HYDROLOGY

C18/D 9

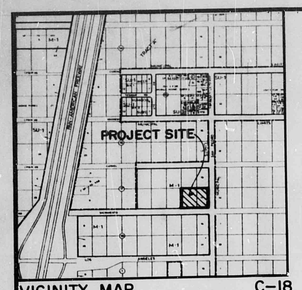
ONE PLAN

1 PLAN FOR

MECHENBIER

OFFICE/WAREHOUSE

C18–D10



VICINITY MAP C-18

SCALE : 1" = 800'

PROJECT BENCHMARK

A STANDARD ACS BRASS TABLET STAMPED "11-D18-1978", SET IN TOP OF A CONCRETE POST FLUSH WITH THE GROUND. THE STATION IS LOCATED 7.6 MILES NORTHEAST OF DOWNTOWN ALBUQUERQUE, NEAR THE SOUTHEAST CORNER OF THE INTERSECTION OF SAN PEDRO DRIVE N.E. & LOS ANGELES DR. N.E.
ELEVATION = 5235.63 FEET (MSLD)

TEMPORARY BM

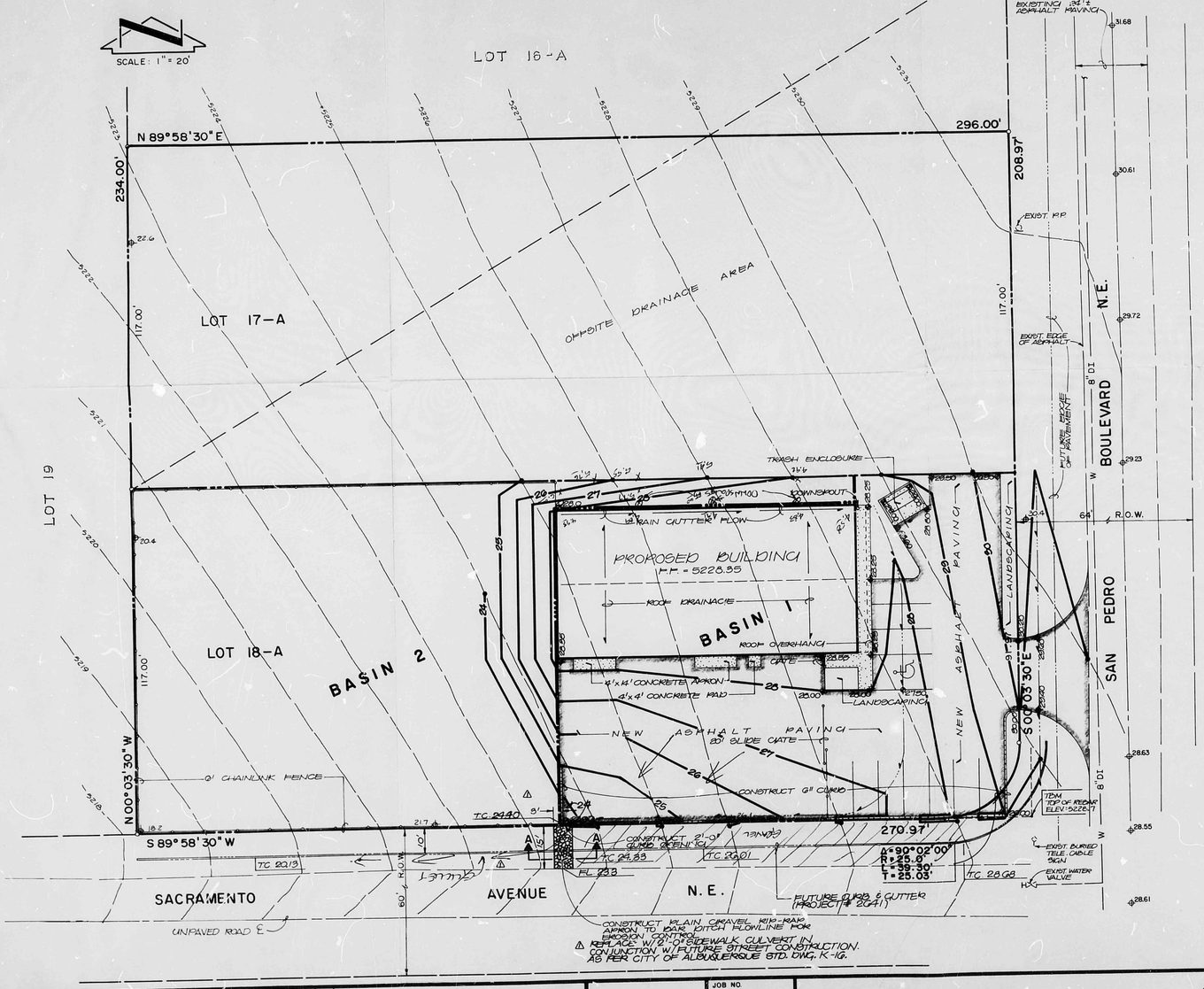
TOP OF REBAR ELEVATION AT THE INTERSECTION OF THE SOUTH PROPERTY LINE AND A LINE PARALLEL TO AND 4' EAST OF THE EAST PROPERTY LINE.
ELEVATION = 5228.7 FEET (MSLD)

LEGAL DESCRIPTION

LOT 18-A, TRACT A, UNIT B, NORTH ALBUQUERQUE ACRES.

LEGEND

+	PROPOSED SPOT ELEVATION
+	EXISTING SPOT ELEVATION
5G	PROPOSED CONTOUR
5669	EXISTING CONTOUR
	SWALE
	PROPERTY LINE
	CONCRETE
	PROPOSED ASPHALT
	PROPOSED FENCE
—x—x—	EXISTING FENCE
T.C. 02.00	TOP OF CURB
FL. 01.65	FLOW LINE
	DRAINAGE BASIN BOUNDARY
29.72	FUTURE STREET GRADES AS DESIGNED BY OTHERS



DRAINAGE PLAN

The following items concerning the Mechenbier Development, 8201 San Pedro N.E., Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

As shown by the Vicinity Map, the subject project is located at the northwest corner of the intersection of Sacramento Avenue N.E. and San Pedro Boulevard N.E. At present, the site is undeveloped. Furthermore, this site is located within a relatively undeveloped portion of North Albuquerque Acres. San Pedro Boulevard N.E. lies to the east of the project. This street has been paved in conjunction with the I-25 construction detour. The 24-foot asphalt paving within San Pedro is intended to serve as the center two lanes for the future paving of San Pedro to a four lane street. The design for this portion of San Pedro was prepared by Andrews, Asbury and Robert, Inc. for the County of Bernalillo. The drawings for this project are dated February, 1984. Sacramento Avenue N.E. is currently unpaved, but is well traveled. This road serves as access to the Pioneer Ready Mix Concrete Plant which lies to the west of the subject project. The constant use of this road by the concrete trucks keeps it in a well compacted state which appears to be relatively stable with no appreciable erosion.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'-0" intervals, 2) centerline design grades for San Pedro Boulevard N.E., 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of a commercial building along with adjacent paving and landscaping. In view of the close proximity of this site to the intersection of I-25 and Los Angeles Avenue N.E. and the recently constructed storm drainage improvements at that intersection by the New Mexico State Highway Department, the free discharge of runoff from this site is appropriate. This free discharge of runoff is further reinforced by the minor increase in runoff anticipated by the proposed improvements coupled with the fact that this site does contribute runoff to the aforementioned drainage improvements and that those improvements outfall to an existing AMAFCA facility. In other words, downstream capacity exists for this site which is located at the bottom of an existing watershed. It is worthwhile to note that the construction of the first phase of San Pedro Boulevard N.E. does not appear to match the design grades, however, the design of this project is based upon matching the as-built grades rather than the design grades. The design grades are somewhat lower, therefore, the proposed site improvements will not be below street grade should the existing construction be removed and the first phase construction rebuilt.

As shown by Panel 10 of 50 of the National Flood Insurance Program Flood Boundary and Floodway Maps for the City of Albuquerque, the site does not lie within a designated Flood Hazard Zone. In addition, no significant offsite flows are anticipated. Because San Pedro Boulevard N.E. has been developed as a crowned asphalt road with bar ditches, flows from those lands east of the site are not expected to enter the site. Flows generated to the east will converge at the intersection of San Pedro Boulevard and Sacramento Avenue N.E. According to the available flood plain mapping, this flow is not of significant magnitude to be identified. In addition, the predominant trend of surface drainage in this area is one in which runoff flows from east to west. This is evidenced by the topography of Lot 17A, as shown on this plan. Minor sheet flow may be generated by Lot 17A, however, this adjoining lot does not contribute a concentrated flow of runoff onto Lot 18A. The offsite contribution from this undeveloped land to the north of the project site can be estimated as equivalent to that generated by Lot 18A under existing conditions, 1.3 cfs. This statement is made by reviewing the limits of the offsite drainage area and noting that its area is approximately equivalent to that of Lot 18A.

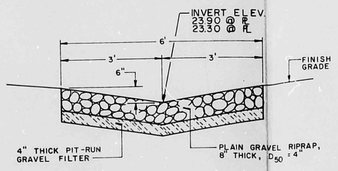
The Calculations which appear hereon analyze both the existing and developed conditions for the 100-year, 6-hour rainfall event. The Rational Method has been used for this analysis in accordance with the City of Albuquerque Development Process Manual, Volume II. As shown by these calculations, the site has been analyzed as a single drainage basin in the existing condition, and as two separate drainage basins in the developed condition. This distinction has been made due to the fact that the site can be considered to consist of two different types of areas in the developed condition. Basin 1 consists of the proposed developed portion of the site, whereas Basin 2 is associated with the western half of the site which will remain undeveloped under this plan. As shown by these calculations, the collective increase in runoff generated by the proposed improvements is only 1.0 cfs. This slight increase will not have a noticeable impact on downstream conditions.

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.



SECTION A-A

SCALE : 1" = 2'-0"

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 11:
EmB - Embudo gravelly fine sandy loam
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84)\, T_c^{-0.51} = 4.76$ in./hr
$P_6 = 2.25$ in (DPM Plate 22.2 D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.25$ in (DPM Plate 22.2 D-1)
A = area, acres

Existing Condition

$A_{total} = 34.500$ sf $= 0.79$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C^{IMP} = 0.34$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.34(4.76)(0.79) = 1.3$ cfs
$V_{100} = CP_6A = 0.34(2.25/12)(34.500) = 2,200$ cf

Developed Condition

1. Basin 1

$A_{total} = 16,890$ sf $= 0.39$ Ac
$A_{IMP} = 16,060$ sf; % impervious = 95%
$C^{IMP} = 0.92$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.92(4.76)(0.39) = 1.7$ cfs
$V_{100} = CP_6A = 0.92(2.25/12)(16,060) = 2.770$ cf

2. Basin 2

$A_{total} = 17,610$ sf $= 0.40$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C^{IMP} = 0.34$ (DPM Plate 22.2 C-1)
$Q_{100} = CiA = 0.34(4.76)(0.40) = 0.65$cfs
$V_{100} = CP_6A = 0.34(2.25/12)(17,610) = 1,120$ cf

Comparison

$\Delta Q_{100} = 1.7 + 0.65 - 1.3 = 1.0$ cfs (increase)
$\Delta V_{100} = 2,770 + 1,120 - 2,200 = 1,690$ cf (increase)

RECEIVED JAN 28 1986 HYDROLOGY SECTION

JEFFREY G. MORTENSEN NEW MEXICO 5061 REGISTERED PROFESSIONAL ENGINEER 01-07-86

01-27-86

Conn Merritt Associates, Inc.
811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS
1	1-86	JFM	REVISE GRADE @ LOW POINT & SHOW FUTURE CURB & GUTTER

DESIGNED BY J.G.M.
DRAWN BY S.G.H.
APPROVED J.G.M.

JOB NO. 50501
DATE 5-85

GRADING & DRAINAGE PLAN
MECHENBIER DEVELOPMENT, 8201 SAN PEDRO N.E. C18/D10

FILE NO.
SHEET 1 OF 1