HYDROLOGY K19/D58 CHICO OFFICE BLDG.-LOT 28A

Z19/D58

CHICO OFFICE

BLDG. - LOT 28A

1 PLAN

DRAINAGE PLAN

The following items concerning the Chico 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 southwest corner of the intersection of Chico Road N.E. and Tennessee Street N.E. At present, the site is undeveloped. Much of the surrounding area is currently developed, thereby making this an infill site.

As shown by Plate K-19 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone, however the site does lie adjacent to a designated Flood Hazard Zone. Because of this, the finished floor elevation of the office building has been established at least two feet above the corresponding flow line elevation of Chico Road N.E. A proposed public storm drainage facility will be constructed in the near future which will eliminate the current flooding in the street. At present, the majority of the runoff generated from this site flows from east to west onto the adjoining lots 25 through 27 with a small portion of runoff draining onto Chico Road N.E. In the proposed condition, however, all runoff will be directed to Chico Road N.E.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 0'- 6" intervals, 2) continuity between existing and proposed grades, and 3) the limit and character of the existing and propcsed improvements. As shown by this plan, the proposed improvements consist of the construction of a new office building along with adjacent paving and landscaping. Flows generated on site will be routed from south to north and discharged to Chico Road N.E. From that point, the runoff will flow in a westerly direction in Chico Road N.E. to Pennsylvania Street N.E. Pennsylvania Street N.E. drains north onto Copper Avenue N.E. to an existing catch basin which is the outfall for this site. The proposed drainage pattern will improve the existing drainage pattern because it will eliminate the discharge of runoff onto the adjacent lots.

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 improvement will result in a negligible net increase in peak runoff by 0.4 cfs.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 31:
MWA Madurez Wink Association
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84) T_c^{-0.51} = 5.03$ in/hr
$P_6 = 2.38$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.38$ in (DPM Plate 22.2D-1)
A = area, sf

Existing Condition

$A_{total} = 5063$ sf = 0.12 Ac
$A_{imp} = 0$ sf; % impervious = 0%
'C' = 0.34 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.34\ (5.03)(0.12) = 0.2$ cfs
$V_{100} = CP_6A = 0.34\ (2.38/12)(5041) = 340$ cf

Developed Condition

$A_{total} = 5063$ sf = 0.12 Ac
$A_{imp} = 4913$ sf; % impervious = 97%
'C' = 0.95 (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.95\ (5.03)(0.12) = 0.6$ cfs
$V_{100} = CP_6A = 0.95\ (2.38/12)(5063) = 954$ cf

Comparison

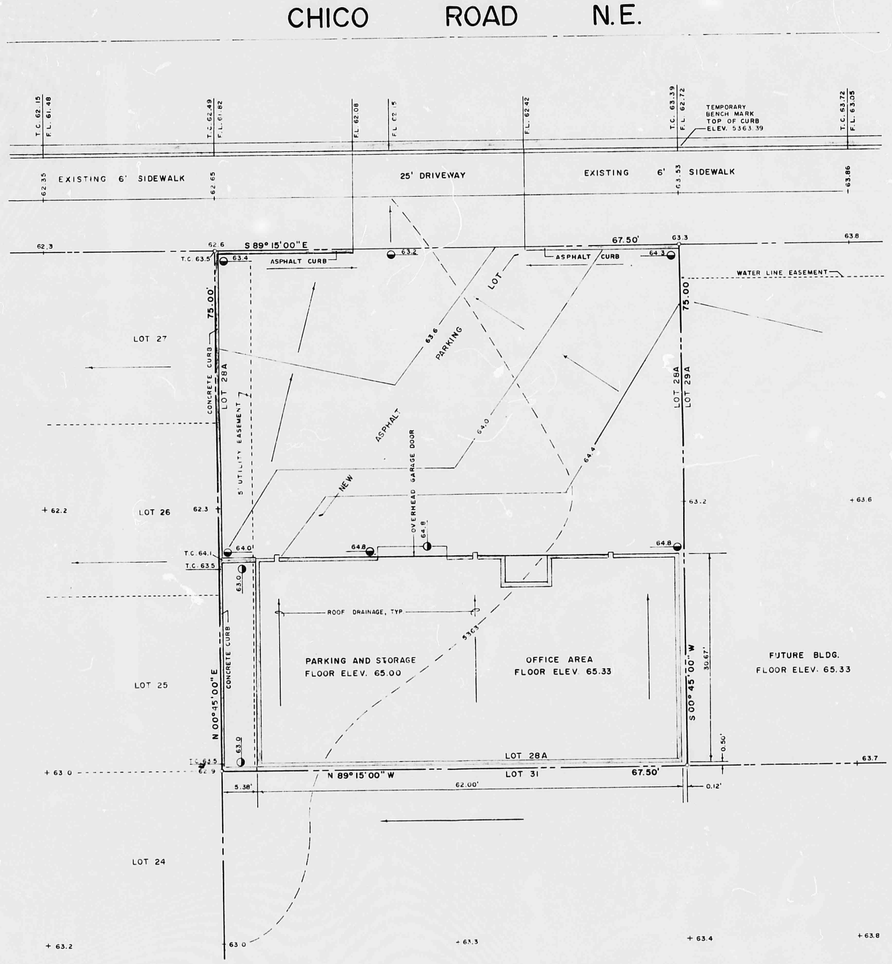
$\Delta Q_{100} = 0.6 - 0.2 = 0.4$ cfs (increase)
$\Delta V_{100} = 954 - 340 = 614$ cfs (increase)

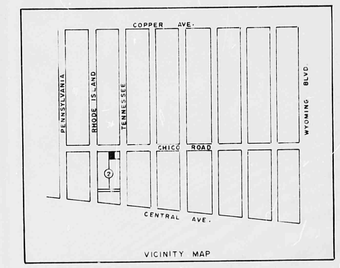
EROSION CONTROL MEASURES

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.





VICINITY MAP

ZONE ATLAS PAGE K-19

SCALE: 1" = 10'

BENCH MARK

ELEVATIONS SHOWN HEREON WERE ESTABLISHED FROM CITY OF ALBUQUERQUE BENCH MARK 6-K19, ELEVATION 5358.44.

TEMPORARY BENCH MARK

TOP OF CONCRETE CURB NORTH OF THE NORTHEAST CORNER OF THE PROPERTY LINE, ELEVATION = 5363.39 FEET

LEGEND

- 5363 — EXISTING CONTOUR
- 63.2 — FINISH CONTOUR
- + EXISTING SPOT ELEV.
- FINISH SPOT ELEV.
- TREE

LEGAL DESCRIPTION

LOT 28A, BLOCK 2, AS SHOWN ON THE REPLAT OF LOTS 28, 29, AND 30, BLOCK 2, MESA VERDE ADDITION, ALBUQUERQUE, N.M., FILED MAR 1, 1985.

RECEIVED
MAR 18 1985
HYDROLOGY SECTION

JEFFREY G. MORTENSEN
NEW MEXICO
8547
REGISTERED PROFESSIONAL ENGINEER
5-15-85

BOUNDARY SURVEY AND TOPOGRAPHY BY:

William P Pettit

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N.M.L.S. NO. 3243
FEBRUARY, 1985

T.M.A. JOB NO. 5025I

DRAINAGE PLAN FOR PROPOSED OFFICE BLDG. CHICO ROAD N.E. ALBUQUERQUE, N.M.

K19/D58