HYDROLOGY K15/D31a 1 PLAN

K15/D31a

1 Plan

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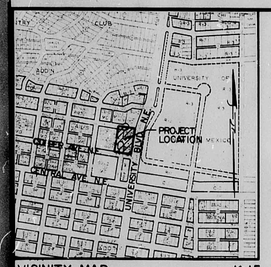


VICINITY MAP K-15

SCALE: 1" = 800'

PROJECT BENCHMARK:
THE STATION MARK IS A STANDARD ACS ALUMINUM CAP STAMPED "2-K15 1983" SET FLUSH WITH THE CURB AT THE INTERSECTION OF CENTRAL AVE. AND UNIVERSITY BLVD.
ELEVATION: 5133.97 FEET (M.S.L.D.)

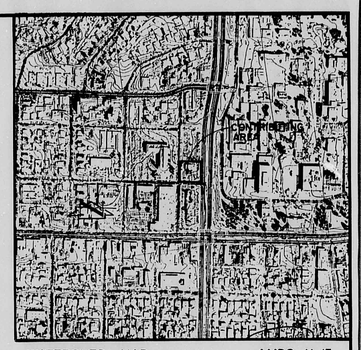
T.B.M.:
TOP OF CURB LOCATED AT THE N.E. CORNER OF EXIST BLDG. AS SHOWN HEREON
ELEVATION: 5133.80 FEET (M.S.L.D.)

LEGAL DESCRIPTION:
TRACT C-1, BLOCK 15 & A PORTION OF BLOCK 16 OF BROWNELL + LAIL'S HIGHLAND ADDITION

DRAINAGE PLAN

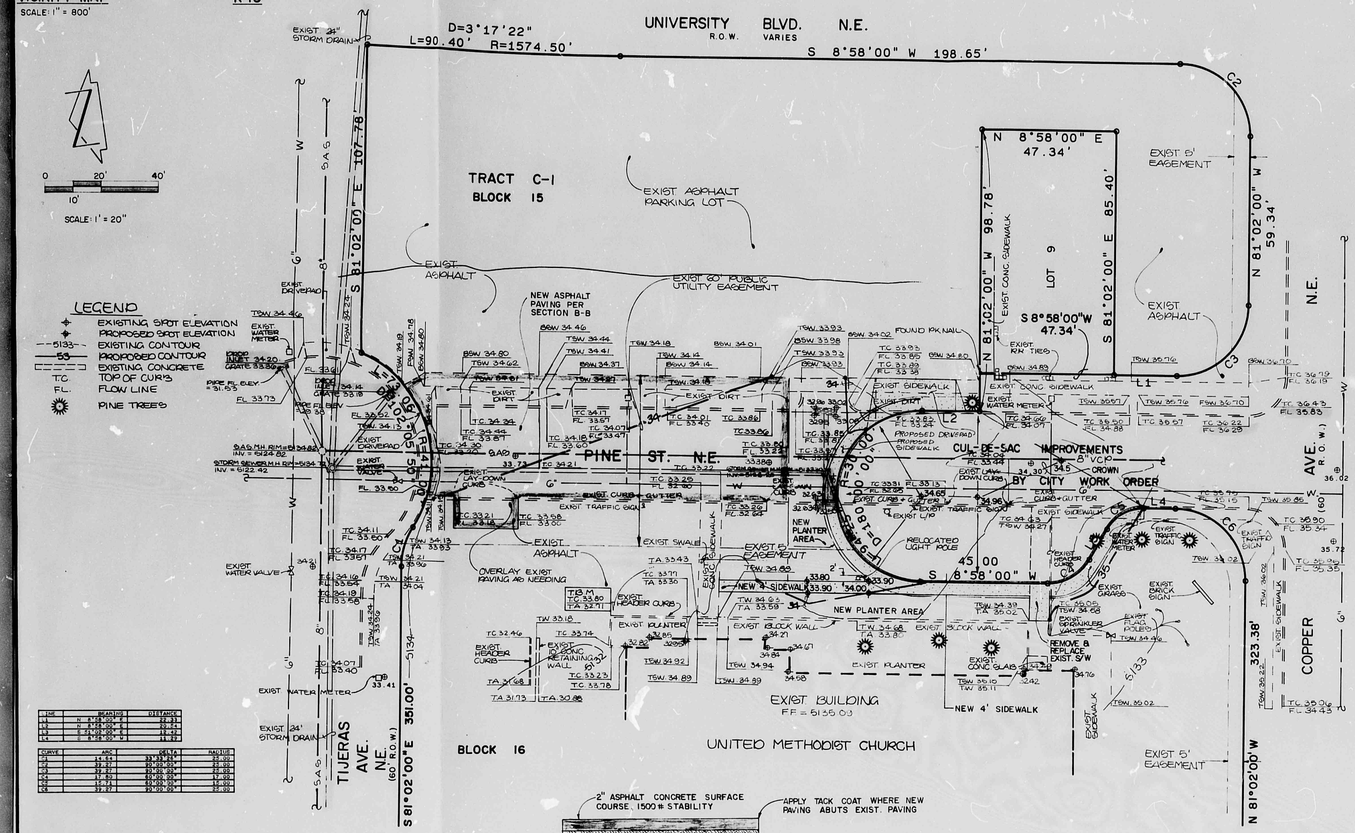
The majority of Pine Street between Tijeras Avenue N.E. and Copper Avenue N.E. has been vacated. A subsequent plat dedicated a cul-de-sac within the Pine Street Alignment, intersecting with Copper Avenue N.E., to serve the United Methodist Church. It is the intent of this plan to develop that cul-de-sac. This will require that the existing public storm drain improvements within the vacated Pine Street N.E. be modified to conform to the new cul-de-sac geometry. The calculations which appear below quantify the runoff contribution to the cul-de-sac. These calculations show that only 4.2 cfs is anticipated which can easily be handled by the installation of a double 'c' storm inlet whereas a portion of Copper Avenue N.E. and adjacent lands to the east will drain to the cul-de-sac, the vacated Pine Street will be regraded and repaved so that they will not contribute runoff to the cul-de-sac. This reduction in contributing area justifies the reduction of the number of storm inlets from the existing to two to one storm inlet.

The calculations which appear below are based upon the developed condition only. These calculations have been performed based upon the City of Albuquerque Development Process Manual, Volume II, combined with the Mayor's Emergency Rule adopted January 14, 1986. These calculations assume that 90% of the contributing area is impervious and that the remaining 10% is pervious, landscaped area. Runoff coefficient of 0.95 and 0.25 have been used in this analysis, respectively.



WATERSHED MAP AMDS K-15

SCALE: 1" = 400'



0 10' 20' 40'

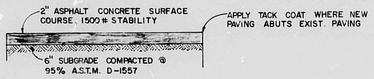
SCALE: 1" = 20'

LEGEND

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- 5133 EXISTING CONTOUR
- 53 PROPOSED CONTOUR
- EXISTING CONCRETE
- T.C. TOP OF CURB
- F.L. FLOW LINE
- PINE TREES

LINE	BEARING	DISTANCE
L1	N 8°58'00" E	20.00
L2	N 8°58'00" E	20.00
L3	S 8°58'00" W	20.00
L4	S 8°58'00" W	11.22

CURVE	ARC	DELTA	RADIUS
C1	90.40	3°17'22"	1574.50
C2	39.27	90°00'00"	25.00
C3	39.27	90°00'00"	25.00
C4	47.93	88°00'00"	32.00
C5	47.93	88°00'00"	32.00
C6	39.27	90°00'00"	25.00



SECTION B-B

SCALE: 1" = 1'-0"

CALCULATIONS

Ground Cover Information

From SCS Bernalillo County Soil Survey,
Plate 31: Cu - Cut and Fill Land
Hydrologic Soil Group: A
Existing Pervious CN = 49 (DPM Plate 22.2 C-2
Open Space: fair condition)

Time of Concentration/Time to Peak

$T_c = 0.0078\ L^{0.77}/S^{0.385}$ (Kirpich Equation)

$T_p = T_c = 10$ min.

Point Rainfall

$P_6 = 2.25$ in. (DPM Plate 22.2 D-1)

Rational Method

Discharge: $Q = CiA$

where C varies
$i = P_6\ (6.84)\ T_c^{-0.51} = 4.76$ in/hr
$P_6 = 2.25$ in (DPM Plate 22.2D-1)
$T_c = 10$ min (minimum)
A = area, acres

Developed Condition

A_{total} = 23,000 sf = 0.5 Ac
Paved and roof area = 20,700 sf (0.9)
Landscaped area = 230 sf (0.1)
C = 0.88 (Weighted average per Emergency Rule, 1/14/86)
$Q_{100} = CiA = 0.88(4.76)(0.5) = 4.2$ cfs

RECEIVED APR 08 1987 HYDROLOGY SECTION

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