
-40	13	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

Geo Services, Inc.
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SOIL BORING LOG

PAGE 2 of 2
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-37**
Station 277+80
Offset 45.6' Left
Ground Surface Elev. 629.7

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	11			
	15			SAND—gray—
-45	16	NP	20	medium dense to dense (A-3)
	19			
	25			
579.7 -50	36	NP	21	
				End Of Boring @ -50.0'
				Hollow Stem Augers To -10.0'
				Rotary Drilling To Completion
				CME Automatic Hammer
-55				
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1415
SHEET NO. 3 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	283
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 1 of 2
DATE 6/12/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-39**
Station 277+80
Offset 30.6' Right
Ground Surface Elev. 633.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				3.0" SANDY TOPSOIL—black XX
	AS	–	5	
	6			CRUSHED STONE—medium dense (Fill)
	8			
630.4	11	NP	4	
	3			CLAY LOAM—dark brown & black— stiff (Fill)
	3			
-5	3	1.75P	23	
627.9				
	3		94	SILTY CLAY—brown & gray— very stiff (A-6) Possible Fill
	5			
	7	2.0B	29	
625.4				
	2			SANDY CLAY LOAM—brown & gray— loose to medium dense (A-2/A-4) Possible Fill
	2			
-10	2	–	21	
622.9				
	8			SAND—gray—medium dense (A-3)
	9			
	11	NP	22	
620.4				
	4			SANDY LOAM—gray— medium dense (A-2)
	4			
-15	6	NP	15	
617.9				
	3			SILTY CLAY LOAM—gray— medium dense (A-4)
	7			
	8	–	25	
	3			
	8			
-20	5	–	20	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			SILTY CLAY LOAM—gray— medium dense (A-4)
	7			
	8	3.0P	18	
610.4				
	4		108	SILTY CLAY—gray—very stiff (A-6)
	8			
-25	11	3.3B	21	
607.9				
	4			SILTY CLAY LOAM—gray— stiff (A-4/A-6)
	5			
	10	1.25P	19	
	2			
	4			
-30	6	1.25P	30	
601.4				
	4			SILTY LOAM—gray— medium dense (A-4)
	6			
-35	7	NP	20	
596.4				
	7			SANDY LOAM—gray— medium dense (A-2)
	10			
-40	15	NP	21	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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(630) 355-2838

SOIL BORING LOG

PAGE 2 of 2
DATE 6/12/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. ---
Station ---
BORING NO. **RW-39**
Station 277+80
Offset 30.6' Right
Ground Surface Elev. 633.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SANDY LOAM—gray— medium dense (A-2)
591.4				
	9			
	10			
-45	14	NP	18	
				SAND—gray—medium dense (A-3)
	9			
	11			
583.4 -50	11	NP	18	
				End Of Boring @ -50.0' Hollow Stem Augers To -10.0' Rotary Drilling To Completion CME Automatic Hammer
-55				
-60				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
-65			
-70			
-75			
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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USER NAME =	DESIGNED - WJV	REVISED
	CHECKED - CJB	REVISED
PLOT SCALE =	DRAWN - WJV	REVISED
PLOT DATE =	CHECKED - CJB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1415
SHEET NO. 4 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	284
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

Geo Services, Inc.
Geotechnical, Environmental & Civil Engineering
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(630) 355-2838

SOIL BORING LOG

PAGE 1 of 3
DATE 2/10/2013
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				5.0" ASPHALT, 10.0" CRUSHED STONE
629.4				
	3			
	5	2.75P	15	SANDY CLAY–dark brown & gray–very stiff (A-6) Fill
	6			
627.9				
	3			SILTY CLAY–brown & gray–very stiff (A-6)
	4		88	
-5	5	2.3B	24	
625.4				
	2			SANDY LOAM to LOAM–brown & gray–loose (A-2/A-4)
	2			
	3	NP	20	
622.9				
	3			SANDY LOAM–gray–loose to medium dense (A-2)
	3			
-10	3	NP	20	
	3			
	4			
	6	NP	23	
617.9				
	2		106	SILTY LOAM–gray–loose to medium dense (A-4)
	2			
-15	3	NP	22	
	3			
	3			
	5	NP	22	
	3			
	4			
-20	4	NP	23	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	2			SILTY LOAM–gray–loose to medium dense (A-4)
	5			
	6	NP	24	
	2			
	3			
	5	NP	25	
602.9				
	2		103	SILTY CLAY LOAM–gray–loose (A-4)
	2			
-30	3	0.5B	24	
598.9				
	2			SILTY LOAM–gray–very loose (A-4)
	2			
-35	2	NP	22	
593.9				
	6			SAND–gray–medium dense (A-3)
	6			
-40	5	NP	24	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

Geo Services, Inc.
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(630) 355-2838

SOIL BORING LOG

PAGE 2 of 3
DATE 2/10/2013
LOGGED BY DR
GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SAND–gray–medium dense (A-3)
568.9				
	4			SILTY LOAM–gray–medium dense (A-4)
	6			
-45	9	NP	25	
				SAND–gray–medium dense (A-3)
	6			
	7			
-50	7	NP	23	
	8			
	8			
-55	8	NP	22	
	10			
	12			
-60	10	NP	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	11			
	14			
-65	14	NP	22	
563.9				
	28			SAND & GRAVEL–gray–medium dense (A-1)
	15			
-70	12	NP	10	
558.9				
	15			SILTY LOAM–gray–medium dense to dense (A-4)
	24			
-75	30	NP	19	
	13			
	18			
-80	18	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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SOIL BORING LOG

PAGE 3 of 3
DATE 2/10/2013
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE Diedrich Automatic

STRUCT. NO. --
Station --
BORING NO. BS-01
Station 276+82
Offset 39.5' Left
Ground Surface Elev. 630.9

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter Dry To -10.0'
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	9			
	9			
-85	11	NP	23	SILTY LOAM–gray–medium dense to dense (A-4)
	9			
	12			
-90	16	NP	16	
	9			
	11			
-95	14	NP	22	
533.9				
	6		102	CLAY–gray–stiff (A-6)
	9			
-100	12	1.9B	24	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7		111	CLAY–gray–stiff (A-6)
	9			
-105	11	1.8B	19	
523.9				
	50/1"			GRAVEL–gray–very dense (A-1)
-110		NP	5	
518.9				
	50/4"			SANDY CLAY LOAM with Fractured Rock–gray–very dense (A-2)
-115		NP	14	
514.4				
				Drillers Observation: Possible Bedrock
				End Of Boring @ -118.5'
512.4				Hollow Stem Augers To -10.0'
				Rotary Drilling To Completion
				10.0' Of 4.0"ø Casing Used
-120				CME Automatic Hammer

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

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USER NAME =	DESIGNED - WJV	REVISED	
	CHECKED - CJB	REVISED	
PLOT SCALE =	DRAWN - WJV	REVISED	
PLOT DATE =	CHECKED - CJB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1415
SHEET NO. 5 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	285
		CONTRACT NO. 60R19		
	ILLINOIS	FED. AID PROJECT		

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SOIL BORING LOG

PAGE 1 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
631.6				4.0" ASPHALT, 6.0" SAND & GRAVEL
	2			
	3			Clayey TOPSOIL–black
	4	2.5P	25	
629.4				
	3		83	SILTY CLAY–brown & gray–
	5			stiff (A–6) Wet
–5	6	1.8B	26	
626.9				
	1			SANDY CLAY LOAM–brown & gray–
	1			very loose (A–2)
	2	–	21	
▼624.4				
	2			SILTY LOAM–gray–loose (A–4)
	3			
–10	4	NP	19	
621.9				
	3			LOAM–gray–loose (A–2/A–4)
	5			
	5	NP	25	
619.4				
	3		106	SILTY CLAY LOAM–gray–
	4			loose (A–4)
–15	5	0.3B	22	
616.9				
	3			
	3			SILTY LOAM–gray–loose (A–4)
	4	NP	23	
	2			
	2			
–20	5	1.7SP	29	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY LOAM–gray–loose (A–4) 611.9
	2		101	
	4			
	5	1.0B	25	
	2		104	
	5			SILTY CLAY LOAM–gray–
–25	4	0.5B	23	medium stiff to stiff (A–4/A–6)
	3		104	
	4			
	5	1.1B	23	
	3		95	
	3			
–30	3	0.5B	29	
600.4				
	2			SILTY LOAM–gray–loose (A–4)
	2			
–35	3	NP	24	
595.4				
	3			SAND–gray–
	4			loose to medium dense (A–3)
	3			
	4			
–40	6	NP	22	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 2 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	4			
	5			SAND–gray–
–45	5	NP	23	loose to medium dense (A–3)
	3			
	4			
	6	NP	20	
	5			
	6			
–55	9	NP	24	
575.4				
	7		99	SILTY CLAY–gray–
	7			medium stiff (A–6) Wet
–60	10	0.6B	26	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				SILTY CLAY–gray–
				medium stiff (A–6) Wet
570.4				
	10			SAND–gray–dense (A–3)
	16			
–65	21	NP	18	
565.4				
	11			SAND & GRAVEL–gray–
	9			medium dense (A–1)
	12			
–70	11	NP	19	
560.4				
	15			SILTY LOAM–gray–
	18			medium dense to dense (A–4)
–75	20	NP	21	
	11			
	17			
–80	21	NP	20	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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SOIL BORING LOG

PAGE 3 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic

STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
	7			
	10			SILTY LOAM–gray–
–85	13	NP	26	medium dense to dense (A–4)
	9			
	12			
–90	16	NP	22	
540.4				
	5		101	CLAY–gray–very stiff (A–6)
	9			
–95	11	2.0B	25	
	8		137	
	32			
–105	40	1.9B	9	
	32			
	50/5"			SANDY CLAY LOAM with Gravel–gray–
–110		NP	10	very dense (A–2)
	50/3"			
–115		NP	14	
516.4				
575.4				Drillers Observation: Apparent Bedrock
				Silurian System, Niagaran Series Dolomite
				RUN 1 (–117.0' to –127.0')
	5		112	Gray & fine grained with horizontal
	10			bedding becoming light gray mottled
–100	14	2.4B	19	gray & slightly porous @ –120.3'.
–120				RUN 1

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B–Bulge, S–Shear, P–Penetrometer) ST–Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR–No Recovery

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1415
SHEET NO. 6 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	286
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

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SOIL BORING LOG

PAGE 4 of 4
DATE 2/8-9/2012
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GSI JOB No. 09174

ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook DRILLING METHOD Hollow Stem Auger/Rotary HAMMER TYPE CME Automatic
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

Surface Water Elev. n/a
Stream Bed Elev. n/a
Groundwater Elevation:
First Encounter 624.4
Upon Completion n/a
After ____ Hrs. ____

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
RUN 1 (−117.0' to −127.0') Horizontal fractures @ −118.3', −119.1', −119.5', −119.6', −120.0', −120.5', −121.8', −122.5', −122.6', −122.7', −123.2', −123.6', −124.2' & −125.0'. Recovery=93.5% RQD=82.5%		RUN 1					
−125				−145			
505.4							
Silurian System, Niagaran Series Dolomite RUN 1 (−127.0' to −133.0') Light gray to gray & fine grained with horizontal bedding becoming mottled gray & slightly porous with horizontal to wavy bedding @ −130.1'. Horizontal fractures @ −129.5', −130.7', −131.1', −131.7' & −132.2'. Recovery=100.0% RQD=100.0%		RUN 2					
−130				−150			
499.4							
End Of Boring @ −133.0 Hollow Stem Augers To −10.0' Rotary Drilling To Completion 10.0' Of 4.0"ø Casing Used CME Automatic Hammer							
−135				−155			
−140				−160			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS=Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
NR-No Recovery

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ROCK CORE LOG

PAGE 1 of 2
DATE 2/8-9/2012
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 515.4
Begin Core Elev. 515.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 1 (−117.0' to −127.0') Gray & fine grained with horizontal bedding becoming light gray mottled gray & slightly porous @ −120.3'. Horizontal fractures @ −118.3', −119.1', −119.5', −119.6', −120.0', −120.5', −121.8', −122.5', −122.6', −122.7', −123.2', −123.6', −124.2' & −125.0'.	1	93.5	82.5	n/a	851 @ −117.0'
−132					
−137					

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

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ROCK CORE LOG

PAGE 2 of 2
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ROUTE FAP 353 (US 30) DESCRIPTION US Route 30 @ EJ&E/CN Railroad, IDOT Job No. D-91-046-12
SECTION 11-Y-A LOCATION SEC 20 & 29, T 35 N, R 15 E, 3rd PM
COUNTY Cook CORING METHOD Rotary Wash
STRUCT. NO. --
Station --
BORING NO. BS-02
Station 276+82
Offset 25.4' Right
Ground Surface Elev. 632.4

CORING BARREL TYPE & SIZE NX Double Swivel-10 ft
Core Diameter 2.0 in
Top of Rock Elev. 505.4
Begin Core Elev. 505.4

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Silurian System, Niagaran Series Dolomite RUN 2 (−127.0' to −133.0') Light gray to gray & fine grained with horizontal bedding becoming mottled gray & slightly porous with horizontal to wavy bedding @ −130.1'. Horizontal fractures @ −129.5', −130.7', −131.1', −131.7' & −132.2'.	2	100.0	100.0	n/a	824 @ −127.0'
−132.0					
−137					

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

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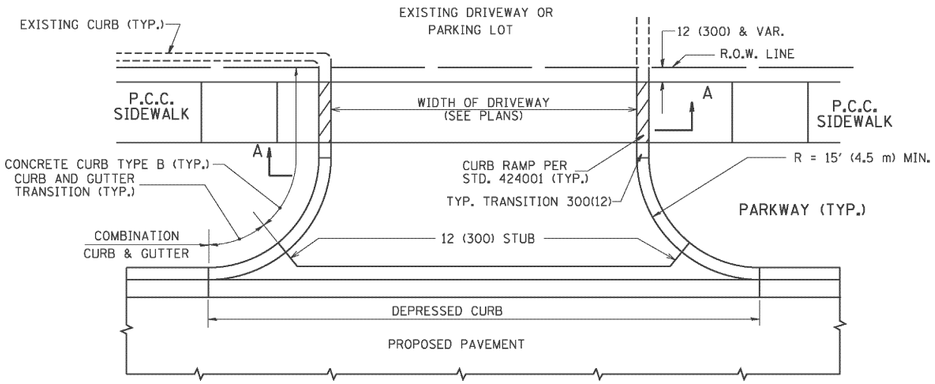
PLOT DATE =	CHECKED - CJB	REVISED

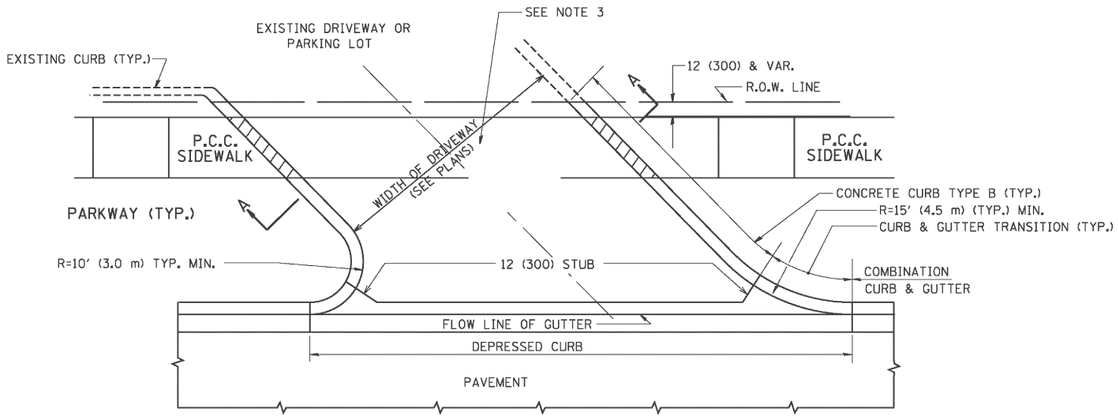
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 016-1415
SHEET NO. 7 OF 7 SHEETS

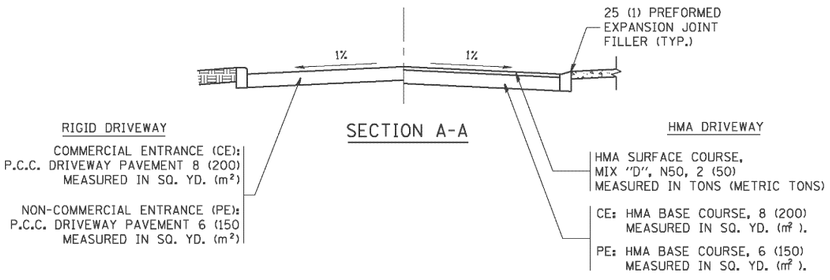
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	287
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

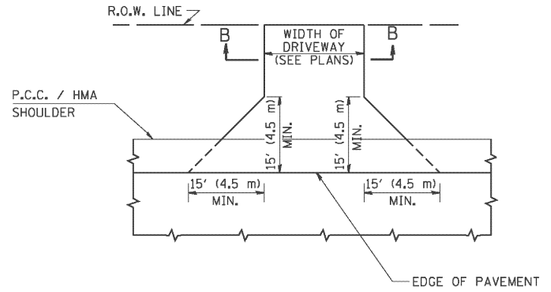


WITH CONCRETE CURB, TYPE B

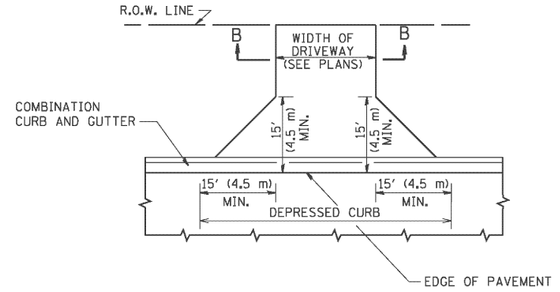


WITH CONCRETE CURB, TYPE B

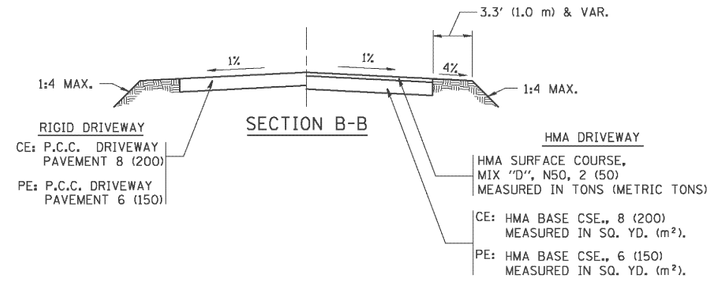




ADJACENT TO P.C.C. / HMA SHOULDER



ADJACENT TO CURB AND GUTTER



RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE,
MIX "D", N50, 2 (50)
MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200)
MEASURED IN SQ. YD. (m²).

GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

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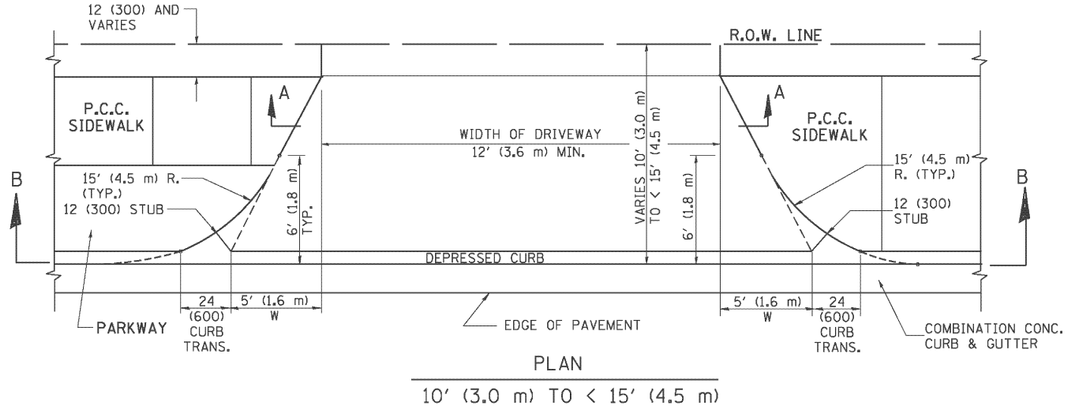
DEPARTMENT OF TRANSPORTATION

DRIVEWAY DETAILS – DISTANCE BETWEEN R.O.W. AND FACE OF CURB & EDGE OF SHOULDER >= 15' (4.5 m)

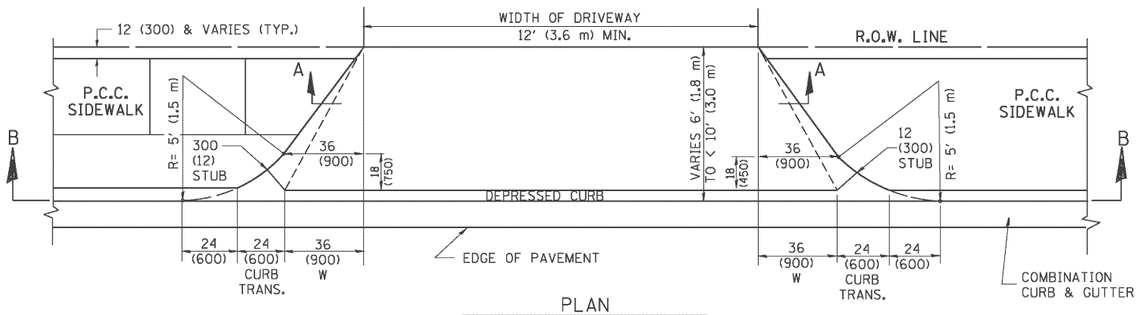
SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	288
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		



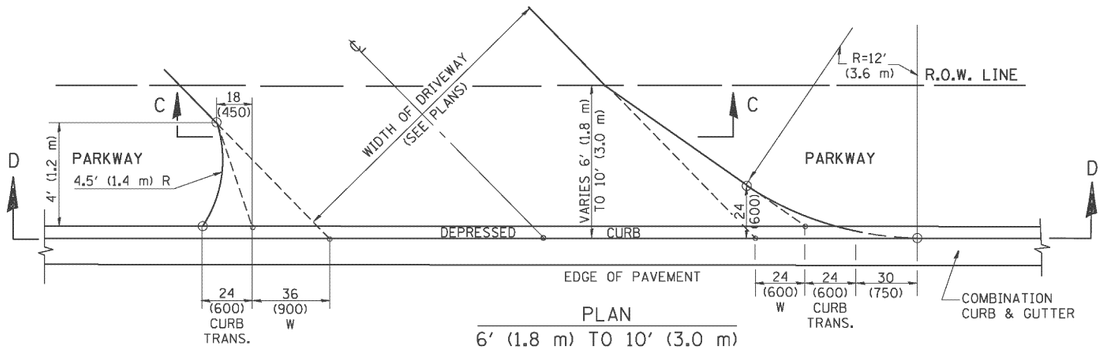
PLAN

10' (3.0 m) TO < 15' (4.5 m)



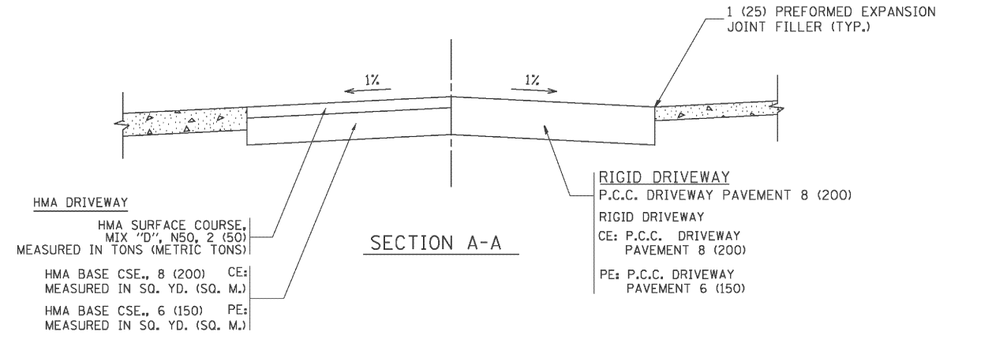
PLAN

6' (1.8 m) TO < 10' (3.0 m)

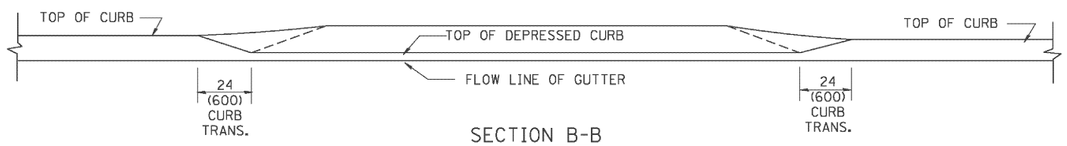


PLAN

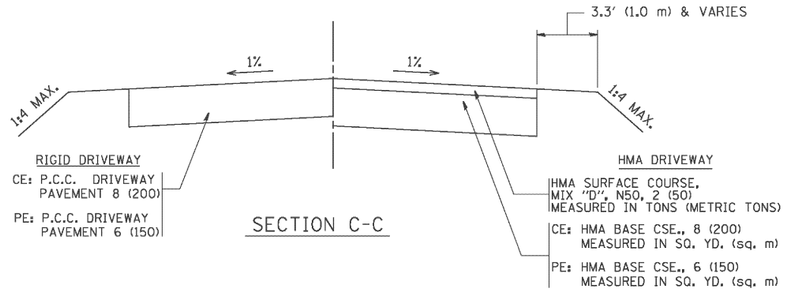
6' (1.8 m) TO 10' (3.0 m)



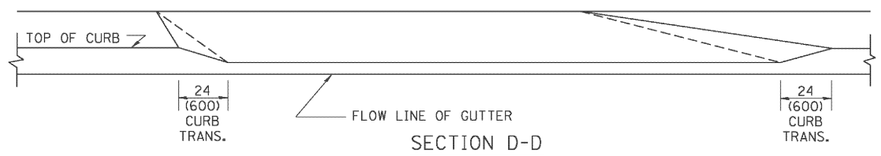
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

GENERAL NOTES

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATION 10 IN THE PERMIT HANDBOOK. WHERE SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED WITH RIGID PAVEMENT. WHERE NO SIDEWALKS EXIST, DRIVEWAYS SHALL BE REPLACED IN KIND. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

WHEN THE DISTANCE BETWEEN R.O.W. AND THE BACK OF CURB IS EQUAL TO OR LESS THAN 8' (2.4 m), THE P.C.C. SIDEWALK SHALL EXTEND TO THE BACK OF CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY QUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

THE 1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

"W" VARIES FROM 36 (900) TO 5' (1.5 m) PROPORTIONAL TO THE LENGTH (L), FROM 6' (1.8 m) TO 10' (3 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED.

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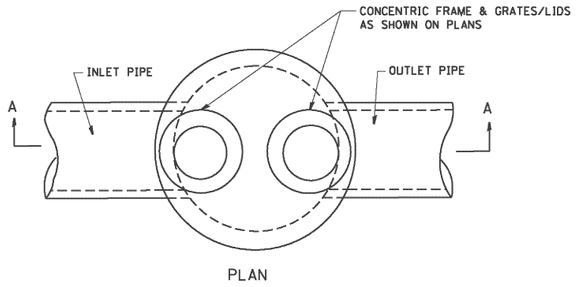
DEPARTMENT OF TRANSPORTATION

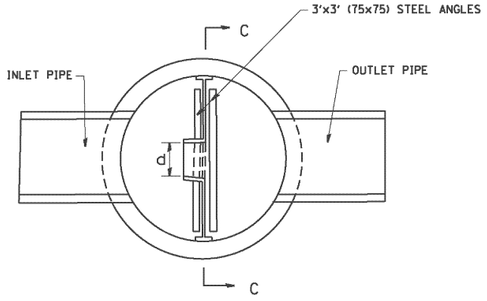
DRIVEWAY DETAILS
DISTANCE BETWEEN R.O.W. AND FACE OF CURB < = 15' (4.5 m)

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

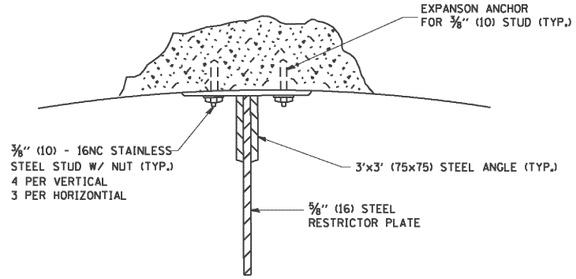
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	289
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



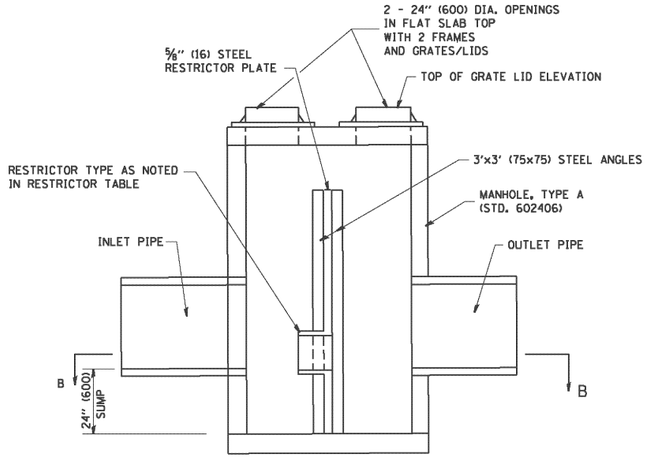
PLAN



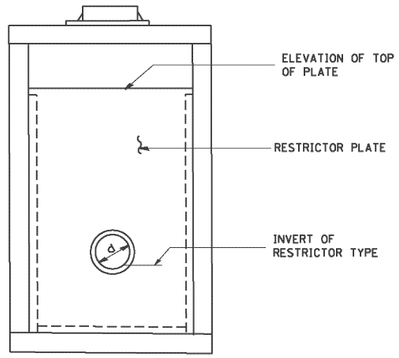
SECTION B-B



ANGLE FASTENER DETAIL



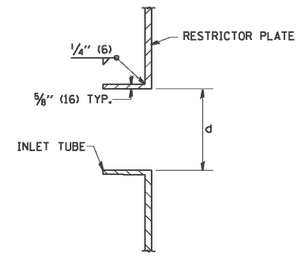
SECTION A-A



SECTION C-C

NOTES:

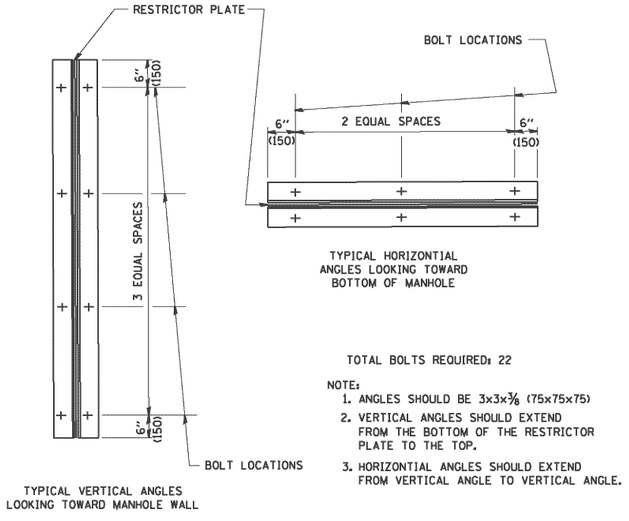
1. ALL STEEL ANGLES AND PLATES TO BE GALVANIZED AFTER FABRICATION.
2. ALL RESTRICTOR PLATES, ANGLES AND HARDWARE TO BE INCLUDED IN THE COST OF THE MANHOLE.
3. BASIS OF PAYMENT: "MANHOLES ,TYPE A, 6 FT. (1.8 m)-DIAMETER, TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE" EACH



INLET TUBE DETAIL

	STATION	MANHOLE DIAMETER	FRAME AND GRATE	RESTRICTOR TYPE	INSIDE RESTRICTOR TYPE DIAMETER in. (mm) (d)	INVERT OF RESTRICTOR TYPE	ELEVATION OF TOP OF PLATE OVERFLOW
203	406+38.82 LT	6'	2-T-1-OL	SHARP EDGED	8	626.69	632.40
202	288+04.34 LT	6'	2-T-1-OL	SHARP EDGED	12.6	627.31	631.58
201	278+73.45 LT	6'	2-T-1-OL	SHARP EDGED	7.3	625.71	628.80
200	264+90.66 LT	8'	2-T-1-OL	SHARP EDGED	45.5	621.22	624.80

200 = STRUCTURE ID



TYPICAL VERTICAL ANGLES
LOOKING TOWARD MANHOLE WALL

TYPICAL HORIZONTIAL
ANGLES LOOKING TOWARD
BOTTOM OF MANHOLE

TOTAL BOLTS REQUIRED: 22

NOTE:

1. ANGLES SHOULD BE 3x3x⅜ (75x75x75)
2. VERTICAL ANGLES SHOULD EXTEND FROM THE BOTTOM OF THE RESTRICTOR PLATE TO THE TOP.
3. HORIZONTIAL ANGLES SHOULD EXTEND FROM VERTICAL ANGLE TO VERTICAL ANGLE.

STEEL ANGLE BOLTING DETAILS

RESTRICTOR TYPE					
1	2	3	4	5	6
RE-ENTRANT TUBE	SHARP EDGED	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED
LENGTH: ½ TO 1 DIA.		STREAM CLEARS SIDES	LENGTH: 2-½ DIA.	LENGTH: 2-½ DIA.	
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98

VALUES OF "C" FOR CIRCULAR AND SQUARE ORIFICES

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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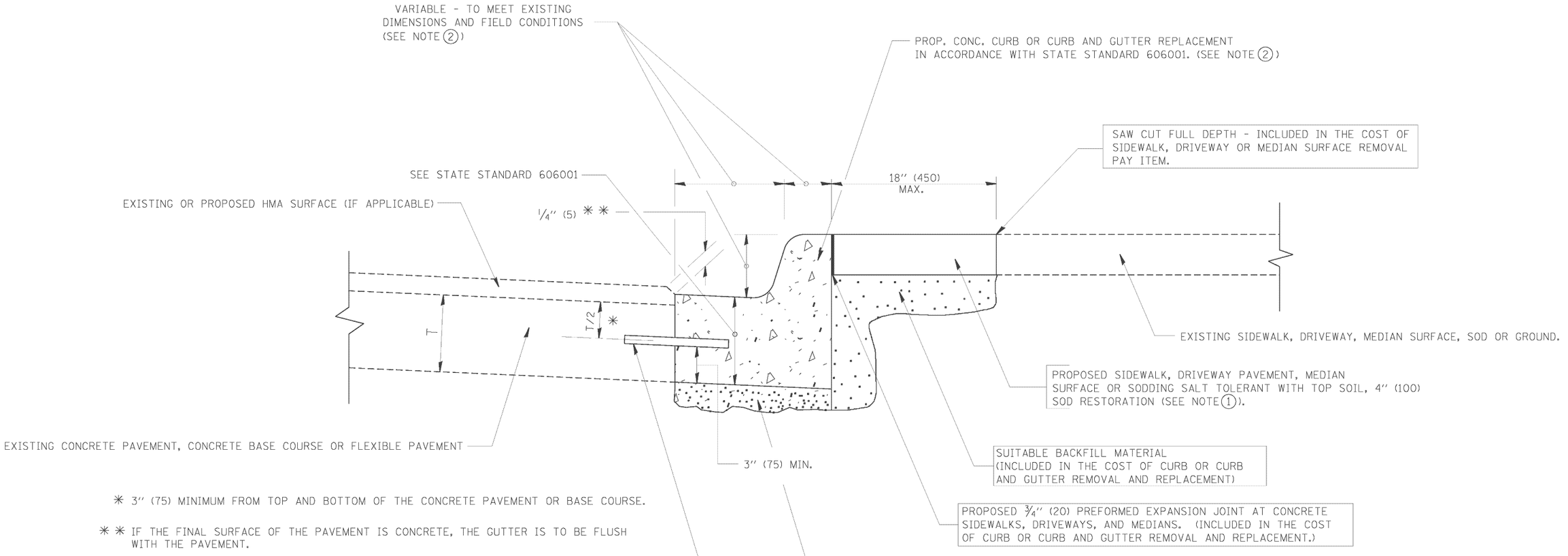
MANHOLE WITH RESTRICTOR PLATE

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	290
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



* 3" (75) MINIMUM FROM TOP AND BOTTOM OF THE CONCRETE PAVEMENT OR BASE COURSE.

* * IF THE FINAL SURFACE OF THE PAVEMENT IS CONCRETE, THE GUTTER IS TO BE FLUSH WITH THE PAVEMENT.

NOTE: (1) SIDEWALK, DRIVEWAY PAVEMENT OR MEDIAN SURFACE SHALL BE SIMILAR TO THE MATERIAL BEING REMOVED AND WILL BE PAID FOR SEPARATELY.

SODDING, SALT TOLERANT AND TOP SOIL, FURNISH AND PLACE 4" WILL BE PAID FOR SEPARATELY,

(2) FERTILIZER FOR THE PLACEMENT OF THE SOD IS NOT REQUIRED

(3) CURB OR CURB AND GUTTER REPLACEMENT SHALL MATCH THE SHAPE OF THE EXISTING CURB OR CURB AND GUTTER UNLESS OTHERWISE SPECIFIED.

(4) FOR CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT ADJACENT TO FLEXIBLE PAVEMENT DELETE EPOXY COATED TIE BARS.

(5) LONGITUDINAL BARS, IF ENCOUNTERED IN THE EXISTING CURB OR CURB AND GUTTER, ARE NOT TO BE REPLACED. CUTTING AND REMOVING LONGITUDINAL BARS SHALL BE INCLUDED IN THE COST OF CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT.

(6) THE COST OF HMA SURFACE REMOVAL IN THE EXISTING GUTTER FLAG SHALL BE INCLUDED IN THE COST OF THE CURB AND GUTTER REMOVAL AND REPLACEMENT.

(7) THE REMOVAL AND REPLACEMENT OF THE EXISTING CURB OR CURB AND GUTTER SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 440 AND 606 OF THE STANDARD SPECIFICATIONS.

(8) THE LOCATIONS OF REMOVAL AND REPLACEMENT OF EXISTING CURB OR CURB AND GUTTER SHALL BE DETERMINED BY THE RESIDENT ENGINEER AT THE TIME OF CONSTRUCTION.

BASIS OF PAYMENT:

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT (METER) FOR "CURB REMOVAL AND REPLACEMENT" OR "COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT".

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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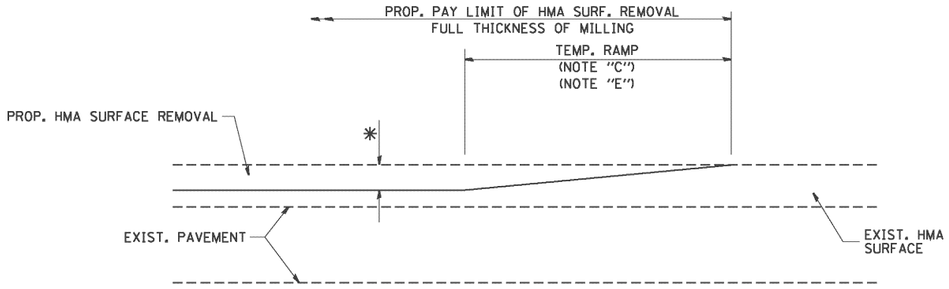
CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

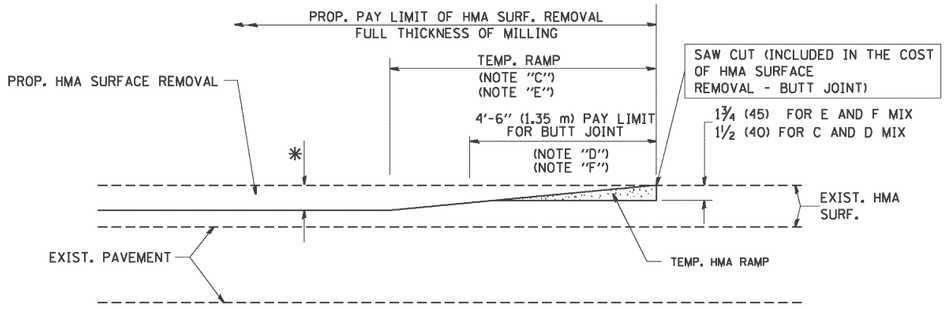
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	291
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



MILLED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

OPTION 1

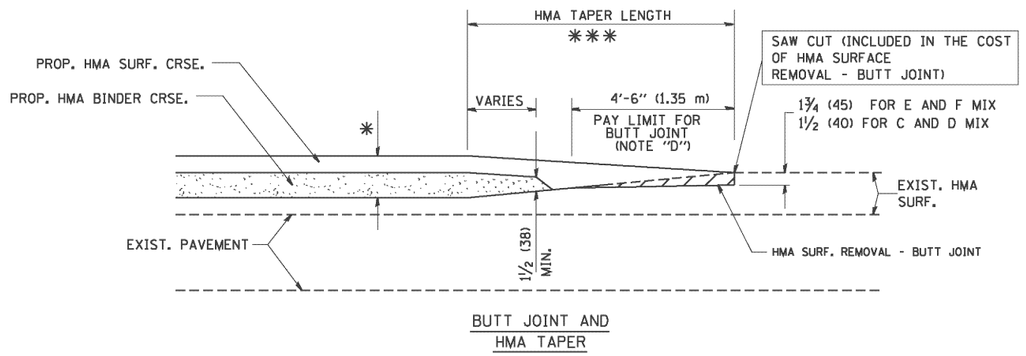


HMA CONSTRUCTED TEMPORARY RAMP

(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

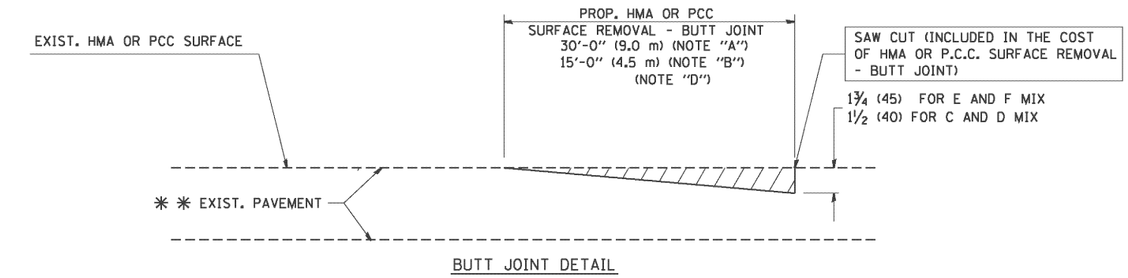
OPTION 2

TYPICAL TEMPORARY RAMP

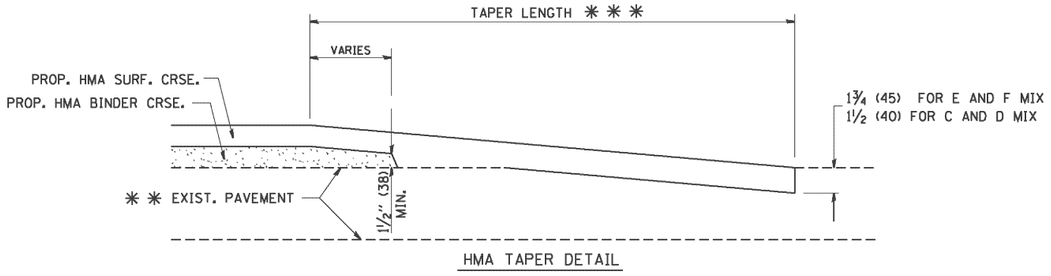


BUTT JOINT AND HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

NOTES

A: MAINLINE ROADWAYS AND MAJOR SIDE ROADS.

B: MINOR SIDE ROADS.

C: THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.

D: THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.

E: TAPER THE TEMP. RAMP AT A RATE OF 3'-0" (900 mm) PER 1 INCH (25 mm) OF MILLING THICKNESS.

F: INSTALLATION AND REMOVAL OF THE 4'-6" (1.35 m) TEMP. RAMP IS INCLUDED IN COST OF HMA SURFACE REMOVAL - BUTT JOINT

G: SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".

* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.

*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT:

THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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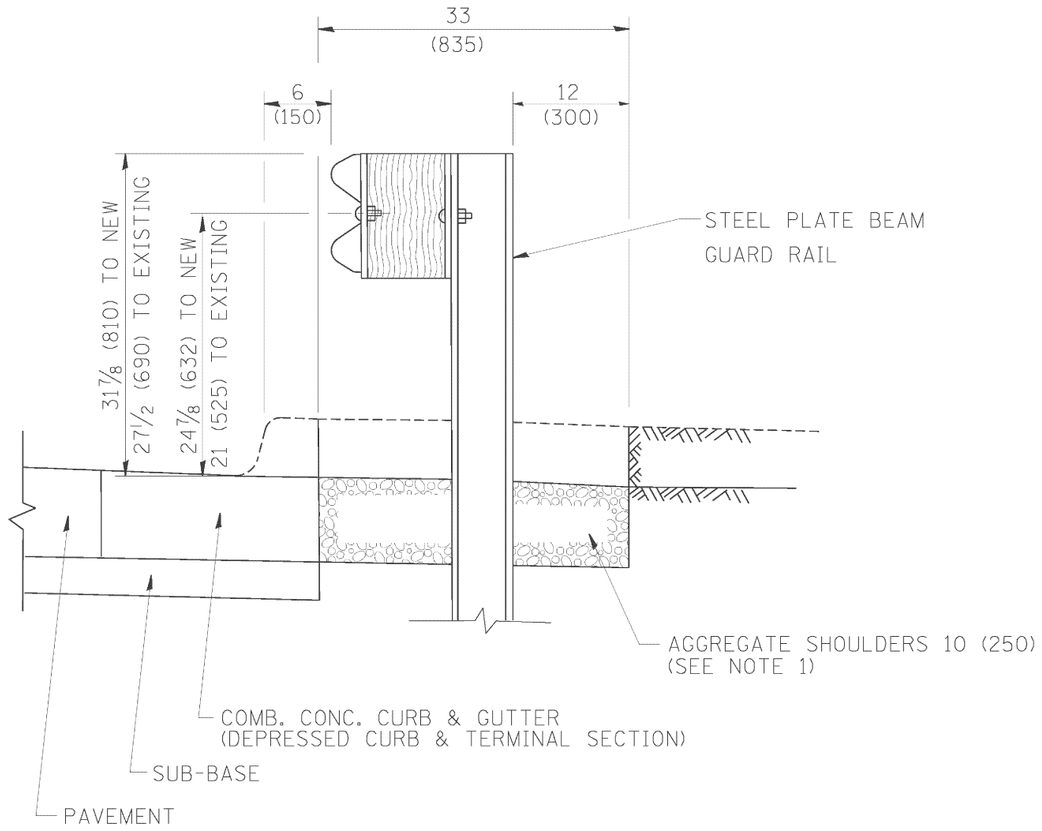
BUTT JOINT AND HMA TAPER DETAILS

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

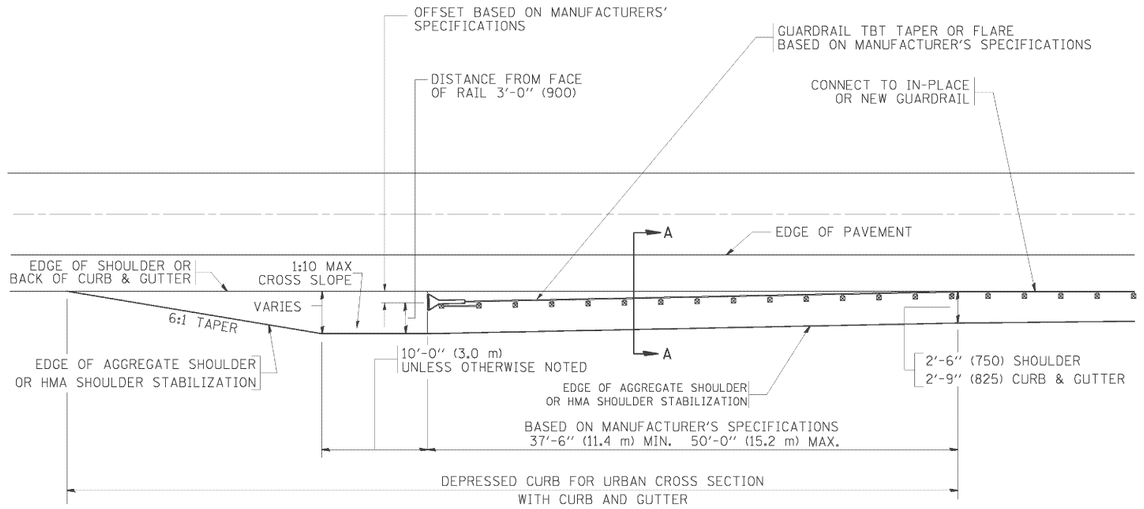
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	292
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



SECTION A-A

NOTES:
1. THE AGGREGATE SHOULDER, 10" OR HMA SHOULDER, 6" (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

DETAILS FOR STEEL PLATE BEAM GUARD RAIL ADJACENT TO CURB AND GUTTER
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



DEPRESSED CURB AND GUTTER AND SHOULDER TREATMENT AT TBT TY. 1 SPL.

BASIS OF PAYMENT: HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SHOULDERS 6" (150 mm)".

STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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DEPARTMENT OF TRANSPORTATION

DETAILS FOR DEPRESSED CURB & GUTTER AND SHOULDER TREATMENT AT TBT TY 1 SPL

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

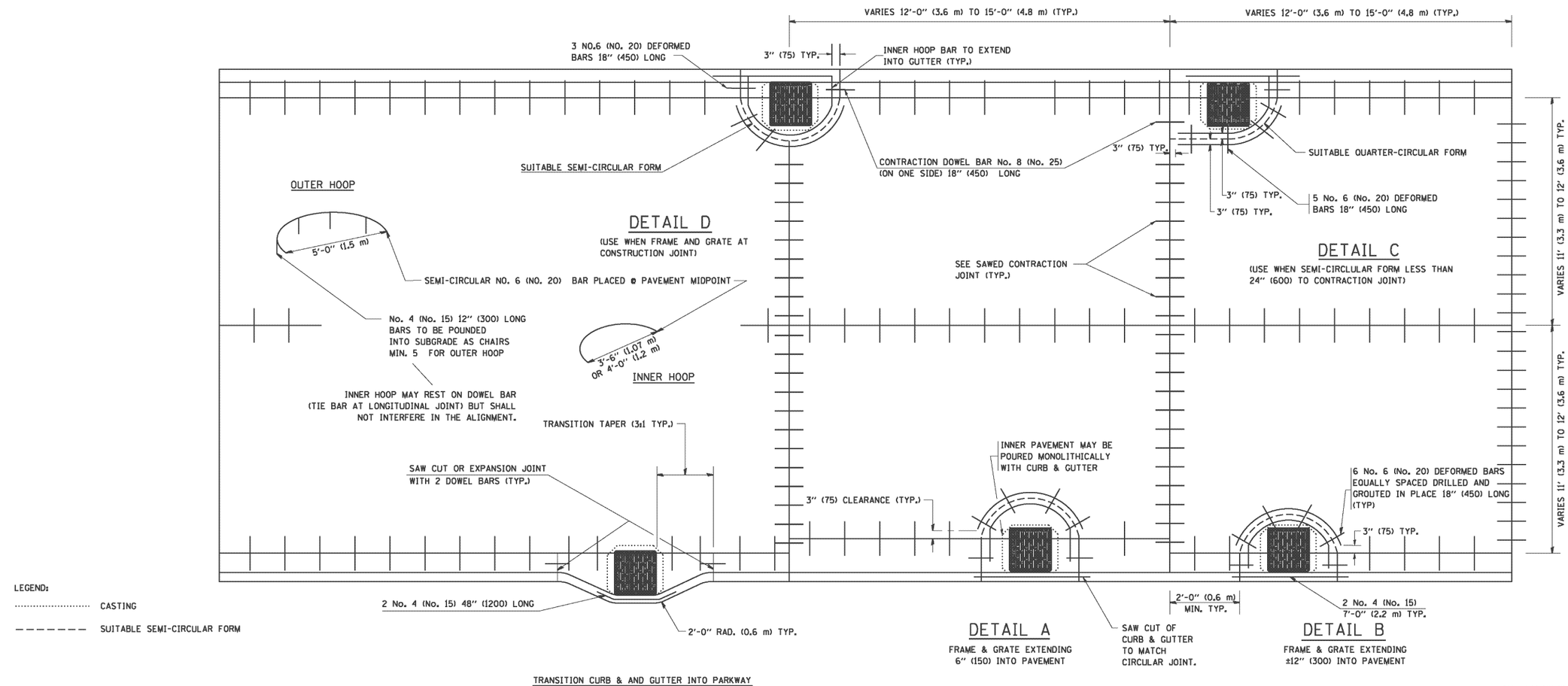
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	293
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

FRAME EXTENSION INTO PAVEMENT	INNER HOOP REINFORCEMENT DIAMETER	SEMI CIRCULAR FORM DIAMETER	OUTER HOOP REINFORCEMENT DIAMETER
UP TO 8" (200)	3'-6" (1.1 m)	4'-0" (1.2 m)	5'-0" (1.5 m)
> 8" (200) TO 14" (360)	4'-0" (1.2 m)	4'-6" (1.4 m)	5'-0" (1.5 m)

DESIGNER NOTE:
THIS DETAIL IS TO BE USED WHEN THE GUTTER FLAG IS LESS THAN 24"

NOTES :

1. THE ROUNDOUT AND ADDED REINFORCEMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PAVEMENT.
2. TRANSVERSE JOINTS MAY BE MOVED TO ACCOMMODATE ROUNDOUT, EDGE OF CIRCULAR JOINT SHALL BE MINIMUM 12" (300) FROM TRANSVERSE JOINT. RELOCATED TRANSVERSE JOINT SHALL BE CONTINUOUS FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
3. SEMI-CIRCULAR FORM SHALL BE REMOVED PRIOR TO DRILL AND GROUT OF TIE BARS.
4. ALL REINFORCED BARS SHALL BE EPOXY COATED.
5. DRILL AND GROUT IS PREFERRED, HOWEVER TIE BARS CAN BE POURED IN PLACE IF CLEARANCE IS PROVIDED TO OUTER EDGE OF FRAME. MINIMUM 2" (50) CLEARANCE.
6. WOOD SHIMS SHALL BE USED TO ADJUST ALL FRAMES. AFTER ADJUSTING MORTAR HAS CURED, THE WOOD SHIMS SHALL BE REMOVED AND THE VOIDS UNDER THE FRAMES FILLED WITH NON SHRINK GROUT.
7. HOOP REINFORCEMENT SHALL BE ONE PIECE CONSTRUCTION.
8. CIRCULAR FRAMES AND GRATES MAY BE SUBSTITUTED.
9. CURB DOWELS MUST BE PLACED LEVEL & TRUE TO ALLOW CONTRACTION MOVEMENT.



TRANSITION CURB & AND GUTTER INTO PARKWAY
(PREFERRED BECAUSE PAVING OF MAINLINE NOT AFFECTED.)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE NOTED

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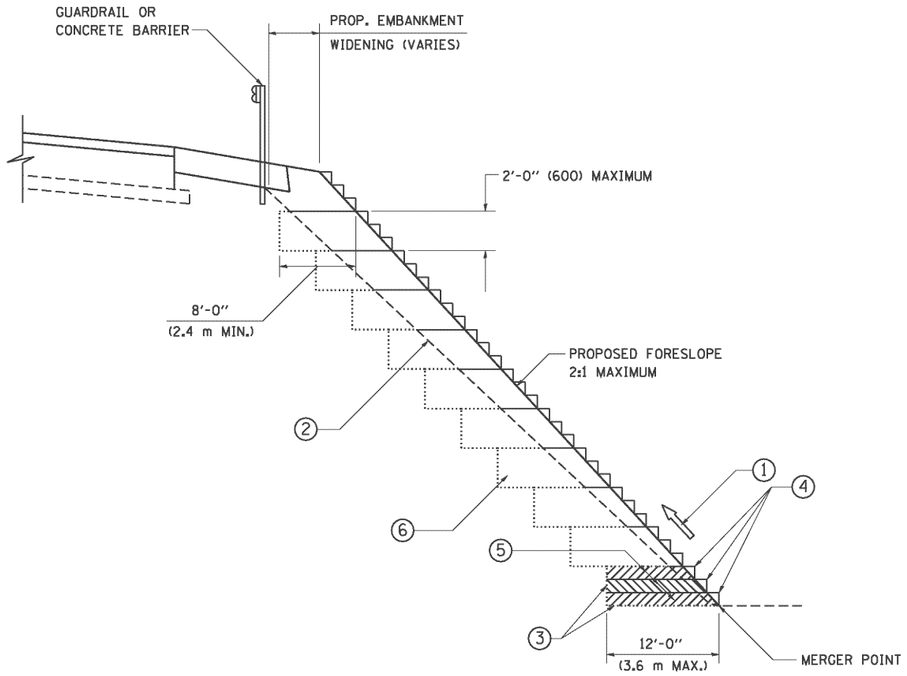
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PCC PAVEMENT ROUNDOUTS AT CURB AND GUTTER

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	294
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



TYPICAL BENCHING DETAIL FOR EMBANKMENT

NOTES:

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.
6. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
7. SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5' (1.5 m).

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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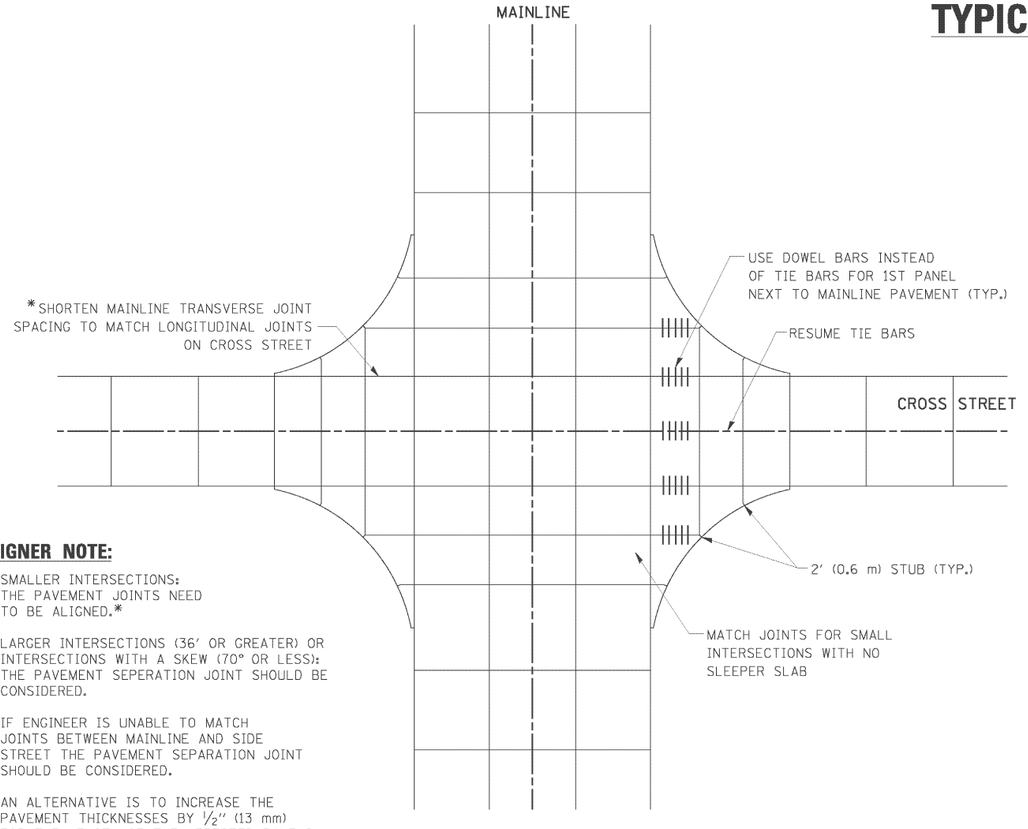
DEPARTMENT OF TRANSPORTATION

BENCHING DETAIL
FOR EMBANKMENT WIDENING

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	295
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			

TYPICAL APPLICATION

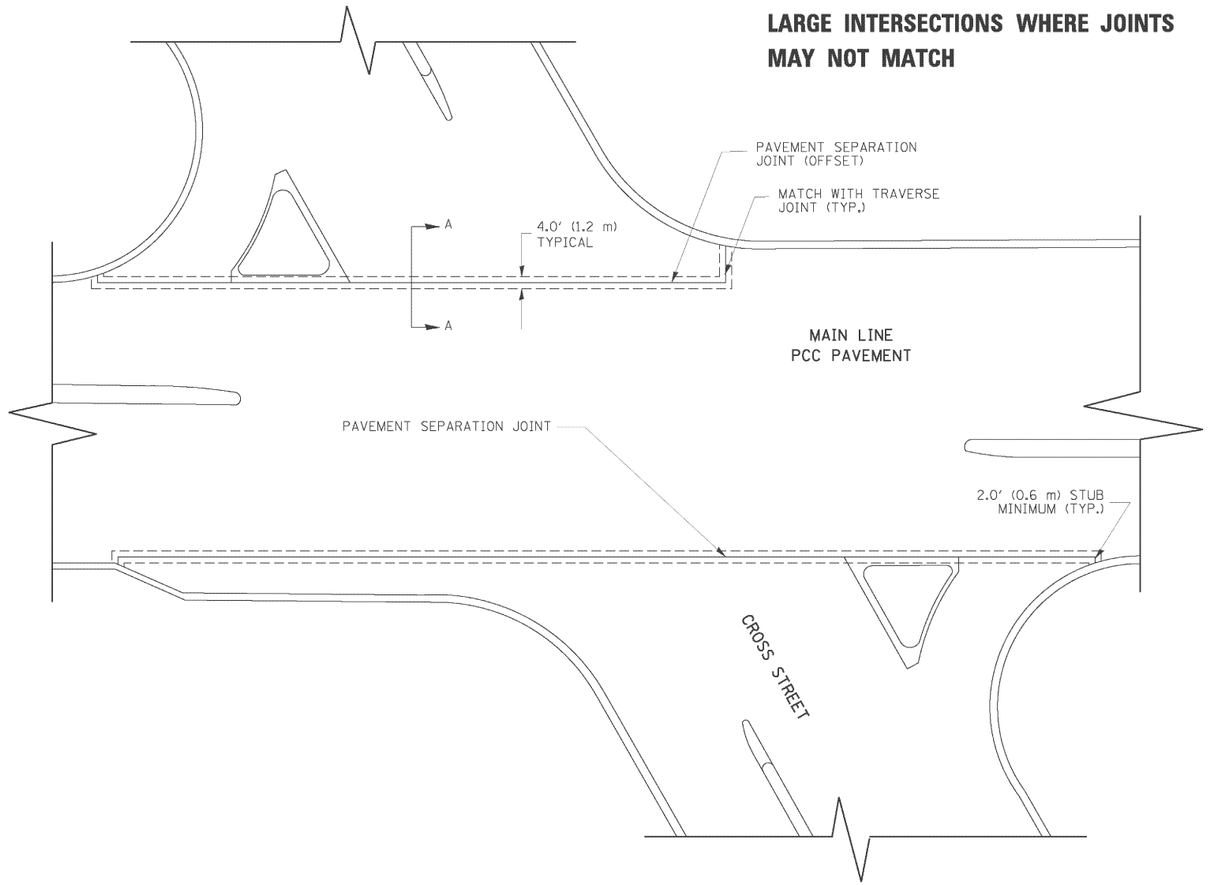


PLAN

DESIGNER NOTE:

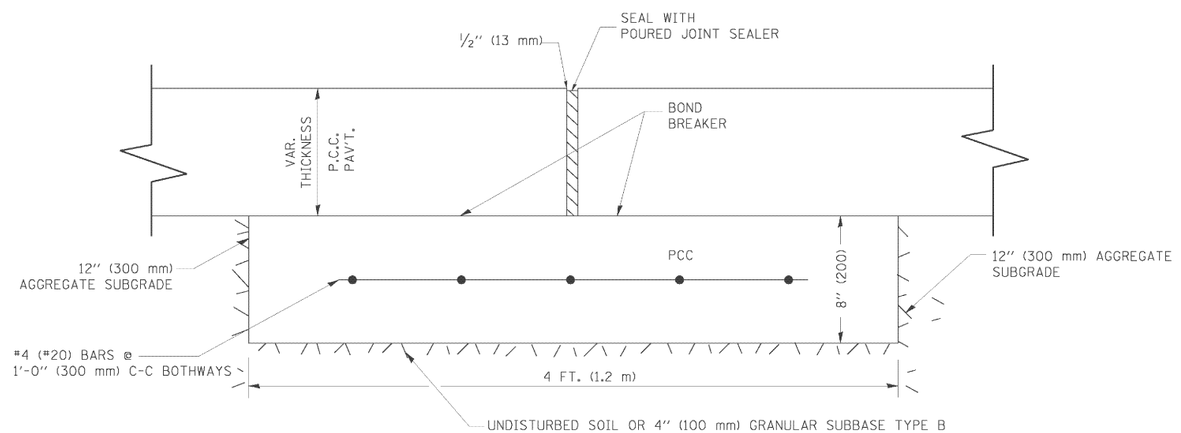
1. SMALLER INTERSECTIONS: THE PAVEMENT JOINTS NEED TO BE ALIGNED.*
2. LARGER INTERSECTIONS (36' OR GREATER) OR INTERSECTIONS WITH A SKEW (70° OR LESS): THE PAVEMENT SEPERATION JOINT SHOULD BE CONSIDERED.
3. IF ENGINEER IS UNABLE TO MATCH JOINTS BETWEEN MAINLINE AND SIDE STREET THE PAVEMENT SEPARATION JOINT SHOULD BE CONSIDERED.
4. AN ALTERNATIVE IS TO INCREASE THE PAVEMENT THICKNESSES BY 1/2" (13 mm) FOR THE LENGTH OF THE AFFECTED PANELS AT THE INTERSECTION. FOR LARGE INTERSECTIONS (6 LANES
5. OR MORE) WHERE JOINTS CAN BE MATCHED, USE #8 (25) DOWEL BARS INSTEAD OF #8 (25) TIE BARS AT EDGE OF MAINLINE PAVEMENT WHEN NO PAVEMENT SEPARATION JOINTS USED.

THE USE OF CROSS STREET PAVEMENT SEPARATION JOINTS FOR SKEWED OR LARGE INTERSECTIONS WHERE JOINTS MAY NOT MATCH



NOTE:

1. JOINT FILLER SHALL CONSIST OF A SHEET OF 1/2" (13 mm) BITUMINOUS PREFORMED FIBER JOINT FILLER CONFORMING TO ARTICLE 1051.03 OF THE STANDARD SPECIFICATIONS.
2. THE JOINT SHALL BE SEALED WITH A HOT POUR JOINT SEALER CONFORMING TO ARTICLE 1050.02 OF THE STANDARD SPECIFICATIONS.
3. A SINGLE LAYER OF FELT ROOFING PAPER SHALL SERVE AS A BOND BREAKER.
4. JOINT SHALL CONTINUE THROUGH COMBINATION CURB & GUTTER OR PCC SHOULDER.
5. PAVEMENT SEPARATION JOINT IS TO BE PAID FOR AS "SLEEPER SLAB" AND IS TO BE MEASURED IN PLACE BY THE LINEAL FOOT.
6. BOND BREAKER AND 1/2" (13 mm) JOINT AND FILLER SHALL BE INCIDENTAL TO THE PAY ITEM "SLEEPER SLAB".



PROPOSED SECTION A–A

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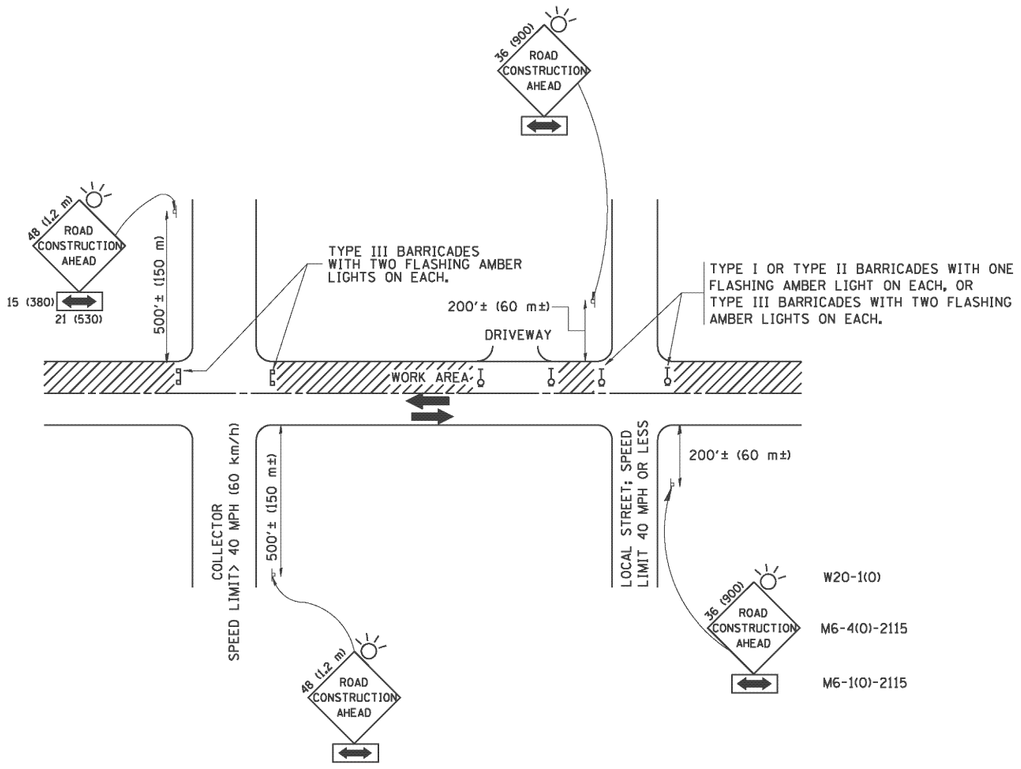
DETAIL OF PAVEMENT SEPARATION JOINT FOR JOINTED PCC PAVEMENTS AT INTERSECTIONS

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	296
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.

2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:

   a) ONE **ROAD CONSTRUCTION AHEAD** SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.

   b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.

3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in millimeters (inches) unless otherwise shown.

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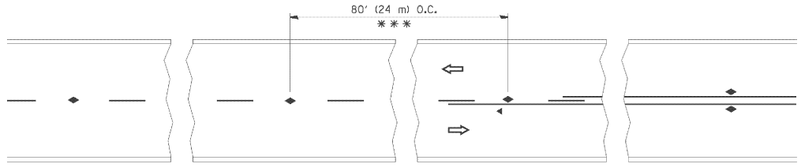
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

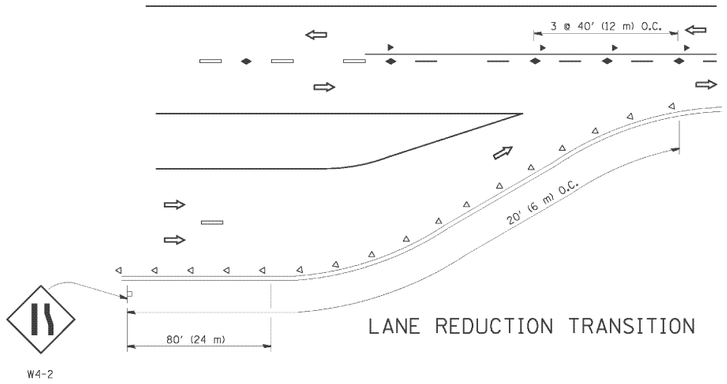
SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	297
		CONTRACT NO. 60R19		
		ILLINOIS FED. AID PROJECT		

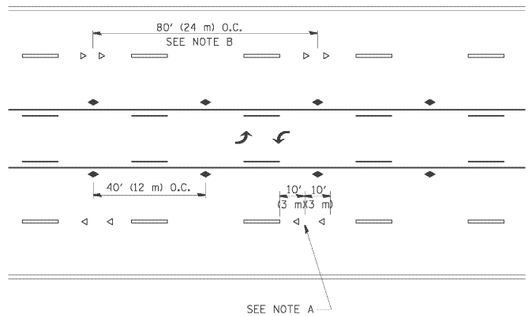


* * * REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

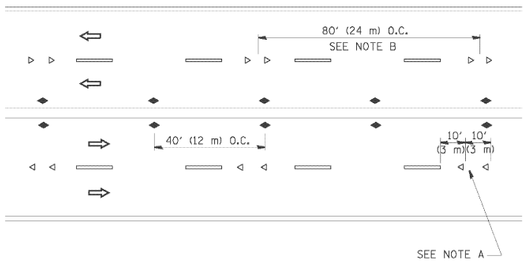
TWO-LANE/TWO-WAY



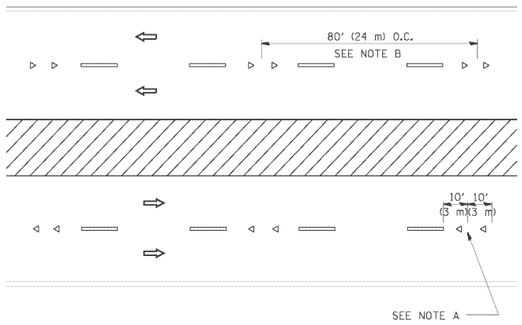
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

- YELLOW STRIPE
- WHITE STRIPE
- ONE-WAY AMBER MARKER
- ONE-WAY CRYSTAL MARKER (W/O)
- TWO-WAY AMBER MARKER

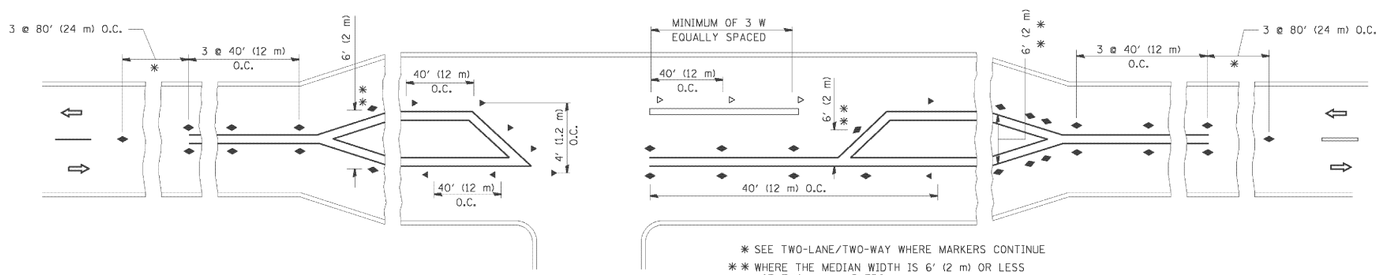
LANE MARKER NOTES

A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.

B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE

** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

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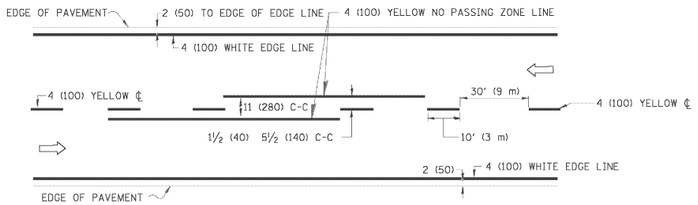
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

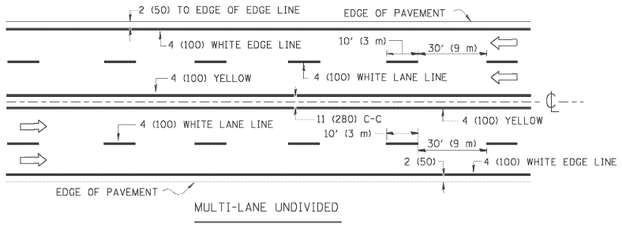
TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW PLOW RESISTANT)

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

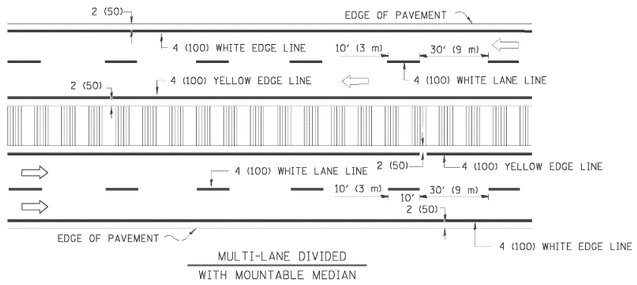
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	298
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			



2-LANE ROADWAY



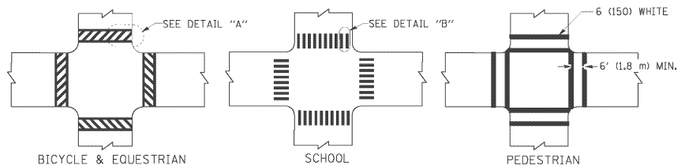
MULTI-LANE UNDIVIDED

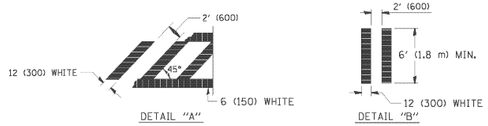


MULTI-LANE DIVIDED
WITH MOUNTABLE MEDIAN

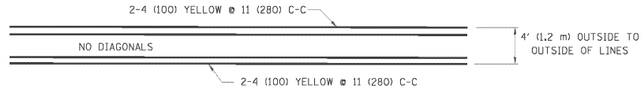
NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

TYPICAL LANE AND EDGE LINE MARKING

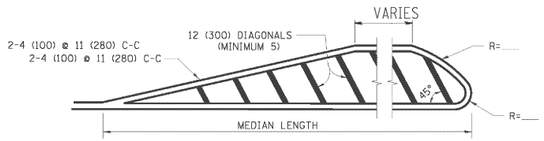




TYPICAL CROSSWALK MARKING



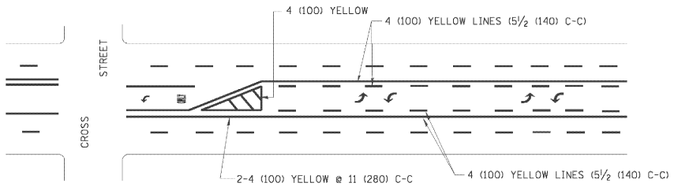
4' (1.2 m) WIDE MEDIANS ONLY



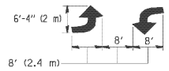
FOR MEDIAN LENGTHS WHERE DIAGONAL SPACING CANNOT BE ATTAINED, USE 5 (FIVE) EQUALLY SPACED DIAGONAL LINES.

DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h))
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

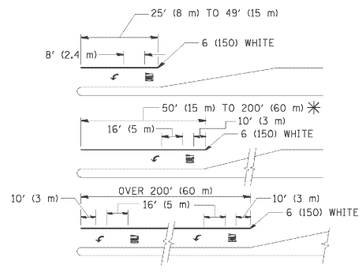


A MINIMUM OF TWO PAIRS OF TURN ARROWS SHALL BE USED, WHITE IN COLOR. ADDITIONAL PAIRS SHALL BE PLACED AT 200' (60 m) TO 300' (90 m) INTERVALS.



MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

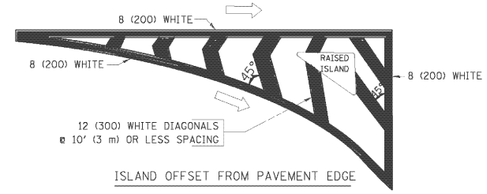


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
↰ AREA = 15.6 SQ. FT. (1.5 m^2)) ONLY AREA = 20.8 SQ. FT. (1.9 m^2)

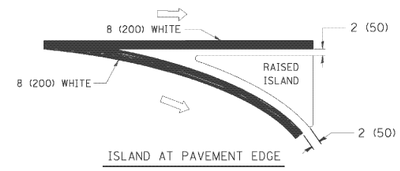
✳ TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

V3 Companies
7325 Janes Avenue
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630.724.9200 phone
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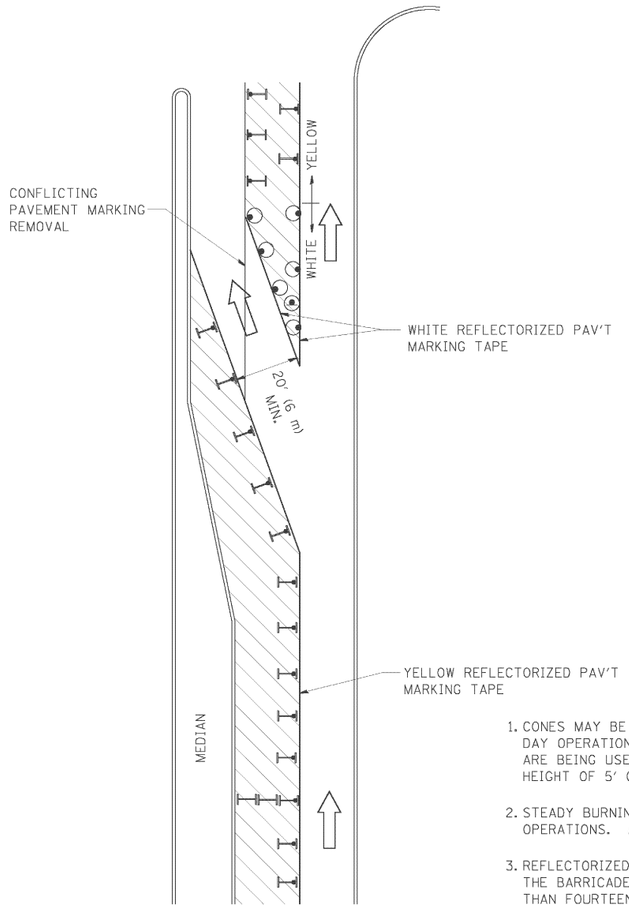
USER NAME = hshah	DESIGNED - DSS	REVISED -	
	DRAWN - DRP	REVISED -	
PLOT SCALE = 1.0000 ' / in.	CHECKED - VJD	REVISED -	
PLOT DATE = 8/21/2013	DATE - 08/14/2013	REVISED -	

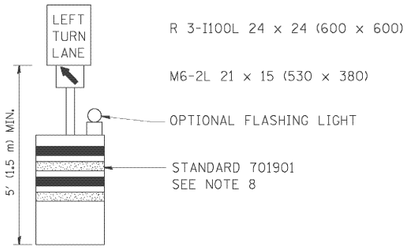
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	299
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			





GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHR 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

LEGEND

WORK AREA

LANE OPEN TO TRAFFIC

TYPE I OR II BARRICADE WITH STEADY BURN LIGHT

DRUM WITH STEADY BURN LIGHT

DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL

TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)

SCALE: N/A | SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
353	11-Y-A	COOK	354	300
		CONTRACT NO. 60R19		
	ILLINOIS FED. AID PROJECT			