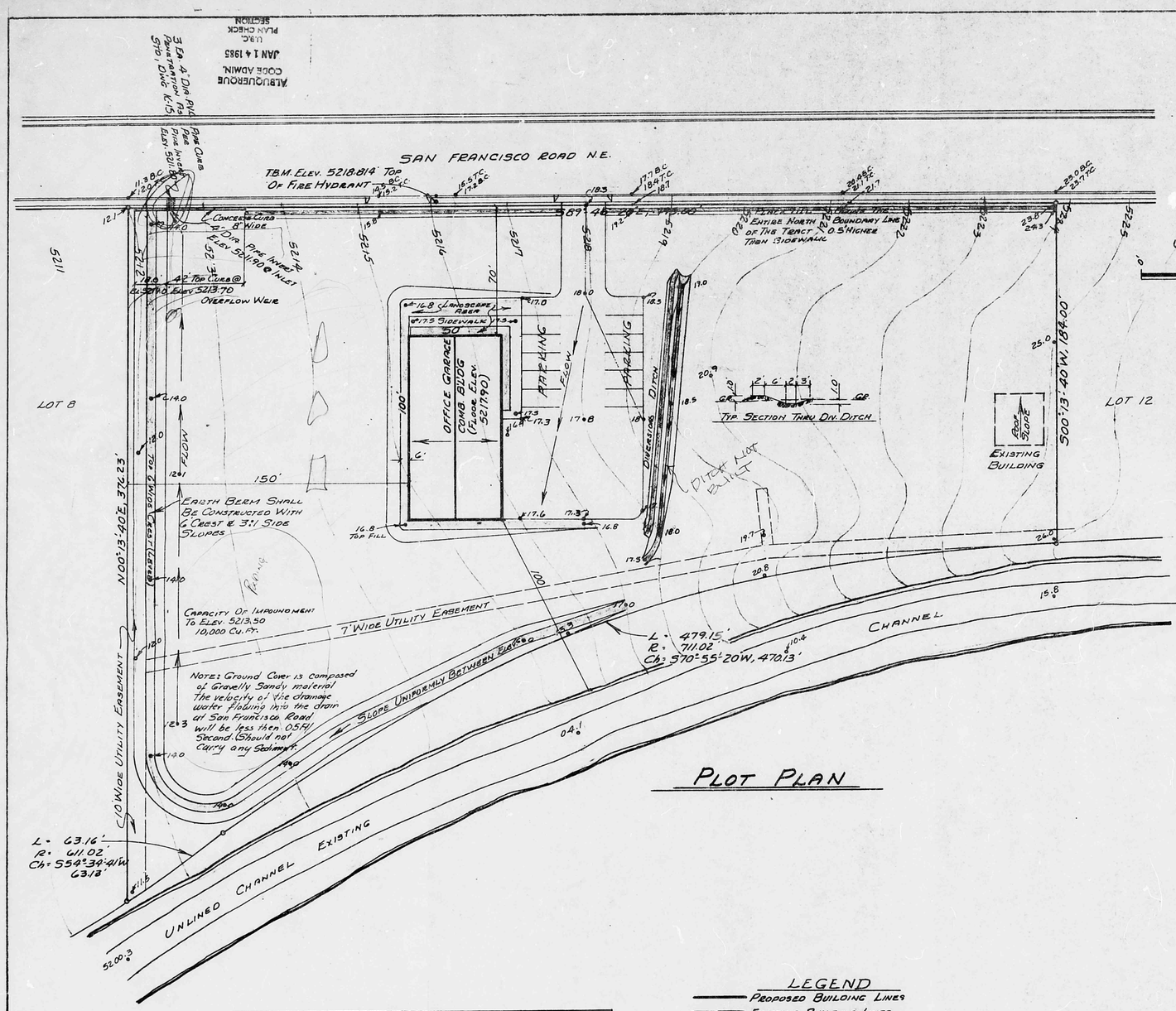
HYDROLOGY

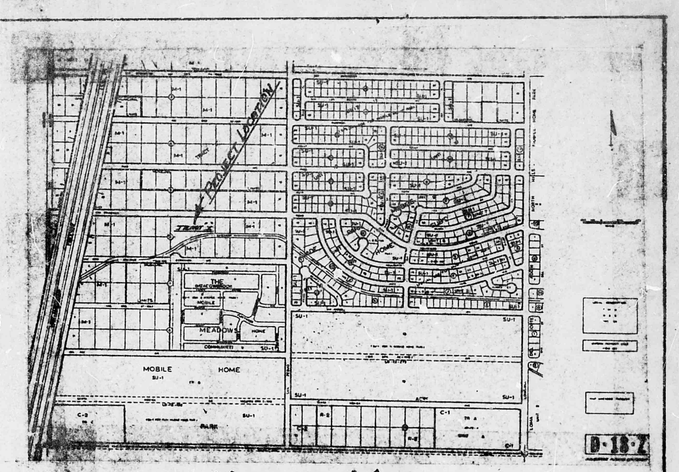
D18/D16
ONE PLAN

D 18/ D16

1 PLAN



PLOT PLAN



VICINITY MAP

CALCULATIONS

1. Ground Cover Information (From U.S. SCS Bernalillo County Soil Survey Plate 21, Gmb (Embudo gravelly fine sandy Loam)
2. Existing Conditions;
   (a) Impervious Area = 728 sq. Ft.
   (b) Pervious Area = 121,172 sq. Ft.
   (c) Total Area = 121,900 sq. Ft. = 2.80 Acres.
3. Developed Conditions;
   (a) Impervious Area;
      (1) Asphalt Pavement = 9,910 sq. Ft.
      (2) Conc. Sidewalks = 525 sq. Ft.
      (3) Building Roofs = 5728 sq. Ft.
      } 16,163 sq. Ft.
   (b) Pervious Area;
      (1) 121,900 sq. Ft. − 16,163 sq. Ft. = 105,737 sq. Ft.

NOTE: This area is located next to flood plane area.

Computations of Run-off (By The Rational Method)

1. Discharge - $Q_{max} = CLA$, Where C Varies, L = 5.18"/Hr. (from The D.P.M. Chart), A = Area in Acres.
2. Volume - $V_{100yr} = CPA(\frac{1}{2})$ where C Varies, P = 2.95" (D.P.M. Plate 22.2, B-1), A = Area in Sq. Ft.

A. Existing Conditions;
   (a) $Q_{max} = (0.34)(5.18")(2.80 ac.) = 4.93$ c.f.s.
   (b) $V_{100yr} = (0.34)(2.95/12)(121,900)(1/2) = 4,231$ Cu. Ft.

B. Developed Conditions, Impervious Area
   (a) $Q_{imp} = 1.00(5.18)\ 0.37$ Ac. $= 1.92$ c.f.s.
   (b) $V_{imp} = 1.00(2.95/12)(16,163) \times 1/2 = 1,630$ Cu. Ft.

   Pervious Area
   (a) $Q_{imp} = 0.34(5.18")(2.43$ Ac.$) = 4.28$ c.f.s.
   (b) $V_{100} = 0.34(2.95/12)(105,737$ sq. Ft.$) \times 1/2 = 3,670$ Cu. Ft.

   Totals
   (a) Q = 1.92 + 4.28 = 6.20 c.f.s. (b) V = 1,630 + 3,670 = 5320 Cu. Ft.

The off-site flows into this tract are from the tract located next to and to the east approximately 1/3 of the run-off from the east tract would run into this tract or about 0.5 c.f.s and or 503 Cu. Ft. (The easterly tract is natural surface). This would increase the total run-off from Tract "X" to
   (a) Q = 6.20 + 0.50 = 6.70 C.f.s. and (b)
   (b) V = 5,320 + 503 = 5,823 Cu. Ft.

The total flow will discharge at the Northwest corner of the tract into San Francisco Road, assumed to be a broad crested weir for purposes of determining the depth of flow.
   (a) $Q = 3.33\ LH^{3/2}$
   $Q = 3.33 \times 42 \times H^{3/2} = 6.70$ c.f.s.
   $H = 0.13$ ft. = 1.5 inches

This Plat Includes the following items
(1) Drainage Plan, Plot Plan
(2) The Legal Description
(3) Bench Mark Data
(4) Calculations
(5) Vicinity Map
(6) Legend.

RECEIVED JAN 14 1985 HYDROLOGY SECTION

NOTE: This Drainage Plan was revised as per review letter from the City of Albuquerque Design Hydrology Section dated January 4, 1985. Revised on January 8, 1985. TM

LEGEND

- Proposed Building Lines
- Existing Building Lines
- Boundary Lines
- Direction Of Flow
- Concrete Curb
- Existing Contours
- Finish Contours
- 5200 Spot Elevations On Existing Surface + 5,200 Ft.
- 21.0 Spot Elevations On Finish Surface + 5,200 Ft.

LEGAL DESCRIPTION

Tract "X", Block 6, Tract "A" Unit A, North Albuquerque Acres, In Section 24, T11N, R3E, N.M.P.M., Bernalillo County, New Mexico. (SP-79-29)

BENCH MARK DATA

B.M. No. T-D18 Located On East Side Of U.S. Hwy. I-25 East Frontage Road, Approximately 0.2 Miles Of The Junction With Pino Ave. (An "X" Chisled On The West Bonnet Bolt Of A Fire Hydrant) Elevation (M.S.L.D. 1929) = 5190.962 Ft.

DRAINAGE PLAN
OFFICE GARAGE, COMBINATION BLDG.

Helweg & Farmer
Transportation Co. Inc.
5700 San Francisco Rd. N.E.
Albuquerque, N.M. 87109

Nov 17, 1984
Revised On Nov 20, 1984
Thomas Y Martinez

By Thomas Y Martinez
N.M. P.E. & L.S. No 3945