

092-0197

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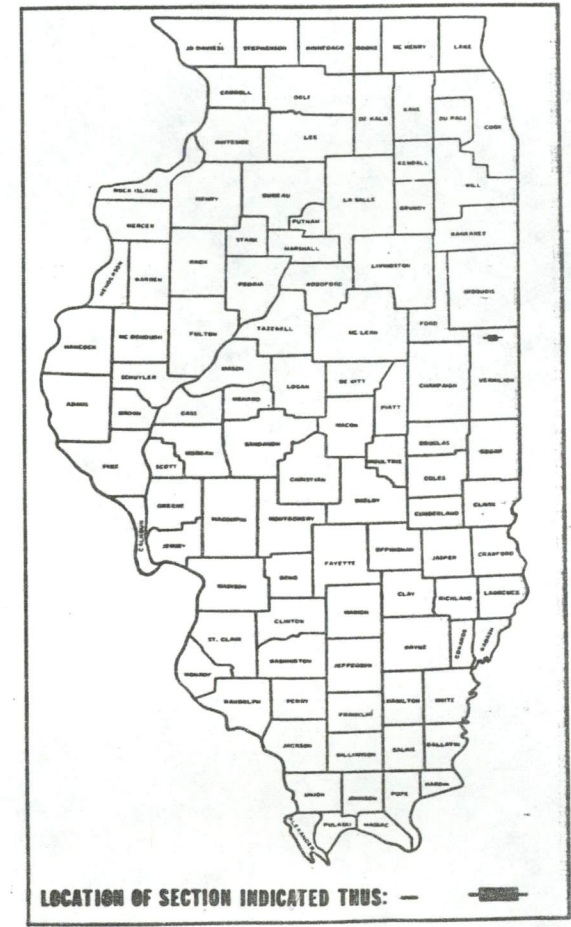
99%
10-16-93

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

PLAN 1" = 20'-0"
PROFILE HORIZ. 1" = 20'-0"
PROFILE VERT. 1" = 5'-0"
CROSS SECTIONS 1" = 10'-0" (HORIZ.)
1" = 5'-0" (VERT.)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	(Z-1)BR-1	VERMILION	13	1
F.H.W.A. REG.	ILLINOIS	PROJECT BRS-0331 (117)		

D-95-009-90

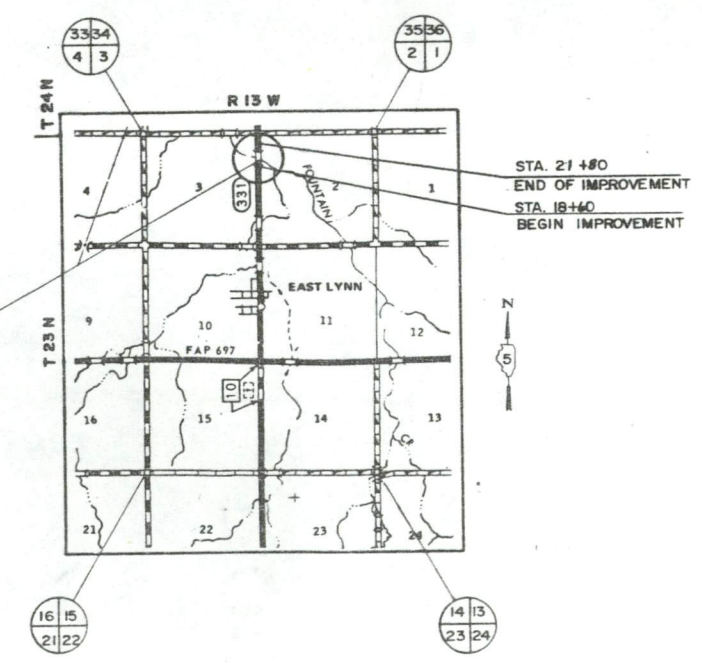


STANDARDS

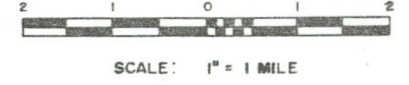
- 1686-4 SYMBOLS & ABBREVIATIONS
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- 2336-4 TRAFFIC BARRIER TERMINAL, TYPE 1 & 1A.
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- 2427-1 CLASS C AND D PATCHES

F.A.S. ROUTE 331 (EAST LYNN ROAD)
SECTION (Z-1)BR-1
VERMILION COUNTY
PROJECT BRS-0331 (117)
C - 95 - 131 - 90
BRIDGE REPLACEMENT

SECTION (Z-1)BR-1 INCLUDES
REMOVAL OF EXISTING TWO SPAN
REINFORCED CONCRETE STRUCTURE
AND REPLACING WITH A NEW SINGLE
SPAN BOX BEAM BRIDGE ON OPEN
INTEGRAL ABUTMENTS.



GROSS AND NET LENGTH OF IMPROVEMENT = 320.00 FT. (0.061 MILE)



SCALE: 1" = 1 MILE

DESIGN DESIGNATION
NOT APPLICABLE

CONTRACT NO. 90220

REPLACES 092-0068



FOR UNDERGROUND UTILITY
LOCATIONS, CALL
J.U.L.I.E. TOLL FREE
TEL. 800-892-0123
EAST LYNN TOWNSHIP

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

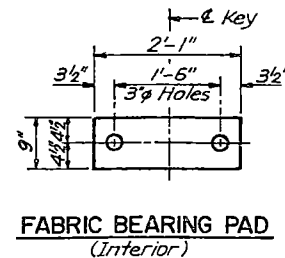
SUBMITTED: March 5, 1993
EXAMINED: [Signature]
PASSED: April 23, 1993
APPROVED: April 23, 1993



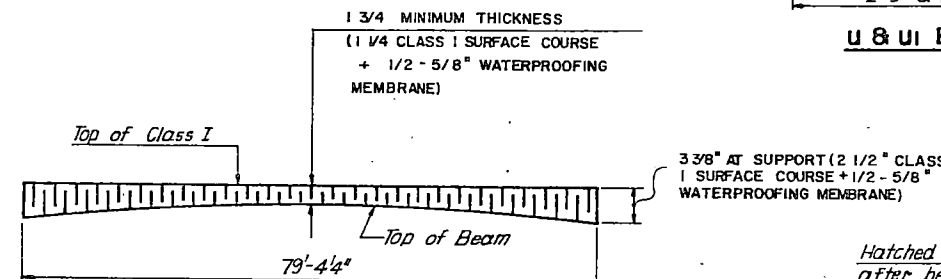
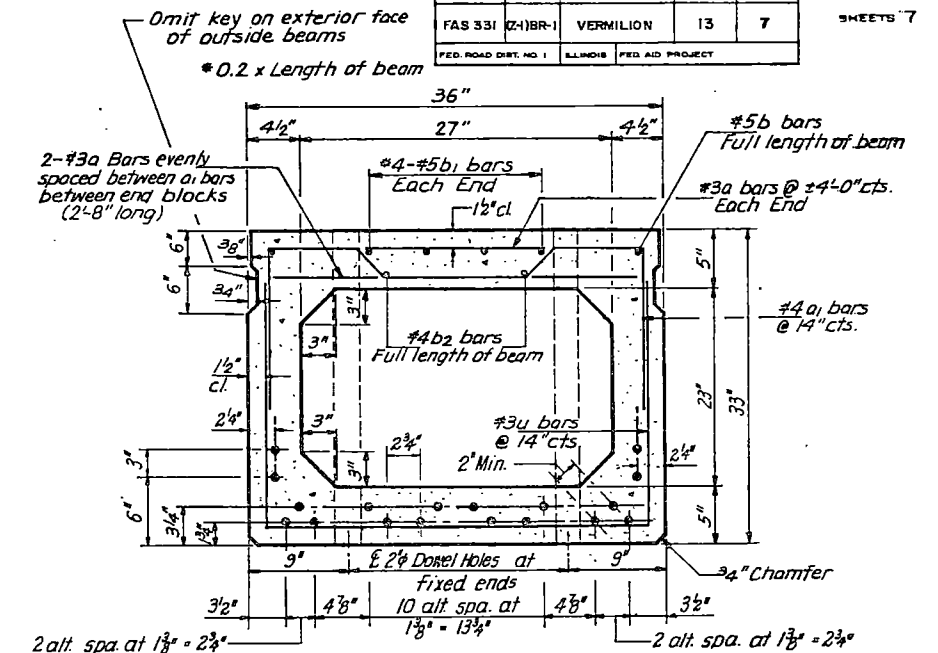
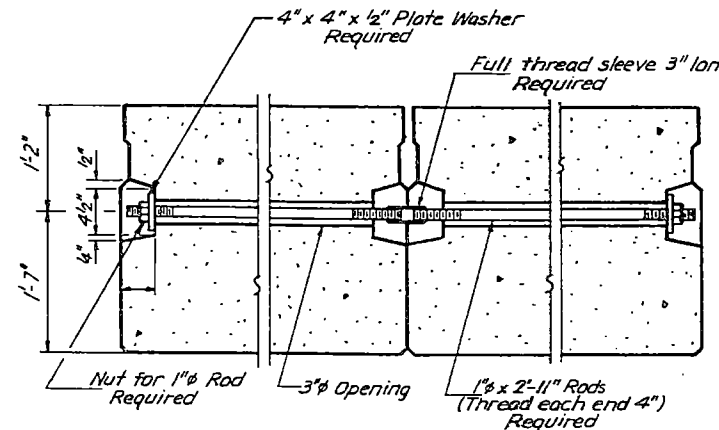
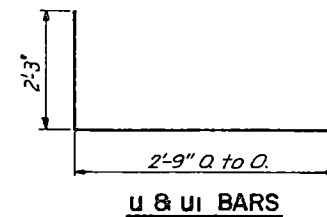
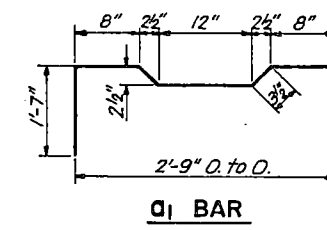
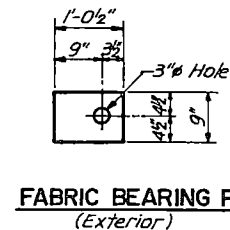
PRINTED BY AUTHORITY OF THE STATE OF ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

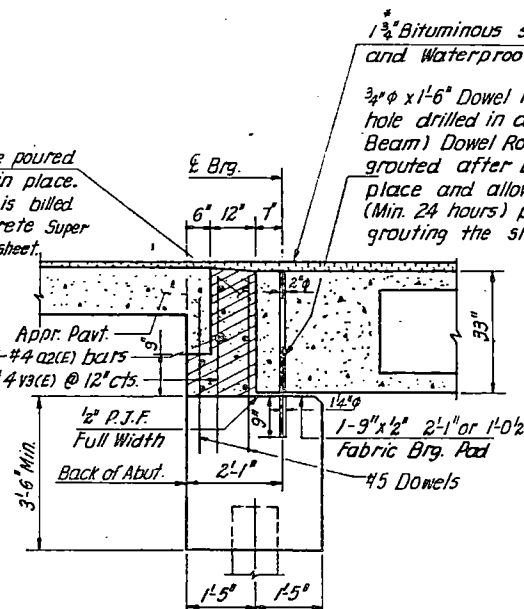
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2
FAS 331	(Z-1)BR-1	VERMILION	13	7	
FED. ROAD DIST. NO. 1	ALMORH	FED. AID PROJECT			



FIXED

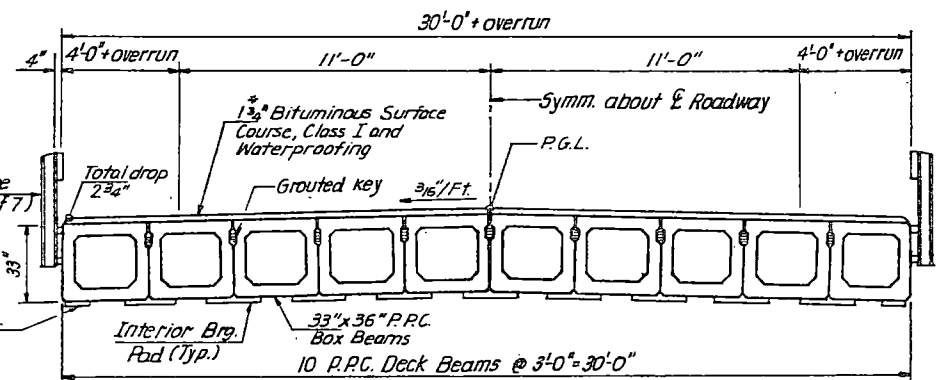


Hatched area to be poured after beams are in place. Quantity of concrete is billed with "Class X Concrete Super Structure" on this sheet.



Steel Railing Type 5-1 (See shd. 5 of 7)

Exterior Brg. Pad (Typ.)



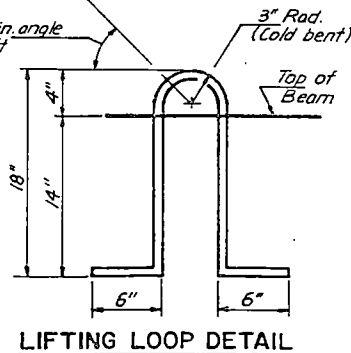
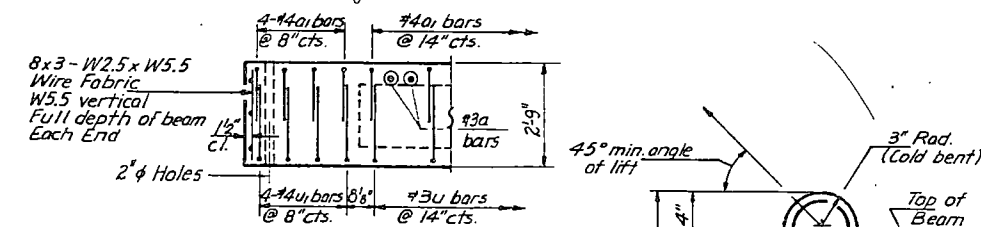
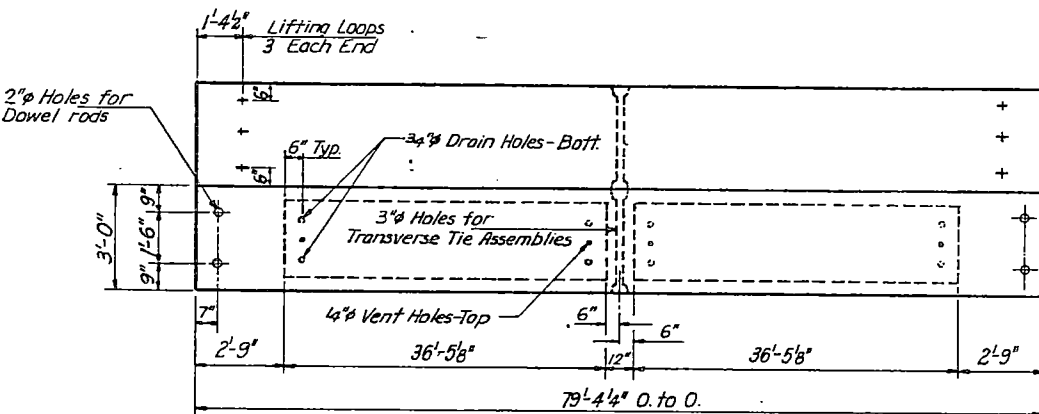
* Includes thickness of waterproofing membrane.

BILL OF MATERIALS

ITEM	UNIT	QTY.
P.R.C. Deck Beams (33" depth)	Sq. Ft.	2381
Class X Concrete Super structure	Cu. Yd.	7.0

NOTES

Prestressing steel shall be non-galvanized high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 3/4" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 3-1/2" φ-270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pocket that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to AASHTO M-31 or M-53, Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams. Required Release Strength f'ci shall be 4,000 psi. An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.



DESIGNED	J.T.T.
CHECKED	R.V.P.
DRAWN	ASR./V.B.P.
CHECKED	J.T.T.

REVISIONS	
NAME	DATE

P.G. ENGINEERING ASSOCIATES, INC.
800 WEST JACKSON BLVD.
CHICAGO ILLINOIS 60606

SUPESTRUCTURE DETAILS

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (Z-1) BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE: VERT. HORIZ.
DATE

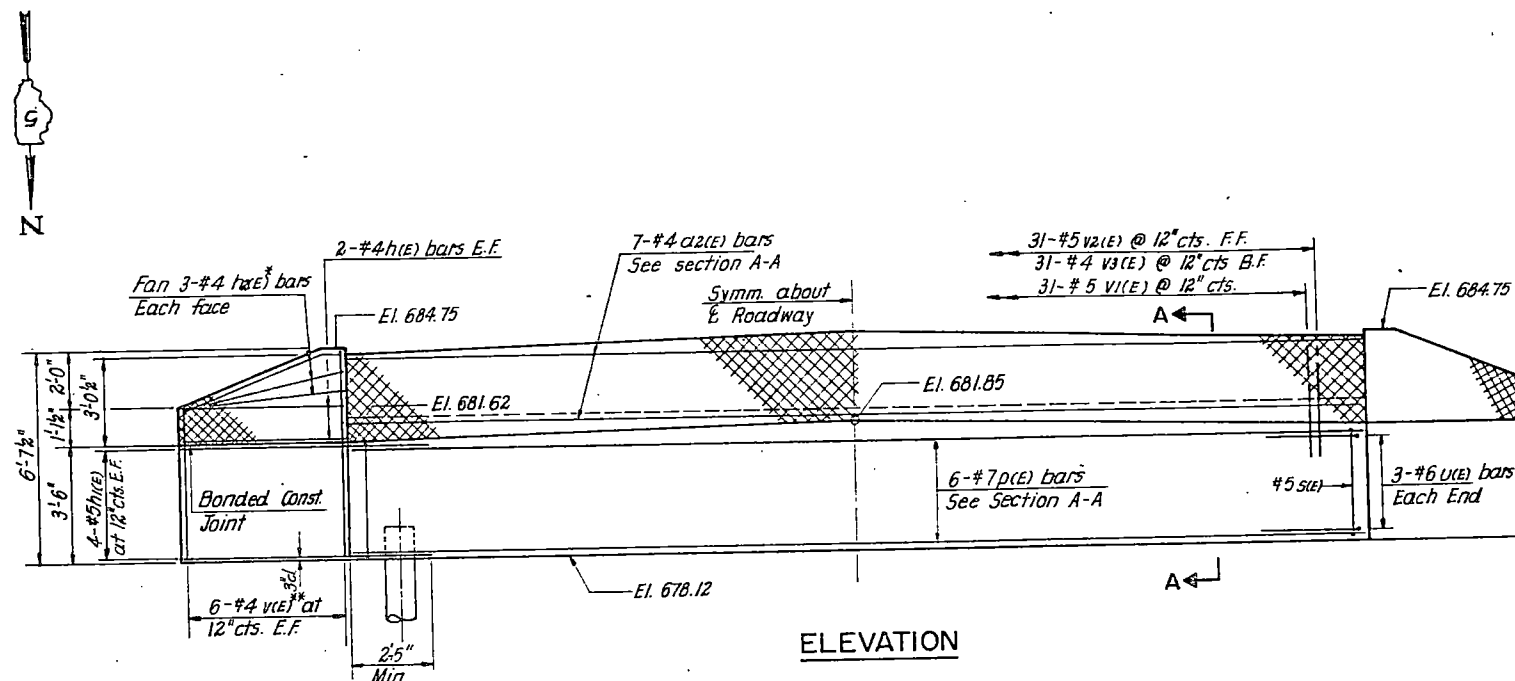
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	Z-11BR-1	VERMILION	13	8
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

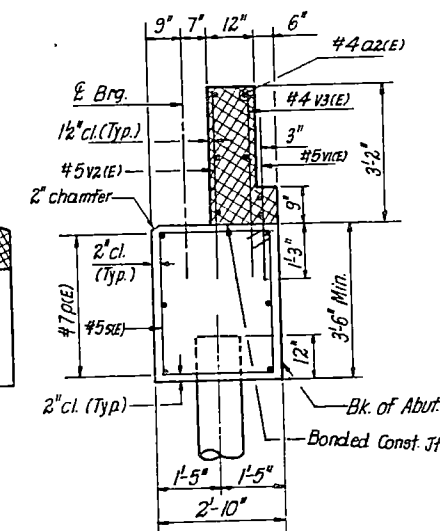
SHEET NO. 3
SHEETS 7

PILE DATA

Type : Concrete
Capacity : 45 Tons
Est. length : 48 Feet
No. required : 7



* Cut or bend in field as required.



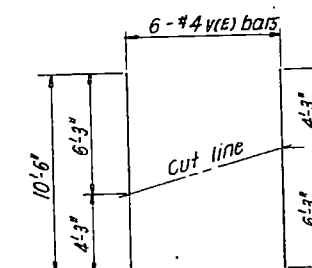
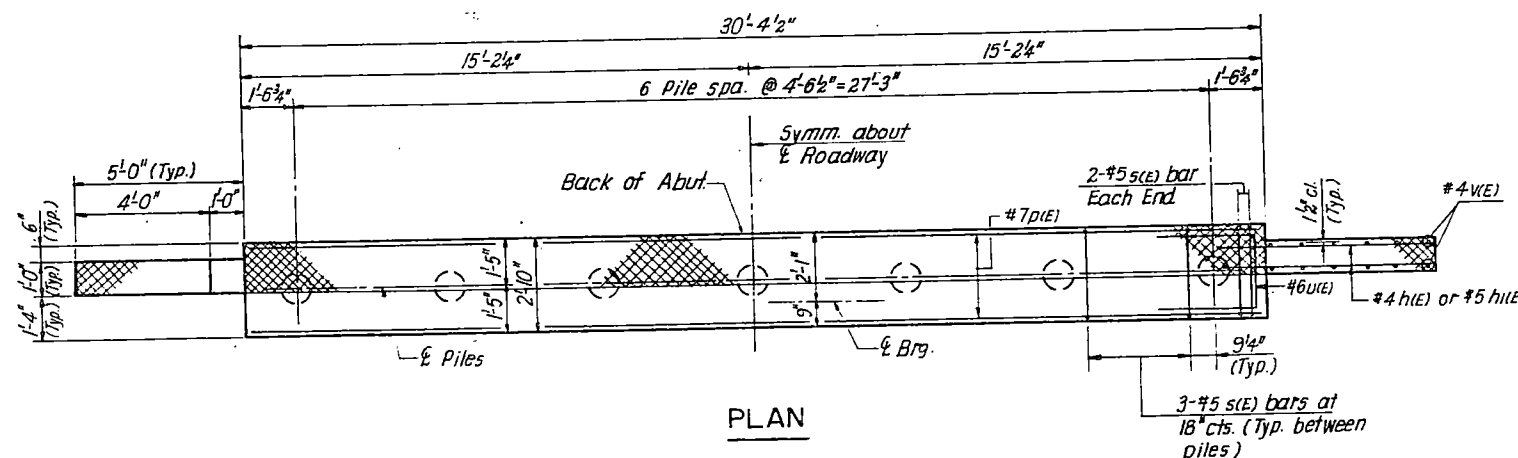
BILL OF MATERIAL				
BAR	NO.	SIZE	LENGTH	SHAPE
a2(E)	7	#4	29'-8"	—
h(E)	8	#4	4'-9"	—
h1(E)	16	#5	7'-6"	—
h2(E)	12	#4	5'-2"	—
p(E)	6	#7	30'-0"	—
s(E)	22	#5	12'-3"	□
U(E)	6	#6	8'-1"	□
V(E)	12	#4	10'-6"	—
V1(E)	31	#5	3'-3"	—
V2(E)	31	#5	4'-3"	—
V3(E)	31	#4	4'-3"	—
ITEM		UNIT	TOTAL	
Class X Concrete		Cu. Yd.	12.8	
Reinf. bars (Epoxy Coated)		Lbs.	1470	
Furnishing Conc. Piles		Lin. ft.	336	
Driving Conc. Piles		Lin. ft.	336	

Notes:

All edges shall have standard 3/4" chamfer except as noted.
Reinforcement bars designated (E) shall be epoxy coated.

LEGEND

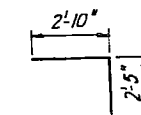
Hatched area to be poured after beams are in place. Quantity of concrete is billed with "Class X Concrete Super Structure" on sheet # 2 of 7.



FIELD CUTTING DIAGRAM

** Order V(E) bars full length. Cut to fit as shown and use remainders of bars in opposite face.

BAR S(E)



BAR U(E)

DESIGNED	J.T.T.
CHECKED	R.V.P.
DRAWN	V.B.P.
CHECKED	J.T.T.

P.G. ENGINEERING ASSOCIATES, INC.
600 WEST JACKSON BLVD.
CHICAGO ILLINOIS 60606

SOUTH ABUTMENT

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (Z-1) BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE: VERT
HORIZ
DATE

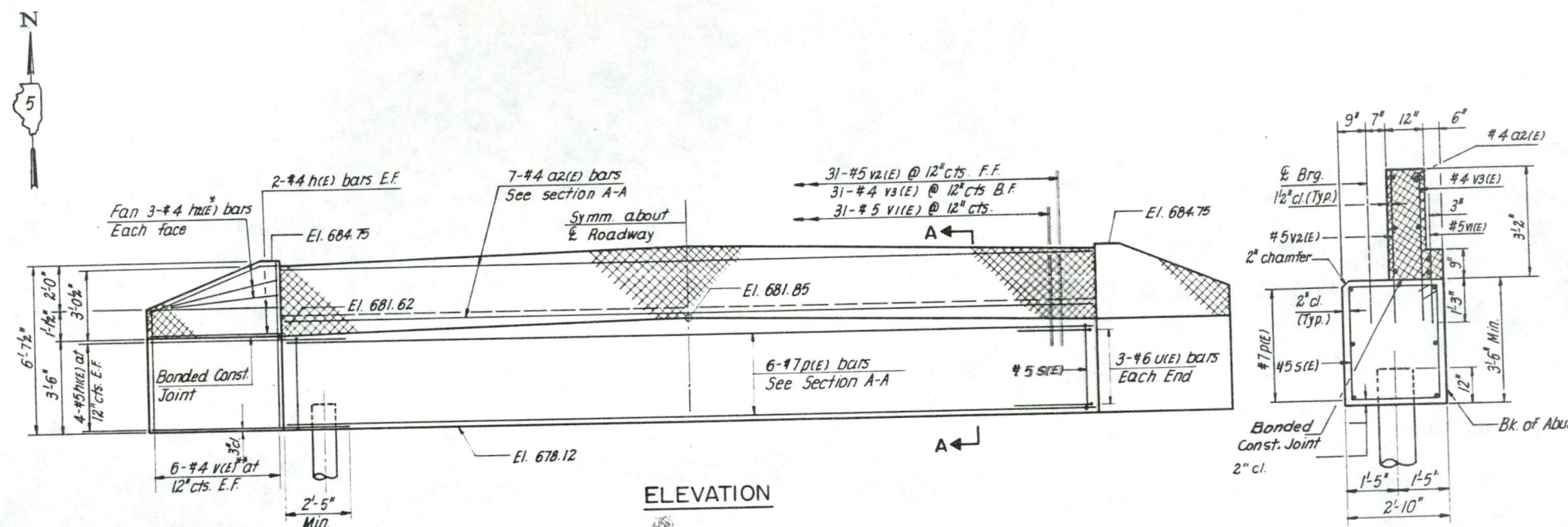
REVISIONS	
NAME	DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAS 331	(Z-1)BR-1	VERMILION	13	9	4
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT			SHEETS 7

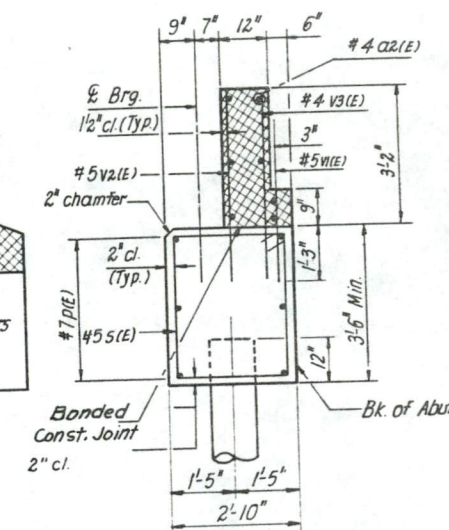
PILE DATA

Type : Concrete
Capacity : 45 Tons
Est. length : 48 Feet
No. required : 7 (Includes 1 Test pile)



* Cut or bend in field as required.

ELEVATION



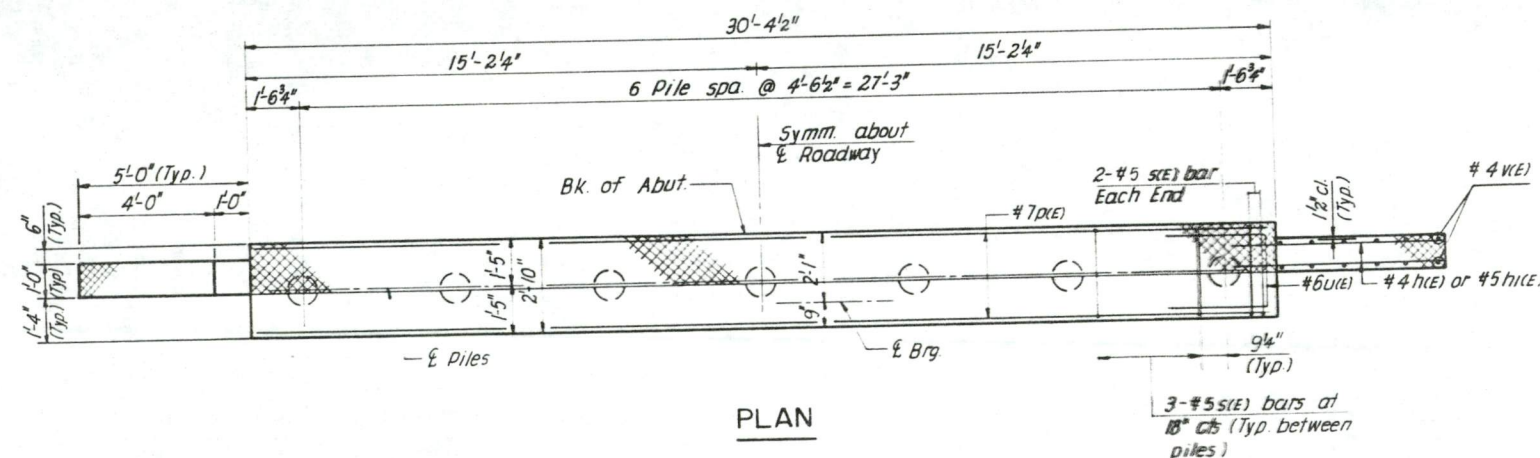
SECTION A-A

BILL OF MATERIAL				
BAR	NO.	SIZE	LENGTH	SHAPE
Q2(E)	7	#4	29'-8"	—
h1(E)	8	#4	4'-9"	—
h1(E)	16	#5	7'-6"	—
h2(E)	12	#4	5'-2"	—
p(E)	6	#7	30'-0"	—
s(E)	22	#5	12'-3"	□
u(E)	6	#6	8'-1"	□
v(E)	12	#4	10'-6"	—
v1(E)	31	#5	3'-3"	—
v2(E)	31	#5	4'-3"	—
v3(E)	31	#4	4'-3"	—
ITEM		UNIT	TOTAL	
Class X Concrete		Cu. Yd.	12.8	
Reinf. bars (Epoxy Coated)		Lbs.	1470	
Furnishing Conc. Piles		Lin. ft.	288	
Driving Conc. Piles		Lin. ft.	288	
Test pile Concrete		Each	1	
Structure Excavation		Cu. Yd.	42	

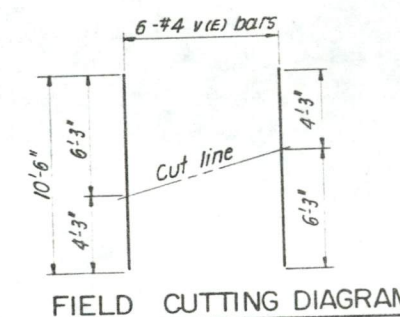
Notes:
All edges shall have standard 3/4" chamfer except as noted.
Reinforcement bars designated (E) shall be epoxy coated.

LEGEND

Hatched area to be poured after beams are in place. Quantity of concrete is billed with "Class X Concrete Super Structure" on sheet # 2 of 7.

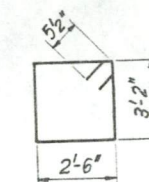


PLAN

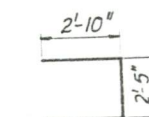


FIELD CUTTING DIAGRAM

** Order v(E) bars full length. Cut to fit as shown and use remainders of bars in opposite face.



BAR S(E)



BAR U(E)

DESIGNED	J.T.T.
CHECKED	R.V.P.
DRAWN	V.B.P.
CHECKED	J.T.T.

P.G. ENGINEERING ASSOCIATES, INC.
600 WEST JACKSON BLVD.
CHICAGO ILLINOIS 60606

NORTH ABUTMENT

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (Z-1)BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

REVISIONS	
NAME	DATE

SCALE VERT
HORIZ
DATE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	Z-0BR-1	VERMILION	13	10
FED. ROAD DIST. NO. 1		ELLINGB	FED AID PROJECT	

SHEET NO. 5
SHEETS 7



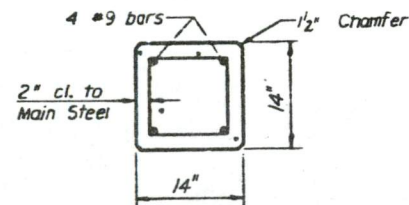
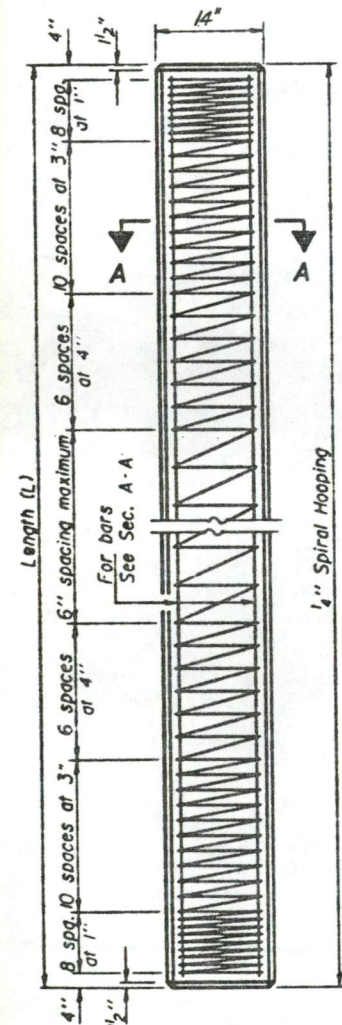
SCALE: VERT
HORIZ

DATE

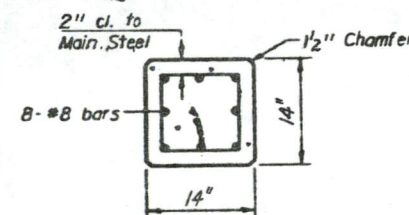
DESIGNED	
CHECKED	
DRAWN	A.S.R.
CHECKED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO.
FAS 331	(Z-1) BR-1	VERMILION	13	11	7
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT			



**SECTION A-A
FOR PILES UNDER
45' LONG**

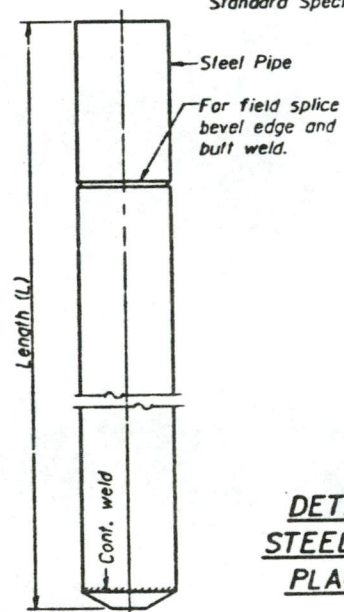


**SECTION A-A
FOR PILES 45'
OR MORE**

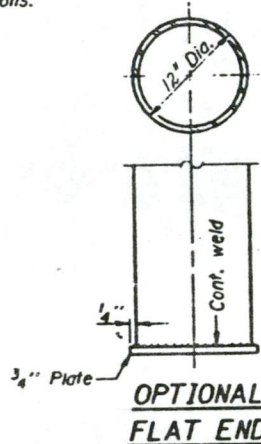
Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

**DETAIL OF PRECAST
CONCRETE PILES**

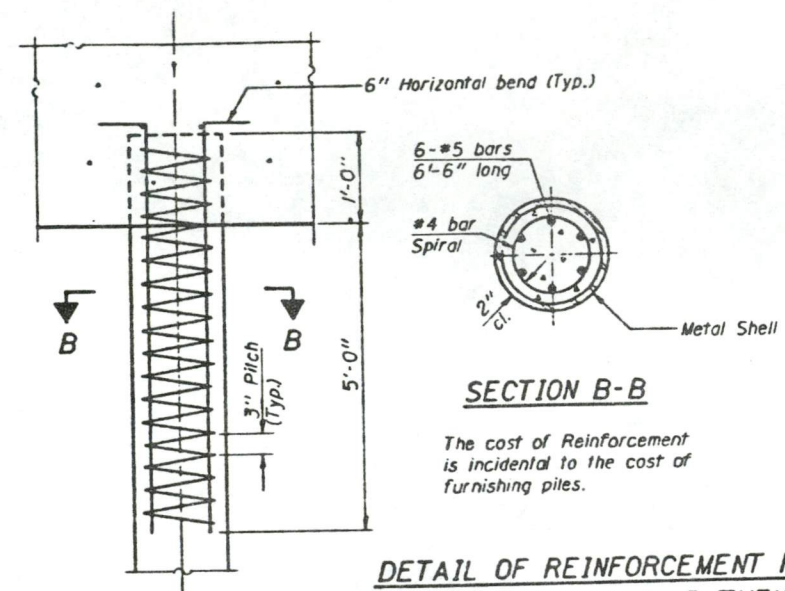
Notes: Driving and bearing ends of pipe shall be out square. The thickness of the shell shall be 0.250 inches with a tolerance of 5%. The shell shall be in accordance with Article 710.05(a) of the Standard Specifications.



**DETAIL OF CYLINDRICAL
STEEL SHELL FOR CAST IN
PLACE CONCRETE PILES**



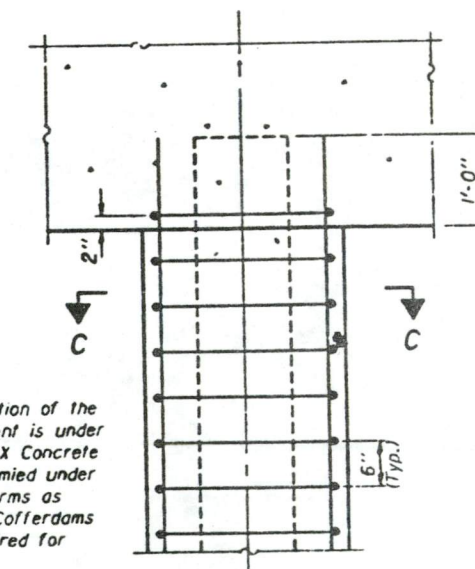
**OPTIONAL
FLAT END**



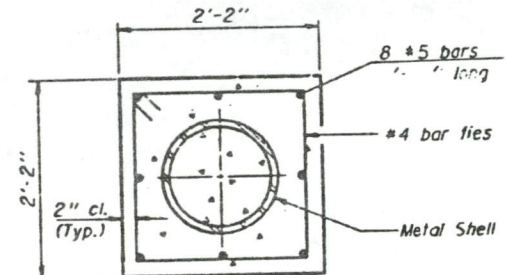
SECTION B-B

The cost of Reinforcement is incidental to the cost of furnishing piles.

**DETAIL OF REINFORCEMENT FOR
METAL SHELLS AT ABUTMENTS**



**DETAIL OF PROTECTION
FOR METAL SHELLS AT PIERS**



SECTION C-C

The cost of Reinforcement, Class X Concrete, and excavation for forms is incidental to the cost of furnishing piles.

DESIGNED	J.T.T.
CHECKED	R.V.P.
DRAWN	V.B.P.
CHECKED	J.T.T.
X-PB	6-1-89

REVISIONS	
NAME	DATE

P.G. ENGINEERING ASSOCIATES, INC. 600 WEST JACKSON BLVD. CHICAGO ILLINOIS 60606	
CONCRETE PILE DETAILS	
FAS 331 OVER FOUNTAIN CREEK	SEC. (Z-1) BR-1
FAS 331	STA. 20+18.08
VERMILION COUNTY	
STRUCTURE NUMBER 092-0197	
SCALE	VERT. HORIZ.
DATE	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAS 331	Z-1)BR-1	VERMILION	13	12
FED. ROAD DIST. NO. 1		ILLINOIS	FED AID PROJECT	

SHEET NO. 7

SHEETS 7

Project _____						Sh. 2 of 4					
Route EAS RTE 331 _____											
Sec. 17-18R-1 _____											
County Vermilion _____											
Boring No. 1 _____	EI.	N	Gt t/sf	W Z		EI.	N	Gt t/sf			
Sta 97+53 _____	-45		B			-70					
D/S 37' RT _____			B 2.1 24								
GRAY CLAY LOAM TILL											
_____ 631.8											
	-30		12			-75					
COARSE GRAY SAND											
_____ 628.8											
	-55		B			-80					
			17 4.5 15								
	-60		B			-85					
			17 3.7 14								
AIS B LIMIT OF BORING											
	-65					-90					
	-70					-95					

PROJECT _____		BRIDGE 092-0068 - Wd 1/4		Date 07/11/91		Sh. 3 of 4	
ROUTE FAS 331		SEC. 2 T. 23N. R13W 2ND PM		Bored By Winschief			
SEC. (Z-1)BR-1		STA. 99+53		Checked By T.G.B.			
COUNTY Verillion							
Boring No. 2S.AST.							
Sta 99+21							
O/S 21' LT							
	EI.	N	Qu t/sf	M X	At	Hrs	EI.
							N
							Qu t/sf
Ground Surface 679.6	0						
							B
							11 2.7
							-25 B
							B 2.3
BROWN SILTY CLAY							
LOAM	-5		E				
			B 1.0	14			B
673.6							11 2.1
BROWN SILTY CLAY							
			B				-30 B
FREE WATER			10 1.2	14			13 2.5
670.6							
BROWN CLAY	-10		B				
LOAM TILL			13 3.8	17			B
							12 2.3
668.1							
GRAY CLAY LOAM TILL			B				-35 B
			13 6.4	17			14 3.1
665.3							
	-15		B				
			B 2.0	17			
BROWNISH GRAY CLAY							
LOAM TILL			B				-40 B
			9 2.5	16			11 3.5
660.6							
	-20		B				
			9 2.5	15			
GRAY CLAY LOAM							
TILL							
							-45
N-Std Pentr Test: 2" OD Sampler,							
140# Hammer Falling 30"							
(Type Fail. B-Bulge R-Shear E-Estimated P-Penetra							

Project _____					Sh. 4 of 4				
Route <u>FAS RTE 331</u>									
Sec. <u>(7-1)BR-1</u>									
County <u>Verdugo</u>									
Boring No. <u>2</u>	El.	N	Qu t/sf	N Z		El.	N	Qu t/sf	N Z
Sta <u>97+21</u>									
O/S <u>21' LT</u>									
	-55		B			-70			
		7	2.1	23					
GRAY CLAY LOAM TILL									
<u>631.6</u>									
GRAY MEDIUM - COARSE SAND									
<u>629.6</u>	-30		B			-75			
		15	2.3	16					
	-55		B			-80			
		15	2.3	16					
GRAY CLAY LOAM TILL									
	-60		B			-85			
		15	2.5	20					
	-65		B			-90			
<u>614.1</u>		30	5.2	12					
LIMIT OF BORING									
	-70					-95			

DESIGNED	J.T.T.
CHECKED	R.V.P.
DRAWN	V.B.P.
CHECKED	J.T.T.

REVISIONS	
NAME	DATE

P.G. ENGINEERING ASSOCIATES, INC.
600 WEST JACKSON BLVD.
CHICAGO ILLINOIS 60606

SOIL BORINGS

FAS 331 OVER FOUNTAIN CREEK
FAS 331 SEC. (Z-1) BR-1
STA. 20+18.08
VERMILION COUNTY
STRUCTURE NUMBER 092-0197

SCALE:	VERT
	HORIZ
DATE	