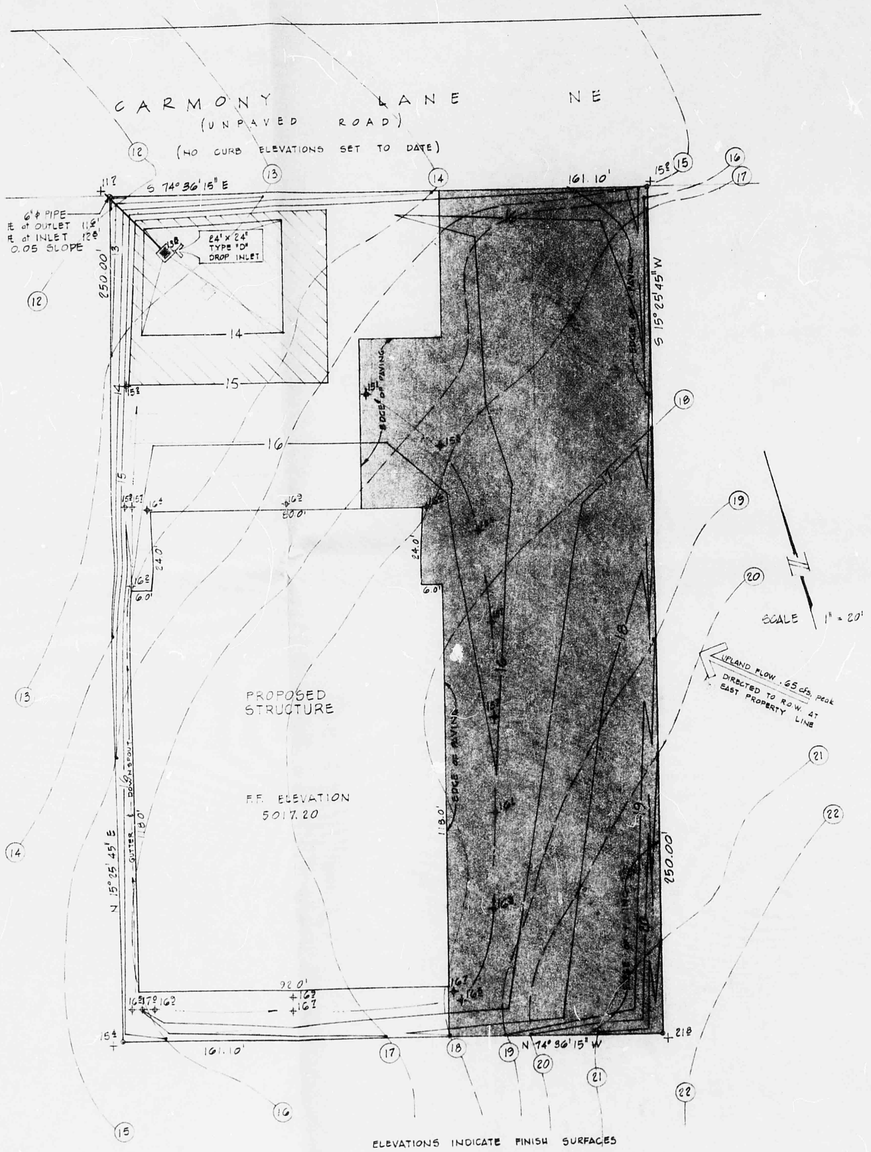
HYDROLOGY

G15/D15
ONE PLAN

G 15-D 15

1 Plan



DRAINAGE & GRADING PLAN SCALE 1" = 20'

CALCULATIONS

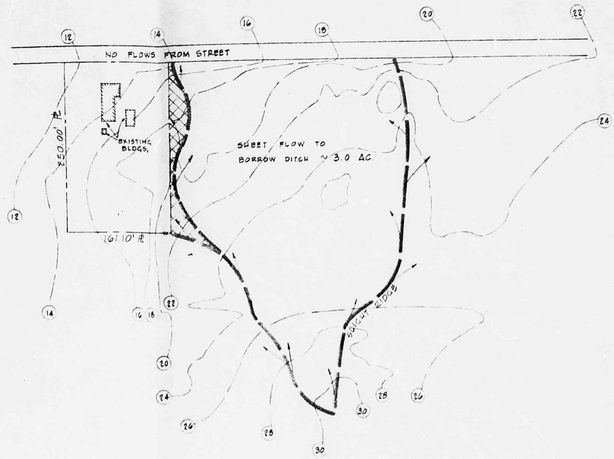
EXISTING SITE CONDITIONS

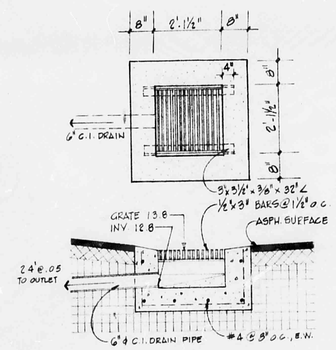
TOTAL AREA: 40275 SQ.FT. ; IMPROVED AREA: 1700 SQ.FT.
SITE DRAINS AS SHEET FLOW FROM SE TO NW AT 0.033 SLOPE
SOIL: Gb. GILA LOAM - SCS SOILS GROUP "B"
SITE CONSIDERED 5% IMPERVIOUS - "C" FACTOR OF .3

T.C. = $0.0078 \frac{215.77}{0.033^{.385}}$ = 1.81 min.
I_{100} = 2.2 × 6.84 × $10^{-.51}$ = 4.7 in/hr.
I_{10} = 4.7 × .657 = 3.1 in/hr.
Q_{10} = (40275/43560) × .3 × 3.1 = .86 cfs
Q_{100} = (40275/43560) × .3 × 4.7 = 1.31 cfs

DEVELOPED RUNOFF

75% OF SITE TO BE PAVED OR ROOFED (C = .72)
Q_{10} = (40275/43560) × .72 × 3.1 = 2.06 cfs
Q_{100} = (40275/43560) × .72 × 4.7 = 3.13 cfs
VOLUME = 40275 × .72 × 2.2/12 = 5317 cu.ft.
DURATION OF RUNOFF (T) = 2(5317)/3.13 = 3398 sec.
FLOW IN 6"ϕ PIPE: Q = .62(.2)π²(32.16)^½ = 0.99 cfs
VOL. OUTFLOW FOR DURATION: .99 × 3398 = 3364 cu.ft.
NET VOLUME TO BE PONDED: 5317 - 3364 = 1953 cu.ft.
POND CAPACITY (V) = $\frac{1}{3}(2688 + 1386 + \sqrt{(2688)(1386)}) = 2001 > 1953$





DROP INLET DETAIL SCALE 3/4" = 1'-0"

NET TRIBUTARY AREA (~.12 AC)

T.C. = $0.0078 \frac{100.77}{0.04^{.385}}$ = .93 min
I_{100} = 2.2 × 6.84 × $0.93^{-.51}$ = 15.88 in/hr.
I_{10} = 15.88 × .657 = 10.43 in/hr.
Q_{10} = .12 × .34 × 10.43 = .43 cfs.
Q_{100} = .12 × .34 × 15.88 = .65 cfs., PEAK

EXISTING UPLAND CONDITIONS

SCALE 1" = 100'

LEGEND

CONTOUR INTERVALS: 2' ON 'EXISTING' MAP
1' ON DEVELOPED PLAN
+ EXISTING SPOT ELEVATIONS
+ PROPOSED SPOT ELEVATIONS
(16) EXISTING CONTOURS
16 PROPOSED CONTOURS
EXISTING STRUCTURES
PONDING AREA

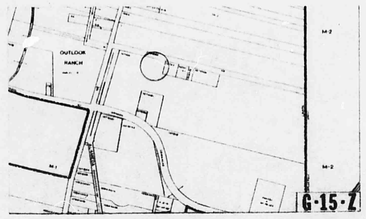
PROPOSED CONTOURS & SPOT ELEVATIONS INDICATE FINISH SURFACES.

FIELD NOTES TAKEN DECEMBER 16, 1982

BENCH MARK

ACS 1-F15: A 40 PENNEY NAIL IN POWER POLE LOCATED .5 MILE SOUTH OF MONTANO OPPOSITE HOUSE #5107 ON THE WEST SIDE OF EDITH.

EL. 4998.563



VICINITY MAP NO SCALE

DRAINAGE PLAN

510 CARMONY ROAD N.W.
A PORTION OF TRACT #4 OF THE LANDS OF J.R. NANCE
ALBUQUERQUE, NEW MEXICO

for DALE SEYMOUR

prepared by

ENCHANTMENT ENGINEERING
9910 INDIAN SCHOOL RD. N.E., SUITE 105
ALBUQUERQUE, NEW MEXICO
294 - 8859
MAY 5, 1983

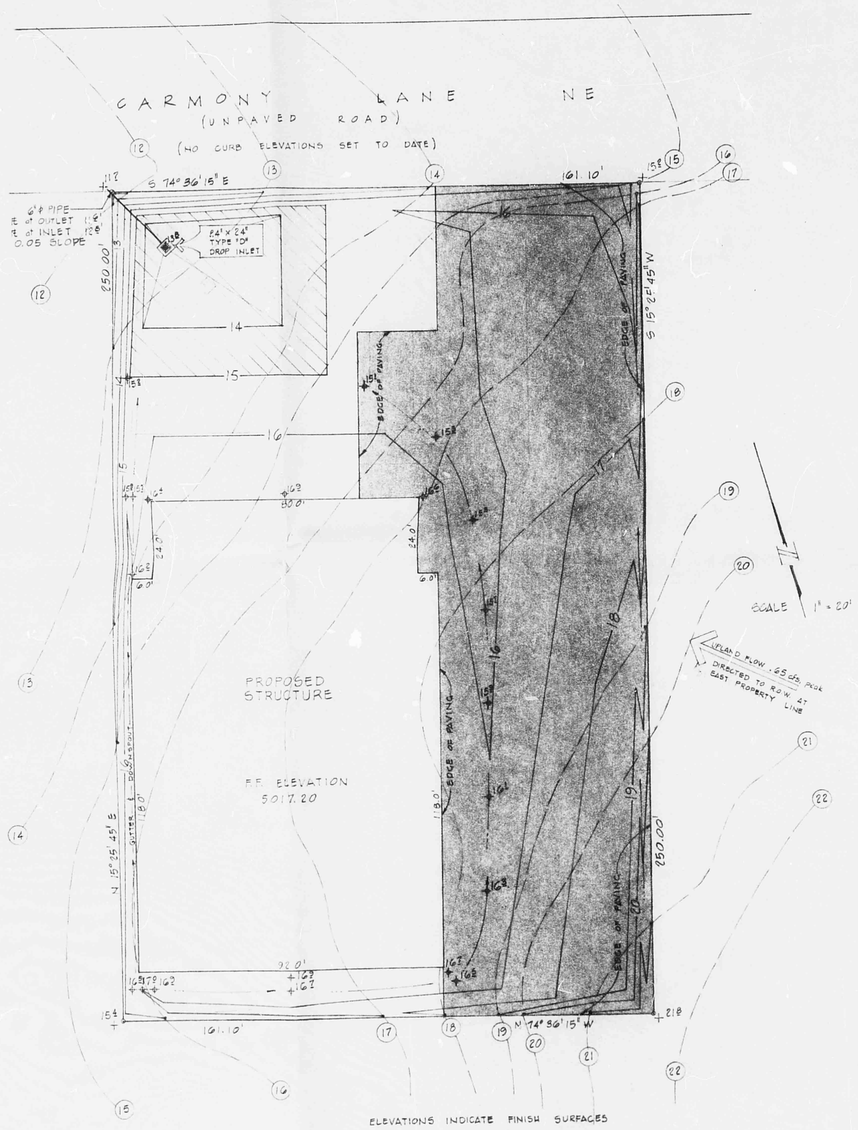
G15/D15

HYDROLOGY

G15/D15
ONE PLAN

G 15-D 15

1 PLAN



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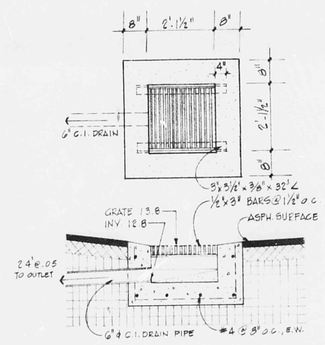

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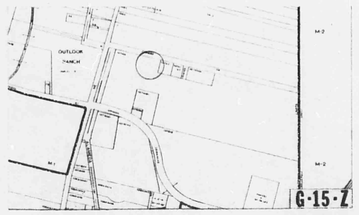
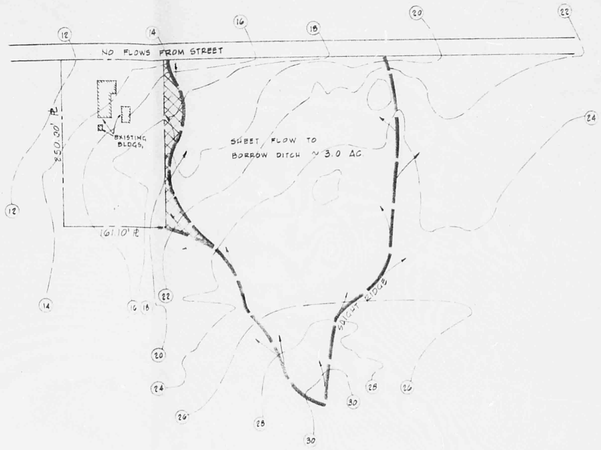


VICINITY MAP NO SCALE



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