

( ) (Published in the Daily Record MAY 25 1984, 19 )

ORDINANCE NO. 38-802

1st R  
5-15-84

AN ORDINANCE VACATING A PORTION OF BRIARWOOD ESTATES, WICHITA, SEDGWICK COUNTY, KANSAS.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF WICHITA, KANSAS.

SECTION 1. That the portion of Briarwood Estates described as follows, to-wit:

Lots 1 thru 16, Block 8 and all of Blocks 9 and 10, including streets, reserves, easements and setback lines, lying south of Ponderosa, east of 119th Street West and west of the east line of Lots 9 thru 16, Block 8, EXCEPT the 30-foot utility easement adjacent to the east line of 119th Street West, all in Briarwood Estates, Wichita, Sedgwick County, Kansas; (MAPC NO. V-1261);

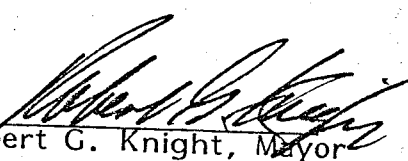
be and the same is hereby vacated in accordance with K.S.A. 13-443, subject however, to the concurrence in such vacation by the Board of County Commissioners as by law provided.

SECTION 2. That it is hereby recommended to the Board of County Commissioners of Sedgwick County, Kansas, that said above described portion of a plat be vacated by said Board in case a proper petition is filed under the provisions of K.S.A. 12-504, 12-505 and K.S.A. 12-506.

SECTION 3. That this Ordinance shall be in force and take effect from and after its passage and publication once in the official city paper.

PASSED AND APPROVED at Wichita, Kansas, this 22<sup>ND</sup> day of MAY, 1984.

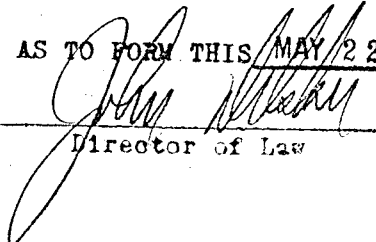
ATTEST:

  
Robert G. Knight, Mayor

  
Donald C. Gisick, City Clerk

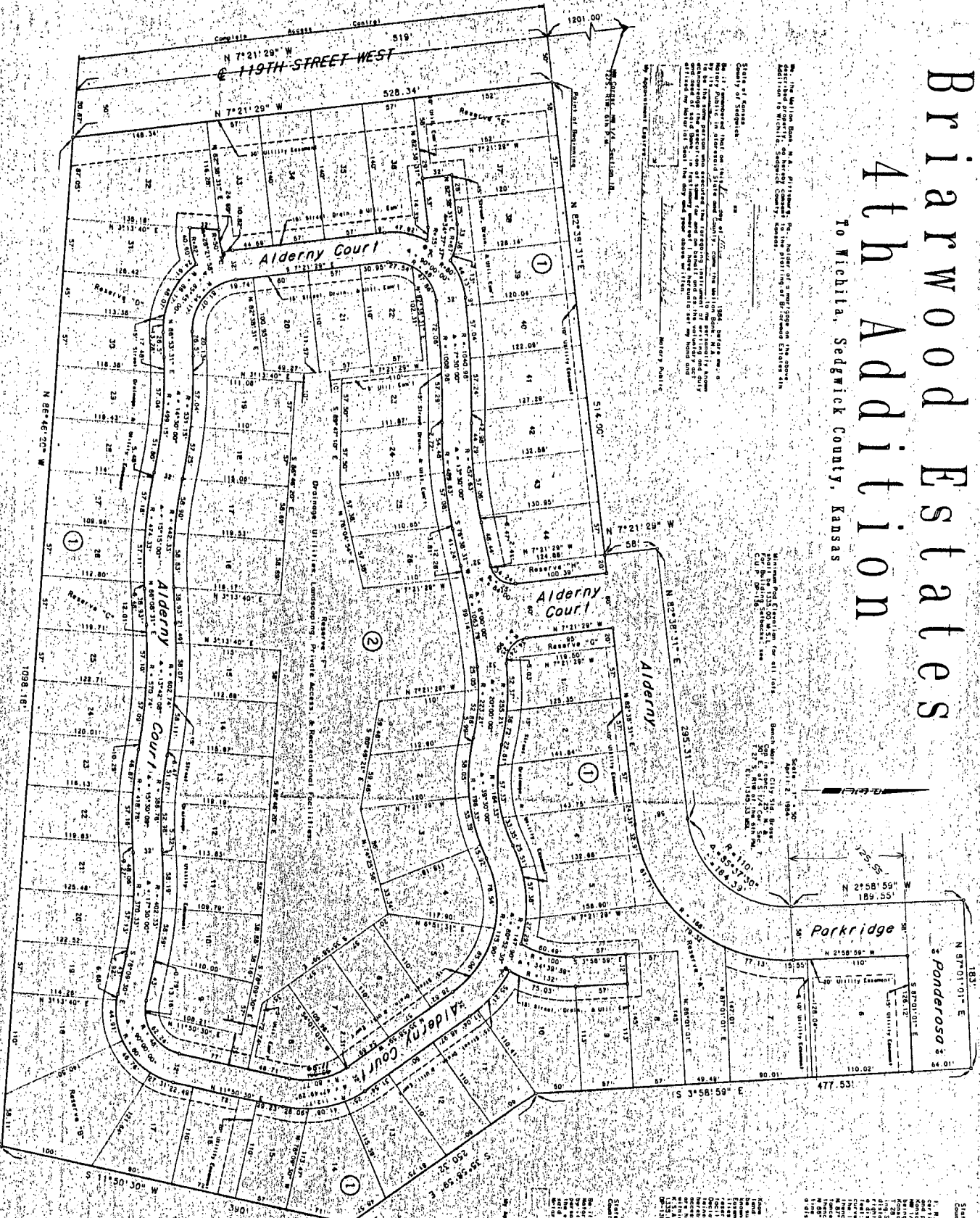
(SEAL)

APPROVED AS TO FORM THIS MAY 22 1984

  
Director of Law

# Briarwood Estates 4th Addition

To Wichita, Sedgwick County, Kansas



Be it remembered that on this 14th day of August, 1934, the following plat of a subdivision of land in Sedgwick County, Kansas, was filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, to wit:

City of Sedgwick  
County of Sedgwick  
State of Kansas

Be it remembered that on this 14th day of August, 1934, the following plat of a subdivision of land in Sedgwick County, Kansas, was filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, to wit:

City of Sedgwick  
County of Sedgwick  
State of Kansas

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City of Sedgwick  
County of Sedgwick  
State of Kansas

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City of Sedgwick  
County of Sedgwick  
State of Kansas

I, R. M. Linn, a Professional Engineer, in Sedgwick State and County, do hereby certify that the above and foregoing plat of a subdivision of land in Sedgwick County, Kansas, was filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, on this 14th day of August, 1934, and that the same is a true and correct copy of the original plat as filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, on this 14th day of August, 1934.

R. M. Linn, E.  
No. 3584

Be it remembered that on this 14th day of August, 1934, the following plat of a subdivision of land in Sedgwick County, Kansas, was filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, to wit:

City of Sedgwick  
County of Sedgwick  
State of Kansas

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City of Sedgwick  
County of Sedgwick  
State of Kansas

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City of Sedgwick  
County of Sedgwick  
State of Kansas

Be it remembered that on this 14th day of August, 1934, the following plat of a subdivision of land in Sedgwick County, Kansas, was filed for record in the office of the Register of Deeds, Sedgwick County, Kansas, to wit:

City of Sedgwick  
County of Sedgwick  
State of Kansas

FLOODWAY EASEMENT

THIS EASEMENT made this 2nd day of May, 1984,  
by and between Inland Investment Company, Inc. of the first part and  
the City of Wichita of the second part.

WITNESSETH: That the said first party, in consideration of the sum  
of One Dollar (\$1.00) and other valuable consideration, the receipt where-  
of is hereby acknowledged, do hereby grant and convey unto the said second  
party a perpetual right-of-way and easement for floodway, drainage, and  
the purpose of construction, maintaining, and repairing a drainage system,  
over, along and under the following described real estate situated in  
Sedgwick County, Kansas; to wit:

Beginning at the Southwest corner of Block 1, Briarwood Estates  
4th Addition to Wichita, Sedgwick County, Kansas, thence along  
the south line of said Block 1, bearing S 86° 46' 20" E a dis-  
tance of 1098.16 feet to the Southeast corner of said Block 1;  
thence bearing N 11° 50' 30" E along the easterly line of said  
Block 1, a distance of 100.00 feet; thence bearing S 78° 09'  
30" E a distance of 250.00 feet; thence bearing S 11° 50' 30" W  
a distance of 314.98 feet; thence bearing N 86° 46' 20" W a  
distance of 1266.42 feet; thence bearing N 7° 21' 29" E parallel  
to and 50.00 feet east of the centerline of 119th Street West  
a distance of 254.12 feet to the point of beginning. Containing  
7.98 acres more or less.

And said second party is hereby granted the right to discharge  
drainage into and across said real estate, and to enter upon said  
premises at any time for the purpose of constructing, operating, main-  
taining, and repairing such drainage systems.

IN WITNESS WHEREOF: The said first party has signed these presents  
the day and year first written.

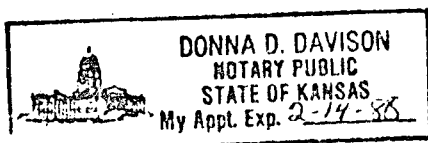
Inland Investment Company, Inc.

Larry A. Chambers  
Larry A. Chambers, President

STATE OF KANSAS)  
SS  
SEDGWICK COUNTY)

Personally appeared before me, a notary public, in and for the  
County and State aforesaid Inland Investment Company, Inc., by its  
President Larry A. Chambers, for and on behalf of said company to  
me personally known to be the same person who executed the foregoing  
instrument of writing and said person duly acknowledged the execution  
thereof.

Dated at Wichita, Kansas, this 2nd day of May, 1984.



Donna D. Davison  
Notary Public

EASEMENT

THIS EASEMENT made this 2nd day of May, 1984,  
by and between Inland Investment Company, Inc.  
of the first part and the City of Wichita, of the second part.

WITNESSETH: That the said first party y, in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a perpetual right of way and easement for the purpose of constructing, maintaining, and repairing all public utilities, over, along and under the following described real estate situated in Sedgwick County, Kansas, to wit:

- #1. A 10 foot utility easement adjacent to and north of the north line of Reserve "E" and Lots 37 thru 44, Block 1, Briarwood Estates 4th Addition.
- #2. A 20 foot utility easement adjacent to and south of and east of the south and east line of Block 1, from the southwest corner of Lot 32 to the northeast corner of Lot 11, Block 1, Briarwood Estates 4th Addition.

And said second party is hereby granted the right to enter upon said premises at any time for the purpose of constructing, operating, maintaining, and repairing said public utilities.

IN WITNESS WHEREOF: The said first party y has signed these presents the day and year first written.

Inland Investment Co., Inc.  
Larry A. Chambers  
Larry A. Chambers, President

STATE OF KANSAS)  
 SS  
 SEDGWICK COUNTY)

Personally appeared before me a notary public in and for the County and State aforesaid Inland Investment Co., Inc. by its President Larry A Chambers  
for and on behalf of said company

to me personally known to be the same person who executed the foregoing instrument of writing and said person duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this 2nd day of May 1984.

Donna D. Davison  
 Notary Public

(My Commission expires February 14, 1988)



TEMPORARY FIRELANE EASEMENT

THIS EASEMENT made this 2nd day of May, 1984,

by and between Inland Investment Co., Inc.

of the first part and the City of Wichita of the second part.

WITNESSETH: That the said first party, in consideration of the sum of One Dollar (\$1.00) and other valuable consideration, the receipt whereof is hereby acknowledged, do hereby grant and convey unto the said second party a temporary right-of-way and easement for the purpose of firelane access, over, and along the following described real estate situated in Sedgwick County, Kansas, to-wit:

A forty (40) foot firelane easement adjacent to and north of the north line of Reserve "E" and Lots 37 thru 44, Block 1, Briarwood Estates 4th Addition.

This easement does not include a right-of-way over land occupied by a permanent structure. Said easement shall expire upon platting of said property.

IN WITNESS WHEREOF: The said first party has signed these presents the day and year first written.

Inland Investment Co., Inc.

Larry A. Chambers  
Larry A. Chambers, President

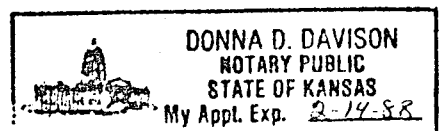
STATE OF KANSAS)  
SEDGWICK COUNTY) ss

Personally appeared before me, a notary public in and for the County and State aforesaid Inland Investment Co., Inc. by its President, Larry A. Chambers, for and on behalf of said company to me personally known to be the same person who executed the foregoing instrument of writing and said person duly acknowledged the execution thereof.

Dated at Wichita, Kansas, this 2nd day of May, 1984.

Donna D. Davison  
Notary Public

(My Commission expires February 14, 1988)



Preliminary plat  
SUBDIVISION REPORT

SUBDIVISION COMMITTEE  
METROPOLITAN AREA  
PLANNING COMMISSION

S/D No. 84-25 Name Briarwood Estates Fourth Addition  
Date Application Rec'd. 3-2-84 Preliminary Approval  
Scheduled S/D Meeting 3-15-84

DESCRIPTION

General Location East of 119th St. West and south of 13th Street North

Owner Inland Investment Company  
Surveyor/Engineer Bill G. Yung Design  
Address 8225 E. 35th St. North, Wichita Zip Code 67226 Phone 683-5567

- |   |  |
|---|--|
| 1. Gross Acreage of Plat <u>81.1 acres</u>  | 7. Lineal Feet of New Street                               |
| 2. Number of Lots :   | a. <u>64'</u> R/W <u>1,250</u> ft.                         |
| Residential <u>134</u>  | b. <u>58'</u> R/W <u>3,200</u> ft.                         |
| Commercial _____  | c. <u>32'</u> R/W <u>2,600</u> ft.                         |
| Industrial _____  | d. _____ R/W _____ ft.                                     |
| Other _____   | e. _____ R/W _____ ft.                                     |
| Total Number of Lots <u>134</u>   | TOTAL <u>7,050</u> ft.                                     |
| 3. Minimum Lot Frontage <u>57' at setback</u>                                       | 8. Sidewalk adjacent to all streets <u>yes</u> <u>x</u> no |
| 4. Minimum Lot Area <u>6,270 sq. ft.</u>  |  |
| 5. Existing Zoning <u>AA</u>  |  |
| 6. Proposed Zoning <u>AA w/DP-136</u>   |  |
| 9. Is public water available <u>X</u> Yes _____ No, Name <u>City of Wichita</u>     |  |
| 10. Is sanitary sewer available <u>X</u> Yes _____ No, Name <u>City of Wichita</u>  |  |
| 11. Has Health Dept. approval been obtained (where applicable) <u>Yes</u> <u>No</u> |  |
| 12. City of Wichita <u>X</u> <u>3-Mile Area</u> _____ <u>Outside of 3-Mile Area</u> |  |

STAFF COMMENTS:

Note: This property will be subject to the provisions of the Briarwood residential C.U.P. which is scheduled for MAPC review March 22nd. Block 6 is proposed for townhouse development (maximum of 145 units) and a request for R-6 zoning has been filed for this block. The north portion is currently platted as part of the first Briarwood Estates.

- A. The applicant shall guarantee the paving of all streets to public standards including the private street adjacent to Block 5. A sidewalk along the north side of Ponderosa shall be included in the paving guarantee.
- B. With lots on both sides of Briarwood Place, it would be impossible to address this entire looped street using one name. The name "Briarwood Place" is not acceptable for any portion of this looped street because of existing east-west "Briarwood" streets just south of 13th between Hoover and Maize Road. It is recommended that the north and east portions of the loop (from approximately Reserve H to Reserve L) be designated "Merridale" and the balance be designated "11th Street."
- C. The applicant shall guarantee the extension of City water to serve all lots.
- D. The applicant shall guarantee the extension of sanitary sewer to serve all lots.
- E. If improvements are guaranteed by petitions, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording with the plat.

F. The City Engineer's representative shall be prepared to comment on the applicant's drainage concept and state what drainage improvements may need to be guaranteed with the platting of this property and whether any minimum building pads need to be shown on the final plat.

*Want to see layout*

*✓ Flooding limits  
Need Flooding or Dr. Easement  
to south  
(E part Blk 6)*

- G. The applicant shall submit a covenant restricting lot-owner use of the 15-foot street, drainage and utility easements in Blocks 4 and 5. Retaining walls and change of grade shall be prohibited within these easements as well as fences, earth berms and mass plantings.
- H. The applicant shall submit a covenant requiring 4 off-street parking spaces per dwelling unit for all lots fronting on a street with 29 feet or less of pavement width.
- I. In accordance with the C.U.P., homeowners' associations shall be formed at the time of platting to provide for the ownership and maintenance of the reserves. The final plat tracing shall reference in the platator's text these ownership and maintenance responsibilities.
- J. Based on past traffic safety records, it is recommended that Reserves C and I be deleted.
- K. The Utility Advisory Committee members shall be prepared to comment on the adequacy of the 10, 15 and 16-foot utility easements within Blocks 1, 2 and 3.
- L. As setbacks will be specified on the C.U.P., they should not be shown on the final plat.
- M. Approximately 40 acres east of Reserve M and Block 6 were included in the preliminary plat of the first Briarwood Estates but were never final platted. With the proposed platting of Reserve M and Block 6, these 40 acres will be landlocked. Since all of this property is under one ownership, it is recommended that the east 40 acres be platted at this time. It may be platted as one large reserve. Ownership and maintenance responsibilities may be assigned to the homeowners' association for the existing Briarwood Estates development as that association is now using the property for recreational and open space purposes.
- N. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the Subdivision Regulations.
- O. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

S/D No.: 84-25

Name: Briarwood Estates Fourth Addition

Preliminary Approved: 3-15-84

Scheduled S/D Meeting: 4-12-84

DESCRIPTION

General Location: East of 119th St. West in an area south of 13th Street North

Owner: Inland Investment Company

Surveyor/Engineer: Professional Engineering Consultants, P. A.

1. Gross Acreage of Plat: 16.9
  2. Number of Lots:
    - Residential: 70
    - Office:
    - Commercial:
    - Industrial:
    - Total: 70
  3. Minimum Lot Area: 6,270 sq ft
  4. Existing Zoning: AA
  5. Proposed Zoning: AA w/DP-136
- 

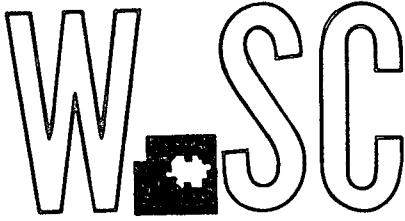
STAFF COMMENTS:

- A. This property is a replat of a portion of Briarwood Estates Addition. To avoid having two platted street systems in conflict with each other, the balance of the west 1200 feet(±) of Briarwood Estates needs to be vacated. This vacation application shall be filed and processed at least through the Metropolitan Area Planning Commission prior to the plat being scheduled for City Commission review. The engineer's text shall add a reference to K.S.A. 12-512(b).
- B. The final plat tracing shall indicate the platting of Alderny all the way west to 119th Street.
- C. A street name or names must be shown for the interior loop street. It is recommended that the north-south segment of street and the east half of the loop be designated as "Milstead." The west half of the loop shall be designated as "Pine Grove." These are both north-south street names and addresses will be assigned accordingly.
- D. The applicant shall guarantee the paving of Ponderosa, Parkridge, Alderny, Milstead and Pine Grove. A sidewalk along the north side of Ponderosa shall be included in the paving guarantee.
- E. The applicant shall submit a covenant requiring 4 off-street parking spaces per dwelling unit.
- F. The applicant shall submit a covenant restricting lot-owner use of the 15-foot street, drainage and utility easements. Retaining walls and change of grade shall be prohibited within these easements as well as fences, earth berms and mass plantings.
- G. The applicant shall provide the Planning Department with a copy of the Declaration of Landowners Association Agreement and the Briarwood Estates Homeowners Association as referenced in the plattor's text. These agreements must provide for the ownership and maintenance of the reserves.
- H. The applicant shall guarantee the extension of City water to serve all lots.
- I. The applicant shall guarantee the extension of sanitary sewer to serve all lots. The City Engineer's representative shall be prepared to comment on the proposed sanitary sewer layout which was required to be submitted prior to any final plats within Briarwood Estates 4th.
- J. The City Engineer's representative shall be prepared to comment on the applicant's final drainage plan for this property.

(Over)

- K. If improvements are guaranteed by petitions, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- L. Closure computations shall be submitted with the final plat tracing.
- M. Recording of the plat within 30 days after approval by the City Commission.

WICHITA — SEDGWICK COUNTY



METROPOLITAN AREA PLANNING  
COMMISSION

CITY HALL — TENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4561



April 13, 1984

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

Re: S/D 84-25 - Final plat of Briarwood Estates Fourth Addition

Gentlemen:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission on Thursday, April 12, 1984, the above-captioned plat was considered. The action of the Committee was to recommend that this plat be approved subject to:

- A. This property is a replat of a portion of Briarwood Estates Addition. To avoid having two platted street systems in conflict with each other, the applicant shall vacate by separate application Blocks 8, 9 and 10 of the original plat. This vacation application shall be filed and processed at least through the Planning Commission prior to the plat being scheduled for City Commission review. The engineer's text shall add a reference to K.S.A. 12-512 (b).
- B. The final plat tracing shall indicate Alderny Court as the name of the interior loop street.
- C. The applicant shall guarantee the paving of Ponderosa, Parkridge, Alderny, and Alderny Court. A sidewalk along the north side of Ponderosa shall be included in the paving guarantee.
- D. The applicant shall submit a covenant requiring 4 off-street parking spaces per dwelling unit.
- E. The applicant shall submit a covenant restricting lot-owner use of the 15-foot street, drainage and utility easements. Retaining walls and change of grade shall be prohibited within these easements as well as fences, earth berms and mass plantings.
- F. The applicant shall provide the Planning Department with a copy of the Declaration of Landowners Association Agreement and the Briarwood Estates Homeowners Association as referenced in the plat's text. These agreements must provide for the ownership and maintenance of the reserves.
- G. The applicant shall guarantee the extension of City water to serve all lots.

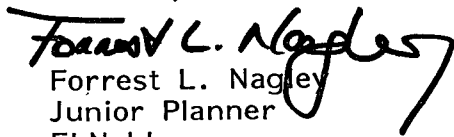
- H. The applicant shall guarantee the extension of sanitary sewer to serve all lots. Additional easements within this plat as well as off-site which are needed for sewer extensions shall be granted.
- I. If improvements are guaranteed by petitions, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording. Petitions will need to be prepared by the applicant's platting engineer.
- J. The applicant shall obtain the off-site drainage easements made necessary by the drainage plan.
- K. The applicant shall grant by separate instrument a temporary firelane access to connect Alderny Street to 119th Street West. This firelane access needs to be constructed at the time this subdivision begins to develop.
- L. Closure computations shall be submitted with the final plat tracing.
- M. Recording of the plat within 30 days after approval by the City Commission.

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 Thursday, April 19, 1984, at 1:30 p.m. If you have any questions concerning this matter, please call.

Sincerely,

  
Forrest L. Nagley  
Junior Planner  
FLN:bh

cc: Inland Investment Company, 10300 W. Central, 67212  
XMike Lindebak, City Engineer

**SYSTEM 100**

1. Due to minimal difference in 2 yr & 100 yr pipe sizes, use 100 yr storm
2. Street flow allowed to be std curb depth for 2 yr storm. See attached graph

$$Z = \text{reciprocal of cross slope} = \frac{1}{3/8" / ft} = 32$$

$$n = 0.016$$

$$Z/n = 2000$$

$$\text{curb depth allow} = 0.55'$$

$$\text{street slope} = 0.32\%$$

$$Q_{\max \text{ street}} = 13 \text{ cfs}$$

Actual flows are 1.3 cfs to Node 102 & 2.5 cfs to Node 101. Street flow for 2 yr storm OK.

3. Street flow allowed to be 0.3' above curb depth for 100 year storm (depth allowed = 0.85')

$$\text{Approx. } Q_{\max \text{ street}_{100}} = 40 \text{ cfs (see attached graph)}$$

$$\text{Actual flows are } 2.9 \text{ \& } 8.4 \text{ cfs}$$

Therefore, street flow for 100 yr storm OK

4. Inlet size:

Sump condition at both Nodes 101 & 102

$$H = 10" \text{ (city inlet) = depth of water}$$

$$h = 6" \text{ inlet opening}$$

$$H/h = 10/6 = 1.67$$

$$\text{Resulting } Q/L = 2.0 \text{ cfs per foot of inlet (See graph)}$$

$$\text{at Node 102 } Q_{100} = 2.9 \quad L_{\text{required}} = \frac{2.9}{2} = 1.45' \quad \text{Use 1 C-0 curb int.}$$

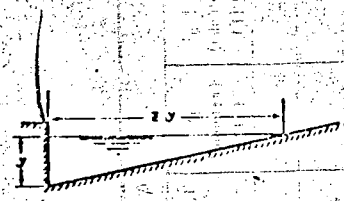
$$\text{at Node 101 } Q_{100} = 5.5 \quad L_{\text{required}} = \frac{5.5}{2} = 2.75 \quad \text{"}$$





$Z = 2461$   
 $n = 0.016$   
 $Z/n = 2000$

1072.05



EQUATION:  $Q = 0.56 \left(\frac{Z}{n}\right)^{3/2} Y^{3/2}$   
 n IS ROUGHNESS COEFFICIENT IN MANNING  
 FORMULA APPROPRIATE TO MATERIAL IN  
 BOTTOM OF CHANNEL  
 Z IS RECIPROCAL OF CROSS SLOPE  
 REFERENCE: M. R. S. PROCEEDINGS 1946,  
 PAGE 150, EQUATION (14)

EXAMPLE (SEE DASHED LINES)

GIVE:  $Z = 0.03$   
 $n = 0.24$   
 $n = 0.02$   
 $Y = 0.22$   
 FIND:  $Q = 2.0$  CFS

Allow.  $Q_{100} = 40$  CFS  
 $Z/n = 1200$

DISCHARGE (Q) IN CFS  
 SLOPE OF CHANNEL (S) IN FT.

Allow. depth 100-yr = 0.70  
 Allow. depth 50-yr = 0.50

PROJECTIVE RATE  
 2461  
 2000

RATIO Z/n

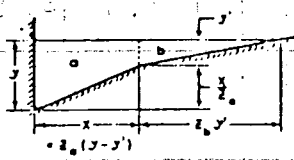
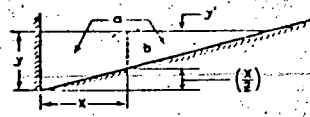
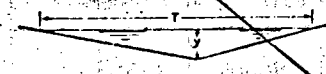
DISCHARGE (Q) IN CFS

SLOPE OF CHANNEL (S) IN FT.

DEPTH AT CURB OR DEEPEST POINT (Y) IN FT.

INSTRUCTIONS

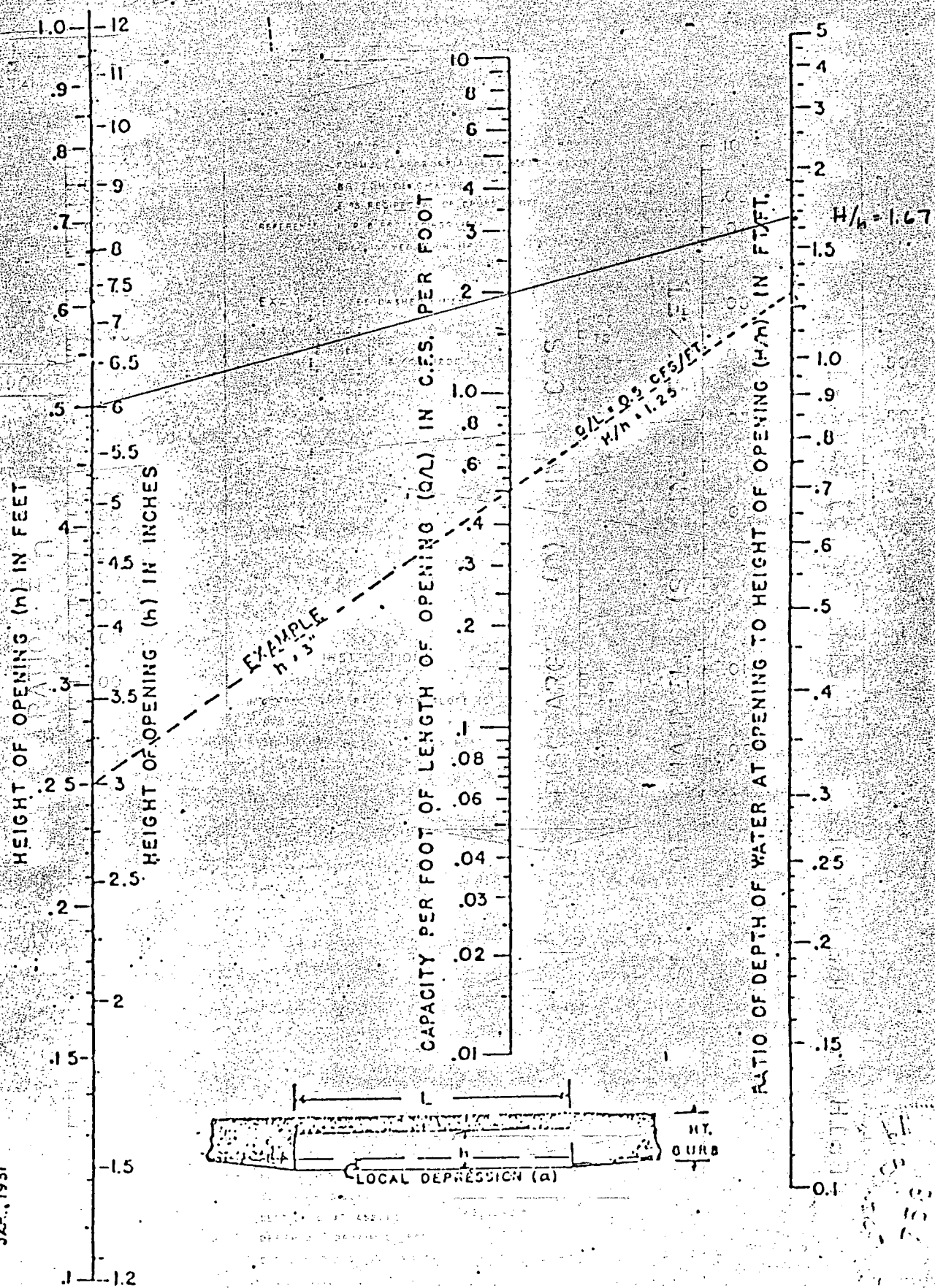
- CONNECT  $Z/n$  RATIO WITH SLOPE (S) AND CONNECT DISCHARGE (Q) WITH DEPTH (Y). THESE TWO LINES MUST INTERSECT AT TURNING LINE FOR COMPLETE SOLUTION.
- FOR SHALLOW V-SHAPED CHANNEL AS SHOWN USE NOMOGRAPH WITH  $Z = \frac{T}{Y}$
- TO DETERMINE DISCHARGE  $Q_x$  IN PORTION OF CHANNEL HAVING WIDTH X: DETERMINE DEPTH  $y$  FOR TOTAL DISCHARGE IN ENTIRE SECTION  $a$ . THEN USE NOMOGRAPH TO DETERMINE  $Q_b$  IN SECTION  $b$  FOR DEPTH  $y' = y - (\frac{x}{Z})$ .
- TO DETERMINE DISCHARGE IN COMPOSITE SECTION: FOLLOW INSTRUCTION 3. TO OBTAIN DISCHARGE IN SECTION  $a$  AT ASSUMED DEPTH  $y$ ; OBTAIN  $Q_b$  FOR SLOPE RATIO  $Z$ , AND DEPTH  $y'$ . THEN  $Q_t = Q_a + Q_b$ .



JUN. 1950 (REV.)  
MAY 1949

# SUMP CONDITION ONLY

1073.03



JAN., 1951

consideration of  
 ple, the apron  
 dings. Inlets  
 ble flexibility  
 the likelihood  
 inlets. Sec-  
 d be isolated  
 seal traps or  
 ent transmis-  
 he system.

Coeffic. "n"

- 0.012
- 0.012
- 0.021
- 0.023
- 0.026
- 0.024
- 0.027
- 0.031
- 0.012
- 0.015
- 0.017
- 0.018 to 0.021

ffic. "n"

- to 0.020
- to 0.017
- to 0.030

- 0.20
- 0.20
- 0.20
- 0.20
- 0.25
- 0.150\*

- 0.08
- 0.06

has light

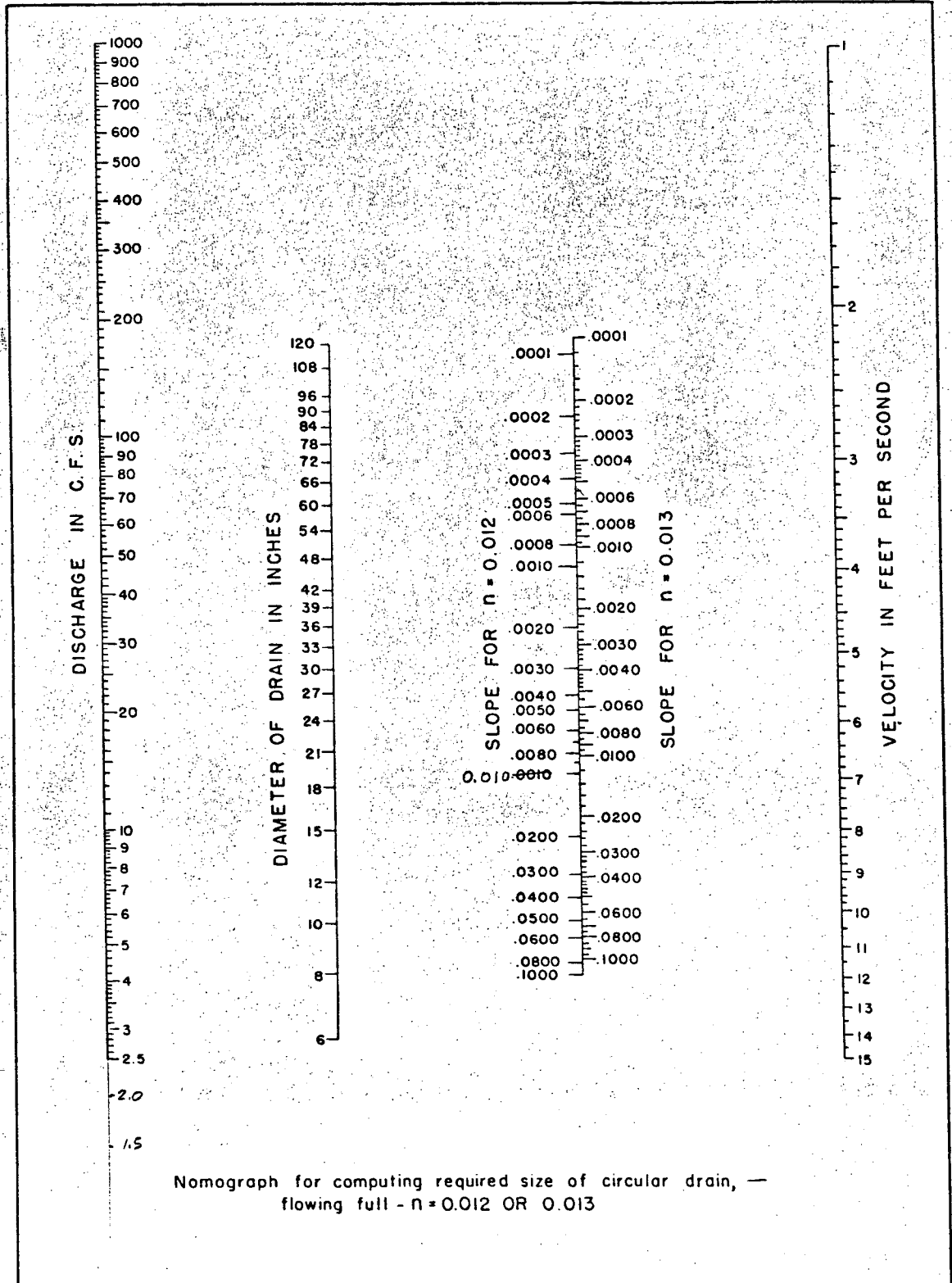


FIGURE 9. Nomograph for computing required size of circular drain for n 0.012 or 0.013.

RAINFALL INTENSITY TABLE

for

SEDGWICK COUNTY KANSAS

The following tabulation contains rainfall intensity in inches per hour as derived from ESSA Weather Bureau Technical Paper 40.

DURATION IN MINUTES	RETURN PERIODS OF						
	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
5	4.67	6.23	8.00	9.34	10.67	12.23	13.79
6	4.35	5.80	7.45	8.70	9.94	11.39	12.84
7	4.09	5.46	7.02	8.19	9.36	10.72	12.09
8	3.88	5.18	6.66	7.77	8.89	10.18	11.48
9	3.71	4.95	6.36	7.43	8.49	9.72	10.96
10	3.56	4.75	6.11	7.13	8.15	9.33	10.52
11	3.43	4.58	5.89	6.87	7.85	8.99	10.14
12	3.32	4.43	5.69	6.64	7.59	8.69	9.80
13	3.21	4.29	5.51	6.43	7.35	8.42	9.50
14	3.12	4.17	5.36	6.25	7.14	8.18	9.23
15	3.04	4.06	5.21	6.08	6.95	7.97	8.98
16	2.96	3.96	5.09	5.93	6.78	7.77	8.76
17	2.90	3.86	4.97	5.79	6.62	7.59	8.55
18	2.83	3.78	4.86	5.67	6.48	7.42	8.37
19	2.77	3.70	4.76	5.55	6.34	7.27	8.19
20	2.72	3.63	4.66	5.44	6.22	7.12	8.03
21	2.67	3.56	4.57	5.34	6.10	6.99	7.88
22	2.62	3.49	4.49	5.24	5.99	6.86	7.74
23	2.57	3.43	4.41	5.15	5.89	6.74	7.60
24	2.53	3.38	4.34	5.07	5.79	6.63	7.48
25	2.49	3.32	4.27	4.99	5.70	6.53	7.36
26	2.45	3.23	4.21	4.91	5.61	6.43	7.25
27	2.42	3.13	4.15	4.84	5.53	6.33	7.14
28	2.38	3.05	4.09	4.77	5.45	6.25	7.04
29	2.35	2.97	4.02	4.68	5.38	6.16	6.95
30	2.32	2.89	3.92	4.56	5.31	6.08	6.79
31	2.29	2.82	3.82	4.44	5.19	6.00	6.62
32	2.26	2.75	3.73	4.33	5.07	5.87	6.45
33	2.24	2.68	3.64	4.23	4.95	5.73	6.30
34	2.19	2.62	3.55	4.13	4.83	5.60	6.16
35	2.14	2.57	3.47	4.04	4.73	5.47	6.02
36	2.09	2.51	3.40	3.95	4.62	5.35	5.89
37	2.05	2.46	3.33	3.87	4.52	5.23	5.76
38	2.00	2.41	3.26	3.79	4.43	5.13	5.64
39	1.96	2.36	3.19	3.71	4.34	5.02	5.53
40	1.92	2.32	3.13	3.64	4.26	4.92	5.42
41	1.89	2.27	3.07	3.57	4.18	4.83	5.32
42	1.85	2.23	3.01	3.51	4.10	4.74	5.22
43	1.82	2.19	2.96	3.44	4.02	4.65	5.13
44	1.78	2.15	2.91	3.38	3.95	4.56	5.03
45	1.75	2.11	2.86	3.32	3.88	4.48	4.95

The following tabulation contains rainfall intensity in inches per hour as derived from 1958 weather data.

DURATION IN MINUTES	RETURN PERIODS OF						
	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
46	1.72	2.08	2.81	3.27	3.82	4.41	4.86
47	1.69	2.04	2.76	3.21	3.75	4.33	4.78
48	1.67	2.01	2.72	3.16	3.69	4.26	4.70
49	1.64	1.98	2.67	3.11	3.63	4.19	4.63
50	1.61	1.95	2.63	3.06	3.58	4.13	4.56
51	1.59	1.92	2.59	3.01	3.52	4.06	4.49
52	1.56	1.89	2.55	2.97	3.47	4.00	4.42
53	1.54	1.86	2.51	2.92	3.42	3.94	4.35
54	1.52	1.84	2.48	2.88	3.37	3.88	4.29
55	1.50	1.81	2.44	2.84	3.32	3.83	4.23
56	1.47	1.79	2.41	2.80	3.27	3.77	4.17
57	1.45	1.76	2.37	2.76	3.23	3.72	4.11
58	1.43	1.74	2.34	2.73	3.19	3.67	4.06
59	1.42	1.72	2.31	2.69	3.14	3.62	4.01
60	1.40	1.69	2.28	2.65	3.10	3.57	3.95
61	1.38	1.67	2.25	2.62	3.06	3.53	3.90
62	1.36	1.65	2.22	2.59	3.02	3.48	3.85
63	1.34	1.63	2.20	2.55	2.99	3.44	3.81
64	1.33	1.61	2.17	2.52	2.95	3.40	3.76
65	1.31	1.59	2.14	2.49	2.92	3.35	3.71
66	1.30	1.57	2.12	2.46	2.88	3.31	3.67
67	1.28	1.56	2.09	2.44	2.85	3.27	3.63
68	1.26	1.54	2.07	2.41	2.81	3.24	3.59
69	1.25	1.52	2.05	2.38	2.78	3.20	3.54
70	1.24	1.50	2.02	2.35	2.75	3.16	3.51
71	1.22	1.49	2.00	2.33	2.72	3.13	3.47
72	1.21	1.47	1.98	2.30	2.69	3.09	3.43
73	1.20	1.46	1.96	2.28	2.66	3.06	3.39
74	1.18	1.44	1.94	2.25	2.63	3.03	3.36
75	1.17	1.43	1.92	2.23	2.61	3.00	3.32
76	1.16	1.41	1.90	2.21	2.58	2.96	3.29
77	1.15	1.40	1.88	2.18	2.55	2.93	3.25
78	1.13	1.38	1.86	2.16	2.53	2.90	3.22
79	1.12	1.37	1.84	2.14	2.50	2.88	3.19
80	1.11	1.36	1.82	2.12	2.48	2.85	3.16
81	1.10	1.34	1.81	2.10	2.46	2.82	3.13
82	1.09	1.33	1.79	2.08	2.43	2.79	3.10
83	1.08	1.32	1.77	2.06	2.41	2.76	3.07
84	1.07	1.31	1.75	2.04	2.39	2.74	3.04
85	1.06	1.30	1.74	2.02	2.37	2.71	3.01
86	1.05	1.28	1.72	2.00	2.34	2.69	2.99
87	1.04	1.27	1.71	1.99	2.32	2.66	2.96
88	1.03	1.26	1.69	1.97	2.30	2.64	2.93
89	1.02	1.25	1.68	1.95	2.28	2.62	2.91
90	1.01	1.24	1.66	1.93	2.26	2.59	2.88

<u>DURATION</u> <u>IN MINUTES</u>	<u>RETURN PERIODS OF</u>						
	<u>1-YR</u>	<u>2-YR</u>	<u>5-YR</u>	<u>10-YR</u>	<u>25-YR</u>	<u>50-YR</u>	<u>100-YR</u>
91	1.00	1.23	1.65	1.92	2.24	2.57	2.86
92	1.00	1.22	1.63	1.90	2.22	2.55	2.83
93	0.99	1.21	1.62	1.89	2.20	2.53	2.81
94	0.98	1.20	1.61	1.87	2.19	2.51	2.79
95	0.97	1.19	1.59	1.85	2.17	2.49	2.76
96	0.96	1.18	1.58	1.84	2.15	2.46	2.74
97	0.96	1.17	1.57	1.82	2.13	2.44	2.72
98	0.95	1.16	1.56	1.81	2.12	2.42	2.70
99	0.94	1.15	1.54	1.80	2.10	2.41	2.67
100	0.93	1.14	1.53	1.78	2.08	2.39	2.65
101	0.93	1.13	1.52	1.77	2.07	2.39	2.65
102	0.92	1.13	1.51	1.75	2.05	2.35	2.61
103	0.91	1.12	1.50	1.74	2.04	2.33	2.59
104	0.90	1.11	1.49	1.73	2.02	2.31	2.57
105	0.90	1.10	1.47	1.72	2.01	2.30	2.55
106	0.89	1.09	1.46	1.70	1.99	2.28	2.54
107	0.88	1.09	1.45	1.69	1.98	2.26	2.52
108	0.88	1.08	1.44	1.68	1.96	2.25	2.50
109	0.87	1.07	1.43	1.67	1.95	2.23	2.48
110	0.87	1.06	1.42	1.65	1.93	2.21	2.46
111	0.86	1.06	1.41	1.64	1.92	2.20	2.45
112	0.85	1.05	1.40	1.63	1.91	2.18	2.43
113	0.85	1.04	1.39	1.62	1.89	2.17	2.41
114	0.84	1.03	1.38	1.61	1.88	2.15	2.40
115	0.84	1.03	1.37	1.60	1.87	2.14	2.38
116	0.83	1.02	1.36	1.59	1.86	2.12	2.36
117	0.82	1.01	1.36	1.58	1.84	2.11	2.35
118	0.82	1.01	1.35	1.57	1.83	2.09	2.33
119	0.81	1.00	1.34	1.56	1.82	2.08	2.32
120	0.81	0.99	1.33	1.55	1.81	2.07	2.30
121	0.80	0.99	1.32	1.54	1.80	2.05	2.29
122	0.80	0.98	1.31	1.53	1.78	2.04	2.27
123	0.79	0.97	1.30	1.52	1.77	2.03	2.26
124	0.79	0.97	1.30	1.51	1.76	2.01	2.24
125	0.78	0.96	1.29	1.50	1.75	2.00	2.23
126	0.78	0.96	1.28	1.49	1.74	1.99	2.22
127	0.77	0.95	1.27	1.48	1.73	1.98	2.20
128							
129							
130							
131							
132							
133							
134							
135							

# Briarwood Phase II (4th Addition)

## SYSTEM 200

1. Design this system for 2 year storm in pipe.  
Difference ( $Q_{100} - Q_2$ ) overlaid in swales.

2. Street flow for 2 yr. storm  
(Same criteria as System 100)

$$Q_{\max\text{-street}_2} = 13 \text{ cfs}$$

Street flows to all nodes are less than 13 cfs  
Therefore all street flows for 2-yr. storm OK

3. Street flow for 100 yr. storm  
(Same criteria as System 100)

$$Q_{\max\text{-street}_{100}} = 40 \text{ cfs}$$

Check each segment:	Node	$Q_{100} - Q_2$
	Node 208 to 207	18.0 - 8.2 = 9.8
	207 to 206	22.2 - 10.1 = 12.1
	206 to 205	4.4 - 2.0 = 2.4
	205 to 204	31.6 - 14.3 = 17.3
	204 to 203	36.0 - 16.3 = 19.7
	203 to 202	49.8 - 22.2 = 27.6
	202 to 201	52.4 - 23.3 = 29.1
	201 to 200	55.2 - 24.5 = 30.7

All street flows for 100 yr. storm = < 40 cfs  
Therefore all 100 yr. street flows OK

4. Design swales to carry the  $Q_{100} - Q_2$  flows

Between Nodes	204 & 203	(19.7 cfs)	
"	"	203 & 202	(27.6 cfs)
"	"	201 & 200	(30.7 cfs)

## Brierwood Phase II (4th Addition)

FOR SWALE DESIGN: USE MANNINGS EQ'N

$$Q = \frac{1.486}{n} AR^{2/3} S^{1/2}$$

$$n = 0.035$$

$$S = 0.4\%$$

a) NODE 204 - NODE 203  $Q_{100-2} = 19.7 \text{ cfs}$

$$19.7 = \frac{1.486}{0.035} AR^{2/3} (0.004)^{1/2}$$

$$AR^{2/3} = \frac{19.7 \times 0.035}{1.486 \times 0.06324} = \frac{0.68950}{0.09398} = 7.33$$

b) NODE 203 - NODE 202  $Q_{100-2} = 27.6 \text{ cfs}$

$$AR^{2/3} = \frac{27.6 \times 0.035}{1.486 \times 0.06324} = 10.27$$

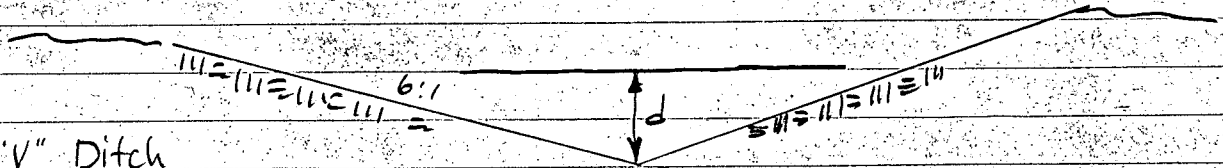
c) NODE 201 - NODE 200  $Q_{100-2} = 30.7 \text{ cfs}$

$$AR^{2/3} = \frac{30.7 \times 0.035}{1.486 \times 0.06324} = 11.42$$

## SWALE DESIGN (continued)

TRIAL 1.

6:1 "V" Ditch



d	A	P	R	$R^{2/3}$	$AR^{2/3}$
1.0	6.0	12.17	0.49	0.62	3.74
1.2	8.64	14.60	0.59	0.70	6.09
1.4	11.76	17.03	0.69	0.78	9.19
1.6	15.36	19.46	0.79	0.85	13.11

Using above swale section @ slope of 0.4%,

Water Depth	Between Node 204 & 203 =	1.3' ±
"	" Node 203 & 202 =	1.5' ±
"	" Node 201 & 200 =	1.5' ±

### 5. Inlet capacity.

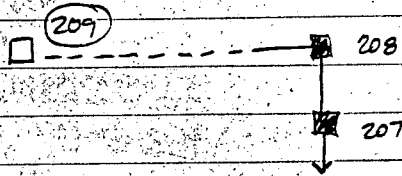
All inlets in sump condition

$$Q_2^{\text{allowable}} = 2 \text{ gfs/ft (see system No 100)} \times 5' \text{ (C-O-W inlet)} \\ = 10 \text{ cfs.}$$

All inlet  $Q$ 's for 2-yr. storm < 10 cfs

Therefore, use 1 C-O-W inlet at each node.

b) Check Pipe stub size out of Node 208.



D.A to Future Node 209 = 3.7 Ac (from Drainage Concept)

$$C = 0.5$$

$$I_2 = 4.06 \quad (t_c = 15 \text{ min})$$

$$Q_2 = 0.5 \times 4.06 \times 3.70 \\ = 7.5 \text{ cfs}$$

Street Flow OK

Use 18" @ 0.5%

7) Check Inlet size of Node 203 (Drop inlet)

Use Weir Equation  $Q = CLH^{3/2}$  where  $Q_2 = 6.2$  cfs  
 $L = \text{unknown}$   
 $C = 3$   
 $H = 1.0'$

$$6.2 = 3.0 \times L \times 1.0^{3/2}$$
$$L = \frac{6.2}{3 \times 1} = 2.06'$$

Use C-O-W 2' x 4' Drop Inlet

Use Orifice Equation

$Q = CA\sqrt{2gh}$  where  $Q_2 = 6.2$   
 $C = 0.6$   
 $A = \text{unknown}$   
 $g = 32.2$  ft/sec  
 $h = 1.0'$

$$6.2 = 0.6 \times A \sqrt{2 \times 32.2 \times 1}$$
$$6.2 = 0.6 \times A \times \sqrt{64.4}$$
$$6.2 = 0.6 \times A \times 8.02$$
$$A = \frac{6.2 \times 0.6}{8.02} = .46'$$

Use C-O-W 2 x 4 Drop Inlet.





# Briarwood Phase II (4th Addition)

## SYSTEM 300

1. Design this system to carry the 100-yr  $Q$ .  
The increase in cost for bigger pipe is offset by omitting ditch lining or other type of erosion control at swale outfall.

2. Street flow for 2-year storm  
(same criteria as System 100)  
 $Q_{\max\text{-street}_2} = 13 \text{ cfs}$

Street flows<sub>2</sub> to both Nodes 302 & 301 are less than 13. Therefore street flows for 2-yr. storm OK.

3. Street flow for 100-year storm  
(same criteria as System 100)  
 $Q_{\max\text{-street}_{100}} = 40 \text{ cfs}$

Street flows<sub>100</sub> to both Nodes 302 & 301 are less than 40 cfs. Therefore street flows for 100-year storm OK.

4. Inlet capacity

Both inlets in sump condition

$$Q_2 \text{ allowable} = 2 \text{ cfs / foot (see System 100)} \times 5' \text{ C-O-W in.} \\ = 10 \text{ cfs.}$$

Both inlet  $Q$ 's for 100 year storm  $< 10 \text{ cfs}$   
Therefore, use 1 C-O-W inlet at each node.





## SYSTEM 400

1. Design this system with  $Q_2$  in pipe.  
Difference  $(Q_{100} - Q_2)$  in swale.

2. Street flow for 2-yr. storm  
(Same criteria as System 100)  
 $Q_{\text{max-st.}_2} = 13 \text{ cfs}$

street flows to all nodes in Briarwood 4th  
are less than 13. Therefore street flow  
for 2 year storm OK.

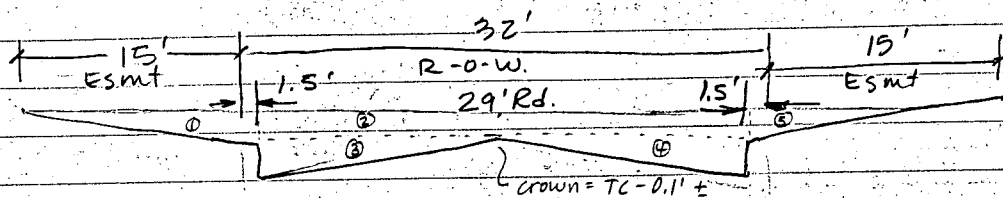
NOTE: Upon plotting of north portion of parcel,  
street flows will be checked for  
Node 406.

3. Street flow for 100 yr. storm.

Check each segment:

	$Q_{100} - Q_2$
Node 406 to 404	$58.4 - 26.4 = 32.0$
Node 405 to 404	$16.2 - 7.3 = 8.9$
Node 404 to 401	$74.6 - 33.6 = 41.0$
Node 403 to 401	$4.0 - 1.8 = 2.2$
Node 402 to 401	$2.0 - 0.9 = 1.1$
Node 401 to 400	$84.9 - 38.2 = 46.7$

3) (continued)



Use Manning's Eq'n to determine a more exact amount of flow on the above street section

a) Determine "composite" "n"

$$33 \text{ LF} @ 0.030 = 0.99$$

$$29 \text{ LF} @ 0.016 = 0.46$$

$$n = 1.45 / 62 = 0.023$$

b) Determine Cross-Sectional Area

$$① \frac{1}{2} \times 16.5' \times 0.3' = 2.48$$

$$② 0.4 \times 29' = 11.60$$

$$③ \frac{1}{2} \times 14.5' \times 0.45 = 3.26$$

$$④ \frac{1}{2} \times 14.5' \times 0.45 = 3.26$$

$$⑤ \frac{1}{2} \times 16.5' \times 0.3' = 2.48$$

$$\underline{23.08}$$

c) Assume wetted perimeter = 62'

$$d) \text{ Hydraulic Radius} = A/p = 23.08 / 62 = 0.37225$$

$$Q_{\text{max}} = \frac{1.486}{0.023} \times 23.08 \times (0.37225)^{2/3} \times (0.0032)^{1/2}$$

$$= \frac{1.486}{0.023} \times 23.08 \times 0.51748 \times 0.05656$$

$$= 43.6 \text{ cfs}$$

3) (continued)

Street Flow (100 yr.) is right at the maximum at Node 401. OK

4) Inlet capacity.

All inlets in sump condition.

$$\begin{aligned} \text{Allowable } Q &= 2 \text{ cfs/ft (see System 100)} \times 5' \text{ (COW inlet)} \\ &= 10 \text{ cfs} \end{aligned}$$

All inlets in Briarwood 4th OK

Future Nodes 406 - 407 - 408 - 409 will be checked when north portion plotted.

5) Swale Design.

Use Mannings Eq'n.

$$Q = \frac{1.486}{n} AR^{2/3} S^{1/2}$$

$$\text{where } Q = 46.7 \text{ cfs}$$

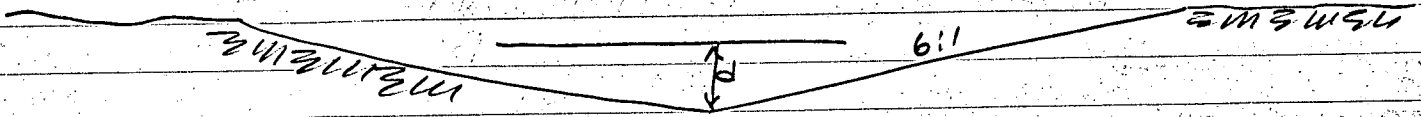
$$n = 0.035$$

$$S = 0.5\% \pm$$

$$AR^{2/3} = \frac{Q \times n}{1.486 \times S^{1/2}} = \frac{46.7 \times 0.035}{1.486 \times 0.07071}$$

$$= 15.55$$

5) (continued)



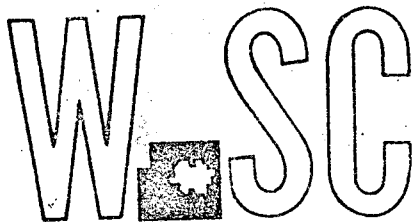
$d$	$A$	$p$	$R$	$R^{2/3}$	$AR^{2/3}$
1.5	13.50	18.25	0.73979	0.8179	11.04
1.6	15.36	19.46	0.78911	0.8539	13.12
1.7	17.34	20.68	0.83843	0.8892	15.41

Water depth = 1.7'    Velocity =  $\frac{Q}{A} = \frac{46.7}{17.34} = 2.7$  ft/s





WICHITA - SEDGWICK COUNTY



METROPOLITAN AREA PLANNING  
COMMISSION

CITY HALL - TENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202  
(316) 268-4561



March 16, 1984

Bill G. Yung Design  
8225 E. 35th St. North  
Wichita, Kansas 67226

Re: S/D 84-25 - Preliminary plat of Briarwood Estates  
Fourth Addition

Dear Mr. Yung:

At the regular meeting of the Subdivision Committee of the Metropolitan Area Planning Commission, March 15, 1984, 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 paving of all interior streets to public standards. A sidewalk along the north side of Ponderosa shall be included in the paving guarantee.
- B. The street name Briarwood Place is unsatisfactory because of an existing "Briarwood" at another location and alignment. The applicant or his agent should meet with Planning staff to discuss street names prior to filing a final plat on Blocks 4 and 5.
- C. The applicant shall guarantee the extension of City water to serve all lots.
- D. The applicant shall guarantee the extension of sanitary sewer to serve all lots. Prior to final platting any lots, a sanitary sewer layout shall be submitted to the City Engineer for review. Any easements which will contain sewers shall be a minimum of 20 feet wide.
- E. If improvements are guaranteed by petitions, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording with the plat.

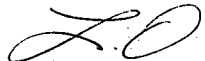
- F. The 20-foot easement along the east line of 119th Street shall be increased to 30 feet as platted in the original Briarwood Estates in order to accomodate an existing gas main.
- G. Side lot utility easements as requested by K.G. and E. and as shown on the marked engineer's copy of the preliminary plat shall be shown on the final plat.
- H. Additional drainage information shall be submitted to the City Engineer so that the size of the floodway and the minimum pad elevations can be determined.
- I. The applicant shall submit a covenant restricting lot-owner use of the 15-foot street, drainage and utility easements in Blocks 4 and 5. Retaining walls and change of grade shall be prohibited within these easements as well as fences, earth berms and mass plantings.
- J. The applicant shall submit a covenant requiring 4 off-street parking spaces per dwelling unit for all lots fronting on a street with 29 feet or less of pavement width.
- K. In accordance with the C.U.P., homeowners' associations shall be formed at the time of platting to provide for the ownership and maintenance of the reserves. The final plat tracing shall reference in the plattor's text these ownership and maintenance responsibilities.
- L. The traffic circle designated as Reserve I shall be deleted. The traffic circle designated as Reserve C is strongly discouraged but may be discussed again at the final plat hearing.
- M. As setbacks will be specified on the C.U.P., they should not be shown on the final plat.
- N. The 40+ acres east of Reserve M and Block 6 shall be included in an amended community unit plan and shall be platted when Reserve M and Block 6 are final platted.
- O. The applicant shall install or guarantee the installation of all utilities and facilities which are applicable and described in Article 8 of the Subdivision Regulations.
- P. Requirements for a final plat (see pages 20-25, Part 4, Article 5 of the MAPC Subdivision Regulations).

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

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

Sincerely,



Louise Olivarez  
Senior Planner

LO:bh

cc: Inland Investment Company, 10300 W. Central, 67212  
Gary Wiley, P.E.C., P.A., 1440 E. English, 67211  
+ Mike Lindebak, City Engineer