

DRAINAGE REPORT
FOR
R. F. BOX REDEVELOPMENT
OF TRACT "A"
SPRINGER TRANSFER CO. ADDITION NO. 1
June, 1977

DRAINAGE REPORT
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OF TRACT "A" - SPRINGER TRANSFER CO. ADDITION NO. 1
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DRAINAGE REPORT

FOR

R. F. BOX REDEVELOPMENT

OF TRACT "A" - SPRINGER TRANSFER CO. ADDITION NO. 1

PURPOSE

The purpose of this report is to present to governing agencies a reasonable method of complying with City Ordinance 59-1976 and thereby lessen runoff from the proposed development to an amount not in excess of the flow to be expected from the property in its present state. The report is composed of a narrative of existing and proposed conditions and computations to determine recommended runoff control structures.

LOCATION AND TERRAIN

The proposed development is located on the southwest corner of Kinley Ave. and Edith Blvd. in the northeast quadrant of the City (see Plate I for the exact location).

The property slopes westerly at a rate of two percent on the east side and at a rate of less than one percent on the west side. The soil is composed of sandy silt with some gravel and due to the fact very little, or no, planting is on the property and heavy equipment frequently traverses the exposed soil surface the infiltration rate is quite low. Storage of runoff would be quite low except that there is an existing graded low near the center of the property.

EXISTING DEVELOPMENT

The property has been used by the present owner for several years for the same purpose for which it is now intended. At present there are two buildings, three trailer houses and a large concrete apron on the property. The low area (mentioned under location and terrain) is near the existing concrete apron. The concrete apron has an open grate which flows to the sanitary sewer.

PROPOSED DEVELOPMENT

Of the structures mentioned above only the two buildings are to remain. The concrete apron and the open grate are to be removed and the sanitary sewer service line will be plugged. In addition, two buildings and an asphalt parking area are to be constructed.

UPLAND DRAINAGE

All upland drainage will be intercepted by Edith Blvd. which is presently under construction. Present City policy of confining 100 year frequency storm runoff to within the street right-of-way will protect the proposed development as well as eliminate the need for provision of carrying upland flows through the proposed development.

INTERNAL DRAINAGE

A portion of the flows developed internally will be stored in a retention pond located near the present graded low on the property. The pond shall be so

INTERNAL DRAINAGE (cont.)

constructed as to contain the 6 hour, 100 year frequency storm runoff that is in excess of that now generated. The stored runoff will be dissipated through infiltration and evaporation.

CONCLUSIONS

Flows generated by the proposed development will be partially stored on site. Those flows in excess of storage capacity will be allowed to exit to adjacent property and to Kinley Ave. as they now do. Downstream flows will be slightly less than they now are due to the oversized pond. The stormwater flow in the sanitary sewer will be eliminated.

Job 7711

Drainage Report
R.F. Box, Inc.
DETENTION/RETENTION REQ'D

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J.J. Bordenav2
SHEET 1 OF 1

EXISTING STRUCTURES (to be removed)

4,400 Sq. Ft.

NEW STRUCTURES (including parking areas)

15,630 Sq. Ft.

VOLUME OF POND REQ'D (assume no infiltration)

Use C developed = 0.95

Use C not developed = 0.45

Use total C Hr rainfall = 2.4 inches
(from NOAA Atlas 2 Vol. IV New Mexico)

$$(15,630 - 4,400)(0.95 - 0.45)(2.4/12) = 1,123 \text{ Cu Ft}$$

POND PLACEMENT

try to locate @ existing low near center
of property.

area draining to pond

$$C = 0.45, A = 220 \times 230 + 1002 = 60,600 \text{ ft}^2$$

$$C = 0.95, A = 40 \times 55 + 70 \times 20 = 3,600 \text{ ft}^2$$

Flow to pond

$$[(60,600)(0.45) + (3,600)(0.95)](2.4/12) = 9,138 \text{ Cu Ft}$$

drainage area, if pond is located @ existing
low, is more than adequate to generate
volume required for ponding. Build pond
with large surface area and shallow
(4.5 ft) depth. Use 1500 Cu Ft as min.
volume.

SMEAD-HASTINGS, MN.
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