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POE & ASSOCIATES OF KANSAS INC.
CONSULTING ENGINEERS
434 N. Oliver, Suite 110 ▪ Wichita, KS 67208 ▪ 316/685-4114

February 16, 1988

Mr. Bill Yung
4912 E. 29th
Wichita, Kansas 67220

Re: Preliminary Drainage Study for Sterling Farms

Dear Bill:

We have obtained the drainage report from M.S. Mitchell and also the data from P.E.C. which has been compiled for this area. The information from P.E.C. was a rough calculation showing the difference in storm water runoff for this proposed plat (122 Ac.) but not including the other parts of the total 328 acre drainage area. Using information from both P.E.C. and Mitchell we have prepared the attached information with the following results.

1. Peak flow for the entire D.A. during a 100 year storm with the Sterling Farm area fully developed is 522.7 cfs. This was computed assuming that the undeveloped part of the drainage area will be required to not increase flows after development.

2. A preliminary drainage channel design which will discharge 522.7 cfs at a depth of 3 feet would have a 20 foot bottom, 4:1 side slopes and a slope of 0.4%.

3. Required storage for this preliminary design is 50.0 acre-feet below elevation 1248.5 MSL. This should be recomputed after determining the actual storage provided for on the site plan.

4. During the completion of the site plan consideration should be given to the amount of excavation required for the proposed storage below elevation 1248.5. An alternate plan which would either provide a normally dry storage area or one that would impound storm water to a higher elevation and reduce the amount of excavation might be more economically feasible.

5. A 60 foot weir was used for the control structure in these calculations.

6. Maximum discharge over the proposed control structure during the design 100 year storm is 340 cfs. Maximum allowable flow across 21st Street is 365 cfs (this information was provided by Mitchell).

7. Comparison of Studies

	D.A.	PEAK Q100	OUTFLOW	STORAGE	MAX W.S.	STORAGE ELEV.
POE	328 Ac.	522.7 cfs	340 cfs	50.0 Ac/Ft	1248.5	1244-1248.5
MITCHELL	328 Ac.	800 cfs	380 cfs	58.0 Ac/Ft	1248.6	1243-1248.6

8. Development of the site plan should provide for 50.0 acre-feet of storage either matching or exceeding the storage curve shown on the attached inflow-outflow hydrograph. If the storage is provided at different elevations than those shown we should recompute the outflow and storage based on this new information.

9. This information is furnished as a guide for the preparation of a preliminary site development plan and must be revised to match the actual development.

Please contact me with any questions about this proposal. We will be glad to discuss alternate proposals if it is more feasible to provide the required storage at a different elevation.

Yours truly,

POE & ASSOCIATES OF KANSAS, INC.

Kenny E. Hill

Kenny E. Hill, P.E.
Project Manager

KEH:crb

Encl.

cc: C. Bill Bachman
w/encl.

Z-15-88

STERLING FARMS IS ASSUMED TO BE FULLY DEVELOPED

FLOW FROM ADJACENT AREAS ARE COMPUTED AS EXISTING CONDITIONS (EXIST PEAK FLOWS MUST BE MAINTAINED AFTER DEVELOPMENT)

USED D.A. AND SOIL TYPES FROM MITCHELL'S REPORT

THESE CALCS ARE TO BE USED ONLY TO DETERMINE PRELIMINARY SITE PLAN AND SHOULD BE REFIGURED FOR DRAINAGE PLAN DURING THE PLATTING PROCEDURE

URBAN HYDROLOGY FOR SMALL WATERSHEDS (TR-55)
PEAK DISCHARGE WORKSHEET
FOR CHAPTER 4 (APPENDICES D & E)

Project STERLING FARMS By K. HILL Date 2-15-88
Checked _____ Date _____

Steps Peak Discharge Computations for up to 3 Storms: Type II, Duration 24 hours.

1. Data: Watershed Condition = FUTURE (STERLING FARMS DEVE.) (present or future).
Drainage Area (DA) = 328 acres. Ave. Watershed Slope (S) = 0.38 %.

2. Runoff Curve Number (CN)

Hydrologic Soil Group (Appendix B)	Land Use Description Include Treatment, Practice & Condition (Table 2-2)	CN (Table 2-2) (3)	% or Area (acres) (4)	Product (3)x(4) (5)
B	1/4 AC LOTS	75	51.5	3862.5
C	"	83	51.5	4274.5
B	OPEN SPACE	61	10	610
B	COMMERCIAL	92	34	3128
B-C	STREETS	98	17	1666
B	CULTIVATED	81	164	13284
		Totals =		

CN (weighted) = $\frac{\text{total col. (5)}}{\text{total col. (4)}}$ [ ] = _____; use CN = 82

1st Storm	2nd Storm	3rd Storm	
		100	yrs.
		7.8	inches

3. Rainfall Frequency (F)
Rainfall Depth (P)

4. Runoff Depth (Q) — 5.55 inches
Use P, CN, and Table 2-1.

5. Basic Peak Discharge (q) — 92 cfs/inch of Q
Use S, DA, CN, and Figure D-2.
For graph labeled: (check one)
- [x] Flat (S = less than 3%)
- [ ] Moderate (S = 3% to 7.9%)
- [ ] Steep (S = 8% & greater)

*6. Watershed Slope Factor — 0.69
Use S, DA, and Table E-1.

7. Peak Discharge (q_p) — 352.3 cfs
where q_p = Steps #4 x 5 x 6

See Steps 8 to 13 for adjustments that may be applicable.

TR-55, CHAPTER 4 (APPENDICES D & E), PEAK DISCHARGE WORKSHEET (CONT.)

Steps Peak Discharge Computations with Adjustments

8. Data: Obtain if Adjustments are Applicable

Ponding and Swampy areas (PND) = — acres, — % of DA
Impervious Area (IMP) = 85 acres, 25.9 % of DA
Total Hydraulic Length (HL) = 6500 feet
Hydraulic Length Modified (HLM) = 3300 feet, 50.8 % of HL

	1st Storm	2nd Storm	3rd Storm	
Rainfall Frequency (F) from Step 3			100	yrs.
Peak Discharge (q_p) from Step 7			352.3	cfs
	X	X	X	
*9. Ponding and Swampy Area Peak Factor				
*10. Watershed Shape Peak Factor			X	
*11. Impervious Area Peak Factor			1.01	
			X	
*12. Hydraulic Length Modified Peak Factor			1.13	
			X	
			1.30	
			=	
13. Adjusted Peak Discharge (q_p)			522.7	cfs

*9. Ponding and Swampy Area Peak Factor
Use % PND, F, and Tables E-2, 3 or 4.
Location in Watershed: (check one)
- ☐ at Design Point (E-2)
- ☐ Center or Spreadout (E-3)
- ☐ Upper Reaches (E-4)

*10. Watershed Shape Peak Factor
Use HL with Figure E-1 and read;
Equiv. Drainage Area (EDA) = 300 acres.

Use Figure D-2 graph from Step 5, CN, and EDA for;
Equiv. Peak/Inch Runoff (q_e) = 85 cfs/in.

$$\text{Factor} = \left[\frac{q_e}{q \text{ from Step 5}}\right] \times \left[\frac{DA}{EDA}\right]$$

$$\text{Factor} = \left[\frac{85}{92}\right] \times \left[\frac{328}{300}\right] = 1.01$$

*11. Impervious Area Peak Factor
Use % IMP, CN and Figure 4-1. 1.13

*12. Hydraulic Length Modified Peak Factor
Use % HLM, CN and Figure 4-2. 1.30

13. Adjusted Peak Discharge (q_p) 522.7 cfs

$q_p = q_p$ (from Step 7) x Steps #9 x 10 x 11 x 12

* If the adjustment is not applicable, enter a Factor of 1.0

IMPERVIOUS AREA

		Imp %	AREA	
1/4 AC LOTS	103	38	39.1	
POND	10	0	–	
COMMERCIAL	34	85	28.9	
STREETS	17	100	17	
CULTIVATED	164	0		
TOTAL	328		85	25.9% OF TOTAL 328 IMPERVIOUS

2-15-88

STERLING FARMS

D.A. = 328 Ac. L = 6500 S = .004

PASTURE L = 500 V = 0.5 f.p.s (TR55 pg 3-2) 16.7 MIN

DRAINAGE SWALE IN PASTURE L = 2600 V = 1.0 f.p.s 43.3 MIN

CHANNEL FLOW L = 1900 V = 5.0 f.p.s 6.3 MI

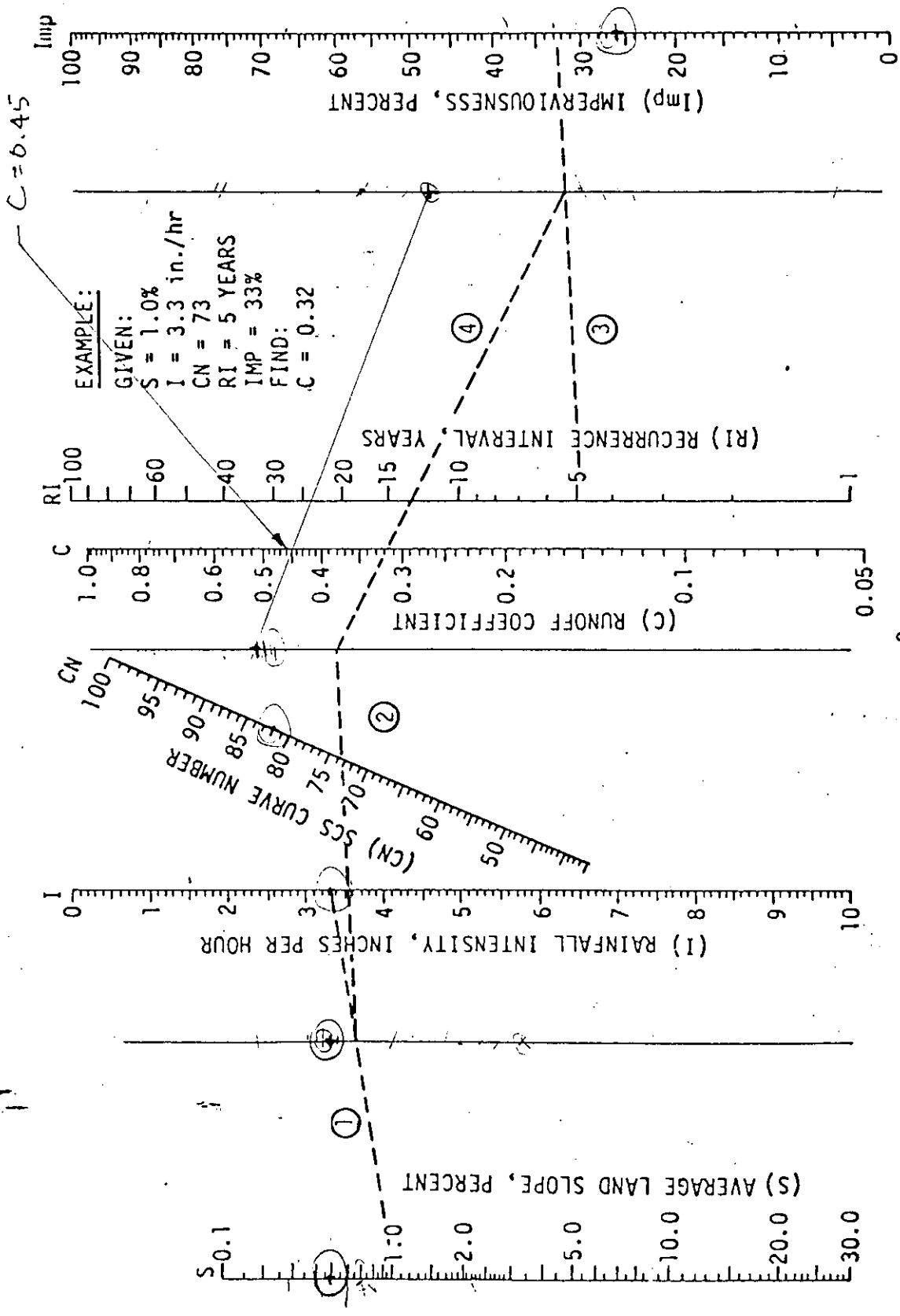
POND FLOW L = 1500 V = 3.0 f.p.s 8.3 MI

CN = 82 74.6 M

USE T_c = 75 MIN.

i = 3.32 C = 0.45

$Q_{100} = 328 \times 0.45 \times 3.32 = 490$ cfs



$$C = 7.2(10)^{-7}CN^{3}RI^{.05}((.01CN)^{.6})-S^{.2}(.001CN^{1.48}).15-.11((Imp+1)/2)^{.7}$$

FIG. 3.- Nomograph for Estimating C in the Rational Formula

ROSSMILLER
FIG. 3

Plotting Coefficients for Development of Commons Inflow Hydrograph:

STERLING FARMS I Q100 6 HR STORM RUNOFF = 5.9"

2-15-88

Ordinate Plotting Value = 1 Unit of Flow X	Unit of Flow Coefficient	Unit of Time Coefficient	X 1 Unit of Time =	Abcissa Plotting Value
cfs	(8.71)	0	0	(7.18) (MINUTES)
17.4		2	1.4	10.1
34.8		4	2.5	18.0
43.6		5	2.95	21.2
61.0		7	3.75	26.9
87.1		10	4.5	32.3
479		55	10.6	76.1
505.2		58	11.2	80.4
513.9		59	11.7	84.0
522.6		60	13.4	96.2
513.9		59	15.15	108.8
505.2		58	15.85	113.8
479		55	16.75	120.3
174.2		20	24.5	175.9
156.8		18	25.2	180.9
139.4		16	26.2	188.1
121.9		14	27.75	199.2
104.5		12	29.90	214.7
87.1		10	32.95	236.6
69.7		8	37.5	269.3
61.0		7	41.0	294.4
52.3		6	47.5	341.1
—		0	100	718

3.80" x 328 ÷ 12" = 103.9 Ac Ft RUNOFF

522.7 cfs PEAK ÷ 60 = 8.71 cfs/UNIT OF FLOW

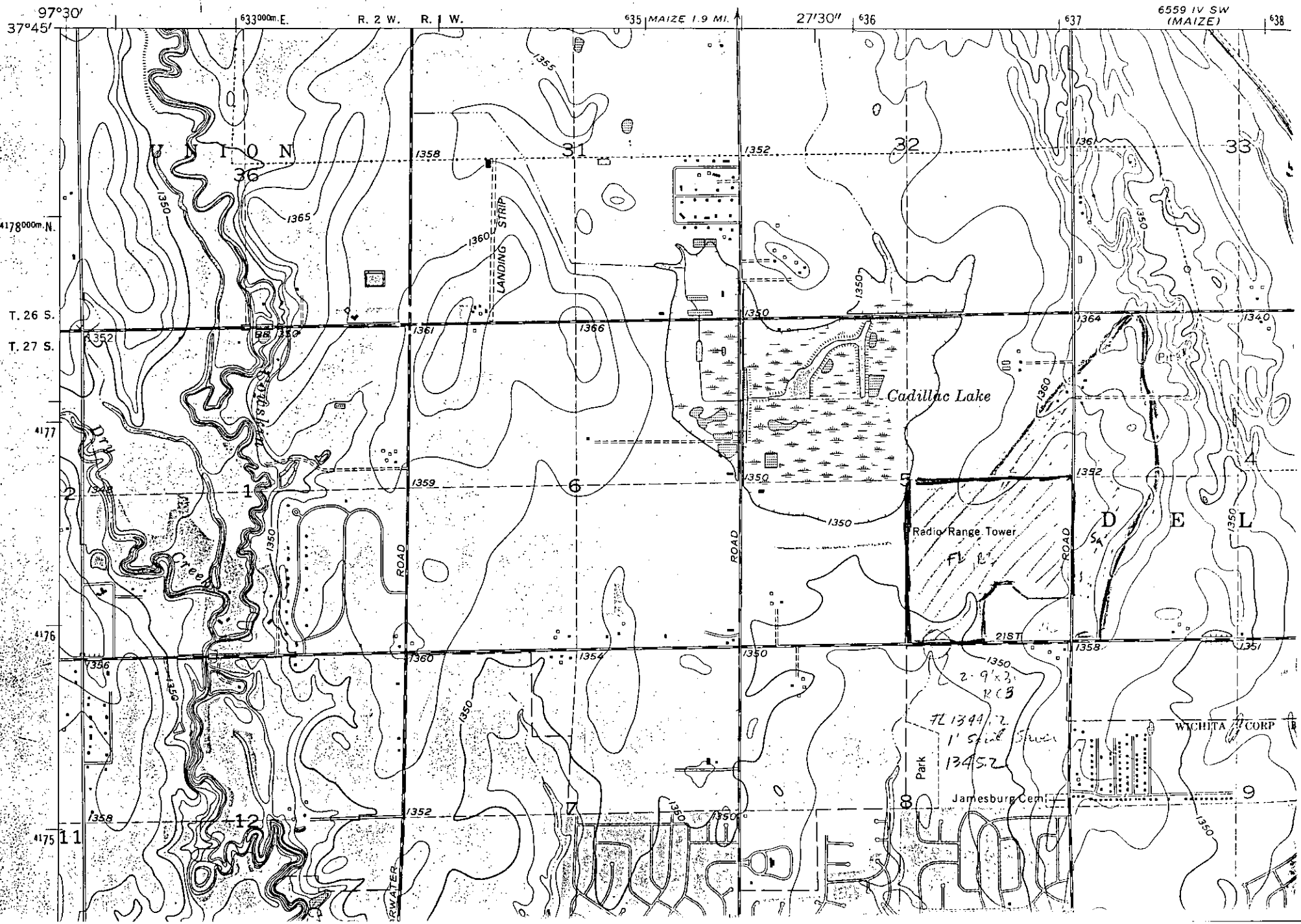
103.9 Ac-Ft ÷ 1196.5 = 0.08684

$\frac{.08684 \times 12}{8.71} \times 60 = 7.18$ MIN/UNIT OF TIME

6459 I SE (COLWICH)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF KANSAS



Moehring & Associates
433 S. Hydraulic
Wichita, Ks. 67211

Subject: Kessler-Wetta
(SE¼, Sec 5-27-1W)

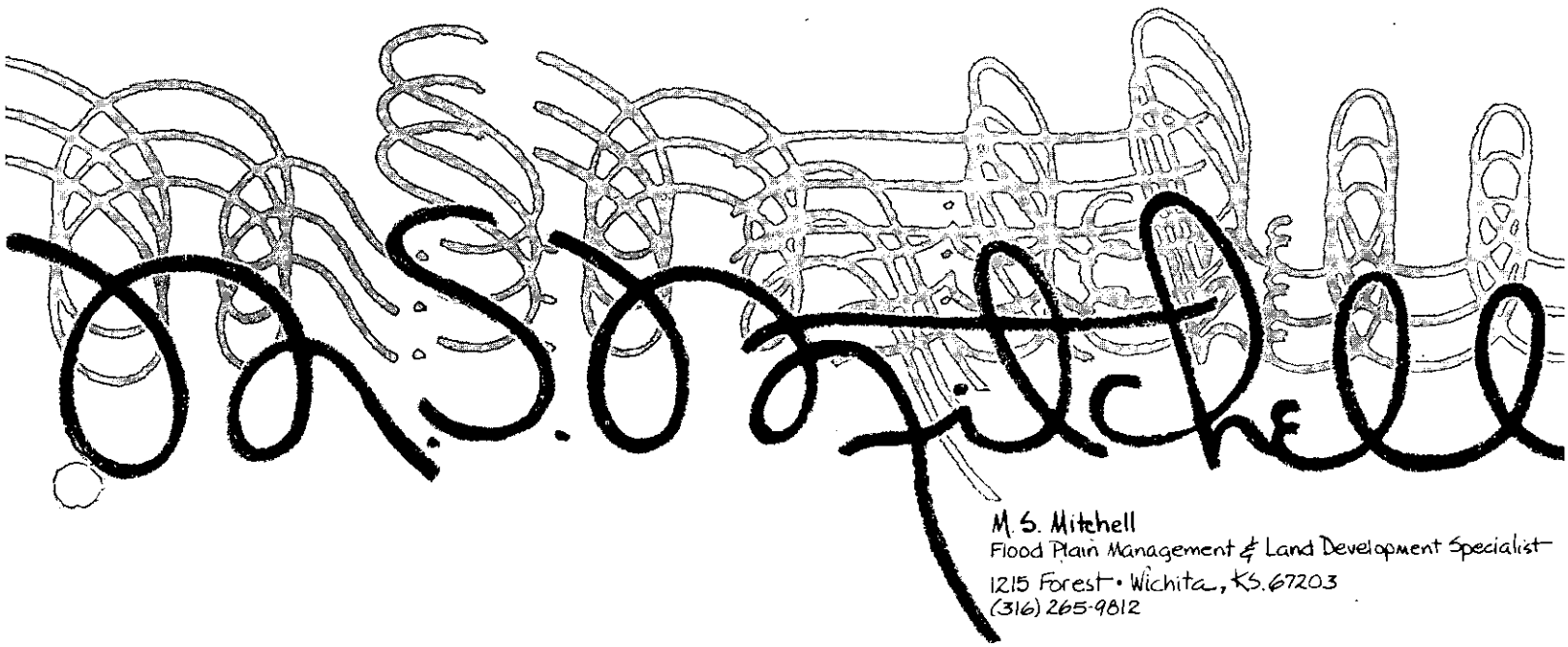
Dear Don:

Transmitted herewith are the results of my study of a collection and detention proposal for solving problems connected with development of land north of 21st Street, both east and west of Tyler Road. The study is in three parts:

1. Determination of Drainage Areas and their Characteristics.
2. Determination of Design Storm, Peak Discharge, Runoff.
3. Floodrouting thru the Detention Pond.

The drainage outlet for subject area is unique because of the presence of the City of Wichita's 60" diameter aqueduct which separates the ditch and culvert drainage system in 21st from the property being developed. The proposal uses, as a Primary Spillway, a small diameter drop inlet in the pond and an outlet pipe bored (or jacked) under the aqueduct and under the roadway to discharge into Jamesburg Channel south of 21st. The inlet would control the static pool of the pond at elevation 1343 MSL with a surface area of 9 acres. The Secondary Spillway is a 60 foot long weir set with minimum clearance over the top of the aqueduct. The maximum flood pool elevation for the 100-year storm is calculated to be 1348.6 with a surface area of about 12 acres. Between the static pool and flood pool elevations, nearly 58 acres of stormwater storage would be used. The detention system described above would reduce the 100-year flood peak discharge from 800 cubic feet per second to about 380 cfs (52.5% reduction).

The County prefers a minimum 18" diameter culvert under 21st and will issue a permit for jacking (or boring) that diameter pipe without a casing. After you have had an opportunity to review and discuss the enclosed material, I can contact City Engineering, County DPW and Water Dept. personnel to arrange conferences with us.



M. S. Mitchell
Flood Plain Management & Land Development Specialist
1215 Forest • Wichita, KS. 67203
(316) 265-9812

KESSLER-WETTA (SE¼, Sec 5-27-1W)

DETERMINATION OF DRAINAGE AREAS, HYDROLOGIC SOIL GROUP AREAS, SCS CURVE NUMBERS, RUNOFF FACTOR

From planimeter survey of USGS Quad enlargement scale 1"=1000'

Total Drainage Area above 21st Street in Sections 4 & 5

10558	1783	3215		
8928	0358	1783		
1430	1425	1432	> 14.29 Sq. In × 22.96 =	328 Acres

Hydrologic Soil Group C in Section 4

5345	5352			
5336	5345			
0.09	0.07	>	0.08 Sq. In × 22.96 =	2 Acres

Hydrologic Soil Group B in Section 4

5532	~~6073~~	6627		
4977	~~5532~~	6073		
555	~~541~~	554	> 5.54 Sq. In × 22.96 =	127 Acres

Hydrologic Soil Group D in SE¼, Section 5

4506	4517			
4490	4504			
0.14	0.13	>	0.13 Sq. In. × 22.96 =	3 Acres

Hydrologic Soil Group C in SE¼, Section 5

7197	7427			
6968	7197			
229	230	>	2.30 Sq. In × 22.96 =	53 Acres

Hydrologic Soil Group B in N½, Section 5

7730	7890			
7572	7730			
158	160	>	1.59 Sq. In × 22.96 =	36 Acres

Hydrologic Soil Group B (221) in SE¼, Section 5

328 Acres − (2 + 127 + 3 + 53 + 36) = 107 Acres

Total all Hydrologic Group sub-areas = 328 Acres

KESSLER-WETTA (SE¼, Sec 5-27-1W)

DETERMINATION OF DRAINAGE AREAS, ETC. - Continued

From planimeter survey and scaled measurement of 1"=400' photoprint #4850

In N½, Section 5 - land use

Farmstead 3900 3859 3941 3900

0.41 0.41 > 0.41 Sq. In × 3.67 = 1.5 Acres

Residence	(132'×300')	=	1 Acre
Dirt Roads	(12'×2320)	=	0.6 Acre
Shelterbelt	(50'×430')	=	0.5 Acre
Cultivated	36 - (1.5 + 1 + 0.6 + 0.5) 3.6	=	32.4 Acres
	Sub-total, land use in N½, Section 5		36 Acres

In Section 4 - land use

Farmstead	(300'×300')	=	2.1 Acres
Residence	(200'×200')	=	1 Acre
Shelterbelt	(100'×730')	=	1.7 Acre
Dirt Roads	(Hydrologic Group B) (12×5560)	=	1.5 Acre
Dirt Road	(Hydrologic Group C) (12'×750')	=	0.2 Acre
Cultivated	(Hydrologic Group C) (2A-0.3 Road)	=	1.8 Acres
Cultivated	(Hydrologic Group B) [127A-(2.1+1+1.5) 4.6]	=	120.7 Acres
	Sub-total, land use in Section 4		129 Acres

In SE¼, Section 5 - Existing land use

Gravel Lot	(120'×120')	=	0.3 Acres
Dirt Road	(Hydrologic Group B) (12'×1890')	=	0.5 Acres
Dirt Road	(Hydrologic Group C) (12'×750)	=	0.2 Acres
Shelterbelt	(50'×1400')	=	1.6 Acres
Cultivated	(Hydrologic Group D)		3. Acres
Cultivated	(Hydrologic Group C)		53. Acres
Cultivated	(Hydrologic Group B) [107-(0.3+0.5+0.2+1.6) 2.6]	=	104.4 Acres
	Sub-total, existing land use in SE¼, Section 5		163 Acres
	Total, Drainage Area above 21st Street		328 Acres

KESSLER - WETTA (SE¼, Sec 5 -27-1W)

DETERMINATION OF DRAINAGE AREAS, ETC. - Continued

Determination of SCS Curve Number and Runoff Coefficient, C.

	Land Use	Hydrologic Soil Group	Area (Acres)	SCS Curve #	Product AxCN	Runoff Coefficient, C	Product AxC
In N½, Sec 5	Farmstead	B	1.5	74	111	0.25	0.38
	Residence	B	1	68	68	0.25	0.25
	Dirt Roads	B	0.6	82	49	0.60	0.36
	Shelterbelt	B	0.5	55	28	0.10	0.05
	Cultivated	B	32.4	81	2624	0.30	9.72
	Sub-totals		36 ✓		2880 ✓		10.76 ✓
	Averages			CN =	80 ✓	C =	0.30
In Sec 4	Farmstead	B	2.1	74	155	0.25	0.53
	Residence	B	1	68	68	0.25	0.25
	Shelterbelt	B	1.7	55	94	0.10	0.17
	Dirt Roads	B	1.5	82	123	0.60	0.90
	Dirt Roads	C	0.2	87	17	0.60	0.12
	Cultivated	C	1.8	88	158	0.30	0.54
	Cultivated	B	120.7	81	9777	0.30	36.21
	Sub-totals		129 ✓		10,392 ✓		38.72 ✓
				CN =	81 ✓	C =	0.30

KESSLER-WETTA (SE¼, Sec 5-27-1W)

DETERMINATION OF DRAINAGE AREAS, ETC - Continued

Determination of SCS Curve Number and Runoff Coefficient, C.

	Land Use	Hydrologic Soil Group	Area (Acres)	SCS Curve #	Product AxCN	Runoff Coefficient, C	Product AxC
In SE¼, Sec 5 Existing land use	Gravel lot	B	0.3	85	26	0.30	0.09
	Dirt Road	B	0.5	82	41	0.60	0.30
	Dirt Road	C	0.2	87	17	0.60	0.12
	Shelterbelt	B	1.6	55	88	0.10	0.16
	Cultivated	D	3	91	273	0.30	0.90
	Cultivated	C	53	88	4664	0.30	15.90
	Cultivated	B	104.4	81	8456	0.30	31.32
	Sub-totals		163	83	13,565	0.30	48.79
	Totals		328	82	26,837	0.30	98.27
In SE¼, Sec 5 w/Development	Commercial	B	10	92	920	0.70	7
	Institutional	B	5	75	375	0.50	2.5
	Shelterbelt	B	1.6	55	88	0.10	0.16
	Pond	B	9	100	900	1	9
	Open Space	C	C	74	444	0.10	0.C
	Residential ¼ Acre lots	B	58.7	75	4402	0.50	29.35
	Residential ¼ Acre lots	C	45	83	3735	0.50	22.50
	Residential ¼ Acre lots	D	3	87	261	0.50	1.50
	Residential ⅛ Acre lots	C	2	90	180	0.65	1.30
	Residential ⅛ Acre lots	B	22	85	1870	0.65	14.30
	Dirt Road	C	0.2	87	17	0.60	0.12
	Dirt Road	B	0.5	82	41	0.60	0.30
	Sub-totals		163	Ave CN = 81	13,233	Ave C = 0.53	88.63

KESSLER - WETTA (SE¼, Sec 5-27-1W)

DETERMINATION OF DESIGN STORM, PEAK DISCHARGE, RUNOFF VOLUME.

Existing Conditions

Length of waterway (From 1"=400' scale photoprints)

In Section 4, no defined channel, assume overland flow, L=3500'

In SE¼, Section 5, visible channel thru cultivated field, L=3200'

In N½, Section 5, west road ditch of Tyler Road, L=2760'

Fall (USGS 7½ Quad in Sec 4, 1"=100' Topo in Sec 5)

In Section 4 (1370-1351) = 19 feet

In SE¼, Sec 5 (1351 - 1345) = 6 feet

In N½, Sec 5, upper 1200' (1365-1358) = 7 feet

lower 1560' (1358-1351) = 7 feet

Slope of waterway

In Section 4 $S = \frac{19}{3500} = .00543$ ft/ft or .543%

In SE¼, Sec 5 $S = \frac{6}{3200} = .00188$ ft/ft or .188%

In N½, Sec 5, upper portion $S = \frac{7}{1200} = .00583$ ft/ft or .583%

, lower portion $S = \frac{7}{1560} = .00449$ ft/ft or .449%

Initial Time of Concentration, Overland Flow

In Section 4 $T_i = \frac{1.8(1.1-C)\sqrt[2]{L(ft)}}{\sqrt[3]{S(\%)}} = \frac{1.8(1.1-0.3)(3500)^{1/2}}{(.543)^{1/3}} = \underline{104 \text{ min}}$ V = 0.56 fps

Travel Time in Channels

In SE¼, Section 5 $T_t = .0078\left[\frac{L(ft)}{S^{1/2}(ft/ft)}\right]^{.77} = .0078\left[\frac{3200}{(.00188)^{1/2}}\right]^{.77} = \underline{44 \text{ minutes}}$ V = 1.22 fps

In N½, Section 5, upper portion, $T_t = .0078\left[\frac{1200}{(.00583)^{1/2}}\right]^{.77} = 13$ minutes V = 1.51 fps

, lower portion, $T_t = .0078\left[\frac{1560}{(.00449)^{1/2}}\right]^{.77} = 18$ minutes V = 1.45 fps

KESSLER-WETTA (SE¼, Sec 5 -27-1W)

DETERMINATION OF DESIGN STORM, PEAK DISCHARGE, RUNOFF

Existing Conditions

Time of Concentration = $T_i + T_t$

For Waterway route across Section 4 & SE¼4, Sec 5

$T_c = 104 + 44 = 148$ minutes

Rainfall Intensity from TP 40

I_{100} for 148 minutes = $T_c^{-.79} \times 100 = \underline{1.93}$ inches/hour

Peak Discharge @ southline of SE¼, Sec 5 by Rational Method

$Q_{p100} = ACI = 328(.30)1.93 = \underline{190}$ cfs

Runoff Volume @ southline of SE¼. Sec 5 by SCS Method

$R_{100} = \frac{Q A}{12}$ where Q is runoff from 6-hour, 100 year rainfall, P = 5.9 inches, and is found by

$Q_{100} = \frac{(P - 0.2S)^2}{P + 0.8S}$ where $S = \frac{1000}{CN} - 10$ & CN = 82

$0.8S = 1.76$

$S = \frac{1000}{82} - 10 = 2.20$; $0.2S = 0.44$

$Q_{100} = \frac{(5.9 - .44)^2}{5.9 + 1.76} = \underline{3.89}$ inches

$R_{100} = \frac{QA}{12} = \frac{3.89(328)}{12} = \underline{106}$ Acre-feet

Fully Developed Conditions in Sections 4 & 5

Travel Time in Channels

In Section 4, assume that overland flow route was replaced with a channel whose slope was .00543 ft/ft. and whose length was 3500 feet. $T_t = .0078\left[\frac{3500}{(.00543)^{1/2}}\right]^{.77} = 31$ minutes

I_{100} for 31 minutes = $\underline{6.62}$ inches/hour

$Q_{p100} = ACI = 169(.53)(6.62) = \underline{604}$ cfs

R_{100} for CN = 81 where $S = \frac{1000}{81} - 10 = 2.35$; $0.8S = 1.88$; $0.2S = 0.47$

$Q_{100} = \frac{(5.9 - .47)^2}{5.9 + 1.88} = 3.79$ inches

$R_{100} = \frac{Q_{100} A}{12} = \frac{3.79(169)}{12} = \underline{53}$ Acre-feet

KESSLER-WETTA (SE¼, Sec 5-27-1W)

DETERMINATION OF DESIGN STORM, PEAK DISCHARGE, RUNOFF

Fully Developed Conditions in Sections 4 & 5

In N½, Section 5 use channel travel time of 15 minutes

I_{100} for 15 minutes = 8.98 inches/hour

$Q_{p100} = ACI = 36(0.53)8.98 = \underline{175}$ cfs

Runoff for CN = 81 where $Q_{100} = 3.79$ inches

$R_{100} = \frac{Q_{100}}{12} A = \frac{3.79(36)}{12} = \underline{11}$ Acre-feet

In SE¼, Section 5 assume a channel and lake system with the channel flowline at Tyler road set at 1348 and flowline at upper end of lake set at 1343.

Length of channel from Tyler Road to lake is 2300 feet

Slope of channel = $\frac{5}{2300} = .00217$ ft/ft

Assume average velocity in channel of 4 feet/second

then $T_t = \frac{2300}{4 \times 60} = 10$ minutes = Use 15 minutes as T_c.

I_{100} for 15 minutes = 8.98 in/hr

$Q_{p100} = ACI = 163(.54)8.98 = \underline{790}$ cfs

R_{100} for CN = 81 where $Q_{100} = 3.79$ inches

$R_{100} = \frac{Q_{100}}{12} A = \frac{3.79(163)}{12} = 51$ Acre-feet

If total drainage basin is developed w/o detention storage in Section 4 or N½, Section 5

$T_c = T_t$ in Sec 4 (31 minutes) + T_t in SE¼, Sec 5 (15 minutes)

$T_c = 46$ minutes I_{100} for $T_c = 46$ minutes = 4.86 in/hr

$Q_{p100} = ACI = 328(.54)4.86 = 861$ cfs

R_{100} for CN = 81 where $Q_{100} = 3.79$ inches = $\frac{Q_{100}}{12} A = \frac{3.79(328)}{12}$

$R_{100} = 104$ Acre-feet

Developed SE¼. Sec 5, w/Existing Conditions in Section 4 & N½, Sec 5

KESSLER-WETTA (SE¼, Sec 5-21-1W)

DETERMINATION OF DESIGN STORM, PEAK DISCHARGE, RUNOFF

Q_{p100} for Section 4 existing condition w/Tc = 104 minutes

$Q_{p100} = ACI = 129(.3)2.57 = 99$ cfs $I_{100} = 2.57$ in/hr

Q_{p100} for N½, Section 5 existing condition w/Tc = 31 minutes

$Q_{p100} = ACI = 36(.3)6.62 = 71$ cfs $I_{100} = 6.62$ in/hr

- Q_{p100} for SE¼, Sec 5 developed = 790 cfs w/time to peak of triangular hydrograph = 15 minutes. and lag time in channel from lake to Tyler Road equal to ten minutes. ΔT for difference in peak of 776 cfs and beginning of additional flow from Section 4 and N½ Section 5 is 5 minutes.
- Slope of the rising limb of a triangular hydrograph in Sec 4 where $Q_{p100} = 99$ cfs and Tp = 104 minutes, $S = \frac{99}{104} = .95$ cfs/min
- Slope of the rising limb of a triangular hydrograph in N½, Sec 5 where $Q_{p100} = 71$ cfs and Tp = 31 minutes, $S = \frac{71}{31} = 2.29$ cfs/min
- with lag time $\Delta T = 5$ minutes the additional peak discharge at the lake in SE¼, Sec 5 from Section 4 and N½ Section 5 is

$$Q_{sec5} = 790 + \Delta T_{4.75}(.95) + \Delta T_{11.45}(2.29) = 806 \text{ cfs} - \text{USE } \underline{800}$$

R_{100} for entire drainage basin where CN = 81; $Q_{100} = 3.79$ in

$$R_{100} = \frac{A Q_{100}}{12} = \frac{328(3.79)}{12} = \underline{104} \text{ acre-feet}$$

KESSLER-WETTA
SE1/4, Sec 5, 27-1W

FLOODROUTING

COMMONS INFLOW HYDROGRAPH PLOTTING COEFFICIENTS

1 UNIT OF FLOW	FLOW COEFFICIENT	ORDINATE PLOTTING VALUE	1 UNIT OF TIME	TIME COEFFICIENT	ABCISSA PLOTTING VALUE
13.3	0	0	4.69	0	0
	2	27		1.4	7
	4	53		2.5	12
	5	66		2.95	14
	7	93		3.75	18
	10	133		4.5	21
	55	732		10.6	50
	58	771		11.2	53
	59	785		11.7	55
	60	800		13.4	63
	59	785		15.15	71
	58	771		15.85	74
	55	732		16.75	79
	20	266		24.5	115
	18	239		25.2	118
	16	213		26.2	123
	14	186		27.75	130
	12	160		29.90	140
	10	133		32.95	155
	8	106		37.5	176
	7	93		41.0	192
	6	80		47.5	223
▼	0	0	▼	100	469

THE COMMONS HYDROGRAPH WAS DEVELOPED AS A RESULT OF STUDY OF THE CRITICAL PORTIONS OF ACTUAL FLOOD HYDROGRAPHS TO DEFINE THE SHAPE FROM ABOUT 20% OF PEAK FLOW ON THE RISING LIMB TO ABOUT 30% OF THE PEAK ON THE FALLING SIDE AND DISREGARDS SECONDARY PEAKS OCCURRING EITHER BEFORE OR AFTER THE MAIN PEAK. THE BASE (TIME) IS DIVIDED INTO 100 UNITS. THE HEIGHT (RATE OF FLOW) IS DIVIDED INTO 60 UNITS. THE AREA UNDER THE CURVE HAS 1196.5 SQUARE UNITS.

1. OBTAIN THE VALUE OF 1 SQUARE UNIT BY DIVIDING THE TOTAL FLOOD RUNOFF BY 1196.5.
2. OBTAIN THE VALUE OF 1 UNIT OF FLOW IN CFS BY DIVIDING THE PEAK FLOW RATE BY 60.
3. OBTAIN THE VALUE OF 1 UNIT OF TIME IN HOURS BY DIVIDING THE PRODUCT OF 1 SQUARE UNIT X 12 BY THE VALUE OF 1 UNIT OF TIME. (NOTE: APPROXIMATELY, 1 CFS EQUALS 1 ACRE FOOT FOR 12 HOURS)

Peak Discharge, Q_{p100} = 800 cfs Volume of Runoff, R = 104 Acre-feet

1. $\frac{R}{1196.5} = \frac{104}{1196.5} = 0.0869$, value of 1 square unit

2. $\frac{Q_{p100}}{60} = \frac{800}{60} = 13.3$, value of 1 unit of flow

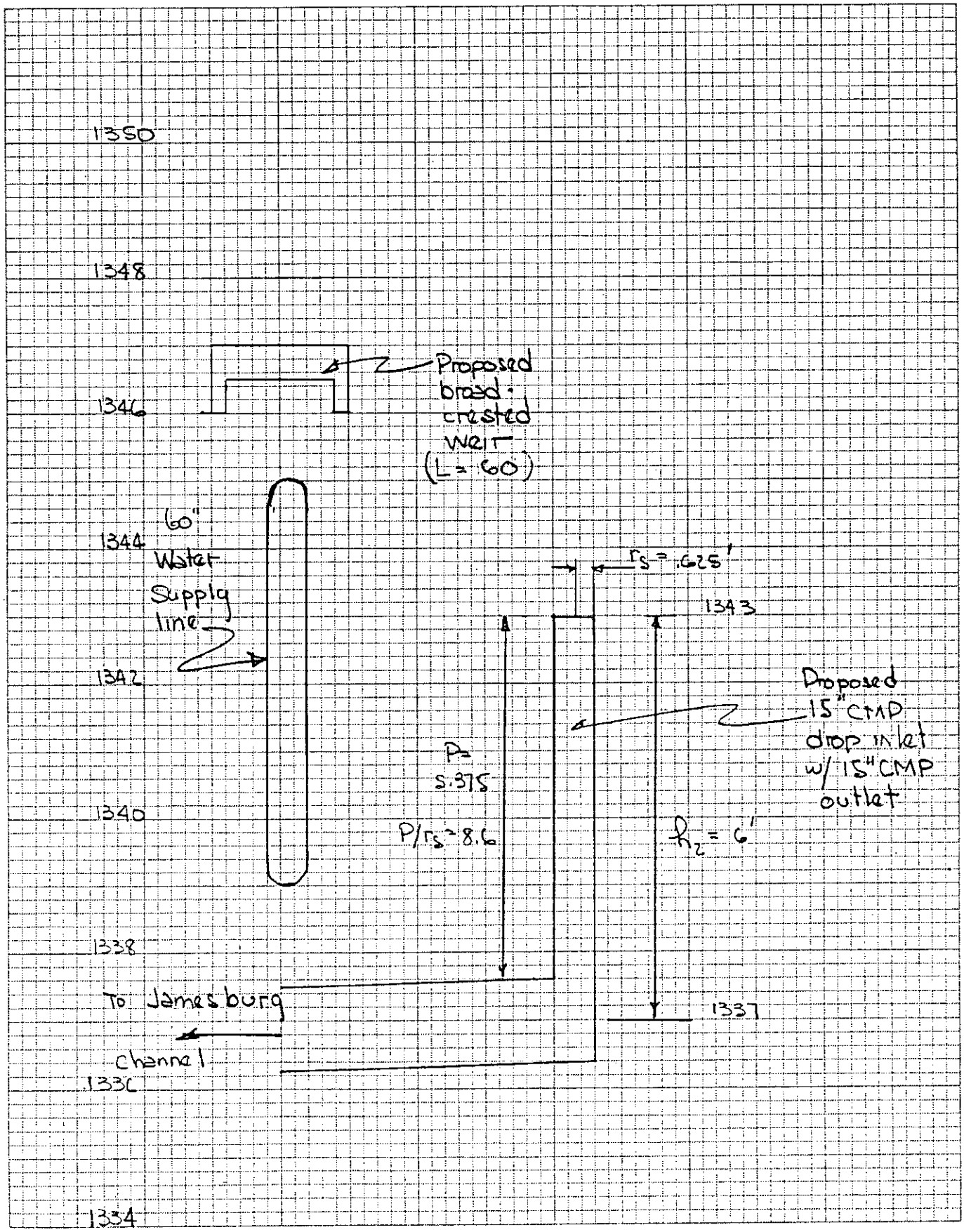
3. $\frac{0.869 \times 12}{13.3} = 0.078 \times 60 = 4.69$ minutes

FLORY ENGINEERING and CONSTRUCTION, Inc.
1406 WESTFIELD COURT WICHITA, KANSAS, 67212

FLOODROUTING - Continued
KESSLER-WETTA (SE¼, Sec 5 - 27-1W)

DATE _____ PAGE ____ of ____

Skematic of detention pond outlet



KESSLER-WETTA (SE¼, Sec 5-27-1W)

FLOOD ROUTING - Continued.

STAGE-DISCHARGE (OUTFLOW) CURVE CALCULATIONS

See Skematic Detention Pond Outlet

Principal Spillway is a single 15" CMP drop inlet w/15" CMP outlet.

Secondary Spillway is a 120' long broad crested weir.

Spillway discharge is analysed for 3 conditions. Condition I is for Crest Control at the drop inlet where the circumference of the inlet pipe controls the flow according to the formula $Q = CLh^{3/2}$ where L is the pipe circumference is equal to TTD; coefficient of discharge, C, is taken from Figure 283 (Design of Small Dams) for the ratio of depth over the crest, h_1, to the pipe radius, r_s ($r_s = .625'$). Condition II is for Orifice Control where flow is controlled by the head on the outlet pipe by the formula, $Q = cA\sqrt{2gh_o}$ in which the coefficient of dischage, $C_c = 0.6$; A is the cross-sectional area of the outlet pipe and h_o is the head on the outlet pipe measured from the water surface to the horizontal axis of the pipe and is the sum of h_1 and h_2. Condition III is for weir control where $Q = cLh_e^{3/2}$ in which $C = 3$, L is the weir length (60') and h_e is the head on the weir crest

WS @ Elev (MSL)	CONDITION I				CONDITION II						DISCHARGE (CFS)	
	Crest Head, h_1	Ratio h_1/r_s	C	L	Conduit Head, h_o	C	A	Weir Head, h_e	C	L		
1243.0	0	0									0	
1243.5	0.5	0.8	2.47	3.93							3.4	
1244.0	1.0	1.6	1.37	3.93							5.4	
1244.5	1.5	2.4	Not Applicable		7.5	0.6	1.23				16.2	
1245.0	2.0				8.0	"	"				16.8	
1245.5	2.5				8.5	"	"				17.3	
1246.0	3.0				9.0	"	"				17.8	
1246.5	3.5				9.5	"	"				18.2	
1247.0	4.0				10.0	"	"	0			18.7	
1247.5	4.5				10.5	"	"	0.5	3	60	82	19.2
1248.0	5.0				11.0	"	"	1.0	"	"	200	19.6
1248.5	5.5				11.5	"	"	1.5	"	"	351	20.1
1249.0	6				12.0	"	"	2.0	"	"	530	20.5

KESSLER-WETTA (SE¼, Sec 5 - 27-1W)

FLOODROUTING - Continued

STAGE - STORAGE CURVE CALCULATIONS

ELEVATION (MSL)	AREA (Acres)	DEPTH (Feet)	INCREMENTAL VOLUME (Acre-Feet)	ACCUMULATED VOLUME (Acre-Feet)	ACCUMULATED VOLUME (Cubic Feet)
1343	9.0	0	0	0	0
1343.5	9.25	0.5	4.56	4.56	198,634
1344	9.5	1	4.69	9.25	402,930
1344.5	9.75	1.5	4.82	14.07	612,889
1345	10.0	2	4.94	19.01	828,076
1345.5	10.25	2.5	5.06	24.07	1,048,489
1346	10.5	3	5.19	29.26	1,274,566
1346.5	10.75	3.5	5.31	34.57	1,505,869
1347	11.0	4	5.44	40.01	1,742,836
1347.5	11.25	4.5	5.56	45.57	1,985,029
1348	11.5	5	5.69	51.26	2,232,886
1348.5	11.75	5.5	5.81	57.07	2,485,969
1349	12.0	6	5.94	63.0	2,744,280

KESSLER-WETTA (SE¼, Sec 5-27-1W)

FLOODROUTING - Continued

STORAGE - INDICATION CURVE (Flood routing Curve)

Time to peak, Tp, of the Inflow Hydrograph is 63 minutes and ΔT for floodrouting intervals will be 0.1Tp = 6.3 minutes. (Use 6 minutes, ΔTp in seconds = 6×60 = 360. Use the STAGE-STORAGE CURVE to take off values of Storage, S; and the STAGE-DISCHARGE CURVE to take off values of Outflow, O; a value of $\frac{2S}{\Delta T} + O$ will be plotted VS Outflow to be used in floodrouting calculations.

ELEVATION (MSL)	Volume of Storage, S (Cubic feet)	Outflow Discharge, O (cfs)	$\frac{2S}{\Delta T} + O$ (cfs)
1343	0	0	0
1343.5	198,634	3.4	1107
1344	402,930	5.4	2244
1344.5	612,889	16.2	3421
1345	828,076	16.8	4617
1345.5	1,048,489	17.3	5842
1346	1,274,566	17.8	7099
1346.5	1,505,869	18.2	8384
1347	1,742,836	18.7	9701
1347.5	1,985,029	82	11,110
1348	2,232,886	200	12,605
1348.5	2,485,969	351	14,162
1349	2,744,280	530	15,776

FLOOD ROUTING TABLE

KESSLER-WETTA (SE¼, Sec 5, T-21-S, R-1-W) — FLOOD ROUTING

COLUMN 1 TIME, T (MINUTES)	COLUMN 2 INITIAL INFLOW (CFS)	COLUMN 3 NEXT INFLOW (CFS)	COLUMN 4 $\frac{2S}{\Delta T} + O$ (CFS)	COLUMN 5 $\frac{2S}{\Delta T} - O$ (CFS)	COLUMN 6 OUTFLOW, O (CFS)	COLUMN 7 STORAGE, S (ACRE FEET)	REMARKS
0	0	20	0	0	0	0	
6	20	53	18	20	1	N.I	Crest Control @ drop inlet
12	53	66	89	91	1	N.I	
18	93	197	206	208	1	1	
24	197	320	498	496	2	2	
30	320	443	1003	1009	3	4	
36	443	570	1758	1766	4	7	
42	570	690	2759	2771	6	11	
48	690	777	3987	4019	16	17	Orifice Control @ 15" outlet
54	777	799	5420	5454	17	22	
60	799	797	6960	6996	18	29	
66	797	780	8520	8556	18	35	
72	780	742	10,037	10,097	30	42	
78	742	677	11,333	11,559	113	47	60 foot Long Weir Control
84	677	596	12,322	12,752	215	52	
90	596	513	12,999	13,595	298	55	
96	513	430	13,408	14,108	350	57	
102	430	350	13,601	14,351	375	57.75	Peak @ Elevation 1348.6 ±
108	350	272	13,625	14,381	378	57.86	
114	272	230	13,517	14,247	365	57	
120	230	200	13,341	14,019	339	57	
126	200	177	13,139	13,771	316	56	
132	177	163	12,936	13,516	290	55	
138	163	150	12,742	13,276	267	54	
144	150	140	12,565	13,055	245	53	
150	140	132	12,405	12,855	225	52	
156	132	122	12,261	12,677	208	52	
162	122	117	12,129	12,515	193	51	
168	117	110	12,012	12,368	178	50	
174	110	103	11,903	12,239	168	50	
180	103		11,800	12,116	158	49	

Column 1 Time @ end of sucessive periods of ΔT

Column 2 Inflow taken from Inflow Hydrograph @ Time, T

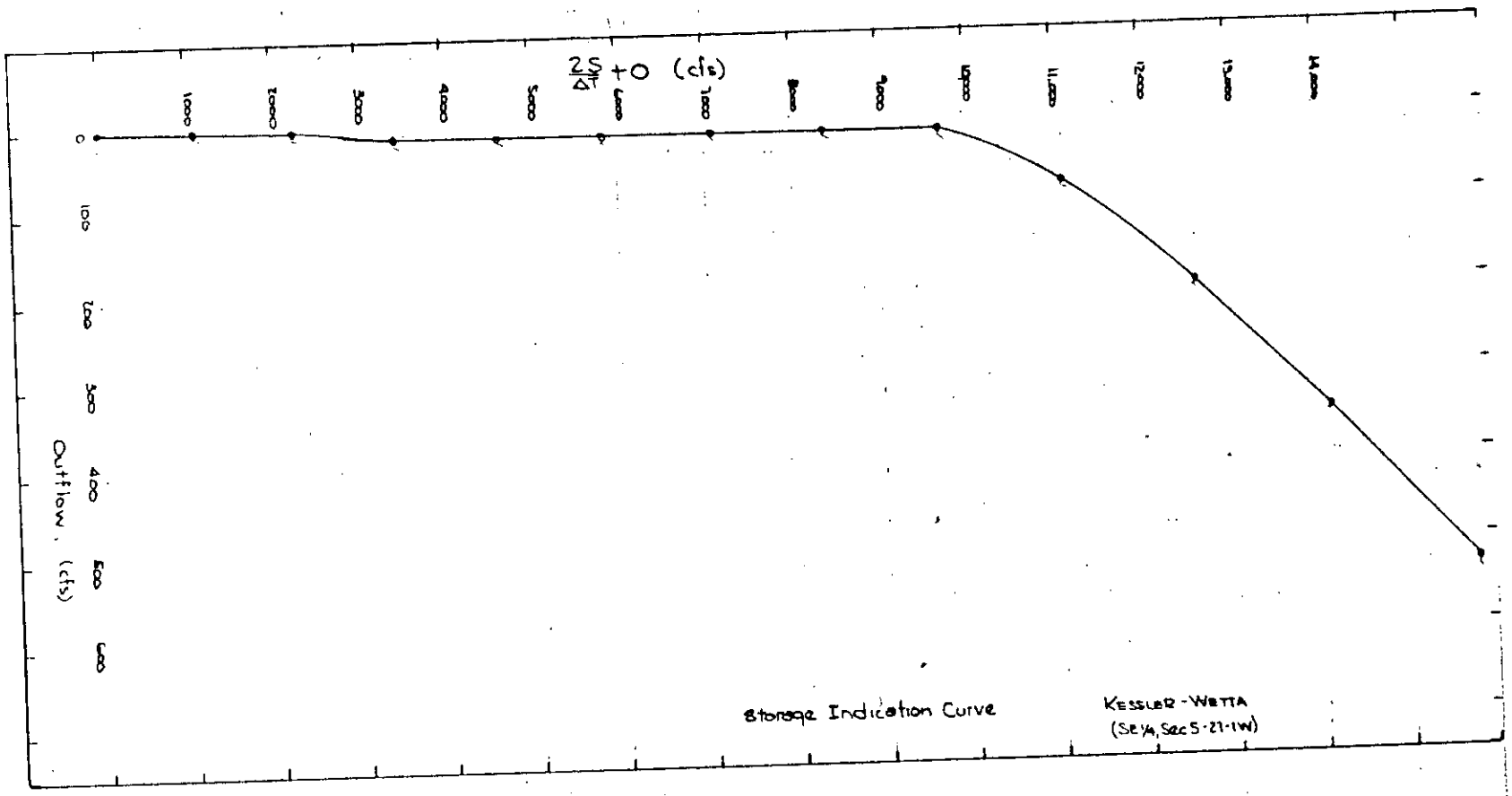
Column 3 Inflow taken from Inflow Hydrograph @ Time, T for preceeding period.

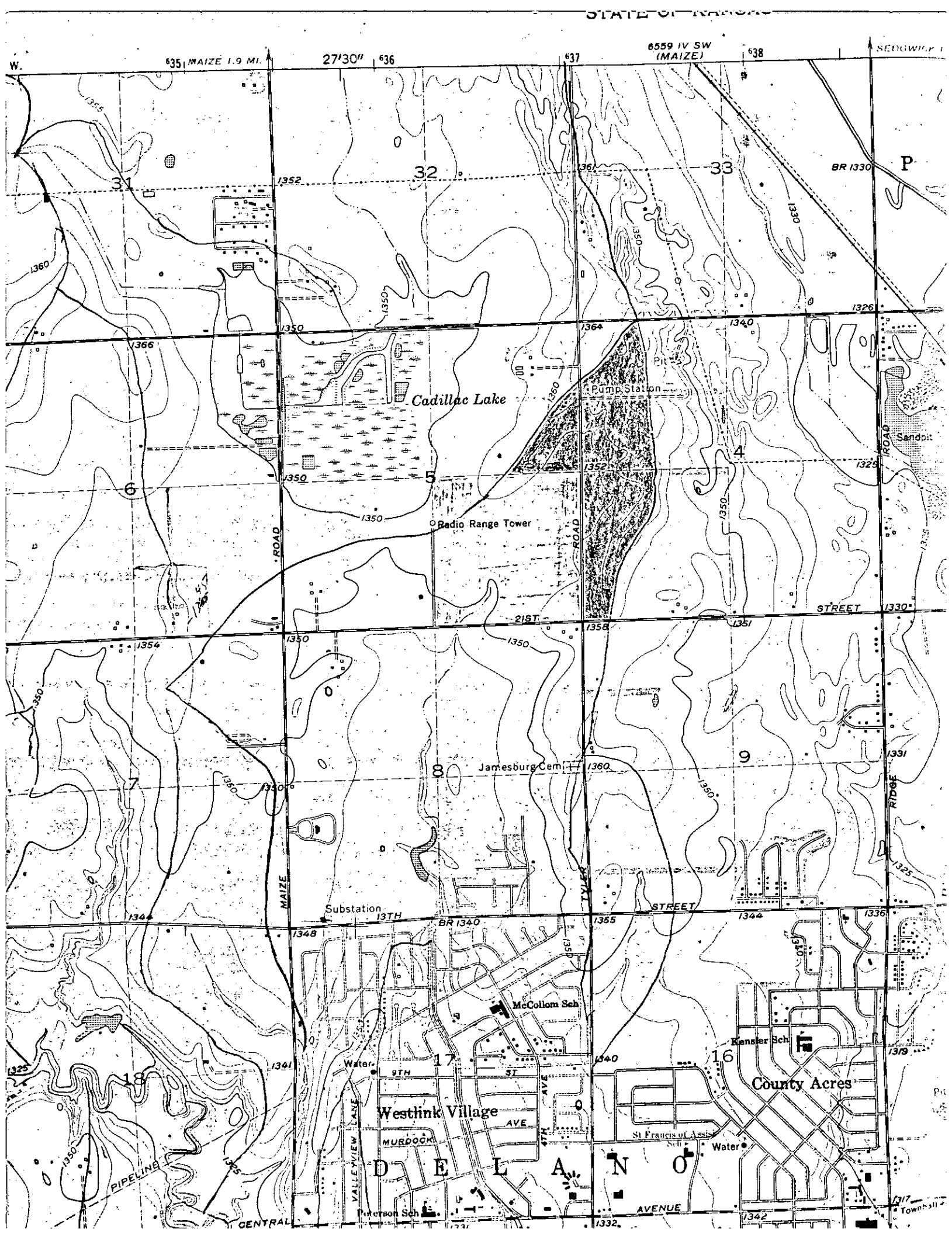
Column 4 Value in Column 5 minus twice value in Column 6

Column 5 Sum of values in Columns 2, 3 & 4 for preceeding time

Column 6 Value of outflow discharge taken from Storage Indication Curve

Column 7 Storage Volume = ($\frac{\text{Sum of values in Col 4 \& Col 5}}{}$) × ΔT in Seconds


$\frac{2S}{\Delta t}+O$ (cfs)
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000
0
100
200
300
400
500
600
Outflow, (cfs)
Storage Indication Curve
KESSLER-WETTA
(SE¼, Sec 5-21-1W)


W.
6559 IV SW (MAIZE)
MAIZE 1.9 MI.
27'30"
SEDGWICK
Cadillac Lake
Pump Station
Pit
Sandpit
Radio Range Tower
Jamesburg Cem
Substation
McCollom Sch
Kensler Sch
County Acres
Westlink Village
St Francis of Assisi Sch
Water
Peterson Sch
Townhall
DELANO
MAIZE ROAD
TYLER ROAD
RIDGE ROAD
21ST STREET
13TH STREET
9TH STREET
MURDOCK AVE
4TH AVE
VALLEYVIEW LANE
PIPELINE
CENTRAL AVENUE
BR 1330
BR 1340

FILE COPY

POE & ASSOCIATES OF KANSAS INC.
CONSULTING ENGINEERS
434 N. Oliver, Suite 110 ▪ Wichita, KS 67208 ▪ 316/685-4114

March 15, 1988

Mr. Bill Yung
4912 E. 29th Street
Wichita, Kansas 67220

Re: Sterling Farms Development

Dear Bill:

We have prepared a preliminary site grading plan as you requested. The enclosed print shows the proposed pond normal water surface and maximum water surface elevations during a 100 year storm. The plan also indicates preliminary street grades which show that a considerable amount of fill will be required for site grading. Preliminary estimates indicate that approximately 107,000 C.Y. of excavation will be required to construct the proposed ponds to a normal depth of 5 feet. We may want to consider a 4 deep pond which will allow reduced excavation or an increased amount of storm water storage. The enclosed plan elevations for the pond water surface and maximum water surfaces will provide 50 acre feet of storm water storage. Preliminary design calculations show that this plan should provide for a 100 year design storm as required.

Please contact me if you have any questions about this plan.

Yours truly,

POE & ASSOCIATES OF KANSAS, INC.

Kenny E. Hill

Kenny E. Hill, P.E.
Project Manager

KEH:crb

Encl.

cc: C. Bill Bachman

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING
COMMISSION

AGENDA ITEM # 4

JULY 14, 1988

STAFF REPORT
(Preliminary Plat)

CASE NUMBER: S/D 88-53 - STERLING FARMS

OWNER/APPLICANT: Sterling Farms, Inc., 1901 W. 13th St., Wichita, KS 67203

SURVEYOR/ENGINEER: Bill G. Yung Design

LOCATION: Northwest corner of Tyler Road and 21st Street North.

SITE SIZE: 122.22 Acres

NUMBER OF LOTS:

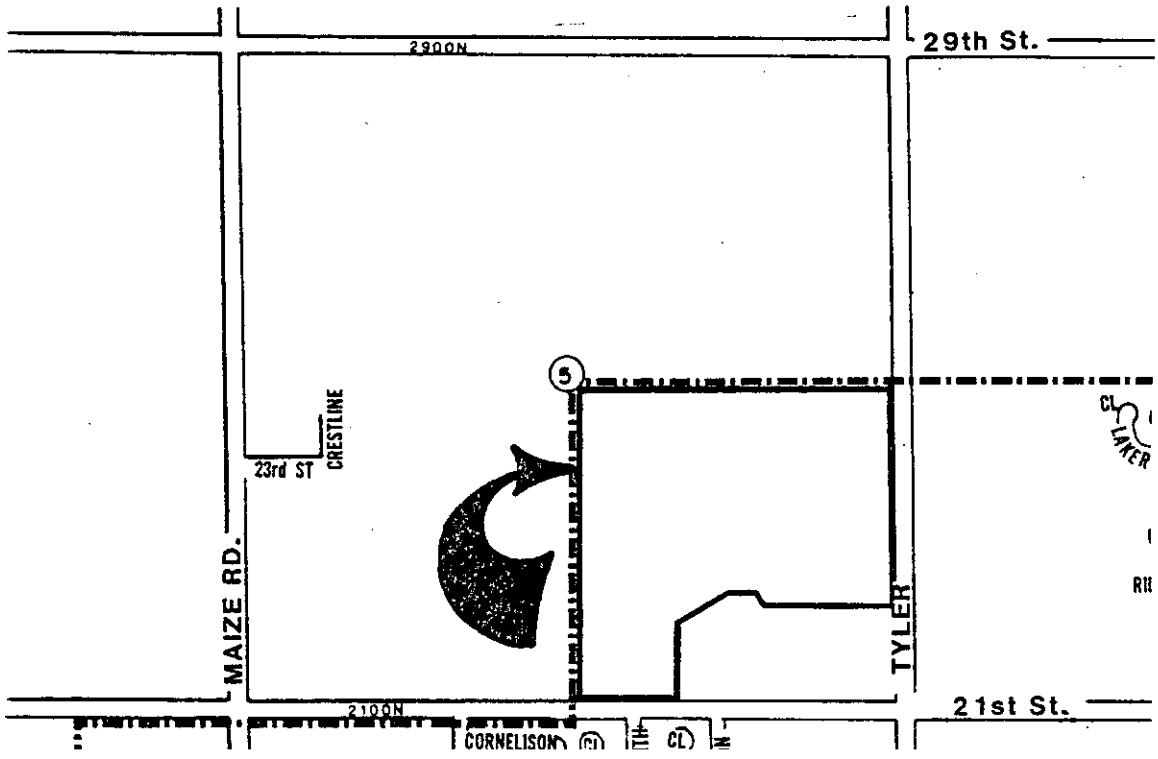
Residential:	329
Office:	
Commercial:	
Industrial:	
Total:	329

MINIMUM LOT AREA: 7,700 Sq. Ft.

CURRENT ZONING: "AA"

PROPOSED ZONING: "AA" (DP-178)

VICINITY MAP:



STAFF COMMENTS:

NOTE: This property is subject to the provisions of the Sterling Farms Residential Community Unit Plan (DP-178) Blocks 1, 2 and 3 and Lots 1 through 71, Block 5, will be developed with single-family dwellings. Block 4 is being platted for development of single-family or duplex uses. Lots 72 through 113, Block 5, is being platted for development of single-family dwellings or duplexes.

A. The applicant shall guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee any drainage improvements required by the platting of this property.

F. The Sterling/Keith street paving petition shall provide for the construction of sidewalks on each side of this collector street.

If the applicant chooses, he may propose an alternate sidewalk plan for this property rather than construct sidewalks on both sides of the collector street. If an alternate sidewalk plan is desired, the applicant shall submit 5 copies of the proposed plan prior to or at the time of submitting a final plat.

G. As required by General Provision #18 of the associated Community Unit Plan, the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of adjacent Tyler Road to a two lane arterial street standard.

H. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

I. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

J. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

K. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

L. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

M. The note, included as part of the preliminary plat, indicates that Reserve C is being platted for a swimming pool. The applicant is advised that the associated CUP does not provide for swimming pools or community facility uses. Since the CUP does not provide for a private swimming pool, the applicant is advised that a special permit request must be filed in accordance with Section 28.04.182(1) of the City Zoning Ordinance if a private swimming pool is intended for a portion of Reserve C. If a swimming pool is not now intended for Reserve C, the final plat shall delete reference to the pool.

N. The applicant shall obtain, by separate instrument, the 20-foot wide off-site utility easement needed from the property to the south.

O. Prior to, or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

P. Prior to, or at the time of submitting the final plat, the applicant shall submit a sanitary sewer layout plan to City Engineering for review and approval.

Q. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

R. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

S. 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.

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

U. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage concept.

WICHITA - SEDGWICK COUNTY
WSC
METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

July 15, 1988

Poe & Associates
434 North Oliver
Suite 110
Wichita, Kansas 67208

Re: Preliminary Plat S/D 88-53 - STERLING FARMS

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, July 14, 1988, 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 guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee all drainage improvements required by the platting of this property.

F. The Sterling/Keith street paving petition shall provide for the construction of sidewalks on each side of this collector street.

If the applicant chooses, he may propose an alternate sidewalk plan for this property rather than construct sidewalks on both sides of the collector street. If an alternate sidewalk plan is desired, the applicant shall submit 5 copies of the proposed plan prior to or at the time of submitting a final plat.

G. As required by General Provision #18 of the associated Community Unit Plan, the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of adjacent Tyler Road to a two lane arterial street standard.

H. The applicant shall guarantee an eastbound left turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

I. The applicant shall guarantee a westbound right turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

J. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

K. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

L. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

M. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

N. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

O. The note, included as part of the preliminary plat, indicates that Reserve C is being platted for a swimming pool. The applicant is advised that the associated CUP does not provide for swimming pools or community facility uses. Since the CUP does not provide for a private swimming pool, the applicant is advised that a special permit request must be filed in accordance

with Section 28.04.182(1) of the City Zoning Ordinance if a private swimming pool is intended for a portion of Reserve C. If the applicant chooses, he may pursue altering the C.U.P. to provide for a swimming pool. If a swimming pool is not now intended for Reserve C, the final plat shall delete reference to the pool.

P. The applicant shall obtain, by separate instrument, the 20-foot wide off-site utility easement needed from the property to the south.

Q. The applicant shall obtain the off-site drainage easement needed for construction of the proposed lakes.

R. Prior to filing a final plat, the applicant shall meet with the City Fire Department to discuss proposed street names.

S. The final plat shall indicate the utility easements requested by KG&E and Southwestern Bell. These easements are marked on the approved plat.

T. Prior to, or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

U. Prior to, or at the time of submitting the final plat, the applicant shall submit a sanitary sewer layout plan to City Engineering for review and approval.

V. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

W. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

X. 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.

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

The enclosed "marked" copy of the plat is for your information and files. If you should have any questions, please call.

Sincerely,

Donald Losew

Donald Losew
Junior Planner

DL:blw

Enclosure

cc: Bill Yung Design, 4912 East 29th Street North, Suite 1, Wichita, KS. 67220
Sterling Farms, Inc., 1901 West 13th Street North, Wichita, KS. 67203
Mike Lindebak, City Engineer

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

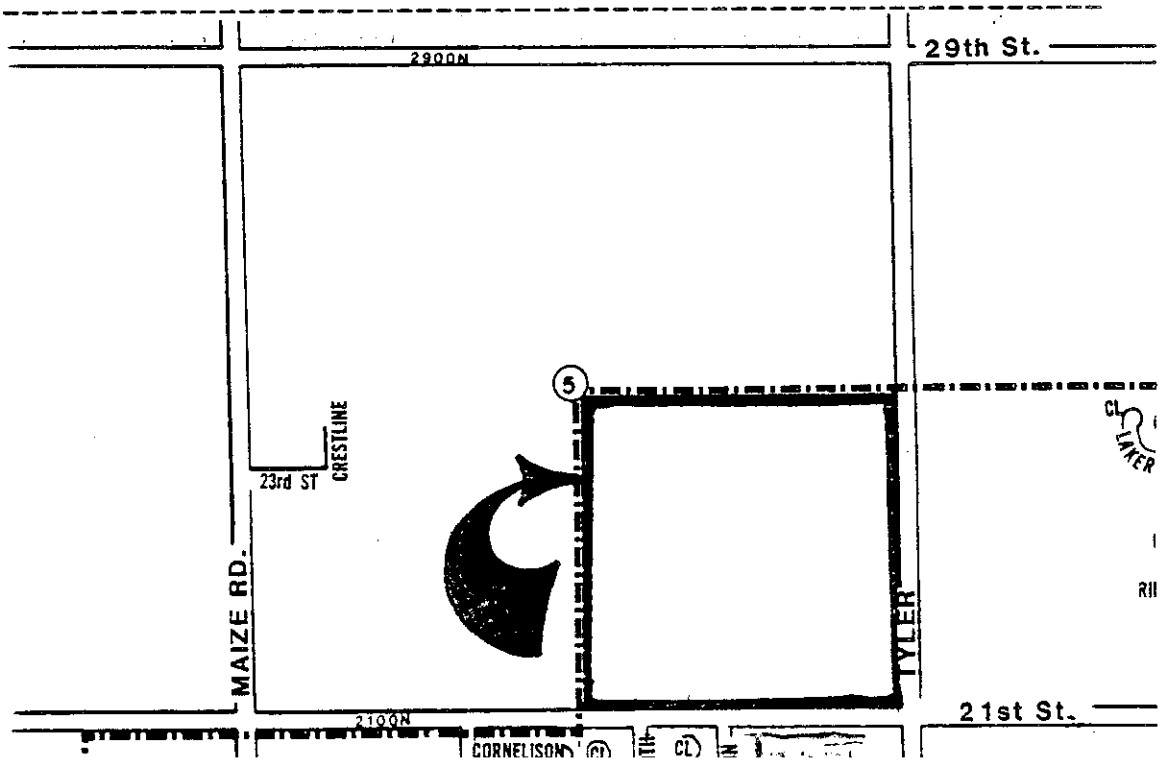
AGENDA ITEM NO. 6

October 20, 1988

STAFF REPORT
(Preliminary Plat Replat; Previous Preliminary Plat Approved 7/14/88)

CASE NUMBER:	S/D 88-53 - STERLING FARMS
OWNER/APPLICANT:	Sterling Farms, Inc., 1901 W. 13th St., Wichita, KS 67203
SURVEYOR/ENGINEER:	Bill G. Yung Design
LOCATION:	Northwest corner of Tyler Road and 21st Street North.
SITE SIZE:	151.6 Acres
NUMBER OF LOTS	
Residential:	275
Office:	1
Commercial:	5
Industrial:	
Total:	281
MINIMUM LOT AREA:	9,000 Sq. Ft.
CURRENT ZONING:	AA, BB, & LC (DP-177 & DP-178)

VICINITY MAP:



STAFF COMMENTS:

Note: This property is subject to the provisions of the Amended Sterling Farm Residential Community Unit Plan (DP-178). Blocks 1, 2, 4, 5 and Lots 1 through 49, Block 3; Lots 1 through 18, Block 6 will be developed with single-family dwellings. Lots 17 through 45, Block 6 will be developed as single family, patio homes or zero Lot line dwellings. Block 7, 8 and Lots 46 through 77 Block 6 will be developed with single family patio home, zero lot line or duplex dwellings.

Lots 78 through 83, Block 6 is subject to the provisions of the Amended Sterling Farms Commercial Community Unit Plan (DP-177). Lots 78 through 82, Block 6 will be developed for commercial uses. Lot 83, Block 6 may be developed for either office or multiple residential.

A. The applicant shall guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee all drainage improvements required by the platting of this property.

F. The Sterling/Keith street paving petition shall provide for the construction of sidewalks on each side of this collector street.

   If the applicant chooses, he may propose an alternate sidewalk plan for this property rather than construct sidewalks on both sides of the collector street. If an alternate sidewalk plan is desired, the applicant shall submit 5 copies of the proposed plan prior to or at the time of submitting a final plat.

G. As required by General Provision #18 of the associated Community Unit Plan (DP-178), the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of the adjacent Tyler Road to a two lane arterial street standard.

H. The applicant shall guarantee an eastbound left turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

T. The intersection of local residential streets with the arterials shall be indicated by a dashed line in the final plat. Solid lines are as used to indicate private streets platted as reserves.

U. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

V. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

W. 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.

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

Y. The representative from the City Fire Department should be prepared to comment on the acceptability of the proposed street names. It appears that "Remmington" should be named "Byron" and "Greenspoint" should be named "Callahan."

Z. The representative from City Engineering should be prepared to comment on the status of the applicant's drainage concept. Specifically, are minimum building pad elevations or offsite drainage easements required?

I. The applicant shall guarantee a westbound right turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

J. As required by General Provision #5 of the associated, Commercial C.U.P. (DP-177) the applicant shall guarantee the following:

1. The reconstruction of the traffic medial on 21st Street North in order to provide a left turn bay or a fifth lane providing for left turn storage to serve Lots 80, 81, 82, and 83, Block 6.

2. The widening of Tyler Road to five (5) lanes including a two-way left turn lane to serve the major opening to Lot 80, Block 6 and the openings to Lot 80, Block 6 south of the major opening and a traffic medial north of the major opening.

3. The construction of a temporary third lane in Tyler adjacent to this plat. The guarantee for the temporary third lane shall be held by the City of Wichita until development occurs. (Partial development would necessitate partial development of the third lane.)

4. The construction of continuous accel/decel lanes to serve the openings into Lots 78 & 79, Block 6 and the major opening into Lot 80, Block 6 from 21st Street North including the right turn movement at the intersection of 21st Street North and Tyler, and to serve the major opening into Lot 2, Block 6 from Tyler.

K. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

L. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

M. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

N. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

O. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

P. Prior to, or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

Q. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

R. As allowed for in the C.U.P., setbacks between certain parcels may be eliminated in the event contiguous parcels are developed under the same ownership. On the final plat, such setbacks may be eliminated and note inserted on the plat indicating that "Note: additional building setback requirements are per C.U.P., DP-181. All other setbacks established by the C.U.P. however, shall be depicted in the plat.

S. The final plat shall label the center lines of 21st Street and Tyler Road. The final plat shall also clearly indicate the amounts of half street right-of-way.

MEMO

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

TO: Jack Gailbraith, MAPD
10th Floor - City Hall
455 N. Main
Wichita, KS 67202
ATTN:

PROJECT NO. 36-87508-2051
PROJECT: Sterling Farms
DATE: October 21, 1988

COPIES TO:
Ritchie Associates
Mike Lindebak, City Engineer
Bill McKinley, Traffic Engineer
Bill Yung Design

FROM: Dick Linn
REFERENCE: Collector Street

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

The collector street in Sterling Farms will not have direct local access except at three residential lots in this subdivision. The balance of the lots will have direct access to the residential streets in this subdivision. It is not anticipated that the development will generate the need for on-street parking on the collector street. The street is approximately 4,100 feet in length and a reduction in width, eliminating the parking lanes, is desirable for several reasons:

1. Reduction in cost
2. Reduction in R/W
3. Visual impact (eliminate the wide "blvd." appearance on a street where drives or direct local access is not provided)

The Developer requests that the width of this residential collector be reduced to 29' back to back pavement with 58' R/W.

Total access control will be dedicated along the residential lots (except at 3 locations) and Reserves.

A Covenant will be filed with the Final Plat which will provide for the cost of installation of no-parking signs on the collector street. If it is determined, by the Traffic Engineer, that on street parking is creating an operational problem, no-parking signs will be installed and the cost paid by the Homeowners Association.

If additional information is desired, please advise.

cas

File

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS
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TO: Jack Gailbraith, MAPD
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If additional information is desired, please advise.

cas

SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1688
(316) 268-4561

October 21, 1988

Bill Yung Design
4912 E. 29th St. N.
Wichita, KS 67220

Re: S/D 88-53 - Sterling Farms

Dear Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, October 20, 1988, 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 guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee all drainage improvements required by the platting of this property.

F. The Sterling/Keith street paving petition shall provide for the construction of sidewalks on each side of this collector street.

If the applicant chooses, he may propose an alternate sidewalk plan for this property rather than construct sidewalks on both sides of the collector street. If an alternate sidewalk plan is desired, the applicant shall submit 5 copies of the proposed plan prior to or at the time of submitting a final plat.

G. As required by General Provision #18 of the associated Community Unit Plan (DP-178), the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of the adjacent Tyler Road to a two lane arterial street standard.

H. The applicant shall guarantee an eastbound left turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

I. The applicant shall guarantee a westbound right turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

J. As required by General Provision #5 of the associated, Commercial C.U.P. (DP-177) the applicant shall guarantee the following:

1. The reconstruction of the traffic medial on 21st Street North in order to provide a left turn bay or a fifth lane providing for left turn storage to serve Lots 80, 81, 82, and 83, Block 6.

2. The widening of Tyler Road to five (5) lanes including a two-way left turn lane to serve the major opening to Lot 80, Block 6 and the openings to Lot 80, Block 6 south of the major opening and a traffic medial north of the major opening.

3. The construction of a temporary third lane in Tyler adjacent to this plat. The guarantee for the temporary third lane shall be held by the City of Wichita until development occurs. (Partial development would necessitate partial development of the third lane.)

4. The construction of continuous accel/decel lanes to serve the openings into Lots 78 & 79, Block 6 and the major opening into Lot 80, Block 6 from 21st Street North including the right turn movement at the intersection of 21st Street North and Tyler, and to serve the major opening into Lot 2, Block 6 from Tyler.

K. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

L. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

M. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

N. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

O. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

P. Prior to, or at the time of submitting the final plat, the applicant shall submit a drainage plan to City Engineering for review and approval.

Q. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

R. As allowed for in the C.U.P., setbacks between certain parcels may be eliminated in the event contiguous parcels are developed under the same ownership. On the final plat, such setbacks may be eliminated and note inserted on the plat indicating that "Note: additional building setback requirements are per C.U.P., DP-181. All other setbacks established by the C.U.P. however, shall be depicted in the plat.

S. The final plat shall label the center lines of 21st Street and Tyler Road. The final plat shall also clearly indicate the amounts of half street right-of-way.

T. The intersection of local residential streets with the arterials shall be indicated by a dashed line in the final plat. Solid lines are as used to indicate private streets platted as reserves.

U. The platting of the minimum building pad elevation shall be noted on the face of the plat as well as in the plattor's text.

V. As this property is establishing minimum building pad elevations, the face of the plat shall reference the location and elevation of permanent on-site and off-site benchmarks. Section 5-402(N).

W. The final plat shall indicate the utility easements requested by K.G.&E., Southwestern Bell and Air Capital which are indicated on the enclosed "marked" copy of the plat.

X. The applicant shall meet with the representative of the Fire Department and resolve the name changes for the proposed interior streets associated with this plat.

Y. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

Z. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

AA. 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.

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

The enclosed "marked" copy of the plat is for your information and files. If you should have any questions, please call.

Sincerely,

R. Timothy Bickhaus
Junior Planner

RTB:svm

Enclosure

cc: P.E.C., P.A., 1440 East English, Wichita, KS 67211
Ritchie Development Corp., 8100 E. 22nd St. N., Bldg. 500, Wichita, KS 67226
Mike Lindebak, City Engineer

Ritchie Associates Inc.

October 26, 1988

Michael E. Lindebak, P.E.,
City Engineer
7th Floor - City Hall
455 North Main
Wichita, Kansas 67202

Re: Sterling Farms
Design Engineering Services

Dear Mr. Lindebak:

The Preliminary plat of Sterling Farms was approved by the Sub-Division Committee of the Planning Commission on October 20, 1988. It is very important that we expedite the development schedule for the public improvements. Please prepare a three-party agreement utilizing Professional Engineering Consultants, P.A., for the necessary design engineering services. PEC is providing the engineering services in connection with the plat.

If additional information is desired, please contact me.

Yours very truly,

RITCHIE ASSOCIATES

By _____
Jack D. Ritchie, C.E.O.

JR/kr
cc: R.D. Pletcher, P.E., PEC

RECEIVED
OCT 31 1988
ENGINEERING DIVISION

8100 E. 22nd St. N. • Bldg. 500 • Wichita, KS 67226 • 316-684-7300

SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

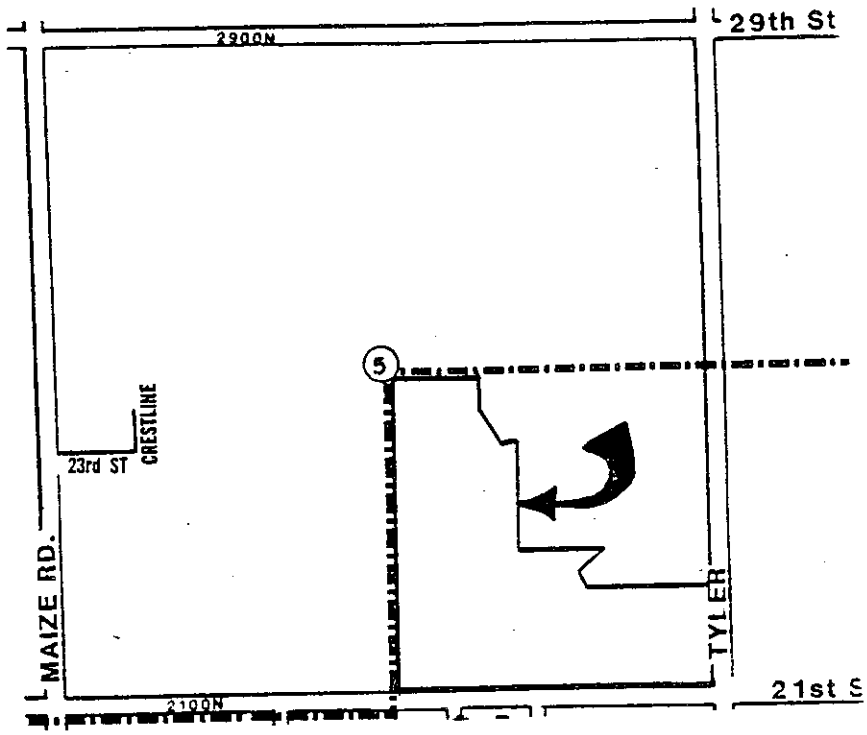
AGENDA ITEM NO. 3

November 17, 1988

STAFF REPORT
(Final Plat; Previous Preliminary Plat Approved 7/14/88;
Revised Preliminary Plat Approved 10/20/88)

CASE NUMBER:	S/D 88-53 - STERLING FARMS
OWNER/APPLICANT:	Sterling Farms, Inc., 1901 W. 13th St., Wichita, KS 67203
SURVEYOR/ENGINEER:	Bill G. Yung Design
LOCATION:	Northwest corner of Tyler Road and 21st Street North.
SITE SIZE:	93.23 Acres
NUMBER OF LOTS	
Residential:	147
Office:	1
Commercial:	5
Industrial:	
Total:	153
MINIMUM LOT AREA:	9,000 Sq. Ft.
CURRENT ZONING:	AA, BB, & LC (DP-177 & DP-178)

VICINITY MAP:



Note: This plat involves a portion of an overall preliminary plat approved 10/20/88. The site is subject to the Amended Sterling Farms Residential and Commercial Community Unit Plans (DP-178 and DP-177).

This final plat is proposing a revision in the street right-of-way and paving requirements for the Keith/Sterling collector street. A 58-foot right-of-way and 29-foot pavement is being proposed.

Lots 1 through 6 of Block 6 are all within the Commercial C.U.P., with Lot 1 intended for either office or multiple family uses, and Lots 2 through 6 planned for commercial uses. Remaining lots are intended for single-family development and are within the Residential C.U.P.

A. The applicant shall guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee all drainage improvements required by the platting of this property.

F. The City's sidewalk ordinance provides for the developer to guarantee the construction of sidewalks on both sides of a collector street (Keith/Sterling). When the preliminary plat was approved, staff suggested that a sidewalk plan be proposed as an alternative to the "both sides of a collector street" requirement. The applicant has chosen to design a sidewalk system with sidewalks on one side of Keith/Sterling, starting at Lot 13, Block 1 and running north and east to Tyler Road. A second portion of sidewalk is planned for within the Reserves starting at the intersection of Keith and 21st Street North and running northward to Sterling. This portion of sidewalk, within the Reserves, is also being planned at an 8-foot width. Staff believes the developer's proposed sidewalk plan offers a much more meaningful pedestrian access system and recommends that the Planning Commission recommend that the City Council waive the requirements of the sidewalk ordinance and accept the alternate sidewalk plan.

The applicant shall guarantee the construction of these sidewalks, with the portion along Keith and Sterling included within that street's paving petition.

G. As required by General Provision #18 of the associated Community Unit Plan (DP-178), the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of the adjacent Tyler Road to a two lane arterial street standard.

H. The applicant shall guarantee an eastbound left turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

I. The applicant shall guarantee a westbound right turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

J. As required by General Provision #5 of the associated, Commercial C.U.P. (DP-177) the applicant shall guarantee the following:

1. The reconstruction of the traffic medial on 21st Street North in order to provide a left turn bay or a fifth lane providing for left turn storage to serve Lots 1, 2, 3, and 4, Block 6.

2. The widening of Tyler Road to five (5) lanes including a two-way left turn lane to serve the major opening to Lot 4, Block 6 and the openings to Lot 4, Block 6 south of the major opening and a traffic medial north of the major opening.

3. The construction of a temporary third lane in Tyler adjacent to this plat. The guarantee for the temporary third lane shall be held by the City of Wichita until development occurs. (Partial development would necessitate partial development of the third lane.)

4. The construction of continuous accel/decel lanes to serve the openings into Lots 5 & 6, Block 6 and the major opening into Lot 4, Block 6 from 21st Street North including the right turn movement at the intersection of 21st Street North and Tyler, and to serve the major opening into Lot 4, Block 6 from Tyler. These guarantees shall also include construction of the portions of the major entrances in public right-of-way.

K. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

L. Upon the recording of this plat, Keith/Sterling shall become a designated residential collector street. Since all residential lots abutting this street will not have direct access to it, the collector street may be paved 29 feet in width. The normal collector street pavement is 37 feet. This reduction of pavement width has been agreed to by the Traffic Engineer provided a covenant is filed with the plat which provides that, in the event on-street parking problems materialize, the homeowner's association agrees to pay the cost of installing "No Parking" signs. A draft of this required covenant shall be submitted to staff for review and approval prior to submitting the final plat tracing for scheduling before the City Council.

M. On the final plat tracing, complete access control shall be indicated to Keith/Sterling from all abutting lots, except for one-opening for Lots 22, 23 and 24, Block 1. The plattor's text shall also be amended to indicate this access control.

Because of potential difficulties in showing this access control within the street right-of-way shown on the plat drawing, this access control may be referenced by a note placed in the area of the other notes located by the north arrow. Sufficient references to the note shall be indicated along the street, on the drawing and the three (3) lots with access to the collector should be shown as having such access within the corresponding section of street.

N. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

O. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

P. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

Q. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

R. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

S. As allowed for in the C.U.P., setbacks between certain parcels may be eliminated in the event contiguous parcels are developed under the same ownership. On the final plat, such setbacks may be eliminated and note inserted on the plat indicating that "Note: additional building setback requirements are per C.U.P., DP-181. All other setbacks established by the C.U.P. however, shall be depicted in the plat.

T. The platting of the minimum building pad elevation shall be noted on the face of the plat as well as in the plattor's text.

U. As this property is establishing minimum building pad elevations, the face of the plat shall reference the location and elevation of permanent on-site and off-site benchmarks. Section 5-402(N).

V. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

W. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

X. 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.

Y. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).

Z. Recording of the plat within 30 days after approval by the City Council.

AA The representative from the City Engineer's office should be prepared to comment on the status of the applicant's drainage plan. Specifically, is the minimum building pad correct, are the boundaries of the floodway adequate and are any drainage guarantees required with the platting of this property?

SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1683
(316) 268-4561

November 18, 1988

Mr. Gary Wiley
Professional Engineering Consultants, P.A.
1440 E. English
Wichita, KS 67211

Re: S/D 88-53 - STERLING FARMS

Dear Mr. Wiley:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, November 17, 1988, the above captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

A. The applicant shall guarantee the extension of City water to serve the lots being platted.

B. The applicant shall guarantee construction of the storm sewers required by this plat.

C. The applicant shall guarantee the paving of the proposed interior streets.

D. The applicant shall guarantee the extension of sanitary sewer to serve the lots being platted.

E. The applicant shall guarantee all drainage improvements required by the platting of this property.

F. The City's sidewalk ordinance provides for the developer to guarantee the construction of sidewalks on both sides of a collector street (Keith/Sterling). When the preliminary plat was approved, staff suggested that a sidewalk plan be proposed as an alternative to the "both sides of a collector street" requirement. The applicant has chosen to design a sidewalk system with sidewalks on one side of Keith/Sterling, starting at Lot 13, Block 1 and running north and east to Tyler Road. A second portion of sidewalk is planned for within the Reserves starting at the intersection of Keith and 21st Street North and running northward to Sterling. This portion of sidewalk, within the Reserves, is also being planned at an 8-foot width. Staff believes the developer's

proposed sidewalk plan offers a much more meaningful pedestrian access system and recommends that the Planning Commission recommend that the City Council waive the requirements of the sidewalk ordinance and accept the alternate sidewalk plan.

The applicant shall guarantee the construction of these sidewalks, with the portion along Keith and Sterling included within that street's paving petition.

G. As required by General Provision #18 of the associated Community Unit Plan (DP-178), the applicant shall submit a guarantee that provides for this plattor to pay for his proportionate share of the construction costs for the pavement of the adjacent Tyler Road to a two lane arterial street standard.

H. The applicant shall guarantee an eastbound left turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

I. The applicant shall guarantee a westbound right turn lane for 21st Street North to serve the 21st Street North/Keith intersection.

J. As required by General Provision #5 of the associated, Commercial C.U.P. (DP-177) the applicant shall guarantee the following:

1. The reconstruction of the traffic medial on 21st Street North in order to provide a left turn bay or a fifth lane providing for left turn storage to serve Lots 1, 2, 3, and 4, Block 6.

2. The widening of Tyler Road to five (5) lanes including a two-way left turn lane to serve the major opening to Lot 4, Block 6 and the openings to Lot 4, Block 6 south of the major opening and a traffic medial north of the major opening.

3. The construction of a temporary third lane in Tyler adjacent to this plat. The guarantee for the temporary third lane shall be held by the City of Wichita until development occurs. (Partial development would necessitate partial development of the third lane.)

4. The construction of continuous accel/decel lanes to serve the openings into Lots 5 & 6, Block 6 and the major opening into Lot 4, Block 6 from 21st Street North

including the right turn movement at the intersection of 21st Street North and Tyler, and to serve the major opening into Lot 4, Block 6 from Tyler. These guarantees shall also include construction of the portions of the major entrances in public right-of-way.

K. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.

L. Upon the recording of this plat, Keith/Sterling shall become a designated residential collector street. Since all residential lots abutting this street will not have direct access to it, the collector street may be paved 29 feet in width. The normal collector street pavement is 37 feet. This reduction of pavement width has been agreed to by the Traffic Engineer provided a covenant is filed with the plat which provides that, in the event on-street parking problems materialize, the homeowner's association agrees to pay the cost of installing "No Parking" signs. A draft of this required covenant shall be submitted to staff for review and approval prior to submitting the final plat tracing for scheduling before the City Council.

M. On the final plat tracing, complete access control shall be indicated to Keith/Sterling from all abutting lots, except for one-opening for Lots 22, 23 and 24, Block 1. The plattor's text shall also be amended to indicate this access control. Because of potential difficulties in showing this access control within the street right-of-way shown on the plat drawing, this access control may be referenced by a note placed in the area of the other notes located by the north arrow. Sufficient references to the note shall be indicated along the street, on the drawing and the three (3) lots with access to the collector should be shown as having such access within the corresponding section of street.

N. The final plat shall state in the plattor's text the purposes of the proposed reserves as well as who is to own and maintain the reserves.

O. Provisions shall be made for ownership and maintenance of the proposed reserves. The applicant shall either form a lot owners' association prior to recording the plat or shall submit a covenant stating when the association will be formed, when the reserves will be deeded to the association and who is to own and maintain the reserves prior to the association taking over those responsibilities.

P. For those reserves being platted for drainage purposes, the required covenant which provides for ownership and maintenance of the reserves shall grant, to the City, the authority to maintain the drainage reserves in the event the owner(s) fail to do so. The covenant shall provide for the cost of such maintenance to be charged back to the owner(s) by a method similar to special assessments.

Q. The applicant shall submit a covenant which provides for four (4) off-street parking spaces per dwelling unit on each lot which abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.

R. As allowed for in the C.U.P., setbacks between certain parcels may be eliminated in the event contiguous parcels are developed under the same ownership. On the final plat, such setbacks may be eliminated and note inserted on the plat indicating that "Note: additional building setback requirements are per C.U.P., DP-181. All other setbacks established by the C.U.P. however, shall be depicted in the plat.

S. The platting of the minimum building pad elevation shall be noted on the face of the plat as well as in the plattor's text.

T. As this property is establishing minimum building pad elevations, the face of the plat shall reference the location and elevation of permanent on-site and off-site benchmarks. Section 5-402(N).

U. On the final plat tracing Brookridge Court, located in Block 3, shall be called Brookridge Circle as requested by the Fire Department.

V. The final plat tracing shall indicate a 10 foot utility easement along the common lot line of Lots 9 and 10, Block 5.

W. To receive mail delivery without delay, and to avoid unnecessary expense, the applicant is advised of the necessity to meet with the U.S. Postal Service Growth Management Coordinator (phone 316-946-4527) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

X. The applicant's engineer is advised that the Register of Deeds is requiring the name(s) of the notary public, who acknowledges the signatures on this plat, to be printed beneath the notary's signature.

Y. 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.

Z. Perimeter closure computations shall be submitted with the final plat tracing. Section 5-101(c).

AA. Recording of the plat within 30 days after approval by the City Council.

Enclosed with the applicant's copy of this letter is a list of the five methods which have been adopted as being acceptable for guaranteeing improvements required in the approval of plats. The certificate will be required if petitions are submitted. Forms for the bond and irrevocable Letter of Credit are available from this office.

The enclosed "marked" copy of the final plat is for your information and files.

This matter will be forwarded to the Planning Commission for its consideration on Monday, November 21, 1988 at 1:30 p.m. If you have any questions concerning this matter, please call.

Sincerely,

R. Timothy Bickhaus
Junior Planner

RTB:svm
Enclosure
cc: Ritchie Development Corp., 8100 E. 22nd, Street North, Bldg. 500, Wichita, KS 67226
Mike Lindebak, City Engineer
Bill Yung Design, 4912 E. 29th St. N, Wichita, KS 67220

SEDGWICK COUNTY

METROPOLITAN AREA PLANNING DEPARTMENT
CITY HALL — TENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1568
(316) 268-4421

November 21, 1988

Mr. Gary Wiley
Professional Engineering Consultants, P.A.
1440 E. English
Wichita, KS 67211

Re: S/D 88-53 - STERLING FARMS

Dear Mr. Wiley:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on November 21, 1988, the above captioned plat was considered. The action of the Committee was to recommend that the plat be approved as recommended by the Subdivision Committee subject to the conditions stated in our letter of November 18, 1988.

In addition to complying with those conditions, it is necessary that you meet the following requirements before this plat can be forwarded to the Board of City Commissioners for consideration:

1. Submission of the fully completed and signed tracing of the subdivision to the Metropolitan Area Planning Department.

2. Submission of a title report by an abstract or title insurance company or an attorney's opinion that fee title is vested in the plattor.

3. Certification that all real estate taxes for 1987 and all prior years have been paid.

Please call if you have any questions.

Sincerely,

R. Timothy Bickhaus
Junior Planner

RTB:svm

cc: Ritchie Development Corp., 8100 E. 22nd, Street North, Bldg. 500, Wichita, KS 67226
Mike Lindebak, City Engineer

Ritchie Associates Inc.

January 18, 1989

Mr. Michael E. Lindebak, P.E.
City Engineer
7th Floor - City Hall
455 N. Main
Wichita, Kansas 67202

RE: Sterling Farms, Phase I

Dear Mr. Lindebak:

Attached are Letters of Credit and Affidavits for the following projects:

1. Lateral 89, Westlink Sewer
   468 76 245 81937 000 000 001

2. Water Distribution System
   448 76 245 88368 000 000 001

3. Paving Keith, Keith Cts., Wyncroft
   Wyncroft Ct., Brookridge, Brookridge Cts.
   472 76 245 81884 000 000 001

4. Storm Water Sewer No. 383
   468 76 245 81942 000 000 001

Tax Key numbers will be provided by attachment as soon as the numbers are assigned to the lots by the Sedgwick County Clerk's Office.

We request that the City proceed with the construction of these projects. If additional information is necessary, please contact me.

Sincerely,

RITCHIE DEVELOPMENT CORPORATION

Jack Ritchie
C.E.O.

JR/lh

cc: Ronald Pletcher, P.E., P.E.C.

8100 E. 22nd St. N. • Bldg. 500 • Wichita, KS 67226 • 316-684-7300