PUBLIC WORKS/HYDROLOGY

L18/D48

DRAINAGE CALCULATIONS

I. REFERENCES:

A. CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM) VOL. 2 DESIGN CRITERIA, CHAPTER 22: DRAINAGE, FLOOD CONTROL, AND EROSION CONTROL.

B. SOIL SURVEY OF BERNALILLO COUNTY AND PARTS OF SANDOVAL AND VALENCIA COUNTIES, NEW MEXICO, UNITED STATES DEPT. OF AGRICULTURAL, SOIL CONSERVATION SERVICE.

C. FLOODWAY, FLOOD BOUNDARY AND FLOODWAY MAP, CITY OF ALBUQUERQUE, NEW MEXICO, PANEL 36 OF 50.

D. ZONE ATLAS PAGE L-18-Z.

II. GENERAL INFORMATION:

A. SOIL TYPE (REF. B, SHEET NO. 31) SOIL TYPE IS WHK FINE SANDY LOAM (WuB), HYDROLOGIC SOIL GROUP "B".

B. IMPERVIOUSNESS:

	EXISTING		PROPOSED	
TYPE OF SURFACE	SQ.FT.	ACRES	SQ.FT.	ACRES
BUILDING ROOF	9236	0.2120	2429	0.1908
CONCRETE SURFACES	120	0.0028	1204	0.0276
ASPHALT SURFACES	3787	0.0869	15632	0.3635
LANDSCAPING	-0-	-0-	7735	0.1776
UNDEVELOPED	14057	0.3227	-0-	-0-
SITE TOTAL	27200	0.6244	27200	0.6244

C. "C" FACTOR

1. EXISTING IMPERVIOUS SURFACES

	"C" FACTOR	AREA	C X A
BUILDING ROOF	0.90	0.2120	0.1908
CONCRETE SURFACES	0.95	0.0028	0.0027
ASPHALT SURFACES	0.95	0.0869	0.0826
LANDSCAPING	0.35	-0-	-0-
UNDEVELOPED	0.40	0.3227	0.1291
SITE TOTAL		0.6244	0.4052

EXISTING WEIGHTED "C" FACTOR 0.4052/0.6244 = 0.65

2. PROPOSED IMPERVIOUS SURFACES

	"C" FACTOR	AREA	C X A
BUILDING ROOF	0.90	0.0558	0.0502
CONCRETE SURFACES	0.95	0.0276	0.0262
ASPHALT SURFACES	0.95	0.3635	0.3453
LANDSCAPING	0.35	0.1776	0.0444
UNDEVELOPED	0.40	-0-	-0-
SITE TOTAL		0.6244	0.4661

PROPOSED WEIGHTED "C" FACTOR 0.4661/0.6244 = 0.75

D. 100 YEAR RAINFALL, 6 HOUR, P(6): (SOIL CONSERVATION HAND BOOK); P(6) = 2.30 INCHES, (INTERPOLATION VALUE)

E. TIME OF CONCENTRATION, TC: TC = 10 MINUTES (USE 10 MINUTES (MINIMUM VALUE) FOR CALCULATIONS).

F. RAINFALL INTENSITY, I; (SEE REF. A, PLATE 22.2 D-2)
I = P(6) X 6.84 X TC EXP. (-0.51)
= 2.30 X 6.84 X 10 EXP. (-0.51)
= 4.98 INCHES

III. PEAK DISCHARGE: (RATIONAL METHOD)

A. EXISTING CONDITION
Q(100) = 0.65 X 4.98 X 0.6244 = 1.97 CFS
Q(10) = 0.657 X 1.97 = 1.29 CFS (REF. A, PLATE 22.2D-1)

B. PROPOSED CONDITION:
Q(100) = 0.75 X 4.98 X 0.6244 = 2.28 CFS
Q(10) = 0.657 X 2.28 = 1.50 CFS (REF. A, PLATE 22.2D-1)

IV. VOLUME CALCULATION:

A. EXISTING CONDITION
Vm = "C" X AREA X P(6)
= 0.65 X 0.6244 X 2.30 X 43560/12
= 3389 CU. FT.

B. PROPOSED CONDITION:
Vp = "C" X AREA X P(6)
= 0.75 X 0.6244 X 2.30 X 43560/12
= 3910 CU. FT.

V. FLOOD INFORMATION:
A PORTION OF THE PROPOSED SITE IS SHOWN TO LIE WITHIN ZONE AO (DEPTH 1) (REF. C, PANEL 36 OF 50) HOWEVER RECENT STORM SEWER INFRASTRUCTURE IMPROVEMENTS PROBABLY CONTRADICT THIS INDICATION.

VI. OFF-SITE FLOWS:

A. OFF-SITE FLOWS FROM THE UNDEVELOPED PROPERTY TO THE SOUTH WILL BE ACCEPTED AND PASSED THROUGH THIS SITE. CONTRIBUTORY AREA IS 0.25 ACRES.

B. PEAK DISHARGE OFF-SITE FLOWS:
Q(100) = 0.40 X 4.98 X 0.25 = 0.49 CFS
Q(10) = 0.657 X 0.49 = 0.32 CFS (REF. A, PLATE 22.2 D-1)

C. VOLUME CALCULATION OFF-SITE FLOWS:
V = "C" X AREA X P(6)
= 0.40 X 0.25 X 2.30 X 43560/12
= 835 CU. FT.

VII. CONCLUSIONS:

A. THIS IS THE SITE OF A RECENTLY RAZED COMMERCIAL GREENHOUSE FACILITY. THE EXISTING SITE DRAINAGE IS TOWARD THE NORTH INTO ROSS SE AND EAST ONTO PRIVATE PROPERTY.

B. WE WILL BE PERMITTED FREE DISCHARGE INTO ROSS AVENUE.

VIII. CONSTRUCTION NOTES:

A. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.

B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION.

C. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION CONTRACTOR MUST CONTACT LINE LOCATING SERVICE AT 765-1234 FOR LOCATION OF EXISTING UTILITIES.

D. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

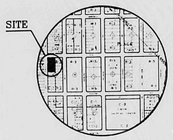
E. BACKFILL COMPACTION SHALL BE ACCORDING TO ARTERIAL STREET USE.

F. MAINTENANCE OF THIS FACILITY SHALL BE THE RESONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

SYMBOLS LEGEND

EXISTING CONTOUR LINE
DESIGN CONTOUR LINE
EXISTING SPOT ELEVATION
DESIGN SPOT ELEVATION

TC TOP OF CURB
TA TOP OF ASPHALT
TCP TOP OF CONCRETE PAVING
FL FLOWLINE
FG FINISH GRADE
TBM TEMPORARY BENCHMARK, CENTER OF MANHOLE ELEV. 5286.80 MSL (REFERENCE CITY A.S.C. BENCHMARK 18-L17)
TSW TOP OF SIDEWALK



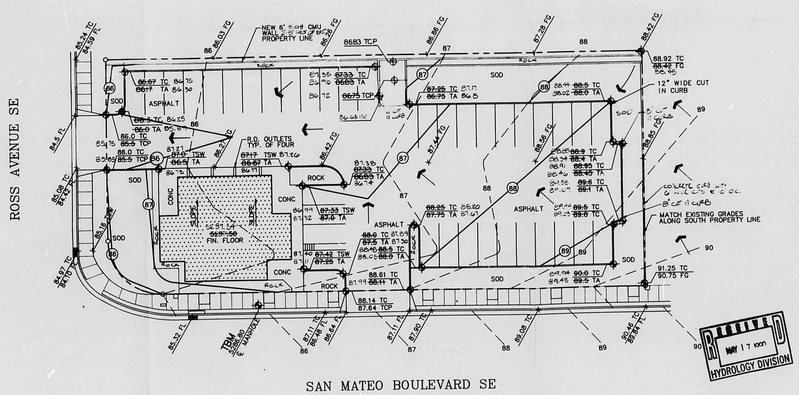
VICINITY MAP
ZONE ATLAS MAP #L-18-Z

LEGAL DESCRIPTION:
LOT 1-A, (FORMERLY LOTS 1 THRU 5)
BLOCK 17, VIRGINIA PLACE ADDITION

I HEREBY CERTIFY THAT I AM A LICENSED ENGINEER # 1872 AND HAVE CHECKED THE FINISH FLOOR & SITE IMPROVEMENTS ELEVATIONS AND FOUND THEM TO BE IN SUBSTANTIAL COMPLIANCE AS SHOWN HEREON.

BLAKE'S LOTABURGER RESTAURANT
PREPARED FOR BLAKE GRANGER
1300 SAN MATEO BOULEVARD SE, ALBUQUERQUE, NEW MEXICO

ARCHITECTURE BY
THE KEN HOVEY DESIGN GROUP INC
(505) 255-9400 • 135 JEFFERSON STREET, SUITE B, ALBUQUERQUE, N.M. 87108



GRADING & DRAINAGE PLAN SCALE: 1"=20.0'

0 5' 10' 20' 40'

RECEIVED
MAY 17 1990
HYDROLOGY DIVISION

JOB NO:	0922
DATE:	16 OCTOBER 1989
REVISIONS	
1	20 NOVEMBER 1989
2	16 APIL 1990

SHEET C2

R# 28 DATE 3-5-02 OP EP

CITY OF ALBUQUERQUE

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PLANS/PLATS ON FILE

FILE DESC: L18/D48

PLANS/PLATS 1

E 30 D 24 C 20 B 16 A 12 CITY OF ALBUQUERQUE C D F