



Project Narrative:
 The site is located east of N Jackson Heights St. The existing drainage pattern indicates that the site drains east to drainage pond located east of the site. The pond outlets South to a series of other ponds downstream. The scope of the project is to construct a small residential neighborhood, and a drive.

Water Quality Volume (WQv) Calculation				
Calculation for water quality volume (WQv=P*RV*A/12)			Soil Group 'D'	
85th percentile storm event (1.2 inches), P =	1.20	inches	Calculation of Rv	
Total area, A =	1.60	acres	Coeff.	Area
Rainfall Coeff, Rv, =	0.717	cf	Coeff for undisturbed area, Rv _U =	0.04
Required Vol. for Water Quality =	0.115	ac-ft	Coeff for turf cover, disturbed, Rv _T =	0.22
Corresponding Water Quality Peak Flow =	1.11	cfs	Coeff for impervious area, Rv _I =	0.95
			Weighted, Rv =	0.494

Total water quality flow needs to be treated for proposed development. The WQV and water quality flow will be treated using the City of Wichita's Off-site BMP Program. (1.60 Acres)

Runoff Calculations (2-, 5-, 10-, 25-, and 100-yr)

EXISTING CONDITION:
 Total Area A = 1.60 acres, Surface Type = Large Lot Single Family Residential
 Soil Group =D

EXISTING SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Onsite (1)	1.60	15	83	3.85	5.63	6.89	8.53	11.63	Existing lot draining east to Existing Pond
Offsite (2)	19.00	40.1	84	26.17	38.20	46.8	57.96	79.08	Area of west of site draining to Existing Pond east of site.

DEVELOPED CONDITION:
 Total Area, A = 1.60 acres, (Single Family Residential, 1/4 acre lots, 38% Impervious)
 Total Impervious Area = 0.60 acres
 Hydrological Soil Group =D

DEVELOPED SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Onsite (1)	1.60	15	87	4.5	6.31	7.59	9.23	12.32	Proposed site of 1/4 acre residential lots draining east to Existing Pond
Offsite (2)	19.00	40.1	84	26.17	38.20	46.8	57.96	79.08	Area of west of site draining to Existing Pond east of site.

- Notes:**
- Existing and developed flows are calculated using the SCS Hydrograph method. "CN" & "T" values are established from "City of Wichita Stormwater Design Manual."
 - The developed peak flows are routed to the proposed SWS System and existing detention pond. The outlet pipe drains to the existing detention pond.
 - Detention will not be required for this site as the (1.60 acres) meets the standard for the City of Wichita's "10% Rule".
 - Extended detention for channel protection is not considered as the site is less than 5 acres. The site is not in designated 100-yr floodplain (FIRM 20173C0379G, Revised, December 22, 2016)



- 1 Onsite drainage basin, Area = 1.60 acres
- 2 Offsite drainage basin, Area = 19.00 acres
- Drainage Basin Boundary

Marinita 2nd Addition
Drainage Plan
 Wichita, Kansas

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	DESIGN ME	DRAWN ME	REVISED	