S.W.S. NO. 176
STORM SEWERS IN THE PARK

PROJECT NO.
468-76-245-80882-000-000-001

CITY OF WICHITA, KANSAS
DEAN SELLERS, ACTING CITY ENGINEER

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7	Headwall
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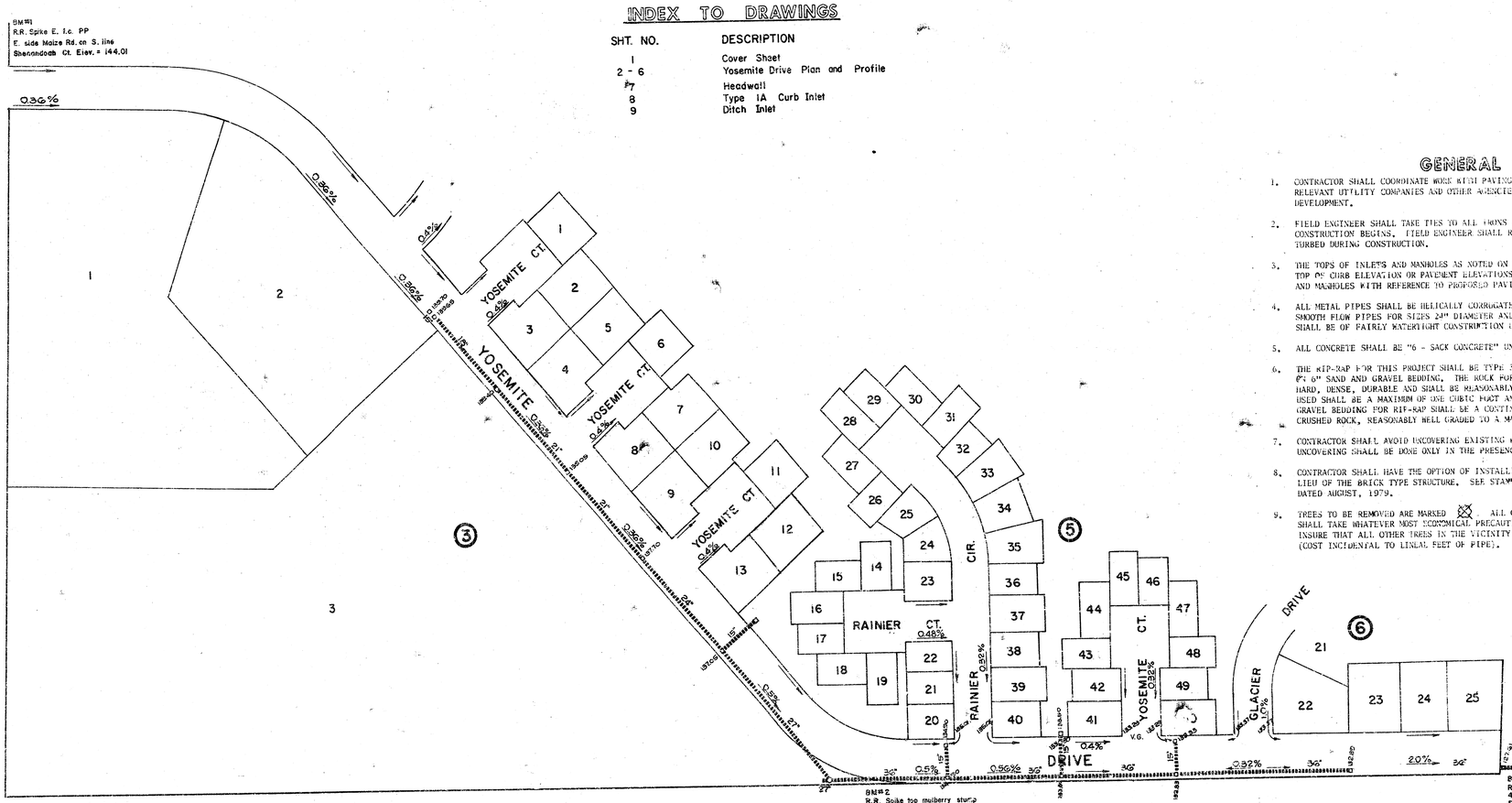

GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE WORK WITH PAVING AND SANITARY CONTRACTORS AND CONTACT RELEVANT UTILITY COMPANIES AND OTHER AGENCIES INVOLVED WITH THIS PROJECT SITE DEVELOPMENT.
2. FIELD ENGINEER SHALL TAKE TIES TO ALL IRONS AND THIMBLES IN THE PROJECT AREA BEFORE CONSTRUCTION BEGINS. FIELD ENGINEER SHALL REPLACE ALL SUCH IRONS AND THIMBLES DISTURBED DURING CONSTRUCTION.
3. THE TOPS OF INLETS AND MANHOLES AS NOTED ON THE PLANS MAY VARY SO AS TO MEET PROPOSED TOP OF CURB ELEVATION OR PAVEMENT ELEVATIONS. THE FIELD ENGINEER SHALL LOCATE INLETS AND MANHOLES WITH REFERENCE TO PROPOSED PAVING PLANS OF THE PERTINENT STREETS.
4. ALL METAL PIPES SHALL BE HELICALLY CORRUGATED PIPE. ALL CORRUGATED PIPE SHALL BE SMOOTH FLOW PIPES FOR SIZES 24" DIAMETER AND LARGER. ALL CONNECTIONS FOR THESE PIPES SHALL BE OF FAIRLY WATERTIGHT CONSTRUCTION USING HUGGER TYPE COUPLERS OR EQUAL.
5. ALL CONCRETE SHALL BE "6 - SACK CONCRETE" UNLESS OTHERWISE NOTED.
6. THE RIP-RAP FOR THIS PROJECT SHALL BE TYPE 3. THE TYPE 3 RIP-RAP SHALL BE 12" RIP-RAP ON 6" SAND AND GRAVEL BEDDING. THE ROCK FOR RIP-RAP AND GRAVEL PROTECTION SHALL BE HARD, DENSE, DURABLE AND SHALL BE REASONABLY WELL GRADED. THE SIZE RANGE OF ROCK USED SHALL BE A MAXIMUM OF ONE CUBIC FOOT AND A MINIMUM OF 1 1/2". THE 6" SAND AND GRAVEL BEDDING FOR RIP-RAP SHALL BE A CONTINUOUS LAYER OF SAND AND GRAVEL OR SAND AND CRUSHED ROCK, REASONABLY WELL GRADED TO A MAXIMUM OF 1 1/2" IN SIZE.
7. CONTRACTOR SHALL AVOID UNCOVERING EXISTING WATER LINES UNLESS ABSOLUTELY NECESSARY. UNCOVERING SHALL BE DONE ONLY IN THE PRESENCE OF A WATER DEPARTMENT ENGINEER.
8. CONTRACTOR SHALL HAVE THE OPTION OF INSTALLING PRECAST CONCRETE TYPE IA CURB INLETS IN LIEU OF THE BRICK TYPE STRUCTURE. SEE STANDARD DETAIL PRECAST TYPE IA CURB INLET DATED AUGUST, 1979.
9. TREES TO BE REMOVED ARE MARKED ⊠. ALL OTHER TREES ARE TO BE SAVED. CONTRACTOR SHALL TAKE WHATEVER MOST ECONOMICAL PRECAUTIONS THE SITE ENGINEER DEEMS NECESSARY TO INSURE THAT ALL OTHER TREES IN THE VICINITY OF CONSTRUCTION ARE PROTECTED FROM INJURY (COST INCIDENTAL TO LINEAL FEET OF PIPE).

KANSAS
PROFESSIONAL ENGINEER

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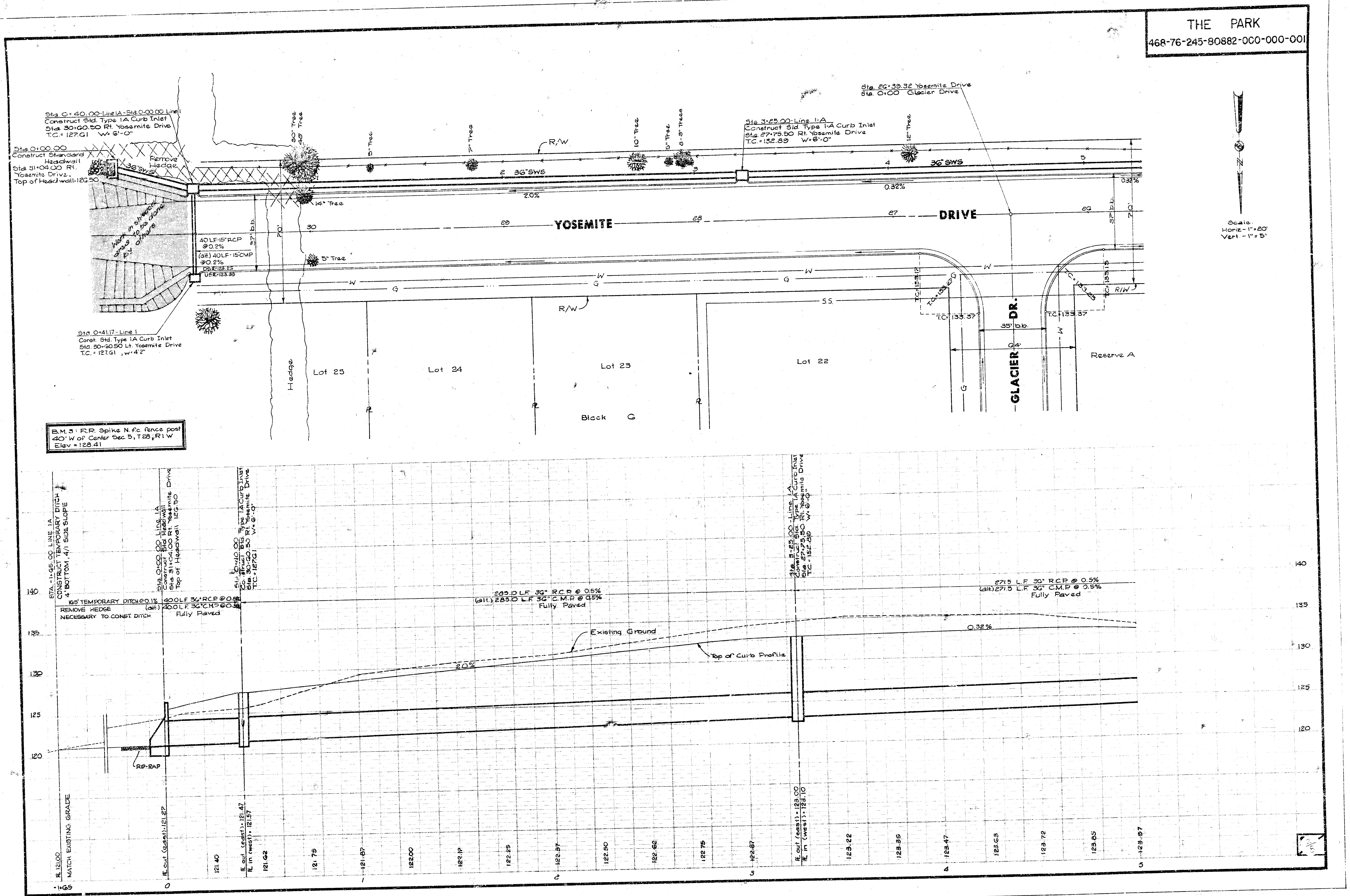
Sheet 1 of 1/3

22×36


THE PARK
468-76-245-80882-000-000-001
YOSEMITE
DRIVE
GLACIER DR.
Sta. 0+40.00-Line IA-Sta. 0+00.00 Line I
Construct Std. Type IA Curb Inlet
Sta. 30+60.50 Rt. Yosemite Drive
T.C. = 127.61 W = 6'-0"
Sta. 0+00.00
Construct Standard Headwall
Sta. 31+04.00 Rt. Yosemite Drive
Top of Headwall = 126.50
Remove Hedge
36" SWS
2 36" SWS
2.0%
0.32%
R/W
Sta. 3+25.00-Line 1-A
Construct Std. Type IA Curb Inlet
Sta. 27+75.50 Rt. Yosemite Drive
T.C. = 132.89 W = 6'-0"
Sta. 26+39.32 Yosemite Drive
Sta. 0+00 Glacier Drive
14" Tree
5" Tree
40 LF 15" RCP @ 0.2%
(alt.) 40 LF 15" CMP @ 0.2%
Sta. 0+41.17 - Line 1
Const. Std. Type IA Curb Inlet
Sta. 30+60.50 Lt. Yosemite Drive
T.C. = 127.61, w = 4'-2"
Hedge
Lot 25
Lot 24
Lot 23
Lot 22
Block G
Reserve A
35' b.b.
64'
T.C. = 133.37
Scale
Horiz. - 1" = 20'
Vert. - 1" = 5'
B.M. 3: R.R. Spike N. fc fence post 40' W of Center Sec. 5, T2S, R1W
Elev. = 128.41
STA. -1+65.00 LINE 1A
CONSTRUCT TEMPORARY DITCH
4' BOTTOM, 4/1 SIDE SLOPE
165' TEMPORARY DITCH @ 0.1%
REMOVE HEDGE NECESSARY TO CONST. DITCH
40.0 LF 36" RCP @ 0.5%
(alt.) 40.0 LF 36" CMP @ 0.5%
Fully Paved
283.0 LF 36" R.C.P. @ 0.5%
(alt.) 283.0 L.F. 36" C.M.P. @ 0.5%
Fully Paved
271.5 L.F. 36" R.C.P. @ 0.5%
(alt.) 271.5 L.F. 36" C.M.P. @ 0.5%
Fully Paved
Existing Ground
Top of Curb Profile
2.0%
0.32%
RIP-RAP
MATCH EXISTING GRADE
FL 121.00
FL out (east) = 121.27
FL out (east) = 121.47
FL in (west) = 121.57
FL out (east) = 123.00
FL in (west) = 123.10
121.40
121.62
121.75
121.87
122.00
122.12
122.25
122.37
122.50
122.62
122.75
122.87
123.22
123.35
123.47
123.63
123.72
123.85
123.97
-1+65
0
1
2
3
4
5
140
135
130
125
120

THE PARK
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Sta 26+30.32 Yosemite Drive =
Sta 0+00.00 Glacier Drive

Sta 5+26.50 - Line 1A =
Sta 0+00.00 - Line 1B
Construct Standard Type 1A Curb Inlet
Sta 25+04.00 Yosemite Drive
T.C. = 132.83 W = 6'-0"

Sta 24+52.61 Yosemite Drive =
Sta. 0+00.00 Yosemite Court

Sta 7+86.00 - Line 1A =
Sta 0+00.00 - Line 1C
Construct Standard Type 1A Curb Inlet
Sta 23+14.50 Rt. Yosemite Drive
T.C. = 133.80 W = 6'-0"

Sta 21+68.61 Yosemite Drive
Sta 0+00.00 Rainier Circle

Sta 9+83.50 - Line 1A =
Sta 0+00.00 - Line 1D
Construct Standard Type 1A Curb Inlet
Sta. 21+17.00 Rt. Yosemite Drive
T.C. = 134.90 W = 6'-0"

36"SWS ?
0.32%
36"SWS
0.56%
36"SWS
Barb-wire Fence
36"SWS

6" Tree
48" Tree
4" Tree
14" Tree
6" Tree
12" Tree
36" Tree
R/W
6" Tree
5" Tree
12" Tree
12" Tree
10" Tree
12" Tree
22" Tree
12" Tree
12" Tree

15"SWS
15"SWS
15"SWS

40 L.F. 15" R.C.P. @ 0.2%
(alt.) 40 L.F. 15" C.M.P. @ 0.2%
D.S. IE = 128.05 U.S. IE = 128.03

40 L.F. 15" R.C.P @ 0.2%
(alt.) 40 L.F. 15" C.M.P @ 0.2%
D.S. IE = 130.32, U.S. IE = 130.40

YOSEMITE DRIVE

Sta. 0+41.17 Line 1C
Construct Standard Type 1A Curb Inlet
Sta. 23+14.50 Lt. Yosemite Drive
T.C. = 133.80 W = 4'-2"

0.4%
0.5%

Sta. 0+41.17 - Line 1B
Construct Standard Type 1A Curb Inlet
Sta. 25+04.00 Lt. Yosemite Drive
T.C. = 132.83 W = 4'-2"

Sta. 0+41.17 - Line 1D
Construct Standard Type 1A Curb Inlet
Sta. 21+17.00 Lt. Yosemite Drive
T.C. = 134.00 W = 4'-2"

40 L.F. 15" R.C.P. @ 0.2%
(alt.) 40 L.F. 15" C.M.P. @ 0.2%
D.S. IE = 128.15 U.S. IE = 128.23

14 L.F. 15" R.C.P. @ 0.2%
(alt.) 14 L.F. 15" C.M.P. @ 0.2%
D.S. IE = 129.13, U.S. IE = 129.16

Sta. 0+56.00 - Line 1C
Construct Standard Ditch Inlet 1A
Sta. 23+14.50 Lt. Yosemite Drive
T.O.B. = 133.90 W = 4'-2" L = 4'-2"

Type B Ramp

T.C. = 135.27
T.C. = 135.37
T.C. = 135.37
T.C. = 135.18
T.C. = 132.82
T.C. = 132.80
T.C. = 133.28
T.C. = 133.29
T.C. = 133.29
T.C. = 134.35
T.C. = 134.72
T.C. = 135.08
T.C. = 135.08
T.C. = 134.88

35'b.b
G4'
35'b.b
35'b.b
G4'
35'b.b
G4'

W
G
SS
W
G
SS
W
G
SS
W
G
SS

Lot 50
Lot 41
Lot 40
Lot 20

GLACIER DRIVE
Reserve A
YOSEMITE COURT
Reserve A
RAINIER CIRCLE

Scale:
Horiz. - 1" = 20'
Vert. - 1" = 5'

RR spike top mulberry stump
in Fc. 1000 ft. W of SE Corner
NW 1/4 Sec 5, T 26, R 1 W Elev = 139.58

See Sheet No. 2
See Sheet No. 4

189.5 L.F. 36" R.C.P. @ +0.5%
(alt.) 189.5 L.F. 36" C.M.P. @ +0.5%
Fully Paved

197.5 L.F. 36" R.C.P. @ +0.5%
(alt.) 197.5 L.F. 36" C.M.P. @ +0.5%
Fully Paved

Existing Ground
Top of Curb Profile
0.32%
0.40%
0.56%

Sta 5+26.50 Line 1A =
Sta 0+00 Line 1B
Construct Std Type 1A
Sta 25+04.00 Rt. Yosemite Dr.
T.C. = 132.83 W = 6'-0"

Sta 7+86.00 Line 1A =
Sta 0+00 Line 1B
Construct std Type 1A
Sta 23+14.50 Rt. Yosemite Dr.
T.C. = 133.80 W = 6'-0"

Sta 9+83.50 Line 1A =
Sta 0+00 Line 1D
Construct Std Type 1A Inlet
Sta 21+17.00 Rt. Yosemite Dr.
T.C. = 134.90
W = 6'-0"

E. out (east) = 124.45
E. in (west) = 124.55
E. in (north) = 128.15

E. out (east) = 125.50
E. in (west) = 125.60
E. in (north) = 129.89

E. out (east) = 126.69
E. in (west) = 126.69
E. in (north) = 130.34

5	123.87	124.10	124.22	124.39	124.57	6	124.62	124.82	124.94	125.07	125.19	7	125.32	125.44	125.67	8	125.80	125.92	126.05	9	126.17	126.30	126.42	126.55	126.77	10

140
135
130
125

THE PARK

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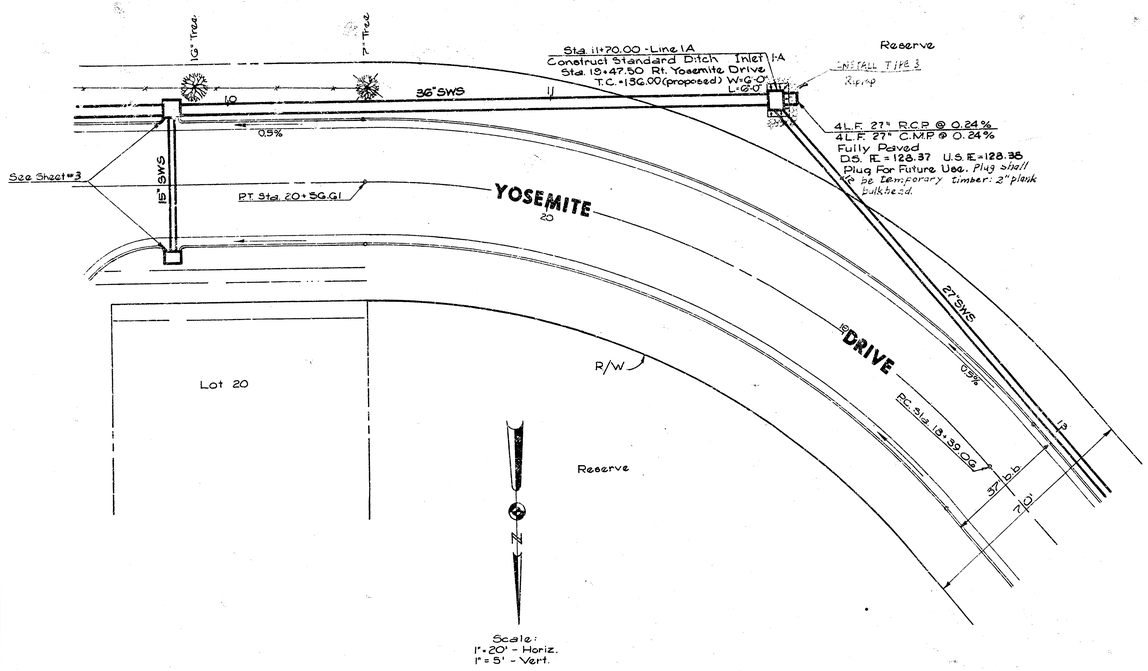

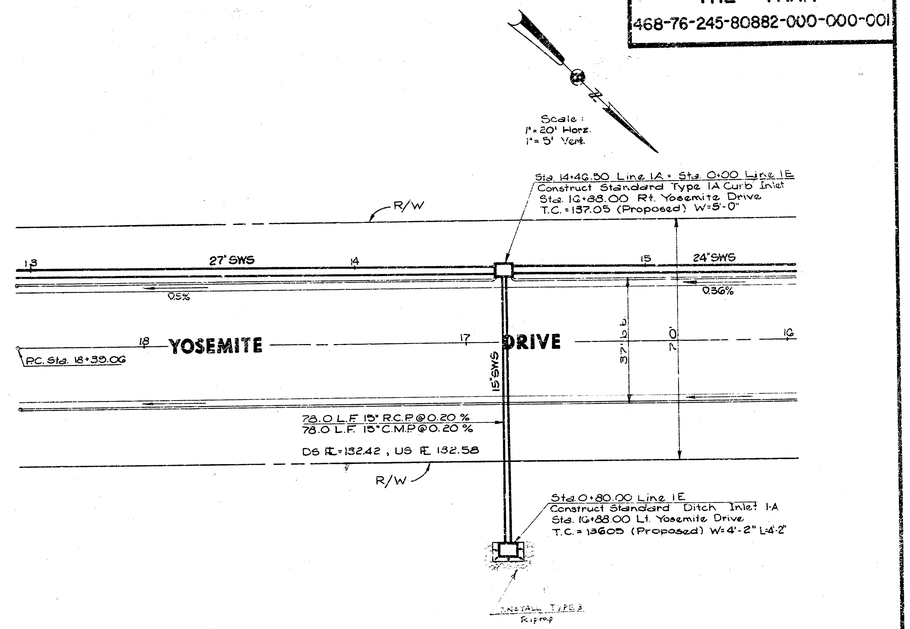

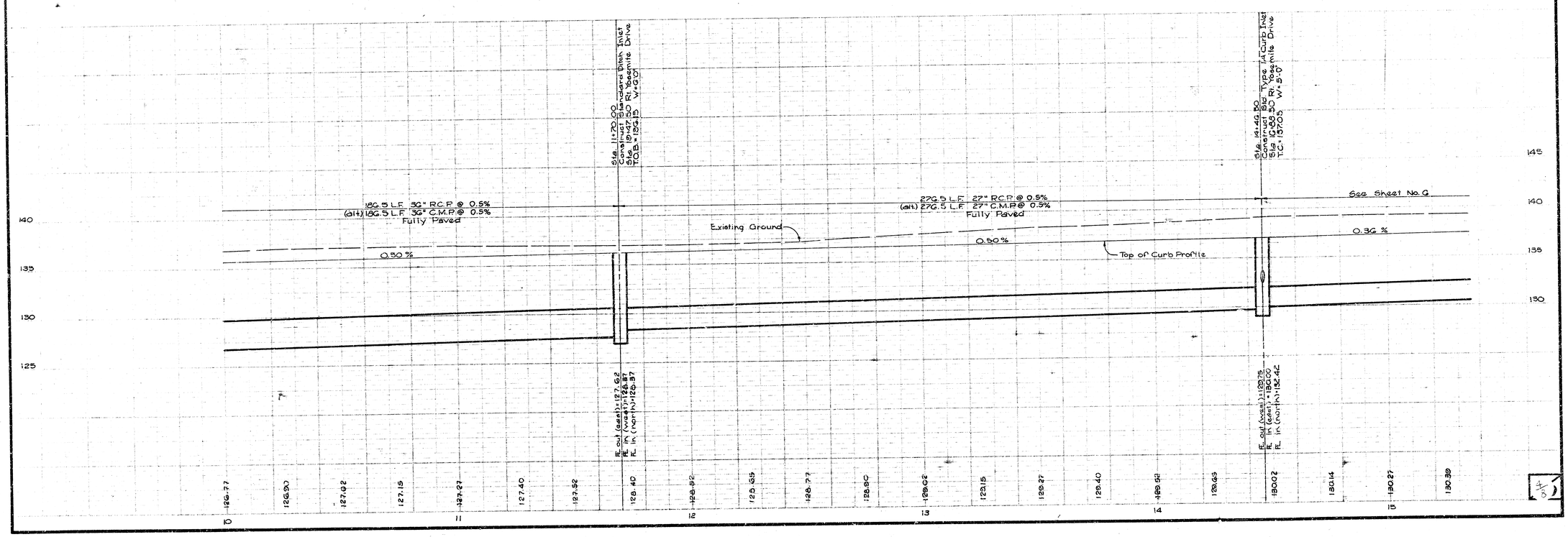

THE PARK

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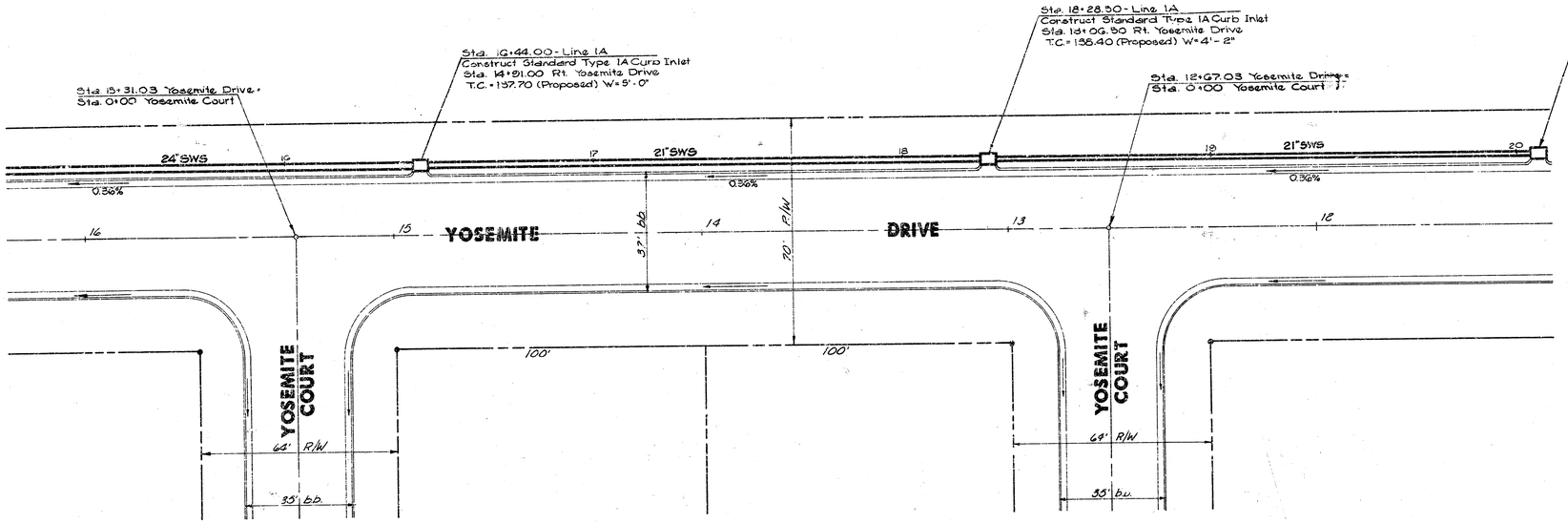
Sta. 15+31.03 Yosemite Drive
Sta. 0+00 Yosemite Court

Sta. 16+44.00 - Line 1A
Construct Standard Type 1A Curb Inlet
Sta. 14+91.00 Rt. Yosemite Drive
T.C. = 137.70 (Proposed) W= 5'-0"

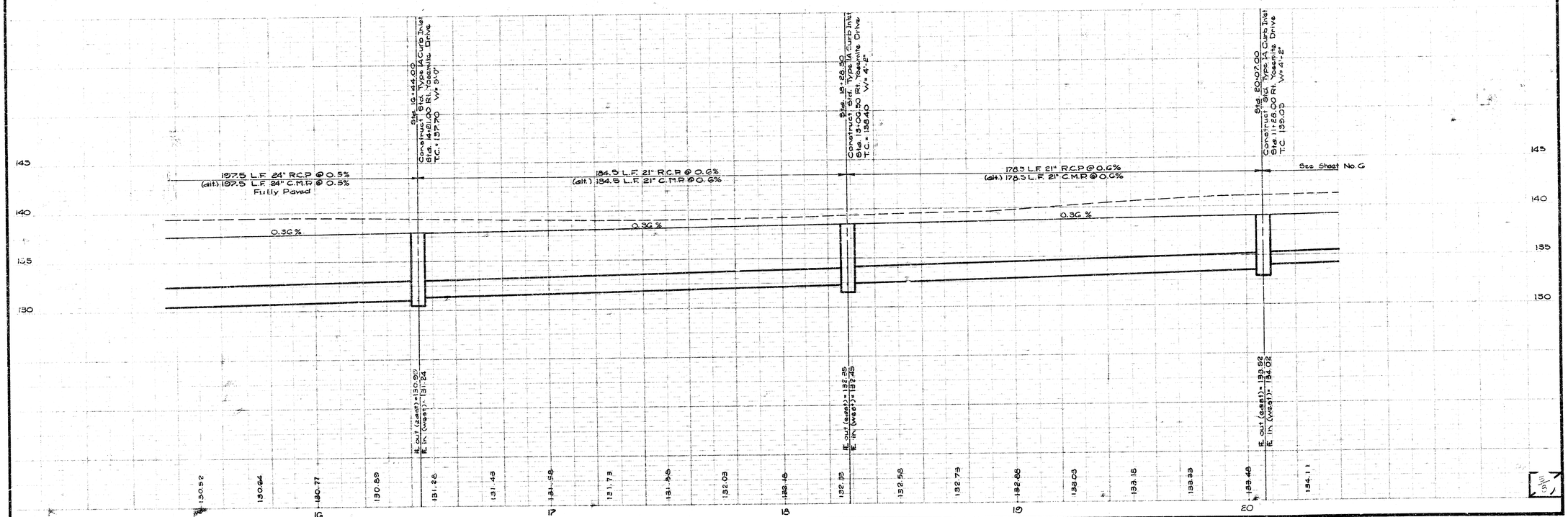
Sta. 18+28.50 - Line 1A
Construct Standard Type 1A Curb Inlet
Sta. 16+06.50 Rt. Yosemite Drive
T.C. = 138.40 (Proposed) W= 4'-2"

Sta. 12+67.03 Yosemite Drive
Sta. 0+00 Yosemite Court

Sta. 20+07.00 - Line 1A
Construct Standard Type 1A Curb Inlet
Sta. 11+28.00 Rt. Yosemite Drive
T.C. = 138.05 (Proposed) W= 4'-2"



Scale:
Horiz. - 1" = 20'
Vert. - 1" = 5'



THE PARK
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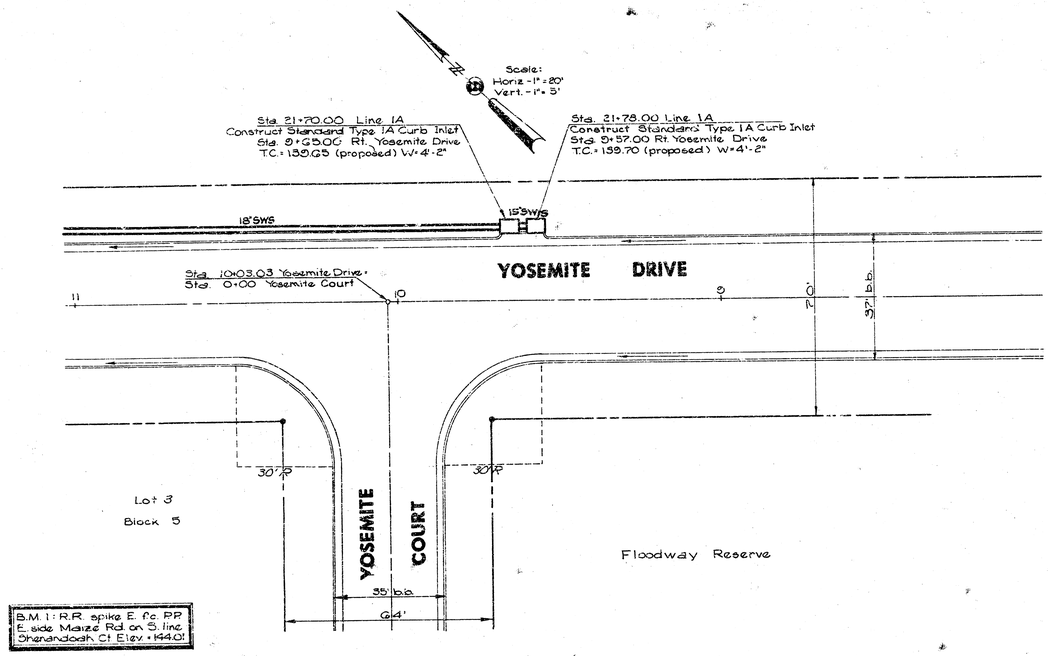

THE PARK

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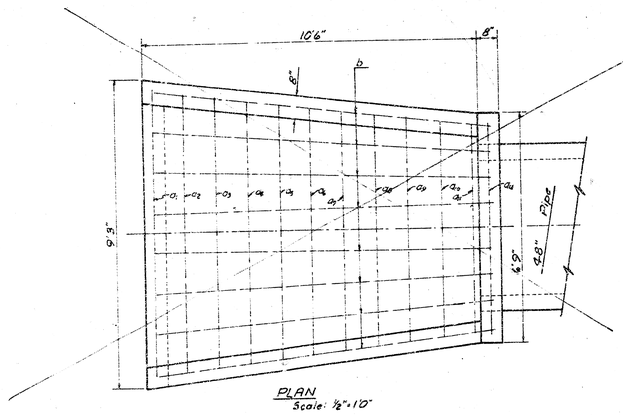
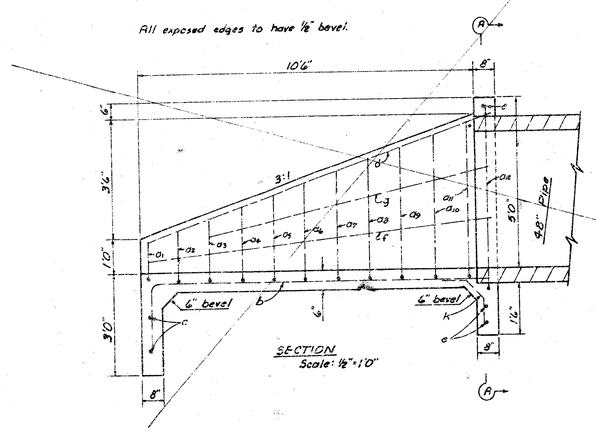


PLAN
Scale: ½"=1'0"

TABLE OF QUANTITIES				
BAR	NUMBER	LENGTH	SHAPE	WEIGHT
a_1	1	10'10"		7.24
a_2	1	11'3"		7.52
a_3	1	11'8"		7.79
a_4	1	12'1"		8.07
a_5	1	12'6"		8.35
a_6	1	13'0"		8.68
a_7	1	13'5"		8.96
a_8	1	13'10"		9.24
a_9	1	14'3"		9.52
a_{10}	1	14'8"		9.80
a_{11}	1	15'2"		10.13
a_{12}	1	16'10"		11.24
b	8	12'7"		67.25
c	2	8'6"		11.36
d	2	11'6"		15.36
e	3	6'5"		12.91
f	2	10'9"		14.36
g	2	9'0"		12.02
h_1	4	1'2"		3.12
h_2	4	8"		1.78
j	4	3'3"		8.68
k	7	2'6"		11.69
Rebars (lbs)				245.07
Concrete (C.Y.)				4.73

All rebars to be #4

All exposed edges to have ⅛" bevel.



SECTION
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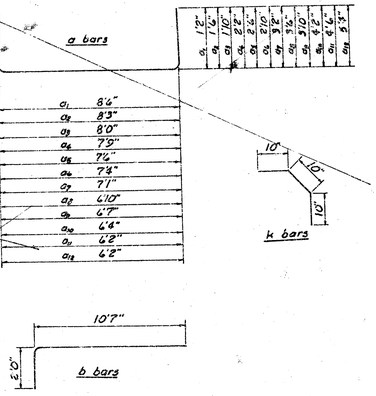
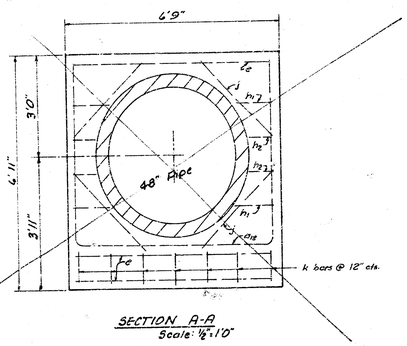
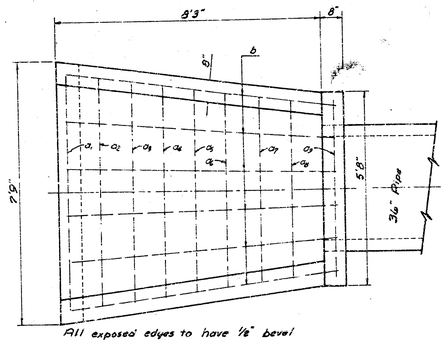




SECTION A-A
Scale: ½"=1'0"

HEADWALL FOR 48" PIPE

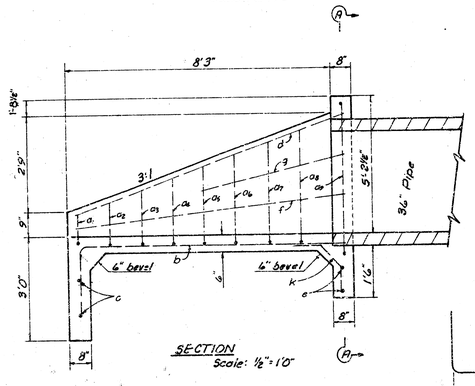


All exposed edges to have ⅛" bevel.

PLAN
Scale: ½"=1'0"

TABLE OF QUANTITIES				
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"		6.68
a_5	1	10'5"		6.96
a_6	1	10'10"		7.24
a_7	1	11'3"		7.52
a_8	1	11'10"		7.90
a_9	1	14'0"		9.35
b	6	10'4"		41.63
c	2	7'0"		9.33
d	2	9'0"		12.02
e	3	5'4"		10.69
f	2	8'5"		11.24
g	2	4'7"		6.12
h_1	4	1'4"		4.01
h_2	4	10"		2.23
j	4	3'0"		8.02
k	6	2'6"		10.02
Total Rebars, lbs.				178.91
Conc. C.Y.				3.20

All Rebars to be #4



SECTION
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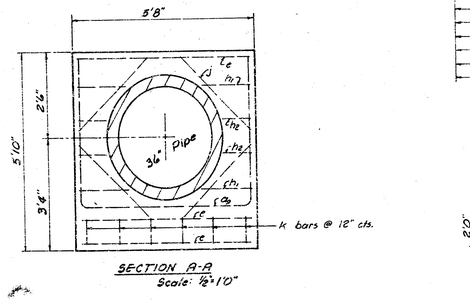
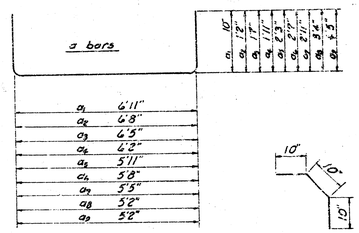


SECTION A-A
Scale: ½"=1'0"



HEADWALL FOR 36" PIPE

Van Doren - Hazard - Stallings
Architects • Engineers • Planners
Topeka Wichita Minneapolis

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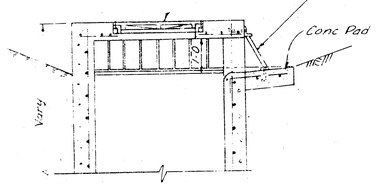
* NOTE
Typical Trash Rack Construction
Top Rail L 1/2 x 2 1/2 x 4 LLV
Verticals 1/2 Rod @ 6" ctrs
90° Rail Bar 3/16 x 2 1/2"
Anchors 1/2 x 3 Bolts Zinc Galv
Hot Dip Galvanize after fabrication

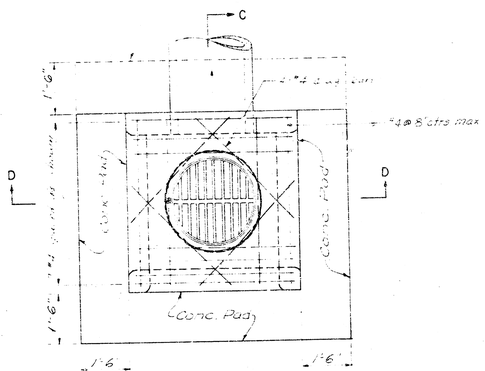
Cast Iron Manhole Ring & Cover (Bolted Lid)
Neenah Foundry No. R 1915-E2
or Approved Equal

* Trash Rack on 3 Sides

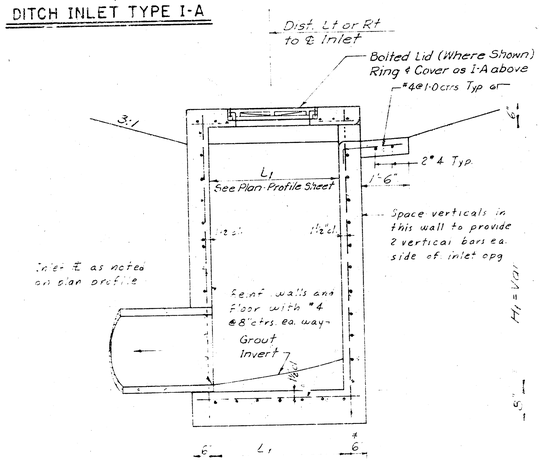


SECTION C-C
for
DITCH INLET TYPE I-A

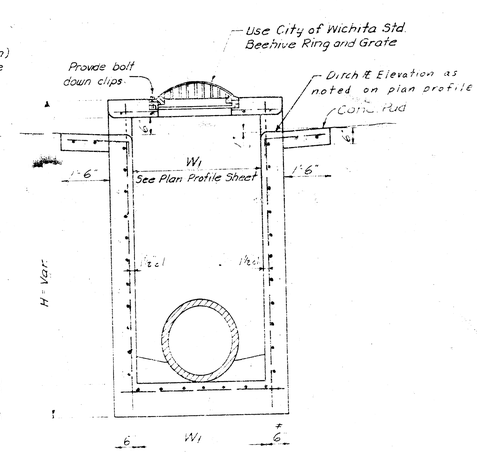
* Concrete Pad where called for as "Open 4 sides" on Plan & Profile sheets



PLAN



SECTION C-C
INLET-I



SECTION D-D

DITCH INLET TYPE I

\# Where dimension "H" is greater than 6', use 8" wall thickness.

DESIGN	
DR. BY	
CK. BY	
DATE	
JOB NO.	

DITCH INLET TYPE I & IA AND PRECAST CONCRETE MANHOLE
VAN DOREN-HAZARD-STALLINGS
ARCHITECTS-ENGINEERS-PLANNERS
SHEET 9
OF 35

FILMED FROM THE BEST