

# DRAINAGE CALCULATIONS

- I. REFERENCES:
  - A. SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA FOR THE CITY OF ALBUQUERQUE, NEW MEXICO IN COOPERATION WITH BERNALILLO COUNTY, NEW MEXICO AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY.
  - B. FLOODWAY, FLOOD BOUNDARY AND FLOODWAY MAP, CITY OF ALBUQUERQUE, NEW MEXICO, PANEL 38 OF 50.
  - C. ZONE ATLAS PAGE L-18-2.

- II. GENERAL INFORMATION:
  - A. SITE LIES IN ZONE THREE(3) (SEE REF. A, PAGE A-1)
  - B. 100 YEAR, 6 HOUR RAINFALL CRITERIA
  - C. TIME OF CONCENTRATION,  $T_c = 0.2$  hr (12 MINUTES).

III. IMPERVIOUSNESS:	TYPES OF SURFACES	EXISTING SQ. FT.	ACRES	PROPOSED SQ. FT.	ACRES
A	UNDEVELOPED	0	0.0000	0	0.0000
B	LANDSCAPING	0	0.0000	2,822	0.0648
C	COMPACTED/VACANT	6,667	0.1531	0	0.0000
D	IMPERVIOUS	5,478	0.1258	9,323	0.2140
	TOTAL AREA (TA)	12,145	0.2788	12,145	0.2788

IV. PEAK DISCHARGE 100 YEAR (REF. A, TABLE A-9):	TYPES OF SURFACES	EXISTING CFS/Ac	$Q_p(100)$	PROPOSED CFS/Ac	$Q_p(100)$
A	UNDEVELOPED	1.87	0.00	1.87	0.00
B	LANDSCAPING	2.60	0.00	2.60	0.17
C	COMPACTED/VACANT	3.45	0.53	3.45	0.00
D	IMPERVIOUS	5.02	0.63	5.02	1.07
	PEAK DISCHARGE FROM SITE		1.16 CFS		1.24 CFS

V. PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):	TYPES OF SURFACES	EXISTING CFS/Ac	$Q_p(10)$	PROPOSED CFS/Ac	$Q_p(10)$
A	UNDEVELOPED	0.58	0.00	0.58	0.00
B	LANDSCAPING	1.19	0.00	1.19	0.08
C	COMPACTED/VACANT	2.00	0.31	2.00	0.00
D	IMPERVIOUS	3.39	0.43	3.39	0.73
	PEAK DISCHARGE FROM SITE		0.73 CFS		0.80 CFS

VI. WEIGHTED "E" 100 YEAR, 6 HR. (REF. A, TABLE A-8):	TYPES OF SURFACES	EXISTING E	ExA/TA	PROPOSED E	ExA/TA
A	UNDEVELOPED	0.66	0.00	0.66	0.00
B	LANDSCAPING	0.92	0.00	0.92	0.21
C	COMPACTED/VACANT	1.29	0.71	1.29	0.00
D	IMPERVIOUS	2.36	1.06	2.36	1.81
	WEIGHTED "E" FACTOR		1.77 IN		2.03 IN

VII. VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):	EXISTING	PROPOSED
	$1.77 \times 0.2788/12 = 0.0412$ AC. FT.	$2.03 \times 0.2788/12 = 0.0471$ AC. FT.
	1794 CU. FT.	2050 CU. FT.

## EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION. HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:
- ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF TO LEAVE THE SITE AND ENTERING ADJACENT PROPERTY.
  - ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER THE PUBLIC STREETS.
  - THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY OR ALL SEDIMENT WITHIN THE PUBLIC STREETS THAT HAVE BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

## FLOOD INFORMATION

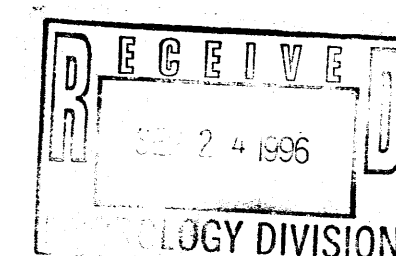
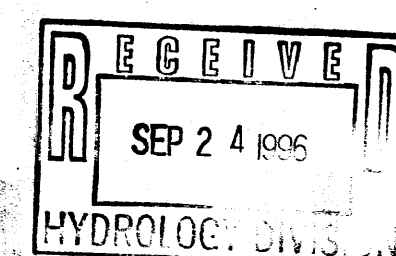
This site lies in a Zone C Flood Zone, Areas of minimal flooding as shown on FIRM Panel 38 of 50.

## NOTE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
2. All work detailed in this plan to be performed, except as otherwise stated or provided herein, shall be constructed in accordance with City of Albuquerque Interim Standard Specification for Public Works Construction 1985.
3. Two work days prior to any excavation, contractor must contact line locating services at (505) 260-1990 for locating existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to arterial street use.
6. Maintenance of France drain shall be the responsibility of the Owner of property served.

## GENERAL NOTES:

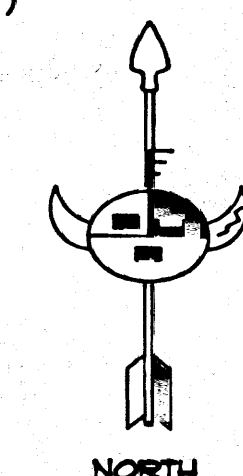
- A. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.



# GRADING & DRAINAGE PLAN

SCALE: 1"=20.0'

0 5' 10' 20' 40'



GRADING & DRAINAGE  
SHOWING

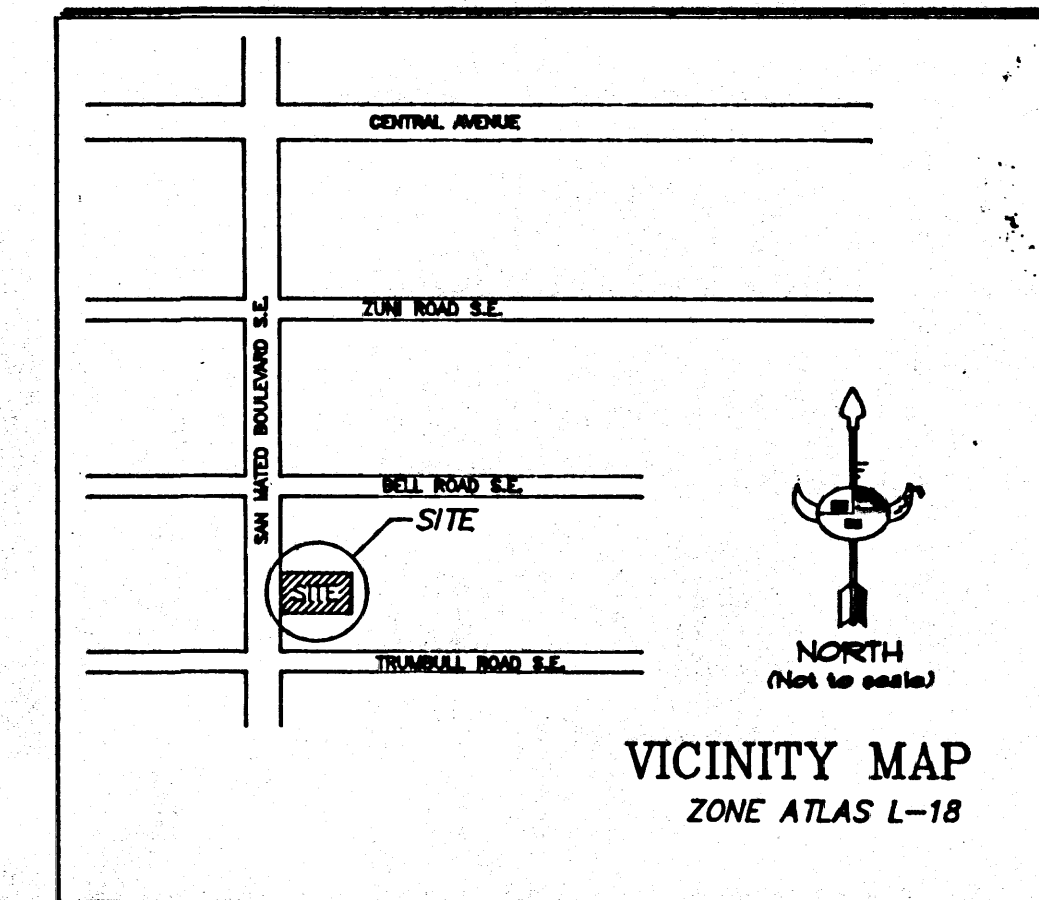
LOT 8A, BLOCK 9

BARON BURG HEIGHTS SUBDIVISION

WITHIN

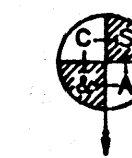
SECTION 25, T. 5 N., R. 2 E., N.M.P.M.

ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO  
NOVEMBER, 1995



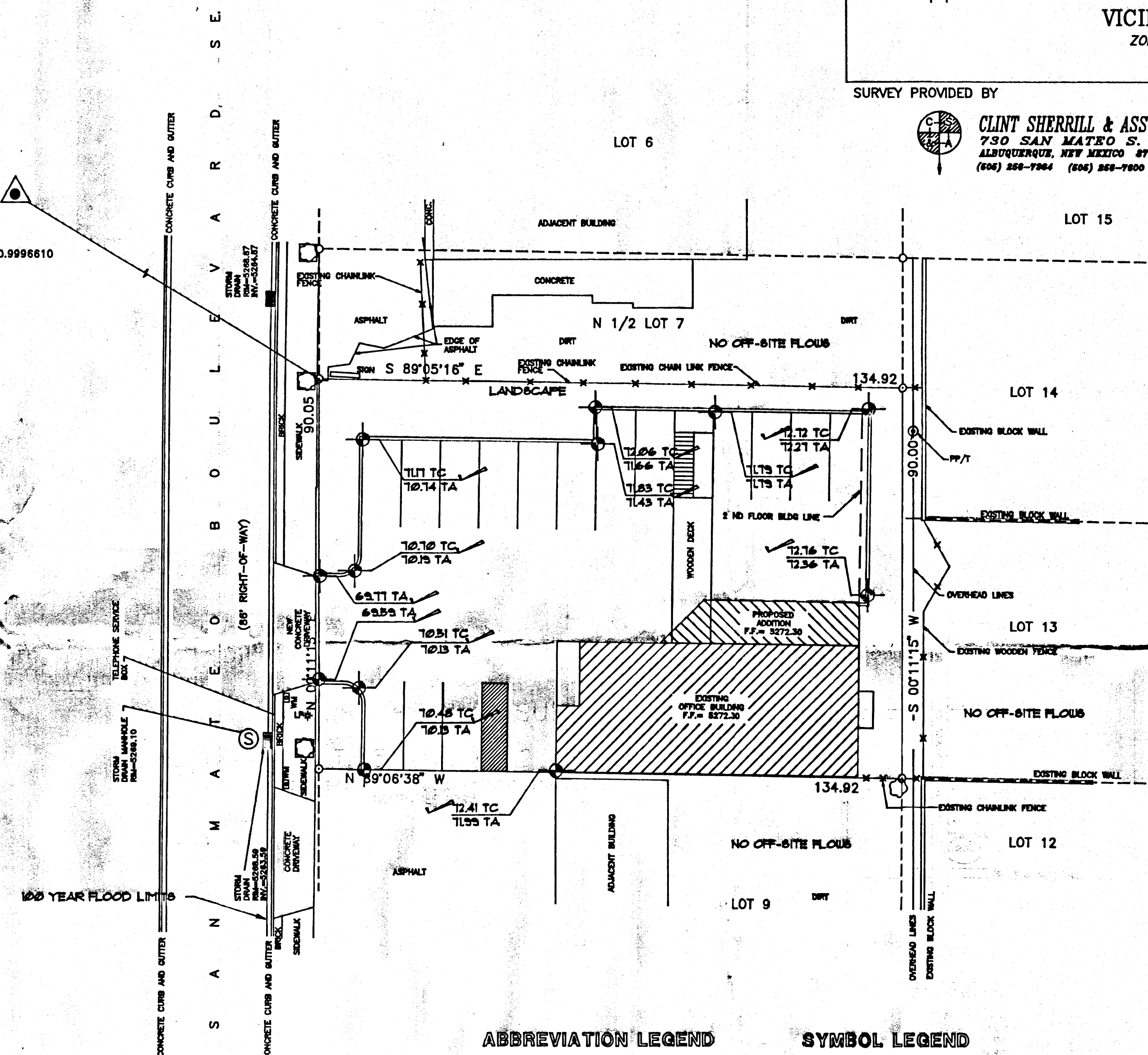
VICINITY MAP  
ZONE ATLAS L-18

SURVEY PROVIDED BY



CLINT SHERRILL & ASSOC.  
7500 SAN MATEO S. E.  
ALBUQUERQUE, NEW MEXICO 87104  
(505) 266-7984 (505) 266-7900 FAX

A.C.S. BRASS CAP  
13-K-17  
X = 397770.80  
Y = 1481930.06  
ELEV = 5247.571  
GROUND TO GRID = 0.9996610  
A.G. = 0011'47"  
NAD 1927



## BENCH-MARK INFORMATION

TEMPORARY BENCH-MARK BEING THE FINISHED FLOOR OF EXISTING OFFICE BUILDING BEARS ELEVATION 5272.30 MSL. REFERENCE TO CITY BENCH-MARK 13-KT HAVING ELEVATION 5247.571

## CERTIFICATION

I, R.G. Lee, Jr., Registered Professional Engineer hereby certify that the improvements shown hereon are in substantial compliance with the approved drainage plan.

*R.G. Lee, Jr.*  
R.G. LEE, JR.  
Date 9/24/96

AS-BUILT ELEVATIONS PROVIDED BY CLINT SHERRILL & ASSOC.

## ABBREVIATION LEGEND

TOP OF INLET GRATE - TG  
TOP OF CURB - TC  
TOP OF ASPHALT - TA  
FLOWLINE - FL

## SYMBOL LEGEND

EXISTING CONTOUR  
EXISTING CONTOUR  
AS-BUILT DESIGNED SPOT ELEVATION  
PROPERTY LINE  
EASEMENT LINE  
FLOW DIRECTION  
EXISTING SPOT ELEVATION  
POWER POLE WITH TRANSFORMER (PP/T)  
EXISTING FENCE (AS LABELED)  
EXISTING METAL GRATE W/TREE  
EXISTING TREE  
EXISTING SEWER MANHOLE (AS LABELED)  
EXISTING LIGHT POLE (LP)



JOB NO. 050  
DATE: SEPT 1996  
PREPARED BY: [Signature]  
DRAWN BY: [Signature]  
CHECKED BY: R.G. LEE, JR.

SHEET TITLE  
GRADING & DRAINAGE PLAN

MILLER AND ASSOCIATES  
ARCHITECTS  
2823 RICHMOND NE  
ALBUQUERQUE, NEW MEXICO 87110  
PHONE 266-1100

CLINT SHERRILL & ASSOC.  
ADDITION AND REMODEL  
ALBUQUERQUE, NEW MEXICO

JOB TITLE  
01



## DRAINAGE CALCULATIONS

### I. REFERENCES:

- SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA FOR THE CITY OF ALBUQUERQUE, NEW MEXICO IN COOPERATION WITH BERNALILLO COUNTY, NEW MEXICO AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY.
- FLOODWAY, FLOOD BOUNDARY AND FLOODWAY MAP, CITY OF ALBUQUERQUE, NEW MEXICO, PANEL 36 OF 50.
- ZONE ATLAS PAGE L-18

### II. GENERAL INFORMATION:

- SITE LIES IN ZONE 7 (S) (SEE REF. A, PAGE A-1)
- 100 YEAR, 6 HOUR RAINFALL CRITERIA
- TIME OF CONCENTRATION,  $T_c$ ;  $T_c = 0.2$  hr (12 MINUTES).

### III. IMPERVIOUSNESS:

TREATMENT TYPE	TYPES OF SURFACES	EXISTING SQ. FT.	ACRES	PROPOSED SQ. FT.	ACRES
A	UNDEVELOPED	0	0.0000	0	0.0000
B	LANDSCAPING	0	0.0000	2,822	0.0648
C	COMPACTED/VACANT	6,667	0.1531	0	0.0000
D	IMPERVIOUS	5,478	0.1258	9,323	0.2140
	TOTAL AREA (TA)	12,145	0.2788	12,145	0.2788

### IV. PEAK DISCHARGE 100 YEAR (REF. A, TABLE A-9):

TREATMENT TYPE	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(100)	PROPOSED CFS/Ac	Qp(100)
A	UNDEVELOPED	1.87	0.00	1.87	0.00
B	LANDSCAPING	2.60	0.00	2.60	0.17
C	COMPACTED/VACANT	3.45	0.53	3.45	0.00
D	IMPERVIOUS	5.02	0.63	5.02	1.07
	PEAK DISCHARGE FROM SITE		1.16 CFS		1.24 CFS

### V. PEAK DISCHARGE 10 YEAR (REF. A, TABLE A-9):

TREATMENT TYPE	TYPES OF SURFACES	EXISTING CFS/Ac	Qp(10)	PROPOSED CFS/Ac	Qp(10)
A	UNDEVELOPED	0.58	0.00	0.58	0.00
B	LANDSCAPING	1.19	0.00	1.19	0.08
C	COMPACTED/VACANT	2.00	0.31	2.00	0.00
D	IMPERVIOUS	3.39	0.43	3.39	0.73
	PEAK DISCHARGE FROM SITE		0.73 CFS		0.80 CFS

### VI. WEIGHTED "E" 100 YEAR, 6 HR. (REF. A, TABLE A-8):

TREATMENT TYPE	TYPES OF SURFACES	EXISTING E	ExA/TA	PROPOSED E	ExA/TA
A	UNDEVELOPED	0.66	0.00	0.66	0.00
B	LANDSCAPING	0.92	0.00	0.92	0.21
C	COMPACTED/VACANT	1.29	0.71	1.29	0.00
D	IMPERVIOUS	2.36	1.06	2.36	1.81
	WEIGHTED "E" FACTOR		1.77 IN		2.03 IN

### VII. VOLUME 100 YEAR, V(360) (REF. A, TABLE A-8):

EXISTING	$1.77 \times 0.2788/12 = 0.0412$ AC. FT.
PROPOSED	$2.03 \times 0.2788/12 = 0.0471$ AC. FT.
	$= 1794$ CU. FT.
	$= 2050$ CU. FT.

## EROSION CONTROL MEASURES:

THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR MANAGEMENT OF STORM RUNOFF DURING CONSTRUCTION; HE SHALL INSURE THAT THE FOLLOWING MEASURES ARE TAKEN:

- ADJACENT PROPERTY SHALL BE PROTECTED AT ALL TIMES BY CONSTRUCTION OF BERMS, DIKES, SWALES, PONDS AND OTHER TEMPORARY GRADING AS REQUIRED TO PREVENT STORM RUNOFF TO LEAVE THE SITE AND ENTERING ADJACENT PROPERTY.
- ADJACENT PUBLIC RIGHT-OF-WAYS SHALL BE PROTECTED AT ALL TIMES FROM STORM WATER RUNOFF FROM THE SITE. NO SEDIMENT BEARING WATER SHALL BE PERMITTED TO ENTER THE PUBLIC STREETS.
- THE CONTRACTOR SHALL IMMEDIATELY AND THOROUGHLY REMOVE ANY OR ALL SEDIMENT WITHIN THE PUBLIC STREETS THAT HAVE BEEN ERODED FROM THE SITE AND DEPOSITED THERE.

## FLOOD INFORMATION

This site lies in a Zone C Flood Zone, Areas of minimal flooding as shown on FIRM Panel 36 of 50.

## NOTE TO CONTRACTOR

- An excavation/construction permit will be required before beginning any work within the City right-of-way. Approved copy of this plan must be submitted at the time of application for permit.
- All work detailed in this plan to be performed, except as otherwise stated or provided herein, shall be constructed in accordance with City of Albuquerque Interim Standard Specification for Public Works Construction 1985.
- Two work days prior to any excavation, contractor must contact line locating Services at (505) 260-1990 for locating existing utilities.
- Prior to construction, the contractor shall excavate and verify the horizontal and vertical location of all construction. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
- Backfill compaction shall be according to arterial street use.
- Maintenance of France drain shall be the responsibility of the Owner of property served.

## GENERAL NOTES:

- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES, AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

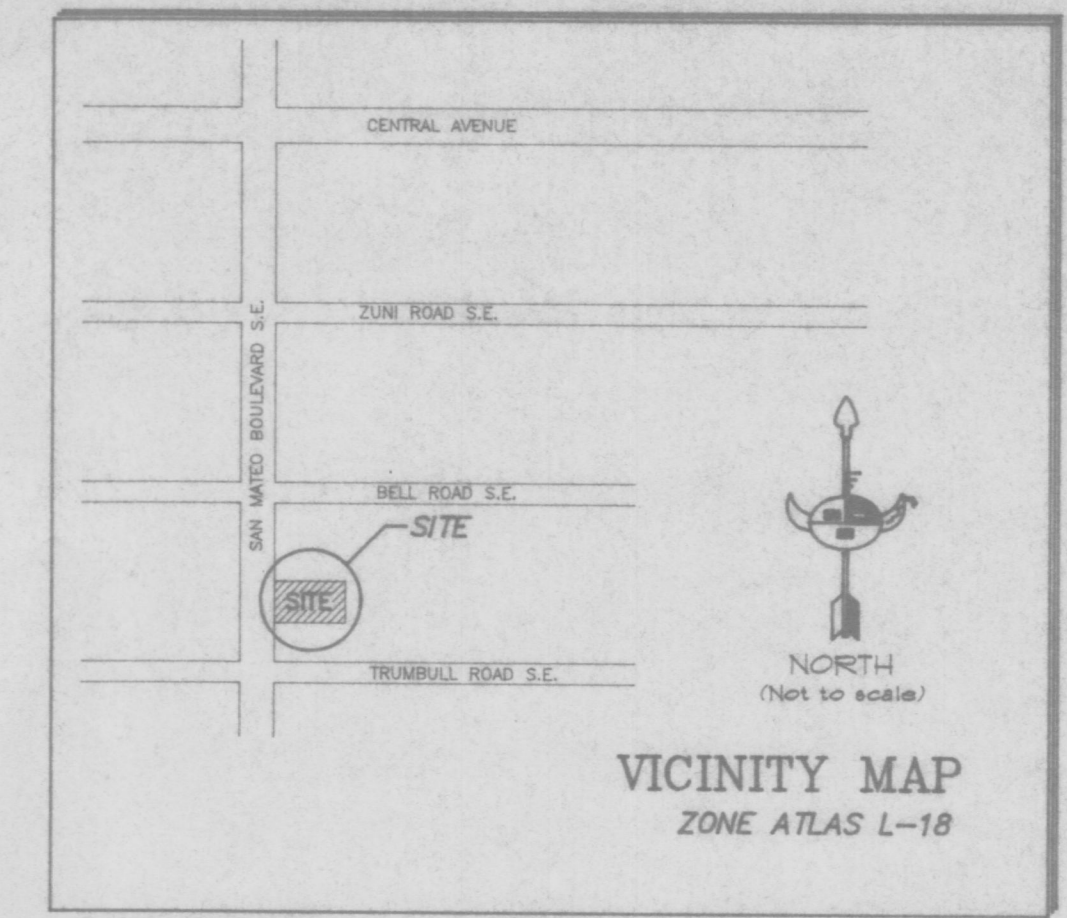
## GRADING & DRAINAGE SHOWING

LOT 8A, BLOCK 9

BARON BURG HEIGHTS SUBDIVISION

SECTION 25, T. 5 N., R. 2 E., N.M.P.M.

ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO  
NOVEMBER, 1995



SURVEY PROVIDED BY

CLINT SHERRILL & ASSOC.  
730 SAN MATHEO S. E.  
ALBUQUERQUE, NEW MEXICO 87108  
(505) 258-7384 (505) 258-7800 FAX

A.C.S. BRASS CAP  
13-K-17  
X = 397770.80  
Y = 1481930.06  
ELEV = 5247.571  
GROUND TO GRID  
2-3 = 0.011'47"  
NAD 1927

CALCULATED ELEVATIONS  
(FIELD VERIFY)

100 YEAR FLOOD LIMITS

## ABBREVIATION LEGEND

TOP OF INLET GRATE - TG  
TOP OF CURB - TC  
TOP OF ASPHALT - TA  
FLOWLINE - FL

## SYMBOL LEGEND

EXISTING CONTOUR — 5102 —  
EXISTING CONTOUR — 5102 TC —  
DESIGNED SPOT ELEVATION — 5102 TC —  
PROPERTY LINE —  
EASEMENT LINE —  
FLOW DIRECTION —  
EXISTING SPOT ELEVATION —  
POWER POLE WITH TRANSFORMER (PP/T) —  
EXISTING FENCE (AS LABELED) —  
EXISTING METAL GRATE W/TREE —  
EXISTING TREE —  
EXISTING SEWER MANHOLE (AS LABELED) —  
EXISTING LIGHT POLE (LP) —

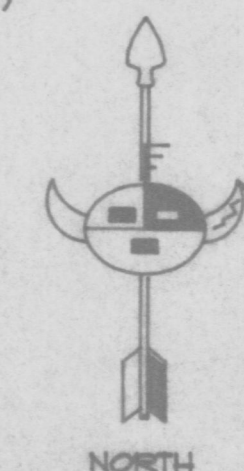
## BENCH-MARK INFORMATION

TEMPORARY BENCH-MARK BEING THE FINISHED FLOOR OF EXISTING OFFICE BUILDING BEARS ELEVATION 5272.30 MSL, REFERENCE TO CITY BENCH-MARK B-KT HAVING ELEVATION 5247.571

GRADING & DRAINAGE PLAN

SCALE: 1" = 20.0'

0' 5' 10' 20' 40'



SHEET TITLE

GRADING & DRAINAGE PLAN

MILLER AND ASSOCIATES  
ARCHITECTS  
2833 RICHMOND NE  
ALBUQUERQUE, NEW MEXICO 87111  
PHONE 865-854-1155

CLINT SHERRILL & ASSOC.  
ADDITION AND REMODEL  
ALBUQUERQUE, NEW MEXICO

JOB TITLE

1