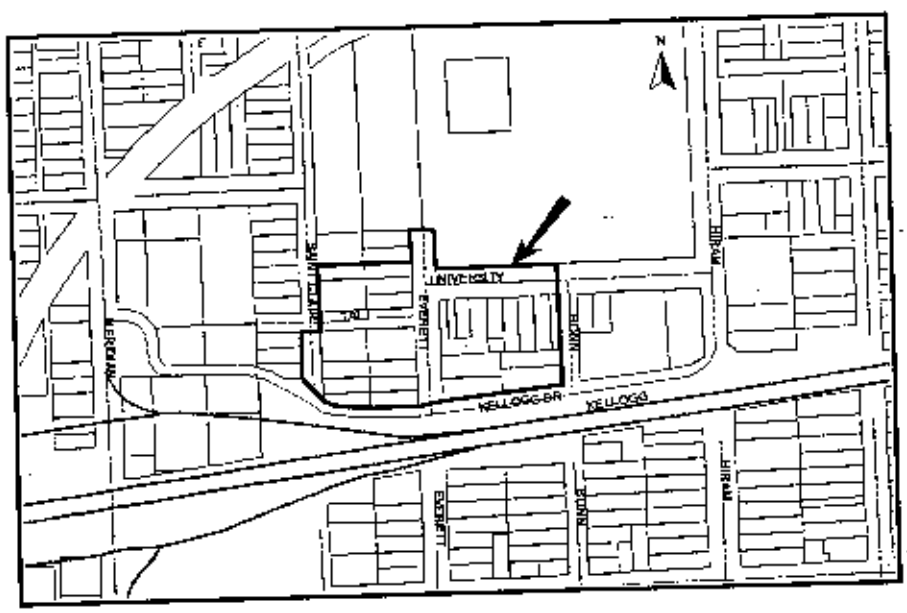
SUBDIVISION COMMITTEE
METROPOLITAN AREA PLANNING COMMISSION

AGENDA ITEM NO. 17
JANUARY 16, 2003

STAFF REPORT
(ONE-STEP FINAL PLAT)

CASE NUMBER:	**SUB 2002-136 – FRIENDS UNIVERSITY THIRD ADDITION**
OWNER/APPLICANT:	Friends University, 2100 University, Wichita, KS 67213
SURVEYOR/ENGINEER:	Ruggles & Bohm, P.A., Attn: Tom Ruggles, 924 N. Main, Wichita, KS 67203
LOCATION:	North side of Kellogg, East of Meridian
SITE SIZE:	8.05 acres
NUMBER OF LOTS	
Residential:	
Office:	
Commercial:	3
Industrial:	
Total:	3
MINIMUM LOT AREA:	7,495 sq. ft.
CURRENT ZONING:	U, University, and B, Multi-Family Residential
PROPOSED ZONING:	U, University

VICINITY MAP



B-66-67

SS #8

NOTE: This is a replat of the University Place Addition which includes the vacation of portions of St. Clair Avenue, Taft Avenue, Everett Avenue, and University Avenue. A zone change (ZON 2002-68) from B, Multi-Family Residential to U, University has been requested.

Planning Staff recommends approval of the plat.

STAFF COMMENTS:

A. Municipal services appear to be available to serve the site. **City Engineering** needs to comment on the need for guarantees or easements.

B. A temporary easement by separate instrument should be submitted to cover the existing water line to be relocated/abandoned unless the water line is relocated/abandoned before the plat is recorded.

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

D. **City Engineering** needs to comment on the status of the applicant's drainage plan and the need for a reserve for the pond.

E. The plattor's text shall include language that a drainage plan has been developed for the plat and that all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater.

F. The applicant shall guarantee the closure of the street returns for the vacated streets.

G. The plattor's text shall note the dedication of the street to and for the use of the public.

H. **County Surveying** requests that the easements be located.

I. Provisions shall be made for ownership and maintenance of the proposed reserves. A covenant shall be submitted regarding ownership and maintenance responsibilities.

J. 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 the governing body.

K. Based upon the platting binder, property taxes are still outstanding. Before the plat is scheduled for City Council consideration, proof shall be provided indicating that all applicable property taxes have been paid:

L. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the MAPC Subdivision Regulations. (Water service and fire hydrants required by Article 8 for fire protection shall be as per the direction and approval of the Chief of the Fire Department.)

M. 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.

N. 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 4556) prior to development of the plat so that the type of delivery, and the tentative mailbox locations can be determined.

O. The applicant is advised that various State and Federal requirements (specifically but not limited to the Army Corps of Engineers, Kanopolis Project Office, Rt. 1, Box 317, Valley Center, KS 67147) for the control of soil and wind erosion and the protection of wetlands may impact how this site can be developed. It is the applicant's responsibility to contact all appropriate agencies to determine any such requirements.

P. The owner of the subdivision should be aware of the fact that the development of any subdivision greater than five (5) acres in size may require an NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Further, on all construction sites, the City of Wichita requires that best management practices be used to reduce pollutant loadings in storm water runoffs.

Q. Perimeter closure computations shall be submitted with the final plat tracing.

R. Recording of the plat within thirty (30) days after approval by the City Council and/or County Commission.

S. The representatives from the utility companies should be prepared to comment on the need for any additional utility easements to be platted on this property.

T. The applicant is reminded that a disk shall be submitted with the final plat tracing to the Planning Department detailing this plat in digital format in AutoCAD. This will be used by the City and County GIS Department.

SCANNED

Ruggles & Bohm, P.A
Engineering, Surveying, Land Planning
924 N. Main
Wichita, Kansas 67203

MEMO

Date: Tuesday, January 14, 2003

To: Vicky Huang

From: Tom Ruggles

Project: Friends University 3rd Addition

RB Project No.: 2299P

Other Project Reference No.:
SUB 2002-136

Description:
- ☐ Confirmation
- ☒ Transmittal
- ☐ Transmittal under separate cover by

Purpose:
- ☒ Approval
- ☒ Review & comment
- ☐ Use
- ☐ Other :
- ☒ Distribution
- ☐ Information
- ☐ Record

Enclosures/Attachments:
- ☐ Prints
- ☒ Originals
- ☐ Diskettes containing:
- ☐ Other:
- ☐ Change Order
- ☐ Shop Drawings

Copies	Description
1	Drainage Plan for Friends University 3rd Addition
1	Runoff calculations including HEC-1 Pond Routing (7 pages)

Remarks: Preliminary and final plat to be heard by Subdivision Committee 1-16-03.

Copies to:

If checked below, please:
- ☐ Acknowledge receipt of enclosures
- ☐ Return enclosures to us.

Signed

If Enclosures are not as noted above, please inform us immediately

Phone (316) 264-8008 *Fax (316) 264-4621*

HEC: S/N: 1943000364 HMVersion: 6.33 Data File: FRIEND.HC1

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*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE (HEC-1)    *
*             MAY  1991                 *
*          VERSION 4.0.1F               *
*                                       *
*  RUN DATE  01/13/2003  TIME  16:36:56 *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*        DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104              *
*                                       *
*****************************************
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X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X                X
XXXXXXX  XXXX     X        XXXXX   X
X     X  X        X                X
X     X  X        X     X          X
X     X  XXXXXXX   XXXXX          XXX
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:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
:::                                       :::
:::  Full Microcomputer Implementation    :::
:::                 by                    :::
:::        Haestad Methods, Inc.          :::
:::                                       :::
:::::::::::::::::::::::::::::::::::::::::::::
:::::::::::::::::::::::::::::::::::::::::::::
```

37 Brookside Road * Waterbury, Connecticut 06708 * (203) 756-1666

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1978-STYLE INPUT STRUCTURE.
THE DEFINITION OF -ANSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
LINE      ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*** FREE ***
    1     ID    FRIENDS UNIVERSITY DETENTION POND ANALYSIS
    2     ID    100 YEAR - 24 HOURS STORM
    3     ID    10' TYPE 1A INLET FOR OUTFLOW
    4     IT       5                    289
    5     IN      90
    6     ID       4

    7     KK   BASIN
    8     PB     7.8
    9     PC       0     0.5     1.0     1.5     2.2     2.8     3.5     4.1     4.7     5.5
   10     PC     6.3     7.2     7.9     8.8     9.9    10.9      12    13.3    14.7    16.5
   11     PC      18    20.4    23.5    28.3    66.5    79.5    77.2    79.9      82    83.8
   12     PC    85.3    86.7    87.9    89.1      90    90.9    91.8    92.7    93.5    94.4
   13     PC    95.3      96    96.7    97.3    97.8    98.5      99    99.5     100
   14     BA  0.0152
   15     LO    0.20
   16     LS       0      90

   17     KK    POND
   18     RS       1    ELEV     107
   19     SA    0.76    0.95
   20     SE     107   108.1
   21     SQ       0    8.75    10.6    19.6    24.1      27      29
   22     SE     107  107.25   107.5  107.75     108  108.25  108.50
   23     ZZ
```

SCANNED

HEC1 S/N: 1343000354 HMVersion: 6.33 Data File: FRIEND.HC1

```
*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              MAY   1991               *
*           VERSION 4.0.1E              *
*                                       *
* RUN DATE  01/19/2003  TIME  19:36:56  *
*                                       *
*****************************************
```

```
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*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
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FRIENDS UNIVERSITY DETENTION POND ANALYSIS
100 YEAR - 24 HOURS STORM
10' TYPE 1A INLET FOR OUTFLOW

```
  6 IO       OUTPUT CONTROL VARIABLES
                   IPRNT          4  PRINT CONTROL
                   IPLOT          0  PLOT CONTROL
                   QSCAL         0.  HYDROGRAPH PLOT SCALE

   IT        HYDROGRAPH TIME DATA
                    NMIN          5  MINUTES IN COMPUTATION INTERVAL
                   IDATE     1    0  STARTING DATE
                   ITIME       0000  STARTING TIME
                      NQ        289  NUMBER OF HYDROGRAPH ORDINATES
                  NDDATE     2    0  ENDING DATE
                  NDTIME       0000  ENDING TIME
                   ICENT         19  CENTURY MARK

             COMPUTATION INTERVAL    0.08 HOURS
                  TOTAL TIME BASE   24.00 HOURS

        ENGLISH UNITS
            DRAINAGE AREA         SQUARE MILES
            PRECIPITATION DEPTH   INCHES
            LENGTH, ELEVATION     FEET
            FLOW                  CUBIC FEET PER SECOND
            STORAGE VOLUME        ACRE-FEET
            SURFACE AREA          ACRES
            TEMPERATURE           DEGREES FAHRENHEIT
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              **************
              *            *
  7 KK        *   BASIN    *
              *            *
              **************

  5 IN        TIME DATA FOR INPUT TIME SERIES
                    JXMIN          30  TIME INTERVAL IN MINUTES
                   JXDATE      1    0  STARTING DATE
                   JXTIME           0  STARTING TIME

          SUBBASIN RUNOFF DATA

 14 BA        SUBBASIN CHARACTERISTICS
                    TAREA        0.02  SUBBASIN AREA

              PRECIPITATION DATA

  8 PB              STORM        7.60  BASIN TOTAL PRECIPITATION

  9 PI         INCREMENTAL PRECIPITATION PATTERN
```

0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.12	0.12
0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10
0.12	0.12	0.12	0.12	0.12	0.12	0.10	0.10	0.10	0.10
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.13	0.13
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.15
0.15	0.15	0.15	0.15	0.15	0.15	0.12	0.12	0.12	0.12
0.12	0.12	0.15	0.15	0.15	0.15	0.15	0.15	0.16	0.16
0.18	0.18	0.18	0.16	0.17	0.17	0.17	0.17	0.17	0.17
0.18	0.18	0.18	0.18	0.18	0.18	0.22	0.22	0.22	0.22
0.22	0.22	0.23	0.23	0.22	0.23	0.23	0.23	0.27	0.27
0.27	0.27	0.27	0.27	0.28	0.28	0.28	0.28	0.28	0.28
0.40	0.40	0.40	0.40	0.40	0.40	0.52	0.52	0.52	0.52
0.62	0.52	0.80	0.80	0.80	0.80	0.80	0.80	6.33	6.33
6.33	6.33	6.33	6.33	1.20	1.20	1.20	1.20	1.20	1.20
0.62	0.62	0.62	0.62	0.62	0.62	0.45	0.45	0.45	0.45
0.45	0.45	0.35	0.35	0.35	0.35	0.35	0.35	0.30	0.30

SCANNED

0.30	0.30	0.30	0.30	0.25	0.25	0.25	0.25	0.25	0.25
0.23	0.23	0.23	0.23	0.23	0.23	0.20	0.20	0.20	0.20
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.15	0.15
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.13	0.15	0.15
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.12	0.12
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.08	0.08
0.12	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.12	0.12
0.08	0.08	0.08	0.08	0.12	0.12	0.12	0.12	0.08	0.08
0.08	0.08	0.08	0.08	0.06	0.08	0.08	0.08		
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.06		

16 LS SCS LOSS RATE
STRTL 0.22 INITIAL ABSTRACTION
CRVNBR 90.00 CURVE NUMBER
RTIMP 0.00 PERCENT IMPERVIOUS AREA

15 UD SCS DIMENSIONLESS UNITGRAPH
TLAG 0.20 LAG

***

UNIT HYDROGRAPH
14 END-OF-PERIOD ORDINATES

7.	24.	30.	24.	13.	8.	4.	3.	1.	1.	.
0.	0.	0.	0.							

*** ***

```
         **************
         *            *
17 KK    *    POND    *
         *            *
         **************
```

HYDROGRAPH ROUTING DATA

18 RS STORAGE ROUTING
NSTPS 1 NUMBER OF SUBREACHES
ITYP ELEV TYPE OF INITIAL CONDITION
RSVRIC 107.00 INITIAL CONDITION
X 0.00 WORKING R AND D COEFFICIENT

19 SA	AREA	0.8	0.9					
20 SE	ELEVATION	107.00	108.10					
21 SQ	DISCHARGE	0.	4.	11.	20.	24.	27.	29.
22 SE	ELEVATION	107.00	107.25	107.50	107.75	108.00	108.25	108.50

***

COMPUTED STORAGE-ELEVATION DATA

STORAGE	0.00	0.94
ELEVATION	107.00	108.10

COMPUTED STORAGE-OUTFLOW-ELEVATION DATA

STORAGE	0.00	0.20	0.40	0.62	0.84	0.94	1.08	1.33
OUTFLOW	0.00	3.76	10.60	19.50	24.10	25.26	27.00	29.00
ELEVATION	107.00	107.25	107.50	107.75	108.00	108.10	108.25	108.50

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 6 HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
HYDROGRAPH AT	BASIN	50.	12.00	8.	3.	3.	0.02		
ROUTED TO	POND	28.	12.25	8.	3.	3.	0.02	108.42	12.25

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

SCANNED

Friends University 3rd Add. 1/13/03 1/2
Basin "A" Detention Pond CMB

Basin Area: From Site Inspection: Survey:
Area to Pond = 423297 ft² = 9.72 Ac
= 0.0152 sq. Miles

For Developed Condition, Use CN = 90
Assume 20 min Basin Tc.
SCS Lag = 0.6 Tc ∴ Lag = 0.20 hours

Proposed Pond = 107.0 Static Pool
108.50 Max W.S. Elev.

Storage Area @ 107 = 33263 ft² = 0.76 Ac
@ 108.5 = 41283 ft² = 0.95 Ac

Outflow: (Modified Type I Inlet) L = 10'

Elev	Q weir ($Q = CLH^{1.5}$)*	Q orifice equ ($Q = 0.6A\sqrt{2gh}$)
@ 107.0	—	n/a
107.25	3.75	n/a
107.50	10.6	17.1
107.75	19.5	20.9
108.0	30	24.1
108.25	41.9	27.0
108.50	55	29.0

Rate w/ these Values.

* r = 2.0

SCANNED

1/13/03 2/2
CMB

To HEC-1

100 yr - 24 hour Storm = 7.8"
Use SCS Type II Distribution

(friend.hc1 friend.out)

Results:

Q in max = 50 cfs
Q out max = 28.0 cfs
Max Stage = 108.42 (O.K)

Make Sure D.S. pipe can handle 28.0 cfs @ HGL of 108.42 max.

Ruggles & Bohm P.A.
Engineering, Surveying, Land Planning

924 North Main
Wichita, Kansas 67203

(316) 264-8008
fax (316) 264-4621

www.rbkansas.com
info@rbkansas.com

FRIENDS UNIVERSITY 3RD ADDITION

Course: S 38-50-33 E
Distance: 95.67
Delta: -15-47-22
Arc Length: 60.90
Radius: 221.00
Arc Length: 241.75
Radius: 1358.38
Delta: -10-11-49
Arc Length: 80.17
Radius: 2162.05
Delta: -2-07-28
Course: N 85-12-53 E
Distance: 328.06
Arc Length: 55.68
Radius: 1880.86
Delta: -1-41-46
Course: N 00-04-56 E
Distance: 392.69
Course: N 89-57-38 W
Distance: 382.71
Course: N 00-01-26 E
Distance: 129.30
Course: N 89-54-28 W
Distance: 80.00
Course: S 00-01-26 W
Distance: 99.98
Course: N 89-54-42 W
Distance: 299.92
Course: S 00-00-00 W
Distance: 209.91
Course: N 90-00-00 W
Distance: 60.00
Course: S 00-00-00 W
Distance: 150.00

Perimeter: 2666.74

Area: 349297.52 8.02 acres

Mapcheck Closure - (Uses listed courses & COGO Units)

Error of Closure: 0.007
Course: S 11-58-21 E
Precision 1: 374419.43