

July 26, 1996

Martin J. Chávez, Mayor

Joe Kelly Chavez-Grieves 5639 Jefferson NE Albuquerque, NM 87108

RE: LOWER BROADWAY ADDITION (M14-D22). ENGINEER'S CERTIFICATION FOR SUBDIVISION CERTIFICATION. ENGINEER'S CERTIFICATION DATED 7-9-96.

Dear Mr. Kelly:

Based on the information provided on your July 10, 1996 submittal, the above referenced project is approved for Certification.

In the future, please stamp or exhibit your registration number next to the Engineer's Certification.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill

Engineering Assoc./Hyd.

c: Andrew Garcia
File





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 10, 1996

Joe Kelly Chavez-Grieves 5639 Jefferson NE Albuquerque, NM 87108

RE: LOWER BROADWAY ADDITION (M14-D22). DRAINAGE REPORT FOR GRADING PERMIT APPROVAL. ENGINEER'S STAMP DATED 3-19-96.

Dear Mr. Kelly:

Based on the information provided on your March 20, 1996 submittal, the City has the following comments:

- 1. You will be required to examine downstream capacity to determine an allowable discharge. Keep in mind that if there is no capacity you will not be allowed free discharge and may not necessarily be allowed to discharge at the historical rate.
- 2. Please show locations of driveways. I am unable to tell each lots point of discharge. You are allowed to discharge out a driveway, however, storm water is not permitted to flow over sidewalks.
- 3. What is the flood level elevation? Finish floor must be a minimum of one foot above the flood level elevation.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill

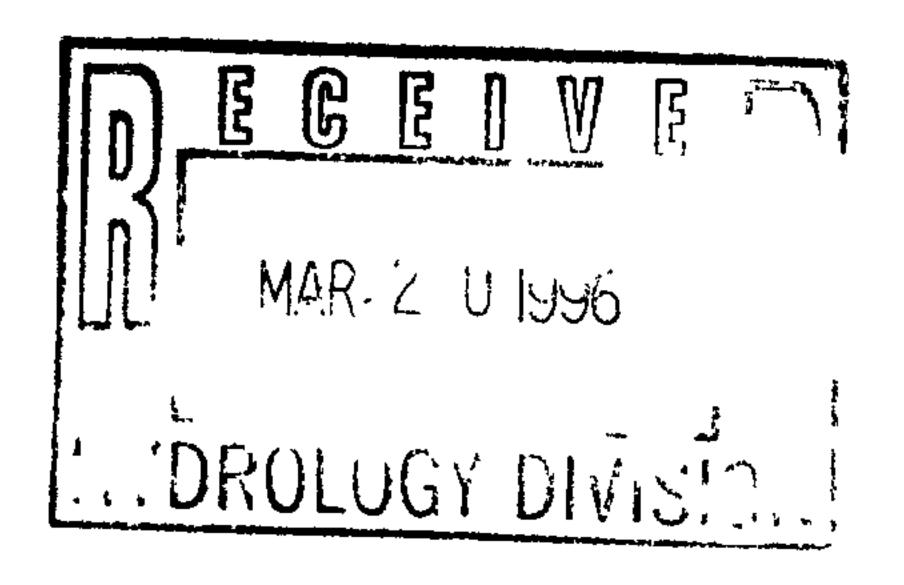
Engineering Assoc./Hyd.

c: Andrew Garcia
(File)

DRAINAGE INFORMATION

PROJECT TITLE: Lower Broadway Addition	ZONE ATLAS/DRNG. FILE #: M-14 /1/22
DRB#: EPC #:	WORK ORDER #:
LEGAL DESCRIPTION: <u>Tract T. Lower Broadwa</u>	<u> Addition</u>
CITY ADDRESS: <u>San Jose Ave. and Hinkle St</u>	•
ENGINEERING FIRM: <u>Chavez-Grieves</u>	CONTACT: Joe Kelley, P.E.
ADDRESS: <u>5639 Jefferson NE</u>	PHONE: 344-4080
OWNER:	CONTACT:
ADDRESS:	PHONE :
ARCHITECT: N/A	CONTACT:
ADDRESS:	PHONE:
SURVEYOR: Albuquerque Surveying	CONTACT: Fred Sanchez, L.S.
ADDRESS:	PHONE: <u>884-2036</u>
CONTRACTOR:	CONTACT:
ADDRESS:	
TYPE OF SUBMITTAL:	CHECK TYPE OF APPROVAL SOUGHT:
X DRAINAGE REPORT	SKETCH PLAT APPROVAL
X DRAINAGE REPORT X DRAINAGE PLAN	SKETCH PLAT APPROVAL PRELIMINARY PLAT APPROVAL
X DRAINAGE PLAN	PRELIMINARY PLAT APPROVAL
X DRAINAGE PLAN CONCEPTUAL GRADING & DRAINAGE PLAN	PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL
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CONCEPTUAL GRADING & DRAINAGE PLAN GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERTIFICATION	PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN FOR BLDG. PRMT. APPROVAL SECTOR PLAN APPROVAL FINAL PLAT APPROVAL FOUNDATION PERMIT APPROVAL
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CONCEPTUAL GRADING & DRAINAGE PLAN GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERTIFICATION OTHER PRE-DESIGN MEETING: YES	PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN FOR BLDG. PRMT. APPROVAL SECTOR PLAN APPROVAL FINAL PLAT APPROVAL FOUNDATION PERMIT APPROVAL BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY APPROVAL X GRADING PERMIT APPROVAL
CONCEPTUAL GRADING & DRAINAGE PLAN CONCEPTUAL GRADING & DRAINAGE PLAN GRADING PLAN EROSION CONTROL PLAN ENGINEER'S CERTIFICATION OTHER PRE-DESIGN MEETING: YES NO	PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN FOR BLDG. PRMT. APPROVAL SECTOR PLAN APPROVAL FINAL PLAT APPROVAL FOUNDATION PERMIT APPROVAL BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY APPROVAL X GRADING PERMIT APPROVAL PAVING PERMIT APPROVAL
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BY: <u>Joe P. Kelley, P.E.</u>





5639 JEFFERSON STREET NE · ALBUQUERQUE, NEW MEXICO 87109 PHONE (505) 344 4080 · FAX (505) 343-8759

GRADING AND DRAINAGE PLAN

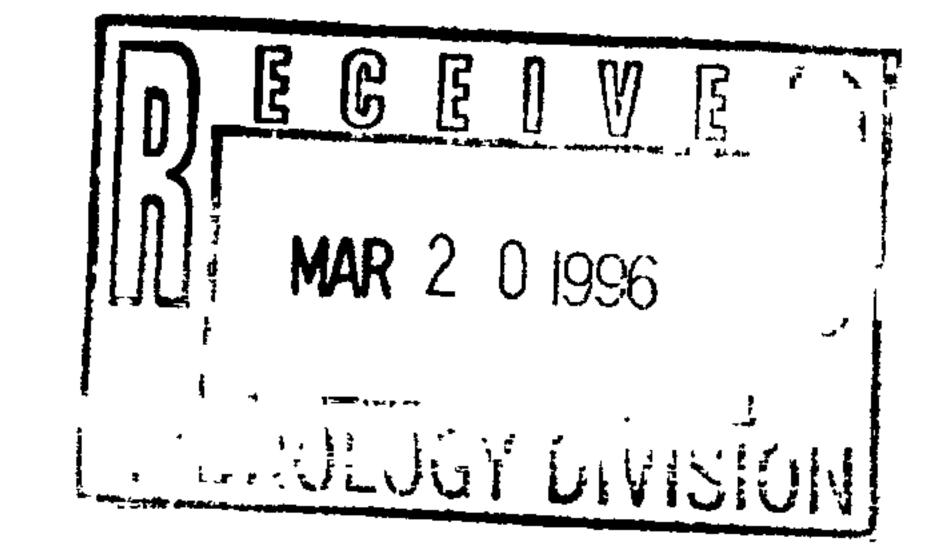
FOR

LOWER BROADWAY ADDITION

ALBUQUERQUE, NEW MEXICO



MARCH, 1996



LOCATION

This site is located 1 mile from downtown Albuquerque on the north side of San Jose Ave., between Topeka St. and Hinkle St.

LEGAL DESCRIPTION

Tract "T", Lower Broadway Addition.

ZONING AND SURROUNDING DEVELOPMENT

The site is zoned SU-2, Special Neighborhood Zone for a redeveloping residential area. The surrounding neighborhood is a residential community, with a community center just south of the site on San Jose Ave.

FLOOD HAZARD ZONES

As shown by Panel 3500020034 of the National Flood Insurance Rate Maps for the City of Albuquerque, dated October 14, 1983, the site and the surrounding area is in a designated flood hazard zone C. Zone C designates "areas of minimal flooding."

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

The site is surrounded by an existing residential development, with complete City infrastructure on the perimeter streets: curb and gutter, sidewalks, water, sanitary sewer, and storm drainage. The site encompasses the southern half of a City block that is fully developed with houses on the north end. Some of the existing houses are lower than the surrounding back of curb, and therefore do not drain to the street. The existing ground of the southern part of the block is also lower than the back of curb, and as such does not drain to the street under existing conditions.

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The proposed drainage pattern is for discharge of the developed runoff to the perimeter streets. The existing runoff rate is 1.51 cfs, while the developed rate is 3.20 cfs. There are existing storm drain facilities adjacent to the site on the perimeter streets. Therefore, the site will be allowed to discharge freely into the perimeter streets, despite the increase in runoff.

HYDROLOGY/HYDRAULICS

The runoff calculations and design have been done in accordance with Section 22.2 of the Development Process Manual of the City of Albuquerque, January 1993.

5639 JEFFERSON STREET NE · ALBUQUERQUE, NEW MEXICO 87109 · PHONE (505) 344 4080 · FAX (505) 343 8759

RUNOFF CALCULATIONS - SIMPLIFIED PROCEDURE

By: Joe P. Kelley, P.E.	Date: <u>March 19, 1996</u>
Project: Lower Broadway Addition	Zone Atlas: M-14
	City of Albuquerque Development Process y", peak discharge rate for small watersheds
Precipitation Zone from Figure A-1: 2 Land treatment descriptions are in Table A-	- 4 .

1. RUNOFF RATE COMPUTATION

Use Equation a-10: $Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$

Values of Q_{pi} are from Table A-9, and are in CFS/acre. Area values are in acres.

BASIN	Q _{PA}	A	Q _{PB}	A _B	Q _{PC}	A _c	Q_{PD}	AD	Q _P	
EXISTIN	EXISTING BASIN RATE OF RUNOFF (CFS)									
Exist.	1.56	0.97							1.51	
DEVELO	PED B	ASIN RA	TE OF R	UNOFF	(CFS)					
Dev.	1.56	0	2.28	0.56	3.14	0	4.7	0.41	3.2	
					,					

2. RUNOFF VOLUME COMPUTATION

Use Equation a-5 to compute weighted excess precipitation:

Weighted E = "E" =
$$(E_A A_A + E_B A_B + E_C A_C + E_D A_D)/(A_A + A_B + A_C + A_D)$$

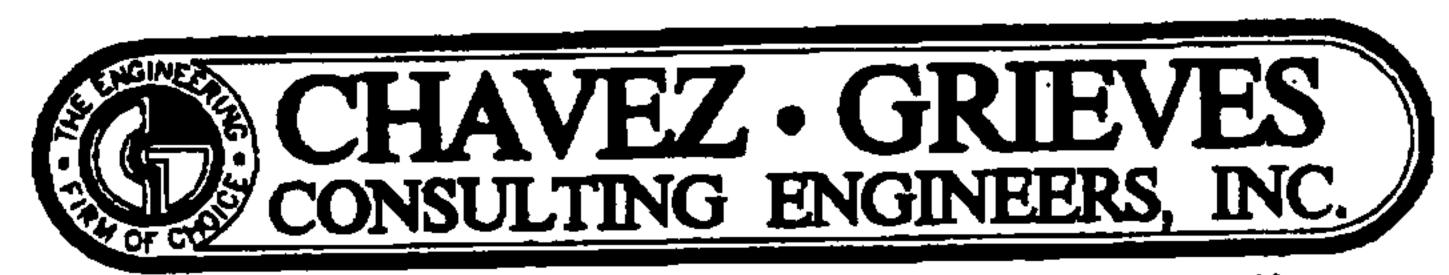
 $(A_A + A_B + A_C + A_D) = \sum A_i$

Use Equation a-6 to compute the volume:

$$\dot{V}_{360}$$
 = "E" x (A_A + A_B + A_C + A_D) x 3630 feet³/acre·inch

Values of E_i are from Table A-8, and are in inches. Area values are in acres.

BASIN	E _A	A _A	E _B	A _B	E _c	A _c	E _D	A _D	$\sum A_i$	"E"	V ₃₆₀
EXISTIN	EXISTING BASIN VOLUME OF RUNOFF (CUBIC FEET)										
Exist.	0.53	0.97							0.97	0.53	1866
DEVELO	OPED !	BASIN	VOLU	ME OF	RUNC)FF (C	UBIC F	EET)			
Dev.			0.78	0.56			2.12	0.41	0.97	1.35	4741



5639 JEFFERSON STREET N.E. - ALBUQUERQUE, NEW MEXICO 87109 PHONE (505) 344-4080 . FAX (505) 343-8759

SHEET NO.	OF
JOB LOWER BROADWAY	ADDIN
SUBJECT	
CLIENT	
JOB NO. JPK	5/10/0/
BY	DATE 3/19/96

CALCULATION OF LAND TREATMENT, AREAS

TREATMENT D:

i HOUSE:

10,200 SF

PRIVES: 33'x20'x 8= 5,280

BACKYARD PATO / SHED:

10x30'x8= 2,400

17,880

REMAINMER IS TREATMENT B:

42,200-17,880=29,3205,F.

DRAINAGE INFORMATION

PROJECT LOWER BROADWAY ADDITION	ZONE ATLAS/DRNG. FILE #: M-14/1/22
DRB#: EPC #:	WORK ORDER #:
LEGAL DESCRIPTION: TRACTS T, LOWER BROADWAY A	ADDITION
CITY ADDRESS: <u>SAN JOSE AVE. AND HINKLE ST.</u>	
ENGINEERING FIRM: CHAVEZ-GRIEVES	CONTACT: JOE P. KELLEY
ADDRESS: 5639 JEFFERSON NE	PHONE: 344-4080
OWNER:	CONTACT:
ADDRESS:	PHONE:
ARCHITECT: N/A	CONTACT:
ADDRESS:	PHONE:
SURVEYOR: ALBUQUERQUE SURVEYING CO., INC	CONTACT: FRED SANCHEZ, L.S.
ADDRESS: 2119 MENAUL NE	PHONE: 884-2036
CONTRACTOR:	CONTACT:
ADDRESS:	PHONE :
TYPE OF SUBMITTAL:	CHECK TYPE OF APPROVAL SOUGHT: SKETCH PLAT APPROVAL PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN FOR BLDG. PRMT. APPROVAL SECTOR PLAN APPROVAL FINAL PLAT APPROVAL BUILDING PERMIT APPROVAL
PRE-DESIGN MEETING:	X CERTIFICATE OF OCCUPANCY APPROVAL
YES	GRADING PERMIT APPROVAL
<u>X</u> NO	PAVING PERMIT APPROVAL
COPY PROVIDED	S.A.D. DRAINAGE REPORT
DATE SUBMITTED: <u>JULY</u> , 09 1996	OTHER Surpour (SPECIFY)
BY: RONNIE F. CASAUS	111 1 0 1996

DRAINAGE INFORMATION

PROJECT TITLE: Lower Broadway Addition Zo	ONE ATLAS/DRNG. FILE #: $M-14$ / $U22$ —
DRB#: 96-15 EPC #:	WORK ORDER #:
LEGAL DESCRIPTION: Tract T, Lower Broadway Add	dition
CITY ADDRESS: San Jose Ave. and Hinkle St.	
ENGINEERING FIRM: Chavez-Grieves	CONTACT: Joe Kelley, P.E.
ADDRESS: <u>5639 Jefferson NE</u>	PHONE: 344-4080
OWNER:	CONTACT:
ADDRESS:	PHONE:
ARCHITECT: N/A	CONTACT:
ADDRESS:	PHONE:
SURVEYOR: Albuquerque Surveying	CONTACT: Fred Sanchez, L.S.
ADDRESS:	PHONE: 884-2036
CONTRACTOR:	CONTACT:
ADDRESS:	PHONE:
\	CK TYPE OF APPROVAL SOUGHT:
X DRAINAGE REPORT	SKETCH PLAT APPROVAL
X DRAINAGE PLAN	PRELIMINARY PLAT APPROVAL
CONCEPTUAL GRADING & DRAINAGE PLAN	S. DEV. PLAN FOR SUB'D. APPROVAL
X GRADING PLAN	S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
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ENGINEER'S CERTIFICATION 5 17 1/2	_ FINAL PLAT APPROVAL
OTHER	FOUNDATION PERMIT APPROVAL
	BUILDING PERMIT APPROVAL
PRE-DESIGN MEETING:	CERTIFICATE OF OCCUPANCY APPROVAL
YES	_ GRADING PERMIT APPROVAL
<u>X</u> NO	PAVING PERMIT APPROVAL
COPY PROVIDED	S.A.D. DRAINAGE REPORT
	DRAINAGE REQUIREMENTS
	OTHER (SPECIFY)
DATE SUBMITTED: April 22, 1996	
BY: Joe P. Kelley, P.E.	APR 2 3 1996
	HYDROLOGY DIV.

5639 JEFFERSON STREET NE · ALBUQUERQUE, NEW MEXICO 87109 · PHONE (505) 344·4080 FAX (505) 343·8759

April 22, 1996

Ms. Lisa Ann Manwill
City Hydrology
City-County Building Room 301
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: LOWER BROADWAY ADDITION (M14/D22)

C/G PROJECT #A13-109-5196

Dear Ms. Manwill:

Transmitted herewith for grading approval is the grading/drainage plan for this project. Your comments dated April 10, 1996 have been addressed as follows:

- 1. Mr. Loren Meinz, the City project manager for the South Broadway Drainage Master Plan area loaned me a copy of that master plan to review for availability of capacities. As referenced in the report, free discharge is allowable.
- I spoke to Mr. Dan Hogan, P.E., the head of the Hydrology section, on April 17, 1996 about this question. Our practice in the past has been to allow residential properties to discharge runoff across their property line into the public right-of-way at any point. Mr. Hogan confirmed that this practice is acceptable, as long as the discharge is of runoff produced on the residential lot in question, and is not from multiple lots, or is some other kind of public runoff. Since these lots are only discharging their own runoff into the right-of-way, the drainage pattern is acceptable.
- As discussed in the report, the finished dirt pads are all more than 1 foot above 100-year water surface elevation. The finished floors will be even higher.

If you have any questions or comments prior to giving grading approval, please give me a call.

Sincerely,

CHAVEZ-GRIEVES CONSULTING ENGINEERS, INC.

Joe P. Kelley, P.E. Project Engineer

i iojoot Liigiilooi

Copy: Mr. Fred Sanchez, Albuquerque Surveying

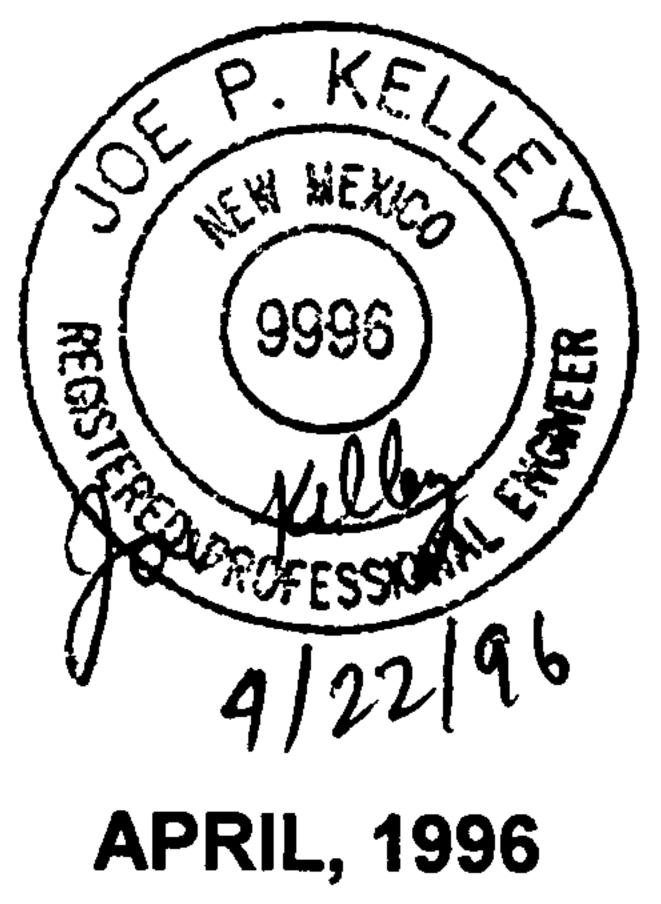
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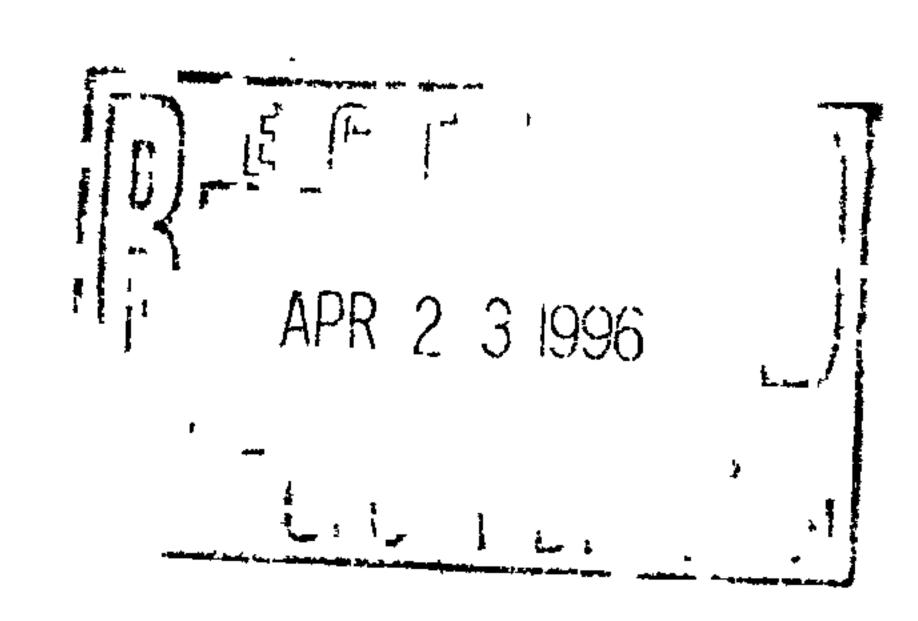
GRADING AND DRAINAGE PLAN FOR LOWER BROADWAY ADDITION

ALBUQUERQUE, NEW MEXICO

GRADING AND DRAINAGE PLAN FOR LOWER BROADWAY ADDITION

ALBUQUERQUE, NEW MEXICO





LOCATION

This site is located 1 mile from downtown Albuquerque on the north side of San Jose Ave., between Topeka St. and Hinkle St.

LEGAL DESCRIPTION

Tract "T", Lower Broadway Addition.

ZONING AND SURROUNDING DEVELOPMENT

The site is zoned SU-2, Special Neighborhood Zone for a redeveloping residential area. The surrounding neighborhood is a residential community, with a community center just south of the site on San Jose Ave.

RELATED REPORTS

The South Broadway Sector Drainage Management Plan Developed Conditions Report by Bohannan-Huston, Inc., dated September 1990 outlines existing and future hydrology to be used in the area. Excerpts from that plan are attached. The subject development is in basin SJ-7 of that report. Per that report, all basins were assumed to be fully developed, and calculations were made assuming free discharge from all lots. The area was not modeled with on-site ponding. In addition, the street flow was modeled to be at a maximum depth of 0.87' above flow line.

FLOOD HAZARD ZONES

As shown by Panel 3500020034 of the National Flood Insurance Rate Maps for the City of Albuquerque, dated October 14, 1983, the site and the surrounding area is in a designated flood hazard zone C. Zone C designates "areas of minimal flooding."

EXISTING SITE CONDITIONS AND DRAINAGE PATTERN

The site is surrounded by an existing residential development, with complete City infrastructure on the perimeter streets: curb and gutter, sidewalks, water, sanitary sewer, and storm drainage. The site encompasses the southern half of a City block that is fully developed with houses on the north end. Some of the existing houses are lower than the surrounding back of curb, and therefore do not drain to the street. The existing ground of the southern part of the block is also lower than the back of curb, and as such does not drain to the street under existing conditions.

PROPOSED SITE CONDITIONS AND DRAINAGE PATTERN

The proposed drainage pattern is for discharge of the developed runoff to the perimeter streets. The existing runoff rate is 1.51 cfs, while the developed rate is 3.20 cfs. There are existing storm drain facilities adjacent to the site on the perimeter streets. Therefore, the site will be allowed to discharge freely into the perimeter streets, despite the increase in runoff. This drainage pattern is in accordance with the Drainage Management Plan for the area.

The site is in a Flood Hazard Zone C, which is a flood zone with undetermined depths. The Drainage Management Plan for the area was prepared such that the deepest flow depths in the streets for the design storm was 0.87' above flow line. All finished (dirt) pads in this new development were set at more than 1' above this elevation. Thus there will be more than 1' of freeboard between the new finished pads and the adjacent 100-year water surface.

HYDROLOGY/HYDRAULICS

The runoff calculations and design have been done in accordance with Section 22.2 of the Development Process Manual of the City of Albuquerque, January 1993.

SALCULATIONS

5639 JEFFERSON STREET NE · ALBUQUERQUE, NEW MEXICO 87109 · PHONE (505) 344·4080 FAX (505) 343·8759

RUNOFF CALCULATIONS - SIMPLIFIED PROCEDURE

By: Joe P. Kelley, P.E.	Date: <u>March 19, 1996</u>
Project: Lower Broadway Addition	Zone Atlas: M-14
This procedure is in accordance with the Manual, Volume 2, Section 22.2, "Hydrology less than forty acres in size.	City of Albuquerque Development Process /*, peak discharge rate for small watersheds
Precipitation Zone from Figure A-1: 2 Land treatment descriptions are in Table A-4	- 4.

1. RUNOFF RATE COMPUTATION

Use Equation a-10: $Q_P = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$

Values of Q_{pi} are from Table A-9, and are in CFS/acre. Area values are in acres.

BASIN	Q _{PA}	A	Q _{PB}	A _B	Q _{PC}	Ac	Q_{PD}	A _D	Qp
EXISTIN	G BASI	N RATE	OF RUN	OFF (CF	S)				
Exist.	1.56	0.97							1.51
	<u>-</u>								
DEVELO	PED B	ASIN RA	TE OF R	UNOFF	(CFS)				
Dev.	1.56	0	2.28	0.56	3.14	0	4.7	0.41	3.2
			~						
			•						

2. RUNOFF VOLUME COMPUTATION

Use Equation a-5 to compute weighted excess precipitation:

Weighted E = "E" =
$$(E_A A_A + E_B A_B + E_C A_C + E_D A_D)/(A_A + A_B + A_C + A_D)$$

 $(A_A + A_B + A_C + A_D) = \sum A_i$

Use Equation a-6 to compute the volume:

$$V_{360} = \text{"E"} \times (A_A + A_B + A_C + A_D) \times 3630 \text{ feet}^3/\text{acre-inch}$$

Values of Ei are from Table A-8, and are in inches. Area values are in acres.

BASIN	EA	A	E _B	A _B	Ec	Ac	E _D	A _D	$\sum A_i$	"E"	V ₃₆₀
EXISTIN	EXISTING BASIN VOLUME OF RUNOFF (CUBIC FEET)										
Exist.	0.53	0.97							0.97	0.53	1866
	·										
DEVELO	OPED I	BASIN	VOLU	ME OF	RUNC)FF (C	UBIC F	EET)			
Dev.			0.78	0.56			2.12	0.41	0.97	1.35	4741

5839 JEFFERSON STREET N.E. . ALBUQUERQUE, NEW MEXICO 87109 PHONE (505) 344-4080 • FAX (505) 343-8759

SHEET NO		OF _	
JOB LOWER	BROADWAY	ADDIN	
SUBJECT			
CLIENT	, 		
JOB NO			
BY DIK		DATE	3/19/96

CALCULATION OF LAND TREATMENT AREAS

TREAT MENT D:

i HOUSE:

10,200 SF

prives: 33'x20'x 8= 5,280

BACKYARD PATO / SHED:

10x30'x8=2,400

17, 880

REMAINDER IS TREATMENT B:

42,200-17,880=29,320s.F.

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EXCERPTS FROM

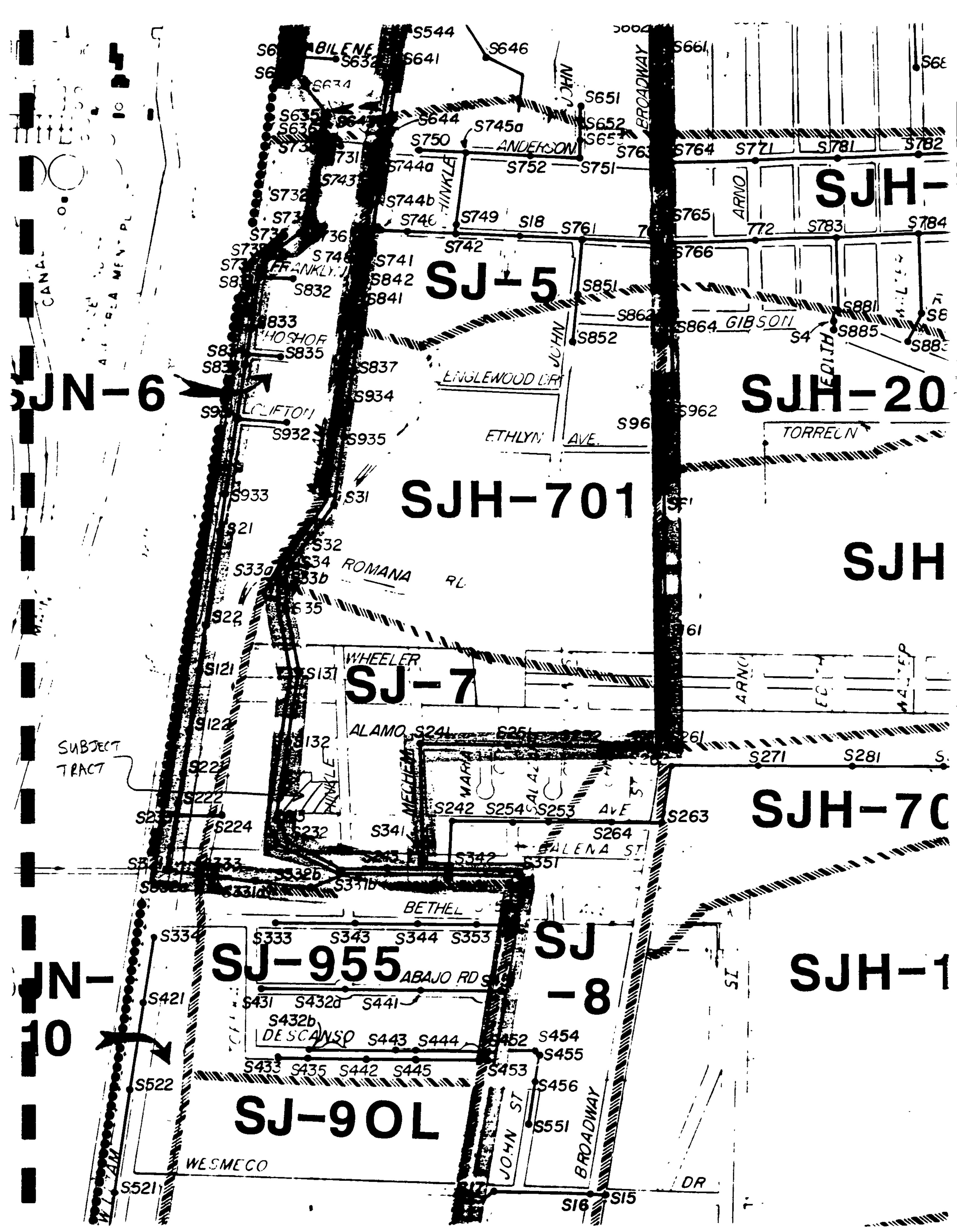
THE SOUTH BROADWAY DRAINAGE MANAGEMENT PLAN

characteristics for those basins previously modeled with HYMO in the AMDS Volume I study were not available.

- 6.2.4 Developed Conditions Curve Numbers. While most of the study area was fully developed at the time of the Existing Conditions analysis, further development is expected in 7 of the 28 basins. In keeping with the hydrologic assumptions detailed above, the percents of impervious areas were increased in these basins to reflect increased development. Table 2 presents the changes in basin hydrology for the 7 subbasins where development is expected. Free discharge is assumed from all developing areas.
- 6.2.5 Modeling Map. The modeling map for the study area can be found in the pocket at the end of this report. Subbasin boundaries, existing drainage facilities and analysis points are shown. Since only the trunk lines are modeled, these lines are accentuated on the map. Surface flow routing is also indicated.

6.2.6 Off-Site Flows. The area to the east of Interstate 25 was analyzed in the AMDS Restudy, Volume II. Possible flow paths into the South Broadway area were investigated during the Restudy with the following results

Analysis Point	Peak 100-Year Discharge (cfs)	Peak 10-Year Discharge (cfs)
APV1	52	20
APW1-SS3	23	9
APW1	0	Õ
APX1	0	Ō,
APY1	0	Ō
APZISS-2	0	0
APAA1-1	6	0
APAA1-2	11	0
APAA1-3	40	14
APBB1	0	0
APDD1	13	Ó
APFF1	5	0
	DIVERSION CHANNEL	
	DIVERSION CHANNEL	
APHH1 TO SOUTH	DIVERSION CHANNEL	





May 13, 1996

Martin J. Chávez, Mayor

Joe Kelly Chavez-Grieves 5639 Jefferson NE Albuquerque, NM 87108

RE: LOWER BROADWAY ADDITION (M14-D22). DRAINAGE REPORT FOR PRELIMINARY PLAT, FINAL PLAT, AND GRADING PERMIT APPROVALS. ENGINEER'S STAMP DATED 3-19-96.

Dear Mr. Kelly:

Based on the information provided on your April 23, 1996 submittal, the above referenced project is approved for Preliminary Plat, Final Plat, and Grading Permit.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill

Engineering Assoc./Hyd.

C: Andrew Garcia
File.

