HYDROLOGY

K19/D64

1 PLAN

K19/D64

1 Plan

CITY OF ALBUQUERQUE
THIS MICROIMAGE IS THE BEST
POSSIBLE REPRODUCTION DUE
TO THE POOR QUALITY OF THE
ORIGINAL DOCUMENT

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VICINITY MAP K-19

SCALE 1" = 800'

LEGEND

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5G — PROPOSED CONTOUR
- 5360 — EXISTING CONTOUR
- SWALE
- PROPERTY LINE
- CONCRETE
- PROPOSED ASPHALT
- TC 60.50 — TOP OF CURB
- TA 60.00 — TOP OF ASPHALT
- FL 60.50 — FLOW LINE

PROJECT BENCHMARK

A STANDARD A.C.S. BRASS DISK SET IN A CONCRETE SYLLABLE IN THE SIDEWALK ON THE WEST MEDIAN NOSE OF THE INTERSECTION OF CENTRAL AVE. & KENNSYLVANIA BLVD. S.E. STATION IS STAMPED "G K13, 1974 ACS"
ELEV. = 5358.44 ft (M.S.L.D.)

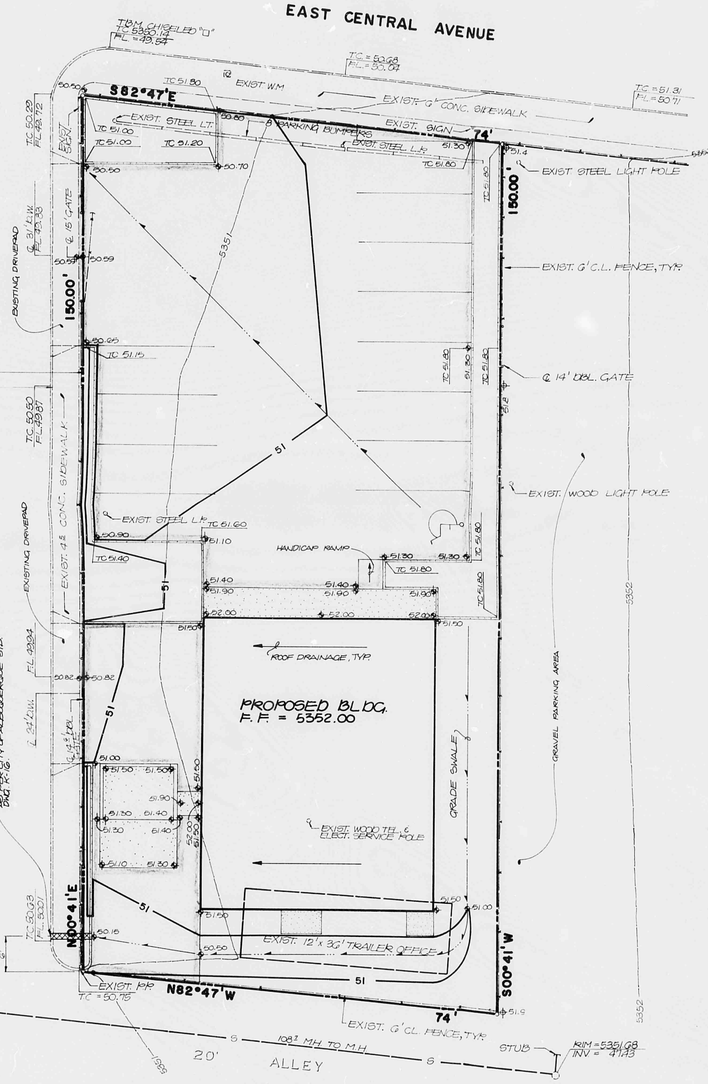
T.B.M.

TOP OF CURB, A CHISELED "D" @ THE CURB RETURN ON CENTRAL AVE. AS SHOWN BELOW.
ELEV. = 5360.14 ft (M.S.L.D.)

LEGAL DESCRIPTION

MOORE ADDITION, BLOCK 2, LOTS 1-3.

SCALE 1" = 10'



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 Ricardo's Restaurant Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

As shown by the Vicinity Map, the site is located at the southeast corner of the intersection of East Central Avenue and Charleston Street S.E. At present, the site is being used as a used car lot. The proposed improvements will consist of the construction of a restaurant along with adjacent asphalt paving and landscaping. An unimproved public alley is situated along the south property line of the site. This alley is being designed for alley grades only by the City of Albuquerque Design Section.

As shown by Plate K-19 of the Albuquerque Master Drainage Study, this site lies adjacent to a designated Flood Hazard Zone. Based upon the mapping, it appears that the flood hazard area encroaches slightly onto the parking lot of the project site. This area does, however, contribute to the Fair Grounds Stormwater Relief System which is believed to remove this area from the floodplain. Despite this, the finished floor has been elevated 2' above the corresponding flowline of Charleston Street S.E. This determination has been made based upon the flowline elevation of the southerly existing drivepad along the east side of Charleston Street S.E. adjacent to this site.

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 existing improvements, 3) the limit and character of the proposed improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the site drains from east to west and discharges its runoff to Charleston Street S.E. Charleston Street S.E. drains from south to north and discharges its runoff to East Central Avenue. From this point, East Central Avenue drains to the west and its runoff is collected by the Fair Grounds Stormwater Relief System. Furthermore, this is an infill site with minimal impact on downstream conditions. With these aspects in mind, the free discharge of runoff from this site is appropriate. Minor offsite flows do enter the site from the east. These flows, which will be accepted and conveyed through the site, are quantified below.

The Calculations presented 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 discharge to Charleston Street S.E. by only 0.5 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:
MoA - Madurez-Wink
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CIA$
where C varies
$i = P_6 (6.84)\, T_c^{-0.51} = 4.86$ in./hr
$P_6 = 2.3$ in (DPM Plate 22.2 D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.3$ in (DPM Plate 22.2 D-1)
A = area, acres

Existing Condition

$A_{total} = 11{,}015$ sf $= 0.25$ Ac
$A_{imp} = 432$ sf; % impervious = 4%
$C^{100} = 0.36$ (DPM Plate 22.2 C-1)
$Q_{100} = CIA = 0.36(4.86)(0.25) = 0.4$ cfs
$V_{100} = CP_6A = 0.36(2.3/12)(11{,}015) = 760$ cf

Developed Condition

$A_{total} = 11{,}015$ sf $= 0.25$ Ac
$A_{imp} = 8{,}735$ sf; % impervious = 79%
$C^{100} = 0.76$ (DPM Plate 22.2 C-1)
$Q_{100} = CIA = 0.76(4.86)(0.25) = 0.9$ cfs
$V_{100} = CP_6A = 0.76(2.3/12)(11{,}015) = 1{,}600$ cf

Comparison

$\Delta Q_{100} = 0.9 - 0.4 = 0.5$ cfs (increase)
$\Delta V_{100} = 1{,}600 - 760 = 840$ cf (increase)

Offsite Flows

Potential contributing area = 4 lots ±
4 lots = 4(74)(150) = 44,400 1 Ac±
'C' = 0.40 (assumed from visual inspection)
$Q_{100} = CIA = 0.40(4.86)(1) = 2$ cfs (sheet flow)
$V_{100} = CP_6A = 0.40(2.3/12)(44{,}440) = 3{,}400$ cf

RECEIVED OCT 08 1985 HYDROLOGY SECTION

APPROVED FOR DRAINAGE
10-9-85
DATE
SIGNATURE TITLE
ADVISE DRAINAGE INSPECTOR WHEN GRADING EXECUTED

RECEIVED OCT 08 1985 HYDROLOGY SECTION

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER 10-08-85

10-8-85
Authorized by Jeff Mortensen
CAM

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Tierney & Associates, P.C.
811 DALLAS N.E. • ALBUQUERQUE • NEW MEXICO • 87110
ENGINEERS

NO.	DATE	BY	REVISIONS

DESIGNED BY J.G.M.
DRAWN BY J.M.C.
APPROVED J.G.M.
JOB NO. 51181
DATE 9·85

GRADING AND DRAINAGE PLAN
RICARDO'S RESTAURANT

FILE NO.
SHEET 1 OF 1

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