HYDROLOGY

G20/D2D

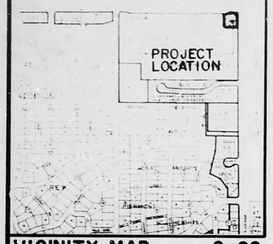
ONE PLAN

I PLAN FOR

TACO BELL

SIERRA VISTA

G20-D2D



VICINITY MAP G-20

SCALE 1" = 800'

SCALE : 1" = 10'

PROJECT BENCHMARK:

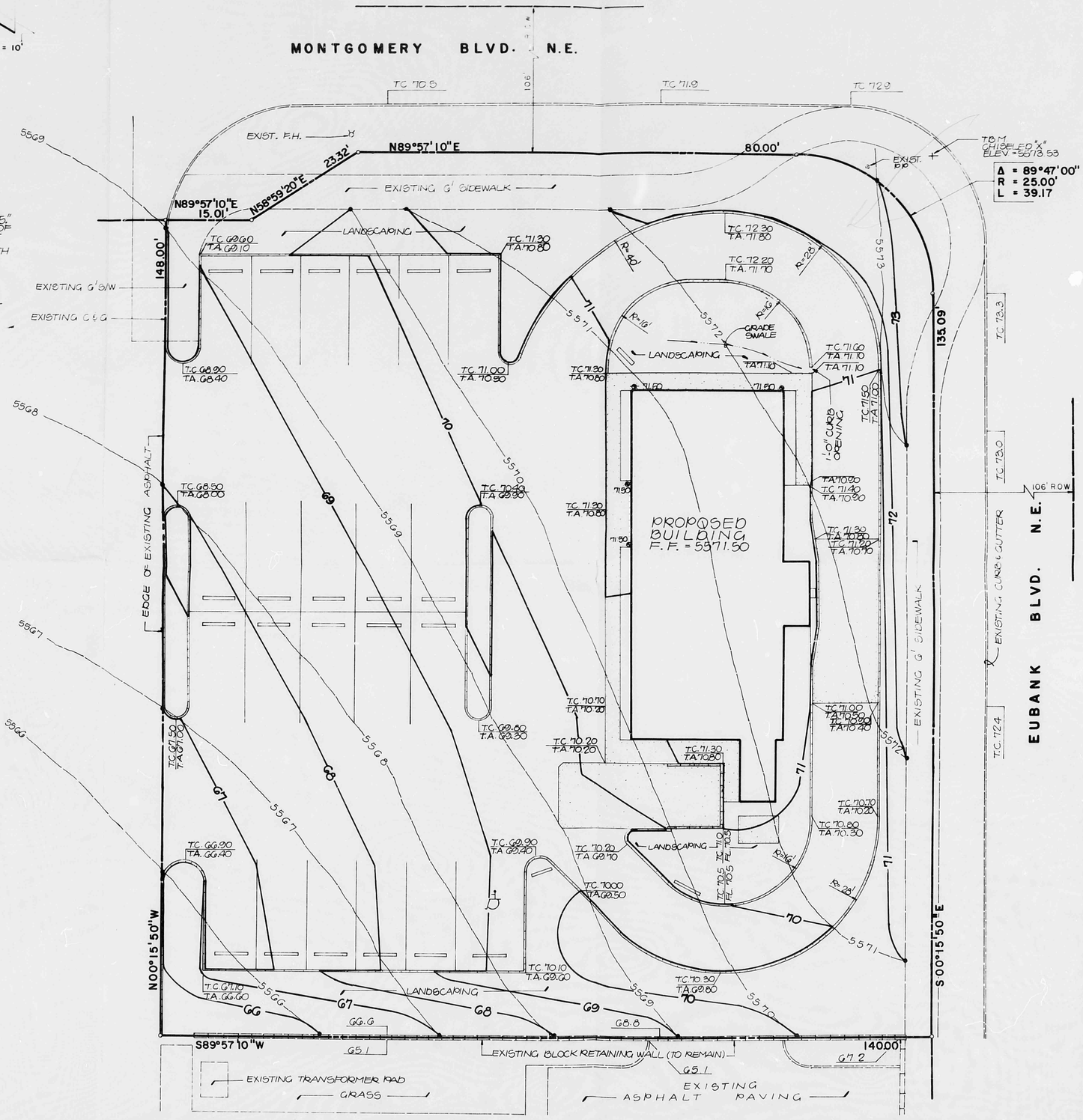
A STANDARD KPE BRASS DISK SET IN A CONCRETE POST 2' ABOVE GROUND AND IS STAMPED "M-TA1075", LOCATED IN THE EAST MEDIAN IN THE INTERSECTION OF MONTGOMERY BLVD. AND EUBANK BLVD. APPROX. 1' MATELY 300' EAST FROM THE CENTERLINE OF EUBANK BLVD., 73' SOUTH OF THE MEDIAN'S NORTH CURB, AND 25' WEST OF THE EAST NOSE.
ELEV. = 5584.10 FEET (MSLD)

T.B.M.

A CHISELED "X" ON TOP OF THE SIDEWALK. A PROJECTION OF THE N.E. PROPERTY CORNER.
ELEV. = 5573.53 FEET (MSLD)

·LEGEND·

- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5G — PROPOSED CONTOUR
- 5585 — EXISTING CONTOUR
- SWALE
- PROPERTY LINE
- CONCRETE
- PROPOSED ASPHALT
- PROPOSED FENCE
- EXISTING FENCE
- T.C. 02.00 — TOP OF CURB
- FL. 01.65 — FLOW LINE



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.

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.

DRAINAGE PLAN

The following items concerning the Taco Bell Sierra Vista Shopping Center 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 Montgomery Boulevard N.E. and Eubank Boulevard N.E. At present, the site is undeveloped. The adjacent site which lies to the west and south of this project is currently developed as the Sierra Vista Shopping Center.

As shown by Plate G-20 of the Albuquerque Master Drainage Study, the site does not lie within a designated Flood Hazard Zone. This plate does, however, identify what appears to be a minor flooding problem downstream. The development of this site will have negligible effect on this existing condition based upon the small size of the project and negligible increase in runoff. In addition, the free discharge of runoff is consistent with the approved Master Drainage Plan for this site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1' 0" invervals, 2) the limit and character of the proposed improvements, 3) the limit and character of the adjacent existing improvements, and 4) continuity between existing and proposed grades. As shown by this plan, the proposed improvements consist of the construction of a Taco Bell Restaurant along with adjacent paving and landscaping. At present, the site drains from east to west onto the existing portion of the Sierra Vista Shopping Center. This pattern of runoff will not be altered by the proposed construction. The pattern of runoff within the shopping center has previously been addressed in the Sierra Vista Shopping Center Master Drainage Plan. Due to the fact that no flooding has been identified in the adjacent street, and the land to the west and south of this site is topographically lower, there are no apparent offsite flows impacting this site.

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 development of this site will result in a minor increase in runoff. As previously discussed, this increase will have a negligible effect on the overall watershed.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 22:
TgB Tijeras Gravelly Fine Sandy Loam
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84) T_c^{-0.51} = 5.18$ in/hr
$P_6 = 2.45$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A_c = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.45$ in (DPM Plate 22.2D-1)
A_c = area, sf

Existing Condition

$A_{total} = 21{,}960$ sf $= 0.50$ Ac
$A_{IMP} = 0$ sf; % impervious = 0%
$C = 0.34$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.34\ (5.18)(0.50) = 0.9$ cfs
$V_{100} = CP_6A = 0.34\ (2.45/12)(21{,}960) = 1520$ cf

Developed Condition

$A_{total} = 21{,}960$ sf $= 0.50$ Ac
$A_{IMP} = 15{,}700$ sf; % impervious = 71%
$C = 0.70$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.70\ (5.18)(0.50) = 1.8$ cfs
$V_{100} = 0.70\ (2.45/12)(21{,}960) = 3140$ cf

Comparison

$\Delta Q_{100} = 1.8 - 0.9$ cfs (increase)
$\Delta V_{100} = 3140 - 1520 = 1620$ cf (increase)

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SEP 13 1984
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
STATE OF NEW MEXICO
THOMAS T. MANN, JR.
3792
9/10/84

811 DALLAS, N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS

DESIGNED BY J.G.M.
DRAWN BY: jmc
APPROVED T.T.M.

JOB NO. 41351
DATE 9 · 84

GRADING & DRAINAGE PLAN

TACO BELL SIERRA VISTA SHOPPING CENTER

G20/D2D

FILE NO.

SHEET 1 OF 1