ABBOTT SURVEYS, PLANNING, and CIVIL DESIGN
16418 W. 51st. St. S.
Clearwater, Kansas 67026
Telephone: (316) 545-7097

Transmittal Letter

October, 1996

To: Mr. Michael Lindebak P.E.
City Engineer
City Hall
Wichita, Kansas

Reference: Knetzer Second Addition

Transmitted herewith, is the Drainage Report for " Knetzer Second Addition " in the City of Wichita, Sedgwick County, Kansas, for your review and comments.

Respectfully,

William R. Abbott

William R. Abbott P.E., L.S.

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CITY - ENGINEERING

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DRAINAGE REPORT FOR KNETZER SECOND ADDITION

October, 1996

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KNETZER SECOND ADDITION

GENERAL INFORMATION:

" KNETZER SECOND ADDITION " is an Unplatted Light Industrial Zoned Area of the City of Wichita. The " ADDITION " has an existing Office Building, a Storage Building, and storage areas. The surface area is asphalt paved and gravelled.

The " ADDITION " is bounded on the North by the " Metro West Industrial Park ", and at the Northeast Corner by 31st. Street South. 31st. St. South is a paved Cul-de-sac with a catch basin and storm sewer.

The " ADDITION " is bounded on the East by the " Missouri-Pacific Railroad " Right-of-Way. A large drainage ditch lies parallel with the Railroad, and adjacent to the " ADDITION ". An existing storm sewer, also lies adjacent to the " ADDITION ", in a 20' foot easement on the Railroad R/W.

The " ADDITION " is bounded on the South by the " Protection Drainage Canal ", a large collector drainage ditch.

The " ADDITION " is bounded on the West by a large drainage ditch parallel with " I-235 ".

NO access is allowed to I-235, the Railroad, or the Protection Canal.

The unconcentrated, existing Overlot Drainage, drains to the East, South, and West. The Flows are a sheetflow type drainage pattern. There are no signs of erosion, and the existing swale is in the asphalted area and is very gentle and not well defined.

No Exterior Drainage Flows enter the " ADDITION ".

The Only Interior Drainage Flows that exit the " ADDITION ", drain into the large well established Drainage Ditches surrounding the " ADDITION " on the East, West, and South Sides. The " ADDITION " does not drain into the 31st. St South Cul-de-sac, and will not need to.

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Exterior Drainage Areas:

There is no Exterior Drainage entering the " ADDITION ".

Interior Drainage Area 1:

This Drainage Area of 0.40 acres, consists of half of the area to the North of the Existing Building and the area West of the Existing Building. This area is paved, and the Flows are unconcentrated, causing no overlot erosion.

The Flow of c.f.s., does not constitute any erosion problems to the Drainage Ditch along I-235.

Interior Drainage Area 2:

This Drainage Area of 0.76 acres, consists of half of the area to the North of the Existing Building and the area East of the Existing Building over to the slight crown in the lot surfacing.

The Flow of c.f.s. Westerly and Southerly, causes no overlot erosion and slowly accumulates in the gentle paved swale. The Flow then enters the Protection Drainage Canal. A small Flume could be constructed to eliminate any chance of erosion.

Interior Drainage Area 3:

This Drainage Area of 0.66 acres, consists of the area Easterly of said slight crown and Westerly of the Railroad.

The Flow of c.f.s. Easterly and Southerly, causes no overlot erosion, and causes no erosion when entering the existing Railroad Drainage Ditch or the Protection Drainage Canal.

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Area Flow Calculations:

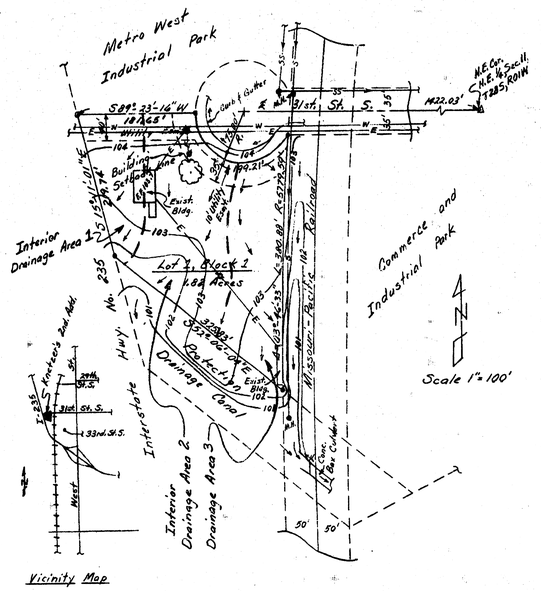
Rational Formula Q = CIA
C = 0.85 Light Industrial (Paved)
I = 3.4, 6 hour duration, 10 year storm
I = 5.1, 6 hour duration, 100 year storm
A = area in acres

Exterior Areas 0 c.f.s.

Interior Area 1 - Q = 0.85 x 3.4 x 0.40 = 1.16 c.f.s.
Q = 0.85 x 5.1 x 0.40 = 1.73 c.f.s.

Interior Area 2 - Q = 0.85 x 3.4 x 0.76 = 2.20 c.f.s.
Q = 0.85 x 5.1 x 0.76 = 3.30 c.f.s.

Interior Area 3 - Q = 0.85 x 3.4 x 0.66 = 1.91 c.f.s.
Q = 0.85 x 5.1 x 0.66 = 2.86 c.f.s.



Drainage Plan - Knetzer 2nd. Addition