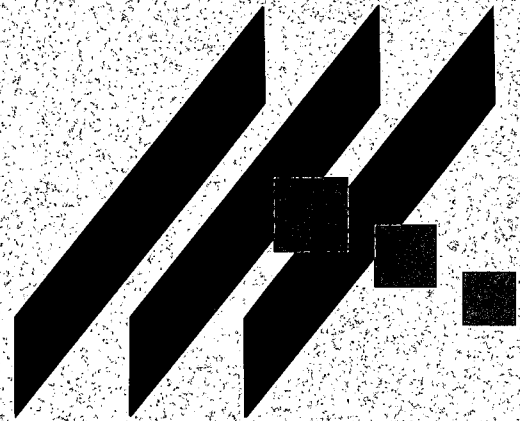


M K E C E N G I N E E R I N G C O N S U L T A N T S , I N C



DRAINAGE REPORT

FOR

THE WICHITA CLINIC ADDITION

AUGUST 2003

Drainage Report for the Wichita Clinic Addition Wichita, Sedgwick County, Kansas

Location

The subject property is in Wichita, Sedgwick County, Kansas. The proposed development is located south of 21st Street North and east of the K-96 Expressway. The Collective Addition is north of the site, Trinity Academy is East of the site, and an abandoned railroad track is south of the site. The site lies in the Northeast Quarter of Section 10, Township 27 South, Range 2 East. The dimensions of the property are approximately 1710 feet north to south and 860 feet east to west at the widest point. The area of the plat is 31.1 acres. The site is shown on the Andover, Kansas Quadrangle, located in Appendix A.

Soils

According to the NRCS (SCS) Sedgwick County Soil Survey in Appendix B, the soil on the site is silty loam. The site is comprised Irwin Silty Clay Loam, 1-6% slopes (1a & 1c - HSG "D") and a small portion of Elandco silt loam, occasionally flooded (Ec - HSG "B"). The Hydrological Soil Group (HSG) used to select runoff coefficients is "D".

Pre-developed Conditions

Current Development

The site is now zoned as residential. There are three houses on the site along with garages, gardens, ponds, and lagoons.

Current Landform and Slope

Slopes vary from 0.5% to 3.5%. The site drains to the south and west into the K-96 right-of-way. Elevations vary from 1372' in the northeast corner of the site to 1352' near the dense trees surrounding Fourmile Creek in southwest corner.

Current Drainage Conditions

According to the Federal Emergency Management Agency (FEMA), most of the site is in Zone C - areas of minimal flooding. Fourmile creek crosses the southwest corner of the site. Around Fourmile creek is Zone A5 (area of 100-year flooding with base flood elevation determined) and Zone B (Areas between 100-year flooding and 500-year flooding) (FIRM Panel 150, Wichita, Sedgwick County, Kansas, June 3, 1986) (shown in Appendix C).

Current Runoff Characteristics

Fourmile creek crosses the southwest corner of the site. Existing drainage patterns are shown in the drawing in Appendix D. The site is in a 52-acre watershed that drains to

the southwest into Fourmile Creek. The flow of Fourmile Creek is 5,470 cfs where the site enters the creek. The 31.1-acre site was analyzed under existing conditions using the rational method. The time of concentration (t_c) was calculated to be 15 minutes using the FAA method. Runoff coefficients were selected assuming 10% impervious area. Hydraflow Hydrographs by Intelisolve was used to calculate the runoff from the site under existing conditions using the rational method. Output is found in Appendix E. The total runoff from the site is 189.7 cfs in the 100-year event. Existing runoff values are found in Table 1.

Table 1. Existing Runoff.

	2-Year (cfs)	5-Year (cfs)	10-Year (cfs)	100-Year (cfs)
Wichita Clinic Addition	57.7	143.0	167.8	189.7

Developed Conditions

Proposed Development

The site will develop as a medical office facility. There will be office buildings, parking lots, and a pond with a surface area of approximately 2.5 acres. The southwest corner of the site will be designated as a floodway reserve. The proposed site is shown in the Drainage and Utility Plan in Appendix F.

Proposed Landform and Slope

Final slopes in the development have not been determined, but the minimum will be 0.5%. The lot-grading plan is shown in Appendix G.

Proposed Runoff Characteristics

The 31.1-acre site was again analyzed using the rational method for proposed conditions. The time of concentration (t_c) was calculated to be 15 minutes for the medical facility using the FAA method. Runoff curve numbers were selected assuming 85% impervious area. Hydraflow Hydrographs used the rational method to determine runoff from the developed site, output is in Appendix E. The total runoff from the site is 226.8 cfs in the 100-year event. Proposed runoff values are found in Table 2. A proposed pond will be designed to detain excess runoff generated by the development. A proposed pond was modeled in Hydraflow Hydrographs to determine the storage necessary to reduce the peak 100-year outflow to match existing conditions. The pond provides 2.526 ac-ft of storage and reduces the peak 100-year flow to 183.9 cfs. Runoff from the site after routing through the pond is shown in Table 2.

Underground storm sewer will be required to capture runoff in parking lot areas. The storm sewer will convey runoff into the proposed detention pond. Final storm sewer location and size has not yet been determined. Storm sewer will be sized to contain the 5-year design storm.

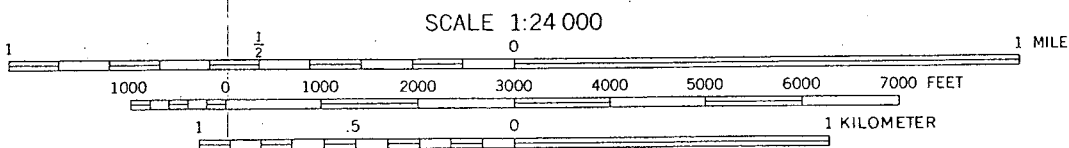
Table 2. Developed Runoff.

	2-Year (cfs)	5-Year (cfs)	10-Year (cfs)	100-Year (cfs)
Wichita Clinic Addition	96.2	181.7	205.8	226.8
Detained Wichita Clinic Addition	72.0	145.0	165.7	183.9

Summary

Wichita Clinic Addition is a proposed medical facility located at 21st Street North and K-96. The site will cover 31 acres and consist of buildings, parking lots, and a pond. Peak runoff will increase from 189.7 to 226 cfs during the 100-year design event. The proposed pond will provide detention for the site. Approximately 2.5 ac-ft of storage will provide the necessary detention to reduce the peak outflow below existing conditions. After routing through the pond, peak runoff will be 183.9 cfs in the 100-year design event.

APPENDIX A
QUADRANGLE MAP

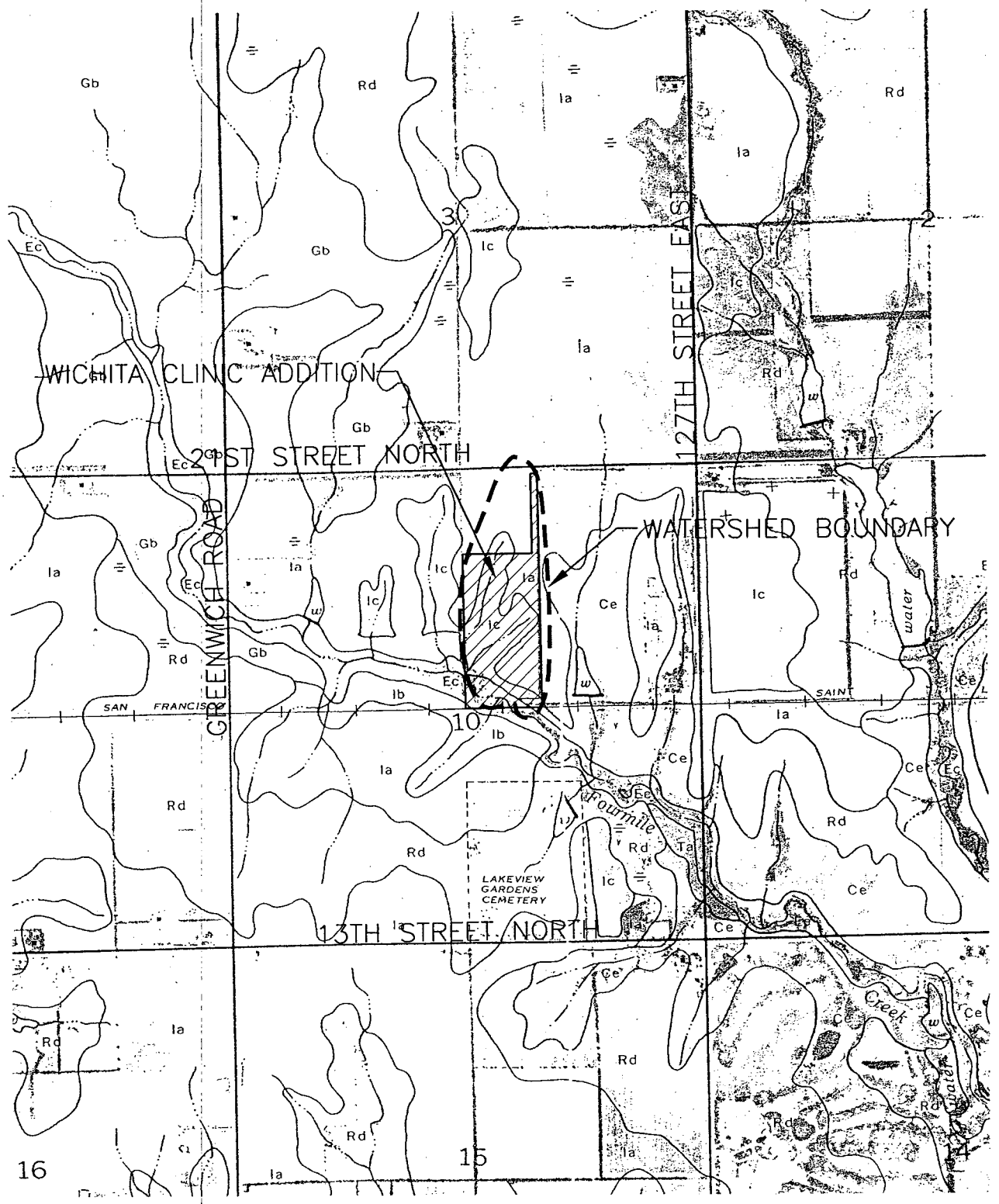
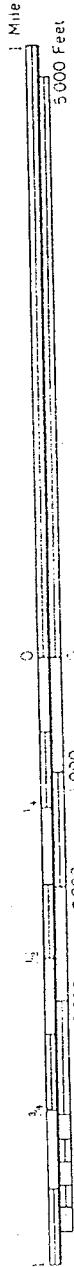


SCALE 1:24 000
 CONTOUR INTERVAL 5 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



WICHITA CLINIC ADDITION		
PROJECT NAME		
ANDOVER, KANSAS QUADRANGLE		
SHEET TITLE		
KLA	DMU	GJA
DESIGN BY.	DRAWN BY.	CHECKED BY.
AUGUST 2003	03219	1 / 1
DATE	JOB NO.	SHEET/OF

36



MKEC
ENGINEERING
CONSULTANTS
411 N. WEBB ROAD
WICHITA, KS. 67206
316 - 684 - 9600

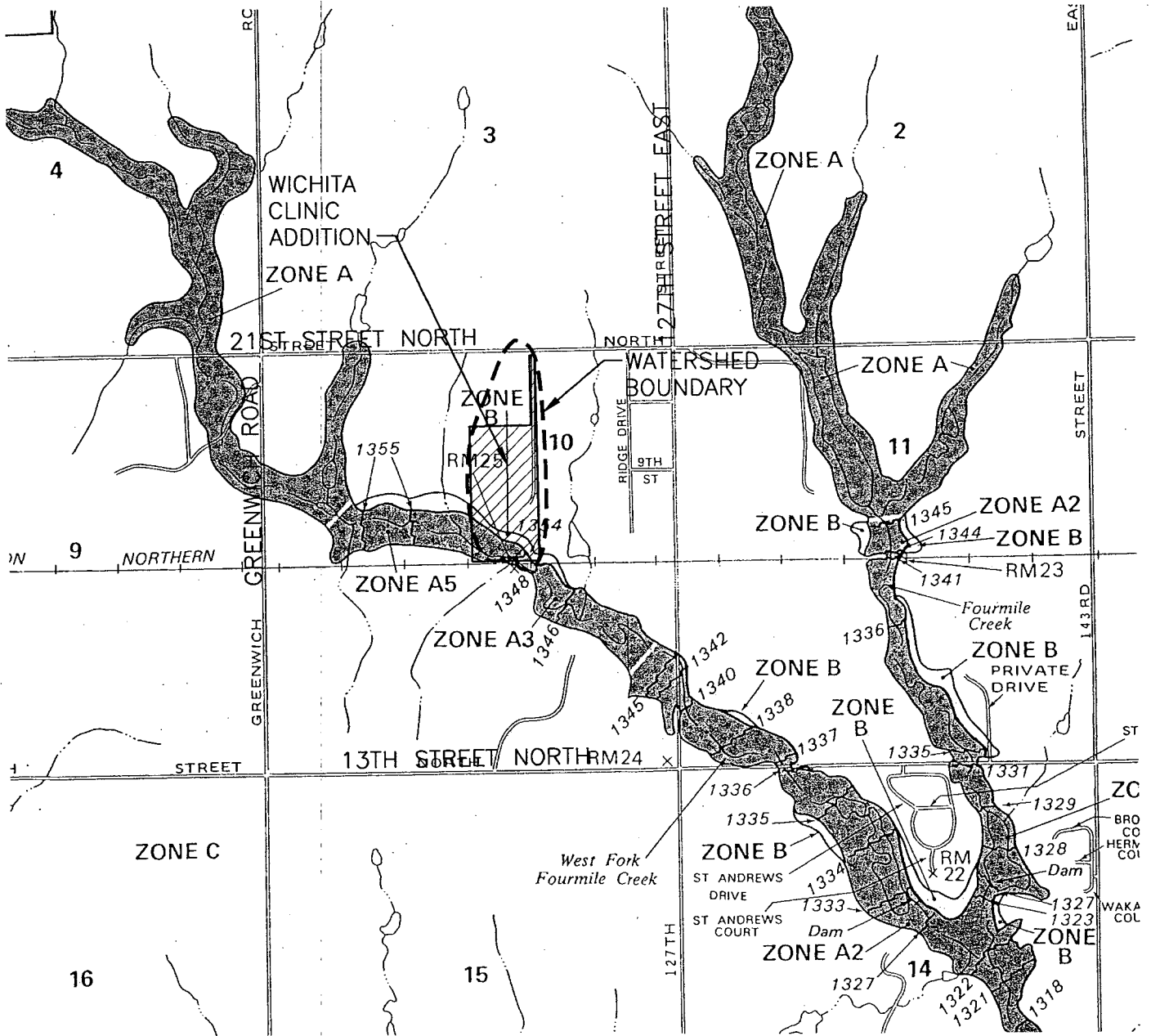
WICHITA CLINIC ADDITION
PROJECT NAME
SOIL SURVEY
SEDGWICK COUNTY, KANSAS
SHEET TITLE

KLA DESIGN BY.	DMU DRAWN BY.	GJA CHECKED BY.
AUGUST 2003 DATE	03219 JOB NO.	1 / 1 SHEET/OF

H:\CIVIL\03219\DWG\DRNG\03219QUAD.DWG

APPENDIX C

FIRM



NATIONAL FLOOD INSURANCE PROGRAM


FIRM
FLOOD INSURANCE RATE MAP

SEDGWICK COUNTY,
KANSAS
(UNINCORPORATED AREAS)

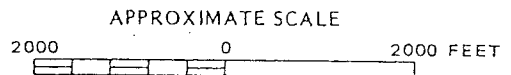

PANEL 150 OF 300

COMMUNITY-PANEL NUMBER
200321 0150 A

EFFECTIVE DATE:
JUNE 3, 1986



Federal Emergency Management Agency

MKEC
ENGINEERING
CONSULTANTS
411 N. WEBB ROAD
WICHITA, KS. 67206
316 - 884 - 9600

WICHITA CLINIC ADDITION
PROJECT NAME

FEMA FLOOD INSURANCE RATE MAP
SHEET TITLE

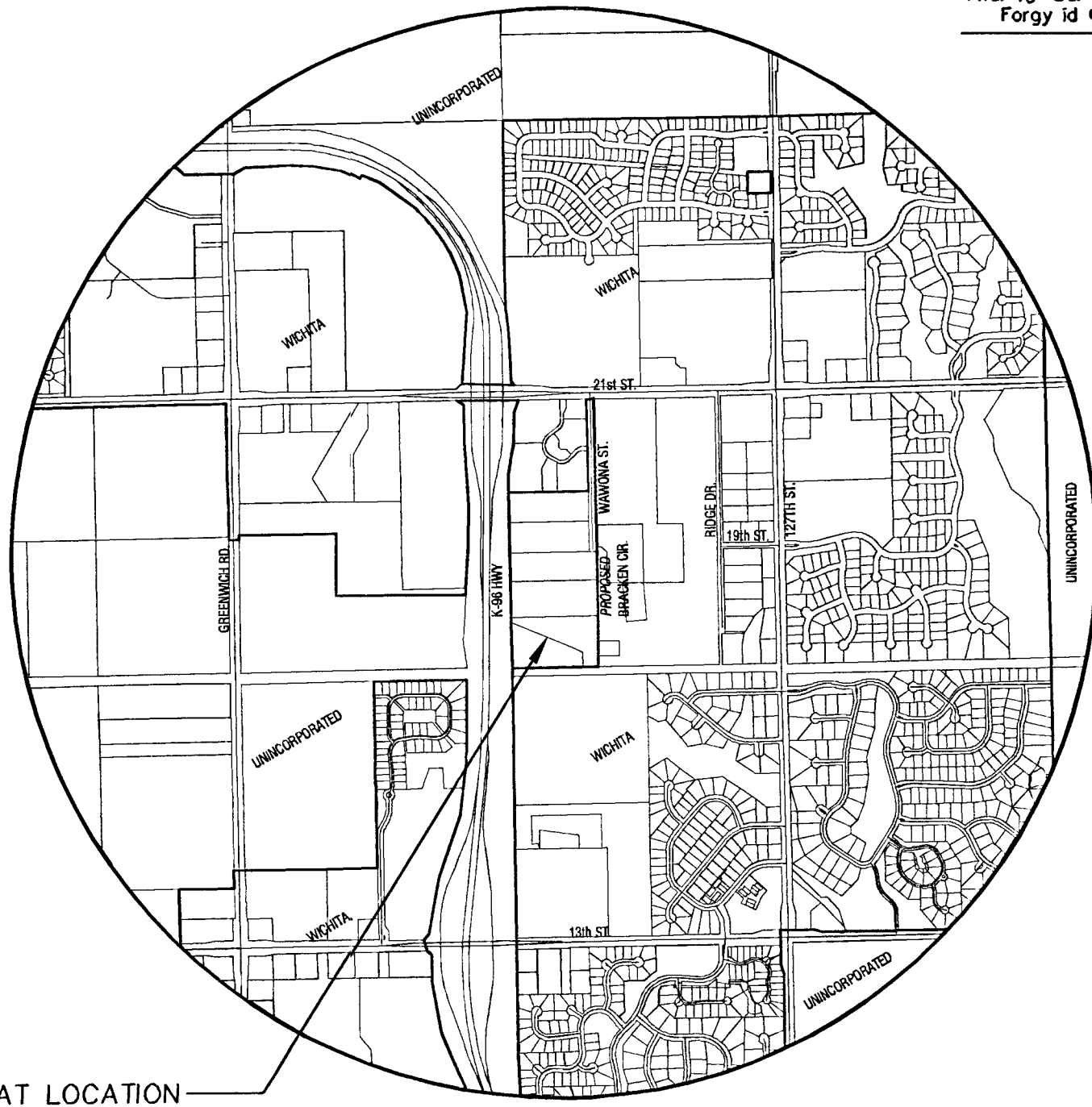
KLA DESIGN BY.	DMU DRAWN BY.	GJA CHECKED BY.
AUGUST 2003 DATE	03219 JOB NO.	1 / 1 SHEET/OF

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APPENDIX D

EXISTING DRAINAGE CONDITIONS



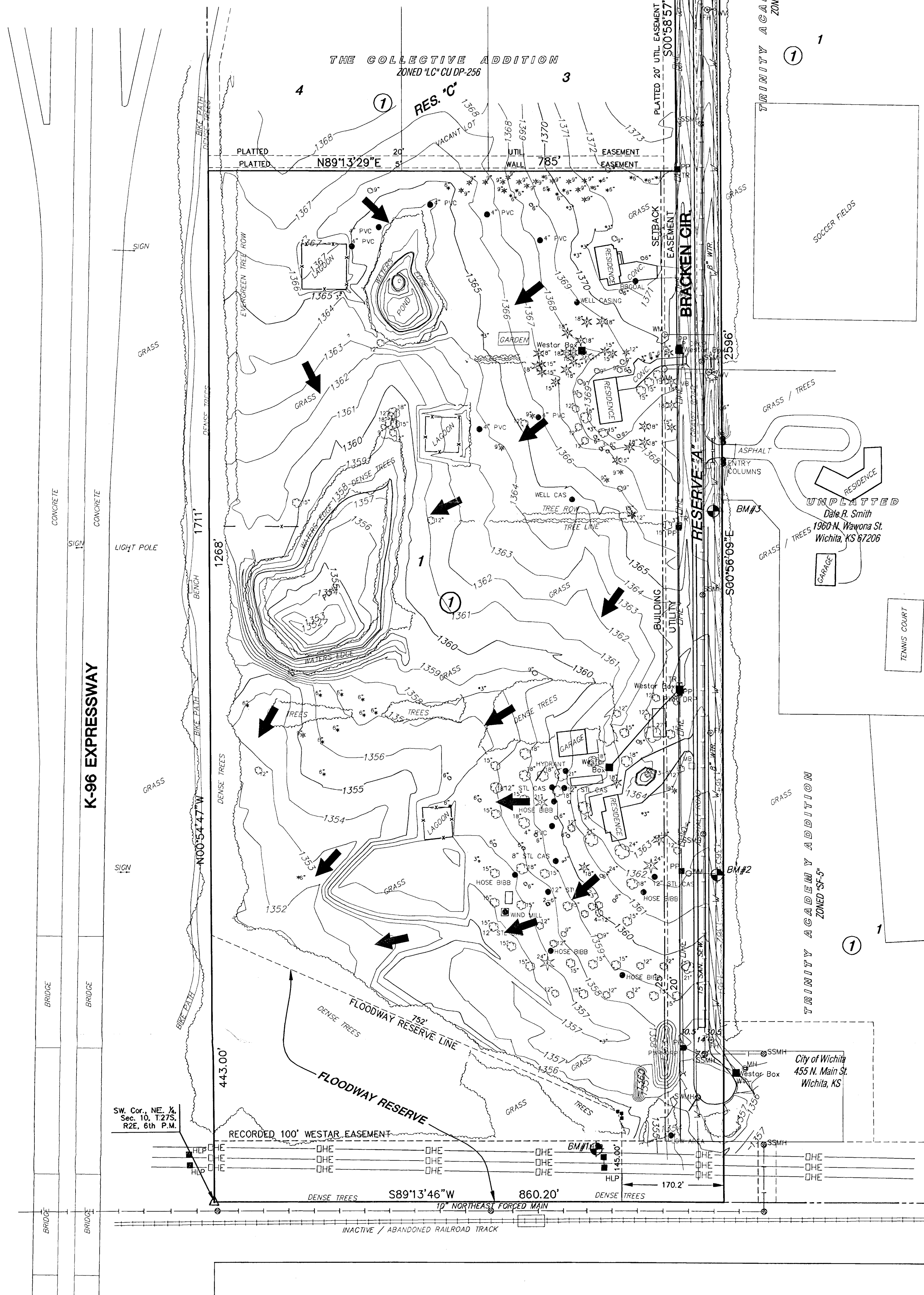
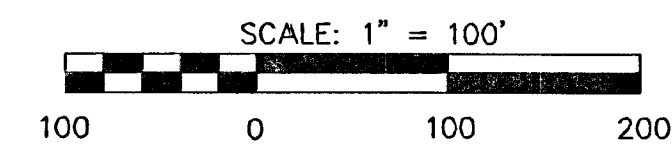
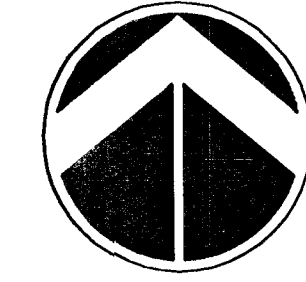


PLAT LOCATION

VICINITY MAP

NW Cor. NE 1/4
Sec. 10, T27S
R2E, 6th P.M.
Fwd. 1/4 Cor. w/
Foray Id Cop

75'
N89°13'29"E



BENCHMARKS

- BM #1 Railroad spike in north leg of the 2nd "H" pole structure east of K-96, 1st "h" pole west of Wawona, 660' east and 75' north of the center corner of Sec. 10-27S-2E. Elev. = 167.17 City Datum
- BM #2 Railroad spike in east side of 18" elm tree 2163' south of NE 1/4 Sec. 10-27S-2E (21st st. N) & 62' east of the west line of Wawona extended south. Elev. = 176.30 City Datum
- BM #3 Railroad spike in west side of power pole on west side of Wawona, 1531' south of the north of the NE 1/4 Sec. 10-27S-2E. Elev. = 181.24 City Datum
- BM #4 Railroad spike in west side of power pole on the west of Wawona, 654' south of the north line of the NE 1/4 sec. 10-27S-2E. Elev. = 189.75 City Datum
- BM #5 Stepped spike in north side of power pole on SW corner 21st. & Wawona, 779' east & 48' south of north 1/4 cor. Sec. 10-27S-2E. Elev. = 197.32 City Datum

LEGEND

- - CONIFEROUS TREE & DIAMETER
- - DECIDUOUS TREE & DIAMETER
- SN - SIGN
- - BUSH
- PP - POWER POLE AND GUY ANCHOR
- WB - WESTAR BOX
- - ELECTRIC BOX
- - EDGE OF TREES
- - FENCE
- BM - BENCHMARK
- SSMH - STORM WATER MANHOLE
- SSMH - SANITARY SEWER MANHOLE
- TM - TELEPHONE MANHOLE
- △ - SECTION CORNER
- - 5/8" REBAR/MKEC
- - 1/2" REBAR/MKEC
- - PROPERTY CORNER FOUND
- - GATE
- TRAF - TRAFFIC SIGNAL MANHOLE
- SPK - SPRINKLER HEAD
- LP - LIGHT POLE
- FP - FIRE HYDRANT
- WV - WATER VALVE
- WM - WATER METER
- ICV - IRRIGATION CONTROL VALVE
- TR - TELEPHONE RISER
- - INLET
- - STORM SEWER PIPE
- - WATER LINE
- - SANITARY SEWER LINE
- - GAS LINE
- - TELEPHONE LINE
- - UNDERGROUND ELECTRIC LINE
- - OVERHEAD ELECTRIC

NOTES

1. ZONING:
Existing: Single Family "SF-5"
Proposed: General Office "GO"
2. PLAT AREA: 31.05 acres
35.29 acres with R/W
3. SURVEY DATE: July 18th, 2003
4. EXISTING USE: Residential
PROPOSE USE: Medical Facility
5. LOT TOTAL: 1
6. RESERVE DESIGNATION AND USES:
1.) Irrigation (A)
2.) Landscaping (A)
3.) Berming (A)
4.) Monuments (A)
5.) Open Space (A)
6.) Signs (A)
7. PROPOSE STREET NAME CHANGE:
Current: Wawona Street
Proposed: Bracken Circle

EXISTING DRAINAGE CONDITIONS
WICHITA CLINIC ADDITION

OWNERS: Ralph A. and Mary K. Lanzrath 1857 N. Wawona St. Wichita, KS 67206 316-636-5175
DEVELOPER: Integrated Healthcare Systems Inc. 3311 E. Murdock St. Wichita, KS 67208-3054 316-689-9153

DATE: AUGUST, 2003



APPENDIX E
HYDRAFLOW HYDROGRAPH OUTPUT

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	----	----	57.69	----	----	----	142.95	167.84	189.66	Existing Wichita Clinic
2	SCS Runoff	----	----	96.15	----	----	----	181.73	205.78	226.77	Proposed Wichita Clinic
3	Reservoir	2	----	72.02	----	----	----	144.99	165.73	183.89	Pond Wizard Design

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	189.66	6	720	13.494	—	—	—	Existing Wichita Clinic
2	SCS Runoff	226.77	6	720	17.499	—	—	—	Proposed Wichita Clinic
3	Reservoir	183.89	6	726	17.499	2	3.12	2.526	Pond Wizard Design

Proj. file: Drainage Calculations.gpw Return Period: 100 yr

Run date: 08-07-2003

Hydrograph Report

Hyd. No. 1

Existing Wichita Clinic

Hydrograph type	= SCS Runoff	Peak discharge	= 189.66 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 31.10 ac	Curve number	= 81
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 15 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 13.494 acft

Hydrograph Discharge Table

Time -- Outflow (hrs cfs)	Time -- Outflow (hrs cfs)	Time -- Outflow (hrs cfs)	Time -- Outflow (hrs cfs)
8.50 1.92	11.90 132.76	15.30 6.19	18.70 3.58
8.60 2.05	12.00 189.66 <<	15.40 6.04	18.80 3.53
8.70 2.19	12.10 172.17	15.50 5.90	18.90 3.47
8.80 2.33	12.20 108.29	15.60 5.75	19.00 3.42
8.90 2.48	12.30 55.47	15.70 5.60	19.10 3.37
9.00 2.63	12.40 31.19	15.80 5.46	19.20 3.31
9.10 2.78	12.50 26.59	15.90 5.31	19.30 3.26
9.20 2.90	12.60 22.31	16.00 5.16	19.40 3.21
9.30 3.00	12.70 19.09	16.10 5.03	19.50 3.15
9.40 3.07	12.80 17.07	16.20 4.92	19.60 3.10
9.50 3.14	12.90 15.77	16.30 4.84	19.70 3.05
9.60 3.23	13.00 14.71	16.40 4.78	19.80 3.00
9.70 3.36	13.10 13.69	16.50 4.73	19.90 2.94
9.80 3.55	13.20 12.83	16.60 4.68	20.00 2.89
9.90 3.78	13.30 12.12	16.70 4.63	20.10 2.84
10.00 4.03	13.40 11.51	16.80 4.57	20.20 2.80
10.10 4.30	13.50 10.94	16.90 4.52	20.30 2.78
10.20 4.60	13.60 10.37	17.00 4.47	20.40 2.77
10.30 4.95	13.70 9.86	17.10 4.42	20.50 2.76
10.40 5.32	13.80 9.41	17.20 4.37	20.60 2.75
10.50 5.72	13.90 8.98	17.30 4.31	20.70 2.74
10.60 6.14	14.00 8.56	17.40 4.26	20.80 2.73
10.70 6.65	14.10 8.18	17.50 4.21	20.90 2.72
10.80 7.24	14.20 7.87	17.60 4.16	21.00 2.71
10.90 7.89	14.30 7.65	17.70 4.10	21.10 2.70
11.00 8.59	14.40 7.49	17.80 4.05	21.20 2.69
11.10 9.10	14.50 7.35	17.90 4.00	21.30 2.68
11.20 9.88	14.60 7.20	18.00 3.95	21.40 2.67
11.30 11.43	14.70 7.06	18.10 3.89	21.50 2.66
11.40 13.20	14.80 6.92	18.20 3.84	21.60 2.64
11.50 15.10	14.90 6.77	18.30 3.79	21.70 2.63
11.60 20.81	15.00 6.63	18.40 3.74	21.80 2.62
11.70 38.07	15.10 6.48	18.50 3.68	21.90 2.61
11.80 71.29	15.20 6.34	18.60 3.63	22.00 2.60

Continues on next page...

Hydrograph Discharge Table

Time -- Outflow
(hrs cfs)

22.10	2.59
22.20	2.58
22.30	2.57
22.40	2.56
22.50	2.55
22.60	2.54
22.70	2.53
22.80	2.52
22.90	2.51
23.00	2.50
23.10	2.49
23.20	2.48
23.30	2.47
23.40	2.46
23.50	2.45
23.60	2.44
23.70	2.43
23.80	2.41
23.90	2.40
24.00	2.39
24.10	1.91

...End

Hydrograph Report

Hyd. No. 2

Proposed Wichita Clinic

Hydrograph type	= SCS Runoff	Peak discharge	= 226.77 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 31.10 ac	Curve number	= 95
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 15 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 17.499 acft

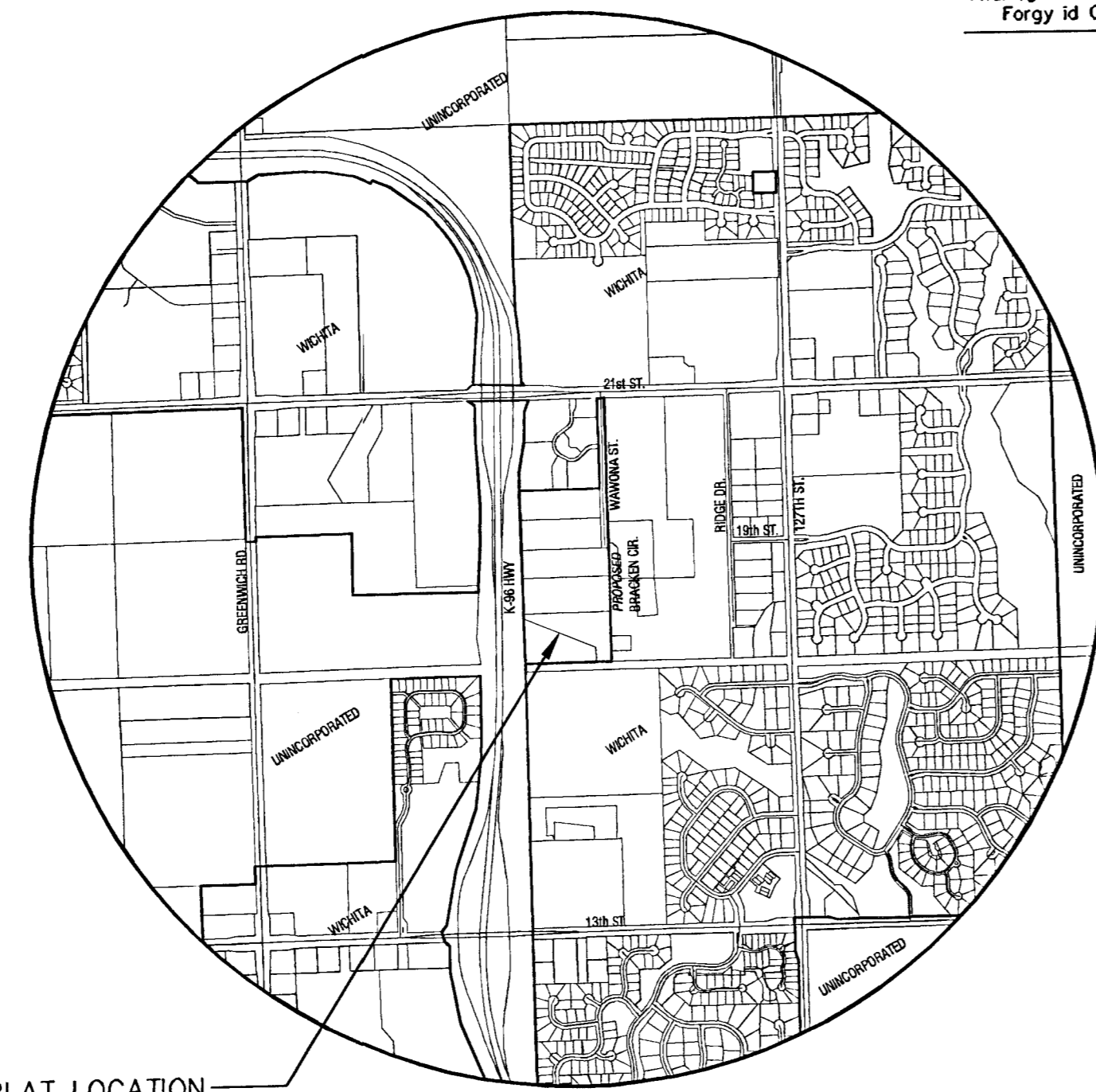
Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)	Time (hrs)	Outflow (cfs)
5.00	2.33	8.40	4.75	11.80	94.45	15.20	6.81
5.10	2.39	8.50	4.97	11.90	165.83	15.30	6.66
5.20	2.46	8.60	5.19	12.00	226.77 <<	15.40	6.50
5.30	2.52	8.70	5.42	12.10	200.41	15.50	6.34
5.40	2.59	8.80	5.64	12.20	123.72	15.60	6.18
5.50	2.65	8.90	5.87	12.30	62.02	15.70	6.02
5.60	2.71	9.00	6.09	12.40	34.48	15.80	5.86
5.70	2.78	9.10	6.30	12.50	29.31	15.90	5.70
5.80	2.84	9.20	6.45	12.60	24.53	16.00	5.54
5.90	2.90	9.30	6.53	12.70	20.94	16.10	5.39
6.00	2.97	9.40	6.56	12.80	18.69	16.20	5.27
6.10	3.03	9.50	6.59	12.90	17.24	16.30	5.19
6.20	3.09	9.60	6.64	13.00	16.06	16.40	5.12
6.30	3.15	9.70	6.80	13.10	14.94	16.50	5.07
6.40	3.22	9.80	7.06	13.20	13.97	16.60	5.01
6.50	3.28	9.90	7.40	13.30	13.19	16.70	4.95
6.60	3.34	10.00	7.76	13.40	12.52	16.80	4.90
6.70	3.40	10.10	8.13	13.50	11.88	16.90	4.84
6.80	3.46	10.20	8.56	13.60	11.26	17.00	4.78
6.90	3.52	10.30	9.05	13.70	10.70	17.10	4.72
7.00	3.58	10.40	9.58	13.80	10.19	17.20	4.67
7.10	3.64	10.50	10.11	13.90	9.72	17.30	4.61
7.20	3.70	10.60	10.69	14.00	9.27	17.40	4.55
7.30	3.76	10.70	11.37	14.10	8.84	17.50	4.50
7.40	3.82	10.80	12.17	14.20	8.51	17.60	4.44
7.50	3.88	10.90	13.05	14.30	8.27	17.70	4.38
7.60	3.94	11.00	13.95	14.40	8.09	17.80	4.33
7.70	4.00	11.10	14.54	14.50	7.93	17.90	4.27
7.80	4.06	11.20	15.50	14.60	7.77	18.00	4.21
7.90	4.12	11.30	17.60	14.70	7.61	18.10	4.16
8.00	4.18	11.40	19.96	14.80	7.45	18.20	4.10
8.10	4.25	11.50	22.41	14.90	7.29	18.30	4.04
8.20	4.37	11.60	30.05	15.00	7.13	18.40	3.98
8.30	4.55	11.70	52.88	15.10	6.97	18.50	3.93

Continues on next page...

Hydrograph Discharge Table

Time -- Outflow (hrs cfs)	Time -- Outflow (hrs cfs)
18.60 3.87	23.70 2.57
18.70 3.81	23.80 2.56
18.80 3.76	23.90 2.54
18.90 3.70	24.00 2.53
19.00 3.64	
19.10 3.59	
19.20 3.53	...End
19.30 3.47	
19.40 3.41	
19.50 3.36	
19.60 3.30	
19.70 3.24	
19.80 3.19	
19.90 3.13	
20.00 3.07	
20.10 3.02	
20.20 2.98	
20.30 2.96	
20.40 2.94	
20.50 2.93	
20.60 2.92	
20.70 2.91	
20.80 2.90	
20.90 2.89	
21.00 2.87	
21.10 2.86	
21.20 2.85	
21.30 2.84	
21.40 2.83	
21.50 2.82	
21.60 2.81	
21.70 2.79	
21.80 2.78	
21.90 2.77	
22.00 2.76	
22.10 2.75	
22.20 2.74	
22.30 2.73	
22.40 2.72	
22.50 2.70	
22.60 2.69	
22.70 2.68	
22.80 2.67	
22.90 2.66	
23.00 2.65	
23.10 2.64	
23.20 2.62	
23.30 2.61	
23.40 2.60	
23.50 2.59	
23.60 2.58	



PLAT LOCATION

VICINITY MAP

NW Cor. NE 1/4
Sec. 10, T27S
R2E, 6th P.M.
Tied 1/4 Cor w/
Foggy K Cop

75'
N89°13'29"E

21st ST. N

EXIST. SSMH
TOP=1381.63

EXIST. SSMH
TOP=1376.55

BM#4

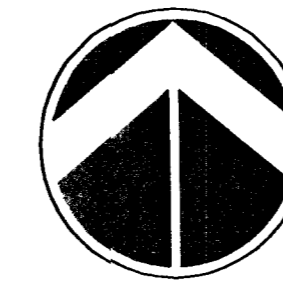
EXIST. SSMH
TOP=1371.91

EXIST. SSMH
TOP=1368.19

EXIST. SSMH
TOP=1365.45

EXIST. SSMH
TOP=1362.18

EXIST. SSMH
TOP=1357.20



SCALE: 1" = 100'
100 0 100 200

BENCHMARKS

- BM #1 Railroad spike in north leg of the 2nd "H" pole structure east of K-96, 1st "h" pole west of Wawona, 660' east and 75' north of the center corner of Sec. 10-27S-2E. Elev. = 167.17 City Datum
- BM #2 Railroad spike in east side of 18" elm tree 2163' south of NE. 1/4 Sec. 10-27S-2E (21st st. N) & 62' east of the west line of Wawona extended south. Elev. = 176.30 City Datum
- BM #3 Railroad spike in west side of power pole on west side of Wawona, 1531' south of the north of the NE. 1/4 Sec. 10-27S-2E. Elev. = 181.24 City Datum
- BM #4 Railroad spike in west side of power pole on the west of Wawona, 654' south of the north line of the NE. 1/4 sec. 10-27S-2E. Elev. = 189.75 City Datum
- BM #5 Stepped spike in north side of power pole on SW. corner 21st. & Wawona, 779' east & 48' south of north 1/4 cor. Sec. 10-27S-2E. Elev. = 197.32 City Datum

LEGEND

- - CONIFEROUS TREE & DIAMETER
- - DECIDUOUS TREE & DIAMETER
- - SIGN
- - BUSH
- - POWER POLE AND GUY ANCHOR
- - WESTAR BOX
- - ELECTRIC BOX
- - EDGE OF TREES
- - FENCE
- - BENCHMARK
- - STORM WATER MANHOLE
- - SANITARY SEWER MANHOLE
- - TELEPHONE MANHOLE
- - SECTION CORNER
- - 5/8" REBAR/AMEC
- - CLS #39 SET
- - PROPERTY CORNER FOUND
- - GATE
- - TRAFFIC SIGNAL MANHOLE
- - SPRINKLER HEAD
- - LIGHT POLE
- - FIRE HYDRANT
- - WATER VALVE
- - WATER METER
- - IRRIGATION CONTROL VALVE
- - TELEPHONE RISER
- - INLET
- - STORM SEWER PIPE
- - WATER LINE
- - SANITARY SEWER LINE
- - GAS LINE
- - TELEPHONE LINE
- - UNDERGROUND ELECTRIC LINE
- - OVERHEAD ELECTRIC

NOTES

1. ZONING:
Existing: Single Family "SF-5"
Proposed: General Office "GO"
2. PLAT AREA: 31.05 acres
35.29 acres with R/W
3. SURVEY DATE: July 18th, 2003
4. EXISTING USE: Residential
PROPOSE USE: Medical Facility
5. LOT TOTAL: 1
6. RESERVE DESIGNATION AND USES:
1.) Irrigation (A)
2.) Landscaping (A)
3.) Berming (A)
4.) Monuments (A)
5.) Open Space (A)
6.) Signs (A)
7. PROPOSE STREET NAME CHANGE:
Current: Wawona Street
Proposed: Bracken Circle

DRAINAGE AND UTILITY PLAN
WICHITA CLINIC ADDITION

OWNERS: Ralph A. and Mary K. Lanzrath
DEVELOPER: Integrated Healthcare Systems Inc.

1857 N. Wawona St. Wichita, KS 67206
3311 E. Murdock St. Wichita, KS 67208-3054

316-636-5175
316-689-9153

DATE: AUGUST, 2003



Hydrograph Report

Hyd. No. 3

Pond Wizard Design

Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Inflow hyd. No. = 2
 Max. Elevation = 3.12 ft

Peak discharge = 183.89 cfs
 Time interval = 6 min
 Reservoir name = Pond Wizard Desig
 Max. Storage = 2.526 acft

Storage Indication method used.

Outflow hydrograph volume = 17.499 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
4.80	2.20	0.15	----	----	----	----	1.90	----	----	----	----	1.90
4.90	2.27	0.15	----	----	----	----	1.96	----	----	----	----	1.96
5.00	2.33	0.15	----	----	----	----	2.03	----	----	----	----	2.03
5.10	2.39	0.16	----	----	----	----	2.09	----	----	----	----	2.09
5.20	2.46	0.16	----	----	----	----	2.16	----	----	----	----	2.16
5.30	2.52	0.16	----	----	----	----	2.23	----	----	----	----	2.23
5.40	2.59	0.17	----	----	----	----	2.30	----	----	----	----	2.30
5.50	2.65	0.17	----	----	----	----	2.37	----	----	----	----	2.37
5.60	2.71	0.17	----	----	----	----	2.44	----	----	----	----	2.44
5.70	2.78	0.18	----	----	----	----	2.51	----	----	----	----	2.51
5.80	2.84	0.18	----	----	----	----	2.57	----	----	----	----	2.57
5.90	2.90	0.18	----	----	----	----	2.64	----	----	----	----	2.64
6.00	2.97	0.19	----	----	----	----	2.70	----	----	----	----	2.70
6.10	3.03	0.19	----	----	----	----	2.77	----	----	----	----	2.77
6.20	3.09	0.19	----	----	----	----	2.83	----	----	----	----	2.83
6.30	3.15	0.20	----	----	----	----	2.89	----	----	----	----	2.89
6.40	3.22	0.20	----	----	----	----	2.96	----	----	----	----	2.96
6.50	3.28	0.20	----	----	----	----	3.02	----	----	----	----	3.02
6.60	3.34	0.20	----	----	----	----	3.09	----	----	----	----	3.09
6.70	3.40	0.21	----	----	----	----	3.16	----	----	----	----	3.16
6.80	3.46	0.21	----	----	----	----	3.22	----	----	----	----	3.22
6.90	3.52	0.21	----	----	----	----	3.29	----	----	----	----	3.29
7.00	3.58	0.22	----	----	----	----	3.35	----	----	----	----	3.35
7.10	3.64	0.22	----	----	----	----	3.41	----	----	----	----	3.41
7.20	3.70	0.22	----	----	----	----	3.47	----	----	----	----	3.47
7.30	3.76	0.22	----	----	----	----	3.54	----	----	----	----	3.54
7.40	3.82	0.23	----	----	----	----	3.60	----	----	----	----	3.60
7.50	3.88	0.23	----	----	----	----	3.66	----	----	----	----	3.66
7.60	3.94	0.23	----	----	----	----	3.72	----	----	----	----	3.72
7.70	4.00	0.23	----	----	----	----	3.78	----	----	----	----	3.78
7.80	4.06	0.24	----	----	----	----	3.84	----	----	----	----	3.84
7.90	4.12	0.24	----	----	----	----	3.90	----	----	----	----	3.90
8.00	4.18	0.24	----	----	----	----	3.96	----	----	----	----	3.96
8.10	4.25	0.24	----	----	----	----	4.03	----	----	----	----	4.03
8.20	4.37	0.25	----	----	----	----	4.10	----	----	----	----	4.10
8.30	4.55	0.25	----	----	----	----	4.19	----	----	----	----	4.19
8.40	4.75	0.26	----	----	----	----	4.31	----	----	----	----	4.31
8.50	4.97	0.26	----	----	----	----	4.45	----	----	----	----	4.45

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
8.60	5.19	0.27	----	----	----	----	4.61	----	----	----	----	4.61
8.70	5.42	0.27	----	----	----	----	4.79	----	----	----	----	4.79
8.80	5.64	0.28	----	----	----	----	4.98	----	----	----	----	4.98
8.90	5.87	0.29	----	----	----	----	5.19	----	----	----	----	5.19
9.00	6.09	0.30	----	----	----	----	5.41	----	----	----	----	5.41
9.10	6.30	0.31	----	----	----	----	5.62	----	----	----	----	5.62
9.20	6.45	0.31	----	----	----	----	5.83	----	----	----	----	5.83
9.30	6.53	0.32	----	----	----	----	6.01	----	----	----	----	6.01
9.40	6.56	0.32	----	----	----	----	6.16	----	----	----	----	6.16
9.50	6.59	0.33	----	----	----	----	6.28	----	----	----	----	6.28
9.60	6.64	0.33	----	----	----	----	6.38	----	----	----	----	6.38
9.70	6.80	0.34	----	----	----	----	6.48	----	----	----	----	6.48
9.80	7.06	0.34	----	----	----	----	6.61	----	----	----	----	6.61
9.90	7.40	0.35	----	----	----	----	6.79	----	----	----	----	6.79
10.00	7.76	0.35	----	----	----	----	7.01	----	----	----	----	7.01
10.10	8.13	0.36	----	----	----	----	7.29	----	----	----	----	7.29
10.20	8.56	0.37	----	----	----	----	7.61	----	----	----	----	7.61
10.30	9.05	0.39	----	----	----	----	7.97	----	----	----	----	7.97
10.40	9.58	0.40	----	----	----	----	8.37	----	----	----	----	8.37
10.50	10.11	0.41	----	----	----	----	8.82	----	----	----	----	8.82
10.60	10.69	0.43	----	----	----	----	9.31	----	----	----	----	9.31
10.70	11.37	0.44	----	----	----	----	9.84	----	----	----	----	9.84
10.80	12.17	0.46	----	----	----	----	10.45	----	----	----	----	10.45
10.90	13.05	0.48	----	----	----	----	11.14	----	----	----	----	11.14
11.00	13.95	0.50	----	----	----	----	11.91	----	----	----	----	11.91
11.10	14.54	0.53	----	----	----	----	12.69	----	----	----	----	12.69
11.20	15.50	0.55	----	----	----	----	13.48	----	----	----	----	13.48
11.30	17.60	0.58	----	----	----	----	14.54	----	----	----	----	14.54
11.40	19.96	0.61	----	----	----	----	16.04	----	----	----	----	16.04
11.50	22.41	0.66	----	----	----	----	17.91	----	----	----	----	17.91
11.60	30.05	0.74	----	----	----	----	21.05	----	----	----	----	21.05
11.70	52.88	0.91	----	----	----	----	29.13	----	----	----	----	29.13
11.80	94.45	1.29	----	----	----	----	48.56	----	----	----	----	48.56
11.90	165.83	1.92	----	----	----	----	88.30	----	----	----	----	88.30
12.00	226.77 <<	2.68	----	----	----	----	145.91	----	----	----	----	145.91
12.10	200.41	3.12 <<	----	----	----	----	183.89	----	----	----	----	183.89 <<
12.20	123.72	2.98	----	----	----	----	171.50	----	----	----	----	171.50
12.30	62.02	2.45	----	----	----	----	128.02	----	----	----	----	128.02
12.40	34.48	1.88	----	----	----	----	85.97	----	----	----	----	85.97
12.50	29.31	1.47	----	----	----	----	59.28	----	----	----	----	59.28
12.60	24.53	1.21	----	----	----	----	44.34	----	----	----	----	44.34
12.70	20.94	1.03	----	----	----	----	34.80	----	----	----	----	34.80
12.80	18.69	0.90	----	----	----	----	28.54	----	----	----	----	28.54
12.90	17.24	0.81	----	----	----	----	24.33	----	----	----	----	24.33
13.00	16.06	0.74	----	----	----	----	21.33	----	----	----	----	21.33
13.10	14.94	0.69	----	----	----	----	19.10	----	----	----	----	19.10
13.20	13.97	0.65	----	----	----	----	17.38	----	----	----	----	17.38
13.30	13.19	0.61	----	----	----	----	16.01	----	----	----	----	16.01
13.40	12.52	0.58	----	----	----	----	14.89	----	----	----	----	14.89
13.50	11.88	0.56	----	----	----	----	13.95	----	----	----	----	13.95
13.60	11.26	0.54	----	----	----	----	13.14	----	----	----	----	13.14

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
13.70	10.70	0.52	----	----	----	----	12.41	----	----	----	----	12.41
13.80	10.19	0.50	----	----	----	----	11.76	----	----	----	----	11.76
13.90	9.72	0.48	----	----	----	----	11.17	----	----	----	----	11.17
14.00	9.27	0.47	----	----	----	----	10.64	----	----	----	----	10.64
14.10	8.84	0.45	----	----	----	----	10.13	----	----	----	----	10.13
14.20	8.51	0.44	----	----	----	----	9.67	----	----	----	----	9.67
14.30	8.27	0.43	----	----	----	----	9.28	----	----	----	----	9.28
14.40	8.09	0.42	----	----	----	----	8.94	----	----	----	----	8.94
14.50	7.93	0.41	----	----	----	----	8.66	----	----	----	----	8.66
14.60	7.77	0.40	----	----	----	----	8.41	----	----	----	----	8.41
14.70	7.61	0.39	----	----	----	----	8.19	----	----	----	----	8.19
14.80	7.45	0.39	----	----	----	----	7.99	----	----	----	----	7.99
14.90	7.29	0.38	----	----	----	----	7.81	----	----	----	----	7.81
15.00	7.13	0.37	----	----	----	----	7.63	----	----	----	----	7.63
15.10	6.97	0.37	----	----	----	----	7.45	----	----	----	----	7.45
15.20	6.81	0.36	----	----	----	----	7.29	----	----	----	----	7.29
15.30	6.66	0.36	----	----	----	----	7.12	----	----	----	----	7.12
15.40	6.50	0.35	----	----	----	----	6.97	----	----	----	----	6.97
15.50	6.34	0.35	----	----	----	----	6.81	----	----	----	----	6.81
15.60	6.18	0.34	----	----	----	----	6.65	----	----	----	----	6.65
15.70	6.02	0.34	----	----	----	----	6.49	----	----	----	----	6.49
15.80	5.86	0.33	----	----	----	----	6.33	----	----	----	----	6.33
15.90	5.70	0.32	----	----	----	----	6.17	----	----	----	----	6.17
16.00	5.54	0.32	----	----	----	----	6.01	----	----	----	----	6.01
16.10	5.39	0.31	----	----	----	----	5.86	----	----	----	----	5.86
16.20	5.27	0.31	----	----	----	----	5.72	----	----	----	----	5.72
16.30	5.19	0.30	----	----	----	----	5.59	----	----	----	----	5.59
16.40	5.12	0.30	----	----	----	----	5.47	----	----	----	----	5.47
16.50	5.07	0.30	----	----	----	----	5.37	----	----	----	----	5.37
16.60	5.01	0.29	----	----	----	----	5.28	----	----	----	----	5.28
16.70	4.95	0.29	----	----	----	----	5.20	----	----	----	----	5.20
16.80	4.90	0.29	----	----	----	----	5.12	----	----	----	----	5.12
16.90	4.84	0.28	----	----	----	----	5.05	----	----	----	----	5.05
17.00	4.78	0.28	----	----	----	----	4.99	----	----	----	----	4.99
17.10	4.72	0.28	----	----	----	----	4.92	----	----	----	----	4.92
17.20	4.67	0.28	----	----	----	----	4.87	----	----	----	----	4.87
17.30	4.61	0.28	----	----	----	----	4.81	----	----	----	----	4.81
17.40	4.55	0.27	----	----	----	----	4.75	----	----	----	----	4.75
17.50	4.50	0.27	----	----	----	----	4.69	----	----	----	----	4.69
17.60	4.44	0.27	----	----	----	----	4.64	----	----	----	----	4.64
17.70	4.38	0.27	----	----	----	----	4.58	----	----	----	----	4.58
17.80	4.33	0.26	----	----	----	----	4.52	----	----	----	----	4.52
17.90	4.27	0.26	----	----	----	----	4.46	----	----	----	----	4.46
18.00	4.21	0.26	----	----	----	----	4.41	----	----	----	----	4.41
18.10	4.16	0.26	----	----	----	----	4.35	----	----	----	----	4.35
18.20	4.10	0.25	----	----	----	----	4.29	----	----	----	----	4.29
18.30	4.04	0.25	----	----	----	----	4.24	----	----	----	----	4.24
18.40	3.98	0.25	----	----	----	----	4.18	----	----	----	----	4.18
18.50	3.93	0.25	----	----	----	----	4.12	----	----	----	----	4.12
18.60	3.87	0.25	----	----	----	----	4.06	----	----	----	----	4.06
18.70	3.81	0.24	----	----	----	----	4.01	----	----	----	----	4.01

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
18.80	3.76	0.24	----	----	----	----	3.95	----	----	----	----	3.95
18.90	3.70	0.24	----	----	----	----	3.89	----	----	----	----	3.89
19.00	3.64	0.24	----	----	----	----	3.84	----	----	----	----	3.84
19.10	3.59	0.23	----	----	----	----	3.79	----	----	----	----	3.79
19.20	3.53	0.23	----	----	----	----	3.73	----	----	----	----	3.73
19.30	3.47	0.23	----	----	----	----	3.68	----	----	----	----	3.68
19.40	3.41	0.23	----	----	----	----	3.62	----	----	----	----	3.62
19.50	3.36	0.23	----	----	----	----	3.57	----	----	----	----	3.57
19.60	3.30	0.22	----	----	----	----	3.51	----	----	----	----	3.51
19.70	3.24	0.22	----	----	----	----	3.45	----	----	----	----	3.45
19.80	3.19	0.22	----	----	----	----	3.40	----	----	----	----	3.40
19.90	3.13	0.22	----	----	----	----	3.34	----	----	----	----	3.34
20.00	3.07	0.21	----	----	----	----	3.28	----	----	----	----	3.28
20.10	3.02	0.21	----	----	----	----	3.23	----	----	----	----	3.23
20.20	2.98	0.21	----	----	----	----	3.17	----	----	----	----	3.17
20.30	2.96	0.21	----	----	----	----	3.12	----	----	----	----	3.12
20.40	2.94	0.20	----	----	----	----	3.08	----	----	----	----	3.08
20.50	2.93	0.20	----	----	----	----	3.05	----	----	----	----	3.05
20.60	2.92	0.20	----	----	----	----	3.02	----	----	----	----	3.02
20.70	2.91	0.20	----	----	----	----	2.99	----	----	----	----	2.99
20.80	2.90	0.20	----	----	----	----	2.97	----	----	----	----	2.97
20.90	2.89	0.20	----	----	----	----	2.96	----	----	----	----	2.96
21.00	2.87	0.20	----	----	----	----	2.94	----	----	----	----	2.94
21.10	2.86	0.20	----	----	----	----	2.92	----	----	----	----	2.92
21.20	2.85	0.20	----	----	----	----	2.91	----	----	----	----	2.91
21.30	2.84	0.20	----	----	----	----	2.90	----	----	----	----	2.90
21.40	2.83	0.20	----	----	----	----	2.88	----	----	----	----	2.88
21.50	2.82	0.19	----	----	----	----	2.87	----	----	----	----	2.87
21.60	2.81	0.19	----	----	----	----	2.86	----	----	----	----	2.86
21.70	2.79	0.19	----	----	----	----	2.84	----	----	----	----	2.84
21.80	2.78	0.19	----	----	----	----	2.83	----	----	----	----	2.83
21.90	2.77	0.19	----	----	----	----	2.82	----	----	----	----	2.82
22.00	2.76	0.19	----	----	----	----	2.81	----	----	----	----	2.81
22.10	2.75	0.19	----	----	----	----	2.80	----	----	----	----	2.80
22.20	2.74	0.19	----	----	----	----	2.79	----	----	----	----	2.79
22.30	2.73	0.19	----	----	----	----	2.77	----	----	----	----	2.77
22.40	2.72	0.19	----	----	----	----	2.76	----	----	----	----	2.76
22.50	2.70	0.19	----	----	----	----	2.75	----	----	----	----	2.75
22.60	2.69	0.19	----	----	----	----	2.74	----	----	----	----	2.74
22.70	2.68	0.19	----	----	----	----	2.73	----	----	----	----	2.73
22.80	2.67	0.19	----	----	----	----	2.72	----	----	----	----	2.72
22.90	2.66	0.19	----	----	----	----	2.71	----	----	----	----	2.71
23.00	2.65	0.19	----	----	----	----	2.69	----	----	----	----	2.69
23.10	2.64	0.19	----	----	----	----	2.68	----	----	----	----	2.68
23.20	2.62	0.19	----	----	----	----	2.67	----	----	----	----	2.67
23.30	2.61	0.18	----	----	----	----	2.66	----	----	----	----	2.66
23.40	2.60	0.18	----	----	----	----	2.65	----	----	----	----	2.65
23.50	2.59	0.18	----	----	----	----	2.64	----	----	----	----	2.64
23.60	2.58	0.18	----	----	----	----	2.63	----	----	----	----	2.63
23.70	2.57	0.18	----	----	----	----	2.61	----	----	----	----	2.61
23.80	2.56	0.18	----	----	----	----	2.60	----	----	----	----	2.60

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
23.90	2.54	0.18	----	----	----	----	2.59	----	----	----	----	2.59
24.00	2.53	0.18	----	----	----	----	2.58	----	----	----	----	2.58
24.10	2.02	0.18	----	----	----	----	2.51	----	----	----	----	2.51
24.20	1.01	0.17	----	----	----	----	2.30	----	----	----	----	2.30
24.30	0.34	0.15	----	----	----	----	1.96	----	----	----	----	1.96

...End

Reservoir Report

Hydraflow Hydrographs by Intelisolve

Reservoir No. 1 - Pond Wizard Design

Pond Data

Bottom LxW = 175.0 x 175.0 ft Side slope = 4.0:1 Bottom elev. = 0.00 ft Depth = 8.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	0.00	30,625	0.000	0.000
0.40	0.40	31,755	0.286	0.286
0.80	0.80	32,906	0.297	0.583
1.20	1.20	34,077	0.308	0.891
1.60	1.60	35,269	0.318	1.209
2.00	2.00	36,481	0.329	1.539
2.40	2.40	37,714	0.341	1.879
2.80	2.80	38,967	0.352	2.231
3.20	3.20	40,240	0.364	2.595
3.60	3.60	41,534	0.375	2.970
4.00	4.00	42,849	0.387	3.358
4.40	4.40	44,184	0.400	3.757
4.80	4.80	45,540	0.412	4.169
5.20	5.20	46,916	0.424	4.594
5.60	5.60	48,312	0.437	5.031
6.00	6.00	49,729	0.450	5.481
6.40	6.40	51,166	0.463	5.944
6.80	6.80	52,624	0.477	6.421
7.20	7.20	54,103	0.490	6.911
7.60	7.60	55,602	0.504	7.415
8.00	8.00	57,121	0.518	7.932

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 0.0	0.0	0.0	0.0
Span in	= 0.0	0.0	0.0	0.0
No. Barrels	= 0	0	0	0
Invert El. ft	= 0.00	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.000	.000
Orif. Coeff.	= 0.60	0.60	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 10.00	0.00	0.00	0.00
Crest El. ft	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	0.00	---	---	---	---	0.00	---	---	---	---	0.00
0.04	0.029	0.04	---	---	---	---	0.27	---	---	---	---	0.27
0.08	0.057	0.08	---	---	---	---	0.75	---	---	---	---	0.75
0.12	0.086	0.12	---	---	---	---	1.38	---	---	---	---	1.38
0.16	0.115	0.16	---	---	---	---	2.13	---	---	---	---	2.13
0.20	0.143	0.20	---	---	---	---	2.98	---	---	---	---	2.98
0.24	0.172	0.24	---	---	---	---	3.92	---	---	---	---	3.92
0.28	0.200	0.28	---	---	---	---	4.93	---	---	---	---	4.93
0.32	0.229	0.32	---	---	---	---	6.03	---	---	---	---	6.03
0.36	0.258	0.36	---	---	---	---	7.19	---	---	---	---	7.19
0.40	0.286	0.40	---	---	---	---	8.42	---	---	---	---	8.42
0.44	0.316	0.44	---	---	---	---	9.72	---	---	---	---	9.72
0.48	0.346	0.48	---	---	---	---	11.07	---	---	---	---	11.07
0.52	0.375	0.52	---	---	---	---	12.49	---	---	---	---	12.49
0.56	0.405	0.56	---	---	---	---	13.95	---	---	---	---	13.95
0.60	0.435	0.60	---	---	---	---	15.48	---	---	---	---	15.48
0.64	0.465	0.64	---	---	---	---	17.05	---	---	---	---	17.05

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Pond Wizard Design

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	Civ D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.68	0.494	0.68	---	---	---	---	18.67	---	---	---	---	18.67
0.72	0.524	0.72	---	---	---	---	20.34	---	---	---	---	20.34
0.76	0.554	0.76	---	---	---	---	22.06	---	---	---	---	22.06
0.80	0.583	0.80	---	---	---	---	23.83	---	---	---	---	23.83
0.84	0.614	0.84	---	---	---	---	25.64	---	---	---	---	25.64
0.88	0.645	0.88	---	---	---	---	27.49	---	---	---	---	27.49
0.92	0.676	0.92	---	---	---	---	29.39	---	---	---	---	29.39
0.96	0.706	0.96	---	---	---	---	31.32	---	---	---	---	31.32
1.00	0.737	1.00	---	---	---	---	33.30	---	---	---	---	33.30
1.04	0.768	1.04	---	---	---	---	35.32	---	---	---	---	35.32
1.08	0.799	1.08	---	---	---	---	37.37	---	---	---	---	37.37
1.12	0.829	1.12	---	---	---	---	39.47	---	---	---	---	39.47
1.16	0.860	1.16	---	---	---	---	41.60	---	---	---	---	41.60
1.20	0.891	1.20	---	---	---	---	43.77	---	---	---	---	43.77
1.24	0.923	1.24	---	---	---	---	45.98	---	---	---	---	45.98
1.28	0.954	1.28	---	---	---	---	48.22	---	---	---	---	48.22
1.32	0.986	1.32	---	---	---	---	50.50	---	---	---	---	50.50
1.36	1.018	1.36	---	---	---	---	52.81	---	---	---	---	52.81
1.40	1.050	1.40	---	---	---	---	55.16	---	---	---	---	55.16
1.44	1.082	1.44	---	---	---	---	57.54	---	---	---	---	57.54
1.48	1.114	1.48	---	---	---	---	59.96	---	---	---	---	59.96
1.52	1.145	1.52	---	---	---	---	62.40	---	---	---	---	62.40
1.56	1.177	1.56	---	---	---	---	64.88	---	---	---	---	64.88
1.60	1.209	1.60	---	---	---	---	67.39	---	---	---	---	67.39
1.64	1.242	1.64	---	---	---	---	69.94	---	---	---	---	69.94
1.68	1.275	1.68	---	---	---	---	72.51	---	---	---	---	72.51
1.72	1.308	1.72	---	---	---	---	75.12	---	---	---	---	75.12
1.76	1.341	1.76	---	---	---	---	77.75	---	---	---	---	77.75
1.80	1.374	1.80	---	---	---	---	80.42	---	---	---	---	80.42
1.84	1.407	1.84	---	---	---	---	83.11	---	---	---	---	83.11
1.88	1.440	1.88	---	---	---	---	85.84	---	---	---	---	85.84
1.92	1.473	1.92	---	---	---	---	88.59	---	---	---	---	88.59
1.96	1.506	1.96	---	---	---	---	91.38	---	---	---	---	91.38
2.00	1.539	2.00	---	---	---	---	94.19	---	---	---	---	94.19
2.04	1.573	2.04	---	---	---	---	97.03	---	---	---	---	97.03
2.08	1.607	2.08	---	---	---	---	99.89	---	---	---	---	99.89
2.12	1.641	2.12	---	---	---	---	102.79	---	---	---	---	102.79
2.16	1.675	2.16	---	---	---	---	105.71	---	---	---	---	105.71
2.20	1.709	2.20	---	---	---	---	108.66	---	---	---	---	108.66
2.24	1.743	2.24	---	---	---	---	111.64	---	---	---	---	111.64
2.28	1.777	2.28	---	---	---	---	114.64	---	---	---	---	114.64
2.32	1.811	2.32	---	---	---	---	117.67	---	---	---	---	117.67
2.36	1.845	2.36	---	---	---	---	120.73	---	---	---	---	120.73
2.40	1.879	2.40	---	---	---	---	123.81	---	---	---	---	123.81
2.44	1.914	2.44	---	---	---	---	126.92	---	---	---	---	126.92
2.48	1.950	2.48	---	---	---	---	130.05	---	---	---	---	130.05
2.52	1.985	2.52	---	---	---	---	133.21	---	---	---	---	133.21
2.56	2.020	2.56	---	---	---	---	136.40	---	---	---	---	136.40
2.60	2.055	2.60	---	---	---	---	139.61	---	---	---	---	139.61
2.64	2.090	2.64	---	---	---	---	142.84	---	---	---	---	142.84
2.68	2.126	2.68	---	---	---	---	146.10	---	---	---	---	146.10
2.72	2.161	2.72	---	---	---	---	149.38	---	---	---	---	149.38
2.76	2.196	2.76	---	---	---	---	152.69	---	---	---	---	152.69
2.80	2.231	2.80	---	---	---	---	156.02	---	---	---	---	156.02
2.84	2.268	2.84	---	---	---	---	159.38	---	---	---	---	159.38
2.88	2.304	2.88	---	---	---	---	162.75	---	---	---	---	162.75
2.92	2.340	2.92	---	---	---	---	166.16	---	---	---	---	166.16
2.96	2.377	2.96	---	---	---	---	169.58	---	---	---	---	169.58
3.00	2.413	3.00	---	---	---	---	173.03	---	---	---	---	173.03
3.04	2.449	3.04	---	---	---	---	176.50	---	---	---	---	176.50
3.08	2.486	3.08	---	---	---	---	180.00	---	---	---	---	180.00
3.12	2.522	3.12	---	---	---	---	183.52	---	---	---	---	183.52
3.16	2.559	3.16	---	---	---	---	187.06	---	---	---	---	187.06
3.20	2.595	3.20	---	---	---	---	190.62	---	---	---	---	190.62
3.24	2.632	3.24	---	---	---	---	194.21	---	---	---	---	194.21
3.28	2.670	3.28	---	---	---	---	197.81	---	---	---	---	197.81
3.32	2.708	3.32	---	---	---	---	201.44	---	---	---	---	201.44
3.36	2.745	3.36	---	---	---	---	205.09	---	---	---	---	205.09
3.40	2.783	3.40	---	---	---	---	208.77	---	---	---	---	208.77
3.44	2.820	3.44	---	---	---	---	212.46	---	---	---	---	212.46

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Pond Wizard Design

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	Civ D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
3.48	2.858	3.48	---	---	---	---	216.18	---	---	---	---	216.18
3.52	2.895	3.52	---	---	---	---	219.92	---	---	---	---	219.92
3.56	2.933	3.56	---	---	---	---	223.68	---	---	---	---	223.68
3.60	2.970	3.60	---	---	---	---	227.46	---	---	---	---	227.46
3.64	3.009	3.64	---	---	---	---	231.26	---	---	---	---	231.26
3.68	3.048	3.68	---	---	---	---	235.08	---	---	---	---	235.08
3.72	3.087	3.72	---	---	---	---	238.92	---	---	---	---	238.92
3.76	3.125	3.76	---	---	---	---	242.79	---	---	---	---	242.79
3.80	3.164	3.80	---	---	---	---	246.67	---	---	---	---	246.67
3.84	3.203	3.84	---	---	---	---	250.58	---	---	---	---	250.58
3.88	3.242	3.88	---	---	---	---	254.50	---	---	---	---	254.50
3.92	3.280	3.92	---	---	---	---	258.45	---	---	---	---	258.45
3.96	3.319	3.96	---	---	---	---	262.41	---	---	---	---	262.41
4.00	3.358	4.00	---	---	---	---	266.40	---	---	---	---	266.40
4.04	3.398	4.04	---	---	---	---	270.41	---	---	---	---	270.41
4.08	3.438	4.08	---	---	---	---	274.43	---	---	---	---	274.43
4.12	3.478	4.12	---	---	---	---	278.48	---	---	---	---	278.48
4.16	3.518	4.16	---	---	---	---	282.54	---	---	---	---	282.54
4.20	3.558	4.20	---	---	---	---	286.63	---	---	---	---	286.63
4.24	3.598	4.24	---	---	---	---	290.73	---	---	---	---	290.73
4.28	3.638	4.28	---	---	---	---	294.86	---	---	---	---	294.86
4.32	3.677	4.32	---	---	---	---	299.00	---	---	---	---	299.00
4.36	3.717	4.36	---	---	---	---	303.16	---	---	---	---	303.16
4.40	3.757	4.40	---	---	---	---	307.34	---	---	---	---	307.34
4.44	3.799	4.44	---	---	---	---	311.54	---	---	---	---	311.54
4.48	3.840	4.48	---	---	---	---	315.76	---	---	---	---	315.76
4.52	3.881	4.52	---	---	---	---	320.00	---	---	---	---	320.00
4.56	3.922	4.56	---	---	---	---	324.26	---	---	---	---	324.26
4.60	3.963	4.60	---	---	---	---	328.53	---	---	---	---	328.53
4.64	4.005	4.64	---	---	---	---	332.83	---	---	---	---	332.83
4.68	4.046	4.68	---	---	---	---	337.14	---	---	---	---	337.14
4.72	4.087	4.72	---	---	---	---	341.47	---	---	---	---	341.47
4.76	4.128	4.76	---	---	---	---	345.82	---	---	---	---	345.82
4.80	4.169	4.80	---	---	---	---	350.19	---	---	---	---	350.19
4.84	4.212	4.84	---	---	---	---	354.58	---	---	---	---	354.58
4.88	4.254	4.88	---	---	---	---	358.98	---	---	---	---	358.98
4.92	4.297	4.92	---	---	---	---	363.41	---	---	---	---	363.41
4.96	4.339	4.96	---	---	---	---	367.85	---	---	---	---	367.85
5.00	4.382	5.00	---	---	---	---	372.31	---	---	---	---	372.31
5.04	4.424	5.04	---	---	---	---	376.78	---	---	---	---	376.78
5.08	4.466	5.08	---	---	---	---	381.28	---	---	---	---	381.28
5.12	4.509	5.12	---	---	---	---	385.79	---	---	---	---	385.79
5.16	4.551	5.16	---	---	---	---	390.32	---	---	---	---	390.32
5.20	4.594	5.20	---	---	---	---	394.87	---	---	---	---	394.87
5.24	4.638	5.24	---	---	---	---	399.43	---	---	---	---	399.43
5.28	4.681	5.28	---	---	---	---	404.01	---	---	---	---	404.01
5.32	4.725	5.32	---	---	---	---	408.61	---	---	---	---	408.61
5.36	4.769	5.36	---	---	---	---	413.23	---	---	---	---	413.23
5.40	4.812	5.40	---	---	---	---	417.86	---	---	---	---	417.86
5.44	4.856	5.44	---	---	---	---	422.52	---	---	---	---	422.52
5.48	4.900	5.48	---	---	---	---	427.18	---	---	---	---	427.18
5.52	4.944	5.52	---	---	---	---	431.87	---	---	---	---	431.87
5.56	4.987	5.56	---	---	---	---	436.57	---	---	---	---	436.57
5.60	5.031	5.60	---	---	---	---	441.29	---	---	---	---	441.29
5.64	5.076	5.64	---	---	---	---	446.03	---	---	---	---	446.03
5.68	5.121	5.68	---	---	---	---	450.78	---	---	---	---	450.78
5.72	5.166	5.72	---	---	---	---	455.55	---	---	---	---	455.55
5.76	5.211	5.76	---	---	---	---	460.34	---	---	---	---	460.34
5.80	5.256	5.80	---	---	---	---	465.14	---	---	---	---	465.14
5.84	5.301	5.84	---	---	---	---	469.96	---	---	---	---	469.96
5.88	5.346	5.88	---	---	---	---	474.80	---	---	---	---	474.80
5.92	5.391	5.92	---	---	---	---	479.65	---	---	---	---	479.65
5.96	5.436	5.96	---	---	---	---	484.52	---	---	---	---	484.52
6.00	5.481	6.00	---	---	---	---	489.41	---	---	---	---	489.41
6.04	5.527	6.04	---	---	---	---	494.31	---	---	---	---	494.31
6.08	5.574	6.08	---	---	---	---	499.23	---	---	---	---	499.23
6.12	5.620	6.12	---	---	---	---	504.16	---	---	---	---	504.16
6.16	5.666	6.16	---	---	---	---	509.11	---	---	---	---	509.11
6.20	5.713	6.20	---	---	---	---	514.08	---	---	---	---	514.08
6.24	5.759	6.24	---	---	---	---	519.06	---	---	---	---	519.06

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Pond Wizard Design

Stage / Storage / Discharge Table

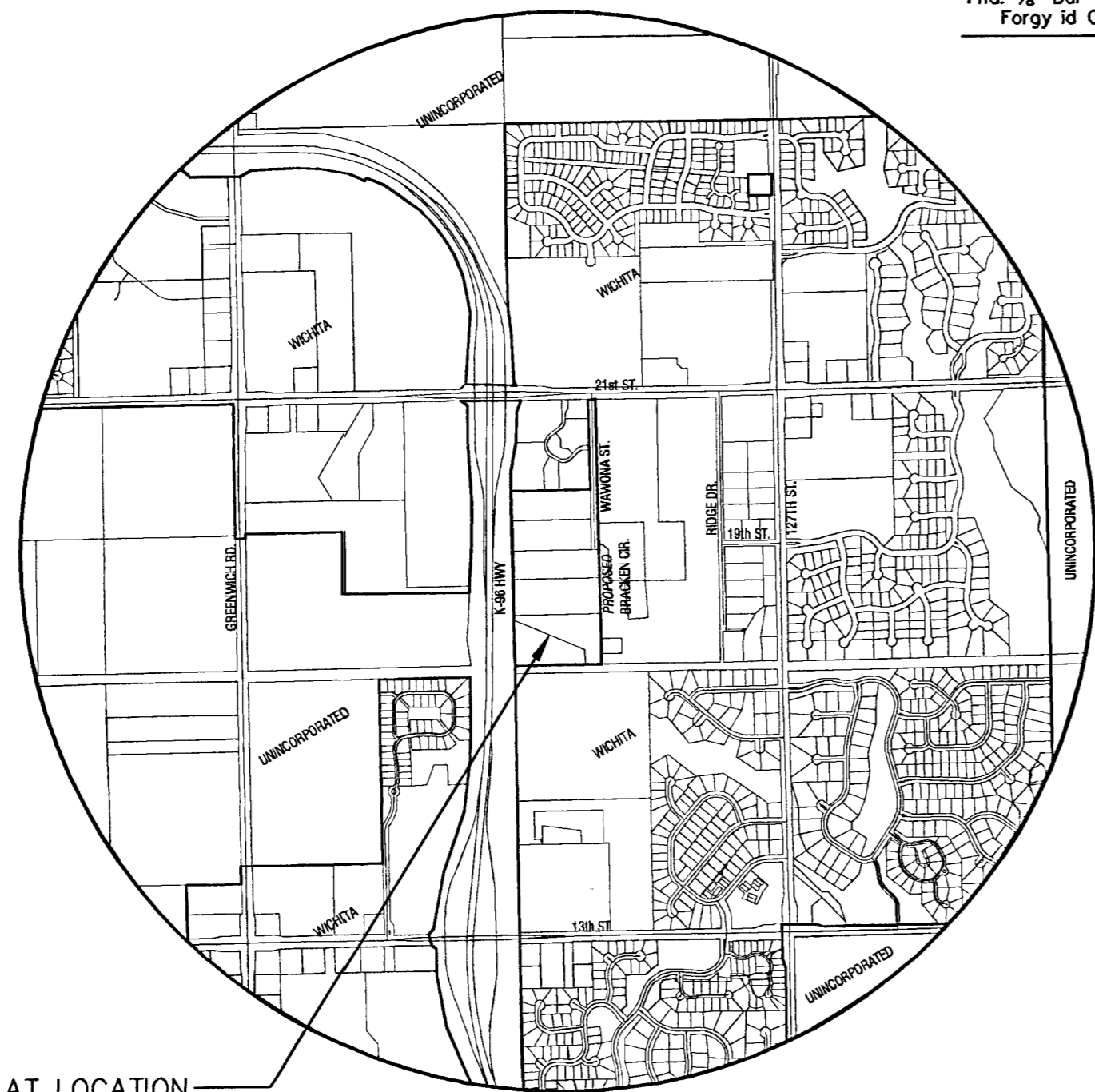
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
6.28	5.805	6.28	---	---	---	---	524.06	---	---	---	---	524.06
6.32	5.852	6.32	---	---	---	---	529.08	---	---	---	---	529.08
6.36	5.898	6.36	---	---	---	---	534.11	---	---	---	---	534.11
6.40	5.944	6.40	---	---	---	---	539.16	---	---	---	---	539.16
6.44	5.992	6.44	---	---	---	---	544.22	---	---	---	---	544.22
6.48	6.040	6.48	---	---	---	---	549.30	---	---	---	---	549.30
6.52	6.087	6.52	---	---	---	---	554.39	---	---	---	---	554.39
6.56	6.135	6.56	---	---	---	---	559.50	---	---	---	---	559.50
6.60	6.183	6.60	---	---	---	---	564.63	---	---	---	---	564.63
6.64	6.230	6.64	---	---	---	---	569.77	---	---	---	---	569.77
6.68	6.278	6.68	---	---	---	---	574.92	---	---	---	---	574.92
6.72	6.326	6.72	---	---	---	---	580.09	---	---	---	---	580.09
6.76	6.373	6.76	---	---	---	---	585.28	---	---	---	---	585.28
6.80	6.421	6.80	---	---	---	---	590.48	---	---	---	---	590.48
6.84	6.470	6.84	---	---	---	---	595.70	---	---	---	---	595.70
6.88	6.519	6.88	---	---	---	---	600.93	---	---	---	---	600.93
6.92	6.568	6.92	---	---	---	---	606.18	---	---	---	---	606.18
6.96	6.617	6.96	---	---	---	---	611.45	---	---	---	---	611.45
7.00	6.666	7.00	---	---	---	---	616.72	---	---	---	---	616.72
7.04	6.715	7.04	---	---	---	---	622.02	---	---	---	---	622.02
7.08	6.764	7.08	---	---	---	---	627.33	---	---	---	---	627.33
7.12	6.813	7.12	---	---	---	---	632.65	---	---	---	---	632.65
7.16	6.862	7.16	---	---	---	---	637.99	---	---	---	---	637.99
7.20	6.911	7.20	---	---	---	---	643.34	---	---	---	---	643.34
7.24	6.961	7.24	---	---	---	---	648.71	---	---	---	---	648.71
7.28	7.012	7.28	---	---	---	---	654.10	---	---	---	---	654.10
7.32	7.062	7.32	---	---	---	---	659.49	---	---	---	---	659.49
7.36	7.112	7.36	---	---	---	---	664.91	---	---	---	---	664.91
7.40	7.163	7.40	---	---	---	---	670.34	---	---	---	---	670.34
7.44	7.213	7.44	---	---	---	---	675.78	---	---	---	---	675.78
7.48	7.263	7.48	---	---	---	---	681.23	---	---	---	---	681.23
7.52	7.314	7.52	---	---	---	---	686.71	---	---	---	---	686.71
7.56	7.364	7.56	---	---	---	---	692.19	---	---	---	---	692.19
7.60	7.415	7.60	---	---	---	---	697.69	---	---	---	---	697.69
7.64	7.466	7.64	---	---	---	---	703.21	---	---	---	---	703.21
7.68	7.518	7.68	---	---	---	---	708.74	---	---	---	---	708.74
7.72	7.570	7.72	---	---	---	---	714.28	---	---	---	---	714.28
7.76	7.622	7.76	---	---	---	---	719.84	---	---	---	---	719.84
7.80	7.673	7.80	---	---	---	---	725.41	---	---	---	---	725.41
7.84	7.725	7.84	---	---	---	---	731.00	---	---	---	---	731.00
7.88	7.777	7.88	---	---	---	---	736.60	---	---	---	---	736.60
7.92	7.829	7.92	---	---	---	---	742.22	---	---	---	---	742.22
7.96	7.880	7.96	---	---	---	---	747.85	---	---	---	---	747.85
8.00	7.932	8.00	---	---	---	---	753.49	---	---	---	---	753.49

...End

APPENDIX F

DRAINAGE & UTILITY PLAN

APPENDIX G
LOT GRADING PLAN



PLAT LOCATION

VICINITY MAP

NW Cor., NE 1/4,
Sec. 10, T27S,
R2E, 6th P.M.
Fnd. 3/4 Bar w/
Forgy Id Cap

75'
N89°13'29"E

21st ST. N.

EXIST. SSMH
TOP=1381.63

EXIST. SSMH
TOP=1376.55

EXIST. SSMH
TOP=1371.91

EXIST. SSMH
TOP=1368.19

EXIST. SSMH
TOP=1365.45

EXIST. SSMH
TOP=1362.18

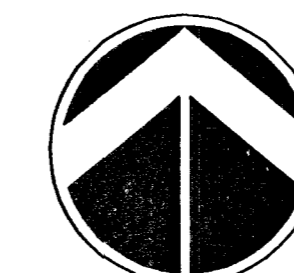
EXIST. SSMH
TOP=1357.20

City of Wichita
455 N. Main St.
Wichita, KS

SW Cor., NE 1/4,
Sec. 10, T27S,
R2E, 6th P.M.

860.20'

170.2'



SCALE: 1" = 100'
100 0 100 200

BENCHMARKS

- BM #1 Railroad spike in north leg of the 2nd "H" pole structure east of K-96, 1st "h" pole west of Wawona, 660' east and 75' north of the center corner of Sec. 10-27S-2E. Elev. = 167.17 City Datum
- BM #2 Railroad spike in east side of 18' elm tree 2163' south of NE. 1/4 Sec. 10-27S-2E (21st st. N.) & 62' east of the west line of Wawona extended south. Elev. = 176.30 City Datum
- BM #3 Railroad spike in west side of power pole on west side of Wawona, 1531' south of the north of the NE. 1/4 Sec. 10-27S-2E. Elev. = 181.24 City Datum
- BM #4 Railroad spike in west side of power pole on the west of Wawona, 654' south of the north line of the NE. 1/4 sec. 10-27S-2E. Elev. = 189.75 City Datum
- BM #5 Stepped spike in north side of power pole on SW. corner 21st. & Wawona, 779' east & 48' south of north 1/4 cor. Sec. 10-27S-2E. Elev. = 197.32 City Datum

LEGEND

- ⊗ - CONIFEROUS TREE & DIAMETER
- ⊙ - DECIDUOUS TREE & DIAMETER
- ⊙ - SIGN
- ⊙ - BUSH
- ⊙ - POWER POLE AND GUY ANCHOR
- ⊙ - WESTAR BOX
- ⊙ - ELECTRIC BOX
- ⊙ - EDGE OF TREES
- ⊙ - FENCE
- ⊙ - BENCHMARK
- ⊙ - SSMH - STORM WATER MANHOLE
- ⊙ - SSMH - SANITARY SEWER MANHOLE
- ⊙ - TELEPHONE MANHOLE
- ⊙ - SECTION CORNER
- ⊙ - 5/8" REBAR/MKEC
- ⊙ - CLS #19 SET
- ⊙ - PROPERTY CORNER FOUND
- ⊙ - GATE
- ⊙ - TRAFFIC SIGNAL MANHOLE
- ⊙ - SPRINKLER HEAD
- ⊙ - LIGHT POLE
- ⊙ - FIRE HYDRANT
- ⊙ - WATER VALVE
- ⊙ - WATER METER
- ⊙ - IRRIGATION CONTROL VALVE
- ⊙ - TELEPHONE RISER
- ⊙ - INLET
- ⊙ - STORM SEWER PIPE
- ⊙ - WATER LINE
- ⊙ - SANITARY SEWER LINE
- ⊙ - GAS LINE
- ⊙ - TELEPHONE LINE
- ⊙ - UNDERGROUND ELECTRIC LINE
- ⊙ - OVERHEAD ELECTRIC

NOTES

1. ZONING:
Existing: Single Family "SF-5"
Proposed: General Office "GO"
2. PLAT AREA: 31.05 acres
35.29 acres with R/W
3. SURVEY DATE: July 18th, 2003
4. EXISTING USE: Residential
PROPOSE USE: Medical Facility
5. LOT TOTAL: 1
6. RESERVE DESIGNATION AND USES:
1.) Irrigation (A)
2.) Landscaping (A)
3.) Berming (A)
4.) Monuments (A)
5.) Open Space (A)
6.) Signs (A)
7. PROPOSE STREET NAME CHANGE:
Current: Wawona Street
Proposed: Bracken Circle

PRELIMINARY LOT GRADING PLAN
WICHITA CLINIC ADDITION

OWNERS: Ralph A. and Mary K. Lanzrath 1857 N. Wawona St. Wichita, KS 67206 316-636-5175
DEVELOPER: Integrated Healthcare Systems Inc. 3311 E. Murdock St. Wichita, KS 67208-3054 316-689-9153

DATE: AUGUST, 2003



P:\WORK\2003\Wichita Clinic\Drawn\032118D1.dwg