ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS

Drainage Analysis for

Bernalillo County Courthouse

and

District Attorney Building

COMPLETE PROFESSIONAL SERVICES

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Bernalillo County Courthouse ZONE ATLAS/DRNG. FILE #: ~~J-15~~ J-14/D120

DRB #: 97-318 EPC #: WORK ORDER #3:

LEGAL DESCRIPTION: Block 19, Perfecto Armijo & Bros. Addition and Block J, Mandell Addition

CITY ADDRESS:

ENGINEERING FIRM: Andrews, Asbury & Robert, Inc. CONTACT: Jeanne Wolfenbarger

ADDRESS: 149 Jackson St. N.E., Albuquerque, NM 87108 PHONE: 265-6631

OWNER: Bernalillo County CONTACT:

ADDRESS: PHONE:

ARCHITECT: FMSM Architects CONTACT: Joe Boehning

ADDRESS: 809 Copper N.W. PHONE: 766-6610

SURVEYOR: Andrews, Asbury & Robert, Inc. CONTACT: Mr. Gayle D. Jewell, P.S.

ADDRESS: 149 Jackson St. N.E., Albuquerque, NM 87108 PHONE: 265-6631

CONTRACTOR: CONTACT:

ADDRESS: PHONE:

TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- ____ DRAINAGE PLAN
- X CONCEPTUAL GRADING & DRAINAGE PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION
- ____ OTHER
- ____

PRE-DESIGN MEETING:

- X YES
- ____ NO
- X COPY PROVIDED

RECEIVED
OCT 14 1997
HYDROLOGY SECTION

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SKETCH PLAT APPROVAL
- X PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ____ SECTOR PLAN APPROVAL
- ____ FINAL PLAT APPROVAL
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ S.A.D. DRAINAGE REPORT
- ____ DRAINAGE REQUIREMENTS
- ____ OTHER ____ (SPECIFY)

DATE SUBMITTED: October 10, 1997

BY: Jeanne Wolfenbarger

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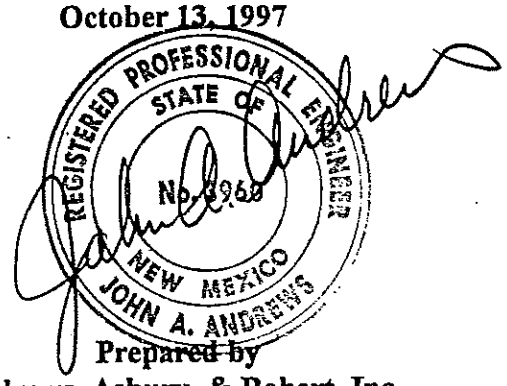
DRAINAGE ANALYSIS

for

BERNALILLO COUNTY COURTHOUSE AND DISTRICT ATTORNEY BUILDING

Albuquerque, New Mexico

October 13, 1997



Prepared by
Andrews, Asbury, & Robert, Inc.
Consulting Engineers
149 Jackson Street, N.E.
Albuquerque, New Mexico 87108

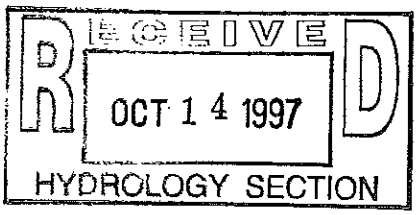


TABLE OF CONTENTS

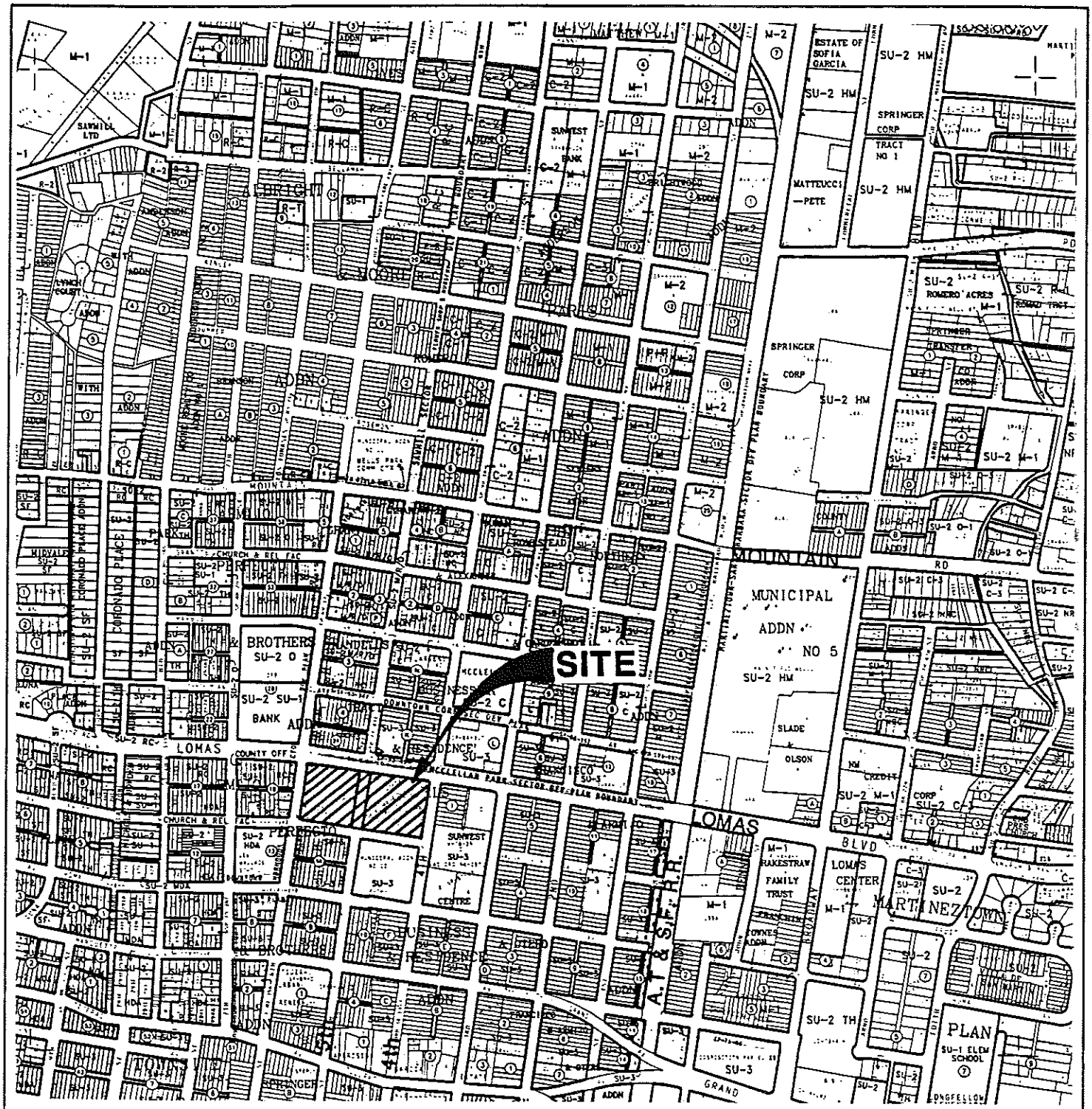
I. INTRODUCTION

It is proposed to construct a new Bernalillo County Courthouse and District Attorney Building in downtown Albuquerque on land that is currently developed and is primarily used for parking. The purpose of this report is to analyze the drainage for this new development and to propose a grading and drainage plan based on that analysis.

The entire on-site area is bounded by Lomas Boulevard on the north, Fruit Avenue on the south, Fourth Street on the east, and Sixth Street on the west (See Vicinity Map, Map No.1). Fifth Street will separate the Bernalillo County Courthouse site on the east side from the District Attorney Building site on the west side. As shown by FIRM on Panel 35001C0334 D, neither of the two sites is located within the floodplain.

Drainage for the proposed development is analyzed for existing and developed conditions. Existing land usage and drainage conditions was determined from site visits and topographic site information. Proposed drainage areas are shown on Map No. 2.

The drainage analysis was based on Section 22.2 of the Development Process Manual, Volume 2, Design Criteria for the City of Albuquerque, New Mexico, January 1993. The drainage calculations and basin areas may be found in Tables 1 through 4.



ZONE ATLAS MAP J-14

SCALE: 1"=750'

COUNTY OF BERNALILLO, NEW MEXICO

BERNALILLO COUNTY COURTHOUSE

VICINITY MAP

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No.	DRAWN	CHECKED	DATE	
97-782	TL	JW	OCT. 1997	MAP 1

II. EXISTING SITE CONDITIONS

The existing site is completely developed. Gravel and paved parking lots cover the majority of the site, and two commercial buildings are located on the far east side. Because of the proposed new County Courthouse and District Attorney Building, the existing buildings and parking lots on-site are currently undergoing demolition.

The existing on-site area is divided into Basins A and B where Basin A covers the site for the Bernalillo County Courthouse and Basin B covers the site for the District Attorney Building. (See map number 2.) Generally, on-site runoff is directed to all surrounding streets by sheet flow at very minimal slopes. 4th, 5th, and 6th Street convey on-site runoff to the south where the runoff is then collected by existing inlets along Fruit Avenue at each of the north-south street intersections. As shown on the grading and drainage plan, the inlets discharge to separate storm drains located under 4th, 5th, and 6th Street. Existing on-site drainage calculations may be found in Tables 1 and 2.

On-site runoff that discharges to Lomas Boulevard is collected by a series of inlets that are located along the south side of Lomas Boulevard. These inlets discharge to an existing 72" storm drain under Lomas Boulevard which has recently been built in accordance with the Albuquerque Master Drainage Study. An existing 24" storm drain under Lomas Boulevard is directly tied to the 72" storm drain.

All runoff is generated on-site. Streets surrounding the site have curb and gutter on each side, preventing any off-site street runoff from entering the on-site area.

III. PROPOSED SITE CONDITIONS

A. Bernalillo County Courthouse

The new Bernalillo County Courthouse Building is proposed to be built between Fourth and Fifth Street, and most of the surrounding area will be paved with concrete. A proposed underground parking garage for this building will be accessed off of the existing Fruit Avenue. It is noted that Fruit Avenue is planned for vacation in the near future in order that this street can be used as a private access to the building.

To minimize sheet flow to the street, all roof runoff from the Bernalillo County Courthouse will be discharged through an underground roof/storm drain which will be connected to a proposed inlet on the south side of Lomas Boulevard just west of Fourth Street. As shown on Map 2, the inlet will discharge to a 24" storm drain. The Courthouse Building area is designated as Basin B1.

Basin B2 only includes the entrance to an underground parking garage for the County Courthouse which is located to the south of the building off of Fruit Avenue. Runoff from Basin B2 will be collected by a trench grate at the bottom of the drive and discharged to the County Courthouse roof drain system by a pumping system.

Basin B3 will surface discharge to surrounding streets. Similar to existing conditions, the runoff from this basin will be collected by inlets on the streets surrounding the site.

Basin B4 only includes the existing Fruit Avenue which is planned for vacation. Runoff from this street will drain west and be collected by inlets on 5th Street and 6th Street, the same as under existing conditions. Refer to Tables 3 and 4 for proposed drainage calculations.

B. District Attorney Building

The District Attorney Building and parking lot are proposed to be built between 5th Street and 6th Street. Areas surrounding the building and parking lot will be mostly landscaped.

The drainage concept used for the District Attorney Building will be similar to the concept used for the Bernalillo County Courthouse. The drainage from the District Attorney Building, which is designated as Basin A1, will be collected by an underground storm drain system and drained to the back of the inlet on the southeast corner of Lomas Boulevard and 6th Street. The landscaped area around the building, which is designated as Basin A4, will surface discharge to surrounding streets.

The parking lot for the District Attorney's Office is separated into Basins A2 and A3. Basin A2 will drain to the south side of the parking lot, where the runoff will be collected by proposed inlets and discharged to the back of the inlet on the northwest corner of 5th Street and Fruit Avenue. Basin A3 will drain to the north side of the parking lot where the runoff is collected by proposed inlets and discharged to the back of the inlet on the northeast corner of 5th Street and Lomas Boulevard.

IV. CONCLUSION

Drainage under developed conditions will remain basically the same as under existing conditions as shown by comparing total 100-year runoff flows between Tables 1 and 3. The combination of the existing 24" storm drain and 72" storm drain in Lomas Boulevard provide ample capacity to carry the runoff that is discharging from the proposed buildings. Surface runoff from on-site is minimized, and therefore will have little impact on downstream conditions.

How do you know, did you do a capacity / Basin analysis?

100-YEAR PEAK DISCHARGE FOR EXISTING CONDITIONS
(Section 22.2 of the DPM)
TABLE 1

Basin	Land Treatment Area (acres)				Land Treatment Peak Discharge (cfs/acre)				Total Area (acres)	Peak Discharge (cfs)
	A	B	C	D	A	B	C	D		
A		0.13		2.22	1.56	2.28	3.14	4.70	2.35	10.73
B		0.11		2.26	1.56	2.28	3.14	4.70	2.37	10.87
TOTAL									4.72	21.60

There is landscaping in existing conditions.

100-YEAR PEAK RUNOFF FOR EXISTING CONDITIONS
(Section 22.2 of the DPM)
TABLE 2

Basin	Land Treatment Area (Acres)				Land Treatment Excess Precipitation (in)				Total Area (acres)	Excess Precipitation (inches)	Runoff Volume V360(acre-ft)
	A	B	C	D	A	B	C	D			
A		0.13		2.22	0.53	0.78	1.13	2.12	2.35	2.05	0.40
B		0.11		2.26	0.53	0.78	1.13	2.12	2.37	2.06	0.41
TOTAL									4.72		0.81

100-YEAR PEAK DISCHARGE FOR PROPOSED CONDITIONS
(Section 22.2 of the DPM)
TABLE 3

Basin	Land Treatment Area (acres)				Land Treatment Peak Discharge (cfs/acre)				Total Area (acres)	Peak Discharge (cfs)
	A	B	C	D	A	B	C	D		
A1				0.52	1.56	2.28	3.14	4.70	0.52	2.43
A2		0.04		0.74	1.56	2.28	3.14	4.70	0.78	3.57
A3		0.58		0.21	1.56	2.28	3.14	4.70	0.79	2.31
A4		0.19		0.07	1.56	2.28	3.14	4.70	0.26	0.76
Subtotal										9.07
B1				1.17	1.56	2.28	3.14	4.70	1.17	5.50
B2				0.03	1.56	2.28	3.14	4.70	0.03	0.14
B3				0.93	1.56	2.28	3.14	4.70	0.93	4.37
B4				0.24	1.56	2.28	3.14	4.70	0.24	1.13
Subtotal										11.14
TOTAL									4.72	20.21

100-YEAR PEAK RUNOFF FOR PROPOSED CONDITIONS
(Section 22.2 of the DPM)
TABLE 4

Basin	Land Treatment Area (Acres)				Land Treatment Excess Precipitation (in)				Total Area (acres)	Excess Precipitation (inches)	Runoff Volume V360(acre-ft)
	A	B	C	D	A	B	C	D			
A1				0.52	0.53	0.78	1.13	2.12	0.52	2.12	0.09
A2		0.04		0.74	0.53	0.78	1.13	2.12	0.78	2.05	0.13
A3		0.58		0.21	0.53	0.78	1.13	2.12	0.79	1.14	0.07
A4		0.19		0.07	0.53	0.78	1.13	2.12	0.26	1.14	0.02
Subtotal											**0.32**
B1				1.17	0.53	0.78	1.13	2.12	1.17	2.12	0.21
B2				0.03	0.53	0.78	1.13	2.12	0.03	2.12	0.01
B3				0.93	0.53	0.78	1.13	2.12	0.93	2.12	0.16
B4				0.24	0.53	0.78	1.13	2.12	0.24	2.12	0.04
Subtotal											**0.42**
TOTAL									**4.72**		**0.74**

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
DEVELOPMENT SERVICE / HYDROLOGY SECTION

CONFERENCE RECAP

DRAINAGE FILE/ZONE ATLAS PAGE NO. J14 DATE: 10-2-97
PLANNING DIVISION NO'S: EPC: _____ DRB: 97-318
SUBJECT: County Courthouse and District Attorneys Office
STREET ADDRESS (IF KNOWN): _____
SUBDIVISIONNAME: _____

APPROVAL REQUESTED:

- ✓ PRELIMINARY PLAT
- ✓ SITE PLAN FOR BP
- ____ GRADING PERMIT
- ____ BUILDING PERMIT
- ____ SECTOR PLAN
- ✓ FINAL PLAT
- ____ SITE PLAN FOR SUB
- ____ PAVING PERMIT
- ____ FOUNDATION PERMIT
- ____ OTHER: _____

	WHO	REPRESENTING
ATTENDANCE:	John Andrews	AAR
	Jeanne Wolfenbarger	AAR
	Fred S. Aguirre	City

FINDINGS:

- An approved drainage plan is required for site plan and/or subdivision (ie variation of Part 5).
- The drainage concept will be to drain directly to the storm drain on the back of catch basins.

THE UNDERSIGNED AGREES THAT THE ABOVE FINDINGS ARE SUMMERIZED ACCURATELY AND ARE SUBJECT TO CHANGE IF FURTHER INVESTIGATION REVEALS THAT THEY ARE NOT REASONABLE OR THAT THEY ARE BASED ON INACCURATE INFORMATION.

SIGNED: _____
TITLE : _____
DATE : 10/2/97

SIGNED: _____
TITLE : _____
DATE : _____