HYDROLOGY

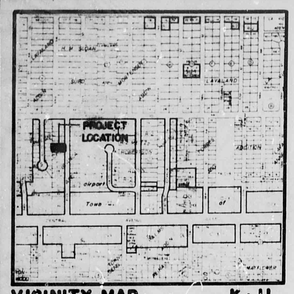
K11/D23

ONE PLAN

1 PLAN FOR

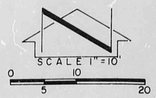
MILLIGAN 4 PLEX

K 11- D 23



VICINITY MAP **K·11**

SCALE: 1" = 800'



LEGEND

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5681 — EXISTING CONTOUR
- 91 — PROPOSED CONTOUR
- SWALE
- T.C. 98.96 — EXISTING TOP OF CURB
- FL 94.65 — EXISTING FLOW LINE
- CONCRETE
- BASIN BOUNDARY
- ASPHALT PAVING

PROJECT BENCHMARK:

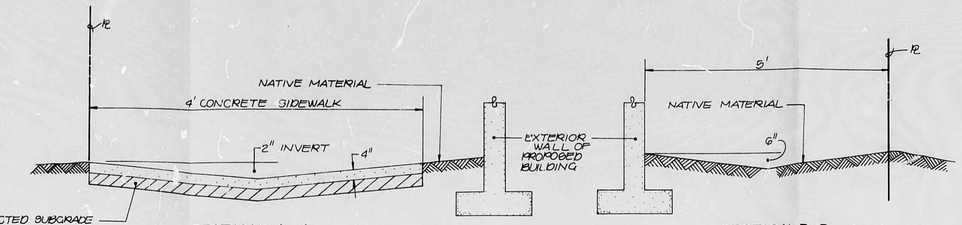
Benchmark is an 'X' cut on the northeast bonnet of the fire hydrant located at the intersection of 62nd Street N.W. and Avalon Road N.W. ASC "3-K11."
Elevation: 5,094.039 feet (MSLD)

LEGAL DESCRIPTION:

Lot 23, Casa Blanca Addition

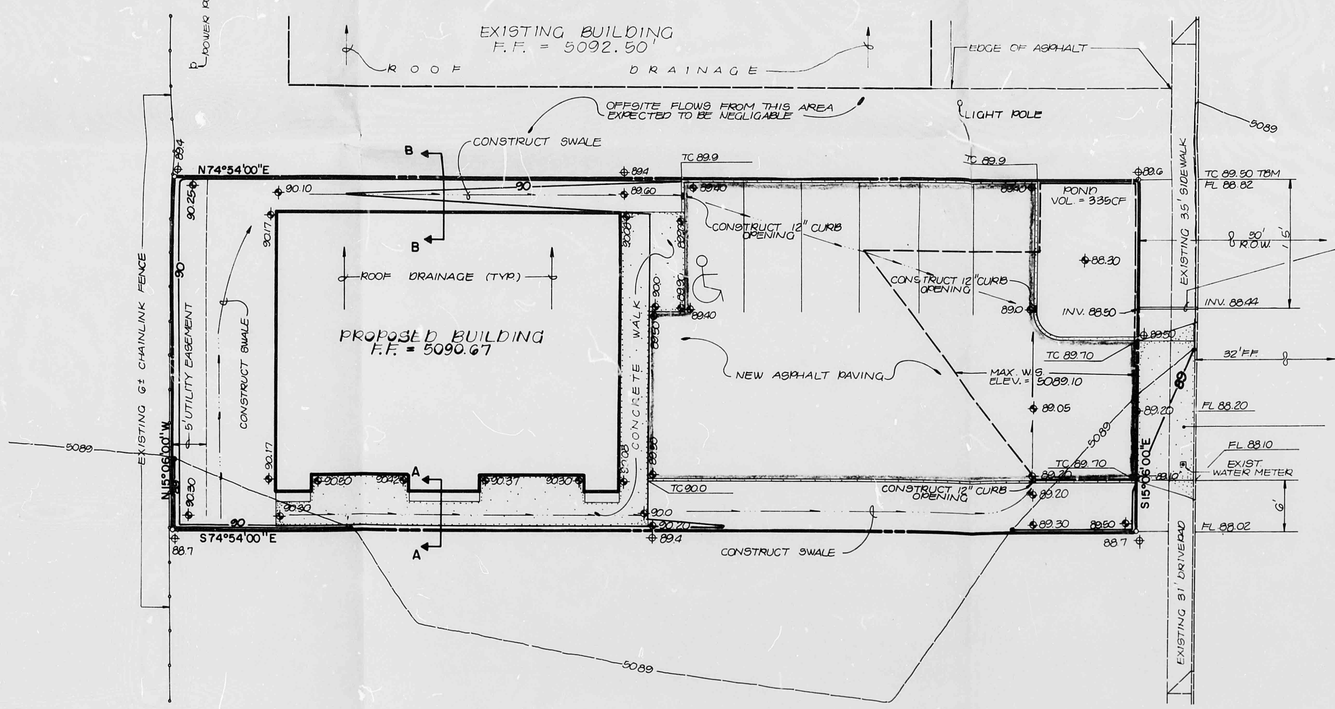
PROPERTY ADDRESS:

217 63rd Street N.W.



SECTION A-A
NO SCALE

SECTION B-B
NO SCALE



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 LOCATIONS 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.

THIS MICROIMAGE IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

DRAINAGE PLAN

The following items concerning the Milligan Four-Plex Drainage Plan are contained hereon:

1. Vicinity Map
2. Drainage Plan
3. Calculations

The proposed improvements, as shown by the Vicinity Map, are located on the west side of 63rd Street N.W. approximately 700 feet north of Central Avenue West. The site is more particularly described as Lot 23, Casa Blanca Addition. At present the site is undeveloped.

As shown by Panel 27 of the National Flood Insurance Program Flood Boundary and Floodway Maps for the City of Albuquerque, New Mexico, this site does not lie within a designated Flood Hazard Zone. Further review of Panel 27 reveals that downstream flooding conditions do exist. For this reason, all runoff generated by this development will be routed through a detention pond and a 4" drainline into 63rd Street NW.

The Grading Plan shows 1) existing and proposed grades indicated by spot elevations and contours at 1'-0" intervals, 2) continuity between existing and proposed elevations, 3) proposed buildings, sidewalks, parking areas, and landscaped areas, and 4) the limit and character of the proposed improvements.

As shown by this plan, the proposed improvements include the construction of a single residential four-plex and adjacent asphalt parking and lamlscaped areas. Grading required by these improvements will insure positive drainage away from the proposed building. As mentioned above, all runoff will be routed through a detention pond and a 4" drainline to 63rd Street N.W.

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, Vol. 2. As shown by these calculations, the capacity of the 4" PVC drainline is equal to the 100-year storm runoff for the developed site. For this reason, the detention pond has been sized mainly to detain nuisance and irrigation runoff. Runoff leaving the site under fully developed conditions will be slightly higher than that currently leaves the site.

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JUL 28 1983
ENGINEERING

CALCULATIONS

Ground Cover Information

1. From SCS Bernalillo County Soil Survey, Plate 30:
   MWA - Madurez Wink Association
   Hydroiogic Soil Group - B
2. Existing Condition

   A_{total} = 0.16 Ac ± = 7000 sf

   A_{imp} = 0 Ac

   % impervious = 0%

   'C' = 0.34 (DPM Plate 22.2C-1)
3. Developed Condition

   A_{total} = 7000 sf

   A_{imp} = 5025 sf

   % impervious = 72%

   'C' = 0.70 (DPM Plate 22.2C-1)

Rational Method

1. Discharge: $Q = CiA$

   where C varies

   $i = P_6(6.84)\ T_c^{-0.51} = 4.65$ in/hr

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

   T_c = 10 min (minimum)

   A = area, sf
2. Volume: $V = CP_6A(1/12)$

   where C varies

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

   A = area, sf

Existing Condition

$Q_{100} = CiA = 0.25$ cfs

$V_{100} = CP_6A = 436$ cf

Developed Condition

$Q_{100} = CiA = 0.5$ cfs

$V_{100} = CP_6A = 898$ cf

Controlled Release

$Q_{Allow} = Q_{4"\ pipe}$

$Q = CA\sqrt{2gh}$ (Orifice Equation)

where C = 0.80

A = 0.09 sf

g = 32.2 ft/s²

h = 0.43 ft

$Q_{4"\ pipe}$ = 0.4 cfs

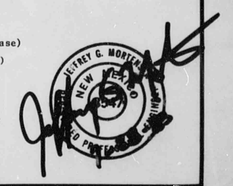
Comparison

ΔQ_{100} = 0.5 - 0.25 = 0.25 cfs (increase)

ΔV_{100} = 898-436 = 462 cf (increase)

Pond Volume

Acual Pond Volume = $\frac{(15 \times 22) + (11 \times 18)}{2}$ + (20X15)(0.1) + (33 X 0.1)(0.5)(25) = 335 CF



Tom Morton Associates, Inc.
811 DALLAS N.E. · ALBUQUERQUE · NEW MEXICO · 87110
ENGINEERS

NO.	DATE	BY	REVISIONS

DESIGNED BY D.A.L.
DRAWN BY J.M.C.
APPROVED J.G.M.

JOB NO 30811
DATE 7·83

GRADING & DRAINAGE PLAN
MILLIGAN-4-PLEX

K11/D23

FILE NO.
SHEET 1 OF 1