

STORM WATER SEWER No. 193

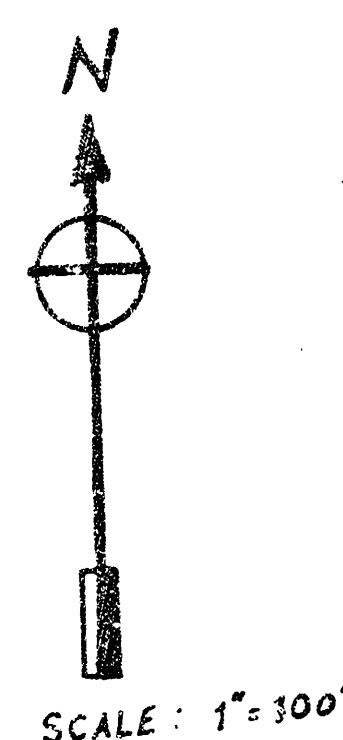
STORM WATER SEWERS in VILM GARDENS 2nd. & STEIN & STEIN 2nd ADDITIONS.

CITY OF WICHITA

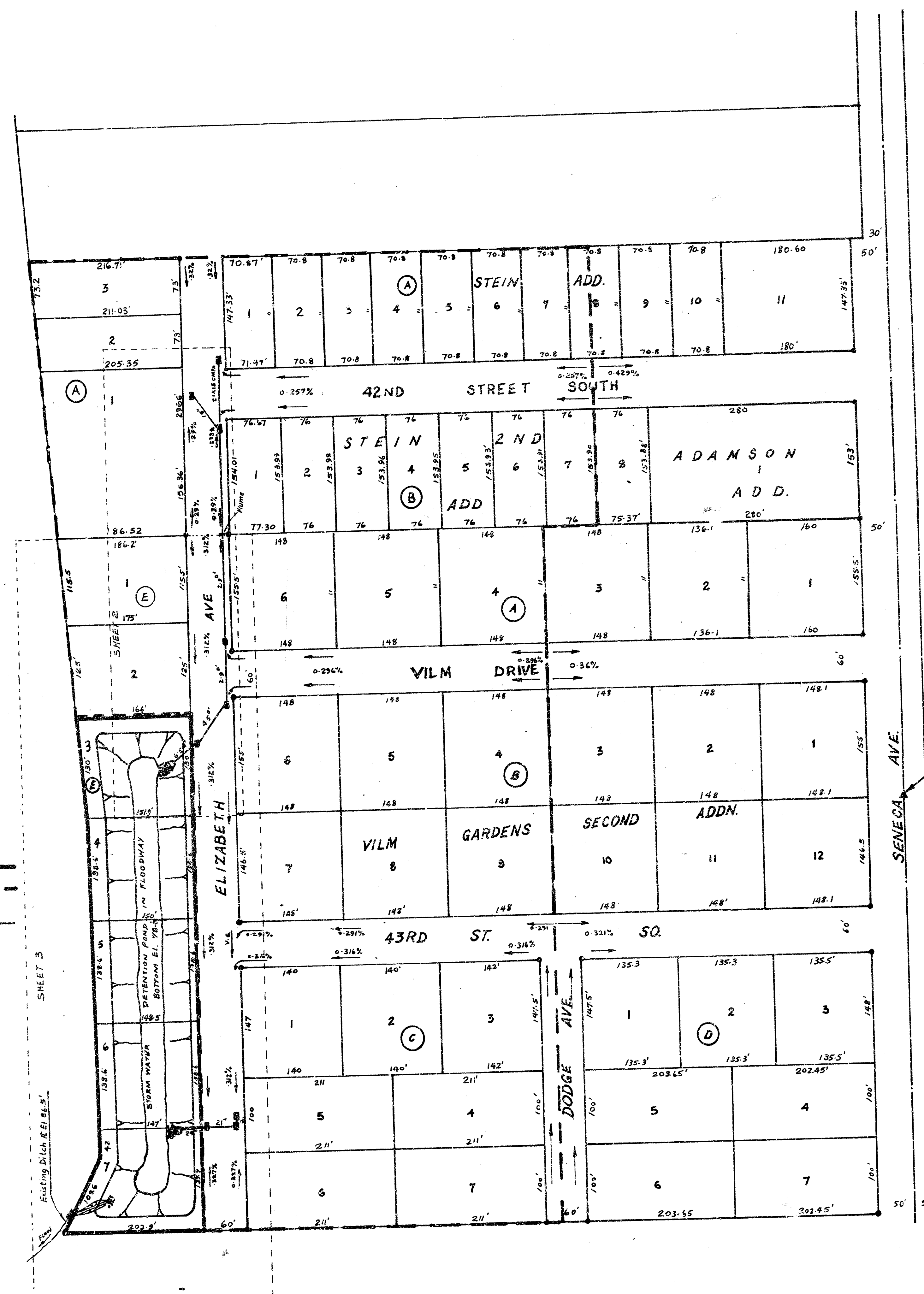
R.W. BRUGGEMAN, CITY ENGINEER.

PROJ. No. 468-76-245-80959-000-000-001

DATE



LEGEND
 PROPOSED POND AND FLOODWY BOUNDARY
 PROPOSED BENEFIT DISTRICT BOUNDARY
 PROPOSED STORM WATER SEWER

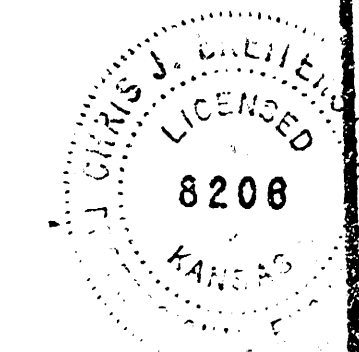


GENERAL NOTES

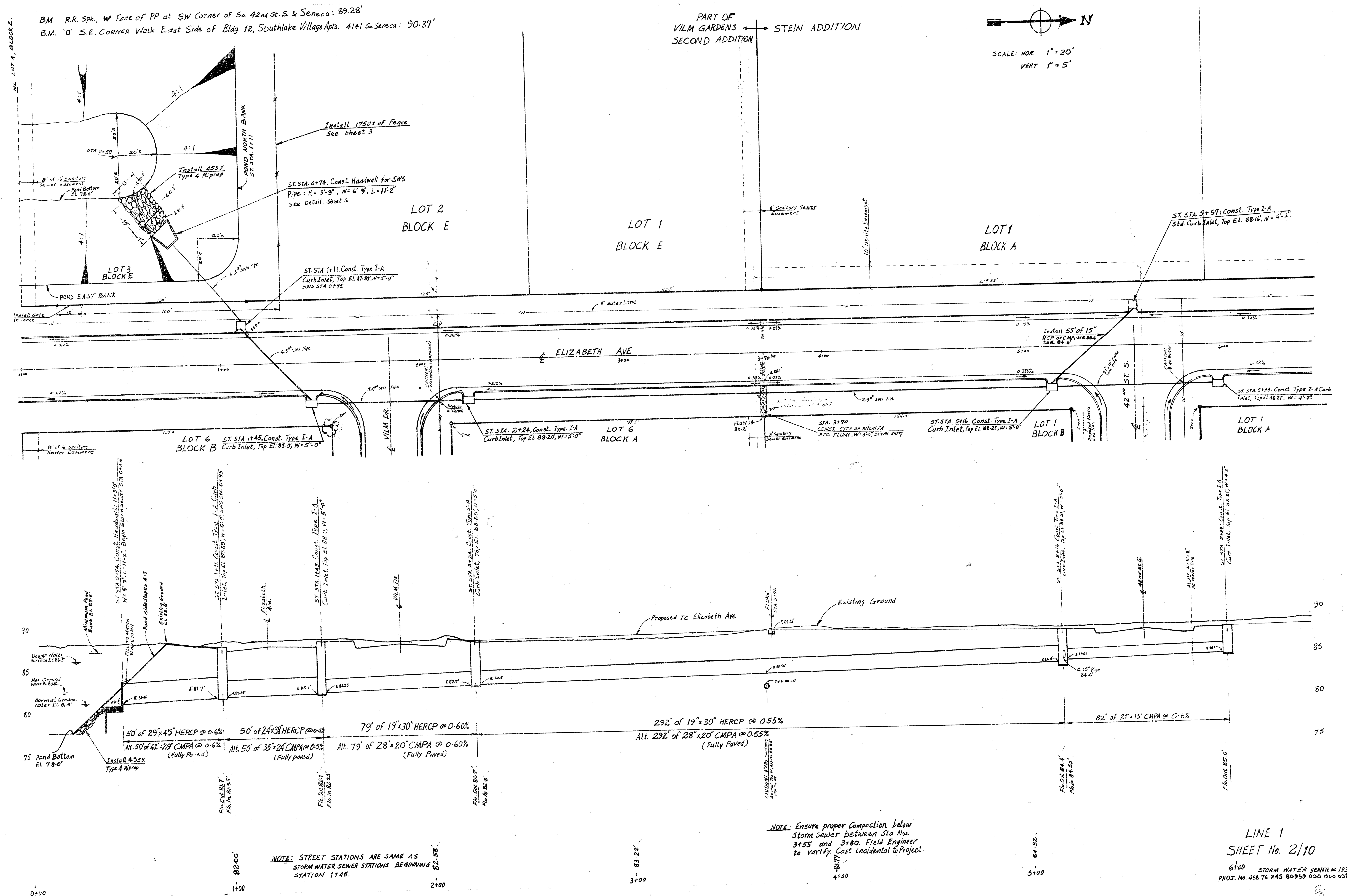
1. FIELD ENGINEER SHALL TAKE TIES TO ALL IRONS AND THEMSELVES WHICH MAY BE DESTROYED.
2. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE "G-SACK CONCRETE".
3. ALL RIPRAP IN THIS PROJECT SHALL BE TYPE 4 RIPRAP AS SPECIFIED IN THE SANITARY AND STORM WATER SEWER BOOKLET.
4. HEADWALLS AT PIPE CUTTHROUGHS SHALL BE CONSTRUCTED TO ALIGN WITH THE SLOPE OF THE BANK IN SUCH MANNER THAT WALL PROTRUSION IS MINIMUM. WHERE SUCH PROTRUSION CANNOT BE AVOIDED, FILL AROUND THE WALLS AT APPROXIMATELY 10:1 SIDE SLOPES SO THE HEADWALL APPEARS ENTIRELY RECESSED.
5. CONTRACTOR SHALL COORDINATE WORK WITH PAVING AND OTHER SANITARY SEWER CONTRACTORS.
6. REFER TO THE PAVING PLANS OF ELIZABETH AVENUE FOR LOCATION OF CURB INLETS, POND BOUNDARY, AND OTHER NECESSARY TIES FOR PRELIMINARY SURVEY NEEDED TO CONSTRUCT THIS PROJECT.
7. ALL TREES AND VEGETATION TO BE REMOVED ARE SHOWN ON THE PLANS (THUS:). NO OTHER TREES ARE TO BE REMOVED UNLESS INCLUDED IN "CLEARING RIGHT-OF-WAY". ABSOLUTELY NECESSARY AND WITH CONSENT OF THE FIELD ENGINEER.
8. THE EXCAVATED MATERIAL FROM THE POND SHALL REMAIN IN THE VICINITY OF THE PROJECT. THE CONTRACTOR SHALL CONTACT WAYNE WILLIAMS, INC., AT (316) 685-1213 FOR THE SITE WHERE THIS MATERIAL IS TO BE STOCKPILED.

INDEX

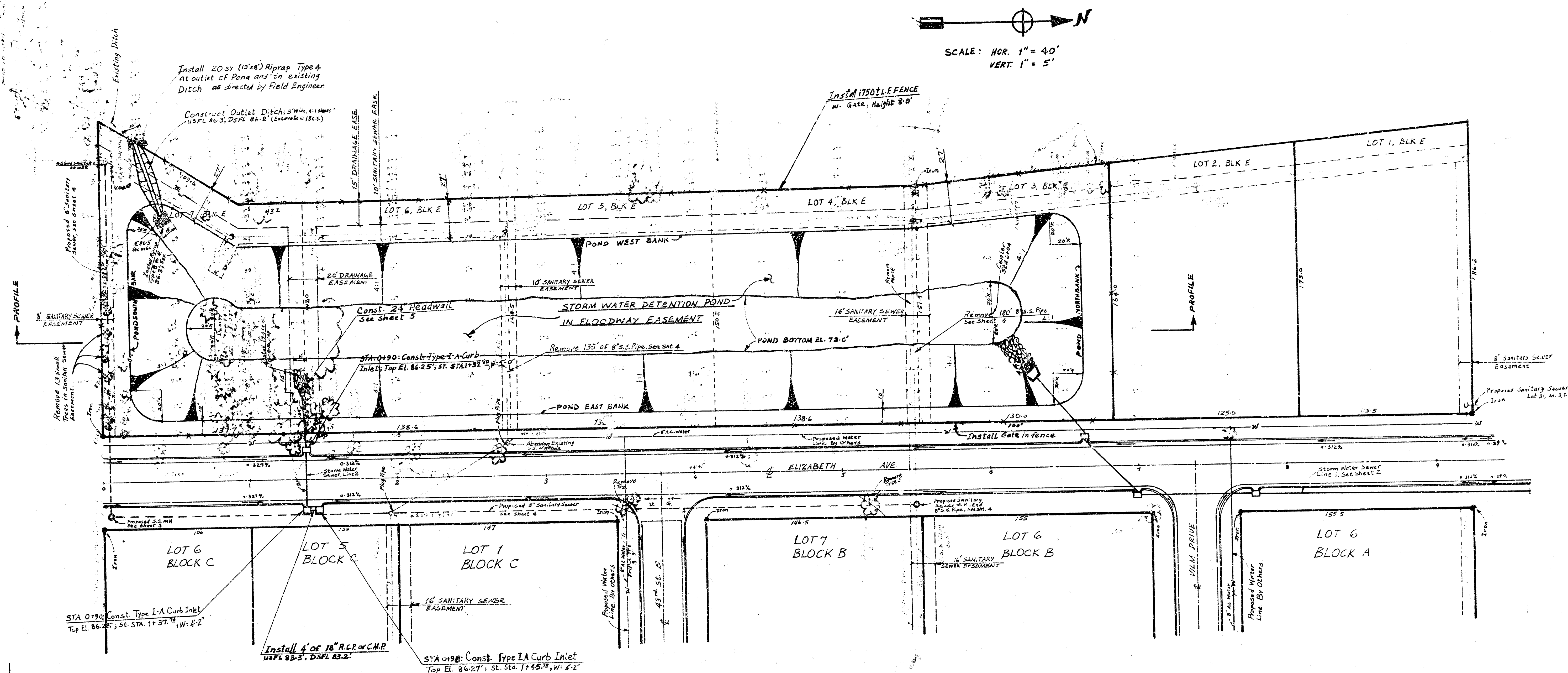
- SHEET 1: Cover Sheet
 2;3: Plan and Profile Sheets, Storm Sewer
 4: Plan and Profile Sheet, Sanitary Sewer
 5: Detail: Headwall 24" Pipe
 6: Detail: Headwall 29"x45" (42"x29") Pipe
 7: Detail: Standard Flume
 8: Detail: Standard Curb Inlet, Type I-A
 9;10: Pond Cross-Sections



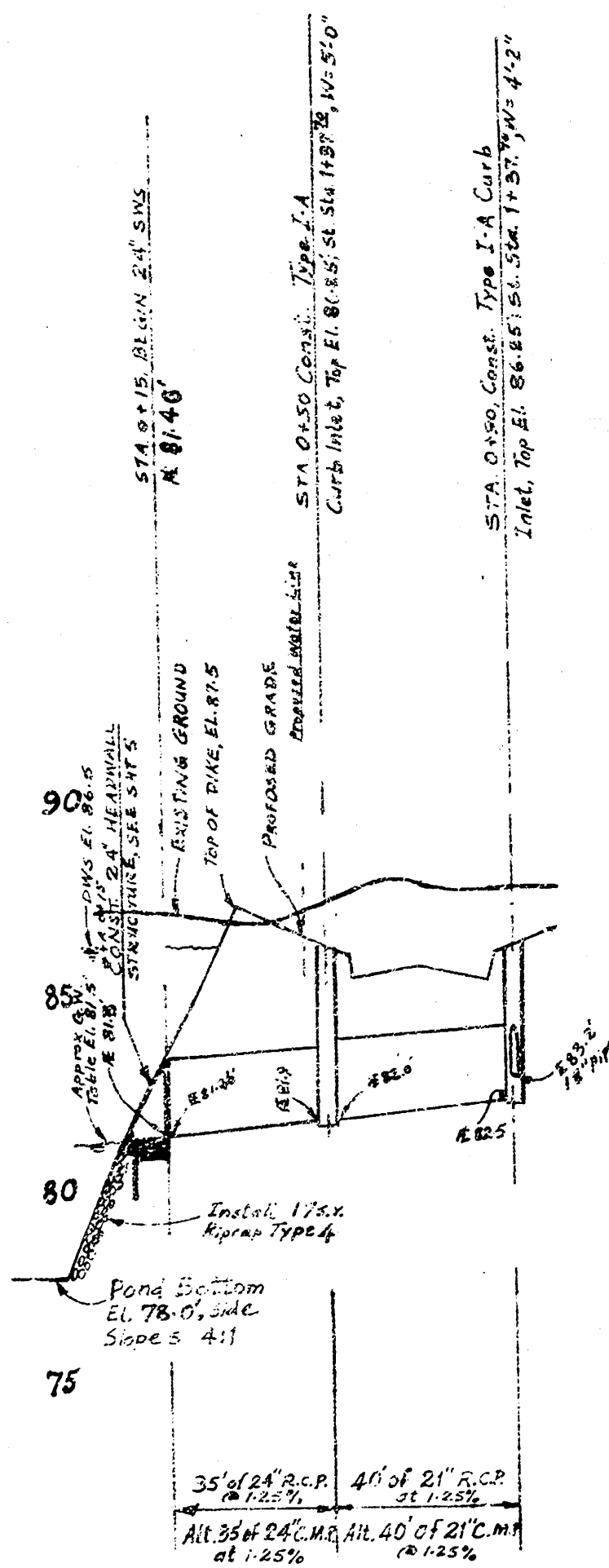
PLK (000-16) SW 1980
Y 200



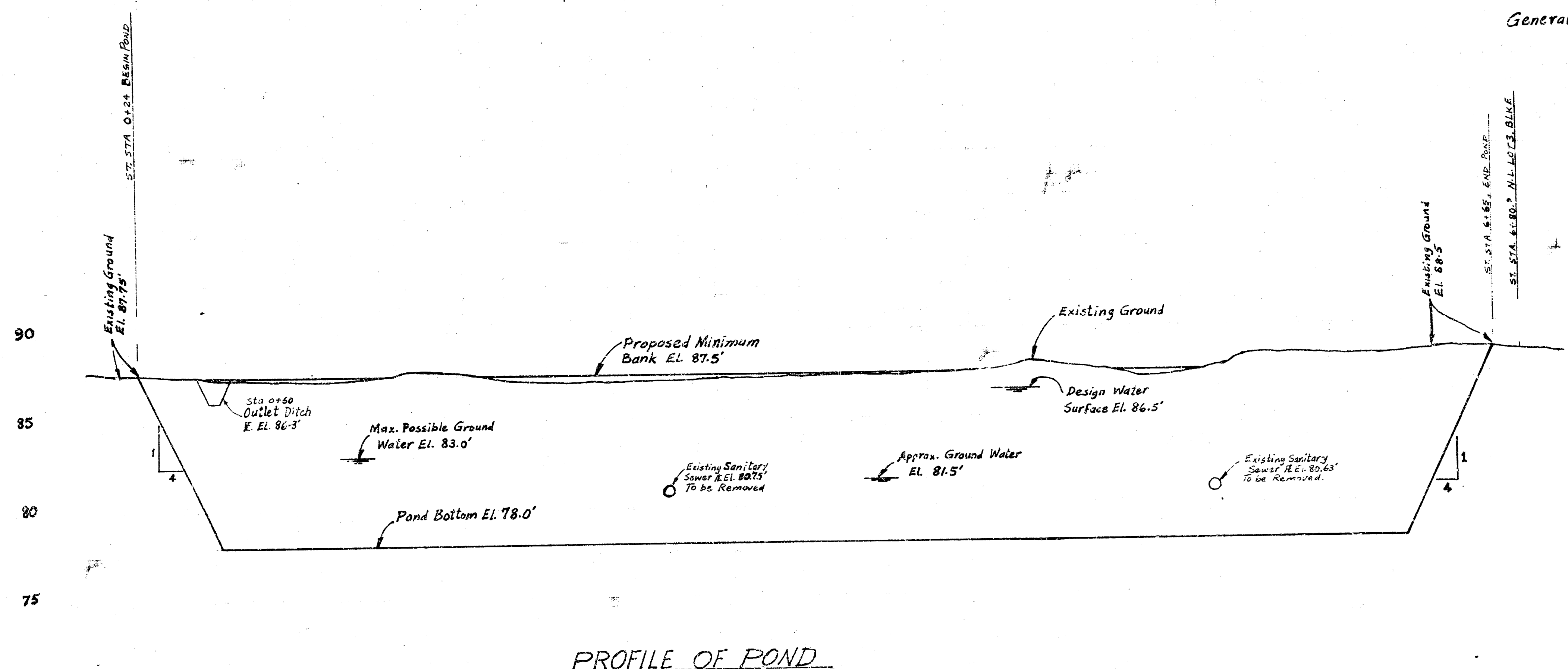
BM 87.72' at South Curb 44th St. So. at EL Elizabeth



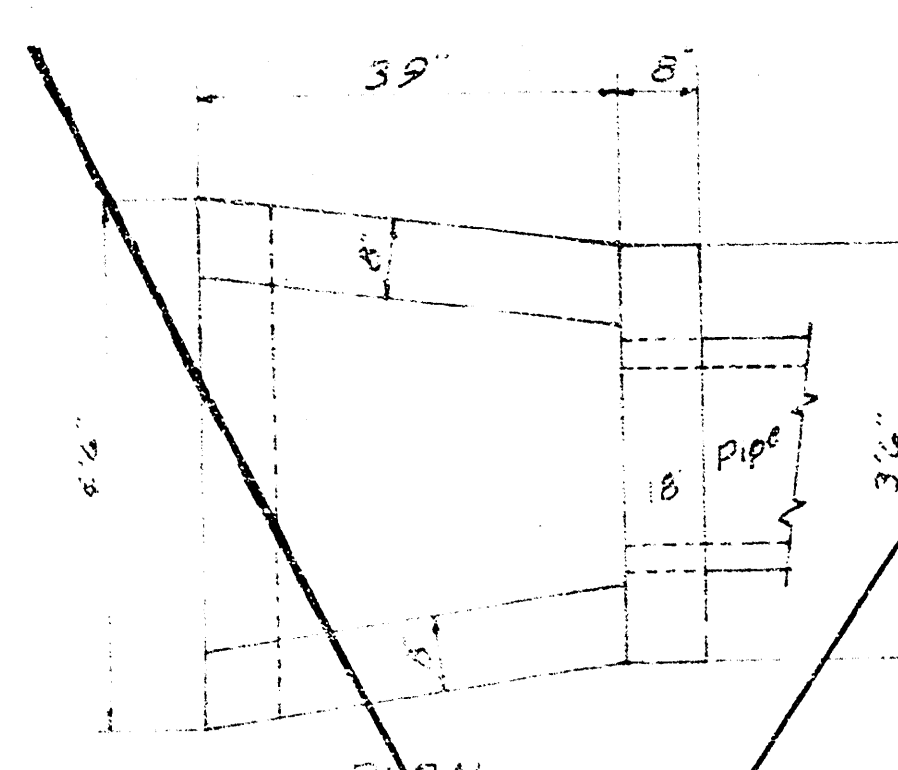
General Note: All Trees and other Vegetation and material in the pond (Floodway Area: Lots 3 thru 7, Blk. C-E) shall be Removed, to be paid for as "Clearing Right of Way", at the direction of Field Engineer. Trees along the bank shall be Saved, where possible.



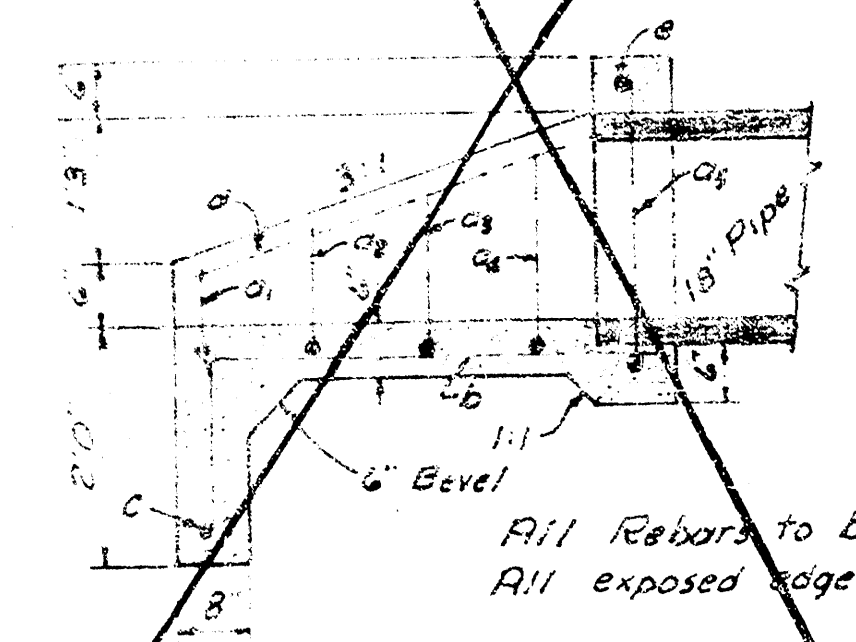
PROFILE OF STORM WATER SEWER LINE



PROFILE OF POND



PLAN
Scale: 1/2"=10'



SECTION
Scale: 1/2"=10'

a bars

a ₁	38"
a ₂	35"
a ₃	32"
a ₄	21"
a ₅	28"

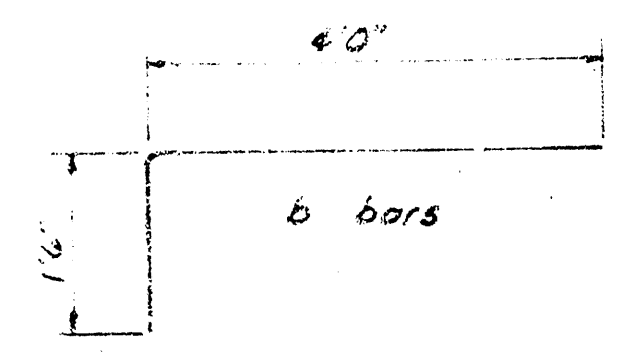
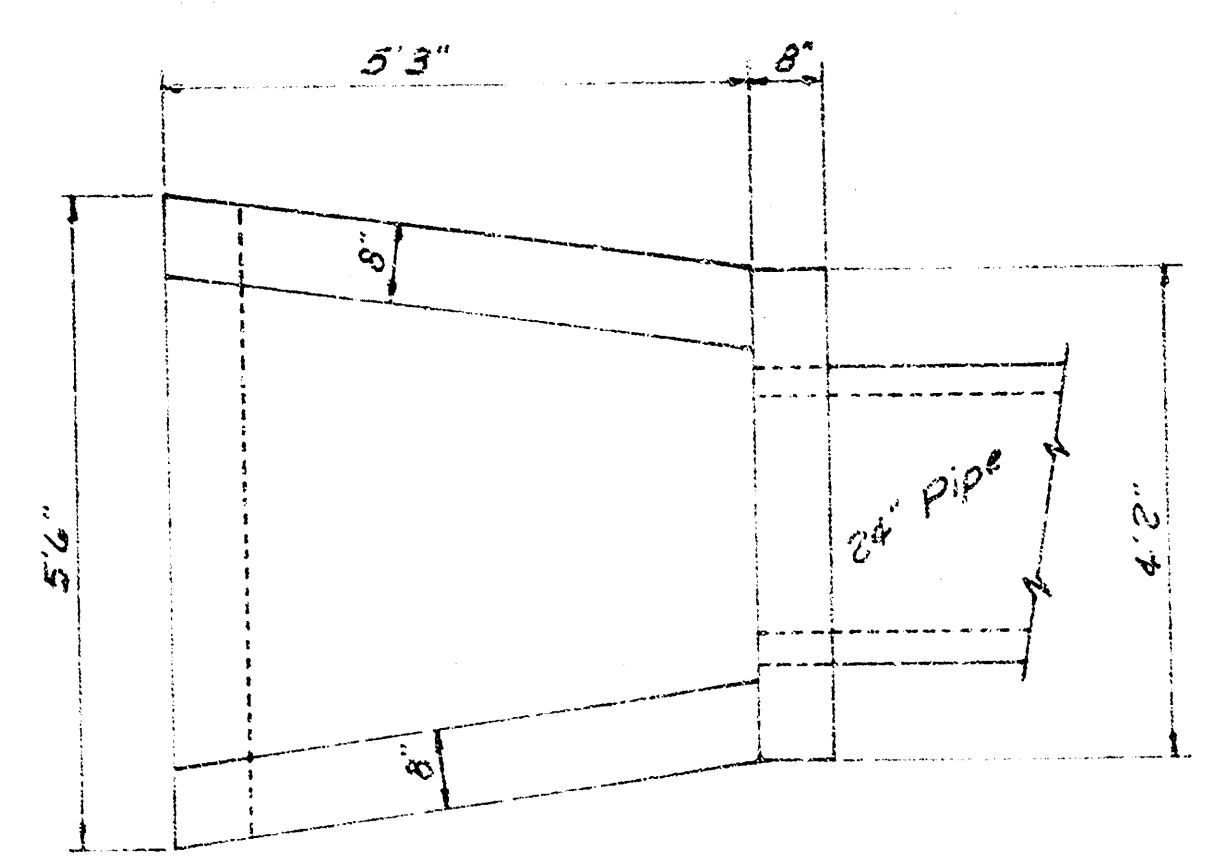


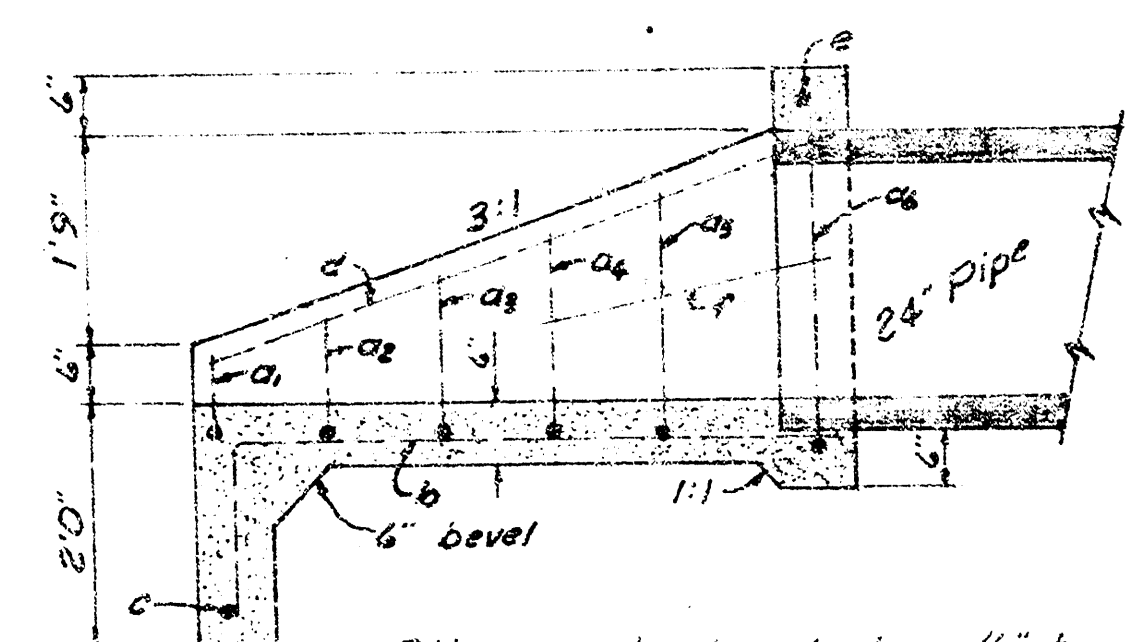
TABLE OF QUANTITIES

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a ₁	1	38"		3.34
a ₂	1	35"		3.51
a ₃	1	32"		3.70
a ₄	1	21"		4.06
a ₅	1	28"		4.79
b	5	40"		10.37
c	1	40"		2.67
d	2	40"		5.34
e	1	32"		2.12
Total Rebar, lbs				47.59
Conc, CY				0.91

HEADWALL FOR 18" PIPE



PLAN
Scale: 1/2"=10'



SECTION
Scale: 1/2"=10'

a bars

a ₁	69"
a ₂	66"
a ₃	63"
a ₄	60"
a ₅	39"
a ₆	35"

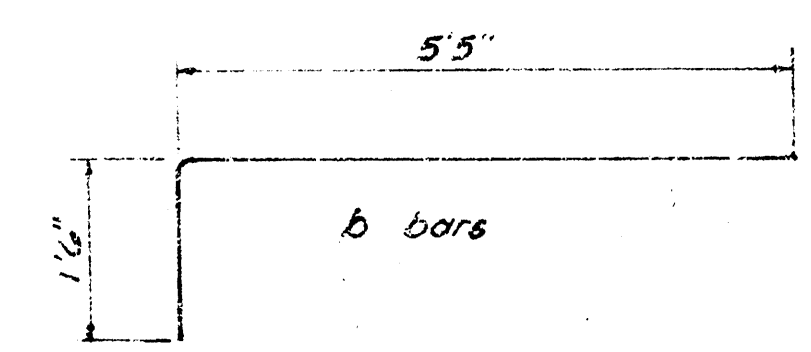
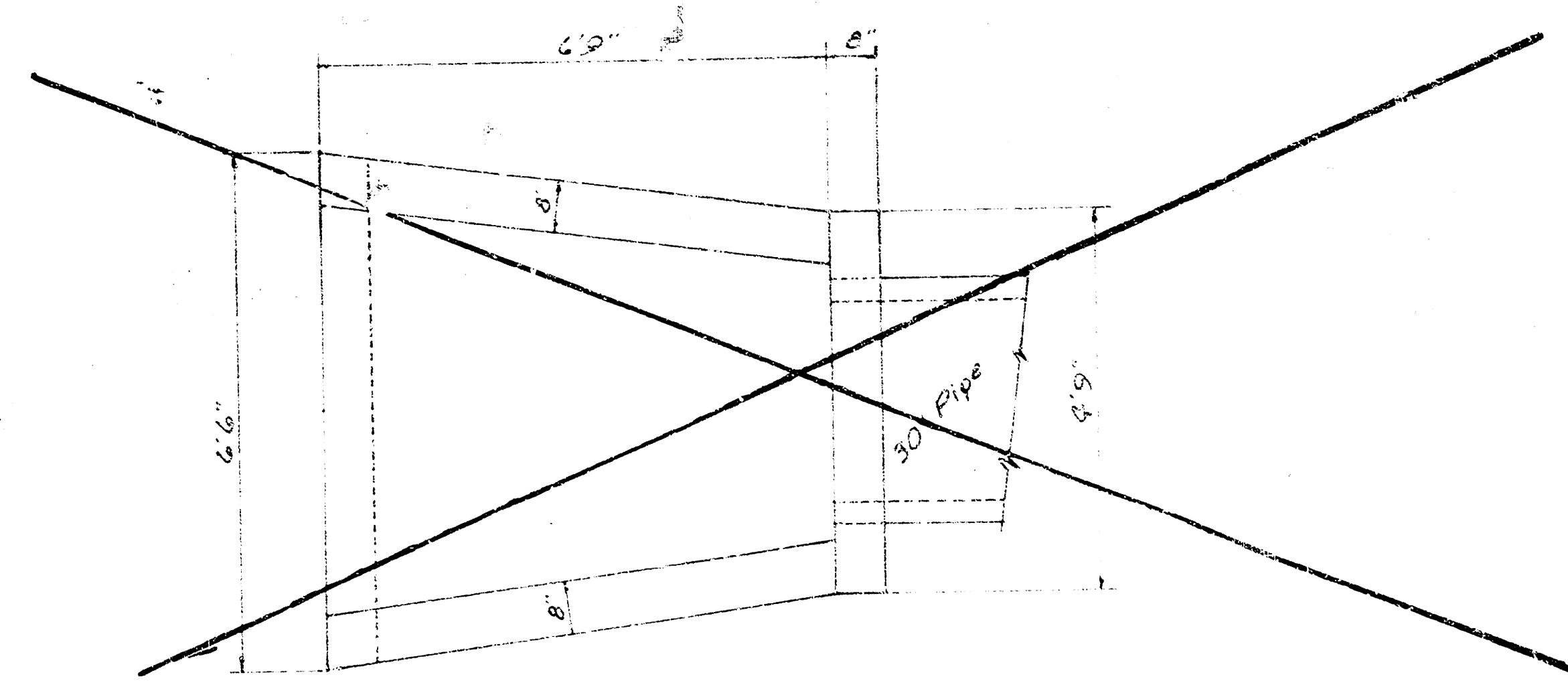


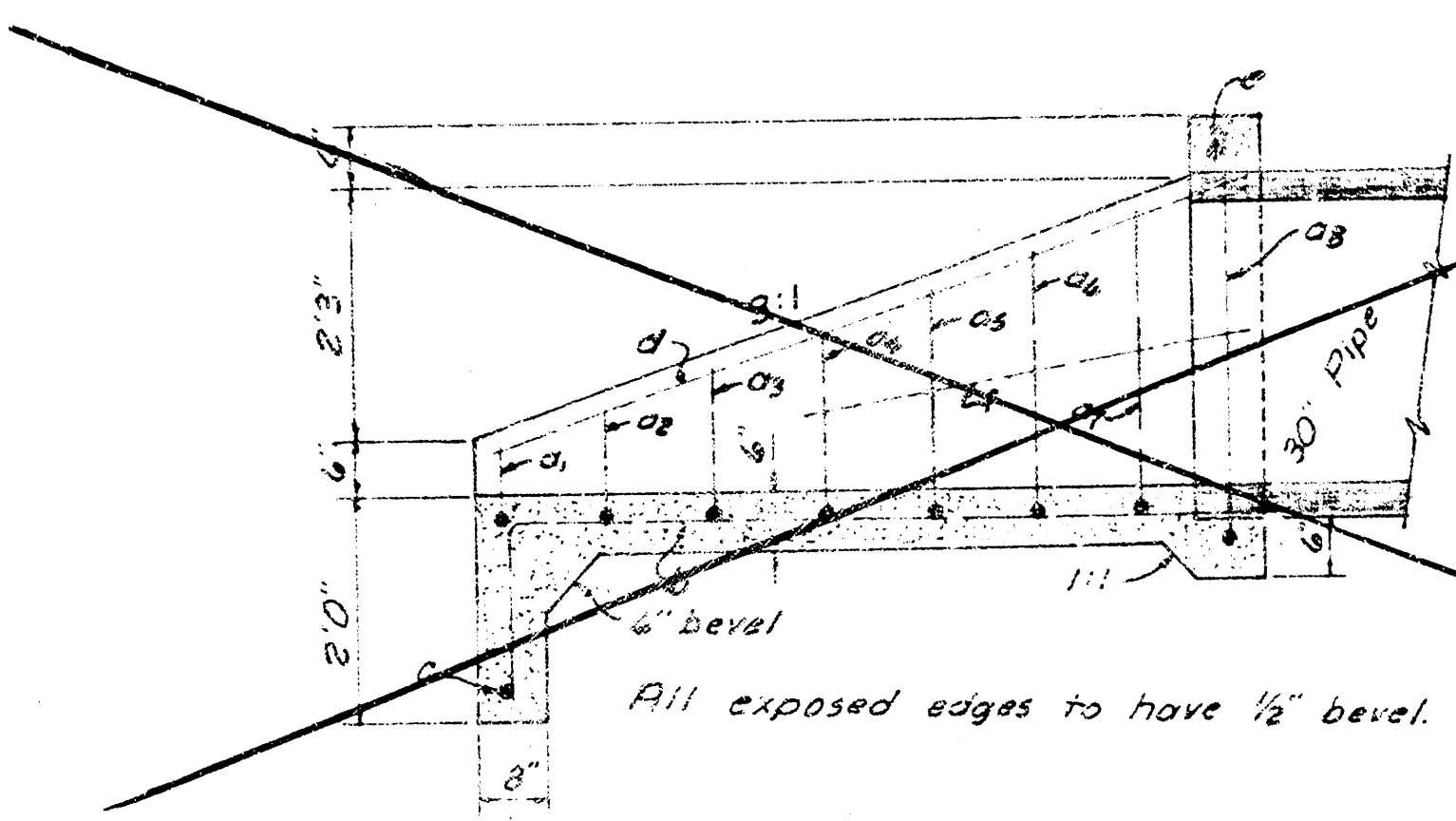
TABLE OF QUANTITIES

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a ₁	1	69"		4.06
a ₂	1	66"		4.23
a ₃	1	63"		4.51
a ₄	1	60"		4.79
a ₅	1	39"		5.07
a ₆	1	35"		6.29
b	6	55"		27.72
c	1	50"		3.37
d	2	50"		7.79
e	1	30"		2.56
f	2	29"		3.37
Total Rebar, lbs				74.03
Concrete, CY				1.40

HEADWALL FOR 24" PIPE



PLAN
Scale: 1/2"=10'



SECTION
Scale: 1/2"=10'

a bars

a ₁	58"
a ₂	56"
a ₃	53"
a ₄	50"
a ₅	48"
a ₆	46"
a ₇	43"
a ₈	41"

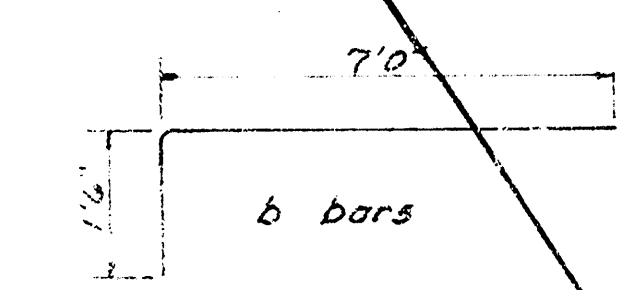
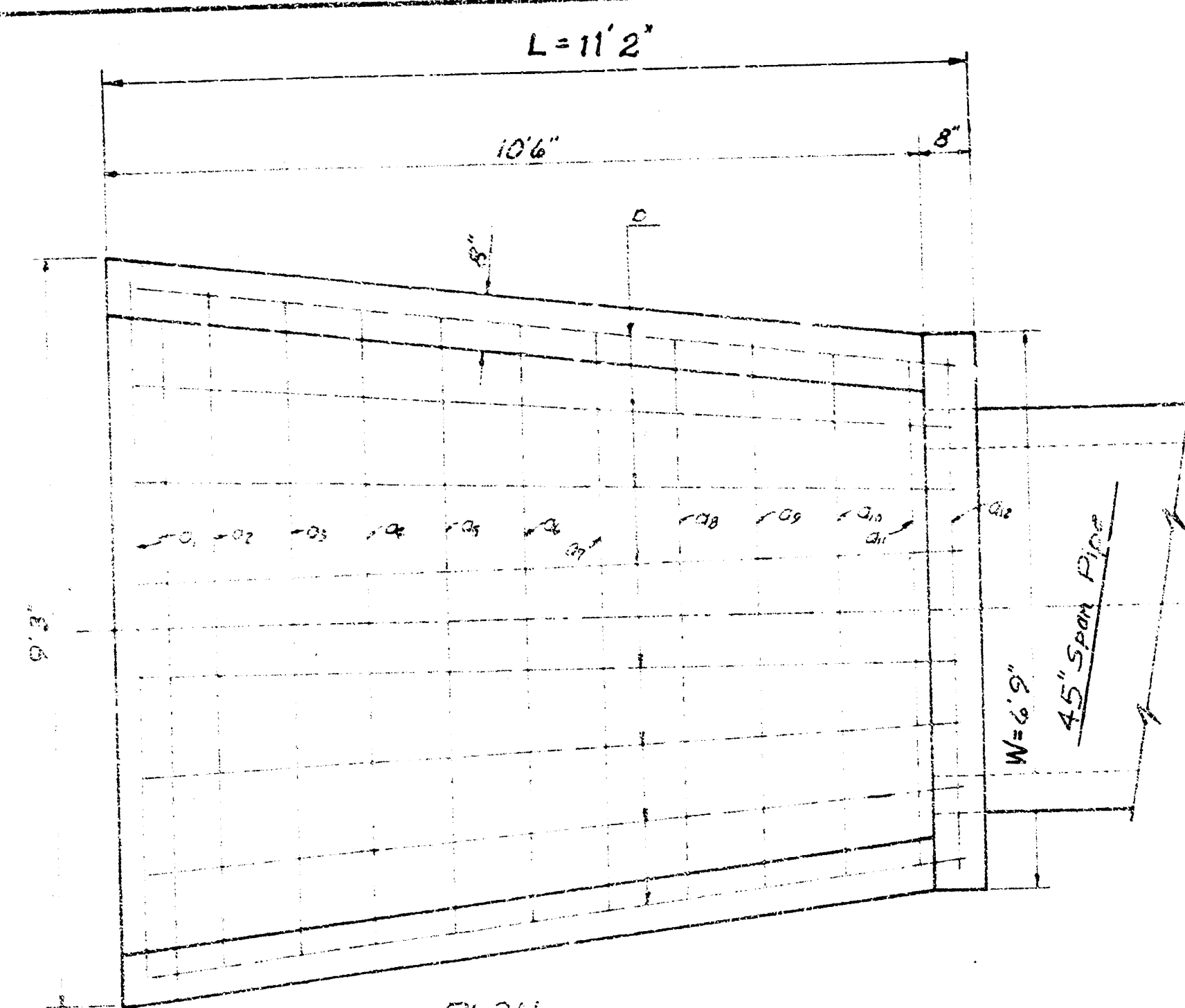


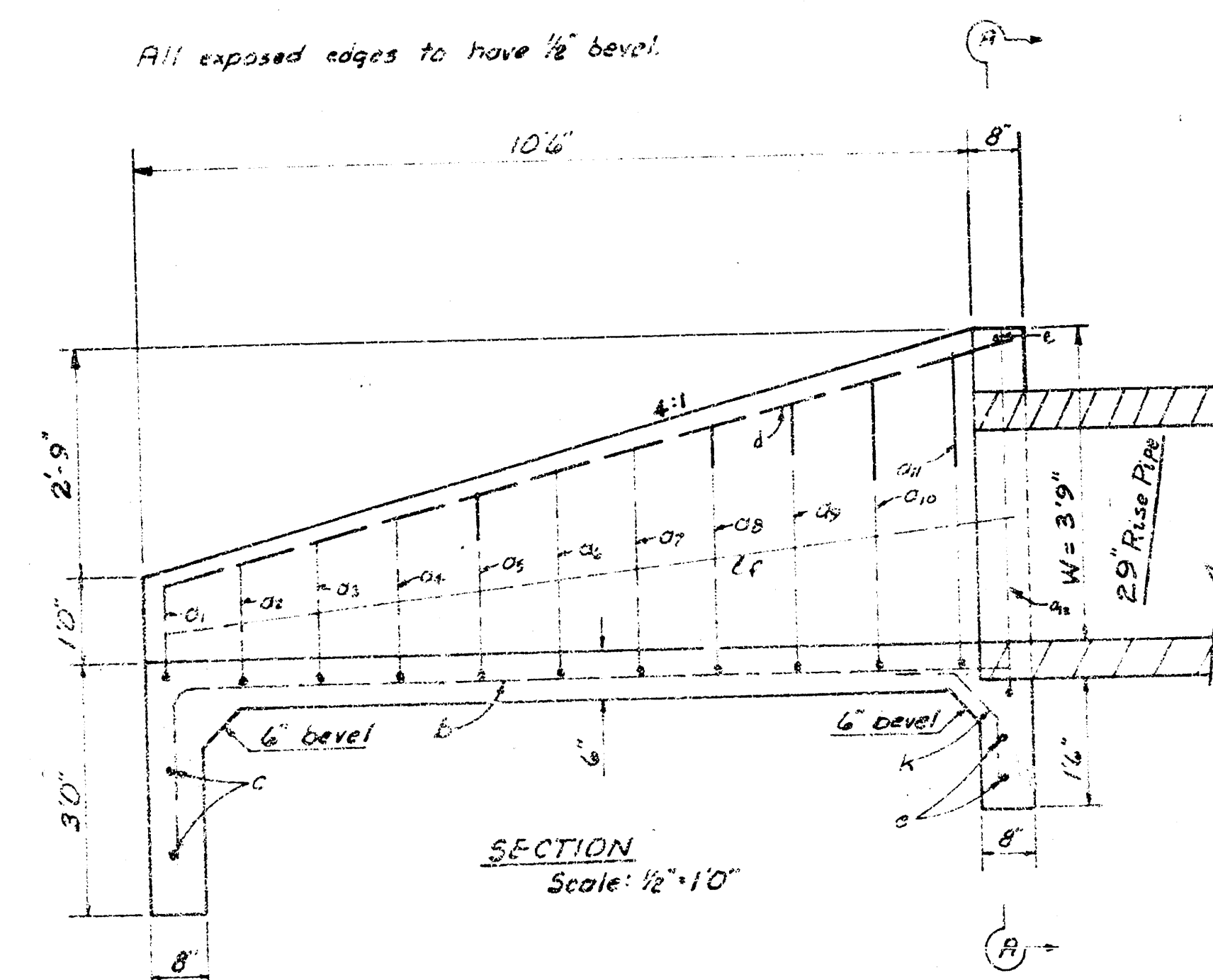
TABLE OF QUANTITIES

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a ₁	1	70"		4.48
a ₂	1	74"		4.90
a ₃	1	79"		5.18
a ₄	1	82"		5.46
a ₅	1	84"		5.68
a ₆	1	90"		6.80
a ₇	1	95"		7.40
a ₈	7	82"		35.07
c	1	60"		4.01
d	2	74"		10.02
e	1	45"		2.95
f	2	43"		3.68
Total Rebar, lbs				103.33
Concrete, CY				2.21

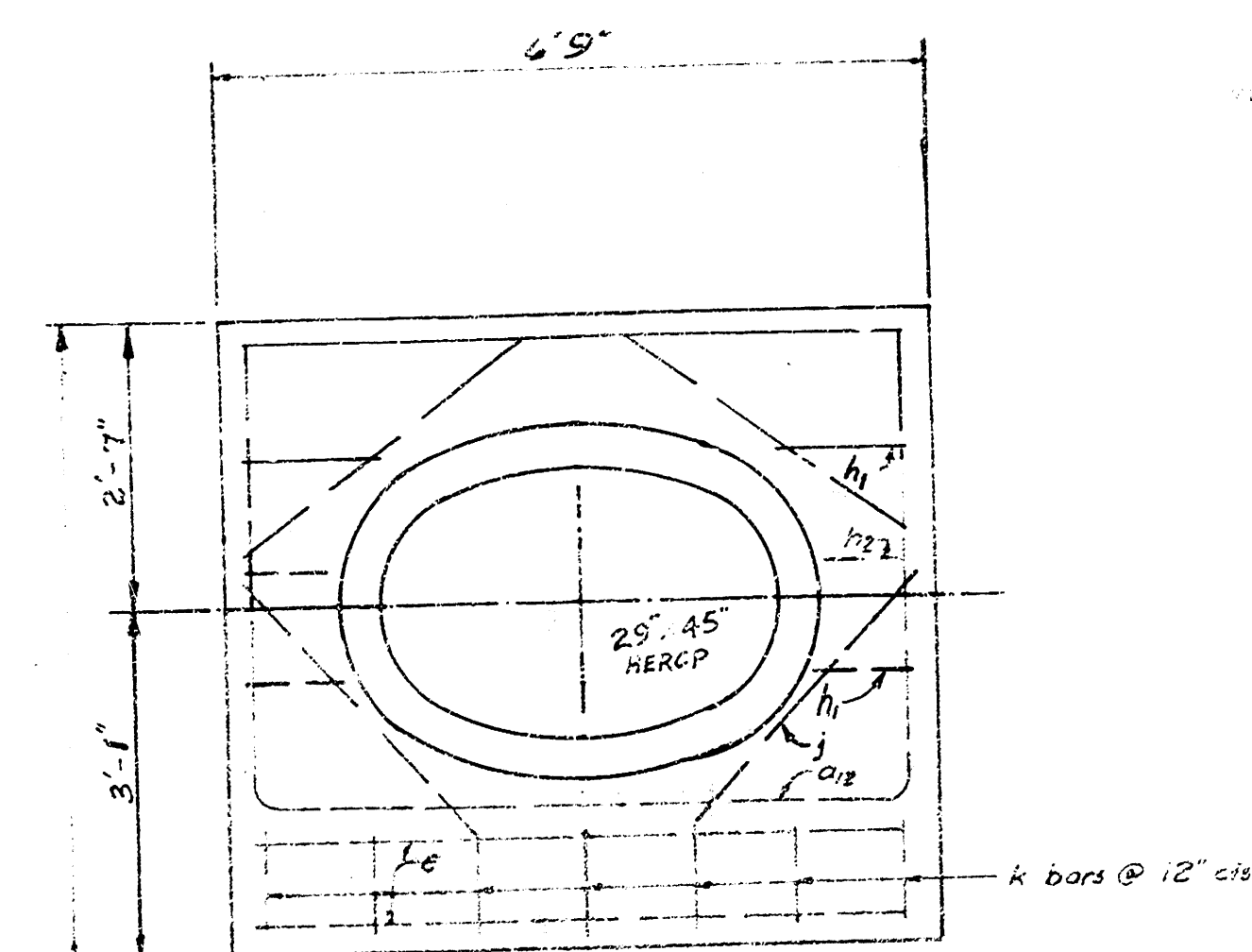
HEADWALL FOR 30" PIPE



PLAN
Scale: 1/2"=10'



SECTION
Scale: 1/2"=10'



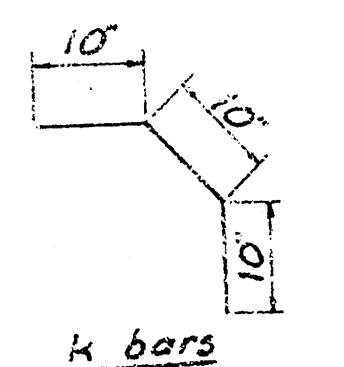
SECTION A-A
Scale: 1/2"=10'

HEADWALL FOR 29" x 45" HERCP OR 42" x 29" CMPA

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a ₁	1	10'10"		7.24
a ₂	1	11'3"		7.52
a ₃	1	11'4"		7.57
a ₄	1	11'7"		7.74
a ₅	1	11'10"		7.91
a ₆	1	12'2"		8.13
a ₇	1	12'5"		8.30
a ₈	1	12'8"		8.46
a ₉	1	12'11"		8.63
a ₁₀	1	13'0"		8.69
a ₁₁	1	13'4"		8.91
a ₁₂	1	15'0"		10.02
b ₁	8	12'7"		47.25
b ₂	2	8'4"		11.36
b ₃	2	11'6"		15.56
b ₄	3	6'5"		12.86
b ₅	2	10'9"		14.36
n ₁	2	1'3"		1.67
n ₂	4	0'9"		2.00
j	4	3'1"		8.24
k	7	2'6"		11.49
Rebars (lbs)				243.91
Concrete (C.Y.)				4.10

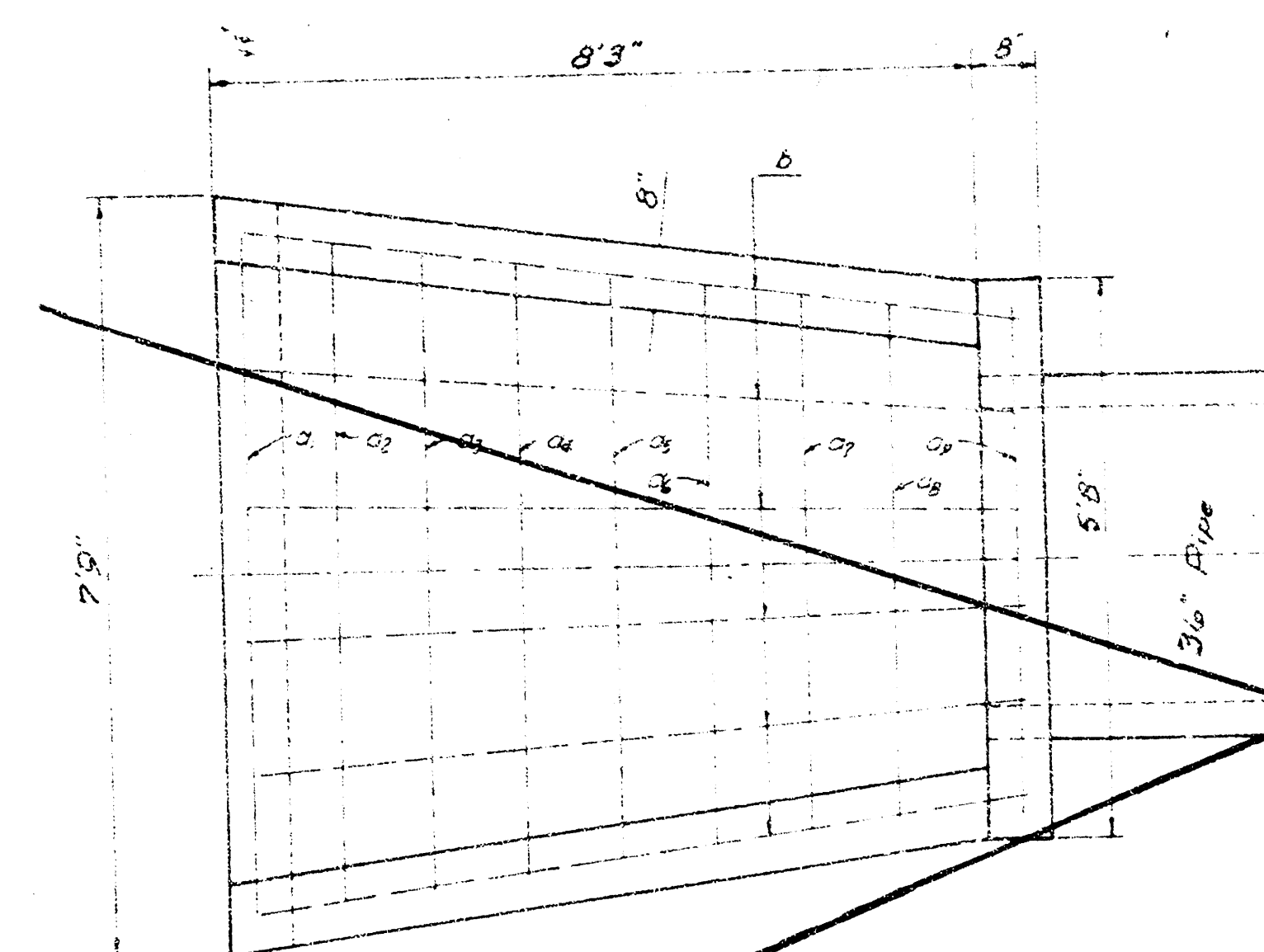
All rebars to be #4

a ₁	8'6"
a ₂	8'3"
a ₃	8'0"
a ₄	7'9"
a ₅	7'6"
a ₆	7'5"
a ₇	7'1"
a ₈	6'10"
a ₉	6'7"
a ₁₀	6'4"
a ₁₁	6'2"
a ₁₂	6'2"



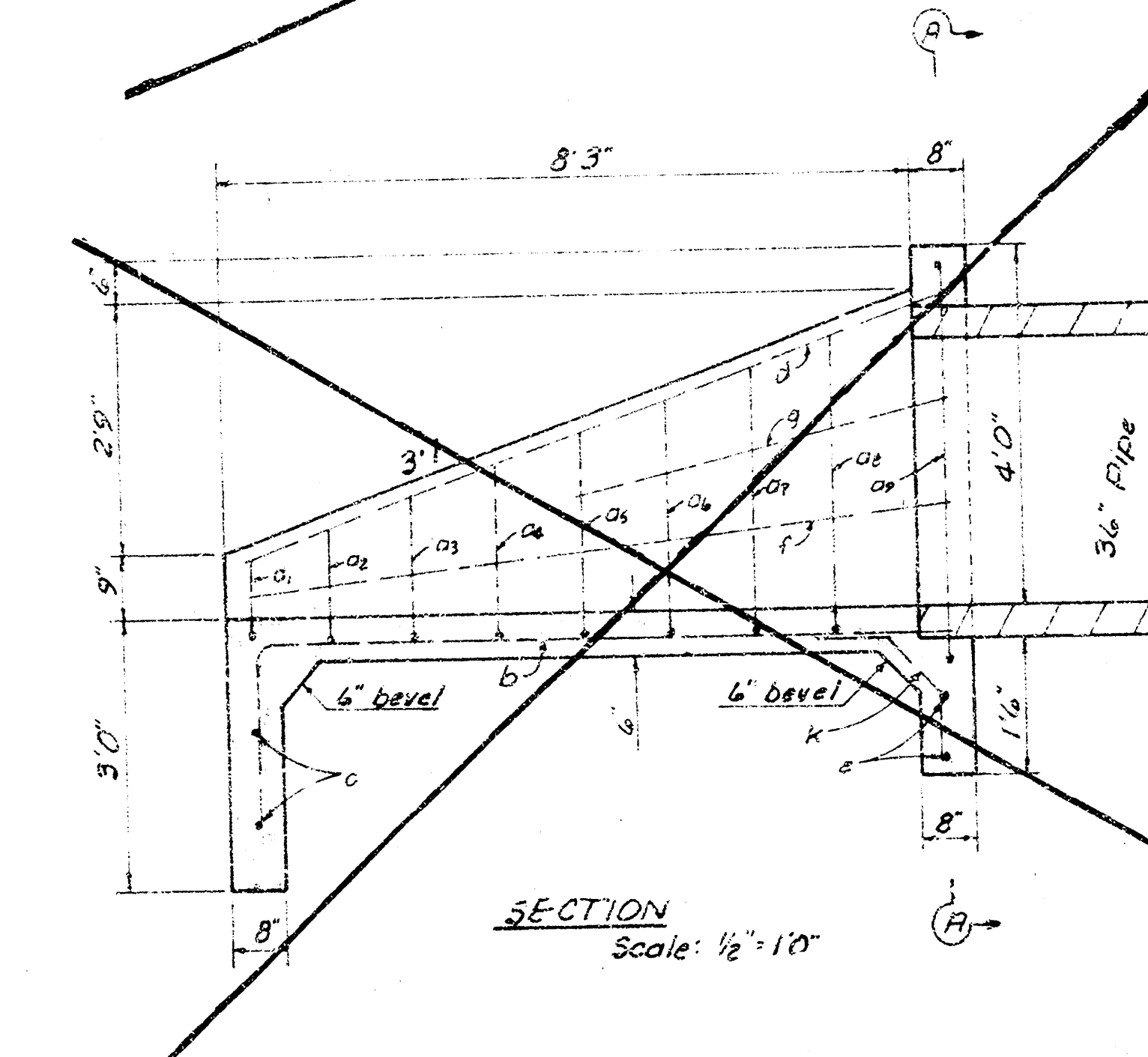
k bars

NOTE: Headwall for 42" x 29" CMPA shall have the same dimensions and reinforcement as the headwall shown.

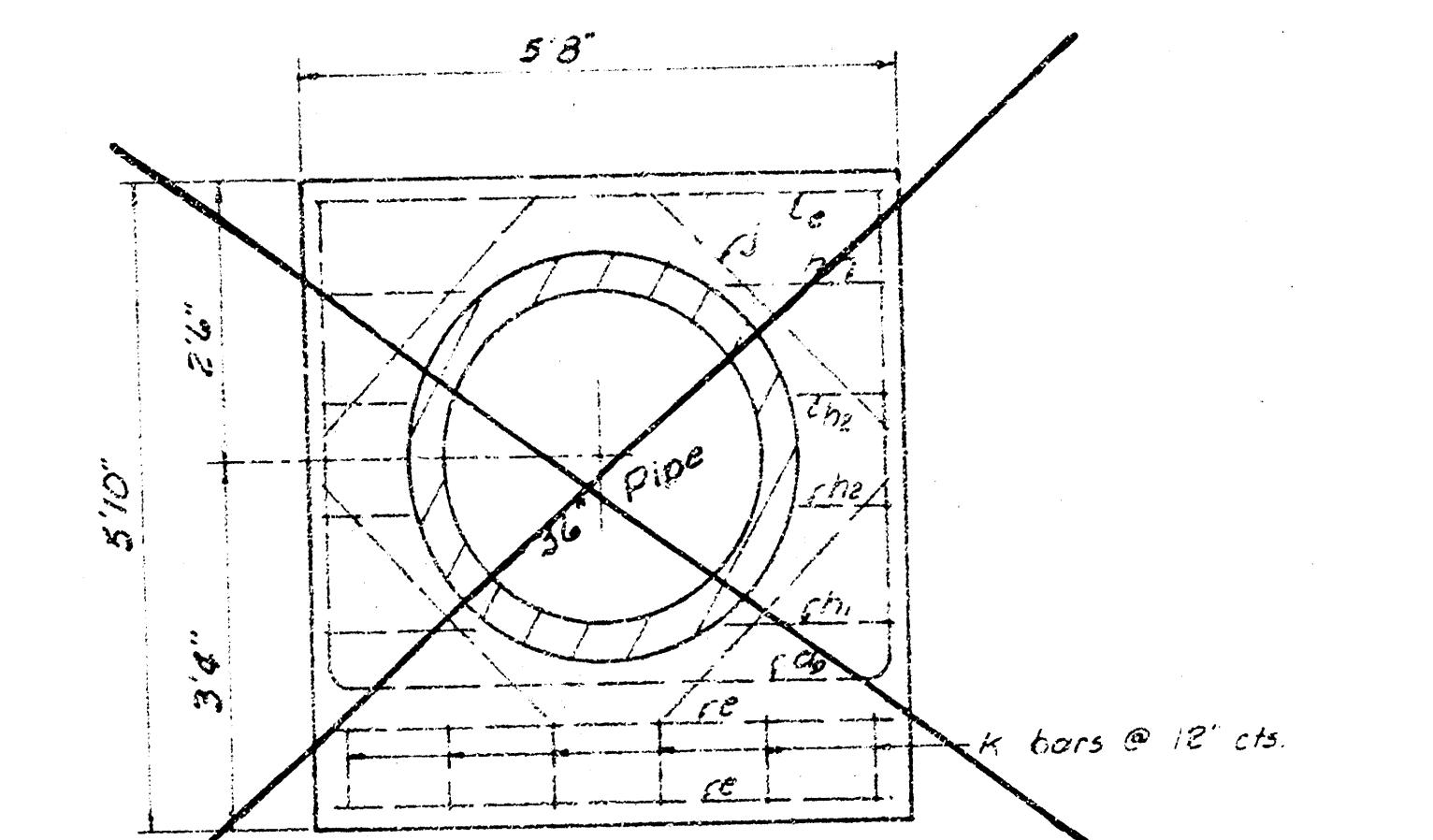


All exposed edges to have 1/8" bevel

PLAN
Scale: 1/2"=10'



SECTION
Scale: 1/2"=10'

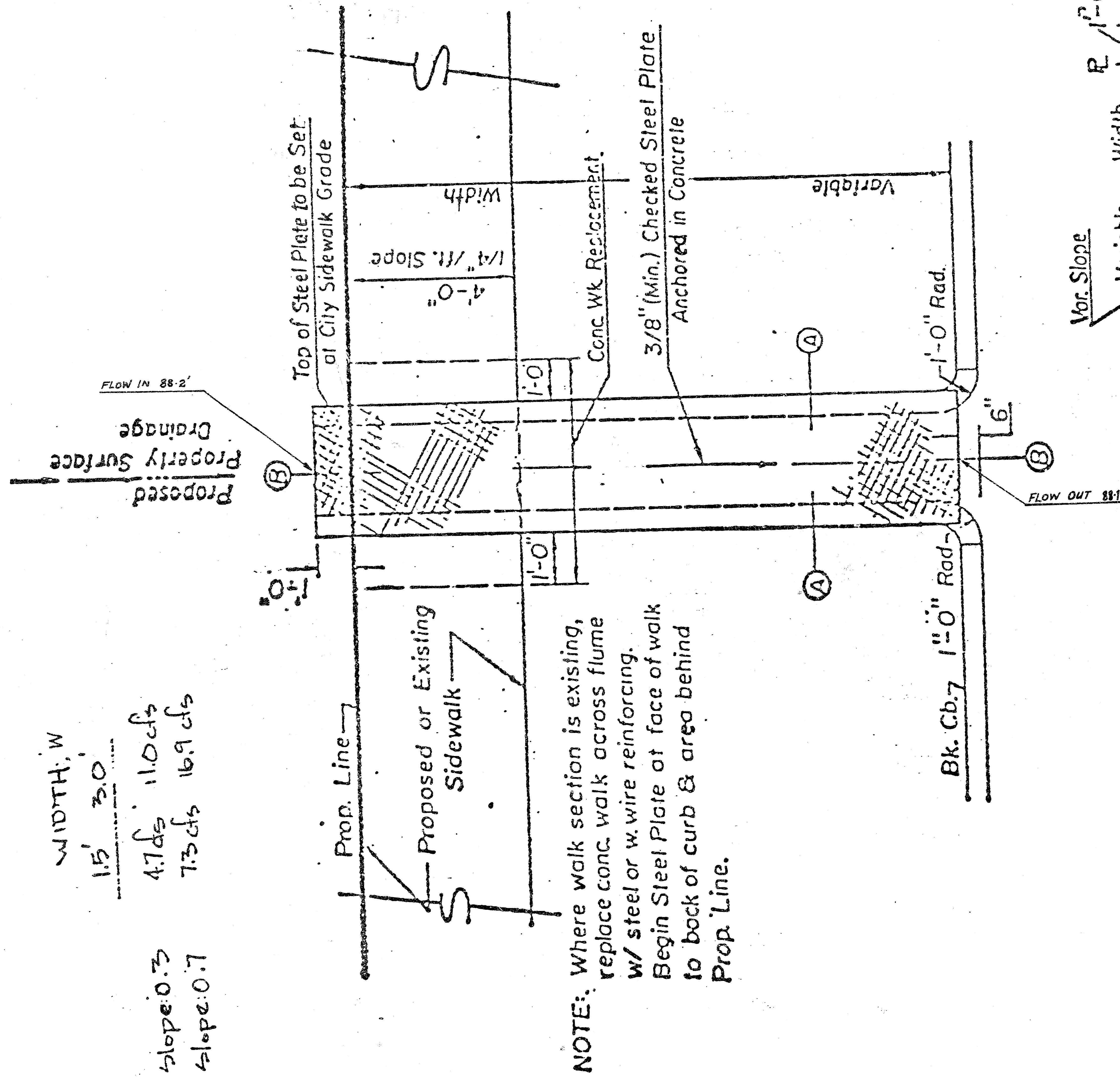


SECTION A-A
Scale: 1/2"=10'

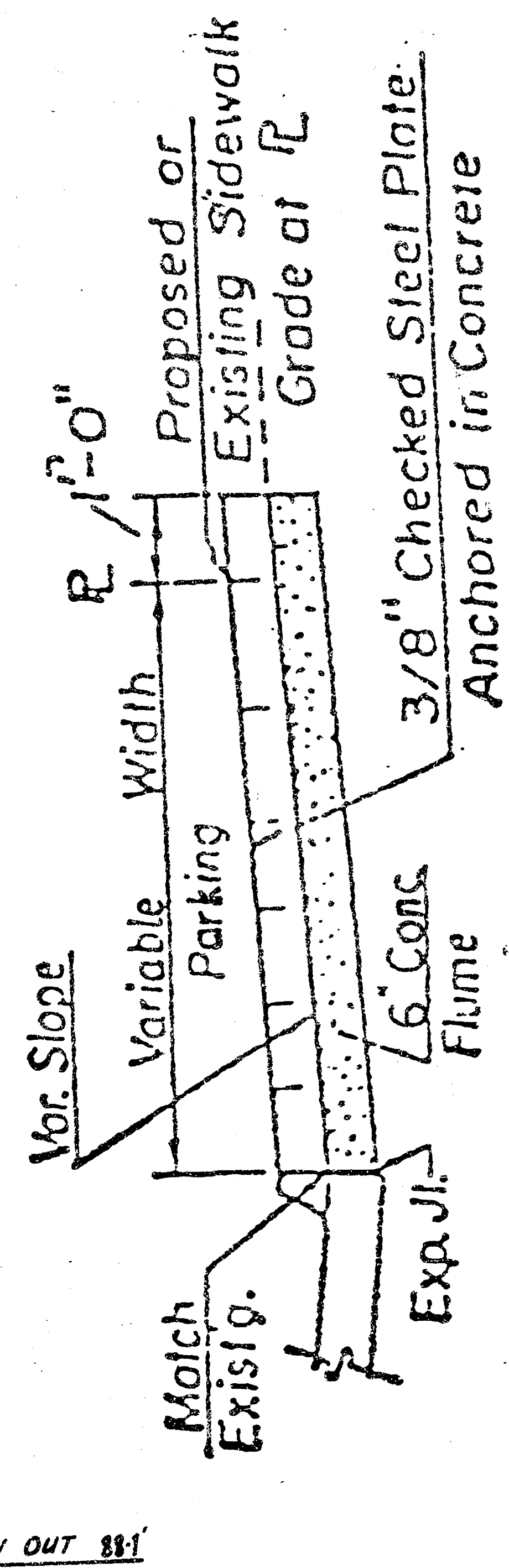
HEADWALL FOR 36" PIPE

BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a ₁	1	8'7"		5.73
a ₂	1	9'0"		6.01
a ₃	1	9'7"		6.40
a ₄	1	10'0"		6.79
a ₅	1	10'5"		7.24
a ₆	1	10'10"		7.68
a ₇	1	11'3"		8.13
a ₈	1	11'8"		8.58
a ₉	1	12'0"		8.95
a ₁₀	1	12'5"		9.35
a ₁₁	1	13'0"		9.74
a ₁₂	1	13'5"		10.12
b ₁	2	10'4"		10.69
b ₂	2	7'0"		7.68
b ₃	3	5'4"		11.24
b ₄	2	8'3"		10.69
b ₅	2	5'4"		7.68
b ₆	2	8'3"		10.69
b ₇	2	5'4"		7.68
b ₈	2	8'3"		10.69
b ₉	2	5'4"		7.68
b ₁₀	2	8'3"		10.69
b ₁₁	2	5'4"		7.68
b ₁₂	2	8'3"		10.69
b ₁₃	2	5'4"		7.68
b ₁₄	2	8'3"		10.69
b ₁₅	2	5'4"		7.68
b ₁₆	2	8'3"		10.69
b ₁₇	2	5'4"		7.68
b ₁₈	2	8'3"		10.69
b ₁₉	2	5'4"		7.68
b ₂₀	2	8'3"		10.69
b ₂₁	2	5'4"		7.68
b ₂₂	2	8'3"		10.69
b ₂₃	2	5'4"		7.68
b ₂₄	2	8'3"		10.69
b ₂₅	2	5'4"		7.68
b ₂₆	2	8'3"		10.69
b ₂₇	2	5'4"		7.68
b ₂₈	2	8'3"		10.69
b ₂₉	2	5'4"		7.68
b ₃₀	2	8'3"		10.69
b ₃₁	2	5'4"		7.68
b ₃₂	2	8'3"		10.69
b ₃₃	2	5'4"		7.68
b ₃₄	2	8'3"		10.69
b ₃₅	2	5'4"		7.68
b ₃₆	2	8'3"		10.69
b ₃₇	2	5'4"		7.68
b ₃₈	2	8'3"		10.69
b ₃₉	2	5'4"		7.68
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b ₄₁	2	5'4"		7.68
b ₄₂	2	8'3"		10.69
b ₄₃	2	5'4"		7.68
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b ₄₉	2	5'4"		7.68
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b ₅₆	2	8'3"		10.69
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b ₅₉	2	5'4"		7.68
b ₆₀	2	8'3"		10.69
b ₆₁	2	5'4"		7.68
b ₆₂	2	8'3"		10.69
b ₆₃	2	5'4"		7.68
b ₆₄	2	8'3"		10.69
b ₆₅	2	5'4"		7.68
b ₆₆	2	8'3"		10.69
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b ₇₂	2	8'3"		10.69
b ₇₃	2	5'4"		7.68
b ₇₄	2	8'3"		10.69
b ₇₅	2	5'4"		7.68
b ₇₆	2	8'3"		10.69
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b ₇₈	2	8'3"		10.69
b ₇₉	2	5'4"		7.68
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b ₈₄	2	8'3"		10.69
b ₈₅	2	5'4"		7.68
b ₈₆	2	8'3"		10.69
b ₈₇	2	5'4"		7.68
b ₈₈	2	8'3"		10.69
b ₈₉	2	5'4"		7.68
b ₉₀	2	8'3"		10.69
b ₉₁	2	5'4"		7.68
b ₉₂	2	8'3"		10.69
b ₉₃	2	5'4"		7.68
b ₉₄	2	8'3"		10.69
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b ₁₀₂	2	8'3"		10.69
b ₁₀₃	2	5'4"		7.68
b ₁₀₄	2	8'3"		10.69
b ₁₀₅	2	5'4"		7.68
b ₁₀₆	2	8'3"		10.69
b ₁₀₇	2	5'4"		7.68
b ₁₀₈	2	8'3"		10.69
b ₁₀₉	2	5'4"		7.68
b ₁₁₀	2	8'3"		10.69
b ₁₁₁	2	5'4"		7.68
b ₁₁₂	2	8'3"		10.69
b ₁₁₃	2	5'4"		7.68
b ₁₁₄	2	8'3"		10.69
b ₁₁₅	2	5'4"		7.68
b ₁₁₆	2	8'3"		10.69
b ₁₁₇	2	5'4"		7.68
b ₁₁₈	2	8'3"		10.69
b ₁₁₉	2	5'4"		7.68
b ₁₂₀	2	8'3"		10.69
b ₁₂₁	2	5'4"		7.68
b ₁₂₂	2	8'3"		10.69
b ₁₂₃	2	5'4"		7.68
b ₁₂₄	2	8'3"		10.69
b ₁₂₅	2	5'4"		7.68
b ₁₂₆	2	8'3"		10.69
b ₁₂₇	2	5'4"		7.68
b ₁₂₈	2	8'3"		10.69
b ₁₂₉	2	5'4"		7.68
b ₁₃₀	2	8'3"		10.69
b ₁₃₁	2	5'4"		7.68
b ₁₃₂	2	8'3"		10.69
b ₁₃₃	2	5'4"		7.68
b ₁₃₄	2	8'3"		10.69
b ₁₃₅	2	5'4"		7.68
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b ₁₃₇	2	5'4"		7.68
b ₁₃₈	2	8'3"		10.69
b ₁₃₉	2	5'4"		7.68
b ₁₄₀	2	8'3"		10.69
b ₁₄₁	2	5'4"		7.68
b ₁₄₂	2	8'3"		10.69
b ₁₄₃	2	5'4"		7.68
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b ₁₄₇	2	5'4"		7.68
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b ₁₅₈	2	8'3"		10.69
b ₁₅₉	2	5'4"		7.68
b ₁₆₀	2	8'3"		10.69
b ₁₆₁	2	5'4"		7.68
b ₁₆₂	2	8'3"		10.69
b ₁₆₃	2	5'4"		7.68
b ₁₆₄	2	8'3"		10.69
b ₁₆₅	2	5'4"		7.68
b ₁₆₆	2	8'3"		10.69
b ₁₆₇	2	5'4"		7.68
b ₁₆₈	2	8'3"		10.69
b ₁₆₉	2	5'4"		7.68
b ₁₇₀	2	8'3"		10.69
b ₁₇₁	2	5'4"		7.68
b ₁₇₂	2	8'3"		10.69
b ₁₇₃	2	5'4"		7.68
b ₁₇₄	2	8'3"		10.69
b ₁₇₅	2	5'4"		7.68
b ₁₇₆	2	8'3"		10.69
b ₁₇₇	2	5'4"		7.68
b ₁₇₈	2	8'3"		10.69
b ₁₇₉	2	5'4"		7.68
b ₁₈₀	2	8'3"		10.69
b ₁₈₁	2	5'4"		7.68
b ₁₈₂	2	8'3"		10.69
b ₁₈₃	2	5'4"		7.68
b ₁₈₄	2	8'3"		10.69
b ₁₈₅	2	5'4"		7.68
b ₁₈₆	2	8'3"		10.69
b ₁₈₇	2	5'4"		7.68
b ₁₈₈	2	8'3"		10.69
b ₁₈₉	2	5'4"		7.68
b ₁₉₀	2	8'3"		10.69
b ₁₉₁	2	5'4"		7.68
b ₁₉₂	2	8'3"		10.69
b ₁₉₃	2	5'4"		7.68
b ₁₉₄	2	8'3"		10.69
b ₁₉₅	2	5'4"		7.68
b ₁₉₆	2	8'3"		10.69
b ₁₉₇	2	5'4"		7.68
b ₁₉₈	2	8'3"		10.69
b ₁₉₉	2	5'4"		7.68

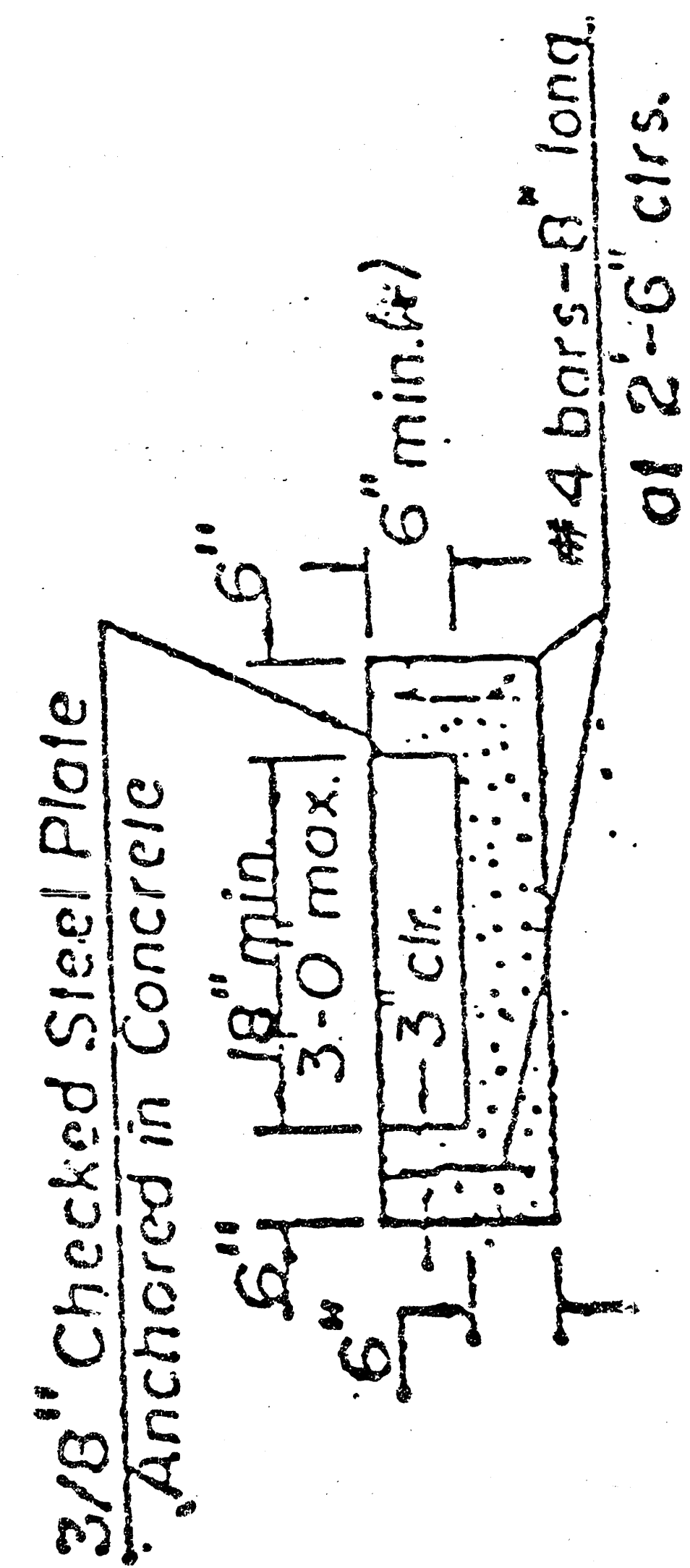
WIDTH: W
 15' 3.0'
 4.7ds 11.0ds
 7.3ds 16.9ds
 Min. slope: 0.3
 Max. slope: 0.7



NOTE: Where walk section is existing, replace conc. walk across flume w/ steel or w. wire reinforcing. Begin Steel Plate at face of walk to back of curb & area behind Prop. Line.



SECTION THRU FLUME



(A) Curb Ht. Variable at Prop. Line with 6" min.

SECTION THRU CONCRETE FLUME

CONCRETE FLUME DETAIL (Thru Street Parkings)

