

CITY BENCH MARK
ACS BRASS CAP "I-25-26"
LOCATED 6' WEST OF THE
NORTH HEADWALL AT
GRAND AVE. I-25
ELEV. 5063.80

ELM ST. N.E.

GRAND AVE. N.E.

HIGH ST. N.E.

A. CONTRIBUTING AREAS

1. Basin "A" (on-site)

- a) Total area = 20,300 square feet (0.466 ac.)
- b) Paved area = 18,175 square feet (0.417 ac.)
- c) Roof area = 1,800 square feet (0.041 ac.)
- d) Landscape area = 400 square feet (0.009 ac.)

2. Basin "B" (on-site)

- a) Total area = 4,420 square feet (0.101 ac.)
- b) Paved area = 4,420 square feet (0.101 ac.)

3. Basin "C" (off-site)

- a) Total area = 10,900 square feet (0.250 ac.)
- b) Paved area = 10,900 square feet (0.250 ac.)

B. RUNOFF COEFFICIENTS (COMPOSITE C)

- a) Basin "A" (on-site)
 $(18,175/20,300) \times .95 + (1,800/20,300) \times .60 + (400/20,300) \times .15 =$
 $C = 0.93$
- b) Basin "B" (on-site)
 $C = 0.95$
- c) Basin "C" (off-site)
 $C = 0.95$

C. TIME OF CONCENTRATION (T_c)

- T_c = 0.0078 x (L^{0.77} S^{0.385})^{0.465}
- 1. Basin "A" = L=185; S=3.51%; T_c = 1.20 min. use 10 min.
- 2. Basin "B" = L=236; S=3.57%; T_c = 1.80 min. use 10 min.
- 3. Basin "C" = L=146; S=5.52%; T_c = 1.12 min. use 10 min.

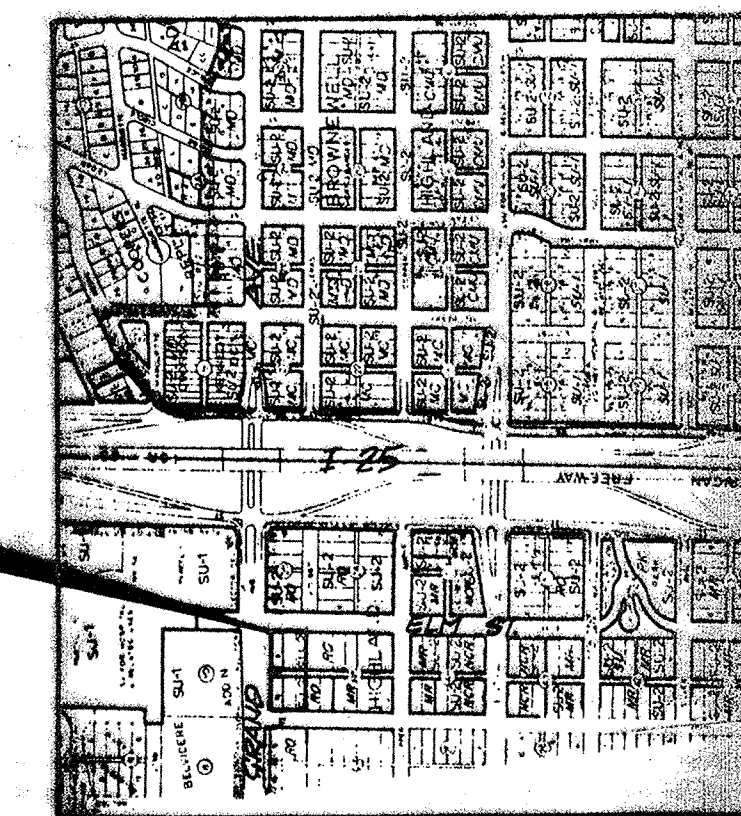
D. RAINFALL INTENSITY (I)

Rainfall Volume = 2.2" (100 year frequency) from Plate 22.2 D-1

- A) Basin "A": I = 2.2 x 6.84 x 10^{-0.08} = I = 4.65
- B) Basin "B": I = 2.2 x 6.84 x 10^{-0.08} = I = 4.65
- C) Basin "C": I = 2.2 x 6.84 x 10^{-0.08} = I = 4.65

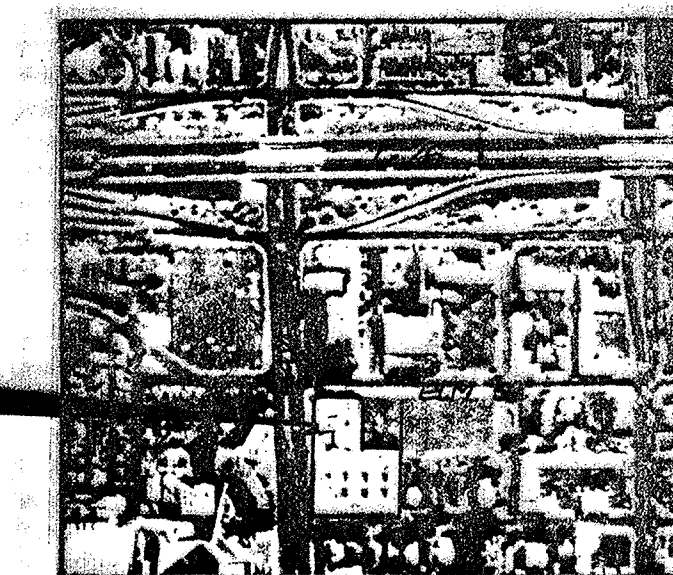
E. PEAK RUNOFF (Q₁₀₀ = CIA)

- A) Basin "A":
Q₁₀₀ = 0.93 x 4.65 x 0.466 = Q₁₀₀ = 2.00 cfs
- B) Basin "B":
Q₁₀₀ = 0.95 x 4.65 x 0.101 = Q₁₀₀ = 0.44 cfs use 0.50 cfs
- C) Basin "C":
Q₁₀₀ = 0.95 x 4.65 x 0.250 = Q₁₀₀ = 1.10 cfs



PROJECT LOCATION

LOCATION MAP K-15



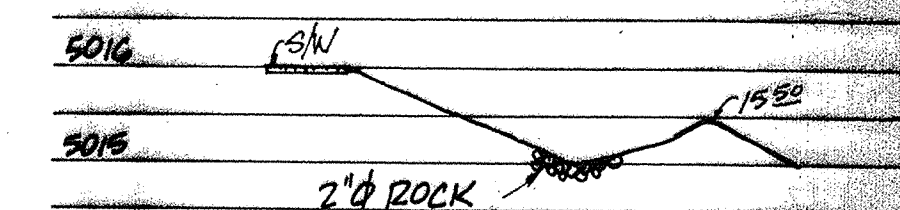
PROJECT LOCATION

FLOODWAY MAP

GRAND AVE. N.E.
COPPER

GENERAL NOTES

- THE GRADING PLAN SHOWS 1) EXISTING GRADES INDICATED BY CONTOURS AT 1-FOOT INTERVALS AND SPOT ELEVATIONS AS OBTAINED BY A TOPOGRAPHIC SURVEY PERFORMED BY MARQUEZ SURVEYING IN APRIL 1989, 2) THE GENERAL CONCEPT OF THE DRAINAGE PATTERN FOR THE FINAL GRADING AND DRAINAGE ARE INDICATED BY THE PROPOSED CONTOUR INTERVALS, SPOT ELEVATIONS AND FLOW ARROWS, AND 3) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS.
- THE GENERAL CONCEPT OF THIS PLAN IS TO DIRECT THE RUNOFF FROM THE PROPOSED IMPROVEMENTS ONTO TWO SEPARATE LOCATIONS. ONE POINT OF DISCHARGE WILL BE ONTO GRAND AVENUE. THE OTHER POINT WILL BE INTO THE EXISTING DROP INLET LOCATED IN THE ALLEY IMMEDIATELY SOUTH OF THE DEVELOPMENT.
- AS A RESULT OF THIS DEVELOPMENT THE FLOW PRESENTLY BEING DISCHARGED INTO THIS EXISTING DROP INLET WILL BE REDUCED BY THE AMOUNT OF BASIC "A," (2CFS) WHICH WILL DISCHARGE ONTO GRAND AVENUE.
- THE PROPOSED FEATURES OUTLINED ON THIS PLAN ARE SHOWN IN GENERAL LOCATION ONLY. SEE ARCHITECTURAL SITE PLAN FOR ACTUAL LOCATIONS.
- NO SOILS RECOMMENDATIONS ARE HEREBY MADE OR IMPLIED.



SECTION A-A			
6/16/89	REVISED PARKING AROUND DUMPSTER	RA	PJC
5/19/89	PER CITY TRANS COMMENTS	PJC	
	REVIEW COMMENTS OF 5/18/89	RA	PJC
	FROM CITY HYDROLOGY	PJC	
NO.	INDEX	DATE	REVISION

BOVAY/McGINTY INC.

JUN 16 1989

HORIZON NURSING CENTER

GRADING AND DRAINAGE PLAN

DESIGNED: RA	SCALE: 1"=20'
DRAWN: RA	PROJECT NUMBER: G164-01
CHECKED: PJC	DRAWING NUMBER: 1/21
APPROVED: KES	
APPROVED:	
DATE: 5/89	