

**DRAINAGE REPORT**  
**Habitat Hills**  
**WICHITA, SEDGWICK COUNTY,**  
**KANSAS**

**October 30, 2012**



**Habitat Hills  
DRAINAGE ANALYSIS  
October 30, 2012**

**INTRODUCTION**

This report contains supporting documentation and calculations for the proposed Habitat Hills development. The proposed site is an undeveloped 2.33 acre parcel of land located in the NE ¼ of Section 5 T27S R1E on 27<sup>th</sup> St. N. just east of Arkansas. The area is currently undeveloped urban grassed area and the soil type located on site is urban land part Tabler, in hydrologic group D. The site is very flat and generally drains to the storm sewer system in 27<sup>th</sup> St. N. Street East. No offsite tributary drain onto the proposed project site. The information located on the attached FEMA FIRM 20173C0355E, effective date Feb. 2, 2007, indicates the site is located in shaded Zone X, defined as areas in the 0.2% floodplain.

**DETENTION**

The site is directly adjacent to Chisholm Creek and therefore to provide detention on this site may serve to actually increase the peak flow in the downstream channel. For this reason the site will not provide stormwater detention.

**CHANNEL PROTECTION AND WATER QUALITY VOLUMES**

The site is 2.33 acres in area, less than the 5 acre threshold that would trigger a channel protection. Therefore provisions for channel protection are not provided in this development. Water quality will be provided by a water quality inlet or other proprietary device in the proposed storm sewer system and will treat the stormwater generated from the development before it is released to Chisholm Creek.

**INTERNAL DRAINAGE**

The internal drainage system shall utilize grassed swales and storm sewer to direct the runoff to the Chisholm Creek. The details of the internal drainage system are shown on the attached drainage map.

**PLAT**

# HABITAT HILLS

an Addition to Wichita, Sedgwick County, Kansas

State of Kansas) SS  
Sedgwick County)

We, Ruggles & Bohm, P.A., Land Surveyors in aforesaid county and state, do hereby certify that, under the supervision of the undersigned, we have surveyed and platted "HABITAT HILLS", an Addition to Wichita, Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of the property surveyed, described as follows:

Beginning 1320 feet north of the southeast corner of the W1/2 of the NE1/4 of Sec. 5, T27S, R1E of the 6th P.M., Sedgwick County, Kansas; thence West, parallel with the south line of said quarter section, 599 feet to a point 730 feet east of the west line of said W1/2; thence 394-1/2 feet north to a point 730 feet east and 1066.3 feet south of the northwest corner of the W1/2 of the NE1/4 aforesaid; thence East, parallel with the north line of said quarter section, 180 feet to the center of Chishalm Creek; thence southeasterly along the center of said creek to the east line of said W1/2; thence South, 83.2 feet to the place of beginning, except that part condemned by North Wichita Drainage District, Sedgwick County, Kansas.

All public easements and dedications are hereby vacated by virtue of K.S.A. 12-512b.

Ruggles & Bohm, P.A.  
William K. Clevenger Land Surveyor

This plat of "HABITAT HILLS", an Addition to Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

Wichita-Sedgwick County Metropolitan Area Planning Commission

David Dennis Chair  
John L. Schlegel Secretary

This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

At the Direction of the City Council  
Carl Brewer Mayor  
Karen Sublett City Clerk

Reviewed in accordance with K.S.A. 58-2005 on this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

Deputy County Surveyor  
Tricia L. Robello, LS #1246

Entered on transfer record this \_\_\_\_\_ day of \_\_\_\_\_, 2012.

Kelly B. Arnold County Clerk

State of Kansas) SS  
Sedgwick County)

This is to certify that this plat has been filed for record in the office of the Register of Deeds, this \_\_\_\_\_ day of \_\_\_\_\_, 2012, at \_\_\_\_\_ o'clock \_\_\_\_\_ M., and is duly recorded.

Bill Meek Register of Deeds  
Tonya Buckingham Deputy

Know all men by these presents that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, a Block and Streets, to be known as "HABITAT HILLS", an Addition to Wichita, Sedgwick County, Kansas. The utility easements are hereby granted for the construction and maintenance of all public utilities. The drainage easements are hereby granted to the public as indicated for drainage purposes. The sign easement is hereby granted to the homeowner's association as indicated for sign purposes. Access Controls as indicated are hereby granted to the appropriate governing body. The streets are hereby dedicated to and for the use of the public. A drainage plan has been developed for this plat and all drainage easements, rights-of-way, or reserves shall remain at established grades, or as modified with the approval of the City Engineer, and unobstructed to allow for the conveyance of stormwater.

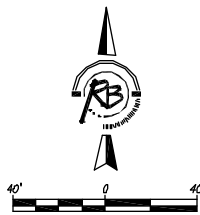
Wichita Habitat for Humanity  
Laurie Walker Operations Director

State of Kansas) SS  
Sedgwick County)

The foregoing instrument acknowledged before me, this \_\_\_\_\_ day of \_\_\_\_\_, 2012, by Laurie Walker, Operations Director, on behalf of Wichita Habitat for Humanity.

Notary Public

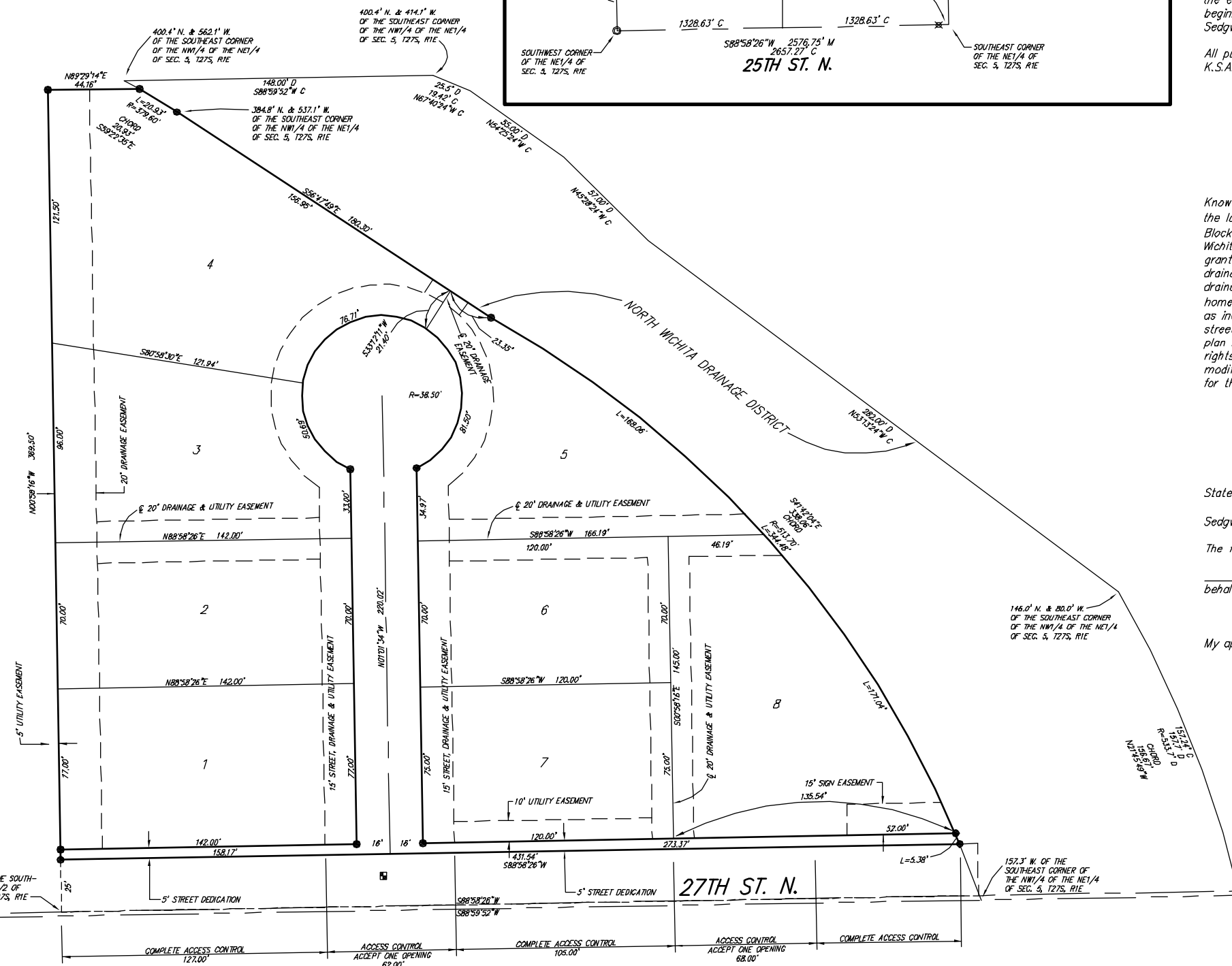
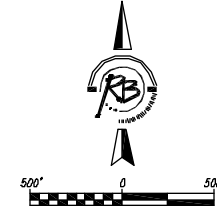
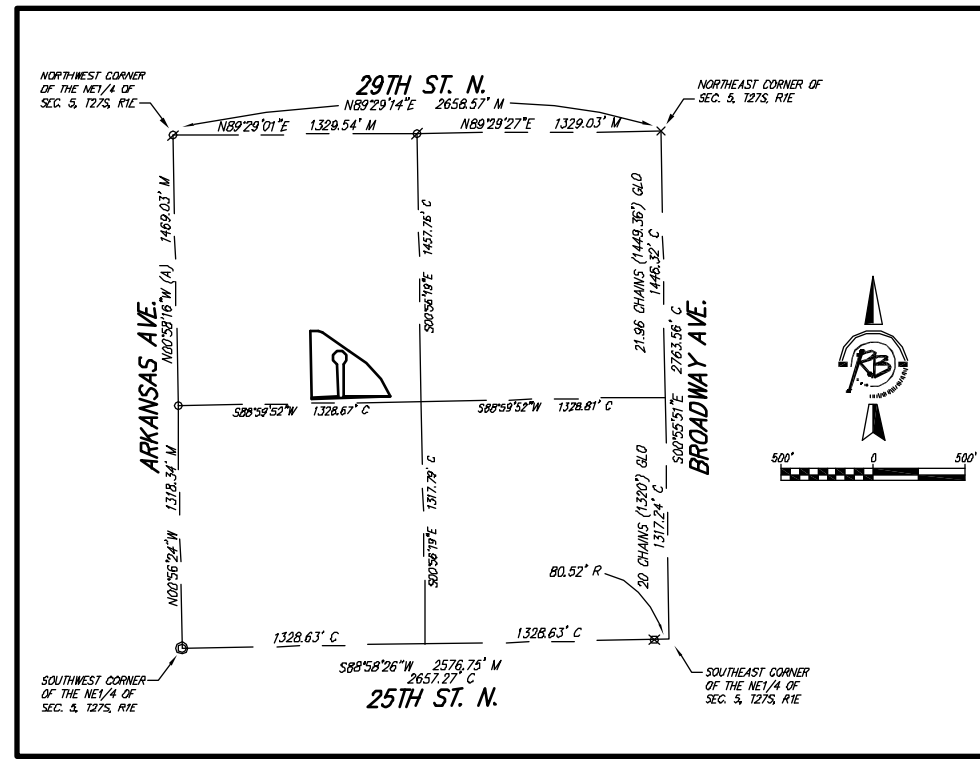
My appointment expires \_\_\_\_\_.



(A) = Assumed Kansas Zone South Grid Bearing  
M = Measured  
C = Calculated  
D = Described  
G.L.O. = Government Land Office Record

**SURVEY MARKER LEGEND**

- X ..... CHISELED CROSS (FOUND - ORIGIN UNKNOWN)
- ..... 3/8" REBAR IN THIMBLE (FOUND - ORIGIN UNKNOWN)
- ⊗ ..... 3/4" IRON PIPE IN THIMBLE (FOUND - ORIGIN UNKNOWN)
- ⊗ ..... 1" IRON PIPE IN THIMBLE (FOUND - ORIGIN UNKNOWN)
- ..... 1/2" REBAR (FOUND - ORIGIN UNKNOWN)
- ..... 5/8" REBAR W/RUGGLES & BOHM CAP (SET)
- ..... BENCH MARK

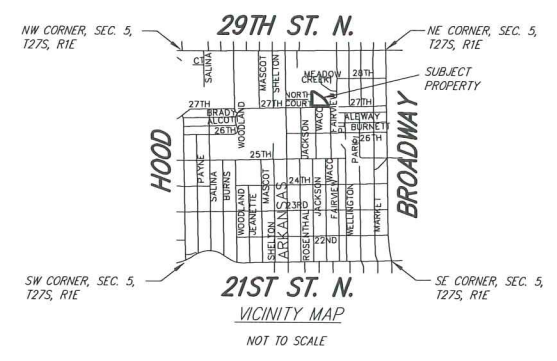
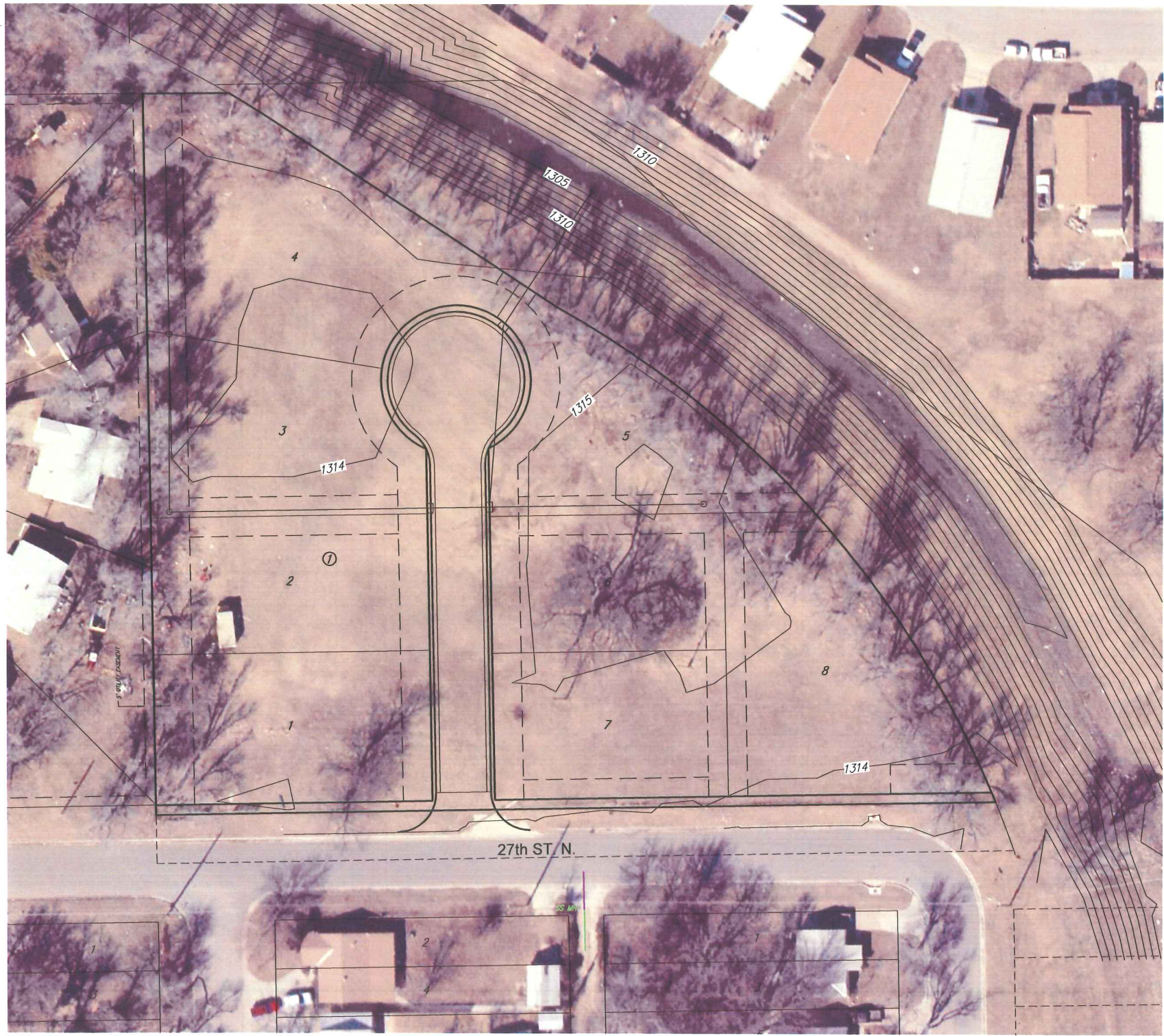
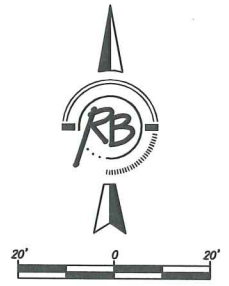


DWG FILE: SURVEY BASE  
PROJECT NO. 3995P  
OCTOBER 19, 2012



Ruggles & Bohm, P.A.  
Engineering, Surveying, Land Planning  
924 North Main  
Wichita, Kansas 67203  
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(316) 264-8008  
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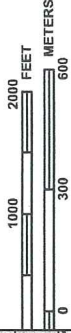
**AERIAL**



|   |  |   |   |
|---|--|---|---|
| <b>HABITAT HILLS<br/>AERIAL<br/>WICHITA, KANSAS</b>                                   |  |   |   |
|  | <b>Ruggles &amp; Bohm, P.A.</b><br>Engineering, Surveying, Land Planning |   |   |
|   | 924 North Main<br>Wichita, Kansas 67203<br>www.rbkansas.com              | (316) 264-8008<br>(316) 264-4621 fax<br>E-mail: info@rbkansas.com | DESIGN<br>AML<br>DRAWN<br>AML<br>REVIEW<br>UTILITY<br>DATE<br>Oct. 30, 2012 |
| DRAWING FILE<br>SURVEY BASE {Aerial}  | PROJECT NUMBER<br>.  |   |   |

**FEMA FIRM**

MAP SCALE 1" = 1000'



PANEL 0355E

# FIRM FLOOD INSURANCE RATE MAP

## SEDGWICK COUNTY, KANSAS AND INCORPORATED AREAS

PANEL 355 OF 700

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

NUMBER PANEL SUFFIX  
200328 0355 E

COMMUNITY  
WICHITA, CITY OF

MAP NUMBER  
20173C0355E

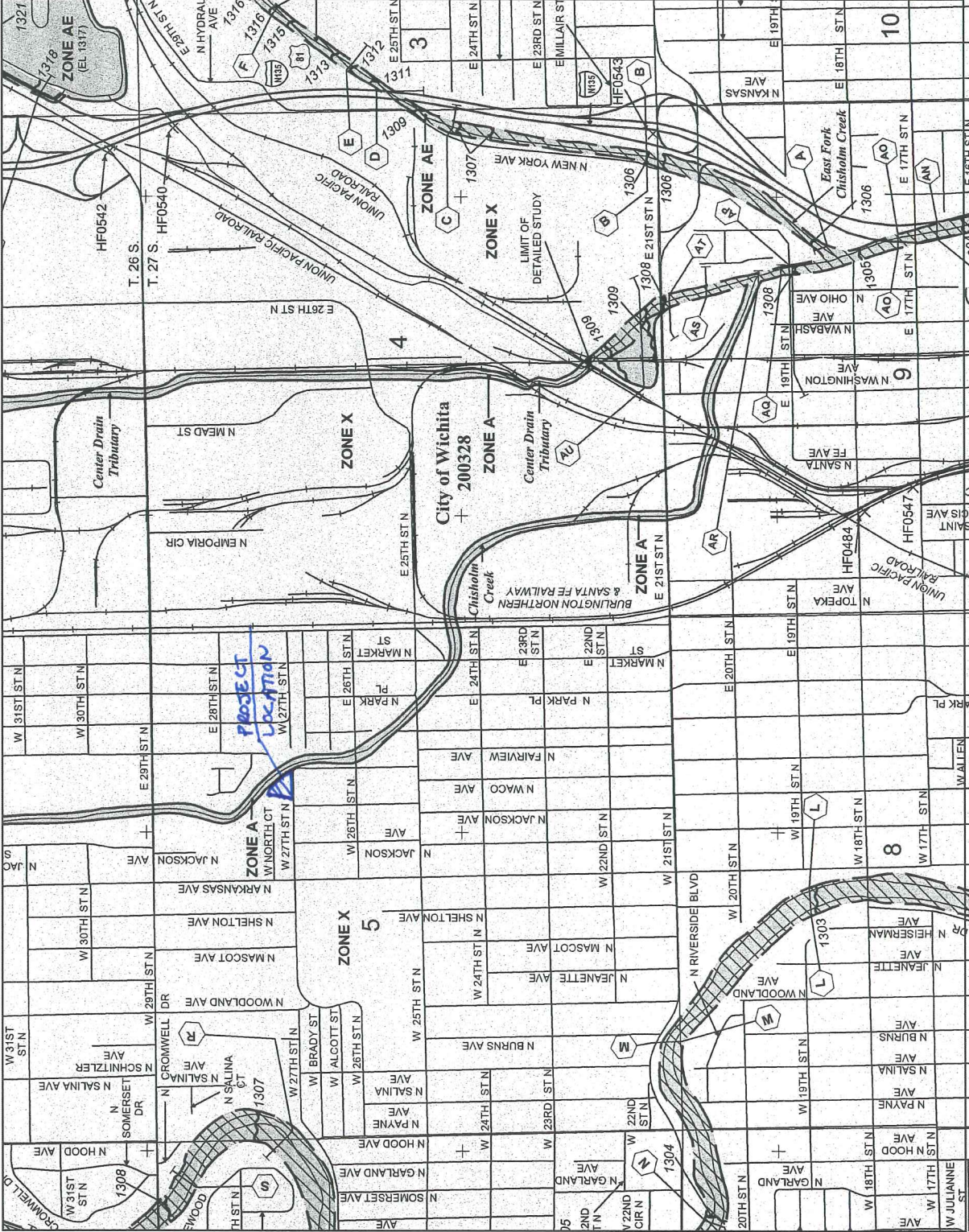
EFFECTIVE DATE  
FEBRUARY 2, 2007

Federal Emergency Management Agency



Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest information on flood insurance, contact the Federal Emergency Management Agency. Flood Map State at www.fema.gov.

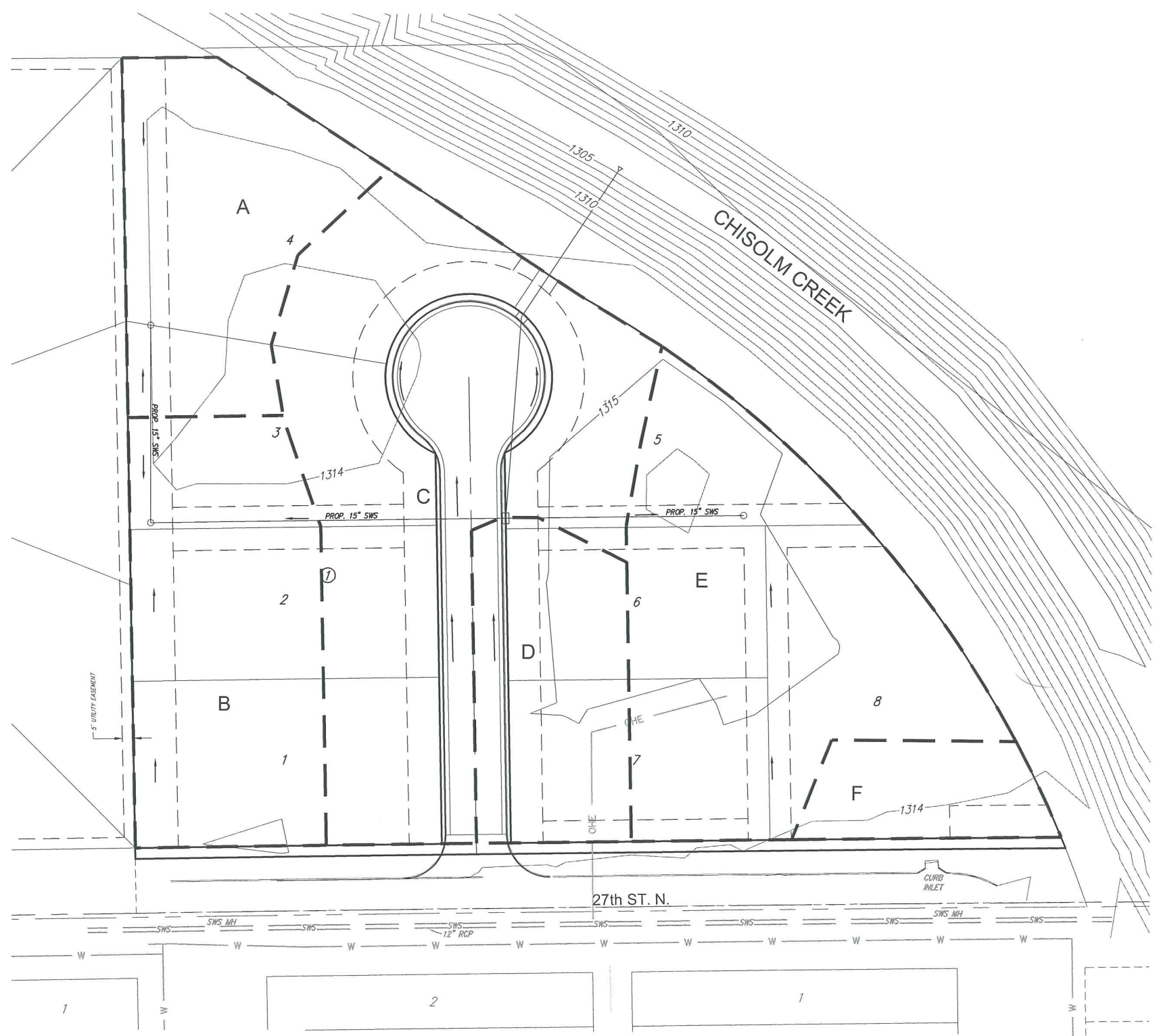
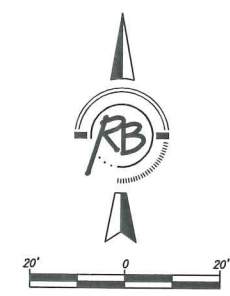


PROJECT LOCATION

**USGS MAP**



# **DRAINAGE MAP**

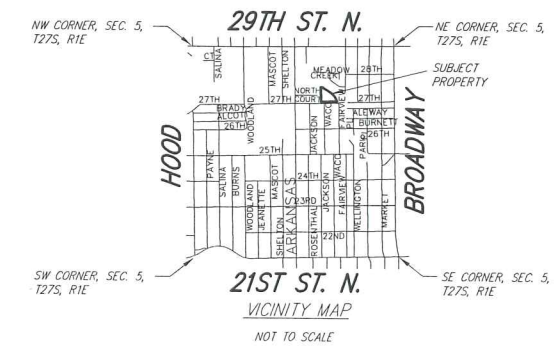


**Existing Conditions**

| SITE | Area (ac.) | Tc (min.) | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | C <sub>4</sub> | C <sub>5</sub> | C <sub>6</sub> | C <sub>7</sub> | C <sub>8</sub> | C <sub>9</sub> | C <sub>10</sub> | C <sub>11</sub> | C <sub>12</sub> | C <sub>13</sub> | C <sub>14</sub> | C <sub>15</sub> | C <sub>16</sub> | C <sub>17</sub> | C <sub>18</sub> | C <sub>19</sub> | C <sub>20</sub> |
|------|------------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| SITE | 2.32       | 15        | 0.28           | 0.33           | 0.43           | 0.63           | 3.83           | 4.56           | 5.22           | 7.37           | 2.5            | 3.5             | 5.2             | 10.8            |                 |                 |                 |                 |                 |                 |                 |                 |

**Proposed Conditions**

| Area | Area (ac.) | Tc (min.) | Cum. Area | C <sub>1</sub> | C <sub>2</sub> | C <sub>3</sub> | C <sub>4</sub> | C <sub>5</sub> | C <sub>6</sub> | C <sub>7</sub> | C <sub>8</sub> | C <sub>9</sub> | C <sub>10</sub> | C <sub>11</sub> | C <sub>12</sub> | C <sub>13</sub> | C <sub>14</sub> | C <sub>15</sub> | C <sub>16</sub> | C <sub>17</sub> | C <sub>18</sub> | C <sub>19</sub> | C <sub>20</sub> |  |
|------|------------|-----------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|
| A    | 0.31       | 15        | 0.31      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 0.5            | 0.6             | 0.7             | 1.5             |                 |                 |                 |                 |                 |                 |                 |                 |  |
| B    | 0.39       | 15        | 0.70      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 1.0            | 1.3             | 1.6             | 2.7             |                 |                 |                 |                 |                 |                 |                 |                 |  |
| C    | 0.73       | 15        | 2.21      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 3.3            | 4.1             | 5.2             | 8.4             |                 |                 |                 |                 |                 |                 |                 |                 |  |
| D    | 0.24       | 15        | 0.78      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 1.2            | 1.5             | 1.8             | 3.0             |                 |                 |                 |                 |                 |                 |                 |                 |  |
| E    | 0.54       | 15        | 0.54      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 0.8            | 1.0             | 1.3             | 2.0             |                 |                 |                 |                 |                 |                 |                 |                 |  |
| F    | 0.11       | 15        | 0.11      | 0.39           | 0.41           | 0.45           | 0.52           | 3.83           | 4.56           | 5.22           | 7.37           | 0.2            | 0.2             | 0.3             | 0.4             |                 |                 |                 |                 |                 |                 |                 |                 |  |



**HABITAT HILLS  
DRAINAGE MAP  
WICHITA, KANSAS**

**RUGGLES & BOHM**  
WICHITA, KANSAS

**Ruggles & Bohm, P.A.**  
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DESIGN  
DRAWN  
REVIEW  
UTILITY  
DATE

AML  
AML  
1  
1

PROJECT NUMBER  
DATE  
Oct. 30, 2012

DRAWING FILE: SURVEY BASE [Aerial]      PROJECT NUMBER: .