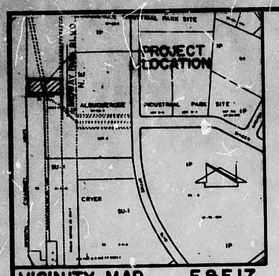
HYDROLOGY

E17/D41K
ONE PLAN

E 17/D 41K

1 PLAN



VICINITY MAP E&F17
SCALE 1" = 800

PROJECT BENCHMARK
STATION 19 A STANDARD B.M. BRASS CAP SET IN CONCRETE MONUMENT STAMPED 6C 21 22, WHICH PROJECTS 1.0' ABOVE GROUND AND IS LOCATED ON THE NORTHEAST SIDE OF THE INTERSECTION OF MIDWAY PARK BLVD. AND MIDWAY BUSINESS PARK, APPROX. 0.1 MILES NORTH OF DOWNTOWN ALBUQUERQUE. THE STATION IS ALSO 0.2 MILES NORTH OF THE INTERSECTION OF MIDWAY PARK BLVD. AND THE ALAMEDA DRAIN, APPROX. 0.3 MILES TO A PAIR OF HYDRANTS ON THE SOUTH SIDE OF ANOTHER DRIVE. THE STATION IS LOCATED APPROX. 0.1 MILES TO THE NORTH OF THE INTERSECTION OF MIDWAY PARK BLVD. AND ANOTHER DRIVE.
ELEVATION = 5110.400 FEET (MSLD)

TBM
TOP OF CONCRETE CURB LOCATED ON THE N.E. SIDE OF THE SITE AS SHOWN BELOW.
ELEVATION = 5110.14 FEET (MSLD)

LEGAL DESCRIPTION
LOT 19A, MIDWAY BUSINESS PARK

LEGEND
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- 5110 PROPOSED CONTOUR
- 5110 EXISTING CONTOUR
- FLOW LINE
- PROPERTY LINE

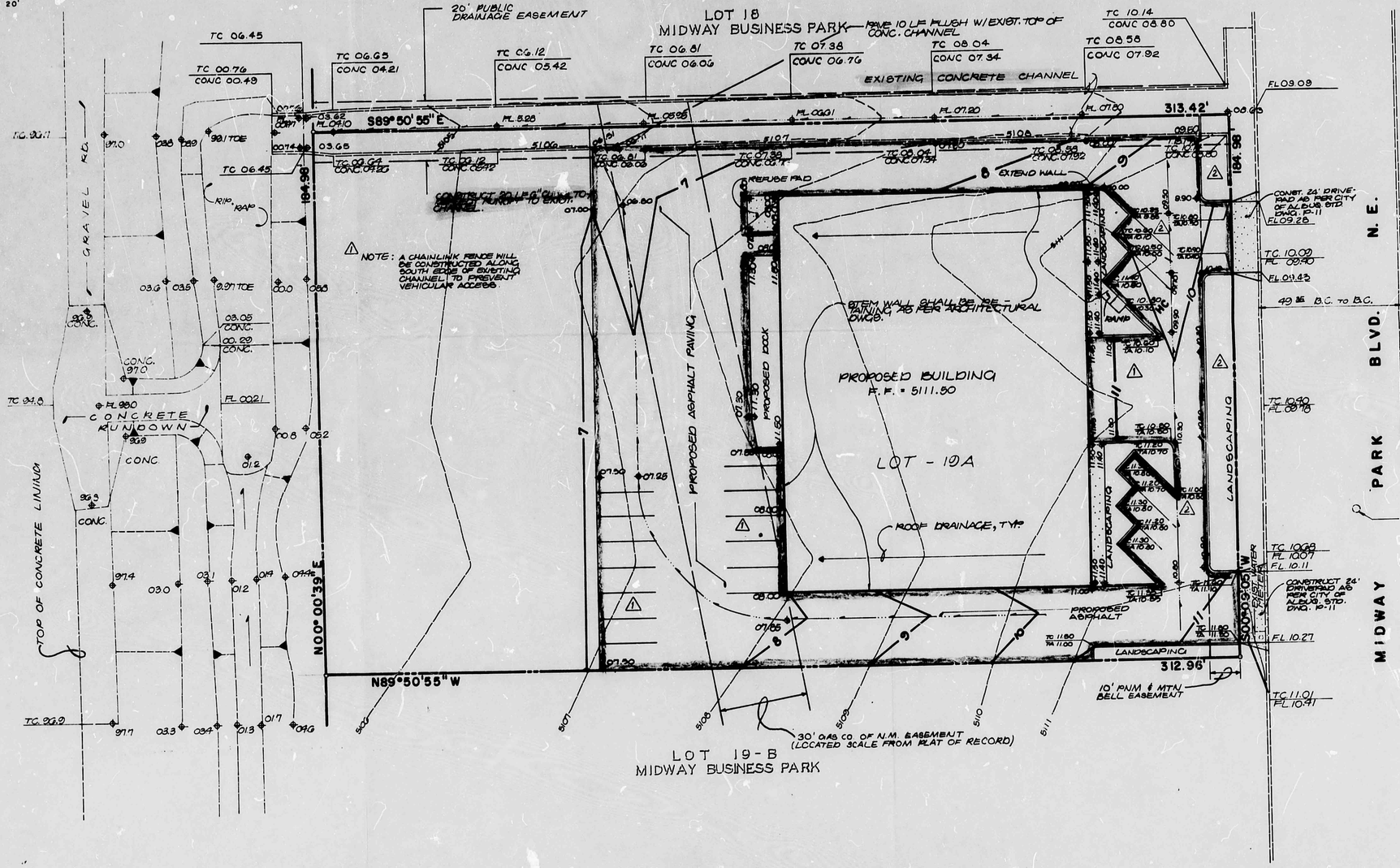
CONSTRUCTION NOTES:

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.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

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.

SCALE 1" = 20'



DRAINAGE PLAN

The following items concerning the Lot 19-A, Midway Business Park Drainage Plan are contained hereon:

1. Vicinity Map 2. Grading Plan 3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the west side of Midway Park Boulevard N.E. within the Midway Business Park. At present, the site is undeveloped.

As shown by Plates E-17 and F-17 of the Albuquerque Master Drainage study, the site does not lie within a designated Flood Hazard Zone. At present, runoff generated by this site flows from east to west outfalling directly into the A.M.A.F.C.A. North Diversion Channel.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'0" intervals, 2) continuity between existing and propcsed grades, and 3) the limit and character of the proposed improvements. As shown by this plan, the proposed improvements consist of the construction of a warehouse building along with adjacent landscaping and paving. Flows generated by the proposed development will be channelized via swales along the north and south side of the proposed building to a northwesterly point and then discharged into the existing 15 feet wide concrete channel. Said concrete channel outfalls into the A.M.A.F.C.A. North Diversion Channel. Approximately one-third of the site will remain unimproved and will maintain the existing drainage pattern. No offsite flows are anticipated due to the existing infrastructure which is already in place.

Free discharge is appropriate as the site lies adjacent to the A.M.A.F.C.A. North Diversion Channel and the improved concrete channel. Also, the predominant trend in Midway Business Park is one of free discharge.

The Calculations shown hereon analyze both the existing and proposed conditions for the 100-year, 6-hour rainfall event. The SCS 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 peak discharge is increased by development.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate: 21
Hydrologic Soil Group: B (EmB, Embudo)
Existing Pervious CN = 70 (DPM Plate 22.2 C-2
Pasture or Range Land: fair condition)
Developed Pervious CN = 92 (DPM Plate 22.2 C-2)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/s^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.2$ in. (DPM Plate 22.2 D-1)

Existing Condition

Atotal = 57,885 sf = 1.3 Ac
Aimp = 0 sf; % impervious = 0 %
Composite CN = 70 (DPM Plate 22.2 C-3)
DRO = 0.38 in (DPM Plate 22.2 C-4)
$q_p = 45.4\ A/T_p = 5.5$ cfs/in runoff

$Q_{100} = Q_{peak} = q_p$ (DRO) = 2.2 cfs
$V_{100} = 3630$ (DRO) A = 1,793 cf

Developed Condition

Atotal = 57,885 sf = 1.3 Ac
Aimp = 38,310 sf; % impervious = 66 %
Composite CN = 96 (DPM Plate 22.2 C-3)
DRO = 1.7 in (DPM Plate 22.2 C-4)
$q_p = 45.4\ A/T_p = 5.9$ cfs/in runoff

$Q_{100} = Q_{peak} = q_p$ (DRO) = 10.0 cfs
$V_{100} = 3630$ (DRO) A = 47,350 cf

Comparison

ΔQ_{100} = (10.0 - 2.2) = 7.8 cfs (increase)
ΔV_{100} = (47,350 - 1,800) = 45,550 cf (increase)

JEFFREY G. MORTENSEN NEW MEXICO 8547 REGISTERED PROFESSIONAL ENGINEER
07-01-86

RECEIVED JUL 01 1986 HYDROLOGY SECTION

REVISED 06-18-86

NO.	DATE	BY	REVISIONS
1	6-86	LFU	REVISE PARKING LAYOUT & RESPECTIVE GRADES
			ADD NOTE
2	7-86	JGM	REVISE FRONT PARKING & LANDSCAPING

Bohannan Huston Inc. ENGINEERS
8II DALLAS, N.E. · ALBUQUERQUE · NEW MEXICO · 87110

DESIGNED BY: J.G.M.
DRAWN BY: J.M.C.
APPROVED: J.G.M.
JOB NO. 60731
DATE 4·86

GRADING & DRAINAGE PLAN
LOT 19A, MIDWAY BUSINESS PARK

FILE NO.
SHEET 1 OF 1

Ha9257