

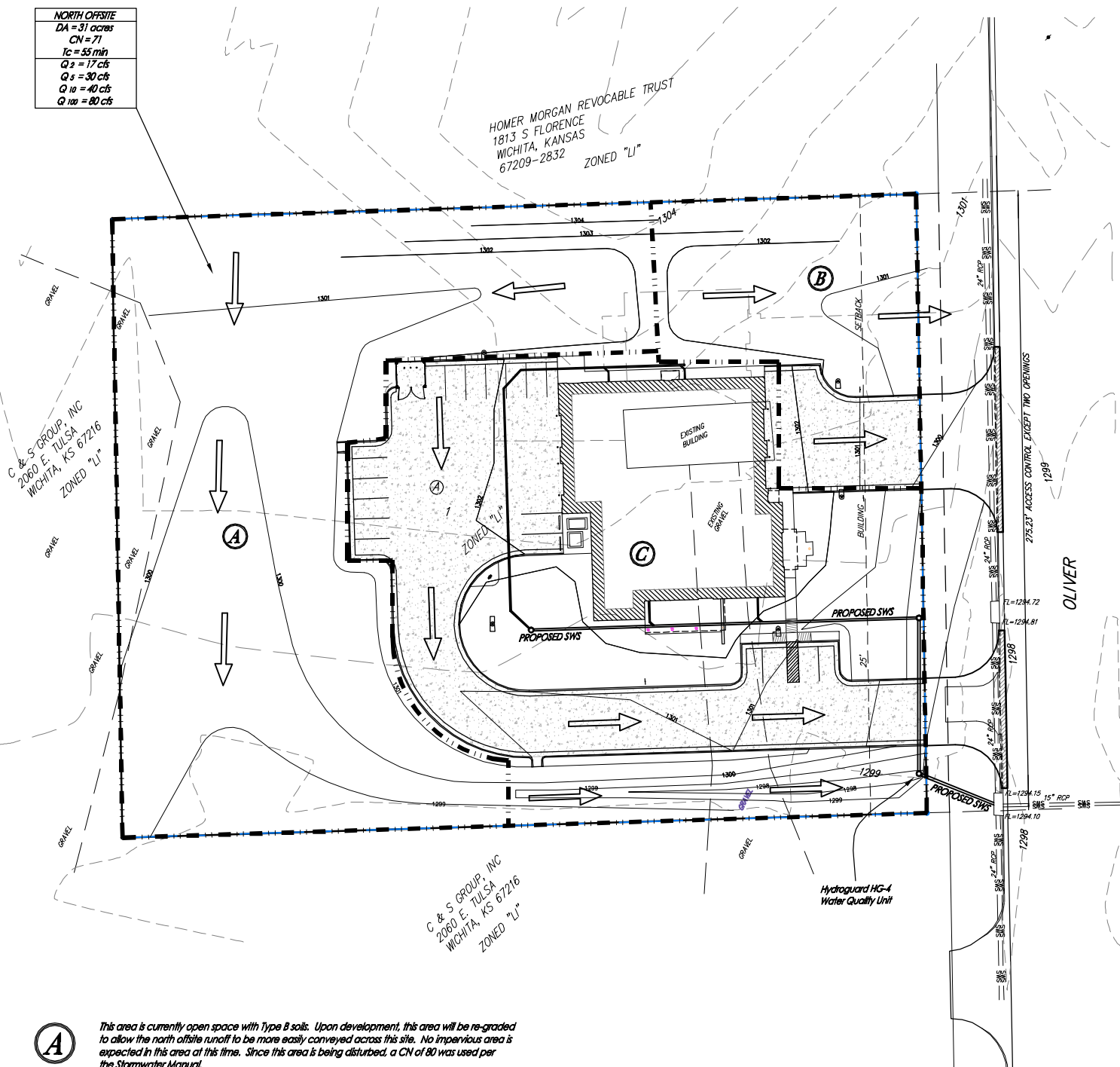
DRAINAGE PLAN

SEDGWICK COUNTY FIRE STATION NO. 36 ADDITION

SEDGWICK COUNTY, KANSAS

NORTH OFFSITE	
DA = 31 acres	
CN = 71	
Tc = 55 min	
Q ₂ = 17 cfs	
Q ₅ = 30 cfs	
Q ₁₀ = 40 cfs	
Q ₁₀₀ = 80 cfs	

HOMER MORGAN REVOCABLE TRUST
1813 S FLORENCE
WICHITA, KANSAS
67209-2832
ZONED "L1"



A	B	C
W DISTURBED PERVIOUS	N DISTURBED PER/IMP	MAIN SITE IMPERVIOUS
DA = 1.0 acres	DA = 0.3 acres	DA = 1.0 acres
CN = 80	CN = 85	CN = 98
Tc = 15 min	Tc = 15 min	Tc = 15 min
Q ₂ = 2.0 cfs	Q ₂ = 0.8 cfs	Q ₂ = 3.7 cfs
Q ₅ = 3.0 cfs	Q ₅ = 1.1 cfs	Q ₅ = 4.7 cfs
Q ₁₀ = 3.9 cfs	Q ₁₀ = 1.9 cfs	Q ₁₀ = 7.3 cfs
Q ₁₀₀ = 6.8 cfs	Q ₁₀₀ = 2.2 cfs	Q ₁₀₀ = 8.2 cfs

Table 4-13 Volumetric Runoff Coefficients by Land Use and Hydrologic Soil Group

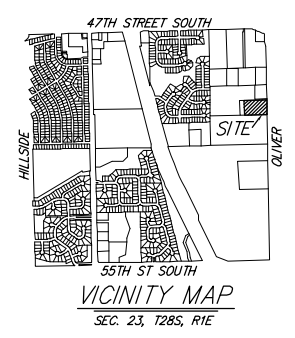
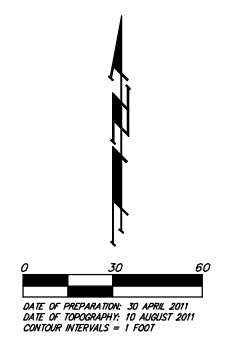
Land Use	Hydrologic Soil Group				Curve Number			
	A	B	C	D	A	B	C	D
Undisturbed	0.02	0.03	0.04	0.05	55	71	80	87
Turf or Disturbed Soil	0.15	0.14	0.20	0.20	71	80	84	87
Impervious Cover	0.95	0.95	0.95	0.95	95	95	95	95

Basin	Weighted Volumetric Runoff Coef. (R _v) (Eq. 4-24)					R _v					WQ ₂ ft ³
	Undist.	Dist.	Red. Imp.	Non Imp.	Total	A	B	C	D	R _v	
Total Site	0	48,000	0	48,000	94,000	0.000	0.100	0.000	0.072	0.3700	4,500

Water Quality Peak Flow	
10% unit: 10 min Duty	
Eq. 4-14	
Q ₂ = 3.7 cfs	Table 4-8
Q ₅ = 4.7 cfs	Table 4-8
Q ₁₀ = 7.3 cfs	Table 4-8
Q ₁₀₀ = 8.2 cfs	Table 4-8

LEGEND

- Existing SWS
- Existing Contours
- Proposed Contours
- Drainage Basin Boundary
- Proposed Flow Direction
- Proposed Drainage Basin



- A** This area is currently open space with Type B soils. Upon development, this area will be re-graded to allow the north offsite runoff to be more easily conveyed across this site. No impervious area is expected in this area at this time. Since this area is being disturbed, a CN of 80 was used per the Stormwater Manual.
- B** This area will be fully disturbed and will add a minimal amount of impervious area. The paved area will be primarily a drive which will connect to Oliver Road. The area has a CN of 85 due to being disturbed as well as adding impervious area. The disturbed portion of this basin will include a grass/rock lined swale for a minimal amount of water quality.
- C** This area will be fully disturbed and will add the majority of the impervious area on the site. This area will feature the parking, drive, and building. The building roof drains will connect to SWS and will be directly connected to the water quality unit. The pavement will flow to the south and into a grass lined swale along the south property line and then into the Hydroguard Water Quality Unit.

NOTES

No FEMA Floodplain or Floodway exists on this property as of this plan per FEMA FIRM Panel 510 of 700 for Sedgwick County, Kansas; effective February 2, 2007.

Water Quality calculations are per equations provided in the City of Wichita/Sedgwick County Storm Water Manual.

Hydroworks Hydroguard water quality units are proposed on this site. Upon development, the site will need to provide the above water quality volume/flow with this unit or equivalent as approved by the county engineer.

Since this site is only adding one acre of impervious area over the existing conditions, this site is not expected to provide standard detention or downstream channel protection. Based on recent findings, these requirements are expected to be triggered at approximately 5 acres of impervious area increases.

SEDGWICK COUNTY FIRE STATION NO. 36 ADDITION

02 JULY 2012

Baughman Company, P.A.
315 ELLIS ST. WICHITA, KS 67211 P 316-262-7271 F 316-262-0149

Baughman ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

E:\PROJECTS\SEDGWICK COUNTY FIRE STATION NO. 36\1108P818\SC FIRE STATION_PDWGRK