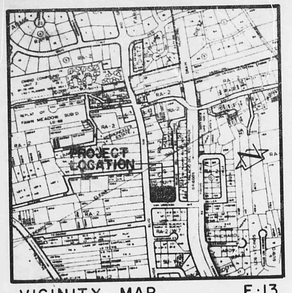
HYDROLOGY

F13/D1
ONE PLAN

F13/D1

1 Plan




VICINITY MAP F-13

SCALE: 1" = 800'

## LEGEND

- 4950 — EXISTING CONTOUR
- 50 — PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- PROPOSED CONCRETE

## TBM

TOP OF CURB @ THE PROJECTION OF R.I. @ SOUTHWEST PROPERTY CORNER, ON RIO GRANDE BLVD. NW., AS SHOWN. ELEVATION = 4968.95 FEET (MSLD)

## PROJECT BENCHMARK

A SQUARE, '0,' CHISELED ON TOP OF CURB @ THE SOUTHEAST CURB RETURN, LOCATED @ THE INTERSECTION OF RIO GRANDE BLVD. NW & GRIEGOS RD. NW. ELEVATION = 4970.717 FEET (MSLD)

## LEGAL DESCRIPTION

TRACT X, PALACIO DEL RIO GRANDE

## STREET ADDRESS

3700 RIO GRANDE BLVD. NW.

## EROSION CONTROL MEASURES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. THE CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" PRIOR TO BEGINNING CONSTRUCTION.

## CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.

## DRAINAGE PLAN

The following items concerning the 3700 Rio Grande Office Building Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located at the northeast corner of the intersection of Rio Grande Boulevard N.W. and San Lorenzo Avenue N.W. At present, the site is undeveloped. The adjacent parcel to the north is developed commercially. The sites to the east and west are developed residentially, and the site to the south is undeveloped.

As shown by Plate F-13 of the Albuquerque Master Drainage Study, this site does not lie within a designated Flood Hazard Zone. Furthermore, this site does not contribute runoff to a downstream flooding condition. Because of this, coupled with the fact that this is essentially an in-fill site, the site will be freely discharged to San Lorenzo Avenue N.W. via the new drivepad located at the southeast corner of the project site. From this point, the runoff will flow east in San Lorenzo Avenue to the intersection with Cherokee Road N.W. At this intersection there are two single 'C' catch basins which discharge directly to the Griegos Drain. These catch basins are between two hundred and three hundred feet east of the project site and represent an adequate downstream capacity. It is worthwhile to note that the Griegos Drain has been accepted as an adequate downstream facility for other recent drainage plans in the vicinity of this project.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1' 0" intervals, 2) the limit and character of the proposed improvements, and 3) continuity between existing and proposed elevations. As shown by this plan, the proposed improvements consist of a single office building and adjacent paving and landscaping. As previously mentioned, this site will discharge its runoff to San Lorenzo Avenue N.W. A small portion of runoff generated by this site will be discharged to the proposed landscaped areas along the front of the office building. These areas have been depressed slightly to contain any nuisance flows as stipulated during the pre-design conference for this site. This will eliminate the discharge of runoff from the site across the existing and proposed sidewalks.

The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the proposed improvements will increase the peak runoff from this site by 1.5 cfs.

## CALCULATIONS

**Ground Cover Information**

From SCS Bernalillo County Soil Survey, Plate 20:
Ag Agua Silty Clay Loam
Hydrologic Soil Group C

**Rational Method**

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84)\, T_c^{-0.51} = 4.65$ in/hr
$P_6 = 2.2$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
$A$ = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.2$ in (DPM Plate 22.2D-1)
$A$ = area, sf

**Existing Condition**

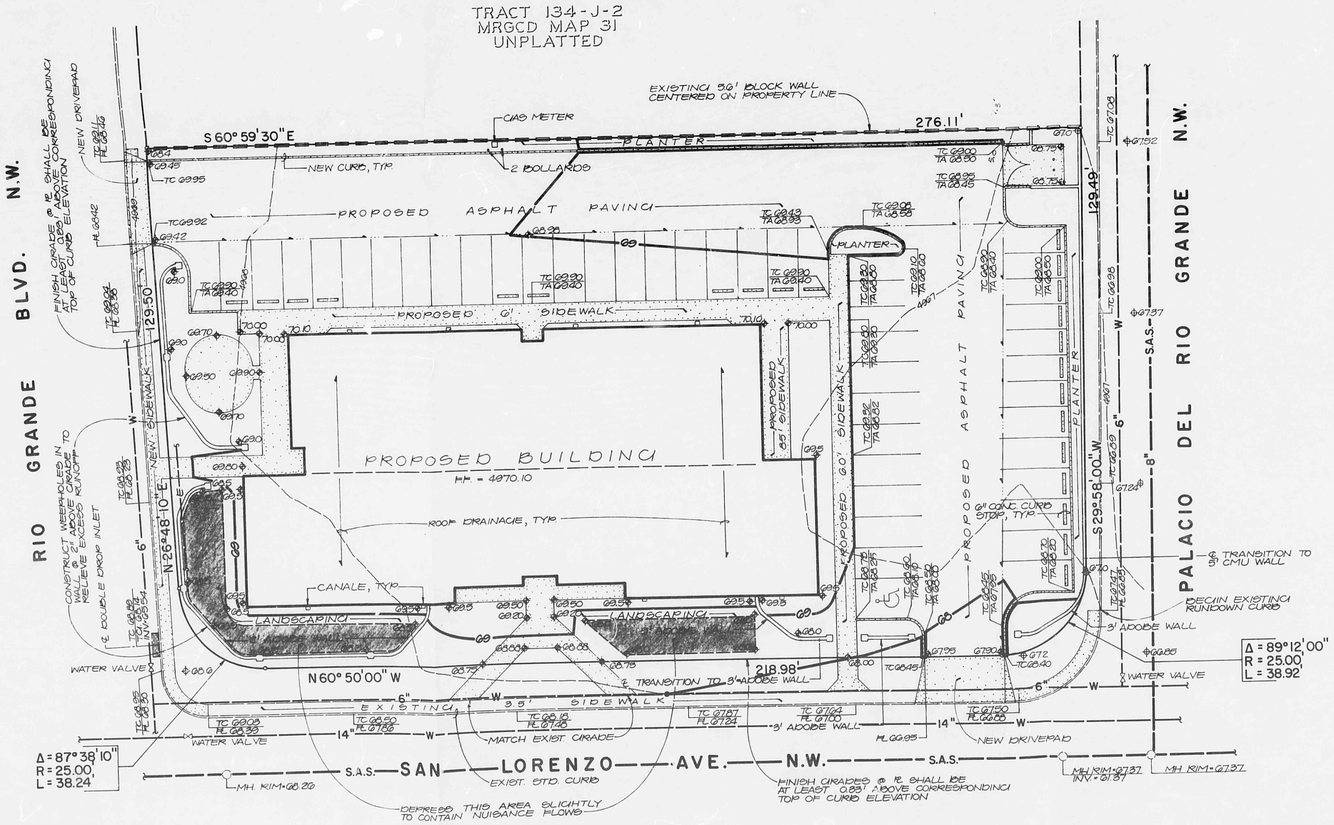
$A_{total} = 41{,}550$ sf = 0.95 Ac
$A_{imp} = 0$ sf; % impervious = 0
'C' = 0.50 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.50\ (4.65)\ 0.95 = 2.2$ cfs
$V_{100} = CP_6A = 0.50\ (2.2/12)\ 41{,}550 = 3{,}810$ cf

**Developed Condition**

$A_{total} = 41{,}550$ sf = 0.95 Ac
$A_{imp} = 34{,}170$ sf; % impervious = 82%
'C' = 0.83 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.83\ (4.65)\ 0.95 = 3.7$ cfs
$V_{100} = CP_6A = 0.83\ (2.2/12)\ 41{,}550 = 6{,}320$ cf

**Comparison**

$\Delta Q_{100} = 3.7 - 2.2 = 1.5$ cfs (increase)
$\Delta V_{100} = 6320 - 3810 = 2{,}510$ cf (increase)

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HYDROLOGY SECTION

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DATE

C3
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