

Notes:

- The existing lot is covered by approximately 30% trees and the rest is vacant pasture. An existing swale runs north south across this lot (and other lots in the area). The swale is very flat (0.1% slope) and drains into an existing pond approximately 1000 feet south of the site.
- A pond is proposed to provide backfill material for the home construction and to provide an area to provide positive drainage. The pond shown is schematic in nature and will be modified to fit the final location of the home. The pond is not designed to provide detention for the site although it will act in that capacity due to the pervious nature of the subsurface soils in the area. The pond shall allow water to over flow into existing swale for drainage.
- Builder will need to regrade rear yard and swales in sideyard around proposed home to provide positive drainage away from structure and to proposed pond. House grades indicated represent one option at that location on the lot. A grading plan stamped by a professional engineer should be submitted with the building permit request.
- Silt fence or other erosion control devices should be installed on the downhill side of any disturbed areas but is not required if there is sufficient undisturbed buffer to prevent offsite silt transport.
- A construction entrance should be installed on the property during home construction to prevent dirt tracking onto adjacent roadways. Alternate means for sediment control may be submitted to the City of Wichita for approval.
- Silt fence ditch checks should be installed at 100' intervals in side yard swales that are created during construction.

**Hiepson Estates
Wichita, Sedgwick County, Kansas
Drainage Calculations
7/11/2014**

Area = 10.0 acres
 $T_c = 250/0.29 + 200/1.0 + 190/2.0 = 862 + 200 + 95 = 1157 \text{ sec} = 19 \text{ minutes}$

Soil is Pratt Loamy Fine Sand in eastern 25% of lot (Hydrologic Soil Group A)
 Soil is Carwile fine sandy loam in the western 75% of the lot (Hydrologic Soil Group D)
 Area impacted by home construction is in Group D Soils

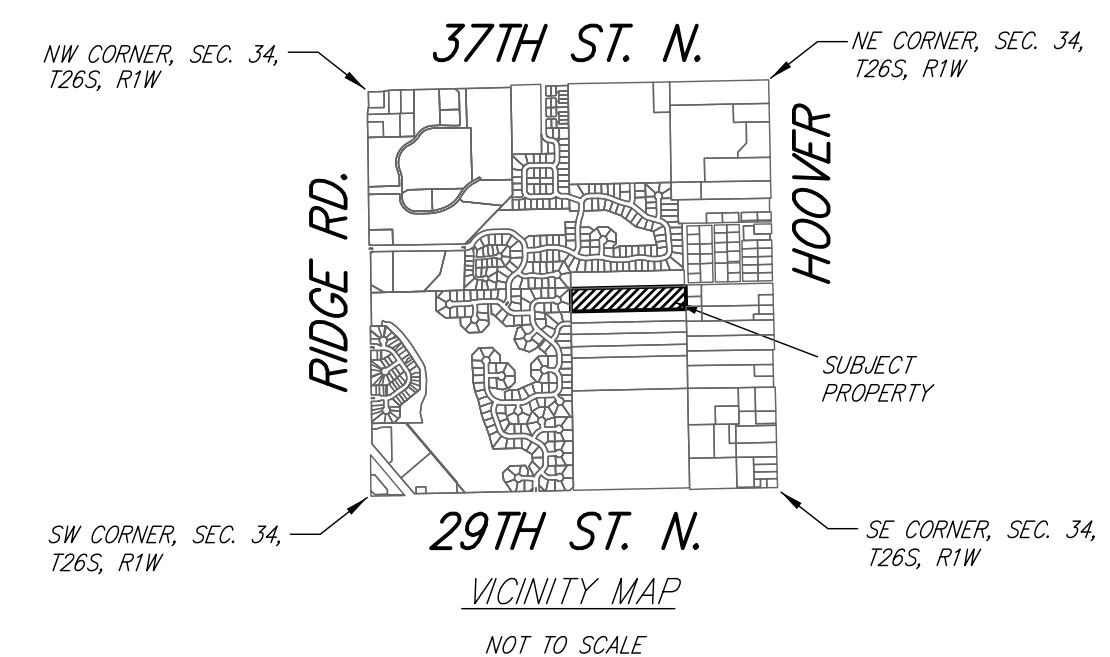
Approximately 1.5 acres will be disturbed during construction. Impervious area will be approximately 2% after construction. The coefficients for 1 acres lots was used for the area disturbed by home construction. Approximately 30% of the site is covered by dense trees. We are assuming a 20% interception of precipitation in treed areas.

Predeveloped
 $C2 = 0.70(0.28) + 0.30(0.22) = 0.26$
 $C10 = 0.70(0.43) + 0.30(0.34) = 0.40$
 $C25 = 0.70(0.53) + 0.30(0.42) = 0.50$
 $C100 = 0.70(0.63) + 0.30(0.50) = 0.59$

Developed
 $C2 = 0.55(0.28) + 0.15(0.41) + 0.30(0.22) = 0.28$
 $C10 = 0.55(0.43) + 0.15(0.54) + 0.30(0.34) = 0.42$
 $C25 = 0.55(0.53) + 0.15(0.62) + 0.30(0.42) = 0.51$
 $C100 = 0.55(0.63) + 0.15(0.71) + 0.30(0.50) = 0.60$

Rainfall Intensity (I) in/hr
 2 yr 3.34
 10 yr 4.81
 25 yr 5.63
 100 yr 6.83

Storm	Predeveloped				Developed			
	C	I	A	Q (cfs)	C	I	A	Q (cfs)
2 yr	0.26	3.34	10.0	8.7	0.28	3.34	10.0	9.4
10 yr	0.40	4.81	10.0	19.2	0.42	4.81	10.0	20.2
25 yr	0.50	5.63	10.0	28.2	0.51	5.63	10.0	28.7
100 yr	0.59	6.83	10.0	40.3	0.6	6.83	10.0	41.0



BENCHMARK:

CHISELED SQUARE WITH DIVOT ON THE TOP OF CURB ON THE NORTH SIDE OF NORTHWIND ST., 17 FEET EAST OF THE EAST BUILDING FACE OF 6402 NORTHWIND ST. AND 8 FEET WEST OF THE END OF CURB

ELEVATION = 1331.17 (NAVD88)

**HIEPSON ESTATES
GRADING & DRAINAGE PLAN**

<p>RUGGLES & BOHM ENGINEERING SURVEYING LANDSCAPE ARCHITECTURE GOVERNMENT 924 NORTH MAIN WICHITA, KANSAS 67203 P (316) 264-8008 F (316) 264-4621 WWW.RBKANSAS.COM</p>	<p>DATE: 7/11/14 DESIGN: KWL DRAWN: KWL REVIEW: .</p>	<p>PROJECT NUMBER: RB JOB NO. 4359P DWG. SCALE: ... SHEET: 1 OF 1</p>
---	--	---

(c) Copyright 2014, Ruggles & Bohm, P.A.