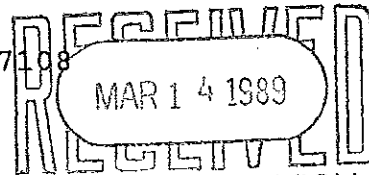


BARELAS COURT TOWNHOMES  
DRAINAGE REPORT

PREPARED FOR

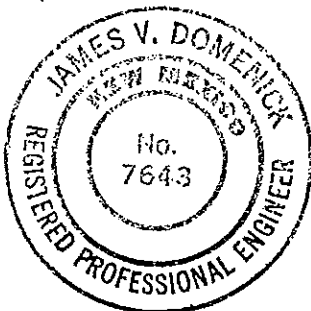
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**DRAINAGE REPORT  
FOR  
BARELAS COURT TOWNHOMES**

**INTRODUCTION**

This report presents the summary of existing drainage conditions and recommendations for Barelas Court Townhomes, a proposed 14 unit townhome development near 8th Street S.W., and Bridge Street S.W., in Albuquerque, New Mexico. The project site contains approximately 0.94 acres, and is located on the Zone Atlas Sheet K-14 as shown on the vicinity map in Exhibit I.

**PLANNING HISTORY**

The proposed project is to be on land currently owned by the City of Albuquerque and is planned to be a low income housing development administered through the City Human Services Department. The site is currently platted as a single lot known as Lot 39A of the Lands of Sanchez-Chavez, and will be subdivided as shown on Exhibit I. The project has received approval from the Environmental Planning Commission for a Zone Map Amendment from SU-2/TH to SU-2/SU-1 and site plan approval has been delegated to DRB. Sketch plat review has been completed (DRB number 88-430), the public hearing has been held, and the preliminary plat has been submitted to DRB for review and approval.

**EXISTING CONDITIONS**

The project site is in the Albuquerque south valley, immediately east of Eighth Street and approximately 0.25 mile north of Bridge Street SW. This is an "infill" project, as the surrounding area is nearly fully developed. A review of the Federal Emergency Management Agency's flood hazard boundary maps shows the project site to be outside the 100 year flood plain but within the 500 year flood limits. A vicinity map and flood hazard map showing the project location is included with Exhibit I.

There are no arroyos or major drainage courses passing through or near the site. Drainage from Eighth Street is restricted from entering the site by existing curb and gutter, and no runoff currently enters the site from either the north or south adjacent properties. However, a portion of the single residential lot to the east of the project site drains to a low point located approximately at the east boundary of the project. Any runoff from rainfall on the site itself also drains to the same low point, as there is no existing outfall to the street.

The Flood Map on Exhibit I shows the topography of the project site and the site to the east, and indicates the depression in which the site runoff currently ponds. This depression is located partially on each of the two lots. The existing drainage area contributing runoff to the depression is 1.38 acres, which produces a 100-year volume of 1002 cubic feet. This volume would pond to a maximum surface elevation of 4922.2 feet, which is a depth of about 0.6 foot. Exhibit I shows the hydrology calculations and the approximate limits of ponding under existing conditions.

#### DRAINAGE PLAN

Exhibit I shows the proposed drainage plan for Barelás Court Townhomes, and includes runoff computations, schematics of proposed improvements, existing elevations, and indications of flow directions. The grading plan shows final spot elevations and the design for proposed drainage improvements. The drainage plan generally will consist of grading the entire site to convey storm runoff to Barelás Court and then to Eighth Street, where it will flow south to the existing storm inlet at the corner of Eighth Street and Marquez Lane. No detention or retention ponds will be constructed, as there is adequate downstream capacity to carry the runoff generated by the development.

Roof drains will direct most runoff to the front of each building and discharge to the driveway and/or street. The front lots and driveways will also discharge to Barelás Court, which will have a minimum slope of 0.5% toward Eighth Street. The back lots of the buildings will be graded to carry runoff between the buildings and to the street, or to an 18" concrete rundown located along the back lot-line of some units. Where rundowns are used, they will discharge to the street through a standard under-sidewalk drain. The 100-year peak discharge from the development into Eighth Street will be 2.8 cfs.

The elevation of the eastern end of the site will have to be raised approximately 2.33 feet in order to maintain a positive grade in Barelás Court to Eighth Street. This will require construction of approximately 100 feet of 2.33 foot high retaining wall along the eastern edge of the subdivision, as shown on the Grading Plan. This wall will have a minor effect on the offsite runoff which formerly discharged to the low spot on the project site. The wall will cause this runoff to remain on the site to the east instead of combining with runoff from the project site and ponding on both lots. Calculations shown in Exhibit I indicate the 100-year runoff volume from the site will be 408 cubic feet, and we propose that this water simply be left to pond temporarily and infiltrate behind the retaining wall.

The maximum depth will be less than 0.5 feet, and the calculated water surface elevation is 4922.3 feet, which is 0.1 foot higher than under pre-development conditions. The area where this runoff will pond contains no permanent structures, and is shown on Exhibit I. The area subject to ponding will be slightly larger than that under current conditions.

#### SUMMARY OF RECOMMENDATIONS

The drainage plan for Barelac Court Townhomes proposes to convey all runoff from the development to Eighth Street and then to an existing storm sewer inlet to the south. The peak discharge generated by the development is 2.8 cfs, which is less than the downstream capacity. A retaining wall on the east side of the site will prevent runoff from an adjacent site from entering the development, and this runoff will be retained on a vacant portion of the residential lot.