BAR BENDING DIAGRAMS

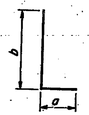
NOTE: Number preceding letter denotes bar size.
All dimensions are out to out.
All bar bending pin diameters shall be in accordance with A.C.I. Standards.

TYPICAL SECTION REINFORCEMENT

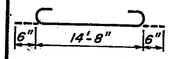
Bar	a	b
3S01	1'-1½"	1'-0"
3S03	1'-1½"	6"
4S13	6"	3'-4"
4S24(E)	2'-3"	1'-8"
5S01	1'-1½"	7'-4"
5S03(E)	1'-1½"	3'-5"

3S01, 3S03, 4S13, 4S24(E), 5S01, 5S03(E)

Bar	a	b
3S02	1'-2"	4'-0"
4S09	8"	2'-8"
5S10	2'-1"	7'-5"
5S11	6'-1"	7'-5"
6S04	2'-1"	7'-5"
6S05	6'-1"	7'-5"

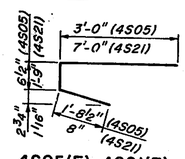


3S02, 4S09, 5S10, 5S11, 6S04, 6S05

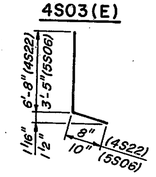


4S02

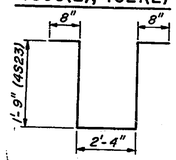
4S03(E)



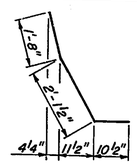
4S05(E), 4S21(E)



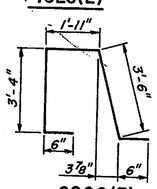
4S22(E), 5S06(E)



4S23(E)



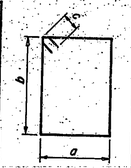
5S07(E)



6S06(E)

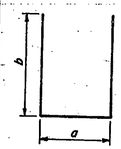
PIER DIAPHRAGM REINFORCEMENT

Bar	a	b	c
4S31	3'-3"	2'-4"	4½"
4S32	4'-0¼"	2'-4"	4½"
4S33	4'-10"	2'-4"	4½"
4S34	5'-7¾"	2'-4"	4½"
4S35	6'-5½"	2'-4"	4½"
4S36	7'-3¼"	2'-4"	4½"
4S39(E)	2'-3"	2'-4½"	4½"
4S40(E)	2'-3"	1'-6"	4½"
5S40	3'-3"	4'-10"	5½"

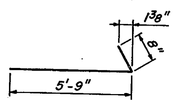


4S31 thru 4S36, 4S39(E), 4S40(E), 5S40

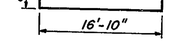
Bar	a	b
4S37(E)	4'-8½"	3'-0"
4S38(E)	2'-3"	3'-0"
4S41	2'-3"	2'-3"
4S42	2'-3"	3'-6"
4S43	2'-3"	4'-8"
4S44	2'-3"	5'-11"
4S48	4'-8½"	7'-3"
4S49	3'-1½"	7'-3"
4S50(E)	3'-1½"	3'-0"
11S40	2'-2½"	4'-10"



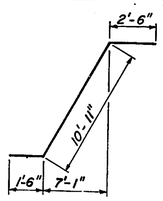
4S37(E), 4S38(E), 4S41 thru 4S44, 4S48, 4S49, 4S50(E), 11S40



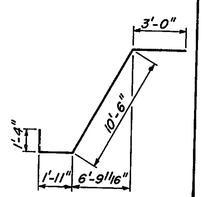
4S45(E)



4S46



7S40(E)



8S40

BILL OF MATERIAL

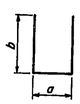
Bar	No.	Length	Bent	Str.
3S01	1872	3'-2"	•	
3S02	121	5'-2"	•	
3S03	104	2'-2"	•	
4S01	197	16'-10"		•
4S02	190	15'-8"	•	
4S03(E)	224	12'-8"	•	
4S04(E)	197	28'-2"		•
4S05(E)	394	5'-3"	•	
4S06	14	4'-5"	•	
4S07	14	15'-3"	•	
4S08	8	11'-10"		•
4S09	350	3'-4"	•	
4S10	36	9'-0"	•	
4S11	12	8'-1"	•	
4S12(E)	98	10'-8"		•
4S13	108	7'-2"	•	
4S14(E)	128	7'-9"		•
4S15	124	60'-0"		•
4S15(E)	116	60'-0"		•
4S16	62	2'-10"		•
4S17	62	42'-6"		•
4S18(E)	58	50'-4"		•
4S21(E)	2	9'-5"	•	
4S22(E)	2	7'-4"	•	
4S23(E)	7	7'-2"	•	
4S24(E)	1	5'-7"	•	
4S30(E)	28	12'-6"		•
4S31	8	11'-11"	•	
4S32	4	13'-6"	•	
4S33	4	15'-1"	•	
4S34	4	16'-9"	•	
4S35	4	18'-4"	•	
4S36	4	20'-0"	•	
4S37(E)	6	10'-9"	•	
4S38(E)	8	8'-3"	•	
4S39(E)	2	10'-0"	•	
4S40(E)	1	8'-3"	•	
4S41	2	6'-9"	•	
4S42	2	9'-3"	•	
4S43	2	11'-7"	•	
4S44	2	14'-1"	•	
4S45(E)	340	6'-5"	•	
4S46	7	18'-2"	•	
4S47	62	5'-6"		•
4S48	10	19'-3"	•	
4S49	4	17'-8"	•	
4S50(E)	4	9'-2"	•	

Bar	No.	Length	Bent	Str.
5S01	14	15'-10"	•	
5S02	38	16'-6"	•	
5S03(E)	356	8'-0"	•	
5S04(E)	99	10'-8"		•
5S05(E)	394	8'-0"		•
5S06(E)	394	4'-3"	•	
5S07(E)	394	4'-8"	•	
5S08(E)	38	9'-0"	•	
5S09	30	7'-9"		•
5S10	171	9'-6"	•	
5S11	171	13'-6"	•	
5S40	28	17'-1"	•	
6S01	28	16'-6"	•	
6S02(E)	28	9'-10"	•	
6S03	48	3'-10"	•	
6S04	171	9'-6"	•	
6S05	171	13'-6"	•	

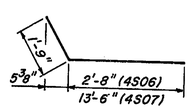
Bar	No.	Length	Bent	Str.
6S08	12	17'-0"		•
7S01	5	19'-2"	•	
7S02	5	14'-8"		•
7S03(E)	2	12'-4"		•
7S04(E)	2	28'-2"		•
7S40(E)	4	14'-11"	•	
8S40	8	16'-9"	•	
11S40	2	11'-11"	•	
11S41(E)	4	24'-8"		•
11S42	2	16'-9"		•

CONSTRUCTION JOINT REINFORCEMENT

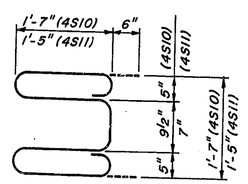
Bar	a	b
5S08(E)	1'-10"	3'-7"
6S01	1'-10"	7'-4"
6S02(E)	1'-10"	4'-0"
6S03	1'-10"	1'-0"
7S01	16'-10"	1'-2"
5S02	1'-10"	7'-4"



5S08(E), 6S01, 6S02(E), 6S03, 7S01, 5S02



4S06, 4S07



4S10, 4S11

ESTIMATED QUANTITIES

Item	Unit	Total
Superstructure Concrete	Cu.Yd.	365.6
Reinforcing Steel	Lb.	30,189
Reinforcing Steel (Epoxy Coated)	Lb.	29,431

NOTES: All reinforcment bars shall conform to the requirements of ASTM Grade 60.
Minimum compressive strength of Superstructure Conc. shall be 5,500 p.s.i.

APPROVED FOR CONSTRUCTION
W. B. ABBOTT
Assistant Engineer of Design
7-30-81

DESIGNED M.M.	C'K'D M.M.		
DRAWN R.E.T.	C'K'D G.R.		
TRACED N.B.D.	C'K'D G.R.		

Figg and Muller Engineers Inc.
Consulting Engineers
Tallahassee, Florida 32301

BAR BENDING DIAGRAMS & BILL OF MATERIAL - UNIT VI

INDIANA STATE HIGHWAY COMMISSION

LAKE COUNTY - RAMP:- C SECTION:-
SCALE:- N.T.S. DATE:- MAY 26, 1981
SUBMITTED FOR APPROVAL Eugene C. Figg
DRAWING:- OF SHEET:- 316 OF
PROJECT:- MM 220-1(8)
CONTRACT NO. B-12752
BRIDGE FILE:- 912-45-2546 REN

EUGENE C. FIGG, JR. REGISTERED No. 18541 STATE OF INDIANA PROFESSIONAL ENGINEER