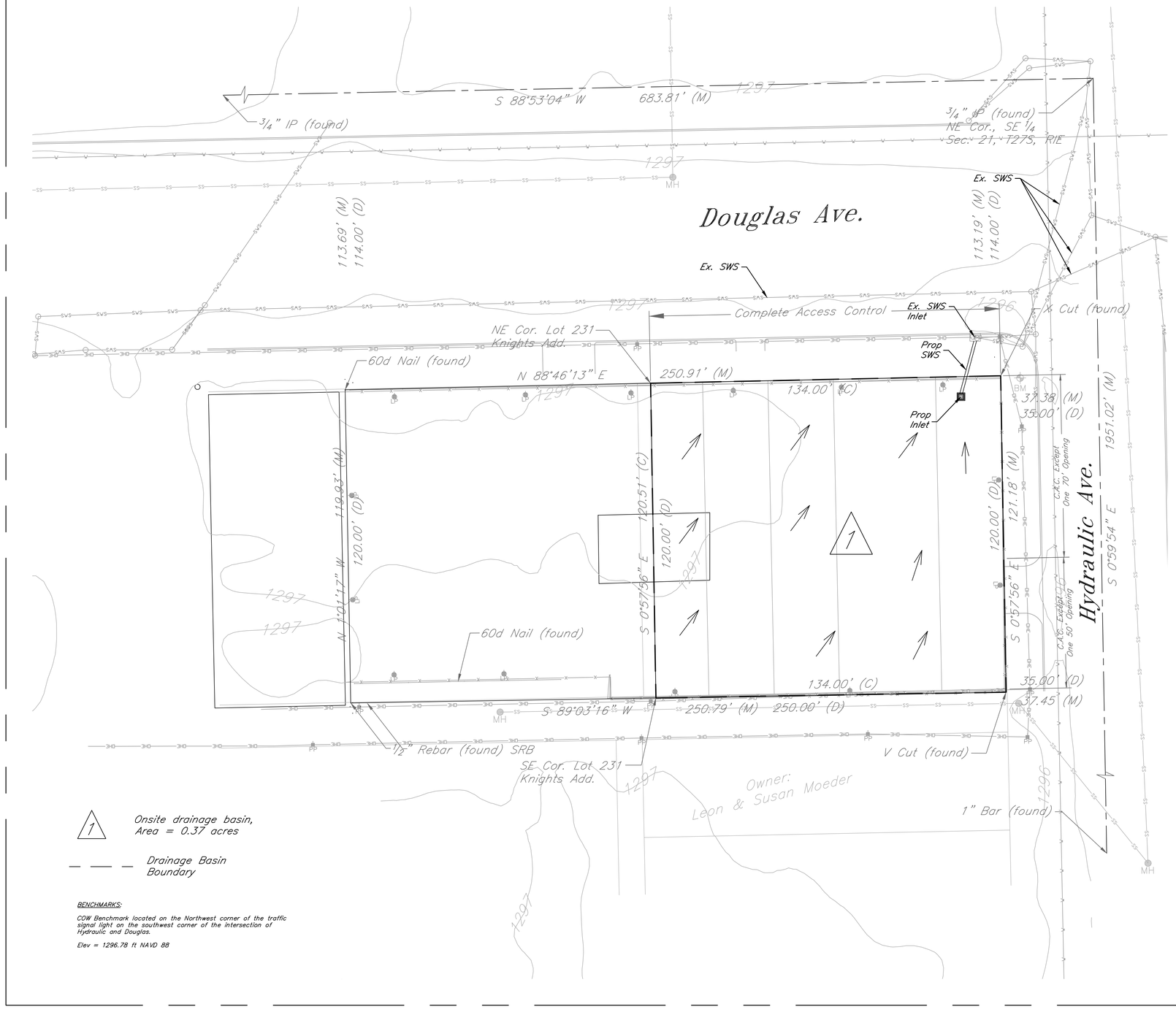

BENCHMARKS:

COW Benchmark located on the Northwest corner of the traffic signal light on the southwest corner of the intersection of Hydraulic and Douglas.

Elev = 1296.78 ft NAVD 88

Project Narrative:
The site is located at the southwest corner of Douglas and Hydraulic Ave. The entire site is paved and used for a car lot before. Portion of existing building is also part of this site. The total site is about 0.37 acres. The site is flat and most of the site drains to the existing storm sewers at the intersection of Douglas and Hydraulic. The proposed use of land is to demo the existing parking and building and construct a new building and parking for commercial use. The site is not in FEMA designated 100-yr floodplain (FIRM 20173C0365E). The proposed drainage pattern will remain same as existing. Stormsewer extension may be necessary to drain the site to the existing system.

Water Quality and TSS Removal Calculation

The water quality volume and runoff does not need to be treated as total site disturbance is less than an acre. However if cumulative site disturbance equal or exceeds 1 acre then 30% WQv from redevelopment shall be treated in order to comply with City of Wichita Stromwater Regulations.

Channel Protection Volume (CPv)

The Channel protection volume detention (1-yr storm for 24 hrs) is not required for this site as the total disturbance of proposed development does not exceed 5.0 acres.

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

Flood detention is not considered for this site as there is not increase in impervious area. The pre and post developed runoff is same. However extension of existing underground storm sewer system is necessary to drain the site. Following calculation shows the runoff from site in existing and developed condition.

EXISTING CONDITION:
Total Area A = 0.37 acres (Site under consideration)
Impervious Area= 0.37 acres , Pervious Area= 0.00 acres, CN= 98
Time of Concentration (Tc)= 3.0 Minutes

EXISTING SITE									
DRAINAGE AREA	ACRES	Tc Mins	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
On-site Basin (under consideration)	0.37	3.0	98	2.02	2.60	3.01	3.54	4.53	Draining SW Corner of Intersection

DEVELOPED CONDITION:
Total Area A = 0.37 acres (Site under consideration)
Impervious Area= 0.37 acres, Pervious Area= 0.00 acres, CN= 98
Time of Concentration (Tc)= 3.0 Minutes

DEVELOPED SITE									
DRAINAGE AREA	ACRES	Tc Mins	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
On-site Basin (under consideration)	0.37	3.0	98	2.02	2.60	3.01	3.54	4.53	Draining SW Corner of Intersection

Notes:

1. *Existing and developed flows are calculated using the SCS hydrograph method. "CN" & "Runoff Depth" values are established from "City of Wichita/Sedgwick County Stormwater Design Manual." Time of concentration (Tc) are calculated using TR-55 method.*
2. *The developed peak flows are calculated for the Type II rainfall distribution for 24 hours. The peak flows shall be routed to the existing sewer system.*
3. *The proposed drainage from entire site shall be maintained to the existing storm sewer system at the intersection of Douglas and Hydraulic. Stormsewer shall be extended to drain the site as shown on the plan.*
4. *The site plan is not presented to K.E. Miller Engineering at this time. Drainage shall follow as indicated by flow arrows.*

GYANENDRA POKHREL LICENSED 22082 PROFESSIONAL ENGINEER KANSAS

DATE: 03.11.2014
THIS SHEET HAS BEEN SIGNED, SELAED AND DATED ELECTRONICALLY

20 0 10 20 40 80
HORIZONTAL SCALE
(IN FEET)
1 inch = 20 ft.

Devlin Auto Realty Addition
Drainage Plan
Wichita, Kasnas

KEMILLER ENGINEERING PA
117 E. Lewis, Wichita, KS 67202 (316)264-0242

PROJECT NUMBER			
KEM NO. 14025	FILE	DATE 03/2014	SHEET 1.0
DESIGN GP	DRAWN GP	REVISED	