

LINE	ID	1	2	3	4	5	6	7	8	9	10
1	ID	Cemetery Site									
2	IT	5									
3	IN	30			289						
4	IO	1									
5	KK	BASINA									
6	BA	0.209									
7	PC	0	0.04	0.08	.12	.17	.22	.27	.32	.37	.43
8	PC	.49	.56	.62	.69	.77	.85	.94	1.04	1.15	1.27
9	PC	1.41	1.59	1.83	2.21	2.73	3.42	4.31	5.43	6.80	8.46
10	PC	6.85	6.76	6.86	6.95	7.02	7.09	7.16	7.23	7.29	7.36
11	PC	7.43	7.49	7.54	7.59	7.63	7.68	7.72	7.76	7.80	
12	UD	1.3									
13	LS	0									
14	KK	AREA2									
15	BA	0.042									
16	UD	0.2									
17	LS	0			77						
18	KK	COMB									
19	HC	2									
20	KK	POND1									
21	RS	1	ELEV	1369							
22	SA	1.91	2.66	3.69	4.58						
23	SE	1368	1369	1370	1371						
24	SD	1.00	1.00	93.7	331.3						
25	SE	1368	1369	1370	1371						
26	KK	AREA3									
27	BA	0.0328									
28	UD	0.2									
29	LS	0			77						
30	KK	TOTAL									
31	HC	2									
32	KK	WEIR									
33	RS	1	ELEV	1363.5							
34	SA	1.4091	1.50	2.30	3.84	5.28					
35	SE	1363.5	1364	1365	1366	1367					
36	SD	0.1000	24.6	127.7	274.8	455.2					
37	SE	1363.5	1364	1365	1366	1367					
38	KK	AREA4									
39	BA	0.00001									
40	UD	0.2									
41	LS	0			77						
42	KK	TOTAL									
43	HC	2									
44	KK	BOX									
45	RS	1	ELEV	1362.0							
46	SA	0.0017	0.0017	0.0017	0.0017	0.0017	0.0017				
47	SE	1362	1363	1364	1365	1366	1367				
48	SD	0.1000	28.0	78.0	141.0	219	305.0				
49	SE	1362.0	1363	1364	1365	1366	1367				
50	ZZ										

RUNOFF SUMMARY  
FLOW IN CUBIC FEET PER SECOND  
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	BASINA	216.	13.17	92.	29.	29.	0.21		
HYDROGRAPH AT	AREA2	113.	12.08	18.	6.	6.	0.04		
2 COMBINED AT	COMB	229.	13.17	110.	34.	34.	0.25		
ROUTED TO	POND1	224.	13.33	108.	34.	34.	0.25	1370.61 13.33	
HYDROGRAPH AT	AREA3	89.	12.08	14.	4.	4.	0.03		
2 COMBINED AT	TOTAL	233.	13.25	122.	38.	38.	0.28		
ROUTED TO	WEIR	227.	13.50	121.	38.	38.	0.28	1365.68 13.50 (WOR)	
HYDROGRAPH AT	AREA4	0.	12.00	0.	0.	0.	0.00		
2 COMBINED AT	TOTAL	227.	13.50	121.	38.	38.	0.28		
ROUTED TO	BOX	227.	13.50	121.	38.	38.	0.28	1366.10 13.50 (RCB)	

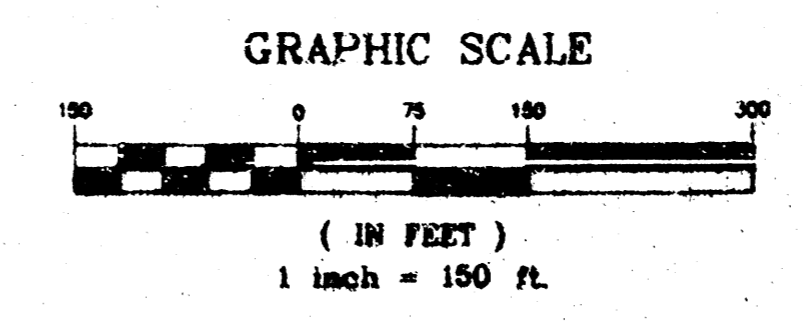
\*\*\* NORMAL END OF HEC-1 \*\*\*

HYDROLOGIC SOIL GROUP D  
 AREA 6 = 16.59 Acres  
 $T_c = 15$  Minutes  
 $I_s = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $Q_5(\text{local}) = 26.5$  cfs  
 $Q_{100}(\text{local}) = 79.5$  cfs  
 $Q_5(\text{system}) = 26.5$  cfs  
 $Q_{100}(\text{system}) = 79.5$  cfs

AREA 1 = 133.36 Acres  
 $T_c = 51$  Minutes  
 $C_s = 0.20$   
 $C_{100} = 0.35$   
 $I_s = 2.38$  in/hr  
 $I_{100} = 4.09$  in/hr  
 $Q_5(\text{system}) = 64.0$  cfs  
 $Q_{100}(\text{system}) = 192.5$  cfs

**LEGEND**

- 1364 — Contour Lines
- 1365 — Existing Pond
- - - - Proposed Ponds
- - - - Proposed Pavement
- - - - Drainage Boundary
- - - - Existing Walk



2 Existing 48" RCP's  
 $Q_5 = 64.0$  cfs  
 $Q_{100} = 192.5$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 4 = 12.98 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $I_s = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 20.7$  cfs  
 $Q_{100}(\text{local}) = 62.2$  cfs  
 $Q_5(\text{system}) = 8.7$  cfs  
 $Q_{100}(\text{system}) = 28.3$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 2 = 26.96 Acres  
 $T_c = 15$  Minutes  
 $I_s = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $Q_5(\text{local}) = 43.0$  cfs  
 $Q_{100}(\text{local}) = 129.2$  cfs  
 $Q_5(\text{system}) = 20.1$  cfs  
 $Q_{100}(\text{system}) = 64.8$  cfs

Install 2 - 30" RCP'S  
 $Q_5 = 76.9$  cfs  
 $Q_{100} = 237.5$  cfs

Install 2 - 30" RCP'S  
 $Q_5 = 78.3$  cfs  
 $Q_{100} = 243.7$  cfs

SYSTEM DRAINAGE CALCULATIONS

Structure # 1 (2 Proposed 30" RCP'S)					
$T_c = 61$ minutes, $I_s = 2.13$ in/hr, $I_{100} = 3.70$ in/hr					
Contributing Basin	Area	$C_s$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	56.8	0.35	172.7
2	26.96	0.35	20.1	0.65	64.8
Total Q					237.5

Structure # 2 (2 Proposed 30" RCP'S)					
$T_c = 67$ minutes, $I_s = 2.01$ in/hr, $I_{100} = 3.51$ in/hr					
Contributing Basin	Area	$C_s$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	53.6	0.35	163.8
2	26.96	0.35	19.0	0.65	61.5
3	8.08	0.35	5.7	0.65	18.4
Total Q					243.7

Structure # 3 (Proposed 4' x 10' RCBC)					
$T_c = 72$ minutes, $I_s = 1.92$ in/hr, $I_{100} = 3.38$ in/hr					
Contributing Basin	Area	$C_s$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	51.2	0.35	156.8
2	26.96	0.35	18.1	0.65	58.9
3	8.08	0.35	5.4	0.65	17.6
4	12.98	0.35	8.7	0.65	28.3
Total Q					261.6

Maximum Stage Elevation (north pond) = 1370.61 (by HEC-1)  
 Maximum Stage Elevation (south pond) = 1367.20 (by HEC-1)

NOTE: R/W has been increased to 60' and access control has been revised on Greenwich w/ Final Plat 11-2-76 JCR

HYDROLOGIC SOIL GROUP D  
 AREA 3 = 8.08 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $I_s = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 12.9$  cfs  
 $Q_{100}(\text{local}) = 39.7$  cfs  
 $Q_5(\text{system}) = 5.7$  cfs  
 $Q_{100}(\text{system}) = 18.4$  cfs

Existing 5' x 8' RCBC  
 $Q_5(\text{on-site only}) = 87.9$  cfs  
 $Q_{100}(\text{on-site only}) = 277.1$  cfs

Install 4' x 10' RCBC  
 $Q_5 = 83.4$  cfs  
 $Q_{100} = 261.6$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 5 = 10.15 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.40$   
 $C_{100} = 0.70$   
 $I_s = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 18.5$  cfs  
 $Q_{100}(\text{local}) = 52.4$  cfs  
 $Q_5(\text{system}) = 7.5$  cfs  
 $Q_{100}(\text{system}) = 23.2$  cfs

P. V. LATTING, W. B. BENSINGTON GARDENS, W. B. DRAINAGE PLAN

**DRAINAGE PLAN**  
**KENSINGTON GARDENS**  
**WICHITA, KANSAS**

SRB 924 NORTH MAIN WICHITA, KANSAS 67203 316-264-8008 FAX 264-4821

SAVOY, RUGGLES & BOHM, P.A.  
 ENGINEERING & SURVEYING

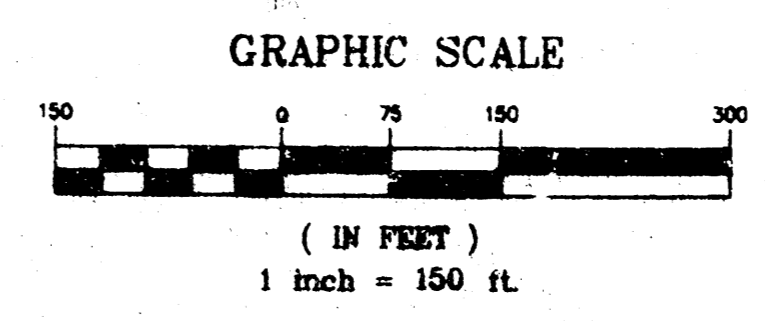
PROJECT NUMBER

DESIGN	CMB	DRAWN	K.M.L.	UTILITY	REVISION	JCR	DATE	UCL. 11, 1988	REVISION	
--------	-----	-------	--------	---------	----------	-----	------	---------------	----------	--

HYDROLOGIC SOIL GROUP D  
 AREA 6 = 16.59 Acres  
 $T_c = 15$  Minutes  
 $I_5 = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $Q_5(\text{local}) = 26.5$  cfs  
 $Q_{100}(\text{local}) = 79.5$  cfs  
 $Q_5(\text{system}) = 26.5$  cfs  
 $Q_{100}(\text{system}) = 79.5$  cfs

AREA 1 = 133.36 Acres  
 $T_c = 51$  Minutes  
 $C_s = 0.20$   
 $C_{100} = 0.35$   
 $I_5 = 2.38$  in/hr  
 $I_{100} = 4.09$  in/hr  
 $Q_5(\text{system}) = 64.0$  cfs  
 $Q_{100}(\text{system}) = 192.5$  cfs

**LEGEND**  
 --- 1.364 --- Contour Lines  
 --- 1.365 --- Existing Pond  
 - - - - - Proposed Ponds  
 - - - - - Proposed Pavement  
 - - - - - Drainage Boundary  
 - - - - - Existing Walk



2 Existing 48" RCP's  
 $Q_5 = 64.0$  cfs  
 $Q_{100} = 192.5$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 4 = 12.98 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $I_5 = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 20.7$  cfs  
 $Q_{100}(\text{local}) = 62.2$  cfs  
 $Q_5(\text{system}) = 8.7$  cfs  
 $Q_{100}(\text{system}) = 28.3$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 2 = 26.96 Acres  
 $T_c = 15$  Minutes  
 $I_5 = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $Q_5(\text{local}) = 43.0$  cfs  
 $Q_{100}(\text{local}) = 129.2$  cfs  
 $Q_5(\text{system}) = 20.1$  cfs  
 $Q_{100}(\text{system}) = 64.8$  cfs

**SYSTEM DRAINAGE CALCULATIONS**

Structure # 1 (2 Proposed 30" RCP's)						
$T_c = 61$ minutes, $I_5 = 2.13$ in/hr, $I_{100} = 3.70$ in/hr						
Contributing Basin	Area	$C_s$	$C_{100}$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	0.35	58.8	172.7	172.7
2	26.96	0.35	0.65	20.1	65.8	65.8
Total Q						237.5

Structure # 2 (2 Proposed 30" RCP's)						
$T_c = 67$ minutes, $I_5 = 2.01$ in/hr, $I_{100} = 3.51$ in/hr						
Contributing Basin	Area	$C_s$	$C_{100}$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	0.35	53.6	163.9	163.9
2	26.96	0.35	0.65	19.0	61.5	61.5
3	8.08	0.35	0.65	5.2	18.4	18.4
Total Q						243.7

Structure # 3 (Proposed 4' x 10' RCBC)						
$T_c = 72$ minutes, $I_5 = 1.92$ in/hr, $I_{100} = 3.36$ in/hr						
Contributing Basin	Area	$C_s$	$C_{100}$	$Q_5$	$Q_{100}$	$Q_{100}$
1	133.36	0.20	0.35	51.2	158.8	158.8
2	26.96	0.35	0.65	18.1	58.9	58.9
3	8.08	0.35	0.65	5.4	17.6	17.6
4	12.98	0.35	0.65	8.2	28.3	28.3
Total Q						261.6

Maximum Stage Elevation (north pond) = 1370.61 (by HEC-1)  
 Maximum Stage Elevation (south pond) = 1366.10 (by HEC-1)

HYDROLOGIC SOIL GROUP D  
 AREA = 24.61 Acres  
 $T_c = 76$  Minutes  
 $I_5 = 3.26$  in/hr  
 $C_{100} = 0.65$   
 $Q_{100}(\text{system}) = 52.2$  cfs  
 INCLUDED FOR 100 YEAR 5' X 8' FLOW AND MAX. WATER SURFACE CALCULATIONS ONLY.

Install 2 - 30" RCP'S  
 $Q_5 = 76.9$  cfs  
 $Q_{100} = 237.5$  cfs

Install 2 - 30" RCP'S  
 $Q_5 = 78.3$  cfs  
 $Q_{100} = 243.7$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 3 = 8.08 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.35$   
 $C_{100} = 0.65$   
 $I_5 = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 12.9$  cfs  
 $Q_{100}(\text{local}) = 38.7$  cfs  
 $Q_5(\text{system}) = 5.7$  cfs  
 $Q_{100}(\text{system}) = 18.4$  cfs

Existing 5' x 8' RCBC  
 $Q_5$  (on-site only) = 87.9 cfs  
 $Q_{100}$  (Total) = 329.3 cfs  
 Max. Water Surface = 1363.00

Install 4' x 10' RCBC  
 $Q_5 = 83.4$  cfs  
 $Q_{100} = 261.6$  cfs

HYDROLOGIC SOIL GROUP D  
 AREA 5 = 10.15 Acres  
 $T_c = 15$  Minutes  
 $C_s = 0.40$   
 $C_{100} = 0.70$   
 $I_5 = 4.56$  in/hr  
 $I_{100} = 7.37$  in/hr  
 $Q_5(\text{local}) = 18.5$  cfs  
 $Q_{100}(\text{local}) = 52.4$  cfs  
 $Q_5(\text{system}) = 7.5$  cfs  
 $Q_{100}(\text{system}) = 23.2$  cfs



Revised: 12/10/96

**DRAINAGE PLAN  
 KENSINGTON GARDENS  
 WICHITA, KANSAS**

**SRB** 224 NORTH MAIN WICHITA, KANSAS 67203 316-264-8008 FAX 264-4621

**SAVOY, RUGGLES & BOHM, P.A.**  
 ENGINEERING & SURVEYING

PROJECT NUMBER

DESIGN	DRAWN	UTILITY	REVIEW	DATE	REVISED
CMB	KWL			Oct. 11, 1996	

1 of 1

# DRAINAGE PLAN KENSINGTON GARDENS

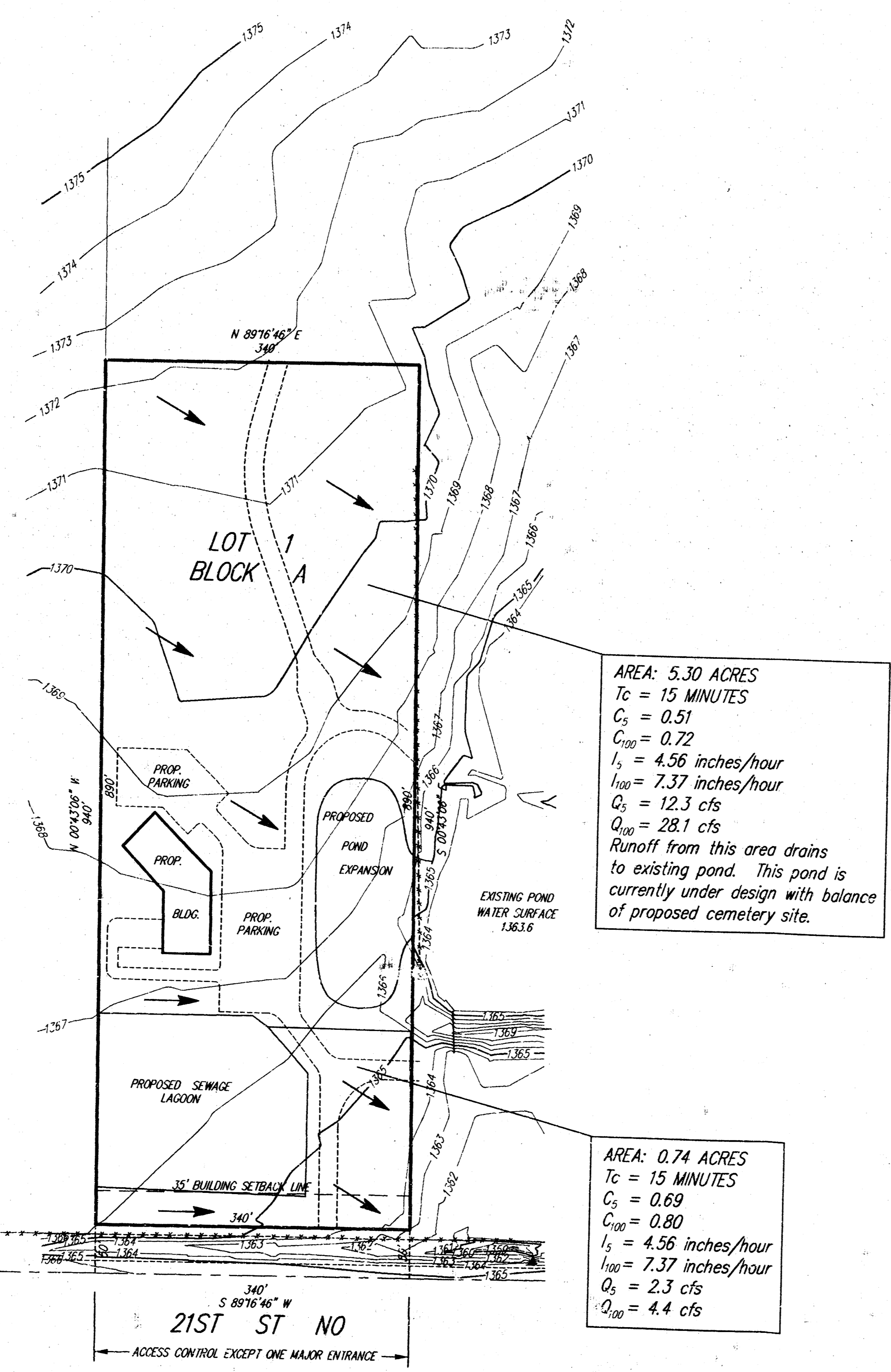
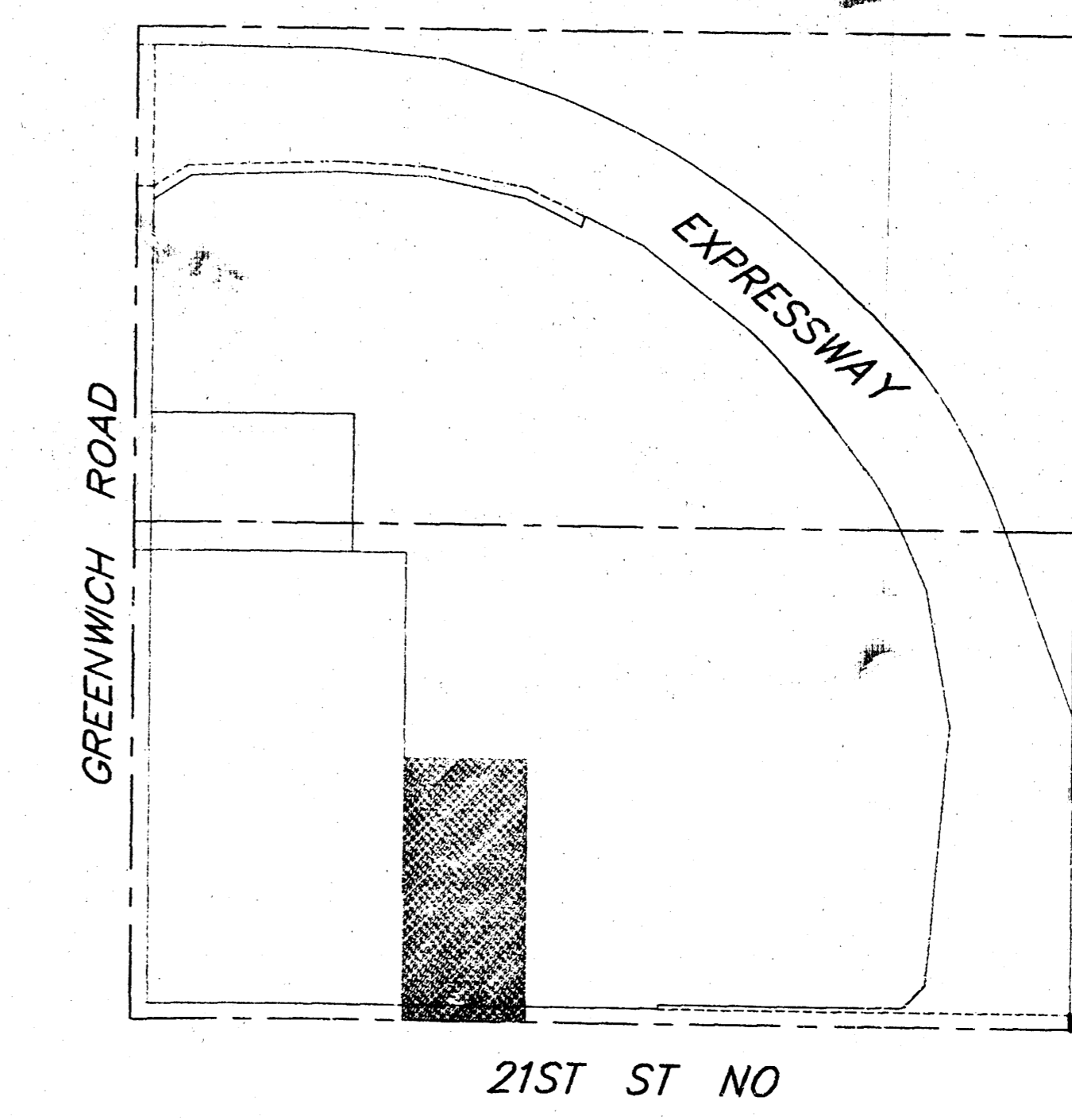
SEDGWICK COUNTY, KANSAS

That part of the SW1/4 of Sec. 3, Twp. 27-S, R-2-E of the 6th P.M., Sedgwick County, Kansas, described as beginning at a point on the south line of said SW1/4, 772.24 feet east of the S.W. Corner thereof; thence north, parallel with the west line of said SW1/4, 940 feet; thence east, parallel with the south line of said SW1/4, 340 feet; thence south, parallel with the west line of said SW1/4, 940 feet to the south line of said SW1/4; thence west, along the south line of said SW1/4, 340 feet to the point of beginning.

GROSS SIZE  
319,600.03 SQ FT ±  
7.337 ACRES ±

NET SIZE  
302,600.03 SQ FT ±  
6.947 ACRES ±

KENSINGTON GARDENS, L.L.C.,  
a Kansas limited Liability Company  
BILL COZINE  
1147 S. BROADWAY  
WICHITA, KS 67211  
PH (316) 262-3435



1" = 100'  
ELEV = MSL

BENCH MARK:  
60# NAIL IN HLP 100' S & 50' E  
OF S.W. COR SW1/4 3-27S-2E  
(21ST ST NO & GREENWICH)  
ELEVATION = 1365.33 MSL

DRAINAGE PLAN KENSINGTON GARDENS					
SRB	924 NORTH MAIN	316-284-8008	REVISED		
	WICHITA, KANSAS 67203	FAX 264-4621			
SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING					
PROJECT NUMBER					
DWG	DESIGN	REVIEW	DATE	UTILITY	SRB JOB

DWG FILE 00408PP CHRIS  
PROJECT NO. 95LGG-08P