HYDROLOGY H16/D15 NO PLANS

H16/D15

No Plans

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 10, 1978

Tom Mann
Goldberg-Mann & Associates
911 Pennsylvania N.E.
Albuquerque, New Mexico 87110

RE: Eakin Office Building

Dear Mr. Mann:

I have reviewed the drainage report for the above referenced subdivision, and I am in agreement with the scheme of the development. The drainage report is therefore hereby approved.

Very truly yours,

Bruno Conegliano
Asst. City Engineer-Hydrology

BC/gm

cc; Dwayne Sheppard
Richard Leonard
Drainage file

Drainage Report
For The
Eakin Office Building

Goldberg · Mann & Associates
Engineers-Planners
911 Pennsylvania N.E. Albuquerque, New Mexico 87110

Goldberg · Mann & Associates
Engineers·Planners
911 Pennsylvania St. Albuquerque, New Mexico 87110 (505) 265-3521

8-45

June 21, 1978

Mr. F. William Fanning
110 Amherst S.E.
Albuquerque, NM 87106

Re: Eakin Office Building

We are herewith transmitting two (2) copies of the drainage report for the Eakin Office Building.

This report is in accordance with the requirements of the City of Albuquerque, Resolution 1972-2, and the Albuquerque Metropolitan Arroyo Flood Control Authority.

We have enjoyed working with you on this project and look forward to future opportunities to assist you.

Yours sincerely,

Thomas T. Mann, Jr., P.E.
President

vb

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Purpose and Scope

The purpose of this drainage plan is to establish the criteria for controlling surface runoff from a particular development on a manner that is acceptable to the City of Albuquerque and to the Albuquerque Metropolitan Arroyo Flood Control Authority.

This plan will determine the runoff resulting from a 100-year frequency storm falling on the site of the Eakin Office Building under existing and developed conditions.

The scope of this plan is to insure that the proposed project will be protected from storm runoff and that the construction of this project will not increase the flooding potential of the adjacent properties.

Location and Description

The Eakin Office Building is located within the corporate limits of the City of Albuquerque in the northeast quadrant. The project is bounded by Wellesley Avenue on the west and lies south of Menaul Boulevard. The legal description is Section 10, Township 10 North, Range 3 East.

The parcel is 0.34 acres in size and will be developed as an office building. The natural topography of the area slopes from east to west at approximately 5.0 percent. The parcel is shown on Figure 1, Location Map.

DESIGN CRITERIA

In analyzing the storm runoff, The Rational Formula, $Q = CIA$ is used.

Where:

Q = Runoff quantity in cubic feet/second.

A = Contributing area in acres.

I = Intensity in inches/hour for a duration equal in minutes and obtained from Figure 2, Intensity Duration Frequency Curves, Albuquerque Area 1961. (Note: Where a Time of Concentration [Tc] is less than ten minutes, the intensity value derived from a Tc of ten minutes is employed.)

C = Runoff Coefficient (No Units). This coefficient represents the integrated effects of infiltration, detention storage, evaporation, retention, flow routing, and interception which all affect the time distribution and peak rate of runoff.

Existing Drainage Conditions

The existing contours are shown on Figure 3, Drainage Plan. The parcel slopes from east to west and is bounded on the west by Wellesley Avenue. The land to the north slopes uniformly from east to west except for spoil piles of earth, one of which lies just north of the property line. Off site flows from the north will not enter the project site. The land to the east of the project is higher but has been ditched such that only a negligible amount of runoff could enter the project site.

In conclusion, off site flows do not contribute significant amounts of runoff to the project site.

Proposed Drainage Conditions

The Drainage Plan for the proposed project is shown in Figure 3. The drainage plan provides for the retention on site of fifty (50) percent of the rainfall from the 100 year frequency storm.

A pond will be constructed south of the building. The building and sidewalks occupy slightly more than one half the site. All runoff from the building and sidewalks will be directed into the pond. Runoff from the parking lot will be routed across landscaped areas to provide additional retention. Retention on the landscaped areas was not counted in the computations for ponding.

The proposed ponding area contains approximately 1580 cubic feet of storage. The required storage is 1500 cubic feet.

Conclusions

1. Direct all runoff from the roof into the ponding area south of the building.
2. Direct runoff from parking lot into lanscaped areas adjacent to the parking.
3. Provide ponding in excess of 1500 cubic feet.

Calculations

Area of Parcel = 200 x 75 = 15,000 sq. feet

Required Pond Volume = 15,000 x 0.1 = 1,500 cubic feet.

Area of Pond

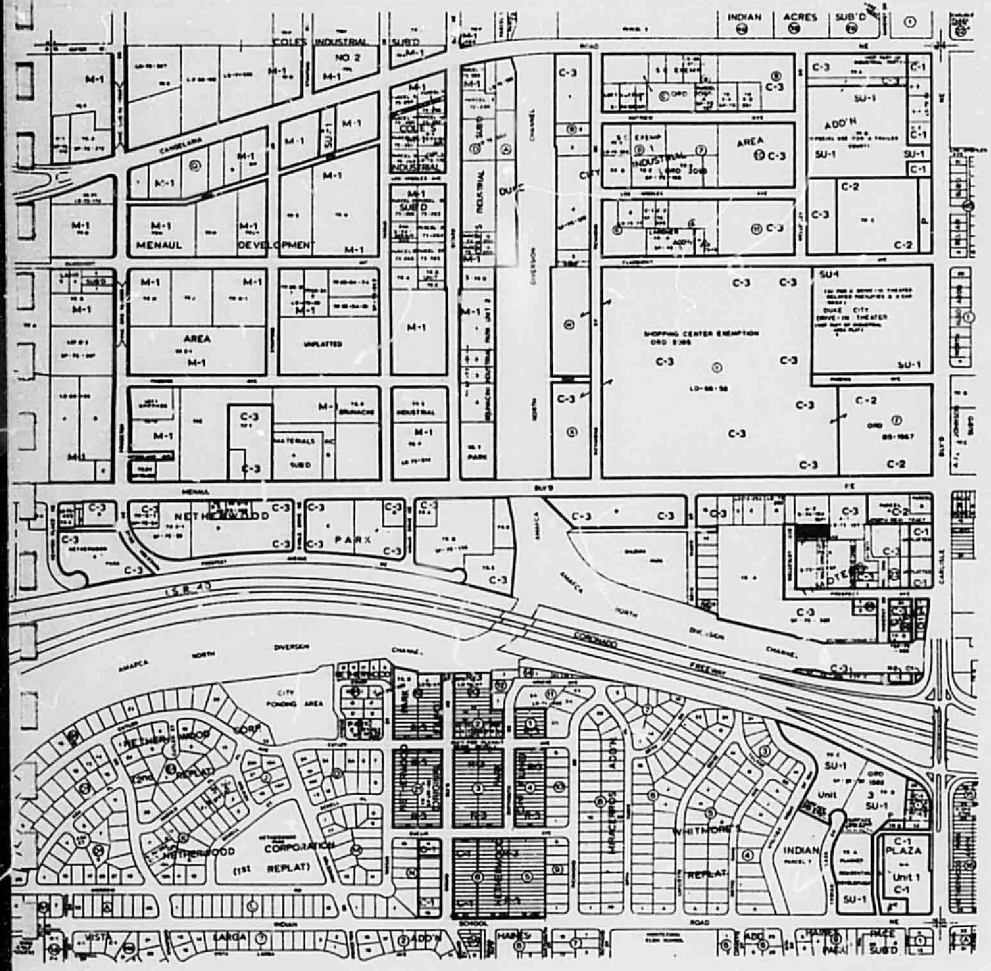
$$\frac{17 \times 98 + 9 \times 94}{2} \quad (1) = 1256$$

$$\frac{9 \times 94 + 5 \times 90}{2} \quad (\tfrac{1}{2}) = 324$$

Total Pond Volume = 1580 cubic feet

FIGURE 1.
LOCATION MAP

DATE
RECEIVED_____



H-16-7

APPLICANT

NAME: H. WILLIAM FANNING, ARCHITECT
ADDRESS: 110 AMHERST S.E.
ALBUQUERQUE, NM 87106
PHONE: 266-5874
SIGNATURE:

LOCATION OF PARCEL

LOT NO: A-3 BLOCK NO: 25
SUBDIVISION: TIMOTEO CHAVEZ ADDITION
STREET ADDRESS: WELLESLEY AVE. N.E.
ALBUQUERQUE, NM
CURRENT ZONING: C-3

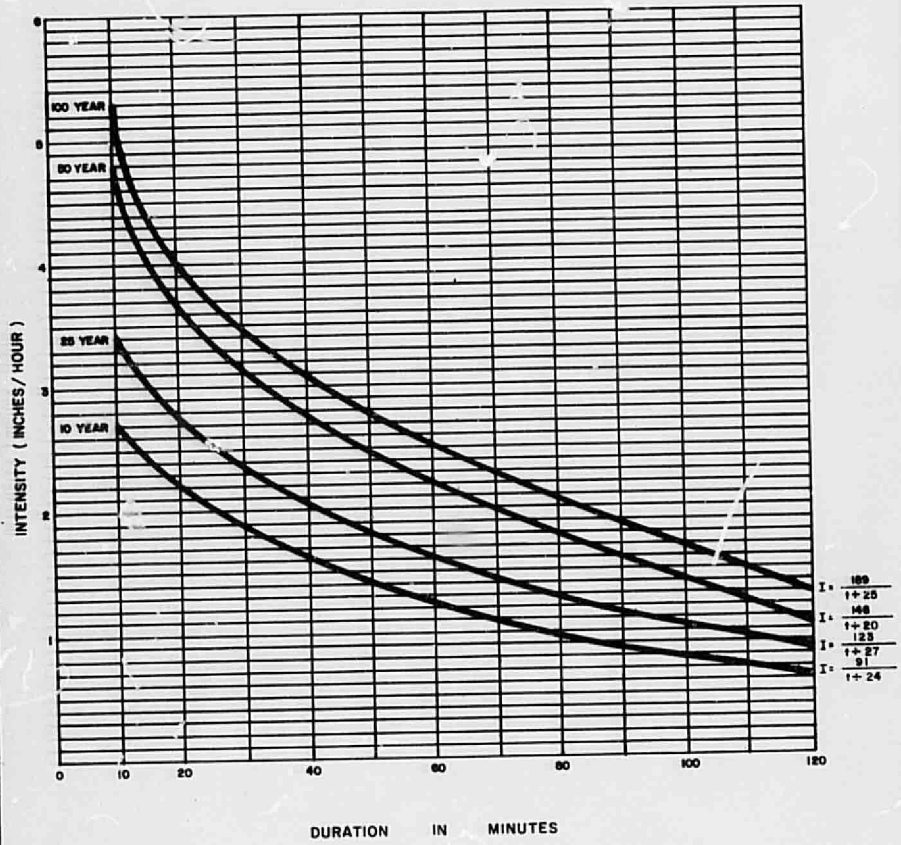
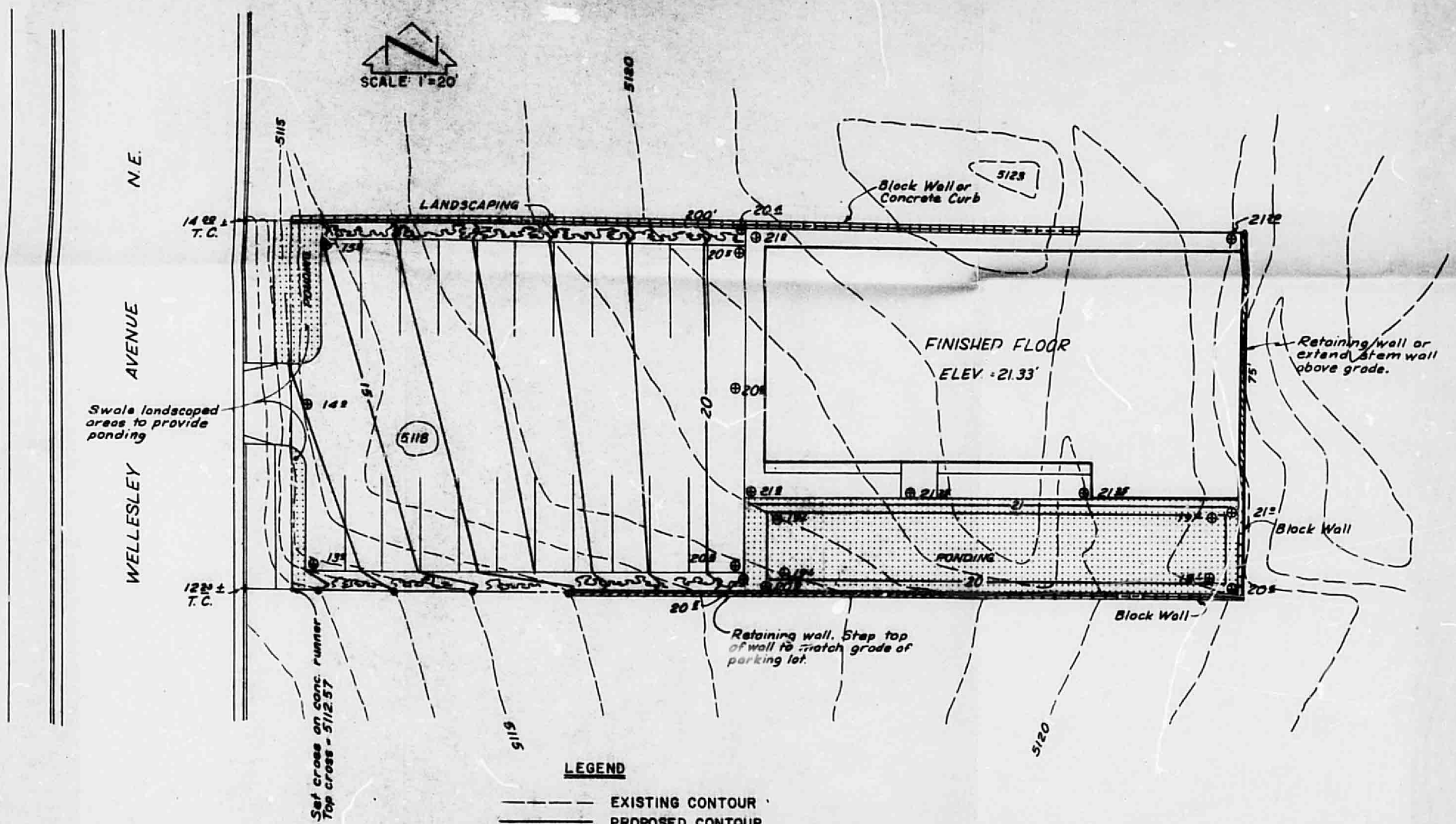


FIGURE 2

INTENSITY DURATION FREQUENCY CURVES



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- SPOT ELEVATION
- BLOCK WALL
- RETAINING WALL
- PONDING
- LANDSCAPING

FIGURE 3
DRAINAGE PLAN

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