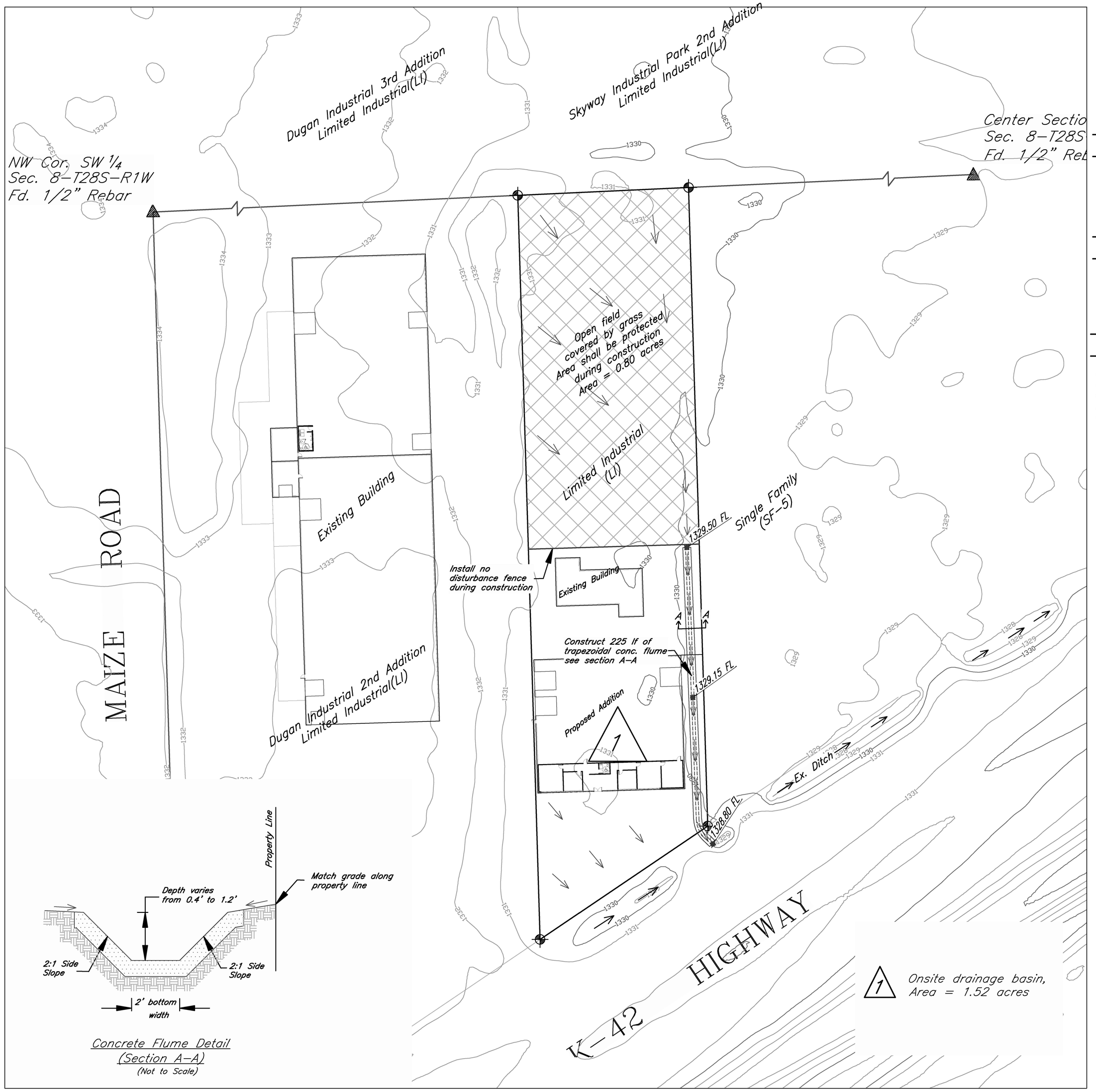

Project narrative:
The site is located on north side of K-42 (Southwest blvd.) between Maize and Tyler. The site is partially developed with building, house and and some parking area. The north half of the property is an open field covered by grass. The proposed site consists of addition of building next to the existing on south side. The existing drainage pattern indicated the site drains towards the southeast to the open channel along the K-42. The proposed drainage pattern follows the existing except routing the runoff from north open field to the K-42 open channel.

Water Quality and TSS Removal

Storm runoff treatment is not required for this site as the area of disturbance is expected to be less than an acre. However water quality needs be addressed if the cumulative area of disturbance exceeds an acre in future. North open filed will be protected by installing no disturbance fence.

Channel Protection

No extended detention for channel protection is required as the total site is less than 5.0 acres.

Flood Detention (2-, 5-, 10-, 25- and 100-yr)

No flood detention for this site is considered as the area of disturbance is expected to be less than an acre. The area of disturbance is expected to be 0.66 acres due to construction or construction activity. A surface or underground conveyance system will be built to drain the north open filed in to the K-42 ditch as shown in plan. However a detention system will be considered if the cumulative impervious area exceeds 1.0 acre in future. Following tables show the runoffs in existing and proposed condition.

EXISTING CONDITION:
Total Site Area = 1.52 acres,
Impervious. Area=0.48 acres, Grass Area= 1.04 acres
Hydrological Soil Group = C

EXISTING SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Proposed Site Area	1.52	43	84	2.10	3.21	3.89	4.81	6.40	Entire site in undeveloped condition

DEVLOPED CONDITION:
Total Site Area = 1.52 acres
Impervious. Area=0.62 acres, Grass Area= 0.90 acres
Hydrological Soil Group= C

DEVELOPED SITE									
DRAINAGE AREA	ACRES	Tc min	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
Proposed Site Area	1.52	15	88	3.26	4.76	5.66	3.26	8.94	Fully developed commerical site

Engineer's Notes:

1. *Site drainage calculations were developed using the SCS Method for peak flow. Weighted CN and I values were established based on existing and proposed site conditions.*
2. *The site drainage will be maintained to the ditch on K-42.*
3. *Future grading plan shall follow the drainage pattern as shown on plan.*
4. *The trapezoidal 2' bottom width is to carry the 100-yr flow from open spaces on north.*
5. *There is no sign of wetland and the property is not in the floodplain. (FIRM Panel 20173C0340E, February, 2 2007.)*
6. *The drainage plan is developed based on site disturbance than an acre. Water quality and detention needs to be addressed if cumulative disturbance results more than an acre. The north K-42 ditch may need to regarded for the on-site detention in such situation.*

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Area of no disturbance

Dugan Industrial 3rd Addition
Drainage Plan
Wichita, Kansas

kemiller engineering
516 S. Market, Wichita, KS 67202 (316)264-0242

PROJECT NUMBER			
KEM NO. 12017	FILE drainage	DATE 03/2012	SHEET 1.0
DESIGN GP	DRAWN GP	REVISED 04/11/2012	