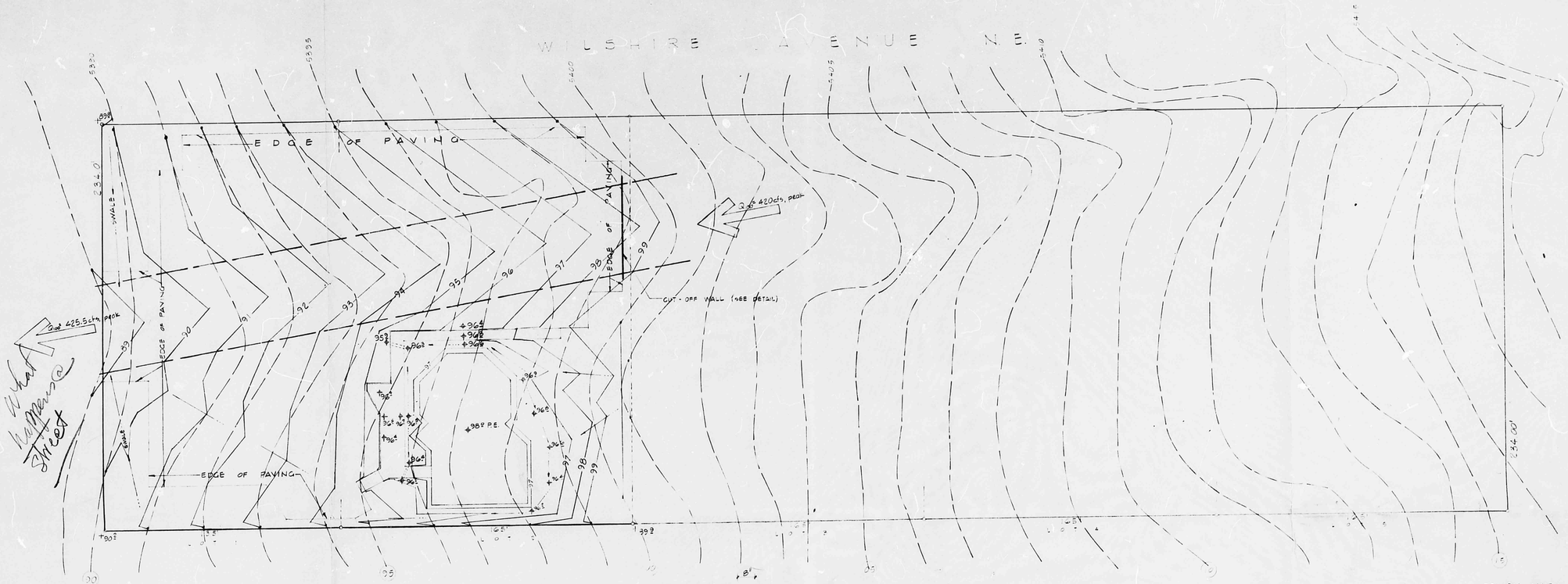
HYDROLOGY

C20/D1
1 PLAN
NO DOCUMENTS

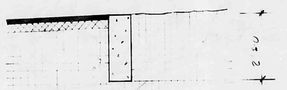
C 20/D1

1 PLAN
NO DOCUMENTS



GRADING & DRAINAGE PLAN

Scale: 1" = 30'



CUT-OFF WALL 1/2" = 1'-0"

BENCH MARK

NGS STA "HEAVEN": A USC&GS BRASS TABLET SET IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND LOCATED AT THE ENTRANCE-WAY TO "GATE OF HEAVEN" CEMETARY 82' SOUTH OF LOS ANGELES ST & 100' EAST OF CEMETARY ENTRY ℄.
ELEV.: 5378.79'

DRAINAGE PLAN

S.E. CORNER WYOMING BLVD N.E. & WILSHIRE AVE. N.E.
LOTS 1 THRU 5, TRACT 3, UNIT 3
NORTH ALBUQUERQUE ACRES,
BERNALILLO COUNTY, NEW MEXICO

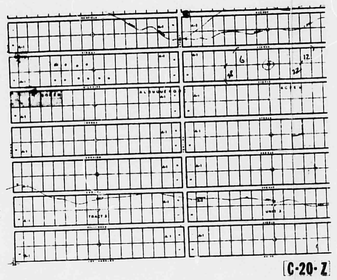
for COVENANT METHODIST CHURCH

prepared by

ENCHANTMENT ENGINEERING
9910 INDIAN SCHOOL RD NE, SUITE 105
ALBUQUERQUE, N.M.
294-8859
JUNE 15, 1983
REVISED, JUNE 29, 1983

VICINITY MAP

No Scale



(C-20-Z)

LEGEND

CONTOUR INTERVALS: 1 ft.

+ EXISTING SPOT ELEVATIONS

+ PROPOSED SPOT ELEVATIONS

—(00)— EXISTING CONTOUR INTERVAL

—(00)— PROPOSED CONTOUR INTERVAL

— · — SWALE

▬ ▬ ▬ LIMIT OF CHANNELIZED FLOW, MAX.

FIELD NOTES TAKEN 12/22/82

NOTE: PROPOSED CONTOURS & SPOT ELEVATIONS INDICATE FINISH SURFACES

CALCULATIONS

EXISTING SITE CONDITIONS — LOTS 1 & 2

SITE DRAINS EAST TO WEST AT A SLOPE OF 0.04 IN 300 RUN
SOIL EmB, HYDROLOGIC SOILS GROUP "B"
TOTAL AREA UNDER CONSIDERATION: 70200 sf (1.61 ac)
NO IMPROVEMENTS ON SITE "C" FACTOR OF .34

$T_c = 0.0078 \frac{300^{0.77}}{0.04^{0.385}} = 2.2$ min., USE 10 min

$I_{100} = 2.35 \times 6.84 \times 10^{-.61} = 4.97$ in/hr

$I_{10} = 4.97 \times .657 = 3.27$ in/hr

$Q_{10} = (70200/43560) \times .34 \times 3.27 = 1.79$ cfs

$Q_{100} = (70200/43560) \times .34 \times 4.97 = 2.72$ cfs

UPLAND CONDITIONS

NET TRIBUTARY AREA ~ 126 ac.*
FLOW ENTERING SITE: Q_{100} = 420 cfs.*
*FIGURES SUPPLIED BY AMAFCA

table 7.2 Revised Requirement of NC Wright D.M.P. Experiment Hunter May 1980.

DEVELOPED RUNOFF

68% OF SITE TO BE PAVED OR ROOFED (C=.68)

$Q_{10} = 70200/43560 \times .68 \times 3.27 = 3.58$ cfs

$Q_{100} = 70200/43560 \times .68 \times 4.97 = 5.45$ cfs, PEAK

FLOW TO BE CALLED ACROSS SITE: 420 cfs + 5.45 cfs = 425.45 cfs, PEAK

SIZE OF CHANNEL REQUIRED TO HANDLE 425 cfs:
50' x 1½', V-CHANNEL
Q = 37.5 sf, n = 0.017, r = 0.75, s = 0.037

$Q_{100} = \frac{1.486}{0.017} \times 37.5 \times 0.075^{2/3} \times 0.037^{1/2} = 520$ cfs > 425 cfs

Q = C i A
= .44 x 1.1 x 128
= 62 cfs.

T_c = 200 min
i = 1.1 in/hr
C = 0.44 for Soil type B

Drainage Approved for AMAFCA Requirements
7/7/83

John M. Fabela 6-15-83
JAB 6-30-83

RECEIVED JUN 30 1983 AMAFCA

C-20/D1
county