To PEC

This letter concerns your submittals dated Oct 13 and Nov 6, 1978 regarding the drainage of Spring Valley Estates.

We find that portion submitted as satisfactory for the Alternate II drainage concept.

The following is required for approval:

1. Lincoln St. culvert design @ 143rd St. So.
2. Castle St. culvert design @ 143rd St. So.
3. Spring Valley St. culvert design @ 143rd St. So.
4. The submittal of appropriate plans and profiles for the streets and drainage for approval by the City Engineer and thence furnished to the County Engineer.
5. Obtaining required drainage easements for proposed ditch along 143rd St. So.

VTY

1978

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1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

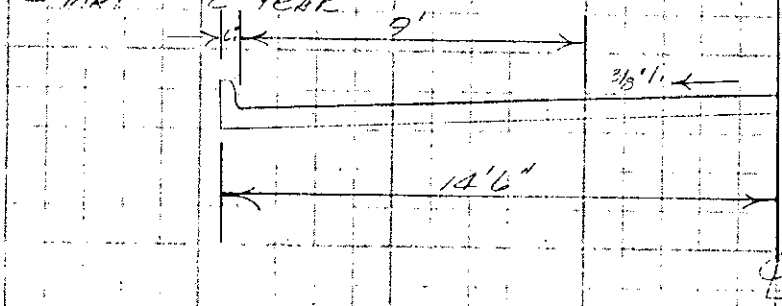
Date Oct 2, 1993 Page 1 of

Project SPRING VALLEY ESTATES

Item Drainage - EAST PORTION

CASTLE STREET

Q_{MAX} — 2-YEAR



n = 0.015

Z = 32 (3/8 in per ft) Z/n = 2130 ✓

Z_{max} = 0'

y_{max} = 0.28' ✓

S = 0.67%

Q_{max} = 3 CFS ✓

North side — DA = 1.72 Ac

t_c: L = 880' = .17 mi

H = 6.5' ✓

S = 0.75%

C = 0.50

$t_c = \left[\frac{1.9 \times (.17)^3}{6.5}\right]^{.385}$ = .16 hr = 9.6 min

$t_c = \frac{(0.87)(1.1-0.5)(880)^{1/2}}{(0.75)^{1/3}}$ = 35 min use 15 min

i_2 = 2.57 IN/HR Q_2 = 2.21 CFS < 3 CFS OK

I_2 = 3.2 Q_2 = 2.75 cfs

South side — DA = 1.52 Ac

t_c: L = 795'

H = 4'

S = 0.50%

C = (0.50)

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$\left[\frac{11.9(.15)^3}{4}\right]^{.385} = .17 \text{ hr} = 10.3 \text{ min}$ use 15 min

$t_c = \frac{(1.8)(1.1-0.5)(795)^{1/2}}{(6.50)^{1/3}} = 38 \text{ min}$

$i_2 = 7.41$ IN/HR $\quad Q_2 = 1.83$ CFS < 3 CFS OK

$i_2 = 3.2$ $\quad Q_2 = 2.4$ cfs

Q_{MAX} — CURB-TO-CURB

$n = 0.015$

$z = 32$ $\quad T/n = 2130$

$T_{max} = 14'$

$y_{max} = 10.44'$

$S = 0.67\%$

$Q_{max} = 11$ CFS $\times 2 = 22$ CFS TOTAL

Northside — $DA = 1.72$ Ac

$c = 0.50$

$t_c = 35$ min $\quad t_c = 15$ min

$i_{100} = 6.02$ IN/HR $\quad Q_{100} = 5.18$ CFS < 11 CFS

$i_{100} = 6.8$ "/hr $\quad Q_{100} = 5.85$ cfs OK

Southside — $DA = 1.52$ Ac

$c = 0.50$

$t_c = 38$ MIN $\quad 15$ min

$i_{100} = 5.64$ IN/HR $\quad Q_{100} = 4.29 < 11$ CFS

OK

$i_{100} = 5.17$ cfs

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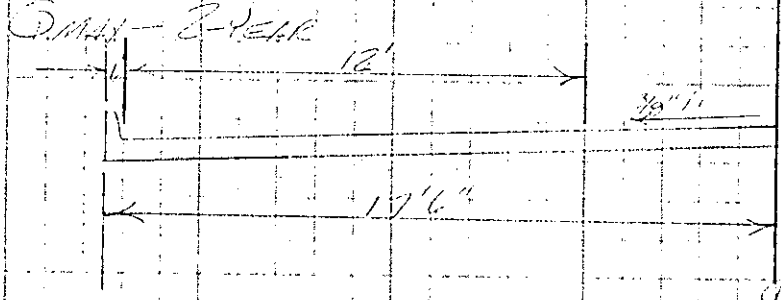
BAILEY



n = 0.015

z = 32 (3/8 in per ft) z/n = 2130

z/max = 1.2'

y max = 0.38'

S = 1.20%

Qmax = 9.5 cfs

NORTH SIDE - DA = 1.75 Ac

t_c: L_1 = 775' = .15 mi

L_1 = 13'

S = 1.68%

c = 0.50

$\left[\frac{11.9 \times (.15)^3}{1.3}\right]^{.385}$ = .11 hr = 6.3 min

Use 15 min

$t_c = \frac{(1.68)(1 - 0.50)(775)^{1/2}}{(1.68)^{1/3}}$ = 25 min

i_2 = 5.32 in/hr Q_{max} = 2.8 cfs < 9.5 cfs OK

3.2 Q_2 = 2.8 cfs

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South side — DA = 2.00 Ac

t_c = L = 765' = .14 mi

n = .10

S = 10.35%

C = 0.55

$\left[\frac{11.9 \times (.14)^3}{10}\right]^{.385}$ = .11 hr = 6.9 min

$t_c = \frac{(1.8)(1.1-0.5)\sqrt{765}}{(10.35)^{1/3}}$ = 27 min Use 15 min

i_2 = ~~3.5~~ IN/HR Q_2 = 3.52 CFS < 3.85 CFS OK

I_2 = 3.2 Q_2 = 3.2 CFS

Q_{MAX} = Curb-to-Curb

n = 0.015

Z = 32

Z_{max} = 17

Y_{max} = 0.53'

S = 10.20%

Q_{MAX} = 24 CFS x 2 = 48 CFS TOTAL

North side — DA = 1.75 Ac

C = 0.50

t_c = 25 min

i_{100} = 7.56 IN/HR Q_{100} = 6.61 CFS < 24 CFS

6.8 6.0 OK

South side DA = 2.00 Ac

C = 0.50

t_c = 27 min

i_{100} = 7.04 IN/HR Q_{100} = 7.04 CFS < 24 CFS

6.8 6.8 CFS OK

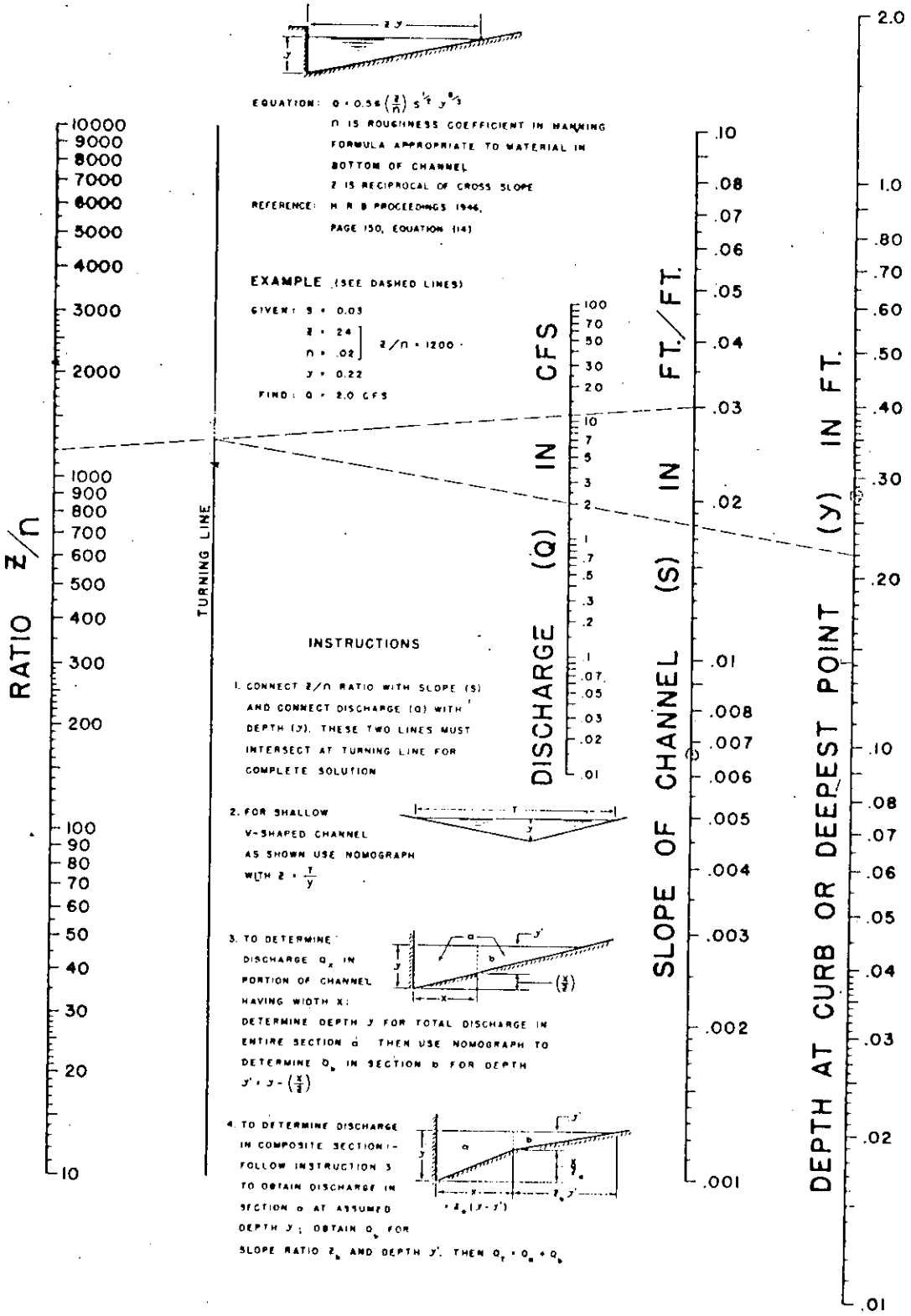

FIGURE 6-1. NOMOGRAPH FOR FLOW IN TRIANGULAR GUTTERS.

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Date [illegible] Page ____ of ____

Project [illegible]

Item [illegible]

100-[illegible] Overflow [illegible]

AT NODE 270

DA = 27.9 Ac.

t_c : L = 1850 (670' to Node 390
1180' from Node 390 to Node 270)

H = 20' (4' relief to Node 390
15.9' relief from Node 390 to Node 270)

$S = \frac{20}{1850} \times 100\% = 1.08\%$

C = 0.50

17 min

$t_c = \frac{(1.80)(1.10 - 0.50)(1850)^{1/2}}{(1.08)^{1/3}} = 45.34$ min

$t_c = 15 + \frac{320}{7.8 \times 60} + \frac{180}{8.8 \times 60} + \frac{400}{5.9 \times 60} = 17$ min

i_{100} = ~~4.92~~ in/HR 6.5

$Q_{100} = ciA = (0.50)(\text{~~4.92~~ } 6.5)(27.9) = $ ~~68.6~~ cfs 90.7

$Q_{DES\ CHAN} = Q_{100} - Q_{P} = 68.6 - 35.2 = 33.4$ cfs

90.7 − 42.5 = 48.2

S_{CHAN} = 0.91%
n = 0.030

~~Bottom width~~	6'	Bottom width	6'
~~Side slope~~	4:1	Side slope	6:1
~~Depth of flow~~	0.95'	Depth of flow	0.88
~~Velocity~~	3.6 FPS	Velocity	3.4 FPS
~~Q CHANNEL~~	33.8 CFS	Q CHANNEL	33.4 CFS

~~Easement Req'd (6:1) − 6 + (0.95)(6)(2) = 23.60'~~

Use → Easement Req'd (4:1) − 6 + (0.88)(6)(3) = 26.58'

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AT NODE 260

DA = 29.5 Ac ✓

t_c : L = 1903'

Δ = 20'

S = 20/1903 × 100% = 1.05%

c = 0.50

18 min

$t_c = (1.8)(1.10 - 0.50)(1903)^{1/2} / (1.05)^{1/3}$ = 46.44 min

i_{100} = 4.82 in/hr

6.3 93

Q_{100} = ciA = (0.50)(4.82)(29.5) = 71.2 cfs

$Q_{channel} = Q_{100} - Q_c$ = 71.2 - 37.1 = 34.1 cfs
93 - 44 = 49 cfs

S chan = 1.40%
n = 0.030

Bottom width — ~~6'~~ 8' min
Side slope — ~~6:1~~ 4:1
Depth of flow — ~~0.80~~ .95'

Velocity — 3.9 fps 4.7 fps
Q channel — 31.4 cfs 53 cfs > 49 cfs O.K.

Easement Req'd (6:1) — 6 + (0.80)(6.18) = 15.60'

Channel width = 8 + (.95 + 1)(4) + 2 = 23.6

Easement Req'd = channel width + area required for Maintenance

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AT NODE 250

Hydrology same as at Node 260.

Q_{Design} = ~~34.1~~ 49 cfs

S_{Chan} = 1.00%
n = 0.050

Bottom width — 6' min 8'
Side slope — 6:1 4:1
Depth of flow — 0.87' 1'

Velocity — 3.5 fps 4.1 fps
$Q_{Channel}$ — 34.3 cfs 49.1 cfs

Easement Reqd (6:1) 6+(0.87)(6.12) = 16.44'
4:1 8 + (1+1)(4)(2) + 2~~8~~15 = 54'

AT NODE 230 (Along West ditch of 143rd St. E)

Bottom width — 4'
Side slope — 4:1
Depth of flow — 1.07'

Velocity — 3.9 fps
$Q_{Channel}$ — 34.3 cfs

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At NODE 140 — Alternate I not used

DA = 29.5 Ac

t_c: L = 2103

H = 22'

S = $\frac{22}{2103}$ × 100% = 1.04%

C = 0.50

$t_c = \frac{(1.80)(1.10-0.50)(2103)^{1/2}}{(1.04)^{1/3}}$ = 48.88 min

i_{100} = 4.64 in/hr

Q_{100} = CiA = (0.50)(4.64)(29.5) = 68.4 cfs

$Q_{DES\,CHAN}$ = Q_{100} - Q_S = 68.4 - 37.1 = 31.3 cfs

S_{CHAN} = 1.98 %

n = 0.030

Bottom width — 6'

Side slope — 6:1

Depth (±1/4...) — 0.70'

Velocity — 4.4 fps

$Q_{CHANNEL}$ — 31.4 cfs

Easement Req'd (6:1) = 6+(0.70)(6)(2) = 14.40'

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Project SPRING VALLEY

Item 143rd St Ditch

Total Drainage to 143rd St Ditch

Q_{100} = 34.1 cfs (from West portion of plat)

5.85 5.18 } Castle Street
5.17 4.29 }

6.0 6.44 } Bayley Street
6.8 7.14 }

19.74 Back lot from East portion of plat ?

DA = 7 Ac
c = 0.50
i_{100} = 5.64 IN/HR (t_c = 38 MIN as experienced on Castle St.)
6.8

Q_{100} = 19.74 CFS
23.8

Q_{100} = 76.89 cfs

Q_{100} = 93 + 5.85 + 5.17 + 6 + 6.8 + 23.8 = 140.6 cfs

Flow carry in 36" pipe = 37 cfs

Flow in Channel = 103.6 cfs

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Project SPRING VALLEY

Item 143rd St DITCH

At at NODE 250 1310.15'

At at NODE 230 1303.50 (Sta 7+16 on X-sections)

Slope = $\frac{6.65}{935} \times 100\% = 0.71\%$

Q_{DES} = 34.1 CFS

S = 0.70%
n = 0.030
z = 6:1

Bottom width = 6.00'
Depth of flow = 0.95'

Q = 34.1 CFS
V = 2 FPS

Maximum depth of ditch = 2.75'

T = 6 + (2)(6)(2.75) = 39.00'

Easement Required = 40'

At at NODE 230 1303.50 (Sta 7+16)

At at NODE 220 1295.65 (Sta 3+86)

Slope = $\frac{7.85}{330} \times 100\% = 2.38\%$

Q_{DES} = 77 CFS

S = 2.38%
n = 0.030
z = 3.5:1
} Existing Conditions

Bottom width = 10.00' (average existing)
Depth of flow = 0.93'

A = 12.327 SF

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Date Nov 6, 1978 Page 3 of 3

Project SPRING VALLEY

Item 143rd ST DITCH

$Q = 77$ CFS
$V = 6\frac{1}{4}$ FPS

At at NODE 220 1295.65 (Sta 3+86)

At at NODE 210 1294.65 (Sta 0+56)

Slope $= \frac{1.0}{100} \times 100\% = 0.20\%$

$Q_{DES} = 77$ CFS

$S = 0.25\%$
$n = 0.030$
$Z = 3:1$

Bottom width = 10.00'
Depth of flow = 1.75'

$Q = 77$ CFS
$V = 5$ FPS

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Date Nov 6, 1978 Page ____ of ____

Project SPRING VALLEY

Item UTILITIES ALONG 143rd ST

GAS
WATER
ELECTRIC
} ALL ARE ON EAST SIDE OF 143rd ST

TELEPHONE — BURIED CABLE AT 5' EAST OF EXISTING 40' RIGHT-OF-WAY AT A DEPTH OF 18" - 24"

$$K' = \frac{Qn}{b^{8/3} S^{1/2}} = \frac{77(.030)}{10^{8/3}(.0238)^{1/2}} = .03226$$

$Z = 3.5:1$

.09	0.0303
	0.03227
.10	0.0367

$= \frac{.002}{.0067}$ Use .093

$D = .093(10) = 0.93'$

$A = 0.93(10) + 0.93^2(3.5) = 12.327$ SF

$V = 6.25$

Node

390 $t_c = 15^{min}$ $C = .5$

$A = 2.4\ Ac$

$I_2 = 3.2$ in/hr $I_{100} = 6.8$ in/hr

$Q_2 = 3.84$ cfs $Q_{100} = 8.16$ cfs

370 $t_c = 15^{min} + \frac{320}{7.8 \times 60} = 15.7$ min

$A = 2.4 + 1 + 4.1 = 7.5\ Ac$

$I_2 = 3.2$ in/hr $I_{100} = 6.8$ in/hr

$Q_2 = 12$ cfs $Q_{100} = 25.5$ cfs

310 $t_c = 15.7 + \frac{180}{8.8 \times 60} = 16$ min

$I_2 = 3.1$ $I_{100} = 6.7$

$A = 2.4 + 1 + 4.1 + .9 + 1.3 + .4 + 1.9 + 1.1 + 1.8 = 14.9\ Ac$

$Q_2 = 23.1$ cfs $Q_{100} = 49.9$ cfs

290 $A = 14.9 + 3.9 + 1.9 = 20.7\ Ac + 2.6 = 23.3$

$t_c = 16$ min $+ \frac{400}{60 \times 5.9} = 17$ min

$I_2 = 3.05$ $I_{100} = 6.5$

$Q_2 = 35.5$ cfs $Q_{100} = 76.9$ cfs

250 $A = 23.3 + 4.6 + 1.6 = 29.5\ Ac$

$t_c = 17 + \frac{470}{60 \times 7.97} = 18.1$ min

$I_2 = 3.0$ $I_{100} = 6.3$

$Q_2 = 44.25$ $I_{100} = 93$ cfs

PROFESSIONAL ENGINEERING CONSULTANTS PROFESSIONAL ASSOCIATION
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MEMO

TO: Dick Linn, City Engineer
The City of Wichita
City Hall
455 North Main
Wichita, KS 67202

ATTN: Yash Desai

PROJECT NO. 30-78153-024

PROJECT: Spring Valley Estates

DATE: October 13, 1978

COPIES TO:

Max Green, Flood Control

Phil Dietrich, County Public Works

FROM: Chris Brennenstuhl

REFERENCE: Drainage Plan

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

Transmitted herewith are the sketch and calculations of the drainage plan for Spring Valley Estates as per discussion at our meeting of October 6, 1978. Please inform us if additional information is needed.

If this is sufficient and satisfactory, we would appreciate your informing the Planning Department as soon as possible.

The Final Plat of Spring Valley Estates is scheduled for review at the October 19 meeting of the MAPC Subdivision Committee.

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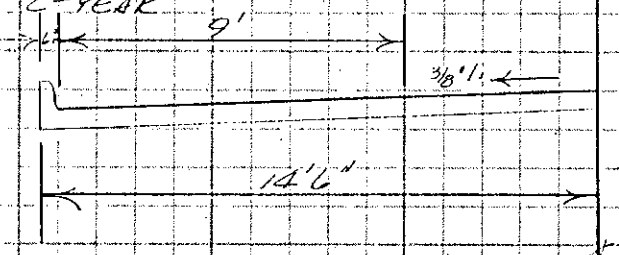
Project SPRING VALLEY ESTATES

Item DRAINAGE - EAST PORTION

CASTLE STREET

Q_{MAX} — 2-YEAR



n = 0.015

Z = 32 (3/8 in per ft) Z/n = 2130

$Z_{y/max}$ = 9'

y_{max} = 0.28'

S = 0.67%

Q_{max} = 3 CFS

North side — DA = 1.72 Ac

60' L = 880'
W = 6.5'
S = 0.75%
C = 0.50

$$t_c = \frac{(6.8)(1.1-0.5)(880)^{1/2}}{(0.75)^{1/3}} = 35 \text{ min}$$

t_2 = 2.57 IN/HR Q_2 = 2.21 CFS < 3 CFS OK

South side — DA = 1.52 Ac

60' L = 795'
W = 4'
S = 0.50%

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$t_c = \frac{(1.8)(1.1-0.5)(795)^{1/2}}{(0.50)^{1/3}} = 38 \text{ min}$

$i_2 = 2.41$ IN/HR $\quad Q_2 = 1.83$ CFS < 3 CFS

OK

Q_{MAX} ← CURB-TO-CURB

$n = 0.015$

$z = 32$ $\quad z/n = 2130$

$T_{max} = 14'$

$y_{max} = 0.44'$

$S = 0.67\%$

$Q_{max} = 11$ CFS $\times 2 = 22$ CFS TOTAL

North side — DA = 1.72 Ac

$C = 0.50$

$t_c = 35$ min

$i_{100} = 6.02$ IN/HR $\quad Q_{100} = 5.18$ CFS < 11 CFS

OK

South side — DA = 1.57 Ac

$C = 0.50$

$t_c = 38$ MIN

$i_{100} = 5.69$ IN/HR $\quad Q_{100} = 4.29 < 11$ CFS

OK

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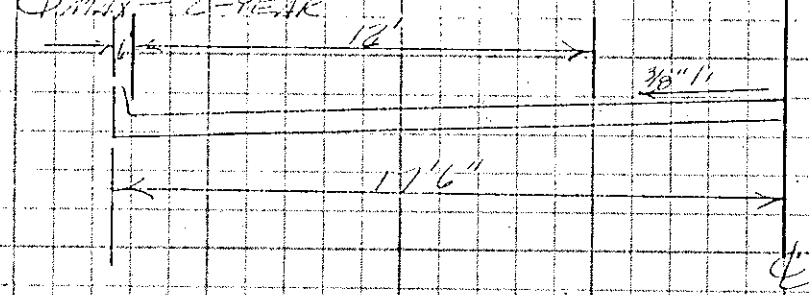
BAYLEY



$n = 0.015$

$z = 32$ (3/8 in per ft) $z/n = 2130$

$z/y_{max} = 12$

$y_{max} = 0.38'$

$S = 1.20\%$

$Q_{MAX} = 9.5 cfs$

North side — $DA = 1.75 Ac$

$L_1 = 775'$

$H = 13'$

$S = 1.68\%$

$C = 0.50$

$t_c = \frac{(1.8(10) - 3.50)(775)^{1/2}}{(1.68)^{1/3}} = 25 min$

$i_2 = 3.32 IN/HR \quad Q_2 = 2.91 cfs < 9.5 cfs$

OK

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South side — DA = 2.00 Ac

t_c: L = 765'
H = 10'
S = 1.30%
C = 0.50

$t_c = \frac{(1.8)(1.1-0.5)(765)^{1/2}}{(1.30)^{1/3}} = 27$ min

$i_2 = 3.13$ IN/HR $Q_2 = 3.13$ CFS < 9.5 CFS
OK

Q_{max} — Curb-to-Curb

n = 0.015
z = 32'
z/max = 17'
y/max = 0.53'
S = 1.20%

z/n = 2130

Q_{max} = 24 CFS × 2 = 48 CFS TOTAL

North side — DA = 1.75 Ac
C = 0.50
t_c = 25 MIN
i_{100} = 7.36 IN/HR Q_{100} = 6.44 CFS < 24 CFS
OK

South side — DA = 2.00 Ac
C = 0.50
t_c = 27 MIN
i_{100} = 7.14 IN/HR Q_{100} = 7.14 CFS < 24 CFS
OK

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Project Spring Valley Estates

Item Drainage - West Portion

100-Yr. Inlet Calculations / Channel

At Node 270

DA = 27.9 Ac

t_c: L = 1850' (670' to Node 390, 1180' from Node 390 to Node 270)

H = 20' (4' relief to Node 390, 15.9 relief from Node 390 to Node 270)

S = 280/1850 x 100% = 15.08%

C = 0.50

$t_c = \frac{(1.80)(1.10-0.50)(1850)^{1/2}}{(15.08)^{1/3}} = 45.34$ min

$i_{100} = 4.92$ in/hr

$Q_{100} = CiA = (0.50)(4.92)(27.9) = 68.6$ CFS

$Q_{DESIGN} = Q_{100} - Q_c = 68.6 - 35.2 = 33.4$ CFS

$S_{CHAN} = 0.91\%$

$n = 0.030$

Bottom width	= 6'	Bottom width	= 6'
Side slope	= 4:1	Side slope	= 4:1
Depth of flow	= 0.95'	Depth of flow	= 0.88
Velocity	= 3.6 FPS	Velocity	= 3.4 FPS
$Q_{CHANNEL}$	= 33.8 CFS	$Q_{CHANNEL}$	= 33.4 CFS

~~Easement Req'd (6:1) = 6 + (0.95)(4)(2) = 13.60'~~

Use → Easement Req'd (4:1) = 6 + (0.88)(4)(2) = 12.04'

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Ar Node 260

DA = 29.54c

t_c's L = 1908'

A = 20'

$S = \frac{20}{1908} \times 100\% = 1.05\%$

C = 0.50

$t_c = \frac{(1.50)(1.10 - 0.50)(1908)^{1/2}}{(1.05)^{1/3}} = 46.44 \text{ min}$

i_{100} = 4.82 IN/HR

$Q_{100} = CiA = (0.50)(4.82)(29.5) = 71.2 \text{ CFS}$

$Q_{DES\ CHAN} = Q_{100} - Q_2 = 71.2 - 37.1 = 34.1 \text{ CFS}$

Scrnd = 1.40%

n = 0.030

Bottom width — 6'
Side slope — 6:1
Depth of flow — 0.80'

Velocity — 5.9 FPS
Q channel — 34.4 CFS

Easement Req'd (6') — $6 + (0.80)(6)(2) = 15.60'$

PROFESSIONAL ENGINEERING CONSULTANTS
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

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At NODE 250

Hydrology same as at Node 260

$Q_{100} = 34.1$ cfs

$S_{AVG} = 1.00\%$

$n = 0.030$

Bottom width = 6'
Side slope = 6:1
Depth of flow = 0.81'

Velocity = 3.5 FPS
$Q_{CHANNEL}$ = 24.3 CFS

Easement Req'd (6:1) = 6 + (0.81)(6)(2) = 16.44'

At NODE 230 (Along West ditch at 163rd St. E)

Bottom width = 4'
Side slope = 4:1
Depth of flow = 1.07'

Velocity = 3.9 FPS
$Q_{CHANNEL}$ = 34.3 CFS

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

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AT NODE 140

$DA = 29.5\ Ac$

t_c: $L_1 = 2105'$

$H = 22'$

$S = \frac{22}{2108} \times 100\% = 1.04\%$

$C = 0.50$

$t_c = \frac{(1.80)(1.10-0.50)(2108)^{1/2}}{(1.04)^{1/3}} = 48.88\ min$

$i_{100} = 4.64\ in/hr$

$Q_{100} = CiA = (0.50)(4.64)(29.5) = 68.4\ cfs$

$Q_{DIVERSION} = Q_{100} - Q_2 = 68.4 - 37.1 = 31.3\ cfs$

$S_{CHAN} = 1.93\%$

$n = 0.030$

Bottom width — 6'

Side slope — 6:1

Depth (below) — 0.70'

Velocity — 4.4 fps

Q CAPACITY — 31.4 cfs

Easement Rqd. (6:1) — $6 + (0.70)(6)(2) = 14.40'$

WICHITA — SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING COMMISSION
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4561

October 23, 1978

Professional Engineering Consultants
1440 E. English
Wichita, Kansas 67211

Re: S/D 77-150 - Final plat of Spring Valley Estates

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, October 19, 1978, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved, subject to:

A. A legend for irons set with this survey shall be indicated on the plat.

B. Some of the overall dimensions appear to be in error and there are several additions and changes which need to be made in the plattor's text wording. The applicant's engineer shall contact the Planning Department regarding this matter.

C. "Complete access control" adjacent to 143rd Street shall be indicated on Lot 1, Block 3; Lot 1, Block 5; and on Lots 1 and 11, Block 4.

D. A condition of the approval of the preliminary plat was that the applicant submit a drainage plan to the City and County Public Works Department for approval prior to submission of a final plat. A drainage plan has been submitted but, as yet, has not been approved since approval of the plan is dependent upon the applicant obtaining drainage easement from property owners on the south and/or providing more topographical information on the ditch system along 143rd Street. Therefore, it is recommended that the final plat not be forwarded to the Planning Commission until the drainage plan has been approved.

E. The applicant shall guarantee all drainage improvements in stormwater sewer or open channel systems required in the approval of this plat.

F. Subject property is located in the Springdale Timberlakes joint county sewer district. Therefore, in accordance with a resolution adopted by the County in 1977, prior to release of the final plat for recording the applicant shall submit $8,193.50 ($327.74 per acre) for the sewer district bond and interest fund. In addition, prior to actual development of the property, the applicant shall submit to the County $12,500 ($500 per acre) for the expansion of the sewage treatment plant, and with each building permit issued $600 shall be paid to the County.

G. The applicant shall guarantee by petition, bond, letter of credit or cash, to the County, the installation of sanitary sewer lateral systems to serve each lot being platted.

H. The applicant shall guarantee the installation of City of Wichita water to serve each lot being platted.

I. The applicant shall guarantee the paving of all streets within the subdivision to the specifications of the City Engineer of the City of Wichita.

J. The appropriate plans and profiles for the streets and drainage, when approved by the City Engineer, shall be furnished to the County Engineer.

K. The applicant shall guarantee the installation of sidewalks adjacent to both sides of all interior streets.

L. The applicant's engineer shall submit a parking layout showing on which sides of the 58 foot streets parking will be permitted.

M. The applicant shall submit a covenant and an acknowledgement stating that four (4) off-street parking spaces will be provided on each lot adjacent to the 58 foot streets and acknowledging that parking is permitted on only one side of the 58 foot streets.

N. The temporary cul-de-sac to be indicated at the west end of Spring Valley street shall be dedicated by separate instrument. Said instrument shall be submitted to the Planning Department for review.

O. A 20-foot utility easement shall be indicated on the west side of the property.

P. Recording of the plat within 30 days after approval by the Board of City Commissioners.

This plat will not be forwarded to the Planning Commission for review until the Planning Department has been advised by the

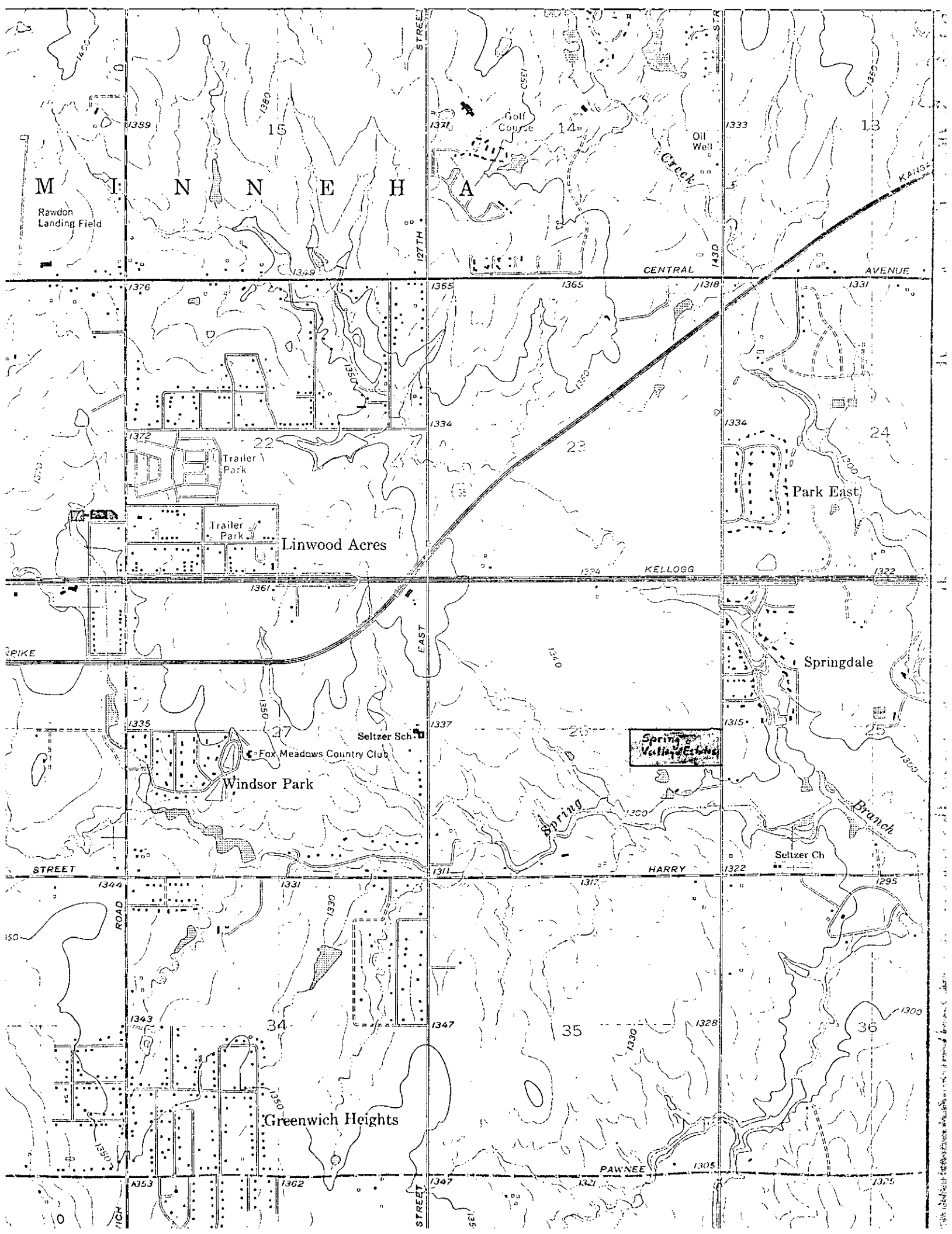
City and County Public Works Department that a drainage plan has been approved.

Sincerely yours,

Louise Olivarez
Junior Planner

LO:bh

cc: Global Resources, Inc., 300 W. Douglas, Suite 442, 67202
Joe Freeman, County Dept. of Public Works
Dean Sellers, Assistant City Engineer


M I N N E H A
Rawdon Landing Field
Golf Course
Oil Well
Creek
CENTRAL AVENUE
KANSAS
127TH STREET
Trailer Park
Trailer Park
Linwood Acres
Park East
KELLOGG
EAST
Springdale
Seltzer Sch.
Fox Meadows Country Club
Windsor Park
Spring Valley Estates
Spring Branch
Seltzer Ch
HARRY
STREET
ROAD
Greenwich Heights
PAWNEE
STREET
15
14
13
22
23
24
27
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34
35
36

WICHITA—SEDGWICK COUNTY
W-SC
METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4421

August 25, 1978

Professional Engineering Consultants, P.A.
1440 E. English
Wichita, Kansas 67211

Attention: Gary Wiley

Re: S/D 77-150 - Preliminary Plat of Spring Valley Estates

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, August 24, 1978, the above captioned plat was considered. The action of the Committee was to approve the preliminary and authorize preparation of the final plat subject to the following:

A. The applicant shall submit a drainage plan to the City and County Public Works Departments for review and approval prior to submission of the final plat.

B. Subject property is located in the Springdale Timberlakes joint county sewer district. Therefore, in accordance with a resolution adopted by the County in 1977, prior to release of the final plat for recording the applicant shall submit $8,193.50 ($327.74 per acre) for the sewer district bond and interest fund. In addition, prior to actual development of the property, the applicant shall submit to the County $12,500 ($500 per acre) for the expansion of the sewage treatment plant, and with each building permit issued, $600 shall be paid to the County.

C. The applicant shall guarantee by petition, bond, letter of credit or cash, to the County, the installation of the sanitary sewer lateral system to serve each lot being platted.

D. The applicant shall guarantee the installation of City of Wichita water to serve each lot being platted.

E. The applicant shall guarantee the paving of all streets within the subdivision to the specifications of the City Engineer of the City of Wichita.

F.. The appropriate plans and profiles for the streets and drainage, when approved by the City Engineer, shall be furnished to the County Engineer.

G. The applicant shall guarantee the installation of sidewalks adjacent to both sides of all interior streets.

H. The applicant's engineer shall submit with the final plat 3 copies of a parking layout showing on which sides of the 58 foot streets parking will be permitted.

I. The applicant shall submit a covenant and an acknowledgement, stating that four (4) off-street parking spaces will be provided on each lot adjacent to the 58 foot streets and acknowledging that parking is permitted on only one side of the 58 foot streets.

J. The temporary cul-de-sac indicated at the west end of Spring Valley street shall be dedicated by separate instrument. Said instrument shall be submitted to the Planning Department for review.

K. Easements as shown on the engineer's "marked copy" of the preliminary plat shall be added to the final plat.

L. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations. The applicant should be prepared to discuss with the Subdivision Committee the manner in which it is proposed to provide for such utilities and facilities, e.g., petition, actual construction, monetary guarantee, etc.

M. Requirements for a final plat (see pages 20-25 Part 4, Article 5 of the MAPC Subdivision Regulations).

Enclosed herewith is the "marked" copy of the preliminary plat for your information and files.

If you should have any questions concerning this matter, please call.

Sincerely,

Louise Olivarez

Louise Olivarez
Junior Planner
LO:bh
Encl.

cc: ~~Joe E. Zollinger, 14409 Willow Bend Circle, 67230~~
~~Carolyn Wentworth, 550 Springdale, 67230~~
~~Jack Heathman, 627 Union Ctr. Bldg., 67202~~
Global Resources, Inc. 300 W. Douglas, Suite 442, 67202
Joe Freeman, County Department of Public Works
Dean Sellers, Assistant City Engineer

Spring Valley Estates

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS PROFESSIONAL ASSOCIATION

TO: Mr. Joe Freeman, P. E.
Assistant County Engineer, Sedgwick County Department of Public Works
1015 Stillwell
Wichita, Kansas 67213

ATTN: Phil Dietrich

PROJECT NO. 30-78153-991

PROJECT: Spring Valley Estates

DATE: June 14, 1979

COPIES TO:

Max Greene, P. E.

Yash Desai, P. E.

Louise Olivarez

Jim Garvey

FROM: Chris Brennenstuhl, EIT

REFERENCE: Revision to Approved Drainage Plan

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

Transmitted herewith are the plan and profile and the cross-sections of the west ditch of 143rd Street East showing proposed drainage improvements in connection with development of Spring Valley Estates.

The original drainage plan for this Addition presented two alternative methods by which the storm sewer could be extended from the south line of the plat to Spring Creek. Both methods required that the owner-developer of Spring Valley obtain easements from the landowners of the two unplatted tracts which lie between the south line of Spring Valley and the north line of Spring Hollow Addition (through which flows Spring Creek). It was found that the easements could not be obtained for either alternate.

In discussing this obstacle with Mr. Remsberg of the County Public Works Department, it was stated that a modification of Alternate II would be acceptable to his agency if it could be shown that the 100-year design flow could be contained within the existing right-of-way for 143rd Street East by above- and/or below-ground improvements.

The plan presented today shows that this can be accomplished by installation of an underground storm sewer designed to convey the two-year design flow and by cleaning the existing ditch so as to provide the additional depth required to convey $Q_{100}-Q_2$. (It should be noted that the 100-year occurrence on Spring Creek will cause a high water elevation of 1299.73 and will back water up the road ditch. Therefore, the actual ditch capacity is irrelevant.)

If the accompanying plans and calculations are satisfactory, or if any additional information is needed, please contact me as soon as possible as we plan to schedule this plat to be heard by the City Commission at their meeting of June 26, 1979.

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date JUNE 14, 1979 Page 1 of 1

Project SPRING VALLEY ESTATES

Item REVISED DRAINAGE PLAN

$DA = 29.5 + 13.6 = 43.1$ ACRES

$C = 0.50$

$T_c = 42.5$ MIN

$i_{100} = 5.18$ IN/HR

$Q_{100} = 112$ CFS

$Q_E = 37$ CFS

$Q_{DES} = 112 - 37 = 75$ CFS

DITCH SECTION

BOTTOM WIDTH	4.00'
MANNING'S n	0.035
SIDE SLOPES	3:1
SLOPE	

STA 6+00 → 10+00 $S = 1.86\%$ $d = 1.73'$

STA 4+00 → 6+00 $S = 1.64\%$ $d = 1.78'$

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

TO: Yash Desai, P. E.
Chief Drainage Engineer
City Hall - Seventh Floor
455 North Main
Wichita, Kansas 67202

ATTN:

PROJECT NO. 30-78153-991

PROJECT: Spring Valley Estates

DATE: June 28, 1979

COPIES TO:

Phil Dietrich

Max Greene

FROM: Chris Brennenstuhl

REFERENCE: Drainage Plan Revisions

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

At your request, the following people met at your office on Wednesday, June 27, 1979, to discuss our proposed revisions to the drainage plan for Spring Valley Estates:

City of Wichita Department of Public Works:	Yash Desai Vicky ~~Wong~~ Huang
Sedgwick County Department of Public Works:	Phil Dietrich
Professional Engineering Consultants, P. A.	Gary Wiley Chris Brennenstuhl

The following items were discussed:

1. Professional Engineering Consultants, P. A. shall provide the sizes of cross-road culverts to be installed at the intersections with 143rd Street East of Castle, Spring Valley, and Lincoln Streets.

2. Although the Drainage Plan for Spring Valley Estates as originally designed and conditionally approved utilized the F.A.A. method of computing the time of concentration, at this time the ~~SCS method of~~ Bureau of Rec determining time of concentration was used by your staff to check our computations. This difference resulted in the generation of a value of $Q_{100} - Q_2$ approximately 40% greater than the value shown in our revised design.

   Rather than require the total USBR re-design of the Spring Valley Estates Drainage Plan, it was decided to accept the previously-approved calculations but to use the ~~SCS~~ method to check adequate capacity within the future urban-standard arterial street to be built for 143rd Street East. If the street capacity proves inadequate, the storm sewer shall be re-sized to provide whatever capacity is needed such that Q_{100} does not extend beyond the ultimate right-of-way limits.

   for all possible runoff to 143rd Street East & West.

3. It was discussed as to how Q_2 from the east portion of Spring Valley Estates was to enter the storm sewer system. Your recommendation was to extend the system northward along 143rd Street to include inlets at Castle and Spring Valley. Our suggestion was to install a ditch inlet at the southeast corner of this plat (Node 230) and to include a northerly stub-out to be extended at such time as 143rd Street is improved to urban standards rather than install poorly-located inlets that would not be effective until such time as 143rd is an urban standard street. Mr. Dietrich appeared to be in agreement with our suggestion and pointed out that the cost of this short extension would be negligible in comparison to the complete cost of improving 143rd Street.

   It was concluded that the decision regarding the storm sewer extension would be made by Messrs. Linn and McLure.

4. In our revision to the Drainage Plan, we had shown that the 143rd Street road ditch had ample capacity for $Q_{100} - Q_2$ through most of its length. However, in that area between Spring Creek and a point approximately 250-feet north of the creek, the ditch has very little capacity. It had been our assumption that the ditch capacity in that area was irrelevant with respect to the 100-year occurence as, under 100-year rainfall conditions, that area would be completely unindated by the flooding of Spring Creek.

   Messrs. Desai and Dietrich felt that this was not a valid assumption and stated that the capacity of the ditch could be improved through paving of that section. The difference between Q_{100} and the ditch capacity would have to be contained within the underground system.

In order to schedule this final plat for the July 17, 1979, meeting of the City Commission, the drainage plan must be approved prior to July 2nd, the deadline for placing items on the July 17th agenda. It was stated at the conclusion of our meeting that the plan would be reviewed by your staff prior to that deadline if the additional changes and additions were made and the information delivered to your office before 12-noon on Friday, June 29, 1979.

Later in the day, Mr. Dietrich informed us of the following decisions by the Sedgwick County Department of Public Works:

1. The storm sewer system is <u>not</u> to be extended at this time to serve Castle and Spring Valley. Professional Engineering Consultants, P. A. is to show that adequate ditch capacity is available adjacent to the plat and culverts will be sized so as to assure containment of Q_{100} within the right-of-way.

2. Erosion protection shall be shown where needed.

3. It is valid to assume an in-flood condition of Spring Creek for the 100-year frequency design.

If you have any questions, comments, additions, or changes, we will expect to hear them from you prior to our re-submittal on Friday.

SEDGWICK COUNTY COURTHOUSE

COUNTY OF SEDGWICK

DEPARTMENT OF PUBLIC WORKS

1015 STILLWELL
WICHITA, KANSAS 67213

PHONE 268-7901

G. C. McLURE, JR., P. E.
COUNTY ENGINEER/DIRECTOR OF PUBLIC WORKS

June 29, 1979

Professional Engineering Consultants, P.A.
1440 English
Wichita, Kansas

ATTENTION: Chris Brennenstuhl

RE: Drainage Plan - Spring Valley Estates

Dear Ms. Brennenstuhl:

This is to inform you that the Sedgwick County Department of Public Works can see no benefit in the extension of a storm sewer to serve Castle and Spring Valley Street in the above-referenced Addition at this time. This Department is in concurrance with all other items referenced in a memorandum from your Office dated June 28, 1979 to Mr. Yash Desai. Said memorandum concerning a meeting with all parties concerned.

Yours very truly,

G.C. McLure, Jr., P.E.
County Engineer/Director of
Public Works

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

YD

Date JULY 2, 1979 Page 1 of

Project SPRING VALLEY ESTATES

Item REVISED DRAINAGE PLAN

CAPACITY OF CASTLE & SPRING VALLEY STREETS

CASTLE

$DA_N = 1.72\ Ac$

$C = 0.50$

t_c: $L = 880' = 0.17\ MI$

$H = 6.5'$

$$t_c = \left[\frac{11.9(0.17)^3}{6.5}\right]^{0.385} = 0.16\ HR = 9.56\ MIN$$

USE 15 MIN ✓

$i_{100} = 8.98\ IN/HR$ ✓

$Q_{100} = 7.72\ CFS < 11\ CFS^*$ ok ✓

$DA_S = 1.52\ Ac$

$C = 0.50$

$i_{100} = 8.98\ IN/HR$ ✓

$Q_{100} = 6.82\ CFS < 11\ CFS^*$ ok

* FROM Q_{MAX} AS FIGURED ATTACHED DRCoG NOMOGRAPH

CASTLE

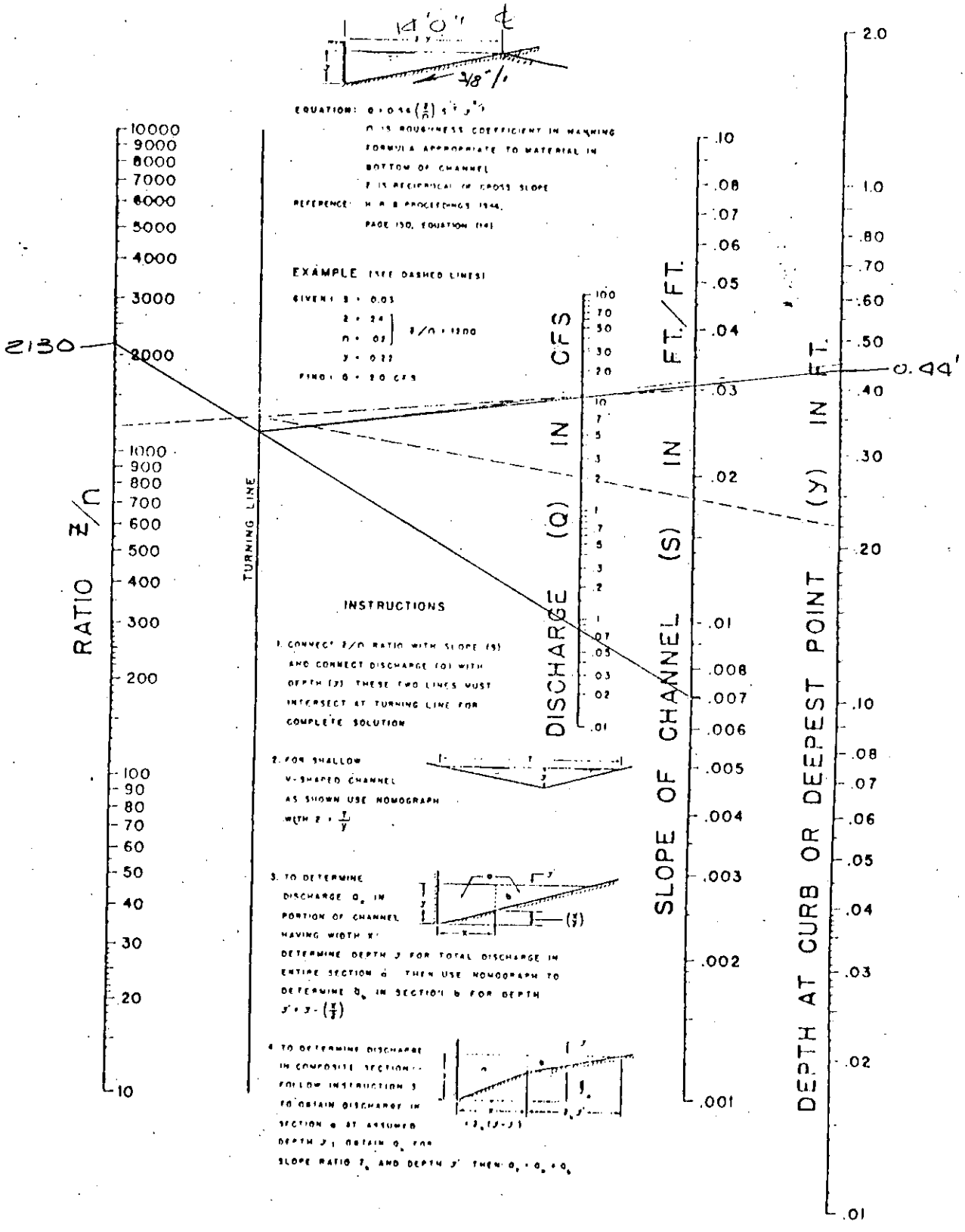


FIGURE 6-1. NOMOGRAPH FOR FLOW IN TRIANGULAR GUTTERS.

S = 0.70% n = 0.015

Z = 32 (for 3/8"/1)

Z/n = 2130

Z/1 = 14

Q@AP = 11 CFS / 1/2 ST

Q@AP TOT = 22 CFS

11-15-68

Denver Regional Council of Governments

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date _____ Page 3 of _____

Project _____

Item _____

SPRING VALLEY

$DA_N = 1.75\ Ac$

$C = 0.50$

t_c: $L = 775' = 0.15\ MI$

$H = 8.5'$

$$t_c = \left[\frac{11.9(0.15)^3}{8.5}\right]^{0.385} = 0.12\ HR = 7.45\ MIN$$

USE 15 MIN ✓

$i_{100} = 8.98\ IN/HR$ ✓

$Q_{100} = 7.86\ CFS$ ✓ $< \frac{18}{24}\ CFS$ OK

$DA_S = 2.00\ Ac$

$C = 0.50$

$i_{100} = 8.98\ IN/HR$ ✓

$Q_{100} = 8.98\ CFS < \frac{18}{24}\ CFS$ OK

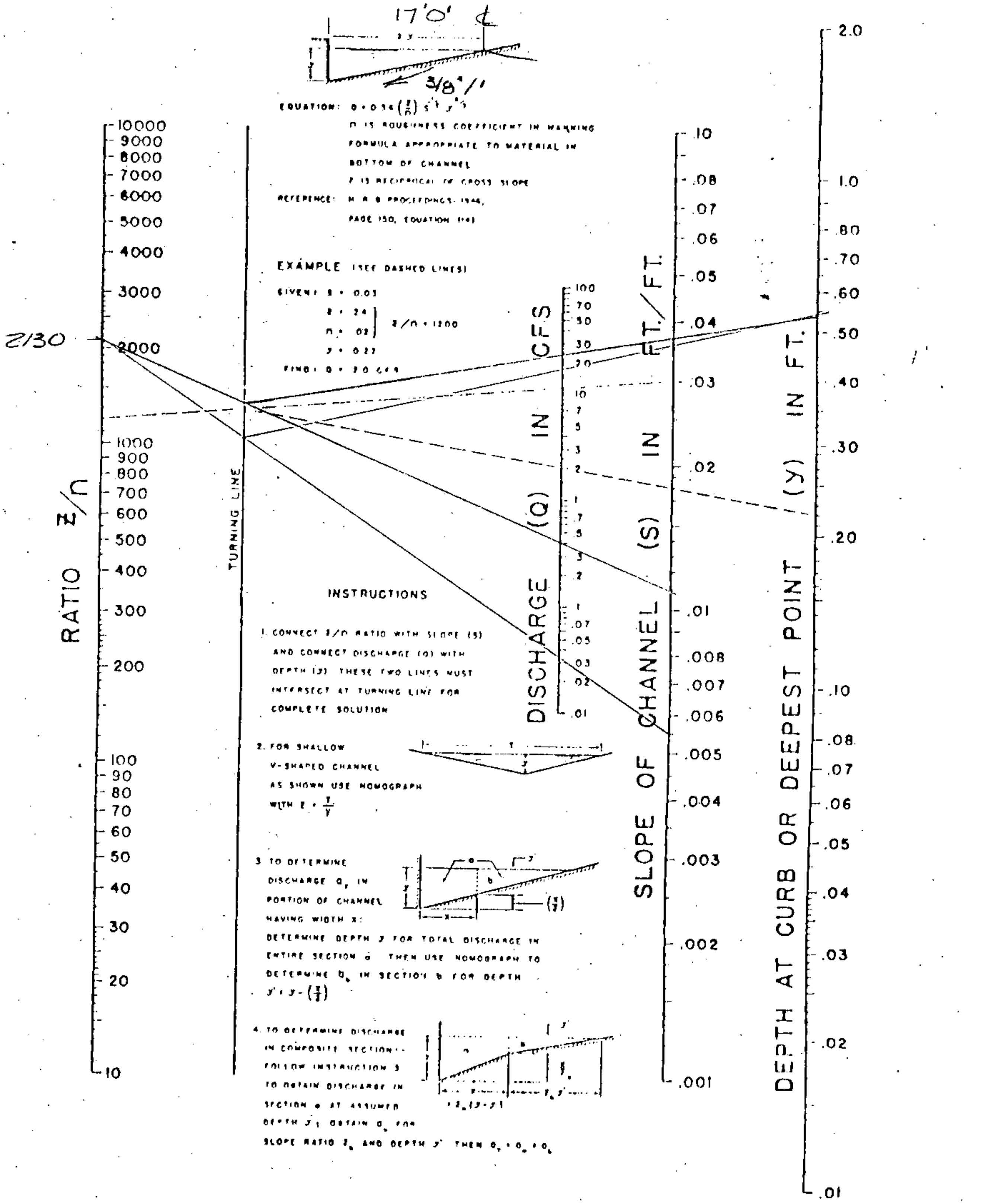


FIGURE 6-1. NOMOGRAPH FOR FLOW IN TRIANGULAR GUTTERS.

S = ~~1.10%~~ 0.55

n = 0.015

z = 32 (for 3/8"/1')

z/n = 2130

zy = 17

QCAP = ~~24~~ 18 cfs / 1/2 st

QCAP TOT = ~~48~~ 36 cfs

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Project ______

Item ______

CAPACITY OF FUTURE URBAN STANDARD ARTERIAL

$DA_{TOT} = 44.3 + 3.59$
$= 47.9$ Ac

$C = 0.50$

t_c : $L = 3595' = 0.68$ mi ✓
$H = 34'$ ✓

$t_c = \left[\frac{11.9(0.68)^3}{34}\right]^{0.385} = 0.43$ HR $= 25.7$ MIN ✓

$i_{100} = 7.28$ IN/HR ✓ $i_2 = 3.26$ IN/HR

$Q_{100} = 174$ CFS ✓ $Q_2 = 78$ cfs

~~$Q_{STS} = 116$ CFS~~? 91 cfs ~~the Culvert Design Q 3ws~~

$Q_{ST} = 58$ CFS < 127 CFS OK ✓

83 cfs

If graph is used
@ $I_2 = 2.5$
$I_{100} = 5.5$
$Q_2 = 60$ cfs
$Q_{100} = 132$ cfs
$Q_{pipe} = 91$ cfs
$Q_{ditch} = 41$ cfs

Between 220 & 230

$Q_{100} = 174$ cfs
$Q_{pipe} = 45$ cfs (36" RCP @ .46 %)
$Q_{channel} = 129$ cfs
Channel slope = 1.95%
H.W. ≈ 1.75' — O.K.

Between 210 & 220

$Q_{100} = 174$ cfs
$Q_{pipe} = 91$ cfs (48" RCP @ .4%)
$Q_{channel} = 83$ cfs ~~< 127 cfs O.K~~ the

TP9

FUTURE ARTERIAL

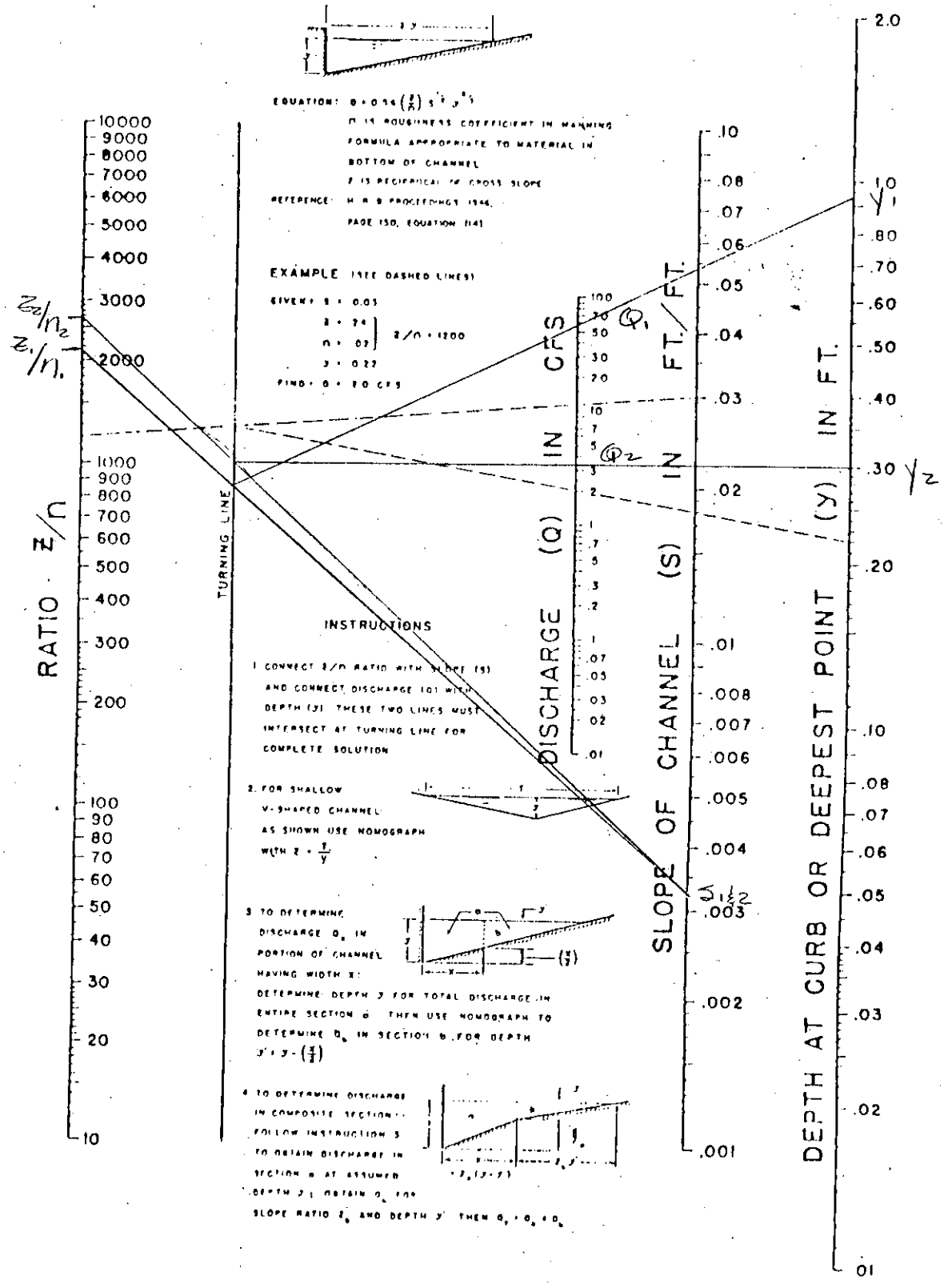


FIGURE 6-1. NOMOGRAPH FOR FLOW IN TRIANGULAR GUTTERS.

S = 0.32% min

11-15-68

Denver Regional Council of Governments

$n_1 = 0.015$

$Z_1 = 32$

$Z_1/n_1 = 2130$

$y_1 = 0.93'$

(0.30' above T.C.)

$n_2 = 0.030$

$Z_2\ y/z = 24'$

$y/z = 6.30'$

$Z_2 = 80$

$Z_2/n_2 = 2650$

$Q_1 = 60$ CFS / 1/2 ST

$Q_2 = 3.3$ CFS / 1/2 ST

$Q_{1+2} = 63.30$ CFS / 1/2 ST

$Q_{1+2} = 126.6$ CFS /

PROFESSIONAL ENGINEERING CONSULTANTS
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date _____ Page 7 of _____

Project _____

Item _____

CULVERT SIZING

STA 3+41 & 3+96

SINCE Q_{100} IS BEING PICKED UP AT STA 4+50, ONLY MINIMUM CULVERT SIZES ARE NEEDED AT 3+41 & 3+96. HOWEVER, SO AS TO ASSURE THE CITIZENS' PEACE OF MIND, IT IS RECOMMENDED THAT EXISTING CULVERTS BE EITHER

1. RESET AND EXTENDED OR
2. REMOVED AND REPLACED WITH COMPARABLE STRUCTURES.

$Q = 83$ cfs
HW/D = 4
HW = 9' too high

Existing 26"x41" CMPA ~~CC~~ is too small
42"x29" CMMAC
HW/D = 3.5
HW = 8.5' still too high
58"x36" Arch HW/D = 1.3
HW = 3.9' O.K

STA 8+85

DA = 9.9Ac
C = 0.5
t_c = 32.1 min
i_{100} = 6.44 IN/HR
Q_{100} = 32CFS

} FROM ST SWR DESIGN

INSTALL 42"x29"x42' CMMAC WITH END-SECTIONS

NE 1306.59 SE 1305.72

H = 2.57' (INLET CONTROL) ✓

H.W. = 1309.16 ✓ O.K.

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date _____ Page 8 of _____

Project _____

Item _____

STA 12+16

DA = 5.0 Ac
C = 0.5
t_c = 31.0 min
} FROM ST SWR DESIGN

i_{100} = 6.62 IN/HR

Q_{100} = 17 CFS

INSTALL 42" x 29" x 42' CMMAC WITH END-SECTIONS

INLET 1309.57 OUTLET 1309.12

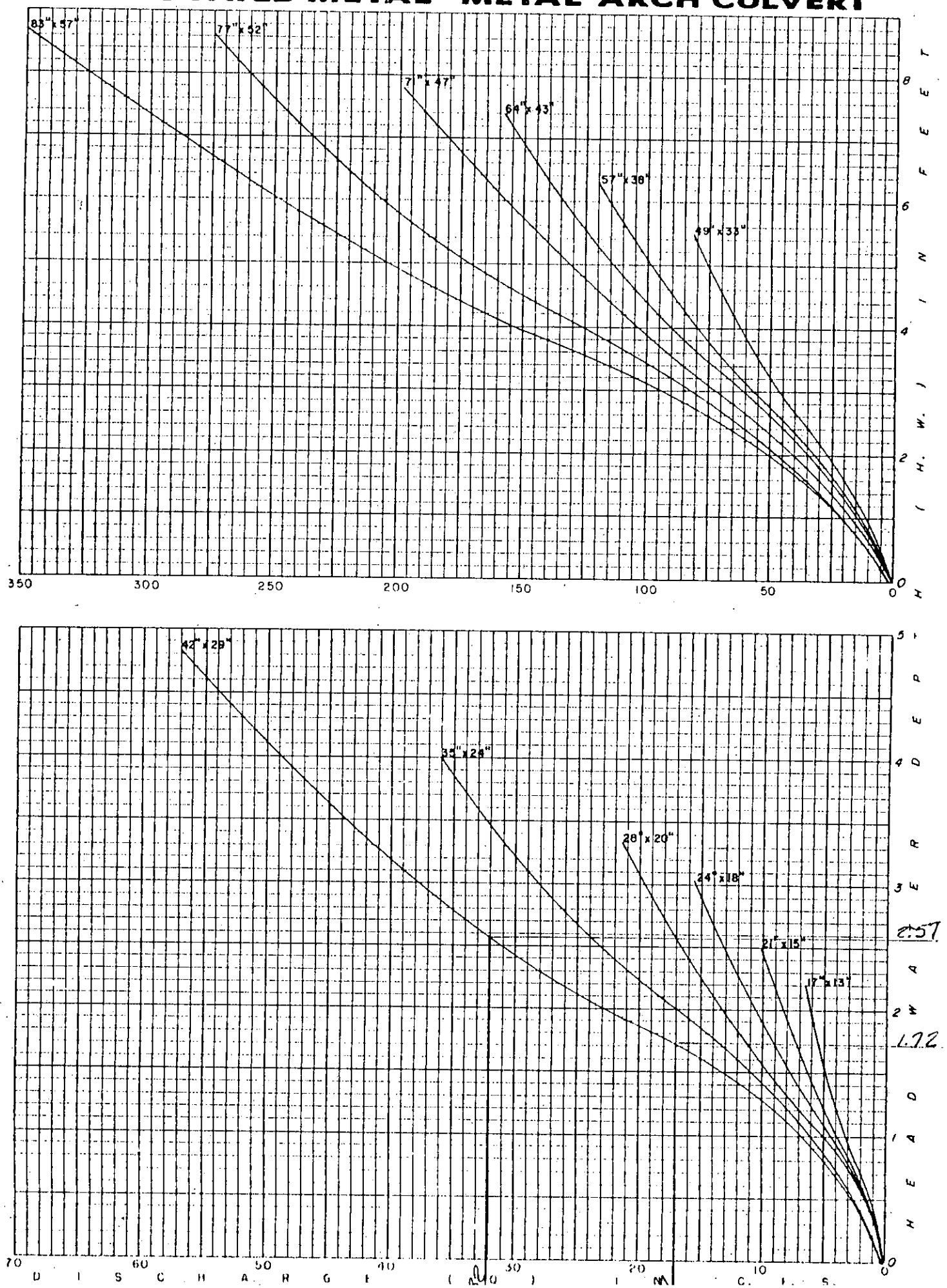
H = 1.72' (INLET CONTROL) O.K

H.W. = 1311.29 ✓

H.W. lower than pipe.

Could use a smaller pipe.

HEADWATER DEPTH, INLET CONTROL
CORRUGATED METAL - METAL ARCH CULVERT



PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

Date _____ Page 10 of _____

Project _____

Item _____

CAPACITY OF ROAD DITCH

STA 12+41 to 9+10

Q_{100} = 32 CFS

S = 0.90%

n = 0.035

B = 4.00

z = 4

d = 1.14' ✓ O.K.

STA 4+50 to 8+60

Q_{100} = 116 CFS

S = 1.95%

n = 0.035

B = 4.00

z = 4

d = 1.74' ✓ O.K.

PROFESSIONAL ENGINEERING CONSULTANTS
PROFESSIONAL ASSOCIATION
1440 EAST ENGLISH
WICHITA, KANSAS
ZIP CODE / 67211

MEMO

TO: Yash Desai, P. E.
Chief Drainage Engineer
City Hall - Seventh Floor
455 N. Main
Wichita, Kansas 67202

ATTN:

PROJECT NO. 30-78153-991

PROJECT: Spring Valley Estates

DATE: July 5, 1979

COPIES TO:

Max Greene, P. E.

Phil Dietrich

FROM: Chris Brennenstuhl

REFERENCE: Revised Drainage Plan

PLEASE ADVISE IMMEDIATELY OF ANY MISCONCEPTIONS OR OMISSIONS YOU BELIEVE TO BE CONTAINED HEREIN.

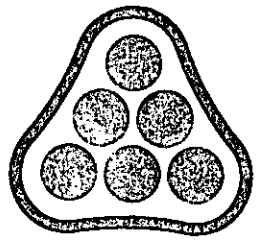
Transmitted herewith are the following items pertaining to requested changes and additions to the Revised Drainage Plan for Spring Valley Estates:

1. Revised Plan and Profile Sheet with cross-sections.
2. Hydrologic and Hydraulic Analysis of storm sewer system (note highlighted revisions).
3. Calculations referring to ditch capacity and future urban street capacity.
4. Calculations for culvert sizing.
5. Copy of letter of concurrence from G. C. McLure, Jr., Sedgwick County Engineer.

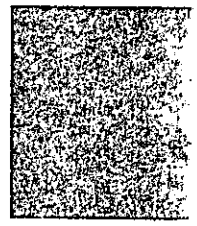
This revision complies with all requests made at our meeting of June 27, 1979. While we had originally intended to meet the scheduling deadline for the July 17, 1979, meeting of the City Commission, it is now our intention to be on the agenda for July 31, 1979. If we could have your comments on this plan within the next week, I'm sure all matters can be satisfactorily concluded by the next filing date.

Thank you for your attention to this matter. Please contact us if any further information is needed for your expeditious review of these plans and calculations.

66
55



PROFESSIONAL
ENGINEERING
CONSULTANTS
PROFESSIONAL ASSOCIATION



January 24, 1980

Sedgwick County Department of Public Works
1015 Stillwell
Wichita, Kansas 67213

Attention: Mr. Bill Payne, P. E.

Re: Spring Valley Estates
street and Storm Drain Improvements
Project No. 30-78380-024

Dear Mr. Payne:

Transmitted herewith for your review are two (2) sets of Preliminary Plans, Specifications, and Engineer's Estimate for the referenced project.

Necessary easements have been prepared and are now being reviewed by the owner. An executed copy will be forwarded to your office upon receipt.

Two sets of Plans, Specifications, and Estimate are being forwarded to the City of Wichita for their concurrent review.

If you have any questions, please call at your convenience.

Very truly yours,

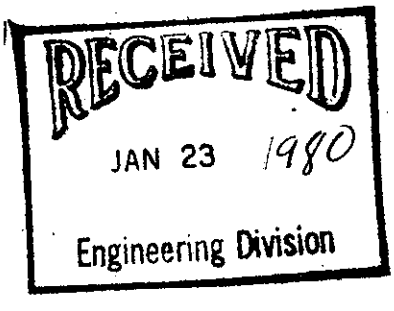
PROFESSIONAL ENGINEERING CONSULTANTS, P. A.

Charles S. Brown

Charles S. Brown, P. E.
Project Engineer

CSB:lo
Transmittals

cc: City of Wichita
(w/Encl.)



1440 EAST ENGLISH
WICHITA, KANSAS 67211
(316) 262-2691

PRELIMINARY ENGINEER'S ESTIMATE
January 22, 1980

SPRING VALLEY ESTATES
SEDGWICK COUNTY, KANSAS

STREET AND STORM DRAIN IMPROVEMENTS
Project No. 30-78380-024

Item	Description	Quantity	Unit	Unit Price	Amount
1.	48" Storm Drain	439	L.F.	$ 62.00	$ 27,218.00
2.	36" Storm Drain	1,201	L.F.	50.00	60,050.00
3.	30" Storm Drain	398	L.F.	44.00	17,512.00
4.	24" Storm Drain	122	L.F.	38.00	4,636.00
5.	18" Storm Drain	33	L.F.	30.00	990.00
6.	15" Storm Drain	286	L.F.	25.00	7,150.00
7.	48" End Section	1	Ea.	800.00	800.00
8.	5'-0" Curb Inlet	1	Ea.	1,800.00	1,800.00
9.	4'-2" Curb Inlet	5	Ea.	1,500.00	7,500.00
10.	Type II Ditch Inlet	1	Ea.	2,200.00	2,200.00
11.	Standard Type A Manhole	1	Ea.	1,500.00	1,500.00
12.	Reinforced Concrete Manhole	3	Ea.	2,500.00	7,500.00
			STORM DRAIN SUBTOTAL		$138,856.00
13.	Unclassified Excavation	14,181	C.Y.	4.80	68,068.80
14.	6" Subgrade Treatment	14,229	S.Y.	2.90	41,264.10
15.	3" Bituminous Sub-Base	13,415	S.Y.	4.50	60,367.50
16.	3" Bituminous Base	11,070	S.Y.	4.50	49,815.00
17.	4" Bituminous Base	519	S.Y.	6.25	3,243.75
18.	2" Asphaltic Concrete Wearing Surface	11,115	S.Y.	3.50	38,902.50
19.	Combined Curb & Gutter (Standard)	6,902	L.F.	6.25	43,137.50
20.	Inlet Connections	6	Ea.	100.00	600.00
21.	Culvert Pipe (43"x 27" CMAC)	210	L.F.	30.00	6,300.00
22.	43"x 27" CMAC End Sections	4	Ea.	200.00	800.00
23.	Concrete Slope Drains	4	Ea.	1,200.00	4,800.00
24.	Heavy Stone Riprap	229	S.Y.	35.00	8,015.00
25.	4" Concrete Sidewalk	623	S.F.	3.00	1,869.00
26.	Handicap Ramp	625	S.F.	3.25	2,031.25
27.	Seeding	1.5	Ac.	650.00	975.00
28.	Street Signs	7	Ea.	100.00	700.00
			STREET SUBTOTAL		$330,889.40
			TOTAL ESTIMATED CONSTRUCTION COST		$469,745.40

PRELIMINARY ENGINEER'S ESTIMATE
January 22, 1980

SPRING VALLEY ESTATES
SEDGWICK COUNTY, KANSAS

STREET AND STORM DRAIN IMPROVEMENTS
Project No. 30-78380-024

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25.	4" Concrete Sidewalk	623	S.F.	3.00	1,869.00
26.	Handicap Ramp	625	S.F.	3.25	2,031.25
27.	Seeding	1.5	Ac.	650.00	975.00
28.	Street Signs	7	Ea.	100.00	700.00
			STREET SUBTOTAL		$330,889.40
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