

STAFF REPORT
(One-Step Final Plat)

CASE NUMBER: SUB 2007-103 -- BRENTWOOD SOUTH 3RD ADDITION

OWNER/APPLICANT: JBC Investments, Inc., 527 N. Forestview, Wichita, KS 67235

SURVEYOR/AGENT: Ruggles & Bohm, P.A., Attn: Tom Ruggles, 924 N. Main, Wichita, KS 67203

LOCATION: East of Webb Road, North side of Pawnee

SITE SIZE: 5.68 acres

NUMBER OF LOTS

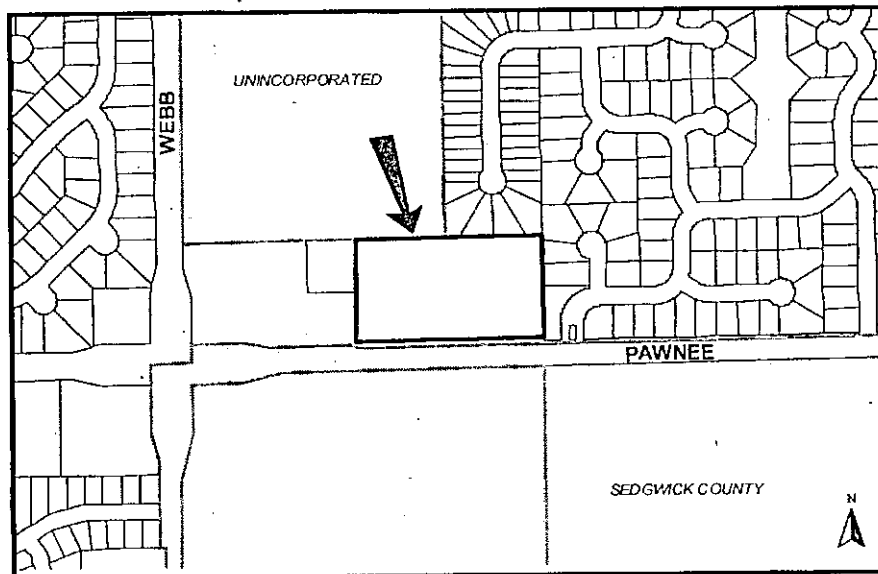
Residential:	1
Office:	
Commercial:	
Industrial:	
Total:	1

MINIMUM LOT AREA: 4.86 acres

CURRENT ZONING: LC, Limited Commercial

PROPOSED ZONING: Same

VICINITY MAP



NOTE: This is a replat of a portion of Brentwood South 2nd Addition.

STAFF COMMENTS:

- A. Water Utilities Department advises that in-lieu-of-assessment fees are needed for connection to water and sewer.
- B. If improvements are guaranteed by petition, a notarized certificate listing the petitions shall be submitted to the Planning Department for recording.
- C. City Engineering needs to comment on the status of the applicant's drainage plan. County Engineering requests a drainage plan. Additional easements may be needed based on the drainage plan.
- D. County Surveying advises of the need for a benchmark datum.
- E. Traffic Engineering has approved the access controls. The plat proposes one street opening along Pawnee.
- F. Due to the proposed 58-foot street, a zone change to SF-5, Single-Family District is needed. In the alternative, a restrictive covenant is needed limiting the site to single-family development.
- G. The Applicant shall guarantee the paving of the proposed street.
- H. The applicant shall submit a covenant that provides four (4) off-street parking spaces per dwelling unit on each lot that abuts a 58-foot street. The covenant shall inventory the affected lots by lot and block number and shall state that the covenant runs with the land and is binding on future owners and assigns.
- I. GIS has requested the street be labeled as "Goebel Cir".
- J. The platlor'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.
- K. The applicant shall install or guarantee the installation of all utilities and facilities that 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.)
- L. The Register of Deeds requires all names to be printed beneath the signatures on the plat and any associated documents.
- M. 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.
- N. 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.
- O. The owner of the subdivision should note that any construction that results in earthwork activities that will disturb one (1) acre or more of ground cover requires a Federal/State NPDES Storm Water Discharge Permit from the Kansas Department of Health and Environment in Topeka. Also, for projects located within the City of Wichita, erosion and sediment control devices must be used on ALL projects. For projects outside of the City of Wichita, but within the Wichita Metropolitan area, the owner should contact the appropriate governmental jurisdiction concerning erosion and sediment control device requirements.
- P. Perimeter closure computations shall be submitted with the final plat tracing.
- Q. 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.
- R. A compact disc (CD), which will be used by the City and County GIS Departments, detailing the final plat in digital format in AutoCAD. If a disc is not provided, please send via e-mail to Cheryl Holloway (E-Mail address: cholloway@wichita.gov). Please include the name of the plat on the disc.

Brentwood South 3rd Addition
Wichita, Sedgwick County, Kansas
Drainage Analysis
November 12, 2007

Brentwood South 3rd Addition is located east of Webb Road on the North side of Pawnee. The plat consists of 5.7 acres. From the online NRCS websoil survey the onsite soils are Tabler silty clay loam, hydrologic soil group D. The site is currently un-maintained grass.

In the pre-developed condition offsite drainage comes from the Sedgwick County maintenance facility to the North and offsite drainage from the East in the Pawnee Avenue ditch. The drainage from the maintenance facility is blocked by a berm and drained by a 24" RCP. For the purposes of this study we considered the drainage from the offsite basins as though it arrived unimpeded. The entire site naturally drains into the Pawnee Avenue ditch. The ditch is drained south under Pawnee by a 54" RCP adjacent to Brentwood South 3rd.

In the developed condition, 14 multi-family units will be constructed on 1 platted lot. There is a dry detention pond in the northwest corner of the lot. Runoff from the maintenance facility will be detained in the pond as well as a small onsite basin. A storm sewer pipe will be employed to drain the street. A small portion of the site will be diverted into an existing Brentwood South 2nd storm sewer system. Swales in drainage easements will be used to convey drainage around the perimeter of the site and then into the road side ditch adjacent to Pawnee Ave. The ditch in Pawnee will be regraded to allow the site to drain.

HEC-HMS 3.0.1 was used for the hydraulic analysis of the site. For all rainstorm events studied, the drainage from the site was reduced in the developed condition.

Storm Return Period	Existing Runoff (cfs)	Developed Runoff (cfs)
2 yr	45.0	42.9
5 yr	62.8	60.8
10 yr	77.1	75.2
25 yr	91.5	88.6
100 yr	114.1	109.3

Table 1: Peak runoff for each studied rainfall event.

Existing Conditions

The existing site consists of 5.7 acres of grassland (0% impervious) with hydrologic group D soil. The time of concentration is 18 minutes for the maintenance facility and 20 minutes for the offsite area to the West. Time of Concentration was found using the velocity method. Considering the soil types and land use a curve number of 83 was used for onsite and 90 was used for the offsite areas. Existing runoff for each return period from Brentwood South 3rd is shown in Table-1. Runoff from the site flows to a single 54" RCP under Pawnee avenue. The RCP is adequately sized for the existing conditions. The rating for the existing culvert can be found in Table-2.

A review of the USGS map, FEMA floodmap and a field visit of the site shows no evidence of floodways, wetland or riparian areas of the subject site.

Offsite Sedgwick County Maintenance Yard:

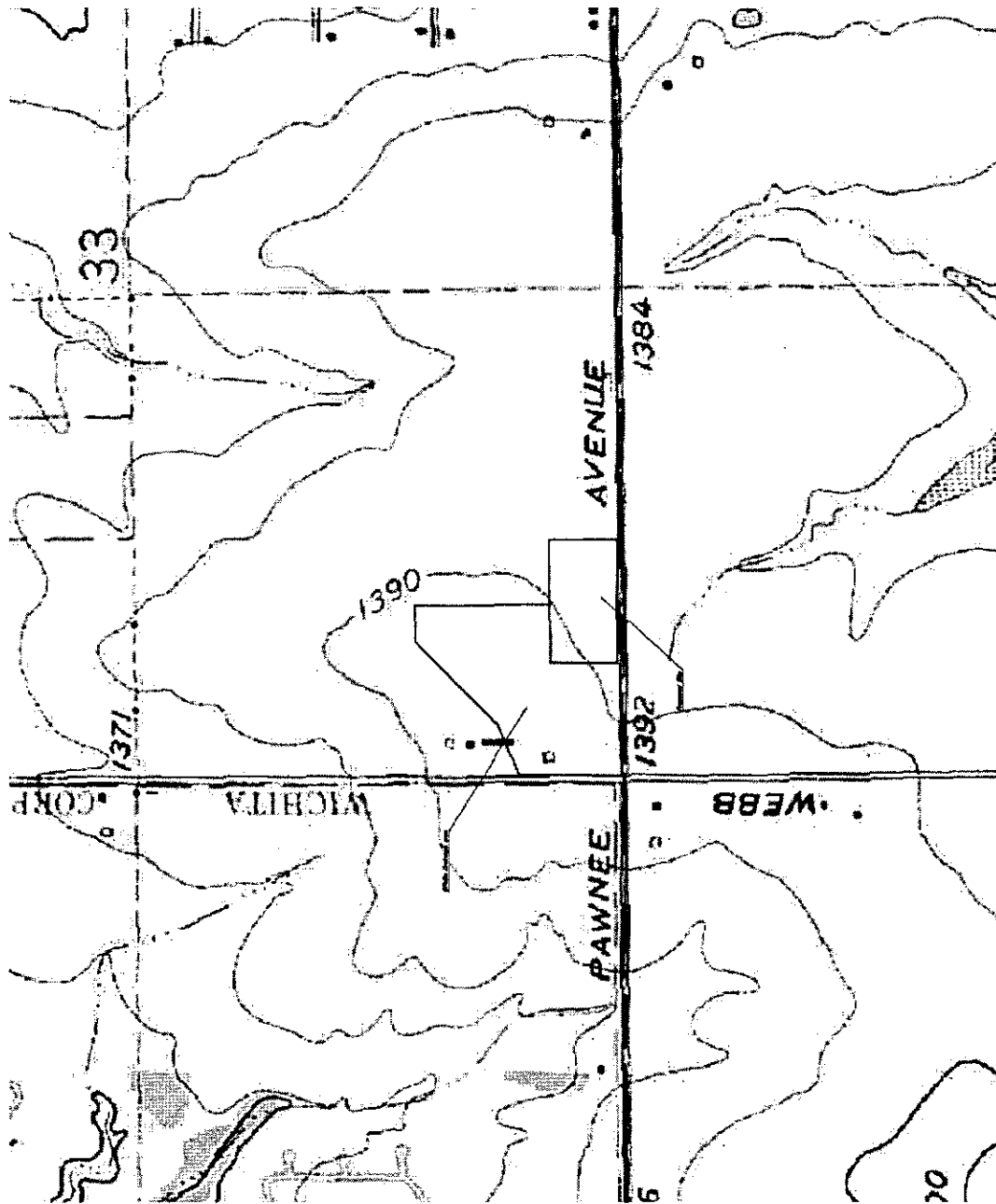
$T_c = 300' / 0.45 \text{ ft/sec (overland flow)} + 300' / 1.5 \text{ ft/sec (sheet flow)} + 550' / 2.5 \text{ ft/sec (channel flow)} = 1087 \text{ sec} = 18.1 \text{ minutes}$

Offsite West:

$T_c = 300' / 0.45 \text{ ft/sec (overland flow)} + 300' / 1.5 \text{ ft/sec (sheet flow)} + 840' / 2.5 \text{ ft/sec (channel flow)} = 1087 \text{ sec} = 20.2 \text{ minutes}$

Elevation	Discharge (cfs)
1382.5	0
1383.0	3
1383.5	8
1384.0	17
1384.5	28
1385.0	41
1385.5	54
1386.0	70
1386.5	84
1387.0	100
1387.5	114
1387.8	122

Table-2: Rating for 54" RCP Culvert under Pawnee Ave.

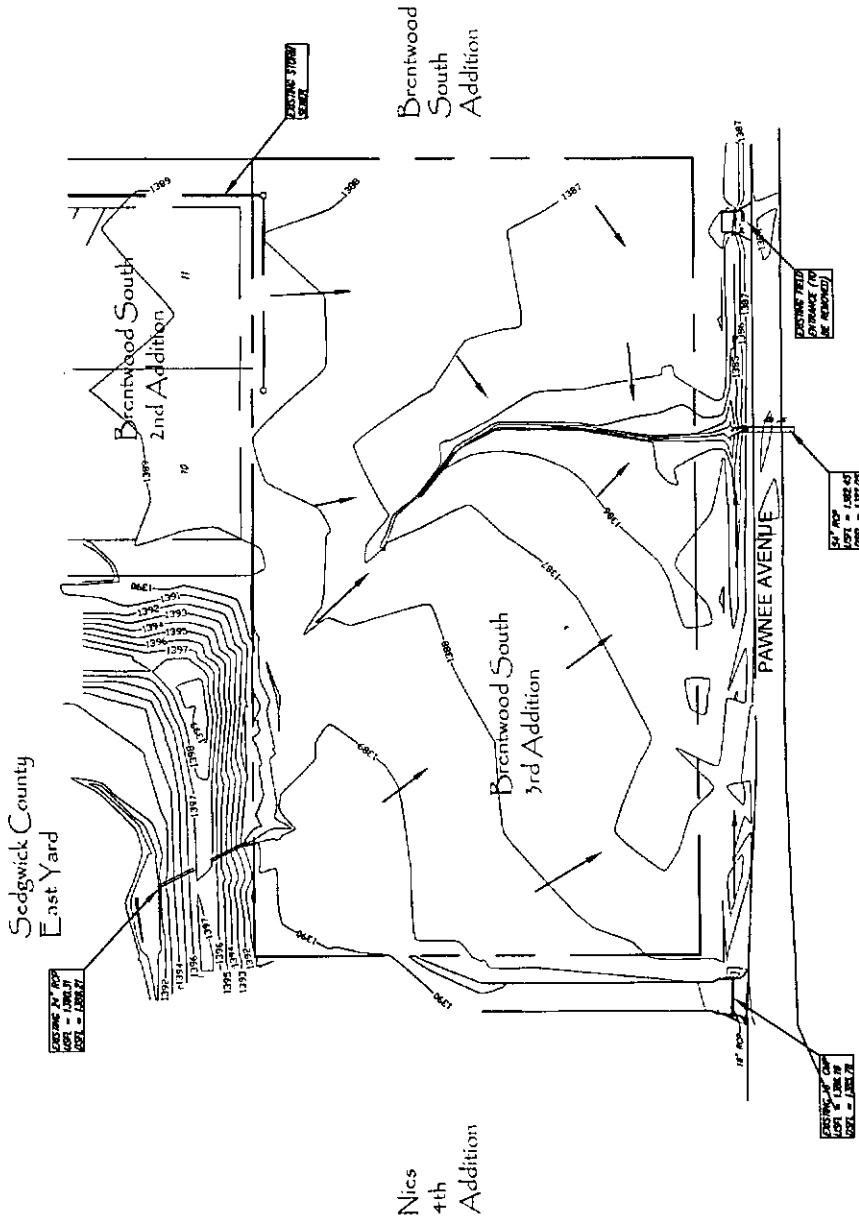


BRENTWOOD SOUTH 3RD ADDITION
 USGS Map
 WICHITA, KANSAS

Ruggles & Boehm, P.A.
 Engineering, Surveying, Land Planning
 914 West Main Street
 Wichita, Kansas 67202
 Phone: 316-261-8421
 Fax: 316-261-8422
 Email: info@ruggles.com

Drawings created: 09/05
 Date: 12, 2005

Scale	1" = 50'
Sheet	1
Block	5

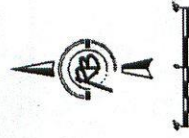


**BRENTWOOD SOUTH 3RD ADDITION
EXISTING CONTOURS
WICHITA, KANSAS**

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Fax: 316.262.8801
E-mail: info@rugglesandbehm.com

DATE	NOV. 12, 2007
BY	W. J. BEHM
CHKD BY	W. J. BEHM
APP. BY	W. J. BEHM
SCALE	AS SHOWN
SHEET	2
TOTAL SHEETS	5

SCANNED



BRENTWOOD SOUTH 3RD ADDITION
Aerial Exhibit
WICHITA, KANSAS



Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
164 North Main
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Phone: 316-261-4271
Fax: 316-261-4272

DATE OF ISSUE	3	5
SHEET NO.		
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Drawings Exhibit (Aerial)

Nov. 12, 2007

Developed Conditions

The developed condition for Brentwood South Addition is 1 multifamily lot. The Lot is 5.7 acres. There will be approximately 14 dwellings broken into 38 units all together. There will be a dry detention pond drained by a 24" RCP. The pond will be able to overtop and discharge into a swale within a drainage easement on the west side of the property. The flow will be conveyed to the Pawnee ditch. There will be a swale within a drainage easement along the east side of the addition to convey drainage to the Pawnee ditch. A portion of the Northeast corner of the site will drain to an existing Brentwood South 2nd storm sewer. The Brentwood South 2nd system has the capacity to accommodate the discharge from the Brentwood South 3rd Addition. All discharge except the portion going into the Brentwood 2nd sws will flow to the ditch adjacent to Pawnee avenue and ultimately to a 54" RCP flowing under Pawnee. HEC-HMS 3.0.1 was used to model the developed conditions using the SCS Hydrograph method.

The peak discharge has been reduced in the developed condition from the existing condition for every rainfall return period. There are berms around the Southeast corner of the Sedgwick County Maintenance Facility creating a detention area drained by a 24" RCP. There is an 18" CMP culvert in the Pawnee ditch under the drive entrance for the property directly West of Brentwood South 3rd. In the 100-yr condition, the discharge to this CMP is approximately 33 cfs. This is a far larger amount of flow than an 18" CMP can handle. In our modeling we considered the worse case scenario (for our site) that both of these impediments have been removed and the full discharge is reaching our site. Because of the detention caused by the berms and the undersized CMP, the current peak discharge reaching our site is far less than what we have shown. Should their ever be improvements made to these sites, we've shown our development to be able to meet the drainage requirements expected.

Basin	Peak Discharge (cfs)				
	2-year	5-year	10-year	25-year	100-year
Pond Basin	1.04	1.45	1.78	2.12	2.64
Brentwood 2 nd SWS	1.83	2.47	2.97	3.48	4.28
Undetained	10.65	14.38	17.35	20.30	24.96

Table-3: Developed Basin Discharges.

Drainage Basins

Pond Basin (Basin A)

Rear yard drainage to the on-site detention pond.

Area = 0.5 acres

CN = 88

Time of Concentration = 15 minutes

Basin to Brentwood 2nd Storm Sewer (Basin C)

Rear yard drainage to the Brentwood South 2nd storm sewer.

Area = 0.86 acres

CN = 92

Time of Concentration = 15 minutes

Undetained Basin (Basin B, D & E)

Drainage undetained into roadway ditch adjacent to Pawnee Ave.

Area = 4.32 acres

CN = 92

Time of Concentration = 15 minutes

Pond Ratings

The following tables represent the data associated with the proposed dry detention pond.

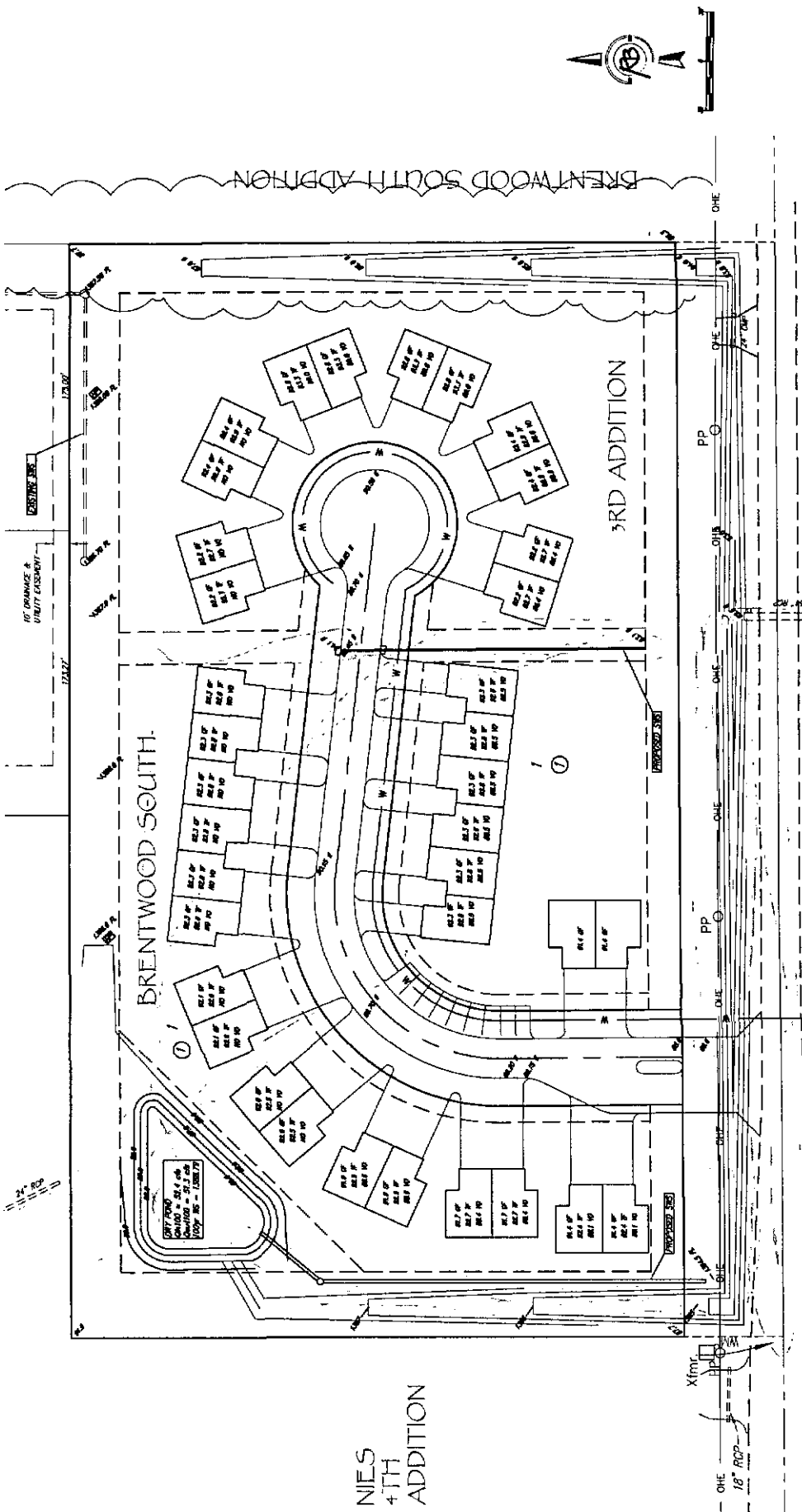
Elevation	Area (ac)	Discharge (cfs)	Storage
1386.0	0.09	0	0
1386.5	0.10	1	0.05
1387.0	0.11	4.5	0.10
1387.5	0.13	8.5	0.17
1388.0	0.14	11.5	0.23
1388.5	0.19	30.4	0.25
1389.0	0.23	67.0	0.48

Table-4: Pond ratings: Area; Discharge & Storage.

BRENTWOOD SOUTH 2ND ADDITION

BRENTWOOD SOUTH 3RD ADDITION

BRENTWOOD SOUTH 4TH ADDITION



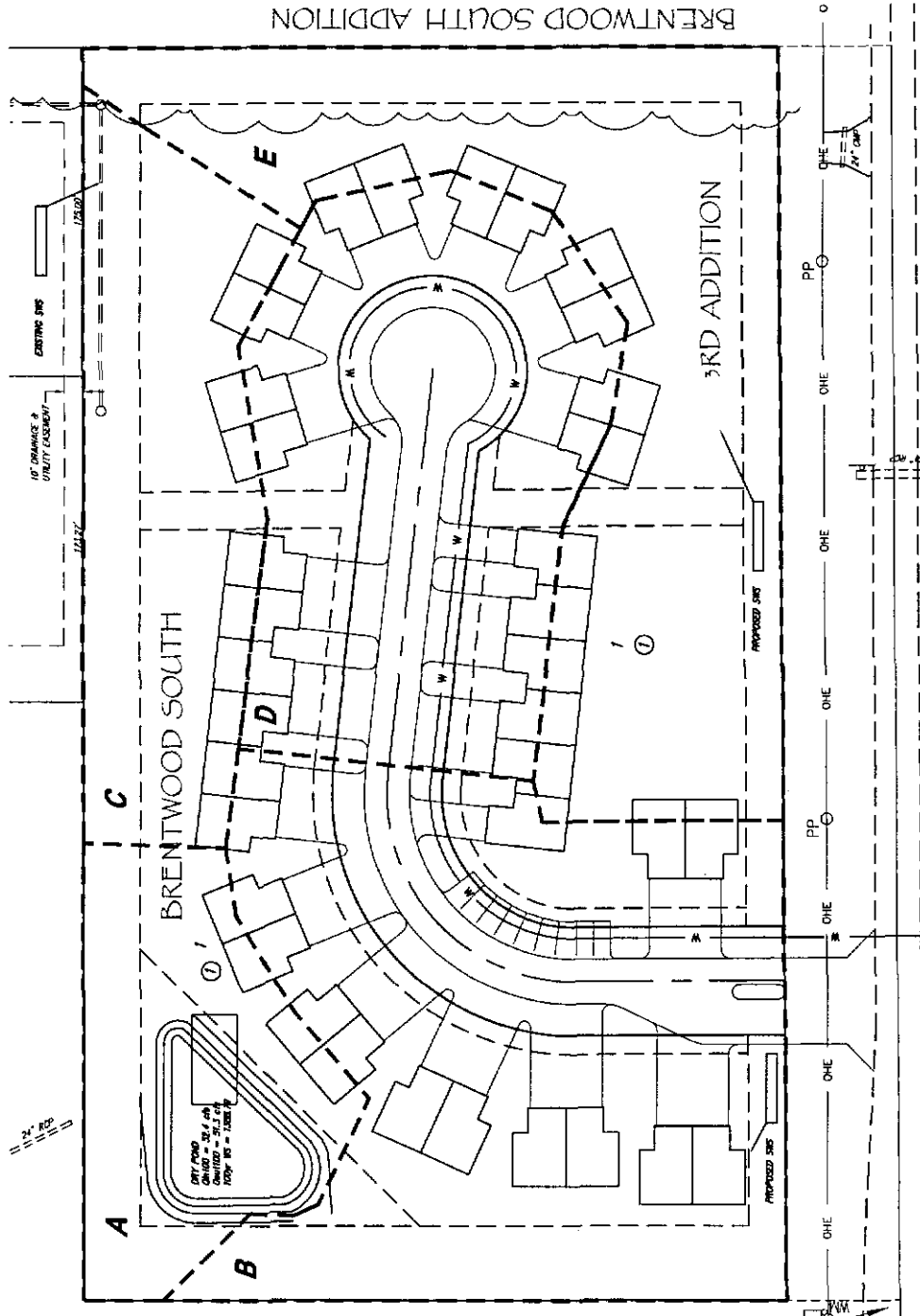
BRENTWOOD SOUTH 3RD ADDITION
4 Corner Lot Grading
WICHITA, KANSAS

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E-mail: info@rugglesandolan.com

DATE	DESCRIPTION
10/11/07	PRELIMINARY
11/15/07	REVISED
02/15/08	REVISED
05/15/08	REVISED
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08/15/30	REVISED
11/15/30	REVISED

BRENTWOOD SOUTH 2ND ADDITION

SEDGWICK COUNTY EAST YARD ADDITION



BRENTWOOD SOUTH ADDITION

BLK	AREA	CV
A	0.9 AC	20'
B	1.7 AC	20'
C	0.9 AC	20'
D	1.7 AC	20'
E	1.8 AC	20'



BRENTWOOD SOUTH 3RD ADDITION
4 Corner Lot Grading
WICHITA, KANSAS

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DRWING NO. 15-2007
DATE 11.2007

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