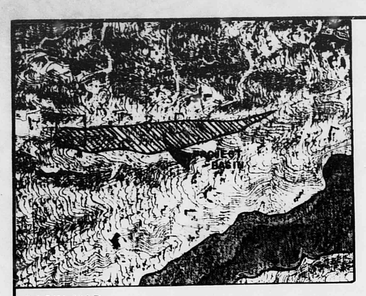
HYDROLOGY

D2 3/D13
1 PLAN

D23/D13

1 PLAN



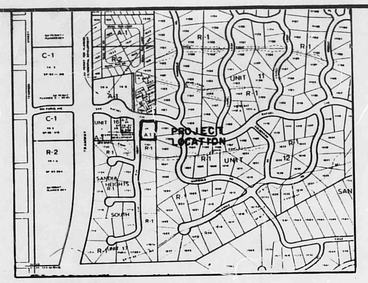
BASIN MAP
SCALE: 1" = 500'

TBM

A railroad spike set flush with asphalt on the projection of the southwest property line as shown on the drawing below.
Elevation=6080.21

LEGAL DESCRIPTION

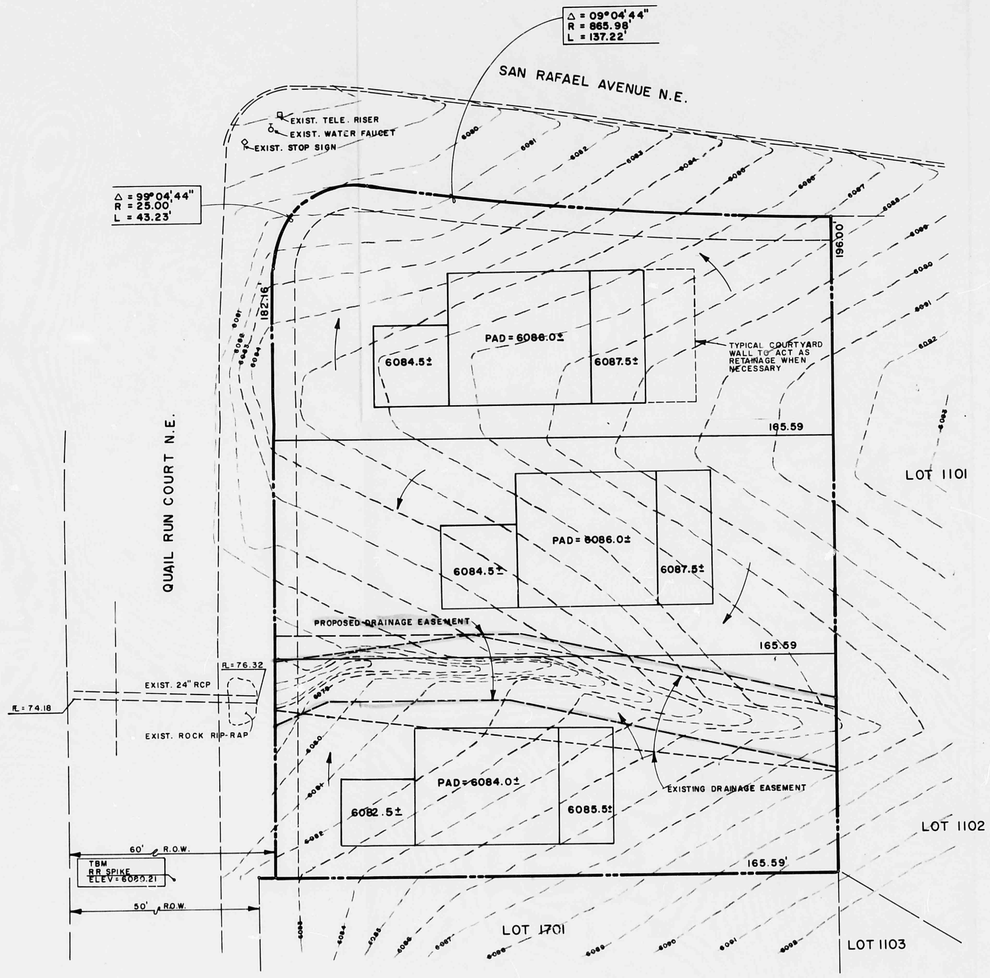
Lot 4A, Sandia Heights South
Unit 17 Zone Atlas Map D-23



VICINITY MAP
SCALE: 1" = 800'

LEGEND

- EXISTING CONTOUR
- PROPERTY LINE
- FL .065 FLOW LINE
- EXISTING DRAINAGE EASEMENT
- PROPOSED DRAINAGE EASEMENT
- DIRECTION OF OVERLAND FLOW



DRAINAGE PLAN FOR LOT 4-A, SANDIA HEIGHTS SOUTH

INTRODUCTION

A small drainage channel cuts westward across Lot 4-A of Sandia Heights South. Presently, a platted drainage easement cuts across the property restricting the buildable area. A drainage analysis of the area contributing to the channel and proposed grading scheme supports realigning the drainage easement to better use the property.

EXISTING CHANNEL CONDITIONS

The Federal Emergency Management Agency (FEMA) Floodway Map (effective September 15, 1983) indicates that 5.16 acres of surrounding area contribute to the drainage channel (see basin sketch). Using the rational method, total flow in the drainage channel during a 100-year storm is 16.8 cfs. The existing channel cross-section is determined from topographic surveys and field observation. The channel geometry is capable of containing 100-year flows, as determined by Manning's equation.

Depth for the existing channel was calculated to be 0.9 ft. during a 100-year storm. Topographic surveys indicate channel depths ranging from 2 to 4 feet. Field inspection indicates that water seems to be well contained by the drainage channel.

PROPOSED CHANGES

The present drainage easement restricts some of Lot 4-A's usefulness for development. Realignment of the drainage easement will help maximize the usefulness of the property, yet can still protect the drainage channel itself. A 20' drainage easement, centered on the channel centerline, should be adequate protection for the channel and surrounding property. No realignment of the channel itself is necessary. A plat will be processed vacating the existing easement and identifying the new alignment.

Development plans for Lot 4-A call for the grading of 3 separate building pads. One building pad borders the proposed drainage easement. Approximately 10' of space exists between the outer edge of the drainage easement and the channel edge. This buffer zone lends enough space to gently slope towards the channel. This is also enough space between the pad and the drainage channel that no additional protection is needed to guard the building pad from channel flows.

SUMMARY

At this point, with the proposed development, realignment of the drainage easement will allow better use of the land. No actual work needs to be done on the drainage channel itself. The proposed easement will adequately protect the channel and the surrounding property.

RATIONAL METHOD

Area = 5.16 acres
Intensity = 5.71 (by DPM method)
C Factor = 0.50 (by DPM)

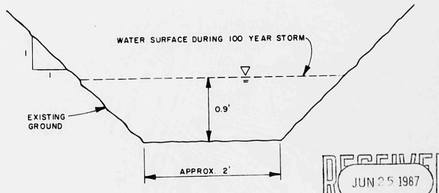
Runoff: Q=CIA
Q=14.7 cfs

The above values were determined using:

T_c=10 minutes
Rainfall=2.7"
Intensity=(Rainfall)(6.84)$(T_c)^{-0.51}$

and procedures outlined in the DPM.

TYPICAL
CHANNEL GEOMETRY:



NO SCALE

RECEIVED
JUN 25 1987
HYDROLOGY SECTION

Date / Revision / By	LOT 4-A SANDIA HEIGHTS SOUTH
Project No. / Seal	DRAINAGE PLAN
Job No. 72661	Sheet 1 Of 1
Drawn By: VCG	Date: 6-87
Checked By: MLJ	Scale: 1" = 20'

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