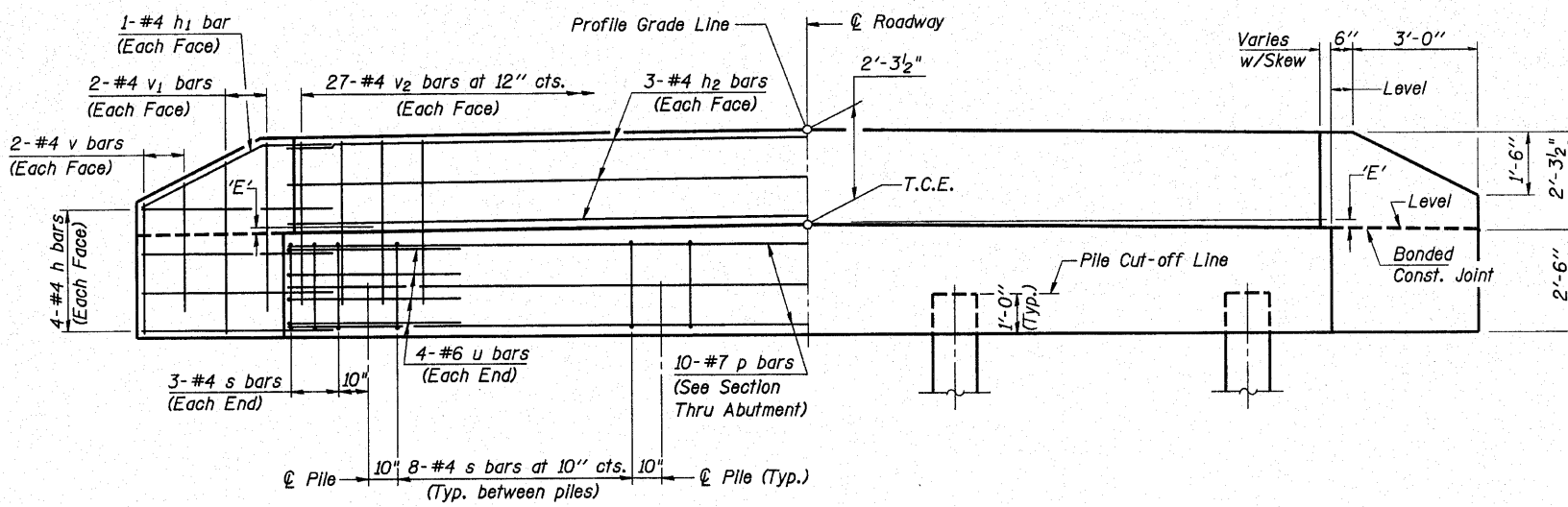
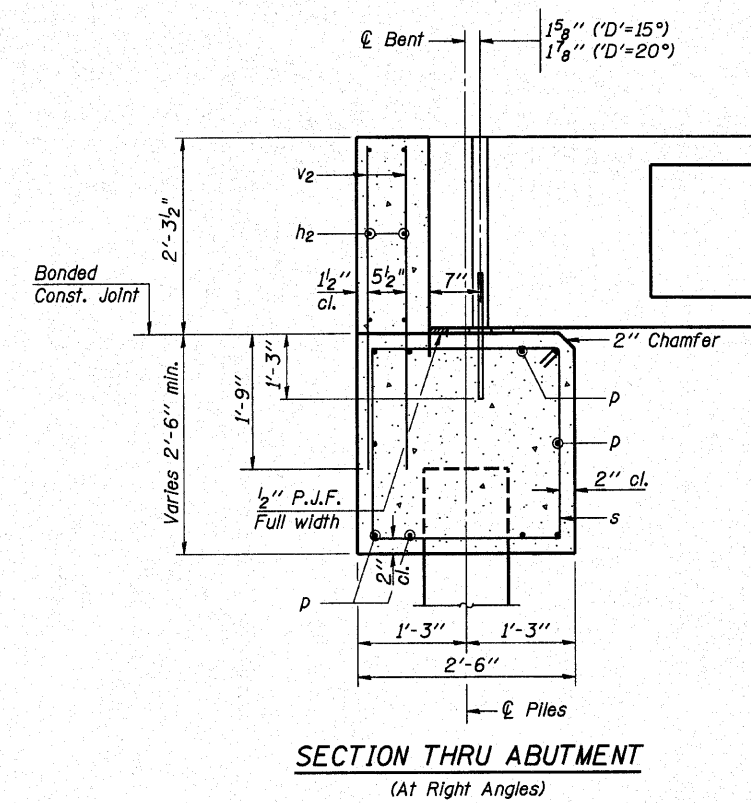
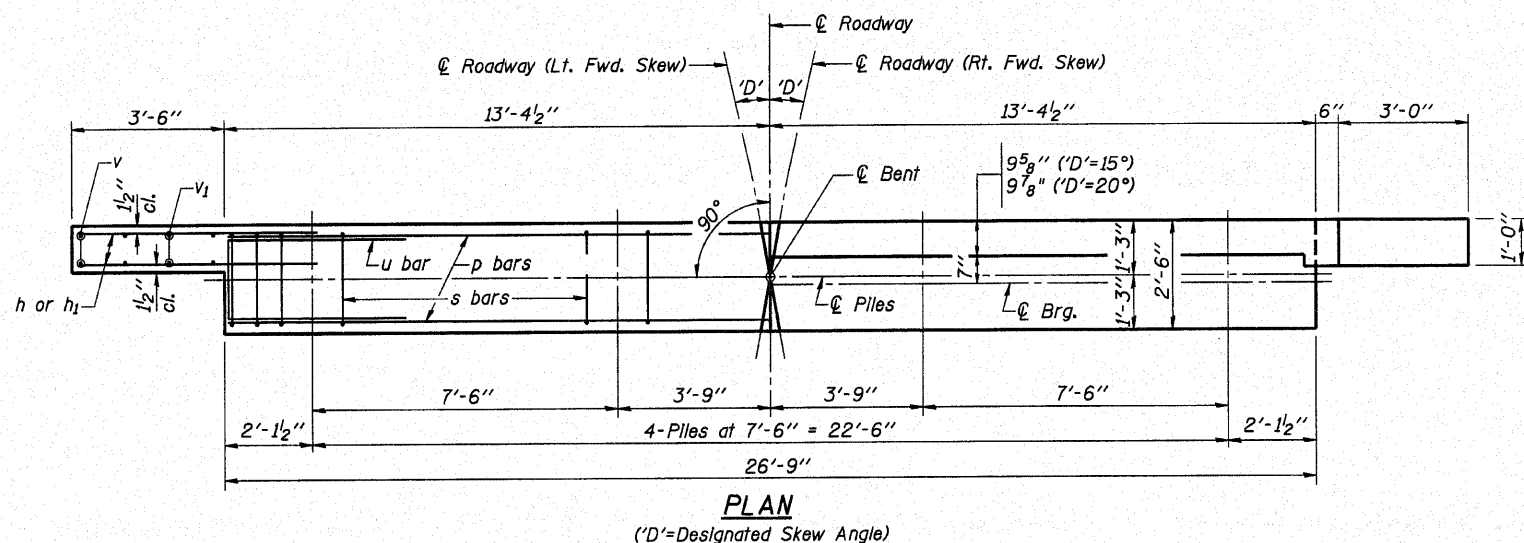


ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 442	04-0615-00-BR	MARION	13	10
FEDERAL AID PROJECT		ILLINOIS	PROJECT	

CONTRACT NO. 97451

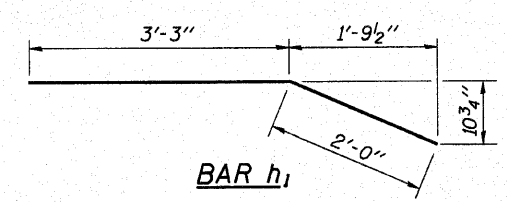
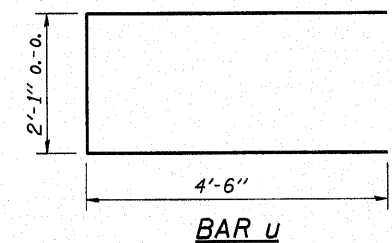
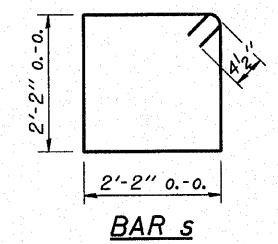


**DIMENSION 'E'**

GRADE	'D'=15°		'D'=20°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 1/4"	2 5/8"	2 1/8"	2 5/8"
Over 1% to 2%	1 3/4"	3"	1 1/2"	3 1/8"
Over 2% to 3%	1 3/8"	3 1/2"	1"	3 3/4"
Over 3% to 4%	1"	3 7/8"	3/8"	4 1/4"

**NOTES**

- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.



**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	26'-5"	—
p	10	#7	26'-5"	—
s	30	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	3'-2"	—
v1	8	#4	4'-2"	—
v2	54	#4	3'-11"	—
Concrete Structures			9.7 Cu. Yds.	
Reinforcement Bars			1220 Lb.	

**DESIGN STRESSES**

f'c = 3,500 psi  
fy = 60,000 psi

**P.P.C. DECK BEAMS  
PILE BENT ABUTMENT**

**24' ROADWAY  
27" BEAMS  
'D'=15° OR 20°**

**RHUTASEL and ASSOCIATES, INC.**  
CONSULTING ENGINEERS • LAND SURVEYORS  
CENTRALIA, ILLINOIS      FREEBURG, ILLINOIS

PREPARED FOR:  
**AECOM**  
200705485

Date: 10/27/2010  
Design: WDL  
Drawn: BLT  
Job No.: 50810