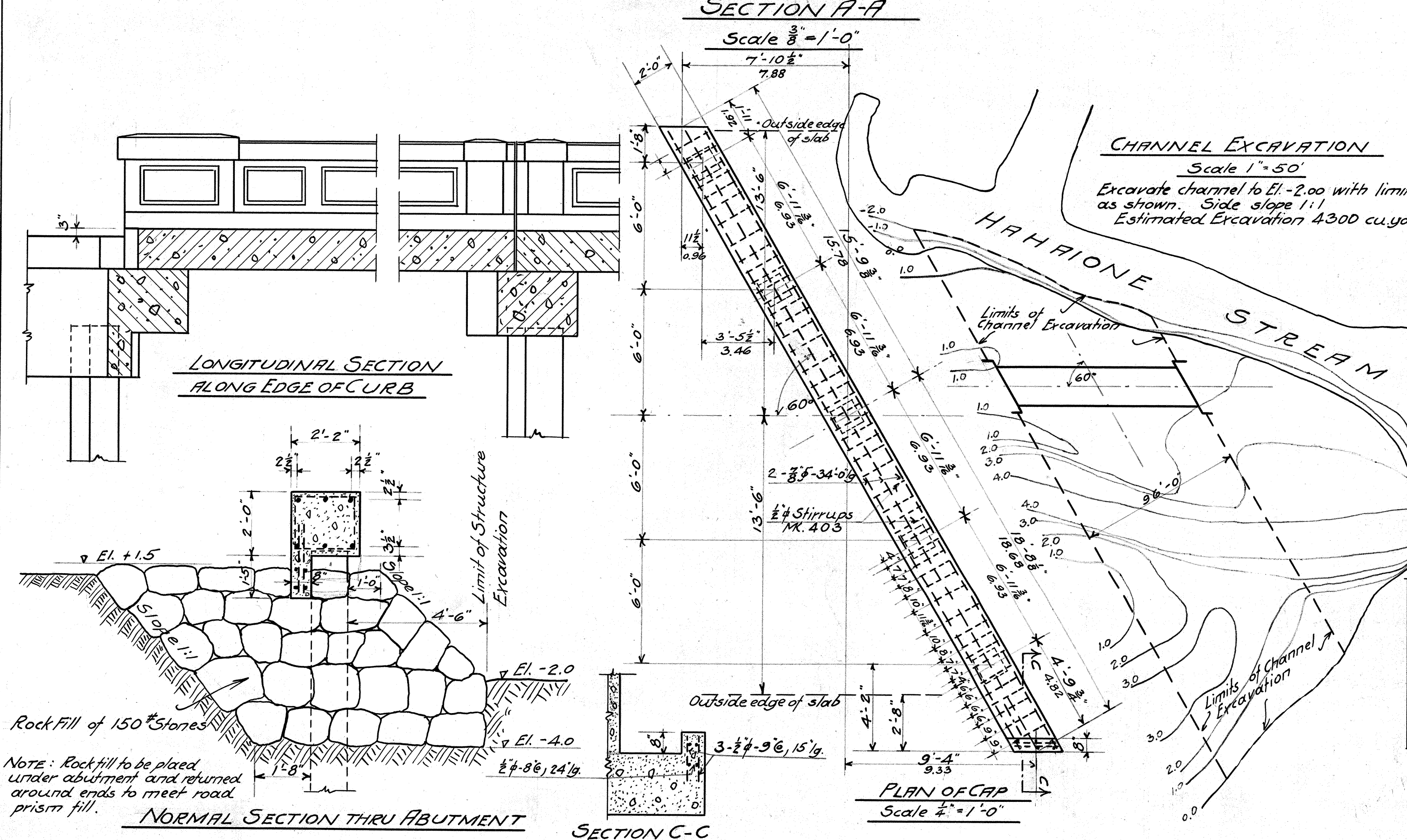
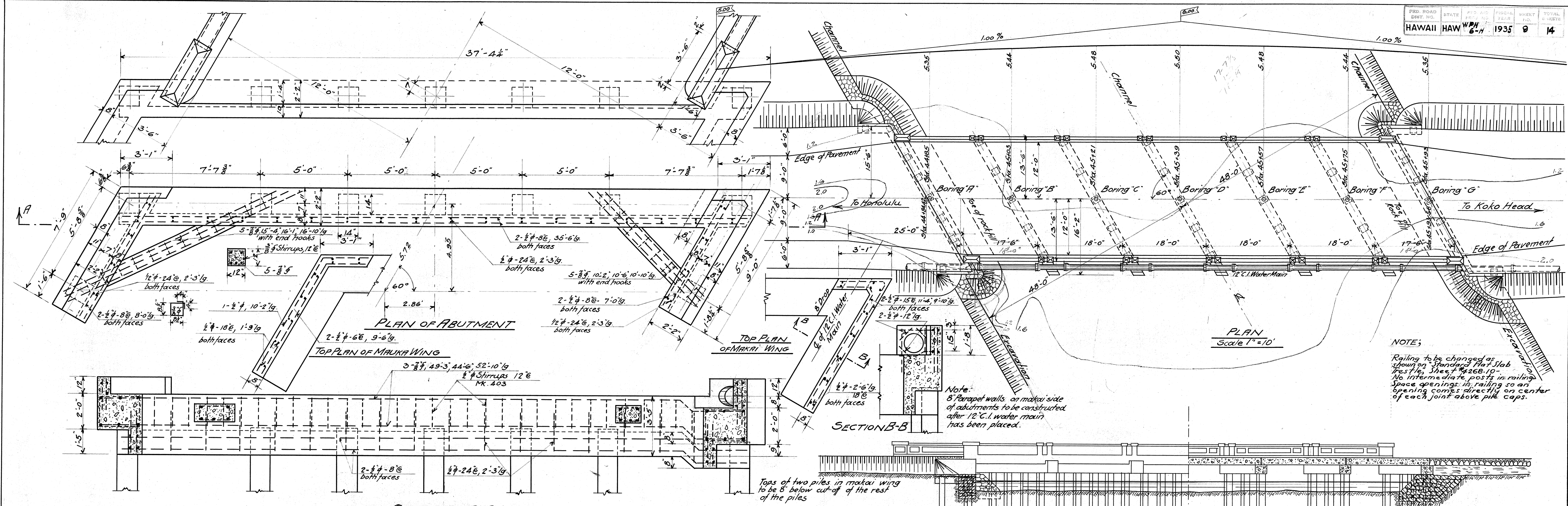




ELEVATION		Scale 1"=10'		LONGITUDINAL SECTION		
Boring "A"	Boring "B"	Boring "C"	Boring "D"	Boring "E"	Boring "F"	Boring "G"
1.2 -0.1 -1.1	1.1 -0.1 -1.1	0.9 -0.5 -1.2	1.1 -0.5 -1.3	1.2 -0.5 -1.2	1.0 -0.9 -2.7	1.2 -0.9 -2.7
Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock	Soft material, sand, shell, and some clay. Hard crust of medium coral rock
-10.0				-10.1		-8.9
Sand, shell and small coral, not compact	Finger coral, sand and shell, not compact	Sand, shell, and some small coral, soft	Sand, shell, and some coral, not compact		Finger coral, sand and shell, not compact	Compact finger coral, sand, and shell
-20.0	-21.6	-21.6	-22.9			
-24.5					Soft sand, shell, small coral, etc.	Soft sand and shell, small coral, etc.
-30.9 -31.1						-30.9
Do to above with clay	Do to above with clay	Finger coral, sand and shell, not compact	Fairly compact finger coral, sand and shell, and some clay	-34.4	Finger coral, sand and shell, not compact	Compact finger coral, sand and shell, and some clay
-35.3				-38.8	-34.8	
Cemented lava sand -37.6	Cemented lava sand -39.4	Cemented lava sand	Compact clay	-41.6	-43.6	
-40.3 -40.6	-42.1 -44.2 -44.4	-46.3	-48.1 -50.9 -51.6			-44.6 -47.7 -48.1
Hard coral rock with streaks of medium and soft coral rock	Soft coral rock Hard coral rock	Small coral rock with streaks of medium coral rock	Soft coral rock Hard coral rock	Compact mud rock	Compact clay	Compact mudrock Soft coral rock Hard Coral Rock
		Cemented coral sand or wind-blown sand		-58.3	-56.4	
						Compact mudrock
		-60.0 -62.1			-62.0	

2 Abutments	Class A Concrete	Steel
	21.64 cu. yd.	3170 lb

	Class A Concrete	Steel
2 Abutments	21.64 cu. yd.	3170 lb.
5 Int. Pile Caps	25.70	4580
2 End Panels	47.58	6142
4 Int. Panels	93.16	12284
2 End Panels	11.03	644
4 Int. Panels	16.64	1216
Totals	217.75 cu. yd.	28,036 lb.

Structure Excavation 225 cu. yd.
 Rock Fill 192 " "
 Precast Concrete Piles 43 pcs. 55' long

BORING DATA

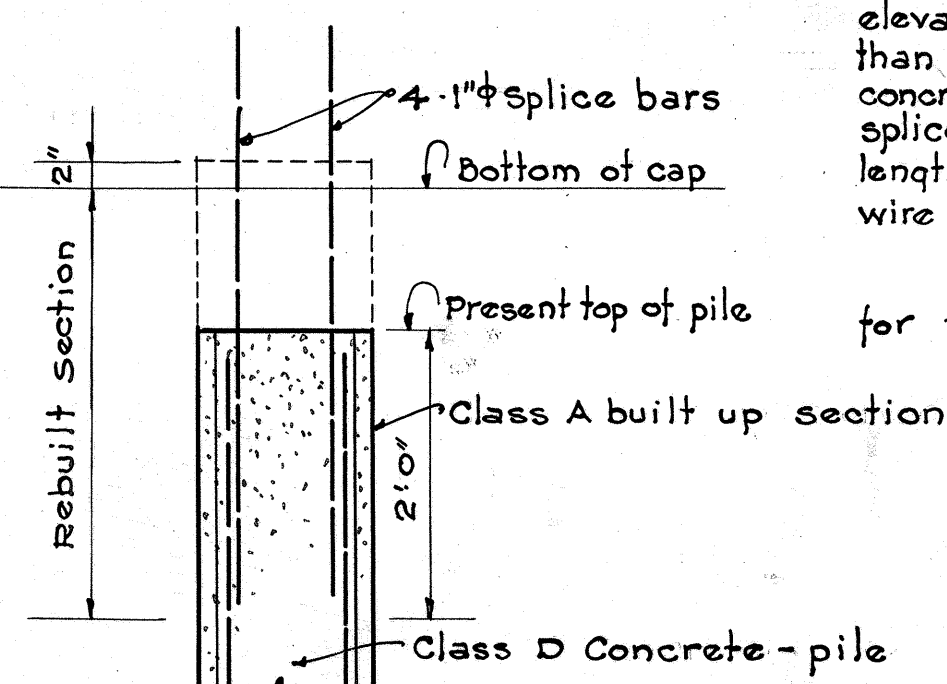
NOTE: Use superstructure shown on plan of Standard Flat Slab Trestle, bents 18'-0", 24' roadway, except as to the following changes in the reinforcing steel due to skew and one side extension of pile caps:
 Pile Caps: Change MK 705 from 28'-0" to 34'-0" length
 Slab: Change MK 402 from 26'-8" to 30'-9" length

TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
 KALANIANAOLE HIGHWAY
 BRIDGE No. 4 F.A. PROJECT No. E-64
 SCALE AS NOTED

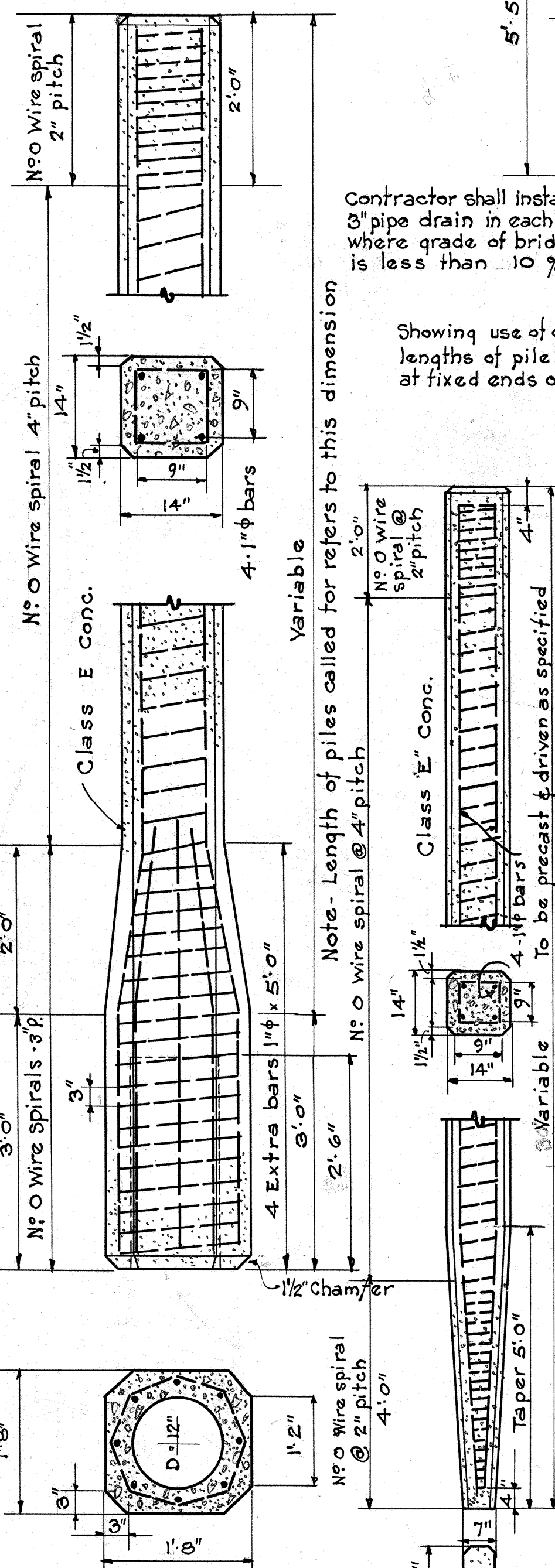
NOTE: THIS DRAWING NOT TO BE USED ON ANY FUTURE WORK. TO BE REVISED ACCORDING TO THE FOLLOWING RECOMMENDATIONS.

NOTE

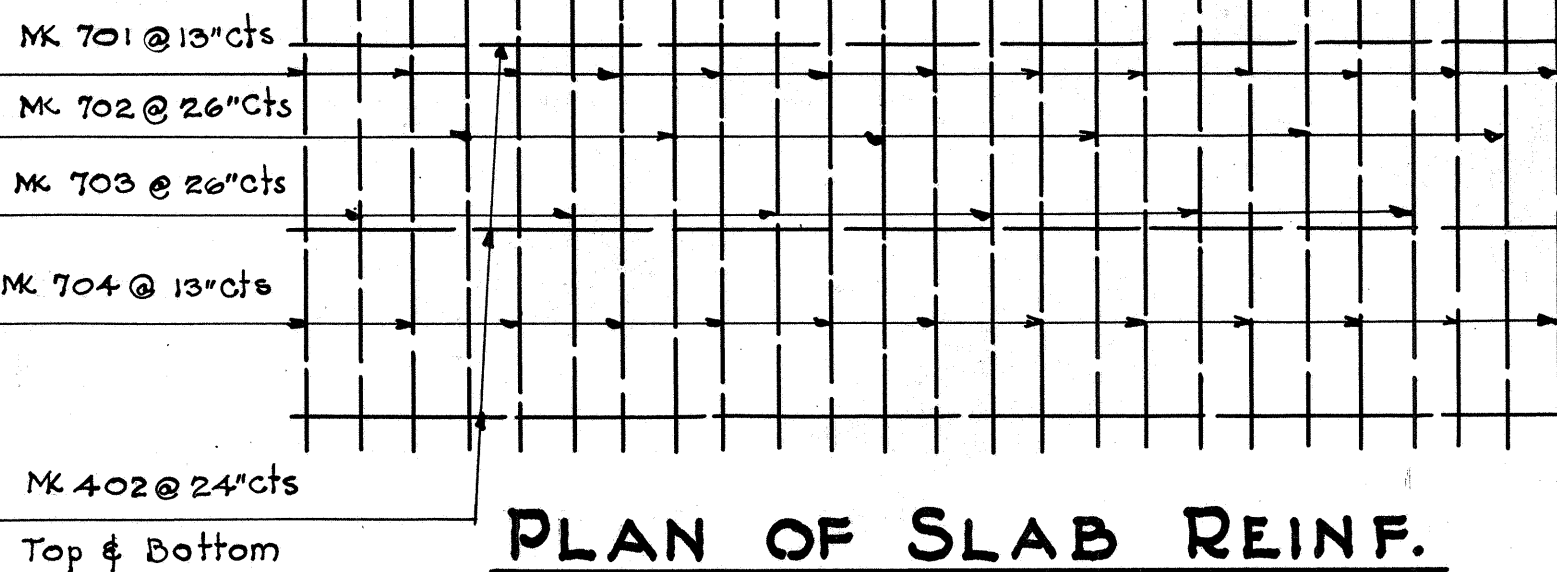
Where piles are driven below grade or to such an elevation that when broken off to grade they will have less than 18" of the pile reinforcement projecting into the cap, the concrete must be removed for a distance of 2 feet & 1" splice bars must be wired to their reinforcement of sufficient length to project 18" in the cap. New spiral hooping of #0 wire on 4" pitch shall be added & the pile rebuilt to grade. These splices to be at the Contractor's expense. No steel has been included in the bending schedule for this purpose.



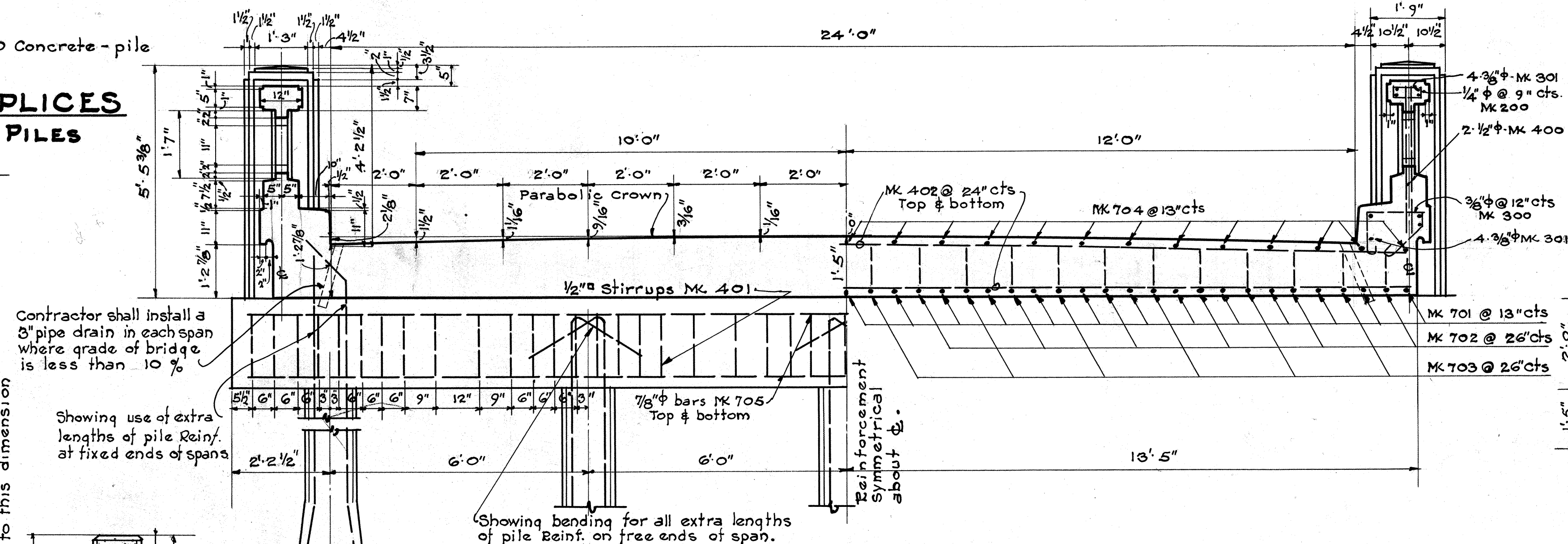
CONC. PILE SPLICES SAME FOR SOCKET PILES



DETAIL OF CONCRETE SOCKET PILE & CONCRETE PILE



PLAN OF SLAB REINF.



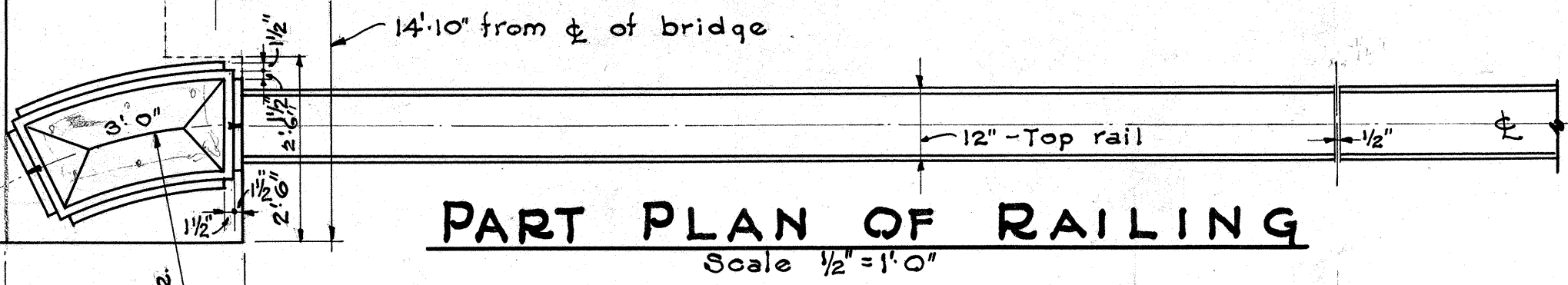
TYPICAL SECTION THRU BRIDGE

Scale - 1/2" = 1' 0"

GENERAL NOTES.

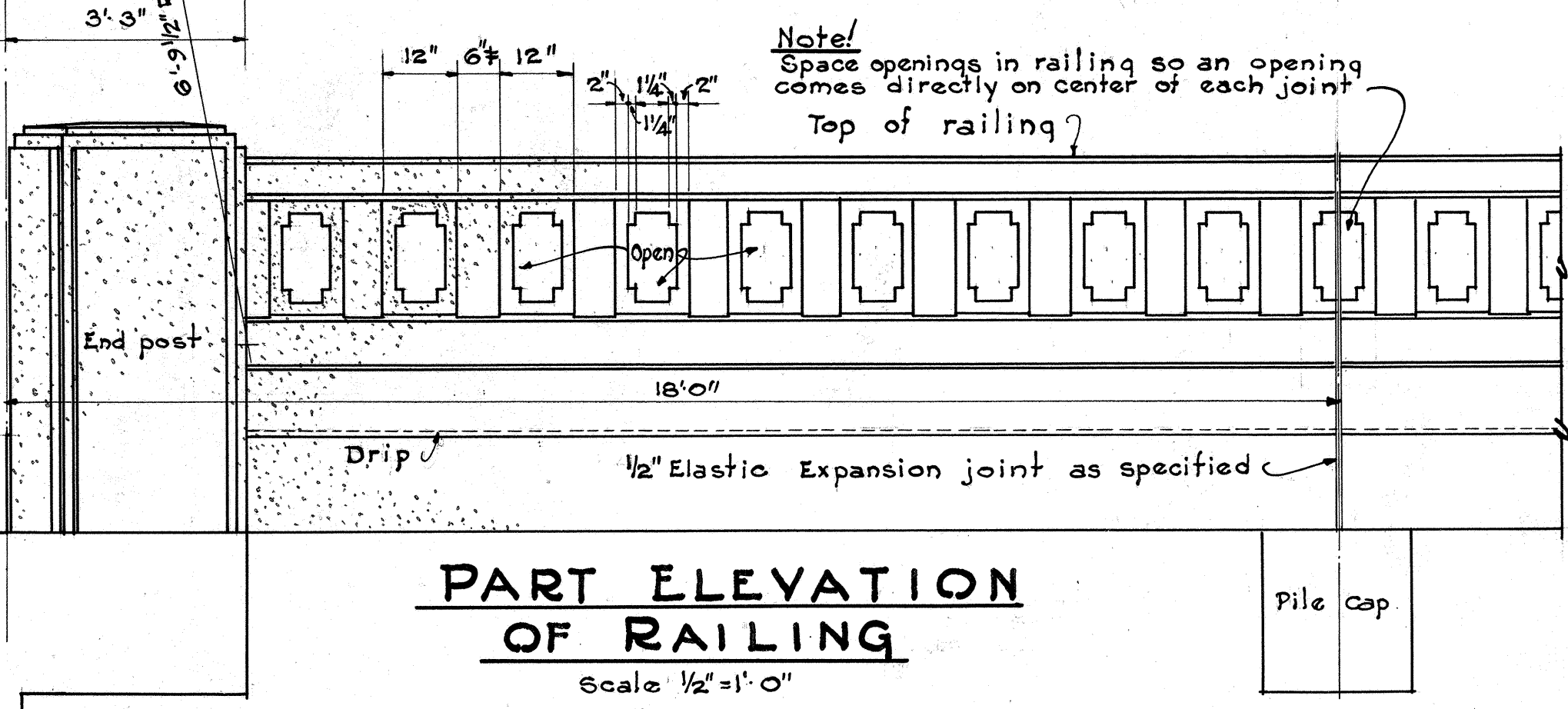
DEAD LOAD - Concrete at 150 # per cu. ft.
LIVE LOAD - 2-15 ton trucks - Impact 35%.
CONCRETE - Class A 1:2:4. Allowable compression 650 #/sq. in.
All exposed corners to be chamfered 3/4".
REINFORCING - STEEL - Allowable tensile strength 16,000 #/sq. in.
All steel to be round or square deformed bars. Square twisted bars not to be considered deformed. All dimensions relating to reinforcing are to centers of bars. Where splicing of reinforcement is necessary bars to be lapped 40 diameters and splices are to be staggered.
PILES - Use concrete piles or concrete socket piles as required by bridge layout.

Wooden piles capped with concrete socket piles



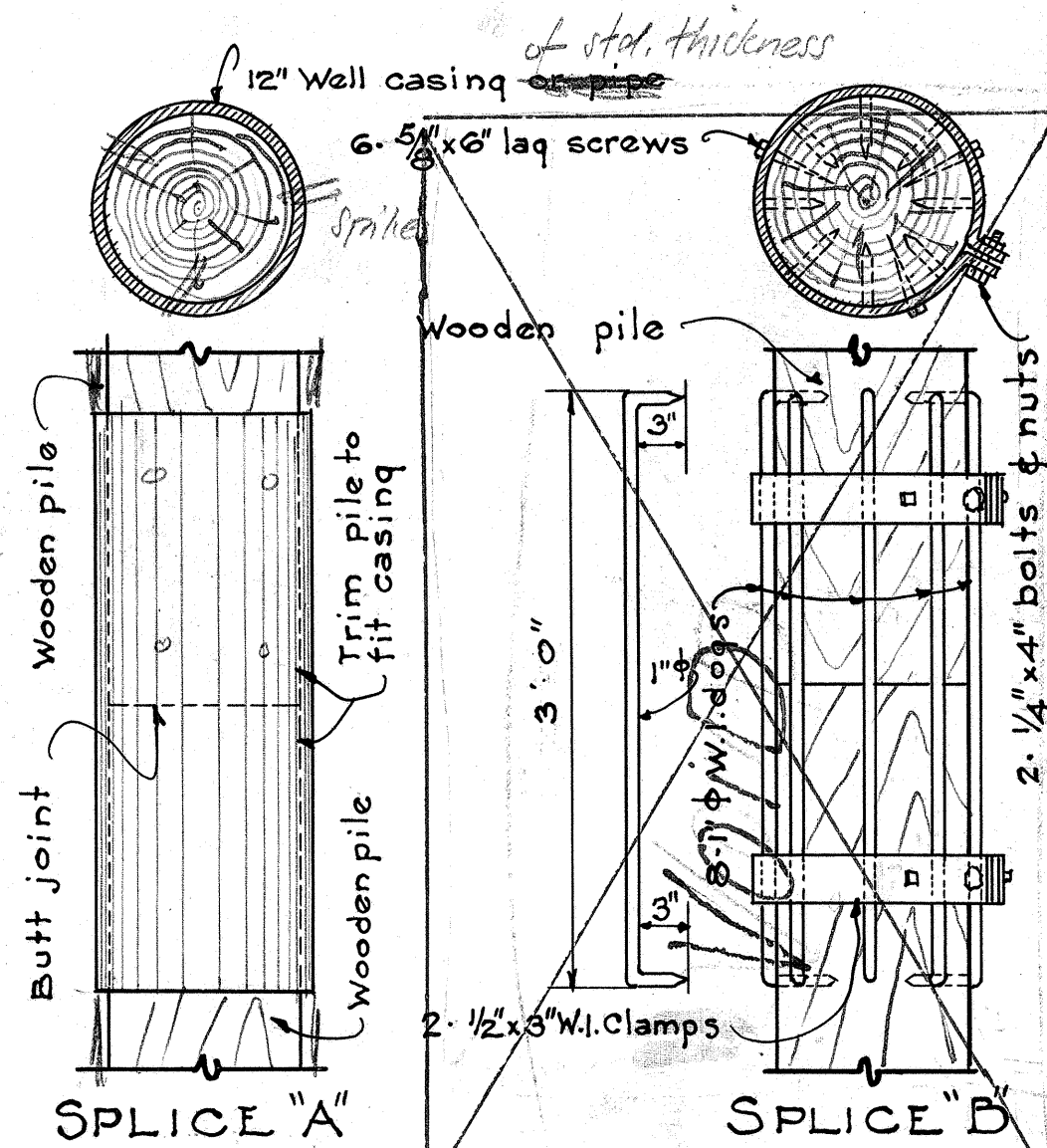
PART PLAN OF RAILING

Scale 1/2" = 1' 0"



PART ELEVATION OF RAILING

Scale 1/2" = 1' 0"



DETAIL OF WOODEN PILE SPLICES

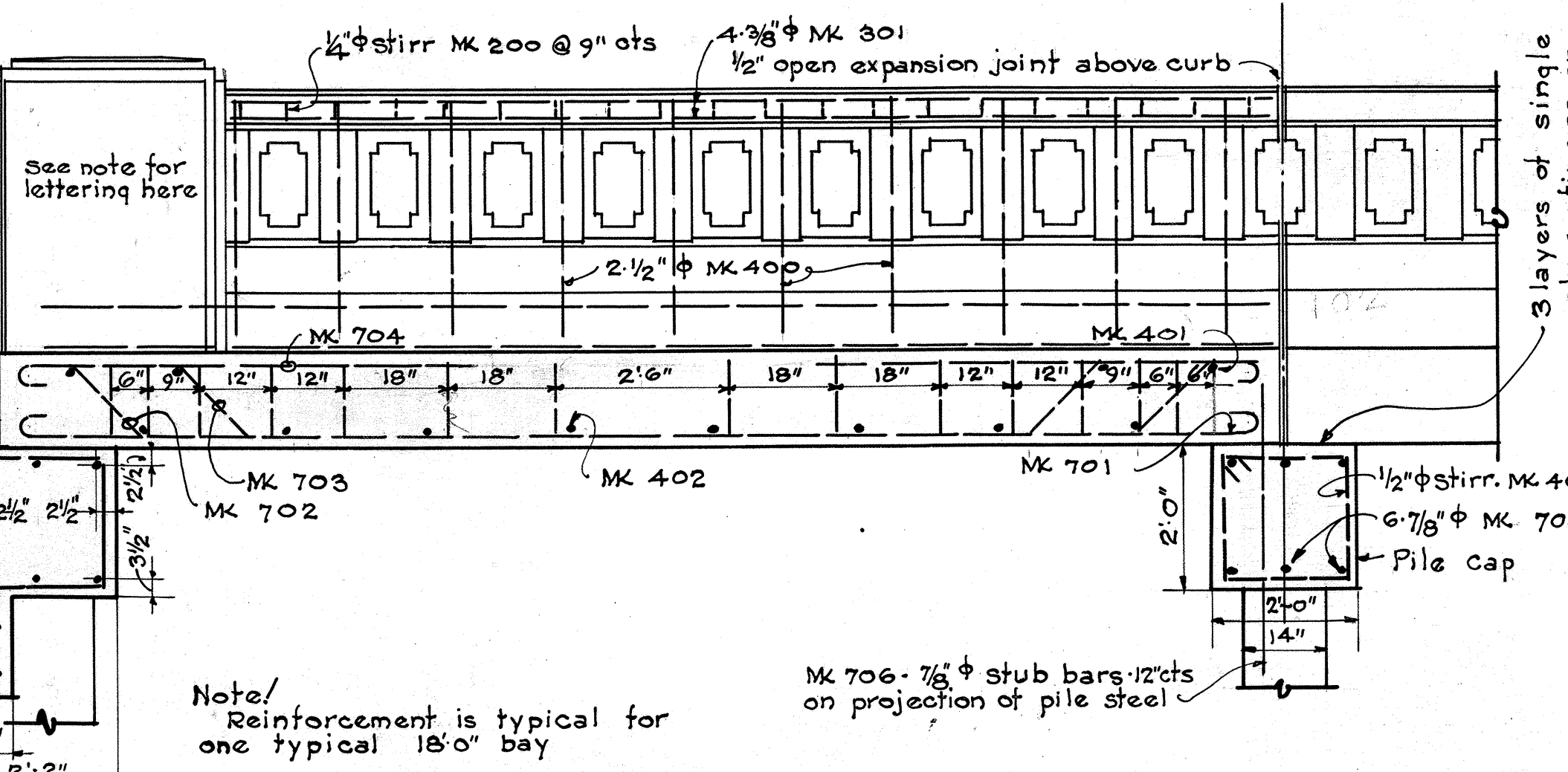
Scale - 1" = 1' 0"

QUANTITIES

CLASS 'A' CONC. - One 18' 0" Span 20.0 C.Y.
" " " One pile Cap 4.2 C.Y.
" " " Abut. Wall - 2. 2.0 C.Y.

Approved
Territorial Highway Engineer.

SCHEDULE OF REINFORCING FOR PILE CAPS									
MK	DESCRIPTION	LOCATION	SIZE	LENGTH	Nº OF BARS IN FAULT	Nº OF UNITS	TOTAL Nº OF BARS	TOTAL LENGTH	WT. PER FOOT
401	3" 1/2" 1" 1/2" Stirr.	Pile cap	1/2"	7' 0"	49				86
705	28' 0"	"	7/8"	28' 0"	6				2.07
706	3' 0" Omit when pile steel is used.	"	"	3' 0"					2.07



LONGITUDINAL SECTION

Scale - 1/2" = 1' 0"

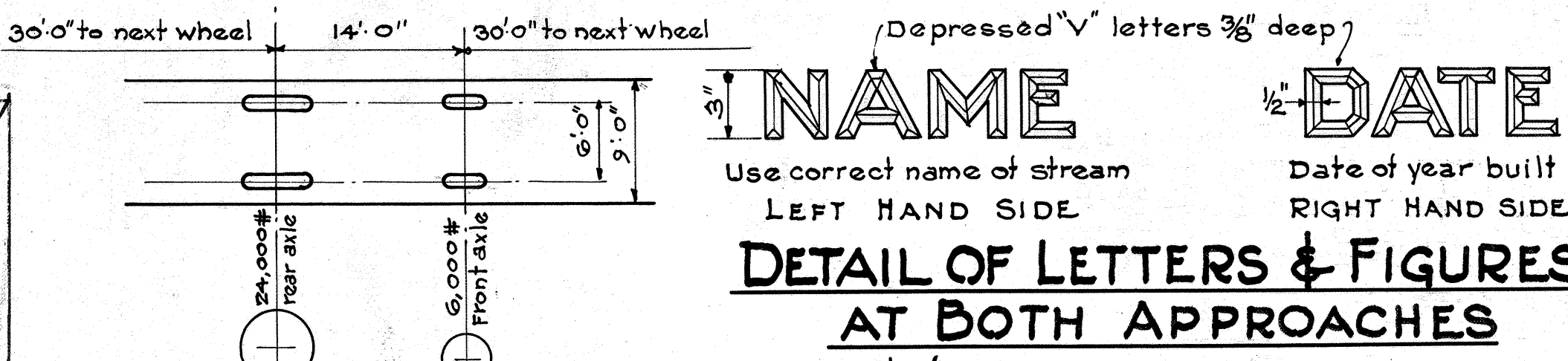


DIAGRAM OF TYPICAL 15 TON TRUCK

SCHEDULE OF REINFORCEMENT FOR 1 TYPICAL 18' SPAN									
MK	DESCRIPTION	LOCATION	SIZE	LENGTH	Nº OF BARS IN FAULT	Nº OF UNITS	TOTAL Nº OF BARS	TOTAL LENGTH	WT. PER FOOT
300	1' 5" 12" 12" 12"	Curb	3/8"	4' 10"	34	1	34	164	.38
301	17' 6"	Railing - top rail	"	17' 6"	8	1	8	140	"
301	"	Curb - Longt.	"	17' 6"	8	1	8	140	"
400	8' 6"	Railing - Vert.	1/2"	3' 6"	48	1	48	168	.68
200	3' 1/2" 3' 1/2"	Railing - top rail	1/4"	2' 3"	48	1	48	108	.17
701	17' 0"	Slab - Longt. bott.	7/8"	19' 6"	25	1	25	408	2.07
702	13' 11" 13' 11"	"	"	20' 0"	12	1	12	240	"
703	11' 11" 11' 11"	"	"	20' 0"	12	1	12	240	"
704	6' 0" 6' 0"	"	"	7' 3"	50	1	50	362	"
402	26' 3" 26' 3"	"	"	26' 3"	12	1	12	315	"
Total									3,324

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STD. FLAT SLAB TRETTLE

ROADWAY - 24' 0" BENTS
SEPT. - 1935 18' 0" CTS.

4268.10