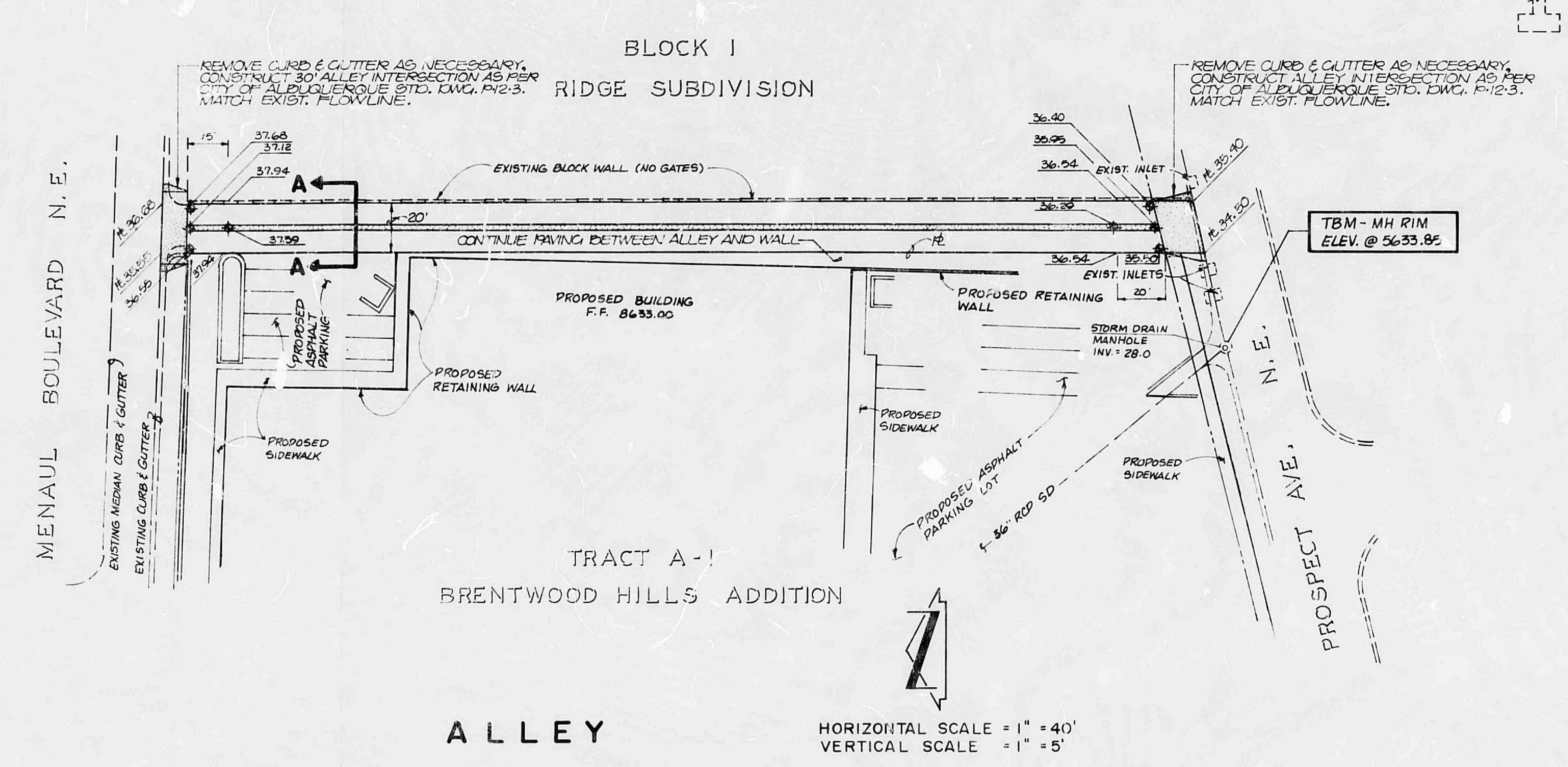
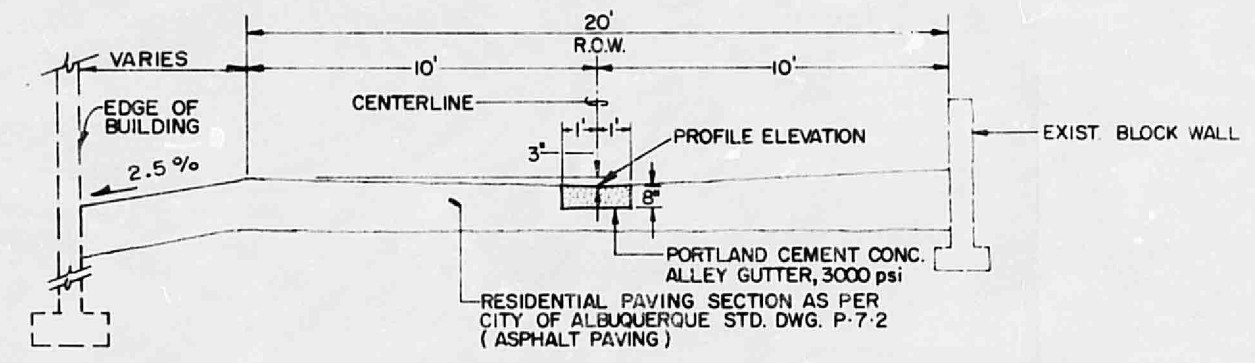


ALLEY

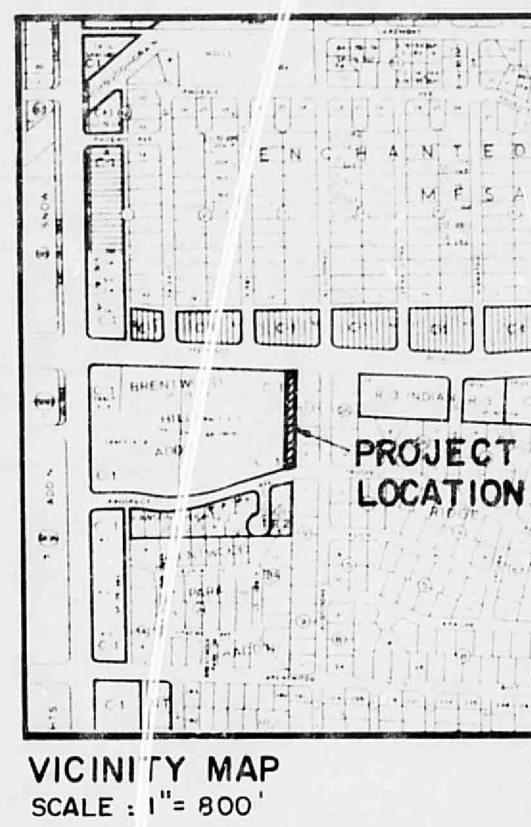
HORIZONTAL SCALE = 1" = 40'
VERTICAL SCALE = 1" = 5'



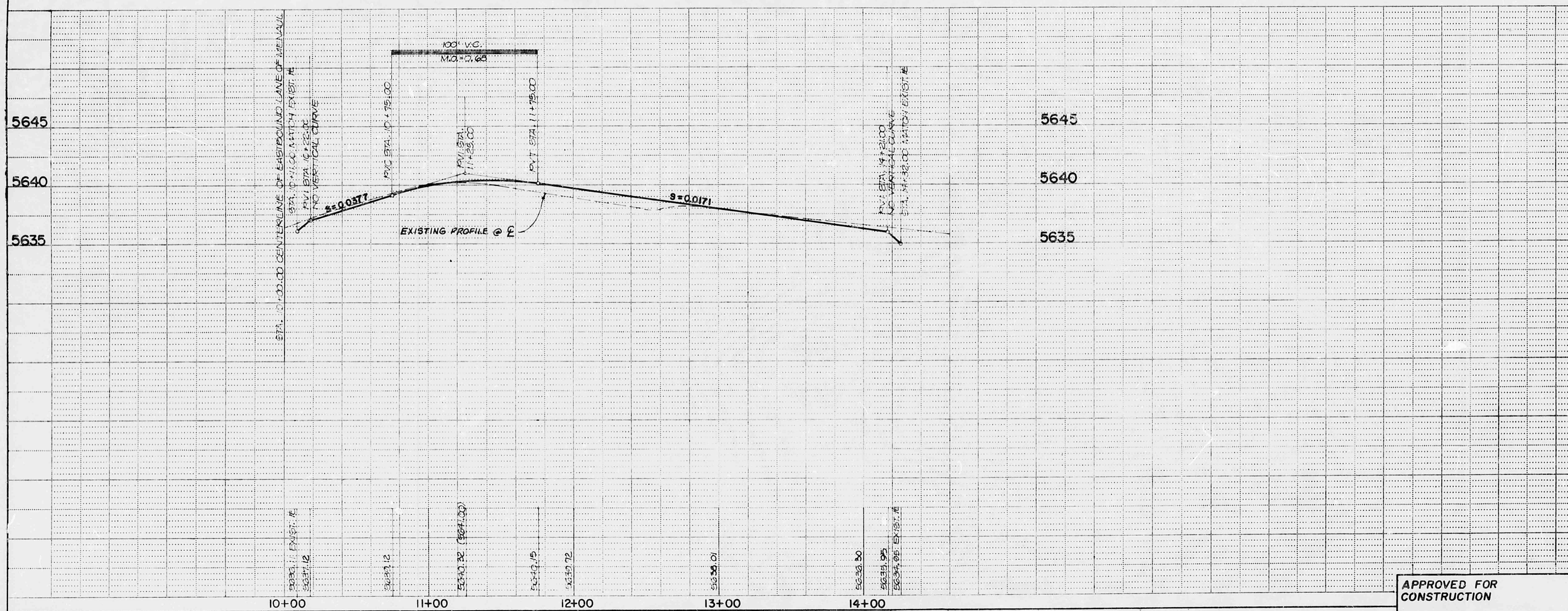
SECTION A-A
1" = 5'-0"

GENERAL NOTES:

1. All work detailed on these plans to be performed under contract shall, except otherwise stated or provided for hereon, be constructed in accordance with the New Mexico Standard Specifications for Public Works Construction - 1979 Edition (referred to herein as the Standard Specifications) and the City of Albuquerque Contract Documents for Public Works Contract 84-3.
2. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
3. Prior to construction, the Contractor shall excavate and verify the horizontal and vertical locations of all existing utilities and 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.
4. The Contractor shall maintain access to adjacent properties during construction.
5. 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.
6. The Contractor must submit a construction signing and barricading plan to Traffic Engineering to receive a barricading permit prior to construction.



VICINITY MAP H-22
SCALE: 1" = 800'



BENCH MARKS
CITY OF ALBUQUERQUE BRASS CAP NO. 2-H21A LOCATED IN SOUTH MEDIAN AT MENAUL AND JUAN TABO. ELEVATION: 5603.08
TEMPORARY BENCH MARK - MANHOLE RIM AT SOUTHEAST CORNER OF SITE. ELEVATION: 5633.85

AS BUILT INFORMATION

SURVEY INFORMATION — FIELD NOTES

MICRO-FILM INFORMATION

ENGINEER'S SEAL

RECEIVED JAN 15 1985 HYDROLOGY SECTION

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

TITLE: ALLEY GRADES FOR JTM SHOPPING PARKADE
MENAUL BLVD., N.E. TO PROSPECT AVE. N.E.

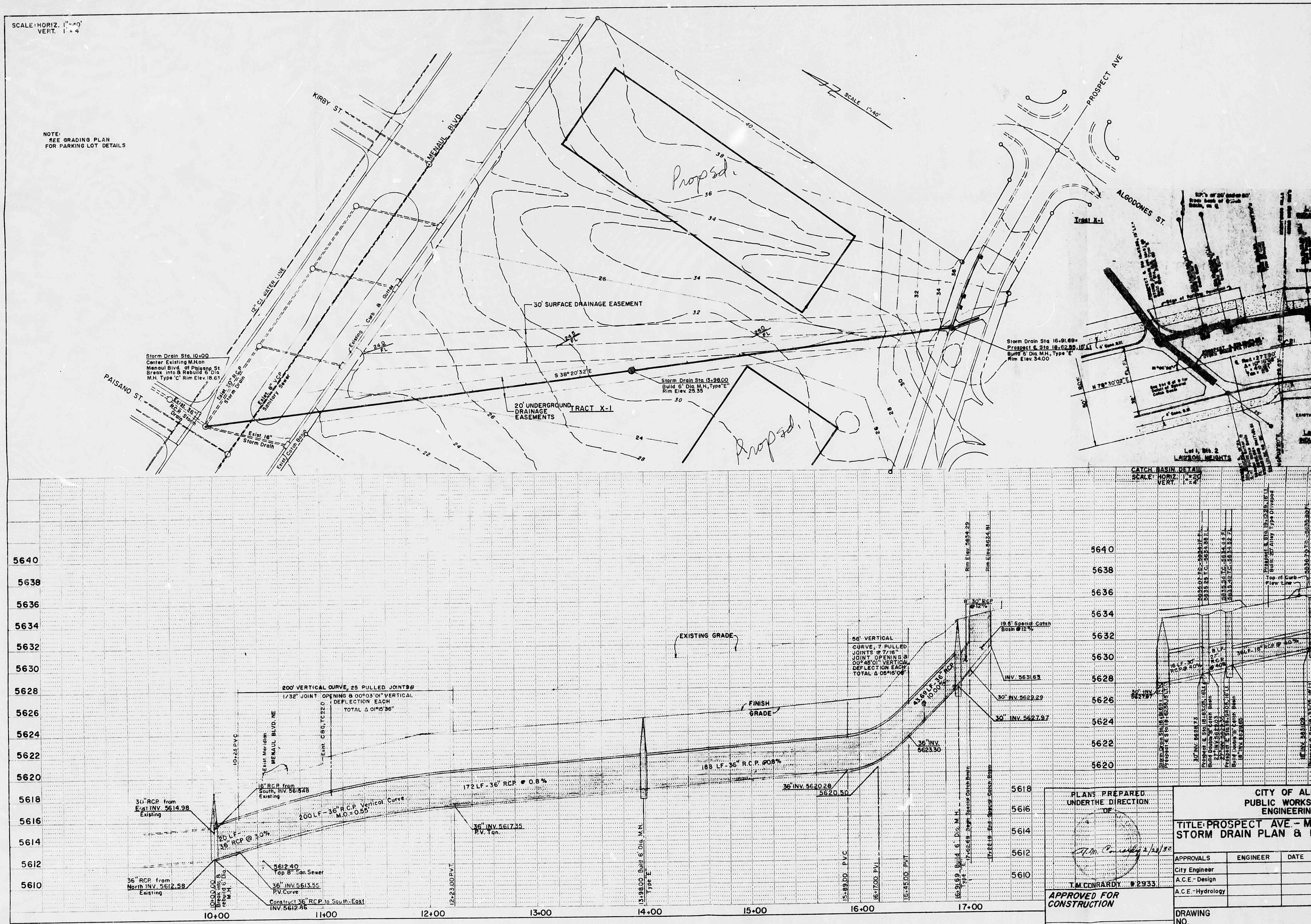
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

APPROVED FOR CONSTRUCTION
CITY ENGINEER DATE

JOB NO. 31392

DRAWING NO. 2273 MAP NO. H-22 SHEET 1 OF 1

H22/D1



PLANS PREPARED UNDER THE DIRECTION OF

T. M. CONRARDY #2933

T. M. Conrardy 2/28/80

APPROVED FOR CONSTRUCTION

CITY ENGINEER DATE

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TITLE: PROSPECT AVE. - MENAUL BLVD.
STORM DRAIN PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
City Engineer			Liquid Waste		
A.C.E.-Design			Traffic		
A.C.E.-Hydrology			Water		

DRAWING NO.

SHEET 6 OF 9

AS BUILT INFORMATION: CONTRACTOR; WORK STAKED BY, DATE; INSPECTOR'S ACCEPTANCE BY, DATE; FIELD VERIFICATION BY, DATE; DRAWINGS CORRECTED BY, DATE

MICRO-FILM INFORMATION: RECORDED BY, DATE; NO.

BENCH MARKS: Bench mark 2121A City Brass Cap 5603.08 - 1978. South center of median on Juan Tabo Blvd.

SURVEY INFORMATION: FIELD NOTES; NO.; BY

REFERENCES: MAP NO.; EST. NO.; W.O. NO.

REVISIONS: NO.; DATE; REMARKS; BY

DESIGN: DESIGNED BY, DATE; DRAWN BY, DATE; CHECKED BY, DATE

H22/D1

VICINITY MAP H-22
1" = 800'

LEGEND

- EXIST. CONTOUR — 5630 —
- PROPOSED CONTOUR
- EXIST. SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- CONCRETE AREA (NEW)
- DRAINAGE BASIN BOUNDARY

BENCHMARK

CITY OF ALBUQUERQUE BRASS CAP NR. 2-H22A LOCATED IN SOUTH MEDIAN @ MENAUL & JUAN TABO
ELEVATION = 5603.08

DESCRIPTION

TRACT A-1
BRENTWOOD HILLS ADDITION

TEMPORARY BENCHMARK

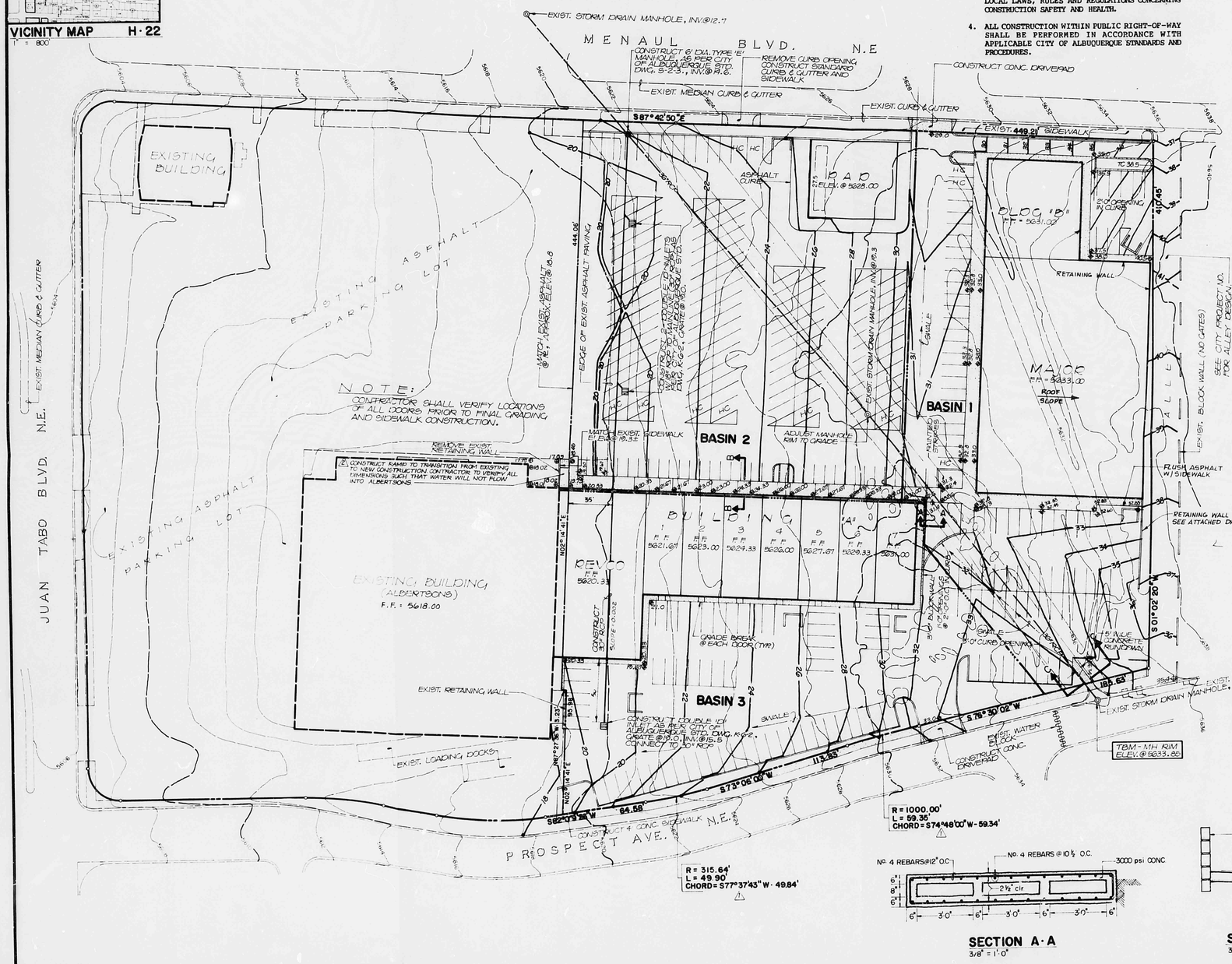
MANHOLE RIM AT SOUTHEAST CORNER OF SITE. ELEVATION 5633.85

EROSION CONTROL MEASURES

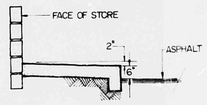
1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.

CONSTRUCTION NOTES:

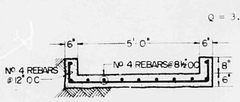
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 765-1234, FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, 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.



SECTION A-A
3/8" = 1'-0"



SECTION B-B
3/8" = 1'-0"



SECTION C-C
3/8" = 1'-0"

DRAINAGE PLAN

The following items concerning the JTM Shopping Parkade 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 south side of Menaul Boulevard N.E. and west of Juan Tabo Boulevard N.E. At present the site is undeveloped. All of the surrounding parcels are currently developed.

As shown by Plate H-22 of the Albuquerque Master Drainage Study, the site does lie within a designated Flood Hazard Zone. Further study of this plate reveals that there is a potential of excess flows from Prospect Avenue to overtop the curb and flow across the site to reach Menaul Boulevard. A water block was constructed in Prospect Avenue in order to divert flows into a 36-inch reinforced concrete pipe that traverses this site diagonally. In March 1974, Mr. Jacob A. Vigil recommended that a channel be constructed between Prospect Avenue and Menaul Boulevard to handle a storm flow of 85 cfs. In October 1977, Mr. Vigil revised his report to include a channel with ponding, but for future construction of a storm sewer to handle the flows from Prospect Avenue to Menaul Boulevard. In 1981, A & E Engineering designed the 36-inch reinforced concrete pipe that now bisects the site. The pipe is capable of conveying approximately 60 cfs. That would leave approximately 25 cfs that would remain during the 100-year event to flow overland. A 40 foot overland drainage easement coinsides with the easement for the storm sewer. Drop inlets in Prospect Avenue convey the flow into the 36-inch storm sewer. The land to the east is developed as single family residences and a block wall prevents flow from entering the site from the east. The site is higher than Menaul Boulevard to the north and to the existing Albertson Store to the west, therefore, the only offsite flows that could enter the site would be the potential from the overflow of Prospect Avenue.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1' and 2' intervals, 2) continuity between existing and proposed elevations, 3) the limit and character of existing improvements, and 4) the limit and character of the proposed improvements. As shown by this plan, the improvement consist of a drainage swale from the low point in Prospect Avenue through the site to Menaul Boulevard. This swale will be used to convey the potential runoff from Prospect Avenue as well as flows from the eastern one-third of the project site. The swale has a capacity in excess of 40 cfs. A 30-inch reinforced concrete pipe will be constructed along with three double 'D' inlets along the western edge of the site. Flows not conveyed by the swale will continue westward downhill where a series of depressions have been constructed. In the bottom of each depression is a double 'D' inlet. The double 'D' inlets are connected to a 30-inch reinforced concrete pipe that will flow northward and ultimately connect to the system in Menaul Boulevard via the existing 36-inch reinforced concrete pipe.

The Calculations which appear below 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 are consistent with the drainage reports of 1974 and 1977. The pattern of runoff is consistent with the pre-design conference recap which accompanies this submittal.

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey, Plate 32:
EtC Embudo Tijeras Complex
Hydrologic Soil Group B

Rational Method

Discharge: $Q = CiA$
where C varies
$i = P_6 (6.84) T_c^{-0.51} = 5.28$ in/hr
$P_6 = 2.5$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

Volume: $V = CP_6A(1/12)$
where C varies
$P_6 = 2.5$ in (DPM Plate 22.2D-1)
A = area, sf

Existing Condition

$A_{total} = 216{,}930$ sf $= 4.98$ Ac
$A_{imp} = 0$ sf; % impervious = 0%
$C = 0.34$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.34\ (6.28)\ 4.98 = 8.9$ cfs
$V_{100} = CP_6A = 0.34\ (2.5)\ 216{,}930/12 = 15366$ cf

Developed Condition

$A_{total} = 216{,}930$ sf $= 4.98$ Ac
$A_{imp} = 201{,}740$ sf; % impervious = 93%
$C = 0.89$ (DPM Plate 22.2C-1)
$Q_{100} = CiA = 0.89\ (5.28)\ 4.98 = 23.4$ cfs
$V_{100} = CP_6A = 0.89\ (2.5)\ 216{,}930/12 = 40{,}222$ cf

Comparison

$\Delta Q_{100} = 23.4 - 8.9 = 14.5$ cfs (increase)
$\Delta V_{100} = 40{,}222 - 15{,}366 = 24{,}856$ cf (increase)

Capacity 30" RCP

$Q = 1.49/n\ AR^{2/3}\ S^{1/2}$
$= 1.49/0.015\ (4.91)\ (0.73)\ (0.045) = 16$ cfs

Inlet Capacity (low point, singel D)

$Q = AC_v\sqrt{2gh}$
where $C_v = 0.67$
$g = 32.2$ ft/sec^2
h = 1.0 ft
$A = (15-1/2")\ (35-3/8") = 548$ sq.in. $= 3.8$ sf
$Q = 3.85(0.67)\ \sqrt{2(32.2)(1)} = 20.7$ cfs per inlet.

RECEIVED
JAN 15 1985
HYDROLOGY SECTION

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
STATE OF NEW MEXICO
THOMAS E. MANN, JR.
3792
1/15/85

NO.	DATE	BY	REVISIONS
1.	12/84	TM	CORRECT BEARINGS
2.	12/84	TM	ADD NOTE FOR SIDEWALK CONNECTION

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

DESIGNED BY T.T.M.
DRAWN BY TMM
APPROVED T.T.M.
JOB NO 31392
DATE 9/84

GRADING & DRAINAGE PLAN
JTM SHOPPING PARKADE

H22/D1

FILE NO L-2
SHEET 1 OF 1