

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 698	IVBR	BUREAU	72	46
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 19
24 SHEETS

[illegible]

Required Bearing: 333.6 Kips
Resistance Available: 166.8 Kips
Pile Length: 52'
Action Piles: 5
Piles: 1

37'-7"

20'-1" Stage II construction

17'-6" Stage I construction

40-#5 $v_1(E)$ bars at 12" cts. (19-Stage I; 21-Stage II)

2'-6 1/2"

17'-6 1/2"

14'-11 1/2"

2'-6 1/2"

5 beam spaces at 6'-6" = 32'-6"

⌀ Rdwy. & P.G.

3'-6"

Stage const. jt.

7'-9" typ.

6'-9" typ.

1'-0" typ.

⌀ Beam 1

Bk. S. Abut. Sta. 33+47.00

Bar splicers (E)

⌀ Brg., Abut. & Piles

⌀ Beam 6

1'-0" typ.

⌀ Beam 1

⌀ Beam 6

3" typ.

3" typ.

1" ⌀ Anchor bolt, typ.

6-#5 $v_1(E)$ bars at 12" cts.

Typ. btwn. beams except as noted

1'-6" typ.

1'-6" typ.

5-#5 $v_1(E)$ bars at ±11" cts.

1'-6"

1'-6"

3-#5 $v_1(E)$ bars at 6 1/4" cts.

1'-2 1/2"

5'-9 1/2"

6'-6"

5'-9 1/2"

2'-6 1/2"

2 pile spaces at 6'-6" = 13'-0"

4'-6 1/2"

1'-11 1/2"

2 pile spaces at 6'-6" = 13'-0"

2'-6 1/2"

3-#5 $v_1(E)$ bars at 9 3/4" cts. Ea. end

2" typ.

5'-9 1/2"

6'-6"

7'-9 1/2"

5'-2 1/2"

6'-6"

5'-9 1/2"

2'-6 1/2"

2 pile spaces at 6'-6" = 13'-0"

4'-6 1/2"

1'-11 1/2"

2 pile spaces at 6'-6" = 13'-0"

2'-6 1/2"

2'-0"

1'-0" 1'-0"

1/2" cl.

SECTION A-A

HP12x63

Welded wire fabric
6 x 6-W4.0 x W4.0
weighing 58#/100 sq. ft.
The cost of Excavation,
Concrete Encasement and
Reinforcement is included
with Furnishing Piles.
Forms for Encasement may
be omitted when soil
conditions permit.

3'-0" Concrete Encasement

2'-0"

10"

A

Diagram illustrating the dimensions and reinforcement details of a rectangular pile cap. The overall dimensions are 2'-6" wide and 3'-6" high. The reinforcement includes top bars ($v_1(E)$) and bottom bars ($s_2(E)$). The bottom bars are spaced at 2" cl. typ. and 1" min. cl. typ. The cap is supported by 4 piles, with dimensions indicating the spacing between them (1'-3" and 1'-3"). The cap is labeled "Abut. & Piles".

Diagram of a reinforced concrete beam cross-section. The total height is 11'-2". The effective depth is 7'-3". The width is 3'-11". The reinforcement consists of 9-#5 $v_p(E)$ bars at $\pm 12"$ cfs. A cut line is indicated.

Bar	No.	Size	Length	Shape
h(E)	52	#5	10'-9"	————
p(E)	9	#7	17'-2"	————
p ₁ (E)	9	#7	19'-9"	————
s ₂ (E)	38	#5	11'-7"	□
u(E)	8	#6	8'-1"	—
v ₁ (E)	78	#5	4'-4"	————
v ₂ (E)	18	#5	11'-2"	————
Concrete Structures			Cu. Yd.	16.3
Reinforcement Bars, Epoxy Coated			Pound	2380
Structure Excavation			Cu. Yd.	84
Furnishing Steel Piles HP12x63			Foot	260
Driving Piles			Foot	260
Test Pile Steel HP12x63			Each	1
Pile Shoes			Each	6

DESIGNED	RLT
CHECKED	PEC
DRAWN	h.t. duong
CHECKED	RLT/PEC

Jan 9, 2007

EXAMINED *Thomas J. Donagale*
ENGINEER OF BRIDGE DESIGN

PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES & STRUCTURES