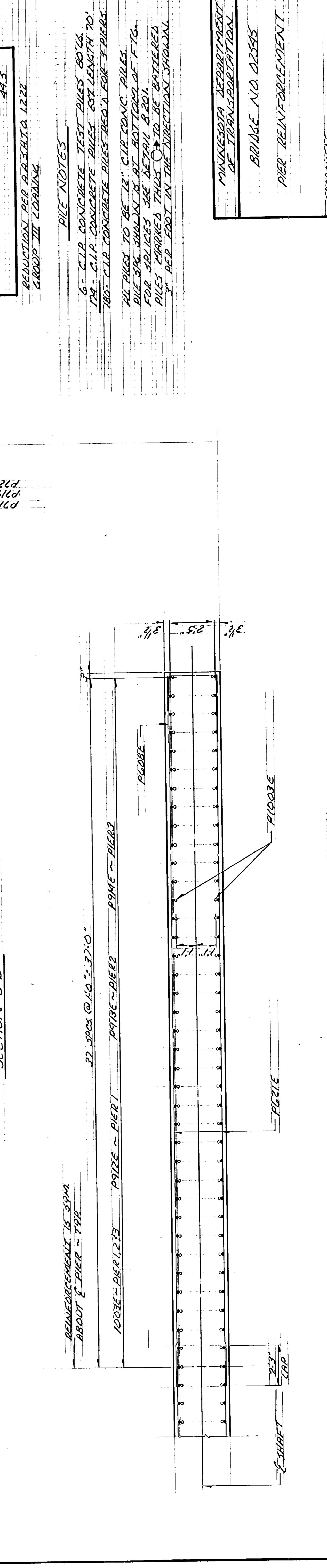
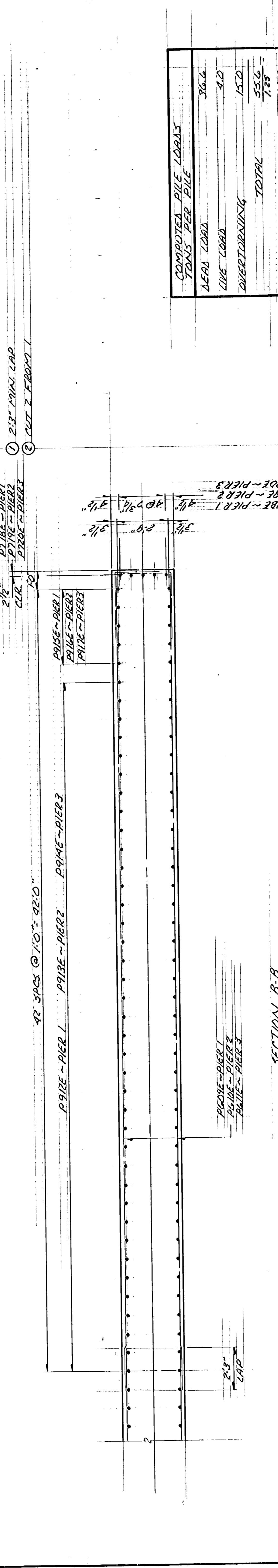
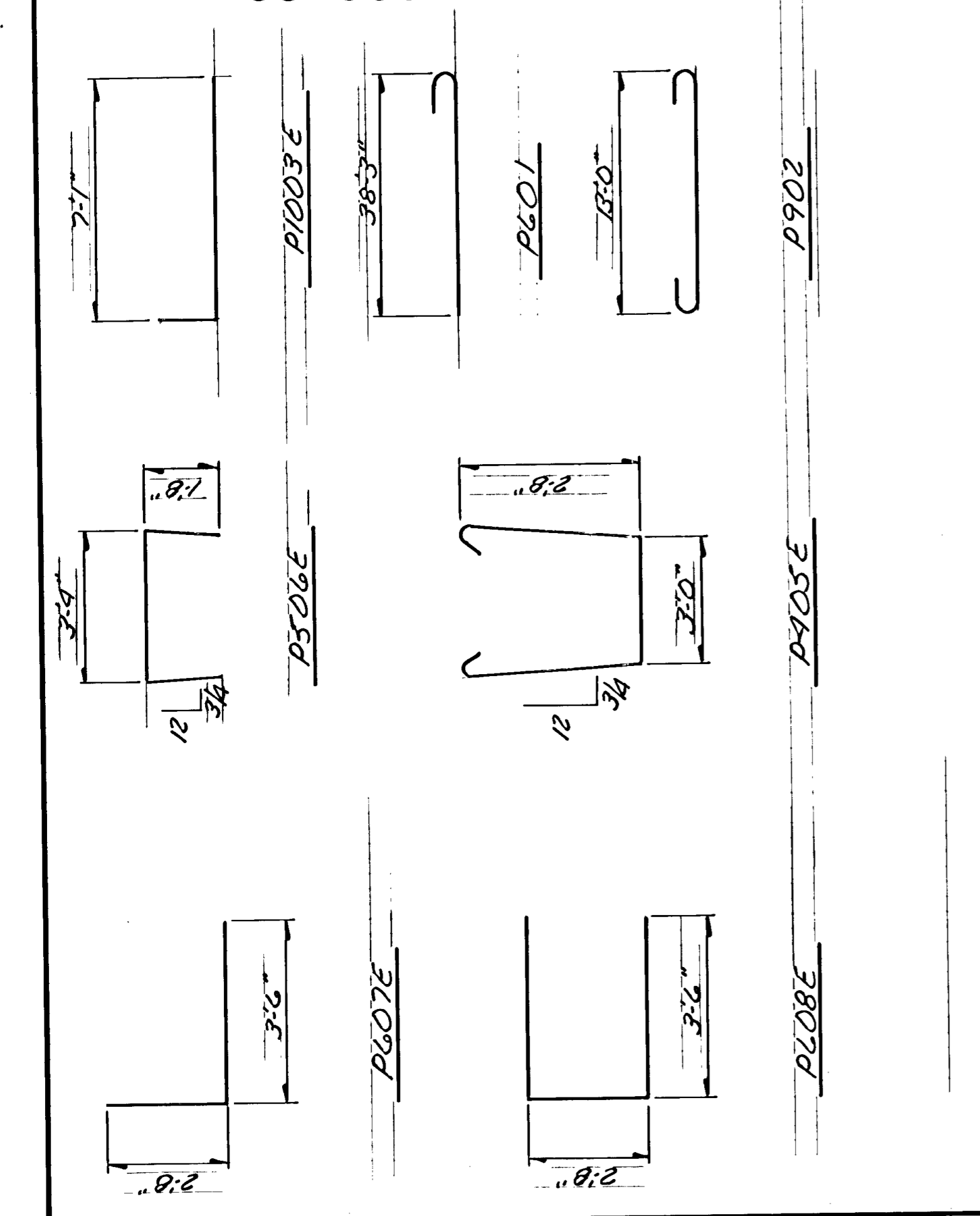


**BILL OF REINFORCEMENT - 2 PIERS**

BAR	PIER 1	PIER 2	PIER 3	LENGTH	SHAPE	LOCATION
P601	36	36	36	39'-6"	BENT	FOOTING - LONG.
P602	102	102	102	15'-6"	"	" - TRANS.
P1003E	150	150	150	8'-1"	"	" - VERTICAL
P1003E	22	22	22	44'-0"	STRT	CAP - LONG.
P405E	99	99	99	9'-1"	BENT	" - STIRRUP
P506E	99	99	99	6'-8"	"	" - TIE
P607E	16	16	16	6'-2"	"	" @ ENDS
P608E	26	26	26	9'-8"	"	SHAFT @ ENDS
P608E	25ER	25ER	25ER	38'-9" TO	STRT	" - LONG.
P610E	OF 13	OF 13	OF 13	48'-9"	"	"
P610E		25ER	OF 13	48'-9"	"	"
P611E			25ER	38'-9" TO	"	"
P611E			OF 13	48'-9"	"	"
P912E	150			15'-3"	"	" - VERT.
P913E		150		14'-2"	"	"
P914E			150	14'-8"	"	"
P915E	10			17'-6"	"	"
P916E		10		16'-4"	"	"
P917E	10			21'-4"	"	"
P718E		10		14'-6"	"	"
P719E		10		13'-6"	"	"
P720E		10		18'-6"	"	"
P621E	4	4	4	38'-1"	"	" - LONG.

**SUMMARY OF QUANTITIES - 3 PIERS**

ITEM	PIER 1	PIER 2	PIER 3	TOTAL
STRUCTURE CONCRETE 3043	150	139	189	478
STRUCTURE CONCRETE 1003	172	172	172	516
REINFORCEMENT BARS - EPOXY COATED	18990	18225	22215	59430
REINFORCEMENT BARS	2013	2513	2514	22540
C.I.P. CONCRETE PILING - BELT	4060	4060	4060	12180
C.I.P. CONCRETE PILING - DRIVEN	4060	4060	4060	12180
C.I.P. CONCRETE TEST PILES 80 FT. LG.	2	2	2	6
FOUNDATION PREPARATION (PIER 1)	1			1
FOUNDATION PREPARATION (PIER 2)		1		1
FOUNDATION PREPARATION (PIER 3)			1	1



**COMPUTED PILE LOADS  
TONS PER PILE**

DEAD LOAD	36.6
LIVE LOAD	4.0
OVERTURNING	15.0
TOTAL	55.6
	1.25
	44.5

REINFORCEMENT PER A.A.S.A.T.O. 1.222  
GROUP III LOADING

**PILE NOTES**

6" C.I.P. CONCRETE TEST PILES 80' LG.  
 12" C.I.P. CONCRETE PILES 80' LENGTH 20'  
 18" C.I.P. CONCRETE PILES REQ'D FOR 3 PIERS.

ALL PILES TO BE 12" C.I.P. CONC. PILES.  
 PILE 5th SHOWN IS AT BOTTOM OF FTG.  
 FOR SPLICES SEE DETAIL B-201.  
 PILES MARKED THUS TO BE BATTERED  
 3" PER FOOT IN THE DIRECTION SHOWN.

MINNESOTA DEPARTMENT  
OF TRANSPORTATION

BRIDGE NO. 22545

PIER REINFORCEMENT

APPROVED  
SHEET 28 OF 50 SHEETS  
C.R. 88-09-116