HYDROLOGY L19/D7 ONE PLAN

L19/D7

1 PLAN

DRAINAGE REPORT

FOR

NORMAN GARDINER DEVELOPMENT

TRACT 1 - A, HAGER INDUSTRIAL PARK NO. 2

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PLATES

I Location Map L - 19 - Z

II Site Plan, Grading Plan and Building Details

DRAINAGE REPORT

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PURPOSE

The purpose of this report is to present to governing agencies a reasonable method of complying with Drainage Resolution 1972 - 2 and thereby limit 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 and plans to determine and construct necessary control structures for both internal and external flows.

LOCATION AND TERRAIN

The proposed development is located on the southeast corner of Trumbull Ave. SE and Virginia St. SE (see Plate I for exact Location).

The property slopes from east to west at approximately one percent and is quite uniformly graded. The soil is composed of silty sand with small gravel. Infiltration,due to lack of landscaping, can be expected to be less than one-half inch per hour. Vegetation, composed of prarie grasses, is sparse with scattered common weeds. There is no indication of soil disturbance in recent times for the purpose of grading.

PROPOSED DEVELOPMENT

The proposed development is quite well defined on the enclosed Plate II, being composed of 2400 square foot building and small parking area with the bulk of the property to remain in it's existing condition.

UPLAND DRAINAGE

The area considered in the upland drainage was so small that upon on site inspection it was decided that upland drainage computations would not be considered. There is a water block in Trumbull Ave. at it's intersection with Wyoming Blvd., this intersection being one block east of the parcel under investigation.

INTERNAL DRAINAGE

A portion of the flow developed internally will be stored in a retention pond located along the west boundary of the property. The pond and it's contributing swales shall be so constructed as to divert all runoff, from that portion of the property being developed at this time, to the retention pond. The runoff from the east side of the parcel shall be allowed to exit to Trumbull Ave. rather than through the retention pond. The purpose in this being to lessen maintenance requirements on the paved parking area.

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 the property along the west property line in a sheet flow condition. Downstream flow rates will be significantly less as the retention pond has a twenty-eight percent excess capacity.

Hager Industrial Park
№ 2, Tract 1-A

INTERNAL DRAINAGE

DRAINAGE AREA

TOTAL LOT AREA - 110' × 160' — 17,600 ⌗

CONSTRUCTION AREAS

Building	60' × 40'	2400 ⌗
Sidewalk &	30' × 65' + 30' × 50' + 25' × 15'	3675 ⌗
Parking (asphalt)		
		6,075 ⌗

RUNOFF (100 yr - 6hr)

total 6 Hr rainfall = 2.6 inches

runoff coefficients

existing - 0.40

building, sidewalk & parking - 0.95

unimproved - 0.40

Total 6 hr runoff after development

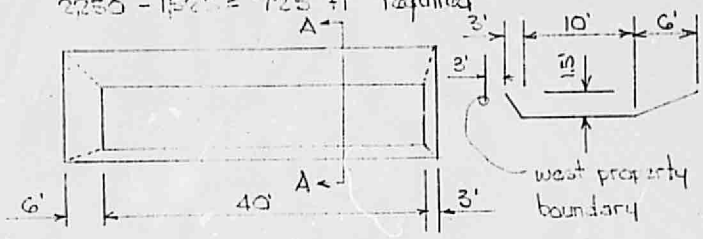
$[(0.95)(6075) + (0.40)(17,600-6,075)]\ 2.6/12 = 2,250\ ft^3$

Total 6 hr runoff before development

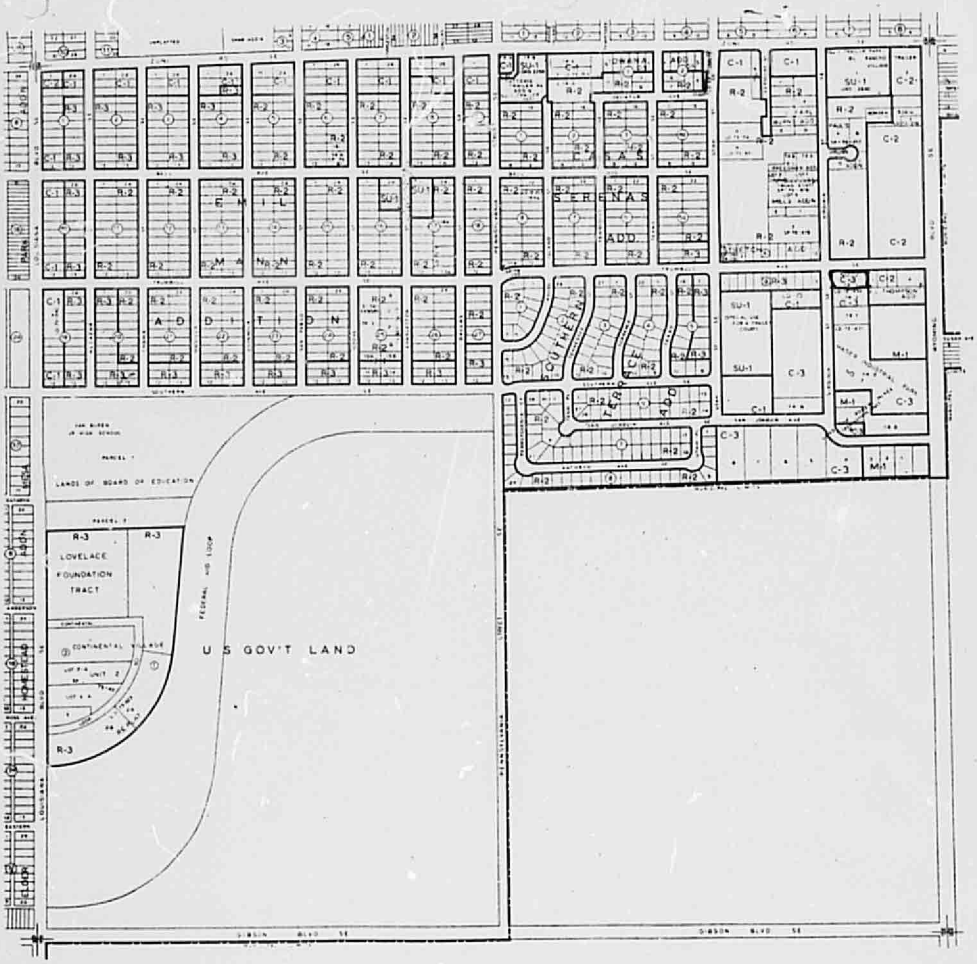
$(0.40)(17,600)(2.6/12) = 1,525\ ft^3$

RETENTION REQUIRED

$2250 - 1525 = 725\ ft^3$ required



provided - 930 ft³


LANDS OF BOARD OF EDUCATION
LOVELACE
FOUNDATION
TRACT
U S GOV'T LAND
SERENAS
ADD
SOUTHERN
ACRES
ADD
R-3
R-2
C-1
C-2
C-3
SU-1
M-1

L-19-Z