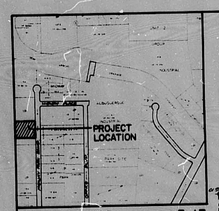
PUBLIC WORKS/HYDROLOGY

E17/D4IT

5921 Midway Pk Blvd.



VICINITY MAP E-17

SCALE: 1" = 800'

LEGEND

- 6105 — EXISTING CONTOUR
- 6105.4 — EXISTING GRID ELEVATION
- 6105 — PROPOSED CONTOUR
- 6105.5 — PROPOSED GRID ELEVATION
- EXISTING SCALE
- PROPOSED SCALE
- TG 7.4% — TOP OF CURB / FLOWLINE
- TOP — TOP OF CURB
- PROPOSED ASPHALT
- PROPOSED CONCRETE

PROJECT BENCHMARK

STATION: IS A STAMPED BLM BRASS CAP SET IN CONCRETE MONUMENT ELEVATION: 5116

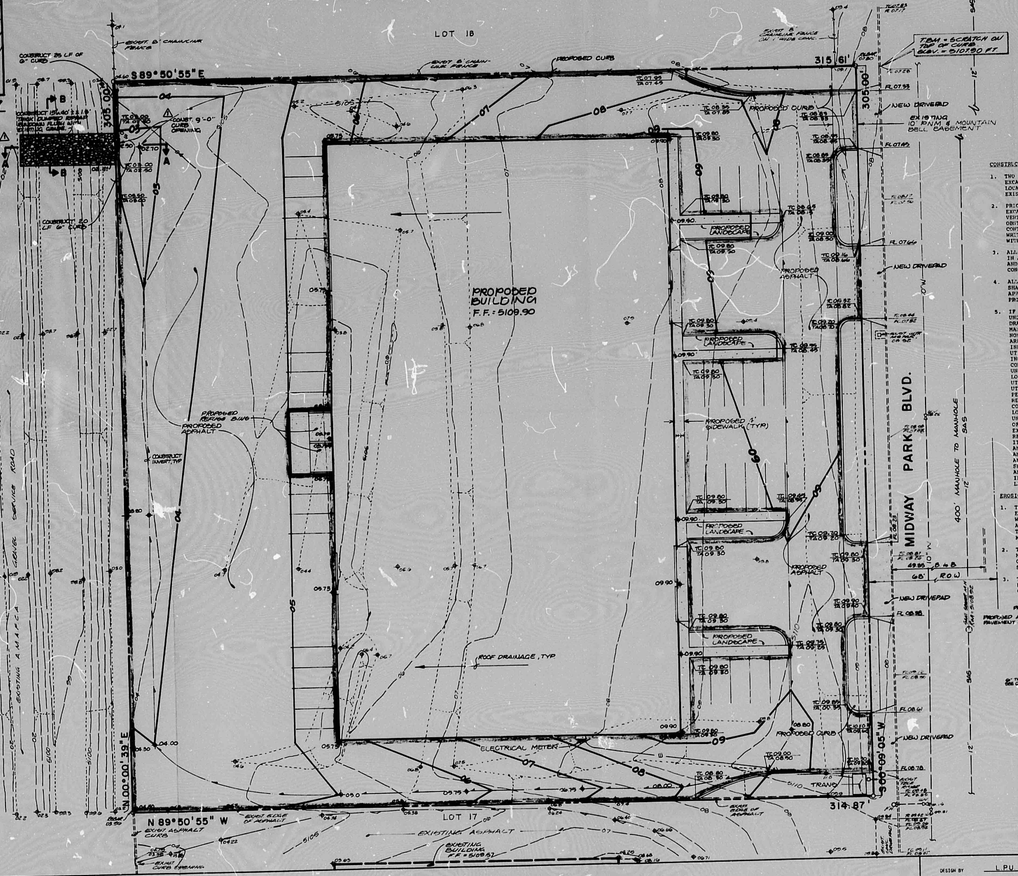
WHICH PRESENTLY IS ABOVE GROUND ALMOST EAST OF THE JUNCTION OF MIDWAY PARK BOULEVARD AND MIDWAY DRIVE. IS 20.0 FEET EAST OF CENTERLINE, 5 SOUTH OF CURB, 80 FEET NORTH OF CENTERLINE OF MIDWAY DRIVE, 10 WEST OF CURB, 1.0 NORTHWEST OF A 7.25 ACC. CONCRETE MONUMENT, 0.0 WEST OF CURB, 1.0 WEST OF CURB, 1.0 WEST OF CURB, 1.0 SOUTH OF A 5 FOOT HIGH WOOD POST, STATION IS 0.0 SOUTH OF THE WEST OF THE WOOD POST.
ELEVATION: 5105.404 FEET (MSL.D)

LEGAL DESCRIPTION

LOT 17-A OF MIDWAY BUSINESS PARK

T.B.M.

SCRATCH OUT TOP OF CURB, 20.0 NORTH OF MIDWAY PARK BLVD. ON EAST SIDE OF MIDWAY DRIVE. ELEVATION: 5107.96 FT. (MSL.D)



GRADING & DRAINAGE PLAN
MIDWAY BUSINESS PARK
LOT 17A

DRAINAGE PLAN

The following items concerning the Tract 17-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., between Singer Boulevard N.E. and Midway Place N.E. At present, the site is undeveloped. As shown by Plate D-11 of the Albuquerque Master Drainage Study, this site does not lie within a designated Flood Hazard Zone. Storm runoff generated by this site flows from east to west onto an apparent to be a problem. At the west side of the A.M.A.F.C.A. North Diversion Channel Access Road, existing ponding occurs. Beyond this point, runoff flows north to an existing concrete rundown located on the east side of the A.M.A.F.C.A. North Diversion Channel, which is the outfall for this site. No offsite flows enter this site along the north and south property lines since existing lots are graded to drain away from the site. No offsite flows enter this site along the east property line since existing street routes runoff away from the project site. No offsite flows enter the site along the west property line since the A.M.A.F.C.A. North Diversion Channel routes runoff away from the project site.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1/2ft intervals, 2) continuity between existing and proposed grades, and 3) the general character of the proposed improvements. As shown by this plan, the improvements consist of the construction of a proposed building, with adjacent paving and landscaping. Flows generated by the proposed improvements will be routed from east to west onto the aforementioned bar ditch. Beyond this point, runoff flows north and follows the same path discussed above. Based upon this site is located adjacent to the A.M.A.F.C.A. North Diversion Channel, the free discharge of runoff from this site is appropriate.

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 to quantify the peak rate of discharge, and the SCS Method has been used to quantify the volume of runoff. Both Methods have been used in accordance with the City of Albuquerque Development Process Manual, Volume II, and the Mayor's Emergency Rule adopted January 14, 1986. As shown by these calculations, the proposed improvements will result in an increase in runoff by approximately 5.3 cfs.

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 UTILITIES. OBSTRUCTIONS OR SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN CONTRACT 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 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. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE UNDERTAKER BY FIELD VERIFICATION OF THE EXACT DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE CONTRACTOR'S FAILURE TO ACCURATELY IDENTIFY 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 DAMAGES WHICH OCCUR AS A RESULT OF HIS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY UNDERGROUND 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-WAYS OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY USING 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.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 21: Map - Rhode gravelly fine sandy loam
Hydrologic Soil Group: B
Existing Pervious CN = 72 (DPM Plate 22.2 C-3
Pasture or Range Land: Fair condition)
Developed Pervious CN = 61 (DPM Plate 22.2 C-3

Time of Concentration/Time to Peak

$T_C = 0.0078\ (D^{.77}/S^{.385})$ (Kirpich Equation)

$T_P = T_C = 10$ min.

Point Rainfall

$P_6 = 3.2$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: Q = CiA

where C varies
$i = P_6\ (6.84)\ T_C^{-0.51} = 6.65$ in/hr
$P_6 = 3.2$ in (DPM Plate 22.2D-1)
$T_C = 10$ min (minimum)
A = area, acres

SCS Method

Volume: V = 3630(RO) A

Where RO = Direct runoff in inches
A = area, acres

Existing Condition

$A_{total} = 98,515$ sf = 2.26 ac
$A_{roof} = 0$ sf (impervious) (0.0)
$A_{pave} = 0$ sf (impervious) (0.0)
$A_{landscaped}$ area = 4,731 sf (0.04)
C = 0.95 (Weighted ave.eqs per Emergency Rule, 1/14/86)
$Q_{100} = CiA = (0.95)(6.65)(2.26) = 9.5$ cfs
$A_{imp} = 91,790$ sf % impervious = 93.2%
Composite CN = 71 (DPM Plate 22.2 C-3)
$Q_{100} = 4.2$ cfs (DPM Plate 22.2 C-4)
$V_{100} = 3630\ (RO)A = 15,990$ cf.

Curb Opening Capacity

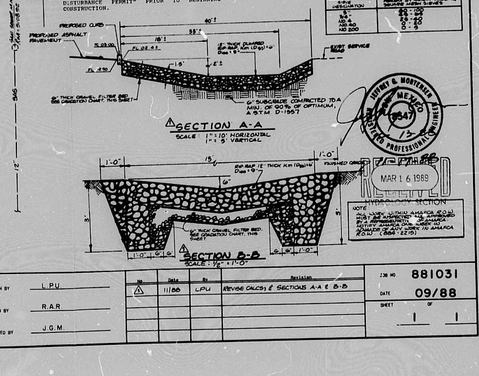
$Q = CLH^{3/2} = 9.8$ cfs
Where C = 3.0
L = 5'-0"
H = 0.5'

Comparison

$\Delta Q_{100} = 9.5 - 4.2 = 5.3$ cfs (increase)
$\Delta V_{100} = 15,990 - 9,245 = 6,745$ cf (increase)

GRADATION OF AGGREGATE

SIEVE DESIGNATION	PERCENT BY WEIGHT PASSING
1 1/2"	100
1"	95-100
3/4"	70-90
3/8"	40-60
NO 4	25-40
NO 8	18-33
NO 16	10-21
NO 30	6-18
NO 50	3-12
NO 200	0-5



JEFFREY A. MORTENSEN
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
12847

MAR 16 1989
HYDROLOGY SECTION

NOTE: THIS PLAN IS ACCEPTABLE FOR GRADING & DRAINAGE PURPOSES ONLY. A SEPARATE PERMIT IS REQUIRED FOR ANY CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY.
DRAINAGE PLAN EXPIRES ONE YEAR FROM DATE APPROVED.

DESIGN BY	L.P.U.
DRAWN BY	R.A.R.
APPROVED BY	J.G.M.

NO.	DATE	BY	REVISION
1	11/88	LPU	REVISE CALCS & SECTIONS A-A & B-B

JOB NO. 881031
DATE 09/88
SHEET 1 OF 1

jma JEFF MORTENSEN & ASSOCIATES, INC.
811 DALLAS, N.E. ALBUQUERQUE, NM 87110
ENGINEERS TELEPHONE (505) 265-5611

R# 15 DATE 3-15-89 OCR

CITY OF ALBUQUERQUE

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DIRECTOR

Robert Duran
NOTARY PUBLIC
OFFICIAL SEAL
Roberta Duran
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires

PLAN SHOT TWICE
ONCE ON LIGHT
ONCE ON DARK

CITY OF ALBUQUERQUE
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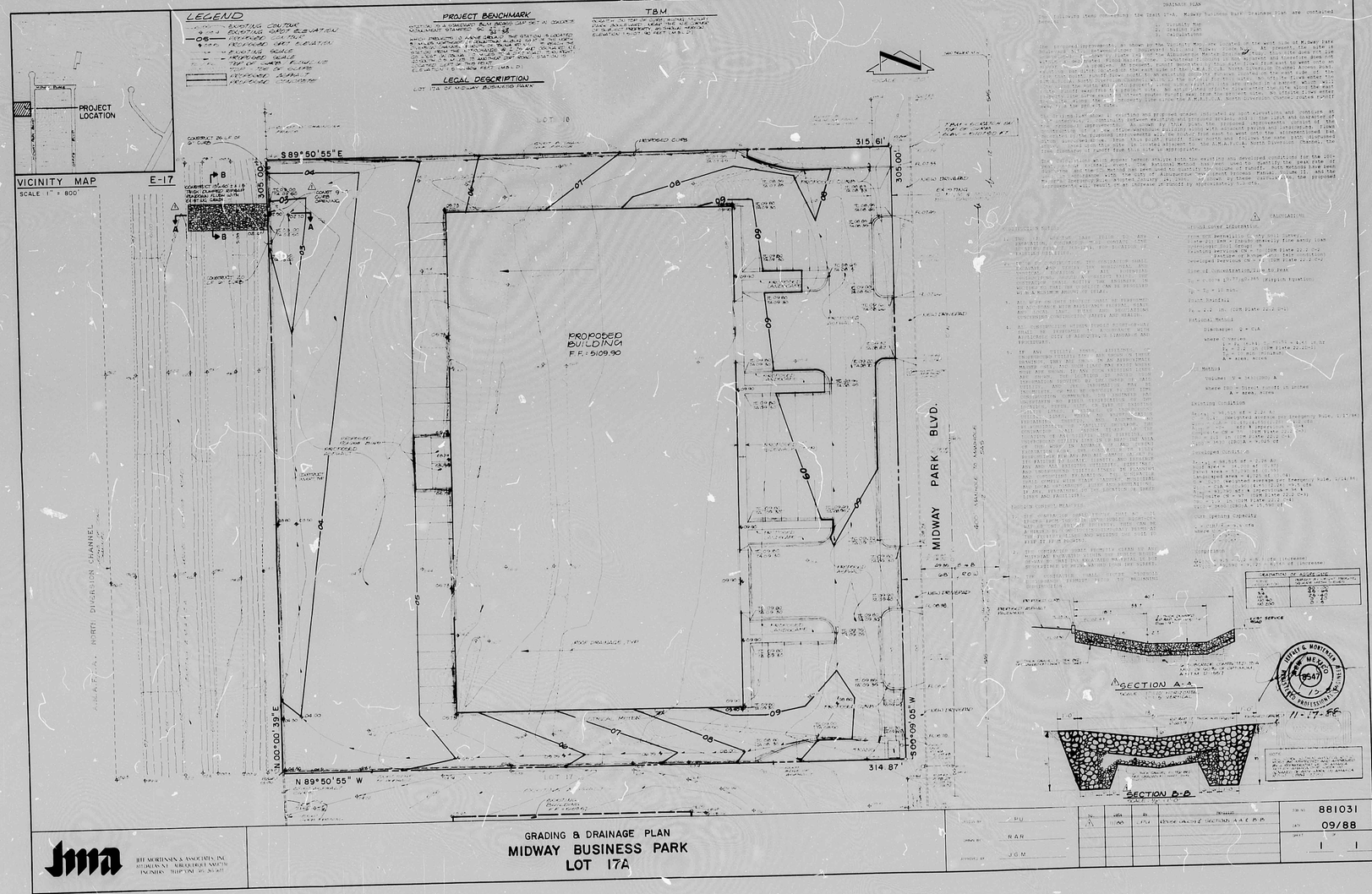
PLANS/PLATS ON FILE

FILE DESC: E17/D41+

PLANS/PLATS 1

E 30 D 24 C 20 B 16 A 12

CITY OF ALBUQUERQUE C D F



DRAINAGE PLAN

Calculations supporting the Grading & Drainage Plan are contained herein.

1. Vicinity Map
2. Hydrology Map
3. Calculations

Proposed improvements, as shown on the Vicinity Map, are located in the west half of Midway Park Subdivision, a commercial subdivision located in the Northwest quadrant of the Paseo del Norte and Unser Blvd. intersection. Lot 17A is the Albuquerque Metro Development Corp. Midway Business Park Subdivision. Lot 17A is bounded by Unser Blvd. on the west, Paseo del Norte on the south, Lot 17B on the east, and the North Diversion Channel on the north. Lot 17A is currently zoned SU-1 for C-1 Uses including Shopping Center, Office, Restaurant, Service Station, Car Wash, Convenience Store, Mini-Storage, Warehouse, Light Manufacturing, Wholesale, Storage, Distribution, Assembly, Fabrication, Research and Development, Medical Clinic, Hospital, Veterinary Clinic, Kennel, Nursery, Greenhouse, Mortuary, Cemetery, Crematorium, Mausoleum, Columbarium, Funeral Home, Chapel, Church, Temple, Synagogue, Rectory, Convent, Parsonage, Parking Lot, Parking Garage, Bus Terminal, Taxi Terminal, Transit Station, Transit Shelter, Transit Stop, Transit Transfer Station, Transit Maintenance Facility, Transit Storage Facility, Transit Administration Facility, Transit Training Facility, Transit Parking Facility, Transit Park and Ride Facility, Transit Kiss and Ride Facility, Transit Bus Bay