HYDROLOGY F18/D2B TWO PLAN

F 18/D2B

2 PLANS

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 15, 1980

John Bettis
Enchantment Engineering
1517 Eubank Blvd. N.E.
Albuquerque, New Mexico 87112

RE: DRAINAGE REPORT FOR LINCOLN PLACE

Dear Mr. Bettis:

The drainage report for the referenced project has been reviewed and found in compliance with present policies and regulations. The drainage report is, therefore, hereby approved.

Very truly yours,

Bruno Conegliano
Assistant City Engineer-Hydrology

BC/tsl
Attachment
cc: R. S.Heller, City Engineer
Rick Leonard, AMAFCA
F. Aguirre, Asst. Hydrology Engineer

MUNICIPAL DEVELOPMENT DEPARTMENT
Richard S. Heller, P.E., City Engineer ENGINEERING DIVISION Telephone (505) 766-7467

DRAINAGE REPORT

LINCOLN PLACE

Tract 'D'
DESERT TERRACE Unit 4

PREPARED BY

ENCHANTMENT ENGINEERING
1517 Eubank Blvd., NE
Albuquerque, New Mexico 87111

February 18, 1980

PURPOSE:

The purpose of this report is to present to governing agencies a reasonable method of complying with City Ordinance 59-1976. This method will lessen runoff from the proposed development to an amount which will closely approximate the flows expected from the site in its current state during a 100-year frequency storm. A narrative of the existing and proposed conditions found on the site and recommended runoff control measures are included in this report.

LOCATION AND TERRAIN:

The proposed development is located on the northwest corner of the intersection of San Pedro Drive and Topke Place in the Northeast Quadrant of the City. (See Vicinity Map included in this report for the exact location.) Generally, the site slopes from east to west at a rate of about three percent. Soil on the site (both natural and fill dirt) is composed primarily of sandy silt with small amounts of clay. Vegetation occurring on the site is sparse and consists of common weeds. Considering the existing slope and the lack of vegetation the infiltration may be assumed to be no more than one half inch per hour. Natural storage of runoff is negligible.

PROPOSED DEVELOPMENT:

The site drainage plan provided in this report (2 sheets) shows the approximate locations of all proposed structures, drives, grades and stormwater ponding areas.. Drives will be asphalt, walks will be concrete and the buildings will be of frame

construction with sloping, shingled roofs. All landscaping and stormwater ponding areas are to have natural surfaces and no impervious membranes will be installed in them.

UPLAND DRAINAGE;

No drainage from offsite sources enters the site. As the existing contours show, the site is substantially higher than San Pedro Drive and Topke Place and flows generated to the east will be normally diverted past the site within the confines of these streets. A concrete block wall on the north property line (a residential rear-yard wall) will prevent any flows from entering from the north. There are no weep holes in the wall.

INTERNAL DRAINAGE:

Flows generated within the development are to be channeled via a string of stormwater retention areas and pipes to discharge points at the southwest corner of the property. There, the flows will be released into Topke Place at a controlled rate of flow. Sheet shows the more specific calculations for each of the designated internal drainage areas with the recommended pond sizes for each. Where, for reasons of area limitations or potentially extreme grades, the capacity can't be achieved within the drainage area itself, the excess flows are contained in deliberately oversized ponds farther on in the system. (For example, ponds A4, B11 and B12 are all oversized with respect to their drainage areas.) Because of the design of the proposed layout and the lay of the land, no real measures of detaining flows from the bulk of the drive and parking areas is possible without sacrificing

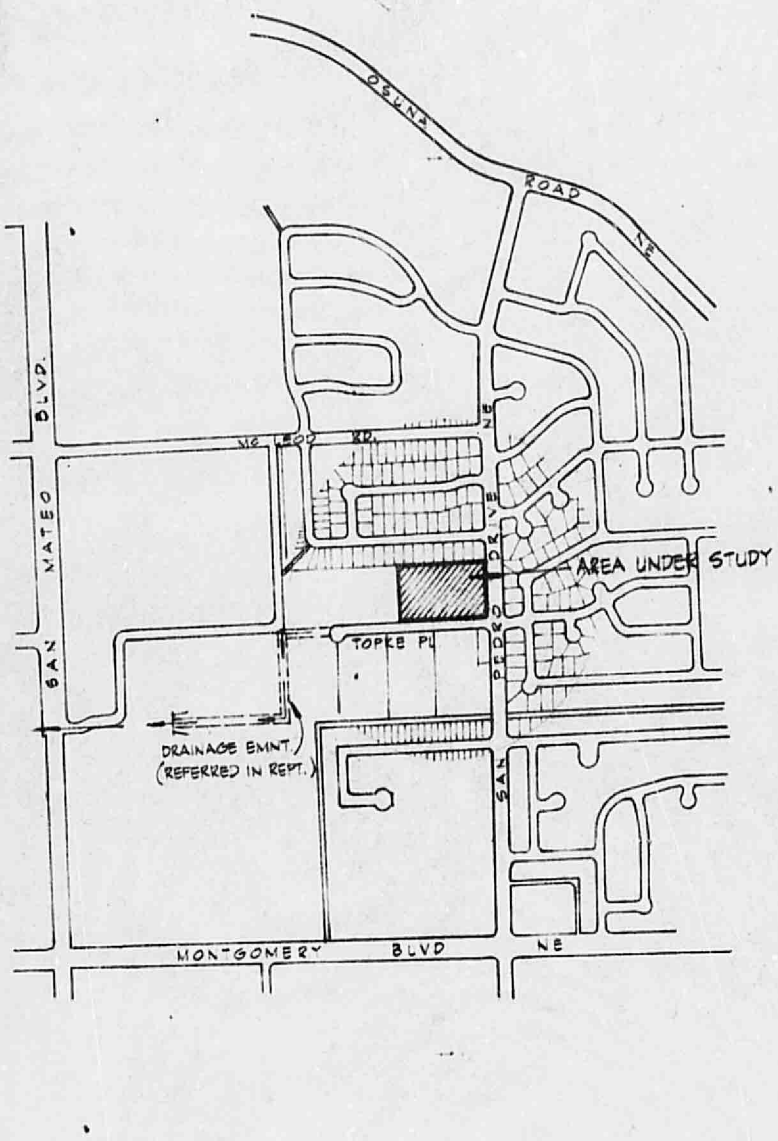
required parking spaces or dirve accesses. Therefore, in an attempt to reduce the velocity of flows exiting from the southwest drive, the typical slope of the parking areas at the flow line has been reduced to one percent. This slope will serve to drop the overall runoff intensity and and the rate of outflow. (7.74 cfs as shown on the table) This is a bit more than the total expected rate of outflow from the site as it now exists (7.46 cfs) but the flows will not be released into the driveway of the apartments to the west as they now are.

In addition to the discharge from the drive, a pipe system from the end ponds for each internal drainage area (ponds A4, B12, C, D4 and E) contributes a maximum of .702 cfs through a three-inch pipe laid under the sidewalk and exiting through the curb. Note that this is a maximum and is considered for overflow conditions for the end ponds. Under less than overload conditions (Q_{100}), the rate of release will be will be controlled and total drainage from ponds will occur in no less than 24 hours. (See specific designs on tabulation sheet)

CONCLUSIONS:

Although the rate of runoff has not been 100% complied with (7.46 cfs existing as opposed to 8.44 cfs as proposed), the direction of the discharge has been altered somewhat and it will no longer be any problem for the neighboring apartments immediately to the west. Ponding volume provided on site exceeds the requirements by 1356 ft^3 (15747 ft^3 as designed - 14421 ft^3 needed). The 8.44 cfs shown for the

final total discharge is just that - a total, since no upstream flows can enter the property. Flows that are released into Topke Place will be conveyed by that street to the west where they will spill into a drainage easement. It is an improved easement and should be capable of handling the one extra cfs that is being added to the flow from the project site.



VICINITY MAP

NO SCALE