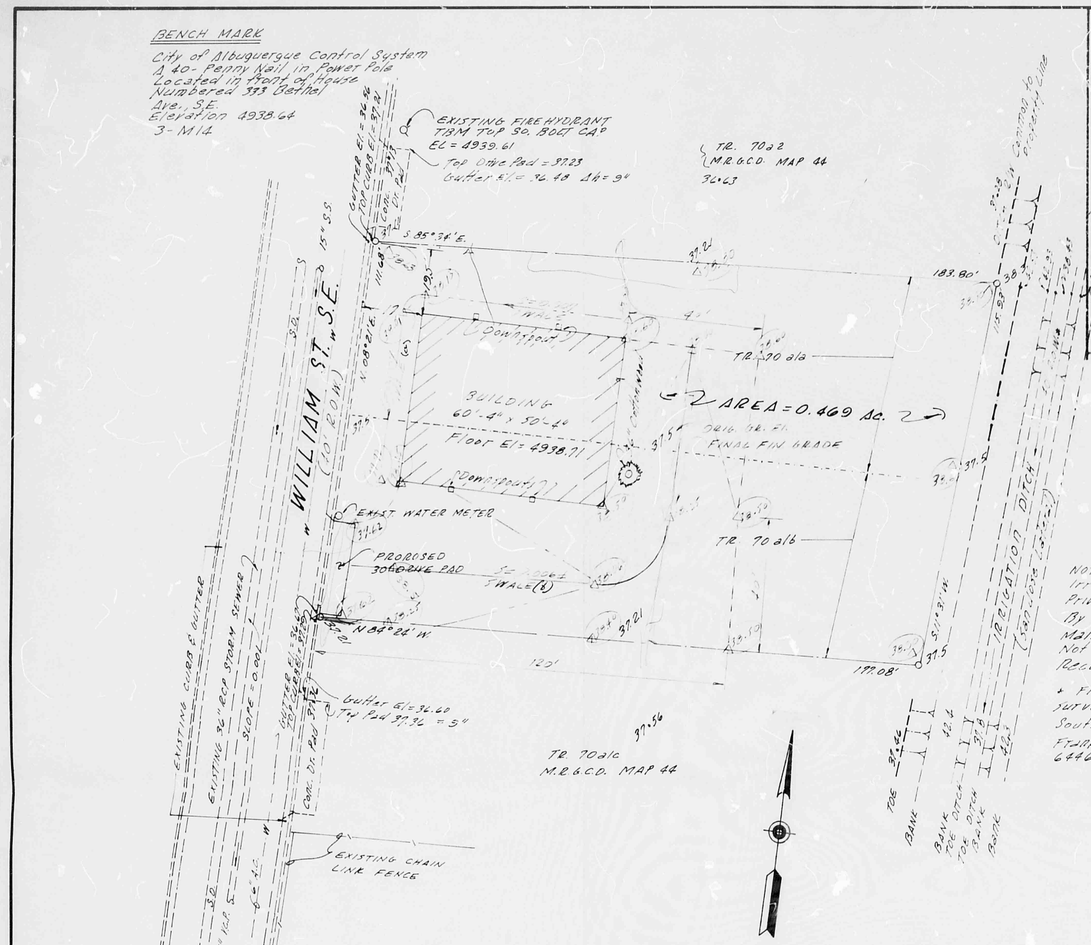
HYDROLOGY

M14/D11
ONE PLAN

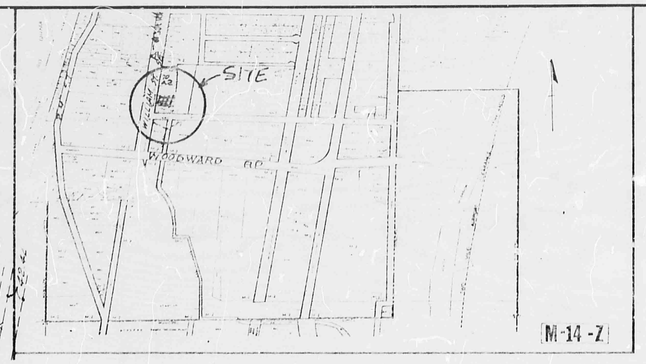
M 14/D 11

1 PLAN



PLOT PLAN

SCALE: 1" = 20'

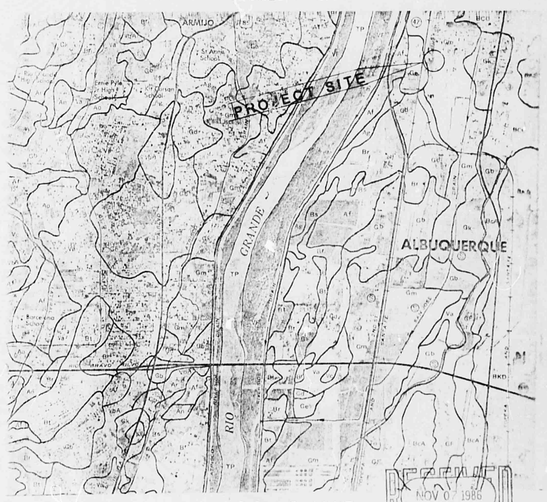


VICINITY MAP M-14-Z

N.T.S.

FLOOD HAZARD MAP

SCALE: 1" = 200'



SOILS MAP

SCALE: 1" = 2000'

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HYDROLOGY SECTION

LEGEND

- EXISTING WATER LINE
- EXISTING SEWER (SANITARY) & MANHOLE
- EXISTING STORM DRAIN & MANHOLE
- SPOT ELEVATION - ORIGINAL
- SPOT ELEVATION - DESIGNATED
- EXISTING CHAIN LINK FENCE
- EXISTING CURB & GUTTER & DROP INLET
- EXISTING FIRE HYDRANT
- PROPERTY LINE - CURRENT
- ORIGINAL PROPERTY BOUNDARY
- DESIGNATED OR PROPOSED STRUCTURES
- TOP CURB OR GUTTER ELEVATION
- NEW PAVEMENT
- EARTH

DRAINAGE COMPUTATIONS

COMPOSITE DRAINAGE:
Area is bounded on East by irrigation ditch which is higher grade than site. See Flood Hazard Map. Land to North & South of site drains Westerly. Site is bounded West by or developed street w/storm drainage.

ONE SITE DRAINAGE:
Site consists of (1) Building = 3,036 ft² (2) - 30x40 Pad - Floating Slab pad - 352 ft² (3) Paved Area - 6112 ft² (4) S.W. Corner 4,119 - 1000 ft² & (5) Undeveloped Area - 9311 ft²

Q = CIA:

Roof:	C = 0.90	A = 3036 ft²	Q = 14.81
Conc.:	C = 0.90	A = 352 ft²	Q = 1.76
Paving:	C = 0.95	A = 6112 ft²	Q = 32.88
Gw & Ldscpg	C = 0.10	A = 1000 ft²	Q = 4.90
Undeveloped	C = 0.40	A = 9311 ft²	Q = 45.60
			100.00

COMPOSITE C:
C = (.90x.1437) + (.90x.0176) + (.95x.3288) + (.10x.0490) + (.40x.4609)
= .1293 + .0158 + .3124 + .0049 + .1844 = 0.65
Q100 = 4.13 ; Q10 = 3.11 (DPM Plate 22.2 D-2) & (DPM Plate 22.2 D-1)
Area = .469 acres = 20430 SF
Q100 = CIA = .65x4.13x.469 = 1.258 cfs
Q10 = CIA = .65x3.11x.469 = 0.946 cfs
Volume: V100 = (.65-.4)·2.2/12 x 20430 = 1,048 CF

SWALES (a) & (b)

(a) T = d/p = (3.0x4.5) - (3.0x4.5)x2 / 13 = 0.25
Vc = 1.486/n · T^2/3 S^1/2 = 1.49/.03 x .25^2/3 .007^1/2
= 41.53 x .4 x .08 = 1.33 cfs
Q100 = 2V = 1.3 x 1.33 = 2.34 cfs

(b) T = d/p = (6x4) - (7.4x4.5)x2 / 9.0 = 0.2
Vc = 1.486/.06 x .2^2/3 x .006^1/2
= 14.30 x .34 x .08 = 0.42 cfs
Q100 = 2V = 8.0 x .42 = 16.16 cfs

EITHER SWALE CAPACITY IS GREATER THAN TOTAL SITE FLOW

Lawrence D. Vigil

PREPARED: SEPT 20, 1986
REVISED : NOV. 6, 1986

LAWRENCE VIGIL & ASSOCIATES, INC. CORRALES, NEW MEXICO		
ALBUQUERQUE, NEW MEXICO		SHEET 1 OF 1
DRAINAGE PLAN		
TRACTS 70a1a & 70a1b		
M.R.G.C.D. MAP 44		
DATE: SEPT. 1986	SCALE: AS SHOWN	
DRAWN: LDV	TRACED: LDV	CHECKED: LDV